Marina Coast Water District Sanitary Sewer System Management Plan (SSMP)

February 2017

Table of Contents

Introduction……..…….....3

SSMP-Eleven Elements

I. Goals …….....6

II. Organization…….....….....8

III. Legal Authority……..……...….…14

IV. Operations and Maintenance Program……..……....…..16

V. Design and Performance Provisions……..……....….22

VI. Overflow Emergency Response Plan……..……...…24

VII. FOG (Fats Oils and Grease) Program…….……..….…31

VIII. System Evaluation and Capacity Assurance Plan……..….....35

IX. Monitoring, Measurement and Plan Modifications…….……..…….....41

X. SSMP Audits…….……..…44

XI. Communication Program …….....45

Appendix A: *Sanitary Sewer Overflow Notification and Response Plan* …….....46

Appendix B: Excerpts from Marina Coast Water District Water Code…...…….....58

Appendix C: Excerpts from *Standard Plans and Specifications for Construction of Domestic Water, Sewer, and Recycled Water Facilities*…….....64

Appendix D: Excerpts from *Procedures, Guidelines, and Design Requirements*…….....68

Appendix E: FY 15/16 WDR Grease Public Outreach Plan ……...……..86

INTRODUCTION

SSMP SUMMARY

On May 2, 2006 the State Water Resources Control Board (SWRCB) Enacted Order No.2006-0003-DWQ Statewide General Waste Discharge Requirements for Sanitary Sewer Collection Systems (WDR). The WDR requires any public agency that owns or operates a sanitary sewer system more than one mile in length to comply with the requirements of the WDR to reduce the number of Sanitary Sewer Overflows (SSOs). SSOs are overflows from systems of various types of wastewater that may result in polluted surface and groundwater and adverse impacts to aquatic life and public health. The WDR applies to these systems that convey treated or partially treated wastewater to a Publicly Owned Treatment Works (POTW) in the State of California. Under this WDR, agencies and/or cities must electronically report all SSOs to the State Water Resources Control Board (SWRCB) and develop a Sewer System Management Plan (SSMP) which describes how each agency operates, maintains and evaluates its sewer system. The SSMP must include the following eleven elements:

I. Goal
II. Organization
III. Legal Authority
IV. Operations and Maintenance Program
V. Design and Performance Provisions
VI. Overflow Emergency Response Plan
VII. FOG Control Program
VIII. System Evaluation and Capacity Assurance Plan
IX. Monitoring, Measurement, and Program Modifications
X. SSMP Program Audits
XI. Communication Program

Each of these elements forms a section of this document which is intended to specify procedures and activities that the District utilizes to manage its wastewater collection system including maintenance and repairs of infrastructure to limit liability, severity of damage, and to protect

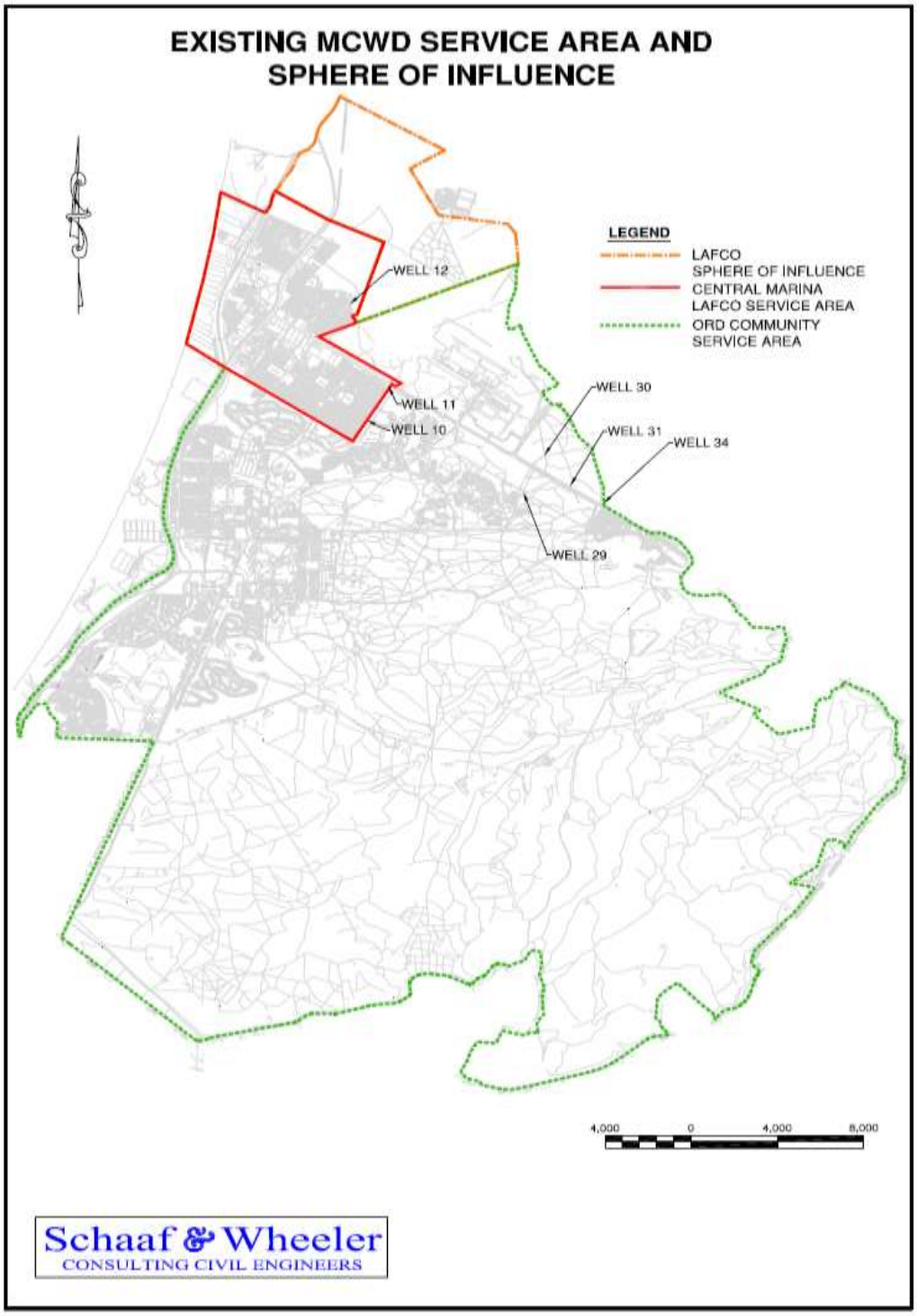
human health and the environment. Effective management of a wastewater collection system includes, but is not limited to the following:

- Minimizing the number and impact of SSOs
- Managing, maintaining and/or improving the collection system infrastructure in such a manner as to provide reliable service to the community well into the future
- To provide adequate sewer capacity to convey peak flows
- To cost effectively minimize infiltration/inflow (I&I) and to provide adequate sewer capacity to accommodate design and or potential storm flows

COLLECTION SYSTEM OVERVIEW

Marina Coast Water District (the District) is located in Monterey County, approximately 10 miles north of Monterey, and is situated in the northwest corner of Monterey County. The closest cities are Castroville which is approximately six miles north, and Seaside located approximately seven miles south. The District was founded in 1960 to provide water services to residential, commercial, industrial and environmental uses for the unincorporated community of Marina. Currently, the District provides potable water and wastewater conveyance services for the Local Area Formation Commission service area (Central Marina) and within the former Fort Ord Army Base (Ord Community). The Ord Community service area encompasses 44 square miles while the Central Marina service area covers 3.2 square miles. The approximate population of the District service area is 33,000 with approximately 8,300 service connections. The District owns and operates 20 lift stations, more than 140 miles of gravity sewer pipeline and 7 miles of forced main to convey wastewater to the Monterey Regional Water Pollution Control Agency (MRWPCA) Wastewater Treatment Facility. Sewage is conveyed to an interceptor and measured at the MRWPCA pump station for the Marina collection system and at the Flume structure for the Ord Community collection system. The District has most recently rehabilitated the Reservation Road Lift Station eliminating an inverted siphon, installing new gravity sewer and replacing the forcemain. In addition, new Flygt pumps were installed at the Giggling and Ord Village Lift Stations in the fall of 2016. Both of these stations are triplex lift stations with three pumps each.

Figure 1. District service areas (Ord Community and Central Marina) and the Local Area Formation Commission (LAFCO) sphere of influence.



Section I.
Goals

REQUIREMENTS

The primary goal of the SSMP is to provide a plan and schedule to properly manage, operate, maintain, construct and repair all parts of the Enrollee's sanitary sewer system. This will help reduce and prevent sanitary sewer overflows as well as mitigate any SSOs that do occur.

DISTRICT GOALS

District goals to aid in the implementation and success of the SSMP include:

- Properly manage, operate, maintain, and construct all parts of the wastewater collection system
- Provide adequate capacity to convey peak wastewater flows
- Minimize the frequency of SSOs
- Mitigate the impact of SSOs
- Comply with all applicable regulatory and reporting requirements

GOAL IMPLEMENTATION

*To implement th*e goals of the SSMP, the District must further develop and periodically review this document to ensure that the following objectives are met. Those objectives are outlined as follows:

- Methodically clean all sewer lines on a scheduled basis
- Provide monthly, quarterly, bi-annual and annual preventative maintenance of problematic areas (hot spots) within the collection system
- Conduct a video (CCTV) inspection/assessment of each sewer mainline every five years and continuously thereafter identifying areas requiring root control, repairs, and additional maintenance as evident through video inspection
- Conduct appropriate analysis/evaluation of SSOs by utilization of systemic maintenance and activity data collection of hot spots that may be identified by visual observation and CCTV of the collection system

- Identify collection system blockage due to fats, oils, grease (FOG) and develop strategies to mitigate blockages
- Maintain records of the sanitary sewer system and respond to customer inquiries, concerns and complaints
- Continue with the development of capital improvement projects directed at a high level of maintenance of the current District assets by improving system reliability and providing adequate future capacity

Section II.

Organization

REQUIREMENTS

The SSMP must identify:

- The name of the responsible or authorized representative as described in Section J of the WDR
- The names and telephone numbers for management, administrative and maintenance positions responsible for the implementation of 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

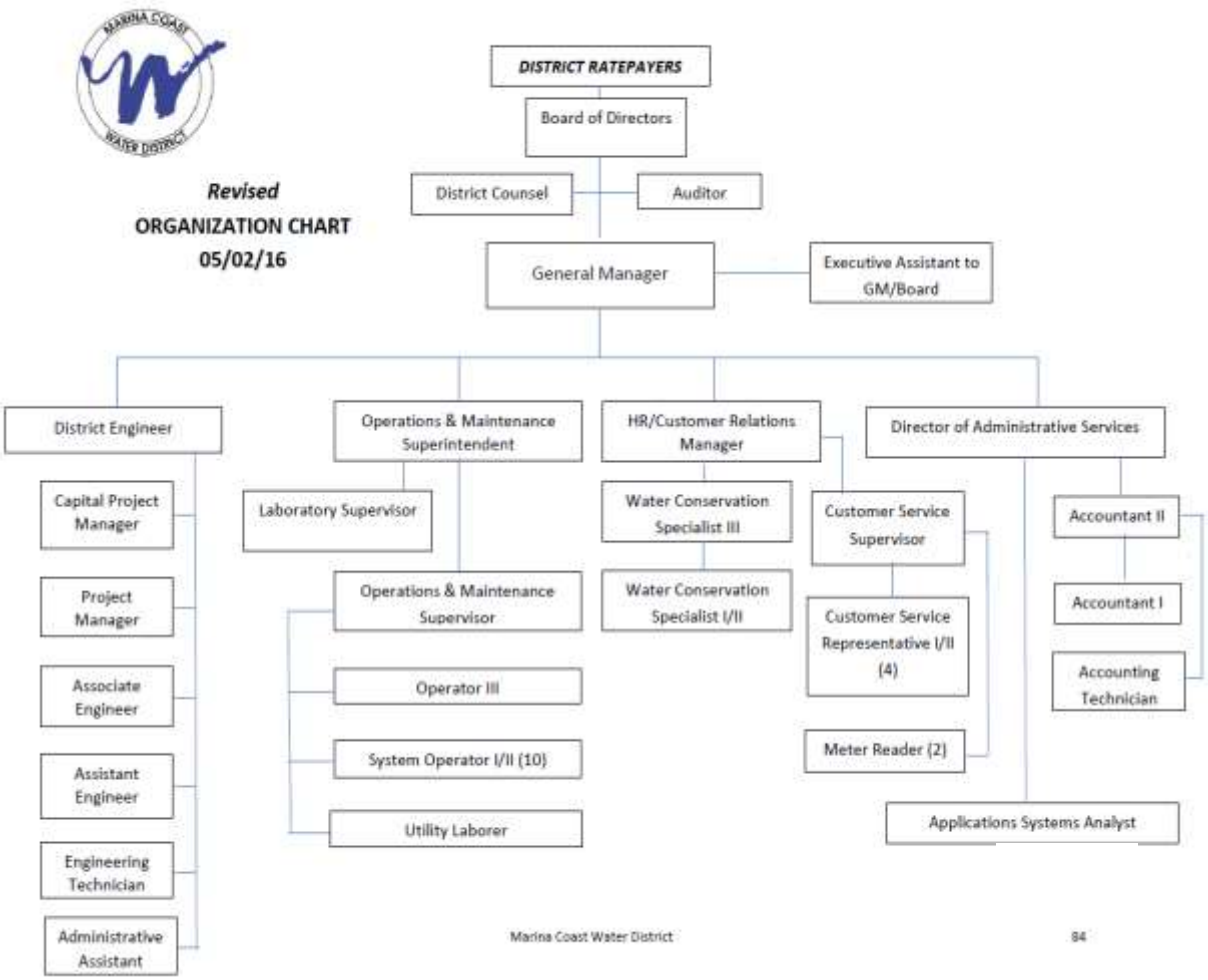
  The chain of communication for reporting SSOs, from receipt of a complaint or other information, including the person responsible for reporting SSOs to the State and Regional Water Board and other agencies if applicable (such as County Health Officer, County Environmental Health Agency, and/or California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

ORGANIZATIONAL STRUCTURE

The District recently updated its organizational structure to streamline communication between existing branches and successfully achieve the objectives and mission of the District. District Departments include Administrative, Management, Engineering, Laboratory, and Operations and Maintenance (O&M). Lines of authority/communication and specific positions involved in SSMP implementation are outlined in Figure 2. Contact information and descriptions of specific personnel responsible for SSMP implementation and SSO communication are further described below and in Table 1. The Operations and Maintenance Superintendent and the Operations and Maintenance Supervisor are the legally responsible individuals for the District and are authorized to certify SSO reports to the required regulatory agencies, including electronic spill reports to the SWRCB.

Organizational Chart

Figure 2. Restructured organization of District branches and job titles of key personnel.



PERSONNEL AND RESPONSIBILITIES

The Operations and Maintenance Superintendent is primarily responsible for developing, implementing, auditing, and maintaining the District's SSMP; although, he may delegate certain responsibilities to other District staff. The following District personnel are involved in SSMP implementation and are critical for SSO communication/response and SSMP success.

Board of Directors (Board): The Board of Directors is an elected governing board of the District responsible for establishing policy.

General Manager (GM): The General Manager is responsible for management of the District. The GM leads staff, allocates resources, delegates responsibility, authorizes contracts, provides updates to the Board, implements policy, and serves as a Public Information Officer. The General Manager reports to the Board.

District Engineer (DE): The District Engineer is responsible for the management of the Engineering Department, and oversees all water and sewer improvement projects. This individual helps coordinate the development and implementation of the District's SSMP and assists in the preparation of documents, reports, and permits, providing support to all parts of District operations. The District Engineer also enforces policy and ensures compliance with laws, ordinances and regulations. This person leads staff, allocates resources, delegates responsibility, creates and manages capital improvement projects, authorizes outside contractors to perform services and serves as a Public Information Officer in the absence of the General Manger. The District Engineer reports to the General Manager.

Operations and Maintenance (O&M) Superintendent: The Operations and Maintenance Superintendent is responsible for the management of the water system and the sanitary sewer collection system. The O&M Superintendent is responsible for the development, implementation, auditing, maintenance and update of the District's SSMP. This individual is also one of the legally responsible individuals for certifying applications, reports and other information. The O&M Superintendent enforces policy, plans strategy, prepares water, and wastewater planning documents. This person leads, directs, mentors staff, allocates resources, delegates responsibility, authorizes outside contractors to perform services.

Operations and Maintenance (O&M) Supervisor: The Operations and Maintenance Supervisor manages field operations and maintenance activities for the wastewater collection system and the potable water system. This Supervisor prepares reports and provides relevant information to the O&M Superintendent. This individual also prepares and implements contingency plans, leads emergency response, investigates customer complaints, and trains field crews. The Operations and Maintenance Supervisor reports directly to the (O&M) Superintendent and is one of the legally responsible individuals for certifying applications, reports or other required information to regulatory agencies.

Laboratory Supervisor: The Laboratory Supervisor manages the analytical laboratory, and coordinates the collection and testing for water, wastewater and recycle flow streams. The Lab Supervisor reviews testing protocol to maintain compliance with regulatory bodies, prepares lab reports, and submits reports to corresponding agencies and regulatory bodies. The Lab Supervisor works as required on applicable permits, laws, ordinances and regulations and reports to the Operations and Maintenance Superintendent.

System Operator III: System Operator III operates the wastewater system, directs preventative maintenance activities, leads emergency response, trains field crews, and prepares and implements contingency plans. This staff member mobilizes and responds to notification of sewer stoppages and SSOs. The System Operator III also investigates SSOs and reports to the Operations and Maintenance Supervisor.

System Operator II: This staff member takes part in preventive maintenance activities in addition to mobilizing and responding to notification of SSOs and wastewater complaints. The System Operator II reports to the Operations and Maintenance Supervisor.

System Operator I: The System Operator I is involved in wastewater collections operations, field maintenance, and responds to SSOs. This person is involved with preventive maintenance activities, and mobilizing and responding to notification of stoppages and SSOs (mobilize sewer cleaning equipment, bypass pumping equipment, portable generators and associated mitigation materials and tools). The position reports to the Operations and Maintenance Supervisor.

SSO REPORTING & CHAIN OF COMMUNICATION

The SSO chain of communication begins with discovery of a spill by District staff or through an SSO call to the District main line (831-384-6131). If an SSO call is received during normal business hours (Monday - Friday: 6:30am - 4pm), the District operator or the staff member who discovered the spill will contact the individuals listed in Table 1 in the specified order (except for the on-call staff members). If an SSO call is made to the District main line outside of business hours the call will be forwarded to an answering service center where an operator will contact on-call staff members. The remainder of the individuals on the call list will not be contacted until the following business day unless the on-call staff members cannot be reached. On-call personnel are staffed 24 hours a day and seven days a week and are subject to disciplinary action if they fail to respond.

Once an SSO call has been received and the appropriate staff members have been notified, the SSO report is directly dispatched to the corresponding utility response crews for confirmation and to begin initiating containment and cleanup. The O&M Supervisor and the System Operator III will direct the utility field crew(s) through the SSO event, if needed, including determination of SSO cause, removing the blockage, containing and cleaning the spill in addition to any mitigation measures. These individuals are also responsible for communicating all details to the O&M Superintendent and ensuring that all necessary paperwork and field reports are completed. The primary responder or the on-call staff member is responsible for external notification of the appropriate regulatory agencies within the timeframes specified by each agency.

Table 1. List of District staff members who will be contacted in the specified order in the event of an SSO.

ORDER NUMBER	STAFF ASSIGNED by ORDER NUMBER	TITLE DESCRIPTION	CONTACT INFORMATION
1	Sewer On Call Staff	On call - Sewer	Cell of Staff member who is on call
2	Water On Call Staff	On call - Water	Cell of Staff member who is on call
3	Joe Correa	O&M Supervisor	Cell: 831-915-6041
4	Richard Green	System Operator III	Cell: 831-241-0729
5	James Derbin	O&M Superintendent	Cell: 831-333-6470

The O&M Supervisor and the O&M Superintendent are the legally responsible individuals who will report and certify SSO events to the applicable regulatory agencies. Depending on the size and nature of the SSO, the following agencies may be notified and/or given SSO reports:

- Monterey County Environmental Health Department (MCEH)
- Central Coast Regional Water Quality Control Board (RWQCB)
- State Water Resources Control Board (SWRCB)
- California Emergency Management Agency (CAL EMA)
- California Department of Fish and Game

See Section VI. Overflow Emergency Response Plan and Appendix A. (*Sanitary Sewer Overflow Notification and Response Plan*) for further details on SSO response procedures and reporting processes. These plans are intended to be refined and periodically improved to ensure that all corrective measures and procedures are being implemented to further reduce the frequency and impact of SSOs in the District service area.

Section III.

Legal Authority

REQUIREMENTS

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

- Prevent illicit discharges into its sanitary sewer system (examples may include infiltration and inflow (I&I), storm water, chemical dumping, unauthorized debris and cut roots, etc.); Require that sewers and connections be properly designed and constructed;
- Ensure access for maintenance, inspection, or repairs for portions of laterals or mains owned by the Enrollee;
- Limit the discharge of fats, oils and grease (FOG) and any other debris that may cause blockages, and
- Enforce any violation of its sewer ordinance.

EXISTING LEGAL AUTHORITY

The District possesses the necessary legal authority to prevent illicit discharges, require design standards, ensure access for maintenance/inspection, FOG discharges, and enforce violations as required by the WDR. Documents adopted by the District demonstrating this legal authority include the District Water Code (Amended during 3-02 supplement: Ordinance 2, 1967 and Ordinance 38, 2003), *Standard Plans and Specifications for Construction of Domestic Water, Sewer, and Recycled Water Facilities* (Standard Plans and Specifications) and *Procedures, Guidelines and Design Requirements (*Design Requirements*)*. Sections of the District's Standard Plans and Specifications were updated between 2003 and 2005 while Design Requirements was revised in 2009 to reflect current engineering practices and new standards. Sanitary sewer requirements and regulations are addressed in Title 5 - Sewer System Service of the District Water Code and sections of Design Requirements and Standards and Specifications that apply to sewer facilities. The main purpose of the latter documents is to ensure proper design and construction of

sewer facilities. Applicable sections establishing the required legal authority are listed in Table 2 while excerpts from the listed sections are available in Appendix B, C and D.

Table 2. Summary of sections from various documents that establish District legal authority.

LEGAL AUTHORITY TO:	DISTRICT WATER CODE	*STANDARD PLANS AND SPECIFICATIONS*	*DESIGN REQUIREMENTS*
Prevent illicit discharges into its wastewater collection system	**5.20.020** Drainage into sanitary sewers prohibited **5.20.030** Use of storm sewers required **5.20.040** Types of wastes prohibited **5.12.020** Treatment of wastes required		**500.10** Industrial Pretreatment
Require that sewers and connections be properly designed and constructed	**5.08.010** Violation unlawful **5.16.010** Permit to connect **5.16.020** Construction requirements **5.16.170** Plans, profiles and specifications required **5.16.240** Design and construction standards	**Various sections** (i.e. **Section 02701** Installation of gravity sewer pipelines)	**Section 300.19** Project Construction **Section 500** Design Criteria for Sewer Facilities
Ensure access for maintenance, inspection or repairs for portions of the mains or laterals owned or maintained by the District	**5.08.100** Powers and authorities of inspectors **5.24.110** All work to be inspected	**Section 02701** Installation of gravity sewer pipelines**:** **N.** CCTV Inspection and **O.** Final Inspection	**300.19.6** Inspection of work **300.19.7** District authority
Limit the discharge of fats, oils and grease and other materials, substances or debris that may cause blockages	**5.20.050** Grease trap, grease interceptor or other device required **5.20.060 -** Maintenance (Ordinance 38, 2003)	**Section 03463** Grease Interceptors	**500.11** Grease Interceptors
Enforce any violation of its sewer ordinance	**5.08.030** Violation **5.08.090** Means of Enforcement Only **5.08.110** Violation - Misdemeanor **5.08.120** Liability for Violation **5.08.060** Public nuisance **5.08.070** Disconnection		

Section IV.

Operation and Maintenance Program

REQUIREMENTS

- Maintain an up-to-date map of the sanitary sewer system, showing all gravity line segments and manholes, pumping facilities, pressure pipes and valves, and applicable storm water conveyance facilities;
- 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 program should have a system to document scheduled and conducted activities, such as work orders;
- 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;
- Provide training on a regular basis for staff in sanitary sewer system operations and maintenance, and require contractors to be appropriately trained; and
- Provide equipment and replacement part inventories, including identification of critical replacement parts.

COLLECTION SYSTEM MAPS

In 2006, the District converted AutoCAD and As-Built drawings of sewer infrastructure into collection system maps within a Geographic Information System (GIS). The sewer system maps for Ord Community and Central Marina show the location of all District owned sewer gravity mains, manholes, pumping facilities, and force mains. The District maintains both AutoCAD and GIS data set maps of the collection system. Storm water conveyance facilities are not included on collection system maps as the District does not own, operate or maintain storm water facilities. However, the Operations and Maintenance staff has been educated about the local storm drainage network due to the possibility of SSOs entering storm drains. The District works closely with local jurisdictional agencies that own these systems, allowing the District to access storm water maps and if necessary, mitigate spills that enter the storm water network. District collection system maps are updated electronically by a GIS technician as new facilities are constructed while hard copies are kept on file at the District office.

PREVENTATIVE OPERATION AND MAINTENANCE

The District has developed several maintenance approaches to accomplish the primary goal of reducing SSO frequency through identification and removal of blockages within the system. These approaches include: preventative, reactive, and routine maintenance in addition to trouble spot cleaning, inspections, and FOG and root control. The District utilizes the Azteca™ "Cityworks" Computerized Maintenance and Management System (CMMS) which incorporates collection system maps, service requests, work orders, and historical data to schedule, track and report maintenance and cleaning activities geographically.

Preventative operations and maintenance activities are typically based upon past experience and knowledge of problem areas within the collection system. These activities include jetting of pipelines, root cutting, FOG control and cleaning of specific areas known as trouble spots. Trouble spots are areas that have exhibited frequent maintenance issues and are targeted for inspections and cleaning. Hydrojetting of trouble spots occurs routinely depending on the overflow risk. See Figure 3. for a list of trouble spots. Reactive maintenance activities occur in response to citizen complaints or service requests while routine maintenance is scheduled or performed on an on-going basis. Routine maintenance and cleaning of the collection system is performed with two

jetter trucks while the District is committed to jetting the entire system annually. Chemical root control is not currently being performed routinely. The District purchased a root cutting nozzle in 2013 for addressing significant areas of root intrusion revealed through the ongoing CCTV program.

Sanitary sewer inspections include visual inspections of manholes and sewers and Closed Circuit Televising System (CCTV) inspections. CCTV inspections are often performed as a quality control measure and allow for a more thorough inspection and identification of system deficiencies. FOG control includes implementation of a FOG control program that includes identification of problem areas, requirements for device installation and disposal, in addition to public outreach (See Section VII. FOG Control Program for further details). Lift stations are monitored and maintained daily through connection to a Supervisor Control and Data Acquisition (SCADA) monitoring system and regularly inspected using a Lift Station Checklist. Key lift stations are visited each working day with the smaller less critical lift stations visited one to three times per week. Budget dollars continue to be allocated toward purchase of preventative maintenance equipment and capital improvements to ensure success of the preventative operation and maintenance program.

REHABILITATION AND REPLACEMENT

The District evaluates the condition of its sewer assets through visual and CCTV inspections that aim to assess, identify and correct collection system deficiencies that may cause system failures and overflows. On-going visual condition assessments include observation of the exterior condition of pipeline, where possible, to determine structural deficiencies and maintenance needs in addition to locating debris within the system which may indicate a pipeline problem. The District's CCTV van is used to further assess portions of the sewer system necessitating repairs and to better estimate future costs and funding needs. In 2004, the District conducted video inspection of selected pipelines, compiled a database of videotapes and inspection information, and consequently made a variety of necessary pipeline repairs as recommended in the 2005 Marina and Fort Ord Sewer System Master Plans.

In June 2012, the District purchased CCTV equipment for routine inspection of the Sanitary Sewer system. In 2015, a van was purchased and the existing CCTV equipment was installed inside the van to create a safer and more productive work environment. Information gathered during these

condition assessments is maintained and prioritized in the CMMS database and used to select infrastructure for repair, rehabilitation or replacement. Factors such as maintenance history, age and material of infrastructure is also used to prioritize and select projects requiring short and long-term rehabilitation actions. For example, if a specific pipeline receives three reactive maintenance actions in any one year, it is brought to the Engineering Department's attention for consideration as a rehabilitation or replacement project.

Master plan studies of the Ord Community and Central Marina collection systems were prepared in 2005 and are under contract for updating in 2017. The 2005 master plans assessed pipeline condition, identified areas of concern, made rehabilitation recommendations and identified candidates for repair or upsizing. Results of these studies were used in conjunction with inspection data to formulate and prioritize capital improvements projects to correct deficiencies and provide future capacity. Short-term rehabilitation and replacement plans are represented by the annual Capital Improvement Plan (CIP) budget for the Central Marina and the Ord Community sewer systems which is updated annually. Long-term rehabilitation and replacement projects are represented by the five-year CIP budget which is also updated annually. These budgets are approved by the Board of Directors while funds are developed and provided through monthly charges to rate payers, sanitary sewer surcharge venues, municipal bond issue, federal/state loans or grants, and other related fees.

TRAINING

The District reorganized in 2012 and upgraded the certification requirements for all system operators to meet new demands, challenges and evolving regulatory requirements. Collection system staff is required to attend formalized collection training and receive a California Water Environment Association (CWEA) Collection System Operator certification at a level corresponding to their job responsibilities. Field crew staff also receive training in repair and maintenance of pumps from Flygt Corporation, who is the major manufacturer of pumps in District lift stations. Four O&M staff are currently NASSCO certified in Pipeline Assessment Certification Program (PACP). The District maintains contractor emergency service relationships with local contractors who have demonstrated expertise in pump station and pipeline construction. The District trains contractors through either written or verbal communication prior to collection

system construction and requires that contractors be experienced in sanitary sewer work in addition to fully complying with all relevant regulations, policies and standards.

EQUIPMENT AND REPLACEMENT PARTS INVENTORY

The District keeps an inventory of major sewer equipment and replacement parts to ensure continued operation of the sewer collection system and timely repair of system malfunctions. The District continuously maintains necessary equipment to repair sewer lines and pumping stations such as small tools, sewer cleaning trucks, emergency diesel generators, trucks with hoist capabilities and critical replacement parts, such as spare pumps for key lift stations. The District ensures that these pieces of equipment and replacement parts are readily available, operable and reliable. In addition, the District is attempting to standardize all sewer pump stations by using only Flygt brand pumps in as many lift stations as possible to simplify maintenance/replacement and reduce the impact of failure.

Figure 3. Trouble Spot list

TROUBLE SPOTS
MARINA / ORD
2016

No.	Spot Name	City	Every	Last	Last	Last	Last
1	Parson Circle	Marina	3 Months				
2	Pennisula & Susan rd	Marina	3 Months				
3	Nicklas Lane	Marina	3 Months				
4	Ora Court to Carroza Ave.	Marina	3 Months				
5	Robin Dr.	Marina	4 Months				
6	Dog Alley (Access road to Parson Circle)	Marina	3 Months				
7	Cypress ave. From Sunset to Del Monte Ave.	Marina	2 Months				
8	Del Monte ave. & Cypress	Marina	2 Months				
9	Lynscott Dr. From Carmel Avenue to Crivello Rd.	Marina	2 Months				
10	Modern Lane	Marina	2 Months				
11	Eucalyptus Street	Marina	2 Months				
12	Vista Del Camino & Pennisula dr.	Marina	3 Months				
13	Viking Lane	Marina	2 Months				
14	Carmel Ave. and California Ave.	Marina	3 Months				
15	Crestview Court by Perc Lot	Marina	2 Months				
16	Palm ave. & lake Drive	Marina	6 Months				
17	Sunset Ave. & Cypress ave.	Marina	3 Months				
18	Abdy Way by Church and perc lot	Marina	2 Months				
19	Crescent Street Manhole By Lift Station	Marina	3 Months				
20	San Pablo ave. & Marina Drive	Marina	2 Months				
21	Seaside Circle by Holiday Inn	Marina	3 Months				
22	Owen Rd. & Reindollar Ave.	Marina	6 Months				
23	Messinger Dr. To Perc Lot	Marina	4 Months				
24	Westwood Court to Perc Lot	Marina	3 Months				
25	Noumea Rd # 140	Ord	3 Months				
26	Metz & Ardennes Circle	Ord	6 Months				
27	Luzon Rd. # 190	Ord	3 Months				
28	Okinawa & Noumea Rd.	Ord	3 Months				
29	Third ave. & 10th Street	Ord	2 Months				
30	Barbee Ct.	Ord	3 Months				
31	Scott Ct.	Ord	3 Months				
32	1st Street By College	Ord	3 Months				
33	Arloncourt & Hatten Rd.	Ord	4 Months				
34	Fredericksburg ave.	Ord	2 Months				
35	Malmedy # 604	Ord	3 Months				
36	Carentan & Elbe ct.	Ord	3 Months				
37	Okinawa Rd # 195	Ord	3 Months				
38	General Moore Behind Fitch Housing	Ord	4 Months				
39	Metz Rd # 202	Ord	3 Months				
40	Metz & Tunisia	Ord	3 Months				
41	Noumea rd & New Guinea	Ord	3 Months				
42	Saipan & Rabb	Ord	3 Months				
43	Chapel Drive Behind Marshall Housing	Ord	3 Months				

Section V.
DESIGN AND PERFORMANCE PROVISIONS

REQUIREMENTS:

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

DESIGN AND CONSTRUCTION STANDARDS

District Water Code (Section 5.16.240 Design and construction standards) states that minimum standards for the design and construction of sewers shall be in accordance with current design standards and standard specifications. This information is contained in the District's *Procedures, Guidelines and Design Requirements (Design Requirements)* and *Standard Plans and Specifications for Construction of Domestic Water, Sewer, and Recycled Water Facilities (Standard Specifications)*. The purpose of the District's *Standards and Specifications* is to provide requirements and minimum standards for installation of new sewer facilities and rehabilitation of existing structures. *Design Requirements* governs construction of all new sewer improvements and rehabilitations in addition to providing guidance to planners, engineers and construction personnel. This document includes the District's plan, check, review, and approval process which further ensure proper design and construction. These documents were updated between 2003 and 2009 and are available on the District's website. Excerpts from *Standard Specifications* are listed in Appendix C while sections from *Design Requirements* can be found in Appendix D.

INSPECTION AND TESTING STANDARDS

Section 5.24.110 of the District Water Code (All work to be inspected) states that all sewer construction work shall be inspected by a District inspector to ensure compliance with all design and construction requirements of the District. District inspection requirements in addition to testing procedures are described in the *Standard Specifications* and *Design Requirements* documents. All new sewer installations and improvements, including manholes and appurtenances, are tested and inspected according to these standards while new sewer main lines are air tested using the American Water Works Association (AWWA) recommended air-testing procedures. Inspections are performed during and following construction of new sewer facilities using the District's *Construction Inspection Manual*, which is available for reference as general guidelines during the inspections. The District's construction contract governs in any conflict between the contract documents and the inspection manual, and ensures that sewer infrastructure is not placed into service until substantial completion and acceptance by the District Engineer.

Section VI.

Overflow Emergency Response Plan

REQUIREMENTS

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:

- Proper notification procedures so that the primary responders and regulatory agencies are informed of all SSOs in a timely manner;
- A program to ensure an 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 Monitoring and Reporting Program (MRP). All SSOs shall be reported in accordance with this MRP, the California Water Code, other State Law and other applicable Regional Water Board WDRs and or National Pollutant 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 and prevent the discharge of untreated and or partially treated wastewater to water of the United States and to minimize or correct any adverse impact on the environment resulting from SSOs, including such accelerated or additional monitoring as may be necessary to determine the nature and impact of the discharge.

GENERAL

The District has developed and implemented a *Sanitary Sewer Overflow Notification and Response Plan* (Appendix A) that outlines SSO notification, response and reporting procedures. This plan intends to minimize property damage, service interruptions and public health hazards by providing specific information for District personnel regarding SSO communication, response, and remediation and reporting. The State Water Resources Control Board (SRWCB) has established guidelines for classifying and reporting SSOs through the current WDR for sanitary sewer systems. SSO notification and reporting requirements vary based on the following SSO categories:

Category 1

All discharges of sewage resulting from a failure in the District's sanitary sewer system that:

- Reach surface water and/or reach a drainage channel tributary to a surface water; or,
- Reach a Municipal Separate Storm Sewer System (MS4) and are not fully captured and returned to the sanitary sewer system or not otherwise captured and disposed of properly. Any volume of wastewater not recovered from the MS4 is considered to have reached surface water unless the storm drain system discharges to a dedicated storm water or groundwater infiltration basin (e.g., infiltration pit, percolation pond.

Category 2

- Discharges of untreated or partially treated wastewater of **1,000 gallons or greater** resulting from an enrolee's sanitary sewer system failure or flow condition that **do not** reach surface water, a drainage channel, or 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 and enrolee's sanitary sewer system or flow condition.
- **Private Lateral Sewage Discharges (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.

NOTIFICATION

The notification process usually begins with discovery of a spill during routine inspections or through an SSO call from a concerned citizen. The first responder will follow the chain of communication described in Section II Organization for internal notification of all appropriate staff members and to initiate external notification processes. Regardless of SSO category, the District requires that the primary responder call Monterey County Environmental Health (MCEH) immediately. The MCEH operator will notify the appropriate Monterey County Health Department staff (Environmental Services Division) and summon an Environmental Health Specialist (EHS) to the spill site.

If the spill is a Category 1 SSO, the O&M Supervisor or the O&M Superintendent will complete the following notification procedures to ensure compliance with the requirements of the individual regulatory agencies and state laws:

- Notify the Central Coast Regional Water Quality Control Board (RWQCB) by phone and/or through the California Integrated Water Quality System (CIWQS) online database within two hours from when the spill was discovered or reported
- Notify the California Emergency Management Agency (CAL EMA) within two hours from when the spill was discovered or reported
- Notify California Department of Fish and Game if the spill is discharged to any tributary, creek or natural waterway of the State
- Notify the Monterey County Water Resources Agency if the spill is discharged into any tributary, creek or other water body that empties into the Salinas River

In the event of a catastrophic SSO or when a spill poses a hazard to the public, the public notification requirements of Proposition 65 will be followed. The District will post a sign or web notification and/or establish a hotline/voicemail system to notify the public and protect public health and the environment. Water quality sampling and testing will be performed as necessary and all notifications/reporting procedures will be initiated and updated as conditions warrant.

RESPONSE PROGRAM

District policy is to respond to all SSOs within the District service area to prevent SSOs from reaching the storm drains, flood control channels, or any waters of the State. District staff

occasionally provide mutual aid outside of the District service area to assist adjacent organizations if necessary. Depending on the size and nature of an SSO, the District may also require the assistance of outside contractors and vendors to provide support to District staff and District owned equipment. Should additional resources be required, the O&M Superintendent will make the required decisions regarding additional staffing, materials and resources.

Specific procedures have been developed by the District to ensure a timely and efficient response and the health of District ratepayers and the environment. The District's *Sanitary Sewer Overflow Notification and Response Plan* (Appendix A) and the chain of communication described in Section II Organization describe how the District's O&M staff communicate during SSO response. Certain notification and response procedures exist during business and non-business hours and for various categories of SSOs. SSO response procedures begin with the first responder to an SSO who must respond within 45 minutes as mandated by the California Environmental Protection Agency. The SSO event will then be dispatched to corresponding utility response crew(s) who is directed by the O&M Supervisor. These O&M personnel will respond to the SSOs by completing the following tasks in the most timely and efficient manner possible:

- Removal of blockage causing the SSO clean-up and containment
- Documentation of the SSO with photographs
- Filing of necessary paperwork including a written report to the O&M Supervisor
- Communicate with the O&M Supervisor throughout the process who will in turn communicate with the O&M Superintendent and if necessary, the Laboratory Supervisor
- Minimize impacts on human health and the environment

Staff at the District office are also prepared to assist with SSO response by arranging for services, answering phone calls, accessing engineering plans and filing reports. The O&M Supervisor and the O&M Superintendent will conclude SSO response by ensuring that all necessary agencies are notified and reports are submitted according to the most current requirements and regulations.

AGENCY NOTIFICATION AND REPORTING

The appropriate regulatory agencies will be contacted pursuant to the most current published notification and reporting requirements by the individual regulatory agency and other applicable state laws. The following regulatory agencies will be notified according to the requirements and procedures described in the previous section (Notification): CAL-EMA, Monterey County Health

Department (MCEH), Central Coast Regional Water Quality Control Board (RWQCB), Monterey County Water Resources Agency and the California Department of Fish and Game. SSO reports will be filed with the Central Coast RWQCB CIWQS online portal. Regardless of SSO category, the District will complete the Marina Coast Water District internal Incident Report included in Appendix A, and keep it on file at the District office. In addition, the O&M Supervisor or O&M Superintendent will file SSO reports online through the CIWQS system in the manner according to the requirements of the current WDR as shown in Table 3:

Table 3. WDR Reporting Requirements

ELEMENT	REQUIREMENT	METHOD
NOTIFICATION (see section B of MRP)	• 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)	• Category 1 SSO: Submit draft report within three business days of becoming aware of the SSO and certify within 15 calendar days of SSO end date. • Category 2 SSO: Submit draft report within 3 business days of becoming aware of the SSO and certify within 15 calendar days of the SSO end date. • Category 3 SSO: Submit certified report within 30 calendar days of the end of month in which SSO the occurred. • SSO Technical Report: Submit within 45 calendar days after the end date of any Category 1 SSO in which 50,000 gallons or greater are spilled to surface waters. • "No Spill" Certification: Certify that no SSOs occurred within 30 calendar days of the end of the month or, if reporting quarterly, the quarter in which no SSOs occurred. • Collection System Questionnaire: Update and certify every 12 months.	Enter data into the CIWQS Online SSO Database (http://ciwqs.waterboards.ca.gov/), certified by enrollee's Legally Responsible Official(s).
WATER QUALITY MONITORING (see section D of MRP)	• Conduct water quality sampling **within 48 hours** after initial SSO notification for Category 1 SSOs in which 50,000 gallons or greater are spilled to surface waters.	Water quality results are required to be uploaded into CIWQS for Category 1 SSOs in which 50,000 gallons or greater are spilled to surface waters.
RECORD KEEPING (see section E of MRP)	• SSO event records. • Records documenting Sanitary Sewer Management Plan (SSMP) implementation and changes/updates to the SSMP. • Records to document Water Quality Monitoring for SSOs of 50,000 gallons or greater spilled to surface waters. • Collection system telemetry records if relied upon to document and/or estimate SSO Volume.	Self-maintained records shall be available during inspections or upon request.

TRAINING

District staff members who are involved in responding to, reporting or remediating an SSO will receive training as part of the Operations and Maintenance training program. This training involves reading and maintaining copies of the SSMP, including the *Sanitary Sewer Overflow Notification and Response Plan*, and participating in any necessary refresher training. New employees of the Operations and Maintenance staff will also be trained to respond appropriately to SSOs.

EMERGENCY OPERATIONS AND RESPONSE

Emergency operating strategies are currently under development and will be used as necessary to respond to emergencies and mitigate the impacts of an SSO. However, the District's field crews are trained to respond to emergencies at all times and if needed, the District utilizes its list of pre-approved qualified contractors. The District has the ability to engage the services of independent contractors through purchase order processes so there will be no delays in responding to an SSO. Both the District and the emergency contractors have traffic control equipment that complies with Caltrans standards and that can be used for situations such as crowd control. The local Fire Department will be contacted if additional assistance such as traffic control is required.

SPILL CONTAINMENT, PREVENTION AND MITIGATION

The District follows a variety of procedures and precautions to contain and prevent discharge to surface waters and to minimize impacts of SSOs. In order to contain wastewater, field crews are required to use mats, sandbags or straw waddles to block catch basin entrances to storm drains and to vacuum up SSOs and wash down water. Impacts of SSOs are minimized through procedures such as these in addition to notifying appropriate agencies and District personnel as soon as possible of the SSO event. All SSOs are reported immediately to the Monterey County Health Department to help assess the situation and any impacts to water quality. To further prevent SSOs in the future and minimize impacts to the environment, the *Sanitary Sewer Overflow Notification and Response Plan* will be modified or periodically improved to ensure that all corrective measures and procedures are being implemented to further reduce the impact of SSO's in the District service area. The O&M Supervisor and Superintendent will work to provide recommendations for refining existing plans and increasing preventative maintenance activities to prevent future SSO events.

Section VII.

Fats Oils & Grease (FOG) Control Program

REQUIREMENTS

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

- An implementation plan and schedule for a public education outreach program that promotes the proper disposal of FOG;
- A plan and schedule for the disposal of FOG generated within the sanitary sewer service area. This may include a list of acceptable disposal facilities and/or additional facilities needed to adequately dispose of FOG generated within the sanitary sewer system service area;
- The legal authority to prohibit discharges to the system and identify measures that are required 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, best management practices (BMPs) requirements, record keeping and reporting requirements;
- Authority to inspect grease producing facilities, enforcement authorities, and whether the Enrollee has sufficient staff to inspect and enforce the FOG ordinance;
- An identification of sewer system sections subject to FOG blockages and establishment of a cleaning maintenance schedule for each section; and
- Development and implementation of source control measures for all sources of FOG discharged to the sanitary sewer system, for each section that may be identified.

GENERAL

The District adopted a fats, oil, and grease (FOG) control ordinance (Ordinance 38) in 2003 as FOG was determined to be a leading cause of sewer line blockages and spills. The District has since developed and implemented a FOG control program, with the assistance of the Monterey Regional Water Pollution Control Agency (MRWPCA), in an effort to reduce the amount of FOG discharged to the sewer system and reduce SSOs caused by FOG blockages. The FOG control program includes the following components:

- Discharge prohibitions
- FOG removal device requirements and notification letters
- Initial Inspections of new facilities or change of business
- Compliance Re-inspections
- Ensuring proper maintenance, cleaning and record keeping
- Enforcement actions for non-compliant businesses
- Surveys of businesses with FOG discharge potential
- Identification of problematic sewer sections
- FOG Disposal Plan
- Educational outreach
- Creation of a FOG database

Several of these elements are described in detail in the remainder of this section as required by the current WDR.

PUBLIC OUTREACH

The District is a member of the Southern Monterey Bay Dischargers Group which is a partnership of local wastewater collection system and treatment agencies dedicated to public education on fats, oils, and grease (FOG). The District joined the consortium in 2004 and has participated in the regional development and implementation of a public outreach and education program to local businesses and residents to encourage and promote appropriate disposal of FOG. The outreach program consists of a multi-media campaign including TV commercials, social media, community presentations and newspaper, radio and online advertisements. A website for Clog Busters also exists for additional FOG information and resources at www.clogbusters.org. The Clog Buster's

approach provides a consistent message about how to properly dispose FOG and has proven to increase overall public awareness and reduce the amount beach closures in the Monterey Bay area. The cost of the regional education program is divided between members of the discharge group based on population. The District continues to support the program each year by funding approximately 11.7% of the total costs. For specific information on public outreach efforts for FY 15/16 see Appendix E, WDR Grease Public Outreach Plan and the Southern Monterey Bay Dischargers Group Proposed Public Outreach Campaign.

FOG DISPOSAL

The District FOG Disposal Plan will be conducted on an on-going and as needed basis. This plan includes proper handling and disposal of grease material removed from the sanitary sewer system for disposal at the Monterey Regional Water Pollution Control Agency (MRWPCA) facility. The MRWPCA is a major regional disposal site that collects and recycles FOG from grease interceptors and uses this as an energy source for one of their power plants. Alternative disposal options and facilities in the Monterey area have been explored and are listed in Table 3 for future reference. All records of FOG removal/disposal for control devices, carriers and specific locations are maintained in a FOG database utilizing the XC2 software program. The District currently has 103 Commercial properties in the database. The public s informed of disposal options by means of the public outreach efforts described previously.

Table 3. Grease hauling facilities in the Monterey area that accept FOG generated in the District service area.

Business/Organization	Phone Number
All Valley Environmental, Inc.	(559) 498-8378
Ameriguard Maintenance Services	(800) 347-7876
Bay Pumping	(831) 422-6436
Greenline/Tom's Septic Tank Service	(831) 422-2298
One More Time	(800) 624-5504
P.S.T.S (Peninsula Septic Tank Service)	(831) 659-2465
Pioneer Liquid Transport	(800) 804-7327
Salinas Tallow	(800) 621-9000
Trap Recyclers Inc	(408) 892-3824
Trap Recyclers Inc	(800) 994-7867
Salinas Tallow Co.	(831) 422-6436
MRWPCA	(831) 424-1108

LEGAL AUTHORITY

The District has the legal authority to control and limit discharges to the sewer system and require that grease interceptors, traps or other comparable devices be installed to minimize grease

problems in the collection system. This authority is stated in the District's *Procedures, Guidelines and Design Requirements* (Design Requirements), *Standard Plans and Specifications for Construction of Domestic Water, Sewer and Recycled Water Facilities* (Standard Specifications) and the District Water Code. FOG requirements apply to all food service establishments or businesses discharging FOG or related materials. Specifically, the District Water Code (Section 5.20.040) provides the required legal authority to prohibit FOG discharges exceeding 100 parts per million (ppm) into the sewer system and the authority to identify measures which prevent SSOs and blockages caused by FOG.

REQUIREMENTS FOR GREASE REMOVAL DEVICES

Various sections of the District Water Code, Standard Specifications and Design Requirements documents detail installation requirements and design standards for grease removal devices. The District Water Code provides the legal authority to require grease traps or interceptors for FOG dischargers and details accessibility, inspection, and reporting requirements. The District's Standard Specifications document (Section 03463 Grease Interceptors) specifies device installation materials and location requirements while the District's Design Requirements document (Section 500.11 Grease Interceptors) contains standards for design and maintenance. The District requires that grease traps or interceptors be maintained and periodically cleaned at the expense of the owner and that these devices be readily accessible for inspection by the District.

INSPECTION AUTHORITY

Marina Coast Water District has the authority to inspect grease producing facilities and businesses and to enforce provisions of applicable District sewer use ordinances. Section 5.24.110 of the District Water Code explains how all work is to be inspected while Section 5.08.100 describes the powers and authorities of inspectors. Specifically Section 5.20.060 of the District Code states that the general manager or his/her designee will perform grease trap/interceptor inspections on a bi-annual basis. If a grease trap/interceptor fails to operate properly or if maintenance reports are not provided by the establishment, inspections may be more frequent as determined at the discretion of the District. Enforcement is conducted as needed in response to reports provided by field crews that respond to SSO events or areas that are identified during maintenance of the sanitary sewer system. It may be required to add additional staff to meet the inspection and enforcement requirements as mandated by these ordinances and to further comply with the current WDR.

Enforcement and identification of problem areas shall be included in future training that is to be conducted as part of the overall SSMP program to ensure an appropriate response to sanitary sewer overflows.

AREAS SUBJECT TO FOG BLOCKAGES AND CLEANING

The District becomes aware of areas in the collection system subject to FOG blockages through comprehensive inspection and maintenance initiatives. The District performs routine visual and Closed Circuit Televising System (CCTV) inspections which identify potential FOG blockages and provide information on system function and efficiency. Routine maintenance of the District's collection system on a scheduled and on-going basis also allows District staff members to assess collection system condition and identify areas requiring more frequent maintenance due to FOG. All inspections and maintenance activities are recorded in a Computerized Maintenance and Management System (CMMS) which schedules, tracks and reports these activities for organization and management of the collection system geographically. The CMMS maintains information on areas within the collection system subject to FOG blockages and allows these areas to be inspected, cleaned, and maintained appropriately. Specific "hot spots" receive monthly, quarterly, bi-annual and annual preventative cleaning and maintenance activities based on the specific issues of the area and overflow history.

SOURCE CONTROL MEASURES

The District has developed and implemented a formal FOG source control program with assistance from the MRWPCA as described previously. The District has since incorporated similar MRWPCA policies and regulations regarding FOG source control in the District Water Code, Design Requirements and Standard Specifications documents. Specific source control measures utilized by the District include proper installation of control devices (grease traps or interceptors), initial inspections to ensure installation, compliance re-inspections, and routine pumping and inspection of the customer owned grease removal equipment, as well as routine scheduled cleaning and maintenance of areas of the collection system subject to FOG and public outreach initiatives to reduce initial discharge of FOG to the collection system.

Section VIII.

SYSTEM EVALUATION AND CAPACITY MANAGEMENT ASSURANCE PLAN

REQUIREMENT

Each Enrollee shall prepare and implement a capital improvement plan 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:

- 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 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 limiting capacity) 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, undertake the evaluation identified in above to establish appropriate design criteria.
- 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 sizes, I/I reduction, increases and redundancy in pumping capacity, and storage facilities. The CIP shall include an implementation schedule and shall identify sources of funding.
- Schedule: The Enrollee shall develop a schedule of completion dates for all portions of the capital improvement program developed in above. This schedule shall be reviewed and updated consistent with the SSMP review and update requirements.

EVALUATION

The District utilizes and maintains GIS-based software called H_20 Map-Sewer which allows for hydraulic modeling of the District collection system. This software allows for mapping of sewer

infrastructure, analysis of flow scenarios, evaluation of collection system capacity, and is updated as infrastructure improvements are made. The Ord Community and Central Marina wastewater collection systems were formally evaluated in 2005 as part of the Master Plans for these service areas. The *Wastewater System Master Plan – Ord Community Service Area* was completed by the engineering firm RBF Consulting while the *Marina Wastewater Collection System Master Plan* was completed by Winzler & Kelly Consulting Engineers. Sewer Master Plans are in the process of being updated for 2017. Through H_2O Map-Sewer, these modeling studies investigated deficiencies of the District sewer systems and recommended improvements. Model flows for existing and future conditions were generated using Average Dry Weather Flow (Marina), Peak Dry Weather Flow (Ord) and Peak Wet Weather Flow (both collection systems) in addition to infiltration and inflow. Projected flows were compared to estimated hydraulic capacity of pipelines, lift stations and force mains to identify locations with projected deficiencies based on growth projections through the year 2020. From these studies, capital improvement planning for the collection system has been placed into action with focus on correcting the potential for overflows.

DESIGN CRITERIA

Design criteria established to evaluate existing collection system components and to set up requirements for new facilities and sources of information for establishing design parameters include the District's *Procedures, Guidelines and Design Requirements* and the Monterey County Water Resources Agency's Intensity Duration Frequency (IDF) data. Design criteria were also based on collection system mapping, manhole surveys, lift station data, flow monitoring data, water use records and development projections. Design parameters were used to determine flow rates/factors, establish model input parameters and develop the hydraulic analyses for evaluation under existing and future conditions. Although selected design storms varied for the Ord Community and Marina collection systems, key design criteria are similar for both collection systems and are summarized in Table 4.

Table 4. Design criteria used in the Ord Community and Marina Master Plan hydraulic modeling studies.

Category	Parameter	Criteria
Gravity Pipe Hydraulics	Manning's n	0.013
	Peak Flow Max d/D	≤ 12" pipe = 0.67
		≥ 15" pipe = 0.75 (Ord) and 0.90 (Marina)
	Max Velocity	8.0 fps
	Min Velocity	2.0 fps
Force Main Hydraulics	Manning's n	0.013
	Max Velocity	6.0 fps
	Min Velocity	2.0 fps
Peaking Factors	Definition	PDWF/ADWF
	Flow Monitoring Basin 1	1.99
	Flow Monitoring Basin 2	1.72
	Flow Monitoring Basin 3	2.38
	Flow Monitoring Basin 4	1.56
	Flow Monitoring Basin 5	2.51
	Flow Monitoring Basin 6	1.56
	Flow Monitoring Basin 7	1.86
	Armstrong Ranch	1.94
	Site #1	1.88
	Site #2	8.71
	Site #3	2.5
	Site #4	1.73
	Site #5	1.83
	Site #6	2.38
	Site #7	3.67
I/I Factor - Existing	Return Frequency	25-Year(Marina), 5-Year(Ord)
	Duration	6 Hours
	I/I Factor	44% of ADWF (Marina), 67% of ADWF (Ord)
I/I Factor - New Developments	Return Frequency	25-Year
	Duration	1-Hour
	I/I Factor	44% of ADWF
Design Flow	ADWF	ADWF
	PDWF	ADWF x PF
	PWWF	ADWF x (PF + I/I Factor)

CAPACITY ENHANCEMENT MEASURES

Hydraulic analyses of the Ord Community and Marina collections systems include identification of structural deficiencies and potential Capital Improvement Plan (CIP) projects to accommodate existing and future flows. Hydraulic analyses for both Ord Community and Central Marina collection systems indicated various pipeline segments and lift stations in need of rehabilitation, replacement or upsizing in order to accommodate system capacity for projected growth until the Year 2020. All collection system deficiencies identified in hydraulic modeling studies do not necessarily require capacity enhancements or inclusion into the CIP. The ultimate need for improvement is dependent on the actual rate of development within the District, level of overflow risk, flow scenario, existing pipe characteristics, impacts to health/safety, funding, and whether the problem is eliminated through other District projects. The Engineering Department uses the results of the hydraulic analyses to design the most efficient and cost effective solutions and to explore project alternatives. Projects are considered and prioritized based on the above criteria for inclusion into the short and long-term CIP's. Short-term improvements are considered for incorporation into the District's annual CIP while long-term improvements are considered for 5-year CIP's, both of which must be adopted by the Board of Directors annually. The CIP budgets are based on the annual available funds developed and provided through monthly charges to ratepayers, sanitary sewer surcharge venues, municipal bond issues, federal/state loans or grants, and other related fees.

Evaluation of the District's collection systems through hydraulic modeling has allowed for identification of system deficiencies and provided guidance for CIP project designs and capacity enhancement measures. Hydraulic deficiencies can be improved through measures such as installation of larger pipelines and pipelines with a greater slope, re-routing flows, enhancing lift station capacity and decreasing excessive infiltration and inflow. In response to hydraulic analyses, the District has addressed deficiency concerns through a variety of projects that include lift station upgrades, pipeline upsizing or extensions and sewer main improvements to increase system reliability and ensure capacity. See Table 5 for a list of recently completed and current CIP projects that address collection system deficiencies and ensure adequate capacity. Funding sources for CIP projects include funding from developers, monthly chargers to rate payers, sanitary sewer surcharge venues, municipal bond issue, federal/state loans or grants, and other related fees. The

District also maintains an Emergency Reserve Fund to fund any equipment replacements or emergency repairs if necessary.

Table 5. Summary of force main, sewer main and lift station CIP projects that were recently completed or are in the design/construction phase.

CIP #	Lift Station (LS), Force Main and Sewer Main Improvement Projects	Description (existing capacity/diameter, new capacity/diameter, length etc.)	Final CIP Estimated Cost	Status
MS-0133	*Replace LS #5*	Replace existing Lift Station with new	$688,545	Under contract
OS-0200	*Clark LS Improvements*	Replace existing Lift Station with new	$706,475	Under contract
OS-0150	*East Garrison LS Improvements*	New 8" FM Lift station	$898,456 (FY 11/12)	Completed FY 13/14
OS-O152	*Booker, Hatten, Neeson LS Improvements*	Lift Station improvements	$429,572 (FY 14/15)	Postponed till 2017
OS-0203	*Gigling Pumps*	Replace 3 Lift Station Pumps	$105,361	Completed FY 15/16
OS-0205	*Imjin LS and Force Main Improvements(Phase I)*	First Phase is to add an additional wet well with two new pumps	$1,970,364 (FY 14/15)	Postponed till FY 17/18
-	*Schoonover LS Improvements*	New Lift station	N/A	Completed in 2006
-	*Marina Sewer Improvements(Lake Drive, Zanetta Drive and Carmel Ave)*	Misc. gravity sewer replacement &	N/A	Completed in 2009
OS-0241	*Ord Village Pumps*	Replace 3 Lift Station Pumps	$148,752	Completed FY 15/16
MS-0206	*Reservation Road Siphon Maintenance*	Elimination of inverted siphon and installation of new gravity and forced main.	$ 919,863	Completed FY 16/17
	Miscellaneous			
-	*Ord Community Flume Structure*	3 MGD capacity fiberglass flume structure to measure Ord Community sewer flows	N/A	Completed in 2006

SCHEDULE

Many components of the CIP have recently been completed including establishment of design criteria, formal evaluation of the Marina and Ord Community collection systems and prioritization of CIP projects. In addition, the District's hydraulic modeling system is utilized to assess collection system condition and to detect any necessary improvements. Annual CIP projects have been identified through the Year 2017, through the year 2022 for the 5-year CIP, and are either in the planning, design or construction phases. However, ultimate implementation of these improvements will depend on funding availability and development growth needs. The CIP implementation schedule will therefore be developed on an on-going basis and may be altered as part of annual budgeting and CIP processes. Updated Master Plans and associated collection system assessments are under contract for FY 16/17 while SSMP updates will reflect the most current evaluation and CIP.

Section IX.

MONITORING, MEASUREMENT AND PROGRAM MODIFICATIONS

REQUIREMENTS

- 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 SSMP element;
- Assess the success of the preventative maintenance program;
- Update program elements, as appropriate, based upon monitoring or performance evaluations; and
- Identify and illustrate SSO trends, including: frequency, location and volume.

SSMP ACTIVITY PRIORITIZATION

The District utilizes a variety of information/metrics to establish and prioritize SSMP activities in order to ensure success of the SSMP. District staff members are responsible for the implementation, monitoring and update of specific SSMP components/activities and are trained accordingly. Training of staff is a critical element of the District's SSMP as professionalism of staff and the level of service to the rate paying public is enhanced. Additionally, training serves to increase and maintain a sense of *esprit de corps* amongst the staff and ensures that staff members maintain relevant information to establish, promote and prioritize SSMP activities.

SSMP EFFECTIVENESS MONITORING

The District monitors implementation of the SSMP and measures effectiveness through condition assessments, cleaning/maintenance records, inspections, and through inventory of the collection system and manholes. The District's collection system is rigorously maintained through these initiatives in addition to the use of performance indicators to assess the effectiveness of the SSMP. The following performance measures are used for SSMP evaluation:

- Total number of SSOs and cause (roots, grease, debris, pipe failure, capacity, lift station failures)
- Ratio of sewage contained to the volume spilled
- Total volume spilled per year
- Percentage of SSOs that exceeded 1000 gallons
- Percentage of SSOs discharged to surface water
- Performance during SSO response and preventative maintenance activities (Actual compared to the goal)

PREVENTATIVE MAINTENANCE ASSESSMENT

The District aims to ensure success of the preventative maintenance program through provision of sufficient resources while the Computerized Maintenance and Management System (CMMS), is the primary tool used to track and assess maintenance progress geographically. The CMMS is utilized by the O&M Department to monitor and adjust preventative maintenance activities through documentation of routine maintenance checks and collection system cleaning/flushing. Routine maintenance inspections are performed either biweekly, weekly or monthly depending on the overflow risk of a particular hotspot. These inspections are recorded on a log sheet and in an Excel spreadsheet to monitor overflow potential. Unscheduled inspections are also performed of vulnerable areas, especially those prone to overflow during rain events. These inspections, assessments, and documentations allow for evaluation of the overall preventative maintenance program. Budget dollars continue to be allocated toward purchase of preventative maintenance equipment to ensure success of the program. In recent years, the District has purchased a Hydro/Flush truck, traffic safety equipment and a van with Closed Circuit Televising System (CCTV) equipment to maintain a clean collection system and ensure a safe work environment.

SSMP UPDATES AND PERFORMANCE MONITORING

The District uses various performance measures, as described above (Effectiveness Monitoring) to evaluate its collection system and allow for identification of SSMP elements requiring revisions and updates. The District is also developing management tools such as a Performance Indicator matrix that is meant to improve understanding of collection system complexities and aid in

performance monitoring. Performance Indicator matrices allow for inventory of collection system responses (preventative and corrective) and for continuous examination which will help identify SSMP program changes and necessary collection system improvements. The District strives to assess collection system performance on an on-going basis and is committed to the use of performance measures at least once a year for collection system evaluation. The District will update information, approaches and requirements in addition to prioritizing actions of the SSMP based on results of these evaluations and as deemed necessary. The SSMP will be reviewed and updated at a minimum of every five years to ensure the goals of the SSMP are met.

SSO TRENDS

Historical performance data are summarized in Table 6 and will be used along with previously discussed performance measures to assess SSMP effectiveness and detect SSO trends. SSO trends will be reviewed annually to measure program success and adjust SSMP activities.

Table 6. Baseline performance information for the District's sanitary sewer system since implementation of the previous SSMP in 2012.

Gravity Sewer, Pump Station, and Force Main SSOs by Calendar Year	Number of Gravity Sewer SSOs	Number of Pump Station SSOs	Number of Force Main SSOs
2011	10	0	0
2012	15	0	2
2013	17	0	3
2014	5	0	1
2015	10	0	1
2016	4	0	3

Section X.

SSMP AUDITS

REQUIREMENTS

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 subsection D.13 of the WDR, including identification of any deficiencies in the SSMP and steps to correct them.

The District will audit implementation, compliance and effectiveness of its SSMP on an annual basis. This internal audit will be conducted by March 15th of the year following the calendar year for which the analysis applies. The scope of the audit will include each major component of the SSMP and will address any deficiencies in addition to identifying correction measures. A major element of the audit includes a self-monitoring program which includes scheduled examination of collection system management and institutes self-correcting before problems escalate into major issues. Routine self-monitoring sessions include weekly review of collection system logs, discussions with the system operators, weekly flush truck and equipment inspections with immediate follow-up on corrective maintenance, recording and discussion of the monthly collection system monitoring matrix, and incorporating required or identified changes in the matrix on an as-needed basis. The following documents cover major SSMP elements and are to be used in the annual SSMP audit:

- Jetter Service Requests
- Weekly Collection System Log
- Monthly Collection System Monitoring
- Performance Indicator Matrix
- CMMS activity reports

Results of the audit along with recommendations and suggested improvements will be included in an audit report and kept on file at the District office. The District will update the SSMP as considered necessary based on these results.

Section XI.

COMMUNICATION PROGRAM

REQUIREMENTS

- 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.

COMMUNICATION INITIATIVES

The District will communicate with the public on the implementation, performance and development/update of the SSMP on an ongoing basis utilizing various outreach materials. The District will keep ratepayers and stakeholders informed about requirements of the WDR and SSMP activities through public meetings, bill stuffers, quarterly newsletters, and the District's website. The District's website provides information on the District's FOG outreach program and other important information such as announcements, agendas, resolutions, and minutes that will contain any status updates on the SSMP. The District's final SSMP will be published on the website following public comment and certification by the Board of Directors.

Appendix A

MARINA COAST WATER DISTRICT

SANITARY SEWER

OVERFLOW

NOTIFICATION

AND

RESPONSE PLAN

IT'S THE LAW……!!

ACKNOWLEDGEMENT OF RECIEPT

AND

REVIEW OF SANITARTY SEWER OVERFLOW (SSO)

NOTIFICATION AND RESPONSE PLAN

Attached is a copy of Marina Coast Water District Sanitary Sewer Overflow Notification and Response Plan and a copy of the California Hazardous Material Spill/Release Notification Guidance booklet. It is the responsibility of each employee receiving these handouts to read, review, and become familiar with and comply with the procedures outlined within these documents. Failure to comply with any of the procedures may result in disciplinary action.

Please sign, date, and return this acknowledgement of receipt to the MCWD RISK MANAGER. This signed receipt shall be kept in the employee's file.

I have received, read and understand Marina Coast Water District Sanitary Sewer Overflow Notification Plan.

Print Name

Signature

Date

MARINA COAST WATER DISTRICT
SANITARY SEWER OVERFLOW
NOTIFICATION PLAN

DEFINITIONS

Category 1 SSO: All discharges of sewage resulting from a failure in the District's sanitary sewer system that:

- Reach surface water and/or reach a drainage channel tributary to a surface water; or,
- Reach a Municipal Separate Storm Sewer System (MS4) and are not fully captured and returned to the sanitary sewer system or not otherwise captured and disposed of properly. Any volume of wastewater not recovered from the MS4 is considered to have reached surface water unless the storm drain system discharges to a dedicated storm water or groundwater infiltration basin (e.g., infiltration pit, percolation pond.

Category 2 SSO:

- Discharges of untreated or partially treated wastewater of **1,000 gallons or greater** resulting from an enrolee's sanitary sewer system failure or flow condition that **do not** reach surface water, a drainage channel, or MS4 unless the entire SSO discharged to the storm drain system is fully recovered and disposed of properly.

Category 3 SSO:

- All other discharges of untreated or partially treated wastewater resulting from and enrolee's sanitary sewer system or flow condition.

Private Later Sewage Discharges:

- 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.

EXTERNAL NOTIFICATION AND REPORTING

Notifications

All notifications will be provided without substantially impeding cleanup, mitigation or other emergency measures.

1. **CALL MCEH:** Upon receipt of notification and immediately after field confirmation of a sewer overflow, regardless of whether it is a District main, manhole or other structure, the individual or individuals responding ***MUST*** **call MCEH. When calling MCEH you must request to be connected to the Division of Environmental Health to contact** an Environmental Health Specialist (EHS) to be summoned to the spill site. There shall be ***no exceptions*** to this notification procedure. Obtain the name of the individuals that you speak with at MCEH and the time that you called. Enter this information into the report form that you complete and or keep detailed notes of the spill incident. **Failure to notify MCEH may subject the District and or the respondents to legal action.**

2. **NOTIFY Central Coast Regional Water Quality Control Board (RWQCB):** ***Category 1 SSOs*** resulting in discharge to surface waters of the State ***MUST*** **be reported** to the RWQCB through the California Integrated Water Quality System **(CIWQS)** online database within **two hours** of discovery of the spill.

3. **CALL California Emergency Management Agency (CAL-EMA):** This notification is required for **Category 1 SSOs.** Pursuant to the current WDR, the individual responding ***MUST*** **call CAL-EMA at** 1-800-852-7550 within **two hours** from the time that the spill was discovered or reported. CAL-EMA is formerly known as Governor's Office of Emergency Services (OES).

4. **CALL Monterey County Water Resources Agency:** This notification is required of any spill from any of the District facilities (including sanitary sewers, pond overflows etc. that reach the ***Salinas River or any tributary of the Salinas River)***. Monterey County Water Resources Agency can be reached 24 hr/day and 7 days/week at 831-883-1118 (MRWPCA Regional Treatment Plant Control Room –SRDF Operator).

5. **CALL California Department of Fish and Game:** If an SSO is discharged to any tributary, creek or ***natural waterbody of the State*** the California Department of Fish and Game ***MUST*** **be contacted** at 831-649-2870.

Reporting

All SSOs must be reported to the required regulatory agencies as soon as 1) District staff have knowledge of the SSO discharge, and/or 2) reporting is possible and/or 3) reporting can be provided without substantially impeding cleanup or other emergency mitigation measures. All other reporting requirements depend on SSO category as described below.

***Category 1 SSOs*:** As soon as possible, but no later than 2-hours after becoming aware of a major SSO or discharge to a drainage channel or surface water.

***Category 2 SSOs*:** Initial reporting of Category 2 SSOs must be reported to the RWQCB and the SWRCB through the online SSO system (CIWQS) as soon as possible but no later than 3 business days after District staff becomes aware of the SSO incident. Minimum information that must be contained in the 3-day report must include all information identified in the Statewide General Waste Discharge Requirements (WDR) for Sanitary Sewer Systems No. 2006-0003 (Section 9 Monitoring and Reporting Program) except item 9.K. A final certified report must be completed through the online SSO system (CIWQS), within 15 calendar days of the conclusion of the SSO response and remediation effort.

***Category 3 SSOs*:** The District will report Category 3 SSOs to the CIWQS online database as soon as possible, but no later than 30 days after the end of the calendar month in which the SSO occurred.

Private Lateral Discharges: This type of SSO will be reported to the CIWQS online database at the discretion of the District.

No Spill Certification: If no SSOs occur within a given calendar month, the District will provide a statement through the CIWQS online database certifying that there were no SSOs during that month.

INTERNAL NOTIFICATION AND REPORTING

If an SSO occurs during normal business hours (Monday – Friday: 6:30am-4pm), the following District personnel must be notified immediately in the following order:

Joe Correa
O&M Supervisor
831-883-5909 (work)
831-915-6041 (cell)

Richard Green
Interim Operator III
831-223-5170 (work)
831-2410729 (cell)

James Derbin
Operations and Maintenance Superintendent
831-223-5189 (work)
831-229-9144 (cell)

If an SSO occurs outside of normal business hours the on-call sewer staff member must be contacted at 831-883-6041 to initiate internal and external notification and reporting processes.

EQUIPMENT

In the event that the District Hydro (Jetter) truck and/or Combo Jet/Vacuum truck are unavailable due to mechanical problems contact Greenline Liquid Waste in Salinas at:

831-422-2298 (24-hours/day).

MEDIA CONTACT

Under no circumstances shall a staff member responding to an SSO make any statements, comments, observations, voice any opinions regarding the SSO to the media. Media is defined as radio, television, and newspaper reports. All media releases are to be made by the General Manager or his/her designee.

EMERGENCY OPERATIONS

If additional assistance is required during SSO response, such as traffic control, contact the City of Marina Fire Department at 831-884-1210 during business hours, and call 911 if assistance is needed after business hours.

REGULATORY AGENCY CONTACT INFORMATION

(SSO REPORTING)

In the event of any Category 1 SSO, ALL of the following agencies are ***required*** to be notified. ***There will be no exceptions to the established notification protocol described above.***

California Emergency Management Agency (CAL-EMA)

PHONE: 1-800-852-7550

FAX: 916-262-1677

- **Monterey County Health Department (Division of Environmental Health)**

  PHONE**:** 831-755-4508 (Salinas Office)

  831-647-7654 (Monterey Office)

  911 Operator: Connect to Monterey County Communications Dispatch and Monterey County Health Department

- **Monterey County Water Resources Agency (if impacting Salinas River)**

  PHONE: 831-755-4860

  831-796-1166 (After business hours)

  FAX: 831-424-7935

- **Central Coast Regional Water Quality Control Board**

  PHONE: Water Quality Control: 805-549-3147

  Tom Kukol: 805-549-3689

  FAX: 805-543-0397

California Department of Fish and Game (if impacting any waterway of the US)

PHONE: 831-649-2870

FAX: 831-649-2894

RESTORATION OF AFFECTED AREAS

The District will make every effort to restore the affected areas to the condition that existed before the SSO occurred by utilizing the following procedures established by the Monterey County Health Department (Division of Environmental Health):

1. Disinfection is required only if the spilled sewage presents a hazard to public health. This determination shall be made by the Monterey County Health Department Environmental Health Specialist (EHS) who responds to the incident. However, the following guidelines must be utilized: Surfaces inside of dwellings and other structures where people live or congregate must be disinfected after a sewage spill. In the event the interior of a dwelling is impacted by the SSO a certified contractor must be contacted to handle the cleanup. The district currently uses Disaster Kleenup, (831) 899-3938, for these services. Objects and surfaces that cannot be disinfected in public buildings or in rental housing should be discarded. Disposition of such objects and surfaces in private homes shall be the responsibility of the homeowner and at discarded at their discretion. However, the EHS should advise the homeowner that sewage can contain pathogens that may cause life-threatening illness and that there is no general "test" to determine if such pathogens exist in sewage damaged objects.

2. Although disinfection of gutters and/or streets is not usually necessary, sidewalks and areas where the public walks or congregates should be disinfected after thorough rinsing and cleaning of debris such as paper products, fecal matter and visible sewage residue. The residual rinse water should be recovered for disposal into the sanitary sewer. SSO respondents (District Staff) are to apply a dilute 50/50 solution of household chlorine bleach and water with a back-pack or Hudson type sprayer.

3. If the SSO occurred in the street, staff shall wash it down utilizing the high pressure wand on the Jetter truck or trailer and/or utilize the nearest fire hydrant to wash down the affected area(s) utilizing Best Management Practices (BMPs). Staff shall further isolate storm drain inlet structures utilizing sand bags, or other containment measures such as absorbent pads, and or absorbent socks to avoid contamination of the storm drain. District staff shall also recover wash down water by the utilization of vacuum trucks and/or trailers.

4. Disinfection of natural surfaces such as grass or soil is generally not necessary except for the removal of visible sewage residue. However, if the natural surface is part of a schoolyard, playground, or similar location subject to use by the public, removal of the top layer of soil may be required. In the event that the top layer of soil is removed, the "spoils" are to be transported to the Monterey Regional Waste Management District landfill for disposal. Receipt for dumping these materials must be given to the O&M Supervisor. In the event that this occurs, District staff shall replace the removed material with clean fill material.

5. Collect (vacuum) and dispose of any standing or pooled sewage.

6. Recover any sewage within storm drains, channels, curbs, gutters or culverts.

7. Clear all affected areas of paper, solids, (including fecal matter) and any other visual signs of a SSO.

8. <u>Do not, under any circumstances</u>, apply bleach, sodium hypochlorite or any type of disinfection product or products to any flow stream that has entered, or is capable of entering a creek, tributary, flood control channel or whose final discharge point is the Salinas River or the ocean.

SSO FIELD DOCUMENTATION / REPORTING

At a minimum, SSO documentation by the District field team shall include the following:

1. Date, time, name of individual, phone number of: department / agency providing notification.
2. Time of arrival to SSO site.
3. District main causing SSO? Y / N
4. Private Lateral causing SSO? Y / N (If yes, name and address of property owner.)
5. Exact location of the SSO (street address, closest cross street).
6. Exact time that mitigation measures commenced (Jetter/Hydro equipment in use).
7. Exact time that SSO/stoppage was cleared and flow was resumed.
8. Any and all conditions that may have contributed to the SSO, (such as debris, grit, grease, roots, collapsed lines etc.).
9. Did the SSO reach surface water, storm drain or the river? If yes, was a coliform sample taken of the affected area or areas and or the discharge point? Was the coliform sample properly identified, and the chain of custody form completed? Was the coliform sample delivered to the testing laboratory?
10. Total gallons spilled (estimate) based upon field calculations and / or BMP.
11. Total gallons recovered and method(s) of recovery.
12. Damage that was caused by the SSO, and any repairs that were made as a result of the SSO.
13. Photographs of the affected area(s).
14. Date and time that cleanup / restoration was completed.
15. Date, time and pertinent information regarding SSO notification to required regulatory agencies.
16. Debriefing discussion of incident.

Marina Coast Water District

SSO INCIDENT REPORT

Reporting Party:_____ Phone _____

Address: _____

City: _____

Date of overflow: _____ Time overflow began: _____ Time overflow stopped:_____

Overflow Location, (street address), and closest cross street:_____

Was this a District main causing the overflow? _____ If yes, provide the closest street address to the overflow:_____ Was this a private lateral spill? _____ If yes, provide the name, address and phone number of property owner if available:

_____

_____

Estimated volume of overflow (in gallons):_____ Estimated gallons recovered and method of recovery:

_____

_____

Path of overflow: _____

_____

Did the overflow reach a storm drain, flood control channel, or river? _____Y/N If yes, was a coliform sample of the affected discharge point collected? Y/N ____ Name of Laboratory receiving coliform sample: _____

Was the affected area posted? Y/N____ Describe cleanup efforts: _____

_____

_____

Fully describe the cause of overflow (grease, roots, vandalism, debris etc.): _____

_____

Action(s) taken to stop overflow: _____

_____

Were the affected area(s) disinfected with bleach or hypochlorite? Y/N _____ Was the area cleaned and all traces of tissue and/or solids removed and the area washed down ***(mandatory)***? Y/N: _____ Describe cleanup efforts: _____

_____

If any damage or potential for damage occurred please provide a brief description of any damage caused by the SSO to public ***and private property*** and any repairs or ***recommendations*** made as a result of the SSO:

_____

_____

_____

Were photographs taken of the incident (***mandatory)?*** _____ Y/N ***Please attach photos to report***

REGULATORY AGENCIES TO BE NOTIFIED:

Monterey County Health **(MUST BE CONTACTED FOR ANY SSO OTHER THAN PRIVATE LATERAL SPILL)**
(831-647-7653) : Y/N: ___ Alternate Phone number ***911***

IN THE EVENT OF A CATEGORY 1 SSO:

CAL- EMA (1-800-852-7550): Y/N: _____ Control Number issued: _____***(mandatory)***

Regional Board
1-805-549-3689: Tom Kukol Y/N: _____ ***(mandatory)***

Monterey County Health (MUST BE CONTACTED FOR ANY SSO OTHER THAN PRIVATE LATERAL SPILL)
(831-755-4500) : Y/N: ___ Alternate Phone number ***911(mandatory)***
Fish and Game (831-649-2870): Y/N_____(mandatory)
(ONLY IF SSO IMPACTS WATERWAY OF THE US)

Monterey County Water Resources Agency : Y/N_____(mandatory) (ONLY IF SSO IMPACTS SALINAS RIVER)

Cleanup Debriefing; time, date, and participating individuals (by name):

_____

_____

_____

_____

Name of individual completing report: _____ Title:_____

Signature of Individual Completing report: _____ Date: _____

Appendix B

Excerpts from the Marina Coast Water District Water Code

Title 5 – SEWER SERVICE SYSTEM

5.20.020 Drainage into sanitary sewers prohibited

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

5.20.030 Use of storm sewers required

Stormwater and all other unpolluted drainage shall be discharged to such sewers as are specifically designated as storm sewers, or to a natural outlet. Industrial cooling water or unpolluted process waters shall be discharged to a storm sewer or natural outlet.

5.20.040 Types of Wastes Prohibited

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 as required by the Code of Federal Regulations (40 CFR 403.5) and the following:

A. Any liquid or vapor having a temperature higher than one hundred fifty degrees F;

B. Any water or waste which may contain more than one hundred parts per million, by weight, of fat, oil or grease;

C. Any gasoline, benzene, naphtha, fuel oil, or other flammable or explosive liquid, solid or gas;

D. 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 three-eighths inch in any dimension;

E. Any ashes, cinders, sand, mud, straw, shavings, metal, glass, rags, feathers, tar, plastics, wood, paunch manure or any other solid or viscous substance capable of causing obstruction to the flow in sewers or other interference with the proper operation of the sewage works;

F. Any waters or wastes having a pH lower than 6.0 or higher than 9.0 or having any other corrosive property capable of causing damage or hazard to structures, equipment and personnel of the sewage works;

G. Any waters or wastes containing a toxic or poisonous substance in sufficient quantity to injure or interfere with any sewage treatment process, constitute a hazard to humans or animals or create any hazard in the receiving waters of the sewage treatment plant;

H. Any waters or wastes containing suspended solids of such character and quantity that unusual attention or expense is required to handle such materials at the sewage treatment plant;

I. Any noxious or malodorous gas or substance capable of creating a public nuisance;

J. Any septic tank sludge.

5.12. 020 Treatment of Wastes Required

It is unlawful to discharge to any stream, pond or to the ocean any sewage, industrial wastes, or other polluted waters, except where suitable treatment has been provided in accordance with provisions of this title.

5.08.010 Violation Unlawful

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

5.16.10 Permit to Connect

No person shall construct a building sewer, 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.

5.16.020 Construction Requirements

Construction of building sewers and lateral sewers shall be in accordance with the requirements of the Uniform Plumbing Code and all other requirements of the District.

5.16.170 Plans, profiles and specifications required

The application for a permit for public sewer construction shall be accompanied by complete plans, profiles and specifications, complying with all applicable ordinances, rules and regulations of district, prepared by a registered civil engineer showing all details of the proposed work based on an accurate survey of the ground. The application, together with the plans, profiles and specifications shall be examined by the district engineer who shall within thirty days approve them as filed or require them to be modified as he deems necessary for proper installation. After examination by the district engineer, the application, plans, profiles and specifications shall be submitted to the board at its next regular meeting for its consideration. When the board is satisfied that the proposed work is proper and the plans, profiles and specifications are sufficient and correct, it shall order the issuance of a permit predicated upon the payment of all connection charges, fees and furnishing bonds as required by the district. The permit shall prescribe such terms and conditions, as the board finds necessary in the public interest.

5.16.240 Design and Construction Standards

Minimum standards for the design and construction of water, recycled water and sewer infrastructure within the District shall be in accordance with the current design requirements and standard plan and specifications adopted by the District. The District Engineer may permit modifications or may require higher standards where unusual conditions are encountered. "As-built" drawings showing the actual location of all mains, structures, valves, fire hydrants, Y's, laterals and cleanouts shall be filed with the District before final acceptance of the work.

5.08.100 Powers and Authorities of Inspectors

The officers, inspectors, managers and any duly authorized employees of the District shall wear or carry an official badge of office or other evidence establishing his position as such and upon exhibiting the proper credentials and identification shall be permitted to enter in and upon any and all buildings, industrial facilities and properties for the purposes of inspection, reinspection, observation, measurement, sampling, testing or otherwise performing such duties as may be necessary in the enforcement of the provisions of the ordinances, rules and regulations of the District.

5.24.110 All work to be inspected

All sewer construction work and building sewers shall be inspected by an inspector acting for the district to insure compliance with all requirements of the district. No sewer shall be covered at any point until it has been inspected and passed for acceptance. No sewer shall be connected to the district's public sewer until the work covered by the permit has been completed, inspected and approved by the district inspector. After the test proves satisfactory and there is evidence of plumbing code compliance, the inspector shall issue a certificate of satisfactory completion.

5.20.050 Grease trap, grease interceptor or other device required.

A. A food service establishment or any other business discharging grease, oil or other similar material shall have an operable and properly sized grease trap, grease interceptor or other comparable device(s) as determined by the general manager. All grease traps, grease interceptor or other devices shall be of a type and capacity approved by the general manager and shall be so located as to be readily and easily accessible for cleaning and inspection.

B. All drains from food preparation and clean up areas including, but not limited to, pre-wash sinks, floor drains, food waste disposal units, pots and pans sinks, scullery sinks and garbage can wash areas shall be connected to such trap or interceptor.

5.20.060 Maintenance of interceptors

A. Traps and interceptors shall be maintained by the owner, at his expense, and shall continuously operate efficiently at all times. The owner shall periodically remove accumulated grease from the trap or interceptor. No collected grease shall be introduced into any public or private drainage piping.

B. Any grease trap or grease interceptor required by this chapter shall be readily accessible for inspection and properly maintained to assure that accumulations of grease or oil do not impair its efficiency or transport grease or oil into the sewer system.

C. The general manager or its designee shall perform grease trap and grease interceptor inspections bi-annually or more often, at the owner's expense, and at the discretion of the district should

maintenance reports not be received or should a grease trap or grease interceptor fail to operate properly.

D. In the event the District determines that a food service establishment or business required to install and maintain a grease trap either fails to maintain the maintenance record required by this section, or fails to maintain the grease trap as required by this section, the district may require the immediate installation of a grease interceptor.

5.08.030 Violation

Any person found to be violating any provision of this or any other ordinance, rule or regulation of the district, except this section and Section 5.16.250, shall be served by the general manager or other authorized person with written notice stating the nature of the violation and providing a reasonable time limit for the satisfactory correction thereof. Said time limit shall be not less than two nor more than seven working days. The offender shall, within the period of time stated in such notice, permanently cease all violations. All persons shall be held strictly responsible for any and all acts of agents or employees done under the provisions of this or any other ordinance, rule or regulation of the district. Upon being notified by the general manager of any defect arising in any sewer or of any violation of this title, the person or persons having charge of said work shall immediately correct the same.

5.08.090 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 ordinances, rules and regulations, and not as a penalty.

5.08.110 Violation - Misdemeanor

Section 6523 of the Health and Safety Code of the state of California provides that the violation of an ordinance, rule or regulation of a district by any person is a misdemeanor punishable by fine not to exceed one hundred dollars, imprisonment not to exceed one month, or both. Each and every connection or occupancy in violation of the ordinances, rules and regulations of the district shall be deemed a separate violation and each and every day or part of a day a violation of the ordinance, rule or regulation continues shall be deemed a separate offense hereunder and shall be punishable as such.

5.08.120 Liability for Violation

Any person violating any of the provisions of the ordinances, rules and regulations of the district shall become liable to the district for any expense, loss or damage occasioned by the district by reason of such violation.

5.08.060 Public Nuisance

Continued habitation of any building or continued operation of any industrial facility in violation of the provisions of this 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 such violation.

5.08.070 Disconnection

As an alternative method of enforcing the provisions of this or any other ordinance, rule or regulation of the district, the general manager shall have the power to disconnect the user or subdivision sewer system from the sewer mains of the district. Upon disconnection, the general manager shall estimate the cost of disconnection from and reconnection to the system, and such user shall deposit the estimated cost of disconnection and reconnection before such user is reconnected to the system. The general manager shall refund any part of the deposit remaining after payment of all costs of disconnection and reconnection.

Appendix C

Excerpts from *Standard Plans and Specifications for Construction of Domestic Water, Sewer, and Recycled Water Facilities*

Section 02701 - Installation of Gravity Sewer Pipelines

Part 3 Execution
N. Closed-Circuit Television Inspection

1. General: In addition to the regular leakage and infiltration test, the entire length of all new sewer lines shall be inspected by the contractor using closed-circuit television equipment. The inspection shall be conducted after the line has been successfully tested and prior to paving. The inspection shall be conducted in the presence of the District representative. For pipe lengths designed to absolute minimum design slopes (See Section 500-2 of the Procedural Guidelines), video inspection shall provide a profile of the sewer line.

2. Responsibility: All labor and equipment necessary to conduct this inspection shall be furnished by the contractor.

3. Notification: Requests for sewer line inspection shall be made to the District representative a minimum of two working days in advance of the requested inspection date.

4. Flushing: Each sewer section shall be flushed with water being introduced at the upstream manhole of each section prior to video recording.

5. Stationing: The video shall show stationing corresponding to sewer stationing shown on plans for each manholes and Wye location.

6. Submittal: The videotape shall be VHS format and be submitted to the District with two (2) of the computer printouts showing manhole numbers and stationing, wye stationing and distance between manholes prior to occupancy release for the dwelling units being served by the sewer. The tape and printout shall be labeled with the project name, tract number, street names, and contractor's name and shall list the station of any defects, dirt, low spots, etc. in the pipe.

7. Repair of Defects: Even though the sewer line may have successfully passed the leakage and infiltration tests, any defects or low spots in the line shall be repaired to the satisfaction of the District.

8. Acceptance: Sewer section having standing water or defects shall be repaired by the contractor prior to District acceptance and prior to occupancy release for the dwelling units or commercial site being served by the sewer. Standing water in the system will not be allowed.

O. Final Inspection

After paving has been completed and all manholes raised to grade, a final visual inspection shall be made. The necessary labor shall be furnished to assist the District representative in making the final inspection. Additional balling may be required if the lines are dirty, even though lines were previously balled. The contractor shall furnish a responsible person or supervisor for the final inspection to remove manhole covers and to note any corrections required by the District representative in order to obtain final approval. Final District inspection shall be requested through the District representative by giving at least two day's notice.

Section 03463 – Grease Interceptors

Part 1 General

A. Description

This section includes materials and installation of precast concrete grease interceptors on commercial sanitary sewer conditions.

B. Related Work Specified Elsewhere

1. Installation of Gravity Sewer Pipelines 02701

2. Precast Concrete Vaults 03462

C. Approved Manufacturers

GT series as manufactured by Jay R. Smith Manufacturing Company
Pro-Cast
Jensen Precast
Pyramid Precast

D. Application

Grease interceptors are to be installed on the sewer laterals from all restaurants and other commercial sewer connections as designated by the District in the Procedures Guidelines and Design Requirements manual.

E. Responsibility

It is the responsibility of the owner of each facility to maintain the grease interceptor in proper operating order and to remove accumulated grease at suitable intervals to avoid excessive buildup in the unit.

Part 2 Materials

A. Precast Vault

1. Precast vault shall meet the requirements of Section 03462.

2. The interior of the precast unit shall be sealed with a protective coating.

3. The interceptor shall have an interior baffle for full separation of the interceptor into two

(2) sections. The interior baffle shall have two (2) openings of the same diameter and at the same invert height as the outlet pipe. The baffle openings shall be staggered from the inlet and outlet pipes to prevent straight line flow through the unit.

4. The outlet pipe shall be the same diameter as the inlet pipe.

5. The interceptor shall have an adequate number of manholes to provide access for cleaning all areas of the interceptor. A minimum of one manhole per ten (10) feet of interceptor length shall be provided. Manholes shall be gas-tight in construction with a minimum opening dimension of twenty (20) inches.

6. Each grease interceptor shall be permanently and legibly marked with the Manufacturer's name or trademark, model number and UPC certification mark.

Part 3 Execution

A. Location

1. The grease interceptor shall be located on private commercial sewer laterals upstream of the connection to the MCWD sewer main.

2. The interceptor shall be located where it is easily accessible for inspection, cleaning and removal of intercepted grease.

B. Installation

1. Grease interceptors shall be installed per Section 03462.

2. Sewer laterals connections to the grease interceptor shall be per Section 02701.

Appendix D

Excerpts from *Procedures, Guidelines and Design Requirements* 2009

Section 300 Design and Inspection Procedures

300.19 Project Construction

300.19.1 Notification

Signed Utility Plans and notices shall be given to the District Engineer at least 48-hours before starting construction. Applicant shall also notify the city, and/or County inspector's prior to work within public right-of- way. For a complete review of the construction inspection requirements, please refer to the District's Construction Manual.

300.19.2 License Requirements

1. The applicant's contractor shall have a Class A or C-34 license.

2. The applicant's contractor shall have a business license to operate within the city having jurisdiction.

300.19.3 Preconstruction Meeting

A preconstruction conference is to be held no sooner that 24-hours before starting construction, at which will be present the applicant's contractor's working foremen and/or job superintendent, the applicant's engineer, the District inspector, and a representative from the District's O&M Department. The purpose of this meeting will be to answer any questions on District specification requirements, to obtain the contractor's construction schedule, and to discuss any known circumstances that might affect job installation.

***Preconstruction Meeting Agenda**:* Without relieving the developer of responsibilities outlined elsewhere in the specifications; the District will present to the developer a list of requirements that may contain, but will not be limited to, the following items:

1. Order of work

2. Working hours

3. Site Accessibility

4. District facilities that will be taken off-line for construction

5. Startup operations of new facilities and other District facilities affected by the project results.

6. Pressure test procedures and startup operations of new facilities and other District facilities affected by the project results.

7. Bacterial test results.

8. Record Drawings

9. Order of Precedence: The order of precedence as defined in Section 300.16 will be reviewed in the pre-construction meeting.

300.19.4 Curbs Installed Before Starting Water Facilities

It is a basic requirement of the District that the curbs be installed in-tract prior to starting the installation of water facilities. They act as positive grade control for setting services and fire hydrants. The District may approve an exception if the developer complies with the following requirements:

1. All requirements shall be met before the excavation of pipeline trenches.

2. The owner is to submit engineered drawings showing both the plan and profile of the proposed pipelines for District review and acceptance.

3. The owner is to provide survey staking. The proposed pipelines per the profile with cuts to flow line at a maximum of 25-foot stationing showing all horizontal and vertical grades breaks, tees,

and valves, fire hydrant, blow-offs, air vacs, services, and all other appurtenances indicated on the plans.

4. Prior to backfill, the engineer shall certify line and grade of the pipeline and all the appurtenances and provide the District inspector with a copy of the certification.

5. In the event that a portion or any part of the pipeline and its appurtenances is not installed to the satisfaction of the District inspector, the owner agrees to expose and re-lay the pipeline accordingly.

300.19.5 Construction Water

Water for construction purposes is the temporary use of water from a connection to the District's water system. Connections could be from a fire hydrant or other direct connection as approved by the District Engineer or his/her designee. Below is the District's process to respond to and provide to requests for temporary water service from a fire hydrant. Any customer that requires use of water from a fire hydrant must fill out the Temporary Service Application. That application will be processed by customer service. If the application is acceptable, then a fire hydrant meter will be provided to the applicant. The District may install the fire hydrant meter, but the security of the hydrant meter is the applicant's responsibility. The District will inspect the installation of the hydrant meter to assure it is both installed correctly and that it has the proper backflow device. The water shall be taken through a metered delivery and the developer shall pay all costs related thereto, including (but not limited to) District's standard deposit for temporary meter and actual costs of water used, pumping costs, loading, hauling and the use thereof. The developer shall make all arrangements for transporting the water to the construction site. Recycled water shall be used for construction purposes when possible. The District will read the hydrant meters. The District will inspect the fire hydrant meter installation. If the installation is acceptable, the O&M Department will place a "lock-out" tag on the hydrant. This "lockout' tag indicates to the meter reader that the fire hydrant meter is properly installed with the correct backflow device. If the District finds uninspected fire hydrant meters, it shall immediately remove the hydrant meter from the hydrant. At the conclusion of the temporary water service, the applicant must return the fire hydrant meter and the gate valve. Once the District inspects the fire hydrant to make sure it is in good working order, the hydrant meter and any other pertinent appurtenance and has received all payments for temporary water service fees and charges, then deposits may be returned to the applicant.

300.19.6 Inspection of Work

Access: All work shall be subject to inspection by the District and shall be left open and uncovered until approved by the District Engineer.

Domestic Water, Sewer and/or Recycled Water System Inspections: The Contractor shall not proceed with any subsequent phase of work until the previous phase has been inspected and approved by the District Engineer. Inspection may also be made at the following intervals of work. See District Construction Manual for more details.

1. Domestic and Recycled Water System:

A. Submit material list to District for approval.

B. Delivery of materials to job site and provide certificate of compliance to District.

C. Trench excavation and bedding.

D. Placing of pipe, fittings, and structures, including warning tape on recycled irrigation water main and service lines.

E. Pouring all concrete anchors and thrust blocks.

F. Placing and compacting the pipe zone back fill.

G. Backfilling balance of trench to grade. Compaction tests are to be performed by governing agency road departments in public right-of-way or by private soils consultant retained by the applicant and acceptable to the District in private streets and easements. Copies of test results shall be given to the District, and the governing agency, by the applicant for approval before final acceptance of the work. Backfilling and repaving shall be in accordance with the requirements of the city having jurisdiction.

H. Pressure testing all mains and services.

I. Disinfecting and flushing.

J. Health samples.

K. Repaving trench cuts.

L. Raising valve boxes to finish grade and paint to District standards.

M. Fire hydrants painted and pads poured.

N. Installation of service lines, appurtenances meter boxes, and customer service valves.

O. Connection to the existing system.

2. Sewer Inspections:

A. Trench excavation and bedding.

B. Placing of pipe, fittings, and structures.

C. Placing and compacting of the pipe zone backfill.

D. Backfilling of the balance of the trench to grade. Compaction tests to be taken by the city and/or county road departments in public right-of-way and by private soils consultant retained by the applicant and acceptable to the District in private streets and easements. Copies of test results shall be given to the District by the applicant for approval before final acceptance of the work.

E. Testing after backfill compaction of all utilities is approved by the city and/or county road departments and must be obtained before paving.

300.19.7 District Authority

Access: The District shall at all times have access to the work during construction and shall be furnished with every reasonable facility for ascertaining full knowledge respecting the progress, quality of labor, and character of materials used and employed in the work. No pipe, fittings, or other materials shall be installed or backfilled until inspected and approved by the District Engineer. The contractor shall give at least 72-hours' notice prior to backfilling to the District inspector so that proper inspection may be provided.

Obligation: Inspection of the work shall not relieve the contractor of any obligations to complete the work as prescribed by the Standard Specifications. Any known defective work shall be corrected before testing or final inspection will be permitted. Unsuitable materials may be rejected at any time.

Suspension of Work: The District Engineer shall have the authority to suspend the work wholly or in part for such time as it may deem necessary if the contractor fails to carry out orders given by the District's inspector, or to perform any required provisions of the plans and specifications. The contractor shall immediately comply with a written order of the District to suspend the work wholly or in part. The work shall be resumed when methods or defective work are corrected as ordered and approved in writing by the District Engineer.

300.19.8 Existing Facilities

Connection and Shut Downs: Schedule connection to existing water and sewer facilities with the District Operations Staff. Contractors are not permitted to operate District valves. Coordinate shut-downs a minimum of 2-days in advance of the work.

Repairs: Any and all damage to existing facilities occurring as a result of new construction must be repaired to the District's satisfaction at the Developer's expense. Repairs may be performed by the Developer's contractor or by District staff, at the discretion of the District Engineer.

Removals: Per the District's In-Tract Policy, new developments require the removal of existing facilities at or beyond their useful service life, and the installation of new infrastructure to serve the development. Excavate and remove all existing pipes, valves, manholes and appurtenances as indicated on the approved construction plans.

***Abandonment*:** Where it is impractical to remove an existing facility (for example, a pipeline crossing a street not otherwise being reconstructed), existing facilities may be abandoned in place with the approval of the District Engineer. Follow the procedures of Standard Specification Section 02222.

300.19.9 Pressure Test

A pressure test of the newly constructed domestic and recycled water lines shall be conducted as detailed in Section 15042 "Hydrostatic Testing of Pressure Pipelines" of the District's Standard Specifications.

300.19.10 Water for Flushing, Testing and Disinfection

Domestic water for flushing, testing and sterilization of the completed pipelines or sections thereof will be available from the District at the point, or points, of connection with the existing domestic water mains via the construction water connection. The developer shall make all arrangements for this water with the District Engineer, which shall designate the exact location of the outlet or outlets, and the time periods these connections may be used. Special limitations may be imposed by the District Engineer for filing of larger infrastructures, such as large tanks or long distribution mains. The contractor shall be required to work with in these limitations and pay for all activities required to comply. Estimate quantity of water flushed in gallons to the District for tracking of unmetered water use. If, due to construction problems or for any other reason, the developer desires to use water from some other source for testing, flushing, or chlorination, it shall be the responsibility of the developer to obtain the source of water, which water shall be tested and approved by the County Health Department prior to the use thereof. All expenses for obtaining and using another source of water shall be paid by the developer. Cannon flushing operations shall be conducted with a residual line pressure not less than 30 psi and a District representative will be present. Adequate connections to conduct the flushing, testing and disinfection operations shall be furnished by the contractor and reviewed by the engineer, at no added cost to the District, and the developer shall pay for any and all costs for flushing, testing and disinfection.

300.19.11 Chlorination and Bacteriological Testing

After a passing pressure test, the domestic water lines shall be chlorinated and tested for bacteria as detailed in Section 15041 “Chlorination of Domestic Mains and Services for Disinfection” of the District’s Standard Specifications.

300.19.12 Final Domestic Water and Recycled Water Facilities Inspection

Before final acceptance, the District Engineer will make a final inspection of all work, accompanied by the contractor's superintendent or representative, to verify that:

1. All phases of the job are complete in accordance with plans and specifications
2. All valve boxes are raised to finish grade and that all repairs are completed
3. All valves are referenced and the inspector has been given all reference measurements.

Valves shall be located by a 2-inch "V" chiseled in the adjacent curb face

4. All right-angle meter stops, and the meters, are properly positioned and all meter boxes are positioned and raised to proper grade

5. Fire hydrants are raised to proper grade, are in a vertical position, painted; and its concrete pad is poured

6. Backfill has passed all compaction testing

7. All system valves are turned and left open (except those specifically required to be normally closed), direction and turns required for complete open/close cycle are recorded on the record drawings

8. Domestic water lines have been chlorinated and disinfected

9. Water line pressure testing and flushing have been completed

10. The job site is clean and cleared of all the contractor's equipment and materials

11. All service lateral locations have been marked on curbs

12. Certified test results have been provided for all backflow prevention devices

13. "RECORD DRAWINGS" with the "As-Built" revisions have been delivered to the District (See section 400.13)

14. Digital submittal of plan information in a format acceptable to the District

300.19.13 Final Sewer Inspection

Before final acceptance, the District, even though the sewers have been balled once, will require the contractor to flush and ball all sewer mains again. The District, accompanied by the contractor's foreman or superintendent, will make a final inspection of all work to check the following items:

1. That all bulkheads and plugs have been removed

2. The concrete base and channels in manholes are smooth

3. That manhole interiors are clean of all debris and excess concrete mortar

4. That all manhole concrete grade rings are adequately grouted and properly set

5. That pavement around manhole cover has been properly blacktopped to correct grade

6. That proper field tests have been made on all sewer main sections and manholes, particularly where sections of manholes had to be repaired

7. That backfill has passed all compaction requirements

8. That lateral locations have been mark with a "S" on curb

300.19.14 Raising of Valve Boxes and Manhole Rims

For paved areas in the applicant's development, and/or out-of-tract resulting from the developer's project, the developer/contractor will raise all valve boxes and manhole rims for District constructed facilities for each lift of pavement.

Section 500 Design Criteria for Sewer Facilities

500.1 Design Criteria for Gravity Sewers

500.1.1 Flow Rate Generation

The design peak flow rate for residential sewer mains shall be calculated using a base generation rate of 90 gallons per capita day (gpcd), the density and peaking factors contained in Figure 500-1, and an Infiltration and Inflow (I/I) factor. The following formulas are used to define the calculations:

Design Peak Flow Rate = Peak Wet Weather Flow Rate (PWWF)

PWWF = Peak Dry Weather Flow + [Average Dry Weather Flow x I/I factor]

= PDWF + (ADWF x I/I)

PDWF = ADWF x Peaking Factor from the graph in Figure 500-1.

ADWF is calculated using a base generation rate of 90 gallons per capita day (gpcd) multiplied by the proposed population of the development. Population may be estimated using the table in Figure 500-1. ADWF generation rate projections for specific commercial/industrial developments proposed are required and should be calculated by the developer's engineer.

I/I factors are the following:

I/I factor = .44, when designing new sanitary sewers.

I/I factor = .67, when designing sanitary sewers that utilize existing sewers installed prior to 1997.

500.1.2 Peak Flow Limitation (Based on d/D Ratio)

The design peak flow rate allowed within a pipeline of any given diameter will be limited by the resulting depth-to-diameter ratio (d/D ratio) where 'd' is the calculated flow depth in the pipe and 'D' is the inside diameter of the pipe. For pipes 12-inches in diameter and smaller, the maximum allowed d/D ratio is 0.67. For pipes 15-inches to 24-inches in diameter, the maximum allowed d/D ratio is 0.80. For pipes 27-inches in diameter and larger, the maximum allowed d/D ratio is 0.90.

500.1.3 Minimum and Maximum Velocity

All sewers shall be designed and constructed to yield mean velocities within the pipeline, at peak dry weather flow (PDWF), of at least 2.0-fps while not allowing velocities to exceed 8.0-fps. Flow velocities will determined by the utilization of Manning's formula for open-channel flow and will use an "n" value of 0.013. Variance from the requirements in this section will be allowed only with approval by the District Engineer.

500.1.4 Minimum Pipe Diameter

Sanitary sewer mains shall generally be 8-inch diameter or larger. 6-inch sewer mains are only allowed for top-of-line segments (dead-end lines, alleys and cul-de-sacs). When two or more sewers flow into a manhole, the sewer out shall be a minimum of 8-inches.

500.1.5 Minimum Slopes

Sewers should be designed to provide steeper slopes whenever possible so that the 2.0-fps minimum flow velocity is exceeded and pipeline invert scouring is improved. The maximum allowable slope shall be the slope that generates a maximum flow velocity of 8.0-fps at the peak dry weather flow rate. Under special conditions, the developer's engineer may request slopes of less than the minimums stated. The developer's engineer must submit this request along with back-up data and calculations to show that the depth of flow at design average dry weather flow will be 0.3 of the pipe diameter or greater. The developer's engineer must also submit computations to

show the depths of flow within the pipeline at minimum and average flow rates. The request shall detail the reasons why the normal minimum slopes cannot be achieved. The request and supporting data will be reviewed by the District Engineer and his decision will be conveyed to the applicant.

500.2 Standard Location, Alignment and Stationing

500.2.1 Location

Wherever possible, in local residential and industrial streets, pipe is to be located 5-feet from the street centerline. In major, primary, and secondary highways, pipe will be located in the center of the driving lane nearest to the center of the street. Pipe should not be located in median strips or parking lanes. On curvilinear streets, pipe shall parallel as nearly as possible the street centerline by means of horizontal curves.

500.2.2 Alignment

Barring other limiting design and construction considerations, a maximum separation between sewer and domestic water mains in new subdivisions shall be achieved by the following construction procedures: 1. On curvilinear streets, the sewers shall parallel as nearly as possible the street centerline by means of horizontal curves.

2. Sewer mains should be installed on the opposite side of the centerline from the domestic water mains.

500.2.3 Radius of Curvature

Minimum radius of curvature shall comply with Section 02701, Installation of Gravity Sewer Pipelines, or the pipe manufacturer’s recommendation, whichever is more restrictive.

500.2.4 Stationing

Sewer centerline stationing shall be shown (example: 00+00.00) with the stationing starting at the most downstream manhole or connection to existing sewer and the stationing increasing upstream to the last manhole on a sewer line. Intersecting sewer lines shall be independently stationed from their downstream point of connection and increase upstream to the last manhole or clean-out. Each line shall be independently labeled for identification as "Sewer Line A", "Sewer Line B", etc. Sewer stationing may be independent of street stationing.

500.2.5 Minimum Cover

Minimum cover from finish street grade to top of sewer main pipe is to be 4 feet or 12-inches below any potable water main in the right-of-way, whichever is deeper, unless approved otherwise by the District Engineer. Sewers shall be deep enough to allow lateral connections meeting minimum depth at curb.

500.2.6 Separation Between Waterlines And Sewers

Adequate horizontal and vertical spacing shall be maintained in accordance with Section 400.7 and District Standard Plan W-16.

500.3 Sewer Pipe Material

All gravity sewers and laterals 15-inch diameter and smaller shall be SDR-35 PVC as described in the District's Standard Specification Section 02715. Gravity sewers 18-inch diameter and larger shall be DIP with polyethylene lining (per Standard Specification Section 15056) or PVC with a suitable size dimension ratio for the installation conditions. Exceptions must be pre-approved by the District Engineer. All sewer force mains shall be PVC pipe meeting District Standard Specification Section 15064, AWWA C-900, and Class 150 pipe standards.

500.4 Force Main Criteria

The size of sewer force mains shall be determined during the design phase of the project and only after a comparative study of the construction cost and pumping costs for several alternative sizes. In no case shall a force main be less than 6-inches in diameter. The capacity of the force main shall be the design peak flow from the pump station calculated from Manning's equation using "n" = 0.013. The nominal design velocity for a force main should be 3.0-fps, with minimum velocity of 2.0-fps, and maximum allowed 8.0-fps. The discharge shall be into a manhole with a smooth flow transition to a gravity sewer. The manhole shall be epoxy coated on the interior or PVC lined for corrosion protection.

500.5 Manholes

Refer to District Standard Specification Section 03461, Precast Reinforced Concrete Manholes and Manhole Bases for additional information.

500.5.1 Manhole Spacing and Location

Manholes shall be installed at the end of each line; at all changes in grade, size, or alignment; at all intersections; and at distances not greater than 300 feet for 6-inch sewers, 400 feet for 8- through 15-inch sewers and 500 feet for 18- to 30-inch sewers. If a sewer is curved, closer spacing of manholes will be required. Greater spacing may be permitted in larger sewers. Only one curve (horizontal or vertical) shall be allowed between any two manholes.

500.5.2 Manhole Type, Size, and Depth

Manhole depth is calculated from finish grade to lowest pipe invert. Minimum manhole depth is to be 5 feet unless approved otherwise by the District Engineer. Manholes shall typically be from 7 feet to 12 feet deep. Manholes over 20-ft deep must be approved by the District Engineer. Depth of manhole shall be measured from the pipe invert to the finished surface of the street with a tolerance of ± 1-inch. Manholes shall be pre-cast reinforced concrete with an eccentric cone. The minimum internal diameter shall be 48-inches. Pipe penetrations shall not exceed 30% of the internal circumference. Large or numerous pipe penetrations may require the installation of larger diameter manholes. Manholes over 20-ft deep may require larger diameters, at the direction of the District Engineer. For larger sized sewer mains or special circumstances, the manhole size will be as shown on plans.

500.5.3 Minimum Assumed Head Losses Thru Manholes

Minimum head loss in manholes shall be as follows:

1. Straight run through manholes based on 0.20 foot loss.

2. Right angle turn in manholes based on 0.5 velocity head loss (i.e. (0.5)(V2/2g)), or 0.30 foot, whichever is greater.

500.5.4 T-Lock Lined Manholes

The District has been experiencing substantial deterioration in manholes at some locations due to hydrogen sulfide gases released from sewage flow. In order to mitigate the problem on future sewers, the District requires manholes that meet certain criteria be constructed with an integral

PVC liner. The District-approved PVC liner material/process is Ameron T-LockTM liner. The District has established the following criterion to govern the requirement for lining manholes with a PVC liner:

1. If the sewer has a slope of 7% or greater, then all manholes will be PVC-lined.

2. Where there is a change in slope, from steep to flat (relative to the direction of flow), of 5% or greater, the manhole at the grade change and the next manhole upstream will be PVC-lined.

3. All drop manholes, including force main terminal (i.e. the transition from forced flow to gravity flow) manholes, will be PVC-lined.

4. When required by the District Engineer.

500.5.5 Manhole Covers

Cast-iron covers and frames shall be provided in accordance with District Standard Specification Section 03461 and Standard Plan S-3. At the completion of final paving, the manholes shall be raised to final grade by using the necessary sized grade rings.

500.5.6 Access to Manholes

All sewer manholes shall be designed and constructed with a direct access to them. Manhole steps shall not be installed. Unpaved access may be allowed as determined by the District Engineer.

500.6 Cleanouts

Use of clean-outs (as shown in District Standard Plan S-6) on service laterals and sewer mainlines shall be required in the following instances unless otherwise approved by the District Engineer.

1. At the point of connection to the building drain.

2. At any single turn greater than forty-five degrees.

3. At intervals not to exceed one hundred (100) feet along the side sewer system.

4. Short sections of sewer main, less than 250-feet that will be extended.

5. All commercial and industrial sewer lateral installations at the property line.

6. Between manholes, if there is a reverse curve in the sewer main, to facilitate cleaning of the main line.

7. Special instances such as on a sewer lateral to a single family residential lot where the dwelling unit is set back more than 100-feet from the property line, where there is a large slope up to the building pad from the property line and a grade change in the lateral is necessary, or where the sewer lateral enters the rear of the lot from a public right-of-way.

8. On a lateral where the overflow level of the lowest wastewater fixture in the building is below the rim elevation of the uphill sewer manhole on the main line. In this situation the rim elevation of the clean-out installed at the property line shall be at least 6-inches below the overflow elevation of the lowest wastewater fixture on the lateral. A backflow prevention device is required on the lateral per Section 4.11 of the District‘s Code.

500.7 House Laterals and Minimum Depth at Curb

All sewer laterals shall be located by the applicant and shown (with stationing) on the improvement plans. House connections shall be constructed to the property line. There shall be one house sewer lateral constructed for each individually owned dwelling unit and it shall have a minimum diameter of 4 inches. Four-inch sewer house connections shall be laid to the grade as established by the applicant so that the 4-inch house connection will have a minimum cover of 3 feet from the top of the curb to the top of the pipe per Standard Plan S-7. The sewer laterals from the main to the building, and inside the buildings are governed by the Uniform Plumbing Code and enforced by the local building authority.

500.8 Townhouses and Condominium Laterals

For buildings containing two to four units, either one 4-inch diameter lateral to each unit or one 6-inch or larger diameter lateral to the building shall be used. For buildings containing more than four units, either one 4-inch diameter lateral to each unit or one 8-inch or larger diameter lateral to the building shall be used. A lateral shall serve only one building regardless of number of units per building.

500.9 Backwater Prevention

Backwater prevention devices are required on sewer laterals connecting to all buildings. Variances may be considered by the District Engineer on a case by case basis. Exceptions cannot be granted for laterals to buildings where the building ground floor elevation is below the rim elevation of the uphill sewer manhole on the main line.

500.10 Industrial Pretreatment

Requirements for industrial pretreatment of sewage will be determined by the Monterey Regional Water Pollution Control Agency (MRWPCA). Design requirements will be dependent upon those industrial pretreatment requirements.

500.11 Grease Interceptors

All restaurants and other facilities which discharge grease into the District's sewers shall be required to use grease traps or grease interceptors to minimize grease problems in collection systems and treatment plants.The minimum interceptor size shall be 750 gallons. All interceptors shall be equipped with automatic drawoff devices for easier removal of accumulated grease. Small kitchens may install grease traps instead of interceptors, with the approval of the District Engineer. Comply with Appendix 15 and the Uniform Plumbing Code for sizing. It will be the responsibility of the owner of each facility to maintain proper operating order of the interceptor unit and to remove accumulated grease at suitable intervals to avoid excessive buildup in the unit. The Marina Coast Water District approves the location and design of the interceptor unit.

500.12 Standard Sewer Notes

Standard sewer notes to be included on all sewer system construction plans shall be as follows:

1. The sewer system as shown on these plans shall be constructed in accordance with the standard plans and specifications of the Marina Coast Water District. Contractor shall keep a copy of the standard specifications and drawings on the jobsite at all times.

2. The Marina Coast Water District shall be notified at least 48 hours prior to commencing work on the sewers. Phone (831) 384-6131 for inspection. A preconstruction meeting shall be held at least 24 hours before starting construction.

3. Sewer Connection: 4-inch house connection is to be constructed from the sewer main to the property line for each lot.

4. All sewer house connections shall be placed prior to surfacing of streets.

5. All sewer lengths are calculated on horizontal distances along the centerline of the sewer.

6. Pressure testing of sewers shall be in accordance with the standard specifications of the Marina Coast Water District.

7. 00+00.00 shown on sewer profile denotes stationing along centerline sewer from downstream manhole.

8. In order to prevent accidental use of the new sewer prior to completion and acceptance, the outlet or inlet to existing tie-in manhole(s) shall be sealed with broken brick and mortar. Installation of these plugs shall be approved by the District. Plugs shall be removed at the time of final acceptance.

9. Contractor shall verify the horizontal and vertical location of all utility crossings before constructing any sewers in this project.

10. Contractor's surveyor shall stake the location of all wye fittings. All house laterals not normal to street sewer to have end of lateral at property line staked and tied to a property corner as shown on the plans.

11. The Marina Coast Water District will inspect and maintain all manholes and main line sewers. The District will inspect laterals from the main to the building line, but maintain only to the property line/clean-out. The local building department or appropriate governing agency will inspect and verify building connections to the laterals.

12. The Contractor shall conduct all tests as required in the presence of the District representative.

13. Any work to be performed inside a live manhole shall be done in accordance with Cal OSHA "Confined Spaces" and District manhole entry regulations. Manhole entry without District personnel present is not allowed.

14. All sewer manhole lids are to have "MCWD" cast thereon as shown in Standard Plan S-3 of Marina Coast Water District's "Standard Plans and Specifications for Construction of Domestic Water, Sewer and Recycled Water Facilities."

15. The applicant is to provide the Marina Coast Water District with a record drawings set of job prints with tie-down measurements for all laterals and manholes.

16. Curb face shall be inscribed with an "S" indicating location of all sewer laterals.

WDR Grease Public Outreach Plan FY 15/16

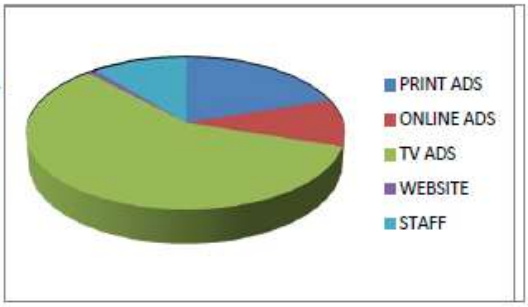
Attachment A

WDR Grease Public Outreach Plan
FY 15/16

Media Type	Budget Detail Summary
TV KSBW TV, Channel 8 KSMS TV, Channel 67 (Univision)	**(57%)** 7 weeks, 76 ads, 0:15 8 weeks, 86 ads, 0:15 (162 total ads)
Print Carmel Pine Cone, Fri Monterey County Weekly, Thu	**(21%)** 2 ads* (1/5 pg, b/w) 8 ads (1/6 page, color)
Internet Website – ClogBusters.org and Facebook Hosting, backups, archiving, 2 website updates, FB posts	**(1%)** 12 months
Online Ads & Search Marketing KSBW TV Channel 8 1 month KSMS TV Channel 67 (Univision) 2 months	**(10%)** 40,000 impressions/mo Unlimited impressions/mo
Staff/Misc. Program management; Facebook	**(11%)**
Total Budget	**$13698.00 Group**

Note: expense percentage for each media type is percentage of $13,698.0 shared group budget.

* CAWD and PBCSD contributing $2880 to run 16 additional biweekly ads through March 18, 2015 (18 ads total).



Attachment B

Southern Monterey Bay Dischargers Grease Outreach Partnership

SHARED COSTS FOR FY 15/16 PUBLIC EDUCATION PROGRAM ON GREASE DISPOSAL PRACTICES

PUBLIC EDUCATION PROGRAM BUDGET = $18,000

ENTITY	POPLUATON WITHIN AREA TO BE COVERED BY REGIONAL WDR PROGRAM	PERCENTAGE OF BUDGET TO BE PAID BY THIS ENTITY	CONTRIBUTION TOWARD FY 2015/2016 BUDGET
City of Salinas	150,441	52.756%	$7226.53
Seaside County Sanitation District[1]	34,983	12.268%	$1680.48
Marina Coast Water District[2]	33,364	11.700%	$1602.68
City of Monterey	27,810	9.752%	$1335.84
City of Pacific Grove	15,041	5.275%	$ 722.58
Castroville Community Services District[3]	7,204	2.526%	$ 346.03
California American Water[4]	6,380	2.237%	$ 306.44
Pebble Beach Community Service District	4,509	1.581%	$ 216.58*
Carmel Area Wastewater District	3,722	1.305%	$ 178.77*
County of Monterey	1710	0.599%	$ 82.07
TOTAL	285,164	100.00%	$13,698.00

Notes:

[1] Combined 2010 Census population of Seaside, Sand City, and Del Rey Oaks.
[2] Combined 2010 Census population of City of Marina and Ord Community population provided by MCWD
[3] Combined 2010 Census population of Castroville and Moro Cojo area population reported by Castroville Community Service District. Revised to include Moss Landing 2010 Census population.
[4] Combined population of Oak Hills, Indian Springs, Las Palmas, Spreckels, Pasadera, White Oaks, Village Green, Carmel Valley Ranch provide by Cal-Am September 2011.

* PBCSD and CAWD contribution would increase $1440.00 ea for additional Carmel Pine Cone ads through March 2016.