



# STRATEGIC PLAN 2024 to 2028

## Acknowledgements

The development of the Castle Rock Water Five Year Strategic Plan for 2024-2028, was a team effort led by Castle Rock Water staff across all divisions. The following staff members made significant contributions of time and input on this document, in collaboration with Mark Marlowe, Director of Castle Rock Water, David Van Dellen, Assistant Director of Castle Rock Water and Shawn Griffith, Assistant Director of Operations.

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## Dear Customers, Stakeholders, and Castle Rock Water Staff:

The Town of Castle Rock continues to be one of the most desirable places to live in Colorado and the entire United States. Water is one of the most important aspects of keeping Castle Rock a great and vibrant place to live. As the competition for and demands on this critical resource have increased in Colorado and across the arid west, Castle Rock Water has become a leader in innovative solutions and approaches to ensuring a sustainable supply and managing all aspects of this resource in an efficient manner. This is especially important in Castle Rock as we transition the community from a “non-renewable” groundwater only supply (an unsustainable long-term supply which was Castle Rock’s only supply from the 1950s until 2013) to a fully “renewable” and sustainable surface water supply.

Over the last decade through implementation of two strategic plans, Castle Rock Water’s customer base has grown to over 85,000 people, and Castle Rock Water has transitioned to almost a 40% renewable water supply, putting us ahead of schedule to meet our 2050 goal of a 75% renewable supply and our 2065 goal of a 100% renewable supply in a typical year. Castle Rock Water has also developed one of the most efficient and advanced reuse or recycling systems in the United States with a water purification plant capable of purifying treated wastewater directly to clean, safe drinking water. We invite all of our customers and stakeholders to visit and tour these, your, state of the art facilities.

We have also made significant strides in reducing the overall consumption of water across our community. With a goal of reducing per capita consumption to 100 gallons per day by 2065, Castle Rock Water is already below the State’s water plan goal of 129 gallons per capita per day. Castle Rock Water coined the term *ColoradoScape* and has been leading a State-wide effort to create beautiful, more sustainable and water efficient landscapes that support the natural beauty of our homes. We were one of the first water providers to implement a ColoradoScape requirement for all new development essentially eliminating future high water using turf landscapes. All of this has been done while keeping our rates and fees competitive with surrounding water providers.

Our customers and stakeholders have supported our efforts every step of the way. This strategic plan has been developed to provide a road map for the next five years for Castle Rock Water to continue to improve the sustainability, reliability, quality and overall value of the fully integrated water services we provide. Castle Rock Water has identified six key strategies with over a hundred individual tactics for achieving our goals. These strategies are:

- ◆ Strategy 1: Ensure long-term water;
- ◆ Strategy 2: Support, engage and inspire our team;
- ◆ Strategy 3: Enhance customer satisfaction;
- ◆ Strategy 4: Maintain financial sustainability;
- ◆ Strategy 5: Optimize infrastructure performance; and

- ◆ Strategy 6: Demonstrate industry leadership.

Castle Rock Water looks forward to input from you on this strategic plan as we continuously improve in our mission to provide exceptional service that protects public health to the maximum extent possible. All of the water services we provide are interconnected, stormwater, wastewater, and drinking water. This “one water” is the most important resource to ensure the long-term health and prosperity of our community. As we build on the recent successes from implementation of our last two strategic plans, Castle Rock Water is absolutely committed to protecting and sustaining it for our collective futures. The plan is available online at [CRgov.com/plans](http://CRgov.com/plans). If you have questions about the plan, please feel free to contact us at 720-733-6000 or by email at [water@crgov.com](mailto:water@crgov.com).

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## Glossary of Acronyms

AF	Acre Feet
AMI	Advanced Metering Infrastructure
APWA	American Public Works Association
ATP	Advanced Treatment Process
AWRA	American Water Resources Association
AWWA	American Water Works Association
BMR	Bell Mountain Ranch
CCPWA	Cherry Creek Project Water Authority
CCTV	Closed Circuit Tele Vision
CMMS	Computerized Maintenance Management System
CRR1	Castle Rock Reservoir No. 1
CRR2	Castle Rock Reservoir No. 2
CRW	Castle Rock Water
DC	Douglas County
DPR	Direct Potable Reuse
DS	Development Services
EDC	Economic Development Council
EDC WSC	Economic Development Council Water Subcommittee
EPA	Environmental Protection Agency
EUM	Effective Utility Management
GAC	Granulated Activated Carbon
GPCD	Gallons per Capita per Day
HOA	Home Owner Association
I&I	Inflow and Infiltration
IAMPO	International Association of Plumbers and Mechanical Officials
KPIs	Key Performance Indicators
LAS	Liquid Ammonium Sulfate
OMT	Obligation Management Tool
Parker Water	Parker Water and Sanitation District
PC Diversion	Plum Creek Diversion
PCWRA	Plum Creek Water Reclamation Authority
PFAS	Per-and Polyfluoroalkyl Substances
PW	Public Works
Ray Waterman	Ray Waterman Regional Treatment Center
RMSAWWA	Rocky Mountain States American Water Works Association
RNI	Radio Network Infrastructure
SCADA	Supervisory Control and Data Acquisition
SDF	System Development Fee
TDS	Total Dissolved Solids

## I. Introduction

From a small reservoir in the late 1800's to tapping into the deep aquifers holding a vast non-renewable groundwater resource in the 1950's and then acquiring renewable supplies in the 2010's, Castle Rock has continued to provide a safe and reliable water supply for its residents. The needs of the community have changed over the years and Castle Rock Water continuously evaluates, plans and prepares for those changes.

Over the last two and a half decades, we have faced immense challenges. Castle Rock Water has more than doubled in size and now has over 28,000 customer connections with more than \$800 million dollars' worth of infrastructure assets to be managed, operated, optimized, and maintained. All aspects of the water business have become more heavily regulated and increasingly technical in nature. "Total" water management, the integration of the management of water, wastewater, and stormwater as a single resource, has become a natural progression. These challenges are coupled with the Town of Castle Rock growing from 8,800 in the early 1990's, to more than 85,000 in 2023, and to an estimated 100,000 by 2030. Castle Rock Water has been working to build a new, renewable water system, since 2005. Renewable water resources have become more valuable and harder to secure in Colorado especially in recent years with the crisis in the Colorado River.

The department's strategic planning process was developed as a leadership tool and built on industry leading approaches. The initial 2013 Strategic Plan was the culmination of a year's worth of planning, innovative thought by the Team, input from the entire department, and vetting from the Water Commission and Town Council. This plan also specifically incorporated enterprise-based plans and documents, community vision documents, and the Town's strategic and financial plans. Five years later, the 2018 Strategic Plan was developed and implementation went through 2023. A majority of the tactics have been completed including diversifying the water supply to include renewable water and imported supplies, while also developing industry partnerships. We have incorporated a comprehensive asset management system to more effectively develop consistent and planned rehabilitations, improved projections for capital projects and refined operations. Financial management plans and forecasting are continually evaluated to effectively manage expenditures and revenues.

In 2023, the five-year strategic plan for 2024 to 2028 was developed and realigned to incorporate the needs for the growing community, advancements in technology and resources of the department. Over the next five years, we will build upon the achievements in the 2018 plan and focus on increasing renewable and reusable water usage, improving sustainability, providing outstanding service to our customers and investing in our organization and employees.

## II. Our Mission, Vision and Values

The Town, Castle Rock Water and its residents have recognized the need for an affordable and sustainable water supply. The Mission and Vision were developed over a decade ago and incorporated this basic concept along with a focus on the customer, our product, public health and overall sustainability. As the Town continues to grow and change, this plan provides a roadmap to help our team continue to fulfill the Mission and Vision utilizing our Town Values.

### Our Mission

*We provide our community with exceptional service that protects public health and balances social, environmental and fiscal responsibilities in a sustainable manner.*

### Our Vision

*We will be a national leader among water utilities, focused on customer satisfaction and delivering outstanding quality and value.*

### Our Values

*Clear, direct, honest communication is the essential vehicle by which the following values are demonstrated:*

- ◆ We are accountable for behaviors, work products, successes, and failures.
- ◆ We are committed to integrity, honesty, and the highest standard of conduct and professionalism.
- ◆ We are adaptable and open to change.
- ◆ We work as a team toward common goals with a spirit of cooperation.
- ◆ We respect others. We listen to ideas and are considerate of time and priorities.
- ◆ We encourage creativity and innovation.
- ◆ We recognize and celebrate accomplishments.
- ◆ We support balance between our professional and personal lives.
- ◆ We practice responsible care for our resources, assets, and environment.
- ◆ We provide exceptional public service to internal and external customers.



## III. Defining and Ensuring Success

### Effective Management and Continual Improvement

As part of the original Strategic Plan in 2014, we developed six primary strategies in response to the biggest issues facing the department at that time. These were; 1. Ensure long-term water, 2. Attract, develop, empower and retain our team, 3. Enhance customer satisfaction, 4. Maintain financial sustainability, 5. Continuous improvement and optimization for infrastructure performance, and 6. Demonstrate industry leadership. These six fundamental strategies, with modifications, continue to shape the overarching priorities for the department today. In this updated plan, these strategies have been fine-tuned to reflect how we have progressed in the past ten years, and they continue to be our focus as we move forward. These six strategies have become part of the core culture of the team, providing us with a road map to continued growth and success as an organization and help us stay focused on achieving our Mission and Vision.

One of the key components of each of our core strategies is the linkage to the nationally recognized Effective Utility Management (EUM) framework. Developed by organizations such as the U.S. Environmental Protection Agency (USEPA), the Water Environment Federation (WEF), and the Denver-based American Water Works Association (AWWA), the EUM framework is designed “by utility managers for utility managers.” It is intended to provide utilities with a simple and straightforward mechanism to identify core strengths – and build on them, and identify opportunities to improve – and then embark on a step-wise process to employ best practices on the way to building a more effectively managed and sustainable organization.

Based on the fundamental concepts of organizational continual improvement, the EUM framework includes two major pieces as outlined below:

#### The Five Keys to Management Success:

- ◆ Leadership
- ◆ Strategic Business Planning
- ◆ Measurement
- ◆ Knowledge Management
- ◆ Continual Improvement Management Framework

#### The Ten Attributes of Effectively Managed Water Sector Utilities:

- ◆ Community Sustainability (SU)
- ◆ Customer Satisfaction (CS)
- ◆ Employee and Leadership Development (ED)
- ◆ Enterprise Resiliency (ER)
- ◆ Financial Viability (FV)
- ◆ Infrastructure Strategy and Performance (IS)
- ◆ Operational Optimization (OO)
- ◆ Product Quality (PQ)
- ◆ Stakeholder Understanding and Support (SS)
- ◆ Water Resources Sustainability (WS)

Castle Rock Water has used the organizational self-assessment tool for the past 15 years (part of the EUM guidebook or “primer”), to identify both our areas of strength and our areas of needed improvement as we continue to grow as an organization.

For strategic planning purposes, we have focused on the results of the self-assessment tool where opportunities for potential improvement were identified. Areas for improvement and the relative priority of those areas are shown in the table below as identified by staff, supervisors and the Leadership Team (LT) using the self-assessment tool taken in early 2023. The top priorities include Financial Viability, Infrastructure Strategy and Performance, Employee and Leadership Development and Product Quality. Many of the strategies, goals and tactics identified in this plan focus on improvement in these identified areas of priority.

Priority	Staff	Supervisors	LT	ALL
1	FV	FV	FV	FV
2	IS	ED	ED	ED
3	PQ	PQ	IS	PQ

Further, we have made a conscious effort to link the Ten Attributes to our core strategies (see chart below). This is reflected in the text of each strategy in this document (see pages 11-27), and provides us with a ready-made set of organizational best practices that we can draw upon as we develop the strategic goals and tactics that we will implement year after year.

### Linking Core Strategies with EUM Attributes

Castle Rock Water Strategies	Supporting EUM Attributes
<b>Strategy 1:</b> Ensure long-term water	WS, ER, IS, SU, FV, PQ, SS
<b>Strategy 2:</b> Attract, develop, empower and retain our team	ED, CS, OO, ER
<b>Strategy 3:</b> Enhance customer satisfaction	CS, SS, SU, PQ
<b>Strategy 4:</b> Maintain financial sustainability	FV, ER, OO
<b>Strategy 5:</b> Continuously improve and optimize infrastructure	PQ, IS, OO, ER
<b>Strategy 6:</b> Demonstrate industry leadership	All Ten Attributes

### Benchmarking and Performance Measurement

The linkage also helps us measure (one of the Five Keys) and report our progress in terms that are familiar to our water sector, allowing us to compare or “benchmark” our efforts with others and communicate in terms that are easily explained and understood by our customers and stakeholders. Accordingly, for each of the six core strategies we have developed a set of Key Performance Indicators (KPIs). These are listed in the body of the plan by strategy area (pages 11-27).

Some of these measures are tied to our regular participation in the AWWA Benchmarking Survey. By submitting data annually each spring, we receive a report that shows us how we are doing relative to the other high-achieving utilities that participated in the survey that year. We track our progress from survey to survey, and we have set many of our operational and managerial performance targets in alignment with this survey. With this knowledge and the data that we gather from our other KPIs not tied to the survey, we can track our progress on the goals and targets we have set for each of our six strategies and in turn, report that progress both internally and externally. Definitions of each performance indicator and our current and historical results are provided in Appendix A (page 28).

### **Implementing the Plan or “Strategic Doing”**

With our strategic framework solidly based on continual improvement and effective utility management, what remains for our team is simply a lot of hard work. What enables us to go from this strategically-focused “game plan” to actually **doing** the many activities, projects, and programs that it entails is our “plan within the plan” – that is, the implementation plan and “tactics table” that goes with it. Found in Appendix B (page 31), the Tactics Table is a comprehensive document that organizes, prioritizes, schedules, and helps us monitor the progress we are making on the many strategically focused tactics that add up to being our Strategic Plan for 2024 to 2028. In total, 164 tactics have been identified for completion over the next five years. Some of these are continuing from our previous plan and others are brand new. Some are slated for completion in the next year or two, while others come later. In every case, the Tactics Table is our working guide and our way to track, monitor and report our progress, which will be done regularly as we go.

**IV. Strategies, Goals and Tactics**  
**Effective Management and Continual Improvement**



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## Strategy 1: Ensure long-term water

***Build a sustainable and reliable water supply by securing new and diverse water sources, responsibly managing and conserving the Town's water, and protecting our watersheds.***

Ensuring water for the Town of Castle Rock now and in the future is vital to the health of our community for quality-of-life, safety and beauty. Our arid environment, a past reliance on a single source of water, and continued projections of growth, are major considerations in planning for a sustainable water solution. The goals set forth will focus on attaining renewable water comprising of 75 percent by 2050 and 100 percent of supply by 2065. Castle Rock Water started on this journey in 2005. We are approaching a renewable water supply of 40% putting us ahead of schedule with respect to meeting our goal. Per capita water consumption has remained relatively steady over the past five years but will likely be reduced by 5% over the next five years.

A number of the attributes identified through the Effective Utility Management initiative are also covered under this strategy including Water Resources Sustainability (WS), Enterprise Resiliency (ER), Infrastructure Strategy and Performance (IS), and Community Sustainability (SU).

### **The Goals and Tactics**

#### **Goal #1: Secure new and diverse water sources**

##### **Tactics:**

- ◆ **1.1.1:** Purchase at least 245 acre-feet of importable renewable water rights associated with the Box Elder Project.
- ◆ **1.1.2:** Buy out Cottonwood and Inverness interests in the Cherry Creek Project Water Authority (CCPWA).
- ◆ **1.1.3:** Buy out the Town of Lochbuie's interests in Bell Mountain Ranch Denver Basin groundwater and wells.
- ◆ **1.1.4:** Develop and implement a formal process to investigate and evaluate new local water rights opportunities.
- ◆ **1.1.5:** Hire a water broker or develop another comparable process to seek out and identify renewable water rights available for purchase.
- ◆ **1.1.6:** Purchase the remainder of the Converse Wells Water Rights.
- ◆ **1.1.7:** Develop a formal budget or investment strategy for use in investing in new renewable water rights opportunities (may include options made available to new development).
- ◆ **1.1.8:** Formalize agreement with Parker Water and Sanitation District (PWSD) for participation in the Platte Valley Water Partnership Project.
- ◆ **1.1.9:** Purchase additional Denver Basin Water Rights located in places that fit into Castle Rock Water's infrastructure for additional drought protection.
- ◆ **1.1.10:** Establish an irrigation district partnership in the Box Elder region.

- 💧 1.1.11: Develop an agreement with PWSD to construct an inlet structure into Rueter-Hess Reservoir.
- 💧 1.1.12: Develop an agreement with PWSD to purchase capacity in the Rueter-Hess Water Purification Facility.
- 💧 1.1.13: Develop a strategic partnership in the Lost Creek Basin.
- 💧 1.1.14: Develop a Collaborative Water Sharing Agreement with an agricultural partner in the Box Elder Creek or Lost Creek Basin.
- 💧 1.1.15: Purchase available and cost-effective reusable effluent from the Highway 85 Wastewater Project.
- 💧 1.1.16: Develop and construct infrastructure for the Meadow Ditch water right.
- 💧 1.1.17: Continue to work to acquire the pipeline owned by Xcel Energy that goes from South Platte River to Box Elder Creek.
- 💧 1.1.18: Purchase remaining Meadow Ditch Water.
- 💧 1.1.19: Purchase a portion of Central's Water Rights in Chatfield.
- 💧 1.1.20: Complete year-long analytical monitoring at Plum Creek Water Reclamation Authority (PCWRA) in accordance with Direct Potable Reuse (DPR) regulatory requirements.

**Goal #2: *Manage and conserve the Town's water***

**Tactics:**

- 💧 1.2.1: Complete the construction of the Plum Creek to Rueter-Hess Reservoir pipeline.
- 💧 1.2.2: Complete the construction of Castle Rock Reservoir No. 2 (CRR2) and expansion of Castle Rock Reservoir No. 1(CRR1).
- 💧 1.2.3: Purchase the property upon which CRR1 and CRR2 reside.
- 💧 1.2.4: Install required stream gages along East Plum Creek and its tributaries to satisfy decree requirements.
- 💧 1.2.5: Operate the Aquifer Storage and Recovery Program (ASR) to inject up to 400 acre-feet (AF) annually.
- 💧 1.2.6: File water court application for the Town's Lawn Irrigation Return Flows (LIRFs) program.
- 💧 1.2.7: Optimize the amount of water stored in all reservoirs each year.
- 💧 1.2.8: Develop Box Elder Project Plan for future implementation.
- 💧 1.2.9: Monitor the impact of the changes in water efficiency in the Landscape and Irrigation Criteria Manual to its impact to the per capita per day usage.
- 💧 1.2.10: Complete design on the Chatfield pump back project.
- 💧 1.2.11: Develop large scale retrofit ColoradoScape program with Parks and Home Owner Associations (HOA).
- 💧 1.2.12: Evaluate the effectiveness and feasibility of increased graywater implementation. As practical, promote increased use of graywater systems, uses, and investigate new uses.
- 💧 1.2.13: Evaluate the International Association of Plumbers and Mechanical Officials (IAPMO)Water Demand Calculator and the associated "right sizing" of indoor plumbing. Implement if feasible.

- 💧 **1.2.14:** Complete Town Code change to require 0.8 gpf toilets for new residential construction.
- 💧 **1.2.15:** Develop a pilot project for installing hot water recirculation systems with new home construction.
- 💧 **1.2.16:** Upgrade the Plum Creek Diversion to maximize its operational ability relative to the current permitted capacity.
- 💧 **1.2.17:** Upgrade CR-1 Diversion to maximize its operational ability relative to the current permitted capacity.

**Goal #3: *Protect our Watersheds***

**Tactics:**

- 💧 **1.3.1:** Engage watershed authorities on setting appropriate site-specific standards for lake nutrients in Chatfield and Cherry Creek reservoirs.
- 💧 **1.3.2:** Update the Source Water Protection Plan in 2027.
- 💧 **1.3.3:** Investigate source control options and implement to reduce concentration of Total Dissolved Solids (TDS) in our local water supplies.
- 💧 **1.3.4:** Investigate source control options and implement to reduce concentrations of nutrients in our wastewater and local water supplies.
- 💧 **1.3.5:** Apply for Public Water System Protection through Colorado Oil and Gas Conservation Commission for our water supply areas.
- 💧 **1.3.6:** Work with PCWRA on local limits that will be protective of water quality and be consistent with DPR regulatory requirements.
- 💧 **1.3.7:** Develop an incentive program to encourage private sector development to implement progressive stormwater practices.

**Key Performance Indicators (KPI):**

- Renewable Water Usage Rate (%)
- Reusable Water Usage Rate (%)
- Total Renewable Water Amount
- Total Volume Water Metered (Residential Customers)
- Total Volume Water Produced/Total Population Served

## Strategy 2: Recruit, develop, empower, protect, and retain our team

***Grow our company culture where every employee is seen as a valued member of the team by contributing daily to fulfilling our Mission and Vision, while modeling Town values.***

Castle Rock Water has approximately 109 full-time staff and anywhere from 3 to 14 seasonal and part-time staff. It is the staff of CRW that will ensure our long-term success as an organization. Recognizing the importance of each individual team member, CRW encourages employee development by providing effective training, supporting staff with the necessary tools and resources for success, and empowerment.

Major items covered in this strategy include recruitment, employee development, staff empowerment, staff safety and retention. The main objective is to build and maintain a team of highly trained professionals, with emphasis on employee development and empowerment. CRW aims to ensure a collaborative environment dedicated to continual learning and improvement.

This strategy also incorporates key attributes from the Effective Utility Management (EUM) initiative, including Employee and Leadership Development (ED), Customer Satisfaction (CS), Operational Optimization (OO) and Stakeholder Understanding and Support (SS).

### **The Goals and Tactics**

#### **Goal #1: *Attract and recruit talented staff***

##### **Tactics:**

- ◆ **2.1.1:** Consult with the Town recruiter to effectively seek out quality candidates in appropriate industry segments.
- ◆ **2.1.2:** Attend at least four recruitment events and other educational opportunities annually to promote positions.
- ◆ **2.1.3:** Develop a video about job opportunities in the water industry and with CRW and outreach appropriately, including social media.
- ◆ **2.1.4:** Create advertisements to reach applicable recruits in appropriate media e.g., American Water Works Association (AWWA), American Water Resources Association (AWRA), American Public Works Association (APWA) trade organizations and conference publications.
- ◆ **2.1.5:** Attend two industry conferences, utilizing trade booth or other exposure means to promote our organization.
- ◆ **2.1.6:** Work with Human Resources, through an annual review, to ensure we have appropriate compensation and benefits in place to be competitive in the water industry.
- ◆ **2.1.7:** Develop a way to monitor compensation competitiveness in real time.



- 💧 2.1.8: Evaluate recruitment tools being used by our competitors and implement tools that make sense.
- 💧 2.1.9: Revise and retool the Apprenticeship Program to allow us to attract young talent directly out of high school.

### **Goal #2: *Develop staff***

#### **Tactics:**

- 💧 2.2.1: Develop a department specific leadership training program for all supervisors.
- 💧 2.2.2: Develop and implement a Succession Planning Strategy for the organization.
- 💧 2.2.3: Encourage employees, along with funding and time, to find applicable training to enhance their careers as part of the annual review process and/or as needed.
- 💧 2.2.4: Identify and maintain appropriate budgets for 20% of staff on a five-year rotation to attend local (in-state) conferences, trade fairs, and other training and propose for future budgets.
- 💧 2.2.5: Help staff define potential preferred career progression milestones through quarterly review discussions.
- 💧 2.2.6: Provide interdivisional cross-training opportunities for staff in order to introduce them to different aspects of Castle Rock Water.
- 💧 2.2.7: Encourage staff to participate in other staff committees to allow cross division relationships (e.g., Employee Appreciation Team (EAT), Art Committee, etc.).
- 💧 2.2.8: Identify opportunities for staff to participate in water industry organizations like Rocky Mountain States American Water Works Association (RMSAWWA).

### **Goal #3: *Empower Staff***

#### **Tactics:**

- 💧 2.3.1: Gather feedback from employees through an annual survey to develop strategies to further a culture of trust and empowerment.
- 💧 2.3.2: Encourage each division to showcase their creative solutions and achievements at staff meetings or monthly report publications.
- 💧 2.3.3: Continue annual communications training for all employees to include subjects like email response and organization, effective presentation tips and writing protocols.
- 💧 2.3.4: Develop guidelines and budget for conducting teambuilding activities at all division levels.

### **Goal #4: *Protect Staff***

#### **Tactics:**

- 💧 2.4.1: Complete hearing testing in operation spaces.

- 💧 **2.4.2:** Conduct classroom training or execute emergency exercises/drills on the Castle Rock Water Emergency Action Plan once every year.
- 💧 **2.4.3:** Provide avenues for meaningful staff participation in the Castle Rock Water safety program, including involvement in all aspects of the program.
- 💧 **2.4.4:** Incentivize near miss reporting.

**Goal #5: Retain Staff**

**Tactics:**

- 💧 **2.5.1:** Develop a memorable CRW specific anniversary award program, with valued recognition and rewards.
- 💧 **2.5.2:** Educate employees on and provide easy accessibility to the existing “Caught You” card program.
- 💧 **2.5.3:** Evaluate the CRW grade levels and responsibilities internally and compared to other departments to determine appropriate classifications and if CRW needs to be on an independent grading scale.
- 💧 **2.5.4:** Prioritize work-life balance by reviewing and evaluating recommendations and implementing those that make sense from the Review of Work/Life Balance Memo developed by the Leadership Team.
- 💧 **2.5.5:** Do an anonymous question to staff on what types of things would improve work/life balance, evaluate and act on the response as funding and policy allow.
- 💧 **2.5.6:** Review the employee turnover rate and actual resignations to determine any trends or concerns that need to be addressed.

**Key Performance Indicators (KPI):**

- Days without a Lost Time Injury/Illness
- Employee Turnover Rate
- MGD Processed/Employee (Wastewater)
- MGD/Employee (Water)
- OSHA Incident Rate
- Overtime Hours per Employee (by Division)
- Total Number of Incidents
- Training Hours per Employee

## Strategy 3: Enhance customer satisfaction

***In collaboration with our customers, seek and apply innovative approaches to provide exceptional customer service.***

Castle Rock Water's vision is to be a national leader among water utilities, focused on customer satisfaction and delivering outstanding quality and value. Every member of our staff is part of our customer service and marketing team. As such, this strategy will require the involvement of all of our team members for us to be successful.

The Town has implemented statistically significant biannual resident surveys which provide an excellent source of data for this strategy. From that survey, in 2023, there are some key drivers that could have a big impact on customer satisfaction. These include:

- Improving our water conservation programs
- Educating the community on efforts to secure and manage long term water supplies
- Improving and/or educating customers on the value of service for rates paid

Customer Satisfaction (CS), Community Sustainability (SU) and Stakeholder Understanding and Support (SS) are the customer service focused attributes for an effectively managed utility that will assist CRW in attaining its vision. Some of the major items covered in this strategy include appropriate levels of service, communications with internal and external customers, utilization of technology, and partnerships with others.

### **The Goals and Tactics**

#### **Goal #1: *Customer Service for Internal Customers***

##### **Tactics:**

- **3.1.1:** Create a list of internal customers and conduct a survey to determine how we can better work together.
- **3.1.2:** Ensure that Castle Rock Water's regulatory and procedural requirements are followed with centrally located reporting.

#### **Goal #2: *Customer Service for Water Account Customers***

##### **Tactics:**

- **3.2.1:** Develop and implement an outgoing messaging notification system for customers.
- **3.2.2:** Add Advanced Metering Infrastructure (AMI) data to the customer portal.
- **3.2.3:** Develop stronger policies to protect customer data and communicate those policies to our customers.

- 💧 **3.2.4:** Utilize Town biannual resident surveys to develop specific customer outreach to improve customers' understanding of value for rates paid and long-term water plans.
- 💧 **3.2.5:** Evaluate Chat Bot or similar customer service website options.
- 💧 **3.2.6:** Improve and expand the ColoradoScape education to include design, installation and maintenance.
- 💧 **3.2.7:** Add a staff member devoted to designing and assisting customers with Coloradoscaping and reducing water needs for landscapes.

**Goal #3: *Customer Service for Stakeholders***

**Tactics:**

- 💧 **3.3.1:** Evaluate the current bulk hydrant meter process and create efficiencies to better serve the customer.
- 💧 **3.3.2:** Create a list of stakeholders and potential stakeholders that we want to engage with and create outreach to improve their customer service experience.
- 💧 **3.3.3:** Educate contractors and developers on water conservation requirements.
- 💧 **3.3.4:** Update the communications policy to include a stakeholder outreach plan for regulatory and standards revisions.
- 💧 **3.3.5:** Continue the involvement with the Economic Development Council Water Subcommittee (EDC WSC) to ensure that at least 6 meetings per year are held to keep the development community up to date on the impacts of water policy changes.
- 💧 **3.3.6:** Work with Douglas County (DC) to develop a plan for long-term water needs for parts of unincorporated Douglas County not served by a water provider.

**Key Performance Indicators (KPI):**

- Cost of Residential Service (Average Monthly Bill)
- Customer Accounts per Employee
- Sewer Overflow Rate
- Stormwater Customer Inquiries per Total Single-Family Equivalents (SFEs)
- Technical Service Complaints (Water Quality)
- Total Volume Water Metered (Residential Customers)
- Total Volume Water Produced/Total Population Served
- Water Distribution System Integrity

## Strategy 4: Maintain financial sustainability

***Implement viable and sustainable financial programs that support the Town goals and initiatives.***

Castle Rock Water, being a cost-of-service entity, understands the importance of closely monitoring and updating the financials annually for each of the four enterprise funds to ensure affordable and sustainable financial performance. Reviewing the budget and conducting a rates and fees study annually provide updated cost, revenues, reserve balances, and overall financial stability of the organization, while continuing to provide transparency to the customer. Using the budget and this study which updates financial planning to 2065. CRW provides revised rates and fees recommendations to Town Council for approval each year. This includes updated system development fees (SDFs) to be paid by new growth.

CRW closely follows the practices found in the EUM attributes of Financial Viability (FV) and Enterprise Resiliency (ER), and continues to review the key performance indicators (KPIs) to help us compare our organization to others and ensure we are providing the best products, services and value to the customer. We also maintain a Financial Management Plan which helped to inform many of the tactics shown under this strategy.

### **The Goals and Tactics**

**Goal #1: *Strive to maintain sustainable rates and fees, and demonstrate fiscal responsibility, accountability and transparency.***

#### **Tactics**

- 💧 **4.1.1:** Provide annual training on the Obligation Management Tool (OMT) to ensure future financial commitments are being met.
- 💧 **4.1.2:** Develop deeper financial awareness of our budget and encourage engagement through annual staff training.
- 💧 **4.1.3:** Present updates on financial health at staff and supervisor meetings, quarterly.
- 💧 **4.1.4:** Hold division managers accountable for annual operational budgets.
- 💧 **4.1.5:** Fully utilize asset management systems to accurately identify budgets for predictive and preventative maintenance

**Goal #2: *Ensure adequate revenue sources to support operational costs and capital for current and future needs.***

#### **Tactics**

- 💧 **4.2.1:** Evaluate options for a volumetric component to monthly fixed renewable water charge to further incentivize conservation.
- 💧 **4.2.2:** Develop financial strategies to be implemented during enacted

- mandatory drought restrictions.
- ◆ **4.2.3:** Change our water budget allocations for all residential customers to reflect actual landscape type.
- ◆ **4.2.4:** Perform an annual review of borrowing capacity, interest rates, debt costs and future borrowing needs.

**Goal #3: *Operate on a cost-of-service basis and effectively manage expenditures and encumbrances.***

**Tactics**

- ◆ **4.3.1:** Complete an annual electric energy evaluation.
- ◆ **4.3.2:** Update and revise our energy management plan.
- ◆ **4.3.3:** Evaluate the use of renewable energy, like solar power, to reduce operational costs.
- ◆ **4.3.4:** Ensure 100% of capital is encumbered with a goal of actual spending being above 80% on a rolling five-year average.
- ◆ **4.3.5:** Continue to track and identify apparent and real water losses and develop strategies to minimize both.
- ◆ **4.3.6:** Develop and implement a strategic document to further reduce peak water demands to reduce overall operational and capital costs.

**Key Performance Indicators (KPI):**

- Apparent Water Loss
- Cost of Residential Service (Average Monthly Bill)
- Customer Accounts per Employee
- Total Purchased Energy Use
- Debt Ratio
- Energy Consumption Efficiency (Water)
- Operating Ratio
- Operational Cost (\$/MGD) (Wastewater)
- Operational Cost (\$/MGD) (Water)
- Real Water Loss
- Triple Bottom Line Index
- Renewable energy Production

## Strategy 5: Continuously improve and optimize infrastructure

***Plan, design, construct, and operate systems which emphasize continuous care and improvement to assets: water supply, meters, collections, distribution, stormwater, treatment, and SCADA.***

Castle Rock Water is responsible for operating more than \$800 million worth of infrastructure. In order to meet our Mission and Vision, we must continually evaluate the operation and maintenance of this infrastructure and work to optimize its performance, both on a daily basis and over the long-term. Optimizing the operation and maintenance of the infrastructure today ensures that it will continue to operate for its full design life. As part of this strategy CRW needs to ensure that all new infrastructure is designed and constructed to optimize operations.

Product Quality (PQ), Enterprise Resiliency (ER), Operational Optimization (OO), and Infrastructure Strategy and Performance (IS) are important EUM attributes addressed in this strategy.

### **The Goals and Tactics**

#### **Goal #1: *Improve Infrastructure Planning*** **Tactics**

- ◆ **5.1.1:** Fully coordinate with Development Services (DS), Public Works (PW), CRW Engineering and Operations staff to ensure that collective project objectives are achieved.
- ◆ **5.1.2:** Complete an Inflow and Infiltration (I&I) Study for the sanitary sewer collection system.
- ◆ **5.1.3:** Update Rehab and Replacement plan on a five-year schedule and incorporate all pipe ages into the planning.

#### **Goal #2: *Improve Infrastructure Design and Construction*** **Tactics**

- ◆ **5.2.1:** Every five years review and update specifications for Water, Wastewater and Stormwater Infrastructure.
- ◆ **5.2.2:** Every five years review current construction details and develop new standard details as needed or as national standards are updated.
- ◆ **5.2.3:** Develop a Design Criteria Manual update based on a five-year rolling interval.
- ◆ **5.2.4:** Update the Project Management Manual every five years.
- ◆ **5.2.5:** Conduct semiannual training utilizing the Project Management Manual.
- ◆ **5.2.6:** Develop and implement a technical design training program for entry

- level engineers that includes both desktop and field components.
- ◆ **5.2.7:** Develop and implement a methodology for more accurate and consistent cost estimating for capital projects. Consider collaborating with other Front Range utilities to create a broader cost database.
  - ◆ **5.2.8:** Evaluate the option of developing drafting standards for in-house design.
  - ◆ **5.2.9:** Implement the rehabilitation and replacement program for water, sewer and storm sewer infrastructure based on Innovyze InfoAsset Planner recommendations.
  - ◆ **5.2.10:** Develop and implement training and certification programs for construction inspectors.

**Goal #3: *Improve Treatment Services Infrastructure Operations and Maintenance Tactics***

- ◆ **5.3.1:** Develop and implement the operator maintenance training program for water treatment plant and pump station residual chlorine monitoring equipment calibrations.
- ◆ **5.3.2:** Develop and update operational SOPs every five years for water plant operations.
- ◆ **5.3.3:** Update BMR infrastructure to meet CRW standards.
- ◆ **5.3.4:** Convert the gaseous, anhydrous ammonia, used for chloramination at the Meadows and Ray Waterman treatment plants, to the much safer Liquid Ammonium Sulfate (LAS).
- ◆ **5.3.5:** Evaluate senior plant operator/shift lead positions, who possess the high technical skill, knowledge, and ability to safely operate the advanced treatment processes (ATP) at PCWPF.
- ◆ **5.3.6:** Work with asset management staff to evaluate, improve, or replace the CMMS work order management program.
- ◆ **5.3.7:** Integrate the design and construction of a new maintenance storage building into the PCWPF expansion project.
- ◆ **5.3.8:** Develop and implement an online technical skill training program for the plant mechanic career progression plan.

**Goal #4: *Improve Field Services Infrastructure Operations and Maintenance Tactics***

- ◆ **5.4.1:** Develop and implement a plan to replace all the old distribution main line valves in the downtown area.
- ◆ **5.4.2:** Evaluate the effectiveness of the distribution system leak detection program and implement changes as applicable.
- ◆ **5.4.3:** Implement a line flushing program and establish a formal schedule.
- ◆ **5.4.4:** Update BMR distribution system and water storage tank infrastructure to meet CRW standards.



- ◆ **5.4.5:** Evaluate the option to assemble a full-time lift station crew to perform daily check, services and operator maintenance.
- ◆ **5.4.6:** Assist with the development of a comprehensive plan to replace or rehabilitate the old sewer gravity mains in the downtown area.
- ◆ **5.4.7:** Replace the collection CCTV van with updated technology to improve inspection quality and performance of sewer line maintenance.
- ◆ **5.4.8:** Develop improved odor control strategies to mitigate odor problems throughout Town.
- ◆ **5.4.9:** Evaluate additional signage and/or safety grates at stormwater facilities in order to reduce public access to potentially hazardous dangerous drainage ponds, piping and structures.
- ◆ **5.4.10:** Integrate online training and/or certification program, developed specifically for Colorado stormwater operators, to enhance employee knowledge and career development.
- ◆ **5.4.11:** Collaborate with the stormwater maintenance team on an all-new stormwater infrastructure design to improve safety and ease of maintenance.
- ◆ **5.4.12:** Implement the Supervisory Control and Data Acquisition (SCADA) Master Plan Phases 2 through 5.
- ◆ **5.4.13:** Design and implement an improved SCADA cybersecurity program and physical asset security program.
- ◆ **5.4.14:** Develop a secure and improved daily reporting system.
- ◆ **5.4.15:** Transfer all SCADA communications to the back-haul radio network.
- ◆ **5.4.16:** Complete and implement the Nitrification Prevention Plan.
- ◆ **5.4.17:** Closely monitor Granulated Activated Carbon (GAC) vessels for Per- and Polyfluoroalkyl Substances (PFAS) breakthrough to assist Operations with change out decisions.
- ◆ **5.4.18:** Refine CRR-1 monitoring procedures to help anticipate toxic algal bloom.
- ◆ **5.4.19:** Evaluate the locations of existing bacteriological sampling locations in the distribution system of BMR to ensure they are located properly, and install new stations, where appropriate.
- ◆ **5.4.20:** Utilize technical operational information, provided by CDM Smith, to develop a training program for water plant operations staff.
- ◆ **5.4.21:** Implement the AMI program and complete all replacements of legacy meters with AMI compliant meters.
- ◆ **5.4.22:** Implement the Radio Network Infrastructure (RNI) program to guide monthly preventative maintenance priorities
- ◆ **5.4.23:** Develop a method/program to identify customer leaks and water waste using AMI technology.
- ◆ **5.4.24:** Replace BMR Badger meters with Sensus meters.
- ◆ **5.4.25:** Create and implement a meter testing program to reduce water and revenue loss.

**Key Performance Indicators (KPI):**

- Apparent Water Loss
- Compliance Rate
- Energy Consumption Efficiency (Water)
- MGD/Employee (Water)
- MGD Processed/Employee (Wastewater)
- Operating Ratio
- Operational Cost (\$/MGD) (Wastewater)
- Operational Cost (\$/MGD) (Water)
- Real Water Loss
- Sewer Overflow Rate
- Stormwater Operating Costs per Total SFEs
- Technical Service Complaints (Water Quality)
- Water Distribution System Integrity

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## Strategy 6: Demonstrate Industry Leadership

*Demonstrate industry leadership through measurable improvement, recognition by industry peers, and forward thinking.*

Being a leader in the industry requires that best management practices be incorporated into our operations every day. Industry leadership will benefit our customers and the community by ensuring that Castle Rock Water continues to provide the best possible service, highest level of public health, most advanced and robust infrastructure and best value. This strategy includes elements of all of the attributes identified in the Effective Utility Management framework: Product Quality (PQ), Customer Satisfaction (CS), Operational Optimization (OO), Employee and Leadership Development (ED), Financial Viability (FV), Community Sustainability (SU), Enterprise Resiliency (ER), Infrastructure Strategy and Performance (IS), Water Resources Adequacy (WS), and Stakeholder Understanding and Support (SS).

### The Goals and Tactics

#### **Goal #1: *Measurable Improvement***

- ◆ **6.1.1:** Conduct a periodic organization-wide assessment using the EUM framework
- ◆ **6.1.2:** Develop an action plan to address areas of improvement as identified by our annual participation in the AWWA Benchmarking Survey.
- ◆ **6.1.3:** Participate in the Partnership for Safe Water programs.
- ◆ **6.1.4:** Evaluate Operations' performance annually relative to conformance with wastewater collection system Best Management Practices and adjust accordingly. (Think about how this relates to CMOM or other programs)
- ◆ **6.1.5:** Reduce per capita water consumption to 111 gpcd or less for the rolling five-year average by the end of 2028.

#### **Goal #2: *Recognition by Industry Peers***

- ◆ **6.2.1:** Achieve Environmental Protection Agency (EPA) Water Sense awards by end of 2026.
- ◆ **6.2.2:** Develop tracking to ensure that at least 5% of CRW staff presents at conferences and external venues, annually.
- ◆ **6.2.3:** Publish one article (organization wide) in a journal every two years starting 2024.
- ◆ **6.2.4:** CRW seeks to receive positive recognition through media outlets a minimum of five times per year.
- ◆ **6.2.5:** Individual divisions identify and evaluate at least one potential award in each sector and determine if it is achievable. (Example: AWRA-Integrated Water Resources Management)

### **Goal #3: Forward thinking organization**

- 💧 **6.3.1:** Develop best management practices for treating PFAS and emerging contaminants of concern coming from imported water supplies at Ray Waterman Regional Treatment Center (Ray Waterman).
- 💧 **6.3.2:** Evaluate the potential for floating solar to offset energy costs, reduce evaporative water loss and protect against algal growth at our small reservoirs that are not open to public use.
- 💧 **6.3.3:** Collect water quality samples from Denver Basin wells as rehabilitation is completed and add to water quality database. Analyze the data to determine if there are any water quality declines or trends.
- 💧 **6.3.4:** Reduce existing non-functional turf by 5% by the end of 2028 to achieve 30% reduction by the end of 2050.
- 💧 **6.3.5:** Investigate the beneficial use of drones for large site inspections.
- 💧 **6.3.6:** Investigate the beneficial use of artificial intelligence for plant operations.
- 💧 **6.3.7:** Investigate stormwater water quality monitoring to better understand pollutant removal performance.

### **Key Performance Indicators (KPI):**

- Apparent Water Loss
- Compliance Rate
- Cost of Residential Service (Average Monthly Bill)
- Customer Accounts per Employee
- Days without a Lost Time Injury/Illness
- Debt Ratio
- Employee Turnover Rate
- Energy Consumption Efficiency (Water)
- MGD/Employee (Water)
- MGD Processed/Employee (Wastewater)
- Operating Ratio
- Operational Cost (\$/MGD) (Wastewater)
- Operational Cost (\$/MGD) (Water)
- OSHA Incident Rate
- Real Water Loss
- Renewable Water Usage Rate (%)
- Sewer Overflow Rate
- Technical Service Complaints (Water Quality)
- Total Number of Incidents
- Total Renewable Water Amount
- Total Volume Water Metered (Residential Customers)
- Total Volume Water Produced/Total Population Served
- Training Hours per Employee

- Triple Bottom Line Index
- Water Distribution System Integrity

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## Appendix A

### Key Performance Indicators (KPI) Definitions

**Apparent Water Loss:** Total volume of water lost due to unauthorized consumption, customer metering inaccuracies and systematic data handling errors divided by (average daily production \* 365 days).

**Compliance Rate:** Number of days in compliance with applicable regulations divided by 365 days.

**Cost of Residential Service (Average Monthly Bill):** Average monthly cost of water/wastewater/stormwater service for residential customers.

**Customer Accounts per Employee:** Measure of employee efficiency as expressed by the total number of active accounts serviced by utility employees (as FTE's) per year. Total number of active accounts divided by the total number of Full-Time Employees (FTEs).

**Days without a Lost Time Injury/Illness:** Numbers of days without time lost due to an injury or illness.

**Debt Ratio:** Quantifies a utility's level of indebtedness. It is a measure of the extent to which assets are financed through borrowing. The higher the debt ratio, the more dependent the utility is on debt financing. Total liabilities divided by total assets.

**Employee Turnover Rate:** Quantifies annual employee departures normalized by the utility's workforce (as FTEs) per year. Number of regular employee departures during the reporting period divided by the total number of FTEs. Regular employee departures include employees who leave voluntarily, retire, or are let go during the reporting period.

**Energy Consumption Efficiency (Water):** The energy consumed to supply potable water on an annual basis normalized by water demand in million gallons (MG). Energy consumption based on purchases of electricity, natural gas, and other fuels (minus stored amounts) converted to KBTU divided by (average daily demand \* 365 days).

**MGD/Employee (Water):** Average daily production divided by total number of FTEs.

**MGD Processed/Employee (Wastewater):** A measure of employee efficiency as expressed by the amount of wastewater processed by utility employees (FTEs) per year. Average Million Gallons per Day (MGD) wastewater processed divided by the total number of FTEs.

**Operating Ratio:** Operating expenses divided by operating revenue or net sales, taking into account expansion or debt repayment. Total Operations & Maintenance (O&M) costs divided by total operating revenue.

**Operational Cost (\$/MGD) (Wastewater):** Total O&M costs for wastewater divided by (average daily production \* 365 days).

**Operational Cost (\$/MGD) (Water):** Total O&M costs for water divided by (average daily production \* 365 days).

**OSHA Incident Rate:** Total number of injuries or illnesses \* 200,000 divided by the total number of hours worked by all employees.

**Overtime Hours per Employee:** Total number of overtime hours divided by the total number of FTEs.

**Real Water Loss:** Total volume of water lost due to leakage on transmission and distribution mains, leakage and overflows at utility storage tanks, and leakage on service connections up to the point of customer metering divided by (average daily production \* 365 days).

**Renewable Water Usage Rate (%):** Total volume of renewable water produced divided by the total volume of water produced.

**Reusable Water Usage Rate (%):** Total volume of reusable water used divided by total volume of reusable water available.

**Sewer Overflow Rate:** Total number of sewer overflows \* 100 divided by total miles of collection system piping.

**Stormwater Customer Inquiries per Total Single-Family Equivalents (SFEs):** Total number of stormwater customer inquiries divided by total Stormwater SFEs.

**Stormwater Operating Costs per Total SFEs:** Total stormwater operating costs divided by total Stormwater SFEs.

**Technical Service Complaints (Water Quality):** Total number of technical service complaints divided by the total number of active accounts.

**Total Number of Incidents:** Total number of incidents by division by injury type.

**Total Renewable Water Amount:** Total amount of renewable water in million gallons.

**Total Volume Water Metered (Residential Customers):** Total volume of water metered for residential customers.

**Total Water Volume Produced/Total Population Served:** Total water volume produced divided by total population served.

**Training Hours per Employee:** Total number of training hours completed divided by the total number of FTEs.

**Triple Bottom Line Index:** Measures a utility's sustainability efforts based on a balanced view of environmental, social, and economic considerations.

**Water Distribution System Integrity:** (Total number of leaks or breaks divided by total miles of distribution system piping) \*100.

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