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M E M O R A N D U M

DATE: August 26, 2019

TO: Mayor Troxell and Councilmembers

FROM: Eileen Dornfest, Special Projects Manager
Carol Webb, Utilities Deputy Director–Water Resources & Treatment Operations
Lance Smith, Utilities Finance Director

THROUGH: Darin Atteberry, City Manager
Jeff Mihelich, Deputy City Manager
Kevin R. Gertig, Utilities Executive Director

RE: Halligan Water Supply Project Quarterly Update

The purpose of this memo is to 1) inform City Council about the status of the federal permitting process for the Halligan Water Supply Project ("Halligan Project" or "Project"); 2) provide information related to a recently updated Halligan Project cost estimate, and 3) provide information related to Halligan Project funding.

BOTTOM LINE

1. **Status of Draft Environmental Impact Statement ("EIS")**

   The EIS is anticipated to be released by the US Army Corp of Engineers ("The Corps") and available for public review before the end of 2019. The EIS public comment period is expected to last several months and will include an open house in Fort Collins, hosted by The Corps.

2. **Updated Project Cost Estimate**

   Staff has updated the cost estimate for the Halligan Project. The application of the estimation methodology indicate that Halligan Project costs could range from $100 million to $150 million, with a probable cost of $120 million. A cost estimate range is being provided because project risks have been identified that may or may not impact project costs. Details associated with the updated cost estimate and the estimation methodology are included in the discussion below. Evaluation of the updated cost estimate (relative to other regional water projects and other water supply options for Fort Collins Utilities) indicates that the enlargement of Halligan Reservoir remains the most cost-effective water storage alternative for Utilities' customers.

3. **Halligan Project Funding**

   The Halligan Project will be funded primarily by Utilities Water Supply Requirements (WSR). The WSR is a dedication of water rights or cash-in-lieu (CIL) of water rights by new and redevelopment to ensure that adequate water supply and associated infrastructure are available to serve the development's water needs. Based on the probable Halligan Project cost. Staff anticipates that the cost to develop a single-family home in Utilities' water service area will increase $4,000-$5,000 beyond the proposed 2020 WSR CIL rate. The future WSR CIL rate remains competitive with water supply costs in the region.

   Because the Halligan Project will be funded primarily by the WSR CIL rate, the updated cost is not expected to significantly change the monthly rate forecast. Future rate increases are not expected to deviate from the existing rate adjustment strategy.

DRAFT ENVIRONMENTAL IMPACT STATEMENT (EIS)

A major Project milestone is pending as The Corps nears completion of the Draft EIS for the Halligan Project. The Draft EIS will describe the environmental impacts of enlarging the existing Halligan Reservoir, as well as environmental impacts of several alternatives to enlarging Halligan Reservoir. The Corps plans to release the Draft EIS for public review and comment before the end of 2019.

Staff developed an outreach campaign for the EIS release and has been engaging with the public, City Boards and Commissions, and project stakeholders since early 2019.

The public comment period of the Draft EIS is expected to last several months and will include an open house in Fort Collins, hosted by The Corps. Staff believes that environmental impacts and benefits of the City's preferred alternative of enlarging Halligan Reservoir will be presented accurately and fairly in the Draft EIS. This strengthens staff's confidence in a positive outcome for the City.

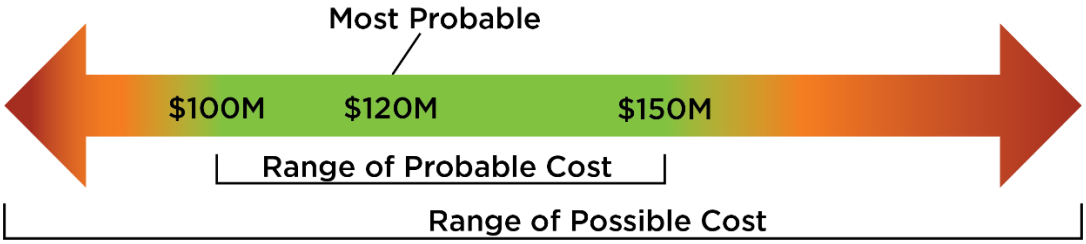
UPDATED PROJECT COST ESTIMATE

Costs of enlarging Halligan Reservoir were last updated in late 2017. A memo describing the change in cost was provided to City Council in April 2018. (Attachment 1). At that time, the Halligan Project was facing considerable uncertainty in the federal permitting process. Those uncertainties caused project delays and prompted staff to initiate a cost study in June 2017. The 2017 estimate was developed with input from a third-party independent construction cost estimator and focused predominantly on construction costs.

Since 2017, as the Draft EIS has been developed and environmental impacts and benefits of the Halligan Project have become more understood, staff's confidence in the City's preferred alternative of enlarging Halligan Reservoir has significantly increased. Consequently, staff was compelled to invest in a more detailed cost estimate for the Halligan Project.

The application of the estimation methodology indicates that Halligan Project costs could range from $100 million to $150 million, with a probable cost of $120 million. (shown in Figure 1 below).

Figure 1. Possible and probable range of costs of Halligan Project. All costs shown are in 2019 dollars.



This is an increase of $46 million over the 2017 estimate of $74 million. Key drivers of this cost increase (shown in Figure 2 below) include:

- Additional knowledge of permitting and design requirements.
- Additional knowledge related to real estate acquisition needs and costs.
- Assignment of costs related to permitting delays.
- Updated environmental mitigation costs.
- Evolving best practices in dam design and construction.
- Identification of project environmental enhancements.
- Development of a risk register that assigns costs to both known and unknown risks given the conceptual nature of the project at this time.
- More robust estimation of costs associated with project consultants, engineers, and City staff.

Given the long-term nature of the Halligan Project, the conceptual nature of the Project design, and the Project's scope and cost uncertainty, the cost estimate for the Halligan Project will be presented as a range of probable costs in the future. Also, as noted in previous quarterly updates, costs are anticipated to change and likely grow as the project scope is refined and permitting requirements and design are better understood. However, the "probable cost" range presented in Figure 1 is intended to capture future cost changes.

Costs Related to Risk

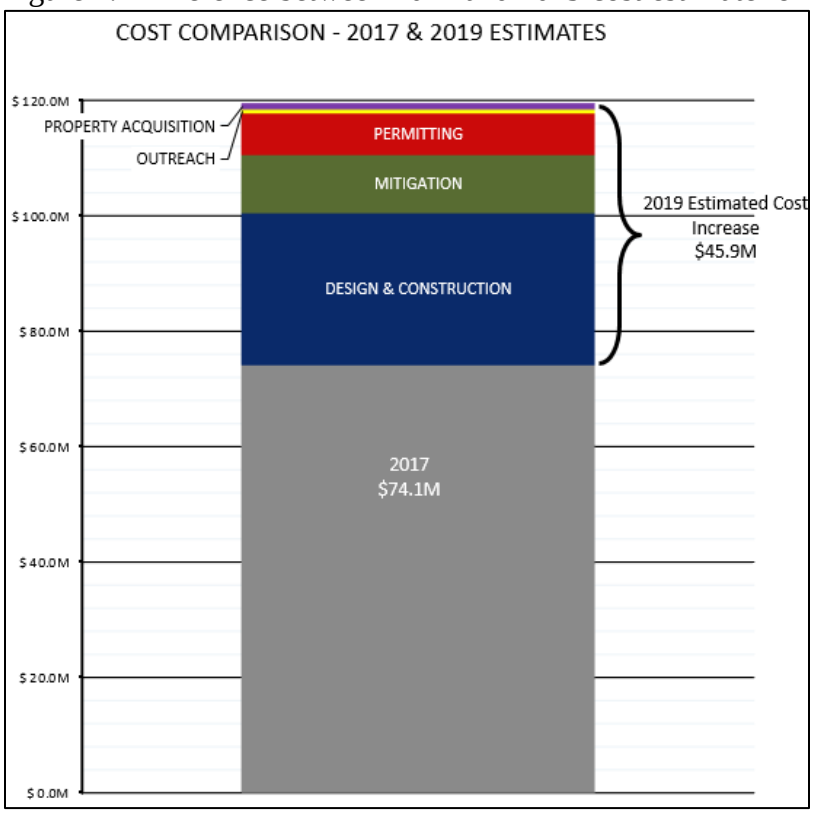
Approximately twenty percent of the total cost of the project is related to identified risks; uncertainties that exist today such as:

- Unknown site conditions
- The condition of the existing dam
- Possible permitting and schedule delays
- Mitigation requirements and enhancement opportunities
- Other similar items that will affect the total cost of the project but cannot be completely quantified at this point.

Furthermore, approximately eleven percent of the total cost of the project is related to yet unidentified risks; unforeseen events or developments that the project will likely encounter but are not yet known. Best practices in project management include reserving funds to cover both identified and unidentified risks throughout a project and reducing the total amount of funds allocated for risk through time, as more information is obtained, and less uncertainty exists in the project.

The increased cost does not reflect further progression of the dam design. The cost is still based on an AACE Class 5 estimate, with a range of accuracy of -30% to +100%, which is standard engineering practice for the conceptual nature of the Halligan Project design. This concept is portrayed in Figure 1.

Figure 2. Difference between 2017 and 2019 cost estimate for Halligan Project



Notes:

- $19M has been spend to date on permitting and real estate acquisition.
- The 2019 cost estimate assumes construction begins in 2024.
- If construction is delayed beyond 2024, increased costs due to escalation alone are approx. $4M.

HALLIGAN PROJECT FUNDING

The Halligan Project will be funded primarily by the future development that is driving the need for the Project. Funding will be primarily from the Utilities' Water Supply Requirements (WSR) with a small amount (less than 15%) funded by the Excess Water Use Surcharge (EWUS) and customer usage rates. The WSR is a dedication of water rights or cash-in-lieu (CIL) of water rights by new and redevelopment to ensure that adequate water supply and associated infrastructure are available to serve the development's water needs. The EWUS is tied to the WSR CIL rate and is charged for use of surplus water supplies by existing customers beyond

what was provided at the time of development. Both fees are adjusted biennially and are generally based on the total cost of water supply needs identified in Utilities' Capital Improvement Plan.

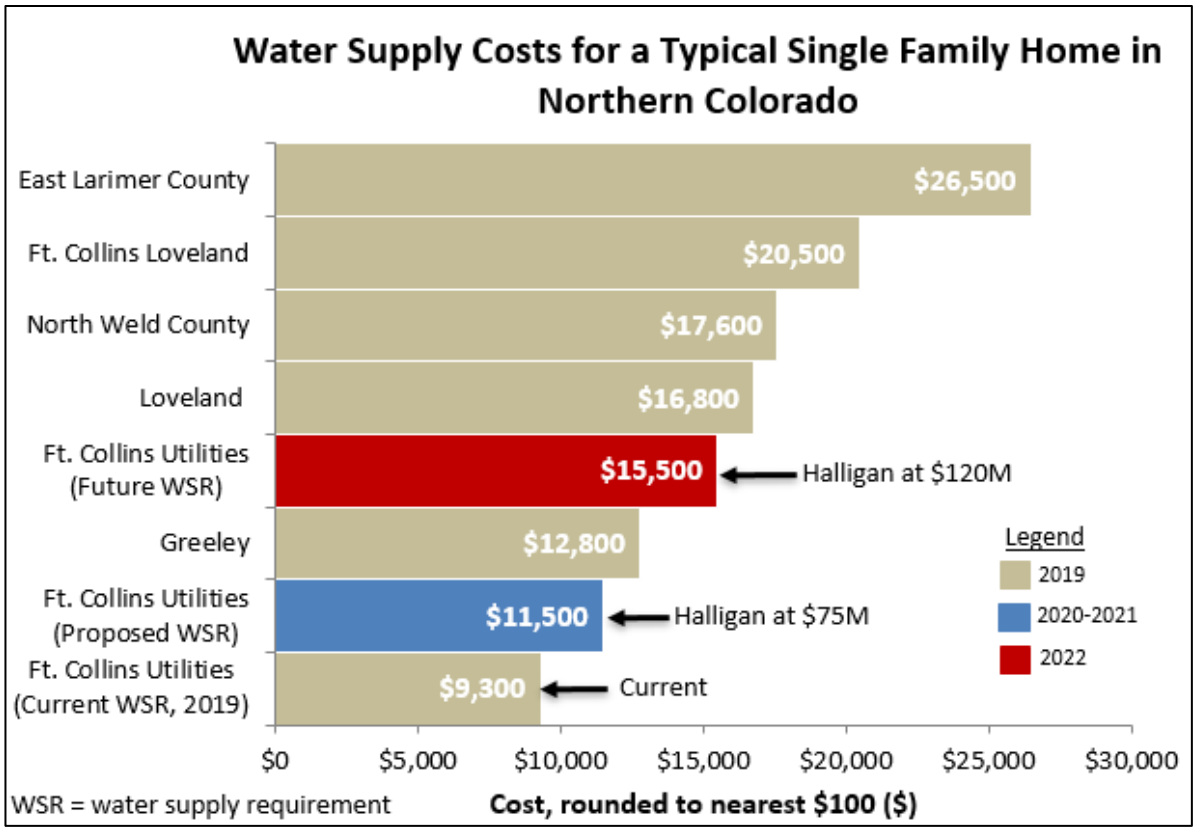
Staff anticipates the WSR CIL rate will likely increase up to 35% over the planned 2020 rate, which was presented to Council Finance Committee on August 19. The 35% increase will not become effective until 2022.

Impact of Rising Project Costs

Based on the projected WSR CIL rate, the cost of water for a new development is also expected to increase approximately 35% over costs anticipated in 2020.

Figure 3 below shows the current and future cost of water for a new single-family home in Utilities' water service area, as compared to other water providers in the region. Other water providers will likely also see increases in water supply rates as costs for water increase overall in the region.

Figure 3. Current and projected cost of water for a typical single-family home in Utilities' water service area, as compared to other water providers.



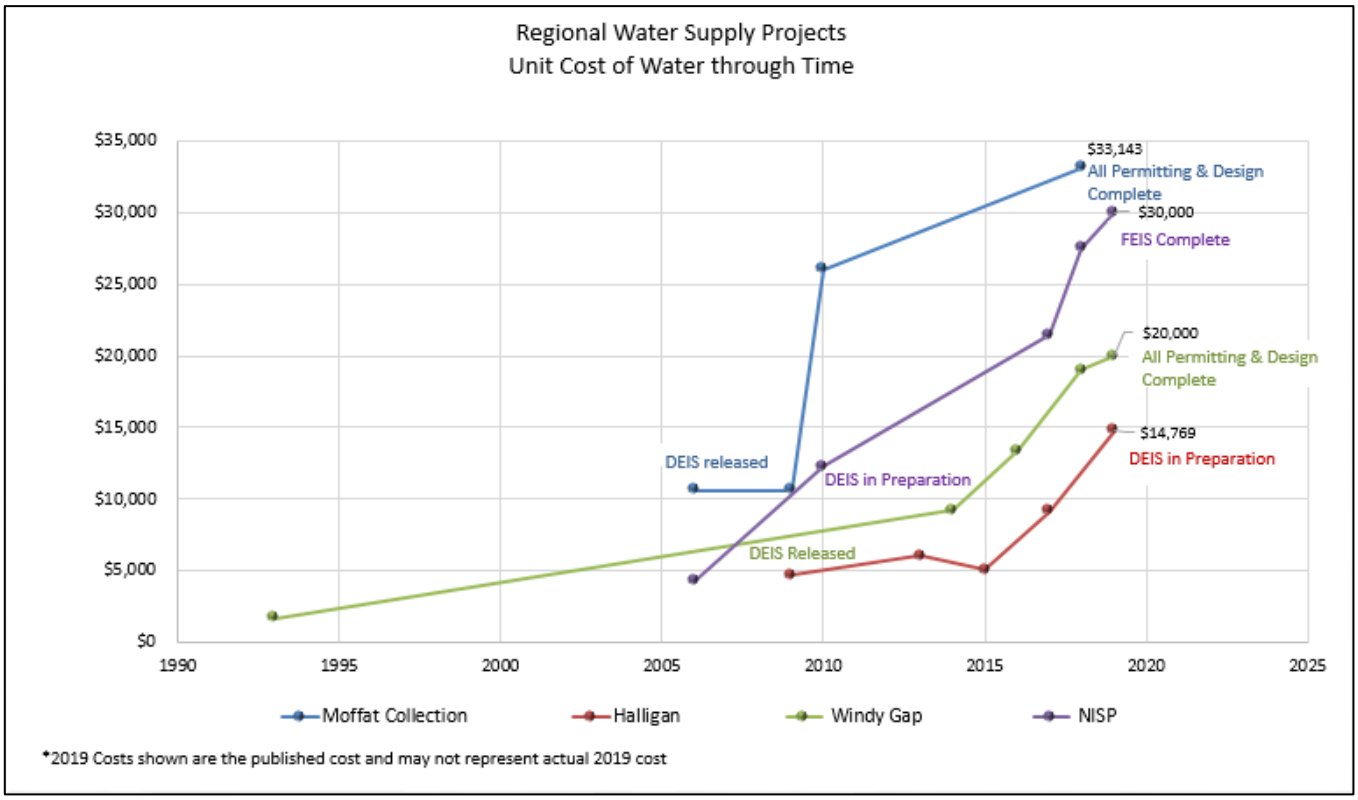
The previous Halligan Project estimate of $74M was included in the last update to the Capital Improvement Plan and Strategic Financial Plan, presented to the Council Finance Committee

(CFC) in 2017. The updated Project cost will be included in the 2019 Capital Improvement and Strategic Financial Plans presented to the CFC ahead of the 2021-22 Budgeting For Outcomes cycle. The 10-year rate and debt issuance forecast will be updated as part of the Strategic Financial Plan. Because the majority of the cost of Halligan will be paid through the WSR CIL rate, this updated cost estimate is not expected to significantly change the monthly rate forecast. Future rate increases are not expected to deviate from the current rate adjustment strategy that includes limiting annual rate increases to 5% or less.

The cost of water supply projects is increasing across Northern Colorado and elsewhere. Figure 4 shows the cost trends for the Halligan Project as compared to other regional water projects. Increasing costs are driven by rising permitting and mitigation requirements, increased project definition through time, more rigorous cost estimating practices, and escalation of costs due to permitting delays.

As shown in Figure 4, the unit cost of water from Halligan Project remains low relative to other regional water supply projects.

Figure 4. Evolution of the cost of regional water supply projects. Cost is shown as a unit cost of water per acre-foot of volume.



Cost Management and Future Decisions

Staff have limited control over the permitting process or permitting schedule, both of which are significant cost drivers and dictated by the permitting agencies. Therefore, staff will continue to focus on cost factors within our control to effectively manage costs and inform future decisions. The cost management cycle for the Halligan Project includes (Figure 5):

- Using best practices in cost management and calculating updated cost estimates at project milestones.
- Evaluating the impact of updated costs on development fees and rates for Utilities' customers.

Updated cost estimates and other decision factors will be evaluated at project milestones to verify that the Halligan Project remains the most cost-effective water supply alternative for Utilities' customers.

If there are any questions about the information provided in this update, please contact Eileen Dornfest at 970/416-4296 or edornfest@fcgov.com.

Attachments:

Attachment 1: Memo re: Halligan Water Supply Project, Updated Costs and Timeline

CC: Water Board
Donnie Dustin, Water Resources Manager
Linsey Chalfant, Special Projects Manager

Figure 5. Cost management cycle used for the Halligan Project