

Town of Castle Rock



Agenda Memorandum

Agenda Date: 12/3/2019

Item #: File #: TMP 2019-795

To: Honorable Mayor and Members of Town Council

From: Mark Marlowe, P.E., Director of Castle Rock Water
Matt Benak, P.E., Water Resources Manager
Heather Justus, P.G., Water Resources Project Manager

Resolution Approving the Contract with Colorado Pump Service & Supply Co. for Well CR-81 Equipment replacement and Alluvial Wells Rehabilitation Project

Executive Summary

The purpose of this memorandum is to request Town Council's approval of a Resolution (see **Attachment A**) approving a contract agreement with Colorado Pump Service & Supply Co. for the pump testing and re-equipping of alluvial well AL-81; and the rehabilitation and re-equipping of alluvial wells AL-12, AL-13, AL-2, and AL-9. In addition, the scope includes the abandonment of four out-of-service alluvial wells located along West Plum Creek. AL-81 is a non-active alluvial well located near the new Parks Service Center. CR Water staff have determined a way to feasibly bring the well into service if the investigation of the well shows that it is in good condition. The alluvial wells AL-12, AL-13, AL-2 and AL-9 are existing alluvial wells that extract water from the East Plum Creek Alluvium, which is part of the Town's renewable water supplies. The water produced by the wells is treated at the Plum Creek Water Purification Facility (PCWPF). A location map for the wells is provided as **Attachment B**.

The wells are identified as critical wells that are extremely important at PCWPF. CR Water staff have monitored the production rates and water levels of the wells since they were brought online. Using the monitoring tools, we are able to determine that wells AL-2 and AL-9 need to be rehabilitated most likely due to significant bio-fouling. Most recent water quality sampling also shows increases in iron levels at both wells. Staff believes that rehabilitation treatment on the wells is warranted and will ultimately improve the current well performance.

AL12 and AL-13 are both horizontal wells and have transducers that have failed. Modifications in the pumping pipe string need to occur to install functioning transducers. While the pumping pipe string is out of the well, staff recommends an assessment of the wells to be completed to determine if cleaning is needed.

The four alluvial wells located in the West Plum Creek were part of the Douglas Park Water Rights

change case. CR Water can exchange the Douglas Park Water Rights to capture at either the CR-1 diversion, the alluvial wells or the Plum Creek Diversion. As part of the change case, CR Water is required to abandon the four existing wells in the West Plum Creek Alluvium.

A Request for Bids was posted on BidNet. Staff received four responses and one completed bid proposal. Colorado Pump Service and Supply Co. (Colorado Pump) submitted the only completed proposal for the project that met all of the requirements for the project. Staff recommends approving the contract services agreement based on the qualified proposal from Colorado Pump in the amount of \$252,216.00. In addition, Castle Rock staff requests a 10% Town-managed contingency in the amount of \$25,222.00 for a total authorization of \$277,438.00. Adequate funds were budgeted for this project in the 2019 Budget although some of the funds were in two different line items so a budget transfer will be necessary. The Contract Agreement is included as **Exhibit 1** to the Resolution.

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

This item has not been discussed with CR Water Commission. Staff plans to present the project information and packet to CR Water Commission at the December 11th meeting.

Discussion

The alluvial wells deliver raw renewable water to PCWPF. Production from the wells have helped us move forward toward reaching the Castle Rock Water Strategic Goal #2 to fully utilize groundwater and renewable supplies. Fully functioning alluvial wells also help with diversifying our water portfolio. The alluvial wells run continuously unless the treatment plant or wells are down for maintenance. They were brought online early in 2013. Since 2013, CR Water has produced 1.8 billion gallons (5,524 acre-feet) of renewable water from all of the alluvial wells in service.

The following table shows the 2019 produced water from AL-2, AL-9, AL-12 and AL-13.

AL-2 (gallons)	AL-9 (gallons)	AL-12 (gallons)	AL-13 (gallons)
9,304,898	22,958,199	19,450,528	10,916,556

CR Water staff monitor the daily productions and water levels using tools that were developed by staff for the purpose of diagnosing potential well efficiency losses due to biofouling and mechanical failure which contribute to the reduction in water production. Based on daily monitoring results, staff recommends rehabilitation treatment which will improve well performance for Wells AL-2 and AL-9.

Both AL-12 and AL-13 have transducers that have failed and need to be replaced. The replacement requires modification to the pumping string to include a PVC tube that will allow staff easier access to the transducers. While the pumping string is removed from the well, staff recommends completing an assessment of the wells to determine if rehabilitation is needed and to complete a video. A rehabilitation and equipment replacement will only be completed if the inspection deems it necessary.

AL-81 is an alluvial well that is not in service currently. Recently, staff determined a viable and cost effective solution to bring the well online if the inspection and testing is favorable. The well is located near the new Parks Service Center. Older data suggests that the well may be able to produce 40 to

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60 gallons per minute (gpm). The inspection and testing will include a well video to determine the type of cleaning if any is needed and a pumping test.

In addition, there are four alluvial wells located in the West Plum Creek alluvium that need to be abandoned in accordance with state standards to protect the aquifer. The four alluvial wells were part of the Douglas Park Water Rights change case. CR Water can exchange the Douglas Park Water Rights to capture the water rights at either the CR-1 Diversion, the East Plum Creek alluvial wells or the Plum Creek Diversion. As part of the change case, CR Water is required to abandon the four existing wells in the West Plum Creek Alluvium.

Staff posted the Request for Bids on BidNet for the alluvial well rehabilitation project. Four contractors responded. Only Colorado Pump Service and Supply Co. responded with a complete bid. Layne A Granite Company provided a partial proposal. Both Hydro Resources and Applied Ingenuity were unable to provide a bid due to various reasons. Therefore, Colorado Pump Service and Supply Co. submitted the only qualifying bid proposal in the amount of \$252,216.00.

Budget Impact

The funding for the contract will come from Water Resources Account 211-4375-443.40-37 (Repair and Maintenance Wells) which has a current balance of \$193,686. Upon approval of the contract, a budget transfer will be completed to cover the remaining balance from Water Resources Account 211-4375-443.40-90 (CIP Operations and Maintenance) which has a current balance of \$1,300,948.00. The Colorado Pump proposal fee is \$252,216.00. In addition, Castle Rock staff requests a 10% Town-managed contingency in the amount of \$25,222.00 for a total authorization of \$277,438.00.

<u>Project</u>	<u>Amount</u>	<u>Contingency</u>	<u>Total Amount</u>
211-4375-443.40-37 Repair and Maintenance Wells	\$252,216.00	\$25,222.00	\$277,438.00

Staff Recommendation

Staff recommends Town Council's approval of the contract agreement between the Town of Castle Rock and Colorado Pump Service and Supply Co. in the amount of \$252,216.00 plus a 10% Town managed contingency of \$25,216.00 for a total authorization of \$277,438.00.

Proposed Motion

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

Attachments

- Attachment A: Resolution
- Exhibit 1: Construction Contract
- Attachment B: Location Maps