



Town of Castle Rock

Agenda Memorandum

Agenda Date: 4/17/2018

Item #: File #: TMP 2018-252

To: Honorable Mayor and Members of Town Council

From: Mark Marlowe, P.E., Director of Castle Rock Water

Resolution Approving the Town of Castle Rock Services Agreement with Dewberry Engineers, Inc. for the Plum Creek Diversion Pump Station Design Project [located along Plum Creek in Sedalia, CO]

Executive Summary

Castle Rock Water's goal is to provide a sustainable, reliable and renewable water supply, now and into the future, for all of Castle Rock's citizens and businesses. Securing adequate water supplies for the Town's current population base and our projected future demands is critical for our residents. With or without growth, the existing deep groundwater supply that the Town has been so reliant upon is a non-renewing resource that is not by itself sustainable for the Town in the long-term.

Transitioning to renewable water supplies for 75 percent of the Town's future water needs by 2050 will lessen the reliance on the Denver Basin groundwater aquifers, and is a major goal of the Town. Several of the primary sources where renewable water can be obtained include existing senior water rights along East and West Plum Creek, lawn irrigation return flows that accrue to Plum Creek, and some of the water used by the Town that is treated by Plum Creek Water Reclamation Authority and returned to Plum Creek. The Town plans to maximize the use of these renewable water supplies by capturing the flows in the Town-owned Plum Creek Diversion, and then delivering the flows back to the Plum Creek Water Purification Facility (PCWPF) for treatment.

The Plum Creek Diversion Pump Station Project (Project) consists of modifications to the existing diversion structure in Sedalia, evaluation and design of modifications and repairs to the existing Castle Rock Reservoir, and design of a new pump station to return captured water on Plum Creek, to which the Town has rights to, back to the PCWPF for treatment. To meet the projected water demands, it is critical that the project design be completed and ready for bid to facilitate construction in 2019.

Castle Rock Water is seeking Town Council approval of a Resolution (**Attachment A**) approving a Services Agreement (**Exhibit 1**) with Dewberry Engineers, Inc. (Dewberry) for the Plum Creek Diversion Pump Station Design Project. The Dewberry project cost is \$342,800. This cost includes design and bid phase services for the Diversion and Plum Creek Pump Stations and an evaluation of the existing Castle Rock Reservoir 1. Staff also requests approval for a ten percent Town-managed contingency of \$34,280, for a total project authorization of \$377,080. The scope of services to be

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completed by Dewberry is detailed in an attachment to the agreement (**Exhibit 1**). Dewberry's rate and fee schedule is also an attachment to the agreement.

Dewberry shall undertake the work upon execution of the agreement and shall complete work 41 weeks thereafter, by March 2019. Location maps for the proposed Diversion Pump Station, Plum Creek Pump Station and Castle Rock Reservoir 1 are provided in **Attachment B**.

History of Past Town Council, Boards & Commissions, or Other Discussions

This project was presented to the Castle Rock Water Commission at their regular meeting on March 28, 2018. The Commission voted _____.

Discussion

Castle Rock Water has recently purchased the United Water and Sanitation District's infrastructure, which includes the Plum Creek Diversion in Sedalia. The Plum Creek Diversion has a capacity to capture up to 25.8 million gallons per day (mgd), but is only able to pump 1.15 mgd up to the Castle Rock Reservoir 1. This project will design a new Diversion Pump Station that is capable of pumping 8 mgd up to the reservoir, and will be expandable up to 15 mgd in the future. This project will also design the new Plum Creek Pump Station that will pump water from the Castle Rock Reservoir 1 to the Plum Creek Water Purification Facility. The Plum Creek Pump Station will initially be capable of pumping 6 mgd and will be expandable up to 13 mgd.

This project will also evaluate the condition of Castle Rock Reservoir 1. The lined reservoir was constructed in 2007 and has a storage capacity of 240 acre feet. During an initial evaluation of the existing United facilities prior to their purchase, a number of potential problems were noted with respect to the condition of the reservoir liner. The evaluation conducted as part of this project will further evaluate the condition of the liner and make recommendations for improvements. Additionally, the current inlet and outlet piping configuration will be evaluated with the goal of improving the design in order to minimize short circuiting and promote water mixing within the reservoir.

A Request for Proposal (RFP) was sent out to six qualified consultants to provide proposals for the design of the pump stations and reservoir evaluation. Four consultants provided proposals and fee schedules for the project. The following table shows the fee proposals received from the four consulting firms.

Consulting Firm	Total Cost
Dewberry	\$342,800
Hazen	\$449,907
AECOM	\$480,276
Burns & McDonnell	\$599,770
Stantec	No Response
Jacobs	No Response

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Dewberry has designed several facilities for the Town, including the latest deep well facility that is currently under construction in Castlewood Ranch. Staff is confident of Dewberry's capabilities to complete this project within budget and on schedule, and we recommend award of the design project to Dewberry.

Budget Impact

Funding for this project was budgeted in the 2018 budget in the line item titled Plum Creek Diversion Structure, account no. 211-4375-443-77-54 WR-SDS. This account has a current balance in the amount of \$18,586,144. The Dewberry proposal fee is \$342,800. Staff requests an additional \$34,280 (Town-managed ten percent contingency) be authorized, for a total project authorization of \$377,080.

Staff Recommendation

Staff recommends approval of the Services Agreement with Dewberry Engineers, Inc., for the design services for the Plum Creek Diversion Pump Station Project and Castle Rock Reservoir 1 evaluation, in the amount of \$342,800 (***Exhibit 1***).

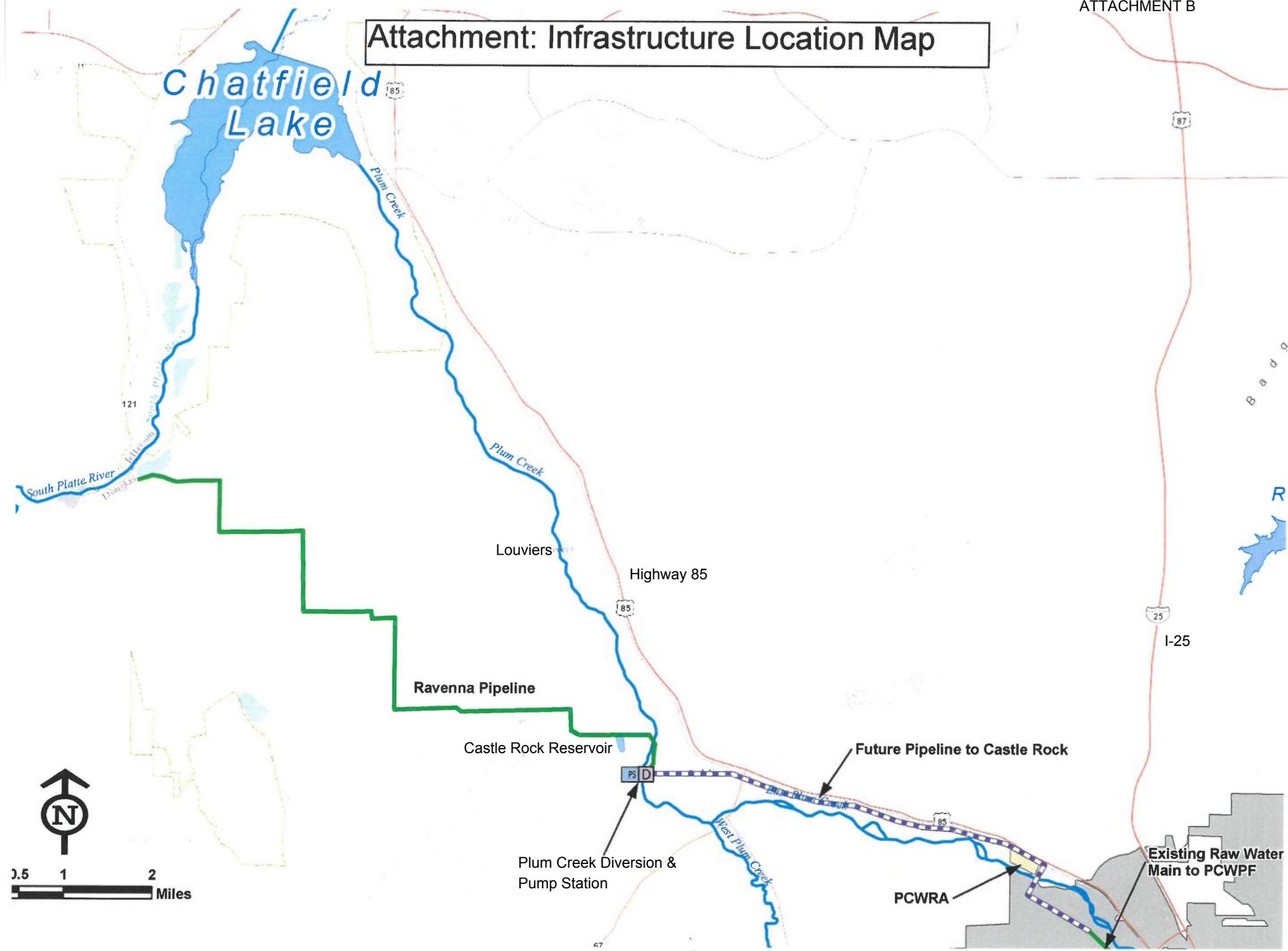
Proposed Motion

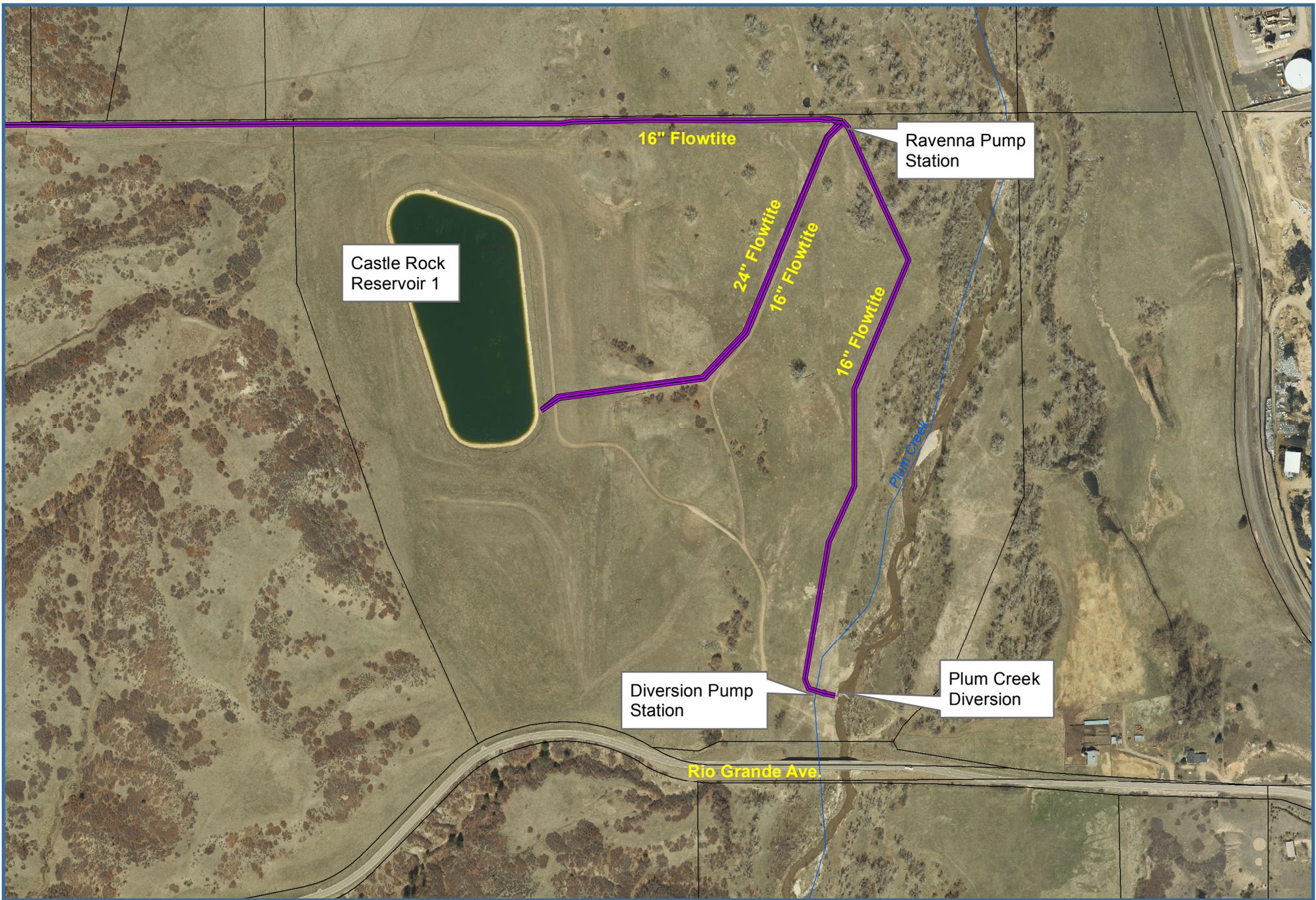
"I move to approve the Resolution as introduced by title."

Attachments

Attachment A: Resolution
Exhibit 1: Agreement
Attachment B: Maps

Attachment: Infrastructure Location Map





Date: 2/6/2018 1 inch = 500 feet

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**CR WATER
PC DIVERSION
SITE MAP**