

Memorandum



CITY OF DALLAS

DATE June 20, 2014

TO Honorable Members of the Quality of Life & Environment Committee: Dwaine R. Caraway (Chair), Sandy Greyson (Vice Chair), Adam Medrano, Rick Callahan, Carolyn R. Davis, Lee M. Kleinman

SUBJECT **Bachman Water Treatment Plant Water Quality Improvements Project
June 25, 2014 Consent Agenda for Water Utilities – Item Nos. 63 and 67**

The Bachman Water Treatment Plant is the oldest and smallest of the three water treatment plants that Dallas Water Utilities operates to produce drinking water for citizens and customers. The plant is strategically located near the center of the water demand, and therefore benefits Dallas' customers with the lowest water delivery cost. The plant was originally constructed in the 1920s and has gone through several expansions to bring it to the current day capacity of 150 million gallons per day (MGD).

In June 2009, the Water Utilities Department completed a two-part study to investigate the cause of water quality concerns, including rust colored water and inconsistent water quality, in parts of the water system. The study and requisite testing confirmed that the treated water chemically reacts with the older unlined cast iron pipes which are the main cause of redwater complaints. Recommendations include process changes at all three water treatment plants to improve the chemical and biological stability of the water in the distribution system.

In June 2010, City Council approved a contract with Carollo Engineers, to perform engineering of the recommended water quality improvements at the Bachman Water Treatment Plant. This contract and the planned supplemental agreements included design and construction phase services for changes to the treatment process, including enhanced coagulation and biological filtration, for improved water quality and disinfection stability.

Construction of the recommended improvements was designed in a two-phased approach. The first construction phase, awarded in August 2012, added the new ferric chemical facility that provided additional storage and pumping for the upcoming process change. The existing chlorine scrubber capacity was increased to address regulatory changes for storage of chlorine gas, and the existing lime slakers were modified to address process changes and improve system reliability. The first construction phase also included structural renovations and changes to the laboratory building to meet current building codes.

Agenda Item No. 63 is to authorize the award of a construction contract to MWH Constructors for a not to exceed amount of \$47,720,500. This second phase of construction completes the full implementation of the water quality improvements at the Bachman Water Treatment Plant. The improvements include modifications to the existing treatment basins, construction of new chemical facilities, flow measurement devices, and solids handling improvements needed to transition to enhanced organics removal at the plant. The project also includes renovation of the second floor of the existing Administration Building to meet current code, replacement of Clearwell No. 1, which is over 80 years old and does not meet current Texas Commission on Environmental Quality (TCEQ) regulations, and replacement of 32 Programmable Logic Controllers as part of the plant's Supervisory Control and Data Acquisition (SCADA) system.

Agenda Item No. 67 is to authorize Supplemental Agreement No. 3 to the professional services contract with Carollo Engineers for additional engineering services for a not to exceed amount of \$1,039,653, from \$8,700,422 to \$9,740,075. This supplemental agreement includes programming services associated with replacement of the 32 filter Programmable Logic Controllers (PLCs). The existing filter PLCs are obsolete and failure of the controls could impact production capacity at the plant. The reprogramming of the SCADA system also includes reprogramming of other related process controls impacted by the PLC replacements. Additionally, included are construction phase services needed for the project and tracer testing of the modified basins as required by regulations. Tracer testing of the modified basins and new clearwell are required to verify detention times for City's use in achieving disinfection requirements under the provisions of the EPA's Enhanced Surface Water Treatment Rule.

Completion of this construction project in late 2016 allows Bachman Plant to treat water using enhanced coagulation and biological active filtration as recommended in the 2009 Water Quality report. This results in a much more chemically and biologically stable water that will greatly reduce the number of redwater incidents within the distribution system as well as meet the EPA's regulatory requirements for treated water and disinfection by-products.

Please let me know if you have any questions or require additional information.



Forest E. Turner
Assistant City Manager

- cc: The Honorable Mayor and Members of the City Council
A.C Gonzalez, City Manager
Warren M.S. Ernst, City Attorney
Craig D. Kinton, City Auditor
Rosa A. Rios, City Secretary
Daniel F. Solis, Administrative Judge
Ryan S. Evans, Interim First Assistant City Manager
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- Joey Zapata, Assistant City Manager
Charles M. Cato, Interim Assistant City Manager
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