

AGENDA

**ENGINEERING COMMITTEE MEETING
LEUCADIA WASTEWATER DISTRICT
Monday, August 8, 2011 – 8:30 a.m.
1960 La Costa Avenue, Carlsbad, CA 92009**

1. **Call to Order**
2. **Roll Call**
3. **Public Comment**
4. **Old Business**

None.
5. **New Business**
 - A. Receive and file the Sanitary Sewer Management Plan (SSMP) Fiscal Year 2011 Audit conducted by Dexter Wilson Engineering, Inc. (Pages 1 – 8)
6. **Information Items**
 - A. Batiquitos Pump Station Rehabilitation Project Update – Verbal Report
 - B. Occidental Line Repair Project Update – Verbal Report
7. **Director’s Comments**
8. **General Manager’s Comments**
9. **Adjournment**

MEMORANDUM

Ref: 12-2968

DATE: August 3, 2011
TO: Engineering Committee
FROM: Paul J. Bushee, General Manager *rym for PJB*
SUBJECT: Sanitary Sewer Management Plan (SSMP) Fiscal Year 2011 Audit

RECOMMENDATION:

Staff requests that the Engineering Committee recommend that the Board of Directors:

1. Receive and file the Sanitary Sewer Management Plan (SSMP) Fiscal Year 2011 Audit conducted by Dexter Wilson Engineering, Inc.
2. Discuss and take other action as appropriate.

DISCUSSION:

The Statewide Sanitary Sewer Systems Waste Discharge Requirements (WDR), adopted in May 2006, imposed several regulations on all California agencies that operate Sewage Collection Systems. The District has complied with all prescribed provisions, including having a written Sewer System Management Plan (SSMP) that was adopted by the District's Board of Directors in June 2009. The WDR requires each agency to audit their SSMP every two years. However, the District has taken a pro-active approach and conducts its SSMP Audit annually to ensure its programs and activities remain effective in reducing Sanitary Sewer Overflows (SSO's).

Dexter Wilson Engineering (DWE) worked closely with staff to develop the SSMP and previously completed the Fiscal Year 2010 SSMP Audit. Due to their thorough knowledge of the plan, staff requested that DWE conduct the Fiscal Year 2011 SSMP Audit.

The audit, using a standard checklist and a comprehensive review of District operations, concluded that the District's activities, programs, and efforts meet or exceed the requirements of its SSMP. Additionally, changes in District organization, practices, or regulations were not significant enough to require a revision of the SSMP prior to June 2014, the required WDR five year SSMP review cycle.

The letter report of the SSMP Audit is attached for your review. A copy of the complete report, including enclosures, is available upon request.

Natalie Fraschetti, of DWE, will present an overview of the audit at the meeting.

rym:PJB

Attachment

DEXTER WILSON ENGINEERING, INC.

DEXTER S. WILSON, P.E.
ANDREW M. OVEN, P.E.
STEPHEN M. NIELSEN, P.E.
DIANE H. SHAUGHNESSY, P.E.
NATALIE J. FRASCHETTI, P.E.

August 1, 2011

103-012/5

Leucadia Wastewater District
1960 La Costa Avenue
Carlsbad, CA 92009

Attention: Paul Bushee, General Manager

Subject: Leucadia Wastewater District Sewer System Management Plan Fiscal
Year 2011 Audit

The Leucadia Wastewater District's Sewer System Management Plan (SSMP) was adopted by the District Board and certified by the General Manager in June 2009. The purpose of the SSMP is to document and publicly present in a central document the programs and activities utilized by the Leucadia Wastewater District in effectively managing its wastewater collection system. The SSMP requires audits of the SSMP at least every two years. The District has decided to conduct annual audits and completed the Fiscal Year 2010 Audit on July 7, 2010.

The purpose of this letter-report is to fulfill the District's Fiscal Year 2011 (FY11) SSMP requirements. This consists of completing the Section IX SSMP Evaluation Checklist and Section X SSMP Audit Checklist. These checklists are accompanied by summaries of the SSMP activities for the year.

Section IX SSMP Evaluation Checklist

The Statewide Waste Discharge Requirements (WDR) governing sanitary sewers specify that each Wastewater Collection Agency shall:

- maintain relevant information that can be used to establish and prioritize appropriate SSMP activities,

- monitor the implementation and measure the effectiveness of each element of the SSMP,
- assess the success of the preventative maintenance program,
- update program elements, as appropriate based on monitoring or performance evaluations, and
- identify and illustrate Sewer System Overflow (SSO) trends, including frequency, location, and volume.

Maintaining the applicability of the SSMP to District activities necessitates ongoing evaluation of the activities the District performs, their success, and improvement if necessary. The Section IX SSMP Evaluation Checklist is used on an annual basis to evaluate the applicability and effectiveness of the District's SSMP.

In completing the Section IX SSMP Evaluation Checklist, we find that, in general, the District's activities, programs, and efforts meet or exceed the requirements of the SSMP. Moreover, we do not find any changes in District organization, practices, or regulations which would necessitate a revision to the SSMP prior to the scheduled June 2014 revision per the required five year cycle. The Evaluation Checklist can be found in Attachment A. In completing the Evaluation Checklist, there are several items to note, as discussed in the *Audit Discussion* section.

Section X SSMP Audit Checklist

The Statewide WDRs governing sanitary sewers specify that the District shall conduct periodic internal audits, appropriate to the size of the system and the number of SSOs. These audits must occur, at a minimum, of every two years and a report must be prepared and kept on file. The audit shall focus on evaluating the effectiveness of the SSMP and the District's compliance with the SSMP requirement, including the identification of any deficiencies in the SSMP and the steps to correct them.

The District has chosen to conduct their SSMP audit on an annual basis.

In completing the Audit Checklist, we find all requirements of the checklist to be current and implemented. The completed Audit Checklist for FY11 can be found in Attachment B.

Audit Discussion

The following paragraphs highlight notable elements of the audit organized by the relevant SSMP Section. Additional notes can be found on the *Evaluation Checklist* in Attachment A.

Sections I, II, and III (District Goals, Organization, and Legal). In FY11, the primary responsibility for the SSMP work (and the Field Services department of the District, in general) transitioned from the retiring Field Services Manager to the Field Services Superintendent. The District's proactive approach to conducting the SSMP Audit on an annual basis allows for a smoother transition and less likely interruption of the SSMP implementation.

The Statewide WDR which defines the SSMP program is presently under revision. The District has provided their comments to the State Water Resources Control Board (SWRCB) and should continue to monitor the impact to the District's SSMP. The SWRCB is planning to issue another draft of the WDRs for public comment, followed by a public workshop, and a goal of an adaption hearing in Fall 2011.

Section IV (Preventative Maintenance Program). The majority of the District's gravity sewers can be hydrocleaned in normal preventative maintenance activities. The District has several gravity segments, located in remote easements, which are visually inspected due to accessibility constraints of the hydrocleaning equipment. All scheduled FY11 hydrocleaning and visual inspections were completed. A few segments, located in major surface streets, requiring significant traffic control will be completed by District staff or a contractor in FY12.

Not all of the FY11 scheduled CCTV inspections were completed. The District is evaluating alternatives to increase the completion rate of CCTV inspections, including adjusting work assignments, obtaining additional resources or hiring an outside contractor.

Paul Bushee
August 1, 2011

General statistics regarding the District's preventative maintenance can be found in Attachment C.

The Phase I Asset Management Master Plan (AMMP) Implementation work conducted by Infrastructure Engineering Corporation (IEC) recommended additional inspections of pipeline segments and manholes. These have not all been completed; however, District staff is in the process of developing a plan to do so. Further information about this can be found in Attachment D, the letter-report, "Leucadia Wastewater District Fiscal Year 2011 Asset Management Master Plan Implementation and Capital Projects."

The force main evaluation work continued throughout FY11 with a most recent path outlined in IEC's May 2011 memo and summarized in the Attachment D letter-report.

With the change in Field Services management, it was necessary to revise all the District preventative maintenance standard operating procedures (SOPs) to reflect this. This also provided the opportunity for the Field Services Superintendent to review the SOPs. Additionally, two new SOPs were added and a formal SOP training schedule was defined. The training schedule can be found in Attachment E and all updated SOPs are included on a CD in Attachment F.

Section VI (Overflow Emergency Response Plan). With the change in Field Services management, it was necessary to revise the District's overflow emergency response plan and the associated SOPs.

Section VII (FOG Control Program). As with the FY10 Audit, none of the FY11 SSOs were attributable to FOG, continuing the District's SSMP determination that a formal FOG control program is not required at this time.

Section VIII (System Evaluation and Capacity Assurance). Inflow and infiltration evaluations were completed in the vicinity of Avenida Aragon and Rancho Santa Fe Road in June 2010. At the time, the next area of concern for possible inspection was Alga Hills due to a perched aquifer. The District should determine whether or not this shall be pursued.

Section IX (Monitoring, Measurement, and Program Modifications). The District's Spill Summary through May 31, 2011 can be found in Attachment G. Additionally, spill review checklists for each event are on file at the District office.

The District's monthly flow comparison between FY10 and FY11 can be found in Attachment H.

Minor changes were made to the evaluation checklist. Two SOPs were added. Also, an item was added to confirm that the status of the SSMP is noticed to the public. Presently, the public is notified via public posting of the Board agenda when the SSMP audits will be presented to the Board.

General Comments on SSOs in the District. The District's spill summary through May 31, 2011 can be found in Attachment G. In FY11, there were seven (7) SSO events throughout the District. Three of these were Category 2, private lateral spills. The remaining four were classified as Category 1 meaning either:

- A. The discharge equaled or exceeded 1000 gallons, or
- B. Resulted in a discharge to a drainage channel and/or surface water; or
- C. Discharged to a storm drainpipe that was not fully captured and returned to the sanitary sewer system.

Of the four Category 1 spills, two occurred at Batiquitos Pump Station and were isolated events. The first, occurring October 19, 2010 was the result of a lightning strike which damaged the pump station control circuitry and the improper response of the on-call operator. The District's investigation of the spill found that had the on-call operator followed standard operating procedures, the spill would have been prevented. As an added precaution, the District has designed and installed a back-up pump control which is independent of the pump station control circuitry. The second occurring April 27, 2011 was caused by the cracking of a polyvinyl chloride (PVC) flange on a force main air/vacuum valve. While the cause of the cracking is not known, the District has identified and will replace all PVC flanges on air/vacuum valves on Force Mains L1, L2, B2, and B3 with stainless steel flanges at the beginning of FY12 to prevent a similar spill.

Paul Bushee
August 1, 2011

The remaining two Category 1 SSOs were private lateral spills (60 gallons in total) which reached a storm drain in each case.

Section XI (Communication Program). The District has made all SSMP Audits available on their website.

Summary of Recommendations

The following section summarizes recommended items as a result of the FY11 Audit.

- Continue AMMP Implementation
 - CCTV inspections
 - Force Main evaluation and protection plan as outlined in IEC May 2011 memo
- If the District decides to not have an outside contractor CCTV the entire district, consider tracking CCTV of Easements and Large Diameter pipelines outside the Work Management System (WMS), perhaps in the Geographic Information System (GIS).
- Field staff should note the presence of inflow domes on work orders to track location. These could be incorporated into District's GIS.
- Continue monitoring pending revisions to the Statewide WDR.

Next Steps

This FY11 SSMP Audit, and subsequent annual audits, should be retained for inclusion in the next SSMP adopted by the District Board. The SSMP is to be recertified by the General Manager and adopted by the District Board on a five-year schedule, with the next recertification and adoption scheduled to occur in June 2014.

We appreciate the opportunity to have worked with the District on this project. Should you have any questions regarding this work, please do not hesitate to contact us.

Paul Bushee
August 1, 2011

Dexter Wilson Engineering, Inc.



Dexter S. Wilson, P.E.

NF:ps

List of Attachments

- A – SSMP Evaluation Checklist
- B – SSMP Audit Checklist
- C – District Preventative Maintenance Statistics
- D – August 1, 2011 Letter-Report to LWD General Manager Regarding AMMPI
- E – SOP Training Schedule
- F – Field Services SOPs
- G – LWD Spill Summary through May 31, 2011
- H – District Flow Comparison FY10 to FY11