

# Town of Castle Rock

# **Agenda Memorandum**

**Agenda Date:** 5/18/2021

Item #: 16. File #: TMP 2021-306

**To:** Honorable Mayor and Members of Town Council

Through: David L. Corliss, Town Manager

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

Matt Benak, P.E., Water Resources Manager Angie Brown, Water Resources Program Analyst

**WISE Project Update** 

## **Executive Summary**

The intent of this memorandum is to 1) update Town Council on the Water Infrastructure Supply Efficiency (WISE) project, 2) provide context for other upcoming projects, commitments, and budgetary impacts anticipated in 2021, and 3) obtain approval for a Resolution for 2021 costs for the Binney Connection for an amount not to exceed \$476,100, and a Resolution authorizing the Town Manager to approve 2021 monthly WISE delivery costs which are anticipated to exceed \$250,000 during the summer months . In 2021, Staff anticipates spending the full budgeted amount of \$2,804,125 on 1,000 AF of WISE water deliveries, and \$2,000,000 on Capital Improvement Projects (CIP) including the Binney Connection, Parker Water & Sanitation (PWSD) Mid-Section Pipeline Project, and more. Further detail regarding water deliveries and CIP will be discussed below and can be found in summarized tables in *Attachment A* and *Attachment B*.

The WISE project is a key piece of Castle Rock Water's long term renewable water plan. The goal of that plan is to achieve 75% or more of Castle Rock's supply as renewable water in an average year by 2050. WISE water will ultimately make up approximately 12% or more of the Town's supply depending on the Town's long term population.

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

On March 3, 2020, Town Council unanimously approved Resolution 2020-032 Authorizing Payment of Castle Rock Water's Portion of the 2020 Binney Connection Fee and the Meridian Title Clean-Up Fee for the Water Infrastructure Supply Efficiency (WISE) Project. Staff also presented Town Council with an overview and update of all components of the WISE Project.

On August 26, 2020, Castle Rock Water Commission voted unanimously to recommend Town Council approval of the exchange of Cherokee ground water rights for a portion of Dominion Water and Water Sanitation District's excess WISE infrastructure capacity.

On September 1, 2020, Town Council approved by a vote of 6 to 0 the First Reading of Ordinance 2020-018 approving the Fourth Amendment to the Intergovernmental Agreement for the Option to Purchase and Right of First Refusal Regarding Ground Water Rights, Easements, and Related Improvements, which conveyed Cherokee Ranch ground water rights to Dominion Water and Sanitation District in exchange for conveyance of additional capacity in WISE infrastructure components to the Town.

On September 15, 2020, Town Council unanimously approved the Second Reading of Ordinance 2020-018 approving the Fourth Amendment to the Intergovernmental Agreement for the Option to Purchase and Right of First Refusal Regarding Ground Water Rights, Easements, and Related Improvements, which conveyed Cherokee Ranch ground water rights to Dominion Water and Sanitation District in exchange for conveyance of additional capacity in WISE infrastructure components to the Town.

On February 24, 2021, Castle Rock Water Commission voted unanimously to recommend Town Council approval of the intergovernmental agreement with Parker Water and Sanitation District for the design, construction, and project management of the Parker Mid-Section Pipeline and Canyons Pump Station expansion.

On March 16, staff presented Town Council with their recommendation to approve Resolution 2021-033, approving the intergovernmental agreement (IGA) with Parker Water and Sanitation District (PWSD) for the design, construction, and project management of a 2-mile long, 42-inch pipeline and to expand the Canyons Pump Station for the conveyance of the Town's WISE water through PWSD. Town Council unanimously voted to approve the resolution as presented.

April 20, 2021 Town Council voted to approve the First Reading of Ordinance 2021-010 approving the Fifth Amendment to the Intergovernmental Agreement for the Option to Purchase and Right of First Refusal Regarding Ground Water Rights, Easements, and Related Improvements, which conveyed Cherokee Ranch ground water rights to Dominion Water and Sanitation District in exchange for conveyance of additional capacity in WISE infrastructure components to the Town.

On May 4, 2021 Town Council voted to approve the Second Reading of Ordinance 2021-010 approving the Fifth Amendment to the Intergovernmental Agreement for the Option to Purchase and Right of First Refusal Regarding Ground Water Rights, Easements, and Related Improvements, which conveyed Cherokee Ranch ground water rights to Dominion Water and Sanitation District in exchange for conveyance of additional capacity in WISE infrastructure components to the Town.

Additional history prior to March of 2020 is provided in *Attachment C*.

#### **Discussion**

### **Project Description & Intergovernmental Agreements (IGAs)**

The Water Infrastructure & Supply Efficiency (WISE) Project is a first of its kind partnership between Denver Water, Aurora Water, and 10 water providers in the south metro Denver area that efficiently

utilizes shared infrastructure and renewable and reusable water supplies on the South Platte River.

In 2002, the Front Range of Colorado experienced a historic drought that catalyzed Aurora Water's efforts to develop a project that would return their renewable and reusable water supplies on the South Platte. The resulting project, known as the Prairie Waters Project (PWP), captured these supplies near Brighton, CO and conveyed them back to Aurora's service area through a series of pipelines and pump stations. The project cost Aurora Water \$600 million and, while it provided a much needed drought supply, left Aurora with excess water supplies in hydrologically wet and normal years and the financial burden of an expensive project.

Around the same time, Denver Water was investigating ways they could also convey their renewable and reusable supplies back to their service area, and began initial discussions with Aurora on how they could partner on a project that would provide both entities with a drought-resilient water supply.

Meanwhile, water providers in the south metro Denver area were in search of renewable and reusable surface water supplies to reduce their reliance on non-renewable groundwater, and partnered together to form the South Metro Water Supply Authority (SMWSA), and later joined conversations with Denver and Aurora to investigate a joint project. Ultimately this conversation conceptualized the WISE Project which would provide interested SMWSA members with Denver and Aurora's renewable and reusable supplies in hydrologically normal and wet years, Denver with an emergency drought supply, and Aurora Water with funding through the sale of WISE water to SMWSA to help offset PWP costs.

In order to later formalize a partnership with Denver Water and Aurora Water, ten of SMWSA's fourteen members created the South Metro WISE Authority, through the signing of the South Metro WISE Authority Formation and Organizational Intergovernmental Agreement (Formation IGA) in 2013.

Several months after the Formation IGA was fully executed, Denver Water, Aurora Water, and the South Metro WISE Authority (SMWA) formally entered into the WISE Partnership through the full execution of the WISE Partnership Water Delivery Agreement (WDA) between Denver Water, the City of Aurora, acting by and through its Utility Enterprise, and the South Metro WISE Authority in 2013.

The WISE Partnership originally envisioned that 100,000 acre-feet (AF) of WISE water would be conveyed to SMWA members over a 10-year period. However, SMWA members could only commit to 72,250 AF at the time. Not wanting Douglas County water providers to miss out on a renewable water supply, Douglas County stepped in and agreed to hold 2,775 AF in reserve for any interested user within their jurisdiction. This reserved water is what we now refer to as Douglas County Option water.

The WDA outlined several key terms for the WISE Partnership:

- Aurora Water would offer 72,250 AF of WISE water to SMWA over a 10-year period. This
  volume has since been updated to 100,000 AF over 10 years after SMWA chose to increase
  their subscription through the Douglas County Option.
- Aurora has maximum and minimum volumes of water they can offer seasonally and over time periods spanning up to five years.
- SMWA is obligated to accept a minimum volume of water in any given WISE year based on

- Aurora Water's offer known as Take-or-Pay (TOP) water, meaning SMWA will pay for TOP water regardless of whether the membership accepts the full minimum amount.
- Denver Water has the right to use WISE water in 15 out of every 100 years, most likely meaning SMWA members will not receive any WISE water in that year or be able to utilize certain WISE infrastructure.
- A WISE Year is defined as June 1 through May 31 of the following year and defines the period
  of time in which Aurora can offer and SMWA can accept WISE water.
- Aurora Water would gradually increase annual offers of water to SMWA beginning in June 1, 2017 and continuing through May 31, 2021, so that WISE members have ample time to adjust their systems and operations to receive WISE water. This timeline has since been extended to May 21, 2025 with the increased subscription through the Douglas County Option.

## WISE Year & Take-or-Pay Obligation

Included in the Formation IGA were the average annual shares of WISE water each SMWA member committed to receive annually, commonly referred to as pro-rata WISE water subscriptions. In 2013, the Town of Castle Rock committed to 1,000 AF out of the total SMWA subscription of 7,225 AF annually, meaning on average the Town would pay for 1,000 AF of WISE water whether or not the Town accepted the full offer from Aurora. This also meant that the Town generally owned a 14% subscription in SMWA owned infrastructure. However, this percent subscription and infrastructure ownership has since changed due to the purchase of additional capacity and Douglas County Option water which will be discussed later in this memo.

When Aurora began offering WISE water to SMWA on June 1, 2017, the infrastructure necessary to convey water to participants in the Ridgegate Pipeline (discussed below) was not yet completed, thus Castle Rock was not able to accept any WISE deliveries until April 2018 when Castle Rock received its first WISE water. Because less than a month remained until WISE Year 2 began, and because the majority of SMWA members had not yet been able to receive their WISE water, Aurora Water offered a one- time compromise in which SMWA members were able to pay for their WISE Year 1 TOP prior to May 31, 2018, while receiving their actual deliveries during WISE Year 2. The Town received all WISE Year 1 water that was paid for in advance during summer 2018.

# **Key Infrastructure & Ownership Capacities**

As discussed above, the WISE Project efficiently utilizes water resources by capturing renewable and reusable Denver Water and Aurora Water supplies on the South Platte, and conveying that water through infrastructure shared (to varying degrees) by the WISE Partners (Aurora Water, Denver Water, and SMWA) and East Cherry Creek Valley Water (ECCV). Key Infrastructure is described in **Attachment D** and shown visually in **Attachment E**.

WISE water is provided to members of SMWA through the use of Aurora Water's Prairie Waters Project (PWP) which captures renewable and reusable water supplies on the South Platte. The water captured and conveyed by PWP consists of supplies owned by both Aurora Water and Denver Water to varying degrees depending on hydrologic conditions. This partnership provides water to SMWA members in hydrologically wet and normal years, and provides Denver Water with an emergency drought supply in 15 out of every 100 years.

From the PWP Pipeline, WISE water is treated at Aurora Water's Binney Water Purification Facility and is then conveyed to SMWA members primarily through the Western Pipeline. However, several members receive water by conveying their water through a single connection on the Western Pipeline known as the Ridgegate Connection, and then through infrastructure owned by Parker Water and Sanitation District where they receive their water at their local connection. SMWA Members receiving their water through the Ridgegate Connection (Ridgegate Participants) include:

- Parker Water and Sanitation District (PWSD)
- Pinery Water and Wastewater District (Pinery)
- Castle Rock Water (CRW)
- Dominion Water and Sanitation District (Dominion)

## **Discussion & Updates**

#### Water Deliveries

Deliveries to	Date by WI	SE Year							
	WISE Year	Start	End	SMWA Obligation (AF)	CRW Obligation (AF)	CRW Received (AF)	Cost of Deliveries + O&M	Cost of Deliveries (PW	Total Cost
Ramp-Up Period	1	Jun-17	May-18	1,500	208	280	\$ 530,900	\$ 13,700	\$ 544,600
	2	Jun-18	May-19	2,500	346	981	\$ 1,899,200	\$ 183,900	\$ 2,083,100
	3	Jun-19	May-20	3,500	484	1,012	\$ 2,141,000	\$ 194,000	\$ 2,335,000
	*4	Jun-20	May-21	5,000	692	950	\$ 1,840,750	\$ 220,000	\$ 2,060,750
DC Option Ramp-Up	*5	Jun-21	May-22	5,000	692	1,000	\$ 1,864,800	\$ 161,100	\$ 2,025,900
	*6	Jun-22	May-23	7,919	1,250	1,250	\$ 2,331,000	\$ 201,400	\$ 2,532,400
	*7	Jun-23	May-24	8,613	1,500	1,500	\$ 2,913,800	\$ 251,800	\$ 3,165,600
	*8	Jun-24	May-25	9,307	1,750	1,750	\$ 3,642,300	\$ 314,800	\$ 3,957,100
Full Deliveries	*9	Jun-25	May-26	10,000	2,000	2,000	\$ 4,550,000	\$ 550,000	\$ 5,100,000
*Estimated o	costs and vo	lumes	-					-	

WISE Year 4 began on June 1, 2020 and will be completed on May 31, 2021. Castle Rock Water (CRW) is invoiced monthly for WISE water deliveries from Aurora Water and PWSD for conveyance through their system. In 2020, the WISE water rate from Aurora was \$5.99 per one-thousand gallons (kgal), and the conveyance fee from PWSD was \$0.57 per kgal. Starting on January 1, 2021, Aurora Water decreased their WISE water rate to \$5.98 per kgal which will remain the rate through December 31, 2021 (*Attachment F*). PWSD's conveyance fee will remain at \$0.57 per kgal through the end of WISE Year 4 (5/31/21) and it is anticipated they will increase their fee for WISE Year 5 after re- evaluation. CRW anticipates completing WISE Year 4 TOP and making significant progress in WISE Year 5 TOP within the 2021 budget.

In WISE Year 4, CRW's TOP obligation is 692 AF. As of the March 2021 invoice issued by SMWA,

CRW has received credit for 647 AF of WISE water, leaving 45 AF remaining to complete CRW's WISE Year 4 TOP obligation. Although CRW has only received credit for 647 AF of WISE water since June 1, 2020, through trades with other SMWA members, CRW has received 803 AF of WISE water for a total cost of \$1.84 million including O&M and PWSD conveyance fees.

Due to trades negotiated with other SMWA members, it is anticipated CRW will reduce WISE costs in early 2021 and receive a total of 163 AF of WISE water from January 1, 2021 through May 31, 2021 for approximately \$363,000 including O&M and PWSD conveyance fees. With a budget of \$2.6 million in 2021 for WISE water, this will leave us approximately \$2.2 million for the remainder of 2021, primarily to help meet summer demands. Originally, Staff anticipated Full Deliveries of WISE water would begin on June 1, 2021, meaning CRW would begin receiving 2,000 AF annually and budgeted to accommodate this increase in deliveries. However, SMWA members who increased their subscription through the Douglas County Option chose to exercise a clause that allows SMWA to increase WISE deliveries by 25% annually beginning on June 1, 2022 and continuing through May 31, 2025. Because the 2021 budget anticipated 2,000 AF of deliveries instead of the now anticipated 1,000 AF, the potential exists to facilitate trades for additional WISE water during the drought that is expected to worsen this summer.

At this time, staff anticipates WISE water deliveries in 2021 will be offered by Aurora at a lower rate than offered in the summers of 2019 and 2020 when CRW received approximately 700 AF of WISE water for a cost of \$1.6 million. In the summer of 2021, staff anticipates receiving 630 AF for a total cost of approximately \$1.3 million dollars. Aurora Water will likely stop deliveries in November and December to conduct maintenance, and deliveries will commence in January 2022 at which time CRW will reduce flows to our pro-rata share. This should allow us to come in near budget, and will result in a total WISE water delivery of roughly 880 AF in 2021, and total TOP credit of nearly 315 AF from June 2021 through December 2021 which will leave roughly 380 AF remaining to take down in early 2022. With 380 AF remaining to take down in early 2022, CRW will plan to adequately budget for this remaining TOP volume as well as for demand season of 2022, which is when CRW's TOP obligation will increase from 692 AF to 1,250 AF.

CRW Staff expects WISE costs in 2021 to be \$2 million, well under the budgeted amount of \$2,804,125 for WISE water deliveries which includes the cost of WISE water, O&M charges from SMWA, conveyance fees through PWSD, and potential deliveries of Rueter-Hess Reservoir supplies. With the budget available, Staff will look for opportunities to conduct additional trades with other SMWA members and to convey additional stored supplies in Rueter-Hess Reservoir in order to help meet summer demands for renewable and reusable water during the projected drought. Therefore, Staff is anticipating to utilize all funds budgeted for WISE deliveries in 2021. Funds will be paid from the Other Professional Services Account <211-4340-443.30-70>. Additional detail including Project Codes and a breakout of anticipated spending in comparison to the 2021 Budget, can be found **Attachment G**.

#### **Invoicing for Water Deliveries**

Since CRW began receiving WISE deliveries in April 2018, the average monthly cost of WISE water has been roughly \$192,000, with a high monthly cost of \$560,000 in July of 2019. Since April 2018, CRW has sent check requests directly to Finance who then forwarded the request for approval by the

Town Manager. Approval from Town Council was not sought out because it was the understanding of Staff that since Town Council had already approved the Formation IGA and annual budget, by extension Town Council had already approved monthly invoices.

However, after reconsidering this process in late 2019, CRW and Finance determined it would be in the best interest of the Town to develop an alternate Best Practice which is outlined below.

Beginning in 2020, CRW has provided Town Council with annual WISE Project updates which include expected costs of WISE water deliveries for the calendar year and also delineates between WISE water years so that Town Council and the Town Manager are aware of expected costs for WISE year minimum water delivery obligations. It is the intention of CRW that the update will thereby function as Town Council approval for monthly invoices in excess Town Manager approval, barring any alternate direction by Town Council after being presented with the annual update. Then, when monthly WISE water delivery invoices are received for amounts above the CRW Director's signing authority (including conveyance fee invoices from PWSD for WISE or Rueter-Hess deliveries), CRW Staff will send a check request to the Town Manager with the attached Annual WISE Update Summary Memo (*Attachment H*) which will include references to approved resolutions including approval of the Formation IGA Second Amendment to the Formation IGA, Douglas County Option purchase, and the 2021 budget.

## **Operations with Dominion Water & Sanitation District**

In 2014, CRW and Dominion Water and Sanitation District (Dominion) entered into the 2014 Water Service Intergovernmental Agreement (2014 Dominion Wheeling IGA). Among the terms of the IGA is the Town's commitment to provide Dominion with the ability to move up to 4.0 million gallons per day (MGD) of their water through the Town's system and other facilities shared by the Town and Dominion, with CRW receiving reimbursement for losses through the system as well as a conveyance charge.

In 2016 the Town entered into the Firming Service Commitment agreement with Dominion. At a basic level, the agreement provides the Town with additional supplies which, in turn, the Town agreed to deliver to Dominion in years when Dominion's demand exceeds their WISE supplies.

The 2014 Dominion Wheeling IGA and the 2016 FSC IGA have multiple advantages for the Town:

- Recovering costs of extra capacity within the Town's existing infrastructure that is not currently utilized. The agreement could result in annual revenues of approximately \$600,000 based on the current calculated rate, and more if treatment of the water is required.
- Continues our regional water partnership with Dominion.
- Provides emergency redundancy to our system.
- \$180,000 one-time connection fee charge.
- Five percent of the water provided by Dominion will be given to Castle Rock to cover losses through our system.
- Capacity reservation fee of \$150,000 in 2019 and any year thereafter (with amounts over \$50,000 applied to a one-time connection fee) are assessed to reserve future capacity in the pipeline until water is moved through the system.

In 2019, CRW staff began monthly discussions with Dominion to develop operating standards in a memorandum of understanding (MOU) that would accomplish the following based on the language of the 2014 and 2016 IGAs:

- Document the agreed upon intent of the IGAs.
- Outline daily, monthly, annual and emergency Standard Operating Procedures.
- Best practices for flow change coordination including annual and monthly or quarterly coordination meetings.
- Develop water accounting to track water delivered to CRW and received by Dominion.
- Develop monthly accounting protocol.

In 2020, CRW and Dominion collaborated to complete the majority of the above mentioned items. However, CRW and Dominion determined that it would be mutually beneficial to explore options to simplify the terms of the agreements in order to ensure consistent and ongoing administration of the agreements through changes in staffing through time. In order to facilitate these discussions, CRW and Dominion are in the process of completing an MOU for interim WISE operations through May 31, 2025 which will essentially function as a wheeling agreement for lower than anticipated Dominion WISE deliveries. At this time, Dominion plans on receiving their first deliveries of WISE water through CRW's system in 2022. Staff plans on completing the Dominion MOU in 2021.

# **Douglas County Option**

As discussed in the Background, Douglas County held 2,775 AF of annual WISE water in reserve for interested Douglas County parties. With approval from Castle Rock Water Commission and Town Council, in 2018 CRW began the process to secure an additional 1,137.5 AF of WISE water annually (half of the Douglas County Option water), which would have increased CRW's annual subscription to 2,137.5 AF. However, once CRW and PWSD began pursuing the Douglas County Option water, additional SMWA members expressed interest in purchasing some of the reserved water. In order to continue to promote regional partnerships and in accordance with the process Douglas County and SWMA used to divide the option water, CRW relinquished 137.5 AF of the Option water for other WISE members to purchase for their annual subscription. The final division of the WISE option water is as follows:

WISE Member	Douglas County Option
Town of Castle Rock	1,000 AF
Meridian Metropolitan District	475 AF
Parker Water & Sanitation District	800 AF
TOTAL	2,275 AF

This brings the Town's purchase of Option water to 1,000 AF and increases the Town's total subscription of WISE water from the original subscription of 1,000 AF annually to 2,000 AF.

To date, CRW has paid a total of \$1,455,420.00 from the WISE Infrastructure account <211-4375-443.77-72> for two invoices received in 2019 and 2020 which comprises the full amount due from

the Town to complete the purchase of the Douglas County Option. Additionally, in 2020 the Town received a re-imbursement of \$568,330.81 for a true-up of Douglas County Option costs and Operational Reserve Fees paid by SMWA members.

## **Capacity Needs**

When the WISE Authority formed in 2013, CRW originally subscribed to 1,000 AF of annual WISE flows and subsequently purchased capacity in WISE infrastructure proportionate to CRW's pro-rata water subscription. CRW's original capacity subscription was sufficient, or nearly sufficient to meet even maximum WISE flows.

However, since 2013, CRW has secured additional water rights northeast of the Denver Metro area which Staff anticipates bringing to the Town through the WISE infrastructure at a rate of 3 million gallons per day (MGD) as a base flow beginning in the late 2020's. Furthermore, CRW purchased Douglas County Option water which will increase our pro-rata share of WISE offers from 14% to 20% beginning June 1, 2025. Including the original WISE subscription, the Douglas County Option, and future northern supplies (from our Box Elder project), the average daily flow can now be anticipated at a rate of approximately 5 MGD while maximum flows can be expected at 9 MGD. Once CRW began pursuing Douglas County Option water in 2018, Staff assessed the need to secure additional infrastructure capacity and Town Council has since approved the purchase of additional capacity in the Binney Connection, the Western Pipeline, and the Ridgegate Pipeline from Pinery and Dominion. The tables below reflect these updated capacities and outline expected flow rates from our northern supplies and the average and maximum anticipated WISE flows in light of current capacity ownership:

Flows Influencing Capacity Needs							
Planned Box Elder Flows (MGD)	3.00						
Average TCR WISE Flows (MGD)	1.78						
Maximum TCR WISE Flows (MGD)	6.00						
Average WISE + Box Elder Flows (M	4.78						
Maximum WISE + Box Elder Flows (I	9.00						

Town of Castle Rock WISE System Capacity Needs									
	Current System Capacity (MGD)	CRW Current Owned Capacity (MGD)	Additional Capacity needed  Maximum WISE & Box Elde  Flows (MGD)						
Binney Connection	30.0	5.29	0.71						
Western Pipeline	38.0	7.78	1.22						
Ridgegate Pipeline	15.0	4.00	5.00						
*PWSD Mid-Section	10.2	1.00	8.80						
**PWSD Western Loop	0	0	12.20						
Canyons Pipeline	18.3	8.80	-						
**Outter Marker Road Pipelin	14.0	9.80	11.20						

\*CRW, PWSD, and Dominion have received bids for design of this infrastructure and are in process of identifying a contractor.

\*\*This infrastructure is anticipated to be completed in 2030 and will be used to convey Rueter-Hess supplies, projected to be a maximu and Box Elder supplies.

As demonstrated in the table above, the biggest need to increase capacity is through PWSD's system. In 2020, Staff determined the most cost-effective and timely solution would be to pursue construction of infrastructure to increase capacity on the east side of Rueter-Hess Reservoir, known as the PWSD Mid-Section. This will be discussed in the section below.

If CRW is offered the maximum 6 MGD from Aurora, CRW will be limited by capacity in nearly every section of WISE infrastructure, meaning that in order to take full advantage of offers of WISE water, CRW will need to purchase additional capacity in existing infrastructure or will need to work with other entities to develop projects that will increase infrastructure capacity, or lease capacity from other members if available.

In 2020 and 2021, Staff was able to increase CRW's capacity in the Binney Connection, Western Pipeline, and WISE Core infrastructure by exchanging Cherokee groundwater rights for Dominion's excess WISE capacity, thereby reducing future costs of increasing capacity in the WISE system.

At this time, CRW is focusing on increasing capacity through PWSD's system where the greatest need for capacity exists.

# Parker Water & Sanitation District (PWSD) Mid-Section

In order for CRW to receive WISE water deliveries at Ray Waterman Water Treatment Plant, or directly into distribution, water must be conveyed through PWSD's distribution system. In 2018, the Town of Castle Rock entered into a Wheeling Agreement with PWSD (PWSD Wheeling IGA). The PWSD Wheeling IGA provides CRW with a temporary license of 1 MGD capacity through PWSD's eastern Rueter-Hess Reservoir (RHR) pipeline through 2024, and acknowledges that PWSD's existing infrastructure capacity to convey WISE water from the Ridgegate Pipeline to Castle Rock's Outter Marker Pipeline is not sufficient to meet full WISE deliveries. Therefore, the PWSD Wheeling IGA contemplates a replacement pipeline to the east of RHR, paralleling the current pipeline that would be constructed by PWSD, Dominion, and CRW.

A 2015 joint study between CRW and PWSD envisioned a second larger pipeline on the western side of RHR that would provide enough capacity for CRW to convey a total of 21 MGD of supplies between the eastern and western RHR pipelines to meet long-term demands, plus additional capacity for PWSD and Dominion.

In 2019, PWSD modeled their system demands as part of their Master Plan update. The model showed that the larger pipeline on the western side of RHR was needed more immediately than the eastern RHR replacement pipeline. In late 2019 CRW Staff met with PWSD, Dominion, and Shea Homes to discuss conveyance needs including volume and timing. It was determined that further study would be needed and, in February 2020, the group contracted with Jacobs Engineering to:

- Identify design flows for each party (PWSD, Dominion, CRW)
- Refine the western RHR facilities configuration (pipeline and pump stations)

#### Estimate and allocate costs

Results of the study showed that in order to construct the infrastructure on the west-side of RHR, known as the Western Loop, Castle Rock would need to bear a disproportionately high cost to construct the needed infrastructure. Instead, CRW was able to negotiate completing construction on the east-side of RHR, known as the PWSD Mid-Section, which is anticipated to be completed by December 31, 2023. The Town will still need to construct the Western Loop prior to 2030 in order to convey the Box Elder and water stored in RHR in addition to full WISE deliveries.

# **Binney Connection**

WISE Authority members have been receiving water from Aurora since 2017 through a temporary connection from Aurora's system to the Western Pipeline, known as the Temporary Aurora Connection. This connection only has capacity to convey 15 million gallons per day (MGD), which is 15 MGD less than the maximum volume SMWA members have the potential to receive from Aurora (30 MGD), and it has been long understood that additional infrastructure would need to be built to continue deliveries from Aurora in perpetuity.

As part of the WDA signed by SMWA in 2013, the WISE Authority agreed to construct infrastructure connecting the WISE Pipeline to Aurora's system. SMWA agreed to complete this connection, referred to in the WDA as the Binney Connection, by May 31, 2021.

Once members began receiving WISE deliveries in the summer of 2017, SMWA began efforts needed to construct the Binney Connection. Proposals were received from consultants to determine the location and alignment of the infrastructure needed to connect from Aurora's Binney Water Purification Facility north of Aurora Reservoir, to SMWA's Western Pipeline, running along E-470.

In 2018, SMWA selected a location for both the pipeline alignment to connect to the Western Pipeline and the connections pump stations. Shortly afterwards Jacobs began designing Binney Connection infrastructure and the initial design was completed in 2019. In December 2019, SMWA sent the design out to solicit proposals for construction.

Construction began in 2020 and, because of schedule delays due to the coronavirus pandemic, the connection is anticipated to be completed in late 2021 instead of June 2021.

In 2020, the Town paid \$5.6 million for Binney Connection construction costs including a 5% contingency of \$281,741.20. The 2021 SMWA budget (*Attachment I*) estimated CRW's share of Binney costs to be \$459,339, which includes an additional 5% contingency, operational costs, and costs to connect Rangeview Metropolitan District to the Binney Connection, a cost shared by all SMWA members.

However, on May 4, 2021, Town Council approved Ordinance 2021-010 which approved the exchange of Cherokee groundwater rights for a portion of Dominion's excess WISE infrastructure capacity, which included capacity in the Binney Connection. With CRW's increased ownership in the Binney Connection, Staff projects that the 5% contingency will increase to approximately \$315,000, and further anticipates that the total 2021 Binney Connection costs, including the 5% contingency, will increase to approximately \$476,100. Therefore, Staff is requesting approval of Resolution 2021-

xxx which authorizes payment for 2021 Binney Connection costs for an amount not to exceed \$476,100.

It is anticipated that CRW will be invoiced for these costs in the second half of 2021 for the Town's portion of Binney Connection construction costs and Rangeview connection. This cost has been budgeted for and will be invoiced out of the WISE Infrastructure account <211-4375-443.77- 72>, Project Code WR\_WBC.

The Binney Connection has been designed to flow 30 MGD, of which the Town currently owns 5.29 MGD. In order to accommodate the Town's portion of maximum flows (6 MGD of 30 MGD offered), the Town will need to purchase at least 0.71 MGD of additional capacity. Further detail is provided above in the "Capacity Needs" section.

#### **DIA Connection**

Part of the supply that Denver Water contributes to the WISE Project is located near Denver International Airport (DIA). In order to convey this water to SMWA members, and ultimately to Denver Water's service area in emergency drought conditions, it is necessary to build a connection from DIA to the WISE system, referred to in the WDA as the DIA Connection.

Two options exist to connect Denver's DIA supply to the WISE system. The first option for a connection would be to Aurora's PWP Pipeline where the supply would be conveyed to the WISE system through the Binney WPF with the rest of the WISE water supply. The second option would be for Denver to connect to ECCV's Northern Pipeline and to connect into the Western Pipeline through future infrastructure including a pump station and a station for chloramine conversion. Since CRW plans to convey our northern supplies through ECCV's Northern Pipeline, the second option could be beneficial in that the infrastructure needed to join the Northern and Western Pipelines would then be a WISE Partnership project rather than solely a CRW project.

There has been delay in determining which option will be pursued as Denver Water has been awaiting determination from the Environmental Protection Agency (U.S. EPA) on whether or not they would need to add orthophosphates to their supply for corrosion control. In January 2020, Denver Water received a three-year variance from the U.S. EPA which allowed them to forgo adding orthophosphates to their system which allows the WISE Partnership to begin discussion on which option to pursue, though the final determination will be made once it is understood what the U.S. EPA's long-term requirements for Denver Water regarding orthophosphates will be.

As a participant in the WISE Project through SMWA, the Town has agreed to participate financially in certain infrastructure projects as outlined in the WDA including the DIA Connection. The WDA outlines a payment schedule for SMWA to pay Denver Water for the construction of the DIA connection. Because the WDA requires Denver Water to construct the DIA Connection prior to 2021, the WDA will need to be amended (discussed below in "Intergovernmental Agreements").

SMWA began collecting DIA Connection fees from members in 2014 to fulfill terms of the WDA. Castle Rock Water has paid these fees annually since that time and, per the WDA, it was anticipated that the 2020 payment was the final fee collected for the DIA connection. However, in 2020 SMWA

learned that additional funds needed to be collected in order to fully construct the DIA connection. It is anticipated that these funds will be collected in 2022 and that CRW's share of costs will be \$458,800. At that time, payment will be made from the 2022 CIP/ WISE Infrastructure account <211-4375-443.77-72>, Project Code WRWPSF.

## Intergovernmental Agreements (IGA's)

Currently the WDA requires Denver Water to construct the DIA Connection by 2021 and the Binney Connection to be constructed by June 1, 2021. Due to delays related to the pandemic as well as delays directly related to the EPA's recent orthophosphates requirements, timely completion of these projects as outlined in the WDA was not feasible.

Furthermore, both the WDA and the Formation IGA specify that SMWA will receive on average 7,225 AF annually, and the Formation IGA further delineates each SMWA member's pro-rata WISE water subscription prior to the Douglas County Option water purchase. The delay in the DIA and Binney connections, and the purchase of Douglas County Option necessitate amendments to both the WDA and the Formation IGA.

SMWA began work amending the Formation IGA in 2019 with updated pro-rata shares of WISE water after the purchase of Douglas County Option water. On January 7, 2020, CRW staff presented the amended IGA to Town Council which was unanimously approved.

Also in 2019, SMWA staff met with Denver Water and Aurora Water to begin discussions on amending the WDA with updated values directly affected by the purchase of Douglas County Option water and to amend the timing of certain WISE infrastructure elements including the DIA and Binney connections. The negotiations group has been meeting regularly to discuss specific topics of the WDA and an amendment to the WDA is anticipated in the 3<sup>rd</sup> Quarter of 2021.

### **Total Dissolved Solids (TDS) Management**

Total Dissolved Solids (TDS) refer to any minerals, salts, metals, cations, or anions dissolved in water and are comprised of inorganic salts and some small amounts of organic matter that are dissolved in water. Primary drinking water standards have not been established for TDS, though the current secondary standard is 500 milligrams per liter (mg/L), which was also the standard at the time the WDA was fully executed.

Through May 31, 2030, Denver Water and Aurora Water are required, per the WDA, to deliver water with a TDS concentration at or below 500 mg/L. Salinity in water diverted near Brighton (where Aurora Water captures return flows that are in part utilized as WISE water deliveries to SMWA) can vary from below 500 mg/L of TDS during the spring to above 700 mg/L of TDS during low flow periods such as the winter. Currently, Denver Water and Aurora Water meet this water quality goal by blending some of their low TDS mountain water supplies with the water captured on the South Platte. After May 31, 2030, the WDA allows Denver Water and Aurora Water to deliver unblended WISE water to SMWA.

To mitigate the TDS concentrations of WISE water after 2030, SMWA will need to develop a project

to decrease TDS concentrations. SMWA contracted with Jacobs engineering to evaluate mitigation options for SMWA and the feasibility of those options. The final draft of Jacob's study was released in 2020. Among options presented by Jacobs are options to blend water with SMWA members' current supplies, or to construct a desalination plant.

Since the release of Jacob's study, the SMWA Board has had several discussions on these options and has asked that Jacobs further investigate options that are most feasible for the group. CRW staff will continue to provide updates to Town Council as more information becomes available.

#### Well PA-3

Well PA-3 is located adjacent to the University Tank on the west end of the Far Western Pipeline Segment where Denver Water will eventually have the ability to receive water through WISE infrastructure. To avoid stagnant water in the Far Western Pipeline Segment, this well has historically been operated at a fairly continuous rate of approximately 300 gallons per minute (gpm). However, water from this well is suspected to have elevated levels of iron and manganese and previous water quality mitigation strategies will no longer be feasible after the addition of SMWA's Quebec Street Filter Plant. In late 2019, construction began on Well PA-3 to update water quality mitigation and construction was completed in 2020. SMWA members paid for one-third of the construction costs and utilized CIP funds previously contributed by SMWA members for WISE operations and maintenance.

## **Budget Impact**

As described in the above sections, cost for the WISE project will be allocated from two accounts. The Other Professional Services account <211-4340-443.30-70> will be used to pay for charges associated with WISE water deliveries, and the CIP/ WISE Infrastructure account <211-4375- 443.77-72> will be used to pay for costs associated with WISE Infrastructure. The funds carried forward from 2020 were utilized to pay quarterly fees to PWSD for costs associated with conveyance of CRW's WISE water through their system.

Below is a summary of anticipated spending from each account with regard to the budget. **Attachment G** breaks out specific costs expected in 2021 and details applicable Project Codes.

	(77-7	2_CIP)	(77-30_	Oth. Prof. Serv.)
2020 Carryforward	\$	64,991	\$	-
2021 Budget	\$	3,913,942	\$	2,804,125
2021 Anticipated Spending	\$	2,000,000	\$	2,804,125
Difference	\$	1,978,933	\$	-

## <u>Attachments</u>

Attachment A: CRW WISE Water Deliveries to Date

Attachment B: WISE Project CIP Table

Attachment C: History of WISE Prior to March 2020

Attachment D: Key Infrastructure Description

Attachment E: SMWA WISE Project Map

Attachment F: Aurora Water WISE Water Rate Change Letter

Attachment G: 2021 CRW WISE Budget Impact

Attachment H: 2021 WISE Project Update Summary Memo to Town Manager

Attachment I: SMWA 2021 Payment Summary

# ATTACHMENT C – CRW WISE Water Deliveries to Date

	Received & Projected Deliveries by WISE Year											
				SMWA	CRW	CRW		Cost of		Cost of		
	WISE			Obligation	Obligation	Received	D	eliveries +	D	eliveries	То	tal Cost to
	Year	Start	End	(AF)	(AF)	(AF)	0&	M (SMWA)		(PWSD)		CRW
	1	Jun-17	May-18	1,500	208	280	\$	530,900	\$	13,700	\$	544,600
Ramp-Up	2	Jun-18	May-19	2,500	346	981	\$	1,899,200	\$	183,900	\$	2,083,100
Period	3	Jun-19	May-20	3,500	484	1,012	\$	2,141,000	\$	194,000	\$	2,335,000
	*4	Jun-20	May-21	5,000	692	950	\$	1,840,750	\$	220,000	\$	2,060,750
	*5	Jun-21	May-22	5,000	692	1,000	\$	1,864,800	\$	161,100	\$	2,025,900
DC Option	*6	Jun-22	May-23	7,919	1,250	1,250	\$	2,331,000	\$	201,400	\$	2,532,400
Ramp-Up	*7	Jun-23	May-24	8,613	1,500	1,500	\$	2,913,800	\$	251,800	\$	3,165,600
	*8	Jun-24	May-25	9,307	1,750	1,750	\$	3,642,300	\$	314,800	\$	3,957,100
Full										·		•
Deliveries	*9	Jun-25	May-26	10,000	2,000	2,000	\$	4,550,000	\$	550,000	\$	5,100,000
*Estimated cost	s and volun	nes										

	CRW WISE WATER DELIVERIES TO-DATE (March 2021)														
						To	otal Paid			Total	Total				Volume Over/
		Т	otal Paid	-	Total Paid		PWSD			Volume	Volume		Trade	ToP	(Under)
Calendar	WISE	D	eliveries		O&M	Cor	nveyance	-	Total Cost	Received	Received	ToP Credit	Water	Obligation	ToP Obligation
Year	Year		(\$)		(\$)		(\$)		(\$)	(kgal)	(AF)	(AF)	(AF)	(AF)	(AF)
2017-2018	1	\$	530,907	\$	-	\$	13,718	\$	544,625	25,171	77	70	8	208	(138)
2018-2019	2	\$	1,792,078	\$	107,139	\$	183,873	\$	2,083,090	316,538	971	746	226	346	400
2019-2020	3	\$	1,997,011	\$	143,842	\$	193,499	\$	2,334,352	329,672	1,012	550	461	484	66
2020-2021	4	\$	1,571,121	\$	64,178	\$	137,192	\$	1,772,492	261,552	803	647	239	623	24
	TOTAL	\$	5,891,117	\$	315,159	\$	528,282	\$	6,734,558	932,933	2,863	2,013	933		

# ATTACHMENT D – WISE Project CIP Table

				CRW			
		Total Cost to					
		Total Cost to		Remaining			
	Year to be	SMWA	CRW Share	Cost			
▼	Complete →  1	(\$)	(%)	(\$) 🔻	Status <u> </u>	As Of 💌	Reference <u></u>
Well PA-3 Mitigation	2020	\$230,600	Paid	Paid	Completed	Dec-19	WISE Board Packet
Douglas County Option True-Up with SMWA members	2020	\$0	44%	Paid	Completed	Dec-19	Email from WISE
Douglas County Option - Operational Reserve	2020	\$3.5 M	20%	Paid	Completed	May-19	Email from WISE
WDA Re-negotiations	2021	NA	NA	NA	In Process	Apr-21	WISE Board Packet
Binney Connection (30 MGD Capacty)	2021	\$40 M	16%	\$476,100	Under construction	Apr-21	WISE Board Packet
*PWSD Mid-Section & Canyons Pump Station	2024	\$13.8M	35%	\$6.7 M	In design	Mar-21	IGA
*PWSD RHR Fill Line	2022-2025	\$600,000	25%	\$150,000	Preliminary Analysis	Feb-20	Conversation with Jacobs
DIA Connection	2022-2025	\$7 M	23%	\$458,800	SMWA in negotiations	Nov-20	Email from WISE
*Ridgegate Parallel Line	2025-2030	\$11 M	50%	\$5.5 M	Preliminary Analysis	Oct-19	Meeting with PWSD
*I Rueter-Hess WPF Pump Station	2025-2030	\$4 M	67%	\$3 M	In discussions	Oct-19	Meeting with PWSD
*I Rueter-Hess Water Purification Facility (WPF) Expansion	2030	\$60 M	24%	\$14.4 M	Preliminary Analysis	Aug-20	Meeting with PWSD
*I PWSD Western Loop	2030	\$35 M	66%	\$23 M	Study Completed	Nov-20	Jacobs Study
Salinity Management	2030	\$200 M	20%	\$40 M	Considering options from study	Mar-21	Email from WISE
*łOutter Marker Road Parallel Pipeline	2038	\$22 M	100%	\$22 M	Preliminary Analysis	Nov-20	Jacobs Study
*Estimated costs from preliminary analysis		•				•	•
† This infrastructure will be used to convey Rueter-Hess supplies, projected	l to be a maximun	n of 12 MGD, in addition	n to WISE and Box	Elder supplies.			

In August 2009, Town Council unanimously approved participation in the Denver – Aurora – South Metro Intergovernmental Agreement to identify and evaluate opportunities to address long-term water supply needs for all Denver-metro communities in the most efficient and cost-effective manner possible.

In October 2009, Town Council approved the Town's involvement in an Engineering Investigation Participation Agreement between Denver Water – Aurora Water – and South Metro Water Supply Authority (South Metro). The primary objective of that work was to further investigate the potential of a water delivery project to supply South Metro members with water from blending currently unused South Platte return flows and mountain waters.

On September 11, 2012, staff presented Town Council the details of the WISE agreements. Town Council directed staff to continue working with the WISE Partnership by negotiating the Town's identified issues of concern and to present the final agreements and a staff recommendation to Town Council once the issues were resolved.

In October 2012, Town Council directed staff to further pursue a hybrid alternate water supply solution between 3,000 acre-feet and 4,000 acre-feet by negotiating proposed agreements with WISE and Stillwater Resources, Inc. (Stillwater) and to report back proposed agreements to Town Council for further consideration.

On April 24, 2013, staff presented the IGA and WISE WDA to the Utilities Commission for discussion. The Utilities Commission voted unanimously to recommend to Town Council the approval of the IGA subject to satisfaction of the contingencies in Section 20 of the IGA and at a subscription level of 1,000 acres-feet.

On May 7, 2013, staff presented the IGA and WISE WDA to Town Council for approval. Town Council approved the IGA which included a requirement for the satisfaction of the contingencies in Section 20 of the IGA and at a subscription level of 1,000 acre-feet.

On August 14, 2013, the Water Delivery Agreement between Denver Water, Aurora Water and SMWA is fully executed. Among the terms of the WDA agreed upon by SMWA members were the modifications to the Western Pipeline Infrastructure and the construction of the future Binney Connection to be constructed by SFFWA prior to May 31, 2021.

On October 23, 2013, staff presented the Amended and Restated WISE WDA extension and Resolution to the Utilities Commission. By general consensus, the Utilities Commission recommended these documents to Town Council for approval.

On December 3, 2013, Town Council approved Resolution No. 2013-74 approving the amendment of the SMWA Formation IGA. The amendment to the IGA authorized a one-year extension to several deadlines to satisfy the remaining two contingencies of the WISE Water Delivery Agreement. Extended terms included WISE deliveries beginning in 2016, Take-or-Pay beginning in 2017 (moved out 1 year), construction of the Binney Connection by May 31, 2021 (moved out 1 year), and End phase-in period in 2021 (moved out 1 year).

Staff presented this concept to Water Resources Committee on April 8, 2014 and Utilities Commission on April 23, 2014. Water Resources Committee and Utilities Commission

supported the concept of financing the purchasing of additional portions of the Western Pipeline and recommended bringing the concept to Town Council for consideration.

The draft Western Pipeline Purchase Agreement and the key deal terms for lease purchase agreement were brought to the Utilities Commission on May 28, 2014. Utilities Commission recommended Council proceed with approval of the purchase agreement and the related lease purchase agreement with Dominion.

The draft Western Pipeline Purchase Agreement was presented to Town Council on June 3, 2014. Town Council recommended finalizing the western pipeline purchase agreement and finalizing the lease purchase agreement with Dominion to purchase addition portions of the western pipeline over and above the base infrastructure the Town plans to purchase.

The Purchase Agreement for the Western Pipeline was approved by Town Council on June 17, 2014 for \$4,050,000. On July 22, 2014, Town Council approved a \$4,300,000 Lease-Purchase Agreement with Dominion Water and Sanitation District to assist with their down-payment needed for the closing of the Western Pipeline Purchase Agreement.

On August 27, 2014, Utilities Commission reviewed the key terms of the Modifications Agreement and recommended to Town Council for approval.

On September 2, 2014, Water Resources Committee reviewed the Modifications Agreement and supported Town Council approval.

On September 16, 2014, Town Council approved Resolution No. 2014-82 approving the execution of the Modifications to Shared Infrastructure Agreement by the South Metro WISE Authority.

On December 16, 2014, Town Council was updated on progress on the Alternate Source of Supply projects, including the WISE project.

On February 25, 2015, Utilities Commission recommended Town Council approve the additional required funding of \$368,337 for the WISE Western Pipeline modifications and the Aurora Connection.

On March 3, 2015, Water Resources Committee reviewed the additional required funding of \$368,337 or the WISE Western Pipeline modifications and the Aurora Connection and recommended Town Council move forward by general consensus.

On March 17, 2015 Town Council unanimously approved Resolution No. 2015-32 for additional funding of \$368,337 for the WISE Western Pipeline modifications and the Aurora Connection.

Utilities staff presented an update of this project as part of the overall Alternate Source of Supply Project Update to the Utilities Commission on July 22, 2015 and to Town Council on August 4, 2015. Presentations to the groups highlighted the recent progress for the hybrid solution. These types of renewable water projects support the Town's long-term water goal of providing a 75% renewable water supply for the community at build-out.

On October 6, 2015, Town Council approved Ordinance 2015-44 as presented on first reading. The ordinance authorizes the exercise of the Town's powers of eminent domain to acquire certain property interests necessary for the WISE Infrastructure transmission line.

On November 3, 2015, Town Council unanimously approved Ordinance No. 2015-44. The ordinance was presented on second reading with no additional public input or any changes being made since prior presentation. Staff reiterated that eminent domain would only be used if all efforts to secure the needed easements through good faith negotiations with property owners had failed.

On January 5, 2016, staff provided Town Council with an update on the various components of the Alternate Source of Water Supply (ASOS) projects, including recent accomplishments by the WISE partnership, the status of the Box Elder project and progress on the Plum Creek Diversion project.

On April 16, 2016, Town Council unanimously approved Resolution No. 2016-040, approving the execution of the Intergovernmental Water Infrastructure Cost Sharing, Construction and Capacity Allocation Agreement.

On May 17, 2016, staff provided an update on the WISE and Box Elder projects which made up the hybrid solution to address the Town's long term water supply needs.

On August 16, 2016, Town Council approved Directive No. 2016-050, approving the Draft Intergovernmental Agreement for Water Service between the Town of Castle Rock and Dominion Water and Sanitation District. Staff reviewed key points of proposed intergovernmental agreement and benefits to Town. This was an extension of the existing agreement between the Town and Dominion, and would work in conjunction with that agreement. Under the terms of the agreement the Town will take ownership of and treat and deliver 400 acre-feet (AF) per year (on average) of Denver Basin groundwater that Dominion currently owns as a backup to their renewable WISE supplies.

On August 16, 2016, Town Council approved Resolution No. 2016-077 approving the Town of Castle Rock and Parker Water and Sanitation District Intergovernmental Water Infrastructure Cost Sharing, Design, Construction and Capacity Allocation Agreement. The infrastructure consists of a 36-inch, 4-mile pipeline and a pump station that will deliver water from PWSD's water distribution system to the Town's planned WISE local transmission line that is currently under design. The initial cost for participation in this IGA is \$10.5 million, a portion of which would be covered by Dominion Water and Sanitation District under the separate License Agreement. The Town purchased 8.8 million gallons per day (MGD) of capacity in the pipeline and 4 MGD of capacity in the pump station.

On August 16, 2016, Town Council approved Resolution No. 2016-78 approving the Town of Castle Rock/ Dominion Water and Sanitation District Canyons Pipeline Capacity License Agreement. Staff noted this agreement was the companion agreement to the one approved by Resolution No. 2016-077.

On September 20, 2016, Town Council approved Resolution No. 2016-087 approving an Intergovernmental Agreement for Water Service between Dominion Water and Sanitation District. Staff reviewed the key points of the proposed IGA and the benefits to the Town.

On November 1, 2016, Town Council approved Resolution No. 2016-112, approving a construction contract with Garney Companies, Inc. for the WISE Local Infrastructure Construction Project. Staff reviewed highlights of construction contract for final section of pipeline needed to bring water to Castle Rock.

On February 28, 2018, Castle Rock Water Commission reviewed the Parker Water and Sanitation District (PWSD) Wheeling Agreement which delineates costs to be incurred as a result of conveying WISE water and northern supplies through PWSD's system. Castle Rock Water Commission recommended Town Council approval.

On March 6, 2018, Town Council approved Resolution 2018-014 approving the Town of Castle Rock and Parker Water and Sanitation District (PWSD) Wheeling Agreement. The agreement with PWSD covers the infrastructure needed to convey WISE water, water stored in Rueter-Hess Reservoir, and future Box Elder water supplies to the Town. PWSD will operate and maintain infrastructure and capital costs which will go on into perpetuity. Castle Rock Water will build our parallel lines budgeted for 2020 which will be the final big piece of infrastructure.

On March 28, 2018, staff presented updates on the WISE project, including the Wheeling Agreement and the infrastructure testing that has been conducted on the pipeline that runs from Parker Water and Sanitation District to the Ray Waterman Regional Water Treatment Plant.

On April 25, 2018, staff provided information to commission about the intergovernmental agreement with Dominion Water and Sanitation District for the Plum Creek raw water return pipeline / Eastern Regional pipeline project. Castle Rock Water Commission recommended Town Council approval.

On May 15, 2018, Town Council approved the Execution of the Water Infrastructure Design and Construction Cost Sharing Intergovernmental Agreement between the Town of Castle Rock and Dominion Water and Sanitation District (Plum Creek Raw Water Return Pipeline / Eastern Regional Pipeline Project). Dominion conveys their WISE water through Parker Water and Sanitation District and Castle Rock, and the pipeline project would convey Dominion's WISE water from Castle Rock to them.

On May 23, 2018, staff provided Castle Rock Water Commission with a WISE water update after receiving Castle Rock's first WISE water deliveries on April 30, 2018.

On June 27, 2018, staff presented Castle Rock Water Commission with the First Amendment to the Intergovernmental Agreement for Water Service between Town and Dominion Water and Sanitation District, which was to be presented to Town Council on July 17, 2018. The amendment included cost and capacity sharing provisions for the recently constructed Outter Marker Road pipeline, including Dominion's cost-share of WISE water re-treated at the Ray Waterman Water Treatment Plant. Castle Rock Water Commission approved and recommended Town Council approval.

On June 27, 2018, staff presented Castle Rock Water Commission with a request to purchase an additional 1,137 AF of WISE water previously under reservation by Douglas County, which would bring the Town's total subscription to 2,137 AF. Castle Rock Water Commission approved and recommended Town Council approval.

On July 17, 2018, Town Council approved Resolution No. 2018-068, approving Castle Rock Water's purchase of Douglas County WISE Reservation Water. In 2013 Aurora and Denver offered 10,000 acre feet and Douglas County reserved 2,775 AF when WISE members were unsure of their ability to convey more than the WISE membership subscription of 7,225 AF. Staff proposed purchasing an additional 1,137.5 AF WISE water reserved under the Douglas County Option which would provide the Town with a renewable and reusable supply to be

paid for by growth. This purchase would additionally require an amendment to the Water Delivery Agreement between SMWA, Aurora Water, and Denver Water.

On July 25, 2018, staff presented the temporary agreement with Parker Water and Sanitation District for the delivery of Castle Rock's water currently stored in Rueter-Hess Reservoir. The agreement would help the Town meet peak demands during the 2018 drought.

On August 22, 2018, staff presented an update on the Douglas County WISE water option. Castle Rock Water had initially pursued the purchase of 1,137 AF in additional WISE water subscription that had previously been reserved under the Douglas County Option. However, since this was last presented to Castle Rock Water Commission, additional WISE members expressed interest in obtaining water from the Douglas County Option, and ultimately more water was requested than available under the Douglas County Option. In order to maintain amicable relationships with WISE members, Castle Rock reduced our new subscription request from 1,137 AF to 1,000 AF.

On March 27, 2019, staff presented Castle Rock Water Commission with their recommendation to purchase the Western Pipeline and Ridgegate Capacity for sale by Denver Southeast Suburban Water & Sanitation District d/b/a Pinery Water & Sanitation (Pinery) for the sale price of \$2,287,966.50. It was recommended that the Town purchase additional WISE Infrastructure capacity in order to take full advantage of the Town's northern (Box Elder) and WISE supplies. Castle Rock Water Commission approved and recommended Town Council approval.

On April 19, 2019, Town Council unanimously approved Resolution 2019-047 approving the Agreement for Purchase and Sale of Western Pipeline and Ridgegate Pipeline Capacity. This purchased secured additional capacity in the Binney Connection, Western Pipeline, and the Ridgegate Pipeline for the conveyance of the Town's increased WISE water subscription of 2,000 AF and the Town's northern water supplies.

On September 3, 2019, Town Council approved Resolution No. 2019-084, approving payment for Castle Rock Water's portion of the 2019 Binney Connection Fee and the Meridian Title Clean-up fee for the WISE project. Castle Rock Water Staff additionally presented an update of the WISE project.

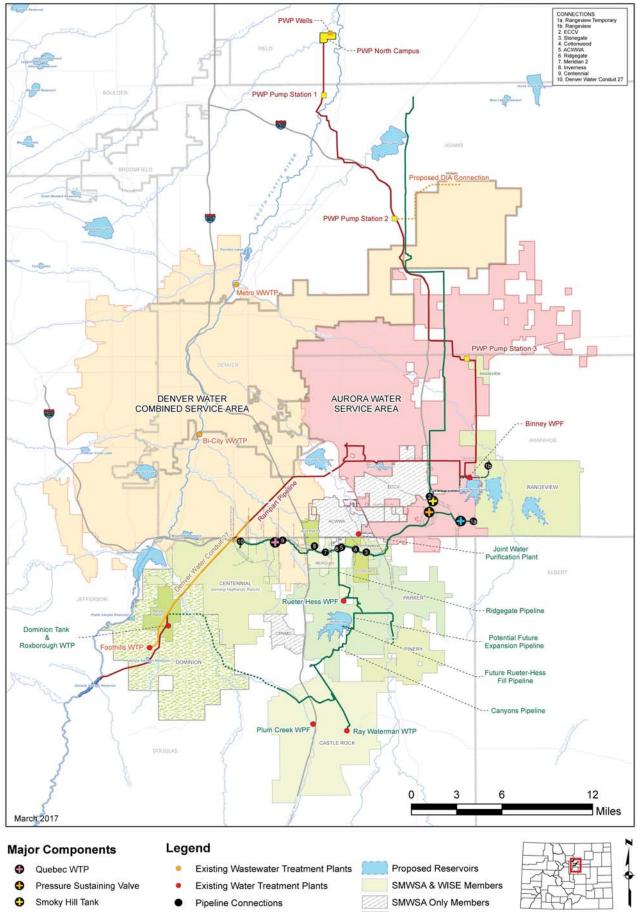
On January 7, 2020, Town Council unanimously approved Resolution No. 2020-004, approving the Second Amendment to the South Metro WISE Authority Formation and Organizational Intergovernmental Agreement (Formation IGA) and contemporaneously approved the Assignment and Assumption of the Town's portion of Douglas County Reservation Water.

On February 26, 2020, Castle Rock Water Commission recommended Town Council approval of payment to SMWA for the Town's portion of the Binney Connection construction cost and the Meridian Title Cleanup Fee.

# ATTACHMENT F – Key Infrastructure Description

	WISE Project Key Infrastructure			
Component	<u>Description</u>	Owner	<u>Participants</u>	<u>Status</u>
PWP Pipeline	Conveys renewable and reusable Denver and Aurora Water rights on the South Platte to Aurora Water's service area.	Aurora Water	WISE Partners	Existing
DIA Connection	Will convey Denver Water rights from the area of Denver International Airport into the WISE system for use by SMWA and Denver Water (in extreme drought years).	Denver Water	WISE Partners	Planned
Binney Water Purification Facility	Treats water from the PWP for use in Aurora's service area and in the WISE project.	Aurora Water	WISE Partners	Existing
Aurora Temporary Connection	Currently serves WISE water to SMWA at a maximum rate of 15 MGD. Will serve as an emergency only connection once the Binney connection is operational. While the Temporary Connection is active, this is the point at which Aurora Water invoices SMWA for WISE water deliveries. SMWA then invoices Members based on what water flows through their local connections.	SMWA	SMWA & Denver Water	Existing
Binney Connection	SMWA's future permanent connection to Aurora Water that will have a maximum capacity of 30 MGD. WDA requires this will be online in 2021.	SMWA & Denver Water	SMWA & Denver Water	Planned
Smoky Hill Tank	2 MG capacity water tank maintains pressure in the Western Pipeline, located across from Southlands Mall.	SMWA	SMWA, ECCV, & Denver Water	Existing
Western Pipeline	The backbone to SMWA conveyance of WISE water, this pipeline begins near the Smoky Hill Tank and continues west, paralleling E 470 until the pipeline terminates just east of University Road.	SMWA	SMWA, ECCV, & Denver Water	Existing
Member Connections	Points at which seven SMWA members and Denver Water receive WISE water directly off of the Western Pipeline. Four members receive WISE water indirectly through the Ridgegate Infrastructure.	SMWA Members	SMWA Members	Existing
ECCV Infrastructure	Includes the Quebec Street Pump Station (QSPS) and Water Treatment Plant (QSWTP), and ECCV's Zone 2 connection.	ECCV	SMWA, ECCV, & Denver Water	Existing
Ridgegate Infrastructure		Parker	Ridgegate Members Existing	Existing
Outter Marker Road Pipeline	Connects CRW and Dominion to the Ridgegate Infrastructure to convey WISE water. For CRW, this pipeline also conveys stored water from Rueter-Hess Reservoir. Begins north of Town near Outter Marker Road and terminates at Ray Waterman WTP.	CRW	CRW & Dominion	Existing
Ray Waterman Water Treatment Plant (RWWTP)	Located in the Terrain development, RWWTP provides CRW with the option to retreat WISE water should there be concerns about the water quality of incoming deliveries. Point at which CRW's actual deliveries are reconciled with invoiced deliveries.	CRW	CRW & Dominion	Existing
Dominion Connection	Located on the east side of Town near Castle Rock Reservoir 1 (CRR1) and the Sedalia Plum Creek Diversion, this is the point at which Dominion receives their WISE water deliveries from CRW and where their actual deliveries are reconciled with their invoiced deliveries.	Dominion	Dominion	Existing

# **SMWSA & WISE General Infrastructure**



# Aurora Temporary Connection Counties Existing/ Under Construction Pipeline ····· Proposed Pipeline Highways



TURORT

Financial Administration 15151 E. Alameda Parkway, Ste. 3600 Aurora, Colorado 80012 303.739.7370

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September 25, 2020

Ms. Lisa Darling South Metro WISE Authority 8400 East Prentice Avenue, Suite 1500 Greenwood Village, CO 80111

Ms. Darling:

The charges and modification to charges for WISE deliveries are outlined in the Amended and Restated WISE Partnership-Water Delivery Agreement between Denver Water, the City of Aurora, acting by and through its Utility Enterprise, and the South Metro WISE Authority executed December 2013.

Section 3.5.2 (Modification of Charges) of the agreement states that charges may be increased based on Denver Water's Raw Water Rate and/or an update to the cost of service model. Notice of any proposed rate adjustment is to be provided to the Authority prior to October 1. The Authority shall have the opportunity to comment on the proposal prior to the effective date of the rate on January 1 of the following year.

This is the notification of the Delivery Rate, effective January 1, 2021, for water provided under this Agreement. It has been determined there will be no increase on January 1, 2021 and the rate will be \$5.77 per thousand gallons. Denver Water's 2021 OCSA raw water rate will remain at the 2020 levels and Aurora Water's facility charges does not require any adjustments.

Additionally, the Conveyance Fee for water delivered to the Temporary Interconnect as stated in the Agreement section 3.5.1 has been analyzed and will be charged at \$0.21 per thousand gallons effective January 1, 2021. This calculation was based on actual costs billed to Aurora Water from Xcel. This fee will be adjusted by any increases Xcel has approved.

Please do not hesitate to contact me with any questions or comments.

Sincerely,

Jo Ann Giddings, CPA

o Ann Giddings

Deputy Director of Water Financial Administration

# ATTACHMENT I – 2021 CRW WISE Budget Impact

		2020 Budget Impac	t			
					Anti	cipated
Timing	Item	Account	Account Description	Project Code	Amo	unt
	*WISE Year 4 Water	211-4340-443.30-70	Other Professional Services	WRWCRS	\$	330,120
n	*WISE Year 4 O&M	211-4340-443.30-70	Other Professional Services	WRWOMC	\$	17,500
(Jan May)	*WISE Year 4 PWSD Conveyance	211-4340-443.30-70	Other Professional Services	WRPWWF	\$	28,200
c.)	*WISE Year 5 Water	211-4340-443.30-70	Other Professional Services	WRWCRS	\$	1,850,300
Dec.)	*WISE Year 5 O&M	211-4340-443.30-70	Other Professional Services	WRWOMC	\$	24,800
(Jun	*WISE Year 5 PWSD Conveyance	211-4340-443.30-70	Other Professional Services	WRPWWF	\$	166,300
nſ)	*WISE Year 5 PWSD Rueter-Hess Conveyance	211-4340-443.30-70	Other Professional Services	WRPWWF	\$	196,900
March	Operating Dues - Subscription Operations	211-4340-443.30-70	Other Professional Services	WROMC	\$	190,000
			Subtotal (Other Profess	ional Services)	\$	2,804,120
January	PWSD 2020 Q3 Asset Recovery	211-4375-443.77-72	CIP/ WISE Infrastructure	WRPWWF	\$	64,991
March	PWSD 2020 Q4 Asset Recovery	211-4375-443.77-72	CIP/ WISE Infrastructure	WRPWWF	\$	64,991
June	*PWSD 2021 Q1 Asset Recovery	211-4375-443.77-72	CIP/ WISE Infrastructure	WRPWWF	\$	66,291
September	*PWSD 2021 Q2 Asset Recovery	211-4375-443.77-72	CIP/ WISE Infrastructure	WRPWWF	\$	66,291
December	*PWSD 2021 Q3 Asset Recovery	211-4375-443.77-72	CIP/ WISE Infrastructure	WRPWWF	\$	66,291
	*Binney Connection	211-4375-443.77-72	CIP/ WISE Infrastructure	WR_WBC	\$	314,950
	*Binney Connection General Operations	211-4375-443.77-72	CIP/ WISE Infrastructure	WR_WBC	\$	25,500
	*Binney Connection Disinfection & Pumping	211-4375-443.77-72	CIP/ WISE Infrastructure	WR_WBC	\$	26,500
	*Rangeview Service Extension	211-4375-443.77-72	CIP/ WISE Infrastructure		\$	109,150
	*Parker Mid-Section design & easement					
	acquisition	211-4375-443.77-72	CIP/ WISE Infrastructure	WR WLI	\$	1,195,000
			Subtotal (CIP/ WISE	Infrastructure)	\$	2,000,000
				TOTAL	\$	4,476,000
*Estimated	values					



#### **MEMORANDUM**

**To:** Dave Corliss, Town Manager

**Thru:** Mark Marlowe, PE, Director of Castle Rock Water

**From:** Matt Benak, PE, Water Resources Manager

Angie Brown, Water Resources Program Analyst

Date:

**Title:** 2021 WISE Project Update Summary

## **Executive Summary**

The purpose of this memorandum is to summarize the 2021 annual Water Infrastructure Supply Efficiency (WISE) Project Update presented to Town Council on May 18, 2021, specifically regarding impacts to the budget. In 2021, Staff anticipates spending the full 2021 budgeted amount of \$2,804,125 on approximately 1,000 AF of WISE water deliveries, and \$2,000,000 on Capital Improvement Projects (CIP) including the Binney Connection, Parker Water & Sanitation (PWSD) Mid-Section, and more. Further detail regarding water deliveries and CIP can be found in the full memo to Town Council dated May 18, 2021.

# **Budget Impact**

As described in May 18, 2021 memo to Town Council, cost for the WISE project will be allocated from two accounts. The Other Professional Services account <211-4340-443.30-70> will be used to pay for charges associated with WISE water deliveries, and the CIP/ WISE Infrastructure account <211-4375-443.77-72> will be used to pay for costs associated with WISE Infrastructure. Below is a summary of anticipated spending from each account with regard to the budget. **Exhibit B** breaks out specific costs expected in 2021 and details applicable Project Codes.

	(77-72_CIP)	(77-30_Oth. Prof. Serv.)		
2020 Carryforward	\$ 64,991	\$ -		
2021 Budget	\$ 3,913,942	\$ 2,804,125		
2021 Anticipated Spending	\$ 2,000,000	\$ 2,804,125		
Difference	\$ 1,978,933	\$ -		
Paid to Date				

# **Attachments**

Applicable Resolutions and Ordinances 2021 CRW WISE Budget Impact Exhibit A:

Exhibit B:

# EXHIBIT A – Applicable Resolutions and Ordinances

RESOLUTION/ ORDINANCE NO.	ITEM	DESCRIPTION	TOWN COUNCIL ACTION
RESO 2013-30	Formation IGA	Formation of South Metro WISE Authority (SMWA). Approves Castle Rock's WISE Water subscription of 1,000 AF. Authorizes SMWA to approve the Water Delivery Agreement (WDA) with Denver Water and Aurora Water.	Passed 7 - 0
RESO 2018-068	Douglas County Option purchase	Douglas County reserved 2,775 AF of WISE water for use by Douglas County Water providers. Town Council approved the purchase of 1,137.5 AF of additional WISE water. Ultimately, due to other interest in this water, the Town of Castle Rock purchased an additional 1,000 AF of WISE water through the Douglas County Option.	Passed 5 - 0
RESO 2020-004	Second Amendment to the Formation IGA	Amends SMWA member subscriptions to the WISE Project. The Town's subscription was increased to 2,000 AF per month as a result of purchasing additional Douglas County Option water.	Passed 7 - 0
ORD 2020-016	2021 Castle Rock Water Budget	Section of the 2021 Town of Castle Rock Budget	Passed on First (6-0) and Second Readings (6- 0)
RESO 2021-xxx	2021 Binney Connection Costs	Approves 2021 costs for the Binney Connection not to exceed \$476,100	
RESO 2021-xxx	Resolution Authorizing Town Manager to approve 2021 monthly WISE costs	Delegates approval of 2021 WISE monthly delivery costs exceeding \$250,000	

# EXHIBIT B – 2021 CRW WISE Budget Impact

2020 Budget Impact									
					Anticipated				
Timing	Item	Account	Account Description	Project Code	Amount				
(Jan May)	*WISE Year 4 Water	211-4340-443.30-70	Other Professional Services	WRWCRS	\$	330,120			
	*WISE Year 4 O&M	211-4340-443.30-70	Other Professional Services	WRWOMC	\$	17,500			
	*WISE Year 4 PWSD Conveyance	211-4340-443.30-70	Other Professional Services	WRPWWF	\$	28,200			
(Jun Dec.)	*WISE Year 5 Water	211-4340-443.30-70	Other Professional Services	WRWCRS	\$	1,850,300			
	*WISE Year 5 O&M	211-4340-443.30-70	Other Professional Services	WRWOMC	\$	24,800			
	*WISE Year 5 PWSD Conveyance	211-4340-443.30-70	Other Professional Services	WRPWWF	\$	166,300			
	*WISE Year 5 PWSD Rueter-Hess Conveyance	211-4340-443.30-70	Other Professional Services	WRPWWF	\$	196,900			
March	Operating Dues - Subscription Operations	211-4340-443.30-70	Other Professional Services	WROMC	\$	190,000			
			Subtotal (Other Profess	ional Services)	\$	2,804,120			
January	PWSD 2020 Q3 Asset Recovery	211-4375-443.77-72	CIP/ WISE Infrastructure	WRPWWF	\$	64,991			
March	PWSD 2020 Q4 Asset Recovery	211-4375-443.77-72	CIP/ WISE Infrastructure	WRPWWF	\$	64,991			
June	*PWSD 2021 Q1 Asset Recovery	211-4375-443.77-72	CIP/ WISE Infrastructure	WRPWWF	\$	66,291			
September	*PWSD 2021 Q2 Asset Recovery	211-4375-443.77-72	CIP/ WISE Infrastructure	WRPWWF	\$	66,291			
December	*PWSD 2021 Q3 Asset Recovery	211-4375-443.77-72	CIP/ WISE Infrastructure	WRPWWF	\$	66,291			
	*Binney Connection	211-4375-443.77-72	CIP/ WISE Infrastructure	WR_WBC	\$	314,950			
	*Binney Connection General Operations	211-4375-443.77-72	CIP/ WISE Infrastructure	WR_WBC	\$	25,500			
	*Binney Connection Disinfection & Pumping	211-4375-443.77-72	CIP/ WISE Infrastructure	WR_WBC	\$	26,500			
	*Rangeview Service Extension	211-4375-443.77-72	CIP/ WISE Infrastructure		\$	109,150			
	*Parker Mid-Section design & easement								
	acquisition	211-4375-443.77-72	CIP/ WISE Infrastructure	WR WLI	\$	1,195,000			
Subtotal (CIP/ WISE Infrastructure)									
TOTAL									
*Estimated	*Estimated values								

# WISE 2021 Draft Budget MEMBER PAYMENT SUMMARY

	Subscription Dues	Infrastructure Dues	Rangeview Service Extention	Binney Connection General Ops	Binney Connection Disinfection and Pumping	Binney Connection	SUBTOTAL	Anticipated Water Sales	Contingent Water Sales	TOTAL
	Jan-21	Monthly	Jan-21	Monthly	Monthly			Monthly	Monthly	
Centennial	\$95,000	\$27,456	\$75,511	\$17,633	\$15,000	\$217,954	\$448,555	\$1,351,604	\$269,688	\$2,069,847
Cottonwood	\$38,000	\$10,983	\$30,204	\$7,053	\$6,000	\$87,182	\$179,422	\$540,642	\$107,875	\$827,939
Dominion	\$125,875	\$31,643	\$93,452	\$21,823	\$19,875	\$269,738	\$562,406	\$1,115,073	\$222,492	\$1,899,971
Inverness	\$47,500	\$13,728	\$37,756	\$8,817	\$7,500	\$108,977	\$224,278	\$675,802	\$134,844	\$1,034,924
Meridian	\$73,625	\$13,783	\$41,164	\$9,613	\$11,625	\$118,815	\$268,625	\$405,481	\$80,906	\$755,013
Parker	\$152,000	\$37,370	\$102,776	\$24,000	\$24,000	\$296,652	\$636,799	\$1,621,925	\$323,625	\$2,582,349
Pinery	\$47,500	\$2,952	\$10,322	\$2,410	\$7,500	\$29,794	\$100,478	\$675,802	\$134,844	\$911,124
Rangeview	\$85,500	\$13,728	\$37,756	\$8,817	\$13,500	\$108,977	\$268,278	\$675,802	\$134,844	\$1,078,924
Stonegate	\$95,000	\$31,142	\$85,647	\$20,000	\$15,000	\$247,210	\$493,999	\$1,351,604	\$269,688	\$2,115,291
Town of CR	\$190,000	\$42,214	\$104,211	\$24,335	\$30,000	\$300,793	\$691,553	\$1,351,604	\$269,688	\$2,312,845
TOTAL	\$950,000	\$225,000	\$618,800	\$144,500	\$150,000	\$1,786,093	\$3,874,393	\$9,765,340	\$1,948,493	\$15,588,226

<sup>\*\*</sup>Water Sales for each Member may be significantly different from the pro-rata share shown in this table based on timing of deliveries for each Member

	Subscription	Subscription	Western Pipeline	Binney Connection Ownership	Projected Water Sales	Projected Water Sales	7,225 AF	7,225 AF (Ramp up)	
	AF/Yr	Percent	Percent	Percent	AF	Percent	AF/Yr	Percent	
Centennial	1,000	10.0%	12.2%	12.2%	693	13.8%	1,000	13.8%	
Cottonwood	400	4.0%	4.9%	4.9%	277	5.5%	400	5.5%	
Dominion	1,325	13.3%	14.1%	15.1%	572	11.4%	825	11.4%	
Inverness	500	5.0%	6.1%	6.1%	347	6.9%	500	6.9%	
Meridian	775	7.8%	6.1%	6.7%	208	4.2%	300	4.2%	
Parker	1,600	16.0%	16.6%	16.6%	832	16.6%	1,200	16.6%	
Pinery	500	5.0%	1.3%	1.7%	347	6.9%	500	6.9%	
Rangeview	900	9.0%	6.1%	6.1%	347	6.9%	500	6.9%	
Stonegate	1,000	10.0%	13.8%	13.8%	693	13.8%	1,000	13.8%	
Town of CR	2,000	20.0%	18.8%	16.8%	693	13.8%	1,000	13.8%	
TOTAL	10,000	100.0%	100.0%	100.0%	5,007	100.0%	7,225	100.0%	