Motion - Councillor R. Donauer (December 18, 2017) - Construction Completion Timelines for Water Main Linings

Recommendation
That the report of the General Manager, Transportation & Utilities Department dated March 12, 2018, be received as information.

Topic and Purpose
This report is to provide information on procurement changes being implemented for future water main lining contracts.

Report Highlights
1. In 2017, the City was provided $33M in Clean Water and Wastewater Fund (CWWF) for water and sewer projects. Of this funding, $7M was dedicated to the water main lining contract for rehabilitation of 7.3 kilometres (km) of water main.
2. Despite extensive procurement terms, the project fell behind schedule resulting in temporary water lines being used in sub-zero temperatures.
3. In 2017, the City saved approximately $4.5M by using water main lining in place of the open cut method for preserving 7.3 km of water main.
4. The Administration will be implementing additional procurement changes to water main lining contracts in 2018.

Strategic Goals
This report supports the Strategic Goals of Asset and Financial Sustainability and Sustainable Growth as water main lining, used as a preservation treatment, will extend the life of the existing water mains critical to Saskatoon’s water distribution network.

Background
City Council at its meeting held on December 18, 2017, considered the Motion – Councillor R. Donauer – Construction Completion Timelines for Water Main Linings and resolved:

“Would the Administration please report on proposed changes we can make to procurement and contracting for water main lining, to ensure that work is completed expeditiously once it has begun. The goal of these changes would be to reduce interruptions to regular water service. Please report on the ability to have contractors complete a project before moving on to the other projects, or to limit how many different projects a contractor may have open at the same time. Please report on our ability to have water lining done before winter.”
Report

Water Main Lining Funding
In 2017, the City was provided $33M in federal and provincial funding through the CWWF. This funding was only applicable to work that was in addition to the current annual programs, and was required to be used by the deadline of March 31, 2018. A typical water main lining program in any given year is approximately 3 km with an estimated cost of $3.6M. In 2017, the scope of work increased to 7.3 km with an estimated cost of $9M with CWWF reimbursing $7M of the total cost.

Water main lining as a preservation treatment costs approximately $1,200 per lineal metre, whereas, open cut methods cost approximately $1,800 per lineal metre. Various circumstances can cause open cut to be more suitable than water main lining such as, but not limited to, multiple lead service connection replacements or full road reconstruction of the above roadway. The Administration assesses the treatment and method type most applicable and cost effective for each location prior to procurement, while working to balance this work with industry capacity.

2017 Water Main Lining Program
The 2017 water main lining program utilized a Request for Qualification process as a prequalification method during procurement. Contract No. 17-0144T included milestone dates associated with bonuses and penalties. The typical process for water main lining involves temporary water setups and multiple sites being excavated and prepared prior to the actual lining installation. The lining process requires a specialized setup; therefore, in order to keep the equipment fully utilized, a batch method is used. In 2017, the contractor installed 7.3 km of water main liner. The 2017 CWWF caused similar projects to be awarded in other Canadian municipalities and within Saskatoon diluting the capacity of lining contractors. In 2017, the lining portions of the work were completed by October 26, 2017. This resulted in water main commissioning and site restoration on all these sites falling behind schedule leading to temporary water lines still being used in sub-zero temperatures.

As a preservation treatment, water main lining has saved the City approximately $4.5M dollars for 7.3 km of water main versus performing the work using an open excavation method as performed in the Caswell Hill Area in 2017.

2018 Water Main Lining Program
In 2018, approximately 3.6 km of water mains will be lined, roughly half the amount that was undertaken in 2017. On average, a typical location will take approximately 6 to 8 weeks to be completed.

The Administration will be taking the following steps to minimize the amount of time residents are impacted and limit the number of sites contractors have open at any given time. This will minimize the regular water service interruptions and adhere to scheduling so all work is completed prior to sub-zero temperatures occurring.
• Continue to implement the contractor management system (ISNetworld); this is currently on track with full implementation in 2018;
• Extend the Request for Qualification and Prequalification processes to sub-contractors;
• Limit the scope of water main contracts so they can realistically be completed within the construction season of approximately four months;
• Continue to use some, or all of site rentals, site occupancy days, and milestone bonus/penalty clauses (as appropriate);
• Develop a direct link between production rates and bonus/penalties in order to hold contractors accountable earlier on in the schedule; and
• Implement an annual cut-off date (prior to inclement weather) to halt lining activities and have the contractor focus solely on commissioning and site restoration activities.

Communication Plan
The Administration will continue to provide regular communications to those residents who have been affected by temporary service connections.

Financial Implications
There is currently no CWWF funding in place for 2018. If the City were to eliminate water main lining, the prime selection locations may have a negative cost impact of up to $600 per lineal metre of rehabilitated water main. This would result in less water main rehabilitation annually or a request of additional funding to offset the cost impact.

Other Considerations/Implications
There are no public and/or stakeholder involvement, policy, environmental, privacy, or CPTED implications or considerations.

Due Date for Follow-up and/or Project Completion
The Administration will report back to City Council in the first quarter of 2019 with the results of proposed and implemented steps on the 2018 water main lining program.

Public Notice
Public Notice pursuant to Section 3 of Policy No. C01-021, Public Notice Policy, is not required.

Report Approval
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