

## Legislation Text

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**File #:** 15-3989, **Version:** 1

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### **WATER SUPPLY INTERIM IMPROVEMENTS**

#### **COUNCIL INITIATIVE ADDRESSED:**

Provide sustainable water quality & environmental infrastructure

#### **CITY ATTORNEY REVIEW:** N/A

#### **SUMMARY STATEMENT:**

At a joint City Council and Beacon Hill Commissioners workshop on August 20, 2015, staff presented information regarding potential treatment upgrades at the Mint Farm Regional Water Treatment Plant to improve water quality during the implementation period for developing a new source. These treatment upgrades will also help condition our water mains to receive water from a new source and will be beneficial when the MFRWTP is used as a backup supply after a new source is developed, or for continued use of the MFRWTP should a new water supply not be developed. These improvements may also provide benefit if the MFRWTP is used to supply commercial/industrial process water after a new source is developed.

Confluence Engineering was retained by the City in July 2013 to investigate the causes of and make recommendations to improve water quality in the distribution system. Confluence identified the lack of dissolved oxygen (DO) and low oxidation reduction potential (ORP) as the causes of a number of water quality complaints. After testing DO treatment in a distribution system pipe test rig, Confluence determined adding DO to the treated process would notably improve water quality. Confluence also supported recommendations by staff and Kennedy/Jenks to install chlorine injection equipment at the end of the treatment process, to ensure steady chlorine residual to assist in maintaining a high ORP. The post-treatment chlorination modification was designed; however, bidding and construction was placed on hold at the start of the water supply review process.

Additionally, staff continued to evaluate how to resolve chlorine taste and odor complaints, and in consultation with various consulting engineers and the Dept. of Health, determined that naturally occurring organic nitrogen was reacting with chlorine to form chloramines and causing the chlorine taste and odor complaints.

Staff recommends amending Confluence Engineering's contract to further demonstrate the benefits of DO addition, and to evaluate the effectiveness of coagulant addition and hydrogen peroxide addition at reducing chloramine formation, which will reduce chlorine taste and odor complaints. A copy of the scope of work is attached for your review. The scope of work includes adding one residence in the Beacon Hill Water & Sewer District service area to the evaluation, as requested at the August 20 workshop. Staff also recommends installing the post-treatment chlorine injection equipment as previously recommended and designed.

#### **FINANCIAL SUMMARY:**

The proposed cost of the Confluence Engineering work is \$92,708 if all phases are completed; pilot testing is contingent upon successful bench testing of the treatment options. The cost of the base evaluation tasks is \$33,632; the cost of the contingent pilot testing is \$59,076. Sufficient funds remain in the Filter Construction Fund and available in the Drinking Water State Revolving Fund (DWSRF) loan to pay for this work and any subsequent treatment installation. Beacon Hill Water and Sewer District would be responsible for 14.6% of the cost; the BHWSR share is already contained in the Filter Construction Fund and DWSRF loan balances.

**RECOMMENDED ACTION:**

Motion authorizing the amendment to Confluence Engineering's contract and directing staff to advertise for bids for the post-treatment chlorination system.