



Mountain Regional Water

Special Service District

2020 Water Conservation Plan



Prepared by the District Administrative Staff

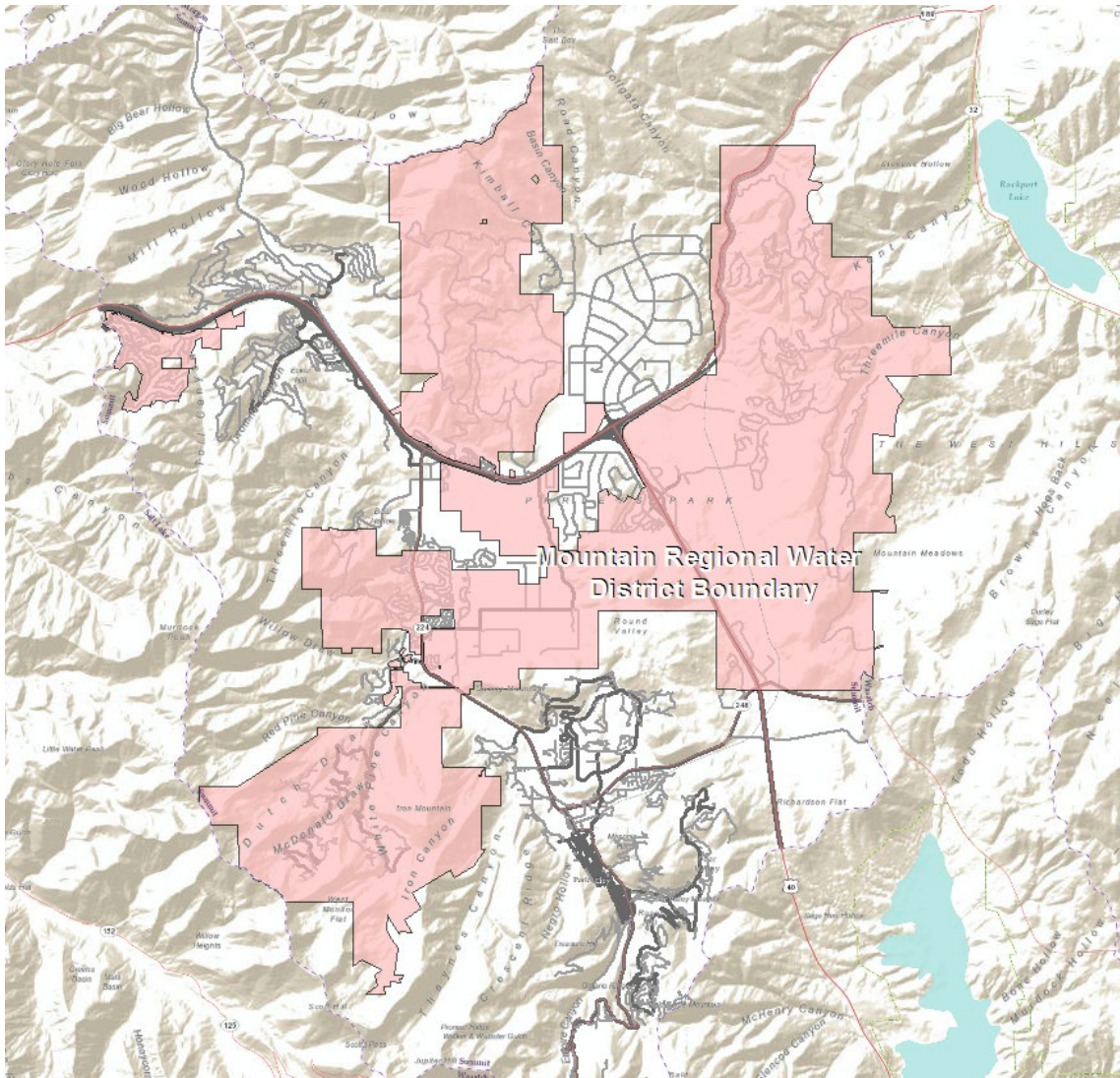
TABLE of CONTENTS

Executive Summary	3
1.0 Introduction	8
2.0 District Profile	8
3.0 Water Supply and Use - Trends and Statistics	11
4.0 Metering and Billing	20
5.0 Water Loss Control	21
6.0 Water Conservation Practices:	24
7.0 Water Quality Benefits to Conservation	28
8.0 Conservation Through Cooperation	29
9.0 District Irrigation Systems Conservation Standards	30
10.0 Residential Conservation Information	31
11.0 Water Conserving Plant Lists	33
12.0 Conservation Rules and Regulations Implemented by District	35
13.0 Contact Information	44
APPENDIX A Current District Water Rate Schedules	45
APPENDIX B District Typical Irrigation Scheduling	49
APPENDIX C BOARD APPROVAL	50

Executive Summary

Located in the heart of western Summit County, and in the second driest state in the nation, Mountain Regional Water Special Service District (the “District”) currently serves a total of 5,607 Equivalent Residential Connections (ERC’s), of which 4,887 ERC’s are residential customers. The District’s 2020 population is estimated to be approximately 13,781 (assuming 2.82 residents per residential ERC as estimated in the 2010 census).

As the map provide in Figure E1 illustrates, the District owns and operates a regional water system spanning approximately 40 square miles. This water system includes the interconnection of approximately 17 private and public systems and 4 emergency or wholesale connections with neighboring systems.



Map E.1 Service Map of Mountain Regional Water District

District water production has grown tenfold since its inception in 2000. From approximately 600 acre-feet of water delivered to greater than 6,000. This water production is provided by fifteen (15) water sources including both groundwater and surface water to meet its customer demands. The largest source, Lost Canyon Booster Pump Station (BPS), conveys raw water sourced in Rockport Reservoir to the District’s Signal Hill Water Treatment Plant and to District wholesale customers.

In contrast with production, the District’s water demands, on a Gallon Per Capita Day (GPCD) basis, have steadily declined since 2007 to reach 104 GPCD in 2019, as detailed in Table E1 below. Comparatively, the District’s current GPCD values are lower than the 2030 GPCD Regional Conservation Goal of 200 for the Weber River water users, as defined by Utah’s Division of Water Resources. The low demand of District customers is largely attributed to a conservation-based rate structure and low occupancy rates of second homes located within District boundaries.

2019 Demand Data by Type	ERC Units	Average Gallon/ERC	Average Acre-Feet/ERC	Average Annual GPCD
Residential	4,887	94,232	0.29	92
Commercial	331	261,633	0.80	254
Industrial	16	420,377	1.29	408
Institutional	160	157,771	0.48	153
TOTAL:	5,394	107,379	0.33	104

Table E.1 Demands and GPCD by Customer Class

As the District looks to the future, District staff recognizes that although the low hanging fruit has been capitalized upon, there are still opportunities for improvement. Through focus on a number of key conservation strategies, the District will maintain levels of supply that exceed demands through 2050. The District’s key conservation strategies are summarized below:

- **Advanced Water Loss Monitoring and Management**
 - The District is bringing together the advancements in Supervisory Control and Data Acquisition (SCADA) and water metering (AMI) to identify system water losses at a per tank zone resolution to target water loss control efforts.
- **Utilization of the District’s Advanced Metering Infrastructure (AMI)**
 - The District is nearly complete in the installation of >4,000 water meters which provide near real-time water usage data and leak reporting. These meters offer opportunities for reducing both water use and loss at the customer level.
- **The Continued Employment of Conservation Based Pricing Structures**
 - The District will continue to evaluate its conservation-based pricing structure and evaluate opportunities to adjust and further reduce customer water usage.
- **Promote financial or publicity incentives to reward users for efficient landscapes and irrigation systems**

- Promote the incentive programs offered by Weber Basin Water Conservancy District, Utah Water Savers, Localscapes and other organizations that support our service area.
- Education
 - The District is actively working on ways to expand its educational efforts beyond Recycle Utah's annual children's water festival. Other opportunities such as field trips to District facilities, a demonstration garden, and the utilization of media and social media outlets are being considered.
- Support Water Reclamation Initiatives
 - The District will investigate the possibility of utilizing treated re-use water in secondary systems, as provided by the Reclamation District. This strategy will require cooperation and the fusion of goals and strategies of local stakeholders.
- County Landscape Ordinances
 - The District will support County staff as they continue to consider the development and implementation of a Summit County conservation and landscape ordinance, including possible approved plant lists utilized in new developments.
- Promotion of District Conservation Standards and enforcement of Rules and Regulations
 - The District will continue to promote its Conservation Standards and the enforcement of its Rules and Regulations which identify the allowed irrigation practices of our customers.

Over the next 5-years, the District will bring significant focus on the first two bullets in the above list: Advanced Water Loss Monitoring and Management and Utilization of the District's AMI. By identifying a water loss goal of 10% (down from 14%) and having 66% (up from 42%) of District customers signed up for leak detection through the Eye on Water meter application, significant reduction can be realized in both water production and customer demand. Improvement in these areas, in the other areas identified above, and a reduction in water demands as housing trends move toward higher densities, will put the District in position to delay capital expenditures attributed to source development projects while continuing to meet customer demand.

Figure E2 illustrates the effect of these improvements on the District's demands as we look out to the end of the planning horizon in 2050. The District believes these improvements will lead to a water demand reduction of 10% in 2050, as illustrated by comparing the two demand lines in Figure E2. This reduction will allow the District to delay a second expansion of its water treatment plant, out beyond 2050, and meet the growing demands of District customers.

Mountain Regional Water Peak Source Capacity vs. Peak Demand with Conservation Goal

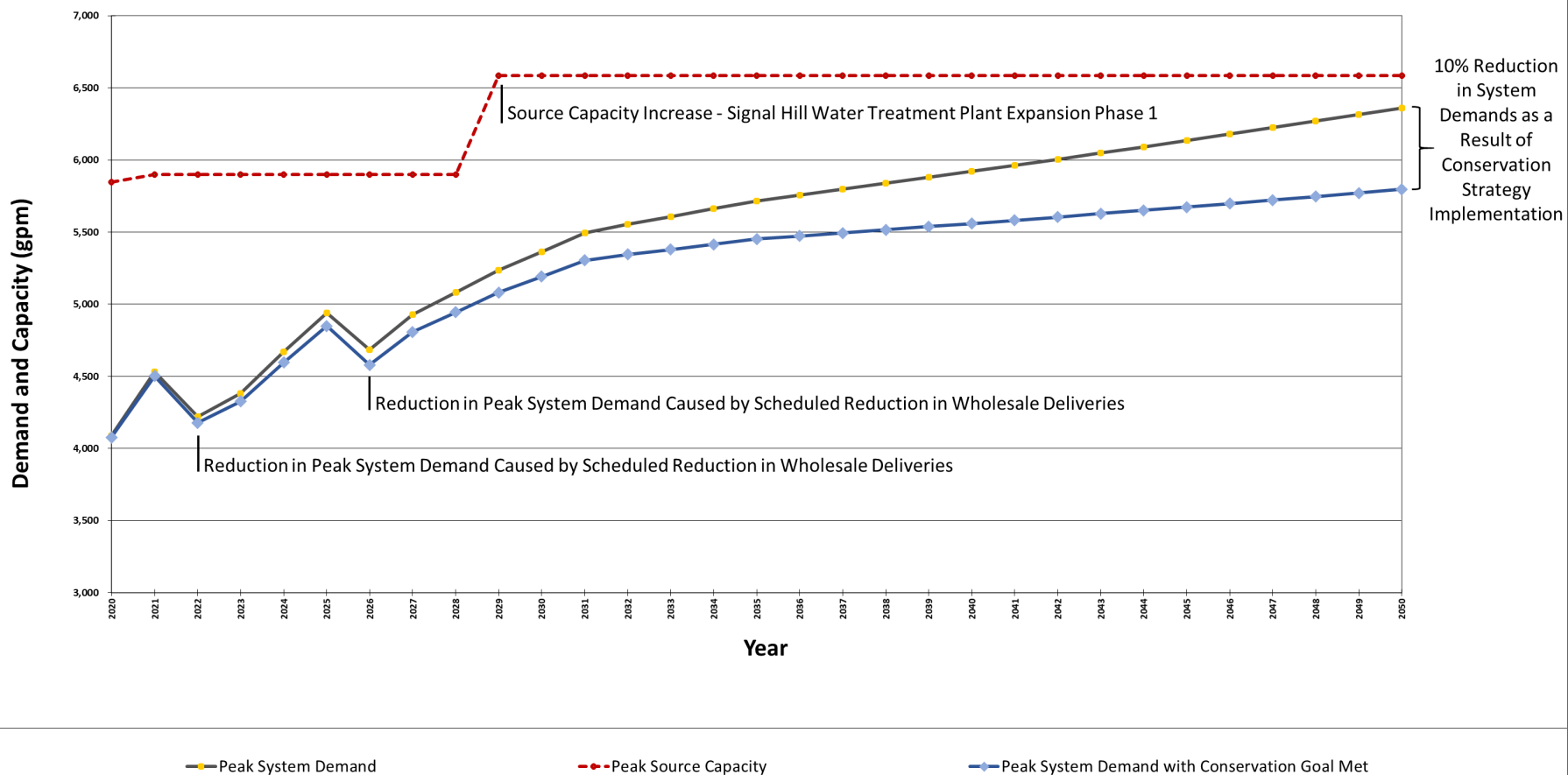


Figure E.2 District Peak Supply and Demand Model with Conservation

In response to the rapid growth occurring throughout the state of Utah, the District recognizes the important role conservation plays in planning for a reliable future water supply. Through the implementation of the strategies summarized above, the District will be able to maintain reliable sources of supply, get more efficient use out of its capital facilities, and continue to better the regional conservation goals as established by the Utah Division of Water Resources.

1.0 Introduction

In response to the rapid growth occurring throughout the state of Utah, the District recognizes the important role conservation plays in planning for a reliable future water supply. A similar concern has been demonstrated by the state legislature's passage of the Water Conservation Plan Act, (Section 73-10-32 Utah Code Annotated). This Water Conservation Plan (the "Plan") is an update of previously adopted water conservation plan(s) of 2009 and 2014 and is developed to address how water conservation programs and practices will continue to play a strategic role in meeting the District's current and future water needs.

2.0 District Profile

Located in the heart of western Summit County, and in the second driest state in the nation, the District currently serves a total of 5,607 Equivalent Residential Connections (ERC's), of which 4,887 ERC's are residential customers. The District's 2020 population is estimated to be approximately 13,781 (assuming 2.82 residents per residential ERC as estimated in the 2010 census). Based on these population numbers, the District follows the intermediate and advanced water conservation best management requirements as identified in the Division of Water Resources' Water Conservation Plan Checklist.

The District owns and operates a regional water system which includes the interconnection of approximately 17 private and public systems. Additionally, the District has 4 emergency or wholesale connections with neighboring systems. Figure 2.1 shows the District boundaries located within the western area of Summit County. As can be seen, the District encompasses a large area (over 40 square miles) north of Park City and roughly centered on the intersection of I-80 and US-40. Stretching from Summit Park on the west to Rockport Reservoir on the east.

- 4 million gallons per day (“MGD”) capacity water treatment plant
- 19 groundwater wells and 1 groundwater spring
- Over 130 miles of pipe
- 25 storage reservoirs
- 13,000,000 gallons of raw water storage
- 39 water pressure zones
- 30,000 GPM total water pumping capacity
- 80 Pressure Reducing Stations (“PRVs”)
- 5 Disinfection Plants
- More than 1,600 fire hydrants
- 9,000 acre-feet of Water Rights
- 10.7 million gallons of water stored which equates to:
 - ~172,000 citizen days and ~15 district days
- 140 pumps spread over 44 remote sites
- A pumping elevation which spans from 6,000’ to 9,300’

Table 2.1 shows District Municipal and Industrial (M&I) water connections and demands for 2019 listed by type of customer. The figures shown in light green are calculated using the methodology as required by the Utah Department of Natural Resource (DNR) for reporting purposes to the Division of Water Rights (also utilized by the Department of Environmental Quality, Division of Drinking Water).

The District uses a different methodology for calculating its ERC total, largely related to large residential homes which equate to greater than 1 ERC, leading to the difference in the District ERC total of 5,607 and the DNR total of 4,776. The large amount of water shown in the “Other” type represents a significant quantity of water the District delivers under contract to wholesale customers.

CATEGORY	2019 Billing ERC Units	2019 Active Connections	2019 Retail Annual Quantity (Gal)	2019 Retail Annual Quantity (Acre-Feet)	Average Gal/ERC	Average Acre-Feet/ERC
Residential	4,887	3,797	460,499,911	1,413.22	94,232	0.29
Commercial	331	140	86,574,285	265.69	261,633	0.80
Industrial	16	2	6,911,000	21.21	420,377	1.29
Institutional	160	49	25,232,381	77.44	157,771	0.48
Other (Includes Wholesale)	212	11	1,195,132,364	3,667.73	5,626,800	17.27
TOTAL:	5,607	3,999	1,774,349,941	5,445	316,478	0.97
DNR TOTALS:	4,776	3,988	579,217,577			

Table 2.1 M&I Water Connections and Demands by Type

3.0 Water Supply and Use - Trends and Statistics

3.1 Current Water Source Capacity:

Mountain Regional Water District utilizes fifteen (15) water sources to effectively meet the supply of its customer base demands. Not included in the table below is a small wholesale contract source and a new well which has not yet been put into service. The water sources and their rated capacities are determined by the Division of Drinking water and Summit County's Water Concurrency ordinance. The water source inventories, types, and their current production and ratings as of the end of 2019 are presented in Table 3.1 below:

CURRENT WATER SOURCE INVENTORY, RATING, and TESTING

Source or Contract Name	Source Type	Production in Gallons for the Year 2019	Sept. 1st Week TDS for 2019 (mg/l)	August Ave. Static Well Level 2019 (ft.)	Aug Ave. Dynamic Well Level 2019 (ft.)	Developed or Requested GPM	State 33% or Other Req. Reduction GPM	Concurrency 15% Reduction GPM	* Approved Rating in GPM
Well 15b & 15c	Well	279,987,731	272	79	138	1,300	0	195	1,105
Silver Creek Well 10	Well	26,902,000	988	41	258	306	0	46	260
Jailhouse Well 3	Well	8,306,000	560	27	76	120	0	18	102
Atkinson Well 2	Well	43,969,000	896	165	173	194	0	29	165
3 Mile Well	Well	8,394,000		394	402	105	0	16	89
Lost Canyon System	Surface	1,484,732,000	276	-NA-	-NA-	9,150	0	0	9,150
Spring Creek Spring	Spring	84,656,000	232	-NA-	-NA-	209	31	0	178
Lake Well 1	Well	25,897,000	304	16	89	150	0	23	128
Nugget Well	Well	9,854,000		136	293	230	0	35	196
Blackhawk Well 2R	Well	1,191,700	1,290	57	111	123	0	18	105
Gorgoza Well 6	Well	32,279,000	688	307	326	188	0	28	160
Summit Park Well 7	Well	8,165,000	264	495	511	128	0	19	109
Wagon Trail & Gulch Wells	Well	21,077,700	236	???	???	100	0	15	85
TOTAL		2,035,411,131	-NA-	-NA-	-NA-	12,303	31	442	11,830

Table 3.1 District 2019 Water Source Inventory and Capacity

3.2 Profile of Supply Sources:

Mountain Regional currently utilizes fifteen (15) water sources, plus one small wholesale delivery source. These water sources include both groundwater and treated surface water to meet its customer demands. The largest source, Lost Canyon BPS, conveys raw water sourced in Rockport Reservoir. This source also supplies the raw water irrigation in Promontory and the large contractual wholesale delivery of water to Park City. By contract and capital ownership in the system, Park City can receive up to 2,900 acre-feet of water per year from this source. The District can receive up to 3,580 acre-feet. Figure 3.1 shows in detail the 2019 production of all water sources the District manages.

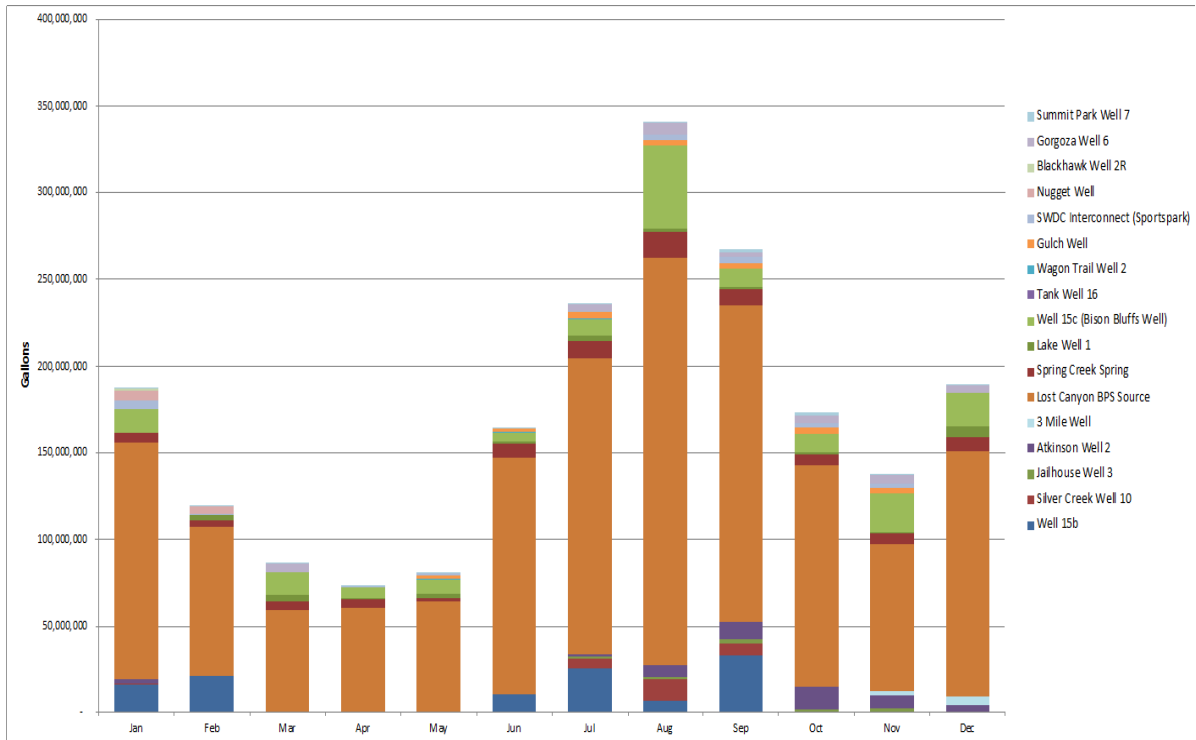


Figure 3.1 2019 Monthly Source Production by Source

The monthly demand profile of the District can be easily ascertained in this chart. And as a matter of statistical reference, the peaking factor of the District’s production (the ratio of peak day demand to average annual demand) for 2019 is 2.0.

3.3 Current and Historical Production and Use:

Figure 3.2 shows the total annual source production or supply and the user metered demands for twenty (20) years, by year since the District’s inception in January of 2000. The difference in these two values represents total annual unaccounted water. This table also paints a clear picture of the District’s growth since 2000.

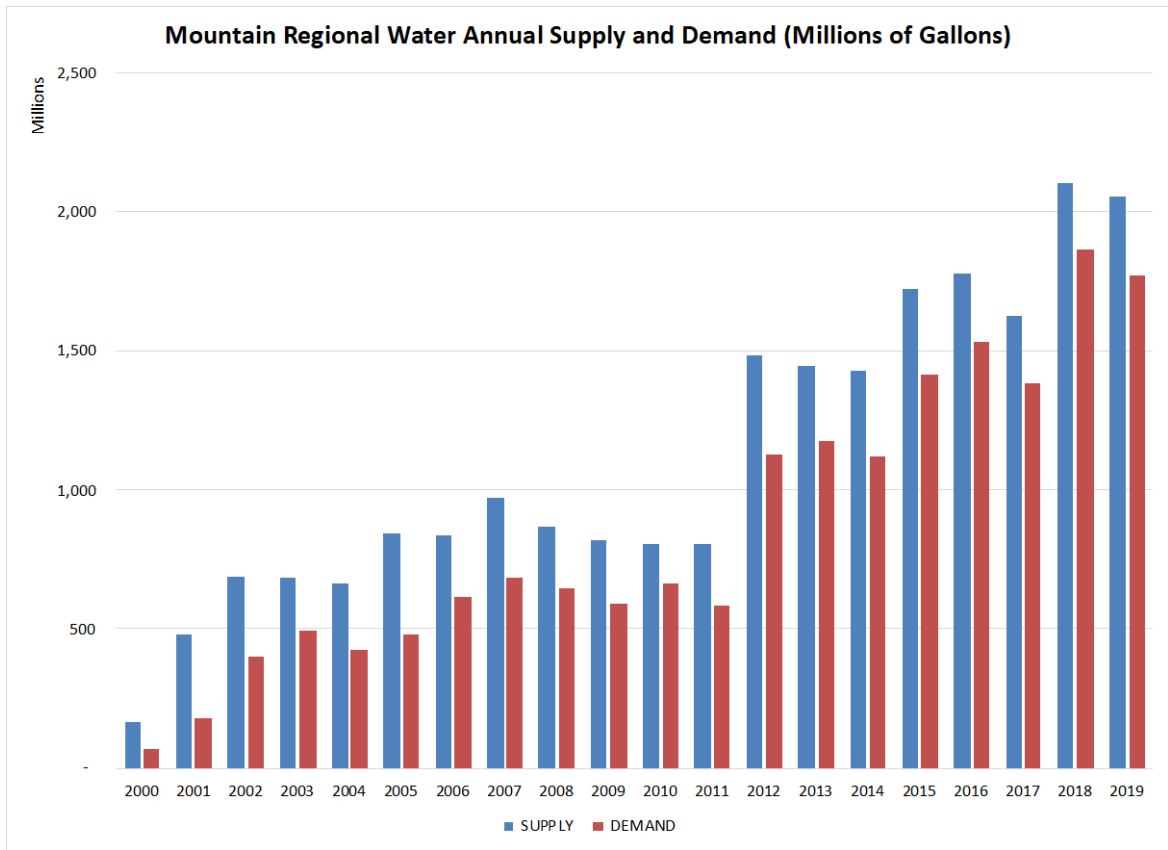


Figure 3.2 District Historical Supply and Demand

Figure 3.3 contains a recent water production annual report, showing the total production of all District sources in annual acre-feet. This chart also shows the percentage of water supplied by the District, by category, including retail, raw irrigation, as well as wholesale bulk annual deliveries to Park City Municipal Corporation and Summit Water Distribution Company. The primary focus of this conservation plan is on the Retail section which is slightly less than 50% of the District's total current delivery. Also, raw irrigation is only used for golf course irrigation in Promontory and is not relevant to this analysis.

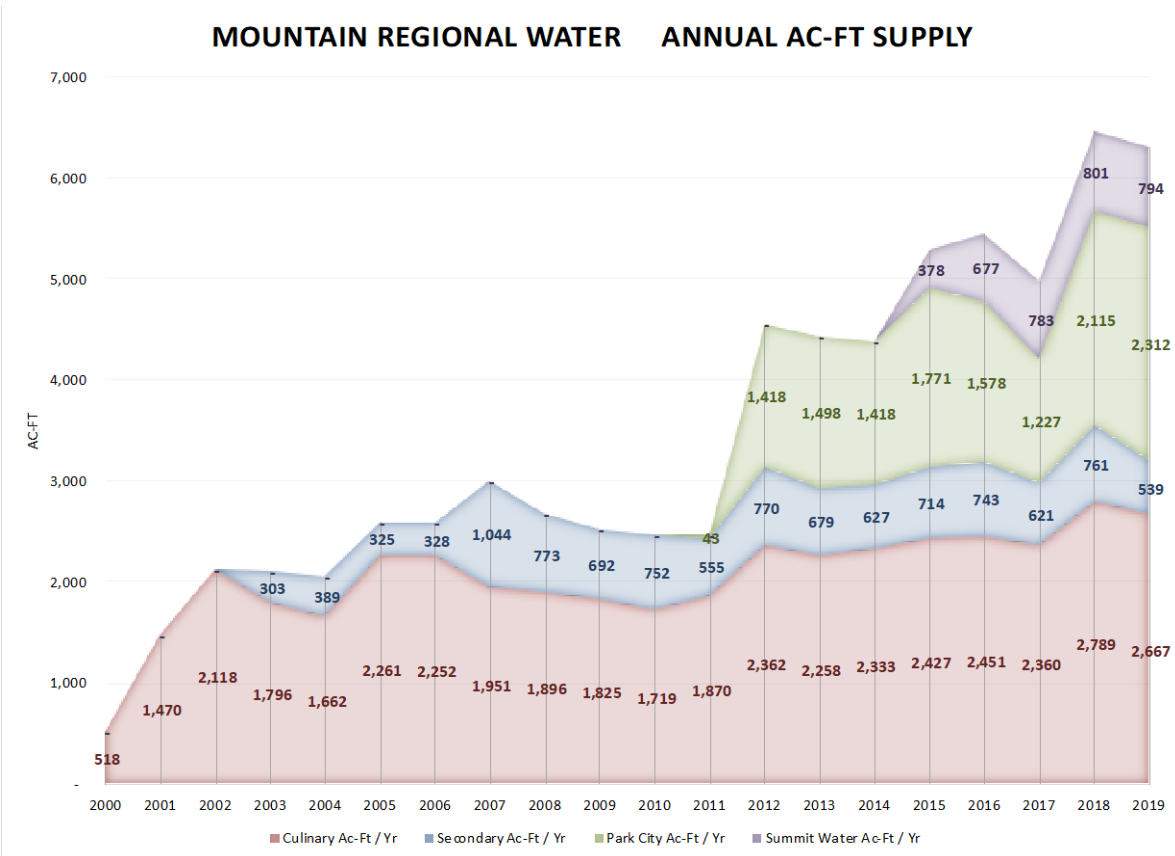


Figure 3.3 District Supply in Acre-Feet by User Category

3.4 Per Capita Consumption:

Table 3.2 shows the water consumption by customer type for the past three (3) years. The billing system ERC count is also shown by type, and this allows for an Average Gallons per ERC calculation. Dividing this value by the days of the year and the average occupancy per residential customer (2.82), we can then calculate the estimated GPCD for Mountain Regional Water District’s residential type customers. This data is tabulated for the years 2017 through 2019. For these three (3) years, the residential average amounts to 104 GPCD. When factoring in the other types of users, the average is 118 GPCD. These relatively low, as compared to the state average, GPCD numbers illustrate the effects of the District’s conservation based rate structure and to a smaller extent, the demographics of the customers served which include a small proportion of commercial customers and a number of unoccupied secondary residences. Also noteworthy, the District’s current GPCD values are ahead of the 200 GPCD Regional Conservation Goal for the Weber River water users by 2030, as defined by Utah’s Division of Water Resources.

2019 Demand Data by Type	ERC Units	Average Gallon/ERC	Average Acre-Feet/ERC	Average Annual GPCD
Residential	4,887	94,232	0.29	92
Commercial	331	261,633	0.80	254
Industrial	16	420,377	1.29	408
Institutional	160	157,771	0.48	153
TOTAL:	5,394	107,379	0.33	104

2018 Demand Data by Type	ERC Units	Average Gallon/ERC	Average Acre-Feet/ERC	Average Annual GPCD
Residential	4,196	126,182	0.39	123
Commercial	323	294,675	0.90	286
Industrial	16	501,034	1.54	487
Institutional	160	186,757	0.57	181
TOTAL:	4,696	141,144	0.43	137

2017 Demand Data by Type	ERC Units	Average Gallon/ERC	Average Acre-Feet/ERC	Average Annual GPCD
Residential	3,514	100,131	0.31	97
Commercial	236	324,901	1.00	316
Industrial	17	433,412	1.33	421
Institutional	137	156,135	0.48	152
TOTAL:	3,904	117,135	0.4	114

Table 3.2 2017-2019 Demands and GPCD by Type

Due to the small number of nonresidential connections, the District has historically focused on the GPCD values of its residential customer base to evaluate the performance of its conservation-based rates and other operational and educational programs. Figure 3.4 shows the residential GPCD calculations and the trend of reduction over this period. As can be seen by the declining nature of this trend, the District has been successful in its implementation of conservation-based strategies.

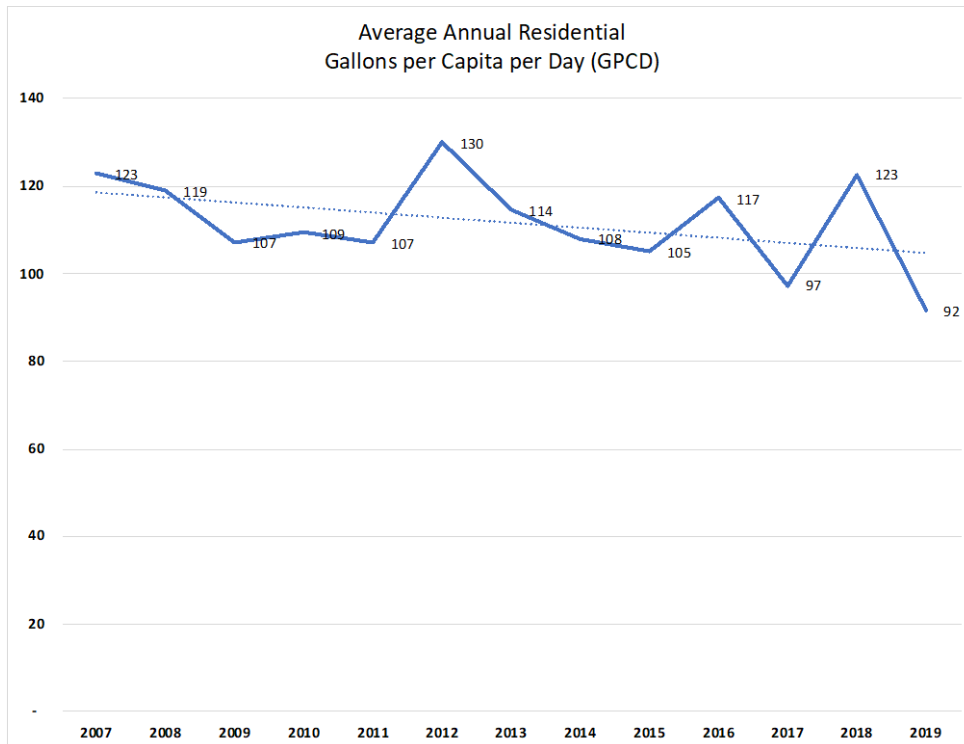


Figure 3.4 *Chart of District Annual GPCD Values*

3.5 Peak Supply and Demand Projections:

Figure 3.5 displays the District’s peak water supply and demand model which is utilized for planning purposes and updated on a regular basis. This chart shows the peak source capacity and peak demand capacity for each year, extended in projections out to the year 2050. All figures are presented as GPM.

Key infrastructure upgrades which improve source capacity are annotated as well as scheduled reductions in wholesale deliveries which reduce District customer demands. The District has a policy to maintain source capacity levels at a minimum of 750 GPM above projected customer demands. This safety factor provides the redundancy necessary to overcome loss of source emergencies, extended droughts, or other unforeseen conditions and is used when determining the appropriate timing for new source development projects.

Mountain Regional Water Peak Source Capacity vs. Peak Demand

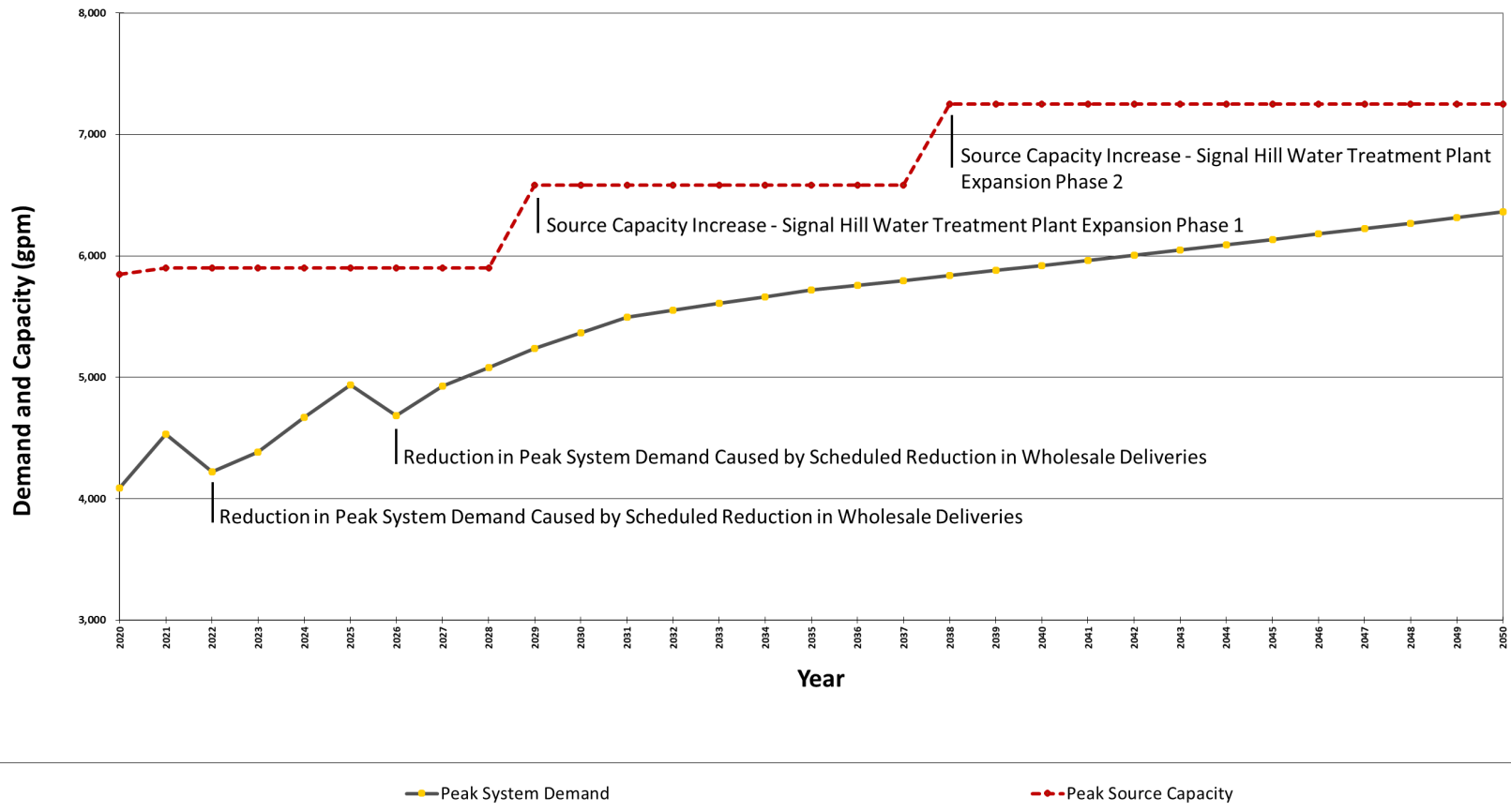


Figure 3.5 District Peak Supply and Demand Model

3.6 Water Conservation Goals Applied to Modeling:

In consideration of the District's future source capacity needs, the District has established specific goals for its water loss program (10% water loss by 2026) and engagement in its AMI application, Eye on Water (66% engagement by 2026). Improvement in these areas, other areas identified in Section 6.0, and a reduction in water demands as housing trends move toward higher densities is expected to lead to a 10% reduction in system demands in 2050.

Figure 3.6 displays the very same planning model as shown in Figure 3.5 above with two notable changes; first, the second phase of the Signal Hill Water Treatment Plant (WTP) capacity expansion is removed from the projection, and second, the demand conservation goals have been integrated into a new demand trend line, shown in blue. This chart illustrates the ability of the District to meet its peak system demands, and safety margin, through 2050 without the need for a second expansion of its water treatment plant. The delay of the second expansion is a direct result of the District implementing conservation measures and reducing its 2050 demands by 10%.

Mountain Regional Water Peak Source Capacity vs. Peak Demand with Conservation Goal

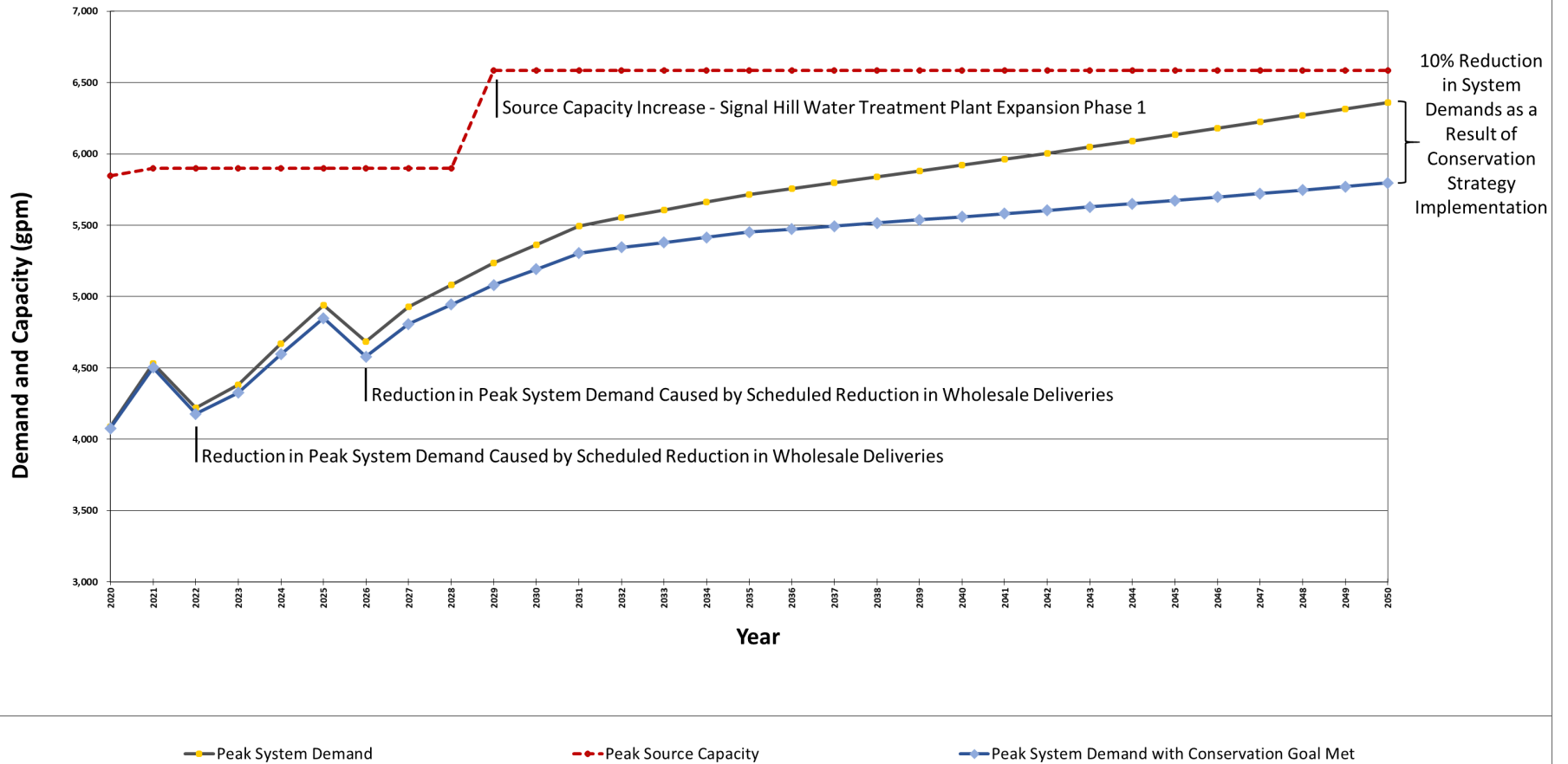


Figure 3.6 District Peak Supply and Demand Model with Conservation

4.0 Metering and Billing

4.1 Metering

Since 2009, the District has been metering all customers, including secondary irrigation and culinary customers across all customer classes. Beginning in 2017, the District invested \$1.4 million dollars to change out all water meters to a Badger ultrasonic meter which reads usage hourly (sub-hourly for more recent models) and transfers daily readings via cell phone providers to the District. The installation of these meters is expected to be completed by the end of 2020.

A valuable service that the District includes with these meters is providing customers (and the District) the ability to monitor their usage through a web-based application, “Eye-On-Water”, and see their hourly profiles to determine if there are leaks in their home or irrigation systems. Smart metering has allowed the customer to be inserted directly into their own conservation process. The District sees the customer involvement has a high priority in lowering its system demands and has adopted a goal to reach 66% involvement by 2026. The results of this large investment and effort allow the District to find water leaks on a daily level and to develop water supply and demand statistics for every tank zone.

Regarding replacement, the District has historically maintained its meters for approximately 10-years before initiating replacement. New technology offerings and installation sequencing can influence this timing.

4.2 Billing

The District has been utilizing a conservation-based rate structure for several years which has proved very influential in reducing customer’s water usage. The rate structure currently employed includes 8 blocks, or tiers, with prices ranging from \$1.80 per thousand gallons up to more than \$21 per thousand gallons. Also noteworthy is the District does not offer any water included in its base fee, all usage is billed separately.

The District is currently working on updates to its bill format to better illustrate the usage in each block and the associated costs. This helps the customer understand how their water use relates to their bill total and provides an opportunity for them to reduce usage to meet monthly expenditure targets. The coupling of this new bill format with the Eye on Water application, allows a direct understanding of the costs associated with the use choices that customers are making.

Appendix A includes details of the District’s rates and fees.

5.0 Water Loss Control

The District's aggressive water loss reduction and leak detection program has proved to be one of the greatest water conservation initiatives undertaken to date, and a key conservation strategy for the future. As can be seen by the figures in Table 3.3, water losses have been reduced to just under fourteen percent in 2019, from a high of over 60 percent in 2001. The District has adopted a goal to further this progression, reaching 10% water loss by 2026. Figure 3.7 shows this meaningful drop in system losses in graphical form.

YEAR	% Water Loss
2000	60.00%
2001	62.69%
2002	43.31%
2003	35.32%
2004	26.91%
2005	29.45%
2006	26.74%
2007	22.64%
2008	22.92%
2009	24.66%
2010	21.89%
2011	24.16%
2012	22.33%
2013	17.70%
2014	21.53%
2015	17.78%
2016	13.67%
2017	14.83%
2018	11.44%
2019	13.74%

Table 5.1 Annual Water Loss Values

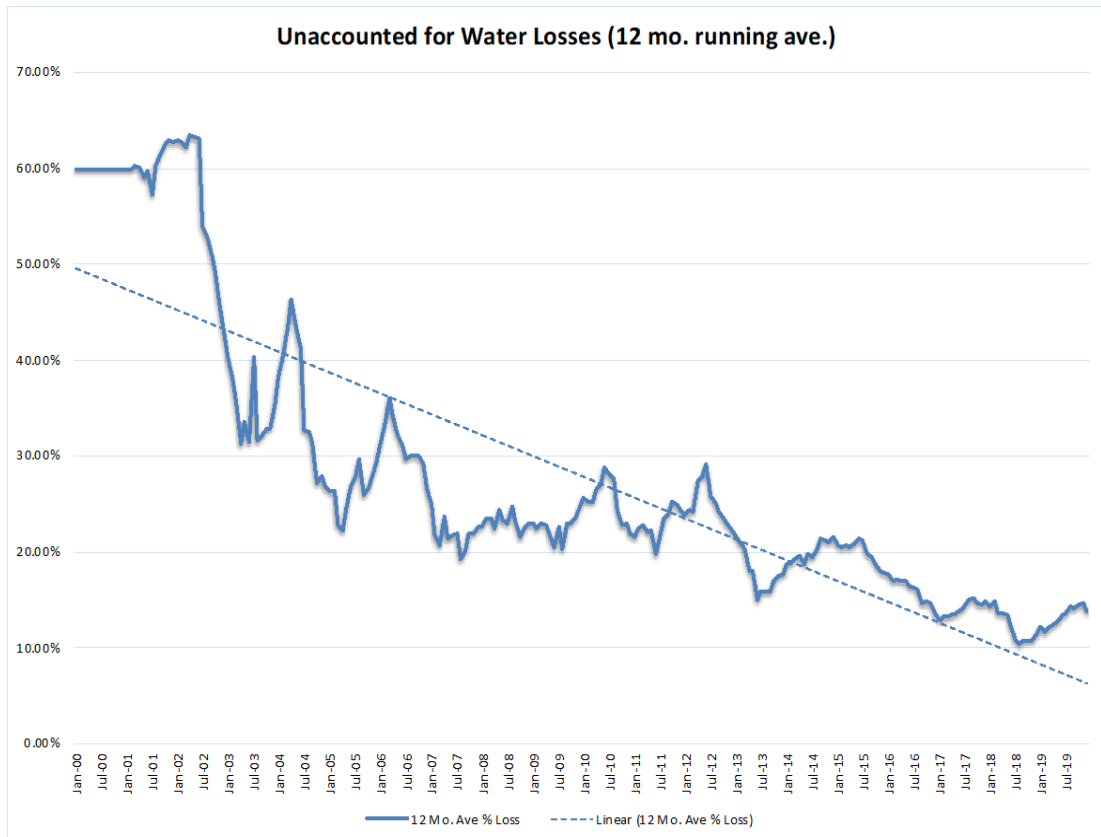


Figure 5.1 12 Month Running Average of Annual Water Losses

5.1 Advanced Water Loss Monitoring and Management

The District has recently embarked on a more real-time approach to water loss detection and mass balance accountability. By installing smart meters on all customer demand points, coupled with a recent reporting system upgrade to the District’s SCADA system, a more granular and precise methodology for loss detection has begun to take shape. This data can be detected within days by plotting real-time demands against real-time supplies, not only for the overall system, but for each component tank zone as well.

This strategy is critical in reducing response times, allowing the Operations staff to zero in on a specific area and deploy localized detection tools. While this system is new as of 2020, it is expected to be fully functional by the end of this year, coinciding with the new smart meter installation program.

In Figure 5.2, we can see the daily mass balance report for the entire District from January 1 through June 30 of this year. The daily supply data is in blue and the demand data is shown in red. The difference, or unaccounted for water, is shown in the light grey dotted line. A linear trend line is also shown for the unaccounted water data. The supply and demand lines will converge more as the year progresses as more demand meters are changed out.

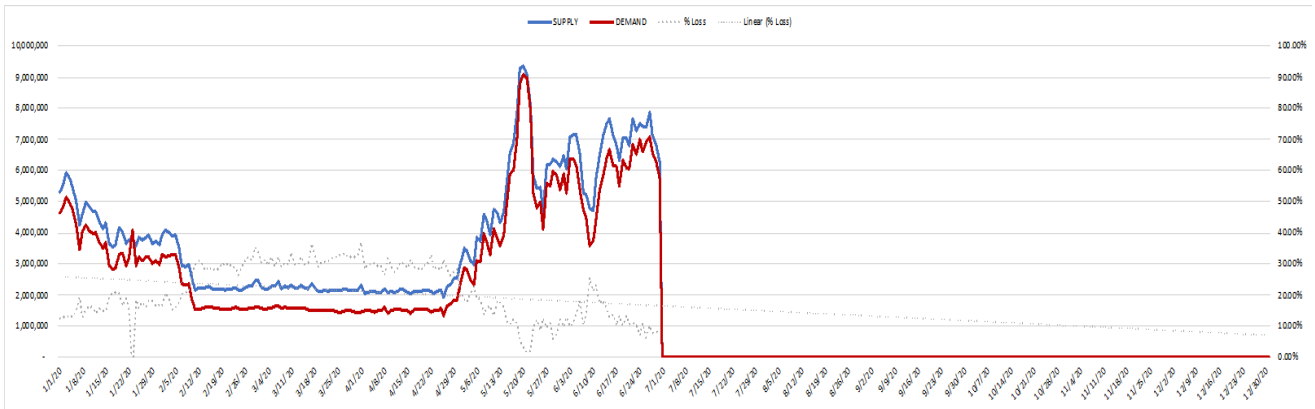


Figure 5.12 Overall District Water Balance Chart

Figure 5.3 below narrows the focus to one area of the District which encompasses four storage tanks; each tank zone can be viewed individually as well (on separate charts). In this trend, the closure of supply and demands converge after more meters are changed out. Also, a possible leak event can be seen the first week of June within the tall and obvious uncharacteristic supply spike.

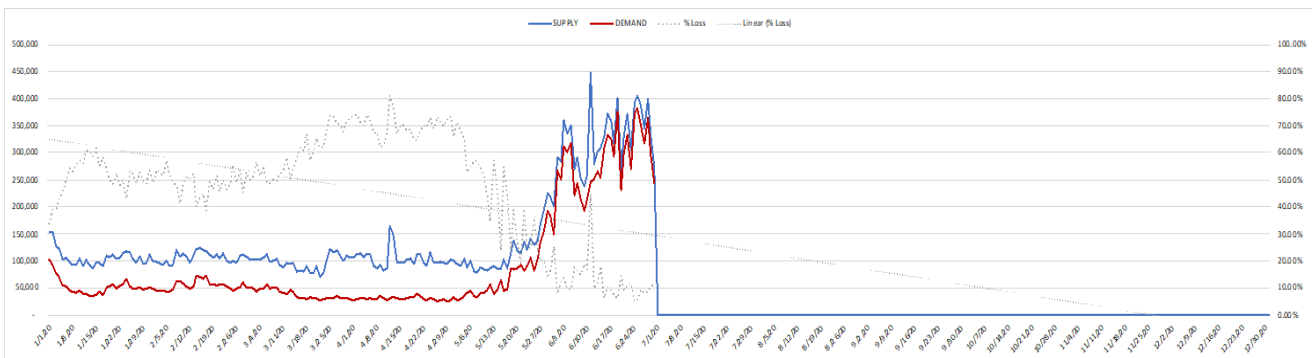


Figure 5.3 Colony Zone Water Balance Chart

Figure 5.4 below, shows a very small but completed Timberline tank zone for reference. In this chart, the correlation is very precise and displays an example of a more finished product. Even here, however, a water loss of close to 20% can still be viewed within the obvious separation.

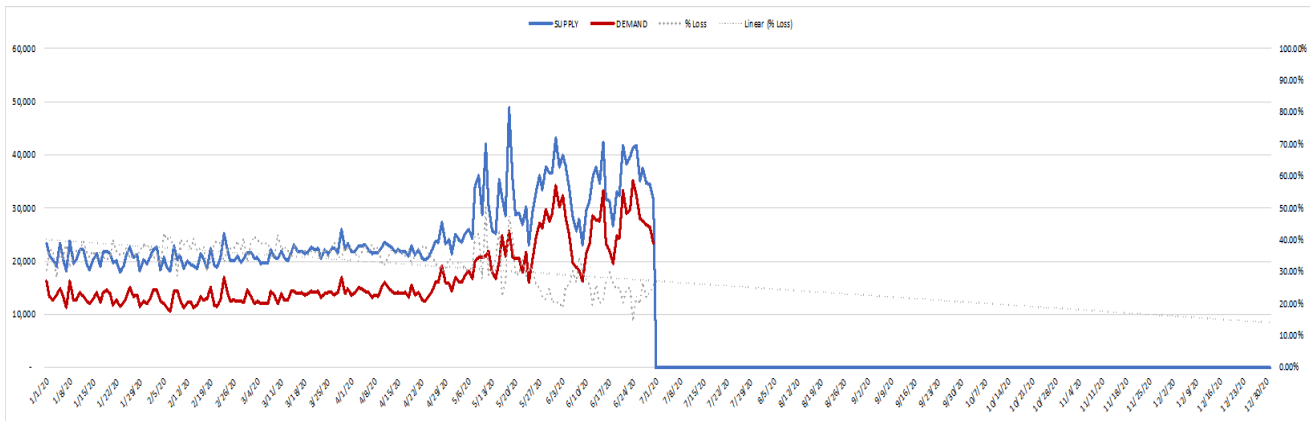


Figure 5.4 Timberline Zone Water Balance Chart

6.0 Water Conservation Practices:

Mountain Regional Water District’s Conservation planning and implementation process will incorporate the following basic goals and strategies:

- 6.1 Measure Accurately**—all water use, including separate meters for irrigation and domestic uses, if necessary.

STRATEGY: Ensure that the water use of all customers is metered, and the usage is monitored to understand usage patterns, detect possible residential leaks, and promote conservation responsibility.

IMPLEMENTATION: By 2009 the District’s goal to have all customers metered was accomplished. The District’s initial meter installation was a radio-based system which assisted in meeting past conservation goals.

As previously discussed, the District is currently installing ultrasonic water meters with hourly read resolution and an application interface to review and monitor usage. These water meters include an application portal, Eye on Water, which allows users and the District to monitor usage and set leak alerts. The District has set a goal of reaching 66% customer engagement in this application by 2050. The results of this large investment and effort allow the District to find water leaks on a daily level and to develop water supply and demand statistics for every tank zone.

- 6.2 Employ Conservation Based Pricing Structure.** Pricing mechanisms should provide incentives to water users who conserve water as well as penalties for those who waste it.

STRATEGY: Utilize rate schedules to assist in the accomplishment of this conservation objective.

The District has adopted a conservation-based rate schedule, provided in Appendix A. Rates will continue to be evaluated year by year, and conservation effectiveness will be evaluated against the rates adopted, to determine if further conservation pricing incentives need to be incorporated into the rate structures.

IMPLEMENTATION: Largely through conservation-based rates, the District has reduced water use per ERC since the District's inception in 2000. It is estimated that water use per ERC has been reduced by at least 30 percent during this period. Also, the District has some of the lowest water consumption statistics in the State. The District has adopted strict conservation-oriented rules and regulations focused at dealing with users who waste or use water for unauthorized purposes (see section 11 below).

6.3 Water Loss Reduction Programs remain critical to the District's future water needs and to demonstrate to customers that the District is doing everything possible to minimize water loss on the supply side of the equation while promoting conservation programs to the end users on the demand side. The District has established a goal of reducing its water loss from the current level of just under 14% to 10% by 2026.

STRATEGY: Carefully study annual water losses on a micro, macro, and regional level, then target areas of the District that are susceptible to leaks and water loss. Use the upgraded SCADA system to notify or alarm District staff when trends in pumping and reservoir levels indicate a possible water loss or pipe break.

IMPLEMENTATION: This program has been successfully implemented and has resulted in major water savings, particularly in the Summit Park area. The District has upgraded its SCADA system in 2013 and 2014 to provide for advanced water leak detection strategies, which promote timely response to water leaks. As this program is coupled with daily customer demand metering reads, daily water balance reports can be generated, and leaks can be zeroed in on in specific areas of the distribution system. Also, customers can be notified immediately if water losses show on their properties through the new Badger meter Eye on Water application.

6.4 Promote financial or publicity incentives to reward users for efficient landscapes and irrigation systems.

STRATEGY: Promote the incentive programs offered by Weber Basin Water Conservancy District, Utah Water Savers, Localscapes and other organizations that support our service area.

IMPLEMENTATION: There are several currently available rebate programs through the organizations referenced above. The District will actively promote these opportunities to our customers through our website, social media, and other public outreach opportunities.

6.5 Create or assist in educational programs, educate the public about the scarcity of water in our area and the challenges of local water source development. These programs should also emphasize the importance of supporting regulatory policies, which reward conservative and efficient water use.

STRATEGY: The District will develop and publicize more water wise irrigation programs, with the possibility of developing a demonstration garden, and will continue to support and participate in the annual children’s water festival each year. The District will also provide resources on its WEB page, billing stuffers, as well as individual assistance to customers and patrons seeking the same.

IMPLEMENTATION: While the District has not been successful in implementing a conservation demonstration garden due to real estate prices, we have helped others implement water saving designs in their landscaping projects which have in-turn proved to be a model for others. For example, nearly all public landscape areas in the Promontory development have been based on low water designs. The District has been very successful in its annual water fairs and has educated many – especially children in the principles of water preservation and conservation throughout the county. Water conservation information is provided on the District’s web page.

6.6 Support water reclamation initiatives, particularly for irrigation, including the use of reclaimed water from municipal, industrial, and other available sources, where practical.

STRATEGY: The District will work with Park City and the Snyderville Basin Water Reclamation District (SBWRD) to investigate the possibility of utilizing treated re-use water in secondary systems, as provided by the Reclamation District. This strategy will require cooperation and the fusion of goals and strategies of all parties.

IMPLEMENTATION: Recently—the District began discussions with a major developer, the local recreation district, and the Water Reclamation District on the possible construction and implementation of Summit County’s first water re-use project for some large irrigation spaces and ponds. The development would serve over 1,000 homes and businesses and is hoped at a minimum to irrigate all large public recreational landscapes with “Type 1” reclaimed and treated wastewater in the Silver Creek drainage. If this process proves feasible, the District would assist with the utilization of water rights for the project and would assist in the distribution of the reclaimed water. It is hoped that this project will spread to our other customers and other areas in the Snyderville Basin.

- 6.7 Utilize Technology** and Institute studies to better identify water use and efficiency by all segments of the water industry to provide data on which to base decisions regarding equitable water distribution during periods of shortage.

STRATEGY: Continually refine this conservation policy, as new statistical data on water use and patterns are developed. Use the District GIS and SCADA system to track visually water use patterns throughout the District. Review common space, HOA usage, and irrigation user demands and profiles to see if they are falling within their prescribed and contracted allotments. These users have recently proven to be some of the largest users of water in the District. Model the system to identify system deficiencies, etc.

IMPLEMENTATION: The District is currently implementing this process, particularly with their GIS and upgraded SCADA system, and successful results have been realized. The District has also completed a new computer model of their system, allowing for more detailed analysis of water use and demand patterns, as well as critical capital improvement planning and needs. See Section 3.5 above. The District has also utilized water conservation and importation to better utilize water rights throughout the service area by filing change applications and receiving approvals from the Utah State Engineer. These applications allow groundwater to be moved from a starved water basin (East Canyon) into Silver Creek and to further replace water depletions in East Canyon with imported water deliveries from the larger Weber River system.

- 6.8 Meld Water and Energy Conservation into a unified strategy.** Water and Energy share many of the same conservation strategies and should be looked at conjunctively in any conservation program.

STRATEGY: Study different electrical power and energy rates and determine if changing rates can have a positive impact on District financial resources. Also – continue to study the Load Factors of pumping systems to determine if they are operated at optimum levels and determine if off-peak pumping is feasible throughout the District.

IMPLEMENTATION: The District has made a lot of headway on this goal in the last couple of years. All pumping systems have been migrated to rates that better reflect their operation. This process alone has saved tens of thousands of dollars a year. The District is also running major pumping systems off-peak where feasible to lessen the impact and reduce the peak loads on the power generating and delivery systems in the State. The District has expended 1.5 million dollars in 2011 to convert its 4,100 horsepower Lost Canyon Pump Station to primary metered transmission service. This conversion is estimated to save as much as 5 million dollars over 20 years of operation in power costs. The District has also just completed a major SCADA system upgrade, which integrates with the Computer Water Modeling program and will integrate with a new Work Order system to facilitate more efficient use of pumping systems, as well as the rapid identification and location of water losses in specific areas.

6.9 County Landscape Ordinances can save considerable resources when properly applied in the initial project planning and design phases.

STRATEGY: Development and implementation of a Summit County conservation and landscape ordinance, including possible approved plant lists utilized in new developments can have a positive impact on conservation goals and programs. Conservation practices of this nature however may require a paradigm shift in some planning and zoning practices regarding landscaping designs and limits of disturbance practices. Rather than require that a project be lush and green, it may need to resemble the native landscapes better.

IMPLEMENTATION: Summit County is currently evaluating the incorporation of landscape ordinances into its Neighborhood Mixed Use zone. The District will continue to support the County in its efforts.

7.0 Water Quality Benefits to Conservation

A well-developed conservation program also improves stream water quality by putting a significantly smaller burden on County storm water collection and discharge systems which further loads the streams with fewer nutrients. Over-watering carries nitrogen and phosphorus compounds into the stream environment, aiding in the rapid growth of aquatic plant and algae

species, which in turn, can rob the stream of oxygen, a necessary component for the survival of aquatic wildlife. It has been said that, “green lawns, leads to green streams”, and this is fundamental characteristic of the East Canyon stream environment.

As another often-unperceived penalty, through additions of stream nutrients, and by improper irrigation practices, coupled with reductions in stream flows from development growth demands, over appropriation of water rights in the Snyderville Basin, and the effects of droughts, may result in customer’s sewer bills being indirectly affected. The discharge permits of the Snyderville Basin Water Reclamation District are regulated by base flows and loadings of pollutants normally found in the stream, prior to the plant discharge. As these background levels increase, the amount or loading of discharged elements, such as phosphorus, must decrease, increasing significantly the treatment burdens placed upon the Reclamation District, which in turn costs results in service fees passed on to Basin customers.

This condition can be partly remedied through importation. Mountain Regional Water Special Service District and Park City Municipal Corporation are also studying possible future stream injection points with imported waters, to help protect the watershed environment. This could increase stream flows, reduce the impact of pollutants, such as nitrogen and phosphorus compounds, provide a more healthful environment to aquatic wildlife, and help recover years of some aquifer over utilization.

8.0 Conservation Through Cooperation

Many District water conservation and management programs are developed and implemented with the cooperation and partnership with Snyderville Basin Water Reclamation District (“SBWRD”), Park City Municipal Corporation, Summit Water Distribution Company, Summit County, and possibly other key partners in the future. It is very difficult to develop conservation programs when one single jurisdiction acts as an “island”, independent of other water providers.

Since the District does not possess the authority to regulate the approval of new development projects within their boundaries (like Cities do), efforts have been made to provide for a cooperative effort in this regard. Summit County has formed a Service Provider review process where all service providers are given the opportunity to comment on new applications brought before the Planning Department. This effort has proved very successful.

The Summit County Planning Department has also voiced a much-needed concern to work with the District to ensure that our water conservation strategies and policies are implemented early in a project planning and review phase. This one effort could result in significant positive results in our overall District water conservation strategy.

9.0 District Irrigation Systems Conservation Standards

Standards have been developed by the District to aid in the development of Conservation Policies, Programs, and Ordinances. These standards are used as a point of reference in the development or presentation of any conservation policies and are used in our public education campaigns such as on our bills, bill stuffers, our website, social media platforms, water fairs, and consumer confidence reports. APPENDIX B shows a typical irrigation scheduling program based on Evapotranspiration for Mountain Regional Water:

- A. Plants well-suited to microclimate and soil conditions at site, require minimal water once established, are relatively free from pests and diseases, and are generally easy to maintain. (See Plant Lists in Section 10.0)
- B. Plants with similar water needs should be grouped together.
- C. Water-Conserving Plants should be placed on slopes exceeding 33 percent.
- D. Pre-emergent herbicide and a minimum four inches of mulch should be specified on plans.
- E. Landscape Water Meters shall be installed separate from the water meter installed for indoor use on large or specified landscaping projects.
- F. Automatic controllers will be utilized with multiple program and repeat cycle capabilities, automatic rain shut-off device, and a flexible calendar programs on landscaping watering systems.
- G. On slopes over 33 percent, irrigation system shall consist of drip emitters, bubblers, or sprinklers with a maximum precipitation rate of 0.85 inches per hour and adjusted sprinkler cycle times to eliminate runoff.
- H. Each irrigation or sprinkler valve shall irrigate areas with similar site, slope, and soil conditions and plants with similar water needs.
- I. Turf and non-turf areas shall be irrigated on separate valves.
- J. Drip Emitters and Sprinklers shall be placed on separate valves.
- K. Drip Emitters or a Bubbler shall be provided to each tree, Bubblers with a maximum 1.5 gallons per minute shall be used. Bubblers for trees shall be placed on separate valves, unless otherwise permitted by the District.
- L. Sprinklers will have matched Precipitation Rates within each valve.

- M. Check valves are specified where low-head drainage will occur due to elevation differences.
- N. Pressure compensating valves and sprinklers will be specified where significant variation in water pressure will occur.
- O. Sprinklers shall be spaced at maximum 1.0 times radius of head for square spacing.
- P. Pressure regulators shall be provided where static water pressure exceeds manufacturers maximum recommended operating pressure for the sprinkler heads.
- Q. Drip irrigation will always be placed underground, except for temporary installations.
- R. Rebates are available, see the detailed discussion of incentives in Section 4.

10.0 Residential Conservation Information

The following conservation information is provided to assist residential and small business customers establish indoor and outdoor conservation practices in their homes and businesses:

Outdoor Water Use:

- A. Water landscapes only as much as required by the type of landscape, and the specific weather patterns of your area, including cutting back on watering times in the spring and fall. We encourage our customers to utilize the weekly lawn watering guide located at www.conservewater.utah.gov.
- B. Group plants in terms of water need, and zone sprinkler systems accordingly.
- C. We encourage our customers to alter parking strips by allowing more water-wise plantings.
- D. Do not water on hot, sunny, and/or windy days. You may end up doing more harm than good to your landscape, as well as wasting a significant amount of water.
- E. Sweep sidewalks and driveways instead of using the hose to clean them off.
- F. Wash your car from a bucket of soapy (biodegradable) water and rinse while parked on or near the grass or landscape so that all the water running off goes to beneficial use instead of running down the gutter to waste.

- G. Check for and repair leaks in all pipes, hoses, faucets, couplings, valves, etc. Verify there are no leaks by turning everything off and checking your water meter to see if it is still running. Some underground leaks may not be visible due to draining off into storm drains, ditches, or traveling outside your property.
- H. Use mulch around trees and shrubs, as well as in your garden to retain as much moisture as possible. Areas with drip systems will use much less water, particularly during hot, dry, and windy conditions.
- I. Keep your lawn well-trimmed and all other landscaped areas free of weeds to reduce overall water needs of your yard.

Indoor Water Use:

- A. About two-thirds of the total water used in a household is used in the bathroom.
- B. Concentrate on reducing your bathroom use. Following are suggestions for this specific area:
 - 1. Do not use your toilet as a wastebasket. Put all tissues, wrappers, diapers, cigarette butts, etc. in the trashcan.
 - 2. Check the toilet for leaks. Is the water level too high? Put a few drops of food coloring in the tank. If the bowl water becomes colored without flushing, there is a leak.
 - 3. If you do not have a low volume flush toilet, insert a plastic bottle full of sand and water into the holding tank to reduce the amount of water used per flush. However, be careful not to over conserve to the point of having to flush twice to make the toilet work. Also, be sure the container used does not interfere with the flushing mechanism.
 - 4. Take short showers with the water turned up only as much as necessary. Turn the shower off while soaping up or shampooing. Install low flow showerheads and/or other flow restriction devices.
 - 5. Do not let the water run while shaving or brushing your teeth. Fill the sink or a glass instead.
- C. When doing laundry, make sure you always wash a full load or adjust the water level appropriately if your machine will do that. Most machines use 40 gallons or more for each load, whether it is two socks or a week's worth of clothes.
- D. Repair any leak within the household. Even a minor slow drip can waste up to 15 to 20 gallons of water a day.
- E. Know where your main shutoff valve is and make sure that it works. Shutting the water off yourself when a pipe breaks or a leak occurs will not only save water, but also eliminate or minimize damage to your personal property.

- F. Keep a jar of water in the refrigerator for a cold drink instead of running water from the tap until it gets cold. You are putting several glasses of water down the drain for one cold drink.
- G. Plug the sink when rinsing vegetables, dishes, or anything else; use only a sink full of water instead of continually running water down the drain.

11.0 Water Conserving Plant Lists

Plant lists assist in the education, planning, and implementation of any conservation program. The following plant lists are provided to our customers for use in the two main climates, presented geographically in the District. Use of plants listed below, or the like, by customers developing landscapes in the District, can result in real reductions to more typical water patterns. The District will continue to investigate further incentives, to assist in the utilization of xeriscaping or low impact water designs in new or remodeled landscaping projects.

USE for HIGH MOUNTAIN DESERT LANDSCAPES (*Most of Snyderville Basin*)

Scientific Name	Common Name	Native Species = N
Agave harvardii	Harvard Agave	
Albizia julibrissin	Mimosa Silk Tree	
Artemisia frigida	Fringed Sage	N
Artemisia tridentata	Big Sagebrush	N
Astragalus utahensis	Utah Ladyfinger	N
Atriplex canescens	Four-Wing Saltbrush	N
Berlandiera lyrata	Chocolate Flower	
Bouteloua gracilis	Blue Grama Grass	N
Caesalpinia gillesii	Yellow Bird of Paradise Shrub	
Callirhoe involucrata	Poppy Mallow	
Calylophus hartwegii fendleri	Sundrops	N
Campsis radicans 'Flava'	Yellow Trumpet Creeper	
Campsis tagliabuana 'Madame Galan'	Trumpet Vine	
Castilleja sp.	Indian Paintbrush	N
Caragana arborescens	Siberian Peashrub	
Celtis occidentalis	Common Hackberry	
Delosperma cooperi	Hardy Ice Plant	
Ephedra viridis	Green Mormon Tea	N
Fallugia paradoxa	Apache Plume	N
Festuca ovina glauca 'Elijah Blue'	Elijah Blue Fescue	
Forestiera neomexicana	New Mexican Privet	
Gaillardia x grandiflora 'Burgundy'	Burgundy Blanket Flower	
Gaura lindheimeri 'Siskiyou Pink'	Gaura	
Gutierrezia sarothrae	Snakebrush	N

Hesperaloe parviflora	Red Yucca	
Hesperaloe parviflora 'Duet'	Duet Red Yucca	
Juniperus horizontalis 'Bar Harbor'	Bar Harbor Juniper	
Juniperus osteosperma	Utah Juniper	N
Juniperus scopulorum	Rocky Mountain Juniper	N
Linum perenne lewisii	Blue Flax	N
Miscanthus sinensis 'Goliath	Japanese Silver Grass	
Miscanthus sinensis 'Zebrinus'	Zebra Grass	
Oenothera caespitosa	Tufted Evening Primrose	N
Penstemon barbatus	Scarlet Bugler	N
Penstemon eatonii	Firecracker Penstemon	N
Penstemon palmeri	Palmer's Penstemon	N
Penstemon pinifolius	Pineleaf Penstemon	N
Pinus edulis	Pinyon Pine	N
Ratibida columnifera	Mexican Hat	
Salvis argentea	Silver Sage	
Schizachyrium scoparium	Little Blue Stem	
Sempervivum species	Hens and Chicks	
Shepherdia rotundifolia	Roundleaf Buffaloberry	N
Sorghastrum nutans 'Sioux Blue'	Indian Grass	
Sphaeralcea caespitosa	Cushion Globemallow	N
Sphaeralcea grossulariaefolia	Gooseberry-leaf Globemallow	N
Stanleya pinnata	Prince's Plume	N
Viquiera multiflora	Showy Goldeneye	N
Yucca baccata	Banana Yucca	
Yucca filamentosa 'Ivory Tower'	Ivory Tower Yucca	N
Zauschneria latifolia	Hummingbird Flower	N

USE for WOODLAND LANDSCAPES

(Mainly North Facing High Elevation Wooded Canyons, such as Summit Park and the Colony)

Scientific Name	Common Name	Native Species = N
Acer ginnala	Amur Maple	
Acer glabrum	Rocky Mountain Maple	N
Aethionema grandiflorum	Persian Stonecress	
Agastache rupestris	Sunset Hyssop	
Alnus incana	Thinleaf Alder	
Andropogon gerardii	Big Blue Stem	
Aquilegia caerulea 'McKana Mix'	McKana Columbine	
Arctostaphylos uva-ursi	Kinnikinnick	N
Aster frikartii 'Monch'	Monch Aster	
Cercocarpus ledifolius	Curlleaf Mountain Mahogany	N
Festuca ovina glauca 'Elijah Blue'	Elijah Blue Fescue	
Fragaria 'Pink Panda'	Pink Panda Strawberry	
Gazania linearis x Colorado Gold	Hardy Gazania	
Juniperus communis 'Repanda'	Repanda Juniper	
Lavandula angustifolia	English Lavender	
Lavandula x intermedia 'Fred Boutin'	Fred Boutin Lavender	
Lonicera heckrotii	Honeysuckle	

Malus 'Royalty'	Royalty Crabapples	
Nepeta spp.	Catnip	
Oenothera missouriensis	Missouri Evening Primrose	
Osteospermum barbariae compactum	Purple Mtn.Sun Daisy	
Pachistima canbyi	Dwarf Mountain Lover	N
Penstemon strictus	Rocky Mountain Penstemon	N
Petrophytum caespitosum	Rockmat	N
Pinus flexulis 'Vanderwolf's Pyramid'	Vanderwolf's Pine	N
Potentilla fruticosa 'Jackmanii'	Jackman's Potentilla	N
Prunus virginiana	Chokecherry	N
Quercus gambelii	Gambel Oak	N
Rhus aromatica 'Gro-Low'	Grow Low Sumac	N
Ribes alpinum 'Green Mound'	Green Mound Currant	
Ribes aureum	Golden Currant	N
Schizachyrium scoparium	Little Blue Stem	N
Symphoricarpos albus	Snowberry	N

12.0 Conservation Rules and Regulations Implemented by District

The following key excerpts of Rules and Regulations have been adopted and are enforced by the District, to further the objectives of the District Water Conservation Plan as presented in this document. These regulations represent the most recently adopted as of 2019. The quoted and pertinent sections are in italics with some introductions before each section. The following sections are extracted in their entirety from the most recent Rules and Regulations as adopted by the Administrative Control Board and in effect as of the date of this Water Resource Management and Conservation Plan:

11.1 Fee Regulations:

In Section 3.1 below, water service fees and related charges must be adopted to cover all costs, charged monthly, and be designed to encourage conservation through an accelerating or increasing block methodology:

3.1 *Water Service Fees and Other Charges*

All District fees and charges shall be prepared by the District administration and legally adopted and approved by the Administrative Control Board, as it sees fit in accordance with Utah Law. All service fees and charges may be changed at the discretion of the Administrative Control Board following the above process. The various fees and applications of the same are as follows:

- A. *Culinary Water Service Fees. The District shall impose culinary water service fees upon each culinary water service connection in conformance with the following:*

1. *The fees shall be in an amount sufficient to pay all costs and expenses incurred in connection with operating, maintaining, depreciating, replacing, rebuilding or making capital improvements to District's culinary water distribution system, including, without limitation, all obligations due and payable by the District to its bond holders.*
2. *The culinary water service usage fee shall be of the accelerated or increasing block type to promote conservation and shall be composed of a base fee element and a series of overage blocks, whose accelerating fee increments will be based upon the quantity of water used. The starting base fee and overage block volumes are multiplied by the number of ERC's arrived at in the Impact Fee calculation for the associated home or project(s).*
3. *Vacant structures shall be billed a monthly base fee based on section 3.1(A)(2).*
4. *The culinary water service fee shall be billed monthly.*
5. *The District may impose reasonable penalties, late charges, and interest on any past due culinary water service fee or any unpaid portion thereof, as legally adopted and amended.*

11.2 Water Feature Regulations

In section 5.2 below, the District has established rules dealing with water features and ponds, etc. These facilities have proved to be major contributors to water losses in our mountain environment if they are not properly constructed and maintained:

5.2 Ponds, Swimming Pools, and Other Water Features

Any pond, swimming pool, or other water feature utilizing District water must be designed and constructed to minimize water loss and waste. The pond or feature should be lined and protected from possible animal damage. The Owners of such facilities will be responsible to pay for any water losses incurred by the improper maintenance of the pool, pond or water feature. A proper backflow prevention device is required on the service to such facilities. Backflow devices must be properly inspected at least annually.

11.3 Metering Regulations

In section 6.5 & 6.6 below, the District is ensuring that all of the users are properly metered and are not sharing meters or common connections, thus promoting a higher conservation ethic and accountability:

6.5 *One Structure per Meter*

All uses of culinary and irrigation water from the District's water distribution system, including fire hydrants (construction water), shall be metered. Multiple dwelling (condominium type) units will be serviced by individual unit meters, unless otherwise approved by the District, which can be read in one location. Anyone using water through an un-metered connection, without the express prior written authorization of the District, shall be subject to prosecution under the theft of services statutes of the State of Utah and assessment of the Theft of Service Fee.

6.6 *Meter Readers and Meter Maintenance*

Customers shall not obstruct in any way the ability of authorized District personnel to gain access to water meters for periodic inspections, reading and maintenance. The cost of removing any physical obstructions will be charged to the Customer. If the District determines, at its sole discretion, that a meter needs to be relocated for access, meter tampering or health and safety reasons, the District will relocate the meter and charge the costs back to the Customer. By connecting to the District water system, each Customer manifests his or her agreement to comply with these Rules and Regulations and shall be deemed to have granted access to their property to the District meter reader for the purpose of reading water meters on a monthly or other periodic basis.

- A. *Meter Error. In the event a meter should malfunction and a reliable reading is not possible to obtain, or due to weather conditions or meter inaccessibility it is not possible to read a meter, charges shall be estimated by comparing the past known water usage through the water meter to that of adjoining or similar properties where past and current month's usage is known, or by reference to the past water usage through the water meter during a corresponding time of the year. Where such data is unavailable, then estimates shall be made by comparing the past known water usage on similar or adjoining properties, and averaging the same.*
- B. *Meter Testing. If a Customer contests the accuracy of the water meter serving the property, the District shall perform the service necessary to verify the accuracy of the meter. If the water meter is over or under reading, there will be no charge for the repair to the meter. Appropriate adjustments for water usage will be made to the Customer's next water bill. Adjustments shall not be made for any period greater than three (3) months. Meter errors of five percent (5%) or less shall be deemed to be accurate readings, warranting no adjustments. If, upon a second meter reading (as requested by Customer) within a one (1) year period for the purposes of determining meter error, the meter is found to be accurately calibrated, the On-Site Visit Fee, as legally adopted and amended, shall be assessed on the next billing to Customer.*
- C. *Meter Tampering. It shall be a violation of these Rules and Regulations to tamper with or bypass any water meter for the purpose of causing it to produce inaccurate readings or for bypassing the meter so as to obtain un-metered water. Willful consumption of water through a water meter known to be damaged, bypassed, or tampered with shall*

constitute a theft of service and shall subject the offender to prosecution in accordance with the laws of the State of Utah.

11.4 Water Waste and Theft Regulations

In section 6.0 below, the District establishes rules and penalties for theft of service as well as users that abuse or waste the Districts water resources. Included are definitions, penalties and enforcement criteria. The District has to date, strictly enforced this section:

6.11 Theft of Service

Any person or entity which engages in an unauthorized connection to the District's water system or any other unauthorized use of water will be charged the Theft of Service Fee, as legally adopted and amended, and will have any associated equipment used for the theft of service confiscated.

6.12 Wasting of Water Prohibited.

It is a violation of these Rules and Regulations to waste water and to allow any appliance, fixture, equipment, sprinkler system, faucets, or other similar water-using facility to leak, overflow or operate in a wasteful manner, or for a Customer to use water for purposes other than those for which the Customer paid upon requesting service.

- A. *Purpose. This section is not intended to regulate or prevent the beneficial use of water on property within the District service area. It is intended to prevent and discourage the waste of water within the District service area.*
- B. *Wasting of Water defined. No person shall waste any water supplied by the District. In general, the water is put to waste if it is not beneficially used. The Wasting of Water specifically includes, but is not limited to, the following:*
 - 1. *Water running off a landscaped area to another area where it is not beneficially used such as to a street, sidewalk, gutter, alley, public utility easement or parking area (paved or unpaved);*
 - 2. *Washing vehicles in a driveway in a manner that uses excess water beyond that reasonably necessary for washing and rinsing;*
 - 3. *The hosing down of driveways, sidewalks and other landscape should be limited and accomplished in a way that the water will run off into other landscaped areas, but, in no event, in a manner that uses excess water beyond that reasonably necessary for washing and rinsing;*
 - 4. *Outside watering on days in violation of an approved watering schedule; or*
 - 5. *Any use of water in excess of that reasonably necessary to accomplish the intended task.*

- C. *Causes of Wasting of Water. A typical significant cause for the Wasting of Water is the failure by the Customer to properly maintain outdoor watering systems. Specific examples of such failure to maintain include but are not limited to the following:*
1. *Damaged or missing spray heads;*
 2. *Damaged or missing bubbler heads;*
 3. *Damaged or missing drip irrigation lines;*
 4. *Failure to properly maintain berms, laterals and pipes for urban irrigation; or*
 5. *Failure to properly maintain automatic timing systems on landscape watering.*
- D. *Leakage, escape of water prohibited. It is hereby prohibited for anyone to permit the excess use, loss or escape of water through breaks, leaks or malfunction in the Customer's plumbing or distribution facilities for any period of time after such escape of water should have reasonably been discovered and corrected.*
- E. *Appeals and Exceptions. The District's General Manager may grant an exemption for the uses of water otherwise prohibited hereby if he/she finds and determines that compliance with 3.14 will be detrimental to the health, safety and welfare of the public. Upon granting any such exception, there may be imposed any conditions the General Manager determines to be reasonable and proper. The conditions shall include, at a minimum, a water conservation audit of the Customer's facility.*
- F. *Enforcement:*
1. *Warning. For a first violation, the District shall issue a warning by written notice ("Warning Notice") and provide educational materials on water conservation, as well as the written policy pertaining to the approved watering schedule, including times of watering, to a Customer violating the provisions of 3.14. The District may engage in prior contacts and verbal notifications prior to a first violation being issued.*
 2. *Notice of Violation (for the same matter). The District shall issue a written notice of violation to a Customer for a second, third, and fourth violation of 3.14 which occurs within a twelve (12) month period ("Notice of Violation"). Fines, as legally adopted and amended, will be added to the water bill for the violations. The District may engage in prior contacts and verbal notifications prior to a Notice of Violation being issued.*
- G. *Subsequent violations (for the same matter) after the Third Notice of Violation (fourth violation); discontinuance of service. For any violation subsequent to the Third Notice of Violation of 3.14 within twenty-four (24) months after the date of issuance of the Warning Notice, a fine, as legally adopted and amended, will be added to the water bill for the violation. In addition to the fine, the District may discontinue water service with written notification to that Customer at the premises or to the meter where the violations occurred. Further, the District may require a Security Deposit. The District shall also be entitled to take legal action to enforce compliance with these Rules and Regulations, whether by injunctive relief or otherwise.*

- H. *Notice. A written Notice of Violation (or a Warning Notice in the case of the first violation) shall be issued for each violation. The Warning Notice shall be delivered in person or by regular mail to the Customer. All subsequent notices will be delivered by certified mail to the person identified on the account for the meter through which the wasted water was supplied. The notice will:*
1. *Inform the Customer that second, third, fourth or subsequent violation of these regulations, above, has occurred;*
 2. *Specify when the previous violation(s) (of the same matter) occurred;*
 3. *Inform the Customer of the requirement for a water audit and the development of a compliance schedule indicating when required measures will be completed;*
 4. *Inform the Customer that failure to correct the problem within the time limit provided for in the compliance schedule will result in another Notice of Violation; and*
 5. *The notice shall contain, in addition to the facts of the violation, a statement of the possible penalties and/or fines for each violation and a statement informing the Customer of his or her right to request a hearing before the Administrative Control Board on the Notice of Violation. Such request must be made within fifteen (15) calendar days of the effective date of the violation. The effective date of the violation shall be the date of issuance of the Notice of Violation or Warning Notice.*
- I. *Hearings. Any Customer or person against whom a penalty or fine is levied pursuant to 3.14 shall have a right to a hearing before the Administrative Control Board. The rights of the District pursuant to 3.14 are cumulative to any other right or ordinance of the District in relation to the Customer or person. All monies collected by the District pursuant to any of the penalty or fine provisions of these Rules and Regulations shall be deposited in the District operating account.*

11.5 Water Emergency Regulations

In section 6.13 below, the District establishes a policy for declaring water emergencies and rationing water in scarcities:

6.13 Emergency Situations

In times of water shortage due to drought or any other natural or man-made condition or occurrence, the District shall have full authority to declare a water emergency, and to ration or otherwise regulate the distribution and use of culinary and/or irrigation water through the District's water system. Such action by the Administrative Control Board may include a moratorium on new water connections until the emergency has been alleviated.

11.6 Water Conservation Regulations

In section 9.0 below, the District has established and codified its detailed water conservation standards and regulations. Projects which do not implement water conserving measures in their design can be denied water service letters from the District, thus prohibiting the County from issuing building permits to the relevant project.

9.0 WATER CONSERVATION

9.1 General Regulations

The District takes water conservation very seriously. All Customers and users of retail water within the District shall conform to these regulations and the most recently adopted or amended District Water Conservation Plan.

9.2 Wholesale Customers

Wholesale customers of District water may be required to furnish to the District a copy of an adopted and implemented conservation plan within three (3) months of a written request from the District.

9.3 Violations

The violation of any major conservation regulation hereunder, an approved conservation plan pertaining to the Development, or the Conservation Plan of the District may result in a thirty percent (30%) water conservation violation surcharge or penalty being added to each monthly water bill for retail Customers. This surcharge or penalty is calculated as a percentage of the total bill, including base fees plus any applicable overage charges.

9.4 Enhanced Irrigation for Major Developments

Any major Development which consumes large amounts of non-culinary, irrigation water, such as a large recreational park or golf course, may be required to implement enhanced irrigation strategies and equipment to better time the application of irrigation water to weather and evapotranspiration conditions. All of the costs of installation, maintenance, and monitoring of weather, rainfall, and/or evapotranspiration calculation equipment on their property shall be borne by the Developer or Owner and shall be utilized properly to better monitor optimum water needs for the Development.

9.5 Water Conservation Reports and Plans

- A. *New Non-residential Buildings or Structures, "Water Conservation Report". The District may request that a "Water Conservation Report", signed by a Utah registered architect or engineer be filed with the District before a Commitment-of-Service Letter and/or water connection is issued or allowed for new non-residential buildings or structures. A "Water Conservation Report" shall contain the following:*
 - 1. *A detailed section on proposed uses of water in the industrial process which must demonstrate conservation-oriented techniques, including water usage techniques and mechanisms which employ the latest commercially available technology consistent with reasonable economic return;*

2. *A section which reports on the exterior landscaping design; describing how native plants and xeriscaping techniques will be employed where possible, and setting forth where water efficient irrigation systems will be utilized.*
 3. *A section which notes all other areas of planned conservation in interior/exterior water use and demonstrates a bona fide commitment to reasonable conservation efforts.*
- B. *Additions, Alterations or Repairs to Existing Non-residential Buildings or Structures, "Water Conservation Report." Additions, alterations or repairs may be made to any existing nonresidential building or structure without requiring compliance with the above section provided the addition, alteration, or repair conforms to that required for a new building or structure and provided that the additions, alterations or repairs within a twelve (12) month period do not exceed fifty percent (50%) of the value of the existing building or structure. When additions, alterations or repairs within any twelve (12) month period exceed fifty percent (50%) of the value of an existing building or structure, a "Water Conservation Report" may be requested by the District in accordance with this section. Failure to submit a report within three (3) months of a written request from the District shall be grounds (i) to withhold a Willing-to-Serve Letter or Commitment-of-Service Letter or (ii) for termination of water service to the project or Development.*
- C. *Water plan required for new non-residential users greater than 9,000 gallons per day. New non-residential users who have an estimated annual water usage which averages nine thousand (9,000) gallons per day or more (excluding turf-related facilities) may be required to submit a "Water Use Plan" sealed by a Utah registered architect or engineer that it complies with this section as a condition to a water connection to the District. Failure to submit a plan within three (3) months of a written request from the District will result in the withholding of a Commitment-of-Service Letter for the project or Development. The "Water Use Plan" shall contain at least the following:*
1. *A description of any available water conservation training programs offered to employees. Employee training information may be offered by the District to the facility after the construction is completed;*
 2. *Whether alternative water sources will be used (i.e., effluent, poor quality groundwater or other non-groundwater sources);*
 3. *Operating levels of total dissolved solids (TDS) or conductivity for cooling towers and total cooling capacity if applicable;*
 4. *Whether the user will use the best available conservation technologies in accordance with existing process uses (i.e., re-circulating systems for process water, alternative dust control methods, automatic shut-down devices to eliminate continual running water);*
 5. *Any plans for the reuse of wastewater or process water at the facility; and*
 6. *Type of landscaping and irrigation system. Including details of the exterior landscaping design, describing how native plants and xeriscaping techniques will be employed where possible, and setting forth where water efficient irrigation systems will be utilized.*

9.6 Irrigation Schedules and Restrictions

The District may curtail outside watering or irrigation in any fashion it deems necessary to protect its water supplies during drought conditions or failure of one or more water sources. Restrictions may be set as voluntary or mandatory. If restrictions are mandatory, the District may impose fines and/or penalties to enforce the restrictions on a level to be set at the time, depending on the seriousness of the water shortages. In all cases, and for all types of Customers in the District, whether a drought condition exists or not, outside watering will be scheduled at a maximum interval of every other day.

9.7 Rainwater Harvesting

Rainwater Harvesting on homes or business is allowed only if it complies with State Law and follows all requirements of the Utah Division of Water Rights, including any necessary registrations, filings, approvals, etc. The rainwater harvesting system must also be isolated (using an air gap) from the culinary systems and be compliant with Chapter 6 of these Rules and Regulations. The Owner shall comply with all local rules, including the Summit County Code, as well as any relevant HOA approvals and design requirements.

9.8 Conservation Implementation

The District may withhold Commitment-of-Service Letters for any project or Development that fails to implement mandatory water conservation measures outlined in the District's Water Conservation Plan.

9.9 Wastewater Reuse

The District reserves all rights to reuse domestic wastewater, as defined by the Wastewater Reuse Act, Utah Code Ann. § 73-3c-102, as amended or any successor provision.

13.0 Contact Information

For all inquiries related to this Conservation Plan or the District's conservation programs, please contact the District General Manager:

Scott Morrison
General Manager
Mountain Regional Water, SSD
6421 N. Business Loop Rd, Suite A
Park City, UT 84060
435-940-1916, ext. 310
scottm@mtregional.org

The District also has a Conservation Chair of their Administrative Control Board who reviews and provides input into the District's conservation programs. For latest contact information for the Conservation Chair, please contact the District General Manager.

District Water Rates

Current Rates

Residential - 1.0 ERCs (Rates #101, #180, #190)

Monthly Base Rate	\$61.80	Per Connection
Usage (in gallons)		
Zero to 5,000	1.80	Per 1,000 Gallons
5,001 to 20,000	4.64	Per 1,000 Gallons
20,001 to 30,000	5.15	Per 1,000 Gallons
30,001 to 40,000	8.24	Per 1,000 Gallons
40,001 to 60,000	12.36	Per 1,000 Gallons
60,001 to 80,000	15.45	Per 1,000 Gallons
80,001 to 100,000	18.54	Per 1,000 Gallons
Above 100,000	21.63	Per 1,000 Gallons

Non-residential/Commercial - Per ERC (Rate #122)

Monthly Base Rate	\$79.31	Per Connection
Usage (in gallons)		
Zero to 5,000	2.83	Per 1,000 Gallons
5,001 to 30,000	4.64	Per 1,000 Gallons
30,001 to 40,000	8.24	Per 1,000 Gallons
40,001 to 60,000	12.36	Per 1,000 Gallons
60,001 to 80,000	13.39	Per 1,000 Gallons
80,001 to 100,000	14.42	Per 1,000 Gallons
Above 100,000	15.45	Per 1,000 Gallons

Culinary Irrigation - Per ERC (Rate #120)

Monthly Base Rate	\$61.80	Per Connection
Usage (in gallons)		
Zero to 5,000	2.83	Per 1,000 Gallons
5,001 to 30,000	4.64	Per 1,000 Gallons
30,001 to 40,000	8.24	Per 1,000 Gallons
40,001 to 60,000	12.36	Per 1,000 Gallons
60,001 to 80,000	15.45	Per 1,000 Gallons
80,001 to 100,000	18.54	Per 1,000 Gallons
Above 100,000	21.63	Per 1,000 Gallons

Common Wall Irrigation (Rate #162)

Rate Multiplier		# of Units	
Monthly Base Rate	\$	-	Per Unit
Usage (in gallons)			
Zero to 3,000, January 2019: Zero to 5,000		1.80	Per 1,000 Gallons
3,001 to 11,000, January 2019: 5,001 to 20,000		4.64	Per 1,000 Gallons
11,001 to 27,000, January 2019: 20,001 to 30,000		5.15	Per 1,000 Gallons
27,001 to 47,000, January 2019: 30,001 to 40,000		8.24	Per 1,000 Gallons
47,001 to 87,000, January 2019: 40,001 to 60,000		12.36	Per 1,000 Gallons
87,001 to 147,000, January 2019: 60,001 to 80,000		15.45	Per 1,000 Gallons
147,001 to 227,000, January 2019: 80,001 to 100,000		18.54	Per 1,000 Gallons
Above 227,000, January 2019: Above 100,000		21.63	Per 1,000 Gallons

Water Rates (continued)

Current Rates

Interruptible Sources (Construction/Snowmaking/Wholesale)

(Rate #130)

Monthly Base Rate	\$123.60	<i>Per Connection</i>
Usage	13.39	<i>Per 1,000 Gallons</i>

Pumping Surcharge

Colony (Rate #901)	2.40	<i>Per 1,000 Gallons</i>
Discovery (Rate #902)	0.78	<i>Per 1,000 Gallons</i>
Glenwild (Rate #905)	0.49	<i>Per 1,000 Gallons</i>
Preserve (Rate #906)	2.22	<i>Per 1,000 Gallons</i>
Redhawk (Rate #907)	0.80	<i>Per 1,000 Gallons</i>
Promontory West Hills (Rate #908)	0.28	<i>Per 1,000 Gallons</i>
Promontory Middle Valley (Rate #909)	0.14	<i>Per 1,000 Gallons</i>
Stagecoach (Rate #903)	2.86	<i>Per 1,000 Gallons</i>
Summit Park (Rate #902)	0.78	<i>Per 1,000 Gallons</i>
Sun Peak (Rate #904)	1.21	<i>Per 1,000 Gallons</i>
Timberline (Rate #902)	0.78	<i>Per 1,000 Gallons</i>
Weilenmann (Rate #902)	0.78	<i>Per 1,000 Gallons</i>

Applies to all water rates. Newly annexed areas will be assigned to the most appropriate pumping surcharge based upon the location of that development.

Olympic Park (Rate #155)

Monthly Base Rate	\$123.60	
Usage (includes Sun Peak Pumping Surcharge)	5.28	<i>Per 1,000 Gallons</i>

Untreated Secondary Water (Rate #125)

Per Contract (Promontory)

per contract

Stagecoach (Rate #801 & #802)

Monthly Infrastructure Assessment	143.00	<i>Per Lot</i>
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Community Water

Monthly Infrastructure Assessment	26.50	<i>Per unit/Month</i>
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Standby Fees (Rate #701)

Monthly Charge	40.00	<i>Per ERC or Prepaid</i>
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Operating Fees

Current Rates

Buried Meter Service Fee	<i>Peak Monthly Gallons for Previous Year at Current Rates Per Month</i>	<i>Per Connection</i>
Connection Fee - Meter/Endpoint		
Security Deposit (Refundable)	\$ 1,500	<i>Per Connection</i>
Up to 3/4" Meter	1,800	
1.0" Meter	2,000	
1.5" Meter	2,400	
2.0" Meter	2,700	
3.0" Meter	<i>\$2,700 plus Incremental Meter Cost</i>	
4.0" Meter		
6.0" Meter		
8.0" Meter		
Summit Park Lateral Fee	1,700	<i>Per Connection</i>
Delinquent Accounts		
Delinquent Lien Fee	20	<i>Per Occurrence</i>
Shutoff Notice	30	<i>Per Occurrence</i>
Late Charge	1.50%	<i>Monthly Charge</i>
Water Shutoff	100	<i>Per Occurrence</i>
Disconnection of Service		
Removal of Meter	250	<i>Per Occurrence</i>
Resumption of Disconnected Service	<i>8 time Monthly Base</i>	<i>Per Occurrence</i>
Fire Hydrant Rental		
3" Meter - Deposit (Refundable)	1,500	<i>Per Connection</i>
3" Meter Wear Fee (Non-Refundable)	350	
3" Monthly Base Rate	123.60	
3" Usage Rate	13.39	<i>Per 1,000 Gallons</i>
1" Meter - Deposit (Refundable)	500	<i>Per Connection</i>
1" Meter Wear Fee (Non-Refundable)	125	
1" Monthly Base Rate	61.80	
1" Usage Rate	13.39	<i>Per 1,000 Gallons</i>
On-Site Visit (formerly inspection fee)	100	<i>Per Occurrence</i>
Private Fire Hydrant Meter Flushing & Inspection Fee		
Monthly Ongoing Fee	10	<i>Per Lot with Private Hydrant</i>
Resumption of Service Fee	100	<i>Per Occurrence</i>
Title Transfer Fee	100	<i>Per Occurrence</i>

Operating Fees (continued)

Current Rates

Alternate Water Service Provider	\$	4,700	<i>Per ERC Under Contractual Commitment with MRW Who Switches to Another Provider</i>
 Conservation Violations			
1st Violation		<i>Warning</i>	<i>Per Violation</i>
2nd Violation		50	
3rd Violation		100	
4th Violation		500	
 Leaking Water			
		<i>A credit may be given for estimated water leaked up to the amount to cover the cost of water production</i>	<i>Per Occurrence</i>
 Release of Restrictive Covenant			
		<i>Assess all back fees and charges, plus 1.5% annual interest</i>	<i>Per Lot</i>
Theft of Service		1,000	<i>Per Occurrence</i>
Impact Fee Review		100	<i>Per Lot</i>
Fire Flow Report		100	<i>Per Occurrence</i>

General Instructions

A monthly irrigation schedule shall be prepared to cover the initial 120-day plant establishment period and the following one-year period. The irrigation schedule shall be prepared by a Landscape Architect or Landscape Designer. The preparer may use this form or follow another appropriate format.

The schedule should rely on monthly Reference Evapotranspiration (ET_o) data for the Snyderville Basin area of Summit County. This data shall be updated as needed by Mountain Regional Water Special Service District. Once established, Turf can be maintained in an attractive manner at approximately 100 percent of the ET_o rate under normal weather conditions. Water-Conserving Plants typically need 50 percent or less of the ET_o under normal weather conditions. The amount of water applied for each valve should also be adjusted for Irrigation Efficiency, local rainfall, specific site conditions (e.g. exposure, slope, etc.) depths of root zone, and soil conditions (e.g., water holding capacity, and infiltration rate). Ultimately, the amount and frequency of irrigation will need to be monitored regularly to adjust for plant growth, climatic changes, and site conditions.

For valves with overhead Spray or Stream Sprinklers, set valves to operate between 9 P.M. and 8 A.M. to reduce water loss from wind and evaporation. Early morning irrigation is recommended for turf and ground cover. On slopes and soils with slow infiltration rates, program valves for multiple repeat cycles to reduce runoff.

Estimated Monthly ET_o for the Snyderville Basin Area of Summit County

JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	TOT
0.00	0.00	0.00	0.48	2.94	3.81	3.96	3.70	2.29	0.00	0.00	0.00	17.17

Mountain Regional Water Special Service District

Summit County, Utah

WATER CONSERVATION PLAN

RESOLUTION NO. _____

A RESOLUTION ADOPTING THE MOUNTAIN REGIONAL WATER SPECIAL SERVICE DISTRICT

2020 WATER CONSERVATION PLAN

Preamble

A. WHEREAS, Mountain Regional Water Special Service District, (the “District”) operates a culinary water system in the State of Utah; and

B. WHEREAS, the Administrative Control Board of the District understands the pressing need to use water in a more efficient manner to allow for future sustained growth of the area it serves;

NOW, THEREFORE, IT IS RESOLVED BY THE ADMINISTRATIVE CONTROL BOARD OF

MOUNTAIN REGIONAL WATER SPECIAL SERVICE DISTRICT, UTAH, as FOLLOWS:

1. The Water Conservation Plan of the District as revised on 12/1/2020, is hereby adopted on this _____ day of _____, 2020, and this plan will be amended no less than every five years and will continue to play a vital role in the future development of the District.
2. That as of this approval date, Scott Morrison, among other duties he currently has, be appointed to the position of Water Conservation Coordinator of the District.

BY:

Chair, Administrative Control Board

Printed Name

ATTEST:

District Clerk

Printed Name