



To: Honorable Mayor and Members of Town Council

Through: David L. Corliss, Town Manager

From: Mark Marlowe, P.E., Director of Castle Rock Water
Nichol Bussey, Business Solutions and Support Manager

Title **Advanced Metering Infrastructure Update**

Executive Summary

For the past several years, Castle Rock Water has been working to implement an Advanced Metering Infrastructure (AMI) network. AMI will replace the current drive by technology with tower technology which eliminates the need to roll a truck to obtain monthly meter reads. It not only eliminates the need for rolling a truck to get a meter read, it also provides up-to-date water usage with multiple reads daily, encourages water conservation, helps identify leaks, and provides the utility and the customer useful usage alerts in a timely manner, just to name a few of the advantages.

AMI is a key component of Castle Rock Water's (CRW's) Strategic Plan as well as its Water Efficiency Master Plan and will not only improve service to our customers but also help encourage water efficiency and conservation supporting our long-term goal of an 18% reduction in per capita water use over the next 10 to 20 years. A multi-year AMI program was originally approved by Council as part of the 2022 budget and the five-year financial plan for 2022 to 2026.

After several site surveys, collaboration with Castle Rock Water's Operations team, supervisory control and data acquisition (SCADA) team, the Town Division of Innovation and Technology (DoIT), Sensus and others, water storage tanks 11, 15, 16 and 17 were selected for installation of the base stations, commonly known as towers, that were needed for the AMI network. These towers were installed in late 2022 and began receiving meter reads from AMI-enabled meters in December 2022. These towers have proven to show excellent overall meter reading coverage for Castle Rock.

The Regional Network Interface (RNI) is the nerve center of the FlexNet communication network used by Sensus. It is made up of hardware, software and database elements, all of which have been customized to fit Castle Rock's needs. The RNI communicates with the metering endpoints, known as MXUs, and provides status updates, gathers and processes network data, stores data, and sends data back to the billing system. The RNI network was installed in early 2023 and has been in use by Castle Rock Water personnel since then to

obtain manual meter reads as well as assess the health of the metering network and plan and prioritize meter maintenance.

Sensus Analytics, the software that provides the interface between the RNI, which receives the raw data meter reads from the AMI towers, and the Castle Rock Water billing system so customer accounts can be billed was installed in July 2024. Castle Rock Water has been using the Sensus Analytics software and developing a standard operating procedure for meter reading via AMI for the past several months and plans to go live with AMI reading on March 1, 2025. Once Castle Rock Water transitions to AMI reading, it will reduce the total meter reading time from two days to one.

Over 18,250 meters within the Castle Rock Water system are AMI compliant at this time with about 10,000 remaining to be upgraded. Castle Rock Water Meter Services personnel averaged approximately 260 AMI upgrades per month in 2024. Metering personnel have planned the upgrades by subdivision, beginning with the subdivisions with the farthest distance away from the Castle Rock Water campus in order to reduce the time needed for drive by reads once we go live with AMI reading. At this time, the Bell Mountain Ranch, Lanterns, Cobblestone Ranch and Sapphire Point subdivisions are all 100% AMI compliant. Continuing upgrades at the pace set in 2024 will put Castle Rock Water on track to be 100% AMI compliant by mid-year 2028. However, Castle Rock Water is looking at options to bring on additional temporary personnel to aid in the upgrade efforts to shorten the time needed to become completely AMI compliant.

In 2025, Castle Rock Water personnel will begin evaluating options to provide AMI data to customers through the Silverblaze online billing portal with AMI data potentially available to customers through the portal sometime in 2026. The Silverblaze portal already provides monthly meter readings, but adding AMI information would provide 24/7 hourly readings as well as high consumption and continuous consumption alerts. This information would provide up-to-date water usage with multiple reads daily, encourage water conservation, help identify water use patterns and leaks, and provide the customer useful usage alerts in a timely manner. In the meantime, Castle Rock Water staff will monitor real time consumption and usage reports received through the Sensus Analytics platform in order to proactively assist customers with high usage and leaks. At this time, Castle Rock Water has not developed a notification and outreach plan for the addition of AMI data to the online portal. However, as we get closer to a roll-out date, an outreach plan will be developed to include messaging on the portal, social media posts, statement messaging and direct messaging via email and/or direct mail campaigns.

Budget

Castle Rock Water has allocated funds for this project since 2022 and plans to continue to allocate funds annually until all meters within the Castle Rock Water service area are AMI compliant. This project cost is split 50% to the Water Fund, 25% to the Water Resources Fund and 25% to the Wastewater Fund. For 2025, a total of \$1,449,336 is allocated to the project:

210-4275-442-77-15 (50%)	\$ 724,668
211-4375-443-77-15 (25%)	\$ 362,334
213-4575-445-77-15 (25%)	\$ 362,334
Total:	\$1,449,335

To date, Castle Rock Water has spent \$2,145,326 on the AMI project since 2022:

Enterprise Fund	2022	2023	2024	Total
Water (50%)	\$ 99,611.00	\$ 168,484.00	\$ 809,469.00	\$ 1,077,564.00
Water Resources (25%)	\$ 49,805.00	\$ 79,341.00	\$ 404,735.00	\$ 533,881.00
Wastewater (25%)	\$ 49,805.00	\$ 79,341.00	\$ 404,735.00	\$ 533,881.00
Total Budget (100%)	\$ 199,221.00	\$ 327,166.00	\$ 1,618,939.00	\$ 2,145,326.00

The long-term financial plan for the AMI program is as follows:

Enterprise Fund	2025	2026	2027	2028	2029	Total
Water (50%)	\$ 724,668	\$ 731,165	\$258,879	\$266,162	\$164,931	\$2,145,805
Water Resources (25%)	\$ 362,334	\$ 365,583	\$129,440	\$133,081	\$ 82,466	\$1,072,904
Wastewater (25%)	\$ 362,334	\$ 365,583	\$129,440	\$133,081	\$ 82,466	\$1,072,904
Total Budget (100%)	\$1,449,336	1,462,331	\$517,759	\$532,324	\$329,863	\$4,291,613