



Waukesha Water Utility

SERVING WAUKESHA SINCE 1886

115 DELAFIELD STREET
WAUKESHA, WI 53188-3615

Telephone: (262) 521-5272 • Fax: (262) 521-5265 • E-mail: contactus@waukesha-water.com

MEMORANDUM

DATE: August 10, 2016

TO: Dan Duchniak, P.E.

FROM: Kelly Zylstra, P.E.

RE: Sunset Drive (M00499) Water Main Replacement Project; Gramling to Sunset View

As you recall from the update I provided at the July water commission meeting, a water main break that occurred during reconstruction of Sunset Drive between Gramling and Sunset View revealed severe corrosion of the 12-inch ductile iron pipe installed in 1980. Originally, due to the age of the pipe, this section was not scheduled for replacement as part of the City's project.

We then had the contractor expose additional pipe in the area. Based on the initial visual inspection, the pipe appeared to be in acceptable condition. However, when our crews tried to repair the break, it became clear it was no longer structurally sound. Following a conference call with DIPRA (Ductile Iron Pipe Research Association), it appears that the combination of lack of poly wrap on the pipe and presence of the hydric soils caused the ductile iron within the water main pipe to degrade; essentially leaving only the graphite as pipe structure. Leaving this pipe in place would not have been a wise decision due to the new pavement being installed over it.

Also, based on the hydraulics of the central pressure zone system, abandoning the water main in place was not an acceptable option as it is necessary to form a loop in the system that connects Les Paul and East Ave.

Therefore, I worked with Alex and Mike at the City to develop a change order for the project to install the water main within their contract with Super Western. Super Western had subcontracted the other related water main work to Super X contractors; who we have worked with in the past. Notification to proceed was provided on July 22nd; pipe arrived on site on July 25th; the pipe was installed and tested safe for connection to the system on August 10th. This work needed to be done quickly so there were no further delays with the roadway reconstruction project. The cost of this portion of the water main work totals \$168,149.17. We are comfortable with the pricing, given the comparison to recent publicly bid projects.

The remaining water main work for the Sunset roadway reconstruction project relates directly to the storm sewer portion of the City's contract with Super Western. The existing water mains, a 12-inch within the central pressure zone and a 16-inch within the reduced southeast pressure zone, were found to be in direct vertical conflict with the new culverts between Gramling and Camden Way. The water mains are not in conflict with the current storm sewers; however, the City is being required by WDNR to

lower the outfall elevations resulting in a conflict. This conflict, both for depth and effect on scheduling should have been discovered during the design work performed by the City's consultant which would have allowed for this work to be bid as part of the overall project. The consultant did not identify the conflict; therefore it was identified during the construction by the contractor.

Currently, we are working closely with Mike and Super Western on the scheduling of this work as the 16-inch water main cannot be taken out of service to be lowered until the water main on Les Paul is connected and tested at Broadway; which will be approximately one month from now. Had this been identified during design, the City could have included this information in their bidding documents, received a bid price for the offset work and adjusted their traffic control staging to avoid a scheduling delay. Super Western and their subcontractors are working on the cost estimate as there are issues related to bypass pumping the creek water that is flowing through the existing storm culverts in the area. Maintaining this flow is necessary to retain traffic flow in the area. The goal will be to complete this work in September with a continued goal of getting the roadway reconstruction finished this year.

At this time I am hoping that the City and WWU can reach an agreement on the cost sharing of this water main offset work.

There is money remaining within account 3431 of the 2016 budget for this work.

Recommended Motion: Move to approve the change orders for the water main work within the City's 2016 roadway reconstruction project limits on Sunset Drive, in an amount not to exceed \$200,000.