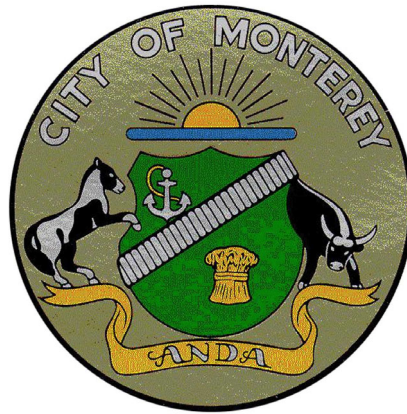


# City of Monterey

## Sewer System Management Plan

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**Certified April 2018**

**Revised May 2019**

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### Acronyms and Abbreviations

BMP	Best Management Practice
CalOES	California Office of Emergency Services
CCTV	Closed Circuit Television
CIP	Capital Improvement Program
City	City of Monterey
CIWQS	California Integrated Water Quality System
EPA	Environmental Protection Agency
FOG	Fats, Oil, and Grease
FSE	Food Services Establishment
GIS	Geographic Information System (GIS)
GPS	Global Positioning System
HMA	Hot List Maintenance Area
I/I	Inflow and Infiltration
LRO	Legally Responsible Official
M1W (formerly MRWPCA)	Monterey One Water (new name of Monterey Regional Water Pollution Control Agency, formerly MRWPCA)
MCHD	Monterey County Environmental Health Department
NSA Monterey	U. S. Naval Support Activity Monterey
OES (or CalOES)	Office of Emergency Services
O&M	Operation and Maintenance
PLSD	Private Lateral Sewage Discharge
POM	U. S. Army Garrison Presidio of Monterey
ppm	Parts per million
RWQCB	Central Coast Regional Water Quality Control Board (Region 3)
SCADA	Supervisory Control and Data Acquisition
SECAP	Sewer Evaluation and Capacity Assessment Plan
SOP	Standard Operating Procedure
SSMP	Sewer System Management Plan
SSO	Sanitary Sewer Overflow
SWRCB	State Water Resources Control Board
WDRs	SWRCB Waste Discharge Requirements (Used herein to reference regulations in Orders No. 2006-0003-DWQ & WQ 2013-0058-EXEC.)

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## INTRODUCTION

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### Legal Requirements

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 Systems. These WDRs were subsequently amended with an updated Monitoring and Reporting Program under Order No. WQ 2013-0058-EXEC. Collectively, the 2006 and 2013 regulations are referred to herein as WDRs, and are attached in **Appendix 1**.

Generally, the WDRs require the City of Monterey (City) to maintain and implement a Sewer System Management Plan (SSMP) that provides a guide to properly manage, operate, and maintain all parts of its sanitary sewer collection and conveyance system in order to help reduce and prevent sanitary sewer overflows (SSOs), as well as mitigate any SSOs that occur. To facilitate proper funding and management of sanitary sewer systems, each

Enrollee must develop and implement a system-specific Sewer System Management Plan (SSMP). To be effective, SSMPs must include provisions to provide proper and efficient management, operation, and maintenance of

sanitary sewer systems, while taking into consideration risk management and cost benefit analysis. Additionally, the SWRCB requires a SSMP to contain an SSMP must contain a spill response plan that establishes standard procedures for immediate response to an SSO in a manner designed to minimize water quality impacts and potential nuisance conditions.

The WDRs require any public agency that owns or operates a sanitary sewer system more than one mile in length that collect and/or convey untreated or partially treated wastewater to a publicly owned treatment facility in the State of California to comply with the terms of the requirements of the WDRs in order to reduce the number of SSOs with particular notification and reporting requirements. Under the WDRs, agencies must electronically report SSOs to the State Water Resources Control Board and develop a SSMP that describes how it operates, maintains, and evaluates its sewer system.

The City of Monterey is an incorporated city in Monterey County, California. The city encompasses 8.6 square miles of land and 3.47 square miles of water (in the Monterey Bay). Per the 2010 U.S. Census, the population of the City of Monterey was 27,810 people. The City sewer infrastructure consists of 99 miles of gravity sewer mains and 1.5 miles of force mains, 7 lift stations, and over 2,300 manholes, and structures located in City easements on federally owned property at the U.S. Naval Support Activity Monterey (NSA Monterey) and the U.S. Army Garrison Presidio of Monterey (POM). The POM sanitary sewer collection and conveyance system is owned by the City of Monterey, but was traditionally a separate system.

## **Sewer System Management Plan Requirements**

The City has developed this SSMP per the requirements of the WDRs. This SSMP identifies how the City complies or implements the following WDR-prescribed SSMP Elements:

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

The City currently implements a variety of programs that meet the WDR objectives and are consistent with the specific requirements of the SSMP. The sections of this SSMP are organized to correspond with the 11 elements listed above. The SSMP integrates many on-going City activities into this one formal document. Some of these activities are described in greater detail in other documents that are referenced in the SSMP. Applicable documents are kept at the Public Works Department Office located at City Hall, 580 Pacific Street, Room 7, Monterey, CA. This SSMP is also available online to the public at [Monterey.org](http://Monterey.org).

# SSMP ELEMENTS

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## Element 1: Goals

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

The City of Monterey (City) has the following goals for the management and maintenance of the sanitary sewer collection system. These goals provide focus for City Staff to continue high-quality work to operate and maintain City facilities and to implement improvements for management of the collection system to prevent sanitary sewer overflows (SSOs). The role of the SSMP in supporting these goals is discussed below. These goals will be evaluated biennially as a part of Element 9: Monitoring, Measurement and Program Modification to assess the City's success in implementing and meeting the objectives of these goals.

Using the policies and procedures outlined in this SSMP, the City aims to achieve the following goals:

1. Reduce the occurrences of Sanitary Sewer Overflows (SSOs) and respond quickly to mitigate any impact of the overflow.
2. Complete citywide Sanitary Sewer Collection System Rehabilitation Project construction in 2019;
3. Continue to identify and prioritize structural deficiencies and implement short-term maintenance and rehabilitation actions to address each deficiency.
4. Update and maintain standards and specifications for the installation of new sewer assets and rehabilitated existing sewer assets.
5. Exercise preventative maintenance on the collection system as outlined in the Operation and Maintenance Program to decrease SSOs.
6. Perform an on-going Condition Assessment of collection system on a 10-year cycle, with a goal of completing 10% of the sewer collection system per year.
7. Continue to update inventory of FOG-producing facilities and implement FOG inspection program as a SSO reduction strategy.
8. Annually communicate with satellite sewer systems regarding the operation and maintenance of these systems.

## Element 2: Organization

**WDR requirement: The City’s SSMP must identify:**

**a) The name of the responsible or authorized representative;**

The Legally Responsible Official (LRO) for the City of Monterey is Steve Wittry, Public Works Director. His duly authorized representative is Tricia Wotan, Environmental Regulations Manager.

A table listing the City-designated roles with the SWRCB and in the California Integrated Water Quality System (CIWQS) Online SSO Database is below, and a memo of the same information is in **Appendix 2**.

Name	Title	CIWQS SSO Database	CIWQS Party ID	CIWQS Start Date
Steve Wittry	Public Works Director	Legally Responsible Official (LRO)	549193	11/26/2014
Tricia Wotan	Environmental Regulations Mngr.	Duly Authorized Rep. for LRO	546205	04/22/2014
Sara Myers	Maintenance Technician	Data Submitter	563563	4/21/2017
Lucas Russell	Harbor Security Worker	Data Submitter	549303	12/04/2014
Christopher Singh	Street and Utilities Supervisor	Data Submitter	485279	09/12/2008

Also, an April 2018 Organizational Chart with lines of authority is contained in **Appendix 3**.

**b) The names and telephone numbers for management, administrative, and maintenance positions responsible for implementing specific measures in the SSMP. Include lines of authority as shown in an organization chart or similar document with a narrative explanation;**

Name and Title	SSMP Responsibilities	Contact Information
<p><b>City Council</b></p> <p>Clyde Roberson <i>Mayor – Nov. 2018</i></p> <p>Dan Albert <i>Councilmember – Nov. 2020</i></p> <p>Timothy Barrett <i>Councilmember – Nov. 2018</i></p>	<p>The City Council directs the City Manager, Legal Counsel, and Public Works Director in the management of all eleven (11) SSMP Elements.</p>	<p>The Mayor and Council may be reached by contacting their Executive Assistant at: Office: (831) 646–3760</p> <p>Or, by completing a Citizen Comment Form online at Monterey.org</p>

Name and Title	SSMP Responsibilities	Contact Information
<p>Alan Haffa <i>Councilmember – Nov. 2020</i></p> <p>Ed Smith <i>Vice Mayor – Nov. 2018</i></p>		
<p>Hans Uslar Interim City Manager</p> <p>Bonnie Gawf Interim Assist. City Manager</p>	<p>The City Manager or Assistant City Manager directs the management of all eleven (11) SSMP Elements, in coordination with the Public Works Director.</p>	<p>City Manager Office (831) 646-3760 <a href="mailto:uslar@monterey.org">uslar@monterey.org</a></p>
<p>Christine Davi City Attorney</p>	<p>The City Attorney, in coordination with the Public Works Director, assists in the management of Element 3, Legal Authority.</p>	<p>City Attorney Office (831) 646-3915 <a href="mailto:davi@monterey.org">davi@monterey.org</a></p>
<p>Steve Wittry Public Works Director</p> <p>and</p> <p>Tricia Wotan Environmental Reg. Mngr.</p>	<p>The Public Works Director, in coordination with the Environmental Regulations Manager, is responsible for the overall management of the SSMP and specifically directs or manages the implementation of all 11 Goals:</p> <ul style="list-style-type: none"> <li>• Element 1 – Goal;</li> <li>• Element 2 – Organization;</li> <li>• Element 3 – Legal Authority;</li> <li>• Element 4 - Operation and Maintenance Program;</li> <li>• Element 5 – Design and Performance Provisions;</li> <li>• Element 6 – Overflow Emergency Response Plan;</li> <li>• Element 7 – FOG Control Program;</li> <li>• Element 8 – System Evaluation and Capacity Assurance Plan;</li> </ul>	<p>Public Works Office: (831) 646-3921 <a href="mailto:wittry@monterey.org">wittry@monterey.org</a>;</p> <p>Environ. Reg. Office: (831) 646-3895 <a href="mailto:wotan@monterey.org">wotan@monterey.org</a></p>

Name and Title	SSMP Responsibilities	Contact Information
	<ul style="list-style-type: none"> <li>• Element 9 – Monitoring, Measurement, and Program Modifications;</li> <li>• Element 10 – SSMP Audits; and</li> <li>• Element 11 – Communication Program</li> </ul>	
<p>Bret Johnson  Fleet and Streets Operations Manager</p> <p>Gaudenz Panholzer Fire Chief, Fire Dept.</p>	<p>The Fleet and Streets Operations Manager, in coordination with the Public Works Director, is responsible for the management and implementation of:</p> <ul style="list-style-type: none"> <li>• Element 4 - Operation and Maintenance Program; and</li> <li>• Element 6 – Overflow Emergency Response Plan.</li> </ul> <p>[In emergencies, Fire Dept. may direct aspects of spill containment, support, and agency notifications.]</p>	<p>Streets and Utilities Office: (831) 646-3927 BJohnson@monterey.org</p> <p>Fire Department Office: (831) 646-3900 Panholzer@monterey.org</p>
<p>Christopher Singh, and Elmo Concalves, Street and Utility Supervisors; Sara Myers, Maintenance Technician</p> <p>John Haynes, Harbormaster; Lucas Russell, Harbor Security Worker</p> <p>Tricia Wotan, Environ. Reg. Manager; Kevin Anderson, Environ. Reg. Analyst</p>	<p>The Streets and Utilities Supervisors assist in the implementation of:</p> <ul style="list-style-type: none"> <li>• Element 4 - Operation and Maintenance Program; and,</li> <li>• Element 6 – Overflow Emergency Response Plan.</li> </ul> <p>Harbor staff assists with Element 6 – Overflow Emergency Response Plan as it relates to the Monterey Harbor.</p> <p>Environmental Regulations staff assists with Elements 4 and 6, as well.</p>	<p>Streets and Utilities Office: (831) 646-3927 Singh@monterey.org; Concalves@monterey.org Myers@monterey.org</p> <p>Harbormaster Office: (831) 646-3950 Haynes@monterey.org Lrussell@monterey.org</p> <p>Environmental Reg. Office: (831)646-3746 Kanderso@monterey.org</p>
<p>John Kuehl, Chief of Inspection Services/Building Official</p>	<p>Permits and Inspection Services, in coordination with the Public Works</p>	<p>Permits and Inspection Services Office: (831)646-3891 Kuehl@monterey.org</p>



Name and Title	SSMP Responsibilities	Contact Information
Kevin Anderson, Environ. Reg. Analyst	Director and Environmental Regulations, assists in the implementation of: <ul style="list-style-type: none"> <li>• Element 5 – Design and Performance Provisions;</li> <li>• Element 6 – Overflow Emergency Response Plan;</li> <li>• Element 7 – FOG Control Program.</li> </ul>	Environmental Regs. Office: (831)646-3746 Kanderso@monterey.org

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

SSO reports typically begin with a call from an observer to the City of Monterey or 911 dispatchers. During business hours the City sewer spill telephone contact number is (831)646-3921 or 911. After City business hours the contact number is the City Non-Emergency Number (831)646-3914 or 911. This Chain of Communication process is outlined in **Appendix 4**.

During the process of responding to a SSO, the following actions are taken as outlined in Appendix 4 and described below to verify the report and ensure the safety of the public:

1. During business hours, Public Works Department Streets and Utilities Division receives calls from an observer or emergency services, obtains the location of concern, description of the problem, and responds to the location.
2. After hours, the Fire Department responds to the described location to verify the SSO report, and notifies the Public Works Streets and Utilities On-Call response crew for sewer utility support.
3. The spill response plan contained in Element 6 is initiated.
4. Per the WDRs, City Fire or Public Works notifies California Office of Emergency Services (CalOES) within two (2) hours of the City becoming aware of a Category 1 SSO greater than or equal to 1,000 gallons discharged to a surface water or spilled in a location where it probably will be discharged to surface water.

CalOES notifies multiple agencies, including the Monterey County Health Department (MCHD), though City Fire or Public Works staff typically contacts MCHD directly, as well.

5. Upon completion of containment and clean-up, the Public Works Streets and Utilities Supervisor or designee will initiate the draft SSO Report in CIWQS for LRP review and certification. Information is collected from field crew(s) to inform the CIWQS report, which may include a Fire Incident Report and/or Streets and Utilities Work Order.

The City's detailed spill response protocol, which includes Chain of Communication, is attached as **Appendix 15**.

Administration and maintenance positions responsible for implementing measures in the SSMP program are detailed in each section of the plan. The activities required by the SSMP are primarily overseen by the Public Works Department. The Fleet and Streets Operations Manager and any associated event Supervisors are the lead for the crews responsible for the sewer collection system under the Public Works Director.

Within the Public Works Department, the Streets and Utilities Division oversees operation and maintenance of the system with one (1) Fleet and Streets Operations Manager, two (2) Supervisors, and 12 maintenance personnel. Streets Division staff respond to sewage spills seven days a week, 24 hours a day. The Engineering and Environmental Regulations Divisions are generally responsible for system CCTV inspection, mapping, design, analysis, and capital project programming. Sewer spill reporting is prepared by Public Works, and may be completed in coordination with Fire Incident information when emergency services are involved.

### Element 3: Legal Authority

As required by the WDRs and any future amendments thereto, the City of Monterey has established existing legal authorities for oversight of its sanitary sewer collection and conveyance system through ordinances and agreements.

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

- a) Prevent illicit discharges into its sanitary sewer system (examples may include I/I, stormwater, chemical dumping, unauthorized debris and cut roots, etc.)**

The City's sewers and sewage disposal ordinance provides City staff with authority to enforce all of the above. City Code Chapter 30 Sewers and Sewage Disposal (**Appendix 5**) governs sewers and sewage disposal in the City of Monterey. Section 30-1.5 which was incorporated by Ordinance 3284 (September 2000), specifically pertains to maintenance of sewer laterals and requires that "the lateral shall be maintained in a manner that prevents the entry of ground water or surface waters into the conveyance." In the same manner, the City is required to maintain its own system to control infiltration from inflow sources. Monterey One Water (M1W), formerly the Monterey Regional Water Pollution Control Agency (MRWPCA), Ordinance 2008-01 (**Appendix 6**) is incorporated by reference into the City of Monterey City Code. M1W Ordinance 92-02 section 2.03, entitled "Prohibitions on Storm Drainage and Ground Water," prohibits inflow through direct or indirect connections to the collection system. In addition, City of Monterey Ordinance 3302 requires that property owners must remove any abandoned sewer lateral, which does not serve a habitable property for a period of over three months. All documents are available at Monterey.org and can be obtained from the Public Works Department and City Clerk Office.

- b) Require that sewers and connections be properly designed and constructed;**

Sewers and connections are governed by the California Plumbing Code adopted by the City of Monterey. Also, an approved project detail standard for a "Strap-On-Saddle for Connection to PVC or Cured-In-Place Pipe" is available from Public Works (also see Appendix 14). Anyone who makes an excavation within the City right-of-way is required to first obtain a permit from the Department of Plans and Public Works as per City Code Chapter 32 Article 6 "Street Excavations." When a Street Opening Permit is obtained for the purpose of either constructing or replacing a sewer lateral, City staff inspects the connection from the lateral to the City sewer main as well as the trench backfill. The new lateral from the main to the property line is inspected by the City. The design and construction of sewer laterals are governed by Chapter 7 of the California Plumbing Code. Lateral work on private property is inspected by the City.

Sewer mains are typically designed by City Engineering staff or by consultants hired by the City. For improvements within private subdivisions that will be turned over to the City, the design must be reviewed and approved by City staff prior to construction. Public Works Inspectors inspect all sewers that are to be dedicated to the City.

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

Chapter 30-1.5 of City code outlines that the responsibility for maintaining sewer laterals in a suitable manner shall be the responsibility of the property owner served by the lateral. The City maintains access to the sewer main from the upstream and downstream structures whether that is a manhole, cleanout, or lamphole.

In 2018, the City Council is considering the start of a new Private Sewer Lateral Inspection and Repair program for implementation in 2019. If an Ordinance is adopted, this program will be added to a future SSMP update.

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

On July 5, 2005, the City of Monterey passed and adopted Ordinance No. 3357 C.S. adding Chapter 30 Article 3 of the City of Monterey Municipal Code Relating to the Installation, Maintenance, and Use of Grease Traps, Grease Interceptors of Other Comparable Devices. This ordinance sets forth the requirements for installation and maintenance of grease traps and grease interceptors for food service establishments in the City of Monterey. The resulting City code from this ordinance and subsequent revisions includes M1W Regional Grease Source Control Program codes by reference. This allows the City and M1W to work in conjunction to limit the discharge of FOG/debris-caused blockages through the entirety of the Monterey regional sewer system, from the City's collection and conveyance to the M1W regional treatment plant. Revisions to these codes may occur by the Public Works Director and/or Community Development Director proposing ordinance amendments to the City Council at public hearing, and M1W management proposing revisions to their Board.

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

Requirements of the national pretreatment program under 40 CFR 403.5 is included in M1W Ordinance 2008-01, Section 2.10.3 (**Appendix 6**); it specifies, "All National Categorical Pretreatment Standards upon their promulgation shall apply in any instance where they are more stringent than those in this Ordinance". M1W also reserves the right to apply stricter standards than the national pretreatment program. The City of Monterey has adopted M1W standards by reference in City code.

Legal authority will be periodically reviewed as changes to requirements or City policies warrant. This activity will be initiated by Public Works and/or Community Development staff and will include consultation with the City Attorney's Office and any outside agencies necessary to assure proper legal authorities are in place to implement and enforce this program.

Any violation of the City's ordinance will be enforced by the City. Depending upon the nature of the violation, the Chief Building Official, Public Works Director/City Engineer, Code Enforcement Officer, and/or the City Attorney may be involved.

The table below outlines the mechanisms by which the City maintains the legal authorities required by WDR D.13 (iii) for public and private sewer systems.

**Summary of Legal Mechanisms for Public and Private Sewer System**

WDR Requirement	Monterey City Code or M1W (MRWPCA) 2008-01 Ordinance Section
<p>D.13(iii)(a) Prevent illicit discharges into its sanitary sewer system (examples may include Inflow &amp; Infiltration (I/I), storm water, chemical dumping, unauthorized debris and cut roots, etc.).</p>	<p>City Codes:</p> <ul style="list-style-type: none"> <li>• Chapter 30, Section 30-1.5. Maintenance of Sewer Laterals. Property Owner must prevent the entry of ground water, surface waters, or roots into the sewer conveyance.</li> <li>• Chapter 30, Section 30-2. Most recent and applicable ordinance of M1W is adopted by the City.</li> </ul> <p>M1W Ordinance No. 2008-01:</p> <ul style="list-style-type: none"> <li>• Section 2.01: Prohibitions on Discharges</li> <li>• Section 2.02: Prohibitions on Toxic Pollutants</li> <li>• Section 2.03: Prohibitions on Storm Drainage and Groundwater into sewer conveyance system.</li> <li>• Section 2.04: Prohibitions on Unpolluted Water</li> <li>• Section 2.05: Prohibitions on Dilution as Substitute for Treatment</li> <li>• Section 2.06: Limitations of Radioactive Wastes</li> <li>• Section 2.07: Limitations on the Use of Garbage Grinders</li> <li>• Section 2.08: Limitations on Point of Discharge</li> <li>• Section 2.09: Holding Tank Waste</li> <li>• Section 2.10: Limitations on Wastewater Strength</li> </ul>
<p>D.13(iii)(b) Require that sewers and connections be properly designed and constructed;</p>	<p>City Codes:</p> <ul style="list-style-type: none"> <li>• Chapter 9, Articles 1.0 and 1.5 adopts the 2016 California Plumbing Code</li> <li>• Chapter 30, Section 30-6.e Permittee required to construct, modify, improve, or enlarge any sanitary sewer collection facilities.</li> <li>• Chapter 30, Section 30-8. All sewer connections shall be made in a manner satisfactory to the City Engineer and Chief of Inspection Services/Building Official.</li> <li>• Chapter 30, Section 30-2. Most recent and applicable ordinance of M1W is adopted by the City.</li> </ul> <p>M1W Section 2.11: Sewerage Design Requirements</p>

<p>D.13(iii)(c) Ensure access for maintenance, inspection, or repairs for portions of the lateral owned or maintained by the Public Agency;</p>	<p>City Codes:</p> <ul style="list-style-type: none"> <li>• Chapter 30, Section 30-5.e. The City is granted the right, without notice, to enter upon the real property in question, and to disconnect such sewer at the cost and expense for the permittee, whenever the City council revokes the permit for any reason.</li> <li>• Chapter 30, Section 30-6. Inspection, connection and construction fees; annual charges; irrevocable permits.</li> <li>• Chapter 30, Article 3 Installation, Maintenance and Use of FOG Pretreatment Equipment. Section 30-9.2. Authority to inspect.</li> <li>• Chapter 30, Section 30-2. Most recent and applicable ordinance of M1W is adopted by the City.</li> </ul> <p>M1W Section 4.07: Inspection and Sampling</p>
<p>D.13(iii)(d) Limit the discharge of fats, oils, and grease and other debris that may cause blockages;</p>	<p>City Codes:</p> <ul style="list-style-type: none"> <li>• Chapter 30, Article 3. Installation, Maintenance, and Use of Fat, Oil, and Grease Pretreatment Equipment.</li> <li>• Chapter 30, Section 30-9. Purpose. Sets implementation and enforcement policies, procedures, and requirements for food service establishments to install, maintain, and use grease traps, interceptors or other devices which represent the best technology available for fats, oil, and grease removal.</li> </ul> <p>M1W Section 2.10.2(f): Limitations on Wastewater Strength</p>
<p>D.13(iii)(e) Enforce any violation of its sewer ordinances.</p>	<p>City Codes:</p> <ul style="list-style-type: none"> <li>• Chapter 30, Section 30-1. Connections to City sewer system required. City Manager or designee has authority to enforce.</li> <li>• Chapter 30, Section 30-1.7. City Engineer has authority to ensure that closure of Sewer Laterals is properly completed.</li> <li>• Chapter 30, Section 30-2. Regulations and Standards; City Sewer System; Enforcement Authority. The M1W (Agency) or the city of Monterey are hereby authorized and empowered to administer and enforce said regulations within the City.</li> <li>• Chapter 30, Section 30-9.1. Enforcement of Article 3, FOG Article. Provisions of Article 3 are enforced by any duly authorized employee or agent of the city or by the duly appointed representative of the M1W. Enforcement authority shall be as laid out in Section 30-2.</li> </ul> <p>M1W Article 6: Enforcement M1W Article 7: Abatement</p>

## Element 4: Operations and Maintenance Program

The City of Monterey (City) is an incorporated city in Monterey County, California. The city encompasses 8.6 square miles of land and 3.47 square miles of water (in the Monterey Bay). The population of the City of Monterey is approximately 27,810 people based on the 2010 Census. The City service area and sewer infrastructure consists of 99 miles of gravity sewer mains and 1.5 miles of force mains, 7 lift stations, and over 2,300 manholes and structures located in City. This also includes sewer collection infrastructure on the federally-owned U.S. Army Garrison Presidio of Monterey (POM) and a few select sewer easements through the U.S. Naval Support Activity Monterey (NSA Monterey) but does not include the majority of the collection system on NSA Monterey properties. The POM sewer system is currently owned by the City of Monterey but was traditionally a separate system.

The City began building the existing sanitary sewer collection system in 1910. Sewer pipelines have been installed in phases as the City has expanded, beginning in 1910 and with the last major expansion in 1980. Rehabilitation and replacement projects have been ongoing to identify and replace aging areas of the system identified as deficient. A map of the City Sewer System, as well as a map identifying relative sewer system installation dates for various portions of the City, are provided in **Appendix 7**.

A detailed City Sewer Collection System Map Book is available for review and/or use at multiple Public Works Department Offices – Engineering, Environmental Regulations, and Streets and Utilities. Public Works main office is located at City Hall, 580 Pacific Street Room 7, Monterey, California. Geographic Information System (GIS) sewer system layers are also available from Public Works.

The City provides sanitary sewer collection and conveyance services for the City. The City of Monterey has an intergovernmental services agreement with the POM. Through this agreement, the two agencies partner and communicate daily on any needs related to Presidio infrastructure, including sanitary sewer flows, overflows, operations, maintenance, and rehabilitation needs.

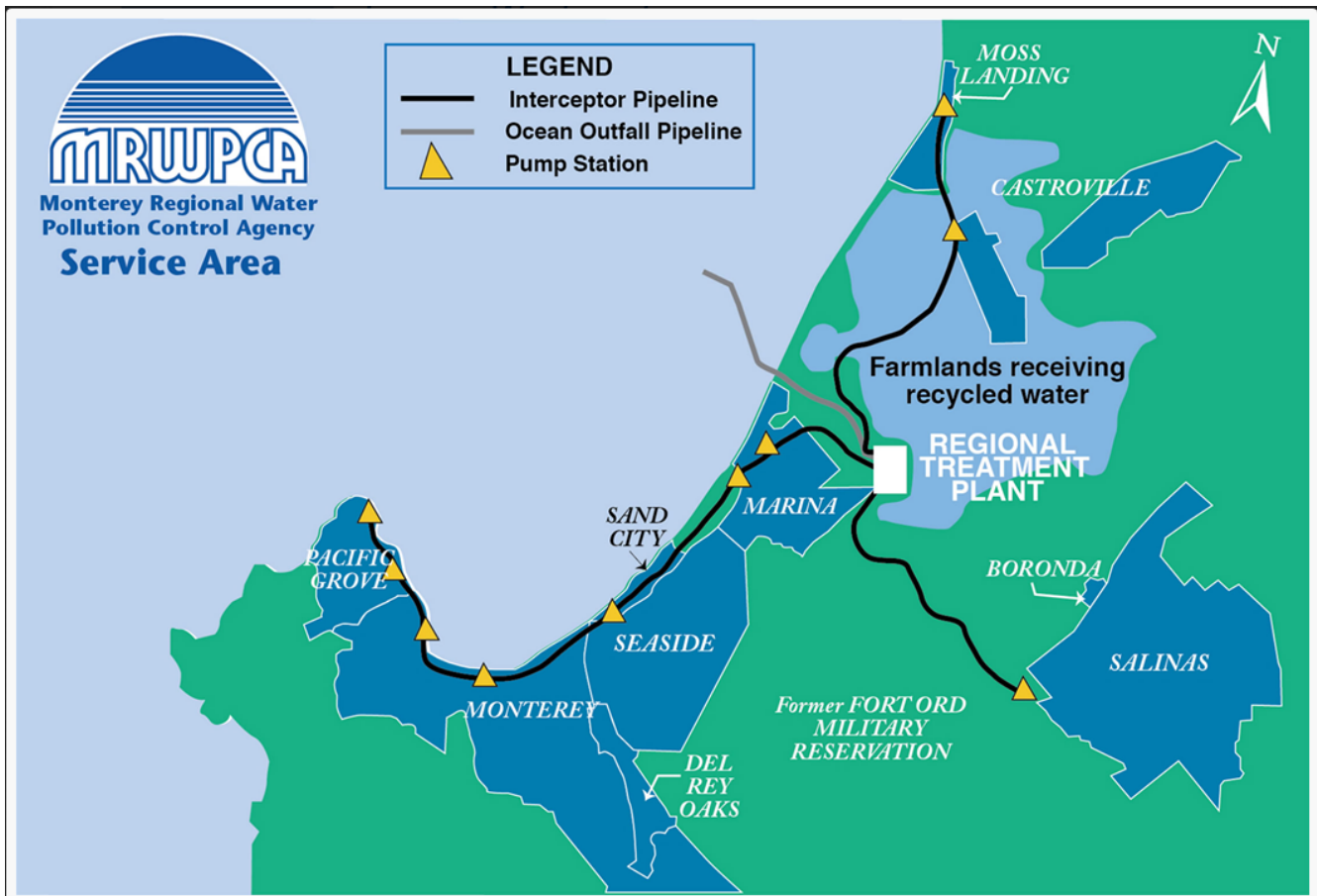
In addition, there are five (5) primary satellite sewer facilities inside and outside the City limits from which the City sewer system receives wastewater flows. These facilities include NSA Monterey facilities (generally Naval Postgraduate School, La Mesa Village Housing, and Fleet Numerical Meteorology and Oceanography Center), Monterey Peninsula College, and Monterey Peninsula Airport District.

The NSA Public Works Department manages their infrastructure, though City of Monterey Fire Department and Public Works Streets and Utilities Division may respond to and assist with NSA Monterey SSO incidents as needed. The City also coordinates with NSA Monterey in relation to the operation, maintenance, and rehabilitation of select City sanitary sewer collection pipes that run through NSA Monterey property via utility easements.

City sewer system wastewater is collected and conveyed to a regional wastewater collection system and treatment plant in Marina managed by Monterey One Water (M1W), formally known as Monterey Regional Water Pollution Control Agency (formerly MRWPCA). Below is a map of the service area for M1W, which includes wastewater from the City of Monterey among others.



**M1W Service Area and M1W Pump Station Map (2015)**



The City owns seven (7) lift stations with corresponding force mains. Lift stations are operated and maintained under contract by M1W maintenance staff. The system includes sizes ranging from 6-inch diameter to 36-inch diameter lines. The system is comprised primarily of VCP, with sections of PVC and HDPE pipe installed with newer construction and rehabilitation and replacement projects. With the exception of lift stations, all operations and maintenance activities are conducted by City Staff. This SSMP Element 4 outlines the work that is conducted to accomplish the optimal operation and maintenance of the City’s collection system. The table below shows an inventory of current wastewater conveyance pipelines.

**Existing Pipeline Inventory by Diameter**

Diameter (inches)	Length			
	Feet		Miles	
Type	Gravity	Force Main	Gravity	Force Main
6	271,814.4	5,306.4	51.48	1
8	151,588.8	2,613.6	28.71	0.5
9 - 18	62,726.4	0	11.88	0
19 - 36	10,454.4	0	1.98	0
Unknown Diameter	26,136	0	4.95	0
Totals	522,720	7,920	99	1.5
<b>System Total</b>	<b>530,640</b>		<b>100.5</b>	

**WDR Requirement:** The SSMP must include those elements listed below that are appropriate and applicable to the Enrollees system:

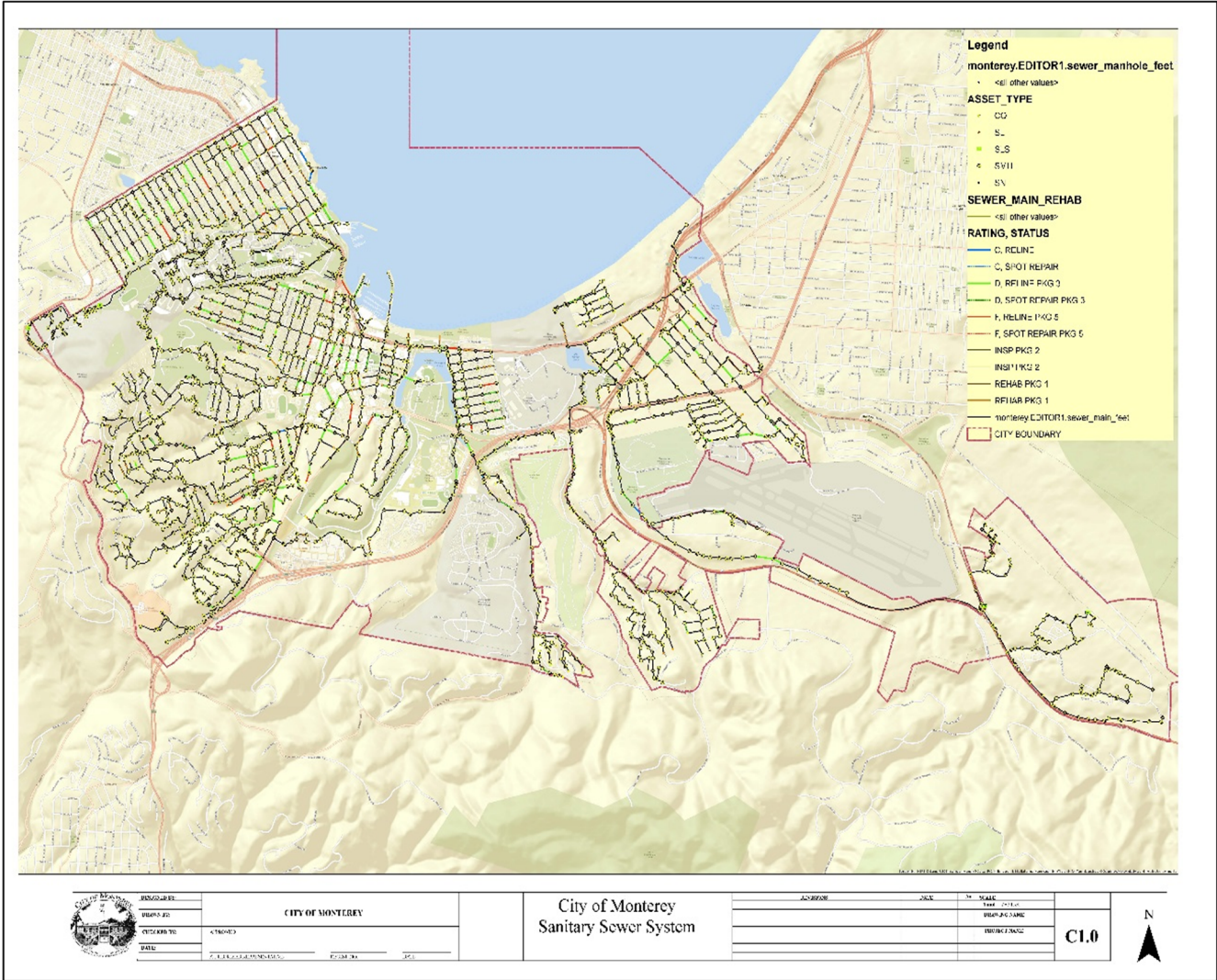
- a) **Maintain an up-to-date map of the sanitary sewer system, showing all gravity line segments and manholes, pumping facilities, pressure pipes, and valves, and applicable stormwater conveyance facilities;**

The City of Monterey Public Works Department maintains Geographic Information System (GIS) data used for a base map of the collection system. The spatial data is created using the City’s As-Built drawings, digital aerial orthophotos, and Global Position System (GPS). The geographic data is linked to information stored in Hansen Asset Management Software. The database contains condition reports, work order history, and structural information. The system map shows all gravity mains of the City-owned collection system as well as pump stations, force mains and manholes within the city limits. Data is projected into California State Plane zone IV coordinate system and assembled into 86 map book pages scaled to 1” = 200’. The City of Monterey does not maintain mapping of private laterals.

Corrections for Atlas Maps are noted and submitted to Public Works staff, who maintains a Master Atlas Map. Once corrections are confirmed, Public Works staff integrates new data in GIS layers as data is captured. Updated hard-copy maps are re-distributed to engineering and maintenance staff as appropriate and will display a date-stamp.

A general overview of the sanitary sewer collection and conveyance system is shown in the map below. Detailed sanitary sewer system atlas maps are available at the Public Works Department Engineering Office for viewing. Sewer system online mapping is also found at Monterey.org on the City GIS Maps and Data webpage.

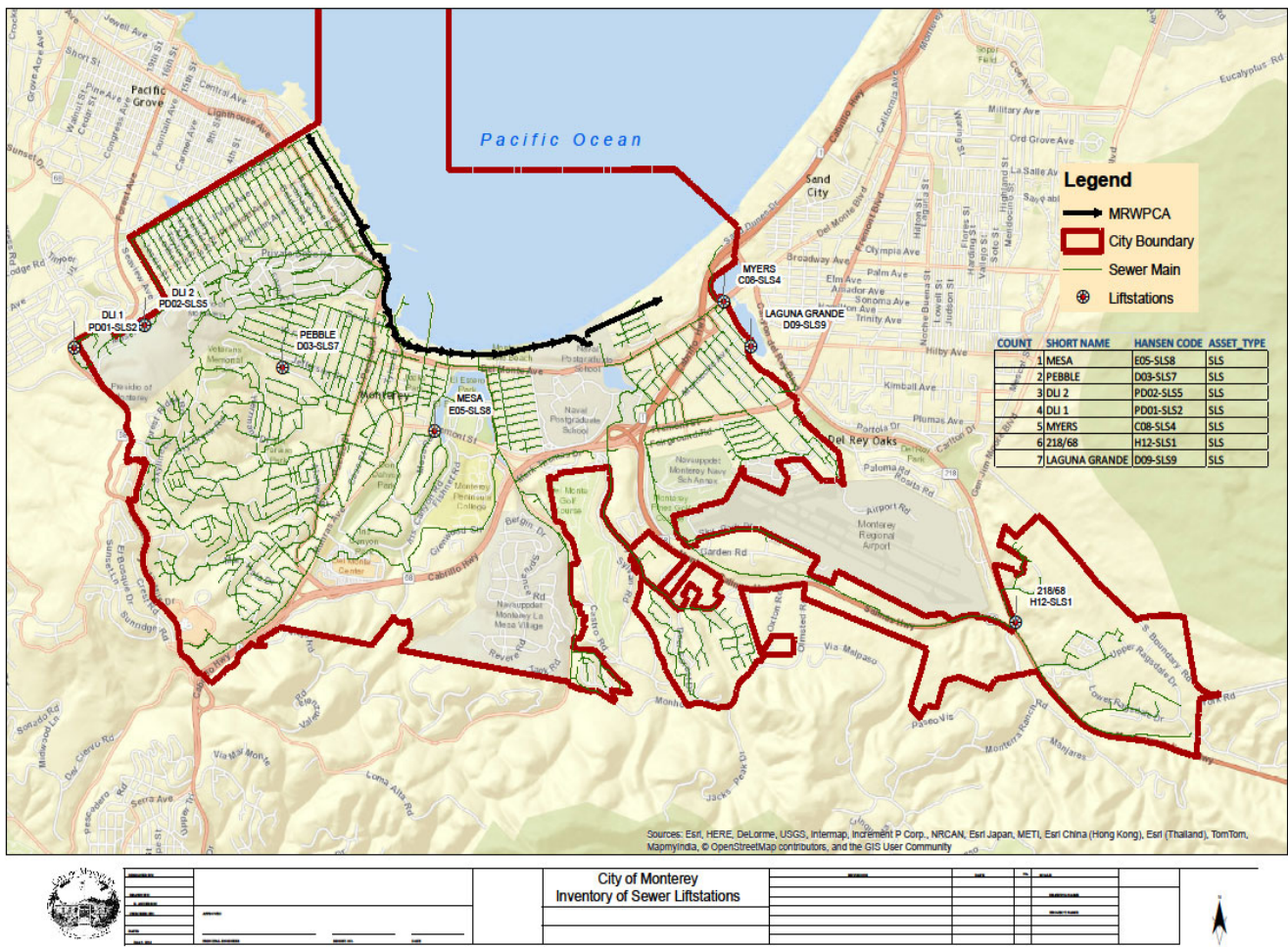
Sanitary Sewer Collection and Conveyance System Map



The City owns 7 wastewater lift stations that are operated under contract with the Monterey One Water (M1W). Lift Station locations are shown below.



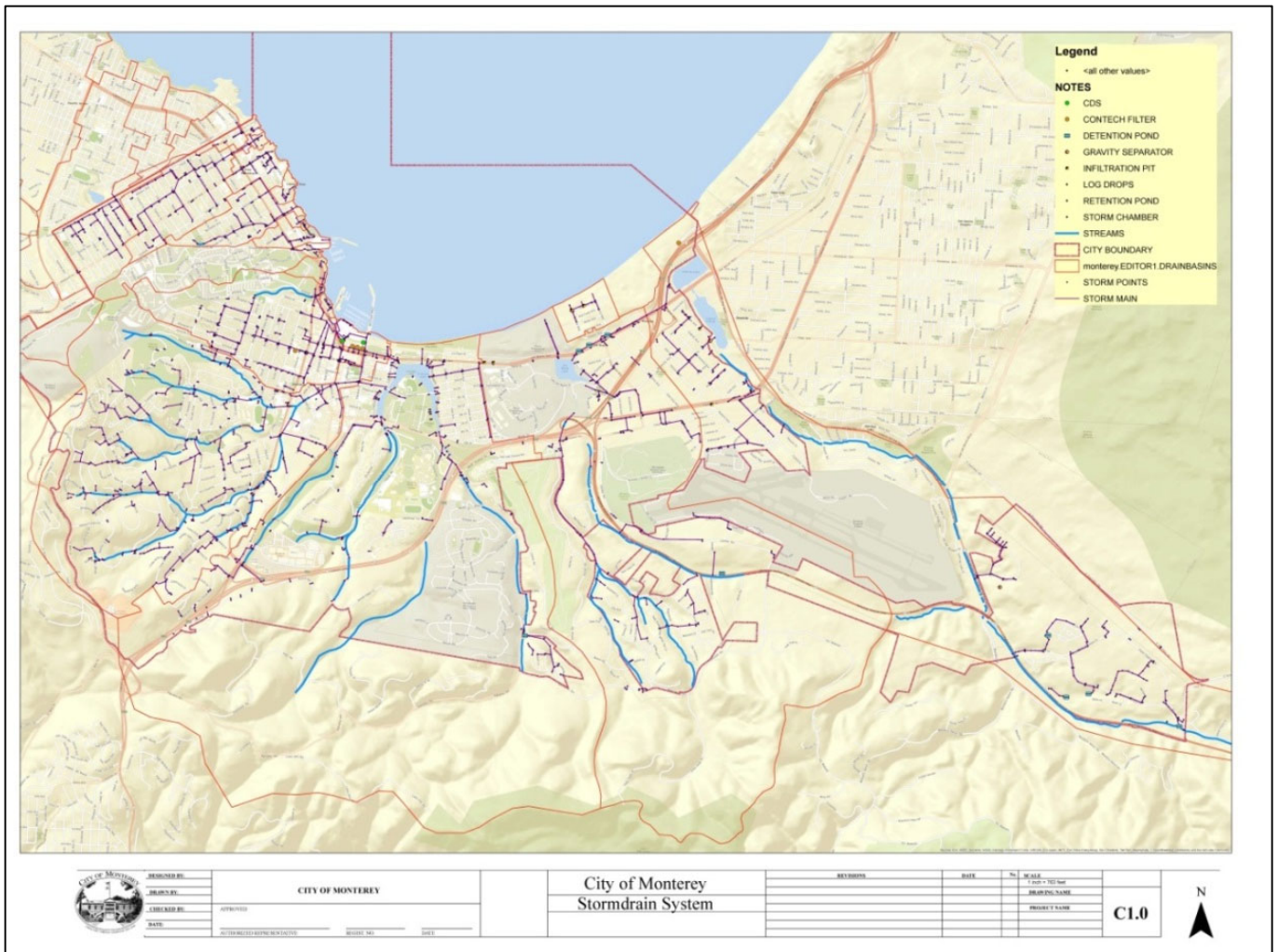
**Lift Station Overview Map**



As stated above, the City owns and operates storm water conveyance facilities within the service area. Storm water maps are maintained in the City’s GIS. GIS and hard copy maps are utilized by City maintenance staff in the event of a Sanitary Sewer Overflow (SSO) to identify storm water inlets and outlets and isolate/capture wastewater that may enter the storm drain system or surrounding water bodies.

A general overview of the storm water collection and conveyance system is shown below. A complete, detailed storm water system atlas is located at the Public Works Department, Engineering Office for viewing. Storm water drainage system mapping may also be viewed online at Monterey.org in the City GIS Maps and Data webpage.

**Storm Water Drainage System Map**



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

The City uses Hansen Asset Management Software to track information pertaining to sewers. This software tracks work order status, costs, and completion schedules. Hansen is also used to schedule recurring maintenance and cleaning. The software keeps track of all work done on a particular line, inspection results, and condition assessment data.

Preventative Maintenance

All routine preventative operations and maintenance (O&M) and repair work is managed by the Fleet and Streets Operations Manager. Sewer Maintenance Staff is normally comprised of two full time Streets and Utilities workers and additional staff who are available to support primary sewer staff in the event of an emergency or

when additional assistance is needed for sewer related work duties.

The City uses Hansen Asset Management Software to track information pertaining to sewers. This software tracks work order status, costs, and completion schedules. Hansen is also used to schedule recurring maintenance and cleaning. The software keeps track of work associated with sewer lines, manholes, tracking of inspection results and condition assessment data, and is a centralized location to store and monitor data for sewer related assets within the City's system.

City Streets and Utilities staff are responsible for systems other than wastewater collection. The City's routine preventative O&M plan extends beyond the wastewater collection system. O&M procedures outlined in this section are a summary of the City's wastewater-related O&M Program. A summary of Routine Preventative Operations & Maintenance includes, but is not limited to, the following components.

#### Closed Circuit Television (CCTV) Inspection of Sewers

The City purchased a new CCTV vehicle and equipment in 2015. Public Works staff evaluate the lines using NASSCO/PACP standards for any maintenance and structural observations noted during inspection. A summary of City CCTV condition assessment program is found in **Appendix 8**. Lines with maintenance issues (roots, grease) are submitted to maintenance crews for additional investigation. Lines that are found to have structural deficiencies are submitted to Engineering Division to be put on a capital improvement list. The City has developed a CCTV Condition Assessment Program goal to CCTV the entire system over the next ten (10) years. Approximately 10% of the system is planned to be televised annually. CCTV work will begin in areas that have not been televised since December 2006.

City staff conducts CCTV inspections on sewer lines once they have been cleaned. This provides a method of quality assurance and quality control for the sewer line cleaning program in addition to providing an overall condition assessment. CCTV assessments are also conducted to support maintenance staff in the field when an investigation is requested to discover the source of sewer line restrictions or other observed anomalies during routine maintenance activities.

#### Sewer Line Routine Cleaning

A significant function of the preventative maintenance program is routine jetting. Routine jetting includes a biannual jetting of all lines in the City. The Streets and Utilities Division has 2 full time employees dedicated to hydro jetting sewer lines year-round. Line cleaning typically consists of jetting at the upstream branches of the system, with the crew using a fork downstream to capture debris and tree roots by manual removal to prevent it from flowing downstream. The operator carries a map book of the system and highlights each segment that is cleaned at the end of each shift. The map book is submitted to Streets and Utilities Administrative staff at the end of each week, and a work order is generated in the Hansen Asset Management System and closed for each completed segment.

Manholes are inspected visually while jetting. If an infrastructure problem is identified, the Public Works Streets/Utilities jet truck operator notifies the Public Works Environmental Regulations Division (Kevin Anderson) and/or Engineering Division (Jeff Ray). A Structure Observation Form is updated noting any defects that were

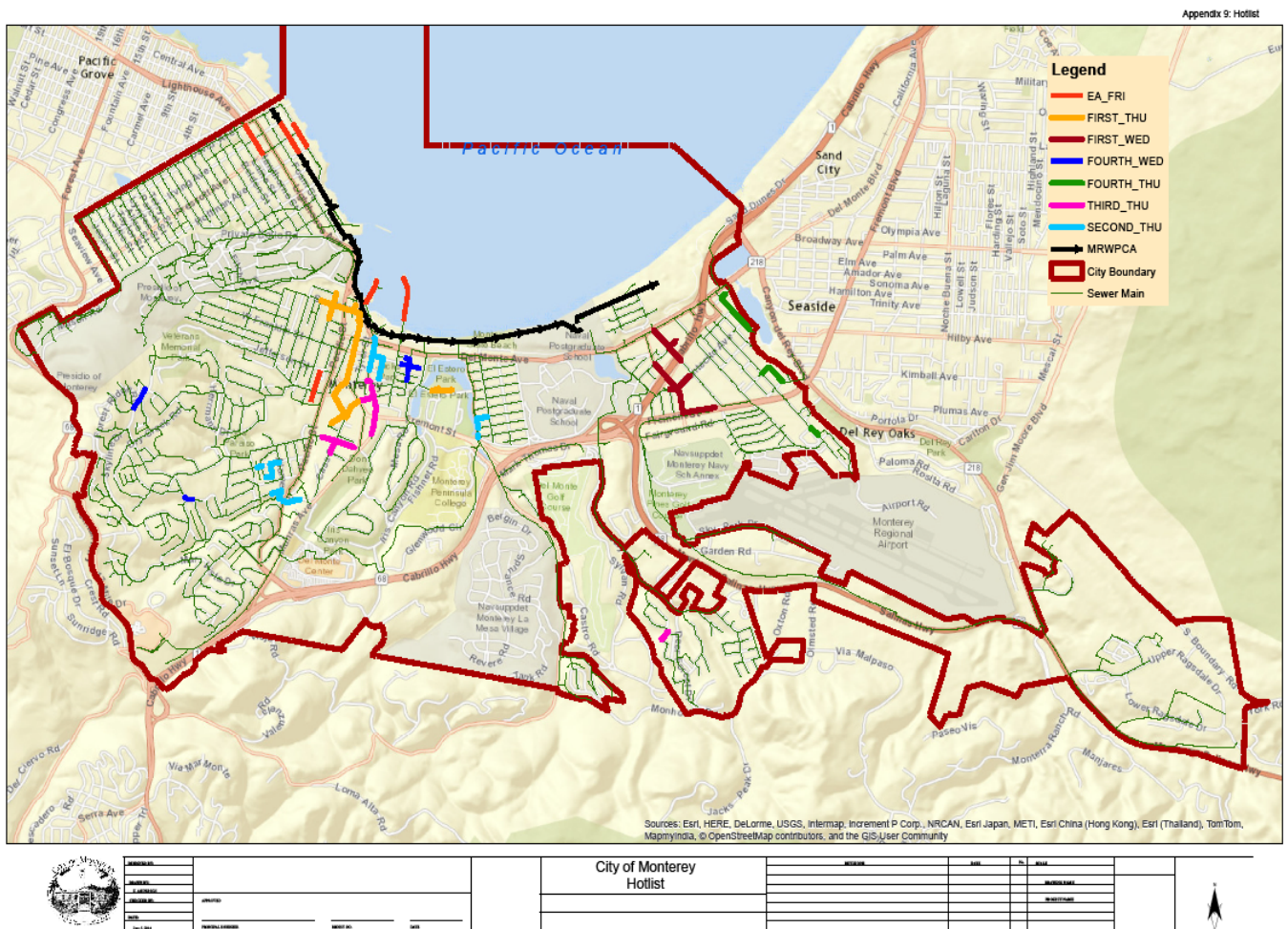


identified. If a manhole is critically failing, a work order is issued to either Streets Division, or the current City on-call contractor to make immediate repairs. If the defect is minor, it is noted in the GIS for a future CIP project.

**Hot List Maintenance Areas (HMAs)**

The Hotlist jetting is a list of pipes that are maintained on a regular (i.e. weekly, monthly, or quarterly) basis by the sewer jet crew for specific areas of the system that have experienced operational problems in the past. The current list and schedule for maintenance of HMAs can be found in **Appendix 9**. HMA inspection and cleaning results are documented on a City Sewer Atlas Map Book in the field and maintained by the Streets and Utilities Division in Hansen Work Orders. An overview map of the City’s HMAs is shown below.

**Hot List Maintenance Areas**



**Sewer Root Foaming**

The City contracts with a firm to perform sewer root foaming to address lines that contain heavy roots noted during routine jetting or CCTV inspection. During the process herbicidal foam is injected into the main to target root masses. The City conducts root foaming on approximately 48,000 linear feet of sewer lines on an annual basis for lines that are hard to access and prohibit routine line jetting or have a history of root intrusion. Root foaming is funded through the City’s Capital Improvement Program. Historic maps of City root foaming areas

between 2006 and 2016 are available from the Public Works Department; the 2016 Sewer Root Foaming map sample is contained in **Appendix 10**.

#### Manhole Inspections

City manholes are inspected in conjunction with annual sewer line cleaning activities. Public Works staff utilizes the City Sewer Atlas Book for routine documentation of manhole conditions. When significant issues are observed during these routine manhole inspections, a more detailed inspection and assessment is requested by maintenance staff to the Engineering Department. Detailed manhole inspections are documented on a Structure Observation Form or similar documentation (see example in Appendix 8). Relevant information from map sheet notes and structure observation forms are planned for future incorporation into the City's work history system in development.

#### Sewer Line Creek Crossings

The City has multiple areas where sewer lines cross creeks or a lake. These areas are visually inspected on a semi-annual basis during routine sewer line cleaning. Any indications of structural defects are documented on the City's sewer system atlas and reported to administrative staff for the development of a work order to address the observed defect. Sewer line creek crossings may also be inspected in the event of significant storms or other natural disasters that may warrant more frequent or hazard-based inspection to help ensure these pipes are structurally sound and, in a condition, that may lead to a SSO. Map sheets identifying significant creek crossings and or surface water crossings are provided in **Appendix 11**.

#### Lift Station Operation and Maintenance

Seven (7) lift stations are located in the City's service area and are owned by the City. The City contracts with M1W to provide lift station inspection, cleaning, and routine maintenance. M1W also monitors the flows through the lift stations and respond to alarms or service interruptions. City lift station information – lift station map, data table, M1W critical parts/vendors/mutual aid list, and M1W maintenance agreement with the City - is found in **Appendix 12**.

Two of the City's smaller lift stations (Mesa and Pebble Lift Stations) rely on a simplex pumping configuration while the other five lift stations are provided with duplex pumping systems for redundancy and reliability. These redundant systems allow for continued operation of a lift station in the event of pump failure. Six (6) of the City's lift stations are equipped with stationary standby generators and/or generator receptacles in the event of a power failure. The City has one portable standby generator as a backup for continued lift station operations in the event of a power or stationary generator failure. Stations are monitored remotely through a Supervisory Control and Data Acquisition (SCADA) system monitored by M1W. Operational parameters and alarms for each station can be adjusted remotely utilizing the SCADA system.

Lift stations are inspected by M1W staff weekly. Inspections consist of logging pump run times and performing a general inspection of major critical components of the station, such as pump operation, station controls, alarms, check valves and backup power supplies. The majority of these stations are equipped to operate under emergency conditions utilizing emergency backup generators. Mesa and Laguna Grande Lift Stations do not have permanent emergency power supplies on site. Mesa Lift Station is provided with a power receptacle for a

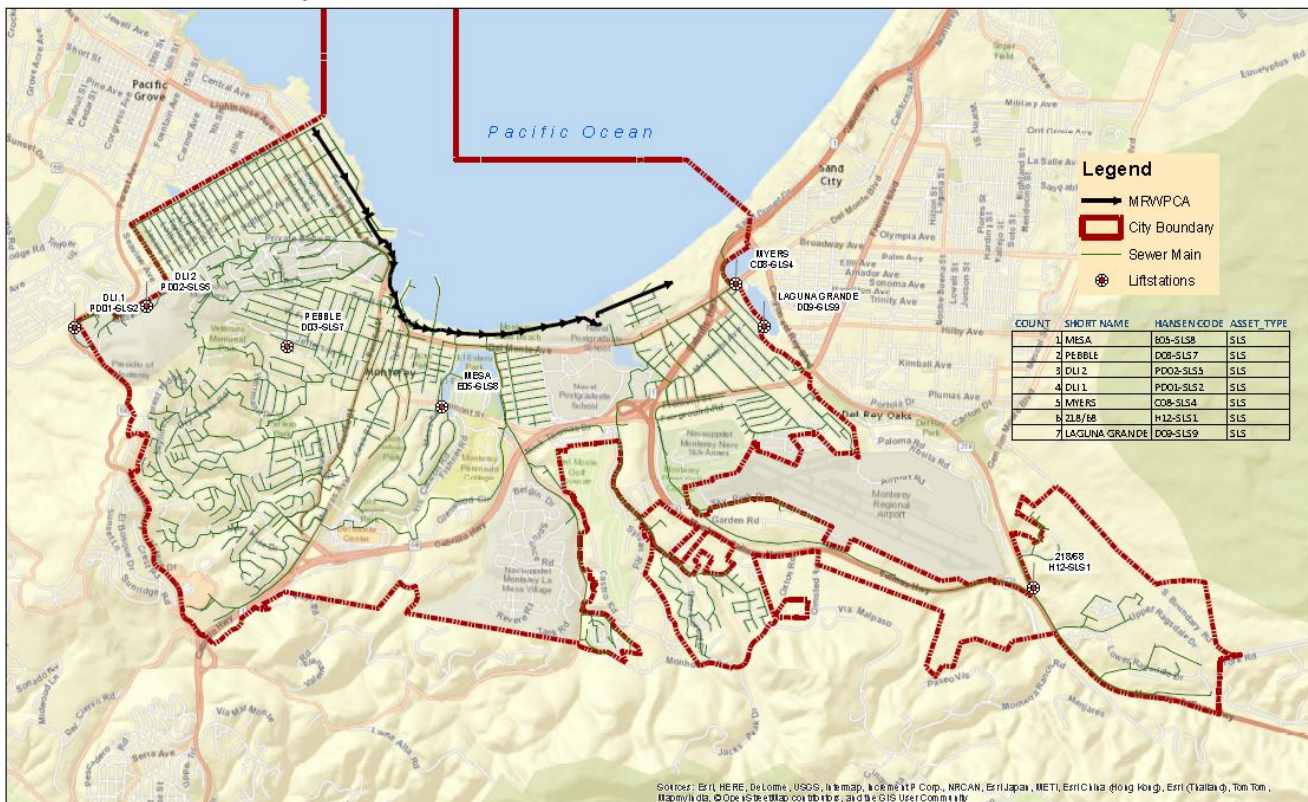


portable power supply and an auxiliary wet well overflow line in the event of an emergency. Laguna Grande has no provision for emergency power; however, flows to this lift station are limited to a City restroom that may be closed in the event of an emergency until necessary repairs to the station are completed.

Emergency power supplies for the five lift stations with permanent backup power are checked monthly. Regular lift station inspection data is logged on a Lift Station Inspection Sheet by M1W. When routine or minor maintenance is required, it is addressed and documented on weekly pump station logs. Minor maintenance tasks found on these weekly logs are designated as Code 1 work tasks. Major maintenance tasks, such as emergency response, significant system adjustments, repairs, and replacements, are identified as Code 2 work tasks and recorded on a separate Code 2 form. M1W is contractually obligated to maintain and/or obtain adequate parts and supplies to operate, maintain and respond to emergencies at the City's Lift Stations.

Records are maintained by M1W and forwarded to the City as part of a quarterly billing invoice. M1W maintains a preventative maintenance work order system to help ensure pump station components are running and maintained based on industry and manufacturers recommendations. M1W is in the process of developing a Computerized Maintenance Management System (CMMS) which will schedule and track requires operations and maintenance activities at City lift stations. A map of City lift stations is found below. Detailed maps are available in Public Works map books.

**Lift Station Overview Map**



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

Engineering studies and assessments of the City's sanitary sewer collection system performed between 2001 and 2010 provided results regarding the condition of the existing sanitary sewer collection system and identified priority repair and replacement projects. Utilizing an A through F standard rating system for the sanitary sewer collection system, sewer structures (sewer pipes, sewer manholes, and lift stations) were flagged for repair or replacement based on their existing level of defect. Those structures that received a C, D, or F rating based on the quantitative measure of structural defects have been planned for rehabilitation.

The proposed citywide sanitary sewer collection system rehabilitation project was estimated to cost approximately \$16.8 million. Toward this end, the City of Monterey acquired a low-interest loan from the State Water Resources Control Board, Clean Water State Revolving Fund (CWSRF) Program. The loan will be repaid through a phased increase of City sewer charges and connection fees approved by City Council in August 2011, following Proposition 218 procedures for sewer rate restructuring. The citywide sanitary sewer collection system rehabilitation project is planned for completion in 2019.

Going forward, the City also designated a CIP budget line item for the City Fiscal Years 2017-2019 biennial budget to accomplish on-going necessary sanitary sewer infrastructure inspection, repair, rehabilitation and replacement. The sewer rate structure funds support sewer capital project needs and yearly operations and maintenance expenses. Sewer funds will also support completing the new City goal of inspecting ten percent (10%) of the City sanitary sewer collection/conveyance system each year, which allows for inspection of the entire system over 10 years.

#### Consideration of a Sewer Lateral Inspection and Repair Program

The City is currently developing a draft Sewer Lateral Inspection and Repair Program and Ordinance to present for public review and City Council consideration in 2018. The program is being developed to achieve several objectives, with the primary goal being the reduction of private sewer lateral overflows and a reduction of municipal sanitary overflows that may be caused by defective private sewer laterals. Pending the outcome, an update of this program component will be provided in a future iteration.

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

Streets and Utilities Division staff assigned to working on sewers receives training in collection system operations and maintenance during twice monthly safety meetings and on the job training from supervisors. Training

programs include formal classroom training and on-the-job training. Training is facilitated by both City staff and outside training workshops. On-the-job cross training is pursued to ensure staff has a proficient working knowledge of the sanitary sewer system and that critical tasks can be performed without interruption.

Task proficiency is a requirement for all job positions and promotions. Operations and maintenance related training is conducted on an ongoing and as needed basis. Operations and Maintenance Staff are initially trained in the proper operation and maintenance of all new major mobile equipment and facilities by the respective contractor or manufacturer. Written operation and maintenance manuals are used as resource material for equipment start-up training and new staff training. Training records are maintained by the Fleet and Streets Operations Manager and located at the Streets and Utilities Office.

City staff skills knowledge and abilities to perform the essential functions of the job are evaluated during routine on the job training and during annual performance evaluations. Job descriptions are utilized as one metric to evaluate staff competencies. Job descriptions are available from City Human Resources and online at Monterey.org.

In 2018, the City developed Standard Operating Procedures (SOPs) for routine operations and maintenance activities conducted in the sewer collection and conveyance system. Draft SOPs are currently under development at this time; The finalized SOPs for Preventative Maintenance Activities and Collection System Training Requirements are located in Appendix 21 of this SSMP.

The City currently employs five (5) full time equivalent (FTE) staff for dedicated operation and maintenance of the sanitary sewer system. Lift station operations and maintenance are contracted to M1W, allowing City staff to primarily focus on sewer line cleaning, customer requests and inspections. Two (2) FTE additional staff are available in the Streets and Utilities Department workforce as resources in the event of an emergency, when specific projects require additional staffing and for afterhours stand-by duty. Maintenance staff are directed and supervised by a Streets and Utilities Supervisor for the majority of sewer related operations and maintenance activities.

All contractors working on the City of Monterey's sanitary sewer collection system are required to have a valid Class A General Engineering or an appropriate Class C Specialty Contractor's license. When performing work, all contractors must follow the project-specific standard specifications developed by the City for the contracted work, including sewer work.

**e) Provide equipment and replacement part inventories, including identification of critical replacement parts.**

The City of Monterey contracts maintenance of sewer pump station equipment to M1W. M1W is under contract and responsible for maintaining lift stations and the equipment necessary for operations and maintenance of these facilities. Critical spare parts and equipment are managed by M1W and available during emergencies or for routine maintenance. M1W lift station equipment and parts list is found in **Appendix 12**. The City owns a mobile emergency generator that may be utilized in the event of a stationary generator failure at a City-owned lift station.

A summary of City-owned and operated equipment includes a sewer jet truck, combination Vactor truck, two industrial sewer rodder units, CCTV inspection vehicle, two portable bypass pumps with 600 feet of hose, various sewer plugs ranging from 4" – 14" diameter, various diameters and lengths of sewer pipe and other equipment necessary for routine maintenance of sewer mains and spill response. The Streets and Utilities Division is responsible for ensuring that equipment is kept in proper working condition and that backup supplies are available. Any mechanical parts necessary to perform fleet maintenance are the responsibility of the City's Fleet Maintenance Operations. In the event of an emergency, local retailers and contractors are available to supply additional equipment and parts on short notice. A copy of the City's detailed list of sewer critical parts, equipment, vendors, and mutual aid is located in **Appendix 13**.

## Element 5: Design and Performance Provisions

The standards and specifications for new construction and repair of the existing sanitary sewer system described in this SSMP Element are utilized to ensure a high quality, well designed, and functioning sanitary sewer system.

**WDR Requirement: The SSMP must include:**

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

### New Sanitary Sewer Systems

The City of Monterey has currently adopted the 2013 California Plumbing Code as our standard for installation of all new sanitary sewer systems, lift stations, and other appurtenances, as well as rehabilitation and repair of existing sewer systems. Also, the City uses well-established design criteria from widely recognized authors and sources such as *Metcalf and Eddy's Wastewater Treatment and Reuse*, and *Greenbook Standard Specifications for Public Works Construction*. Using universal documentation such as these promotes uniformity in public works projects among the plans and specifications used by local public agencies.

Also, the City has the following Standard Details for Public Works Improvements (contained in **Appendix 14**) that may also be found online at Monterey.org for Building and Public Works Permits:

- Standard Detailed Drawing, Typical Trench Bottom,
- Standard Detailed Drawing, Sewer Main Bedding & Wye, Detail No. 500 December 2006, and,
- Strap-On-Saddle for Connection to PVC or Cured-In-Place Pipe.

### Rehabilitation and Repair of Existing Sanitary Sewer Systems

Currently, design and construction standards and specifications for rehabilitation and repair of sewer systems are developed on a project-specific basis by the City Public Works Department. Examples of recent capital improvement project technical specifications developed by the City for use were included in the following projects (and also as listed in Appendix 14), whose detailed documentation is available for review and use at the Public Works Department, Engineering Office:

- April 2014 Specifications for Sanitary Sewer Rehabilitation Package 4 – Pump Station Upgrades.
- September 2015 Specifications for Sanitary Sewer Rehabilitation Packages 3 and 5: D and F Rated Pipe Rehabilitation and Package 6: Manhole Rehabilitation.

The City plans to formalize and standardize an updated, complete set of design and construction standards and specifications in FY 2018-2019; once approved, these may be utilized and referenced in all applicable City projects, and will be building from existing technical specifications developed in recent years for the substantive citywide Sanitary Sewer Collection System Rehabilitation Project.

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

The City of Monterey Permit and Inspection Services Office (which is a division of the new Community Development Department) and the Public Works Department are responsible for reviewing plans and inspecting all phases of construction for compliance with local and State codes.

New buildings and renovations requiring a Building Permit must comply with Chapter 7 of the California Plumbing Code. Chapter 7 addresses all of the requirements for a private sanitary sewer system including requirements for sewerage within the building and outside to the property line. Section 710 addresses installation of private ejector pump systems.

Permits for the installation, testing, and inspection of new and rehabilitated sewer laterals are obtained and enforced through the City of Monterey Permits and Inspection Services Division. Private sewer laterals are governed by Chapter 7 of the California Plumbing Code and require a permit for construction or rehabilitation. Sewer mains are installed, tested and inspected according to industry standards used in City specifications. Inspections are done by City Public Works Inspectors for work performed by City-hired contractors. In-house repair work is often done by City Streets and Utilities maintenance personnel trained in proper construction methods. Inspection of in-house work is typically accomplished by CCTV video of the lines after the project is completed.

Section 9-2 of the Monterey City Code contains City-specific amendments to the California Plumbing Code. Section 710.1 has been amended by the City to require that any building whose lowest fixture is less than two feet above the rim of the nearest uphill manhole must have a backwater valve, relief vent and cleanout approved by the Permits and Inspections Services Office inspector. To this end, City Permtis and Inspection Services provides a “Preventing Sewage Backups at Home” brochure online and at City Hall, as well as provides a backwater valve look-up tool on Monterey.org so residents may learn if City records indicate a back water valve at their property.

## Element 6: Overflow Emergency Response Plan

Sanitary Sewer Overflows (SSOs), or sewage spills, can occur due to unforeseen accidents, unusual equipment failures, or other events not controllable by the City of Monterey. A SSO spill response protocol (contained in **Attachment 15**) is maintained by the City Public Works Department in this SSMP for City personnel use in responding to SSOs.

The City of Monterey responds to all reports of SSOs. Depending on the time of day, the first response may be the Fire Department or Public Works Department Streets and Utilities Division. During regular business hours, reports received are directed to the Public Works Streets and Utilities Division and routed to crews by the Maintenance Technician, though 911 emergency services may also be called. After hours, calls are routed through 911 or the City non-emergency communications center. The first responder to an after-hours event is typically the Fire Department, which will begin spill containment. The Fire Department then requests the 24-hour on-call Public Works Streets and Utilities team for staff and equipment response to identify and remedy the sewer system issue to restore normal system flow and containment, identify affected areas, vector wastewaters (for return to sewer system) and clean affected area(s).

The **SSO spill response protocol** is summarized in this SSMP Element, and attached in **Appendix 15**. The emergency response procedure addresses SSO response, detection, mitigation, clean up, investigation, documentation, and reporting which are described later in this section. All media inquiries regarding SSOs are fielded by the Public Works Director or designee.

**WDR Order No. 2006-0003-DWQ Section D.13 (vi) requirement: Each Enrollee shall develop and implement an overflow emergency response plan that identifies measures to protect public health and the environment. At a minimum, this plan must include the following:**

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

The City of Monterey responds to all reports of sanitary sewer overflows that the agency receives notification. During regular business hours, spill report calls go directly to Public Works, Streets and Utilities Division and are routed to crews by the Maintenance Technician. For emergencies and after hours, calls are routed through the emergency communications center. The first responder to an after-hours event will typically be the Fire Department, which will begin spill containment. The calls are then routed to the Public Works on-call sewer maintenance crew for response. SSO notification is also made to the Monterey County Health Department by either Fire or Public Works staff (depending on who is leading the incident). For Category 1 SSOs equal to or greater than 1,000 gallons discharged to surface water, or any volume of sewage spilled in a location where it probably will be discharged to surface water, the City notifies the California Office of Emergency Services (Cal OES) and obtains a control number. See table of outside agency phone numbers below:

Outside Agency	Phone Number
California Office of Emergency Services (Cal OES)	<b>(800) 852-7550</b>
Monterey County Environmental Health Department (MCHD)	<b>(831) 755-4505 or (831) 755-4500</b>

Other types of regulatory notifications are made by the City as required by the WDRs Notification and Reporting guidelines of Order No. WQ 2013-0058-EXEC found in Appendix 1, which is also the basis for the City **SSO notification and reporting protocol** included as **Appendix 15**.

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

The City of Monterey Fire Department and/or Public Works Department responds to all reports of sanitary sewer overflows. If a member from the public witnesses a SSO in the City, they can call the City of Monterey at 9-1-1, 24 hours every day of the year. During business hours (Monday through Friday, 8:00 a.m.-5:00 p.m., excluding City holidays), the public can also call the Public Works Department at (831) 646-3921. SSOs reported after hours (5:01 p.m. to 7:59 a.m.) are directed to call 9-1-1 or (831) 646-3914 (City non-emergency).

The Fire Department and/or Public Works Streets and Utilities staff are City First Responders. If additional assistance is needed to respond to the SSO, the First Responder calls additional Streets and Utilities Division stand-by staff utilizing the 24-hour Emergency Standby Contact List information found below.

In the event of a Lift Station SSO, Bret Boatman, M1W Maintenance Supervisor, should be contacted at (831) 883-6183.

**Sanitary Sewer Maintenance Staff Contact Information**

Contact	Method of Contact	Phone Number
City Fleet and Streets Ops Manager or Supervisors	Bret Johnson, Manager Elmo Gonzales, Supervisor Chris Singh, Supervisor	(831) 646-3927
City Streets/Utilities Staff - After Hours Stand-By Responders	Stand-By 1 Nextel cellular phone	(831) 760-2208
	Stand-By 2 Nextel cellular phone	(831) 760-2210
Lift Station SSO: M1W Maintenance Supervisor	Eduardo Pastrano, M1W Field O&M Supervisor	(831) 883-6116

Once a staff person is on scene, the first assessment made is the size and extent of the spill. The Streets and Utilities Division typically starts the vacor truck collecting spill flows where feasible in the right-of-way and also runs the sewer jet up the adjacent main line to determine whether the overflow occurred as the result of a blockage in the city main line or the private lateral. If the spill occurs in the public right-of-way as the result of a main line blockage, the Streets and Utilities Division responds by clearing the main line and cleaning the



spill area, and if County Health staff are on-scene they provide input to City crews on cleanup. If any City infrastructure deficiency is noted that requires further work, the Public Works Engineering and Environmental Regulation Offices are notified for follow-up, and as applicable, a Public Works work order is generated through the Hansen Asset Management System for follow-up.

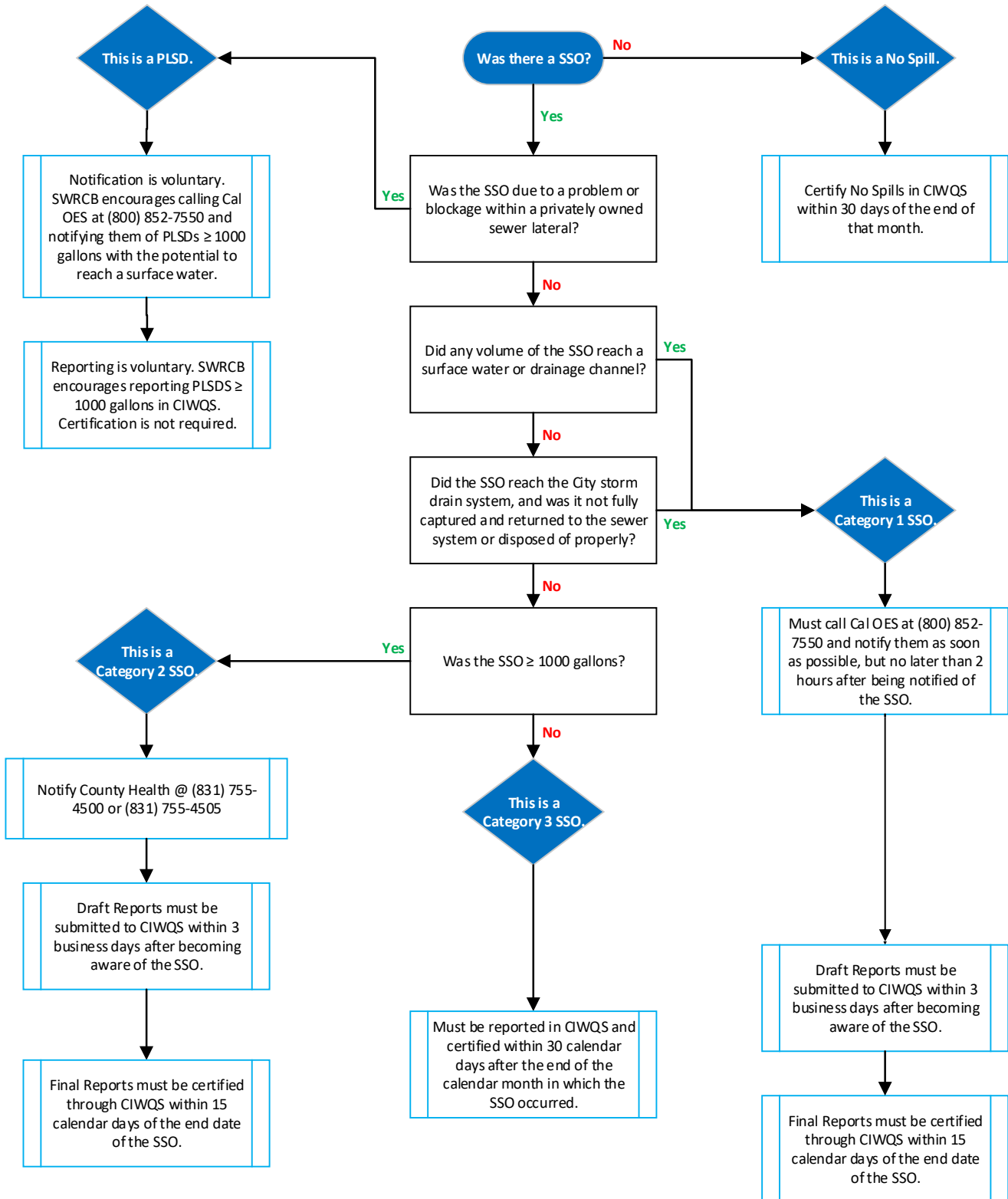
- c) Procedures to ensure prompt notification to appropriate regulatory agencies and other potentially affected entities (e.g. health agencies, Regional Water Boards, water suppliers, etc.) of all SSOs that potentially affect public health or reach the waters of the State in accordance with the MRP.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

The City ensures proper notification and reporting of SSOs, which occur in the City of Monterey sanitary sewer system, in order to protect public and environmental health. An overview of the State of California notification and reporting process is illustrated below. This overview is not inclusive of all of the notification and reporting requirements and procedures. The following section of this SSMP Element corresponding to each SSO category for notifications and reporting must be referenced and followed.

As is evident in the SSO Notification and Reporting Overview figure below, notification procedures vary based on whether the SSO is classified as a Category 1, Category 2, Category 3, or Private Lateral Sewer Discharges (PLSDs) as defined in the 2013 WDRs (Appendix 1, and also found in Appendix 15 SSO Spill Response Protocol).

Of highest priority are Category 1 SSOs, which include discharges of untreated or partially treated wastewater of any volume resulting from an enrollee's sanitary sewer system failure or flow condition that are not fully recovered. Within two (2) hours of becoming aware of any Category 1 SSO discharge that is equal to or greater than 1,000 gallons or spilled to location that may discharge to surface water, the City notifies Cal OES 1-800-852-7550 of the spill details as required by the WDRs. SSO Categories are defined in the 2013 WDRs and found in the table below.

**SSO Notification and Reporting Overview**



**CIWQS** = California Integrated Water Quality System, an SSO online database for reporting sewage spills to the SWRCB and public.

**SSO Types and Category Definitions**

SSO Type	Category Definition per 2013 WDRs (Appendix 1)
<b>CATEGORY 1</b>	Discharges of untreated or partially treated wastewater of any volume resulting from an enrollees sanitary sewer system failure or flow condition that:  Reach surface water and/or reach a drainage channel tributary to a surface water; or  Reach a municipal separate storm sewer system 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 municipal separate storm sewer system is considered to have reached surface water unless the storm drain system discharges to a dedicated storm water or ground water infiltration basin (e.g., infiltration pit, percolation pond).
<b>CATEGORY 2</b>	Discharges of untreated or partially treated wastewater of <b>1,000 gallons or greater</b> resulting from an enrollee’s sanitary sewer system failure or flow condition that <b>do not</b> reach surface water, a drainage channel, or a municipal separate storm sewer system unless the entire SSO discharged to the storm drain system is fully recovered and disposed of properly.
<b>CATEGORY 3</b>	All other discharges of untreated or partially treated wastewater resulting from an enrollees sanitary sewer system failure or flow condition.
<b>PLSD (Private Lateral Sewage Discharges)</b>	Discharges of untreated or partially treated wastewater resulting from blockages or other problems within a privately-owned sewer lateral connected to the enrollee’s (City) sanitary sewer system or from other private sewer assets.

CIWQS reporting is handled by the Public Works Department with guidance from the SWRCB “Enrollee’s Guide to the SSO Database” found online at [www.waterboards.ca.gov](http://www.waterboards.ca.gov). The City LRO, Public Works Director or his authorized designee, Environmental Regulations Manager, review and certify CIWQS reports for the City. Both may be contacted at Public Works Department 831-646-3921. With information from the incident and responding teams, the LRO or designee investigates the cause of SSOs for accurate CIWQS reporting.

CIWQS Reporting

Understanding Spill Categories and their Definitions is important to spill response and reporting:

- **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 three 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 thirty calendar days of the end of month in which SSO the occurred.
- **Private Lateral Sewage Discharge (PLSD)** - PLSDs that the enrollee becomes aware of may be voluntarily reported to the California Integrated Water Quality System (CIWQS) Online SSO Database.

After drafting and certifying SSO Reports, the City keeps the SSO Identification Number and saves a copy of the SSO Report. If the 2013 WDRs require a SSO Technical Report, it must be submitted 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.

A “No Spill Certification” must be filed by the City in CIWQS if there are no SSOs during a calendar month. The “No Spill” Certification is to be completed within thirty (30) calendar days after the end of the calendar month in which there were no SSOs. If there are no SSOs during a calendar month, but the City reported a PLSD, the City shall still certify a “No Spill” Certification statement for that month.

A “CIWQS Collection System Questionnaire” must be updated and certified in CIWQS every (12) months from the last update.

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

Public Works Streets and Utilities Division are trained in SSO spill and emergency response including appropriate notifications and cleanup procedures through on-the-job training. The City will maintain a log when applicable training is completed. Updated training records will be located at the Public Works Streets and Utilities office and maintained for a minimum of five (5) years.

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

Emergency operations related to overflow response are handled by the City of Monterey Fire Department and Police Department, as necessary. The Fire Department is typically the first responder to an incident after hours. Their first order of business is to secure the area so that no contact is made. Their second task is to stop any flows from entering storm drains by containment of the spill if possible, until Public Works staff and vector and jet truck equipment arrive. If additional emergency operations are required, the Police Department may be called in for backup.

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

As described previously, City Public Works Department responds to all calls received for sewer spills to mitigate those spills. If the spill flows onto public property, City crews will perform cleanup operations and as directed by Monterey County Health Department, if on scene. If the spill occurs on private property, the City will direct the

homeowner to contact a plumber to clean up and make necessary repairs. The Monterey County Health Department is typically contacted for public health assistance, also. When calls go to 911 or emergency communications, Fire Department responds as a first responder and calls Public Works to the scene. All personnel are trained in the proper methods of spill containment, and response times are typically under 20 minutes.

Containment of SSOs is done by both Fire and Public Works Departments, depending on who may be first to the scene. If possible, overflows are contained before they reach storm drains or surface waters. Once contained and stopped, the area where the overflow has occurred is cleaned. Typically this is accomplished by flushing and vacuuming any waste water for proper disposal, and using a sanitizing solution with a Hudson sprayer to kill any bacteria on hard surfaces where public contact could occur.

If the overflow reaches a storm drain or surface water, there are two (2) surface water remediation strategies that may be deployed - block and divert, or natural attenuation. Whenever deemed feasible by responding Fire or Streets field crews, wastewater will be contained and pumped back into the sewer. When conditions do not allow diversion, natural attenuation will be used. Refer to the City's Biological Remediation Protocol at the end of **Appendix 15** for more information. Once containment has occurred, City crews will follow the spill downstream using Ammonia Test Strips to find the extent of the contamination. The City currently uses an Ammonia "Quick Dip" aquarium test strip with a range of 0-6.0 ppm. These strips are indicators of the presence or absence of sewage. The level of ammonia that results in "unacceptable" effects on freshwater organisms depends on water temperature and pH. From several years of dry weather season water quality monitoring, the typical "background" ammonia levels are 0.5 ppm. The ammonia test strips indicate for freshwater that anything over 0.5 parts per million (ppm) is in the "Stress" range.

When the maintenance crews monitor a surface water body with the ammonia test strips, they find the extent of the elevated levels of ammonia and attempt to remove all contaminated water to that point. In a stream, this would mean making a temporary earthen containment area and vacuuming all liquid upstream of that point to the point of entry.

As specified in the 2013 WDRs, Category 1 Spills of 50,000 gallons or greater spilled to surface waters require the City conduct water quality sampling. Currently, spills to the marine environment are tested by the Monterey County Environmental Health Department, though can be sampled by the City. A spill which reaches the ocean may also result in a beach closure per Monterey County Environmental County Health determination or direction. Fresh water spills are handled on a case-by-case basis. The Health Department may accompany City staff to sample spills when they are available on scene, or may collect samples themselves.

The City of Monterey has an informal Mutual Aid agreement with the Seaside County Sanitation District to assist with personnel and equipment in the event of an emergency. Their contact information follows:

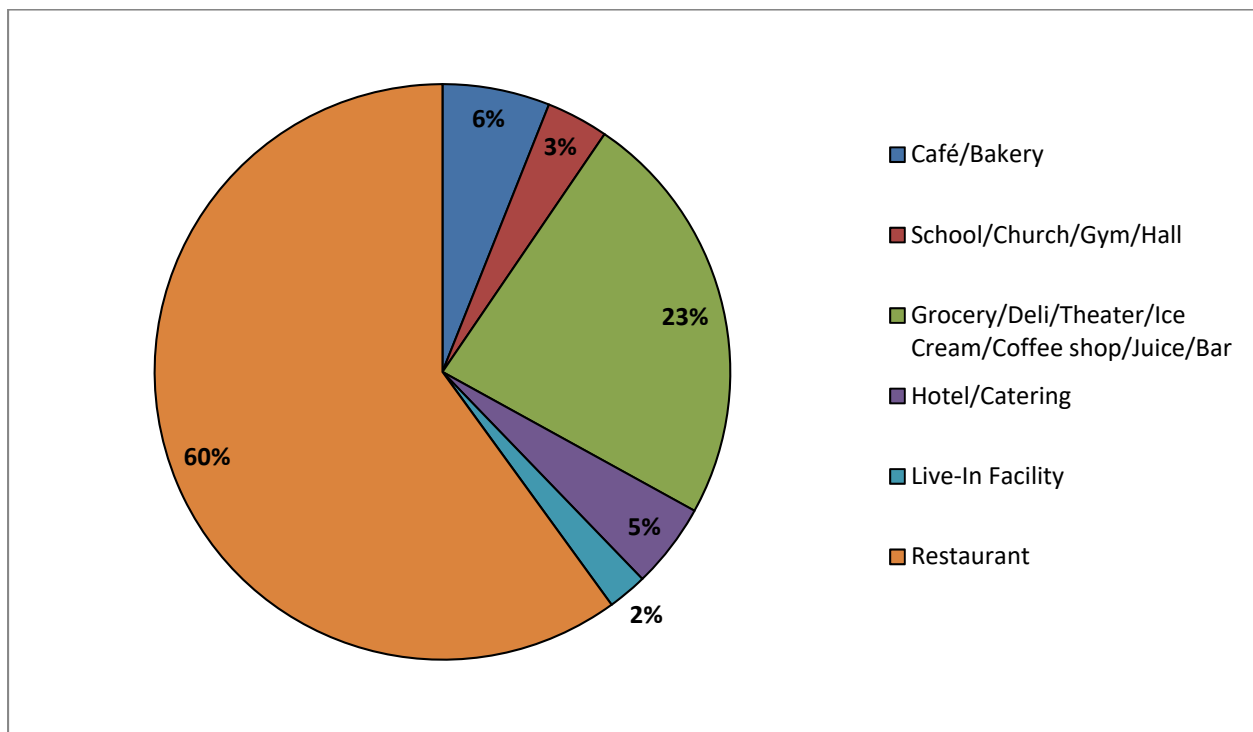
- Business Hours Contact: (831) 899-6700 or 911
- After Hours Contact: (831) 394-6811 or 911

Additionally, in the event of an emergency where a SSO may be eminent or when one is occurring and the City is in need of additional resources or services, outside vendors, contractors and neighboring municipalities are contacted for assistance. A list of contractors, critical parts and equipment, vendors/suppliers, and regional mutual aid contacts can be found in **Appendix 13**. This list will be updated as new contacts are established or when existing contacts are no longer available.

## Element 7: Fats, Oils, and Grease Control Program

The City of Monterey consistently has over three hundred (300) food service establishments (FSEs) within its jurisdiction that may generate fat, oil, and grease (FOG). The breakdown of types of FSEs is graphically portrayed below, which is based on numbers of FSEs sorted by FSE type from 2015 to 2018. The primary goal of the City of Monterey’s FOG Control Program is to decrease the amount of FOG entering the sanitary sewer system to minimize the risk of SSOs. This program is found in City Code Chapter 30, Sewers and Sewage Disposal, Article 3 Maintenance and Use of Fat, Oil and Grease Pretreatment Equipment (Appendix 5).

### Types of FSEs in the City of Monterey FOG Control Program



### Background

In the early 2000’s under Waste Discharge Requirements Order No R3-2002-0078, City Public Works Engineering Division worked with M1W (formerly MRWPCA) source control program staff to develop a source control program for grease control locally. Grease from commercial sources was found to be an issue contributing to blockages and overflows of the regional sanitary sewer system. The primary source of wastewater containing oil and grease and contributing to SSOs was determined to be generated from commercial FSE sources, contributing in the 1,000's-1 0,000's mg/L; whereas, on average, grease concentrations in residential wastewater flows were found to range from 15-250 mg/L. Consequently, early City and regional FOG efforts focused on commercial FSEs.

In March 2005, the City entered into an agreement with M1W (formerly MRWPCA) to implement an inspection and source control program, during which they sized and inspected all FSE grease control equipment in the City. In April 2005, the City sent letters to 300 food service facilities introducing the grease program and upcoming

inspections. This work was completed by M1W in 2005. In July 2005, the City subsequently developed and adopted Ordinance 3357, establishing Code to address the installation, maintenance, and use of grease devices in the City. This was one year before the adoption of the 2006 WDRs. By May 2006, M1W staff compiled all prior City FSE FOG records for the City.

With the Council 2007 approval of Council Resolution 07-078, the City Plans and Public Works Department in coordination with M1W jointly administered the FSE source control and facility upgrade program until 2011. The Council also subsequently approved Resolution 07-079, setting a fee/surcharge for all FSEs granted a waiver from having to install a grease interceptor; this action recognized that only installing a grease trap would cause the City to incur grease inspection, sewer system grease maintenance and vehicular costs, as well as SSO clean-up costs.

In 2010 through Ordinance 3446, the City amended Chapter 30, to identify the California Plumbing Code in addition to M1W codes for pre-treatment equipment sizing, to clearly define when an exception to a waiver fee may be granted, and other program refinements learned from implementation. From 2011 to 2016 the City managed the FOG Program through the Plans and Public Works Department. In July 2016 per City Council Resolution 16-141, the City again funded a joint agreement with M1W Source Control Program to perform FOG inspection services at FSEs. The City anticipates continuing this regional joint effort with M1W into the future to effectively inspect FSEs within the City and assist with FOG program compliance.

FOG program documentation is found in **Appendix 16**, and includes a FSE Inspection Form, Grease Interceptor Waiver Eligibility Checklist, FOG Program Exemption, Grease Trap Hardship Waiver, Grease Trap Waiver Fee Exemption, and the M1W FY18-19 MOU for regional education and outreach.

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

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

In 2005, the City of Monterey joined with other local agencies through the Southern Monterey Bay Dischargers Group to develop a regional public education program for residential users of the system. The Group currently maintains the clogbusters.org website, which features resources, information, and awareness advertisements in English and Spanish. This program may be modified yearly as conditions warrant.

A Public Education and Outreach Program is implemented regionally by M1W for the ten partner entities:

1. City of Salinas
2. Seaside County Sanitation District
3. Marina Coast Water District
4. City of Monterey
5. City of Pacific Grove



6. Castroville Community Services District
7. California American Water
8. Pebble Beach Community Services District
9. Carmel Area Wastewater District
10. County of Monterey

The public education campaign has historically consisted of annual outreach, which has included and continues to include television, local newspaper, and on-line advertisements, a Facebook page, and the dedicated website [www.ClogBusters.org](http://www.ClogBusters.org). **Information** is available to the public in English and Spanish, and some of those outreach materials include:

- Cooking Oil Recycling Information (GreenWaste Recovery Pickup and Monterey Regional Waste Management District) location information;
- How You can Help Prevent Sewer Clogs, screenshots
- Put Your Sewer on a Fat-Free Diet
- Recycle Turkey Fryer Oil
- Don't Flush Clog-Forming Material
- Get Your Sewer Lateral Checked
- Plant Trees Away from Sewer Lines

The contract and WDR Grease Public Outreach Plan is re-negotiated by the City with M1W each fiscal year. A copy of the regional memorandum of understanding and WDR Grease Public Outreach Plans are available from the City Public Works Department or M1W.

The City also maintains a FOG webpage on the City website Monterey.org. Public FOG education and outreach information available there includes the following.

- Grease Pretreatment Program FAQ
- Grease Trap and Interceptor Manufacturers/Suppliers, Installers, and Haulers
- Grease Trap and Interceptor Maintenance Log
- Grease Interceptor Sizing Matrix
- How to Clean a Grease Trap
- Grease Trap Operation
- Grease Interceptor Operation

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

The City does not own or operate a FOG disposal facility; however, FOG is received locally for disposal at the M1W regional treatment plant. Current contact information for the plant and liquid waste disposal rates are found on the M1W website at [montereyonewater.org](http://montereyonewater.org).

FOG generated by the FSEs is required to be appropriately disposed of periodically at a frequency that meets the City Municipal Code Chapter 30, Article 3, Section 30-9 to 30-11. This section of the code specifically requires in Section 30-11(k)(1):

*Maintenance: Traps and interceptors shall be properly maintained in efficient operating condition by periodic removal of accumulated grease. No collected grease shall be introduced into any public or private drainage or sewerage piping.*

One seasonal source of FOG is turkey fryer grease during the Thanksgiving and Christmas holidays. M1W distributes flyers and communicates on the Clog Busters website with locations that will receive the turkey fryer grease for proper handling and disposal. Contact information (address and phone numbers) for pumping and/or waste hauling contractors in Monterey County that haul FOG to facilities' such as M1W is available on the City FOG website at [monterey.org](http://monterey.org). Restaurants currently contract with a variety of grease haulers for removal of both recyclable and unrecyclable materials.

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

The legal authority to prohibit discharges to the collection system and identify measures to prevent FOG-caused SSOs is a joint effort between the City of Monterey Municipal Code and the M1W Ordinances. The purpose of Chapter 30, Article 3, Installation, Maintenance and Use of Fat, Oil, and Grease Pretreatment Equipment, is to establish requirements which govern the installation, maintenance, and use of grease interception devices for FSEs in the City.

City Code in Chapter 30 Section 30-2, incorporates all the terms, conditions, and requirements of the M1W Ordinance (i.e. 2008-01) that governs the discharge of any wastewater in any part of the City. City Code Sections 30-9.1 gives legal authority to both the City and M1W to administer and enforce M1W regulations within the city. A copy of M1W Ordinance No. 2008-01 is available in Appendix 6; it clarifies that it is an Ordinance establishing regulations for the interception, treatment, and disposal of sewage and wastewater.

The table below summarizes where the City and M1W have jointly established the legal authorities to prohibit FOG discharges and where measures are identified to prevent SSOs and blockages caused by FOG.

**Summary of Grease Removal Device Design, Installation, and Maintenance Requirements**

WDR Requirement	Monterey City Municipal Code Section or M1W 2008-01 Ordinance Section	Specific Language
Definition of food service establishments (FSEs)	City – Chapter 30, Section 30-9.4(a) Definitions	“Food Service Establishment” means an establishment that prepares and/or sells food for consumption either on or off the premises or washes utensils or dishes on premises that would contribute grease to the sewer system, including, but not

WDR Requirement	Monterey City Municipal Code Section or M1W 2008-01 Ordinance Section	Specific Language
		<p>limited to, restaurants, sandwich shops, delicatessens, bakeries, cafeterias, markets, bed and breakfast inns, motels, hotels, meeting halls, caterers, retirement and nursing homes or pizzerias. The term, as used in the chapter, does not refer to food stores or establishments that do not prepare food on premises and do not process food in a manner which contributes grease to the sewer system.</p>
<p>Prohibit FOG discharges to collection system – General Prohibition</p>	<p>City – Chapter 30, Section 30-11(k)(1)</p>	<p>No collected grease shall be introduced into any public or private drainage or sewerage piping.</p>
<p>Prohibit FOG discharges to collection system – Specific Prohibition to Sewer Collection System and Waste Water Treatment Plant.</p>	<p>M1W – 2.10.2(f)</p>	<p>No person shall discharge any wastewater: Containing oil and grease of animal, vegetable, petroleum or mineral origin in such quantities to cause or to contribute significantly to: 1) disruptions in sewer lines and other collection system components; 2) interference with treatment plant operations; or 3) exceedances for plant NPDES permit limitations. Significant dischargers of oil and grease shall implement best practicable technologies for reducing the oil and grease content of their discharges.</p>
<p>Prohibit FOG discharges to collection system- Specific Prohibition, Dilute Oily Wastes</p>	<p>M1W – 2.01.2.8</p>	<p>The following pollutants shall not be introduced to the Treatment Works or community sewer: any trucked or hauled pollutants (residential septage, chemical toilet wastes, dilute oily wastes, and salt brine solutions are accepted at the Treatment Plant and are jointly regulated under M1W Liquid Waste Ordinance 2015-01 and Ordinance 2008-01.</p>
<p>Identify measures to prevent SSOs and blockages caused by FOG</p>	<p>City – Chapter 30, Section 30-10</p>	<p>Requirement for grease trap, grease interceptor, or other device. A food service establishment or any other business discharging grease, oil, or other similar material shall have an operable grease trap, grease interceptor or other comparable device(s) as determined by M1W, the City Engineer, and/or the City’s Chief of Inspection Services/Building Official to be an adequate substitute for a grease trap or grease interceptor.</p>

WDR Requirement	Monterey City Municipal Code Section or M1W 2008-01 Ordinance Section	Specific Language
Identify measures to prevent SSOs and blockages caused by FOG	M1W – 2.01.2.3	Specific Prohibitions: 3. The following pollutants shall not be introduced into the Treatment Works or community sewer: solid or viscous pollutants in amounts which will cause obstruction to the flow in the Treatment Works resulting in interference.
Identify measures to prevent SSOs and blockages caused by FOG	M1W – 2.10.2.f	No person shall discharge any wastewater: containing oil and grease of animal, vegetable, petroleum or mineral origin in such quantities to cause or to contribute significantly to: 1) disruptions of sewer lines and other collection system components; 2) interference with treatment plant operations; or 3) exceedances of plant NPDES discharge limitations. Significant dischargers of oil and grease shall implement best practicable technologies for reducing the oil and grease content of their discharges.

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

The table below summarizes where the City and M1W have jointly established the legal authorities to meet the above FOG Program requirements.

WDR Requirement	Monterey City Municipal Code Chapter or M1W 2008-01 Ordinance Section	Specific Language
FSE to Install Grease Removal Device	City Code Chapter 30-10(a)	A food service establishment or any other business discharging grease, oil or other similar material shall have an operable grease trap, grease interceptor or other comparable device(s) as determined by M1W and the City Chief Inspection Services/Building Official to be an adequate substitute for a grease trap or grease interceptor. A properly sized interceptor or trap shall be considered first, in conformity with the sizing chart set forth in the M1W Regional Grease Program of M1W. Should space limitations or other exceptional circumstances prevent their installation, M1W may

WDR Requirement	Monterey City Municipal Code Chapter or M1W 2008-01 Ordinance Section	Specific Language
		grant exceptions to the requirement of grease traps or grease interceptors in this section.
Grease Removal Devices – Design Standards	<p>City Code Chapter 30-9.3,</p> <p>City Code Chapter 30-10[c]</p> <p>City Code Chapter 30-11[e](4)</p>	<p><i>30-9.3 Conflict between these provisions and California Plumbing Code or M1W Ordinances.</i> In the event of any conflict between the provisions of this chapter and the California Plumbing Code or M1W Ordinances, the provisions of this chapter shall prevail. All provisions set forth by the Agency not in conflict with this chapter shall remain in full effect.</p> <p><i>30-10[c] Sizing Formula.</i> The size of a grease trap or grease interceptor shall be as determined by the M1W. Notwithstanding the foregoing, grease traps required by this chapter shall be no smaller than an 80-gallon capacity trap unless otherwise approved by the Chief of Inspection Services/Building Official.</p> <p><i>30-11[e](4) General regulations and procedures. Location of Grease Traps and Grease Interceptors.</i> If they are not designed in accordance with Uniform Plumbing Code (UPC) Section 711 and/or Appendix H, they must be designed by a professional engineer, must be consistent with the standards of this chapter, and must be approved by City Chief Inspection Services/Building Official.</p>
Grease Removal Devices – Maintenance	City Code Chapter 30-11(k)(1)	Maintenance. Traps and interceptors shall be maintained in efficient operating condition by periodic removal of the accumulated grease. No collected grease shall be introduced into any public or private drainage piping.
Grease Removal Devices – Best Management Practices (BMPs)	City Code Chapter 31.5-12 (a) [excerpt]	<i>31.5-12 Prohibition of Discharges.</i> (a) No person or entity shall discharge or cause to be discharged into the municipal storm drain system or waters of the state, any materials, including but not limited to pollutants or waters containing any pollutants that may cause or contribute to a violation of applicable water quality standards, other than storm water... [examples of prohibited discharges include various wastewater types and leakage from food service facilities and activities]



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

A summary of the current FOG program follows and also contains information on the program's inspection and enforcement legal authorities and staffing.

#### Commercial Program

The City of Monterey's existing grease control program is managed jointly with the M1W Source Control Program for FY 2016/17 and FY 2017/18. FSEs, which currently number 328, will all receive one inspection by M1W source control inspectors by June 30, 2018.

The City Chief of Inspection Services/Building Official reviews plans for commercial establishments for required grease control equipment upgrades any time a new business license is issued, an application for a building permit for a remodel is received, or a change of ownership is filed. The City Engineer or Chief of Inspection Services/Building Official determines the grease control equipment necessary for the facility, if any.

#### *New Businesses and Change of Ownership*

When a new food service facility applies for a business license, a copy of that license is automatically routed to M1W so that they can update their records. The City of Monterey Revenue Division notifies M1W of all new business licenses, including change of ownership of existing businesses.

#### *Redevelopment (Additions and Remodels)*

Any time a business applies for a Building Permit for a remodel or addition, the City Permits and Inspection Services Division reviews the plans for potential upgrades to grease control equipment. The City then adds any necessary requirements to the City Building Permit and inspects the business grease facilities for compliance.

#### *No Grease Control Equipment Installed*

If during an inspection of a food service establishment, the City or M1W Source Control Inspectors find that grease control equipment is not installed, the business is required to upgrade to current standards. Businesses are not "grandfathered" under the existing M1W Regional Source Control Program. M1W regulatory requirements under "Monitoring and Reporting Program Number R3-2002-0078 for Waste Discharge Requirements for Sewage Collection Agencies Tributary to Monterey Regional Wastewater Treatment Plant in Monterey County" Section VIII. A, requires the following:

"(A)The grease control program shall identify sections of the sewer system subject to grease blockages and establish a cleaning maintenance schedule for each section; "

"(B)The program shall develop and implement source control measures, for all sources of grease and fats discharged to the sewer system, for each section identified in (A) above. "

Under these requirements, the City of Monterey requires food services establishments with a reasonable potential to discharge fats, oils, and grease (FOG) to install or upgrade grease removal equipment.

Grease interceptors will be the preferred method of source control. Interceptors must be installed within 360 days of receipt of a sizing letter from the City or M1W. If an interceptor installation is infeasible, a waiver may be granted by the City. If a waiver is granted, the food service establishment will be required to pay a monthly grease surcharge waiver fee (i.e. “waiver fee) to compensate the City for expenses related to FSE grease abatement activities, such as jetting of hot list areas and grease outreach.

The City is responsible for enforcement as outlined by City Municipal Code, Chapter 30. The table below summarizes where the City and M1W have jointly established the legal authorities to inspect grease producing facilities. Beginning July 1, 2016 – June 30, 2018 FSEs identified by the City will receive an inspection.

**Summary of FOG Control Program Inspection and Enforcement Legal Authorities**

WDR Requirement	Monterey City Code Chapter or M1W 2008-01 Ordinance Section	Specific Language
Authority to inspect grease producing facilities	<p>City Code Chapter 30 Section 30-2 and Section 30-9.1</p> <p>M1W – Section 4.07</p>	<ul style="list-style-type: none"> <li>• Chapter 30, Section 30-2. Regulations and Standards; City Sewer System; Enforcement Authority. The M1W (Agency) or the city of Monterey are hereby authorized and empowered to administer and enforce said regulations within the City.</li> <li>• Chapter 30, Section 30-9.1. Enforcement of Article 3, FOG Article. Provisions of Article 3 are enforced by any duly authorized employee or agent of the city or by the duly appointed representative of the M1W. Enforcement authority shall be as laid out in Section 30-2.</li> </ul> <p>4.07 - <i>Inspection and Sampling</i> – The Agency shall inspect the facilities of any user to ascertain whether the purpose of this Ordinance is being met and all requirements are being complied with. Persons or occupants of premises where wastewater is created or discharged shall allow the Agency's representative ready access at all reasonable times to all parts of the premises for the purposes of inspection or sampling or in the performance of any of their duties. The Agency shall have the right to set up on the user's property such devices as are necessary to conduct sampling or metering operations. Where a</p>



WDR Requirement	Monterey City Code Chapter or M1W 2008-01 Ordinance Section	Specific Language
		<p>user has security measures in force which would require proper identification and clearance before entry into their premises, the user shall make necessary arrangements with their security guards, that upon presentation of suitable identification, personnel from the Agency will be permitted to enter without delay for the purpose of performing their specific responsibilities.</p>
<p>Authority to enforce FOG Program Requirements</p>	<p>City Code Chapter 30 Section 30-1, 30-1.7, 30-2, and 30-9.1.</p> <p>M1W 2008-1 Article 6 and 7</p>	<p>City Municipal Codes:</p> <ul style="list-style-type: none"> <li>• Chapter 30, Section 30-1. Connections to City sewer system required. City Manager or designee has authority to enforce.</li> <li>• Chapter 30, Section 30-1.7. City Engineer has authority to ensure that closure of Sewer Laterals is properly completed.</li> <li>• Chapter 30, Section 30-2. Regulations and Standards; City Sewer System; Enforcement Authority. The M1W (Agency) or the city of Monterey are hereby authorized and empowered to administer and enforce said regulations within the City.</li> <li>• Chapter 30, Section 30-9.1. Enforcement of Article 3, FOG Article. Provisions of Article 3 are enforced by any duly authorized employee or agent of the city or by the duly appointed representative of the M1W. Enforcement authority shall be as laid out in Section 30-2.</li> </ul> <p>M1W Article 6: Enforcement M1W Article 7: Abatement</p>

Below are the contacts for City and M1W Staff involved in the City’s current FOG Control Program (FY 2016/17 and FY 2017/18) and outlines their FOG Program roles and responsibilities.

**Summary of City FOG Program Staffing**

Name and Title	FOG Program Responsibilities	Contact Information
<p>Steve Wittry</p>	<ul style="list-style-type: none"> <li>▪ Public Works Director is responsible for implementation of the City FOG Program, as well as assisting the</li> </ul>	<p>(831) 646-3921 wittry@monterey.org</p>

Name and Title	FOG Program Responsibilities	Contact Information
<p>Public Works Director/City Engineer</p> <p><i>City of Monterey</i></p>	<p>Chief of Inspection Services/Building Official in determinations related to the FOG program.</p>	
<p>John Kuehl</p> <p>Chief of Inspection Services/Building Official</p> <p><i>City of Monterey</i></p>	<ul style="list-style-type: none"> <li>▪ Chief of Inspection Services/Building Official is responsible for permitting, plan review/determining adequate grease facilities necessary, inspections, and enforcement per City Municipal Code and in coordination with the City Engineer, and M1W Source Control Supervisor</li> <li>▪ Inspecting newly installed grease traps and interceptors to ensure that the grease trap or interceptor is the correct size and is installed properly.</li> </ul>	<p>(831) 646-3890 jkuehl@monterey.org</p>
<p>Kevin Anderson</p> <p>Environmental Regulations Analyst</p> <p><i>City of Monterey</i></p>	<ul style="list-style-type: none"> <li>▪ The Environmental Regulations Analyst is responsible for receiving reports from the M1W Source Control Supervisor and/or the Source Control Inspector, and summarizing the results of the FOG program and inspections.</li> <li>▪ In coordination with the Public Works Director/City Engineer and Chief of Inspection Services/Building Official, FOG program outreach/education, preparing and sending Public Notification Letters for new FSE M1W inspection and scheduling, upcoming inspections for existing FSEs, and follow-up with FSEs to ensure compliance with City and M1W requirements.</li> </ul>	<p>(831) 646-3921 kanderso@monterey.org</p>
<p>Bret Johnson</p> <p>Fleet and Streets Operations Manager</p> <p><i>City of Monterey</i></p>	<ul style="list-style-type: none"> <li>▪ The Fleet and Streets Operations Manager is responsible for coordinating with the M1W Source Control Supervisor and/or Source Control Inspector to follow the City Municipal Code enforcement process.</li> <li>▪ The Fleet and Streets Operations Manager is responsible for the management of FOG High</li> </ul>	<p>(831) 646-3927 BJohnson@monterey.org</p>

Name and Title	FOG Program Responsibilities	Contact Information
	Maintenance Areas if and when future FOG HMAs are identified.	
<p>Tamsen McNaire</p> <p>Source Control Supervisor</p> <p><i>Monterey One Water</i></p>	<p>The Source Control Supervisor is contractually responsible for:</p> <ul style="list-style-type: none"> <li>▪ Implementation of the contract between the City and M1W to conduct annual grease trap or interceptor inspection of all commercial properties and public education.</li> <li>▪ Assisting the City in the design, planning and setup of the FOG Program;</li> <li>▪ Updates to the FSE Business Location List;</li> <li>▪ Directing the Source Control Inspector in conducting initial, annual and compliance re-inspections;</li> <li>▪ Notifying and resolving the City FOG Program Compliance issues by drafting violation letters, attending non-compliance meetings, and updating the files for each FSE.</li> </ul>	<p>(831) 883-1118</p> <p>tamsen@my1water.org</p>
<p>Juan Arreguin</p> <p>Kevin Cunningham</p> <p>Source Control Inspectors</p> <p><i>Monterey One Water</i></p>	<p>The Source Control Inspectors are responsible for:</p> <ul style="list-style-type: none"> <li>▪ Conducting FSE initial, annual, and compliance re-inspections.</li> <li>▪ Inspections include proper grease trap/interceptor cleaning and maintenance, and review of maintenance records/log sheets.</li> <li>▪ Answering FOG Program questions.</li> </ul>	<p>(831) 883-6173</p> <p>juanl@my1water.org</p> <p>kevin@my1water.org</p>

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

Generally, the City cleans the entire collection system approximately twice per year. The City has identified multiple high maintenance areas designated as ‘Hotlist’ in **Appendix 9**. Hotlist pipes are maintained on either a weekly or monthly basis by the Public Works Streets and Utilities sewer jet crew, and as determined necessary based on system conditions.

Eleven areas of the City require regular preventative maintenance due to heavy grease collection in the mains in order to prevent sewer overflows. Of those areas, currently five require weekly “jetting”, one requires

biweekly jetting, and five require monthly jetting. The table below lists the areas that are currently cleaned on a weekly, biweekly, and monthly basis by virtue of FOG buildup alone.

**FOG Hot Spot Maintenance List**

Hot List Area	Jetting Frequency	# Food Service Facilities	Number In Compliance
1. Wharf I	Weekly	11	7
2. Wharf II	Weekly	3	2
3. Wave/Prescott	Weekly	4	4
4. Cannery Row	Weekly	20	18
5. Munras	2x monthly	8	8
6. North Fremont	Monthly	17	14
7. Dela Vina/Encina	Monthly	0	0
8. Olivier	Monthly	1	1
9. Calle Principal	Monthly	3	3
10. Abrego/Fremont	Monthly	8	8
11. Alvarado	Monthly	21	20

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

The development and implementation of source control measures is developed by City Public Works, and the City coordinates with M1W and implements additional FOG source control measures as recommended by M1W inspectors. Further explanation as to City FOG source control measures is described in detail in subsections (a), (c), and (e) above.

## Element 8: System Evaluation and Capacity Assurance Plan

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

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

Project-specific collection system hydraulic capacity analyses are performed to evaluate the impact of residential, commercial, and industrial wastewater flows on the City sanitary sewer collection system.

The last system-wide capacity evaluation was completed in September 1988 and is titled, “Report of 1988 Sewer Fee Study Update (1988 Study)” (**Appendix 17**). The 1988 Study performed an analysis of peak flows, hydraulic deficiencies, and sources contributing to overflow events. The 1988 Study factored in “ultimate development” based on General Plan projections through 2003. In the ensuing years, growth has been severely limited by water supply issues, and population has decreased. The 1988 Study was based on a population per household of 2.32 people; the 2003 population per household decreased to 2.13 persons per household. For the period of 2012-2016, the U.S. Census Bureau reports 2.19 persons per household in the City of Monterey.

The City Engineering Department still utilizes the 1988 Study for understanding capacity of the City sewer system, though with the recent sewer rehabilitation efforts, the City is planning to complete another capacity analysis. The City FY 2017-2019 CIP includes a funded Sewer Master Plan to update the sanitary sewer collection system hydraulic capacity data for future use.

In 2010, the City retained Bartle Wells Associates to develop the ‘Sanitary Sewer Utility Fee Study’ (**Appendix 18**) to develop a long-range comprehensive wastewater financing plan and rate study to fund a low interest Clean Water State Revolving Loan Fund (CWSRF) in the amount of \$16.8M for a citywide sewer system rehabilitation project, which is also described in Element 4 Operation and Maintenance. Part of that study incorporated Winzler & Kelly’s 2010 Sewer Lift Station and Force Main Condition Assessment (**Appendix 19**), and included recommendations for sewer collection system hydraulic capacity improvements that the City completed construction on in 2017.

Starting in 2018, the City plans to conduct CCTV on 10% of sewer system annually, with a goal to complete the entire system in 10 years, and has funded an update to the Sanitary Sewer Master Plan. CCTV data may assist in the evaluation of future hydraulic capacity concerns by looking for or seeing evidence of surcharging in sewer pipes or manholes.

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

In addition to criteria outlined in Element 5, Design and Performance Provisions of this SSMP, the City uses well-established design criteria from widely recognized authors and sources such as Metcalf and Eddy's Wastewater Treatment and Reuse, and Greenbook Standard Specifications for Public Works Construction. Using universal documentation such as these the Greenbook promotes uniformity in public works projects among the plans and specifications used by local public agencies.

Also, if designing new gravity sewers, the City practice is to utilize a flow rate adequate to assure self-cleaning velocities equal to two (2) feet per second and peak flow depth (d/D) equal to 0.5. Additionally, when evaluating existing sewer force mains, surcharging may be permitted by the City as long as the maximum hydraulic grade line does not enter into laterals and there is no less than three (3) feet of freeboard below all manhole lids.

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

Currently, the City sewerage system is not experiencing overflow conditions nor approaching such conditions even during wet weather periods per regular field observations by City maintenance crews. The City's ongoing sewer main and manhole rehabilitation efforts have reduced observed inflow and infiltration. Infiltration and inflow will continue to be reduced once the sewer system rehabilitation project is completed.

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

Element 4, Operation and Maintenance Program, contains the schedule of the primary citywide Sanitary Sewer Collection System Rehabilitation Project underway. This inspection, repair, rehabilitation and replacement project started in 2014 and is scheduled for completion in 2019. The City also continuously communicates the schedule of the project on the City Sanitary Sewer webpage located at Monterey.org. The City also proactively maintains a map on Sewer webpage at Monterey.org that outlines sanitary sewer projects in process at any given timeframe.

## Element 9: Monitoring, Measurement and Program Modifications

The City monitors the implementation of the SSMP elements in order to measure the effectiveness of the City’s SSMP program in reducing SSOs. The manner in which each SSMP element is monitored and evaluated and the schedule with which the City completes this monitoring and evaluation is described below.

**WDR Requirement: The Enrollee shall:**

- (a) Maintain relevant information that can be used to establish and prioritize appropriate SSMP activities;**
- (b) Monitor the implementation and, where appropriate, measure the effectiveness of each element of the SSMP;**

The below table outlines the relevant information maintained by the City to establish and prioritize appropriate sewer collection system activities and the title of staff in the City who are responsible for monitoring implementation and measuring the effectiveness of each element when appropriate.

### SSMP Implementation Management

SSMP Element	SSMP Relevant Information	Responsible Party
1. Goal	Monitors City goals for the operation, maintenance, and management of the sanitary sewer collection system, which provide focus to reduce SSOs and mitigate SSOs that do occur.	Public Works Director
2. Organization	Maintains a table containing names, job titles, roles, responsibilities, and contact information; keep this up-to-date allows the public, staff, and regulators to directly contact the person most knowledgeable for each aspect of the SSMP Program.  An organization chart shows lines of authority.	Public Works Director and City Manager
3. Legal Authority	Maintain updated applicable Municipal Code and M1W Ordinance governing the sewer collection and conveyance system.	Public Works Director and City Attorney
4. Operation and Maintenance Program	Oversees and performs sanitary sewer system operation and maintenance activities and actions, which are utilized to develop the City rehabilitation and replacement planning.	Public Works Director and Fleet and Streets Operations Manager
5. Design and Performance Provisions	Maintains and updates City sewer design standards and specifications	Public Works Director
6. SSO Response	Oversees and directs SSO response for emergency operations, procedures, staff contact	Public Works Director, Fleet and Streets Operations Manager, and

SSMP Element	SSMP Relevant Information	Responsible Party
	information, field information for reporting, and response and mitigation activities.	Environmental Regulations Manager
7. FOG Control Program	Reviews and compiles summary report documenting FOG Program results (starting in 2018).	Public Works Director, Chief Building Official, and Env. Reg. Analyst
8. System Evaluation and Capacity Assurance Plan	Review of lift station and SSO data for any wet or dry weather capacity related issues. Reviews future capacity studies developed for the City system.	Public Works Director and City Engineer
9. Monitoring, Measurement, and Program Modifications	Analyses SSOs and their causes over calendar years. This is the most important trend to document and the reason for the SSMP.	Public Works Director and Environmental Regulations Manager
10. SSMP Program Audits	SSMP Audit Reports will occur every two years and program improvements and/or SSMP updates made by the next audit timeframe.	Public Works Director and Environmental Regulations Manager
11. Communication Program	Compile examples of public outreach articles, flyers and pertinent City of Monterey efforts, as well as meeting agendas, reports or minutes with stakeholder input.	Public Works Director and Environmental Regulations Manager

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

The City’s Preventative Maintenance Program includes CCTV inspection, cleaning, visual manhole inspection, Lift Station maintenance, FOG Control, and HMA identification and maintenance. The City will review these operation and maintenance practices and compare them with SSO records. A summary of corrective actions for operations and maintenance will be developed biennially to reduce the causes of SSOs occurring in the associated calendar year.

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

The City will use the SSMP elements for management, training, planning and regular maintenance of the collection system and program. As this 2018 SSMP is utilized and program implemented, any deficiencies or discrepancies and/or update needs will be logged. Program elements will be updated or modified as deemed necessary by the Public Works Director or designee based on performance evaluations, organizational, operational, and maintenance changes, new regulatory requirements, repairs, replacements, and as significant upgrades are made to the collection system.

Per the WDRs, the SSMP is meant to be reviewed and updated regularly, as necessary, and have a substantial review and update at least every five years. The Public Works Director, in coordination with



the Environmental Regulations Manager, are responsible for SSMP updates. An update log in Appendix 20 will be maintained to track SSMP updates.

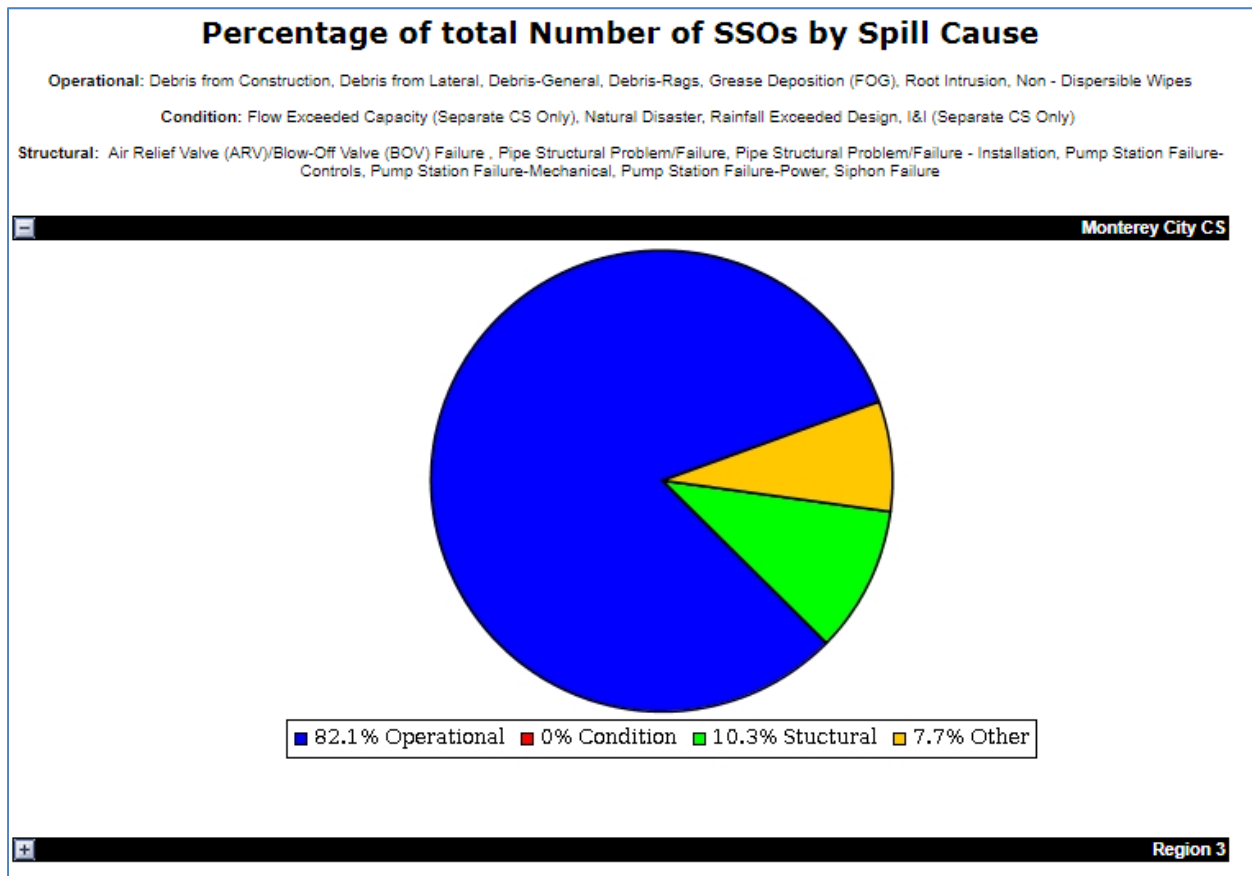
**(e) Identify and illustrate SSO trends, including: frequency, location, and volume.**

Trends in City SSOs for 2015 through 2017 are illustrated in the table below, and the percent of SSOs per spill cause is illustrated below. The cause categories identified are the causes available for use in the SSO Report to the SWRCB CIWQS online database. City staff is responsible for determining which cause category is appropriate for each SSO when the SSO is reported in CIWQS.

**Summary of City SSOs by Indicator per Year**

Indicator		2015	2016	2017	2018	2019	Total
No. of SSOs		14	15	10			39
Locations with Multiple SSOs		0	0	0			0
Volume (gal)	Volume	4273	5030	12545			21848
	Volume Recovered	2703	2270	1835			6808
	Volume Reached Surface Water	1570	2780	11550			15900
Causes	Debris - Construction	0	0	1			1
	Debris – General	1	0	1			2
	Debris – Rags	4	3	1			8
	Flow Exceeded Capacity	0	0	0			0
	FOG	1	2	0			3
	Operator Error	0	0	0			0
	Other	0	1	2			3
	Pipe Structural Problem/Failure	0	2	2			4
	Pump Station Failure	0	0	0			0

Indicator		2015	2016	2017	2018	2019	Total
	Rainfall Exceeded Design	0	0	0			0
	Root Intrusion	8	7	3			18
	Vandalism	0	0	0			0



The City expects to identify and work towards strategies to reduce the number of SSOs experienced based on the cause information identified above, which are over 80% operational, through changing Operations and Maintenance practices and modifications in the City FOG and Root Control Program.

## Element 10: SSMP Program Audits

**WDR Requirement:**

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

SSMP Audits are required to identify and correct deficiencies in the most current revision of the City’s SSMP and provide a schedule to correct identified deficiencies. This SSMP Element outlines the audit process and identifies City Staff responsible for conducting or participating in SSMP Audits and generating the required SSMP Audit Report.

The Public Works Director, Environmental Regulations, or their designee is responsible for assuring the next SSMP Audit is conducted and complete at least every two years, and continuously on a two year interval. Audits should be conducted with cooperation of the Public Works Department, Community Development Department, and Fire Department Staff. When conducting the SSMP Audit, City staff must evaluate the effectiveness of each SSMP Element. A comprehensive, effective review of the City’s SSMP must be documented in a SSMP Audit Report. A general summary of that process follows:

1. Gather applicable program documents and records.
2. Write an Audit Report referencing all documents reviewed and used as evidence of compliance with the 2006 WDR and most current WDRs as amended.
3. Evaluate the effectiveness of the City’s SSMP and compliance with each WDR requirement using a ranking methodology, which may use the metrics found below or similar approach:

Ranking	Basis for Ranking
In Compliance	All requirements specified in the Element are met.
Substantial Compliance	The majority of requirements in the Element are met.
Partial Compliance	Half of the requirements in the Element are met.
Marginal Compliance	Less than half of the requirements in the Element are met.
Out of Compliance	None of the requirements in the Element are met.

4. Outline a plan for recommended updates and/or formal revisions to the SSMP based on changes in operational strategies or deficiencies found in the SSMP, with a goal to make updates prior to the next two-year audit as City two-year budget resources allow.

The next Audit Report must be signed and certified by the legally responsible official designated for the City and/or as required by the WDRs. Per the WDRs, the SSMP Audit Reports must be kept on file. An SSMP Update Log is found in **Appendix 20**.

Program effectiveness reviews and revisions will ensure operational practices and procedures are reflected in the SSMP and help improve the program over time to aid in the prevention of SSOs to protect the environment.

## Element 11: Communication Program

**WDR Requirement:** 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.

The purpose of the City sanitary sewer system communication program is to educate stakeholders, which include residential, industrial, and commercial users of the collection system, about the SSMP.

Public awareness of different components of the City SSMP is accomplished through different mediums and they may reach different audiences. The following tables shows activities that the City practices to increase awareness and education about the importance of having a properly constructed, maintained, and operated sewer collection system, sewer projects and efforts, contracts, agreements, etc.

Activity	Frequency	Stakeholders	Year Implemented			
			2016	2017	2018	2019
City Website: www.monterey.org	Year-round	All	X	X	X	
City Council Meetings	First and Third Tuesdays of each Month	All	X	X	X	
City Focus Newsletter	One to four issues per year	All	X	X	X	
City and M1W FOG Control Program	Year-round	Residential, Commercial	X	X	X	
Sewer Rehabilitation Program 2014 – 2019, Online Construction Updates	Weekly	All	X	X	X	
Public Works Department Manager Meetings	Weekly	All	X	X	X	

### City Website

Information posted on the City of Monterey website [www.monterey.org](http://www.monterey.org) includes links to the Sanitary Sewer Program, SSMP, FOG information, City meeting minutes and agendas, flyers, education material, public service announcements, and City CIP. Various City of Monterey webpages speak to or provide information regarding aspects of the City’s sewer program, projects, permits, and actions, and those

City webpages include but are not limited to:

- City Meetings Calendar (for City Council meeting agendas, minutes, and resolutions)
- Sanitary Sewer Program, SSMP, SSO Response, Sewer Rehab Projects, City Sewer Rate Study
- Sanitary Sewer Rehabilitation Program, Fixing Sewers
- Plans and Public Works Department
- Engineering Office and Environmental Regulations Office
- Streets and Utilities Office
- City Permit and Inspection Services Office
- City Focus Online Newsletter (for community/residents/business/visitors/public)

City Council Meetings are held on the first and third Tuesdays of each month in the council chambers. Sewer CIP projects, SSMP updates, and other sewer-related information are presented to the public during Council meetings to receive public input on the projects, SSMP, or other City sewer efforts. The City website includes information about “How to Participate in Council Meetings”.

#### FOG Control Program

As described in Element 7, the City and partners provide public FOG communication outreach in many forms. Links to the City of Monterey FOG Control Program, ClogBusters, and M1W FOG Information which is available at all times at the below websites:

- City FOG Program – [monterey.org](http://monterey.org)
- ClogBusters Information - [clogbusters.org](http://clogbusters.org)
- Monterey One Water FOG Program – [montereyonewater.org](http://montereyonewater.org)
- M1W Source Control Program – [montereyonewater.org](http://montereyonewater.org)

Public outreach and education efforts to FSEs has been an on-going City and regionally effort over the last ten plus years, and has also included numerous presentations to the City Council since 2004 about code and program updates, agreements, and budgeting.

#### Satellite Communication Program

The City is itself a satellite agency to the Monterey Regional Treatment Plant operated by Monterey One Water (M1W). Accordingly the City is a member of the M1W Board of Directors, which is comprised of M1W and appointees from the following entities:

1. City of Pacific Grove,
2. City of Monterey,
3. City of Del Rey Oaks,
4. City of Seaside,
5. City of Sand City,
6. U.S. Army/Fort Ord,

7. Marina Coast Water District,
8. Castroville Community Services City,
9. Boronda County Sanitation District,
10. City of Salinas, and,
11. Monterey County.

This Board of Directors is designed to be a venue for communication and coordination between these agencies. Meetings are held the last Monday of each month at the M1W Administration Office located at 5 Harris Court, Bldg. D, Monterey, CA 93904. Meeting agendas and board packets are available to the public at [montereyonewater.org](http://montereyonewater.org).

#### City Collection System Satellite Communication Program

The City collection system satellites are the following:

1. U. S. Naval Support Activity Monterey (NSA Monterey)
2. NSA Monterey La Mesa Village
3. NSA Monterey Fleet Numerical Meteorology and Oceanographic Center
4. Monterey Peninsula College
5. Monterey Regional Airport

The City of Monterey has an intergovernmental services agreement with the U.S. Army Garrison Presidio of Monterey (POM). Through this agreement, the two agencies partner and communicate daily on any needs related to Presidio infrastructure, including sanitary sewer flows, overflows, operations, maintenance, and rehabilitation needs.

The NSA Monterey Public Works Department manages their infrastructure, and City of Monterey Fire Department and Public Works Streets and Utilities Division may respond to and assist with NSA Monterey SSO incidents, as needed. The City also coordinates with NSA Monterey in relation to the operation, maintenance, and rehabilitation of select City sanitary sewer collection pipes that run through NSA Monterey property via utility easements.

In 2018, the City plans to develop a formal sanitary sewer satellite communication program with the five (5) satellite system entities that are tributary to the City sewer collection system.

## **Appendix 1: Waste Discharge Requirements**

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- SWRCB Order No. WQ 2013-0058-EXEC, Amending Monitoring and Reporting Program for Statewide General Waste Discharge Requirements for Sanitary Sewer Systems
- SWRCB Order No. 2006-0003-DWQ Statewide General Waste Discharge Requirements for Sanitary Sewer Systems



STATE OF CALIFORNIA  
WATER RESOURCES CONTROL BOARD  
ORDER NO. WQ 2013-0058-EXEC

AMENDING MONITORING AND REPORTING PROGRAM  
FOR  
STATEWIDE GENERAL WASTE DISCHARGE REQUIREMENTS FOR  
SANITARY SEWER SYSTEMS

The State of California, Water Resources Control Board (hereafter State Water Board) finds:

1. The State Water Board is authorized to prescribe statewide general Waste Discharge Requirements (WDRs) for categories of discharges that involve the same or similar operations and the same or similar types of waste pursuant to Water Code section 13263(i).
2. Water Code section 13193 *et seq.* requires the Regional Water Quality Control Boards (Regional Water Boards) and the State Water Board (collectively, the Water Boards) to gather Sanitary Sewer Overflow (SSO) information and make this information available to the public, including but not limited to, SSO cause, estimated volume, location, date, time, duration, whether or not the SSO reached or may have reached waters of the state, response and corrective action taken, and an enrollee's contact information for each SSO event. An enrollee is defined as the public entity having legal authority over the operation and maintenance of, or capital improvements to, a sanitary sewer system greater than one mile in length.
3. Water Code section 13271, *et seq.* requires notification to the California Office of Emergency Services (Cal OES), formerly the California Emergency Management Agency, for certain unauthorized discharges, including SSOs.
4. On May 2, 2006, the State Water Board adopted Order 2006-0003-DWQ, "Statewide Waste Discharge Requirements for Sanitary Sewer Systems"<sup>1</sup> (hereafter SSS WDRs) to comply with Water Code section 13193 and to establish the framework for the statewide SSO Reduction Program.
5. Subsection G.2 of the SSS WDRs and the Monitoring and Reporting Program (MRP) provide that the Executive Director may modify the terms of the MRP at any time.
6. On February 20, 2008, the State Water Board Executive Director adopted a revised MRP for the SSS WDRs to rectify early notification deficiencies and ensure that first responders are notified in a timely manner of SSOs discharged into waters of the state.
7. When notified of an SSO that reaches a drainage channel or surface water of the state, Cal OES, pursuant to Water Code section 13271(a)(3), forwards the SSO notification information<sup>2</sup> to local government agencies and first responders including local public health officials and the applicable Regional Water Board. Receipt of notifications for a single SSO event from both the SSO reporter

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<sup>1</sup> Available for download at:

[http://www.waterboards.ca.gov/board\\_decisions/adopted\\_orders/water\\_quality/2006/wqo/wqo2006\\_0003.pdf](http://www.waterboards.ca.gov/board_decisions/adopted_orders/water_quality/2006/wqo/wqo2006_0003.pdf)

<sup>2</sup> Cal OES Hazardous Materials Spill Reports available Online at:

[http://w3.calema.ca.gov/operational/mal haz.nsf/\\$defaultview](http://w3.calema.ca.gov/operational/mal haz.nsf/$defaultview) and <http://w3.calema.ca.gov/operational/mal haz.nsf>

and Cal OES is duplicative. To address this, the SSO notification requirements added by the February 20, 2008 MRP revision are being removed in this MRP revision.

8. In the February 28, 2008 Memorandum of Agreement between the State Water Board and the California Water and Environment Association (CWEA), the State Water Board committed to re-designing the CIWQS<sup>3</sup> Online SSO Database to allow "event" based SSO reporting versus the original "location" based reporting. Revisions to this MRP and accompanying changes to the CIWQS Online SSO Database will implement this change by allowing for multiple SSO appearance points to be associated with each SSO event caused by a single asset failure.
9. Based on stakeholder input and Water Board staff experience implementing the SSO Reduction Program, SSO categories have been revised in this MRP. In the prior version of the MRP, SSOs have been categorized as Category 1 or Category 2. This MRP implements changes to SSO categories by adding a Category 3 SSO type. This change will improve data management to further assist Water Board staff with evaluation of high threat and low threat SSOs by placing them in unique categories (i.e., Category 1 and Category 3, respectively). This change will also assist enrollees in identifying SSOs that require Cal OES notification.
10. Based on over six years of implementation of the SSS WDRs, the State Water Board concludes that the February 20, 2008 MRP must be updated to better advance the SSO Reduction Program<sup>4</sup> objectives, assess compliance, and enforce the requirements of the SSS WDRs.

**IT IS HEREBY ORDERED THAT:**

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

8/6/13  
\_\_\_\_\_  
Date

  
\_\_\_\_\_  
Thomas Howard  
Executive Director

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

<sup>4</sup> Statewide Sanitary Sewer Overflow Reduction Program information is available at: [http://www.waterboards.ca.gov/water\\_issues/programs/ssor/](http://www.waterboards.ca.gov/water_issues/programs/ssor/)

## ATTACHMENT A

### STATE WATER RESOURCES CONTROL BOARD ORDER NO. WQ 2013-0058-EXEC

#### AMENDING MONITORING AND REPORTING PROGRAM FOR STATEWIDE GENERAL WASTE DISCHARGE REQUIREMENTS FOR SANITARY SEWER SYSTEMS

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

#### A. SUMMARY OF MRP REQUIREMENTS

Table 1 – Spill Categories and Definitions

CATEGORIES	DEFINITIONS [see Section A on page 5 of Order 2006-0003-DWQ, for Sanitary Sewer Overflow (SSO) definition]
CATEGORY 1	Discharges of untreated or partially treated wastewater of <b>any volume</b> resulting from an enrollee's sanitary sewer system failure or flow condition that: <ul style="list-style-type: none"><li>• Reach surface water and/or reach a drainage channel tributary to a surface water; or</li><li>• Reach a Municipal Separate Storm Sewer System (MS4) and are not fully captured and returned to the sanitary sewer system or not otherwise captured and disposed of properly. Any volume of wastewater not recovered from the MS4 is considered to have reached surface water unless the storm drain system discharges to a dedicated storm water or groundwater infiltration basin (e.g., infiltration pit, percolation pond).</li></ul>
CATEGORY 2	Discharges of untreated or partially treated wastewater of <b>1,000 gallons or greater</b> resulting from an enrollee's sanitary sewer system failure or flow condition that <b>do not</b> reach surface water, a drainage channel, or a MS4 unless the entire SSO discharged to the storm drain system is fully recovered and disposed of properly.
CATEGORY 3	All other discharges of untreated or partially treated wastewater resulting from an enrollee's sanitary sewer system failure or flow condition.
PRIVATE LATERAL SEWAGE DISCHARGE (PLSD)	Discharges of untreated or partially treated wastewater resulting from blockages or other problems <b>within a privately owned sewer lateral</b> connected to the enrollee's sanitary sewer system or from other private sewer assets. PLSDs that the enrollee becomes aware of may be <b>voluntarily</b> reported to the California Integrated Water Quality System (CIWQS) Online SSO Database.



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

ELEMENT	REQUIREMENT	METHOD
<b>NOTIFICATION</b> (see section B of MRP)	<ul style="list-style-type: none"> <li>• Within two hours of becoming aware of any Category 1 SSO <b>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</b>, notify the California Office of Emergency Services (Cal OES) and obtain a notification control number.</li> </ul>	Call Cal OES at: <b>(800) 852-7550</b>
<b>REPORTING</b> (see section C of MRP)	<ul style="list-style-type: none"> <li>• 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.</li> <li>• 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.</li> <li>• Category 3 SSO: Submit certified report within 30 calendar days of the end of month in which SSO the occurred.</li> <li>• 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.</li> <li>• “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.</li> <li>• Collection System Questionnaire: Update and certify every 12 months.</li> </ul>	Enter data into the CIWQS Online SSO Database ( <a href="http://ciwqs.waterboards.ca.gov/">http://ciwqs.waterboards.ca.gov/</a> ), certified by enrollee’s Legally Responsible Official(s).
<b>WATER QUALITY MONITORING</b> (see section D of MRP)	<ul style="list-style-type: none"> <li>• Conduct water quality sampling <b>within 48 hours</b> after initial SSO notification for Category 1 SSOs in which 50,000 gallons or greater are spilled to surface waters.</li> </ul>	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.
<b>RECORD KEEPING</b> (see section E of MRP)	<ul style="list-style-type: none"> <li>• SSO event records.</li> <li>• Records documenting Sanitary Sewer Management Plan (SSMP) implementation and changes/updates to the SSMP.</li> <li>• Records to document Water Quality Monitoring for SSOs of 50,000 gallons or greater spilled to surface waters.</li> <li>• Collection system telemetry records if relied upon to document and/or estimate SSO Volume.</li> </ul>	Self-maintained records shall be available during inspections or upon request.

## **B. NOTIFICATION REQUIREMENTS**

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

1. For any Category 1 SSO greater than or equal to 1,000 gallons that results in a discharge to a surface water or spilled in a location where it probably will be discharged to surface water, either directly or by way of a drainage channel or MS4, the enrollee shall, as soon as possible, but not later than two (2) hours after (A) the enrollee has knowledge of the discharge, (B) notification is possible, and (C) notification can be provided without substantially impeding cleanup or other emergency measures, notify the Cal OES and obtain a notification control number.
2. To satisfy notification requirements for each applicable SSO, the enrollee shall provide the information requested by Cal OES before receiving a control number. Spill information requested by Cal OES may include:
  - i. Name of person notifying Cal OES and direct return phone number.
  - ii. Estimated SSO volume discharged (gallons).
  - iii. If ongoing, estimated SSO discharge rate (gallons per minute).
  - iv. SSO Incident Description:
    - a. Brief narrative.
    - b. On-scene point of contact for additional information (name and cell phone number).
    - c. Date and time enrollee became aware of the SSO.
    - d. Name of sanitary sewer system agency causing the SSO.
    - e. SSO cause (if known).
  - v. Indication of whether the SSO has been contained.
  - vi. Indication of whether surface water is impacted.
  - vii. Name of surface water impacted by the SSO, if applicable.
  - viii. Indication of whether a drinking water supply is or may be impacted by the SSO.
  - ix. Any other known SSO impacts.
  - x. SSO incident location (address, city, state, and zip code).
3. Following the initial notification to Cal OES and until such time that an enrollee certifies the SSO report in the CIWQS Online SSO Database, the enrollee shall provide updates to Cal OES regarding substantial changes to the estimated volume of untreated or partially treated sewage discharged and any substantial change(s) to known impact(s).
4. PLSDs: The enrollee is strongly encouraged to notify Cal OES of discharges greater than or equal to 1,000 gallons of untreated or partially treated wastewater that result or may result in a discharge to surface water resulting from failures or flow conditions within a privately owned sewer lateral or from other private sewer asset(s) if the enrollee becomes aware of the PLSD.

### **C. REPORTING REQUIREMENTS**

1. **CIWQS Online SSO Database Account:** All enrollees shall obtain a CIWQS Online SSO Database account and receive a “Username” and “Password” by registering through CIWQS. These accounts allow controlled and secure entry into the CIWQS Online SSO Database.
2. **SSO Mandatory Reporting Information:** For reporting purposes, if one SSO event results in multiple appearance points in a sewer system asset, the enrollee shall complete one SSO report in the CIWQS Online SSO Database which includes the GPS coordinates for the location of the SSO appearance point closest to the failure point, blockage or location of the flow condition that caused the SSO, and provide descriptions of the locations of all other discharge points associated with the SSO event.
3. **SSO Categories**
  - i. **Category 1** – Discharges of untreated or partially treated wastewater of any volume resulting from an enrollee’s sanitary sewer system failure or flow condition that:
    - a. Reach surface water and/or reach a drainage channel tributary to a surface water; or
    - b. Reach a MS4 and are not fully captured and returned to the sanitary sewer system or not otherwise captured and disposed of properly. Any volume of wastewater not recovered from the MS4 is considered to have reached surface water unless the storm drain system discharges to a dedicated storm water or groundwater infiltration basin (e.g., infiltration pit, percolation pond).
  - ii. **Category 2** – Discharges of untreated or partially treated wastewater greater than or equal to 1,000 gallons resulting from an enrollee’s sanitary sewer system failure or flow condition that does not reach a surface water, a drainage channel, or the MS4 unless the entire SSO volume discharged to the storm drain system is fully recovered and disposed of properly.
  - iii. **Category 3** – All other discharges of untreated or partially treated wastewater resulting from an enrollee’s sanitary sewer system failure or flow condition.
4. **Sanitary Sewer Overflow Reporting to CIWQS - Timeframes**
  - i. **Category 1 and Category 2 SSOs** – All SSOs that meet the above criteria for Category 1 or Category 2 SSOs shall be reported to the CIWQS Online SSO Database:
    - a. Draft reports for Category 1 and Category 2 SSOs shall be submitted to the CIWQS Online SSO Database within three (3) business days of the enrollee becoming aware of the SSO. Minimum information that shall be reported in a draft Category 1 SSO report shall include all information identified in section 8.i.a. below. Minimum information that shall be reported in a Category 2 SSO draft report shall include all information identified in section 8.i.c below.
    - b. A final Category 1 or Category 2 SSO report shall be certified through the CIWQS Online SSO Database within 15 calendar days of the end date of the SSO. Minimum information that shall be certified in the final Category 1 SSO report shall include all information identified in section 8.i.b below. Minimum information that shall be certified in a final Category 2 SSO report shall include all information identified in section 8.i.d below.

- ii. **Category 3 SSOs** – All SSOs that meet the above criteria for Category 3 SSOs shall be reported to the CIWQS Online SSO Database and certified within 30 calendar days after the end of the calendar month in which the SSO occurs (e.g., all Category 3 SSOs occurring in the month of February shall be entered into the database and certified by March 30). Minimum information that shall be certified in a final Category 3 SSO report shall include all information identified in section 8.i.e below.
- iii. **“No Spill” Certification** – If there are no SSOs during the calendar month, the enrollee shall either 1) certify, within 30 calendar days after the end of each calendar month, a “No Spill” certification statement in the CIWQS Online SSO Database certifying that there were no SSOs for the designated month, or 2) certify, quarterly within 30 calendar days after the end of each quarter, “No Spill” certification statements in the CIWQS Online SSO Database certifying that there were no SSOs for each month in the quarter being reported on. For quarterly reporting, the quarters are Q1 - January/ February/ March, Q2 - April/May/June, Q3 - July/August/September, and Q4 - October/November/December.  
  
If there are no SSOs during a calendar month but the enrollee reported a PLSD, the enrollee shall still certify a “No Spill” certification statement for that month.
- iv. **Amended SSO Reports** – The enrollee may update or add additional information to a certified SSO report within 120 calendar days after the SSO end date by amending the report or by adding an attachment to the SSO report in the CIWQS Online SSO Database. SSO reports certified in the CIWQS Online SSO Database prior to the adoption date of this MRP may only be amended up to 120 days after the effective date of this MRP. After 120 days, the enrollee may contact the SSO Program Manager to request to amend an SSO report if the enrollee also submits justification for why the additional information was not available prior to the end of the 120 days.

## 5. **SSO Technical Report**

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

- i. **Causes and Circumstances of the SSO:**
  - a. Complete and detailed explanation of how and when the SSO was discovered.
  - b. Diagram showing the SSO failure point, appearance point(s), and final destination(s).
  - c. Detailed description of the methodology employed and available data used to calculate the volume of the SSO and, if applicable, the SSO volume recovered.
  - d. Detailed description of the cause(s) of the SSO.
  - e. Copies of original field crew records used to document the SSO.
  - f. Historical maintenance records for the failure location.
- ii. **Enrollee’s Response to SSO:**
  - a. Chronological narrative description of all actions taken by enrollee to terminate the spill.
  - b. Explanation of how the SSMP Overflow Emergency Response plan was implemented to respond to and mitigate the SSO.

- c. Final corrective action(s) completed and/or planned to be completed, including a schedule for actions not yet completed.

iii. **Water Quality Monitoring:**

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

6. **PLSDs**

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

- i. The enrollee is also encouraged to provide notification to Cal OES per section B above when a PLSD greater than or equal to 1,000 gallons has or may result in a discharge to surface water. For any PLSD greater than or equal to 1,000 gallons regardless of the spill destination, the enrollee is also encouraged to file a spill report as required by Health and Safety Code section 5410 et. seq. and Water Code section 13271, or notify the responsible party that notification and reporting should be completed as specified above and required by State law.
- ii. If a PLSD is recorded in the CIWQS Online SSO Database, the enrollee must identify the sewage discharge as occurring and caused by a private sanitary sewer system asset and should identify a responsible party (other than the enrollee), if known. Certification of PLSD reports by enrollees is not required.

7. **CIWQS Online SSO Database Unavailability**

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

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

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

i. **SSO Reports**

At a minimum, the following mandatory information shall be reported prior to finalizing and certifying an SSO report for each category of SSO:



- a. **Draft Category 1 SSOs**: At a minimum, the following mandatory information shall be reported for a draft Category 1 SSO report:
1. SSO Contact Information: Name and telephone number of enrollee contact person who can answer specific questions about the SSO being reported.
  2. SSO Location Name.
  3. Location of the overflow event (SSO) by entering GPS coordinates. If a single overflow event results in multiple appearance points, provide GPS coordinates for the appearance point closest to the failure point and describe each additional appearance point in the SSO appearance point explanation field.
  4. Whether or not the SSO reached surface water, a drainage channel, or entered and was discharged from a drainage structure.
  5. Whether or not the SSO reached a municipal separate storm drain system.
  6. Whether or not the total SSO volume that reached a municipal separate storm drain system was fully recovered.
  7. Estimate of the SSO volume, inclusive of all discharge point(s).
  8. Estimate of the SSO volume that reached surface water, a drainage channel, or was not recovered from a storm drain.
  9. Estimate of the SSO volume recovered (if applicable).
  10. Number of SSO appearance point(s).
  11. Description and location of SSO appearance point(s). If a single sanitary sewer system failure results in multiple SSO appearance points, each appearance point must be described.
  12. SSO start date and time.
  13. Date and time the enrollee was notified of, or self-discovered, the SSO.
  14. Estimated operator arrival time.
  15. For spills greater than or equal to 1,000 gallons, the date and time Cal OES was called.
  16. For spills greater than or equal to 1,000 gallons, the Cal OES control number.
- b. **Certified Category 1 SSOs**: At a minimum, the following mandatory information shall be reported for a certified Category 1 SSO report, in addition to all fields in section 8.i.a :
1. Description of SSO destination(s).
  2. SSO end date and time.
  3. SSO causes (mainline blockage, roots, etc.).
  4. SSO failure point (main, lateral, etc.).
  5. Whether or not the spill was associated with a storm event.
  6. Description of spill corrective action, including steps planned or taken to reduce, eliminate, and prevent reoccurrence of the overflow; and a schedule of major milestones for those steps.
  7. Description of spill response activities.
  8. Spill response completion date.
  9. Whether or not there is an ongoing investigation, the reasons for the investigation and the expected date of completion.

10. Whether or not a beach closure occurred or may have occurred as a result of the SSO.
  11. Whether or not health warnings were posted as a result of the SSO.
  12. Name of beach(es) closed and/or impacted. If no beach was impacted, NA shall be selected.
  13. Name of surface water(s) impacted.
  14. If water quality samples were collected, identify parameters the water quality samples were analyzed for. If no samples were taken, NA shall be selected.
  15. If water quality samples were taken, identify which regulatory agencies received sample results (if applicable). If no samples were taken, NA shall be selected.
  16. Description of methodology(ies) and type of data relied upon for estimations of the SSO volume discharged and recovered.
  17. SSO Certification: Upon SSO Certification, the CIWQS Online SSO Database will issue a final SSO identification (ID) number.
- c. **Draft Category 2 SSOs:** At a minimum, the following mandatory information shall be reported for a draft Category 2 SSO report:
1. Items 1-14 in section 8.i.a above for Draft Category 1 SSO.
- d. **Certified Category 2 SSOs:** At a minimum, the following mandatory information shall be reported for a certified Category 2 SSO report:
1. Items 1-14 in section 8.i.a above for Draft Category 1 SSO and Items 1-9, and 17 in section 8.i.b above for Certified Category 1 SSO.
- e. **Certified Category 3 SSOs:** At a minimum, the following mandatory information shall be reported for a certified Category 3 SSO report:
1. Items 1-14 in section 8.i.a above for Draft Category 1 SSO and Items 1-5, and 17 in section 8.i.b above for Certified Category 1 SSO.

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

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

iii. **Collection System Questionnaire**

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

iv. **SSMP Availability**

The enrollee shall provide the publicly available internet web site address to the CIWQS Online SSO Database where a downloadable copy of the enrollee's approved SSMP, critical supporting documents referenced in the SSMP, and proof of local governing board approval of the SSMP is posted. If all of the SSMP documentation listed in this subsection is not publicly available on the Internet, the enrollee shall comply with the following procedure:

- a. Submit an **electronic** copy of the enrollee's approved SSMP, critical supporting documents referenced in the SSMP, and proof of local governing board approval of the SSMP to the State Water Board, within 30 days of that approval and within 30 days of any subsequent SSMP re-certifications, to the following mailing address:

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

**D. WATER QUALITY MONITORING REQUIREMENTS:**

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

1. Contain protocols for water quality monitoring.
2. Account for spill travel time in the surface water and scenarios where monitoring may not be possible (e.g. safety, access restrictions, etc.).
3. Require water quality analyses for ammonia and bacterial indicators to be performed by an accredited or certified laboratory.
4. Require monitoring instruments and devices used to implement the SSO Water Quality Monitoring Program to be properly maintained and calibrated, including any records to document maintenance and calibration, as necessary, to ensure their continued accuracy.
5. Within 48 hours of the enrollee becoming aware of the SSO, require water quality sampling for, at a minimum, the following constituents:
  - i. Ammonia
  - ii. Appropriate Bacterial indicator(s) per the applicable Basin Plan water quality objective or Regional Board direction which may include total and fecal coliform, enterococcus, and e-coli.

**E. RECORD KEEPING REQUIREMENTS:**

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

1. General Records: The enrollee shall maintain records to document compliance with all provisions of the SSS WDRs and this MRP for each sanitary sewer system owned including any required records generated by an enrollee's sanitary sewer system contractor(s).
2. SSO Records: The enrollee shall maintain records for each SSO event, including but not limited to:
  - i. Complaint records documenting how the enrollee responded to all notifications of possible or actual SSOs, both during and after business hours, including complaints that do not

result in SSOs. Each complaint record shall, at a minimum, include the following information:

- a. Date, time, and method of notification.
  - b. Date and time the complainant or informant first noticed the SSO.
  - c. Narrative description of the complaint, including any information the caller can provide regarding whether or not the complainant or informant reporting the potential SSO knows if the SSO has reached surface waters, drainage channels or storm drains.
  - d. Follow-up return contact information for complainant or informant for each complaint received, if not reported anonymously.
  - e. Final resolution of the complaint.
- ii. Records documenting steps and/or remedial actions undertaken by enrollee, using all available information, to comply with section D.7 of the SSS WDRs.
  - iii. Records documenting how all estimate(s) of volume(s) discharged and, if applicable, volume(s) recovered were calculated.
3. Records documenting all changes made to the SSMP since its last certification indicating when a subsection(s) of the SSMP was changed and/or updated and who authorized the change or update. These records shall be attached to the SSMP.
  4. Electronic monitoring records relied upon for documenting SSO events and/or estimating the SSO volume discharged, including, but not limited to records from:
    - i. Supervisory Control and Data Acquisition (SCADA) systems
    - ii. Alarm system(s)
    - iii. Flow monitoring device(s) or other instrument(s) used to estimate wastewater levels, flow rates and/or volumes.

## **F. CERTIFICATION**

1. All information required to be reported into the CIWQS Online SSO Database shall be certified by a person designated as described in subsection J of the SSS WDRs. This designated person is also known as a Legally Responsible Official (LRO). An enrollee may have more than one LRO.
2. Any designated person (i.e. an LRO) shall be registered with the State Water Board to certify reports in accordance with the CIWQS protocols for reporting.
3. Data Submitter (DS): Any enrollee employee or contractor may enter draft data into the CIWQS Online SSO Database on behalf of the enrollee if authorized by the LRO and registered with the State Water Board. However, only LROs may certify reports in CIWQS.
4. The enrollee shall maintain continuous coverage by an LRO. Any change of a registered LRO or DS (e.g., retired staff), including deactivation or a change to the LRO's or DS's contact information, shall be submitted by the enrollee to the State Water Board within 30 days of the change by calling (866) 792-4977 or e-mailing [help@ciwqs.waterboards.ca.gov](mailto:help@ciwqs.waterboards.ca.gov).

5. A registered designated person (i.e., an LRO) shall certify all required reports under penalty of perjury laws of the state as stated in the CIWQS Online SSO Database at the time of certification.

### CERTIFICATION

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

7/30/13

Date



Jeanine Townsend  
Clerk to the Board

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

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

The State Water Resources Control Board, hereinafter referred to as "State Water Board", finds that:

1. All federal and state agencies, municipalities, counties, districts, and other public entities that own or operate sanitary sewer systems greater than one mile in length that collect and/or convey untreated or partially treated wastewater to a publicly owned treatment facility in the State of California are required to comply with the terms of this Order. Such entities are hereinafter referred to as "Enrollees".
2. Sanitary sewer overflows (SSOs) are overflows from sanitary sewer systems of domestic wastewater, as well as industrial and commercial wastewater, depending on the pattern of land uses in the area served by the sanitary sewer system. SSOs often contain high levels of suspended solids, pathogenic organisms, toxic pollutants, nutrients, oxygen-demanding organic compounds, oil and grease and other pollutants. SSOs may cause a public nuisance, particularly when raw untreated wastewater is discharged to areas with high public exposure, such as streets or surface waters used for drinking, fishing, or body contact recreation. SSOs may pollute surface or ground waters, threaten public health, adversely affect aquatic life, and impair the recreational use and aesthetic enjoyment of surface waters.
3. Sanitary sewer systems experience periodic failures resulting in discharges that may affect waters of the state. There are many factors (including factors related to geology, design, construction methods and materials, age of the system, population growth, and system operation and maintenance), which affect the likelihood of an SSO. A proactive approach that requires Enrollees to ensure a system-wide operation, maintenance, and management plan is in place will reduce the number and frequency of SSOs within the state. This approach will in turn decrease the risk to human health and the environment caused by SSOs.
4. Major causes of SSOs include: grease blockages, root blockages, sewer line flood damage, manhole structure failures, vandalism, pump station mechanical failures, power outages, excessive storm or ground water inflow/infiltration, debris blockages, sanitary sewer system age and construction material failures, lack of proper operation and maintenance, insufficient capacity and contractor-caused damages. Many SSOs are preventable with adequate and appropriate facilities, source control measures and operation and maintenance of the sanitary sewer system.

### **SEWER SYSTEM MANAGEMENT PLANS**

5. To facilitate proper funding and management of sanitary sewer systems, each Enrollee must develop and implement a system-specific Sewer System Management Plan (SSMP). To be effective, SSMPs must include provisions to provide proper and efficient management, operation, and maintenance of sanitary sewer systems, while taking into consideration risk management and cost benefit analysis. Additionally, an SSMP must contain a spill response plan that establishes standard procedures for immediate response to an SSO in a manner designed to minimize water quality impacts and potential nuisance conditions.
6. Many local public agencies in California have already developed SSMPs and implemented measures to reduce SSOs. These entities can build upon their existing efforts to establish a comprehensive SSMP consistent with this Order. Others, however, still require technical assistance and, in some cases, funding to improve sanitary sewer system operation and maintenance in order to reduce SSOs.
7. SSMP certification by technically qualified and experienced persons can provide a useful and cost-effective means for ensuring that SSMPs are developed and implemented appropriately.
8. It is the State Water Board's intent to gather additional information on the causes and sources of SSOs to augment existing information and to determine the full extent of SSOs and consequent public health and/or environmental impacts occurring in the State.
9. Both uniform SSO reporting and a centralized statewide electronic database are needed to collect information to allow the State Water Board and Regional Water Quality Control Boards (Regional Water Boards) to effectively analyze the extent of SSOs statewide and their potential impacts on beneficial uses and public health. The monitoring and reporting program required by this Order and the attached Monitoring and Reporting Program No. 2006-0003-DWQ, are necessary to assure compliance with these waste discharge requirements (WDRs).
10. Information regarding SSOs must be provided to Regional Water Boards and other regulatory agencies in a timely manner and be made available to the public in a complete, concise, and timely fashion.
11. Some Regional Water Boards have issued WDRs or WDRs that serve as National Pollution Discharge Elimination System (NPDES) permits to sanitary sewer system owners/operators within their jurisdictions. This Order establishes minimum requirements to prevent SSOs. Although it is the State Water Board's intent that this Order be the primary regulatory mechanism for sanitary sewer systems statewide, Regional Water Boards may issue more stringent or more

prescriptive WDRs for sanitary sewer systems. Upon issuance or reissuance of a Regional Water Board's WDRs for a system subject to this Order, the Regional Water Board shall coordinate its requirements with stated requirements within this Order, to identify requirements that are more stringent, to remove requirements that are less stringent than this Order, and to provide consistency in reporting.

## REGULATORY CONSIDERATIONS

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

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

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

13. The issuance of general WDRs to the Enrollees will:

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

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

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



water quality in the area, costs associated with compliance with these requirements, the need for developing housing within California, and the need to develop and use recycled water.

16. The Federal Clean Water Act largely prohibits any discharge of pollutants from a point source to waters of the United States except as authorized under an NPDES permit. In general, any point source discharge of sewage effluent to waters of the United States must comply with technology-based, secondary treatment standards, at a minimum, and any more stringent requirements necessary to meet applicable water quality standards and other requirements. Hence, the unpermitted discharge of wastewater from a sanitary sewer system to waters of the United States is illegal under the Clean Water Act. In addition, many Basin Plans adopted by the Regional Water Boards contain discharge prohibitions that apply to the discharge of untreated or partially treated wastewater. Finally, the California Water Code generally prohibits the discharge of waste to land prior to the filing of any required report of waste discharge and the subsequent issuance of either WDRs or a waiver of WDRs.
17. California Water Code section 13263 requires a water board to, after any necessary hearing, prescribe requirements as to the nature of any proposed discharge, existing discharge, or material change in an existing discharge. The requirements shall, among other things, take into consideration the need to prevent nuisance.
18. California Water Code section 13050, subdivision (m), defines nuisance as anything which meets all of the following requirements:
  - a. Is injurious to health, or is indecent or offensive to the senses, or an obstruction to the free use of property, so as to interfere with the comfortable enjoyment of life or property.
  - b. Affects at the same time an entire community or neighborhood, or any considerable number of persons, although the extent of the annoyance or damage inflicted upon individuals may be unequal.
  - c. Occurs during, or as a result of, the treatment or disposal of wastes.
19. This Order is consistent with State Water Board Resolution No. 68-16 (Statement of Policy with Respect to Maintaining High Quality of Waters in California) in that the Order imposes conditions to prevent impacts to water quality, does not allow the degradation of water quality, will not unreasonably affect beneficial uses of water, and will not result in water quality less than prescribed in State Water Board or Regional Water Board plans and policies.
20. The action to adopt this General Order is exempt from the California Environmental Quality Act (Public Resources Code §21000 et seq.) because it is an action taken by a regulatory agency to assure the protection of the environment and the regulatory process involves procedures for protection of the environment. (Cal. Code Regs., tit. 14, §15308). In addition, the action to adopt

this Order is exempt from CEQA pursuant to Cal.Code Regs., title 14, §15301 to the extent that it applies to existing sanitary sewer collection systems that constitute “existing facilities” as that term is used in Section 15301, and §15302, to the extent that it results in the repair or replacement of existing systems involving negligible or no expansion of capacity.

21. The Fact Sheet, which is incorporated by reference in the Order, contains supplemental information that was also considered in establishing these requirements.
22. The State Water Board has notified all affected public agencies and all known interested persons of the intent to prescribe general WDRs that require Enrollees to develop SSMPs and to report all SSOs.
23. The State Water Board conducted a public hearing on February 8, 2006, to receive oral and written comments on the draft order. The State Water Board received and considered, at its May 2, 2006, meeting, additional public comments on substantial changes made to the proposed general WDRs following the February 8, 2006, public hearing. The State Water Board has considered all comments pertaining to the proposed general WDRs.

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

#### **A. DEFINITIONS**

1. **Sanitary sewer overflow (SSO)** - Any overflow, spill, release, discharge or diversion of untreated or partially treated wastewater from a sanitary sewer system. SSOs include:
  - (i) Overflows or releases of untreated or partially treated wastewater that reach waters of the United States;
  - (ii) Overflows or releases of untreated or partially treated wastewater that do not reach waters of the United States; and
  - (iii) Wastewater backups into buildings and on private property that are caused by blockages or flow conditions within the publicly owned portion of a sanitary sewer system.
2. **Sanitary sewer system** – Any system of pipes, pump stations, sewer lines, or other conveyances, upstream of a wastewater treatment plant headworks used to collect and convey wastewater to the publicly owned treatment facility. Temporary storage and conveyance facilities (such as vaults, temporary piping, construction trenches, wet wells, impoundments, tanks, etc.) are considered to be part of the sanitary sewer system, and discharges into these temporary storage facilities are not considered to be SSOs.

For purposes of this Order, sanitary sewer systems include only those systems owned by public agencies that are comprised of more than one mile of pipes or sewer lines.

3. **Enrollee** - A federal or state agency, municipality, county, district, and other public entity that owns or operates a sanitary sewer system, as defined in the general WDRs, and that has submitted a complete and approved application for coverage under this Order.
4. **SSO Reporting System** – Online spill reporting system that is hosted, controlled, and maintained by the State Water Board. The web address for this site is <http://ciwqs.waterboards.ca.gov>. This online database is maintained on a secure site and is controlled by unique usernames and passwords.
5. **Untreated or partially treated wastewater** – Any volume of waste discharged from the sanitary sewer system upstream of a wastewater treatment plant headworks.
6. **Satellite collection system** – The portion, if any, of a sanitary sewer system owned or operated by a different public agency than the agency that owns and operates the wastewater treatment facility to which the sanitary sewer system is tributary.
7. **Nuisance** - California Water Code section 13050, subdivision (m), defines nuisance as anything which meets all of the following requirements:
  - a. Is injurious to health, or is indecent or offensive to the senses, or an obstruction to the free use of property, so as to interfere with the comfortable enjoyment of life or property.
  - b. Affects at the same time an entire community or neighborhood, or any considerable number of persons, although the extent of the annoyance or damage inflicted upon individuals may be unequal.
  - c. Occurs during, or as a result of, the treatment or disposal of wastes.

## **B. APPLICATION REQUIREMENTS**

1. **Deadlines for Application** – All public agencies that currently own or operate sanitary sewer systems within the State of California must apply for coverage under the general WDRs within six (6) months of the date of adoption of the general WDRs. Additionally, public agencies that acquire or assume responsibility for operating sanitary sewer systems after the date of adoption of this Order must apply for coverage under the general WDRs at least three (3) months prior to operation of those facilities.
2. **Applications under the general WDRs** – In order to apply for coverage pursuant to the general WDRs, a legally authorized representative for each agency must submit a complete application package. Within sixty (60) days of adoption of the general WDRs, State Water Board staff will send specific instructions on how to

apply for coverage under the general WDRs to all known public agencies that own sanitary sewer systems. Agencies that do not receive notice may obtain applications and instructions online on the Water Board's website.

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

### **C. PROHIBITIONS**

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

### **D. PROVISIONS**

1. The Enrollee must comply with all conditions of this Order. Any noncompliance with this Order constitutes a violation of the California Water Code and is grounds for enforcement action.
2. It is the intent of the State Water Board that sanitary sewer systems be regulated in a manner consistent with the general WDRs. Nothing in the general WDRs shall be:
  - (i) Interpreted or applied in a manner inconsistent with the Federal Clean Water Act, or supersede a more specific or more stringent state or federal requirement in an existing permit, regulation, or administrative/judicial order or Consent Decree;
  - (ii) Interpreted or applied to authorize an SSO that is illegal under either the Clean Water Act, an applicable Basin Plan prohibition or water quality standard, or the California Water Code;
  - (iii) Interpreted or applied to prohibit a Regional Water Board from issuing an individual NPDES permit or WDR, superseding this general WDR, for a sanitary sewer system, authorized under the Clean Water Act or California Water Code; or
  - (iv) Interpreted or applied to supersede any more specific or more stringent WDRs or enforcement order issued by a Regional Water Board.
3. The Enrollee shall take all feasible steps to eliminate SSOs. In the event that an SSO does occur, the Enrollee shall take all feasible steps to contain and mitigate the impacts of an SSO.
4. In the event of an SSO, the Enrollee shall take all feasible steps to prevent untreated or partially treated wastewater from discharging from storm drains into

flood control channels or waters of the United States by blocking the storm drainage system and by removing the wastewater from the storm drains.

5. All SSOs must be reported in accordance with Section G of the general WDRs.
6. In any enforcement action, the State and/or Regional Water Boards will consider the appropriate factors under the duly adopted State Water Board Enforcement Policy. And, consistent with the Enforcement Policy, the State and/or Regional Water Boards must consider the Enrollee's efforts to contain, control, and mitigate SSOs when considering the California Water Code Section 13327 factors. In assessing these factors, the State and/or Regional Water Boards will also consider whether:
  - (i) The Enrollee has complied with the requirements of this Order, including requirements for reporting and developing and implementing a SSMP;
  - (ii) The Enrollee can identify the cause or likely cause of the discharge event;
  - (iii) There were no feasible alternatives to the discharge, such as temporary storage or retention of untreated wastewater, reduction of inflow and infiltration, use of adequate backup equipment, collecting and hauling of untreated wastewater to a treatment facility, or an increase in the capacity of the system as necessary to contain the design storm event identified in the SSMP. It is inappropriate to consider the lack of feasible alternatives, if the Enrollee does not implement a periodic or continuing process to identify and correct problems.
  - (iv) The discharge was exceptional, unintentional, temporary, and caused by factors beyond the reasonable control of the Enrollee;
  - (v) The discharge could have been prevented by the exercise of reasonable control described in a certified SSMP for:
    - Proper management, operation and maintenance;
    - Adequate treatment facilities, sanitary sewer system facilities, and/or components with an appropriate design capacity, to reasonably prevent SSOs (e.g., adequately enlarging treatment or collection facilities to accommodate growth, infiltration and inflow (I/I), etc.);
    - Preventive maintenance (including cleaning and fats, oils, and grease (FOG) control);
    - Installation of adequate backup equipment; and
    - Inflow and infiltration prevention and control to the extent practicable.
  - (vi) The sanitary sewer system design capacity is appropriate to reasonably prevent SSOs.



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

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

- (i) Interception and rerouting of untreated or partially treated wastewater flows around the wastewater line failure;
  - (ii) Vacuum truck recovery of sanitary sewer overflows and wash down water;
  - (iii) Cleanup of debris at the overflow site;
  - (iv) System modifications to prevent another SSO at the same location;
  - (v) Adequate sampling to determine the nature and impact of the release; and
  - (vi) Adequate public notification to protect the public from exposure to the SSO.
8. The Enrollee shall properly, manage, operate, and maintain all parts of the sanitary sewer system owned or operated by the Enrollee, and shall ensure that the system operators (including employees, contractors, or other agents) are adequately trained and possess adequate knowledge, skills, and abilities.
9. The Enrollee shall allocate adequate resources for the operation, maintenance, and repair of its sanitary sewer system, by establishing a proper rate structure, accounting mechanisms, and auditing procedures to ensure an adequate measure of revenues and expenditures. These procedures must be in compliance with applicable laws and regulations and comply with generally acceptable accounting practices.
10. The Enrollee shall provide adequate capacity to convey base flows and peak flows, including flows related to wet weather events. Capacity shall meet or exceed the design criteria as defined in the Enrollee's System Evaluation and Capacity Assurance Plan for all parts of the sanitary sewer system owned or operated by the Enrollee.
11. The Enrollee shall develop and implement a written Sewer System Management Plan (SSMP) and make it available to the State and/or Regional Water Board upon request. A copy of this document must be publicly available at the Enrollee's office and/or available on the Internet. This SSMP must be approved by the Enrollee's governing board at a public meeting.

12. In accordance with the California Business and Professions Code sections 6735, 7835, and 7835.1, all engineering and geologic evaluations and judgments shall be performed by or under the direction of registered professionals competent and proficient in the fields pertinent to the required activities. Specific elements of the SSMP that require professional evaluation and judgments shall be prepared by or under the direction of appropriately qualified professionals, and shall bear the professional(s)' signature and stamp.
13. The mandatory elements of the SSMP are specified below. However, if the Enrollee believes that any element of this section is not appropriate or applicable to the Enrollee's sanitary sewer system, the SSMP program does not need to address that element. The Enrollee must justify why that element is not applicable. The SSMP must be approved by the deadlines listed in the SSMP Time Schedule below.

### **Sewer System Management Plan (SSMP)**

- (i) **Goal:** The goal of the SSMP is to provide a plan and schedule to properly manage, operate, and maintain all parts of the sanitary sewer system. This will help reduce and prevent SSOs, as well as mitigate any SSOs that do occur.
- (ii) **Organization:** The SSMP must identify:
  - (a) The name of the responsible or authorized representative as described in Section J of this Order.
  - (b) The names and telephone numbers for management, administrative, and maintenance positions responsible for implementing specific measures in the SSMP program. The SSMP must identify lines of authority through an organization chart or similar document with a narrative explanation; and
  - (c) The chain of communication for reporting SSOs, from receipt of a complaint or other information, including the person responsible for reporting SSOs to the State and Regional Water Board and other agencies if applicable (such as County Health Officer, County Environmental Health Agency, Regional Water Board, and/or State Office of Emergency Services (OES)).
- (iii) **Legal Authority:** Each Enrollee must demonstrate, through sanitary sewer system use ordinances, service agreements, or other legally binding procedures, that it possesses the necessary legal authority to:
  - (a) Prevent illicit discharges into its sanitary sewer system (examples may include I/I, stormwater, chemical dumping, unauthorized debris and cut roots, etc.);

- (b) Require that sewers and connections be properly designed and constructed;
  - (c) Ensure access for maintenance, inspection, or repairs for portions of the lateral owned or maintained by the Public Agency;
  - (d) Limit the discharge of fats, oils, and grease and other debris that may cause blockages, and
  - (e) Enforce any violation of its sewer ordinances.
- (iv) **Operation and Maintenance Program.** The SSMP must include those elements listed below that are appropriate and applicable to the Enrollee's system:
- (a) Maintain an up-to-date map of the sanitary sewer system, showing all gravity line segments and manholes, pumping facilities, pressure pipes and valves, and applicable stormwater conveyance facilities;
  - (b) Describe routine preventive operation and maintenance activities by staff and contractors, including a system for scheduling regular maintenance and cleaning of the sanitary sewer system with more frequent cleaning and maintenance targeted at known problem areas. The Preventative Maintenance (PM) program should have a system to document scheduled and conducted activities, such as work orders;
  - (c) Develop a rehabilitation and replacement plan to identify and prioritize system deficiencies and implement short-term and long-term rehabilitation actions to address each deficiency. The program should include regular visual and TV inspections of manholes and sewer pipes, and a system for ranking the condition of sewer pipes and scheduling rehabilitation. Rehabilitation and replacement should focus on sewer pipes that are at risk of collapse or prone to more frequent blockages due to pipe defects. Finally, the rehabilitation and replacement plan should include a capital improvement plan that addresses proper management and protection of the infrastructure assets. The plan shall include a time schedule for implementing the short- and long-term plans plus a schedule for developing the funds needed for the capital improvement plan;
  - (d) Provide training on a regular basis for staff in sanitary sewer system operations and maintenance, and require contractors to be appropriately trained; and



- (e) Provide equipment and replacement part inventories, including identification of critical replacement parts.

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

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

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

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

- (vii) **FOG Control Program:** Each Enrollee shall evaluate its service area to determine whether a FOG control program is needed. If an Enrollee determines that a FOG program is not needed, the Enrollee must provide justification for why it is not needed. If FOG is found to be a problem, the Enrollee must prepare and implement a FOG source control program to reduce the amount of these substances discharged to the sanitary sewer system. This plan shall include the following as appropriate:
- (a) An implementation plan and schedule for a public education outreach program that promotes proper disposal of FOG;
  - (b) A plan and schedule for the disposal of FOG generated within the sanitary sewer system service area. This may include a list of acceptable disposal facilities and/or additional facilities needed to adequately dispose of FOG generated within a sanitary sewer system service area;
  - (c) The legal authority to prohibit discharges to the system and identify measures to prevent SSOs and blockages caused by FOG;
  - (d) Requirements to install grease removal devices (such as traps or interceptors), design standards for the removal devices, maintenance requirements, BMP requirements, record keeping and reporting requirements;
  - (e) Authority to inspect grease producing facilities, enforcement authorities, and whether the Enrollee has sufficient staff to inspect and enforce the FOG ordinance;
  - (f) An identification of sanitary sewer system sections subject to FOG blockages and establishment of a cleaning maintenance schedule for each section; and
  - (g) Development and implementation of source control measures for all sources of FOG discharged to the sanitary sewer system for each section identified in (f) above.
- (viii) **System Evaluation and Capacity Assurance Plan:** The Enrollee shall prepare and implement a capital improvement plan (CIP) that will provide hydraulic capacity of key sanitary sewer system elements for dry weather peak flow conditions, as well as the appropriate design storm or wet weather event. At a minimum, the plan must include:
- (a) **Evaluation:** Actions needed to evaluate those portions of the sanitary sewer system that are experiencing or contributing to an SSO discharge caused by hydraulic deficiency. The evaluation must provide estimates of peak flows (including flows from SSOs

that escape from the system) associated with conditions similar to those causing overflow events, estimates of the capacity of key system components, hydraulic deficiencies (including components of the system with limiting capacity) and the major sources that contribute to the peak flows associated with overflow events;

- (b) **Design Criteria:** Where design criteria do not exist or are deficient, undertake the evaluation identified in (a) above to establish appropriate design criteria; and
  - (c) **Capacity Enhancement Measures:** The steps needed to establish a short- and long-term CIP to address identified hydraulic deficiencies, including prioritization, alternatives analysis, and schedules. The CIP may include increases in pipe size, I/I reduction programs, increases and redundancy in pumping capacity, and storage facilities. The CIP shall include an implementation schedule and shall identify sources of funding.
  - (d) **Schedule:** The Enrollee shall develop a schedule of completion dates for all portions of the capital improvement program developed in (a)-(c) above. This schedule shall be reviewed and updated consistent with the SSMP review and update requirements as described in Section D. 14.
- (ix) **Monitoring, Measurement, and Program Modifications:** The Enrollee shall:
- (a) Maintain relevant information that can be used to establish and prioritize appropriate SSMP activities;
  - (b) Monitor the implementation and, where appropriate, measure the effectiveness of each element of the SSMP;
  - (c) Assess the success of the preventative maintenance program;
  - (d) Update program elements, as appropriate, based on monitoring or performance evaluations; and
  - (e) Identify and illustrate SSO trends, including: frequency, location, and volume.
- (x) **SSMP Program Audits** - As part of the SSMP, the Enrollee shall conduct periodic internal audits, appropriate to the size of the system and the number of SSOs. At a minimum, these audits must occur every two years and a report must be prepared and kept on file. This audit shall focus on evaluating the effectiveness of the SSMP and the

Enrollee's compliance with the SSMP requirements identified in this subsection (D.13), including identification of any deficiencies in the SSMP and steps to correct them.

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

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

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

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

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

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

15. The Enrollee shall comply with these requirements according to the following schedule. This time schedule does not supersede existing requirements or time schedules associated with other permits or regulatory requirements.

**Sewer System Management Plan Time Schedule**

<u>Task and Associated Section</u>	<b>Completion Date</b>			
	Population > 100,000	Population between 100,000 and 10,000	Population between 10,000 and 2,500	Population < 2,500
Application for Permit Coverage <b>Section C</b>	6 months after WDRs Adoption			
Reporting Program <b>Section G</b>	6 months after WDRs Adoption <sup>1</sup>			
SSMP Development Plan and Schedule <b>No specific Section</b>	9 months after WDRs Adoption <sup>2</sup>	12 months after WDRs Adoption <sup>2</sup>	15 months after WDRs Adoption <sup>2</sup>	18 months after WDRs Adoption <sup>2</sup>
Goals and Organization Structure <b>Section D 13 (i) &amp; (ii)</b>	12 months after WDRs Adoption <sup>2</sup>		18 months after WDRs Adoption <sup>2</sup>	
Overflow Emergency Response Program <b>Section D 13 (vi)</b>	24 months after WDRs Adoption <sup>2</sup>	30 months after WDRs Adoption <sup>2</sup>	36 months after WDRs Adoption <sup>2</sup>	39 months after WDRs Adoption <sup>2</sup>
Legal Authority <b>Section D 13 (iii)</b>				
Operation and Maintenance Program <b>Section D 13 (iv)</b>				
Grease Control Program <b>Section D 13 (vii)</b>	36 months after WDRs Adoption	39 months after WDRs Adoption	48 months after WDRs Adoption	51 months after WDRs Adoption
Design and Performance <b>Section D 13 (v)</b>				
System Evaluation and Capacity Assurance Plan <b>Section D 13 (viii)</b>				
Final SSMP, incorporating all of the SSMP requirements <b>Section D 13</b>				

1. In the event that by July 1, 2006 the Executive Director is able to execute a memorandum of agreement (MOA) with the California Water Environment Association (CWEA) or discharger representatives outlining a strategy and time schedule for CWEA or another entity to provide statewide training on the adopted monitoring program, SSO database electronic reporting, and SSMP development, consistent with this Order, then the schedule of Reporting Program Section G shall be replaced with the following schedule:

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

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

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

**E. WDRs and SSMP AVAILABILITY**

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

**F. ENTRY AND INSPECTION**

1. The Enrollee shall allow the State or Regional Water Boards or their authorized representative, upon presentation of credentials and other documents as may be required by law, to:
  - a. Enter upon the Enrollee’s premises where a regulated facility or activity is located or conducted, or where records are kept under the conditions of this Order;
  - b. Have access to and copy, at reasonable times, any records that must be kept under the conditions of this Order;



- c. Inspect at reasonable times any facilities, equipment (including monitoring and control equipment), practices, or operations regulated or required under this Order; and
- d. Sample or monitor at reasonable times, for the purposes of assuring compliance with this Order or as otherwise authorized by the California Water Code, any substances or parameters at any location.

## **G. GENERAL MONITORING AND REPORTING REQUIREMENTS**

1. The Enrollee shall furnish to the State or Regional Water Board, within a reasonable time, any information that the State or Regional Water Board may request to determine whether cause exists for modifying, revoking and reissuing, or terminating this Order. The Enrollee shall also furnish to the Executive Director of the State Water Board or Executive Officer of the applicable Regional Water Board, upon request, copies of records required to be kept by this Order.
2. The Enrollee shall comply with the attached Monitoring and Reporting Program No. 2006-0003 and future revisions thereto, as specified by the Executive Director. Monitoring results shall be reported at the intervals specified in Monitoring and Reporting Program No. 2006-0003. Unless superseded by a specific enforcement Order for a specific Enrollee, these reporting requirements are intended to replace other mandatory routine written reports associated with SSOs.
3. All Enrollees must obtain SSO Database accounts and receive a "Username" and "Password" by registering through the California Integrated Water Quality System (CIWQS). These accounts will allow controlled and secure entry into the SSO Database. Additionally, within 30 days of receiving an account and prior to recording spills into the SSO Database, all Enrollees must complete the "Collection System Questionnaire", which collects pertinent information regarding a Enrollee's collection system. The "Collection System Questionnaire" must be updated at least every 12 months.
4. Pursuant to Health and Safety Code section 5411.5, any person who, without regard to intent or negligence, causes or permits any untreated wastewater or other waste to be discharged in or on any waters of the State, or discharged in or deposited where it is, or probably will be, discharged in or on any surface waters of the State, as soon as that person has knowledge of the discharge, shall immediately notify the local health officer of the discharge. Discharges of untreated or partially treated wastewater to storm drains and drainage channels, whether man-made or natural or concrete-lined, shall be reported as required above.

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

## **H. CHANGE IN OWNERSHIP**

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

## **I. INCOMPLETE REPORTS**

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

## **J. REPORT DECLARATION**

1. All applications, reports, or information shall be signed and certified as follows:
  - (i) All reports required by this Order and other information required by the State or Regional Water Board shall be signed and certified by a person designated, for a municipality, state, federal or other public agency, as either a principal executive officer or ranking elected official, or by a duly authorized representative of that person, as described in paragraph (ii) of this provision. (For purposes of electronic reporting, an electronic signature and accompanying certification, which is in compliance with the Online SSO database procedures, meet this certification requirement.)
  - (ii) An individual is a duly authorized representative only if:
    - (a) The authorization is made in writing by a person described in paragraph (i) of this provision; and
    - (b) The authorization specifies either an individual or a position having responsibility for the overall operation of the regulated facility or activity.

## **K. CIVIL MONETARY REMEDIES FOR DISCHARGE VIOLATIONS**

1. The California Water Code provides various enforcement options, including civil monetary remedies, for violations of this Order.
2. The California Water Code also provides that any person failing or refusing to furnish technical or monitoring program reports, as required under this Order, or



falsifying any information provided in the technical or monitoring reports is subject to civil monetary penalties.

**L. SEVERABILITY**

1. The provisions of this Order are severable, and if any provision of this Order, or the application of any provision of this Order to any circumstance, is held invalid, the application of such provision to other circumstances, and the remainder of this Order, shall not be affected thereby.
2. This order does not convey any property rights of any sort or any exclusive privileges. The requirements prescribed herein do not authorize the commission of any act causing injury to persons or property, nor protect the Enrollee from liability under federal, state or local laws, nor create a vested right for the Enrollee to continue the waste discharge.

**CERTIFICATION**

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

AYE: Tam M. Doduc  
Gerald D. Secundy

NO: Arthur G. Baggett

ABSENT: None

ABSTAIN: None



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Song Her  
Clerk to the Board

## **Appendix 2: Legally Responsible Official (LRO) memo**

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**CITY OF MONTEREY  
PUBLIC WORKS DEPARTMENT**

**TO:** Steve Wittry, Public Works Director / City Engineer  
**FROM:** Tricia Wotan, Environmental Regulations Manager  
**DATE:** 03/23/2018  
**SUBJECT:** Authorized Representatives – Legally Responsible Official and other CIWQS roles

For regulatory clarity, and per the below SWRCB Facility-At-A-Glance Report from the SWRCB California Integrated Water Quality System (CIWQS) database, the City of Monterey Sanitary Sewer Collection System is noted as having the following authorized personnel for CIWQS authorized use:

Name	City Title	CIWQS Role
Steve Wittry	Public Works Director/City Engineer	Legally Responsible Official (LRO)
Tricia Wotan	Environmental Regulations Manager	Duly Authorized Representative for LRO
Sara South (Myers)	Maintenance Technician	Data Submitter
Chris Singh	Street and Utilities Supervisor	Data Submitter
Lucas Russell	Monterey Harbor-Security	Data Submitter

**California Integrated Water Quality System Project (CIWQS)**

**Facility At-A-Glance Report**

[\[VIEW PRINTER FRIENDLY VERSION\]](#) [\[EXPORT THIS REPORT TO EXCEL\]](#)

SEARCH CRITERIA: [\[REFINE SEARCH\]](#) [\[NEW SEARCH\]](#) [\[GLOSSARY\]](#)

DRILLDOWN HISTORY: [\[BACK TO FACILITY LIST\]](#)

Place ID 632060

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[-] [+]

General Information					
Region	Place ID	Place Name	Place Type	Place Address	Place County
3	632060	Monterey City CS	Collection_System	Monterey, CA, 93940	Monterey

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[-]

Related Parties						
Party	Party Type	Party Name	Role	Classification	Relationship Start Date	Relationship End Date
563563	Person	<a href="#">Sara Myers</a>	Is A Data Submitter For		04/21/2017	
554967	Person	<a href="#">Kimberly Ann Cole</a>	Is Onsite Manager For		03/09/2016	04/25/2017
549303	Person	<a href="#">Lucas Russell</a>	Is A Data Submitter For		12/04/2014	
549121	Person	<a href="#">Chip Rerig</a>	Is Onsite Manager For		12/01/2014	04/25/2017
549193	Person	<a href="#">STEVE WITTRY</a>	Is Onsite Manager For		11/26/2014	
546205	Person	<a href="#">Tricia Wotan</a>	Is Onsite Manager For		04/22/2014	
545184	Person	<a href="#">Rodger Rauch</a>	Is A Data Submitter For		04/16/2013	01/28/2016
539558	Person	<a href="#">Scott Pryor</a>	Is A Data Submitter For		04/16/2013	05/29/2014
528062	Person	<a href="#">Barbara Stems</a>	Is A Data Submitter For		07/25/2011	05/01/2017
552095	Person	<a href="#">test test</a>	Is Onsite Manager For		11/03/2009	11/17/2014
485280	Person	<a href="#">Bret Johnson</a>	Is A Data Submitter For		09/12/2008	11/21/2014
485279	Person	<a href="#">Christopher Singh</a>	Is A Data Submitter For		09/12/2008	
485048	Person	<a href="#">Alice Gustafson</a>	Is A Data Submitter For		09/10/2008	02/27/2013
479413	Person	<a href="#">Thomas Reeves</a>	Is A Data Submitter For		07/23/2008	05/29/2014
470324	Person	<a href="#">William E. Reichmuth</a>	Is Onsite Manager For		05/28/2008	05/29/2014
29176	Organization	<a href="#">Monterey City</a>	Owner	City Agency	04/07/2006	
86431	Person	<a href="#">Tom Reeves</a>	Is Onsite Manager For		04/07/2006	01/28/2016

**Total Related Parties: 17**

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[-]

Regulatory Measures								
Reg Measure ID	Reg Measure Type	Region	Program	Order No.	WDID	Effective Date	Expiration Date	Status Amended?
301789	Enrollee	3	SSOMUNILRG	2006-0003-DWQ	3SSO11524	05/28/2008		Active N

**Total Reg Measures: 1**

Future changes to these roles shall be memorialized with the SWRCB and within CIWQS.

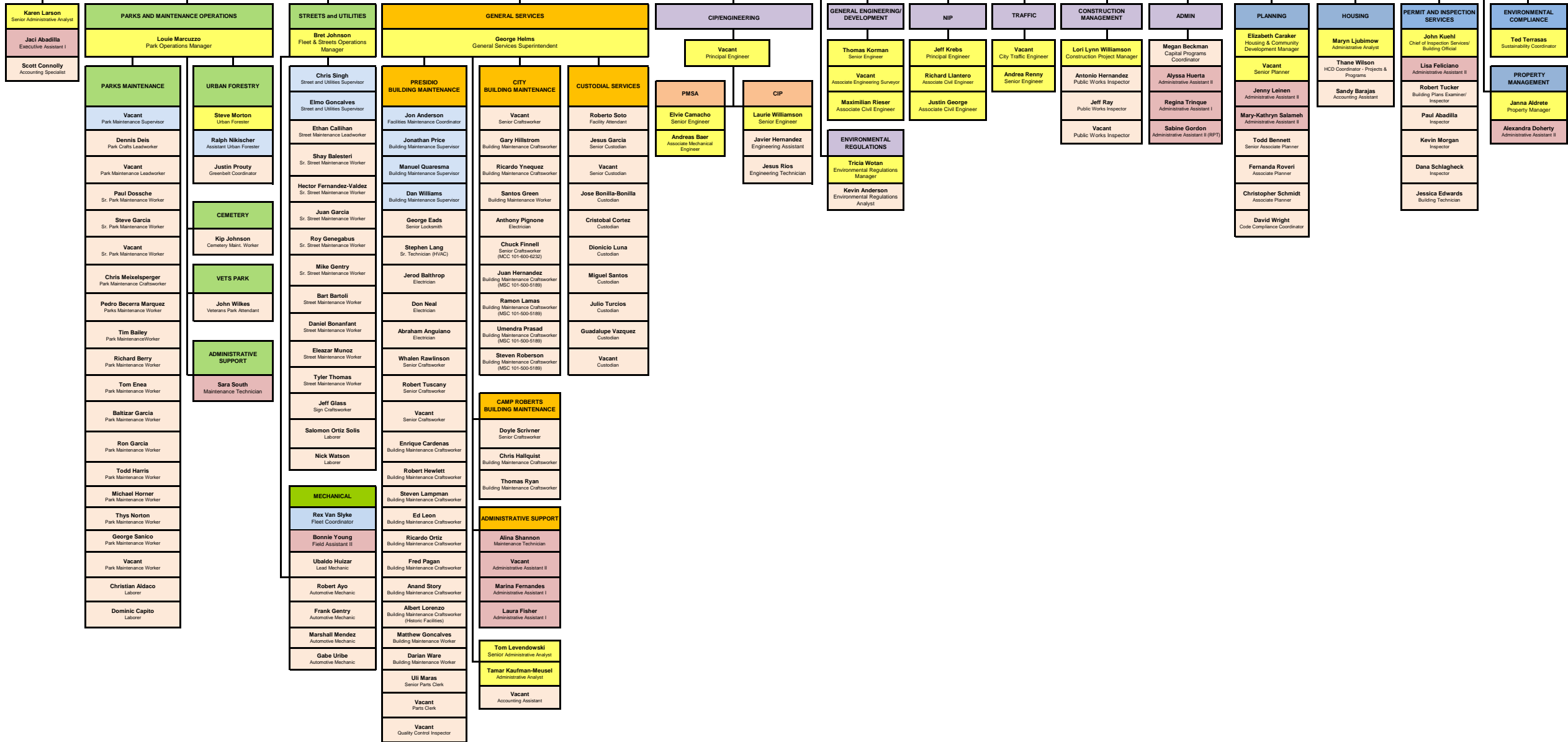
## **Appendix 3: Organizational Chart**

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MONTEREY CITY COUNCIL  
 HANS USLAR, CITY MANAGER  
 BONNIE GAWF, ASSIST. CITY MNGR.  
 CHRISTINE DAVI, CITY ATTORNEY

STEVE WITTRY  
 PUBLIC WORKS DIRECTOR

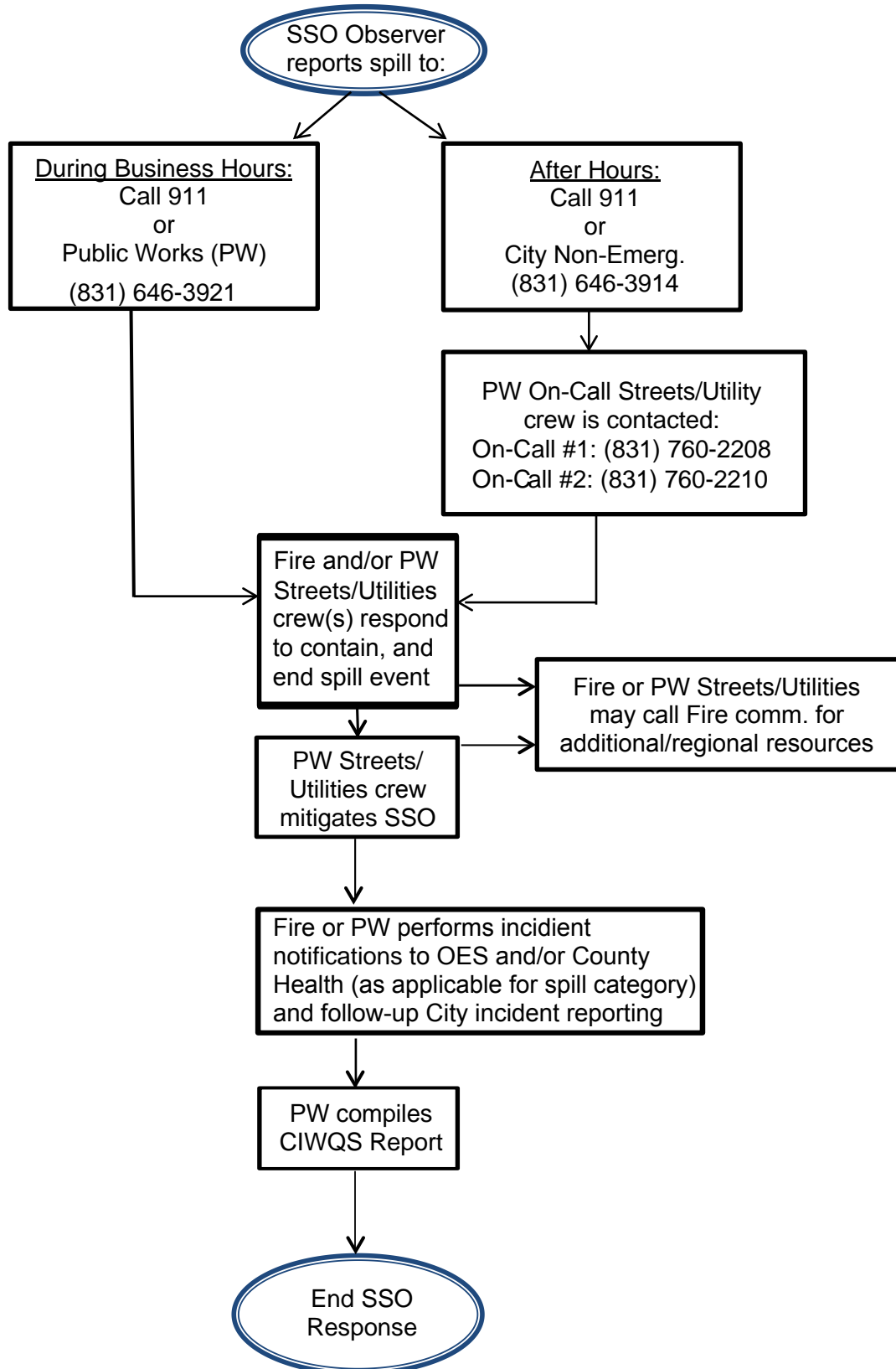
KIM COLE  
 COMMUNITY DEVELOPMENT DIRECTOR



## **Appendix 4: SSO Chain of Communication**



## City of Monterey Sanitary Sewer Overflow (SSO) Chain of Communication



## **Appendix 5: Monterey City Code Chapter 30 Sewers and Sewage Disposal**

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**CHAPTER 30.**  
**SEWERS AND SEWAGE DISPOSAL (Ord. 3446, 03/2010)**

**Article 1. In General.**

- [§ 30-1.](#) Connections to City sewer system required.
- [§ 30-1.5.](#) Maintenance of Sewer Laterals. (Ord. 3417, 09/2008)
- [§ 30-1.7.](#) Closure of Sewer Laterals.
- [§ 30-2.](#) Regulations and Standards; City Sewer System; Enforcement Authority.
- [§ 30-2.1.](#) Sewer Main Fund.

**Article 2. Outside Connections to City Sewer System.**

- [§ 30-3.](#) Permit to make connection -- authority to grant.
- [§ 30-4.](#) Permit to make connection -- application.
- [§ 30-5.](#) Permit to make connection -- terms and conditions.
- [§ 30-6.](#) Inspection, connection and construction fees; annual charges; irrevocable permits.
- [§ 30-7.](#) Payment of annual charges.
- [§ 30-8.](#) Plumbing requirements for connections.

**Article 3. Installation, Maintenance and Use of Fat, Oil and Grease Pretreatment Equipment. (Ord. 3357, 07/2005)**

- [§ 30-9.](#) Purpose.
- [§ 30-9.1.](#) Enforcement of Article.
- [§ 30-9.2.](#) Authority to Inspect.
- [§ 30-9.3.](#) Conflict.
- [§ 30-9.4.](#) Definitions.
- [§ 30-10.](#) Requirement for grease trap, grease interceptor, or other device.
- [§ 30-10.1.](#) Applicability and penalty provision.
- [§ 30-11.](#) Grease regulations and procedures.
- [§ 30-11.1.](#) Grease pretreatment waiver fee.
- [§ 30-11.2.](#) Collection of waiver fees -- delinquency.

**Article 4. Sewer Service Fee.**

- [§ 30-12.](#) Sewer user fee.
- [§ 30-13.](#) User defined.
- [§ 30-14.](#) Fee.
- [§ 30-15.](#) Increased fees.
- [§ 30-16.](#) Collection of fees -- delinquency.
- [§ 30-17.](#) Agency authorized to collect fees.
- [§ 30-18.](#) Sewer connection fees.

## **ARTICLE 1. IN GENERAL.**

### **Sec. 30-1. Connections to City sewer system required.**

It shall be unlawful and a nuisance for any person owning any real property within the City, which property fronts upon a street in which there is laid a sewer or otherwise has reasonable access to such a sewer line, to maintain, keep or use, or permit to be maintained, kept or used, any privy, privy vault, cesspool, or septic tank, unless said privy, privy vault, cesspool, or septic tank is connected to said sewer line in a sanitary manner, except that when the City Manager or designee finds the existing system to be adequately functioning in a sanitary manner and not constituting a health hazard to any person, said system shall be allowed to remain separate from the sewer system. If at any time said non-sewered system shall fail or cease to function in a sanitary manner, connection to the sewer shall be mandatory.

No person shall occupy any lot, piece, or parcel of land within the City without an adequate and sanitary toilet or privy located thereon. (Ord. 3446 § 1, 2010; Ord. 3424 § 1, 2009)

### **Sec. 30-1.5. Maintenance of Sewer Laterals. (Ord. 3284; 09/2000; Ord. 3417; 09/2008)**

The responsibility for maintaining sewer laterals in a suitable manner shall be the responsibility of the property owner served by the lateral. The lateral shall be maintained in a manner that prevents the entry of ground water, surface waters, or roots into the conveyance, and in a manner that prevents any inappropriate escape or leakage of sewage from the conveyance or that causes harm to the City's sewerage system. For the purposes of this section, the term "sewer lateral" shall mean a pipe designed to convey sewage from a property to a City-owned and accepted sewer main, including the point of connection, located within a public right-of-way or easement. At the discretion of the City Manager or designee, limited areas around trash compactors may be allowed to drain to the sanitary sewer system without excluding rain water. (Ord. 3446 § 1, 2010)

### **Sec. 30-1.7. Closure of Sewer Laterals.**

Property owners shall remove any abandoned sewer lateral as defined herein.

No sewer lateral shall remain in place, without serving an inhabitable building, for more than three months. Laterals that are not serving an inhabitable building shall be removed in their entirety including removal of the connection to the sewer main and reestablishment of the main without a wye or other connection in a manner acceptable to the City Engineer. In certain circumstances, such as where laterals lie under arterial streets, alternate means which ensure a water-tight, smooth and permanent closure of the lateral at the main may be considered by the City Engineer. For the purposes of this section, the term "sewer lateral" shall mean a pipe designed to convey sewage from a property to a City-owned and accepted sewer main located within a public right-of-way or easement. This requirement shall not apply to laterals abandoned before the effective date of the ordinance codified in this chapter, unless determined that they are causing problems with the sewer main, as determined by the City Engineer. (Ord. 3446 § 1, 2010; Ord. 3302 § 1, 2002)

### **Sec. 30-2. Regulations and Standards; City Sewer System; Enforcement Authority.**

Except as otherwise modified herein, the most recent and applicable ordinance of the Monterey Regional Water Pollution Control Agency (hereinafter "Agency" or "MRWPCA") currently entitled "Establishing Regulations for the Interception, Treatment and Disposal of Sewage and Wastewater; Providing for and Requiring Charges and Fees Therefore; and Fixing Penalties for the Violation of Said Regulations," establishing certain standards for the interception, treatment and disposal of

wastewater into the sanitary sewer system, is hereby adopted by reference herein, including any past or future amendments made by the Agency to comply with State and/or Federal laws or regulations. Said regulations shall be applicable to all discharges into the sanitary sewer system of the City, and consistent with the City's current Sanitary Sewer Management Plan (SSMP). The Agency or the City of Monterey are hereby authorized and empowered to administer and enforce said regulations within the City.

The Board of Directors of the Agency is empowered to hear and determine all appeals from Agency action or enforcement pursuant to the "Appeals" section of the most recent MRWPCA ordinance, currently referenced as Section 6.05 of Ordinance No. 2008-01, and their determination shall be final. The City Council of the City of Monterey shall hear and determine all appeals from City action or enforcement pursuant to City and other regulatory requirements, and their determination shall be final. (Ord. 3446 § 1, 2010)

**Sec. 30-2.1. Sewer Main Fund.**

All funds collected under former Monterey City Code Section [30-2.1](#) prior to December 15, 1988, shall continue to be deposited in the "Sewer Mains Fund" and used solely and exclusively for repairs, modifications, alterations and additions to the sanitary sewer system. (Ord. 3446 § 1, 2010)

**ARTICLE 2.**  
**OUTSIDE CONNECTIONS TO CITY SEWER SYSTEM.**

**Sec. 30-3. Permit to make connection -- authority to grant.**

Persons owning premises outside the City may be granted a revocable permit to connect with the sanitary sewer system of the City, upon compliance with requirements and conditions contained in this article. (Ord. 3446 § 1, 2010)

**Sec. 30-4. Permit to make connection -- application.**

Applicants for permits to connect with the sanitary sewer system of the City pursuant to this article shall file an application with the Permits and Inspection Services Office in writing, giving a particular description of the premises to be connected, the value thereof and the purpose for which such premises are to be used. (Ord. 3472 § 17, 2012; Ord. 3446 § 1, 2010)

**Sec. 30-5. Permit to make connection -- terms and conditions.**

Outside sewer permits under this article shall be granted subject to the following conditions:

- (a) They are revocable at the pleasure of the City Council at any time, without notice.
- (b) The applicant shall execute and deliver to the City a written agreement granting to the City a lien against the real property being sewered to secure payment of any fees that may accrue during the life of the permit.
- (c) Storm, flood or rain water shall not be allowed to pass into the sanitary sewer system of the City.
- (d) For any violation of the permit, the same may be revoked by the City Council.
- (e) The City is granted the right, without notice, to enter upon the real property in question, and to disconnect such sewer at the cost and expense of the permittee, whenever the City Council revokes the permit for any reason. (Ord. 3446 § 1, 2010)

**Sec. 30-6. Inspection, connection and construction fees; annual charges; irrevocable permits.**

In the event the City Council shall grant permits to connect with the City sewer system pursuant to this article, the applicant shall pay the following fees and charges:

- (a) Prior to connection, an inspection service fee in an amount to be set by resolution.
- (b) Prior to connection, any connection fees which would be applicable if such properties were inside the City.
- (c) Twice the amount of any sewer service fees or charges which would be applicable if such properties were inside the City.
- (d) Annual service fee calculated in accordance with the following schedule:
  - 1. Dwellings, hotels, motels, apartments and other multiple dwelling units: an amount equal to the total City taxes which would be levied if such property were within the City limits.
  - 2. Commercial, industrial and all other properties not covered by subsections (d)(1) and (3) of this section: an amount established by the City Council but not less than an amount equal to the total City taxes that would be levied if such property were within the City limits.

3. Hospitals, churches, schools and other tax-exempt institutions of a quasi-public nature, including, but not limited to, such institutions hereinabove enumerated: an annual service charge, not based upon a theoretical assessed valuation, but directly related to the cost incurred by the City in providing the service to the institution at a premium rate at least twice the cost to the taxpayers within the City. The Council may also find and determine that privately owned institutions of similar character providing a quasi-public service should, for equitable reasons, pay service fees on substantially the same basis as tax-exempt institutions and may, therefore, establish the fees for such institutions pursuant to this section. Any basic rate established by the Council under this subsection may be reviewed at least once every four years and the contract shall so provide.

4. For purposes of this subsection, the tax rate shall be the annual City tax rate within the highest district of the City, including both the general City tax rate and any amounts for bond redemption, but shall exclude special assessments. The assessed value shall be as shown on the last equalized assessment roll of the county. For new structures, where the assessed value has not been established, the Finance Director shall estimate the assessed value and shall adjust the fees paid when such properties appear on the assessed roll. All annual fees shall be paid on or before July 1st of each year. Connections made after July 1st of any year shall be pro-rated to the next July 1st.

(e) In addition to the above fees and charges, the City Council may require the permittee to construct, modify, improve or enlarge any sanitary sewer collection facilities, or pay a fee for such construction, modification, improvement or enlargement, where connection to the City system necessitates such construction. The necessity and amount of such construction or payment of fees shall be determined prior to the granting of any permit and shall be within the sole discretion of the City Council.

(f) Section [30-5\(a\)](#) notwithstanding, the City Council may, due to the capital investment of the permittee in collection facility improvements, determine that the permit shall be irrevocable for a reasonable period of time; provided, however, that such agreement not to revoke the permit shall not affect the City's right to revoke the permit for nonpayment of fees or violation of other terms and conditions of the permit or of this article.

(g) In addition to the above fees and charges, require payment of monthly fees from businesses that include food service pursuant to Fat, Oil and Grease Program requirements. (Resolution 07-079). (Ord. 3446 § 1, 2010)

**Sec. 30-7. Payment of annual charges.**

The annual charge for outside sewer permits under this article shall be payable to the City annually in advance, on or before the first day of July each year, and if payment be not made at such time, a penalty of 25 percent of such sewer charge shall be added to such charge for such delinquency; provided, that where a permit is granted after July 1st of any year, the permittee shall be required to pay a proportionate part only of the charge, based on the remaining months of such fiscal year after such permit has been granted. (Ord. 3446 § 1, 2010)

**Sec. 30-8. Plumbing requirements for connections.**

All sewer connections pursuant to this article shall be made in a manner satisfactory to the City Engineer and Chief of Inspection Services/Building Official.

No outside sewer permit shall be granted as to a new building or establishment unless the plumbing therein, and in connection therewith, complies with the Plumbing Code of the City adopted by Chapter 9, Articles 1.0 and 1.5; nor, in the case of an old building or establishment, unless the plumbing therein, and in connection therewith, is approved by the Building Inspector. (Ord. 3446 § 1, 2010)

**ARTICLE 3. (Ord. 3357, 07/2005)**  
**INSTALLATION, MAINTENANCE AND USE OF FAT, OIL AND GREASE PRETREATMENT EQUIPMENT.**

**Section 30-9. Purpose.**

The purpose of this article is to set forth implementation and enforcement policies, procedures, and requirements for food service establishments governing the installation, maintenance, and use of grease traps, grease interceptors or other comparable devices which represent the best practicable control technology for fats, oil, and grease removal. (Ord. 3446 § 1, 2010)

**Section 30-9.1. Enforcement of Article.**

The provisions of this Article shall be enforced by any duly authorized employee or agent of the City or by the duly appointed representative of the Monterey Regional Water Pollution Control Agency. Enforcement authority shall be as laid out in Section [30-2](#). (Ord. 3446 § 1, 2010)

**Section 30-9.2. Authority to Inspect.**

Whenever necessary to make an inspection to enforce any provision of this article, or whenever the City Engineer, Chief of Inspection Services/Building Official or designee for these roles has cause to believe that there exists, or potentially exists, in or upon any premises any condition which constitutes a violation of this article, the authorized representative may enter such premises at all reasonable times to inspect the same and to inspect and copy records related to grease source control equipment maintenance. In the event the owner or occupant refuses entry after a request to enter and inspect has been made, the City is hereby empowered to seek assistance from any court of competent jurisdiction in obtaining such entry. (Ord. 3446 § 1, 2010; Ord. 3424 § 1, 2009)

**Section 30-9.3. Conflict.**

In the event of any conflict between the provisions of this chapter and the California Plumbing Code or MRWPCA ordinances, the provisions of this chapter shall prevail. All provisions set forth by the Agency not in conflict with this chapter shall remain in full effect. (Ord. 3446 § 1, 2010)

**Section 30-9.4. Definitions.**

(a) "Food service establishment" means an establishment that prepares and/or sells food for consumption either on or off the premises or washes utensils or dishes on premises that would contribute grease to the sewer system, including, but not limited to, restaurants, sandwich shops, delicatessens, bakeries, cafeterias, markets, bed and breakfast inns, motels, hotels, meeting halls, caterers, retirement and nursing homes or pizzerias. The term, as used in this chapter, does not refer to food stores or establishments that do not prepare food on premises and do not process food in a manner which contributes grease to the sewer system.

(b) "Grease interceptor" means a large preformed tank installed underground so constructed as to separate and trap or hold oil and grease substances from the sewage discharged from a facility in order to keep oil and grease substances from entering the sanitary sewer collection system.

(c) "Grease trap," AKA hydromechanical grease interceptor, means a device placed under or in close proximity to sinks or other facilities likely to discharge grease in an attempt to separate, trap or hold oil and grease substances to prevent their entry into the sanitary sewer collection system.

(d) "MRWPCA" means the Monterey Regional Water Pollution Control Agency. (Ord. 3446 § 1, 2010)

**Section 30-10. Requirement for grease trap, grease interceptor, or other device.**

(a) A food service establishment or any other business discharging fats, oil, and grease, or other similar material, shall have an operable grease trap, grease interceptor or other comparable device(s) as determined by MRWPCA, the City Engineer, and/or the City's Chief of Inspection Services/Building Official to be an adequate substitute for a grease trap or grease interceptor. A properly sized interceptor or trap shall be considered first, in conformity with the sizing matrix set forth by the MRWPCA. Should space limitations or other exceptional circumstances prevent their installation, the City may grant waivers to the requirement for grease interceptors in this section.

(b) All drains from food preparation and cleanup areas including, but not limited to, pre-wash sinks, floor drains, pots and pans sinks, scullery sinks, dishwashers and garbage can wash areas shall be connected to such interceptor. Food waste disposal units are only allowed where a grease interceptor has been installed and must be connected to that interceptor.

(c) Sizing Formula. The size of a grease trap or grease interceptor shall be as determined by the MRWPCA. Notwithstanding the foregoing, grease traps required by this chapter shall be no smaller than an 80-gallon liquid capacity trap unless otherwise approved by the Chief of Inspection Services/Building Official. (Ord. 3446 § 1, 2010; Ord. 3424 § 1, 2009)

**Section 30-10.1. Applicability and penalty provision.**

(a) Existing food service establishments must not cause blockages of their own sanitary sewer lateral or City sewer mains which contribute to sanitary sewer overflows or increased maintenance of the sewer system. Food service establishments not otherwise required to upgrade their grease control equipment or that have been granted a waiver pursuant to this article may be required to upgrade their equipment in accordance with the Grease Source Control Program adopted by resolution by the City of Monterey.

(b) New construction of food service establishments shall be required to comply with Section [30-10\(a\)](#) through (c) except that waivers will not be considered.

(c) Existing food service establishments shall install and/or upgrade grease source control equipment consistent with MRWPCA sizing matrix standards, the California Plumbing Code as applicable, and the requirements of the Chief of Inspection Services/Building Official consistent with all applicable codes and agreements.

(1) Food service establishments are required to:

(i) Install an interceptor sized according to MRWPCA's Grease Equipment Sizing Matrix, or

(ii) At a minimum, install a grease trap sized according to inspection records, no smaller than 80-gallon liquid capacity, unless a hardship can be proven and the Chief of Inspection Services/Building Official approves a smaller size.

(2) Food service establishments that choose to install a grease trap instead of an interceptor will be required to pay a monthly grease pretreatment waiver fee as adopted by Resolution 07-079 by the City of Monterey.

(3) Food service establishments that fail to install adequate grease pretreatment equipment by:

(i) September 1, 2010, or within one year of notification of requirement, will be charged



double the initial waiver fee; and

(ii) By September 1, 2011, or within two years of notification of requirement, will be charged triple the initial waiver fee.

(d) Existing food service establishments undergoing a facility remodel shall install and/or upgrade grease source control equipment consistent with the policies herein, the cost of which shall not be less than 15 percent of the total cost of remodel. (Ord. 3446 § 1, 2010)

**Section 30-11. Grease regulations and procedures.**

(a) When waste treatment is required pursuant to this chapter, an approved grease trap or grease interceptor complying with the provisions of this chapter shall be installed in the waste line leading from sinks, drains, and other fixtures or equipment.

(b) A plumbing permit shall be obtained from the Chief of Inspection Services/Building Official prior to the installation of a grease trap or grease interceptor.

(c) Each trap, interceptor, or comparable device required by this chapter shall have an approved volume not less than that required by this chapter or by current standards adopted by MRWPCA.

(d) Toilets, lavatories, and other sanitary fixtures shall not be connected to any grease trap, grease interceptor, or comparable device.

(e) Location of Grease Traps, and Grease Interceptors.

(1) Grease Interceptors shall be located outside buildings, unless a finding is made by the Chief of Inspection Services/Building Official or authorized representative that the location of the building on the site or some other aspect of the use prevents an outside location and that placement within a building is not hazardous to public health and safety;

(2) They shall be located and maintained at all times so as to prevent the entrance of foreign materials, shall be easily accessible for cleaning, inspection, and removal of intercepted grease, and shall pose no hazard to public health or safety;

(3) They shall be located on private property. If this is found to be impracticable, the owner must apply for approval from the Department of Plans and Public Works for an encroachment within the public right-of-way. All encroachment permits for grease interceptors located within the public right-of-way shall be recorded with the County Recorder's Office prior to installation;

(4) If they are not designed in accordance with the California Plumbing Code, they must be designed by a professional engineer, must be consistent with the standards of this chapter, and must be approved by the Chief of Inspection Services/Building Official or authorized representative.

(f) Related Equipment. Grease Interceptors shall be fitted with a minimum of two standard service access covers or manholes. Manholes shall be brought to grade and finished with standard manhole cover and ring with H-20 traffic load bearing capacity.

(g) All discharging fixtures shall be individually trapped and vented in accordance with the UPC.

(h) Grease pretreatment equipment shall be constructed of durable materials and shall have a full-size gas-tight cover which can easily be removed.

(i) Grease pretreatment equipment shall not be installed until the type and/or model has been subjected to, and has fully complied with, tests acceptable to the Chief of Inspection Services/Building Official. Where an existing grease trap or grease interceptor is found to be compliant with the adopted Grease Source Control Program, such equipment will be allowed to remain in use. Whenever a grease trap or grease interceptor does not comply with the provisions of this article or the adopted grease control program, the Chief of Inspection Services/Building Official shall require corrective measures.

(j) Prohibited and/or Restricted Equipment.

(1) The installation and use of garbage grinders (food waste disposals) in commercial food establishments is prohibited, except where a grease interceptor is in use;

(2) The connection of dishwashers to a grease trap is prohibited;

(3) The use of enzymes or bacterial cultures designed to disperse grease is prohibited unless specifically approved in writing by the Monterey County Health Department and the MRWPCA.

(k) Maintenance.

(1) Traps and interceptors shall be properly maintained in efficient operating condition by periodic removal of the accumulated grease. No collected grease shall be introduced into any public or private drainage or sewerage piping.

(2) 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.

(3) All food service establishments or businesses required under this chapter to install and keep a grease trap or grease interceptor shall maintain a maintenance record for the grease trap or grease interceptor. This record shall include the date, the name of the person who performed cleaning and the disposal site of the waste. The record shall be posted in a conspicuous location and be available for review by the City's inspector or authorized representative at each routine inspection and at such other time as necessary for the City to determine whether a particular establishment may be performing maintenance contrary to the provisions of this chapter.

(4) In the event the City 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 City may require the immediate installation of a grease interceptor.

(l) Suspension or Termination of Health Permit. The City shall have the discretion to request the Monterey County Health Department (the City's health officer) to terminate or cause to be terminated the health permit of any user if a violation of any provision of this chapter is found to cause a condition of contamination, pollution, nuisance, or other threat to public health or safety.

(m) Request for Ruling. If an applicant for a permit or the owner of a grease trap or grease interceptor

disputes the interpretation or application of this chapter, he/she may request a written ruling by the Chief of Inspection Services/Building Official. The decision of the Chief of Inspection Services/Building Official shall be final for all purposes. (Ord. 3446 § 1, 2010; Ord. 3424 § 1, 2009)

**Sec. 30-11.1. Grease pretreatment waiver fee.**

In addition to the penalty provisions of Section [30-10.1](#), a grease interceptor waiver fee (grease surcharge fee) is to be charged to all FSEs that are granted a waiver from having to install a grease interceptor and instead install grease trap(s). Said fee is to commence no sooner than eight weeks after notices have been sent to FSEs advising owner of the grease pretreatment requirements. If in the opinion of the Chief of Inspection Services/Building Official an FSE is producing minimal grease and all grease-producing fixtures are connected to a properly sized grease trap, an exception to the waiver fee may be granted. (Ord. 3446 § 1, 2010)

**Sec. 30-11.2. Collection of waiver fees -- delinquency.**

Fees charged pursuant to this article shall become due and payable quarterly. Any fee shall become delinquent if not paid within 30 days after mailing of notice thereof. Any fee that becomes delinquent shall have added to it a penalty charge equal to 10 percent of the fee that became delinquent. (Ord. 3446 § 1, 2010)

**ARTICLE 4.**  
**SEWER SERVICE FEE. (Ord. 2208, 5/78)**

**Sec. 30-12. Sewer user fee.**

There is hereby established and assessed against every user of the sanitary sewer system of the City of Monterey a fee for the use of said sanitary sewer system in the amount set forth herein. (Ord. 3446 § 1, 2010; Ord. 2208 § 1, 1978)

**Sec. 30-13. User defined.**

“User” shall mean any person, firm or corporation who makes or maintains a connection to the sanitary sewer system of the City of Monterey. For the purpose of establishing liability for payment of said fees, the user shall be rebuttably presumed to be the person, firm or corporation who has contracted with the servicing public utility for water service. (Ord. 3446 § 1, 2010; Ord. 2208 § 2, 1978)

**Sec. 30-14. Fee.**

Sewer fees shall be established by resolution. (Ord. 3464 § 1, 2011; Ord. 3449 § 1, 2010; Ord. 3446 § 1, 2010; Ord. 3316 § 1, 2003; Ord. 3123 § 1, 1993; Ord. 2208 § 3, 1978)

**Sec. 30-15. Increased fees.**

Rates to be set by resolution for equivalent dwelling unit fee. (Ord. 3464 § 2, 2011)

**Sec. 30-16. Collection of fees -- delinquency.**

Fees charged pursuant to this article shall become due and payable at the same time and in the same manner as the Agency fee. Any fee shall become delinquent if not paid within 30 days after mailing or delivery of notice thereof. Any fee that becomes delinquent shall have added to it a penalty charge equal to 10 percent of the fee that became delinquent. (Ord. 3446 § 1, 2010; Ord. 2208 § 5, 1978)

**Sec. 30-17. Agency authorized to collect fees.**

The Monterey Regional Water Pollution Control Agency is hereby authorized, as a part of the City, to collect the fees assessed by this article. The City Manager, or designee, is authorized to execute an agreement with the Agency to collect said fees and to pay the Agency its cost of collection. (Ord. 3446 § 1, 2010; Ord. 2208 § 6, 1978)

**Sec. 30-18. Sewer connection fees.**

Sewer connection fees shall be established by resolution. The criterion for the connection fee is as stated in Monterey Regional Water Pollution Control Agency Ordinance No. 2011-01 for capacity charges, except the EDU is as determined in Section [30-14](#). (Ord. 3464 § 3, 2011)

## **Appendix 6: M1W Ordinance No. 2008-01**

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# ORDINANCE NO. 2008-01

AN ORDINANCE ESTABLISHING REGULATIONS FOR THE INTERCEPTION, TREATMENT AND DISPOSAL OF SEWAGE AND WASTEWATER; PROVIDING FOR AND REQUIRING CHARGES AND FEES THEREFORE; AND FIXING PENALTIES FOR THE VIOLATION OF SAID REGULATIONS

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THE BOARD OF DIRECTORS OF THE MONTEREY REGIONAL WATER POLLUTION CONTROL AGENCY DOES ORDAIN AS FOLLOWS:

## ARTICLE 1 – GENERAL PROVISIONS

**§1.01 Short Title.** This Ordinance shall be known as, and may be cited as, the Wastewater Discharge Ordinance of the Monterey Regional Water Pollution Control Agency.

**§1.02 Purpose and Policy.** This Wastewater Discharge Ordinance (sometimes hereinafter "Ordinance" or "this Ordinance") is the legal authority which sets uniform requirements for discharges into the wastewater collection and treatment system of the Agency and all tributary collection systems and enables the Agency to comply with the administrative provisions of the Clean Water Grant Regulations, and specifically incorporates and enforces National Categorical Pretreatment Standards as defined in 40 CFR 403 "*General Pretreatment Regulations for Existing and New Sources of Pollution.*" This Ordinance also enables the Agency to comply with the water quality requirements set by the Regional Water Quality Control Board of the State of California and all applicable effluent limitations, national standards of performance, toxic and pretreatment effluent standards, and any other discharge criteria which are required or authorized by state or federal law, and to derive the maximum public benefit by regulating the quality and quantity of wastewater discharged into the Agency sewer system. This Ordinance provides a means for determining wastewater volumes, constituents and characteristics, and setting of charges and fees, and the issuance of permits to certain users. Revenues derived from the application of this Ordinance shall be used to defray the Agency's cost of operating and maintaining adequate wastewater collection and treatment systems, enforcing Categorical Pretreatment Standards, implementation of source control and waste minimization programs and to provide improvements and depreciation.

**§1.03 Definitions.** Unless otherwise defined herein, terms and definitions shall be as adopted in the latest edition of "*Standard Methods for the Examination of Water and Wastewater,*" published by the American Public Health Association, the American Water Works Association, and the Water Environment Federation. Waste constituents and characteristics shall be measured in accordance with said *Standard Methods* unless expressly stated otherwise, or as established by the MRWPCA, Federal or State regulatory agencies. For the purposes of this Ordinance, unless the context specifically indicates otherwise, the meaning of terms used herein shall be as follows:

**1. Agency** – the Monterey Regional Water Pollution Control Agency (MRWPCA).

**2. Building Sewer** – a sewer conveying wastewater from the premises of a user to a community sewer.

**3. Beneficial Uses** – uses of the water of the state that may be protected against quality degradation, including domestic, municipal, agricultural and industrial supply, power generation, recreation, aesthetic enjoyment, navigation and the preservation and enhancement of fish, wildlife and other aquatic resources or reserves, and other uses, both tangible or intangible as specified by Federal or State law.

**4. Community Sewer** – a sewer owned and operated by the Agency or any public entity member of the Agency which is tributary to the treatment facility operated by the Agency.

**5. Compatible Pollutant** – biochemical oxygen demand, suspended solids, pH and fecal coliform bacteria, plus additional pollutants identified in the Agency's National Pollutant Discharge Elimination System (NPDES) permit if the Agency's treatment works was designed to treat such pollutants, and in fact, does remove such pollutants to a substantial degree.

**6. Contamination** – an impairment of the quality of the waters of the State by waste to a degree which creates a hazard to the public health through poisoning or through the spread of disease. Contamination shall include any equivalent effect resulting from the disposal of wastewater, whether or not waters of the State are affected.

**7. Environmental Protection Agency, or EPA** – the U.S. Environmental Protection Agency, or where appropriate, the term may also be used as a designation for the Administrator or other duly authorized official of said Agency.

**8. Federal Act** – the Federal Water Pollution Control Act, PL 92-500, and any amendments thereto; as well as any guidelines, limitations, and standards promulgated by the Environmental Protection Agency pursuant to such Act.

**9. Holding Tank Waste** – any waste from holding tanks such as vessels, chemical toilets, campers, trailers, septic tanks, and vacuum pump tank trucks.

**10. Incompatible Pollutant** – any pollutant which is not a "compatible pollutant" as defined in this Section.

**11. Indirect Discharge** – the discharge or the introduction of non-domestic pollutants into the POTW from any source regulated under section 307(b) or (c) of the Federal Act (33 U.S.C. 1317), including holding tank waste discharge.

**12. Industrial User** – a source of indirect discharge.

**13. Interference** – the term "Interference" means a discharge which, alone or in conjunction with a discharge or discharges from other sources, both:

- a. inhibits or disrupts the Treatment Works, its treatment processes or operations, or its sludge processes, use or disposal; and
- b. therefore is a cause of a violation of any requirement of the Treatment Works' NPDES permit [including an increase in the magnitude or duration of a violation] or of the prevention of sewage sludge use or disposal in compliance with the following statutory provisions and regulations or permits issued thereunder [or more stringent State or local regulations]: Section 405 of the Clean Water Act,

the Solid Waste Disposal Act (SWDA) [including Title II, more commonly referred to as the Resource Conservation and Recovery Act (RCRA), and including State regulations contained in any State sludge management plan prepared pursuant to Subtitle D of the SWDA], the Clean Air Act, the Toxic Substances Control Act, and the Marine Protection, Research and Sanctuaries Act.

**14. Manager** – the Manager of the Agency or his designated representative.

**15. Mass Emission Rate** – the weight of material discharged to the community sewer system during a given time interval. Unless otherwise specified, the mass emission rate shall mean pounds per day of a particular constituent or combination of constituents.

**16. National Categorical Pretreatment Standards** – any regulation containing pollutant discharge limits promulgated by EPA in accordance with section 307(b), (c), and 402 (b) (8) of the Federal Act (33 U.S.C. 1347) and 40 CFR 403 "*General Pretreatment Regulations for Existing and New Sources of Pollution*" which applies to a specific category of industrial users.

**17. National Pollution Discharge Elimination System or NPDES Permit** – a permit issued pursuant to section 403 of the Federal Act (33 U.S.C. 1342).

**18. National Pretreatment Standard, Pretreatment Standard, or Standard** – any regulation containing pollutant discharge limits promulgated by EPA in accordance with section 307(b), (c) and 402(b)(8) of the Federal Act (33 U.S.C. 1347) incorporated in 40 CFR 403 "*General Pretreatment Regulations for Existing and New Sources of Pollution*" which applies to industrial users. This term includes prohibitive discharge limits established pursuant to 40 CFR 403.5.

**19. New Source** – any building, structure, facility or installation from which there is or may be a discharge of pollutants, the construction of which commenced after the publication of proposed Pretreatment Standards under section 307(c) of the Act which will be applicable to such source if such Standards are thereafter promulgated in accordance with that section. This term includes provisions established pursuant to 40 CFR 403.3.

**20. Pass Through** – the term "Pass Through" means a discharge which exits the Treatment Works into waters of the United States in quantities of concentrations which, alone or in conjunction with a discharge or discharges from other sources, is a cause of a violation of any requirement of the Treatment Works' NPDES permit, including an increase in the magnitude or duration of a violation.

**21. Person** – any individual, firm, company, partnership, association, the responsible corporate officer of any private, public, or municipal corporation, the United States of America, the State of California, districts and all political subdivisions, governmental agencies and mandatories thereof.

**22. Pollution** – an alteration of the quality of the waters of the State by waste to a degree which unreasonably affects such waters for beneficial use or affects the facilities which serve such beneficial uses. Pollution may include contamination.

**23. POTW** – Publicly Owned Treatment Works (see Treatment Works).



**24. Premises** – a parcel of real estate or portion thereof, including any improvements thereon, which is determined by the Agency to be a single user for purposes of receiving, using, and paying for service.

**25. Pretreatment** – the reduction of the amount of pollutants, the elimination of pollutants, or the alteration of the nature of pollutant properties in wastewater to a less harmful state prior to or in lieu of discharging or otherwise introducing such pollutants into the Treatment Works. The reduction or alteration can be by physical or process changes, except as prohibited by 40 CFR 403.6(d).

**26. Pretreatment Requirements** – any substantive or procedural requirement related to pretreatment, other than a National Pretreatment Standard imposed on an industrial user.

**27. Reclaimed Water** – water which, as a result of treatment of waste, is suitable for direct beneficial use or a controlled use that would not otherwise occur.

**28. Shall** is mandatory; **May** is permissive.

**29. Significant Industrial User** – the term Significant Industrial User or Significant Industry means:

- a. all industrial users subject to Categorical Pretreatment Standards under 40 CFR 403.6 and 40 CFR Chapter I, Subchapter N; and
- b. any other industrial user that: Discharges an average of 25,000 gallons per day or more of *process wastewater* to the Treatment Works (excluding sanitary, non-contact cooling and boiler blowdown wastewater); contributes a process wastestream which makes up 5 percent or more of the average dry weather hydraulic or organic capacity of the Treatment Works; or is designated as such by the Agency as defined in 40 CFR 403.12(a) on the basis that the industrial user has a reasonable potential for adversely affecting the operation of the Treatment Works or for violating any pretreatment standard or requirement [in accordance with 40 CFR 403.8(f)(6)].

**30. Significant Non Compliance** – any user that violates the discharge, administrative, or submittal provisions contained in 40 CFR 403.8(f)(2)(viii) shall be considered in Significant Non Compliance (SNC) and will be subject to the appropriate enforcement action by the Agency.

**31. Standard Industrial Classification (SIC)** – a classification pursuant to the Standard Industrial Classification Manual issued by the Executive Office of the President, Office of Management and Budget, 1987.

**32. Slug Discharge** – is any discharge of a non-routine, episodic nature, including but not limited to an accidental spill or a non-customary batch discharge, which has a reasonable potential to cause Interference or Pass Through, or in any other way violate the Agency's regulations, local limits or Permit Conditions.

**33. Toxic Pollutant** – any pollutant or combination of pollutants listed as toxic in regulations promulgated by the Administrator of the Environmental Protection Agency under the provision of the Clean Water Act 307(a) or other Acts.

**34. Treatment Works** – any devices and systems in the storage, treatment, recycling, and reclamation of municipal sewage or industrial wastes of a liquid nature or necessary to recycle or reuse water at the most economical cost over the useful life of the works, including interceptor sewers, outfall sewers, sewage collection systems, pumping, power, and other equipment and appurtenances; extensions, improvements, remodeling, additions and alterations thereof; elements essential to provide a reliable recycled supply such as standby treatment units and clear well facilities; and any works, including site acquisition of the land, that will be an integral part of the treatment process or is used for ultimate disposal of residues resulting from such treatment; or any other method or system for preventing, abating, reducing, storing, treating, separating or disposing of municipal waste, including storm water and sanitary sewer systems.

**35. Unpolluted Water** – water to which no constituent has been added, either intentionally or accidentally, which would render such water unacceptable to the Agency having jurisdiction thereof for disposal to storm or natural drainages or directly to surface waters.

**36. User** – any person who discharges, causes or permits the discharge of wastewater into a community sewer.

**37. User Classification** – a classification of user based on the 1987 edition of the Standard Industrial Classification Manual prepared by the Executive Office of the President, Office of Management and Budget.

**38. Waste** – includes sewage and any and all other waste substances, liquid, solid, gaseous, or radioactive, associated with human habitation, or of human habitation, or of human or animal origin, or from any producing, manufacturing, or processing operations of whatever nature prior to, and for purposes of, disposal.

**39. Wastewater** – waste and water, whether treated or untreated, discharged into or permitted to enter a community sewer.

**40. Wastewater Constituents and Characteristics** – the individual chemical, physical, bacteriological and radiological parameters, including volume and flow rate and such other parameters that serve to define, classify or measure the contents, quality, quantity and strength of wastewater.

**41. Waters of the State** – any water, surface or underground, including saline waters, within the boundaries of the State of California.

## **ARTICLE 2 – REGULATIONS**

### **§2.01 Prohibitions on Discharges**

**§2.01.1 General Prohibitions.** No user shall discharge into the Treatment Works or community sewer any pollutant(s) which cause Pass Through or Interference. These general prohibitions and the specific prohibitions in paragraph §2.01.2 of this section apply to each user introducing pollutants into the Treatment Works, whether or not the user is subject to National Pretreatment Standards or any Federal, State, or local pretreatment requirements.

**§2.01.2 Specific Prohibitions.** The following pollutants shall not be introduced into the Treatment Works or community sewer:

1. pollutants which create a fire or explosion hazard in the Treatment Works, including, but not limited to, wastestreams with a closed cup flashpoint of less than 140 degrees Fahrenheit or 50 degrees Centigrade using the test methods specified in 40 CFR 261.21;
2. pollutants which will cause corrosive structural damage to the Treatment Works, but in no case discharges with a pH lower than 6.0;
3. solid or viscous pollutants in amounts which will cause obstruction to the flow in the Treatment Works resulting in interference;
4. any pollutant, including oxygen demanding and compatible pollutants (BOD, Suspended Solids, etc.) released in a discharge at a flow rate and/or pollutant concentration which will cause Interference with the Treatment Works.
5. heat in amounts which will inhibit biological activity in the Treatment Works resulting in Interference, but in no case, heat in such quantities that the temperature at the Treatment Plant exceeds 40°C(104°F);
6. petroleum oil, non-biodegradable cutting oil, or products of mineral oil origin in amounts that will cause Interference or Pass Through;
7. pollutants which result in the presence of toxic gases, vapors, or fumes within the Treatment Works in a quantity that may cause acute worker health and safety problems; and
8. any trucked or hauled pollutants (residential septage, chemical toilet wastes, dilute oily wastes and salt brine solutions are accepted at the Treatment Plant and are jointly regulated under MRWPCA Liquid Waste Ordinance 88-3 [as amended by Ordinance 93-1] and this Ordinance).

**§2.02 Prohibitions on Toxic Pollutants** – Any wastewater containing toxic pollutants in sufficient quantity, either singly or by interaction with other pollutants, that injure or interfere with any wastewater treatment process, constitute a hazard to humans or animals, create a toxic effect in the receiving waters of the treatment works, or exceed the limitation set forth in a National Categorical Pretreatment Standard. A toxic pollutant shall include, but not be limited to, any pollutant identified pursuant to Section 307(a) of the Federal Act.

**§2.03 Prohibitions on Storm Drainage and Ground Water** – Storm water, ground water, rain water, street drainage or yard drainage shall not be discharged through direct or indirect connections to a community sewer unless a permit is issued by the Agency. The Agency may approve the discharge of such water only when no reasonable alternative method of disposal is available.

If a permit is granted for the discharge of such water into a community sewer, the user shall pay the applicable charges and fees and meet such other conditions as required by the Agency.

**§2.04 Prohibitions on Unpolluted Water** – Unpolluted water shall not be discharged through direct or indirect connection to a community sewer unless a permit is issued by the Agency. The Agency may approve the discharge of such water only when no reasonable alternative method of disposal is available.

If a permit is granted for the discharge of such water into a community sewer, the user shall pay the applicable charges and fees and shall meet such other conditions as required by the Agency.

**§2.05 Prohibitions on Dilution as Substitute for Treatment** – Except where expressly authorized to do so by an applicable Categorical Pretreatment Standard, no industrial user shall ever increase the use of process water or, in any other way, attempt to dilute a discharge as a partial or complete substitute for adequate treatment to achieve compliance with a Pretreatment Standard.

**§2.06 Limitations of Radioactive Wastes** – No person shall discharge or cause to be discharged any radioactive waste into a community sewer except:

- a. when the person is authorized to use radioactive materials by the State Department of Health or other governmental agency empowered to regulate the use of radioactive materials, and
- b. when the waste is discharged in strict conformity with current California Radiation Control Regulations (California Administrative Code, Title 17) and the Nuclear Regulatory Commission regulations and recommendations for safe disposal, and
- c. when the person is in compliance with all rules and regulations of the other applicable regulatory agencies.

**§2.07 Limitations on the Use of Garbage Grinders** – Waste from garbage grinders shall not be discharged into a community sewer except:

- a. wastes generated in preparation of food normally consumed on the premises, or
- b. where the user has obtained a permit for the specific use from the Agency, and agrees to undertake whatever self-monitoring is required to enable the Agency to equitably determine the charges and fees based on the waste constituents and characteristics.

Such grinders must shred the waste to a degree that all particles will be carried freely under normal flow conditions prevailing in the community sewer. Garbage grinders shall not be used for grinding plastic, paper products, inert materials, or garden refuse.

**§2.08 Limitations on Point of Discharge** – No person shall discharge any substances directly into a manhole or other opening in a community sewer other than through an approved building sewer unless he has been issued a permit by the Agency. If a permit is issued for such direct discharge, the user shall pay the applicable charges and fees and shall meet such other conditions as required by the Agency.

**§2.09 Holding Tank Waste** – No person shall discharge any holding tank waste into a community sewer unless he has been issued a permit by the Agency. Unless otherwise allowed by the Agency under their terms and conditions of the permit a separate permit must be secured for each separate discharge. This permit will state the specific location of discharge, the time of

day the discharge is to occur, the volume of the discharge and the wastewater constituents and characteristics. If a permit is granted for discharge of such waste into a community sewer, the user shall pay the applicable charges and fees and shall meet such other conditions as required by the Agency. An exception to the above is that no permit will be required for discharge of domestic wastes from motor home holding tanks, provided that such discharges are made into an Agency-approved facility designed to receive such wastes.

## §2.10 Limitation on Wastewater Strength

§2.10.1 No person shall discharge wastewater containing in excess of:

0.42	mg/l arsenic	0.018	mg/l mercury
3.4	mg/l cadmium	3.5	mg/l nickel
4.3	mg/l copper	2.3	mg/l silver
0.73	mg/l cyanide	2.7	mg/l total chromium
3.0	mg/l lead	2.6	mg/l zinc

§2.10.2 No person shall discharge any wastewater:

- a. Having a temperature higher than 150°F (65.5°C)
- b. Having a pH lower than 6.0 or higher than 10.5
- c. Containing in excess of 8.1 mg/l phenolic compounds
- d. Containing toxic inorganic pollutants in such quantities to cause or to contribute significantly to: 1) impairment of treatment plant worker safety; 2) disruptions of treatment plant operations; 3) exceedances of plant NPDES discharge limitations, or 4) violations of plant sludge disposal restrictions. Significant dischargers of toxic inorganics shall implement best practicable technologies for reducing the toxic organics content of their discharges.
- e. Containing toxic organic chemicals in such quantities to cause or to contribute significantly to: 1) impairment of treatment plant worker safety; 2) disruptions of treatment plant operations; 3) exceedances of plant NPDES discharge limitations; 4) violations of plant sludge disposal restrictions; or 5) violations or air toxics regulations. Significant dischargers of toxic organics shall implement best practicable technologies for reducing the toxic organics content of their discharges.
- f. Containing oil and grease of animal, vegetable, petroleum or mineral origin in such quantities to cause or to contribute significantly to: 1) disruptions of sewer lines and other collection system components; 2) interference with treatment plant operations; or 3) exceedances for plant NPDES discharge limitations. Significant dischargers of oil and grease shall implement best practicable technologies for reducing the oil and grease content of their discharges.
- g. Containing ammonia in such quantities to cause or to contribute significantly to: 1) impairment of treatment plant worker safety; 2) disruptions of treatment plant operations; 3) exceedances of plant NPDES discharge limitations; or 4) violations of plant sludge disposal restrictions.

Significant dischargers of ammonia shall implement best practicable technologies for reducing the ammonia content of their discharges.

- h. h. Containing BOD and/or TSS in such quantities to cause or to contribute significantly to: 1) disruptions of treatment plant operations; or 2) exceedances of plant NPDES discharge limitations for BOD/or TSS. Significant dischargers of BOD and TSS shall implement best practicable technologies for reducing the BOD/TSS content of their discharges.

**§2.10.3** All National Categorical Pretreatment Standards upon their promulgation, shall apply in any instance where they are more stringent than those in this Ordinance. Limitations on wastewater strength in Sections 2.10.1 and 2.10.2 of this Ordinance may be supplemented with more stringent limitations pursuant to Section 4.05 Wastewater Discharge Permits herein below:

- a. If the Agency determines that the limitations in Section 2.10.1 and 2.10.2 may not be sufficient to protect the operation of the Agency's Treatment Works; or
- b. If the Agency determines that the limitations in Sections 2.10.1 and 2.10.2 may not be sufficient to enable the Agency's Treatment Works to comply with water quality standards or effluent limitations specified in the Agency's National Pollutant Discharge Elimination System (NPDES) Permit.

**§2.10.4 Disposal of Unacceptable Waste** – Wastes not permitted to be discharged into the community sewer must be transported to a state-approved disposal site. To protect the Treatment Works against illegal discharges, the Agency may require the discharger to submit a copy of the official hauling manifest or "Waste Haulers Report" within 30 days.

**§2.10.5 Denial of New or Increased Pollutant Contributions** - The Agency may deny or condition new or increased contributions of pollutants, or changes in the nature of pollutants, to the Treatment Works by Industrial Users where such contributions do not meet applicable Pretreatment Standards and Requirements or where such contributions would cause the Treatment Works to violate its NPDES Permit.

**§2.10.6 Slug Discharge Evaluations** - The Agency shall evaluate whether each Significant Industrial User needs a plan or other action to control Slug Discharges to the Treatment Works as per 40 CFR 403.8(2)(vi). The Agency will also include any slug control requirements issued to an Industrial User in that User's Industrial Wastewater Discharge Permit.

**§2.11 Sewerage Design Requirements** – All new sewers and connections to the community sewer shall meet all design requirements of the public entity member of the Agency having area jurisdiction in question, pursuant to the applicable Uniform Plumbing Code adopted by said member, and shall also meet all design requirements as may be established from time to time by the Agency.

## **ARTICLE 3 – WASTEWATER VOLUME DETERMINATION**

**§3.01 Determination of Volume** – The volume of wastewater which a user discharges to a community sewer shall be determined by the Agency by use of one of the alternative methods described in this Article, with the method for each user or group of users to be selected by the Agency. Selection of such method will be based upon the principal activities of the user as they relate to wastewater flows, fluctuation of flows, practicality of obtaining flow measurements and

other pertinent factors. The volume of the wastewater being discharged shall be one of the factors used in establishing charges and may require certain users to obtain Wastewater Discharge Permits in conjunction with the determination of their wastewater volume.

**§3.02 Metered Water Supply and Water Diversions** – When charges and fees are to be based upon the water usage, such charges and fees shall be applied against the total amount of water used from all sources unless in the opinion of the Agency, significant portions of water received are not discharged to a community sewer. The total amount of water used from public and private sources will be determined by means of public meters or private meters, installed and maintained at the expense of the user and approved by the Agency. When charges and fees are to be based upon water usage, and where, in the opinion of the Agency, a significant portion of the water received from any metered source does not flow into the community sewer because of the principal activity of the user or removal by other means, the charges and fees will be applied against the volume of water discharged from such premises into the community sewer. Written notification and proof of the diversion of water must be provided by the user, and approved by the Agency, if the user is to avoid the application of the charges and fees against the total amount of water used from all sources. If acceptable to the Agency, the user may install a meter of a type and at a location approved by the Agency and at the user's expense. Such meters shall measure the amount of water diverted. Such meters shall be maintained at the expense of the user and be tested for accuracy when deemed necessary by the Agency, at the expense of the user.

**§3.03 Metered Wastewater Volume** – When charges and fees are to be based upon the metered volume of wastewater being discharged to a community sewer, the user shall install a meter of a type and at a location approved by the Agency, at the user's expense. Such meter shall measure the amount of wastewater being discharged and shall be maintained and tested for accuracy when deemed necessary by the Agency, at the expense of the user.

**§3.04 Estimated Wastewater Volume** – For users where, in the opinion of the Agency, it is unnecessary or impractical to install meters, the charges and fees may be based upon an estimate of the volume to be discharged as calculated by the Agency. A rational method will be used to estimate the quantity of wastewater discharged and may consider such factors as the number of fixtures, seating capacity, population equivalent, annual production of goods and services, or such other determination of water use necessary to estimate the wastewater volume discharged.

## **ARTICLE 4 – DISCHARGE REPORTS, WASTEWATER DISCHARGE PERMITS, NOTIFICATION, REPORTING REQUIRMENTS AND ADMINSTRATION**

### **§4.01 Notification of Hazardous Wastes Discharged to the Treatment Works**

**§4.01.1** All industrial users shall notify the Agency, the EPA Regional Waste Management Division Director, and state hazardous waste authorities in writing of any discharge into the Treatment Works of a substance, which, if otherwise disposed of, would be a hazardous waste under 40 CFR 261. Such notification must include the name of the hazardous waste as set forth in 40 CFR 261, the EPA hazardous waste number, and the type of discharge (continuous, batch, or other). If the industrial user discharges more than 100 kilograms of such waste per calendar month to the Treatment Works, the notification shall also contain the following information: An identification of the hazardous constituents contained in the wastes, an estimation of the mass

and concentration of such constituents in the wastestream discharged during that calendar month, and an estimation of the mass of constituents in the wastestream expected to be discharged during the following twelve months. All industrial users shall provide notification no later than 180 days after the discharge of the listed or characteristic hazardous waste.

**§4.01.2** Discharges are exempt from the requirements of paragraph 4.01.1 of this section during a calendar month in which they discharge no more than fifteen kilograms of hazardous wastes, unless the wastes are acute hazardous wastes as specified in 40 CFR part 261.30(d) and 261.33(3). Discharge of more than fifteen kilograms of non-acute hazardous wastes in a calendar month, or of any quantity of acute hazardous wastes as specified in 40 CFR 261.30(d) and 261.33(3), requires notification.

**§4.01.3** In the case of any new regulations under Section 3001 of the Resource Conservation and Recovery Act (RCRA), identifying additional characteristics of hazardous waste or listing any additional substance as a hazardous waste, the industrial user must notify the Agency, the EPA Regional Waste Management Division Director, and State hazardous waste authorities of the discharge of such substance within 90 days of the effective date of such regulations.

**§4.01.4** In the case of any notification made under Section 4.01, the industrial user shall certify that it has a program in place to reduce the volume and toxicity of hazardous wastes generated to the degree it has determined to be economically practical.

**§4.02 Notification of Potential Problems** – All industrial and commercial users shall notify the Agency *immediately* of all discharges that could cause problems at the Treatment Works, including any slug discharges of compatible or incompatible pollutants.

**§4.03 Notification of Changes in Discharge** – All industrial and commercial users shall promptly notify the Agency in advance of any substantial change in the volume or character of pollutants in their discharge, including the listed or characteristic hazardous wastes for which the industrial/commercial user has submitted initial notification under 40 CFR 403.12(p) and paragraph §4.01 of this Ordinance.

#### **§4.04 Discharge Reports**

**§4.04.1 General Discharge Report** – The Agency may require that any person discharging or proposing to discharge wastewater into a community sewer, file a periodic Discharge Report.

The Discharge Report, at the discretion of the Agency, may include but not be limited to, nature or process, volume, rates of flow, mass emissions rate, production quantities, hours of operation, number and classification of employees, or other information which relates to the generation of waste including wastewater discharge. Such reports may also include the chemical constituents and quantity of liquid or gaseous materials stored on site even though they are not normally discharged. In addition to Discharge Reports, the Agency may require information in the form of Wastewater Discharge Permit Applications and Self-Monitoring Reports.

**§4.04.2 Baseline Monitoring Report** - Industrial Users subject to Federal Categorical Pretreatment standards that are currently discharging to or are scheduled to discharge to the Agency's Treatment Works shall submit to the Agency a Baseline Monitoring Report that meets all requirements and time guidelines set forth in 40 CFR 403.12(b) and any other such requirements as deemed appropriate by the Agency.



**§4.04.3 Pretreatment Compliance Report** - Industrial Users subject to Federal Categorical Pretreatment Standards shall submit to the Agency a report on their compliance status with any Categorical Pretreatment Standard deadline. This report must be received within 90 days following the date for final compliance with the applicable Categorical Pretreatment Standards, or in the case of a new source within 90 days following the commencement of introduction of wastewater to the Treatment Works. This report shall contain the information described in 40 CFR 403.12(d).

**§4.04.4 Periodic Compliance Reports** - All Categorical and Significant Non-Categorical dischargers to the Agency's Treatment Works shall submit Compliance Reports on a semi-annual basis (usually by June 30 and December 31 of each calendar year) to the Agency that contain the information described in 40 CFR 403.12(e) and 40 CFR 403.12(h).

**§4.04.5 Report Certification Statement** - All semi-annual Compliance Reports shall contain a Certification Statement signed by a qualified professional indicating whether Pretreatment Standards are being met on a consistent basis, and, if not, whether additional operation and maintenance and/or additional Pretreatment is required for the Industrial User to meet the applicable Pretreatment Standards and Requirements. This statement shall contain the information described in 40 CFR 403.12(b)(6).

**§4.04.6 Report Accuracy Statement** - All reports and self-monitoring data submissions to the Agency by Industrial Users shall contain the following accuracy statement and must be signed as per the requirements contained in 40 CFR 403.12(i):

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

#### **§4.05 Wastewater Discharge Permits**

**§4.05.1 Mandatory Permits** – Each Significant Industry as defined in Section 1.03, *as well as* other users with a discharge equivalent to that of a Significant Industrial User, must obtain a Wastewater Discharge Permit before connecting to or discharging into a community sewer. All existing Significant Industrial Users, as well as existing industries with an equivalent discharge, shall obtain a Wastewater Discharge Permit within 180 days after the effective date of this Ordinance.

**§4.05.2 Optional Permits** – The Manager may issue a Wastewater Permit to any user, upon application, in accordance with the terms of this section in the following categories:

- a. a user who request charges and fees to be based on metered water supply and water diversions, or metered wastewater volume, or
- b. any user whose wastewater strength is less than the normal range for user classification to which he is assigned because of pretreatment, process changes or other reason, or

- c. any user who wishes to discharge wastewater on a temporary basis, such as ground water clean up or storage tank rinsings.

**§4.05.3 Permit Application** – Users seeking a Wastewater Discharge Permit shall complete and file with the Manager a permit application, accompanied by the applicable fees. The applicant may be required to submit, in units and terms appropriate for evaluation, the following information:

- a. name, address, and SIC number of applicant;
- b. volume of wastewater to be discharged;
- c. wastewater constituents and characteristics including, but not limited to, those mentioned in Sections 2.10 as determined by a laboratory approved by the Agency;
- d. time and duration of discharge;
- e. average and 30 minute peak wastewater flow rates, including daily, monthly and seasonal variations, if any;
- f. site plan, floor plans, mechanical and plumbing plans and details to show all sewer and appurtenances by size, location and elevation;
- g. description of activities, facilities and plant processes on the premises, including all materials, processes and types of materials which are or could be discharged;
- h. each product produced by type, amount and rate of production;
- i. where known, the nature and concentration of any pollutants in the discharge which are limited by any Agency, State, or Federal Pretreatment Standards, and a statement regarding whether or not the Pretreatment Standards are being met on a consistent basis and if not, whether additional Operations and Maintenance (O&M) and/or additional pretreatment is required for the user to meet applicable Pretreatment Standards;
- j. If additional pretreatment and/or O&M will be required to meet the Pretreatment Standards; the shortest schedule by which the user will provide such additional pretreatment. The completion date in this schedule shall not be later than the compliance date established for the applicable Pretreatment Standard.

The following conditions shall apply to this schedule:

- 1) The schedule shall contain increments of progress in the form of dates for the commencement and completion of major events leading to the construction and operation of additional pretreatment required for the user to meet the applicable Pretreatment Standards (e.g., hiring an engineer, completing preliminary plans, completing final plans, executing contract for major components, commencing construction, completing construction, etc.)
- 2) No increment referred to in paragraph 1) shall exceed nine (9) months.
- 3) Not later than 14 days following each date in the schedule and the final date for compliance, the user shall submit a progress report to the Manager including, at a minimum, whether or not it complied with the increment of progress to be met on such date and, if not, the date on which it expects to comply with the increment of progress, the reason for delay, and the steps being taken by the user to return the construction to the schedule established. In no event shall more than nine (9) months elapse between such progress reports to the Manager.

- k. number and type of employees, and hours of work;
- l. any other information as may be deemed by the Manager to be necessary to evaluate the permit application.

The Manager will evaluate the data furnished by the user and may require additional information. After evaluation and approval of all the data required, the Manager may issue a Wastewater Discharge Permit subject to terms and conditions provided herein.

**§4.05.4 Permit Conditions** – Wastewater Discharge Permits shall be expressly subject to all provisions of this Ordinance and all other ordinances, regulations, and charges and fees established by the Agency. The conditions of Wastewater Discharge Permits shall be uniformly enforced by the Manager in accordance with this Ordinance and applicable state and federal regulations. Permits may contain the following:

- a. the unit charge or schedule of charges and fees for the wastewater to be discharged to the community sewer;
- b. the average and maximum wastewater constituents and characteristics;
- c. limits on rate and time of discharge or requirements for flow regulations and equalization;
- d. requirements for installation of inspection and sampling facilities;
- e. pretreatment requirements;
- f. requirements for controlling slug discharges of any wastewater or substance that has the potential to cause problems in the wastewater collection system or Interference or Pass Through at the Treatment Works;
- g. specifications for monitoring programs, which may include sampling locations, frequency and method of sampling, number, types and standards for test and reporting schedules;
- h. requirements for submission of technical reports or self-monitoring discharge reports (see Section §405.9);
- i. requirements for maintaining plant records relating to wastewater discharge as specified by the Agency and affording Agency access thereto;
- j. mean and maximum mass emissions rates, or other appropriate limits when incompatible pollutants (as defined by Sections 2.10.1 and 2.10.2) are proposed or present in the user's wastewater discharge; and
- k. other conditions as deemed appropriate by the Agency to ensure compliance with this Ordinance or any regulations affecting the operation of the Agency facilities.

**§4.05.5 Duration of Permits** – Wastewater Discharge Permits shall be issued for a specified time period, not to exceed five (5) years. A permit may be issued for a period less than a year or may be stated to expire on a specific date. The terms and conditions of the permit may be subject to modification and change by the Agency during the life of the permit as limitations or requirements are modified and changed. Any changes or new conditions in the permit shall include a reasonable time schedule for compliance.

**§4.05.6 Permit Modification** – Within nine (9) months of the promulgation of a National Categorical Pretreatment Standard, the Wastewater Discharge Permit of Industrial Users subject to such standards shall be revised to require compliance with such standard within the time frame prescribed by such standard. Where an industrial user, subject to a National Categorical Pretreatment Standard, has not previously submitted an application for a Wastewater Discharge Permit they must do so within 180 days after the promulgation of the applicable National

Categorical Pretreatment Standard. In addition, the industrial user with an existing Wastewater Discharge Permit shall submit to the Manager within 180 days after the promulgation of an applicable Pretreatment Standard the information required by paragraphs (i) and (j) of Section §4.05.3.

**§4.05.7 Transfer of a Permit** – Wastewater Discharge Permits are issued to a specific user for a specific operation. A Wastewater Discharge Permit shall not be reassigned, transferred or sold to a new owner, new user, different premises, or a new or changed operation.

**§4.05.8 Revocation of Permit** – Any user who violates the conditions of the Wastewater Discharge Permit, applicable state and federal regulations, *or any provisions of this Ordinance including the following*, is subject to having this permit revoked:

- a. failure of a user to furnish correct factual data in the permit application;
- b. failure of a user to factually report the wastewater constituents and characteristics of the discharge;
- c. failure of the user to report significant changes in operations, or wastewater constituents and characteristics; or,
- d. refusal of reasonable access to the user's premises for the purpose of inspection or monitoring.

#### **§4.05.9 Industrial Self-Monitoring**

- a. **Monitoring and Analysis to Demonstrate Continued Compliance** – The self-monitoring reports required in this section shall contain the results of sampling and analysis of the industrial user's discharge, including the flow and the nature and concentration, or production and mass where requested by the Agency, of pollutants contained therein which are limited by the applicable national, state and local Pretreatment Standards and Industrial Discharge Permit Requirements and which meet all sampling/monitoring requirements contained in 40 CFR 403.12(g).
- b. **Notification of Industrial Self-Monitoring Violations and Repeat Sampling and Analysis Requirements** – If sampling performed by an industrial user indicates a violation, the user shall notify the Agency within 24 hours of becoming aware of the violation. The user shall also repeat the sampling and analysis and submit the results of the repeat analysis to the Agency within 30 days after becoming aware of the violation. In addition, the Agency will conduct a re-sampling within, but not to exceed, 30 days from the date of becoming aware of the violation as per 40 CFR 403.12(g)(2) in order to confirm discharge compliance.
- c. **Industrial Self-Monitoring Reports** – The reports required in this section shall be based upon all data obtained through Agency approved self-monitoring sampling and analysis which is performed by the industry during the period covered by the report (all monitoring results must be reported). The Agency shall specify the frequency and type of monitoring necessary to assess and assure compliance by industrial users with applicable national, state and local Pretreatment Standards and Requirements.
- d. **Industrial Self-Monitoring Sampling and Analysis** – All self-monitoring analyses shall be performed in accordance with procedures established by the Agency pursuant to Section 304(h) of the Act and contained in 40 CFR 136 and amendments thereto, or with any other test procedures approved by the Agency. Sampling shall be performed in accordance with the techniques approved by the Agency. Where 40 CFR 136 does not include sampling or analytical techniques for the pollutants in question, or where the

Agency determines that Section 136 sampling and analytical techniques are inappropriate for the pollutant in question, sampling and analyses shall be performed using validated analytical methods or any other sampling and analytical procedures, including procedures suggested by the Agency.

- e. **Reporting of Industrial Self-Monitoring Analysis Performed More Frequently Than Required** – If an industrial user is subject to self-monitoring reporting requirement(s), any pollutant monitored more frequently than required by the Agency, shall include the results of this monitoring in the self-monitoring report.

**§4.05.10 Record-Keeping Requirements** – Any industrial user subject to the reporting requirements established in Article 4 of this Ordinance shall maintain records of all information resulting from any monitoring activities required. Such records shall include for all samples:

- a. the date, exact location, method and time of sampling and the name(s) of the person or persons taking the samples;
- b. the dates analyses were performed;
- c. who performed the analyses;
- d. the analytical techniques/methods used; and
- e. the results of such analyses.

Any industrial user subject to reporting requirements shall be required to retain for a minimum of 3 years any records of monitoring activities and results and shall make such records available for inspection and copying by the Agency. This period of retention shall be extended during the course of any unresolved litigation regarding the industrial user when requested by the Agency.

**§4.06 Monitoring Facilities** – Users who propose to discharge, or who in the judgment of the Agency could discharge now or in the future, wastewater with constituents and characteristics different from that produced by a domestic premise (see Section 5.04 herein) may be required to install a monitoring facility.

When more than one user discharges into a common building sewer, the Agency may require installation of a separate monitoring facility for each user. Also when, in the judgment of the Agency, there is a significant difference in wastewater constituents and characteristics produced by different operations of a single user, the Agency may require that separate monitoring facilities be installed for each separate discharge.

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

If the monitoring facility is inside the user's fence, there shall be accommodations to allow safe and immediate access for Agency personnel, such as a gate secured with an Agency lock. There shall be ample room in or near such facility to allow accurate sampling and compositing of

samples for analysis. The entire facility and the sampling and measuring equipment shall be maintained at all times in a safe and proper operating condition by and at the expense of the user.

When, in the judgment of the Agency, an existing user requires a monitoring facility, the user will be so notified in writing. Construction must be completed within 90 days following written notification unless a time extension is otherwise granted by the Agency.

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

**§4.08 Pretreatment** – Users shall make wastewater acceptable under the limitations established herein before discharging into any community sewer. Any facilities required to pretreat wastewater to a level acceptable to the Agency shall be provided and maintained at user's expense. Detailed plans showing the pretreatment facilities and operating procedures shall be submitted to the Agency for review, and shall be approved by the Agency before construction of the facility. The review and approval of such plans and operating procedures will in no way relieve the user from the responsibility of modifying the facility as necessary to produce an effluent complying with the provisions of this Ordinance. Any subsequent changes in the pretreatment facilities or method of operation shall be reported to and be approved by the Agency.

**§4.09 Protection from Accidental Discharge** – Each user shall provide protection from accidental discharge of prohibited materials or other wastes regulated by this Ordinance. Facilities to prevent accidental discharge of prohibited materials shall be provided and maintained at the user's expense. Detailed plans showing facilities and operating procedures to provide this protection shall be submitted to the Agency for review, and shall be approved by the Agency before construction of the facility.

The review and approval of such plans and operating procedures will in no way relieve the user from the responsibility of modifying the facility as necessary to provide the protection necessary to meet the requirements of this Ordinance.

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

When requested by the person furnishing a report, the portions of a report which might disclose trade secrets or secret processes shall not be made available for inspection by the public but shall be available to governmental agencies for use in making studies; provided, however, that such portions of a report shall be available for use by the State or any state agency in judicial review or enforcement proceedings involving the person furnishing the report. Wastewater constituents and characteristics will not be recognized as confidential information.

Information accepted by the Agency as confidential, shall not be transmitted to any governmental agency or to the general public by the Agency until and unless prior and adequate notification is given to the user.

**§4.11 Discharge from Outside Agency Limits** – Any user located in other than an Agency Member Entity shall request permission to discharge from the Manager. Upon review and approval of such a request, the Agency shall enter a contractual agreement with the user which shall require the user to comply with all local, state and federal pretreatment regulations as well as any National Categorical Pretreatment Standards yet to be promulgated. The Contractual Agreement shall also be subject to such terms, conditions, and fees as the Agency finds necessary or appropriate.

**§4.12 Special Agreements** – Special agreements and arrangements between the Agency and any persons or agencies may be established when in the opinion of the Agency, unusual or extraordinary circumstances compel special terms and conditions. Such agreements shall not, however, exempt the user from complying with any National Categorical Pretreatment Standard.

## **ARTICLE 5 – WASTEWATER CHARGES AND FEES**

**§5.01 Schedule of Charges and Fees** – A schedule of charges and fees shall be adopted by the Agency, by ordinance or resolution, as permitted by law, which will enable it to comply with the revenue requirements of the State Clean Water Grant Program, and such charges and fees shall be determined in a manner consistent with regulations of the grant program.

**§5.02 Classification of Users** – All users are to be classified by the Agency either by assigning each one to a "user category" according to the principal activity conducted on the user's premises, by individual user analyzation or by a combination thereof. The purpose of such collective and/or individual classification is to facilitate the regulation of wastewater discharges based on wastewater constituents and characteristics, to provide an effective means of source control, and to establish a system of charges and fees which will ensure an equitable recovery of the Agency's costs.

**§5.03 Types of Charges and Fees** – The charges and fees as established in the Agency's schedules of charges and fees, may include, but not be limited to:

- a. user category charges;
- b. fees for connection to sewer system;
- c. fees for monitoring;
- d. fees for permit applications;
- e. appeal fees
- f. charges and fees based on wastewater constituents and characteristics to include industrial cost recovery provisions of the Federal Act; and

g. annexation fees.

**§5.05 Basis for Determination of Charges** – The charges and fees established for all users or categories of users shall be based upon the measured or estimated constituents and characteristics of the wastewater discharge of that user or user category which may include, but not be limited to, BOD, Suspended Solids and volume. The constituents and characteristics may be either measured or estimated, as determined by the Agency. The volume subject to charge shall be determined in accordance with Article 3 of this Ordinance.

**§5.06 Basic Minimum Charge** – Notwithstanding the provisions of Section 5.04, in any event the basic charge so determined for users in the residential category shall constitute the basic minimum charge for all users, and no user shall be charged less than this amount.

## **ARTICLE 6 – ENFORCEMENT**

### **§6.01 Accidental Discharges**

**§6.01.1 Notification of Potential Problems** – Users shall notify the Agency immediately upon accidentally discharging wastes which could cause problems to the Treatment Works or wastes in violation of this Ordinance, including any slug discharges, to enable countermeasures to be taken by the Agency to minimize damage to the community sewer, treatment facility, treatment processes and the receiving waters.

The notification shall be followed, within 15 days of the date of occurrence, by a detailed written statement describing the causes of the accidental discharge and the measures(s) being taken to prevent future occurrence.

Such notification will not relieve users of liability for any expense, loss or damage to the sewer system, treatment plan, or treatment process, or for any fines imposed on the Agency on account thereof under Section 13340 of California Water Code or for violations of Section 5650 of the California Fish and Game Code.

**§6.01.2 Notices to Employees** – In order that employees of users be informed of Agency requirements, users shall make available to their employees copies of this Ordinance together with such other wastewater information and notices which may be furnished by the Agency from time to time directed toward more effective water pollution control. A notice shall be furnished and permanently posted on the user's bulletin board advising employees whom to call in case of an accidental discharge in violation of this Ordinance.

**§6.01.3 Preventive Measures** – Any direct or indirect connection or entry point for persistent or deleterious wastes to the user's plumbing or drainage system should be eliminated. Where such action is impractical or unreasonable, the user shall appropriately label such entry points to warn against discharge of such wastes in violation of this Ordinance.

**§6.02 Issuance of Cease and Desist Orders** – When the Agency finds that a discharge of wastewater has taken place, in violation of prohibitions or limitations of this Ordinance, or the provisions of a Wastewater Discharge Permit, the Manager may issue an order to cease and desist, and direct those persons not complying with such prohibitions, limits, requirements, or provisions to:



- a. comply forthwith;
- b. comply in accordance with a time schedule set forth by the Agency; or
- c. take appropriate remedial or preventive action in the event of a threatened violation.

**§6.03 Harmful Contributions** – The Agency may immediately suspend the wastewater treatment service and/or Wastewater Discharge Permit when such suspension is necessary, in the opinion of the Agency, in order to stop an actual or threatened discharge which presents or may present an imminent or substantial endangerment to the health or welfare of persons, to the environment, causes interference to the POTW or causes the Agency to violate any condition of its NPDES Permit.

Any person notified of a suspension of the wastewater treatment service and/or the Wastewater Discharge Permit shall immediately stop or eliminate the contribution. In the event of a failure of the person to comply voluntarily with the suspension order, the Agency shall take such steps as deemed necessary including immediate severance of the sewer connection, to prevent or minimize damage to the Treatment Works or endangerment to any individuals. The Agency shall reinstate the Wastewater Discharge Permit and/or the wastewater treatment service upon proof of the elimination of the non-complying user describing the causes of the harmful contribution and the measures taken to prevent any future occurrence. This shall be submitted to the Agency within 15 days of the date of occurrence.

**§6.04 Submission of Time Schedule** – When the Agency finds that a discharge of wastewater has been taking place, in violation of prohibitions or limitations prescribed in this Ordinance, or wastewater source control requirement, effluent limitations or pretreatment standards, or the provisions of a Wastewater Discharge Permit, the Agency may require the user to submit for approval, with such modification as it deems necessary, a detailed time schedule of specific actions which the user shall take in order to prevent or correct a violation of requirements.

**§6.05 Appeals** – Any user, permit applicant, or permit holder affected by any decision, action, or determination, including Cease and Desist Orders, made by the Manager, interpreting or implementing the provisions of this Ordinance or in any permit issued herein, may file with the Manager a written request for reconsideration within 10 days of such decision, action, or determination, setting forth in detail the facts supporting the user's request for reconsideration.

If the ruling made by the Manager is unsatisfactory to the person requesting reconsideration, he may within 10 days after notification of Agency action, file a written appeal to the Agency's Board of Directors. The written appeal shall be heard by the Board within 30 days from the date of filing. The Board shall make a final ruling on the appeal within 15 days of the close of the meeting. The Manager's decision, action, or determination shall remain in effect during such period of reconsideration.

**§6.06 Enforcement Response Plan** – The Manager is authorized and directed to prescribe regulations necessary to implement this Article and a Pretreatment Enforcement and Response Plan ("ERP") as required by and in compliance with state and federal law and regulations. The ERP and any changes thereto shall be effective upon approval by resolution of the Board of Directors. Any enforcement measure or procedure contained in this Article and the ERP shall be considered to be complimentary and cumulative and not exclusive of any other enforcement measure or procedure and the Agency may pursue any one or all of such measures or any other remedy or relief which may be provided for by law.

**§6.07 Publishing of Dischargers in Significant Noncompliance** – The Agency will provide annual public notification in a newspaper(s) of general circulation that provides meaningful public notice within the jurisdiction(s) served by the Agency of Industrial Users which at any time during the previous 12 months were in significant noncompliance (SNC) with applicable Pretreatment requirements as defined in 40 CFR 403.8(f)(2)(viii).

## **ARTICLE 7 – ABATEMENT**

**§7.01 Public Nuisance** – Discharge of wastewater in any manner in violation of this Ordinance or of any order issued by the Manager as authorized by this Ordinance, is hereby declared a public nuisance and shall be corrected or abated as directed by the Manager. Any person creating a public nuisance shall be subject to provisions of Agency codes or ordinances governing such nuisance.

**§7.02 Injunction** – Whenever a discharge of wastewater is in violation of the provisions of this Ordinance or otherwise causes or threatens to cause a condition of contamination, pollution or nuisance, the Agency may petition the Superior Court for the issuance of a preliminary or permanent injunction, or both, as may be appropriate in restraining the continuance of such discharge.

**§7.03 Damage to Facilities** – When a discharge of wastes causes an obstruction, damage, or any other impairment to Agency facilities, the Agency may assess a charge against the user for the work required to clean or repair the facility and add such charge to the user's sewer service charge.

**§7.04 Correction of Violations; Collection of Costs; Injunction** – In order to enforce the provision of this Ordinance, the Agency may correct any violation hereof. The cost of such correction may be added to any sewer service charge payable by the person violating the Ordinance or the owner or tenant of the property upon which the violation occurred, and the Agency shall have such remedies for the collection of such costs as it has for the collections of sewer service charges. The Agency may also petition the Superior Court for the issuance of a preliminary or permanent injunction, or both, as may be appropriate, restraining any person from the continued violation of this Ordinance.

**§7.05 Civil Liabilities and Penalties** – Any person who intentionally or negligently violates any provision of this Ordinance, requirements, or conditions set forth in a permit duly issued, or who discharges wastewater which causes pollution, or violates any cease and desist order, prohibition, effluent limitation, national standard of performance, pretreatment or toxicity standard, including non-discharge pretreatment standards, shall be liable to injunctive relief for non-compliance imposed by the Agency against which the violation occurs. Said civil liability may be in a sum of not to exceed six thousand dollars (\$6,000.00) a day for each violation in which such violation occurs.

The Agency may petition the Superior Court to impose, assess and recover such sums. In determining such amount the court shall take into consideration all relevant circumstances, including, but not limited to, the extent of harm caused by the violation, the nature and persistence of the violation, the length or time over which the violations occurs, and corrective action, if any.

**§7.06 Falsifying of Information** – Any person who knowingly makes any false statements, representation record, report, plan or other document filed with the Agency, or who falsifies, tampers with, or knowingly renders inaccurate any monitoring device or method required under this Ordinance, is hereby declared to be in violation of this Ordinance, and subject to the civil liabilities imposed under Section 7.05 of this Ordinance.

**§7.07 Termination of Service** – In order to effect its powers, the Agency may enter upon private property for the purpose of inspection and maintenance of sanitary and waste disposal facilities and may terminate service to property in which a violation of any rule, regulation, or this Ordinance is found to exist.

Prior to termination of service, however, the Agency Board shall notify, in writing, the owner and tenant, if any, of such property that service is intended to be so terminated and conduct a hearing thereon as herein provided. Such notice shall be mailed to the owner at the address shown on the records of the Assessor of the County, or as known to the Agency, and a copy shall be delivered to the tenant or posted conspicuously on the property. The notice shall state the date of proposed termination of service and the reasons therefore and the date the Agency Board shall hold a hearing upon such intended termination. Such a hearing shall not be held less than ten (10) days subsequent to the giving of the notice as herein required.

## **ARTICLE 8 – MISCELLANEOUS PROVISIONS**

**§8.01 Severability** – If any provision, section, paragraph, sentence, clause or phrase of this Ordinance, or any part thereof, or the application thereof to any person or circumstance is for any reason held to be invalid or unconstitutional by a court of competent jurisdiction, such decision shall not affect the validity of the remaining portions of this Ordinance, or any part thereof, or its application to other persons or circumstances. The Board of Directors hereby declares that it would have passed and adopted each provision, section, paragraph, subparagraph, sentence, clause or phrase thereof, irrespective of the fact that any one or more sections, paragraphs, subparagraphs, sentences, clauses or phrases, or the application thereof to any person or circumstance, be declared invalid or unconstitutional.

**§8.02 Repeal of Conflicting Ordinances** – Ordinances No. 92-02, 93-03, and 2000-01 hereby are repealed. Further, in the event of conflict between this Ordinance and other ordinances, rules and regulations of the Agency adopted prior to this Ordinance, the provisions of this Ordinance shall prevail.

**§8.03 Publication of Ordinance** – Within fifteen (15) days after the passage of this Ordinance, the Agency Manager/Secretary shall cause it to be published at least once in a newspaper of general circulation published and circulated within Monterey County.

The foregoing Ordinance was introduced at a regular meeting of the Board of Directors of the Monterey Regional Water Pollution Control Agency and was passed and adopted on July 28, 2008 by the following vote:

**Effective Date** – This Ordinance shall take effect and be in force thirty (30) days from and after the final passage and adoption hereof.

**AYES:** Stefani, Calcagno, Russell, Nishi, Dayton, Pendergrass and Bloomer

**NOES:** None

**ABSENT:** Cortez, Cort, De La Rosa and Haferman

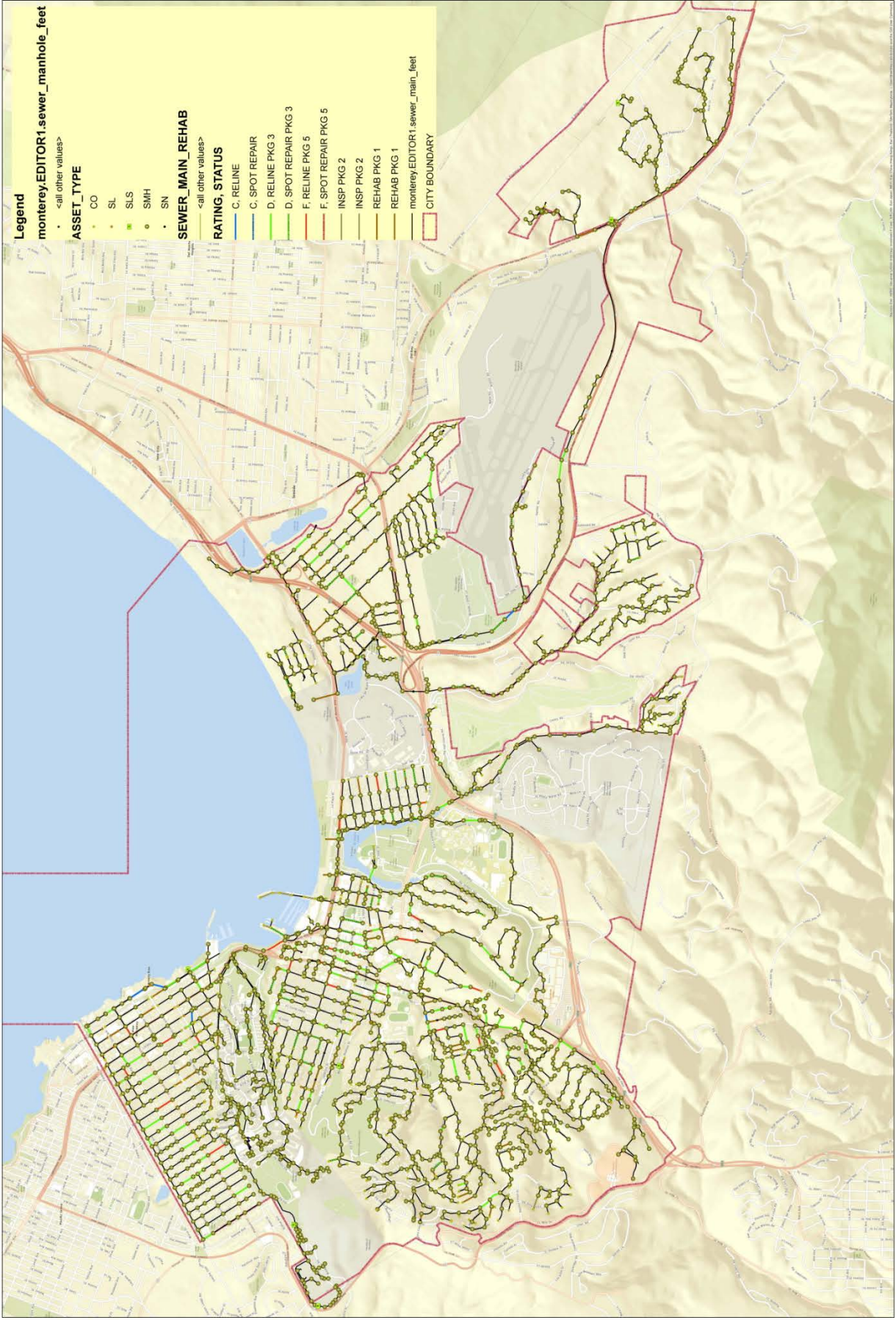
/s/ Joe Russell  
Joseph Russell, Chair  
Board of Directors

**ATTEST:**

/s/ Keith Israel  
Keith Israel, General Manager  
Secretary to Board of Directors

## **Appendix 7: Sewer System Map, and Sewer System Map by Relative Install Date**

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- Legend**
- monterey.EDITOR1.sewer\_manhole\_feet
  - <-all other values>
- ASSET\_TYPE**
- CO
  - SL
  - SLS
  - SMH
  - SN
- SEWER\_MAIN\_REHAB**
- <-all other values>
- RATING\_STATUS**
- C. RELINE
  - C. SPOT REPAIR
  - D. RELINE PKG 3
  - D. SPOT REPAIR PKG 3
  - F. RELINE PKG 5
  - F. SPOT REPAIR PKG 5
  - INSP PKG 2
  - INSP PKG 2
  - REHAB PKG 1
  - REHAB PKG 1
- monterey.EDITOR1.sewer\_main\_feet
- CITY BOUNDARY



NO.	SCALE	DATE	REVISIONS
1	1" = 100'		
DRAWING NAME		PROJECT NAME	
C1.0			

**City of Monterey  
Sanitary Sewer System**

CITY OF MONTEREY

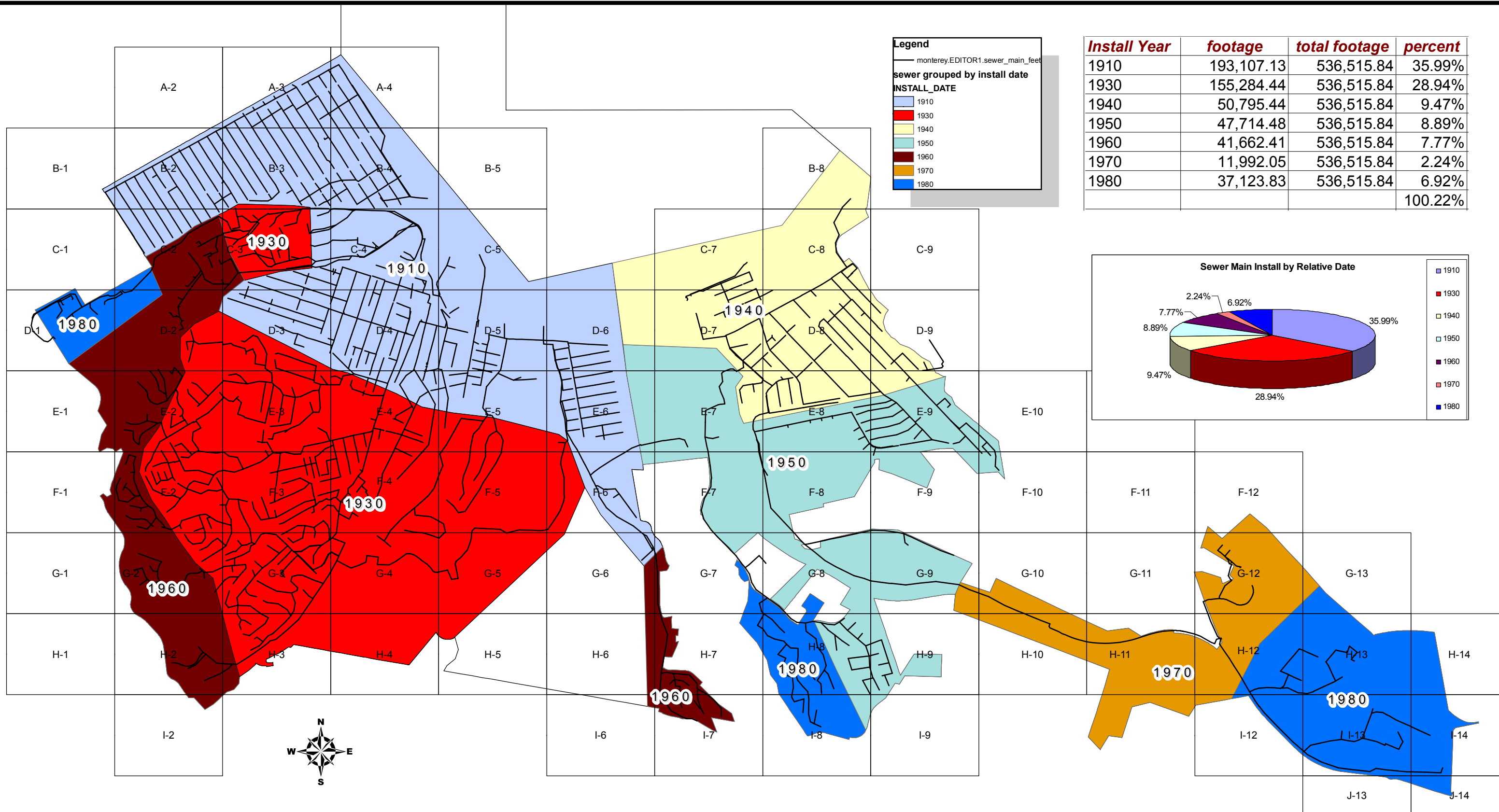
DESIGNED BY:	APPROVED:
DRAWN BY:	
CHECKED BY:	DATE:





# CITY OF MONTEREY

## SEWER MAIN GROUPED BY RELATIVE INSTALL DATE



## **Appendix 8: CCTV Inspection Program Summary**



## City of Monterey Sanitary Sewer Condition Assessment Program

**Objectives:** The primary objectives of this program are to perform closed-circuit television (CCTV) inspections and structurally rate approximately 10 percent of sewer infrastructure each year (roughly 10 miles of pipeline). The televising will be prioritized to focus on those sewers with the most potential for repair needs. Maintenance history, past overflow records, sewer locations, and age will be some of the factors used to prioritize the televising schedule.

**Goals:** Our goal is to improve the quality of the City's sewer infrastructure.

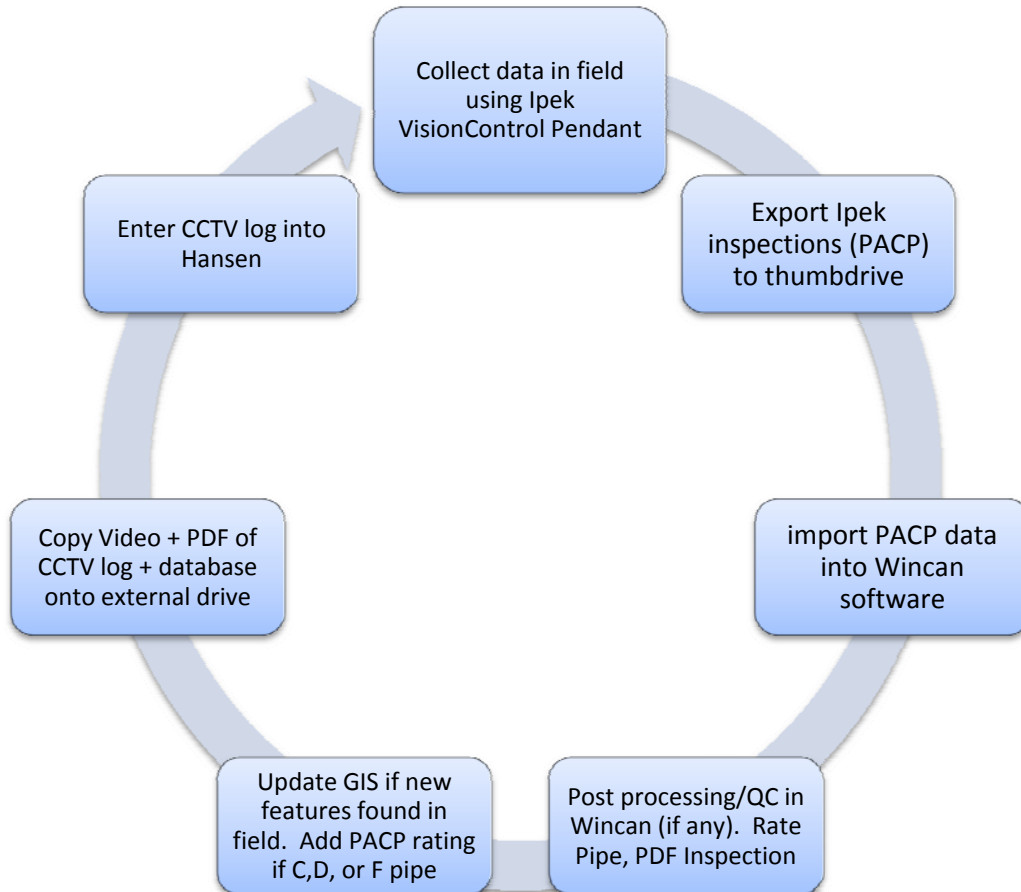
**CCTV:** The Department of Public Works has selected a digital video pipeline inspection system. This system allows for the most consistent and thorough collection of data. Under this system, a CCTV operator gathers video and data for each pipe segment to identify any deficiencies and review video logs to determine if the sewer facilities should be repaired or replaced immediately, or scheduled for future improvements.

**Benefits:** This program utilizes state-of-the art digital video technology to inspect and identify the existing condition of the sewer collection system and to simplify a host of wastewater management tasks. This system allows for the most consistent and thorough collection of data and helps comply with new State Water Resources Control Board Waste Discharge Requirements for sewer collection system owners and operators.

**Rating System:** This program uses the Pipeline Assessment and Certification Program (PACP) rating system, which was developed by the National Association of Sewer Service Companies (NASSCO). PACP requires CCTV operators to code defects either by infrastructure or maintenance defect. Each defect code is assigned a grade of 1 to 5 (or A to F). With 1 (A) being the least severe and 5 (F) being the most severe defect. These grades only consider the internal pipe conditions obtained from the televised inspection. After a sewer segment has been inspected, several grading systems can be applied to determine the most severe pipe segments. A detailed breakdown of the five possible defect grades and their estimated time to failure is as follows:

Grade	Description	Estimated Time to Failure
1 (A)	EXCELLENT: Minor Defects	Unlikely in the foreseeable future
2 (B)	GOOD: Defects that have not begun to deteriorate	20 years or more
3 (C)	FAIR: Moderate defects that will continue to deteriorate	10-20 years
4 (D)	POOR: Severe defects that will become grade 5 defects within the foreseeable future	5-10 years
5 (F)	IMMEDIATE ATTENTION: Defects requiring immediate attention	Has failed or will likely fail within the next 5 years

## CCTV Inspection Data Collection Workflow



1. Collect data in field using Ipek pendant in PACP format.
2. Export PACP database to thumb drive.
3. Import PACP database into WinCan v8 software.
4. Review the video/inspection and add any post processing/QC if needed.
5. Update GIS attributes and geometry noted during inspection. Add PACP rating if C, D, or F rated.
6. Copy video + PDF of CCTV log + database onto external hard drive to archive.
7. Enter CCTV log into Hansen.



Tel:  
Fax:  
E-mail:

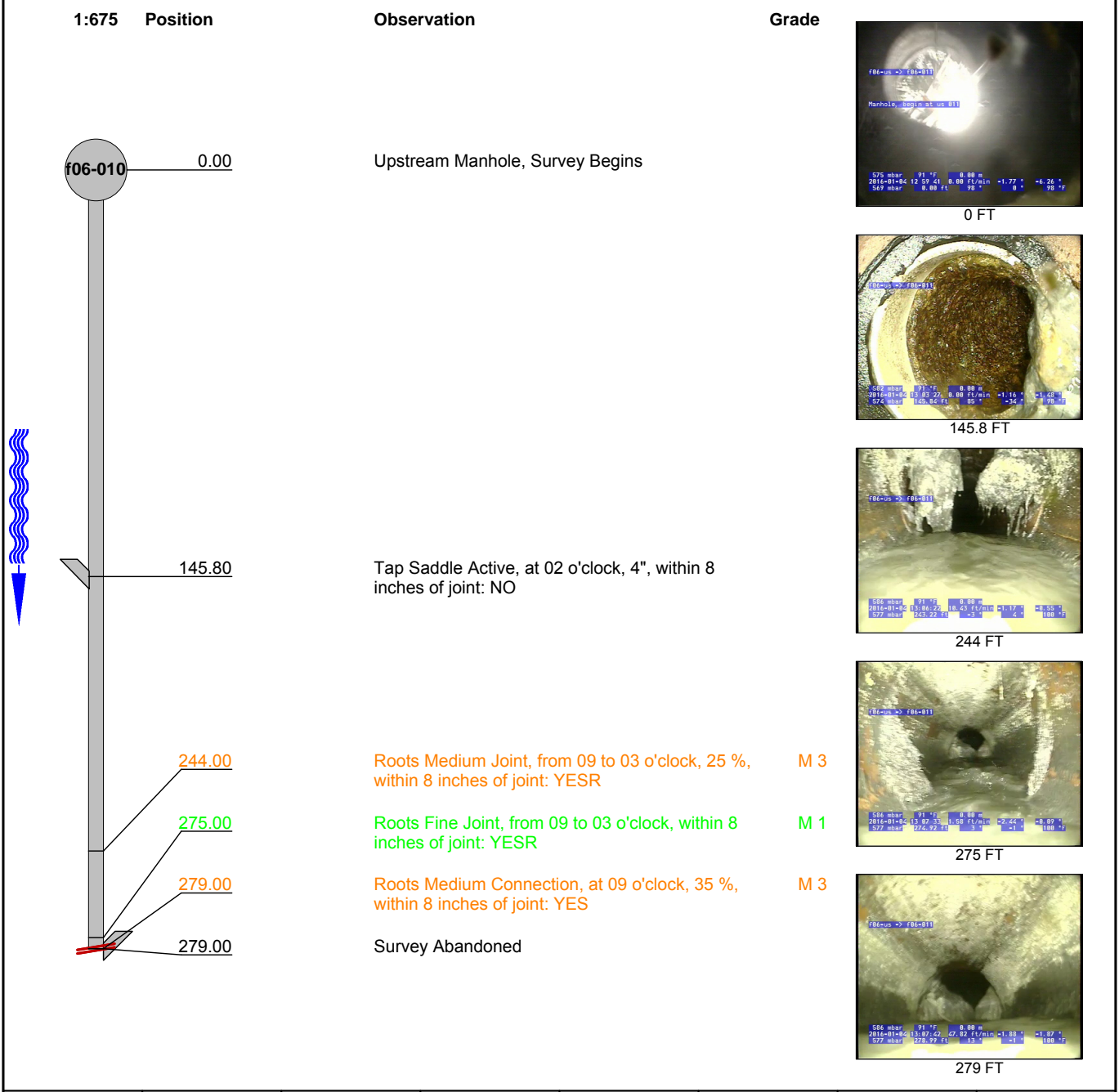
# Inspection Report

Date <b>1/4/2016</b>	P/O. No.	Weather	Surveyor's Name <b>and05</b>	Pipe Segment Reference	Section No. <b>4</b>
Certificate No. <b>123</b>	Survey Customer	System Owner	Preset :	Pre-Cleaning <b>Jetting</b>	Sewer Category

Street <b>aguajito</b>	Use of Sewer	Upstream MH <b>f06-010</b>
City <b>monterey</b>	Drainage Area	Dowstream MH <b>f06-011</b>
Loc. details	Flow Control	Dir. of Survey <b>Downstream</b>
Location Code	Length surveyed <b>279.00 ft</b>	Section Length <b>279.00 ft</b>

Purpose of Survey	Joint Length	<b>10 inch</b> <b>Vitrified Clay Pipe</b>
Year Laid	Dia./Height	
Year Rehabilitated <b>1000</b>	Material	
Tape / Media No. <b>aguajito sewer spill</b>	Lining Method	

Add. Information :



QSR	QMR	SPR	MPR	OPR	SPRI	MPRI	OPRI
0000	3211	0	7	7	0	2.33	2.33



Tel:  
Fax:  
E-mail:

## Inspection photos

City : <b>monterey</b>	Street : <b>aguajito</b>	Date :	Pipe Segment Reference :	Section No : <b>4</b>
---------------------------	-----------------------------	--------	--------------------------	--------------------------



Photo: 4\_1A, VCR No.: aguajito sewer spill  
0FT, Upstream Manhole, Survey Begins



Photo: 4\_2A, VCR No.: aguajito sewer spill  
145.8FT, Tap Saddle Active, at 02 o'clock, 4", within 8 inches of joint: NO



Photo: 4\_3A, VCR No.: aguajito sewer spill  
244FT, Roots Medium Joint, from 09 to 03 o'clock, 25 %, within 8 inches of joint: YESR



Photo: 4\_3A, VCR No.: aguajito sewer spill  
275FT, Roots Fine Joint, from 09 to 03 o'clock, within 8 inches of joint: YESR



Sanitary  STRUCTURE OBSERVATION FORM CITY OF MONTEREY Storm



Inspection #

Work Order #

Activity

99/MH

STRUCTURE #: PC04-012

Buried structure? Yes  No

Street ESMT. W. OF LIGHTHOUSE RD.

Cross Street

OWNERSHIP Public  Private  Federal  Easement

Area		Sub area		District		Loc	<u>COM C</u>	Map#	<u>PC04</u>
Manhole Type	<u>M</u>	Frame type	<u>NA</u>	Frame Dia.	<u>60</u> cm	Channel Mat	<u>C</u>		
Depth	<u>1.49</u>	Ring Mat.	<u>C</u>			Base Mat	<u>NA</u>		
Surface cover	<u>C</u>	Cone Mat	<u>PRC</u>			Step Mat	<u>NA</u>		
Cover Dia. Cm	<u>65</u>	Wall Mat	<u>NA</u>			Dist to Hydrant	<u>NA</u>		
Cover Type	<u>S1</u>	Bench Mat	<u>C</u>			meter	<u>NO</u>		
Barrel Dia. Cm	<u>NA</u>					Drop MH	<u>NO</u>		If yes Outside <input type="checkbox"/> Inside <input type="checkbox"/>

Initial Gas Detector Level reading: O2,H2S,LEL,CO

20.8 0 0 0

Start Date: 7/13/99 Time: 12:00

Sketch if not on map or different than map

Compl. Date: \_\_\_\_\_ Time: \_\_\_\_\_

Compl. By \_\_\_\_\_

Project 99/MH

Crew GE4

Crew Leader DC

Weather CLEAR

Flow Depth Main (2) 8 cm

Velocity Main \_\_\_\_\_ m/sec 3.00 ft/sec

Surface cracked? Yes  No

Eccentric/concentric E  C

Cross connection? Yes  No

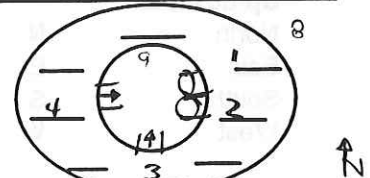
Number of holes in cover 1 Grate  Screen

Surcharge Yes  No  7 m Flow split? Yes  No

Debris 3 cm Over flow Yes  No

PHYSICAL DATA	Condition	Test	Size leak	I/I Qty	comments
Cover	<u>GD</u>				Shape <input checked="" type="checkbox"/> Rec, Oval
Frame	<u>C2</u>				
Rings	<u>C1</u>	<u>23.4m</u>			
Cone	<u>C1</u>				
Wall	<u>NA</u>				
Bench	<u>GD</u>				
Channel	<u>GD</u>				
Base	<u>NA</u>				
Steps	<u>NA</u>				

Comments:



Ref#	Roll/Pic	US/DS	Size mm	Pipe Mat	Depth m.	Flow cm.	Detect Code	Comments
1	PR200 10	DS/PC04-013	150	PP	1.33	8		
2	PR200 10	DS/PC04-013	150	PP	1.31	8		
3	PR200 11	US/PC04-014	200	VC	1.49	20		SUBMERSE PIPE
4	PR200 12	US/PC04-011	250	VC	1.49	20	DM	



City of Monterey Manhole Inspections

MH# PC04-012



Street



Invert



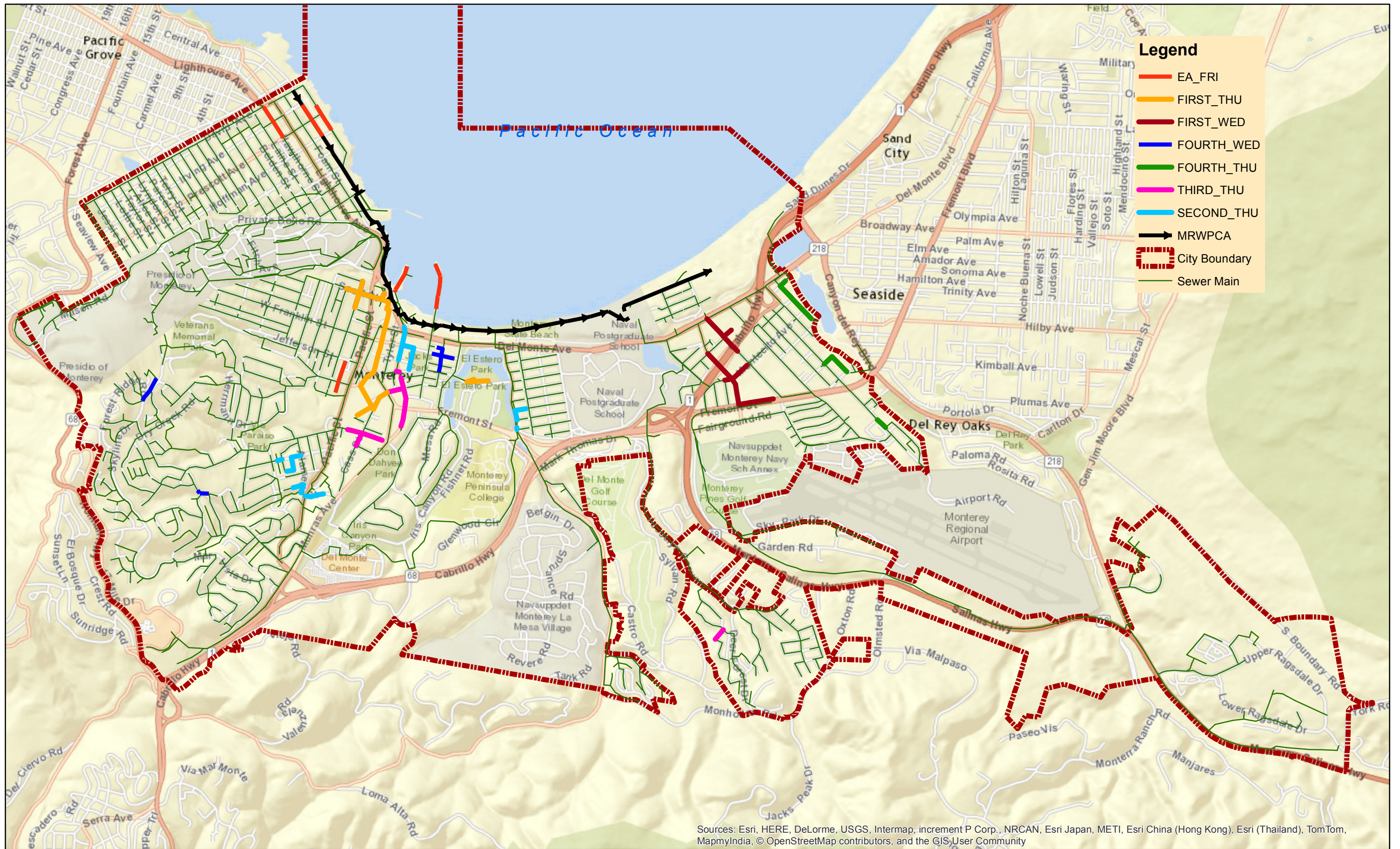
Downstream/Upstream East



Upstream South

## **Appendix 9: Hotlist Areas and Maintenance Schedules**





Sources: Esri, HERE, DeLorme, USGS, Intermap, increment P Corp., NRCAN, Esri Japan, METI, Esri China (Hong Kong), Esri (Thailand), TomTom, MapmyIndia, © OpenStreetMap contributors, and the GIS User Community



DESIGNED BY:	
DRAWN BY:	
CHECKED BY:	
DATE:	
APPROVED:	
PRINCIPAL ENGINEER:	
REGIST. NO.:	
DATE:	

### City of Monterey Hotlist

REVISIONS	DATE	No.	SCALE





## HOT LIST MAINTENANCE SCHEDULE - PERFORMED EACH MONTH OF YEAR

### First Wednesday

Count	FromNode	ToNode	SHAPE_Leng
1	C04-009	C04-010	360.4
2	C04-010	C04-011	332.5
3	C04-011	D04-081	270.4
4	C04-014	C04-016L	76.2
5	C04-015C	C04-014	19.9
6	C04-017	C04-010	164.2
7	C04-029	D04-081	174.6
8	D04-067	C04-010	399.9
9	D08-003	D08-004	206.9
10	D08-004	D08-005	454.3
11	D08-012	E08-043	525.8
12	D08-015	D08-016	336.3
13	D08-016	D08-017	186.4
14	D08-017	D08-019	125.5
15	D08-018C	D08-017	260.1
16	D08-019	D08-020	511.6
17	E05-040C	E05-041	227.3
18	E08-036	E08-037	592.8
19	E08-037	E08-038	307.4
20	E08-038	E08-039	278.0
21	E08-039	E08-040	207.0
22	E08-040	E08-041	44.6
23	E08-041	E08-042	152.7
24	E08-043	E08-032	122.1
25	E08-043	D08-003	258.8
<b>TOTAL</b>			<b>6595.8</b>

### Fourth Wednesday

Count	FromNode	ToNode	SHAPE_Leng
1	D05-029	D05-036	158.7
2	D05-033	D05-034	182.9
3	D05-034	D05-035	256.2
4	D05-035	D05-036	182.7
5	D05-042	D05-035	239.1
6	D05-043	D05-035	351.9
7	E02-027	E02-028	332.8
8	E02-041	E02-028	358.9
9	F03-005	F03-006	233.6
10	F03-010	F03-005	98.3
<b>TOTAL</b>			<b>2395.2</b>

### First Thursday

Count	FromNode	ToNode	SHAPE_Leng
1	C04-009	C04-010	360.4
2	C04-010	C04-011	332.5
3	C04-011	D04-081	270.4
4	C04-014	C04-016L	76.2
5	C04-015C	C04-014	19.9
6	C04-017	C04-010	164.2
7	C04-029	D04-081	174.6
8	D04-046	D04-047	26.8
9	D04-047	D04-048	145.3
10	D04-048	D04-049	167.2
11	D04-049	D04-050	177.9
12	D04-050	D04-051	158.7
13	D04-051	D04-052	182.5
14	D04-052	D04-053	218.9
15	D04-053	D04-014	114.6
16	D04-067	C04-010	399.9
17	D04-081	D04-082	169.3
18	D04-082	D04-083	35.3
19	D04-083	D04-084	32.9
20	D04-084	D04-085	131.6
21	D04-085	D04-086	75.6
22	D04-086	D04-087	240.3
23	D04-087	D04-014	234.2
24	E04-043C	E04-044	335.2
25	E04-044	E04-045	247.9
26	E04-054	E04-078	347.7
27	E04-055	E04-080	85.1
28	E04-056	E04-057	272.7
29	E04-057	D04-046	223.3
30	E04-078	E04-055	97.7
31	E04-080	E04-056	520.2
32	E05-039C	E05-040C	323.3
33	E05-040C	E05-041	227.3
34	PRIV	E05-041	188.8
<b>TOTAL</b>			<b>6778.5</b>

### Second Thursday

Count	FromNode	ToNode	SHAPE_Leng
1	D05-002	D05-054	362.5
2	D05-003	D05-005	326.9
3	D05-004	D05-005	11.8
4	D05-005	D05-006	133.4
5	D05-008	D05-053	541.9
6	D05-009	D05-003	314.3
7	D05-053	D05-009	28.2
8	D05-054	D05-003	33.7
9	E06-015	E06-056	53.9
10	E06-016	E06-017	252.5
11	E06-027	E06-017	288.2
12	F03-052	F03-053	126.1
13	F03-061	F03-062	178.6
14	F03-062	F03-063	331.1
15	F03-063	F04-034	253.7
16	F03-066	F04-021	280.2
17	F04-016	F04-017	150.7
18	F04-017	F04-004	340.5
19	F04-021	F04-020	219.6
<b>TOTAL</b>			<b>4227.8</b>

### Third Thursday

Count	FromNode	ToNode	SHAPE_Leng
1	D05-001	D04-057	82.0
2	E04-039	E04-040	358.4
3	E04-040	E04-081	307.5
4	E04-047	E04-048	115.8
5	E04-048	E04-040	269.6
6	E04-049	E04-081	250.5
7	E04-067C	E05-005	372.3
8	E05-001	E05-002	176.4
9	E05-002	E05-003	301.5
10	E05-003	E05-004	253.1
11	E05-004	E05-005	265.2
12	E05-005	E05-006L	280.1
13	H08-064	H08-050	321.4
<b>TOTAL</b>			<b>3353.7</b>

### Fourth Thursday

Count	FromNode	ToNode	SHAPE_Leng
1	C08-016C	C08-012	186.8
2	D08-043	C08-012	450.8
3	D09-003	D09-004	549.3
4	D09-004	D09-005	276.5
5	D09-010C	D09-011	172.8
6	D09-011	D08-043	552.5
7	E09-041	E09-049	117.2
8	E09-049	E09-034	171.2
<b>TOTAL</b>			<b>2477.1</b>

### Each Friday

Count	FromNode	ToNode	SHAPE_Leng
1	A03-023	A03-006	462.0
2	A03-038	A03-023	500.5
3	A04-004	A04-013	6.0
4	A04-004	A04-003	262.8
5	A04-005	A04-015	255.0
6	A04-007L	A04-006	458.9
7	A04-011	A04-006	511.3
8	A04-015	A04-004	249.2
9	C05-001C	C05-002C	206.1
10	C05-002C	C04-025	478.3
11	C05-003C	C05-004C	346.9
12	C05-004C	C05-005C	204.5
13	C05-005C	C05-006	319.4
14	C05-006C	D05-024C	326.4
15	C05-025	C05-026	59.1
16	D04-037	E04-025	570.0
17	E04-028	E04-025	295.5
<b>TOTAL</b>			<b>5512.1</b>

## **Appendix 10: Sewer Root Foaming Map (2016)**

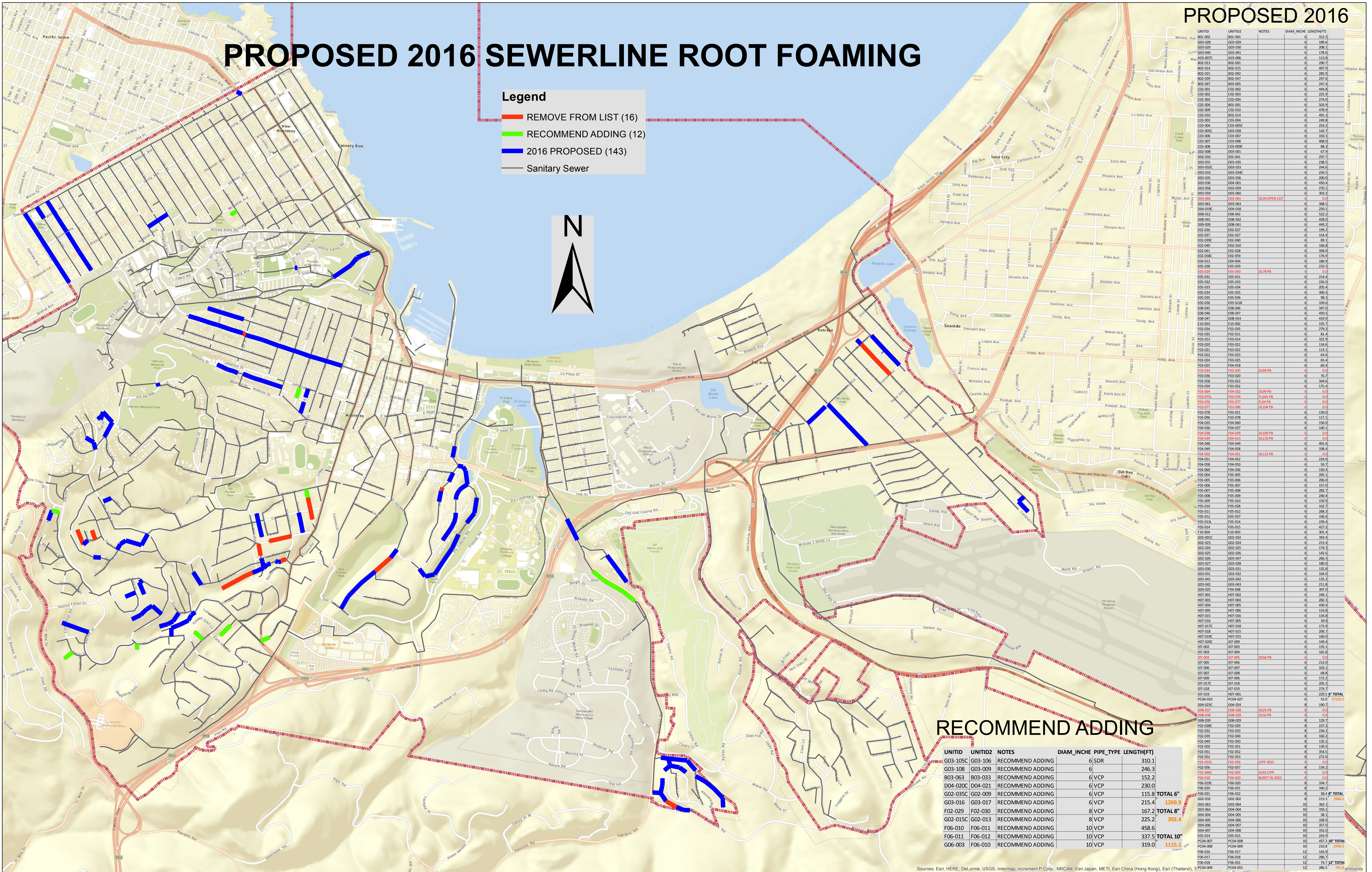
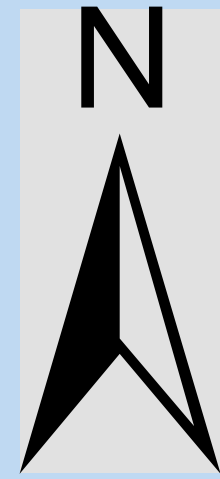


# PROPOSED 2016 SEWERLINE ROOT FOAMING

PROPOSED 2016

### Legend

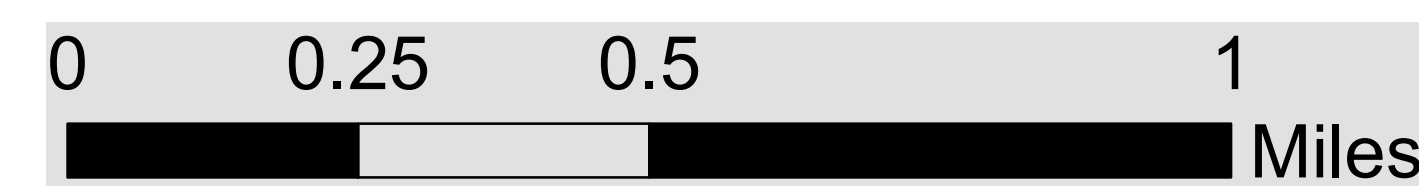
- REMOVE FROM LIST (16)
- RECOMMEND ADDING (12)
- 2016 PROPOSED (143)
- Sanitary Sewer



UNITID	UNITID2	NOTES	DIAM_INCH	LENGTH(FT)
B01-002	B01-001		6	312.3
G03-028	G03-029		6	189.6
G03-029	G03-030		6	208.1
G03-040	G03-041		6	178.0
A03-002C	A03-006		6	113.8
B02-013	B02-011		6	290.7
B02-014	B02-015		6	407.9
B02-015	B02-002		6	285.9
B02-019	B02-047		6	247.6
B02-047	B02-005		6	247.4
C02-001	C02-002		6	444.8
C02-002	C02-001		6	225.9
C02-001	C02-004		6	274.0
C02-004	B01-001		6	503.9
C02-009	C02-010		6	478.9
C02-010	B02-014		6	491.3
C03-003	C03-004		6	249.8
C03-004	C03-003C		6	254.2
C03-006	C03-007		6	144.7
C03-007	C03-008		6	408.0
C03-008	C03-008C		6	88.3
D02-008	D02-001		6	67.9
D02-010	D02-041		6	297.7
D02-051	D02-035		6	248.1
D02-052	D02-033		6	244.0
D02-053	D02-034C		6	234.5
D02-055	D02-036		6	200.0
D02-056	D02-001		6	450.4
D02-058	D02-059		6	270.1
D02-059	D02-060		6	302.2
D02-061	D02-061	DL3R OPEN CUT	6	0.0
D02-061	D02-063		6	368.5
D02-093C	D02-018		6	250.1
D02-093	F02-042		6	522.2
D02-041	D02-042		6	428.0
D02-009	D02-041		6	449.2
F02-027	F02-027		6	199.2
F02-027	F02-027		6	154.9
F02-039C	F02-040		6	89.1
F02-040	D02-030		6	166.8
F02-041	F02-028		6	358.9
F02-058C	F02-059		6	178.9
F02-051	F02-004		6	186.9
F02-058	F02-059		6	233.3
F02-029	F02-030	DL78 PB	6	0.0
F02-031	F02-031		6	214.4
F02-032	F02-033		6	226.0
F02-033	F02-034		6	205.4
F02-034	F02-035		6	300.4
F02-035	F02-036		6	98.3
F02-036	F02-S158		6	109.6
F02-045	F02-046		6	347.0
F02-046	F02-047		6	450.5
F02-047	D02-014		6	419.9
F02-003	F02-002		6	156.7
F02-004	F02-005		6	279.3
F02-005	F02-011		6	81.4
F02-013	F02-014		6	322.9
F02-020	F02-021		6	134.6
F02-021	F02-022		6	113.1
F02-022	F02-023		6	64.6
F02-024	F02-025		6	65.4
F02-025	F02-018		6	60.4
F02-034	F02-035	DL94 PB	6	0.0
F02-036	F02-020		6	76.7
F02-058	F02-052		6	344.4
F02-059	F02-052		6	175.4
F02-064	F02-032	DL99 PB	6	0.0
F02-074	F02-076	FL204 PB	6	0.0
F02-076	F02-077	FL204 PB	6	0.0
F02-077	F02-096	DL104 PB	6	0.0
F02-078	F02-021		6	139.0
F02-096	F02-078		6	117.1
F02-095	F02-060		6	150.0
F02-096	F02-097		6	140.1
F02-097	F02-098		6	0.0
F02-098	F02-099	DL109 PB	6	0.0
F02-099	F02-053	DL110 PB	6	0.0
F02-098	F02-099		6	401.6
F02-049	F02-058		6	338.4
F02-050	F02-051		6	0.0
F02-051	F02-052	DL112 PB	6	0.0
F02-052	F02-052		6	224.0
F02-058	F02-050		6	561.7
F02-060	F02-036		6	150.4
F02-004	F02-005		6	205.1
F02-005	F02-006		6	204.0
F02-006	F02-007		6	157.0
F02-007	F02-008		6	282.7
F02-008	F02-009		6	240.4
F02-009	F02-010		6	159.9
F02-010	F02-028		6	162.7
F02-011	F02-012		6	268.3
F02-012	F02-017		6	336.6
F02-013L	F02-014		6	239.4
F02-014	F02-015		6	427.2
F02-004	F02-003		6	305.4
G02-001C	G02-002		6	393.4
G02-003	G02-004		6	213.4
G02-004	G02-005		6	174.3
G02-005	G02-006		6	142.6
G02-006	G02-007		6	206.3
G02-007	G02-008		6	180.0
G02-008	G02-011		6	132.8
G02-011	G02-012		6	104.0
G02-041	G02-042		6	215.2
G02-042	G02-043		6	211.8
G02-005	F04-008		6	307.0
H02-001	H02-002		6	246.1
H02-003	H02-004		6	282.3
H02-004	H02-005		6	430.4
H02-005	H02-006		6	133.8
H02-005	H02-006		6	134.8
H02-016	H02-005		6	39.8
H02-017C	H02-008		6	173.8
H02-018	H02-015		6	206.7
H02-019C	H02-015		6	160.0
H02-008C	H02-009		6	140.4
I02-002	I02-003		6	135.1
I02-003	I02-004		6	165.8
I02-004	I02-005		6	212.0
I02-005	I02-006	DS56 PB	6	0.0
I02-006	I02-007		6	103.1
I02-007	I02-008		6	68.8
I02-009	I02-008		6	172.2
I02-017C	I02-018		6	205.2
I02-018	I02-019		6	274.7
I02-019	H02-001		6	225.9
PC04-010	PC04-027		8	53.0
D04-023C	D04-024		8	190.7
D02-017	D02-018	DS35 PB	8	0.0
D02-018	D02-019	DS56 PB	8	0.0
D02-019	D02-020		8	129.7
F02-028C	F02-029		8	227.2
F02-032	F02-033		8	286.2
F02-039	F02-040		8	160.2
F02-049	F02-050		8	135.2
F02-050	F02-051		8	139.5
F02-051	F02-052		8	354.5
F02-052	F02-053		8	272.0
F02-053C	F02-055		8	0.0
F02-056	F02-057	CIPP 2015	8	0.0
F02-060C	F02-059	DL93 CIPP	8	0.0
F02-013	F02-014	BLURST IN 2010	8	0.0
F02-014	F02-015		8	334.7
F02-020	F02-021		8	340.2
F02-021	F02-022		8	361.8
G02-002	G02-002		8	213.3
D02-063	D02-064		8	362.1
D02-064	D02-064		8	398.1
D02-004	D02-005		8	38.1
D02-005	D02-006		8	328.9
D02-006	D02-007		8	357.0
D02-007	D02-008		8	352.0
F02-014	F02-015		8	241.9
PC04-007	PC04-008		10	457.3
PC04-008	PC04-009		10	210.3
F02-016	F02-017		10	143.9
F02-017	F02-018		10	286.7
F02-018	F02-019		10	210.3
PC04-009	PC04-005		12	286.5
F02-019	F02-019		12	781.7
PC04-009	PC04-005		12	286.5

## RECOMMEND ADDING

UNITID	UNITID2	NOTES	DIAM_INCH	PIPE_TYPE	LENGTH(FT)
G03-105C	G03-106	RECOMMEND ADDING	6	SDR	310.1
G03-108	G03-009	RECOMMEND ADDING	6		246.3
B03-063	B03-033	RECOMMEND ADDING	6	VCP	152.2
D04-020C	D04-021	RECOMMEND ADDING	6	VCP	230.0
G02-035C	G02-009	RECOMMEND ADDING	6	VCP	115.8
G03-016	G03-017	RECOMMEND ADDING	6	VCP	215.4
F02-029	F02-030	RECOMMEND ADDING	8	VCP	167.2
G02-015C	G02-013	RECOMMEND ADDING	8	VCP	225.2
F06-010	F06-011	RECOMMEND ADDING	10	VCP	458.6
F06-011	F06-012	RECOMMEND ADDING	10	VCP	337.5
G06-003	G06-010	RECOMMEND ADDING	10	VCP	319.0
					<b>TOTAL 6"</b>
					<b>1269.9</b>
					<b>TOTAL 8"</b>
					<b>392.4</b>
					<b>TOTAL 10"</b>
					<b>1115.1</b>



This map is intended for reference purposes only. Consult Plans and Specs for a detailed list of rehabilitation. Locations are approximate. Contractor responsible to call USA 8-1-1 prior to digging.

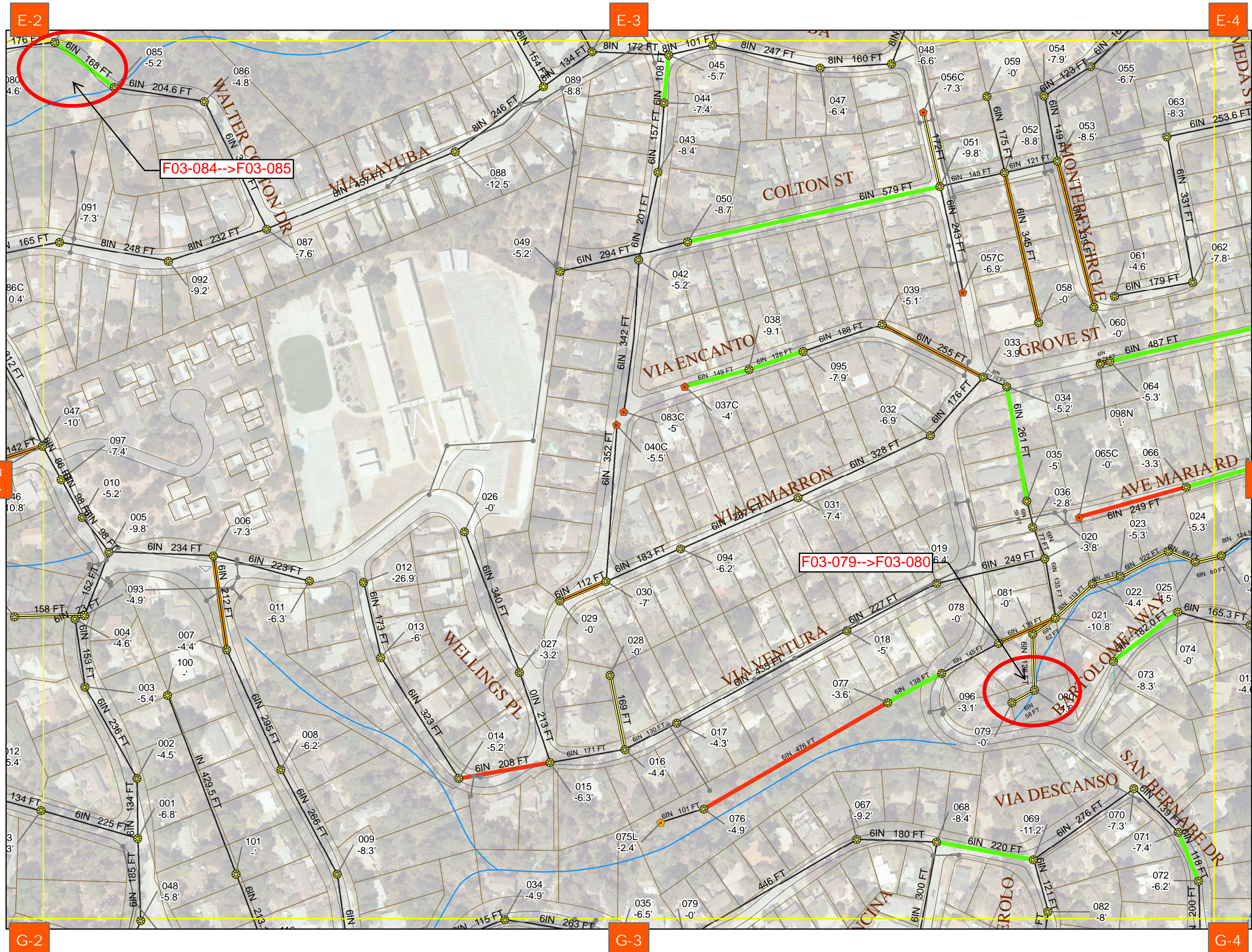
Sources: Esri, HERE, DeLorme, USGS, Intermap, increment P Corp., NRCAN, Esri Japan, METI, Esri China (Hong Kong), Esri (Thailand), TPC04-009, TPC04-005



## **Appendix 11: Sewer Line Creek Crossing Maps**

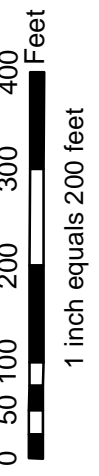
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- Legend**
- Sewer Points**
    - CLEAN OUT
    - SL
    - SLS
    - SMH
  - Proposed Sewer Rehab**
    - <all other values>
    - C, RELINE
    - C, SPOT REPAIR
    - D, RELINE
    - D, SPOT REPAIR
    - F, RELINE
    - F, SPOT REPAIR
    - INSP, ABANDONED SURVEY
    - INSP, NO SURVEY
    - REHAB, ABANDONED SURVEY
    - REHAB, NO SURVEY
  - Private Sewer Manholes
  - Private Sewer Lines
  - Sheet Boundary
  - Parcels
  - City Limit
  - Stream
  - Lakes
  - Storm Points
  - Storm Main

**CITY OF MONTEREY  
SANITARY SEWER MAP**



E-2

E-3

E-4

F-2

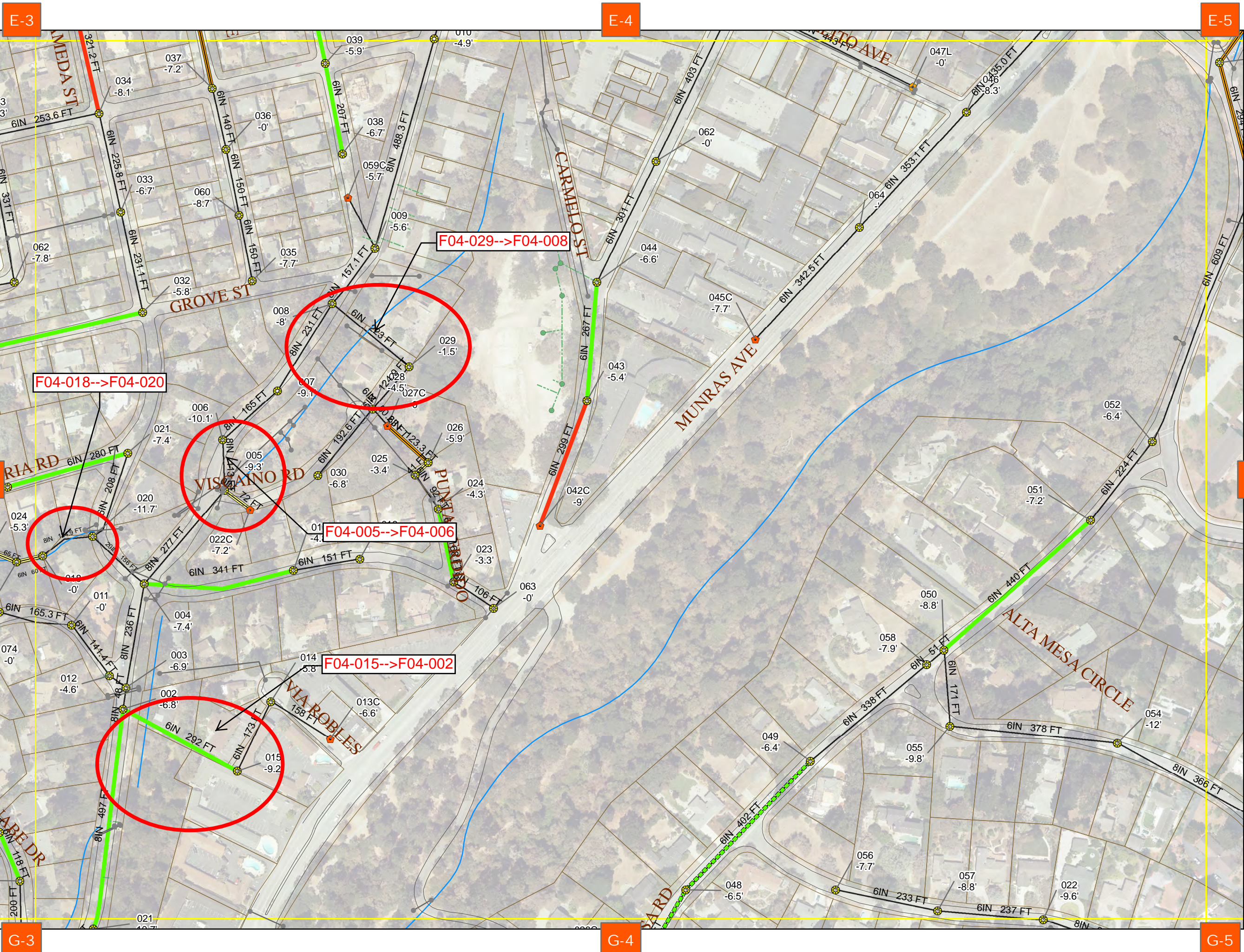
F-4

G-2

G-3

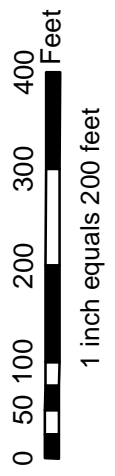
G-4





- Legend**
- Sewer Points**
    - CLEAN OUT
    - SL
    - SLS
    - SMH
  - Proposed Sewer Rehab**
    - <all other values>
    - C, RELINE
    - C, SPOT REPAIR
    - D, RELINE
    - D, SPOT REPAIR
    - F, RELINE
    - F, SPOT REPAIR
    - INSP, ABANDONED SURVEY
    - INSP, NO SURVEY
    - REHAB, ABANDONED SURVEY
    - REHAB, NO SURVEY
    - Private Sewer Manholes
    - Private Sewer Lines
    - Sheet Boundary
    - Parcels
    - City Limit
    - Stream
    - Lakes
    - Storm Points
    - Storm Main

**CITY OF MONTEREY  
SANITARY SEWER MAP**



E-3

E-4

E-5

F-3

F-5

G-3

G-4

G-5



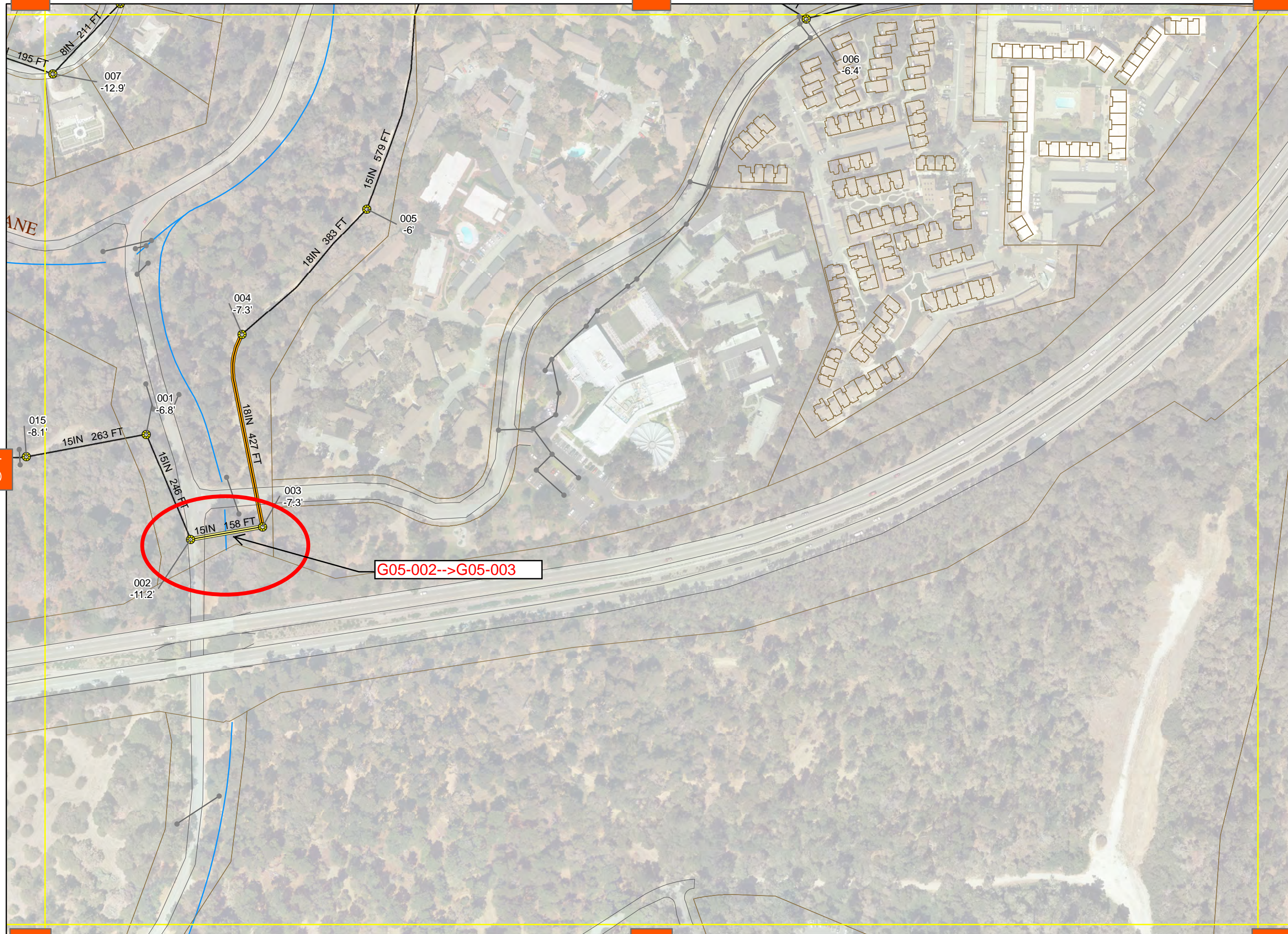
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F-5

F-6

SHEET NO.

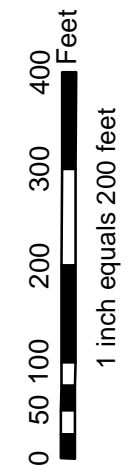
G-5



- Legend**
- Sewer Points**
- CLEAN OUT
  - SL
  - SLS
  - SMH
- Proposed Sewer Rehab**
- <all other values>
  - C, RELINE
  - C, SPOT REPAIR
  - D, RELINE
  - D, SPOT REPAIR
  - F, RELINE
  - F, SPOT REPAIR
  - INSP, ABANDONED SURVEY
  - INSP, NO SURVEY
  - REHAB, ABANDONED SURVEY
  - REHAB, NO SURVEY
  - Private Sewer Manholes
  - Private Sewer Lines
  - Sheet Boundary
  - Parcels
  - City Limit
  - Stream
  - Lakes
  - Storm Points
  - Storm Main

G05-002-->G05-003

**CITY OF MONTEREY**  
**SANITARY SEWER MAP**



G-4

G-9

H-4

H-5

H-6



F-5

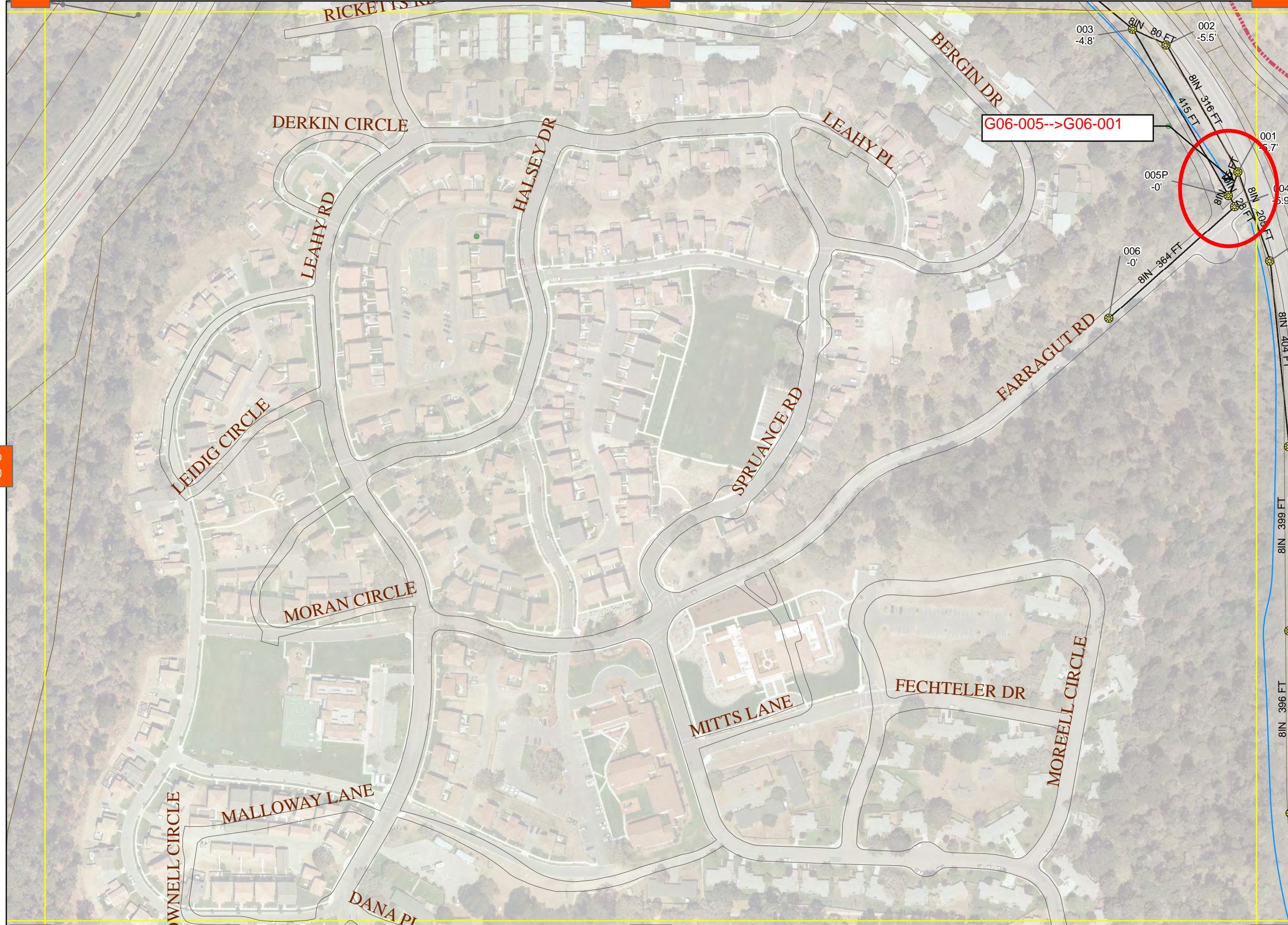
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F-7

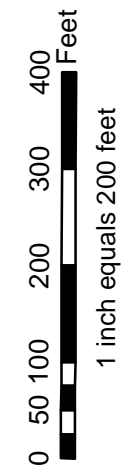
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G-6

- Legend**
- Sewer Points**
- CLEAN OUT
  - SL
  - SLS
  - SMH
- Proposed Sewer Rehab**
- <all other values>
  - C, RELINE
  - C, SPOT REPAIR
  - D, RELINE
  - D, SPOT REPAIR
  - F, RELINE
  - F, SPOT REPAIR
  - INSP, ABANDONED SURVEY
  - INSP, NO SURVEY
  - REHAB, ABANDONED SURVEY
  - REHAB, NO SURVEY
  - Private Sewer Manholes
  - Private Sewer Lines
  - Sheet Boundary
  - Parcels
  - City Limit
  - Stream
  - Lakes
  - Storm Points
  - Storm Main



**CITY OF MONTEREY**  
**SANITARY SEWER MAP**



G-5

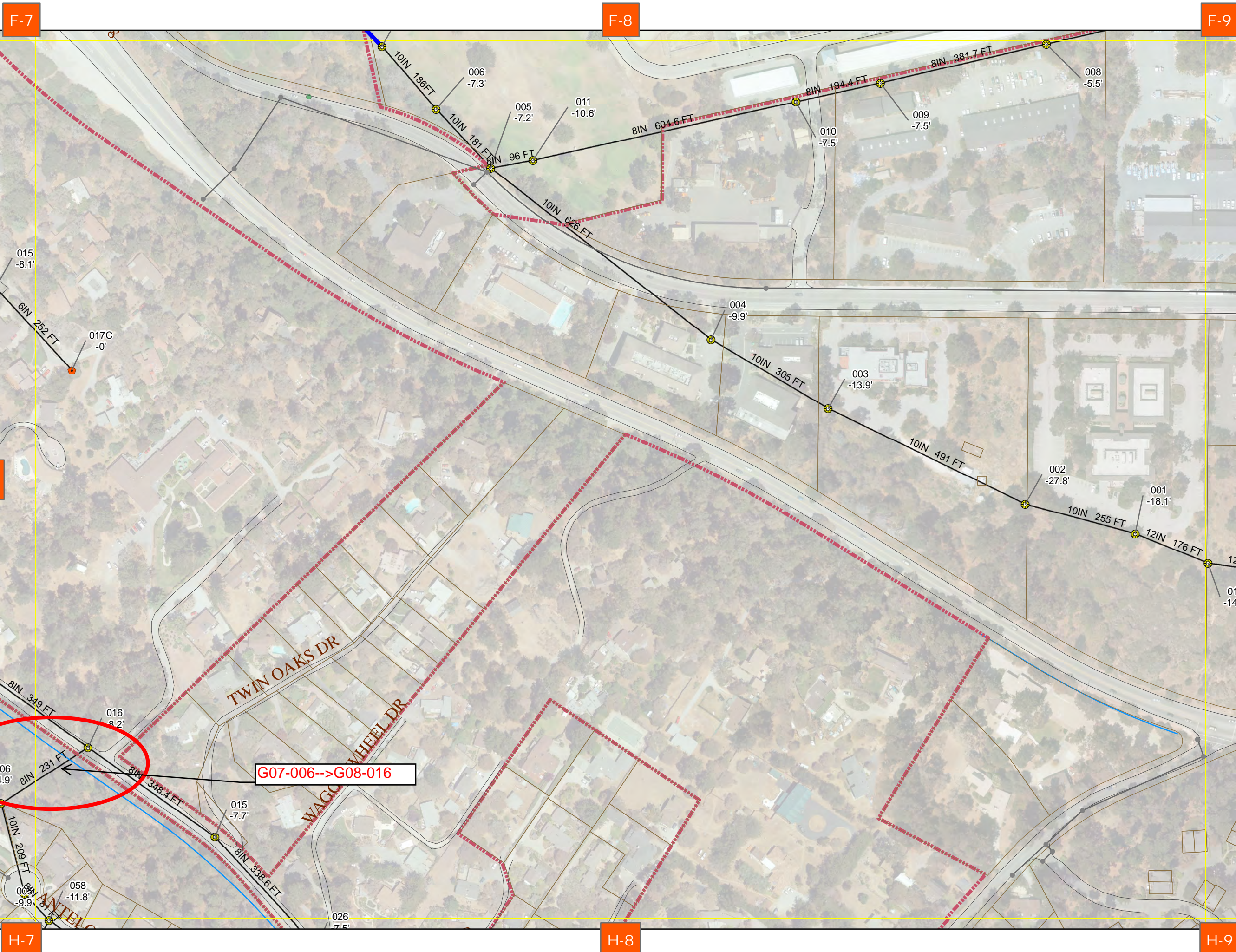
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H-5

H-6

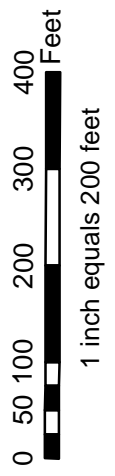
H-7





- Legend**
- Sewer Points**
- CLEAN OUT
  - SL
  - SLS
  - SMH
- Proposed Sewer Rehab**
- <all other values>
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  - C, SPOT REPAIR
  - D, RELINE
  - D, SPOT REPAIR
  - F, RELINE
  - F, SPOT REPAIR
  - INSP, ABANDONED SURVEY
  - INSP, NO SURVEY
  - REHAB, ABANDONED SURVEY
  - REHAB, NO SURVEY
  - Private Sewer Manholes
  - Private Sewer Lines
  - Sheet Boundary
  - Parcels
  - City Limit
  - Stream
  - Lakes
  - Storm Points
  - Storm Main

**CITY OF MONTEREY  
SANITARY SEWER MAP**



**G07-006-->G08-016**

F-7

F-8

F-9

G-7

G-9

H-7

H-8

H-9



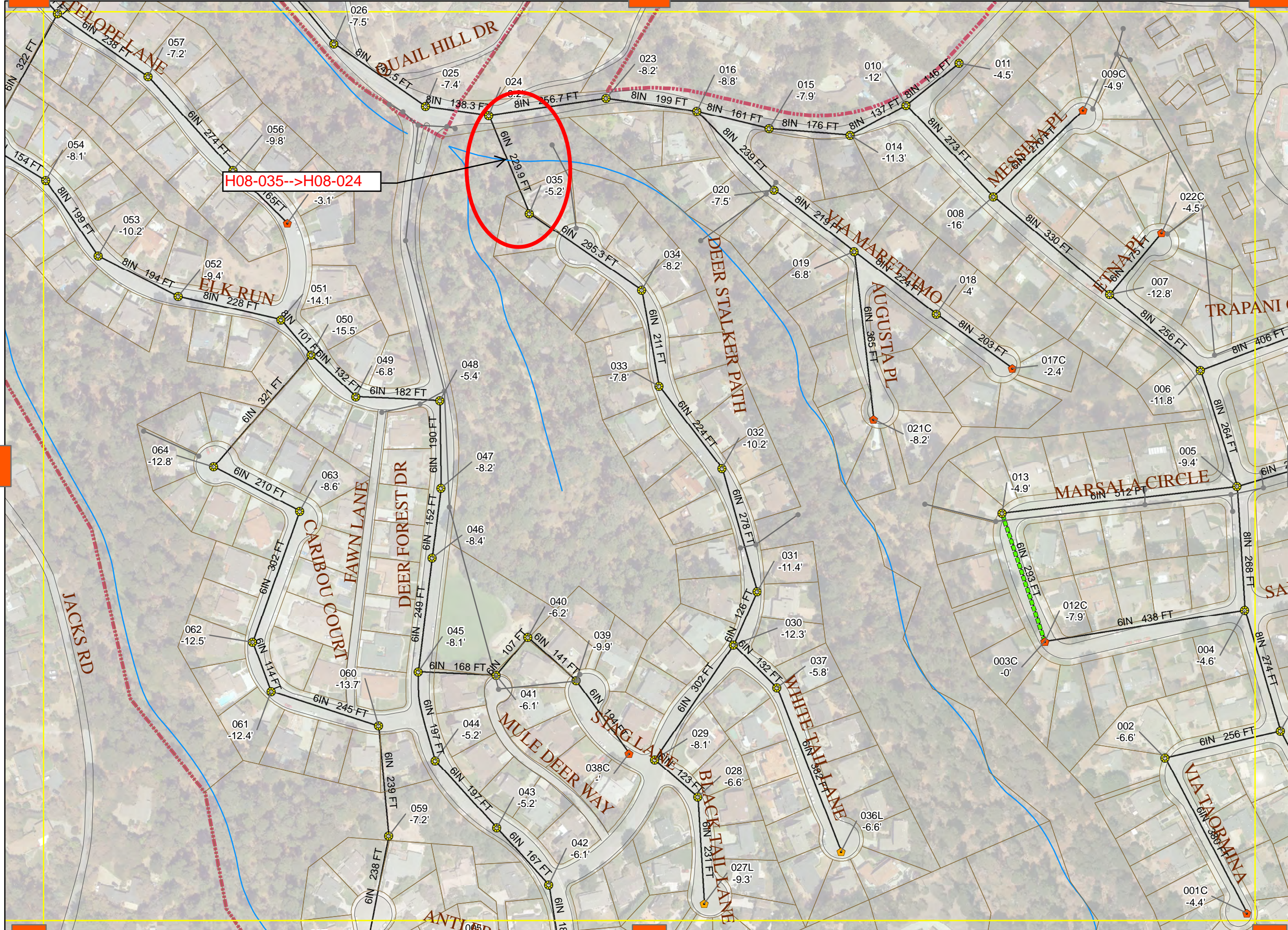
G-7

G-8

G-9

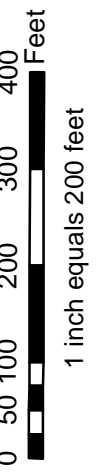
SHEET NO.

H-8



- Legend**
- Sewer Points**
    - CLEAN OUT
    - SL
    - SLS
    - SMH
  - Proposed Sewer Rehab**
    - <all other values>
    - C, RELINE
    - C, SPOT REPAIR
    - D, RELINE
    - D, SPOT REPAIR
    - F, RELINE
    - F, SPOT REPAIR
    - INSP, ABANDONED SURVEY
    - INSP, NO SURVEY
    - REHAB, ABANDONED SURVEY
    - REHAB, NO SURVEY
  - Private Sewer Manholes
  - Private Sewer Lines
  - Sheet Boundary
  - Parcels
  - City Limit
  - Stream
  - Lakes
  - Storm Points
  - Storm Main

**CITY OF MONTEREY  
SANITARY SEWER MAP**



H-7

H-8

I-7

I-8

I-9



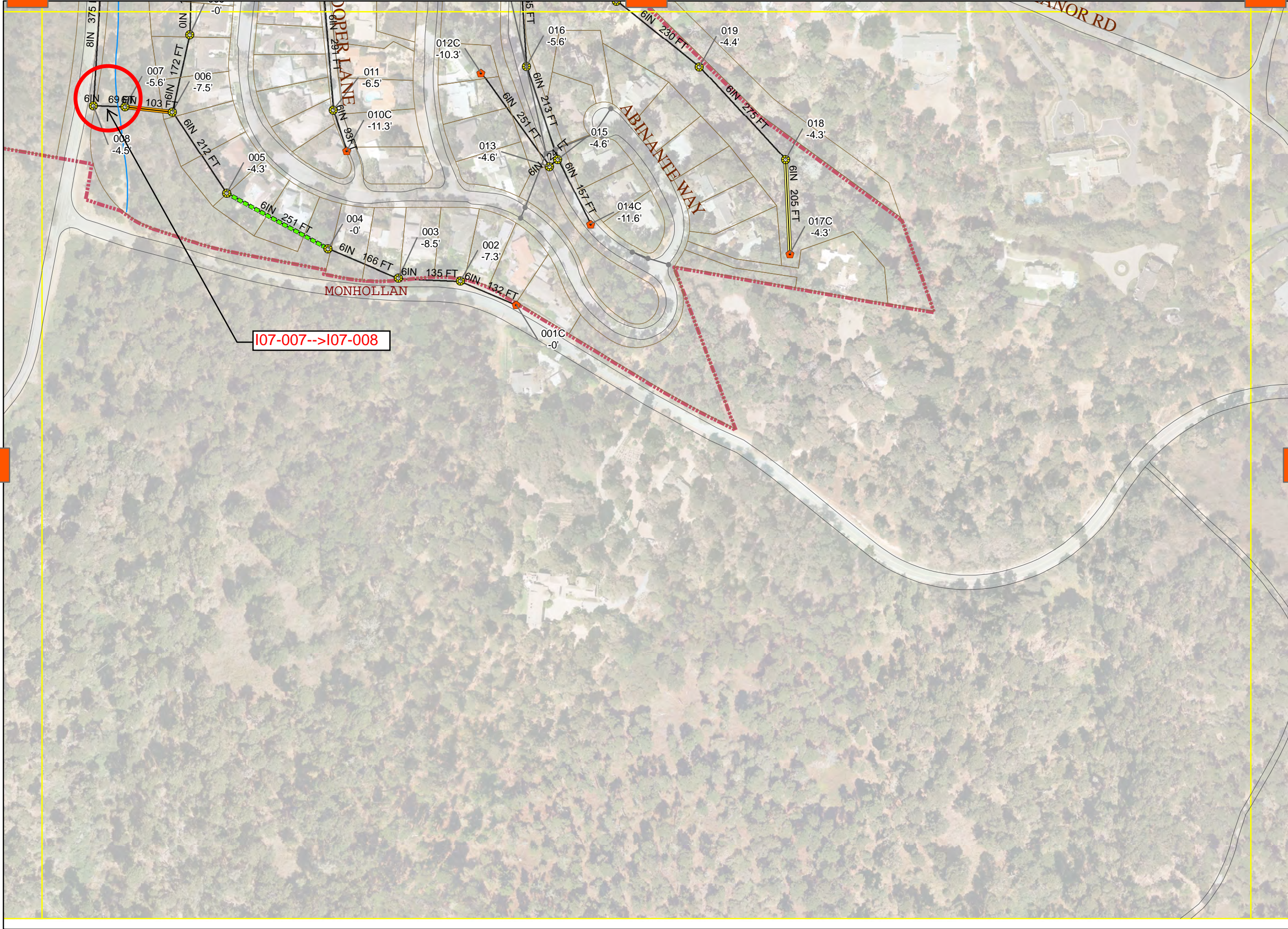
H-6

H-7

H-8

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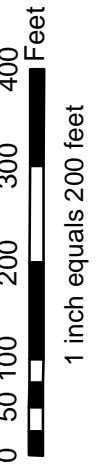
I-7



- Legend**
- Sewer Points**
    - CLEAN OUT
    - SL
    - SLS
    - SMH
  - Proposed Sewer Rehab**
    - <all other values>
    - C, RELINE
    - C, SPOT REPAIR
    - D, RELINE
    - D, SPOT REPAIR
    - F, RELINE
    - F, SPOT REPAIR
    - INSP, ABANDONED SURVEY
    - INSP, NO SURVEY
    - REHAB, ABANDONED SURVEY
    - REHAB, NO SURVEY
    - Private Sewer Manholes
    - Private Sewer Lines
    - Sheet Boundary
    - Parcels
    - City Limit
    - Stream
    - Lakes
    - Storm Points
    - Storm Main

107-007-->107-008

**CITY OF MONTEREY  
SANITARY SEWER MAP**



I-6

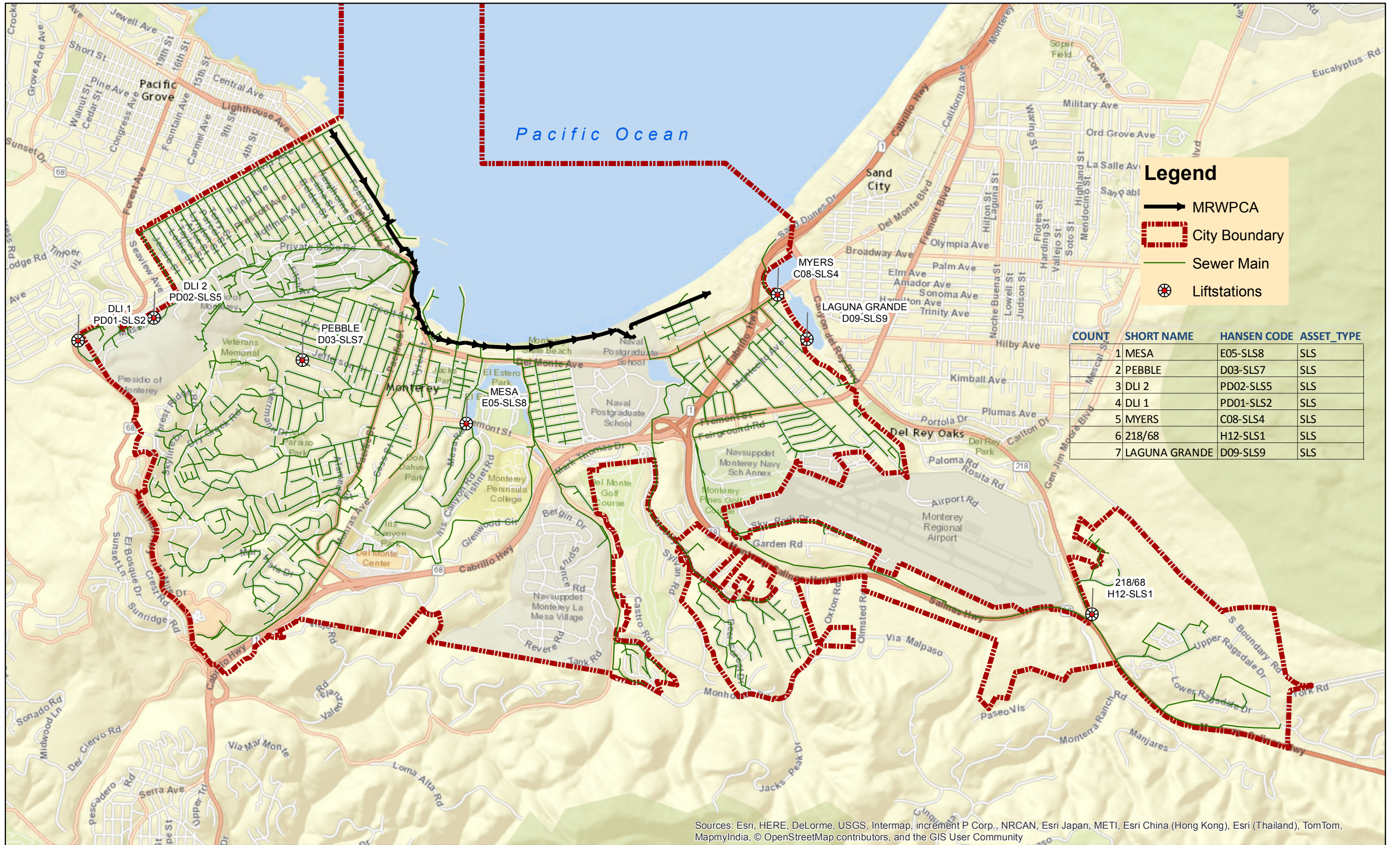
I-8



## **Appendix 12: Lift Stations Map, Data Table, Critical Parts List, and M1W Maintenance Agreement**

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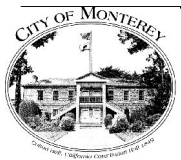


### Legend

- MRWPCA
- - - - - City Boundary
- Sewer Main
- ⊙ Liftstations

COUNT	SHORT NAME	HANSEN CODE	ASSET_TYPE
1	MESA	E05-SLS8	SLS
2	PEBBLE	D03-SLS7	SLS
3	DLI 2	PD02-SLS5	SLS
4	DLI 1	PD01-SLS2	SLS
5	MYERS	C08-SLS4	SLS
6	218/68	H12-SLS1	SLS
7	LAGUNA GRANDE	D09-SLS9	SLS

Sources: Esri, HERE, DeLorme, USGS, Intermap, increment P Corp., NRCAN, Esri Japan, METI, Esri China (Hong Kong), Esri (Thailand), TomTom, MapmyIndia, © OpenStreetMap contributors, and the GIS User Community



DESIGNED BY:	
DRAWN BY:	
CHECKED BY:	
DATE:	
APPROVED:	
PRINCIPAL ENGINEER:	
REGIST. NO.:	
DATE:	

## City of Monterey Inventory of Sewer Liftstations

REVISIONS	DATE	BY	SCALE





**City of Monterey Lift Station Data: 2018**

<b>Lift Station Name</b>	<b>Address</b>	<b>Installed or Upgraded</b>	<b>Remaining Service Life</b>	<b>No. of Pumps</b>	<b>Discharge Rate Single pump</b>	<b>Wet Well Containment Capacity</b>	<b>Pump Manufacturer</b>	<b>Pump Model/HP</b>	<b>Emergency Power and/or Containment</b>
<b>DLI no. 1 (POM LS1)</b>	Halleck Road, Monterey	2015	20 yrs	2	260 gpm	2647 gal	Smith & Loveless	4B2A/15H P	Diesel Gen Set, 6284 gal containment curb
<b>DLI no. 2 (POM LS2)</b>	Mason Road, Monterey	2015	20 yrs	2	570 gpm	2753 gal	Smith & Loveless	4C3/30HP	Diesel Gen Set, 4294 gal containment curb
<b>Mesa</b>	193 Mesa Road, Monterey	2004	7 yrs	1	114 gpm	N/A Gravity Overflow	Flygt	Serial # 3102.090-0440044	No Gen Set: 150 gpm gravity overflow pipe, No containment
<b>Meyers</b>	Myers Street & Del Monte Blvd. , Monterey	2015	20 yrs	2	300 gpm	669 gal	Flygt	NP3085/3 HP	Natural Gas Gen Set, No containment
<b>Laguna Grande</b>	422 Virgin Street , Monterey (Across Street)	2015	20 yrs	2	168 gpm	953 gal	Flygt	NP3085/3 HP	No Gen Set (low flow), No containment
<b>Pebble</b>	998 Madison Street, Monterey	2015	20 yrs	1	100 gpm	501 gal	Flygt	NP3102, MT-3-484/5HP	Diesel Gen Set, No Containment
<b>HWY 218/68</b>	425 Canyon Del Rey Blvd, Del Rey Oaks	2015	20 yrs	2	545 gpm	2859 gal	Smith & Loveless	4D4A/60H P	Diesel Gen Set, No Containment – low flow w/ oversized wet well

**M1W Lift Station Critical Parts and Equipment List 2018**

Equipment ID	Equipment Text	NPDES Required	Risk	Status	Equipment Type	Location	Site	Area/Structure	Installed Date	Manufacturer	Model	Serial Number
8D1-ATS-001	Automatic Transfer Switch	FALSE	0	Operational	Automatic Transfer Switch		DLI #1	DLI #1		ASCO	D00300B30200N1XF	
8D1-CB-001	Breaker, Sewage Pump #1	FALSE	0	Operational	Circuit Breaker		DLI #1	DLI #1		Westinghouse	EMB3040L	
8D1-CB-002	Breaker, Sewage Pump #2	FALSE	0	Operational	Circuit Breaker		DLI #1	DLI #1		Westinghouse	EMB3040L	
8D1-CP-001	Control Panel, Force Run	FALSE	0	Operational	Control Panel		DLI #1	DLI #1				
8D1-EDP-001	Electrical Dist. Panel	FALSE	0	Operational	Electrical Distribution Panel		DLI #1	DLI #1		Square D		
8D1-FILTER-001	Filter, Seal Water Supply	FALSE	0	Operational	Filter		DLI #1	DLI #1				
8D1-FLOAT-001	Float, Alarm/ Control	FALSE	0	Operational	Float		DLI #1	DLI #1				
8D1-GEN-002	Standby Generator, Emergency	FALSE	0	Operational	Generator		DLI #1	DLI #1		Kohler	50RE2JD	SGM323MX2
8D1-GRNDS-001	Grounds, Area	FALSE	0	Operational	Ground		DLI #1	DLI #1				
8D1-MCB-001	Main Circuit Breaker, Station	FALSE	0	Operational	Main Circuit Breaker		DLI #1	DLI #1		Siemens	FXD63B200	
8D1-MCB-002	Main Circuit Breaker, Mcc	FALSE	0	Operational	Main Circuit Breaker		DLI #1	DLI #1		Square D	JGP36200	
8D1-MCC-001	Motor Control Center, In Drywell	FALSE	0	Operational	Motor Control Center		DLI #1	DLI #1				
8D1-MCC-002	Electrical Mcc'S And Panelboards	FALSE	0	Operational	Motor Control Center		DLI #1	DLI #1				
8D1-MOT-001	Motor, Sewage Pump #1	FALSE	0	Operational	Electric Motor		DLI #1	DLI #1		Smith & Loveless	09G120Y34466, 50HP	
8D1-MOT-002	Motor, Sewage Pump #2	FALSE	0	Operational	Electric Motor		DLI #1	DLI #1		Smith & Loveless	09G120Y34466, 50HP	
8D1-MTS-001	Manual Transfer Switch	FALSE	0	Operational	Manual Transfer Switch		DLI #1	DLI #1		SSB		
8D1-PIPING-001	Piping, Discharge	FALSE	0	Operational	Piping		DLI #1	DLI #1				
8D1-RVSS-001	Reduced Votage Soft Start, Sewage Pump #1	FALSE	0	Operational	Reduced Voltage Soft Start		DLI #1	DLI #1		Cutler-Hammer	EMM18/ 92EAMA4006	
8D1-RVSS-002	Reduced Votage Soft Start, Sewage Pump #2	FALSE	0	Operational	Reduced Voltage Soft Start		DLI #1	DLI #1		Cutler-Hammer	EMM18/ 92EAMA4006	
8D1-STRUCT-001	Pump Station, Drywell	FALSE	0	Operational	Dry Well		DLI #1	DLI #1		Smith & Loveless	Sta# 08.8147	
8D1-STRUCT-002	Pump Station, Drywell	FALSE	0	Operational	Dry Well Tank - Storage, Above Ground		DLI #1	DLI #1		Smith & Loveless	Sta# 08.8149	
8D1-TNKSD-001	Fuel Tank, Generator	FALSE	0	Operational	Diesel		DLI #1	DLI #1				
8D1-VLVCK-001	Valve, Sewage Pump #1, Check, 4X6",False"	0	Operational	Valve, Check		DLI #1	DLI #1	FALSE		Smith & Loveless		
8D1-VLVCK-002	Valve, Sewage Pump #2, Check, 4X6",False"	0	Operational	Valve, Check		DLI #1	DLI #1	FALSE		Smith & Loveless		
8D1-VLVCK-003	Valve, Pump Around, Check, 6",False"	0	Operational	Valve, Check		DLI #1	DLI #1	FALSE		APCO		
8D1-VLVPL-001	Valve, Sewage Pump #1, Suction, 6",False"	0	Operational	Valve, Plug		DLI #1	DLI #1	FALSE		DeZurik		
8D1-VLVPL-002	Valve, Sewage Pump #2, Suction, 6",False"	0	Operational	Valve, Plug		DLI #1	DLI #1	FALSE		DeZurik		



8D1-VLVPL-003	Valve, Sewage Pump #1 Discharge, 6",False"	0	Operational	Valve, Plug		DLI #1	DLI #1	FALSE	APCO			
8D1-VLVPL-004	Valve, Sewage Pump #2, Discharge, 6",False"	0	Operational	Valve, Plug		DLI #1	DLI #1	FALSE	APCO			
8D1-VLVPL-005	Valve. Pump Around, Gate, 6",False"	0	Operational	Valve, Plug		DLI #1	DLI #1	FALSE	DeZurik			
8D1-WW-001	Wet Well	FALSE	0	Operational	Wet Well Automatic		DLI #1	DLI #1				
8D2-ATS-001	Automatic Transfer Switch	FALSE	0	Operational	Transfer Switch		DLI #2	DLI #2		ASCO	D00300B30200N1XF	392732-002
8D2-CB-001	Breaker, Sewage Pump #1	FALSE	0	Operational	Circuit Breaker		DLI #2	DLI #2		Wilken/Zurns	EHB3090	
8D2-CB-002	Breaker, Sewage Pump #2	FALSE	0	Operational	Circuit Breaker		DLI #2	DLI #2		Westinghouse	EHB3090	
8D2-CMPR-021	Compressor, Bubbler	FALSE	0	Operational	Compressor		DLI #2	DLI #2		Thomas	TA-1061	
8D2-CP-001	Control Panel, Plc	FALSE	0	Operational	Control Panel		DLI #2	DLI #2				
8D2-CP-002	Control Panel, Force Run	FALSE	0	Operational	Control Panel		DLI #2	DLI #2				
8D2-EDP-001	Electrical Dist. Panel	FALSE	0	Operational	Electrical Distribution Panel		DLI #2	DLI #2				
8D2-FILTER-001	Filter, Seal Water Supply	FALSE	0	Operational	Filter		DLI #2	DLI #2				
8D2-FLOAT-001	Float, Alarm/ Control Generator, Emergency	FALSE	0	Operational	Float		DLI #2	DLI #2				
8D2-GEN-002	Standby	FALSE	0	Operational	Generator		DLI #2	DLI #2		Kohler	50RE2JD	
8D2-GRNDS-001	Grounds, Area	FALSE	0	Operational	Ground		DLI #2	DLI #2				
8D2-LIT-001	Level Indicating Transmitter, Bubbler	FALSE	0	Operational	Level Indicating Transmitter		DLI #2	DLI #2				
8D2-MCB-001	Main Circuit Breaker, Station	FALSE	0	Operational	Main Circuit Breaker		DLI #2	DLI #2		Siemens	FXD63B200	
8D2-MCB-002	Main Circuit Breaker, Station	FALSE	0	Operational	Main Circuit Breaker		DLI #2	DLI #2		Square D	JGP36200	
8D2-MCC-001	Electrical Mcc'S And Panelboards	FALSE	0	Operational	Motor Control Center		DLI #2	DLI #2				
8D2-MOT-001	Motor, Sewage Pump #1	FALSE	0	Operational	Electric Motor		DLI #2	DLI #2		Smith & Loveless	10H465X612G1	
8D2-MOT-002	Motor, Sewage Pump #2	FALSE	0	Operational	Electric Motor		DLI #2	DLI #2		Smith & Loveless	10H465X612G1	
8D2-PIPING-001	Piping, Discharge	FALSE	0	Operational	Piping		DLI #2	DLI #2				
8D2-RVSS-001	Reduced Votage Soft Start, Sewage Pump #1	FALSE	0	Operational	Reduced Voltage Soft Start		DLI #2	DLI #2		Eaton	Cat# EMM18	
8D2-RVSS-002	Reduced Votage Soft Start, Sewage Pump #2	FALSE	0	Operational	Reduced Voltage Soft Start		DLI #2	DLI #2		Eaton	Cat# EMM18	
8D2-VLVCK-001	Valve, Sewage Pump #1, Check, 4X8",False"	0	Operational	Valve, Check		DLI #2	DLI #2	FALSE	Speakman Smith & Loveless			
8D2-VLVCK-002	Valve, Sewage Pump #2, Check, 4X8",False"	0	Operational	Valve, Check		DLI #2	DLI #2	FALSE	Speakman Smith & Loveless			
8D2-VLVCK-003	Valve, Pump Around, Check, 6",False"	0	Operational	Valve, Check		DLI #2	DLI #2	FALSE	APCO			
8D2-VLVPL-001	Valve, Sewage Pump #1, Suction, 8",False"	0	Operational	Valve, Plug		DLI #2	DLI #2	FALSE	Millican			
8D2-VLVPL-002	Valve, Sewage Pump #2, Suction, 8",False"	0	Operational	Valve, Plug		DLI #2	DLI #2	FALSE	Millican			
8D2-VLVPL-003	Valve, Sewage Pump #1 Discharge, 8",False"	0	Operational	Valve, Plug		DLI #2	DLI #2	FALSE	Millican			

8D2-VLVPL-004	Valve, Sewage Pump #2, Discharge , 8",False"	0	Operational	Valve, Plug		DLI #2	DLI #2	FALSE	Millican
8D2-VLVPL-005	Valve. Pump Around, Gate, 6",False"	0	Operational	Valve, Plug		DLI #2	DLI #2	FALSE	DeZurik
8D2-WW-001	Wet Well	FALSE	0	Operational	Wet Well		DLI #2	DLI #2	

OLD ASSET #	NEW ASSET #	Code	Process	Description	Manufacturer	Model	Serial #	OLD LOOP TAG NUMBER (NOT USED)
	802-PIPING-001	PIPING	CONV	Piping, Discharge				
	802-CB-001	CB	ELEC	Breaker, Sewage Pump #1	ALLEN-BRADLEY	140Q-H2		
PS02029	802-CP-001	CP	ELEC	Control Panel, PLC				MT002-CP
	802-FLOAT-001	FLOAT	ELEC	Float, Alarm/ Control				
	802-MCB-001	MCB	ELEC	Main Breaker, Station	Siemens	L5538		
PS02232	802-MCC-001	MCC	ELEC	Electrical MCC's and Panelboards				MT002-MCC-PNL
	802-MCU-001	MCU	ELEC	Motor Control Unit, Sewage Pump #1	Square D	LC1D25		
PS02031	802-MOT-001	MOT	ELEC	Motor, Sewage Pump #1				MT002-SP-MOT
	802-MTS-001	MTS	ELEC	Manual Transfer Switch	CHALLENGER			
	802-CMPR-001	CMPR	FAC	Compressor, Bubbler	Gast			
	802-PMPSU-011	PMPSU	FAC	Pump, Submersible sump				
	802-STRUCT-001	STRUCT	FAC	Pump Station, Mesa Rd				
	802-WW-001	WW	FAC	Wet Well				
PS02030	802-LIT-001	LIT	INST	Level Indicating Transmitter, Bubbler				MT002-BUBSYS
PS02028	802-PMPCN-001	PMPCN	SPS	Pump, Sewage #1				MT002-STRUCT
	802-VLVCK-001	VLVCK	SPS	Valve, Sewage pump #1, Check				
	802-VLVPL-001	VLVPL	SPS	Valve, Sewage Pump #1 Discharge				

OLD ASSET #	NEW ASSET #	Code	Process	Description	Manufacturer	Model	Serial #	OLD LOOP TAG NUMBER (NOT USED)
	803-PIPING-001	PIPING	CONV	Piping, Discharge				
	803-ATS-001	ATS	ELEC	Automatic Transfer Switch	ASCO	D03ATSS3010		
	803-CB-001	CB	ELEC	Breaker, Sewage Pump #1	Square D	FAL12030		
	803-CB-002	CB	ELEC	Breaker, Sewage Pump #2	Square D	FAL12030		
PS02035	803-CP-001	CP	ELEC	Control Panel, PLC				MT003-CP
	803-FLOAT-001	FLOAT	ELEC	Float, Alarm/ Control				
	803-HMI-001	HMI	ELEC	Human Machine Interface, PLC				
	803-MCB-001	MCB	ELEC	Main Breaker, Station	KLOCKNER MOELLER	NZM-6B-63		
	803-MCC-001	MCC	ELEC	Electrical MCC's And Panel Boards				
	803-RVSS-001	RVSS	ELEC	Reduced Votage Soft Start, Sewage Pump #1				
	803-RVSS-002	RVSS	ELEC	Reduced Votage Soft Start, Sewage Pump #2				
	803-CMPR-021	CMPR	FAC	Compressor, Bubbler				
	803-COV-001	COV	FAC	Cover, Wet Well				
	803-GRNDS-001	GRNDS	FAC	Grounds, Area				
PS02039	803-STRUCT-001	STRUCT	FAC	Pump Station, Meyers st				MT003-STRUCT
	803-VAULT-001	VAULT	FAC	Vault, Check Valve/ Discharge Valve				
	803-WW-001	WW	FAC	Wet Well				
PS02253	803-GEN-001	GEN	GEN	Generator, Emergency Standby	KOHLER	30RE0ZJC		MT003-GEN-STANDB
PS02036	803-LIT-001	LIT	INST	Level Indicating Transmitter, Bubbler				MT003-BUBSYS
PS02037	803-PMPCN-001	PMPCN	SPS	Pump, Sewage #1				MT003-SP1-PMP
PS02038	803-PMPCN-002	PMPCN	SPS	Pump, Sewage #2				MT003-SP2-PMP
	803-VLVCK-001	VLVCK	SPS	Valve, Sewage pump #1, Check				
	803-VLVCK-002	VLVCK	SPS	Valve, Sewage pump #2, Check				

OLD ASSET #	NEW ASSET #	Code	Process	Description	Manufacturer	Model	Serial #	OLD LOOP TAG NUMBER (NOT USED)
	803-VLVPL-001	VLVPL	SPS	Valve, Sewage Pump #1 Discharge				
	803-VLVPL-002	VLVPL	SPS	Valve, Sewage pump #2, Discharge				
OLD ASSET #	NEW ASSET #	Code	Process	Description	Manufacturer	Model	Serial #	
	804-PIPING-001	PIPING	CONV	Piping, Discharge				
	804-CB-001	CB	ELEC	Breaker, Sewage Pump #1	Square D	FAL22030		
	804-CB-002	CB	ELEC	Breaker, Sewage Pump #2	Square D	FAL22030		
	804-CP-001	CP	ELEC	Control Panel, PLC				
	804-FLOAT-001	FLOAT	ELEC	Float, Alarm/ Control				
	804-MCC-001	MCC	ELEC	Electrical MCC's And Panel Boards				
	804-MCU-001	MCU	ELEC	Motor Control Unit, Sewage Pump #1	Telemechanique	ATV11HU41M2U		
	804-MCU-002	MCU	ELEC	Motor Control Unit, Sewage Pump #2	Telemechanique	ATV11HU41M2U		
	804-COV-001	COV	FAC	Cover, Wet Well				
	804-STRUCT-001	STRUCT	FAC	Pump Station, Laguna Grande				
	804-VAULT-001	VAULT	FAC	Vault, Check Valve/ Discharge Valve				
	804-WW-001	WW	FAC	Wet Well				
	804-PMPCN-001	PMPCN	SPS	Pump, Sewage #1,	Flygt		3HP	
	804-PMPCN-002	PMPCN	SPS	Pump, Sewage #2,	Flygt		3HP	
	804-VLVCK-001	VLVCK	SPS	Valve, Sewage pump #1, Check, 3"	Kennedy/ Clow			
	804-VLVCK-002	VLVCK	SPS	Valve, Sewage pump #2, Check, 3"	Kennedy/ Clow			
	804-VLVGT-001	VLVGT	SPS	Valve, Sewage Pump #1 Discharge, 3"	Fire Main			
	804-VLVGT-002	VLVGT	SPS	Valve, Sewage pump #2, Discharge, 3"	Fire Main			
OLD ASSET #	NEW ASSET #	Code	Process	Description	Manufacturer	Model	Serial #	
	806-PIPING-001	PIPING	CONV	Piping, Discharge				
	806-VLVCK-003	VLVCK	CONV	Valve, Pump Around, Check 6"	Milliken			
	806-VLVGT-001	VLVGT	CONV	Valve, Pump Around, Gate 6"				
	806-VLVGT-002	VLVGT	CONV	Valve, Pump Around, Gate 6"				
	806-ATS-001	ATS	ELEC	Automatic Transfer Switch	RUSSENBERG	RMT0-2603CHW		
	806-CB-001	CB	ELEC	Breaker, Sewage Pump #1	WESTINGHOUSE	FDB141k		
	806-CB-002	CB	ELEC	Breaker, Sewage Pump #2	WESTINGHOUSE	FDB141k		
PS02042	806-CP-001	CP	ELEC	Control Panel, PLC				MT006-CP
	806-CP-002	CP	ELEC	Control Panel, Soft start				
	806-EDP-001	EDP	ELEC	Electrical Distribution Panel, P				
	806-FLOAT-001	FLOAT	ELEC	Float, Alarm/ Control				
	806-HMI-001	HMI	ELEC	Human Machine Interface, PLC				
	806-MCB-001	MCB	ELEC	Main Breaker, Station	WESTINGHOUSE	SERIES C / JD25K / JD3250F		
	806-MCC-001	MCC	ELEC	Electrical MCC's And Panel Boards				
PS02044	806-MOT-001	MOT	ELEC	Motor, Sewage Pump #1	Smith & Loveless			MT006-SP1-MOT
PS02045	806-MOT-002	MOT	ELEC	Motor, Sewage Pump #2	Smith & Loveless		150331	MT006-SP2-MOT
	806-RVSS-001	RVSS	ELEC	Reduced Votage Soft Start, Sewage Pump #1				



OLD ASSET #	NEW ASSET #	Code	Process	Description	Manufacturer	Model	Serial #	OLD LOOP TAG NUMBER (NOT USED)
	806-RVSS-002	RVSS	ELEC	Reduced Voltage Soft Start, Sewage Pump #2				
	806-TRNDS-001	TRNDS	ELEC	Transformer, Control Power	WESTINGHOUSE	507014 Design #	J90L0296	
	806-CMPR-021	CMPR	FAC	Compressor, Bubbler				
	806-DW-001	DW	FAC	Dry Well				
	806-GRNDS-001	GRNDS	FAC	Grounds Area				
	806-PMPUSU-011	PMPUSU	FAC	Pump, Submersible sump				
PS02049	806-STRUCT-001	STRUCT	FAC	Pump Station, Del Rey Oaks				MT006-STRUCT
	806-VAULT-001	VAULT	FAC	Vault, Pump Around				
	806-WW-001	WW	FAC	Wet Well				
PS02048	806-GEN-001	GEN	GEN	Generator, Emergency Standby	KOHLER	80R0ZJ71		MT006-1-GEN
PS02043	806-LIT-001	LIT	INST	Level Indicating Transmitter, Bubbler				MT006-BUBSYS
	806-FILTER-001	FILTER	SPS	Filter, Seal Water Supply				
PS02046	806-PMPCN-001	PMPCN	SPS	Pump, Sewage #1	Smith & Loveless			MT006-SP1-PMP
PS02047	806-PMPCN-002	PMPCN	SPS	Pump, Sewage #2	Smith & Loveless			MT006-SP2-PMP
	806-VLVCK-001	VLVCK	SPS	Valve, Sewage pump #1, Check, 4x6"	Smith & Loveless			
	806-VLVCK-002	VLVCK	SPS	Valve, Sewage pump #2, Check, 4x6"	Smith & Loveless			
	806-VLVPL-001	VLVPL	SPS	Valve, sewage pump #1, Suction, 6"	DeZurik			
	806-VLVPL-002	VLVPL	SPS	Valve, sewage pump #2, Suction, 6"	DeZurik			
	806-VLVPL-003	VLVPL	SPS	Valve, Sewage Pump #1 Discharge, 4"				
	806-VLVPL-004	VLVPL	SPS	Valve, Sewage pump #2, Discharge, 4"				

OLD ASSET #	NEW ASSET #	Code	Process	Description	Manufacturer	Model	Serial #	
	809-PIPING-001	PIPING	CONV	Piping, Discharge				
	809-VLVCK-003	VLVCK	CONV	Valve, Pump Around, Check, 4"	Apco			
	809-VLVGT-001	VLVGT	CONV	Valve, Pump Around, Gate, 4"	DeZurik			
	809-VLVPL-005	VLVPL	CONV	Valve, Pump Around, Plug, 4"	DeZurik			
	809-ATS-001	ATS	ELEC	Automatic Transfer Switch	ASCO	D003D0030104F10F		
	809-CB-001	CB	ELEC	Breaker, Sewage Pump #1	ALLEN-BRADLEY	140G-H-TLC13		
	809-CB-002	CB	ELEC	Breaker, Sewage Pump #2	ALLEN-BRADLEY	140V-H2		
PS02051	809-CP-001	CP	ELEC	Control Panel, PLC/ Soft Start				MT009-CP
	809-FLOAT-001	FLOAT	ELEC	Float, Alarm/ Control				
	809-MCB-001	MCB	ELEC	Main Breaker, Station	SEIMENS	L5538 / HACR type		
	809-MCC-001	MCC	ELEC	Electrical MCC's And Panel Boards				
	809-MCU-001	MCU	ELEC	Motor Control Unit, Sewage Pump #1	Allen Bradley	500F-B0D930	Size 2	
	809-MCU-002	MCU	ELEC	Motor Control Unit, Sewage Pump #2	Allen Bradley	500F-B0D930	Size 2	
	806-CMPR-021	CMPR	FAC	Compressor, Bubbler	Gast			
	809-COV-001	COV	FAC	Cover, Wet Well				
	809-COV-002	COV	FAC	Cover, Check Valve Vault				
PS02055	809-STRUCT-001	STRUCT	FAC	Pump Station, Madison Ln.				MT009-STRUCT
	809-VAULT-001	VAULT	FAC	Vault, Check/ Discharge Valve				
	809-VAULT-002	VAULT	FAC	Vault, Pump Around				

OLD ASSET #	NEW ASSET #	Code	Process	Description	Manufacturer	Model	Serial #	OLD LOOP TAG NUMBER (NOT USED)
	809-WW-001	WW	FAC	Wet Well				
PS02056	809-GEN-001	GEN	GEN	Generator, Emergency Standby	AIRMAN	SDG255		MT009-STRUCT
PS02052	809-LIT-001	LIT	INST	Level Indicating Transmitter, Bubbler				MT009-BUBSYS
PS02258	809-PMPCN-001	PMPCN	SPS	Pump, Sewage #1	Flygt	NP3L02MT		MT009-SP-PMP
PS02259	809-PMPCN-002	PMPCN	SPS	Pump, Sewage #2	Flygt	NP3L02MT		MT009-SP-PMP
	809-VLVCK-001	VLVCK	SPS	Valve, Sewage pump #1, Check, 4"	Apco			
	809-VLVCK-002	VLVCK	SPS	Valve, Sewage pump #2, Check, 4"	Apco			
	809-VLVPL-003	VLVPL	SPS	Valve, Sewage Pump #1 Discharge, 4"	DeZurik			
	809-VLVPL-004	VLVPL	SPS	Valve, Sewage pump #2, Discharge, 4"	DeZurik			

AGREEMENT FOR MAINTENANCE  
OF SEWAGE LIFT STATIONS

THIS AGREEMENT is made and entered into on July 28, 2006, 2006, by and between the CITY OF MONTEREY, a California Municipal Corporation, hereinafter called "City", and the MONTEREY REGIONAL WATER POLLUTION CONTROL AGENCY, a California Joint Powers Agency, hereinafter referred to as "MRWPCA", City and MRWPCA are sometimes herein referred to individually as "Party" and collectively as "Parties", as follows:

RECITALS

- A. On July 1, 1977, as part of the implementation of a regional wastewater management system to serve northern Monterey County, the MRWPCA acquired the wastewater treatment plant previously owned and operated by the City. The ownership and responsibility for the sewage collection system were retained by and remain with the City.
- B. Coincident with the July 1, 1977 acquisition of the City's treatment plant, and by mutual agreement between the City and the MRWPCA, the personnel previously employed by the City to operate and maintain its treatment plant terminated their employment with the City and became employees of the MRWPCA. The sewage pump stations retained in ownership by the City have been since July 1, 1977, operated for the City on a cost-reimbursement basis by the MRWPCA.
- C. On May 31, 1988, the Parties entered into an Agreement for Maintenance of Sewage Lift Stations which they now intend to terminate and to replace in its entirety with this Agreement to continue MRWPCA's operation and maintenance of the City-owned lift stations.

TERMS AND CONDITIONS

In consideration of the mutual promises contained herein, the City and the MRWPCA hereby agree to the following terms and conditions:

- 1. Services to be Performed. The MRWPCA agrees to perform the following types of services to those sewage lift stations owned by the City and specifically described in Section 15 of this Agreement:
  - (a) Normal operational services including regular periodic visits to each lift station for the purposes of checking the operational status of all electrical and mechanical equipment located at the lift station; making appropriate operational adjustments; reading meters, cleaning debris from bar screens; washing down fouled surfaces; and all other duties typically associated with normal lift station operation. The frequency of such periodic visits will normally be once per week unless, in the opinion of the MRWPCA, a particular lift station requires less or more

frequent visits. The City may at any time request and receive a revision of the then current frequency of such regular visits.

(b) Normal preventive maintenance services as recommended by the manufactures of the equipment involved and/or as based on previous maintenance experience, to all electrical and mechanical equipment located at the lift stations. These services will include such work items as lubrication; fluid change and replacement; packing adjustment and replacement; operating valves; and cleaning of moving parts of the mechanical equipment.

(c) Repairs and major maintenance services, as required due to wear and tear of equipment failure and/or as recommended by the manufacturers involved, to all electrical and mechanical equipment located at the lift stations. These services will include such work items as motor replacement; bearing replacement; gasket replacement; and removal of equipment from its installed location, transport to and from a repair location, and reinstallation of the repaired or replaced piece of equipment. MRWPCA staff will attempt to keep lift stations operational while performing work of this type by making appropriate operational adjustments to utilize backup equipment installed at the lift stations. If the operation of a lift station will be significantly impaired during the course of performing work of this type, the Public Works Department of the City will be so advised, in advance of performing the work if possible, in order to develop a method of minimizing impairment. The City may be asked to provide reasonable assistance in the form of manpower and equipment to MRWPCA personnel in performing unusual types of lift station work for which the MRWPCA is not properly staffed or equipped to perform. In the event such assistance cannot be provided, the MRWPCA is authorized to rent special equipment and/or utilize additional non-staff manpower in such instances.

2. Working Hours. Work of the type described in Sections 1.a and 1.b will be performed during normal working hours, if at all possible. Work of the type described in Section 1.c will also be performed during normal working hours unless, in the opinion of MRWPCA staff, the circumstances constitute an emergency which requires immediate action. Under these conditions such work may be performed outside of normal working hours and at prevailing overtime labor rates.

3. Emergency Callback. MRWPCA staff will provide 24-hour-a-day, 7-day-a-week response to emergency trouble calls involving the lift stations covered by this Agreement.

4. Parts and Materials. The MRWPCA will maintain an adequate supply of lubricants, fluids, packing materials, gasket materials, and other parts and material necessary to accomplish the work described in Sections 1.a and 1.b. Special materials and/or replacement parts required to accomplish the work described in Section 1.c will either be kept available by the MRWPCA as standby items or obtained as needed, at the discretion of the MRWPCA. The City will be billed for such items as soon as MRWPCA is billed for them by the supplier involved. The City may at any time review the spare parts inventory and request changes therein.



5. Division of Responsibilities. The responsibilities for operation and maintenance shall be divided between the involved parties in the following manner:

(a) For below-ground lift station structures the MRWPCA will perform all operation and maintenance work to both the structure and the equipment. This work will include repairs, replacement, painting, cleaning, and general upkeep.

(b) For lift stations which involve above-ground structures, the MRWPCA will perform those services as described in Section 5.a only to those facilities or portions of the structure located inside the structure. The exterior of the above-ground structure and the grounds around the structure will be maintained by the City. With regard to this latter type of work, the MRWPCA will inform the City if its staff observes the need for such work to be performed.

(c) In the event of a sewage backup or flooding of a lift station, MRWPCA personnel will clear the interior of the lift station structure of such sewage and debris and restore it to proper operating condition and a normal state of cleanliness. The City will perform this type of cleanup work to the area surrounding the structure, including the adjacent street(s) and/or property, if necessary.

6. Hold Harmless and Indemnity.

(a) The City shall defend, indemnify and hold harmless MRWPCA from any and all damages, liabilities, losses, claims and costs or expenses (hereinafter collectively "Claims") arising out of, relating to, resulting from or in conjunction with maintenance activities, including cleanup, by the City, or any of its other contractors, subcontractors, employees or agents, to the extent such are determined to be caused by the negligence or willful misconduct of the City, any of its other contractors, subcontractors, employees or agents. Nothing in this Agreement is intended or shall be construed as an assumption by MRWPCA of any responsibility arising under any applicable law or regulation, including the common law, for liability for payment of any fine or civil penalty levied against the City by a regulatory agency.

(b) MRWPCA shall defend, indemnify and hold harmless the City from any and all Claims arising out of, relating to, resulting from or in conjunction with the operation, maintenance and repairs to be performed by MRWPCA, or any of its employees, subcontractors or agents, under this Agreement, to the extent such are determined to be caused by the negligence or willful misconduct of MRWPCA, its employees, subcontractors or agents. Nothing in this Agreement is intended or shall be construed as an assumption by MRWPCA of any responsibility arising under any applicable law or regulation, including the common law, for liability for payment of any fine or civil penalty levied against the City by a regulatory agency.

(c) In the event of concurrent negligence of the Agency, its employees,

subcontractors or agents, and City, its other contractors, subcontractors, employees or agents, then the liability for any and all Claims which arise out of the terms and conditions of this Agreement shall be appointed under the California theory of comparative negligence as established presently, or as may be hereafter modified.

7. Insurance/Self Insurance. The Parties are either insured or self-insured as to any requirements under this Agreement. No policies or bonds are required of either party as to any provisions of this Agreement. The Parties are aware of and shall comply with the requirements of Section 3700 of the Labor Code of the State of California at its own cost and expense and further, neither Party nor its carrier shall be entitled to recover from the other any costs, settlements, or expenses of Workers' Compensation claims arising out of this Agreement.

8. Methods of Compensation. The MRWPCA will provide to the City an invoice for the actual costs of all labor and materials supplied by the MRWPCA for the services rendered under the provisions of this Agreement. Labor rates will be those prevailing at the time the work is performed and will be at net cost to the MRWPCA. Beginning, July 1, 2006, labor rates will include direct salary, labor benefits and a 10% overhead. Cost of materials will be at net cost to the MRWPCA. Driving time to and from the lift stations will be included in the invoiced charges, and vehicle charges for this purpose will also be included. Work involving the services of a contractor, a machine shop, or other non-MRWPCA owned facility will be charged to the City on the invoice at net cost to the MRWPCA. Improvements to upgrade the condition and/or performance of the lift stations will be agreed to in advance by the parties involved before costs for such improvements are incurred. Any other expenses directly associated with the performance of the provisions of this contract will be charged in a manner acceptable to both the City and the MRWPCA.

9. Rendering of Invoices. Labor and materials to perform routine work as described in Sections 1.a and 1.b will be invoiced on a quarterly basis and in the manner described in Section 6. Costs associated with the types of work described in Section 1.c may be invoiced along with these regular quarterly billings, or may be invoiced separately, at the discretion of the MRWPCA. The City agrees to pay the amounts invoiced for each and all the foregoing services within 30 calendar days from the date of the receipt of the invoice.

10. Independent Contractors. It is expressly understood that this is an agreement between two (2) independent contractors and that no agency, employee, partnership, joint venture, or other relationship is established by this Agreement. The intent by both Parties is to create an independent contractor relationship.

11. Authorization to Incur Costs. The City authorizes the MRWPCA to incur all costs necessary to properly perform those services described in Sections 1.a and 1.b. The City authorizes the MRWPCA to incur costs up to a maximum expenditure of \$1,000 during any one quarterly invoice period to perform repair and/or major maintenance work as described in

Section 1.c. if the total amount of such expenditures will exceed \$1,000 during any given quarter, the City will be notified prior to exceeding this amount. This notification will be made initially by telephone to the City Maintenance Superintendent, and will be immediately followed up with a written memo describing the repair or maintenance work to be performed and the estimated costs involved. In the event that in the opinion of the MRWPCA an emergency condition arises in which immediate action is required in order to prevent property damage or a health hazard from developing, the City authorizes the MRWPCA to make expenditures for such services and/or materials as are necessary to correct these conditions without advance notification. In such instances, the City will be notified as soon thereafter as possible.

12. Budget Planning Assistance. To assist in budget planning, the City may request the MRWPCA to make periodic recommendations regarding capital improvements necessary to ensure continued proper operation of the lift stations.

13. Modification and Termination of Agreement. This Agreement shall be deemed to have become effective on the date first written above and shall continue thereafter from fiscal year to fiscal year unless sooner terminated by either party by 90 days written notice from one party to the other. The provisions of this Agreement are subject to review and modification at any time upon the mutual consent of the MRWPCA and the City.

14. Attorney's Fees. In the event it shall become necessary to commence or defend litigation for purposes of enforcing this Agreement or rights hereunder, the prevailing party shall be entitled to recover reasonable attorney's fees and costs.

15. Facilities Covered by This Agreement. The sewage lift stations to which the provisions of the Agreement apply are:

<u>Lift Station Designation</u>	<u>Location</u>
Station #2	Fremont Street at Mesa Road
Station #3	Del Monte Avenue at Meyers Street
Station #4	Laguna Grande Park Restroom at Brannen/Virgin
Station #6	Canyon Del Rey & Highway 68
Station #9	Madison Street at Pebble Street
Station #820(#1)	Mason Road, Presidio of Monterey
Station #828(#2)	Mason Road, Presidio of Monterey

IN WITNESS WHEREOF, the parties have executed this Agreement on the dates herein below indicated for each.

MONTEREY REGIONAL WATER  
POLLUTION CONTROL AGENCY

CITY OF MONTEREY

By: *Peggy Shirrel*  
Peggy Shirrel  
Chairman of the Board of Directors

By: *Vice-Mayor C. Leela Solis*  
Dan Albert  
Mayor

Date: *7/26/06*

Date: *7/28/2006*

ATTEST:

*Keith Israel*

Keith Israel  
General Manager

ATTEST:

*Bonnie G. Sawf*

City Clerk

APPROVED BY:

*[Signature]*  
RISK MANAGEMENT

APPROVED BY:

*[Signature]*  
City Attorney's Office



## **Appendix 13: City Sewer Critical Parts, Equipment, Vendors/Suppliers, and Mutual Aid Lists**

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## CITY OF MONTEREY – CRITICAL PARTS AND EQUIPMENT LIST

Parts/Equipment	Manufacturer/Model#	Location	Quantity
<b>Bypass</b>			
<b>Portable Bypass Pumps</b>	Stanley Hydraulic Trash Pumps Model TP08	Ryan Ranch Corp Yard	2
<b>Flexible Bypass Hose</b>	Spiraflex 4" flexible hose	Ryan Ranch Corp Yard	600 ft
<b>Inflatable Sewer Plugs</b>	Various sizes: ranging from 4" to 16"	Ryan Ranch Corp Yard	2 each
<b>Gravity System</b>			
<b>Pipe</b>	Various Lengths SDR 35 Sewer Pipe: 4-20 ft lengths used to support contractor repairs	Ryan Ranch Corp Yard	Varies
<b>Miscellaneous</b>	Manhole Covers	Ryan Ranch Corp Yard	Varies
	Concrete Risers	Ryan Ranch Corp Yard	Varies
	Manhole Frames/Risers	Ryan Ranch Corp Yard	Varies
<b>Maintenance Equipment</b>			
<b>Vactor 2100 Truck</b>	2009 Sterling Cab Vactor 2100 Serial # 10-02V-12052	Ryan Ranch Corp Yard	1



## CITY OF MONTEREY – CRITICAL PARTS AND EQUIPMENT LIST

Parts/Equipment	Manufacturer/Model#	Location	Quantity
<b>Jetter Truck</b>	2016 Freightliner Service Company of America Sewer Jet Truck Model # MM106042S/M2106 Engine: Cummins ISB6.7L 250 Serial # ENG#CGEXH0408BAP	Ryan Ranch Corp Yard	1
<b>Rodder</b>	1981 SRECO Sewer Rodder	Ryan Ranch Corp Yard	2
<b>CCTV Equipment</b>	2015 Ford 250 Van IPEK Pipeline Inspection Model: Rover X Manufacturer: Envirosight Serial #: 5681122	Ryan Ranch Corp Yard	1
<b>Misc Equipment</b>			
Sandbags	N/A	Ryan Ranch Corp Yard	Varies
Cones	N/A	Ryan Ranch Corp Yard	Varies
Traffic Signs	N/A	Ryan Ranch Corp Yard	Varies



## City of Monterey Vendors: Critical Parts and Equipment and Services

The following vendors and contractors are utilized for critical parts, equipment and services not normally maintained by the City:

### Lift Station Parts and Service

Monterey One Water (M1W), *Formally Monterey Regional Pollution Control Agency (MRWPCA):*

*Services - Contracted for Lift Station Operation and Maintenance with the City of Monterey*

5 Harris Court, Building D

Monterey, CA 93940

(831) 372-3367

(831) 422-1001

### Sewer Parts and Equipment

Ferguson (Familian Plumbing Supply):

*Services - Pipe, Valve, Fittings and miscellaneous plumbing supplier*

666 Redwood Avenue

Sand City, CA 93955

(831) 899-4500

Rain for Rent:

*Services – Sewer Bypass Pump Rental*

469 El Camino Real

Salinas, CA 93908

(831) 422-7813

Grainger Industrial Supply:

*Services – Plumbing Supplies, Tools, Equipment*

1334 Dayton Street

Salinas, CA 93901

(831) 757-0991

WECO Industries

*Services – Jetter and VacCon Supplies, CCTV Equipment, Rodding Supplies, Manhole Parts, Sewer Plugs, Miscellaneous Sewer Parts & Equipment*

4971 Allison Parkway, Suite A

Vacaville, CA 95688

(800) 677-6661



Haaker Equipment  
*Services - CCTV Equipment and Parts*  
2070 N. White Avenue  
La Verne, CA 91750  
(602) 266-8214

Owen Equipment  
*Services - VacCon Supplies and Parts*  
1085 Horizon Drive  
Fairfield, CA 94533  
(510) 612-5572

Emergency Equipment and Service

Don Chapin Company:  
*Services – Pumper Trucks, Emergency Services*  
560 Crazy Horse Canyon Road  
Salinas, CA 93907  
(831) 449-4273

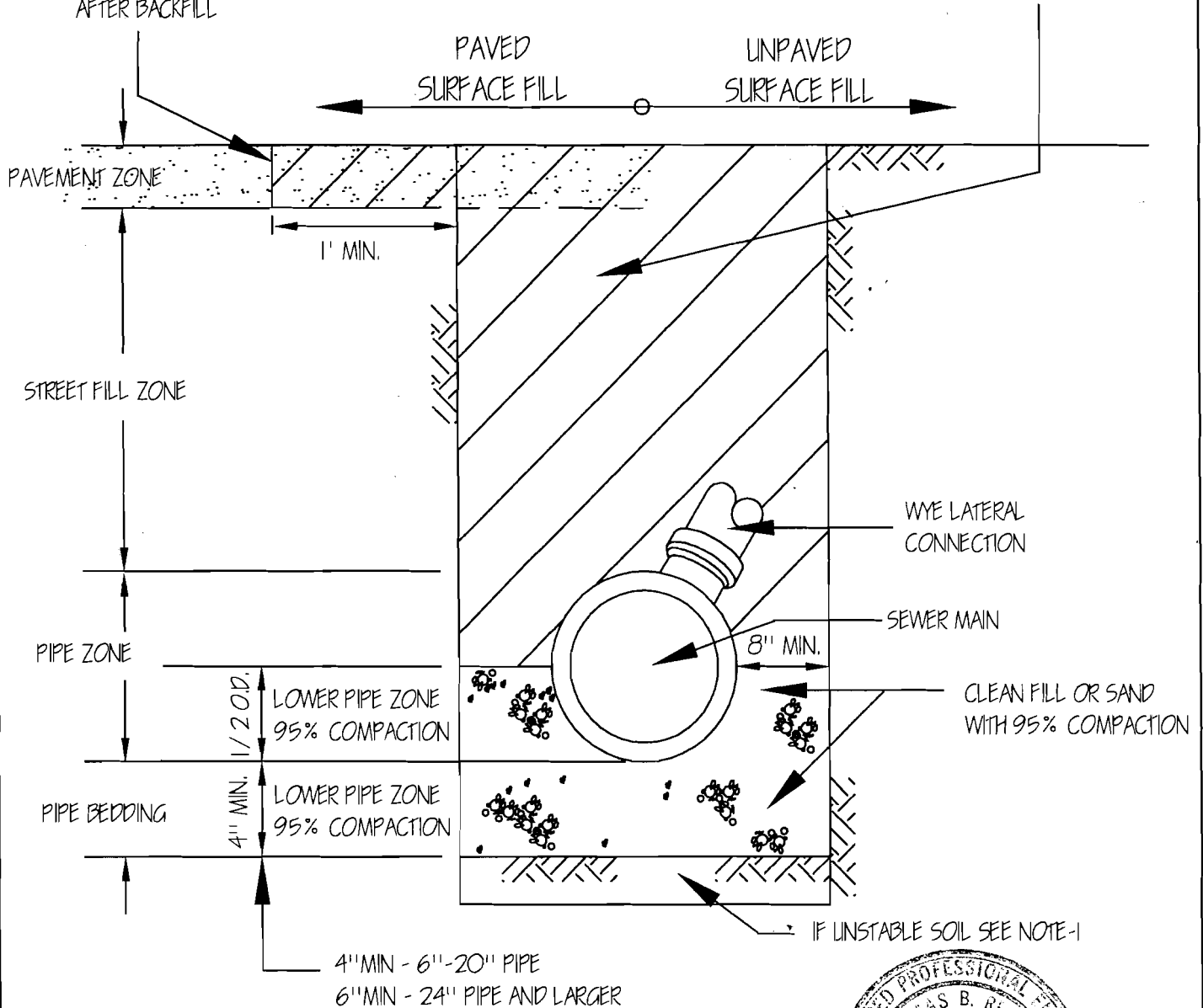
Mutual Aid Agreements

Seaside County Sanitation District:  
*Services - The City of Monterey has an informal agreement with the Seaside County Sanitation District to assist with personnel and equipment in the event of an emergency.*  
Business Hours Contact: (831) 899-6700  
After Hours: (831) 394-6811

## **Appendix 14: Standard Details for Sewer Improvements**

---

BACKFILL TO BE BROUGHT UP IN LIFTS AND COMPACTED. INDIVIDUAL LIFTS TO BE NO GREATER THAN 1' DEPTH. NATIVE BACKFILL SHALL BE USED ONLY WITH THE APPROVAL OF THE CITY. COMPACT TO 95% OF RELATIVE MAXIMUM.



**NOTES:**

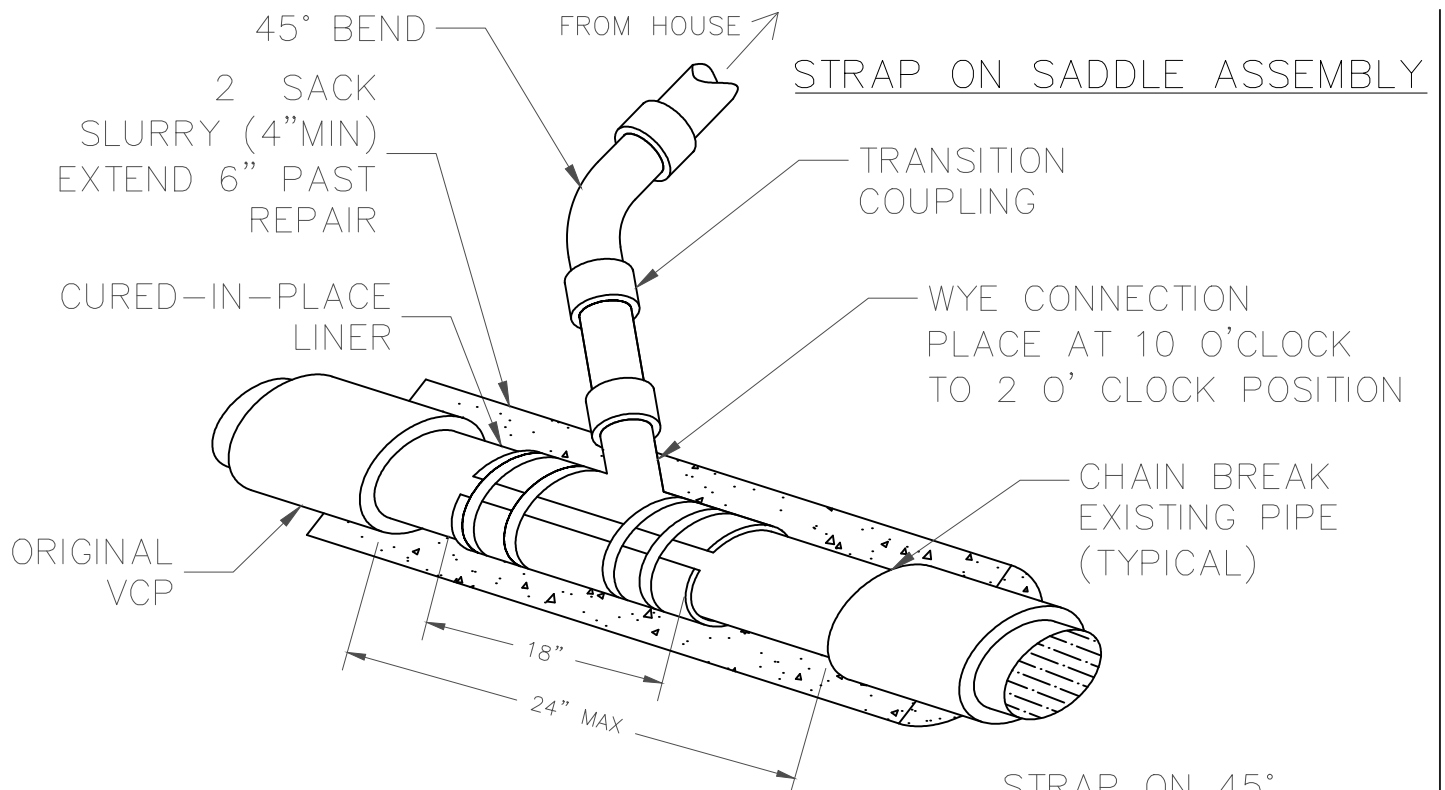
- 1- FOR UNSTABLE SOIL, ENGINEER WILL DETERMINE DEPTH OF REMOVAL AND SIZE OF FOUNDATION REFILL MATERIAL
- 2- NATIVE BACKFILL MUST BE APPROVED BY INSPECTOR FOR REUSE
- 3- PIPE INSTALLED MORE THAN 20' BELOW GRADE MUST BE ENGINEERED AND SUBMITTED TO CITY FOR APPROVAL



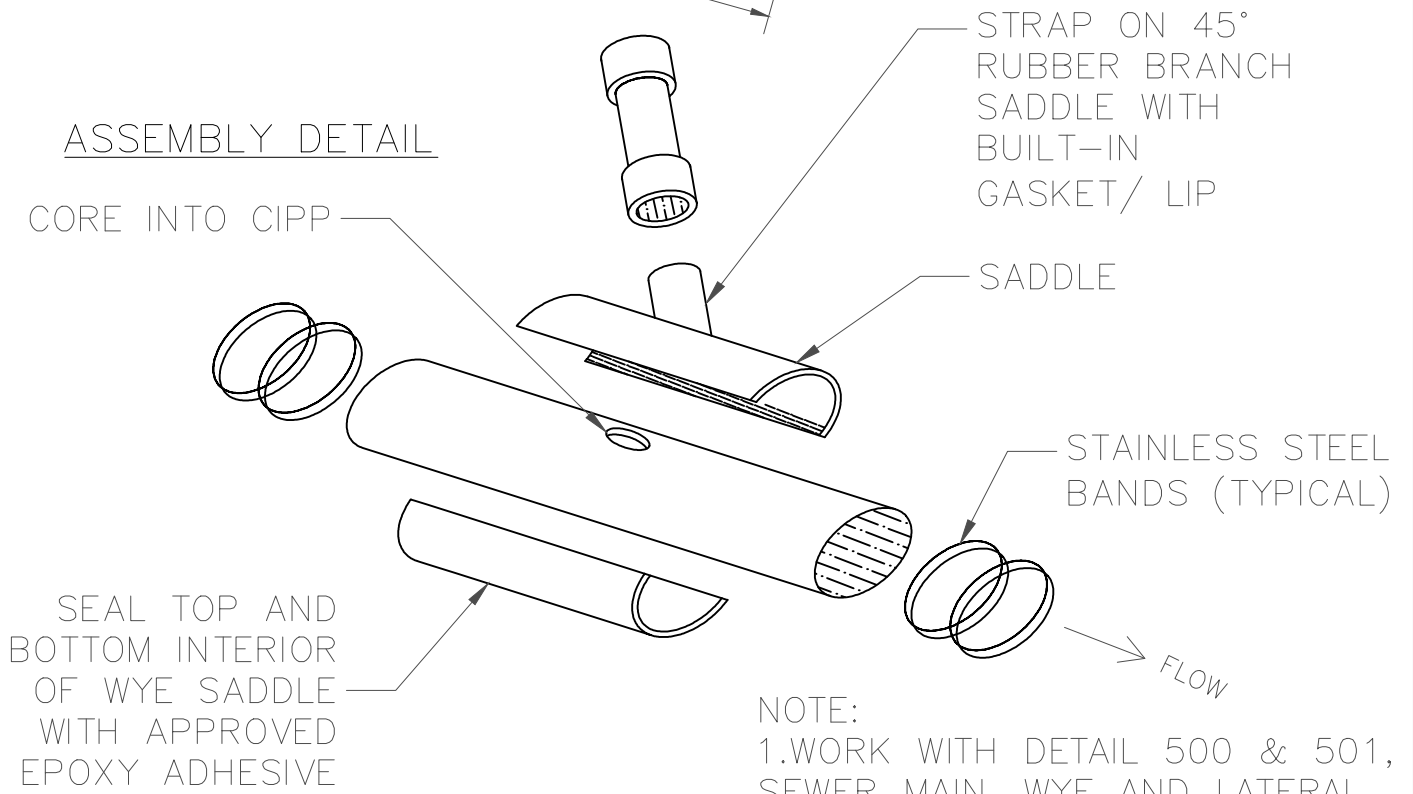
**DEPARTMENT OF PUBLIC WORKS  
ENGINEERING DIVISION CITY OF MONTEREY**

**STANDARD DETAIL FOR SEWER IMPROVEMENTS**

DESIGNED BY: STAFF	TITLE: <b>SEWER MAIN BEDDING &amp; WYE</b>	DETAIL NO.
DRAWN BY: A. B.	APPROVED: <i>Thomas B. Reeves</i>	500
CHECKED BY: T. R.	CITY ENGINEER	DATE 12/6/06



ASSEMBLY DETAIL



NOTE:  
1.WORK WITH DETAIL 500 & 501,  
SEWER MAIN, WYE AND LATERAL

DEPARTMENT OF PUBLIC WORKS  
ENGINEERING DIVISION CITY OF MONTEREY

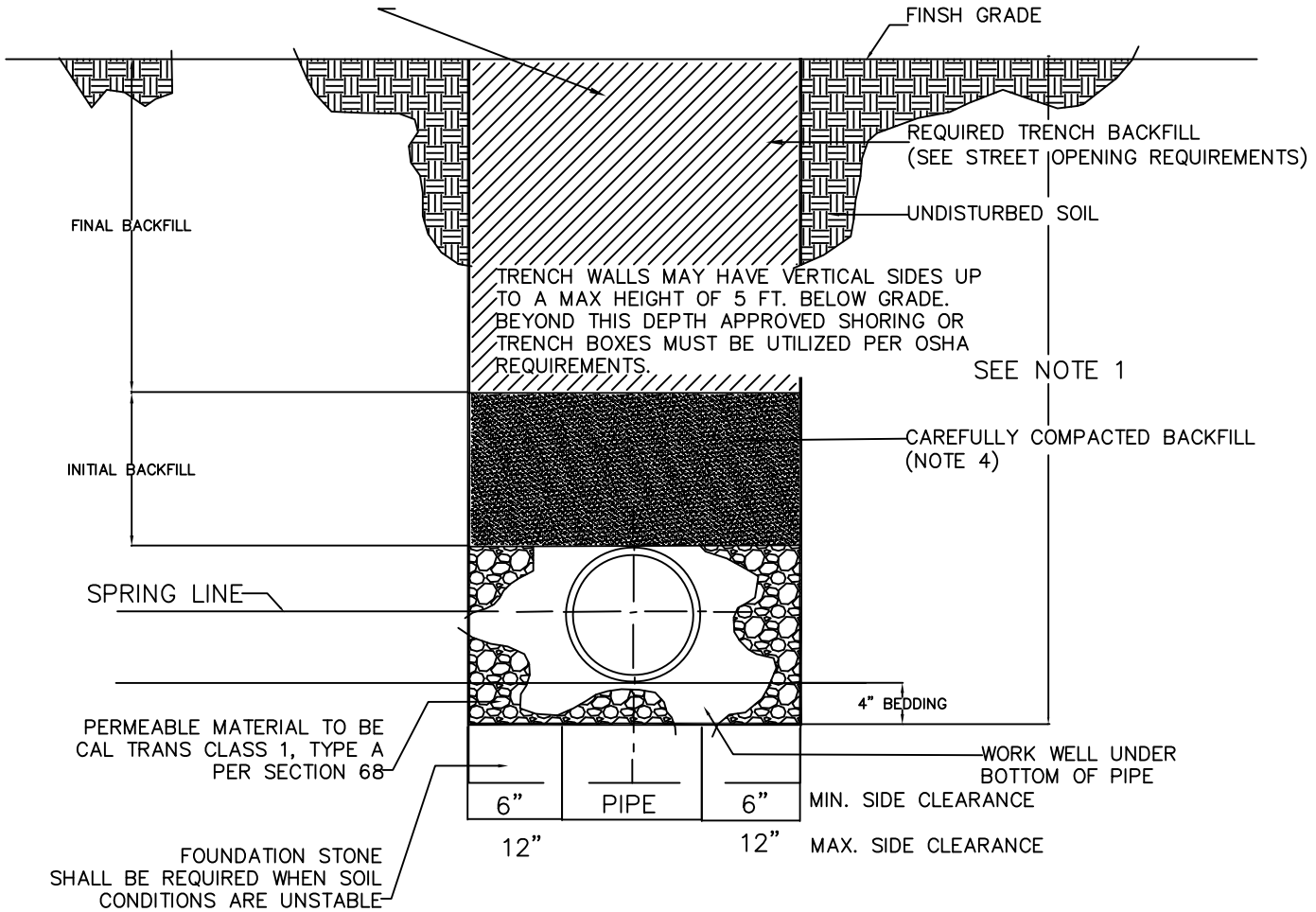
STANDARD DETAILS FOR STREET IMPROVEMENTS

DESIGNED BY:	TITLE SADDLE CONNECTION FOR LATERAL ON CAST IN PLACE PIPE (CIPP)	
DRAWN BY:	APPROVED	DETAIL No.
CHECKED BY:	PRINCIPAL ENGINEER	DATE

502



SEE DETAIL 2 OF 2 FOR PAVED SURFACE AND BASEROCK REQUIREMENTS IN IMPROVED AREAS

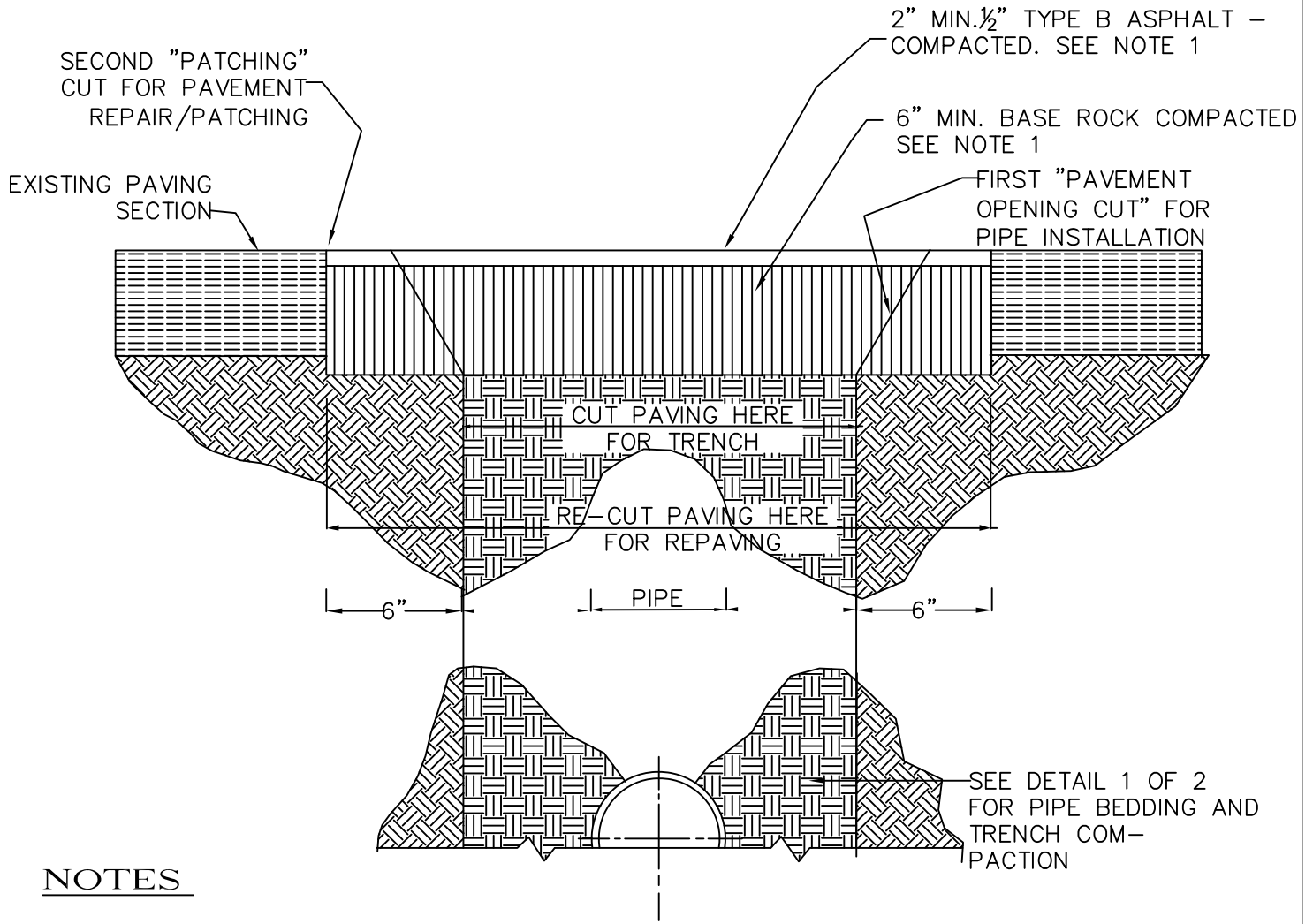


**NOTES**

1. FOR TRENCHES REQUIRING SHORING AND BRACING, DIMENSIONS SHALL BE TAKEN FROM THE INSIDE FACE OF THE SHORING AND BRACING.
2. NO ROCKS OR BOULDERS 2" OR LARGER TO BE USED IN THE INITIAL BACKFILL.
3. ALL BACKFILL MATERIAL SHALL BE SUITABLE NATIVE MATERIAL.
4. BACKFILL SHALL BE TAMPED IN 8" LIFTS FOR TRENCHES > 24" IN WIDTH. FOR TRENCHES <= 24" WIDE, USE 18" LIFTS.
5. WHEN USING PVC OR ABS, PLACE 8" ABOVE TOP OF PIPE. COMPACT WITH VIBRATORY PLATE OR ROD VIBRATOR. CHECK PIPE INVERT PRIOR TO BACKFILLING ROCK OVER PIPE.

**DEPARTMENT OF PUBLIC WORKS  
ENGINEERING DIVISION CITY OF MONTEREY  
STANDARD DETAILS FOR STREET IMPROVEMENTS**

DESIGNED BY: JK	TITLE <b>TYPICAL TRENCH BOTTOM DIMENSIONS AND BACKFILL</b>	
DRAWN BY: KA	APPROVED	DETAIL No.
CHECKED BY: JK	SENIOR ENGINEER	<b>1 OF 2</b>
		DATE



**NOTES**

1. MATCH EXISTING PAVEMENT SECTION WHICHEVER IS GREATER FOR PAVED SURFACE AND BASE ROCK.
2. CONCRETE STREET SECTIONS TO BE DOWELED 3' O.C. U.O.N. WITH 1/2" DOWELS.
3. FOR CONCRETE PAVEMENT MATCH EXIST. SCORE JOINTS OR EXPANSION JOINTS.
4. FOR CONCRETE PAVEMENT, USE 7-SAC MIX. NO TRAFFIC LOADS FOR 7 DAYS.

**DEPARTMENT OF PUBLIC WORKS  
ENGINEERING DIVISION CITY OF MONTEREY**

**STANDARD DETAILS FOR STREET IMPROVEMENTS**

DESIGNED BY: JK	TITLE <b>TYPICAL TRENCH PAVED SURFACE PATCH</b>	
DRAWN BY: KA	APPROVED	DETAIL No.
CHECKED BY: JK	SENIOR ENGINEER _____	<b>2 OF 2</b>
	DATE _____	

CITY OF MONTEREY  
DEPARTMENT OF PLANS AND PUBLIC WORKS

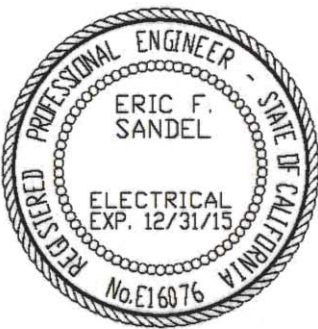


SPECIFICATIONS

FOR

**Sanitary Sewer System Rehabilitation  
Package 4 – Pump Station Upgrades**

This is a Capital Improvement Project



APPROVED:

*Kenneth R. Swenson*  
PRINCIPAL CIVIL ENGINEER

DATE: 4/2/14

*E F Sandel*  
ELECTRICAL ENGINEER

DATE: 4-2-14

APPROVED FOR CONSTRUCTION:

\_\_\_\_\_

Master Specification Revision 3/19/12

Project Specification Revision 4/2/14

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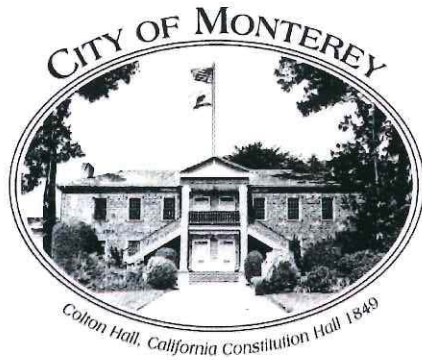
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- Attachment 2: City of Monterey Sanitary Sewer Overflow Response Plan
- Attachment 3: Sanitary Sewer System Rehabilitation Project Mitigation Measures
- Attachment 4: Presidio's Spill Control and Countermeasure Plan and Red Plan
- Attachment 5: SWRCB Requirements, Instructions and Forms
- Attachment 6: Electrical Test Forms
- Attachment 7: Raw Existing Station Runtime and Flow Data
- Attachment 8: Applicable City Standard Details



CITY OF MONTEREY  
DEPARTMENT OF PLANS AND PUBLIC WORKS

SPECIFICATIONS

FOR

**Sanitary Sewer System Rehabilitation  
Packages 3 and 5: D and F Rated Pipe Rehabilitation  
Package 6: Manhole Rehabilitation**

FORMAL BID

This is a Capital Improvement Project

APPROVED FOR CONSTRUCTION:

*Robert M. Haray*  
\_\_\_\_\_  
PRINCIPAL ENGINEER

DATE: 09/08/2015



Master Specification Revision: 08/17/2015

Project Specification Revision: 08/28/2015

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**SANITARY SEWER SYSTEM REHABILITATION  
 Packages 3 and 5: D and F Rated Pipe Rehabilitation  
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Section 02140: Dewatering  
Section 02200: Trenching, Excavation, Shoring and Backfill  
Section 02345: Pipe Bursting  
Section 02513: Hot Mix Asphalt Pavement and Base  
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### **APPENDICES**

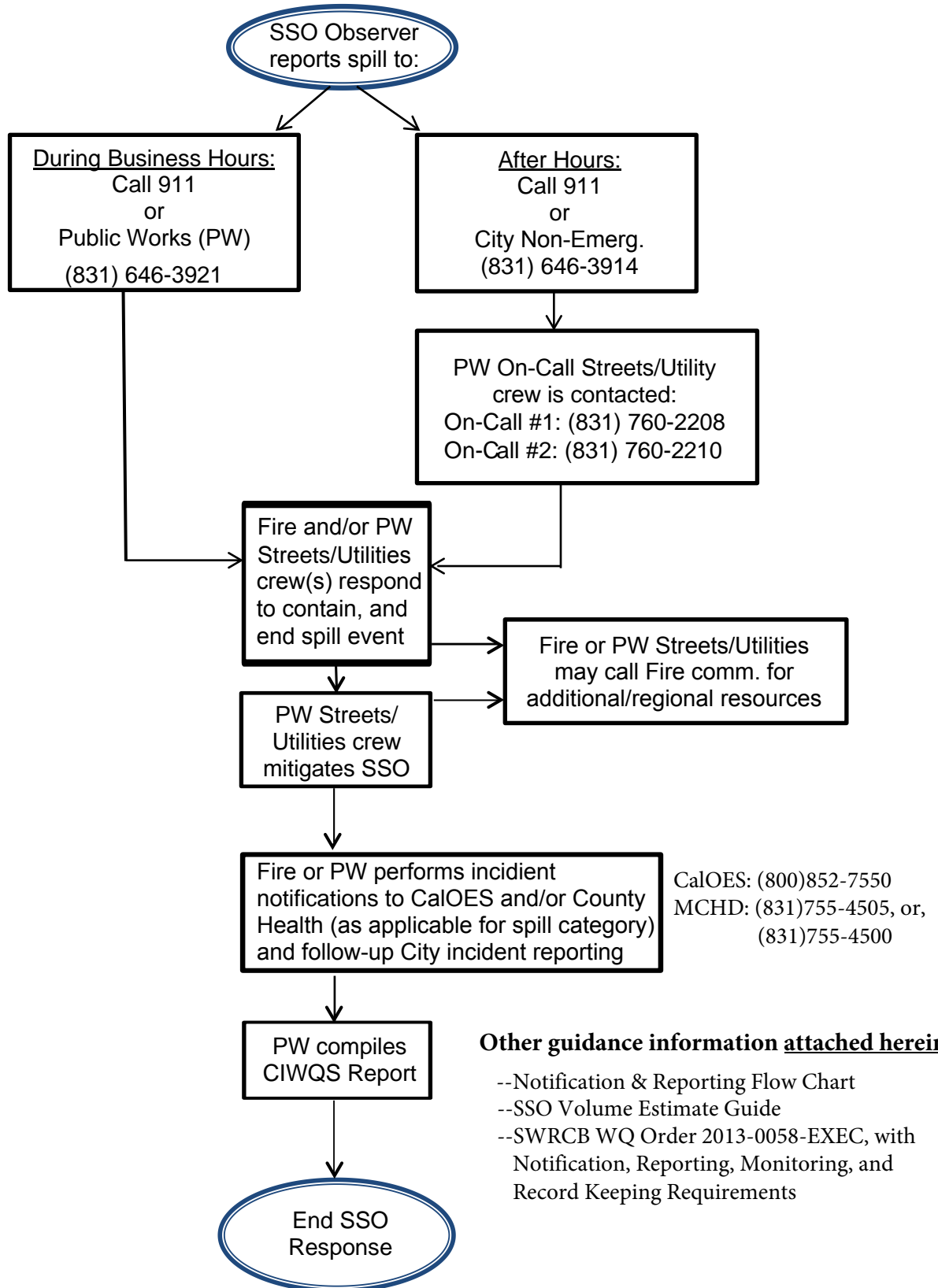
Appendix A: Bid Proposal Forms  
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Appendix E: SWRCB Requirements, Instructions and Forms  
Appendix F: Mitigation Monitoring and Reporting Program  
Appendix G: Hazardous Material Location Maps  
Appendix H: City of Monterey Sanitary Sewer Overflow Response Plan  
Appendix I: Presidio of Monterey Spill Prevention, Control and Countermeasure Plan  
and Red Plan

## **Appendix 15: SSO Spill Response Protocol**

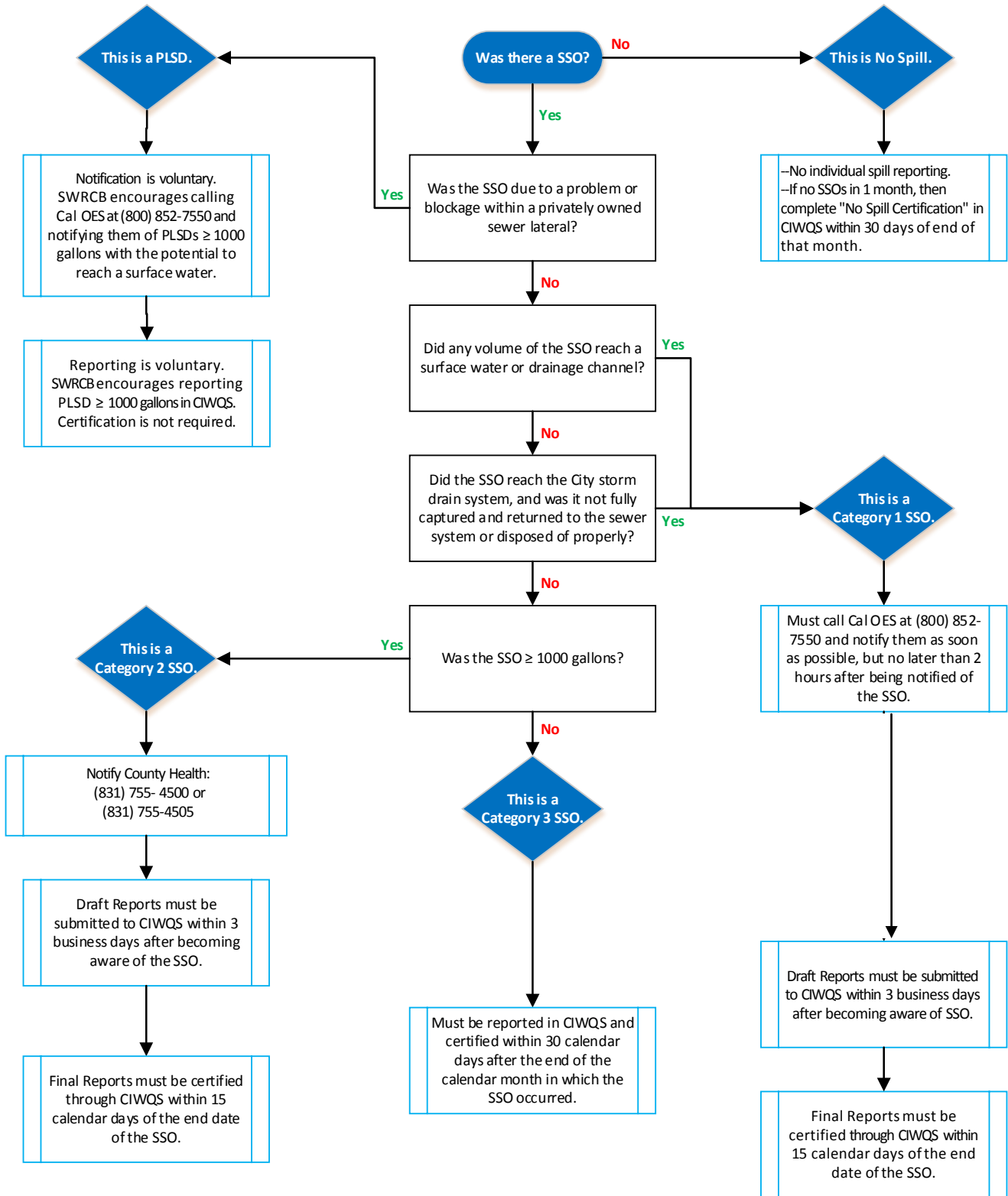
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## City of Monterey Sanitary Sewer Overflow (SSO) Chain of Communication



# City of Monterey Sanitary Sewer Overflow (SSO) or "Sewage Spill" State Notification and Reporting Overview



**CIWQS** = California Integrated Water Quality System, an SSO online database for reporting sewage spills to the SWRCB and public

**Collection System Collaborative Benchmarking Group  
Best Practices for Sanitary Sewer Overflow (SSO)  
Prevention and Response Plan**

---

**Attachment D - Sample Templates for SSO Volume Estimation**

**TABLE 'A'  
ESTIMATED SSO FLOW OUT OF M/H WITH COVER IN PLACE**

**24" COVER**

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

**36" COVER**

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

**Disclaimer:**

This sanitary sewer overflow table was developed by Ed Euyen, Civil Engineer, P.E. No. 33955, California, for County Sanitation District 1. This table is provided as an example. Other Agencies may want to develop their own estimating tables.



**Collection System Collaborative Benchmarking Group  
Best Practices for Sanitary Sewer Overflow (SSO)  
Prevention and Response Plan**

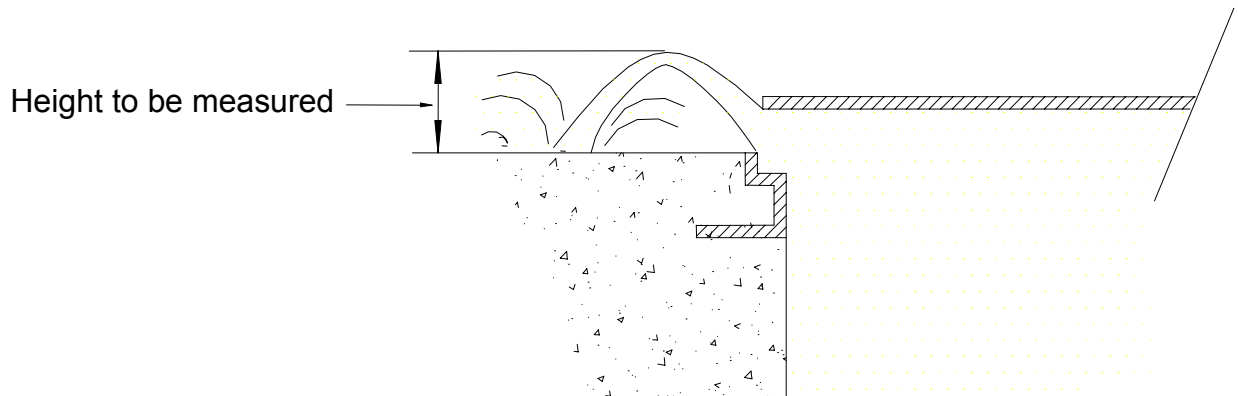
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The formula used to develop Table A measures the maximum height of the water coming out of the maintenance hole above the rim. The formula was taken from hydraulics and its application by A.H. Gibson (Constable & Co. Limited).

Example Overflow Estimation:

The maintenance hole cover is unseated and slightly elevated on a 24" casting. The maximum height of the discharge above the rim is 5 ¼ inches. According to Table A, these conditions would yield an SSO of 185 gallons per minute.

**FLOW OUT OF M/H WITH COVER IN PLACE**



This sanitary sewer overflow drawing was developed by Debbie Myers, Principal Engineering Technician, for Ed Euyen, Civil Engineer, P.E. No. 33955, California, of County Sanitation District 1.

**Collection System Collaborative Benchmarking Group  
Best Practices for Sanitary Sewer Overflow (SSO)  
Prevention and Response Plan**

**TABLE 'B'**  
**ESTIMATED SSO FLOW OUT OF M/H WITH COVER REMOVED**

**24" FRAME**

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

**36" FRAME**

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

**Disclaimer:**

This sanitary sewer overflow table was developed by Ed Euyen, Civil Engineer, P.E. No. 33955, California, for County Sanitation District 1. This table is provided as an example. Other Agencies may want to develop their own estimating tables.

**Collection System Collaborative Benchmarking Group  
Best Practices for Sanitary Sewer Overflow (SSO)  
Prevention and Response Plan**

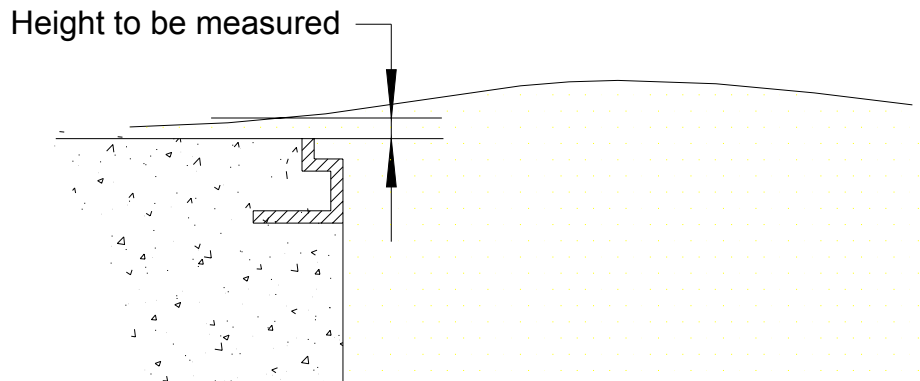
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The formula used to develop Table B for estimating SSO's out of maintenance holes without covers is based on discharge over curved weir -- bell mouth spillways for 2" to 12" diameter pipes. The formula was taken from hydraulics and its application by A.H. Gibson (Constable & Co. Limited).

**Example Overflow Estimation:**

The maintenance hole cover is off and the flow coming out of a 36" frame maintenance hole at one inch (1") height will be approximately 660 gallons per minute.

**FLOW OUT OF M/H WITH COVER REMOVED (TABLE "B")**



This sanitary sewer overflow drawing was developed by Debbie Myers, Principal Engineering Technician, for Ed Euyen, Civil Engineer, P.E. No. 33955, California, of County Sanitation District 1.

**Collection System Collaborative Benchmarking Group  
Best Practices for Sanitary Sewer Overflow (SSO)  
Prevention and Response Plan**

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**TABLE 'C'  
ESTIMATED SSO FLOW OUT OF M/H PICK HOLE**

Height of spout above M/H cover <u>H in inches</u>	SSO FLOW <u>Q in gpm</u>	Height of spout above M/H cover <u>H in inches</u>	SSO FLOW <u>Q in gpm</u>
1/8	1.0	5 1/8	6.2
1/4	1.4	5 1/4	6.3
3/8	1.7	5 3/8	6.3
1/2	1.9	5 1/2	6.4
5/8	2.2	5 5/8	6.5
3/4	2.4	5 3/4	6.6
7/8	2.6	5 7/8	6.6
1	2.7	6	6.7
1 1/8	2.9	6 1/8	6.8
1 1/4	3.1	6 1/4	6.8
1 3/8	3.2	6 3/8	6.9
1 1/2	3.4	6 1/2	7.0
1 5/8	3.5	6 5/8	7.0
1 3/4	3.6	6 3/4	7.1
1 7/8	3.7	6 7/8	7.2
2	3.9	7	7.2
2 1/8	4.0	7 1/8	7.3
2 1/4	4.1	7 1/4	7.4
2 3/8	4.2	7 3/8	7.4
2 1/2	4.3	7 1/2	7.5
2 5/8	4.4	7 5/8	7.6
2 3/4	4.5	7 3/4	7.6
2 7/8	4.6	7 7/8	7.7
3	4.7	8	7.7
3 1/8	4.8	8 1/8	7.8
3 1/4	4.9	8 1/4	7.9
3 3/8	5.0	8 3/8	7.9
3 1/2	5.1	8 1/2	8.0
3 5/8	5.2	8 5/8	8.0
3 3/4	5.3	8 3/4	8.1
3 7/8	5.4	8 7/8	8.1
4	5.5	9	8.2
4 1/8	5.6	9 1/8	8.3
4 1/4	5.6	9 1/4	8.3
4 3/8	5.7	9 3/8	8.4
4 1/2	5.8	9 1/2	8.4
4 5/8	5.9	9 5/8	8.5
4 3/4	6.0	9 3/4	8.5
4 7/8	6.0	9 7/8	8.6
5	6.1	10	8.7

Unrestrained  
M/H cover will  
start to lift

Note: This chart is based on a 7/8 inch diameter pick hole

Disclaimer: This sanitary sewer overflow table was developed by Ed Euyen, Civil Engineer, P.E. No. 33955, California, for County Sanitation District 1. This table is provided as an example. Other Agencies may want to develop their own estimating tables.

**Collection System Collaborative Benchmarking Group  
Best Practices for Sanitary Sewer Overflow (SSO)  
Prevention and Response Plan**

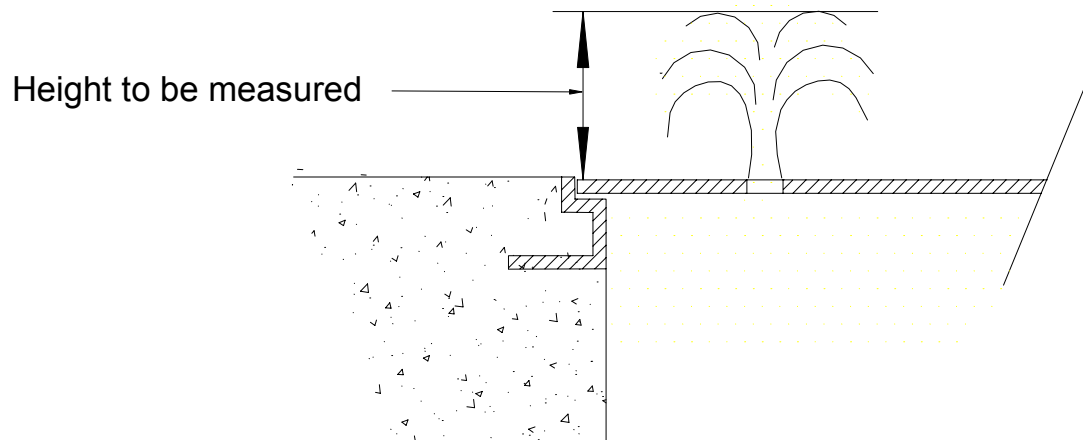
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The formula used to develop Table C is  $Q=CcVA$ , where Q is equal to the quantity of the flow in gallons per minute, Cc is equal to the coefficient of contraction (.63), V is equal to the velocity of the overflow, and A is equal to the area of the pick hole.<sup>2</sup> If all units are in feet, the quantity will be calculated in cubic feet per second, which when multiplied by 448.8 will give the answer in gallons per minute. (One cubic foot per second is equal to 448.8 gallons per minute, hence this conversion method).

**Example Overflow Estimation:**

The maintenance hole cover is in place and the height of water coming out of the pick hole seven-eighths of an inch in diameter (7/8") is 3 inches (3"). This will produce an SSO flow of approximately 4.7 gallons per minute.

**FLOW OUT OF VENT OR PICK HOLE (TABLE "C")**



This sanitary sewer overflow drawing was developed by Debbie Myers, Principal Engineering Technician, for Ed Euyen, Civil Engineer, P.E. No. 33955, California, of County Sanitation District 1.

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<sup>2</sup> Velocity for the purposes of this formula is calculated by using the formula  $h = v^2 / 2G$ , where h is equal to the height of the overflow, v is equal to velocity, and G is equal to the acceleration of gravity.



# Collection System Collaborative Benchmarking Group Best Practices for Sanitary Sewer Overflow (SSO) Prevention and Response Plan



City of San Diego  
Metropolitan Wastewater Department

## Reference Sheet for Estimating Sewer Spills from Overflowing Sewer Manholes

All estimates are calculated in gallons per minute (gpm)



5 gpm



100 gpm



225 gpm



25 gpm



150 gpm



250 gpm



50 gpm



200 gpm



275 gpm

## Flow Estimation Pictures

rev. 4/99

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

# SSO- WDR Compliance Workshop

## Electronic Reporting: Reporting Requirements & Tips

### Methods for Estimating Spill Volume

A variety of approaches exist for estimating the volume of a sanitary sewer spill. Three methods that are most often employed. The person preparing the estimate should use the method most appropriate to the sewer overflow in question and use the best information available.

#### ***Method 1 Eyeball Estimate***

The volume of small spills can be estimated using an “eyeball estimate”. To use this method imagine the amount of water that would spill from a bucket or a barrel. A bucket contains 5 gallons and a barrel contains 50 gallons. If the spill is larger than 50 gallons, try to break the standing water into barrels and then multiply by 50 gallons. This method is useful for contained spills up to approximately 200 gallons.

#### ***Method 2 Measured Volume***

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

Step 1 Sketch the shape of the contained sewage (see Figure 1).

Step 2 Measure or pace off the dimensions.

Step 3 Measure the depth at several locations and select an average.

Step 4 Convert the dimensions, including depth, to feet.

Step 5 Calculate the area in square feet using the following formulas:

Rectangle: Area = length (feet) x width (feet)

Circle: Area = diameter (feet) x diameter (feet) x 3.14

Triangle: Area = base (feet) x height (feet) x 0.5

Step 6 Multiply the area (square feet) times the depth (in feet) to obtain the volume in cubic feet.

Step 7 Multiply the volume in cubic feet by 7.5 to convert it to gallons

#### ***Method 3 Duration and Flowrate***

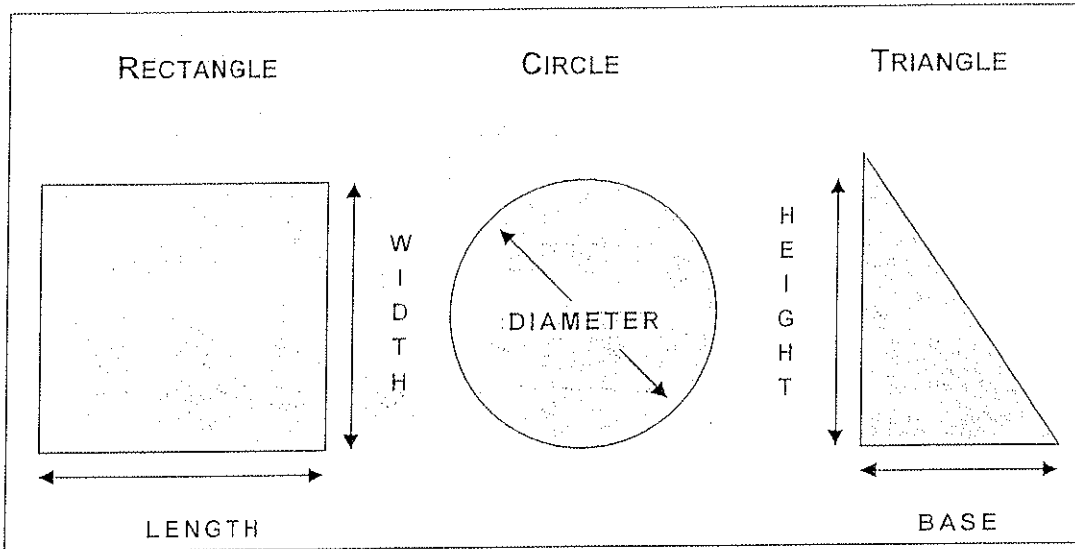
Calculating the volume of larger spills, where it is difficult or impossible to measure the area and depth, requires a different approach. In this method, the separate estimates are made of the duration of the spill and the flowrate. The methods of estimating duration and flowrate are:

**Duration:** *The duration is the elapsed time from the time the spill started to the time that the flow was restored.*

# SSO- WDR Compliance Workshop

## Electronic Reporting: Reporting Requirements & Tips

Figure 1: Common Shapes and Dimensions



*Start time:* The start time is sometimes difficult to establish. Here are some approaches:

- Local residents can be used to establish start time. Inquire as to their observations. Spills that occur in rights-of-way are usually observed and reported promptly. Spills that occur out of the public view can go on longer. Sometimes observations like odors or sounds (e.g. water running in a normally dry creek bed) can be used to estimate the start time.
- Changes in flow on a downstream flowmeter can be used to establish the start time. Typically the daily flow peaks are “cut off” or flattened by the loss of flow. This can be identified by comparing hourly flow data during the spill event with flow data from prior days.
- Conditions at the spill site change over time. Initially there will be limited deposits of toilet paper and other sewage solids. After a few days to a week, the sewage solids form a light-colored residue. After a few weeks to a month, the sewage solids turn dark. The quantity of toilet paper and other materials of sewage origin increase over time. These observations can be used to estimate the start time in the absence of other information. Taking photographs to document the observations can be helpful if questions arise later in the process.
- It is important to remember that spills may not be continuous. Blockages are not usually complete (some flow continues). In this case the spill would occur during the peak flow periods (typically 10:00 to 12:00 and 13:00 to 16:00 each day). Spills that occur due to peak flows in excess of capacity will occur only during, and for a short period after, heavy rainfall.

*End time:* The end time is usually much easier to establish. Field crews on-site observe the “blow down” that occurs when the blockage has been removed. The “blow down” can also be observed in downstream flowmeters.

# SSO- WDR Compliance Workshop

## Electronic Reporting: Reporting Requirements & Tips

**Flow Rate:** The flowrate is the average flow that left the sewer system during the time of the spill. There are three common ways to estimate the flowrate:

- The San Diego Manhole Flowrate Chart: This chart, included as Appendix VII-G, shows sewage flowing from manhole covers at a variety of flowrates. The observations of the field crew can be used to select the appropriate flowrate from the chart. If possible, photographs are useful in documenting basis for the flowrate estimate.
- Flowmeter: Changes in flows in downstream flowmeters can be used to estimate the flowrate during the spill.
- Counting Connections: Once the location of the spill is known, the number of upstream connections can be determined from the sewer maps. Multiply the number of connections by 200 to 250 gallons per day per connection or 8 to 10 gallons per hour per connection.

For example: 22 upstream connections x 9 gallons per hour per connection  
= 198 gallons per hour / 60 minutes per hour  
= 3.3 gallons per minute

**Spill Volume:** Once duration and flowrate have been estimated, the volume of the spill is the product of the duration in hours or days and the flowrate in gallons per hour or gallons per day.

For example:

Spill start time = 11:00

Spill end time = 14:00

Spill duration = 3 hours

3.3 gallons per minute X 3 hours X 60 minutes per hour

= 594 gallons



STATE OF CALIFORNIA  
WATER RESOURCES CONTROL BOARD  
ORDER NO. WQ 2013-0058-EXEC

AMENDING MONITORING AND REPORTING PROGRAM  
FOR  
STATEWIDE GENERAL WASTE DISCHARGE REQUIREMENTS FOR  
SANITARY SEWER SYSTEMS

The State of California, Water Resources Control Board (hereafter State Water Board) finds:

1. The State Water Board is authorized to prescribe statewide general Waste Discharge Requirements (WDRs) for categories of discharges that involve the same or similar operations and the same or similar types of waste pursuant to Water Code section 13263(i).
2. Water Code section 13193 *et seq.* requires the Regional Water Quality Control Boards (Regional Water Boards) and the State Water Board (collectively, the Water Boards) to gather Sanitary Sewer Overflow (SSO) information and make this information available to the public, including but not limited to, SSO cause, estimated volume, location, date, time, duration, whether or not the SSO reached or may have reached waters of the state, response and corrective action taken, and an enrollee's contact information for each SSO event. An enrollee is defined as the public entity having legal authority over the operation and maintenance of, or capital improvements to, a sanitary sewer system greater than one mile in length.
3. Water Code section 13271, *et seq.* requires notification to the California Office of Emergency Services (Cal OES), formerly the California Emergency Management Agency, for certain unauthorized discharges, including SSOs.
4. On May 2, 2006, the State Water Board adopted Order 2006-0003-DWQ, "Statewide Waste Discharge Requirements for Sanitary Sewer Systems"<sup>1</sup> (hereafter SSS WDRs) to comply with Water Code section 13193 and to establish the framework for the statewide SSO Reduction Program.
5. Subsection G.2 of the SSS WDRs and the Monitoring and Reporting Program (MRP) provide that the Executive Director may modify the terms of the MRP at any time.
6. On February 20, 2008, the State Water Board Executive Director adopted a revised MRP for the SSS WDRs to rectify early notification deficiencies and ensure that first responders are notified in a timely manner of SSOs discharged into waters of the state.
7. When notified of an SSO that reaches a drainage channel or surface water of the state, Cal OES, pursuant to Water Code section 13271(a)(3), forwards the SSO notification information<sup>2</sup> to local government agencies and first responders including local public health officials and the applicable Regional Water Board. Receipt of notifications for a single SSO event from both the SSO reporter

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<sup>1</sup> Available for download at:

[http://www.waterboards.ca.gov/board\\_decisions/adopted\\_orders/water\\_quality/2006/wqo/wqo2006\\_0003.pdf](http://www.waterboards.ca.gov/board_decisions/adopted_orders/water_quality/2006/wqo/wqo2006_0003.pdf)

<sup>2</sup> Cal OES Hazardous Materials Spill Reports available Online at:

[http://w3.calema.ca.gov/operational/mal haz.nsf/\\$defaultview](http://w3.calema.ca.gov/operational/mal haz.nsf/$defaultview) and <http://w3.calema.ca.gov/operational/mal haz.nsf>



and Cal OES is duplicative. To address this, the SSO notification requirements added by the February 20, 2008 MRP revision are being removed in this MRP revision.

8. In the February 28, 2008 Memorandum of Agreement between the State Water Board and the California Water and Environment Association (CWEA), the State Water Board committed to re-designing the CIWQS<sup>3</sup> Online SSO Database to allow "event" based SSO reporting versus the original "location" based reporting. Revisions to this MRP and accompanying changes to the CIWQS Online SSO Database will implement this change by allowing for multiple SSO appearance points to be associated with each SSO event caused by a single asset failure.
9. Based on stakeholder input and Water Board staff experience implementing the SSO Reduction Program, SSO categories have been revised in this MRP. In the prior version of the MRP, SSOs have been categorized as Category 1 or Category 2. This MRP implements changes to SSO categories by adding a Category 3 SSO type. This change will improve data management to further assist Water Board staff with evaluation of high threat and low threat SSOs by placing them in unique categories (i.e., Category 1 and Category 3, respectively). This change will also assist enrollees in identifying SSOs that require Cal OES notification.
10. Based on over six years of implementation of the SSS WDRs, the State Water Board concludes that the February 20, 2008 MRP must be updated to better advance the SSO Reduction Program<sup>4</sup> objectives, assess compliance, and enforce the requirements of the SSS WDRs.

**IT IS HEREBY ORDERED THAT:**

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

8/6/13  
\_\_\_\_\_  
Date

  
\_\_\_\_\_  
Thomas Howard  
Executive Director

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

<sup>4</sup> Statewide Sanitary Sewer Overflow Reduction Program information is available at: [http://www.waterboards.ca.gov/water\\_issues/programs/ssor/](http://www.waterboards.ca.gov/water_issues/programs/ssor/)

## ATTACHMENT A

### STATE WATER RESOURCES CONTROL BOARD ORDER NO. WQ 2013-0058-EXEC

#### AMENDING MONITORING AND REPORTING PROGRAM FOR STATEWIDE GENERAL WASTE DISCHARGE REQUIREMENTS FOR SANITARY SEWER SYSTEMS

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

#### A. SUMMARY OF MRP REQUIREMENTS

Table 1 – Spill Categories and Definitions

CATEGORIES	DEFINITIONS [see Section A on page 5 of Order 2006-0003-DWQ, for Sanitary Sewer Overflow (SSO) definition]
CATEGORY 1	Discharges of untreated or partially treated wastewater of <b>any volume</b> resulting from an enrollee's sanitary sewer system failure or flow condition that: <ul style="list-style-type: none"><li>• Reach surface water and/or reach a drainage channel tributary to a surface water; or</li><li>• Reach a Municipal Separate Storm Sewer System (MS4) and are not fully captured and returned to the sanitary sewer system or not otherwise captured and disposed of properly. Any volume of wastewater not recovered from the MS4 is considered to have reached surface water unless the storm drain system discharges to a dedicated storm water or groundwater infiltration basin (e.g., infiltration pit, percolation pond).</li></ul>
CATEGORY 2	Discharges of untreated or partially treated wastewater of <b>1,000 gallons or greater</b> resulting from an enrollee's sanitary sewer system failure or flow condition that <b>do not</b> reach surface water, a drainage channel, or a MS4 unless the entire SSO discharged to the storm drain system is fully recovered and disposed of properly.
CATEGORY 3	All other discharges of untreated or partially treated wastewater resulting from an enrollee's sanitary sewer system failure or flow condition.
PRIVATE LATERAL SEWAGE DISCHARGE (PLSD)	Discharges of untreated or partially treated wastewater resulting from blockages or other problems <b>within a privately owned sewer lateral</b> connected to the enrollee's sanitary sewer system or from other private sewer assets. PLSDs that the enrollee becomes aware of may be <b>voluntarily</b> reported to the California Integrated Water Quality System (CIWQS) Online SSO Database.

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

ELEMENT	REQUIREMENT	METHOD
<b>NOTIFICATION</b> (see section B of MRP)	<ul style="list-style-type: none"> <li>• Within two hours of becoming aware of any Category 1 SSO <b>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</b>, notify the California Office of Emergency Services (Cal OES) and obtain a notification control number.</li> </ul>	Call Cal OES at: <b>(800) 852-7550</b>
<b>REPORTING</b> (see section C of MRP)	<ul style="list-style-type: none"> <li>• 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.</li> <li>• 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.</li> <li>• Category 3 SSO: Submit certified report within 30 calendar days of the end of month in which SSO the occurred.</li> <li>• 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.</li> <li>• “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.</li> <li>• Collection System Questionnaire: Update and certify every 12 months.</li> </ul>	Enter data into the CIWQS Online SSO Database ( <a href="http://ciwqs.waterboards.ca.gov/">http://ciwqs.waterboards.ca.gov/</a> ), certified by enrollee’s Legally Responsible Official(s).
<b>WATER QUALITY MONITORING</b> (see section D of MRP)	<ul style="list-style-type: none"> <li>• Conduct water quality sampling <b>within 48 hours</b> after initial SSO notification for Category 1 SSOs in which 50,000 gallons or greater are spilled to surface waters.</li> </ul>	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.
<b>RECORD KEEPING</b> (see section E of MRP)	<ul style="list-style-type: none"> <li>• SSO event records.</li> <li>• Records documenting Sanitary Sewer Management Plan (SSMP) implementation and changes/updates to the SSMP.</li> <li>• Records to document Water Quality Monitoring for SSOs of 50,000 gallons or greater spilled to surface waters.</li> <li>• Collection system telemetry records if relied upon to document and/or estimate SSO Volume.</li> </ul>	Self-maintained records shall be available during inspections or upon request.

## **B. NOTIFICATION REQUIREMENTS**

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

1. For any Category 1 SSO greater than or equal to 1,000 gallons that results in a discharge to a surface water or spilled in a location where it probably will be discharged to surface water, either directly or by way of a drainage channel or MS4, the enrollee shall, as soon as possible, but not later than two (2) hours after (A) the enrollee has knowledge of the discharge, (B) notification is possible, and (C) notification can be provided without substantially impeding cleanup or other emergency measures, notify the Cal OES and obtain a notification control number.
2. To satisfy notification requirements for each applicable SSO, the enrollee shall provide the information requested by Cal OES before receiving a control number. Spill information requested by Cal OES may include:
  - i. Name of person notifying Cal OES and direct return phone number.
  - ii. Estimated SSO volume discharged (gallons).
  - iii. If ongoing, estimated SSO discharge rate (gallons per minute).
  - iv. SSO Incident Description:
    - a. Brief narrative.
    - b. On-scene point of contact for additional information (name and cell phone number).
    - c. Date and time enrollee became aware of the SSO.
    - d. Name of sanitary sewer system agency causing the SSO.
    - e. SSO cause (if known).
  - v. Indication of whether the SSO has been contained.
  - vi. Indication of whether surface water is impacted.
  - vii. Name of surface water impacted by the SSO, if applicable.
  - viii. Indication of whether a drinking water supply is or may be impacted by the SSO.
  - ix. Any other known SSO impacts.
  - x. SSO incident location (address, city, state, and zip code).
3. Following the initial notification to Cal OES and until such time that an enrollee certifies the SSO report in the CIWQS Online SSO Database, the enrollee shall provide updates to Cal OES regarding substantial changes to the estimated volume of untreated or partially treated sewage discharged and any substantial change(s) to known impact(s).
4. PLSDs: The enrollee is strongly encouraged to notify Cal OES of discharges greater than or equal to 1,000 gallons of untreated or partially treated wastewater that result or may result in a discharge to surface water resulting from failures or flow conditions within a privately owned sewer lateral or from other private sewer asset(s) if the enrollee becomes aware of the PLSD.

### C. **REPORTING REQUIREMENTS**

1. **CIWQS Online SSO Database Account:** All enrollees shall obtain a CIWQS Online SSO Database account and receive a “Username” and “Password” by registering through CIWQS. These accounts allow controlled and secure entry into the CIWQS Online SSO Database.
2. **SSO Mandatory Reporting Information:** For reporting purposes, if one SSO event results in multiple appearance points in a sewer system asset, the enrollee shall complete one SSO report in the CIWQS Online SSO Database which includes the GPS coordinates for the location of the SSO appearance point closest to the failure point, blockage or location of the flow condition that caused the SSO, and provide descriptions of the locations of all other discharge points associated with the SSO event.
3. **SSO Categories**
  - i. **Category 1** – Discharges of untreated or partially treated wastewater of any volume resulting from an enrollee’s sanitary sewer system failure or flow condition that:
    - a. Reach surface water and/or reach a drainage channel tributary to a surface water; or
    - b. Reach a MS4 and are not fully captured and returned to the sanitary sewer system or not otherwise captured and disposed of properly. Any volume of wastewater not recovered from the MS4 is considered to have reached surface water unless the storm drain system discharges to a dedicated storm water or groundwater infiltration basin (e.g., infiltration pit, percolation pond).
  - ii. **Category 2** – Discharges of untreated or partially treated wastewater greater than or equal to 1,000 gallons resulting from an enrollee’s sanitary sewer system failure or flow condition that does not reach a surface water, a drainage channel, or the MS4 unless the entire SSO volume discharged to the storm drain system is fully recovered and disposed of properly.
  - iii. **Category 3** – All other discharges of untreated or partially treated wastewater resulting from an enrollee’s sanitary sewer system failure or flow condition.
4. **Sanitary Sewer Overflow Reporting to CIWQS - Timeframes**
  - i. **Category 1 and Category 2 SSOs** – All SSOs that meet the above criteria for Category 1 or Category 2 SSOs shall be reported to the CIWQS Online SSO Database:
    - a. Draft reports for Category 1 and Category 2 SSOs shall be submitted to the CIWQS Online SSO Database within three (3) business days of the enrollee becoming aware of the SSO. Minimum information that shall be reported in a draft Category 1 SSO report shall include all information identified in section 8.i.a. below. Minimum information that shall be reported in a Category 2 SSO draft report shall include all information identified in section 8.i.c below.
    - b. A final Category 1 or Category 2 SSO report shall be certified through the CIWQS Online SSO Database within 15 calendar days of the end date of the SSO. Minimum information that shall be certified in the final Category 1 SSO report shall include all information identified in section 8.i.b below. Minimum information that shall be certified in a final Category 2 SSO report shall include all information identified in section 8.i.d below.



- ii. **Category 3 SSOs** – All SSOs that meet the above criteria for Category 3 SSOs shall be reported to the CIWQS Online SSO Database and certified within 30 calendar days after the end of the calendar month in which the SSO occurs (e.g., all Category 3 SSOs occurring in the month of February shall be entered into the database and certified by March 30). Minimum information that shall be certified in a final Category 3 SSO report shall include all information identified in section 8.i.e below.
- iii. **“No Spill” Certification** – If there are no SSOs during the calendar month, the enrollee shall either 1) certify, within 30 calendar days after the end of each calendar month, a “No Spill” certification statement in the CIWQS Online SSO Database certifying that there were no SSOs for the designated month, or 2) certify, quarterly within 30 calendar days after the end of each quarter, “No Spill” certification statements in the CIWQS Online SSO Database certifying that there were no SSOs for each month in the quarter being reported on. For quarterly reporting, the quarters are Q1 - January/ February/ March, Q2 - April/May/June, Q3 - July/August/September, and Q4 - October/November/December.  
  
If there are no SSOs during a calendar month but the enrollee reported a PLSD, the enrollee shall still certify a “No Spill” certification statement for that month.
- iv. **Amended SSO Reports** – The enrollee may update or add additional information to a certified SSO report within 120 calendar days after the SSO end date by amending the report or by adding an attachment to the SSO report in the CIWQS Online SSO Database. SSO reports certified in the CIWQS Online SSO Database prior to the adoption date of this MRP may only be amended up to 120 days after the effective date of this MRP. After 120 days, the enrollee may contact the SSO Program Manager to request to amend an SSO report if the enrollee also submits justification for why the additional information was not available prior to the end of the 120 days.

## 5. **SSO Technical Report**

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

- i. **Causes and Circumstances of the SSO:**
  - a. Complete and detailed explanation of how and when the SSO was discovered.
  - b. Diagram showing the SSO failure point, appearance point(s), and final destination(s).
  - c. Detailed description of the methodology employed and available data used to calculate the volume of the SSO and, if applicable, the SSO volume recovered.
  - d. Detailed description of the cause(s) of the SSO.
  - e. Copies of original field crew records used to document the SSO.
  - f. Historical maintenance records for the failure location.
- ii. **Enrollee’s Response to SSO:**
  - a. Chronological narrative description of all actions taken by enrollee to terminate the spill.
  - b. Explanation of how the SSMP Overflow Emergency Response plan was implemented to respond to and mitigate the SSO.

- c. Final corrective action(s) completed and/or planned to be completed, including a schedule for actions not yet completed.

iii. **Water Quality Monitoring:**

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

6. **PLSDs**

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

- i. The enrollee is also encouraged to provide notification to Cal OES per section B above when a PLSD greater than or equal to 1,000 gallons has or may result in a discharge to surface water. For any PLSD greater than or equal to 1,000 gallons regardless of the spill destination, the enrollee is also encouraged to file a spill report as required by Health and Safety Code section 5410 et. seq. and Water Code section 13271, or notify the responsible party that notification and reporting should be completed as specified above and required by State law.
- ii. If a PLSD is recorded in the CIWQS Online SSO Database, the enrollee must identify the sewage discharge as occurring and caused by a private sanitary sewer system asset and should identify a responsible party (other than the enrollee), if known. Certification of PLSD reports by enrollees is not required.

7. **CIWQS Online SSO Database Unavailability**

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

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

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

i. **SSO Reports**

At a minimum, the following mandatory information shall be reported prior to finalizing and certifying an SSO report for each category of SSO:

- a. **Draft Category 1 SSOs**: At a minimum, the following mandatory information shall be reported for a draft Category 1 SSO report:
1. SSO Contact Information: Name and telephone number of enrollee contact person who can answer specific questions about the SSO being reported.
  2. SSO Location Name.
  3. Location of the overflow event (SSO) by entering GPS coordinates. If a single overflow event results in multiple appearance points, provide GPS coordinates for the appearance point closest to the failure point and describe each additional appearance point in the SSO appearance point explanation field.
  4. Whether or not the SSO reached surface water, a drainage channel, or entered and was discharged from a drainage structure.
  5. Whether or not the SSO reached a municipal separate storm drain system.
  6. Whether or not the total SSO volume that reached a municipal separate storm drain system was fully recovered.
  7. Estimate of the SSO volume, inclusive of all discharge point(s).
  8. Estimate of the SSO volume that reached surface water, a drainage channel, or was not recovered from a storm drain.
  9. Estimate of the SSO volume recovered (if applicable).
  10. Number of SSO appearance point(s).
  11. Description and location of SSO appearance point(s). If a single sanitary sewer system failure results in multiple SSO appearance points, each appearance point must be described.
  12. SSO start date and time.
  13. Date and time the enrollee was notified of, or self-discovered, the SSO.
  14. Estimated operator arrival time.
  15. For spills greater than or equal to 1,000 gallons, the date and time Cal OES was called.
  16. For spills greater than or equal to 1,000 gallons, the Cal OES control number.
- b. **Certified Category 1 SSOs**: At a minimum, the following mandatory information shall be reported for a certified Category 1 SSO report, in addition to all fields in section 8.i.a :
1. Description of SSO destination(s).
  2. SSO end date and time.
  3. SSO causes (mainline blockage, roots, etc.).
  4. SSO failure point (main, lateral, etc.).
  5. Whether or not the spill was associated with a storm event.
  6. Description of spill corrective action, including steps planned or taken to reduce, eliminate, and prevent reoccurrence of the overflow; and a schedule of major milestones for those steps.
  7. Description of spill response activities.
  8. Spill response completion date.
  9. Whether or not there is an ongoing investigation, the reasons for the investigation and the expected date of completion.

10. Whether or not a beach closure occurred or may have occurred as a result of the SSO.
  11. Whether or not health warnings were posted as a result of the SSO.
  12. Name of beach(es) closed and/or impacted. If no beach was impacted, NA shall be selected.
  13. Name of surface water(s) impacted.
  14. If water quality samples were collected, identify parameters the water quality samples were analyzed for. If no samples were taken, NA shall be selected.
  15. If water quality samples were taken, identify which regulatory agencies received sample results (if applicable). If no samples were taken, NA shall be selected.
  16. Description of methodology(ies) and type of data relied upon for estimations of the SSO volume discharged and recovered.
  17. SSO Certification: Upon SSO Certification, the CIWQS Online SSO Database will issue a final SSO identification (ID) number.
- c. **Draft Category 2 SSOs:** At a minimum, the following mandatory information shall be reported for a draft Category 2 SSO report:
1. Items 1-14 in section 8.i.a above for Draft Category 1 SSO.
- d. **Certified Category 2 SSOs:** At a minimum, the following mandatory information shall be reported for a certified Category 2 SSO report:
1. Items 1-14 in section 8.i.a above for Draft Category 1 SSO and Items 1-9, and 17 in section 8.i.b above for Certified Category 1 SSO.
- e. **Certified Category 3 SSOs:** At a minimum, the following mandatory information shall be reported for a certified Category 3 SSO report:
1. Items 1-14 in section 8.i.a above for Draft Category 1 SSO and Items 1-5, and 17 in section 8.i.b above for Certified Category 1 SSO.

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

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

iii. **Collection System Questionnaire**

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

iv. **SSMP Availability**

The enrollee shall provide the publicly available internet web site address to the CIWQS Online SSO Database where a downloadable copy of the enrollee's approved SSMP, critical supporting documents referenced in the SSMP, and proof of local governing board approval of the SSMP is posted. If all of the SSMP documentation listed in this subsection is not publicly available on the Internet, the enrollee shall comply with the following procedure:

- a. Submit an **electronic** copy of the enrollee's approved SSMP, critical supporting documents referenced in the SSMP, and proof of local governing board approval of the SSMP to the State Water Board, within 30 days of that approval and within 30 days of any subsequent SSMP re-certifications, to the following mailing address:

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

**D. WATER QUALITY MONITORING REQUIREMENTS:**

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

1. Contain protocols for water quality monitoring.
2. Account for spill travel time in the surface water and scenarios where monitoring may not be possible (e.g. safety, access restrictions, etc.).
3. Require water quality analyses for ammonia and bacterial indicators to be performed by an accredited or certified laboratory.
4. Require monitoring instruments and devices used to implement the SSO Water Quality Monitoring Program to be properly maintained and calibrated, including any records to document maintenance and calibration, as necessary, to ensure their continued accuracy.
5. Within 48 hours of the enrollee becoming aware of the SSO, require water quality sampling for, at a minimum, the following constituents:
  - i. Ammonia
  - ii. Appropriate Bacterial indicator(s) per the applicable Basin Plan water quality objective or Regional Board direction which may include total and fecal coliform, enterococcus, and e-coli.

**E. RECORD KEEPING REQUIREMENTS:**

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

1. General Records: The enrollee shall maintain records to document compliance with all provisions of the SSS WDRs and this MRP for each sanitary sewer system owned including any required records generated by an enrollee's sanitary sewer system contractor(s).
2. SSO Records: The enrollee shall maintain records for each SSO event, including but not limited to:
  - i. Complaint records documenting how the enrollee responded to all notifications of possible or actual SSOs, both during and after business hours, including complaints that do not



result in SSOs. Each complaint record shall, at a minimum, include the following information:

- a. Date, time, and method of notification.
  - b. Date and time the complainant or informant first noticed the SSO.
  - c. Narrative description of the complaint, including any information the caller can provide regarding whether or not the complainant or informant reporting the potential SSO knows if the SSO has reached surface waters, drainage channels or storm drains.
  - d. Follow-up return contact information for complainant or informant for each complaint received, if not reported anonymously.
  - e. Final resolution of the complaint.
- ii. Records documenting steps and/or remedial actions undertaken by enrollee, using all available information, to comply with section D.7 of the SSS WDRs.
  - iii. Records documenting how all estimate(s) of volume(s) discharged and, if applicable, volume(s) recovered were calculated.
3. Records documenting all changes made to the SSMP since its last certification indicating when a subsection(s) of the SSMP was changed and/or updated and who authorized the change or update. These records shall be attached to the SSMP.
  4. Electronic monitoring records relied upon for documenting SSO events and/or estimating the SSO volume discharged, including, but not limited to records from:
    - i. Supervisory Control and Data Acquisition (SCADA) systems
    - ii. Alarm system(s)
    - iii. Flow monitoring device(s) or other instrument(s) used to estimate wastewater levels, flow rates and/or volumes.

## **F. CERTIFICATION**

1. All information required to be reported into the CIWQS Online SSO Database shall be certified by a person designated as described in subsection J of the SSS WDRs. This designated person is also known as a Legally Responsible Official (LRO). An enrollee may have more than one LRO.
2. Any designated person (i.e. an LRO) shall be registered with the State Water Board to certify reports in accordance with the CIWQS protocols for reporting.
3. Data Submitter (DS): Any enrollee employee or contractor may enter draft data into the CIWQS Online SSO Database on behalf of the enrollee if authorized by the LRO and registered with the State Water Board. However, only LROs may certify reports in CIWQS.
4. The enrollee shall maintain continuous coverage by an LRO. Any change of a registered LRO or DS (e.g., retired staff), including deactivation or a change to the LRO's or DS's contact information, shall be submitted by the enrollee to the State Water Board within 30 days of the change by calling (866) 792-4977 or e-mailing [help@ciwqs.waterboards.ca.gov](mailto:help@ciwqs.waterboards.ca.gov).

5. A registered designated person (i.e., an LRO) shall certify all required reports under penalty of perjury laws of the state as stated in the CIWQS Online SSO Database at the time of certification.

### CERTIFICATION

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

7/30/13

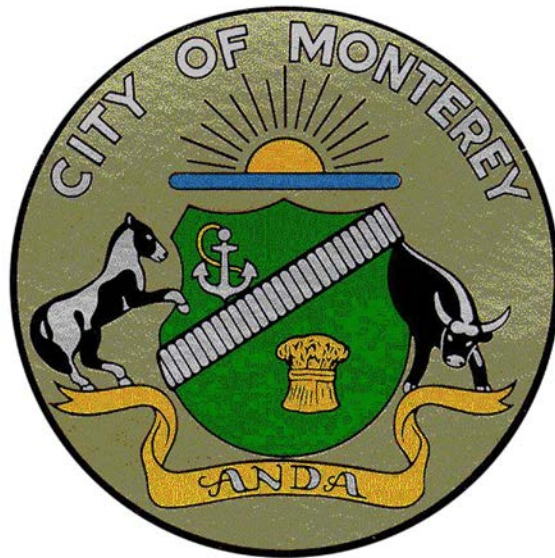
Date



Jeanine Townsend  
Clerk to the Board

# City of Monterey

## Spill and Enforcement Response Plan



### Supporting Materials for Phase II Permit Sections E.9.e and E.6.c

June 2014 (Updated April 2015 and October 2017)

# Spill and Enforcement Response Plan

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## Attachments

- Attachment 1: Corporation Yard Business Response Plan
- Attachment 2: Harbor and Marina Business Response Plan
- Attachment 3: Map Showing Municipal Facilities
- Attachment 4: Illicit Discharge/Connection Reporting Form
- Attachment 5: Reporting a Sanitary Sewage Spill SOP

## Spill and Enforcement Response Plan

### Background

In 1972 the Federal Water Pollution Control Act (known as the Clean Water Act) was amended to effectively prohibit discharge of pollutants to “waters of the United States” from any point source unless the discharge is in compliance with an NPDES Permit. The United States Environmental Protection Agency (USEPA) has delegated administration of the NPDES Program within California to the State of California. California’s Porter Cologne Act gives the State Water Resources Control Board (SWRCB) and the nine Regional Water Quality Control Boards (Regional Boards) the authority to administer the NPDES Program. The 1987 amendments of the Clean Water Act added Section 402(p), which established the framework for regulating discharges of pollutants via storm water from industrial activities and MS4s. Section 402(p) required the USEPA to develop permitting regulations for storm water discharges from MS4s and from industrial facilities, including construction sites.

Under the NPDES Program, the City of Monterey operates its storm drainage system through regulatory coverage gained from the statewide Phase II Small MS4 storm water permit (Permit). The City also collaborates regionally on some shared, region-wide permit efforts, such as public education and outreach, public participation and involvement, and water quality monitoring with the Cities of Carmel, Del Rey Oaks, Pacific Grove, Seaside, Sand City, and Monterey County. Collectively, this group is referred to as Monterey Regional Storm Water Management Program (MRSWMP).

The purpose of this Spill and Enforcement Response Plan is to set forth policies and procedures for responding to reports of illegal discharges, illicit connections, sewer, hazardous materials, and other types of spills that may discharge to the storm water systems as outlined in Section E.9.e of the Phase II Small MS4 General Permit.

### Objectives

Spills and leaks, if not properly controlled, can adversely impact the storm drain system and receiving waters. The overall goal of this initiative is to raise awareness of spill management issues and ensure effective measures are implemented to monitor, control and prevent harmful substances from entering our watersheds and the waterfront.

This Spill and Enforcement Response Plan aims to outline the following:

- Definition of an illicit discharge and a hazardous spill
- Location of key municipal facilities and their associated activities
- Who to contact in the event of a spill
- Agency roles and responsibilities in responding to spills
- Illicit Discharge Detection and Elimination Program
- Procedures for responding to complaints
- How investigations are to be conducted
- How clean up is initiated or conducted
- How reporting is completed and what information is required



## Spill and Enforcement Response Plan

### Illicit Discharges

An illicit discharge is an unlawful act of disposing, dumping, spilling, emitting, or other discharge of any substance other than storm water into the storm water drainage system. The storm water drainage system includes streets, ditches, catch basins, drain inlets, lakes and streams, and outfalls to the ocean that do not receive treatment from a wastewater treatment plant. Illicit connections may be intentional or may be unknown to the business owner and often are due to the connection of floor drains to the storm sewer system. Additional sources of illicit discharges can be:

- Illegal dumping practices
- Improper disposal of sewage from recreational practices such as boating or camping
- Changing oil or antifreeze over or near a storm structure
- Paint being poured into or near the storm drain system
- Washing dumpster pads and allowing the runoff to drain into the storm drain system.

The City of Monterey has an illicit discharge detection and elimination program designed to prevent contamination of storm water by illicit discharges or illegal connections through monitoring, inspection and removal of these illegal non-storm water discharges. An essential element of this program is an ordinance (ORD 3224 C.S.) granting the authority to inspect properties suspected of releasing contaminated discharges into the storm drain system. Violations of this Article may be remedied using the procedures set forth in Article 2 of Chapter 1 of the Monterey City Code, known as the Administrative Remedies Ordinance. These remedies include the issuance of Administrative Citations (Monterey City Code § 1-9 et seq.) and utilization of the Administrative Orders process (Monterey City Code § 1-10 et seq.).

### Spills

A spill or release of a hazardous material can pose a significant threat to local water quality. Prompt recognition and response to a spill or release incident can minimize the threat to receiving waters and the environment. Planning and preparation are critical to effective execution of emergency response actions and should, at a minimum, address the types of incidents which may occur, procedures for communications and spill response, and staff training needs as appropriate.

Various types of incidents may cause a spill or release of hazardous materials. Some examples of these incidents include:

- An overturned or leaking tanker truck containing fuel oil, gasoline, or any other hazardous chemicals.
- Large vehicle fires or accidents involving fire department wash down.
- A leaking underground storage tank.
- A sanitary sewer line break.
- A fire or accidental release at a facility which uses, produces, or stores hazardous materials.
- Hazardous or toxic materials deposited in or near a watercourse (pesticides, leaking chemical containers, etc.)

## Spill and Enforcement Response Plan

### Municipal Facilities

Due to the type of work or the materials involved, many activities that occur either at a municipal facility or as a part of municipal field programs have the potential for accidental spills and leaks. Proper spill response planning and preparation can enable municipal employees to effectively respond to problems when they occur and minimize the discharge of pollutants to the environment. Table 1 below represents a list of municipal facilities and their associated activities. Attachment 3 contains a map of these municipal facilities.

**Table 1: Municipal Facilities and Associated Activities**

Municipal Facility	Activities of Concern Conducted
Corporation Yards, including equipment, transit, maintenance, public works, fleet maintenance, and parks and recreation equipment yards.	Loading, unloading, handling, and storage of anti-freeze, asphalt, batteries, chemicals, concrete, diesel wastes, emulsions, fertilizer, fuel, green wastes, hazardous materials, new and used oil, paint products, pesticides, scrap metal, solvents, trash and debris, and wash water
	Filling aboveground and underground storage tanks (ASTs and USTs) with fuel or oil
	Dispensing of fuels to equipment and portable fuel containers
	Vehicle and equipment parking and storage
	Vehicle , equipment, and material washing and steam cleaning
	Leak and spill cleanup
	Landscape, garden, and general maintenance and cleaning
Fire and Police Stations	Filling of AST's and USTs with fuels
	Dispensing of fuels to vehicles, equipment, and portable fuel containers
	Vehicle equipment parking and storage
	Vehicle washing
	Leak and spill cleanup
Hazardous Materials Storage Facilities	Loading, unloading, handling, and storage of potentially hazardous materials
	Spill and leak cleanup
Parks	Landscape maintenance, paving, painting, solid waste management, fertilizer and pesticide application
Monterey Sports Center	Storage and use of chemicals, including chlorine
	Filter maintenance and backwashing
	Landscape, garden, and general maintenance and cleaning
Harbor and Marina	Sewage pump out and handling
	Solid waste collection and handling
	Loading, unloading, handling, and storage of potentially hazardous materials
	Spill and leak cleanup
	Dispensing of fuels to boats, equipment, and portable fuel containers
	Filling aboveground and underground storage tanks (ASTs and USTs) with fuels
El Estero Lake Pumps	Filling UST's
Tunnel Pumps	Filling UST's

## Spill and Enforcement Response Plan

### POLICY

Article 2 of chapter 31.5 of Municipal Code, also known as “Urban Storm Water Quality Management and Discharge Control Ordinance”, outlines the responsibility of the City to control illegal discharges to the municipal Storm Drain System or waters of the state, as well as adopts by reference the latest, applicable regulations for small municipalities mandated by the State Water Resource Control Board.

In the event that a discharge of pollutants is taking place or has occurred which will result in or has resulted in Pollution of Storm Water, the Storm Drain System, or water of the U.S., the Public Works Director may require by written notice to the owner of the property and/or the responsible person or entity that the pollution be remediated and the affected property restored within a specified time frame.

Violations may be remedied using the procedures set forth in Article 2 of Chapter 1 of the Monterey City Code, known as the Administrative Remedies Ordinance. These remedies include the issuance of Administrative Citations and utilization of the administrative orders process. These remedies shall be in addition to all other legal remedies, criminal or civil, which may be pursued by the City to address any violations.

Persons that will be investigating reports of illegal discharges and illicit connections, and persons that will be inspecting the categories of businesses listed above, will be trained in the methods and procedures for performing such work.

### REPORTING PROCEDURES

Reports and observations of illicit discharges, illegal connections, and other types of improper discharges to the storm drainage system may be in the form of reports received from the general public and by observations made by members of the City's staff. Each such report or observation will be logged and investigated, and documented using Attachment 4 Illegal Discharge/Illicit Connection Reporting and Response form, or a functionally equivalent form.

The following steps are followed when investigating a reported or observed incident of illegal discharge. These steps have been implemented by the City of Monterey through its original Monterey Regional Storm Water Management Plan (MRSWMP) since 2006 and are used today.

Step 1-Determine Whether or not the Reported Incident is valid: Using information provided by the reporting party, inspect the location of the reported incident to check for signs of improper discharges. Signs of illicit connections or illegal discharges can include:

- Abnormal water flows during the dry season
- Unusual flows in sub drains used for dewatering
- Pungent odors
- Discoloration or oily substances in the water, or stains and waste residue in ditches, channels, or drain boxes

If during inspections, any of these signs are observed, the inspector should (1) estimate the volume of the flow data and take photographs and (2) begin storm drain investigations by tracing the flow upstream using storm drain maps and by inspecting up-gradient manholes. Sampling and testing of water at the manhole or outfall where it is first detected is generally not

## Spill and Enforcement Response Plan

considered necessary, if the water appears to be "clear" but, if deemed appropriate, can be performed using field kits or taking grab samples for analysis in a lab. In addition to visual inspections the following may be implemented:

- Inspect premises to see if signs of illicit discharges exist (such as looking for stains, smelling odors, seeing improperly stored hazardous materials products or wastes).
- Dye testing of building sewer drains with downstream inspection of storm drains to determine if illicit connections exist.
- CCTV inspection of storm drains to discover signs of sewage.
- Smoke testing of storm drains to see if signs of cross connections exist (such as smoke coming from sewer vents).
- Visual inspection of buildings to discover apparent sources of sewage.

If the investigation reveals no indication that an illegal discharge occurred, and/or that no illicit connection exists, attach the results of the field investigation to the Illegal Discharge, illicit Connection Reporting and Response form, and close the action.

If the investigation reveals that an illegal discharge has occurred or an illicit connection exists, proceed to Step 2.

### Step 2-If it is Determined that an Illegal Discharge has Occurred and/or that an Illicit Connection Exists:

Once the origin of flow is established, immediately notify the responsible party of the problem, and require the responsible party to conduct all necessary corrective actions to eliminate the non-storm water discharge within 72 hours of notification. Also inform the responsible party at this time that if the discharge continues enforcement procedures will be implemented. If appropriate provide the responsible party with information on alternative disposal options. If the discharge is believed to be from the sanitary sewer system or may be an immediate threat to human health or the environment, immediately report this to 9-1-1 and the Monterey County Department of Health.

Upon being notified that the discharge has been eliminated, conduct a follow-up investigation, and field screening if necessary, to verify that the discharge has been eliminated using BMPs or some other corrective action.

If the illegal discharge was a onetime incident, and if the discharger has taken appropriate action to prevent a recurrence, include the results of the field investigation in the Illegal Discharge/Illicit Connection Reporting and Response form, and close the action.

If the illegal discharge or illicit connection appears to be an ongoing activity, require the discharger to apply BMPs and/or to make mechanical and/or structural modifications to prevent a recurrence of the incident. Once this has been done, as verified by the City's inspector, include the results of the field investigation in the reporting documentation and close the action.

For sewer spills, or private lateral spills, consult Attachment 5 for standard operating procedure for reporting a sanitary sewage spill to the State and County Health.

## Spill and Enforcement Response Plan

### TAKING ACTION AGAINST VIOLATORS

If the City determines that enforcement action is necessary and appropriate; it will determine what action(s) to take for each violation on a case-by-case basis, taking into consideration such things as prior history of violations and severity of pollution impact. The City will follow a phased approach to enforcement similar to that described below, including issuance of a warning or administrative action or legal action. The City has the authority to initiate any enforcement action deemed appropriate for the violation, and may modify the approach described below to avoid conflicts with other existing policies and requirements.

Depending on the circumstances of the event, fines or other penalties may be levied for first time violators, at the discretion of the City, and the cost of cleanup may be levied against the violator.

- Warning. For first time, minor violations a warning will be given in either written or verbal form, with the intent of achieving voluntary compliance. The warning will specify the nature of the violation and the required corrective action. A time frame to correct the identified problem will be specified based on the severity or complexity of the problem. First time warnings will generally be issued by field staff.
- Administrative Action. Similar to a warning except a more formal notice and a structured process, but which does not assess a fine. The notice will be in the form of a written Notice of Violation. The written notice will clearly specify the nature of the violation, describe the required remedial measures to be taken, establish a time schedule for accomplishing these, describe the penalties that will be assessed if the notice is not complied with, and the timeframe for appeal of the notice.
- Administrative Action with Fine and/or Cost Recovery. Same as above with the addition that, as provided for in Article 2 of Chapter 1 of the Municipal Code, payment of compensation to cover administrative and remediation costs and/or payment of a fine as determined by action of the City Council may also be imposed.
- Legal Action. Includes any actions taken by the City that brings the facility into the court system (e.g., citation, court action, etc.) This enforcement protocol is based on the assumption that the City escalates the level of enforcement until compliance is achieved. An objective of the legal action will often include asking the court to impose daily financial penalties for each day the violation remains uncorrected. For intentional and flagrant violations the City may pursue criminal prosecution, under which each day of violation may constitute a separate offense, and can result in fines and imprisonment. As part of the legal action the City may also seek to recover its costs of abatement of the violation when the City remedies the violation or conducts cleanup, as well as its associated administrative costs. If awarded, the judgment may constitute a property lien if not paid within a prescribed timeframe. The City's department responsible for management of its storm water program will consult with the City's legal counsel in connection with pursuing legal action

### NPDES PERMIT REFERRALS

Starting in Permit Year 3 (after July 1, 2015), the City will follow required NPDES permit referral processes for construction projects or industrial facilities subject to the State's Construction General Permit (CGP) or Industrial General Permit (IGP), and as outlined below:



## Spill and Enforcement Response Plan

1. Refer non-filers (i.e., those facilities that cannot demonstrate that they obtained permit coverage) to the Central Coast Regional Water Board within 30 days of making that determination, or file a complaint on the State Water Board's website: [http://www.dtsc.ca.gov/database/CalEPA\\_Complaint/index.cfm](http://www.dtsc.ca.gov/database/CalEPA_Complaint/index.cfm). In making such referrals, the City will at a minimum include the following documentation:
  - a) Construction project or industrial facility location.
  - b) Name of owner or operator.
  - c) Estimated construction project size or type of industrial activity, including the Standard Industrial or the North American Industry Classification. (if known).
  - d) Records of communication with the owner or operator regarding filing requirements.
  
2. Refer ongoing violations to the Regional Water Board, provided that the City has made a good faith effort of progressive enforcement to achieve compliance with its own ordinances. At a minimum, the City's good faith effort will include documentation of two follow-up inspections and two warning letters, corrections, and Red Tag or Notices of Stop Work. In making such referrals, the City will include, at a minimum, the following information:
  - a) Construction project or industrial facility location
  - b) Name of owner or operator
  - c) Estimated construction project size or type of industrial activity (including Standard Industrial Classification or North American Industry Classification System if known)
  - d) Records of communication with the owner or operator regarding the violation, including at least two follow-up inspections, two warning letters or Notices of Violation, and any response from the owner or operator
  - e) Enforcement Tracking -Track instances of non-compliance via hardcopy files or electronically. The enforcement tracking documentation will include, at a minimum, the following:
    - 1) Name of owner/operator
    - 2) Location of construction project or industrial facility
    - 3) Description of violation
    - 4) Required schedule for returning to compliance
    - 5) Description of enforcement response used, including escalated responses if repeat violations occur or violations are not resolved within the time specified in the enforcement action.
    - 6) Accompanying documentation of enforcement response (e.g., notices of noncompliance, notices of violations, etc.)
    - 7) Any referrals to different departments or agencies

## RECIDIVISM REDUCTION

The City will identify chronic violators of any provision of these policies and procedures, as identified necessary, and will work to reduce the rate of noncompliance recidivism. The City may develop incentives, disincentives, or increase inspection frequency to address this issue.

## **Spill and Enforcement Response Plan**

### **Roles and Responsibilities**

The Director of Plans and Public Works (PPW) (“Director”) for the City shall administer, implement, and enforce the provisions of Chapter 31.5, Article 2 of municipal code: Urban Storm Water Quality Management and Discharge Control. Any powers granted or duties imposed upon the Director may be delegated to persons or entities acting in the beneficial interest of or in the employ of the City.

The departments and office that are notified will respond to the incident and coordinate the actions at the scene of the incident to ensure that the policies and procedures contained in this Spill and Enforcement Response Plan are carried out. Typical responding departments and/or offices may include Fire Department, Streets/Utilities, Permits, Harbor, or Engineering. If appropriate to the nature of the incident, i.e. sanitary sewer discharge or imminent threat to public health or the environment, the responding personnel will notify the Monterey County Health Department and California Office of Emergency Services, as necessary by reportable quantities and/or location.

Illicit discharge issues relating to active, permitted construction sites are handled through the Permits Office/Building Official enforcement steps and mechanisms (corrections, red tags/stop work orders, etc.). Sanitary Sewer Overflow (SSO) reporting follows the response and notification steps required by the SWRCB SSO Reduction Program, and are reported through the California Integrated Water Quality System Project (CIWQS).

All other public or staff reports related to illicit discharges or illegal connections are handled through Environmental Compliance staff. Daily contacts are the Environmental Regulations Analyst or Environmental Regulations Manager for follow-up investigation and reporting. Environmental Compliance staff collects necessary information to complete the Illicit Discharge or Illicit Connection Incident Response form (see Attachment 4, Illicit Discharge/Connection Reporting Form) and maintains these incident report files in Engineering.

### **Cleanup Procedures**

Upon arrival at the scene, a first responder is expected to recognize the presence of dangerous substances, protect oneself and the public, secure the area, and call for the assistance of trained personnel as soon as conditions permit. Scene management will be the responding individual’s responsibility until relieved by Monterey Fire Department, Harbormaster, Streets Supervisor, or other qualified party. Clean up should be performed only by emergency response units which are appropriately trained to handle the material in question. Determine the location and severity of the release, and notify the appropriate division from the phone list to initiate cleanup. If the spill or discharge represents an immediate threat to the public or environment, notify 9-1-1.

**Spill and Enforcement Response Plan**

**Table 2: Local/City Resources – Contacts/Telephone Reference**

<b>Type of Discharge, or Location</b>	<b>Who to Notify</b>	<b>Contact #</b>	<b>Time to Notify or Available</b>
Any spill or discharge, which could constitute a threat to human health, welfare or the environment	Emergency Services	911	24-Hours
	Non-Emergency Dispatch	(831)646-3914	
Sewer spill/overflow (See Attachment 5 - Reporting Sanitary Sewer Spill SOP)	Streets Division	(831)646-3927	Regular business hours
	Streets Division Standby	(831)760-2208 or (831)760-2210	Weekends and Evenings
Sewer Liftstation Failure	Bret Boatman, MRWPCA Maintenance Supervisor	(831)883-6183	Regular business hours
Ryan Ranch Corporation Yard (See Attachment 1 - Ryan Ranch Business Response Plan)	Bret Johnson, Streets & Utilities Manager	(831)646-3927	Regular business hours
	Streets Division Standby	(831)760-2208 or (831)760-2210	Weekends and Evenings
Firestation #1 Fuel Station	Fleet Services - Rexford VanSlyke	(831)646-3956	Regular business hours
Lake Estero Generator/Pumps	Fleet Services - Rexford VanSlyke	(831)646-3956	Regular business hours
Tunnel Deisel Tank (Olivier St)	Fleet Services - Rexford VanSlyke	(831)646-3956	Regular business hours
Harbor or Marina (See Attachment 2 - Harbor and Marina Business Response Plan)	Harbor Division, Steve Scheiblaue	(831)646-3950	Regular business hours
	Harbor Security	(831)594-7760	Weekends and Evenings
Monterey Sports Center	Center Manager, Jeff Vierra	(831)646-3736	Regular business hours
City Parks	Parks Division, Louie Marcuzzo	(831)646-3860	Regular business hours
Runoff to Pacific Grove	City of Pacific Grove Public Works Department	(831)648-5722	Regular business hours
Runoff to Seaside	City of Seaside Public Works Dept	(831)899-6828	24 Hours
Runoff to Del Rey Oaks	City of Del Rey Oaks Public Works Dept	(831)394-1182	Regular business hours
Runoff to Sand City	City of Sand City Public Works Dept	(831)394-1386	Regular business hours
Runoff to Presidio of Monterey	Presidio of Monterey - Directorate Public Works	(831)242-7925	Regular business hours

**Spill and Enforcement Response Plan**

**Table 3: Other Contacts/Telephone Resources**

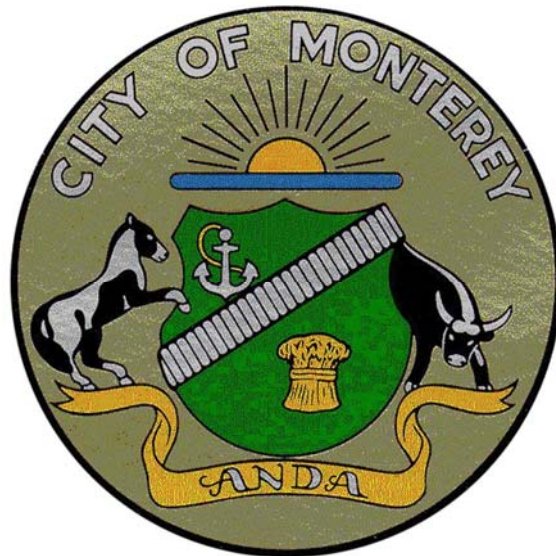
<b>Type of Spill or Incident</b>	<b>Who to Notify</b>	<b>Contact #</b>
All	Emergency Center (Monterey Countywide Dispatch)	911
County: Hazardous Materials, Sanitary Sewer Spills	Monterey County Health Department, Division of Environmental Health	(831)755-4511
State: Hazardous Materials or Sanitary Sewer Spills, at reportable quantities	California Office of Emergency Services (CAL OES)	(800)852-7550
Local: Non-Emergency, Police Dept.	City of Monterey Police Dept.	(831)646-3914
Local: Non-Emergency, Fire Dept.	City of Monterey Fire Dept.	(831)646-3914
Federal: Marina/Wharf/Spills in Bay	Coast Guard National Response Center (NRC)	(800)424-8802
Federal: Marina/Wharf/Spills in Bay	US Coast Guard Group Monterey	(831)647-7300
Federal: Affecting Marine Sanctuary	NOAA Hotline, <u>or</u> , Monterey Bay National Marine Sanctuary, Law Enforcement	(800)853-1964, <u>or</u> , (831)647-4203
State: Marine spills or negligence	California Department of Fish and Wildlife - Local Office	(831)649-2870
State: Discharges to Waters of State or US, at reportable quantities	Central Coast Regional Water Quality Control Board (Region 3)	(805)549-3147
State: Discharges that may impact Fish/Wildlife	California Department of Fish and Wildlife (Sacramento Dispatch), <u>or</u> , Region 4 – Central Region, Fresno	(888)334-2258, <u>or</u> , (559) 243-4005 ext. 151
Federal: Discharges that may impact Fish/Wildlife	US Fish & Wildlife Service, Pacific Southwest Region, Ventura Office	(805) 644-1766
Highway Incidents Only	Chemtrec (Highway incidents only)	(800)424-9300
Poison	Poison Control Center	(800)662-9886
Injury, Emergency Hospital	Community Hospital of the Monterey Peninsula	(831)624-5311
Injury, Non-Emergency Clinic	Monterey Bay Urgent Care, 245 Washington St., Monterey	(831)372-2273
City Contractors for Site Cleanup	Clearwater Environmental Management	(800)499-3676
	Evergreen Environmental Services	(800)972-5284
	Bayside Oil	(800)433-7425
	Tom's Septic and Green Line	(831)316-9570
	Green Line Liquid Waste Haulers	(831)240-0459

## City of Monterey

### HAZARDOUS MATERIALS

### BUSINESS RESPONSE PLAN

For Ryan Ranch Corporation Yard, Fuel Station at Fire Station #1, Cemetery Corporation Yard, Lighthouse Tunnel and El Estero Pumpstation



Supporting Materials for  
Phase II Permit Sections E.11.d

Updated June 2019



## Business Response Plan

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### Attachments

- Attachment 1: Site Map Showing Municipal Facilities
- Attachment 2: Map of Ryan Ranch Corporation Yard
- Attachment 3: Map of Fire Station #1 Fuel Pumps
- Attachment 4: Map of Cemetery Corporation Yard
- Attachment 5: Map of El Estero Pumpstation
- Attachment 6: Map of Lighthouse Tunnel Pumpstation
- Attachment 7: E-11-c Facility Assessment Form

## Business Response Plan

### Introduction

This Plan is designed to minimize hazards to employees, the public or the environment from fires, explosions, or any unplanned sudden or non-sudden release of hazardous materials, hazardous waste or hazardous constituents to air, soil, surface water or groundwater. The Plan is designed to set procedure for reporting all releases or threatened releases of hazardous materials.

This plan is designed to include the City corporation yard at 27 Ryan Ranch Road, Parks Corporation yard at El Estero Cemetery, the underground diesel tank located at Lake El Estero Pumpstation, underground storage tank at Lighthouse Avenue Tunnel, and the Fueling Station located at Firestation #1 (see table 1, Municipal Facilities and Associated Activities).

The Monterey County Health Department Environmental Health Division will be notified within 30 days after a change to the Plan or change of inventory. This Plan will be recertified every two years from initial date of submission. The Monterey County Health Department will be notified immediately on all releases or threatened releases of hazardous materials

### Hazardous Materials Incidents

- a) FIRES
  - Sound the fire alarm.
  - Advise that hazardous materials are involved.
  - Call 911 - Monterey County Emergency Operations Coordinator and the Monterey County Health Department.
  - Notify Business Emergency Coordinator. Assist in implementing Evacuation Plan.
  
- b) DRAINAGE OR WATERWAY INCIDENTS
  - Notify the Business Emergency Coordinator.
  - When there is a potential for hazardous material of any type to enter drainage ditches or waterways, call 911 and give full particulars, they will make notifications.
  
- c) NATURAL GAS LEAKS
  - Leaks may occur in large transmission lines, in the secondary mains, in the lines connecting mains to the building, or within buildings. P.G. & E. will respond to all such incidents, either on public or private property.
  - In the event of breaks or leaks, or smell of gas is reported, call 911. Fire departments will be dispatched, and in the event of major incidents, a Scene Management Officer will be required, as in other hazardous material incidents.
  
- d) OTHER SPILLS OR LEAKS
  - Notify 911 and the Monterey County Health Department (755-4511).

## Business Response Plan

### Releases To Be Reported (TBR)

- a) This business will, upon discovery, immediately report any release or threatened release of a hazardous material to the Monterey County Health Department, and to the Office of Emergency Services. This business will provide all State, City, County, Fire or Public Health or Safety Personnel and emergency rescue personnel with access to the facility.
- b) Release is defined as spilling, leaking, pumping, pouring, emitting, emptying, discharging, injecting, escaping, leaching, dumping, or disposing into the environment, unless permitted or authorized by a regulatory agency.
- c) Threatened Release means a condition creating a substantial probability of harm when the probability and potential extent of harm make it reasonably necessary to take immediate action to prevent, reduce, or mitigate damage to persons, property, or the environment.

### Responsibilities

- a) It's the responsibility of the Business Emergency Coordinator to respond to all Hazardous Materials Incidents; ensure that the necessary notifications to emergency response agencies are made; manage the scene until relieved by agencies who have jurisdictional responsibility for coordination of the scene. He has the responsibility to complete the necessary reports of the incident and make them available to the Facility Manager or his designee.
- b) It is the responsibility of all employees to conduct his/her job in a safe manner and in accordance with safety rules designated to protect employees, public health and the environment.
- c) Current inventory information on hazardous materials/hazardous waste handled and stored on site in addition to a current business response plan will be maintained on file with the County Health Department.
- d) A current facility map will be maintained on file with the County Health Department indicating locations where hazardous materials are normally stored.
- e) A current copy of the business response plan and a facility map shall be sent to the local fire agency or fire district in which the business is located.
- f) This information is to be made available to all employees and public agencies at all times.

### Notification Procedures

Facilities will be accessible to the County's designated emergency response personnel. When a release is observed or anticipated, the following steps will be taken:

- a) INITIALLY, determine the existence or potential existence of hazardous material. Where unidentified substance or vapors are involved in these incidents, it is always prudent to assume they are toxic or hazardous until determined otherwise.
- b) IMMEDIATELY ascertain the location of any incident involving hazardous materials and contact the Business Emergency Coordinator and make the appropriate dispatch of emergency equipment.

## Business Response Plan

- c) THE BUSINESS EMERGENCY COORDINATOR, or his designee, will contact 911 and the Monterey County Health Department who will initiate the emergency response plan. The Emergency Coordinator is to notify neighbors on all sides if necessary.
- d) SCENE MANAGEMENT shall be the responsibility of the Emergency Coordinator until the arrival of public safety response personnel. In such instance, the Business -Emergency Coordinator will cooperate with and support the lawfully designated Scene Manager.
- e) PROTECTION OF SCENE - It is imperative to protect responders and by-standers from injury or contamination. Personnel first on the scene should immediately take steps to secure the area and establish perimeter control at a safe distance until such time as agency personnel, e.g., Police or Fire, arrive and assume this responsibility.
- f) EVACUATION - The Scene Management Officer must determine if there is any potential danger to individuals in the area and take appropriate steps to notify and evacuate the business and neighbors. In major incidents, County and/or City Disaster Officials will be involved. Evacuation, reception and care will be followed as described in the County Major Disaster Plan.
- g) CLEAN-UP RESPONSIBILITY is determined by the cause of the incident. If caused by this company, this company has the responsibility to clean-up (either by company personnel or approved contractor).
- h) DECONTAMINATION - Appropriate steps must be taken to decontaminate all victims and response personnel. Local hospitals have facilities to assist in this procedure. Care must be taken to avoid spread of contamination by response vehicles leaving the scene. Victims are to be de-contaminated before transport by ambulance or emergency personnel notified that victim's may be contaminated.
- i) EMERGENCY MEDICAL RESPONSE - When needed the Business Emergency Coordinator or his designee should contact the business physician and appropriate hospitals and other medical services if transported by (company employees). If 911 is called, County Communications will be responsible for dispatching all necessary ambulances and coordinating reception of victims at appropriate hospitals. They will follow normal prescribed procedures and supplement with specific exchange of information if contamination is involved.
- j) IDENTIFICATION - As requested, County Communications will relay information between the response units at the scene and certain other agencies. In all incidents, follow procedure in order as listed in this Plan. Use supplemental information as required. Use pre-established and current call lists.
- k) All questions regarding requirements of Business Plans - call the Division of Environmental Health, Monterey County Health Department.

## **Business Response Plan**

### **Evacuation Plan**

Response to Fire, Explosion, Spill or Major Hazardous Material Emergency Incident.

- a) Purpose - to evacuate employees, contractors and other personnel to a safe location in an orderly manner in the event of an emergency.
- b) Notification - Call 911.
- c) Alarm -The person who notices the emergency will spread the alarm verbally.
- d) Supervisory Personnel –Division supervisors or lead workers will secure the area and order evacuation as necessary.
- e) Evacuation Signal - The order to evacuate will be given verbally.
- f) Exit Routes - Personnel will exit buildings by the shortest, safest routes.
- g) Assembly - Personnel will assemble in the southwest portion of the employee parking closest to yard gate.

### **Corporation Yard BMP's**

The following sections describe general BMPs and activity specific BMPs that are used at the corporation yards and fueling stations to minimize the discharge of pollutants in stormwater to the maximum extent practicable and to effectively prohibit non-stormwater discharges.

#### **General Good Housekeeping BMPs**

Good housekeeping, such as maintaining a clean and orderly facility, is practiced at the corporation yard in order to minimize the risk of contributing litter and other pollutants to stormwater. In addition, pollution prevention practices are used at the corporation yard to prevent pollutants from coming in contact with stormwater runoff. Examples of good housekeeping and pollution prevention practices employed include the following BMPs:

- A clean and orderly corporation yard is maintained.
- Materials that have the potential to discharge pollutants to stormwater are covered prior to predicted rains and during rainfall events if these materials cannot be stored permanently under a roofed or covered area.
- Container lids are closed when not in use.
- Storm drain inlet labels are maintained.
- A sufficient number of covered litter receptacles are provided at the corporation yard and they are cleaned out frequently enough to prevent overflow and spillage.
- Materials and wastes that may be spilled or mobilized by stormwater are stored as far away from storm drain inlets as practical.
- Vehicles and equipment are maintained to minimize drips and leakage.
- Drip pans or absorbent pads are used under leaking vehicles and equipment to capture fluids.
- Spill cleanup occurs promptly.
- Spill containment kits are stored in locations that have the potential for spills.



## Business Response Plan

- Washwaters and other non-stormwater discharges disallowed by the MRP are prevented from being discharged to the storm drain system.
- Maintenance staff who work at the corporation yard have been trained on the use of these general good housekeeping BMPs.
- The corporation yard is inspected weekly to make sure BMPs are being appropriately used.

## Activity Specific BMPs

The following BMPs or their equivalent are implemented at the facilities included in this document.

### *Vehicle and Equipment Washing*

1. Vehicle and equipment washing activities are located at a dedicated wash rack and plumbed to the sewer.
2. There is an outdoor equipment washing area that has the following characteristics: The area is paved and surrounded by berms or graded to prevent washwaters from flowing off and stormwater from adjoining areas from flowing onto the wash area. The wash area is sloped for washwater collection. Washwaters drain to a dead-end sump or to an oil-water separator and the sanitary sewer.
3. The wash area is adequately sized to minimize drag-out from washed vehicle so that there is no flow to storm drain inlets and to allow the washing of large vehicles entirely within the wash area containment system.
4. All vehicle washing systems are maintained and cleaned out on a regular schedule.
5. A trash container is provided in or nearby the wash area.
6. Staff responsible for washing vehicles and equipment have been trained on proper cleaning and wash water disposal procedures and refresher training occurs on a regular basis.

### *Vehicle and Equipment Maintenance and Repair*

1. Vehicle and equipment maintenance and repair activities are conducted indoors whenever feasible.
2. Maintenance activity areas are kept clean, well organized, and equipped with clean up supplies.
3. Vehicles and equipment are maintained to minimize drips and leakage.
4. Used fluids are promptly transferred to the proper waste or recycling drums/containers. Drain and drip pans or open containers are not left lying around.
5. Dry cleanup methods, such as sweeping, vacuuming, and/or a damp mop, are used. Vehicle equipment and maintenance and repair areas are never hosed down unless all of the washwater is collected and disposed to the sanitary sewer.
6. The vehicle and equipment maintenance and repair area is swept at least weekly.
7. Drip pans are used under leaky vehicles and equipment, and absorbent pads and materials are used as appropriate.
8. Used absorbent material from cleaning small spills is promptly and properly removed.
9. All fluids from wrecked vehicles are drained immediately using a drain or drip pan that is adequately sized.
10. Outdoor vehicle and equipment maintenance are not performed during rain events unless required by emergency conditions.

## Business Response Plan

11. If temporary work must be conducted outdoors, a tarp, ground cloth, or drip pan is placed under the vehicle or equipment to capture spills and drips.
12. Staff responsible for vehicle and equipment maintenance and repair has been trained on the use of these BMPs and refresher training occurs on a regular basis.

### *Fuel Dispensing*

1. The fueling area is paved with Portland cement concrete (or an equivalent smooth, impervious surface) with a 2 to 4% slope to prevent ponding, and it is separated from the rest of the site by a grade break that prevents run-on of stormwater to the extent practicable.
2. Signs are posted to remind employees not to top of the fuel tank.
3. The fuel dispensing area is kept clean using dry cleanup methods, such as sweeping or vacuuming to remove litter and debris and rags or absorbents to spot clean leaks and drips.
4. Spill containment kits are kept readily accessible in the fueling area.
5. A current spill response plan is maintained for fueling operations.
6. The fueling area is inspected daily during use and any deficiencies found are corrected.
7. Staff responsible for fueling has been trained on the use of these BMPs.

### *Municipal Vehicle, Heavy Equipment, and Employee Parking.*

1. Parking lots are kept clean and orderly. Litter and debris are removed in a timely fashion.
2. Trash receptacles are provided in the parking lot to discourage littering.
3. Parking lots are swept weekly to prevent the accumulation of litter and debris.
4. When surface cleaning is needed, MontereySEAs<sup>1</sup> "Stormwater Pollution Prevention" BMPs are used.
5. Paving and other equipment that have the potential to drip have drip pans or absorbent materials placed under the equipment to contain any leaks or spills.
6. Heavy equipment is inspected for leaks during each work day and repairs are made as soon as possible.
7. Drip pans or absorbent material are used under leaking vehicles and equipment to capture fluids until repairs can be made.
8. Parking lots are inspected at least weekly to assure compliance with these BMPs.
9. Staff who park municipal vehicles, heavy equipment, and private vehicles at the corporation yard have been trained on the use of these BMPs.

### *Waste and Recycling Storage*

1. Waste collection and recycling areas are kept clean.
2. Dumpster and waste recycling areas are inspected, swept, and picked up daily during work days.
3. Rubbish and recyclables that have been collected from streets and storm drains are stored under a roof or cover, if possible. Dumpsters and recycling containers are not overfilled, and lids are kept closed when not in use.
4. Street sweeping wastes and materials removed during storm drain cleaning are stored on a concrete or asphalt pad in a contained area as far away from storm drain inlets as

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<sup>1</sup> Monterey Stormwater & Education Alliance  
[http://montereysea.org/docs/commercial\\_washers/Pressure%20washer%20booklet%2008\\_08.pdf](http://montereysea.org/docs/commercial_washers/Pressure%20washer%20booklet%2008_08.pdf)

## Business Response Plan

practical. Water, including decanted water from vector trucks, drains to the sanitary sewer or is allowed to evaporate so that it does not flow to storm drain inlets.

5. Hazardous wastes are stored in compliance with hazardous waste regulations including the use of appropriate containers constructed of compatible materials with the lids securely closed when not in use.
6. An ample supply of appropriate spill cleanup materials is located near waste storage areas.
7. In the event of a spill, dry clean up methods are used.
8. Staff responsible for waste storage has been trained on the use of these BMPs, and refresher training occurs on a regular basis.

*[Modify as needed to tailor for your corporation yard.]*

### *Outdoor Material Storage*

1. To the extent feasible raw materials are stored inside.
2. To the extent feasible materials that must be stored outside are stored in a roofed area that is bermed to prevent contact with stormwater.
3. Stockpiles of raw materials that cannot be stored under a roof are kept covered when the material is not being used. Temporary waterproof covering may be made of polyethylene, poly propylene or hypalon.
4. If stockpiles are so large that they cannot feasibly be stored under a roof or covered, erosion control BMPs are used at the perimeter of the stockpile and at any storm drain inlet to prevent erosion of stockpiled material off site.
5. Fluids are stored within secondary containment to prevent accidental release.
6. Caution and control are used when transferring liquids to minimize potential spills.
7. Container lids, caps, and openings are kept closed when not in use.
8. Containers are kept out of pooled or standing water, and storage areas are kept clean.
9. Storage area pavements have sufficient slope to avoid pooling of water in areas where materials, such as compost and wood chips, may leach pollutants into stormwater.
10. Tanks are surrounded by berms that provide secondary containment.
11. Regular inspections of storage areas are conducted to detect leaks and spills.
12. Spill containment kits are kept in outdoor material storage areas.
13. Staff responsible for raw material storage and handling outdoors has been trained on the use of these BMPs including spill clean up procedures, and refresher training occurs on a regular basis.

## Training

- a) Familiarization with this Plan, evacuation signal and assembly point.
- b) Safety rules of your business, including procedures for safe handling of hazardous materials, emergency response responsibilities, and use of emergency response equipment and supplies. A syllabus of each subject is to be written and maintained on site. Documentation of training for each employee is to be maintained on site.
- c) Annual Inspections. Each facility outlined in this document will be inspected annually by City Staff using the checklist created for section E-11-c of Water Quality Order 2013-001 DWP (See Attachment 7).
- d) Annual refresher training.

## Business Response Plan

- 1) Initially provide employees with copies of the Business Response Plan. Annually review the plan during monthly tailgate safety meetings.
- 2) Employees will be familiarized with safety rules, hazardous material training procedures, and emergency response responsibilities through video, in-house training and monthly tailgate meetings.
- 3) Employees will be given annual and monthly refresher training through the use of video, in- house, and Monterey Fire Department training seminars.

Note: It is required that training records be kept on each employee in order to be prepared for emergencies and reduce your liability. Training records are required of Hazardous Waste Generators by law.

**Table 1: Municipal Facilities and Associated Activities Covered in This Document**

Municipal Facility	Activities of Concern Conducted
Corporation Yard at 25, 26, & 27 Ryan Ranch	Loading, unloading, handling, and storage of anti-freeze, asphalt, batteries, chemicals, concrete, diesel wastes, emulsions, fertilizer, fuel, green wastes, hazardous materials, new and used oil, paint products, pesticides, scrap metal, paints, solvents, trash and debris, and wash water
	Filling underground storage tank (UST) with used oil, collection and pump out
	Storage and dispensing of fuels to equipment with portable fuel containers
	Vehicle and equipment parking and storage
	Vehicle , equipment, and material washing and steam cleaning
	Leak and spill cleanup
Fire Station #1 Fuel Station (351 Madison St.)	Filling of AST's and USTs with fuels
	Dispensing of fuels to vehicles, equipment, and portable fuel containers
	Vehicle equipment parking and storage
	Vehicle washing (Fire vehicles only)
	Leak and spill cleanup
	Public recycling collection
	Sand stockpile for public use
Cemetery Corporation yard (El Encinal Cemetary at Pearl St.)	Loading, unloading, handling, and storage of green waste, landscape, garden, maintenance and cleaning materials
	Vehicle and equipment parking and storage
	Storage and dispensing of fuels to equipment with portable fuel containers
	Leak and spill cleanup
El Estero Pump Station (912 Del Monte Ave)	Filling 600 gallon underground storage tank (UST) with diesel fuel
Tunnel Pumps at Lighthouse Avenue	Filling 60 gallon diesel storage tank for backup generator.

**Table 2: Local/City Resources – Contacts/Telephone Reference**

**Primary Contacts**

<b>Name</b>	<b>Title</b>	<b>Contact #</b>	<b>Time to Notify or Available</b>
Bret Johnson	Fleet & Street Operations Manager	(831)646-8761	Regular business hours
Rex Van Slyke	Fleet Coordinator	(831)760-2094	Regular business hours
Emergency Center	Monterey County	9-1-1	24 Hours

**Alternate Contacts**

<b>Name</b>	<b>Title</b>	<b>Contact #</b>	<b>Time to Notify or Available</b>
Louie Marcuzzo	Parks Operations Manager	(831)596-8957	Regular business hours
Chemtree	Highway incidents only	1-800-262-8200	Regular business hours
Poison Control Center	Poison and prevention	1-800-222-1222	Regular business hours
Community Hospital of the Monterey Peninsula	Medical Emergency	(831)624-5311	Regular business hours
Doctors on Duty	501 Lighthouse Ave	(831)649-0770	Regular business hours
Ambulance	Medical Emergency	9-1-1	24 Hours
California Highway Patrol	Highway related incidents	9-1-1	24 Hours
Sheriff	County roads	9-1-1	24 Hours
Local Police	City Streets	9-1-1	24 Hours
County Agricultural Commissioner	Pesticide related incidents	(831)759-7325 Or 9-1-1	24 Hours

**List of Contractors for Site Clean Up**

Safety Kleen	Salinas, CA	(888)375-5336	Regular business hours
Dispose Hazardous Waste		(888)557-9670	Regular business hours
Ashbury Environmental		(800)727-2879	Regular business hours
Clearwater Environmental Management		(800)499-3676	Regular business hours
Evergreen Environmental Services		(800)972-5284	Regular business hours
Bayside Oil		(800)433-7425	Regular business hours
Tom’s Septic and Green Line		(831)316-9570	Regular business hours
Green Line Liquid Waste Haulers		(831)240-0459	Regular business hours



**Table 3: Checklist for Emergency Response Actual or Anticipated Spill/Release**

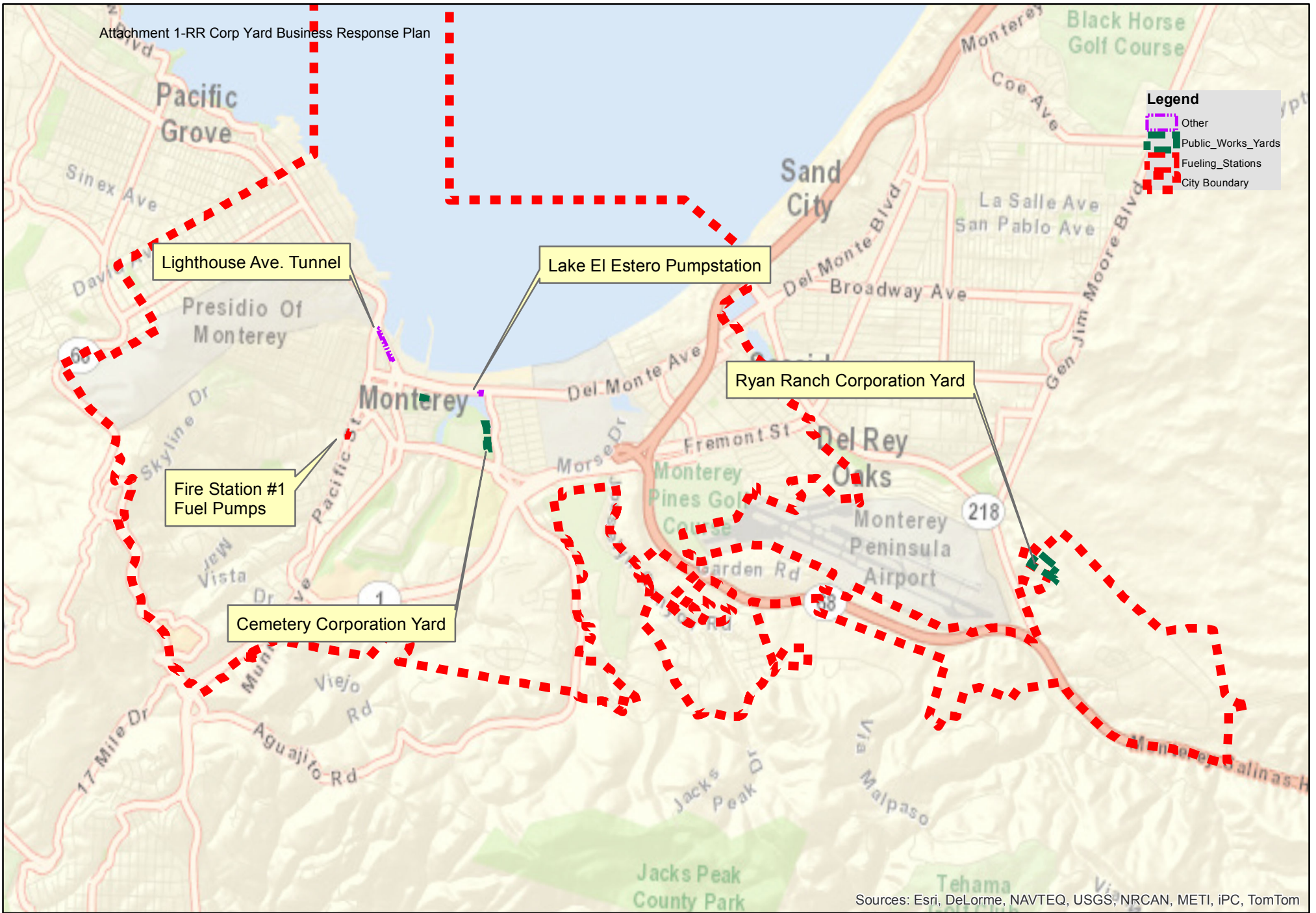
	<b>Action</b>	<b>Person Responsible</b>
1.	Recognize spill, release or potential hazard.	Person observing
2.	Notification of personnel in immediate Vicinity.	Person observing
3.	Immediate action to prevent or neutralize.	Business Emergency Action Team
4.	Notification of City/County Emergency Responders.	Business Emergency Action Team
5.	Evacuation of persons from area, if deemed necessary.	Business Emergency Action Team
6.	Notify CHEMTREC. If applicable, furnish material safety data sheets for material involved.	Business Emergency Action Team or County
7.	Assign knowledgeable business representative to incident commander.	Business Emergency Action Team
8.	Complete clean-up.	Business Emergency Action Team
9.	Complete final report.	Business Emergency Action Team

**Business Response Plan**

**Table 4: Other Contacts/Telephone Resources**

<b>Type of Spill or Incident</b>	<b>Who to Notify</b>	<b>Contact #</b>
All	Emergency Center (Monterey Countywide Dispatch)	911
County: Hazardous Materials, Sanitary Sewer Spills	Monterey County Health Department, Division of Environmental Health	(831)755-4511
State: Hazardous Materials or Sanitary Sewer Spills, at reportable quantities	California Office of Emergency Services (CAL OES)	(800)852-7550
Local: Non-Emergency, Police Dept.	City of Monterey Police Dept.	(831)646-3914
Local: Non-Emergency, Fire Dept.	City of Monterey Fire Dept.	(831)646-3914
Federal: Marina/Wharf/Spills in Bay	Coast Guard National Response Center (NRC)	(800)424-8802
Federal: Marina/Wharf/Spills in Bay	US Coast Guard Group Monterey	(831)647-7300
Federal: Affecting Marine Sanctuary	NOAA Hotline, <u>or</u> , Monterey Bay National Marine Sanctuary, Law Enforcement	(800)853-1964, <u>or</u> , (831)647-4203
State: Marine spills or negligence	California Department of Fish and Wildlife - Local Office	(831)649-2870
State: Discharges to Waters of State or US, at reportable quantities	Central Coast Regional Water Quality Control Board (Region 3)	(805)549-3147
State: Discharges that may impact Fish/Wildlife	California Department of Fish and Wildlife (Sacramento Dispatch), <u>or</u> , Region 4 – Central Region, Fresno	(888)334-2258, <u>or</u> , (559) 243-4005 ext. 151
Federal: Discharges that may impact Fish/Wildlife	US Fish & Wildlife Service, Pacific Southwest Region, Ventura Office	(805) 644-1766
Highway Incidents Only	Chemtrec (Highway incidents only)	(800)424-9300
Poison	Poison Control Center	(800)662-9886
Injury, Emergency Hospital	Community Hospital of the Monterey Peninsula	(831)624-5311
Injury, Non-Emergency Clinic	Monterey Bay Urgent Care, 245 Washington St., Monterey	(831)372-2273
Site Cleanup Services	Clearwater Environmental Management	(800)499-3676
	Evergreen Environmental Services	(800)972-5284
	Bayside Oil	(800)433-7425
	Tom's Septic and Green Line	(831)316-9570
	Green Line Liquid Waste Haulers	(831)240-0459





Sources: Esri, DeLorme, NAVTEQ, USGS, NRCAN, METI, IPC, TomTom



DESIGNED BY:	CITY OF MONTEREY		
DRAWN BY:			
CHECKED BY:	APPROVED		
DATE:	SENIOR ENGINEER _____	REGIST. NO. _____	DATE _____

**Hazardous Materials  
Business Response Plan  
Site Map**






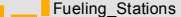

REVISIONS	DATE	No	SCALE
			1 inch = 3,684 feet
			DRAWING NAME
			PROJECT NAME

**Att. 1**





**Legend**

-  Streams
-  CITY STORM POINTS
-  CITY STORM DRAIN
-  Other
-  Public\_Works\_Yards
-  Fueling\_Stations
-  City Boundary



DESIGNED BY:	<b>CITY OF MONTEREY</b>
DRAWN BY:	
CHECKED BY:	
DATE:	
APPROVED:	SENIOR ENGINEER _____ REGIST. NO. _____ DATE _____

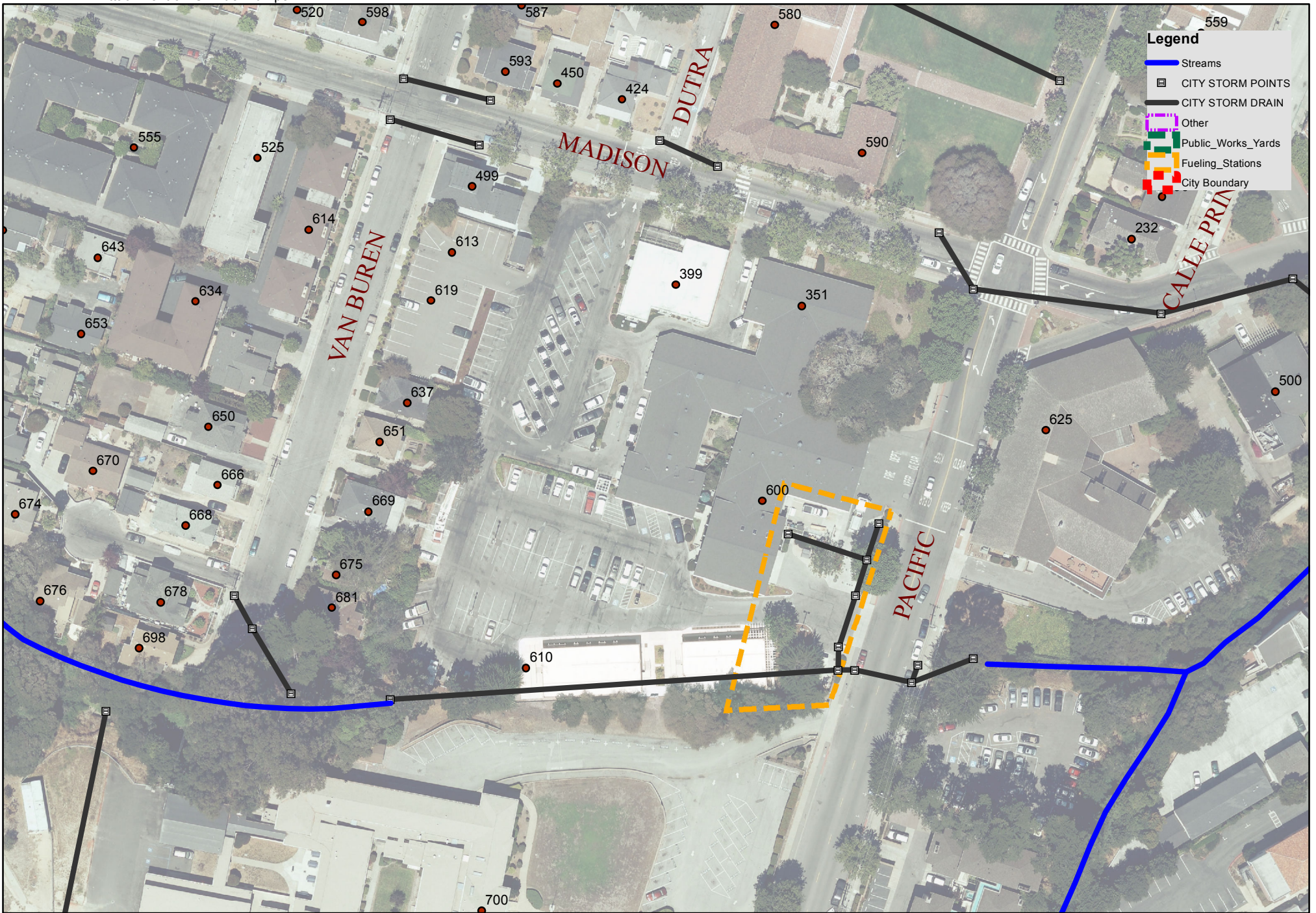
Ryan Ranch Corporation Yard  
25 Ryan Ranch Rd.

REVISIONS	DATE	No	SCALE
			1 INCH = 144 FEET
			DRAWING NAME
			PROJECT NAME

Att. 2







DESIGNED BY:	<b>CITY OF MONTEREY</b>
DRAWN BY:	
CHECKED BY:	
DATE:	
APPROVED	SENIOR ENGINEER _____ REGIST. NO. _____ DATE _____

**Fire Station #1**  
**Fueling Pumps**  
**600 Pacific St.**

REVISIONS	DATE	NO.	SCALE

1 inch = 100 feet  
 DRAWING NAME  
 PROJECT NAME

**Att. 3**







DESIGNED BY:	<b>CITY OF MONTEREY</b>
DRAWN BY:	
CHECKED BY:	
DATE:	
SENIOR ENGINEER _____ REGIST. NO. _____ DATE _____	

Cemetery Corporation Yard El Encinal Cemetery
--








REVISIONS	DATE	NO	SCALE
			1 inch = 200 feet
			DRAWING NAME
			PROJECT NAME

**Att. 4**





**Legend**

-  Streams
-  CITY STORM POINTS
-  CITY STORM DRAIN
-  Other
-  Public\_Works\_Yards
-  Fueling\_Stations
-  City Boundary



DESIGNED BY:	<b>CITY OF MONTEREY</b>	
DRAWN BY:		
CHECKED BY:		
DATE:		
SENIOR ENGINEER _____	REGIST. NO. _____	DATE _____

<b>Lake El Estero Pumpstation</b>
---------------------------------------

REVISIONS	DATE	No	SCALE
			1 inch = 100 feet
			DRAWING NAME
			PROJECT NAME

Att. 5







## MCSTOPPP Municipal Facility Assessment Sheet

A. Facility Information	
Facility Name:	Date:
Facility Location:	Inspector(s):
Facility Description:	Receiving Water:
B. Vehicle and Equipment Operations <input type="checkbox"/> N/A (skip to part C )	
B1. Types of vehicles/equipment: <input type="checkbox"/> Fleet <input type="checkbox"/> Maintenance <input type="checkbox"/> Heavy equipment <input type="checkbox"/> Other _____	
B2. Approximate number of vehicles/equipment: _____	
B3. Vehicle Activities (check all that apply) : <input type="checkbox"/> Maintained <input type="checkbox"/> Repaired <input type="checkbox"/> Fueled <input type="checkbox"/> Washed <input type="checkbox"/> Stored	○
B4. Are vehicles/equipment stored outside? <input type="checkbox"/> Y <input type="checkbox"/> N	○
Are vehicles/equipment covered and drip pans used where needed? <input type="checkbox"/> Y <input type="checkbox"/> N	
B5. Are vehicles repaired outside? <input type="checkbox"/> Y <input type="checkbox"/> N	○
B6. Is there evidence of spills/leakage from vehicles/equipment? <input type="checkbox"/> Y <input type="checkbox"/> N	○
B7. Is fuel storage or a fueling area present? <input type="checkbox"/> Y <input type="checkbox"/> N	○
B8. If there are fueling areas, are they covered? <input type="checkbox"/> Y <input type="checkbox"/> N	○
B9. If there are fueling areas, are they directly draining to storm drains or a waterbody? <input type="checkbox"/> Y <input type="checkbox"/> N	○
B10. If there are fueling areas, is there a spill response kit close by and clearly marked? <input type="checkbox"/> Y <input type="checkbox"/> N	○
B11. Are vehicles and equipment cleaned outside? <input type="checkbox"/> Y <input type="checkbox"/> N	○
Are they cleaned in designated areas that are contained and drain to the sanitary sewer? <input type="checkbox"/> Y <input type="checkbox"/> N	
C. Outdoor Materials Storage <input type="checkbox"/> N/A (skip to part D )	
C1. Are materials loading/unloading operations present? <input type="checkbox"/> Y <input type="checkbox"/> N	○
C2. Is there a spill response kit close by and clearly marked? <input type="checkbox"/> Y <input type="checkbox"/> N	○
C3. Are hazardous materials stored outside? <input type="checkbox"/> Y <input type="checkbox"/> N	○
Are they covered and have secondary containment? <input type="checkbox"/> Y <input type="checkbox"/> N	
C4. Are storage containers missing labels or in poor condition? <input type="checkbox"/> Y <input type="checkbox"/> N	○
C5. Are bulk materials storage or stockpiles present? <input type="checkbox"/> Y <input type="checkbox"/> N	○
Are the storage bins or stockpiles covered and bermed? <input type="checkbox"/> Y <input type="checkbox"/> N	
C6. Is cold patch stored onsite? <input type="checkbox"/> Y <input type="checkbox"/> N Is it covered? <input type="checkbox"/> Y <input type="checkbox"/> N	○
D. Waste Management <input type="checkbox"/> N/A (skip to part E )	
D1. Types of waste: <input type="checkbox"/> Garbage <input type="checkbox"/> Construction materials <input type="checkbox"/> Hazardous materials <input type="checkbox"/> Green	○
D2. Is the dumpster properly maintained? <input type="checkbox"/> Y <input type="checkbox"/> N If No, check any that apply: <input type="checkbox"/> No cover/Lid is open <input type="checkbox"/> Damaged/poor condition <input type="checkbox"/> Leaking or evidence of leakage (stains on ground) <input type="checkbox"/> Overflowing	○
D3. Is the dumpster near a storm drain inlet or waterbody? <input type="checkbox"/> Y <input type="checkbox"/> N	○
If yes, are there runoff diversion methods (berms, curbs)? <input type="checkbox"/> Y <input type="checkbox"/> N	
D4. Is hazardous waste collected or generated at this site? <input type="checkbox"/> Y <input type="checkbox"/> N If yes, is it properly stored and disposed of (covered, secondary containment, HHW drop-off)? <input type="checkbox"/> Y <input type="checkbox"/> N	○
D5. Is there a green waste pile? <input type="checkbox"/> Y <input type="checkbox"/> N	○
If yes, are there runoff diversion methods (berm, covered)? <input type="checkbox"/> Y <input type="checkbox"/> N	
E. Parking Areas <input type="checkbox"/> N/A (skip to part F )	
E1. Parking surface material (check all that apply) : <input type="checkbox"/> Asphalt/Concrete <input type="checkbox"/> Gravel <input type="checkbox"/> Permeable Condition of surface? <input type="checkbox"/> Clean <input type="checkbox"/> Stained <input type="checkbox"/> Dirty <input type="checkbox"/> Breaking up	○
E2. Is loose trash present? <input type="checkbox"/> Y <input type="checkbox"/> N	○
E3. Is the parking area routinely swept and/or maintained? <input type="checkbox"/> Y <input type="checkbox"/> N	○
F. Turf/Landscaped Areas <input type="checkbox"/> N/A (skip to part G )	
F1. Are turf/landscape areas managed under an IPM Program? <input type="checkbox"/> Y <input type="checkbox"/> N	○
F2. Is there permanent or non-target irrigation? <input type="checkbox"/> Y <input type="checkbox"/> N Are there signs of over-irrigation/runoff? <input type="checkbox"/> Y <input type="checkbox"/> N	○
F3. Do landscaped areas drain to the storm drain system or a watercourse? <input type="checkbox"/> Y <input type="checkbox"/> N	○
F4. Is loose trash present? <input type="checkbox"/> Y <input type="checkbox"/> N	○
F5. Are there bare soil areas that could discharge sediment to a storm drain or a watercourse? <input type="checkbox"/> Y <input type="checkbox"/> N	○
G. Storm Drain System <input type="checkbox"/> N/A (skip to part H )	
G1. Is there any debris in the catch basins? <input type="checkbox"/> Y <input type="checkbox"/> N If so, what? <input type="checkbox"/> Trash <input type="checkbox"/> Sediment <input type="checkbox"/> Leaf debris Rate the Accumulation (Low, Medium, High) for each: Trash _____ Sediment _____ Leaf Debris _____	○
G2. Is there any non-stormwater discharging to the catch basins? <input type="checkbox"/> Y <input type="checkbox"/> N	○
What is the source? <input type="checkbox"/> Groundwater <input type="checkbox"/> Exempt discharge <input type="checkbox"/> Over-irrigation <input type="checkbox"/> Illicit discharge	
H. Site Assessment Scoring	
H1. Add up total number of of circles filled in from the previous page	
H2. Results based on number of circles filled in	
(0-4)	Non-Hotspot - Continue to implement Best Management Practices (BMPs) and Good Housekeeping procedures. This facility will not require any further assessments for this Permit term.
(5-9)	Potential Hotspot - Review current BMPs and Good Housekeeping procedures. Consider implementing additional BMPs to improve the facility. A reassessment is recommended but not required for this Permit term. This facility will not be considered a Hotspot at this time.

Attachment 1-RR Corp Yard Business Response Plan

<b>(10-15)</b>	Confirmed Hotspot - Review current BMPs and Good Housekeeping procedures. Consider implementing additional BMPs to improve the facility. An annual reassessment is strongly recommended for this Permit term. This facility will require a SWPPP in Year 4 unless there is an existing Hazardous Materials Business Plan, Spill Prevention Plan, or other equivalent document. Year 5 quarterly and annual inspections will also required.
<b>(15+)</b>	Severe Hotspot - Review current BMPs and Good Housekeeping procedures. Implement additional BMPs to improve the facility immediately and reassess. An annual reassessment is strongly recommended for this Permit term. This facility will require a SWPPP in Year 4 unless there is an existing Hazardous Materials Business Plan, Spill Prevention Plan, or other equivalent document. Year 5 quarterly and annual inspections will also required.

**I. Assessment Scoring Guidelines - Fill in the circles on the Assessment Sheet if the following apply**

- B. Vehicle and Equipment Operations**  
**B1.** No circle - Just check all that apply. Other may include things like portable pumps, generators, golf carts, etc.  
**B2.** No circle - Just fill in approximate numbers for both vehicles and equipment:     /\_\_\_\_  
**B3.** If any of the boxes are checked  
**B4.** If vehicles/equipment stored outside don't have covers or drip pans but show signs of needing them  
**B5.** If Yes  
**B5.** If Yes  
**B7.** If fuel storage or a fueling area present fill in circle and designate facility as a **Hotspot B8.** If No  
**B9.** If Yes  
**B10.** If No  
**B11.** If Yes, but No, they aren't cleaned in designated areas that are contained and drain to the sanitary sewer
- C. Outdoor Materials Storage**  
**C1.** If Yes  
**C2.** If No  
**C3.** If Yes, but No, they are not covered or have no secondary containment  
**C4.** If Yes  
**C5.** If Yes, but No, the storage bins or stockpiles are not covered and bermed  
**C6.** If Yes, but No, it is not covered
- D. Waste Management**  
**D1.** If any of the boxes are checked  
**D2.** If No, and any of the boxes are checked  
**D3.** If Yes, but No, there are no runoff diversion methods (berms, curbs)  
**D4.** If Yes, but No, it is not properly stored and disposed of (covered, secondary containment, HHW drop-off)  
**D5.** If Yes, but No, there are not runoff diversion methods (berm, covered)
- E. Parking Areas**  
**E1.** If the parking area surface material is Asphalt/Concrete and the condition is Stained, Dirty, or Breaking up  
**E2.** If Yes  
**E3.** If No
- F. Turf/Landscaped Areas**  
**F1.** If No  
**F2.** If Yes, and Yes, there are there signs of over-irrigation/runoff  
**F3.** If Yes **F4.** If Yes **F5.** If Yes
- G. Storm Drain System**  
**G1.** If Yes, and the accumulation for Trash or Sediment is Medium or High, or if Leaf Debris is High  
**G2.** If Yes, and the source is coming from Over-irrigation or an Illicit discharge



## **Business Response Plan**

**City of Monterey Harbor and Marina  
Foot of Washington Street  
Monterey, CA 93940  
(831) 646-3950  
Fax 646-5674**

**Mailing Address  
City of Monterey Harbor Office  
250 Figueroa St  
Monterey, CA 93940**

Primary Contact: Harbormaster, John Haynes (831) 646-3951  
Alternate Contacts: Harbor Coordinator, Brian Nelson (831) 646-3950  
After Hours (5:00 P.M. to 8:00 A.M.) Contact: Harbor Security (831) 594-7760

This plan is designed to minimize hazards to employees, the public or the environment from releases of hazardous materials or hazardous waste into the air, soil, ground or water, fires and explosions.

**Revised 7/22/2019**

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## **Overview**

The City of Monterey, Office of the Harbormaster oversees the Monterey Harbor. The Monterey Harbor includes all of the waters and facilities from the mean higher highwater line along the shore of Monterey between the Jetty at the south end of Cannery Row, Munciple Wharf #2, and a straight boundry line between the outermost ends of the Jetty and Wharf #2. Also included are the Harbormaster's Office, the Boater's Waste Collection shed adjacent to the Harbormaster's Office, and the Dry Storage Yard at the base of Wharf #2.

Munciple Wharf #2 and Old Fisherman's Wharf have resturaunts and retail stores, a boaters guest dock, and loading for charter boat and cruise ship passengers. Wharf #2 has resturaunts, fish processing facilities and retail fish markets, a Boater's Waste Collection shed, and vehicle parking. The Harbormaster's office administers 413 wet berths in the City Marina at the south end of the Harbor and up to 120 moorings in the Outer Harbor. There are up to 30 moorings outside the harbor on the east side of Wharf #2 from April 1<sup>st</sup> through October 31<sup>st</sup> that are administered by the Harbor Office.

Breakwater Cove Marina and Monterey Bay Boatworks also operate a marina, boatyard, and boat fueling facility within the Monterey Harbor. Breakwater Cove and Monterey Bay Boatworks have their own Business Response Plans.

Harbor Maintenance Staff utilize a building at 417 Figueroa St that stores compressed gas cylinders, various tools, some chemicals, and overstock hazardous materials containment and clean-up supplies.

### **Boater's Waste Collection:**

The City of Monterey will accept waste streams generated from the normal operation of our customer's boats.

- Monterey Marina hosts and supports a free sewage pump out station in the Marina. It is located inside the Marina on A-Tier extension. A-Tier extension runs parallel to Wharf 2 between the A-Tier ramp and the Sandbar and Grill Restaurant. The pump-out systems discharge into the City sewage line under Municipal Wharf #2
- Solid Waste (non-hazardous) is collected in dumpsters located by the Harbor Office and on Wharf #2 just inside the A-Tier security gate.
- There are two drop off points for routine operating waste generated by boats in the Harbor and Marina. These two Boater's Waste Collection Stations are located on the northwest side of the Harbor Office and the West side of Wharf 2 just shoreward of the warehouse building. Access is through a locked gate or door with the same key used for Marina gates. Waste streams accepted are:
  - Used Oil
  - Used Diesel Fuel
  - Oily Water
  - Used Oil/Fuel Filters
  - Anti-freeze
  - Used Sorbant Pads
  - "Sludge" (oil contaminated clay media, heavy grease etc.)

Our customer's boats generate the waste collected at our stations, which are not intended to receive waste from other sources, or large quantities of waste generated by boat overhaul projects, large projects on the exterior of the vessel or projects appropriate for Boatyards. Only incidental amounts of waste are generated by routine Harbor Maintenance activities. We do not accept paints, solvents or gasoline. Customers with these waste materials are directed to the Marina Landfill for proper disposal of household hazardous waste. Lead acid batteries dropped off at the collection stations are transported to a recycling center.

### **Boater's Waste Collection Station Containers**

Used Oil is collected in 140-gallon double wall tanks at each Boater's Waste Station. All other liquid waste, sludge and sorbent pads/booms are collected in 55-gallon drums at the Stations. The 55-gallon collection drums rest on containment pallets with sumps designed to contain leaks and spills. Pick up is by a licensed Hazardous Waste Hauler, typically Bayside Oil, and Environmental logistics, Inc. scheduled when a container is approaching its capacity or within 180 days of the accumulation start date. These waste contractors have instructions from us to recycle or incinerate waste stream materials whenever possible, even if the process would be more expensive than other options.

### **Spill Response (Note: See Personal Protection Equipment)**

Occasional small Fuel or Oil Spills in the Marina waters are the most common type of spill and initiate an immediate notification and clean up response.

The Harbor Staff investigates to verify that a spill has occurred. During working hours the responding employee will notify the Harbor Office personnel and identify the source and type of spill if known. Office personnel will make calls to emergency response agencies and maintenance staff. After Hours, Monterey Fire Department and a Harbor Coordinator will be notified by the responding employee via cell phone.

The responding employee will take steps to secure the area from the public. Scene Management will be the responding individual's responsibility until relieved by Monterey Fire Department, the Harbor Coordinator, or Harbormaster. Scene management includes making sure that responding or evacuating personnel do not spread the contamination.

Once the source is identified, appropriate steps will be taken to eliminate or isolate the source and contain the material. For highly flammable or unidentified spills, Monterey Fire Department will initiate the clean up with appropriate support from the Harbor Staff as requested. Marina sorbent booms, pads and collection drums are sufficient to clean up spills to 100 gallons of oil or diesel. Additional material resources are available at the local Coast Guard Station where Coast Guard MSO San Francisco has pre-staged a spill response trailer.

If known the owner of the property originating a spill will be notified and, if they respond, clean up will be turned over to his personnel or his contractor. The responsible party will be reminded to make the required spill notifications.

Spills on land are easier than water spills to contain and clean up. It would be unusual for quantities of material spilled in the waterfront to meet reporting requirements unless they reach ground water (spills on dirt) or the ocean (storm drains.) For land spills that do not reach the water but meet or exceed the reporting quantity, in addition to Monterey Fire Department contact Cal OES and County Health (see Spill Notification.) The spill must be contained to prevent the material from entering Harbor waters or storm drains.

Oil and fuel may be contained and cleaned up with sorbent pads/booms. Anti-Freeze spills may be cleaned up with rags and buckets.

If the spilled material cannot be identified, Harbor Personnel will notify the Fire Department, secure the scene and keep everyone from approaching the spill, especially from downwind. If possible while staying clear of the spill, the materials will be contained on concrete or asphalt with booms, clay media or dirt berms until Monterey Fire Department personnel respond. Harbor Staff will provide support as directed by Fire Department Personnel. All contaminated materials shall be collected, and handled as Hazardous Waste. Unidentified materials will always be handled by Monterey Fire Department.

**Spill Notifications:**

A spill of any size in the water that produces a sheen or sludge must be reported. Contact the Harbor Coordinator or the Harbormaster who will make the appropriate release notifications.

For gasoline or unidentified spills in the water, **Monterey Fire Department** must be immediately notified via Monterey Center on the cell phone at 646-3914, the office phone at 3914 or via the security radio. Harbor Personnel are not trained for these releases and do not have the necessary Personnel Protection Equipment (PPE.) Monterey Fire Department is a valuable resource and should be contacted and informed whenever a clean-up effort is initiated.

Additional notifications for spills in the water are made to the **Coast Guard National Response Center (NRC)** (1-800-424-8802) and **California Office of Emergency Services (CAL OES)** (1-800-852-7550.) These agencies will assign tracking numbers to the incident, which must be recorded, logged and referenced in subsequent reports.

Cal OES will contact the **County Health Department** (647-7654) but County Health should also be called. After hours they may be contacted through Monterey Center, (646-3914)

**California Department of Fish and Game** (Sacramento Dispatch 1-888-334-2258) is also notified by OES. The local Fish and Game office (649-2870) may be contacted for large spills or when negligence is suspected and law enforcement may be interested in prosecution. Fish and Game will cite and prosecute violators.

Notify the **Monterey Bay Sanctuary Office** (647-4201) of spills that may jeopardize sanctuary resources or water quality.

**Other Contact Numbers:**

Chemtrec (Truck incidents)	1-800-424-9300
Poison Control Center	1-800-662-9886
Community Hospital of the Monterey Peninsula	625-4900
County Agricultural Commissioner ( <b>pesticides</b> )	(408) 759-7325
Bayside Oil	1-800-433-7425
Evergreen Environmental Services	(510) 795-4400

**Spill Clean Up Materials**

Clean up resources available in the Marina include 3” and 5” diameter containment boom sections and sorbent pads.

Pads and plastic bags are staged in the Harbor Office Break Room. 3” and 5” boom material is located in a locker under the South Tier Ramp. Additional boom and pads are located in the locker at the top of the A-Tier Ramp.

1000’ of hard boom is staged under cover at the end of “K” dock for use on large spills.

Boat Hooks and poles for manipulating booms and pads are located in the Wharf 2 Bathroom Utility Space the Harbor Office Break Room in the City Boats and the A-Tier locker.

Additional sorbent materials and plastic bags are available in the Figueroa Street Shop with 55-gallon drums for disposal packaging.

The Harbor’s Hazardous Waste Stations are sized for receiving small “maintenance” quantities of oil, fuel and sorbent pads. In the event of a large spill, temporary containment will be set up at the City Industrial Yard at 417 Figueroa Street (Figueroa Street Shop) until a licensed hazardous waste transporter can pick up the contaminated clean up materials. A separate EPA I.D. number has been



established for the Figueroa Street shop for occasions when the capacities of the receiving stations are overwhelmed.

Clay media is available in small quantities at the Figueroa Street Shop and the two Boater's Waste Collection Stations.

Buckets and rags are available at the Figueroa street shop and the Harbor Office break room.

A sorbent pad wringer assembly that attaches to the top of a 55-gallon drum is also available at the Figueroa Shop. The wringer can be set up at the spill site and allows oil to be wrung out of pads and booms into the 55-gallon drum. The pads and booms can then be re-used.

Hazardous Waste Labels for containers are available at the Harbor Office break room. All contaminated materials are collected in 55-gallon drums, labeled and pick up scheduled with a licensed Hazardous Waste Contractor (see Other Contact Numbers.) If the source of the spill is known, all clean up and disposal costs will be billed to the generator.

### **Fire Response**

Immediately report fires to Fire Communications (755-5100), or Monterey Center on the cell phone at 646-3914, the office phone at 3914 via the security radio, or calling 911.

Priorities in order are:

- Notify Center
- Sound the Alarm
- Secure the Scene
- Meet responding Monterey Fire Department personnel; provide a contact briefing of location and circumstances.
- Assist with Marina evacuation as directed.
- Assist with utility/water isolation as directed.

Harbor Personnel do not have the proper PPE and will not participate in Fire Fighting. Initial response (after reporting the fire) to a small fire easily extinguished with a fire extinguisher or water hose, such as a small trash can, may be an exception. Monterey Fire Department will respond and manage the fire. Our primary responsibility is to make the notification, sound the alarm, secure the scene and assist with Marina evacuation as directed.

### **Fire Fighting Equipment in the Marina**

Located throughout the Marina on the docks are fire stations containing fire extinguishers. Standpipes for the Fire Departments use are installed throughout the marina. The installed system is a wet system.

Pre-staged at the South Tier ramp by the Monterey Fire Department is a hand truck with two 5-gallon cans of fire fighting foam concentrate and an inline foam proportioner. In the locker at the top of the A-Tier ramp is another can of pre-staged foam concentrate.

### **Marina Evacuation**

The Alarm for Emergencies is accomplished by voice on the Marina Public Address system. Our customers should be informed of the nature of the emergency and directed to evacuate the Marina in an orderly manner. Direct personnel isolated from the exit to the Tier End ties where a boat pick up may be accomplished with the Harbor work boat. Always direct customers away from involved areas. Inform Monterey Fire Department or other emergency response personnel of the status of the evacuation and what actions have been, or remain to be taken, removing isolated personnel from the end ties. If you have reason to believe that there are individuals in the Marina who have not responded to the evacuation order, or may be incapacitated, this should also be included in the brief to the Fire Department's on scene coordinator.

## **Personal Protection Equipment (PPE)**

Proper PPE and good hygiene practices are required for handling all hazardous materials and hazardous wastes. PPE consisting of disposable nitrile gloves, eye protection (glasses, chemical goggles and face shields), rubberized rain suits and rubber boots. These are available at the Harbor Office and the Figueroa Street Shop. Tyvek suits with attached booties and hoods, gloves and goggles are pre-staged at the A-Tier ramp locker and Harbor Office break room. These items are sufficient for materials routinely handled in the Marina. Personnel must be appropriately protected for the materials involved in the spill. If uncertain, review the representative MSDS for the material such as Diesel Fuel, Lubricating Oil, and Hydraulic Oil etc. before handling. If respiratory protection is required, or the substance cannot be identified, wait for Monterey Fire Department personnel who will have the appropriate level of protection. Tyvek suits, gloves and goggles are disposable and may be discarded with other contaminated clean up materials to keep contamination from spreading outside the affected area.

## **Compressed Gas Cylinders**

The Maintenance Staff maintains two oxygen/acetylene cutting and brazing outfits at the Figueroa Street shop, one fixed and one portable. The fixed and portable systems are located in the rear of the shop. The fixed system consists of a 280 cubic foot capacity oxygen tank and a 55 cubic foot capacity acetylene tank. The portable system consists of a 145 cubic foot capacity oxygen tank and a 30 cubic foot capacity acetylene tank on a wheeled hand truck. There are two spare acetylene tanks (30 CF) and two spare oxygen tanks (145CF) for the portable system.

## **Responsible Personnel**

### Harbormaster

- Final approval and oversight of the Harbor Business Plan and Training Program.
- In the absence of the Harbor Coordinator, respond to the emergency, coordinate Harbor resources and make notifications.

### Harbor Coordinator

- Review and update the Harbor Business Plan.
- Monitor Training Program for compliance with the plan.
- Ensure proper response materials and PPE are available and appropriately staged.
- Supervise and monitor Security and Office Staff personnel for level of training and use of safety procedures.
- Respond in emergencies to the Harbor, assess and coordinate Harbor resources with other responding agencies.
- Make spill notifications as required by Law and the Business Plan.
- Act as Harbor Office Point of Contact for Local, State and Federal agencies after the emergency.
- Evaluate response, and recommend necessary changes in policy or procedure to the Harbormaster
- Document expended materials and man-hours for billing of responsible party, when known. Order replacement response materials.
- 

### Harbor Maintenance Craftworker

- Ensure Material Safety Data Sheets are updated and available to responding personnel
- Inventory response material and PPE on a regular schedule. Report deficiencies to the Harbor Coordinator for re-ordering.
- Supervise and monitor Harbor Maintenance personnel for level of training and use of safety procedures.
- Respond in emergencies to the Harbor, assess and coordinate Harbor resources with other responding agencies.
- Make recommendations to the Harbormaster for improvements in the Business Plan or Training.
- Supervise Maintenance Personnel during on site response to emergencies.

Security Staff

- Initial response, provide on site evaluation of emergency.
- Initiate calls for emergency response providing details to party called
- Sound the Alarm.
- Meet emergency response personnel. Provide facility access as necessary, brief and update responding personnel on situation.
- Take action as directed within limitations of training, experience and capabilities of PPE.
- Assist as directed by response agency.
- Provide after action summary including man-hours and materials dedicated to the emergency.

Office Staff

- During business hours (0800-1600 M-F) assume duties of Security Staff.
- Take action as directed within limitations of training, experience and capabilities of PPE.

**Training**

All personnel involved in spill response shall read and understand the requirements, as listed in the Business Plan and on the Material Safety Data Sheets, for safe handling of the hazardous materials routinely encountered in the Marina. These Hazardous Materials/Hazardous Waste include Gasoline, Diesel Fuel, Transmission Fluid/Hydraulic Fluid, Lubricating Oil and Sewage. Harbor personnel shall be familiar with, and receive training on, the location and use of response equipment, materials and PPE. Training on the entire Harbor Business plan shall be conducted at least annually. Interim training to be conducted at monthly safety meetings. Training on the Business plan shall be completed for new personnel within 30 days of hiring. All training will be documented in the local personnel file at the Harbor Office.

**Updates**

The Marine Operation Supervisor shall perform an annual review and biannual recertification of the Harbor Business Plan. The Business Plan shall also be reviewed and updated when there are changes to the procedures, facilities, resources or hazardous materials included in the plan. Updates will be provided to Monterey County Health Department and the Monterey Fire Department within 30 days of any changes. Training on the Business Plan will be held as soon as practical after every update.

Checklist for Emergency Response  
Actual or anticipated Spill/Release

1.	Recognize spill, release or potential hazard.	Person observing
2.	Notification of personnel in immediate vicinity.	Investigating Employee
3.	Immediate action to prevent or neutralize.	Investigating Employee
4.	Notification of City Responders.	Investigating Employee
5.	Evacuation of persons from area, if deemed necessary.	Investigating Employee Monterey Fire Department

- |     |   |  |
|-----|---|--|
| 6.  | Knowledgeable harbor representative briefs M.F.D. incident commander.   | Investigating Employee<br>Harbor Coordinator or Harbormaster   |
| 7.  | For large land/road spills notify CHEMTREC. If applicable, furnish material safety data sheets for material involved. Notify County Health. | Monterey Fire Department<br>Harbor Coordinator<br>Harbormaster |
| 8.  | For water spills notify Cal OES, NRC, and County Health.  | Harbor Coordinator<br>Harbormater                              |
| 9.  | Complete clean up.  | Harbor Staff<br>Monterey Fire Department<br>or Contractor      |
| 10. | Complete final report.  | Harbor Coordinator   |



Attachment 1: Harbor Map

*Monterey Harbor*

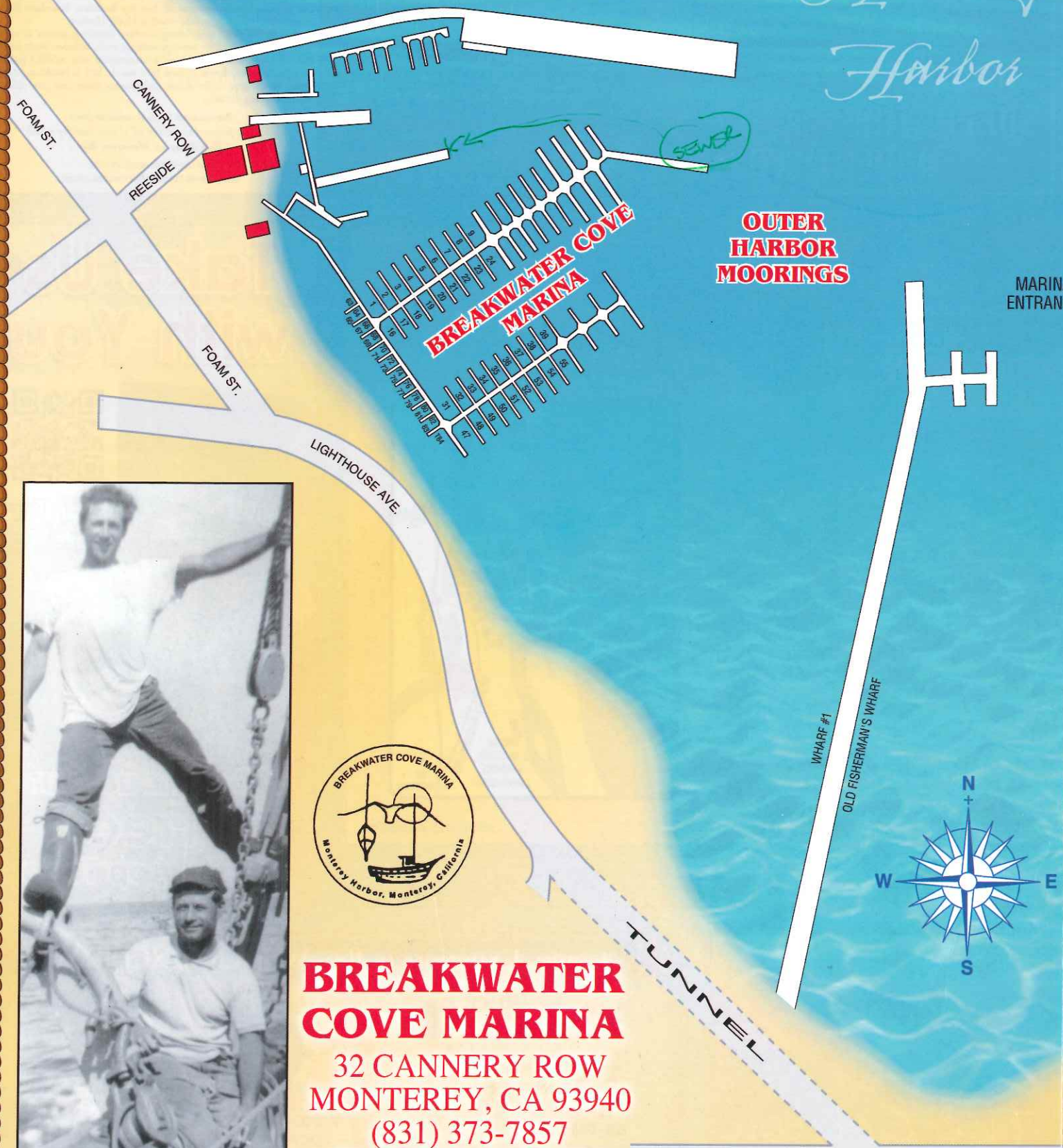


Photo Courtesy of Mercurio Family, Café Fina



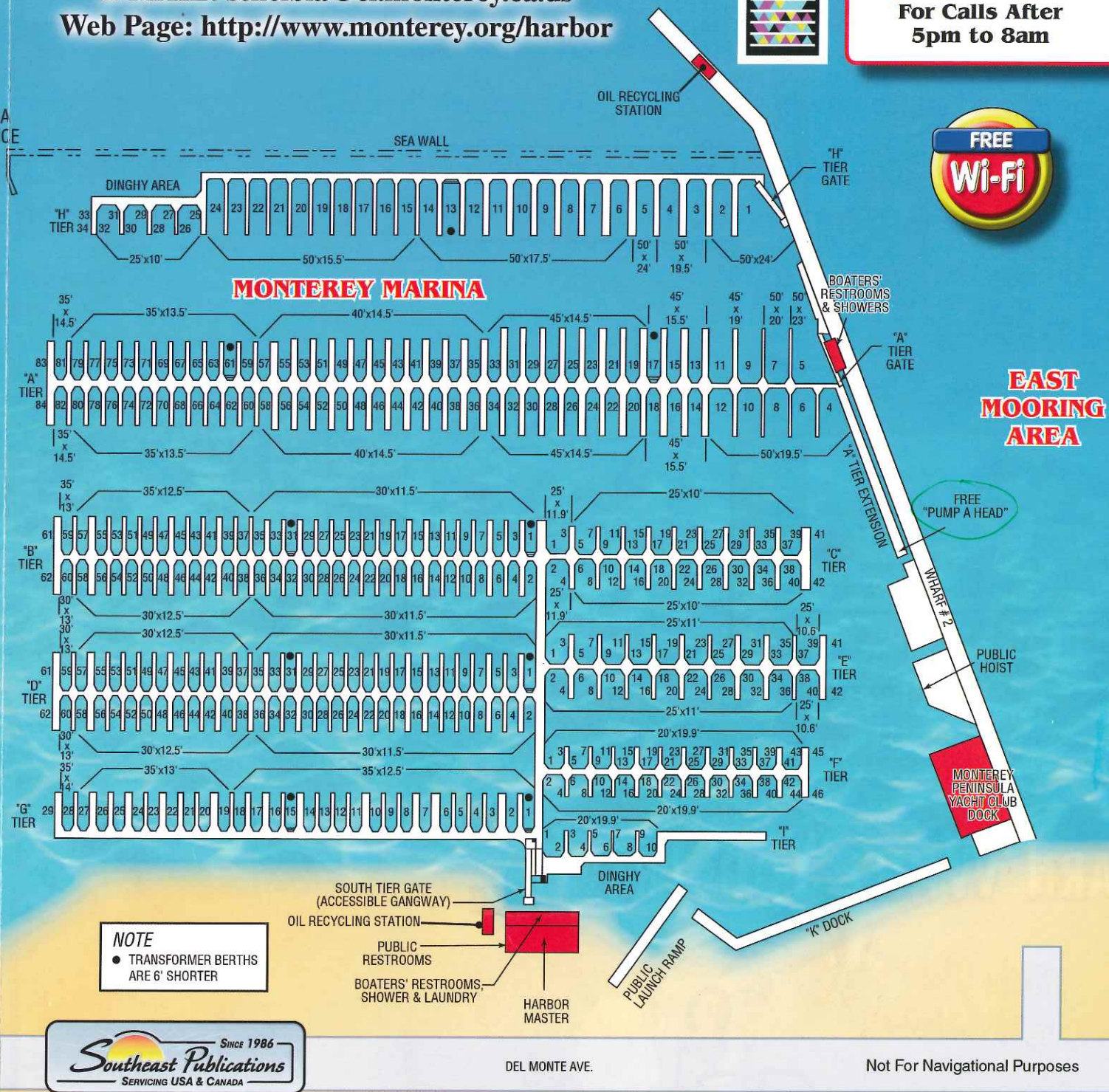
**BREAKWATER COVE MARINA**  
 32 CANNERY ROW  
 MONTEREY, CA 93940  
 (831) 373-7857  
 FAX (831) 373-2294  
[www.montereybayboatworks.com](http://www.montereybayboatworks.com)



**MONTEREY MARINA**  
 OFFICE OF THE HARBORMASTER  
 250 FIGUEROA ST • MONTEREY, CA 93940  
 MONTEREY COUNTY  
 (831) 646-3950 • FAX (831) 646-5674

E-MAIL: [scheibla@ci.monterey.ca.us](mailto:scheibla@ci.monterey.ca.us)  
 Web Page: <http://www.monterey.org/harbor>

**Office Hours:**  
 8 AM-5 PM Daily  
**Hours of Operation:**  
 24 Hours  
**Harbor Staff On Duty**  
 At All Times  
**Radio Watch:**  
 VHF Channels 16 & 5  
**Cell Phone**  
 (831) 594-7760  
 For Calls After  
 5pm to 8am



**NOTE**  
 • TRANSFORMER BERTHS ARE 6' SHORTER



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Not For Navigational Purposes



# Monterey Regional Storm Water Management Program

State Water Resources Control Board

Water Quality Order No. 2003 – 0005 – DWQ

NPDES General Permit No. CAS000004

Central Coast RWQCB Resolution No. R3-2006-0076

## Compliance Inspection Checklist for Boat Marinas

Facility Name		Inspection Date:
Facility Address		
Facility Telephone	Tel:	Fax:
Facility Contact Person		Title:
Inspector's Name		

**NOTE:** This checklist may include BMPs that are not installed at the inspection site. In this case, put a check in the "N/A" column for any such BMPs.

SITE BMPS	YES	NO	N/A	COMMENTS
<b><i>Spill Protection</i></b>				
Does the facility have adequate spill response equipment that is easily accessible and clearly marked?				
Does the facility have a spill recovery plan for oil and hazardous material?				
Is the fire department and/or other likely spill response agencies familiar with the spill recovery plan and associated equipment?				
<b><i>Disposal of Petroleum and Other Products</i></b>				
Are there one or more separate containers (NOT a dumpster) for the disposal of used petroleum products (waste oil, fluids, contaminated fuel, etc.), batteries, antifreeze, paint cans, mineral spirits, and other solvents readily accessible to boaters?				
Is there a container designated for the disposal of used oil filters?				
Are there berms around these containers to contain spills and leakage?				

**MRSWMP Compliance Inspection Checklist for Boat Marinas**

SITE BMPS	YES	NO	N/A	COMMENTS
<b><u>Fueling Areas and Activities</u></b>				
Are automatic shut-off nozzles used on fueling hoses?				
<b><u>Sewage and Bilge Water Pump Out Facilities</u></b>				
Is there a pump out facility to accept bilge water and sewage from marine sanitation devices conveniently located within the marina?				
Are there signs clearly directing boaters to the location of the pump out facility?				
Is it available for use at all hours, and is the cost to use it low enough to encourage its use?				
Is the facility regularly inspected and maintained for proper operation?				
<b><u>Public Education and Signage</u></b>				
Are educational signs/posters prominently displayed, addressing the following topics:				
Recycling of oil, oil-absorbing pads, and oil filters?				
Using fuel/air separators on fuel tank filling lines, as well as oil-absorption materials in bilges and when fueling?				
Proper disposal of used petroleum products?				
Proper fish cleaning procedures?				
Advising against the use of TBT-based paint?				
Using biodegradable, phosphate-free detergents and cleaning compounds for washing boats?				
The prohibition of discharge from marine sanitation devices, and the fines associated with violation of this prohibition?				
<b><u>General Source Control</u></b>				
Are engine repair areas kept clean of spills and leaks?				
Is abrasive blasting performed inside spray booths or with tarp enclosures to prevent residue from being carried into surface waters or the storm drain system?				
Is debris and residue from outdoor maintenance work cleaned up and properly disposed of, so it doesn't enter surface waters or the storm drain system?				
Are vacuum sanders used when sanding boat hulls?				

**MRSWMP Compliance Inspection Checklist for Boat Marinas**

SITE BMPS	YES	NO	N/A	COMMENTS
Are solid waste storage containers covered to keep materials from blowing out and into surface waters or the storm drain system?				
Are there an adequate number of trash receptacles so it is convenient for boats to use them, and are they emptied regularly so they don't overflow?				
Are there designated fish cleaning areas, and do they drain to the sanitary sewer?				
Do outside contractors who perform work within the marina have to sign off on a form or contract indicating they understand and agree to comply with appropriate storm water pollution prevention practices?				
<b>ACTIONS TAKEN FOLLOWING INSPECTIONS</b>				
Responsible party requested to correct any deficiencies noted above? (Include the date notice was sent.)				
Site re-inspected following corrective action by responsible party? (Include date of re-inspection.)				
Deficiencies found to be corrected during re-inspection?				
Further action taken or necessary following re-inspection? (Describe.)				

Is the responsible party being requested to correct the deficiencies listed below? <input type="checkbox"/> Yes <input type="checkbox"/> No	
COMMENTS, RECOMMENDATIONS, AND/OR FOLLOW-UP ITEMS:	DUE DATE:
1)	
2)	
3)	
4)	

<b>Inspector Signature:</b>	<b>Date:</b>
<b>Facility Representative Signature:</b>	<b>Date:</b>

**E11e – City of Monterey Municipal Hot Spot Facility Quarterly Visual**

**I. General Information**

**a. Date and Time of Observations:**

**b. Name of Staff Conducting Observations** (Please Print):

**c. Facility Number:**

**d. Facility Name:**

**e. Photos Taken:**  Yes  No

If yes, provide photo reference IDs and attach copies to the report.

**f. Weather at Time of Inspection:**

Clear  Overcast  Rain

**II. Non-Stormwater Discharge Point Observations** (discharge points identified in SWPPP)

**a. Were any non-stormwater discharges observed?**

Yes  No

**b.** If Yes, identify source of the non-stormwater discharge and identify correction action in Section IV.

**Source of Discharge:**

**c. Identify if the discharge contained any of the following:**

- |   |                              |                             |  |
|---|------------------------------|-----------------------------|--|
| Floating or Suspended Material .....              | <input type="checkbox"/> Yes | <input type="checkbox"/> No | <input type="checkbox"/> NA (if no discharges) |
| Oil Sheen.....                                    | <input type="checkbox"/> Yes | <input type="checkbox"/> No | <input type="checkbox"/> NA (if no discharges) |
| Discoloration.....                                | <input type="checkbox"/> Yes | <input type="checkbox"/> No | <input type="checkbox"/> NA (if no discharges) |
| Turbidity.....                                    | <input type="checkbox"/> Yes | <input type="checkbox"/> No | <input type="checkbox"/> NA (if no discharges) |
| Odor .....  | <input type="checkbox"/> Yes | <input type="checkbox"/> No | <input type="checkbox"/> NA (if no discharges) |
| Did discharge enter storm drain drop inlets?..... | <input type="checkbox"/> Yes | <input type="checkbox"/> No | <input type="checkbox"/> NA (if no discharges) |

**III. Hot Spot Facility Visual Observations**

- |   |                              |                             |
|---|------------------------------|-----------------------------|
| <b>a.</b> Any surface stains? .....   | <input type="checkbox"/> Yes | <input type="checkbox"/> No |
| <b>b.</b> Evidence of sediment, sand, mud on pavement? .....                        | <input type="checkbox"/> Yes | <input type="checkbox"/> No |
| <b>c.</b> Evidence of trash or litter? .....  | <input type="checkbox"/> Yes | <input type="checkbox"/> No |
| <b>d.</b> Evidence of improperly stored materials that may release pollutants?..... | <input type="checkbox"/> Yes | <input type="checkbox"/> No |
| <b>e.</b> Evidence of potential or actual discharge of pollutants?.....             | <input type="checkbox"/> Yes | <input type="checkbox"/> No |
| <b>f.</b> Evidence of missing or inadequate BMPs?.....                              | <input type="checkbox"/> Yes | <input type="checkbox"/> No |

**IV. Corrective Actions**

If any of the above is yes, describe and identify the corrective action and date action is completed.

Issue	Correction Action Planned	Date Completed <sup>1</sup>

<sup>1</sup>. Add and initial date when action is completed.

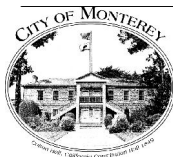
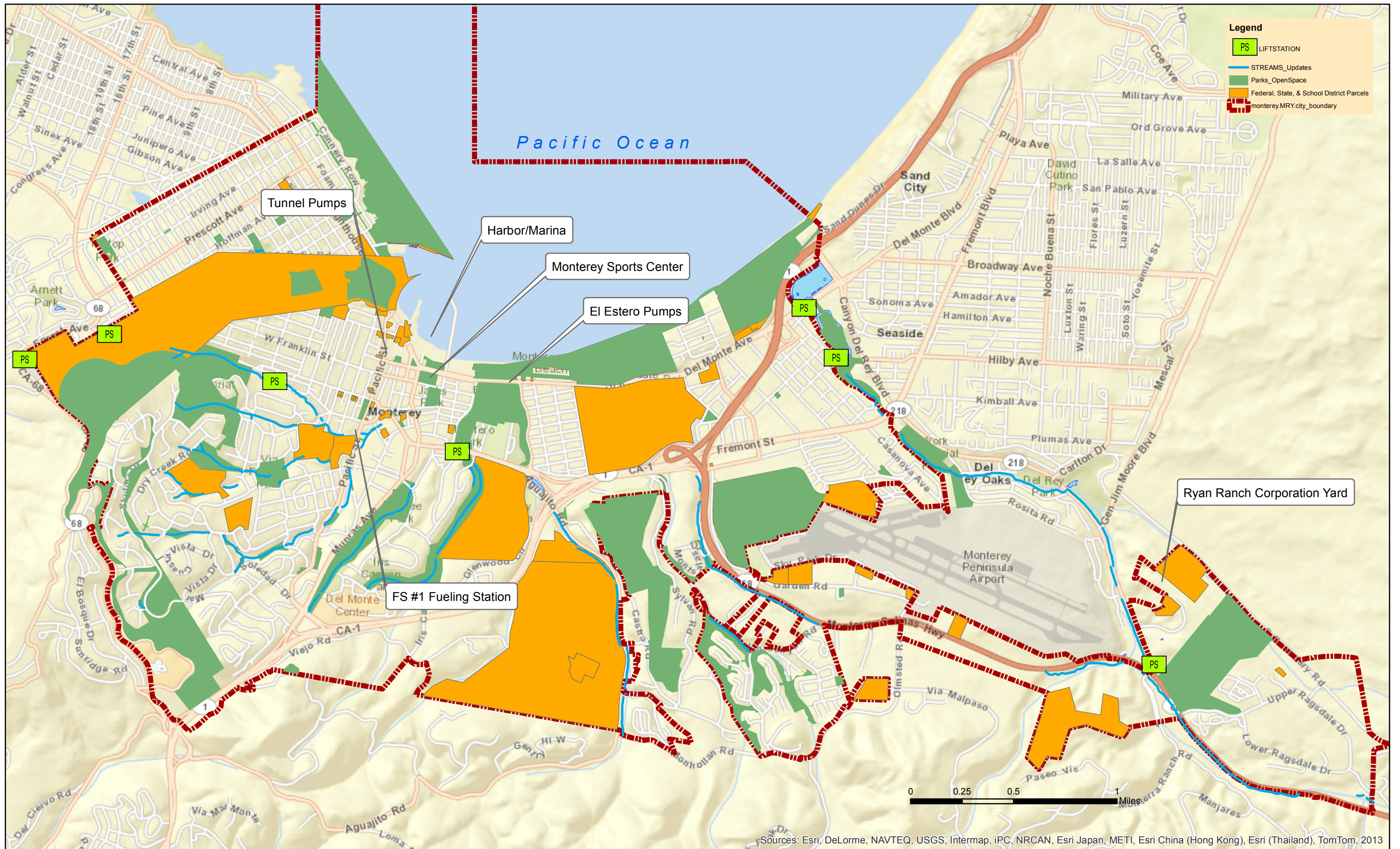
*Attach additional pages or supplemental information if needed.*

<b>E-11e City of Monterey Municipal Hot Spot Facility Annual Comprehensive Inspection</b>	
<b>I. General Information</b>	
<b>a. Date and Time of Assessment:</b>	<b>b. Name of Staff Conducting Assessment (Please Print):</b>
<b>c. Facility Number:</b>	<b>d. Facility Name:</b>
<b>II. Review Hot Spot Facility SWPPP</b> <span style="float: right;"><input type="checkbox"/></span>	
<b>III. Review Quarterly Observation Records</b> <span style="float: right;"><input type="checkbox"/></span>	
<b>IV. Conduct Walk-through Inspection</b>	
<b>A. Document observations on a Quarterly Observation Form</b> <span style="float: right;"><input type="checkbox"/></span>	
<b>B. Document observations on a Hot Spot Facility Annual Inspection Form</b> <span style="float: right;"><input type="checkbox"/></span>	
<b>V. BMP and SWPPP Assessment</b> <span style="float: right;"><input type="checkbox"/></span>	
<b>a. Are corrective actions or maintenance required for the BMPs?</b> <span style="margin-left: 100px;"><input type="checkbox"/> <b>Yes</b></span> <span style="margin-left: 100px;"><input type="checkbox"/> <b>No</b></span>	
<b>b. If Yes, identify the BMP and needed maintenance.</b>	
<b>c. Were any activities or potential sources of pollutant observed that were not identified in the SWPPP?</b> <span style="margin-left: 100px;"><input type="checkbox"/> <b>Yes</b></span> <span style="margin-left: 100px;"><input type="checkbox"/> <b>No</b></span>	
<b>d. If Yes, identify source activity or source.</b>	
<b>e. Are any other SWPPP updates needed?</b> <span style="margin-left: 100px;"><input type="checkbox"/> <b>Yes</b></span> <span style="margin-left: 100px;"><input type="checkbox"/> <b>No</b></span>	
<b>f. If Yes, identify updates.</b>	
<i>If SWPPP updates or corrective actions are required complete the implementation plan in the reverse side.</i>	









DESIGNED BY:	
DRAWN BY:	
CHECKED BY:	
DATE:	
APPROVED:	
PRINCIPAL ENGINEER:	
REGIST. NO.:	
DATE:	

City of Monterey Municipal Facilities	

REVISIONS	DATE	No.	SCALE





# Illicit Discharge/Connection Reporting and Response

Date/Time:  Report No.

Received by:   
Reported by:   
Address:   
Phone:   
Location:

Report:	<b>Material</b> <input type="checkbox"/> Hazardous <input type="checkbox"/> Wastewater <input type="checkbox"/> Oil/Grease	<input type="checkbox"/> Sediment <input type="checkbox"/> Other _____ <input type="checkbox"/> Unknown	<b>Land Use</b> <input type="checkbox"/> Residential <input type="checkbox"/> Commercial <input type="checkbox"/> Industrial <input type="checkbox"/> Public	<input type="checkbox"/> Construction Site
---------	---	---	--	--

Est. Quantity:

Direct/Constructed Connections Found?  Yes  No

Description:

Source Investigation Conducted?  Yes  No Source Identified?  Yes  No

Source/Owner of Discharge/ Connection:

Entered Storm Drain System/Receiving Waters?  Yes  No

---

### *Action and Closure*

Referred To:   
Phone:   
City:   
Dept.:   
Action Taken

Date Closed:

STATE OF CALIFORNIA  
WATER RESOURCES CONTROL BOARD  
ORDER NO. WQ 2013-0058-EXEC

AMENDING MONITORING AND REPORTING PROGRAM  
FOR  
STATEWIDE GENERAL WASTE DISCHARGE REQUIREMENTS FOR  
SANITARY SEWER SYSTEMS

The State of California, Water Resources Control Board (hereafter State Water Board) finds:

1. The State Water Board is authorized to prescribe statewide general Waste Discharge Requirements (WDRs) for categories of discharges that involve the same or similar operations and the same or similar types of waste pursuant to Water Code section 13263(i).
2. Water Code section 13193 *et seq.* requires the Regional Water Quality Control Boards (Regional Water Boards) and the State Water Board (collectively, the Water Boards) to gather Sanitary Sewer Overflow (SSO) information and make this information available to the public, including but not limited to, SSO cause, estimated volume, location, date, time, duration, whether or not the SSO reached or may have reached waters of the state, response and corrective action taken, and an enrollee's contact information for each SSO event. An enrollee is defined as the public entity having legal authority over the operation and maintenance of, or capital improvements to, a sanitary sewer system greater than one mile in length.
3. Water Code section 13271, *et seq.* requires notification to the California Office of Emergency Services (Cal OES), formerly the California Emergency Management Agency, for certain unauthorized discharges, including SSOs.
4. On May 2, 2006, the State Water Board adopted Order 2006-0003-DWQ, "Statewide Waste Discharge Requirements for Sanitary Sewer Systems"<sup>1</sup> (hereafter SSS WDRs) to comply with Water Code section 13193 and to establish the framework for the statewide SSO Reduction Program.
5. Subsection G.2 of the SSS WDRs and the Monitoring and Reporting Program (MRP) provide that the Executive Director may modify the terms of the MRP at any time.
6. On February 20, 2008, the State Water Board Executive Director adopted a revised MRP for the SSS WDRs to rectify early notification deficiencies and ensure that first responders are notified in a timely manner of SSOs discharged into waters of the state.
7. When notified of an SSO that reaches a drainage channel or surface water of the state, Cal OES, pursuant to Water Code section 13271(a)(3), forwards the SSO notification information<sup>2</sup> to local government agencies and first responders including local public health officials and the applicable Regional Water Board. Receipt of notifications for a single SSO event from both the SSO reporter

---

<sup>1</sup> Available for download at:

[http://www.waterboards.ca.gov/board\\_decisions/adopted\\_orders/water\\_quality/2006/wqo/wqo2006\\_0003.pdf](http://www.waterboards.ca.gov/board_decisions/adopted_orders/water_quality/2006/wqo/wqo2006_0003.pdf)

<sup>2</sup> Cal OES Hazardous Materials Spill Reports available Online at:

[http://w3.calema.ca.gov/operational/mal haz.nsf/\\$defaultview](http://w3.calema.ca.gov/operational/mal haz.nsf/$defaultview) and <http://w3.calema.ca.gov/operational/mal haz.nsf>

and Cal OES is duplicative. To address this, the SSO notification requirements added by the February 20, 2008 MRP revision are being removed in this MRP revision.

8. In the February 28, 2008 Memorandum of Agreement between the State Water Board and the California Water and Environment Association (CWEA), the State Water Board committed to re-designing the CIWQS<sup>3</sup> Online SSO Database to allow "event" based SSO reporting versus the original "location" based reporting. Revisions to this MRP and accompanying changes to the CIWQS Online SSO Database will implement this change by allowing for multiple SSO appearance points to be associated with each SSO event caused by a single asset failure.
9. Based on stakeholder input and Water Board staff experience implementing the SSO Reduction Program, SSO categories have been revised in this MRP. In the prior version of the MRP, SSOs have been categorized as Category 1 or Category 2. This MRP implements changes to SSO categories by adding a Category 3 SSO type. This change will improve data management to further assist Water Board staff with evaluation of high threat and low threat SSOs by placing them in unique categories (i.e., Category 1 and Category 3, respectively). This change will also assist enrollees in identifying SSOs that require Cal OES notification.
10. Based on over six years of implementation of the SSS WDRs, the State Water Board concludes that the February 20, 2008 MRP must be updated to better advance the SSO Reduction Program<sup>4</sup> objectives, assess compliance, and enforce the requirements of the SSS WDRs.

**IT IS HEREBY ORDERED THAT:**

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

8/6/13

\_\_\_\_\_  
Date

  
\_\_\_\_\_  
Thomas Howard  
Executive Director

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

<sup>4</sup> Statewide Sanitary Sewer Overflow Reduction Program information is available at: [http://www.waterboards.ca.gov/water\\_issues/programs/ssol/](http://www.waterboards.ca.gov/water_issues/programs/ssol/)



**ATTACHMENT A****STATE WATER RESOURCES CONTROL BOARD  
ORDER NO. WQ 2013-0058-EXEC****AMENDING MONITORING AND REPORTING PROGRAM  
FOR  
STATEWIDE GENERAL WASTE DISCHARGE REQUIREMENTS FOR  
SANITARY SEWER SYSTEMS**

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

**A. SUMMARY OF MRP REQUIREMENTS****Table 1 – Spill Categories and Definitions**

<b>CATEGORIES</b>	<b>DEFINITIONS</b> [see Section A on page 5 of Order 2006-0003-DWQ, for Sanitary Sewer Overflow (SSO) definition]
<b>CATEGORY 1</b>	Discharges of untreated or partially treated wastewater of <b><u>any volume</u></b> resulting from an enrollee's sanitary sewer system failure or flow condition that: <ul style="list-style-type: none"> <li>• Reach surface water and/or reach a drainage channel tributary to a surface water; or</li> <li>• Reach a Municipal Separate Storm Sewer System (MS4) and are not fully captured and returned to the sanitary sewer system or not otherwise captured and disposed of properly. Any volume of wastewater not recovered from the MS4 is considered to have reached surface water unless the storm drain system discharges to a dedicated storm water or groundwater infiltration basin (e.g., infiltration pit, percolation pond).</li> </ul>
<b>CATEGORY 2</b>	Discharges of untreated or partially treated wastewater of <b><u>1,000 gallons or greater</u></b> resulting from an enrollee's sanitary sewer system failure or flow condition that <b><u>do not</u></b> reach surface water, a drainage channel, or a MS4 unless the entire SSO discharged to the storm drain system is fully recovered and disposed of properly.
<b>CATEGORY 3</b>	All other discharges of untreated or partially treated wastewater resulting from an enrollee's sanitary sewer system failure or flow condition.
<b>PRIVATE LATERAL SEWAGE DISCHARGE (PLSD)</b>	Discharges of untreated or partially treated wastewater resulting from blockages or other problems <b><u>within a privately owned sewer lateral</u></b> connected to the enrollee's sanitary sewer system or from other private sewer assets. PLSDs that the enrollee becomes aware of may be <u>voluntarily</u> reported to the California Integrated Water Quality System (CIWQS) Online SSO Database.

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

ELEMENT	REQUIREMENT	METHOD
<b>NOTIFICATION</b> (see section B of MRP)	<ul style="list-style-type: none"> <li>• Within two hours of becoming aware of any Category 1 SSO <b>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</b>, notify the California Office of Emergency Services (Cal OES) and obtain a notification control number.</li> </ul>	Call Cal OES at: <b>(800) 852-7550</b>
<b>REPORTING</b> (see section C of MRP)	<ul style="list-style-type: none"> <li>• 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.</li> <li>• 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.</li> <li>• Category 3 SSO: Submit certified report within 30 calendar days of the end of month in which SSO the occurred.</li> <li>• 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.</li> <li>• “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.</li> <li>• Collection System Questionnaire: Update and certify every 12 months.</li> </ul>	Enter data into the CIWQS Online SSO Database ( <a href="http://ciwqs.waterboards.ca.gov/">http://ciwqs.waterboards.ca.gov/</a> ), certified by enrollee’s Legally Responsible Official(s).
<b>WATER QUALITY MONITORING</b> (see section D of MRP)	<ul style="list-style-type: none"> <li>• Conduct water quality sampling <b>within 48 hours</b> after initial SSO notification for Category 1 SSOs in which 50,000 gallons or greater are spilled to surface waters.</li> </ul>	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.
<b>RECORD KEEPING</b> (see section E of MRP)	<ul style="list-style-type: none"> <li>• SSO event records.</li> <li>• Records documenting Sanitary Sewer Management Plan (SSMP) implementation and changes/updates to the SSMP.</li> <li>• Records to document Water Quality Monitoring for SSOs of 50,000 gallons or greater spilled to surface waters.</li> <li>• Collection system telemetry records if relied upon to document and/or estimate SSO Volume.</li> </ul>	Self-maintained records shall be available during inspections or upon request.

**B. NOTIFICATION REQUIREMENTS**

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

1. For any Category 1 SSO greater than or equal to 1,000 gallons that results in a discharge to a surface water or spilled in a location where it probably will be discharged to surface water, either directly or by way of a drainage channel or MS4, the enrollee shall, as soon as possible, but not later than two (2) hours after (A) the enrollee has knowledge of the discharge, (B) notification is possible, and (C) notification can be provided without substantially impeding cleanup or other emergency measures, notify the Cal OES and obtain a notification control number.
2. To satisfy notification requirements for each applicable SSO, the enrollee shall provide the information requested by Cal OES before receiving a control number. Spill information requested by Cal OES may include:
  - i. Name of person notifying Cal OES and direct return phone number.
  - ii. Estimated SSO volume discharged (gallons).
  - iii. If ongoing, estimated SSO discharge rate (gallons per minute).
  - iv. SSO Incident Description:
    - a. Brief narrative.
    - b. On-scene point of contact for additional information (name and cell phone number).
    - c. Date and time enrollee became aware of the SSO.
    - d. Name of sanitary sewer system agency causing the SSO.
    - e. SSO cause (if known).
  - v. Indication of whether the SSO has been contained.
  - vi. Indication of whether surface water is impacted.
  - vii. Name of surface water impacted by the SSO, if applicable.
  - viii. Indication of whether a drinking water supply is or may be impacted by the SSO.
  - ix. Any other known SSO impacts.
  - x. SSO incident location (address, city, state, and zip code).
3. Following the initial notification to Cal OES and until such time that an enrollee certifies the SSO report in the CIWQS Online SSO Database, the enrollee shall provide updates to Cal OES regarding substantial changes to the estimated volume of untreated or partially treated sewage discharged and any substantial change(s) to known impact(s).
4. PLSDs: The enrollee is strongly encouraged to notify Cal OES of discharges greater than or equal to 1,000 gallons of untreated or partially treated wastewater that result or may result in a discharge to surface water resulting from failures or flow conditions within a privately owned sewer lateral or from other private sewer asset(s) if the enrollee becomes aware of the PLSD.

**C. REPORTING REQUIREMENTS**

1. **CIWQS Online SSO Database Account:** All enrollees shall obtain a CIWQS Online SSO Database account and receive a “Username” and “Password” by registering through CIWQS. These accounts allow controlled and secure entry into the CIWQS Online SSO Database.
2. **SSO Mandatory Reporting Information:** For reporting purposes, if one SSO event results in multiple appearance points in a sewer system asset, the enrollee shall complete one SSO report in the CIWQS Online SSO Database which includes the GPS coordinates for the location of the SSO appearance point closest to the failure point, blockage or location of the flow condition that caused the SSO, and provide descriptions of the locations of all other discharge points associated with the SSO event.
3. **SSO Categories**
  - i. **Category 1** – Discharges of untreated or partially treated wastewater of any volume resulting from an enrollee’s sanitary sewer system failure or flow condition that:
    - a. Reach surface water and/or reach a drainage channel tributary to a surface water; or
    - b. Reach a MS4 and are not fully captured and returned to the sanitary sewer system or not otherwise captured and disposed of properly. Any volume of wastewater not recovered from the MS4 is considered to have reached surface water unless the storm drain system discharges to a dedicated storm water or groundwater infiltration basin (e.g., infiltration pit, percolation pond).
  - ii. **Category 2** – Discharges of untreated or partially treated wastewater greater than or equal to 1,000 gallons resulting from an enrollee’s sanitary sewer system failure or flow condition that does not reach a surface water, a drainage channel, or the MS4 unless the entire SSO volume discharged to the storm drain system is fully recovered and disposed of properly.
  - iii. **Category 3** – All other discharges of untreated or partially treated wastewater resulting from an enrollee’s sanitary sewer system failure or flow condition.
4. **Sanitary Sewer Overflow Reporting to CIWQS - Timeframes**
  - i. **Category 1 and Category 2 SSOs** – All SSOs that meet the above criteria for Category 1 or Category 2 SSOs shall be reported to the CIWQS Online SSO Database:
    - a. Draft reports for Category 1 and Category 2 SSOs shall be submitted to the CIWQS Online SSO Database within three (3) business days of the enrollee becoming aware of the SSO. Minimum information that shall be reported in a draft Category 1 SSO report shall include all information identified in section 8.i.a. below. Minimum information that shall be reported in a Category 2 SSO draft report shall include all information identified in section 8.i.c below.
    - b. A final Category 1 or Category 2 SSO report shall be certified through the CIWQS Online SSO Database within 15 calendar days of the end date of the SSO. Minimum information that shall be certified in the final Category 1 SSO report shall include all information identified in section 8.i.b below. Minimum information that shall be certified in a final Category 2 SSO report shall include all information identified in section 8.i.d below.

- ii. **Category 3 SSOs** – All SSOs that meet the above criteria for Category 3 SSOs shall be reported to the CIWQS Online SSO Database and certified within 30 calendar days after the end of the calendar month in which the SSO occurs (e.g., all Category 3 SSOs occurring in the month of February shall be entered into the database and certified by March 30). Minimum information that shall be certified in a final Category 3 SSO report shall include all information identified in section 8.i.e below.
- iii. **“No Spill” Certification** – If there are no SSOs during the calendar month, the enrollee shall either 1) certify, within 30 calendar days after the end of each calendar month, a “No Spill” certification statement in the CIWQS Online SSO Database certifying that there were no SSOs for the designated month, or 2) certify, quarterly within 30 calendar days after the end of each quarter, “No Spill” certification statements in the CIWQS Online SSO Database certifying that there were no SSOs for each month in the quarter being reported on. For quarterly reporting, the quarters are Q1 - January/ February/ March, Q2 - April/May/June, Q3 - July/August/September, and Q4 - October/November/December.  
  
If there are no SSOs during a calendar month but the enrollee reported a PLSD, the enrollee shall still certify a “No Spill” certification statement for that month.
- iv. **Amended SSO Reports** – The enrollee may update or add additional information to a certified SSO report within 120 calendar days after the SSO end date by amending the report or by adding an attachment to the SSO report in the CIWQS Online SSO Database. SSO reports certified in the CIWQS Online SSO Database prior to the adoption date of this MRP may only be amended up to 120 days after the effective date of this MRP. After 120 days, the enrollee may contact the SSO Program Manager to request to amend an SSO report if the enrollee also submits justification for why the additional information was not available prior to the end of the 120 days.

## 5. **SSO Technical Report**

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

- i. **Causes and Circumstances of the SSO:**
  - a. Complete and detailed explanation of how and when the SSO was discovered.
  - b. Diagram showing the SSO failure point, appearance point(s), and final destination(s).
  - c. Detailed description of the methodology employed and available data used to calculate the volume of the SSO and, if applicable, the SSO volume recovered.
  - d. Detailed description of the cause(s) of the SSO.
  - e. Copies of original field crew records used to document the SSO.
  - f. Historical maintenance records for the failure location.
- ii. **Enrollee’s Response to SSO:**
  - a. Chronological narrative description of all actions taken by enrollee to terminate the spill.
  - b. Explanation of how the SSMP Overflow Emergency Response plan was implemented to respond to and mitigate the SSO.



- c. Final corrective action(s) completed and/or planned to be completed, including a schedule for actions not yet completed.

- iii. **Water Quality Monitoring:**

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

6. **PLSDs**

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

- i. The enrollee is also encouraged to provide notification to Cal OES per section B above when a PLSD greater than or equal to 1,000 gallons has or may result in a discharge to surface water. For any PLSD greater than or equal to 1,000 gallons regardless of the spill destination, the enrollee is also encouraged to file a spill report as required by Health and Safety Code section 5410 et. seq. and Water Code section 13271, or notify the responsible party that notification and reporting should be completed as specified above and required by State law.
- ii. If a PLSD is recorded in the CIWQS Online SSO Database, the enrollee must identify the sewage discharge as occurring and caused by a private sanitary sewer system asset and should identify a responsible party (other than the enrollee), if known. Certification of PLSD reports by enrollees is not required.

7. **CIWQS Online SSO Database Unavailability**

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

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

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

- i. **SSO Reports**

At a minimum, the following mandatory information shall be reported prior to finalizing and certifying an SSO report for each category of SSO:

- a. **Draft Category 1 SSOs**: At a minimum, the following mandatory information shall be reported for a draft Category 1 SSO report:
1. SSO Contact Information: Name and telephone number of enrollee contact person who can answer specific questions about the SSO being reported.
  2. SSO Location Name.
  3. Location of the overflow event (SSO) by entering GPS coordinates. If a single overflow event results in multiple appearance points, provide GPS coordinates for the appearance point closest to the failure point and describe each additional appearance point in the SSO appearance point explanation field.
  4. Whether or not the SSO reached surface water, a drainage channel, or entered and was discharged from a drainage structure.
  5. Whether or not the SSO reached a municipal separate storm drain system.
  6. Whether or not the total SSO volume that reached a municipal separate storm drain system was fully recovered.
  7. Estimate of the SSO volume, inclusive of all discharge point(s).
  8. Estimate of the SSO volume that reached surface water, a drainage channel, or was not recovered from a storm drain.
  9. Estimate of the SSO volume recovered (if applicable).
  10. Number of SSO appearance point(s).
  11. Description and location of SSO appearance point(s). If a single sanitary sewer system failure results in multiple SSO appearance points, each appearance point must be described.
  12. SSO start date and time.
  13. Date and time the enrollee was notified of, or self-discovered, the SSO.
  14. Estimated operator arrival time.
  15. For spills greater than or equal to 1,000 gallons, the date and time Cal OES was called.
  16. For spills greater than or equal to 1,000 gallons, the Cal OES control number.
- b. **Certified Category 1 SSOs**: At a minimum, the following mandatory information shall be reported for a certified Category 1 SSO report, in addition to all fields in section 8.i.a :
1. Description of SSO destination(s).
  2. SSO end date and time.
  3. SSO causes (mainline blockage, roots, etc.).
  4. SSO failure point (main, lateral, etc.).
  5. Whether or not the spill was associated with a storm event.
  6. Description of spill corrective action, including steps planned or taken to reduce, eliminate, and prevent reoccurrence of the overflow; and a schedule of major milestones for those steps.
  7. Description of spill response activities.
  8. Spill response completion date.
  9. Whether or not there is an ongoing investigation, the reasons for the investigation and the expected date of completion.

10. Whether or not a beach closure occurred or may have occurred as a result of the SSO.
  11. Whether or not health warnings were posted as a result of the SSO.
  12. Name of beach(es) closed and/or impacted. If no beach was impacted, NA shall be selected.
  13. Name of surface water(s) impacted.
  14. If water quality samples were collected, identify parameters the water quality samples were analyzed for. If no samples were taken, NA shall be selected.
  15. If water quality samples were taken, identify which regulatory agencies received sample results (if applicable). If no samples were taken, NA shall be selected.
  16. Description of methodology(ies) and type of data relied upon for estimations of the SSO volume discharged and recovered.
  17. SSO Certification: Upon SSO Certification, the CIWQS Online SSO Database will issue a final SSO identification (ID) number.
- c. **Draft Category 2 SSOs:** At a minimum, the following mandatory information shall be reported for a draft Category 2 SSO report:
1. Items 1-14 in section 8.i.a above for Draft Category 1 SSO.
- d. **Certified Category 2 SSOs:** At a minimum, the following mandatory information shall be reported for a certified Category 2 SSO report:
1. Items 1-14 in section 8.i.a above for Draft Category 1 SSO and Items 1-9, and 17 in section 8.i.b above for Certified Category 1 SSO.
- e. **Certified Category 3 SSOs:** At a minimum, the following mandatory information shall be reported for a certified Category 3 SSO report:
1. Items 1-14 in section 8.i.a above for Draft Category 1 SSO and Items 1-5, and 17 in section 8.i.b above for Certified Category 1 SSO.

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

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

iii. **Collection System Questionnaire**

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

iv. **SSMP Availability**

The enrollee shall provide the publicly available internet web site address to the CIWQS Online SSO Database where a downloadable copy of the enrollee's approved SSMP, critical supporting documents referenced in the SSMP, and proof of local governing board approval of the SSMP is posted. If all of the SSMP documentation listed in this subsection is not publicly available on the Internet, the enrollee shall comply with the following procedure:

- a. Submit an **electronic** copy of the enrollee's approved SSMP, critical supporting documents referenced in the SSMP, and proof of local governing board approval of the SSMP to the State Water Board, within 30 days of that approval and within 30 days of any subsequent SSMP re-certifications, to the following mailing address:

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

**D. WATER QUALITY MONITORING REQUIREMENTS:**

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

1. Contain protocols for water quality monitoring.
2. Account for spill travel time in the surface water and scenarios where monitoring may not be possible (e.g. safety, access restrictions, etc.).
3. Require water quality analyses for ammonia and bacterial indicators to be performed by an accredited or certified laboratory.
4. Require monitoring instruments and devices used to implement the SSO Water Quality Monitoring Program to be properly maintained and calibrated, including any records to document maintenance and calibration, as necessary, to ensure their continued accuracy.
5. Within 48 hours of the enrollee becoming aware of the SSO, require water quality sampling for, at a minimum, the following constituents:
  - i. Ammonia
  - ii. Appropriate Bacterial indicator(s) per the applicable Basin Plan water quality objective or Regional Board direction which may include total and fecal coliform, enterococcus, and e-coli.

**E. RECORD KEEPING REQUIREMENTS:**

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

1. General Records: The enrollee shall maintain records to document compliance with all provisions of the SSS WDRs and this MRP for each sanitary sewer system owned including any required records generated by an enrollee's sanitary sewer system contractor(s).
2. SSO Records: The enrollee shall maintain records for each SSO event, including but not limited to:
  - i. Complaint records documenting how the enrollee responded to all notifications of possible or actual SSOs, both during and after business hours, including complaints that do not

result in SSOs. Each complaint record shall, at a minimum, include the following information:

- a. Date, time, and method of notification.
  - b. Date and time the complainant or informant first noticed the SSO.
  - c. Narrative description of the complaint, including any information the caller can provide regarding whether or not the complainant or informant reporting the potential SSO knows if the SSO has reached surface waters, drainage channels or storm drains.
  - d. Follow-up return contact information for complainant or informant for each complaint received, if not reported anonymously.
  - e. Final resolution of the complaint.
- ii. Records documenting steps and/or remedial actions undertaken by enrollee, using all available information, to comply with section D.7 of the SSS WDRs.
  - iii. Records documenting how all estimate(s) of volume(s) discharged and, if applicable, volume(s) recovered were calculated.
3. Records documenting all changes made to the SSMP since its last certification indicating when a subsection(s) of the SSMP was changed and/or updated and who authorized the change or update. These records shall be attached to the SSMP.
  4. Electronic monitoring records relied upon for documenting SSO events and/or estimating the SSO volume discharged, including, but not limited to records from:
    - i. Supervisory Control and Data Acquisition (SCADA) systems
    - ii. Alarm system(s)
    - iii. Flow monitoring device(s) or other instrument(s) used to estimate wastewater levels, flow rates and/or volumes.

## **F. CERTIFICATION**

1. All information required to be reported into the CIWQS Online SSO Database shall be certified by a person designated as described in subsection J of the SSS WDRs. This designated person is also known as a Legally Responsible Official (LRO). An enrollee may have more than one LRO.
2. Any designated person (i.e. an LRO) shall be registered with the State Water Board to certify reports in accordance with the CIWQS protocols for reporting.
3. Data Submitter (DS): Any enrollee employee or contractor may enter draft data into the CIWQS Online SSO Database on behalf of the enrollee if authorized by the LRO and registered with the State Water Board. However, only LROs may certify reports in CIWQS.
4. The enrollee shall maintain continuous coverage by an LRO. Any change of a registered LRO or DS (e.g., retired staff), including deactivation or a change to the LRO's or DS's contact information, shall be submitted by the enrollee to the State Water Board within 30 days of the change by calling (866) 792-4977 or e-mailing [help@ciwqs.waterboards.ca.gov](mailto:help@ciwqs.waterboards.ca.gov).




5. A registered designated person (i.e., an LRO) shall certify all required reports under penalty of perjury laws of the state as stated in the CIWQS Online SSO Database at the time of certification.

### CERTIFICATION

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

7/30/13

Date



Jeanine Townsend  
Clerk to the Board

# Biological Remediation Protocol

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## For Sanitary Sewer Overflows

*Prepared for:*

City of Monterey  
City Hall  
580 Pacific St  
Monterey, CA 93940  
*Contact: Tricia Wotan*

May 2019

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# 1 Introduction

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This document outlines a Biological Remediation Protocol for Sanitary Sewer Overflows (SSOs) for the City of Monterey (City) sanitary sewer collection system. The protocol contributes to the suite of activities the City is performing to reduce and address SSO releases to surface waters.

The City Biological Remediation Protocol was developed based on information about receiving water characteristics within City jurisdiction (**Appendix A**), the City's sanitary sewer system (**Appendix B**), typical SSO pollutants and a summary of potential SSO impacts to receiving waters (**Appendix C**). This document provides an assessment process to determine the applicability of potential SSO remediation strategies and protocols for strategies that can be employed by the City to remediate SSOs that reach surface waters.

# 2 SSO Response and Assessment

This section discusses categories of SSOs based on size of spill and fate of spill material in the environment. The City's current SSO response actions and procedures are presented and a process to assess remediation techniques is also outlined.

## 2.1 Description of Potential SSO Types

For purposes of reporting sewer spills, regulatory agencies have used a category-based classification system to define characteristics of SSOs. Criteria used to differentiate the SSO types include size of spill and fate of spill material in the environment. A general summary of the category-based classification system is presented in **Table 2-1**.

*Table 2-1: SSO Classification*

CATEGORY	GENERAL DEFINITIONS
1	Discharges of untreated or partially treated wastewater of any volume that: <ul style="list-style-type: none"> <li>• Reach surface water and/or reach a drainage channel tributary to a surface water; or</li> <li>• Reach a municipal separate storm sewer system (MS4) and are not fully captured               <ul style="list-style-type: none"> <li>○ Any volume of wastewater not recovered from the MS4 is considered to have reached surface water</li> </ul> </li> </ul>
2	Discharges of untreated or partially treated wastewater of 1,000 gallons or greater that do not reach surface water, a drainage channel, or a municipal separate storm sewer system unless the entire SSO discharged to the storm drain system is fully recovered and disposed of properly.
3	All other discharges of untreated or partially treated wastewater

*Source: Order No. WQ-2013-0058-EXEC [1]*

## 2.2 Standard SSO Response

The City's Sewer System Management Plan (SSMP) includes procedures and protocols (SSMP Appendix 15 [2]) that form an Overflow Emergency Response Plan (OERP) which standardizes the City's response actions to the report of a possible sanitary sewer overflow or spill.

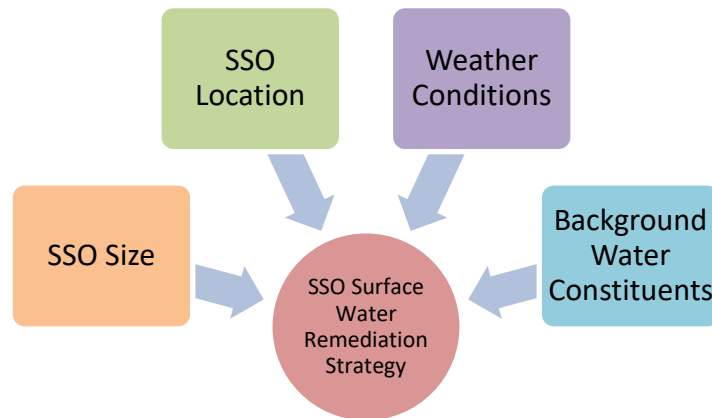
## 2.3 SSO Surface Water Remediation Assessment Process

The extent of needed surface water remediation resulting from an SSO depends on numerous factors such as:

- Size of spill
- Location of spill
- Weather conditions (wet or dry)
- Background water constituents in water body receiving SSO

A graphical representation of the City's SSO Surface Water Remediation Assessment Process is presented in **Figure 2-1**. Details of the specific assessment components to determine the proper SSO remediation strategy to use to remediate the environmental impacts of the spill are presented below.

*Figure 2-1: SSO Surface Water Remediation Assessment Process*



### 2.3.1 SSO Size

The flowrate and duration of the spill will determine the volume of sewage discharge to surface waters. Larger spills are more likely to impact waterbodies, especially water bodies with small flowrates or volumes such as creeks. SSO size will also determine the time required for the process of natural attenuation to remediate affected waters.

### 2.3.2 SSO Location

The location of the spill will determine how long it will take for the City staff to arrive at the spill location and correct the spill. Safety is of primary importance to City operations. City staff will perform a preliminary assessment of general aspects related to safety in response to reported SSOs including, but not limited to: traffic, topography, access, flowing water and other hazards. The location will also determine which surrounding areas will most likely be impacted by the spill. An SSO release to larger receiving water bodies such as a lake or the Pacific Ocean could lessen the potential for impacts and increase the possibility of natural attenuation remediation benefits.

### 2.3.3 Weather Conditions

Wet weather conditions will dilute the concentration of the SSO release and generally serve to mix receiving waters during storm conditions. Wet weather can also increase the flow rate of creeks. In some cases, wet weather conditions may improve natural attenuation processes. In addition, urban runoff conveys pollutants such as metals, bacteria, nutrients, and trash to receiving waters during wet weather events. The combination of SSO, urban runoff, and receiving water volumes will make up the final compilation of water in the receiving waters during wet weather. Ultimately, wet or dry weather conditions will impact the feasibility of certain remediation actions.

### 2.3.4 Background Surface Water Characteristics

Water bodies within the City's jurisdictional area may have flow, analytical chemistry, residence time and other surface water characteristic data that may be used to assess the extent and magnitude of potential SSO impacts to surface waters. For example, the Pacific Ocean tides and water temperatures can be gauged by National Oceanic and Atmospheric Administration (NOAA) station ID 9413450, located near the outlet of the Monterey Harbor.

If historical water quality monitoring data is available, it may be used to determine whether the relative levels of impact pollutants in the water body are from the sewage spill or from other sources. It should be noted that bathymetric, access, and tidal flushing conditions are anticipated to limit the feasibility and effectiveness of potential lake and Pacific Ocean aeration efforts.

Once the City has implemented the OERP, the SSO Surface Water Remediation Assessment Process will be used to assess the need for a general approach for surface water remediation strategies based on the size, location, weather conditions, safety, and surface water characteristics specific to the SSO.

# 3 Surface Water Remediation Options

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This section outlines remediation strategies, various SSO scenarios within the City's area, and site-specific remediation protocols.

## 3.1 General Discussion of Remediation Strategies

Two (2) remediation strategies were identified as potentially feasible options to remediate SSO releases to surface waters within City jurisdiction. The options include: to block and divert flow in isolated drainages during baseflow conditions, and natural attenuation of the SSO in high volume and/or tidal surface waters. A summary of the two (2) remediation strategies are listed below.

At any point of remediation, certain instances may require outside consultants (e.g. biological monitors) to assist the City in monitoring the situation and provide guidance as to what actions should be taken.

### 3.1.1 Surface Water Remediation Strategy: Block and Divert

The “block and divert” remediation strategy involves installing a temporary physical dam (e.g. sandbags) in an isolated surface water such as a creek area to block flow and then divert blocked flow with pumps to nearby sanitary sewer. Implementation of this strategy will be dependent on the results of the SSO Surface Water Remediation Assessment Process to determine the feasibility and estimated effectiveness of blocking and diverting flows based on the size, location, weather conditions, safety, and, if available, surface water characteristics adjacent and downstream of the SSO entry location.

Factors that should be considered to determine whether the “block and divert” remediation strategy is feasible to implement and will provide a meaningful reduction of impacts to surface waters include:

- Safety of crews for the installation of temporary barriers,
- City owned vector trucks have a maximum tank capacity of 1,200 gallons,
- Proximity of SSO to allow pumps to safely and expediently dispose of spill directly to sewer infrastructure, and
- Large magnitude spills may be challenging to isolate with a temporary barrier.

In addition, an appropriate location downstream that allows for adequate access, minimal biological disturbance from the creation of the blockage area, and does not create traffic or other safety hazards must be identified. If during the SSO Surface Water Remediation Assessment Process, the spill has been found to have fully seeped into the creek soil, the “block and divert” remediation strategy will not be used. Based on evaluation of these factors, the City will determine if the “block and divert” remediation strategy is applicable and will provide meaningful reductions to biological or other impacts from the SSO.

It is recognized that implementation of this option may require authorization from applicable resource agencies to allow for placement of “temporary fill” in the creek bed, depending on substrate and other factors. As the need to



implement the “block and divert” remediation strategy is determined, the City will determine if any emergency action necessitates other regulatory agency emergency notifications. Potential regulatory agencies that might need to be notified of the implementation of the “block and divert” remediation strategy are listed in **Appendix E**. The City Public Works Environmental Regulations Office will assist with these determinations.

### 3.1.2 Surface Water Remediation Strategy: Natural Attenuation

The natural attenuation remediation strategy relies on natural processes such as ultraviolet light disinfection from sunlight, settling of materials into the bottom soil, biological uptake and tidal mixing to clean up or attenuate pollution in soil and waterbodies. Implementation of this strategy will be dependent on the results of the SSO Surface Water Remediation Assessment Process that determine the size, location, weather conditions and surface water characteristics adjacent and downstream of the SSO entry location. A number of environmental factors influence the rate and extent of natural attenuation processes. Specific to surface waters within City jurisdiction, in general wet weather flows can provide a high level of dilution in creek and lake areas. Importantly, tidal flushing of the Pacific Ocean results in residence times of less than one week. By implementing OERP, the City will limit the volume of SSOs that reach surface waters. For SSOs to surface waters in which 50,000 gallons or greater are spilled to surface waters, the City will perform water quality monitoring as required per Order No. WQ 2013-0058-EXEC [1], or as these State regulations are amended thereto.

## 3.2 City of Monterey Surface Water Remediation Scenario Description

Given the local waterbodies relationship to the City service area and assets, two (2) representative scenarios were identified for the purposes of planning potential remediation activities for SSOs that reach surface waters. The scenario selection was based on the two (2) most probable scenarios that would result in an SSO release to surface waters. The two (2) scenarios include:

- **Scenario 1:** An SSO to a creek, and
- **Scenario 2:** An SSO to a lake or the Pacific Ocean.

Protocols for implementation of remediation strategies for the two (2) scenarios are detailed in **Section 3.3**. An illustrative logic flow chart of the SSO to Creek Protocol (**Scenario 1**) protocol can be seen in **Appendix D**.

## 3.3 Site-Specific Remediation Protocols

This section details protocols for implementation of remediation strategies for the two (2) surface water remediation scenarios identified in **Section 3.2**.

### 3.3.1 Scenario 1 Protocol – SSO to Creek

**Step 1:** Begin implementation of the SSO Spill Response Protocol or Overflow Emergency Response Plan (OERP) outlined in Appendix 15 of the City’s SSMP [2]. During this response, perform the SSO Surface Water Remediation Assessment Process outlined in **Section 2.3** of this document.

**Step 2:** After the SSO Surface Water Remediation Assessment Process has been completed, use the spill size and location to determine how much of the spill entered the creek.

**Step 3:** Verify the notification and water quality monitoring requirement per Order No. WQ-2013-0058-EXEC [1] are met (see i and ii bullets below).

i. If the volume spilled into the creek is 1,000 gallons or greater, verify that the California Office of Emergency Services (CalOES) has been notified per Order No. WQ 2013-0058-EXEC [1].

ii. If the volume spilled into the creek is 50,000 gallons or greater, water quality monitoring per Order No. WQ 2013-0058-EXEC [1] or as amended by the State thereto must be performed.

**Step 4:** Per the SSO Surface Water Remediation Assessment Process, determine if the spill volume to the creek is visible (i.e. the spill has not fully seeped into the creek bed soil) and an appropriate location downstream of the original spill location (i.e. a location with adequate access, minimal biological disturbance during the creation of the blockage area, and no creation of a traffic or other safety hazard) can be identified.

**Step 5:** If through *Step 4*, it is determined that the “block and divert” remediation strategy is feasible to implement and will provide a meaningful reduction of negative impacts, continue to *Step 6*.

If “block and divert” remediation strategy is not feasible or will not provide a meaningful reduction of negative impacts, a reasonable effort to collect floatables and rake solids should be made and then allow natural attenuation to remediate the spill (do not continue to *Step 6*).

**Step 6:** Notify City Public Works Environmental Regulations Office of the spill and the location that the “block and divert” strategy will be used. As applicable, the City Public Works Environmental Regulations Office may notify the agencies necessary (**Appendix E**) to obtain permits to place of “temporary fill” in the creek bed.

**Step 7:** An appropriate temporary barrier structure will be installed at the downstream end of this impacted area of the stream to stop and contain the spread of the spill. The temporary barrier should be implemented in an accessible area that provides minimal biological impact and will not cause or contribute to traffic or other safety hazards.

**Step 8:** Once contaminated creek flow has been successfully blocked by the temporary barrier, vector trucks or other pumping devices will be used to divert the blocked contaminated flow to nearby sanitary sewer. This process is continued until the volume of water estimated to have been affected by the SSO is diverted to the sanitary sewer.

**Step 9:** Once the estimated SSO volume and affected creek flow has been diverted to the sanitary sewer, the temporary barrier will be removed and the area repaired to ambient conditions. Proper disposal of impounded material and potential mitigation for biological impacts of the placement material will follow requirements of the local municipal jurisdiction and/or applicable regulatory permits. When needed, walking paths and walkways adjacent to the affected area will be sanitized.

### 3.3.2 Scenario 2 Protocol – SSO to Lake or Pacific Ocean

**Step 1:** Begin implementation of the SSO Spill Response Protocol or Overflow Emergency Response Plan (OERP) outlined in Appendix 15 of the City’s SSMP [2]. During this response, perform the SSO Surface Water Remediation Assessment Process outlined in **Section 2.3** of this document.

**Step 2:** After the SSO Surface Water Remediation Assessment Process has been completed, use the spill size and location to determine the volume of SSO release to the lake or Pacific Ocean.

**Step 3:** Verify the notification and water quality monitoring requirement per Order No. WQ-2013-0058-EXEC [1] are met (see i and ii bullets below). Notification to the City Harbormaster must be made for any SSO releases to the Monterey Harbor per the Harbor Business Response Plan in Appendix 15 of the City SSMP [2]. The City Harbormaster will notify the Coast Guard National Response Center (NRC) and the California Office of Emergency Services (CalOES) for spills in Monterey Harbor.

i. If the volume spilled into the creek is 1,000 gallons or greater, verify that CalOES has been notified per Order No. WQ 2013-0058-EXEC [1].

ii. If the volume spilled into the creek is 50,000 gallons or greater, water quality monitoring per Order No. WQ 2013-0058-EXEC [1] or as amended by the State thereto must be performed.

It should be noted that some local surface waters (see **Appendix A** of this document) have existing background levels of pollutants that are not caused by an SSO. For example, El Estero Lake has historical high background levels of bacteria and therefore, high levels of bacteria measured in El Estero Lake do not necessarily mean an SSO has created these high bacteria levels. High bacteria levels may be caused by the presence of migratory birds in El Estero Lake.

**Step 4:** Where feasible, remove floatables and then allow natural attenuation to remediate the spill.

In general, the physical characteristics of the lake and Pacific Ocean limit the applicability of the “block and divert” remediation strategy. The City will rely on various natural attenuation processes to limit SSO impacts to the lake or Pacific Ocean. Natural processes within the lake or Pacific Ocean include:

- Ultraviolet disinfection from sunlight
- Soil attenuation
- Tidal mixing (Pacific Ocean only)
- Fresh water dilution from creeks (during wet weather)
- Biological uptake and degradation

## 4 Summary

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This document presents a summary of the City sewer system surrounding local surface waters (**Appendix A**), service area, assets and operation maintenance procedures (**Appendix B**). Typical pollutants and impacts from SSOs are also presented (**Appendix C**). The City's OERP provides a framework for operational response to SSOs to minimize SSO releases to surface waters. The SSO Biological Remediation Protocol is based on an assessment process to determine the size, location, weather conditions and surface water characteristics adjacent to and downstream of an SSO. Two (2) remediation protocols for SSO releases to surface waters are presented.

The City recognizes the difficulty of implementing feasible and meaningful remediation measures for SSOs that release to surface waters. The City has invested in a number of redundant systems and infrastructure at facilities to prevent sewer spills. These improvements include stand-by backup pumps and emergency generators designed to prevent SSOs from occurring. Importantly, the City also recognizes that prevention of SSOs through ongoing regular maintenance, proactive asset management, and assessment, and effective implementation of the SSMP and OERP are likely the most effective remediation measures available.

## 5 Works Cited

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[1] State of California Water Resources Control Board, Order No. WQ 2013-0058-EXEC, 2013.

[2] City of Monterey, Sewer System Management Plan, 2018.

# Appendix A

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Local Surface Waters



This appendix lists typical waterbodies within the City of Monterey (City) boundary and the pollutants found in them as listed on the 303(d) list.

## 1 Local Surface Waters

There are three (3) distinct types of waterbodies within the City boundary (as seen in the **Figure 1.1** below):

1. **Ephemeral Creeks:** Creeks that are mostly dry unless a significant rain occurs.
2. **Lakes:** Two freshwater lakes.
  - *El Estero Lake:* A lake under City Jurisdiction that has serves as habitat for migratory birds and has historically has high levels of bacteria.
  - *Del Monte Lake:* A lake under the jurisdiction of the U.S. Navy<sup>1</sup>.
3. **Pacific Ocean:** The saltwater Pacific Ocean contains Monterey Harbor. Monterey Harbor is within the jurisdiction of the Environmental Protection Agency (EPA) and the State of California<sup>2</sup>.

Section 303(d) of the Federal Clean Water Act (CWA) and 40 Code of Federal Regulations (CFR) Section 130.7 require states to identify water bodies that do not meet water quality standards and are not supporting their beneficial uses. Such waters are placed on the Section 303(d) List of Water Quality Limited Segments, generally referred to as the 303(d) List. This list was reviewed as part of the assessment of receiving water conditions within City jurisdiction.

There were two (2) local waterbodies that were listed on the 303(d) list:

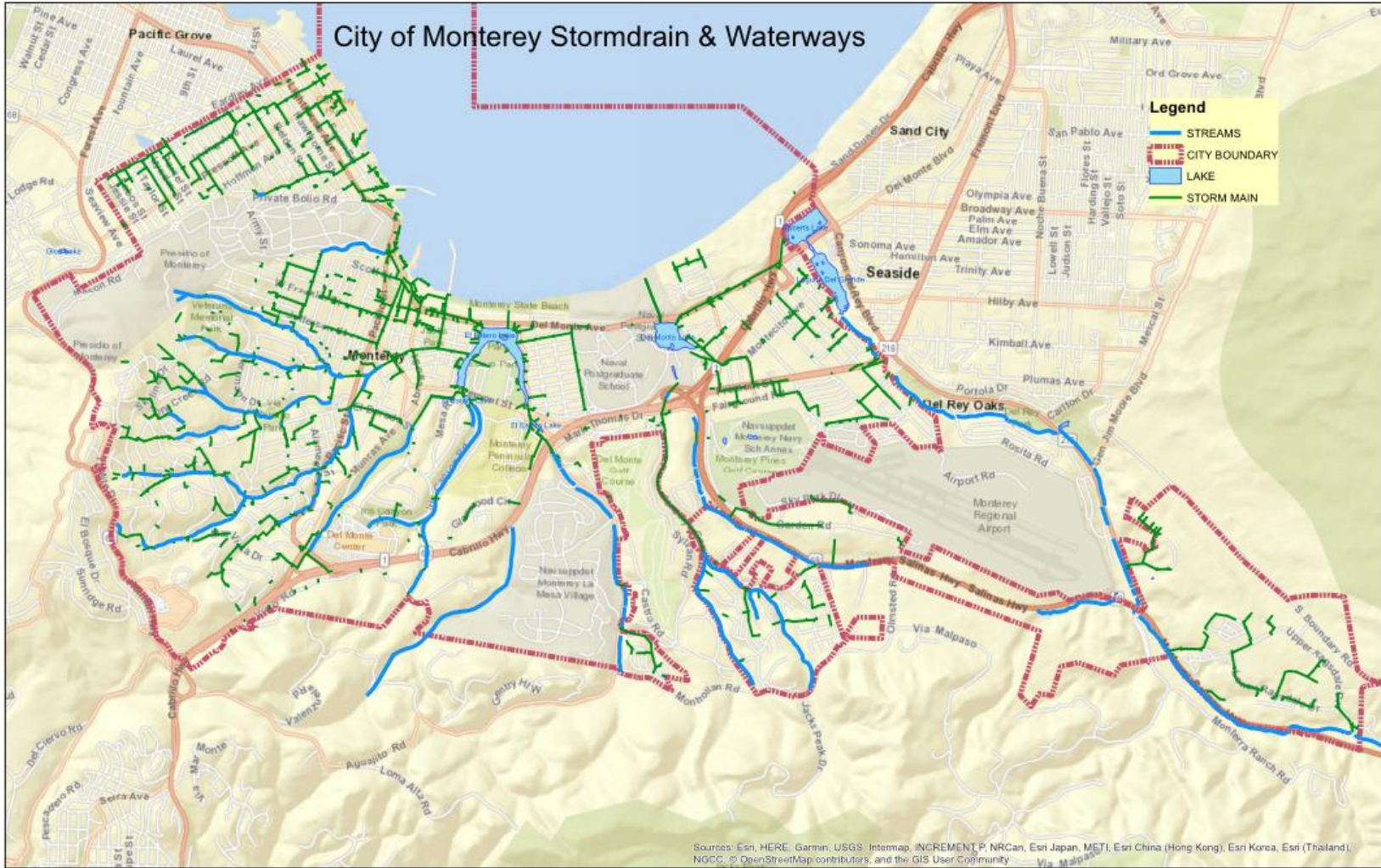
1. **Majors Creek:** An ephemeral creek listed with *E. coli*, copper, lead, and zinc impairments.
2. **Monterey Harbor:** A portion of the Pacific Ocean listed with Polychlorinated biphenyls (PCBs), arsenic, copper, toxicity, and dissolved oxygen impairments.

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<sup>1</sup> Note: Since this Del Monte Lake is not within City Jurisdiction, the City is not required to perform remediation actions within this lake.

<sup>2</sup> The City Harbormaster coordinates with the Coast Guard National Response Center (NRC) and the California Office of Emergency Services (CalOES) for spills to the Pacific Ocean per the Harbormaster Business Plan in Appendix 15 of the April 2018 City of Monterey Sewer System Management Plan.

Figure 1-1: City of Monterey Stormdrain and Waterways



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# Appendix B

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Sewer System Assets

This appendix describes the condition and emergency equipment used to prevent spills at the City of Monterey's (City's) most vulnerable collection system assets, lift stations, and highlights where to find descriptions operations and maintenance of the City's other sewer collection system assets.

## 1 Lift Stations

The City owns seven (7) lift stations (shown in **Figure 2-1** below and described in Appendix 12 of the City's 2018 SSMP<sup>1</sup>) that are operated and maintained by Monterey One Water (M1W). All seven (7) of these list stations were rehabilitated between 2014 and 2016. Mesa lift station has a gravity overflow to handle emergency flow when its single pump is not running. Pebble lift station has an emergency generator to keep its single pump running during a power outage. The other five (5) of the lift stations have two pumps; one duty pump and one standby pump. If the duty pump fails, the standby pump will run while repairs or maintenance is performed on the duty pump. Therefore, every lift station is in good condition and has a backup operation plan in the case of an emergency to prevent SSOs occurring at lift stations.

## 2 Other Sewer Collection System Assets

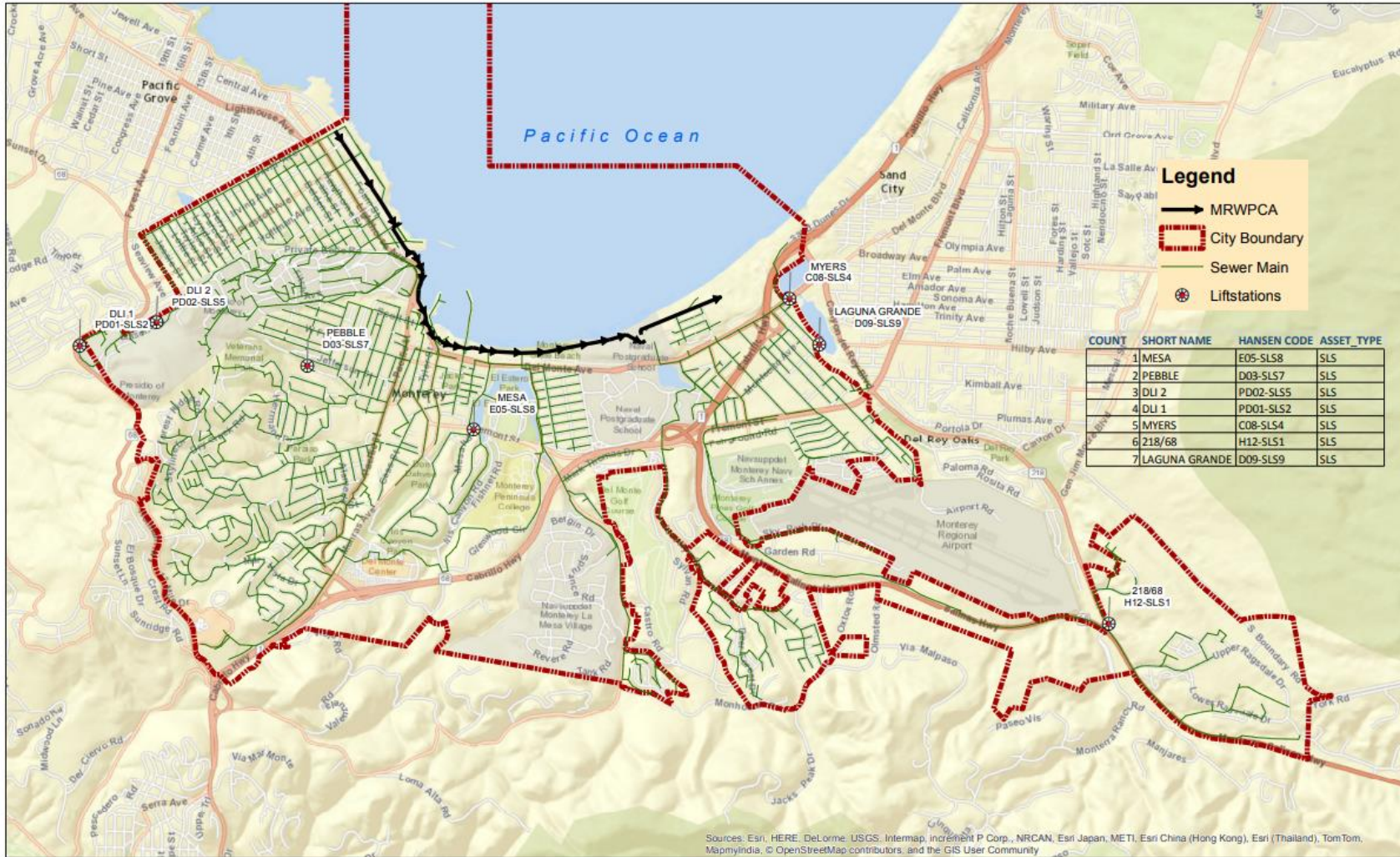
More information about the City's sewer collection system assets and how they are operated and maintained can be found in the City's 2018 SSMP<sup>1</sup>.

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<sup>1</sup> City of Monterey, Sewer System Management Plan, 2018



Figure 2-1: City of Monterey Sewer Collection System Assets



City of Monterey Inventory of Sewer Liftstations		DATE: _____ BY: _____	





# Appendix C

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Information on SSO Biological Impacts

This appendix highlights typical wastewater pollutants, the possible impacts of those pollutants to waterbodies, and a summary of factors that may affect the extent of those impacts.

## 1. Pollutants

General water quality pollutants commonly found in a SSO discharge include:

- Microbial pathogens
- Oxygen depleting substances (measured as BOD<sub>5</sub>)
- Total Suspended Solids (TSS)
- Toxics
- Nutrients
- Floatables

Pollutants concentrations in SSOs can vary depending on spill location and recent system inputs prior to the spill. For example, spills occurring closer to industrial dischargers are more likely to have higher concentrations of toxic metals and during flu season, the sewer is more likely to contain microbial pathogens because of inputs from sick individuals. Additional information related to SSO discharge pollutants is presented below.

### 1.1 Microbial Pathogens

Microbial pathogens are microorganisms that at high concentrations can cause disease. The three (3) major categories of microbial pathogens present in SSOs are bacteria, viruses, and parasites. In the natural environment, various processes can inactivate pathogens, turning them into non-pathogenic organic matter. These natural processes include ultraviolet light from sunlight, heat, and predation by microbial predators.

#### **Bacteria**

Bacteria are microscopic, unicellular organisms. Two broad categories of bacteria are associated with wastewater: indicator bacteria and pathogenic bacteria. The presence of indicator bacteria is used to indicate the likely presence of disease-causing, fecal-borne microbial pathogens that are more difficult to detect. Enteric (intestinal) bacteria commonly used as indicators include total coliform, fecal coliform, *E. Coli*, and enterococci.

Pathogenic bacteria are also common in human waste and are capable of causing disease. Examples of pathogenic bacteria associated with SSOs are *Campylobacter*, *Salmonella*, *Shigella*, *Vibrio cholera*, and *Yersina*.

#### **Viruses**

Viruses are submicroscopic infectious agents that require a host in which to reproduce. More than 120 enteric viruses may be found in sewage (National Academy of Sciences (NAS), 1993). Examples of viruses associated with SSOs include poliovirus, infectious hepatitis virus, and coxsackie virus.

#### **Parasites**

Parasites are organisms that live in and obtain nutrients from a host organism of another species. The common parasites of human health concern in untreated wastewater are parasitic protozoa and helminths.

## 1.2 Oxygen Depleting Substances

Oxygen-demanding substances in water or wastewater are usually organic matter. The amount of oxygen-demanding organic matter in water or wastewater is measured as biological oxygen demand or BOD<sub>5</sub>. The organic matter in sewage is a mix of human excreta, kitchen waste, and other substances discharged into sewer systems.

## 1.3 Total Suspended Solids

Total Suspended Solids (TSS) is a measure of the small particles of solid pollutants that are in water or wastewater that can be trapped by a filter. TSS in wastewater includes materials such as decaying plant and animal matter and silt. TSS is naturally removed from waters by settling or flushing into other waterways.

## 1.4 Toxics

Toxics are chemicals or chemical mixtures that, under certain circumstances of exposure, present an environmental or human health risk. Toxics include metals, hydrocarbons, and synthetic organic chemicals. These toxics can be naturally removed from water by adsorption, as well as biological and photochemical decomposition.

## 1.5 Nutrients

Nutrients in untreated wastewater are nitrogen and phosphorus. Wastewater nitrogen usually comes from human excreta (urea) and from food wastes. Wastewater phosphorus usually comes from certain soaps or detergents. Nitrogen leaves water by being assimilated into organisms or as nitrogen gas. Phosphorus leaves water by being assimilated into organisms or through settling.

## 1.6 Floatables

Floatables is the term used to describe the trash, debris, and other visible material discharged when sewers overflow. Possible floatables in SSOs include sanitary products and other wastes commonly flushed down a toilet. Floatables are difficult to remove from water, but some floatables are able to degrade when exposed to the natural elements.

## 2 Potential Impacts

This section explains how typical SSO pollutants could cause biological impacts.

### 2.1 Microbial Pathogens

Pathogens can cause disease in aquatic biota and illness in humans. Some pathogens only harm specific types of organisms. Cross-contamination of pathogens from a non-susceptible species to a species that is susceptible to infection by the pathogens is possible. Methods of cross-contamination include consumption of the non-susceptible species and contact with the non-susceptible species by the susceptible species.

While indicator bacteria indicate the likely presence of microbial pathogens and are not necessarily harmful themselves, pathogenic bacteria can cause human health impacts; most often gastrointestinal illness, but also pneumonia, bronchitis, and swimmer's ear.

When viruses reproduce inside of their host, whether animal, plant, or human, the reproduction process can manifest in illness in a variety of forms (EPA, 1999). Generally, viruses destroy host cells causing the host to become ill.

Parasitic protozoa such as *Giardia*, *Cryptosporidium*, and *Entamoeba* are known to cause acute and chronic diarrhea in humans (National Academy of Sciences (NAS), 1993).

Through receiving nourishment from their host, helminths disrupt their hosts' nutrients absorption, causing weakness and possibly disease.

### 2.2 Oxygen Depleting Substances

When significant amount of BOD<sub>5</sub> are discharged into a waterbody, dissolved oxygen is usually depleted through the uptake of oxygen by bacteria that utilize decaying organic matter. The depletion of dissolved oxygen in water bodies can be harmful or fatal to aquatic life and cause impacts such as fish kills. These harmful impacts can be lessened by natural dilution and mixing. By distributing the oxygen depleting substances throughout a large volume of water, oxygen consuming bacteria will be in a less concentrated area and dissolved oxygen levels will remain within the range required for aquatic life.

### 2.3 Total Suspended Solids

High concentrations of TSS in waterbodies can harm aquatic life; clog fish gills, reduce growth rates, decrease resistance to disease, impair reproduction and larval development, and reduce the volume of aquatic habitat through deposition.

### 2.4 Toxics

The environmental effects of toxics can be chronic (long-term) or acute (short-term). Chronic effects are subtle and difficult to identify, but can be observed by lower productivity and biomass (number of organisms), bioaccumulation of chemicals, or reduced biological diversity. Acute effects can be observed as immediate fish kills or severely reduced biologic diversity.

## 2.5 Nutrients

Excess amounts of nutrients can cause rapid growth of algae and nuisance plants, as well as eutrophic conditions that lead to oxygen depletion.

## 2.6 Floatables

Floatables can harm wildlife through entanglement or ingestion. Floatables can also impact recreational beneficial uses of surface waters.

## 3 Factors that Affect Extent of Impacts

Multiple factors need to be understood to determine the biological impacts that are caused from SSOs. Pollutant concentrations in SSOs vary in both space and time. Pollutant levels in an individual SSO are dependent on discharge characteristics into the sewer system, time of spill, as well as the amount and type of Infiltration/Inflow (I/I) in the subject sewer system. I/I is generally higher in wet weather.

Along with pollutant concentrations in the SSO, other factors that affect the likelihood that an organism will be adversely impacted by a pollutant. These other factors include how much of the SSO volume reaches a waterbody, the concentration of pollutants already in the receiving waterbody, the volume of water and residence time in the receiving waterbody, the duration of contact between the pollutant and the organism, the type of contact (skin contact versus ingestion), and the immune system of the organism.

Depending on the factors listed above, an SSO may or may not result in an exceedance of water quality objectives in the receiving water. Recent modeling efforts by the EPA, presented in **Table 3-1**, have predicted how stream flowrate (which is related to waterbody volume) and percentage of a medium strength wastewater (10,000,000 CFU/ 100 mL) spill that is delivered to the stream affects the likelihood that the wastewater spill would cause a water quality standard violation.

**Table 3-1: Estimated Percentage of Time SSOs Would Cause Water Quality Standard Violation**

Flow rate of stream [cfs]	Small Volume 10% delivery	Medium Volume 50% delivery	Large Volume 100% delivery
100	36%	58%	68%
1,000	13%	27%	36%
10,000	3%	9%	13%

Source: Adapted, EPA (2004) (Environmental Protection Agency , 2004)

This table displays how increased natural mixing and flushing (higher flowrates) as well as dilution (smaller spill volumes in larger stream volumes) reduce the adverse impacts caused by SSOs. Also illustrated in **Table 3-1** is the fact that the likelihood that an SSO will cause adverse water quality and biological impacts varies greatly due to a suite of incident-specific and environmental variables.



## 4 Works Cited

Environmental Protection Agency . (2004). *Impacts and Control and CSOs and SSOs*.

EPA. (1999). *Review of Potential Modeling Tools and Approaches to Support the BEACH Program*.  
Office of Science and Technology.

National Academy of Sciences (NAS). (1993). *Managing Wastewater in Coastal Urban Areas*.  
Washington DC: National Academies Press.

# Appendix D

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## SSO to Creek Protocol Logic Flowchart

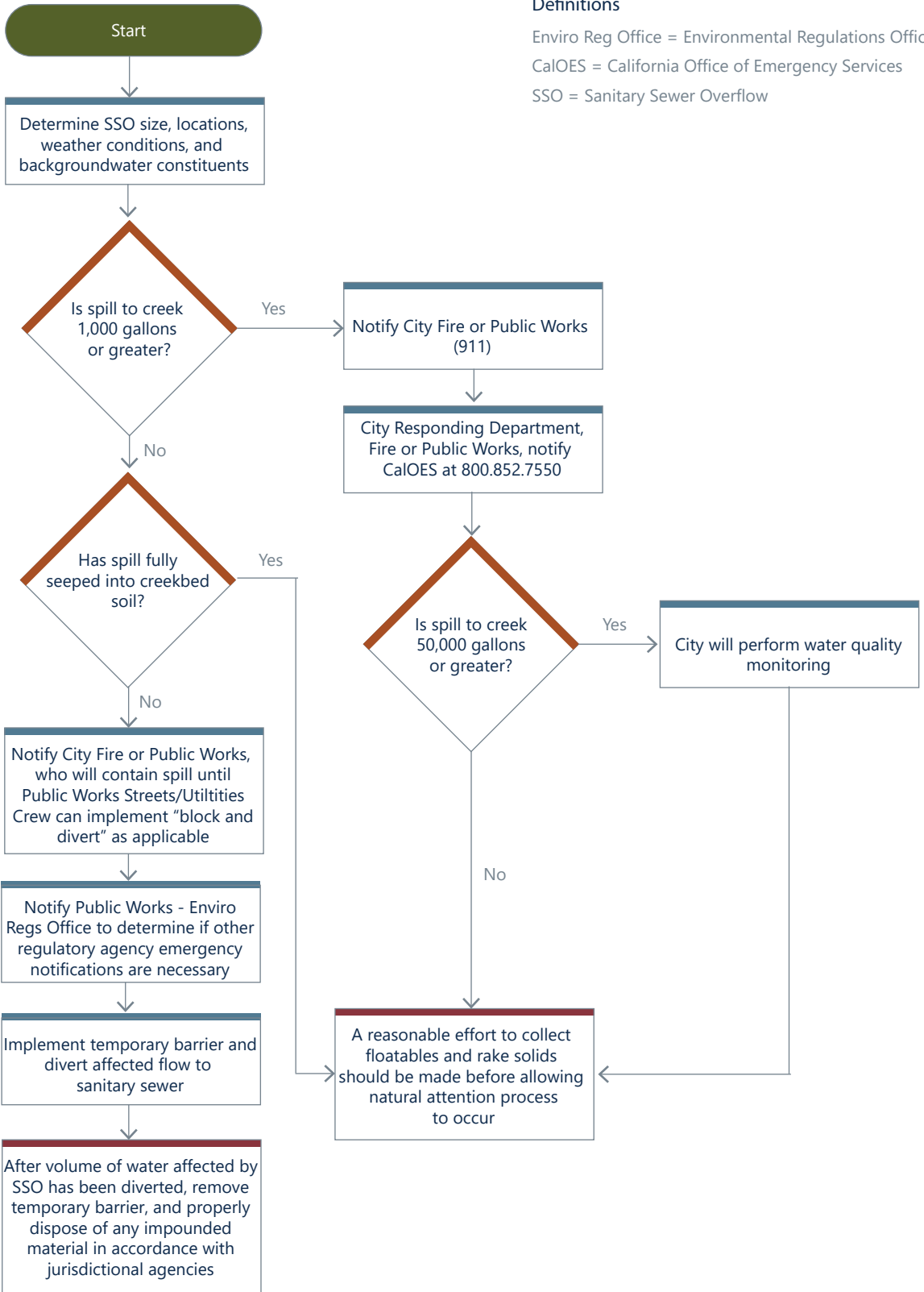
# City of Monterey SSO to Creek Protocol Logic Flowchart

## Definitions

Enviro Reg Office = Environmental Regulations Office

CalOES = California Office of Emergency Services

SSO = Sanitary Sewer Overflow



# Appendix E

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## Regulatory Agency Contact Information

<b>Agency</b>	<b>District</b>	<b>Phone No.</b>	<b>Address</b>
Regional Water Quality Control Board (RWQCB)	Region 3	805-549-3147	895 Aerovista Pl, Suite 101, San Luis Obispo, CA 93401
California Department Fish and Wildlife (CDFW)	Region 4	559-243-4005 ext. 151	1234 E. Shaw Ave, Fresno, CA 93710
United States Army Corp of Engineers (USACE)	San Francisco District	415-503-6702 (general) 415-503-6773 (permit) 415-503-6771 (enforcement)	450 Golden Gate Ave, 4th floor, San Francisco, CA 94102 1455 Market Street, 16th floor, San Francisco, CA 94103
California Coastal Commission (CCC)	Central Coast District	831-427-4863	725 Front Street #300, Santa Cruz, CA 95060



# **Appendix 16: Fat, Oil, and Grease (FOG) Program Documentation**

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**City of Monterey**  
**Department of Planning, Engineering Environmental Compliance**  
**FOOD SERVICE ESTABLISHMENT (FSE) INSPECTION REPORT**

Facility Name:			
Street Address:			
City:		Zip Code:	
Phone Number:		Email:	
Owner Name(s):			
Contact Name(s) and Title:			
Type of Business:		Type(s) of Food:	
Grease Pre-Treatment Equipment (GPTE): INTERCEPTOR TRAP NONE			
Current Maintenance Method and Frequency:			
Size:		Location:	
Proper Water Level: Y N UNK N/A		Properly Installed Vent: Y N UNK N/A	
Properly Installed Flow Restrictor: Y N UNK N/A		Properly Installed Inlet T: Y N UNK N/A	
Properly Installed Intermediate T: Y N UNK N/A		Properly Installed Outlet T: Y N UNK N/A	
Number of Fixtures:		Plumbed to GPTE?	
Number of Fixtures:		Plumbed to GPTE?	
	Dishwasher	Y N UNK	3-Compartment Sink
	Garbage Disposal	Y N UNK	2-Compartment Sink
	Garbage Area Drains	Y N UNK	Pot Sink
	Kitchen Floor Drains	Y N UNK	Vegetable Sink
	Deep Fat Fryer	Y N UNK	Hand Sink
	Mop Sink	Y N UNK	Other
Are dishes scraped before washing: Y N N/A		Are Dishes Pre-Washed: Y N UNK	
Is used oil and grease recycled: Y N N/A		Are recycling manifests kept: Y N UNK	
Are exhaust hood filters cleaned: On-site Outside service N/A			
COMMENTS, RECOMMENDATIONS AND/OR FOLLOW-UP ITEMS:			DUE DATE:
INSPECTOR SIGNATURE:			DATE:
FACILITY REPRESENTATIVE SIGNATURE:			DATE:



# City of Monterey

## Department of Plans and Public Works

Fat, Oil & Grease (FOG) Program  
Mailing Address: 580 Pacific Street, Rm. #7, Monterey, CA 93940  
Phone: (831)646-3921, Fax: (831)647-3405

### Grease Interceptor Waiver Eligibility Checklist

The following checklist will help you decide if your facility may be eligible to qualify for a variance or a conditional waiver. Please mark all activities that apply to your food service facility and contact the Plans and Public Works Department with any further inquiries before applying.

#### Level 1: The food service facility does not contribute FOG to the sewer system

- will sell only prepackaged foods.
- will warm prepackaged food with a microwave (in the package).
- will sell drinks only.
- uses less water than a single family dwelling (must submit proof of water usage)
- uses only disposable dishware

#### Level 2: The food service facility will serve/prepare...

- Ready-to-eat foods with no preparation other than warming.
- Cold sandwiches prepared on site
- Scoop-only ice cream.
- Popcorn.
- Uncooked or unbaked food or meals that will be taken from the facility to be cooked and/or baked.
- Small baked goods (such as cookies or pretzels) prepared on site.
- The food service facility will engage in a limited amount of ware washing.
- The food service facility will have a hot dog roller.

#### Level 3

The food service facility will use the following kitchen equipment:

- Dishwasher
- Garbage Disposal
- Deep fat fryer
- Griddle
- Wok
- George Foreman type grill
- Flat top
- Other device that uses fats, oil or grease

**If you marked level 1 items ONLY, you may be eligible to be exempt from the grease pretreatment requirement.**

**If you marked level 1 and/or 2 items ONLY, you may be eligible for a Conditional Waiver to the grease interceptor requirement, and be permitted to downsize to a CPC compliant grease trap.**

**If you marked level 3 items, you will most likely be required to have an exterior grease interceptor.**



# City of Monterey

## Department of Plans and Public Works

Fat, Oil & Grease (FOG) Program:  
Mailing Address: 580 Pacific Street, Rm. #7, Monterey, CA 93940  
Phone: (831)646-3921, Fax: (831)647-3405

### Fat, Oils & Grease Program Exemption

The City of Monterey has required that the food preparing facility listed below install an exterior grease interceptor. Special circumstances may sometimes allow for downgrade of the requirement to an 80 gallon grease trap installation. The facility listed below, however, has requested that no grease pretreatment be required at its business location and that all grease trap and grease interceptor requirements be waived because there is either no food preparation on site or any food preparation that occurs does not generate any fat, oil or grease as defined by Section 30-9.4a of City of Monterey Municipal Code.

<b>CONTACT NAME &amp; TITLE:</b>	
<b>BUSINESS NAME:</b>	
<b>BUSINESS ADDRESS:</b>	
<b>PHONE NUMBER:</b>	

#### Signature required

I certify that future plans for the facility do not include any food preparation that will generate an oil/grease discharge from the facility.

I agree that in the event planning begins for food preparation on site that would generate an oil/grease discharge, I will contact the City of Monterey Permits & Inspection Division (831)646-3890 for approval.

I understand that if this facility changes to include food preparation or handling that will generate oil/grease, properly sized grease pretreatment equipment would be required at that time by the City of Monterey Grease Program (Chapter 30, Article 3 of the City of Monterey Municipal Code).

\_\_\_\_\_  
Business Representative's Signature

\_\_\_\_\_  
Date

This waiver is approved by the City of Monterey Chief of Inspection Services/Building Official or City Engineer.

\_\_\_\_\_  
City of Monterey Representative's Signature

\_\_\_\_\_  
Date



# City of Monterey

## Department of Plans and Public Works

Fat, Oil & Grease (FOG) Program:  
Mailing Address: 580 Pacific Street, Rm. #7, Monterey, CA 93940  
Phone: (831)646-3921, Fax: (831)647-3405

### Grease Trap Hardship Waiver

The City of Monterey has required that the food preparing facility listed below install an exterior grease interceptor. Special circumstances may sometimes allow for downgrade of the requirement to an 80 gallon grease trap installation. The facility listed below, has requested a hardship waiver, and that a smaller than 80 gallon grease trap be permitted if allowed by California Plumbers Code; pursuant to Section 30-10.1c of City of Monterey Municipal Code.

<b>CONTACT NAME &amp; TITLE:</b>	
<b>BUSINESS NAME:</b>	
<b>BUSINESS ADDRESS:</b>	
<b>PHONE NUMBER:</b>	
<b>SIZE TRAP REQUESTED:</b>	
<b>EXPLANATION OF HARDSHIP:</b> (Attach supporting docs if needed)	

#### **Signature required**

I agree that in the event planning begins for facility remodel/renovation, I will contact the City of Monterey Permits & Inspection Division for approval, and properly sized grease pretreatment equipment may be required at that time by the City of Monterey Grease Program (Chapter 30, Article 3 of the City of Monterey Municipal Code). If for any reason this equipment proves to be inadequate, the business may be required to upgrade.

\_\_\_\_\_  
Business Representative's Signature

\_\_\_\_\_  
Date

This waiver is approved by the City of Monterey Chief of Inspection Services/Building Official or City Engineer.

\_\_\_\_\_  
City of Monterey Representative's Signature

\_\_\_\_\_  
Date





# City of Monterey

## Department of Plans and Public Works

Fat, Oil & Grease (FOG) Program:  
Mailing Address: 580 Pacific Street, Rm. #7, Monterey, CA 93940  
Phone: (831)646-3921, Fax: (831)647-3405

### Grease Trap Waiver Fee Exemption

The City of Monterey has required that the food preparing facility listed below install an exterior grease interceptor. Special circumstances may sometimes allow for downgrade of the installation of a grease trap. The facility listed below, however, has requested to be removed from the Grease Trap Waiver Fee billing list on the grounds that it is a minimal producer of grease, and all grease producing fixtures are plumbed to an adequately sized trap as defined by Section 30-11.1 of City of Monterey Municipal Code.

<b>CONTACT NAME &amp; TITLE:</b>	
<b>BUSINESS NAME:</b>	
<b>BUSINESS ADDRESS:</b>	
<b>PHONE NUMBER:</b>	
<b>CURRENT GREASE TRAP SIZE:</b>	

#### Signature required

I certify that future plans for the facility do not include any food preparation that will generate an oil/grease discharge from the facility.

I agree that in the event planning begins for food preparation on site that would generate an oil/grease discharge, I will contact the City of Monterey Permits & Inspection Division (831)646-3890 for approval.

I understand that if this facility changes to include food preparation or handling that will generate oil/grease, properly sized grease pretreatment equipment would be required at that time by the City of Monterey Grease Program (Chapter 30, Article 3 of the City of Monterey Municipal Code).

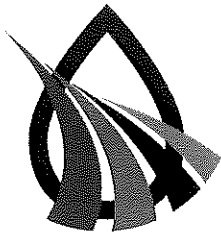
\_\_\_\_\_  
Business Representative's Signature

\_\_\_\_\_  
Date

This waiver is approved by the City of Monterey Chief of Inspection Services/Building Official or City Engineer.

\_\_\_\_\_  
City of Monterey Representative's Signature

\_\_\_\_\_  
Date



# Monterey One Water

## Providing Cooperative Water Solutions

ADMINISTRATION OFFICE: 5 Harris Court, Bldg D, Monterey, CA 93940  
MAIN: (831) 372-3367 or (831) 422-1001 FAX: (831) 372-6178  
WEBSITE: [www.montereyonewater.org](http://www.montereyonewater.org)

December 27, 2017

Mr. Steve Wittry  
Principal Engineer  
CITY MONTEREY  
570 Pacific Street  
Monterey, CA 93940

Dear Mr. Wittry:

**SUBJECT: WASTEWATER DISCHARGE REQUIREMENTS – PUBLIC  
EDUCATION FOR GREASE FY 17/18**

Enclosed are two original copies of the Memorandum of Understanding (MOU) for Conducting a Public Education Program for the Southern Monterey Bay Dischargers' Group. Please execute both copies and return one copy to my attention at our Agency.

In addition, an invoice will follow under separate cover for the CITY OF MONTEREY's cost (per MOU) for the public education program as described in Attachments A & B.

If you have any questions or need additional information, you can contact Michelle Bumgardner at 645-4629 or me at 645-4600.

Sincerely,

Paul A. Sciuto  
General Manager

PS/mlb

Enclosures: MOU with Attachments A & B

**MEMORANDUM OF UNDERSTANDING**  
**for**  
**Conducting a Public Education Program**  
**for the**  
**Southern Monterey Bay Dischargers Group**

THIS MEMORANDUM OF UNDERSTANDING is made and entered into on January 9, 2018, between the **MONTEREY ONE WATER** (the "Agency"), and the **CITY OF MONTEREY** (the Discharger"), as follows:

**Recitals**

1. The Discharger has been issued Waste Discharge Requirements (WDR) by the California Regional Water Quality Control Board. One of the WDR requirements is for the Discharger to conduct a public education program to promote the proper disposal of grease and fats.
2. The Agency has the staff and resources to conduct a public education program as described in Attachment A to this Agreement.
3. The Discharger desires to have the Agency conduct this public education program.

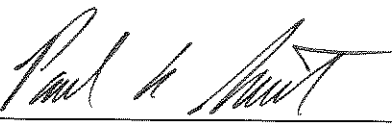
**Terms and Conditions**


In consideration of the mutual promises contained herein, the Agency and the Discharger hereby agree to the following terms and conditions:

1. Over the remainder of fiscal year 2017-2018 on behalf of the Southern Monterey Bay Dischargers Group the Agency will conduct the public education program described in Attachment A.
2. The Discharger will compensate the Agency the amount shown in Attachment B as its share of the overall cost of conducting this public education program.
3. The Agency will invoice the Discharger for its share of these costs, and the Discharger will pay the Agency this amount within ninety (90) days of receipt of the invoice.

MONTEREY ONE WATER

CITY OF MONTEREY

By   
\_\_\_\_\_  
Paul A. Sciuto, General Manager  
Print Name/Title

By   
\_\_\_\_\_  
Steve Wittry, Principal Engineer  
Print Name/Title

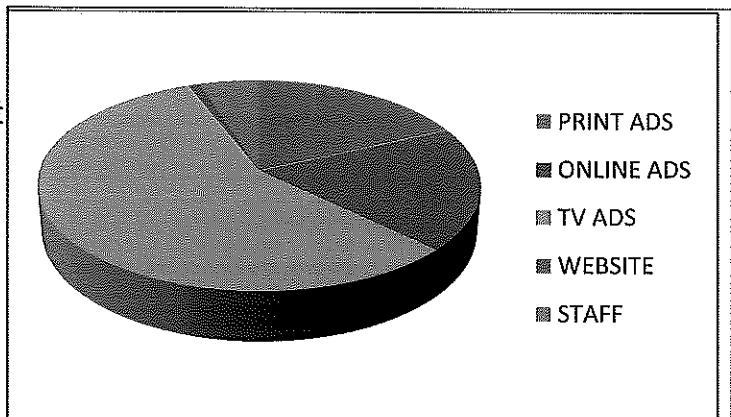
**Attachment A**

**WDR Grease Public Outreach Plan  
FY 17/18**

<b>Media Type</b>	<b>Budget Detail Summary</b>
<b>TV</b>  KSBW TV, Channel 8 KSMS TV, Channel 67 (Univision)	<b>(57%)</b>  Nov/Dec, 48 ads, 0:15 Nov/Dec, 80 ads, 0:15 (128 total ads)
<b>Print</b>  Carmel Pine Cone, Fri Monterey County Weekly, Thu	<b>(18%)</b>  2 ads* (1/5 pg, b/w) 7 ads (1/6 page, color)
<b>Internet Website – ClogBusters.org</b>  Hosting, backups, archiving, 2 website updates	<b>(1%)</b>  12 months
<b>Online Ads &amp; Search Marketing</b>  KSBW TV Channel 8 1 month  KSMS TV Channel 67 (Univision) 2 months  Monterey County Weekly 2 months	<b>(19%)</b>  40,000 impressions/mo  Unlimited impressions/mo  Web Banners
<b>Staff/Misc.</b>  Program management; Clogbusters	<b>(5%)</b>
<b>Total Budget</b>	<b>\$12,361.00 Group</b>

Note: expense percentage for each media type is percentage of \$12361.00 shared group budget

\* CAWD and PBCSD contributing \$792.00 to run 4 additional biweekly ads through Dec 29, 2017 (6 ads total).



**Attachment B**

**Southern Monterey Bay Dischargers Grease Outreach Partnership**

<b>SHARED COSTS FOR FY 17/18 PUBLIC EDUCATION PROGRAM ON GREASE DISPOSAL PRACTICES</b>			
<b>PUBLIC EDUCATION PROGRAM BUDGET = \$18,000</b>			
<b>ENTITY</b>	<b>POPULATION WITHIN AREA TO BE COVERED BY REGIONAL WDR PROGRAM</b>	<b>PERCENTAGE OF BUDGET TO BE PAID BY THIS ENTITY</b>	<b>CONTRIBUTION TOWARD FY 2016/2017 BUDGET</b>
City of Salinas	150,441	52.756%	\$6521.20
Seaside County Sanitation District <sup>(1)</sup>	34,983	12.268%	\$1516.50
Marina Coast Water District <sup>(2)</sup>	33,364	11.700%	\$1446.25
City of Monterey	27,810	9.752%	\$1205.45
City of Pacific Grove	15,041	5.275%	\$ 652.05
Castroville Community Services District <sup>(3)</sup>	7,204	2.526%	\$ 312.25
California American Water <sup>(4)</sup>	6,380	2.237%	\$ 276.50
Pebble Beach Community Service District	4,509	1.581%	\$ 195.43*
Carmel Area Wastewater District	3,722	1.305%	\$ 161.32*
County of Monterey	1710	0.599%	\$ 74.05
<b>TOTAL</b>	<b>285,164</b>	<b>100.00%</b>	<b>\$12,361.00</b>

**Notes:**

- <sup>(1)</sup> Combined 2010 Census population of Seaside, Sand City, and Del Rey Oaks.
- <sup>(2)</sup> Combined 2010 Census population of City of Marina and Ord Community population provided by MCWD
- <sup>(3)</sup> 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.
- <sup>(4)</sup> 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 \$396.00.00 ea for additional Carmel Pine Cone ads through DEC 2017.



## **Appendix 17: Sewer Fee Study Update (1988)**

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REPORT OF  
1988 SEWER FEE STUDY UPDATE

FOR THE  
CITY OF MONTEREY  
DEPARTMENT OF ENGINEERING & MAINTENANCE

Fred Meurer, Director  
D.S. Gorman, City Engineer

PREPARED BY:

William T. Courtillet, P.E.  
177 Webster Street, #A-252  
Monterey, California 93940  
(408) 373-6245



*William T. Courtillet*

Revised September 23, 1988

## EXECUTIVE SUMMARY OF CONCLUSIONS AND RECOMMENDATIONS

This study update of the City of Monterey's sewer main connection fees program indicates the following:

1. Subsequent to the previous sewer fee studies made in 1971 and 1977, a number of significant changes have occurred to the physical sewer system itself, as well as to land use factors, which collectively have had a positive effect on the ability of the City's sewer system to provide for future capacity demands.
2. All high priority recommendations made in the two previous studies for sewer main enlargements have been implemented by the City.
3. Construction of a new inter-City trunk line from Pacific Grove through Monterey has been completed by the Monterey Regional Water Pollution Control Agency (MRWPCA).
4. Five of the nine City pumping plants in operation at the time of the previous studies have either been physically eliminated with construction of the new MRWPCA trunk line or have become facilities maintained and operated within the MRWPCA system.
5. Although the number of dwelling units and the general population have been increasing over the past 17 years, the population per household density factor in Monterey has been decreasing from 3.70 persons in 1971 to 2.32 persons currently.
6. Projections for annexations and development to the east of the City along Highway 68 have been reduced in size and extended in time.
7. No existing or potential sanitary sewer flow capacity deficiencies were found in any of the four remaining pumping plants in the City maintained system.
8. It is recommended that the existing 10" pipe segment in North Fremont Street near the Travelodge Motel (approximately 190 feet long between manholes) be replaced with a 12" pipe within five years with funds already collected under the current sewer main connection fees program (preliminary cost estimate is \$15,000).
9. It is recommended that the current sewer main connection fees program be discontinued until the next study update, which should be made at least every five years.

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## INTRODUCTION

The last comprehensive sanitary sewer study made for the City of Monterey's sewer system was in 1971 which was reviewed for updating in 1977, followed by annual adjustments of the sewer main connection fees for inflation. Subsequent to the previous studies, some major changes in the provision of sanitary sewer service have occurred in the Monterey area. Construction of a new trunk line by the Monterey Regional Water Pollution Control Agency (MRWPCA) has been completed from Pacific Grove through Monterey to the Monterey Wastewater Treatment Plant. Also, five of the nine City pumping plants in operation at the time of the previous studies have either been physically eliminated with construction of the new MRWPCA trunk line or have become facilities maintained and operated within the MRWPCA system. These changes have had a significant effect on the sewer fee rate zone boundaries established in the previous studies as well as on the individual fee rates themselves, and have prompted the need for a sewer fee study update. This report is intended to document the method and results of a study update made between June and September of 1988.

## SCOPE OF WORK

### Primary Objective

The primary objective of this study was to review the City's existing sanitary sewer system to determine the need for any changes in the sewer main connection fees, and to recommend what changes should be made. The sewer main connection fees are based upon estimated construction costs of larger sewer facilities within the City of Monterey system required to serve new developments and higher density land usages. The sewer main connection fees do not provide for maintenance or operational costs.

### Study Area and Design Period

All existing lots and undeveloped areas within the City limits have been analyzed for existing and potential sanitary sewer flows, as well as those unincorporated parcels immediately adjacent to the City limits that would logically be served by City sewers. The Design Period for this study is 15 years, which is based upon the City of Monterey Community Development Department study projections and the City of Monterey General Plan which project ultimate development to occur by the year 2003.

Annexation and development of unincorporated areas to the east and along Highway 68 is not likely for the next 20 years according to current interpretation of the Highway 68 Area Plan (see Appendix - City Interdepartmental Memo dated August 9, 1988) which prohibits urban development until the existing highway is brought up to level of service "C". Also, the City of Monterey's Engineering and Maintenance staff is currently updating a report prepared by Creegan & D'Angelo, Consulting Engineers, in 1981 entitled, "Monterey II - Trunk Sewer System". The primary purpose of this update is to determine if it is economically more feasible to route all potential Highway 68 Study Area flows into the City's existing system at Olmstead and Garden Roads, rather than along Canyon Del Rey Boulevard, through the Cities of Del Rey Oaks and Seaside to the Seaside Treatment Plant, as intended in the 1981 Creegan & D'Angelo report. The routing alternatives are being reevaluated due to the significant reduction in the study area assumptions (approximately 70%) since the 1981 study was made. Therefore, since the current time projection for annexation and development is beyond the design period of this sewer fee study update, and also due to the uncertainty of the routing of flows, these areas to the east and along Highway 68 have not been included in the study area for this current sewer fee study update. When the reevaluation of routing alternatives and costs is completed, and when these

areas should ever annex and develop within the City, a onetime or phased sewer connection fee should be determined as a part of the annexation approval or rezoning process.

#### Facilities Studied

The following facilities have been investigated in this study:

1. Local collectors (6" mains) with 300 or more potential service connections (equivalent homes);
2. All major collectors (mains greater than 6");
3. City maintained pumping plants, trunk lines and force mains.

#### Focus of Technical Analysis

The technical analysis of this study has focused solely on investigating the existing City maintained sewer facilities to determine future construction needs required to adequately handle the increased sanitary sewer flows directly related to new land use developments. Since the primary objective of this study was to convert the cost of these future construction needs into sewer main connection fees, no maintenance or operations costs have been included in this study. No maintenance or operational problems have been analyzed or incorporated into this study.

## METHOD OF ESTIMATING FLOWS

### Accuracy

The existing and potential sanitary sewer flows established in this study have all been calculated. The engineering formulas and technical factors used in the calculations are consistent with current engineering publications and practice. Where field measured flow data was readily available and directly applicable, it has been used (e.g., water-use rates for existing laundromats, car washes, restaurants and motels). Otherwise, the effort to obtain data of a design/construction accuracy is not warranted in a study having a primary objective to focus on potential sanitary sewer capacity needs 15 years into the future.

The pipe capacity range between consecutive pipe sizes increases from 300 equivalent homes between a 6" and 8" pipe, to 2,000 equivalent homes between an 18" and 21" pipe. This margin of tolerance provided in pipe sizing is greater than the difference between calculated and measured sanitary sewer flows. The existing sanitary sewer flows calculated in this study have been validated by comparing against City-wide measured flows made at key locations in the existing system by CH2M Hill, engineering consultants, as noted in their report entitled, "City of Monterey, Infiltration/Inflow Evaluation, October 1986." (It should be noted, that this report is part of a study, still in progress, which is being made for maintenance and operational related deficiencies. No final submittals nor recommendations have been made for this study to date. Data available from this study, although preliminary in nature and outside the scope of work of this sewer fee study update, has been found useful only as a gauge against which to compare sanitary sewer flows.) The calculated potential flows in this study are based upon population and land usage projections and assumptions consistent with current planning studies and zoning regulations used by the City of Monterey Community Development Department.

### Technical Factors

The following technical factors were used in the calculations made for estimating the existing and potential flows:

1. One hundred (100) gallons per capita day (g.p.c.d.) was used as the average number of gallons per day per person in a single-family dwelling environment. Although this study is for the entire City of Monterey consisting of a mix of land usages, the majority of land usage in Monterey is residential. Therefore, the single-family dwelling and 100 g.p.c.d. was chosen as



the basis for establishing a common unit for converting all other land usages.

2. A single-family dwelling consisting of 2.32 persons was used in this study. This figure has been developed by the State of California, Department of Finance, Population Research Unit (Population and Housing Estimates for California Cities and Counties, Summary Report E-5, May 7, 1987), based upon current trends in the City of Monterey, and is currently being used by planning consultants and the City of Monterey Community Development Department.
3. One Equivalent Home is equal to 100 g.p.c.d x 2.32 persons per single-family dwelling which equals 232 gallons per day. This is the common unit chosen for converting all other land usages into, and used in flow calculations to provide for the mix in land usages - both existing and potential.
4. Average Daily Sewage Production Rates in gallons per day were compiled for various land usages and converted to equivalent homes (see Table No. 1). Most of the base data (gal/day) for the individual usages was obtained from technical engineering publications.

TABLE NO. 1

AVERAGE DAILY SEWAGE PRODUCTION RATES  
(1988 SEWER FEE STUDY UPDATE)

	<u>Gal/Day</u>	<u>Equivalent Homes</u>
Single-family dwelling (BASE)	232	1.0
Apartments: 3 Bedroom	232	1.0
2 Bedroom	186	0.80
1 Bedroom	93	0.40
Studio	70	0.31
Unknown Mix	140/unit	0.60
Motels and Hotels	100/room	0.43/room
Restaurants		0.08/seat
Laundromats	687/machine	3.0/machine
Offices and Stores	20/employee	0.08/employee
Car Wash		70.0
Light Industry		37.0/acre
Misc. Commercial		13.0/acre
Shopping Center	2/parking space 13/customer 13/employee	0.009/parking space 0.06/customer 0.06/employee
Hospital, Medical	251/bed 16/employee	1.08/bed 0.07 employee
Rest Home	119/resident 16/employee	0.51/resident 0.07/employee
School, Day	30/student	0.13/student
School, Boarding	106/student	0.46/student
Automobile Service Station	12/vehicle	0.06/vehicle
Cocktail Lounge	26/seat	0.11/seat
Coffee Shop	8/customer 13/employee	0.30/customer 0.06/employee
Theater	4/seat	0.02/seat
Trailer Park	53/person	0.23/person

5. Peak Flow Factors were calculated by use of the following formula:

$$PFF = \frac{18 + \sqrt{P}}{4 + \sqrt{P}}$$

Where P equals population in thousands. Use of this formula is appropriate for this study where flows are estimated and not measured. It provides a comprehensive peaking factor by providing for a mix of land usages in small areas. Also, it provides for flow variations in systems where water use and nominal extraneous flow are the governing factors. (ASCE Manual No. 37, prepared by a Joint Committee of the American Society of Civil Engineers and the Water Pollution Control Federation, 1976, pages 32-33; Wastewater Engineering: Treatment, Disposal, Reuse, second edition, by Metcalf & Eddy, Inc., 1979, pages 29-30; Water Supply and Sewerage, fifth edition by Steel and McGhee, 1979, pages 23-24.)

6. Peak Flows in cubic feet per second were calculated for various numbers of equivalent homes by the following formula:

$$Q_p = \frac{\text{Equivalent Homes} \times 232 \text{ gal/day} \times PFF \times 1.547}{10^6}$$

7. The theoretical slopes for various sizes of pipes required to maintain full flow within the pipes without an entrance head (surging in the manholes) were calculated by the following formula:

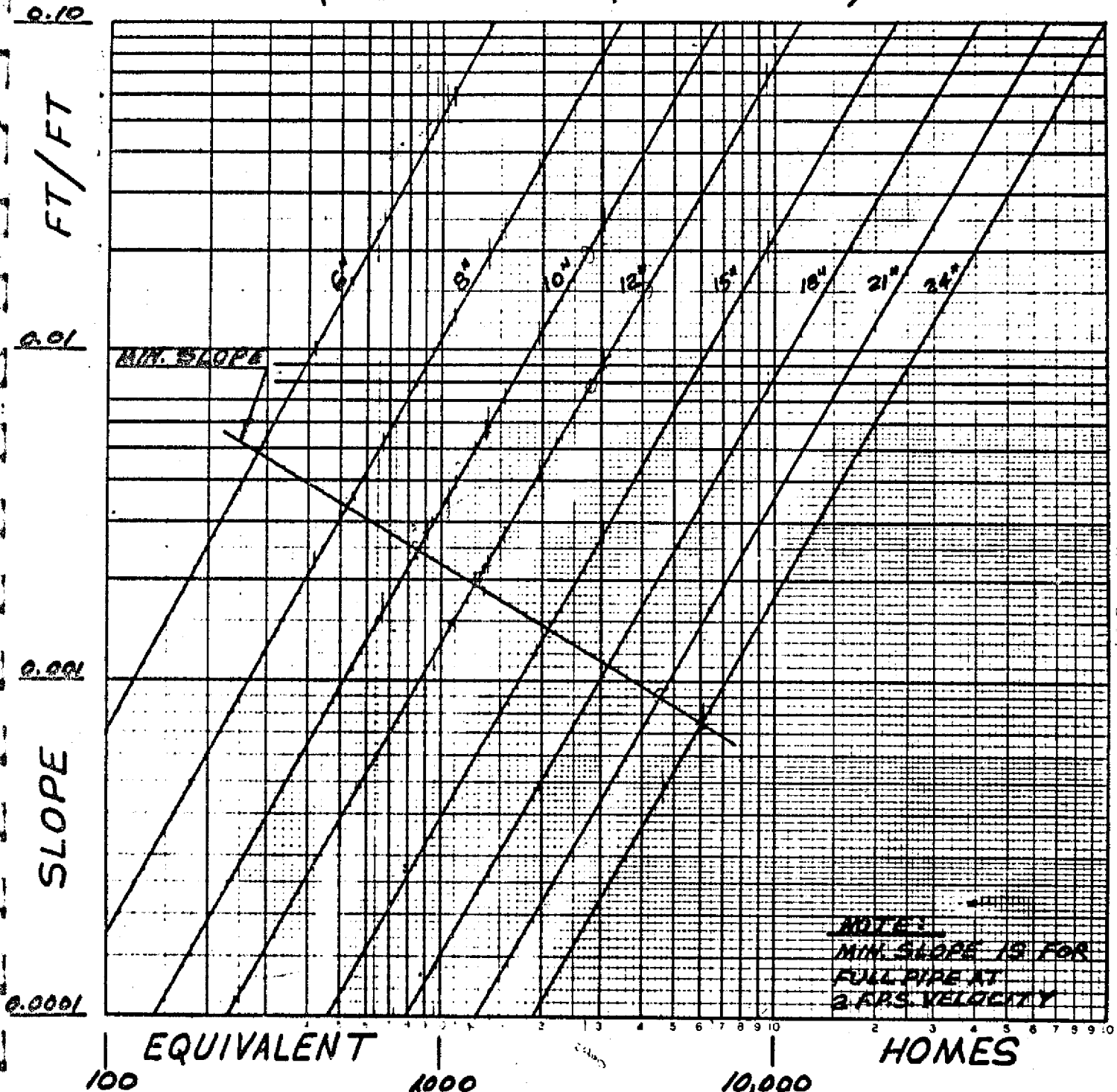
$$S = \left( \frac{Q_p \times n}{k \times d^{8/3}} \right)^2 = \left( \frac{Q_p \times 0.028078}{d^{8/3}} \right)^2$$

(n = 0.013; k = 0.463; d = diameter of pipe in feet; Q<sub>p</sub> = peak flow in cubic feet per second; S = slope of pipe flowing full in feet per foot)

8. Slope vs. Equivalent Homes curves were plotted for various pipe sizes using the data calculated in the above sections (see Figure 1). It should be noted that these curves resulting from the above calculations have peak flow factors "built into" them, thus allowing the direct use of equivalent number of homes which represent average flows. Additional calculations were made to find the minimum required slopes for the various pipe sizes to maintain a cleansing

FIGURE 1

PEAK FLOW PIPE SIZES  
(SLOPE VS. EQUIV. HOMES)



NOTE:  
MIN. SLOPE IS FOR  
FULL PIPE AT  
2 FPS VELOCITY

1988 SEWER FEE STUDY UPDATE

2.32 persons/SFD  
100 gpd/person

velocity of two feet per second. The minimum slope for maintaining a cleansing velocity of two feet per second was also plotted on the curves. These curves were used in the analysis of flows, which is explained later in this report under the section entitled Analysis of Flows.

#### Existing Flows

Existing sanitary sewer flows were determined by converting all existing land usages into equivalent homes. Current land usage maps were obtained from the City of Monterey Community Development Department which show existing land usage on each lot and block, as well as vacant and undeveloped areas, for the entire City. By use of the Average Daily Sewage Production Rates (see Table No. 1), the existing land usages were converted to the amount of sewage produced from each block, expressed in equivalent homes. These flows were then assigned to the applicable segment of existing sanitary sewer main to which the lots and blocks are now physically connected.

#### Potential Flows

Potential flows for this study refer to those sanitary sewer flows estimated to occur at buildout. Buildout, or ultimate development, occurs if and when an area is developed to the maximum densities allowable under current zoning regulations. Potential flows were determined for each lot, block and undeveloped areas in the study area. Current zoning designations (City of Monterey Zoning Map, revised to 6-1-88) were converted to maximum number of equivalent homes as allowed under the regulations for the various zoning designations. Existing land use densities were compared with the maximum allowable, adjusted accordingly (see below for explanation), and converted into flows, expressed in equivalent homes, by use of the Average Daily Sewage Production Rates (see Table No. 1). These potential flows were then assigned to the applicable segment of existing sanitary sewer main to which the existing lots and blocks are now physically connected, or to which undeveloped areas will be connected.

#### Maximum Allowable Land Use Densities

The mechanics of "adjusting accordingly" referred to above, between existing land usage densities and the maximum allowable, required in some areas of the City a judgmental analysis prior to making the calculations to obtain potential flows. The larger portion of the City required obvious and direct adjustments, such as a vacant lot within a residential subdivision or a single-family residence on a lot within a block undergoing conversion to and zoned for multiple-family units. The areas of the City



that did not lend themselves to this straightforward process were primarily centered around Garden Road, North Fremont Street, and Foam Street. The areas in question can generally be described as having some vacant, undeveloped, or underdeveloped lots within non-residential zonings.

The range of allowable land usages in these areas translates into a considerable range of sewage production rates. In the previous sewer fee studies, these areas were assigned the maximum sewage production rate within the range of allowable land usages. However, since the time that these studies were made (1971 and 1977), a considerable amount of in-fill development and land use conversion trends has occurred. In short, more data, information and history on development within the City of Monterey is available. Consequently, the need for a judgmental analysis was determined to be more realistic than to simply tabulate the maximum sewage production rates within the range of allowable land usages.

The factors considered in the analysis for each lot and block within these areas were the following:

1. Length of time of existing usage;
2. Usages of adjacent lots;
3. Usage conversion trends;
4. Size of lot;
5. Current zoning of lot and block;
6. Design Period of this study update (15 years).

In summary, it is believed that an analysis based upon the above considerations is more realistic and consistent with the Land Use element of the City of Monterey's General Plan, because it focuses on the most probable land use based upon current trends, goals, and policies.

## ANALYSIS OF FLOWS

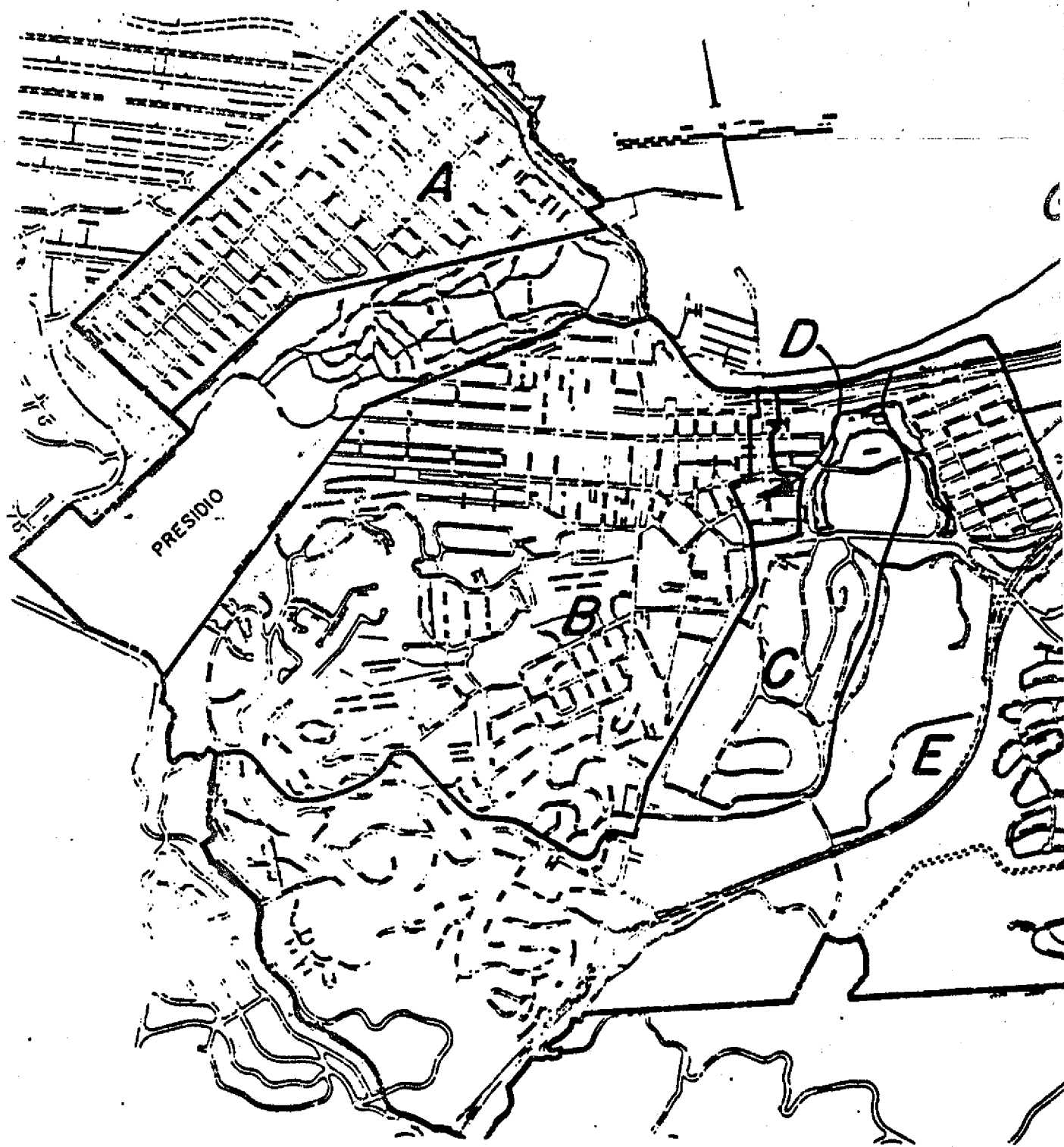
### Determination of Service Areas

The determination of service areas within the City's sanitary sewer system is the most significant step in developing a sewer main connection fee program. A service area physically represents the direct relationship between users (existing and potential) and the service provided. Service areas are the basis for an equitable process of segregating and apportioning estimated construction costs for larger facilities required to serve new developments and higher density land usages. The determination of service areas requires the identification of those sanitary sewer facilities which are shared in common and exclusively by all users within a defined portion of the City.

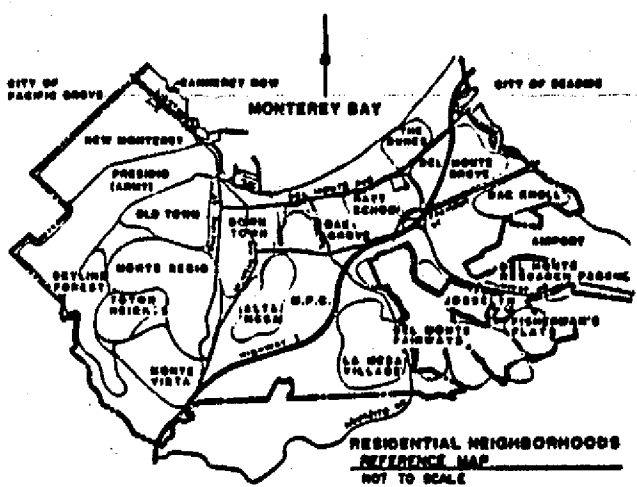
This update study shows that the City of Monterey's existing sanitary sewer system consists of eight service areas (see Figure No. 2). A service area is a physically identifiable portion of the City's sanitary system in which all of the sanitary sewer users (existing and potential) contribute flows through a common and exclusive network of collection pipes to an exclusive terminal connection with the MRWPCA facilities. The two studies previous to this current update (1971 and 1977) identified three service areas (referred to as "zones" in those studies) for the entire City.

The reason for the difference in the number of service areas between the previous studies and this current update is due to the elimination of pumping plants and the construction of the new MRWPCA inter-City trunk line. Included in this trunk line construction were six gravity flow terminal connections for the City of Monterey's system, which accounts for six of the eight service areas determined by this current update. (Each service area has one terminal connection with the MRWPCA facilities.) The remaining two service areas determined in this update, are located in the Dunes area between the Monterey Wastewater Treatment Plant and the Monterey Beach Hotel (formerly the Holiday Inn). These last two service areas were not included in the previous studies because the flows from these areas did not depend upon any of the then existing pumping plants, but rather were able to gravity flow directly to the nearby Monterey Wastewater Treatment Plant.

The three service areas in the previous studies were referred to as "Zone 7", "Zone 5", and "Zone 4", the numbers corresponding with those assigned to the major pumping plants to which each of the three service areas ("zones") contributed flows. Identifying those portions of



**SERVICE AREA DEFINITION:**  
A PHYSICALLY IDENTIFIABLE PORTION OF THE CITY'S  
SANITARY SEWER SYSTEM IN WHICH ALL OF THE  
SANITARY SEWER USERS (EXISTING AND POTENTIAL)  
CONTRIBUTE FLOWS THROUGH A COMMON AND EXCLUSIVE  
COLLECTION PIPES TO AN EXCLUSIVE TERMINAL  
CONNECTION WITH THE M.R.R.C.A. FACILITIES.



SANITARY SEWER SERVICE AREAS (4)			
AREA	NEIGHBORHOODS	1978 POP.	1988 POP.
A	NEW MONTEREY - CANNERY ROW	2,298	3,794
B	SKYLINE FOREST - MONTE RESIO OLD TOWN	3,434	4,282
C	ALTA MESA - EAST DOWN TOWN	297	350
D	DOWN TOWN	187	233
E	TOTON HEIGHTS - MONTE VISTA LA MESA - OAK GROVE	4,811	5,067
F	FISHERMAN PLATS - JOSELYN - DEL MONTE RESEARCH PARK OAK HOLL - DEL MONTE GROVE (2) (3)	3,040	3,348
G	THE DUNES (BEACH TRACT)	242	329
H	THE DUNES	163	

- NOTES:**
- (1) EXPRESSED IN EQUIVALENT HOMES (2.38 P X 100 GPCD = 1 EQUIVALENT HOME).
  - (2) INCLUDES MONTEREY PENINSULA AIRPORT CONNECTION.
  - (3) INCLUDES PROPOSED TERRY PLATS AND A OF RYAN RANCH PRIVATE DEVELOPMENT.
  - (4) PRESIDIO AND MARIL POSTGRADUATE SCI EXCLUDED AS THEY HAVE DIRECT TERRAIN CONNECTIONS WITH M.R.W.R.C.A. FACILITY

**FIGURE № 2**

THE CITY'S  
OF THE  
CENTRAL  
AND EXCLUSIVE NETWORK  
TERMINAL  
TES.

DESIGNED BY: W. COURTYLLET	<b>1988</b> <b>SANITARY SEWER FEE</b> <b>STUDY UPDATE</b> <b>SANITARY SEWER SERVICE AREAS MAP</b>
DRAWN BY: BILKTOAST	
CHECKED BY:	
DATE:	
SCALE:	1 OF 1

the City which contributed flows to one of these three pumping plants was the basis for determining service areas in the previous sewer main connection fee studies. Due to the construction of a new trunk line with six City gravity flow terminal connections, and the elimination of major pumping plants from the City's maintained system, the basis for identifying service areas has changed, making it necessary to determine new service areas.

By use of the 1"=300' scale "City of Monterey Storm Drains and Sanitary Facilities" Map, eight service areas were identified for this study by locating the terminal connections with the MRWPCA facilities and tracing the network of collection pipes to their uppermost extremities. All the lots and blocks physically connected (or which will be connected when developed) and contributing flows to this common network of collection pipes, were determined to form a service area. Eight such service areas were identified in this current study. (It should be noted, that the Presidio and the Naval Postgraduate School are not included in any of these eight service areas because they each have exclusive networks of collection pipes.)

#### Sewer Data Spread Sheets

As stated earlier in the Scope of Work - Facilities Studied section of this report, all local collectors (6" mains) with 300 or more potential services, and all major collectors (mains greater than 6") were investigated in this study. The minimum slope specified in the construction of a 6" sanitary sewer main for providing a minimum cleansing velocity, is also adequate for peak sanitary flows up to 300 equivalent homes. The sewer mains investigated in this study were analyzed for adequacy of pipe size and slope under both existing and potential peak sanitary flows. The data required for this analysis, as well as the results, were tabulated in a spread sheet fashion (see Appendix for Sewer Data Spread Sheets and Map of Locations of Sewer Mains Studied).

For each manhole to manhole segment of sanitary sewer main analyzed, the existing slope and size of pipe were tabulated with the calculated sanitary flows (existing and potential) expressed in equivalent number of homes. The existing pipe sizes and slopes were then "tested" for hydraulic adequacy (ability to transport the flows at or above the minimum velocity required for cleansing, and to accept the flows into the pipe without a surging of flows above the pipe entrance within the manhole). This "testing" was done by use of the Slope vs. Equivalent Homes curves developed specially for this study described earlier in the Method of Estimating Flows - Technical Factors section of this report. This method of testing the



adequacy of existing pipe sizes by graphically performing hydraulic calculations was used for each sewer main investigated in each of the eight service areas of the City of Monterey's sanitary sewer system. The results of this testing have been tabulated on the spread sheets, copies of which are in the Appendix section of this report. Also, the results and recommendations are discussed in the final section of this report entitled, "Conclusions and Recommendations".

## PUMPING PLANTS

### Summary Analysis

Of the original nine pumping plants within the City's sanitary sewer system, four have been physically eliminated with construction of the new MRWPCA trunk line, and one is part of the facilities maintained and operated within the MRWPCA's system. This change occurred subsequent to the previous sewer fee studies made in 1971 and 1977. Table No. 2 tabulates the four remaining pumping plants currently maintained within the City of Monterey's system. Also tabulated are the pumping capacities and the existing and potential capacity demands. As indicated in Table No. 2, neither the existing nor the potential capacity demands exceed the single pump rated capacities of any of the four remaining pumping plants. These pumping plants are classified as "minor" pumping plants because they function as local lift stations. Consequently, only a summary review and analysis was required for this sewer fee study update.

TABLE NO. 2

EXISTING PUMPING PLANTS WITHIN THE  
CITY OF MONTEREY SANITARY SEWER SYSTEM  
(1988 SEWER FEE STUDY UPDATE)

PUMPING PLANT NO.	LOCATION	SINGLE PUMP CAPACITY IN GPM (1)	EXISTING CAPACITY DEMAND (EQUIV. HOMES) IN GPM (2)	POTENTIAL CAPACITY DEMAND (EQUIV. HOMES) IN GPM (2)
#2	Fremont and Mesa Road	875	(227) 145	(253) 161
#3	Del Monte Ave. and Seaside City Limits	100	(56) 38	(152) 99 (See Note 3)
#8	Stephens Place and Via Del Pinar	160	(12) 8	(12) 8
#9	Madison and Pebble	160	(11) 8	(28) 19

Notes:

- (1) Manufacturer's rated capacities.
- (2) Equivalent Homes represents average flows; gpm's have been calculated for peak flows.
- (3) Includes potential services from undeveloped adjacent lots in the City of Seaside (34 gpm).

## CONCLUSIONS AND RECOMMENDATIONS

### Significant Changes

A number of significant changes have occurred since the two previous sewer fee studies were made in 1971 and 1977, not only in the facilities maintained by the City, but also in land use factors which directly affect the calculations for estimating future facility needs. The changes to the facilities have consisted of the implementation by the City of all the high priority recommendations made in the previous study reports for sewer main enlargements, and also construction by the MRWPCA of a new inter-City trunk line with the elimination of pumping plants. The land use factor changes have pertained to a 37% reduction in the population per household density factor (from 3.70 persons to 2.32 persons), and extended time projections for annexations and development to the east of the City along Highway 68. These changes collectively have had a significant effect on the City's sewer system with regard to its ability to provide future service without the need to continue a sewer main connection fee program for facility enlargements within this Study Update Design Period of 15 years.

### Analysis Results

As a result of the analysis made for this Sewer Fee Study Update, no existing or potential sanitary sewer flow capacity deficiencies were found in the four pumping plants in the City maintained system, and only marginal capacity deficiencies were noted at two locations in the sewer mains. One of the sewer main marginal deficiencies is in a 387'+ long segment of 21" pipe located in Cannery Row between the Chart House Restaurant (manhole no. 15) and the Monterey Plaza Hotel (manhole no. 9). This deficiency is considered marginal because it consists of a 0.4'+ surging in the upstream manhole estimated to occur during future peak flows. However, due to the depth of this pipe (15'+), this deficiency is determined to be insignificant with no potential adverse impact on any lateral connections. The second location is in a 190'+ long segment of 10" pipe in North Fremont Street near the Travelodge Motel between manholes no. 328 and no. 323. The deficiency in this pipe segment is also considered marginal due to a 0.5'+ surging estimated to occur in the upstream manhole during future peak flows. Since the depth of this pipe is only 5.5'+, this marginal deficiency is determined to be significant in having a potential adverse impact on any lateral connections, and it is therefore recommended that it be replaced within the next five years with a 12" pipe.

### Recommendations

Based upon the changes that have occurred since the previous studies were made in 1971 and 1977, and the analysis results of this current Sewer Fee Study Update, the following recommendations are made:

1. The current sewer main connection fees program be discontinued until the next sewer fee study is made.
2. The next sewer fee study be made within five years.
3. The existing 10" pipe in North Fremont Street near the Travelodge Motel between manholes no. 328 and no.323 be replaced with a 12" pipe within five years with funds already collected for Zone 4 under the current sewer main connection fees program (preliminary construction cost estimate is \$15,000).
4. The sewer data spread sheets developed for this study update be entered into the Engineering and Maintenance Department's computer files to facilitate future updates and individual project impact analysis.



APPENDIX

- Reference Materials List
- City Interdepartmental Memo  
(Highway 68 Sewer Service Planning)
- Map of Locations of Sewer Mains Studied
- Sewer Data Spread Sheets

REFERENCE MATERIALS LIST

1. City of Monterey City-Wide Commercial Zoning Study Technical Report, City of Monterey Community Development Department, March 22, 1988.
2. City of Monterey Old Town Working Paper #1 Background Information, City of Monterey Community Development Department, October 1987.
3. Estimates of Housing and Employment at Buildout within the Monterey Peninsula Water Management District, EIP Associates, April 1988
4. Wastewater Engineering: Treatment, Disposal, Reuse -- second edition by Metcalf & Eddy, Inc., 1979.
5. Water Supply and Sewerage -- fifth edition by E.W. Steel and Terence J. McGhee, 1979.
6. Design and Construction of Sanitary and Storm Sewers, ASCE Manuals and Reports on Engineering Practice, No. 37, 1976.
7. Handbook of Hydraulics -- sixth edition by Ernest F. Brater and Horace Williams King, 1976.

# CITY OF MONTEREY

To: Engineering and Maintenance Director  
From: Planning Services Manager (Advance)  
Date: August 9, 1988  
Subject: HIGHWAY 68 SEWER SERVICE PLANNING

I have reviewed your June 2, 1988, memo to the Community Development Director. My comments follow:

1. I can find no evidence the City has an agreement with the developers "...to provide sewer service for the proposed office park..." at Laguna Seca Ranch. The attached March 18, 1986, City Council minutes show that the City Council granted a policy exception to allow Laguna Seca No. 1 and York School to connect to city sewer lines. They specifically denied annexation to the office park, and they excluded the office park from the policy exception. So, the office park has no City agreement for sewer service.
2. The attached July 10, 1986, memo from Carol Foulkes to the Community Development Director reports on the status of the proposed package plant. It notes that the package plant would have enough capacity to serve the proposed office park, Estates 1 and 2, and York School. If such a package plant were developed with enough capacity, the developer would not need to connect Laguna Seca 1 and York School to city sewer lines. However, the City Council granted policy exception of March 18, 1986, stands. The developer could still request connection to city sewer lines for Laguna Seca 1 and York School, and the City Council could consider reversing their previous policy exception.
3. The last paragraph of page 1 states that construction of Highway 68 improvements could take approximately ten years "...with lead time necessary for voter approvals..." No voter approvals would be required to improve Highway 68 in compliance with the Highway 68 Area Plan. Any changes to the plan would require voter approvals. Those changes could include the current City interpretation of the plan prohibiting urban development until the existing highway is brought up to level of service "C." That sentence in the memo would be correct if it read: "Since planning and construction of a project to improve Highway 68 would take approximately ten years, and any change to the plan (which would include current interpretation) with lead time necessary for voter approvals and the like, it does not seem likely that the City will be encouraging development in these areas for the next 20 years."

If you have any questions or need clarification, please feel free to call me.

*Bill Fell*  
Bill Fell

BF:rm

Attachment

c: Community Development Director

DEPT. OF ENGINEERING  
& MAINTENANCE  
CITY OF MONTEREY

AUG 9 '88

NO.	INFO	ACT.	INT.
—	DIRECTOR		
—	DEP. DIR.		
—	CITY ENGR.		
—	ADM. ASST.		
—	PLANNING		
—	MAINT. SUPT.		
—	INSPECTION		

March 18, 1986

Following staff presentation, Mayor Roberson opened the Public Hearing.

Mrs. Mary Tringali and Mr. Michael Albov spoke in favor of the project. There were no further speakers and the matter was returned to the Council for discussion.

A motion by Albert to grant the appeal died for lack of a second.

On motion by Roberson, seconded by Vreeland and carried by the following Roll Call vote, it was moved to deny the appeal and uphold the Planning Commission decision and in addition, request the applicant and Planning Commission to work together to work toward converting the basement area to storage, and reducing the total Floor Area Ratio to 35% maximum. Councilmember Outzen pointed out that although the Tringali family may not plan to rent out the basement area, a future owner may wish to do so, thereby creating a City enforcement problem. Mayor Roberson said there seemed to be no justification for the increased Floor Area Ratio, especially when the basement playroom/bath/storage area must be included in the calculations. Councilmember Albert felt that the FAR of the basement area should not be included in the calculations.

AYES: COUNCILMEMBERS: CANEPA, OUTZEN,  
VREELAND, ROBERSON

NOES: COUNCILMEMBERS: ALBERT

ABSENT: COUNCILMEMBERS: NONE

Appeal Denied

Mayor Roberson recessed the meeting at 8:50 p.m. and again called the meeting to order at 9:10 p.m.

Mayor Roberson opened the Public Hearing, asking for new information only.

Western Laguna Seca

Mr. Thomas Jamison represented the applicants, Mr. Ray Charlson explained the Highway 68 Committee considerations, Mr. William Kipp and Mr. Tom Rowley expressed traffic concerns, Mr. Jerry Hondo defined CalTrans' position, and Mr. Carl Larsen spoke on traffic concerns. There were no further speakers and the matter was returned to the Council for discussion.

On motion by Canepa, seconded by Roberson and carried by the following Roll Call vote, it was moved to deny the tentative map for the office park, and deny the rezoning of Western Laguna Seca. Councilmember Canepa explained that it is not true that Laguna Seca #1 must annex in order to health problems, more commercial area is not needed, stated that the City of Monterey does not have sufficient water

March 18, 1986

to annex this area, and that one more development along Highway 68 will overload the road. Councilmember Vreeland pointed out the Highway 68 Plan has designated this parcel for an office park. Councilmember Albert said the Highway 68 Plan has been approved by the voters for implementation. He said that to have the area developed in the County would not be in Monterey's best interests. Mayor Roberson said the office park is too big, and perhaps the City Council should re-evaluate the area and take it back to the voters. Councilmember Outzen stated that the office area is not needed at this time.

AYES: COUNCILMEMBERS: CANEPA, OUTZEN, ROBERSON

NOES: COUNCILMEMBERS: ALBERT, VREELAND

ABSENT: COUNCILMEMBERS: NONE

Tentative Map and Rezoning  
Denied

On motion by Roberson, seconded by Canepa and carried by the following Roll Call vote, it was moved to place on the ballot an amendment to the Highway 68 Plan stating that "no building permit shall be issued until the level of service on Highway 68 is Level C. The service level shall be determined by CalTrans using their standard engineering procedures. If any portion of Highway 68 between its connection with Highway 1 off-ramp and the eastern boundary of the Highway 68 Plan is below service Level C, then the entire Highway 68 shall be considered below service Level C for the purposes of this section.

AYES: COUNCILMEMBERS: CANEPA, OUTZEN, ROBERSON

NOES: COUNCILMEMBERS: ALBERT, VREELAND

ABSENT: COUNCILMEMBERS: NONE

Approved Placing of Ballot  
Measure regarding Highway 68  
Level of Service, not including  
Ryan Ranch development

Mayor Roberson recessed the meeting at 10:25 p.m. and again called the meeting to order at 10:40 p.m.

On motion by Canepa, seconded by Roberson, and carried by the following Roll Call vote, it was moved to approve the continuation of work with Monterey County to solve health problems of Laguna Seca #1 and York School, and to make a policy exception to allow these areas to connect to City sewer lines

Laguna Seca



March 18, 1986

AYES: COUNCILMEMBERS: CANEPA, OUTZEN, ROBERSON

NOES: COUNCILMEMBERS: ALBERT, VREELAND

ABSENT: COUNCILMEMBERS: NONE

Policy exception to allow  
Laguna Seca #1 and York School  
to connect to City sewer lines  
approved

Following staff presentation, Mayor Roberson opened the Public Hearing.

Cottage Dwelling Units  
Consider removal from Zoning  
Ordinance

Mr. Charles Milazzo explained Housing Subcommittees views. Mrs. Ruth Menmuir spoke in favor of Cottage Dwellings. Mr. Warren Lockwood spoke in opposition. There were no further speakers and the matter was returned to the Council for discussion.

A motion by Roberson, seconded by Canepa to amend the Ordinance was withdrawn.

On motion by Roberson, seconded by Canepa and carried by the following Roll Call vote, it was moved to pass to print an Ordinance deleting Cottage Dwellings from the Zoning Ordinance.

AYES: COUNCILMEMBERS: CANEPA, OUTZEN, ROBERSON

NOES: COUNCILMEMBERS: ALBERT, VREELAND

ABSENT: COUNCILMEMBERS: NONE


Passed to Print

ADJOURNMENT

There being no further business, the Meeting was Adjourned.

11:10 P.M.

Respectfully submitted,

  
Cynthia Parnam, City Clerk

Approved:

  
Clyde Roberson, Mayor

## CITY OF MONTEREY

To: Community Development Director  
From: Assistant Planner  
Date: July 10, 1986  
Subject: Laguna Seca Office Park - Status Report

The use permit for the Laguna Seca Office Park sewage treatment plant was approved by the Monterey County Planning Commission at their regular meeting on June 25, 1986. The use permit allows for a 70,000 gpd maximum plant operation, which is adequate capacity to serve the proposed office project and Laguna Seca Estates #1 and #2 and York School, should they choose to connect to the treatment plant.

Laguna Seca Ranch Estates #1 and #2 and York School are currently operating with inadequate on-site septic systems. As a condition of project approval, the design of the Laguna Seca Office Park sewer treatment system was required to have adequate capacity to serve Laguna Seca Ranch Estates #1 and #2 and York School in addition to the office park itself. In addition, Laguna Seca Ranch Estates #1 and York School have the option of connecting to the City of Monterey's sewer system without annexation. This is a result of City Council approval on May 6, 1986 in response to a request from the Monterey County Public Works Director.

Approval of the use permit for the sewage treatment plant has been the last major hurdle for the Laguna Seca Office Park project, as a condition of the Tentative Map approval for subdivision which was granted by the Monterey County Planning Commission in 1984. The condition required that the sewer treatment plant be relocated closer to Highway 68, away from the landfill area on the site. This was the only site plan revision required, and all Tentative Map approvals are now complete.

For Final Map approval, the project will have to comply with 40 conditions. One of the conditions requires the project proponent to obtain a waste discharge permit from the Regional Water Quality Control Board, prior to issuance of any County Health Department permits. According to Lynn Munday of the Monterey County Planning Staff, the project proponent is expected to go before the Regional Water Quality Control Board this September (1986). Two other conditions involve improvements to Highway 68. Condition #21 states that should the County ever adopt an ordinance with a fee structure for Highway 68 improvements, the project shall have to comply. Condition #26 requires \$141,000 for intersection improvements at Highway 68 and York Road.

*Carol M. Foulkes*

Carol M. Foulkes

CMF:na



MRV

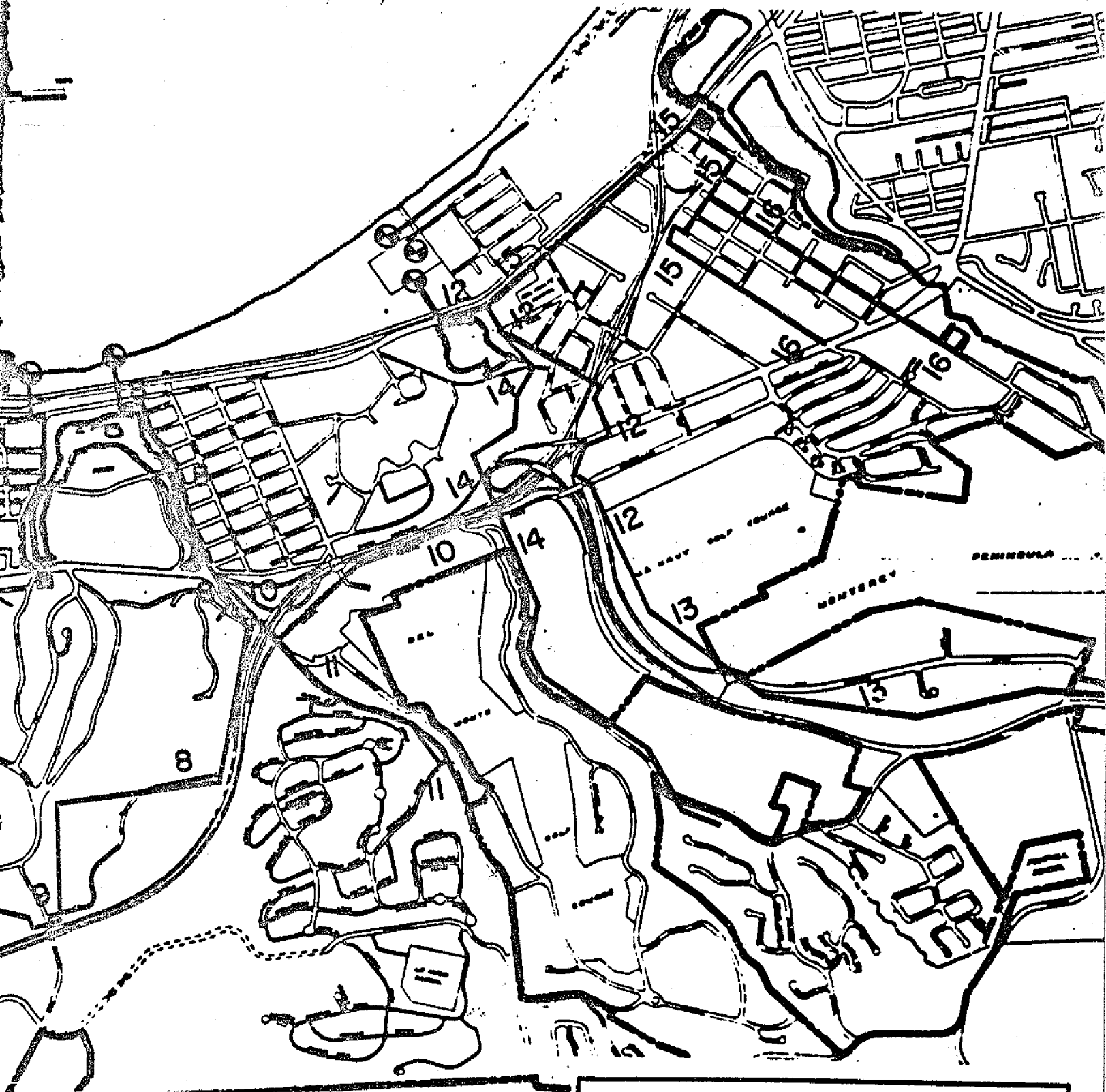


CIT



SEV





- ⊕ MRWPCA POINT OF CONNECTION
- CITY PUMPING STATION
- 3 SEWER DATA SPREAD SHEET NO.

**1988**  
**SEWER FEE STUDY UPDATE**  
**LOCATIONS OF SEWERS STUDIED**

CITY OF MONTEREY  
 SANITARY SEWER STUDY FOR 1988 UPDATE OF SEWER MAIN CONNECTION FEE

REACH	U/S M.H. NO.	ELEV. U/S M.H.	D/S M.H. NO.	ELEV. D/S M.H.	LENGTH FT.	SLOPE FT/FT	PIPE SIZE IN.	EXISTING SERVICES	PEAK FLOW 15" DIA. PIPE SIZE	POTENTIAL SERVICES	PEAK FLOW 15" DIA. PIPE SIZE
REACH NEW MONTEREY HILLSIDE TO MRWPCA TRUNK LINE <i>IN CANNERY ROW</i>	8		1	2.2	395	.0012	21	1943	18	3073	18
DRAKE TO DICEMAN	9	11.3	8	10.45	362±	.00235	21	"	15	"	18
220' S. McCLELLAN TO DRAKE	15	11.4	9	11.3	387±	.00026	21	"	* 21	"	* 21
McCLELLAN TO 230' S. McCLELLAN	17	11.9	15	11.4	230±	.00217	21	"	15	"	18
HOFFMAN TO McCLELLAN	18	12.5	17	11.9	460±	.0013	21	"	15	"	19
PRESCOTT TO HOFFMAN	21	13.5	18	12.5	505±	.00198	21	1943	15	3073	18
D/S M.H. TO PRESCOTT			21	13.5							
U/S M.H. TO PRESCOTT	22	14.9			20±	.07±	18	1863	8	2888	10
WAVE TO CANNERY ROW	26	29.4	22	14.9	276	.0525	12	1826	8	2817	10
FOAM TO WAVE	27	44.3	26	29.4	280	.0532	12	1794	8	2740	10
LIGHTHOUSE TO FOAM	35	61.3	27	44.3	286	.0593	12	1781	8	2662	10
TRUNK TO PRESCOTT	32	70.6	35	61.3	503	.0185	12	1730	10	2476	10
HAWTHORNE TO LIGHTHOUSE	33	76.3	32	70.6	316	.0180	12	1730	10	2476	10
LAINIE TO HAWTHORNE	48	94.0	33	76.3	300	.0590	12	1554	8	2179	8
D/S M.H. TO IRVING	10	94.8	48	94.0	124	.0065	12	1440	10	1963	12
BELDEN TO LAINIE	49	106.6	10	94.8	280	.0421	12	1429	8	1936	8
BELDEN	50	115.9	49	106.6	100	.0930	12	1350	6	1738	8
SPENCER TO BELDEN	67	133.9	50	115.9	284	.0634	12	1328	8	1693	8
ARCHER TO SPENCER	69	150.3	67	133.9	284	.0571	12	1232	8	1479	8
PINE TO ARCHER	81	168.6	69	150.3	284	.0614	12	1159	8	1390	8
IN PINE FROM DAVID	80	187.6	81	168.6	320±	.059±	12	1102	8	1331	8
OAK TO PINE	83	199.4	80	187.6	270	.0437	8	1097	8	1326	8

\* THE SLOPE OF EXIST. 21" PIPE IS BELOW THE MIN. SLOPE REQUIRED TO MAINTAIN A CLEANSING VELOCITY OF 2 F.P.S. HOWEVER, DUE TO THE DEPTH OF THIS PIPE ANY SURGING IN THE MANHOLES WOULD NOT PRESENT A PROBLEM. ONE FOOT OF SURGING WOULD PROVIDE MORE THAN THE REQUIRED VELOCITY AND CAPACITY.

0.4' SURGE



CITY OF MONTEREY

SANITARY SEWER STUDY FOR 1988 UPDATE OF SEWER MAIN CONNECTION FEE

SHEET 2 OF  
7-27-88  
BILL COURTILLET

REACH NEW MONTEREY HILLSIDE TO MIRAFLORES TRUNK LINE (CONT.) (IN DRAIN AVE.)	U/S M.H. NO.	ELEV. @ U/S M.H.	D/S M.H. NO.	ELEV. @ D/S M.H.	LENGTH FT.	SLOPE FT/FT	PIPE SIZE IN.	EXISTING SERVICES	PEAK FLOW REG'D PIPE SIZE	POTENTIAL SERVICES	PEAK FLOW REG'D PIPE SIZE
OAK TO PINE	83	199.4	80	187.6	270	.0437	8	1097	8	1326	8
NEWTON TO OAK	103	208.3	83	199.4	240	.0371	8	990	8	1203	8
LILY TO NEWTON	104	214.8	103	209.3	250	.0210	8	923	8	1120	8
CYPRESS TO LILY	115	217.9	104	214.8	240	.0129	8	852	8	1043	8
FILMORE TO CYPRESS	117	225.3	115	217.9	240	.0308	8	789	8	976	8
GRACE TO FILMORE	126	241.1	117	225.3	255	.0620	8	695	6	865	6
TERRY TO GRACE	129	244.3	126	241.1	255	.0125	8	651	8	813	8
PARCEL TO TERRY	93	250.5	129	244.3	240	.0258	8	613	6	768	8
LYNDON TO PARCEL	132	257.4	93	250.5	270	.0256	8	520	6	637	6
ALICE TO LYNDON	141	267.2	132	257.4	245	.0400	8	411	6	491	6
TAYLOR TO ALICE	146	291.8	141	267.2	250	.0884	8	341	6	401	6
LOTTIE TO TAYLOR	152	307.0	146	291.8	250	.0608	8	223	6	266	6
LOBO5 TO LOTTIE	159	317.0	152	307.0	250	.0400	8	156	6	187	6
JESSIE TO LOBO5	164	331.0	159	317.0	250	.0560	8	93	6	112	6
DEVISADERO TO JESSIE	190	350.4	164	331.0	292	.0664	8	31	6	35	6
(IN REESIDE AVE.)											
U/S M.H @ CANNERY ROW	2	16.7	1	2.2			18"	352	6	721	6
RR TO CANNERY ROW	190	33.9	2	16.7	170±	.101±	12"	290	6	613	6
FRAM TO RR	7	41.2	190	33.9	110±	.086±	12"	290	6	613	6

CITY OF MONTEREY  
 SANITARY SEWER STUDY FOR 1980 UPDATE OF SEWER MAIN CONNECTION FEE

SHEET 3 OF 7-27-88  
 BILL COURTYLLET

REACH	U/S M.H. NO.	ELEV. @ U/S M.H.	D/S M.H. NO.	ELEV. @ D/S M.H.	LENGTH FT.	SLOPE FT./FT.	EXIST. PIPE SIZE IN.	EXISTING SERVICES	TRUNK RISE PIPE SIZE	POTENTIAL SERVICES	TRUNK RISE READ PIPE SIZE
FRANKLIN STREET HILL TO MRWPCA TRUNK LINE											
CITY TERMINAL CAN #16											
2402 E. CITY TERMINAL M4		7.08				.0019	24"	3434	18"	4232	18"
DM 20 (IN DEL MONTE AT WEST DEL MONTE BLVD)		7.34			135	.0019	24"	3432	18"	4230	18"
DM 21 (IN DEL MONTE AT PIERCE ST)		7.72 7.90			205	.0019	24"	3340	18"	4030	18"
DM 22 (IN DEL MONTE AT ALVAREZ ST)		8.30 8.65			285	.0014	21"	3316	18"	4006	21"
DM 23 (IN DEL MONTE AT CALLE PRINCIPAL AVE.)		16.2			150±	0.051±	15"	2727	10"	3262	10"
463 (IN CALLE PRINCIPAL AT FRANCIS ST)		20.68			376	.012	15"	2667	12"	3202	12"
455 (IN FRANKLIN ST AT PACIFIC ST)		32.62			194	.062	15"	2484	8"	3019	10"
462 (IN FRANKLIN ST AT PIERCE ST)		45.86			175	.076	8"	811	6"	1175	6"
461 (IN FRANKLIN ST AT VAN BUREN ST)		66.63			335±	.061±	8"	803	6"	1159	6"
460 (IN FRANKLIN ST AT LAUREL ST)		89.40			352±	.065±	8"	728	6"	1065	6"
459 (IN FRANKLIN ST AT WATSON ST)		117.16			364	.076	6"	621	6"	921	6"
457 (IN FRANKLIN ST AT MADROSE ST)		140.46			360	.065	6"	551	6"	801	6"
456 (IN FRANKLIN ST AT CLAY ST)		169.41			360	.080	6"	230	6"	285	6"

CITY OF MONTEREY  
SANITARY SEWER STUDY FOR 1988 UPDATE OF SEWER MAIN CONNECTION FEE

REACH	U/S M.H. NO.	ELEV. @ U/S M.H.	D/S M.H. NO.	ELEV. @ D/S M.H.	LENGTH FT.	SLOPE FT/FT	PIPE SIZE IN.	EXISTING SERVICES	PEAK FLOW REQ'D PIPE SIZE	POTENTIAL SERVICES	PEAK FLOW REQ'D PIPE SIZE
OCEAN PINES THRU SKYLINE CREST TO SKYLINE DRIVE, MAR Vista DRIVE, COLTON, VIA SAN JUAN, MARTIN, PACIFIC ST. TO MEXICO FRANKLIN											
IN FRANKLIN E. PACIFIC (IN PACIFIC ST.)	455B		455A				12	1794		1965	
IN PACIFIC S. FRANKLIN	455C		455B				12	1794		1965	
310'± N. JEFFERSON TO FRANKLIN	454A		455C			.010±	12	1782	10	1945	12
JEFFERSON TO 300'± N. JEFFERSON	453A		454A			.010±	12	1792	10	1945	12
MADISON TO JEFFERSON	452A		453A			.010±	12	1776	10	1939	12
GULCH TO MADISON	451A		452A			.015±	12	1450	10	1498	10
LOSAN TO GULCH	450A		451A			.010±	12	1282	10	1312	10
ELDORADO TO LOSAN	449A		450A			.020±	12	1272	8	1302	8
MARTIN TO ELDOORADO (IN MARTIN ST.)	448A		449A			.020±	12	1260	8	1290	8
LOMITA TO PACIFIC	432A		448A			.020±	8	948	8	965	8
DOUD TO LOMITA	431A		432A			.030±	8	924	8	941	8
FOUNTAIN TO DOUD	430A		431A			.085±	8	900	6	914	6
ALAMEDA TO FOUNTAIN	479A		430A			.125±	8	871	6	884	6
WOODCREST TO ALAMEDA	478A		479A			.180±	8	732	6	743	6
	477A		478A			.160±	8	721	6	732	6
	476A		477A			.095±	8	721	6	732	6
	475A		476A			.020±	8	721	8	732	8
VIA SAN BERNABE VIA GAYRA TO MARTIN	474A		475A			.030±	8	719	6	730	6

CITY OF MONTEREY  
SANITARY SEWER STUDY FOR 1988 UPDATE OF SEWER MAIN CONNECTION FEE

REACH OCEAN PINES THRU SKYLINE CREST TO SKYLINE DRIVE, MAR VISTA, DRY CREEK COLTON, VIA GAYUBA, MARTIN PACIFIC ST. TO PACIFIC & DEARBORN (CONT.) (IN SAN REGNASE)VIA GAYUBA TO MARTIN (IN VIA GAYUBA)120' W. SAN REGNASE TO SAN REGNASE 170' E. V.P. TO 120' W. SAN REGNASE VIA PARADISO TO 170' E. V.P. 184' W. VIA PARADISO TO VIA PARADISO VIA DEL PINAR TO 26' IN. VIA PARADISO 220' W. VIA DEL PINAR TO VIA DEL PINAR WALTER COLTON ENTRANCE TO VIA DEL PINAR (IN WALTER COLTON)0/5 M.H. TODA VISTA 20' E. / R	U/S M.H. NO.	ELEV. E. U/S M.H.	D/S M.H. NO.	ELEV. E. D/S M.H.	LENGTH FT.	SLOPE FT./FT.	PIPE SIZE IN.	EXISTING SERVICES	TRUNK FLOW REG'D PIPE SIZE	POTENTIAL SERVICES	PEAK FLOW REG'D PIPE SIZE
	474A		475A			.030±	8	719	6	730	6
	473A		474A			.010±	8	713	8	724	8
	472A		473A			.010±	8	713	8	724	8
	471		472A			.090±	8	707	6	718	6
	470A	253.9	471	219.4	186	.10±	8	694	6	704	6
	469	287.6	470A		129	.10±	8	676	6	686	6
	468	322.8	470	253.9	220±	.16±	8	649	6	658	6
			469	287.6	430±	.100±	8	649	6	658	6
		372.0		349.0	317	.073	6	529	6	538	6
		387.3		372.0	205	.075	6	"	6	"	6
		405.0		387.3	160	.1106	6	"	6	"	6
		431.8		405.0	197	.134	6	"	6	"	6
		480		431.8	232	.0785	6	"	6	"	6
		?		450	204	.0085	6	516	6	535	6
		453.23		451.97	98	.0642	8	500	6	509	6
		441.94		458.23	110	.0337	8	500	6	509	6
		493.17		461.94	170	.1250	8	500	6	509	6

CITY OF MONTEREY  
 SANITARY SEWER STUDY FOR 1988 UPDATE OF SEWER MAIN CONNECTION FEE

REACH	U/S M.H. NO.	ELSV. F. U/S M.H.	D/S M.H. NO.	ELEV. F. D/S M.H.	LENGTH FT.	SLOPE FT/FT	PIPE SIZE IN.	EXISTING SERVICES	FEAR FLOW POTENTIAL	FEAR FLOW POTENTIAL	FEAR FLOW POTENTIAL
									REC'D PIPE SIZE	REC'D PIPE SERVICES	REC'D PIPE SIZE
OCEAN PINES THRU SKYLINE DRIVE TO SKYLINE DRIVE, MAR VISTA, DRY CREEK COUNTRY VIA GAYUBA, MARTIN, PACIFIC ST. TO OFFICE FOUNDRY											
(CONT.)											
(IN WALTER COLTON)	483.19	483.19		461.94	170	.1250	8	500	6	509	6
	496.08	483.19		483.19	144	.0895	8	370	6	379	6
	497.58	496.08		496.08	255	.0059	8	370	8	379	8
DRY CREEK RD. TO SCHOOL GROUNDS	501.45	497.58		497.58	186	.0208	8	370	6	379	6
(IN DRY CREEK RD.)											
				501.45	220	.0320	8	370	6	379	6
					135	.0320	8	350	6	359	6
	530.08	512.81		512.81	355	.0510	8	232	6	235	6
		530.08		530.08	100	.0700	8	232	6	235	6
(IN MAR VISTA)											
	583.93	565.0		565.0	152	.1240		214	6	217	6
	619.75	583.93		583.93	200	.1791	8	214	6	217	6
(IN SKYLINE DRIVE)											
	622.02	619.75		619.75	89	.1041	8	214	6	217	6
	649.45	622.02		622.02	445	.046	8	145	6	146	6
200' N. FOREST RIDGE RD.	661.03	649.45		649.45	270	.046	8	145	6	146	6





CITY OF MONTEREY

SANITARY SEWER STUDY FOR 1988 UPDATE OF SEWER MAIN CONNECTION FEE

REACH	U/S M.H. NO.	ELEV. FT. U/S M.H.	D/S M.H. NO.	ELEV. FT. D/S M.H.	LENGTH FT.	SLOPE FT./FT.	PIPE SIZE IN.	EXISTING SERVICES	PEAK FLOW RESO PIPE SIZE	POTENTIAL SERVICES	PEAK FLOW RESO PIPE SIZE
CAMINO AGUAJITO, MPC, DEL MONTE S.C., COMM. 100774											
MISBECA TO DEL MONTE RD											
(CAMINO AGUAJITO)											
POINTS 2735, 2736, 2737	394		395		293±	0.0052	21	4611	18	5607	18
"	393		394		184±	0.002	20	3915	18	4792	20
"	393		393		130±	0.002	20	3915	18	4792	20
"	392		392		268±	0.002	20	3915	18	4792	20
"	391		391		469±	0.002	20	3915	18	4792	20
"	389		391		453±	0.002	20	3819	10	4688	20
"	387A		389		264±	0.015	20	3819	12	4688	15
"	387	8.9±	387A	8.6±	13±	0.015	15	3819	12	4688	15
AGUAJITO & FREMONT INTERSECT											
(PRINT 3526) " " "					64±	0.0172	18	3819	12	4693	15
" " " "					167±	0.0199	18	2576	10	3266	10
" " " "	652				90±	0.0145	18	2576	12	3266	12
" " " "	651		652		402.9	0.0061	18	2316	12	2876	15
" " " "	650		651		409.4	0.0050	18	2337	15	2779	15
" " " "	649		650		525.2	0.0056	15	2219	8	2779	10
" " " "	648		649		86.9	0.1371	15	2219	8	2779	8
GLENWOOD CIRCLE	647		648		233.8	0.0358	15	2219	8	2779	8
GLENWOOD CIRCLE	646		647		167.7	0.0652	15	2219	8	2779	10
GLENWOOD CIRCLE	645		646		405.9	0.0563	15	2219	8	2779	10
GLENWOOD CIRCLE	644		645		713.4	0.0219	15	2134	10	2694	10
GLENWOOD CIRCLE	643		644		324.7	0.0060	18	2004	12	2564	15
"	642		643		167.1	0.0095	18	1804	12	2364	12

CITY OF MONTEREY

SANITARY SEWER STUDY FOR 1988 UPDATE OF SEWER MAIN CONNECTION FEE

REACH	U/S M.H. NO.	ELEV. E. U/S M.H.	D/S M.H. NO.	ELEV. E. D/S M.H.	LENGTH FT.	SLOPE FT/FT	PIPE SIZE IN.	EXISTING SERVICES	SEWER MAIN SIZE	POTENTIAL SERVICES	FEAS. PACT. RECD. PIPE SIZES
C. MIND AGUAJITO MPC DEL MUNICIPIO (CONT.)	641		642		615.0	0.0058	18	1629	12	2189	12
	640		641		553.5	0.0104	15	1629	10	2189	12
	639		640		335.8	0.0050	18	1629	12	2189	12
	638		639		415.0	0.0023	18	1629	15	2189	15
	637		638		143.5	0.0171	15	1629	10	2189	10
	636		637		252.2	0.0176	15	1629	10	1954	10
	635		636		252.7	0.0115	15	1629	10	1954	10
	634		635		306.8	0.0048	12	1629	12	1954	12
	633		634		421.8	0.0240	10	1629	10	1954	10
	632		633		459.8	0.0349	10	1629	8	1954	10
CARRIZO DEL MONTE MUNICIPIO	631		632		162.2	0.0119	10	1629	10	1954	10
	631A		631		370±	0.0231	10	1414	8	1739	10
	630		631A		800±	0.007±	12	1414	10	1739	12
	629		630			0.0309	10	1414	8	1739	8
	629A		629			0.0056	15	1414	12	1739	12
	628A		629A		376	0.044	15	1414	8	1739	8
	628		628A		650±	0.0065	8	824	6	933	6
					500±	0.0067	8	578	6	681	6
					900±	0.0078	8	575	6	672	6
					513±	0.01	6	575	6	575	6
PENT 1942					20±	0.714	6	575	6	575	6
					415±	0.006±	8	575	6	575	6
(To Community Hospital)											

CITY OF MONTEREY  
 SANITARY SEWER STUDY FOR 1988 UPDATE OF SEWER MAIN CONNECTION FEE

SHEET 10 OF  
 8-9-88  
 BILL COURTISETT

REACH	U/S M.H. NO.	ELEV. FT. U/S M.H.	O/S M.H. NO.	ELEV. FT. O/S M.H.	LENGTH FT.	SLOPE FT/FT	PIPE SIZE IN.	EXISTING SERVICES	PEAK FLOW REQ'D PIPE SIZE	POTENTIAL SERVICES	PEAK FLOW REQ'D PIPE SIZE
VIA BUENA VISTA	666	211.7	629A	210.9	100±	0.008±	8	580	8	796	8
(VIA BUENA VISTA)	665	216.6	666	211.7	106	0.0266	8	580	6	796	8
	664	217.9	665	216.6	61	0.0211	8	575	6	791	8
	663	224.8	664	217.9	262	0.0255	8	575	6	791	8
	662	225.7	663	224.8	102	0.0091	8	575	8	791	8
	661	227.2	662	225.7	214	0.0068	8	575	8	791	8
(SOLESA DRIVE)	660	229.6	661	227.2	372	0.0065	8	565	8	781	8
	659	230.9	660	229.6	43	0.0087	8	565	8	781	8
	658	232.2	659	230.9	131	0.0103	8	505	8	674	8
AGUAJITO @ TENTH ST.	508	11.13	387	8.78	395	0.006±	12	1243	10	1422	12
	507	12.00	508	11.13	300	0.0029	12	1243	12	1422	12
	506	13.65	507	12.00	150	0.011	12	1243	10	1422	10
AGUAJITO @ MACK THOMAS	505	15.09	506	13.65	238	0.0050	12	1243	10	1422	12
MACK THOMAS DRIVE	509	21.60	505	15.09	100±	0.065	10	277	6	402	6
"	510	30.31	509	21.60	205	0.0425	10	277	6	402	6
"	511	32.41	510	30.31	348	0.0060	10	277	6	402	6
"	512	35.19	511	32.41	367	0.0076	10	277	6	402	6
"	513	41.11	512	35.19	181	0.0327	10	265	6	390	6
"	514	53.09	513	41.11	233	0.0514	10				6
"	515	53.38	514	53.09	22	0.0132	10				6
"	516	55.58	515	53.38	235	0.0094	10				6
"	517	57.36	516	55.58	301	0.0059	8			1200	6





CITY OF MONTEREY

SANITARY SEWER STUDY FOR 1988 UPDATE OF SEWER MAIN CONNECTION FEE

REACH	U/S M.H. NO.	ELEV. @ U/S M.H.	D/S M.H. NO.	ELEV. @ D/S M.H.	LENGTH FT.	SLOPE FT/FT	PIPE SIZE IN.	EXISTING SERVICES	FEAK PUMP REGO PIPE SIZE	INITIAL SERVICES	FEAK PUMP REGO PIPE SIZE
DEL MONTE GROVE TO GARDEN ROAD						0.0012	27	4507	21	6001	24
CITY + N.P.S. TO HRWPCA					462±	0.0020	24	3818	18	5342	21
(PALO VERDE AVE.)					13±	0.0020	24	2048	15	3017	18
					307±	0.0045	18	2035	12	3004	15
					450±	0.0033	18	1249	12	2090	15
					262±	0.0071	15	1221	8	2062	8
					384±	0.0070	15	1189	6	2015	8
					40±	0.0075	15	1189	6	2015	8
FREEMAN CROSSING	319		312A		260	0.0103	15	1148	10	1962	12
	320		319		137	0.0060	12	1077	6	1875	8
S. SIDE FREMONT	321		320		83	0.058	12	1067	6	1855	8
	323		321		415±	0.0182	10	1055	8	1837	10
	328		323		190±	0.0063	10	897	10	1666	12
(Hwy. 68 R/W)	329		328		119±	0.015	12	897	8	1666	10
" " "	330		329		15±	0.016±	12	897	8	1666	10
" " "	331		330		131±	0.02	12	897	8	1666	10
" " "	332		331		98±	0.13±	12	897	6	1666	8
" " "	333		332		60±	0.026±	12	897	8	1666	8
FAIRGROUND ROAD	347		333	5.056	75±	0.008±	10	897	10	1666	10
	602		347		312	0.0323	12	555	6	1324	8
	603		602		109	0.0097	10	555	6	1324	6
	604		603		179	0.0231	10	555	6	1324	8
(NAVY GOLF COURSE)	605		604		340	0.0190	10	555	6	1324	10

\*05 SURG

SHEET 12 OF 18  
8-15-88  
BILL COURTIET

\* RECOMMEND REPLACEMENT WITH 12" PIPE WITHIN FIVE YEARS WITH FUNDS ALREADY COLLECTED UNDER THE CURRENT SEWER MAIN CONNECTION FEES PROGRAM.

CITY OF MONTEREY  
 SANITARY SEWER STUDY FOR 1988 UPDATE OF SEWER MAIN CONNECTION FEE

REACH	U/S M.H. NO.	ELEV. # U/S M.H.	D/S M.H. NO.	ELEV. # D/S M.H.	LENGTH FT.	SLOPE FT/FT	PIPE SIZE IN.	EXISTING SERVICES	PEAK FLOW RATE PIPE SIZE	POTENTIAL SERVICES	PEAK FLOW RATE PIPE SIZE
DEL MONTE GROVE TO GARDEN ROAD (CONT.)	605		604		340	0.0190	10	555	6	1324	10
" " " "	606		605		349	0.0167	10	555	6	1324	10
" " " "	607		606		310	0.0261	10	555	6	1324	8
" " " "	608		607		418	0.0758	10	555	6	1324	8
" " " "	609		608		472	0.0173	10	555	8	1324	10
" " " "	610		609		362	0.0190	10	555	6	1324	8
" " " "	611		610		361	0.0119	10	555	8	1324	10
D/S M.H. # GARDEN RD. UNITS	612		611		615	0.0112	10	362	6	989	10
" " " "	613		612		320	0.0113	10	357	6	984	10
" " " "	614		613		745	0.0469	10	342	6	969	8
" " " "	615		614		125	0.0082	12	332	8	949	10
" " " "	616		615		262	0.0026	12	327	8	944	12
" " " "	617		616		276	0.0033	12	327	8	924	10
" " " "	618		617		328	0.0025	12	302	8	884	12
" " " "	619		618		372	0.0032	12	292	8	864	10
" " " "	620		619		385	0.0024	12	282	8	844	10
" " " "	621		620		576	0.0019	12	249	8	811	12
MH #621 IN OLMEAD RD.	622		621		337	0.0015	12				
" " " "	623		622		444	0.0119	8				
" " " "	624		623		428	0.0415	8				
" " " "	625		624		350	0.0296	8				
" " " "	626		625		259	0.0403	8				

CITY OF MONTEREY

SANITARY SEWER STUDY FOR 1988 UPDATE OF SEWER MAIN CONNECTION FEE

SHEET 14 OF  
8-16-88  
BILL COURTISET

REACH	U/S M.H. NO.	ELEV. FT. U/S M.H.	D/S M.H. NO.	ELEV. FT. D/S M.H.	LENGTH FT.	SLOPE FT/FT	PIPE SIZE IN.	EXISTING SERVICES	FEAR FLOW RESO PIPE SIZE	POTENTIAL SERVICES	FEAR FLOW RESO PIPE SIZE
PALO VERDE TO JOSSELYN CANYON RD.											
PALO VERDE @ HELVAC AVE.	342				10'±	0.0041	10	773	10	901	10
PALO VERDE	578		342		214	0.0042	12	"	10	"	10
PALO VERDE	577		578		218	0.0023	12	"	10	"	12
N.P.S. PROPERTY	576		577		145	0.0014	12	"	12	"	12
	575		576		199	0.0025	12	"	10	"	10
	574		575		105	0.0029	12	"	10	"	10
	573		574		64	0.0031	12	"	10	"	10
	572		573		176	0.0026	12	"	10	"	10
(ADDRESS SLOPE ?)	571	7.99	572	8.12	58	0.0022	12	"	10	"	12
	570		571		200	0.0120	10	"	8	"	8
	569		570		144	0.0069	10	"	8	"	10
	568		569		131	0.0092	10	"	8	"	8
	567		568		190	0.0142	10	"	8	"	9
	566		567		118	0.0119	10	"	8	"	8
	565		566		62	0.0177	10	"	8	"	8
N.P.S. PROPERTY	564		565		148	0.0189	10	"	8	"	8
FREEWAY CROSSING	563		564		328	0.0055	10	"	10	"	10
FREEWAY CROSSING	562		563		342±	0.016±	10	"	8	"	8
JOSSELYN CANYON RD.	561		562		290±	0.006±	10	773	10	901	10
	560		561		268	0.012	8	498	8	502	8
	559		560		354	0.015	8	498	8	502	8

CITY OF MONTEREY

SANITARY SEWER STUDY

FOR 1988 UPDATE OF SEWER MAIN CONNECTION FEE

SHEET 15 OF 15  
8-17-88  
BILL COURTISET

REACH	U/S M.H. NO.	ELEV. @ U/S M.H.	D/S M.H. NO.	ELEV. @ D/S M.H.	LENGTH FT.	SLOPE FT/FT	PIPE SIZE IN.	EXISTING SERVICES	TRANS. PUMP POTENTIAL	TRANS. PUMP POTENTIAL	
DEL MONTE AVE., ENGLISH AVE., GRANT AVE., RAMONA AVE.	DM 36				30±	0.0657	15	1800	8	2325	8
(PALO VERDE @ DEL MONTE (DEL MONTE AVE.))											
	DM 35		DM 36		309	0.003	15	1800	15	2325	15
	DM 34		DM 35		240	0.003	15	1792	15	2265	15
	DM 33		DM 34		384	0.003	15	1792	15	2265	15
	DM 32		DM 33		256	0.003	15	1514	12	1939	15
	DM 31		DM 32		342	0.002	15	1220	12	1591	15
	DM 30		DM 31		333	0.002	15	1218	12	1567	15
	DM 29		DM 30		243	0.002	15	1203	12	1547	15
	DM 28		DM 29		237	0.002	15	1203	12	1547	15
	DM 27		DM 28		296	0.002	15	1203	12	1547	15
DEL MONTE @ ENGLISH AVE.	DM 26		DM 27		286	0.002	15	1197	12	1541	15
(ENGLISH AVE.)	212		DM 26		255	0.0052	12	1131	10	1379	12
ENGLISH AVE. @ GRANT AVE.	213 B		212		450	0.0060	12	1122	10	1370	10
GRANT AVE. @ CASANOVA	210		213 B		270	0.0041	12	1085	10	1325	12
	219		210		285	0.0119	10	590	8	658	8
GRANT AVE. @ JOHN ST.	222A		219		248	0.0069	10	488	8	543	8
	221		222A		100±	0.0098	10	469	8	511	8
	275		221		100±	0.0052	10	469	8	511	8
	230		275		100±	0.0042	10	469	8	511	8
(RAMONA AVE.)	229		230		528	0.0162	8	431	6	470	6
	228		229		453	0.0057	8	375	8	412	8
	227		228		453	0.0237	8	322	6	359	6





## **Appendix 18: Sanitary Sewer Utility Fee Study (2011)**



# CITY OF MONTEREY

## SANITARY SEWER UTILITY FEE STUDY

June 15, 2011



### BARTLE WELLS ASSOCIATES



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# 1 BACKGROUND & OBJECTIVES

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The City of Monterey provides wastewater collection services for roughly 27,000 residential and commercial customers within the City's boundaries and to 140 customers in the County that are connected to the City's system. The wastewater is treated by the Monterey Regional Water Pollution Control Agency (MRWPCA or the Agency) which also serves the Cities of Pacific Grove, Del Rey Oaks, Seaside, Sand City, Fort Ord, Marina, Castroville, Moss Landing, Boronda, Salinas and some unincorporated areas in northern Monterey County.

The wastewater collection system includes approximately 536,516 linear feet (102 miles) of sewer pipe, 7 lift stations, and over 2000 sewer structures including manholes, clean outs, and lamp holes. Many of the sewer mains and structures are over a century old and are at the end of their useful lives. The collection system requires \$16.8 million in capital projects to prevent possible sewer backups, spills and regulatory fines. These projects have been deferred for many years due to the lack of funding. The City has applied for a low cost loan from the State to finance these necessary repairs. To obtain the loan, the City must increase rates to

The sewer utility is a self-supporting special fund. Revenues are generated primarily from sewer service charges and must be adequate to fund the total cost of providing service. Cost of service includes operating and maintenance, supplies, capital improvement projects, repairs and replacements, debt service, and reserves.

The City's sewer rates have not increased since 2003. Despite the City's efforts to control costs, operating expenses and capital improvement needs have continued to increase each year. In June 2010, the City retained Bartle Wells Associates (BWA) to develop a long-range comprehensive wastewater financing plan and rate study. Key objectives of this rate study include:

- Conduct an independent analysis of wastewater rates and finances.
- Develop a financing plan for the City's wastewater capital improvement program which includes over \$16.8 million in projects over the next few years and for the renewal and replacement program.
- Develop long-term cash flow projections incorporating reasonable estimates of future operating expenses and to determine annual revenue requirements.
- Propose alternative rate structures based on the cost of providing service.
- Recommend rate increases needed to support the long-term financial health of the wastewater utility.
- Establish prudent fund reserve targets.

## 2 SEWER RATE STUDY

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### Sewer Customers

The City currently provides wastewater collection services to a total of 9,525 residential and commercial accounts. Residential customers including multi-family and mobile homes account for approximately 94% of all customers. Residential customers, including single family, multi-family and condo, comprise approximately 71 percent of all customers. The City is mostly built out so significant growth is not anticipated in future years.

### Current Sewer Fees

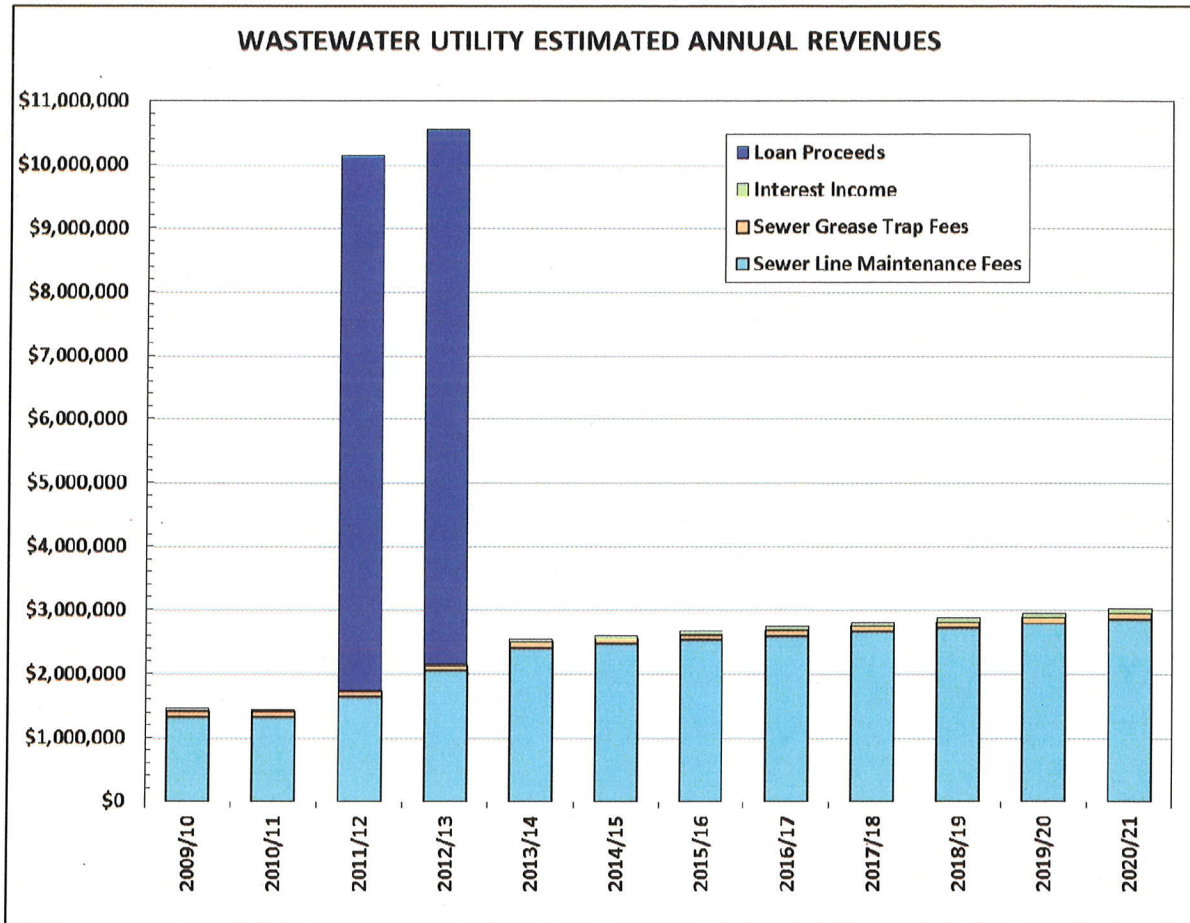
The City's current sewer fees are based on a 43.25 percent surcharge of the MRWPCA's treatment rate. The MRWPCA rate is based on sewage flow and the cost of treatment. The Agency increased its rates in August 2010 and is anticipating another increase in July 2011. The following table summarizes the current charges for single family residential customers.

CURRENT MONTHLY SINGLE FAMILY RESIDENTIAL SEWER CHARGES	
MRWPCA's Charge for Treatment	\$12.00
<u>City's Charge for Collection (\$12 x 43.25%)</u>	<u>\$5.19</u>
Total Monthly Sewer Charges	\$17.19

### Sewer Utility Finances

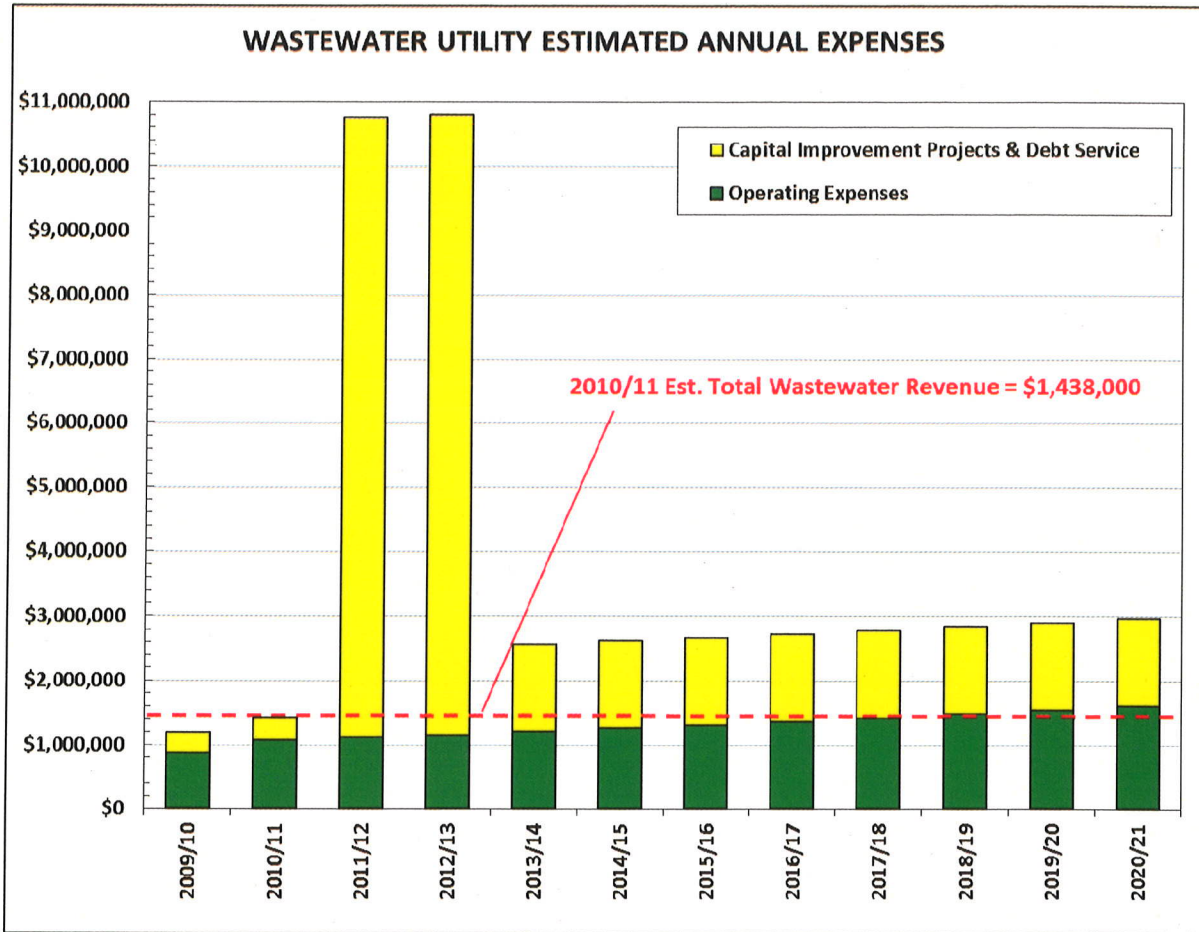
Based on the 2010/11 budget, the City anticipates collecting total wastewater operating revenues of about \$1.44 million. Sewer fee revenues are projected at \$1,317,100 accounting for approximately 92 percent of all operating revenues. Other operating revenue sources include sewer grease trap fees and interest. Revenues currently fund operating expenses but are not sufficient to fund significant capital projects. The following chart shows the wastewater utility's projected annual revenues through 2020/21.





### Revenue Requirement

The City's annual revenue requirement is based on the cost of service and includes operating expenses, capital projects, debt service, and reserves. Based on the 2010/11 budget, total wastewater expenditures including operating expenses, and capital projects, is \$1,430,223. Operating expenses include salaries, services and supplies, equipment outlay, and internal service charges and account for 75 percent of all expenses. For this study, all operating expenses, except for salaries and benefits, have been escalated by 3 percent each year. Salaries and benefits are escalated by 3 percent yearly. The following chart shows the City's estimated annual expenditures beginning in 2009/10 through 2020/21.



## Capital Needs

### Capital Improvement Plan 2011-2014

The City's wastewater capital improvement program (CIP) from 2011 through 2014 includes over \$16.8 million in system improvements. Major projects include rehabilitating 66,955 linear feet of pipeline and inspecting approximately another 21,000 linear feet of sewer mains. The City estimates that nearly half (10,500 linear feet) of these pipelines will need to be repaired. Other projects include repairs to the seven lift stations and the rehabilitation of 200 manhole structures. The City proposes to finance the wastewater CIP with a low cost loan through the Clean Water State Revolving Fund (SRF) Loan program in 2011/12. Details regarding the SRF loan program and debt repayment are included in the "Outstanding Debt" section.

### Renewal and Replacement Program 2034 - 2134

The City plans to establish an annual renewal and replacement program once the 20-year SRF loan is paid off 2033/34. The 100-year capital replacement program will provide annual maintenance to prevent further degradation of the system. Projects will include repair sewer

mains and re-inspecting between 5-10% of the system each year. The renewal and replacement program will be funded by revenues from the sewer fees.

### **Outstanding Debt**

The wastewater utility currently has no outstanding debt obligations. To fund the capital improvement program, the City has applied for a low cost loan from the Clean Water State Revolving Fund (SRF) Loan program. The SRF Loan program is administered by the State Water Resources Control Board and offers 20-year fixed-rate loans for eligible wastewater projects. The program can currently be used to fund up to \$50 million of projects per year. The interest rate is set at roughly one half of the state's general obligation bond rate; current interest rates are around 2.6%. Another major advantage of the SRF Loan program is that the first debt service payment is not due until one year after the project is completed, giving agencies time to phase-in their rate increases to support debt repayment. The program does not fund the replacement of facilities that were previously grant-funded. Debt repayment is typically secured by an agency's legal pledge to raise rates and fees as needed to repay debt service. Before loans are awarded, agencies need to complete a credit check process which includes a thorough review of the enterprise's finances. A rate structure needs to be adopted and in place before the loan will be awarded.

To obtain the SRF loan, the City needs to increase rates to pay for the annual debt service. The City also has to abide by the debt covenants designed to ensure adequate repayment security. The debt service covenant requirement requires the City to maintain a debt service coverage ratio of 120 percent on income from all revenues. Therefore, rates must also be designed to ensure adequate coverage.

BWA assumes that the City will obtain a \$16.8 million loan in 2011/12 with terms of 2.7 percent for 20 years. Annual debt service for the SRF loan is estimated at \$1,098,000 each year beginning in 2013/14.

### **Reserve Funds**

The City currently does not have a minimum operating fund reserve balance policy for the wastewater utility. BWA recommends the City aim to maintain a wastewater fund reserve target of \$1.5 million. This is an achievable and healthy level of reserves that should provide adequate financial cushion for dealing with annual revenue and expense fluctuations and non-catastrophic emergencies. It is acceptable if reserves fall below the target on a temporary basis, provided action is taken to achieve the target over the longer run.

### **Rate Structure Modification**

The City's current sewer rates are based on a surcharge of the MRWPCA's rate which is based on flow and treatment. Because the City only operates a collection system, a more equitable rate structure would be to develop sewer rates proportional to wastewater flow. Using the MRWPCA's flow guidelines, the proposed rate structure will convert all existing accounts into

a residential equivalent dwelling unit (EDU). One residential EDU is equivalent to 189 gallons per day (gpd). Total daily flow is 3,956,904 gpd, and the total number of EDUs is 20,936.

### **Residential Customers**

One residential EDU is equivalent to 189 gallons per day (gpd). The annual cost per EDU is calculated by dividing the total annual revenue requirement by the total number of EDUs.

### **Multi-Family Dwellings (MFD) and Condominiums:**

Based on 2000 Census data for the City of Monterey, the average single family dwelling unit (SFD) has 2.39 people, and the average for MFD is 1.75 people. Therefore, the ratio of the average occupancy/unit of a MFD to a SFD is 1.75/2.39 or 73.2%. The City's consultant, Bartle Wells Associates (BWA), conducted a survey of 19 regional agencies comparing single-family residential and multi-family residential sewer rates. Out of the 19 agencies surveyed, eight have lower sewer rates for MFD ranging from 57.2% to 88.3% of a SFD.

For the City of Monterey's multi-family units, (including condominiums), staff proposes to use an average wastewater daily usage of 138 gpd, which is equivalent 73.22% of 189 gpd.

### **Non-Residential Customers**

For non-residential customers, the proposed rates will vary based on sewage generated by customer type, per MRWPCA standard usage and fee categories. The monthly non-residential charge will be calculated based on the following formula:

- Daily flow / 189 gpd = Total Number of EDUs (to 2 decimal places)
- Total Number of EDUs x Monthly EDU Rate = Monthly Non-Residential Sewer Charge

The recommended rate structure is more equitable and will better align the City's sewer charges to the cost of providing service.

### **Non-Residential Special User Customers**

The rates for Special Users which cannot be classified in MRWPCA's standard usage categories will be based on actual water usage. The water usage for these customers should be increased to account for unavoidable inflow and infiltration (I&I). The 189 gpd figure used as the basis for residential units includes an allowance for unavoidable I&I. Based on Metcalf & Eddy, *Wastewater Engineering Treatment and Reuse, fourth addition*, the typical wastewater flow rate for a SFD with 2.39 people x 72.1 gpd equals 172.32 gpd, which is 9% less than 189 gpd. The 9% difference represents ground and surface water leakage into the City's sewers and needs to be accounted for just like sewage. To account for I&I for all non-residential commercial users that base their sewer rates on actual water usage, the conversion to an EDU count should also include a 9% increase to the calculated EDU. For non-residential Special User category customers, the proposed rates will vary based on sewage generated by water meter usage. The monthly non-residential charge will be calculated based on the following formula:

### **Non-Residential Special User Customers**

- Daily flow X 1.09 / 189 gpd = Total Number of EDUs (to 2 decimal places)
- Total Number of EDUs x Monthly EDU Rate = Monthly Non-Residential Sewer Charge

### **Sewer Rate Scenarios**

Because rate increases are partially determined based on the amount of capital projects required, staff has reviewed the backlog of capital replacement and repair needs, and developed several alternatives:

- **City Council selected, May 25, 2011 Recommended Approach:**  
\$16.8 M CIP completes backlog of capital replacement and repair needs (All segments of "F pipes", all "D" pipes, some "C" pipes, all segments of "abandoned survey", all segments of "no survey", all segments of "abandoned survey" spot repairs, lift station and manhole rehabilitation), \$100,000 misc. repairs, 20 year SRF loan, with phased in rate increases for five years.
- **Option 1:**  
\$4.0 M CIP (All segments of "F" pipes, 7 segments of "D" line pipes, 3 segments of "C" line pipes, 4 segments of "abandoned survey", 4 segments of "no survey", rehabilitate 110 manholes, and all lift station repairs), \$200,000 misc. repairs, 10 year bank loan, with phased in rate increases for five years.
- **Option 2:**  
\$4.0 M CIP (same as above), 20 year SRF loan, with phased in rate increases for five years.
- **Option 3:**  
\$7.7 M CIP (All "F pipes, 7 segments of "D" line pipes, 3 segments of "C" line pipes, all segments of "abandoned survey", all segments of "no survey", all segments of "abandoned survey" spot repairs, rehabilitate 110 manholes, and all lift station repairs), \$200,000 misc. repairs, 20 year SRF loan, with phased in rate increases for five years.
- **Option 4:**  
\$15.5 M CIP (All work as detailed above for the Recommended Approach except the lift station improvements), \$25,000 misc. repairs, 20 year SRF loan, with phased in rate increases for five years.
- **Option 5:**  
Council could choose to set a new rate increase to supplement the current annual revenue of \$248,000 a year available for CIP projects. Include a 5% O&M per year increase in the rates, and a generic cost of living increase of 5% every year for CIP &

O&M. Fund an annual CIP program to rehabilitate the sewer system. For every CIP 5% increase it will bring in approximately \$65,850 revenue.

Although the rates will be lower in 2015/16 for Options 1 through 4, the City's backlog of sewer repair needs will not be fully addressed. The result will be significant rate increases in the subsequent years. The Staff Recommended Approach will be sustainable with 2.5% annual inflationary increases for well beyond 2015/16.

**Advantages of the City Council Recommended Approach:**

Staff's Recommended Approach provides the following advantages:

1. The inflation rate over the last twenty years has averaged roughly 2.75% each year. The current interest rate for the State Revolving Fund Loan is approximately 2.6%. Assuming that inflation continues at approximately this same rate for the next twenty years (the term of the loan), the **cost of borrowing this money after inflation is zero.**
2. All of the worst problems in the system are addressed over a short (approximately two year) period thus **reducing the risks to public health and the environment as well as reducing the risk of paying fines** for violations.
3. Overall, completing the capital projects together at once **will be less expensive** since there will be less overhead associated with one large project rather than multiple smaller projects. Additionally, based on the current bidding climate, staff anticipates very favorable bids.
4. Repairing the City's underground infrastructure makes it much **easier to coordinate road repairs,** as staff will not first have to deal with sewer repairs before beginning the road repairs.
5. The proposed rates establish a **reliable and reasonable rate structure,** which would not be subject to the uncertainties of the future cost of a system that may require significant "one-time" infusion of money.

**Cash Flow Projections**

Based on the total revenue requirement, BWA developed 30-year cash projections to evaluate long-term finances and determine rate increases for each option. Wastewater rates are designed to cover O&M costs, fund capital projects, build reserves, and provide adequate debt service coverage. Although the projections show rates through 2040/41, the City will only be adopting 5 years of rate increases beginning in 2011/12 through 2015/16. The cash flows are based on the best information currently available and include a number of conservative assumptions including:



Revenues

- The first rate adjustment will take effect on October 1, 2011. Rate adjustments in subsequent years will take effect on July 1 of each year.
- No significant growth is projected in the next 30 years.
- Interest income is estimated at 2 percent each year.
- Grease trap revenues are not anticipated to increase.

Expenses

- All operating expenses, except for salaries and benefits, escalate at the annual rate of 3.0 percent from the 2010/11 budget to account for cost inflation.
- Salaries and benefits are escalated by 5 percent each year.
- Annual debt service is projected at \$1,098,000 and will begin in 2014/15.
- Once the SRF loan is repaid in 2032/33, funding for debt service will be used for the renewal and replacement project.

**Sewer Rate Phased Rate Adjustments Over 5 Years:**

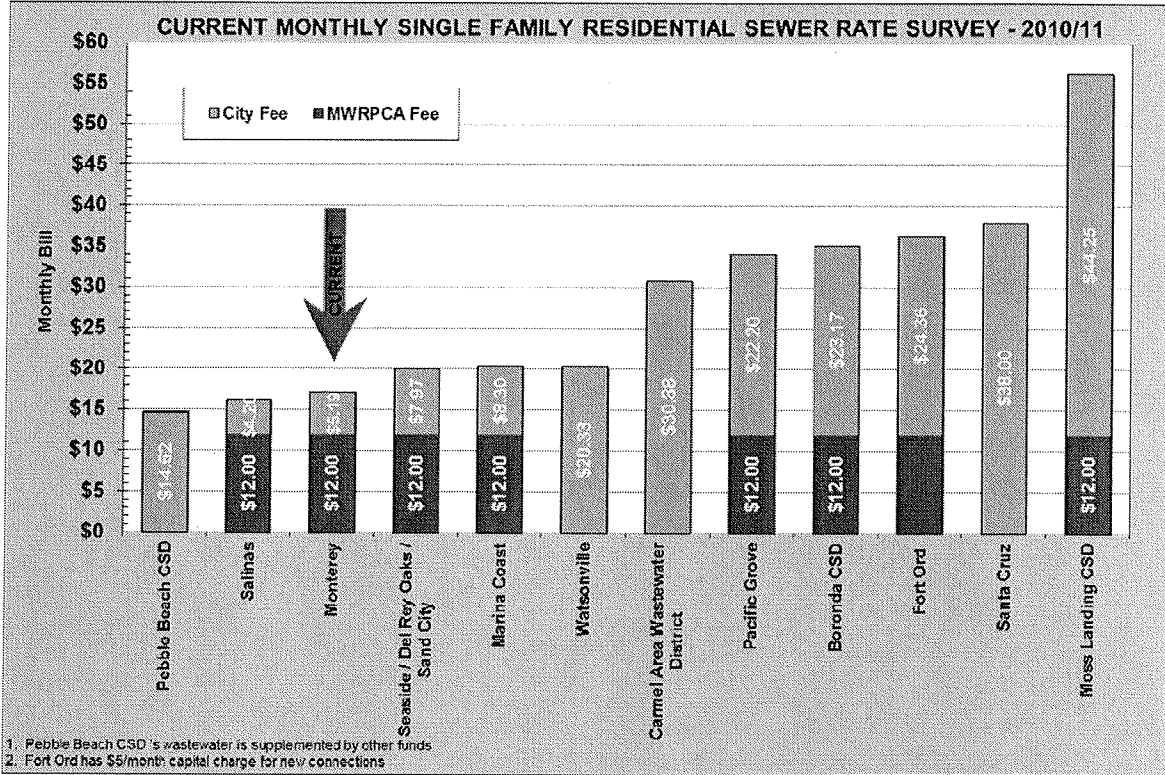
The following tables show the proposed rates through 2015/16.

PROPOSED MONTHLY RESIDENTIAL SEWER CHARGE						
	Current	2011/12	2012/13	2013/14	2014/15	2015/16
Residential	\$5.19	\$7.01	\$8.69	\$10.25	\$10.51	\$10.77
Monthly Increase		\$1.82	\$1.68	\$1.56	\$0.26	\$0.26

PROPOSED MONTHLY NON-RESIDENTIAL SEWER CHARGES							
Category	Units	Current	2011/12	2012/13	2013/14	2014/15	2015/16
Business/Government (1-10 employees)	Location/Each Business	\$3.59	\$5.40	\$6.69	\$7.89	\$8.09	\$8.29
Business/Government (11-20 employees)	Location/Each Business	\$7.17	\$10.80	\$13.38	\$15.79	\$16.19	\$16.59
Business/Government (21-30 Employees)	Location/Each Business	\$10.76	\$16.26	\$20.16	\$23.78	\$24.38	\$24.99
Business/Government (31-40 employees)	Location/Each Business	\$14.34	\$21.66	\$26.85	\$31.67	\$32.48	\$33.28
Business/Government (41-50 employees)	Location/Each Business	\$17.93	\$27.06	\$33.54	\$39.57	\$40.57	\$41.57
Business/Government (51-60 employees)	Location/Each Business	\$21.52	\$32.46	\$40.23	\$47.46	\$48.66	\$49.87
Business/Government (61-70 employees)	Location/Each Business	\$25.10	\$37.92	\$47.01	\$55.45	\$56.86	\$58.27
Business/Government (71-80 employees)	Location/Each Business	\$28.69	\$43.32	\$53.70	\$63.35	\$64.95	\$66.56
Business/Government (81-90 employees)	Location/Each Business	\$32.27	\$48.72	\$60.40	\$71.24	\$73.04	\$74.85
Business/Government (91- 100 employees)	Location/Each Business	\$35.86	\$54.12	\$67.09	\$79.13	\$81.14	\$83.14
Business/Government (101- 110 employees)	Location/Each Business	\$39.44	\$59.59	\$73.87	\$87.13	\$89.34	\$91.55
Business/Government (111- 120 employees)	Location/Each Business	\$43.03	\$64.98	\$80.56	\$95.02	\$97.43	\$99.84
Business/Government (141- 150 employees)	Location/Each Business	\$46.62	\$81.25	\$100.72	\$118.80	\$121.81	\$124.82
Business/Government (171- 180 employees)	Location/Each Business	\$50.20	\$97.44	\$120.79	\$142.48	\$146.09	\$149.70
Business/Government (181- 190 employees)	Location/Each Business	\$53.79	\$102.91	\$127.57	\$150.47	\$154.29	\$158.10
Business/Government (210 - 220 employees)	Location/Each Business	\$57.37	\$119.10	\$147.64	\$174.15	\$178.56	\$182.98
Business/Government (271- 280 employees)	Location/Each Business	\$60.96	\$151.35	\$187.62	\$221.30	\$226.91	\$232.52
Business/Government ( 721 -730 employees)	Location/Each Business	\$123.42	\$395.29	\$490.03	\$578.00	\$592.66	\$607.32
Hotel/Motel	Each Room	\$2.14	\$3.01	\$3.74	\$4.41	\$4.52	\$4.63
Supermarket	Each Location	\$33.85	\$29.58	\$36.67	\$43.26	\$44.35	\$45.45
Medical Office	Each Licensed Physician	\$4.62	\$7.22	\$8.95	\$10.56	\$10.83	\$11.09
Dental Office	Each Licensed Dentist	\$6.24	\$9.95	\$12.34	\$14.56	\$14.92	\$15.29
Rest Home/Convalescent	Each Bed of Licensed Capacity	\$1.34	\$2.03	\$2.52	\$2.97	\$3.05	\$3.12
Animal Hospital	Location/Each Licensed Business	\$9.29	\$13.53	\$16.77	\$19.78	\$20.28	\$20.79
Restaurant - 1 Meal/day	Each Restaurant Seat	\$0.33	\$0.28	\$0.35	\$0.41	\$0.42	\$0.43
Restaurant - 2 Meals/day	Each Restaurant Seat	\$0.50	\$0.42	\$0.52	\$0.62	\$0.63	\$0.65
Restaurant - 3 Meals/day	Each Restaurant Seat	\$0.93	\$0.77	\$0.96	\$1.13	\$1.16	\$1.18
Restaurant with Bar	Each Restaurant Seat	\$0.93	\$0.77	\$0.96	\$1.13	\$1.16	\$1.18
Bar	Location/Each Business	\$8.10	\$11.78	\$14.60	\$17.22	\$17.66	\$18.09
Night Club	Location/Each Business	\$23.61	\$35.26	\$43.71	\$51.56	\$52.87	\$54.17
Take-Out Small	Location/Each Business	\$11.45	\$13.11	\$16.25	\$19.17	\$19.65	\$20.14
Take-Out Medium	Location/Each Business	\$27.69	\$32.32	\$40.06	\$47.25	\$48.45	\$49.65
Take-Out Large	Location/Each Business	\$50.24	\$58.88	\$73.00	\$86.10	\$88.28	\$90.47
Bakery	Location/Each Business	\$13.01	\$10.66	\$13.21	\$15.58	\$15.98	\$16.37
Theatre	Per screen @ each location	\$10.95	\$17.45	\$21.64	\$25.52	\$26.17	\$26.82
Bowling Center	Location/Each Business	\$33.35	\$53.14	\$65.87	\$77.70	\$79.67	\$81.64
Gym - 500 Members	Location/Each Business	\$3.59	\$5.40	\$6.69	\$7.89	\$8.09	\$8.29
Mortuary	Location/Each Business	\$16.59	\$14.37	\$17.81	\$21.01	\$21.55	\$22.08
School - Minimum	Location/Each Business	\$3.59	\$5.40	\$6.69	\$7.89	\$8.09	\$8.29
School - Pre-Grade 6	School Population	\$0.05	\$0.07	\$0.09	\$0.10	\$0.11	\$0.11
School - Grade 7 - College	School Population	\$0.09	\$0.14	\$0.17	\$0.21	\$0.21	\$0.22
School - Boarding	School Population	\$1.04	\$1.47	\$1.82	\$2.15	\$2.21	\$2.26
Instructional Facility	School Population	\$3.59	\$5.40	\$6.69	\$7.89	\$8.09	\$8.29
Church - 1-100 Members	Location/Each Business	\$3.59	\$5.40	\$6.69	\$7.89	\$8.09	\$8.29
Church - Over 100 Members	Location/Each Business	\$7.17	\$10.80	\$13.38	\$15.79	\$16.19	\$16.59
Photo Developer	Location/Each Business	\$3.59	\$5.40	\$6.69	\$7.89	\$8.09	\$8.29
Laboratory - 10 Employees	Location/Each Business	\$3.59	\$5.40	\$6.69	\$7.89	\$8.09	\$8.29
Laboratory - 20 Employees	Location/Each Business	\$7.17	\$10.80	\$13.38	\$15.79	\$16.19	\$16.59
Printer - 10 Employees	Location/Each Business	\$3.59	\$5.40	\$6.69	\$7.89	\$8.09	\$8.29
Printer - 20 Employees	Location/Each Business	\$7.17	\$10.80	\$13.38	\$15.79	\$16.19	\$16.59
Garage/Repair	Location/Each Business	\$3.80	\$5.19	\$6.43	\$7.59	\$7.78	\$7.97
Paint Shop - 10 Employees	Location/Each Business	\$3.59	\$5.40	\$6.69	\$7.89	\$8.09	\$8.29
Paint Shop - 20 Employees	Location/Each Business	\$7.17	\$10.80	\$13.38	\$15.79	\$16.19	\$16.59
Dry Cleaner	Location/Each Business	\$11.45	\$17.95	\$22.25	\$26.24	\$26.91	\$27.57
Laundromat	Each Washing Machine	\$2.90	\$4.70	\$5.82	\$6.87	\$7.04	\$7.22

## Wastewater Rate Survey

The following table shows a monthly rate survey of the surrounding area for single family residential customers. Overall, the City's current sewer rates are amongst the lowest in the region. With the projected future rate adjustments, the City's sewer rates are anticipated to remain on the low end compared to surrounding agencies. The survey is for general informational purposes only. Each agency's wastewater system's operating and capital needs vary, and rates are set accordingly. Future rate increases for many agencies are unknown.



### **3 SEWER CONNECTION FEE**

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Connection fees are one-time charges levied to recover the costs of utility infrastructure needed to serve new development. These fees go by a variety of names including connection fees, capacity fees, facility charges, and development impact fees.

California Government Code Section 66000 et, seq, governs impact fees charged to new development. Section 66013 pertains specifically to water and wastewater connection fees and states that these fees “shall not exceed the estimated reasonable cost of providing the service for which the fee or charge is imposed” unless approved by a popular vote of two-thirds of participating voters. The code also notes that a capacity charge can recover costs for “facilities in existence at the time a charge is imposed” or “charges for new facilities to be constructed in the future that will provide benefit to the person or property being charged”. The code does not specify a method for calculating an appropriate fee.

Unlike many neighboring agencies, the City currently does not levy a sewer connection fee for new development; although in the past, the City did have a sewer connection fee. The MRWPCA also charges a connection fee for treatment. BWA recommends the City adopt a new sewer connection fee charged to both new residential and non-residential development. The revenues generated by the connection fee will be used for sewer capital projects and will help offset the costs paid by existing customers.

#### **Sewer Connection Fee Calculation**

There are many acceptable methods for calculating connection fees. BWA generally recommends that agencies use a straightforward and understandable methodology based on the cost and capacity of utility system assets. The following table calculates a new sewer water connection fee based on the age and value of the City’s collection system, including the sewer mains, structures, equipment, and lift stations. The proposed sewer connection fee is \$2,283 per EDU.

**PROPOSED SEWER CONNECTION FEE CALCULATION**

**FIXED ASSETS**

<u>Asset</u>	<u>Replacement Cost</u>
Sewer Mains	\$109,985,780
Sewer Structures	\$9,495,150
<u>Sewer Equipment</u>	<u>\$798,329</u>
Total Fixed Assets	\$120,279,259
Total EDUs	<u>20,936</u>
Total Fixed Assets/EDUs	\$5,745

**Sewer Lift Station**

Total Value	\$6,278,412
Remaining Value of Sewer Lift Stations	71.7%
Total Sewer Lift Station Value	\$4,499,365
Total EDUs	<u>20,936</u>
Total Sewer Lift Station/EDUs	\$215

**DEPRECIATION**

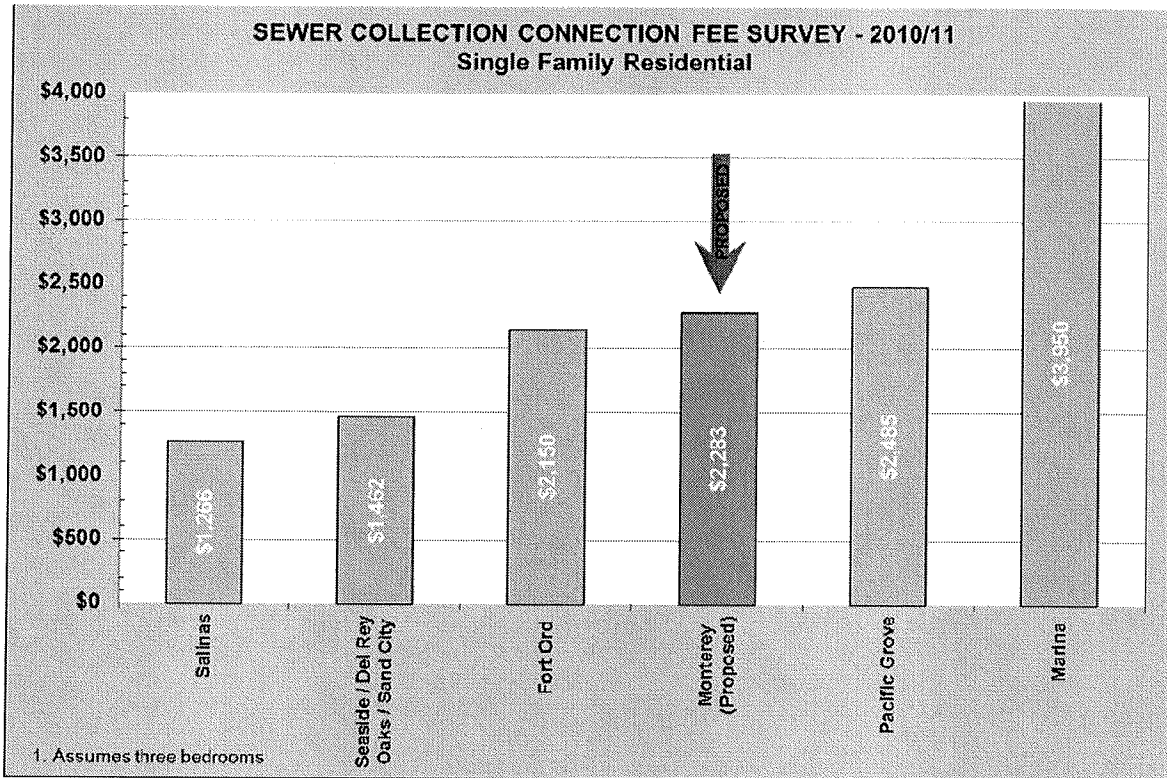
<u>Installed Dates of System</u>	<u>% of System Installed</u>	<u>% of System Depreciated</u>	<u>Remaining Value</u>
1910	36.00%	80%	7%
1930	29.00%	70%	9%
1940	9.40%	60%	4%
1950	8.90%	50%	4%
1960	7.80%	40%	5%
1970	2.30%	30%	2%
1980-present	<u>7.00%</u>	20%	<u>6%</u>
	100.40%		36%

**CONNECTION FEE CALCULATION**

Total Fixed Assets/EDUs	\$5,745
<u>Remaining Value of System</u>	<u>36%</u>
Total Fixed Assets Value	\$2,068
Sewer Lift Station Value	\$215
Total Sewer Connection Fee per EDU	\$2,283

## Connection Fee Survey

The following chart compares the City's proposed connection fees with surrounding agencies. The agencies shown only charge a connection fee for collection.





## 4 PROPOSITION 218

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Proposition 218, the “Right to Vote on Taxes Act”, was approved by California voters in November 1996 and is codified as Articles XIII C and XIII D of the California Constitution. Proposition 218 establishes requirements for imposing or increasing property related taxes, assessments, fees and charges. For many years, there was no legal consensus on whether water and sewer rates met the definition of “property related fees”. In July 2007, the California Supreme Court essentially confirmed that Proposition 218 applies to water rates. The prevailing legal consensus is that Proposition 218 also applies to wastewater rates.

BWA recommends the City follow the procedural requirements of Proposition 218 for all water and wastewater rate increases. These requirements include:

- **Noticing Requirement:** The City must mail a notice of proposed rate increases to all affected property owners. The notice must specify the basis of the fee, the reason for the fee, and the date/time/location of a public rate hearing at which the proposed rates will be considered/adopted.
- **Public Hearing:** The City must hold a public hearing prior to adopting the proposed rate increases. The public hearing must be held not less than 45 days after the required notices are mailed.
- **Rate Increases Subject to Majority Protest:** At the public hearing, the proposed rate increases are subject to majority protest. If more than 50% of affected property owners or tenant ratepayers submit written protests against the proposed rate increases, the increases cannot be adopted.

Proposition 218 also established a number of substantive requirements that are generally deemed to apply to utility service charges, including:

- **Cost of Service** - Revenues derived from the fee or charge cannot exceed the funds required to provide the service. In essence, fees cannot exceed the “cost of service”.
- **Intended Purpose** - Revenues derived from the fee or charge can only be used for the purpose for which the fee was imposed.
- **Proportional Cost Recovery** - The amount of the fee or charge levied on any customer shall not exceed the proportional cost of service attributable to that customer.
- No fee or charge may be imposed for a service unless that service is used by, or immediately available to, the owner of the property. Standby charges shall be classified as “assessments” which are governed by Article 13D Section 4.

Charges for water, sewer, and refuse collection are exempt from the additional voting requirements of Proposition 218 provided the charges do not exceed the cost of providing service and are adopted pursuant to procedural requirements of Proposition 218.

## **Appendix 19: Sewer Lift Station and Force Main Condition Assessment (2010)**

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# **ENGINEERING REPORT**

## **Sewer Lift Station and Force Main Condition Assessment**

**Monterey, California**



**Prepared for:  
City of Monterey  
Plans and Public Works Department  
Monterey, CA**

**Prepared by:**



1735 North First Street, Suite 301  
San Jose, CA 95112  
**(408) 451-9615**

**OCTOBER 28, 2010**

**ENGINEERING REPORT  
SEWER LIFT STATION AND FORCE MAIN  
CONDITION ASSESSMENT  
CITY OF MONTEREY, CALIFORNIA**

Job No. 122781001

Prepared for:  
City of Monterey  
Plans and Public Works Department  
Attn: Mr. Jeff Krebs, P.E.  
580 Pacific Street  
Monterey, CA 93940-2806

Prepared by:

Anthony LaMarca, PE

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 **WINZLER & KELLY**  
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(408) 451-9615

October 28, 2010

Reviewed by: \_\_\_\_\_

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

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- Appendix A – Pump Station Site Visit Observations, As-Built Data, and Assessment Information
- Appendix B – Force Main Site Visit Observations, As-Built Data, and Assessment Information

## 1.0 EXECUTIVE SUMMARY

This report was prepared by Winzler & Kelly for the City of Monterey. It presents findings from inspections of the City's seven wastewater pump stations, which occurred on August 10, 2010. The purpose of the inspections was to assess the condition of the structural, mechanical, electrical and control systems, in addition to the force mains. Ultimately, this condition assessment will be used as the basis for developing a lift station and force main capital improvement program (CIP). This CIP will be combined with an existing CIP for the sanitary sewer collection system for purposes of determining a suitable rate structure. The lift station and force main CIP will be issued in a separate document after the condition assessment has been approved by the City.

All of the pump stations were found to be operating normally, and most are in reasonably good condition. The following items present the major findings of the inspections at each pump station:

1. General Findings:
  - a. All of the existing wet wells showed some signs of surface decay on the interior wall surfaces, possibly due to hydrogen sulfide buildup. All of the wet well interior wall surfaces should be lined with a high-build coating to extend the useful life of these structures.
  - b. All of the pump stations appear to be adequately sized to accommodate the estimated peak wet weather flows.
  - c. All of the pump stations have modern control systems with redundant communication capability.
  - d. None of the pump stations have run-time metering. Run-time metering should be added at all 7 installations.
  - e. None of the pump stations have pressure gauges. Pressure gauges should be added at all 7 installations.
  - f. None of the pump stations except for 218/68 have pump bypass capabilities. Pump bypass capabilities should be added to all pump stations except Laguna Grande.
2. DLI Nos. 1 and 2
  - a. Existing pumps and motors are over 26 years old and are due for a detailed inspection and rebuild.
  - b. Minor coating defects were observed in the dry well interiors. Coating defects should be spot repaired.
  - c. Existing engine generators do not meet current air-quality standards, and produce excessive noise. Generators should be replaced.
  - d. The force main for DLI No. 2 has had one known failure, which was repaired in 1999 or 2000.
  - e. DLI No.2 does not have adequate maintenance vehicle access. The existing access road needs to be chip sealed and the concrete pad adjacent to the wet well needs to be extended to improve accessibility to the wet well for a vacuum truck.
  - f. The discharge velocity for DLI No.2 is too low. The pump control logic should be modified to run both pumps simultaneously once per day to achieve adequate pipeline cleansing velocities.



3. Mesa
  - a. The existing facility does not have a standby pump, but it does have an emergency overflow pipe that can divert sewage to a separate part of the collection system. A spare pump should be procured and made available to minimize station downtime if the duty pump fails.
  - b. The reported pump starts per hour is 14, which is much too high and will likely reduce the life of the pumps. A soft starter should be installed to minimize wear on the pump motor.
4. Myers
  - a. Existing pump discharge piping inside the wet well is severely corroded and should be replaced as soon as possible.
  - b. Both pumps are very close to the end of their useful life. Recommend replacing with larger pumps to increase the force main velocity.
  - c. Pump check valves are located in Del Monte Boulevard and are very difficult to access for maintenance. Valves should be relocated to a new vault that would be installed under the sidewalk next to the wet well.
  - d. Existing engine generator housing is severely corroded and is over 15 years old. Recommend replacing the natural gas generator with new diesel generator.
5. Laguna Grande Park
  - a. No significant deficiencies were observed at this facility.
6. Pebble
  - a. The existing facility does not have a standby pump or overflow prevention/containment facilities and therefore does not meet industry standards for redundancy and reliability. Existing pump should be replaced with two submersible units to improve reliability and guiderail assemblies for convenient retrieval.
  - b. The existing force main is exposed over a length of approximately 20 feet, and is vulnerable to landslides. Recommend replacing the entire force main at an adequate depth to ensure the pipeline is protected.
7. 218/68
  - a. The motor on Pump No. 1 is over 18 years old and is due for a detailed inspection and rebuild.
  - b. The vehicle gate is located in a position that makes it dangerous for maintenance trucks to access. The gate should be reconfigured in a way that allows vehicles to be completely off the highway while opening and closing the gate.
  - c. Power quality problems at this site cause occasional nuisance alarms. Recommend conducting an engineering study to diagnose electrical problems.
  - d. Portions of the existing force main have very little vertical cover and are exposed to heavy freeway traffic. Recent road construction in the vicinity of the freeway caused a failure of the force main. The force main should be replaced in this area so it has additional cover.

Additional findings and an assessment of the remaining useful service life of each facility are described in the body of the report. Appendix A and B provide a summary of the observations made during the site visits for the pump stations and force mains respectively.

## **2.0 INTRODUCTION**

The City of Monterey is in the process of updating its sewer rate structure to provide sufficient revenue to offset the costs of providing reliable service to its rate payers. The City prepared a Capital Renewal and Replacement Program (CRRP) in 2000, which was based on a condition assessment of the sewer mains and manholes. As of October 2010, some of these projects have been completed. However, that program did not address the seven sewer lift stations and force mains that are also an integral part of the collection system. Thus, the purpose of this condition assessment is to:

- Develop a capital improvement program for the lift stations and force mains; and
- Estimate the remaining service life of the lift stations and force mains.

Ultimately, the condition assessment will be combined with the existing capital improvement program for the sewers and manholes. The comprehensive improvement program will be presented in the next deliverable, which will also include the following information:

- Annual operations and maintenance costs for the sewer collection system, including the lift stations;
- Replacement costs for the sewer lift stations and force mains;
- Cash-flow projections that will be used to establish an equitable rate structure.

### **2.1 Scope of Work**

The scope of work for the lift station and force main condition assessment consisted of the following efforts:

- Estimate firm-capacity requirement (See Table 1);
- Perform flow tests to determine existing firm-capacity (See Appendix A-2);
- Perform visual inspection of dry well, valves, instrumentation, SCADA system, fuel system, electrical gear and safety equipment (See Appendix A-2);
- Estimate wet well capacity (See Appendix A-1) and pump cycle-times (See Table 3);
- Assess lift station failure risk (See Figures 1-6 and Tables 4-5);
- Evaluate force main velocities (See Table 6-7);
- Estimate remaining service life of lift stations and force mains (See Tables 2 and 8);
- Review force main alignment and profile to identify potential high-risk areas (See Table 10); and
- Compare generator nameplate data with pump power requirements (See Appendix A-2);

### 3.0 CONDITION ASSESSMENTS

#### 3.1 Lift Stations

##### 3.1.1 Pump Capacity

In general, all of the lift stations have adequate pumping capacity to accommodate estimated peak wet weather flows. However, the Pebble lift station does not have a standby pump or an overflow bypass, so it does not meet generally accepted standards for redundancy and reliability. Table 1 below summarizes the PWWF and capacity for each pump station. Refer to *Appendix A – Pump Station Site Visit Observations, As-Built Data, and Assessment Information* for additional pump station information not shown.

**Table 1 - Pump Station Loading and Capacity**

<b>Pump Station Name</b>	<b>PDWF<sup>3</sup> (gpm)</b>	<b>Peaking Factor<sup>5</sup></b>	<b>Estimated Firm Capacity<sup>2</sup> (gpm)</b>	<b>Estimated PWWF<sup>1</sup> (gpm)</b>	<b>Safety Factor</b>
DLI No.1	18	1.52	222	27	8.3
DLI No.2	38	1.52	271	58	4.6
Mesa <sup>6</sup>	25	1.26	114	32	3.6
Myers	21	1.60	149	33	4.5
Laguna Grande Park <sup>4</sup>	0.5	1.60	168	0.8	209.6
Pebble <sup>7</sup>	5	1.60	37	8	4.7
218/68	27	1.62	233	44	5.3

#### Notes/Assumptions:

1. This is the estimated peak wet weather flow, which is determined using dry weather flow data multiplied by a peaking factor
2. From tested drawdown rate using a single duty pump.
3. Determined from the Pump Run-time records provided by the City using the drawdown rates determined in the field
4. The PDWF at the Laguna Grande Park pump station was too small to register so it will be assumed that the PDWF is 0.5gpm.  $0.5\text{gpm} = (1 \text{ toilet flushed every } 10 \text{ minutes}) \times (5 \text{ gallons/flush}) / (60\text{sec}/\text{min})$ . This is approximated based on estimated peak hour use during the weekend.
5. Peaking Factors (PF) were provided by the City on 8-23-10. The PF were based on historical energy usage data or the 1986 I&I Study.
6. This pump station does not have a standby pump. However, it has a 6 inch gravity bypass pipe to prevent sanitary sewer overflows.
7. This pump station does not have a standby pump.

### 3.1.2 Pump Service Life

The expected useful service life of a wastewater pump is usually 15 to 25 years. The service life can vary depending on number of starts per hour, type of starter, maintenance schedule, and other factors. For purposes of this assessment, a pump service life of 20 years was selected.

The table below summarizes the remaining service life for the pump(s) at each pump station based on the pump installation or replacement date.

**Table 2 - Remaining Service Life for the Pumps at Each Pump Station**

<b>Pump Station</b>	<b>Date Installed or Replaced</b>	<b>Service Life Remaining (Years)</b>
DLI No.1	1984	-6
DLI No.2	1984	-6
Mesa	2004	14
Myers	1995	5
Laguna Grande Park	1999	9
Pebble	2006	16
218/68	1992	2

### 3.1.3 Pump Condition

- DLI No.1 and DLI No.2  
Existing pumps and motors are approximately 26 years old. There are no known problems with the existing pumps, however they are 26 years old and due for a detailed tear down, inspection, and rebuild, which should extend the life of the pumps for another 20 years.
- Mesa  
Existing duty pump is 6 years old and there are no know problems with it. Existing facility does not have a standby pump and therefore does not meet industry standards for redundancy and reliability. However, the pump station has an overflow pipe that is plumbed to an adjacent sewer manhole. Winzler & Kelly recommends purchasing a spare pump to minimize downtime in the event of pump failure.
- Myers  
There are no known problems with the existing pumps that are approximately 15 years old, however there appears to be a severe sulfide attack on the wet well interior and piping, therefore Winzler & Kelly recommends that the piping be replaced. Also, the check valves are currently located in the middle of a busy road (Del Monte Blvd.); therefore, Winzler & Kelly recommends that new check valves be installed in a new vault located in the sidewalk. We recommend replacing the pumps at the same time the valve and piping modifications are done because they are very close to the end of their useful life. The new pumps should be upsized so the Firm capacity is at least 265gpm to increase force main velocities for cleansing purposes.
- Laguna Grande Park  
Existing pumps are approximately 11 years old. There are no known problems with the existing pumps.
- Pebble  
Existing facility does not have a standby pump and therefore does not meet industry standards for redundancy and reliability. The existing duty pump is difficult to maintain

because it is not installed on a guiderail assembly and a retrofit would be difficult. Winzler & Kelly recommends installing two new submersible pumps with guiderail assemblies to improve reliability and improve access for pump maintenance. The new pumps should be upsized so the Firm capacity is at least 118gpm to increase force main velocities for cleansing purposes.

- 218/68

Existing pumps are approximately 18 years old. The seals on both pumps were replaced in 2003. The motor on pump no.1 is 18 years old and is due for an inspection and rebuild. The motor on pump no.2 is 7 years old and has no known problems.

### 3.1.4 Wet Wells and Dry Wells

- DLI No. 1

The concrete wet well was constructed in 1984. The interior surface shows evidence of decay possibly caused by hydrogen sulfide gas. Winzler & Kelly recommends the wet well be lined with a high build epoxy or other equivalent lining system.

Minor coating defects were noticed on the dry well interior. Winzler & Kelly recommends spot repairs be performed.

- DLI No.2

The concrete wet well was constructed in 1984. The interior surface shows evidence of decay possibly caused by hydrogen sulfide gas. Winzler & Kelly recommends the wet well be lined with a high build epoxy or other equivalent lining system.

Minor coating defects were noticed on the dry well interior. Winzler & Kelly recommends spot repairs. The foundation under the dry well has been undermined possibly due to a force main failure in 1999 or 2000. Winzler & Kelly recommends that the voids be pressure grouted.

- Mesa

The concrete wet well was constructed in 1938. The interior surface shows evidence of decay possibly caused by hydrogen sulfide gas. Winzler & Kelly recommends the wet well be lined with a high build epoxy or other equivalent lining system.

Six to twelve inches of standing water was observed in the dry well, however this does not interfere with normal operations and maintenance activities in the pump station.

- Myers

The concrete wet well was constructed in 1952. The interior surface shows evidence of decay possibly caused by hydrogen sulfide gas. The grout on the grade ring has decayed resulting in bricks and debris falling into the wet well. In addition, the steel hatch has been deformed due to excessive vehicle loads. Winzler & Kelly recommends that the top three feet of the wet well be rebuilt and the hatch replaced. Winzler & Kelly recommends the wet well be lined with a high build epoxy or other equivalent lining system.

- Laguna Grande Park

The concrete wet well was constructed in 1981. The interior surface shows evidence of decay possibly caused by hydrogen sulfide gas. The hatch is not traffic rated. Winzler



& Kelly recommends the wet well be lined with a high build epoxy or other equivalent lining system.

- Pebble

The concrete wet well was constructed in 1956. The lid on the existing wet well will not accommodate a guide rail assembly for removal of the pumps. The interior surface shows evidence of decay possibly caused by hydrogen sulfide gas. Winzler & Kelly recommends the top portion of the wet well be reconfigured to accommodate a larger hatch. In addition, Winzler & Kelly recommends the wet well be lined with a high build epoxy or other equivalent lining system.

The original dry well is now being used as a valve vault; however the existing piping arrangement makes it difficult to access the valves for maintenance. Winzler & Kelly recommends that the piping be reconfigured so it is closer to the surface and the bottom of the dry well be filled with crushed rock.

- 218/68

The concrete wet well was constructed in 1992. The interior surface shows evidence of decay possibly caused by hydrogen sulfide gas. In addition, signs of groundwater intrusion were apparent. Winzler & Kelly recommends the wet well be lined with a high build epoxy or other equivalent lining system.

The dry well is in good condition.

### 3.1.5 Wet Well Capacity Analysis

The volume of the wet well above the pump high water alarm level determines the amount of time available after a pump failure before an SSO occurs. In addition, the volume of the wet well between the pump start and stop set points determines how frequently the pumps run. All of the wet wells appear to be adequately sized to accommodate anticipated flows. However, run-time records for the Mesa and Myers lift stations indicate that the pumps are over-cycling (14 and 10 starts/hour respectively). Excessive cycling of the pumps can shorten the life of the motors and may lead to premature failure and overflows. It appears that the level switches used to control the pumps may be spaced too close together. Table 3 below presents a summary of the wet well analysis.

**Table 3 - Max Pump Cycle Time and Max Starts/Hour**

<b>Pump Station Name</b>	<b>No. of Pumps</b>	<b>Estimated Pump Discharge Rate<sup>5</sup> (gpm)</b>	<b>Actual Max Starts per Hour<sup>1</sup></b>	<b>Wet Well Design Working Volume<sup>2</sup> (gal)</b>	<b>Theoretical Max Cycle Time (min./cycle)<sup>3</sup></b>	<b>Theoretical Max Starts per Hour<sup>4</sup></b>	<b>Recommended Max Starts per Hour</b>
DLI No.1	2	222	2	635	23	3	6
DLI No.2	2	271	4	1483	44	2	6
Mesa	1	114	14	215	8	8	6
Myers	2	149	10	245	13	5	6
Laguna Grande Park <sup>5</sup>	2	168	0	159	8	8	6
Pebble	1	37	2	329	36	2	6
218/68	2	233	3	1042	36	2	6

#### Notes/Assumptions:

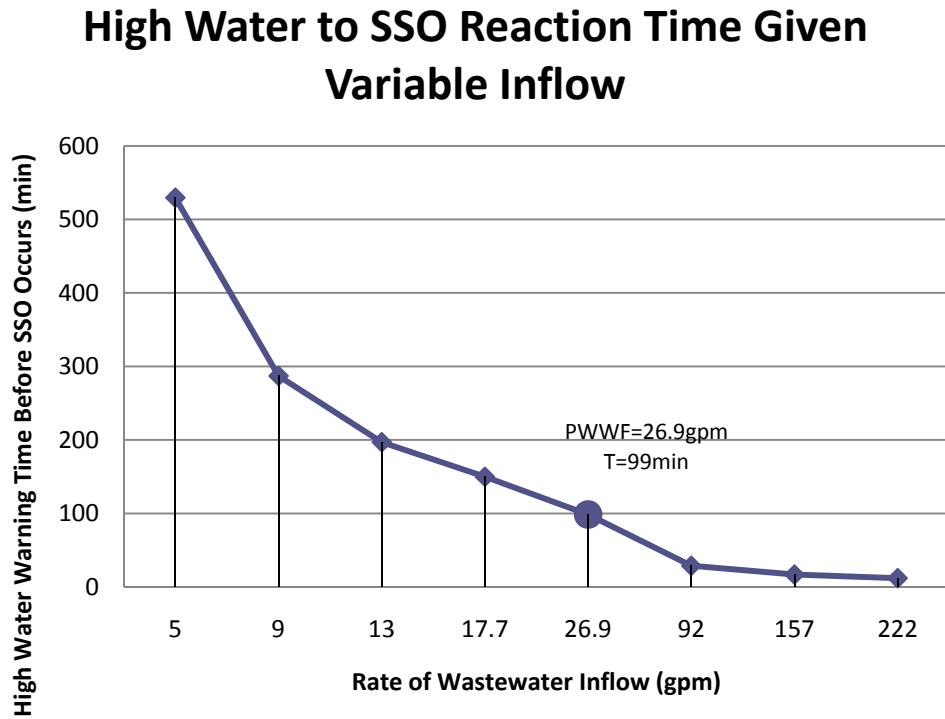
1. Per the pump Run-time records provided by the City, which is based on data recorded on July 27, 2010. The max starts per hour is the max recording of either pump because the five installations with duplex pumps are set to alternate.
2. As derived from as-built data. The lead pump start/stop set points were estimated for Pebble PS.
3. Max Cycle Time =  $(4 \times \text{Wet Well Working Volume}) / \text{Pump Discharge Rate}$ . This occurs when  $Q_{IN} = (1/2)Q_{OUT}$ .
4. Max Starts per Hour =  $(\text{Max Cycle Time} / 60 \text{ minutes})$
5. From tested drawdown rate, which is based on the discharge rate of the lead pump only

Wet well geometry is examined for purposes of estimating the amount of time it would take for the wet well to overflow. In three cases, the upstream manhole has a rim elevation that is lower than the top of the wet well, which is where the overflow would occur at that facility. This occurs at DLI No.1, DLI No.2, and 218/68. The manholes with lower rim elevations than the wet well rim elevation are as follows:

- For DLI No.1, the lowest manhole rim elevation upstream of the wet well is SMH D01-009.
- For DLI No.2, the lowest manhole rim elevation upstream of the wet well is SMH D01-030.
- For 218/68, the lowest manhole rim elevation upstream of the wet well is SMH H12-006.

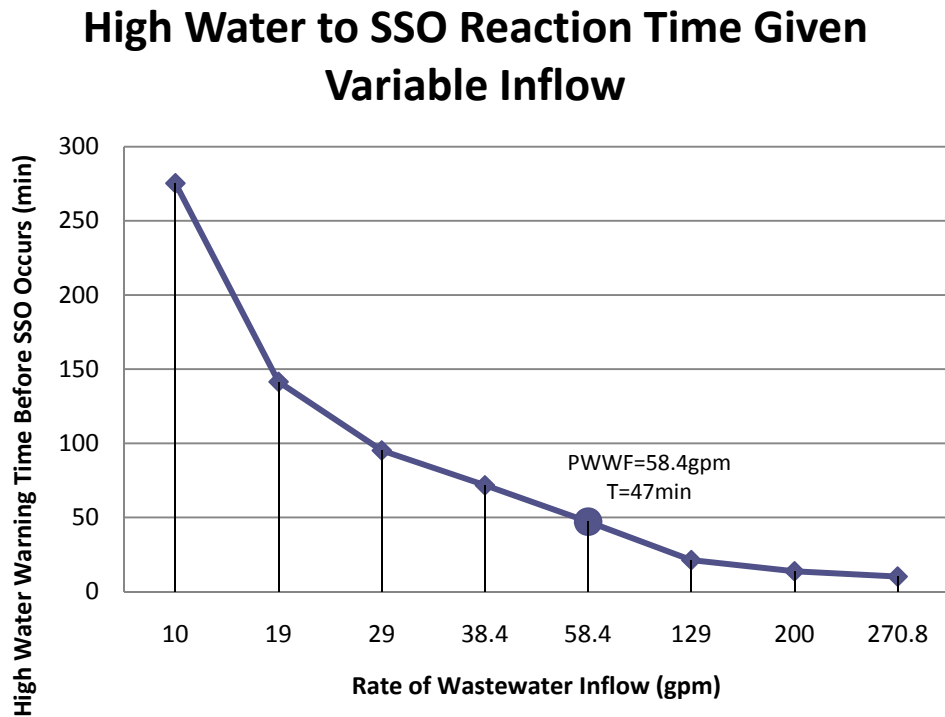
The Mesa Pump Station has an overflow bypass pipe that would prevent an overflow from occurring. Figures 1 thru 6 show the amount of time before an overflow would occur for varying rates of influent.

Figure 1 - DLI No.1: SSO Reaction Time Given Variable Inflow



**Note:** SMH D01-009 is the overflow point, which is lower than the rim at the wet well for DLI No.1

Figure 2 - DLI No.2: SSO Reaction Time Given Variable Inflow



**Note:** SMH D01-030 is the overflow point, which is lower than the rim at the wet well for DLI No.2

Figure 3 - Myers: SSO Reaction Time Given Variable Inflow

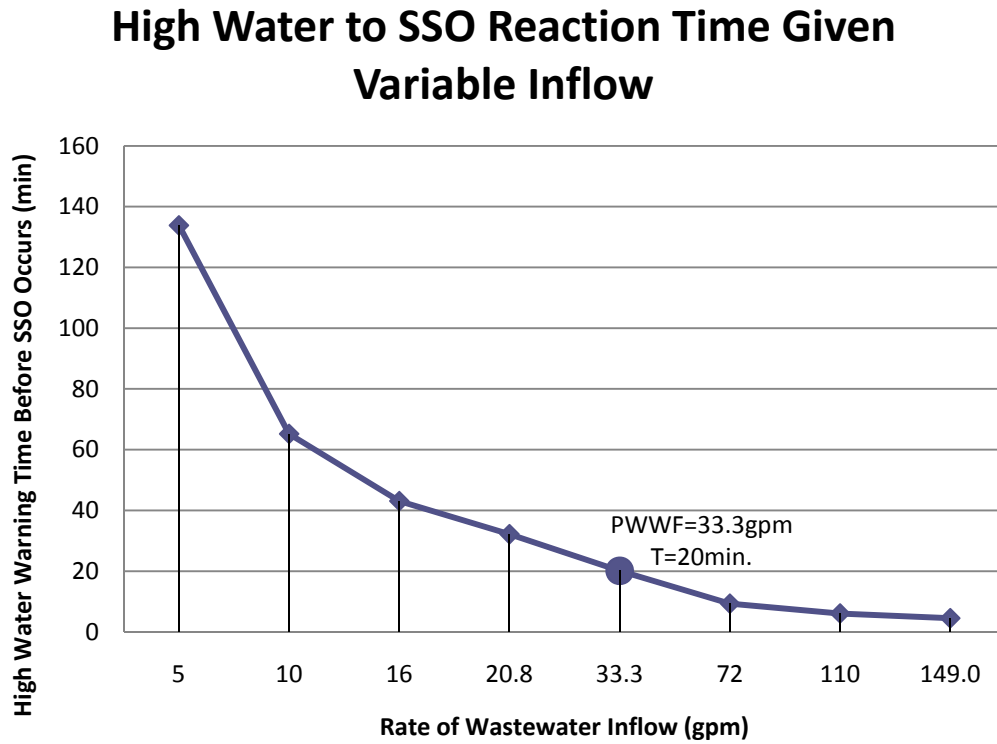


Figure 4 - Laguna Grande Park: SSO Reaction Time Given Variable Inflow

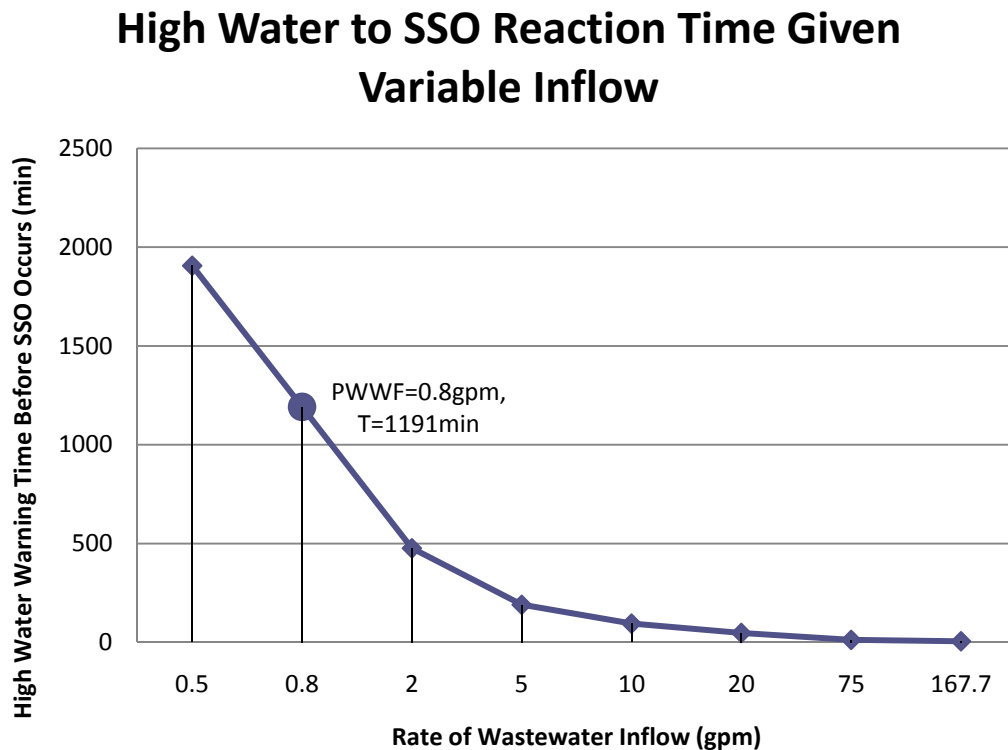


Figure 5 - Pebble: SSO Reaction Time Given Variable Inflow

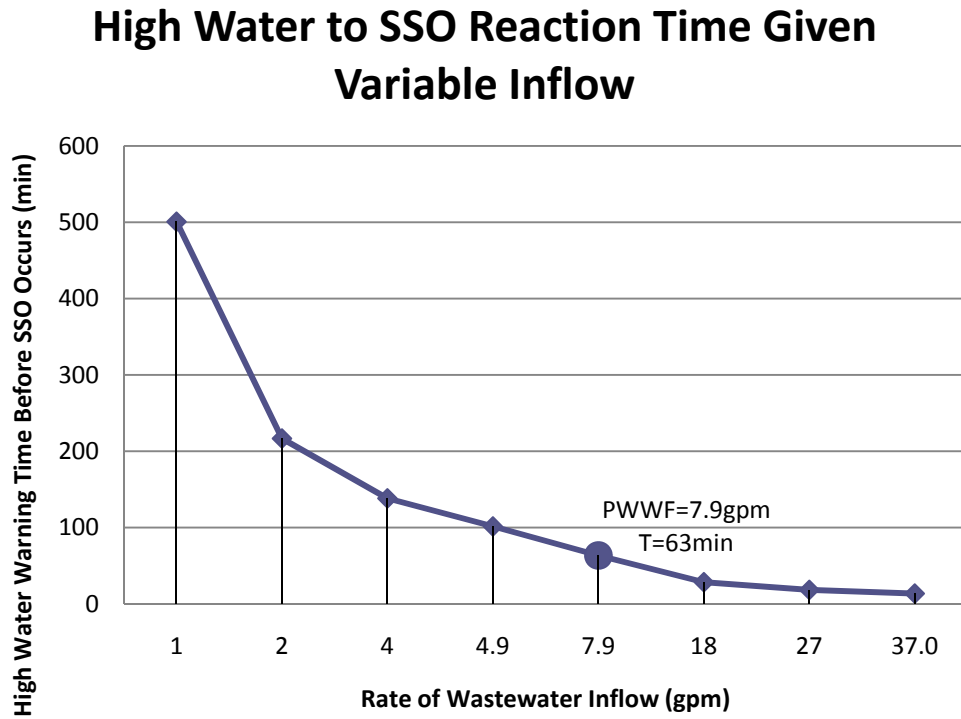
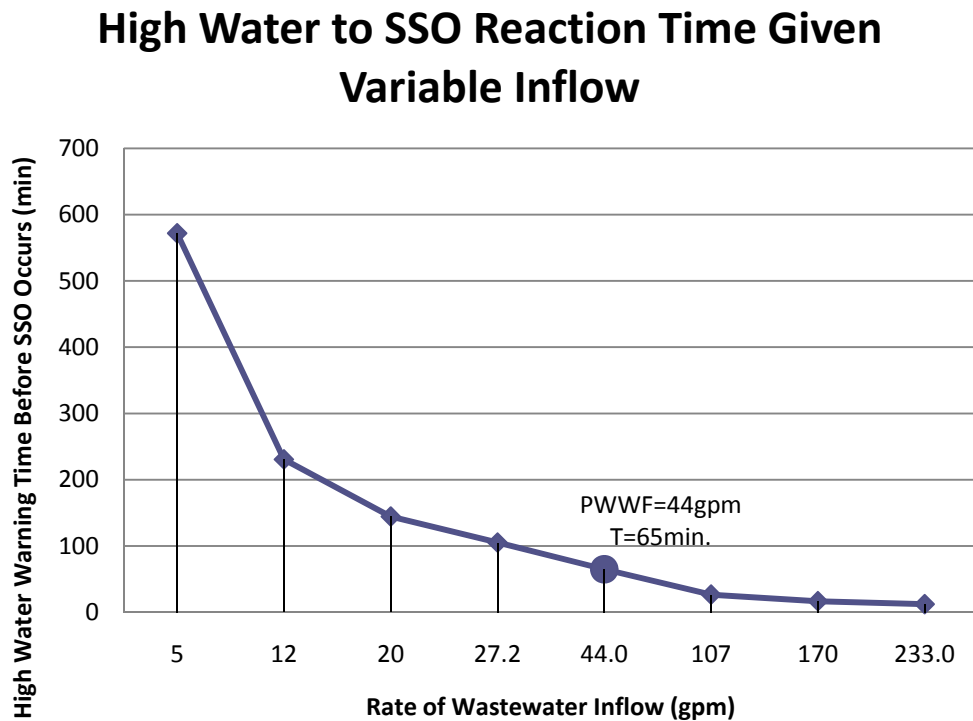


Figure 6 - 218/68: SSO Reaction Time Given Variable Inflow



**Note:** SMH H12-006 is the overflow point, which is lower than the rim at the wet well for 218/68

### 3.1.6 Pump Station Risk Assessment

Tables 4 and 5 below present a qualitative assessment of risk at each facility. This risk assessment, which is based on several factors, will be used to prioritize capital improvement projects.

**Table 4 - Pump Station Risk Assessment Category Importance Factors**

<b>Assessment Category</b>	<b>Relative Importance of Assessment Category (5-20)</b>
Service Area Risk	20
Environmental Risk	10
Flow Factor Risk	15
Wet Well Capacity Risk	5
Secondary Containment Risk	5
Pump Failure Risk	20
Power Outage Risk	10
Security Risk	5
Safety Risk	5
Maintenance Risk	5
Jurisdiction Boundary Risk	10
<b>Risk Score</b>	<b>110</b>

**Table 5 - Pump Station Risk Assessment Summary**

<b>Assessment Category</b>	<b>DLI No.1</b>	<b>DLI No.2</b>	<b>Mesa</b>	<b>Myers</b>	<b>Laguna Grande Park</b>	<b>Pebble</b>	<b>218/68</b>
<b>Service Area Risk<sup>1</sup></b>	High	High	High	High	Minimal	Minimal	High
<b>Environmental Risk<sup>2</sup></b>	Medium	Medium	High	High	High	High	Medium
<b>Flow Factor Risk<sup>3</sup></b>	Minimal	Minimal	Minimal	Minimal	Minimal	Minimal	Minimal
<b>Wet Well Capacity Risk<sup>4</sup></b>	Minimal	Minimal	Medium	Minimal	Minimal	Minimal	Minimal
<b>Secondary Containment Risk<sup>5</sup></b>	Minimal	Minimal	Minimal	Minimal	High	High	High
<b>Pump Failure Risk<sup>6</sup></b>	High	High	Medium	Minimal	High	Medium	Medium
<b>Power Outage Risk<sup>7</sup></b>	Medium	Medium	High	Medium	High	Minimal	Minimal
<b>Security Risk<sup>8</sup></b>	Minimal	Minimal	Medium	High	Medium	High	Medium
<b>Safety Risk<sup>9</sup></b>	Medium	Medium	Medium	High	Minimal	Minimal	Medium
<b>Maintenance Risk<sup>10</sup></b>	Minimal	Minimal	Minimal	Minimal	Minimal	High	Medium
<b>Jurisdiction Boundary Risk<sup>11</sup></b>	High	High	Minimal	High	Medium	Minimal	High
<b>Risk Score<sup>12</sup></b>	68	66	73	66	75	86	71
<b>Risk Ranking<sup>13</sup></b>	<b>5</b>	<b>7</b>	<b>3</b>	<b>6</b>	<b>2</b>	<b>1</b>	<b>4</b>



## Notes and Assumptions

### 1. Service Area Risk Classifications:

- *Minimal* = Services residential area only.
- *Medium* = Services residential and some small commercial facilities.
- *High* = Services large commercial facilities, hotels, hospitals, nursing homes, schools, or correctional facilities.

### 2. Environmental Risk Classifications:

- *Minimal* = An overflow would not likely reach the Pacific Ocean.
- *Medium* = An overflow would result in an overflow to a creek or drainage facility NOT directly tributary to the Monterey Bay or the Pacific Ocean.
- *High* = An overflow would result in an overflow to a creek or drainage facility directly tributary to the Monterey Bay or the Pacific Ocean.

### 3. Flow Factor Risk Classifications: A flow safety factor was determined using the result of the firm pumping station capacity that is available when only one pump is in service divided by the PWWF (See Table 1). They have been classified as follows:

- *Minimal* = Safety Factor greater than 3.
- *Medium* = Safety Factor between 2 and 3.
- *High* = Safety Factor lower than 2.

### 4. Wet Well Capacity Risk: The wet well capacity is defined as the volume of the wet well as determined by the difference in elevation from the rim elevation to the high water alarm elevation. Using this emergency capacity divided by the PWWF, the time before an overflow occurs can be approximated (See Table 3). The risk has been classified as follows:

- *Minimal* = Emergency Capacity exceeded after 60 minutes.
- *Medium* = Emergency Capacity exceeded between 30 and 60 minutes.
- *High* = Emergency Capacity exceeded in less than 30 minutes.

### 5. Secondary Containment Risk: Secondary containment provides another level of protection against SSO's. When secondary containment features were provided, the storage volume was calculated. Using the PWWF, this backup containment duration was determined. The secondary containment risk has been classified as follows:

- *Minimal* = Secondary Containment Capacity sufficient for at least 30 minutes.
- *Medium* = Secondary Containment Capacity sufficient for 10-30 minutes.
- *High* = Secondary Containment Capacity exceeded in less than 10 minutes or no secondary containment exists.

### 6. Pump Failure Risk: This risk assessment takes into consideration two questions. What is the age of the pumps vs. the estimated useful life? Does the pump station have a standby pump? The pump failure risk has been classified as follows:

- *Minimal* = Has a standby pump and the pumps have at least 20% of useful life left.
- *Medium* = No standby pump or dual pump setups have less than 20% of useful life left. Single pump has at least 50% of useful life left.
- *High* = No standby pump. Single pump has less than 50% of useful life left. Duplex installations have exceeded their useful life.

### 7. Power Outage Risk Classifications:

- *Minimal* = Has a permanent backup generator that is in good condition.
- *Medium* = Has a permanent backup generator that is in bad condition or is not sized properly to satisfy the power requirements of the lead pump. Single pump has at least 75% of useful life left.
- *High* = Has no backup generator.

8. Security Risk: This assessment takes into account security fencing, adequate lighting, generator in enclosure, controls in enclosure, and locks where applicable. The security risk has been classified as follows:

- *Minimal* = Has all of these features where applicable and all are in good condition.
- *Medium* = Either is missing one or more security features if should be applicable OR the security features are inadequate or in poor condition.
- *High* = Is both missing security features and has security features that are inadequate or in poor condition.

9. Safety Risk: This assessment takes into account station features that could potentially create unsafe conditions for operators and maintenance staff. Examples include: appropriate signage, adequate fall protection provisions, hearing protection, and adequate parking and/or space to maneuver maintenance vehicles. The safety risk has been classified as follows:

- *Minimal* = No station features create an unsafe working environment. All features are in good condition.
- *Medium* = Only two station features create an unsafe working environment.
- *High* = More than two station feature creates and unsafe working environment.

10. Maintenance Risk: This assessment takes into account environmental features that could potentially decrease the useful life of equipment. Examples are overhead tree canopies, overgrown vegetation nearby, and exposed items that are not adequately protected from corrosion. The maintenance risk has been classified as follows:

- *Minimal* = No environmental features create a maintenance risk.
- *Medium* = Only one environmental feature creates a maintenance risk.
- *High* = More than one environmental feature creates a maintenance risk.

11. Jurisdiction Boundary Risk: This assessment takes into account political impacts associated with the jurisdictional boundary. The jurisdictional boundary risk has been classified as follows:

- *Minimal* = A SSO would not likely flow into another jurisdiction.
- *Medium* = A SSO would likely flow into another jurisdiction.
- *High* = A SSO has a very high likelihood of flowing into more than one jurisdiction.

12. Risk Score: The risk score is the product of the assessment category importance and the assessment rating. Each assessment category was assigned an importance. The importance is the maximum "score" any one pump station can get for that category. The amount of points per category is determined using a ratio based on the risk assessment.

- A High risk ranking yields the lowest score, which is 1/3 of the total allowable points for that category.
- A Medium risk ranking yields 2/3 of the allowable points
- A Minimal risk ranking yields 3/3 or all of the allowable points.

Thus the higher the score means there is less risk associated with that pump station. A perfect score would be 110.

13. Risk Ranking: The results of the risk score. Rank 1 is the least risky pump station. Rank 7 is the riskiest pump station.

## 3.2 Force Mains

### 3.2.1 Hydraulics

Hydraulic calculations were performed to evaluate pipeline velocity and self-cleaning properties. In general it is desirable for velocities to be above 3ft/sec at least once per day to minimize solids accumulation in the force main. The list below summarizes the pipeline velocities based on the flow tests performed during our site visit and information retrieved from record drawings. Refer to *Appendix B – Force Main Site Visit Observations, As-Built Data, and Assessment Information* for additional force main information not shown.

Table 6 - FM Diameter, Existing Max Flow Rate, and Max Velocity

	<b>FM Diameter (in)</b>	<b>Discharge Rate (gpm)</b>	<b>Max Velocity (ft/sec)</b>
<b>DLI No.1</b>	4	222	5.7
<b>DLI No.2</b>	8	271	1.7
<b>Mesa</b>	6	114	1.3
<b>Myers</b>	6	149	1.7
<b>Laguna Grande Park</b>	4	168	4.3
<b>Pebble</b>	4	37	0.9
<b>218/68</b>	8	233	1.5

The force main velocities for DLI No.1 and Laguna Grande Park are adequate to prevent solid deposition in the pipe. In contrast, force mains for the other five pump stations are below 3ft/sec, which may cause a gradual reduction in effective pipeline diameter and hydrogen sulfide generation. Winzler & Kelly recommendations are provided in the following table.

Table 7 - Winzler & Kelly's Recommendations to Increase FM Flow Velocity

	<b>W&amp;K Recommendation to Increase Velocity</b>
<b>DLI No.1</b>	Do nothing. Existing velocity is adequate
<b>DLI No.2</b>	Modify pump control logic to run both pumps simultaneously once per day
<b>Mesa</b>	Do nothing. Force main is only 12ft long and low velocities are not a concern
<b>Myers</b>	Replace the pumps. Upsize with pumps capable of a discharge rate of 265gpm
<b>Laguna Grande Park</b>	Do nothing. Existing velocity is adequate
<b>Pebble</b>	Replace the pumps. Upsize with pumps capable of a discharge rate of 118gpm
<b>218/68</b>	Modify pump control logic to run both pumps simultaneously once per day

### 3.2.2 Force Main Service Life

The expected useful service life of a force main varies widely. It is usually a function of the pipe material, but also depends on techniques used during installation, septicity of the sewage being pumped, exposure to cyclic pressure fluctuations, and other factors. For purposes of this study, pipeline material and maintenance records were used as the basis for estimating service life. Pressure ratings for the force mains were not available for this study. Based on previous studies and manufacturers' recommendations the expected service life for the pipelines is summarized below.

- Transite 65 Years
- Cast Iron 100 Years
- PVC 100 Years

In cases where there is history of pipeline failure, the expected service life has been adjusted downward by 50%. The table below summarizes the remaining service life for each force main based on these criteria.

Table 8 - Remaining Service Life for Each Force Main

<b>Pump Station</b>	<b>Material</b>	<b>No. of Failures</b>	<b>Service Life Remaining (Years)</b>
DLI No.1	Transite	0	39
DLI No.2	Transite	1	20
Mesa	Cast Iron	0	28
Myers	Cast Iron	0	42
Laguna Grande Park	Transite	0	36
Pebble	Cast Iron	0	46
218/68	PVC	2	41

### 3.2.3 Force Main Risk Assessment

Tables 9 and 10 below present a qualitative assessment of risk for each force main. This risk assessment, which is based on several factors, will be used to prioritize capital improvement projects.

**Table 9 - Force Main Risk Assessment Category Importance Factors**

<b>Assessment Category</b>	<b>Relative Importance of Assessment Category (5-20)</b>
Service Area Risk	10
Environmental Risk	10
Flow Quantity Risk	10
Discharge Frequency Risk	5
FM Pipe Failure Risk	15
Length Risk	15
Minimum Pipe Cover Risk	15
Location/Alignment Risk	5
Past Known Failure Risk	15
Jurisdiction Boundary Risk	10
Pipe Repair Hazard Risk	10
<b>Risk Score</b>	<b>120</b>

**Table 10 - Force Main Risk Assessment Summary**

<b>Assessment Category</b>	<b>DLI No.1</b>	<b>DLI No.2</b>	<b>Mesa</b>	<b>Myers</b>	<b>Laguna Grande Park</b>	<b>Pebble</b>	<b>218/68</b>
<b>Service Area Risk<sup>1</sup></b>	High	High	High	High	Minimal	Minimal	High
<b>Environmental Risk<sup>2</sup></b>	Medium	Medium	High	High	High	High	Medium
<b>Flow Quantity Risk<sup>3</sup></b>	Medium	High	High	High	Minimal	Minimal	High
<b>Discharge Frequency Risk<sup>4</sup></b>	Medium	Minimal	High	High	High	Minimal	Minimal
<b>FM Pipe Failure Risk<sup>5</sup></b>	Minimal	Medium	High	Medium	Medium	Medium	Medium
<b>Length Risk<sup>6</sup></b>	High	High	Minimal	Medium	Minimal	Minimal	High
<b>Minimum Pipe Cover Risk<sup>7</sup></b>	Minimal	Minimal	Medium	Minimal	Medium	High	Medium
<b>Location/Alignment Risk<sup>8</sup></b>	Medium	Medium	Minimal	Minimal	High	High	Minimal
<b>Past Known Failure Risk<sup>9</sup></b>	Minimal	Medium	Minimal	Minimal	Minimal	Minimal	High
<b>Jurisdiction Boundary Risk<sup>10</sup></b>	High	High	Minimal	High	Medium	Minimal	High
<b>Pipe Repair Hazard Risk<sup>11</sup></b>	High	High	Minimal	Minimal	High	Medium	High
<b>Risk Score<sup>12</sup></b>	80	68	81	83	90	91	60
<b>Risk Ranking<sup>13</sup></b>	<b>5</b>	<b>6</b>	<b>4</b>	<b>3</b>	<b>2</b>	<b>1</b>	<b>7</b>

**Notes and**

**Assumptions:**

1. Service Area Risk Classifications:

- *Minimal* = Services residential area only.
- *Medium* = Services residential and some small commercial facilities.
- *High* = Services large commercial facilities, hotels, hospitals, nursing homes, schools, or correctional facilities.

2. Environmental Risk Classifications:

- *Minimal* = An overflow would not likely reach the Pacific Ocean.
- *Medium* = An overflow would result in an overflow to a creek or drainage facility NOT directly tributary to the Monterey Bay or the Pacific Ocean.
- *High* = An overflow would result in an overflow to a creek or drainage facility directly tributary to the Monterey Bay or the Pacific Ocean.

3. Flow Quantity Risk: The flow based risk factor was determined using the PWWF coming into each pump station. If there was a force main failure, then higher inflow would result in more wastewater being discharged to the surrounding environment. They have been classified as follows:

- *Minimal* = PWWF < 10gpm.
- *Medium* = 10gpm < PWWF < 30gpm.
- *High* = PWWF > 30gpm.

4. Discharge Frequency Risk: A pump that discharges more frequently results in a discharge force main conveying wastewater flows more frequently. During a force main failure more pump starts would give response crews less time to mitigate the problem before the wastewater is discharged. The risk has been classified as follows:

- *Minimal* = Pump cycle time greater than 30 minutes.
- *Medium* = Pump cycle time between 30 and 15 minutes.
- *High* = Pump cycle time less than 15 minutes.

5. FM Pipe Failure Risk: The force main (FM) pipe will be more likely to fail if it has exceeded the estimated service life of the pipe material. The FM failure risk has been classified as follows:

- *Minimal* = Has at least 60% of the service life remaining.
- *Medium* = Has between 60% and 30% of the service life remaining.
- *High* = Has less than 30% of service life remaining.

6. Length Risk: The longer the FM the higher the probability of failure. The force main failure risk has been classified as follows:

- *Minimal* = The force main is shorter than 200ft.
- *Medium* = The force main is between 200ft and 1000ft in length.
- *High* = The force main is greater than 1000ft in length.

7. Minimum Pipe Cover Risk Classifications:

- *Minimal* = Cover is greater than 3ft.
- *Medium* = Cover is less than 3ft.
- *High* = Cover is less than 1ft.

8. Location/Alignment Risk Classification:

- *Minimal* = FM is located under a paved surface with no trees nearby.
- *Medium* = FM is located under a paved surface for the majority of the alignment and has trees nearby.
- *High* = Is not located under a paved roadway for the majority of the alignment and comes in close proximity to trees, thereby exposing it to potential root damage.

9. Past Known Failure Risk Classification:

- *Minimal* = No past known failures or necessary repairs.
- *Medium* = Has only one known past known failure or necessary repair.
- *High* = More than one known past failure or necessary repairs.

10. Jurisdiction Boundary Risk Classification: This assessment takes into account political impacts associated with respect to a jurisdictional boundary. The jurisdictional boundary risk has been classified as follows

- *Minimal* = A SSO would not likely flow into another jurisdiction.



- *Medium* = A SSO would likely flow into another jurisdiction.
- *High* = A SSO has a very high likelihood of flowing into more than one jurisdiction.

11. Pipe Repair Hazard Risk Classification:

- *Minimal* = The pipe material presents no environmental or health risks.
- *Medium* = The pipe material presents either an environmental or health risk.
- *High* = The pipe material presents both an environmental and health risk.

12. Risk Score: The risk score is the product of the assessment category importance and the assessment rating. Each assessment category was assigned an importance. The importance is the maximum "score" any one force main can get for that category. The amount of points per category is determined using a ratio based on the risk assessment. A High risk ranking yields the lowest score, which is 1/3 of the total allowable points for that category. Similarly, a Medium risk ranking yields 2/3 of the allowable points and the Minimal risk ranking yields 3/3 or all of the allowable points. Thus the higher the score means there is less risk associated with that force main. A perfect score would be 120.

13. Risk Ranking: The results of the risk score. Rank 1 is the least risky force main. Rank 7 is the riskiest force main.

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Appendix A  
Pump Station Site Visit Observations, As-Built  
Data, and Assessment Information

	DLI No.1	DLI No.2	Mesa	Myers	Laguna Grande Park	Pebble	218/68
<b>General Information</b>							
<b>Pump Station Address</b>	Halleck Rd, Monterey, CA 93944	Mason Rd, Monterey, CA 93944	913 Mesa Rd, Monterey, CA 93940	Myers St & Del Monte Blvd, Monterey, CA 93940	422 Virgin St, Monterey, CA 93940 (Across the street)	998 Madison St, Monterey, CA 93940	425 Canyon Del Rey Boulevard, Del Rey Oaks, CA 93940 (Across Street)
<b>Latitude</b>	36°36'1.58"N	36°36'8.84"N	36°35'41.70"N	36°36'20.65"N	36°36'8.34"N	36°35'58.02"N	36°34'52.97"N
<b>Longitude</b>	121°55'36.04"W	121°55'9.68"W	121°53'19.55"W	121°51'32.16"W	121°51'21.51"W	121°54'17.50"W	121°49'39.03"W
<b>Year Built</b>	1984	1984	1938	1952	1981	1956	1992
<b>Pump Station Configuration</b>	Dry Well / Wet Well	Dry Well / Wet Well	Dry Well / Wet Well	Wet Well Only	Wet Well Only	Dry Well <sup>2</sup> / Wet Well	Dry Well / Wet Well
<b>Type of Flows Serviced</b>	Classroom	Classroom / Food Service	Hotel / Commercial	Hotel / Commercial	Park Restroom	Single Family Residential	Industrial / Commercial

### Pump Information

<b>No. of Pumps</b>	2	2	1	2	2	1	2
<b>Pump Manufacturer</b>	Smith and Loveless	Smith and Loveless	Flygt	Flygt	Flygt	Unknown	Smith & Loveless
<b>Type of Pumps</b>	Centrifugal	Centrifugal	Dry Pit Submersible	Submersible	Submersible	Submersible	Centrifugal
<b>Pump Impellar Type</b>	-	-	Type N - Semi-open self-cleaning impeller	-	Type C - Shrouded Single or Multi-channel Impellers	-	-
<b>Type of Installation</b>	Permanent, Dry - Dry well/dry pit	Permanent, Dry - Dry well/dry pit	Permanent, Dry - Dry well/dry pit	Semi Permanent, Wet - Installed on twin guide rails	Semi Permanent, Wet - Installed on twin guide rails	Semi Permanent, Wet - No guide rails	Permanent, Dry - Dry well/dry pit
<b>Pump Serial Number</b>	08.8147	08.8149	3102.090-0440044	-	CP-3085	-	-
<b>Year Pump(s) were Installed / Replaced</b>	1984	1984	2004	1995	1999	2006	1992
<b>Approximate Useful life of Pump(s)</b>	20	20	20	20	20	20	20
<b>% of Useful Life Remaining</b>	-30%	-30%	70%	25%	45%	80%	10%
<b>Power Rating (Horsepower)</b>	Unknown <sup>9</sup>	Unknown <sup>9</sup>	3.7	Unknown <sup>10</sup>	3	Unknown <sup>9, 10</sup>	60
<b>Duty Rating (ft of head / GPM)</b>	57' of Head / 260gpm	101.5' of Head / ___ gpm	35.9' of Head / 100gpm	Unknown	Unknown	Unknown	Unknown
<b>Pump Suction Inlet Dia (in)</b>	6	10			3		4
<b>Suction Piping Dia (in)</b>	4	6	4	NA	NA	NA	6
<b>Station Base Elevation (ft)</b>	400.0	440.0	31.0	1.0	8.0	178.9	98.8
<b>Discharge Pipe Dia. (in)</b>	4	8	6	6	4	4	8
<b>Pump Power Requirements (W)</b>	Unknown <sup>9</sup>	Unknown <sup>9</sup>	2800	Unknown <sup>10</sup>	2200	Unknown <sup>9, 10</sup>	Unknown <sup>9</sup>

### Wet Well Information

<b>Inside Dia. or Dimensions (ft)</b>	6	6	4x4	4	6	4	6
<b>Unit Volume (Cu. Ft/Ft)</b>	28.3	28.3	16.0	12.6	28.3	12.6	28.3
<b>Unit Volume (Gal./Ft)</b>	211.8	211.8	119.7	94.1	211.8	94.1	211.8
<b>Lowest Rim Elevation (ft)</b>	415.5	455.5	40.5	13.9	14.0	188.8	120.0
<b>Base Elevation (ft)</b>	397.0	432.0	31.0	1.0	8.0	178.9	99.5
<b>Lead Pump Start (ft)</b>	402.0	441.0	33.8	4.9	9.0	182.8	105.92
<b>Lead Pump Stop (ft)</b>	399.0	434.0	32.0	2.3	8.25	179.3	101.00
<b>Follow Pump Start (ft)</b>	402.5	442.0	NA	5.5	?	NA	106.25
<b>Follow Pump Stop (ft)</b>	399.5	435.0	NA	2.3	?	NA	100.75
<b>High Water Alarm Level (ft)</b>	403.0	442.5	NA -- Gravity Overflow	6.8	9.5	183.5	106.50
<b>Inlet Pipe 1 - Dia. (in)</b>	8	8	6	8	4	4	8
<b>Inlet Pipe 1 - Invert EL (ft)</b>	408.98	444.78	33.83	5.06	11.50	182.80	106.25
<b>Inlet Pipe 2 - Dia. (in)</b>	8	NA	6	NA	NA	6	1.25" from sump pump
<b>Inlet Pipe 2 - Invert EL (ft)</b>	410.05	NA	34	NA	NA	183.5	119
<b>Wet Well Containment (Gal)<sup>7</sup></b>	2,647	2,753	NA -- Gravity Overflow	669	953	501	2,859
<b>Wet Well Working Volume (Gal)</b>	635	1,483	215	245	159	329	1,042

	DLI No.1	DLI No.2	Mesa	Myers	Laguna Grande Park	Pebble	218/68
<b>Pump Field Test Information</b>							
Test Date	8/10/2010	8/10/2010	8/10/2010	8/10/2010	8/10/2010	8/10/2010	8/10/2010
Approximate Test Time	7:45am	9:00am	10:00am	10:30am	11:00am	11:45am	12:30am
Run Up Duration (Min)	21	19	16	3	NA	NA	NA
Run up water EL rise (ft)	1.0	1.3	1.9	1.5	NA	NA	NA
Run Up Rate (GPM)	10	15	14	45	NOT TESTED <sup>3</sup>	NOT TESTED <sup>3</sup>	NOT TESTED <sup>3</sup>
Drawdown Duration (Min)	1	2	1	2	2	7	4
Drawdown water EL change (ft)	1.0	2.4	0.8	2.2	1.6	2.8	4.4
Drawdown Rate (GPM)	222	271	114	149	168	37	233

### Pump Station Site Assessment

Did it have security fencing?	Yes	Yes	No	Yes	No	No	Yes
Fence Condition (Poor, Avg, Good)	Good	Good	NA	Poor	NA	NA	Good
Type of Gate Access	Double Door Swing	Double Door Swing	NA	Single Door Swing	NA	NA	Single Door Swing <sup>4</sup>
Can a vehicle enter the gated area?	No. Containment Curb	No. Containment Curb	NA	NA. Enclosure too small	NA	NA	Yes
Waste vacuume truck access	Average	Poor	Good	Good	Average	Good	Average <sup>5</sup>
Sufficient Safe Parking Space	Good	Good	Poor	Good	Good	Good	Poor
Type of Site Lighting	Single Pole Mounted	Single Pole Mounted	On Bldgs across the Street	From Bldg Store Sign and Street lights in median	Exterior light mounted to bathroom bldg wall	None	Street light 170ft away
Site Lightning (Poor, Avg, Good)	Good	Good	Poor	Average	Average	Poor	Poor
Wastewater Containment? <sup>8</sup>	Yes	Yes	6" Gravity Overflow Pipe <sup>1</sup>	No	No	No	No <sup>6</sup>
Approx. Containment Volume (Gal)	6,284	4,294	See Note 1	NA	NA	NA	NA
Fuel Containment Volume	250	250	NA	NA	NA	49	NA
Dry Well (Poor, Avg, Good)	Avg (Spot Repair Coatings)	Poor	Avg (Spot Repair Coatings)	Avg (Spot Repair Coatings)	Avg (Spot Repair Coatings)	Avg (Spot Repair Coatings)	Avg (Spot Repair Coatings)
Wet Well (Poor, Avg, Good)	Poor	Poor	Poor	Poor	Poor	Poor	Poor
Valves (Poor, Avg, Good)	Good	Good	Good	Good	Good	Good	Good
Force Main Connection for Pump Bypass?	No	No	No	No	No	No	Yes
Instrumentation <sup>2</sup>	FM, Level XMTR, PG	FM, PG	FM, PG	FM, PG	FM, PG, B, Level XMTR	FM, PG, Level XMTR	FM, PG
SCADA System (Poor, Avg, Good)	Good	Good	Good	Good	Average	Good	Good
Fuel System (Poor, Avg, Good)	Good	Good	NA	Poor	NA	Good	Good
Electrical Gear (Poor, Avg, Good)	Good	Good	Good	Poor	Good	Good	Poor
Safety Equipment (Poor, Avg, Good)	Average	Average	Poor	Poor	Average	Average	Average
Safety Signs & Stickers (Poor, Avg, Good)	Poor	Average	NA	Average	NA	Average	Average

### Backup Generator General and Assessment Information

Backup Power Supply Type / Condition	Diesel Generator / Avg	Diesel Generator / Avg	None / NA	Natural Gas Generator / Poor	None / NA	Diesel Generator / Good	Diesel Generator / Good
Approx. Age of Generator (Years)	26	26	NA	27	NA	7	18
Make	Newage Stamford	Newage Stamford	NA	Cummins Onan	NA	Airman PowerPro25	Kohler
Model Number	SC334AS	SC334AS	NA	-	NA	SDG25S	80REOZJ
Serial Number	J917973	J917973	NA	A830647113	NA	1236A70653	284966
Portable Generator Connection Point?	Yes	Yes	No	Yes	No	Yes	Yes
Backup Power Supply Rating (kW)	100	100	NA	13	NA	14	80
Minimum Required Gen-Set Rating (kW) <sup>12</sup>	8	42	1	4	1	4	68
Are the (E) Generators Adequately Sized?	Yes	Yes	NA	Yes	NA	Yes	Yes
Approximate Useful life of Generator	20	20	NA	20	NA	20	20
Remaining Useful Life (Years)	-6	-6	NA	-7	NA	13	2

**Notes and Assumptions:**

1. This gravity overflow pipe should be able to convey 150gpm, which is based on a 6" pipe sloped at 0.5% flowing full
2. The missing components are noted in this table. *Abbreviations:* B = Bubbler, FM = Flow Meter, PG = Pressure Gauge, Level XMTR = Level Transmitter.
3. The inflow was not great enough to allow a wet well run up field test to be conducted in a timely manner.
4. This gate is too close to the state right-of-way. Also, the gate rubs the pavement because it swings the same direction as the increasing pavement grade. This gate is a safety issue.
5. The hammerhead configuration is not adequate to properly facilitate large vehicle movements.
6. This pump station was designed to handle a major future development that was not approved by the voters. This pump station is oversized, which provides additional protection from SSO's.
7. Volume is determined using the difference in elevation from the high water alarm level to the rim elevation. If the inflow rate is known, an allowable response time can be determined.
8. This refers to containment features that are above grade such as continuous concrete curbs, berms, etc.
9. Winzler & Kelly contacted the Smith and Loveless customer representative via email and phone more than four times and was unable to get any help
10. Winzler & Kelly contacted the local Flygt Pump sales representative and they did not have any information on these installations.
11. Winzler & Kelly was unable to determine because the pump power requirement is unknown. The manufacturers did not have the information.
12. This is the minimum power requirement needed to power a pump that is adequately sized to produce a minimum discharge velocity of 3ft/sec in the existing force main. The DLI No.1 and Laguna Grande Park pumps are adequately sized.

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Appendix B  
Force Main Site Visit Observations, As-Built  
Data, and Assessment Information



	<b>DLI No.1</b>	<b>DLI No.2</b>	<b>Mesa</b>	<b>Myers</b>	<b>Laguna Grande Park</b>	<b>Pebble</b>	<b>218/68</b>
<b>General Information</b>							
<b>Approximate Location Where the FM Ends</b>	Halleck Rd, Monterey, CA 93944	Mason Rd, Monterey, CA 93944	913 Mesa Rd, Monterey, CA 93940	English Ave & Del Monte Ave, Monterey, CA 93940	416 Virgin St, Monterey, CA 93940	998 Madison St, Monterey, CA 93940	2856 Salinas Hwy, Monterey, CA
<b>Latitude at End Point</b>	36°36'4.61"N	36°36'14.15"N	36°35'41.84"N	36°36'16.91"N	36°36'9.01"N	36°35'59.84"N	36°34'55.39"N
<b>Longitude at End Point</b>	121°55'21.42"W	121°55'0.91"W	121°53'19.61"W	121°51'38.37"W	121°51'23.60"W	121°54'16.81"W	121°50'30.28"W
<b>Year Built</b>	1984	1984	1938	1952	1981	1956	1992
<b>Description of Pipe Location</b>	In the traveled way of Halleck Rd, which is paved and tree lined	In the traveled way of Mason Rd, which is paved and tree lined.	In the traveled way of Mesa Rd adjacent to Fremont St.	In the traveled way of Del Monte Ave westbound lane	Through a City park adjacent to 4 very mature trees	Up a residential street then up a steep hill adjacent to mature trees and brush. Pipe is partially exposed.	Along northern EP of Highway 68

**Force Main Information**

<b>Material</b>	Transite	Transite	Cast Iron	Cast Iron	Transite	Cast Iron	PVC C900 CL150
<b>Nominal Diameter (in)</b>	4	8	6	6	4	4	8
<b>Minimum Pipe Cover (ft)<sup>2</sup></b>	4	4	2.5	3	2	0	2.5
<b>Approx. Length (LF)</b>	1590	1010	12	630	183	195	4557
<b>Change in EL. Over Length of FM (ft)</b>	47	83	0	8	7	32	132
<b>Change in EL. from Pump Discharge to FM (ft)</b>	13	18	5.5	6.5	2.8	4.5	16.8
<b>Total Static Lift (ft)</b>	60	101	6	15	10	36	149
<b>Estimated Discharge Velocity per Tests (fps)<sup>3</sup></b>	5.66	1.73	1.29	1.69	4.27	0.94	1.48
<b>Average Service Life of Pipe Material (Years)</b>	65	65	100	100	65	100	100
<b>Estimated Service Life Remaining (Years)</b>	39	19.5	28	42	36	46	41
<b>Percent of Service Life Remaining</b>	60%	30%	28%	42%	55%	46%	41%

**Failure History**

<b>No. of Failures Reported</b>	0	1	0	0	0	0	2
<b>Type of Failure</b>		FM Cracked in 2000, which undermined the pump station foundation					The FM was damaged during construction because of insufficient cover

**Notes and Assumptions:**

1. The cover requirement was not detailed in the original construction drawings, but the top of pipe is shown at the original ground elevation as runs up the hillside. The pipe is exposed for at least 20ft.
2. The cover is assumed to be the distance from the top of pipe to the finished grade elevation whether it be pavement or landscaping
3.  $V=Q/A$ , where  $V$ =Velocity  $Q$ =Pump Discharge Rate  $A$ =Area of Pipe

## **Appendix 20: SSMP Update Log**

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## SSMP Update Log

Date	DOCUMENT or ELEMENT	Action	Notes
Nov. 2005	City SSMP	Updated SSMP	City under WDR Order No. R3-2002-0078 at this time; submitted with Annual Report to RWQCB January 30, 2006.
Jan. 2008	City SSMP	Updated SSMP	Revised SSMP. First revision identified after approval of SWRCB Order No. 2006-0003-DWQ (May 2006).
March 2013	City SSMP	Updated SSMP	City Council Resolution No. 13-034 adopts updated SSMP.
April 2018	City SSMP	Updated SSMP	City Council adoption proposed for April 2018.
December 2018	SSMP Element 4	Finalize O&M SOPs	SOP's added to Appendix 21: <ol style="list-style-type: none"> <li>1. Preventative Maintenance Program</li> <li>2. Collection System Cleaning</li> <li>3. GIS Mapping &amp; Sewer Mapbook Updates</li> <li>4. Underground Service Alert (USA) Marking</li> <li>5. Collection System CCTV</li> <li>6. Sewer Connection Request</li> <li>7. Routine Traffic and Crowd Control</li> <li>8. Costumer Contact Reporting</li> <li>9. Training Requirement and Staff Assessments</li> <li>10. WDR Tracking and Training</li> </ol>
Dec 2018- March 2018	SSMP Element 4	Training	Training to SOPs 1. – 8. (various dates)
May 2019	OERP Element 6	Incorporate Biological Remediation Protocols	Incorporated Biological Remediation Protocols to end of attachment 15.

# Appendix 21: Standard Operating Procedures (SOPs)

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## **SOP #1: Preventative Maintenance Program**

### **1. Health and Safety Warnings**

1. All O&M activities must be conducted in a safe and efficient manner that protects City Staff, the City's contractors, and the public.
2. Employees are required to follow the City's or contractor's safety practices and procedures, whichever is more stringent. These procedures must establish guidelines in compliance with the:
  - a. Occupational Health and Safety Administration (OSHA);
  - b. California Division of Occupational Safety and Health (Cal/OSHA);
  - c. City of Monterey's Illness and Injury Prevention Program (IIPP); and
  - d. City of Monterey requirements and standards.
3. Multiple hazards exist in the performance of preventative O&M activities. The following are some of the more common hazards to be aware of:
  - a. Traffic in the vicinity of O&M activities
  - b. Distracted drivers
  - c. Members of the public interested in O&M activities
  - d. Slips, trips, and falls
  - e. Falling objects
  - f. Infections and disease
  - g. Poisonous/toxic gases
  - h. Strains and back injuries
  - i. Bites (insects, bugs, rodents, etc.)
  - j. Drowning
  - k. Fire
  - l. Electric Shock
  - m. Noise
  - n. Weather conditions

### **2. Cautions**

1. Equipment must be used as directed by City SOPs and manufacturers' instructions.
2. All O&M activities must be thoroughly documented to provide evidence that the activities were completed.

### **3. Personnel Qualifications and Responsibilities**

1. Streets and Utilities Manager
  - a. Responsible for monitoring the implementation of this SOP.
  - b. Responsible for ensuring that all City Staff and contractors responsible for O&M activities are trained on this SOP.
2. Streets and Utilities Supervisor
  - a. Responsible for the implementation of this SOP.
  - b. Responsible for training City Staff responsible for implementing O&M activities on this SOP.
  - c. Responsible for revising this procedure if deficiencies are found or program changes occur.

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- d. Required to train on this SOP.
- 3. Field Staff
  - a. Required to train on this SOP.

#### 4. Equipment and Supplies

- 1. Personal Protective Equipment (PPE):
  - a. All PPE listed in SOPs #1-9 necessary for O&M Training and should be readily available.
- 2. Equipment:
  - a. All equipment listed in SOPs #1-9 necessary for O&M Training and should be readily available.
- 3. Manual on Uniform Traffic Control Devices (MUTCD) Traffic Control Handbook
- 4. City's SOPs
- 5. Cell Phone
- 6. Pen

#### 5. Procedure

The guiding documents in the City's Preventative Maintenance Program consist of the activities outlined in the following ten (10) SOPs:

- 1. SS-SOP-01: Preventative Maintenance Program
- 2. SS-SOP-02: Annual Sewer Collection System Cleaning and Hotlist Maintenance Area Cleaning and Reporting
- 3. SS-SOP-03: GIS Mapping and Sewer Atlas Updates
- 4. SS-SOP-04: Underground Service Alert: USA Marking
- 5. SS-SOP-05: CCTV Inspection
- 6. SS-SOP-06: Sewer Connection Requests
- 7. SS-SOP-07: Routine Traffic and Crowd Control
- 8. SS-SOP-08: Customer Contact and Complaints
- 9. SS-SOP-09: Collection System Training Requirements
- 10. SS-SOP-10: GWDR & SSMP Tracking and Training

### Operations and Maintenance

Procedures #1 - 9 give direction for actions required during O&M activities. City Staff are required to train on, review, and revise these procedures regularly in order to ensure Staff has a thorough understanding of these SOPs and that they are applicable to preventative O&M of the City's collection system.

O&M activities are grouped into three categories:

- 1. Routine Preventative Maintenance
- 2. Unscheduled Preventative Maintenance
- 3. Emergency Maintenance



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Each of these categories is discussed below. Specific SOPs are referenced in *italics* as a reference for each activity.

### **Routine Preventative Maintenance**

The City's routine preventative maintenance consists of recurring maintenance that City Staff regularly plans for and schedules.

The City uses internal staff to complete collection system CCTV inspections, line cleaning, and manhole inspections. The City has a goal to clean the entire gravity collection system semi-annually. Hotlist areas are cleaned on a weekly and monthly schedule based on observed conditions in the field and historic problems in the system. Manhole inspections are conducted in conjunction with scheduled and hotlist line cleaning activities.

Associated SOP:            *SS-SOP-02: Annual Collection System Cleaning, Hotlist Area Cleaning and Reporting*

USA marking requests are received by the Streets and Utilities Department, and Staff adds the USA marking request to their daily work duties and schedules.

Associated SOP:            *SS-SOP-04: Underground Service Alert (USA) Marking*

Some O&M activities are completed on a sidewalk, easement or in a public road, which requires the site to be cordoned off from the public. City Staff is responsible for traffic and crowd control but can request assistance from the Police and or Fire Department if there is a large event and additional staffing support is needed.

Associated SOPs:            *SS-SOP-07: Routine Traffic and Crowd Control*

Public and private improvements to portions of the sewer system are installed, rehabilitated or replaced. City staff is responsible for documenting these changes and channeling them to the City's GIS department for regular update of sewer maps and GIS.

Associated SOP:            *SS-SOP-03: Maps and Geographic Information System (GIS) Updates*

City Staff are required to annually train on the SOPs associated with the tasks they complete for the City. The Streets and Utilities Manager, Streets and Utilities Supervisor and supporting Maintenance Staff are responsible for reviewing the SOPs annually and evaluating whether the SOPs are effective or if any revisions or updates are needed to

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improve the ease and adequacy of their implementation. Staff assessments are conducted during annual training, on the job and during annual performance evaluations to help assure they have the proper skill sets to safely and effectively perform tasks in accordance with their job descriptions and field responsibilities.

Associated SOP: *SS-SOP-09: Collection System Training Requirements and Staff Assessments*

Sewer connection requests are generated through a City pre-permit site review and inspection process for new construction, remodel, or when a sewer lateral is replaced. City Building Department: Permits and Inspection staff receives and processes the sewer connection requests, the City Building Plans Examiner/Inspector approves the sewer connection request and issues a permit. The contractor requesting the sewer connection permit constructs the sewer connection. The sewer connection must be inspected by the City's Building Inspector prior to backfill.

Associated SOPs: *SS-SOP-06: Sewer Connection Requests*

CCTV Inspections are conducted by City staff to assist the City in the following capacities:

- a) To identify the condition of sewer pipes and manholes throughout the City system as part of an overall sewer system condition assessment that may be utilized for future CIP and Rehabilitation and Replacement Projects. CCTV,
- b) To assess sewer line cleaning activities,
- c) To determine the cause of a SSO or to investigate conditions observed in the field identified as problematic by maintenance staff,
- d) To assist in location of sewer assets such as sewer laterals and manholes.

Associated SOPs: *SS-SOP-05: CCTV Inspections*

Customer Contact and Complaints are routinely handled by City Streets and Utilities staff. These interactions should be documented through the use of a City Customer Contact Report. Contact Reports are used to document contact with the public for sewer related issues and to assist in the collection of data when a member of the public makes contact with City staff regarding a sewer complaint, general sewer inquiry or to collect initial data for a call related to a Sanitary Sewer Overflow (SSO). Additional fields are also available on this form to document public contact for other City related issues.

Associated SOPs: *SS-SOP-08: Customer Contact and Complaints*

## **Unscheduled Preventative Maintenance**

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The City's unscheduled preventative maintenance consists of maintenance activities, which are not anticipated as routine or scheduled by City Staff. Unscheduled preventative maintenance can consist of activities such as; point repairs, structural maintenance or emergency collection system cleaning.

- Associated SOPs:
- SS-SOP-02: Annual Collection System Cleaning, Hotlist Cleaning and Reporting*
  - SS-SOP-03: Maps and Geographic Information System (GIS) Updates*
  - SS-SOP-04: Underground Service Alert (USA) Marking*
  - SS-SOP-05: CCTV Inspections*
  - SS-SOP-07: Routine Traffic and Crowd Control*

## **Emergency Maintenance**

Emergency maintenance is performed unexpectedly and immediately. When an emergency situation occurs, the Streets and Utilities Supervisor, Maintenance Staff or first responder informs the City Streets and Utilities Manager of the situation and proceeds with corrective actions to address the emergency. Corrective actions could include activities, such as line or critical part replacements. If the emergency is a SSO, reference the City's Overflow Emergency Response Plan (OERP) and emergency operating procedures (EOPs), which are included in the City's SSMP, Element 6: Overflow Emergency Response Plan.

- Associated SOPs:
- SS-SOP-02: Annual Collection System Cleaning, Hotlist Cleaning and Reporting*
  - SS-SOP-04: Underground Service Alert (USA) Marking*
  - SS-SOP-07: Routine Traffic and Crowd Control*

The City maintains an inventory of critical and replacement parts, but if the City does not have a comprehensive inventory of parts or equipment in the event of emergency, local retailers and contractors are available to supply additional, needed equipment, services and parts on short notice. These vendors and contractors can be contacted using the following information:

### Lift Station Parts and Service

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Monterey One Water (M1W) - *Formally Monterey Regional Pollution Control Agency (MRWPCA):*

*Contracted for Lift Station Operation and Maintenance with the City of Monterey*

5 Harris Court, Building D

Monterey, CA 93940

(831) 372-3367

(831) 422-1001

Sewer Parts and Equipment

Ferguson (Plumbing Supply):

*Services - Pipe, Valve, Fittings and miscellaneous plumbing supplier*

666 Redwood Avenue

Sand City, CA 93955

(831) 899-4500

Rain for Rent:

*Services – Sewer Bypass Pump Rental*

469 El Camino Real

Salinas, CA 93908

(831) 422-7813

Grainger Industrial Supply:

*Services – Plumbing Supplies, Tools, Equipment*

1334 Dayton Street

Salinas, CA 93901

(831) 757-0991

WECO Industries

*Services – Jetter and VacCon Supplies, CCTV Equipment, Rodding Supplies, Manhole Parts, Sewer Plugs, Miscellaneous Sewer Parts & Equipment*

4971 Allison Parkway, Suite A

Vacaville, CA 95688

(800) 677-6661

Envirosight

111 Canfield Ave., Unit B3

Randolf, NJ 07869

(973)252-1176

Owen Equipment

*VacCon Supplies and Parts*

1085 Horizon Drive

Fairfield, CA 94533

(510) 612-5572

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### Emergency Equipment and Service

Don Chapin Company:  
*Services – Pumper Trucks, Emergency Services*  
560 Crazy Horse Canyon Road  
Salinas, CA 93907  
(831) 449-4273

Green Line Liquid Waste Haulers  
Salinas, CA  
(831)422-2298

### Mutual Aid Agreements

Seaside County Sanitation District:  
*Services - The City of Monterey has a verbal agreement with the Seaside County Sanitation District to assist with personnel and equipment in the event of an emergency.*  
Business Hours Contact: (831) 899-6700  
After Hours: (831) 394-6811

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## **SOP #2: Collection System Cleaning**

### **1. Cautions**

1. Prior to leaving shop, inspect equipment using a systematic approach.
2. Verify that equipment is in good operating condition.
3. Verify Mapping of area to be cleaned.
4. Note any special instructions for use of low pressure, roots present, surcharging or blowback to reduce risk of damaging property or equipment.
5. Constantly verify water level in tanks, never run pump dry as damage to pump will occur.
6. Limit the contents of the debris tank in order to stay within the Gross Vehicle Weight Rating as listed on vehicle. Limit the amount of water stored on the vehicle when transporting a full tank of debris. Drain the debris tank of excess water before traveling to the dump or other work site.

### **2. Personnel Qualifications and Responsibilities**

1. Streets and Utilities Manager
  - a. Responsible for monitoring the implementation of this SOP.
  - b. Responsible for ensuring that all City Staff responsible for collection system cleaning are adequately trained on this SOP
  - c. Responsible for reviewing and approving updates and revisions to this SOP.
2. Streets and Utilities Supervisor
  - a. Responsible for the implementation of this SOP.
  - b. Responsible for training City Staff responsible for implementing collection system cleaning on this SOP.
  - c. Responsible for revising this procedure if deficiencies are found or program changes occur.
  - d. Required to train on this SOP
3. Streets and Utilities Workers
  - a. Required to train on this SOP

### **3. Equipment and Supplies**

1. Personnel – two crew members
2. Personal Protective Equipment (PPE):
  - a. Gloves
  - b. Steel Toe Safety Shoes
  - c. Respiratory Protection
  - d. Rubber Boots
  - e. Safety Glasses
  - f. Hearing Protection
  - g. Flashlights



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- h. Safety Vest
  - i. Gas Detector
  - j. Hard Hat
3. Equipment:
- a. VacCon Truck
  - b. Tiger Tail
  - c. Cleaning Nozzles
  - d. Grease Gun
  - e. Debris Catcher – clam shovel
  - f. 5 Gallon Bucket
  - g. Hydrant Key
  - h. Manhole Pick
  - i. Sledge Hammer
  - j. Orange Cones and Delineators
  - k. Handheld Traffic Signs
  - l. Signage, such as “Work Ahead” and “Road Closed
  - m. Sewer and Storm Drain Map Books
  - n. Pen
  - o. Cel phone

#### 4. Procedure

City Streets and Utilities staff are responsible for; collection system cleaning and manhole inspections. The entire gravity collection system is cleaned semi-annually (2 times per year). Hotlist areas are inspected and cleaned weekly or specified intervals depending on their classification. Routine manhole inspections are conducted in conjunction with line cleaning activities. All collection system cleaning activities are documented in the City’s Hansen Asset Management Software. A map and list of Hotlist Areas is attached to this SOP.

##### Cleaning – Sewer Jetting:

All equipment should be inspected at the start of the work day to ensure that it is in safe working order. In addition to routine inspections, special attention should be given to the high-pressure hose. Areas where the outer surface of the hose has been cut or abraded should be replaced using couplings that are compatible with the specific hose in use. The hose should be pressure tested to its full rated operating pressure following any repair. A device to protect the pressure hose should be used at all times.

Prior to leaving shop check tools, supplies and equipment. Do a walk around of the Vac Con & check the tires lights & condition of this unit. Check that PPE is either on your person or in the truck. Verify on map area to be cleaned and note any special instructions; use of low pressure, roots present, residential blowback potential, etc.... Check water level in the Vac Con and fuel level.

Utilizing the City Sewer Mapbook staff will proceed to each location and clean each section of line. Lines should be cleaned beginning with the outlying sections of the system, working back toward the each trunk line or Lift Station. Lines are cleaned, by a

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two person crew, a basin at a time, starting at the top or highest point and working down toward the bottom of the basin.

Line cleaning should be conducted as follows; beginning at the downstream manhole send the jetter nozzle forward to nearest upstream manhole. Begin jetting from the upstream manhole back to the downstream manhole catching any debris that returns as a result of cleaning activities.

See Specific directions below for operation of sewer jetter:

### **Standard Jetting**

Step 1: Position hose guide roller over manhole and shift the truck from "ROAD" mode to "WORK" mode

- Refer to in cab instruction for shifting the truck mode

Step 2: Note footage of line to be cleaned

Step 3: Select the most appropriate nozzle to clean line

Step 4: Attach the selected nozzle (with slider, if applicable) to the lead hose and lower into manhole with nozzle pointing upstream in channel

Step 5: In case of a drop manhole, use a hook with pipe extension to position nozzle in drop manhole. Hold the slider with the hook while lowering the hose. When the nozzle is lined up with the drop manhole, push it into the pipe. Pull up on the tiger tail rope and tie it off to hold the hose in place

Step 6: In some applications the tiger tails rope can be wrapped once around the nozzle and used align nozzle with drop manhole

Step 7: When the nozzle is lined up with the drop manhole activate the nozzle pump. This should allow the hose to successfully travel past the vertical drop and up the sewer line while preventing the nozzle from propelling itself out of the manhole, or down the vertical drop where it might become stuck

### **CAUTION**

***Do not raise throttle pressure until the nozzle starts to move up the line.***

Step 8: Set footage counter to zero

### **NOTE**

***Use lower pressure when cleaning 6" or shallow sewer line.***

Step 9: Turn on nozzle pump, increase throttle, and adjust to desired water pressure

Step 10: Push reel control lever away from you to pay out hose

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Step 11: Observe footage counter and reduce reel speed as nozzle nears the end of line.

**CAUTION**

***If the reel continues to rotate after the hose stops traveling, a "Rat's Nest" will occur.***

Step 12: When nozzle reaches desired footage, pull reel control lever towards you and retract hose at approximately 2ft/sec.

*Heavy cleaning of a sewer line should be performed as a gradual "step process". Clean 50-75 feet and pull back, then up to 150 feet and pull back, then 250 feet and pull back, and so on until the entire line is cleaned.*

Step 14: Pay attention to footage and stop retracting hose when lead hose reaches manhole

**NOTE**

***Watch for debris and remove as needed.***

Perform multiple passes until debris is no longer present while pulling back the line and the operator feels confident through visual observations that the line is clean.

Step 14: Reduce throttle and shut of nozzle pump

- Allow water flow to stop, it may take several seconds

Step 15: Retract and secure hose for travel

Step 16: Switch truck from "WORK" mode to "ROAD" Step

If problems occur during cleaning that indicate structural or other problems that may require CCTV inspection, note these conditions on the City's Sewer Map Book.

Once line is clean, wash interior of manhole bench and barrel and replace manhole insert (if applicable) and cover.

Write down all line cleaning and manhole observation information for specific line segments and manholes onto the appropriate page of the City's Sewer Map Book. Mark areas cleaned on sewer atlas and submit to Streets and Utilities Administrative staff for completion of a Work Order in the Hansen Asset Management system.

If structural or other defects are observed with the manhole where cleaning activities are occurring, note the need for further inspection utilizing the City's Sewer Map Book.

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## **5. Data and Records Management**

1. All required records shall be maintained for a minimum of five (5) years and shall be made available for review by the SWRCB and RWQCB during an onsite inspection or through an information request.
2. Records documenting compliance with all provisions of the WDR and MRP including any required records generated by contractors performing work on the sanitary sewer system or assisting in SSO response.
3. Annual and hotlist sewer line cleaning data and records are maintained in the City's Hansen Work Order system. Each section of line will be identified using unique manhole ID #s on the Collection System Maintenance Record. Observed line cleaning information will be tracked in the field on the City Sewer Mapbook by City Streets and Utilities staff and entered into the City's Hansen Asset Management System.

## **6. Quality Control and Quality Assurance**

1. Line cleaning and manhole inspection work order and work history data is reviewed by the City Streets and Utilities Manager or their designee. Any discrepancies or issues that are identified are corrected by the Streets and Utilities Manager or their designee.

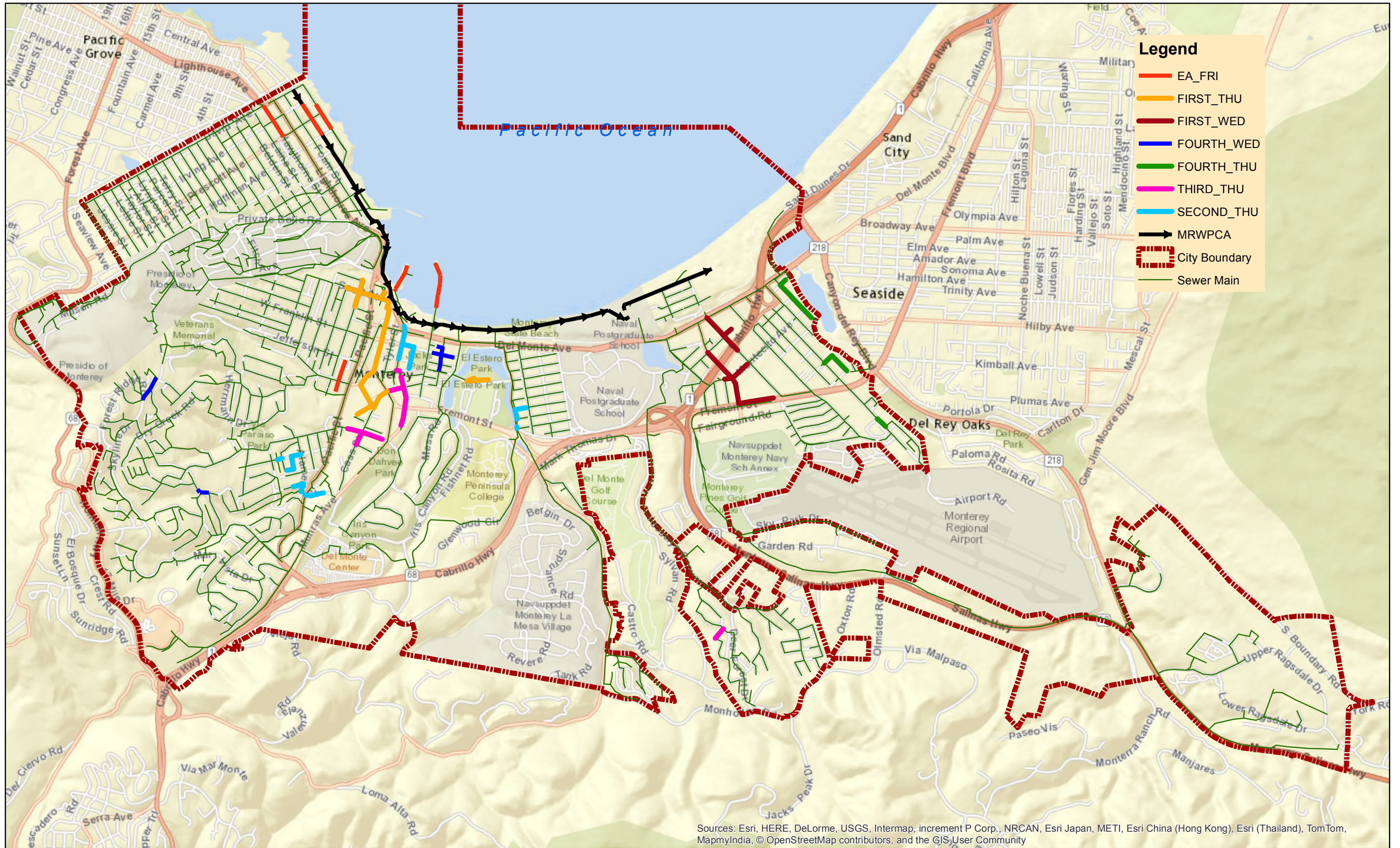
## **7. References**

1. SS-SOP-07: Routine Traffic and Crowd Control

## **8. Attachments**

1. Hotlist Map and List,





**Legend**

- EA\_FRI
- FIRST\_THU
- FIRST\_WED
- FOURTH\_WED
- FOURTH\_THU
- THIRD\_THU
- SECOND\_THU
- ➔ MRWPCA
- City Boundary
- Sewer Main

Sources: Esri, HERE, DeLorme, USGS, Intermap, increment P Corp., NRCAN, Esri Japan, METI, Esri China (Hong Kong), Esri (Thailand), TomTom, MapmyIndia, © OpenStreetMap contributors, and the GIS User Community



DESIGNED BY:	
DRAWN BY:	
CHECKED BY:	
DATE:	
APPROVED:	
PRINCIPAL ENGINEER:	
REGIST. NO.:	
DATE:	

### City of Monterey Hotlist

REVISIONS	DATE	No.	SCALE





## Each Friday

Count	FromNode	ToNode	SHAPE_Leng
1	A03-023	A03-006	462.0
2	A03-038	A03-023	500.5
3	A04-004	A04-013	6.0
4	A04-004	A04-003	262.8
5	A04-005	A04-015	255.0
6	A04-007L	A04-006	458.9
7	A04-011	A04-006	511.3
8	A04-015	A04-004	249.2
9	C05-001C	C05-002C	206.1
10	C05-002C	C04-025	478.3
11	C05-003C	C05-004C	346.9
12	C05-004C	C05-005C	204.5
13	C05-005C	C05-006	319.4
14	C05-006C	D05-024C	326.4
15	C05-025	C05-026	59.1
16	D04-037	E04-025	570.0
17	E04-028	E04-025	295.5
<b>TOTAL</b>			<b>5512.1</b>



## First Thursday

Count	FromNode	ToNode	SHAPE_Leng
1	C04-009	C04-010	360.4
2	C04-010	C04-011	332.5
3	C04-011	D04-081	270.4
4	C04-014	C04-016L	76.2
5	C04-015C	C04-014	19.9
6	C04-017	C04-010	164.2
7	C04-029	D04-081	174.6
8	D04-046	D04-047	26.8
9	D04-047	D04-048	145.3
10	D04-048	D04-049	167.2
11	D04-049	D04-050	177.9
12	D04-050	D04-051	158.7
13	D04-051	D04-052	182.5
14	D04-052	D04-053	218.9
15	D04-053	D04-014	114.6
16	D04-067	C04-010	399.9
17	D04-081	D04-082	169.3
18	D04-082	D04-083	35.3
19	D04-083	D04-084	32.9
20	D04-084	D04-085	131.6
21	D04-085	D04-086	75.6
22	D04-086	D04-087	240.3
23	D04-087	D04-014	234.2
24	E04-043C	E04-044	335.2
25	E04-044	E04-045	247.9
26	E04-054	E04-078	347.7
27	E04-055	E04-080	85.1
28	E04-056	E04-057	272.7
29	E04-057	D04-046	223.3
30	E04-078	E04-055	97.7
31	E04-080	E04-056	520.2
32	E05-039C	E05-040C	323.3
33	E05-040C	E05-041	227.3
34	PRIV	E05-041	188.8
<b>TOTAL</b>			<b>6778.5</b>

## First Wednesday

Count	FromNode	ToNode	SHAPE_Leng
1	C04-009	C04-010	360.4
2	C04-010	C04-011	332.5
3	C04-011	D04-081	270.4
4	C04-014	C04-016L	76.2
5	C04-015C	C04-014	19.9
6	C04-017	C04-010	164.2
7	C04-029	D04-081	174.6
8	D04-067	C04-010	399.9
9	D08-003	D08-004	206.9
10	D08-004	D08-005	454.3
11	D08-012	E08-043	525.8
12	D08-015	D08-016	336.3
13	D08-016	D08-017	186.4
14	D08-017	D08-019	125.5
15	D08-018C	D08-017	260.1
16	D08-019	D08-020	511.6
17	E05-040C	E05-041	227.3
18	E08-036	E08-037	592.8
19	E08-037	E08-038	307.4
20	E08-038	E08-039	278.0
21	E08-039	E08-040	207.0
22	E08-040	E08-041	44.6
23	E08-041	E08-042	152.7
24	E08-043	E08-032	122.1
25	E08-043	D08-003	258.8
<b>TOTAL</b>			<b>6595.8</b>

**Fourth Wednesday**

Count	FromNode	ToNode	SHAPE_Leng
1	D05-029	D05-036	158.7
2	D05-033	D05-034	182.9
3	D05-034	D05-035	256.2
4	D05-035	D05-036	182.7
5	D05-042	D05-035	239.1
6	D05-043	D05-035	351.9
7	E02-027	E02-028	332.8
8	E02-041	E02-028	358.9
9	F03-005	F03-006	233.6
10	F03-010	F03-005	98.3
<b>TOTAL</b>			<b>2395.2</b>

**Fourth Thursday**

<b>Count</b>	<b>FromNode</b>	<b>ToNode</b>	<b>SHAPE_Leng</b>
1	C08-016C	C08-012	186.8
2	D08-043	C08-012	450.8
3	D09-003	D09-004	549.3
4	D09-004	D09-005	276.5
5	D09-010C	D09-011	172.8
6	D09-011	D08-043	552.5
7	E09-041	E09-049	117.2
8	E09-049	E09-034	171.2
<b>TOTAL</b>			<b>2477.1</b>

### Third Thursday

Count	FromNode	ToNode	SHAPE_Leng
1	D05-001	D04-057	82.0
2	E04-039	E04-040	358.4
3	E04-040	E04-081	307.5
4	E04-047	E04-048	115.8
5	E04-048	E04-040	269.6
6	E04-049	E04-081	250.5
7	E04-067C	E05-005	372.3
8	E05-001	E05-002	176.4
9	E05-002	E05-003	301.5
10	E05-003	E05-004	253.1
11	E05-004	E05-005	265.2
12	E05-005	E05-006L	280.1
13	H08-064	H08-050	321.4
<b>TOTAL</b>			<b>3353.7</b>

## Second Thursday

Count	FromNode	ToNode	SHAPE_Leng
1	D05-002	D05-054	362.5
2	D05-003	D05-005	326.9
3	D05-004	D05-005	11.8
4	D05-005	D05-006	133.4
5	D05-008	D05-053	541.9
6	D05-009	D05-003	314.3
7	D05-053	D05-009	28.2
8	D05-054	D05-003	33.7
9	E06-015	E06-056	53.9
10	E06-016	E06-017	252.5
11	E06-027	E06-017	288.2
12	F03-052	F03-053	126.1
13	F03-061	F03-062	178.6
14	F03-062	F03-063	331.1
15	F03-063	F04-034	253.7
16	F03-066	F04-021	280.2
17	F04-016	F04-017	150.7
18	F04-017	F04-004	340.5
19	F04-021	F04-020	219.6
<b>TOTAL</b>			<b>4227.8</b>



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## **SOP #3: GIS Mapping & Sewer Mapbook Updates**

### **1. Interferences**

Staff must ensure that all structural changes that occur within the sewer system are accompanied by record drawings and a general description of work performed. When these records are received they must be logged in an annual index for review prior to the annual update to ensure all record drawings are available for integration into GIS.

### **2. Personnel Qualifications and Responsibilities**

City Engineering staff, the Design Engineer of record, Contractor providing improvements or City staff who make visual or CCTV observations will provide record drawings or other data to the City GIS Specialist for incorporation into the City GIS mapping system. The person or entity providing record information will depend on the type of project. The City Environmental Regulations Analyst or City Building Official will be responsible for the collection of this data from the potential sources mentioned above and submit the data to the City GIS Specialist.

#### **1. City Public Works Director**

- a. Responsible for monitoring the implementation of this SOP.
- b. Responsible for ensuring that all City Staff responsible for maintaining or updating the City's GIS database are adequately trained on this SOP

2. The City GIS Specialist is responsible for uploading information shown on record drawings into the City GIS mapping system, showing all changes made to sewer assets.

### **3. Equipment and Supplies**

1. Storm drain structure reports
2. Record drawings to be incorporated into City GIS.
3. CCTV or other field data to be incorporated in to City GIS.

### **4. Procedure**

#### **Public Improvement Projects:**

City GIS Maps are continually reviewed for accuracy and updated. Any discrepancies or updates are addressed as needed.

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### Private Sewer Connections:

The City requires new construction and remodels for residential and commercial projects requiring sewer connection to apply for a project permit. As part of the permit process, sewer lateral connections are reviewed, conditioned, and approved by the City of Monterey Permit and Inspections Services. The Permit and Inspections Services receives record drawings showing the location of the projects sewer lateral connection to the sewer main.

### Field Observations:

During field work such as CCTV inspections or maintenance work, City Staff may observe deviations from information contained in the most recent GIS maps or master sewer atlas plans. Wherever possible, the observer should obtain accurate documentation of the corrections and update Using a stormdrain structure report.

### Data Collection:

When sewer asset improvements or replacements take place in the City, an electronic record drawing must be created to identify the location and all changes made to the specific asset. Information may be provided using the following options:

1. A spreadsheet with the same "object id" identifier for each line of the original sewer system created for the Atlas.
2. A digital CAD or Shapefile with the same "object id" identifier for each line
3. A hard copy or digital image with redlines of modified areas, labeled with the "object id" and list of modifications made to that line.
4. Utilizing a contact person and City approved method of data modifications.
5. Construction as-built drawings
6. Sewer structure report

### GIS Updates:

The Environmental Regulations Analyst upon receipt of the above-mentioned data will update data to the City GIS map, assigning object identifiers to all assets that have been rehabilitated, upgraded or recently discovered and incorporate background information regarding physical changes to the asset.

In addition to providing general location mapping, the electronic map is updated as changes are made to the City's collection system to include precise information relating to the general characteristics of the system components. This information includes installation dates, pipe types, pipe diameters, segment lengths, slopes, grade elevations, invert elevations, and CCTV data.

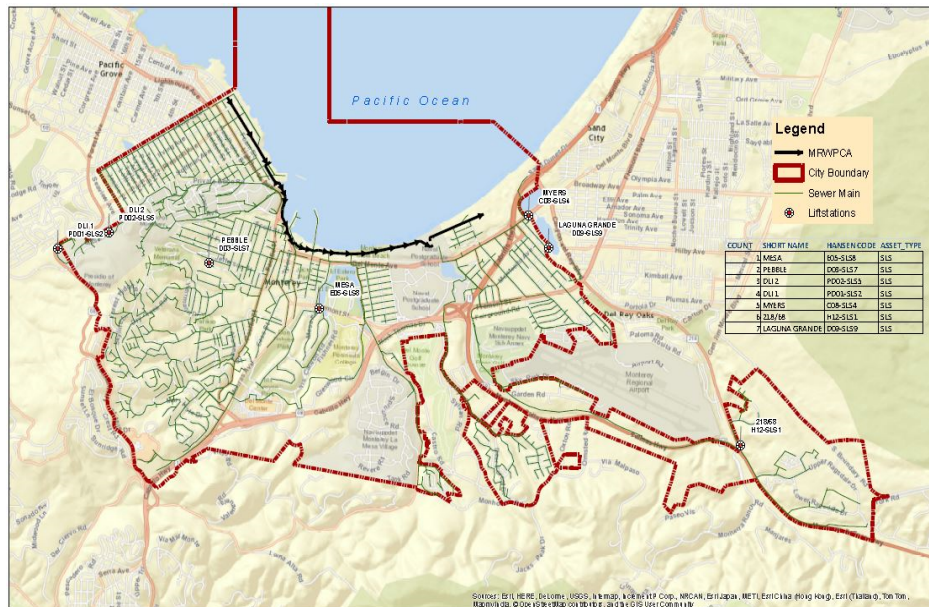


Figure 4-1: Sewer System Overview

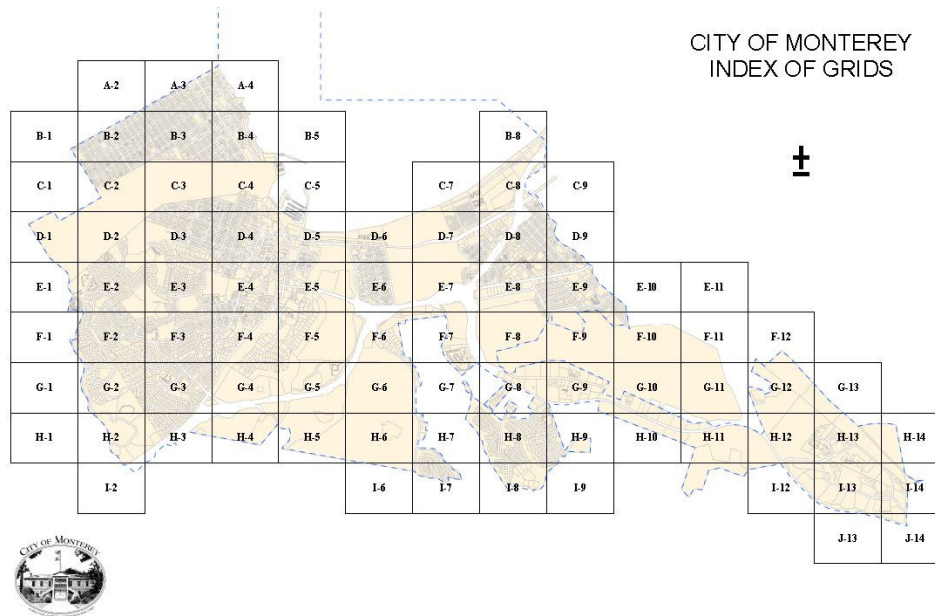


Figure 4-2: GIS Atlas

## 5. Data and Records Management

The City Environmental Regulations Analyst will be responsible for the collection of data to be used for GIS updates, and managing this data in the GIS database and documenting changes on the Sewer Map Revision Record, attached to this SOP.

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**6. Quality Control and Quality Assurance**

Mapping and GIS data are reviewed continuously by the City Environmental Regulations Analyst, Public Works Inspectors, and Streets Maintenance Personnel to assess the accuracy of the GIS Atlas and mapping system.

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## **SOP #4: Underground Service Alert (USA) Marking**

### **1. Cautions**

1. Improper sewer field markings may result in damage to the City's assets.

### **2. Interferences**

1. The accuracy of the City's GIS database and Atlas Maps may directly impact the accuracy of the field markings completed by the City.

### **3. Personnel Qualifications and Responsibilities**

1. Streets and Utilities Manager
  - a. Responsible for monitoring the implementation of this SOP.
  - b. Responsible for ensuring that all City Staff responsible for completing field markings are trained on this SOP.
2. Streets and Utilities Supervisor
  - a. Responsible for the implementation of this SOP.
  - b. Responsible for training City Staff responsible for field markings on this SOP.
  - c. Responsible for revising this procedure if deficiencies are found or program changes occur.
  - d. Required to train on this SOP.
3. City Staff Responsible for Field Markings
  - a. Required to train on this SOP.

### **4. Equipment and Supplies**

1. Personal Protective Equipment (PPE):
  - a. Safety Glasses
  - b. Safety Vest
2. Equipment:
  - a. Orange Cones and Delineators
  - b. Handheld Traffic Signs
  - c. Signage, such as "Work Ahead" and "Road Closed"
  - d. DigAlert Ticket
  - e. Green Utility Marking Paint
  - f. Green Whiskers or Flags
  - g. Measuring Wheel
3. SS-SOP-07: Routine Traffic and Crowd Control
4. Cell Phone

### **5. Procedure**

#### **Field Marking Process**

1. Receiving the DigAlert Ticket
  - a. DigAlert tickets are received at the Streets and Utilities Department Office by City administrative staff.

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- i. DigAlert Tickets are auto-forwarded to the Streets and Utilities Supervisor.
  - 1. The City has two days to complete the request.
- 2. Prior to Completing Field Marking
  - a. Field Maintenance staff must check the City's sewer atlas for the specific locations of the sewer assets, which need to be marked, prior to completing the field marking.
- 3. Sewer Field Marking
  - a. General Practices
    - i. White markings are used for excavation delineation.
      - 1. Areas requiring field marking will be outlined in white paint and labeled "USA".
    - ii. Substructure or asset markings are marked in a specific color.
      - 1. Sewer is green.
      - 2. Appropriate color codes are provided below in "Field Marking Colors and Abbreviations" on pg. 8-9, per the DigAlert.
    - iii. Substructure or asset markings are marked with common abbreviations.
      - 1. Sanitary Sewer is **SS**.
      - 2. Common abbreviations are provided below in "Field Marking Colors and Abbreviations" on pg. 8-9.
    - iv. Changes in Direction and Lateral Connections
      - 1. Clearly indicate at the point where the change in direction or connection occurs with an arrow indicating the path of the facility.
        - a. An example of how to mark a lateral connection is provided in Figure 5-2.

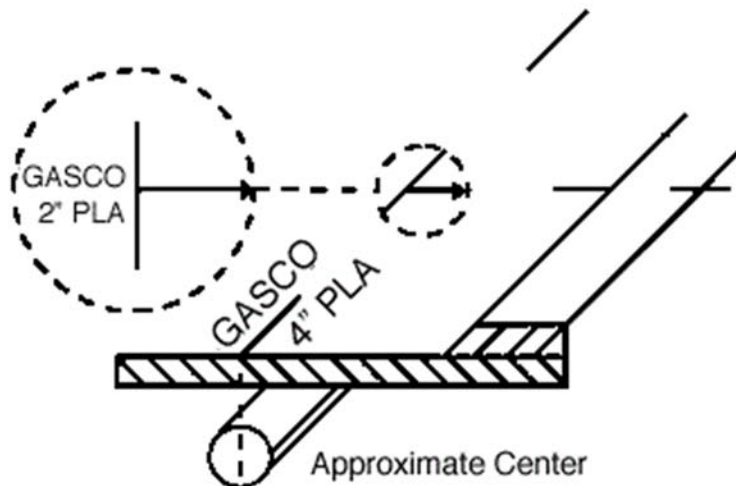


Figure 5-1: Lateral Connection Example

- 2. A radius is indicated with marks describing the arc as shown in Figure 5-3.



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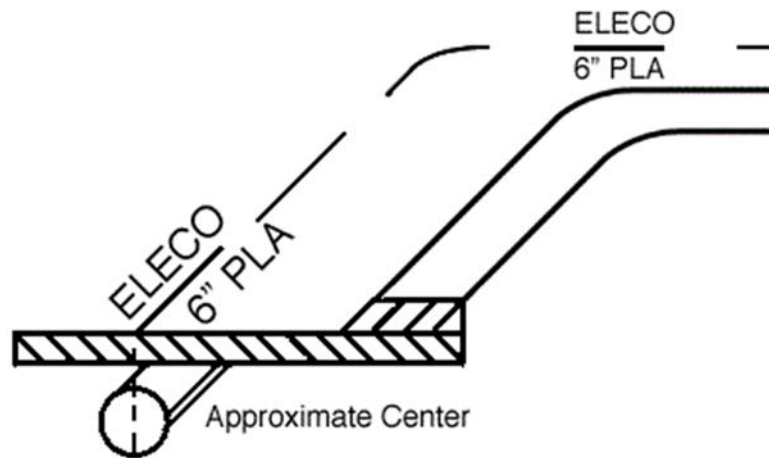


Figure 5-2: Radius Example

- When providing offset markings with paint or stakes, show the direction of the facility and distance of the facility from the markings as illustrated in Figures 5-4 and 5-5, respectively.

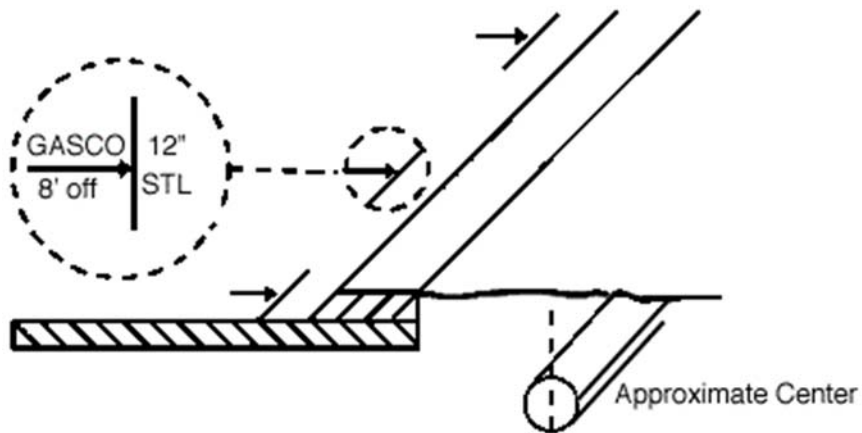


Figure 5-3: Painted Offset Example

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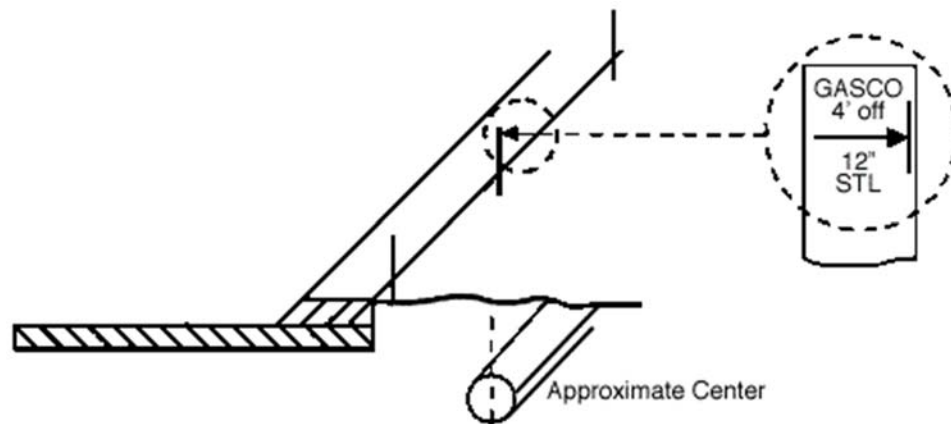


Figure 5-4: Staked Offset Example

v. Termination Points or Dead Ends

1. Termination points or dead ends are to be indicated as illustrated in Figure 5-5.

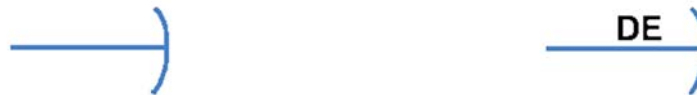


Figure 5-5: Marking Termination Points

b. Marking in Paved Areas

- i. Avoid excessive or oversized marking, especially if marking outside the excavation area.
- ii. Conditions permitting, use spray chalk paints, water based paints, or equivalent, less permanent type marking.
- iii. Limit length, height, and interval of marks to those recommended.
  1. Letters and numbers should not exceed 3-inches to 6-inches in height.
  2. Marks in green are to be approximately 12-inches to 18-inches in length and 1-inch in width and separated by approximately 4 feet to 50 feet in distance.

c. Marking in Non-Paved Areas

- i. When paint is not used, use green stakes, lath, pennants, or chalk lines.
  1. Select marker types that are most compatible to the purpose and marking surface: flags, stakes, or whiskers.
- ii. Adhere to paved area marking suggestions to the extent practical.

d. Single Facility Marking

- i. When a facility can be located or toned separately from other facilities of the same type, it is marked as a single facility.

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- ii. Marks are placed over the approximate center of the facility or over the approximate edges with a line connecting the two horizontal lines as shown in Figures 5-7 and 5-8, respectively.

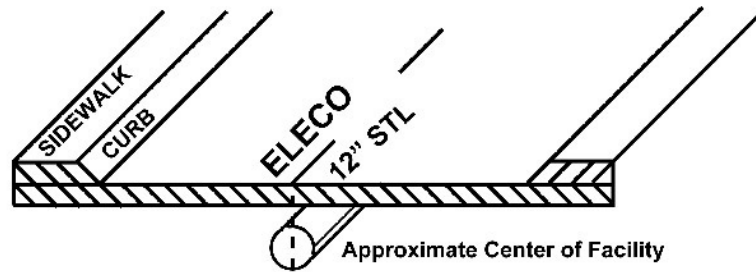


Figure 5-6: Single Facility Marking Over the Approximate Center of the Facility

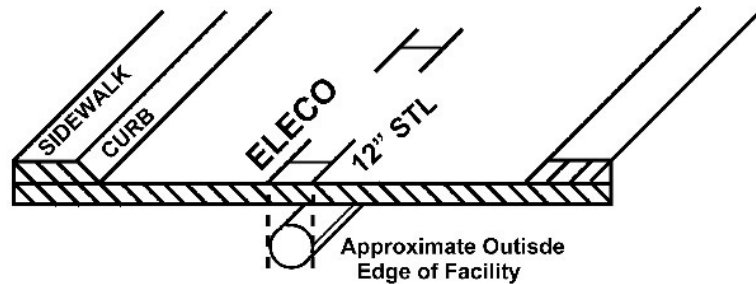


Figure 5-7: Single Facility Marking Over the Approximate Outside Edge of the Facility

e. Multiple Facility Marking

- i. Used to mark multiple facilities of the same type, where separation does not allow for a separate tone for each facility but the number and width of the facilities is known.
- ii. Marks are placed over the approximate center of the facilities and indicate the number and width of the facilities as shown in Figure 5-9.
  1. This example indicates four plastic facilities that are 4-inches in diameter (4/4" PLA).

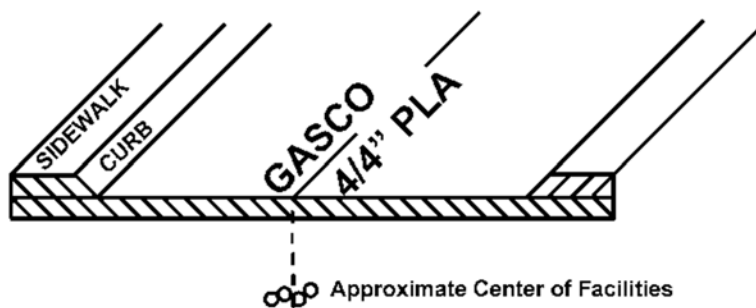


Figure 5-8: Multiple Facility Marking Over the Approximate Center of the Facilities

f. Structures

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- i. Structures, such as vaults, inlets, and lift stations, that are physically larger than obvious surface indications are to be marked so as to define the parameters of the structure as shown in Figure 5-10.

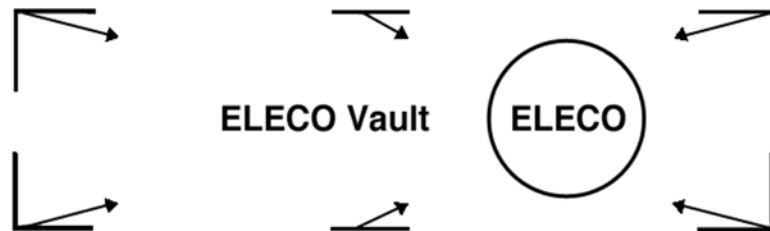


Figure 5-9: Structure Marking Example

- g. No Conflict
  - i. When there is no conflict with the excavation, complete one or more of the following;
    1. Mark the area “NO MONTEREY” in green.
    2. Place a clear plastic (translucent) flag that states “No Conflict” in a location that can be observed by the excavator.
      - a. If it can be determined through maps or records that the proposed excavation is obviously not in conflict with the City’s sewer lines, City Staff may notify the excavator by phone, fax, or email that there is no conflict with the City’s sewer assets.
      - b. When the excavation is delineated by the use of white markings, place the “No Conflict” markings or flags in or as near as practical to the delineated area.
- 4. After Completing Field Marking
  - a. Streets and Utilities Staff, who completed the field marking, initials and dates the DigAlert ticket after marking the sewer assets and returns the copy of the ticket to the Streets and Utilities administrative staff. Administrative staff documents the completed USA ticket as a completed work order in the Hansen Asset Management System.
  - b. The initialed and dated DigAlert ticket is kept on file at the Streets and Utilities Department.

### Field Marking Colors and Abbreviations

#### 1. APWA Uniform Color Code

White	Proposed Excavation
Red	Electric Power Lines, Cables, Conduit, and Lighting Cables
Orange	Communication, Alarm or Signal Lines, Cables, or Conduit
Purple	Reclaimed Water, Irrigation, or Slurry Lines
Pink	Temporary Survey Markings

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Yellow	Gas, Oil, Steam Petroleum, or Gaseous Materials
Blue	Potable Water
Green	Sewer or Drain Lines

## 2. Facility Identifier

CH	Chemical
E	Electric
FO	Fiber Optic
G	Gas
LPG	Liquefied Petroleum Gas
PP	Petroleum Products
RR	Railroad Signal
S	Sewer
SD	Storm Drain
SS	Storm Sewer
SL	Street Lighting
STM	Steam
SP	Slurry System
TEL	Telephone
TS	Traffic Signal
TV	Television
W	Water
W	Reclaimed Water "Purple"

## 3. Underground Construction Descriptions

C	Conduit
CDR	Corridor
D	Distribution Facility
DB	Direct Buried
DE	Dead End
JT	Joint Trench
HP	High Pressure
HH	Handhole
MH	Manhole
PB	Pullbox
R	Radius
STR	Structure (i.e., Vaults, junction boxes, inlets, lift stations)
T	Transmission Facility

## 4. Infrastructure Material

ABS	Acrylonitrile – Butadiene – Styrene
CI	Cast Iron
CML	Cement Mortar Lined
CMP	Corrugated Metal Pipe
CWD	Creosote Wood Duct

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MTD	Multiple Tile Duct
RCB	Reinforced Concrete Box
RF	Reinforced Fiberglass
STL	Steel
ACP	Asbestos Cement Pipe
CMC	Cement Mortar Coated
CPP	Corrugated Plastic Pipe
CU	Copper
HDPE	High Density Polyethylene
PLA	Plastic (conduit or pipe)
RCP	Reinforced Concrete Pipe
SCCP	Steel Cylinder Concrete Pipe
VCP	Vitrified Clay Pipe

## 6. Data and Records Management

1. Copies of completed tickets are maintained in the DigAlert binder at the Streets and Utilities Department.
2. All required records shall be maintained for a minimum of five (5) years and shall be made available for review by the SWRCB and RWQCB during an onsite inspection or through an information request.
3. Records documenting compliance with all provisions of the WDR and MRP including any required records generated by contractors performing work on the sanitary sewer system.

## 7. Quality Control and Quality Assurance

1. The City Streets and Utilities Supervisor reviews all DigAlert summaries verses tickets received daily.

## 8. References

1. SS-SOP-07: Routine Traffic and Crowd Control
2. DigAlert website: [www.digalert.org](http://www.digalert.org)
3. APWA Uniform Color Code



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## **SOP #5: Collection System CCTV**

### **1. Health and Safety Warnings**

1. Arrow Lights, flashers, and traffic cones are to be used whenever CCTV van is operated in the public right-of-way.
2. A second employee must be used whenever traffic density requires extra control.

### **2. Cautions**

1. The validity of reported results depends on the quality and extent of the documentation taken and maintained by City Staff.
2. Ensure that all CCTV investigations are completed correctly as outlined in the City's SOPs, NASSCO PACP specifications and CCTV equipment manuals.

### **3. Interferences**

1. Flow patterns within the sewer system may require "scheduling" in order to complete a comprehensive evaluation of a specific pipeline segment or manhole. Flow patterns may be higher or lower at certain times of day in specific areas of the system. High flows may impact the ability to make visual observations and record adequate data within any given line segment.

### **4. Personnel Qualifications and Responsibilities**

1. Environmental Regulations Manager & Streets and Utilities Manager
  - a. Responsible for the overall management of the CCTV program
  - b. Responsible for inclusion of CCTV data that may be utilized for future CIP
2. City Staff and Contractors Responsible for Collection System CCTV Activities
  - a. Required to be trained and certified per NASSCO PACP requirements. Required to participate in initial and reoccurring training on this SOP as needed.

### **5. Equipment and Supplies**

1. Personal Protective Equipment (PPE):
  - a. Safety Glasses
  - b. Safety Vest
  - c. Gloves
2. Equipment:
  - a. Orange Cones and Delineators
  - b. Handheld Traffic Signs
  - c. Traffic Beacons
  - d. Signage, such as "Work Ahead" and "Road Closed"
  - e. Green Utility Marking Paint
  - f. Measuring Wheel

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- g. Manhole Lifter
  - h. Flashlight
  - i. CCTV Van and Equipment
3. SS-SOP-07: Routine Traffic and Crowd Control
  4. Cell Phone

## 6. Procedure

The purpose of this procedure is to standardize the method used by City staff when conducting CCTV (Closed Circuit Television) inspections. It is intended to ensure operation, maintenance, and data collection for the Collection System owned and operated by City staff are accomplished in a consistently safe and efficient manner.

Upon arrival at each manhole:

- 1) Set up traffic signs in work area.
- 2) Turn on traffic control arrow board and select to desired direction.
- 3) Position rear of truck over manhole.
- 4) Stay in truck for about a minute to observe the traffic flow and the overall safety of the location.
- 5) Carefully review the work order, sewer atlas map or other data to determine if manhole and line segment have any significant historical issues.
- 6) Step out of truck; set up traffic control cones around work area and make final check of traffic pattern and neighborhood.
- 7) Coordinate work and safety activities with co-worker, if assigned.
- 8) Verify street address and the location for the work order are correct. Note line segment length.
- 9) Open manhole cover carefully and observe manhole conditions. Verify if manhole has been lined. Observe condition of lining.
- 10) Lower camera into manhole using proper technique.
- 11) Commence CCTV Inspection.
- 12) Record all observations in CCTV inspection report per NASCO PACP specifications. Note any additional observations that seem "exceptional", including odor, type and quantity of debris or other pipeline/manhole defects on inspection report.

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- 13) Verify that line segment length is correct based upon the footage meter and manholes, mainline cleanouts and private laterals are documented on sewer system map.
- 14) If serious conditions are observed that have the potential to cause a Sanitary Sewer Overflow (SSO), contact the City Streets and Utilities Department immediately to clear the observed defect of restriction (Phone# (831) 646-3921).
- 15) If sewer assets (manholes, cleanouts and laterals) are found to be missing from sewer system map, send information to GIS Specialist for inclusion on system map. Updated map information should be forwarded to staff in the Streets and Utilities Department for future use in the field.

### Data Collection

The following is a summary of the steps necessary to collect and transfer CCTV data:

Step 1: Collect data in field using Ipek pendant in PACP format.

Step 2: Export PACP database to thumb drive.

Step 3: Import PACP database into WinCan v8 software.

Step 4: Review the video/inspection and add any post processing quality control if needed.

Step 5: Update GIS attributes and geometry noted during inspection. Add PACP rating if C, D, or F rated. A description of these ranking criteria is listed in Table 1 below.

**Table 1: PACP Ranking Matrix**

<b>Grade</b>	<b>Description</b>	<b>Estimated Time to Failure</b>
1 (A)	EXCELLENT: Minor Defects	Unlikely in the foreseeable future
2 (B)	GOOD: Defects that have not begun to deteriorate	20 years or more
3 (C)	FAIR: Moderate defects that will continue to deteriorate	10-20 years
4 (D)	POOR: Severe defects that will become grade 5 defects within the foreseeable future	5-10 years
5 (F)	IMMEDIATE ATTENTION: Defects requiring immediate attention	Has failed or will likely fail within the next 5 years

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Step 6: Copy video + PDF of CCTV log + database onto external hard drive to archive.

Step 7: Enter CCTV log into Hansen Asset Management System.

### CCTV Data Assessment

Lines with maintenance issues such as roots or grease should be submitted to maintenance crews.

Lines with structural deficiencies should be submitted to Engineering Division for additional review, assessment and ranking. This data will be utilized to generate a work order for repair, or to develop future Capital Improvement Plans and Rehabilitation and Replacement Projects.

## **7. Data and Records Management**

1. All records must be kept in the City's Hansen Asset Management System.
2. All required records shall be maintained for a minimum of five (5) years and shall be made available for review by the SWRCB and RWQCB during an onsite inspection or through an information request.

## **8. Quality Control and Quality Assurance**

1. The City's Environmental Regulations Analyst is responsible for all final GIS/Mapping updates.

## **9. References**

1. National Association of Sewer Service Companies (NASSCO) Pipeline Assessment and Certification Program (PACP)
2. CCTV Software and Equipment Manuals

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## **SOP #6: Sewer Connection Requests**

### **1. Personnel Qualifications and Responsibilities**

Connection request inspections should be carried out as a joint effort between City of Monterey Building Department and the Public Works Department: Permits and Inspection Services staff will issue the plumbing/encroachment/street opening permit, and inspect that portion of the lateral from the house to the street Right-Of-Way (ROW). A Public Works Inspector will be assigned to inspect that portion from the street ROW to the point of connection at the City main. City Streets Maintenance Division may be called upon to hydro-test the connection to the main to ensure it is water tight.

Inspectors as described above are responsible for completing all inspection related paperwork and submitting into Hansen/Infor, the City permits and inspection work order module.

1. City Building Official
  - a. Responsible for permit oversight.
  - b. Responsible for ensuring that Building Department Staff are trained on this SOP.
2. City Engineer
  - a. Responsible for monitoring the implementation of this SOP.
  - b. Responsible for ensuring that all Public Works Inspectors are trained on this SOP.

### **2. Equipment and Supplies**

- 1) Safety Vest
- 2) Project Plan Set
- 3) City Sewer Lateral Standards

### **3. Procedure**

Sewer connection requests are generated to address two types of projects:

- 1) City Public Works permit related projects (New Construction or Remodel)
- 2) Replacement of a sewer laterals to correct deficiencies

#### New Construction or Remodel:

Sewer connections for new construction or remodel are reviewed as part of the City's pre-permit site review and inspection process, which occurs by submittal to the City Building Department: Permits and Inspection Services Office.

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Development projects that have integrated sewer connection requests are forwarded to City of Monterey Building Department: Permits and Inspection Services staff, or their designee are responsible for design review and/or revisions. Prior to approval for construction; the City assigns conditions to the project which are attached to the building permit and are required to be implemented before project sign off.

- The City requires an inspection by the Building Department Inspector of the lateral installation from the house to the street Right-Of-Way.
- The City requires inspection and approval by the City Public Works Inspector for all sewer connection Improvements within the street Right-Of-Way to the point of connection at the City Main.
- The City Building and Public Works Inspectors will receive a request for inspection from the project contractor 48 hours prior to the date of inspection. Once this request is received, staff proceeds with the inspection to ensure City standards for installation or replacement of the sewer lateral have been followed.
- Only a properly licensed, bonded contractor may install lateral sewers in the public right-of-way and connect the same to city sewer lines.
- All connections to the public sewer shall be made under the direction of the City inspector and in accordance with the rules, regulations, ordinances, and codes of the city. Prior to backfilling, City Streets Crew may be called to hydrojet the new connection to test for leaks.
- All connections, clean-outs, backwater valves, access vaults, and laterals are to be installed in conformance with standards and details adopted by the City standards and specifications and City Municipal Code Chapter 30, Article 2: Connections to City Sewer System.
- Prior to final project sign-off, the Contractor shall provide as-built information to the City Building or Public Works Plans Examiner or designee for approval. The as-built information shall include the location by centerline station and depth of all sewer laterals as well as the manhole and cleanout locations for the purpose of providing the engineer with a basis for record drawings.
- Any existing sewer service laterals that will not be used by the new project shall be removed and abandoned (capped) at the property line or back of sidewalk, unless otherwise approved by the City Engineer. The Contractor is responsible to notify the City with the location and size of lines to be abandoned prior to final sign off.

Sewer Lateral Replacement (unrelated to new connection):

Sewer laterals are occasionally replaced due to structural or other problems that do not allow the lateral to perform as designed. Contractors replacing or rehabilitating these sewer laterals are required to give 48-hour notice to obtain a City inspection. City Inspection Standards and Specifications must be adhered to for these replacements. City inspection of these laterals should be documented, outlining the observations and determinations associated with the replacement and inspection. Inspection Reports are completed by the assigned inspector and entered into the Hansen permit inspection module.



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#### **4. Data and Records Management**

1. All required records shall be maintained for a minimum of five (5) years and shall be made available for review by the SWRCB and RWQCB during an onsite inspection or through an information request.
2. Records documenting compliance with all provisions of the WDR and MRP including any required records generated by contractors performing work on the sanitary sewer system or assisting in SSO response.

#### **5. Quality Control and Quality Assurance**

1. The City Building Plans Examiner/Inspector reviews all incoming connection requests. If any portion of that work lies within the street ROW, the Construction Manager will be notified to assign a Public Works Inspector where applicable.
2. The Public Works Inspector notifies the City Engineer or designee of any issues or irregularities with the connection work.

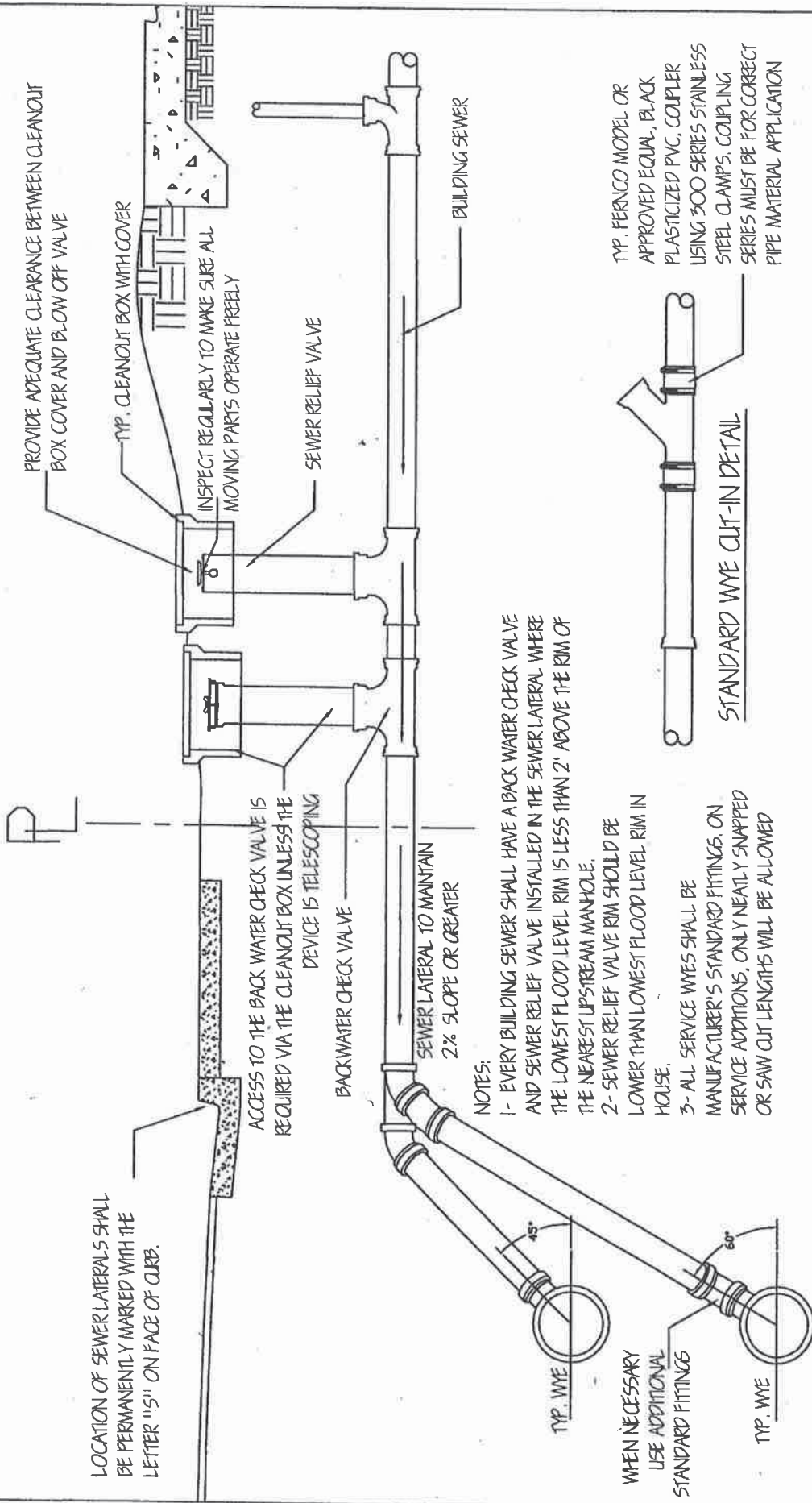
#### **6. References**

- City of Monterey Municipal Code Chapter 30: Sewers and Sewage Disposal
- City of Monterey Standard Details: Sewer Main Bedding and Wye Detail & Sewer Lateral Detail

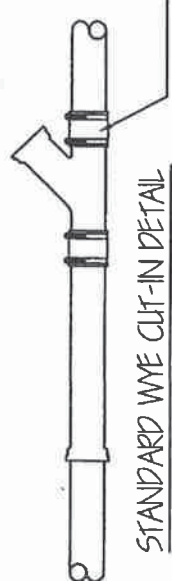
#### **7. Attachments**

- City of Monterey Standard Details: Sewer Main Bedding and Wye Detail & Sewer Lateral Detail





TYP. FERRO MODEL OR APPROVED EQUAL, BLACK PLASTICIZED PVC, COUPLER USING 300 SERIES STAINLESS STEEL CLAMPS. COUPLING SERIES MUST BE FOR CORRECT PIPE MATERIAL APPLICATION



NOTES:

- 1- EVERY BUILDING SEWER SHALL HAVE A BACK WATER CHECK VALVE AND SEWER RELIEF VALVE INSTALLED IN THE SEWER LATERAL WHERE THE LOWEST FLOOD LEVEL RIM IS LESS THAN 2' ABOVE THE RIM OF THE NEAREST UPSTREAM MANHOLE.
- 2- SEWER RELIEF VALVE RIM SHOULD BE LOWER THAN LOWEST FLOOD LEVEL RIM IN HOUSE.
- 3- ALL SERVICE WYES SHALL BE MANUFACTURER'S STANDARD FITTINGS, ON SERVICE ADDITIONS, ONLY NEATLY SNAPPED OR SAW CUT LENGTHS WILL BE ALLOWED



DEPARTMENT OF PUBLIC WORKS ENGINEERING DIVISION CITY OF MONTEREY	
STANDARD DETAIL FOR SEWER IMPROVEMENTS <b>SEWER MAIN, WYE &amp; LATERAL</b>	
DESIGNED BY: STAFF	TITLE: APPROVED: <i>Thomas B. Reeves</i> CITY ENGINEER
DRAWN BY: A. B.	DATE: 12/6/06
CHECKED BY: T. R.	DETAIL NO. 501

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## **SOP #7: Routine Traffic and Crowd Control**

### **1. Personnel Qualifications and Responsibilities**

1. Streets and Utilities Manager and Street and Utilities Supervisors
  - a. Responsible for training all City Staff responsible for activities that require traffic and crowd control measures.
  - b. Responsible for working with City Traffic Engineer when necessary to review Traffic Control Plans submitted by contractors (<http://monterey.org/Portals/0/Policies-Procedures/PWorks/Traffic-Control-Plan-Quick-Reference.pdf>) for projects within the City.
  - c. Responsible for ensuring that all contractors under contract with the City and that conduct traffic and crowd control measures are adequately trained on this SOP.
  - d. Responsible for managing, maintaining, and updating this SOP.
2. City Staff and Contractors Responsible for SSO Response
  - a. Required to be adequately trained on SS-EOP-07, SSO Traffic and Crowd Control.
3. Police and Fire Departments
  - a. Responsible for backing Streets Division in traffic and crowd control as needed.
  - b. Responsible for ensuring that their Staff is trained on and employs all of the health and safety requirements and precautions during traffic and crowd control activities.

### **2. Equipment and Supplies**

1. California Manual on Uniform Traffic Control Devices (MUTC), Latest Revision
2. Personal Protective Equipment (PPE):
  - a. Gloves
  - b. Safety Glasses
  - c. Flashlights
  - d. Safety Vest
3. Traffic and Crowd Control Equipment:
  - a. Orange Cones and Delineators
  - b. Handheld Traffic Signs
  - c. Traffic Beacons
  - d. Caution Tape
  - e. Signage, such as "Work Ahead" and "Road Closed."
4. Cell Phone

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### 3. Procedure

Traffic control measures vary based on the type of operation, the event, and its location. When appropriate, local police, fire department and other city personnel should be notified and requested to assist in traffic and crowd control.

#### Traffic and Crowd Control

1. City of Monterey Staff follows the 2014 California Manual on Uniform Traffic Control Devices (MUTC), Latest Revision for all traffic control.
2. Operational activities that occur in or impact a street or roadway require the initiation of the following general traffic control measures in order of priority:
  - a. Protect yourself and your fellow employees.
  - b. Protect the public.
  - c. Protect the environment.
  - d. Protect private property.
3. Establish a work zone.
  - a. This is commonly done by using your truck to block the road and restrict access to the area you are working in.
  - b. Turn on the maintenance vehicle's flashing beacon lights for greater visibility.
  - c. If it is necessary to close a traffic lane or the entire road for safety, follow the procedures outlined in the 2014 California Manual on Uniform Traffic Control Devices (MUTC), Latest Revision.
  - d. Deploy road work/closure signage, and station flaggers to direct traffic.
  - e. Ensure that supervisory staffs are aware of any lane closures or detours.
4. Public access must be restricted in areas where operational activities are occurring. Once traffic control measures are in place, if necessary, diversions for pedestrian and bicyclist must be put in place.
  - a. Staff must restrict access to areas that fit this description whenever it is safe to do so, directing the public to the nearest safe route of travel away from the impacted area.
  - b. If crowd control is needed, the Street and Utilities Supervisor calls contacts City Dispatch (831) 646-3914 for the Police and Fire Departments, and requests support for crowd control.
5. If maintenance operations will be occurring near bicyclist and pedestrian travel routes, use safety cones, caution tape, and warning signs to divert pedestrians and bicyclists and restrict access to your work area. Where feasible, provide a safe alternative route or detour for bicyclists and pedestrians away from vehicular traffic lanes.
6. If a special event, such as a concert or festival, will be occurring at a time when maintenance work must occur, additional staff and public safety personnel may be

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required to assist with traffic and or crowd control. Pre-plan maintenance activities with local law enforcement, so adequate traffic and crowd control assistance is available.

#### **4. Quality Control and Quality Assurance**

1. If deficiencies are found in the performance of this SOP, the Street and Utilities Supervisor will revise this procedure and train Staff on the revised procedure.
2. The Streets and Utilities Manager is responsible for reviewing and approving revisions to this procedure and ensuring that Staff is trained on those revisions.

#### **5. References**

1. California Manual on Uniform Traffic Control Devices (MUTC), Latest Revision. See website: <http://www.dot.ca.gov/trafficops/camutcd/>
2. City of Monterey Contractor Traffic Control Plan submittal requirements: <http://monterey.org/Portals/0/Policies-Procedures/PWorks/Traffic-Control-Plan-Quick-Reference.pdf>



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## **SOP #8: Customer Contact Reporting**

### **1. Personnel Qualifications and Responsibilities**

All City staff responsible for logging customer calls should be adequately trained on completing Customer Contact Reports.

### **2. Equipment and Supplies**

City of Monterey Customer Contact Report

### **3. Procedure**

The City utilizes a customer contact form shown in Figures 2.1 and 2.2 to document customer requests and complaints. Requests and complaints from the public are received during normal business hours through the City Streets and Utilities Office at (831) 646-3927. Requests and complaints from the public are logged in the City's Asset Management Program in the form of a work order. Staff investigates and completes associated sewer related tasks in response to these requests and complaints as appropriate. City staff calls the Streets and Utilities Administrative Maintenance Technician with the details of the complaint or request using the Contact Report Form as a prompt. This form is also utilized by the Administrative Maintenance Technician to intake initial SSO complaints when they are reported by members of the public via telephone.

Completed customer contact forms are kept on file at the City's Streets and Utilities Department Office. If staff investigations result in significant discoveries in the field (ex: sewer line restriction or SSO) additional relevant data will be logged into the City Hansen work history database to alert the City to issues in a specific section of the collection system.

All SSO Forms, Customer Contact Reports, and related O&M records are required to be maintained and available for review for a period of five years from the date of each SSO. A Customer Contact Report must be filled out when receiving a call or responding to any sewer related concern or incident in which you are interacting with members of the public. The Customer Contact Report is a two-page document. Page one is for general information to document the issue being investigated or reported. Page two is used to record initial information required to document calls from the public regarding Sanitary Sewer Overflows (SSOs).

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When filling out this report, make sure to enter all requested data applicable to the issue being investigated, discussed or addressed:

- Date
- Time
- Name of Contact
- Address
- Phone Number
- Reason for Call
- Staff Issuing Report

A summary of communications and comments should be filled in as appropriate to reflect how the issue was discussed and handled. If additional space is required, attach a separate additional page to this report to continue any required details. Attach additional info such as photos to this report as necessary. Check the appropriate box identifying who this information should be routed to.

When report is complete, a copy is forwarded to the Streets and Utilities Supervisor with an original filed at the City Streets and Utilities Department office. This data is recorded as a work order as applicable.

#### **4. Data and Records Management**

1. See SS-EOP-00 for SSMP and SSO Record Keeping Requirements.

#### **5. Quality Control and Quality Assurance**

The Streets and Utilities Manager reviews all Customer Contact Reports. If deficiencies are found in reporting and documentation activities, the Streets and Utilities Supervisor will provide additional training on this procedure. If revisions are necessary, the Streets and Utilities Manager will draft revisions to this procedure and train staff accordingly.

#### **6. References**

Statewide General Waste Discharges Requirements for Sanitary Sewer Systems; and State Water Resources Control Board Order No. WQ 2013-0058-EXEC, Amended Monitoring and Reporting Requirements for Statewide General Waste Discharge Requirements for Sanitary Sewer Systems

#### **7. Attachments**

1. City of Monterey Customer Contact Report



# City of Monterey Customer Contact Report

<b>Route To:</b>	Engineering	Streets and Utilities Manager	Streets and Utilities Supervisor
	Streets and Utilities Staff	Environmental Regulations	Administrative Maintenance Tech

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

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

Name of Contact: \_\_\_\_\_

Address: \_\_\_\_\_ Mailing Address: \_\_\_\_\_

Phone Number: \_\_\_\_\_ Account Number: \_\_\_\_\_

- Sewer Inspection
- Sewer Connection
- Sewer Lateral Investigation
- Backflow Required
- CCTV Request
- Odor Complaint
- Sewer Spill (See back of Contact Report)
- Other

**Reason for Call:**

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**Office Comments:**

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**Supervisors Comments:**

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Staff Generating Report: _____
Problem Corrected? _____ Inspected By: _____ Date: _____
Follow Up Activities: _____
_____
Correspondence sent out? _____ Dated: _____



City of Monterey
Customer Contact Report: Sewer Spill Contact Information

SPILL START TIME NOTES

Caller Interview: Is sewage spilling? [ ] Yes [ ] N If Yes, From: Manhole [ ] PLCO [ ] Two-Way C/O [ ] Inside Building [ ] Wet Well [ ]

Time Caller noticed spill: \_\_\_:\_\_\_ [ ] AM [ ] PM [ ] N/A

Comments:

If spill is Yes: Last time Caller observed NO Spill occurring: \_\_\_:\_\_\_ [ ] AM [ ] PM Date: \_\_/\_\_/\_\_

Comments:

Ask Caller to describe spill:

Suggested Questions: Is it currently spilling? How would you compare it to a garden hose running full? How big would you say the wet stain is - compared to your driveway? What else can you tell me?

Arrival Time: \_\_\_:\_\_\_ [ ] AM [ ] PM
SSO Discovery \_\_\_:\_\_\_ [ ] AM [ ] PM



On Site Interview 1: Name/Address:

Observation Description:

Time Observed Spill: \_\_\_:\_\_\_
[ ] AM [ ] PM [ ] N/A

On Site Interview 2: Name/Address:

Observation Description:

Time Observed Spill: \_\_\_:\_\_\_
[ ] AM [ ] PM [ ] N/A

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## **SOP #9: Training Requirements and Staff Assessments**

### **1. Interferences**

1. Each Department responsible for implementing any part of the SSMP shall also be responsible for reviewing and training of that material biennially, in conjunction with the SSMP biennial review and audit.
2. Schedule training when City Staff schedules are relatively free in order to ensure that training exercise can be completed with minimal or no interruptions.
3. Require contractors responsible for assisting the City with collection system operation and maintenance (O&M) activities to be trained on the activities they are completing as part of their contracts and agreements with the City.

### **2. Personnel Qualifications and Responsibilities**

1. Streets and Utilities Manager and LRO
  - a. Responsible for the overall management of the training program
  - b. Responsible for ensuring that the Streets and Utilities Supervisor is implementing the training program.
  - c. Responsible for maintaining all training records and documents.
  - d. Responsible for managing and maintaining all required records and documents.
  - e. Responsible for ensuring that all required records are available upon request or inspection by SWRCB, RWQCB, or EPA.
  - f. Responsible for managing, maintaining, and updating this SOP.
  - g. Required to be regularly trained on this SOP as needed.
2. City Staff and Contractors Responsible for Collection System O&M Activities
  - a. Required to be regularly trained on this SOP as needed.

### **3. Equipment and Supplies**

1. The City's SOPs
2. Equipment and Supplies listed in each SOP required to perform training on each task

### **4. Procedure**

Annual training will be conducted during the months of October and November each year. If additional training is required, it will be conducted on an as needed basis. Annual training is a minimum requirement for compliance with the SSSWDRs and City's SSMP.

Training must cover the following activities identified in the City's Collection System O&M SOPs found below. City staff is required to receive training follows each SOP in italics:

- a) Preventative Maintenance Program (SS-SOP-1) *Streets and Utilities Staff*
- b) Annual Collection System and High Maintenance Area Cleaning and Reporting (SS-SOP-2) *Streets and Utilities Staff*

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- c) GIS Mapping and Sewer Atlas Updates (SS-SOP-3) *Environmental Regulations Staff*
- d) Underground Service Alert: USA Marking (SS-SOP-4) *Streets and Utilities Staff*
- e) CCTV Inspection (SS-SOP-5) *Environmental Regulations Staff*
- f) Sewer Connection Requests (SS-SOP-6) *Building Department: Permit and Inspection Services Staff/Engineering: Construction Management Staff*
- g) Routine Traffic and Crowd Control (SS-SOP-7) *Streets and Utilities Staff*
- h) Customer Contact Complaints (SS-SOP-8) *Streets and Utilities and Administrative Staffs*
- i) Collection System Training Requirements (SS-SOP-9) *Streets and Utilities Staff*

Individual Standard Operating Procedures (SOPs) must be read by staff and discussed to insure these procedures are thoroughly understood. Each procedure should be physically demonstrated to ensure the mechanics of current procedures and practices are still applicable.

City staff skills knowledge and abilities to perform the essential functions of the job are evaluated during routine on the job training, SOP training and during annual performance evaluations. Job descriptions and understanding of City standard operating procedures are utilized as metrics to evaluate staff competencies.

## **5. Data and Records Management**

- 1. All training records must be kept by its respective Department.
- 2. All required records shall be maintained for a minimum of five (5) years and shall be made available for review by the SWRCB and RWQCB during an onsite inspection or through an information request.

## **6. Quality Control and Quality Assurance**

- 1. The City's SSMP is evaluated as outline in SSMP Element 9: Monitoring, Measurement, and Program Evaluations.
- 2. Procedures are evaluated by City Staff during training sessions and after being implemented.
  - a. They are updated if there are any deficiencies.
- 3. Procedure updates may be completed by the Streets and Utilities Manager, Streets and Utilities Supervisor, City Public Works Director, or LRO and must be approved by the City Public Works Director or LRO.

## **7. References**

- 1. O&M SOPs #1-10
- 2. Equipment Manuals
- 3. City's SSMP
- 4. WDR: Order No. 2006-0003-DWQ
- 5. Adopted Amended MRP for the WDR: Order No. WQ 2013-0058-EXEC



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## **SOP #10: GWDR Tracking and Training**

### **1. Cautions**

1. Ensure that all training activities are documented.
2. Review SWRCB and RWQCB records requirements annually in order to ensure the required information, documents, and records are being maintained by the City.
3. Ensure that all equipment is used correctly and as outlined in the City's SOPs and equipment manuals.

### **2. Interferences**

1. Schedule training when City Staff schedules are relatively free in order to ensure that training exercise can be completed with minimal or no interruptions.
2. Establish and implement procedural training for contractors responsible for assisting the City with implementing aspects of the SSMP.

### **3. Personnel Qualifications and Responsibilities**

1. City Public Works Director and LRO
  - a. Responsible for the overall management of the training program
  - b. Responsible for ensuring that the Streets and Utilities Manager is implementing the training program.
  - c. Responsible for maintaining all training records and documents.
  - d. Responsible for managing and maintaining all required records and documents.
  - e. Responsible for ensuring that all required records are available upon request or inspection by SWRCB, RWQCB, or EPA.
  - f. Responsible for managing, maintaining, and updating this MP.
  - g. Required to be trained biennially.
2. City Staff Responsible for Activities Required by the WDR
  - a. Required to be trained biennially.

### **4. Equipment and Supplies**

1. The City's SSMP
2. The City's O&M SOPs
3. WDR: Order No. 2006-0003-DWQ
4. Adopted Amended MRP for the WDR: Order No. WQ 2013-0058-EXEC

### **5. Procedure**

1. Training must cover the following activities at a minimum:
  - a. Staff review of WDR: Order No. 2006-0003-DWQ (General Waste Discharge Requirements: Sanitary Sewer Systems)
    - i. Additional training must be held if any amendments are made to the WDR.
  - b. Staff review of Amended MRP for the WDR: Order No. WQ 2013-0058-EXEC

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- i. Additional training must be held if any amendments are made to the MRP.
  - c. Staff review of Elements in Sewer System Management Plan (SSMP) that are specific to their areas of responsibility. (Ex: Streets and Utilities Staff should be familiar with Elements 1: Goals, 4: O&M Program & 6: Overflow Emergency Response Plan.)
  - d. Staff review of all eleven (11) SSMP Elements and their supporting documents
    - i. SSMP training provides City Staff with the opportunity to comment on and provide recommendations for revising the City's SSMP.
    - ii. Additional training must be held if updates or revisions of the SSMP are completed.
- 2. All training must be documented and tracked in a training log sheet.
- 3. All records, including reports, photographs, supporting information, documents, or calculations associated with the implementation of the City's SSMP or activities complying with the WDR or MRP must be maintained with their associated SSMP Element.

## 6. Data and Records Management

- 1. All training records must be kept in the City's training binder, which is kept in the City Streets and Utilities office, and filed electronically with the Environmental Regulations office.
- 2. All required records shall be maintained for a minimum of five (5) years and shall be made available for review by the SWRCB and RWQCB during an onsite inspection or through an information request.
- 3. The Preventative Maintenance Program and the City's SSMP Element 4: Operation and Maintenance Program must be kept current in relation to each other. If revisions are made to either document, the other document must be checked to ensure that it does not need to be revised or updated due to the completed revisions.

## 7. Quality Control and Quality Assurance

- 1. The City's SSMP is evaluated as outlined in SSMP Element 9: Monitoring, Measurement, and Program Evaluations.
- 2. Procedures are evaluated by City Staff during training sessions and after being implemented.
  - a. They are updated if there are any deficiencies.
  - b. Procedure updates are completed by the Public Works Director, Streets and Utilities Manager, Streets and Utilities Supervisor, or LRO and must be approved by the City Public Works Director or LRO.
- 3. Public Works Director to review the City's training records annually to ensure all required staff are up-to-date on training requirements.

## 8. References

- 1. City's SSMP (2018)
- 2. WDR: Order No. 2006-0003-DWQ
- 3. Adopted Amended MRP for the WDR: Order No. WQ 2013-0058-EXEC