MEMORANDUM

TO: Board of Directors  
FROM: Catherine Hayes, Board Secretary  
DATE: March 14, 2018  
RE: March 22, 2018, Board Meeting

This memorandum shall serve as notice of the Regular Meeting of the Board of Directors of the Upper Eagle Regional Water Authority:

Thursday, March 22, 2018  
8:30 a.m.

Eagle River Water & Sanitation District Office  
Walter Kirch Room  
846 Forest Road  
Vail, CO  
81657

Cc:  
ERWSD Managers  
Carol Dickman  

Board Materials via Email:  
Caroline Bradford, Independent Consultant  
Dan Clayton, Brown & Caldwell  
Steve Coyer, Mountain Star  
Virginia Egger, Town of Avon  
Amy Greer, Stan Bernstein and Associates, Inc.  
Jonathan Heroux, Piper Jaffray & Co  
Justin Hildreth, Town of Avon  
Jeff Layman, EagleVail Metropolitan District  
Dan Leary, Traer Creek Metropolitan District  
Lee Leavenworth, Loyal E. Leavenworth PC  
Holly Loff, Eagle River Watershed Council  
Ken Marchetti, Robertson & Marchetti, PC  
Preston Neill, Town of Avon  
Melissa Macdonald Nelson, Independent Consultant  
Barry Parker, Beaver Creek Metropolitan District  
Mike Reisinger, Berry Creek Metropolitan District  
Bill Simmons, Beaver Creek Metropolitan District  
Nina Timm, Berry Creek Metropolitan District  
Bob Weaver, Leonard Rice Engineers
BOARD OF DIRECTORS REGULAR MEETING
March 22, 2018, 8:30 a.m.

1. Consultant/Guest Introduction
2. Public Comment
3. Action Items
   3.1. Meeting Minutes of February 22, 2018, Regular Meeting
   3.2. Resolutions in Support of Board Member Continuity – Kathryn Winn
4. Strategy Items
   4.1. Board member input
   4.2. Water Efficiency Plan – Maureen Mulcahy
5. General Manager Report – Linn Brooks
   5.1. General Manager Information Items
   5.2. Operations Report
   5.3. Engineering Report – Jason Cowles
   5.4. Public Affairs Report – Diane Johnson
      5.4.1. Snowpack Update
   5.5. Monthly Reports
      5.5.1. Development Report
      5.5.2. Contract Logs
      5.5.3. Authority and District Committees
      5.5.4. Authority February Meeting Summary – draft
6. General Counsel Report – Kathryn Winn
7. Water Counsel Report – Glenn Porzak
8. Executive Session pursuant to § 24-6-402(b) and (e), C.R.S.
   8.1. General Counsel Review of Matters in Negotiation – Kathryn Winn
      8.1.1. Traer Creek Update – Andy Nathan and Ashley Hernandez-Schlagel of Nathan, Dumm & Mayer PC
   8.2. Water Counsel Review of Matters in Negotiation – Glenn Porzak
      8.2.1. Bolts Lake
      8.2.2. CRCA Matters
9. Adjournment
A RESOLUTION ENCOURAGING THE BOARD OF DIRECTORS OF BERRY CREEK METROPOLITAN DISTRICT TO ALLOW GEORGE GREGORY TO CONTINUE TO SERVE AS THE BERRY CREEK REPRESENTATIVE ON THE UPPER EAGLE REGIONAL WATER AUTHORITY BOARD OF DIRECTORS

WHEREAS, George Gregory has for a number of years served as the Berry Creek Metropolitan District Representative to the Upper Eagle Regional Water Authority Board (“Water Authority” or “Authority”); and

WHEREAS, to that end, Mr. Gregory has served as Chairman of the Water Authority; as Water Authority Appointed Representative to the Eagle Park Reservoir Company; as Authority Designated Representative to the Litigation Committee overseeing the Traer Creek Tank Litigation; and in other valuable capacities to the Water Authority; and

WHEREAS, Mr. Gregory will in May 2018 become term-limited off of the Berry Creek Metropolitan District Board of Directors, at which time he may continue to be appointed by the Berry Creek Metropolitan District Board as an Appointee to the Water Authority Board of Directors as provided by the Water Authority Organizational Documents; and

WHEREAS, the Water Authority Board of Directors have determined that Mr. Gregory’s continued participation in Water Authority matters is critical to the continuing issues in which he is currently involved.

NOW, THEREFORE, BE IT RESOLVED by the Board of Directors of the Upper Eagle Regional Water Authority that the Board unanimously (with Mr. Gregory abstaining) recommends to the Berry Creek Metropolitan District Board of Directors that George Gregory continue to serve as primary Representative of Berry Creek Metropolitan District to the Upper Eagle Regional Water Authority Board of Directors.

ADOPTED this 22nd day of March, 2018.

Upper Eagle Regional Water Authority

By

Mick Woodworth, Director

Attest:

Kim Bell Williams, Secretary
UPPER EAGLE REGIONAL WATER AUTHORITY BOARD RESOLUTION

A RESOLUTION ENCOURAGING THE BOARD OF DIRECTORS OF ARROWHEAD METROPOLITAN DISTRICT TO ALLOW GEOFF DREYER TO CONTINUE TO SERVE AS THE ARROWHEAD REPRESENTATIVE ON THE UPPER EAGLE REGIONAL WATER AUTHORITY BOARD OF DIRECTORS

WHEREAS, Geoff Dreyer has served as the Arrowhead Metropolitan District Representative to the Upper Eagle Regional Water Authority (“Water Authority” or “Authority”); and

WHEREAS, to that end, Mr. Dreyer has dedicated a significant amount of time becoming familiar with the activities of the Water Authority, and as a result has become a valuable member of the Board; and

WHEREAS, Mr. Dreyer is no longer on the Arrowhead District Board of Directors but he may continue to be appointed by the Arrowhead Metropolitan District Board as an Appointee to the Water Authority Board of Directors as provided by the Water Authority Organizational Documents; and

WHEREAS, the Water Authority Board of Directors have determined that Mr. Dreyer’s continued participation in Water Authority matters is critical to the continuing issues in which he is currently involved.

NOW, THEREFORE, BE IT RESOLVED by the Board of Directors of the Upper Eagle Regional Water Authority that the Board unanimously (with Mr. Dreyer abstaining) recommends to the Arrowhead Metropolitan District Board of Directors that Geoff Dreyer continue to serve as primary Representative of Arrowhead Metropolitan District to the Upper Eagle Regional Water Authority Board of Directors.

ADOPTED this 22nd day of March, 2018.

Upper Eagle Regional Water Authority

By ________________________________

George Gregory, Chair

Attest:

______________________________

Kim Bell Williams, Secretary
UPPER EAGLE REGIONAL WATER AUTHORITY BOARD RESOLUTION

A RESOLUTION ENCOURAGING THE BOARD OF DIRECTORS OF EAGLE VAIL METROPOLITAN DISTRICT TO ALLOW KIM BELL WILLIAMS TO CONTINUE TO SERVE AS THE EAGLE VAIL REPRESENTATIVE ON THE UPPER EAGLE REGIONAL WATER AUTHORITY BOARD OF DIRECTORS

WHEREAS, Kim Bell Williams has served as the Eagle Vail Metropolitan District Representative to the Upper Eagle Regional Water Authority (“Water Authority” or “Authority”); and

WHEREAS, to that end, Ms. Bell Williams has dedicated a significant amount of time becoming familiar with the activities of the Water Authority, and as a result become a valuable member of the Board; and

WHEREAS, Ms. Bell Williams will no longer be on the Eagle Vail Metropolitan District Board of Directors as of May 2018, at which time she may continue to be appointed by the Eagle Vail Metropolitan District Board as an Appointee to the Water Authority Board of Directors as provided by the Water Authority Organizational Documents; and

WHEREAS, the Water Authority Board of Directors have determined that Ms. Bell Williams’ continued participation in Water Authority matters is critical to the continuing issues in which she is currently involved.

NOW, THEREFORE, BE IT RESOLVED by the Board of Directors of the Upper Eagle Regional Water Authority that the Board unanimously (with Ms. Bell Williams abstaining) recommends to the Eagle Vail Metropolitan District Board of Directors that Kim Bell Williams continue to serve as primary Representative of Eagle Vail Metropolitan District to the Upper Eagle Regional Water Authority Board of Directors.

ADOPTED this 22nd day of March, 2018.

Upper Eagle Regional Water Authority

By ______________________________________
George Gregory, Chair

Attest:

_______________________________________
Pam Elsner, Asst. Secretary
TO: Board of Directors  
FROM: Maureen Mulcahy, Water Demand Management Coordinator  
DATE: March 14, 2018  
RE: Draft Regional Water Efficiency Plan

Summary of Subject: Water efficiency planning supports the purpose of the Water Demand Management Program by analyzing current water use; projecting future needs; establishing conservation and efficiency goals; identifying programs that meet the needs of our customers and that help us achieve the goals; and setting an implementation schedule. Staff is requesting Board input on the draft regional Water Efficiency Plan and requesting Board approval to share the draft plan externally.

Discussion and Background: The District and Authority are each a “covered entity” pursuant to §37-60-126(1)(a), C.R.S., that provide at least 2,000 acre feet of retail water to their customers on an annual basis and therefore are required per Colorado’s Water Conservation Act of 2004 to have a Water Efficiency Plan on file with the state that has been approved by the Colorado Water Conservation Board. All covered entities must prepare and submit a plan to be eligible to receive loan and grant proceeds from the CWCB or the Colorado Water Resources and Power Development Authority. Permitting agencies will consider whether the organizations have a current plan when evaluating new water storage projects. The planning period for the District’s Water Conservation Plan ended in 2015, and therefore is due to be renewed and a Water Efficiency Plan has never before been developed for the Authority.

The Boards adopted a joint resolution for development of a regional plan in December 2016. Subsequently, District staff applied to the CWCB for a Water Efficiency Grant Program Fund grant in February 2017. The District and Authority were awarded $49,990 in grant funding by the CWCB in March 2017 to assist with consulting costs related to plan development. Staff has been working with ELEMENT Water Consulting, a firm that has worked on plans for other west slope entities and has worked with CWCB on a statewide water needs assessment.

The draft regional plan is ready for initial Board review. The Board will have an additional opportunity to review the plan prior to the formal public comment period, as described below. The draft regional plan is included as an attachment to this board action request form. I will provide a presentation related to the draft regional plan during the March staff meeting. The draft regional plan has been reviewed by the Water Demand Management Board Subcommittee and by internal consultants. Staff has addressed the Subcommittee’s and consultants’ comments, and received Subcommittee approval to share the plan with the full Boards.

The CWCB requires a 30-day public notice period prior to plan adoption. Prior to that, staff is planning a stakeholder outreach period during which we will present the plan to our partners, including the towns, metropolitan districts, and the county. The outreach period will be an opportunity to inform community members about the plan, engage them in the process, and incorporate their feedback into the plan in a meaningful way. Additionally, the draft will be provided to CWCB staff during the stakeholder outreach period for a preliminary review to ensure the plan meets regulatory requirements. We expect this proactive approach to stakeholder outreach to beneficial by: 1) allowing for more streamlined CWCB
approval of the plan during the public comment period; and 2) engaging community members in the process early on to increase buy-in and allow us to incorporate community input into the plan prior to the public comment period.

Staff will present the plan to stakeholders throughout April and May and update the plan, as appropriate. A summary of any changes resulting from stakeholder input and an updated draft will be presented to the Board in June for review. The board may initiate the 30-day public comment period at the June Board meeting. We expect to present the final plan for board adoption in August.

Alternatives: The Board may provide direction to staff to share the draft regional plan externally as is, or may indicate suggested updates to the plan prior to sharing it externally.

Legal Issues: Water Efficiency Plans are a statutory requirement for the Authority and the District. The draft regional plan has been reviewed by legal counsel.

Budget Implication: None

Suggested Action: I move to approve staff to share the draft regional plan externally, according to the plan presented.

Attached Supporting Documentation: The draft Eagle River Regional Water Efficiency Plan.

Please let me know if you have any questions or would like additional information. Thank you for your attention to this matter.
Eagle River Regional Water Efficiency Plan
# ABBREVIATIONS AND ACRONYMS

<table>
<thead>
<tr>
<th>Abbreviation</th>
<th>Description</th>
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<tbody>
<tr>
<td>ac-ft</td>
<td>acre-feet</td>
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<tr>
<td>ac-ft/yr</td>
<td>acre-feet per year</td>
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<tr>
<td>authority</td>
<td>Upper Eagle Regional Water Authority</td>
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<tr>
<td>AMI</td>
<td>advanced metering infrastructure</td>
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<tr>
<td>C.R.S.</td>
<td>Colorado Revised Statutes</td>
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<tr>
<td>district</td>
<td>Eagle River Water and Sanitation District</td>
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<tr>
<td>gpd</td>
<td>gallons per day</td>
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<tr>
<td>SFE</td>
<td>single-family equivalent</td>
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1. INTRODUCTION

The Eagle River Valley community’s quality of life and economic success are dependent on its natural resources, including access to a sufficient quantity of high-quality water. As the community continues to grow and thrive, it is imperative that we actively plan and prepare to meet future challenges posed by physical and regulatory environments in flux.

As committed environmental stewards, the Eagle River Water & Sanitation District and Upper Eagle Regional Water Authority are prepared to meet these challenges through foresight, specific planning efforts, and maintenance of organizational flexibility. This plan is part of our organizations’ overarching commitment to long-range planning and preparedness. Other planning examples include water rights reports which describe our ongoing evaluation of our water supply and a master planning update effort that is currently underway to evaluate and address system infrastructure and treatment needs.

This Water Efficiency Plan, referred to in this document simply as “the plan,” focuses on the water needs of our community, also known as “water demand.” Water demand management is an environmentally and fiscally responsible practice makes sure that we are efficiently using our current water supply as a first step in meeting future needs. Preparing this plan has allowed us to look back at the good work our community has done to improve efficiency. This plan is also an opportunity to evaluate what we must do now in order to align our water demands with available supply into the future.

This new regional plan builds on the Water Conservation Plan adopted by the district in 2012. Figure 1 demonstrates how elements from that plan are being carried forward to build on our community’s successes. The 2018 plan also directly relates to our organizations’ water demand management program, established in 2014, which endeavors to use our existing water supply more efficiently over time to serve an expanding population while protecting the natural resource.

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**Figure 1.** Common Elements: 2012 Plan and 2018 Regional Plan
In the same way that the district and authority adapt our operations to support customer needs and protect stream health, community stakeholders must be prepared to participate in solutions that support the values of our community and our natural environment. Achieving the goals set forth in this plan will require both individual and collective engagement. The district and authority continue to evaluate ways we can support our existing customers to foster efficient use of water resources. We have also begun to explore how we can work with land use partners to ensure the design of new developments reflects the limited and precious nature of our water resource. This plan evaluates future needs and outlines actions that will aid in securing our community’s water future.

**Systems**

The district and authority are both quasi-municipal corporations, making them political subdivisions of the State of Colorado. Our organizations were formed to provide necessary public services and operate in accordance with the Special District Act (§32-1-101 et seq., Colorado Revised Statutes and §29-1-204.2 C.R.S.). The district supplies water to Vail. The Wolcott area is also included in the district’s service boundary, and so the district may supply water to future development in that area. The authority’s water service area includes the following: Arrowhead Metropolitan District, Town of Avon, Bachelor Gulch Metropolitan District, Beaver Creek Metropolitan District, Berry Creek Metropolitan District, Cordillera Metropolitan District, Eagle-Vail Metropolitan District, Edwards Metropolitan District, and Traer Creek Metropolitan District (Village at Avon). See **Figure 2**.

![Figure 2. Service Areas](image)

The district and authority have two of the most complex public water systems in Colorado and face operational challenges including seasonal variations in supply and demand, limited space for facilities, and rugged topography.

The district’s water system consists of seven groundwater wells and one treatment facility – the Gore Valley Drinking Water Facility. The authority’s system consists of ten groundwater wells and two treatment facilities – the Avon Drinking Water Facility and the Edwards Drinking Water Facility. An interconnecting pipeline connects the district and authority systems and allows for water transfer between Vail and lower portions of the Valley.
The district and authority have a longstanding track record of implementing demand management and water efficiency measures dating back to at least 1995, when a Water Conservation Officer staff-position was created. By that time, conservation programs were already in place, and included: free indoor water conservation kits provided to customers; a certification program for irrigation system professionals; educational programming; and irrigation system maintenance, leak detection, and repair. The four categories of conservation activities identified by the Colorado Water Conservation Board (foundational, incentive, ordinance, and education programs) have continued to expand since that time. Appendix A provides a summary of new and existing conservation activities.

**Passive Savings**

Water savings that have been achieved by district and authority customers are the result of a combination of active water conservation programs and passive savings. Over time, as fixtures and appliances are upgraded with more efficient technology, some water savings happens automatically. This is referred to as “passive” savings, because it is a one-time upgrade, not requiring ongoing customer behavior change.

The next section provides an overview of water use trends over time, followed by a brief summary of the programs that have been successfully implemented and, along with passive savings, have helped achieve the efficiency savings realized to date.

**Water Use Over Time and Savings To-Date**

The district’s 2012 plan evaluated water use data from 2003-2007; this data is used as a baseline for calculating savings achieved since 2013 with the implementation of the 2012 plan. This regional plan is the first water efficiency plan for the authority, however, many of the programs identified in the district’s 2012 plan were implemented in the authority as well. These efficiency programs reduced the amount of water needed to serve authority and district.

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1 Appendix A summarizes all measures and programs evaluated under this plan, in accordance with the state’s statutory planning requirements (C.R.S. Sect 37-60-126).
customers in 2017 by 15% and 10%, respectively. This equates to a reduced demand of 309 ac-ft in the district and 769 ac-ft in the authority in 2017 through efficiency savings. These efficiency savings have allowed total water use for the authority to decline and total water use for the district to remain consistent even though the single-family equivalents served by the system increased by 9% and 6%, respectively, since 2008. A single-family equivalent (SFE) is a multiplier assigned to each customer account for billing purposes. The SFE is based on account characteristics such as square footage for residential accounts and meter size for business accounts.

These water savings are a significant achievement that demonstrate the ongoing commitment of our organizations and our customers to use water more efficiently. In addition to reducing the amount of water that has been diverted from our rivers and streams, the water savings also reduce expenditures related to operating costs and updating infrastructure, and have helped delay the need for developing new water supplies. Water savings achieved by other water providers in Colorado with active conservation programs have averaged water savings in the range of 10% to 15% over a similar timeframe. This indicates that our organizations’ demand management efforts are on par with the programs being implemented by other utilities that have made a commitment to water efficiency.

Figure 3 shows water demand trending for the district and authority over time. Trends are for “metered use,” or water delivered to customers. Many factors may impact water demand, including weather and economics. Despite the variability created by these factors, water demand has been trending downward over time. Trends in the figure are shown for total use and use per single-family equivalent. Total use trends are shown in acre-feet (ac-ft), which is a commonly used measurement related to water supply and water system planning. An acre-foot is the volume of water required to cover an acre one foot deep (325,851 gallons).

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2 Savings were calculated by multiplying per-SFE use from 2003-2007 by the number of SFEs in 2017 to establish what total use would have been in 2017 if per-SFE use had not decreased. The difference between actual 2017 water use and that calculated number was ascribed to efficiency savings. The average per-SFE use from 2003-2007 within the district was 209 gpd/SFE, while the average from 2013-2017 was 189 gpd/SFE, representing a 10% decrease. If per-SFE use in 2017 was at 2003-2007 levels, an additional 309 ac-ft would have been used in 2017. The average per-SFE use from 2003-2007 within the authority was 258 gpd/SFE, while the average from 2013-2017 was 217 gpd/SFE, representing a 15% decrease. If per-SFE use in 2017 was at 2003-2007 levels, an additional 769 ac-ft would have been used in 2017.

3 These numbers reflect the percent increase in number of SFEs served since 2008.
Implemented Conservation Programs

This section provides a brief summary of the programs that have been successfully implemented and, along with passive savings, have helped achieve the efficiency savings realized to date.

Advancing Data Collection and Analysis. Modern metering technology allows accurate measurement of our customers’ water use. We are in the process of implementing advanced metering infrastructure (AMI) that will enable customers to monitor water use in near real-time, empowering them to manage their use to meet their efficiency goals. AMI technology can also be a valuable tool for identifying leaks and enhancing goal-setting and tracking. The district and authority also employ industry best practices such as regular meter testing, leak detection, and ongoing analysis of system losses.

Targeting Non-Revenue Water. As a responsible steward of the water resource, our organizations actively address system water losses, also referred to as non-revenue water. These losses can be either ‘apparent’ losses (metering inaccuracies, data handling errors, or unauthorized use) or ‘real’ losses (physical water loss from leakage or storage tank overflows). A certain quantity of loss is unavoidable because the water delivery system is under physical pressure at all times in order to protect the water quality and make delivery possible. The district established an interdepartmental
Committee in 2003 to address non-revenue water. The committee uses industry standardized reporting methods to assess how well we are maintaining, repairing, and rehabilitating our systems for leakage control. Our organizations undertake projects identified by the committee to help our operations stay within a target range. Recent projects include: advanced metering at water production sites; new reporting mechanisms for water used during system maintenance or for community needs like fire suppression system testing; and ongoing leak detection efforts using acoustic technology.

Communicating the Value of Water through Rates. The district and authority use conservation-oriented tiered water rates to communicate the value of water to customers through pricing. Customers are given a water use allowance within each tier based on their property’s assigned SFE multiplier. As the customer enters higher tiers, the price of water per thousand gallons used increases. Figure 4 shows water use monthly allowances for each tier for a typical residential customer. Pricing signals are an effective way of communicating to customers that their use may be inefficient. Customers whose use is in the higher tiers can save money on water bills by addressing the cause of their high use, whether by installing high-efficiency fixtures and appliances, updating their irrigation system technology and management practices, or changing every day behavior to reduce water use (for example, only running the dishwasher or washing machine when there is a full load).

![Figure 4. Communicating the Value of Water – Monthly Tier Allowances](image-url)
Outdoor Measures. As shown in **Figure 5**, approximately 95% of water used indoors is returned to surface waterways, while only about 30% of water used outdoors is returned to the stream or river. Therefore, indoor use is 5% consumptive, meaning that only 5% of what is used is consumed and not returned to the environment, while outdoor use is approximately 70% consumptive. Because outdoor use is approximately 14-times more consumptive than indoor use, it has the greatest impact on local stream flows. Furthermore, outdoor use has a larger impact on the capacity of in-basin reservoirs to release legally required flows in periods of drought. Efficient outdoor water use is increasingly important as hotter, drier weather becomes more of a norm than an outlier. Increasing the efficiency of outdoor water use creates savings that may be used to support the demands of future growth. We will continue to offer resources that are shown to have an impact on reducing outdoor water use. We currently offer irrigation system audits/consultations to empower customers to more efficiently manage their outdoor water use and outdoor water efficiency devices, including garden hose nozzles with automatic shut-off, soil moisture probes, and rain gages.
C. Public outreach and education is a key component to ensuring the continued success of our water demand management measures and helping to achieve targeted water savings. We will continue to provide education through multiple channels including spots on local radio, notices and articles in the Vail Daily, social media posts, mailings, and participation in community events, including the Vail Farmers’ Market.

Our water use regulations, which have been in place since 1995, are another key aspect of customer engagement. These regulations establish watering schedules to reduce peak demand, allow watering only at efficient times, and prohibit wasteful water use.
Goal-setting is a useful tool to assess water efficiency and track progress over time. Also referred to as benchmarking, water efficiency targets, or performance indicators, goal-setting assists with creating policies and can be used as part of the screening process for potential programs.

One of the most common performance indicators used throughout the water industry for evaluating efficiency in municipal systems is residential per person water use, measured as gallons per capita per day (gpcd). However, this metric is not directly applicable for many district and authority customers because of variations in use due to seasonal occupancy and tourism. The district and authority are implementing measures to collect additional customer characteristics data to develop and refine goals for each customer class. These measures are discussed in additional detail in Appendix B.

Since there are key differences in the ways that different types of customers use water, goal-setting is performed by customer class. Each customer is assigned one of the following categories, or classes (customer classes are described in more detail in the corresponding sections):

<table>
<thead>
<tr>
<th>Residential (RES)</th>
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<tr>
<td>Commercial (COM)</td>
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<tr>
<td>Mixed-use (MIX)</td>
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<tr>
<td>Irrigation-only (IRR)</td>
</tr>
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A summary of the proportional water use by each customer class, organized by provider, is provided in Figure 6. Residential use is the leading water use in both the district and the authority.
The district has one additional type of use not listed above, which includes water used for snowmaking and water used for irrigation of the Vail Golf Club golf course. This use type is not included in Figure 6 because it has some key differences from other customer types and therefore is not addressed the same way for the purposes of this plan. This use type is discussed further in Section 4.4.
This section outlines the unique characteristics and water use patterns of our different types of customers. We have identified programs to address our customers’ specific needs in becoming more water efficient.

We are not asking our customers to use less water, we are empowering our customers to waste less water.

The programs identified in this plan were selected to build upon past successes and expand our efforts to meet our community’s demand management objectives. In addition to the priority programs identified in the body of this plan, which have a customer engagement component, our organizations also continue to refine our operations to meet conservation goals. Appendix B provides some details on programs implemented internally by the district and authority.

4.1 RESIDENTIAL CUSTOMERS

Residential customers include single-family homes, condominiums, townhouses, duplexes, multiplexes, apartments, efficiency and accommodation condo or hotel rooms, and mobile homes. This customer category is the largest water user in the district and authority service areas (FIGURE 6). Accordingly, residential customers are a key focus of demand management measures being implemented under the plan. Residential customers have been subdivided into three efficiency-type categories for the purpose of evaluating water use trends as part of this plan:

1) The district, because the Vail area has unique water use patterns and trends
2) Areas within the authority where homes typically have smaller irrigated areas, referred to in this plan as efficiency-type 1 areas
3) Areas within the authority where homes typically have larger irrigated areas, referred to in this plan as efficiency-type 2 areas

Efficiency-type 1 areas are typically more compact than type 2 areas, with more multi-unit complexes (e.g. condominiums, apartments, and hotel rooms) and single-family homes with smaller lot sizes which tend to have less irrigated area per unit. Areas with more centralized development and infill generally use less water per SFE as compared to areas with dispersed development (FIGURE 7), typically making them more water-conserving by design. Efficiency-type 2 areas tend to be more dispersed, having more
single-family detached homes with larger lots. Homes with larger lots often have larger irrigated areas. However, there are many aesthetically pleasing local examples of homes with larger lots with minimized irrigated area. This is achieved through careful design that incorporates native and adapted plants while maximizing the benefits from irrigated area. Increasing efficiency is an important way to reduce waste regardless of lot size or irrigated area, and we encourage homeowners of all property types to incorporate water saving elements. Examples of water saving elements include: upgrading to efficient fixtures and appliances; reducing outdoor use by limiting turf area and incorporating native or adapted water-wise plants into landscaping; and irrigating with an efficient system that uses appropriate emitters and is run by a weather-based controller.

Efficiency-type 1 areas include Avon, Beaver Creek, Bachelor Gulch, Eagle-Vail, and Edwards, which typically have homes with smaller irrigated areas. Efficiency-type 2 areas include Arrowhead, Berry Creek, and Cordillera, which typically have homes with larger irrigated areas. This grouping was determined based on dominant development type and water use patterns. Of course, there is some variability within the identified areas in regards to both development type and water use patterns. For example, water use within the Mountain Star development is similar to efficiency-type 2 areas but is included with Avon (which is type 1) based on water rights grouping. Despite these occasional variations, we found this generalized category approach the most effective way to evaluate which programs may be most beneficial in a given area. The district and authority will be flexible in providing resources to customers based on their specific needs and property type.
Efficiency-type 2 residential customers use approximately 2.5 times as much water outdoors as type 1 customers (Figure 8) due in part to larger lot sizes. This results in more year-to-year annual demand variation in type 2 areas than in type 1 areas. Figure 7 shows the significant increase in demand in 2012, when the summer was relatively warm and precipitation was relatively low. While type 1 areas use less water per-SFE, indoor uses in these areas are 1.4 times higher per-SFE than indoor use in type 2 areas. This is likely related to higher occupancy rates as well as a higher concentration of year-round residents in these areas.

Based on higher volume of water used for outdoor purposes in type 2 areas, a focus on outdoor efficiency in these areas may result in a larger volume of water savings. However, even customers with smaller irrigated areas, like those within the district and type 1 areas within the authority, still have the opportunity to reduce water use with increased efficiency. Our goal is to provide resources to help all of our customers become more efficient, and identified programs may be applied in any area where efficiency savings are possible.
4. The Data and the Roadmap

Savings Objectives

The district and authority have established the following objectives for residential customers to help guide demand management efforts. See Appendix for additional details on how our organizations plan to collect additional data to continue to develop water use targets.

The Climate Action Plan for the Eagle County Community, which has been adopted by the district and the authority, recommends promoting and incentivizing efficient use of water in the interior and exterior of residential buildings. Because water conservation reduces demand for both water and energy, it can play an important role in reducing greenhouse gas emissions. Savings objectives and demand management programs identified in this section of the plan are consistent with the Climate Action Plan.

1 Based on historical water use, growth projections, and a review of goals set by similar communities, this plan establishes an outdoor water use savings goal for authority type 2 areas of 0.75%/year, or a total savings of 10% by the year 2030. Similarly, this plan establishes a goal for the district and authority type 1 areas of 0.5%/year, or a total savings of 7% by year 2030.

![Figure 8. Indoor and Outdoor Residential Water Use](image-url)
In part, this reduction goal may be achieved by bringing the water use ratio in authority type 2 areas closer to 60% indoor and 40% outdoor. This is a recommendation identified in the Colorado Water Plan, which was created with stakeholder input from throughout the state and sets measurable goals to help communities address projected future water needs and track conservation progress. The Southwest Basin Implementation Plan (BIP) identified achieving this ratio as a measurable outcome and identified this as a goal for southwest Colorado and the entire state by 2030.

The district and type 1 portions of the authority are in line with this guidance; therefore, the outdoor water savings target identified relates to use in type 2 areas. Though it may take longer than the planning period to align with this goal, moving closer to this target is achievable through the programs identified for this customer group, including turf to native vegetation conversion, efficiency upgrades, and alignment with maximum irrigated area provisions.

This plan establishes an indoor water use savings goal of 0.7%/year for the authority and 0.5%/year for the district. This equates to a total savings by the year 2030 of 9% in the authority and 7% in the district. A slightly larger savings is anticipated in the authority because the projected growth rate is higher and water-efficient new developments are expected to contribute to the projected savings.

This goal may be achieved in part through offering targeted support for affordable and multi-family developments where passive savings through upgrades have not occurred and therefore have much higher per-SFE use than other similar developments. Figure 9 shows use per SFE data for a sampling of multi-family developments within the district and authority service areas. Example 1 is affordable housing, where monthly rent cannot exceed 40% of monthly salary and monthly salary cannot exceed five times the monthly rent of each person. Example 2 is affordable deed-restricted workforce housing. Example 3 is employee housing. Example 4 is Section 8 housing, where rental rates are dependent on income and are subsidized. Example 5 is restricted covenant workforce housing. Examples 6 and 7 are affordable housing with restricted rental rates.

The figure demonstrates the dramatic water use reductions that can be achieved through retrofits. These savings are reliable over the useful life of the product since they depend on technology rather than behavior change to save water. Figure 9 shows example 4 with a dark blue line representing a property that was retrofitted in the early 2000s. Following the retrofit, per-unit water use was reduced from almost 200 gpd/SFE to closer to 100 gpd/SFE. The per-SFE use after retrofit was comparable to that of example 7 (light blue line) which is relatively newer construction. Based on observations in our area, a goal range for indoor use for this type of development is 80-120 gpd/SFE. Examples 2 and 6 show water use for properties that have not been retrofitted, so outdated fixtures are likely strongly related to water use.
outside of the goal range. Significant savings are achievable with these developments, and we will explore various ways to facilitate upgrades, including the possibility for incentives, rebates, or other assistance as appropriate.

**Demand Management Programs**

Following is a summary of programs to be implemented under this plan to provide support to residential customers to improve water efficiency at their homes.

**Irrigation System Consultations and Partnership with Irrigation Professionals.** Irrigation system consultations have been provided to our customers since 2011. In the past, district personnel were able to provide this service. However, due to employee turnover and resource constraints, our organizations partnered with a nonprofit to offer this as a third-party service to customers on a pilot basis starting in 2017. The district and authority will explore building local partnerships to offer this type of service to customers at a subsidized rate. Local capacity of potential partners has been a barrier in the past, so ways to partner to build capacity will be explored. We think partnership will be the most efficient use of resources to effectively offer this service to a wider customer base. This service is very valuable in helping to reduce customer water use by improving sprinkler system efficiency. Our experience so far has indicated that for this type of program to be successful in our area, in addition to homeowner buy-in, landscaper and property manager outreach and education are critical.

**Outdoor Incentives and Rebates.** Water-efficient landscaping incentives and rebates will be offered to the extent they are expected to reduce outdoor water use. The current giveaway program includes
DRAFT

4. The Data and the Roadmap

rain gages, soil moisture indicators, and automatic hose shutoff devices. In the future, incentives may be offered for weather-based controllers and rain shutoff devices to promote more efficient irrigation. We will evaluate offering incentives and rebates for repairs and upgrades recommended through the irrigation system consultations described above.

Turf to Native Vegetation Conversion Program. A program for promoting the conversion of high-water use landscapes to low-water use plantings is under consideration. It is anticipated that the program will be coordinated with the Town of Vail and other interested land use partners to maximize benefits associated with water savings, riparian habitat restoration, and storm water detention and filtering. Minimum requirements for area, landscape preparation, and installation will be developed to promote the success of the program.

Indoor Incentives. Since approximately 1994, the district and authority have funded giveaway programs that provide customers with educational materials and indoor products such as faucet aerators, low-flow showerheads, and toilet flappers. We expect to continue these programs with a shifted focus toward promoting fixture replacement in multi-family, low-income, and workforce housing units, as discussed in the residential savings objectives section of this plan, because passive replacement may be less likely for these units.

Customer Engagement. There are very powerful customer engagement platforms that can help customers understand their water use, set efficiency goals, and learn how their water use compares to neighbors. These platforms can even automatically notify homeowners to high use events, alert homeowners to possible leaks, and provide the necessary resources and information to identify and repair the issue. This type of software platform offers a valuable expansion of our existing high use and leak notification program. We began piloting this platform in 2017, and hope to begin to offer this platform more widely in 2018 to allow our customers to access these features on their mobile device or computer. Generally, our customers understand what a valuable resource our water is and want to use it wisely. It is our job to provide them with the tools they need to understand their use and make small changes that can lead to big savings.

Coordination with Land Use Authorities. As water providers, our organizations do not have land use authority. That authority rests with local jurisdictions, including Eagle County, the Town of Avon, the Town of Vail, and various metropolitan districts and homeowners associations. Coordination with our land use partners in approval processes, outdoor landscape planning, and development of land use ordinances, is critical to meeting our demand management goals. Water-smart developments incorporate water efficiency practices and recognize that the way our community develops impacts how much water will be needed to support growth. For instance, more compact development that encourages infill and revitalization over sprawl has a smaller water footprint. The same is true for
developments that are designed to work within the natural environment by incorporating native and adaptive landscapes.

The district and authority have initiated efforts to collaborate with local land use authorities (LUAs) regarding the potential for incorporating measures to promote water efficiency in new development. The utilities and local LUAs recently participated in a three-day workshop hosted by the Sonoran Institute that focused on integrated land use and water planning. Types of measures identified during that collaboration include: updates to land use regulations and codes; coordination on verifying compliance with irrigated area limitations in place for specific communities; landscape and irrigation system design and installation regulations, as well as plan review and inspection requirements; and aligning development review and approval processes to integrate water savings and improve customer experience.

**PARTNERSHIP IN PRACTICE**

Our organizations have begun partnering with the county and developers to add water budgeting into development plans for new projects. Budgeting limits the amount of water that may be used by a development based on its specific characteristics. The benefits of this strategy are two-fold: 1) It promotes water efficiency in these new developments; 2) The cost to the developer of securing water for the project may be discounted, based on less water being needed to serve the more efficient development.

### 4.2 COMMERCIAL AND MIXED-USE CUSTOMERS

**Commercial** customers include accounts delivering water to any structure or facility that is used to engage in a business, commerce, manufacturing, marketing, and/or sale of products and services of any kind, and is not habitable. **Mixed-use** customers contain one or more residential units and one or more commercial units within the same structure (e.g., efficiency and accommodation hotel rooms in hotels with a restaurant or retail space, apartment or condo developments with restaurant or retail space, etc.).

Commercial and mixed-use customers account for 50% of total water use in the district and an average of 26% of the total water use by the authority (Figure 6). Most of the water used by these customers is attributable to indoor demands, estimated to account for about 80% of total use by commercial and 90% of total use by mixed-use customers. Average indoor use per SFE is comparable for commercial and mixed-use customers, averaging approximately 190-200 gpd/SFE from 2011 through 2015. Based on these similarities, it is appropriate to apply the same savings objectives and programs for these customers.
Savings Objectives
The district and authority have established the following objective for commercial and mixed-use customers to guide demand management efforts while additional data is being collected to help set efficiency goals based on specific business type and size.

This plan establishes an indoor savings objective for this customer class of 0.25%/year for the district and 0.35%/year for the authority. This equates to a total savings by the year 2030 of 5% in the authority and 3% in the district. Throughout Colorado, water savings for the commercial and mixed-use sector have not kept pace with residential savings. This is in part because replacing fixtures and appliances may not result in as significant or consistent savings for some businesses as it does for residences. Some savings is expected with new businesses due to factors like installation of high-efficiency bathroom fixtures. As with residential customers, we expect higher savings for this category in the authority based on higher expected growth due to the installation of efficient fixtures. These savings objectives are in line with targets set by other Colorado communities in their water efficiency plans.

4.3 Irrigation-Only Accounts
Irrigation-only customers account for 5% of total water use in the district and an average of 9% of the total water use by the authority (Figure 6). Though there is relatively little variation in water use between years (Figure 10), efficiency savings could likely be achieved if irrigation was adjusted to more closely match plant requirements based on temperature and precipitation. Installation of weather-based irrigation system controllers could help achieve these savings.
Savings Objectives
The district and authority have established the following objectives for irrigation-only customers:

1. Reduce outdoor use for accounts where the irrigated area is known to a gallon per square foot per year goal, depending on the evapotranspiration rate for the property location.

2. Reduce overall outdoor water use by 0.75% per year, or 10% by 2030.

Demand Management Programs
Following is a summary of programs that are targeted to irrigation-only customers.

Irrigation System Consultations and Partnership with Irrigation Professionals. This service is very valuable in helping to reduce water use by improving sprinkler system efficiency, as described in the residential section. Specifically for this sector, the program may involve offering training or exploring ways to connect local landscape and property management professionals with the skills, knowledge, and resources they need for efficient irrigation system management and scheduling techniques.
Outdoor Incentives and Rebates. In addition to improved management, technology can allow for increased efficiency and water savings. Incentives may be offered in the future for weather-based controllers and rain shutoff devices that help achieve more efficient irrigation. Water-efficient landscaping incentives and rebates will be offered to the extent they are expected to have an impact on reducing outdoor water use.

Customer Engagement. The same customer engagement platform described in the residential section will be made available to all customers, enabling them to closely track and manage their water use.

Coordination with Land Use Authorities. As described in Section 4.1, integration of land use and water planning can be used to promote the efficient use of the water resource. Closer coordination during the development phase is expected to promote installation of efficient irrigation systems and incorporation of native and adapted vegetation.

4.4 SNOWMAKING AND GOLF COURSE IRRIGATION

As noted in Section 3, the district supplies water for snowmaking and golf course irrigation. The main source of snowmaking water is untreated “raw” water, which is withdrawn directly from a surface water such as Gore Creek. Up to 603 ac-ft per year of raw water may be supplied to Vail Resorts for use at the Vail ski area. The district provides up to 120 ac-ft of treated, or potable, water for snowmaking to the Ski and Snowboard Club Vail, a Colorado nonprofit, which is used to ensure there is adequate snow to perform their early season training activities.

The amount of water needed for snowmaking varies from year to year based on snowfall and temperatures. Snowmaking is a significant use supplied by the district and may account for more than half of district stream diversions (water withdrawn from the environment) during the winter. Approximately 75% to 80% of the water used for snowmaking is returned to the stream through runoff from snowmelt in the spring, boosting spring instream flows.

The district supplies water to the Vail Recreation District for irrigation of the Vail Golf Club golf course and Donovan and Ford Parks. Up to 174 ac-ft may be supplied annually for this use.

Savings Objectives

This use type has one key difference from other customer types and therefore is not addressed the same way for the purposes of this plan. This water is delivered in accordance with water service agreements which set the maximum supplied amounts indicated. Our partners who use this water are dedicated to efficiency. Even so, we anticipate that the full allocation will be needed in the future due to climatic factors. Mid-century temperatures are projected to average 1.5° Fahrenheit to 6.5° F hotter than in 1971-2000,
depending on future levels of heat-trapping emissions.\textsuperscript{4} It is additionally projected that winter precipitation will shift from snowfall to rainfall, which may increase the demand for snowmaking in the future. Irrigation demand may increase resulting from longer growing season and evaporative effects caused by the projected warming.

**Demand Management Programs**

Conservation activities related to this type of use are in place. The district provides leak detection support for the snowmaking system as needed. The district will continue to work with our partners related to efficiency for these uses.

Based on historical SFE growth rates over the 1999 to 2015 timeframe, annual SFE growth rates in the district and the authority are projected to be 1.1% and 2.1%, respectively, through the 2030 planning period being considered as part of this plan. Two separate demand projections (baseline and active conservation) were prepared for both entities, as described below.

**BASELINE**
The baseline projections combine the average historical water use values with future SFE growth estimates. These projections represent demand scenarios if there were no additional water savings between now and 2030.

**ACTIVE CONSERVATION**
The active projections use a more complex approach where demands are separated by customer category with outdoor and indoor demands being evaluated separately. This allows the impacts of specific water efficiency measures, like high-efficiency fixtures and appliances, and irrigation management, to be considered. The projections include the impact of passive savings from new construction and retrofits of houses and businesses with high-efficiency toilets, clothes washers, and dishwashers. The active projections also incorporate anticipated savings from the planned water efficiency programs described in this plan.

The results of the baseline and active projections are shown in Figure 11. Total water use by the authority under the active projection is 4,790 ac-ft/yr in 2030, which represents an additional reduction of 430 ac-ft/yr, or 8%, as compared to the baseline projection. The district's total metered water use in 2030 is 2,240 ac-ft/yr under the active projection, which represents an additional savings of 140 ac-ft/yr, or 6%, as compared to the baseline projections. We expect 50% of projected savings in the authority and 40% in the district will be due to savings in outdoor use, with the majority of those savings achieved through the active programs identified in this plan.

The remainder is expected to be achieved through indoor savings, with approximately 10% from active indoor saving programs identified in this plan, and the rest as passive savings through water-efficient new development and natural replacement of fixtures.

In addition to the reductions in treated water use, the district and the authority have established a goal of reducing non-revenue water based on an industry-accepted performance indicator for real losses, which measures the ratio of current annual real losses to system-specific unavoidable real losses. Achievement of these goals would allow for projected annual savings of water diversions of 100 ac-ft of in the district and 120 ac-ft in the authority. Projections in Figure 11 do not include non-revenue water because the figure shows metered deliveries only, and non-revenue water is unmetered, as described in Section 2 of this plan.
5. Demand Projections and Estimated Water Savings

**Figure 11. Treated Water Use Projections**
This plan sets aggressive yet achievable goals for reducing water demand through efficiency measures and customer engagement. Our community has shown significant reductions in per-gpd/SFE usage which demonstrates the success of past programs and signals that our community is up to the challenge. Innovation and a commitment to resource stewardship will allow our community to continue to grow while shrinking our per SFE water footprint. With this plan as our roadmap, our organizations are prepared to continue the work of securing our community’s water future.
## Appendix A. Tabulation of New and Existing Demand Management Programs.

<table>
<thead>
<tr>
<th>Category</th>
<th>Programs</th>
<th>Existing or New</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fixtures and appliances</td>
<td>Giveaways of faucet aerators, low-flow shower heads, and toilet flappers</td>
<td>Existing</td>
</tr>
<tr>
<td></td>
<td>Targeted toilet replacement for multi-family and low-income customers</td>
<td>New</td>
</tr>
<tr>
<td>Low-water use landscapes</td>
<td>Irrigation system audits</td>
<td>Existing</td>
</tr>
<tr>
<td></td>
<td>Giveaways of rain gauges, soil moisture indicators, and auto-shutoff hose sprayers</td>
<td>Existing</td>
</tr>
<tr>
<td></td>
<td>Irrigation pilot projects to gather data to assess current residential irrigation efficiency and evaluate savings associated with weather-based controllers and irrigation system audits</td>
<td>Existing</td>
</tr>
<tr>
<td></td>
<td>Coordination with land use authorities</td>
<td>Existing</td>
</tr>
<tr>
<td></td>
<td>Turf replacement program</td>
<td>New</td>
</tr>
<tr>
<td>Water-efficient industrial and commercial processes</td>
<td>Evaluate rates, rebates, and incentive programs to encourage conservation and efficiency in this customer class</td>
<td>New</td>
</tr>
<tr>
<td>Water reuse</td>
<td>Indirect reuse for snowmaking; non-potable reuse for wastewater treatment operations</td>
<td>Existing</td>
</tr>
<tr>
<td>Leak identification and repair</td>
<td>System-wide water audits</td>
<td>Existing</td>
</tr>
<tr>
<td></td>
<td>AWWA M6 audits annually</td>
<td>Existing</td>
</tr>
<tr>
<td></td>
<td>Meter testing and replacement</td>
<td>Existing</td>
</tr>
<tr>
<td></td>
<td>Meter upgrades</td>
<td>Existing</td>
</tr>
<tr>
<td></td>
<td>Identification of unmetered/unbilled treated water uses</td>
<td>Existing</td>
</tr>
<tr>
<td></td>
<td>Distribution system sounding program</td>
<td>Existing</td>
</tr>
<tr>
<td>Information and public education</td>
<td>Water Demand Management Coordinator</td>
<td>Existing</td>
</tr>
<tr>
<td></td>
<td>2012 Conservation Plan and 2014 Water Demand Management Plan</td>
<td>Existing</td>
</tr>
<tr>
<td></td>
<td>Master plans/water supply plans</td>
<td>Existing</td>
</tr>
<tr>
<td></td>
<td>Print media</td>
<td>Existing</td>
</tr>
<tr>
<td></td>
<td>Webpages</td>
<td>Existing</td>
</tr>
<tr>
<td></td>
<td>Social media</td>
<td>Existing</td>
</tr>
<tr>
<td></td>
<td>Participation in Vail landscaper workshop</td>
<td>Existing</td>
</tr>
<tr>
<td></td>
<td>Outreach at Vail Farmers’ Market</td>
<td>Existing</td>
</tr>
<tr>
<td></td>
<td>Outreach via local radio shows</td>
<td>Existing</td>
</tr>
<tr>
<td></td>
<td>Attendance at community events</td>
<td>Existing</td>
</tr>
<tr>
<td></td>
<td>Software platform to help customers understand and manage their water use</td>
<td>New</td>
</tr>
<tr>
<td>Rate structures and billing</td>
<td>Landscaper, irrigation professional, and property manager education and outreach</td>
<td>Existing</td>
</tr>
<tr>
<td></td>
<td>Demonstration gardens</td>
<td>New</td>
</tr>
<tr>
<td></td>
<td>AM conversion</td>
<td>Existing</td>
</tr>
<tr>
<td></td>
<td>Separate indoor/outdoor metering for commercial and mixed-use customers</td>
<td>Existing</td>
</tr>
<tr>
<td></td>
<td>Volumetric billing</td>
<td>Existing</td>
</tr>
<tr>
<td></td>
<td>Periodic water rate modifications</td>
<td>Existing</td>
</tr>
<tr>
<td></td>
<td>Monthly billing</td>
<td>Existing</td>
</tr>
<tr>
<td></td>
<td>Tiered rates</td>
<td>Existing</td>
</tr>
<tr>
<td></td>
<td>Sub-metering of indoor use by commercial and mixed-use accounts</td>
<td>New</td>
</tr>
<tr>
<td></td>
<td>Separate indoor and outdoor metering for new residential customers with greater than 5,000 square-feet of irrigated area</td>
<td>New</td>
</tr>
<tr>
<td></td>
<td>Rate updates including evaluation of water budgets</td>
<td>New</td>
</tr>
<tr>
<td></td>
<td>Irrigation and sprinkler account billing based on area delineations</td>
<td>New</td>
</tr>
<tr>
<td></td>
<td>Water-efficiency oriented water system impact fees</td>
<td>New</td>
</tr>
<tr>
<td></td>
<td>Expanded delineations of irrigated areas</td>
<td>New</td>
</tr>
<tr>
<td></td>
<td>Uniformity performance to ensure SFE count accuracy for consistent and accurate billing and water use tracking</td>
<td>New</td>
</tr>
<tr>
<td></td>
<td>Water waste prohibition</td>
<td>Existing</td>
</tr>
<tr>
<td></td>
<td>Time of day watering restrictions</td>
<td>Existing</td>
</tr>
<tr>
<td></td>
<td>Day of week watering restrictions</td>
<td>Existing</td>
</tr>
<tr>
<td></td>
<td>Review of requirements for new water features</td>
<td>Existing</td>
</tr>
<tr>
<td></td>
<td>Landscape design/installation rules and regulations</td>
<td>Existing</td>
</tr>
<tr>
<td></td>
<td>Special irrigation permit for landscape establishment</td>
<td>Existing</td>
</tr>
<tr>
<td></td>
<td>Coordination with land use authorities on new development/redevelopment</td>
<td>Existing</td>
</tr>
<tr>
<td>Incentives</td>
<td>Giveaways of faucet aerators, low-flow shower heads, and toilet flappers</td>
<td>Existing</td>
</tr>
<tr>
<td></td>
<td>Giveaways of rain gauges, soil moisture indicators, and auto-shutoff hose sprayers</td>
<td>Existing</td>
</tr>
<tr>
<td></td>
<td>Rebates for weather-based irrigation controllers</td>
<td>New</td>
</tr>
</tbody>
</table>
APPENDIX B: IMPLEMENTATION, MONITORING, AND GOAL-SETTING PLAN

1.1 IMPLEMENTATION PLAN

The Eagle River Water & Sanitation District and Upper Eagle Regional Water Authority employ a full-time water demand management coordinator that will be responsible for implementing the regional water efficiency plan with support from other staff members in the customer service, finance, planning, water, field operations, and community relations departments. The district and authority will continue to budget money for priority programs identified in the plan and may pursue Colorado Water Conservation Board (CWCB) water efficiency grants to further achieve our water efficiency goals.

A phased implementation approach has been developed, with many programs being implemented immediately as a continuation of existing programs. A summary of the planned implementation schedule for new or substantially expanded programs is provided in Table 1.

Table 1. Program Implementation Schedule.

<table>
<thead>
<tr>
<th>Water Efficiency Activities¹</th>
<th>Start Date</th>
<th>Implementation Plan</th>
</tr>
</thead>
<tbody>
<tr>
<td>Continuing conversion to advanced metering infrastructure (AMI) technology</td>
<td>Ongoing</td>
<td>100% by 2021</td>
</tr>
<tr>
<td>Non-revenue water activities, including American Water Works Association M36 audits</td>
<td>Ongoing</td>
<td>Quarterly committee meetings, annual audits, advanced metering, leak detection, and enhanced reporting</td>
</tr>
<tr>
<td>Customer engagement</td>
<td>2018</td>
<td>Software/application platform release to allow customers to understand and track water use</td>
</tr>
<tr>
<td>Communicating the value of water through rates and water-efficiency oriented water system impact fees, including investigation of water budgeting</td>
<td>2018</td>
<td>Rate study, Collection of GIS data</td>
</tr>
<tr>
<td></td>
<td>2019</td>
<td>Water system impact fee updates, Surface classification of GIS data</td>
</tr>
<tr>
<td></td>
<td>2020</td>
<td>Pilot water budgeting</td>
</tr>
<tr>
<td>Outdoor incentives and rebates</td>
<td>2019</td>
<td>Pilot weather-based controller and rain shutoff device incentives/ rebates, Pilot turf replacement program</td>
</tr>
<tr>
<td>Irrigation system consultations</td>
<td>Ongoing</td>
<td>Continue to offer to customers and investigate local partnerships</td>
</tr>
<tr>
<td>Partnership with irrigation professionals</td>
<td>2019</td>
<td>Pilot training opportunities for landscape/irrigation professionals</td>
</tr>
<tr>
<td>Indoor efficiency upgrades (residential)</td>
<td>2018</td>
<td>Evaluate multi-family development retrofit project partnership opportunities</td>
</tr>
<tr>
<td>Indoor incentives/rebates (commercial)</td>
<td>2019</td>
<td>Pilot incentives/rebates for commercial and/or mixed-use customers</td>
</tr>
<tr>
<td>Coordination with land use authorities</td>
<td>Ongoing</td>
<td>Continue to align processes related to new developments, continue to provide support for policy and land use regulation updates</td>
</tr>
</tbody>
</table>

¹ Water Efficiency Activities
## 1.2 Internal Programs and Partnership Opportunities

In addition to the programs described in the main body of the plan, which have a customer engagement element, our organizations will continue to refine our operations to enhance environmental stewardship. Internal efforts will include: refining how we communicate the value of water to our customers through pricing; enhancing data collection and tracking to facilitate data driven management; and continuing to identify opportunities for customer engagement.

### Rates and Water-Efficiency Oriented Water System Impact Fees

Rates and tiers are regularly updated to reflect changes in the cost of service. Our organizations have budgeted for a rate study in 2018. The following modifications will be evaluated as part of the future rate updates:

- **Water budget rate structures.** Water budgeting is intended to align tier pricing with efficient water use based on the specifics of an individual property. As a step toward implementing water budgeting, our organizations are pursuing collection of updated GIS imagery. Once the updated imagery has been collected it will be evaluated using surface classification techniques to allow for comparison of customer consumption data with irrigated area. Water budgeting will be evaluated as part of the 2018 rate study.

- **Water system impact fees that encourage water efficient new developments.** Impact fees can be a powerful tool for influencing the water efficiency of new developments. The district and authority will evaluate revising the current impact fee structure to include indoor and outdoor components that appropriately assign higher costs for outdoor demands, which are more consumptive of the resource and drive capacity to serve peak demand. Impact fee updates will likely occur following the master plan update project currently underway.
**Dual Metering.** Many commercial, mixed, and multi-unit residential customers have a separate meter for outdoor use, which provides a mechanism for separately evaluating indoor and outdoor water uses. All new accounts for these types of customers are dual metered. Two additional potential metering upgrades have been identified for consideration as part of this plan:

1. Dual metering of new single-unit residential customers with landscape areas above a certain threshold.
2. Sub-metering of customers and businesses served by one commercial or mixed connection. Currently, many of these types of customers are co-located with other businesses or with residential units in a building with one meter. Being able to separately meter business use is expected to improve data collection and help to develop efficiency goals based on the business operations.

**Area-Based Accounts.** The district and authority are implementing a program to measure irrigated areas for all irrigation-only accounts. Upon completion, water use by these customers will be compared to irrigation demand planning targets, which will be developed based on the evapotranspiration rate of the customer’s location. This will allow for the identification of irrigation customers that may benefit from our support in increasing their efficiency.

**Landscape policy.** The district and authority are developing a review policy for landscape and irrigation plans, which as of 2018, are required to be submitted to and approved by our organizations. The Town of Avon recently incorporated landscape requirements into the Town Municipal Code. Our organizations provided input on those requirements and will develop a policy that is consistent with our land use partners to the greatest extent possible to allow regulatory certainty for our customers. We will continue to strive to integrate review processes with our land use partners to reduce complexity associated with dealing with multiple requirements.

### 1.3 Monitoring and Evaluation

The district and authority will review and update the regional water efficiency plan at least every seven years. We regularly monitor water use trends based on metered data that will continue to be collected. Progress toward meeting the water savings goals will be evaluated as part of our annual water demand reporting to the State as required under House Bill 1051, as well as when the water efficiency plan is next updated. This tracking and analysis will help determine what (if any) additional demand management measures are necessary to help the district and authority meet our stated goals by 2030.
The district and authority will monitor the following on an ongoing basis, coordinated with 1051 reporting, until the next water efficiency plan update:

- Total water deliveries
- Water use by customer class
- Number of active SFEs
- Non-revenue water (percentage and Infrastructure Leakage Index value)
- Water use per SFE, grouped by customer class
- Outdoor water use per irrigated area, to the extent possible based on available data
- Water use relative to water budgets, if adopted
- Number of irrigation system consultations and associated savings
- Number of smart controller incentives/rebates and associated savings
- Turf replacement program details and associated savings
- Information regarding non-residential efficiency audits
- Water use regulations violations
- Goal-setting information (as further described below)

1.4 GOAL-SETTING

Through the preparation of this plan, the district and authority determined that the collection of additional customer characteristics data will be instrumental in improving our ability to evaluate water use trends. The following sections provide a summary of actions that will be considered to improve data collection and the ability to set and track benchmarks by customer class.

Goal-setting requires a significant amount of time and resources, and the approach is expected to evolve as more data becomes available and our tracking mechanisms develop. Accordingly, it will be an ongoing process dependent on available time and resources.

1.4.1 RESIDENTIAL

The district and authority are interested in developing water budgets for residential customers. Budgets serve as water use goals for customers and are set based on the specifics of the customer’s property. Until water budgets are developed, gpd/SFE by development type will be used as an indicator of efficiency. We are in the process of making the following updates in our customer database, in order to help with ongoing goal setting and evaluation process:

- Sub-classification of residential accounts as single-unit or multi-unit
- Tracking the number of dwelling units per multi-unit account

1.4.2 COMMERCIAL AND MIXED-USE

The efficiency of indoor use by commercial and mixed-use accounts is challenging to evaluate because efficient use can vary widely based on the type of business, volume of operations, and
seasonal variation. This challenge is not unique to the district and authority, and published end use data from the commercial and institutional sectors is generally very limited. Accordingly, many utilities use local data to develop metrics for benchmarking as appropriate to their customers types. Following is a list of information that we hope to gather to assist in developing benchmarks for commercial and mixed-use customers¹:

- Building square footage
- Hotel beds/units and guest occupancy
- Track type(s) of business being served by account (e.g. retail/office, restaurant, industrial, institutional, etc.)
- Pool/hot tub characteristics (e.g. surface area)
- Students per school

1.4.3 IRIGATION-ONLY

The district and authority are implementing a program to measure irrigated areas for all irrigation-only accounts. Upon completion, water use by these customers will be compared to irrigation demand planning targets based on an appropriate gallon per square foot per year value for the evapotranspiration rate of the area.

APPENDIX C: PUBLIC REVIEW, ADOPTION, AND APPROVAL PROCEDURES

1.1 PUBLIC REVIEW

The regional water efficiency plan was made available for public comment through the district’s website. A request for public comments was also placed in the Vail Daily newspaper on XXXX, 2018. A printed copy of the plan was available for review at the district’s office. A 30-day public review process was held from XXXX, 2018, through XXXX, 2018. [This is placeholder text, we anticipate public notice will occur at the end of May.]

1.1.1 RESPONSES TO PUBLIC COMMENTS

Responses to comments will be prepared after the notice period is completed.

1.2 WATER EFFICIENCY PLAN ADOPTION

The district and authority Boards reviewed the regional water efficiency plan after the public comment period was completed and conditional approval had been provided by Colorado Water Conservation Board (CWCB). On XXXX, 2018, both Boards approved the plan as presented. [or specify that revisions were made if necessary] Copies of the Board Resolutions adopting the regional water efficiency plan are attached.

1.3 WATER EFFICIENCY PLAN APPROVAL

A draft of the water efficiency plan was submitted to the CWCB Office of Water Conservation and Drought Planning prior to the public review period on XXXX, 2018. CWCB comments have been addressed in this updated final version. On XXXX, 2018, the official notification was received that the plan was approved by the CWCB.
Colorado Revised Statute § 37-60-126 requires a covered entity to develop, adopt, make publicly available, and implement a water conservation (efficiency) plan that will encourage its customers to use water more efficiently. According to the statute, a “covered entity” is a “municipality, agency, utility, including any privately owned utility, or other publicly owned entity with a legal obligation to supply, distribute, or otherwise provide water at retail to domestic, commercial, industrial, or public facility customers, and that has a total demand for such customers of two thousand acre-feet or more.” Based on these criteria, both the Eagle River Water & Sanitation District and the Upper Eagle Regional Water Authority are covered entities.

The Colorado Water Conservation Board (CWCB) provided grant funding to assist with the development of this regional plan through the Water Efficiency Grant Program, which provides financial assistance to communities and water providers for water conservation related activities and projects. These funds were used to enlist the assistance of ELEMENT Water Consulting to support our organizations’ efforts to prepare this regional water efficiency plan. CWCB’s ongoing support of water management activities for water providers through funding, technical support, and training workshops elevates local efforts which are critical to securing our state’s water future.

Key elements that must be evaluated in development of the plan, per statute, are listed below:

a) Water-saving measures and programs including:
   I. water-efficient fixtures and appliances;
   II. low water use landscapes, drought-resistant vegetation, removal of phreatophytes, and efficient irrigation;
   III. water-efficient industrial and commercial water-using processes;
   IV. water reuse systems;
   V. distribution system leak identification and repair;
   VI. information and education;
   VII. conservation-oriented rate structures and billing systems;
   VIII. regulatory measures designed to encourage water conservation;
   IX. incentives to implement water conservation techniques including rebates.

b) Role of conservation in the entity’s supply planning.

c) Plan implementation, monitoring, review, and revision.

d) Future review of plan within seven years.

e) Estimated savings from previous conservation efforts as well as estimates from implementation of current plan and new plan.

f) Water demand management that may be implemented through land use planning.

g) A 60-day minimum public comment period (or other time period based on local ordinance).
It is not required that each of these items be implemented, but that the planning organization consider each and adopt the programs that will help to achieve water savings goals set by the plan. See Appendix B for a comprehensive list of programs selected by the district and authority.

1.1 Eagle River Regional WEP Compliance

Our organizations developed this water efficiency plan, in part, to comply with C.R.S. § 37-60-126. Each element of compliance is documented below.

A. Consideration of specific water efficiency measures.

(I) Fixtures and appliances – Since 1994, our organizations have funded giveaway programs at various levels that provide customers with educational materials paired with indoor products such as faucet aerators, low-flow showerheads, and toilet flappers. Our giveaway programs are expected to continue with a shifted focus toward promoting fixture replacement in multi-family and low-income/workforce housing units where passive replacement is less likely. More information can be found in Section 4.1 of the plan document.

(II) Outdoor water efficiency – Outdoor efficiency is a key focus of the demand management measures being implemented as part of this plan. Customers are currently offered the following outdoor water efficiency devices at no cost: garden hose nozzle with automatic shutoff, soil moisture probe, and rain gage. Irrigation system audits/consultations will also continue to be offered. New programs planned for pilot implementation include: incentives for weather-based controllers, rain shutoff devices, and a turf replacement program; training for landscape and irrigation professionals; and expanded billing of outdoor water use based on irrigated area. More information can be found in Sections 4.1 and 4.3 of the plan document and Section 1.2 of Appendix B.

(III) Commercial, Industrial and Institutional (CII) measures – CII water efficiency is promoted through ongoing education efforts and conservation-oriented rate structures. Our organizations plan to evaluate rates, rebates, and incentive programs, especially those related to the replacement of fixtures and appliances, to encourage conservation and efficiency in this customer class. Sub-metering of customers and businesses served by one commercial or mixed connection is also being considered to improve data collection and help to develop efficiency goals based on the business operations. More information can be found in Section 4.2 of the plan document and Sections 1.2 and 1.4.2 of Appendix B.

(IV) Water reuse systems – The district coordinates indirect reuse of effluent for snowmaking purposes.
(V) Water loss and system leakage reduction – Our organizations work actively to address system water losses. The district established an interdepartmental committee in 2003 to address non-revenue water. Our organizations use industry standardized reporting methods to assess how well we are maintaining, repairing, and rehabilitating our systems for leakage control. Our organizations also undertake projects as needed to help operations stay within a target range. Recent projects include: advanced metering at water production sites; new reporting mechanisms for water used during system maintenance or for community needs like fire suppression system testing; and ongoing leak detection efforts using acoustic technology. Our organizations also conduct annual audits based on the AWWA M36 methodology and are in the process of implementing advanced metering infrastructure (AMI) to help identify leaks. More information can be found in Section 2 of the plan document.

(VI) Information and public education – Public outreach and education is a key component of ensuring the continued success of our water demand management measures and helping to achieve targeted water savings. Our organizations will continue to engage with our customers to provide education through multiple channels. More information can be found in Section 2 of the plan document.

(VII) Water rate structure – Our organizations currently bill customers monthly using 3 and 5 tier inclining block rate structures. Customers are given a water use allowance within each tier based on the size of their property or other factors. Pricing signals are a way of communicating to customers whose use is in higher tiers that their use may be inefficient. Future rate studies will evaluate water budget rate structures as well as tap fees that encourage the efficient use of water. More information can be found in Section 1.2 of Appendix B.

(VIII) Regulatory measures – Our organizations have water use regulations that have been in place since 1995, which establish watering schedules to reduce peak demand, restrict watering to efficient times, and prohibit wasteful water use.

(IX) Incentives – Indoor incentives such as faucet aerators, low-flow showerheads, and toilet flappers have been offered to all customers in the past, but future efforts will focus on multi-family and low income/workforce housing units where passive replacement is less likely. Current outdoor incentives include garden hose nozzles with automatic shutoffs, soil moisture probes, and rain gages, and future incentives may include weather-based controllers and rain shutoff devices. More information can be found in Section 4.1 of the plan document.

B. Role of conservation in supply planning. As stewards of our community’s water resource, we view increasing efficiency and reducing waste as the environmentally and economically responsible first step to securing our water future. This plan is part of our organization’s overarching commitment to long range planning and preparedness. Other
key planning efforts that complement this plan include water rights reports which describe our ongoing evaluation of our water supply and a master planning update effort that is currently underway to evaluate and address system infrastructure and treatment needs. This water efficiency plan focuses on water demand, and savings projected through this plan will be considered as part of our ongoing analysis of future supply need and availability. Our community has demonstrated that innovation and a commitment to resource stewardship can allow us to continue to grow while shrinking our per-SFE water footprint. More information can be found in Section 1 of the plan document.

C. Plan implementation, monitoring, review, and revision. Our organizations employ a full-time water demand management coordinator that will be responsible for implementing the plan. Our organizations will continue to budget money for priority programs identified in the plan and may pursue CWCB water efficiency grants to further achieve our water efficiency goals. We regularly monitor water use trends based on metered data that will continue to be collected. Progress toward meeting the water savings goals will be evaluated as part of our annual water demand reporting to the State as required under House Bill 1051, as well as when the water efficiency plan is next updated. This tracking analysis will help determine what (if any) additional demand management measures are necessary to help the district and authority meet our stated goals by 2030. More information can be found in Sections 1.1 and 1.3 of Appendix A.

D. Future review of plan within seven years. Our organizations plan to review and update this water efficiency plan every seven years, or as needed. During this review, progress toward achieving the stated efficiency goals will be evaluated.

E. Estimated savings from previous conservation efforts and current plan. Water use by the district has decreased from an average of approximately 209 gpd/SFE over the 2003-2007 period to a 2013-2017 average value of approximately 189 gpd/SFE. This equates to a reduction of 10%, which is consistent with the goal identified in the 2012 Water Conservation Plan, and is approximately 309 ac-ft/yr. Water use in the authority has decreased from about 258 gpd/SFE over the 2003-2007 period to a 2013-2017 average value of 217 gpd/SFE. This equates to a total savings of 15% and approximately 769 ac-ft/yr. Through this planning effort, the district and authority have established future savings goals of 6% and 9%, respectively. This equates to 140 ac-ft/yr in the district and 430 ac-ft/yr in the authority. More information can be found in Sections 2 and 5 of the plan document.

F. Land Use Planning. Water demand management may be implemented through land use planning and through enforceable, recorded contracts. We have initiated efforts to coordinate with our land use authority partners in approval processes, outdoor landscape planning and development of land use ordinances that support water efficiency. Measures being considered include: updates to land use regulations/codes; coordination
on verifying compliance with irrigated area limitations in place for specific communities; landscape and irrigation system design and installation regulations, as well as plan review and inspection requirements; and aligning development review and approval processes to integrate water efficiency and improve customer experience. More information can be found in Section 4.1 of the plan document and Section 1.2 of Appendix B. In addition to coordination with land use authority partners, the authority and district have entered into contracts with developers to establish water budgets for some new developments.

G. Public comment period. A 30-day public review process was held from XXXX, 2018, through XXXX, 2018, as described in Appendix C. A 30-day review procedure is consistent with................[reference document]. [A summary will be added after the review period is complete that states comments were responded to or that no comments were received.]
ME M O R A N D U M

TO: Boards of Directors
FROM: Linn Brooks, General Manager
DATE: March 14, 2018
RE: GM Report

Staff Initiatives
Annual performance reviews and merit awards were complete on schedule for all District employees. The District moved to a common review date for employees last year to ensure timely reviews, standardize performance feedback quality and set goals for the year to be in sync with District planning.

CDOT Ransom-ware Attack
The District IT team followed the news of this attack which shutdown all CDOT IT systems for 2 weeks and debriefed on the probable system vulnerabilities. The District has invested in security systems that we believe would have protected our assets from such an attack. Investment in IT security continues and follows Department of Homeland Security best management practices.
WATER SUPPLY

RESERVOIR UPDATES: 3/12/18

<table>
<thead>
<tr>
<th>Reservoir</th>
<th>Physical Capacity (AF)</th>
<th>Current Storage (AF)</th>
<th>Discharge (CFS)</th>
<th>Previous Month Change in Storage (AF)</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>Eagle Park</td>
<td>3,301</td>
<td>2131</td>
<td>0.3</td>
<td>-84</td>
<td>Steady</td>
</tr>
<tr>
<td>Black Lake 1</td>
<td>527</td>
<td>177</td>
<td>0.1</td>
<td>-77</td>
<td>Steady</td>
</tr>
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<td>Black Lake 2</td>
<td>98</td>
<td>45</td>
<td>0</td>
<td>-21</td>
<td>Releasing</td>
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<tr>
<td>Homestake</td>
<td>42,881</td>
<td>40,938</td>
<td>4</td>
<td>-75</td>
<td>Steady</td>
</tr>
<tr>
<td>Green Mountain</td>
<td>153,639</td>
<td>67,900</td>
<td>35 net</td>
<td>-2121</td>
<td>Releasing</td>
</tr>
<tr>
<td>Wolford</td>
<td>65,993</td>
<td>54,180</td>
<td>6 net</td>
<td>-360</td>
<td>Releasing</td>
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</tbody>
</table>

On Feb. 23, the water release rate from Eagle Park Reservoir (EPR) was reduced from 2 cfs to 0.5 cfs. On March 2, the release rate was reduced further so outflow would match inflow. Contracts will allow us to use water from Green Mountain Reservoir and Wolford Mountain Reservoir for augmentation. A 2.5 cfs release from Black Lake 1 was completed Feb. 27, at which time a 2 cfs release was started from Black Lake 2. Black Lake 2 will reach its minimum pool around March 16.

SNOW WATER EQUIVALENT (SWE)

“Normal” = 30-year median (1981-2010)

<table>
<thead>
<tr>
<th>SNOTEL Site</th>
<th>SWE (in inches) 3/12/18</th>
<th>Normal SWE (in inches) for Mar. 12</th>
<th>% of normal</th>
<th>Normal Peak SWE (inches)</th>
<th>Date of Normal Peak</th>
</tr>
</thead>
<tbody>
<tr>
<td>Vail Mountain</td>
<td>10.1</td>
<td>16.1</td>
<td>63%</td>
<td>22.6</td>
<td>April 25</td>
</tr>
<tr>
<td>Copper Mountain</td>
<td>9.4</td>
<td>12.1</td>
<td>78%</td>
<td>15.4</td>
<td>April 28</td>
</tr>
<tr>
<td>Fremont Pass</td>
<td>12.8</td>
<td>12.9</td>
<td>99%</td>
<td>18.6</td>
<td>May 6</td>
</tr>
</tbody>
</table>

STREAMFLOW (CFS)

<table>
<thead>
<tr>
<th>Gage Location</th>
<th>Daily Mean Discharge (CFS) 3/12/18</th>
<th>Record Streamflow Low/High Mar. 12</th>
<th>Instream Flow Water Right Level (CFS)</th>
<th>ISF Season</th>
</tr>
</thead>
<tbody>
<tr>
<td>Eagle River below AWWTP</td>
<td>62</td>
<td>46 (20013) 94 (2015)</td>
<td>35</td>
<td>Oct - April</td>
</tr>
</tbody>
</table>
February streamflows were slightly below normal. Precipitation has been below normal and air temperatures have been above normal. The stream gage on Eagle River at Gypsum set a new record low flow for March 12 (71 years of data).

**COLORADO RIVER DATA**
Lake Powell water level is at 3,615 feet elevations of March 11 and is at 54% of its storage capacity. Lake Mead water level is at 1088 feet as of March 11, and is at 41% of its storage capacity.
**RIVER CALLS**
Currently the Shoshone Call remains in effect on the main stem of the Colorado River. The Cameo Call lasted from Aug. 31 to Sept. 28.

**WATER**

The Water Department completed an update of Unregulated Contaminant Monitoring Rule 4 data. This EPA rule requires water providers to perform additional sampling through 2019 to provide data to the EPA on emerging contaminants for future regulations.

Staff has revised its total coliform sampling plan for the Colorado Department of Public Health and the Environment (CDPHE). The new sample plan reduces the amount of hydrants used for compliance sampling and allows staff to sample more efficiently.

Water and Operations Technology (OT) staff are continuing to evaluate and plan to reduce after hours call outs. These efforts have resulted in a reduction of the number of callouts from 128 to 40 for the first two months of 2017 vs 2018.

**WASTEWATER & LABORATORY**

National pollutant discharge elimination system (NPDES) permittees are required to participate annually in the discharge monitoring report quality assurance program (DMRQA-38). This program evaluates the analytical ability of our laboratory to perform self-monitoring analyses required by the District’s three wastewater permits. The quality assurance program is managed by our Laboratory Supervisor, Leah Cribari, and will begin March 23.
FIELD OPERATIONS

Field Operations
Crews have been assisting the Capital Improvements Projects (CIP) staff and the Eagle River Fire Protection District by flowing fire hydrants down valley to gather data for their Insurance Service Office (ISO) requirements.

Distribution
Crews assisted the Water Department in thawing out frozen sampling stations. Gathering of Sifers booster pump station (BPS) logger data is finished. We utilized new PSI loggers and software that gathers information down to the second for a nine-hour period. This project is an effort to improve infrastructure issues prior to the beginning of the Stillwater and Six West projects.

Staff completed gathering pressure information in the Edwards/Riverwalk area. Recorded pressures for District and Authority were within State parameters.

Field Ops staff has begun the annual preventative maintenance on flushing hydrants as well as valve turning efforts. We are approximately 30 days ahead of schedule.

Collection
Staff utilized closed circuit television (CCTV) system to identify service tap locations that will be abandoned as part of the Stillwater Project.

Crews cleared a sewer blockage on Willow Place while conducting routine jetting, which prevented a potential emergency backup.

Inflow & Infiltration (I&I) project planning is ongoing, with staff looking at projects with the Engineering department that would reduce I & I in the Vail and the Minturn areas for this year.

Booster Pump Stations (BPS)/Tanks – District & Authority
Staff is rebuilding Strawberry Park control valves.

Mechanical/electrical crews replaced seals and an impeller on a waste pump at the Avon Drinking Water Facility.

Fleet/Buildings & Grounds
The District contracted with “Just Fix It” to perform some minor remodel work at the Vail Office.

ENGINEERING

WATER FACILITY PROJECTS

Avon Drinking Water Facility (ADWF) Concrete and Fluoride Improvements

General Project Scope: The ADWF Concrete and Fluoride Improvements consist of evaluation and repair of concrete, masonry, piping, and other equipment in the ADWF. The project also consists of replacement of the existing fluoride feed system, electrical improvements and HVAC work.

Project Update: Phase II of the project is underway. The scope of Phase II includes a new fluoride system, HVAC improvements, coatings, and other miscellaneous improvements. New fluoride equipment is currently being manufactured. New fluoride, house water and permanganate lines are complete. New ductwork and exhaust fans are installed to improve heating and circulation in lower levels of the plant. The plant influent valve was removed, completely refurbished, and reinstalled. The ozone eductor pump was also refurbished to a working condition.
ADWF Clearwell, Settling, and Hydraulic Improvements
Melissa Marts/Debbie Hoffman

**General Project Scope:** This project consists of modifications to the clearwell to meet Colorado Department of Public Health and Environment’s (CDPHE) Disinfection Outreach and Verification Effort (DOVE) requirement, as well as improvements to the existing settling basins, and other hydraulic improvements in the ADWF.

**Project Update:** The Authority negotiated the first guaranteed maximum price (GMP) contract with Filanc for pre-procurement of the plate settlers. The settling basin submittal prepared by SGM has been submitted to CDPHE for their review. The clearwell modifications modeling results are completed and will be incorporated into the design for the baffling configurations. Construction is anticipated for the fall 2018 shutdown.

Bachelor Gulch Booster Pump Station 1 Improvements
Debbie Hoffman

**General Project Scope:** The Bachelor Gulch booster pump station (BPS) 1 improvements project consists of station rehabilitation including new pumps, motors, piping, valves, and electrical equipment. Pump-around connections will also be installed to aid in minimizing station downtime. This project also allows downloading to the distribution system on the valley floor, supporting new development in the absence of the Traer Creek tank.

**Project Update:** Staff met with the Bachelor Gulch Metro District to review the project prior to mobilization next month. The contracted schedule is written to complete the work after mountain operations have ceased for the winter season and prior to the tennis and irrigation season commencing. Staff is finalizing contract language with our general contractor, Filanc, to complete the work. Substantial completion is anticipated on May 24, 2018.

Gore Valley Tank 1 and Intermountain Tank Coatings
Becky Peterson

**General Project Scope:** Gore Valley Tank 1 in East Vail and Intermountain Tank in West Vail required recoating. Gore Valley Tank 1 is a steel tank and requires interior coating as well as removal of insulation, modifications and repairs to the steel structure, and exterior coatings. The Intermountain Tank requires exterior recoating and spot repairs to the roof area.

**Project Update:** The District is preparing to issue Change Order 2 for the project, which will authorize bid alternate work (exterior painting and insulation removal) as well as replacement of an incorrectly specified side access hatch. The contractor will remobilize to the site in spring 2018 replace new side access manway hatch, remove the insulation and tank shell, blast exterior tank walls and roof and re-coat the tank exterior. The District is investigating upgrading the electrical service to the site, which was determined to be inadequate during construction.

Radio Telemetry Unit (RTU) System Upgrades
Debbie Hoffman

**General Project Scope:** This project is a systematic approach to install standardized communication equipment to increase the reliability of the telemetry system throughout the distribution system (82 sites) and develop a standard (i.e., non-proprietary) telemetry platform to allow for competitive pricing for upgrades, replacement, and system maintenance. Implementation is anticipated to occur over a three-year period with a highly detailed sequence and schedule to limit distribution system disruptions.

**Project Update:** The design and construction team met on March 8 to discuss the implementation of the nine (9) west Vail pilot project sites. The general contractor, Filanc, is securing subcontractor bids for a
GMP submittal on March 30 for the District to review. Coordination meetings were scheduled with Operations departments to review staffing needs for a well-executed project. It is anticipated that the work will commence within the first week of May.

**Wastewater Facility Projects**

**Edwards Wastewater Treatment Facility Aeration Basin Channel and HVAC**  
Mark Mantua  

**General Project Scope:** The project consists of installation of a channel to reroute flow in the aeration basins to address short-circuiting and improve nutrient removal, installation of new make-up air units (MAUs), and miscellaneous electrical and instrumentation improvements.

**Project Update:** Aslan construction mobilized large equipment and a construction trailer and began work on Monday, March 12. The contractor began saw cutting pavement, rerouting of underground piping, and started excavation of the new aeration basin channel. Major submittals are under review and long lead-time items are in procurement.

**Dowd Junction Collection System Improvements**  
Debbie Hoffman  

**General Project Scope:** The Dowd Junction Collection System handles wastewater flow from the town of Minturn and intercepts wastewater flows from Vail prior to proceeding to the Avon Wastewater Treatment Facility for treatment. District assets are approximately 50 years old, deemed in poor condition, and have reached the end of their useful life. The improvements include replacement of an existing 0.68 million gallons per day (MGD) lift station and associated force mains, influent gravity sewer, an aerial gravity sewer, and structural column repairs. The facilities will be designed to accommodate future development build-out wastewater flows as well as current wastewater flows.

**Project Update:** The District reviewed five proposals and short-listed two firms for interviews. Interviews were conducted on March 6, 2018 and the selection committee has recommended HDR to complete the design. A kickoff meeting is scheduled for March 22, 2018.

**Bridge Road Sanitary Sewer Relocation**  
Melissa Marts  

**General Project Scope:** This project consists of installation of sanitary sewer main and manholes adjacent to Bighorn Road and Interstate 70 in East Vail. Town of Vail is replacing the Bridge Road bridge using federal grant monies and anticipates starting construction in summer 2018. The existing sewer main runs within the bridge and needs to be replaced. The project is a 50/50 cost-sharing project with town of Vail. A portion of the existing bike trail in this vicinity will be demolished to allow for the sewer main installation, and the alignment will be relocated away from the riparian area. Bike trail subgrade will be included in this project to prepare for the final asphalt bike path, which will be constructed by others later.

**Project Update:** Bids were opened on Feb. 16, and Oldcastle SW Group dba United Companies had the lowest responsive bid at $443,259.00. Staff is requesting District execution of an intergovernmental agreement (IGA) between the town of Vail and the District for the project. The town of Vail acquired the land necessary for this project and will grant the District an easement once the transaction is complete. Construction completion is anticipated before July 2018, when the town of Vail will begin construction on the bridge replacement.

**West Vail Sewer Main Improvements**  
Jeffrey Schneider  

**General Project Scope:** This project involves the installation of approximately 1,900 linear feet (LF) of sewer mainline piping, manholes, and appurtenances in two areas in West Vail along the South Frontage Road and in easements within adjacent private property. The project is necessary to implement the operational strategy contemplated in the Wastewater Master Plan, which involves bypassing peak winter flows to the Avon WWTF from the Vail WWTF. In addition, the District is partnering with the town of Vail to

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846 Forest Road  Vail, Colorado 81657  Tel (970) 476-7480  Fax (970) 476-4089  erwds.org
install Holy Cross Energy underground electric conduit within the South Frontage Road right of way as well as replacement of a small portion of the Gore Valley Trail recreation path.

**Project Update:** District staff successfully negotiated the acquisition of a temporary construction easement along the Casa del Sol Townhome Association property to facilitate the installation of the sewer mainline as well as contractor staging and laydown. The District is compensating the Townhome Association by contributing to a large portion of asphalt preparation and paving for a private drainage/parking lot project occurring later in the project schedule. A pre-bid meeting is scheduled for March 14, 2018, and bid opening is scheduled for March 30, 2018. An IGA with town of Vail for construction financing will be brought to the Board at the April meeting.
MEMORANDUM

TO: ERWSD & UERWA Board of Directors
FROM: Jason Cowles  
DATE: January 17, 2018
RE: Engineering Update

6 West Apartments PUD Water Dedication

At its February 27, 2018 hearing, the Eagle County Board of County Commissioners approved the conveyance of a portion of its Eagle Park Reservoir stock to the Authority to satisfy the water rights dedication for the 120 apartment project located in West Edwards. The Authority received 12.56 acre-feet of water required to serve the project through the conveyance. A water service agreement for the project that sets water budgeting limits as outlined in the Planned Unit Development guide has also been executed by the Developer. The Construction Review Team continues to work with the Developer’s engineer towards Construction Plan Approval for the project, which is slated to begin this spring.

Eagle County Land Use Code Updates

Following the recommendations of an assessment conducted last year, Eagle County is preparing to embark on a comprehensive rewrite of its existing land use code with Clarion Associates. I have accepted an invitation from Damian Peduto, the County Planning Director, to serve on an external technical committee that will participate as a stakeholder in the process, and plan to lean heavily on our water demand management coordinator, Maureen Mulchahy, and our planner, Micah Schuette, to assist. The committee will include representatives from other Special Districts, local planning professionals, and developers. This presents an excellent opportunity for the Authority and District to align our water efficiency goals with the County’s land use code and to continue to better align our process for new development reviews as it relates to water use and water quality. The committee is planning a kick off meeting at the end of April.

Eagle River Mobile Home Park

The Eagle River Mobile Home Park (ERMHP) is on a private water system and is sourced by an on-site well that has historically had water quality issues. Residents have identified the water system as a primary area of concern in a recently conducted survey. On March 12, 2018 Linn, Micah, and I met with Chris Lindley, Eagle County Public Health Director, and Dan Godec, Director for Our Community Foundation, to discuss an alternative for the Authority to provide water service to the 382 residences in the ERMHP by way of a master connection to the Authority’s water system. The scenario would involve a master meter, a master backflow prevention device at the point of connection, and a master pressure reducing valve (PRV). The owner would remain responsible and liable for ongoing operation and maintenance of ERMHP’s internal water distribution system.

I outlined a number of issues that will need to be investigated prior to making such a connection. The ERMHP has a well water right that might be acceptable to the Authority for a water rights dedication if it can be changed to the Authority’s diversion points. We have requested water use records, decrees and augmentation plans from the owner so that we can evaluate their demands and the suitability of their
water rights for dedication. The owner will also need to investigate whether their private distribution system's materials, construction and condition are compatible with higher operating pressures found in the Authority's water system. The existing system's source water should be evaluated and compared to our source water to insure that no water quality issues would arise from changing source water, as was the case in the Flint, Michigan water crisis. Tap fees would also be assessed for the ERMHP, which Staff supports deferring payments on over a 10-year period in accordance with Board Policy for affordable housing. Finally, before the connection could proceed a 1041 permit from Eagle County would be required.

It appears that the owner of the ERMHP is interested in further exploring this option. Chris and Dan were tasked with scheduling a follow up meeting with the owner so that we could further discuss the possibility of a connection.
MEMORANDUM

TO: Boards of Directors

FROM: Diane Johnson, Communications & Public Affairs Manager

DATE: March 22, 2018

RE: Communications and Public Affairs Report

Town of Vail community meeting
The Vail Town Council held their annual community meeting March 13 at Donovan Pavilion. District staff hosted a table and provided attendees with information about water and wastewater issues, preventing sewer backups and reducing FOG (fats, oils, and grease) in the sanitary sewer collection system, current snowpack conditions and potential summer water supply, as well as the year round water use regulations. The town’s annual Year in Review publication included information about Gore Creek health and featured district-funded data on macroinvertebrate scores, which is attached to this report. The District has been a partner in Vail’s annual meeting since 2007.

Town of Vail partnerships
The town has been hosting monthly “Lunch with the Locals” talks as part of their Gore Creek action plan. The speakers have been good to excellent and there is generally good attendance, including district staff members – some of whom have also been presenters. We recently offered to sponsor the series by paying for videoing of each talk so the information can reach a wider audience via High Five Access Media (local public access TV) where the talk will be available online (at any time) and will also play locally on Channel 5. This support is similar to our arrangement with Eagle River Watershed Council where we pay for videoing of their “Watershed Wednesday” programs – when those programs are held indoors with a speaker/presentation format (which has declined the last few years as ERWC has offered more hands on / field experiences). The next Lunch with the Locals is at noon March 21 in The Grand View room on the top level of the Lionshead welcome center. A flier is attached that lists the schedule for April, May, and June.

The town of Vail is hosting a free sustainable landscape workshop on April 12 as part of the “Restore the Gore” campaign. The District has long been a partner on efforts such as this, providing financial support, help with communications, and a staff member to speak during the all-day workshop. As part of the Gore Creek action plan, this iteration of landscaper outreach targets landscape contractors, commercial applicators, designers, architects, and property managers – although anyone may attend.

Safe Drug Disposal Program – National Drug Take Back Day is April 28
The U.S. Drug Enforcement Administration’s fifteenth “National Take Back Initiative” is set for 10 a.m. to 2 p.m. Saturday, April 28, when local law enforcement personnel will host collection sites (Vail Municipal Building, WECMRD Field House in Edwards, and Costco in Gypsum) for disposal of prescription and over-the-counter medications and supplements, including controlled substances. Local agencies accept expired, unwanted, or unused pharmaceuticals that are then disposed of via an environmentally friendly incineration process. The event is free of charge and no personal information is collected.

The District actively coordinates local efforts as part of the existing Safe Drug Disposal Program community partnership that involves the Vail Police Department, Eagle County Sheriff’s Office, Eagle River Water & Sanitation District, Eagle County, and Vail Health.
If you are unable to make it to the DEA Take Back Event, the Vail and Avon police departments as well as the Eagle County Sheriff’s Office have permanent medication take back receptacles as part of the Colorado Household Medication Take Back Program sponsored by the Colorado Consortium for Prescription Drug Abuse Prevention. The receptacles are generally available during business hours. For more information, visit www.takemedsback.org.

Snowpack
This winter’s snowpack continues to be low, especially at the Vail Mountain SNOTEL site. As you know, the Copper and Fremont Pass sites are doing better. We are working preliminarily with community partners to plan for a low water supply year. I will provide more perspective in my oral report on March 22; below are some pieces of information to consider.

Statewide SNOTEL snow water equivalent is at 67 percent of normal as of March 14. The Colorado basin is at 78% of normal; other basins range from 48 to 86 percent of normal. This link gives you a snapshot of statewide conditions and updates daily. The March 14 map is attached.

Below is the snow water equivalent in the upper Colorado River basin, as of March 14, in comparison to water years 2015, 2016, 2017, and the 30-year median and average.

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Attachments:
1. Town of Vail Year in Review 2017: page 15 re Gore Creek health and macroinvertebrate scores
2. Town of Vail “Lunch with the Locals” card
3. March 14 Colorado SNOTEL snow water equivalent map
GORE CREEK HEALTH

In its second year of implementation, the Gore Creek Strategic Plan made progress in addressing the listing of Gore Creek as an Impaired Waterway. In late 2017, aquatic macroinvertebrate studies from the previous year were published, providing cause for cautious optimism about the future success of the town’s efforts to Restore the Gore. The town saw increases in sensitive aquatic macroinvertebrate species in most monitoring locations on Gore Creek. Remediation actions have included a reduction in pesticide application by 92% on town property, numerous habitat restoration projects, public education, landscaper workshops and community partnerships to build support. The town was also the recipient of three grants toward infrastructure and habitat improvements from the Colorado Department of Public Health and Environment, Colorado Parks and Wildlife Fishing is Fun Program and Great Outdoors Colorado, totaling over $300,000.

CLIMATE ACTION COMMITMENT AND PARTNERSHIP

As the Town of Vail remains committed to working diligently toward its 20% by 2020 local emissions reductions goal, Vail Town Council took several actions to show its resolve to continue its work on climate change at the national, state and local levels. This included joining:

- Mayor’s National Climate Action Agenda
- Compact of Colorado Communities
- Eagle County Climate Action Collaborative
- Colorado Communities for Climate Action

Our commitment as a town is strong, as our leaders accept the global scientific consensus that climate change is human-caused and a serious concern for resort communities like Vail whose values and identity are winter snow sport and environment-driven.

Each year Timberline Aquatics, on behalf of Eagle River Water & Sanitation District, samples macroinvertebrate populations at nine locations on Gore and Black Gore creeks. These measurements count sensitive insects like caddisflies, stoneflies and mayflies that indicate healthy water quality. While developed areas are the most at risk, managers are hopeful recent data indicate an upward trend.
THE TOWN OF VAIL WILL CONTINUE TO HOST A FREE MONTHLY SPEAKER SERIES AND LUNCH IN 2018

PLEASE JOIN US AT NOON IN THE LIONSHEAD WELCOME CENTER FOR FASCINATING TALKS ABOUT GORE CREEK RESTORATION AND FREE LUNCH FROM YELLOWBELLY (DOWNSTAIRS AT LIONSHEAD GARAGE)

APRIL 25
Conservation vs. Preservation: A Century-Old Debate
Pete Wedden, Town of Vail

MAY 23
A New Water Efficiency Plan
Maureen Mulcahy and Amy Schweig, Eagle River Water & Sanitation District

JUNE 27
Dealing with Invasive Weeds in Vail
Gregg Barrie, Town of Vail

www.lovevail.org/programs/gore-creek/announcements
Colorado SNOTEL Snow Water Equivalent (SWE) Update Map with Site Data

Current as of Mar 14, 2018

Statewide: 67%

Yampa & White: 77%
Colorado: 78%
North Platte: 86%
South Platte: 81%
San Miguel, Dolores, Animas & San Juan: 48%
Upper Rio Grande: 51%
Gunnison: 57%
Arkansas: 58%

SWE Percent of Median
- Missing or Invalid
- < 50
- 50 - 69
- 70 - 89
- 90 - 109
- 110 - 129
- 130 - 149
- >= 150

Map credits:
USDA Natural Resources Conservation Service
## New Development Report
**March 2018**

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<th>System Capacity Analysis</th>
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<th>Ability to Serve Letter</th>
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## COMMITTEES

### DISTRICT

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<thead>
<tr>
<th>AUDIT/BUDGET</th>
<th>HAHNEWALD BARN</th>
<th>RETIREMENT PLANS</th>
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<td>Steve Coyer</td>
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<td>Bill Simmons</td>
<td>Linn Brooks</td>
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<td>Melissa Mills McLoota</td>
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<th>REAL ESTATE AND NEW DEVELOPMENT</th>
<th>EMPLOYEE HOUSING</th>
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<td>George Gregory</td>
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### AUTHORITY

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<tr>
<th>AUDIT/BUDGET</th>
<th>NEW DEVELOPMENT</th>
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<th>TRAER CREEK TANK</th>
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### JOINT

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<tr>
<th>WATER QUALITY</th>
<th>RULES AND REGULATIONS</th>
<th>WATER DEMAND MANAGEMENT</th>
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<tr>
<td>Sarah Smith Hymes (A)</td>
<td>Kim Bell Williams (A)</td>
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<td>Bill Simmons (D)</td>
<td>Steve Coyer (D)</td>
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<th>WILDERNESS POLICY (DORMANT)</th>
<th>EAGLE RIVER MOU</th>
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<td>Sarah Smith Hymes (A)</td>
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<tr>
<td>Mick Woodworth (A)</td>
<td>George Gregory (D)</td>
<td>Bob Armour (D)</td>
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<td>Vacancy (D)</td>
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(A) = Authority  
(D) = District
TO: Board of Directors
FROM: Catherine Hayes, Board Secretary
DATE: March 7, 2018
RE: Summary of Authority’s February 22, 2018, Board Meeting

The following is a summary of items discussed at the February 22, 2018, Authority Board Meeting:

Board members present and acting included: Chair George Gregory, Vice-Chair Sarah Smith Hymes, Secretary Kim Bell Williams (via phone), Treasurer Geoff Dreyer, and directors Pam Elsner and Mick Woodworth.

Winchester Trail Water Service Request
Jason Cowles discussed his board action request regarding an owner’s request for water service at a lot in the Cordillera Territories area. Jason explained that the board previously issued a notice that service could not be provided in the area due to its location at one of the furthest ends of the Authority’s system, which presents water quality issues. Brian Tracy, water manager, noted the water there meets Colorado Department of Public Health and Environment standards but not the Authority’s desired standards. The board approved the provision of water service to the property on the condition that a water service agreement with the owner is executed; such agreement will require owner acknowledgment of the water quality issues, water use limitations, and will absolve the Authority of any responsibility and liability from such issues.

Tiny Homes
Diane Johnson, filling in for Linn Brooks, noted the Avon town manager expects an application for tiny homes in an area of Avon that is currently occupied by modular trailers, some of which include offices leased by the District. This is of interest due to the expected need for additional office space for staff at some future time. Also, the District is considering the logistics of providing water to this type of development, such as expected usage, tap fees, and base rates.

Gypsum Water Summit, Local Water Supply
Diane Johnson said she received notice that the town of Gypsum is holding a water summit on Feb. 27 to discuss current water supply conditions, the potential for drought, and expected water use restrictions if drought conditions ensue. Diane said Gypsum’s town manager, Jeff Shroll, wants to disseminate such information early, as the town’s population has roughly doubled since the 2012 drought. Diane said the Authority and District are not yet actively preparing for drought conditions, though monitoring of such conditions is part of routine operations.

Stream Access Lawsuit
Diane Johnson discussed a stream access lawsuit, the outcome of which will likely determine whether riverbanks and the river bottom are considered public or private property. Glenn Porzak confirmed ongoing disagreements regarding this matter; the decision in the lawsuit is likely to be controversial.

Legislative Update
Kristin Moseley updated the board on various legislative issues. She specifically discussed a water sheparding bill, which was in response to the St. Jude’s legislation; entities like the Authority and District want to ensure environmental reservoir releases continue to be valid uses of water. She also discussed HB 1073, which would expressly permit water districts, authorities, and reservoir companies to enter into contracts for reservoir space, not just the purchase of actual water. She also outlined a bill regarding 811 calls, which would establish a new commission to
set forth rules and regulations for such calls. The effect on utilities is unknown, though many large utilities are opposed, as the cost of compliance could be high.

**Deficit Irrigation Project**

Kristin Moseley discussed the project, which would expand current legislation to include agricultural water leasing or fallowing projects as allowable pilot projects for Colorado Water Conservation Board approval; certain other types of pilot projects are already allowable. In the past, agricultural efficiency increases assumed that prior water use was wasteful; the legislation would exempt these water rights from decreases in historical consumptive use that results from efficiency or fallowing projects. The current proposal would apply to water divisions 2 and 3 within the boundaries of the Upper Gunnison Water Conservancy District.

**Eagle Park Reservoir Tabletop Exercise**

Brian Tracy briefly discussed a tabletop exercise recently held in Eagle. The exercise focused on a breach of the Eagle Park dam and successfully engaged emergency managers throughout the community.

**Engineering Updates**

Jason Cowles said the Avon Town Council recently denied a developer’s proposal to build a large hotel on the Folson parcel, which is just east of the Ascent on Highway 6. He also noted staff was working with Eagle River Fire Protection District on an International Standards Organization (ISO) study regarding fireflow requirements, as well as working with field operations staff to do hydrant flow testing; the outcome of the testing could result in lower homeowners insurance costs.

**Traer Creek Update**

Jim Collins noted Andy Nathan, the Authority’s special counsel for the Traer Creek matter, would attend the March board meeting to meet the members and provide a verbal update on the matter. The next mediation with Traer Creek and other parties is currently scheduled for April 24.

**Eagle Park Reservoir Enlargement**

The Board discussed the proposed Eagle Park Reservoir enlargement and related issues, including the apparent desire of Vail Associates Inc. to purchase enlargement water at 1993 prices, as well as to retain its majority shareholder status regardless of the extent to which VAI participates in the enlargement. Discussion ensued, and general counsel Jim Collins opined that Glenn Porzak does not have a conflict of interest regarding the enlargement and its various disagreements, as the subject does not involve any confidences. Further, Glenn Porzak engaged independent ethics counsel, which confirmed that he has no conflict of interest in the matter. He will continue serving the Authority and District in his water counsel capacity, but has resigned as VAI water rights counsel.