

MEMO

Date: September 3, 2009

To: Michelle Moustakas, EPA Region 9

From: Bill Hahn and Dianne Stewart, SAIC

Subject: Sewage Collection System Inspection of the City of Albany, CA (NPDES Permit No. CA0038471; RWQCB Order No. R2-2004-0009)

On April 9, 2009 EPA Region 9 and SAIC conducted an inspection of the City of Albany's sewage collection system. The inspection was done as part of a series of inspections of the EBMUD satellite systems in conjunction with the EBMUD Stipulated Order. The main purpose of the inspection was to identify ways in which the system could reduce I/I so as not to contribute to overflows at the EBMUD wet weather facilities. The inspection also evaluated the SSO response and correction programs.

The first eight of the program areas below follow the programs or activities identified in the EBMUD document titled *Technical Memorandum Subtask 4.6 – Community O&M Activities Impacting Peak Flows*. The first paragraph under each program area states an accepted industry practice for the program. This is followed by bullets that indicate what the City is doing within this program area.

Findings

1. Sewer Inspection Program

Sewer agencies should have an inspection program that includes planned periodic inspection of all sewer system assets using closed circuit television (CCTV) to determine their current condition at least every 10 years.

- From 1985 to the present, the City used CCTV to inspect about 11% of its 35 miles of main. Going forward, the City plans to inspect 8 miles per year from the present through 2014.

2. Condition-Based Sewer Rehabilitation

Sewer agencies should use condition-based sewer rehabilitation that includes use of inspection data to select sewer line segments for repair/rehabilitation/replacement to reduce infiltration.

- In the mid-1980s the City conducted an SSES, and since that time has been conducting a short-term rehabilitation and capacity correction program based on the results of this SSES. This program is due to be complete in 2014, after which time the City will begin the second phase of the rehabilitation program in areas originally identified as not cost-effective by the study.

3. Inflow Source Identification and Elimination

Sewer agencies should have ongoing programs to identify sources of inflow (such as roof leaders) and take action to eliminate those sources.

- The City ordinance prohibits storm water discharges to the sanitary sewer.
- City staff stated that it is common for them to find roof leaders and yard drains attached to laterals. The City plans to do smoke testing during wet weather to identify sources of high peak wet weather flows. Smoke testing was also done in the late 1990s.

4. Chemical Root Control Program

Sewer agencies should consider using herbicides to stop or reduce the damage to pipes, joints, and structures that is caused by root intrusion.

- The City began a chemical treatment program for roots in June 2008.

5. Data Management (Computerized Maintenance Management System (CMMS))

Sewer agencies should collect O&M data by individual asset and analyze that data to identify appropriate maintenance and capital improvement actions.

- The City uses a CMMS.
- The GIS is not yet complete, in that there is not a linkage between the Autocad layers (roads, pipes, etc.) and the SSO data. They expect to be able to do this within two years.

6. Rehabilitation/replacement of lower laterals

Sewer agencies should rehabilitate or replace lower laterals during sewer system capital improvement projects.

- The City replaces lower laterals during rehabilitation of mains.

7. Private lateral testing/inspection and rehabilitation program

Sewer agencies should have a program to require mandatory testing of the private portion of private laterals to determine their condition. The program should include requirements to repair or rehabilitate laterals that fail the inspection.

- The City requires homeowners to have a contractor videotape private laterals when there is a change of ownership and for remodeling projects larger than 5% of the property value. The City reviews the videotape and determines if the lateral must be repaired or replaced. Once that is done the City will issue a certificate to

the homeowner that is good for 20 years. About one-third of all upper laterals have been replaced since the program began 15 years ago.

8. Routine Flow Monitoring

Sewer agencies should conduct periodic flow monitoring to identify areas with infiltration/inflow contributions to the total flow.

- Three flow meters were in use for a 5-year period (1999-2003). Currently, there are no flow meters in place within the collection system.
- The City plans to do some modeling of the collection system when the GIS is complete. There are no known capacity issues.

9. SSOs Rates/Response/Correcting Causes

The City's NPDES permit contains requirements for controlling and containing SSOs and SSO reporting. State Water Board Order No. 2006-0003-DWQ, as amended, contains further requirements, including electronic reporting. The most recent and comprehensive SSO reporting requirements are contained in a May 1, 2008 Letter from the Regional Board.

- From 2006 to 2009, the City's total spill rate (number of spills per 100 miles of pipe per year) ranged from 77 to 190. This figure includes lower lateral spills. Based on SAIC's experience with similar systems, the City appears to experience a high rate of spills. Since most of the spills are due to blockages, the lack of a proactive cleaning program until last summer may have contributed to the high spill rate.
- There are only three locations on the "hotspot" cleaning list. A quick review of some of the City's SSO locations indicates that repeat SSOs have occurred at several locations. To reduce spills, the City should consider expanding the "hotspot" cleaning list to include all locations where repeat spills have occurred, and potentially any location where a blockage spill has occurred. Some such locations may need to be cleaned more frequently than the quarterly schedule that the City now uses for hotspots.
- CCTV is used to investigate the causes of SSOs.

10. FOG Program

EBMUD implements the FOG control program for all of its satellite agencies.

- Albany has not identified any SSOs due to grease since 2007.
- Each of the satellites has adopted a FOG source control ordinance equivalent to the East Bay Municipal Utility District Wastewater Control Ordinance, Ordinance 311A-03. Apart from an oil and grease limit, the ordinance does not contain specific FOG program requirements.

- EBMUD has issued permits to about 3,000 FSEs in the service area. The FOG program focuses on grease removal device (GRD) installation and appropriate maintenance. The required GRD pumping frequency is once every three months, and this is only changed if the GRD is found to exceed the 25% rule during an inspection or if it is found to cause or contribute to a blockage or overflow in the collection system.
- EBMUD did not know how many FSEs have GRDs. GRDs are required for food handling facilities that meet any of the following criteria:
 - New construction
 - Remodels, additions, alterations or repairs valued at or greater than \$75,000
 - Has caused or contributed to a grease related collection system blockage resulting in maintenance requirements and/or a sewage spill.
- The frequency goal for FSE inspections is once during every permit period. Permits are issued for a five year period. Based on SAIC's experience, this inspection frequency is not likely to be adequate for most FSEs. Restaurant staff and even ownership turn over frequently. Business conditions also vary, leading to the potential for the grease loading to the interceptor to increase at times. These factors point to a need for more frequent inspections.
- EBMUD has a comprehensive public education program for residential grease control.