



City of Morro Bay  
Sewer System Management Plan

**AUDIT REPORT**  
**2016**

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## **Summary**

The California State Water Resources Control Board's (SWRCB) Waste Discharge Requirements (WDRs) adopted on May 2, 2006, require owners of a wastewater collection system with more than a mile of pipeline have a Sewer System Management Program (SSMP) in order to reduce the number and severity of Sanitary Sewer Overflows (SSO). In 2013, the SWRCB modified the WDRs with Order Number WQ 2013-0058: Amending Monitoring and Reporting Program for Statewide General Discharge Requirements for Sanitary Sewer Systems. Together these documents constitute the Statewide General WDR for Sanitary Sewer Systems.

The WDR requires the agency to perform an internal audit of the SSMP every two years. This is the third audit since the City of Morro Bay adopted the SSMP in June 2009. The first audit occurred in June 2011 and the second in June 2013. This is the first audit of the SSMP re-certified by the City Council in 2014 (2014 SSMP). This audit meets the biennial WDR audit schedule.

This biennial audit of the City of Morro Bay's SSMP consisted of applying compliance rankings to all 11 sections of the SSMP requirements. The compliance rankings are based on whether the City meets the WDR requirements for each element of the SSMP. Morro Bay City Staff reviewed all 11 sections of the SSMP and all 11 sections were found to be in *compliance*. The findings of this audit will lead the performance of the Wastewater Collections Division until the next scheduled audit in June 2018 and the next re-certification of the City's SSMP in 2019.

## **Introduction**

The California State Water Resources Control Board (“SWRCB”) put into effect a waste discharge requirement (“WDR”) permit on May 2, 2006 to regulate sanitary sewer systems. This permit is known as SWRCB Order No. 2006-0003, Statewide General Waste Discharge Requirements for Sanitary Sewer Systems. On July 30, 2013, Attachment A to the WDR was put into effect on September 9, 2013 and is known as Attachment A, SWRCB Order No. WQ 2013-0058-EXEC, amending the Monitoring and Reporting Program for Statewide General Waste Discharge Requirements for Sanitary Sewer Systems (together these documents constitute the “WDR”).

The WDR, among other things, requires local public sewer collection system agencies, referred to as “Enrollees,” to develop a Sewer System Management Plan (“SSMP”). SSMPs must be self-audited at least every two (2) years and updated and recertified every five (5) years from the original adoption date by the Enrollee’s governing board. The SSMP must be approved by the governing board of the Enrollee at a public meeting.

The five-year SSMP update must also be approved and certified as do all significant updates to the SSMP. The SSMP, all references in the document, and the adoption documents by the governing board must be available on the agency website or submitted to the SWRCB upon adoption or recertification. Enrollees do not send their SSMP to the State or Regional Water Boards for review or approval, but must make it publicly available, and upload an electronic copy to the California Integrated Water Quality System SSO database or provide a link to the Enrollees’ website where the SSMP is posted.

A principal element of the WDR is the requirement that collection agencies adopt and maintain a management plan for the system, referred to as a Sewer System Management Plan (SSMP).

The City of Morro Bay Waste Water Collections Division, after conducting a public hearing, adopted the City of Morro Bay SSMP on June 8, 2009, in accordance with the WDR. On May 27, 2014 at a public hearing, the Morro Bay City Council approved and re-certified the updated Sewer System Management Plan. This is the first audit of the re-certified 2014 SSMP. The next SSMP must be re-certified and approved on or before June 8, 2019.

The WDR establishes the following goals:

- The SSMP documents the organization’s legal authority to achieve the goals of the SSMP as demonstrated through the City of Morro Bay’s ordinances, agreements and other legally binding instruments.
- The SSMP identifies the City of Morro Bay’s organization and staff responsible for implementing and maintaining the SSMP.
- The SSMP provides a plan and schedule to properly manage, operate, and maintain the City of Morro Bay’s wastewater conveyance system.

Additionally, the WDR requires the City of Morro Bay staff to perform periodic internal audits of the SSMP focusing on evaluating the effectiveness of the SSMP and staff compliance with its requirements, as shown in Section D-13 of the WDR. The internal audit must be performed at least every two (2) years, with the audit report posted on the City of Morro Bay website and kept

on file at the Public Works Department.

The City has a separate Wastewater Collections Division (Division), within the Public Works Department, to oversee the operations and maintenance of the collection system. The Division operates under the general supervision of the Wastewater Division Manager. The Division includes a Collections System Supervisor and two levels of Wastewater Collection System Operators. Division staff respond to sewage spills and other calls 24 hours a day, 7 days a week, 365 days a year. To expedite cleaning and emergency response, the City owns and operates a combination cleaner (Hydro-Vac), a trailer-mounted jetter, three emergency generators, a diesel powered hydraulic pump, a portable trash pump, stocks an inventory of spare pumps and parts, confined space entry and safety equipment, and other tools and equipment. The Division does have a scheduled preventive maintenance and enhanced maintenance program to maintain the system. The City contracts out Closed Circuit Television (CCTV) inspection and links these data with GIS sewer maps. Staff uses the inspection videos to prioritize maintenance activities. These programs satisfy the WDR.

Several agencies discharge to the City wastewater collection system that the City considers satellite agencies. They are:

- Morro Bay High School (San Luis Coastal Unified School District)
- Morro Bay State Park (2 sources California State Parks)
- Bayshore Village Home Owners Association

These systems are owned and operated by other agencies, and may have more than a mile of sewer lines. The City does not maintain those systems, but does have the right to regulate the discharger's flows and influent quality into the City sewer system.

The Cayucos Sanitary District (CSD) also discharges to the Wastewater Treatment Plant through both a separate main trunk line and a shared main trunk line. A Joint Powers Agreement (JPA) specifies that their discharge must be such that it does not cause harm to the treatment process, however, since the CSD has an ownership interest in the WWTP and maintains their own SSMP, the City of Morro Bay does not consider them a satellite agency. The JPA agreement specifies the ownership and operational terms that define legal standing and relationship.

The first two audits of the 2009 SSMP were completed in 2011 and June 2013. This is the first internal audit of the re-certified SSMP adopted on May 27, 2014. After auditing the 2014 SSMP, staff will develop steps to correct deficiencies discovered during the audit, add any corrective steps to the SSMP, record these changes in the SSMP change log, and continue working to achieve or exceed the goals of the Wastewater Collections Division.

As required by the WDR, this internal audit evaluates the SSMPs effectiveness on each of the following eleven categories.

## **Audit of the SSMP**

As specified in the WDR, the SSMP is comprised of eleven (11) sections or subsets of Section D. 13, as follows:

The Eleven Elements of the SSMP:

1. Goals- The stated goals for the SSMP
2. Agency Organizational Structure and SSO reporting chain of communications
3. Document Legal Authority
4. Operation and Maintenance
  - a. Collection System Mapping
  - b. Preventative Operations and Maintenance Program
  - c. Rehabilitation and Replacement Program
  - d. Staff training
  - e. Contingency, Equipment, and Parts Inventory
5. Design and Performance
  - a. Design Standards
  - b. Inspection and Testing Standards
6. Overflow Emergency Response Plan
7. Fats, Oils and Grease (FOG) Control Program
  - a. Fog Ordinance
  - b. A program to reduce or eliminate FOG SSO
8. System Evaluation and Capacity Assurance Plan
9. Monitoring, Measurements and Program Modifications
10. SSMP Audits
11. Communication Program
  - a. Communications with the public
  - b. Communications with satellite agencies

The format for audit reporting is as follows:

- WDR Section/Subsection
- Findings
- Reference Information
- Sufficiency Ranking
  - Complies
  - Substantial Compliance
  - Partial Compliance
  - Marginal Compliance
  - Not in Compliance
- Recommendation, when appropriate.

## **Section 1. Audit of Goals - WDR D.13.i**

Review the SSMP to determine if it complies with the WDR by having a goal to provide a plan to manage, operate, and maintain all parts of the City of Morro Bay Collection System. This will help reduce and prevent SSO's, as well as mitigate any SSOs that do occur.

### Findings:

The City of Morro Bay has established a list of goals in its SSMP that complies with the goals established in the WDR.

The City of Morro Bay's Goals for the SSMP together with progress to date are as follows:

**Goal 1:** Manage, maintain and improve the City's collection system infrastructure within the City in a manner consistent with the adopted SSMP and 2006 Sewer Collections System Master Plan now and into the future.

**Compliance:** Ongoing. The City of Morro Bay's staff manage numerous programs including CCTV inspections, line cleaning, manhole assessments, root control programs, and source control programs. Collections and Engineering staff gather information from these programs to develop a CIP schedule and minimize SSO's per SSMP objectives.

**Improvements:** The following projects were completed during this audit cycle:

- Rehabilitated Lift Station 1 with epoxy lined wetwell, new high-efficiency pumps and pre-rotation bases, above ground standby pump fixtures, motor control center pedestal, new discharge piping, valving, and valve vault.
- Replaced approximately 50 conventional manhole ring and lids in drainage channels with Pamrex sealing manhole rings and lids. This is part of the City's ongoing I/I reduction measures.
- Epoxy lined approximately 10 manholes.
- Ongoing flow metering per 2006 Sewer System Masterplan.
- Point repairs on Sicily, Ironwood Ave., Beachcomber, Norwich.
- Establish an in-house main line point repair program.
- Developed an electronic manhole assessment program.
- Continue Manhole Rehabilitation Program as part of the CIP.

### **Future projects:**

- Sewer line repair/replacement, manhole rehabilitation, and continued manhole ring and cover replacement with sealing manhole rings and covers.
- North Main Street repair and rehabilitation.
- Embarcadero repair and rehabilitation.
- New Water Reclamation Facility development and collection system realignment.

- The Laurel Easement sewer line within Section 4.
- Various rehabilitation projects identified through the CIP process.
- City has a goal to implement a City-wide asset management software program, Cityworks, that will assist the Collection Division with overall management and record keeping of the sewer system.
- Implement a SCADA system for the three Lift Stations within the Collection System.

**Goal 2:** Reduce the number and impact of sanitary sewer overflows (SSO) that may occur throughout the City of Morro Bay.

**Compliance:** Ongoing. City staff's proactive maintenance effort, as outlined in the SSMP, attempts to minimize the number and impacts of SSOs. Collections staff maintains an SSO and Private Lateral Sewer Discharge (PLSD) log as part of the SSMP and City of Morro Bay's reporting requirements.

- From June 2014 to June 2015, there were 2 SSOs reported.
- From June 2015 to June 2016 there was 1 SSO reported.
- Increased tracking of PLSDs.

**Future Activities:**

- Sewer line and manhole rehabilitations on an as needed basis.
- Maintain a proactive source control program.
- See Goals 1 and 3 for projects that help achieve this goal.

**Goal 3:** Cost-effectively minimize inflow/infiltration (I/I) and provide adequate sewer capacity to accommodate design peak wet weather flow.

**Compliance:** Ongoing. There has been no wet weather related SSOs during this audit cycle, June 2014 to June 2016. Staff will continue to install Pamrex sealing manhole rings, covers, rain dishes, smoke test, lateral rehabilitation, flow metering, and main line spot repairs in order to reduce rain dependent inflow.

**Improvements:**

- Replaced approximately 50 conventional manhole ring and lids in drainage channels with Pamrex sealing manhole rings and lids.
- Epoxy lined approximately 10 manholes.
- Ongoing flow metering per 2006 Sewer System Masterplan.

**Future Activities:**

- Continue manhole rehabilitation program.
- Evaluate sewer mains using new and conventional technology.
- Continue system wide flow monitoring per guidance from the 2006 Sewer System Master Plan.
- Continue to work with the Engineering Division to analyze flow data

and to develop and prioritize the Collection System CIP program.

**Goal 4:** Controlling source discharges from entering and affecting the collection system and the Wastewater Treatment Plant in accordance with Local, State and Federal regulations.

**Compliance:** Ongoing. Annual communications and source control inspections at local business and commercial establishments regarding acceptable Best Management Practices (BMPs) for discharges to the sewer collection system.

**Future Actions:**

- Provide training to new and existing employees.
- Educate business owners on source control of discharges.
- Provide/continue public outreach to both residential and commercial business owners on proper source control discharges.
- Distribute education material as part of the public outreach program, such as newsletters, City website, personal interactions and handouts.

**Goal 5:** Continue to monitor the State and Federal mandates, rules, and regulations as necessary.

**Compliance:** Ongoing. The City of Morro Bay's Collection staff performs CCTV inspections, system evaluations, and prepares reports necessary to ensure continued compliance with regulatory requirements. Collections Staff developed an annual calendar of reoccurring events so reporting and document review are conducted in a timely manner. As necessary, staff continue applying new regulations and requirements to programs and procedures.

**Future Activities:**

- Collection Staff training through California Water Environment Association (CWEA), California Joint Powers Insurance Authority (CJPIA), local training companies, California Rural Water Association (CRWA), Cal State Sacramento Office of Water Programs, and learning new and upcoming regulations through conversations with state agency personnel.

**Goal 6:** Proactively train Collections staff on emerging technologies, new equipment technologies and industrial systems required by State and Federal mandates, rules and regulations.

**Compliance:** Ongoing. Staff attends required training and supplemental training classes and workshops. Topics include SSO volume estimating, Lock Out Tag Out training, California Water Environment Annual Conference workshops, Confined Space Training, Trench Safety Competent Person training, LA City Ride Along, collection system maintenance specialty training, traffic control training, USA dig alert training and more. Additionally,

journey-level staff train new staff on equipment and safe work practices. Field staff maintain at least 12 hours of contact hours required for retaining CWEA collection system maintenance certification.

**Future Activities:**

- Continue training on safety programs and improve staff knowledge, skills and abilities to better serve customers and operate the collection system.
- Provide training to retain collection system maintenance certification for employees.

Reference: City of Morro Bay SSMP

Sufficiency: Complies. The City of Morro Bay's SSMP Element I complies with the *Goals* requirement of the WDR.

Recommendation:

- Continue to develop and revise programs to effectively manage and operate the City's collection system. In addition, improve staff knowledge, skills, and abilities through training.

## **2. Audit of Organization - WDR D.13.ii**

*Review the SSMP to determine if it complies with the WDR by having the names of authorized representatives published and updated in the SSMP.*

### Findings:

The City of Morro Bay staff updates its organization chart with the annual budget. Collection Staff review and update the SSO reporting chain of communication chart as needed and the SSO notification checklist annually. These Charts identify authorized representatives, management, administration, and maintenance personnel.

The City of Morro Bay has posted on its website the Organization Chart.

Reference: City of Morro Bay Organizational Chart, City of Morro Bay SSMP, Element II

City of Morro Bay Chain of Communication for Reporting SSO, City of Morro Bay SSMP, Element II

City of Morro Bay Sanitary Sewer Overflow Notification Checklist, Appendix B

Sufficiency: **Complies.** The City of Morro Bay's SSMP Element II complies with the *Organization* requirements of the WDR.

### Recommendation:

- Update the City of Morro Bay's Organization and Chain of Communication as needed. The chart is updated annually in the Agency's annual budget. Continued out-reach to surrounding agencies (upstream) by sharing our Morro Bay SSO notification checklist which will help make sure that Morro Bay and select local businesses are added to their SSO Reporting Chain of Communications.
- Publish the 2014 SSMP Audit on the City of Morro Bay website.

### **3. Audit of Legal Authority - WDR D.13.iii**

*Review the SSMP to determine if it complies with the WDR by having ordinances and agreements in place and updated to prevent illicit discharges, provide for proper design of upstream facilities, provide right of way and access to the Sewer Systems, and enforce the City of Morro Bay regulations.*

#### Findings:

The City of Morro Bay, Chapter 13.12 of the Municipal Code and Title 8 of the Standard Specifications, which provides the legal authority and design standards for the City's sewer system and prevention of illicit discharges and protecting public health and safety.

Additionally, the City of Morro Bay maintains files that document the City of Morro Bay's right to access easements.

Reference: Chapter 13.12 of the Municipal Code, City of Morro Bay SSMP, Appendix A, Attachment A

Title 8 of the Standard Specifications, City of Morro Bay SSMP, Appendix A, Attachment B

City of Morro Bay Standard Drawings: Sewer Section, Appendix A, Attachment C

Sufficiency: **Complies.** The City of Morro Bay's legal structure complies with the *Legal Authority* requirements of the WDR.

#### Recommendation:

- Update and revise the City sewer standards/construction drawings to stay up to date with current construction trends.
- Review City Municipal Code, recommend, if any, changes, and/or updates to stay current with the changing definitions in State law (i.e. definition of a private lateral and private lateral spill.)

#### **4. Audit of Operation and Maintenance Program - WDR D.13.iv**

*Review the SSMP and activities of staff, consultants and contractors to determine compliance with the WDR by having (a) an up to date map of the sewer systems that shows all pipe reaches, manholes, siphons, diversion structures, and pump stations, if any, (b) a routine preventative maintenance and operations program, (c) rehabilitation and replacement program, (d) operations and maintenance training program, and (e) part inventory program including identification of critical replacement parts.*

##### Findings:

- (a) *An up to date map of the sewer system that shows all pipe reaches, manholes, siphons, diversion structures, and pump stations, if any*
  - The City of Morro Bay maintains and updates GIS mapping and data tables for collection system assets. This information is accessed through the City of Morro Bay's server and asset maps are updated and published as needed.
  
- (b) *A routine preventative maintenance and operations program*
  - Engineering and Collections system staff respond to field Underground Service Alerts (USA) and customer inquiries, and staff responses for these activities are recorded.
  - The City of Morro Bay's Collection staff perform CCTV inspection of the collection system.
  - O&M staff completed routine sewer main cleaning and lift station maintenance, including enhanced line cleaning for problematic sewer mains. The main line cleaning is recorded in the Simms program.
  - The City continues a chemical root control program. A contractor chemically treats mains with known root problems and newly discovered mains with roots.
  - Transitioning to new asset management software system, Cityworks.
  
- (c) *Rehabilitation and replacement program*
  - Collections system staff relays pipeline condition and other asset information to the engineering department. With this information Capital Improvement Projects (CIPs) are developed. The Engineering and Collections staff attend regular meetings to develop and update near and long-term improvement projects to provide continuing support for the three lift stations and the collection system.
  - All three of the City's lift stations have been replaced or rehabilitated: Replacement of lift-station 2 in 2012, replacement of Lift Station 3 in 2013 and rehabilitation of Lift Station 1 in 2016. Lift Station 1 rehabilitation was part of previous audits recommendations.
  - In addition, the City conducted sewer line rehabilitation, point-repair projects, and manhole rehabilitation throughout the collection system.

- (d) *Operations and maintenance training program*
  - Collection staff maintained required trainings and certifications, per California Water Environment Association, CalOSHA and City job requirements.
  - Re-training, enhanced training, and modifications to confined space entry protocols following CalOSHA violation in 2015.
  - Introduced and incorporated Activity Hazard Analysis, Pre-Task Plans and Standard Operating Procedures into work activity planning.
- (e) *Part inventory program including identification of critical replacement parts*
  - Critical parts are in stock and inventoried. These parts are at the ready in the event of emergency and planned repairs at lift stations, on maintenance equipment and for the collection system. Staff operates and maintains a combination cleaner (Hydro-Vac), three emergency generators, a by-pass pump, four trucks, a trailer-mounted jetter, and other equipment.

Reference: City of Morro Bay SSMP, Element IV

Sufficiency: **Complies** The City of Morro Bay's Element IV complies with the *Operations and Maintenance* section of the WDR.

Recommendation:

- Continue proactive CIP development and implementation.
- Purchase CCTV pipeline inspection crawler to assist and compliment the O&M program.
- Purchase CCTV software to replace outdated Posm inspection/analysis/reporting software.
- Develop and establish criteria and program for removing main lines off enhanced maintenance (CCTV QA/QC).
- Continue public outreach for lateral rehabilitation.
- Begin QA/QC program for line cleaning-CCTV before and after line cleaning to assess effectiveness of cleaning strategy and use this information as a training tool.
- Continue collaboration between O&M and Engineering staff to ensure maps are updated when discrepancies or errors are noted.
- Implement the new asset management software system, Cityworks.
- Continue chemical root applications in problem lines.
- Continue proactive staff training.
- Coordinate sewer CIP repairs with the Asphalt Management Program

## **5. Audit of Design and Performance Provisions - WDR D.13.v**

*Review the SSMP to determine if it complies with the WDR by having design and construction standards and specifications for installation of new facilities including coverage for testing of new facilities prior to acceptance.*

### Findings:

#### *5a. Standards for Installation, Rehabilitation and Repair*

The SSMP references the City of Morro Bay's Standards and Specifications in addition to the City's Municipal Code. In addition, reference is made to other approved testing methods, such as ASTM (formerly known as American Society for Testing and Materials), to ensure infrastructure meets design and performance provisions. The Engineering Standards are being revised and in draft form.

#### *5b. Preventive Operations and Maintenance*

Before acceptance of a facility, Morro Bay receives O&M manuals, records and as-built drawings, permanent keys, final cleanup, final repairs, etc. The testing and startup is deemed complete when test results are approved and the reliability test has demonstrated that the system functions as designed.

Legal requirements for construction and major repair projects are documented in the specifications and are made a part of all construction contracts, however, the legal section of the specifications have not been made a part of the SSMP due to their project specific nature.

Reference: Standard for manholes, City of Morro Bay SSMP, Appendix A, Attachment C

Standard for connections, City of Morro Bay SSMP, Appendix A, Attachment C

Standard for bedding and backfill, City of Morro Bay SSMP, Appendix A, Attachment C

Sufficiency: **Complies** The City of Morro Bay's Element V complies with the *Design and Performance Provisions* of the WDR.

### Recommendation:

- Complete revision and review of Engineering Standard Drawings
- Implement training as discussed in the recommendations under Element I Goals and train on new Engineering Standards when necessary.

## **6. Audit of Overflow Emergency Response Plan - WDR D.13.vi**

*Review the SSMP to determine if it complies with the WDR by having an overflow emergency response plan that includes (a) proper notification procedures, (b) a program that assures proper response to all overflows, (c) procedures that ensure prompt notification of regulatory agencies and other affected entities, (d) proper training for staff and contractors named in the response plan, (e) procedures to address traffic control and crowd control, and, (f) implementation of steps to prevent SSO from reaching waters of the United States.*

### **Findings:**

SSO's have been classified, logged, reported, and treated per the requirements outlined in the Overflow Emergency Response Plan contained in the SSMP.

From June 2014 to June 2016, there were three (3) SSO's within the City of Morro Bay service area.

Per the requirements in the WDR the City is not required to report PLSD's to CWIQS. The Collection Division does follow standard operating procedures and document when, where, and volume spilled (if applicable) of all PLSD's reported to the City. The Collections Division started tracking PLSDs as of September 2013. For this audit period June 2014 to 2016 there were approximately 35 PLSDs documented.

City staff's continuing proactive maintenance effort, as outlined in the SSMP, attempts to minimize the frequency and impacts of SSOs. Collections staff maintains a SSO log as part of the SSMP and the City of Morro Bay's reporting requirements.

The Collection Division satisfies the Overflow Emergency Response Plan (OERP) requirements by having an OERP that includes the following elements:

- a) *Proper notification procedures:* Collection division maintains a current notification checklist with both agency contact information as well notification time schedules. The checklist is updated annually. Notification will be made to the required agency(s) within the established time limit contained within the WDR.
- b) *A program that assures proper response to all overflows:* The Collection Division has a series of standard operating procedures, checklists, and forms outlining procedures to be followed during an SSO. Collection Staff debrief following SSO events.
- c) *Procedures that ensure prompt notification of regulatory agencies and other affected entities:* Collection division maintains a current notification checklist with both agency contact information as well notification time schedules. The checklist is updated annually. Notification will be made to the required agency(s) within the established time limit contained within the WDR.
- d) *Proper training for staff –on the response plan and procedures:* Staff train

on the OERP on an annual basis. Training also includes debriefing following a SSO event or cleanup, and training by various outside agencies such as CWEA and California Rural Water Association.

- e) *Procedures to address traffic control and crowd control:* Traffic and crowd control procedures include standard operating procedures for SSO's and site specific traffic control plans as needed, and use of the Morro Bay Police Department for additional traffic or crowd control if required. Collection Division staff receive traffic control training on an annual basis.
- f) *Implementation of steps to prevent SSO from reaching waters of the United States:* The Collection Division has a series of standard operating procedures, checklists, and forms to outline procedures to be followed during an SSO. The standard operating procedures outline and prioritize the containment of an SSO to limit or prevent SSO's from reaching waters of the United States.

Reference: *Overflow Emergency Response Plan*, City of Morro Bay SSMP, Appendix B

State Waste Discharge Requirements, City of Morro Bay SSMP, Appendix B, Attachment A

Notification Checklist, City of Morro Bay SSMP, Appendix B, Attachment B

SSO Field Report, City of Morro Bay SSMP, Appendix B, Attachment C

Collection Systems Stoppages are logged in Microsoft Excel format.

Sufficiency: Complies. The City of Morro Bay's Element VI complies with the *Overflow Emergency Response Plan* requirements of the WDR.

Recommendation:

- Continue training following responding to PLSD/SSO events. Post PLSD/SSO debriefing will emphasize protocols to ensure requirements are met per the WDR and SSMP.
- Continue training on SSO volume estimation calculations.
- Continue to educate the public on the benefit and need for private/residential sewer backflow preventers requiring them where appropriate.
- Continue to educate local plumbers to notify the Collection Division when "unclogging" drains/private sewer lateral. Un-captured deposits of debris into the sewer mains by plumbers when clearing laterals has the potential of causing downstream SSOs.
- Complete a SSO Technical Report and response package.
- Continue public education efforts regarding FOG and other household items that have the potential to be disposed via sewer laterals to minimize the potential of any SSO.

## **7. Audit of FOG (Fats, Oils and Grease) Control Plan- WDR D.13.vii**

*Review the SSMP to determine if it complies with the WDR by having a FOG Control plan with (a) a public education element, (b) FOG disposal facilities identified, (c) ordinances, rules and regulations to prevent FOG, (d) requirements to install FOG traps together with standard drawings for traps, owner maintenance requirements, owner record keeping requirements and owner reporting requirements, (e) inspection authority and staffing, (f) FOG mapping for pipe reaches impacted by FOG, and (g) a source control plan for reaches currently impacted by FOG.*

### **Findings:**

The Collection Division satisfies the FOG (Fats, Oils, and Grease) Control Plan requirements by having a FOG control program that includes the following elements:

- a) *a public education element*: The City conducts a proactive public outreach program utilizing newsletters, the City website, personal interactions and handouts to provide residents and business owners with information and BMPs on source control and FOG.
- b) *FOG disposal facilities identified*: The City staff maintain a list of FOG disposal companies and provide this list to businesses within the City.
- c) *ordinances, rules and regulations to prevent FOG*: The City of Morro Bay Municipal Code ordinance 13.12.120 prohibiting excessive FOG discharges to the sewer system.
- d) *requirements to install FOG traps together with standard drawings for traps, owner maintenance requirements, owner record keeping requirements and owner reporting requirements*: The City of Morro Bay Municipal Code ordinance 13.12.130 requiring food serving establishments to install grease interceptors. The City of Morro Bay Municipal Code ordinance 13.12.140 requiring the owner to maintain the interceptor in continuously efficient operation at their expense. During the inspection process, Collection staff provide a copy of the inspection form for the owners records. The California Plumbing Code regulates design and installation of grease/sand interceptors. Grease/sand interceptors on private property are permitted, reviewed, and approved through the City, and installed by plumbing contractors. Plumbing contractors must follow the California Plumbing Code.
- e) *inspection authority and staffing*: The City of Morro Bay Municipal Code provides the legal authority for City staff to enter and inspect interceptors. The Collection crew has staff assigned to perform inspections on a routine schedule. A work order program is used to track and schedule visits at the various establishments. A digital inspection form was developed for source and FOG control inspections which records the date, name of the business, owner/contact information, inspector, and condition of trap and purpose of visit. Collections staff has created a spreadsheet for FOG inspections similar to SSO reports.
- f) *FOG mapping for pipe reaches impacted by FOG*: The Collections Divisions maintains a list of pipeline sections that are on an enhanced maintenance program for areas prone to FOG build-up such as siphons and pipeline sections with minimal slope.
- g) *a source control plan for reaches currently impacted by FOG*: The Collections Divisions

maintains a list of pipeline sections that are on an enhanced maintenance program for areas prone to FOG build-up such as siphons and pipeline sections with minimal slope

Reference: City of Morro Bay SSMP, Appendix C, FOG Control Program

Chapter 13.12 of the Municipal Code, City of Morro Bay SSMP, Appendix A, Attachment A.

Title 8 of the Standard Specifications, City of Morro Bay SSMP, Appendix A, Attachment B.

Sufficiency: **Complies.** The City of Morro Bay's Element VII complies with the *FOG control plan* of the WDR.

Recommendation:

- Continue a partnering/educational relationship with the businesses/restaurants within the City. Maintain inspections and recommendations for grease interceptor and traps.
- Insert as Attachment E to the SSMP, "Guide to Grease Interceptors- Eliminating the Mystery," The Plumbing & Drainage Institute, Revised 2010, in Appendix C.
- Continue dialog between Collection Division and Engineering Division to ensure FOG deficiencies are addressed through the Development Review process and City Standard Drawings are regularly updated.
- Continue with newsletter on annual basis.
- Include copy of revised FOG inspection form in Appendix C.
- Incorporate FOG inspection records into the new Cityworks asset management software system.

## **8. Audit of the System Evaluation and Capacity Assurance Plan- WDR**

### **D.13.viii**

*Review the SSMP to determine if it complies with the WDR by having a Capital Improvement Plan (CIP) that considers (a) Evaluation of those portions of the sewer systems that are experiencing SSO discharges due to hydraulic deficiency, (b) Design Criteria commensurate with the sewer systems, (c) Capacity Enhancement Measures and steps to address short term and long term CIP goals and an implementation schedule, and (d) Schedule for completion of the necessary things-to-do that were developed in items D.13.viii (a) - (c) above.*

#### Findings:

The City of Morro Bay's staff complies with the requirements of the WDR by operating computer models for its System Evaluation and Capacity Assurance Plan. The primary component of the plan, as directed in the WDR is its Capital Improvement Program (CIP). The other major element of the plan is the Design Criteria addressed in Section 5 above (WDR D.13.v). During this audit cycle, 2014-2016, there were no SSO's reported or observed related to hydraulic deficiencies.

The City of Morro Bay's engineering department operates Arcview GIS. The model contains the collection system which includes approximately 60 miles of gravity sewer line, approximately 2.5 miles of force main, approximately 1100 manholes, lampholes and clean-outs, and three lift stations which are monitored regularly. The model has been data organized to the variety of pipe materials, lengths between manholes/clean-out, and direction of flow. Arcview GIS is up to date, has ongoing mapping capability and color-coded results presentation.

Engineering Division tracks projects, their financial costs, and the distribution of those costs throughout the duration of projects. Maintenance and repair projects are prioritized based on structural conditions and frequency of operating problems.

*a) Evaluation of those portions of the sewer systems that are experiencing SSO discharges due to hydraulic deficiency:*

- The city did not experience any SSO associated with hydraulic deficiency during the time period from June 2014 to June 2016.
- The 2006 Sewer System Master Plan identifies portions of the sewer system that may have hydraulic deficiencies. These lines are under review and prioritized in the City's CIP program.

*b) Design Criteria commensurate with the sewer systems*

- During this audit cycle, 2014-2016, there were no SSO's reported or observed related to hydraulic deficiencies.
- The 2006 Sewer System Master Plan analyzed the hydraulic capacity of the entire collection system utilizing a hydraulic model.
- The 2006 Sewer System Master Plan included a prioritized CIP program based on hydraulic capacity at both peak flows as well as build out scenarios.

- City maintains Engineering Standards for the repair, rehabilitation, and construction of sewer lines, laterals, cleanouts, and manholes.
  - City Municipal Code contains ordinances related to the design, operation, and maintenance of the sewer system.
- c) *Capacity Enhancement Measures and steps to address short term and long term CIP goals and an implementation schedule*
- The 2006 Sewer System Master Plan includes hydraulic modeling of the collection system during various flow scenarios.
  - The City has an on-going flow monitoring program in place that follows the flow monitoring recommendations contained in the 2006 Sewer System Master Plan.
  - The Collections Division has a program designed to reduce I/I into the system. The 2006 Sewer System Master Plan established I&I reduction goals throughout the system.
  - City adopted a new sewer fee schedule in May 2015 that includes annual increases to sewer fees over five-year period. The fee increase is to both cover development and construction of a new water reclamation facility as well as fund improvements to the sewer collection system identified in the 2006 Master Plan as possibly deficient.
  - The City has funds in the FY16/17 budget for an upgrade to the 2006 Sewer System Master Plan.
- d) *Schedule for completion of the necessary things-to-do that were developed in items a-c above*
- Collections and Engineering staff review and evaluate CIP projects during annual budget adoption process.
  - City has a sewer CIP plan for identified projects.
  - City adopted a new sewer fee schedule in May 2015 that includes annual increases to sewer fees over a five-year period. The sewer fee increase covers costs associated with development and construction of a new water reclamation facility and improvements to the sewer collection system.

Reference: City of Morro Bay, Arcview GIS.

Sufficiency: **Complies.** The City of Morro Bay's Element VIII complies with the *System Evaluation and Capacity Assurance Plan* requirements of the WDR.

Recommendation:

- Maintain open communications between the Collection and Engineering departments regarding assessment of the sewer system, regularly scheduled maintenance, any incidents involving potential SSO, and the development review process.
- Continue to investigate and develop a system-wide GIS-based model to enable running various flow scenarios.
- Continue Collection system flow study, use flow data for system modeling, and contract firm to update the Collection System Master Plan.

## **9. Audit of the Monitoring, Measurement, and Program Modification - WDR**

### **D.13.ix.**

*Review the SSMP to determine if it complies with the WDR by (a) maintaining relevant information that can be used to establish and prioritize appropriate SSMP activities, (b) monitoring the implementation and, where appropriate, measure the effectiveness of each element of the SSMP, (c) assessing the success of the preventative maintenance program, (d) updating program elements, as appropriate, based on monitoring or performance evaluations, and (e) identifying and illustrating SSO trends, including frequency, location and volume.*

#### Findings:

The City of Morro Bay Collections staff maintain a spreadsheet that generates statistical data to determine the effectiveness of its SSMP by tracking SSO data such as:

- number of SSO
- response time
- volume of SSO
- cause of SSO (structural failure, FOG, roots, debris, etc.)

From June 2014 to June 2016, there were 3 mainline SSOs.

#### *a) maintaining relevant information that can be used to establish and prioritize appropriate SSMP activities:*

- Collections staff uses the SSMP as a guidance document and track SSO's and modify maintenance schedules or procedures in order to minimize SSO's and avoid repeating SSO's at/near the same location.
- The audit process assists staff by providing a review of their various programs and practices to ensure the requirements contained within the eleven elements of the SSMP are relevant and reflect field practices.

#### *b) monitoring the implementation and, where appropriate, measure the effectiveness of each element of the SSMP:*

- The collection staff follows the goals outlined in element 1.
- Staff increased FOG visits at food service establishments and industrial sources.
- The City, through the its sewer CIP program, reconstructed lift stations, updated lift station controllers with SCADA capable controllers, developed in-house spot repair for selected main lines, and continue evaluating CIP programs.
- No significant changes occurred to our Overflow Emergency Response Plan. It has proven to be effective for both responding to SSO events as well as reporting to appropriate regulatory in the prescribed time frame after an SSO event.

#### *c) assessing the success of the preventative maintenance program:*

- SSO frequency and volume over this audit period shows a well-balanced maintenance program
- Preventative line cleaning is on schedule to clean entire town in stated goal of two years

d) *updating program elements, as appropriate, based on monitoring or performance evaluations:*

- The audit contains recommendations to assist in refining the SSMP and its associated programs
- City Design Standards are being updated and in draft form at the time of this audit.
- Collection Division has budgeted for an update to the 2006 Sewer System Master Plan.

e) *identifying and illustrating SSO trends, including frequency, location and volume:*

- Staff maintains a multi-year SSO tracking spreadsheet and look for SSO trends
- Collections staff are more closely monitoring and acquiring data on PLSDs

Reference: City of Morro Bay SSMP

City of Morro Bay, Collection System Stoppages spreadsheet

SIMMS and CUPSS software tools.

Sufficiency: **Complies.** The City of Morro Bay's Element IX complies with the *Monitoring, Measurement, and Program Modification* requirements of the WDR.

Recommendation:

- Continue the process of acquiring and implementing electronic asset management and monthly task tracking software (Cityworks). These tools will help to ensure that past activities are captured in a format that enables easy review. Reviewing activities will enable the Division to determine trends and optimize efforts accordingly.
- Maintain regularly scheduled sewer main cleaning and rehabilitation improvements program generated from the CIP.
- Continue with regular planning sessions to discuss implementation of the SSMP and overall Division maintenance efforts.
- Continue to respond to and track PLSDs throughout the City.

## **10. Audit of the SSMP Program Audits - WDR D.13.x.**

*As a part of the SSMP, City of Morro Bay shall conduct periodic audits. At a minimum, these audits must occur every two years and a report must be prepared and kept on file. These audits shall focus on the effectiveness of the SSMP, compliance with WDR requirements, identification of any deficiencies and steps to correct them.*

### **Findings:**

The City of Morro Bay has embarked on this audit of the SSMP which was originally approved in 2009 and re-certified in 2014 with timeliness to allow the auditor adequate time to investigate, gather evidence, analyze and then report sufficiency and findings, and finally, to make recommendations when appropriate. The audit is due June 2016. The next audit will be due in June of 2018 per direction from SWRCB staff. The SSMP must be re-certified by June 2019 after updating the SSMP with elements recommended by the 2016 and 2018 audits together and with any program changes implemented by City of Morro Bay.

**Reference:** This is the first audit of the City of Morro Bay 2104 SSMP. This audit will become a reference for the 2019 re-certification of the SSMP and 2018 audit.

**Sufficiency:** Complies. This document will be available on the City website and be on file at the Public Works Department and will comply with the *SSMP Program Audits* requirements of the WDR.

### **Recommendation:**

- Include recommendations identified during the audit in the SSMP.
- Train Staff on revisions to the SSMP and associated program changes

## **11. Audit of the Communication Program - WDR D.13.xi.**

*Review the activities of staff to determine if they have complied with the WDR by (a) communicating the performance of the SSMP with the public and with City of Morro Bay member agencies, and (b) providing the public and the member agencies the opportunity to provide input.*

### Findings:

a) *communicating the performance of the SSMP with the public and with City of Morro Bay member agencies:*

- The process of developing, auditing, and re-certifying the SSMP involves a public process that allows staff to communicate to the public and member agencies how staff performs or complies with the required elements of the SSMP. The process also allows the opportunity for community input. Bringing the audit to the Public Works Advisory Board allows further opportunity to communicate about the performance of the SSMP. In addition, it allows for public input.

(b) *providing the public and the member agencies the opportunity to provide input:*

- With the completion of each audit, City of Morro Bay staff make the report available to the public by posting it on the City of Morro Bay website. As noted previously, the five-year recertification process requires the SSMP be approved by the City Council providing further opportunity for public input. The Council meetings are public meetings governed by the Brown Act and the City televises these meetings and streams them online to provide multiple channels of communication.

Reference: SSMP, City of Morro Bay Web Page

Sufficiency: Complies. The City of Morro Bay's Element XI complies with the *Communications Program* requirements of the WDR.

### Recommendation:

- Following completion of the audit, the audit will be posted to the City of Morro Bay website for public access.
- Continue with proactive public outreach using utility newsletters, community outreach, the City's website and source control visits.
- Ensure PWAB is involved in future SSMP re-certification processes to further enhance public awareness, review, and input.