

UT0909DS CONCRETE WATERMAIN FIELD ASSESSMENT

2012 CIP REPORT

<u>Project Number:</u>	UT0909DS
<u>General Location:</u>	See Map Attached
<u>Project Budget:</u>	\$350,000.00
<u>Project Start Date:</u>	November 10, 2009 (authorized to advertise RFP)
<u>Project End Date:</u>	tbd
<u>Engineer:</u>	tbd
<u>Engineering Cost:</u>	tbd
<u>Engineering Invoiced:</u>	tbd
<u>Contractor:</u>	tbd
<u>Original Bid Amount:</u>	tbd
<u>Construction Cost:</u>	tbd
<u>Change Orders:</u>	tbd
<u>Construction Invoiced:</u>	tbd
<u>Other Costs:</u>	tbd

General Project Description

The Department of Utilities water distribution and transmission main network consists of approximately 423 miles of pipe. The mains range in age from 123 years to less than 1 year; in diameter from 2" to 36"; and are made from a variety of materials including ductile and cast iron, PVC, transite and concrete.

Concrete transmission mains make up approximately 12.6 miles of the system ([map attached](#)). These mains were constructed during the 1950's and late 1970's and range in diameter from 16" to 36". While these mains have traditionally been reliable structures for the Department there is a history of catastrophic failures of similar pipe across the country. The critical nature of the concrete mains to convey raw water to the Clinton WTP as well as move large quantities of treated water from both the Clinton and Kaw WTPs to various areas of the distribution system makes the accurate assessment of their existing condition and expected remaining service life a high priority within the Department's work plan. In addition, due to the large pipe diameters and the volume of water being transported through these mains, failures often result in localized flooding, property damage, public health concerns and disruption of service.

Recent developments in technologies such as acoustic, electromagnetic and video allow condition assessments to be made on entire lengths of pipe with the pipe in service. These assessment techniques can quantify the current overall structural condition of the pipe, locate active leaks, and locate and quantify areas of corrosion damage and loss of reinforcing pre-stressing wires due to corrosion and breakage. The results of these assessments will provide the information necessary to design and execute any immediate repairs and form the basis for a longer term ongoing evaluation and rehabilitation program.

Current Project Status

Black & Veatch submitted a draft report containing a recommendation of pipelines to test, which pipeline locations to test, technologies available for testing and estimated costs associated. Staff has reviewed and provided comment back to Black & Veatch and are awaiting resubmittal.

Funding for this project will allow a qualified contractor to mobilize to the recommended location, access the watermain, conduct required testing and for evaluation of the field testing results.

Project Timeline

- November 11, 2009 City Commission authorized advertisement of an RFP for engineering services related to the project. Responses are due December 18, 2009.
- December 18, 2009 in response to the RFP proposals were received from five (5) firms. Proposals were received from Bartlett & West/Schiff Associates; Black &

Veatch; Burns & McDonnell/BG Consultants; Shafer, Kline & Warren/Evanco and Simpson, Gumpertz & Heger.

- February 4, 2010 Department of Utilities Staff met with Dave Caughlin from the Pressure Pipe Inspection Company to review the potential field inspection and assessment work associated with this project and the capabilities of PPIC.
- February 9, 2010 City Commission agenda authorized staff to negotiate with Black & Veatch.
- February 19, 2010 Staff met with representatives from Black & Veatch to discuss the project scope and phasing.
- September 28, 2010 City Commission authorized execution of an engineering services agreement with Black & Veatch.

Project Funding

This project is included in the 2012 Capital Improvements Plan.

Project Photos

Project Map

