

DATE: September 7, 2018

TO: MAYOR AND COUNCIL

NAME AND TITLE: Dave Dyer, General Manager, Engineering and Public Works

SUBJECT: Capital Budget Adjustments for Project #0609 Water System Western Acres

ATTACHMENT(S): None

RECOMMENDATION(S):

That Council approve a budget increase of \$2,950,000 for Project #0609 Water System Western Acres with the Water Capital Expenditure Reserve as the funding source.

PURPOSE:

The purpose of this report is to request a Council resolution to adjust the budget for a project to replace the water supply, reservoir, pump station and water main extension for the Western Acres subdivision.

STRATEGIC PRIORITIES:

As presented in the City of Prince George 2016-2018 Corporate Plan, this matter supports City Council's goal of providing sustainable infrastructure under the focus area to prioritize service, transportation, recreation and facility infrastructure needs and investment.

BACKGROUND:

Western Acres Water System

The Western Acres Water System was constructed to serve the development of the Western Acres subdivision in the mid to late 1960s. At the time, Western Acres was part of the Regional District of Fraser Fort George. The area was amalgamated into the City of Prince George in 1975.

The capacity of the existing water supply well was never sufficient to accommodate the domestic demand of a full build out of the Western Acres subdivision. After over fifty years, there remain over 20 lots in the existing subdivision that are vacant due to the lack of water supply. In addition, the well and water system had not been designed to provide fire flow – the water well is under capacity for fire flow, the reservoir is much too small to provide storage for fire protection, there are no fire pumps, there is no emergency power, the watermains are undersized and there are no fire hydrants.

In the late 1970s, after Western Acres was amalgamated into the City, a developer, who owned vacant lots within the subdivision and large land holdings surrounding the area was interested in expanding the subdivision. The developer entered into a land use contract with the City, which would have obligated the

developer to drill a new well, construct a new reservoir and upgrade the pump station to City standards. A new well was drilled on one of the developer's properties that had sufficient capacity to supply water to the existing subdivision and the developer's proposed development.

A recession in the early 1980s suspended the proposed development and all the developer's land holdings were sold. Since then the properties have been re-sold numerous times; at no point during the past three and a half decades did property owners proceed with development.

New Water Supply Well, Reservoir and Pump Station

In 2005, the City proceeded with exploratory well drilling near the existing well in an attempt to augment the water supply and provide water for the existing subdivision. Two wells were drilled – one was dry and the other only had sufficient capacity for one additional residential lot. The City then pursued purchasing of the property where the well was situated that had been drilled in the late 1970's. Unfortunately, the owner in 2005 was not willing to sell after several attempts by the City.

In the last decade, the existing pump station and reservoir have deteriorated and both assets are well past their service lives. Among the issues was a major pipe break underneath the reservoir in early 2017. The break was a serious concern in that further underground breaks are likely due to the age and material of the water piping. This jeopardizes the provision of an ongoing reliable water service to the Western Acres residents.

In 2016, a new owner of the land holdings and the well property approached the City and was willing to sell to the City the well property and an adjacent lot, which was of sufficient size to allow for construction of a new reservoir and a pump station. Once the property was obtained, the City proceeded to preliminary design then detailed design for the new well, reservoir, pump station and supply water main to the existing water system pipe network.

These new water system components will replace the existing undersized and aged pump station and reservoir, provide an emergency power generator, and will also be sized to provide fire flow and storage. It is noted that the current project does not include increasing the size of the existing distribution water mains or the installation of fire hydrants.

Tender Results

Detailed design for the project was completed in early summer 2018 and tenders closed for the project in August 2018. Three bids were received, all within seven percent of each other; the low bid was \$5,133,254.78.

DISCUSSION:

The budget for the Western Acres Water System, project #0609 in the 2016-2020 Capital Plan, was \$3,385,000, over a three year period. The budget includes land acquisition, groundwater hydrogeological services, well drilling of a second new well, detailed engineering design and construction period services, construction and decommissioning of the existing well. A budget increase of \$2,950,000 is necessary to complete the project for the new well, reservoir, pump station, emergency power generator and water main connection.

In discussion with the City's consultant, City staff attributes the need for the budget adjustment to accommodate additional costs as follows:

- The original budget was prepared in 2014 when the Canadian dollar was \$0.91 US. Currently the Canadian dollar is \$0.76. Pump station mechanical and electrical systems (i.e. pumps, motors, electrical gear, instrumentation) are made in the United States.
- The reservoir is made of reinforced concrete. Costs for steel have dramatically increased over the last year. Concrete costs have also increased substantially since the City constructed its last reservoir in 2005.
- Construction costs have generally increased for pump stations and concrete structures in our region. Costs don't appear to be as high in the Lower Mainland. This may be attributed to the higher costs for trades in the north and a skilled labour shortage.

FINANCIAL CONSIDERATIONS:

The current approved budget for the multi-year Western Acres Water System project is \$3,385,000. The requested adjustment of \$2,950,000 will increase the budget to \$6,335,000.

The proposed funding source for the recommended budget adjustments will be the Water Capital Expenditure Reserve. To accommodate the recommended budget adjustments, Engineering Services and Utilities staff will defer lower priority 2018 and 2019 water system projects that are currently funded in the 2018-2022 Capital Plans.

SUMMARY AND CONCLUSION:

A budget adjustment for the Western Acres Water System, project #0609, is recommended by Engineering and Public Works. The project is necessary to install a new higher capacity water source well, to replace the undersized and aging pump station and reservoir, to provide increased reservoir capacity for the storage of water for fire protection and to provide emergency backup power.

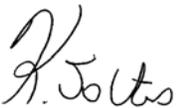
The recommendation is to increase the budget in the amount of \$2,950,000 for Project #0609 Western Acres Water System.

RESPECTFULLY SUBMITTED:



Dave Dyer, P.Eng., General Manger, Engineering and Public Works

APPROVED:



Kathleen Soltis, City Manager
Meeting date: September 17, 2018