



City Council Staff Report

Date: October 19, 2011 CONSENT CALENDAR
Subject: CITY OF PALM SPRINGS SANITARY SEWER SYSTEM MANAGEMENT
PLAN BIENNIAL PROGRAM AUDIT
From: David H. Ready, City Manager
Initiated by: Public Works and Engineering Department

SUMMARY

On May 2, 2006, the California State Water Resources Control Board adopted Order No. 2006-0003-DWQ implementing state wide regulations related to the operation and maintenance of sanitary sewer systems. On July 15, 2009, the City Council adopted the City of Palm Springs Sanitary Sewer System Management Plan ("SSMP") to comply with the state's Order. The SSMP requires the City to report the efforts of its SSMP every two years. This is the City's first audit report for the SSMP.

RECOMMENDATION:

Receive and file the 2011 Sewer System Management Plan ("SSMP") Program Audit.

STAFF ANALYSIS:

On May 2, 2006, the California State Water Resources Control Board ("State Board") adopted Order No. 2006-0003-DWQ ("the Order") implementing state wide regulations related to the operation and maintenance of sanitary sewer systems. The State Board was created by the Legislature in 1967. The joint authority of water allocation and water quality protection enables the State Board to provide comprehensive protection for California's waters. The State Board oversees and administers regulations related to groundwater, storm water, wastewater, water recycling, and other related issues.

In April 2004, the State Board began to investigate potential solutions to reduce both the numbers and volume of Sanitary Sewer Overflows ("SSOs") that occur throughout the state, often impacting human health and the environment. The most noticeable impact of SSOs is the closure of public beaches due to sewage spills. With the aging of the sanitary sewer systems within the state, and varying levels of effort and funding to manage those sanitary sewer systems, the State Board believed the frequency of SSOs

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would increase unless the State Board took formal action to implement regulations regarding SSOs state wide.

The state is divided into nine regions administered by Regional Boards who receive general administration and regulations from the Board. The Coachella Valley is located in the Colorado River Basin Region, and is locally regulated by that Regional Board. The State Board found that some of the Regional Boards had enacted region-wide regulations regarding SSOs, while some regions lacked any oversight. The Colorado River Basin Region was one region that had not yet reacted to the issue of SSOs on water quality. Therefore, the State Board took the initiative to develop and enact state wide regulations to prevent the occurrence of SSOs. These regulations apply to 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.

The State Board found that 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.

As a result, the State Board determined that to facilitate proper funding and management of sanitary sewer systems, each system operator must develop and implement a system-specific Sewer System Management Plan ("SSMP"). The City's SSMP was adopted by the City Council on July 15, 2009. 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.

The City's sanitary sewer system is composed of approximately 250 miles of clay, gravity flow, 6"-42" diameter collection lines, approximately 5,000 pre-cast concrete and brick manholes; and five sewer lift stations. Therefore, the Order adopted by the State Board applies directly to the City's sanitary sewer collection system. Given that the City's sanitary sewer collection system is operated and maintained by Veolia Water North America – West, LLC ("Veolia") under a long-term contract, City staff coordinated with Veolia to ensure the City complied with the Order, and that the City's SSMP has been implemented in accordance with the regulations.

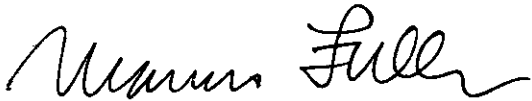
Veolia has prepared the first biennial SSMP Program Audit, identifying one SSO during the audit period.

FISCAL IMPACT:

None.

SUBMITTED:

Prepared by:



Marcus L. Fuller
Assistant Director of Public Works

Recommended by:

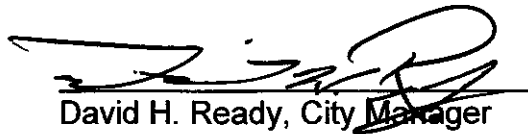


David J. Barakian
Director of Public Works/City Engineer

Approved by:



Thomas J. Wilson, Asst. City Manager



David H. Ready, City Manager

Attachments:

1. 2011 SSMP Program Audit



Date: April 1, 2011

To: Marcus Fuller, Jack Martin

From: Bob Okren

Subject: Sewer System Management Plan (SSMP) Program Audit

The State Water Resources Control Board (Board) oversees the water quality in the waters of the State of California, including the Colorado River Basin (Board Region 7) where the City of Palm Springs (City) is located.

During May 2006, the Board ordered (Order No. 2006-0003) Statewide General Waste Discharge Requirements (WDR) For Sanitary Sewer Systems.

Per the WDR and to facilitate proper funding and management of sanitary sewer systems, each system operator 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.

Also Per WDR Section D. PROVISIONS, Item 13 (x), the SSMP must include the element listed below:

- Conduct periodic internal audits, appropriate to the size of the system and the number of SSOs. At a minimum, these audits must occur every two years and a report must be prepared and kept on file. This audit shall focus on evaluating the effectiveness of the SSMP and the City's compliance with the SSMP requirements.

The City and its Operations and Maintenance Contractor, Veolia Water NA have conducted an internal audit focusing on the effectiveness of the SSMP and the City's compliance with the SSMP requirements.

Per WDR Section D. PROVISIONS, Item 13 (i), 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 goal will help reduce and prevent SSOs, as well as mitigate any SSOs that do occur. The City has developed the following goals for the operation and maintenance of its sanitary sewer system and the effectiveness of the SSMP and the City's compliance with the SSMP requirements has been measured against the these goals and the specific targets established at the inception of the City's SSMO.

- Minimize SSOs;
- Prevent public health hazards;
- Minimize inconveniences by responsibly handling interruptions in services;

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- Protect the large investment in collection system assets by maintaining adequate capacities and extending useful life;
- Prevent unnecessary damage to public and private property;
- Use available funds in the most efficient manner;
- Convey wastewater with a minimum of infiltration, inflow and exfiltration;
- Ensure adequate capacity to convey peak flows; and
- Perform all operations in a safe manner to avoid personal injury and property damage.

Minimize SSOs

Since April 2009, the City has experienced one (1) SSO and for its overall Operation and System Maintenance efforts the City was awarded the Collection System of the Year award (2009) by the California Water Environment Association (CWEA) and its Colorado River Basin Section.

Prevent Public Health Hazards

Also during the April 2009 – April 2011 period, the City has conducted the following Maintenance activities:

- Conducted Closed Circuit Television (CCTV) Inspections within approximately 489, 217 feet of the sanitary sewer system.
- Conducted Cleaning, Vacuuming and Root and Debris removal within approximately 2,274,662 feet of the sanitary sewer system.
- Conducted and recorded approximately 72 complete manhole inspections.

Minimize Inconveniences By Responsibly Handling Interruptions In Service

During the April 2009 – April 2011 period, the City responded to and resolved approximately 635 calls for service at the wastewater treatment plant, the City's lift stations and within the general community.

Protect The Large Investment In Collection System Assets By Maintaining Adequate Capacities And Extending Useful Life

For purposes of system evaluation and capacity assurance planning, the City has prepared and implemented a Sanitary Sewer Master Plan (MP) that provides hydraulic capacity of key sewer system segments for peak flow conditions.

The MP was completed during November 2008 and the following benefits are realized by preparing this comprehensive, long term MP:

- Defines both current and long term needs of the City Sanitary Sewer System;
- Provides general description of the collection system as well as documents flow routing for use in the operation and planning of new pipelines, thus reducing the time needed to train new employees;
- Provides guidelines for scheduling workloads, staffing plans and justifications for City staffing;
- Provides information for making sound decisions on collection system operations, financing, staffing, and building permitting;
- Provides the basis for financial planning so that resources are available when needed;

- Reduces the cost of planning, design, and construction; and
- Allows proactive management of the wastewater collection facilities rather than reactive management.

The finding of this MP are based on the hydraulic and observed conditions of the City's existing collection system. As development increases within the City, several pipelines will need to be replaced, relieved, rehabilitated, or modified to provide sufficient capacity in the system for the increased flows.

Prevent Unnecessary Damage To Public And Private Property

Since the implementation of the SSMP, there have been no unnecessary damages to public or private property.

Use Available Funds In The Most Efficient Manner

Since the implementation of the SSMP Collection System Operation and Maintenance funds have supported the utilization of a fully integrated Decision Support System (DSS) that incorporates all of the tools and processes that are required to run a proactive management system in a single easy to use package. All information about the collection system is brought together within the DSS. This includes:

- Physical asset characteristics;
- Geography and mapping;
- Hydraulic characteristics;
- Routine maintenance data;
- Inspection information; and
- Accompanying imagery.

The DSS is built on a multi-user architecture, allowing users to log in from remote locations (i.e. inspection and cleaning vehicles) so that information is shared and everyone is on the same page. The DSS is used by the collection system operators to plan, schedule, monitor and report all collection system inspection and cleaning activities for its CCTV inspection vehicle and its two cleaning vehicles.

Convey Wastewater With A Minimum Of Infiltration, Inflow and Exfiltration

Since the implementation of the SSMP, the City has conveyed wastewater with a minimum of infiltration, inflow and exfiltration by way of its inspection, cleaning and system repair programs.

Ensure Adequate Capacity To Convey Peak Flows

Per the City's MP, sanitary sewer improvement projects have been developed to solve the identified deficiencies. The order of the proposed projects has been prioritized to relieve that portion of the public sewerage system with the most severe deficiencies first. The recommended Capital Improvement Plan combines these projects into a phased Capital Improvements Program for the period until year 2025.

The Indian Canyon Drive Upsize Project is the first recommended project. The 8, 10 and 12 inch lines are projected to flow at least 67% full at build out conditions. Most of the pipe lines are expected to surcharge at build out conditions. Since there are no adequate sewer lines to divert flow to in the area, upsizing is recommended.

The Palm Canyon Drive Upsize Project is the second recommended project. The 10 inch line is experiencing at least 41% depth of flow at Year 2025 flow conditions. One line is projected to experience surcharging flows at build out conditions. Since there are no adequate sewer lines to divert to in the area, upsizing is recommended.

The Indian Avenue Upsize Project involves 10, 12 and 15 inch lines completely surcharging at Year 2015 and build out conditions, due to the connection to the Parcel 4, PM 21921 development. Since there are no adequate lines to divert flow to in the area, and there is no other connection point with capacity for the development to connect to the sewer system, upsizing the lines on Indian Avenue is recommended. It should be noted that this project is optional since it is still to be decided whether the Parcel 4, PM 21921 development will actually connect to the City's sewer system.

Another optional project is the Farrell Drive Upsize Project. The 24 inch line is experiencing at least 83% depth of flow at Year 2025 flow conditions. One line is projected to experience surcharging flows at build out conditions. Since there is no adequate diversion to sewer lines in the area, upsizing is recommended. This necessity of this project is also dependent on whether the Parcel 4, PM 21921 development will actually connect to the City's sewer system.

The final optional project is the Vista Chino Upsize Project. The 18 and 21 inch segments are flowing at least 78% full and two segments are projected to surcharge. This necessity of this project is also dependent on whether the Parcel 4, PM 21921 development will actually connect to the City's sewer system.

A prioritized order of construction has been developed assuming the year 2025 conditions increase linearly to identify the most cost-effective plan for the overall public sewerage system. The recommended Capital Improvement Plan provided for approximately 19,782 linear feet of new sanitary sewers to be constructed over the next 17 years. The total capital outlay for the plan is estimated at approximately \$17.0 million. The phasing of the plan has been designed to address the most critical needs first and to provide preliminary budgets for construction over an extended period.

Perform All Operations In A Safe Manner To Avoid Personal Injury And Property Damage

With the exception of one personal, recordable back strain injury sustained by an employee while he was removing a cover from a grease interceptor, all operations have been performed in a safe manner.