



STAFF REPORT

To: Honorable Mayor and Members of Town Council

Through: David L. Corliss, Town Manager

From: Mark Marlowe, P.E., Director of Castle Rock Water
Roy Gallea, P.E., Engineering Manager
Matthew Hayes, P.E., Project Manager

Title: **Resolution Approving a Service Agreement with Dewberry Engineers Inc. for the Young American Infrastructure Rehabilitation and Improvements, Bell Mountain Raw Pipeline, and Bell Mountain Flow Meter Vault Upgrade Projects** *[Young American neighborhood and Bell Mountain Ranch]*

Executive Summary

Castle Rock Water (CRW) is seeking Town Council approval of a resolution approving a service agreement (**Attachment A**) with Dewberry Engineers, Inc. (Dewberry) for the design of the Young American Infrastructure Rehabilitation and Improvements, Bell Mountain Raw Pipeline, and Bell Mountain Flow Meter Vault Upgrade Projects. In an effort to reduce administrative and contracting costs, gain economies of scale and generate more competitive engineering bids, CRW staff combined three separate but smaller design projects into one request for proposals. These three projects include the Young American Infrastructure Rehabilitation and Improvements, the Bell Mountain Raw Pipeline, and the Bell Mountain Flow Meter Vault Upgrade.

The Young American neighborhood was constructed in the mid-1970s and the water and sewer infrastructure is approaching the end of its useful life (see **Attachment B**). The water distribution and sanitary collection systems will be designed for replacement and/or rehabilitation with improvements to bring both up to current CRW standards. The Bell Mountain Raw Pipeline Project design will provide a new raw water main to connect the Town's existing Denver Basin Well located off of Glade Gulch Road and the Town interest in the Dawson and Arapahoe Wells located off of Bell Mountain Parkway to the Bell Mountain Water Treatment Plant (see **Attachment C**). The Bell Mountain Flow Meter Vault Upgrade Project design will provide a pipeline between the newly drilled Arapahoe Well and the existing flow meter vault (see **Attachment D**). Currently, the flow meter vault only contains a single flow meter for the Bell Mountain wells. The vault will be upgraded so that each well has a flow meter and both wells can be run together.

Dewberry's project cost for the three projects is \$623,784. Staff also requests approval for a 5% Town-managed contingency of \$31,189, for a total authorization of \$654,973. The scope of services to be completed by Dewberry is detailed in an attachment to the agreement (**Exhibit 1**). CRW staff have reviewed the scope and cost and believe the fee proposed by Dewberry to be reasonable.

Dewberry shall undertake the work upon execution of the agreement and shall complete the work 30 weeks thereafter, so by March 29, 2024 assuming a start date in August 2023. Location maps for the Young American Infrastructure Improvements and Bell Mountain projects are provided in attachments to the agreement (**Attachments B, C and D**).

Notification and Outreach Efforts

The project information will be posted on the Town's Development Activity map as Water Projects. Open houses for the Young American and Bell Mountain Ranch projects will be scheduled toward the end of the design project.

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

Castle Rock Water staff presented this item to the Castle Rock Water Commission at their meeting held on July 26, 2023, and the Castle Rock Water Commission voted unanimously 7 to 0 to recommend Town Council approval of the Resolution as presented.

Discussion

The Young American neighborhood water and sewer infrastructure was constructed in the mid-1970s and is approaching its end of life. When the potable water distribution system was originally constructed, a minimal number of isolation valves were installed. During recent water main breaks, the CRW operations team has needed to isolate large portions of the distribution system to perform the repairs causing more outages to residents than would be typical on this type of activity. The existing water distribution pipes are 4-inch and 6-inch cast iron pipe. The pipes in this area need to be upsized to 8-inch to meet the Town's current standards for water mains. The water main in South Street will be upsized to 12-inch in order to improve system capacity and distribution in this area. All water services will be replaced between the curb stop and new water main. As part of the design, an inventory of service line materials on the customer side for each house / customer will be collected. The new Lead and Copper rules require this inventory, and if lead service lines are present, CRW would be required work with the property owner to remediate those lines.

The existing sanitary sewer mains in this area are vitrified clay pipe. Some of the sewer mains have been lined in recent years to extend the life of the pipes. The design project will evaluate all of the existing sewer collection system in the area and design a rehabilitation plan for each pipe. Sanitary service connections within the Town's Right-of-Way will also be evaluated for replacement as part of the project. Storm sewer in this area will be evaluated concurrently with this design through a separate agreement to identify potential replacement and/or rehabilitation needs to be addressed as part of the construction project. The total approximate length of water and sewer to be improved in this project area is 10,700 feet and the number of homes within Young American Subdivision is 175.

The Young American Rehabilitation and Improvement Project will be designed in a single phase but constructed in 3 phases from 2024 to 2026. This project has been identified as a high priority in CRW's Rehabilitation and Replacement Capital Plan 2023 – 2032. In fact, all three phases are identified in the top ten highest priority projects, see **Attachment E**.

Castle Rock Water recently acquired the Bell Mountain water system, including the two Denver Basin Wells. Castle Rock Water also has partial water rights on three other Denver Basin Wells in the Bell Mountain Ranch area that currently discharge to East Plum Creek. A raw water pipeline is needed between the two well sites (Arapahoe well and Dawson well on one site and Denver well on the other site) to direct this water supply to the Bell Mountain Water Treatment Plant for more efficient use within our service area. The current method of floating the water down the creek from the discharge point to the Plum Creek Water Purification Facility results in losses of water of as much as 40%. The estimated value of this lost water supply can be as high as \$9,756,000 (assuming \$45,000 per acre foot) based on the number of acre feet that can currently be discharged to the creek. Additionally, the Town has plans to construct a future water treatment plant in the Crystal Valley Ranch subdivision and this pipeline will be used to pump the Bell Mountain Wells (including the three being connected by this project) to the future treatment facility. The anticipated size for this pipeline is 12-inches. The total length of pipe to be installed with this project is 6,500 feet, and the project will be constructed within Consolidated Bell Mountain Ranch Metro District property. As part of the acquisition of the Bell Mountain service area, easements for this pipeline will be provided by the Consolidated Bell Mountain Metro District.

Castle Rock Water is constructing a new well to replace the old well that has failed at the Bell Mountain Well site. This project will design a pipeline between the new well and the existing flow meter vault. The current vault only contains a single meter run to account for the well production from the two wells on the site. The existing meter run needs to be upgraded to meet the Town's standards, and a second meter run needs to be added to the vault. This will allow both well to operate together and be able to account for the water.

The request for proposals for these projects was sent to five qualified consultants. A proposal was received by one consultant, as summarized in the table below.

Consultant	Bid Amount
Dewberry	\$623,784
Providence Infrastructure	No Proposal
Brown & Caldwell	No Proposal
AECOM	No Proposal
Burns & McDonnell	No Proposal

Staff feels that the price provided is reasonable based on the East Plum Creek Well Facility and Lanterns Well Facility designs. Some of the consultants that were invited to propose on this project could not fit this work into their current project loads.

Budget Impact

The Dewberry proposal fee is \$623,784. Staff requests an additional \$31,189 (Town-managed 5% contingency) be authorized for a total project authorization of \$654,973. The project will be funded from the accounts shown below.

Project	Account	Amount	Contingency	Total	2023 Budget
Water Rehab	210-4275-442-75-35	\$178,164.50	\$8,908.00	\$187,072.50	\$13,602
Sewer Rehab	213-4575-445-75-62	\$178,164.50	\$8,908.00	\$187,072.50	\$227,315
BMR Pipeline Connection	210-4275-442-75-39	\$132,527.50	\$6,627.00	\$139,154.50	\$17,716
Meter Vault Upgrades	210-4275-442-75-39	\$134,927.50	\$6,746.00	\$141,673.50	
Total		\$623,784	\$31,189	\$654,973	

A budget transfer will need to occur for the new wells portion and will be as follows:

To Account	To Project	From Account	From Project	Amount	Budget Before Change	Budget After Change
210-4275-442-75-39	New Water Supply Wells			\$280,828.00	\$17,716.00	\$298,544.00
		210-4275-442.77-15	Adv Metering Inf	\$280,828.00	\$1,731,913.00	\$1,451,085.00

Likewise, a budget transfer will need to occur for the Water Rehab portion of the work and will be as follows:

To Account	To Project	From Account	From Project	Amount	Budget Before Change	Budget After Change
210-4275-442.75-35	Waterline Rehab & Replace			\$200,000.00	\$13,602.00	\$213,602.00
		210-4275-442.78-81	VFD Replacement	\$125,000.00	\$125,000.00	\$0.00
		210-4275-	Facilities Capital Replacements	\$75,000.00	\$75,000.00	\$0.00

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Staff Recommendation

Staff recommends Town Council approval of the resolution approving the service agreement between the Town of Castle Rock and Dewberry for the design of the Young American Infrastructure Rehabilitation and Improvements, Bell Mountain Raw Pipeline, and Bell Mountain Flow Meter Vault Upgrades Projects in the amount of \$623,784 plus a 5% Town-managed contingency of \$31,189 for a total authorization of \$654,973.

Proposed Motion

“I move to approve the Resolution as introduced by title.”

Alternative Motions

“I move to approve the resolution as introduced by title, with the following conditions: (list conditions).”

“I move to continue this item to the Town Council meeting on _____ date to allow additional time to (list information needed).”

Attachments

Attachment A: Resolution
Exhibit 1: Agreement
Attachment B: Location Map for Young American
Attachment C: Location Map for Bell Mountain Ranch Pipeline Project
Attachment D: Location Map Bell Mountain Well and Meter Vault Upgrade
Attachment E: CRW Rehabilitation and Replacement Capital Plan 2023-2032