

FORT BRAGG MUNICIPAL IMPROVEMENT DISTRICT NO. 1

SEWER SYSTEM MANAGEMENT PLAN

Prepared for:
Fort Bragg Municipal Improvement District no. 1
416 N. Franklin Street
Fort Bragg, CA 95437



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TABLE OF CONTENTS

LIST OF APPENDICES	iv
INTRODUCTION	1
ELEMENT 1: GOALS.....	2
1.1 Regulatory Requirements for the Goals Element	2
1.2 SSMP Goals.....	2
ELEMENT 2: ORGANIZATION.....	3
2.1 Regulatory Requirements for the Organization Element	3
2.2 Organization	3
2.3 Authorized Representative	7
2.4 SSO Reporting Chain of Communication	7
ELEMENT 3: LEGAL AUTHORITY.....	8
3.1 Regulatory Requirements for the Legal Authority Element.....	8
3.2 Fort Bragg Municipal Improvement District No. 1's Legal Authority	8
3.3 Agreements with Other Agencies	9
ELEMENT 4: OPERATION AND MAINTENANCE PROGRAM.....	10
4.1 Regulatory Requirements for the Operations and Maintenance Program Element.....	10
4.2 Maps	10
4.3 Preventive Operations and Maintenance Program.....	11
4.4 Rehabilitation and Replacement Program.....	13
4.5 Capital Improvements Plan	16
4.6 Training	16
4.7 Contingency Equipment and Replacement Parts Inventory	16
ELEMENT 5: DESIGN AND PERFORMANCE PROVISIONS.....	18
5.1 Regulatory Requirements for the Design and Performance Provisions.....	18
5.2 Standards for Installation, Rehabilitation and Repair.....	18

5.3 Standards for Inspection and Testing of New, Rehabilitated, and Repaired Facilities	18
ELEMENT 6: OVERFLOW EMERGENCY RESPONSE PLAN	20
6.1 Regulatory Requirements for the Overflow Emergency Response Plan ...	20
ELEMENT 7: FATS, OILS AND GREASE (FOG) CONTROL PROGRAM	21
7.1 Regulatory Requirements for the FOG Program	21
7.2 Public Education and Outreach Program	21
7.3 FOG Source Control.....	21
7.4 Disposal of FOG.....	22
7.5 Legal Authority for FOG Program.....	22
7.6 Requirements to Install Grease Removal Devices	23
7.7 Authority to Inspect Grease Producing Facilities	23
7.8 Identification of Grease Problem Areas and Sewer Cleaning.....	23
ELEMENT 8: SYSTEM EVALUATION AND CAPACITY ASSURANCE PLAN ...	25
8.1 Regulatory Requirements for the System Evaluation and Capacity Assurance Plan	25
8.2 Capacity Evaluation.....	25
8.3 Design Criteria.....	26
8.4 Recommended Capacity Projects	26
8.5 Capital Improvement Plan (CIP) Schedule	26
ELEMENT 9: MONITORING, MEASUREMENTS, AND PROGRAM MODIFICATIONS	27
9.1 Regulatory Requirements for the Monitoring, Measurements, and Program Modifications	27
9.2 Monitoring Information.....	27
9.3 Performance Measures	27
9.4 Performance Monitoring and Program Changes	27
ELEMENT 10: SSMP PROGRAM AUDITS	29

10.1 Regulatory Requirements for the SSMP Program Audits.....29

10.2 SSMP Audits Discussion.....29

ELEMENT 11: COMMUNICATION PLAN.....30

11.1 Regulatory Requirements for the Communication Plan.....30

11.2 Communication Plan30

LIST OF APPENDICES

APPENDIX A	ORDER NO. 2006-0003, STATEWIDE GENERAL WASTE DISCHARGE REQUIREMENTS FOR SANITARY SEWER SYSTEMS (WDR)
APPENDIX B	ORDER NUMBER WQ 2013-0058-EXEC
APPENDIX C	SSMP AUDIT REPORT, FEBRUARY 2019
APPENDIX D	FORT BRAGG MUNICIPAL IMPROVEMENT DISTRICT NO. 1 SANITARY CODE
APPENDIX E	SEWER FLUSHING LOGS
APPENDIX F	SEWER CHECK 50 CHART
APPENDIX G	FORT BRAGG MUNICIPAL IMPROVEMENT DISTRICT NO. 1 CAPITAL IMPROVEMENT PLAN
APPENDIX H	DISTRICT'S OVERFLOW EMERGENCY RESPONSE PLAN

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 (WDR) for Sanitary Sewer Systems 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 most recent Fort Bragg Municipal Improvement District No. 1 (District) SSMP is dated January, 2010. A SSMP audit was conducted in 2019 and is attached as Appendix C. This SSMP is an update of the 2010 SSMP.

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
11. Communication Plan.

As described in the NPDES permit, the District owns, operates, and maintains a municipal wastewater treatment plant and associated collection system and disposal facilities. The Facility serves a residential population of approximately 7,400 with a small number of commercial and institutional users in the Fort Bragg. The District treatment works provides primary treatment and secondary treatment prior to discharging to the Pacific Ocean.

ELEMENT 1: GOALS

The intent of this section is to identify the goals that the District has established for its SSMP. These goals are intended to provide focus for District 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 District's SSMP include:

- Maintaining or improving the condition of the collection system infrastructure in order to provide reliable services now and into the future;
- Cost-effectively minimizing infiltration/inflow (I/I) and provide adequate sewer capacity to accommodate design storm flows;
- Minimizing the number and impact of sanitary SSOs that occur;
- Preventing unnecessary damage to public and private property;
- Working cooperatively with local, state, and federal agencies to investigate the causes of, minimize, and mitigate the impacts of SSOs;
- Meeting all applicable regulatory notification and reporting requirements;
- Being available and responsive to the needs of the public to prevent and restore interruptions in service, and to minimize public health and property impacts related to SSOs;
- Implementing regular, proactive maintenance of the system to remove and control roots, debris, and fats, oils and grease (FOG) that may cause SSOs;
- Prioritizing renewal and replacement of wastewater collection system facilities to maximize their useful life and optimize capital expenditures; and
- Maintaining the SSMP, which will serve as a reference for the District's sanitary sewer system management practices.

ELEMENT 2: ORGANIZATION

The intent of this section of the SSMP is to identify the District staff members responsible for implementing this SSMP, responding to SSO events, and meeting the SSO reporting requirements. This section 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 responsible 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.

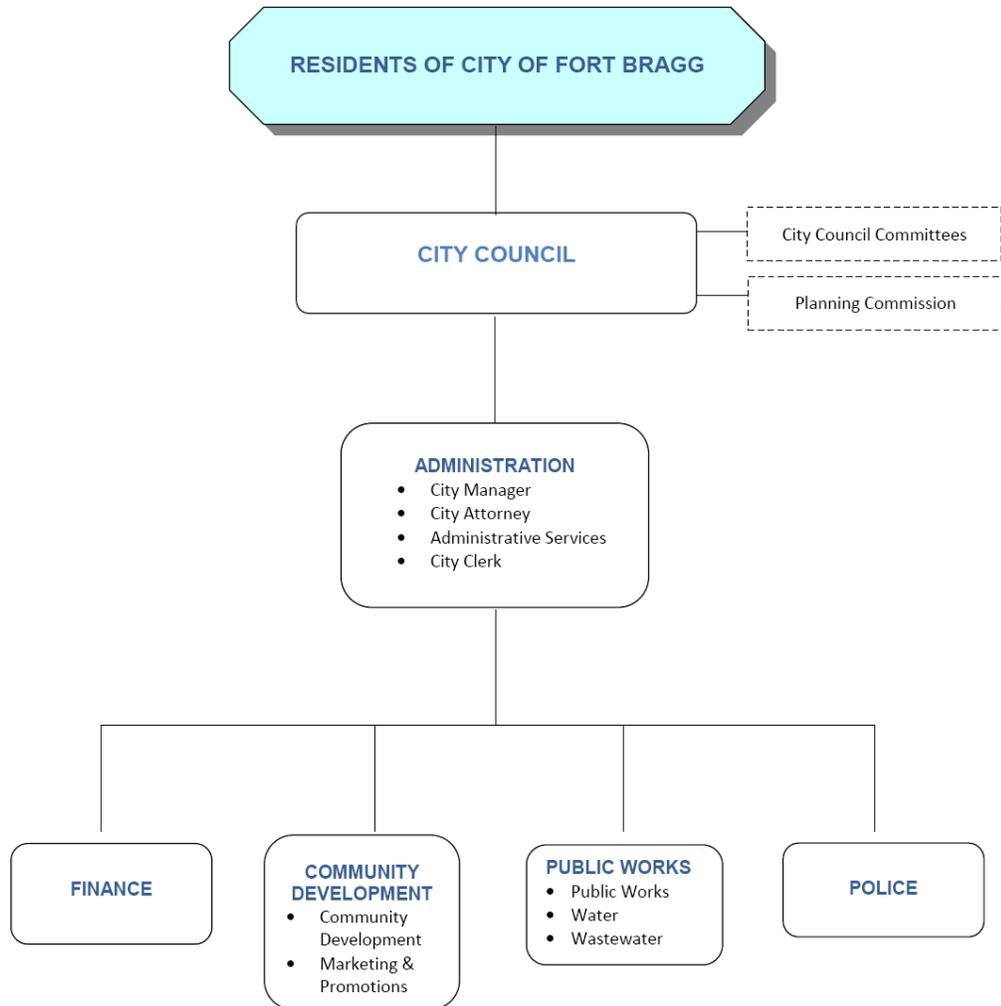
2.2 Organization

The District manages the wastewater of the City of Fort Bragg (City) and its sphere of influence. Organizationally, the District functions as the sanitary sewer department for the City and adjacent unincorporated areas in the District. It was formed in 1969 to comply with the requirements of the California Water Code, adopted the same year. The Sanitary Code in the City's Municipal Ordinance, adopted as Ord. 911 in 2015, is known as the Fort Bragg Municipal Improvement District No. 1 Sanitary Code. It consists of Chapters 14.08 through 14.36 of Title 14, Water and Sewers.

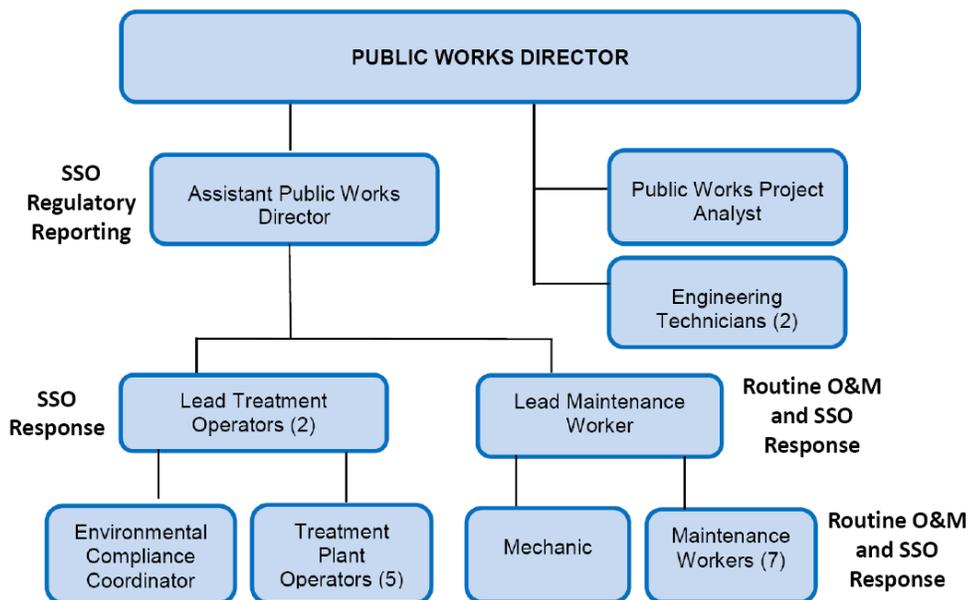
This code, described in the SSMP Introduction, empowers the District to regulate and manage the collection system and treatment plant. The District includes the City of Fort Bragg and portions of its sphere of influence, bounded on the north by MacKerricher State Park and on the south by South Harbor Drive on the Noyo River. Staff of the City of Fort Bragg Public Works Department act as the staff of the District. The Fort Bragg City Council acts as the District Board (Figure 1).

The Lead Treatment Plant Operators and the Lead Maintenance Workers independently report directly to the Assistant Director of Public Works, who in turn, reports to the District's General Manager, who is also the City Manager of Fort Bragg. In most cases, the two entities have consensus on the need for and development of various collection system projects. Because the treatment system also exerts demands on the District's budget for planning, maintenance and rehabilitation, planning for the collection system improvements must be coordinated with the treatment plant needs. The organization chart below illustrates the positions and lines of authority through which the wastewater program is administered.

The lines of authority are clearly diagrammed from the City Council through the Director of Public Works, to each individual position. Each position within the City's organization has specific and clearly defined responsibilities and authorities that are designed to meet the City's goals for the wastewater program and collectively cover all of the SSMP elements. This ensures that each element of the program is properly addressed and accomplished.



PUBLIC WORKS DEPARTMENT



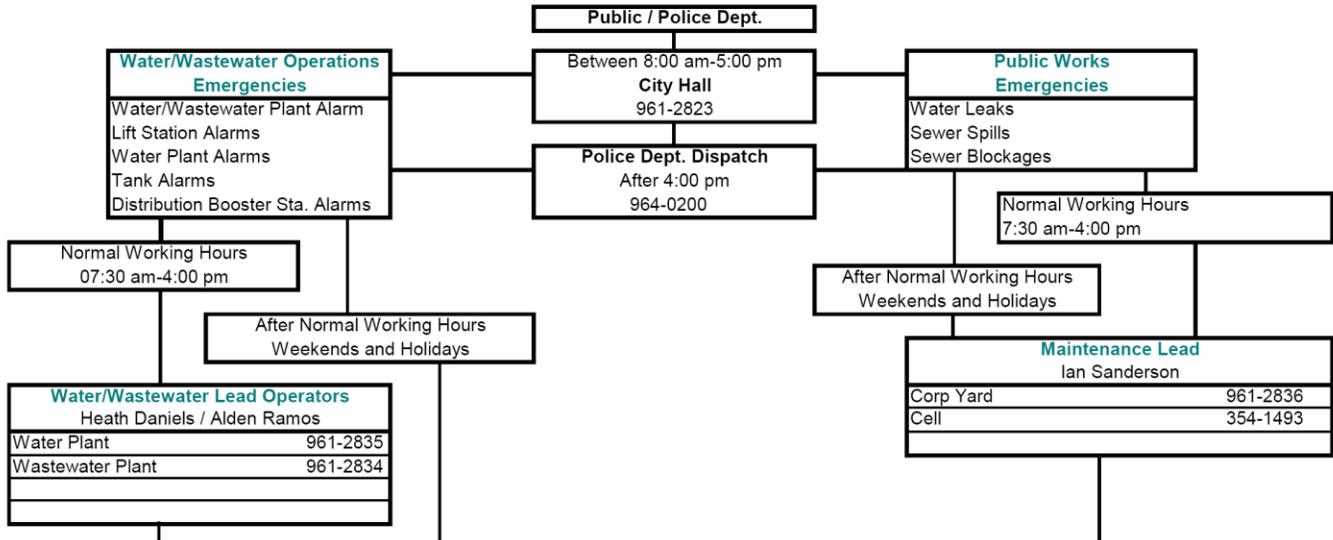
The City’s organizational goal is to clearly define responsibility and authority for accomplishing each program work element. This is accomplished through organization charts, work assignments, and position descriptions.

Each position is responsible for its own work assignments. Principal positions within the Department of Public Works that have responsibility for the wastewater collection system are shown in the following table. Accountability is assured by monitoring and reporting by the various positions at weekly staff meetings. The Director of Public Works oversees these meetings, and monitors the progress of various functions and activities within the SSMP.

Position	Responsibility
Assistant Public Works Director	The Assistant Public Works Director is the duly authorized representative whom oversees all facets of the City’s wastewater and storm water collection system. Duties include, but are not limited to, design, construction review, planning of capital improvement projects, overseeing GIS mapping, operation and maintenance.
Lead Treatment Operator W,C,D	Oversees operation and maintenance of the water treatment plant, sewer collections, and water distribution systems
Lead Wastewater Treatment Plant Operator	Oversees operation and maintenance the City’s wastewater treatment plant and lift stations.
Lead Maintenance Worker	Maintains the City’s wastewater collection system and stormwater system. Duties include trouble-shooting and maintenance of the wastewater collection and conveyance systems, the stormwater system, and response to SSOs.
Maintenance Worker	Maintains the City’s water and wastewater collection system. Duties include trouble-shooting and maintenance of all city systems and response to SSOs.

The names and telephone numbers for management, administrative, and maintenance positions responsible for implementing specific measures in the SSMP program are provided below:

PUBLIC WORKS EMERGENCY CONTACT INFORMATION



Water/Wastewater Lead Operators	
Heath Daniels / Alden Ramos	
Water Plant	961-2835
Wastewater Plant	961-2834

Maintenance Lead	
Ian Sanderson	
Corp Yard	961-2836
Cell	354-1493

Water/Wastewater Operations Staff				
Phone Numbers				
Last	First	Work	Cell	Home
Daniels	Heath	961-2835		
Ramos	Alden	961-2834		
Smith	John	961-2834		
Varga	Tom	961-1592		
Goekler	Jim	961-2834		
Larson	Merle	961-2834		
Brians	Chris	961-2834		
Kemper	Frank	961-4138		
Arellano	Humberto	961-2834		
Rhoades	Ryan	961-2834		

Public Works Staff					
Last	First	Work	Home After Hrs	Work Cell 7:30-4:00	Home Cell After Hrs
Sanderson	Ian	961-2836			
Daniels	Heath	961-2835			
Smith	John	961-2834			
Varga	Tom	961-1592			
Oates	Bob	961-2836			
Mitchell	Tom	961-2836			
Balassi	Jason	961-2836			
Roberts	Art	961-2836			
Baxman	Steve	961-2836			
Palacios	Allen	961-2836			
Celeri	Justin	961-2836			
Orsi	Darrell	961-2833			

Revised HD 3/19

2.3 Authorized Representative

The Assistant Director of Public Works, John Smith, is the Legally Responsible Official (LRO) or duly authorized representative to prepare, certify and submit electronic spill reports to the RWQCB and SWRCB and to notify other government agencies.

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.

Operation and maintenance crews continually monitor the condition and performance of the system with the goal of identifying and fixing any potential problem before it becomes an SSO. In addition, the District has stepped up its efforts to assess the condition of sewers in the collection system. Once a spill is reported or observed, it immediately becomes the highest priority.

Citizens can report any problems with the wastewater collection system 24 hours per day, 7 days per week. During normal business hours reports are made to Public Works at 707-961-2824. After hours reports are made to the Fort Bragg Police Department by calling (707) 964-0200. The Police Department has an afterhours call list for the Public Works Department. If calls are received by the Fort Bragg Police Department, Fire Departments or 911 they are routed to the Department of Public Works during normal business hours or to the Fort Bragg Police Department after hours.

All overflow incidences are immediately reported to the Director of Public Works and the Assistant Public Works Director. A crew is assembled, the problem is evaluated, a solution is found, and implemented.

The District emphasizes timely and accurate notification and reporting. The chain of communication for reporting SSOs has been effective. The City maintains a minimum time in responding to an SSO and meets its legal obligation and social responsibility for notification and reporting.

The Assistant Director of Public Works makes sure the proper agencies are contacted starting with the City Manager. The decision is then made, depending on the SSO, to contact additional resources as needed (the order will also be determined by the nature of the event):

- (800) 852-7550 Manger, Office of Emergency Services (OES),

Depending on the circumstances, OES may contact some or all of the agencies below:

-
- (707)-961-2714 County Environmental Health Specialist
- (707) 576-2220 Regional Water Quality Control Board, North Coast Region
- (707)-964-6611 US Coast Guard
- (707) 961-2831 Fire Chief – Fort Bragg Volunteer Fire Department
- (707) 961-2800 Fort Bragg Police Chief
- (707) 463-4411 Mendocino Sheriff

Fort Bragg maintains a current after-hours call out list used by the Fort Bragg Police Department.

ELEMENT 3: LEGAL AUTHORITY

This element of the SSMP discusses the District's Legal Authority, including its ordinance and agreements with other agencies. This section 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 District 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 Fort Bragg Municipal Improvement District No. 1's Legal Authority

The legal authority required for the SSMP is contained within Fort Bragg's Municipal Code Title 14 "Water and Sewers and is included in Appendix D. 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.);**

The following sections of the Fort Bragg Municipal Code prevent illicit discharges:

- 14.16.070 Drainage Into Sanitary Sewer Works Prohibited
- 14.16.090 Types Of Wastes Prohibited

- 2. Require that sewers and connections be properly designed and constructed;**

The following sections of the Fort Bragg Municipal Code contain design standards:

- 14.24.220 All Work To Be Inspected
- 14.28.020 Construction Requirements
- 14.28.030 Minimum Size And Slope.
- 14.28.040 Separate Sewer Laterals.
- 14.28.050 Old Sewer Laterals.
- 14.28.060 Cleanouts.
- 14.28.080 Connection To Public Sewer.
- 14.28.070 Sewer Too Low.
- 14.32.020 Plans, Profiles, And Specifications Required.
- 14.32.090 Design And Construction Standards.
- 14.32.100 Completion of Sanitary Sewer Works Required.

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

The following sections of the Fort Bragg Municipal Code contain provisions for access to all portions of the sewer and all connections:

- 14.17.130 Inspection and Sampling.
- 14.36.010 Administrative Enforcement Remedies. (Provides authority for termination of discharge for " *Refusal of reasonable access to the person's premises for the purpose of inspection, monitoring, or sampling*").

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

The following sections of the Fort Bragg Municipal Code contain provisions to limit discharge of fats oils and greases and other debris:

- 14.16.090 Types Of Wastes Prohibited. Includes "Solid or viscous pollutants or other substances/materials in amounts which will cause obstruction to the flow in the sanitary sewer works resulting in interference or injury to the treatment works", and " Any water or waste which may contain more than 100 parts per million (100 mg/L) of FOG".
- 14.16.100 Fats, Oils, and Grease (Fog) Control. "*Wastewater Discharge Limitations. No user shall allow wastewater discharge concentrations of FOG from subject grease interceptor, grease trap or alternative pretreatment technology to exceed 100 mg/L*"

5. Enforce any violation of its sewer policies;

The legal authority for enforcement of sewer standards is provided in the following sections of Chapter 13.36 Sanitary Code-Enforcement

- 14.36.010 Administrative enforcement remedies
- 14.36.015 Judicial enforcement remedies
- 14.36.020 Supplemental enforcement action
- 14.36.025 Remedies nonexclusive
- 14.36.030 Affirmative defenses to discharge violations
- 14.36.040 Public nuisance when
- 14.36.050 Means of enforcement only
- 14.36.060 Penalty

3.3 Agreements with Other Agencies

The District has one satellite collection system operated by the MacKerricher State Park. The District does not have an agreement with the MacKerricher State Park.

ELEMENT 4: OPERATION AND MAINTENANCE PROGRAM

4.1 Regulatory Requirements for the Operations and Maintenance Program Element

The WDR states that the District shall develop and implement an Operations and Maintenance (O & M) Program which should include the following:

- The District 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 District 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 District 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 District must provide equipment and replacement part inventories, including identification of critical replacement parts; and
- The District 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

A comprehensive set of sewer maps (storm water and sanitary sewer) show all the features of the District's collection system. These maps are maintained in a modern state-of-the-art GIS System. The District's GIS system has the entire collection system as well as other informational layers, developed with information from the District's maintenance and operations database. The District's goal is to actively use the GIS in system management, decision-making, and prioritization of work. The GIS will be routinely updated to include system expansion, rehabilitation, and building lateral sewer changes. The GIS system includes:

- Sewer pipe network
- Pipe sizes
- Manholes
- Manhole depths
- Pump stations
- Streets
- Parcels
- Sewer Flushing Locations
- Sewer Checking Locations

4.3 Preventive Operations and Maintenance Program

The District performs basic maintenance of collection systems. Maintenance provided includes flushing, root cutting and after hour response to citizen calls. The District also operates and maintains the lift stations. The District budgets for staff and tools to perform the maintenance and improvements to the systems.

Sewer Collection System maintenance including: televising, pipe repair, smoke testing, and some pipe cleaning, are handled by the Collection System Operators. Specialized rehabilitation and replacement are handled by the District as well by Licensed contractors.

The Preventive Sewer System Maintenance Schedule is organized around specific locations and frequencies of service. The District maintains a sewer flushing log for 45 locations that are hydro-flushed monthly, quarterly, and semi-annually. The frequency and type of preventive maintenance has been developed based on experience. Many of these sewer segments are flat or have sags, and may accumulate grease from food service establishments (FSEs) or clusters of residences. Solids and sand collect in some flat or sagging sewer segments and must be cleaned out periodically to prevent SSOs and backups into buildings. Some sites have root intrusion issues. This schedule of preventive maintenance sewer flush log is included in Appendix E.

The length of sewers that needs to be actively flushed, either monthly, quarterly, or semi-annually, is about 15,477 feet, or 2.93 miles. This annually maintained length of sewer is about 11.5% of the District's total collection system length of 26.5 miles. When multiplied by the frequency of cleaning, the District conducts preventive maintenance on 89,940 feet, or 17.03 miles of the collection system.

The District has a vacuum truck, a Water Powered Flexible Rodder truck, a portable jetter for hydro-flushing 4" sewer laterals, a mechanical root cutter to 8" , and sewer balloons/bags for cleaning and clearing lines.

The sewer flush log contained in Appendix E, shows the different maintained sewer segments that have specific characteristics which require instructions unique to each site. Some sewer mains are at elevations near the adjacent buildings, which may or may not have cleanouts, and if the hydro-flushing is conducted with too much pressure, there is a risk of sewer backups into these buildings. Other lines are known to have grease accumulations near restaurants and are cleaned with the appropriate nozzle and at a slower pace to loosen the clogs. Some flat or sagging sewers have notorious solids accumulation, and require a slower pull back of the apparatus to clean them out. The water is turned off on the pull back to avoid flooding of adjacent buildings or overflows into the street.

In addition to regularly scheduled maintenance of specific sewer segments, the District has a list of sites that are visually inspected every week to keep a watchful eye on indicator sites within the entire system, even during dry weather. The sewer check 50 chart contained in Appendix F is a list of the 50, weekly, bi-weekly, and bi-monthly sewer check sites which are distributed throughout the collection system, in every neighborhood. Maintenance staff typically performs these visual inspection rounds on Mondays and Fridays. The inspection consists of pulling the lids off manholes and inspecting the sewer flow. Staff logs each inspection on monthly forms. Staff note on locations and conditions if there are no flows, indicating an upstream stoppage. Lower than normal flows as well as grease deposits in manholes are immediately cleaned. All issues will be documented on a sewer incident log. They will look for the presence of discarded materials from restaurants, businesses, etc. that may indicate inappropriate or illegal discharges to the sewers that could compromise collection system integrity and potentially lead to SSOs. Staff follows up with the businesses or residents as appropriate.

Whenever the District responds to Post call-outs the next day or following day, they bring CCTV to diagnosing the cause of the backup/overflow. On the sewer logs, staff indicates whether the clog or blockage is located in the privately-owned lateral or in the publicly owned right-of-way or sewer main. When investigating a blockage or potential I/I flow, the staff turns the camera up both mains and laterals to ascertain the sources of the blockage or extraneous flow, and follow up with landowners, business owners, and tenants, as appropriate, using legal authorities described above.

Pumping Station Maintenance

Within the District’s service area, there are 6 publicly-owned wastewater pump and lift stations. Information about the lift stations is included below:

Pump Station Name	Area Served	Date Installed
Elm Street	West of Highway 1 and north of Laurel St. East of Highway 1 and north of Bush St	1970
North Noyo	North Harbor area	1970
South Noyo	Harbor area	1970
Pudding Creek	Mackerricher State Park and Ocean Lake Mobile Home Park, east of Highway 1	1975
Native American	West of Highway 1, along the projection of North Harbor Drive, on a private drive known as North Noyo Point Road.	1987
South Sanderson	Residential subdivision built at South Sanderson Way and Noyo Heights Way, just north of the Noyo River	1989

Pump Station Name	Type of Pump Station	Type of Pump	Total Dynamic Head (TDH) in feet	Capacity (gpm)	Stand-by Power
Elm Street	Self-Priming	Gorman/Rupp “T” Series	38	800	Yes
North Noyo	Dry/wet well	Chicago Flush Clean Model O	120	360	No
South Noyo	Dry/wet well	Chicago Flush Clean Model O	130	450	No
Pudding Creek	Dry/wet well	Chicago Flush Clean Model O	66	450	Yes
Native American	Submersible	Peabody Barnes Submersible sewer injector	34	45	No
South Sanderson	Submersible	Flygt series 3000	39	190	No

The lift stations are operated by the Wastewater Treatment Operators. All alarms are responded to by Wastewater Treatment Operators.

Lift Station mechanical maintenance is provided by the Wastewater Treatment Operators. The wastewater treatment operators perform daily inspections 7 days a week and alarm tests on all pumps and lift stations. Periodic preventive maintenance is performed by the wastewater treatment operators.

On an as needed basis, determined by wastewater treatment operators, lift station wet wells cleaning is done by wastewater treatment operators in conjunction with collection system operators who provide the equipment and manpower to complete the task.

Root Control

The City has some problems with roots in the collection system. If closed circuit television (CCTV) determines roots are an issue in a line, the district will use a cutter to eliminate the issue. The District has a vacuum truck, a portable jetter for hydro-flushing 4-6" sewers and laterals, a mechanical root cutter, and sewer balloons/bags for cleaning and clearing lines and protecting storm drains.

Odor Control

The City receives very few odor complaints per year typically associated with lift stations. Any odor complaints will be addresses quickly by the City.

Non-Routine Maintenance

The City utilizes contract services for emergency cleaning and a combination of contract and 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.

Emergency Maintenance

The District'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 by using electronic inspection and cleaning forms. The forms are used for scheduling activities. The completed forms are kept on file as a record of completed maintenance activities.

4.4 Rehabilitation and Replacement Program

The District has developed and implemented a rehabilitation and replacement program that has identified and prioritized system deficiencies and implemented short-term and long-term rehabilitation actions to address each deficiency. Through surveys of its sewer system, the District has identified sewer pipeline replacement projects that will increase hydraulic capacity and reduce SSOs and I/I.

The following improvements were recommended by AECOM in the *Final Wastewater Collection Facilities Management Report*, and provided to the City of Fort Bragg on May 2009:

Improvements 1 through 6 are considered near-term improvements, suggested for immediate consideration based on costs and benefits of implementation. For this work, it w as assumed that the implementation horizon would be on the order of 1 to 5-years. Near-term improvements include:

Improvement 1: Relieve hydraulic bottlenecks. Four areas within the collection system were identified which limit hydraulic capacity of the system. Based on the information available – and assuming that upstream I/I is not reduced, it is recommended that improvements to four of these areas be implemented in the near term to alleviate surcharging from hydraulic bottlenecks. The improvements would increase hydraulic capacity of the system resulting in reduced or eliminated surcharges within these areas and consequently reduce the risk of SSOs during high wet weather flow events. Hydraulic relief can be provided either by increasing pipe size or by adding auxiliary (or parallel) pipes. Specific improvements are summarized below and are based on the assumption that existing sewer pipes would be replaced with new ones, providing very conservative values for cost estimating purposes. Pipe bursting is also a

viable and less costly alternative, particularly when upsizing clay pipe. The decision whether to construct replacement piping or auxiliary parallel piping which would provide an equivalent hydraulic capacity should be made during design of the facilities. Proposed pipe sizes are based on the results of the hydraulic model analysis conducted for the 1.4-inch rainfall event that occurred on February 5, 2009 (Figure 4):

- Area 1 – Replace approximately 930 linear feet (LF) of existing 15” pipe with 18” ductile iron pipe (DIP) between MH 5 and MH 1 on Fir Street from McPherson Street to Main Street.
- Area 2 – Replace approximately 1,425 LF of existing 8” pipe with 10” PVC between MH 22 and MH 17 on Cedar Street between Sanderson Way and Lincoln Street.
- Area 4 – Replace approximately 2,200 LF of existing 6” pipe with 8” PVC between MH 138 and MH 130 on Walnut Street between Harrison Street and Harold Street.
- Area 5 – Replace approximately 1,780 LF of existing 6” pipe with 10” PVC pipe between MH 97 and MH 66 on Willow and Oak Street between Wall Street and Florence Street.

Note that hydraulic relief should be considered carefully from two standpoints. First, the hydraulic bottlenecks identified were evaluated under the current system configuration. Modifications to the system could invariably alter the dynamics of the system’s storm response if, for instance, repair of defects are completed. Secondly, analyses must be conducted to ensure that hydraulic relief implemented at one location does not exacerbate or cause problems at downstream locations or to the treatment processes at the WWTF.

Improvement 2: Identify high-risk pipe for inspection. Vitrified clay pipe (VCP) and corrugated metal pipes (CMPs) pose a higher risk of failure. Specifically, VCP has an incidence of joint failure and CMP has reduced service life. Therefore, it is recommended that components of the collection system where these pipe materials are installed are to be identified and prioritized for closer inspection and or rehabilitation given their increased risk for I/I.

Improvement 3: Revisit previously identified sources of direct I/I. 81 defects were identified as being the City’s responsibility during smoke tests conducted in 1999. The District should confirm which defect(s) have been repaired, and then repair the remaining defects that have potential to convey substantial inflow into the system with a focus on inflow sources. This will help to provide extra capacity during storm events.

Improvement 4: Evaluation of potential storm water cross-connections. I/I occurrence may be linked to existence or lack of a separate storm water system. Where the storm water system overlaps a sewer system network, there is an increased risk of incomplete separation and therefore I/I. Conversely, areas where there is sewer system piping and no storm water piping also suggests extraneous flow from gutters and drains could be entering the sewer system. A systematic review of the storm and sewer systems would identify areas with higher risk of I/I.

Improvement 5: Flow monitoring study. The flow monitoring study should divide the collection system into drainage basins, incorporating the use of 8-12 flow meters, each installed to record wastewater flows at its outlet. The flow meters would operate remotely and rainfall data should be recorded concurrently. The length of the study may be limited by available funding, but should last a minimum of six to eight weeks. The study should take place during the time of year when the largest storm events occur; however it should be of sufficient duration to measure wastewater flows during both dry weather and wet weather periods. If significant rain events are not adequately captured during the study, the period of study should be extended. The estimate of probable cost provided below is based on 8 flow meters installed for 6 weeks.

Data from the flow study will be used to rank all basins relative to each other in terms of criteria including I/I volume and peak to average flow ratio. This ranking will be used to identify and prioritize areas within the system. Basins should be ranked in order of highest to lowest I/I contribution and grouped into Priority 1, 2, and 3 according to the criteria listed above, with Priority 1 basins having contributed the largest I/I flows into the system. The sanitary sewer evaluation study (SSES) program described below should focus on the Priority 1 and 2 basins.

Improvement 6: Implement SSES program. The SSES program would be designed to focus on areas within the collection system where there are known or suspected defects (rather than the entire collection system) and is intended to identify specific defects that should be repaired. Repairs should be selected that would either reduce I/I entering the system or remove hydraulic bottlenecks, such as crushed pipes and intruding roots. The SSES program could be divided into two phases if desired:

Phase I SSES. Conduct the field studies described below where known or suspected defects are located, based on previous studies and knowledge of the system. Phase I work would also target pipes located downstream of surcharged manholes and identify the location of all VCP and CMP installed in the system for targeted SSES work.

Phase II SSES. Conduct the field studies described below in basins that were identified during flow monitoring as high priority basins and that were not studied in Phase I of the SSES work. Areas that were not shown to contribute high I/I during the flow monitoring study do not need to be included in the SSES program

The SSES program would include the following elements:

- a. Within the high priority areas, conduct smoke testing at locations both in areas that were previously tested more than five years ago and in areas that were not previously smoke tested. This will provide information to identify new defects and will help identify the effectiveness of previous repairs.
- b. Review existing video data recorded less than 10 years ago. Record closed-circuit television (CCTV) data as required to completely inspect priority basins.
- c. Conduct video inspection of lateral connections to the sewer system from private residences and business.
- d. Dye water testing as necessary to identify storm water intrusion.

Improvements 7 through 9 are considered long-term improvements, suggested for phased consideration based on information developed in the initial near-term efforts. For this work, it was assumed that the implementation horizon would be on the order of 4 to 10 years. Long-term improvements include:

Improvement 7: Implement repairs to defects found in SSES.

Improvement 8: Conduct collections system and storm water system plans. A Storm Water System Plan and an updated Comprehensive Collection System Plan would be simultaneously prepared to study the influence of the presence or absence of the drainage system on the wastewater collection system. Hydraulic models need to be prepared to study hydraulic conditions within each system. Data gathered during an extended flow monitoring program could be used to calibrate the sewer system model, if less than two years lapses between the two studies. Defects or improvements to each system would be identified and improvements made for capital improvements.

Improvement 9: Evaluate potential in-line or off-line storage and increased WWTF capacity. Temporary storage of combined wastewater and extraneous water passing through the collection system

into either in-line or off-line storage facilities has been successfully used in other cities across North America. USEPA studies have shown that the cost per gallon of I/I removed tends to increase as more I/I is removed from collection systems. At some point, it may be cost effective to consider storage. The strategy includes the temporary storage of wet weather flows in either in-line or off-line storage facilities, which is subsequently reintroduced into conveyance facilities at a location upstream in the system or directly into the treatment train at the plant.

Within the next year (2020) the District will initiate a program of TV inspections of manholes and sewer pipes, and a system for ranking the condition of sewer pipes as an additional tool for scheduling rehabilitation. The City will be conducting a comprehensive and systematic inspections and assessments of all components of its wastewater collection system. Inspections are used to identify problems requiring repair and to identify and prioritize necessary collection system improvement (rehabilitation and upgrade) projects. The City uses state-of-the-art closed circuit television (CCTV) equipment to inspect and assess the condition of secondary sewers and some of the primary sewers, depending on size and flow levels. The CCTV inspections are prioritized by staff using a ranking system that incorporates age, size, construction material.

4.5 Capital Improvements Plan

The District has a capital improvements plan that addresses proper management and protection of the infrastructure assets. The plan includes a time schedule for implementing the short-term and long-term plans and a schedule for developing the funds needed for the capital improvement plan. The capital improvements projects for the sewer system are listed in Appendix G.

4.6 Training

Crews are trained in the proper operation and maintenance of all new major mobile equipment and facilities by the contractor/manufacturer. Written operation and maintenance manuals are used as resource material for initial start-up training as well as new staff training.

Safety training is an integral part of the City's program. Every staff member receives formal safety training. Crews are trained in confined space entry as well hazardous materials management, as required by regulations.

The City of Fort Bragg currently requires contractors to have all State and Federal required trainings and certifications and to comply with contractor safety requirements.

4.7 Contingency Equipment and Replacement Parts Inventory

City crews maintain the pumping stations and perform repair or replacement of all sewer pipelines in the City. The City maintains an inventory of equipment, replacement parts, and supplies. A structured process is followed to ensure an up-to-date accounting and complete inventory of equipment and replacement parts for their specific duties. Each lift station is equipped with two pumps for redundancy and the District has all the necessary parts to rebuild any of the lift station pumps.

The City maintains equipment such as sump pumps, portable generators, traffic control and night lighting systems, etc., in a ready state for immediate deployment in an emergency.

The City has adequate funding, staff, facilities, and equipment to quickly respond to routine or emergency maintenance needs. The City has a fleet of trucks and equipment used in the operation and maintenance of the public sewers, and six pumping stations, and can quickly minimize impacts and mitigate emergency conditions.

The maintenance yard is fully equipped with modern equipment and spare parts. The City tracks the use and maintenance history of each vehicle and piece of equipment and replaces them based on a schedule of service time and use. General services and scheduled maintenance on fleet vehicles as well as replacement is based on operating records of the equipment.

The District has equipment to work on the pumping stations in case of emergencies. In addition to small tools, the District has 1 trailer mounted emergency diesel generator and a truck with hoist capable of lifting the pumps. The District has an automatic alarm system for each lift station that warns the maintenance staff of high or low water levels and if a power outage occurs. All District lift stations are monitored by the SCADA system except one (South Sanderson)..

ELEMENT 5: DESIGN AND PERFORMANCE PROVISIONS

The intent of this section 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 District has developed and implemented Standard Plans and Specifications for the Construction of Sanitary Sewers which ensure the sewer lines and connections are properly designed and constructed. The design standards dictate engineering design and construction criteria for installing, repairing and connecting laterals to the system. They also provide procedures and standards for inspecting and testing the installation of new sewers, pumps, and other appurtenances; and for rehabilitation and repair projects.

Inspection of all construction is performed by either a District employee or a professional construction inspection contractor.

The District has developed and implemented Sewer Use Ordinances or Resolutions. Sewer Use Ordinances or Resolutions provide for controls on the quantity and type of liquids that can be discharged to the systems. In addition, the Sewer Use Ordinances or Resolutions provides for the installation of grease traps and other devices from services that generate fats, oils or greases.

Design:

All gravity sewer line systems within the District are designed to meet standards for the State of California. Pipe sizes are determined by the ultimate service area and available slope. All gravity sewer line plans are designed by registered civil engineers and reviewed and approved by the District prior to construction.

Construction:

Qualified contractors, who must have a Class 'A' general contractor's license when working within the District road right-of-way, construct all gravity sewer line systems. The contractors work is inspected by the City of Fort Bragg Public Works Department and tested for trench compaction and pipeline integrity in compliance with the State of California recommendations. Connections to the gravity sewer system are not permitted until final approval by the City of Fort Bragg Public Works Department, and recorded drawings have been filed.

5.3 Standards for Inspection and Testing of New, Rehabilitated, and Repaired Facilities

According to Fort Bragg Municipal code:

"14.24.220 All Work To Be Inspected. *All sanitary sewer works construction shall be inspected by an inspector acting for the District to ensure compliance with all requirements of the District. No underground sanitary sewer works shall be covered at any point until it has been inspected and passed for acceptance. No sanitary sewer works shall be connected to the District's public sewer until the work*

covered by the permit has been completed, inspected, tested and approved by the District Manager. If the test(s) prove satisfactory and the permitted sanitary sewer works are in good working order, the inspector shall issue a certificate of satisfactory completion. (Ord. 911, § 2, passed 08-24-2015)."

ELEMENT 6: OVERFLOW EMERGENCY RESPONSE PLAN

The intent of this section of the SSMP is to document the District's Overflow Emergency Response Plan (OERP).

6.1 Regulatory Requirements for the Overflow Emergency Response Plan

The District 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.

The District's Overflow Emergency Response Plan is contained as Appendix H and complies with the above requirements.

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

The intent of this section of the SSMP is to document the City's FOG Program and identify program additions.

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 Fort Bragg has a FOG Control Policy and an approved FOG ordinance.

7.2 Public Education and Outreach Program

The City of Fort Bragg has developed a FOG Control Policy that is described in the next section. Public education and outreach occurs at the time of the annual FOG inspections. During the initial FOG inspection process the City representative provided operators with copies of the city's FOG Control Policy and Ordinance. The City representative discussed the importance of FOG control and answer questions. Additionally the City has posted FOG information on its webpage.

7.3 FOG Source Control

- The City of Fort Bragg's Fats, Oils, and Grease Control Program is an important component of the District's source control strategy. The program was developed to address the discharges of the District's dominant group of non-domestic users, the food service establishments. The Fats, Oils, and Grease Control Program was implemented in 2004, and has been an active element in preventing sanitary sewer overflows within the District since that time. The core aspects of the program are twofold: 1) the program establishes and enforces grease trap/interceptor installation requirements as part of the permitting process for new food service establishments; and 2) the program implements and monitors annual inspections of all grease traps/interceptors permitted within the City limits. These annual inspections are intended to ensure that food service establishment owners and staff are properly maintaining their grease traps/interceptors.

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Ordinance 911 was adopted on 2005, by the District to amend Chapter 14.16 of the Municipal Code to include provisions for fats, oils, and grease control. This ordinance, which became effective July 24, 2003, represented the initiation of the City's Fats, Oils, and Grease Control Program. The program's intent is to minimize the number of sanitary sewer overflows that occur within the Sewer District.

Fort Bragg's Fats, Oils, and Grease Control Program ensures that all food service establishments within the Fort Bragg Sewer District have a grease trap or grease interceptor to capture fats, oils, and grease, which would otherwise be directed into the City's wastewater collection system. In April 2004, all food service establishments within the Fort Bragg Sewer District were sent an initial letter explaining the program and requesting that establishments acquire a grease trap or interceptor if they did not already have one in place. In addition, any new food service establishments were required to show there was a working grease trap or interceptor in place before their City permitting could be finalized.

The Fats, Oils, and Grease Control Program provides for annual inspections of food service establishments to ensure that all grease traps and interceptors are functional and maintained properly, and that waste fats, oils, and grease are disposed of properly. In addition, information has been distributed to inform food service establishments that there are alternatives to grease disposal, such as recycling.

District staff coordinates with Mendocino County Environmental Health Department personnel to verify that both grease traps and grease interceptors are sized and installed properly. As of 2014, the management of the FOG program is overseen by the Environmental Compliance Coordinator. The Environmental Compliance Coordinator continues to work on establishing a full and regular inspection program. To date the City of Fort Bragg has 62 food service establishments. Inspections in 2017 found no major violations with only a few minor issues resolved with education about the FOG program.

7.4 Disposal of FOG

FOG discharge to the sewer is prohibited. Users are required to properly dispose of pretreatment wastes (brown grease) and cooking grease (yellow grease). Neither City nor County has a registration system for FOG waste haulers. The City of Fort Bragg WWTP does not accept trucked or hauled waste at this time.

The City does not own or operate a FOG disposal facility. Licensed FOG hauling contractors are available for the Fort Bragg area and are required to dispose of grease to a certified disposal facility. The frequency of cleaning for a FSE's grease control device will be on a case by case basis and therefore a schedule for FOG disposal will also be on a case by case basis.

7.5 Legal Authority for FOG Program

The legal authority for the District's FOG Program is contained within Fort Bragg Municipal Ordinances 14.16.100 Fats, Oils, And Grease (Fog) Control.

Fort Bragg Municipal Code prevents illicit discharges into its wastewater collection system by using general prohibitions, narrative local limits, and numerical local limits in the following sections:

14.16.080 Use of Storm Drains Required. Storm water and all other unpolluted drainage shall be discharged to storm drains, or to a natural outlet approved by the District Manager. (Ord. 911, § 2, passed 08-24-2015)

14.16.090 Types of Wastes Prohibited. No user shall introduce or cause to be introduced into the WWTF any pollutant or wastewater which causes pass through or interference. This general

prohibition applies to all users of the WWTF whether or not they are subject to categorical pretreatment standards or any other national, state, or local pretreatment standards or source control requirements.

The Fort Bragg Municipal Code limits the discharge of fats, oils, and grease and other debris that may cause blockages;

14.16.090 Types of Wastes Prohibited: including

- "Solid or viscous pollutants or other substances/materials in amounts which will cause obstruction to the flow in the sanitary sewer works resulting in interference or injury to the treatment works" and
- "Any water or waste which may contain more than 100 parts per million (100 mg/L) of FOG".

The District has the authority to take enforcement actions against violations of discharge prohibitions and other sewer policies through following sections of Municipal Code;

- 14.36.010 Administrative enforcement remedies
- 14.36.015 Judicial enforcement remedies
- 14.36.020 Supplemental enforcement action
- 14.36.025 Remedies nonexclusive
- 14.36.030 Affirmative defenses to discharge violations
- 14.36.040 Public nuisance when
- 14.36.050 Means of enforcement only
- 14.36.060 Penalty

7.6 Requirements to Install Grease Removal Devices

The authority for requiring installation of grease removal devices is contained in the following section of Municipal Code:

14.16.100, B, 1. Grease Interceptor Requirements. All food service establishments are required to install, operate, and maintain an approved type and adequately sized grease interceptor necessary to maintain compliance with the objectives of this section. All grease interceptors must meet the requirements of the Uniform Plumbing Code.

7.7 Authority to Inspect Grease Producing Facilities

The legal authority for the District FOG to inspect grease producing facilities is contained within:

Fort Bragg Municipal Ordinances 14.16.100 Fats, Oils, And Grease (Fog) Control. F. Inspections. All grease interceptors, grease traps, or other designated means for limiting discharges of FOG into the sanitary sewer works shall be subject to unannounced annual inspections conducted by District staff.

7.8 Identification of Grease Problem Areas and Sewer Cleaning

Based on field observations and inspection data, the City created a list of locations within the collection system that are prone to accumulation of FOG.

FOG Accumulation areas in Fort Bragg Sewer System

MH#	MONTHLY			Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
276A	105 N. Sanderson in street on south Property line	Pull Back	Run west to next manhole on Oak Terrace. Come back slow to pull solids from low spot. 200' West												
265	Cedar St. On N. Sanderson North MH	Pull Back	Run South to MH# 268 N. Sanderson come back slow to pull solids from low spot 185' South and 120' North												
263	M.H. on Cedar West of Nancy Wy.	Pull Back	South 110' and East 140'												
260A	M.H on Cedar East of Morrow	Pen.	Run to alley West 120'												
258	M.H on Morrow and Rewood st.	Pull Back	Run East 280' Low 600lb max for 80'												
307	M.H in street in front of 309 S. Lincon	Pull Back	North 160'												
309	M.H Maple and Park	PB	South 300'												
82	in alley 147 N. Franklin	Penn	North 55' (no water back)												
175	100 S Harold Alley M.H on Oak St	Pull Back	Open Cleanout @ Winelands yard South 450' and 165 Park												
151	Bownans alley M.H	Pull Back	East 150' South 200' West 20' w/ straight bore												

ELEMENT 8: SYSTEM EVALUATION AND CAPACITY ASSURANCE PLAN

This section 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

Based on an evaluation of the collection system, AECOM in the *Final Wastewater Collection Facilities Management Report*, 2009, the following improvements were recommended that will increase the hydraulic capacity of the collection system.

Improvements 1 through 6 are considered near-term improvements, suggested for immediate consideration based on costs and benefits of implementation. For this work, it was assumed that the implementation horizon would be on the order of 1-year to 5-years. Near-term improvements include:

Improvement 1: Relieve hydraulic bottlenecks. Four areas within the collection system were identified which limit hydraulic capacity of the system. Based on the information available – and assuming that upstream I/I is not reduced, it is recommended that improvements to four of these areas be implemented in the near term to alleviate surcharging from hydraulic bottlenecks. The improvements would increase hydraulic capacity of the system resulting in reduced or eliminated surcharges within these areas and consequently reduce the risk of SSOs during high wet weather flow events. Hydraulic relief can be provided either by increasing pipe size or by adding auxiliary (or parallel) pipes. Specific improvements are summarized below and are based on the assumption that existing sewer pipes would be replaced with new ones, providing very conservative values for cost estimating purposes. Pipe bursting is also a viable and less costly alternative, particularly when upsizing clay pipe. The decision whether to construct replacement piping or auxiliary parallel piping which would provide an equivalent hydraulic capacity should be made during design of the facilities. Proposed pipe sizes are based on the results of the hydraulic model analysis conducted for the 1.4-inch rainfall event that occurred on February 5, 2009.

8.3 Design Criteria

The design criteria for water and wastewater projects are contained within the "CITY OF FORT BRAGG STANDARD SPECIFICATIONS AND STANDARD PLANS APRIL 2008". These plans are available at City Hall.

8.4 Recommended Capacity Projects

AECOM in the *Final Wastewater Collection Facilities Management Report*, 2009, identified the following short term projects to increase system capacity:

- Area 1 – Replace approximately 930 linear feet (LF) of existing 15" pipe with 18" ductile iron pipe (DIP) between MH 5 and MH 1 on Fir Street from McPherson Street to Main Street.
- Area 2 – Replace approximately 1,425 LF of existing 8" pipe with 10" PVC between MH 22 and MH 17 on Cedar Street between Sanderson Way and Lincoln Street.
- Area 4 – Replace approximately 2,200 LF of existing 6" pipe with 8" PVC between MH 138 and MH 130 on Walnut Street between Harrison Street and Harold Street.
- Area 5 – Replace approximately 1,780 LF of existing 6" pipe with 10" PVC pipe between MH 97 and MH 66 on Willow and Oak Street between Wall Street and Florence Street.

Note that hydraulic relief should be considered carefully from two standpoints. First, the hydraulic bottlenecks identified were evaluated under the current system configuration. Modifications to the system could invariably alter the dynamics of the system's storm response if, for instance, repair of defects are completed. Secondly, analyses must be conducted to ensure that hydraulic relief implemented at one location does not exacerbate or cause problems at downstream locations or to the treatment processes at the WWTF.

8.5 Capital Improvement Plan (CIP) Schedule

The District has a CIP that addresses proper management and protection of the infrastructure assets. The plan includes a time schedule for implementing the short-term and long-term plans and a schedule for developing the funds needed for the CIP. The CIP for the sewer system are listed in Appendix G.

ELEMENT 9: MONITORING, MEASUREMENTS, AND PROGRAM MODIFICATIONS

This section of the SSMP discusses parameters the District tracks to monitor the success of the SSMP and how the District 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 District will use to measure the performance of its wastewater collection system and the effectiveness of its SSMP are:

- Total number of SSO locations per 100 miles of sewer;
- Volume of spilled wastewater recovered (million gallon (MG) per year) compared to total volume of wastewater spilled (MG/yr); and
- Volume of spilled wastewater discharged to surface waters (MG/yr) compared to total volume of wastewater spilled (MG/yr).

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

Additional performance measures include programs that the District is developing for implementation as a result of the SSMP development process. These programs include:

Future Activity and Schedule	Completion Date
• Develop an agreement with the satellite collection system.	2020

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 District 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.

District 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 section 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 District will audit its SSMP every two years. The first audit will be completed prior to July 1, 2021 and will cover calendar years 2019 and 2020. The audit will determine whether the SSMP meets the current requirements of the WDR, whether the SSMP reflects the District's current practices, and whether the District is following the SSMP.

The audit will be conducted by a team consisting of the District's staff. The audit team may also include members from other areas of the District, outside agencies, and/or contractors. The scope of the audit will cover each of the sections 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 District will update its SSMP at least every five years. The first update will be completed on or before July 1, 2024.

The District 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 District decides that an update is warranted, the process to complete the update will be identified at that time. The District will complete the update within one year following identification of the need for the update.

The District's 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 Director of Public Works.

ELEMENT 11: COMMUNICATION PLAN

The intent of this section of the SSMP is to identify a plan to communicate information regarding the District'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 District 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 District 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.
- **Monthly Water and Sewer Billing** – An annual notice regarding the sanitary sewer system performance can be included in monthly water and sewer billings. The notice would contain general SSMP information. The notice could also refer the customers to the City website for additional details, if an SSMP webpage is implemented. The notice would be printed in both English and Spanish.
- **Notices in Public Spaces** – Notices of the SSMP project could be posted and handouts made available in public spaces such as the City Hall and library. Information would be presented in English and Spanish and have references to the City's website with additional information, if an SSMP webpage is implemented.
- **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.
- The District will provide a copy of the draft SSMP to MacKerricher State Park staff for review and comments.

APPENDIX A
ORDER NO. 2006-0003, STATEWIDE GENERAL WASTE
DISCHARGE REQUIREMENTS FOR SANITARY SEWER
SYSTEMS (WDR)

**STATE WATER RESOURCES CONTROL BOARD
ORDER NO. 2006-0003-DWQ**

**STATEWIDE GENERAL WASTE DISCHARGE REQUIREMENTS
FOR
SANITARY SEWER SYSTEMS**

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.

- (xi) **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

<u>Task and Associated Section</u>	Completion Date			
	Population > 100,000	Population between 100,000 and 10,000	Population between 10,000 and 2,500	Population < 2,500
Application for Permit Coverage Section C	6 months after WDRs Adoption			
Reporting Program Section G	6 months after WDRs Adoption ¹			
SSMP Development Plan and Schedule No specific Section	9 months after WDRs Adoption ²	12 months after WDRs Adoption ²	15 months after WDRs Adoption ²	18 months after WDRs Adoption ²
Goals and Organization Structure Section D 13 (i) & (ii)	12 months after WDRs Adoption ²		18 months after WDRs Adoption ²	
Overflow Emergency Response Program Section D 13 (vi)	24 months after WDRs Adoption ²	30 months after WDRs Adoption ²	36 months after WDRs Adoption ²	39 months after WDRs Adoption ²
Legal Authority Section D 13 (iii)				
Operation and Maintenance Program Section D 13 (iv)				
Grease Control Program Section D 13 (vii)	36 months after WDRs Adoption	39 months after WDRs Adoption	48 months after WDRs Adoption	51 months after WDRs Adoption
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				

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:

Reporting Program Section G	
Regional Boards 4, 8, and 9	8 months after WDRs Adoption
Regional Boards 1, 2, and 3	12 months after WDRs Adoption
Regional Boards 5, 6, and 7	16 months after WDRs Adoption

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 a 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
SSO ORDER NUMBER WQ 2013-0058-EXEC

STATE OF CALIFORNIA
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

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

¹ Available for download at:

http://www.waterboards.ca.gov/board_decisions/adopted_orders/water_quality/2006/wqo/wqo2006_0003.pdf

² Cal OES Hazardous Materials Spill Reports available Online at:

[http://w3.calema.ca.gov/operational/mal haz.nsf/\\$defaultview](http://w3.calema.ca.gov/operational/mal haz.nsf/$defaultview) and <http://w3.calema.ca.gov/operational/mal haz.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 re-designing the CIWQS³ 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 Program⁴ 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.

8/6/13

Date



Thomas Howard
Executive Director

³ California Integrated Water Quality System (CIWQS) publicly available at <http://www.waterboards.ca.gov/ciwqs/publicreports.shtml>

⁴ Statewide Sanitary Sewer Overflow Reduction Program information is available at: http://www.waterboards.ca.gov/water_issues/programs/ssol/

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

CATEGORIES	DEFINITIONS [see Section A on page 5 of Order 2006-0003-DWQ, for Sanitary Sewer Overflow (SSO) definition]
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: <ul style="list-style-type: none">Reach surface water and/or reach a drainage channel tributary to a surface water; orReach a Municipal Separate Storm Sewer System (MS4) and are not fully captured and returned to the sanitary sewer system or not otherwise captured and disposed of properly. Any volume of wastewater not recovered from the MS4 is considered to have reached surface water unless the storm drain system discharges to a dedicated storm water or groundwater infiltration basin (e.g., infiltration pit, percolation pond).
CATEGORY 2	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.
CATEGORY 3	All other discharges of untreated or partially treated wastewater resulting from an enrollee's sanitary sewer system failure or flow condition.
PRIVATE LATERAL SEWAGE DISCHARGE (PLSD)	Discharges of untreated or partially treated wastewater resulting from blockages or other problems 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.

Table 2 – Notification, Reporting, Monitoring, and Record Keeping Requirements

ELEMENT	REQUIREMENT	METHOD
NOTIFICATION (see section B of MRP)	<ul style="list-style-type: none"> • Within two hours of becoming aware of any Category 1 SSO greater than or equal to 1,000 gallons discharged to surface water or spilled in a location where it probably will be discharged to surface water, notify the California Office of Emergency Services (Cal OES) and obtain a notification control number. 	Call Cal OES at: (800) 852-7550
REPORTING (see section C of MRP)	<ul style="list-style-type: none"> • 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)	<ul style="list-style-type: none"> • 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)	<ul style="list-style-type: none"> • 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 reported 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.

7/30/13

Date



Jeanine Townsend
Clerk to the Board

APPENDIX C
SSMP AUDIT REPORT, FEBRUARY 2019

Biennial Sewer System Management Plan Audit Report

Name of agency	Fort Bragg Municipal Improvement District No. 1
Date of audit	February 4, 2019
Date of SSMP	January 2010
SSMP Update Due Date	February, 2019
Name of auditor	John Smith, Heath Daniels, Alden Ramos (Fort Bragg MID # 1) Orrin Plocher (FES)

The purpose of the Sewer System Management Plan (SSMP) Audit is to evaluate the effectiveness of District's SSMP and to identify whether updates are needed. This document was designed to meet the requirements of State Water Resources Control Board Order No. 2006-0003-DWQ as revised by Order No. WQ 2013-0058-EXEC. Documentation of SSMP audits are kept on file at the District's Waste Water Treatment Plant, and an indication is made in the California Integrated Water Quality System (CIWQS) database that the audit was completed. This audit report format is modified from audit reports(s) developed by Bay Area Clean Water Agency (BACWA).

ELEMENT 1. GOALS

1. Are the goals stated in the SSMP still appropriate and accurate? **YES/NO**

ELEMENT 2. ORGANIZATION

2. Is the SSMP up-to-date with organization and staffing contact information? **YES/NO**

ELEMENT 3. LEGAL AUTHORITY

3. Does the SSMP reference up-to-date information about legal authority? **YES/NO**
4. Does the District have sufficient legal authority to control sewer use and maintenance? **YES/NO**

ELEMENT 4. OPERATIONS AND MAINTENANCE PROGRAM

4.a Map of the Sanitary Sewer System

5. Does the SSMP reference up-to-date information about maps? **YES/NO**
6. Are collection system maps complete, up-to-date, and sufficiently detailed? **YES/NO**

4.b Preventative Maintenance Program

7. Does the SSMP contain up-to-date information about preventive operations and maintenance activities? **YES/NO**
8. Are the District's preventive maintenance activities sufficient and effective in reducing and preventing SSOs and blockages? **YES/NO**

4.c Rehabilitation and Replacement Plan

- 9. Does the SSMP contain up-to-date information about the rehabilitation and replacement program? YES / NO
- 10. Does the SSMP contain up-to-date information about Closed Circuit Television (CCTV) inspections? YES / NO
- 11. Are scheduled inspections and the condition assessment system effective in identifying, prioritizing, and addressing deficiencies? YES / NO
- 12. Does the Capital Improvement Plan (CIP) address prioritized projects for collection system assets? YES / NO

4.d Training

- 13. Does the SSMP contain up-to-date information about existing training programs? YES / NO
- 14. Do supervisors believe their staff are sufficiently trained? YES / NO
- 15. Are staff satisfied with the training opportunities and support offered to them? YES / NO

4.e Equipment and Replacement Part Inventories

- 16. Does the SSMP reference up-to-date information about equipment and replacement part inventories? YES / NO

ELEMENT 5. DESIGN AND PERFORMANCE PROVISIONS

- 17. Does the SSMP contain up-to-date information about design and construction standards? YES / NO

ELEMENT 6. SSO & BACKUP RESPONSE PLAN

- 18. Does the SSMP contain an up-to-date version of SSO Response Plan? YES / NO
- 19. Is the Response Plan effective in handling SSOs? (if YES, indicate specific information under the "Evaluation of the Effectiveness of the SSMP" section below) YES / NO

ELEMENT 7. FATS, OILS, AND GREASE (FOG) CONTROL PROGRAM

- 20. Does the SSMP reference or contain up-to-date information about the City's FOG control program? YES / NO
- 21. Is the current FOG program effective in documenting and controlling FOG sources? YES / NO
- 22. Are all public outreach materials for the FOG program current? YES / NO

ELEMENT 8. SYSTEM EVALUATION AND CAPACITY ASSURANCE PLAN

- 23. Does the SSMP reference or contain up-to-date information about the District's capacity assessment activities and documentation? YES / NO
- 24. Is the District sufficiently addressing hydraulic deficiencies? YES / NO

ELEMENT 9. MONITORING, MEASUREMENT, AND PROGRAM MODIFICATIONS

- 25. Does the SSMP reference up-to-date information about the District’s data collection and organization (e.g. use of CMMS, performance indicators, etc.)? YES / NO
- 26. Is the District’s data collection and organization sufficient to evaluate the effectiveness of the SSMP? YES / NO

ELEMENT 10. SSMP PROGRAM AUDITS

- 27. Will this SSMP Audit be completed every two years starting in 2019? YES / NO

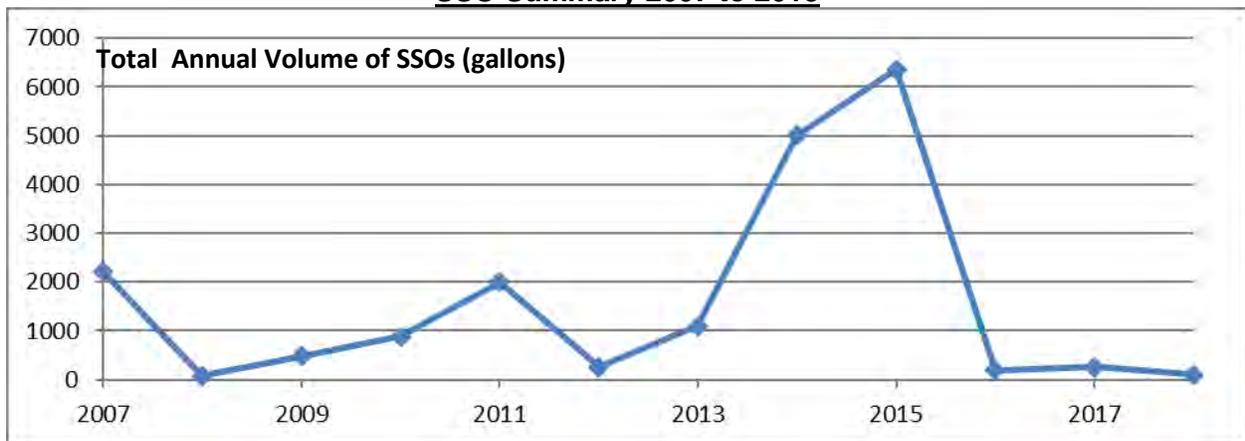
ELEMENT 11. COMMUNICATION PROGRAM

- 28. Is the District’s website up-to-date, including information related to providing an opportunity for public input on the SSMP? YES / NO

Evaluation of the Effectiveness of the SSMP

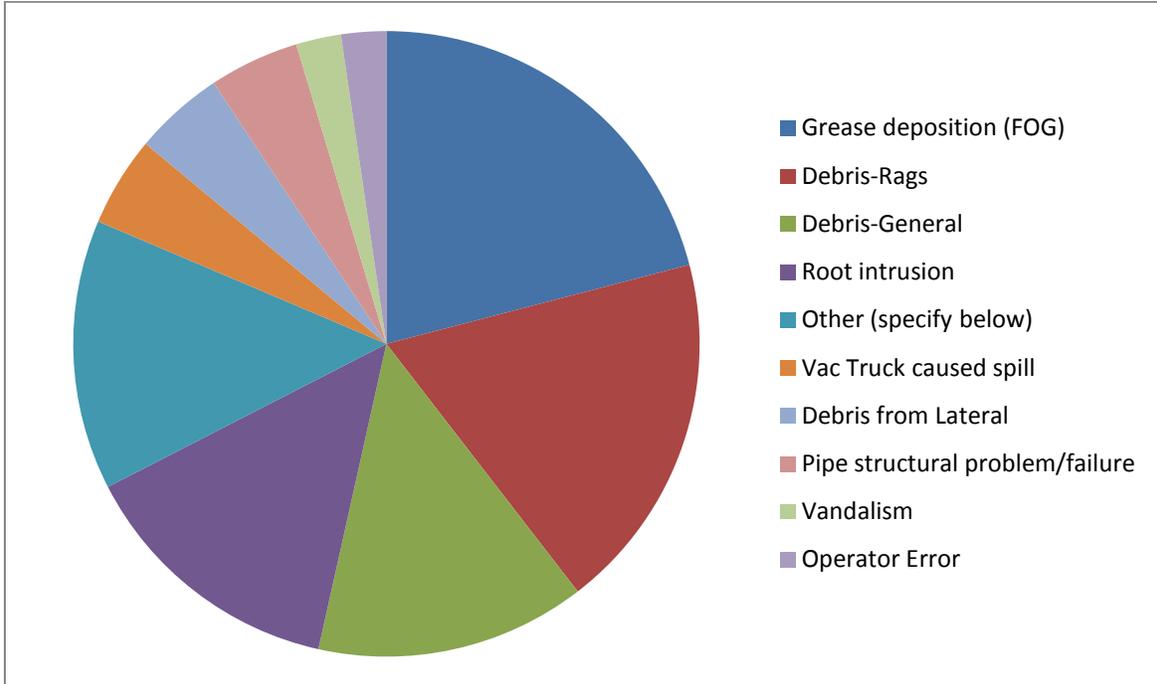
Below is a summary of SSOs associated with the District’s wastewater collection system:

SSO Summary 2007 to 2018



SPILL CAUSE	Number of SSOs 2007-2018	
Grease deposition (FOG)	9	21%
Debris-Rags	8	19%
Debris-General	6	14%
Root intrusion	6	14%
Other (specify below)	6	14%
Vac Truck caused spill	2	5%
Debris from Lateral	2	5%
Pipe structural problem/failure	2	5%
Vandalism	1	2%
Operator Error	1	2%

Total 42



Review of Online SSO Reporting Data

Below is a list on comments related to the online reporting of SSOs:

Have SSO reports reviewed by several people to assure accuracy of reporting

Description of Scheduled Updates/Changes to the SSMP

The sections of the SSMP that have a NO response on audit table above will be updated in the 2019 SSMP.

**APPENDIX D
FORT BRAGG MUNICIPAL IMPROVEMENT DISTRICT
NO. 1 SANITARY CODE**

**CHAPTER 14.08
SANITARY CODE – GENERAL PROVISIONS**

Section

14.08.010	Title
14.08.020	Purpose
14.08.030	Rules and regulations
14.08.040	Violation unlawful
14.08.050	Relief on application
14.08.060	Relief on own motion
14.08.065	District board compensation
14.08.070	Permits – Fees

14.08.010 TITLE.

Chapters [14.08](#) through [14.40](#) shall be known as the “Fort Bragg Municipal Improvement District No. 1 Sanitary Code” (“Sanitary Code”).
(Ord. 911, § 2, passed 08-24-2015)

14.08.020 PURPOSE.

The Sanitary Code is intended to provide rules and regulations for the use and construction of sanitary sewer works installed, altered, or repaired within the District. The Sanitary Code sets forth uniform requirements for users of the sanitary sewer works and wastewater treatment facility (WWTF) for the District. The Sanitary Code shall apply to all persons discharging into the sanitary sewer works and the WWTF. 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 the Sanitary Code shall be used to defray the District’s cost of operating and maintaining an adequate sanitary sewer works and to provide sufficient funds for capital outlay, bond service costs, capital improvements depreciation, and source control. This chapter also enables the District to comply with all applicable state and federal laws including the Clean Water Act ([33 U.S.C. 1251](#) et seq.) and the General Pretreatment Regulations ([40 Code of Federal Regulations \(CFR\) Part 403](#)).

A. *Objectives.* The objectives of the Sanitary Code are:

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

(Ord. 911, § 2, passed 08-24-2015)

14.08.030 RULES AND REGULATIONS.

The rules and regulations in the Sanitary Code respecting sanitary sewer works construction and disposal of wastewater and connection to the sanitary sewer works of the District are adopted, and all work in respect thereto shall be performed as herein required and not otherwise.

(Ord. 911, § 2, passed 08-24-2015)

14.08.040 VIOLATION UNLAWFUL.

It is unlawful for any person to connect to, construct, install or provide, maintain and use any other means of wastewater disposal from any building in the District except by connection to a public sewer in the manner as provided in the Sanitary Code.

(Ord. 911, § 2, passed 08-24-2015)

14.08.050 RELIEF ON APPLICATION. When any person, by reason of special circumstances, is of the opinion that any provision of the Sanitary Code is unjust or inequitable as applied to his or her premises, he or she may make written application to the Board, stating the special circumstances, citing the provision complained of and requesting suspension or modification of that provision as applied to his or her premises. If the application be approved, the Board may, by resolution, suspend or modify the provision complained of, as applied to the premises, to be effective as of the date of the application and continuing during the period of the special circumstances.

(Ord. 911, § 2, passed 08-24-2015)

14.08.060 RELIEF ON OWN MOTION.

The Board may, on its own motion, find that by reason of special circumstances any provision of this regulation and ordinance should be suspended or modified as applied to a particular premises and may, by resolution, order the suspension or modification for the premises during the period of the special circumstances, or any part thereof.

(Ord. 911, § 2, passed 08-24-2015)

14.08.065 DISTRICT BOARD COMPENSATION.

Pursuant to Cal. Health and Safety Code § [4733](#), the District Board may fix the amount of compensation per meeting to be paid each member of the Board for services for the meeting attended by the member. The compensation shall not exceed \$100.00 for each meeting of the District Board attended by the member or for each day's service rendered as a member by request of the Board, not exceeding a total of 6 days in any calendar month, together with any expenses incident thereto.

(Ord. 911, § 2, passed 08-24-2015)

14.08.070 PERMITS – FEES.

No sanitary sewer works, private or public, shall be installed, altered, or repaired within the District until a permit for the work has been obtained from the District and all fees paid in accordance with the requirements of Chapter [14.24](#).

(Ord. 911, § 2, passed 08-24-2015)

**CHAPTER 14.12
SANITARY CODE – DEFINITIONS**

Section

[14.12.010](#) Definitions

14.12.010 DEFINITIONS.

For the purpose of the Sanitary Code, 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 U.S.C. 1251](#) et seq.

APPLICANT. The person making application for a permit for a sewer or plumbing installation and shall be the owner of premises to be served by the sewer for which a permit is requested or his or her authorized agent.

AUTHORIZED OR DULY AUTHORIZED REPRESENTATIVE OF THE USER.

A. If the user is a corporation:

1. 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; or
2. The manager of 1 or more manufacturing, production, or operating 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.

B. If the user is a partnership or sole proprietorship: a general partner or proprietor, respectively.

C. If the user is a federal, state, or local governmental facility: a director or highest official appointed or designated to oversee the operation and performance of the activities of the government facility, or their designee.

D. The individuals described in subsections (A) through (C) of this definition may designate a duly 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 district.

BEST MANAGEMENT PRACTICES (BMPs). Schedules of activities, prohibitions of practices, maintenance procedures, and other management practices to implement the prohibitions listed in the Sanitary Code. BMPs 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 the wastewater under standard laboratory conditions in 5 days at 20 degrees Celsius, expressed in milligrams per liter (mg/L).

BIOSOLIDS. Treated residual solids from wastewater treatment.

BOARD. The governing board of the Fort Bragg Municipal Improvement District No. 1.

BUILDING. Any structure used for human habitation or a place of business, recreation or other purpose containing sanitary facilities.

CATEGORICAL INDUSTRIAL USER. An industrial user subject to a categorical pretreatment standard or categorical standard.

CATEGORICAL PRETREATMENT STANDARD or CATEGORICAL STANDARD. Any regulation containing pollutant discharge limits promulgated by the Environmental Protection Agency (EPA) in accordance with Sections 307(b) and (c) of the Act ([33 U.S.C. 1317](#)) that apply to a specific category of users and that appear in [40 CFR Chapter I, Subchapter N, Parts 405 through 471](#).

CATEGORICAL WASTEWATER. Technology-based limitations on pollutant discharges to publicly owned treatment works (POTWs) promulgated by EPA in accordance with Section 307 of the Clean Water Act that apply to specified process wastewaters of particular industrial categories (see [40 CFR 403.6](#) and [40 CFR Parts 405 through 471](#)).

COMMERCIAL PROPERTIES. Includes, but is not necessarily limited to, retail and wholesale businesses, hotels, motels, auto courts, theaters, professional services, cleaning establishments, restaurants, banks and similar establishments.

COMPOSITE SAMPLE. A composite sample is composed of individual grab samples collected at periodic intervals, at least every hour, during the operating hours of the facility over a 24-hour period.

CONSENT ORDER. A final, binding judicial decree or judgment memorializing a voluntary agreement between parties to a suit in return for withdrawal of a criminal charge or an end to a civil litigation. In a typical consent decree, the defendant has already ceased or agrees to cease the conduct alleged by the plaintiff to be illegal and consents to a court injunction barring the conduct in the future.

CONTRACTOR. An individual, firm, corporation, partnership or association duly licensed by the state of California to perform the type of work to be done under the permit.

DAILY MAXIMUM LIMIT. The maximum allowable discharge limit of a pollutant during a calendar day. Where daily maximum limits are expressed in units of mass, the daily discharge is the total mass discharged over the course of the day. Where daily maximum limits are expressed in units of concentration, the daily discharge is the arithmetic average measurement of the pollutant concentration derived from all measurements taken that day.

DISTRICT. The Fort Bragg Municipal Improvement District No. 1, Mendocino County, California.

DISTRICT MANAGER. The person or persons appointed by the Board to administer and enforce the rules and regulations of the District or his or her designee.

DOMESTIC WASTEWATER. The wastewater derived principally from dwellings, business buildings, institutions and the like.

EXISTING SOURCE. Any source of discharge that is not a new source.

FATS, OILS AND GREASES (FOG). Any organic compounds derived from animal and/or plant sources that contain multiple carbon chain triglyceride molecules. These substances are detectable and measurable using analytical test procedures established

in the United States Code of Federal Regulations [40 CFR 136](#), as may be amended from time to time. All are sometimes referred to herein as “grease” or “greases.”

FOOD SERVICE ESTABLISHMENTS. Those establishments primarily engaged in activities of preparing, serving, or otherwise making food available for consumption by the public. These establishments include, but are not limited to, restaurants, commercial kitchens, caterers, hotels, schools, hospitals, prisons, correctional facilities, and care institutions. These establishments use 1 or more of the following preparation activities: cooking by frying (all methods), baking (all methods), grilling, sauteing, rotisserie cooking, broiling (all methods), boiling, blanching, roasting, toasting, or poaching. Also included are infrared heating, searing, barbecuing, and any other food preparation activity that produces a hot, nondrinkable food product in or on a receptacle that requires washing.

GARBAGE. Solid wastes from the preparation, cooking and dispensing of food and from the handling, storage and sale of product, except for FOG.

GENERAL PERMIT. A permit issued by the District to control significant industrial user (SIU) discharges to the wastewater treatment facility (WWTF) if the type of operations of various users are the same or substantially similar, the discharges are the same, the effluent limitations are the same, require the same or similar monitoring, and in the opinion of the District Manager are more appropriately controlled under a general permit than under individual wastewater discharge permits.

GRAB SAMPLE. A sample that is taken from a wastestream without regard to the flow in the wastestream and over a period of time not to exceed 15 minutes.

GREASE INTERCEPTORS. A structure or device designed for the purpose of removing and preventing FOG from entering the sanitary sewer works. These devices are often below ground units in outside areas and are built as 2 or 3 chamber baffled tanks.

GREASE TRAP. A device for separating and retaining waterborne greases and grease complexes prior to the wastewater exiting the trap and entering the sanitary sewer works. Such traps are typically compact under-the-sink units that are near food preparation areas.

INDIVIDUAL WASTEWATER DISCHARGE PERMIT. A permit issued by the District to control individual SIU discharges to the WWTF.

INDUSTRIAL PROPERTIES. Includes, but is not necessarily limited to, manufacturing, canning, food processing and similar types of business.

INDUSTRIAL USER (IU). A source of indirect discharge. An indirect discharge is the introduction of pollutants from a nondomestic source into a publicly owned sanitary sewer works. Indirect dischargers can be commercial or industrial facilities whose wastes enter local sewers.

INDUSTRIAL WASTEWATER. Wastewater not otherwise defined as domestic wastewater, including the runoff and leachate from areas that receive pollutants associated with industrial or commercial storage, handling or processing facilities.

INTERFERENCE. A discharge that, alone or in conjunction with a discharge or discharges from other sources, inhibits or disrupts the WWTF, its treatment processes or operations, or its biosolids processes, use or disposal; and therefore, is a cause of a violation of the District’s NPDES permit or of the prevention of biosolids use or disposal in compliance with any of the following statutory/regulatory provisions or permits issued thereunder, or any more stringent state or local regulations: § 405 of the Act; the Solid

Waste Disposal Act, including Title II, commonly referred to as the Resource Conservation and Recovery Act (RCRA); any state regulations contained in any state biosolids management plan prepared pursuant to Subtitle D of the Solid Waste Disposal Act; 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 products, blood byproducts, pathological wastes, sharps, body parts, fomites, etiologic agents, contaminated bedding, surgical wastes, potentially contaminated laboratory wastes, and dialysis wastes.

MINIMUM DESIGN CAPACITY. The design features of a grease interceptor and its ability or volume required to effectively intercept and retain greases from grease-laden wastewaters discharged to the public sanitary sewer works.

MULTIPLE-FAMILY RESIDENTIAL. Those properties on which exists a structure or structures housing more than 1 family unit and having 1 or more sewer lateral connections.

NEW SOURCE.

A. 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 § 307(c) of the Act that will be applicable to such source if such pretreatment standards are thereafter promulgated in accordance with that section; provided, that:

1. The building, structure, facility, or installation is constructed at a site at which no other source is located; or
2. The building, structure, facility, or installation totally replaces the process or production equipment that causes the discharge of pollutants at an existing source; or
3. 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 facility, and the extent to which the new facility is engaged in the same general type of activity as the existing source, should be considered.

B. 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 subsection (A)(2) or (3) of this definition but otherwise alters, replaces, or adds to existing process or production equipment.

C. Construction of a new source as defined under this subsection has commenced if the owner or operator has:

1. Begun, or caused to begin, as part of a continuous on-site construction program:
 - a. Any placement, assembly, or installation of facilities or equipment; or
 - b. 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

2. 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 or modified without substantial loss, and contracts for feasibility, engineering, and design studies do not constitute a contractual obligation under this subsection.

PASS THROUGH. A discharge which exits the WWTF into waters of the United States 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 District's NPDES permit, including an increase in the magnitude or duration of a violation.

PERMIT. Any written authorization required pursuant to this or any other regulation of the District for the installation of, connection to, or use of any sanitary sewer works.

PERSON. Any individual, partnership, co-partnership, 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.

PLUMBING SYSTEM. All plumbing fixtures and traps for soil waste and special waste, vent pipes and all sewer pipes within a building and extending to the private sewer lateral connection 3 feet outside the building wall.

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

PRETREATMENT STANDARDS. Pretreatment standards shall mean prohibited discharge standards, categorical pretreatment standards, and local limits.

PUBLIC PROPERTIES. Includes, but is not necessarily limited to, schools, hospitals, churches, meeting halls and similar structures.

SANITARY SEWER WORKS. All facilities for collecting, pumping, storing, treating, recycling, reclaiming, and disposing of wastewater or industrial wastes of a liquid nature, and any conveyances which convey wastewater to a treatment plant. Such facilities do not intentionally admit storm, surface, or ground waters.

SANITARY SEWER WORKS, PRIVATE. A sanitary sewer works serving an independent wastewater user not connected to a public sewer.

SEPTIC TANK SERVICES. Businesses of a commercial nature engaged in pumping and cleaning septic tanks.

SEWER. A pipe or conduit for carrying wastewater.

SEWER, LATERAL. A sewer serving a user between a building and a sewer main. The private portion of a sewer lateral lies within private property, private easement, or other similar right. The public portion of a sewer lateral lies within a public right-of-way, public easement, or other similar right.

SEWER, MAIN. A public sewer designed to accommodate 1 or more lateral sewer.

SEWER, PUBLIC. A sewer lying within a street and which is controlled by or under the jurisdiction of the District.

SIGNIFICANT INDUSTRIAL USER (SIU). Except as provided in subsections (C) and (D) of this definition, a significant industrial user is:

- A. An industrial user subject to categorical pretreatment standards; or
- B. An industrial user that:

1. Discharges an average of 25,000 gallons per day (gpd) or more of process wastewater to the WWTF (excluding sanitary, noncontact cooling, and boiler blowdown wastewater); or
2. Contributes a process wastestream which makes up 5% or more of the average dry weather hydraulic or organic capacity of the WWTF; or
3. Is designated as such by the District on the basis that it has a reasonable potential for adversely affecting the WWTF's operation or for violating any pretreatment standard or requirement.

C. The District may determine that an industrial user subject to categorical pretreatment standards is a nonsignificant categorical industrial user rather than a significant industrial user on a finding that the industrial user never discharges more than 100 gpd of total categorical wastewater (excluding sanitary, noncontact cooling, and boiler blowdown wastewater, unless specifically included in the pretreatment standard) and the following conditions are met:

1. The industrial user, prior to the District's finding, has consistently complied with all applicable categorical pretreatment standards and requirements;
2. The industrial user annually submits the certification statement required in § [14.18.120\(B\)](#) (see [40 CFR 403.12\(q\)](#)), together with any additional information necessary to support the certification statement; and
3. The industrial user never discharges any untreated concentrated wastewater.

D. Upon a finding that a user meeting the criteria in subsection (B) of this definition has no reasonable potential for adversely affecting the WWTF's operation or for violating any pretreatment standard or requirement, the District may at any time, on its own initiative or in response to a petition received from an industrial user, and in accordance with procedures in [40 CFR 403.8\(f\)\(6\)](#), determine that such user should not be considered a significant industrial user.

SINGLE-FAMILY RESIDENTIAL. Properties on which exist a single unit having only 1 sewer lateral connection.

SINGLE-FAMILY UNIT. Refers to the place of residence for a single family. Property improved for multifamily purposes shall constitute the number of units that the facilities thereon provide, in number, facilities for single-family units. When such improvements are for other than residential purposes, the number of units shall be determined by dividing the total number of persons regularly using or occupying said premises by 3. When the property is unimproved, a single lot shall be deemed to have 4 lots to the acre, unless the Board, in its discretion, specially fixes some other number of lots therefor.

SLUG LOAD or SLUG DISCHARGE. Any discharge at a flow rate or concentration which could cause a violation of the prohibited discharge standards in Chapter [14.16](#). A slug discharge is any discharge of a nonroutine, episodic nature, including but not limited to an accidental spill or a noncustomary batch discharge, which has a reasonable potential to cause interference or pass through, or in any other way violate the WWTF's regulations, local limits or NPDES permit conditions.

STORM DRAIN. A system of pipes which carries storm and surface or ground waters and drainage, but excludes wastewater and polluted industrial wastes.

USER. Any person, including those located outside the jurisdictional limits of the District, who contributes, causes or permits the contribution or discharge of wastewater

into sanitary sewer works within the District's boundaries, including persons who contribute such wastewater from mobile sources, such as those who discharge hauled wastewater.

WASTEWATER. A combination of water-carried wastes from residences, business buildings, institutions, and industrial establishments. This excludes storm water and groundwater discharges.

WASTEWATER TREATMENT FACILITY (WWTF). Any arrangement of devices and structures used for treating wastewater. A public WWTF is also known as a public owned treatment works (POTW).

(Ord. 911, § 2, passed 08-24-2015)

CHAPTER 14.16
SANITARY CODE – USE OF PUBLIC SEWERS

Section

<u>14.16.010</u>	Disposal of wastes
<u>14.16.020</u>	Treatment of wastes required
<u>14.16.030</u>	Unlawful disposal
<u>14.16.040</u>	Occupancy prohibited
<u>14.16.050</u>	Sewer required
<u>14.16.060</u>	<i>[Reserved]</i>
<u>14.16.070</u>	Drainage into sanitary sewer works prohibited
<u>14.16.080</u>	Use of storm drains required
<u>14.16.090</u>	Types of wastes prohibited
<u>14.16.095</u>	Interceptors required
<u>14.16.100</u>	Fats, oils, and grease (FOG) control
<u>14.16.120</u>	Preliminary treatment of wastes
<u>14.16.130</u>	Maintenance of pretreatment facilities
<u>14.16.140</u>	Control manholes
<u>14.16.150</u>	Measurements and tests
<u>14.16.160</u>	Special agreements
<u>14.16.170</u>	Swimming pools

14.16.010 DISPOSAL OF WASTES.

It is unlawful for any person to place, deposit, or permit to be deposited in an unsanitary manner upon public or private property within the District, or in any area under the jurisdiction of the District, any human or animal excrement, garbage, or other objectionable waste.

(Ord. 911, § 2, passed 08-24-2015)

14.16.020 TREATMENT OF WASTES REQUIRED.

It is unlawful to discharge to any stream or watercourse any wastewater, industrial wastes, or other polluted waters, except where suitable treatment has been provided in accordance with provisions of the Sanitary Code.

(Ord. 911, § 2, passed 08-24-2015)

14.16.030 UNLAWFUL DISPOSAL.

Except as provided in the Sanitary Code, it is unlawful to construct any new privy, vault, septic tank, cesspool, seepage pit, or other facility intended or used for the disposal of wastewater within the District.

(Ord. 911, § 2, passed 08-24-2015)

14.16.040 OCCUPANCY PROHIBITED.

No building, industrial facility, or other structure shall be occupied until the owner of the premises has complied with all rules and regulations of the District.

(Ord. 911, § 2, passed 08-24-2015)

14.16.050 SEWER REQUIRED.

The owner of any building situated within the District using a disposal system other than the public sanitary sewer works of the District, who has his or her present facility declared to be a public nuisance by the appropriate county or state health officer, shall be required at his or her expense to connect the building directly with the proper public sewer in accordance with the provisions of the Sanitary Code within 30 days after date of official notice to do so; provided and provided further, that the public sewer is within 200 feet of the nearest point of the subject building.
(Ord. 911, § 2, passed 08-24-2015)

14.16.060 [RESERVED].

(Ord. 911, § 2, passed 08-24-2015)

14.16.070 DRAINAGE INTO SANITARY SEWER WORKS PROHIBITED.

A. No leaders from roofs and no surface drains for rainwater shall be connected to any sanitary sewer works. No surface or storm water, seepage, cooling water, or unpolluted industrial process waters shall be permitted to enter any sanitary sewer works by any device or method whatsoever.

B. "Unpolluted water" means any water within the following limits of quality:

pH	6.0 minimum, 8.5 maximum
Biochemical oxygen demand	5 milligrams per liter, maximum
Dissolved matter	1,000 milligrams per liter, maximum
Suspended matter	5 milligrams per liter, maximum
Settleable matter	0.1 milliliters per liter per hour, maximum
Grease or oil ¹	10 milligrams per liter, maximum
NOTES TO TABLE: ¹ Any known discharge of oil or grease shall be monitored a minimum twice a year by the discharger with the results forwarded to the City.	

(Ord. 911, § 2, passed 08-24-2015)

14.16.080 USE OF STORM DRAINS REQUIRED.

Storm water and all other unpolluted drainage shall be discharged to storm drains, or to a natural outlet approved by the District Manager.

(Ord. 911, § 2, passed 08-24-2015)

14.16.090 TYPES OF WASTES PROHIBITED.

No user shall introduce or cause to be introduced into the WWTF any pollutant or wastewater which causes pass through or interference. This general prohibition applies to all users of the WWTF whether or not they are subject to categorical pretreatment standards or any other national, state, or local pretreatment standards or source control requirements.

A. Except as hereinafter provided, no person shall discharge or cause to be discharged any of the following described waters or wastes to any public sewer:

1. Pollutants which cause a fire or explosion hazard in the WWTF, including, but not limited to, wastestreams with a closed-cup flashpoint of less than 140 degrees Fahrenheit (60 degrees Celsius) using the test methods specified in [40 CFR 261.21](#);
2. Solid or viscous pollutants or other substances/materials in amounts which will cause obstruction to the flow in the sanitary sewer works resulting in interference or injury to the treatment works;
3. Pollutants, including oxygen-demanding pollutants (BOD, etc.), released in a discharge at a flow rate and/or pollutant concentration which, either singly or by interaction with other pollutants, will cause pass through or interference with the WWTF;
4. Any liquid or vapor having a temperature higher than 150 degrees Fahrenheit; 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 WWTF to exceed 104 degrees Fahrenheit (40 degrees Celsius);
5. Petroleum oil, nonbiodegradable cutting oil, or products of mineral oil origin, in amounts that will cause interference or pass through;
6. Trucked or hauled substances/materials, except at discharge points designated by the District in accordance with § [14.40.090](#);
7. Sludges, screenings, or other residues from the pretreatment of industrial wastes;
8. Medical wastes, except as specifically authorized by the District in an individual wastewater discharge permit;
9. Any water or waste which may contain more than 100 parts per million (100 mg/L) of FOG;
10. Any gasoline, benzene, naphtha, fuel oil, or other flammable or explosive liquid, solid, or gas;
11. Any waste or wastewater with more than 100 mg/L total petroleum hydrocarbons (TPH) as diesel, motor oil, or hydraulic oil;
12. Any garbage that has not been shredded to such a degree that all particles will be carried freely under the flow conditions normally prevailing in public sewers, with no particle greater than 2 inches in any dimension;
13. Any waters or wastes having a pH lower than 6.0 or higher than 8.5 or having any other corrosive property capable of causing damage or hazard to structures, equipment, and personnel of the sanitary sewer works;
14. Any waters or wastes containing a toxic or poisonous substance in sufficient quantity to injure or interfere with any wastewater treatment process, constitute a hazard to humans or animals, or create any hazard in the receiving waters of the WWTF or any waste that would be a hazardous waste under [40 CFR Part 261](#);
15. Any waters or wastes containing suspended solids of the character and quantity that unusual attention or expense is required to handle the materials at the WWTF;
16. Any noxious or malodorous gas or substance capable of creating a public nuisance;

17. Any septic tank sludge;
18. Any water or wastes containing radioactivity, or radioactive isotope, of the half-life or concentration as may exceed limits set by the District Manager in compliance with state or federal regulations;
19. Any waters containing algacides, fungicides, antibiotics, insecticides, strong oxidizing agents, or strong reducing agents;
20. Any waters containing mercury or mercury compounds; and/or
21. The following is a partial list of toxic substances and their maximum concentration allowable for admission to a public sewer system:

Toxicant	Maximum Allowable Concentration Milligrams per Liter (mg/L)
Alcohols	100
Aluminum	0.2
Arsenic and arsenicals	1.0
Barium	5.0
Beryllium	0.1
Boron	10.0
Bromine, iodine, chlorine (total)	50.0
Cadmium	0.1
Chromium and chromium salts (as chromium)	0.5
Copper and copper salts (as copper)	0.1
Creosols and creosotes	1.0
Cyanides and nitriles	0.2
Fluoride	1.5
Formaldehydes	1.0
Iron	1.0
Lead	0.2
Manganese	0.2
Nickel	0.2
Organic solvents	1.0
Phenol and phenol derivatives	0.5
Selenium	2.0
Silver and silver compounds (as	0.01

Toxicant	Maximum Allowable Concentration Milligrams per Liter (mg/L)
silver)	
Zinc compounds (as zinc)	0.2

B. The maximum allowable concentration of toxic or potentially toxic materials not listed above will be determined by the District Manager on an individual basis.

C. In no event shall any industrial waste discharged to the public sewers have a 96-hour median tolerance limit (TLM), as determined by the Routine Fish Bioassay Method, of less than 25%.

D. The above limits apply at the point where the wastewater is discharged to the sanitary sewer works and apply to instantaneous maximum concentrations. All concentrations for metallic substances are for total metals unless indicated otherwise. The District Manager may impose mass limitations in addition to the concentration-based limitations above.

E. Pollutants, substances, or wastewater prohibited by this section shall not be processed or stored in such a manner that they could be discharged to the WWTF.

F. *Right of Revision.* The District reserves the right to establish, by ordinance or in individual wastewater discharge permits or in general permits, more stringent standards or requirements on discharges to the WWTF consistent with the purpose of the Sanitary Code.

G. *BMPs.* The District Manager may develop BMPs, by policy or in individual wastewater discharge permits, or general permits, to implement local limits and the requirements of the Sanitary Code.

No user 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 District Manager may impose mass limitations on users who are using dilution to meet applicable pretreatment standards or requirements, or in other cases when the imposition of mass limitations is appropriate.

H. *Analytical Requirements.* All pollutant analyses, including sampling techniques, to be submitted as part of a wastewater discharge permit application or report shall be performed by an Environmental Laboratory Accreditation Program (ELAP) certified laboratory in accordance with the techniques prescribed in [40 CFR Part 136](#) and amendments thereto, 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, or where the EPA determines that the Part [136](#) sampling and analytical techniques are inappropriate for the pollutant in question, sampling and analyses shall be performed by using validated analytical methods or any other applicable sampling and analytical procedures, including procedures suggested by the District Manager or other parties approved by EPA.

(Ord. 911, § 2, passed 08-24-2015)

14.16.095 INTERCEPTORS REQUIRED.

Grease, oil and sand interceptors shall be provided when, in the opinion of the District Manager, pursuant to the Uniform Plumbing Code, Chapter 10, they are necessary for the proper handling of liquid wastes containing grease in excessive amounts, or any flammable wastes, sand and other harmful ingredients; except that such interceptors shall not be required for buildings used for residential purposes. All interceptors shall be of a type and capacity approved by the District and shall be so located as to be readily and easily accessible for cleaning and inspection.

All such grease, oil and sand interceptors shall be maintained by the owner, at their expense, in continuous efficient operation at all times.

(Ord. 911, § 2, passed 08-24-2015)

14.16.100 FATS, OILS, AND GREASE (FOG) CONTROL.

In an effort to curb sanitary sewer overflows (SSOs) caused by grease accumulation in its sewer mains, the District requires any nonresidential facility connected to the sanitary sewer works involved in the preparation or serving of foods will be subject to the conditions of this section.

A. *Scope and Purpose.* This section will aid in the prevention of blockages and obstructions from contributions and accumulation of FOG into the sanitary sewer works from industrial or commercial establishments, particularly food preparation and serving facilities.

B. *Food Service Establishment Requirements.* All food service establishments discharging wastewater into District sanitary sewer works are subject to the following requirements:

1. *Grease Interceptor Requirements.* All food service establishments are required to install, operate, and maintain an approved type and adequately sized grease interceptor necessary to maintain compliance with the objectives of this section. All grease interceptors must meet the requirements of the Uniform Plumbing Code.

2. *Time of Compliance.* All food service establishments described in this section are required to install a sand and/or grease interceptor or grease trap within the 60-day period after the first occurrence of any of the following events:

- a. Transfer of ownership in the commercial business;
- b. Transfer of title of real property in which the commercial business exists;
- c. A change of use of the building;
- d. The issuance of any building permit for the construction, reconstruction or related work to be performed on the premises costing more than \$5,000;
- e. The backup or discharge of raw sewage on or from the premises due to grease buildup in the sewer lateral; or within
- f. Ninety days after receiving written notice from the District Manager of the necessity for installation of such facilities pursuant to Uniform Plumbing Code Chapter 10.

3. All such facilities must obtain approval from the District Manager for grease interceptor sizing prior to issuance of a building permit. All grease interceptors shall be easily accessible for cleaning and inspection. Existing facilities applying for a building permit, as required to complete planned modifications, will be required to comply with the grease interceptor requirements. These facilities must obtain approval from the District Manager for grease interceptor sizing prior to issuance of a building permit.

4. *Variance from Grease Interceptor Requirements.* Grease interceptors required under this section shall be installed unless the District Manager authorizes the installation of an indoor grease trap or other alternative pretreatment technology and determines that the installation of a grease interceptor would not be feasible. The food service establishment bears the burden of demonstrating that the installation of a grease interceptor is not feasible. The District Manager may authorize the installation of an indoor grease trap where the installation of a grease interceptor is not feasible due to space constraints or other considerations. If an establishment believes the installation of a grease interceptor is infeasible, because of documented space constraints, the request for an alternative grease removal device shall contain the following information:

- a. Location of sewer main and easements in relation to available exterior space; and
- b. General information about existing plumbing at the site.

C. *Wastewater Discharge Limitations.* No user shall allow wastewater discharge concentrations of FOG from subject grease interceptor, grease trap or alternative pretreatment technology to exceed 100 mg/L, as defined by method EPA test method 1664.

D. *Grease Interceptor Requirements.*

1. Grease interceptor sizing and installation shall conform to the current edition of the Uniform Plumbing Code.
2. Grease interceptors shall be constructed in accordance with designs approved by the District Manager and shall have a minimum of 2 compartments with fittings designed for grease retention.
3. Grease interceptors shall be installed at a location where it shall be easily accessible for inspection, cleaning, and removal of intercepted grease. The grease interceptor may not be installed in any part of the building where food is handled. Location of the grease interceptor must meet the approval of the District Manager.
4. All grease interceptors shall be serviced and emptied of accumulated waste contents as required in order to maintain minimum design capacity or effective volume. These devices should be inspected at least monthly by the user. Users who are required to maintain a grease interceptor shall:
 - a. Provide for a minimum hydraulic retention time in accordance with the Uniform Plumbing Code;
 - b. Remove any accumulated grease cap and sludge pocket as required. Grease interceptors shall be kept free of inorganic solid materials such as grit, rocks, gravel, sand, eating utensils, cigarettes,

shells, towels, rags, and the like, which could settle into this pocket and thereby reduce the effective volume of the device.

5. The user shall maintain a written record of inspection and maintenance for 3 years. All the records will be made available for on-site inspection by representatives of the District during all operating hours.

6. Sanitary wastes are not allowed to be connected to a sewer intended for grease interceptor service.

7. Access manholes, with a minimum diameter of 24 inches, shall be provided over each grease interceptor chamber and sanitary tee. The access manholes shall extend at least to finished grade and be designed and maintained to prevent water inflow and infiltration. The manholes shall also have readily removable covers to facilitate inspection, grease removal, and wastewater sampling activities.

8. Users that are required to have a grease interceptor may be required to connect fixtures or drains that have a reasonable potential to allow fats, oils, and grease to be discharged to the sanitary sewer works to an appropriately sized grease interceptor.

9. Users with garbage grinders must discharge the garbage grinder to a grease interceptor with a minimum capacity of 1,000 gallons or remove the garbage grinder.

10. Users with dishwashers must discharge the dishwasher directly to the sanitary sewer works or to a grease interceptor with a minimum capacity of 750 gallons.

11. Accumulated grease and sediment must be removed as required. At a minimum, gravity grease interceptors and grease traps must be cleaned when the combined depth of sediment and grease equals or exceeds 25% of the total depth of the sediment, water, and grease. For multiple chambered interceptors the measurements of sediment and grease are to be performed in the final interceptor chamber prior to discharge. All other grease interceptors must be maintained in accordance with the manufacturer's specifications.

12. Grease interceptors must be kept free of non-food waste including, but not limited to, grit, rocks, gravel, sand, eating utensils, cigarettes, trash, towels, and rags.

13. The addition of chemicals, enzymes, emulsifiers, live bacteria or other grease cutters or additives used for purposes of grease reduction to a grease interceptor is specifically prohibited.

14. If the District Manager determines that a grease interceptor is not being adequately cleaned or maintained, a correction notice may be issued requiring the deficiency be corrected within 7 working 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.

15. District may develop and implement a fats, oils, and grease policy.

E. *Grease Trap Requirements.*

1. Upon approval by the District Manager, a grease trap complying with the provisions of this section must be installed in the waste line leading from sinks, drains, and other fixtures or equipment in food service establishments where grease may be introduced into the drainage of the sanitary sewer works in quantities that could affect line stoppage or hinder wastewater treatment or wastewater disposal.
2. Grease traps sizing and installation shall conform to the Uniform Plumbing Code.
3. Grease traps shall be maintained in efficient operating conditions by periodic removal of the accumulated grease. No collected grease shall be introduced into any drainage piping, or public or private sewer.
4. Wastewater in excess of 140 degrees Fahrenheit/60 degrees Celsius shall not be discharged into a grease trap.

F. *Inspections.* All grease interceptors, grease traps, or other designated means for limiting discharges of FOG into the sanitary sewer works shall be subject to unannounced annual inspections conducted by District staff.

G. *Responsibility of Tenants.* 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 section. This provision is enforceable against either the owner, the tenant or both, without regard to any contractual arrangements as between the owner and tenant.

H. *Food Service Establishment Storm Water Discharge Permit Requirements.* All permitted food service establishments located within the City of Fort Bragg are subject to the following requirements by being located within the State Water Resources Control Board's MS4 permit boundaries: FOG cannot be disposed of directly or indirectly into the City's storm drain network because runoff collecting into storm drains flows freely without treatment into waters of the state (rivers, streams, estuaries, wetlands, Pacific Ocean) which are habitat to aquatic communities sensitive to these substances. FOG should not enter the wastewater stream because as they chill and solidify they clog wastewater lines causing backups and the inline plugging in the sewer requiring significant maintenance to resolve. The District's storm water permit prohibits the discharge of oil and grease into storm waters. Grease from grease traps and grease interceptors must be recycled or otherwise properly disposed of. Grease accumulating on floors or nonslip mats must be cleaned in a manner that does not run off to street gutters because street gutters are connected to storm drains which convey anything inside them directly to sensitive aquatic communities.

(Ord. 911, § 2, passed 08-24-2015)

14.16.120 PRELIMINARY TREATMENT OF WASTES.

A. The admission into the sewers of any waters or wastes having:

1. A 5-day biochemical oxygen demand (BOD) greater than 300 mg/L;
2. Containing more than 350 mg/L of total suspended solids;
3. Containing any quantity of substances having the characteristics described in § [14.16.090](#); or
4. Having an average daily flow greater than 2% of the average daily wastewater flow of the District,

shall be subject to the review and approval of the District Manager.

B. Where necessary in the opinion of the District Manager, the owner shall provide, at his or her expense, the preliminary treatment as may be necessary to:

1. Reduce the biochemical oxygen demand to 300 mg/L and the suspended solids to 350 mg/L; or
2. Reduce objectionable characteristics or constituents to within the maximum limits provided for in § [14.16.090](#); or
3. Control the quantities and rates of discharge of the waters or wastes.

C. Plans, specifications, and any other pertinent information relating to proposed preliminary treatment facilities shall be submitted for the approval of the District Manager and of the State of California Regional Water Quality Control Board and no construction of the facilities shall be commenced until the approvals are obtained in writing.

(Ord. 911, § 2, passed 08-24-2015)

14.16.130 MAINTENANCE OF PRETREATMENT FACILITIES.

Where preliminary treatment facilities are provided for any waters or wastes, they shall be maintained continuously in satisfactory and effective operation by the owner at his or her expense.

(Ord. 911, § 2, passed 08-24-2015)

14.16.140 CONTROL MANHOLES.

When required by the District Manager, the owner of any property served by the sewer lateral carrying industrial wastes shall install a suitable control manhole in the sewer lateral to facilitate observation, sampling, and measurement of wastes. The manhole, when required, shall be accessibly and safely located, and shall be constructed by the owner at his or her expense, and shall be maintained by him or her so as to be safe and accessible at all times.

(Ord. 911, § 2, passed 08-24-2015)

14.16.150 MEASUREMENTS AND TESTS.

All measurements, tests, and analyses of the characteristics of waters and wastes to which reference is made shall be determined in accordance with a currently approved edition of Standard Methods for the Examination of Water and Wastewater, and shall be determined at the control manhole provided for in § [14.16.140](#), or upon suitable samples taken at the control manhole. In the event that no special manhole has been required, the control manhole shall be considered to be the nearest downstream manhole in the public sewer to the point at which the sewer lateral is connected.

(Ord. 911, § 2, passed 08-24-2015)

14.16.160 SPECIAL AGREEMENTS.

No statement contained in this section shall be construed as preventing any special agreement or arrangement between the District and any industrial concern whereby an industrial waste of unusual strength or character may be accepted by the District for treatment, subject to payment therefor by the industrial concern and subject to the terms and conditions as might be required by District.

(Ord. 911, § 2, passed 08-24-2015)

14.16.170 SWIMMING POOLS.

It is unlawful for any person to discharge the contents of a swimming pool into a sewer except in the manner specified in this section. The size of pipe carrying discharge water

shall not be larger than 2 inches and shall not be under a head to exceed 20 feet. If the water is discharged by pumping, the rate of flow shall not exceed 100 gallons per minute. Each swimming pool discharging to a sewer shall be equipped with an approved separator to preclude any possibility of a backflow of wastewater into the swimming pool or piping system.
(Ord. 911, § 2, passed 08-24-2015)

CHAPTER 14.17
SANITARY CODE – INDIVIDUAL WASTEWATER DISCHARGE PERMIT AND
GENERAL PERMIT

Section

14.17.010	Individual wastewater discharge permit and general permit requirement
14.17.020	Permit application contents
14.17.030	Application signatories and certifications
14.17.040	Permit issuance process
14.17.050	Wastewater discharge permitting – General permit
14.17.060	Individual wastewater discharge permit and general permit contents
14.17.070	Permit modification
14.17.080	Individual wastewater discharge permit and general permit revocation
14.17.090	Individual wastewater discharge permit and general permit reissuance
14.17.100	Individual wastewater discharge permit and general permit duration
14.17.110	Individual wastewater discharge permit and general permit transfer
14.17.120	Monitoring facilities
14.17.130	Inspection and sampling
14.17.140	Confidential information
14.17.150	Publication of industrial users in significant noncompliance permit modification

14.17.010 INDIVIDUAL WASTEWATER DISCHARGE PERMIT AND GENERAL PERMIT REQUIREMENT.

No significant industrial user (SIU) shall discharge wastewater into the sanitary sewer works without first obtaining an individual wastewater discharge permit or a general permit from the District Manager, except that a SIU that has filed a timely application pursuant to subsection (A) of this section may continue to discharge for the time period specified therein.

The District Manager may require other users to obtain individual wastewater discharge permits or general permits as necessary to carry out the purposes of the Sanitary Code. Any violation of the terms and conditions of an individual wastewater discharge permit or a general permit shall be deemed a violation of the Sanitary Code and subject the wastewater discharge permittee to the sanctions set out in Chapter [14.36](#) and § [14.17.150](#). Obtaining an individual wastewater discharge permit or a general 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.

A zero discharge permit may be issued to industrial users (IU) generating process wastewaters who would normally be subject to either this chapter or Chapter [14.18](#) or subject to categorical pretreatment standards under [40 CFR 403.6](#) and [40 CFR Chapter I, Subpart N](#), but are not discharging said wastestream(s) to the system. Zero discharge permit holders are subject to all applicable regulations under local, state, or federal laws. Pursuant to Chapter [14.16](#), a statement of zero discharge must be submitted to the District annually.

A. *Individual Wastewater Discharge and General Permitting – Existing Connections.* Any user required to obtain an individual wastewater discharge permit or a general permit who was discharging wastewater into the sanitary sewer works prior to the

effective date of the ordinance codified in this chapter, and who wishes to continue such discharges in the future, shall, within 45 days after said date, apply to the District Manager for an individual wastewater discharge permit or a general permit in accordance with § [14.17.020](#), and shall not cause or allow discharges to the sanitary sewer works to continue after 90 days of the effective date of the ordinance codified in this chapter except in accordance with an individual wastewater discharge permit or a general permit issued by the District Manager.

B. *Individual Wastewater Discharge and General Permitting – New Connections.* Any user required to obtain an individual wastewater discharge permit or a general permit who proposes to begin or recommence discharging into the sanitary sewer works must obtain such permit prior to the beginning or recommencing of such discharge. An application for this individual wastewater discharge permit or general permit, in accordance with § [14.17.020](#), must be filed at least 45 days prior to the date upon which any discharge will begin or recommence.

(Ord. 911, § 2, passed 08-24-2015)

14.17.020 PERMIT APPLICATION CONTENTS.

Applicants for an individual or general wastewater discharge permit shall complete an application, in the form prescribed by the District. The applicant may be required to submit, in units and terms appropriate for evaluation, the following information:

- A. The name and address of the facility, including the name of the operator and owner, and the standard industrial classifications (SIC) code;
- B. Volume of wastewater to be discharged;
- C. Wastewater constituents and characteristics including but not limited to those mentioned in Chapter [14.16](#) as determined by a laboratory approved by the District;
- D. Time and duration of discharge;
- E. Average and 30-minute peak wastewater flow rates, including daily, monthly and seasonal variations, if any;
- F. Site plans, floor plans, mechanical and plumbing plans and details to show all drains, sewers, and appurtenances by size, location and elevation;
- G. A brief description of the nature, average rate of production (including each product produced by type, amount, processes, and rate of production), and SIC of the operation(s) carried out by such user. This description should include a schematic process diagram, which indicates points of discharge to the sanitary sewer works from the regulated processes and types of materials which are or could be discharged;
- H. Number and type of employees, and hours of work;
- I. Any other information as may be deemed by the District to be necessary to evaluate the permit application;
- J. *Environmental Permits.* A list of any environmental control permits held by or for the facility;
- K. *Flow Measurement.* Information showing the measured average daily and maximum daily flow, in gallons per day, to the sanitary sewer works from regulated process streams and other streams, as necessary, to allow use of the combined wastestream formula set out in [40 CFR 403.6\(e\)](#);
- L. *Measurement of Pollutants.*
 - 1. The categorical pretreatment standards applicable to each regulated process and any new categorically regulated processes for existing sources.

2. The results of sampling and analysis identifying the nature and concentration, and/or mass, where required by the standard or by the District Manager, of regulated pollutants in the discharge from each regulated process.

3. Instantaneous, daily maximum, and long-term average concentrations, or mass, where required, shall be reported.

4. The sample shall be representative of daily operations and shall be analyzed in accordance with procedures set out in § [14.16.090](#)(D). Where the standard requires compliance with a BMP or pollution prevention alternative, the user shall submit documentation as required by the District Manager or the applicable standards to determine compliance with the standard.

5. Sampling must be performed in accordance with procedures set out in § [14.18.130](#).

(Ord. 911, § 2, passed 08-24-2015)

14.17.030 APPLICATION SIGNATORIES AND CERTIFICATIONS.

A. All wastewater discharge permit applications, user reports and certification statements must be signed by an authorized representative of the user and contain the certification statement in § [14.18.120](#)(A).

B. If the designation of an authorized representative is no longer accurate because a different individual or position has responsibility for the overall operation of the facility or overall responsibility for environmental matters for the company, a new written authorization satisfying the requirements of this section must be submitted to the District Manager prior to or together with any reports to be signed by an authorized representative.

C. A facility determined to be a nonsignificant categorical industrial user (defined in § [14.12.010](#), significant industrial user) by the District Manager must annually submit the signed certification statement in § [14.18.120](#)(B) (Note: See [40 CFR 403.3\(v\)\(2\)](#)).

(Ord. 911, § 2, passed 08-24-2015)

14.17.040 PERMIT ISSUANCE PROCESS.

The District Manager will evaluate the data furnished by the user in § [14.17.020](#) and may require additional information. Within 45 days of receipt of a complete permit application, including additional information requested, the District Manager determines whether or not to issue an individual wastewater discharge permit or a general permit. If no determination is made within the time period, the application will be deemed denied. The District Manager may deny any application for an individual wastewater discharge permit or a general permit.

(Ord. 911, § 2, passed 08-24-2015)

14.17.050 WASTEWATER DISCHARGE PERMITTING – GENERAL PERMIT.

A. At the discretion of the District Manager, the District may use general permits to control SIU discharges to the sanitary sewer works if the following conditions are met.

All facilities to be covered by a general permit must:

1. Involve the same or substantially similar types of operations;
2. Discharge the same types of wastes;
3. Require the same effluent limitations;
4. Require the same or similar monitoring; and
5. In the opinion of the District Manager, are more appropriately controlled under a general permit than under individual wastewater discharge permits.

B. To be covered by the general permit, the SIU must file a written request for coverage that identifies its contact information, production processes, the types of wastes generated, and the location for monitoring all wastes covered by the general permit.

C. The District Manager will retain a copy of the general permit, documentation to support the sanitary sewer works determination that a specific SIU meets the criteria in § [14.17.060](#)(A)(1) through (5) and applicable state regulations, and a copy of the user's written request for coverage for 3 years after the expiration of the general permit. (Note: See [40 CFR 403.8](#)(f)(1)(iii)(A)(1) through (5).)

D. The District Manager may not control an SIU through a general permit where the facility is subject to production-based categorical pretreatment standards or categorical pretreatment standards expressed as mass of pollutant discharged per day or for IUs whose limits are based on the combined wastestream formula in [40 CFR 403.6](#)(e) or net/gross calculations in [40 CFR 403.15](#).

(Ord. 911, § 2, passed 08-24-2015)

14.17.060 INDIVIDUAL WASTEWATER DISCHARGE PERMIT AND GENERAL PERMIT CONTENTS.

An individual wastewater discharge permit or a general permit shall include such conditions as are deemed reasonably necessary by the District Manager to prevent pass through or interference, protect the quality of the water body receiving the WWTF's effluent, protect worker health and safety, facilitate biosolids management and disposal, and protect against damage to the sanitary sewer works.

A. Individual wastewater discharge permits and general permits must contain:

1. A statement that indicates the wastewater discharge permit issuance date, expiration date and effective date;
2. A statement that the wastewater discharge permit is nontransferable in accordance with § [14.17.110](#);
3. Effluent limits, including BMPs, based on applicable pretreatment standards;
4. Self-monitoring, sampling, reporting, notification, and record-keeping requirements. These requirements shall include an identification of pollutants (or BMP) to be monitored, sampling location, sampling frequency, and sample type based on federal, state, and local law;
5. A statement of applicable civil and criminal 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 discharge, if determined by the District to be necessary.

B. Individual wastewater discharge permits and general permits may contain:

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

3. Requirements for the development and implementation of spill control plans or other special conditions including management practices necessary to adequately prevent accidental, unanticipated, or nonroutine discharges;
4. Development and implementation of waste minimization plans to reduce the amount of pollutants discharged to the sanitary sewer works;
5. The unit charge or schedule of user charges and fees for the management of the wastewater discharged to the sanitary sewer works;
6. Requirements for installation and maintenance of inspection and sampling facilities and equipment, including flow measurement devices;
7. A statement that compliance with the individual wastewater discharge permit or the general 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 individual wastewater discharge permit or the general permit; and
8. Other conditions as deemed appropriate by the District Manager to ensure compliance with the Sanitary Code, state and federal laws, and local rules.

(Ord. 911, § 2, passed 08-24-2015)

14.17.070 PERMIT MODIFICATION.

- A. The District Manager may modify an individual wastewater discharge permit for good cause, including, but not limited to, the following reasons:
 1. To incorporate any new or revised federal, state, or local pretreatment standards or requirements;
 2. To address significant alterations or additions to the user's operation, processes, or wastewater volume or character since the time of the individual wastewater discharge permit issuance;
 3. A change in the sanitary sewer works that requires either a temporary or permanent reduction or elimination of the authorized discharge;
 4. Information indicating that the permitted discharge poses a threat to the District's sanitary sewer works, District personnel, or the receiving waters;
 5. Violation of any terms or conditions of the individual wastewater discharge permit;
 6. Misrepresentations or failure to fully disclose all relevant facts in the wastewater discharge permit application or in any required reporting;
 7. Revision of or a grant of variance from categorical pretreatment standards pursuant to [40 CFR 403.13](#); or
 8. To correct typographical or other errors in the individual wastewater discharge permit.
- B. The District Manager may modify a general permit for good cause, including, but not limited to, the following reasons:
 1. To incorporate any new or revised federal, state, or local pretreatment standards or requirements;
 2. A change in the sanitary sewer works that requires either a temporary or permanent reduction or elimination of the authorized discharge;
 3. To correct typographical or other errors in the individual wastewater discharge permit.

(Ord. 911, § 2, passed 08-24-2015)

14.17.080 INDIVIDUAL WASTEWATER DISCHARGE PERMIT AND GENERAL PERMIT REVOCATION.

The District Manager may revoke an individual wastewater discharge permit or coverage under a general permit for good cause, including, but not limited to, the following reasons:

- A. Failure to notify the District Manager of significant changes to the wastewater prior to the changed discharge;
- B. Failure to provide prior notification to the District Manager of changed conditions pursuant to § [14.18.060](#);
- C. Misrepresentation or failure to fully disclose all relevant facts in the wastewater discharge permit application;
- D. Falsifying self-monitoring reports and certification statements;
- E. Tampering with monitoring equipment;
- F. Refusing to allow the District Manager timely access to the facility premises and records;
- G. Failure to meet effluent limitations;
- H. Failure to pay fines;
- I. Failure to pay wastewater charges;
- J. Failure to meet compliance schedules;
- K. Failure to complete a wastewater survey or the wastewater discharge permit application;
- L. Violation of any pretreatment standard or requirement, or any terms of the wastewater discharge permit or the general permit or this chapter.

Individual wastewater discharge permits or coverage under general permits shall be voidable upon cessation of operations or transfer of business ownership. All individual wastewater discharge permits or general permits issued to a user are void upon the issuance of a new individual wastewater discharge permit or a general permit to that user.

(Ord. 911, § 2, passed 08-24-2015)

14.17.090 INDIVIDUAL WASTEWATER DISCHARGE PERMIT AND GENERAL PERMIT REISSUANCE.

A user with an expiring individual wastewater discharge permit or general permit shall apply for individual wastewater discharge permit or general permit reissuance by submitting a complete permit application, in accordance with § [14.17.020](#), a minimum of 45 days prior to the expiration of the user's existing individual wastewater discharge permit or general permit.

(Ord. 911, § 2, passed 08-24-2015)

14.17.100 INDIVIDUAL WASTEWATER DISCHARGE PERMIT AND GENERAL PERMIT DURATION.

Individual wastewater discharge permits shall be issued for a specified time period, not to exceed 5 years. A permit may be issued for a period less than a year or may be stated to expire on a specific date. Each individual wastewater discharge permit or a general permit will indicate a specific date upon which it will expire. The terms and conditions of the permit may be subject to modification and change by the District during the life of the permit as limitations or requirements as identified in Chapter [14.16](#) are modified and changed. The user shall be informed of any proposed changes in his or

her permit at least 30 days prior to the effective date of change. Any changes or new conditions in the permit shall include a reasonable time schedule for compliance. Any user proposing a new discharge into the system or a substantial change in the volume or character of pollutants that are being discharged into the system shall notify the District at least 45 days prior to the proposed change or connection.

(Ord. 911, § 2, passed 08-24-2015)

14.17.110 INDIVIDUAL WASTEWATER DISCHARGE PERMIT AND GENERAL PERMIT TRANSFER.

Individual wastewater discharge permits are issued to a specific user for a specific operation. Individual wastewater discharge permits shall not be reassigned or transferred or sold to a new owner, new user, different premises, or a new or changed operation.

(Ord. 911, § 2, passed 08-24-2015)

14.17.120 MONITORING FACILITIES.

Users who propose to discharge, or who in the judgment of the District could discharge now or in the future, wastewater with constituents and characteristics different from that produced by a domestic premises may be required to install a monitoring facility. When more than 1 user can discharge into a common sewer lateral, the District may require installation of a separate monitoring facility for each user. Also when, in the judgment of the District, there is a significant difference in wastewater constituents and characteristics produced by different operations of a single user, the District may require that separate monitoring facilities be installed for each separate discharge.

Monitoring facilities that are required to be installed shall be constructed, operated and maintained at the user's expense. The purpose of the facility is to enable inspection, sampling and flow measurement of wastewaters produced by a user. If sampling or metering equipment is also required by the District, it shall be provided, installed and operated at the user's expense. The monitoring facility will normally be required to be located on the user's premises outside of the building. The District may, however, 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, with the approval of the public agency having jurisdiction over that street or sidewalk, and located so that it will not be obstructed by landscaping or parked vehicles.

If the monitoring facility is inside the user's fence, there shall be accommodations to allow safe and immediate access for District personnel, such as a gate secured with a District lock. There shall be ample room in or near such facility to allow accurate sampling and compositing of samples for analysis. The entire facility and the sampling and measuring equipment shall be maintained at all times in a safe and proper operating condition by and at the expense of the user.

When constructed on public or private property, the monitoring facilities shall be constructed in accordance with the District's requirements and all applicable local agency construction standards and specifications.

When, in the judgment of the District, an existing user requires a monitoring facility, the user will be so notified in writing. Construction must be completed within 90 days following written notification unless a time extension is otherwise granted by the District. All industries discharging into a public sewer shall perform such monitoring of their discharges as the District and/or other duly authorized employees of the District may

reasonably require. This may include installation, use, and maintenance of monitoring equipment, with the appropriate documentation of such activities. Monitoring documentation shall be made available upon request by the District and to other agencies having jurisdiction over discharges to the receiving waters.

(Ord. 911, § 2, passed 08-24-2015)

14.17.130 INSPECTION AND SAMPLING.

The District may inspect the facilities of any user to ascertain whether the purpose of the Sanitary Code is being met and all requirements are being complied with. Persons or occupants of premises where wastewater is created or discharged shall allow the District ready access at all reasonable times to all parts of the premises for the purposes of inspection or sampling or in the performance of any of their duties. The District shall have the right to set up on the user's property such devices as are necessary to conduct sampling or metering operations. Where a user has security measures in force which would require proper identification and clearance before entry into their premises, the user shall make necessary arrangements with their security guards so that upon presentation of suitable identification, personnel from the District will be permitted to enter without delay for the purposes of performing their specific responsibilities.

(Ord. 911, § 2, passed 08-24-2015)

14.17.140 CONFIDENTIAL INFORMATION.

All information and data on a user obtained from reports, questionnaires, permit applications, permits and monitoring programs and from inspections shall be available to the public or any other governmental agency without restrictions unless the user specifically requests and is able to demonstrate, to the satisfaction of the District, that the release of such information would divulge information, processes or methods which would be detrimental to the user's competitive position.

When requested by the person furnishing a report, 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 to governmental agencies for use in making studies; provided, however, that such portions of a report shall be available for use by the state or any state agency in judicial review or enforcement proceedings involving the person furnishing the report. Wastewater constituents and characteristics will not be recognized as confidential information. Information accepted by the District as confidential shall not be transmitted to any governmental agency or to the general public by the District until and unless prior and adequate notification is given to the user.

(Ord. 911, § 2, passed 08-24-2015)

14.17.150 PUBLICATION OF INDUSTRIAL USERS IN SIGNIFICANT NONCOMPLIANCE PERMIT MODIFICATION.

The District Manager may publish annually, in a newspaper of general circulation that provides meaningful public notice within the jurisdictions served by the District, a list of the SIUs which, at any time during the previous 12 months, were in significant noncompliance with applicable pretreatment standards and requirements. The term "significant noncompliance" shall be applicable to all SIUs (or any other industrial user that violates subsection (C), (D) or (H) of this section) and shall mean:

A. Chronic violations of wastewater discharge limits, defined here as those in which 66% or more of all the measurements taken for the same pollutant parameter during a

6-month period exceed (by any magnitude) a numeric pretreatment standard or requirement;

B. Technical review criteria (TRC) violations, defined here as those in which 33% or more of wastewater measurements taken for each pollutant parameter during a 6-month period equals or exceeds the product of the numeric pretreatment standard or requirement multiplied by the applicable criteria (1.4 for BOD, TSS, FOG, and 1.2 for all other pollutants except pH);

C. Any other violation of a pretreatment standard or requirement as defined by Chapter [14.16](#) (daily maximum, long-term average, instantaneous limit, or narrative standard) that the District Manager determines has caused, alone or in combination with other discharges, interference or pass through, including endangering the health of sanitary sewer works personnel or the general public;

D. Any discharge of a pollutant that has caused imminent endangerment to the public or the environment, or has resulted in the District Manager'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 an individual wastewater discharge permit or a general permit or enforcement order for starting construction, completing construction, or attaining final compliance;

F. Failure to provide within 45 days after the due date, any required reports, including baseline monitoring reports, reports on compliance with categorical pretreatment standard deadlines, periodic self-monitoring reports, and reports on compliance with compliance schedules;

G. Failure to accurately report noncompliance; or

H. Any other violation(s), which may include a violation of BMPs, which the District Manager determines will adversely affect the operation or implementation of the local pretreatment program.

(Ord. 911, § 2, passed 08-24-2015)

CHAPTER 14.18
SANITARY CODE – WASTEWATER REPORTS

Section

14.18.010	Discharge reports
14.18.020	Baseline monitoring reports
14.18.030	Compliance schedule progress reports
14.18.040	Reports on compliance with categorical pretreatment standard deadline
14.18.050	Periodic compliance reports
14.18.060	Reports of changed conditions
14.18.070	Reports of potential problems
14.18.080	Notice of violation – Repeat sampling and reporting
14.18.090	Notification of the discharge of hazardous waste
14.18.100	Other reporting requirements
14.18.110	Recordkeeping
14.18.120	Certification statements
14.18.130	Sample collection

14.18.010 DISCHARGE REPORTS.

The District may require that any person discharging or proposing to discharge wastewater into the District’s sanitary sewer works file a periodic discharge report. The discharge report may include, but not be limited to, nature of process, volume, rates of flow, mass emission rates, production quantities, hours of operation, number and classification of employees, or other information which relates to the generation of waste including wastewater discharge. Such reports may also include the chemical constituents and quantity of liquid or gaseous materials stored on site even though they are not normally discharged. In addition to discharge reports, the District may require information in the form of wastewater discharge permit applications, self-monitoring reports and other reports contained in §§ [14.18.020](#) through [14.18.100](#).

(Ord. 911, § 2, passed 08-24-2015)

14.18.020 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 determination under [40 CFR 403.6\(a\)\(4\)](#), whichever is later, existing categorical industrial users currently discharging to or scheduled to discharge to the District sanitary sewer works shall submit to the District Manager a report which contains the information listed in subsection (B) of this section. At least 90 days prior to commencement of their discharge, new sources, and sources that become categorical industrial users subsequent to the promulgation of an applicable categorical standard, shall submit to the District Manager a report which contains the information listed in subsection (B) of this section. A new source shall report the method of pretreatment it intends to use to meet applicable categorical standards. A new source also shall give estimates of its anticipated flow and quantity of pollutants to be discharged.

B. Users described above shall submit the information set forth below.

1. All information required in §§ [14.17.020\(A\)](#), (G), (K) and (L).
2. *Measurement of Pollutants.*
 - a. The user shall provide the information required in § [14.17.020\(L\)\(1\)](#) through (5);

- b. The user shall take a minimum of 1 representative sample to compile the data necessary to comply with the requirements of this subsection;
- c. Samples should be taken immediately downstream from pretreatment facilities if such exist or immediately downstream from the regulated process if no pretreatment exists. If other wastewaters are mixed with the regulated wastewater prior to pretreatment, the user may be required to measure the flows and concentrations necessary to allow use of the combined wastestream formula in [40 CFR 403.6\(e\)](#) to evaluate compliance with the pretreatment standards. Where an alternate concentration or mass limit has been calculated in accordance with [40 CFR 403.6\(e\)](#), this adjusted limit along with supporting data shall be submitted to the District;
- d. Sampling and analysis shall be performed in accordance with §§ [14.16.090\(D\)](#) and [14.18.130](#);
- e. The District Manager may allow the submission of a baseline report which utilizes only historical data so long as the data provide information sufficient to determine the need for industrial pretreatment measures;
- f. The baseline report shall indicate the time, method, date and place of sampling and methods of analysis, and shall certify that such sampling and analysis is representative of normal work cycles and expected pollutant discharges to the sanitary sewer works.

C. *Compliance Certification.* A statement, reviewed by the user's authorized representative as defined in § [14.12.010](#) 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 requirements.

D. *Compliance Schedule.* If additional pretreatment and/or O&M will be required to meet the pretreatment standards, the shortest schedule by which the user will provide such additional pretreatment and/or O&M must be provided. 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 in § [14.18.030](#).

E. *Signature and Report Certification.* All baseline monitoring reports must be certified in accordance with § [14.18.120\(A\)](#) and signed by an authorized representative as defined in § [14.12.010](#).

(Ord. 911, § 2, passed 08-24-2015)

14.18.030 COMPLIANCE SCHEDULE PROGRESS REPORTS.

The following conditions shall apply to the compliance schedule required by § [14.18.020\(D\)](#):

- A. 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, but are not limited to, hiring an engineer, completing preliminary and final plans, executing contracts for major components, commencing and completing construction, and beginning and conducting routine operation);
- B. No increment referred to above shall exceed 9 months unless specified otherwise;

C. The user shall submit a progress report to the District Manager no later than 14 days following each date in the schedule and the final date of compliance including, as 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 user to return to the established schedule; and

D. In no event shall more than 9 months elapse between such progress reports to the District Manager.

(Ord. 911, § 2, passed 08-24-2015)

14.18.040 REPORTS 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 sanitary sewer works, any user subject to such pretreatment standards and requirements shall submit to the District Manager a report containing the information described in §§ [14.17.020](#)(K) and (L), and [14.18.020](#)(B)(2). All compliance reports must be signed and certified in accordance with § [14.18.120](#)(A). All sampling will be done in conformance with § [14.18.130](#).

(Ord. 911, § 2, passed 08-24-2015)

14.18.050 PERIODIC COMPLIANCE REPORTS.

A. Any SIU subject to a pretreatment standard must, at a frequency determined by the District Manager, submit no less than twice per year (June and December) reports indicating the nature, concentration of pollutants in the discharge which are limited by 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 BMP or pollution prevention alternative, the user must submit documentation required by the District 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 § [14.18.120](#)(A).

B. All wastewater samples must be representative of the 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 a user to keep its monitoring facility in good working order shall not be grounds for the user to claim that sample results are unrepresentative of its discharge.

(Ord. 911, § 2, passed 08-24-2015)

14.18.060 REPORTS OF CHANGED CONDITIONS.

Each user must notify the District Manager of any significant changes to the 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 District Manager may require the user to submit such information as may be deemed necessary to evaluate the changed condition, including the submission of a wastewater discharge permit application under § [14.17.020](#).

B. The District Manager may issue an individual wastewater discharge permit or a general permit under § [14.17.090](#) or modify an existing individual wastewater discharge permit or a general permit under § [14.17.070](#) in response to changed conditions or anticipated changed conditions.

(Ord. 911, § 2, passed 08-24-2015)

14.18.070 REPORTS OF POTENTIAL PROBLEMS.

A. In the case of any discharge, including, but not limited to, accidental discharges, discharges of a nonroutine, episodic nature, a noncustomary batch discharge, a slug discharge or slug load, that might cause potential problems for the sanitary sewer works, the user shall immediately telephone and notify the District Manager of the incident. This notification shall include the location of the discharge, type of waste, concentration and volume, if known, and corrective actions taken by the user.

B. Within 5 days following such discharge, the user shall, unless waived by the District Manager, submit a detailed written report describing the cause(s) of the discharge and the measures to be taken by the user to prevent similar future occurrences. Such notification shall not relieve the user of any expense, loss, damage, or other liability which might be incurred as a result of damage to the sanitary sewer works, natural resources, or any other damage to person or property; nor shall such notification relieve the user of any fines, penalties, or other liability which may be imposed pursuant to the Sanitary Code.

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

D. SIUs are required to notify the District Manager immediately of any changes at its facility affecting the potential for a slug discharge.

(Ord. 911, § 2, passed 08-24-2015)

14.18.080 NOTICE OF VIOLATION – REPEAT SAMPLING AND REPORTING.

If sampling performed by a user indicates a violation, the user must notify the District Manager within 24 hours of becoming aware of the violation. The user shall also repeat the sampling and analysis and submit the results of the repeat analysis to the District Manager within 30 days after becoming aware of the violation. Resampling by the industrial user is not required if the District performs sampling at the user's facility at least once a month, or if the District performs sampling at the user's facility between the time when the initial sampling was conducted and the time when the user or the District receives the results of this sampling, or if the District has performed the sampling and analysis in lieu of the industrial user.

(Ord. 911, § 2, passed 08-24-2015)

14.18.090 NOTIFICATION OF THE DISCHARGE OF HAZARDOUS WASTE.

Any user who accidentally discharges hazardous waste shall notify the District, the EPA Regional Waste Management Division Director, and state hazardous waste authorities, in writing, of any discharge into the sanitary sewer works of a substance which, if otherwise disposed of, would be a hazardous waste under [40](#) CFR Part [261](#). Discharge of hazardous waste is prohibited under § [14.16.090](#)(A)(15).

(Ord. 911, § 2, passed 08-24-2015)

14.18.100 OTHER REPORTING REQUIREMENTS.

A. All periodic compliance reports must be signed and certified in accordance with § [14.18.120](#)(A).

B. If a user subject to the reporting requirement in this section monitors any regulated pollutant at the appropriate sampling location more frequently than required by the

District Manager, using the procedures prescribed in § [14.18.130](#), the results of this monitoring shall be included in the report.

(Ord. 911, § 2, passed 08-24-2015)

14.18.110 RECORDKEEPING

Users subject to the reporting requirements of this chapter shall retain, and make available for inspection and copying, all records of information obtained pursuant to any monitoring activities required by the Sanitary Code, any additional records of information obtained pursuant to monitoring activities undertaken by the user independent of such requirements, and documentation associated with BMPs established under § [14.16.090](#)(G). Records shall include the date, exact place, method, and time of sampling, the name of the analytical techniques or methods used, and the results of such analyses. These records shall remain available for a period of at least 3 years. This period shall be automatically extended for the duration of any litigation concerning the user or the District, or where the user has been specifically notified of a longer retention period by the District Manager.

(Ord. 911, § 2, passed 08-24-2015)

14.18.120 CERTIFICATION STATEMENTS.

A. *Certification of Permit Applications, User Reports.* The following certification statement is required to be signed and submitted by users submitting permit applications in accordance with § [14.17.030](#); users submitting baseline monitoring reports under § [14.18.020](#)(E) (Note: See [40 CFR 403.12](#)(I)); users submitting reports on compliance with the categorical pretreatment standard deadlines under § [14.18.040](#) (Note: See [40 CFR 403.12](#)(d)); and users submitting periodic compliance reports required by § [14.18.050](#). The following certification statement must be signed by an authorized representative as defined in § [14.12.010](#). All periodic compliance reports must be signed and certified in accordance with this section.

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.

B. *Annual Certification for Nonsignificant Categorical Industrial Users.* A facility determined to be a nonsignificant categorical industrial user (defined in § [14.12.010](#), significant industrial user) by the District Manager pursuant to § [14.17.030](#)(C) (Note: See [40 CFR 403.3](#)(v)(2)) must annually submit the following certification statement signed in accordance with the signatory requirements of authorized or duly authorized representative (defined in § [14.12.010](#)) (Note: See [40 CFR 403.120](#)(I)). This certification must accompany an alternative report required by the District Manager.

Based on my inquiry of the Person or Persons directly responsible for managing compliance with the Categorical Pretreatment Standards under [40 CFR _____](#), I certify that, to the best of my knowledge and belief that during

the period from _____, _____ to _____, _____ [months, days, year]:

1. The facility described as _____ [facility name] met the definition of a Non-Significant Categorical Industrial User as described in § [14.12.010](#) Significant Industrial User; [Note: See [40](#) CFR [403.3\(v\)\(2\)](#)]
2. The facility complied with all applicable Pretreatment Standards during this reporting period; and
3. The facility never discharged more than one hundred (100) gallons of total Categorical Wastewater on any given day during this reporting period. This compliance certification is based on the following information.

(Ord. 911, § 2, passed 08-24-2015)

14.18.130 SAMPLE COLLECTION.

Samples collected to satisfy reporting requirements must be based on data obtained through appropriate sampling and analysis performed during the period covered by the report, and based on data that is representative of conditions occurring during the reporting period.

A. Except as indicated in subsections (B) and (C) of this section, the 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 District Manager. Where time-proportional composite sampling or grab sampling is authorized by the District, the samples must be representative of the discharge. Using protocols (including appropriate preservation) specified in [40](#) CFR 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 District, as appropriate. In addition, grab samples may be required to show compliance with instantaneous limits.

B. Samples for oil and grease, temperature, pH, cyanide, total phenols, sulfides, and volatile organic compounds must be obtained using grab collection techniques.

C. For sampling required in support of baseline monitoring and 90-day compliance reports required in §§ [14.18.020](#) and [14.18.040](#) ([40](#) CFR [403.12\(b\)](#) and (d)), a minimum of 4 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 District Manager may authorize a lower minimum. For the reports required by § [14.18.050](#) ([40](#) CFR [403.12\(e\)](#) and [403.12\(h\)](#)), the industrial user is required to collect the number of grab samples necessary to assess and assure compliance with applicable pretreatment standards and requirements.

(Ord. 911, § 2, passed 08-24-2015)

**CHAPTER 14.20
SANITARY CODE – PRIVATE WASTEWATER DISPOSAL**

Section

- [14.20.010](#) Sewer not available
- [14.20.020](#) Permit required
- [14.20.030](#) Inspection required
- [14.20.040](#) Design requirements
- [14.20.050](#) Abandonment of facilities
- [14.20.060](#) Cost of maintenance by owner
- [14.20.070](#) Additional requirements

14.20.010 SEWER NOT AVAILABLE. ☒

Where a public sewer is not available under the provisions of § [14.16.050](#), the sewer lateral serving a building shall be connected to a private sanitary sewer works complying with the provisions of the Sanitary Code.

(Ord. 911, § 2, passed 08-24-2015)

14.20.020 PERMIT REQUIRED.

Before commencement of construction of a private sanitary sewer works, the owner shall first obtain a written permit signed by the District Manager. The application for the permit shall be made on a form furnished by the District, which the applicant shall supplement by any plans, specifications and other information as are deemed necessary by the District Manager. A permit and inspection fee shall be paid to the District at the time application is filed in accordance with the provisions of Chapter [14.24](#).

(Ord. 911, § 2, passed 08-24-2015)

14.20.030 INSPECTION REQUIRED.

A permit for a private sanitary sewer works shall not become effective until the installation is completed to the satisfaction of the District Manager. He or she shall be allowed to inspect the work at any stage of construction and, in any event, the applicant for the permit shall notify the District Manager when the work is ready for final inspection, and before any underground portions are covered. The inspection shall be made within 48 hours, Saturdays, Sundays, and holidays excluded, of the receipt of the notice by the District Manager.

(Ord. 911, § 2, passed 08-24-2015)

14.20.040 DESIGN REQUIREMENTS.

The type, capacities, locations, and layout of a private sanitary sewer works shall comply with all recommendations and regulations of the California Department of Public Health and the regulations of the Mendocino County Department of Environmental Health. No septic tank, cesspool, or private sanitary sewer works shall be permitted to discharge to any public sewer or any stream or watercourse.

(Ord. 911, § 2, passed 08-24-2015)

14.20.050 ABANDONMENT OF FACILITIES.

At such time as a public sewer becomes available to a property served by a private sanitary sewer works, and connection is required as provided in § [14.16.050](#), a direct connection shall be made to the public sewer in compliance with the Sanitary Code and

rules and regulations of the District. Any septic tank, cesspools, or similar private sanitary sewer works shall be abandoned as determined by the District Manager.
(Ord. 911, § 2, passed 08-24-2015)

14.20.060 COST OF MAINTENANCE BY OWNER.

The owner shall operate and maintain the private sanitary sewer works in proper working order and in compliance with all applicable codes and regulations at all times, and at no expense to the District.

(Ord. 911, § 2, passed 08-24-2015)

14.20.070 ADDITIONAL REQUIREMENTS.

No statement contained in the Sanitary Code shall be construed to interfere with any additional requirements that may be imposed by any law, ordinance, rule, or regulation or by the Health Officer of the county.

(Ord. 911, § 2, passed 08-24-2015)

**CHAPTER 14.24
SANITARY CODE – PERMITS AND FEES**

Section

<u>14.24.010</u>	Permit required
<u>14.24.020</u>	Application for permit
<u>14.24.030</u>	Compliance with permit
<u>14.24.040</u>	Agreement
<u>14.24.050</u>	Fees – Annexation charges
<u>14.24.060</u>	Capital improvement and installation fees
<u>14.24.110</u>	Sewer use charges
<u>14.24.120</u>	Sewer billing – Delinquent account – Service shutoff for nonpayment – Penalty charge
<u>14.24.122</u>	Applicants – Credit establishment – Requirements
<u>14.24.124</u>	Applications – Credit establishment – Cash deposit
<u>14.24.126</u>	Process for handling of unpaid bills
<u>14.24.130</u>	Flow of wastewater
<u>14.24.150</u>	Septic tank dump fees
<u>14.24.160</u>	Monthly sewer use fees
<u>14.24.170</u>	Extension of service
<u>14.24.190</u>	Fees – Permit and inspection
<u>14.24.200</u>	Bond – Public sewer construction
<u>14.24.210</u>	Disposition of fees
<u>14.24.220</u>	All work to be inspected
<u>14.24.230</u>	Notification for inspection
<u>14.24.240</u>	Rejected work
<u>14.24.250</u>	All costs paid by owner
<u>14.24.290</u>	Street excavation permit
<u>14.24.300</u>	Liability
<u>14.24.310</u>	Time limit on permits
<u>14.24.320</u>	Annexation – Buy-in fee – Payment required
<u>14.24.330</u>	Annexation – Buy-in fee – Amount
<u>14.24.340</u>	Annexation – Buy-in fee – Additional to other sewer fees
<u>14.24.350</u>	Annexation – Buy-in fee – Calculation
<u>14.24.360</u>	Annexation – No guarantee to property owner of sewer service
<u>14.24.370</u>	Pretreatment charges and fees

14.24.010 PERMIT REQUIRED.

No unauthorized person shall uncover, make any connection with, or opening into, use, alter, or disturb any public sewer or appurtenance or perform any work on any sewer lateral without first obtaining a written permit from the District.

(Ord. 911, § 2, passed 08-24-2015)

14.24.020 APPLICATION FOR PERMIT.

A. Any person legally entitled to apply for and receive a permit shall make the application on forms provided by the District for that purpose. He or she shall give a description of the character of the work proposed to be done and the location, ownership, occupancy and use of the premises in connection therewith. The District

Manager may require plans, specifications, or drawings and such other information as he or she may deem necessary.

B. If the District Manager determines that the plans, specifications, drawings, descriptions, or information furnished by the applicant is in compliance with the ordinances, rules, and regulations of the District, he or she shall issue the permit applied for upon payment of the required fees as hereinafter fixed.

(Ord. 911, § 2, passed 08-24-2015)

14.24.030 COMPLIANCE WITH PERMIT.

After approval of the application, evidenced by the issuance of a permit, no change to the activities authorized by said permit shall be made to the sanitary sewer works except with written permission from the District Manager.

(Ord. 911, § 2, passed 08-24-2015)

14.24.040 AGREEMENT.

The applicant's signature on an application for any permit shall constitute an agreement to comply with all of the provisions, terms, and requirements of this chapter and the Sanitary Code and other ordinances, rules, and regulations of the District, and with the corrections or modifications as may be made or permitted by the District, if any. The agreement shall be binding upon the applicant and may be altered only by the District upon the written request for the alteration from the applicant.

(Ord. 911, § 2, passed 08-24-2015)

14.24.050 FEES – ANNEXATION CHARGES.

The owner or owners of lands within areas to be annexed to the District shall pay to the District, prior to the final hearing on the proposed annexation, an amount to be fixed by the District Board which shall equal the engineering, legal, and publication costs and all other charges which may be incurred by the District in preparing and examining the maps, legal descriptions, and other documents in relation thereto, and other expenses regularly incurred in connection therewith.

(Ord. 911, § 2, passed 08-24-2015)

14.24.060 CAPITAL IMPROVEMENT AND INSTALLATION FEES.

A. *Generally.* The owner or owners of lands within the service area of the District shall pay to the District, prior to the issuance of a permit to connect any portion of the property to the sanitary sewer works of the district, a capacity charge. The purpose of the capacity charge is to assure that there will be sufficient funding for improvements to the District sanitary sewer works necessitated by increased flows of wastewater resulting from new connections to the District sanitary sewer works.

B. *Capacity Charges.*

1. Capacity charges collected shall be used for facilities in existence at the time a charge is imposed or for new facilities to be constructed in the future that are of benefit to the person being charged.

2. Capacity charges shall be established and fixed by resolution of the District Board.

C. *Connection Fees.*

1. In addition to the capacity charges established by this section, connection fees shall be paid to the District by the owner or owners of the affected property prior to the issuance of a permit to connect any portion of a property to the sanitary sewer

works. The purpose of the connection fee is to recover the cost to the District of providing a public lateral stub-out from an existing sewer.

2. Connection fees shall be established and fixed by resolution of the District Board.

(Ord. 911, § 2, passed 08-24-2015)

14.24.110 SEWER USE CHARGES.

A. *Generally.* The Board of Directors of the District find that the operation and maintenance cost for the District for which sewer use fees are utilized are not discriminatory or excessive and are directly related to actual cost of providing sewer service by the District. Any person(s), business, or other entity receiving sewer service from the District shall pay a sewer use rate as established and fixed from time to time by resolution of the District Board at any duly noticed regular meeting of the District Board.

B. *Strength Factor.*

1. Strength factors are based upon the levels of biochemical oxygen demand (BOD) and total suspended solids (TSS) that a user discharges into the District's sanitary sewer works. Sewer use fees for a given commercial user are determined from the strength factor.

C. *Use of Fees.* Revenues collected from sewer use fees shall not be used for capital expansion, but may be used for operation and maintenance costs including:

1. Expenses for salaries, supplies, and materials associated with the operation and maintenance of the collection, treatment, and management functions of the wastewater system;
2. Equipment repair and replacement;
3. Upgrading of existing facilities to improve efficiency and/or the quality of wastewater treatment;
4. Replacement of existing structures and facilities due to wear and tear, including the establishment of a depreciation reserve fund; and
5. Payment of debt service.

(Ord. 911, § 2, passed 08-24-2015)

14.24.120 SEWER BILLING – DELINQUENT ACCOUNT – SERVICE SHUTOFF FOR NONPAYMENT – PENALTY CHARGE.

Pursuant to the authority of Cal. Government Code § [54348](#), any amount owed for sewer service that is not paid within 20 days from the billing date shall be deemed late and shall be subject to a late payment penalty equal to 5% of the past due amount. Before a late payment penalty is imposed on a late payment, the District shall comply with the procedural requirements of §§ [14.04.030](#) through [14.04.034](#), relating to delinquent water bills. With respect to all accounts thereafter with a balance of \$5.00 or more, the late payment penalty of 5% of the past due amount will be automatically added. In addition to the 5% late payment penalty set forth herein, all delinquent principal and penalties shall bear interest at the rate of 0.5% per month, until paid.

(Ord. 911, § 2, passed 08-24-2015)

14.24.122 APPLICANTS – CREDIT ESTABLISHMENT – REQUIREMENTS.

Each applicant for sewer service will be required to satisfactorily establish credit. Credit will be deemed established as follows:

A. If the applicant is the legal owner of the property to be served and there are no delinquent taxes, assessments, or liens outstanding against the property;

- B. If the applicant makes a cash deposit in the amount specified in § [14.24.124](#);
- C. If the applicant furnishes a sufficient guarantee executed by a corporate or individual surety acceptable to the Director of Finance to secure payment;
- D. If the applicant has previously paid all sewer bills for sewer service previously supplied by the District to applicant; and
- E. If the applicant has sufficient established credit references which, in the opinion of the Director of Finance, warrant establishment of sewer service without cash deposit or guarantee.

(Ord. 911, § 2, passed 08-24-2015)

14.24.124 APPLICATIONS – CREDIT ESTABLISHMENT – CASH DEPOSIT.

- A. The amount of the cash deposit set forth in § [14.24.122](#) to establish credit for sewer service for residential accounts shall be no more than 3 times the estimated average monthly bill. The amount of cash deposit for commercial accounts shall be at the discretion of the Director of Finance.
- B. Upon discontinuance of sewer service, the District will refund the cash sewer deposit in excess of any unpaid amount owed the District. Credit must be reestablished under the following conditions:
 1. In the event sewer is shut off;
 2. Where more than 2 notices of delinquency are sent to a customer within a 1-year period, unless the notice is set erroneously or the amounts alleged to be due from the consumer in the notice are determined not to be due to the District; and
 3. In the event a consumer of an owner-occupied residence or business pays all sewer bills owed to the District within a 2-year period, any cash deposit held by the District shall be refunded.

(Ord. 911, § 2, passed 08-24-2015)

14.24.126 PROCESS FOR HANDLING OF UNPAID BILLS.

- A. All unpaid, remaining balances for delinquent bills for sewer service shall be referred to a collection agency after closing the account and applying any security deposit on file with the City.
- B. In the event the collection agency is unsuccessful in collection of the sewer bill, the bill for service shall be a lien on the property served with the sewer and shall be collected and enforced in the same manner that unpaid City taxes on the property are collected and enforced.

(Ord. 911, § 2, passed 08-24-2015)

14.24.130 FLOW OF WASTEWATER.

Unless separately metered, wastewater flow to the sanitary sewer works shall be no greater than 65% of the water supplied by the City of Fort Bragg Water Department metered into the commercial or industrial or public property. The properties may upon application to and with the approval of the District Manager, and at the expense of the property owner, install and maintain in a satisfactory condition a flow measuring device for the purpose of determining actual quantities of wastewater discharged into the sanitary sewer works. Wastewater flow to the sanitary sewer works may also be determined by applying a different percentage rate to the metered freshwater when it can be shown that a significant quantity of water is lost in the commercial or industrial process or by irrigation. The applied percentage rate must be approved in writing by the

District Manager. Where no freshwater meter exists, the District Manager shall establish the quantity of wastewater flow to the sanitary sewer works.

(Ord. 911, § 2, passed 08-24-2015)

14.24.150 SEPTIC TANK DUMP FEES.

Haulers of septic tank and chemical toilet waste shall pay to the District a fee for each load or part thereof of septic tank wastes unloaded at the WWTF in an amount as established from time to time by resolution of the District Board and in accordance with § [14.40.090](#).

(Ord. 911, § 2, passed 08-24-2015)

14.24.160 MONTHLY SEWER USE FEES.

Monthly sewer use fees shall be paid to the District beginning 90 days after the connection fee is paid or at the time actual connection to the sewer system is established, whichever is earlier.

(Ord. 911, § 2, passed 08-24-2015)

14.24.170 EXTENSION OF SERVICE.

Service shall be extended only to those lots or parcels of land within the District, or which are within an area to be annexed to the District.

(Ord. 911, § 2, passed 08-24-2015)

14.24.190 FEES – PERMIT AND INSPECTION.

Permit and inspection fees are established and amended from time to time by resolution of the District Board.

(Ord. 911, § 2, passed 08-24-2015)

14.24.200 BOND – PUBLIC SEWER CONSTRUCTION.

Prior to the issuance of a permit for public sewer construction, the applicant shall furnish to the District a faithful performance bond or cash in the amount of the total estimated cost of the work. The bond is to be secured by a surety or sureties satisfactory to the District. The cash deposit or faithful performance bond shall be conditioned upon the performance of the terms and conditions of the permit and shall guarantee the correction of faulty workmanship and the replacement of defective materials for a period of 1 year after the date of acceptance of the work.

(Ord. 911, § 2, passed 08-24-2015)

14.24.210 DISPOSITION OF FEES.

All fees collected on behalf of the District shall be deposited with the proper authority provided for by the District to receive the funds.

(Ord. 911, § 2, passed 08-24-2015)

14.24.220 ALL WORK TO BE INSPECTED.

All sanitary sewer works construction shall be inspected by an inspector acting for the District to ensure compliance with all requirements of the District. No underground sanitary sewer works shall be covered at any point until it has been inspected and passed for acceptance. No sanitary sewer works shall be connected to the District's public sewer until the work covered by the permit has been completed, inspected, tested and approved by the District Manager. If the test(s) prove satisfactory and the permitted sanitary sewer works are in good working order, the inspector shall issue a certificate of satisfactory completion.

(Ord. 911, § 2, passed 08-24-2015)

14.24.230 NOTIFICATION FOR INSPECTION.

It shall be the duty of the person doing the work authorized by permit to notify the office of the District Manager in writing that the work is ready for inspection. The notification shall be given not less than 24 hours before the work is to be inspected. It shall be the duty of the person doing the work to make sure that the work will stand the tests required by the District, before giving the above notification.

(Ord. 911, § 2, passed 08-24-2015)

14.24.240 REJECTED WORK.

When any work has been inspected, the work condemned rejected and no certification of satisfactory completion given, a written notice to that effect shall be given instructing the owner of the premises, or the agent of the owner, to repair or restore the sanitary sewer works as authorized by the permit in accordance with the ordinances, rules, and regulations of the District.

(Ord. 911, § 2, passed 08-24-2015)

14.24.250 ALL COSTS PAID BY OWNER.

All costs and expenses incidental to the installation and connection of any sanitary sewer for which a permit has been issued shall be borne by the owner. The owner shall indemnify the District from any loss or damage that may directly or indirectly be occasioned by the work.

(Ord. 911, § 2, passed 08-24-2015)

14.24.290 STREET EXCAVATION PERMIT.

A separate permit must be secured from the City or County by owners or contractors intending to excavate in a public street for the purpose of installing sanitary sewer works or making connections to a public sewer.

(Ord. 911, § 2, passed 08-24-2015)

14.24.300 LIABILITY.

The District and its officers, agents, and employees shall not be answerable for any liability or injury or death to any person or damage to any property arising during or growing out of the performance of any work by any such applicant. The applicant shall be answerable for and shall save the District and its officers, agents and employees harmless from any liability imposed by law upon the District or its officers, agents or employees, including all costs, expenses, fees, and interest incurred in defending same or in seeking to enforce this provision. Applicant shall be solely liable for any defects in the performance of his or her work or any failure which may develop therein.

(Ord. 911, § 2, passed 08-24-2015)

14.24.310 TIME LIMIT ON PERMITS.

If work under a permit is not commenced within 6 months from the date of issuance or if after partial completion, the work is discontinued for a period of 1 year, the permit shall thereupon become void and no further work shall be done until a new permit shall have been secured. A new fee shall be paid upon issuance of the new permit.

(Ord. 911, § 2, passed 08-24-2015)

14.24.320 ANNEXATION – BUY-IN FEE – PAYMENT REQUIRED.

A. In addition to the annexation charges set forth in § [14.24.050](#), the following buy-in fee shall be paid by each property owner of land within areas to be annexed to the District.

B. This fee shall be paid to the District over a 3-year period in equal annual installments.

C. If annexation to the District is not completed, any fee paid shall be returned to the property owner.

(Ord. 911, § 2, passed 08-24-2015)

14.24.330 ANNEXATION – BUY-IN FEE – AMOUNT.

The annexation buy-in fee shall be an amount equal to what the property owner would have paid for that portion of taxes to the County Tax Collector attributable to the District had the land which is the subject of the annexation been within the boundaries of the District from its formation. This sum shall be calculated at the tax rate and assessed value of the land existing for each year from the formation of the District to the date of actual annexation to the District. That portion of the buy-in fee pertaining to the year of annexation shall be prorated, if applicable, based upon the date of completion of annexation proceedings to the District.

(Ord. 911, § 2, passed 08-24-2015)

14.24.340 ANNEXATION – BUY-IN FEE – ADDITIONAL TO OTHER SEWER FEES.

The fee established by §§ [14.24.320](#) and [14.24.330](#) is in addition to any other sewer fee or charge established by ordinance or resolution.

(Ord. 911, § 2, passed 08-24-2015)

14.24.350 ANNEXATION – BUY-IN FEE – CALCULATION.

The buy-in fee established by §§ [14.24.320](#) and [14.24.330](#) (subject to adjustment based on the date of completion of annexation proceedings) shall be calculated by the Director of Finance and provided to applicants for annexation to the District within 30 days of filing of an annexation application with the District Clerk.

(Ord. 911, § 2, passed 08-24-2015)

14.24.360 ANNEXATION – NO GUARANTEE TO PROPERTY OWNER OF SEWER SERVICE.

Annexation to the District does not guarantee the property owners of the annexed lands that the District has the capability of immediately serving the wastewater demands of the annexed area.

(Ord. 911, § 2, passed 08-24-2015)

14.24.370 PRETREATMENT CHARGES AND FEES

The District may adopt reasonable charges and fees for reimbursement of costs of setting up and operating the District's source control 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 collecting 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 District may deem necessary to carry out the requirements contained in this section. These fees relate solely to the matters covered by Chapters [14.16](#), [14.17](#), and [14.18](#) and are separate from all other fees, fines, and penalties chargeable by the District.

(Ord. 911, § 2, passed 08-24-2015)

CHAPTER 14.28
SANITARY CODE – LATERAL SEWERS AND CONNECTIONS

Section

14.28.010	Permit required
14.28.020	Construction requirements
14.28.030	Minimum size and slope
14.28.040	Separate sewer laterals
14.28.050	Old sewer laterals
14.28.060	Cleanouts
14.28.070	Sewer too low
14.28.080	Connection to public sewer
14.28.090	Protection of excavation
14.28.100	Maintenance of lateral sewers
14.28.110	Testing of sewer laterals in general
14.28.115	Testing of lateral sewers at time of sewer main improvement

14.28.010 PERMIT REQUIRED.

In accordance with Chapter [14.24](#), no person shall construct a lateral sewer, or make a connection with any public sewer, without first obtaining a written permit from the District and paying all fees and connection charges as required therein.

(Ord. 911, § 2, passed 08-24-2015)

14.28.020 CONSTRUCTION REQUIREMENTS.

Construction of lateral sewers shall be in accordance with the requirements of the County of Mendocino and the requirements of the District. In case of conflict, the more stringent shall apply.

(Ord. 911, § 2, passed 08-24-2015)

14.28.030 MINIMUM SIZE AND SLOPE.

The minimum size of a sewer lateral shall be 4-inch diameter. The minimum slope of a sewer lateral shall be 2 feet per 100 feet (2% slope). Exceptions will be reviewed and approved at the discretion of the District Manager.

(Ord. 911, § 2, passed 08-24-2015)

14.28.040 SEPARATE SEWER LATERALS.

No 2 adjacent buildings fronting on the same street shall be permitted joint use of the same sewer lateral. Every building or industrial facility must be separately connected to an adjacent public sewer if such sewer lies within the distance as described in § [14.16.050](#). However, 1 or more buildings located on property belonging to the same owner may be served with the same side sewer during the period of such ownership. Upon the subsequent subdivision of the lot or a portion of the lot, resulting parcels not connected with the public sewer shall be separately connected with a sewer lateral to the public sewer, and it shall be unlawful for the owner thereof to continue to use or maintain the indirect connection.

(Ord. 911, § 2, passed 08-24-2015)

14.28.050 OLD SEWER LATERALS.

Old sewer laterals may be used to connect new buildings to a public sewer only when they are found, upon examination and testing by the District Manager, to meet all requirements of the District.

(Ord. 911, § 2, passed 08-24-2015)

14.28.060 CLEANOUTS.

Cleanouts in sewer laterals shall be provided in accordance with the rules, regulations, and ordinances of the District. All cleanouts shall be maintained watertight.

(Ord. 911, § 2, passed 08-24-2015)

14.28.070 SEWER TOO LOW.

In all buildings in which any sewer is too low to permit gravity flow to the public sewer, the building's wastewater shall be lifted by artificial means approved by the District Manager and discharged to the public sanitary sewer works. Such artificial means shall be owned, operated, maintained and expense borne by the owner.

(Ord. 911, § 2, passed 08-24-2015)

14.28.080 CONNECTION TO PUBLIC SEWER.

The connection of a sewer lateral serving a building to public portion of the sewer lateral shall be made at the property line where there is an existing public portion of a sewer lateral. Where no public portion sewer lateral exists, the sewer lateral serving the building shall be extended to the public sewer. All connections to the public portion of a sewer lateral or a public sewer shall be done in accordance with the District's standards and as approved by the District Manager. Any damage to the public sewer shall be repaired at the cost of the applicant to the satisfaction of the District Manager.

(Ord. 911, § 2, passed 08-24-2015)

14.28.090 PROTECTION OF EXCAVATION.

All excavations for a sewer lateral installation shall be adequately guarded with barricades, lights, covered, or otherwise managed so as to protect the public from hazard. Streets, sidewalks, parkways, and other property disturbed in the course of the work shall be restored in a manner satisfactory to the District and the county or any other person having jurisdiction.

(Ord. 911, § 2, passed 08-24-2015)

14.28.100 MAINTENANCE OF LATERAL SEWERS.

A. The maintenance of all lateral sewers located within the public street, alley, or other public right-of-way is the responsibility of the District.

B. Excepting the first occurrence of a blockage or failure of the lateral sewer located within the public street, alley, or other public right-of-way occurring in any calendar year, caused by:

1. An accumulation of fats, oils, and greases;
2. An accumulation of fish processing residues or packaging materials; or
3. Damage caused by the owner, occupant, or their agents (e.g., plumbers) of the property served.

The cost of line blockage clearing or failure repair shall be the responsibility of the owner of the property served.

(Ord. 911, § 2, passed 08-24-2015)

14.28.110 TESTING OF SEWER LATERALS IN GENERAL.

All lateral sewers shall be tested for leakage by method(s) approved by the District Manager. Fittings, plugs, water, and labor for testing shall be furnished by the person testing the sewer. All private property portions of sewer laterals showing leakage or damage shall be repaired or replaced at the property owner's expense and shall be done at the direction and to the satisfaction of the District Manager.

(Ord. 911, § 2, passed 08-24-2015)

14.28.115 TESTING OF LATERAL SEWERS AT TIME OF SEWER MAIN IMPROVEMENT.

A. *Sewer Main Improvements.* During sewer main improvements, the sewer lateral(s) served by the main shall be tested for infiltration. All necessary repairs or replacements to prevent infiltration shall be made. The property owner in whose property the private portion of any failed lateral lies shall be responsible for the costs and for conforming to the requirements of this title. Such work shall be completed within 180 days of being notified of lateral failure.

B. *Testing.* Testing will be completed by the City through a cleanout on the property owner's property. If there is not a suitable cleanout, the City will install a cleanout in the public right-of-way or appropriate easement. Signs of infiltration may include: roots appearing in the lateral, cracks, gaps, or separations in the pipe or pipe joints. If repairs to the private property portion of the lateral are required, the City will provide a copy of the inspection video on DVD or other documentation as appropriate.

C. *Failure of Test.* Should the private portion of a sewer lateral fail a test, the lateral shall be either repaired or replaced, and then retested. A plumbing permit will be required to perform the necessary repairs or replacement. Testing and repairs/replacement shall continue until the lateral no longer leaks.

D. *Exceptions.* This section shall not apply to:

1. Buildings where the District Manager determines that testing and repair or replacement of sewer lateral(s) has been performed to District standards within the last 3 years.
2. Buildings where the District Manager determines that new sewer construction has been inspected and passed within the last 3 years. This determination shall be made by a test performed by District staff. Except for standard permit costs, there will be no charge to the property owner for this test. In the event that the test fails, refer to subsection (C) of this section.

(Ord. 911, § 2, passed 08-24-2015)

CHAPTER 14.32
SANITARY CODE – PUBLIC SEWER CONSTRUCTION

Section

- [14.32.010](#) Permit required
- [14.32.020](#) Plans, profiles, and specifications required
- [14.32.030](#) Subdivisions
- [14.32.040](#) Easements or rights-of-way
- [14.32.050](#) Persons authorized to perform work
- [14.32.080](#) Protection of excavation
- [14.32.090](#) Design and construction standards
- [14.32.100](#) Completion of sanitary sewer works required

14.32.010 PERMIT REQUIRED.

In accordance with Chapter [14.24](#), no person shall construct, extend, or connect to any public sewer without first obtaining a written permit from the District and paying all fees and connection charges and furnishing bonds as required therein. This section shall not be construed to apply to contractors constructing sewers and appurtenances under contracts awarded and entered into by the District.

(Ord. 911, § 2, passed 08-24-2015)

14.32.020 PLANS, PROFILES, AND SPECIFICATIONS REQUIRED.

The application for a permit for public sanitary sewer works construction shall be accompanied by complete plans, profiles, and specifications, complying with all applicable ordinances, rules, and regulations of the District, prepared by a registered civil engineer showing all details of the proposed work based on an accurate survey of the ground. The District Manager may waive the requirement for these documents to be prepared by a registered civil engineer if the work involves only a sewer lateral and is minor in nature. The application, together with the plan, profiles and specifications, shall be examined by the District Manager who shall, within 20 working days, approve them as filed or require them to be modified as necessary for proper installation. When the District Manager is satisfied that the proposed work is proper and the plans, profiles and specifications are sufficient and correct, the permit shall be issued after payment of all connection charges, fees, and furnishing bonds as required by the District. The permit shall prescribe the terms and conditions as the District finds necessary in the public interest.

(Ord. 911, § 2, passed 08-24-2015)

14.32.030 SUBDIVISIONS.

The requirements of §§ [14.32.010](#) and [14.32.020](#) shall be fully complied with before any final subdivision map shall be approved by the Board. In lieu of completion prior to final map recordation, such sanitary sewer works may be bonded for as provided for by the state Subdivision Map Act. The final subdivision map shall provide for the dedication for public use of streets, easements, or rights-of-way in which public sewers are to be constructed.

(Ord. 911, § 2, passed 08-24-2015)

14.32.040 EASEMENTS OR RIGHTS-OF-WAY.

In the event that an easement, right-of-way, or other property interest suitable to the District is required for the installation of the public sewer or the making of connections, the applicant shall procure and have accepted by the Board a proper easement, right-

of-way, or other property interest sufficient in law to allow the installation and maintenance of the required facilities.

(Ord. 911, § 2, passed 08-24-2015)

14.32.050 PERSONS AUTHORIZED TO PERFORM WORK.

Generally, properly licensed contractors shall be required to perform the work of public sewer construction within the District. The District Manager may waive the requirement for a licensed contractor if the work involves only a sewer lateral and is minor in nature. All terms and conditions of the permit issued by the District to the applicant shall be binding on the contractor or permit holder. The requirements of this section shall apply to sewer laterals installed concurrently with public sewer construction.

(Ord. 911, § 2, passed 08-24-2015)

14.32.080 PROTECTION OF EXCAVATION.

All excavations for public sewer installation shall comply with § [14.28.090](#).

(Ord. 911, § 2, passed 08-24-2015)

14.32.090 DESIGN AND CONSTRUCTION STANDARDS.

Design and construction of sanitary sewer works within the District shall be in accordance with the standard specifications and standard plans for sanitary sewer works construction adopted by the District, copies of which are on file in the District office. The District Manager may permit modifications or may require higher standards where unusual conditions are encountered. "As-built" drawings showing the actual location of all improvements shall be filed with the District before final acceptance of the work.

(Ord. 911, § 2, passed 08-24-2015)

14.32.100 COMPLETION OF SANITARY SEWER WORKS REQUIRED.

Before any acceptance of any sanitary sewer works by the District and prior to the admission of any wastewater into the system, the sanitary sewer works shall be tested and shall be complete and in full compliance with all requirements of the specifications for sanitary sewer works and to the satisfaction of the District Manager.

(Ord. 911, § 2, passed 08-24-2015)

CHAPTER 14.36
SANITARY CODE – ENFORCEMENT

Section

14.36.010	Administrative enforcement remedies
14.36.015	Judicial enforcement remedies
14.36.020	Supplemental enforcement action
14.36.025	Remedies nonexclusive
14.36.030	Affirmative defenses to discharge violations
14.36.040	Public nuisance when
14.36.050	Means of enforcement only
14.36.060	Penalty

14.36.010 ADMINISTRATIVE ENFORCEMENT REMEDIES.

A. *Notification of Violation.* Whenever the District Manager finds that any person has violated or is violating the Sanitary Code, a wastewater discharge permit or order issued hereunder, or any other pretreatment requirement, the District Manager may serve upon said person a written notice of violation. Within 7 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 District 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 District to take any action, including emergency actions or any other enforcement action, without first issuing a notice of violation.

B. *Consent Orders.* The District 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 subsections (D) and (E) of this section and shall be judicially enforceable.

C. *Show Cause Hearing.* The District Manager may order a person who has violated, or continues to violate, any provision of the Sanitary Code, an individual wastewater discharge permit, or order issued hereunder, or any other pretreatment standard or requirement, to appear before the District 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 7 days prior to the hearing. Such notice may be served on any authorized representative of the person as defined in § [14.12.010](#) and required by § [14.17.030](#)(A). 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 District finds that a person has violated or continues to violate the Sanitary Code, wastewater discharge permits or order issued hereunder, or any other pretreatment standard or requirement, an order may be issued 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 District Manager finds that a person is violating the Sanitary Code, 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 District Manager may issue an order to the person directing it or them 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 the Sanitary Code, any person that is found to have violated any provision of the Sanitary Code, their 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 District 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 District 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 District Manager shall convene a hearing on the matter within 30 days of receiving the request from the industrial user. In the event the person's appeal is successful, the payment together with any interest accruing thereto shall be returned to the industrial user. The District 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 District 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 or the environment. The District Manager may also immediately suspend a person's discharge (after notice and opportunity to respond) that threatens to interfere with the operation of the sanitary sewer works, or which presents or may present an endangerment to the environment.

a. Any person notified of a suspension of their discharge shall immediately stop or eliminate their contribution. In the event of a person's failure to immediately comply voluntarily with the suspension order, the District Manager shall take such steps as deemed necessary, including immediate severance of the sewer connection, to prevent or minimize damage to the WWTF, its receiving stream, or endangerment to any individuals. The District Manager shall allow the person to recommence its discharge when the person has demonstrated to the satisfaction of the District 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 District Manager, prior to the date of any show cause or termination hearing as set forth in this chapter.

2. Nothing in § [14.36.010](#)(E) 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 § [14.17.080](#), any person that violates the following conditions of the Sanitary Code, 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; and

e. Violation of the pretreatment standards in § [14.16.090](#).

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

(Ord. 911, § 2, passed 08-24-2015)

14.36.015 JUDICIAL ENFORCEMENT REMEDIES.

A. *Injunctive Relief.* Whenever a user has violated a pretreatment standard or requirement or continues to violate the provisions of the Sanitary Code, wastewater discharge permits or orders issued hereunder, or any other pretreatment requirement, the District 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.

B. *Civil Penalties.*

1. Any person who has violated or continues to violate the Sanitary Code, any order or wastewater discharge permit hereunder, or any other pretreatment standard or requirement may be liable to the District 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 may accrue for each day during the period of the violation.
2. The District 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 District.
3. When a discharge of wastes causes an obstruction, damage, or other impairment to the WWTF, the District may assess a charge against the person for the cost of the work required to clean or repair the WWTF 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.

(Ord. 911, § 2, passed 08-24-2015)

14.36.020 SUPPLEMENTAL ENFORCEMENT ACTION.

A. *Water Supply Severance.* Whenever a person has violated or continues to violate the provisions of the Sanitary Code, wastewater discharge permits, or orders issued hereunder, 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.

B. *Public Nuisances.* Any violation of the Sanitary Code, wastewater discharge permits, or orders issued hereunder, is hereby declared a public nuisance and shall be corrected or abated as directed by the District Manager. Any person(s) creating a public nuisance shall be subject to the provisions of applicable state and District codes, ordinances, rules and/or regulations governing such nuisances, including recoupment by the District of any costs incurred in removing, abating or remedying said nuisance.
(Ord. 911, § 2, passed 08-24-2015)

14.36.025 REMEDIES NONEXCLUSIVE.

The provisions in §§ [14.17.150](#) and [14.36.010](#) through [14.36.020](#) are not exclusive remedies. The District 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 District's enforcement response plan. However, the District reserves the right to take other action against any user when the circumstances warrant. Further, the District is empowered to take more than 1 enforcement action against any noncompliant user. These actions may be taken concurrently.
(Ord. 911, § 2, passed 08-24-2015)

14.36.030 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 (A)(3) of this section 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 sanitary sewer works and WWTF operators within 24 hours of becoming aware of the upset (if this information is provided orally, a written submission must be provided within 5 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 of 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 WWTF is reduced, lost, or fails.

B. *Bypass.*

1. For the purposes of this section, “bypass” means the intentional diversion of wastestreams from any portion of a user’s treatment facility.
2. “Severe property damage” means substantial physical damage to property, damage to the WWTF which causes it to become inoperable, or substantial or 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.

3. A 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 provisions of subsections (B)(4) and (5) of this section.
4. *Bypass Notifications.*
 - a. If a user knows in advance of the need for a bypass, it shall submit prior notice to the District Manager, at least 10 days before the date of the bypass, if possible.
 - b. A user shall submit oral notice to the District Manager of an unanticipated bypass that exceeds applicable pretreatment standards within 24 hours from the time it becomes aware of the bypass. A written submission shall also be provided within 5 days of the time the 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 reoccurrence of the bypass. The District Manager may waive the written report on a case-by-case basis if the oral report has been received within 24 hours.
5. *Bypass.*
 - a. Bypass is prohibited, and the District Manager may take an enforcement action against a 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 backup 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 user submitted notices as required under subsection (B)(4) of this section.
 - b. The District may approve an anticipated bypass, after considering its adverse effects, if the District Manager determines that it will meet the 3 conditions listed in subsection (B)(5)(a) of this section.

(Ord. 911, § 2, passed 08-24-2015)

14.36.040 PUBLIC NUISANCE WHEN.

Continued habitation of any building or continued operation of any industrial facility in violation of the provisions of the Sanitary Code or any other ordinance, rule, or regulation of the District is declared to be a public nuisance. The District may cause proceedings to be brought for the abatement of the occupancy of the building or industrial facility during the period of the violation.

(Ord. 911, § 2, passed 08-24-2015)

14.36.050 MEANS OF ENFORCEMENT ONLY.

The District declares that the foregoing procedures are established as a means of enforcement of the terms and conditions of its ordinance, rules, and regulations, and not as a penalty.

(Ord. 911, § 2, passed 08-24-2015)

14.36.060 PENALTY.

A. Any person that willfully or negligently violates any provision of the Sanitary Code, any orders, or wastewater discharge permits issued hereunder, or any other pretreatment requirement, shall be guilty of a misdemeanor, and upon conviction thereof shall be punishable as provided in Chapter [1.12](#). Every day any violation of the Sanitary Code continues is a separate offense.

B. Any person that willfully or negligently introduces any substance into the WWTF which causes personal injury or property damage shall be guilty of a misdemeanor and upon conviction thereof shall be punishable as provided in Chapter [1.12](#). This penalty shall be in addition to any other cause of action for personal injury or property damage available under state law. Every day any violation of the Sanitary Code continues is a separate offense.

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 the Sanitary Code, wastewater discharge permit or order, or who falsifies, tampers with, or knowingly renders inaccurate any monitoring device or method required under the Sanitary Code, shall be guilty of a misdemeanor, and upon conviction thereof shall be punishable as provided in Chapter [1.12](#). Every day any violation of the Sanitary Code continues is a separate offense.

(Ord. 911, § 2, passed 08-24-2015)

**APPENDIX E
SEWER FLUSHING LOGS**

	S. Main across frontage Rd in the grass								
152	In alley behind	PB	South 250'						
153	680 Perkins way On bush near alley of 680 Perkins	PB	East 150'						
MH#	Quarterly			Jan	Apr	Jul	Oct		
147	MH end of Perkins Near 330 in grass	PB	East 380' (Ballon in cleanout in back yard 541 Winifred)						
182	MH on Oak at alley 102 N. Whipple	Pen	South 150'						
151A	M.H Bush and Main	PB	East 400'						
216	Alley between Whipple and Grove on Walnut ST	PB	North 120'						
74A	MH on Laural St. @ alley behind 362 N. Franklin	PB	South 200' East 200'						
49B	MH Fir and West Northwest Manhole	PB	North 380'						
196	M.H Chestnut and S. Harold	PB	North 250' Let 475 S. Harold know						
194A	M.H in alley behind 250 S. Mcpherson	PB	South 190'						

62	MH West pine	PB	East 410'				
	Northwest of 455 N.Main						

MH#	Bi Annual			Apr	Oct
Ciancio	M.H Madron St. West of Corry at Alley	PB	South 330' to Maple		
267	East MH Cedar at Sanderson	PB	Install ballon 1314 Cedar St East 400' Pull Back @ idle		
188	MH Oak St. @ alley 410 E. Oak	PB	South Low pressure 420' toward Madrone		
195	MH in front of 142 N. Mcpherson	PB	Northwest 250' back no Water East 20'		
148	MH bihind fence @ 801 N. Harrison	Pen	South 350' North Mini MH 50'		
145A	M.H 541 Winifred	Pen	North 150' South 150' Loosen cap behind 320 Perkins Way to relieve air East to alley		
Clean out	Cleanout in front of 310 S. Franklin ST..	Blow	North 20'		

128A	All of North Harbor	PB	Start at 32420 South Harbor Dr and		
132A	from Pump Station		flush entire system to pump		
132	South . Use Camel		station pull back solids and		
131			vacuum when buildup is seen		
			in Bottom of MH		
		Pen	flush to wet well at end		

APPENDIX F
SEWER CHECK 50 CHART

APPENDIX G
FORT BRAGG MUNICIPAL IMPROVEMENT DISTRICT
NO. 1 CAPITAL IMPROVEMENT PLAN

CAPITAL IMPROVEMENT PROGRAM PROJECT DETAILS

FY 2019-2023 CAPITAL IMPROVEMENT PROGRAM BY CATEGORY										
Project Number	Project Category/Name	Prior FY(s)	FY 18/19 Budget	FY 19/20 Projected	FY 20/21 Projected	FY 21/22 Projected	FY 22/23 Projected	5 year CIP Total	Beyond CIP	Total Project Costs
MUNICIPAL FACILITIES										
PWP-0094	Guest House Rehabilitation	\$ 283,730	\$ -	\$ 80,000	\$ -	\$ -		\$ 363,730	\$ -	\$ 363,730
PWP-0095	City Hall - Painting, Roofing & Generator	93,233	-	73,500				166,733		166,733
PWP-00102	East City Hall, Roof	69,695	-					69,695		69,695
	Town Hall Exterior Painting		-			60,000		60,000		60,000
N/A	Main St Fire Station Rehab		-					-	1,950,000	1,950,000
N/A	Highway 20 Fire Station		-					-	500,000	500,000
N/A	Rule 20 Project (undergrounding utilities)		-					-	1,200,000	1,200,000
	Total Municipal Facilities	446,658	-	153,500	-	60,000		660,158	3,650,000	4,310,158
PARKS & COMMUNITY SERVICES										
CDD-00020	Glass Beach Staircase	33,856						33,856		33,856
CDD-00020	Coastal Trail - Phase II (central Segment)	1,190,000	30,000	-	-	-	-	1,220,000		1,220,000
PWP-00096	Bainbridge Park Improvements	125,470	-					125,470		125,470
	Total Parks & Community Services	1,349,326	30,000	-	-	-	-	1,379,326	-	1,379,326
STREET MAINTENANCE & TRAFFIC SAFETY										
PWP-00097	Alley Rehabilitation	1,050,000	-	750,000		750,000		2,550,000		2,550,000
PWP-00099	Downtown Crosswalk Rehabilitation	62,300	-					62,300	62,300	124,600
PWP-00100	Street Resurfacing, Alleys & Structural Repairs	1,084,879	2,000,000		2,000,000			5,084,879		5,084,879
PWP-00079	Chestnut Street Multi Use Trail	1,380,000	-					1,380,000		1,380,000
PWP-00101	South Main St Bike & Ped Improvements		-					-	800,000	800,000
	Total Street Maint. & Traffic Safety	3,577,179	2,000,000	750,000	2,000,000	750,000		9,077,179	882,300	9,939,479
CV STARR ENTERPRISE										
	Pool Basin Resurfacing		180,000					180,000		180,000
	Total CV Starr Enterprise	-	180,000	-	-	-	-	180,000	-	180,000
WATER ENTERPRISE										
PWP-00017	Summers Lane Reservoir Cover	450,000	-					450,000		450,000
	Water Tank Installation	1,762,549	-					1,762,549		1,762,549
	Madsen Hole Rainey - Design		175,000					175,000		175,000
PWP-00092	Water Treatment Plant Overhaul	50,000		800,000	500,000			1,350,000		1,350,000
	Pudding Creek Water Main Relocation		205,000	1,495,000				1,700,000		1,700,000
	Raw Water Line Engineering, Phases II through IV	400,000						400,000		400,000
	Raw Water Line Replacement: Phase II - Noyo River to Water Treatment Facility		682,000					682,000		682,000
	Raw Water Line Replacement: Phase III - Newman Reservoir to Noyo River			906,000				906,000		906,000
	Raw Water Line Replacement: Phase IV - Hare Creek to SR 20				420,000			420,000		420,000
	Raw Water Line Replacement: Phase V - Forest Road 450 to Hare Creek					241,000		241,000		241,000
	Raw Water Pond Rehabilitation		200,000					200,000		200,000
	Cedar Street Water Distribution Line Replacement				195,000			195,000		195,000
PWP-00078	Water Tank Replacement							-	1,600,000	1,600,000
WTR-00012	East FB Pressure Zone (EFBPZ), Phase 1							-	525,000	525,000
N/A	EFBPZ - Phase 2							-	320,000	320,000
N/A	EFBPZ - Phase 3							-	560,000	560,000
	Total Water Enterprise	2,662,549	1,262,000	3,201,000	1,115,000	241,000		8,481,549	3,005,000	11,486,549
WASTEWATER ENTERPRISE										
WWP-00010	WW Treatment Facility Upgrade- Activated Sludge	949,000	17,603,400					18,552,400	-	18,552,400
	Lift Station Rehab (3 Stations)		1,000,000					1,000,000	-	1,000,000
	Sewer Main Rehabilitation		120,000		120,000		120,000	360,000	-	360,000
WWP-00011	Sanderson Way Sewer Main Replacement - Oak to Cedar				215,000			215,000	-	215,000
	Total Wastewater Enterprise	949,000	18,723,400	-	335,000	-	-	20,127,400	-	20,127,400
Grand Total		\$ 3,984,712	\$ 22,195,400	\$ 4,104,500	\$ 3,450,000	\$ 1,051,000	\$ -	\$ 39,805,612	\$ 7,617,300	\$ 47,422,912

TOTAL CIP PROJECT COSTS: \$ 22,195,400

**APPENDIX H
DISTRICT'S OVERFLOW EMERGENCY RESPONSE
PLAN**

FORT BRAGG MUNICIPAL IMPROVEMENT DISTRICT NO. 1

OVERFLOW EMERGENCY RESPONSE PLAN

Prepared for:
Fort Bragg Municipal Improvement District no. 1
416 N. Franklin Street
Fort Bragg, CA 95437



March 2019

Prepared by:
Orrin Plocher and Stan Thiesen
of



Freshwater Environmental Services

78 Sunny Brae Center
Arcata, California 95521
Phone (707) 839-0091

TABLE OF CONTENTS

LIST OF APPENDICES	2
LIST OF APPENDICES	2
1.0 INTRODUCTION.....	3
1.1 Regulatory Requirements for the Overflow Emergency Response Plan.....	3
1.2 Goals	4
2.0 SSO NOTIFICATION PROCEDURE.....	5
2.1 External SSO Notification Requirements	6
2.2 External SSO Reporting Requirements	7
3.0 SSO RESPONSE PROCEDURES.....	8
3.1 Priorities.....	8
3.2 Safety During Response	8
3.3 Initial Response	8
3.4 Initial Spill Containment Measures	9
3.5 Recovery and Cleanup	9
3.6 Public Notification	10
3.7 Water Quality Sampling and Testing	11
4.0 SSO INVESTIGATION AND DOCUMENTATION	12
5.0 EQUIPMENT AND TRAINING	14
5.1 Training.....	14
5.2 Record Keeping.....	15

LIST OF APPENDICES

APPENDIX A	PUBLIC WORKS EMERGENCY CONTACT INFORMATION
APPENDIX B	SSO RESPONSE FIRST RESPONDER FORM
APPENDIX C	SSO RESPONSE REPORT FORM
APPENDIX D	SSO VOLUME ESTIMATION GUIDE
APPENDIX E	TRAINING DOCUMENTS

1.0 INTRODUCTION

The purpose of the Sanitary Sewer Overflow Emergency Response Plan (OERP) is to support an orderly and effective response to Sanitary Sewer Overflows (SSOs). The OERP provides guidelines for responding to, cleaning up, and reporting SSOs that may occur within the collection system service area.

1.1 Regulatory Requirements for the Overflow Emergency Response Plan

The District 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 OERP 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.

The District's overflow response requires full, immediate, and appropriate attention with the ultimate goal of minimizing impacts to public health and safety and the environment. Telephone calls to report overflows or other maintenance problems are answered 24-hours per day, 7-days per week. City Employees are notified upon receipt of a reported sewage overflow and are instructed to respond immediately. Maintenance Staff are responsible for assessing the overflow, notifying Leads, documenting the overflow, estimating the volume of the overflow, sampling and laboratory analysis, posting warning signs and following up. The highest priorities are to contain the overflow and to minimize or eliminate the volume of overflow that reaches the storm drain system, and to minimize or eliminate exposure to the public and impact on the public health. The District's objectives are designed to protect public health and safety, meet all regulatory reporting requirements, and ensure immediate and effective response.

1.2 Goals

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

- Respond quickly to minimize the volume of the SSO;
- Eliminate the cause of the SSO;
- Contain the spilled wastewater to the extent feasible;
- Minimize public contact with the spilled wastewater;
- Mitigate the impact of the SSO; and
- Meet the regulatory reporting requirements.

2.0 SSO NOTIFICATION PROCEDURE

The processes that are employed to notify the District of the occurrence of an SSO include: observation by the public, receipt of an alarm, or observation by District Staff during the normal course of their work. The *Sanitary Sewer Overflow and Backup Response Plan* contains the procedures for receiving sewage overflow/backup reports.

Public Observation

During normal business hours calls regarding SSOs are received by the Public Works Department (707) 961-2823. Public Works personnel will contact the Lead Maintenance Worker who will dispatch responders. In cases when the Lead Maintenance Worker is not available, the Maintenance Staff will be contacted to respond.

After normal working hours calls regarding SSOs are received by Fort Bragg Police Department Dispatch. The Police Department's Dispatch will contact Staff using the Public Works Call list contained in Appendix A. Any trained Employee may be the initial responder to SSOs. If the situation warrants, additional workers will be contacted to respond. In complex SSOs the Lead Treatment WCD Operator or the Assistant Public Works Director will be contacted for additional support and guidance. Information from the SSO and SSO response will be provided by the responders to the Lead will then make the necessary regulatory reports. The regulatory notification responsibility and requirements are included in the *Sanitary Sewer Overflow and Backup Response Plan*.

Receipt of Alarm

The lift stations are monitored by an alarm system with autodialer. The autodialer system calls the Wastewater Operator phone during business hours and then the Wastewater Operations Staff if there is no response, or if it is after business hours.

District Staff Observation

District staff conducts periodic inspections of its sewer system facilities as part of their routine activities. Any problems noted with the sewer system facilities are reported to appropriate District staff who respond to emergency situations.

2.1 External SSO Notification Requirements

CATEGORIES	DEFINITIONS [see Section A on page 5 of Order 2006-0003-DWQ, for Sanitary Sewer Overflow (SSO) definition]
CATEGORY 1	<p>Discharges of untreated or partially treated wastewater of any volume resulting from an enrollee's sanitary sewer system failure or flow condition that:</p> <ul style="list-style-type: none"> • Reach surface water and/or reach a drainage channel tributary to a surface water; or • Reach a Municipal Separate Storm Sewer System (MS4) and are not fully captured and returned to the sanitary sewer system or not otherwise captured and disposed of properly. Any volume of wastewater not recovered from the MS4 is considered to have reached surface water unless the storm drain system discharges to a dedicated storm water or groundwater infiltration basin (e.g., infiltration pit, percolation pond).
CATEGORY 2	<p>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.</p>
CATEGORY 3	<p>All other discharges of untreated or partially treated wastewater resulting from an enrollee's sanitary sewer system failure or flow condition.</p>
PRIVATE LATERAL SEWAGE DISCHARGE (PLSD)	<p>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.</p>

Category 1 SSOs

Category 1 SSO **less than 1,000 gallons** (discharged to surface water or spilled in a location where it probably will be discharged to surface water), the Responding Employee shall immediately notify the local health officer, the United States Coast Guard, and the California Department of Fish and Wildlife of the discharge. If the spill took place within State Park borders, contact the California State Parks Department. Phone numbers for the various agencies are provided in the table below:

Agency Name	Comments	24 hr Phone Number
County of Mendocino Department of Public Health Environmental Health	Report Spill	707-463-4466
United States Coast Guard	Call if spill threatens navigable water or ocean	707-964-6611
California Department of Fish and Wildlife	Call if spill goes into river or ocean	916-341-6957
California State Parks Department	Call if spill on State Park Property only	916-358-1300

Category 1 SSO **greater than or equal to 1,000 gallons** (discharged to surface water or spilled in a location where it probably will be discharged to surface water), the Responding Employee

shall notify the State Office of Emergency Services (and obtain a Spill Control Number) following, but not later than 2 hours after becoming aware of the discharge:

Call Cal OES at:

(800) 852-7550

Cal OES forwards the SSO notification information to all necessary 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 and Cal OES is duplicative.

2.2 External SSO Reporting Requirements

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.

Private Lateral Sewer Discharges (PLSDs): PLSDs that the enrollee becomes aware of may be voluntarily reported to the California Integrated Water Quality System (CIWQS) Online SSO Database.

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.

3.0 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 *Sanitary Sewer Overflow and Backup Response Plan*. The goals of the *Sanitary Overflow and Backup Emergency Response Plan* 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 *Sanitary Sewer Overflow and Backup Response Plan* 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. A reporting form to be completed by the Wastewater Operations Staff is included in Appendix B.

3.1 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 Lead Maintenance or Lead Treatment WCD 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).

3.2 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 District 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.

3.3 Initial Response

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
- Notify the Lead Worker who will contact the Assistant Public Works Director in the event of a major SSO.

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 Responding Employee in Charge 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 District staff will need to decide whether to proceed with actions to restore the flow or to initiate containment measures. The guidance for this decision is:

- Small spills – proceed with restoring flow;
- Moderate or large spill where containment is anticipated to be simple – proceed with the containment measures; or
- Moderate or large spills where containment is anticipated to be difficult – proceed with restoring flow; however, call for additional assistance after 15 minutes without restoration of flow and implement containment measures.

3.4 Initial Spill Containment Measures

The first responder should attempt to contain the spilled sewage using the following steps:

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

3.5 Recovery and Cleanup

The recovery and cleanup phase begins when the flow has been restored and the overflow of sewage has been stopped. The District can use contract services for recovery and cleanup actions. Typically, the SSO recovery and cleanup procedures include an estimate of spill volume, recovery of spilled sewage and cleanup and disinfection of the area.

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 in (Appendix D).

Recovery of Spilled Sewage

Vacuum or pump the spilled sewage and discharge it back into the sanitary sewer system.

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 District 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 disinfectant solution. Apply minimal amounts of 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 Wildlife should be notified in the event an SSO impacts any surface water or riparian habitat. Fish and Wildlife 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.

3.6 Public Notification

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 Assistant Public Works Director.

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 Maintenance Staff 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 Employee in Charge Shall contact the District's designated Information Officer who will contact local media when significant areas may have been contaminated by sewage.

3.7 Water Quality Sampling and Testing

Water quality sampling and testing is required whenever 100 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. Feasibility for obtaining a sample will involve whether sufficient flow exists to collect a representative, uncontaminated sample, and when weather or other conditions allow City staff to safely obtain a sample (City staff will not be placed at risk for injury in adverse weather or inaccessible sampling sites).
- The District's laboratory and contract 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.
- In the event the City cannot confirm that specific pathogens or human markers from a SSO have been removed or mitigated, where feasible and when weather or other conditions allow City staff to safely do so, and at the direction of the appropriate agency with authority to direct the placement of warning signs, the City shall post and maintain appropriate public notification signs and place barricades to keep vehicle and pedestrians away from contact with spilled sewage.
- Water quality sample results shall be reported in an appropriate category on the CIWQS reporting form or as required by the State Water Resources Control Board

In the event that an SSO of one thousand gallons or more reaches a surface water, City staff shall collect and test samples from three (3) locations, if feasible and the conditions are not unsafe - the point of discharge, upstream of the point of discharge, and downstream of the point of discharge. Constituents tested for shall include: Ammonia, Fecal Coliform, and Dissolved Oxygen. The water quality samples should be collected from upstream of the spill, from the spill area, and downstream of the spill in flowing water (e.g. creeks). The water quality samples should be collected near the point of entry of the spilled sewage and every 100 feet along the shore on impoundments (e.g. ponds). Water quality sample results shall be reported in an appropriate category on the CIWQS reporting form or as required by the State Water Resources Control Board

4.0 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 (Appendix C);
- 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 Reporting Form found in Appendix B.

The Lead Maintenance Worker will prepare a file for each individual SSO. The file should include the following information:

All SSOs

- Initial service call information;
- Sanitary Sewer Overflow Reporting Form;
- Failure analysis investigation results; and
- SWRCB California Integrated Water Quality System (CIWQS) Report(s).

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.

5.0 EQUIPMENT AND TRAINING

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

Digital Cell Phones/Cameras

A digital or disposable camera is required to record the conditions upon arrival, during cleanup, and upon departure.

Utilities Trucks

Utility body pickup trucks are 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.

Portable Pumps and Hoses

Portable pumps and piping will be used to pump around failed facilities and to recover spilled sewage. Additional portable pumps and hoses are available through local rental agencies or contractors.

VAC-Con® Truck

A VAC-Con® truck equipped with a high-pressure rodder is used to respond to SSOs,

Spill Response Supplies

Spill response supplies and personal protective equipment are stored at the Corporation Yard. Spill response supplies include booms, pads, absorbents, brooms, rakes. Personal protective equipment including gloves, boots, and other supplies are kept with the spill response supplies so that they are easy to locate during a response

5.1 Training

This section provides information on the training that is required to support this *Sanitary Sewer Overflow and Backup Response Plan*.

Initial and Annual Refresher Training

All Maintenance 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 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.

SSO Response Drills

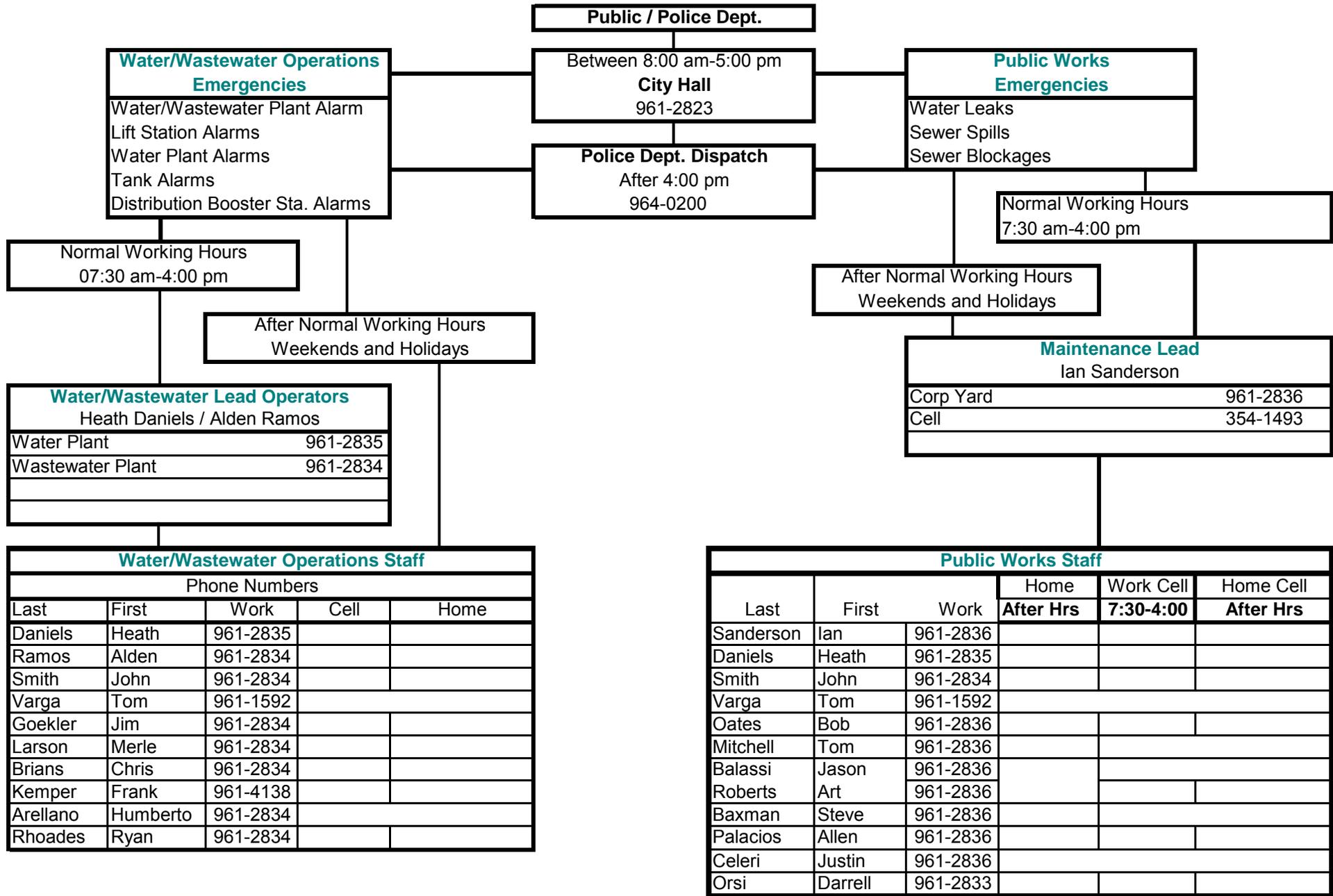
Periodic training drills are held to ensure that employees and contractors are up to date on the procedures, the equipment is in working order, and the required materials are readily available. The training drills should cover scenarios typically observed during sewer related emergencies (e.g. mainline 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.

5.2 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 Lead Maintenance Worker.

APPENDIX A
PUBLIC WORKS EMERGENCY CONTACT INFORMATION

PUBLIC WORKS EMERGENCY CONTACT INFORMATION



Water/Wastewater Lead Operators	
Heath Daniels / Alden Ramos	
Water Plant	961-2835
Wastewater Plant	961-2834

Water/Wastewater Operations Staff				
Phone Numbers				
Last	First	Work	Cell	Home
Daniels	Heath	961-2835		
Ramos	Alden	961-2834		
Smith	John	961-2834		
Varga	Tom	961-1592		
Goekler	Jim	961-2834		
Larson	Merle	961-2834		
Brians	Chris	961-2834		
Kemper	Frank	961-4138		
Arellano	Humberto	961-2834		
Rhoades	Ryan	961-2834		

Public Works Staff					
Last	First	Work	Home	Work Cell	Home Cell
			After Hrs	7:30-4:00	After Hrs
Sanderson	Ian	961-2836			
Daniels	Heath	961-2835			
Smith	John	961-2834			
Varga	Tom	961-1592			
Oates	Bob	961-2836			
Mitchell	Tom	961-2836			
Balassi	Jason	961-2836			
Roberts	Art	961-2836			
Baxman	Steve	961-2836			
Palacios	Allen	961-2836			
Celeri	Justin	961-2836			
Orsi	Darrell	961-2833			

APPENDIX B
SSO RESPONSE FIRST RESPONDER FORM

Fort Bragg Municipal Improvements District # 1
Sanitary Sewer Overflow Response
First Responder Form

Fill out this form as completely as possible. Take photographs of damaged and undamaged areas.

Date:	Location:
Time SSO was reported or discovered:	Discovered or reported by:
Time Staff Arrived on-site:	Staff Names:
Cleaning Contractor Contacted? Yes No	Contractor Name: Contractor Telephone: Time When Called:
Source of Spill (manhole, cleanout, etc.):	SSO Cause (Roots, FOG, Debris, etc.):
Approximate Amount of Spill:	How was the volume calculated?
Number of Pictures Taken:	Photo comments.
What cleanup method was used for the spill?	What cleanup equipment and materials were used for the spill?
Did any material enter a drainage channel or surface water? Yes No	Is this the location of previous spills? Yes No
Did any material enter the storm sewer system? Yes No	What efforts were used to protect storm water inlets and drainage ways?
What efforts were used to capture material from the storm water inlet and return it to the sewer system?	Was all the material recovered? Yes No

APPENDIX C
SSO RESPONSE REPORT FORM

Fort Bragg Municipal Improvements District # 1

Sanitary Sewer Overflow Response

Report Form

This Report is (*check one*): Preliminary Final Revised Final

SPILL LOCATION	
Spill Location Name:	
GPS Latitude Coordinates:	GPS Longitude Coordinates:
Street Name and Number:	Street Direction (e.g., N, S, W, NE, SW, etc.):
Nearest Cross Street:	City: Zip Code:
County:	Spill Location Description:
SPILL DESCRIPTION	
Spill Appearance Point: <input type="checkbox"/> Building/Structure <input type="checkbox"/> Force Main <input type="checkbox"/> Gravity Sewer <input type="checkbox"/> Other Sewer System Structure <input type="checkbox"/> Pump Station <input type="checkbox"/> Manhole- Structure ID#: _____ <input type="checkbox"/> Other (specify):	
Did the spill reach a drainage channel and/or surface water? <input type="checkbox"/> Yes <input type="checkbox"/> No	
If the spill reached a storm sewer, was it fully captured and returned to the Sanitary Sewer? <input type="checkbox"/> Yes <input type="checkbox"/> No	
Was this spill from a service lateral? <input type="checkbox"/> Yes <input type="checkbox"/> No	
If YES, name and address of facility:	
Final Spill Destination: <input type="checkbox"/> Beach <input type="checkbox"/> Building structure <input type="checkbox"/> Other paved surface <input type="checkbox"/> Storm drain <input type="checkbox"/> Street/curb & gutter <input type="checkbox"/> Surface water <input type="checkbox"/> Unpaved surface <input type="checkbox"/> Other (<i>specify</i>):	
Estimated spill volume (in gallons):	Method calculated:
Est. volume of SSO recovered (gal):	Were photos taken? <input type="checkbox"/> No <input type="checkbox"/> Yes – how many?
Estimated volume of spill reaching surface water, drainage channel, or not recovered from a storm drain (gal):	
SPILL OCCURRANCE TIME	
SSO Reported to:	SSO Reported by:
Phone:	Estimated spill start date and time:
Date and time spill reported to sewer crew:	Date and time sewer crew arrived:
Estimated spill end date and time:	
Weather conditions prior 72 hours: <input type="checkbox"/> Sunny Weather <input type="checkbox"/> Cloudy Weather <input type="checkbox"/> Measurable Rain <input type="checkbox"/> Rain for Several Days	

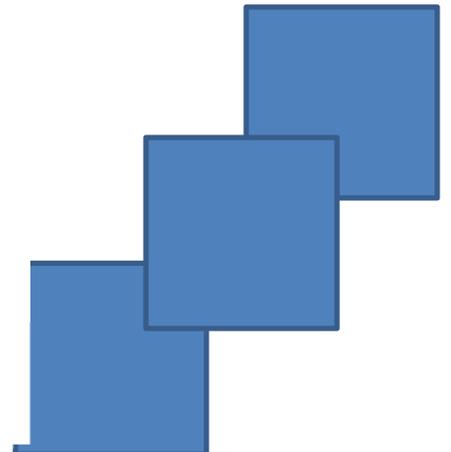
CAUSE OF SPILL	
SSO cause (check all that apply): <input type="checkbox"/> Debris/Blockage <input type="checkbox"/> Flow exceeded capacity <input type="checkbox"/> Grease <input type="checkbox"/> Operator error <input type="checkbox"/> Roots <input type="checkbox"/> Pipe problem/failure <input type="checkbox"/> Pump station failure <input type="checkbox"/> Rainfall exceeded design <input type="checkbox"/> Vandalism <input type="checkbox"/> Inflow/infiltration <input type="checkbox"/> Animal carcass <input type="checkbox"/> Electrical power failure <input type="checkbox"/> Bypass <input type="checkbox"/> Debris from laterals <input type="checkbox"/> Construction Debris <input type="checkbox"/> Other (specify):	
If SSO is caused by a service lateral, please specify: This is the <input type="checkbox"/> Owner <input type="checkbox"/> Tenant <input type="checkbox"/> Manager	
Property contact:	Contact telephone:
If SSO is caused by wet weather, choose size of storm: <input type="checkbox"/> 1-yr <input type="checkbox"/> 2-yr <input type="checkbox"/> 5-yr <input type="checkbox"/> 10-yr <input type="checkbox"/> 50-yr <input type="checkbox"/> 100-yr <input type="checkbox"/> >100-yr <input type="checkbox"/> 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: <input type="checkbox"/> Flat <input type="checkbox"/> Mixed <input type="checkbox"/> Steep	
SPILL RESPONSE	
Spill response activities (check all that apply): <input type="checkbox"/> Cleaned up <input type="checkbox"/> Contained all/portion of spill <input type="checkbox"/> TV inspection <input type="checkbox"/> Restored flow <input type="checkbox"/> Returned all/portion of spill to sanitary sewer <input type="checkbox"/> Other (specify):	
Spill response completed (date & time):	Name of impacted waters (if applicable):
Visual inspection result of impacted waters (if applicable):	
Any fish killed? <input type="checkbox"/> Yes <input type="checkbox"/> No	Any ongoing investigation? <input type="checkbox"/> Yes <input type="checkbox"/> No
Name of impacted beach (if applicable): _____	Were health warnings posted? <input type="checkbox"/> Yes <input type="checkbox"/> No
Health warning/beach closure posting/details:	
Were samples of impacted waters collected? <input type="checkbox"/> Yes <input type="checkbox"/> No	
If YES, select the analyses: <input type="checkbox"/> DO <input type="checkbox"/> Ammonia <input type="checkbox"/> Bacteria <input type="checkbox"/> Other	
Recommended corrective actions: <input type="checkbox"/> Add sewer to PM Program <input type="checkbox"/> Adjust PM schedule <input type="checkbox"/> Adjust PM method <input type="checkbox"/> Rehab sewer <input type="checkbox"/> Replace sewer <input type="checkbox"/> Enforcement action against FOG source <input type="checkbox"/> Other (specify):	
NOTIFICATION DETAILS	
CEMA (former OES) contacted date and time (if applicable):	
CEMA (former OES) Control Number (if applicable):	Spoke to:

APPENDIX D
SSO VOLUME ESTIMATION GUIDE



SEWER SPILL ESTIMATION GUIDE

**Developed by the Orange County
Area Waste Discharge
Requirements Steering Committee**



Sewer Spill Estimation Guide

A Guide to Estimating Sanitary Sewer Overflow (SSO) Volumes

**Developed by the Orange County Area
Waste Discharge Requirements Steering Committee
Orange County, CA**

February 18, 2014
Revised May 15, 2014

Acknowledgements

This Sewer Spill Estimation Guide has been compiled through the efforts of members of the Orange County Wastewater Discharge Requirements (WDR) Steering Committee. This committee was originally formed to address the requirements of the original WDR imposed by the California Regional Water Quality Board, Region 8 and later the statewide WDR imposed by the California State Water Resources Control Board. Committee members who assisted in the compilation of this Sewer Spill Estimation Guide are:

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Rob Hamers	District Engineer	Costa Mesa Sanitary District
Robert Kreg	(Former) Director of Support Services	South Coast Water District (Retired)

Disclaimer

This Sewer Spill Estimation Guide is freely offered to agencies to assist the user with the estimation process for a sanitary sewer overflow. Methods used for spill estimation and the estimate itself are solely the responsibility of the agency making the estimate. The authors or contributors to this Sewer Spill Estimation Guide do not accept any responsibility for the spill estimation methods used; their accuracy or any spill estimate determined through the use of this guide. Information found in this guide is commonly available on the internet and is also common practice with many cities and sewerage agencies throughout Southern California.

No statewide or national standards issued by a regulatory agency exist at this time.

Table of Contents

Acknowledgements.....	1
Disclaimer.....	1
SSO Volume Estimation.....	3
Start Time.....	4
Stop Time.....	4
Photographs.....	5
Flow Rate.....	5
Volume Estimation Methods.....	5
Visual or Eyeball Method.....	5
Measured Volume.....	6
Counting Connections.....	8
Pick and Vent Holes in Manhole Covers.....	8
Pick and Vent Hole Estimation Chart.....	10
Manhole Ring.....	12
Partially Covered Manhole.....	13
Open Manhole.....	15
Pictorial Reference.....	18
City of San Diego Manhole Overflow Picture Chart.....	19
SSCSC Manhole Overflow Gauge.....	20
Gutter Flow (Simplified Version).....	21
Bucket Method.....	22
Pipe Size.....	23
Metered Flow.....	24
Rain Events.....	25
Saturated Soils.....	25
Combo Truck or Vacuum Truck Recovery.....	26
Conversion Factors.....	27
Volumes Recovered with Trucks or Pumped to Tanks.....	27
References.....	28
Sample Worksheet.....	29

SSO Volume Estimation

Accurate flow estimation is essential to determine the volume of a Sanitary Sewer Overflow (SSO). An accurate estimate of an SSO is required for reporting to the California Integrated Water Quality System (CIQWS) and to the local health care agency. The estimated volume of an SSO is used to determine the category of the SSO and can also be used in the calculation of penalties or fines from the State or Regional Water Quality Control Boards in California. Additionally, accurate flow estimation is important to determine the extent of the cleanup and its effectiveness.

Volume estimation is basically the flow rate (gallons per minute) times the amount of time (in minutes) the flow has occurred. Each SSO tends to be unique requiring different strategies for determining the volume of the SSO. Different methods can also be used for the same SSO acting as a check to ensure the most accurate estimate. The method(s) utilized will be determined by several factors including the type of SSO and the personnel responding. Some SSO volumes, due to terrain, rainfall or other factors, can be very difficult for field staff to determine and may require someone with additional expertise. There is no one method that works for all types of SSOs. The following are methods that may be utilized for SSO volume estimation. These methods are effective means of estimating a sewer spill volume during dry weather but may not be effective during rain events.

During rain events, infiltration and/or inflow into the collection system and runoff in the stormwater system, including the curb and gutter, can affect the SSO estimate. When estimating an SSO during a rain event, the SSO estimate is to include only the wastewater that left the collection system and not any waters that the wastewater comingled with after leaving the system. The same is true for any wash down water; although contaminated, the water is not considered part of the SSO estimate. Any water that infiltrated into the collection system upstream of the SSO and subsequently became part of the SSO is included in the SSO volume estimate.

Start Time

Determining the start time for an SSO is one of the most critical, yet can be one of the most difficult, factors to determine. Depending upon the location and time of day, an SSO may occur for some time before it is reported to the City or Agency or it may trickle for an extended period of time before being noticed. What is known is that the SSO started some time before the City or Agency was notified. It is common for SSOs to start and stop as flows in the pipeline routinely rise and fall because most blockages do not entirely block the flow in the pipe. Every effort should be utilized to determine the most accurate start time of each SSO. These efforts may include:

- If possible, contact the person who reported the SSO to determine when they became aware of the SSO.
- Make contact with residences or businesses in the area of the SSO to determine if there were any witnesses that could help establish the start time.
- Conditions change during the SSO. This is particularly true in remote areas out of public view. Initially, there may be an amount of toilet paper and solids around the spill site. This will increase the longer the SSO continues. After a few days to a week, these may form a light brown residue that may turn dark after a few weeks to a month.

Lacking direct evidence supporting a specific start time the operator should rely upon their experience and system flow characteristics based upon observed conditions to establish a reasonable estimated start time for the event. The agency's management staff should review the estimate before being finalized. Methods used to establish the start time should be documented.

Stop Time

The stop time is the time that wastewater stopped overflowing. For manhole covers in low areas, this is noted by water flowing back into the manhole through the vent holes and should be easy to determine by SSO response personnel. Care should be taken to accurately record the time that the SSO stopped.

Photographs

Take photographs of the spill event. Try to include objects of known size in the photographs to give a perspective of the extent of the spill. Photographs should include the initial spill, remediation efforts, clean up, and the spill area after the spill remediation has been completed. Photographs should be maintained with the spill report information.

Flow Rate

The flow rate is the volume of flow per unit time that is escaping from the collection system. SSOs do not always occur at a constant rate. This is because flows into the collection system are not constant and rise and fall throughout the day. Additionally, most blockages are not full blockages. Pressure buildup as the wastewater surcharges in the pipe can cause the blockage to clear or partially clear, resulting in changes to the flow rate.

To make an SSO volume estimate as accurate as possible, the onsite City or Agency employee should note the time and the amount of change of any significant differences in flow noticed during the event. For example, if the employee determines the flow rate escaping from the manhole is 100 gallons per minute when they arrive on scene but noticed that it has dropped to 50 gallons per minute five minutes later, their report should reflect that fact. The estimated flow rate and the time period for that flow rate should be recorded. During any one SSO event there could be multiple flow rates spread over the duration of the SSO.

Volume Estimation Methods

Visual or Eyeball Method

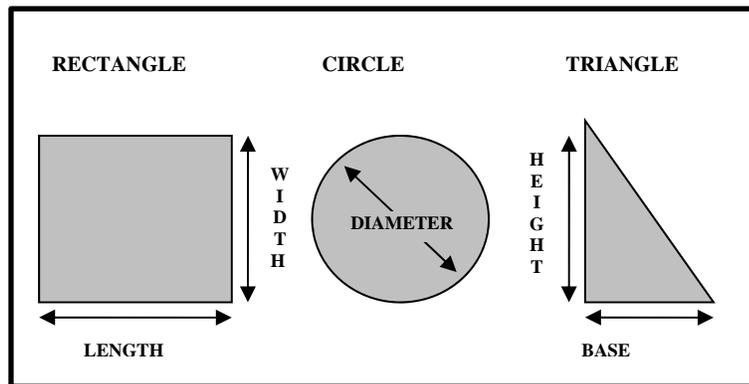
The volume of small spills can be estimated using an “eyeball estimate.” To use this method, imagine the amount of water that would spill from a bucket or a barrel. A full bucket may contain 1, 2 or 5 gallons and a barrel contains 55 gallons when full. If the spill is larger than 55 gallons, try to divide the standing water into barrels and then multiply by 55 gallons. This method is useful for contained spills up to approximately 200 gallons. This method can be useful on spills that occur on hard surfaces such as concrete or asphalt. Crews can be trained

by estimating the volume of a measured amount of potable water spilled upon concrete and asphalt surfaces.

Measured Volume

The volume of most small spills that have been contained can be estimated using this method. The shape, dimensions, and the depth of the contained wastewater are needed. The shape and dimensions are used to calculate the area of the spills and the depth is used to calculate the volume.

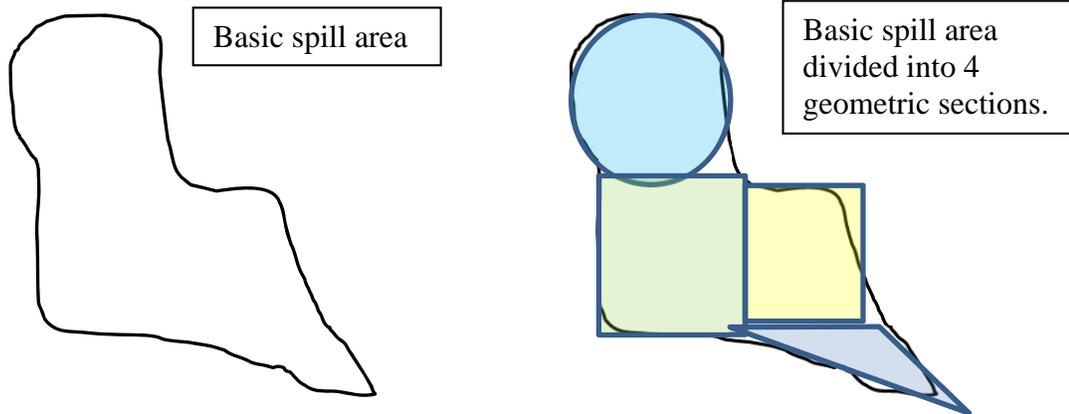
Common Shapes and Dimensions



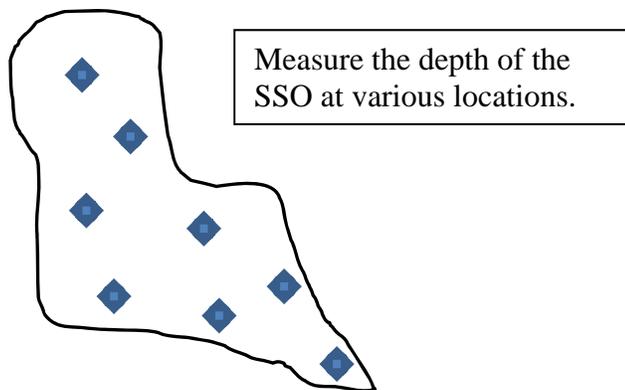
1. Sketch the shape of the contained wastewater.
2. Measure or pace off the dimensions.
3. Measure the depth at several locations and select an average.
4. Convert the dimensions, including depth, to feet.
5. Calculate the area:
 - Rectangle: $\text{Area} = \text{length (feet)} \times \text{width (feet)}$
 - Circle: $\text{Area} = \text{diameter (feet)} \times \text{diameter (feet)} \times 3.14 \text{ divided by } 4$
 - Triangle: $\text{Area} = \text{base (feet)} \times \text{height (feet)} \times 0.5$
6. Multiply the area (square feet) times the depth (in feet) to obtain the volume in cubic feet.
7. Multiply the volume in cubic feet by 7.48 to convert to gallons

Not all SSOs will conform to a specific shape. When this occurs, break up the area of the SSO into various shapes or segments, then calculate the amount of wastewater spilled in each segment, adding them together to arrive at the total spill volume.

Example:



Determine the area of each of the geometric sections adding them all together to determine the total area of the spill.



Where it is difficult to measure wet spots on asphalt, use a depth of 0.0026' or 1/32". For wet spots on concrete use depths of 0.0013' or 1/64" for reasonable estimates.

Inch to Feet Conversion:		
Inches	to	Feet
1/8"	=	0.01'
1/4"	=	0.02'
3/8"	=	0.03'
1/2"	=	0.04'
5/8"	=	0.05'
3/4"	=	0.06'
7/8"	=	0.07'
1"	=	0.08'
2"	=	0.17'
3"	=	0.25'
4"	=	0.33'
5"	=	0.42'
6"	=	0.50'
7"	=	0.58'
8"	=	0.67'
9"	=	0.75'
10"	=	0.83'
11"	=	0.92'
12"	=	1.00'

Sample Calculation:
 A 20 ft x 20 ft square wet spot on concrete equals 3.9 gal
 and for asphalt is 7.8 gal.

Counting Connections

Once the location of the blockage has been established, the amount of the SSO could be estimated by counting the number of upstream connections. On the sewer atlas maps or GIS system, locate the pipeline where the SSO occurred. Count all of the developed parcels that are connected to the pipeline upstream of the blockage. The typical single family residential parcel may discharge 8 to 10 gallons of wastewater per hour during active times of the day. For a multi-family residential development such as an apartment or condo complex, count each apartment as a single family residential unit. Use the higher flow number (10 gallons per hour) during typical peak flow hours and the lower flow number (8 gallons per hour) during low flow periods. Multiply the number of connections times the average flow (8 to 10 gallons per hour) times the time period (duration) that the SSO occurred.

Example for an SSO occurring on a weekday at 8:00am:

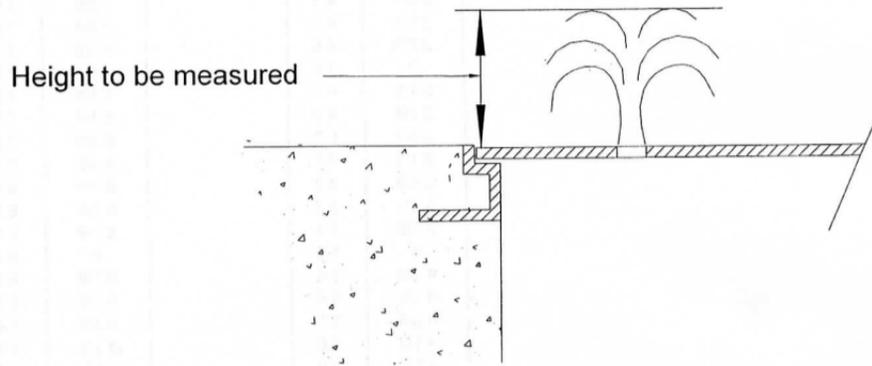
Number of upstream connections	22
Estimated flow per parcel	10 gallons per hour
Duration of SSO event	45 minutes
Total spill estimation (22 x 10 x .75)	165 gallons
(22 connections x 10 gallons per hour x 45 minutes (.75 hour) = 165 gallons)	

Data may be available in your drainage area from your capacity planners at your city or agency. Consult with them on reasonable flow amounts or rates of flow.

Pick and Vent Holes in Manhole Covers

Small SSOs will occur where the wastewater escaping from the manhole is isolated to the pick or vent holes in the cover. Larger SSOs may involve both the discharge from the pick and/or vent holes and the gap between the manhole cover and manhole frame. To estimate an SSO occurring from the manhole pick and vent holes, measure the height of the wastewater plume exiting the holes. Find that height and hole diameter on the manhole pick or vent hole chart to determine the flow rate escaping the pick/vent hole. Multiply the flow rate times the number of holes that are discharging wastewater. Once the total volume (gpm) has been determined,

multiply the gpm by the duration of the SSO in minutes. This will result in the total estimated gallons of the SSO.



Example: Measured height of plume exiting pick/vent hole is 1 inch from a 1/2-inch vent hole and there are 4 vent holes. The total volume per minute would be .94 gpm per hole (from attached chart) or 3.76 gpm total (.94 gpm x 4 holes) from the manhole cover. If the SSO lasted one hour, the total wastewater lost would be 226 gallons (3.76 x 60 = 225.6).

Number of pick holes	4
Flow from each pick hole	.94 gpm
Duration of SSO	60 minutes
Total SSO volume (.94 x 4 x 60=225.6)	226 gallons

Pick and Vent Hole Estimation Chart

Estimated Flows thru Manhole Cover Vent Holes and Pick Holes for SSO estimating

Hole Dia. inches	Area sq. ft.	Coeff. of Vel. Cv	Coeff. Of Cont. Cc	C Cv x Cc	Water Ht inches	Water Ht inches	Water Ht feet	Q cfs	Q gpm	Q gph
	Formula: =0.785*Ax* Ax/144			Formula: =Ix*449			Formula: =Gx/12	Formula: =Ex*Bx*(S QRT(2*32. 2*Hx))	Formula: =Ix*449	Formula: =Jx*60
Vent Hole										
0.50	0.00136	0.945	0.70	0.662	1/16 th	0.063	0.005	0.0005	0.23	14
0.50	0.00136	0.945	0.70	0.662	1/8 th	0.125	0.010	0.0007	0.33	20
0.50	0.00136	0.945	0.70	0.662	1/4 th	0.250	0.021	0.0010	0.47	28
0.50	0.00136	0.945	0.70	0.662	one half	0.500	0.042	0.0015	0.66	40
0.50	0.00136	0.945	0.70	0.662	3/4 ths	0.750	0.063	0.0018	0.81	49
0.50	0.00136	0.945	0.70	0.662	1 inch	1.000	0.083	0.0021	0.94	56
0.50	0.00136	0.945	0.70	0.662	1 1/4 "	1.250	0.104	0.0023	1.05	63
0.50	0.00136	0.945	0.70	0.662	1 3/8"	1.375	0.115	0.0024	1.10	66
0.50	0.00136	0.945	0.70	0.662	1 1/2"	1.500	0.125	0.0026	1.15	69
0.50	0.00136	0.945	0.70	0.662	1 5/8"	1.625	0.135	0.0027	1.20	72
0.50	0.00136	0.945	0.70	0.662	1 3/4"	1.750	0.146	0.0028	1.24	74
0.50	0.00136	0.945	0.70	0.662	2 inches	2.000	0.167	0.0030	1.33	80
0.50	0.00136	0.945	0.70	0.662	2 1/4"	2.250	0.188	0.0031	1.41	84
0.50	0.00136	0.945	0.70	0.662	2 1/2"	2.500	0.208	0.0033	1.48	89
0.50	0.00136	0.945	0.70	0.662	2 3/4"	2.750	0.229	0.0035	1.56	93
0.50	0.00136	0.945	0.70	0.662	3 inches	3.000	0.250	0.0036	1.62	97
0.50	0.00136	0.945	0.70	0.662	3 1/4"	3.250	0.271	0.0038	1.69	101
0.50	0.00136	0.945	0.70	0.662	3 1/2"	3.500	0.292	0.0039	1.75	105
0.50	0.00136	0.945	0.70	0.662	3 3/4"	3.750	0.313	0.0040	1.82	109
0.50	0.00136	0.945	0.70	0.662	4.000	4.000	0.333	0.0042	1.88	113
Vent Hole										
0.75	0.00307	0.955	0.67	0.640	1/16 th	0.063	0.005	0.0011	0.51	31
0.75	0.00307	0.955	0.67	0.640	1/8 th	0.125	0.010	0.0016	0.72	43
0.75	0.00307	0.955	0.67	0.640	1/4 th	0.250	0.021	0.0023	1.02	61
0.75	0.00307	0.955	0.67	0.640	one half	0.500	0.042	0.0032	1.44	87
0.75	0.00307	0.955	0.67	0.640	3/4 ths	0.750	0.063	0.0039	1.77	106
0.75	0.00307	0.955	0.67	0.640	1 inch	1.000	0.083	0.0045	2.04	122
0.75	0.00307	0.955	0.67	0.640	1 1/4 "	1.250	0.104	0.0051	2.28	137
0.75	0.00307	0.955	0.67	0.640	1 3/8"	1.375	0.115	0.0053	2.39	144
0.75	0.00307	0.955	0.67	0.640	1 1/2"	1.500	0.125	0.0056	2.50	150
0.75	0.00307	0.955	0.67	0.640	1 5/8"	1.625	0.135	0.0058	2.60	156
0.75	0.00307	0.955	0.67	0.640	1 3/4"	1.750	0.146	0.0060	2.70	162
0.75	0.00307	0.955	0.67	0.640	2 inches	2.000	0.167	0.0064	2.89	173
0.75	0.00307	0.955	0.67	0.640	2 1/4"	2.250	0.188	0.0068	3.06	184
0.75	0.00307	0.955	0.67	0.640	2 1/2"	2.500	0.208	0.0072	3.23	194
0.75	0.00307	0.955	0.67	0.640	2 3/4"	2.750	0.229	0.0075	3.38	203
0.75	0.00307	0.955	0.67	0.640	3 inches	3.000	0.250	0.0079	3.53	212
0.75	0.00307	0.955	0.67	0.640	3 1/4"	3.250	0.271	0.0082	3.68	221
0.75	0.00307	0.955	0.67	0.640	3 1/2"	3.500	0.292	0.0085	3.82	229
0.75	0.00307	0.955	0.67	0.640	3 3/4"	3.750	0.313	0.0088	3.95	237
0.75	0.00307	0.955	0.67	0.640	4.000	4.000	0.333	0.0091	4.08	245
Vent Hole										
1.00	0.00545	0.960	0.65	0.624	1/16 th	0.063	0.005	0.0020	0.88	53
1.00	0.00545	0.960	0.65	0.624	1/8 th	0.125	0.010	0.0028	1.25	75
1.00	0.00545	0.960	0.65	0.624	1/4 th	0.250	0.021	0.0039	1.77	106
1.00	0.00545	0.960	0.65	0.624	one half	0.500	0.042	0.0056	2.50	150
1.00	0.00545	0.960	0.65	0.624	3/4 ths	0.750	0.063	0.0068	3.06	184
1.00	0.00545	0.960	0.65	0.624	1 inch	1.000	0.083	0.0079	3.54	212
1.00	0.00545	0.960	0.65	0.624	1 1/4 "	1.250	0.104	0.0088	3.96	237
1.00	0.00545	0.960	0.65	0.624	1 3/8"	1.375	0.115	0.0092	4.15	249
1.00	0.00545	0.960	0.65	0.624	1 1/2"	1.500	0.125	0.0097	4.33	260
1.00	0.00545	0.960	0.65	0.624	1 5/8"	1.625	0.135	0.0100	4.51	271
1.00	0.00545	0.960	0.65	0.624	1 3/4"	1.750	0.146	0.0104	4.68	281
1.00	0.00545	0.960	0.65	0.624	2 inches	2.000	0.167	0.0111	5.00	300
1.00	0.00545	0.960	0.65	0.624	2 1/4"	2.250	0.188	0.0118	5.31	318
1.00	0.00545	0.960	0.65	0.624	2 1/2"	2.500	0.208	0.0125	5.59	336
1.00	0.00545	0.960	0.65	0.624	2 3/4"	2.750	0.229	0.0131	5.87	352
1.00	0.00545	0.960	0.65	0.624	3 inches	3.000	0.250	0.0136	6.13	368

Pick and Vent Hole Estimation Chart - continued

Estimated Flows thru Manhole Cover Vent Holes and Pick Holes for SSO estimating

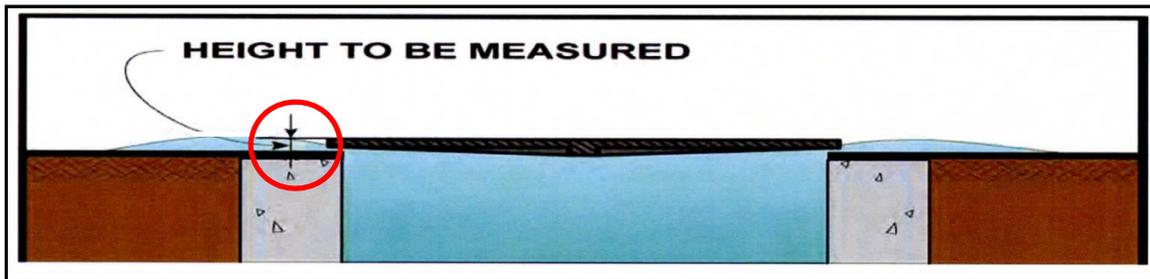
Hole Dia. Inches	Area sq. ft.	Coeff. of Vel. Cv	Coeff. Of Cont. Cc	C Cv x Cc	Water Ht Inches	Water Ht Inches	Water Ht feet	Q cfs	Q gpm	Q gph
	Formula: =0.785*Ax* Ax/144			Formula: =Ix*449			Formula: =Gx/12	Formula: =Ex*Bx*(S QRT(2*32. 2'Hx))	Formula: =Ix*449	Formula: =Jx*60
Vent Hole										
1.00	0.00545	0.960	0.65	0.624	3 1/4"	3.250	0.271	0.0142	6.38	383
1.00	0.00545	0.960	0.65	0.624	3 1/2"	3.500	0.292	0.0147	6.62	397
1.00	0.00545	0.960	0.65	0.624	3 3/4"	3.750	0.313	0.0153	6.85	411
1.00	0.00545	0.960	0.65	0.624	4.000	4.000	0.333	0.0158	7.08	425
Pick Hole semicircular area										
1.00	0.00273	0.960	0.65	0.624	1/16 th	0.063	0.005	0.0010	0.44	27
1.00	0.00273	0.960	0.65	0.624	1/8 th	0.125	0.010	0.0014	0.63	38
1.00	0.00273	0.960	0.65	0.624	1/4 th	0.250	0.021	0.0020	0.89	53
1.00	0.00273	0.960	0.65	0.624	one half	0.500	0.042	0.0028	1.25	75
1.00	0.00273	0.960	0.65	0.624	3/4 ths	0.750	0.063	0.0034	1.53	92
1.00	0.00273	0.960	0.65	0.624	1 inch	1.000	0.083	0.0039	1.77	106
1.00	0.00273	0.960	0.65	0.624	1-1/2 inch	1.500	0.125	0.0048	2.17	130
1.00	0.00273	0.960	0.65	0.624	2 inches	2.000	0.167	0.0056	2.51	150
1.00	0.00273	0.960	0.65	0.624	2 1/4"	2.250	0.188	0.0059	2.66	159
1.00	0.00273	0.960	0.65	0.624	2 1/2"	2.500	0.208	0.0062	2.80	168
1.00	0.00273	0.960	0.65	0.624	2 3/4"	2.750	0.229	0.0065	2.94	176
1.00	0.00273	0.960	0.65	0.624	3 inches	3.000	0.250	0.0068	3.07	184
1.00	0.00273	0.960	0.65	0.624	3 1/4"	3.250	0.271	0.0071	3.19	192
1.00	0.00273	0.960	0.65	0.624	3 1/2"	3.500	0.292	0.0074	3.31	199
1.00	0.00273	0.960	0.65	0.624	3 3/4"	3.750	0.313	0.0076	3.43	206
1.00	0.00273	0.960	0.65	0.624	4.000	4.000	0.333	0.0079	3.54	213

Courtesy of OCSD: Created 5/17/99 and modified 5/15/14, as an estimating tool for field staff. This is based on flow through orifices assumptions. Your city or agency may want to develop a similar tool.

**$Q=CA(2gh)^{.5}$ Where Q=cfs C=Cv x Cc A=area(sq. ft.) g=32.2 ft/sec/sec
h= water height (ft.)**

Manhole Ring

Some manhole covers in use today typically only have one pick hole forcing most of the wastewater to escape from the perimeter of the manhole cover during higher flow SSOs. To estimate the volume in this example, measure the observed height of the wastewater plume exiting the manhole cover. Find the height and manhole diameter on the Manhole with Cover in Place to determine the flow rate escaping the manhole. The chart has two columns, one for 24-inch diameter covers and one for 36-inch diameter covers. Wastewater will also be escaping from the pick hole and must be accounted for separately by following the instructions for estimating an SSO from pick/vent hole. Multiply the flow rate times the number of holes that are discharging. The total estimated rate (gpm) is determined by adding together the rate being lost (gpm) from around the cover with the rate being lost (gpm) from the pick and/or vent hole(s). Once the total rate (gpm) has been determined, multiply the gpm by the duration of the SSO in minutes. This will result in the total estimated gallons of the SSO.



Example: The measured height of the plume exiting the ring of a 36-inch manhole is 1 inch. The total volume per minute would be 13 gpm from around the ring of a 36-inch manhole cover (from the attached chart). (Calculate the amount exiting the pick hole(s) and add to the total being lost around the ring). If the SSO lasted one hour the total wastewater lost would be 780 gallons ($13 \times 60 = 780$).

Estimated loss around ring (from chart)	13 gpm
Duration of SSO	60 minutes
Total SSO (without loss from pick hole)	780 gallons
(13 gal/min x 60 minutes = 780 gallons plus amount lost from pick hole(s))	

ESTIMATED SSO FLOW OUT OF MH WITH COVER IN PLACE

24" COVER

Height of spout above M/H rim H in inches	SSO FLOW Q		Min. Sewer size in which these flows are possible
	in gpm	in MGD	
1/4	1	0.001	
1/2	3	0.004	
3/4	6	0.008	
1	9	0.013	
1 1/4	12	0.018	
1 1/2	16	0.024	
1 3/4	21	0.030	
2	25	0.037	
2 1/4	31	0.045	
2 1/2	38	0.054	
2 3/4	45	0.065	
3	54	0.077	
3 1/4	64	0.092	
3 1/2	75	0.107	
3 3/4	87	0.125	
4	100	0.145	
4 1/4	115	0.166	
4 1/2	131	0.189	
4 3/4	148	0.214	
5	166	0.240	
5 1/4	185	0.266	
5 1/2	204	0.294	
5 3/4	224	0.322	6"
6	244	0.352	
6 1/4	265	0.382	
6 1/2	286	0.412	
6 3/4	308	0.444	
7	331	0.476	
7 1/4	354	0.509	
7 1/2	377	0.543	
7 3/4	401	0.578	8"
8	426	0.613	
8 1/4	451	0.649	
8 1/2	476	0.686	
8 3/4	502	0.723	
9	529	0.761	

36" COVER

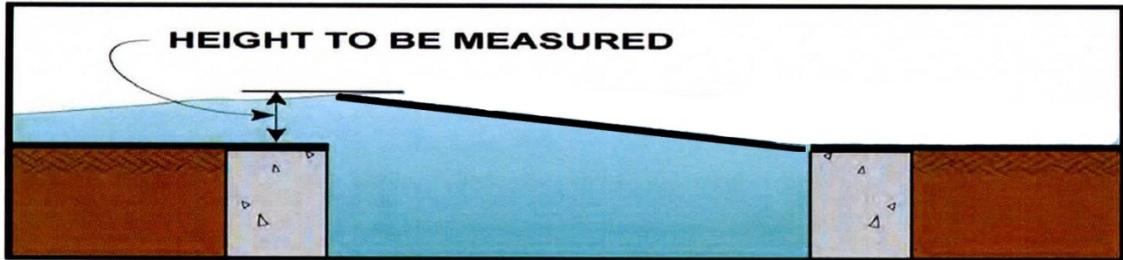
Height of spout above M/H rim H in inches	SSO FLOW Q		Min. Sewer size in which these flows are possible
	in gpm	in MGD	
1/4	1	0.002	
1/2	4	0.006	
3/4	8	0.012	
1	13	0.019	
1 1/4	18	0.026	
1 1/2	24	0.035	
1 3/4	31	0.044	
2	37	0.054	
2 1/4	45	0.065	
2 1/2	55	0.079	
2 3/4	66	0.095	
3	78	0.113	
3 1/4	93	0.134	
3 1/2	109	0.157	
3 3/4	127	0.183	
4	147	0.211	
4 1/4	169	0.243	
4 1/2	192	0.276	
4 3/4	217	0.312	6"
5	243	0.350	
5 1/4	270	0.389	
5 1/2	299	0.430	
5 3/4	327	0.471	
6	357	0.514	
6 1/4	387	0.558	8"
6 1/2	419	0.603	
6 3/4	451	0.649	
7	483	0.696	
7 1/4	517	0.744	
7 1/2	551	0.794	
7 3/4	587	0.845	10"
8	622	0.896	
8 1/4	659	0.949	
8 1/2	697	1.003	
8 3/4	734	1.057	
9	773	1.113	

The formula used to develop Table 1 measures the maximum height of the water coming out of the maintenance manhole above the rim. The formula was taken from Hydraulics and Its Application by A.H. Gibson (Constable & Co. Limited).

Partially Covered Manhole

Sometimes an SSO will occur that only lifts one side of the manhole cover. This is especially true of manholes where the cover is on an incline with the cover lifting on the downward side of the manhole. To estimate the volume of an SSO under these conditions, calculate the area (in square feet) from where the wastewater is escaping and the velocity (in feet per second) that the wastewater is normally traveling in the sewer at half the pipe depth. The velocity is estimated from visual observation with 2 feet/second or less being a small velocity, 4 to 5 feet/second being a medium velocity, and 7 feet/second or higher being a large velocity. Velocities in the sewer above 7 feet/second may be strong enough to blow the manhole cover off. Higher velocities also tend to raise the manhole lid higher. Next, multiply by the duration

(in seconds) that the SSO occurred. Finally, multiply by 7.48 to determine the volume of the SSO in gallons. The formula is Volume (gallons) = Area (sq. ft.) x Velocity (ft/sec) x Time (in seconds) x 7.48 (gal/cu. ft.).



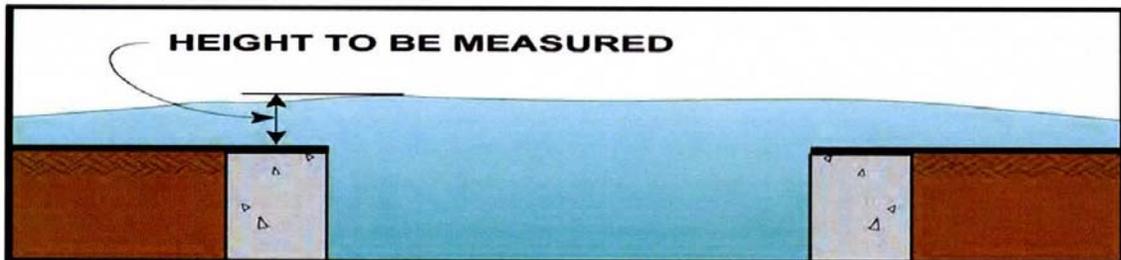
Example: The measured height of the plume exiting the side ring of a 24-inch manhole is 2 inches. Based upon the data provided in the Area Calculation Chart below, a 2-inch plume from one side of a 24-inch manhole cover provides 0.524 square feet of area. The velocity of the flow is estimated at 4 ft/sec (visual observation) with the assumed duration of the flow lasting for one hour. The total amount of the SSO is estimated at 56,441 gallons (.524 x 4 x 60 x 60 x 7.48 = 56,441)

Height of plume	2 inches
Area for 24 inch manhole	0.524 square feet
Estimated velocity	4 ft/sec
Duration of SSO	60 minutes
Conversion from cu. ft. to gallons	7.48
Total estimated SSO volume	56,441 gallons
(.524 sq. ft. x 4 ft/sec x 60 minutes x 60 sec/min x 7.48 gal/cu ft = 56,441 gal)	

Area Calculation Chart		
Height of Flow	24 Inch Manhole	36 Inch Manhole
.5 inches	0.131 sq. ft.	0.195 sq. ft.
1 inches	0.262 sq. ft.	0.391 sq. ft.
1.5 inches	0.393 sq. ft.	0.586 sq. ft.
2 inches	0.524 sq. ft.	0.782 sq. ft.
2.5 inches	0.655 sq. ft.	0.977 sq. ft.
3 inches	0.786 sq. ft.	1.173 sq. ft.
3.5 inches	0.917 sq. ft.	1.368 sq. ft.
4 inches	1.048 sq. ft.	1.564 sq. ft.

Open Manhole

In large events the force of the overflowing wastewater will have sufficient pressure and volume to unseat the cover from the frame and move the manhole cover away from the manhole. Typically, when the SSO rates reach approximately 7 cfs (approximately 3,000 gpm or about 4.32 mgd), there is sufficient flow and pressure to blow off the manhole cover. To estimate the volume of an SSO where the manhole cover has been removed, the average height of the plume of wastewater exiting the manhole must be measured. This measurement is from the pavement surface close to the manhole ring to the top of the plume. Take several measurements in several locations around the ring and average the findings. If possible, and being safe to protect yourself from the open manhole, find the average height of the plume for the size of the manhole lid (24-inch or 36-inch diameter) on the Area Calculation Chart to determine the rate of flow exiting the manhole. Multiply the flow rate expressed in gallons per minute from the chart multiplied by the duration of the SSO in minutes to determine the total volume of the SSO. A photo taken at a safe distance upon arrival may help you refine your estimate.



Example: Determine the observed height of the plume at several locations around the ring of the manhole and average the results. Determine the size of the manhole cover. If the average height of the plume exiting an open 24-inch diameter manhole is 2 inches, find 2 inches on the 24-inch Manhole Cover Removed Chart. Based upon the data provided in the Manhole Cover Removed Chart, the flow in gallons per minute would be 3,444 gpm. If the duration of the flow lasted for one hour (60 minutes), the total amount of the SSO would be estimated at 206,640 gallons ($3,444 \times 60 = 206,640$).

Height of plume (average) on 24-inch manhole	2 inches
Estimated flow from chart	3,444 gpm
Duration of SSO	60 minutes
Estimated SSO total volume	206,640 gallons

(Est flow from chart 3,444 x 60 minutes = 206,640)

ESTIMATED SSO FLOW OUT OF M/H WITH COVER REMOVED

24" FRAME

Water Height above M/H frame H in inches	S S O FLOW		Min. Sewer size in which these flows are possible
	Q		
	in gpm	in MGD	
1/8	28	0.04	
1/4	62	0.09	
3/8	111	0.16	
1/2	160	0.23	
5/8	215	0.31	6"
3/4	354	0.51	8"
7/8	569	0.82	10"
1	799	1.15	12"
1 1/8	1,035	1.49	
1 1/4	1,340	1.93	15"
1 3/8	1,660	2.39	
1 1/2	1,986	2.86	
1 5/8	2,396	3.45	18"
1 3/4	2,799	4.03	
1 7/8	3,132	4.51	
2	3,444	4.96	21"
2 1/8	3,750	5.4	
2 1/4	3,986	5.74	
2 3/8	4,215	6.07	
2 1/2	4,437	6.39	
2 5/8	4,569	6.58	24"
2 3/4	4,687	6.75	
2 7/8	4,799	6.91	
3	4,910	7.07	

36" FRAME

Water Height above M/H frame H in inches	S S O FLOW		Min. Sewer size in which these flows are possible
	Q		
	in gpm	in MGD	
1/8	49	0.07	
1/4	111	0.16	
3/8	187	0.27	6"
1/2	271	0.39	
5/8	361	0.52	8"
3/4	458	0.66	
7/8	556	0.8	10"
1	660	0.95	12"
1 1/8	1,035	1.49	
1 1/4	1,486	2.14	15"
1 3/8	1,951	2.81	
1 1/2	2,424	3.49	18"
1 5/8	2,903	4.18	
1 3/4	3,382	4.87	
1 7/8	3,917	5.64	21"
2	4,458	6.42	
2 1/8	5,000	7.2	24"
2 1/4	5,556	8	
2 3/8	6,118	8.81	
2 1/2	6,764	9.74	
2 5/8	7,403	10.66	
2 3/4	7,972	11.48	30"
2 7/8	8,521	12.27	
3	9,062	13.05	
3 1/8	9,604	13.83	
3 1/4	10,139	14.6	
3 3/8	10,625	15.3	36"
3 1/2	11,097	15.98	
3 5/8	11,569	16.66	
3 3/4	12,035	17.33	
3 7/8	12,486	17.98	
4	12,861	18.52	
4 1/8	13,076	18.83	
4 1/4	13,285	19.13	
4 3/8	13,486	19.42	

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.

Pictorial Reference

Currently there are two picture charts being widely used to assist with estimating SSO volumes. The older chart is the city of San Diego's Manhole Overflow Rate Chart with the newer chart being the CWEA Southern Section Collection Systems Committee (SSCSC) Manhole Overflow Gauge. Each chart is a pictorial depiction of how an overflowing manhole appears at a given flow rate. The SSCSC Manhole Overflow Gauge has an additional picture for each flow rate showing a wide angle view of the spill area. When using either of the pictorial reference charts, select which picture most accurately represents the SSO being estimated. Use the gpm of the associated picture multiplied times the duration of the SSO to determine the total spill volume. Example: If the selected picture shows 300 gpm and the duration of SSO is 55 minutes, the total estimated spill volume would be 16,500 gallons (300 gpm x 55 min).

Selected picture volume	300 gpm
Duration of SSO	55 minutes
Total estimated SSO	16,500 gallons
(300 gpm x 55 minutes = 16,500 gallons)	

Note: Data was obtained at training facilities where potable water was metered and photos were taken at various flow rates.

Training facilities also exist at the Orange County Sanitation District in Fountain Valley, CA.

As a reference point, an 8-inch diameter sewer flowing half full at a velocity of 2.5 ft/sec would have a flow rate of about 192 gal/min. If fully blocked, the SSO rate would be 192 gpm. For a partial blockage, the SSO rate will be less.

Other agencies have developed above ground estimating tools such as frame and cover sets that can be pressurized using potable water and simple flow meters.

City of San Diego Manhole Overflow Picture Chart



Wastewater Collection Division
(619) 654-4160



rev. 4/99

Reference Sheet for Estimating Sewer Spills
from Overflowing Sewer Manholes
All estimates are calculated in gallons per minute (gpm)



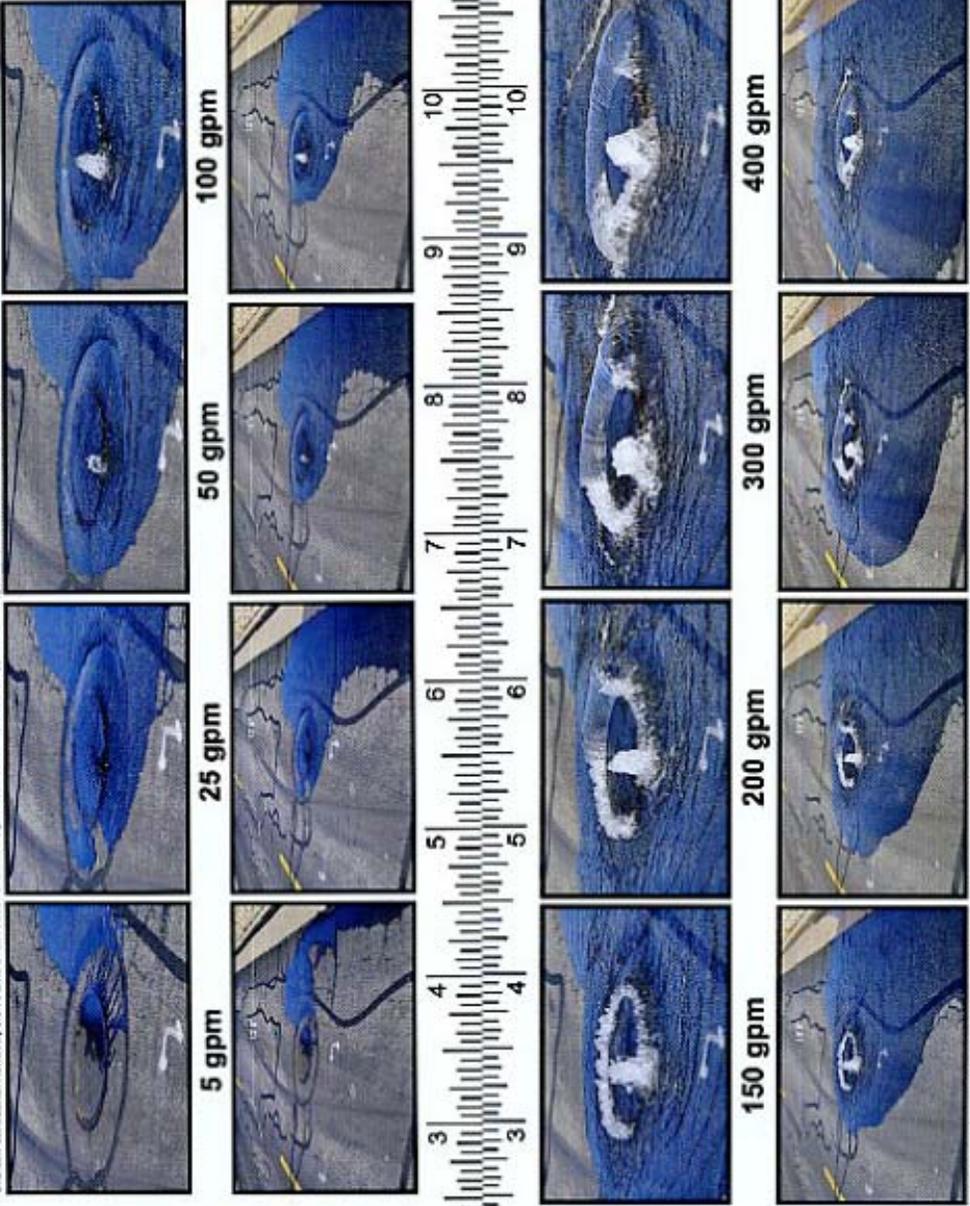
City of San Diego
Metropolitan Wastewater Department



All photos were taken during a demonstration using metered water from a hydrant in cooperation with the City of San Diego's Water Department.

SSCSC Manhole Overflow Gauge

DISCLAIMER: This overflow simulation may appear differently from those in other systems because of the manhole lid hole configuration. Manhole lids with steps or multiple disk holes may appear differently during overwater conditions. However, the volume of overflow and the footprint of the wet area should appear relatively the same under similar slope conditions.



DISCLAIMER: This overflow simulation may appear differently from those in other systems because of the manhole lid hole configuration. Manhole lids with steps or multiple disk holes may appear differently during similar overwater conditions. However, the volume of overflow and the footprint of the wet area should appear relatively the same under similar slope conditions.



SSCSC MANHOLE OVERFLOW GAUGE

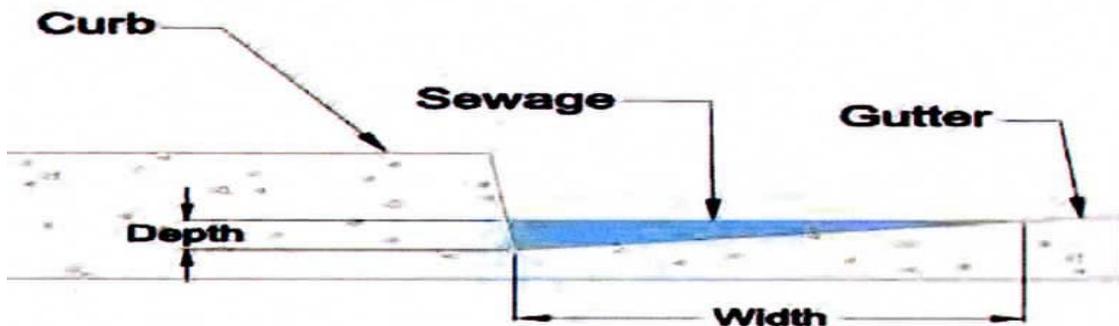


PROVIDING QUALITY TRAINING FOR COLLECTION SYSTEM PERSONNEL SINCE 1991

Mission Statement: To continuously increase the level of professionalism of Collection Systems personnel involved in wastewater collection systems by providing education and training, taking an active role in promoting certification, and recognizing proficiency in our field.

Gutter Flow (Simplified Version)

Although the traditional Manning's Equation is used to calculate flows in open channels, this simplified version can be used to measure SSOs that are flowing in open channels such as ditches, curb and gutter, etc. and still achieve reasonable estimations. Two things need to be determined to utilize this method of spill estimation, the cross sectional area of the channel and the velocity of the flow in the channel. First, determine the cross sectional dimensions of the channel (width and depth of flow) to determine the area of the flow. Then determine the velocity of the flow in the channel. To determine the velocity, drop a small floating object (ping pong ball, leaf, small piece of wood, etc.) into the flow and time how long it takes the object to travel a measured distance. This should be practiced several times in a non-SSO situation, and averaged to determine the flow velocity. The velocity of the flow multiplied by the cross sectional area of the flow multiplied by the duration of the SSO will result in the approximate volume of the SSO.



$$Q = V \times A$$

$$\text{Flow (gal/min)} = \text{Velocity (ft/sec)} \times \text{Area (ft}^2\text{)} \times 7.48 \text{ gal/cu ft} \times 60 \text{ sec/min}$$

Example: If the cross section triangular area of the spill is calculated at .5 sq.ft. with the velocity measured at .25 ft. per second, the flow would be .125 cubic feet per second. Multiply times 449 (one cubic foot per second equals 449 gallons per minute) to determine the gallons per minute (56 gpm). If the SSO lasted for 35 minutes the total estimated spill volume would be 1,964 gallons.

Simplified Cross Section Area of the SSO



Estimated Triangular Area

0.5 square feet

Estimated Velocity

.25 feet per second

Duration of the SSO

35 minutes

Gallons per minute per cubic foot per second conversion

449

Total estimated spill volume

1,964 gallons

(Area .5 sq.ft. x Est velocity .25 ft. per sec. = .125 cfs x 449 = 56 gpm x 35 minutes = 1,964 estimated gallons spilled)

Gutters on steep hillsides will flow at higher velocities. Practice your estimating on flatter areas and steeper areas of your service area.

Bucket Method

This method can be used for small spills due to partial blockages where the entire flow stream could be captured in a bucket. Estimate how many minutes it takes to fill the bucket. Dividing the volume of the bucket (in gallons) by the elapsed time to fill the bucket (in minutes). This provides the flow rate in gallons per minute (gpm). Once the gpm has been established, multiply the gpm by the total time duration in minutes of the SSO until it stopped to determine the total estimated volume of the SSO.

Example: If it takes 30 seconds (.5 minutes) to fill a 5 gallon bucket and the total spill duration was 20 minutes, the total spill volume would be 200 gallons. (5gal/.5 min = 10 gpm x 20 min = 200 gal).

Time to fill a 5 gallon bucket

30 seconds (.5 minute)

Duration of SSO

20 minutes

Estimated spill volume

200 gallons

(5 gallons every 30 seconds equals 10 gallons per minute x 20 minutes = 200 gallons)

You can practice visual estimating by filling a bucket of known volume for a measured time from a garden hose.

Pipe Size

To calculate an SSO based upon pipe size requires the diameter of the pipe, the depth of flow in the pipe downstream of the blockage during and after the blockage, and the flow velocity in the pipe. This method calculates the amount of flow in the pipe at the same time of the day during the blockage compared to the amount of flow normally in the pipe to determine how much flow had been lost over time.

To use this method, measure the flow depth at the nearest manhole downstream from the blockage. Record the depth reading. Once the blockage has been cleared and the flow stabilized, measure the flow depth at the same manhole as before and record the reading. The attached chart can be used on various size pipelines where the velocity is 2.0 feet per second. Pipelines of other rates will have to be calculated.

To use the attached chart, find the depth of the flow during the blockage in column 1. Follow the row across to the diameter of the pipe where the blockage has occurred. The number listed will be the flow rate in gallons per minute for pipelines with a velocity of 2 feet per second. Next find the flow depth after the blockage has been removed and the flow stabilized. Move across the chart to the proper pipe size and record the flow rate for a free flowing pipeline. Subtract the flow rate from the blocked pipe from the flow rate of the free flowing pipe. The remainder will be the flow rate lost. Multiply the flow rate lost times the duration of the SSO to determine the total flow volume lost. Example: If the flow depth during the blockage of a 10-inch pipe was 1 inch, the flow rate would 25 gpm. After the blockage was cleared and the flow stabilized, the flow depth was now 5 inches then the flow rate would be 240 gpm. To determine the amount lost, subtract the gpm (pipe blocked) from the gpm (pipe cleared) ($240 \text{ gpm} - 25 \text{ gpm} = 215 \text{ gpm}$) leaving the flow rate of the SSO. Multiply the remaining flow rate multiplied by the duration of the SSO in minutes to estimate the total volume of the SSO.

Flow Depth Inches	8" PIPE	10" PIPE	12" PIPE	15" PIPE	18" PIPE	21" PIPE	24" PIPE
1	20 GPM	25 GPM	30 GPM	35 GPM	40 GPM	45 GPM	50 GPM
2	60	70	80	85	95	105	125
3	110	125	135	150	175	185	210
4	160	180	200	235	260	285	320
5	190	240	280	315	360	380	445
6	260	310	355	415	455	500	555
7	290	370	425	495	570	620	695
8	320	430	500	600	680	760	815
9		465	575	690	800	890	965
10		490	625	775	905	1005	1120
11			685	870	1020	1135	1275
12			715	935	1130	1260	1410
13				1020	1240	1415	1580
14				1070	1345	1520	1690
15				1105	1425	1650	1850
16					1495	1760	1990
17					1550	1880	2110
18					1595	1980	2285
19						2050	2410
20						2115	2530
21						2160	2630
22							2700
23							2765
24							2820

Note: the chart assumes V = 2.0 feet per second and n = 0.013

1. Record the time that spill was reported.
2. Record the flow, in inches, downstream of the spill or blockage. Record the pipe size in inches. Determine flow rate in gallons per minute (GPM) using chart above.
3. Re-establish flow and allow stabilizing. Record the time that flow stabilizes and the depth of flow, in inches. Determine flow rate using chart above.
4. Subtract the flow rate calculated in #2 from the flow rate calculated in #3.
5. Multiply the result of 4 by the minutes elapsed from notification to stopping overflow.
6. Report total amount in gallons on the SSO Report.

Note: The above chart is only for pipelines of the diameters shown and flowing at a velocity of 2.0 ft/sec.

Metered Flow

Estimates of the amount of wastewater spilled from a continuously metered system can be achieved utilizing upstream and downstream flow meters located close to the point where the wastewater escaped. Flow meters may be located at strategic locations throughout the wastewater collection system or at the intake or discharge of wastewater pump or lift stations. Flow metering usually occurs on pressure systems. If a spill is suspected on a metered upstream wastewater line, check the flow meter readings for abnormalities and note the time they start. Also check the flow meter readings at the downstream flow meter. If the downstream readings are lower than usual, the difference may be the amount of wastewater being lost to a spill. Abnormal pumping cycles for pump or lift stations located downstream from the spill can also be used to estimate the volume of a spill. Portable flow meters could also be installed in gravity sewers after a SSO event to help verify average flows at various times of the day when full or partial blockages may have occurred. You should also perform

this on the same day of the week that the SSO occurred. This is also a good way to understand how flows will change during the day in various parts of your system.

Rain Events

Previous examples of methods throughout the document were all in dry weather situations. Rain events cause substantial difficulties for SSO responders in establishing an accurate estimate of an SSO. Infiltration into the sewer system will increase, sometimes dramatically, the system flow including the amount of the SSO. When estimating the SSO amount during a rain event, the estimate is to include only the amount of wastewater that left the collection system (this includes any clear water inflow and/or infiltration (I&I) that entered the collection system upstream of the SSO) and not any waters that the wastewater comingled with after leaving the system. Although the comingled waters are considered contaminated by the SSO and may be involved in the cleanup, they should not be considered in the estimate of the volume of sewage spilled for the event. Consult with your city or agency management or your site-specific procedures to be used during wet weather SSOs.

Saturated Soils

Spills that have occurred on or migrated to grassy or dirt areas can be estimated if the area is dry and is not regularly irrigated like a field or dirt parking lot. This method is effective only during dry weather and not during or after a rain event. To estimate how much wastewater has been lost to the soil, first determine how many cubic feet of soil has been wetted. First determine the size of the area where the spill occurred. This is done in the same manner as for spills that occurred on hard surfaces and as discussed in the Measured Volume Method. Next determine how deep the soil has been saturated. To determine the depth of the soil saturation, dig several test holes with a round point shovel until dry soil is reached. Measure the depth of each hole and determine the average depth of the saturated soil. Multiply the area of the spill (in square feet) times the average depth of the soil saturation to determine the amount (in cubic feet) of saturated soil. Different types of soils will retain moisture in different amounts. Water will penetrate sandy soils quicker than clay soils and clay soils are capable of holding more moisture than sandy soils. Use an average of 18% moisture content when estimating the amount of wastewater that has saturated the soil.

Example: If the spill was contained in a dry dirt or grassy area of 10 feet by 20 feet, the area of the spill would be 200 square feet if it was a perfect rectangle (assumed). If the wastewater penetrated the soil to an average depth of 3 inches, the total amount of saturated soil would be 50 cubic feet ($10 \times 20 \times .25 = 50$ cf.). To determine the amount of wastewater suspended in the wetted soil, multiply the 50 cubic feet times 7.48 gallons per cubic foot ($50 \text{ cf} \times 7.48 \text{ gal/cf} = 374$ gallons). Next multiply the gallons times the average amount of moisture the soil can hold (use 18% as a rough estimate or calculate the soil moisture) to determine the actual estimated amount of wastewater that has saturated the soil ($374 \text{ gal} \times .18 = 67.3$ gallons of wastewater contained in the soil for the area of the spill). Add the amount of wastewater estimated to be contained in the soil with the amount of surface wastewater that was removed to achieve an estimated total amount of the wastewater spill.

Simple method to calculate soil moisture content:

Equipment needed: One coffee filter; a funnel; a graduated measuring cup; a jar or bottle.

Place the coffee filter into the funnel. Place the funnel into the mouth of the jar or bottle.

Place one cup of clean dry soil from the spill site onto the coffee filter. Pour one cup (8 ounces) of water onto the soil and allow the water to drain into the jar. Once the water has stopped dripping from the funnel, remove the funnel and measure the amount of water in the jar. The difference between the amount of water in the jar and the 8 ounces originally poured over the soil is the amount of moisture the soil retained.

Example: If six and one half ounces (6.5) remained in the jar, one and one half ounce (1.5) or 18.75% remained in the soil. The soil moisture content would be 18.75%.

Combo Truck or Vacuum Truck Recovery

When the spill is contained to a specific area and recovered by a combo or vacuum truck, the amount recovered can be used in calculating the amount of the original spill. If the spill is contained on a hard surface, estimate the total spill volume by what was captured by the combo or vacuum truck plus the amount that could not be captured. To estimate the amount not captured by the combo or vacuum truck, use the Measured Volume Method. For wet spots on concrete, use a depth of 0.0013 ft. or 1/64 inch. For wet stains on asphalt, use a depth of

0.0026 ft. or 1/32 inch. If the spill is contained on soil, use the Saturated Soils Method to determine how much of the spill soaked into the soil and add to the amount captured by the combo or vacuum truck.

Conversion Factors

1.0 cfs = .6463 mgd

One cubic foot of water (cf) = 7.48 gallons

One cubic foot of water per second (cfs) = 448.8 gallons per minute

A cylinder 1 foot in diameter and one foot deep = 5.87 gallons

A 1 square foot triangle 1 foot deep = 3.25 gallons

One inch or 1/12 ft = .083 feet

Volumes Recovered with Trucks or Pumped to Tanks

Level gauge on truck or

Known volume of the full tank or

Number of full tank trucks used during large SSO events

Use your agency's approved conversion factors, if available.

References

California Environmental Protection Agency

<http://www.calepa.ca.gov/>

State Water Resources Control Board

<http://www.swrcb.ca.gov/>

Sanitary Sewer Overflow (SSO) Reduction Program

http://www.swrcb.ca.gov/water_issues/programs/sso/index.shtml

Sample Worksheet

(City or Agency Name)

SSO Volume Estimation Worksheet

SSO Address/Location: _____ Date: _____

SSO Volume Method of Estimation (check appropriate box and provide appropriate information for method used below)

Pictorial Reference Flow Rate Chart (San Diego Chart CWEA Ruler
Vent or Pick Holes Eyeball estimate

Measured volume Counting Connections Manhole Ring Partially Covered
Manhole Open Manhole

Bucket Method Pipe Size Method Gutter Flow Method Metered Flow
Rain Event Method

Saturated Soils Method Combo/Vacuum Truck Recovery Method

Spill Start Date: _____ Spill Start Time: _____

Spill End Date: _____ Spill End Time: _____ Total Est. Spill Volume (gal): _____

Provide a detailed description of the method(s) used to determine the SSO estimate. (Use additional sheets as needed)

Signed: _____

Date: _____

APPENDIX E
TRAINING DOCUMENTS

**Fort Bragg Municipal Improvements District # 1
Overflow Emergency Response Plan - Training Test**

Instructions: Following annual training on the **Fort Bragg Municipal Improvements District # 1 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 **Fort Bragg Municipal Improvements District # 1** 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 **Fort Bragg Municipal Improvements District # 1** needs outside equipment or resources who do you call? and what are their 24-hour phone numbers?
