CITY OF EUREKA
SEWER SYSTEM MANAGEMENT PLAN

Prepared for:
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INTRODUCTION

This Sewer System Management Plan (SSMP) has been prepared in compliance with requirements of the State Water Resource Control Board (SWRCB) pursuant to Order No. 2006-0003, Statewide General Waste Discharge Requirements for Sanitary Sewer Systems (WDR) included in Appendix A, and Order Number WQ 2013-0058-EXEC included in Appendix B. The WDR requires development and implementation of a written SSMP, and defines eleven mandatory SSMP elements. The WDR also defines associated monitoring, record keeping, reporting, and public notification requirements.

The City of Eureka developed an initial SSMP in 2009. A SSMP audit was conducted in November, 2015 and is attached as Appendix C. This SSMP is an update of the initial SSMP and has incorporated the results of the SSMP Audit.

This SSMP is intended to be a living document, and should be updated as needed to reflect changes to the SSMP elements. The intent of this SSMP is to meet the requirements of the Statewide WDR. This document presents eleven elements in the order presented in the WDR:

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; and

The City of Eureka's collection system contains approximately 125 miles of sewer mains, 9,500 service laterals, 13 lift stations and associated force mains. The system collects and conveys to the City's four large pump stations between 1.6-1.8 billion gallons of wastewater per year to the publically owned treatment works (POTW). The City also collects wastewater from the Humboldt Community Services District (HCSD) which services the unincorporated areas east/southeast of the city limits. Waste Water Collection is a division within the Public Works Department with management oversight by the Public Works Director. Collection system staff consists of ten full time employees, one Utility Supervisor, two Senior Utility Workers and seven Utility Worker I/II. The staff is on duty 8 hours a day, 5 days a week, with a 24-hour emergency pager notification system for afterhour emergencies. The afterhour pager system was implemented in order to provide the most reliable and timely response outside of normal working hours.
ELEMENT 1: GOALS

The intent of this Element is to identify the goals that the City has established for its SSMP. These goals are intended to provide focus for City staff to continue proactive management of its wastewater collection system.

1.1 Regulatory Requirements for the Goals Element

The WDR requires that the SSMP goals focus on proper management, operation, and maintenance of all parts of the sanitary sewer system. This will help reduce and prevent Sanitary Sewer Overflows (SSOs), as well as mitigate any SSOs that do occur.

1.2 SSMP Goals

The goals of the City of Eureka's SSMP include:

- To prevent overflows and to provide a plan and schedule for implementation of measures to prevent overflows;
- To maintain or improve the condition of the collection system infrastructure in order to provide reliable service into the future;
- To cost-effectively minimize infiltration/inflow (I/I) and provide adequate sewer capacity to accommodate design storm flows;
- To properly manage, operate and maintain all portions of the agency's wastewater collection system;
- To provide adequate capacity to convey the peak wastewater flows;
- To mitigate the impacts that are associated with any SSO, that may occur; and
- To meet all applicable regulatory notification and reporting requirements.

The City of Eureka takes the protection of surface water quality very seriously. One method for protecting the quality of bodies of water surrounding the City is to prevent sewer spills through utilization of an SSMP, in conjunction with State regulations.
ELEMENT 2: ORGANIZATION

The intent of this Element of the SSMP is to identify the City staff members responsible for implementing this SSMP, responding to SSO events, and meeting the SSO reporting requirements. This Element also includes the designation of the Legally Responsible Official (LRO) or authorized representative to meet SWRCB requirements for completing and certifying spill reports.

2.1 Regulatory Requirements for the Organization Element

The WDR requires that the Organization element of the SSMP provide the following:

- The name of the LRO or authorized representative;
- 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
- 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 Boards and other agencies if applicable.

2.2 Organization

The portion of the City’s organization chart related to management, operation, and the maintenance of the wastewater collection system is shown in below:
A list of current contacts responsible for SSMP activities and their roles is included in Appendix D. A description of the roles for wastewater collection system agency staff is described below:

**City Council** – Responsible for establishing new and amending existing ordinances and policies governing the municipal operations, and the operation of the City's sanitary sewer system including the approving of agreements to protect the community's interest.

**City Manager** – Responsible for enforcing policy, planning strategy, leading staff, allocating resources, delegating responsibility, authorizing outside contractors to perform services, and generally leads communication to the public.

**Public Works Director** – Responsible for directing the accomplishment of statutory and policy criteria within the scope of the City Council's policy and legal requirements. Responsible for directing it's execution and evaluates work accomplished within his/her areas of responsibility. Also responsible for directing planning and budgeting for the construction of new sewer collection system and rehabilitation of existing sewer collection system. In addition, responsible for planning strategy, leading staff, allocating resources, delegating, establishing funding sources and rates, overseeing O & M and capital budgets and implementation of the City's SSMP.

**Deputy Public Works Director-Field Operations** – Responsible for managing the City's wastewater collections activities through oversight of the Field Superintendent and crew supervisors. Acts as a liaison between field operations and the Public Works Director.
Develops and directs ongoing maintenance and capital expenditures. Reports to the Director of Public Works.

Field Superintendent – Responsible for managing field operations and maintenance activities; provides relevant information to agency management; prepares and implements contingency plans; investigates and reports SSOs. Responsible for managing all SSMP operations and maintenance activities. Reports to the Deputy Public Works Director-Field Operations.

Wastewater Collections Supervisor – Responsible for managing field operations and maintenance activities; provides relevant information to agency management; prepares and implements contingency plans; investigates and reports SSOs. Responsible for implementing and managing all SSMP operations and maintenance activities. Reports to the Field Superintendent.

Utility Workers, Field Staff – The Utility Workers and Field Staff perform field operations, preventive maintenance activities, and maintenance activities, provides relevant information to agency management (Wastewater Collections Supervisor, and Field Superintendent), implements contingency plans, leads emergency response, and investigates and reports SSOs. Responsible for sewer cleaning, afterhours response to service requests, spill response and mitigation, and supporting other City activities.

2.3 Authorized Representative
The Director of Public Works is the Legally Responsible Official (LRO). The duly authorized representative is the Deputy Public Works Director-Field Operations. The Field Superintendent or the Wastewater Collections Supervisor prepare, and submit electronic spill reports to the RWQCB and SWRCB and notify other government agencies. The LRO (or the duly authorized representative) certifies electronic spill reports to the RWQCB and SWRCB.

2.4 SSO Reporting Chain of Communication
Sanitary system overflow (SSO) detection, notification, response and reporting processes will be described in Element 6 – Overflow Emergency Response Plan. The sanitary system overflow (SSO) detection, notification, and response process is discussed below.

During normal business hours calls regarding SSOs are received by City Public Works Department Administrative Staff. Administrative Staff collect specific information on a SSO Report Form including:

- Time and date call was received;
- Specific location;
- Description of problem;
- Time possible overflow was noticed by the caller;
- Caller's name and phone number;
- Observations of the caller (e.g., odor, duration, back or front of property); and
- Other relevant information that will enable the responding investigator and crews, if required, to quickly locate, assess and stop the overflow.

Administrative Staff have a callout list and procedure which they follow including:
• Contact the Wastewater Collections Supervisor and provide the suspected SSO information;
• If the Wastewater Collections Supervisor is not available contact the Field Superintendent and provide the suspected SSO information; and
• If the Field Superintendent is not available contact the Field Staff (in a predetermined order) and provide the suspected SSO information.

After normal business hours calls regarding SSOs are received by 911 calls routed to the City of Eureka Police Department Dispatch. The Eureka Police Department Dispatch collect specific information on a SSO Report Form including:

• Time and date call was received;
• Specific location;
• Description of problem;
• Time possible overflow was noticed by the caller;
• Caller’s name and phone number;
• Observations of the caller (e.g., odor, duration, back or front of property); and
• Other relevant information that will enable the responding investigator and crews, if required, to quickly locate, assess and stop the overflow.

The Eureka Police Department Dispatch calls the 24-emergency Field Staff phone that is designated to responding to emergency afterhours calls.

• If the 24-hour Field Staff is not available (very unlikely) the Eureka Police Department Dispatch will contact the Wastewater Collections Supervisor and provide the suspected SSO information. The Wastewater Collections Supervisor will respond or will contact appropriate Field Staff from a 24-hour emergency callout list; and
• If the Wastewater Collections Supervisor is not available the Eureka Police Department Dispatch will contact the Field Superintendent and provide the suspected SSO information. The Field Superintendent will respond or will contact appropriate Field Staff from a 24-hour emergency callout list.

2.5 SSO Notification Chain of Communication
Field Staff that first respond to the site of a possible SSO will document specific observations and communicate the information to the Wastewater Collections Supervisor or the Field Superintendent. The Wastewater Collections Supervisor or the Field Superintendent will determine the regulatory notification requirements and will make any required (short-term notice) calls to appropriate State and County regulators. Based on documentation provided by Field Staff and personal observations the Wastewater Collections Supervisor or the Field Superintendent will prepare required written reports and upload the reports on the State webpage. The uploaded electronic reports will be certified by the LRO (Director of Public Works or duly authorized representative Deputy Public Works Director-Field Operations).
ELEMENT 3: LEGAL AUTHORITY

This element of the SSMP discusses the City of Eureka’s Legal Authority, including its Municipal Code and agreements with other agencies. This Element fulfills the Legal Authority requirement for the WDR (Element 3).

3.1 Regulatory Requirements for the Legal Authority Element

The requirements for the Legal Authority element of the SSMP are summarized below. The City must demonstrate, through collection system use ordinances, service agreements, or other legally binding procedures, that it possesses the necessary legal authority to:

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

3.2 City of Eureka Legal Authority

The legal authority required for the SSMP is contained in Eureka Municipal Code Title 5 (Public Works) Chapter 50 (sewers).

Eureka Municipal Ordinance

Eureka Municipal Code Title 5 (Public Works) Chapter 50 (sewers) is dedicated to the sewer system and is included in Appendix E. The sections that fulfill the requirements of the SSMP are indicated below:

1. Prevent illicit discharges into its wastewater collection system (examples may include infiltration and inflow (I/I), storm water, chemical dumping, unauthorized debris and cut roots, etc.);

Eureka Municipal Code 50.020 (B) (12) Prohibits the introduction of “Stormwater, surface water, ground water, artisan well water, roof runoff, subsurface drainage, swimming pool drainage, condensate, deionized water, noncontact cooling water, and unpolluted industrial wastewater, unless specifically authorized in writing by the City Manager."

Eureka Municipal Code 50.020 (B) “No person shall introduce or cause to be introduced into the POTW, directly or indirectly, any pollutant or wastewater which causes pass through or interference."

Eureka Municipal Code 50.020 (B) includes the following specific prohibitions:

(1) Pollutants which create a fire or explosive hazard in the municipal wastewater collection and POTW, including, but not limited to, wastestreams with a closed-cup flashpoint of less than 140° F (60° C) using the test methods specified in 40 CFR 261.21.
(2) Any wastewater having a pH less than 5.0 or more than 12.5, or otherwise causing corrosive structural damage to the POTW or equipment, or endangering city personnel.

(3) Solid or viscous substances in amounts which will cause obstruction of the flow in the POTW resulting in interference, but in no case solids greater than one-inch or 25.4 millimeters in any dimension.

(4) Any wastewater containing pollutants, including oxygen demanding pollutants (BOD, and the like), released in a discharge at a flow rate and/or pollutant concentration which, either singly or by interaction with other pollutants, will cause interference with either the POTW, or any wastewater treatment or sludge process; or which will constitute a hazard to humans or animals.

(5) Any wastewater having a temperature greater than 150° F (65.5° C), or which will inhibit biological activity in the treatment plant resulting in interference, but in no case wastewater which causes the temperature at the introduction into the treatment plant to exceed 104° F (40° C).

(6) Petroleum oil, nonbiodegradable cutting oil, or products of mineral oil origin, in amounts that will cause interference or pass through, but in no case shall the discharge exceed 25 mg/l.

(7) Any pollutants which result in the presence of toxic gases, vapors or fumes within the POTW in a quantity that may cause worker health and safety problems.

(8) Any trucked or hauled pollutants, except at discharge points designated by the city in accordance with § 50.039 of this chapter.

(9) Any noxious or malodorous liquids, gases, solids, or other wastewater which, either singly or by interaction with other wastes, are sufficient to create a public nuisance, a hazard to life, or to prevent entry into the sewers for maintenance and repair.

(10) Any wastewater which imparts color which cannot be removed by the treatment process, such as, but not limited to, dye wastes and vegetable tanning solutions, which consequently imparts color to the treatment plant’s effluent thereby violating the city’s NPDES permit. Color (in combination with turbidity) shall not cause the treatment plant effluent to reduce the depth of the compensation point for photosynthetic activity by more than 10% from the seasonably established norm for aquatic life.

(11) Any wastewater containing any radioactive wastes or isotopes, except as specifically approved in writing by the City Manager in compliance with applicable state or federal regulations.

(12) Stormwater, surface water, ground water, artisan well water, roof runoff, subsurface drainage, swimming pool drainage, condensate, deionized water, noncontact cooling water, and unpolluted industrial wastewater, unless specifically authorized in writing by the City Manager.

(13) Any sludges, screenings, or other residues from the pretreatment of industrial wastes.

(14) Any medical wastes, except as specifically authorized in writing by the City Manager in a wastewater discharge permit.

(15) Any wastewater causing the treatment plant’s effluent to fail a toxicity test.

(16) Any wastes containing detergents, surface active agents, or other substances which may cause excessive foaming in the POTW.

(17) Any discharge of fats, oils, or greases of animal or vegetable origin is limited to 100 mg/l.
2. **Require that sewers and connections be properly designed and constructed;**

The City has Standard Plans and Specifications for the construction of Sanitary Sewers that guarantees that the system is built properly and efficiently. The Standard Plans for Construction of Public Works, in section 2, titled "Sewers and Sanitation", has technical layouts, drawings, and exact specifications and instructions which ensure that "sewers and connections be properly designed and constructed. The City also has adopted the 2013 edition of the California Building Code (Title 24), which adopts by reference the:

- 2013 California Residential Code, based on the 2012 International Residential Code
- 2013 California Plumbing Code, based on the 2012 Uniform Plumbing Code
- 2013 California Mechanical Code, based on the 2012 Uniform Mechanical Code
- 2013 California Electrical Code, based on the 2011 National Electrical Code
- 2013 California Green Building Standards Code
- 2013 California Historical Building Code
- 2013 California Energy Code
- 2013 California Fire Code

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

**Eureka Municipal Code 50.121** includes the following provision to ensure access:

(B) Search warrants. If the City Manager has been refused access to a building, structure, or property or any part thereof, and if the City Manager has demonstrated probable cause to believe that there may be a violation of this chapter or that there is a need to inspect as part of a routine inspection program of the city designed to verify compliance with this chapter or any permit or order issued hereunder, or to protect the overall public health, safety, and welfare of the community, then the City Attorney may apply to the appropriate court for a search and/or seizure warrant describing therein the specific location subject to the warrant. The warrant shall specify what, if anything, may be searched and/or seized on the property described. In the event of an emergency affecting public health and safety, inspections shall be made without the issuance of a warrant.

(63 Code, § 5-5.702)

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

**Eureka Municipal Code 50.020 (B)** includes the following specific prohibitions:
(3) Solid or viscous substances in amounts which will cause obstruction of the flow in the POTW resulting in interference, but in no case solids greater than one-inch or 25.4 millimeters in any dimension.

(17) Any discharge of fats, oils, or greases of animal or vegetable origin is limited to 100 mg/l.

Eureka Municipal Code 50.036 includes the following requirements for pretreatment removal of grease:

(F) Grease interceptors shall be provided when, in the opinion of the City Manager, they are necessary for the proper handling of wastewater containing excessive amounts of fats, oils and grease that may cause or contribute to lateral or sanitary sewer overflows; except that such grease interceptors shall not be required for residential users. All grease interceptors shall be of type and capacity approved by the City Manager and shall be so located to be easily accessible for cleaning and inspection. Grease interceptors shall be installed in accordance with the provisions of this chapter. Such grease interceptors shall be inspected, cleaned, and repaired regularly, as needed, by the owner at his sole expense.

5. Enforce any violation of its sewer policies;

The City of Eureka has broad enforcement authority of its sewer policy as demonstrated in the referenced sections below:

Eureka Municipal Code 50.123 Administrative Enforcement Remedies

Eureka Municipal Code 50.124 Judicial Enforcement Remedies

Eureka Municipal Code 50.125 Supplemental Enforcement Remedies

Eureka Municipal Code 50.999 includes the following penalties for violation of sewer policies:

(A) Any person that willfully or negligently violates any provision of this chapter, any orders, or wastewater discharge permits issued hereunder, or any other pretreatment requirement shall, upon conviction, be guilty of a misdemeanor, punishable by a fine of not more than $500 per violation per day or imprisonment for not more than one year or both.

(B) Any person that willfully or negligently introduces any substance into the POTW which causes personal injury or property damage shall, upon conviction, be guilty of a misdemeanor and be subject to a penalty of at least $500 per violation per day or imprisonment for not more than one year. This penalty shall be in addition to any other cause of action for personal injury or property damage available under state law.

(C) Any person that knowingly makes any false statements, representations, or certifications in any application, record, report, plan or other documentation filed, or required to be maintained, pursuant to this chapter, wastewater discharge permit or order, or who falsifies, tampers with, or knowingly renders inaccurate any monitoring
device or method required under this chapter shall, upon conviction, be punished by a fine of not more than $500 per violation per day or imprisonment for not more than one year or both.

(D) In the event of a second conviction, a person shall be punished by a fine of not more than $2,000 per violation per day or imprisonment for not more than two years or both.

('63 Code, § 5-5.1103) (Ord. 571-C.S., passed 6-2-94; Am. Ord. 775-C.S., passed 12-20-11)

The chapters listed above pertain to the legal authority required for fulfillment of SSMP requirements.

3.3 Agreements with Other Agencies

The City or Eureka has wastewater related agreements with Humboldt Community Services District (HCSD). The HCSD agreement establishes the following:

- Mutual aid;
- Parity with City of Eureka legal authority related to SSOs;
- Allocation of costs for maintenance and capital improvements;
- Limitations on wastewater volume and strength; and
- Formal informal mutual aid agreements for labor, equipment and supplies.
ELEMENT 4: OPERATION AND MAINTENANCE PROGRAM

4.1 Regulatory Requirements for the Operations and Maintenance Program Element
The Waste Discharge Requirements (WDR) states that the City shall develop and implement an Operations and Maintenance (O & M) Program which should include the following:

- The City must maintain an up-to-date map of the sanitary sewer system, showing all gravity line segments, manholes, pumping facilities, pressure pipes, valves, and applicable storm water conveyance facilities;
- The City must describe routine preventive operation and maintenance activities by staff and contractors; including a system for scheduling regular maintenance and cleaning of the sanitary sewer system with more frequent cleaning and maintenance targeted at known problem areas. The Preventive Maintenance program should have a system to document scheduled and conducted activities, such as work orders;
- The City must develop a rehabilitation and replacement plan to identify and prioritize system deficiencies and implement short-term and long-term rehabilitation actions to address each deficiency. The program should include regular visual and TV inspections of manholes and sewer pipes, and a system for ranking the condition of sewer pipes and scheduling rehabilitation. 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-term and long-term plans plus a schedule for developing the funds needed for the capital improvement plan;
- The City must provide equipment and replacement part inventories, including identification of critical replacement parts; and
- The City must provide training on a regular basis for staff in sanitary sewer system operations, maintenance, and require contractors to be appropriately trained.

4.2 Maps
The City of Eureka maintains a hard copy map archive, along with a map index for various sections of the City, located at the Public Works Corporation Yard. The maps contain location and specification information on the entire system of gravity segments, pressure segments, manholes, valves, and lift and pump stations. When a new component is installed the hard copy master plans are updated, by Public Works personnel, to illustrate and explain the new installation or adjustment. The GIS Division's GIS Coordinator currently maintains and offers a digital version of the City of Eureka's sewer system, which is available online to Public Works personal.

4.3 Preventive Operations and Maintenance Program
The wastewater treatment plant (WWTP) performs a variety of scheduled, preventive, predictive, and breakdown maintenance on a diverse spectrum of equipment. The main goal of maintenance activities is to ensure equipment availability to meet plant process operation requirements.
The Wastewater Collections Division maintains all gravity and pressure pipelines and pump stations. The division has the equipment and experience to complete pipeline cleaning including but not limited to flushing, jet-rodding, vectoring, CCTV and to make pipeline repairs and confined space entrances as necessary. The Division also has the ability to monitor and maintain all of the collection pump stations.

The wastewater collections Supervisor identifies critical line problems and failures by:
- Visual check of manholes during routine maintenance (debris in the flow);
- Stoppage reports;
- Customer initiated inquires;
- Maintenance Software; and
- CCTV inspections.

The City prioritizes its preventive maintenance activities. The preventive maintenance program includes:
- Compiling and maintaining a list of areas within the system that require repeated maintenance. Records maintained in the Preventive Maintenance Binder (PMB). The PMB is maintained and revised by the Wastewater Collections Supervisor. PM activities are scheduled at recurring intervals of 3-months, 6-months, and 12-months depending on the individual circumstances. Field Staff complete data collection forms for PM activities which are returned to the Wastewater Collections Supervisor for review and adjustments of the schedule or activity as necessary;
- Closed circuit television (CCTV) inspections (12,500 feet per year);
- Scheduled jet-rodding of the hot spots (4,500 feet per year);
- Hydro-cleaning (approximately 225,000 feet per year);
- Regular inspections of all lift stations, inspected twice a week and are on a proactive maintenance schedule;
- Investigation of customer complaints; and
- The City of Eureka maintains a Preventive Maintenance Binder (PMB) in the Wastewater Collections Supervisor’s office for scheduling, monitoring and adjusting preventive maintenance activities. The PMB includes location information, observations, direction and distance of cleaning, and comments. The City has a goal of integrating the information from the PMB into a GIS asset management program.

**Gravity Sewers**
The City currently uses in-house services for routine and emergency sewer cleaning as needed. The City uses its field crews to complete most emergency repairs. The City contracts several local contractors to correct larger emergency problems. The location of the manholes permits access for upstream cleaning of the gravity sewers.

**Lift Stations and Force Mains**
The City's force mains O & M program consists of periodic inspections and corrective maintenance activities conducted by City staff. Flow inspections are made periodically from the manholes located at the intersection of the force main and the gravity sewer line.

The City’s maintenance staff is responsible for the City’s lift stations each equipped with two pumps. The City performs inspections of the lift stations twice per week and backup generators for the lift stations are started and run once per month. Daily inspections include visual check of the equipment, manual cycling of pumps, checking and cleaning floats, recording hour meter readings, the removal of debris, and checking the backup generator.
Extensive maintenance includes cleaning sumps, and removing pumps for inspection and repairs if necessary. Pumps are serviced annually by City Utility Staff. Lift station inspections and maintenance are tracked in logbooks that are kept at the lift station. Backup generators for the lift stations are tested and exercised monthly. The lift stations are monitored by the Supervisory Control and Data Acquisition (SCADA) system 24-hours a day. The SCADA system is programmed to autodial by telephone to a private security company. The private security company has instructions to:

- Call the 24-emergency Field Staff phone that is designated to responding to emergency afterhours calls;
- If the 24-hour Field Staff is not available (very unlikely) the private security company will contact the Wastewater Collections Supervisor and provide the SCADA alarm information. The Wastewater Collections Supervisor will respond or will contact appropriate Field Staff from a 24-hour emergency callout list; and
- If the Wastewater Collections Supervisor is not available the private security company will contact the Field Superintendent and provide the SCADA alarm information. The Field Superintendent will respond or will contact appropriate Field Staff from a 24-hour emergency callout list.

**Root Control**
The City has very few problems with roots throughout the system. If closed circuit television (CCTV) determines roots are an issue in a line, root cutting will be performed with mechanical cutters.

**Odor Control**
The City receives very few odor complaints per year. The City has no official odor control program in place. When there are complaints, City crews apply deodorant around the lift stations.

**Non-Routine Maintenance**
The City utilizes in-house services for cleaning of known trouble spots. Non-routine maintenance activities include investigation and response to any complaints regarding a manhole overflow, missing or shifted manhole covers, manhole covers that are excessively noisy, residential plumbing problems, lift station malfunction, unexpected sewer odor, etc. Sewer complaints are investigated and appropriate actions are taken to resolve the source of the problem.

**Special Needs Maintenance**
The City has a hotspot sewer cleaning program for identified problematic line segments to prevent blockages and SSOs with a two month cleaning cycle. Frequencies of cleaning cycles may be adjusted based on the observations during the sewer cleaning. The frequency will be shortened for line segments with moderate to heavy accumulations and extended for line segments with lesser accumulations.

**Emergency Maintenance**
The City’s collection system facilities have periodically experienced blockages and/or SSOs that require unplanned maintenance under emergency conditions. The City has developed
emergency maintenance procedures contained within their *Sanitary Sewer Overflow and Backup Response Plan*. For more information, refer to Element 6.

**Information Systems/Data Collection**

The City currently tracks maintenance activities using paper work orders. The City has the goal of developing and implementing an electronic work order tracking system.

### 4.4 Rehabilitation and Replacement Program

The City utilizes a combination of inspection activities to assess the condition of sewer assets including:

- Routine aboveground inspections of the collection system facilities, and lift stations to identify defects, damage or other identified problems;

- Select trouble spots within the system have been inspected with closed circuit television (CCTV). A system-wide CCTV inspection is scheduled to be completed by 2018. Inspection data collected during the CCTV inspections is reviewed by the Wastewater Supervisor to determine whether repairs or rehabilitation/replacement are warranted;

- Manhole visual inspections are scheduled to be completed in 2016;

- A flow monitoring capacity analysis is currently being performed; and Flow monitoring and capacity analysis was performed by Brown and Caldwell as part of the WW Facilities plan from 2006-2007. The City identified capacity constraints in both the collection and treatment systems and implemented projects, including Martin Slough, and plan to implement more (2016-2021 CIP Appendix I); and

The City plans to implement the following within the next three years:

- Develop a robust I/I program targeted and prioritized to reduce I/I in basins with the least capacity and those with the highest rates of I/I. The City is currently determining what this will look like and what resources will be needed; and

- Develop a robust inspection program that clearly lays out both the City’s goals, and the resources needed to meet them.

Both of these will likely be encapsulated in the I/I Program document currently being developed and should be completed by the end of calendar year 2016.

The City of Eureka maintains an updated capital improvements plan (CIP) that includes short and long-term rehabilitation projects, which are to address deficiencies in the sewer system, resulting in increased efficiency and a reduction in the impact and frequency of SSOs. In 2008 collection system modeling was performed by Brown and Caldwell. The focus of the analysis was to identify improvements to the conveyance system for meeting projected flows and eliminate SSOs, and to identify the most cost-effective rain derived infiltration and inflow (RDII) removal projects designed to limit peak flows to the WWTP to 32 million gallons per day (mgd). The 20-Year RDII Removal CIP identified improvements to meet the stated objectives at an estimated cost of approximately $18 million. A copy of the report is included as Appendix F.

### 4.5 Training

Training is provided by many sources including video tapes, attending classes put on by safety companies, training on new equipment by suppliers, classes held to prepare personnel for the certification exams for collection system maintenance and on the job training by the most experienced member of the division. Annual training for all members of the crew includes:
- Trenching and Shoring;
- Confined Space;
- Emergency Preparedness;
- Safety;
- Updates on equipment and procedures and
- Pipe Bedding and Repair.

Other training that is received on an as available basis as determined by the Wastewater Collection Supervisor includes:
- Electrical Troubleshooting;
- Pump Repair;
- CWEA Seminars; and
- Seal Seminars.

On the job training is provided by the Wastewater Collection Supervisor. Also the Wastewater Collection Senior Utility Workers, who on average have over 10 years of experience, provide on the job training for less experienced workers.

The trainings include:
- AED & CPR;
- First Aid;
- Chlorine Safety;
- Forklift Safety;
- Sludge Dewatering Systems;
- Confined Space Entry;
- Trenching Training;
- Back Safety; and
- Flagging Training.

The Field Superintendent tracks and maintains documentation of all trainings in a training spreadsheet.

The City of Eureka does not dictate what training contractors need. Contractors have to comply with all applicable laws according to our contracts. The City leaves it up to the contractors to determine what training they need to be in compliance.

4.6 Contingency Equipment and Replacement Parts Inventory

Equipment Inventory List:
- 9 cubic yard vactor-jet-vacuum combination truck (2);
- Hydro jet cleaning truck;
- 1 ton service trucks (3);
- 1 ton service van;
- 4 yard dump trucks (2);
- 10 yard dump truck;
- Cat 420D backhoe;
- Sreco rodder machine;
- Altec boom truck model D880A;
• Sanafoam Vaporrooter (trailer mounted);
• CCTV trailer;
• Gorman Rupp 6" mobile pump station;
• 4-inch self-priming mobile pump station;
• Portable and permanent generators; and
• Small pumps and generators (several).

The City budgets every year for equipment replacement and upgrade when the Division Supervisor feels that it is appropriate. Replacement parts are maintained by the Wastewater Collection Division and are stored at the Corporation Yard. The equipment is maintained by the equipment operation shop, also located at the Corporation Yard.
ELEMENT 5: DESIGN AND PERFORMANCE PROVISIONS

The intent of this Element of the SSMP is to document the City’s design and performance provisions.

5.1 Regulatory Requirements for the Design and Performance Provisions
The WDR requires that the Design and Performance element of the SSMP provide the following:

- The City must have design and construction standards and specifications for the installation of new sewer systems, lift stations and other appurtenances; and for the rehabilitation and repair of existing sewer systems; and
- The City must have procedures and standards for inspecting and testing the installation of new sewers, pumps, and other appurtenances and for rehabilitation and repair projects.

5.2 Standards for Installation, Rehabilitation and Repair
The City has Standard Plans and Specifications for the construction of Sanitary Sewers that guarantees that the system is built properly and efficiently. The Standard Plans for Construction of Public Works, in section 2, titled "Sewers and Sanitation", has technical layouts, drawings, and exact specifications and instructions which ensure that "sewers and connections be properly designed and constructed."

The City also has adopted the 2013 edition of the California Building Code (Title 24), which adopts by reference the:

- 2013 California Residential Code, based on the 2012 International Residential Code
- 2013 California Plumbing Code, based on the 2012 Uniform Plumbing Code
- 2013 California Mechanical Code, based on the 2012 Uniform Mechanical Code
- 2013 California Electrical Code, based on the 2011 National Electrical Code
- 2013 California Green Building Standards Code
- 2013 California Historical Building Code
- 2013 California Energy Code
- 2013 California Fire Code

5.3 Standards for Inspection and Testing of New, Rehabilitated, and Repaired Facilities
The City of Eureka standards for inspection and testing of sewer facilities is included in SECTION 15300 of the City’s adopted specifications and engineering standards, "SANITARY SEWER PIPING and APPURTENANCES (GRAVITY SYSTEMS)." A copy of the inspection and testing standards are included in Appendix G.
ELEMENT 6: OVERFLOW EMERGENCY RESPONSE PLAN

The intent of this Element of the SSMP is to document the City’s Overflow Emergency Response Plan (OERP) which is included as Appendix H.

6.1 Regulatory Requirements for the Overflow Emergency Response Plan

The City shall develop and implement an OERP that identifies measures to protect public health and the environment. At a minimum, this plan must include the following:

- Proper notification procedures so that the primary responders and regulatory agencies are informed of all SSOs in a timely manner;
- A program to ensure appropriate response to all overflows;
- 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 Adopted Amended Monitoring and Reporting Requirements State Water Resources Control Board Order Number WQ 2013-0058-EXEC. All SSOs shall be reported in accordance with this Order, the California Water Code, other State Law, and other applicable Regional Water Board WDR or National Pollution Discharge Elimination System (NPDES) permit requirements. The SSMP should identify the officials who will receive immediate notification;
- Procedures to ensure that appropriate staff and contractor personnel are aware of and follow the Emergency Response Plan and are appropriately trained;
- Procedures to address emergency operations, such as traffic and crowd control and other necessary response activities; and
- 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 City of Eureka OERP

The City’s Overflow Emergency Response Plan is include in Appendix H. The OERP meets the regulatory requirements listed above.

6.3 External SSO Notification Requirements

Addressed in Section 3.0, 10.0 and 13.0 of the attached OERP (Appendix H).

6.4 External SSO Reporting Requirements

Addressed in Section 13.0 of the attached OERP (Appendix H)

6.5 Training

Addressed in Section 16.0 of the attached OERP (Appendix H)

6.6 Record Keeping

Addressed in Section 16.0 of the attached OERP (Appendix H)
ELEMENT 7: FATS, OILS AND GREASE (FOG) CONTROL PROGRAM

The intent of this Element of the SSMP is to document the City’s compliance with the FOG Program requirements.

7.1 Regulatory Requirements for the FOG Program

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:

- An implementation plan and schedule for a public education outreach program that promotes proper disposal of FOG;
- 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;
- The legal authority to prohibit discharges to the system and identify measures to prevent SSOs and blockages caused by FOG;
- 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;
- Authority to inspect grease producing facilities, enforcement authorities, and whether the City has sufficient staff to inspect and enforce the FOG ordinance;
- An identification of sewer system sections subject to FOG blockages and establish a cleaning maintenance schedule for each section; and
- Development and implementation of source control measures, for all sources of FOG discharged to the sewer system, for each sewer system section identified above.

The City of Eureka has a Pretreatment Division with a full time pretreatment position; the Source Control Inspector. The Source Control Inspector performs regularly scheduled FOG inspections at food service establishments (FSE's) to ensure that grease traps, grease interceptors and other grease removal devices are installed and maintained, compiles compliance data on FOG sites, and performs necessary enforcement activities. The Source Control Inspector reviews all plans for new construction and remodels of FSE's that require a building permit to assure that the appropriate grease interceptor is implemented. Pretreatment Staff regularly receive referrals from the Health Department regarding new facilities and facilities that are closed due to grease-related blockages.

7.2 Public Education and Outreach Program

Public education and outreach occur at during each FOG inspection. During FOG inspections the City representative will provide operators with copies of the City’s FOG Control Ordinance. The City representative will discuss the importance of FOG control and answer any questions. Additionally the City will post FOG information on its webpage.
7.3 FOG Source Control
The City of Eureka has a well developed FOG Control Program that has been in operation for many years. Implementation of the FOG Control Program includes the following steps:

- Development of a FOG source list;
- Perform inspections of new and existing sources;
- Generate “compliance” letters for facilities that require immediate service;
- Follow-up inspections to verify maintenance and cleaning frequency;
- Create FOG records system for the retention of site specific FOG information; and
- Perform routine FOG inspections and maintain records of all sources.

7.4 Disposal of FOG
The City of Eureka has developed several municipal ordinances to regulate the collection and hauling/disposal of FOG waste generated in the City service area including:

- Eureka Municipal Code 50.040 Grease hauler permit requirements
- Eureka Municipal Code 50.041 Grease hauler permit application
- Eureka Municipal Code 50.042 Grease hauler permit reissuance
- Eureka Municipal Code 50.043 Grease hauler permit contents
- Eureka Municipal Code 50.044 Grease hauler permit appeals
- Eureka Municipal Code 50.045 Grease hauler permit modification
- Eureka Municipal Code 50.046 Revocation of permit

A list of current permits for approved FOG haulers is maintained by the City and is included below:

<table>
<thead>
<tr>
<th>Hauler</th>
<th>Contact</th>
<th>Phone No.</th>
</tr>
</thead>
<tbody>
<tr>
<td>North State Rendering</td>
<td>Rick Moore</td>
<td>707-441-4366</td>
</tr>
<tr>
<td>Cal Ore Grease Trap Services</td>
<td>Brad Sharp</td>
<td>707-954-0422</td>
</tr>
</tbody>
</table>

7.5 Legal Authority for FOG Program
Legal authority for the Eureka FOG Program is contained within the Eureka Municipal Code Title 5 (Public Works) Chapter 50 (sewers).

1. Limit the discharge of fats, oils, and grease and other debris that may cause blockages;
    **Eureka Municipal Code 50.020 (B) (3)** Solid or viscous substances in amounts which will cause obstruction of the flow in the POTW resulting in interference, but in no case solids greater than one-inch or 25.4 millimeters in any dimension.
    **Eureka Municipal Code 50.020 (B) (17)** Any discharge of fats, oils, or greases of animal or vegetable origin is limited to 100 mg/l.

2. Enforce any violation of its sewer policies;
   The City of Eureka has broad enforcement authority of its sewer policy as demonstrated in the referenced sections below:
Eureka Municipal Code 10.39 Administrative Citations
Eureka Municipal Code 10.40 Amount of Administrative Fines
Eureka Municipal Code 10.45 Notice of Violation
Eureka Municipal Code 10.57 Lien Procedure
Eureka Municipal Code 10.99 General Penalty

Eureka Municipal Code 50.123 Administrative Enforcement Remedies
Eureka Municipal Code 50.124 Judicial Enforcement Remedies
Eureka Municipal Code 50.125 Supplemental Enforcement Remedies
Eureka Municipal Code 50.999 includes the following penalties for violation of sewer policies:

(A) Any person that willfully or negligently violates any provision of this chapter, any orders, or wastewater discharge permits issued hereunder, or any other pretreatment requirement shall, upon conviction, be guilty of a misdemeanor, punishable by a fine of not more than $500 per violation per day or imprisonment for not more than one year or both.

(B) Any person that willfully or negligently introduces any substance into the POTW which causes personal injury or property damage shall, upon conviction, be guilty of a misdemeanor and be subject to a penalty of at least $500 per violation per day or imprisonment for not more than one year. This penalty shall be in addition to any other cause of action for personal injury or property damage available under state law.

(C) Any person that knowingly makes any false statements, representations, or certifications in any application, record, report, plan or other documentation filed, or required to be maintained, pursuant to this chapter, wastewater discharge permit or order, or who falsifies, tampers with, or knowingly renders inaccurate any monitoring device or method required under this chapter shall, upon conviction, be punished by a fine of not more than $500 per violation per day or imprisonment for not more than one year or both.

(D) In the event of a second conviction, a person shall be punished by a fine of not more than $2,000 per violation per day or imprisonment for not more than two years or both.

(63 Code, § 5-5.1103) (Ord. 571-C.S., passed 6-2-94; Am. Ord. 775-C.S., passed 12-20-11)

7.6 Requirements to Install and Inspect Grease Removal Devices
Eureka Municipal Code 50.036 includes the following requirements for pretreatment removal of grease:

(F) Grease interceptors shall be provided when, in the opinion of the City Manager, they are necessary for the proper handling of wastewater containing excessive amounts of fats, oils and grease that may cause or contribute to lateral or sanitary sewer overflows; except that such grease interceptors shall not be required for residential users. All grease interceptors shall be of type and capacity approved by the City Manager and shall be so located to be easily accessible for cleaning and inspection. Grease interceptors shall be installed in accordance with the provisions of this chapter. Such grease interceptors shall be inspected, cleaned, and repaired
regularly, as needed, by the owner at his sole expense.

7.7 Identification of Grease Problem Areas and Sewer Cleaning
The City of Eureka has a list of hotspots. There are several reasons for regular inspection and cleaning including issues caused by grease blockages. The list of hotspots is included in the Preventive Maintenance Binder (PMB) which is maintained in the Wastewater Collections Supervisor's office. The PMB indicates scheduling, monitoring and allows for adjusting preventive maintenance activities. The PMB includes location information, observations, direction and distance of cleaning, and comments. The City has a goal of integrating the information from the PMB into a GIS asset management program.
ELEMENT 8: SYSTEM EVALUATION AND CAPACITY ASSURANCE PLAN

This Element of the SSMP discusses the City’s capacity management measures, and recommended capacity improvement projects.

8.1 Regulatory Requirements for the System Evaluation and Capacity Assurance Plan

The WDR requirements for the System Evaluation and Capacity Assurance element of the SSMP are summarized below:

- **Evaluation**: The City must identify actions needed to evaluate those portions of the sewer system that are experiencing or contributing to an SSO discharge caused by hydraulic deficiency. The evaluation must provide estimates of peak flows, estimates of the capacity of key system components, hydraulic deficiencies, and the major sources that contribute to the peak flows associated with overflow events.

- **Design Criteria**: Where design criteria do not exist or are deficient, the agency should undertake the evaluation identified in the Evaluation section above to establish appropriate design criteria.

- **Capacity Enhancement Measures**: The agency must identify the steps needed to establish a short- and long-term Capital Improvement Plan (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.

- **Schedule**: The agency shall develop a schedule of completion dates for all portions of the CIP developed in the Evaluation, Design Criteria and Capacity Enhancement Measures sections above. This schedule shall be reviewed and updated at least every five years.

8.2 Capacity Evaluation

In 2008 collection system modeling was performed by Brown and Caldwell. The focus of the analysis was to identify improvements to the conveyance system for meeting projected flows and eliminate SSOs, and to identify the most cost-effective RDII removal projects designed to limit peak flows to the WWTP to 32 mgd. The 20-Year RDII Removal CIP identified improvements to meet the stated objectives at an estimated cost of approximately $18 million. A copy of the report is included as Appendix F.

8.3 Recommended Capacity Projects

Brown and Coldwell’s recommendations required to meet the dual objectives of maintaining the peak flows to the WWTP to 32 mgd and to avoid future SSOs are summarized below:

- Remove approximately 5.7 mgd of RDII using trenchless rehabilitation methods to address sewer mains and laterals to the buildings holistically in the following sewer basins:
  - Street LS meter basin ($3.4 million)
  - H Street LS meter basin ($3.4 million)
  - 0 Street and 16th and McFarland meter basin ($7.4 million)
  - Hill Street PS meter basin ($3.8 million)
• Upsize the following gravity sewers:
  • Downstream of Hoover meter ($550,000)
  • West Avenue ($67,000)

• Flow monitoring and modeling to determine the need for upsizing of mains on Waterfront and Summer Streets

A copy of the 2016-2021 CIP is included in Appendix I.

8.4 Schedule
The current City CIP includes projected projects over the next five years (short term planning horizon) which is continually being reworked by the Public Works staff based on funding that is available and several other factors. The City also maintains a 20-year list of projects (long-term planning horizon) which provides a framework for additional improvements.
ELEMENT 9: MONITORING, MEASUREMENTS, AND PROGRAM MODIFICATIONS

This Element of the SSMP discusses parameters the City tracks to monitor the success of the SSMP and how the City plans to keep the SSMP current.

9.1 Regulatory Requirements for the Monitoring, Measurements, and Program Modifications

The WDR requirements for the Monitoring, Measurement, and Program Modifications element of the SSMP are summarized below:

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

9.2 Monitoring Information

The City will maintain information that can be used in SSMP performance monitoring through the CIWQS database administered by the State and Regional Water Quality Control Boards to track information under the statewide general SSO order. All CIWQS information is available through the Public Reports portal at: http://www.waterboards.ca.gov/water_issues/programs/ciwqs/publicreports.html

9.3 Performance Measures

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

- Total number of SSOs per year;
- Total volume of SSOs per year;
- Percent of spilled wastewater recovered (per year); and
- Volume of spilled wastewater discharged to surface waters (gallons per year) compared to total volume of wastewater spilled (gallons per year).

These parameters were selected because they are straightforward, quantitative, and focused on results. These parameters are also available to both City staff and the public at all times through the CIWQS system.

At the date of this SSMP the following trends were observed:
Additional performance measures include programs that the City of Eureka is developing for implementation as a result of the SSMP development process. These programs include:

<table>
<thead>
<tr>
<th>Future Activity and Schedule</th>
<th>Completion Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Develop a robust I/I program</td>
<td>2016</td>
</tr>
<tr>
<td>• A system-wide CCTV inspection is scheduled</td>
<td>2018</td>
</tr>
<tr>
<td>• The entire wastewater system will be smoke tested</td>
<td>2017</td>
</tr>
</tbody>
</table>

9.4 Performance Monitoring and Program Changes
The SSMP should be updated periodically to maintain current information, and programs need to be enhanced or modified if they are determined to be less effective than needed. The City will annually evaluate the performance of the wastewater collection system using the performance measures listed in Section 9.3. The City will review the successes and needed improvements of the SSMP as part of the SSMP biannual audit, described in Element 10.

City staff will update critical information, such as contact numbers and the SSO response chain of communication, as needed. A comprehensive SSMP update will occur every 5 years as required by the SWRCB.
ELEMENT 10: SSMP PROGRAM AUDITS

The intent of this Element of the SSMP is to document the City’s auditing program.

10.1 Regulatory Requirements for the SSMP Program Audits

The WDR requirements for the SSMP Program Audits element of the SSMP are summarized below:

- The City 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 City’s compliance with the SSMP requirements, including identification of any deficiencies in the SSMP and steps to correct them.

10.2 SSMP Audits Discussion

The City completed an audit in 2015 (Appendix C) and will audit its SSMP every two years. The next audit will be completed prior to January 2017 and will cover calendar years 2015 and 2016. The audit will determine whether the SSMP meets the current requirements of the WDR, whether the SSMP reflects the City’s current practices, and whether the City is following the SSMP.

The audit will be conducted by a team consisting of the City’s Wastewater Staff. The audit team may also include members from other areas of the City, outside agencies, and/or contractors. The scope of the audit will cover each of the Elements of the SSMP.

The results of the audit will be included in the Audit Report. The Audit Report may contain information about successes in implementing the most recent version of the SSMP and identify revisions that may be needed for a more effective program. Information collected as part of Element 9 Monitoring, Measurement, and Program Modifications will be used in preparing the audit. Tables, figures, and/or charts may be used to summarize information about these indicators.

The City will update its SSMP at least every five years. The next update will be completed on or before December 1, 2020.

The City will determine the need to update its SSMP more frequently based on the results of the biannual audits and the performance of its sanitary sewer system using information from the Monitoring and Measuring Program. In the event that the City decides that an update is warranted, the process to complete the update will be identified at that time. The City will complete the update within one year following identification of the need for the update.

The City Staff will seek the approval from the City Council for any significant changes to the SSMP. The authority for approval of minor changes such as employee names, contact information, or limited procedural changes is delegated to the Deputy Public Works Director-Field Operations or the Field Superintendent.
ELEMENT 11: COMMUNICATION PLAN

The intent of this Element of the SSMP is to identify a plan to communicate information regarding the City's SSMP activities to the public. The plan includes a process for the public to receive SSMP information as well as provide input to the City on the SSMP.

11.1 Regulatory Requirements for the Communication Plan

The WDR requirements for the Communication Plan element of the SSMP are summarized below:

- 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 City as the program is developed and implemented; and
- The City shall create a plan of communication with systems that are tributary and/or satellite to the City's sanitary sewer system.

11.2 Communication Plan

The City has several methods for communicating information to and receiving information from the public. The following methods have been identified as alternatives that would be effective as part of the City’s Communication Plan.

- **City Website** – The City will evaluate the use of a webpage on the City’s existing website to facilitate the transfer of information to the public regarding the SSMP. This webpage would include the entire SSMP, audit performance information, and associated information. The webpage would also serve as a venue for soliciting input from the public on the SSMP.

- **City Council Meetings** – City Council meetings are public meetings and televised on a local broadcast station. General SSMP information and updates on sanitary sewer system performance could be added as a regular discussion item on the City Council agenda.
APPENDIX A

ORDER NUMBER 2006-003
The State Water Resources Control Board, hereinafter referred to as “State Water Board”, finds that:

1. All federal and state agencies, municipalities, counties, districts, and other public entities that own or operate sanitary sewer systems greater than one mile in length that collect and/or convey untreated or partially treated wastewater to a publicly owned treatment facility in the State of California are required to comply with the terms of this Order. Such entities are hereinafter referred to as “Enrollees”.

2. Sanitary sewer overflows (SSOs) are overflows from sanitary sewer systems of domestic wastewater, as well as industrial and commercial wastewater, depending on the pattern of land uses in the area served by the sanitary sewer system. SSOs often contain high levels of suspended solids, pathogenic organisms, toxic pollutants, nutrients, oxygen-demanding organic compounds, oil and grease and other pollutants. SSOs may cause a public nuisance, particularly when raw untreated wastewater is discharged to areas with high public exposure, such as streets or surface waters used for drinking, fishing, or body contact recreation. SSOs may pollute surface or ground waters, threaten public health, adversely affect aquatic life, and impair the recreational use and aesthetic enjoyment of surface waters.

3. Sanitary sewer systems experience periodic failures resulting in discharges that may affect waters of the state. There are many factors (including factors related to geology, design, construction methods and materials, age of the system, population growth, and system operation and maintenance), which affect the likelihood of an SSO. A proactive approach that requires Enrollees to ensure a system-wide operation, maintenance, and management plan is in place will reduce the number and frequency of SSOs within the state. This approach will in turn decrease the risk to human health and the environment caused by SSOs.

4. Major causes of SSOs include: grease blockages, root blockages, sewer line flood damage, manhole structure failures, vandalism, pump station mechanical failures, power outages, excessive storm or ground water inflow/infiltration, debris blockages, sanitary sewer system age and construction material failures, lack of proper operation and maintenance, insufficient capacity and contractor-caused damages. Many SSOs are preventable with adequate and appropriate facilities, source control measures and operation and maintenance of the sanitary sewer system.
SEWER SYSTEM MANAGEMENT PLANS

5. To facilitate proper funding and management of sanitary sewer systems, each Enrollee must develop and implement a system-specific Sewer System Management Plan (SSMP). To be effective, SSMPs must include provisions to provide proper and efficient management, operation, and maintenance of sanitary sewer systems, while taking into consideration risk management and cost benefit analysis. Additionally, an SSMP must contain a spill response plan that establishes standard procedures for immediate response to an SSO in a manner designed to minimize water quality impacts and potential nuisance conditions.

6. Many local public agencies in California have already developed SSMPs and implemented measures to reduce SSOs. These entities can build upon their existing efforts to establish a comprehensive SSMP consistent with this Order. Others, however, still require technical assistance and, in some cases, funding to improve sanitary sewer system operation and maintenance in order to reduce SSOs.

7. SSMP certification by technically qualified and experienced persons can provide a useful and cost-effective means for ensuring that SSMPs are developed and implemented appropriately.

8. It is the State Water Board’s intent to gather additional information on the causes and sources of SSOs to augment existing information and to determine the full extent of SSOs and consequent public health and/or environmental impacts occurring in the State.

9. Both uniform SSO reporting and a centralized statewide electronic database are needed to collect information to allow the State Water Board and Regional Water Quality Control Boards (Regional Water Boards) to effectively analyze the extent of SSOs statewide and their potential impacts on beneficial uses and public health. The monitoring and reporting program required by this Order and the attached Monitoring and Reporting Program No. 2006-0003-DWQ, are necessary to assure compliance with these waste discharge requirements (WDRs).

10. Information regarding SSOs must be provided to Regional Water Boards and other regulatory agencies in a timely manner and be made available to the public in a complete, concise, and timely fashion.

11. Some Regional Water Boards have issued WDRs or WDRs that serve as National Pollution Discharge Elimination System (NPDES) permits to sanitary sewer system owners/operators within their jurisdictions. This Order establishes minimum requirements to prevent SSOs. Although it is the State Water Board’s intent that this Order be the primary regulatory mechanism for sanitary sewer systems statewide, Regional Water Boards may issue more stringent or more
prescriptive WDRs for sanitary sewer systems. Upon issuance or reissuance of a Regional Water Board’s WDRs for a system subject to this Order, the Regional Water Board shall coordinate its requirements with stated requirements within this Order, to identify requirements that are more stringent, to remove requirements that are less stringent than this Order, and to provide consistency in reporting.

**REGULATORY CONSIDERATIONS**

12. California Water Code section 13263 provides that the State Water Board may prescribe general WDRs for a category of discharges if the State Water Board finds or determines that:

- The discharges are produced by the same or similar operations;
- The discharges involve the same or similar types of waste;
- The discharges require the same or similar treatment standards; and
- The discharges are more appropriately regulated under general discharge requirements than individual discharge requirements.

This Order establishes requirements for a class of operations, facilities, and discharges that are similar throughout the state.

13. The issuance of general WDRs to the Enrollees will:
   a) Reduce the administrative burden of issuing individual WDRs to each Enrollee;
   b) Provide for a unified statewide approach for the reporting and database tracking of SSOs;
   c) Establish consistent and uniform requirements for SSMP development and implementation;
   d) Provide statewide consistency in reporting; and
   e) Facilitate consistent enforcement for violations.

14. The beneficial uses of surface waters that can be impaired by SSOs include, but are not limited to, aquatic life, drinking water supply, body contact and non-contact recreation, and aesthetics. The beneficial uses of ground water that can be impaired include, but are not limited to, drinking water and agricultural supply. Surface and ground waters throughout the state support these uses to varying degrees.

15. The implementation of requirements set forth in this Order will ensure the reasonable protection of past, present, and probable future beneficial uses of water and the prevention of nuisance. The requirements implement the water quality control plans (Basin Plans) for each region and take into account the environmental characteristics of hydrographic units within the state. Additionally, the State Water Board has considered water quality conditions that could reasonably be achieved through the coordinated control of all factors that affect
water quality in the area, costs associated with compliance with these requirements, the need for developing housing within California, and the need to develop and use recycled water.

16. The Federal Clean Water Act largely prohibits any discharge of pollutants from a point source to waters of the United States except as authorized under an NPDES permit. In general, any point source discharge of sewage effluent to waters of the United States must comply with technology-based, secondary treatment standards, at a minimum, and any more stringent requirements necessary to meet applicable water quality standards and other requirements. Hence, the unpermitted discharge of wastewater from a sanitary sewer system to waters of the United States is illegal under the Clean Water Act. In addition, many Basin Plans adopted by the Regional Water Boards contain discharge prohibitions that apply to the discharge of untreated or partially treated wastewater. Finally, the California Water Code generally prohibits the discharge of waste to land prior to the filing of any required report of waste discharge and the subsequent issuance of either WDRs or a waiver of WDRs.

17. California Water Code section 13263 requires a water board to, after any necessary hearing, prescribe requirements as to the nature of any proposed discharge, existing discharge, or material change in an existing discharge. The requirements shall, among other things, take into consideration the need to prevent nuisance.

18. California Water Code section 13050, subdivision (m), defines nuisance as anything which meets all of the following requirements:
   a. Is injurious to health, or is indecent or offensive to the senses, or an obstruction to the free use of property, so as to interfere with the comfortable enjoyment of life or property.
   b. Affects at the same time an entire community or neighborhood, or any considerable number of persons, although the extent of the annoyance or damage inflicted upon individuals may be unequal.
   c. Occurs during, or as a result of, the treatment or disposal of wastes.

19. This Order is consistent with State Water Board Resolution No. 68-16 (Statement of Policy with Respect to Maintaining High Quality of Waters in California) in that the Order imposes conditions to prevent impacts to water quality, does not allow the degradation of water quality, will not unreasonably affect beneficial uses of water, and will not result in water quality less than prescribed in State Water Board or Regional Water Board plans and policies.

20. The action to adopt this General Order is exempt from the California Environmental Quality Act (Public Resources Code §21000 et seq.) because it is an action taken by a regulatory agency to assure the protection of the environment and the regulatory process involves procedures for protection of the environment. (Cal. Code Regs., tit. 14, §15308). In addition, the action to adopt
this Order is exempt from CEQA pursuant to Cal.Code Regs., title 14, §15301 to the extent that it applies to existing sanitary sewer collection systems that constitute “existing facilities” as that term is used in Section 15301, and §15302, to the extent that it results in the repair or replacement of existing systems involving negligible or no expansion of capacity.

21. The Fact Sheet, which is incorporated by reference in the Order, contains supplemental information that was also considered in establishing these requirements.

22. The State Water Board has notified all affected public agencies and all known interested persons of the intent to prescribe general WDRs that require Enrollees to develop SSMPs and to report all SSOs.

23. The State Water Board conducted a public hearing on February 8, 2006, to receive oral and written comments on the draft order. The State Water Board received and considered, at its May 2, 2006, meeting, additional public comments on substantial changes made to the proposed general WDRs following the February 8, 2006, public hearing. The State Water Board has considered all comments pertaining to the proposed general WDRs.

IT IS HEREBY ORDERED, that pursuant to California Water Code section 13263, the Enrollees, their agents, successors, and assigns, in order to meet the provisions contained in Division 7 of the California Water Code and regulations adopted hereunder, shall comply with the following:

A. DEFINITIONS

1. **Sanitary sewer overflow (SSO)** - Any overflow, spill, release, discharge or diversion of untreated or partially treated wastewater from a sanitary sewer system. SSOs include:
   (i) Overflows or releases of untreated or partially treated wastewater that reach waters of the United States;
   (ii) Overflows or releases of untreated or partially treated wastewater that do not reach waters of the United States; and
   (iii) Wastewater backups into buildings and on private property that are caused by blockages or flow conditions within the publicly owned portion of a sanitary sewer system.

2. **Sanitary sewer system** – Any system of pipes, pump stations, sewer lines, or other conveyances, upstream of a wastewater treatment plant headworks used to collect and convey wastewater to the publicly owned treatment facility. Temporary storage and conveyance facilities (such as vaults, temporary piping, construction trenches, wet wells, impoundments, tanks, etc.) are considered to be part of the sanitary sewer system, and discharges into these temporary storage facilities are not considered to be SSOs.
For purposes of this Order, sanitary sewer systems include only those systems owned by public agencies that are comprised of more than one mile of pipes or sewer lines.

3. **Enrollee** - A federal or state agency, municipality, county, district, and other public entity that owns or operates a sanitary sewer system, as defined in the general WDRs, and that has submitted a complete and approved application for coverage under this Order.

4. **SSO Reporting System** – Online spill reporting system that is hosted, controlled, and maintained by the State Water Board. The web address for this site is http://ciwqs.waterboards.ca.gov. This online database is maintained on a secure site and is controlled by unique usernames and passwords.

5. **Untreated or partially treated wastewater** – Any volume of waste discharged from the sanitary sewer system upstream of a wastewater treatment plant headworks.

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

7. **Nuisance** - California Water Code section 13050, subdivision (m), defines nuisance as anything which meets all of the following requirements:
   a. Is injurious to health, or is indecent or offensive to the senses, or an obstruction to the free use of property, so as to interfere with the comfortable enjoyment of life or property.
   b. Affects at the same time an entire community or neighborhood, or any considerable number of persons, although the extent of the annoyance or damage inflicted upon individuals may be unequal.
   c. Occurs during, or as a result of, the treatment or disposal of wastes.

**B. APPLICATION REQUIREMENTS**

1. **Deadlines for Application** – All public agencies that currently own or operate sanitary sewer systems within the State of California must apply for coverage under the general WDRs within six (6) months of the date of adoption of the general WDRs. Additionally, public agencies that acquire or assume responsibility for operating sanitary sewer systems after the date of adoption of this Order must apply for coverage under the general WDRs at least three (3) months prior to operation of those facilities.

2. **Applications under the general WDRs** – In order to apply for coverage pursuant to the general WDRs, a legally authorized representative for each agency must submit a complete application package. Within sixty (60) days of adoption of the general WDRs, State Water Board staff will send specific instructions on how to
apply for coverage under the general WDRs to all known public agencies that
own sanitary sewer systems. Agencies that do not receive notice may obtain
applications and instructions online on the Water Board’s website.

3. Coverage under the general WDRs – Permit coverage will be in effect once a
complete application package has been submitted and approved by the State
Water Board’s Division of Water Quality.

C. PROHIBITIONS

1. Any SSO that results in a discharge of untreated or partially treated wastewater
to waters of the United States is prohibited.

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

D. PROVISIONS

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

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

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

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

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

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

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

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

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

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

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

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

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

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

(v) The discharge could have been prevented by the exercise of reasonable control described in a certified SSMP for:
   - Proper management, operation and maintenance;
   - Adequate treatment facilities, sanitary sewer system facilities, and/or components with an appropriate design capacity, to reasonably prevent SSOs (e.g., adequately enlarging treatment or collection facilities to accommodate growth, infiltration and inflow (I/I), etc.);
   - Preventive maintenance (including cleaning and fats, oils, and grease (FOG) control);
   - Installation of adequate backup equipment; and
   - Inflow and infiltration prevention and control to the extent practicable.

(vi) The sanitary sewer system design capacity is appropriate to reasonably prevent SSOs.
(vii) The Enrollee took all reasonable steps to stop and mitigate the impact of the discharge as soon as possible.

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

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

(i) Interception and rerouting of untreated or partially treated wastewater flows around the wastewater line failure;
(ii) Vacuum truck recovery of sanitary sewer overflows and wash down water;
(iii) Cleanup of debris at the overflow site;
(iv) System modifications to prevent another SSO at the same location;
(v) Adequate sampling to determine the nature and impact of the release; and
(vi) Adequate public notification to protect the public from exposure to the SSO.

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

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

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

11. The Enrollee shall develop and implement a written Sewer System Management Plan (SSMP) and make it available to the State and/or Regional Water Board upon request. A copy of this document must be publicly available at the Enrollee’s office and/or available on the Internet. This SSMP must be approved by the Enrollee’s governing board at a public meeting.
12. In accordance with the California Business and Professions Code sections 6735, 7835, and 7835.1, all engineering and geologic evaluations and judgments shall be performed by or under the direction of registered professionals competent and proficient in the fields pertinent to the required activities. Specific elements of the SSMP that require professional evaluation and judgments shall be prepared by or under the direction of appropriately qualified professionals, and shall bear the professional(s)’ signature and stamp.

13. The mandatory elements of the SSMP are specified below. However, if the Enrollee believes that any element of this section is not appropriate or applicable to the Enrollee’s sanitary sewer system, the SSMP program does not need to address that element. The Enrollee must justify why that element is not applicable. The SSMP must be approved by the deadlines listed in the SSMP Time Schedule below.

**Sewer System Management Plan (SSMP)**

(i) **Goal**: 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 SSOs, as well as mitigate any SSOs that do occur.

(ii) **Organization**: The SSMP must identify:

(a) The name of the responsible or authorized representative as described in Section J of this Order.

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

(c) The chain of communication for reporting SSOs, from receipt of a complaint or other information, including the person responsible for reporting SSOs to the State and Regional Water Board and other agencies if applicable (such as County Health Officer, County Environmental Health Agency, Regional Water Board, and/or State Office of Emergency Services (OES)).

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

(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.

(iv) **Operation and Maintenance Program.** The SSMP must include those elements listed below that are appropriate and applicable to the Enrollee’s system:

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

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

(c) Develop a rehabilitation and replacement plan to identify and prioritize system deficiencies and implement short-term and long-term rehabilitation actions to address each deficiency. The program should include regular visual and TV inspections of manholes and sewer pipes, and a system for ranking the condition of sewer pipes and scheduling rehabilitation. Rehabilitation and replacement should focus on sewer pipes that are at risk of collapse or prone to more frequent blockages due to pipe defects. Finally, the rehabilitation and replacement plan should include a capital improvement plan that addresses proper management and protection of the infrastructure assets. The plan shall include a time schedule for implementing the short- and long-term plans plus a schedule for developing the funds needed for the capital improvement plan;

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

(v) **Design and Performance Provisions:**

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

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

(vi) **Overflow Emergency Response Plan** - Each Enrollee shall develop and implement an overflow emergency response plan that identifies measures to protect public health and the environment. At a minimum, this plan must include the following:

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

(b) A program to ensure an appropriate response to all overflows;

(c) Procedures to ensure prompt notification to appropriate regulatory agencies and other potentially affected entities (e.g. health agencies, Regional Water Boards, water suppliers, etc.) of all SSOs that potentially affect public health or reach the waters of the State in accordance with the MRP. All SSOs shall be reported in accordance with this MRP, the California Water Code, other State Law, and other applicable Regional Water Board WDRs or NPDES permit requirements. The SSMP should identify the officials who will receive immediate notification;

(d) Procedures to ensure that appropriate staff and contractor personnel are aware of and follow the Emergency Response Plan and are appropriately trained;

(e) Procedures to address emergency operations, such as traffic and crowd control and other necessary response activities; and

(f) A program to ensure that all reasonable steps are taken to contain and prevent the discharge of untreated and partially treated wastewater to waters of the United States and to minimize or correct any adverse impact on the environment resulting from the SSOs, including such accelerated or additional monitoring as may be necessary to determine the nature and impact of the discharge.
(vii) **FOG Control Program:** Each Enrollee shall evaluate its service area to determine whether a FOG control program is needed. If an Enrollee determines that a FOG program is not needed, the Enrollee must provide justification for why it is not needed. If FOG is found to be a problem, the Enrollee must prepare and implement a FOG source control program to reduce the amount of these substances discharged to the sanitary sewer system. This plan shall include the following as appropriate:

(a) An implementation plan and schedule for a public education outreach program that promotes proper disposal of FOG;

(b) A plan and schedule for the disposal of FOG generated within the sanitary sewer system service area. This may include a list of acceptable disposal facilities and/or additional facilities needed to adequately dispose of FOG generated within a sanitary sewer system service area;

(c) The legal authority to prohibit discharges to the system and identify measures to prevent SSOs and blockages caused by FOG;

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

(e) Authority to inspect grease producing facilities, enforcement authorities, and whether the Enrollee has sufficient staff to inspect and enforce the FOG ordinance;

(f) An identification of sanitary sewer system sections subject to FOG blockages and establishment of a cleaning maintenance schedule for each section; and

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

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

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

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

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

(d) **Schedule:** The Enrollee shall develop a schedule of completion dates for all portions of the capital improvement program developed in (a)-(c) above. This schedule shall be reviewed and updated consistent with the SSMP review and update requirements as described in Section D. 14.

(ix) **Monitoring, Measurement, and Program Modifications:** The Enrollee shall:

(a) Maintain relevant information that can be used to establish and prioritize appropriate SSMP activities;

(b) Monitor the implementation and, where appropriate, measure the effectiveness of each element of the SSMP;

(c) Assess the success of the preventative maintenance program;

(d) Update program elements, as appropriate, based on monitoring or performance evaluations; and

(e) Identify and illustrate SSO trends, including: frequency, location, and volume.

(x) **SSMP Program Audits** - As part of the SSMP, the Enrollee shall conduct periodic internal audits, appropriate to the size of the system and the number of SSOs. At a minimum, these audits must occur every two years and a report must be prepared and kept on file. This audit shall focus on evaluating the effectiveness of the SSMP and the
Enrollee’s compliance with the SSMP requirements identified in this subsection (D.13), including identification of any deficiencies in the SSMP and steps to correct them.

(xii) **Communication Program** – The Enrollee shall communicate on a regular basis with the public on the development, implementation, and performance of its SSMP. The communication system shall provide the public the opportunity to provide input to the Enrollee as the program is developed and implemented.

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

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

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

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

The SSMP must be updated every five (5) years, and must include any significant program changes. Re-certification by the governing board of the Enrollee is required in accordance with D.14 when significant updates to the SSMP are made. To complete the re-certification process, the Enrollee shall enter the data in the Online SSO Database and mail the form to the State Water Board, as described above.

15. The Enrollee shall comply with these requirements according to the following schedule. This time schedule does not supersede existing requirements or time schedules associated with other permits or regulatory requirements.
### Sewer System Management Plan Time Schedule

<table>
<thead>
<tr>
<th>Task and Associated Section</th>
<th>Completion Date</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Population &gt; 100,000</strong></td>
<td></td>
</tr>
<tr>
<td><strong>Population between 100,000 and 10,000</strong></td>
<td></td>
</tr>
<tr>
<td><strong>Population between 10,000 and 2,500</strong></td>
<td></td>
</tr>
<tr>
<td><strong>Population &lt; 2,500</strong></td>
<td></td>
</tr>
</tbody>
</table>

| Application for Permit Coverage **Section C** | 6 months after WDRs Adoption |
| Reporting Program **Section G** | 6 months after WDRs Adoption<sup>1</sup> |
| SSMP Development Plan and Schedule **No specific Section** | 9 months after WDRs Adoption<sup>2</sup> | 12 months after WDRs Adoption<sup>2</sup> | 15 months after WDRs Adoption<sup>2</sup> | 18 months after WDRs Adoption<sup>2</sup> |
| Goals and Organization Structure **Section D 13 (i) & (ii)** | 12 months after WDRs Adoption<sup>2</sup> | 18 months after WDRs Adoption<sup>2</sup> |
| Overflow Emergency Response Program **Section D 13 (vi)** | 24 months after WDRs Adoption<sup>2</sup> | 30 months after WDRs Adoption<sup>2</sup> | 36 months after WDRs Adoption<sup>2</sup> | 39 months after WDRs Adoption<sup>2</sup> |
| Legal Authority **Section D 13 (iii)** | Operation and Maintenance Program **Section D 13 (iv)** |
| Grease Control Program **Section D 13 (vii)** | |
| Design and Performance **Section D 13 (v)** | System Evaluation and Capacity Assurance Plan **Section D 13 (viii)** |
| Final SSMP, incorporating all of the SSMP requirements **Section D 13** | 36 months after WDRs Adoption | 39 months after WDRs Adoption | 48 months after WDRs Adoption | 51 months after WDRs Adoption |
1. In the event that by July 1, 2006 the Executive Director is able to execute a memorandum of agreement (MOA) with the California Water Environment Association (CWEA) or discharger representatives outlining a strategy and time schedule for CWEA or another entity to provide statewide training on the adopted monitoring program, SSO database electronic reporting, and SSMP development, consistent with this Order, then the schedule of Reporting Program Section G shall be replaced with the following schedule:

<table>
<thead>
<tr>
<th>Reporting Program Section G</th>
<th></th>
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</thead>
<tbody>
<tr>
<td>Regional Boards 4, 8, and 9</td>
<td>8 months after WDRs Adoption</td>
</tr>
<tr>
<td>Regional Boards 1, 2, and 3</td>
<td>12 months after WDRs Adoption</td>
</tr>
<tr>
<td>Regional Boards 5, 6, and 7</td>
<td>16 months after WDRs Adoption</td>
</tr>
</tbody>
</table>

If this MOU is not executed by July 1, 2006, the reporting program time schedule will remain six (6) months for all regions and agency size categories.

2. In the event that the Executive Director executes the MOA identified in note 1 by July 1, 2006, then the deadline for this task shall be extended by six (6) months. The time schedule identified in the MOA must be consistent with the extended time schedule provided by this note. If the MOA is not executed by July 1, 2006, the six (6) month time extension will not be granted.

E. **WDRs and SSMP AVAILABILITY**

1. A copy of the general WDRs and the certified SSMP shall be maintained at appropriate locations (such as the Enrollee’s offices, facilities, and/or Internet homepage) and shall be available to sanitary sewer system operating and maintenance personnel at all times.

F. **ENTRY AND INSPECTION**

1. The Enrollee shall allow the State or Regional Water Boards or their authorized representative, upon presentation of credentials and other documents as may be required by law, to:

   a. Enter upon the Enrollee’s premises where a regulated facility or activity is located or conducted, or where records are kept under the conditions of this Order;

   b. Have access to and copy, at reasonable times, any records that must be kept under the conditions of this Order;
c. Inspect at reasonable times any facilities, equipment (including monitoring and control equipment), practices, or operations regulated or required under this Order; and

d. Sample or monitor at reasonable times, for the purposes of assuring compliance with this Order or as otherwise authorized by the California Water Code, any substances or parameters at any location.

G. GENERAL MONITORING AND REPORTING REQUIREMENTS

1. The Enrollee shall furnish to the State or Regional Water Board, within a reasonable time, any information that the State or Regional Water Board may request to determine whether cause exists for modifying, revoking and reissuing, or terminating this Order. The Enrollee shall also furnish to the Executive Director of the State Water Board or Executive Officer of the applicable Regional Water Board, upon request, copies of records required to be kept by this Order.

2. The Enrollee shall comply with the attached Monitoring and Reporting Program No. 2006-0003 and future revisions thereto, as specified by the Executive Director. Monitoring results shall be reported at the intervals specified in Monitoring and Reporting Program No. 2006-0003. Unless superseded by a specific enforcement Order for a specific Enrollee, these reporting requirements are intended to replace other mandatory routine written reports associated with SSOs.

3. All Enrollees must obtain SSO Database accounts and receive a “Username” and “Password” by registering through the California Integrated Water Quality System (CIWQS). These accounts will allow controlled and secure entry into the SSO Database. Additionally, within 30 days of receiving an account and prior to recording spills into the SSO Database, all Enrollees must complete the “Collection System Questionnaire”, which collects pertinent information regarding an Enrollee’s collection system. The “Collection System Questionnaire” must be updated at least every 12 months.

4. Pursuant to Health and Safety Code section 5411.5, any person who, without regard to intent or negligence, causes or permits any untreated wastewater or other waste to be discharged in or on any waters of the State, or discharged in or deposited where it is, or probably will be, discharged in or on any surface waters of the State, as soon as that person has knowledge of the discharge, shall immediately notify the local health officer of the discharge. Discharges of untreated or partially treated wastewater to storm drains and drainage channels, whether man-made or natural or concrete-lined, shall be reported as required above.

Any SSO greater than 1,000 gallons discharged in or on any waters of the State, or discharged in or deposited where it is, or probably will be, discharged in or on any surface waters of the State shall also be reported to the Office of Emergency Services pursuant to California Water Code section 13271.
H. CHANGE IN OWNERSHIP

1. This Order is not transferable to any person or party, except after notice to the Executive Director. The Enrollee shall submit this notice in writing at least 30 days in advance of any proposed transfer. The notice must include a written agreement between the existing and new Enrollee containing a specific date for the transfer of this Order's responsibility and coverage between the existing Enrollee and the new Enrollee. This agreement shall include an acknowledgement that the existing Enrollee is liable for violations up to the transfer date and that the new Enrollee is liable from the transfer date forward.

I. INCOMPLETE REPORTS

1. If an Enrollee becomes aware that it failed to submit any relevant facts in any report required under this Order, the Enrollee shall promptly submit such facts or information by formally amending the report in the Online SSO Database.

J. REPORT DECLARATION

1. All applications, reports, or information shall be signed and certified as follows:
   
   (i) All reports required by this Order and other information required by the State or Regional Water Board shall be signed and certified by a person designated, for a municipality, state, federal or other public agency, as either a principal executive officer or ranking elected official, or by a duly authorized representative of that person, as described in paragraph (ii) of this provision. (For purposes of electronic reporting, an electronic signature and accompanying certification, which is in compliance with the Online SSO database procedures, meet this certification requirement.)

   (ii) An individual is a duly authorized representative only if:

      (a) The authorization is made in writing by a person described in paragraph (i) of this provision; and

      (b) The authorization specifies either an individual or a position having responsibility for the overall operation of the regulated facility or activity.

K. CIVIL MONETARY REMEDIES FOR DISCHARGE VIOLATIONS

1. The California Water Code provides various enforcement options, including civil monetary remedies, for violations of this Order.

2. The California Water Code also provides that any person failing or refusing to furnish technical or monitoring program reports, as required under this Order, or
falsifying any information provided in the technical or monitoring reports is subject to civil monetary penalties.

L. SEVERABILITY

1. The provisions of this Order are severable, and if any provision of this Order, or the application of any provision of this Order to any circumstance, is held invalid, the application of such provision to other circumstances, and the remainder of this Order, shall not be affected thereby.

2. This order does not convey any property rights of any sort or any exclusive privileges. The requirements prescribed herein do not authorize the commission of any act causing injury to persons or property, nor protect the Enrollee from liability under federal, state or local laws, nor create a vested right for the Enrollee to continue the waste discharge.

CERTIFICATION

The undersigned Clerk to the State Water Board does hereby certify that the foregoing is a full, true, and correct copy of general WDRs duly and regularly adopted at a meeting of the State Water Resources Control Board held on May 2, 2006.

AYE: Tam M. Doduc
       Gerald D. Secundy

NO: Arthur G. Baggett

ABSENT: None

ABSTAIN: None

__________________________
Song Her
Clerk to the Board
APPENDIX B

ORDER NUMBER WQ 2013-0058-EXEC
The State of California, Water Resources Control Board (hereafter State Water Board) finds:

1. The State Water Board is authorized to prescribe statewide general Waste Discharge Requirements (WDRs) for categories of discharges that involve the same or similar operations and the same or similar types of waste pursuant to Water Code section 13263(i).

2. Water Code section 13193 et seq. requires the Regional Water Quality Control Boards (Regional Water Boards) and the State Water Board (collectively, the Water Boards) to gather Sanitary Sewer Overflow (SSO) information and make this information available to the public, including but not limited to, SSO cause, estimated volume, location, date, time, duration, whether or not the SSO reached or may have reached waters of the state, response and corrective action taken, and an enrollee's contact information for each SSO event. An enrollee is defined as the public entity having legal authority over the operation and maintenance of, or capital improvements to, a sanitary sewer system greater than one mile in length.

3. Water Code section 13271, et seq. requires notification to the California Office of Emergency Services (Cal OES), formerly the California Emergency Management Agency, for certain unauthorized discharges, including SSOs.

4. On May 2, 2006, the State Water Board adopted Order 2006-0003-DWQ, "Statewide Waste Discharge Requirements for Sanitary Sewer Systems"1 (hereafter SSS WDRs) to comply with Water Code section 13193 and to establish the framework for the statewide SSO Reduction Program.

5. Subsection G.2 of the SSS WDRs and the Monitoring and Reporting Program (MRP) provide that the Executive Director may modify the terms of the MRP at any time.

6. On February 20, 2008, the State Water Board Executive Director adopted a revised MRP for the SSS WDRs to rectify early notification deficiencies and ensure that first responders are notified in a timely manner of SSOs discharged into waters of the state.

7. When notified of an SSO that reaches a drainage channel or surface water of the state, Cal OES, pursuant to Water Code section 13271(a)(3), forwards the SSO notification information2 to local government agencies and first responders including local public health officials and the applicable Regional Water Board. Receipt of notifications for a single SSO event from both the SSO reporter

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2 Cal OES Hazardous Materials Spill Reports available Online at: [http://w3.calema.ca.gov/operational/malhaz.nsf/$defaultview](http://w3.calema.ca.gov/operational/malhaz.nsf) and [http://w3.calema.ca.gov/operational/malhaz.nsf](http://w3.calema.ca.gov/operational/malhaz.nsf)
and Cal OES is duplicative. To address this, the SSO notification requirements added by the February 20, 2008 MRP revision are being removed in this MRP revision.

8. In the February 28, 2008 Memorandum of Agreement between the State Water Board and the California Water and Environment Association (CWEA), the State Water Board committed to redesigning the CIWQS Online SSO Database to allow "event" based SSO reporting versus the original "location" based reporting. Revisions to this MRP and accompanying changes to the CIWQS Online SSO Database will implement this change by allowing for multiple SSO appearance points to be associated with each SSO event caused by a single asset failure.

9. Based on stakeholder input and Water Board staff experience implementing the SSO Reduction Program, SSO categories have been revised in this MRP. In the prior version of the MRP, SSOs have been categorized as Category 1 or Category 2. This MRP implements changes to SSO categories by adding a Category 3 SSO type. This change will improve data management to further assist Water Board staff with evaluation of high threat and low threat SSOs by placing them in unique categories (i.e., Category 1 and Category 3, respectively). This change will also assist enrollees in identifying SSOs that require Cal OES notification.

10. Based on over six years of implementation of the SSS WDRs, the State Water Board concludes that the February 20, 2008 MRP must be updated to better advance the SSO Reduction Program objectives, assess compliance, and enforce the requirements of the SSS WDRs.

IT IS HEREBY ORDERED THAT:

Pursuant to the authority delegated by Water Code section 13267(f), Resolution 2002-0104, and Order 2006-0003-DWQ, the MRP for the SSS WDRs (Order 2006-0003-DWQ) is hereby amended as shown in Attachment A and shall be effective on September 9, 2013.

\[Signature\]

Date

Thomas Howard
Executive Director

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4 Statewide Sanitary Sewer Overflow Reduction Program information is available at: [http://www.waterboards.ca.gov/water_issues/programs/sso/](http://www.waterboards.ca.gov/water_issues/programs/sso/)
ATTACHMENT A
STATE WATER RESOURCES CONTROL BOARD
ORDER NO. WQ 2013-0058-EXEC
AMENDING MONITORING AND REPORTING PROGRAM
FOR
STATEWIDE GENERAL WASTE DISCHARGE REQUIREMENTS FOR
SANITARY SEWER SYSTEMS

This Monitoring and Reporting Program (MRP) establishes monitoring, record keeping, reporting and public notification requirements for Order 2006-0003-DWQ, “Statewide General Waste Discharge Requirements for Sanitary Sewer Systems” (SSS WDRs). This MRP shall be effective from September 9, 2013 until it is rescinded. The Executive Director may make revisions to this MRP at any time. These revisions may include a reduction or increase in the monitoring and reporting requirements. All site specific records and data developed pursuant to the SSS WDRs and this MRP shall be complete, accurate, and justified by evidence maintained by the enrollee. Failure to comply with this MRP may subject an enrollee to civil liabilities of up to $5,000 a day per violation pursuant to Water Code section 13350; up to $1,000 a day per violation pursuant to Water Code section 13268; or referral to the Attorney General for judicial civil enforcement. The State Water Resources Control Board (State Water Board) reserves the right to take any further enforcement action authorized by law.

A. SUMMARY OF MRP REQUIREMENTS

Table 1 – Spill Categories and Definitions

<table>
<thead>
<tr>
<th>CATEGORIES</th>
<th>DEFINITIONS [see Section A on page 5 of Order 2006-0003-DWQ, for Sanitary Sewer Overflow (SSO) definition]</th>
</tr>
</thead>
<tbody>
<tr>
<td>CATEGORY 1</td>
<td>Discharges of untreated or partially treated wastewater of <strong>any volume</strong> resulting from an enrollee’s sanitary sewer system failure or flow condition that:</td>
</tr>
<tr>
<td></td>
<td>• Reach surface water and/or reach a drainage channel tributary to a surface water; or</td>
</tr>
<tr>
<td></td>
<td>• 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).</td>
</tr>
<tr>
<td>CATEGORY 2</td>
<td>Discharges of untreated or partially treated wastewater of <strong>1,000 gallons or greater</strong> resulting from an enrollee’s sanitary sewer system failure or flow condition that <strong>do not</strong> 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.</td>
</tr>
<tr>
<td>CATEGORY 3</td>
<td>All other discharges of untreated or partially treated wastewater resulting from an enrollee’s sanitary sewer system failure or flow condition.</td>
</tr>
<tr>
<td>PRIVATE LATERAL SEWAGE DISCHARGE (PLSD)</td>
<td>Discharges of untreated or partially treated wastewater resulting from blockages or other problems <strong>within a privately owned sewer lateral</strong> connected to the enrollee’s sanitary sewer system or from other private sewer assets. PLSDs that the enrollee becomes aware of may be voluntarily reported to the California Integrated Water Quality System (CIWQS) Online SSO Database.</td>
</tr>
</tbody>
</table>
Table 2 – Notification, Reporting, Monitoring, and Record Keeping Requirements

<table>
<thead>
<tr>
<th>ELEMENT</th>
<th>REQUIREMENT</th>
<th>METHOD</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>NOTIFICATION</strong> (see section B of MRP)</td>
<td>• Within two hours of becoming aware of any Category 1 SSO <strong>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</strong>, notify the California Office of Emergency Services (Cal OES) and obtain a notification control number. Call Cal OES at: (800) 852-7550</td>
<td></td>
</tr>
</tbody>
</table>
| **REPORTING** (see section C of MRP) | • Category 1 SSO: Submit draft report within three business days of becoming aware of the SSO and certify within 15 calendar days of SSO end date.  
• Category 2 SSO: Submit draft report within 3 business days of becoming aware of the SSO and certify within 15 calendar days of the SSO end date.  
• Category 3 SSO: Submit certified report within 30 calendar days of the end of month in which SSO the occurred.  
• SSO Technical Report: 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.  
• “No Spill” Certification: 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.  
• Collection System Questionnaire: Update and certify every 12 months. Enter data into the CIWQS Online SSO Database (http://ciwqs.waterboards.ca.gov/), certified by enrollee’s Legally Responsible Official(s). | |
| **WATER QUALITY MONITORING** (see section D of MRP) | • 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 are required to be uploaded into CIWQS for Category 1 SSOs in which 50,000 gallons or greater are spilled to surface waters. | |
| **RECORD KEEPING** (see section E of MRP) | • SSO event records.  
• Records documenting Sanitary Sewer Management Plan (SSMP) implementation and changes/updates to the SSMP.  
• Records to document Water Quality Monitoring for SSOs of 50,000 gallons or greater spilled to surface waters.  
• Collection system telemetry records if relied upon to document and/or estimate SSO Volume. Self-maintained records shall be available during inspections or upon request. | |
B. NOTIFICATION REQUIREMENTS

Although Regional Water Quality Control Boards (Regional Water Boards) and the State Water Board (collectively, the Water Boards) staff do not have duties as first responders, this MRP is an appropriate mechanism to ensure that the agencies that have first responder duties are notified in a timely manner in order to protect public health and beneficial uses.

1. For any Category 1 SSO greater than or equal to 1,000 gallons that results in a discharge to a surface water or spilled in a location where it probably will be discharged to surface water, either directly or by way of a drainage channel or MS4, the enrollee shall, as soon as possible, but not later than two (2) hours after (A) the enrollee has knowledge of the discharge, (B) notification is possible, and (C) notification can be provided without substantially impeding cleanup or other emergency measures, notify the Cal OES and obtain a notification control number.

2. To satisfy notification requirements for each applicable SSO, the enrollee shall provide the information requested by Cal OES before receiving a control number. Spill information requested by Cal OES may include:
   i. Name of person notifying Cal OES and direct return phone number.
   ii. Estimated SSO volume discharged (gallons).
   iii. If ongoing, estimated SSO discharge rate (gallons per minute).
   iv. SSO Incident Description:
      a. Brief narrative.
      b. On-scene point of contact for additional information (name and cell phone number).
      c. Date and time enrollee became aware of the SSO.
      d. Name of sanitary sewer system agency causing the SSO.
      e. SSO cause (if known).
   v. Indication of whether the SSO has been contained.
   vi. Indication of whether surface water is impacted.
   vii. Name of surface water impacted by the SSO, if applicable.
   viii. Indication of whether a drinking water supply is or may be impacted by the SSO.
   ix. Any other known SSO impacts.
   x. SSO incident location (address, city, state, and zip code).

3. Following the initial notification to Cal OES and until such time that an enrollee certifies the SSO report in the CIWQS Online SSO Database, the enrollee shall provide updates to Cal OES regarding substantial changes to the estimated volume of untreated or partially treated sewage discharged and any substantial change(s) to known impact(s).

4. PLSDs: The enrollee is strongly encouraged to notify Cal OES of discharges greater than or equal to 1,000 gallons of untreated or partially treated wastewater that result or may result in a discharge to surface water resulting from failures or flow conditions within a privately owned sewer lateral or from other private sewer asset(s) if the enrollee becomes aware of the PLSD.
C. REPORTING REQUIREMENTS

1. CIWQS Online SSO Database Account: All enrollees shall obtain a CIWQS Online SSO Database account and receive a “Username” and “Password” by registering through CIWQS. These accounts allow controlled and secure entry into the CIWQS Online SSO Database.

2. SSO Mandatory Reporting Information: For reporting purposes, if one SSO event results in multiple appearance points in a sewer system asset, the enrollee shall complete one SSO report in the CIWQS Online SSO Database which 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 caused the SSO, and provide descriptions of the locations of all other discharge points associated with the SSO event.

3. SSO Categories

   i. **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:
      a. Reach surface water and/or reach a drainage channel tributary to a surface water; or
      b. Reach a 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).

   ii. **Category 2** – Discharges of untreated or partially treated wastewater greater than or equal to 1,000 gallons resulting from an enrollee’s sanitary sewer system failure or flow condition that does not reach a surface water, a drainage channel, or the MS4 unless the entire SSO volume discharged to the storm drain system is fully recovered and disposed of properly.

   iii. **Category 3** – All other discharges of untreated or partially treated wastewater resulting from an enrollee’s sanitary sewer system failure or flow condition.

4. Sanitary Sewer Overflow Reporting to CIWQS - Timeframes

   i. **Category 1 and Category 2 SSOs** – All SSOs that meet the above criteria for Category 1 or Category 2 SSOs shall be reported to the CIWQS Online SSO Database:
      a. Draft reports for Category 1 and Category 2 SSOs shall be submitted to the CIWQS Online SSO Database within three (3) business days of the enrollee becoming aware of the SSO. Minimum information that shall be reported in a draft Category 1 SSO report shall include all information identified in section 8.i.a. below. Minimum information that shall be certified in a Category 2 SSO draft report shall include all information identified in section 8.i.c below.
      b. A final Category 1 or Category 2 SSO report shall be certified through the CIWQS Online SSO Database within 15 calendar days of the end date of the SSO. Minimum information that shall be certified in the final Category 1 SSO report shall include all information identified in section 8.i.b below. Minimum information that shall be certified in a final Category 2 SSO report shall include all information identified in section 8.i.d below.
ii. **Category 3 SSOs** – All SSOs that meet the above criteria for Category 3 SSOs shall be reported to the CIWQS Online SSO Database and certified within 30 calendar days after the end of the calendar month in which the SSO occurs (e.g., all Category 3 SSOs occurring in the month of February shall be entered into the database and certified by March 30). Minimum information that shall be certified in a final Category 3 SSO report shall include all information identified in section 8.i.e below.

iii. **“No Spill” Certification** – If there are no SSOs during the calendar month, the enrollee shall either 1) certify, within 30 calendar days after the end of each calendar month, a “No Spill” certification statement in the CIWQS Online SSO Database certifying that there were no SSOs for the designated month, or 2) certify, quarterly within 30 calendar days after the end of each quarter, “No Spill” certification statements in the CIWQS Online SSO Database certifying that there were no SSOs for each month in the quarter being reported on. For quarterly reporting, the quarters are Q1 - January/February/March, Q2 - April/May/June, Q3 - July/August/September, and Q4 - October/November/December. If there are no SSOs during a calendar month but the enrollee reported a PLSD, the enrollee shall still certify a “No Spill” certification statement for that month.

iv. **Amended SSO Reports** – The enrollee may update or add additional information to a certified SSO report within 120 calendar days after the SSO end date by amending the report or by adding an attachment to the SSO report in the CIWQS Online SSO Database. SSO reports certified in the CIWQS Online SSO Database prior to the adoption date of this MRP may only be amended up to 120 days after the effective date of this MRP. After 120 days, the enrollee may contact the SSO Program Manager to request to amend an SSO report if the enrollee also submits justification for why the additional information was not available prior to the end of the 120 days.

5. **SSO Technical Report**

The enrollee shall submit an SSO Technical Report in the CIWQS Online SSO Database within 45 calendar days of the SSO end date for any SSO in which 50,000 gallons or greater are spilled to surface waters. This report, which does not preclude the Water Boards from requiring more detailed analyses if requested, shall include at a minimum, the following:

i. **Causes and Circumstances of the SSO:**
   a. Complete and detailed explanation of how and when the SSO was discovered.
   b. Diagram showing the SSO failure point, appearance point(s), and final destination(s).
   c. Detailed description of the methodology employed and available data used to calculate the volume of the SSO and, if applicable, the SSO volume recovered.
   d. Detailed description of the cause(s) of the SSO.
   e. Copies of original field crew records used to document the SSO.
   f. Historical maintenance records for the failure location.

ii. **Enrollee’s Response to SSO:**
   a. Chronological narrative description of all actions taken by enrollee to terminate the spill.
   b. Explanation of how the SSMP Overflow Emergency Response plan was implemented to respond to and mitigate the SSO.
c. Final corrective action(s) completed and/or planned to be completed, including a schedule for actions not yet completed.

iii. **Water Quality Monitoring:**
   a. Description of all water quality sampling activities conducted including analytical results and evaluation of the results.
   b. Detailed location map illustrating all water quality sampling points.

6. **PLSDs**

Discharges of untreated or partially treated wastewater resulting from blockages or other problems within a privately owned sewer lateral connected to the enrollee’s sanitary sewer system or from other private sanitary sewer system assets may be voluntarily reported to the CIWQS Online SSO Database.

i. The enrollee is also encouraged to provide notification to Cal OES per section B above when a PLSD greater than or equal to 1,000 gallons has or may result in a discharge to surface water. For any PLSD greater than or equal to 1,000 gallons regardless of the spill destination, the enrollee is also encouraged to file a spill report as required by Health and Safety Code section 5410 et. seq. and Water Code section 13271, or notify the responsible party that notification and reporting should be completed as specified above and required by State law.

ii. If a PLSD is recorded in the CIWQS Online SSO Database, the enrollee must identify the sewage discharge as occurring and caused by a private sanitary sewer system asset and should identify a responsible party (other than the enrollee), if known. Certification of PLSD reports by enrollees is not required.

7. **CIWQS Online SSO Database Unavailability**

In the event that the CIWQS Online SSO Database is not available, the enrollee must fax or e-mail all required information to the appropriate Regional Water Board office in accordance with the time schedules identified herein. In such event, the enrollee must also enter all required information into the CIWQS Online SSO Database when the database becomes available.

8. **Mandatory Information to be Included in CIWQS Online SSO Reporting**

All enrollees shall obtain a CIWQS Online SSO Database account and receive a “Username” and “Password” by registering through CIWQS which can be reached at CIWQS@waterboards.ca.gov or by calling (866) 792-4977, M-F, 8 A.M. to 5 P.M. These accounts will allow controlled and secure entry into the CIWQS Online SSO Database. Additionally, within thirty (30) days of initial enrollment and prior to recording SSOs into the CIWQS Online SSO Database, all enrollees must complete a Collection System Questionnaire (Questionnaire). The Questionnaire shall be updated at least once every 12 months.

i. **SSO Reports**

   At a minimum, the following mandatory information shall be reported prior to finalizing and certifying an SSO report for each category of SSO:
a. **Draft Category 1 SSOs:** At a minimum, the following mandatory information shall be reported for a draft Category 1 SSO report:

1. **SSO Contact Information:** Name and telephone number of enrollee contact person who can answer specific questions about the SSO being reported.
2. **SSO Location Name.**
3. **Location of the overflow event (SSO) by entering GPS coordinates.** If a single overflow event results in multiple appearance points, provide GPS coordinates for the appearance point closest to the failure point and describe each additional appearance point in the SSO appearance point explanation field.
4. **Whether or not the SSO reached surface water, a drainage channel, or entered and was discharged from a drainage structure.**
5. **Whether or not the SSO reached a municipal separate storm drain system.**
6. **Whether or not the total SSO volume that reached a municipal separate storm drain system was fully recovered.**
7. **Estimate of the SSO volume, inclusive of all discharge point(s).**
8. **Estimate of the SSO volume that reached surface water, a drainage channel, or was not recovered from a storm drain.**
9. **Estimate of the SSO volume recovered (if applicable).**
10. **Number of SSO appearance point(s).**
11. **Description and location of SSO appearance point(s).** If a single sanitary sewer system failure results in multiple SSO appearance points, each appearance point must be described.
12. **SSO start date and time.**
13. **Date and time the enrollee was notified of, or self-discovered, the SSO.**
14. **Estimated operator arrival time.**
15. **For spills greater than or equal to 1,000 gallons, the date and time Cal OES was called.**
16. **For spills greater than or equal to 1,000 gallons, the Cal OES control number.**

b. **Certified Category 1 SSOs:** At a minimum, the following mandatory information shall be reported for a certified Category 1 SSO report, in addition to all fields in section 8.i.a:

1. **Description of SSO destination(s).**
2. **SSO end date and time.**
3. **SSO causes (mainline blockage, roots, etc.).**
4. **SSO failure point (main, lateral, etc.).**
5. **Whether or not the spill was associated with a storm event.**
6. **Description of spill corrective action, including steps planned or taken to reduce, eliminate, and prevent reoccurrence of the overflow; and a schedule of major milestones for those steps.**
7. **Description of spill response activities.**
8. **Spill response completion date.**
9. **Whether or not there is an ongoing investigation, the reasons for the investigation and the expected date of completion.**
10. Whether or not a beach closure occurred or may have occurred as a result of the SSO.
11. Whether or not health warnings were posted as a result of the SSO.
12. Name of beach(es) closed and/or impacted. If no beach was impacted, NA shall be selected.
13. Name of surface water(s) impacted.
14. If water quality samples were collected, identify parameters the water quality samples were analyzed for. If no samples were taken, NA shall be selected.
15. If water quality samples were taken, identify which regulatory agencies received sample results (if applicable). If no samples were taken, NA shall be selected.
16. Description of methodology(ies) and type of data relied upon for estimations of the SSO volume discharged and recovered.
17. SSO Certification: Upon SSO Certification, the CIWQS Online SSO Database will issue a final SSO identification (ID) number.

c. **Draft Category 2 SSOs:** At a minimum, the following mandatory information shall be reported for a draft Category 2 SSO report:
   1. Items 1-14 in section 8.i.a above for Draft Category 1 SSO.

d. **Certified Category 2 SSOs:** At a minimum, the following mandatory information shall be reported for a certified Category 2 SSO report:
   1. Items 1-14 in section 8.i.a above for Draft Category 1 SSO and Items 1-9, and 17 in section 8.i.b above for Certified Category 1 SSO.

e. **Certified Category 3 SSOs:** At a minimum, the following mandatory information shall be reported for a certified Category 3 SSO report:
   1. Items 1-14 in section 8.i.a above for Draft Category 1 SSO and Items 1-5, and 17 in section 8.i.b above for Certified Category 1 SSO.

ii. **Reporting SSOs to Other Regulatory Agencies**

These reporting requirements do not preclude an enrollee from reporting SSOs to other regulatory agencies pursuant to state law. In addition, these reporting requirements do not replace other Regional Water Board notification and reporting requirements for SSOs.

iii. **Collection System Questionnaire**

The required Questionnaire (see subsection G of the SSS WDRs) provides the Water Boards with site-specific information related to the enrollee’s sanitary sewer system. The enrollee shall complete and certify the Questionnaire at least every 12 months to facilitate program implementation, compliance assessment, and enforcement response.

iv. **SSMP Availability**

The enrollee shall provide the publicly available internet web site address to the CIWQS Online SSO Database where a downloadable copy of the enrollee’s approved SSMP, critical supporting documents referenced in the SSMP, and proof of local governing board approval of the SSMP is posted. If all of the SSMP documentation listed in this subsection is not publicly available on the Internet, the enrollee shall comply with the following procedure:
a. Submit an electronic copy of the enrollee’s approved SSMP, critical supporting
documents referenced in the SSMP, and proof of local governing board approval of
the SSMP to the State Water Board, within 30 days of that approval and within 30
days of any subsequent SSMP re-certifications, to the following mailing address:

State Water Resources Control Board
Division of Water Quality
Attn: SSO Program Manager
1001 I Street, 15th Floor, Sacramento, CA 95814

D. WATER QUALITY MONITORING REQUIREMENTS:

To comply with subsection D.7(v) of the SSS WDRs, the enrollee shall develop and
implement an SSO Water Quality Monitoring Program to assess impacts from SSOs to
surface waters in which 50,000 gallons or greater are spilled to surface waters. The SSO
Water Quality Monitoring Program, shall, at a minimum:

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 enrollee becoming aware of the SSO, require water quality sampling
   for, at a minimum, the following constituents:
   i. Ammonia
   ii. Appropriate Bacterial indicator(s) per the applicable Basin Plan water quality objective or
       Regional Board direction which may include total and fecal coliform, enterococcus, and
e-coli.

E. RECORD KEEPING REQUIREMENTS:

The following records shall be maintained by the enrollee for a minimum of five (5) years and
shall be made available for review by the Water Boards during an onsite inspection or through
an information request:

1. General Records: The enrollee shall maintain records to document compliance with all
   provisions of the SSS WDRs and this MRP for each sanitary sewer system owned including
   any required records generated by an enrollee’s sanitary sewer system contractor(s).

2. SSO Records: The enrollee shall maintain records for each SSO event, including but not
   limited to:
   i. Complaint records documenting how the enrollee responded to all notifications of possible
      or actual SSOs, both during and after business hours, including complaints that do not
result in SSOs. Each complaint record shall, at a minimum, include the following information:

a. Date, time, and method of notification.
b. Date and time the complainant or informant first noticed the SSO.
c. Narrative description of the complaint, including any information the caller can provide regarding whether or not the complainant or informant reporting the potential SSO knows if the SSO has reached surface waters, drainage channels or storm drains.
d. **Follow-up return contact** information for complainant or informant for each complaint received, if not reported anonymously.
e. Final resolution of the complaint.

ii. Records documenting steps and/or remedial actions undertaken by enrollee, using all available information, to comply with section D.7 of the SSS WDRs.

iii. Records documenting how all estimate(s) of volume(s) discharged and, if applicable, volume(s) recovered were calculated.

3. Records documenting all changes made to the SSMP since its last certification indicating when a subsection(s) of the SSMP was changed and/or updated and who authorized the change or update. These records shall be attached to the SSMP.

4. Electronic monitoring records relied upon for documenting SSO events and/or estimating the SSO volume discharged, including, but not limited to records from:

   i. Supervisory Control and Data Acquisition (SCADA) systems
   ii. Alarm system(s)
   iii. Flow monitoring device(s) or other instrument(s) used to estimate wastewater levels, flow rates and/or volumes.

F. **CERTIFICATION**

1. All information required to be reported into the CIWQS Online SSO Database shall be certified by a person designated as described in subsection J of the SSS WDRs. This designated person is also known as a Legally Responsible Official (LRO). An enrollee may have more than one LRO.

2. Any designated person (i.e. an LRO) shall be registered with the State Water Board to certify reports in accordance with the CIWQS protocols for reporting.

3. Data Submitter (DS): Any enrollee employee or contractor may enter draft data into the CIWQS Online SSO Database on behalf of the enrollee if authorized by the LRO and registered with the State Water Board. However, only LROs may certify reports in CIWQS.

4. The enrollee shall maintain continuous coverage by an LRO. Any change of a registered LRO or DS (e.g., retired staff), including deactivation or a change to the LRO’s or DS’s contact information, shall be submitted by the enrollee to the State Water Board within 30 days of the change by calling (866) 792-4977 or e-mailing help@ciwqs.waterboards.ca.gov.
5. A registered designated person (i.e., an LRO) shall certify all required reports under penalty of perjury laws of the state as stated in the CIWQS Online SSO Database at the time of certification.

CERTIFICATION

The undersigned Clerk to the Board does hereby certify that the foregoing is a full, true, and correct copy of an order amended by the Executive Director of the State Water Resources Control Board.

[Signature]
Date 7/30/13

Jeanine Townsend
Clerk to the Board
# City of Eureka SSMP Audit 2015

Elements are out of order.
Requirements language does not match the order.

<table>
<thead>
<tr>
<th>Section</th>
<th>Goals</th>
<th>Meets Regulatory Goal</th>
<th>Does Not Meet Regulator Goal</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>Section 1</td>
<td>Goals</td>
<td>X</td>
<td></td>
<td>Standard section.</td>
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<table>
<thead>
<tr>
<th>Section 2</th>
<th>Organization</th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Organization Chart</td>
<td></td>
<td>X</td>
<td></td>
<td>Does not include communication from complaint to notification. Does not identify the Authorized Representative. Does not identify the names and telephone numbers for management, administrative, and maintenance positions responsible for implementing specific measures in the SSMP program. Reporting requirements need to be updated.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Section 3</th>
<th>Legal Authority</th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Line of Communication for SSO</td>
<td></td>
<td>X</td>
<td></td>
<td>Wrong location. Must demonstrate, through sanitary sewer system use ordinances that specific authority exists. No reference to existing codes.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Section 4</th>
<th>O&amp;M</th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Mapping</td>
<td></td>
<td>X</td>
<td></td>
<td>Section mis-labeled &quot;Measure and Activities&quot;</td>
</tr>
<tr>
<td>Preventive Maintenance Program</td>
<td></td>
<td>X</td>
<td></td>
<td>Section requirements do not match what is in the order. Refers several times to &quot;Wastewater Collection System Management Plan &quot;. Is this a separate document the City has developed?</td>
</tr>
<tr>
<td>Rehabilitation and Replacement Program</td>
<td></td>
<td></td>
<td></td>
<td>Refers to an order for Goleta Sanitary District Wastewater Treatment Facility?</td>
</tr>
<tr>
<td>Staff Training</td>
<td></td>
<td>X</td>
<td></td>
<td>Could be better documented. No training on SSMP discussed.</td>
</tr>
<tr>
<td>Equipment and Parts Inventory</td>
<td></td>
<td>X</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Section 5</th>
<th>Design and Performance</th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Design Standards</td>
<td></td>
<td>X</td>
<td></td>
<td>No description of inspection or testing standards or code references.</td>
</tr>
<tr>
<td>Inspection and Testing Standard</td>
<td></td>
<td>X</td>
<td></td>
<td></td>
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<table>
<thead>
<tr>
<th>Section 6</th>
<th>Overflow Emergency Response Plan</th>
<th></th>
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</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>X</td>
<td></td>
<td>No water quality sampling provisions. No OERP training mentioned. No OERP training documented or discussed. Reporting requirements need to be updated.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Section 7</th>
<th>FOG</th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>FOG Ordinance</td>
<td></td>
<td>X</td>
<td></td>
<td>Legal authority not noted by code or ordinance. No authority to inspect noted. Sections not match up with requirements.</td>
</tr>
<tr>
<td>FOG Program</td>
<td></td>
<td>X</td>
<td></td>
<td>Program is described, does not follow requirements.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Section 8</th>
<th>System Evaluation and Capacity Assurance Plan</th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>X</td>
<td></td>
<td>Reference to other plan. Wastewater System Facilities Plan.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Section 9</th>
<th>Monitoring, Measurement, and Program Modification</th>
<th></th>
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<tbody>
<tr>
<td></td>
<td></td>
<td>X</td>
<td></td>
<td>No monitoring or measurements procedures, program modifications since 2009. Identify SSMP Goals. Track progress.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Section 10</th>
<th>SSMP Audits</th>
<th></th>
<th></th>
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</tr>
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<tbody>
<tr>
<td></td>
<td></td>
<td>X</td>
<td></td>
<td>Audits every 2 years, update every 5. No audits indicated, no update completed.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Section 11</th>
<th>Communication Program</th>
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</tr>
</thead>
<tbody>
<tr>
<td>Communication with the public</td>
<td></td>
<td>X</td>
<td></td>
<td>SSMP not publically available.</td>
</tr>
<tr>
<td>Communication with satellite agency</td>
<td></td>
<td>X</td>
<td></td>
<td>No discussion of satellite agency.</td>
</tr>
<tr>
<td>Year</td>
<td>Total Spill</td>
<td>Recovered</td>
<td>% Rec</td>
<td>Number of SSOs</td>
</tr>
<tr>
<td>------</td>
<td>-------------</td>
<td>-----------</td>
<td>-------</td>
<td>----------------</td>
</tr>
<tr>
<td>2008</td>
<td>680</td>
<td>350</td>
<td>51%</td>
<td>3</td>
</tr>
<tr>
<td>2009</td>
<td>2015</td>
<td>0</td>
<td>0%</td>
<td>6</td>
</tr>
<tr>
<td>2010</td>
<td>2370</td>
<td>20</td>
<td>1%</td>
<td>4</td>
</tr>
<tr>
<td>2011</td>
<td>11720</td>
<td>550</td>
<td>5%</td>
<td>7</td>
</tr>
<tr>
<td>2012</td>
<td>122100</td>
<td>0</td>
<td>0%</td>
<td>6</td>
</tr>
<tr>
<td>2013</td>
<td>104</td>
<td>40</td>
<td>38%</td>
<td>1</td>
</tr>
<tr>
<td>2014</td>
<td>9685</td>
<td>250</td>
<td>3%</td>
<td>7</td>
</tr>
<tr>
<td>2015</td>
<td>5100</td>
<td>275</td>
<td>5%</td>
<td>2</td>
</tr>
</tbody>
</table>

![Percent Recovered Chart](chart.png)
APPENDIX D
LIST OF CURRENT SSMP CONTACTS
<table>
<thead>
<tr>
<th>Position</th>
<th>Name</th>
<th>Phone Number</th>
<th>Alternative Phone Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>Director of Public Works</td>
<td>Brian Gerving</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Deputy Public Works Director-Field Operations</td>
<td>Brian Issa</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Field Superintendant</td>
<td>Danial Vit</td>
<td>832-5111</td>
<td>499-3321</td>
</tr>
<tr>
<td>Wastewater Collections Supervisor</td>
<td>Ken Billman</td>
<td>441-4256</td>
<td>599-5142</td>
</tr>
<tr>
<td>Pretreatment Inspector</td>
<td>Marty</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Engineering Technician (Stormwater Compliance)</td>
<td>Travis Clohessy</td>
<td>268-1846</td>
<td>441-4202</td>
</tr>
</tbody>
</table>
APPENDIX E
EUREKA MUNICIPAL CODE CHAPTER 50
CHAPTER 50: SEWERS

Section

General Provisions
- 50.001 Purpose and policy
- 50.002 Definitions
- 50.003 Abbreviations
- 50.004 Vandalism
- 50.005 Confidential information
- 50.006 Conflicting provisions
- 50.007 Severability

General Sewer Use Regulations
- 50.020 Prohibited discharge standards
- 50.021 Federal Categorical Pretreatment Standards
- 50.022 Specific pollutant limitations
- 50.023 City's right of revision
- 50.024 Special agreement
- 50.025 Dilution

Pretreatment of Wastewaters
- 50.035 Pretreatment facilities
- 50.036 Additional pretreatment measures
- 50.037 Accidental discharge/slug control plans
- 50.038 Tenant responsibility
- 50.039 Hauled wastewater
- 50.040 Grease hauler permit requirements
- 50.041 Grease hauler permit application
- 50.042 Grease hauler permit reissuance
- 50.043 Grease hauler permit contents
- 50.044 Grease hauler permit appeals
- 50.045 Grease hauler permit modification
- 50.046 Revocation of permit

Wastewater Discharge Permit
- 50.050 Wastewater survey
- 50.051 Wastewater discharge permit requirements
- 50.052 Wastewater discharge permit application
- 50.053 Wastewater discharge permit decisions
- 50.054 Duration of permit; reissuance
- 50.055 Permit contents
- 50.056 Appeals
- 50.057 Permit modification
- 50.058 Transfer of permit
- 50.059 Revocation of permit

Reporting Requirements
- 50.070 Baseline monitoring reports
- 50.071 Compliance schedule progress report
- 50.072 Report on compliance with Categorical Pretreatment Standard deadline
- 50.073 Periodic compliance reports
50.074 Reports of changed conditions
50.075 Reports of potential problems
50.076 Reports from nonsignificant industrial users
50.077 Notice of violation; repeat sampling and reporting
50.078 Notification of the discharge of hazardous waste
50.079 Analytical requirements
50.080 Sample collection; determination of noncompliance
50.081 Record keeping

Connections to POTW
50.090 Permits required
50.091 Connection fees and installation charges
50.092 Maintenance of building sewers
50.093 Main extensions

Rates and Charges
50.105 Wastewater volume determination
50.106 Pretreatment charges and fees
50.107 Wastewater user charges
50.108 Billing; persons responsible for payment
50.109 Penalty for nonpayment
50.110 Property liens for delinquencies

Administration and Enforcement
50.120 Duties of City Manager
50.121 Compliance monitoring
50.122 Publication of industrial users in significant noncompliance
50.123 Administrative enforcement remedies
50.124 Judicial enforcement remedies
50.125 Supplemental enforcement action
50.126 Remedies nonexclusive
50.127 Affirmative defenses to discharge violations
50.999 Penalty
GENERAL PROVISIONS

§ 50.001 PURPOSE AND POLICY.

(A) Purpose. This chapter sets forth uniform requirements for users of the wastewater collection and Publicly Owned Treatment Works (POTW) for the city. This chapter shall apply to all persons using the POTW. It provides for the setting of user charges and fees for the equitable distribution of costs to all users. Revenues derived from the application of the provisions of this chapter shall be used to defray the city's cost of operating and maintaining an adequate wastewater collection and treatment system and to provide sufficient funds for capital outlay, bond service costs, capital improvements depreciation and pretreatment. This chapter also enables the city to comply with all applicable state and federal laws including the Clean Water Act (33 USC 1251 et seq.) and the General Pretreatment Regulations (40 CFR Part 403).

(B) Objectives. The objectives of this chapter are:

1. To prevent the introduction of pollutants into the POTW that will interfere with the operation of the POTW;
2. To prevent the introduction of pollutants into the POTW which may pass through the POTW, inadequately treated, into receiving waters or otherwise be incompatible with the POTW;
3. To ensure that the quality of the wastewater treatment plant sludge is maintained at a level which allows its use and disposal in compliance with applicable statutes and regulations;
4. To protect POTW personnel who may be affected by wastewater and sludge in the course of their employment and to protect the general public;
5. To improve the opportunity to recycle and reclaim wastewater and sludge from the POTW;
6. To enable the city to comply with its NPDES permit conditions, sludge use and disposal requirements and any other federal or state laws to which the POTW is subject.

(63 Code, § 5-5.101) (Ord. 571-C.S., passed 6-2-94; Am. Ord. 775-C.S., passed 12-20-11)

§ 50.002 DEFINITIONS.

For the purpose of this chapter, the following definitions shall apply unless the context clearly indicates or requires a different meaning.

ACT or THE ACT. The Federal Water Pollution Control Act, also known as the Clean Water Act, as amended, 33 USC 1251 et seq.

AUTHORIZED REPRESENTATIVE OF THE INDUSTRIAL USER.

1. If the industrial user is a corporation, AUTHORIZED REPRESENTATIVE shall mean:
   a. The president, secretary, treasurer, or a vice-president of the corporation in charge of a principal business function, or any other person who performs similar policy or decision making functions for the corporation;
   b. The manager of one or more manufacturing, production, or operation facilities, provided the manager is authorized to make management decisions that govern the operation of the regulated facility, including having the explicit or implicit duty of making major capital investment recommendations, and initiate and direct other comprehensive measures to assure long-term environmental compliance with environmental laws and regulations; can ensure that the necessary systems are established or actions taken to gather complete and accurate information for individual wastewater discharge permit or general permit requirements; and where authority to sign documents has been assigned or delegated to the manager in accordance with corporate procedures.
If the industrial user is a partnership, or sole proprietorship, an **AUTHORIZED REPRESENTATIVE** shall mean a general partner or proprietor, respectively;

(3) If the industrial user is a federal, state or local governmental facility, an **AUTHORIZED REPRESENTATIVE** shall mean a director or highest official appointed or designated to oversee the operation and performance of the activities of the government facility;

(4) The individuals described in subsections (1) through (3) of this definition may designate another **AUTHORIZED REPRESENTATIVE** if the authorization is in writing, the authorization specifies the individual or position responsible for the overall operation of the facility from which the discharge originates or having overall responsibility for environmental matters for the company, and the written authorization is submitted to the city.

**BEST MANAGEMENT PRACTICES (BMPs).** Schedules of activities, prohibitions of practices, maintenance procedures, and other management practices to implement the prohibitions listed in §§ 50.020, 50.021 and 50.022. **BMPs** also include treatment requirements, operating procedures, and practices to control plant site runoff, spillage or leaks, sludge or waste disposal, or drainage from raw materials storage.

**BIOCHEMICAL OXYGEN DEMAND (BOD).** The quantity of oxygen utilized in the biochemical oxidation of organic matter under standard laboratory procedure, five-day 20° centigrade expressed in terms of mass and concentration milligrams per liter (mg/l).

**BUILDING SEWER OR LATERAL.** A sewer conveying wastewater from the premises of a user to the POTW.

**CATEGORICAL PRETREATMENT STANDARD** or **CATEGORICAL STANDARD.** Any regulation containing pollutant discharge limits promulgated by the U.S. EPA in accordance with Sections 307 (b) and (c) of the Act (33 USC 1317) which apply to a specific category of industrial users and which appear in 40 CFR Chapter I, Subchapter N, Parts 405-471.

**CITY.** The City of Eureka, California or the City Council of Eureka.

**CITY MANAGER** or **MANAGER.** The person designated by the city to manage the operation of the POTW, and who is charged with certain duties and responsibilities by this chapter or his duly authorized representative.

**CLARIFIER.** A device designed and installed so as to separate and retain deleterious, hazardous or undesirable matter such as sand, petroleum oil, non-biodegradable cutting oil, or products of mineral oil origin from a waste stream and permit liquid waste to discharge to the POTW.

**COLOR.** The optical density at the visual wave length of maximum absorption, relative to distilled water. One hundred percent transmittance is equivalent to zero (0.0) optical density.

**COMPOSITE SAMPLE.** The sample resulting from the combination of individual wastewater samples taken at selected intervals based on an increment of either flow or time.

**ENVIRONMENTAL PROTECTION AGENCY (EPA).** The U.S. Environmental Protection Agency or, where appropriate, the term may also be used as a designation for the Regional Water Quality Control Board or other duly authorized official of said agency.

**EXISTING SOURCE.** Any source of discharge, the construction or operation of which commenced prior to the publication of proposed categorical pretreatment standards which will be applicable to such source if the standard is thereafter promulgated in accordance with Section 307 of the Act.

**GRAB SAMPLE.** A sample which is taken from a waste stream on a one-time basis without regard to the flow in the wastestream and without consideration of time.
**GREASE HAULER.** A person, firm or business that collects the contents of a grease interceptor and transports it.

**GREASE INTERCEPTOR.** A plumbing appurtenance or appliance that intercepts fats, oil and grease from a wastewater discharge.

**INDIRECT DISCHARGE or DISCHARGE.** The introduction of source regulated under Section 307(b), (c) or (d) of the Act.

**INDUSTRIAL USER or USER.** Any person who discharges or causes or permits the discharge of non-domestic wastewater into the POTW.

**INSTANTANEOUS MAXIMUM ALLOWABLE DISCHARGE LIMIT.** The maximum concentration (or loading) of a pollutant allowed to be discharged at any time, determined from the analysis of any discrete or composited sample collected, independent of the industrial flow rate and the duration of the sampling event.

**INTERFERENCE.** A discharge which alone or in conjunction with a discharge or discharges from other sources: inhibits or disrupts the POTW, its treatment processes, or operations or its sludge processes, use, or disposal; and therefore is a cause of a violation of the city's NPDES permit or of the prevention of sewage sludge use or disposal in compliance with any of the following statutory/regulatory provisions or permits issued thereunder (or more stringent state or local regulations): Section 405 of the Clean Water Act; the Solid Waste Disposal Act (SWDA), including Title II commonly referred to as the Resource Conservation and Recovery Act (RCRA); any state regulations contained in any state sludge management plan prepared pursuant to Subtitle D of the SWDA; the Clean Air Act; the Toxic Substances Control Act; and the Marine Protection, Research and Sanctuaries Act.

**MEDICAL WASTE.** Isolation wastes, infectious agents, human blood and blood byproducts, pathological wastes, sharps, body parts, fomites, etiologic agents, contaminated bedding, surgical wastes, potentially contaminated laboratory wastes and dialysis wastes.

**NEW SOURCE.**

1. Any building, structure, facility, or installation from which there is (or may be) a discharge of pollutants, the construction of which commenced after the publication of proposed Pretreatment Standards under Section 307(c) of the Act that will be applicable to such source if such standards are thereafter promulgated in accordance with that section, provided that:
   a. The building, structure, facility, or installation is constructed at a site at which no other source is located; or
   b. The building, structure, facility, or installation totally replaces the process or production equipment that causes the discharge of pollutants at an existing source; or
   c. The production or wastewater generating processes of the building, structure, facility, or installation are substantially independent of an existing source at the same site. In determining whether these are substantially independent, factors such as the extent to which the new facility is integrated with the existing plant, and the extent to which the new facility is engaged in the same general type of activity as the existing source, should be considered.

2. Construction on a site at which an existing source is located results in a modification rather than a new source if the construction does not create a new building, structure, facility, or installation meeting the criteria of division (1)(b) or (c) of this definition above, but otherwise alters, replaces, or adds to existing process or production equipment.

3. Construction of a new source as defined under this section has commenced if the owner or operator has:
   a. Begun, or caused to begin, as part of a continuous on-site construction program:
1. Any placement, assembly, or installation of facilities or equipment; or
2. Significant site preparation work including clearing, excavation, or removal of existing buildings, structures, or facilities which is necessary for the placement, assembly, or installation of new source facilities or equipment; or

(b) Entered into a binding contractual obligation for the purchase of facilities or equipment which are intended to be used in its operation within a reasonable time. Options to purchase or contracts which can be terminated without substantial loss, and contracts for feasibility engineering, and design studies, do not constitute a contractual obligation under this definition.

**NONCONTACT COOLING WATER.** Water used for cooling which does not come into direct contact with any raw material, intermediate product, waste product, or finished product.

**NUISANCE.** Anything which 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 comfort or enjoyment of life or property or which 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.

**PASS THROUGH.** A discharge which exits the POTW into waters of the U.S. in quantities or concentrations which, alone or in conjunction with a discharge or discharges from other sources, is a cause of a violation of any requirement of the city’s NPDES permit (including an increase in the magnitude or duration of a violation).

**PERSON.** Any individual, partnership, copartnership, firm, company, corporation, association, joint stock company, trust, estate, governmental entity, or any other legal entity, or their legal representatives, agents or assigns. This definition includes all federal, state, or local governmental entities.

**pH.** A measure of the acidity or alkalinity of a substance, expressed in standard units.

**POLLUTANT.** Any dredged spoil, solid waste, incinerator residue, sewage, garbage, sewage sludge, munitions, medical wastes, chemical wastes, industrial wastes, biological materials, radioactive materials, heat, wrecked or discharged equipment, rock, sand, cellar dirt, agricultural and industrial wastes, and the characteristics of the wastewater (i.e., pH, temperature, TSS, turbidity, color, BOD, Chemical Oxygen Demand (COD), toxicity, odor).

**PREMISES.** A parcel of real estate, including any improvements thereon, which is determined by the city to be a single user for the purpose of receiving, using and paying for services.

**PRETREATMENT.** The reduction of the amount of pollutants, the elimination of pollutants, or the alteration of the nature of pollutant properties in wastewater prior to or in lieu of introducing such pollutants into the POTW. This reduction or alteration can be obtained by physical, chemical or biological processes, by process changes, or by other means, except by diluting the concentration of the pollutants unless allowed by an applicable pretreatment standard.

**PRETREATMENT REQUIREMENTS.** Any substantive or procedural requirement related to pretreatment imposed on an industrial user, other than a pretreatment standard.

**PRETREATMENT STANDARDS** or **STANDARDS.** Prohibitive discharge standards, categorical pretreatment standards, and local limits.

**PROHIBITED DISCHARGE STANDARDS** or **PROHIBITED DISCHARGES.** Absolute prohibitions against the discharge of certain substances; these prohibitions appear in § 50.020 of this chapter.
**PUBLICLY OWNED TREATMENT WORKS** or **POTW.** Any devices or storage, treatment, recycling or reclamation of sewage or industrial wastes and any conveyances which convey wastewater to a treatment plant. Also, the city's jurisdiction over the industrial users and responsibility for the operation and maintenance of the treatment works. Building sewers connecting building drains to the POTW are not public sewers although they may be partially located in a public right-of-way or easement.

**SEPTIC TANK WASTES.** Any sewage from holding tanks such as vessels, chemical toilets, campers, trailers, and septic tanks.

**SEWAGE.** Human excrement and gray water (household showers, dishwashing operations, and the like).

**SIGNIFICANT INDUSTRIAL USER.** Applies to industrial users subject to categorical pretreatment standards; any other industrial user that discharges an average of 25,000 gpd or more of process wastewater, contributes a process wastestream which makes up 5% or more of the average dry weather hydraulic or organic capacity of the treatment plant or, is designated as significant by the city on the basis that the industrial user has a reasonable potential for adversely affecting the POTW's operation or for violating any pretreatment standard or requirement.

**SLUG LOAD.** Any discharge at a flow rate or concentration which could cause a violation of the prohibited discharge standards in § 50.020 of this chapter or any discharge of a nonroutine, episodic nature, including but not limited to, an accidental spill or a noncustomary batch discharge.

**STANDARD INDUSTRIAL CLASSIFICATION (SIC) CODE.** A classification pursuant to the “Standard Industrial Classification Manual” issued by the U.S. Office of Management and Budget.

**STORMWATER.** Any flow occurring during or following any form of natural precipitation including snowmelt.

**SUSPENDED SOLIDS.** The total suspended matter that floats on the surface of, or is suspended in water, wastewater, or other liquid, and which is removable by laboratory filtering.

**TOXIC POLLUTANT.** One of 126 pollutants, or combination by the EPA under the provision of Section 307 (33 USC 1317) of this Act.

**TREATMENT PLANT EFFLUENT.** Any discharge of treated wastewater from the POTW into waters of the state.

**WASTEWATER.** Liquid and water-carried industrial wastes, and sewage from residential dwellings, commercial buildings, industrial and manufacturing facilities, and institutions, whether treated or untreated, which are contributed to the POTW.

**WASTEWATER TREATMENT PLAN** or **TREATMENT PLANT.** The portion of the POTW designed to provide treatment of sewage and industrial waste.

(’63 Code, § 5-5.103) (Ord. 571-C.S., passed 6-2-94; Am. Ord. 737-C.S., passed 2-3-09; Am. Ord. 775-C.S., passed 12-20-11)

§ 50.003  ABBREVIATIONS.

The following abbreviations shall have the designated meanings:

- **BOD** - Biochemical Oxygen Demand
- **CFR** - Code of Federal Regulations
- **COD** - Chemical Oxygen Demand
- **EPA** - U.S. Environmental Protection Agency
- **gpd** - Gallons per day
- **l** - liter
No person shall maliciously, willfully, or negligently break, damage, destroy, uncover, deface, tamper with, or prevent access to any structure, appurtenance, or equipment or other part of the POTW. Any person found in violation of this requirement shall be subject to the enforcement actions set out in this chapter.

§ 50.005 CONFIDENTIAL INFORMATION.

Information and data on an industrial user obtained from reports, surveys, wastewater discharge permit applications, wastewater discharge permits, and monitoring programs, and from city inspection and sampling activities, shall be available to the public unless the industrial user specifically requests and is able to demonstrate to the satisfaction of the city, that the release of such information would divulge information, processes, or methods of production entitled to protection as trade secrets under applicable state law. When requested and demonstrated by the industrial user furnishing a report that such information should be held confidential, the portions of a report which might disclose trade secrets or secret processes shall not be made available for inspection by the public, but shall be made available immediately upon request to governmental agencies for uses related to the NPDES program or pretreatment program, and in enforcement proceedings involving the person furnishing the report. Wastewater constituents and characteristics will not be recognized as confidential information and will be available to the public without restriction.

§ 50.006 CONFLICTING PROVISIONS.

(A) All other ordinances and parts of other ordinances inconsistent or conflicting with any part of this chapter, are hereby repealed to the extent of the inconsistency or conflict.

(B) In the event any provision of this chapter conflicts or is otherwise inconsistent with the latest edition of the Uniform Plumbing Code which has been or may be adopted by this code, the provisions of this chapter shall prevail.

§ 50.007 SEVERABILITY.

If any provision of this chapter is invalidated by any court of competent jurisdiction, the remaining provisions shall not be effected and shall continue in full force and effect.
GENERAL SEWER USE REGULATIONS

§ 50.020 PROHIBITED DISCHARGE STANDARDS.

(A) No person shall discharge any substances directly into a manhole or other opening in a community sewer other than through an approved building sewer unless, upon a written application by the user and the payment of the applicable user charges and fees, the city issues a permit for such direct discharges.

(B) No person shall introduce or cause to be introduced into the POTW, directly or indirectly, any pollutant or wastewater which causes pass through or interference. These general prohibitions apply to all users of the POTW whether or not they are subject to categorical pretreatment standards or any other national, state, or local pretreatment standards or requirement. Furthermore, no person may contribute the following substances to the POTW:

1. Pollutants which create a fire or explosive hazard in the municipal wastewater collection and POTW, including, but not limited to, wastestreams with a closed-cup flashpoint of less than 140°F (60°C) using the test methods specified in 40 CFR 261.21.

2. Any wastewater having a pH less than 5.0 or more than 12.5, or otherwise causing corrosive structural damage to the POTW or equipment, or endangering city personnel.

3. Solid or viscous substances in amounts which will cause obstruction of the flow in the POTW resulting in interference, but in no case solids greater than one-inch or 25.4 millimeters in any dimension.

4. Any wastewater containing pollutants, including oxygen demanding pollutants (BOD, and the like), released in a discharge at a flow rate and/or pollutant concentration which, either singly or by interaction with other pollutants, will cause interference with either the POTW, or any wastewater treatment or sludge process; or which will constitute a hazard to humans or animals.

5. Any wastewater having a temperature greater than 150°F (65.5°C), or which will inhibit biological activity in the treatment plant resulting in interference, but in no case wastewater which causes the temperature at the introduction into the treatment plant to exceed 104°F (40°C).

6. Petroleum oil, nonbiodegradable cutting oil, or products of mineral oil origin, in amounts that will cause interference or pass through, but in no case shall the discharge exceed 25 mg/l.

7. Any pollutants which result in the presence of toxic gases, vapors or fumes within the POTW in a quantity that may cause worker health and safety problems.

8. Any trucked or hauled pollutants, except at discharge points designated by the city in accordance with § 50.039 of this chapter.

9. Any noxious or malodorous liquids, gases, solids, or other wastewater which, either singly or by interaction with other wastes, are sufficient to create a public nuisance, a hazard to life, or to prevent entry into the sewers for maintenance and repair.

10. Any wastewater which imparts color which cannot be removed by the treatment process, such as, but not limited to, dye wastes and vegetable tanning solutions, which consequently imparts color to the treatment plant’s effluent thereby violating the city’s NPDES permit. Color (in combination with turbidity) shall not cause the treatment plant effluent to reduce the depth of the compensation point for photosynthetic activity by more than 10% from the seasonably established norm for aquatic life.
(11) Any wastewater containing any radioactive wastes or isotopes, except as specifically approved in writing by the City Manager in compliance with applicable state or federal regulations.

(12) Stormwater, surface water, ground water, artisan well water, roof runoff, subsurface drainage, swimming pool drainage, condensate, deionized water, noncontact cooling water, and unpolluted industrial wastewater, unless specifically authorized in writing by the City Manager.

(13) Any sludges, screenings, or other residues from the pretreatment of industrial wastes.

(14) Any medical wastes, except as specifically authorized in writing by the City Manager in a wastewater discharge permit.

(15) Any wastewater causing the treatment plant’s effluent to fail a toxicity test.

(16) Any wastes containing detergents, surface active agents, or other substances which may cause excessive foaming in the POTW.

(17) Any discharge of fats, oils, or greases of animal or vegetable origin is limited to 100 mg/l.

(C) Wastes prohibited by this section shall not be processed or stored in such a manner that they could be discharged to the POTW. All floor drains located in process or materials storage areas must discharge to the industrial user’s pretreatment facility before connecting with the POTW.

(‘63 Code, § 5-5.201) (Ord. 571-C.S., passed 6-2-94; Am. Ord. 737-C.S., passed 2-3-09; Am. Ord. 775-C.S., passed 12-20-11) Penalty, see § 50.999

§ 50.021 FEDERAL CATEGORICAL PRETREATMENT STANDARDS.

The National Categorical Pretreatment Standards found at 40 CFR Chapter I, Subchapter N, Parts 405-471 are hereby incorporated.

(‘63 Code, § 5-5.202) (Ord. 571-C.S., passed 6-2-94; Am. Ord. 775-C.S., passed 12-20-11)

§ 50.022 SPECIFIC POLLUTANT LIMITATIONS.

(A) The City Manager is authorized to establish local limits pursuant to 40 C.F.R. 403.5(c).

(B) The following pollutant limits are established to protect against pass through and interference. No person shall discharge wastewater containing in excess of the following:

0.113 mg/l arsenic
0.119 mg/l benzene
0.044 mg/l cadmium
0.023 mg/l chloroform
0.692 mg/l copper
0.796 mg/l cyanide
0.009 mg/l 1,1 dichloroethane
0.062 mg/l 1,2 dichlorobenzene
0.021 mg/l 1,3 dichlorobenzene
0.081 mg/l 1,4 dichlorobenzene
0.070 mg/l ethylbenzene
3.915 mg/l lead
0.009 mg/l mercury
0.049 mg/l methylene chloride
0.574 mg/l nickel
0.146 mg/l silver
0.376 mg/l toluene
1.438 mg/l total chromium
0.392 mg/l  total phenols  
0.520 mg/l  total xylenes (TOTAL XYLENES is defined as the sum of ortho, para, and meta xylenes)  
0.678 mg/l  zinc  

(C) Concentrations apply at the point where the waste is discharged to the POTW. All concentrations for metallic substances are for “total” metal, unless indicated otherwise. At his discretion, the City Manager may impose mass limitations in addition to or in place of the concentration based limitations above.  

(D) The City Manager may develop best management practices (BMP), by ordinance or in individual wastewater discharge permits, to implement local limits and the requirements of §§ 50.020 and 50.021. (’63 Code, § 5-5.203) (Ord. 571-C.S., passed 6-2-94; Am. Ord. 737-C.S., passed 2-3-09; Am. Ord. 775-C.S., passed 12-20-11) Penalty, see § 50.999  

§ 50.023 CITY’S RIGHT OF REVISION.  
The city reserves the right to establish, by ordinance or in wastewater discharge permits, more stringent standards or requirements on discharges to the POTW if deemed necessary to comply with the objectives and/or the general and specific prohibitions established in this chapter. (’63 Code, § 5-5.204) (Ord. 571-C.S., passed 6-2-94; Am. Ord. 775-C.S., passed 12-20-11) Penalty, see § 50.999  

§ 50.024 SPECIAL AGREEMENT.  
The city reserves the right to enter into special written agreements with industrial users setting out special terms under which they may discharge to the POTW. In no case will a special agreement waive compliance with a pretreatment standard or requirement. However, the industrial user may request a net gross adjustment to a categorical standard in accordance with 40 CFR 403.15. They may also request a variance from the categorical pretreatment standard from EPA. Such a request will be approved only if the industrial user can prove that factors relating to its discharge are fundamentally different from the factors considered by EPA when establishing that pretreatment standard. An industrial user requesting a fundamentally different factor variance must comply with the procedural and substantive provisions in 40 CFR 403.13. (’63 Code, §5-5.205) (Ord. 571-C.S., passed 6-2-94; Am. Ord. 775-C.S., passed 12-20-11) Penalty, see § 50.999  

§ 50.025 DILUTION.  
No industrial user or wastewater hauler shall ever increase the use of process water, or in any way attempt to dilute a discharge, as a partial or complete substitute for adequate treatment to achieve compliance with a discharge limitation, unless expressly authorized by an applicable pretreatment standard or requirement. The City Manager may impose mass limitations on industrial users which are using dilution to meet applicable pretreatment standards or requirements, or in other cases when the imposition of mass limitations is appropriate. (’63 Code, § 5-5.206) (Ord. 571-C.S., passed 6-2-94; Am. Ord. 775-C.S., passed 12-20-11) Penalty, see § 50.999  

PRETREATMENT OF WASTEWATERS  
§ 50.035 PRETREATMENT FACILITIES.  
Industrial users shall provide necessary wastewater treatment as required to comply with this chapter and shall achieve compliance with all categorical pretreatment standards, local limits and the prohibitions set out in this chapter within the time limitations specified by the EPA, the state, or the City Manager, whichever is more stringent. Any facilities required to pretreat wastewater to a level acceptable to the city shall be provided, operated, and maintained at the industrial user's expense. Detailed plans showing the pretreatment facilities and operating procedure shall
be submitted to the city for review, and must be approved by the city before construction of the facility. The review of such plans and operating procedure will in no way relieve the industrial user from the responsibility of modifying the facility as necessary to produce an acceptable discharge to the city under the provisions of this chapter.

(63 Code, § 5-5.301) (Ord. 571-C.S., passed 6-2-94; Am. Ord. 775-C.S., passed 12-20-11) Penalty, see § 50.999

§ 50.036 ADDITIONAL PRETREATMENT MEASURES.

(A) Whenever deemed necessary, the City Manager may require industrial users to restrict their discharge during peak flow periods, designate that certain wastewater be discharged only into specific sewers, relocate and/or consolidate points of discharge, separate sewage waste streams from industrial wastestreams, and such other conditions as may be necessary to protect the POTW and determine the industrial user’s compliance with the requirements of this chapter.

(B) Each person discharging into the POTW greater than 100,000 gallons per day shall install and maintain, on his property and at his expense, a suitable storage and flow control facility to ensure equalization of flow over a 24-hour period.

(C) Clarifiers shall be provided when, in the opinion of the City Manager, they are necessary for the proper handling of wastewater containing excessive amounts of petroleum oil, non-biodegradable cutting oil, products of mineral oil origin or sand; except that such clarifiers shall not be required for residential users. All clarifiers shall be of type and capacity approved by the City Manager and shall be so located to be easily accessible for cleaning and inspection. Such clarifiers shall be inspected, cleaned, and repaired regularly, as needed, by the owner at his sole expense.

(D) Industrial users with the potential to discharge flammable substances may be required to install and maintain an approved combustible gas detection meter.

(E) At no time shall any reading on a properly calibrated combustible gas detector at the point of discharge into the POTW, or at any point in the POTW, be more than 20% of the lower explosive limit (LEL) of the meter.

(F) Grease interceptors shall be provided when, in the opinion of the City Manager, they are necessary for the proper handling of wastewater containing excessive amounts of fats, oils and grease that may cause or contribute to lateral or sanitary sewer overflows; except that such grease interceptors shall not be required for residential users. All grease interceptors shall be of type and capacity approved by the City Manager and shall be so located to be easily accessible for cleaning and inspection. Grease interceptors shall be installed in accordance with the provisions of this chapter. Such grease interceptors shall be inspected, cleaned, and repaired regularly, as needed, by the owner at his sole expense.

1. Users that are required to have a grease interceptor may be required to connect the following fixtures to the grease interceptor, if they are present:
   (a) Pot sinks or similar devices, including all compartments of a three compartment sink;
   (b) Pre-rinse sinks or similar devices;
   (c) Prep sinks or similar devices;
   (d) Soup kettles or similar devices;
   (e) Wok stations or similar devices;
   (f) Drains in areas where floor mats are washed;
   (g) Any other fixtures or drains that have a reasonable potential to allow fats, oils and grease to be discharged to the POTW.
(2) Users with food waste disposal units shall connect the unit to a grease interceptor with a minimum capacity of 1,000 gallons or remove the unit.

(3) Users with dishwashers and mop sinks shall connect them directly to the POTW or to a grease interceptor with a minimum capacity of 750 gallons.

(4) Accumulated grease and sediment shall be removed as necessary to prevent lateral or sanitary sewer overflows. At a minimum, single-chamber grease interceptors shall be cleaned in accordance with the manufacturer’s specifications, or when the combined depth of sediment and grease equals or exceeds 25% of the total depth of the sediment, water, and grease. Multiple-chamber grease interceptors shall be cleaned in accordance with the manufacturer’s specifications, or when the combined depth of sediment and grease in the final chamber equals or exceeds 25% of the total depth of the sediment, water, and grease in that chamber.

(5) Grease interceptors shall be kept free of non-food waste including, but not limited to grit, rocks, gravel, eating utensils, cigarettes, trash, towels, and rags.

(6) The addition of chemicals, enzymes, emulsifiers, live bacteria or other grease cutters or additives used for purposes of grease reduction in the grease interceptor is prohibited.

(7) If the City Manager determines that a grease interceptor is not being adequately maintained, a correction notice may be issued requiring the deficiency be corrected within seven, 14, or 30 days. Maintenance programs, including BMPs and defined cleaning frequencies, may be mandated. Users that fail to adhere to a maintenance program may be required to install additional pretreatment devices.

(‘63 Code, § 5-5.302) (Ord. 571-C.S., passed 6-2-94; Am. Ord. 775-C.S., passed 12-20-11)

Penalty, see § 50.999

§ 50.037 ACCIDENTAL DISCHARGE/SLUG CONTROL PLANS.

The City Manager may require any industrial user to develop and implement an accidental discharge/slug control plan. At least once every two years the City Manager shall evaluate whether each significant industrial user needs such a plan. Any industrial user required to develop and implement an accidental discharge/slug control plan shall submit a plan which provides, at a minimum, the following:

(A) Description of discharge practices including nonroutine batch discharges.

(B) Description of stored chemicals.

(C) Procedures for immediately notifying the POTW of any accidental or slug discharge. Such notification must also be given for any discharge which would violate any of the prohibited discharges in § 50.020 of this chapter.

(D) Procedures to prevent adverse impact from any accidental or slug discharge. Such procedures include, but are not limited to, inspection and maintenance of storage areas, handling and transfer of materials, loading and unloading operations, control of plant site run-off, worker training, building of containment structures or equipment, measures for containing toxic organic pollutants (including solvents), and/or measures and equipment for emergency response.

(E) Procedures for immediately notifying the POTW of any changes affecting the potential for a slug discharge.

(‘63 Code, § 5-5.303) (Ord. 571-C.S., passed 6-2-94; Am. Ord. 737-C.S., passed 2-3-09; Am. Ord. 775-C.S., passed 12-20-11)

§ 50.038 TENANT RESPONSIBILITY.

Where an owner of property lets premises to any other person as a tenant, if either the owner or the tenant is an industrial user, either or both may be held responsible for compliance with the
provisions of this chapter. This provision is enforceable against either the owner or the tenant or both, without regard to any contractual arrangements as between the owner and tenant.

(‘63 Code, § 5-5.304) (Ord. 571-C.S., passed 6-2-94; Am.Ord. 737-C.S., passed 2-3-09; Am.Ord. 775-C.S., passed 12-20-11)

§ 50.039 HAULED WASTEWATER.

(A) Septic tank waste of residential origin may be accepted into the POTW at a designated receiving structure within the treatment plant area, and at such times as are established by the City Manager, provided such wastes do not violate the provisions of this chapter or any other requirements established or adopted by the city. Wastewater discharge permits for individual vehicles to use such facilities shall be issued by and at the discretion of, the City Manager, based on the interests and purposes to be served under this chapter.

(B) The discharge of hauled industrial wastes is prohibited without prior approval and a wastewater discharge permit from the city.

(C) Fees for dumping septage will be established as part of the industrial user fee system as authorized in this chapter.

(63 Code, § 5-5.305) (Ord. 571-C.S., passed 6-2-94; Am. Ord. 737-C.S., passed 2-3-09; Am. Ord. 775-C.S., passed 12-20-11) Penalty, see § 50.999

§ 50.040 GREASE HAULER PERMIT REQUIREMENTS.

Any person collecting, pumping or hauling waste kitchen grease generated at businesses located within the city shall apply for and obtain a grease hauler permit from the city before engaging in that activity. The City Manager shall approve, deny, or approve with special conditions all applications for grease hauler permit. It shall be unlawful for any grease hauler to operate within the City limits without a current grease hauler permit.

(Ord. 737-C.S., passed 2-3-09; Am. Ord. 775-C.S., passed 12-20-11) Penalty, see § 50.999

§ 50.041 GREASE HAULER PERMIT APPLICATION.

(A) Contents. All grease haulers required to have a grease hauler permit must submit a completed permit application. Incomplete or inaccurate applications will not be processed and will be returned to the grease hauler for revision.

(B) Application signatories and certification. All grease hauler permit applications and grease hauler reports must contain the certification statement, described in § 50.052(B), and be signed by an authorized representative of the grease hauler.

(C) The City Manager will evaluate the data furnished by the grease hauler and may require additional information. Within 45 days of receipt of a complete grease hauler permit application, the City Manager will determine whether or not to issue a grease hauler permit. If no determination is made within this time period, the application will be deemed denied. The City Manager may deny any application for a grease hauler permit based on insufficient information or information indicating a risk to the city's POTW might result from the activity as proposed.

(Ord. 737-C.S., passed 2-3-09; Am. Ord. 775-C.S., passed 12-20-11)

§ 50.042 GREASE HAULER PERMIT REISSUANCE.

(A) Grease hauler permits shall be valid for a period of two years and will expire two years from the date of issuance.

(B) A grease hauler shall apply for permit renewal by submitting a complete grease hauler permit application in accordance with § 50.040 a minimum of 45 days prior to the expiration of the grease waste hauler’s existing grease hauler permit.

(Ord. 737-C.S., passed 2-3-09; Am. Ord. 775-C.S., passed 12-20-11)

§ 50.043 GREASE HAULER PERMIT CONTENTS.
Grease hauler permits shall include such conditions as are reasonably deemed necessary by the City Manager to ensure that the collection of waste kitchen grease within the City limits is being conducted in accordance with applicable federal, state and local laws. At a minimum, the grease hauler permits shall contain the following conditions:

(A) A statement that indicates grease hauler permit issuance and expiration date.
(B) Reporting, notification and record keeping requirements.

(Ord. 737-C.S., passed 2-3-09; Am. Ord. 775-C.S., passed 12-20-11)

§ 50.044  GREASE HAULER PERMIT APPEALS.

Any grease hauler may petition the city to reconsider the terms of or the denial of a grease hauler permit within ten days of its denial or issuance subject to the following conditions:

(A) Failure to submit a timely petition for review shall be deemed to be a waiver of the administrative appeal.
(B) In its petition, the appealing party must indicate the grease hauler permit provisions objected to, the reason for this objection, and the alternative condition, if any, it seeks to place in the grease hauler permit.
(C) The effectiveness of the grease hauler permit shall not be stayed pending the appeal process.
(D) If the City fails to act within 30 days, a request for reconsideration shall be deemed to be denied.
(E) If the ruling made by the City Manager is unsatisfactory to the person requesting reconsideration, they may, within ten days after notification of such city action, file a written appeal to the City Council. The written appeal shall be heard by the Council within 30 days after the date of filing. The City Council shall make a final ruling on the appeal within ten days after the close of the hearing on the appeal.

(Ord. 737-C.S., passed 2-3-09; Am. Ord. 775-C.S., passed 12-20-11)

§ 50.045  GREASE HAULER PERMIT MODIFICATION.

(A) The City Manager may modify any grease hauler permit at any time, based on good cause, which shall include, but is not limited to, the following:

(1) To incorporate any new or revised federal, state, or local pretreatment standards or requirements;
(2) For a violation of any terms or conditions of the grease hauler permit;
(3) For misrepresentations or failure to fully disclose all relevant facts in the grease hauler permit application or in any required reporting;
(4) To correct typographical or other errors in the grease hauler permit.
(B) The filing of a request by the permittee for a grease hauler permit modification does not stay any grease hauler permit condition.

(Ord. 737-C.S., passed 2-3-09; Am. Ord. 775-C.S., passed 12-20-11)

§ 50.046  REVOCATION OF PERMIT.

(A) Grease hauler permits may be revoked for the following reasons:

(1) Misrepresentation or failure to fully disclose all relevant facts in the grease hauler permit application;
(2) Falsifying reports;
(3) Failure to pay fines;
(4) Failure to meet compliance schedules;
(5) Failure to complete a grease hauler survey or the grease hauler permit application;
(6) Failure to provide advance notice of the transfer of a permitted facility;
(7) Violation of any pretreatment standard or requirement, or any terms of the grease hauler permit or this chapter.

(B) Grease hauler permits are nontransferable, and shall be voidable upon nonuse, cessation of operations, or transfer of business ownership. All grease hauler permits are void upon the issuance of a new grease hauler permit.

(Ord. 737-C.S., passed 2-3-09; Am. Ord. 775-C.S., passed 12-20-11)

WASTEWATER DISCHARGE PERMIT

§ 50.050 WASTEWATER SURVEY.

When requested by the City Manager, all industrial users must submit information on the nature and characteristics of their wastewater by completing a wastewater survey prior to commencing their discharge. The City Manager is authorized to prepare a form for this purpose and may periodically require industrial users to update the survey. Failure to complete this survey shall be reasonable grounds for terminating service to the industrial user and shall be considered a violation of this chapter, or for imposing penalties as set out in § 50.999.

(63 Code, § 5-5.401) (Ord. 571-C.S., passed 6-2-94; Am. Ord. 737-C.S., passed 2-3-09; Am. Ord. 775-C.S., passed 12-20-11) Penalty, see § 50.999

§ 50.051 WASTEWATER DISCHARGE PERMIT REQUIREMENTS.

(A) Requirement.

(1) It shall be unlawful for any significant industrial user to discharge wastewater into the city's POTW without first obtaining a wastewater discharge permit from the City Manager. Any violation of the terms and conditions of a wastewater discharge permit shall be deemed a violation of this chapter and subjects the wastewater discharge permittee to the enforcement actions set out in this chapter. Obtaining a wastewater discharge permit does not relieve a permittee of its obligation to comply with all federal and state pretreatment standards or requirements or with any other requirements of federal, state, and local law.

(2) The City Manager may require other industrial users, including liquid waste haulers, to obtain wastewater discharge permits as necessary to carry out the purposes of this chapter.

(63 Code, § 5-5.402)

(B) Existing connections. Any significant industrial user which discharges industrial waste into the POTW prior to the effective date of this chapter and who wishes to continue such discharges in the future, shall, within 45 days after said date, apply to the city for a wastewater discharge permit in accordance with § 50.052(A) of this chapter, and shall not cause or allow discharges to the POTW to continue after 90 days of the effective date of this chapter except in accordance with a wastewater discharge permit issued by the city.

(63 Code, § 5-5.403)

(C) New connections. Any significant industrial user proposing to begin or recommence discharging industrial wastes into the POTW must obtain a wastewater discharge permit prior to discharging. An application for this wastewater discharge permit must be filed at least 45 days prior to the date upon which any discharge will begin.

(63 Code, § 5-5.404)

(D) Extrajurisdictional industrial users. The city may enter into an agreement with the neighboring jurisdiction in which the significant industrial user is located to provide for the implementation and enforcement of pretreatment program requirements against said industrial user.

(63 Code, § 5-5.405)

(Ord. 571-C.S., passed 6-2-94; Am. Ord. 775-C.S., passed 12-20-11) Penalty, see § 50.999
§ 50.052  WASTEWATER DISCHARGE PERMIT APPLICATION.

(A) Contents. All industrial users required to have a wastewater discharge permit must submit a completed wastewater discharge permit application. The City Manager shall approve a form to be used as a permit application. Incomplete or inaccurate applications will not be processed and will be returned to the industrial user for revision.

('63 Code, § 5-5.406)

(B) Application signatories and certification. All wastewater discharge permit applications and industrial user reports must contain the following certification statement and be signed by an authorized representative of the industrial user.

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

('63 Code, § 5-5.407)

(Ord. 571-C.S., passed 6-2-94; Am. Ord. 737-C.S., passed 2-3-09; Am. Ord. 775-C.S., passed 12-20-11)

§ 50.053  WASTEWATER DISCHARGE PERMIT DECISIONS.

The City Manager will evaluate the data furnished by the industrial user and may require additional information. Within 45 days of receipt of a complete wastewater discharge permit application, the City Manager will determine whether or not to issue a wastewater discharge permit. If no determination is made within this time period, the application will be deemed denied. The City Manager may deny any application for a wastewater discharge permit.

('63 Code, § 5-5.408) (Ord. 571-C.S., passed 7-2-94; Am. Ord. 775-C.S., passed 12-20-11)

§ 50.054  DURATION OF PERMIT; REISSUANCE.

(A) Wastewater discharge permits shall be issued for a specified time period, not to exceed five years, at the discretion of the City Manager. Each wastewater discharge permit will indicate a specific date upon which it will expire.

('63 Code, § 5-5.501)

(B) A significant industrial user shall apply for wastewater discharge permit reissuance by submitting a complete wastewater discharge permit application in accordance with § 50.051(A) of this chapter a minimum of 45 days prior to the expiration of the industrial user's existing wastewater discharge permit.

('63 Code, § 5-5.507)

(Ord. 571-C.S., passed 6-2-94; Am. Ord. 775-C.S., passed 12-20-11)

§ 50.055  PERMIT CONTENTS.

Wastewater discharge permits shall include such conditions as are reasonably deemed necessary by the City Manager to prevent pass through or interference, protect the quality of the water body receiving the treatment plant's effluent, protect worker health and safety, facilitate
sludge management and disposal, protect ambient air quality, and protect against damage to the POTW.

A) Wastewater discharge permits shall contain the following conditions:

1. A statement that indicates wastewater discharge permit duration, which in no event shall exceed five years.

2. A statement that the wastewater discharge permit is nontransferable without prior notification and approval from the city, and provisions for furnishing the new owner or operator with a copy of the existing wastewater discharge permit.

3. Effluent limits including best management practices applicable to the user based on applicable standards in federal, state, and local law.

4. Self-monitoring, sampling, reporting, notification, and recordkeeping requirements. These requirements shall include an identification of pollutants to be monitored, sampling location, sampling frequency, and sample type based on federal, state, or local law.

5. Statement of applicable civil, criminal, and administrative penalties for violation of pretreatment standards and requirements, and any applicable compliance schedule. Such schedule may not extend the time for compliance beyond that required by applicable federal, state, or local law.

6. Requirements to control slug discharges, if determined by the POTW to be necessary.

B) Wastewater discharge permits may contain, but need not be limited to the following:

1. Limits on the average and/or maximum rate of discharge, time of discharge, and/or requirements for flow regulation and equalization.

2. Limits on instantaneous, daily and monthly average and/or maximum concentration, mass, or other measure of identified wastewater pollutants or properties.

3. Requirements for the installation of pretreatment technology, pollution control, or construction of appropriate containment devices, designed to reduce, eliminate, or prevent the introduction of pollutants into the treatment works.

4. Development and implementation of spill control plans or other special conditions including management practices necessary to adequately prevent accidental, unanticipated, or routine discharges.

5. Development and implementation of waste minimization plans to reduce the amount of pollutants discharged to the POTW.

6. The unit charge or schedule of industrial user charges and fees for the management of the wastewater discharged to the POTW.

7. Requirements for installation and maintenance of inspection and sampling facilities and equipment.

8. A statement that compliance with the wastewater discharge permit does not relieve the permittee of responsibility for compliance with all applicable federal and state pretreatment standards, including those which become effective during the term of the wastewater discharge permit.

9. Other conditions as deemed appropriate by the City Manager to ensure compliance with this chapter, and state and federal laws, rules, and regulations.

(63 Code, § 5-5.502) (Ord. 571-C.S., passed 6-2-94; Am. Ord. 737-C.S., passed 2-3-09; Am. Ord. 775-C.S., passed 12-20-11)

§ 50.056 APPEALS.

Any person, including the industrial user, may petition the city to reconsider the terms of a wastewater discharge permit within ten days of its issuance.
(A) Failure to submit a timely petition for review shall be deemed to be a waiver of the administrative appeal.

(B) In its petition, the appealing party must indicate the wastewater discharge permit provisions objected to, the reason for this objection, and the alternative condition, if any, it seeks to place in the wastewater discharge permit.

(C) The effectiveness of the wastewater discharge permit shall not be stayed pending the appeal process.

(D) If the city fails to act within 30 days, a request for reconsideration shall be deemed to be denied.

(E) If the ruling made by the City Manager is unsatisfactory to the person requesting reconsideration, they may, within ten days after notification of such city action, file a written appeal to the Council. The written appeal shall be heard by the Council within 30 days after the date of filing. The Council shall make a final ruling on the appeal within ten days after the close of the meeting.

(63 Code, § 5-5.503) (Ord. 571-C.S., passed 6-2-94; Am. Ord. 775-C.S., passed 12-20-11)

§ 50.057 PERMIT MODIFICATION.

(A) The City Manager may modify the wastewater discharge permit with good cause including, but limited to, the following:

1. To incorporate any new or revised federal, state, or local pretreatment standards or requirements;
2. To address significant alterations or additions to the industrial user's operation, processes, or wastewater volume or character since the time of wastewater discharge permit issuance;
3. To address change in the POTW that requires either a temporary or permanent reduction or elimination of the authorized discharge;
4. To address information indicating that permitted discharge poses a threat to the city's POTW, city personnel, or the receiving waters;
5. For a violation of any terms or conditions of the wastewater discharge permit;
6. For misrepresentations or failure to fully disclose all relevant facts in the wastewater discharge permit application nor in any required reporting;
7. To address revision of or a grant of variance from categorical pretreatment standards pursuant to 40 CFR 403.13;
8. To correct typographical or other errors in the wastewater discharge permit;
9. To reflect a transfer of the facility ownership and/or operation to a new owner/operator.

(B) The filing of a request by the permittee for a wastewater discharge permit modification does not stay any wastewater discharge permit condition.

(63 Code, § 5-5.504) (Ord. 571-C.S., passed 6-2-94; Am. Ord. 775-C.S., passed 12-20-11)

§ 50.058 TRANSFER OF PERMIT.

(A) Wastewater discharge permits may be reassigned or transferred to a new owner and/or operator only if the permittee gives at least 30 days advance notice to the City Manager and the City Manager approves in writing to the wastewater discharge permit transfer. The notice to the City Manager must include a written certification by the new owner and/or operator which:

1. States that the new owner and/or operator has no immediate intent to change the facility's operations and processes.
2. Identifies the specific date on which the transfer is to occur.
(3) Acknowledges full responsibility for complying with the existing wastewater discharge permit.

(B) Failure to provide advance notice of a transfer renders the wastewater discharge permit voidable on the date of facility transfer.

(*'63 Code, § 5-5.505) (Ord. 571-C.S., passed 6-2-94; Am. Ord. 737-C.S., passed 2-3-09; Am. Ord. 775-C.S., passed 12-20-11)

§ 50.059 REVOCATION OF PERMIT.

(A) Wastewater discharge permits may be revoked for the following reasons:

(1) Failure to notify the city of significant changes to the wastewater prior to the changed discharge;

(2) Failure to provide notification to the city of changed condition pursuant to § 50.074 of this chapter;

(3) Misrepresentation or failure to fully disclose all relevant facts in the wastewater discharge permit application;

(4) Falsifying self-monitoring reports;

(5) Tampering with monitoring equipment;

(6) Refusing to allow the city timely access to the facility premises and records;

(7) Failure to meet effluent limitations;

(8) Failure to pay fines;

(9) Failure to pay sewer charges;

(10) Failure to meet compliance schedules;

(11) Failure to complete a wastewater survey or the wastewater discharge permit application;

(12) Failure to provide advance notice of the transfer of a permitted facility;

(13) Violation of any pretreatment standard or requirement, or any terms of the wastewater discharge permit or this chapter.

(B) Wastewater discharge permits shall be voidable upon nonuse, cessation of operations, or transfer of business ownership. All wastewater discharge permits are void upon the issuance of a new wastewater discharge permit.

(*'63 Code, § 5-5.506) (Ord. 571-C.S., passed 6-2-94; Am. Ord. 775-C.S., passed 12-20-11)

REPORTING REQUIREMENTS

§ 50.070 BASELINE MONITORING REPORTS.

(A) Within either 180 days after the effective date of a categorical pretreatment standard, or the final administrative decision on a category determined under 40 CFR 403.6(a)(4), whichever is later, existing significant industrial users subject to such categorical pretreatment standards, and currently discharging to or scheduled to discharge to the POTW, shall be required to submit to the city a report which contains the information listed in division (B) of this section. At least 90 days prior to commencement of their discharge, new sources, and sources that become industrial users subsequent to the promulgation of an applicable categorical standard, shall be required to submit to the city a report which contains the information listed in division (B) of this section. A new source shall also be required to report the method of pretreatment it intends to use to meet applicable pretreatment standards. A new source shall also give estimates of its anticipated flow and quantity of pollutants discharged.

(B) The industrial user shall submit the information required by this section including:

(1) Identifying information. The name and address of the facility including the name of the operator and owners.
(2) *Wastewater discharge permits.* A list of any environmental control wastewater discharge permits held by or for the facility.

(3) *Description of operations.* A brief description of the nature, average rate of production, and standard industrial classifications of the operation(s) carried out by such industrial user. This description should include a schematic process diagram which indicates points of discharge to the POTW from the regulated processes.

(4) *Flow measurement.* Information showing the measured average daily and maximum daily flow, in gallons per day, to the POTW from regulated process streams and other streams, as necessary, to allow use of the combined wastestream formula set out in 40 CFR 403.6(e).

(5) *Measurement of pollutants.*
   
   (a) Identify the categorical pretreatment standards applicable to each regulated process.

   (b) Submit the results of sampling and analysis identifying the nature and concentration (and/or mass, where required by the standard or by the city) of regulated pollutants in the discharge from each regulated process. Instantaneous, daily maximum and long-term average concentrations (or mass, where required) shall be reported. The sample shall be representative of daily operation and shall be analyzed in accordance with procedures set out in §50.080 of this chapter. In cases where compliance with a best management practice or pollution prevention alternative is required, the user shall submit documentation as required by the City Manager.

   (c) Sampling must be performed in accordance with procedures set out in §50.079(A) of this chapter.

(6) *Certification.* A statement reviewed by the industrial user's authorized representative and certified by a qualified professional, indicating whether pretreatment standards are being met on a consistent basis and, if not, whether additional operation and maintenance (O&M) and/or additional pretreatment is required to meet the pretreatment standards and requirement.

(7) *Compliance schedule.* If additional pretreatment and/or O&M will be required to meet the pretreatment standards; the shortest schedule by which the industrial user will provide such additional pretreatment and/or O&M. The completion date in this schedule shall not be later than the compliance date established for the applicable pretreatment standard. A compliance schedule pursuant to this section must meet the requirements set out §50.052(A)(14) of this chapter.

(8) *Signature and certification.* All baseline monitoring reports must be signed and certified in accordance with §50.052(B) of this chapter.

'(63 Code, § 5-5.601) (Ord. 571-C.S., passed 6-2-94; Am. Ord. 737-C.S., passed 2-3-09; Am. Ord. 775-C.S., passed 12-20-11)

§ 50.071 COMPLIANCE SCHEDULE PROGRESS REPORT.

The following conditions shall apply to the schedule required by §50.070 of this chapter. The schedule shall contain progress increments in the form of dates for the commencement and completion of major events leading to the construction and operation of additional pretreatment required for the user to meet the applicable pretreatment standards (such events include hiring an engineer, completing preliminary and final plans, executing contracts for major components, commencing and completing construction, beginning and conducting routine operation). No increment referred to above shall exceed nine months. The industrial user shall submit a progress report to the City Manager no later than 14 days following each date in the schedule and the final date of compliance. The report shall include at a minimum, whether or not it complied with the increment of progress, the reason for any delay, (and, if appropriate) the steps being taken by the industrial user to return to the established schedule. In no event shall more than nine months elapse between such progress reports to the City Manager.
§ 50.072 REPORT ON COMPLIANCE WITH CATEGORICAL PRETREATMENT STANDARD DEADLINE.

Within 90 days following the date for final compliance with applicable categorical pretreatment standards, or in the case of a new source following commencement of the introduction of wastewater into the POTW, any industrial user subject to such pretreatment standards and requirements shall submit to the city a report containing the information described in § 50.070(B)(4) - (6) of this chapter. For industrial users subject to equivalent mass or concentration limits established in accordance with the procedures in 40 CFR 403.6(c), this report shall contain a reasonable measure of the industrial user's long-term production rate. For all other industrial users subject to categorical pretreatment standards expressed in terms of allowable pollutant discharge per unit of production (or other measure of operation), this report shall include the industrial user's actual production during the appropriate sampling period. All compliance reports must be signed and certified in accordance with § 50.052(B) of this chapter.

§ 50.073 PERIODIC COMPLIANCE REPORTS.

(A) Any significant industrial user subject to a pretreatment standard shall, at a frequency determined by the City Manager, but in no case less than twice per year (in June and December), submit a report indicating the nature and concentration of pollutants in the discharge which are limited by such pretreatment standards and the measured or estimated average and maximum daily flows for the reporting period. In cases where the pretreatment standard requires compliance with a best management practice (BMP) or pollution preventative alternative, the user must submit documentation required by the City Manager or the pretreatment standard necessary to determine the compliance status of the user. All periodic compliance reports must be signed and certified in accordance with § 50.052(B) of this chapter.

(B) All wastewater samples must be representative of the industrial user's discharge. Wastewater monitoring and flow measurement facilities shall be properly operated, kept clean, and maintained in good working order at all times. The failure of an industrial user to keep its monitoring facility in good working order shall not be grounds for the industrial user to claim that sample results are unrepresentative of its discharge.

(C) If an industrial user subject to the reporting requirement in and of this section monitors any pollutant more frequently than required by the POTW, using the procedure prescribed in § 50.079(A) of this chapter, the results of this monitoring shall be included in the report.

§ 50.074 REPORTS OF CHANGED CONDITIONS.

Each industrial user is required to notify the City Manager of any planned significant changes to the industrial user's operations or system which might alter the nature, quality or volume of its wastewater at least 45 days before the change.

(A) The City Manager may require the industrial user to submit such information as may be deemed necessary to evaluate the changed condition, including the submission of a wastewater discharge permit application.

(B) No industrial user shall implement the planned changed conditions until and unless the City Manager has responded to the industrial user's notice.

(C) For purposes of this requirement, flow increases of 10% or greater, and the discharge of any previously unreported pollutants, shall be deemed significant.
§ 50.075 REPORTS OF POTENTIAL PROBLEMS.

(A) In the case of any discharge including, but not limited to, accidental discharge of nonroutine, episodic nature, a noncustomary batch discharge, or a slug load which may cause potential problems for the POTW (including a violation of the prohibited discharge standards of this chapter), it is the responsibility of the industrial user to immediately telephone and notify the city of the incident. This notification shall include the location of discharge, type of waste, concentration and volume, if known, and corrective action taken by the industrial user.

(B) Within five days following such discharge, the industrial user shall, unless waived by the City Manager, submit a detailed written report describing the causes of the discharge and the measures to be taken by the industrial user to prevent similar future occurrences. Such notification shall not relieve the industrial user of any expense, loss, damage, or other liability which may be incurred as a result of damage to the POTW, natural resources, or any other damage to person or property; nor shall such notification relieve the industrial user of any fines, civil penalties, or other liability which may be imposed by this chapter.

(C) Failure to notify the city of potential problem discharges shall be deemed a separate violation of this chapter.

(D) A notice shall be permanently posted on the industrial user's bulletin board or other prominent place advising employees whom to call in the event of a discharge described in division (A) of this section. Employers shall ensure that all employees, who may cause or suffer such a discharge to occur, are advised of the emergency notification procedure.

(E) Significant industrial users are required to notify the City Manager immediately of any changes that would affect the users’ potential for a slug discharge.

§ 50.076 REPORTS FROM NONSIGNIFICANT INDUSTRIAL USERS.

All industrial users not subject to categorical pretreatment standards and not required to obtain a wastewater discharge permit shall provide appropriate reports to the city as the City Manager may require.

§ 50.077 NOTICE OF VIOLATION; REPEAT SAMPLING AND REPORTING.

If sampling performed by an industrial user indicates a violation, the industrial user must notify the Control Authority within 24 hours of becoming aware of the violation. The industrial user shall also repeat the sampling and analysis and submit the results of the repeat analysis to the Control Authority within 30 days after becoming aware of the violation. The industrial user is not required to resample if the POTW performs monitoring at the industrial user's at least once a month, or if the POTW performs sampling between the industrial user's initial sampling and when the industrial user receives the results of this sampling.

§ 50.078 NOTIFICATION OF THE DISCHARGE OF HAZARDOUS WASTE.

(A) Any industrial user who commences the discharge of hazardous waste shall notify the POTW, the EPA Regional Waste Management Division Director, and state hazardous waste authorities in writing of any discharge into the POTW of a substance which, if otherwise disposed of, would be a hazardous waste under 40 CFR Part 261. Such notification must include the names of the hazardous waste as set forth in 40 CFR Part 261, the EPA hazardous waste...
number, and the type of discharge (continuous, batch, or other). If the industrial user discharges more than ten kilograms of such waste per calendar month to the POTW, the notification shall also contain the following information to the extent information is known and readily available to the industrial users an identification of the hazardous constituents contained in the wastes, an estimation of the mass of constituents in the wastestream expected to be discharged during the following 12 months. All notifications must take place no later than 30 days after the discharge commences. Any notification under this division (A) need be submitted only once for each hazardous waste discharged. However, notifications of changed discharges must be submitted under § 50.074 of this chapter. The notification requirement in this section does not apply to pollutants already reported under the self-monitoring requirements of §§ 50.070, 50.072 and 50.073 of this chapter.

(B) In the case of any new regulations under Section 3001 of RCRA identifying additional characteristics of hazardous waste or listing any additional substance as a hazardous waste, the industrial user must notify the POTW, the EPA Regional Waste Management Waste Division Director, and state hazardous waste authorities of the discharge of such substance within 90 days of the effective date of such regulations.

(C) In the case of any notification made under this section, the industrial user shall certify that it has a program in place to reduce the volume and toxicity of hazardous wastes generated to the degree it has determined to be economically practical.

(D) This provision does not create a right to discharge any substance not otherwise permitted to be discharged by this chapter, a permit issued thereunder, or any applicable federal or state law.

(63 Code, § 5-5.609) (Ord. 571-C.S., passed 6-2-94; Am. Ord. 737-C.S., passed 2-3-09; Am. Ord. 775-C.S., passed 12-20-11)

§ 50.079 ANALYTICAL REQUIREMENTS.

All pollutant analyses, including sampling techniques, to be submitted as part of a wastewater discharge permit application or report shall be performed in accordance with the techniques prescribed in 40 CFR Part 136, unless otherwise specified in an applicable categorical pretreatment standard. If 40 CFR Part 136 does not contain sampling or analytical techniques for the pollutant in question, sampling and analyses must be performed in accordance with procedures approved by the EPA.

(63 Code, § 5-5.610) (Ord. 571-C.S., passed 6-2-94; Am. Ord. 775-C.S., passed 12-20-11)

§ 50.080 SAMPLE COLLECTION; DETERMINATION OF NONCOMPLIANCE.

(A) Sample collection.

(1) Except as indicated in division (A)(2), the industrial user must collect wastewater samples using 24-hour flow-proportional composite sampling techniques, unless time-proportional composite sampling or grab sampling is authorized by the City Manager. Where time-proportional composite sampling or grab sampling is authorized by the city, the samples must be representative of the discharge. Using protocols (including appropriate preservation) specified in 40 C.F.R. Part 136 and appropriate EPA guidance, multiple grab samples collected during a 24-hour period may be composited prior to the analysis as follows: for cyanide, total phenols, and sulfides the samples may be composited in the laboratory or in the field; for volatile organics and oil and grease, the samples may be composited in the laboratory. Composite samples for other parameters unaffected by the compositing procedures as documented in approved EPA methodologies may be authorized by the city, as appropriate. In addition, grab samples may be required to show compliance with instantaneous limits.
(2) Sample for oil and grease, temperature, pH, cyanide, phenols, toxicity, sulfides, and volatile organic chemicals must be obtained using grab collection techniques. ('63 Code, § 5-5.611)

(3) For sampling required in support of baseline monitoring and 90-day compliance reports required in §§ 50.070 and 50.071, a minimum of four grab samples must be used for pH, cyanide, total phenols, oil and grease, sulfide and volatile organic compounds for facilities for which historical sampling data do not exist; for facilities for which historical sampling data are available, the City Manager may authorize a lower minimum. For the reports required by § 50.073, the industrial user is required to collect the number of grab samples necessary to assess and assure compliance by with applicable pretreatment standards and requirements.

(B) Determination of noncompliance. The City Manager may use a grab sample to determine noncompliance with pretreatment standards. ('63 Code, § 5-5.612)

§ 50.081 RECORD KEEPING.

Industrial users shall retain, and make available for inspection and copying, all records and information required to be retained under this chapter, including documentation associated with best management practices. These records shall remain available for a period of at least three years. This period shall be automatically extended for the duration of any litigation concerning compliance with this chapter, or where the industrial user has been specifically notified of a longer retention period by the City Manager.

('63 Code, § 5-5.613) (Ord. 571-C.S., passed 6-2-94; Am. Ord. 775-C.S., passed 12-20-11)

§ 50.090 PERMITS REQUIRED.

(A) No person shall uncover, make any connections with or opening into, use, alter, or disturb any portion of the POTW or appurtenance thereof without first obtaining a permit from the Building Official in accordance with the provisions of the California Plumbing Code adopted by § 150.020.

('63 Code, § 5-5.1601)

(B) All excavations for building sewers in public streets and easements shall require a permit from the city pursuant to the provisions of §§ 98.15 - 98.20 of this code, in addition to the permit required by the provisions of this chapter.

('63 Code, § 5-5.1602)

§ 50.091 CONNECTION FEES AND INSTALLATION CHARGES.

(A) Connection fees. Any person, prior to connecting a building sewer to the POTW, shall be required to pay a connection charge in addition to any other charges and fees required by the provisions of the Uniform Plumbing Code and this chapter. The connection charge for such parcels shall be $2,000 for each separate and individual connection.

(B) Installation charge.

(1) Installations of building sewers shall be made by the city from the sewer main to the property line by appropriate methods at the expense of the applicant.

(2) An applicant for a new sewer installation shall advance a sum to the city based upon an estimate by the City Manager of the total cost of all labor, materials, equipment, and other costs incidental to the installation, plus 20% for general overhead, for the installation of the building sewer from the sewer main to the property line.
(3) In lieu of the advance required by the provisions of this section, the City Manager may require applicants for new sewer installation to make such sewer installation at their own expense in accordance with such standards as have been or may be adopted by resolution of the Council. In such instances, all labor, materials, equipment, and other items necessary for the installation shall be furnished by the applicant.

(63 Code, § 5-5.1603) (Ord. 571-C.S., passed 6-2-94; Am. Ord. 775-C.S., passed 12-20-11)

Penalty, see § 50.999

§ 50.092 MAINTENANCE OF BUILDING SEWERS.

All users shall keep, operate, and maintain their building sewer connections, including that portion thereof within a public right-of-way, in good order and condition and free of roots, grease, sand, and other nonstructural related obstructions and shall be liable for damages which may result from their failure to do so. Upon the final acceptance by the city of the work of the installation of that portion of the building sewer within the public right-of-way, the city shall assume the responsibility for the repair or replacement of said portion of the building sewer which is necessitated or caused by any subsequent structural failure, except to the extent that the failure is the result of latent defects or misrepresented work or conditions upon acceptance. The city shall have the sole authority to determine whether an obstruction in a building sewer is the result of structural or nonstructural cause. The city shall be admitted at all reasonable hours to all parts of any premises connected with the sewerage system for the purpose of checking the fixtures and the establishment of service charges as provided in this chapter.

(63 Code, § 5-5.1604) (Ord. 571-C.S., passed 6-2-94; Am. Ord. 737-C.S., passed 2-3-09; Am. Ord. 775-C.S., passed 12-20-11)

§ 50.093 MAIN EXTENSIONS.

(A) Extensions required.

(1) An applicant for a permit to connect a premises to the POTW where the property upon which such premises is situated does not abut the POTW, shall deposit with the city the following sums: in the case of all applications for a new sewer main extension, a sum shall be advanced to the city based upon an estimate by the City Manager of the total costs of all labor, materials, equipment, and other costs incidental to the main extension, plus 20% for general overhead, but excluding the cost of oversizing sewer mains for the general benefit of the sewer collection system, but in no event shall the charge be less than $500.

(2) In lieu of the advance required by the provisions of this division (A), the City Manager may require applicants for new sewer connections to make such sewer connections at their own expense in accordance with such standards as have been or may be adopted by resolution of the Council. In such instances, all labor, materials, equipment, and other items necessary for such connections shall be furnished by the applicants.

(63 Code, § 5-5.1701)

(B) Extensions by the applicant. In lieu of the advances required by the provisions of division (A) of this section, the City Manager may require applicants for new sewer connections to make
such sewer main extensions at their own expense in accordance with such standards as have been or may be adopted by resolution of the Council. In such instances, all labor, materials, equipment, and other items necessary for the extension shall be furnished by the applicant. Any extra costs incurred by the applicant in any oversizing of sewer mains required by the City Manager for the general benefit of the sewer collection system may be reimbursed by the city in accordance with a written agreement with the applicant entered into prior to the construction of such main extension.

(63 Code, § 5-5.1702)

(C) **Low-pressure sewer manifold agreements.** The Director of Public Works, where it is determined the installation of low-pressure sewer manifold system is necessary to provide sewer service to a specific area, shall establish a reimbursement agreement to provide for the design and installation of said system. The reimbursement agreement shall require a surcharge be assessed to each parcel connecting to the manifold system. The surcharge shall consist of an equal portion of the estimated costs to design and install the total system main extension. The surcharge shall be based on a review and agreement prepared by the Director of Public Works prior to the installation of the system. Services (laterals) off the main will be at each parcel owner's expense.

(63 Code, § 5-5.1703)

(Ord. 571-C.S., passed 6-2-94; Am. Ord. 737-C.S., passed 2-3-09; Am. Ord. 775-C.S., passed 12-20-11)

**RATES AND CHARGES**

§ 50.105 **WASTEWATER VOLUME DETERMINATION.**

(A) **Metered water supply.** User charges which are based on wastewater volumes shall be applied against the total amount of water used from all sources unless, in the opinion of the city, significant portions of water received are not discharged to the POTW. The total amount of water used from public and private sources shall be determined by means of public meters or private meters installed and maintained at the expense of the user and approved by the city.

(63 Code, § 5-5.1401)

(B) **Metered wastewater volume and metered diversions.** For users where, in the opinion of the city, a significant portion of the water received from any metered source does not discharge to the POTW because of the principal activity of the user or removal by other means, the user charges and fees may be applied against the volume of water discharged from such premises into the POTW. Written notification and proof of the diversion of water shall be provided by the user if the user is to avoid the application of the user charges and fees against the total amount of water used from all sources. The user may install a meter of a type and at a location approved by the city and at the user's expense. Such meters may measure either the amount of sewage discharged or the amount of water diverted. Such meters shall be tested for accuracy at the expense of the user when deemed necessary by the Manager.

(63 Code, § 5-5.1402)

(C) **Estimated wastewater volume.**

(1) For users where, in the opinion of the city, it is unnecessary or impractical to install meters, the user charges and fees may be based upon a volume estimate prepared by the user and approved by the city. Such estimate shall be based upon a rational determination of the wastewater discharged and may consider such factors as the number of fixtures, seating capacity, population equivalent, annual production of goods and services, or such other determinants of water use necessary to estimate the wastewater volume discharged.
(2) For users who, in the opinion of the city, divert a significant portion of their flow from the POTW, the user charges and fees may be based upon a volume estimate prepared by the user and approved by the city. The estimate shall include the method and calculations used to determine the wastewater volume and may consider such factors as the number of fixtures, seating capacity, population equivalent, annual production of goods and services, or such other determinations of water use necessary to estimate the wastewater volume discharged. (63 Code, § 5-5.1403)

Ord. 571-C.S., passed 6-2-94; Am. Ord. 775-C.S., passed 12-20-11

§ 50.106 PRETREATMENT CHARGES AND FEES.

The Council may adopt reasonable charges and fees for reimbursement of costs of setting up and operating the city's pretreatment program which may include:

(A) Fees for wastewater discharge permit applications including the cost of processing such applications.
(B) Fees for monitoring, inspection, and surveillance procedures including the cost of collection and analyzing an industrial user's discharge, and reviewing monitoring reports submitted by the users.
(C) Fees for reviewing and responding to accidental discharge procedures and construction.
(D) Fees for filing appeals.
(E) Other fees as the city may deem necessary to carry out the requirements contained in this section. These fees relate solely to the matters covered by this chapter and are separate from all other fees, fines, and penalties chargeable by the city. (63 Code, § 5-5.1501) (Ord. 571-C.S., passed 6-2-94; Am. Ord. 775-C.S., passed 12-20-11)

§ 50.107 WASTEWATER USER CHARGES.

(A) Classification of users. All users shall be classified by assigning each one to a “user classification” category according to the principal activity conducted on the user's premises and based on the typical wastewater constituents and characteristics for that type of user as determined by the city. The purpose of such classification is to facilitate the regulation of wastewater discharges based on wastewater constituents and characteristics to provide an effective means of source control and to establish recovery of the city costs. (63 Code, § 5-5.1801)

(B) User charges. A schedule of wastewater charges and fees shall be adopted from time to time by ordinance of the City Council. (63 Code, § 5-5.1802)

(C) Compliance with state regulations. The charges and fees shall be established at a level which will enable the city to comply with any revenue requirements of the State Clean Water Grant Program, and the charges and fees shall be determined in a manner consistent with regulations of the grant program. (63 Code, § 5-5.1803)

(D) Special situations. Notwithstanding any other provision of this chapter, the Council shall have the power to establish by ordinance, or by agreement with the user, the service connection charge and the monthly sewer service charges applicable to any public corporation, political subdivision, city, county, district, the state, the United States, or any department or agency thereof, or to any user outside the city limits at rates different from those set forth in this chapter. (63 Code, § 5-5.1804)

Ord. 571-C.S., passed 6-2-94; Am. Ord. 743-C.S. passed 9-1-09; Am. Ord. 775-C.S., passed 12-20-11)
§ 50.108 BILLING; PERSONS RESPONSIBLE FOR PAYMENT.

(A) Billing.

(1) All sewer service charges shall become due and payable to the city as of the date of billing. All sewer service charges shall become delinquent 30 days from and after the date of billing. All bills delinquent 30 days or more shall be subject to a 1% per month finance charge.

(2) All bills for such charges shall be issued by the Director of Finance. They shall be combined with bills or statements for water services where the premises in question are connected to the water system. The bills shall state their purpose (water and sewer services) and shall list separately the charge for water service and the charge for sewer service and the total charge for both services. Neither charge may be paid separately from the other. If the real property with sewer service is not connected to the water system, a separate bill shall be rendered for sewer service only. All bills shall be for monthly or bimonthly periods. The Director of Finance shall have the power to require any user to pay bills monthly if, in his discretion, monthly payments are required for the protection of the city.

('63 Code, § 5-5.1805)

(B) Persons responsible for payment. All sewer service charges shall be billed to the following persons:

(1) In the case of any person whose premises are connected with the water system, to the person who requested such connection to the water system, or his successor in interest, or to any person requesting that such bill be charged to him; or,

(2) In the case of any person whose premises are not connected to the water system, then to the person who requested such connection to the sewage works, or his successor in interest, or, if no such request was made, then to the owner of such premises on the date on which such premises are required by the provisions of this chapter to connect to the sewage works, or to the successor in interest to such person, or to any person requesting that such bill be charged to him.

('63 Code, § 5-5.1806)

(Ord. 571-C.S., passed 6-2-94; Am. Ord. 775-C.S., passed 12-20-11)

§ 50.109 PENALTY FOR NONPAYMENT.

If an invoice for the sewer use charge established by this chapter is unpaid 60 days after mailing, a penalty of 10% per month shall be charged, and an additional 0.5% shall be charged until the charges and penalties are paid in full.

('63 Code, § 5-5.1807) (Ord. 571-C.S., passed 6-2-94; Am. Ord. 775-C.S., passed 12-20-11)

§ 50.110 PROPERTY LIENS FOR DELINQUENCIES.

At least every six months, the Director of Finance shall record with the county a list of all delinquent charges and the penalties thereon and shall include in each such list the amount of each charge and the penalty thereon, a description of the real property upon which the same is a lien, and the name of the city. Such list when so recorded shall have the force, effect, and priority of a judgment lien and continue for three years after the time of recording unless sooner released or otherwise discharged.

('63 Code, § 5-5.1808) (Ord. 571-C.S., passed 6-2-94; Am. Ord. 775-C.S., passed 12-20-11)

ADMINISTRATION AND ENFORCEMENT

§ 50.120 DUTIES OF CITY MANAGER.

Except as otherwise provided in this chapter, the City Manager shall administer, implement and enforce the provisions of this chapter. Any powers granted to or duties imposed upon the City Manager may be delegated by the City Manager to other city personnel.

('63 Code, § 5-5.102) (Ord. 571-C.S., passed 6-2-94; Am. Ord. 775-C.S., passed 12-20-11)
§ 50.121 COMPLIANCE MONITORING.

(A) Inspection and sampling. The City Manager shall have the right to enter the facilities of any industrial user to ascertain whether the purpose of this chapter, and any permit or order issued hereunder, is being met and whether the industrial user is complying with all requirements thereof. Industrial users shall allow the City Manager or his representatives ready access to all parts of the premises for the purposes of inspection, sampling, records examination and copying, and the performance of any additional duties.

1. Where an industrial user has security measures in force which require proper identification and clearance before entry into its premises, the industrial user shall make necessary arrangement with its security guards so that, upon presentation of suitable identification, personnel for the city, state, and EPA shall be permitted to enter without delay, for the purposes of performing their specific responsibilities.

2. The city, state, and EPA shall have the right to set up on the industrial user's property, or require installation of, such devices as are necessary to conduct sampling and/or metering of the user's operations.

3. The city may require the industrial user to install monitoring equipment as necessary. The facility's sampling and monitoring equipment shall be maintained at all times in a safe and proper operating condition by the industrial user at its own expense. The monitoring equipment should normally be situated on the user's premises, but the city may, when such a location would be impractical or cause undue hardship on the user, allow the facility to be constructed in the public street or sidewalk area and located so that the facility will not be obstructed by landscaping or parked vehicles. All devices used to measure wastewater flow and quality shall be calibrated yearly to ensure their accuracy.

4. Any temporary or permanent obstruction to safe and easy access to the industrial facility to be inspected and/or sampled shall be promptly removed by the industrial user at the written or verbal request of the City Manager and shall not be replaced. The costs of clearing such access shall be born by the industrial user.

5. Unreasonable delays in allowing city personnel access to the industrial user's premises shall be a violation of this chapter.

6. Whether constructed on public or private property, the sampling and monitoring facilities shall be provided in accordance with the city's requirements and all applicable local agency construction standards and specifications. Construction shall be completed within 90 days following written notification by the city, unless a time extension is otherwise granted by the city.

('63 Code, § 5-5.701)

(B) Search warrants. If the City Manager has been refused access to a building, structure, or property or any part thereof, and if the City Manager has demonstrated probable cause to believe that there may be a violation of this chapter or that there is a need to inspect as part of a routine inspection program of the city designed to verify compliance with this chapter or any permit or order issued hereunder, or to protect the overall public health, safety, and welfare of the community, then the City Attorney may apply to the appropriate court for a search and/or seizure warrant describing therein the specific location subject to the warrant. The warrant shall specify what, if anything, may be searched and/or seized on the property described. In the event of an emergency affecting public health and safety, inspections shall be made without the issuance of a warrant.

('63 Code, § 5-5.702)
§ 50.122 PUBLICATION OF INDUSTRIAL USERS IN SIGNIFICANT NONCOMPLIANCE.

The city shall publish annually, in the largest daily newspaper published in the municipality where the POTW is located, a list of the significant industrial users and categorical industrial users which, during the previous 12 months, were in significant noncompliance with applicable pretreatment standards and requirements. The term significant noncompliance shall mean:

(A) **CHRONIC VIOLATIONS OF WASTEWATER DISCHARGE LIMITS**, defined here as those in which 66% or more of all of the measurements taken for the same pollutant parameter during a six-month period exceed (by any magnitude) a numeric pretreatment standard or requirement, including instantaneous limits, as defined by 40 C.F.R. 403.3(l);

(B) **TECHNICAL REVIEW CRITERIA (TRC) VIOLATIONS**, defined here as those in which 33% or more of all of the measurements taken for the same pollutant parameter during a six-month period equal or exceed the product of the numeric pretreatment standard or requirement, including instantaneous limits, as defined by 40 C.F.R. 403.3(l) multiplied by the applicable TRC (TRC=1.4 for BOD, TSS, fats, oil, and grease, and 1.2 for all other pollutants except pH);

(C) Any other violation of a pretreatment standard or requirement as defined by 40 C.F.R. 403.3(l) (daily maximum, long-term average, instantaneous limit, or narrative standard) that the POTW determines has caused, alone or in combination with other discharges, interference or pass through (including endangering the health of POTW personnel or the general public);

(D) Any discharge of pollutants that has caused imminent endangerment to the public or to the environment, or has resulted in the city's exercise of its emergency authority to halt or prevent such a discharge;

(E) Failure to meet, within 90 days of the scheduled date, a compliance schedule milestone contained in a wastewater discharge permit or enforcement order for starting construction, completing construction, or attaining final compliance;

(F) Failure to provide within 30 days after the due date, any required reports, including baseline monitoring reports, 90-day compliance reports, periodic self-monitoring reports, and reports on compliance with compliance schedules;

(G) Failure to accurately report noncompliance;

(H) Any other violation which the city determines will adversely affect the operation or implementation of the local pretreatment program.

§ 50.123 ADMINISTRATIVE ENFORCEMENT REMEDIES.

(A) **Notification of violation.** Whenever the City Manager finds that any person has violated or is violating this chapter, a wastewater discharge permit or order issued hereunder, or any other pretreatment requirement, the City Manager or his agent may serve upon said person a written notice of violation. Within seven days of the receipt of this notice, an explanation of the violation and a plan for the satisfactory correction and prevention thereof, to include specific required actions, shall be submitted by the person to the City Manager. Submission of this plan in no way relieves the person of liability for any violations occurring before or after receipt of the notice of violation. Nothing in this section shall limit the authority of the city to take any action, including emergency actions or any other enforcement action, without first issuing a notice of violation.
(B) **Consent orders.** The City Manager may enter into consent orders, assurances of compliance, or other similar documents establishing an agreement with any person responsible for noncompliance. Such documents shall include specific action to be taken by the person to correct the noncompliance within a time period specified by the document. Such documents shall have the same force and effect as the administrative orders issued pursuant to § 50.123(D) and (E) and shall be judicially enforceable.

(C) **Show cause hearing.** The City Manager may order a person which has violated, or continues to violate, any provision of this chapter, an individual wastewater discharge permit, or order issued hereunder, or any other pretreatment standard or requirement, to appear before the City Manager and show cause why the proposed enforcement action should not be taken. Notice shall be served on the person, specifying the time and place for the meeting, the proposed enforcement action, the reasons for such action, and a request that the person show cause why the proposed enforcement action should not be taken. The notice of the meeting shall be served personally or by registered or certified mail (return receipt requested) at least seven days prior to the hearing. Such notice may be served on any authorized representative of the person as defined in § 50.002 and required by § 50.052(B). A show cause hearing shall not be a bar against, or prerequisite for, taking any other action against the person.

(D) **Compliance orders.** When the city finds that a person has violated or continues to violate this chapter, wastewater discharge permits or order issued hereunder, or any other pretreatment standard or requirement, he may issue an order to the person responsible for the discharge directing that the person come into compliance within 30 days. If the person does not come into compliance within 30 days, sewer service shall be discontinued unless adequate treatment facilities, devices, or other related appurtenances are installed and properly operated. Compliance orders may not extend the deadline for compliance established for a federal pretreatment standard or requirement, nor does a compliance order release the person of liability for any violation, including any continuing violation. Issuance of a compliance order shall not be a prerequisite to taking any other action against the person.

(E) **Cease and desist orders.**

1. When the City Manager finds that a person is violating this chapter, the person’s wastewater discharge permit, any order issued hereunder, or any other pretreatment standard or requirement, or that the person’s past violations are likely to recur, the City Manager may issue an order to the person directing it to cease and desist all such violations and directing the person to:
   
   a. Immediately comply with all requirements;
   
   b. Take such appropriate remedial or preventive action as may be needed to properly address a continuing or threatened violation, including halting operations and/or terminating the discharge.

2. Issuance of a cease and desist order shall not be a prerequisite to taking any other action against the person.

(F) **Administrative fine.**

1. Notwithstanding any other section of this chapter, any person that is found to have violated any provision of this chapter, its wastewater discharge permit, and orders issued hereunder, or any other pretreatment standard or requirement may be fined in an amount not to exceed $1,000. Such fines shall be assessed on a per violation, per day basis. In the case of monthly or other long-term average discharge limits, fines may be assessed for each day during the period of violation.
(2) Assessments may be added to the person’s next scheduled sewer service charge and the City Manager shall have such other collection remedies as may be available for other service charges and fees.

(3) Unpaid charges, fines, and penalties shall, after 60 calendar days, be assessed an additional penalty of 10% of the unpaid balance and interest shall accrue thereafter at a rate of 0.5% per month. A lien against the individual person’s property will be sought for unpaid charges, fines, and penalties.

(4) Persons desiring to dispute such fines must file a written request for the City Manager to reconsider the fine along with full payment of the fine amount within 30 days of being notified of the fine. Where a request has merit, the City Manager shall convene a hearing on the matter within 30 days of receiving the request from the industrial person. In the event the person’s appeal is successful, the payment together with any interest accruing thereto shall be returned to the industrial person. The city may add the costs of preparing administrative enforcement actions such as notices and orders to the fine.

(5) Issuance of an administrative fine shall not be a prerequisite for taking any other action against the person.

(G) Emergency suspensions.

(1) The City Manager may immediately suspend a person’s discharge (after informal notice to the person) whenever such suspension is necessary in order to stop an actual or threatened discharge which reasonably appears to present or cause an imminent or substantial endangerment to the health or welfare of persons. The City Manager may also immediately suspend a person’s discharge (after notice and opportunity to respond) that threatens to interfere with the operation of the POTW, or which presents or may present an endangerment to the environment.

(a) Any person notified of a suspension of its discharge shall immediately stop or eliminate its contribution. In the event of a person’s failure to immediately comply voluntarily with the suspension order, the City Manager shall take such steps as deemed necessary, including immediate severance of the sewer connection, to prevent or minimize damage to the POTW, its receiving stream, or endangerment to any individuals. The City Manager shall allow the person to recommence its discharge when the person has demonstrated to the satisfaction of the city that the period of endangerment has passed, unless the termination proceedings set forth in this chapter are initiated against the person.

(b) A person that is responsible, in whole or in part, for any discharge presenting imminent endangerment shall submit a detailed written statement describing the causes of the harmful contribution and the measures taken to prevent any future occurrence to the City Manager, prior to the date of any show cause or termination hearing as set forth in this chapter.

(2) Nothing in this division (G) shall be interpreted as requiring a hearing prior to any emergency suspension under this section.

(H) Termination of discharge.

(1) In addition to those provisions in § 50.059, any person that violates the following conditions of this chapter, wastewater discharge permits, or orders issued hereunder, is subject to discharge termination.

(a) Violation of wastewater discharge permit conditions;

(b) Failure to accurately report the wastewater constituents and characteristics of its discharge;

(c) Failure to report significant changes in operations or wastewater volume, constituents and characteristics prior to discharge;
(d) Refusal of reasonable access to the person’s premises for the purpose of inspection, monitoring, or sampling;

(e) Violation of the pretreatment standards in §§ 50.020 through 50.025.

(2) Such person will be notified of the proposed termination of its discharge and be offered an opportunity to show cause under division (C) of this section why the proposed action should not be taken.

(‘63 Code, §§ 5-5.1001 - 5-5.1006) (Ord. 571-C.S., passed 6-2-94; Am. Ord. 737-C.S., passed 2-3-09; Am. Ord. 775-C.S., passed 12-20-11)

§ 50.124 JUDICIAL ENFORCEMENT REMEDIES.

(A) Injunctive relief. Whenever the person has violated a pretreatment standard or requirement or continues to violate the provisions of this chapter, wastewater discharge permits or orders issued hereunder, or any other pretreatment requirement, the city may petition the Superior Court for the issuance of a temporary or permanent injunction, as may be appropriate in restraining the continuance of such violation.

(‘63 Code, § 5-5.1101)

(B) Civil penalties.

(1) Any person which has violated or continues to violate this chapter, any order, or wastewater discharge permit hereunder, or any other pretreatment standard or requirement shall be liable to the city for a maximum civil penalty of $6,000 per violation per day. In the case of a monthly or other long-term average discharge limit, penalties shall accrue for each day during the period of the violation.

(2) The city may recover reasonable attorney’s fees, court costs, and other expenses associated with enforcement activities, including sampling and monitoring expenses, and the cost of any actual damages incurred by the city.

(3) When a discharge of wastes causes an obstruction, damage, or other impairment to the POTW, the city may assess a charge against the person for the cost of the work required to clean or repair the POTW and add such charge to the person’s service charge.

(4) Filing a suit for civil penalties shall not be a prerequisite for taking any other action against a person.

(‘63 Code, § 5-5.1102)

(Ord. 571-C.S., passed 6-2-94; Am. Ord. 775-C.S., passed 12-20-11)

§ 50.125 SUPPLEMENTAL ENFORCEMENT ACTION.

(A) Water supply severance. Whenever a person has violated or continues to violate the provisions of this chapter, orders, or wastewater discharge permits issued in this chapter, water service to the person may be severed. Service will only recommence, at the person’s expense, after it has satisfactorily demonstrated its ability to comply.

(‘63 Code, § 5-5.1201)

(B) Public nuisances. Any violation of this chapter, wastewater discharge permits, or orders issued hereunder, is hereby declared a public nuisance and shall be corrected or abated as directed by the City Manager or his designee. Any person(s) creating a public nuisance shall be subject to the provisions of applicable state and city codes, ordinances, rules and/or regulations governing such nuisances, including recoupment by the city of any costs incurred in removing, abating or remedying said nuisance.

(‘63 Code, § 5-5.1202)

(Ord. 571-C.S., passed 6-2-94; Am. Ord. 775-C.S., passed 12-20-11)

§ 50.126 REMEDIES NONEXCLUSIVE.
The provisions in §§ 50.122 through 50.125 of this chapter are not exclusive remedies. The city reserves the right to take any, all, or any combination of these actions against a noncompliant user. Enforcement of pretreatment violations will generally be in accordance with the city's enforcement response plan. However, the city reserves the right to take other action against any user when the circumstances warrant. Further, the city is empowered to take more than one enforcement action against any noncompliant user. These actions may be taken concurrently.

(63 Code, § 5-5.1104) (Ord. 571-C.S., passed 6-2-94; Am. Ord. 775-C.S., passed 12-20-11)

§ 50.127 AFFIRMATIVE DEFENSES TO DISCHARGE VIOLATIONS.

(A) Upset.

(1) For the purposes of this section, UPSET means an exceptional incident in which there is unintentional and temporary noncompliance with categorical pretreatment standards because of factors beyond the reasonable control of the industrial user. An upset does not include noncompliance to the extent caused by operational error, improperly designed treatment facilities, inadequate treatment facilities, lack of preventive maintenance, or careless or improper operation.

(2) An upset shall constitute an affirmative defense to an action brought for noncompliance with categorical pretreatment standards if the requirements of subsection (3) of this division (A) are met.

(3) An industrial user who wishes to establish the affirmative defense of upset shall demonstrate, through properly signed, contemporaneous operating logs, or other relevant evidence that:

(a) An upset occurred and the industrial user can identify the cause(s) of the upset;

(b) The facility was at the time being operated in a prudent and workmanlike manner and in compliance with applicable operation and maintenance procedures;

(c) The industrial user has submitted the following information to the POTW and treatment plant operator within 24 hours of becoming aware of the upset (if this information is provided orally, a written submission must be provided within five days):

1. A description of the indirect discharge and cause of noncompliance.

2. The period of noncompliance, including exact dates and times or, if not corrected, the anticipated time the noncompliance is expected to continue.

3. Steps being taken and/or planned to reduce, eliminate, and prevent recurrence of the noncompliance.

(4) In any enforcement proceeding, the industrial user seeking to establish the occurrence of an upset shall have the burden of proof.

(5) Industrial users will have the opportunity for a judicial determination on any claim of upset only in an enforcement action brought for noncompliance with categorical pretreatment standards.

(6) The industrial user shall control production or all discharges to the extent necessary to maintain compliance with categorical pretreatment standards upon reduction, loss, or failure of its treatment facility until the facility is restored or an alternative method of treatment is provided. This requirement applies in the situation where, among other things, the primary source of power of the treatment facility is reduced, lost, or fails.

(63 Code, § 5-5.1301)

(B) Bypass.
(1)  (a)  **BYPASS** shall mean the intentional diversion of wastestreams from any portion of an industrial user's treatment facility.

(b)  **SEVERE PROPERTY DAMAGE** shall mean substantial physical damage to property, damage to the treatment facilities which causes them to become inoperable, or substantial and permanent loss of natural resources which can reasonably be expected to occur in the absence of a bypass. Severe property damage does not mean economic loss caused by delays in production.

(2)  An industrial user may allow any bypass to occur which does not cause pretreatment standards or requirements to be violated, but only if it also is for essential maintenance to assure efficient operation. These bypasses are not subject to the provision of subsections (3) and (4) of this division (B).

(3)  (a)  If an industrial user knows in advance of the need for a bypass, it shall submit prior notice to the POTW, at least ten days before the date of the bypass if possible.

(b)  An industrial user shall submit oral notice of an unanticipated bypass that exceeds applicable pretreatment standards to the POTW within 24 hours from the time it becomes aware of the bypass. A written submission shall also be provided within five days of the time the industrial user becomes aware of the bypass. The written submission shall contain a description of the bypass and its cause; the duration of the bypass, including exact dates and times, and, if the bypass has not been corrected, the anticipated time it is expected to continue; and steps taken or planned to reduce, eliminate, and prevent recurrence of the bypass. The POTW may waive the written report on a case-by-case basis if the oral report has been received within 24 hours.

(4)  (a)  Bypass is prohibited, and the POTW may take enforcement action against an industrial user for a bypass, unless:

1.  Bypass was unavoidable to prevent loss of life, personal injury, or severe property damage;

2.  There were no feasible alternatives to the bypass, such as the use of auxiliary treatment facilities, retention of untreated wastes, or maintenance during normal periods of equipment downtime. This condition is not satisfied if adequate back-up equipment should have been installed in the exercise of reasonable engineering judgment to prevent a bypass which occurred during normal periods of equipment downtime or preventive maintenance; and,

3.  The industrial user submitted notices as required under subsection (3) of this division (B).

(b)  The POTW may approve an anticipated bypass, after considering its adverse effects, if the POTW determines that it will meet the three conditions listed in subsection (4)(a) of division (B).

(63 Code, § 5-5.1302)

(Ord. 571-C.S., passed 6-2-94; Am. Ord. 775-C.S., passed 12-20-11)

§ 50.999  PENALTY.

(A)  Any person that willfully or negligently violates any provision of this chapter, any orders, or wastewater discharge permits issued hereunder, or any other pretreatment requirement shall, upon conviction, be guilty of a misdemeanor, punishable by a fine of not more than $500 per violation per day or imprisonment for not more than one year or both.

(B)  Any person that willfully or negligently introduces any substance into the POTW which causes personal injury or property damage shall, upon conviction, be guilty of a misdemeanor and be subject to a penalty of at least $500 per violation per day or imprisonment for not more
than one year. This penalty shall be in addition to any other cause of action for personal injury or
property damage available under state law.

(C) Any person that knowingly makes any false statements, representations, or certifications
in any application, record, report, plan or other documentation filed, or required to be
maintained, pursuant to this chapter, wastewater discharge permit or order, or who falsifies,
tampers with, or knowingly renders inaccurate any monitoring device or method required under
this chapter shall, upon conviction, be punished by a fine of not more than $500 per violation per
day or imprisonment for not more than one year or both.

(D) In the event of a second conviction, a person shall be punished by a fine of not more than
$2,000 per violation per day or imprisonment for not more than two years or both.
(‘63 Code, § 5-5.1103) (Ord. 571-C.S., passed 6-2-94; Am. Ord. 775-C.S., passed 12-20-11)
Feasibility Analysis for Treating Peak Wet Weather Discharges

Prepared for
City of Eureka
Eureka, California
January 7, 2014
Feasibility Analysis for Treating peak Wet Weather Discharges

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City of Eureka, California
January 7, 2014
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Executive Summary

The City of Eureka (City) owns and operates the Elk River Wastewater Treatment Plant (WWTP) which is regulated pursuant to National Pollutant Discharge Elimination System (NPDES) Permit No. CA0024449. The permit is administered by the North Coast Regional Water Quality Control Board. A special provision requirement of the permit requires the City to complete a comprehensive analysis (Utility Analysis) to determine whether it is feasible to eliminate anticipated wet weather bypasses of its secondary treatment units. The Utility Analysis will become part of the City’s 2014 NPDES permit renewal application.

Partial bypass of secondary treatment during high flows and subsequent recombination of streams receiving primary and secondary treatment is referred to as blending in the permit and by the U.S. Environmental Protection Agency (USEPA). The Board has historically viewed the practice of blending at the Elk River WWTP as permissible and allows blending of peak flows above 12 million gallons per day (mgd) in accordance with the conditions and limitations of the permit. Because the USEPA favors optimization of secondary treatment wherever feasible, it encourages blending frequency to be minimized to the extent practicable.

Elk River WWTP flows above the dry weather base flow of approximately 5 mgd are associated with wet weather and primarily result from rainfall-derived infiltration/inflow (RDII). Wet weather flows to the WWTP can exceed dry weather flows by a factor of 6. In general, as wet weather flows increase, the infiltrating groundwater dilutes the strength of the wastewater significantly since the organic loading remains fairly consistent year-round.

The degree of RDII throughout the collection system and the associated removal costs make it impractical to reduce the maximum instantaneous peaking factor associated with the service area significantly. However, the City is committed to implementing a long-term, sustainable approach toward RDII removal with goals to eliminate sanitary sewer overflows and limit peak flows at the WWTP to approximately 32 mgd.

The analysis concluded that it is not technically feasible to eliminate the practice of blending at the Elk River WWTP but there are practical improvements that can reduce the frequency and minimize the volume of blending effluents. It is also concluded that the practice of blending as practiced at the Elk River WWTP provides effective treatment of wet weather flows and does not adversely impact the beneficial uses of the receiving waters.

Projects identified to reduce the frequency and minimize the volume of blending effluents include trickling filter pump station rehabilitation and primary diversion overflow weir improvements.
Section 1

Introduction

The City of Eureka (City) owns and operates the Elk River Wastewater Treatment Plant (WWTP) located at 4301 Hilfiker Lane, Eureka, California. The WWTP serves a population of approximately 44,000, plus commercial and industrial customers within the City of Eureka and the Humboldt Community Services District. The Elk River WWTP is regulated pursuant to Order No. R1-2004-0013 and National Pollutant Discharge Elimination System (NPDES) Permit No. CA0024449. The NPDES permit is administered by the North Coast Regional Water Quality Control Board (Board). A special provision requirement of the permit requires the City to complete a comprehensive analysis (Utility Analysis) to determine whether it is feasible to eliminate anticipated wet weather bypasses of its secondary treatment units and to demonstrate that there are no feasible alternatives to the diversion currently authorized by the permit. The Utility Analysis will become part of the City’s 2014 NPDES permit renewal application.

Wet weather bypass of secondary treatment during high flows and subsequent recombination of streams receiving primary and secondary treatment is referred to as blending in the permit and by the U.S. Environmental Protection Agency (USEPA). The Board has historically viewed the practice of blending at the Elk River WWTP as permissible and specifically allows blending of peak flows above 12 million gallons per day mgd in accordance with the conditions and limitations of the permit.

Blending is common to almost all wastewater treatment facilities that serve communities with high seasonal rainfall variations. It is a practical means to provide effective treatment for storm flows while protecting human health and the environment. Because the USEPA favors optimization of secondary treatment wherever feasible, it encourages blending frequency to be minimized to the extent practicable. Blending is justified when it is not technically feasible to size the secondary treatment process to treat the peak hydraulic loads associated with storm flows. In accordance with USEPA objectives, full utilization of the available secondary treatment capacity during a blending event is the key to optimizing final effluent quality. The current USEPA policy on blending requires that final effluent meet all the requirements of NPDES permit and that operators utilize all feasible measures to minimize wet weather problems.

This document reports the findings of an examination into the existing blending practices at the Elk River WWTP and presents practical measures to fully utilize secondary treatment capacity and minimize the frequency and volume of blending events. This document also provides an updated projection of peak flows to the WWTP and a plan for the most cost-effective means to reduce rainfall-derived infiltration/inflow in the service area.
Section 2

Elk River Wastewater Treatment Plant (WWTP)

The City of Eureka owns and operates the Elk River WWTP which treats domestic, commercial, and industrial wastewater originating within the city limits and the surrounding unincorporated areas. The facility, constructed in 1982, provides service to a population of approximately 44,000.

2.1 WWTP Description

The WWTP is permitted for an average dry weather capacity of 5.24 million gallons per day (mgd), a peak dry weather capacity of 8.6 mgd, and a peak capacity of 32 mgd. The WWTP was designed to provide primary and secondary treatment for flows up to 12 mgd and divert primary effluent above 12 mgd directly to the effluent collection structure where it is blended with secondary effluent and disinfected. All influent is pumped to the WWTP.

Primary treatment at the WWTP consists of a mechanical bar screen, aerated grit removal, and primary clarification. Secondary treatment is provided by trickling filters, solids contact, and secondary clarification; all flow conveyed through secondary treatment is pumped. Final effluent is disinfected, stored in the effluent holding pond, and de-chlorinated prior to discharge. The disinfection and de-chlorination processes utilize chlorine and sulfur dioxide gases respectively.

Discharge of effluent is permitted during ebb tide exclusively to ensure that effluent is conveyed toward the Pacific Ocean. North Coast Regional Water Quality Control Board (Board) Resolution No. 80-10 concluded in 1982 that the discharge to Humboldt Bay during ebb tide effectively classifies the discharge as an ocean discharge rather than a discharge to an enclosed bay, and the ebb tide concept was approved in State Water Board Resolution No. 80-87. Effluent is discharged through an outfall that terminates on the east side of the main channel at a depth of approximately 30 feet. The outfall is equipped with a diffuser that provides an initial dilution factor of 30.

During wet weather, when storm-generated flows exceed the storage capacity of the effluent holding pond, effluent can be diverted to a 13-acre freshwater overflow marsh then pumped back to the effluent holding pond as flows subside. The overflow marsh is a component of the WWTP, as described in the “Final Environmental Impact Report – Wastewater Management Plan for the Greater Eureka Area” (Brown and Caldwell, July 10, 1980), and as established in Waste Discharge Requirements Order No. 81-1 adopted for the Facility by the Board on January 22, 1981.

Residual solids are treated by anaerobic digestion then stored in two facultative sludge lagoons. Stored sludge is dredged from the lagoons and either dewatered and used for landfill cover or land-applied at agronomic rates for nitrogen. A flow schematic of the WWTP is shown in Figure 2-1.
2.2 Wet Weather Treatment Capacities

A comprehensive capacity analysis of the Elk River WWTP was conducted by Brown and Caldwell in 2008 that consisted of a review of the original design data, evaluation of operating data, field testing, and computer modeling of the hydraulic and biological processes. The analysis evaluated both dry weather and wet weather treatment capacities.

The hydraulic analysis predicted that peak flows above 30 mgd will cause the water surface in the primary clarifiers to rise to the level of the overflow ports in the downstream end of the tanks. The overflow ports can convey about 4 mgd of additional flow effectively, bringing the peak hydraulic conveyance capacity of the primary clarifiers to approximately 34 mgd. At this flow rate, the primary clarifiers are still operating within the recommended surface loading rate to achieve effective removal of solids. Additional effluent launders could extend the peak hydraulic capacity of the primary clarifiers. Peak flows above 34 mgd will exceed the marsh storage overflow weir capacity whenever the effluent holding pond is full. Therefore, as currently equipped, peak flow conveyance through the WWTP is limited to approximately 34 mgd.

Secondary treatment capacity is limited to approximately 12 mgd which corresponds to the firm design capacity of the trickling filter pump station. Secondary treatment flows above 12 mgd would require significant upgrades.

A summary of the process capacities related to the treatment of wet weather flow is presented in Table 1-1. The design capacities listed are based on existing WWTP conditions when known and are not necessarily equal to design criteria capacities. Capacities may be limited by process considerations.
hydraulic constraints, or pumping capacity. The limiting parameter for each process is indicated in the table.

<table>
<thead>
<tr>
<th>Process</th>
<th>Number of units</th>
<th>Capacity per unit, mgd</th>
<th>Firm capacity, all units, mgd</th>
</tr>
</thead>
<tbody>
<tr>
<td>Primary clarifiers</td>
<td>2</td>
<td>15 (17)</td>
<td>30 (34)</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>The existing submerged launders and automated effluent valves are limited to a peak flow of approximately 30 mgd. At flows above 30 mgd, the emergency overflow ports at the downstream end of the clarifier tanks will convey flow directly to the primary effluent channel. Peak flows up to approximately 34 mgd are possible when conveying flow through the overflow ports. At 34 mgd, the combined clarifier overflow rate is 2,500 gallons per square foot per day.</td>
</tr>
<tr>
<td>Trickling filter pumps</td>
<td>3</td>
<td>6^a</td>
<td>12^b</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>There are three pumps installed. The stated design capacity is the firm design based on two pumps operating.</td>
</tr>
<tr>
<td>Trickling filters</td>
<td>2</td>
<td>12</td>
<td>24</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>The stated capacity is the approximate hydraulic capacity of the rotary distributors and trickling filter media.</td>
</tr>
<tr>
<td>Secondary clarifiers</td>
<td>2</td>
<td>6 (11.6)</td>
<td>12 (23.2)</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>The first capacity indicated is based on the existing RSS pumping capacity and state-point analyses using 2008 conditions. To attain the capacity within the parentheses, recycled secondary solids (RSS) pumping capacity would need to be increased.</td>
</tr>
<tr>
<td>RSS pumps</td>
<td>4</td>
<td>0.6</td>
<td>2.43^b</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>There are two pumps installed at each secondary clarifier. The listed firm capacity is for two pumps in service per clarifier.</td>
</tr>
<tr>
<td>Effluent storage and conveyance</td>
<td>1</td>
<td>34</td>
<td>34</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>The effluent storage and conveyance facilities consist of the effluent storage pond, the overflow marsh, the pumps associated with the overflow marsh, and the effluent pumping station. A hydraulic constraint will occur when WWTP flows exceed 34 mgd and the effluent pond is full.</td>
</tr>
<tr>
<td>Disinfection</td>
<td>1</td>
<td>52</td>
<td>52</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>The chlorination and de-chlorination facilities have excess firm capacity.</td>
</tr>
</tbody>
</table>

^a The existing firm capacity of the trickling filter pump station is likely less than the design capacity of 12 mgd due to the age and condition of the installed pumps.

^b Each clarifier has a dedicated RSS pumping station with two pumps; the per-unit capacity listed is the capacity per pump. Depending on the operating parameters such as mixed liquor suspended solids and sludge volume index, the existing RSS pumping capacity limits the recommended peak flow through each clarifier to approximately 6 mgd. Additional secondary clarifier hydraulic capacity would be possible with larger capacity RSS pumps.

2.3 Current Blending Practices

Factors that affect the onset, frequency, and duration of primary effluent diversions are the trickling filter pumping capacity, the design and operation of the bypass mechanism, and the rainfall induced pattern of flows to the WWTP.

2.3.1 Existing Diversion System

When WWTP influent flows exceed the trickling filter capacity for any appreciable length of time, the water surface elevation in the primary effluent channel rises, allowing primary effluent to spill over a long weir into the bypass channel. Primary effluent entering the bypass channel is diverted around secondary treatment then recombined with secondary effluent, disinfected, and stored prior to discharge. The existing primary effluent diversion system is shown in Figure 2-2.
The overflow weir has a crest elevation of 113.30 feet and a length of 52 feet. The water surface elevation in the effluent channel is determined by the water surface elevation in the trickling filter pump station wet well, which is normally maintained below the overflow weir elevation. Flow diversions are initiated passively when primary effluent flow exceeds the capacity of the trickling filter pump station, causing the water surface in the primary effluent channel to rise above the overflow weir. Since there is a degree of storage available in the primary clarifiers, short-duration influent surges may not initiate a flow diversion.

2.3.1.1 Monitoring of Diversion Flows

Limitations of the existing diversion system include the inability to actively control the onset of a diversion event and the inability to effectively monitor the onset, flow rate, and total volume of a diversion event. WWTP staff currently use a tethered float placed in the primary effluent channel to indicate when a flow diversion has occurred. Staff have also installed a small submersible pump and weir in the overflow channel to contain small-volume diversions and pump them back to the effluent channel. When the float is found on the downstream side of the weir, a measurable diversion event is assumed to have occurred. The diversion volume is then estimated based on the WWTP influent data. There are no special sampling provisions associated with diverted flows. Blended effluent is sampled downstream of the effluent holding pond prior to discharge. The permit requires that a grab sample be taken at location designation EFF-001 in response to a blending event.
Section 3

WWTP Flow and Effluent Quality Data

This section presents a summary of Elk River Wastewater Treatment Plant (WWTP) influent flow data compiled between December 2009 through November 2013 and a comparison of dry weather and wet weather effluent performance for the same period.

3.1 Influent Flow Data

Flow measurement at the Elk River WWTP is made at the Parshall flume installed in the headworks influent channel; an ultrasonic level sensor is used to monitor and calculate flow rates and daily volumes.

The monthly average, annual average, daily volume, and peak instantaneous flow data are shown on Figure 3-1. The graph illustrates that the seasonal variation and seasonal averages are fairly consistent from year to year. The highest monthly average flow for the period was 10.3 mgd which occurred during March 2011. The maximum peak instantaneous flows recorded for each year were 19.2 mgd, 27.2 mgd, 28.6 mgd, 31.6 mgd, and 17.6 mgd for 2009 through 2012 respectively. The peak instantaneous flow exceeded the secondary treatment capacity of 12 mgd on 218 days during the period represented in the graph.

![Figure 3-1. Influent Flow Data Elk River WWTP](image-url)
3.2 Effluent Quality Data

The monthly averages for biological oxygen demand (BOD) and total suspended solids (TSS) are shown superimposed on the monthly average flows in Figure 3-2. The figure shows that there is consistent seasonal variation in effluent BOD and TSS loads that correspond to rising and falling WWTP flows. Review of the influent loading data for the same period shows that influent BOD and TSS loading do not have a consistent correlation with influent flow and tend to be fairly consistent year round.

The general correlation between effluent BOD and TSS and WWTP flow is expected as BOD and TSS removal efficiencies are enhanced when hydraulic loading of the treatment process are lower. Lower hydraulic loading maximizes the removal efficiencies in the primary and secondary clarifiers and allows for increased recirculation through the trickling filters which enhances BOD removal. Diversion of primary effluent during periods of high flows will also increase the effluent BOD and TSS monthly averages during wet weather.

The average monthly permit limits for both TSS and BOD are 2,151 ppd and 3,002 ppd for dry weather and wet weather respectively allowing for the expected reduction in removal efficiencies with higher WWTP flows. The graph shows that the Elk River WWTP effluent quality is well within the permit limits for the period shown.

![Figure 3-2. Effluent Data Elk River WWTP](image-url)
Section 4

Feasibility Analysis for the Reduction and Management of Blending

This section presents the findings of a 20-year rainfall-derived infiltration/inflow (RDII) removal plan and describes practical improvements at the Elk Creek Wastewater Treatment Plant (WWTP) to reduce and monitor primary effluent diversions.

4.1 Collection System Improvements

The degree of RDII throughout the collection system and the associated removal costs make it impractical to reduce the maximum peaking factor associated with the service area significantly. However, a long-term, sustainable approach toward RDII removal with goals to eliminate sanitary sewer overflows (SSOs) and limit peak flows at the WWTP to approximately 32 million gallons per day (mgd) is supported by the City of Eureka.

As a part of this investigation, an analysis of the collection system was conducted that built on a 2008 collection system modeling effort performed by Brown and Caldwell. The focus of the analysis was to identify improvements to the conveyance system for meeting projected flows and eliminate SSOs, and to identify the most cost-effective RDII removal projects designed to limit peak flows to the WWTP to 32 mgd.

The 20-Year RDII Removal CIP identified improvements to meet the stated objectives at an estimated cost of approximately $18 million. A copy of the report is included as Appendix A.

4.2 WWTP Improvements

Blending frequency and volume can be reduced by increasing secondary treatment capacity or by reducing the peaks in primary effluent flow. This section presents an evaluation of potential modifications to accomplish a reduction in blending.

4.2.1 Primary Effluent Diversion Control and Monitoring

The passive diversion weir that controls the onset of primary effluent diversion provides limited functionality in terms of controlling the onset of bypass and monitoring the duration and volume of a bypass event. Due to the length of the weir, it cannot be used for accurate measurement of diversion flow rates or event duration because very minor changes in water level result in substantial changes in flow rates over the weir. For example, a change of 1 inch in water level would result in a change of about 2.7 mgd in flow over the weir. The passive system also results in diversion events that could be avoided by installing a modulating weir gate to provide peak flow storage. Because the existing weir is at a fixed elevation, any short-term spikes in flow that cause the primary effluent channel water level to rise above the weir result in a diversion.

A modulating weir gate could contain short-term spikes within the primary effluent channel as long as they do not result in a water surface elevation increase of more than about 4 inches above the existing
fixed weir. An increase of more than 4 inches in the weir’s water surface elevation could affect the water surface elevation in the primary clarifier. The modulating weir gate would consist of a 4-foot-wide downward opening slide gate installed at the west end of the primary effluent channel with a motor actuator to control it based on level in the primary effluent channel. A positioner, integrated with the actuator, would indicate the elevation of the top of the gate. Weir plates would be installed at the existing overflow wall at an elevation higher than the maximum water surface normally expected in the primary effluent channel. A conceptual drawing of the weir gate system is shown in Figure 4-1.

![Figure 4-1. Primary Effluent Diversion Weir Gate](image)

The default position for the gate weir crest would at the maximum allowable water level in the effluent channel. This is estimated to be about 4 inches higher than the existing diversion weir crest, based on the hydraulic profile included in the design documents. When the effluent channel water surface reaches this elevation, the gate would be lowered to initiate a primary effluent diversion event. Once the diversion is initiated, the water level set point would be adjusted down to the normal operating elevation (existing diversion weir crest elevation). When the WWTP flow rate drops below the trickling filter pump station pumping rate, the water surface elevation in the effluent channel would drop and diversion flow would cease. Upon cessation of diversion flow, the gate would rise back to the default position.

Diversion flow measurement would be feasible with this system. With a 4-foot-wide gate, a 1-inch change in water depth over the weir would correspond to a 0.3 mgd change in diversion flow, a reasonable level of precision for this application. Likewise, diversion event duration would be logged simply as the period during which the gate is lowered and the water surface is higher than the crest of the gate. This system would reduce the frequency of diversion events by utilizing the storage capability of the primary effluent...
channel. By allowing the water surface to rise 4 inches above the normal maximum operating level, the effluent channel would provide about 1,000 gallons of storage to contain short spikes in WWTP flow caused by brief periods of simultaneous pump operation in the collection system. This storage capacity could be increased by allowing the level to rise farther, into the primary clarifiers. Allowing the water level in the clarifiers to rise 1 inch would provide an additional 36,000 gallons of storage. However, this could flood the scum removal hopper.

The automated gate system would have a relatively low capital cost and would be simple to operate. Very little structural modification would be required. In addition to the cost of the gate, there would be some cost for electrical and control modifications. Once the set points are established, the system would require little attention. In the event that the gate fails to open during a high flow event, the existing diversion weir would divert the excess flow in the same manner as it does currently.

4.2.2 Trickling Filter Pump Station Upgrades

The trickling filter pump station capacity is the limiting point of conveyance through the secondary treatment system. The firm design capacity of the pump station is 12 mgd with two pumps in service and one serving as standby. All three pumps were originally identical but one pump was replaced and has slightly different pumping characteristics than the two original pumps. The other two pumps are original equipment. Due to the age and wear on the two original pumps, it is suspected that they are pumping less than their design capacity. The newer trickling filter pump is reported to have a capacity slightly above the original design capacity of 6 mgd. Replacement of the two original trickling filter pumps is currently in the planning stages and is anticipated to occur in the near term. Replacement of the pumps will restore the pump station to a firm design capacity of at least 12 mgd.

4.3 Diversion Monitoring

Ideally, diversion monitoring should have provisions for measuring the duration of each diversion and the total volume of flow diverted. This section presents a discussion of potential modifications to improve diversion monitoring.

4.3.1 Diversion Event and Flow Monitoring

The diversion control gate modifications discussed in Section 4.2.1 would allow calculation of the diversion flow rate and duration. Continuous flow measurement data would be logged in the supervisory control and data acquisition system. The flow data could be totaled, thereby providing a record of the total volume of flow diverted. Diverted flow would be measured by monitoring the water surface elevation continuously in the primary effluent channel and comparing it to the elevation of the top of the weir gate. The difference between the two elevations would represent the depth of flow over the weir. The diverted flow rate could be determined using the sharp-crested weir equation. A pressure transducer would provide a reliable water surface elevation measurement. The primary effluent channel is reported to be somewhat turbulent, and pressure transducers are less affected by water turbulence than are surface measuring devices such as ultrasonic level transducers.

4.3.2 Blended Effluent Sampling and Monitoring

The permit requires that a grab sample be taken at location designation EFF-001 in response to a blending event. This location provides good data on the final effluent water quality and mass loading to the receiving water.

Monitoring records show that effluent quality well below permit limits for biochemical oxygen demand (BOD) and total suspended solids (TSS). Section 6 contains additional discussion on the effects of blending.
Section 5

Wet Weather Performance

The improvements discussed in the previous section are intended to reduce the frequency and volume of primary effluent diversions and provide an effective means to monitor and report diversion events. Further enhancement of wet weather performance would require expansion of the secondary treatment capacity. This section presents a discussion of the relationship between secondary treatment capacity and effluent quality.

5.1 Flow Diversion Occurrences

The potential for the occurrence of a diversion event was estimated by assuming that a diversion event is possible whenever the peak flow for a given day exceeds the firm capacity of the trickling filter pumping station. This assumption is based on observing the peaking factors calculated by dividing the peak flow by the daily total flow for any given day. For the 63 days in 2012 when the peak flow exceeded 12 million gallons per day (mgd), the average peaking factor was 1.8. A peaking factor of 1.8 indicates that there is considerable variation in influent flow rate over the course of the day and therefore the trickling filter pumping capacity was likely exceeded at least once, resulting in a possible flow diversion. There is a degree of influent storage available in primary treatment tanks so not all flows that exceed the trickling filter pump capacity result in flow diversions.

The next step was to examine how extending capacity of the trickling filter reduces the probability of a diversion event. Table 5-1 lists the number of days in 2012 that the Elk River Wastewater Treatment Plant’s (WWTP) influent flow exceeded the corresponding trickling filter pumping capacity. The results indicate that diversion occurrences could be reduced by increasing the capacity of the trickling filter pump station. However, increasing the trickling filter pumping capacity beyond about 13 mgd results in diminishing benefit.

<table>
<thead>
<tr>
<th>Trickling filter pump capacity, mgd</th>
<th>Peak flow &gt; trickling filter pump capacity, days*</th>
</tr>
</thead>
<tbody>
<tr>
<td>9</td>
<td>240</td>
</tr>
<tr>
<td>10</td>
<td>119</td>
</tr>
<tr>
<td>11</td>
<td>83</td>
</tr>
<tr>
<td>12</td>
<td>63</td>
</tr>
<tr>
<td>13</td>
<td>48</td>
</tr>
<tr>
<td>14</td>
<td>43</td>
</tr>
<tr>
<td>15</td>
<td>39</td>
</tr>
<tr>
<td>16</td>
<td>33</td>
</tr>
<tr>
<td>17</td>
<td>29</td>
</tr>
<tr>
<td>18</td>
<td>28</td>
</tr>
</tbody>
</table>

*Number of days in 2012 during which peak flow exceeded the indicated trickling filter pump capacity creating the possibility of a flow diversion.

Figure 5-1 provides a graphical presentation of the data listed in Table 5-1 and shows the diminishing benefit of extending the secondary treatment capacity beyond about 13 mgd. The correlation between
the table and figure only account for the frequency of days when blending could occur. To estimate the volume of diverted flow, additional assumptions were developed and are presented in Section 6.

![Figure 5-1. Estimated Frequency of Potential Blending Events](image)

### 5.2 Estimated Diversion Volumes

To estimate potential reductions in the volume of diverted flow, an assumption regarding the duration of a diversion event was made. Based on review of the 2012 influent data, a factor of 0.50 hours per million gallons (MG) of influent exceeding secondary treatment capacity was assigned. For example, a peak flow of 14 mgd and a secondary treatment capacity of 12 mgd would result in a diversion event equivalent to 1.0 hours (14 - 12 mgd x 0.50 hour/mgd) applied to a diversion flow rate of 2 mgd (14 mgd - 12 mgd). The resulting diverted volume would be 0.08 MG (1.0 hours x 2 mgd x 1 day/24 hours). A partial summary of the estimated daily diversion volume based on the assumption is presented in Table 5-2.

Under the assumption stated, the volume of flow diverted in 2012 was equivalent to about four percent of the total influent to the WWTP.
### Table 5-2. Flow Diversion Volume Based on Secondary Treatment Capacity

<table>
<thead>
<tr>
<th>WWTP peak flow, mgd</th>
<th>Estimated daily flow diversion, MG&lt;sup&gt;a&lt;/sup&gt;</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>12 mgd</td>
</tr>
<tr>
<td>12</td>
<td>0.00</td>
</tr>
<tr>
<td>13</td>
<td>0.02</td>
</tr>
<tr>
<td>14</td>
<td>0.08</td>
</tr>
<tr>
<td>15</td>
<td>0.19</td>
</tr>
<tr>
<td>16</td>
<td>0.33</td>
</tr>
<tr>
<td>17</td>
<td>0.52</td>
</tr>
<tr>
<td>18</td>
<td>0.75</td>
</tr>
</tbody>
</table>

<sup>a</sup>Based on diversion flow duration of 0.50 hour per mgd of flow exceeding secondary treatment capacity.

### 5.3 Effluent Quality and Diversion

When combined with an estimate for biochemical oxygen demand (BOD) removal efficiency, the frequency and volumetric assumptions developed in the preceding sections can be used to estimate effluent BOD when blending occurs. Based on the 2012 plant data, overall BOD removal efficiency typically ranged from 98 percent to about 90 percent. The lower values typically occurred during higher flow periods. The data were plotted to facilitate interpolating removal efficiency values for various flow rates. No data are available for the BOD removal efficiency of the primary clarifiers, so a typical value of 30 percent was assumed for the lower flow periods. For higher flows, efficiency was assumed to drop proportionally with the drop in removal efficiency of the secondary clarifiers. The organic loading to the plant was assumed to be constant, at 9,500 pounds per day (ppd) which represents the average loading for 2012. The 2012 monthly averages for BOD loading were consistent, varying about 10 percent above and below the average value.

The effluent BOD quantity was estimated by determining the mass balance using the assumptions identified above. The resulting effluent BOD was plotted as a function of WWTP peak flow for various secondary treatment capacities ranging from 12 mgd to 24 mgd. These plots are shown in Figure 5-2.

The plots confirm that increasing secondary treatment capacity reduces final effluent BOD, more so at higher flows than at lower flows. For a peak plant flow of 32 mgd, the effluent BOD estimated with a secondary treatment capacity of 12 mgd is about 4,200 ppd or about twice the loading associated with a secondary treatment capacity of 22 mgd. Despite the higher effluent BOD associated with a secondary treatment capacity of 12 mgd, the projected effluent quality is below the permit limit of 6,005 ppd, demonstrating that the practice of blending in accordance with the original design parameters does not lead to permit violations.

As discussed previously, these performance projections are estimates because they are based on assumptions that could not be verified with field data. However, the plant data confirm that the effluent BOD quantities are comparable to those estimated in this section and that effluent BOD consistently meets National Pollutant Discharge Elimination System (NPDES) permit limits.
Section 5  Feasibility Analysis for Treating Peak Wet Weather Discharges

Figure 5-3. Final Effluent BOD as Function of Plant Flow and Secondary Treatment Capacity

Development of this figure is based on the following assumptions:

- Plant influent BOD of 9,500 ppd for all flows
- BOD removal efficiency in primary clarifiers
  - 30 percent at 8 mgd peak flow
  - 28 percent at 32 mgd peak flow
- BOD removal efficiency in secondary process
  - 91 percent at 8 mgd peak flow
  - 83 percent at 32 mgd peak flow
- Flow diversion duration of 0.50 hour per 1 mgd of peak flow exceedance beyond secondary treatment capacity
- Effluent BOD calculated for the blended effluent as it enters the effluent holding pond
5.4 Discussion

The results of the analyses presented in this section demonstrate that increasing secondary treatment capacity will reduce the frequency and volume of flow diversions and reduce effluent BOD due to blending. The analysis also shows that for all cases, effluent quality would still be in compliance with NPDES permit limits based on the trickling filter design capacity of 12 mgd. The 2012 plant operating data confirm that the effluent BOD quantities are comparable to those estimated and that effluent WWTP consistently meets NPDES permit limits for BOD during wet weather.

Table 1-1 lists the capacities for the trickling filters, trickling filter pump station, secondary clarifiers, and recycled secondary solids (RSS) pumps and provides discussion regarding the capacity limits associated with each facility. Increasing the wet weather secondary treatment capacity beyond its design capacity of 12 mgd would require, at minimum, a trickling filter pump station upgrade, additional RSS pumping capacity, piping improvements, and electrical upgrades. Providing additional RSS pumping capacity may require construction of larger wet wells, in addition to larger pumps, piping improvements, and electrical upgrades.

Since the WWTP can meet permit limits under current operating conditions, upgrade of the secondary treatment system is not recommended at this time. Rehabilitation of the trickling filter pumps to re-establish the design capacity is recommended to provide the full, wet weather design capacity of the WWTP.
Section 6

Summary

The degree of RDII throughout the collection system and the associated removal costs make it impractical to significantly reduce the maximum instantaneous peaking factor associated with the service area. However, the City is committed to implementing a long term, sustainable approach toward RDII removal and collection system maintenance with goals to eliminate sanitary sewer overflows and limit peak flows at the WWTP to approximately 32 mgd.

It is not feasible to eliminate the practice of blending at the Elk River WWTP but there are practical improvements that can reduce the frequency and minimize the volume of blending effluents. It is also concluded that the practice of blending as practiced at the Elk River WWTP provides effective treatment of wet weather flows and does not adversely impact the beneficial uses of the receiving waters.

In addition to the collection system rehabilitation described in Section 4.1, projects identified to reduce the frequency and minimize the volume of blending effluents include trickling filter pump rehabilitation and primary diversion overflow weir improvements.
Section 7

Limitations

This document was prepared solely for City of Eureka in accordance with professional standards at the time the services were performed and in accordance with the contract between City of Eureka and Brown and Caldwell dated June 13, 2011. This document is governed by the specific scope of work authorized by City of Eureka; it is not intended to be relied upon by any other party except for regulatory authorities contemplated by the scope of work. We have relied on information or instructions provided by City of Eureka and other parties and, unless otherwise expressly indicated, have made no independent investigation as to the validity, completeness, or accuracy of such information.
Appendix A: RDII 20-Year CIP
Prepared for:  City of Eureka, California  
Project Title:  Eureka Wastewater Facilities Plan Phase 3 
Project No.:  141303.080 

Technical Memorandum 

Subject:  20-Year RDII Removal CIP 
Date:  January 6, 2013 
To:  Charles Roecklein, City Engineer 
From:  Harry Ritter, Brown and Caldwell 
Copy to:  Bruce Young, Public Works Director 
Prepared by:  Peter Armans, Brown and Caldwell 
Reviewed by:  Robert K. Lee, Brown and Caldwell 

Limitations:
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Section 1: Introduction

The City of Eureka (City) retained Brown and Caldwell (BC) to analyze the rainfall-derived infiltration/inflow (RDII) removal options from its collection system and develop recommendations for a 20-year Capital Improvement Project (CIP).

1.1 Objectives

The recommendations developed by this analysis are intended to fulfill the following objectives:

- Prevent sanitary sewer overflows (SSOs) within the service area during a 20-year recurrence peak wet weather flow event.
- Limit peak flows to the Elk River Wastewater Treatment Plant (WWTP) to the peak hour design capacity of 32 million gallons per day mgd during a 20-year recurrence peak hourly wet weather flow.

The additional benefit of achieving these objectives is the rehabilitation and extension of the useful life of sewers that have the poorest condition assessment and the highest rates of RDII.

1.2 Background Information

The City owns and operates the Elk River WWTP and collection system within the Eureka city limits. The City also provides conveyance and treatment services to the surrounding unincorporated areas served by Humboldt Community Services District (HCSD).

There are three major pump stations that pump flows to the WWTP through the City’s Cross Town Interceptor force main:

- Hill Street Pump Station (PS)
- Washington Street PS
- McCullens Street PS

The Martin Slough PS was recently constructed and will start directing flows to the WWTP in 2014. HCSD owns and operates the South Broadway PS which pumps flows from the sewer basins located within the southern reaches of the unincorporated portion of the service area. There are multiple lift stations within the service area that collect sewage at low points and pump it to gravity sewers such that it can be conveyed to the WWTP through one of the primary pump stations.

The collection system and pumping facilities were metered extensively from 2004 to 2006 and were modeled in 2007 to understand which areas were experiencing the highest levels of RDII, identify areas of insufficient capacity, and develop peak hour flow projections based on the 20-year flow occurrence. This project used the previous work as the basis for the analysis. Figure 1 shows the overall service area, the individual sewer basins, the collection system, the pump and lift stations, and the Cross Town Interceptor.

Section 2: Summary of Existing Conditions

In 2007, BC developed comprehensive hydrodynamic and hydrologic models of the City’s sanitary collection system (final versions dated 2008). These documents and previous reports were used as references and data sources and to achieve a holistic understanding of the collection system gravity flow and pumping operations.
2.1 Martin Slough PS Project

Construction of the pump station and force main should be completed in 2014. The Martin Slough PS will relieve the Hill Street PS and McCullens Street PS of current flows and allow for additional future connections with population growth in its tributary area. A new gravity interceptor is on schedule to be constructed in 2014, as part of Phase 2C, to allow the redirection of flows to the Martin Slough PS.

On November 26, 2013, following a conversation with City staff, BC learned that changes had been made to the initial scope of work for the redirection of flows to the Martin Slough PS. Table 1 lists the locations initially scoped and notes current scope changes. Figure 2 shows the locations of the lift stations listed in Table 1.

<table>
<thead>
<tr>
<th>Map ID</th>
<th>Redirect flows?</th>
<th>Include in Phase 2C?</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>City lift stations (LS)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>O Street</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>10</td>
<td>California Street</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>17</td>
<td>Golf Course</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>5</td>
<td>H Street</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>3</td>
<td>K Street</td>
<td>No</td>
<td>No</td>
</tr>
<tr>
<td>11</td>
<td>Lowell Street</td>
<td>Yes</td>
<td>No</td>
</tr>
<tr>
<td>HCSD LS</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>Campton Road</td>
<td>Yes</td>
<td>Pending</td>
</tr>
<tr>
<td>13</td>
<td>Sea Avenue</td>
<td>Yes</td>
<td>No</td>
</tr>
<tr>
<td>7</td>
<td>Hartman</td>
<td>Yes</td>
<td>No</td>
</tr>
<tr>
<td>6</td>
<td>Spruce Street</td>
<td>Yes</td>
<td>No</td>
</tr>
<tr>
<td>8</td>
<td>F Street</td>
<td>Yes</td>
<td>No</td>
</tr>
<tr>
<td>19</td>
<td>Pine Hill</td>
<td>No</td>
<td>No</td>
</tr>
<tr>
<td>16</td>
<td>Artino Street</td>
<td>No</td>
<td>No</td>
</tr>
<tr>
<td>15</td>
<td>Hidden Meadows</td>
<td>No</td>
<td>No</td>
</tr>
<tr>
<td>12</td>
<td>D Street</td>
<td>No</td>
<td>No</td>
</tr>
<tr>
<td>14</td>
<td>Alder Street</td>
<td>Yes</td>
<td>No</td>
</tr>
<tr>
<td>Redirect flows</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>Hemlock Street meter</td>
<td>Yes</td>
<td>No</td>
</tr>
<tr>
<td>9</td>
<td>Leslie Road connection</td>
<td>Yes</td>
<td>Yes</td>
</tr>
</tbody>
</table>

2.2 Hydrologic Model Results

In 2008, BC completed a Hydrologic Model technical memorandum (Hydrologic Model) for the City’s collection system using flow monitoring data collected between 2004 and 2006.
The Hydrologic Model incorporates metered locations, population, base flows and RDII. The Hydrologic Model noted the tributary areas with the highest unit infiltration/inflow (I/I) rates as being H Street LS, 3rd and Y LS, O Street LS, Hill Street PS, and 16th and McFarland.

The model also approximated the cost of RDII removal in the areas tributary to Hill Street PS as being $20 million in 2007 to allow the pump station to handle the current population flows during a 20-year recurrence peak hourly wet weather flow condition.

### 2.3 Hydraulic Model Results

In February of 2008, BC completed a Hydraulic Model technical memorandum (Hydraulic Model) for the City’s collection system. The three major pump stations were explicitly modeled. The system capacity was evaluated using the 20-year recurrence peak hourly wet weather flow with current and future population flows.

To complete this 20-year CIP, BC used a similar calculation method for the future population growth and future I/I as was used in the Hydraulic Model. The Hydraulic Model determined the need to upsize approximately 7,500 linear feet (LF) of sewers summarized in Table 2.

<table>
<thead>
<tr>
<th>Location</th>
<th>Total LF</th>
<th>Current diameter, inches</th>
<th>Proposed diameter, inches</th>
</tr>
</thead>
<tbody>
<tr>
<td>Downstream of Hoover meter</td>
<td>1,700</td>
<td>8 and 12</td>
<td>21</td>
</tr>
<tr>
<td>West Avenue gravity sewers</td>
<td>1,000</td>
<td>8</td>
<td>10</td>
</tr>
<tr>
<td>Waterfront Street gravity sewers</td>
<td>2,800</td>
<td>8</td>
<td>15</td>
</tr>
<tr>
<td>Summer Street gravity sewers</td>
<td>2,000</td>
<td>21 to 27</td>
<td>30</td>
</tr>
</tbody>
</table>

The Hydraulic Model also indicated that three pump stations are undersized for the future population flows and two pump stations are adequately sized. Table 3 provides a summary of the five pump stations discussed in the Hydraulic Model.

<table>
<thead>
<tr>
<th>Station</th>
<th>Current firm capacity, mgd</th>
<th>Current peak capacity, mgd</th>
<th>Projected peak hour flow, mgd</th>
</tr>
</thead>
<tbody>
<tr>
<td>3rd and Y Streets LS</td>
<td>0.7</td>
<td>1.1</td>
<td>1.8</td>
</tr>
<tr>
<td>Waterfront Street LS</td>
<td>1.2</td>
<td>1.5</td>
<td>2.1</td>
</tr>
<tr>
<td>Hill Street PS</td>
<td>7.6</td>
<td>8.2</td>
<td>9.3</td>
</tr>
<tr>
<td>Washington Street PS</td>
<td>18.2</td>
<td>-</td>
<td>14.3</td>
</tr>
<tr>
<td>McCullens Street PS</td>
<td>4.8</td>
<td>-</td>
<td>2.3</td>
</tr>
</tbody>
</table>

*Firm capacity defined as flow that can be pumped while one of the largest pumps is on standby.

*Peak capacity defined as flow that can be pumped with all pumps running.

### Section 3: RDII Analysis

For this analysis the collection system was divided into 15 meter basins with City flows, five meter basins with HCSD flows and one meter basin (McCullens Street PS) with flows from both the City and HCSD. The 21 meter basins are shown in Figure 3.
3.1 Data Sources/Limitations

BC obtained updated geographic information system (GIS) data from the City related to the sewer pipes, sewer laterals, tax lots and sewer basins. The updated GIS data were used to complete the rehabilitation cost estimate analysis for the various options.

The hydrologic and hydraulic model data taken from the 2008 technical memoranda are considered current in 2006. To project populations and flows in the future for each meter basin, additional assumptions were applied.

3.1.1 Additional Assumptions

Future Population

In the City’s meter basins, a 0.3 percent population growth is applied based on input from City staff and a review of census data from 2000 to 2010. The growth is assumed to reach the ultimate buildout in 2028.

In HCSD meter basins, a 0.75 percent population growth is applied as directed by HCSD staff. The population growth in HCSD is applied through the end of the 20-year CIP and is expected to reach ultimate buildout in 2068.

Future RDII

In the City meter basins, the future RDII rate per capita is assumed to be 50 percent of the current RDII rate in the respective meter basin. This approach assumes that new connections or public sewers will be constructed using modern materials and techniques and will be in better condition than the current sewers.

In HCSD, the future RDII rate per capita is assumed to be 100 percent or equal to the current rate in the respective meter basin. This approach assumes that new connections or public sewers will be in similar condition to the current sewers, which are generally newer and have more watertight joints and connections.

Future Base Flow

For both the City and HCSD, 100 gallons per capita per day is the assumed contribution for the current and future populations.

3.1.2 Martin Slough Condition Changes

The original Martin Slough project scope included redirection of specified flows from tributary areas to Hill Street PS, Washington Street PS, and McCullens Street PS, reducing demand on them and freeing capacity within the Cross Town Interceptor. It is unclear at this point if all of the originally specified flows will be redirected to the Martin Slough PS. The impact of the anticipated scope changes is believed to be minor but may require additional flow metering and modeling to verify.

3.2 Methodology

3.2.1 Meter Basins

The collection system was divided into 21 meter basins, as shown in Figure 3. The analysis was completed on a meter basin-by-meter basin level. Each meter basin may include multiple sewer basins. Table 4 summarizes the City’s meter basins and the approximate equivalent City sewer basins.
City Of Eureka
Meter Basins

Legend

Pump Station Tributary Areas
- Hill Street Pump Station
- McCullens Street Pump Station
- Washington Street Pump Station
- Martin Slough Pump Station

Meter Location: Flow Meter
- Meter Location: Pump Station
- Meter Basins

Cross Town Interceptor
- Approx. Martin Slough FM
- Eureka Lift Stations
- HCSD Lift Stations

Figure 3

Legend

Pump Station Tributary Areas
- Hill Street Pump Station
- McCullens Street Pump Station
- Washington Street Pump Station
- Martin Slough Pump Station

Meter Location: Flow Meter
- Meter Location: Pump Station
- Meter Basins

Cross Town Interceptor
- Approx. Martin Slough FM
- Eureka Lift Stations
- HCSD Lift Stations
Table 4. Equivalent City Sewer Basins to Meter Basins in Analysis

<table>
<thead>
<tr>
<th>Meter basin</th>
<th>Eureka sewer basin</th>
</tr>
</thead>
<tbody>
<tr>
<td>16th and McFarland Streets</td>
<td>H1-D; H1-F; H1-G; H5</td>
</tr>
<tr>
<td>3rd and Y Street</td>
<td>H2-B</td>
</tr>
<tr>
<td>Albee and Cedar Streets</td>
<td>K4; K5; K6; K7-A</td>
</tr>
<tr>
<td>B Street (between 4th and 5th Streets)</td>
<td>W1; W2</td>
</tr>
<tr>
<td>D Street (between 1st and 2nd Streets)</td>
<td>H2-A; H4-A; W4; W5-A; W5-B</td>
</tr>
<tr>
<td>Dakota and Gross Streets</td>
<td>M2</td>
</tr>
<tr>
<td>E Street (between 3rd and 4th Streets)</td>
<td>W3</td>
</tr>
<tr>
<td>H Street</td>
<td>K7-B</td>
</tr>
<tr>
<td>Hill Street PS</td>
<td>H11; H1-A; H1-B; H1-C; H1-E</td>
</tr>
<tr>
<td>McCullens Street PS</td>
<td>M1; M5; M6</td>
</tr>
<tr>
<td>O Street</td>
<td>H7</td>
</tr>
<tr>
<td>Vista without H Street overflow</td>
<td>H8</td>
</tr>
<tr>
<td>Washington and Summer Streets</td>
<td>K2</td>
</tr>
<tr>
<td>Washington Street PS</td>
<td>K1-A; K1-B; K1-C; K3-A; K3-B</td>
</tr>
<tr>
<td>West Avenue and 13th Street</td>
<td>H4-B; H4-C</td>
</tr>
</tbody>
</table>

Of the 21 meter basins, 15 convey city flows, five convey HCSD flows and one meter basin (McCullens Street PS) conveys flows from both the City and HCSD. Meter basins not listed in Table 4 do not include City sewer basins and convey mostly HCSD flows.

Assumptions regarding future population, RDII, and base flows applied to McCullens Street PS meter basin are based on the weighted average of the City’s total LF of sewer pipes versus HCSD’s total LF of sewer pipes.

3.2.2 Development of Cost

The updated GIS files, received in October 2013 from the City, were the basis for calculating the total LF of sewer pipe, their associated diameters, and the number of laterals for each meter basin. Abandoned sewers were removed from the analysis. Sewer pipes with missing diameter information, or shown as zero, were assumed to be 8 inches in diameter for the development of rehabilitation cost.

No data were available to BC for the number of laterals in the HCSD meter basins. Therefore, the number of parcels was assumed to be equal to the number of laterals. This assumption may have a significant impact on the rehabilitation cost.

BC used budgetary unit costs based on the current market and recent projects. The rehabilitation costs were developed for open-cut and trenchless methods.

Once the cost of rehabilitation was calculated, BC determined the equivalent dollar cost per million gallons of RDII removal ($/mgd removal) for each meter basin. The meter basins were then ranked from the lowest to the highest $/mgd removal and the recommendations always start with the lowest and most cost-effective meter basins.

Costs were calculated in 2013 dollars, as the cost development assumes the interest rate is equal to the rate of inflation.
3.2.3 Basin-Wide Approach

Recent studies and completed projects have shown that the most effective method of RDII removal is using a basin-wide approach. In the past, sewers with the highest amount of I/I were rehabilitated on a pipe-by-pipe or street-by-street approach. Additional flow monitoring has proven that the piecemeal approach is ineffective and it was determined that RDII migrated to adjacent sewers.

BC’s most recent successful application of the basin-wide approach was completed in the City of Sweet Home, Oregon. This approach was verified using flow monitoring before and after the rehabilitation of sewers. Other cities/counties that have implemented this approach with similar results are the City of Princeton, New Jersey, New Castle County, Delaware, and Johnson County, Kansas. The range of anticipated RDII removal rates correlating with the method/extent of rehabilitation is shown in Figure 4.

Rehabilitation of the sewer mains and the laterals up to the building provides the highest percentage of RDII removal and is generally the most cost-effective approach.

3.2.4 Rehabilitation Methods

Open-Cut Replacement

Open-cut replacement is essentially the removal and replacement of the old pipe by excavation from the surface down to the existing pipe depth. The newly-installed pipe is typically sized to meet the hydraulic capacity requirement at the end of the pipe’s design life. Open-cut replacement provides a fully structural pipe with improved hydraulics. The pipe material selected can be rigid or flexible. Modern materials and construction techniques associated with open-cut replacement should significantly reduce or eliminate existing groundwater infiltration and root growth inside the pipe.
Trenchless

Cured-In-Place Pipe (CIPP). This technology has been in use in North America for almost 40 years and involves the installation of a flexible polyester tube that is saturated with resin into the existing pipe. Once inserted, the tube is expanded and the resin hardens to form a new pipe wall adjacent to the existing pipe wall. The end result is a corrosion-resistant, jointless pipe that conforms to the geometry of the existing pipe. CIPP can be installed with little to no excavation. Installation of CIPP generally results in the least amount of internal diameter reduction of the various trenchless rehabilitation techniques due to its thin-walled, tight-fit nature. However, the internal diameter reduction results in a slight reduction of the pipe capacity so this method of rehabilitation is not practical in locations where pipe capacity needs to be increased. CIPP can be a fully structural repair and can act as a flexible pipe. The jointless CIPP pipe eliminates root growth and infiltration in the majority of the pipe. Lateral connections do need to be addressed, either through additional CIPP products or open-cut excavation.

Pipe Bursting. This technology involves pulling a bursting head through an existing pipe to break or slice it. As the head is pulled through the host pipe, a continuously-fused high-density polyethylene or poly-vinyl chloride replacement pipe is fed in. The new pipe can be the same size or one size larger than the original. The end result is a fully structural, corrosion-resistant, jointless pipe. The resulting pipe should eliminate root growth and infiltration. Lateral connections are made through rubber inserts or electro-fusion saddles. Pipe bursting requires some excavation and vehicle access.

Lateral Rehabilitation

The rehabilitation of laterals is an essential element of RDII removal. Laterals can be replaced using open-cut or trenchless methods. Trenchless lateral rehabilitation methods often require a lateral clean-out to be installed if one is not already present.

3.3 20-Year CIP Analysis Results

The level of RDII reduction targeted by this analysis is intended to meet the stated objective of limiting the peak hour wet weather flow to the WWTP to 32 mgd, and, where required, to provide additional capacity necessary to eliminate SSOs within the collection system.

3.3.1 Flow projections and RDII Removal Plan

Table 5 presents a summary of all 21 meter basins with population, base flows and RDII flows projected to 2034. The base flow projections are a function of the population projections and the RDII projections are based on the 20-year flow event and basin characteristics identified by the flow metering studies. The table is sorted by the peaking factor associated with each meter basin.

Table 6 lists the costs associated with three methods for rehabilitation of those basins required to meet the objectives of the CIP. Method 1 assumes rehabilitation of just the sewer mains, Method 2 assumes rehabilitation of the sewer mains and laterals to the right-of-way (ROW), and Method 3 assumes rehabilitation of the sewer mains and the laterals to the buildings. The table also lists the costs associated with open-cut replacement of pipes compared to the use of trenchless technology. Applying trenchless technology and Method 3, rehabilitation of the sewer mains and the laterals to the buildings, significantly reduces the number of projects required and the associated costs. The cost for the RDII work associated with Method 3 is $18.1 million.
<table>
<thead>
<tr>
<th>Meter basin</th>
<th>Population</th>
<th>Average base flow, mgd</th>
<th>20-year peak-hour RDII, mgd</th>
<th>20-year peak hour total flow, mgd</th>
<th>Peaking factora</th>
</tr>
</thead>
<tbody>
<tr>
<td>O Street LS</td>
<td>903</td>
<td>0.09</td>
<td>2.23</td>
<td>2.32</td>
<td>26.0</td>
</tr>
<tr>
<td>16th and McFarland Streets</td>
<td>2,352</td>
<td>0.22</td>
<td>3.25</td>
<td>3.46</td>
<td>15.1</td>
</tr>
<tr>
<td>Washington and Summer Streets</td>
<td>1,095</td>
<td>0.05</td>
<td>0.58</td>
<td>0.63</td>
<td>12.3</td>
</tr>
<tr>
<td>E Street</td>
<td>1,158</td>
<td>0.11</td>
<td>1.05</td>
<td>1.16</td>
<td>9.8</td>
</tr>
<tr>
<td>Dakota and Gross Streets</td>
<td>1,316</td>
<td>0.08</td>
<td>0.73</td>
<td>0.81</td>
<td>9.4</td>
</tr>
<tr>
<td>D Street</td>
<td>2,154</td>
<td>0.16</td>
<td>1.41</td>
<td>1.57</td>
<td>8.6</td>
</tr>
<tr>
<td>B Street</td>
<td>2,753</td>
<td>0.22</td>
<td>1.85</td>
<td>2.07</td>
<td>8.5</td>
</tr>
<tr>
<td>West Avenue and 13th Street</td>
<td>1,520</td>
<td>0.09</td>
<td>0.75</td>
<td>0.84</td>
<td>8.4</td>
</tr>
<tr>
<td>HCSD Hemlock Street</td>
<td>881</td>
<td>0.08</td>
<td>0.58</td>
<td>0.66</td>
<td>7.6</td>
</tr>
<tr>
<td>Fairfield and Hawthorne Streets</td>
<td>205</td>
<td>0.03</td>
<td>0.22</td>
<td>0.25</td>
<td>6.9</td>
</tr>
<tr>
<td>Albee and Cedar Streets</td>
<td>5,226</td>
<td>0.33</td>
<td>2.25</td>
<td>2.59</td>
<td>6.8</td>
</tr>
<tr>
<td>HCSD Hoover Street</td>
<td>5,531</td>
<td>0.40</td>
<td>2.72</td>
<td>3.13</td>
<td>6.7</td>
</tr>
<tr>
<td>H Street LS</td>
<td>1,087</td>
<td>0.28</td>
<td>1.71</td>
<td>1.98</td>
<td>6.2</td>
</tr>
<tr>
<td>3rd and Y LS</td>
<td>736</td>
<td>0.17</td>
<td>1.03</td>
<td>1.21</td>
<td>5.9</td>
</tr>
<tr>
<td>HCSD Allard Avenue (2005-2006)</td>
<td>3,314</td>
<td>0.20</td>
<td>1.08</td>
<td>1.29</td>
<td>5.4</td>
</tr>
<tr>
<td>HCSD South Broadway Street</td>
<td>4,831</td>
<td>0.45</td>
<td>2.27</td>
<td>2.72</td>
<td>5.0</td>
</tr>
<tr>
<td>Hill Street PS without 3rd and Y LS</td>
<td>1,584</td>
<td>0.31</td>
<td>1.53</td>
<td>1.84</td>
<td>4.9</td>
</tr>
<tr>
<td>McCullens Street PS</td>
<td>4,211</td>
<td>0.54</td>
<td>2.24</td>
<td>2.78</td>
<td>4.2</td>
</tr>
<tr>
<td>HCSD Vista without H Street overflow</td>
<td>3,950</td>
<td>0.24</td>
<td>1.00</td>
<td>1.24</td>
<td>4.1</td>
</tr>
<tr>
<td>Washington Street PS</td>
<td>2,643</td>
<td>0.80</td>
<td>3.11</td>
<td>3.91</td>
<td>3.9</td>
</tr>
<tr>
<td>WWTP</td>
<td>256</td>
<td>0.51</td>
<td>0.30</td>
<td>0.80</td>
<td>0.6</td>
</tr>
<tr>
<td><strong>Totals</strong></td>
<td><strong>47,705</strong></td>
<td><strong>5.35</strong></td>
<td><strong>31.90</strong></td>
<td><strong>37.26</strong></td>
<td></td>
</tr>
</tbody>
</table>

*aThe peaking factor is the 20-yr peak hour RDII divided by the average base flow.*
### Table 6. RDII Removal Plan For Compliance in 20 Years (2034)

<table>
<thead>
<tr>
<th>Meter basins</th>
<th>Rehabilitation Method 1: Sewer Mains Only</th>
<th>Rehabilitation Method 2: Sewer Mains and Laterals in the ROW</th>
<th>Rehabilitation Method 3: Sewer Mains and Laterals to Buildings</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Open-cut cost of sewer mains, $</td>
<td>Trenchless sewer mains only, $</td>
<td>Trenchless sewer mains and laterals to building, $</td>
</tr>
<tr>
<td></td>
<td>RDII removed (20% of 20-yr peak hour/l), mgd</td>
<td>RDII removed (40% of 20-yr peak hour/l), mgd</td>
<td>RDII removed (65% of 20-yr peak hour/l), mgd</td>
</tr>
<tr>
<td>O Street LS</td>
<td>6,663,000</td>
<td>1,367,000</td>
<td>0.45</td>
</tr>
<tr>
<td>3rd and YLS</td>
<td>3,963,000</td>
<td>844,000</td>
<td>0.21</td>
</tr>
<tr>
<td>H Street LS</td>
<td>5,611,000</td>
<td>1,131,000</td>
<td>0.34</td>
</tr>
<tr>
<td>16th and McFarland Streets</td>
<td>13,384,000</td>
<td>3,206,000</td>
<td>0.65</td>
</tr>
<tr>
<td>Hill Street PS without 3rd and Y LS</td>
<td>6,686,000</td>
<td>1,798,000</td>
<td>0.31</td>
</tr>
<tr>
<td>Washington Street PS</td>
<td>15,425,000</td>
<td>4,538,000</td>
<td>0.62</td>
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<tr>
<td>E Street</td>
<td>5,388,000</td>
<td>1,145,000</td>
<td>0.21</td>
</tr>
<tr>
<td>HCSD Hemlock Street</td>
<td>3,016,000</td>
<td>619,000</td>
<td>0.12</td>
</tr>
<tr>
<td>Fairfield and Hawthorne Streets</td>
<td>1,391,000</td>
<td>291,000</td>
<td>0.04</td>
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<tr>
<td>D Street</td>
<td>8,766,000</td>
<td>1,928,000</td>
<td>0.28</td>
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<tr>
<td>HCSD Hoover Street</td>
<td>18,951,000</td>
<td>3,926,000</td>
<td>0.54</td>
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<tr>
<td>B Street</td>
<td>10,332,000</td>
<td>2,247,000</td>
<td>0.37</td>
</tr>
<tr>
<td>Washington and Summer Streets</td>
<td>3,614,000</td>
<td>771,000</td>
<td>0.12</td>
</tr>
<tr>
<td>HCSD South Broadway Street</td>
<td>19,793,000</td>
<td>4,278,000</td>
<td>0.45</td>
</tr>
<tr>
<td>McCullens Street PS</td>
<td>21,495,000</td>
<td>4,604,000</td>
<td>0.45</td>
</tr>
<tr>
<td>Dakota and Gross Streets</td>
<td>6,437,000</td>
<td>1,393,000</td>
<td>0.15</td>
</tr>
<tr>
<td>HCSD Allard Avenue (2005-2006)</td>
<td>9,142,000</td>
<td>1,863,000</td>
<td>0.22</td>
</tr>
</tbody>
</table>

Minimum RDII to remove = 5.22 rngd
Removed RDII = 5.57 mgd
Cost = $68,993,000 / $25,921,000
Average $/mgd removed = $12,392,000 / $4,656,000

OPEN-CUT TRENCHLESS

| Minimum RDII to remove = 5.52 mgd |
| Removed RDII = 5.52 mgd |
| Cost = $160,039,000 / $35,949,000 |
| Average $/mgd removed = $28,590,000 / $6,512,000 |

OPEN-CUT TRENCHLESS
3.3.2 Pipe Upsizing Discussion

Table 2 summarized four areas previously recommended for upsizing based on the Hydraulic Model. This section discusses the four areas in light of new information obtained from the City and changed conditions in the sewer system. Figure 5 shows the locations of the sewer pipes and pump stations discussed in this section. Less expensive, trenchless technology is possible only when upsizing the pipe one size as is proposed for the West Avenue upsize.

**Downstream of Hoover Meter Upsize**

BC recommended the replacement of two parallel lines with a single 21-inch 1,700-LF gravity sewer. This section conveys flow from the HCSD Hoover meter basin to the Hill Street PS. HCSD Hoover meter basin includes Myrtletown which was exclusively modeled for population increase as discussed in a memorandum completed January 23, 2008, by SHN Consulting Engineers & Geologists, Inc.

The Hydraulic Model predicted surcharge and manhole overflows during a 20-year wet weather peak hour flow in this section of pipe. BC is not recommending RDII removal efforts in the HCSD Hoover meter tributary area at this time. To avoid SSOs, the recommendation to upsize this pipe section remains. The budgetary cost of replacing this section is $550,000 using an open-cut method.

**West Avenue Upsize**

BC recommended upsizing the 8-inch pipe to a 10-inch 1,000-LF gravity sewer. This section conveys flow from the West Avenue and 13th Street meter basin to the Hill Street PS.

The Hydraulic Model predicted surcharge of the sewer pipe and sewage reaching within 3 feet below the manhole rims. BC is not recommending RDII removal efforts in the West Avenue meter tributary area at this time. To avoid SSOs, the recommendation to upsize this pipe section remains. The budgetary cost of upsizing this section is $250,000 using the open-cut method or $67,000 if completed using pipe bursting.

**Waterfront Street and Summer Street Upsize**

BC recommended upsizing 2,800 feet of 8-inch pipe to 15 inch pipe (Waterfront Street gravity sewer) and upsizing 2,000 feet of 21- and 27-inch pipe to 30 inch pipe (Summer Street gravity sewer). It is important to note that the Hydraulic Model assumed no RDII removal efforts will occur.

The Waterfront Street gravity sewer is the relief line conveying flow from the 3rd and Y LS to the Waterfront LS. On November 19, 2013, during a conversation with City staff, BC learned that a point source of pumped drainage of 0.6 mgd is believed to have been removed from a Red Lion Hotel previously flowing to the 3rd and Y LS. Therefore, BC recommends further analysis of the capacity of the 2,800 LF Waterfront Street gravity sewer prior to upsizing efforts.

The Summer Street gravity sewer conveys flow from multiple meter basins including the 3rd and Y LS. Given the removal of 0.6 mgd from the 3rd and Y LS, BC recommends further analysis of the capacity of the 2,000 LF Summer Street gravity sewer prior to upsizing efforts.

The combined budgetary cost of upsizing both gravity lines is $1.7 million using an open-cut method.

3.3.3 Pump Stations Discussion

The data summarized in Table 3 indicated that three pump/lift stations are undersized. This section discusses the three stations in light of new information obtained from the City and changed conditions in the sewer system. Figure 5 shows the locations of the pump stations discussed in this section.
**Hill Street Pump Station**

The Hydraulic Model indicated that rerouting of flow from the Hill Street PS tributary area to Martin Slough PS will match the peak capacity requirement at Hill Street PS to its existing peak capacity of 8.2 mgd. The 20-year peak hour wet weather flow is projected to be 9.3 mgd. The Hydraulic Model also indicated that the drop of flows at McCullens Street PS will allow for additional capacity for Hill Street PS in the Cross Town Interceptor. Due to the changes in the Martin Slough rerouting plan (see Section 3.1.2), the actual amount of additional capacity for Hill Street PS in the Cross Town Interceptor requires re-running the pump station model which was not done for this analysis.

As listed in Table 1, the current schedule of redirection of flows indicates that a few locations will not be redirected to the Martin Slough PS in 2014 as part of the Phase 2C project. The most critical is the Hemlock Street meter basin. This meter basin would contribute to the Hill Street PS a peak hour flow of 0.56 mgd now and 0.66 mgd at the end of the 20-year projection. Therefore it is critical to redirect the flow from Hemlock meter basin to Martin Slough PS as soon as possible to avoid capacity related problems elsewhere.

BC’s recommendation of RDII reduction will ultimately result in the removal of up to 3.1 mgd from the Hill Street PS tributary area. This effort alone would relieve the City from making upgrades to the Hill Street PS. However, the high cost of the recommended rehabilitation effort in the Hill Street PS tributary area could extend the project over several years so the timing of the RDII reduction is uncertain.

The cost of upsizing the impellers to achieve a 0.9 mgd increase in peak capacity was estimated at $150,000. Due to the uncertainties associated with the timing of the redirection of the Martin Slough tributary flows, the resulting reduction in flows in the Cross Town Interceptor, the pace of the RDII reduction in the Hill Street tributary area and the timing of growth in the Myrtletown area that contributes to the projected peak flow of 9.3 mgd, BC is recommending that Hill Street PS improvements be postponed until there is a better understanding of future conditions.

**3rd and Y LS**

The Hydraulic Model indicated that the 3rd and Y LS has a peak capacity of 1.1 mgd. The future 20-year peak hour wet weather flow was predicted to be 1.8 mgd. Based on the City’s feedback regarding the removal of a pumped drainage point source of 0.6 mgd, the predicted flow may be reduced to 1.2 mgd, or just over the peak capacity of the LS.

It is important to note that RDII removal would be recommended for the 3rd and Y LS tributary area if the 0.6 mgd pumped drainage source is treated as RDII rather than pumped drainage. BC’s recommendation of RDII removal in the 3rd and Y tributary area is removed based on the City’s feedback regarding the discovery and removal of the pumped drainage.

Due to the uncertainty in the predicted 20-year peak hour dry weather flow, BC recommends additional investigation of the 3rd and Y LS capacity and wet weather flow. This may require additional flow monitoring and modeling of the pump station.

**Waterfront LS**

The Hydraulic Model indicated that the Waterfront LS has a peak capacity of 1.5 mgd. The future 20-year peak hour wet weather flow was predicted to be 2.1 mgd. It is assumed that all flows from 3rd and Y LS are pumped to Waterfront LS. The removal of 0.6 mgd pumped drainage in the 3rd and Y tributary area may be reduced to 1.5 mgd, or the current peak capacity of the Waterfront LS.

BC recommends additional investigation of the flows to 3rd and Y LS and Waterfront LS prior to modifications of the pump/lift stations.
Section 4: 20-year CIP Recommendations

BC recommends gravity sewer upsizing and rehabilitation of existing aging sewers as part of this 20-year CIP plan. Pump station improvements may be required depending on the timing of RDII removal projects and the pace of projected growth.

4.1 Objectives

The overarching objectives of BC’s recommendations are to maintain a maximum 20-year peak hour wet weather flow of 32 mgd to the WWTP and to eliminate SSOs.

The first objective is met by the RDII removal projects identified. Elimination of SSOs should be accomplished by implementation of the pipe upsizing projects identified in Section 3. The need for pump station improvements is uncertain at this time; BC recommends closely monitoring pump station capacities against demand and implementing improvements as required for avoiding SSOs.

It is worth noting that the efforts completed to meet the above objectives will add to the remaining useful life of the sewer pipes by rehabilitation of the sewers with high I/I as an indication of its degrading condition.

4.2 Immediate Action Items

Table 5 summarizes the 21 meter basins sorted by the peaking factor. While high peaking factors may be attributable to a wide-spread infiltration issue in an entire basin, it may also be an indication of points of direct inflow to the collection system such as roof drains and stormwater inlets that can be removed at relatively low cost. BC recommends that smoke testing be performed in meter basins with the highest peaking factors as a first step to remove points of inflow prior to implementing other rehabilitation activities.

4.3 Summary

BC’s recommendations required to meet the dual objectives of maintaining the peak flows to the WWTP to 32 mgd and to avoid future SSOs are summarized below:

- Remove approximately 5.7 mgd of RDII using trenchless rehabilitation methods to address sewer mains and laterals to the buildings holistically in the following sewer basins (see Figure 6 for locations):
  - 0 Street LS meter basin ($3.4 million)
  - H Street LS meter basin ($3.4 million)
  - 0 Street and 16th and McFarland meter basin ($7.4 million)
  - Hill Street PS meter basin ($3.8 million)

- Upsize the following gravity sewers:
  - Downstream of Hoover meter ($550,000)
  - West Avenue ($67,000)

- Flow monitoring and modeling to determine need for upsizing of mains on Waterfront and Summer Streets

The combined estimated cost of the recommendations is $18.6 million. The areas BC understands the significant cost to the City to complete these recommendations. Therefore, a pilot project could be implemented to validate the cost assumptions and effectiveness of the various rehabilitation technologies.
Figure 5

Legend

- Red: Downstream of Hoover meter upsize 1,700' to 21" gravity main
- Green: West Ave upsize 970' to 10" gravity main
- Orange: Waterfront street upsize 2,780' to 15" gravity main
- Blue: Summer street upsize 2,000' to 30" gravity main
- Yellow: Meter Location: Flow Meter
- Orange: Meter Location: Pump Station
- Red: Eureka Lift Stations
- Pink: Meter Basins

City Of Eureka Upsizes & Upgrades

- Downstream of Hoover meter upsize 1,700' to 21" gravity main
- West Ave upsize 970' to 10" gravity main
- Waterfront street upsize 2,780' to 15" gravity main
- Summer street upsize 2,000' to 30" gravity main
APPENDIX G
CIT OF EUREKA SEWER INSPECTION AND TESTING STANDARDS
SECTION 15300

SANITARY SEWER PIPING and APPURTEINANCES (GRAVITY SYSTEMS)

PART 1 – GENERAL

1.01 GENERAL

This Section covers the installation of new sanitary sewer mains, laterals, cleanouts, connection of new sewer lines to existing sewer improvements, construction and modification of manholes, and all other associated work involving sanitary sewer gravity system improvements. Refer to Section 15310, ‘Sanitary Sewer Piping and Appurtenances (Pressure Systems)’ for pressure sewer specifications.

1.02 QUALITY ASSURANCE

All materials shall be new, of current factory manufacture (unless otherwise shown on the Plans), shall be the product of a supplier regularly engaged in the manufacturing of pipe and sanitary sewer products, and shall be guaranteed against defects in workmanship in accordance with the General Provisions, unless more stringently specified herein. The materials and work performed in this Section shall conform to the following standards:

1. The American National Standards Institute (ANSI)
2. The American Society for Testing and Materials (ASTM)
3. Plumbing and Drainage Institute (PDI)
4. Underwriters Laboratories, Inc. (UL)
5. Uniform Plumbing Code (UPC)
6. Occupational Safety and Health Administration (OSHA)
7. California Department of Industrial Relations (CAL OSHA)
8. The American Association of State Highway Officials (AASHTO)

All materials testing performed to provide quality assurance shall be performed in accordance with Section 01410, “Materials Testing” and the City of Eureka Quality Assurance Program (QAP). In the event that neither of the above items is included in the Special Provisions for this project, the Contractor is required to provide only selected materials certificates and testing data as listed in Section 01300, “Shop Drawings and Submittals” and as listed below in Section 1.03.

1.03 SUBMITTALS

Submittals shall include, but not be limited to, the following items:

1. Manufacturer’s product information cut sheets for all manufactured and precast items proposed for use indicating dimensions. This information shall include specific manufacturer’s certification that piping materials and appurtenances meet all specification requirements as stated in this Section.

2. Sewer bypass plan for work on active sanitary sewers (if applicable).
1.04 EXISTING CITY OF EUREKA WATER SYSTEM

Water used for hydrostatic testing of sanitary sewer improvements may only be introduced to the improvement through a backflow prevention device. Refer to Section 01010, “General,” Subsection 1.13 for backflow prevention information and requirements.

1.05 LINES AND GRADES

The Contractor shall construct all sanitary sewer improvements to the lines and grades shown on the Plans. At the direction of the Engineer, the City may produce survey staking cut sheets for portions of the work. If present, these cut sheets supersede the lines and grades shown on the Plans.

No matter which method listed above is used for establishing final lines and grades for sanitary sewer improvements, the Contractor shall verify that the grades match the field conditions. In addition, the Contractor shall notify the Engineer immediately if conditions are found to exist that prevent the Contractor from constructing the improvements to the final lines and grades.

PART 2 – CONSTRUCTION MATERIALS

2.01 GENERAL

All materials shall be from new stock, delivered in new condition. Where no method of tests for materials is specified, the latest applicable test specified by ASTM shall be followed.

Material specifications listed on the Plans, where applicable, shall supersede those listed in this Section.

2.02 PVC SEWER PIPE

PVC sewer main line and lateral piping shall meet the requirements of ASTM D3034 or F679 (as applicable) and shall have integral bell and spigot push-on elastomeric gasketed joints meeting the requirements of ASTM F477. The SDR of the pipe shall be as shown on the Plans.

2.03 FITTINGS

All sewer fittings shall be factory manufactured and shall conform to the plastic pipe specification above.

Sewer laterals shall connect to the sewer with wye fittings. Unless otherwise approved by the Engineer, saddle-type fittings shall not be used.
2.04 MANHOLES

Refer to Section 03310, “Minor Concrete” for specific concrete mix requirements for all concrete and grout materials used for manhole and concrete collar construction.

Unless otherwise approved by the Engineer, all manhole bases shall be cast-in-place. Where precast manhole bases are approved, the manhole bases shall be manufactured to the lines and grades shown on the Plans by Hilfiker Pipe Company, Eureka, CA; Cook Concrete Products, Redding, CA; or approved equal.

Precast manhole barrel and cone sections shall be manufactured by Hilfiker Pipe Company, Eureka, CA; Cook Concrete Products, Redding, CA; or approved equal.

Joint sealant for sealing precast barrel and cone sections shall be Ram-Nek, Kent Seal, or approved equal.

Manhole steps shall be made from ½-inch Grade 60 steel and shall be shaped as shown on the Plans. Steps shall be OSHA-approved and shall be coated with polypropylene plastic or an equal coating capable of resisting corrosion by sulfuric acid.

Frames and covers shall be Phoenix Model P-1090 or approved equal, with the raised letters “SANITARY SEWER” cast into the cover. Covers shall have a vented pick-hole. The horizontal bearing surfaces between the frame and cover shall be machined smooth and true, ensuring a close, flush fit. After installation, the covers shall not be loose fitting, wobbly, or subject to noise or uplift when driven over by vehicular traffic.

Rubber gasket waterstops shall be installed on all sanitary sewer pipes where they penetrate the manhole wall as shown on the Plans. Waterstops shall have a snug, watertight fit on the pipe, and shall have a minimum thickness of ½-inch measured perpendicular to the pipe surface.

2.05 CLEANOUTS

Refer to Section 03310, “Minor Concrete” for specific concrete mix requirements for all concrete and grout materials used for cleanouts and concrete collar construction.

Cleanout plugs shall be “Gripper”-type plugs, manufactured by Cherne or approved equal. Two-way cleanout fittings shall be used for all 4" sanitary sewer laterals, shall be gasketed (solvent-welded fittings will not be allowed), and shall be as manufactured by Plastic Trends, Inc. or approved equal.

2.06 BEDDING AND BACKFILL MATERIALS

Bedding and backfill material for pipelines and sanitary sewer structures shall be as shown on the Plans. Refer to Section 3.09 below and Section 02210, “Trench Excavation and Backfill” for specific bedding, backfill, and compaction requirements.

2.07 TRAFFIC BOXES

Cleanout traffic boxes and covers shall be Christy Model G5 or approved equal, with
the word “SEWER” cast into the top of the cover. All other traffic boxes shall be as specified on the Plans, with the word “SEWER” cast into the tops of all lids.

2.07 PIPE PLUGS

Pipe plugs shall be “Gripper”-type plugs, manufactured by Cherne or approved equal.

2.08 TRACE WIRE

Trace wire installed on sewer mains and laterals shall be 10-gauge copper wire with green insulation.

2.09 OTHER MATERIALS

Other sanitary sewer-related materials not specifically described above shall be as selected by the Contractor and approved by the Engineer.

PART 3 – CONSTRUCTION METHODS

3.01 MAINTENANCE OF SEWAGE FLOWS

All new sewer lines, laterals, and manholes shall be installed in such a manner as to not interrupt the normal flow of wastewater or cause surcharging of upstream lines. Sewer lines shall not be installed in flowing sewage. Where existing sanitary sewer structures on active sanitary sewers are being modified, relocated, or replaced, the Contractor may divert wastewater that would normally flow through the work area and pump it around the work area into a manhole or other approved location adjacent to the work area. Bypass pumping shall consist of furnishing, installing, and maintaining all power, primary and standby pumps, appurtenances, and bypass piping required to maintain existing flows and services. All pumped sewage shall be in an enclosed structure (such as a pump hose) that is adequately protected from damage.

The Contractor is solely responsible for maintaining existing wastewater flows through the project area at all times during the project. The Contractor’s operations shall not cause a public health hazard or discharge of untreated wastewater to the ground surface or to groundwater at any time during the project. The Contractor shall take all necessary precautions including constant monitoring of bypass pumping to ensure that no private residences or properties are subjected to a sewage backup or spill, and the Contractor shall be liable for all cleanup, damages, and any fines in the event of a spill. After the work is completed, flow shall be restored to normal.

When a bypass is required, the Contractor shall submit a wastewater bypass plan to the Engineer prior to commencement of sewer line work. The bypass plan shall be subject to approval by the Engineer and shall insure that all bypass pumping shall be performed in such a manner as not to damage public or private property or create a public nuisance

With the written approval of the property owner, flows from service laterals may be blocked for a period of time not to exceed 8 hours. The Contractor shall be responsible
for coordinating with property owners to obtain approval for blockages and to ensure that any backups in the service laterals do not result in overflow or sewage spill. The Contractor shall be responsible for all cleanup, damages and any fines in the event of a spill. Service laterals that are blocked shall be re-opened immediately upon completion of the lateral installation work.

3.02 STORAGE OF MATERIALS

Pipe, fittings, and other related materials shall be stored in a safe location out of the traveled way.

3.03 NOTIFICATION OF SERVICE INTERRUPTION

If continuous sanitary sewer service in the work area will be interrupted during portions of the work, the Contractor shall notify all affected residents at least 2 (two) full working days in advance of the anticipated sewer work.

3.04 BACKFLOW PREVENTION

Refer to Section 01010, “General,” Subsection 1.13 information and requirements for backflow prevention.

3.05 USE OF FIRE HYDRANTS

Refer to Section 01010, “General,” Subsection 1.14 for information and requirements regarding the use of fire hydrants.

3.06 TRENCH DEWATERING

Dewatering of excavations for sanitary sewer pipes, manholes, and other sanitary sewer structures may be required to keep groundwater out of the excavation. Water will not be allowed in excavations during bedding, concrete pours, or backfill and compaction. If excessive groundwater is present and cannot be adequately controlled, the Engineer may deem the bottom of the trench unsuitable for placement of bedding material and require that the subgrade material be removed and replaced per Section 02210, “Trench Excavation and Backfill”.

3.07 SANITARY SEWER PIPE INSTALLATION

Plastic pipe shall be installed in conformance with the manufacturer’s recommendations and the trench detail shown on the Plans. All pipe shall be centered in the trench.

All pipe shall be carefully lowered into the trench to prevent damage. Under no circumstances shall pipe be dropped, rolled, or dumped into trenches.

Pipe ends shall be carefully cleaned before the pipe is joined. Whenever work ceases for any reason, the end of the pipe shall be closed with a watertight fitting, plug, or cover. The interior of the pipe shall be kept free from dirt and debris as the work progresses.
All pipe field cuts shall be made in accordance with the manufacturer’s recommendations and at right angles to the axis of the pipe, except where pipes terminate at a skewed angle in manholes.

All joints shall be made in accordance with the manufacturer’s recommendations. Pipe lubricant shall be applied to all pipe gaskets prior to joint assembly. Lubricant shall be of a type specifically made for the type of pipe being jointed. The Contractor shall provide all tools, equipment, and devices, such as special jacks, chains, chokers, and similar items, to make all joint connections.

Ten gauge copper wire with green insulation shall be taped to the pipe along the full length of all new mains and laterals. The wire shall be looped around each main line fitting and shall be extended to the top of each traffic box and manhole. Splices shall be made with water-tight, corrosion-resistant connectors approved by the Engineer.

### 3.08 SEWER LATERALS

All new laterals shall be installed to the property line and perpendicular to the sewer main unless otherwise directed by the Engineer or shown on the Plans. Cleanouts with traffic boxes set to finished grade shall be installed on all new laterals as shown on the Plans. Cleanout riser pipe shall not end in a bell flange or a “Caulder”-type coupling. Riser shall terminate with a level cut at the required clearance below the traffic box lid.

The Contractor shall have equipment on hand during sanitary sewer main and lateral installation operations that will allow the Contractor to determine the location of the lateral at the point where it crosses the property line. Once this location is determined, unless specifically shown otherwise on the Plans, the new lateral shall be installed perpendicularly between this point and the new sewer main. In the event that the existing lateral does not run perpendicular to the main, the existing lateral shall be reconnected to the new main via a new wye and an additional wye shall be installed at a point perpendicular to the point that the existing lateral crosses the property line. A new lateral shall then be installed from the additional wye to the property line. After the new lateral is installed, the Contractor shall remove the existing lateral and plug the wye to which it is connected.

**Particular attention** shall be paid by the Contractor to the above requirements for installing laterals perpendicular to the new sanitary sewer main and property line when preparing his bid for the work. The above work is considered as being a part of sanitary sewer lateral installation items as listed in Section 01150, “Measurement and Payment”, and no additional payment shall be made for this work.

Existing skewed laterals that do not lie in the same trench as the new laterals shall be removed as directed by the Engineer. Cost for this removal shall be paid for under Contract Change Order unless specifically addressed in the Bid Schedule in the Contract Documents or in Section 01150, “Measurement and Payment”.

New laterals installed for future connections shall be plugged at the property line.
3.09   BEDDING AND BACKFILL

Pipe shall be laid on an unyielding bed true to line and grade with compacted bedding material under the full length of the pipe. Bedding material shall be placed into the trench prior to pipe placement, shall be compacted to a minimum of 95% relative compaction, and shall be of the thickness specified on the trench detail on the Plans. Bedding material under the coupling bells shall be hand-excavated to provide a minimum clearance under the bell of 1 inch.

Backfill material in the pipe haunching zone between the bottom of the pipe and the springline of the pipe shall be "shovel-sliced" underneath the pipe overhang, then hand-tamped with ‘J’ bars or a pneumatic “pogo” stick to a relative compaction of 90% along the entire length of the pipe. Tamping with a shovel is not sufficient and does not meet this requirement.

Backfill material from the springline of the pipe to the bottom of the trench patch shall be of the material, thickness, and compaction shown in the trench detail on the Plans and as specified in Section 02210, “Trench Excavation and Backfill”.

3.10   SANITARY SEWER MANHOLE CONSTRUCTION

Manholes shall conform to the details shown on the Plans. All manholes shall be watertight. Precast barrel and cone sections shall be sealed with two continuous beads of approved plastic sealant on the upper and lower shelf of each tongue-and-groove joint.

New manhole bases shall be cast-in-place. Precast manhole bases will not be allowed unless shown on the Plans or approved by the Engineer. Cast-in-place manhole base pours shall be allowed to set up for a minimum of 4 hours before placement of the first precast barrel section on the base.

A groove, shaped to match the tongue of the first precast concrete barrel section, shall be formed in the manhole base slab. A circular metal form suited to the particular shape of the precast barrel section’s joint shall be used to form the groove. The form shall be set level and create a uniform bearing surface for the full circumference of the first barrel section.

Manhole inverts shall have smooth troughs with circular cross-sections. Changes in invert flow direction shall be accomplished with smooth, horizontal curves of constant radii. Where a full section of pipe or multiple branch fittings are laid through a manhole, the top one-half section of the pipe shall be sawcut and removed after the concrete is cured. The inner base section of the manhole shall then be built up with concrete to the elevation of the top of the pipes, forming benches as shown on the details on the Plans. Benches shall be smoothly finished with concrete or a grout approved by the Engineer.

Where possible, manhole steps shall be installed on the face of the manhole opposite the outlet pipe.

All grade rings and the base of the manhole frame and cover shall be sealed with a watertight layer of non-shrink grout. The grout used shall be subject to approval by the Engineer.
In paved areas, manhole frames and covers shall be set to finished grade with a concrete collar in accordance with the detail on the Plans.

In non-paved areas, the elevation of the manhole frame and cover shall be as noted on the Plans. Concrete collars shall be omitted only if so noted on the Plans.

Manhole excavations shall be backfilled as shown on the Plans and as specified in Section 02210, "Trench Excavation and Backfill."

3.11 PIPE CONNECTIONS TO EXISTING MANHOLES

Pipe connections to existing manholes shall be made by drilling a hole in the manhole wall and grouting the new pipe into the wall. The drilled hole shall provide a minimum clearance between the pipe and the manhole wall of one inch around the full circumference of the pipe. All space between the pipe and the manhole wall shall be completely filled with grout and smoothly finished to the satisfaction of the Engineer.

Where plastic pipes penetrate manhole walls, the penetration shall be sealed by a full-circumference rubber gasket having a minimum thickness of one-half inch centered in the structure wall. Gaskets shall fit tightly around the pipe so as to form a water-tight seal after the pipe is grouted into the wall.

3.12 SEWER MAIN CLEANOUTS

Sewer main cleanouts shall be constructed in accordance with the Plan details. Cleanout riser pipe shall terminate with a level cut at the required clearance below the traffic box lid and shall not end in a bell flange or a "Caulder"-type coupling. Circular concrete collars around cleanout boxes shall be constructed following final trench asphalt concrete resurfacing.

3.13 SEWER MANHOLE ACCEPTANCE

When new sewer manholes can be isolated from the sewer system without causing backups, they shall be tested for acceptance by the Contractor under the direction of the Engineer. The Contractor shall furnish all materials, labor, and water needed for acceptance testing (refer to Section 01010, "General," Subsection 1.13 for backflow prevention information and requirements and to Section 01010, "General", Subsection 1.14 for information and requirements regarding the use of fire hydrants).

Manhole Acceptance Testing:

Acceptance testing of new sanitary sewer manholes (where required; see above) shall be performed after completion of backfilling and compaction. Completion of permanent asphalt concrete patching is not required. Manholes failing the acceptance test shall be repaired as needed by the Contractor using an approved method and retested. Manholes shall be repaired and retested at the Contractor’s sole expense until a satisfactory test is obtained.

The Contractor may test manholes using either hydrostatic or vacuum testing.
1. Hydrostatic Testing

A. The Contractor shall plug all inlets and outlets and fill the manhole with water. Each manhole shall be filled to the rim at the start of the test.

B. Leakage in each manhole shall not exceed 0.2 gallons per hour per foot of head above the manhole invert. Leakage shall be determined by refilling the manhole to the rim using a calibrated known-volume container. Manholes may be filled with water 24 hours prior to the time of testing to permit normal absorption into the manhole walls to take place.

2. Vacuum testing

A. Vacuum testing shall be performed in accordance with ASTM C1244-93. The Contractor shall plug all pipe inlets and outlets, and shall brace all plugs.

B. The test head shall be placed in or on top of the manhole frame. A vacuum of 10 inches of mercury shall be drawn on the manhole, the valve on the vacuum line of the test head closed, and the vacuum pump shut off.

C. The time shall be measured for the vacuum to drop to 9 inches of mercury. The manhole shall be deemed as passing the test if the time for the vacuum reading to drop from 10 inches of mercury to 9 inches of mercury meets or exceeds the time (in seconds) indicated in the table below:

<table>
<thead>
<tr>
<th>Manhole Barrel Section Diameter (inches)</th>
<th>Depth (ft)</th>
<th>42</th>
<th>48</th>
<th>54</th>
<th>60</th>
<th>66</th>
<th>72</th>
</tr>
</thead>
<tbody>
<tr>
<td>8' or less</td>
<td>17s</td>
<td>20s</td>
<td>23s</td>
<td>26s</td>
<td>29s</td>
<td>33s</td>
<td></td>
</tr>
<tr>
<td>10</td>
<td>21s</td>
<td>25s</td>
<td>29s</td>
<td>33s</td>
<td>36s</td>
<td>41s</td>
<td></td>
</tr>
<tr>
<td>12</td>
<td>25s</td>
<td>30s</td>
<td>35s</td>
<td>39s</td>
<td>43s</td>
<td>49s</td>
<td></td>
</tr>
<tr>
<td>14</td>
<td>30s</td>
<td>35s</td>
<td>41s</td>
<td>46s</td>
<td>51s</td>
<td>57s</td>
<td></td>
</tr>
<tr>
<td>16</td>
<td>34s</td>
<td>40s</td>
<td>46s</td>
<td>52s</td>
<td>58s</td>
<td>67s</td>
<td></td>
</tr>
</tbody>
</table>

Notes: 1. Depth is measured from the top of the manhole frame to the lowest invert.
2. Test times for manhole depths between those shown in table shall be calculated by interpolation.

3.14 SEWER MAIN AND LATERAL ACCEPTANCE

All sanitary sewer mains and laterals shall be tested for acceptance by the Contractor under the direction of the Engineer. The Contractor shall furnish all materials, labor, and water needed for acceptance testing (refer to Section 01010, “General”, Subsection 1.13 for backflow prevention information and requirements and to Section 01010, “General,” Subsection 1.14 for information and requirements regarding the use of fire hydrants).
Sewer Main and Lateral Acceptance Testing:

Following installation of new sanitary sewer mains and laterals, the Contractor shall conduct the following acceptance tests of the new mains and laterals at the direction of the Engineer:

1. **Video Inspection** – Required on all mains; requires completion of trench backfill and compaction; permanent asphalt concrete patching is not required.

2. **Exfiltration Test** – Required on mains and laterals that can be isolated from the collection system without causing backups; requires completion of backfill and compaction; permanent asphalt concrete patching is not required. Laterals shall not be connected to private service lines until after successful exfiltration testing.

3. **Deflection Test** – Required on all mains; requires completion of trench backfill and compaction, and permanent asphalt concrete patching.

Sewer mains and laterals failing any required acceptance test shall be repaired as needed by the Contractor using a method approved by the Engineer and retested at the Contractor’s sole expense until a satisfactory test is obtained.

1. **Video Inspection**

Prior to acceptance of the sewer main installation and other improvements by the Engineer, the Contractor shall pay for and provide to the Engineer video inspection tapes or disks of the new sewer main (video of lateral runs is not required).

All video inspection shall be performed by a competent pipeline video service provider and shall be recorded on either VHS video tape or DVD digital format. The video inspection shall be in color, shall pan in all directions so that all joints and lateral connections can be thoroughly examined, and shall be of sufficient resolution to allow the Engineer to clearly see all pipe joints, wyes, manhole connections, and other fittings.

The video inspection tapes shall be reviewed by the Engineer. If any irregularities are observed on the tapes (open or offset joints, grade problems, etc.), the Engineer MAY elect to have the main in question re-inspected using City forces and equipment, including an inclinometer attached to the video camera that records pipe grade. If, in the opinion of the Engineer, any of the following tolerances are found to be exceeded in any section of sewer main, that section shall be deemed to have failed the video inspection acceptance test.

<table>
<thead>
<tr>
<th>Joint Offset:</th>
<th>≥ ¼” in any direction</th>
</tr>
</thead>
<tbody>
<tr>
<td>Design Grade:</td>
<td>0.00% - 0.50%</td>
</tr>
<tr>
<td></td>
<td>+/- 20% of the Design Grade</td>
</tr>
<tr>
<td></td>
<td>0.51% - 1.00%</td>
</tr>
<tr>
<td></td>
<td>+/- 10% of the Design Grade</td>
</tr>
<tr>
<td></td>
<td>1.01% - 2.00%</td>
</tr>
<tr>
<td></td>
<td>+/- 10% of the Design Grade</td>
</tr>
<tr>
<td></td>
<td>2.01% - 5.00%</td>
</tr>
<tr>
<td></td>
<td>+/- 5% of the Design Grade</td>
</tr>
<tr>
<td></td>
<td>5.01% -</td>
</tr>
<tr>
<td></td>
<td>+/- 5% of the Design Grade</td>
</tr>
</tbody>
</table>
The City may also perform a video inspection of any new pipeline after backfilling and resurfacing are completed or at any time during the contract guaranty period. Where infiltration, excessive deflection, or any structural failure of the pipe is observed during said inspection, that section shall be deemed to have failed the video inspection acceptance test, and the Contractor shall be responsible for repairing or replacing the failed section of pipe at his own expense, including removal and replacement of all affected improvements and any and all other costs incurred in order to repair the pipe, as well as for all costs incurred by the City for the re-inspection of the sewer main.

2. Exfiltration Test

The Contractor may test sanitary sewer mains for exfiltration using either the water exfiltration test or the air exfiltration test.

**Water Exfiltration Test:**

A. Each section of sanitary sewer pipe shall be isolated between successive manholes by plugging both ends of the sewer pipe being tested at the nearest upstream and downstream manholes and by plugging the sewer laterals at a point upstream of the cleanout.

B. The pipeline shall be filled with water from the cleanout riser pipe that is at the highest point on the pipeline. The Contractor shall remove all air from the pipeline by leaving all cleanout riser pipes along the pipeline uncapped until water begins to flow out of each riser pipe.

C. Once the entire pipeline is full of water and all air has been removed from the pipeline, the Contractor shall plug the cleanout used for filling and leave the pipeline plugged for 1 hour. Under no circumstances shall the plugged pipeline be unplugged at any time during this 1 hour period.

D. After 1 hour has elapsed, the Engineer shall remove the plug from the cleanout used to fill the pipeline. Leakage shall be determined by refilling the pipeline to the top of the cleanout riser pipe using a calibrated known-volume container. The pipeline shall be deemed as passing the test if the leakage over a 1 hour period does not exceed the allowable leakage as calculated using the following formula:

\[ E = CLD (\sqrt{H}) (t) \]

Where:
- \( E \) = allowable pipeline leakage (gallons)
- \( C \) = 0.000161 (constant)
- \( L \) = total length of sewer pipeline tested (feet)
- \( D \) = internal diameter of pipe (inches)
- \( H \) = difference in elevation between the water surface at the cleanout used to fill the pipeline and the invert of the pipe at it’s lowest point within the testing length (feet)
- \( t \) = duration of test (hours)

*Where pipe diameters vary, the allowable leakage shall be calculated for each pipe diameter separately. The total allowable pipeline leakage will be the allowable leakage total for all pipe diameters.
Air Exfiltration Test (Timed Pressure Drop Method)

A. At the Contractor’s option, he may wet the pipeline with water prior to testing. Each section of sanitary sewer pipe shall be isolated between successive manholes by plugging both ends of the sewer pipe being tested at the nearest upstream and downstream manholes, by plugging the sewer laterals at a point upstream of the cleanout, and by plugging all cleanout riser pipes. All plugs shall be braced as needed.

B. If groundwater is present at an elevation higher than the sanitary sewer pipeline being tested, the average elevation difference between the top of the pipe and the groundwater table shall be calculated, and the average backpressure due to groundwater shall be calculated using the following formula:

\[ B = (0.433)E \]

Where:
- \( B \) = average backpressure (psi)
- \( E \) = average elevation difference between the top of the pipe and the groundwater table (feet)

For example, if the average elevation difference between the top of the pipe and the groundwater table is 4 feet, the calculated back pressure would be 1.732 psi.

C. The pipeline shall be slowly filled with air through a pressure cap installed on the cleanout riser pipe that is at the highest point on the pipeline. Air shall be added until the internal air pressure of the pipeline is raised to 3.5 psi greater than the backpressure calculated in (B) above. For example, if the backpressure is 1.732 psi (above example), then the internal pressure of the pipeline shall be raised to 5.232 psi (3.5 psi + 1.732 psi).

D. Once the required internal air pressure of the pipeline is reached, the Contractor shall allow 2 minutes for the air temperature inside the pipe to stabilize. During this time, the Contractor shall add air to the pipeline as required to maintain the required internal air pressure.

E. After the temperature stabilization period, the air supply shall be disconnected. The Engineer shall begin recording time when the internal pressure drops to 3.5 psi. The pipeline shall be deemed as passing the test if the pressure drop is less than one psi for the time period calculated from the following table for the size and length of pipe being tested:

<table>
<thead>
<tr>
<th>Nominal Pipe Diameter</th>
<th>Minimum Test Time for Pressure Drop / 100 ft.</th>
</tr>
</thead>
<tbody>
<tr>
<td>6”</td>
<td>0.7 seconds</td>
</tr>
<tr>
<td>8”</td>
<td>1.2 seconds</td>
</tr>
<tr>
<td>10”</td>
<td>1.5 seconds</td>
</tr>
<tr>
<td>12”</td>
<td>1.8 seconds</td>
</tr>
<tr>
<td>15”</td>
<td>2.1 seconds</td>
</tr>
<tr>
<td>18”</td>
<td>2.4 seconds</td>
</tr>
</tbody>
</table>
3. **Deflection Testing**

A. All main line PVC & HDPE sanitary sewer pipe installed on the project shall be deflection tested by the Contractor for vertical deflection using a 9-rod mandrel provided by the Contractor and approved by the Engineer.

B. Vertical deflection exceeding 5 percent of the average inside diameter shall be cause for rejection of the pipeline and all related work. The use of a re-rounder will not be permitted at any time. The average inside diameters shall be in accordance with the table shown below:

<table>
<thead>
<tr>
<th>Pipe Size</th>
<th>Average I.D.</th>
<th>Min. I.D. @ 5%</th>
</tr>
</thead>
<tbody>
<tr>
<td>6&quot;</td>
<td>5.84&quot;</td>
<td>5.55&quot;</td>
</tr>
<tr>
<td>8&quot;</td>
<td>7.89&quot;</td>
<td>7.50&quot;</td>
</tr>
<tr>
<td>10&quot;</td>
<td>9.86&quot;</td>
<td>9.37&quot;</td>
</tr>
<tr>
<td>12&quot;</td>
<td>11.74&quot;</td>
<td>11.15&quot;</td>
</tr>
<tr>
<td>15&quot;</td>
<td>14.37&quot;</td>
<td>13.66&quot;</td>
</tr>
</tbody>
</table>

C. If the mandrel is not able to travel unobstructed through the pipe and stops at any point, that section of pipeline will have failed the acceptance test. When failure is observed, the Contractor shall be responsible for repairing or replacing the failed section of pipe at his own expense, including removal and replacement of all affected improvements and any and all other costs incurred in order to repair the pipe. Note that the use of a re-rounder will not be permitted at any time.

** END OF SECTION **
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</tr>
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<td>B</td>
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<td>C</td>
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<tr>
<td>E</td>
<td>PORTION OF THE HUMBOLDT BAY MANAGEMENT PLAN (2016)</td>
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<td>F</td>
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</tr>
<tr>
<td>G</td>
<td>OERP TRAINING FORM AND DOCUMENTATION</td>
</tr>
</tbody>
</table>
1.0 Regulatory Requirements for the Overflow Emergency Response Plan

The City 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:

- Proper notification procedures so that the primary responders and regulatory agencies are informed of all SSOs in a timely manner;
- A program to ensure appropriate response to all overflows;
- 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 Adopted Amended Monitoring and Reporting Requirements State Water Resources Control Board Order Number WQ 2013-0058-EXEC. All SSOs shall be reported in accordance with this Order, the California Water Code, other State Law, and other applicable Regional Water Board WDR or National Pollution Discharge Elimination System (NPDES) permit requirements. The SSMP should identify the officials who will receive immediate notification;
- Procedures to ensure that appropriate staff and contractor personnel are aware of and follow the Emergency Response Plan and are appropriately trained;
- Procedures to address emergency operations, such as traffic and crowd control and other necessary response activities; and
- 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.
2.0 Goals

The Overflow Emergency Response Plan (OERP) is designed to ensure that every report of a confirmed sewage overflow is immediately dispatched to the appropriate crews so that the effects of the overflow can be minimized with respect to impacts to public health and adverse effects on beneficial uses and water quality of surface waters and customer service. The OERP further includes provisions to ensure safety pursuant to the directions provided by the City of Eureka and the Regional Water Quality Control Board (RWQCB) and that notification and reporting is made to the appropriate local, state and federal authorities. For purposes of this OERP, "confirmed sewage spill" is also sometimes referred to as a sanitary sewer overflow (SSO) or overflow. The effective date of this plan is May 1, 2016. The primary objectives of the OERP are to protect public health and the environment, satisfy regulatory agencies and waste discharge permit conditions which address procedures for managing sewer overflows, and minimize risk of enforcement actions against City of Eureka.

Additional objectives of the OERP are as follows:

- Provide appropriate customer service;
- Protect wastewater treatment plant and collection system personnel;
- Protect the collection system, wastewater treatment facilities, and all appurtenances
- Protect private and public property beyond the collection and treatment facilities

This plan shall not supersede existing emergency plans or standard operating procedures (SOPs) unless directed by the Public Works Director.
3.0 SSO Notification Procedure

The Overflow Response Procedure presents a strategy for City of Eureka to mobilize labor, materials, tools and equipment to correct or repair any condition which may cause or contribute to an unpermitted discharge. The plan considers a wide range of potential system failures that could create an overflow to surface waters, land or buildings.

Public Observation

During normal business hours calls regarding SSOs are received by the Public Works Department (707) 441-4203. The Public Works Department Dispatch forwards work orders to the Wastewater Collection Division. Telephone calls from the public reporting SSOs are also received by telephone operators at the Eureka Police Dispatch Center. The Eureka Police Dispatch Center collects specific information and then provides it to the Public Works Department Dispatch or forwards the calls to the Public Works Department during normal business hours.

After normal working hours calls regarding SSOs are received by the Eureka Police Department (EPD). The EPD will contact on-call wastewater staff using a cell phone that is assigned to on-call staff. The on-call wastewater staff will be the initial responder to SSOs. If the situation warrants, additional utility workers will be contacted to respond. In complex SSOs the Collections Supervisor will be contacted for additional support and guidance. Information from the SSO and SSO response will be provided by the responders to the Collections Supervisor who will make the necessary regulatory reports.

The telephone operator at the Public Works Department or the Eureka Police Dispatch Center should obtain all relevant information available regarding the overflow including:

- Time and date call was received;
- Specific location;
- Description of problem;
- Time possible overflow was noticed by the caller;
- Caller's name and phone number;
- Observations of the caller (e.g., odor, duration, back or front of property); and
- Other relevant information that will enable the responding investigator and crews, if required, to quickly locate, assess and stop the overflow.

The Public Works Department Dispatch then records the overflow information and creates a work order for assignment to the Public Works Department.
Receipt of Alarm
Pump station failures are monitored and received by Eureka Police Dispatch and a Private Alarm Center. The operator on duty shall immediately convey all information regarding alarms to the Public Works Department to initiate the investigation.

City Staff Observation
Sanitary Sewer overflows detected by any personnel in the course of their normal duties shall be reported immediately to the Public Works Department dispatching personnel who should record all relevant overflow information and dispatch a sewer investigator and additional response crews, as needed. Without regard to how an overflow was detected and reported, a sewer investigator shall confirm the overflow. Until verified, the report of a possible spill will not be referred to as a sanitary sewer overflow (SSO). An Overflow Report form (See Attachment A) should be completed by The Public Works Department within 24 hours of the sewer investigator’s confirmation. The Director of Public Works is responsible for reviewing, updating and signing the final Overflow Report.
4.0 SSO Response Procedures

Sewer service calls and lift station alarms are considered high priority events that demand a prompt response to the location of the problem. The response procedure is outlined in the section below. The goals of the OERP is to protect the public from hazards, identify source of overflow and determine ownership, perform cleanup and abatement, complete proper reporting procedures and provide good customer service. The OERP provides detailed response procedures for the first responder and field crew responsible for identifying the source of the problem, correcting the cause of the overflow, and cleaning the surrounding area. The OERP includes a reporting form for the first responder to complete (Attachment B).
5.0 Priorities
The first responder’s priorities are:

- To follow safe work practices;
- To respond promptly with the appropriate 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 Collections Supervisor in the event of any SSO;
- To return the spilled sewage to the sewer system; and
- To restore the area to its original condition (or as close as possible).
6.0 Safety During Response

The first responder is responsible for following safety procedures on all jobs. 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.

The first responder must assess the scene for hazards to the responders and/or the public. After completing the job hazard analysis the responder will:

- Utilize control devices such as signs, cones, delineators, lights, barricades, when work encroaches in lane(s) of traffic, or in an area subject to pedestrian or vehicle traffic;
- Utilize Personal Protection Equipment such as gloves; hardhat; safety glasses; safety vest; and splash goggles as needed; and
- Utilize proper lifting, pulling and bending techniques when removing a sanitary sewer access cover to protect the responders back.
7.0 Dispatch of Appropriate Crews to the Site of a Sanitary Sewer Overflow

Failure of any element within the wastewater collection system that threatens to cause or causes an SSO will trigger an immediate response to isolate and correct the problem. Crews and equipment shall be available to respond to any SSO location. Crews will be dispatched to any site of a reported SSO immediately. Also, additional maintenance personnel shall be "on call" should extra crews be needed.

Dispatching Crews.

- Dispatchers should receive notification of possible SSOs as outlined in Section 6.3 and dispatch a sewer investigator and/or the appropriate crews and resources as required.

- Dispatchers shall notify the appropriate manager or supervisor by Phone or Radio regarding possible sewer overflows and field crew locations.

Crew Instructions and Work Orders.

Responding crews should be dispatched by Phone or Radio. Public Works Department should receive instructions from sewer investigators or their supervisors regarding appropriate crews, materials, supplies, and equipment needed.

Public Works Department Dispatchers shall ensure that the entire message has been received and acknowledged by the crews who were dispatched. All standard communications procedures should be followed. All employees being dispatched to the site of an SSO shall proceed immediately to the site of the overflow. Any delays or conflicts in assignments must be immediately reported to the supervisor for resolution.

Response crews should in all cases report their findings, including possible damage to private and public property, to the Field Superintendent immediately upon making their investigation.

Additional Resources

The Field Superintendent should receive and shall convey to appropriate parties requests for additional personnel, material, supplies, and equipment from crews working at the site of a SSO.
8.0 Initial Response

Preliminary Assessment of Damage to Private and Public Property

The focus is to resolve the problem. The response crews should use discretion in assisting the property owner/occupant as reasonably as they can. Be aware that the Public Works Department could face increased liability for any further damages inflicted to private property during such assistance. The response crew **should not** enter private property for purposes of assessing damage. Appropriate still photographs and video footage, if possible, should be taken of the outdoor area of the sewer overflow and impacted area in order to thoroughly document the nature and extent of impacts. Available photographs are to be forwarded to the Collections Supervisor for filing with the Overflow Report.

The first responder must respond to the reported location or lift station site and visually check for potential sewer stoppages or overflows. All sewer system calls require a response to the reported location of the event.

The first responder will:

- Note arrival time at spill site;
- Verify the existence of a sewer system spill or backup;
- Identify and assess the affected area and extent of spill;
- Contact caller if time permits; and
- The following parties should be contacted in the event of a major SSO.
  - Collections Supervisor
  - Field Superintendent
  - City Insurance Adjuster

The SSO is considered major if the following conditions are present:

- The spill appears to be large, in a sensitive area, or there is doubt regarding the extent, impact, or how to proceed;
- The spill is in a public roadway and help with traffic control is needed to protect workers and the public; or
- If additional help is needed, the Collections Supervisor will contact other employees, contractors, and/or equipment suppliers.

If spill is large or in a sensitive area, the responder will document conditions with photographs as time allows. During the response to a major SSO City staff will need to decide whether to prioritize actions to restore the flow or to initiate containment measures. The guidance for this decision is:

- Small spills, easily contained
  - Contain then proceed with restoring flow;
- Moderate or large spill, easily contained
  - Contain then proceed with restoring flow;
- Any size spill where containment is difficult
  - Restore flow, then attempt to contain
In all cases, call for additional assistance as needed to provide containment and restore flow quickly.

Field Supervision and Inspection
The supervisor of the sewer investigator who confirmed the sewer overflow will visit the site of the overflow, if possible, to ensure that provisions of this overflow response plan and other directives are met.

The supervisor of the sewer investigator is responsible for confirming that the Overflow Report is provided to the Public Works Director within the specified time.

Coordination with Hazardous Material Response
Upon arrival at the scene of a sanitary sewer overflow, should a suspicious substance (e.g., oil sheen, foamy residue) be found on the ground surface, or should a suspicious odor (e.g., fuels or solvents) not common to the sewer system be detected, the sewer investigator or response crew should immediately contact the supervisor for guidance before taking further action.

Should the supervisor determine the need to alert the hazardous material response team, the sewer investigator or crew shall await the arrival of the (hazardous material response team or fire department) to take over the scene.

Remember that any vehicle engine, portable pump or open flame (e.g., cigarette lighter) can provide the ignition for an explosion or fire should flammable fluids or vapors be present. Keep a safe distance and observe caution until assistance arrives.

Upon arrival of the (hazardous material response team or fire department), the sewer investigator or crew will take direction from the person with the lead authority of that team. Only when that authority determines it is safe and appropriate for the sewer investigator and crew to proceed can they then proceed under the OERP with the containment, clean-up activities and correction.
9.0 Initial Spill Containment Measures

Sanitary Sewer Overflows (SSO) of various volumes occur from time to time in spite of concerted prevention efforts. Spills may result from blocked sewers, pipe failures, or mechanical malfunctions among other natural or man-made causes. The City of Eureka is constantly on alert and should be ready to respond upon notification and confirmation of an overflow. This section describes specific actions to be performed by the crews during an SSO.

The objectives of these actions are:

- To protect public health, environment and property from sewage overflows and restore surrounding area back to normal as soon as possible;
- To establish perimeters and control zones with appropriate traffic cones and barricades, vehicles or use of natural topography (e.g., hills, berms);
- To promptly notify the regulatory agency's communication center of preliminary overflow information and potential impacts;
- To contain the sanitary sewer overflow to the maximum extent possible including preventing the discharge of sewage into surface waters; and
- To minimize the City of Eureka exposure to any regulatory agency penalties and fines.

Under most circumstances, City of Eureka will handle all response actions with its own maintenance forces. They have the skills, experience, and equipment to respond rapidly and in the most appropriate manner. An important issue with respect to an emergency response is to ensure that the temporary actions necessary to divert flows and repair the problem do not produce a problem elsewhere in the system. For example, repair of a force main could require the temporary shutdown of the pump station and diversion of the flow at an upstream location. If the closure is not handled properly, sewage system back-ups may create other overflows. Circumstances may arise when the City of Eureka could benefit from the support of private-sector construction assistance. This may be true in the case of large diameter pipes buried to depths requiring sheet piling and dewatering should excavation be required. The City of Eureka may also choose to use private contractors for open excavation operations that might exceed one day to complete.

**Responsibilities of response crew upon arrival.**

It is the responsibility of the first personnel who arrive at the site of a sewer overflow to protect the health and safety of the public by mitigating the impact of the overflow to the extent possible. Should the overflow not be the responsibility of City of Eureka but there is imminent danger to public health, public or private property, or to the quality of waters of the U. S., then prudent emergency action should be taken until the responsible party assumes responsibility and provides actions. Upon arrival at an SSO, the response crew should do the following:
• Determine the cause of the overflow e.g. sewer line blockage, pump station mechanical or electrical failure, sewer line break, etc.;
• Identify and request, if necessary, assistance or additional resources to correct the overflow or to assist in the determination of its cause;
• Determine if private property is impacted. If yes, the dispatcher should be informed so that Cal North Adjusters may be advised. (See Attachment C; Cal North Adjusters phone list)
• Take immediate steps to stop the overflow, e.g. relieve pipeline blockage, manually operate pump station controls, repair pipe, etc. Extraordinary steps may be considered where overflows from private property threaten public health and safety (e.g., an overflow running off of private property into the public right-of-way); and
• Request additional personnel, materials, supplies, or equipment that will expedite and minimize the impact of the overflow.

Initial Measures for Containment.
Initiate measures to contain the overflowing sewage and recover where possible sewage which has already been discharged, minimizing impact to public health or the environment.

• Determine the immediate destination of the overflow, e.g. storm drain, street curb gutter, body of water, creek bed, etc.;
• Identify and request the necessary materials and equipment to contain or isolate the overflow, if not readily available; and
• Take immediate steps to contain the overflow, e.g., block or bag storm drains, recover through vacuum truck, divert into downstream manhole, etc.

Additional Measures Under Potentially Prolonged Overflow Conditions.
In the event of a prolonged sewer line blockage or a sewer line collapse, a determination should be made to set up a portable by-pass pumping operation around the obstruction.

• Appropriate measures shall be taken to determine the proper size and number of pumps required to effectively handle the sewage flow.
• Continuous or periodic monitoring of the by-pass pumping operation shall be implemented as required.
• Regulatory agency issues shall be addressed in conjunction with emergency repairs.

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

- Offer assistance with cleanup and advise resident or property owner of claim procedures; and
- Contact insurance for damage assessment.

Cleanup of Hard Surface Areas

- Collect all signs of sewage solids and sewage-related material either by hand or with the use of rakes and brooms;
- Wash down the affected area with clean water until the water runs clear. Take reasonable steps to contain and vacuum up the wash water;
- Disinfect all areas that were contaminated from the overflow using the disinfectant solution. Apply minimal amounts of the disinfectant solution using a hand sprayer. Document the volume and application method of disinfectant that was employed; and
- Allow area to dry. Repeat the process if additional cleaning is required.

Cleanup of Landscaped and Unimproved Natural Vegetation

- Collect all signs of sewage solids and sewage-related material either by 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 should be approximately three times the estimated volume of the spill;
- Either contain or vacuum up the wash water so that none is released; and
- Allow the area to dry. Repeat the process if additional cleaning is required.

Steps for Cleanup of Natural Waterways

- The Department of Fish and Game should be notified in the event an SSO impacts any surface water or riparian habitat. Fish and Game will provide the professional guidance needed to effectively cleanup spills that occur in these sensitive environments;
- Cleanup should proceed quickly in order to minimize negative impact. Sewage causes depletion of dissolved oxygen which will kill aquatic life; and
- Any water that is used in the cleanup should be de-chlorinated prior to use (chlorine compounds are toxic to aquatic life).

Wet Weather Cleanup Modifications

- Omit flushing and sampling during heavy storm events with heavy runoff where flushing is not required and sampling would not provide meaningful results.

Estimate the Volume of Spilled Sewage

Wherever possible, document the estimate using photos of the SSO site before the recovery operation. Various detailed methods of spill volume estimating are included as Attachment D.
**Recovery of Spilled Sewage**
Vacuum or pump the spilled sewage and discharge it back into the sanitary sewer system.
10.0 Public Notifications

Post signs and place barricades to keep vehicles and pedestrians away from contact with spilled sewage. Do not remove the signs until directed by the Collections Supervisor. Creeks and streams that have been contaminated as a result of an SSO should have signs posted at visible access locations until the risk of exposure has subsided to acceptable background levels. The warning signs should be checked every day to ensure that they are still in place.

In the event that an overflow occurs at night, the location should also be inspected the following day. The Utility Worker should look for any signs of sewage solids and sewage-related material that may warrant additional cleanup activities.

Major spills may warrant broader public notice. The City Manager will contact local media when significant areas may have been contaminated by sewage.
11.0 Water Quality Sampling and Testing

Water quality sampling and testing is required whenever 50,000 gallons or more of spilled sewage enters surface water to determine the extent and impact of the SSO. The water quality sampling procedures are:

- The first responder will collect samples if required. Samples should be collected as soon as possible after the discovery of the SSO event (Within 48 hours of becoming aware of the SSO).
- Water quality samples should be collected upstream of the spill, from the spill area, and from downstream of the spill. In many cases, SSOs are going to occur during times of high flow. Sampling locations will have to be determined at the time of SSOs and documented.
- A certified laboratory will analyze the samples to determine the nature and extent of the discharge. Additional samples will be taken to determine when posting of warning signs can be discontinued. The basic analyses should include total coliform, fecal coliform, biochemical oxygen demand (BOD), dissolved oxygen, and ammonia nitrogen.
12.0 SSO Investigation and Documentation

All SSOs should be thoroughly investigated and documented for use in managing the sewer system and meeting established reporting requirements. The procedures for investigating and documenting SSOs include a failure analysis investigation, SSO documentation, and post-SSO debriefing.

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

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

The product of the failure analysis investigation should be the determination of the root cause and the identification of the corrective actions.

**SSO Documentation**

The first responder will complete the Sanitary Sewer Overflow Response First Responder Form found in Attachment A. The Collections Supervisor will prepare a file for each individual SSO. The file should include the following information:

**All SSOs**

- Initial service calls information;
- Sanitary Sewer Overflow Reporting Form;
- Failure analysis investigation results; and

**Large SSOs and/or SSOs to sensitive areas**

- Volume estimate;
- Appropriate maps showing the spill location;
- Photographs of spill location; and
- Water quality sampling and test results.

**Post SSO Event Debriefing**

Every SSO event is an opportunity to thoroughly evaluate the response and reporting procedures. Each overflow event is unique, with its own elements and challenges including volume, cause, location, terrain, and other parameters.
As soon as possible after major SSO events, all of the participants, from the person who received the call to the last person to leave the site, should meet to review the procedures used and to discuss what worked and where improvements could be made in responding to and mitigating future SSO events. The results of the debriefing will be recorded and tracked to ensure the action items are completed.
13.0 SSO Reporting and Notification
The internal and external reporting and notification process for SSO events that are intended to meet the SWRCB requirements are summarized in this section.

Category 1, 2, 3, and PLSD SSOs are defined below from MRP 2013-058:

<table>
<thead>
<tr>
<th>CATEGORIES</th>
<th>DEFINITIONS</th>
</tr>
</thead>
<tbody>
<tr>
<td>CATEGORY 1</td>
<td>Discharges of untreated or partially treated wastewater of any volume resulting from an enrollee’s sanitary sewer system failure or flow condition that:</td>
</tr>
<tr>
<td></td>
<td>□ Reach surface water and/or reach a drainage channel tributary to a surface water; or</td>
</tr>
<tr>
<td></td>
<td>□ 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).</td>
</tr>
<tr>
<td>CATEGORY 2</td>
<td>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.</td>
</tr>
<tr>
<td>CATEGORY 3</td>
<td>All other discharges of untreated or partially treated wastewater resulting from an enrollee’s sanitary sewer system failure or flow condition.</td>
</tr>
<tr>
<td>PRIVATE LATERAL SEWAGE DISCHARGE (PLSD)</td>
<td>Discharges of untreated or partially treated wastewater resulting from blockages or other problems within a privately owned sewer lateral connected to the enrollee’s sanitary sewer system or from other private sewer assets. PLSDs that the enrollee becomes aware of may be voluntarily reported to the California Integrated Water Quality System (CIWQS) Online SSO Database.</td>
</tr>
</tbody>
</table>

Internal SSO Reporting Procedures
A Sanitary Sewer Overflow Response Form (See Attachment A) shall be completed by the Collections Supervisor. Collections Supervisor shall promptly notify the Field Superintendent when the overflow is eliminated. Information regarding the sewer overflow should include any indications that the sewage overflow had reached surface waters, i.e., all overflows where sewage was observed running to surface waters, or there was obvious indication (e.g. sewage residue) that sewage flowed to surface waters; or indication that the sewage overflow had not reached surface waters. Guidance in characterizing these overflows to include:

- Sewage overflows to covered storm drains (with no public access) where personnel verify, by inspection, that the entire volume is contained in a
sump or impoundment and where complete clean-up occurs leaving no residue.

- Preplanned or emergency maintenance jobs involving bypass pumping if access by the public to a bypass channel is restricted and subsequent complete clean-up occurs leaving no residue (Any preplanned bypass under these circumstances will not be considered an overflow.); and
- Overflows where observation, or on-site evidence clearly indicates, all sewage was retained on land and did not reach a surface water and where complete cleanup occurs leaving no residue.

Determination of the start time of the sewer overflow by one of the following methods:

- Date and time information received and/or reported to have begun and later substantiated by a sewer investigator or response crew;
- Visual observation; or
- Pump station and lift station flow charts and other recorded data.

Determination of the stop time of the sewer overflow by one of the following methods:

- When the blockage is cleared or flow is controlled or contained; or
- The arrival time of the sewer investigator or response crew, if the overflow stopped between the time it was reported and the time of arrival.

Determination of the volume of the sewer overflow by one of the following methods:

- An estimation of the rate of sewer discharge in gallons per minute (GPM) (See Attachment D; SSO Volume Estimation Table);
- When the rate of overflow is not known, investigate the surrounding area for evidence of ponding or other indications of overflow volume.

Photographs of the event, when possible.

Assessment of any damage to the exterior areas of public/private property. Personnel (should not) enter private property for purposes of estimating damage to structures, floor and wall coverings, and personal property.

**External SSO Notification Requirements**

The flowchart on the next page is used to determine external notification and sampling requirements:
City of Eureka SSO Notification and Sampling Flowchart

Based on location, size, topography, and weather, does SSO have a potential to impact waterways, drainage channel tributaries, or storm drains?

- Yes: SSO reaches waterway, drainage channel tributary, or storm drain that is not fully recovered
  - Notify:
    - CDPH
    - Shellfish Growers
    - Humboldt County Public Health Laboratory (attached call list)
  - FAX notification report form to DHS
  - Call Humboldt County Division of Environmental Health at:
    (707)-445-6215
  - Call Cal OES at:
    (800) 852-7550

- No: No external notification required

SSO > 1,000 gallons

- Yes: Call Humboldt County Division of Environmental Health at:
  (707)-445-6215
- No: No surface water sampling (refer to OERP)

SSO > 50,000 gallons

- Yes: Surface water sampling (refer to OERP)
Shellfish Growers Contact Information (2016)

<table>
<thead>
<tr>
<th>Company</th>
<th>Contact</th>
<th>Work Phone</th>
<th>Cell Phone</th>
</tr>
</thead>
<tbody>
<tr>
<td>Coast Seafoods Company</td>
<td>Greg Dale</td>
<td>(707) 442-2947</td>
<td>(707) 834-5801</td>
</tr>
<tr>
<td>North Bay Shellfish Company</td>
<td>Scott Stener</td>
<td>(707) 839-4723</td>
<td>(707) 845-2118</td>
</tr>
<tr>
<td>Aqua Rodeo Farms</td>
<td>Sebastian Elrite</td>
<td>(707) 444-3854</td>
<td>(707) 496-3532</td>
</tr>
<tr>
<td>Humboldt Bay Oyster Company</td>
<td>Todd Van Herpe</td>
<td>(707) 442-2727</td>
<td>(707) 499-2388</td>
</tr>
</tbody>
</table>

II. California Department of Public Health. One of the following individuals must be contacted:

<table>
<thead>
<tr>
<th>Contact</th>
<th>Work Phone</th>
<th>Cell Phone</th>
<th>Pager</th>
<th>Home Phone</th>
</tr>
</thead>
<tbody>
<tr>
<td>Eric Trevena</td>
<td>(916) 449-5695</td>
<td>(916) 505-9996</td>
<td>(209) 367-9452</td>
<td></td>
</tr>
<tr>
<td>Gregg Langlois</td>
<td>(510) 412-4635</td>
<td>(510) 750-2554</td>
<td>(925) 937-9298</td>
<td></td>
</tr>
<tr>
<td>Vanessa Zubkousky</td>
<td>(510) 412-4631</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sam Rankin</td>
<td>(510) 412-4633</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Joseph Christen</td>
<td>(510 412-4638</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Shellfish Grower Information Line (GIL). This line has information on the current closure status of each growing area. It can be used as a last resort to record messages in the case no CDPH staff can be reached: (510) 412-4644

Humboldt County Public Health Laboratory - 707-268-2179

Shellfish reporting requirements and procedures are included in the Humboldt Bay Management Plan included as Attachment E. Upon notification of CDPH a form used to report a sewage upset to CDPH/PSU is required to be completed (Attachment F) and faxed to the number on the form.
# External SSO Reporting Requirements

<table>
<thead>
<tr>
<th>ELEMENT</th>
<th>REQUIREMENT</th>
<th>METHOD</th>
</tr>
</thead>
</table>
| REPORTING (see section C of MRP) | • Category 1 SSO: Submit draft report within three business days of becoming aware of the SSO and certify within 15 calendar days of SSO end date.  
• Category 2 SSO: Submit draft report within 3 business days of becoming aware of the SSO and certify within 15 calendar days of the SSO end date.  
• Category 3 SSO: Submit certified report within 30 calendar days of the end of month in which SSO occurred.  
• SSO Technical Report: 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.  
• “No Spill” Certification: 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.  
• Collection System Questionnaire: Update and certify every 12 months. | Enter data into the CIWQS Online SSO Database (http://ciwqs.waterboards.ca.gov/), certified by enrollee’s Legally Responsible Official(s). |
| WATER QUALITY MONITORING (see section D of MRP) | • 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 are required to be uploaded into CIWQS for Category 1 SSOs in which 50,000 gallons or greater are spilled to surface waters. |
| RECORD KEEPING (see section E of MRP) | • SSO event records.  
• Records documenting Sanitary Sewer Management Plan (SSMP) implementation and changes/updates to the SSMP.  
• Records to document Water Quality Monitoring for SSOs of 50,000 gallons or greater spilled to surface waters.  
• Collection system telemetry records if relied upon to document and/or estimate SSO Volume. | Self-maintained records shall be available during inspections or upon request. |

“No Spill” Certification: 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.

Collection System Questionnaire: Update and certify every 12 months.

**CIWQS Not Available**

In the event that CIWQS is not available, the City will fax all required information to the RWQCB in accordance with the time schedules identified above. In such event, the City must also enter all required information into CIWQS as soon as practical. The RWQCB Fax number is (707) 523-0135.
14.0 Customer Satisfaction

The supervisor, sewer investigator, or response crew confirming the overflow should follow-up in person or by telephone with the citizen(s) reporting the overflow. The cause of the overflow and its resolution will be disclosed.
15.0 Equipment

This section provides a list of specialized equipment that is required to support this Sanitary Sewer Overflow and Backup Response Plan.

Digital Camera
A digital or disposable camera is required to record the conditions upon arrival, during cleanup, and upon departure.

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

GIS System
A GIS based mapping program stores latitude and longitude data for every manhole in the Eureka sewer system and will be used to determine the location of SSOs.

Portable Pumps and Hoses
Portable pumps and piping will be used to pump around failed facilities and to recover spilled sewage. Portable pumps and hoses are available through local rental agencies. The portable pump required to support this plan is a 4-inch pump.

Vac-Con
High Capacity vacuum truck used to suck up spilled sewer and excavate areas where line repairs are needed.
16.0 Training

This section provides information on the training that is required to support this OERP.

Initial and Annual Refresher Training

All Wastewater personnel and contractors who have a role in responding to, reporting, and/or mitigating a sewer system overflow will receive training. This includes employees who serve as the after-hours on-call maintenance crew member. All new employees and contractors receive training before they are placed in a position where they may have to respond. Current employees receive annual refresher training on this plan and the procedures to be followed. Training documentation and an example test is found in Attachment G).

SSO Response Drills

Periodic training drills are held to ensure that employees and contractors are up to date on the procedures, the equipment is in working order, and the required materials are readily available. The training drills should cover scenarios typically observed during sewer related emergencies (e.g. mainline blockage, mainline failure, force main failure, lift station failure, and lateral blockage). The results and the observations during the drills should be recorded and action items should be tracked to ensure completion. This training will also include desk simulation of SSO exercises to be incorporated with weekly safety and equipment training.

Record Keeping

Records should be kept of all training that is provided in support of this plan. The records for all scheduled training courses and for each overflow emergency response training event should include date, place, content, name of trainer(s), and names of attendees. Records for the SSO response training will be maintained by the Field Superintendent (Attachment G).
ATTACHMENT A
SSO RESPONSE FIRST RESPONDER FORM
## City of Eureka
### Sanitary Sewer Overflow Response
#### First Responder Form

Fill out this form as completely as possible. Take photographs of damaged and undamaged areas.

<table>
<thead>
<tr>
<th>Date:</th>
<th>Location:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Time SSO was reported or discovered:</td>
<td>Discovered or reported by:</td>
</tr>
<tr>
<td>Time Staff Arrived on-site:</td>
<td>Staff Names:</td>
</tr>
<tr>
<td>Cleaning Contractor Contacted? Yes No</td>
<td>Contractor Name:</td>
</tr>
<tr>
<td></td>
<td>Contractor Telephone:</td>
</tr>
<tr>
<td></td>
<td>Time When Called:</td>
</tr>
<tr>
<td>Source of Spill (manhole, cleanout, etc.):</td>
<td>SSO Cause (Roots, FOG, Debris, etc.):</td>
</tr>
<tr>
<td>Approximate Amount of Spill:</td>
<td>How was the volume calculated?</td>
</tr>
<tr>
<td>Number of Pictures Taken:</td>
<td></td>
</tr>
<tr>
<td>What clean up method was used for the spill?</td>
<td>What clean up equipment and materials were used for the spill?</td>
</tr>
<tr>
<td>Did any material enter a drainage channel or surface water? Yes No</td>
<td>Is this the location of previous spills? Yes No</td>
</tr>
<tr>
<td>Did any material enter the storm sewer system? Yes No</td>
<td>What efforts were used to protect storm water inlets and drainage ways?</td>
</tr>
<tr>
<td>What efforts were used to capture material from the storm water inlet and return to the sewer system?</td>
<td>Was all the material recovered? Yes No</td>
</tr>
</tbody>
</table>
ATTACHMENT B
SSO RESPONSE REPORT FORM
## City of Eureka
### Sanitary Sewer Overflow Response
#### Report Form

**This Report is (check one):**
- [ ] Preliminary
- [ ] Final
- [ ] Revised Final

### SPILL LOCATION

<table>
<thead>
<tr>
<th>Spill Location Name:</th>
<th>Street Name and Number:</th>
<th>Nearest Cross Street:</th>
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<tbody>
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<table>
<thead>
<tr>
<th>City:</th>
<th>Zip Code:</th>
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<table>
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<tr>
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<tbody>
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<td>[ ]</td>
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</table>

### SPILL DESCRIPTION

<table>
<thead>
<tr>
<th>Spill Appearance Point:</th>
<th>Did the spill reach a drainage channel and/or surface water?</th>
<th>If the spill reached a storm sewer, was it fully captured and returned to the Sanitary Sewer?</th>
<th>Was this spill from a service lateral?</th>
</tr>
</thead>
<tbody>
<tr>
<td>[ ] Building/Structure</td>
<td>[ ] Yes</td>
<td>[ ] No</td>
<td>[ ] Yes</td>
</tr>
<tr>
<td>[ ] Force Main</td>
<td>[ ] Yes</td>
<td>[ ] No</td>
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<tr>
<td>[ ] Gravity Sewer</td>
<td>[ ] Yes</td>
<td>[ ] No</td>
<td>[ ] Yes</td>
</tr>
<tr>
<td>[ ] Other Sewer System Structure</td>
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<tr>
<td>[ ] Pump Station</td>
<td>[ ] Yes</td>
<td>[ ] No</td>
<td>[ ] Yes</td>
</tr>
<tr>
<td>[ ] Manhole- Structure ID#: [ ]</td>
<td>[ ] Yes</td>
<td>[ ] No</td>
<td>[ ] Yes</td>
</tr>
<tr>
<td>[ ] Other (specify):</td>
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<thead>
<tr>
<th>Final Spill Destination:</th>
<th>Estimated spill volume (in gallons):</th>
</tr>
</thead>
<tbody>
<tr>
<td>[ ] Beach</td>
<td>[ ]</td>
</tr>
<tr>
<td>[ ] Building structure</td>
<td>[ ]</td>
</tr>
<tr>
<td>[ ] Other paved surface</td>
<td>[ ]</td>
</tr>
<tr>
<td>[ ] Storm drain</td>
<td>[ ]</td>
</tr>
<tr>
<td>[ ] Street/curb &amp; gutter</td>
<td>[ ]</td>
</tr>
<tr>
<td>[ ] Surface water</td>
<td>[ ]</td>
</tr>
<tr>
<td>[ ] Unpaved surface</td>
<td>[ ]</td>
</tr>
<tr>
<td>[ ] Other (specify):</td>
<td>[ ]</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Method calculated:</th>
</tr>
</thead>
<tbody>
<tr>
<td>[ ]</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Est. volume of SSO recovered (gal):</th>
</tr>
</thead>
<tbody>
<tr>
<td>[ ]</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Were photos taken?</th>
<th>Estimated volume of spill reaching surface water, drainage channel, or not recovered from a storm drain (gal):</th>
</tr>
</thead>
<tbody>
<tr>
<td>[ ] Yes</td>
<td>[ ]</td>
</tr>
<tr>
<td>[ ] No</td>
<td>[ ]</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>[ ] Yes – how many?</th>
</tr>
</thead>
<tbody>
<tr>
<td>[ ]</td>
</tr>
</tbody>
</table>

### SPILL OCCURRENCE TIME

<table>
<thead>
<tr>
<th>SSO Reported to:</th>
<th>SSO Reported by:</th>
</tr>
</thead>
<tbody>
<tr>
<td>[ ]</td>
<td>[ ]</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Phone:</th>
<th>Estimated spill start date and time:</th>
</tr>
</thead>
<tbody>
<tr>
<td>[ ]</td>
<td>[ ]</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Date and time spill reported to sewer crew:</th>
<th>Date and time sewer crew arrived:</th>
</tr>
</thead>
<tbody>
<tr>
<td>[ ]</td>
<td>[ ]</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Estimated spill end date and time:</th>
</tr>
</thead>
<tbody>
<tr>
<td>[ ]</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Weather conditions prior 72 hours:</th>
</tr>
</thead>
<tbody>
<tr>
<td>[ ] Sunny Weather</td>
</tr>
<tr>
<td>[ ]</td>
</tr>
</tbody>
</table>

### CAUSE OF SPILL

SSO cause (check all that apply):
- Debris/Blockage
- Flow exceeded capacity
- Grease
- Operator error
- Roots
- Pipe problem/failure
- Pump station failure
- Rainfall exceeded design
- Vandalism
- Inflow/infiltration
- Animal carcass
- Electrical power failure
- Bypass
- Debris from laterals
- Construction Debris
- Other (specify):

If SSO is caused by a service lateral, please specify: This is the Owner

<table>
<thead>
<tr>
<th>Property contact</th>
<th>Contact telephone</th>
</tr>
</thead>
</table>

If SSO is caused by wet weather, choose size of storm:
- 1-yr
- 2-yr
- 5-yr
- 10-yr
- 50-yr
- 100-yr
- >100-yr
- Unknown

Diameter (in inches) of pipe at point of blockage/spill cause (if applicable):

Sewer pipe material at point of blockage/spill cause (if applicable):

Description of terrain surrounding point of blockage/spill cause:
- Flat
- Mixed
- Steep

### SPILL RESPONSE

Spill response activities (check all that apply):
- Cleaned up
- Contained all/portion of spill
- TV inspection
- Restored flow
- Returned all/portion of spill to sanitary sewer
- Other (specify):

Spill response completed (date & time):

Name of impacted waters (if applicable):

Visual inspection result of impacted waters (if applicable):

Any fish killed? Yes No

Any ongoing investigation? Yes No

Name of impacted beach (if applicable):

Were health warnings posted? Yes No

Health warning/beach closure posting/details:

Were samples of impacted waters collected? Yes No

If YES, select the analyses:
- DO
- Ammonia
- Bacteria
- Other

Recommended corrective actions:
- Add sewer to PM Program
- Adjust PM schedule
- Adjust PM method
- Rehab sewer
- Replace sewer
- Enforcement action against FOG source
- Other (specify):

### NOTIFICATION DETAILS

Humboldt County Environmental Health date and time (if applicable):

Spoke to:

OES contacted date and time (if applicable):

OES Control Number (if applicable):

Spoke to:

CDPH date and time (if applicable):

Spoke to:
Shellfish Growers date and times (if applicable): _______________ Spoke to: ________________________________
Shellfish Growers date and times (if applicable): _______________ Spoke to: ________________________________
Shellfish Growers date and times (if applicable): _______________ Spoke to: ________________________________
Shellfish Growers date and times (if applicable): _______________ Spoke to: ________________________________
ATTACHMENT C
CAL NORTH PHONE LIST
SANITARY SEWER OVERFLOW - ESTIMATING VOLUME

METHOD 1: EYEBALL ESTIMATE
This method can be useful for small spills up to 100 gallons. To use this method, imagine the amount of water that would spill from a bucket or barrel. A bucket contains 5 gallons and a barrel contains 50 gallons. If the spill is larger than 50 gallons, try to break the standing water into barrels and multiply by 50 gallons.

METHOD 2: MEASURED VOLUME
Most small spills can be estimated with this method. The shape, dimensions, and depth of the spilled wastewater are needed. The shape and dimensions are used to calculate the area of the spill and the depth is used to calculate the volume.

Step 1 - Sketch the shape of the contained sewage.
Step 2 - Measure or pace off the dimensions.
Step 3 - Measure the depth at several locations.
Step 4 - Convert the dimensions including depth to feet.
Step 5 - Calculate the area using the following formulas.

Rectangle Area = length x width

Circle Area = diameter x diameter x 0.785

Triangle Area = base x height x 0.5

Step 6 - Multiply area times the depth
Step 7 - Multiply the volume by 7.5 to convert it to gallons

METHOD 3: DURATION AND FLOW
This method is used when it is difficult or impossible to measure area and depth. The volume of the spill is estimated by multiplying the duration (in hours or days) by the flow rate (in gallons per hour or gallons per day). The time elapsed from the start of the spill to the time the spill has stopped. The following are some approaches that can be used to estimate duration. Start time: Initially, there will be limited deposits of grease and toilet paper at the spill site. After a few days, the grease forms a light colored residue. After a few weeks, the grease turns dark and the quantity of toilet paper and other materials will increase. These changes can be used to estimate start time in the absence of other information.

End time: The time is estimated by observing the “blow down” that occurs when the blockage has been removed.

Flow rate is the average flow leaving the sewer system at the time the spill has stopped. Two ways to estimate the flow rate are:

- San Diego Manhole Flow Rate Reference Sheet (attached). This sheet shows the sewage flowing from a manhole cover for a variety of flow rates.

- Changes in flows in the downstream flow meters can be used to estimate the flow rate during the spill (better for large SSOs). Once the location of the spill is known, the number of upstream connections can be determined from the field maps. Multiply the number of connections by 150 gallons per day per connection or 8-10 gallons per hour per connection. Once the duration and flow rate have been estimated, the volume of the spill is the product of duration in hours or days times the flow rate in gallons per hour or gallons per day.
**TABLE 'A'**

**ESTIMATED SSO FLOW OUT OF M/H WITH COVER IN PLACE**

<table>
<thead>
<tr>
<th>24” COVER</th>
<th>36” COVER</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Height of spout above M/H rim in inches</strong></td>
<td><strong>Min. Sewer size in which these flows are possible</strong></td>
</tr>
<tr>
<td><strong>H in inches</strong></td>
<td><strong>Q in gpm</strong></td>
</tr>
<tr>
<td>1/4</td>
<td>1</td>
</tr>
<tr>
<td>1/2</td>
<td>3</td>
</tr>
<tr>
<td>3/4</td>
<td>6</td>
</tr>
<tr>
<td>1</td>
<td>9</td>
</tr>
<tr>
<td>1 1/4</td>
<td>12</td>
</tr>
<tr>
<td>1 1/2</td>
<td>16</td>
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<tr>
<td>1 3/4</td>
<td>21</td>
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<tr>
<td>2</td>
<td>25</td>
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<tr>
<td>2 1/4</td>
<td>31</td>
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<tr>
<td>2 1/2</td>
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<td>45</td>
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<td>54</td>
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<td>64</td>
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<td>3 1/2</td>
<td>75</td>
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<td>3 3/4</td>
<td>87</td>
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<td>4</td>
<td>100</td>
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<td>4 1/4</td>
<td>115</td>
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<td>131</td>
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<tr>
<td>4 3/4</td>
<td>148</td>
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<tr>
<td>5</td>
<td>166</td>
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<td>5 1/4</td>
<td>185</td>
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<td>5 1/2</td>
<td>204</td>
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<tr>
<td>5 3/4</td>
<td>224</td>
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<tr>
<td>6</td>
<td>244</td>
</tr>
<tr>
<td>6 1/4</td>
<td>265</td>
</tr>
<tr>
<td>6 1/2</td>
<td>286</td>
</tr>
<tr>
<td>6 3/4</td>
<td>308</td>
</tr>
<tr>
<td>7</td>
<td>331</td>
</tr>
<tr>
<td>7 1/4</td>
<td>354</td>
</tr>
<tr>
<td>7 1/2</td>
<td>377</td>
</tr>
<tr>
<td>7 3/4</td>
<td>401</td>
</tr>
<tr>
<td>8</td>
<td>426</td>
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<td>8 1/4</td>
<td>451</td>
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<td>8 1/2</td>
<td>476</td>
</tr>
<tr>
<td>8 3/4</td>
<td>502</td>
</tr>
<tr>
<td>9</td>
<td>529</td>
</tr>
</tbody>
</table>

**Disclaimer:**

This sanitary sewer overflow table was developed by Ed Euyen, Civil Engineer, P.E. No. 33955, California, for County Sanitation District 1. This table is provided as an example. Other Agencies may want to develop their own estimating tables.
The formula used to develop Table A measures the maximum height of the water coming out of the maintenance hole above the rim. The formula was taken from hydraulics and its application by A.H. Gibson (Constable & Co. Limited).

Example Overflow Estimation:

The maintenance hole cover is unseated and slightly elevated on a 24” casting. The maximum height of the discharge above the rim is 5 ¼ inches. According to Table A, these conditions would yield an SSO of 185 gallons per minute.

FLOW OUT OF M/H WITH COVER IN PLACE

Height to be measured

This sanitary sewer overflow drawing was developed by Debbie Myers, Principal Engineering Technician, for Ed Euyen, Civil Engineer, P.E. No. 33955, California, of County Sanitation District 1.
### TABLE 'B'

**ESTIMATED SSO FLOW OUT OF M/H WITH COVER REMOVED**

<table>
<thead>
<tr>
<th>24&quot; FRAME</th>
<th>36&quot; FRAME</th>
</tr>
</thead>
<tbody>
<tr>
<td>Water Height above M/H frame</td>
<td>24&quot; Frame SSO Flow Size in which these flows are possible</td>
</tr>
<tr>
<td>H (in inches)</td>
<td>Q (in gpm)</td>
</tr>
<tr>
<td>1/8</td>
<td>28</td>
</tr>
<tr>
<td>1/4</td>
<td>62</td>
</tr>
<tr>
<td>3/8</td>
<td>111</td>
</tr>
<tr>
<td>1/2</td>
<td>160</td>
</tr>
<tr>
<td>5/8</td>
<td>215</td>
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<tr>
<td>3/4</td>
<td>354</td>
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<tr>
<td>7/8</td>
<td>569</td>
</tr>
<tr>
<td>1</td>
<td>799</td>
</tr>
<tr>
<td>1 1/8</td>
<td>1,035</td>
</tr>
<tr>
<td>1 1/4</td>
<td>1,340</td>
</tr>
<tr>
<td>1 3/8</td>
<td>1,660</td>
</tr>
<tr>
<td>1 1/2</td>
<td>1,986</td>
</tr>
<tr>
<td>1 5/8</td>
<td>2,396</td>
</tr>
<tr>
<td>1 3/4</td>
<td>2,799</td>
</tr>
<tr>
<td>1 7/8</td>
<td>3,132</td>
</tr>
<tr>
<td>2</td>
<td>3,444</td>
</tr>
<tr>
<td>2 1/8</td>
<td>3,750</td>
</tr>
<tr>
<td>2 1/4</td>
<td>3,986</td>
</tr>
<tr>
<td>2 3/8</td>
<td>4,215</td>
</tr>
<tr>
<td>2 1/2</td>
<td>4,437</td>
</tr>
<tr>
<td>2 5/8</td>
<td>4,569</td>
</tr>
<tr>
<td>2 3/4</td>
<td>4,687</td>
</tr>
<tr>
<td>2 7/8</td>
<td>4,799</td>
</tr>
<tr>
<td>3</td>
<td>4,910</td>
</tr>
<tr>
<td>3 1/8</td>
<td>9,604</td>
</tr>
<tr>
<td>3 1/4</td>
<td>10,139</td>
</tr>
<tr>
<td>3 3/8</td>
<td>10,625</td>
</tr>
<tr>
<td>3 1/2</td>
<td>11,097</td>
</tr>
<tr>
<td>3 5/8</td>
<td>11,569</td>
</tr>
<tr>
<td>3 3/4</td>
<td>12,035</td>
</tr>
<tr>
<td>3 7/8</td>
<td>12,486</td>
</tr>
<tr>
<td>4</td>
<td>12,861</td>
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<td>4 1/8</td>
<td>13,285</td>
</tr>
<tr>
<td>4 3/8</td>
<td>13,486</td>
</tr>
</tbody>
</table>

**Disclaimer:**

This sanitary sewer overflow table was developed by Ed Euyen, Civil Engineer, P.E. No. 33955, California, for County Sanitation District 1. This table is provided as an example. Other Agencies may want to develop their own estimating tables.
The formula used to develop Table B for estimating SSO’s out of maintenance holes without covers is based on discharge over curved weir -- bell mouth spillways for 2” to 12” diameter pipes. The formula was taken from hydraulics and its application by A.H. Gibson (Constable & Co. Limited).

Example Overflow Estimation:

The maintenance hole cover is off and the flow coming out of a 36” frame maintenance hole at one inch (1”) height will be approximately 660 gallons per minute.

FLOW OUT OF M/H WITH COVER REMOVED (TABLE "B")

This sanitary sewer overflow drawing was developed by Debbie Myers, Principal Engineering Technician, for Ed Euyen, Civil Engineer, P.E. No. 33955, California, of County Sanitation District 1.
### TABLE 'C'

**ESTIMATED SSO FLOW OUT OF M/H PICK HOLE**

<table>
<thead>
<tr>
<th>Height of spout above M/H cover H in inches</th>
<th>SSO FLOW Q in gpm</th>
<th>Height of spout above M/H cover H in inches</th>
<th>SSO FLOW Q in gpm</th>
</tr>
</thead>
<tbody>
<tr>
<td>1/8</td>
<td>1.0</td>
<td>5 1/8</td>
<td>6.2</td>
</tr>
<tr>
<td>1/4</td>
<td>1.4</td>
<td>5 1/4</td>
<td>6.3</td>
</tr>
<tr>
<td>3/8</td>
<td>1.7</td>
<td>5 3/8</td>
<td>6.3</td>
</tr>
<tr>
<td>1/2</td>
<td>1.9</td>
<td>5 1/2</td>
<td>6.4</td>
</tr>
<tr>
<td>5/8</td>
<td>2.2</td>
<td>5 5/8</td>
<td>6.5</td>
</tr>
<tr>
<td>3/4</td>
<td>2.4</td>
<td>5 3/4</td>
<td>6.6</td>
</tr>
<tr>
<td>7/8</td>
<td>2.6</td>
<td>5 7/8</td>
<td>6.6</td>
</tr>
<tr>
<td>1</td>
<td>2.7</td>
<td>6</td>
<td>6.7</td>
</tr>
<tr>
<td>1 1/8</td>
<td>2.9</td>
<td>6 1/8</td>
<td>6.8</td>
</tr>
<tr>
<td>1 1/4</td>
<td>3.1</td>
<td>6 1/4</td>
<td>6.8</td>
</tr>
<tr>
<td>1 3/8</td>
<td>3.2</td>
<td>6 3/8</td>
<td>6.9</td>
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<td>3.5</td>
<td>6 5/8</td>
<td>7.0</td>
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<tr>
<td>1 3/4</td>
<td>3.6</td>
<td>6 3/4</td>
<td>7.1</td>
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<td>3.7</td>
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<td>7.2</td>
</tr>
<tr>
<td>2</td>
<td>3.9</td>
<td>7</td>
<td>7.2</td>
</tr>
<tr>
<td>2 1/8</td>
<td>4.0</td>
<td>7 1/8</td>
<td>7.3</td>
</tr>
<tr>
<td>2 1/4</td>
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<td>7.4</td>
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<td>2 3/8</td>
<td>4.2</td>
<td>7 3/8</td>
<td>7.4</td>
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<td>2 1/2</td>
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<td>7 1/2</td>
<td>7.5</td>
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<td>4.4</td>
<td>7 5/8</td>
<td>7.6</td>
</tr>
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<td>2 3/4</td>
<td>4.5</td>
<td>7 3/4</td>
<td>7.6</td>
</tr>
<tr>
<td>2 7/8</td>
<td>4.6</td>
<td>7 7/8</td>
<td>7.7</td>
</tr>
<tr>
<td>3</td>
<td>4.7</td>
<td>8</td>
<td>7.7</td>
</tr>
<tr>
<td>3 1/8</td>
<td>4.8</td>
<td>8 1/8</td>
<td>7.8</td>
</tr>
<tr>
<td>3 1/4</td>
<td>4.9</td>
<td>8 1/4</td>
<td>7.9</td>
</tr>
<tr>
<td>3 3/8</td>
<td>5.0</td>
<td>8 3/8</td>
<td>7.9</td>
</tr>
<tr>
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<td>5.1</td>
<td>8 1/2</td>
<td>8.0</td>
</tr>
<tr>
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<td>5.2</td>
<td>8 5/8</td>
<td>8.0</td>
</tr>
<tr>
<td>3 3/4</td>
<td>5.3</td>
<td>8 3/4</td>
<td>8.1</td>
</tr>
<tr>
<td>3 7/8</td>
<td>5.4</td>
<td>8 7/8</td>
<td>8.1</td>
</tr>
<tr>
<td>4</td>
<td>5.5</td>
<td>9</td>
<td>8.2</td>
</tr>
<tr>
<td>4 1/8</td>
<td>5.6</td>
<td>9 1/8</td>
<td>8.3</td>
</tr>
<tr>
<td>4 1/4</td>
<td>5.6</td>
<td>9 1/4</td>
<td>8.3</td>
</tr>
<tr>
<td>4 3/8</td>
<td>5.7</td>
<td>9 3/8</td>
<td>8.4</td>
</tr>
<tr>
<td>4 1/2</td>
<td>5.8</td>
<td>9 1/2</td>
<td>8.4</td>
</tr>
<tr>
<td>4 5/8</td>
<td>5.9</td>
<td>9 5/8</td>
<td>8.5</td>
</tr>
<tr>
<td>4 3/4</td>
<td>6.0</td>
<td>9 3/4</td>
<td>8.5</td>
</tr>
<tr>
<td>4 7/8</td>
<td>6.0</td>
<td>9 7/8</td>
<td>8.6</td>
</tr>
</tbody>
</table>

**Note:** This chart is based on a 7/8 inch diameter pick hole

**Disclaimer:** This sanitary sewer overflow table was developed by Ed Euyen, Civil Engineer, P.E. No. 33955, California, for County Sanitation District 1. This table is provided as an example. Other Agencies may want to develop their own estimating tables.
The formula used to develop Table C is \( Q = CcVA \), where \( Q \) is equal to the quantity of the flow in gallons per minute, \( Cc \) is equal to the coefficient of contraction (.63), \( V \) is equal to the velocity of the overflow, and \( A \) is equal to the area of the pick hole.\(^2\) If all units are in feet, the quantity will be calculated in cubic feet per second, which when multiplied by 448.8 will give the answer in gallons per minute. (One cubic foot per second is equal to 448.8 gallons per minute, hence this conversion method).

Example Overflow Estimation:

The maintenance hole cover is in place and the height of water coming out of the pick hole seven-eighths of an inch in diameter (7/8") is 3 inches (3"). This will produce an SSO flow of approximately 4.7 gallons per minute.

FLOW OUT OF VENT OR PICK HOLE (TABLE "C")

This sanitary sewer overflow drawing was developed by Debbie Myers, Principal Engineering Technician, for Ed Euyen, Civil Engineer, P.E. No. 33955, California, of County Sanitation District 1.

\(^2\) Velocity for the purposes of this formula is calculated by using the formula \( h = \frac{v^2}{2G} \), where \( h \) is equal to the height of the overflow, \( v \) is equal to velocity, and \( G \) is equal to the acceleration of gravity.
Reference Sheet for Estimating Sewer Spills from Overflowing Sewer Manholes
All estimates are calculated in gallons per minute (gpm)

5 gpm

25 gpm

50 gpm

100 gpm

150 gpm

200 gpm

225 gpm

250 gpm

275 gpm

All photos were taken during a demonstration using metered water from a hydrant in cooperation with the City of San Diego's Water Department.
ATTACHMENT E
PORTION OF HUMBOLDT BAY MANAGEMENT PLAN (2016)
Appendix C. Wastewater upset response procedures

The following procedures shall be followed in the event of a failure in the wastewater collection or treatment system resulting in a “wastewater upset”. A wastewater upset occurs whenever inadequately treated wastewater has exited the confines of the wastewater treatment or collection system and has the potential to enter Humboldt Bay or one of its tributaries.

In the event of a wastewater upset that results in a potential or actual discharge of inadequately treated effluent into Humboldt Bay and its tributaries, the responsible agency will notify CDPH and the grower(s) of the location and estimated volume of wastewater released to the waterbody. Upon notification of a sewage spill the shellfish growers shall consider their growing areas closed to harvesting. CDPH/PSU will contact the shellfish growers to confirm that notification of the wastewater upset event has been received, and that growers have ceased harvest operations prior to the start of the upset. Harvesting shall not occur until after CDPH/PSU has evaluated the event and determined the required actions. If harvesting has occurred after the start of the spill, growers should consult CDPH Food and Drug Branch to determine the disposition of harvested shellstock.

Spill Volume Thresholds

CDPH/PSU will establish that spill has been abated and determine if spill volume and location warrant closure of the growing area. Minimum spill volume thresholds that will result in closure are presented in Tables C-1 and C-2. For spill locations not specified in Tables C-1 and C-2, thresholds will be determined by interpolation or extrapolation from a nearby location in Table C-1 or C-2. If this is not possible, threshold spill volume for the new location will be calculated in the manner described in the Humboldt Bay Sanitary Survey.

CDPH/PSU may modify the above procedure based on the specific conditions of the reported spill. After the determination has been made, CDPH/PSU will notify growers of the status of the growing area(s).

Spill Attenuation

CDPH/CSU will conduct analyses to estimate when fecal coliform concentrations resulting from an upset will be attenuated to acceptable levels (14 MPN/100 mL) through tidal flushing. Attenuation analysis will be conducted as described in the Humboldt Bay Sanitary Survey. The analysis only accounts for tidal flushing, and ignores bacterial die-off. This conservative approach is appropriate because die-off rates of many of the pathogenic viruses associated with sewage, and for which fecal coliforms serve as imperfect indicators, are unknown.

CDPH/PSU will instruct growers to begin collecting samples when the attenuation analysis indicates acceptable water quality. If this date falls within a rainfall closure, sampling will not be conducted until the rainfall closure ends. Growers should not sample until instructed to do so by CDPH.

Sampling and Opening Criteria
When instructed by CDPH, growers will collect one water quality sample at each site specified in Table C-1 or C-2 and deliver samples to an SWRCB/ELAP-certified laboratory for fecal coliform analysis. Fecal coliform results must be equal to or lower than 14 MPN/100mL for the growing area to be considered for reopening. In addition, consistent, acceptable levels of fecal coliforms must be obtained from all sites in the surrounding area, and the source of contamination must have been abated. If results for any sampling stations are above the acceptable level, growers will be instructed to resample. Sampling will continue until all sampling stations meet the above target. Results from all sampling stations must meet the target before the growing area can be reopened.

Table C-1. Revised Sewage Upset Threshold Volumes to Close Shellfish Growing Waters\(^5\) to Harvest Activities: City of Arcata waterways

<table>
<thead>
<tr>
<th>Tributary</th>
<th>Threshold Volume (Gallons)</th>
<th>Sampling Sites</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tide Gates (Arcata bottoms)</td>
<td>30</td>
<td>All primary sites plus T2</td>
</tr>
<tr>
<td>Janes Creek</td>
<td>200</td>
<td>All primary sites plus 41</td>
</tr>
<tr>
<td>McDaniel Slough</td>
<td>500</td>
<td>All primary sites plus 41</td>
</tr>
<tr>
<td>Jolly Giant Creek</td>
<td>600</td>
<td>All primary sites plus 41</td>
</tr>
<tr>
<td>Butcher Slough</td>
<td>600</td>
<td>All primary sites plus 41</td>
</tr>
<tr>
<td>Campbell Creek</td>
<td>1,000</td>
<td>All primary sites plus 41 and 44</td>
</tr>
<tr>
<td>Fickle Hill Creek</td>
<td>1,000</td>
<td>All primary sites plus 41 and 44</td>
</tr>
<tr>
<td>Grotzman Creek</td>
<td>1,000</td>
<td>All primary sites plus 41 and 44</td>
</tr>
<tr>
<td>Beith Creek</td>
<td>1,000</td>
<td>All primary sites plus 41 and 44</td>
</tr>
<tr>
<td>Gannon Slough</td>
<td>1,000</td>
<td>All primary sites plus 41 and 44</td>
</tr>
<tr>
<td>Jacoby Creek</td>
<td>1,000</td>
<td>All primary sites plus 41 and 44</td>
</tr>
</tbody>
</table>

\(^5\) Volumes are based on the distance to the nearest growing waters
Table C-2. Sewage Upset Threshold Volumes to Close Shellfish Growing Waters\(^6\) to Harvest Activities: City of Eureka and Humboldt Community Services District waterways.

<table>
<thead>
<tr>
<th>Tributary</th>
<th>Threshold Volume (Gallons)</th>
<th>Effected Growing Areas</th>
<th>Sampling Sites</th>
</tr>
</thead>
<tbody>
<tr>
<td>Storm Drains</td>
<td>218</td>
<td>All</td>
<td>All primary sites plus T11</td>
</tr>
<tr>
<td>Ryan Creek</td>
<td>45</td>
<td>East Bay, Sand Is., and Gunther Is. Beds</td>
<td>34, 45, 51, 52, 53</td>
</tr>
<tr>
<td></td>
<td>2,000</td>
<td>All Areas</td>
<td>All primary sites plus T11</td>
</tr>
<tr>
<td>Ryan Slough</td>
<td>45</td>
<td>East Bay, Sand Is., and Gunther Is. Beds</td>
<td>34, 45, 51, 52, 53</td>
</tr>
<tr>
<td></td>
<td>2,000</td>
<td>All Areas</td>
<td>All primary sites plus T11</td>
</tr>
<tr>
<td>Freshwater Creek</td>
<td>45</td>
<td>East Bay, Sand Is., and Gunther Is. Beds</td>
<td>34, 45, 51, 52, 53</td>
</tr>
<tr>
<td></td>
<td>2,000</td>
<td>All Areas</td>
<td>All primary sites plus T11</td>
</tr>
<tr>
<td>Freshwater Slough</td>
<td>45</td>
<td>East Bay, Sand Is., and Gunther Is. Beds</td>
<td>34, 45, 51, 52, 53</td>
</tr>
<tr>
<td></td>
<td>2,000</td>
<td>All Areas</td>
<td>All primary sites plus T11</td>
</tr>
<tr>
<td>Eureka Slough</td>
<td>45</td>
<td>East Bay, Sand Is., and Gunther Is. Beds</td>
<td>34, 45, 51, 52, 53</td>
</tr>
<tr>
<td></td>
<td>2,000</td>
<td>All Areas</td>
<td>All primary sites plus T11</td>
</tr>
<tr>
<td>Fay Slough</td>
<td>45</td>
<td>East Bay, Sand Is., and Gunther Is. Beds</td>
<td>34, 45, 51, 52, 53</td>
</tr>
<tr>
<td></td>
<td>2,000</td>
<td>All Areas</td>
<td>All primary sites plus T11</td>
</tr>
<tr>
<td>Martin Slough</td>
<td>20,222</td>
<td>All</td>
<td>All primary sites</td>
</tr>
<tr>
<td>Swain Slough</td>
<td>20,222</td>
<td>All</td>
<td>All primary sites</td>
</tr>
<tr>
<td>Elk River</td>
<td>20,222</td>
<td>All</td>
<td>All primary sites</td>
</tr>
</tbody>
</table>

\(^6\) Volumes are based on the distance to the nearest growing waters
Figure C-1. Wastewater upset decision tree for wastewater authority
Figure C-2. Wastewater upset decision tree for shellfish growers
Figure C-3. Wastewater upset decision tree for California Department of Public Health

1. **Notification of upset received**
2. Determine if discharge is above or below threshold level for affected waterbody (Table C-1)
   - **Discharge is at or above threshold level (Closure of growing area is required)**
     - Inform shellfish grower(s) that growing area(s) are closed to harvesting
     - Conduct dilution/flushing analysis to predict when bacterial concentrations will be attenuated to acceptable levels
     - Instruct grower(s) to begin collecting sample(s) at appropriate time and coordinate sampling with SWRCB/ELAP-certified lab
     - When sample results are available, determine if growing area(s) can be reopened
       - If growing area(s) cannot be reopened, inform grower(s) of need for additional sampling
     - If growing area(s) can be reopened, inform growers of reopening
   - **Discharge is below threshold level (Closure of growing area is not required)**
     - Document information provided by reporting authority
     - Notify grower(s) that spill is below action threshold
     - Document reopening and notification of grower(s)
Table C-6. Example of a form used to report a sewage upset to CDPH/PSU

Fax to: (916) 449-5665
Attention: Eric Trevena
Date and Time Faxed:

CITY OF ARCATA

UPSET REPORT FORM

1. Upset Date/Time:  
2. CDPH Notified: Yes No

3. Upset Location:

4. Upset Reported by:

5. Upset Responders:

6. Weather: Description:
   Previous 24-hr rainfall total (0900 – 0900):
   Previous 5-day rainfall total:
   Forecast (if known):

7. Upset Discharge Rate:

8. Discharge Duration:

9. Total Estimated Volume Discharged:

10. General Description of Upset path prior to entering storm drain inlet or receiving water:

11. Storm Drain System – Did the Upset enter the storm drain system? 
    Yes  No  N/A  DATE
If yes, please identify the location:

Was the Upset able to be contained and removed from the storm drain system?

<table>
<thead>
<tr>
<th>Contained: Yes</th>
<th>No</th>
</tr>
</thead>
<tbody>
<tr>
<td>Removed: Yes</td>
<td>No</td>
</tr>
</tbody>
</table>

Comments:

12. **Tributary – Did the Upset enter a tributary?**  
   Yes  No  N/A

   Location:
   Unattenuated threshold volume (use matrix):
   Estimated flow of tributary (specify determination method):
   Estimated distance for "slug" to reach the Bay:

13. **Tidal Information**

<table>
<thead>
<tr>
<th>High Tide</th>
<th>Low Tide</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>a.m.</td>
</tr>
<tr>
<td>Date</td>
<td>Time</td>
</tr>
<tr>
<td></td>
<td>Time</td>
</tr>
</tbody>
</table>

   |                   | Time   | Feet   | Time   | Feet   |

14. **Tidal Gate Status:**  
   Open  Closed  No Tide Gate

15. **If Sample Collected:**  
   Sample to be collected at the source of the upset.

   Sample Location:  
   Sample Date and Time:

   Sample Location Conditions:

   Weather Conditions:

   Sample Delivered:  
   North Coast Laboratory  
   Hum. Co. Public Health Laboratory

16. **Person Completing This Form:**
Table C-7. Contact number to report sewage upsets affecting Humboldt Bay

The following is a list of persons to contact pursuit to the current Management Plan for Commercial Shellfishing in Humboldt Bay in cases of sewage or hazardous substance releases to the surface waters in the Humboldt Bay watershed. All of the commercial shellfish growers must be contacted first, followed by one staff member of the California Department of Public Health (CDPH) in second priority. Please note that at any time individual CDPH staff may be in the field or otherwise unavailable for consultation in the event of a spill and the caller should attempt to contact another staff member in the order given.

I. Shellfish Growers. All of the following growers must be contacted in the event of a sewage upset:

<table>
<thead>
<tr>
<th>Company</th>
<th>Contact</th>
<th>Work Phone</th>
<th>Cell Phone</th>
</tr>
</thead>
<tbody>
<tr>
<td>Coast Seafoods Company</td>
<td>Greg Dale</td>
<td>(707) 442-2947</td>
<td>(707) 834-5801</td>
</tr>
<tr>
<td>North Bay Shellfish Company</td>
<td>Scott Sterner</td>
<td>(707) 839-4723</td>
<td>(707) 845-2118</td>
</tr>
<tr>
<td>Aqua Rodeo Farms</td>
<td>Sebastian Elrite</td>
<td>(707) 444-3854</td>
<td>(707) 496-3532</td>
</tr>
<tr>
<td>Humboldt Bay Oyster Company</td>
<td>Todd Van Herpe</td>
<td>(707) 442-2727</td>
<td>(707) 499-2388</td>
</tr>
</tbody>
</table>

II. California Department of Public Health. One of the following individuals must be contacted:

<table>
<thead>
<tr>
<th>Contact</th>
<th>Work Phone</th>
<th>Cell Phone</th>
<th>Pager</th>
<th>Home Phone</th>
</tr>
</thead>
<tbody>
<tr>
<td>Eric Trevena</td>
<td>(916) 449-5695</td>
<td>(916) 505-9996</td>
<td>(209) 367-9452</td>
<td></td>
</tr>
<tr>
<td>Gregg Langlois</td>
<td>(510) 412-4635</td>
<td>(510) 750-2554</td>
<td>(925) 937-9298</td>
<td></td>
</tr>
<tr>
<td>Vanessa Zubkousky</td>
<td>(510) 412-4631</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sam Rankin</td>
<td>(510) 412-4633</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Joseph Christen</td>
<td>(510) 412-4638</td>
<td></td>
<td></td>
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</tr>
</tbody>
</table>

Shellfish Grower Information Line (GIL). This line has information on the current closure status of each growing area. It can be used as a last resort to record messages in the case no CDPH staff can be reached: (510) 412-4644
ATTACHMENT F
FORM USED TO REPORT A SEWAGE UPSET TO CDPH/PSU
CITY OF EUREKA

UPSET REPORT FORM

1. Upset Date/Time:  

2. CDPH Notified: Yes No

3. Upset Location:

4. Upset Reported by:

5. Upset Responders:

6. Weather: Description:

   Previous 24-hr rainfall total (0900 – 0900):

   Previous 5-day rainfall total:

   Forecast (if known):

7. Upset Discharge Rate:

8. Discharge Duration:

9. Total Estimated Volume Discharged:

10. General Description of Upset path prior to entering storm drain inlet or receiving water:

11. Storm Drain System – Did the Upset enter the storm drain system? 
    Yes No N/A DATE
If yes, please identify the location:

Was the Upset able to be contained and removed from the storm drain system?
- Contained: Yes  No
- Removed: Yes  No

Comments:

12. **Tributary – Did the Upset enter a tributary?**  Yes  No  N/A

Location:
- Unattenuated threshold volume (use matrix):
- Estimated flow of tributary (specify determination method):
- Estimated distance for “slug” to reach the Bay:

13. **Tidal Information**

<table>
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<td>p.m.</td>
</tr>
<tr>
<td>Date</td>
<td>Time</td>
<td>Feet</td>
</tr>
<tr>
<td>Time</td>
<td>Feet</td>
<td>Time</td>
</tr>
</tbody>
</table>

14. **Tidal Gate Status:**  Open  Closed  No Tide Gate

15. **If Sample Collected:**
- Sample to be collected at the source of the upset.

Sample Location:  
Sample Date and Time:  
Sample Location Conditions:  
Weather Conditions:  
Sample Delivered:  North Coast Laboratory  Hum. Co. Public Health Laboratory

16. **Person Completing This Form:**
City of Eureka
Overflow Emergency Response Plan - Training Log

Instructions: Following annual training on the City of Eureka Overflow Emergency Response Plan, responders, staff with responsibilities within the plan, and contractors that respond to overflows should sign and date below. Individuals are encouraged to provide any comments regarding the necessity to update or modify the plan.

<table>
<thead>
<tr>
<th>Training Date</th>
<th>Employee/ Contractor Name</th>
<th>Signature</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
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<th>Employee/ Contractor Name</th>
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</tbody>
</table>
Instructions: Following annual training on the City of Eureka Overflow Emergency Response Plan, responders, staff with responsibilities within the plan, and contractors that respond to overflows should answer the questions below. Individuals are encouraged to provide any comments regarding the necessity to update or modify the plan.

1) What are the goals of the COE OERP?
_____________________________________________________________________
_____________________________________________________________________
_____________________________________________________________________
_____________________________________________________________________
_____________________________________________________________________
_____________________________________________________________________

2) What are the priorities of a first responder to a SSO?
_____________________________________________________________________
_____________________________________________________________________
_____________________________________________________________________
_____________________________________________________________________
_____________________________________________________________________
_____________________________________________________________________
_____________________________________________________________________
_____________________________________________________________________

3) How do you locate the nearest stormwater inlet that could be impacted by the SSO?
_____________________________________________________________________

4) How do you know the location of the outfall of a stormwater conduit impacted by an SSO?
5) What SSOs trigger a Failure Analysis Investigation?

6) What is determined by the Failure Analysis Investigation?

7) Who receives a copy of the Failure Analysis Investigation report?

8) Where are the materials stored for responding to an SSO?

9) What conditions constitute a Category 1 SSO?

10) If a large SSO occurs and COE needs outside equipment or resources who do you call? and what is their 24-hour phone number?
APPENDIX I
2016-2021 CAPITAL IMPROVEMENT PLAN
Capital Improvement Program 2016
February 2016
Fiscal Years 2016/17-2020/21
CITY OF EUREKA
CAPITAL IMPROVEMENT
PROGRAM 2016

MAYOR
Frank Jäger

CITY COUNCIL
Linda Atkins
Marian Brady
Melinda Ciarabellini
Kim Bergel
Natalie Arroyo

CITY MANAGER
Greg L. Sparks

DIRECTOR OF PUBLIC WORKS
Brian Gerving

DEPUTY DIRECTOR OF PUBLIC WORKS - ENGINEERING
Jesse Willor, P.E.

March 2016
# CITY OF EUREKA
# CAPITAL IMPROVEMENT PROGRAM 2016

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<td>WATER SUPPLY FACILITIES</td>
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<td>Water distribution, pump station construction, water storage and treatment, replacement of undersized or deteriorated mains</td>
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<td>Wastewater collection system, lift stations, pump stations, force mains, treatment process maintenance, facilities upgrades</td>
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<td>LONG TERM PROJECTS</td>
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<td>Capital improvement projects not budgeted in the next five years</td>
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INTRODUCTION

As one of the earliest cities in California, Eureka must continually work to maintain and replace its aging facilities to meet its goal of providing high quality service to the City’s citizens. In addition to maintenance, the City invests in new infrastructure improvements that extend and enhance service and provide for a diverse economic base within the community.

The City’s Capital Improvement Program 2016 (CIP 2016) is a five-year summary of ongoing and proposed capital improvements to the City’s public facility and infrastructure assets. CIP 2016 covers the period from Fiscal Year 2016/17 to Fiscal Year 2020/21. The FY 2016/17 budget is not in place and the capital programming presented in CIP 2016 will be a guiding tool to help set the budget. Subsequent years beyond 2016/17 in CIP 2016 include anticipated projects and capital expenditures that are likely to occur and/or are believed to be needed to maintain acceptable service to the citizens of Eureka.

What is a Capital Improvement Program? A Capital Improvement Program (CIP) is a multi-year planning instrument used to identify and present needed capital improvement projects and to coordinate the financing and timing of those improvements. The primary purpose of the CIP is to assist in the orderly implementation of the broad and comprehensive goals of the adopted General Plan and for the maintenance and replacement of the City's infrastructure by establishing an orderly basis to guide local officials in making sound budget decisions, focusing attention on community goals, needs and capabilities to maximize the benefit of public expenditures.

What makes a Capital Improvement Program Effective? An effective CIP does the following:

1. Identifies specific public improvement projects and activities by location, size, function, and cost.
2. Establishes the timing for funding of major cost elements related to each project, such as permitting, right-of-way acquisition, design, construction and inspection.
3. Proposes specific revenue source(s) for each project and activity.
4. Facilitates prioritizing when funds are insufficient to cover all desired projects.
5. Enhances coordination of separate but interrelated projects, whether internal or involving other agencies.
6. Provides affected agencies, such as utility companies, an opportunity to develop long-range programming in concert with City projects.
7. Lowers the risk of inefficient, frequent (annual) changes of direction in allocation of capital resources.
8. Provides a realistic base for labor and financial resources needed to implement the Program.
Planning Period—The 5-year planning period, commonly used for CIP projections of City capital needs, allows for a more comprehensive, far-sighted approach to setting goals balanced between need and resources. A 5-year CIP must be flexible enough to make the inevitable adjustments for unanticipated cost changes, urgent projects, or other factors. City officials can refer to the CIP to help identify and inform the consequences of delay in timely project commencement due to such factors. CIP updates are prepared and adopted each year to address the changes that have occurred over the previous year.

Capital Improvement Funding—Funding for projects is derived from special source funds including gas tax, harbor, water and sewer enterprises, parking fees, remaining balances of the General Fund, bond sales and state, federal and other grants. Gas tax, harbor, water and sewer fund and parking fee revenues are budgeted only for capital projects in the categories appropriate to their sources. Federal, state and other grant funds may only be used for the purpose for which the funds were received.

General Fund—General Fund revenue has been used to fund capital improvements but the level of capital funding available from that source has steadily decreased over time. The majority of General Fund revenue is used for operations. Consequently, The General Fund currently does not have the ability to finance substantial capital improvement projects. On the positive side, supplemental sales tax measures approved by City voters in 2010 and again in 2014 provide critically-needed funds for public safety, and a portion of that revenue has historically been earmarked for capital improvements.

Bond Funding—The sale of bonds is an effective means of financing capital improvements and will continue to be an option in the future. General obligation bonds have been used to fund both the Martin Slough Interceptor Project and the Mad River Pipeline Project. In these cases, the debt related to bond payback is provided by the wastewater and water enterprise funds, respectively.

Enterprise Funds—One of the programs in CIP 2016 is an updated look at water and wastewater rates, which will consider the need for capital reserve funding that can be used for “pay-as-you-go” projects and to service bond debt as a means to fund future capital investment.

Grants—Federal, state and other grant funds are a steady source of outside funding that is tapped by the City and used for specific projects and programs such as transportation safety, trails and green space, economic development and other worthy endeavors based on applicability and need. Several projects in CIP 2016 are funded with grants, as indicated in the document.

Impact Fees—Possible sources of funds which could be investigated include impact fees for
drainage, parks and recreation, street lighting, parking-in-lieu, fire protection, etc. These sources require thorough studies and voter approval prior to implementation. Transportation impact fees are another source of funding that is currently being investigated by the City in partnership with Humboldt County. It’s anticipated that a fee structure for transportation impacts resulting from development will be in place by the time CIP 2017 is prepared next winter.

**CIP Process and Changes in 2016**—Several changes are being implemented in the CIP process this year. The general process began with meeting with department heads and project managers and identifying improvements anticipated for their departments and/or responsibility areas over the 5-year CIP period. Project budget and financing information was reviewed and is included when available. The information is then used by engineering staff to create project worksheets that are formatted and compiled into a Draft CIP for circulation and comment. Comments are incorporated and the final CIP is prepared. The completed CIP is submitted to Development Services staff and sent to the Planning Commission to review conformance with the City’s General Plan. Planning Commission and final staff recommendations are submitted to City Council for action and the Final CIP is adopted.

**Planning Horizon**—The CIP is updated annually by Engineering Staff under the direction of the Deputy Director of Public Works Engineering. In the past, the CIP covered a 5-year period beginning in the next fiscal year after publication of the CIP. CIP 2016 begins with the next fiscal year (2016-17 in this case) to allow direct correlation of capital expenditures with the upcoming budget.

**Financial Information**—The City’s Finance Department staff assists in the CIP preparation by providing relevant budget and financial information to verify that proposed capital expenditures for the current fiscal year match the approved budget, and to review actual expenditures in the past year against budgeted expenditures.

**Cost Projections and Budgeting**—Effort is made to ensure that all capital projects are described and have an estimated cost. Because many CIP projects are in a conceptual stage, their cost estimates are soft and subject to change as the projects become further defined. Current year estimates in CIP 2016 are in 2016 dollars. Multiple-year and subsequent-year project estimates are inflated 3% per annum and rounded, in an effort to more accurately reflect expected costs within the proposed year of construction. At the point when a project is scheduled to be completed in the upcoming fiscal year, the estimates should be adequate for budgeting and incorporation into the City’s adopted budget.

It’s important to note that the estimates of next year’s projects in the current CIP will be used to
build the next fiscal year budget. For example, FY 2016/17 project cost estimates presented in CIP 2016 form the basis for the 2016/17 budget preparation that begins in February of each year. Flexibility is needed because typically the estimates beyond the first year of the CIP are general with the expectation that they will be adjusted as they are brought into the annual budget process.

It’s also important to note that financing is not yet in place for many CIP projects and programs in the years ahead. Project estimates are shown regardless of funding uncertainties. More detailed financing information is provided in those cases where sources of funding are known and finance scheduling is predictable. Activities and capital projects that are not budgeted nor have funding sources are included in the CIP but related financing information is left out.

Conclusion—CIP 2016 is a planning and budgeting tool that lists and classifies all proposed public improvement projects maximizing the investment to the public. Both State Law (Section 65401, Article 8, Chapter 3, Title 7, of the Planning and Zoning Law of the State Government Code) and the Eureka Municipal Code [Section 152.01 (B) (6)] require the Planning Commission to annually review the Capital Improvement Program for conformance with the General Plan and forward its recommendations on projects for the ensuing five-year period to the Council and the City Manager. The schedule for CIP 2016 places it on the Planning Commission agenda in early February and on the Council agenda in Early March.

Respectfully Submitted,

Greg L. Sparks, City Manager

Brian Gerving, Public Works Director

Jesse Willor, Deputy Director Public Works - Engineering
5 YEAR
CAPITAL IMPROVEMENT PROGRAM SUMMARY
&
FISCAL YEAR BUDGET SCHEDULES
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## Streets & Storm Drains Project Total

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## Wastewater & Sewer Project Total

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**Grand Total** $77,255,000 $40,000 $250,000 $3,498,000 $4,282,000 $49,000 $120,000 $118,000 $4,952,000 $13,309,000 $63,946,000
### City of Eureka
### Capital Improvement Program 2016
### FY 2017-18 Projects by Category

#### Five Year Summary

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<tr>
<th>Harbor &amp; Waterfront</th>
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## City of Eureka
### Capital Improvement Program 2016
#### FY 2017-18 Projects by Category

### Five Year Summary

#### Streets & Storm Drains Project Total

<table>
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<tr>
<th>Project</th>
<th>General Fund</th>
<th>Highway Users</th>
<th>Water</th>
<th>Wastewater</th>
<th>Harbor Fund</th>
<th>Parking</th>
<th>Internal Operations</th>
<th>Outside Sources</th>
<th>2017-18 Total</th>
<th>Remaining Cost</th>
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**Financing Totals**

| | $19,194,000 | $100,000 | $250,000 | - | - | $62,000 | - | $627,000 | $1,039,000 | $18,155,000 |

#### Water Supply Facilities Project Total

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**Financing Totals**

| | $4,266,000 | - | - | $787,000 | - | - | - | - | $787,000 | $3,479,000 |

#### Wastewater & Sewer Project Total

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<th>Harbor Fund</th>
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<th>Internal Operations</th>
<th>Outside Sources</th>
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<th>Remaining Cost</th>
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<td>Infiltration &amp; Inflow Reduction Program</td>
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<td>1,224,000</td>
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</table>

**Financing Totals**

| | $10,284,000 | - | - | $3,628,000 | - | - | - | - | $3,628,000 | $6,656,000 |

### Grand Total

| | $64,767,000 | $123,000 | $250,000 | $800,000 | $3,641,000 | $21,000 | $62,000 | $189,000 | $2,420,000 | $7,506,000 | $57,261,000 |
City of Eureka  
Capital Improvement Program 2016  
Five Year Summary  
FY 2018-19 Projects by Category

<table>
<thead>
<tr>
<th>Harbor &amp; Waterfront</th>
<th>Project Total</th>
<th>General Fund</th>
<th>Highway Users Tax</th>
<th>Water</th>
<th>Wastewater</th>
<th>Harbor Fund</th>
<th>Parking</th>
<th>Internal Operations</th>
<th>Outside Sources</th>
<th>2018-19 Total</th>
<th>Remaining Cost</th>
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<tbody>
<tr>
<td>Dredging - Marina and Other City Prop.</td>
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<th>Parking</th>
<th>Internal Operations</th>
<th>Outside Sources</th>
<th>2018-19 Total</th>
<th>Remaining Cost</th>
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<tbody>
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<table>
<thead>
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<th>Outside Sources</th>
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<tr>
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## FY 2018-19 Projects by Category

### Streets & Storm Drains

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<th>Water</th>
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### Water Supply Facilities

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### Wastewater & Sewer

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## City of Eureka
### Capital Improvement Program 2016
#### Five Year Summary

**FY 2019-20 Projects by Category**

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<thead>
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<th>Harbor &amp; Waterfront</th>
<th>Project Total</th>
<th>General Fund</th>
<th>Highway Users Tax</th>
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<th>Wasterwater</th>
<th>Harbor Fund</th>
<th>Parking</th>
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<th>Outside Sources</th>
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<th>Remaining Cost</th>
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<th>Outside Sources</th>
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<th>Remaining Cost</th>
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## City of Eureka
### Capital Improvement Program 2016
#### Five Year Summary

**FY 2019-20 Projects by Category**

### Streets & Storm Drains Project Total

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<th>General Fund</th>
<th>Highway Users</th>
<th>Water</th>
<th>Wastewater</th>
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<tbody>
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**Financing Totals**

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### Water Supply Facilities Project Total

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**Financing Totals**

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### Wastewater & Sewer Project Total

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**Financing Totals**

<table>
<thead>
<tr>
<th></th>
<th>General Fund</th>
<th>Highway Users</th>
<th>Water</th>
<th>Wastewater</th>
<th>Harbor Fund</th>
<th>Parking</th>
<th>Internal Operations</th>
<th>Outside Sources</th>
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**Grand Total**

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## City of Eureka
### Capital Improvement Program 2016
#### FY 2020-21 Projects by Category

### Harbor & Waterfront Project

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<th>General Fund</th>
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<th>Outside Sources</th>
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<tr>
<td>Dredging - Marina and Other City Prop.</td>
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**Financing Totals** $16,035,000 $ - $ - $ - $ - $ 1,146,000 $ - $ - $ - $ 1,146,000 $ 14,889,000 |

### Land & Facilities Project

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**Financing Totals** $200,000 $ - $ - $ - $ - $ - $ - $ - $ - $ - $ 200,000 |

### Parks & Recreation Project

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**Financing Totals** $6,858,000 $ 11,000 $ - $ - $ - $ - $ - $ - $ 1,950,000 $ 1,961,000 $ 4,897,000 |
## City of Eureka  
### Capital Improvement Program 2016  
#### Five Year Summary  
##### FY 2020-21 Projects by Category

### Streets & Storm Drains

<table>
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<th>Remaining Cost</th>
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<td>Storm Drain Improvements</td>
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<tr>
<td>Bicycle Facilities</td>
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**Financing Totals**:  
<table>
<thead>
<tr>
<th>Project Total</th>
<th>General Fund</th>
<th>Highway Users Tax</th>
<th>Water</th>
<th>Wastewater</th>
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<th>Outside Sources</th>
<th>2020-21 Total</th>
<th>Remaining Cost</th>
</tr>
</thead>
<tbody>
<tr>
<td>Streets &amp; Storm Drains</td>
<td>$15,745,000</td>
<td>$250,000</td>
<td>$250,000</td>
<td>$2,995,000</td>
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### Water Supply Facilities

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<td>Corrosion Control - Water Storage Tanks</td>
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<tr>
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**Financing Totals**:  
<table>
<thead>
<tr>
<th>Project Total</th>
<th>General Fund</th>
<th>Highway Users Tax</th>
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<tbody>
<tr>
<td>Water Supply Facilities</td>
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### Wastewater & Sewer

<table>
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<th>Outside Sources</th>
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<tbody>
<tr>
<td>Infiltration &amp; Inflow Reduction Program</td>
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<tr>
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<tr>
<td>California Redwood Co. Utility Ext.</td>
<td>$1,224,000</td>
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**Financing Totals**:  
<table>
<thead>
<tr>
<th>Project Total</th>
<th>General Fund</th>
<th>Highway Users Tax</th>
<th>Water</th>
<th>Wastewater</th>
<th>Harbor Fund</th>
<th>Parking</th>
<th>Internal Operations</th>
<th>Outside Sources</th>
<th>2020-21 Total</th>
<th>Remaining Cost</th>
</tr>
</thead>
<tbody>
<tr>
<td>Wastewater &amp; Sewer</td>
<td>$2,994,000</td>
<td>-</td>
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<td>$2,070,000</td>
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**Grand Total**:  
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<th>Water</th>
<th>Wastewater</th>
<th>Harbor Fund</th>
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<th>Remaining Cost</th>
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</thead>
<tbody>
<tr>
<td>Streets &amp; Storm Drains</td>
<td>$15,745,000</td>
<td>$250,000</td>
<td>$250,000</td>
<td>$2,995,000</td>
<td>$3,245,000</td>
<td>$12,500,000</td>
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<tr>
<td>Water Supply Facilities</td>
<td>$2,194,000</td>
<td>-</td>
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<td>$560,000</td>
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<td>-</td>
<td>$560,000</td>
<td>$1,634,000</td>
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<tr>
<td>Wastewater &amp; Sewer</td>
<td>$2,994,000</td>
<td>-</td>
<td>-</td>
<td>$2,070,000</td>
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<td>1,146,000</td>
<td>8,982,000</td>
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City of Eureka
Capital Improvement Program 2016
FY 2016-17 Sources & Uses

External Sources
Internal Operations
Check
Harbor & Waterfront
Land & Facilities
Parks & Recreation
Streets & Storm Drains
Water
Wastewater

Financing Sources

FY 2016-17 Sources & Uses
Capital Improvement Program 2016
City of Eureka
Financing Uses

Harbor & Waterfront
Land & Facilities
Parks & Recreation
Streets & Storm Drains
Water
Wastewater
Highway Users Tax
Harbor Fund
Parking
General Fund
## HARBOR & WATERFRONT

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<tr>
<th>Page #</th>
<th>Project Name</th>
<th>Total Project Cost</th>
<th>2016 Dollars</th>
<th>16-17</th>
<th>17-18</th>
<th>18-19</th>
<th>19-20</th>
<th>20-21</th>
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<tbody>
<tr>
<td>PG. 1-3</td>
<td>DREDGING MARINA &amp; OTHER CITY PROPERTIES</td>
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<td>PG. 1-4</td>
<td>EUREKA PUBLIC MARINA IMPROVEMENTS</td>
<td>$116</td>
<td>$29</td>
<td>$21</td>
<td>$ -</td>
<td>$31</td>
<td>$35</td>
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<td>PG. 1-5</td>
<td>MARINA FIRE SUPPRESSION SYSTEM REPAIRS</td>
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<td>PG 1-6</td>
<td>DOCK B REPAIRS</td>
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<td>$21</td>
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DREDGING MARINA & OTHER CITY PROPERTIES

Category: Harbor & Waterfront  Project Manager: Miles Slattery

Project Description
The marina is a critical piece of the Eureka Waterfront and requires dredging to allow boats to safely dock. Other City owned waterfront docks are similarly affected.

Project Location
Eureka Waterfront Docks

Justification
The accumulation of sediment at the City owned marina has decreased depths and impacted the ability of vessels to easily enter, exit and dock. This accumulation of sediment is apparent along most of Eureka's waterfront and requires dredging to maintain the integrity and function of City property.

City Council Priority and Goals

Studies and Reports
None

Comments
The cost to dredge would not include permitting and environmental documentation, which would be handled by City staff.

Prior Appropriations
Not Available

Fiscal Impact
The cost estimate to dredge the marina and other City owned waterfront docks is estimated to be in the range of $1,000,000 (2016 dollars) plus 3% inflation per year.

<table>
<thead>
<tr>
<th>EXPENDITURE CATEGORY</th>
<th>2016-17</th>
<th>2017-18</th>
<th>2018-19</th>
<th>2019-20</th>
<th>2020-21</th>
<th>Five Year</th>
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<tbody>
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<tr>
<td>Design</td>
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<td>Professional Services</td>
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<tr>
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<td>$1,060</td>
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<td>Harbor Fund</td>
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<tr>
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<td>$1,060</td>
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EUREKA PUBLIC MARINA IMPROVEMENTS

Category: Harbor & Waterfront  Project Manager: Miles Slattery

Project Description
Improvements to the Eureka Public Marina which serves as a recreational, live-aboard and commercial boating center for the North Coast Region.

Project Location
City of Eureka Marina

Justification
Improvements are necessary to maintain and enhance the overall quality of visitor services and functional marina operations.

City Council Priority and Goals
Meets 2020 Strategic Plan goals of an alive waterfront and business investment.

Studies and Reports
1999 Eureka Public Marina construction drawings, plans and specifications

Comments

Prior Appropriations
None

Fiscal Impact
Harbor Fund, $107,000 total. (2016 dollars Including 3% inflation per year)

<table>
<thead>
<tr>
<th>EXPENDITURE CATEGORY</th>
<th>2016-17</th>
<th>2017-18</th>
<th>2018-19</th>
<th>2019-20</th>
<th>2020-21</th>
<th>Five Year</th>
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</thead>
<tbody>
<tr>
<td>Wifi and computer enhancements for Automatic Identification System (AIS)</td>
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<td>Marina port-security camera system</td>
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<td>Paddle Craft dock and storage lockers</td>
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<td>Tenant and public picnic tables</td>
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<tr>
<td>Replacement of 2-ton hoist at Fisherman's terminal</td>
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<td>Power Supply Replacement at Bonnie Gool Dock</td>
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<td>Repair/rebuild F Street dock</td>
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</table>

Expenditure Totals
$29  $21  $0  $31  $35  $116

Harbor Fund
$29  $21  $0  $31  $35  $116

Funding Totals
$29  $21  $0  $31  $35  $116

Meets 2020 Strategic Plan goals of an alive waterfront and business investment.
MARINA FIRE SUPPRESSION SYSTEM REPAIRS

Category: Harbor & Waterfront  Project Manager: Miles Slattery

Project Description
The fire suppression system for the Eureka Public Marina is constantly being repaired due to poor construction materials, harsh environment and limited mainenance after 15 years of service.

Project Location
City of Eureka Marina

Justification
The installation of a new fire suppression system will reduce maintenance and emergency repairs of a infrastructure.

City Council Priority and Goals
Meets Strategic Plan 2020 goals of an alive waterfront and make a more liveable community.

Studies and Reports
1999 Eureka Public Marina construction drawings, plans and specifications.

Comments
The original installation of suspended inflexible waterlines using support cables has failed due to wave action and dock movement.

Prior Appropriations
None

Fiscal Impact
Total Cost: $20,000 (2016 dollars) plus 3% inflation per year.

<table>
<thead>
<tr>
<th>EXPENDITURE CATEGORY</th>
<th>2016-17</th>
<th>2017-18</th>
<th>2018-19</th>
<th>2019-20</th>
<th>2020-21</th>
<th>Five Year</th>
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</thead>
<tbody>
<tr>
<td>Right-of-Way</td>
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<td></td>
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<tr>
<td>Design</td>
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DOCK B REPAIRS

Category: Harbor & Waterfront  Project Manager: Miles Slattery

**Project Description**
Dock B either needs to be rebuilt or repaired. Repairing the dock appears to be the cheaper short term option. Repair would include approx. 500 LF of dock and 350 LF of approach ramp.

**Project Location**
Marina Way

**Justification**
Dock B is an existing piece of infrastructure that has been taken out of service due to the January 2010 earthquake. This facility could be a key component of waterfront revitalization.

**City Council Priority and Goals**
Meets Strategic Plan 2020 goals of an alive waterfront and business investment.

**Studies and Reports**
Dock B Reconstruction & Use Alternatives, Winzler & Kelley  
Eureka Waterfront Revitalization Program, Harbor Commission  
Humboldt Bay Development Plan, Martin O’Connell  
Public Terminal Implementation Plan, Vickerman

**Comments**

**Prior Appropriations**
None

**Fiscal Impact**
Total cost: Approx. $15,000,000, Harbor Fund and potential grant funding, such as Economic Development Administratin (EDA) grants. Estimated costs are $1,110,000 for design and $14,000,000 for construction.

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COMMERCIAL STREET FUELING FACILITY

Project Description
Replace fueling terminal dispensers and dispenser sumps. Replace underground tanks with above ground tanks. Clean up contaminated soil around underground storage tanks.

Project Location
Foot of Commercial Street

Justification
The fuel facility is the only commercial fueling facility for boats on Humboldt Bay and was built in 1972. Many components have reached the end of their useful life and need replacement.

City Council Priority and Goals
Meets Strategic Plan 2020 goals of an alive waterfront and business investment.

Studies and Reports
Construction Drawings, Plans, and Specifications by SHN in 2005
Construction Drawings, Plans, and Specifications by SHN for Conveyance Piping Replacement in 2009

Comments
It may benefit the City to remove the four 10,000 gallon underground tanks and replace them with one 1,000-gallon gas tank and two 10,000-gallon diesel above ground tanks.

Prior Appropriations
1995-2011: $197,000 | FY 2004/05: $60,000 | FY 2008/29: $12,300 | FY 2009/10: $353,000

Fiscal Impact
The estimated cost to replace the dispensers and sumps is $121,000. The estimated cost for tank removal and cleanup is $556,000, and to install above ground fueling tanks is $305,000. Approximately $276,000 is reimbursable by the state. Engineering is estimated to be approximately $200,000 (2016 dollars). Total cost: Approximately $1,200,000.

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LAND & FACILITIES

Fishermen's Terminal Building
## Capital Improvement Program 2016/17
### FIVE YEAR SUMMARY

## LAND & FACILITIES

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# CORPORATION YARD FENCING AND GATES

**Category:** Land & Facilities  
**Project Manager:** Brian Issa

## Project Description
Change the gauge and spacing of the cyclone fencing and install an additional top wire deterrent.

## Project Location
City of Eureka Corporation Yard

## Justification
The deteriorization of existing fencing has allowed the perimeter and interior of the yard to be compromised.

## City Council Priority and Goals
City of Eureka Corporation Yard  
Meets Strategic Plan 2020 goals of a financially sound city providing effective services and a more liveable community.

## Studies and Reports
None

## Comments
Project is designed to improve security and ensure accessibility of the City Corporation Yard. A large majority of the City heavy equipment and vehicles for all maintenance departments are stored in the yard, which needs to be secured. The security of this yard is to protect City assets and ensure that all vehicles and equipment are available when needed. Also, the public safety departments, such as Fire and Police, utilize this area for storage of equipment that needs to be secure and accessible.

## Prior Appropriations
None

## Fiscal Impact
Total Project Cost $50,000 (2016 dollars) plus 3% inflation annually.

## EXPENDITURE CATEGORY

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<th>Expenditure Category</th>
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<th>2017-18</th>
<th>2018-19</th>
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Project Description
Demolition of existing street/signs shop and construction of new office space, break/locker room and additional storage. This will also require a revision of the Corporation Yard Master Plan.

Project Location
City of Eureka Corporation Yard

Justification
The existing buildings are substandard and inadequate and require demolition and replacement to improve operations and efficiency.

City Council Priority and Goals
Meets Strategic Plan 2020 goals of a financially sound city providing effective services and a more liveable community.

Studies and Reports
None

Comments
Proposed improvements include approximately 1,200 SF of new office space, employee lounge, restrooms, showers and lockers. Improvements would follow demolition of existing streets/signs shop.

Prior Appropriations
FY 2007/08: $107,875 | FY 2008/09: $65,095

Fiscal Impact
Total Project Cost: $350,000 (2016 dollars) plus 3% inflation annually.

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CITY OF EUREKA CORPORATION YARD SETTLING BASINS

Category: Land & Facilities  Project Manager: Brian Issa

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Capital Improvement Program 2016/17

PROJECT DESCRIPTION/STATUS REPORT

CORPORATION YARD SETTLING BASINS

Project Description
Construct concrete settling basin that discharges to the sanitary sewer system. This basin will be constructed at the corporation yard and used to store spoils from city maintenance projects.

Project Location
City of Eureka Corporation Yard

Justification
Adequate storage of spoils from water/wastewater crews at the corp yard is needed to avoid any potential offsite runoff.

City Council Priority and Goals
Meets Strategic Plan 2020 goals of a financially sound city providing effective services and a more liveable community.

Studies and Reports
A preliminary design and bid package has been prepared by LACO

Comments
The water and sewer crews regularly excavate and remove spoils. The crews need a continuous and functional facility to dump and store the spoils that is covered and able to discharge to the sanitary sewer. The original design will be reviewed and altered to the needs and restraints of the corporation yard and City crews.

Prior Appropriations
Not Available

Fiscal Impact
Total Project Cost: $200,000 (2016 dollars)
ADORNI ROOF MAINTENANCE

Category:  Land & Facilities  
Project Manager:  Miles Slattery

**Project Description**
Replace roofing at Adorni Center.

**Project Location**
Adorni Center

**Justification**
The existing roof is failing and continues to be an ongoing maintenance issue.

**City Council Priority and Goals**
Meets Strategic Plan 2020 goals of a more liveable Eureka community and alive Old Town and downtown. Also meets 2030 vision of 'Development of Community Events'.

**Studies and Reports**
None

**Comments**
The shingled roof at the Adorni Center is not appropriate for the coastal building and needs to be replaced with a metal roof that is more resilient to weather, birds, and other conditions at the site. This project may be phased, but doing so would significantly increase the overall cost.

**Prior Appropriations**
Not Available.

**Fiscal Impact**
Total Project cost: $100,000 (2016 dollars) plus 3% inflation annually.

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MUNICIPAL AUDITORIUM IMPROVEMENTS

Category: Land & Facilities

Project Manager: Miles Slattery

Project Description
Paint exterior of building. Replace doors and roll up doors with compliant units.

Project Location
Eureka Municipal Auditorium

Justification
The exterior of the Auditorium is overdue for painting to preserve the 80-year-old facility. The door frames and sets are outdated and need fire compliant hardware including a new roll-up door.

City Council Priority and Goals
Meets Strategic Plan 2020 goal of a more liveable Eureka community. Also meets 2030 vision of 'Development of Community Events'.

Studies and Reports
None

Comments

Prior Appropriations
Not Available

Fiscal Impact
The estimated cost of painting the exterior is $140,000. The estimated cost of door replacement is $10,000.

(2016 dollars) plus 3% inflation annually

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CITY FACILITY ADA UPGRADES

Project Description
Elimination of barriers to provide access to City facilities and programs for persons with disabilities. A new study needs to be conducted to review new requirements and identify the needs of City facilities with regards to ADA compliance.

Project Location

Justification
The City of Eureka needs to identify and remedy all barriers to ADA access at City facilities. The regulations for ADA change over time and the City needs to continuously evaluate and take action on compliance issues.

City Council Priority and Goals
Meets Strategic Plan 2020 goals of a more liveable Eureka community and providing effective services.

Studies and Reports
Self-Evaluation Report by Bruckner Disability Consultants, September 1992

Comments
In 2002 the City completed a comprehensive update of our ADA Self-Evaluation and Transition Plan pursuant to the Americans with Disabilities Act. The results of this updated analysis identified areas where compliance with the ADA requirements has yet to be achieved. Since the last study, ADA requirements have changed and a new study will need to review the updated requirements and investigate gaps in City facilities.

Prior Appropriations
City Projects incorporate improvements to provide access to those with disabilities

Fiscal Impact
The estimated cost for a study to assess ADA compliance is $30,000 plus 3% inflation annually.

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CITY HALL IMPROVEMENTS

Category: Land & Facilities

Project Manager: Miles Slattery

Project Description
Seal and paint the interior walls of both stairwells, excluding existing murals. Complete recarpeting of 2nd and 3rd floors.

Project Location
Eureka City Hall

Justification
City Hall is the hub for several critical services and operations of the City. The regular maintenance of painting, carpeting, windows, etc is necessary to sustain the functionality and aesthetics of the building.

City Council Priority and Goals
Meets Strategic Plan 2020 goals of a more liveable Eureka community and providing effective services.

Studies and Reports
None

Comments

Prior Appropriations
Not Available

Fiscal Impact
Seal and Paint stairwells: $12,000
Recarpet portions of 2nd and 3rd floors: $40,000 (Split between two years allocating $20,000 to each floor)
The outdated windows need to be either replaced or retinted. This will be an expensive project and may need grant funding assistance, estimated at $500,000 (2016 dollars) plus 3% inflation annually.

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Project Description
Explore potential reuse of out-of-service sedimentation tanks at the water treatment plant.

Project Location
Eureka Water Treatment Plant at 3575 W Street

Justification
Cost/benefit of repurposing sedimentation tanks may outweigh that of demolition and removal.

City Council Priority and Goals
Meets Strategic Plan 2020 goals of supporting a financially sound city providing effective services.

Studies and Reports
None

Comments
The defunct sedimentation tanks at the City's water treatment plant located at 3575 W St may be useful in a different capacity.

Prior Appropriations
None

Fiscal Impact
The estimated budget for a repurposing study is roughly $25,000 and is directed at identifying an effective reuse plan including construction and design considerations. (2016 dollars plus 3% inflation annually)

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STREAM RESTORATION/FISH PASSAGE

Category: Land & Facilities
Project Manager: Miles Slattery

Project Description
Remove culverts that currently act as barriers for fish passage with fish-friendly culverts, re-establish stream sinuosity, add large wood debris, remove non-native invasive plant species, and re-vegetate with native species. Recommendations for habitat improvement activities are based upon target habitat values suitable for salmonids in California’s North Coast streams.

Project Location
Cooper Gulch Creek

Justification
Urbanization has deteriorated local stream habitat and contributed to the decline of local fish populations.

City Council Priority and Goals
Meets Strategic Plan 2020 goal of supporting a more liveable and clean community.

Studies and Reports
Department of Fish & Wildlife - Cooper Gulch Stream Inventory Report

Comments
Work with regulatory agencies to develop a plan for restoration and fish passage enhancements for Cooper Gulch Creek at the Myrtle Avenue crossing and below.

Prior Appropriations
None

Fiscal Impact
The total cost of the project is estimated to be $66,000 (2016 dollars) plus 3% inflation annually.

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PARKS & RECREATION

Ross and Hammond Parks
# Capital Improvement Program 2016/17

## FIVE YEAR SUMMARY

### PARKS & RECREATION

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CITY PARKS AUTOMATED IRRIGATION

Category: Parks & Recreation  Project Manager: Miles Slattery

Project Description
Install automated irrigation at all City parks

Project Location
All Parks Owned by City

Justification
Automated irrigation at City parks would save money in staff time and allow for easier landscape maintenance.

City Council Priority and Goals
Meets Strategic Plan 2020 goal of a more liveable community and 2030 High Priority of all purpose sports fields.

Studies and Reports
None

Comments
Seven parks have been identified as having the potential to benefit from automated irrigation:
Hammond ($19K)  |  Highland ($34K)  |  Ross ($40)  |  20/30 ($48K)  |  Kennedy/Hartman ($40K)
Cooper ($40K)  |  Carson ($30K)

Prior Appropriations
None

Fiscal Impact
Total project cost: $250,000 (2016 dollars). Set aside $10,000 per year to put towards irrigation improvements, plus 3% for inflation.

Hammond ($19K)  |  Highland ($34K)  |  Ross ($40)  |  20/30 ($48K)  |  Kennedy/Hartman ($40K)
Cooper ($40K)  |  Carson ($30K)

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PARK IMPROVEMENTS

Category: Parks & Recreation

Project Description

Project Location
City Parks

Justification
The ongoing reinvestment in public parks promotes safe recreation, effective maintenance, and a sense of ownership in our public spaces.

City Council Priority and Goals
Meets Strategic Plan 2020 goal of a more liveable community.

Studies and Reports
None

Comments

Prior Appropriations
None

Fiscal Impact
Total cost $750,000 (2016 dollars). Set aside $150,000 plus 3% for inflation per year for improvement projects.

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Grant $150 2016-2020

Funding Totals $150 2016-2021
ZOO MASTER PLAN IMPROVEMENTS

Project Description
Next phases for the Master Plan implementation will include exhibits within the Native Predators zone including spotted owl, raven, black bear, cougar, bobcat, fisher, coyote, and a Redwood Canopy Walk.

Project Location
Sequoia Park Zoo

Justification
New exhibits and educational facilities will improve the aesthetic and functional aspects of the zoo, and are needed to maintain accreditation with the Association of Zoos and Aquariums.

City Council Priority and Goals
Meets Strategic Plan 2020 goal of a more liveable community. Also a part of the Top Priority 2030 vision of assessing opportunities for revenue generation.

Studies and Reports
2006: 20-Year Zoo Facility Master Plan

Comments
The zoo serves as an educational, recreational and cultural resource for not only the City of Eureka, but also communities throughout the region.

Prior Appropriations
FY 2014/15: $3,300,000

Fiscal Impact
Total project cost:$10,000,000 (2016 dollars). Set aside 1,000,000 plus 3% for inflation per year for improvements and design.

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CITY WIDE TRAIL IMPROVEMENTS

Category: Parks & Recreation

Project Description
Construct trails adjacent to Humboldt Bay and along greenways through the City of Eureka for multi-use recreation.

Project Location
City Wide

Justification
The development of a trail system provides recreational opportunities for pedestrians, bicyclists, and equestrians. Trails also provide coastal access for canoes and kayaks.

City Council Priority and Goals
Meets Strategic Plan 2020 goal of a more liveable community and is identified as a Top Priority in the 2030 vision.

Studies and Reports
Eureka Waterfront Trail and Promenade Recommendations | Humboldt Coastal Trails Implementation Strategy

Comments

Prior Appropriations
Not Available

Fiscal Impact
Pursue $500,000 (2016 dollars) in funding per year for City Wide Trail improvements.

Approve $50,000 for design and $450,000 for construction. Add 3% for inflation per year.

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ZOO IMPROVEMENTS: ENTRY PAVILION

Category: Parks & Recreation
Project Manager: Miles Slattery

Project Description
Replace and repair the failing entry pavilion construction that needs flashing on all beams and columns. Re-install/repair trim moulding. Add several coats of waterproof sealant and/or stain

Project Location
Sequoia Park Zoo

Justification
The original installation lacked appropriate flashing and waterproofing. Without the proper maintenance this structure will face significant and expensive failures.

City Council Priority and Goals
Meets Strategic Plan 2020 goal of a more livable community.

Studies and Reports
None

Comments

Prior Appropriations
Not Available

Fiscal Impact
Total project cost: $50,000 (2016 dollars). Set aside $10,000 plus 3% for inflation per year for improvements.

<table>
<thead>
<tr>
<th>EXPENDITURE CATEGORY</th>
<th>2016-17</th>
<th>2017-18</th>
<th>2018-19</th>
<th>2019-20</th>
<th>2020-21</th>
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ZOO IMPROVEMENTS: AVIARY MESH REPLACEMENTS

Category: Parks & Recreation  Project Manager: Gretchen Ziegler

Project Description
The Nancy Hilfiker Aviary opened at Sequoia Park Zoo in 1993 as a gift to the community with a generous donation from the Hilfiker family. It remains one of the most popular and significant exhibit experiences at the Zoo.

Project Location
Sequoia Park Zoo

Justification
Aviary walk-through exhibit repair and maintenance is required due to aging and deterioration of wire mesh enclosure material. Mesh failure incidents have compromised safety of bird collection.

City Council Priority and Goals
Meets Strategic Plan 2020 goal of a more liveable community.

Studies and Reports
None

Comments

Prior Appropriations
FY 2012/13 - $25,000

Fiscal Impact
Total project cost: $20,000 (2016 dollars) plus 3% per year inflation.

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<th>2017-18</th>
<th>2018-19</th>
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Nancy Hilfiker Aviary Entrance
SOFTBALL FIELD IMPROVEMENTS

Project Manager: Miles Slattery

Project Description
Turf improvements, temporary home-run fences, and improvements to bleachers and dugouts.

Project Location
Hartman, Kennedy and Cooper Gulch fields

Justification
Maintenance and upgrades of softball fields ensure the availability of the popular recreational softball leagues.

City Council Priority and Goals
Meets Strategic Plan 2020 goal of a more liveable Eureka community and is identified as a High Priority in the 2030 vision of All Purpose Sports Fields.

Studies and Reports
None

Comments
Estimated softball league revenue is $5,000/year

Prior Appropriations
Not Available

Fiscal Impact
Total project cost: $50,000 (2016 dollars). Set aside $10,000 plus 3% for inflation per year for improvements.

<table>
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<tr>
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EUREKA DOG PARK

Project Description
Complete the final phases of the Eureka Dog Park including restrooms, storage, parking lot paving, and a perimeter trail.

Project Location
North of 23rd St behind General Hospital Complex

Justification
The Eureka Dog Park is now open and providing the public with an open, dog-friendly area. The last few improvements remaining will further improve the functionality and experience of the park.

City Council Priority and Goals
Mees Strategic Plan 2020 goal of a more livable Eureka Community.

Studies and Reports
Not Available

Comments
Grading, gates, fencing, partial parking and drainage improvements have been complete. The top priority for the second phase will be installing a public restroom.

Prior Appropriations
FY 2014/15: Donations

Fiscal Impact
Total Project Cost $350,000 (2016 dollars). Set aside $75,000 plus 3% for inflation per year for improvements.

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</table>
### Project Description
Construct restroom facility at the foot of Del Norte Street to service the enhanced PALCO Marsh recreational area and the Del Norte Street Public Fishing Pier.

### Project Location
West Del Norte Street

### Justification
Increased public presence has increased the need for public restrooms in this area. Environmental concerns may also be an issue if this is not addressed.

### City Council Priority and Goals
Meets Strategic Plan 2020 goals of a more liveable Eureka community and an alive waterfront.

### Studies and Reports
Not Available

### Comments
The enhanced PALCO Marsh and the Del Norte Street Pier generate elevated public use in the area. Water, Wastewater and electrical services have been extended to the site.

### Prior Appropriations
None

### Fiscal Impact
Total project cost: $100,000 (2016 dollars).

#### EXPENDITURE CATEGORY

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<thead>
<tr>
<th>(Thousands of Dollars)</th>
<th>2016-17</th>
<th>2017-18</th>
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STREETS & STORM DRAINS
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<th>(Thousands of Dollars)</th>
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<th>YEAR 2</th>
<th>YEAR 3</th>
<th>YEAR 4</th>
<th>YEAR 5</th>
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<tbody>
<tr>
<td>PG. 4-3</td>
<td>STREET RECONSTRUCTION, OVERLAYS, AND MAINTENANCE</td>
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<td>PG. 4-4</td>
<td>SAFETY IMPROVEMENT PROJECTS</td>
<td>$785</td>
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<td>STORM DRAIN IMPROVEMENTS</td>
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<td>BICYCLE FACILITIES</td>
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<td>SIDEWALK REPAIR IMPROVEMENTS</td>
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<td>PG. 4-9</td>
<td>PARKING METER INSTALLATION PHASE II</td>
<td>$300</td>
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<td>PG. 4-10</td>
<td>WATERFRONT DRIVE CONNECTION FROM G TO J</td>
<td>$2,939</td>
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<td>PG. 4-XX</td>
<td>4TH ST. UNDERGROUND DISTRICT</td>
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</table>
### Project Description
Slurry seal, overlay, or reconstruct streets.

### Project Location
Citywide

### Justification
Use annually allocated funds to maintain streets at current service levels.

### City Council Priority and Goals
Meets Strategic Plan 2020 goals of a financially sound City providing effective services and a more liveable Eureka community. Also is identified as a High Priority of the 2030 vision.

### Studies and Reports

### Comments

### Prior Appropriations

<table>
<thead>
<tr>
<th>Fiscal Year</th>
<th>Appropriations (Thousands of Dollars)</th>
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<tbody>
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<td>FY 2013/14</td>
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<td>FY 2014/15</td>
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<td>FY 2015/16</td>
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### Fiscal Impact

<table>
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<th>FY 2017-18</th>
<th>FY 2018-19</th>
<th>FY 2019-20</th>
<th>FY 2020-21</th>
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<td>14th St (&quot;M&quot; to West Ave)</td>
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<td>H St (Harris to Oak)</td>
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<td>Total Project Cost:</td>
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</table>

An annual budget of $2.8M would be required to maintain the current pavement condition.

Total Project Cost: $14,000,000 (2016 dollars) plus 3% annually for inflation. Funded by gas tax.

### Expenditure Totals

<table>
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</table>
SAFETY IMPROVEMENT PROJECTS

Category: Streets & Storm Drains  Project Manager: Scott Ellsmore

Project Description
Construct, add or install safety improvements at various locations throughout the City.

Project Location
Citywide

Justification
Safety improvements to provide clearer directions, protect lives and reduce congestion.

City Council Priority and Goals
Meets Strategic Plan 2020 goals of a more liveable Eureka community, and providing effective services.

Studies and Reports
Pedestrian Crossing Improvement Project Before/After Study (2009)

Comments

Prior Appropriations
FY 2011/12: $66,670 [Fairway Guard Rail]  |  FY 2011/12: $800,000 [EVP Installation]
FY 2011/12: $306,000 [West Avenue Improvements]

Fiscal Impact
Total Cost: $785,000 (206 dollars) plus 3% for inflation annually. Pursue grants for approximately $500,000.

1. Pedestrian safety improvements at Harrison & Roane, Campton & Oak, Fairway
   near golf course, Henderson & Central, and H & I Streets near EHS $130,000
2. Relocate pedestrian crossing at Myrtle & Harrison intersection to E/S $40,000
3. Bus pullouts (various locations, cost each) $40,000
4. Install open-graded friction course on Fairway Drive & Campton Road $500,000
5. Replace regulatory traffic signs $75,000

<table>
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<td>$41</td>
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<td>$616</td>
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</table>
STORM DRAIN IMPROVEMENTS

Project Description
Install, replace, repair, or relocate storm drainage facilities.

Project Location
Citywide

Justification
Facilities have reached end of useful life. New development in some areas have altered the drainage patterns.

City Council Priority and Goals
Meets Strategic Plan 2020 goal of providing effective services. Also considered a part of the High Priority of 2030 vision of Street Improvement and Funding.

Studies and Reports
Eureka Storm Drain Master Plan 1996

Comments
See Table on Page 4-6 for a list of stormwater infrastructure projects that have been identified as needing upgrade, replacement or relocation.

Stormwater infrastructure in Eureka is outdated and deteriorating. Regulations for municipal stormwater systems have been continuously increasing and the City of Eureka must keep up with more stringent requirements while identifying new issues every wet season.

Prior Appropriations
Not Available

Fiscal Impact
Total project cost: $1,900,000 (2016 dollars) plus 3% for inflation annually. Includes stormwater resource plan for $200,000 to identify, in collaboration with Humboldt County.

<table>
<thead>
<tr>
<th>EXPENDITURE CATEGORY</th>
<th>2016-17</th>
<th>2017-18</th>
<th>2018-19</th>
<th>2019-20</th>
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<td>$1,802</td>
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<tr>
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### Identified Stormwater Infrastructure Projects

<table>
<thead>
<tr>
<th>Description</th>
<th>Status</th>
<th>Cost</th>
</tr>
</thead>
<tbody>
<tr>
<td>Replace 18&quot; CMP on G Street from 1st manhole south of Wabash north to 17th Street.</td>
<td>N/A</td>
<td></td>
</tr>
<tr>
<td>Install 18&quot; SD, MHs and DI$s from Buhne &amp; &quot;I&quot; to Buhne &amp; Williams 1800+ LF - Basin F</td>
<td></td>
<td>$285,000</td>
</tr>
<tr>
<td>Repair existing 24&quot; concrete SD on Henderson between Broadway and Fairfield Basin D.</td>
<td>N/A</td>
<td></td>
</tr>
<tr>
<td>Install 12&quot; SD Everding south 350+ LF on &quot;F&quot; Street ($60,000) Basin M.</td>
<td></td>
<td>$60,000</td>
</tr>
<tr>
<td>Replace collapsing 24&quot; SD under Buhne near &quot;Q&quot; St. by jacking and boring ($290,000) Basin L.</td>
<td></td>
<td>$290,000</td>
</tr>
<tr>
<td>Replace SD at California and Church, William and Long ($320,000) Basin F.</td>
<td></td>
<td>$320,000</td>
</tr>
<tr>
<td>Install 15&quot; SD, MHs and DI$s from 7th St. to 6th &amp; &quot;L&quot; St. 330+ LF ($45,000) Basin I.</td>
<td></td>
<td>$45,000</td>
</tr>
<tr>
<td>15&quot; and California subsurface drainage study ($35,000) Basin F.</td>
<td></td>
<td>$35,000</td>
</tr>
<tr>
<td>Relocate drainage facilities near Garland ($370,000) Basin F.</td>
<td></td>
<td>$370,000</td>
</tr>
<tr>
<td>Install 24&quot; SD 350+ LF &quot;I&quot; St. south of Hodgson ($70,000) Basin E.</td>
<td></td>
<td>$70,000</td>
</tr>
<tr>
<td>Replace existing SD culvert under McFarlan St. south of Myrtle ($105,000) Basin L.</td>
<td></td>
<td>$105,000</td>
</tr>
<tr>
<td>Culvert reconstruction - SE corner Myrtle and &quot;O&quot; Street</td>
<td>N/A</td>
<td></td>
</tr>
<tr>
<td>Culvert reconstruction SD collection box - SW corner 6th and &quot;F&quot; Street</td>
<td>N/A</td>
<td></td>
</tr>
<tr>
<td>Replace/upsize SD - 1st from SW corner 1st &amp; &quot;D&quot; St., and SW and SE corner 1st &amp; &quot;E&quot; Street,</td>
<td>N/A</td>
<td></td>
</tr>
<tr>
<td>Iowa bet. Highland &amp; McCullens (new manhole &amp; drain line to eliminate flooding)</td>
<td>N/A</td>
<td></td>
</tr>
<tr>
<td>Long &amp; &quot;M&quot; pump (construct system at street level)</td>
<td>N/A</td>
<td></td>
</tr>
</tbody>
</table>
BICYCLE FACILITIES

Project Description
Install bicycle facilities throughout various areas in the City.

Project Location
Citywide

Justification
Increase cycling and provide safe routes and facilities

City Council Priority and Goals
Meets Strategic Plan 2020 goals of more liveable Eureka community and alive Old Town and Downtown.

Studies and Reports
Regional Bicycle Transportation Plan Update (HCAOG)

Comments

Prior Appropriations
None

Fiscal Impact
1. Replace existing bike lane marking with thermoplastic $105,000
2. Install Class II bike lanes on H St/Camptoon Road $20,000
3. Develop C Street Bike Boulevard $50,000
Total $175,000

EXPENDITURE CATEGORY | 2016-17 | 2017-18 | 2018-19 | 2019-20 | 2020-21 | Five Year
--- | --- | --- | --- | --- | --- | ---
Right-of-Way | | | | | | $0
Design | | | | | | $0
Professional Services | | | | | | $0
Construction | $175 | | | | | $175
Expenditure Totals | $175 | $0 | $0 | $0 | $0 | $175
Grant | $175 | | | | | $175
Funding Totals | $175 | $0 | $0 | $0 | $0 | $175
SIDEWALK REPAIR IMPROVEMENTS

Project Description
Repair and reconstruct sidewalks throughout the City and provide for the 1911 Act Sidewalk Program.

Project Location
Citywide

Justification
Improvement of Americans with Disabilities Act (ADA) compliance providing citizen safety and access.

City Council Priority and Goals
Meets Strategic Plan 2020 goal of a more liveable Eureka community.

Studies and Reports
None

Comments
Funds recovered from property owners are returned to this project fund for additional abatements.

Prior Appropriations
<table>
<thead>
<tr>
<th>Fiscal Year</th>
<th>Appropriation</th>
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<tbody>
<tr>
<td>FY 2011/12</td>
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<tr>
<td>FY 2012/13</td>
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<tr>
<td>FY 2013/14</td>
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<tr>
<td>FY 2014/15</td>
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</tr>
<tr>
<td>FY 2015/16</td>
<td>$50,000</td>
</tr>
</tbody>
</table>

Fiscal Impact
The City allocates $50,000 plus 3% inflation per year to sidewalk improvement/repair projects.

<table>
<thead>
<tr>
<th>EXPENDITURE CATEGORY</th>
<th>2016-17</th>
<th>2017-18</th>
<th>2018-19</th>
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<th>Five Year</th>
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<tr>
<td>Professional Services</td>
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<tr>
<td>Construction</td>
<td>$50</td>
<td>$52</td>
<td>$53</td>
<td>$55</td>
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Expenditure Totals  

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<th>2016-17</th>
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<th>2018-19</th>
<th>2019-20</th>
<th>2020-21</th>
<th>Five Year</th>
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<tbody>
<tr>
<td>General Fund</td>
<td>$50</td>
<td>$52</td>
<td>$53</td>
<td>$55</td>
<td>$56</td>
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</table>

Funding Totals       

<table>
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<th>EXPENDITURE CATEGORY</th>
<th>2016-17</th>
<th>2017-18</th>
<th>2018-19</th>
<th>2019-20</th>
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<tbody>
<tr>
<td>Funding Totals</td>
<td>$50</td>
<td>$52</td>
<td>$53</td>
<td>$55</td>
<td>$56</td>
<td>$266</td>
</tr>
</tbody>
</table>
PARKING METER INSTALLATION PHASE II

Category: Streets & Storm Drains

Project Description
Install parking meters in six (6) downtown/Old Town parking lots for this phase.

Project Location
Downtown/Old Town

Justification
More effectively manage parking and provide revenue for parking lot maintenance.

City Council Priority and Goals
Meets Strategic Plan 2020 goal of a financially sound City providing effective services. Also identified as a High Priority goal of Parking Standards.

Studies and Reports
Cost Analysis completed by Finance & Engineering Departments

Comments
Phase II recommended by Parking Place Commission, supported by Eureka Mainstreet, and approved by previous Eureka City Council.

The City plans to install meters at parking lots over the next four years.

Prior Appropriations
Phase I: $110,000

Fiscal Impact
Project Total Cost: $300,000 (2016 dollars) plus 3% for inflation annually.

<table>
<thead>
<tr>
<th>EXPENDITURE CATEGORY</th>
<th>2016-17</th>
<th>2017-18</th>
<th>2018-19</th>
<th>2019-20</th>
<th>2020-21</th>
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</tr>
</thead>
<tbody>
<tr>
<td>Right-of-Way</td>
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<td>Professional Services</td>
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<td>Expenditure Totals</td>
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<td>Parking Fund</td>
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<td>$64</td>
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<td>$312</td>
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<tr>
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<td>$62</td>
<td>$64</td>
<td>$66</td>
<td>$0</td>
<td>$312</td>
</tr>
</tbody>
</table>
**WATERFRONT DRIVE CONNECTION FROM G TO J STREETS**

**Category:** Streets & Storm Drains  
**Project Manager:** Scott Ellsmore

---

**Project Description**
Complete design and construct Waterfront Drive Phase 2, G to J Streets. This will provide a continuous Waterfront Drive from Del Norte to T St.

**Project Location**
1st St from G to J

**Justification**
The section of roadway will connect Old Town and the City's northern waterfront resources with vehicular, pedestrian, bicycle and transit access.

**City Council Priority and Goals**
Meets Strategic Plan 2020 goals of a more liveable Eureka community and alive Old Town.

**Studies and Reports**
- Waterfront Drive Connection Phase 2 Project Study Report
- Waterfront Drive Facilities Plan
- Waterfront Revitalization Plan
- Eureka General Plan

**Comments**
This phase would complete the final link with Phase 1 which was completed in conjunction with the Humboldt Bay Aquatic Center. The contaminated soils within the Railroad property road alignment were substantially cleaned up in the summer of 2012, and finally completed in 2013. Since completion of cleanup, design has been completed and the Right of Way is in progress with a Transportation Enhancement Grant that fully funded environmental review and design, but not right-of-way purchase or construction.

**Prior Appropriations**
2015 Design and Right-of-Way: $279,000

**Fiscal Impact**
Total Project Cost: $2,939,000, (2016 dollars).

---

**EXPENDITURE CATEGORY**

<table>
<thead>
<tr>
<th></th>
<th>2016-17</th>
<th>2017-18</th>
<th>2018-19</th>
<th>2019-20</th>
<th>2020-21</th>
<th>Five Year</th>
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<tr>
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<td>$0</td>
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<tr>
<td>Professional Services</td>
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<td>$0</td>
<td>$0</td>
<td>$0</td>
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<tr>
<td>Construction</td>
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<td></td>
<td></td>
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<td>$2,939</td>
<td>$2,939</td>
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**Expenditure Totals**
- $0  
- $0  
- $0  
- $0  
- $2,939  
- $2,939  

**Grant**
- $100  
- $100  

**General Fund**
- $0  
- $0  

**Measure O**
- $250  
- $250  

**Funding Totals**
- $0  
- $0  
- $0  
- $0  
- $350  
- $350  

---

Page: Streets & Storm Drains 4-10
4TH STREET UNDERGROUND DISTRICT

Category: Streets & Storm Drains

Project Description
Underground District 11 will be a section of 4th Street in which overhead utilities will be converted to underground.

Project Location
4th Street from P Street to beyond Y Street

Justification
The undergrounding of utilities makes for a more visually appealing corridor along 4th Street.

City Council Priority and Goals
Meets Strategic Plan 2020 of a more liveable Eureka community.

Studies and Reports
None

Comments
The Rule 20A Program is an offering from PG&E where they put aside funding credits for undergrounding projects.

Prior Appropriations
None

Fiscal Impact
Rule 20A funds will be used to underground existing utilities, design, and construction management by PG&E.

<table>
<thead>
<tr>
<th>EXPENDITURE CATEGORY</th>
<th>2016-17</th>
<th>2017-18</th>
<th>2018-19</th>
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WATER SUPPLY FACILITIES
## Capital Improvement Program 2016/17
### FIVE YEAR SUMMARY

### WATER SUPPLY

<table>
<thead>
<tr>
<th>Page #</th>
<th>Project Name</th>
<th>Total Project Cost (Thousands of Dollars)</th>
<th>2016 Dollars</th>
<th>YEAR 1</th>
<th>YEAR 2</th>
<th>YEAR 3</th>
<th>YEAR 4</th>
<th>YEAR 5</th>
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<tbody>
<tr>
<td>PG. 5-3</td>
<td>MAD RIVER WATER TRANSMISSION PIPELINE PROJECT</td>
<td>$3,000</td>
<td>$3,000</td>
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<td>$ -</td>
<td>$ -</td>
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<tr>
<td>PG. 5-6</td>
<td>WATER DISTN SYSTEM ANNUAL MAINTENANCE &amp; REPAIR</td>
<td>$2,420</td>
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<td>$515</td>
<td>$530</td>
<td>$545</td>
<td>$560</td>
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<td>PG. 5-8</td>
<td>RESERVOIR MAINTENANCE &amp; SECURITY PROGRAM</td>
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<td>PG. 5-9</td>
<td>LUNDBAR HILLS BOOSTER PUMP STATION REHABILITATION</td>
<td>$250</td>
<td>$50</td>
<td>$206</td>
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<td>$ -</td>
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<td>PG. 5-10</td>
<td>HIGH TANK PUMP STATION REPLACEMENT</td>
<td>$360</td>
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<td>PG. 5-11</td>
<td>CORROSION CONTROL WATER STORAGE TANKS</td>
<td>$75</td>
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<td>WATER IMPROVEMENT PROJECTS 2016</td>
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<td>CALIFORNIA REDWOOD COMPANY WATER CONNECTION</td>
<td>$2,200</td>
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<td><strong>TOTAL</strong></td>
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<td><strong>$596</strong></td>
<td><strong>$905</strong></td>
<td><strong>$560</strong></td>
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</tr>
</tbody>
</table>
MAD RIVER WATER TRANSMISSION PIPELINE PROJECT

Category: Water Supply  Project Manager: Jesse Willor, Brian Gerving

Project Description
Multi-phase project designed to replace the entire Mad River Pipeline from origin in Arcata to the reservoir on Dolbeer Street. Phase 6 will be implemented in 2015/16 and completed in 2016/17.

Project Location
Harris and Hubbard Streets to the Reservoir

Justification
Existing pipeline was installed in the 1930’s and the City has worked diligently since 1999 to replace the line and thereby maintain the reliability and capacity of its water supply system.

City Council Priority and Goals
Meets Strategic Plan 2020 goal of a financially sound City providing effective services.

Studies and Reports
Initial: Mad River Pipeline Evaluation & Design (OLA, Sept 1999)
Most Recent: MRP Phase 6 Predesign Study (OLA, Oct 2015)

Comments
See Page 5-4

Prior Appropriations
See Page 5-4

Fiscal Impact
Total Cost of Construction: $3,000,000 (2016 dollars) plus 3% for inflation annually.

<table>
<thead>
<tr>
<th>EXPENDITURE CATEGORY</th>
<th>2016-17</th>
<th>2017-18</th>
<th>2018-19</th>
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<tr>
<td>Right-of-Way</td>
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</table>
COMMENTS
Construction of the Mad River Pipeline began in 2003. Permitting and design work preceeded construction.

Phase 1 - New Parallel Pipeline North & South of Indianola Road - Completed 10/2003.
Phase 4.1 - Parallel Pipeline: South Arcata Section, 7th St. to Samoa Blvd. - Completed 10/2013.
Phase 4.2 - Parallel Pipeline: Ryan Slough to Frank Street - Completed 10/2013.
Phase 5 - Relocation: Myrtleowne, Frank Street to Harris & Hubbard Sts - Completed 6/2014.
Phase 6 - Relocation: Harris & Hubbard to Reservoir $3,500,000 FY 2015-16 FY 2016-17
Phase 7 - Reconstruct the Ryan Slough Pump Station unknown un-programmed un-programmed

TOTAL $3,500,000

PRIOR APPROPRIATIONS

<table>
<thead>
<tr>
<th>FY</th>
<th>DESCRIPTION</th>
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<td>1998-99</td>
<td>Pipeline Evaluation</td>
<td>$450,000</td>
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<td>2000-01</td>
<td>Alternative Designs (Samoa Pipeline, Truesdale P.S.)</td>
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<td>2001-02</td>
<td>Environmental &amp; Permitting</td>
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<td>2002-03</td>
<td>Valve Replacement Project - Design &amp; Construction</td>
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<td>2003-04</td>
<td>Parallel Pipeline Design &amp; Construction</td>
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<td>2004-05</td>
<td>Indianola Section Design &amp; Construction</td>
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<td>North Arcata Section Design &amp; Construction</td>
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<td>2006-07</td>
<td>Ryan Slough Pump Station Electrical Improvements</td>
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<td>South Arcata Section and Ryan Slough to Frank Street - Design</td>
<td>$95,000</td>
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<td>South Arcata Section and Ryan Slough to Frank Street - Permit</td>
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<td>2012-13</td>
<td>Phase 4 Construction / Phase 5 Design</td>
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<td>2013-14</td>
<td>Phase 5 Construction &amp; Monitoring</td>
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<td>2014-15</td>
<td>Phase 6 Design</td>
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Six Phases of Mad River Pipeline Rehabilitation
WATER DISTRIBUTION SYSTEM ANNUAL REPLACEMENT & MAINTENANCE PROGRAM

Project Description
Replace or upgrade deteriorated, undersized, and aged mains, valves, and services

Project Location
City wide

Justification
Preventative maintenance to ensure the safety of the City’s drinking water and the integrity of the water distribution system.

City Council Priority and Goals
Meets Strategic Plan 2020 goal of providing a financially sound City providing effective services.

Studies and Reports
Annual priority list compiled by Public Works and Fire Department

Comments

Prior Appropriations

<table>
<thead>
<tr>
<th>Fiscal Year</th>
<th>Appropriation</th>
<th>Description</th>
<th>Amount</th>
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<td>Water Improvements 2007</td>
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<td>FY '09-10</td>
<td># 468</td>
<td>Water Improvements 2009</td>
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<td>FY '13-14</td>
<td># 484</td>
<td>Water Improvements 2013</td>
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<td>FY' 14-15</td>
<td>#484</td>
<td>Water Improvements 2015</td>
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</table>

Fiscal Impact
See Page 5-7 for infrastructure cost list. Annual budget of $500,00 (2016 dollars) plus 3% inflation per year.

<table>
<thead>
<tr>
<th>EXPENDITURE CATEGORY</th>
<th>2016-17</th>
<th>2017-18</th>
<th>2018-19</th>
<th>2019-20</th>
<th>2020-21</th>
<th>Five Year</th>
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<tbody>
<tr>
<td>Right-of-Way</td>
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<td>$530</td>
<td>$545</td>
<td>$560</td>
<td>$2,570</td>
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## Comments

Replace the following water mains, services and/or valves:

<table>
<thead>
<tr>
<th>WATER MAINS &amp; SERVICES</th>
<th>ESTIMATED COST</th>
<th>PRGM'D YEAR</th>
<th>GATE VALVE ASSEMBLIES</th>
<th>ESTIMATED COST</th>
<th>PRGM'D YEAR</th>
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</thead>
<tbody>
<tr>
<td>1. Buhne Street from Harrison to P Streets</td>
<td>$420,000</td>
<td>2019/20</td>
<td>1. Trinity &amp; D</td>
<td>$18,000</td>
<td>2015/16</td>
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<tr>
<td>2. Buhne Street from William to Fairfield</td>
<td>$1,200,000</td>
<td>future</td>
<td>2. Trinity and F</td>
<td>$18,000</td>
<td>2015/16</td>
</tr>
<tr>
<td>3. Bay St. - Improve Fire Flows</td>
<td>$750,000</td>
<td>future</td>
<td>3. 14th and K</td>
<td>$18,000</td>
<td>2015/16</td>
</tr>
<tr>
<td>a) Directional drill 12&quot;-Bay St. to Jacobs</td>
<td>$800,000</td>
<td>future</td>
<td>4. Henderson &amp; Albee</td>
<td>$22,000</td>
<td>2015/16</td>
</tr>
<tr>
<td>b) Directional drill 12&quot;-Bay to Bridge, west end</td>
<td>$786,500</td>
<td>future</td>
<td>5. Henderson &amp; Union</td>
<td>$22,000</td>
<td>2015/16</td>
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<tr>
<td>4. Henderson St. - California to Fairfield</td>
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<td>future</td>
<td>7. Carson &amp; I</td>
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<tr>
<td>5. Eastwood Dr. - replace w/ 6&quot; &amp; add hydrant</td>
<td>$600,000</td>
<td>future</td>
<td>8. H &amp; 13</td>
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<td>2016/17</td>
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<tr>
<td>8. &quot;N&quot; St. - Bryant to Madrone</td>
<td>$300,000</td>
<td>future</td>
<td>11. Seventh &amp; K</td>
<td>$16,000</td>
<td>2018/19</td>
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<tr>
<td>10. &quot;F&quot; St. - 5th to 6th</td>
<td>$90,000</td>
<td>future</td>
<td>13. 14th and L</td>
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<tr>
<td>14. Hodgson &amp; E</td>
<td>$16,000</td>
<td>2019/20</td>
<td>15. Add 16 isolation valves</td>
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<td>Ongoing</td>
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**TOTAL VALVES $500,000**

Additional Valves $225,000 2020/21

Additional Valves $240,000 future

Additional Valves $255,000 future

*NOTE: TM5 from the 2007 Water Infrastructure Feasibility Study recommends isolation valves at critical facilities. See TM5 for location list.*
**Reservoir Maintenance & Security Program**

**Project Description**
Multi-phase project designed to upgrade mechanical, electrical and structural systems, and increase security at the City's 20 million gallon reservoir.

**Project Location**
Water Treatment Plant

**Justification**
To ensure security and extend the life of the City's water treatment and storage facilities.

**City Council Priority and Goals**
Meets Strategic Plan 2020 goal of a financially sound City providing effective services.

**Studies and Reports**
- 2006 City of Eureka Water Vulnerability Assessment | Oscar Larson and Associates, August 2006
- Reservoir Maintenance & Security Improvement Project Preliminary Design Report

**Comments**
The 20MG reservoir and operations building are among the City's essential assets. The Reservoir Maintenance and Security Program was created to modernize the facilities that were first constructed in the 1950's. The Phase 1 project, completed in 2006, replaced reservoir valves at a cost of roughly $220,000. The Phase 2 project, completed in 2009, replaced the original water supply pumps, electrical service, and motor control center; repaired the maintenance road and berm around the reservoir; added security fences, gates, lighting, and alarm devices; and installed a backup generator at a cost of roughly $1,200,000. The Phase 3 project consisted of recoating the west half of the reservoir roof structural members, and was completed in 2013. A condition assessment of the east side of the reservoir roof structure was prepared, and it was determined at that time to hold off on further action until a subsequent condition assessment. Actions will be determined after the subsequent condition assessment.

**Prior Appropriations**

<table>
<thead>
<tr>
<th>Project #</th>
<th>2005-2008</th>
<th>2009-2010</th>
<th>2010-2013</th>
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<td>$676,576</td>
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<td>FY 2008-09</td>
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**Fiscal Impact**

Total Project Cost: $422,000 (2016 dollars) plus 3% for inflation annually.

<table>
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<tr>
<th>Expenditure Category</th>
<th>2016-17</th>
<th>2017-18</th>
<th>2018-19</th>
<th>2019-20</th>
<th>2020-21</th>
<th>Five Year</th>
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<tbody>
<tr>
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</table>
The Lundbar Hills reservoir and distribution facility, constructed in the early 1980's, is nearing the end of its useful service life. The pump station design requires that the pumps and motors operate continuously, which consumes electrical energy and causes excessive wear. The updated pump station will utilize modern pump and control technologies to increase efficiency and reduce the costs of providing safe, reliable water supply and fire protection to the citizens of Lundbar Hills.

**City Council Priority and Goals**
Meets Strategic Plan 2020 goal of a financially sound City providing effective services.

**Studies and Reports**
None

**Comments**
The Lundbar Hills reservoir and distribution facility, constructed in the early 1980's, is nearing the end of its useful service life. The pump station design requires that the pumps and motors operate continuously, which consumes electrical energy and causes excessive wear. The updated pump station will utilize modern pump and control technologies to increase efficiency and reduce the costs of providing safe, reliable water supply and fire protection to the citizens of Lundbar Hills.

**Prior Appropriations**
None

**Fiscal Impact**
Total Project Cost: $250,000 (2016 dollars) plus 3% for inflation annually.

### Expenditure Totals

<table>
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<th>2017-18</th>
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<tbody>
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</table>
Project Description
Replace high service water supply pumps and controls.

Project Location
Harris and K Streets

Justification
To ensure the security and reliability of the City's primary, high zone, water distribution facility.

City Council Priority and Goals
Meets Strategic Plan 2020 goal of a financially sound City providing effective services.

Studies and Reports
Reservoir Maintenance and Security Improvements Project
Preliminary Design Report; OLA, August 2006

Comments
The elevated water storage tank located at Harris and K Streets maintains delivery pressure in the City's high pressure zone and Lundbar Hills. The pumps that draw from the low zone and fill the elevated tank were installed in the 1950's and have reached the end of their useful service life. The project will replace the existing pumps and controls, rehabilitate the structure that houses the pumps, and modify piping to bypass the elevated water storage tank, allowing for continued operation of the water distribution system whenever maintenance is being performed on the elevated tank.

Prior Appropriations
Prior appropriations were re-allocated to the Reservoir Maintenance and Security Program. Remaining appropriations will be used for the pump replacements.

Fiscal Impact
Total Project Cost: $380,000 (2016 dollars) plus 3% for inflation annually.

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<th>Five Year</th>
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CORROSION CONTROL - WATER STORAGE TANKS

Category: Water Supply  Project Manager: Jesse Willor

Project Description
Design and installation cathodic protection for the elevated water storage tank, and upgrade the lower storage tank with a cathodic protection system.

Project Location
3030 L Street

Justification
To inhibit corrosion and maintain the structural integrity of the City's water storage tanks, thus maintaining existing infrastructure to reduce long term capital costs and provide reliable water service.

City Council Priority and Goals
Meets Strategic Plan 2020 goal of supporting a financially sound city providing effective services.

Studies and Reports
Annual cathodic protection survey reports by Corrpro Companies, Inc.-Waterworks Division

Comments
Cathodic protection (CP) is a technique used to limit corrosion of a metal surface by making that surface the cathode of an electrochemical cell. Anodes composed of a metal with a strong tendency to corrode, such as zinc or magnesium, are electrically connected to the structure to be protected. The anodes corrode more easily than the structure, consuming the anode material until eventually it must be replaced. CP systems on City water storage tanks are surveyed annually by corrosion control professionals and inspected regularly by Operations personnel.

Prior Appropriations
None

Fiscal Impact
Total Project Cost: $75,000 (2016 dollars) plus 3% for inflation annually.

Annual O&M cost of approximately $1,000 is expected to increase to approximately $1,500 due to the addition of CP to the Elevated Tank.

<table>
<thead>
<tr>
<th>EXPENDITURE CATEGORY</th>
<th>2016-17</th>
<th>2017-18</th>
<th>2018-19</th>
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</table>
WATER IMPROVEMENTS PROJECT 2016

Category: Water Supply
Project Manager: Jesse Willor

Project Description
Replace damaged water main, water services, and water valves at a variety of locations throughout the City.

Project Location
Buhne Street between Dean Street and Harrison Avenue

Justification
Replace water mains, valves, and service connections that have a history of problems identified by the Water Distribution Division of Public Works to ensure the safety and reliability of the City's Water Distribution System.

City Council Priority and Goals
Meets Strategic Plan 2020 goal of a financially sound City providing effective services.

Studies and Reports
None

Comments
Several doctor's offices and other health service providers populate this stretch of Buhne Street. The Water Distribution Division of Public Works has had to repair this stretch of main four times in the past.

Prior Appropriations
FY 2014-2015: $140,000

Fiscal Impact
Total Project Cost: $420,000 (2016 dollars) plus 3% for inflation annually.

<table>
<thead>
<tr>
<th>EXPENDITURE CATEGORY</th>
<th>2016-17</th>
<th>2017-18</th>
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<td><strong>$420</strong></td>
</tr>
</tbody>
</table>
Project Description

The City is pursuing annexation of the California Redwood Company (CRC) property. If this happens, the City may eventually extend utilities to the CRC property.

Project Location

Avenue and Mid City Motor World Driveway.

Justification

The CRC property is a developed industrial site with direct Highway 101 access that could prove to be a useful resource under the City's jurisdiction.

City Council Priority and Goals

Meets Strategic Plan 2020 goals of a financially sound City providing effective services and business investment, business growth, and quality jobs.

Studies and Reports

None

Comments

Project includes both water and wastewater infrastructure. The project is listed in the Wastewater section of the CIP as well.

Prior Appropriations

None

Fiscal Impact

Total project cost: $2,200,000 (2016 dollars) plus 3% for inflation annually. 60% of the total project cost ($1,314,000) will be for water supply. Preliminary Design and Preliminary Environmental is projected to be $90,000 for the water portion of the project.

<table>
<thead>
<tr>
<th>EXPENDITURE CATEGORY</th>
<th>2016-17</th>
<th>2017-18</th>
<th>2018-19</th>
<th>2019-20</th>
<th>2020-21</th>
<th>Five Year</th>
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<tbody>
<tr>
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CRC Property

Capital Improvement Program 2016/17
PROJECT DESCRIPTION/STATUS REPORT

CALIFORNIA REDWOOD COMPANY WATER & WASTEWATER CONNECTION

Category: Water Supply / Wastewater  Project Manager: Brian Gerving
Martin Slough Interceptor Phase 1 Construction

WASTEWATER
<table>
<thead>
<tr>
<th>Page #</th>
<th>Project Name</th>
<th>Total Project Cost</th>
<th>(Thousands of Dollars)</th>
<th>Year 1</th>
<th>Year 2</th>
<th>Year 3</th>
<th>Year 4</th>
<th>Year 5</th>
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<tr>
<td>PG. 6-3</td>
<td>WASTEWATER INFLOW &amp; INFILTRATION REDUCTION PROGRAM</td>
<td>$5,000</td>
<td>2016 Dollars</td>
<td>$1,000</td>
<td>$1,030</td>
<td>$1,070</td>
<td>$1,110</td>
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<td>PG. 6-4</td>
<td>WASTEWATER COLLECTION SYSTEM MAINTENANCE</td>
<td>$2,500</td>
<td>2016 Dollars</td>
<td>$500</td>
<td>$516</td>
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<td>PG. 6-5</td>
<td>WASTEWATER LIFT STATION UPGRADE PROGRAM</td>
<td>$935</td>
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<td>$35</td>
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<td>PG. 6-6</td>
<td>CROSS TOWN INTERCEPTOR MAINTENANCE</td>
<td>$260</td>
<td>2016 Dollars</td>
<td>-</td>
<td>$83</td>
<td>$191</td>
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<td>PG. 6-7</td>
<td>WWTP DIGESTER DOMES &amp; STAIR RAILING REPLACEMENT</td>
<td>$1,500</td>
<td>2016 Dollars</td>
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<td>-</td>
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<td>PG. 6-8</td>
<td>TRICKLING FILTER PUMPS WWTP</td>
<td>$200</td>
<td>2016 Dollars</td>
<td>-</td>
<td>-</td>
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<td>INFLUENT BYPASS CHANNEL MODIFICATIONS</td>
<td>$155</td>
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<td>PG. 6-10</td>
<td>WATER PUMPS WWTP</td>
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<td>$34</td>
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<td>PG. 6-11</td>
<td>WWTP COMBINED HEAT &amp; POWER REPLACEMENT PROJECT</td>
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<td>-</td>
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<td>MOTOR CONTROL CENTER REPLACEMENT PROJECT</td>
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<td>PG. 6-13</td>
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<td>$500</td>
<td>2016 Dollars</td>
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<td>PRIMARY CLARIFIER EQUIPMENT</td>
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<td>PG. 6-15</td>
<td>WWTP OVERFLOW MARSH VEGETATION REMOVAL</td>
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<td>PG. 6-16</td>
<td>GRIT CLASSIFIER WWTP</td>
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<td>-</td>
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<td>-</td>
<td>$80</td>
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<tr>
<td>PG. 6-17</td>
<td>CALIFORNIA REDWOOD COMPANY WW CONNECTION</td>
<td>$876</td>
<td>2016 Dollars</td>
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<tr>
<td><strong>TOTAL</strong></td>
<td><strong>$15,541</strong></td>
<td><strong>$5,605</strong></td>
<td><strong>2016 Dollars</strong></td>
<td><strong>$3,228</strong></td>
<td><strong>$2,162</strong></td>
<td><strong>$2,118</strong></td>
<td><strong>$2,070</strong></td>
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</table>
WASTEWATER INFLOW AND INFILTRATION REDUCTION PROGRAM

Category: Wastewater

Project Description
A multi-phased, multi-year program for reducing Rainfall Derived Inflow and Infiltration (RDII) into the wastewater collection system by implementing capital improvement projects in accordance with program recommendations based on field tests, observations & analysis.

Project Location
City Wide

Justification
In conformance with the City's NPDES permit issued by the California Regional Water Quality Control Board (RWQCB), the City is required to reduce the amount of inflow and infiltration (I/I) that enters the City’s wastewater system. A comprehensive program that consists of testing, correction work and documentation is in place as the most effective means of accomplishing meaningful I/I reduction and addressing wet weather peak flows at the Elk River WWTP.

City Council Priority and Goals
Meets Strategic Plan 2020 goals of supporting a financially sound city providing effective services and is listed as a High Priority Project in the Strategic Plan.

Studies and Reports
1980 Infiltration/Inflow Study (Oscar Larson and Assoc.)
1984 Infiltration/Inflow Correction for the Greater Eureka Area Wastewater Project
2003/04 Flow Monitoring Study (SHN Consulting Engineers & Geologists)
2008 Wastewater Facilities Plan Phase 1 (Brown and Caldwell)
2014 Feasibility Analysis for Treating Peak Wet Weather Discharges (Brown and Caldwell)

Comments
City is currently updating its Sewer Lateral Ordinance with the goal being to replace/repair deteriorated laterals and inappropriate connections.

Prior Appropriations
Not Available

Fiscal Impact
Total Project Cost: $1,000,000 (2016 dollars) plus 3% for inflation annually.

<table>
<thead>
<tr>
<th>EXPENDITURE CATEGORY</th>
<th>2016-17</th>
<th>2017-18</th>
<th>2018-19</th>
<th>2019-20</th>
<th>2020-21</th>
<th>Five Year</th>
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</thead>
<tbody>
<tr>
<td>Right-of-Way</td>
<td></td>
<td></td>
<td></td>
<td></td>
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<td>Design</td>
<td>$90</td>
<td>$103</td>
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<td>$111</td>
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<td>$927</td>
<td>$963</td>
<td>$999</td>
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<td>$1,000</td>
<td>$1,030</td>
<td>$1,070</td>
<td>$1,110</td>
<td>$1,140</td>
<td>$5,350</td>
</tr>
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</table>

Wastewater Enterprise Reserves Funds

Expenditure Totals

Funding Totals

$1,000 | $1,030 | $1,070 | $1,110 | $1,140 | $5,350
**Project Description**
Replace deteriorated and aged sanitary sewer mains in various locations within City.

**Project Location**
City Wide

**Justification**
To reduce maintenance requirements, I/I, and potential for structural failure.

**City Council Priority and Goals**
Meets Strategic Plan 2020 goals of supporting a financially sound city providing effective services and is listed as a High Priority Project in the Strategic Plan.

**Studies and Reports**
Operational inspection and/or reports of problems

**Comments**

**Prior Appropriations**
Not Available

**Fiscal Impact**
Budget $500,000 (2016 dollars) plus 3% for inflation per year for improvements.

### MAINS AND LATERALS

<table>
<thead>
<tr>
<th>Description</th>
<th>EST. YEAR PRGM'D</th>
<th>MANHOLES</th>
<th>EST. COST</th>
<th>YEAR PRGM'D</th>
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</thead>
<tbody>
<tr>
<td>1a. 15&quot; 2nd &amp; K to Snug Alley</td>
<td>See 6-3</td>
<td>2015/16 1. I St btw 14th &amp; 15th</td>
<td>$6,000</td>
<td>2017/19</td>
</tr>
<tr>
<td>1b. Snug Alley, 8&quot; from G to I</td>
<td>See 6-3</td>
<td>2015/16 2. Harris btwn J &amp; K</td>
<td>$11,000</td>
<td>2017/19</td>
</tr>
<tr>
<td>2. Opera Alley, 8&quot; from C to E</td>
<td>See 6-3</td>
<td>2015/16 3. Hodgson btwn F &amp; G</td>
<td>$6,000</td>
<td>2017/19</td>
</tr>
<tr>
<td>3. 6&quot; Harris &amp; B to Lowell (Gulch)</td>
<td>$350,000</td>
<td>2016/17 4. Duck @ O St. gulch wye</td>
<td>$6,000</td>
<td>2017/19</td>
</tr>
<tr>
<td>4. Garland, 6&quot; Buhne 500' north</td>
<td>$125,000</td>
<td>2017/18 5. Randolph @ Lowell gulch wye</td>
<td>$6,000</td>
<td>2017/19</td>
</tr>
<tr>
<td>5. Union, 14&quot; from Church to 15th</td>
<td>$55,000</td>
<td>2017/18 6. Carson &amp; Summit</td>
<td>$6,000</td>
<td>2017/19</td>
</tr>
<tr>
<td>6. Waterfront Dr., 8&quot; from J to G</td>
<td>See 6-3</td>
<td>2015/18</td>
<td></td>
<td></td>
</tr>
<tr>
<td>7. 18th &amp; Sunny, 8&quot; line to East Av plus 8&quot; gulch line 400' southerly</td>
<td>$150,000</td>
<td>2016/17</td>
<td></td>
<td></td>
</tr>
<tr>
<td>8. Gulch Line, P to Hemlock</td>
<td>$315,000</td>
<td>2017/18</td>
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<td></td>
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<tr>
<td>9. Albee, 8&quot; from Highland to Andrew</td>
<td>$285,000</td>
<td>2018/19</td>
<td>Additional Manholes</td>
<td>$45,000</td>
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<tr>
<td>10. Searles, 6&quot; West Ave to 300' E</td>
<td>$75,000</td>
<td>2018/19</td>
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</table>

**Total Manholes**

<table>
<thead>
<tr>
<th>Description</th>
<th>EST. YEAR PRGM'D</th>
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</thead>
<tbody>
<tr>
<td>TOTAL MANHOLES</td>
<td>2017/19</td>
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</table>

Note: A new list of manholes is generated each year.

### EXPENDITURE CATEGORY

<table>
<thead>
<tr>
<th>Description</th>
<th>2016-17</th>
<th>2017-18</th>
<th>2018-19</th>
<th>2019-20</th>
<th>2020-21</th>
<th>Five Year</th>
</tr>
</thead>
<tbody>
<tr>
<td>Right-of-Way</td>
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<td></td>
<td></td>
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<tr>
<td>Design</td>
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<tr>
<td>Funding Totals</td>
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<td>$516</td>
<td>$530</td>
<td>$546</td>
<td>$560</td>
<td>$2,652</td>
</tr>
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</table>

Page: Wastewater 6-4
PROJECT DESCRIPTION/STATUS REPORT

WASTEWATER LIFT STATION UPGRADE PROGRAM

Category: Wastewater

Project Description
Repair, upgrade, or replace wastewater lift stations and/or components as they age and become outdated and ineffective.

Project Location
City Wide

Justification
To maintain integrity of the City's wastewater conveyance facilities.

City Council Priority and Goals
Meets Strategic Plan 2020 goal of supporting a financially sound city providing effective services.

Studies and Reports
Not Available

Comments

Prior Appropriations
FY 2014-2015 PN #555 Hilfiker LS $415,000

Fiscal Impact
Total project cost varies by prioritization of lift station improvements. (2016 dollars plus 3% for inflation annually)

<table>
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<tr>
<th>PRIORITY</th>
<th>NAME</th>
<th>DESCRIPTION</th>
<th>COST (2016 Dollars)</th>
<th>YEAR</th>
<th>PRGM'D</th>
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<tbody>
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<td>1</td>
<td>3rd &amp; Y L.S.</td>
<td>Add Emergency Backup Generator</td>
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<tr>
<td>2</td>
<td>Del Norte &amp; Broadway L.S.</td>
<td>Convert to submersible pumps &amp; VFD's</td>
<td>$200,000</td>
<td>2017/18</td>
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<tr>
<td>3</td>
<td>Waterfront Drive L.S.</td>
<td>Convert to submersibles and backup gen.</td>
<td>$250,000</td>
<td>2018/19</td>
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<td>4</td>
<td>Manzanita &amp; K L.S.</td>
<td>Replace lift station &amp; Controls</td>
<td>$250,000</td>
<td>2019/20</td>
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<td>5</td>
<td>Lowell St. L.S.</td>
<td>Re-direct flows to Martin Slough 2.0 Line</td>
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<td>2019/20</td>
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Expenditure Totals

<table>
<thead>
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<th>2017-18</th>
<th>2018-19</th>
<th>2019-20</th>
<th>2020-21</th>
<th>Five Year</th>
</tr>
</thead>
<tbody>
<tr>
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<td></td>
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<td>$0</td>
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<tr>
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<td>Wastewater Enterprise Reserves Funds</td>
<td>$35</td>
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<td>$265</td>
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<td>$206</td>
<td>$265</td>
<td>$273</td>
<td>$224</td>
<td>$1,003</td>
</tr>
</tbody>
</table>
CROSS TOWN INTERCEPTOR MAINTENANCE

Category: Wastewater

Project Description
Evaluate condition of existing infrastructure and act to maintain corrosion control system as needed.

Project Location
See Image of Interceptor Route

Justification
Maintain structural integrity of City’s wastewater transmission main, the Cross Town Interceptor.

City Council Priority and Goals
Meets Strategic Plan 2020 goal of supporting a financially sound city providing effective services.

Studies and Reports
Survey reports by Corrpro Companies, Inc.
Condition Assessment by GHD, Sept. 2012
Preliminary Risk Assessment by GHD, Sept. 2012

Comments
Past cathodic protection survey reports contain the following recommendations:

1. Restore electrical continuity on the pipeline between Del Norte and Truesdale Streets.
2. Re-establish baseline survey data.
3. Replace deep-well anode bed on Railroad Avenue, north of Del Norte Street.
4. Perform annual cathodic protection survey.

Prior Appropriations
FY 2006-2007 $52,000 Project #371
FY 2006-2007 $63,403 Project #433
FY 2008-2009 $17,275 Project #433
FY 2011-2012 $85,000 Project #433

Fiscal Impact
Total estimated project cost: $260,000 (2016 dollars) plus 3% for inflation annually.

<table>
<thead>
<tr>
<th>EXPENDITURE CATEGORY</th>
<th>2016-17</th>
<th>2017-18</th>
<th>2018-19</th>
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<tbody>
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<td><strong>Expenditure Totals</strong></td>
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Wwtp Digester Cover Repair Project

Category: Wastewater
Project Manager: Dan Duncan

Project Description
Remove, inspect, sand blast, repair, and paint existing digester floating domes. Repair/replace digester stair and top railing systems.

Project Location
Elk River WWTP

Justification
The existing domes and railings were installed as part of the original plant constructed in the mid 1980’s. Proximity to Humboldt Bay and exposure to sulfuric compounds and warm, moist gases create harsh conditions for both the internal and external surfaces. The domes and the railings have been affected.

City Council Priority and Goals
Meets Strategic Plan 2020 goal of supporting a financially sound city providing effective services.

Studies and Reports
A prior study was conducted to check the condition of the existing metal and structural integrity. Engineering evaluation of the railings is also completed.

Comments
The dome is an essential component to an anaerobic digester system. It collects and conveys digester gas to cogeneration engines and is integral to the mixing system. The structure includes top and bottom surfaces, with a crawl space in between, which is showing the most significant corrosion and rust-scaling. This project will also provide an opportunity to perform the Digester Mixing Upgrade Evaluation recommended in the Wastewater Facilities Plan. Safe stairway access is mandatory.

Prior Appropriations
None

Fiscal Impact
Total project cost estimated to be $1,500,000 (2016 dollars) plus 3%\(^{\text{a}}\) for inflation annually.

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TRICKLING FILTER PUMPS WWTP

Category: Wastewater

Project Description
Replace 2 trickling filter pumps at the Elk River Wastewater Treatment Plant

Project Location
Elk River WWTP

Justification
Trickling filter pumps are over 30 years old and pumping well below their design capacity of 6 million gallons per day.

City Council Priority and Goals
Meets Strategic Plan 2020 goal of supporting a financially sound city providing effective services.

Studies and Reports
None

Comments
These pump upgrades will allow increased pumping to the secondary treatment process, thereby reducing incidences of bypassing.

Prior Appropriations
Not Available

Fiscal Impact
Total Project Cost: $200,000 (2016 dollars) plus 3% for inflation annually.

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</table>
Project Description
Installation of controlled overflow mechanism and flow monitoring; Modifications to minimize overflow events.

Project Location
Elk River WWTP

Justification
The Wastewater Facilities Plan analysis completed between 2009 and 2014 identifies modifications to the overflow bypass channel to control overflow events, including a modulating weir gate to better monitor control overflow events and monitor flow.

City Council Priority and Goals
Meets Strategic Plan 2020 goal of supporting a financially sound city providing effective services.

Studies and Reports
FY 2009-2014 Wastewater Facility Plan Phase 3

Comments
Wet weather flows often exceed secondary treatment capacity and must be bypassed with primary treatment and disinfection only prior to discharge. WWTP effluent quality is not significantly affected by this infrequent bypass operation. The proposed modifications will minimize the occurrence of bypass and allow accurate flow monitoring when bypass occurs.

Prior Appropriations
None

Fiscal Impact
Total Project Cost: $155,000 (2016 dollars) plus 3% for inflation annually.
### Water Pumps WWTP

**Project Description**
Replace two water pumps at the Elk River Wastewater Treatment plant.

**Project Location**
Elk River WWTP

**Justification**
Two of three water pumps are over 30 years old and no longer pump at their design capacity. They cannot be rebuilt due to age and condition.

**City Council Priority and Goals**
Meets Strategic Plan 2020 goal of supporting a financially sound city providing effective services.

**Studies and Reports**
None

**Comments**
These pumps supply reclaimed water to critical plant functions such as cooling water, seal water, and wash-down water.

**Prior Appropriations**
Not Available

**Fiscal Impact**
Total Project Cost: $60,000 (2016 dollars) plus 3%\(^*\) for inflation annually.

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WWTP COMBINED HEAT AND POWER (CHP) REPLACEMENT PROJECT

Category: Wastewater  Project Manager: Dan Duncan

Project Description
Replace and upsize existing co-generation engines with one modern and energy-efficient unit and backup boiler.

Project Location
Elk River WWTP

Justification
The two existing co-generation (CHP) are over 25 years old and nearing the end of their useful service life. Spare parts are becoming extremely scarce and available parts are excessively expensive.

City Council Priority and Goals
Meets Strategic Plan 2020 goal of supporting a financially sound city providing effective services.

Studies and Reports
Ongoing Analysis/Basis of Design by Greenway Partners

Comments
These engines are designed to burn digester gas and produce both electricity and hot water. The hot water is mainly used to heat and maintain a digester temperature typically around 98°-99°F. It also is used to heat the main administration building. The electricity produced is used to offset the power purchased from PG&E. These newer and more efficient engines are designed to produce more electricity per cubic foot of digester gas produced. The engines are a critical part of the overall plant operation.

A component of this project is a potential $300,000 Self grant that pays half of the money upon project completion and half after five years of operation. The projected yearly cost savings of installing the new engine has been estimated at $90,000 per year.

Prior Appropriations
$7,000 Contract with Greenway for Feasibility Study

Fiscal Impact
Total cost estimated to be $1,400,000 (2016 dollars) plus 3%\(^{\text{a}}\) for inflation annually.

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Motor Control Center (MCC) Replacement Project

Project Description
Replace existing motor control centers at the Wastewater Treatment Plant and three pump stations.

Project Location
Elk River WWTP

Justification
The existing MCC's are over 25 years old and are nearing the end of their useful service life. Repair parts for these obsolete units are increasingly harder to find.

City Council Priority and Goals
Meets Strategic Plan 2020 goal of supporting a financially sound city providing effective services.

Studies and Reports
Energy Consumption Review

Comments
The motor control centers can be called the "heart" of the operations due to the fact that they control the functioning of all the electrical equipment at the treatment plant and pumping stations. Typical design life for these units is normally estimated at 20-25 years. Although they have served the City admirably over time, their reliability is decreasing. These essential components are critical to the overall wastewater treatment operations at the Elk River Wastewater Treatment Plant and the three major pumping stations: McCullens Avenue, Washington Street, and Hill Street.

Prior Appropriations
$25,000 For Design

Fiscal Impact
Total Project Cost: $775,000 (2016 dollars) plus 3%^ for inflation annually.

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Capital Improvement Program 2016/17
PROJECT DESCRIPTION/STATUS REPORT

WWTP BIOSOLIDS STORAGE FACILITY

Category: Wastewater
Project Manager: Brian Gerving, Dan Duncan, Jesse Willor

Project Description
Permitting and Implementation of Biosolids Storage for dewatered biosolids.

Project Location
Elk River WWTP

Justification
Existing sludge lagoons are full and added storage capacity is needed for operations.

City Council Priority and Goals
Facultative Sludge Lagoons
Meets Strategic Plan 2020 goal of supporting a financially sound city providing effective services.

Studies and Reports
Investigation of Dredging and Loading Equipment, along with Biosolids Disposal Options including Land Application and Drying/Composting: COE Biosolids Disposal; Greenway Partners, September 2015

Comments
The City has recently purchased and installed new dredge equipment as well as a new biosolids centrifuge for the dewatering program. The City now needs more storage capacity for the dewatered biosolids.

Prior Appropriations
None

Fiscal Impact
Total Cost: Unknown. Set aside $100,000 plus 3% for inflation per year to dispose of biosolids or towards a storage facility.

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PROJECT DESCRIPTION/STATUS REPORT

PRIMARY CLARIFIER EQUIPMENT

Category: Wastewater

Project Description
Replacement of aging and deteriorating Primary Clarifier components.

Project Location
Elk River WWTP

Justification
Primary clarifier equipment is deteriorating and needs replacement for required duty.

City Council Priority and Goals
Meets Strategic Plan 2020 goal of supporting a financially sound city providing effective services.

Studies and Reports
FY 2009-2014 Wastewater Facility Plan Phase 3

Comments

Prior Appropriations
None

Fiscal Impact
Total Project Cost: $1,000,000 (2016 dollars) plus 3%\(^\text{a}\) for inflation annually.

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PROJECT DESCRIPTION/STATUS REPORT

WWTP OVERFLOW MARSH VEGETATION REMOVAL PROJECT

Category: Wastewater  Project Manager: Dan Duncan

Project Description
Remove and dispose of vegetative plant growth clogging and overgrowing the overflow marsh. Area to be cleaned is approximately 38 acres. Verify functionality of inlet/outlet structures.

Project Location
Elk River WWTP

Justification
Needed to restore storage capacity necessary during winter storms and reduced discharge window.

City Council Priority and Goals
Meet Strategic Plan 2020 goal of supporting a financially sound city providing effective services.

Studies and Reports
Wastewater Facilities Plan, Brown and Caldwell

Comments
The overflow marsh is a component of the facility used during the winter months to store excess treated wastewater received during periods of high flows. Stored wastewater is discharged after mixing with effluent held in the effluent holding pond. Over a period of time the marsh has become clogged with trees, brush, and other vegetative matter. This project would restore the hydraulic storage capacity in this segment of the wastewater treatment plant. In addition this project should help increase effluent quality by reducing BOD and TSS sent back through the plant as final effluent.

Prior Appropriations
None

Fiscal Impact
Total Project Cost: $300,000 (2016 dollars) plus 3%\(^\text{a}\) for inflation annually.

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GRIT CLASSIFIER WWTP
Project Manager: Dan Duncan

**Project Description**
Replace grit classifier at Elk River Wastewater Treatment Plant.

**Project Location**
Elk River WWTP

**Justification**
The existing classifier at the plant has lost most of its efficiency due to moving parts being worn beyond repair.

**City Council Priority and Goals**
Meets Strategic Plan 2020 goal of supporting a financially sound city providing effective services.

**Studies and Reports**
None

**Comments**
The efficient removal of grit is essential for maintaining downstream equipment and processes.

**Prior Appropriations**
None

**Fiscal Impact**
Estimated Cost: $80,000 (2016 dollars) plus 3%\(^\text{^}\) for inflation annually.

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CALIFORNIA REDWOOD COMPANY WATER & WASTEWATER CONNECTION

Category: Wastewater

Project Description
The City is pursuing annexation of the California Redwood Company (CRC) property. If this happens, the City may eventually extend utilities to the CRC property.

Project Location
West of Hwy 101 Safety Corridor, between Jacobs Avenue and Mid City Motor World Driveway.

Justification
The CRC property is a developed industrial site with direct Highway 101 access that could prove to be a useful resource under the City's jurisdiction.

City Council Priority and Goals
Meets Strategic Plan 2020 goals of a financially sound City providing effective services, business investment, business growth, and quality jobs.

Studies and Reports
None

Comments
Project includes both water and wastewater infrastructure. The project is listed in the Water Supply section of the CIP as well.

Prior Appropriations
None

Fiscal Impact
Total project cost: $2,200,000 (2016 dollars) plus 3%\(^*\) for inflation annually. 60% of the total cost ($1,320,000) is expected to be for water supply.

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Long Term Projects are not currently budgeted for the next five years unless funding becomes available or the project becomes an urgent priority.

**Parks & Recreation**

Old Town Square & Gazebo Reconstruction
Reconstruct the Old Town Square and Gazebo to enhance usability and create a town center.

**Land & Facilities**

Eureka Municipal Airport Improvements
Construct improvements such as runway lights, resurfacing, new hangars, and security fencing at airport.

First Street Parking, Bayfront Parking
Provide additional parking, pedestrian access area, and open space and recreational area in Old Town.

Myrtle Grove Cemetery Project
Raise and level grave markers at Myrtle Grove Cemetery. Pave gravel drives through property.

Fire/EOC Facility
Demolition and construction of a new Fire, Emergency Operations and CPR Training Center.

Fire Station #3 Replacement
Purchase land in preparation for the future relocation and replacement of Fire Station #3 at 2905 Ocean.

Fire Station #4 Replacement
Replacement of Fire Station #4 located at 1016 Myrtle Avenue.

Fire Station 6 Museum
Provide structural repairs to the foundation, apply new paint, and continue maintenance to Museum.

Joint Fire Training Facility Paving
Pave Hilfiker training facility from north entry gate to south edge of tower pad, approximately 300’ X 600’.

Joint Fire Training Facility Classroom
Construct a classroom/mixed use building on City-owned property at the foot of Hilfiker Street.

Eureka Police Station Chiller
If the recent upgrades to thermostats do not fix the temperature control issue a new chiller unit is needed.

**Streets & Storm Drains**

Harrison Avenue Congestion Improvements
Increase roadway capacity with coordination from Humboldt County.

North Eureka Gateway Improvements
Construction of gateway improvements along 4th and 5th Streets (US 101) from V Street to Airport Road.

Traffic Signal Upgrades
Upgrades to traffic signal controls and replacement of overhead traffic signal poles.