



Office of the City Manager

INFORMATION CALENDAR

January 29, 2013

To: Honorable Mayor and Members of the City Council

From:  Christine Daniel, City Manager

Submitted by: Andrew Clough, Director, Public Works

Subject: Status Report: Utilization of Public Works Sewer Staff Can Be Improved

SUMMARY

In October 2009 the City Auditor issued its [Audit: Utilization of Public Works Sewer Staff Can Be Improved](#).¹ The objective of this audit was to “determine if City sewer crew work was adequately planned, efficiently performed, and properly recorded,” and the Auditor concluded “that improvements in planning and performance are needed.”

The Audit Report included 15 findings and 35 recommendations to improve utilization of the City’s sewer staff. Most of the recommendations are for Public Works, and several also involve Information Technology. Previous status reports were provided to Council in [April 2010](#)² at which time 20 recommendations were implemented, in [November 2010](#)³ when another 10 recommendations had been implemented, and in [February 2012](#)⁴, when 3 other recommendations were implemented.

This report addresses the status of the 2 recommendations partially implemented as of February 2012. Another status report will be submitted by September 10, 2013, to allow time for full testing and implementation of these 2 outstanding recommendations.

CURRENT SITUATION AND ITS EFFECTS

All recommendations are for Public Works, unless otherwise noted.

¹ Audit: Utilization of Public Works Sewer Staff Can Be Improved: www.cityofberkeley.info/uploadedFiles/Auditor/Level_3_-_General/2009-10-13_Item_15_Audit_Utilization_of_Public_Works_Sewer_Staff_Can_Be_Improved.pdf

² April 2010 report: www.cityofberkeley.info/uploadedFiles/2010-04-27_Item_23_Status_Report_Utilization_of_Public_Works_Sewer_Staff_Can_Be_Improved.pdf

³ November 2010 report: www.cityofberkeley.info/uploadedFiles/Clerk/Level_3_-_City_Council/2010/11Nov/2010-11-16_Item_20_Status_Report_Utilization_of_Public_Works_Sewer_Staff_Can_Be_Improved.pdf

⁴ February 2012 report: www.ci.berkeley.ca.us/uploadedFiles/Clerk/Level_3_-_City_Council/2012/02Feb/2012-02-14_Item_18_Status_Report_Utilization.pdf

Finding 2: Public Works could not identify the sewer locations that have significant root, grease or debris problems, the cause of almost all spills**Recommendation for Public Works and Information Technology**

Recommendation 2.0: Modify the forms and modify / develop a system to accumulate needed data, such as sewer blockages, spills and line condition. The database should be able to identify the locations most in need of root, grease, or debris maintenance, or line repair. The lines with the greatest spill risk should be maintained first.

Status: Partially Implemented. As stated in the Audit Report, Public Works Operations established a Work Order Task Force in 2009 to identify how to make better use of the existing work order system and develop other simple tracking mechanisms outside of the existing system. The current work order system can track general maintenance activities including follow up, emergency and hotspot cleaning. In addition, the City of Berkeley Sewer Cleaning and Inspection Plan, which was submitted to and approved by the EPA in 2010, addresses how maintenance is prioritized and scheduled.

In 2011, the City began recording field observational information of sewer segment conditions. This information was obtained on-site by staff performing cleaning operations on the segments. The information recorded at that time indicates the amount of grease, debris, roots or other material that staff collects while cleaning the sewer segment, and rates these blockage factors on a scale of clear – light – moderate – heavy. A new form was created for on-site use, and an Access database setup to capture these field observations for further analysis by the sewer supervisors and superintendent, and to assist staff in making maintenance and rehabilitation adjustments based upon current segment conditions.

The City also uses a CCTV⁵ truck in conjunction with POSM (video inspection) software to assess pipe conditions. CCTV captures the conditions on video; and POSM is the database that holds the sewer data to identify, record, and document conditions such as grease, roots, debris or structural defects within individual sewer segments. Because of the increased use of this equipment since 2011, sewer staff can now retrieve sewer condition information from approximately 10% of the entire sewer collection system – up from 5% since the February 2012 report. Public Works expects that continued use of this technology will increase the percentage of recorded information in coming years, which includes locations of these conditions.

Recently, the City selected a Computerized Maintenance Management System (CMMS) that includes work order and asset management software. The CMMS implementation for sewers is scheduled for June 2013. The CMMS will integrate with the CCTV/POSM system as well as the City's current Geographic Information System (GIS) to generate reports that identify the locations most in need of root, grease, or debris maintenance, or line repair, and to prioritize those lines with the greatest spill risk.

⁵ Closed Circuit TV

Finding 10: Work order database software and Public Works office procedures provide little assurance that work order data will be accurately and consistently input into the Work Order Database (WF Module)**Recommendations for Public Works and Information Technology**

Recommendation 10.2: If cost effective, develop exception reports that identify errors and inconsistencies so they can be researched and corrected. Errors and inconsistencies identified in these reports should be corrected within an established timeline. Alternatively, if exception reports are not developed, Public Works should assign someone independent of the data entry to review input for obvious errors.

Status: Partially Implemented. As reported in February 2012, the Superintendent conducted a review of data input in July 2011 to look for errors, at which time no errors were found. Bi-monthly reviews have been ongoing since January 2012, and to date no errors have been found. Additionally, as mentioned above, the City selected a CMMS that includes work order and asset management software, and implementation for sewers is scheduled for June 2013. The CMMS system can be configured to make specific Work Order information required to ensure accuracy and consistent data input.

BACKGROUND

The Sewer Program was identified as the Department's area most in need of modernized systems. The Superintendent and Streets and Utilities Division staff have undertaken a comprehensive approach to improvements. PW – Engineering and IT are also involved, and the use of Geographic Information Systems (GIS) maps and CCTV are improving the efficiency and effectiveness of maintenance crews. The City's system of public sanitary sewer mains and public sewer laterals is maintained by a crew of about 20 City employees.

In addition, the City is under a U.S. Environmental Protection Agency (EPA) Stipulated Order, and many of these Audit recommendations are consistent with improvements in response to the EPA.

POSSIBLE FUTURE ACTION

There are no other future actions planned at this time, other than implementation of the Computerized Maintenance Management System (CMMS). As reported above, the CMMS implementation for sewers is scheduled for June 2013.

FISCAL IMPACTS OF POSSIBLE FUTURE ACTION

All fiscal impacts have been previously reported.

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