

**Report to Governing Body  
April 6, 2010**

**Department:** Public Works

**Author/Presenter:** Kathleen Gammell, 703-335-8840

**Subject:** Unaccounted-For Water Study

**Issue:** Staff is requesting that the Governing Body authorize the expenditure of \$36,000 to perform a detailed study of unaccounted-for water in the City.

**Background:**

- In the summer of 2007 Whitman Requardt (WRA), one of the City's engineers performed a detailed inspection of the City's water and sewer system. Their report issued in October 2007 provided an evaluation of both systems and recommendations for improvements.
- One of the recommendations was to reduce the percentage of water that could not be accounted for by performing a detailed study of the water system to find "hidden" problem areas. "Unaccounted-for" water is the difference between the water purchased by the City from our wholesale suppliers and the water delivered to our customers through meters.
- American Water Works Association (AWWA) industry standards indicate 10% to 15% is an expected water loss as a result of water breaks, fire fighting, hydrant testing / flushing, and some joint leakage.
- While the City has reduced the percentage from 35% to 24%, it is important to recover additional losses to bring the loss percentage to within industry standards.
  - Previous loss reductions were realized with an aggressive repair program (pipes/valves/hydrants), and a detailed field inventory of meters to identify meters that had never been in the water billing system or that had been coded incorrectly in the billing software.

**Discussion:**

- A 20-year plan for water and sewer system improvements was developed based on WRA's report and recommendations (discussed above), and a water fee structure was developed and subsequently approved based on the needed system improvements.
- Studies for the water system and the sewer system were budgeted in the FY10 budget for \$96,000 and \$100,000 respectively.
  - Because projected tap fee revenues have not been realized and the Enterprise Fund is falling short of projected revenues, several Enterprise Fund projects have been pushed into later years or significantly reduced in scope.
  - The sewer system study has been pushed into later years and the water study has been reduced in scope.
- WRA's original task proposal for the water study at the beginning of FY10 was \$83,000. Staff and WRA engineers have agreed on a reduced cost of the study of \$35,224.



- The reduction in cost of the study is realized by eliminating the purchase of leak detection equipment from the scope of the study and using WRA's field instrumentation.
- The intent of the equipment, which would have been permanently mounted in the water system, was to provide the City with the capability for constant leak monitoring during and following the study.
- Staff believes the leak detection equipment should remain in the improvement plan for purchase in a future year, but that it's not critical enough to delay the other components of the study in FY10.
- The study will include leak detection of 34 miles of water main in increments of 300 feet.
- WRA will perform the work under their existing contract with the City.

**Recommendations:**

Authorize the expenditure of \$36,000 to perform a detailed study of unaccounted-for water in the City.

**Review:**

City Business License:	<u>No</u>	Date: <u>April 6, 2010</u>
Prepared by:	<u>Kathleen Gammell</u>	Date: _____
Reviewed by:	<u>N/A</u>	Date: _____
Approved by City Attorney:	<u><i>[Signature]</i></u>	Date: <u>3/31/10</u>
Approved by City Manager:	_____	Date: _____