JORDAN VALLEY WATER
CONSERVANCY DISTRICT

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2019 CONSERVATION PLAN UPDATE

JORDAN VALLEY WATER CONSERVANCY DISTRICT

Jordan Valley Water Conservancy District (JVWCD) was created in 1951 to provide water to residents of a growing Salt Lake County. Primarily a wholesaler of water to cities and improvement districts, JVWCD also has a retail service area in parts of Salt Lake County, including unincorporated areas.

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Delivering Quality Every Day

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1 BACKGROUND

In 1998 the Utah State legislature passed the "Water Conservation Plan Act," which requires culinary water providers and conservancy districts to submit water conservation plan updates to the Utah Division of Water Resources (DWRe) every five years. JVWCD submitted its first water conservation plan in 1999 with updates in 2004, 2009, and 2014.

This 2019 Water Conservation Plan Update satisfies the requirements of the Water Conservation Plan Act as the update required every five years.

A copy of this plan has been sent to each of JVWCD's Member Agencies (wholesale customers), each county served by JVWCD, and to the media. It has also been posted on JVWCD's website and social media outlets.

RESOLUTION ADOPTING THE PLAN UPDATE

JVWCD's Board of Trustees passed the following resolution (pg. 2) adopting the 2019 Water Conservation Plan Update on November 13, 2019.

RESOLUTION NO. 19-34

APPROVING THE WATER CONSERVATION PLAN UPDATE

WHEREAS, pursuant to §73-10-32 Utah Code Ann. (1953) (the "Act"), Jordan Valley Water Conservancy District ("Jordan Valley") prepared a Water Conservation Plan in 1999, prepared updates to its Plan every five years, as required by law, and has now prepared an additional update to its Plan, (the "Updated Plan") as set forth in attached Exhibit 1 (the "Updated Plan");

WHEREAS, Jordan Valley has established in its Updated Plan a conservation goal to reduce water use within its service area to 187 gallons per capita per day by 2030;

WHEREAS, Jordan Valley has determined that achieving this conservation goal will sustain existing water supplies, eliminate or delay more expensive water supply and infrastructure projects, and assist in providing an adequate water supply for future generations;

WHEREAS, the Updated Plan identifies existing and proposed water conservation measures and programs needed to continue making progress towards achieving the goal; and,

WHEREAS, pursuant to the Act, Jordan Valley has held a public hearing, after reasonable and advance public notice, for purposes of inviting and encouraging discussion and public comment on the Updated Plan.

NOW, THEREFORE, BE IT RESOLVED by the Jordan Valley Water Conservancy District Board of Trustees:

1. Jordan Valley has met the requirements of the Act in its preparation of the Updated Plan.

2. The General Manager is authorized and directed to cause a copy of the Updated Plan to be filed with the Utah Division of Water Resources and with all other persons or entities deemed appropriate.

3. This Resolution shall take effect immediately upon execution by an authorized member of the Board.

PASSED, ADOPTED, and APPROVED this 13th day of November, 2019.

Corey L. Rushton
Chair of the Board of Trustees

ATTEST:

Richard P. Bay
Clerk

MEETING THE REQUIREMENTS OF THE PLAN ACT

Section 73-10-32 of State Code requires that the following be included in each water conservation plan:

73-10-32-2 (a)(i) A clearly stated overall water use reduction goal is found in section 3, an implementation plan and timeline are found in section 5, and an evaluation process to measure progress is found in section 6.

(a)(ii) The requirement to devote at least one regular meeting every five years of its governing body is found on page 36.

(a)(iii) The notification requirements were met and are listed on page 36.

(a)(iv) Minutes and notification procedures are added in the appendix, starting on page 36.

DEFINITIONS FOR MEASURING WATER USE

Municipal and Industrial Water (M&I) – Both potable (drinking) and non-potable (secondary) water supplies and uses, excluding agricultural water. All references to water in this plan are referring to M&I water.

Total Water Supplied (gross use) – The total volume of treated and untreated water supply entering the distribution systems of an urban retail water supplier.

Total Water Delivered (end use) – The total volume of metered and unmetered water that is delivered to residential, commercial, industrial, and institutional users. It is billed and revenue producing and excludes water that is lost before it makes it to the end user.

Acre-feet (AF) – The volume of one acre of surface area to a depth of one foot (approximately 325,851 gallons). It is used or measuring large-scale water resources and deliveries. Acre-feet are also commonly given in thousands of acre-feet, abbreviated (TAF).

Per Capita Water Use – The total water delivered in a calendar year divided by the permanent population within a defined geographic boundary or water service area.

Gallons Per Capita Per Day (GPCD) – The unit of measure for per capita water use expressed in gallons. It approximates the average amount of gallons used per day, per person, in one year.

2 SYSTEM PROFILE

Currently, JVWCD serves 17 Member Agencies (cities, improvements districts, and wholesale customers) and 8,893 retail service connections. A population breakdown of JVWCD's service area is listed in Table 2.1. Figure 2.1 shows a map of JVWCD's service area which includes most of Salt Lake County outside of Salt Lake City and Sandy City. Table 2.2 shows the total number of service connections in JVWCD's service area, categorized by type.

TABLE 2.1 – **JVWCD's Member Agencies and Service Area Population**

AGENCY NAME	2015	2016	2017	2018
BLUFFDALE CITY	11,822	13,246	14,280	14,695
CITY OF SOUTH JORDAN	66,841	70,312	72,602	76,483
CITY OF SOUTH SALT LAKE	11,890	11,900	11,977	12,325
CITY OF WEST JORDAN	100,171	101,000	102,000	102,944
DRAPER CITY	17,635	17,930	18,060	18,649
GRANGER HUNTER IMPROVEMENT DISTRICT	116,989	117,955	118,921	119,314
HERRIMAN CITY	34,345	36,316	38,899	40,912
JVWCD RETAIL SERVICE AREA	46,435	46,714	46,811	47,756
KEARNS IMPROVEMENT DISTRICT	50,564	50,867	51,200	51,332
MAGNA WATER COMPANY AND IMPROVEMENT DISTRICT	31,111	31,383	31,667	31,946
MIDVALE CITY	27,613	28,333	31,100	31,413
RIVERTON CITY	41,500	41,900	42,838	44,426
TAYLORSVILLE-BENNION IMPROVEMENT DISTRICT	69,835	70,299	70,613	70,753
WATERPRO, DRAPER IRRIGATION CO.	28,747	29,331	29,550	29,687
WHITE CITY WATER IMPROVEMENT DISTRICT	15,000	15,000	15,000	14,985
HEXCEL CORPORATION	0	0	0	0
UTAH DEPARTMENT OF CORRECTIONS	0	0	0	0
WILLOW CREEK COUNTRY CLUB	0	0	0	0
TOTAL	670,498	682,486	695,518	707,620

General Notes:

(1) Data for this table was provided by JVWCD's Member Agencies, JVWCD estimations, and the Wasatch Front Regional Council.

FIGURE 2.1 – **Map of JVWCD's Service Area**

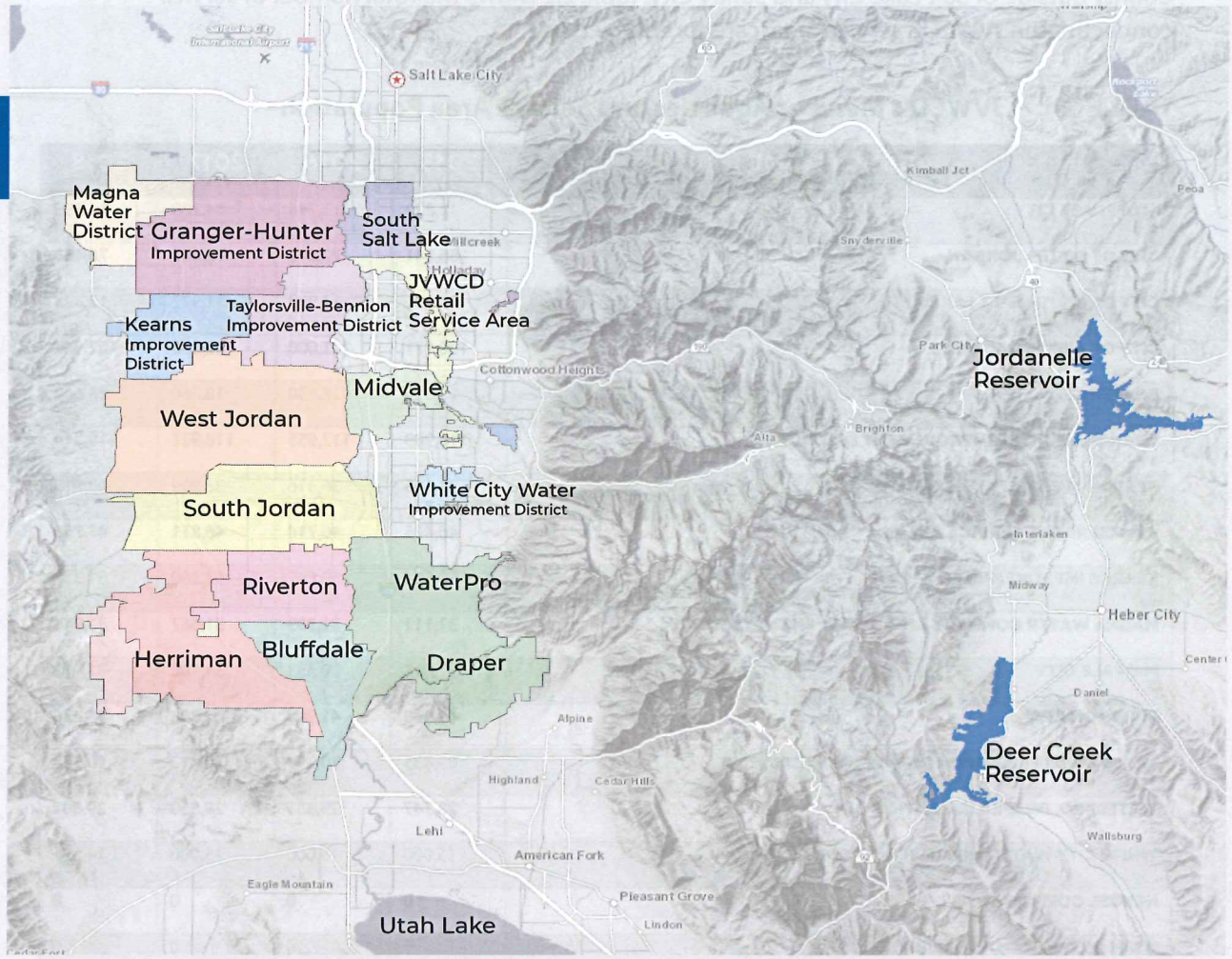


TABLE 2.2 – Total Service Connections by Type

AGENCY NAME	2018 TOTAL RESIDENTIAL CONNECTION COUNT	2018 TOTAL CII[(A)] CONNECTION COUNT
BLUFFDALE CITY	5,289	169
CITY OF SOUTH JORDAN	23,410	1,329
CITY OF SOUTH SALT LAKE	2,423	963
CITY OF WEST JORDAN	22,984	2,437
DRAPER CITY	3,779	330
GRANGER HUNTER IMPROVEMENT DISTRICT	26,010	1,533
HERRIMAN CITY	12,450	425
HEXCEL CORPORATION	0	0
JORDAN VALLEY WATER RETAIL	7,801	1,092
KEARNS IMPROVEMENT DISTRICT	13,696	307
MAGNA WATER COMPANY AND IMPROVEMENT DISTRICT	8,525	238
MIDVALE CITY	6,405	998
RIVERTON CITY	19,890	898
TAYLORSVILLE-BENNION IMPROVEMENT DISTRICT	16,528	740
UTAH DEPARTMENT OF CORRECTIONS	0	0
WATERPRO, DRAPER IRRIGATION CO.	10,806	680
WHITE CITY WATER IMPROVEMENT DISTRICT	4,127	94
WILLOW CREEK COUNTRY CLUB	0	0
TOTAL	184,123	12,233

References:

(a) Commercial, industrial, and institutional service connections

General Notes:

(1) Data for this table was provided by JVWCD's Member Agencies and JVWCD estimations. CII includes some uncategorized connections.

(2) Connection types include metered culinary, metered secondary, and estimated secondary

WATER SUPPLY

JVWCD's water comes from the Provo, Weber, and Duchesne rivers; local Wasatch streams; and groundwater in the Salt Lake Valley. A breakdown of JVWCD's water supplies can be found in Table 2.3. Potential future water supplies are listed in Table 2.4.

TABLE 2.3 – JVWCD's Current Water Supply

NAME OF SUPPLY	NORMAL YEAR YIELD (AF)	RELIABLE DROUGHT YEAR YIELD (AF)
CENTRAL UTAH PROJECT [A]	50,000	50,000
PROVO RIVER WATER USERS COMPANY SHARES		
PROVO RIVER DIRECT FLOW	17,200	11,455
DEER CREEK STORAGE	11,300	8,881
ECHO STORAGE	3,500	3,206
WEBER RIVER DIRECT FLOW	0	826
UINTA LAKES	3,000	2,400
CONTAINED SHARES	7,600	5,000
CENTRAL WATER PROJECT (CWP)	11,680	10,500
WEST UNION CANAL RIGHT	5,300	3,070
HIGH QUALITY GROUNDWATER [B]	22,500	22,500
LOCAL MOUNTAIN STREAMS	3,000	2,000
SOUTHWEST GROUNDWATER PROJECT (ZONE B AND LOST USE) [C]	7,000	7,000
TOTAL:	142,080	126,838

References:

(a) Includes 6,300 AF currently turned back to CUWCD for instream fishery flows in the Provo River.
(b) Includes additional 1,500 AF yield from equipping Etienne Way, Murray-Holladay Road, and other new high-quality wells. Also includes 1,000 AF estimated yield from treating Casto and Dry Creek Springs.
(c) Includes additional groundwater development to support the third treatment train at SWGWTP.

TABLE 2.4 – Potential Future Water Supply

NAME OF SUPPLY	RELIABLE DROUGHT YEAR YIELD (AF)
ULS[A] (STRAWBERRY STORAGE)	16,400
EXPAND SWGWTP & NEW R/O TREATMENT PLANT[B]	18,000
BEAR RIVER	50,000

References:

(a) Utah Lake System (component of the Central Utah Project)
(b) Expanding the Southwest Groundwater Treatment Plant and a new reverse osmosis treatment plant.

FIGURE 2.2 Reliable Water Supply Through 2065

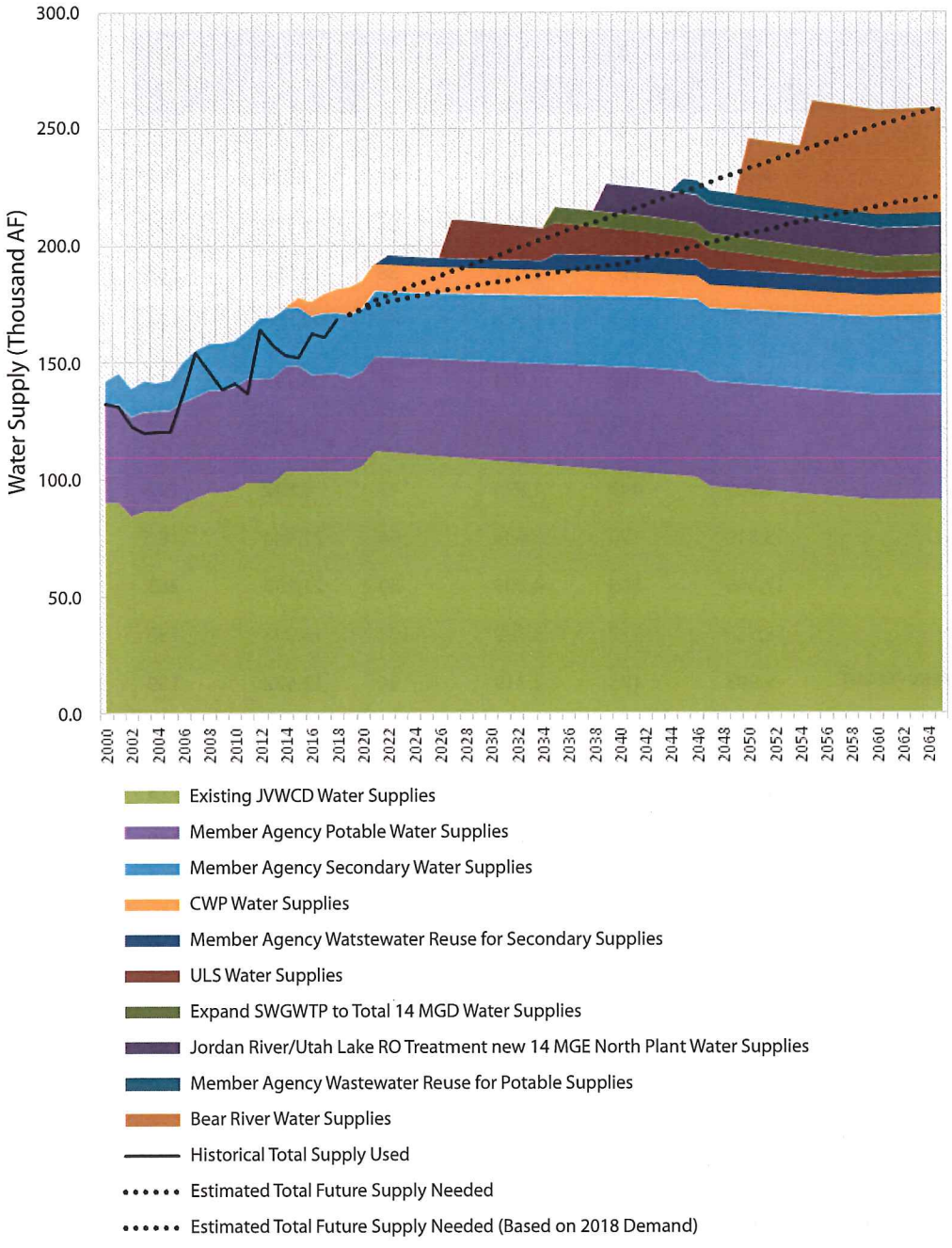


Figure 2.2 charts JVWCD's reliable supply through 2065. This chart incorporates the potential impact of climate change and compares a demand forecast based on 2018 water usage with a demand forecast assuming future water conservation goals and projections are met.

GROUNDWATER STORAGE AND RECOVERY

In 2001, JVWCD completed construction of facilities for an artificial groundwater recharge project in the southeast area of the Salt Lake valley. These facilities allow JVWCD to inject surplus supply from its water transmission system into a deep principle aquifer (typically from March-May). Injected water can then be recovered by pumping wells later in the summer or in subsequent years when it is needed. While JVWCD typically injects less than 1,000 AF per year, its facilities are capable of injecting around 5,000 AF annually if needed.

WATER DELIVERIES

JVWCD's water primarily supports residential, commercial, industrial and institutional potable use within Salt Lake County. A breakdown of its water deliveries can be found in Table 2.5.

TABLE 2.5 – 2018 Total Potable and Non-potable M&I Water Deliveries

AGENCY NAME	RES.[a] (AF)	RES. [a] (GPCD)	CII[b] (AF)	CII[b] (GPCD)	TOTAL (AF)	TOTAL (GPCD)
JORDAN VALLEY WATER RETAIL	6,643	124	2,523	47	9,165	171
BLUFFDALE CITY	4,001	243	809	49	4,810	292
DRAPER CITY	2,294	110	1,820	87	4,114	197
WATERPRO, DRAPER IRRIGATION CO.	9,143	275	2,917	88	12,060	363
GRANGER HUNTER IMPROVEMENT DISTRICT	16,599	124	6,208	46	22,806	171
KEARNS IMPROVEMENT DISTRICT	5,762	100	3,031	53	8,793	153
MAGNA WATER COMPANY AND IMPROVEMENT DISTRICT	4,231	118	517	14	4,748	133
HERRIMAN CITY	6,849	149	1,973	43	8,822	192
CITY OF WEST JORDAN	13,810	120	7,634	66	21,444	186
CITY OF SOUTH JORDAN	17,546	205	4,309	50	21,855	255
RIVERTON CITY	8,539	172	5,389	108	13,928	280
TAYLORSVILLE-BENNION IMPROVEMENT DISTRICT	9,903	125	2,719	34	12,622	159
HEXCEL CORPORATION	0	0	897	0	897	0
CITY OF SOUTH SALT LAKE	1,065	77	1,322	96	2,387	173
MIDVALE CITY	3,090	88	2,171	62	5,261	150
WHITE CITY WATER IMPROVEMENT DISTRICT	2,498	149	477	28	2,975	177
UTAH DEPARTMENT OF CORRECTIONS	0	0	761	0	761	0
WILLOW CREEK COUNTRY CLUB	0	0	372	0	372	0
Total	111,972	141	45,848	58	157,820	199

References:
- (a) Residential service connections
- (b) Commercial, industrial, and institutional service connections

General Notes:
- (1) Data for this table was provided by JVWCD and its Member Agencies.

WATER MEASUREMENT AND BILLING

All of JVWCD's wholesale water connections are metered and monitored in real time using JVWCD's Supervisory Control and Data Acquisition (SCADA) system. The meters are regularly maintained and calibrated to ensure accurate operations and billing data. Meters in JVWCD's retail service area were recently replaced to transmit hourly water consumption through an Advanced Metering Infrastructure (AMI) system. These meters are warrantied for 20 years and are replaced as needed. As part of this project, customers now have access to an online web portal and receive enhanced bills and semi-annual reports showing exactly how and when water is used.

RETAIL RATE STRUCTURE

JVWCD fully implemented a tiered water rate structure for its retail system in July 2018. Before implementing these rates, JVWCD conducted research to understand how other western water providers were implementing tiered rates for various customer classes (i.e. residential, commercial, institutional and industrial). Applying a single rate approach for all customers can introduce equity concerns because of significant differences in water use patterns between and within customer classes.

The purest form of ensuring relevant rates and pricing signals for customers would involve creating personalized water budgets and rate tiers for each account. Because of the significant complexity and administrative difficulties this approach would create, JVWCD chose to group its accounts based on similar water use patterns. Rather than using customer classes, JVWCD found that grouping accounts based on meter size had stronger water use correlation. This grouping also created more customer equity because meter size already determines impact fees, base charges, and a customer's ability to consume water. In JVWCD's model, the cost per thousand gallons of water increases with water use. Each meter size has three pricing tiers as shown in Tables 2.6 and 2.7, below:.

TABLE 2.6 – Water Rates Per 1,000 Gallons

RATE AREA	TIER 1	TIER 2	TIER 3
STANDARD RATE	$1.80	$2.68	$3.75
RIVERTON FOOTHILLS*	$1.98	$2.86	$3.93
CASTO/UPPER WILLOW CREEK AREA*	$2.13	$3.01	$4.08

*Rates for the Riverton Foothills area and the Casto/Upper Willow Creek area are more expensive because water delivery to these areas requires pumping or treatment surcharges.

TABLE 2.7 – Tier Thresholds by Meter Size

METER SIZE	TIER 1 (X 1,000 GALLONS)	TIER 2 (X 1,000 GALLONS)	TIER 3 (X 1,000 GALLONS)
3/4"	1-12	13-53	54+
1"	1-24	25-106	107+
1-1/2"	1-48	49-212	213+
2"	1-77	78-339	340+
3"	1-187	188-827	828+
4"	1-343	344-1516	1517+
6"	1-686	687-3032	3033+
8"	1-1366	1367-6031	6032+

Example: Accounts with a 3/4" meter will pay $1.80 per one thousand gallons for the first 12,000 gallons of water used and $2.68 per one thousand gallons for additional water used, up to 53,000 gallons. Any water used over 53,000 gallons will be charged at a rate of $3.75 per one thousand gallons.

WATER LOSSES AND CONTROL PRACTICES

JVWCD has implemented several practices designed to audit its water supply deliveries and implement controls to minimize system losses. Each wholesale meter receives a monthly diagnostic check and is calibrated twice a year. In addition, JVWCD staff validates meter data monthly and is moving to do this on a weekly basis to identify issues even sooner. Any problems related to these meters are considered high priority by JVWCD staff and are expected to be addressed immediately.

AWWA Free Water Audit Software is also used on an annual basis to help measure the quality of JVWCD's data, determine if any improvements are needed, and quantify the impact to JVWCD. For calendar year 2018, JVWCD's non-revenue water was 1,810 AF or 1.6% of deliveries. The audit software valued that water at $947,137. JVWCD staff is currently updating standard operating procedures to better document the sources of water losses such as when lines are drained for maintenance or due to mainline water breaks.

3 WATER CONSERVATION GOAL

JVWCD'S OVERALL WATER CONSERVATION GOAL:

187 GPCD BY 2030

This goal is based on the Salt Lake regional goal established in the "Utah's Regional M&I Water Conservation Goals" report publicized in 2019 and sponsored by DWRe.

WATER USE STATUS

In 2018, per capita water use in JVWCD's service area was 199 GPCD. Figure 3.1 shows JVWCD's annual water use since 2000 as reported by JVWCD's Member Agencies. JVWCD staff made several estimates with varying levels of confidence in earlier years. Over time the data has become more accurate. Figure 3.2 breaks down the 2018 water demand by month.

FIGURE 3.1 – **JVWCD Service Area Water Demand (End Use)**

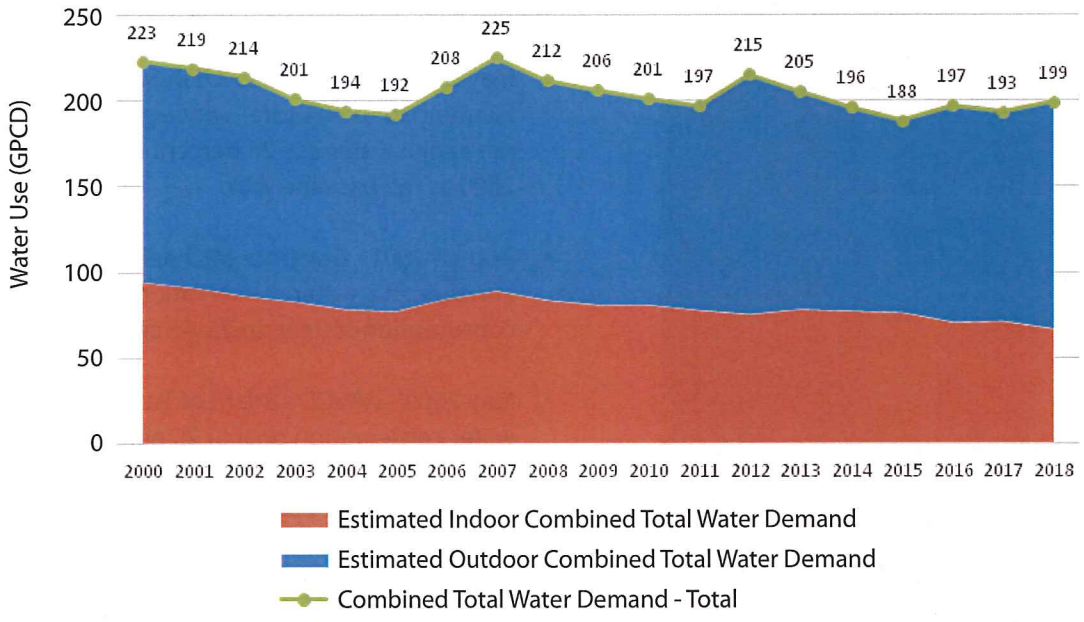
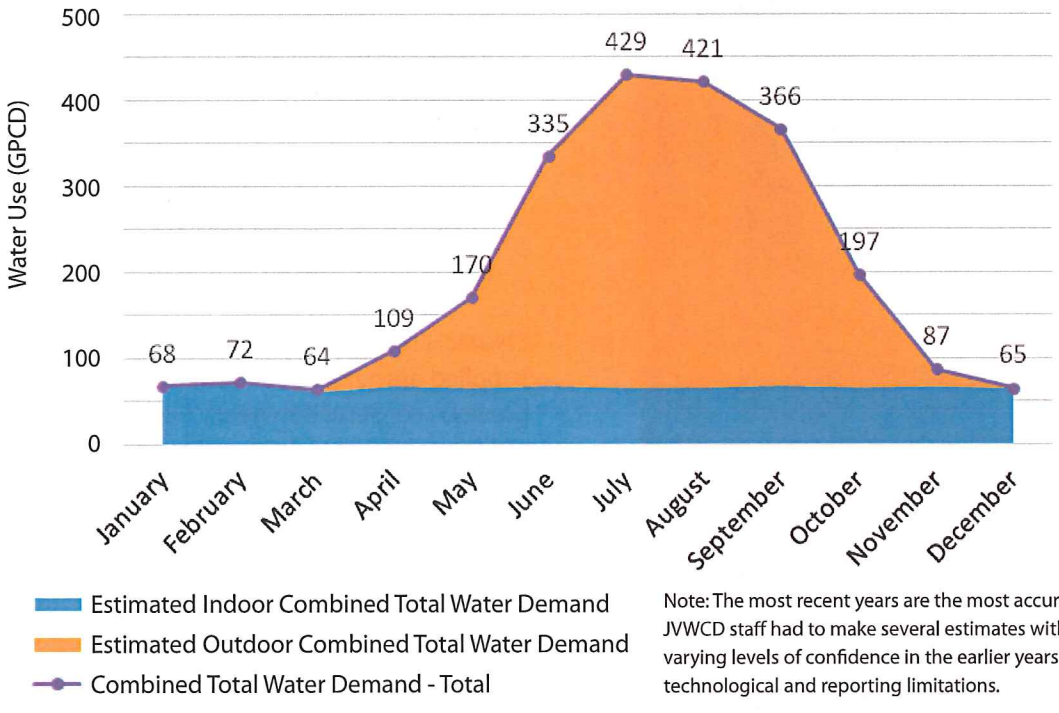


FIGURE 3.2 – **2018 JVWCD Water Demand (End Use)**



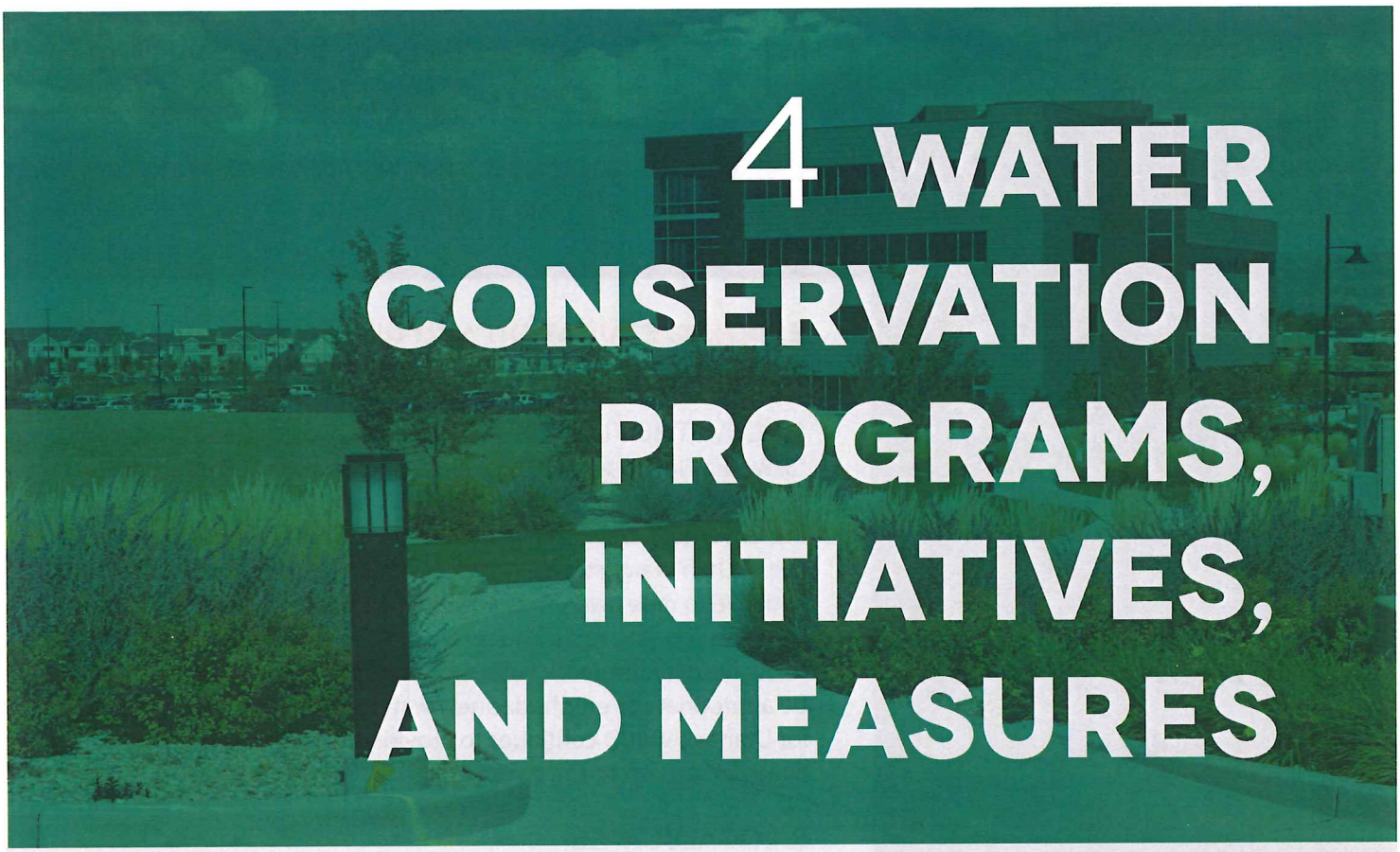
Note: The most recent years are the most accurate. JVWCD staff had to make several estimates with varying levels of confidence in the earlier years due to technological and reporting limitations.

HISTORY OF JVWCD'S WATER CONSERVATION GOAL

In JVWCD's original 1999 Water Conservation Plan, a conservation goal of 10 percent reduction by 2020 was established. The following is a timeline of how this goal has changed over time:

- May 2001 - DWRe issues "Utah State Water Plan, Planning for the Future," with a goal of reducing per capita water use 25 percent by 2050 and used 2000 as the baseline year.
- August 2001 - Governor Michael Leavitt announced a water conservation goal of reducing consumption statewide 25 percent by 2050.
- May 2002 - JVWCD's Board of Trustees adopt a water conservation goal of 25 percent reduction per capita by 2025 in JVWCD's boundaries and used 2000 as the baseline year.
- January 2013 - Governor Gary Herbert, in his State of the State address, announced a new statewide goal of reducing water use 25 percent by 2025, matching JVWCD's goal.
- August 2019 - DWRe issues its draft "Utah's Regional M&I Water Conservation Goals" report which sets new regional water conservation goals by 2030 and uses 2015 as a new baseline year. JVWCD is part of the Salt Lake region with a goal of 187 GPCD by 2030, which for JVWCD would amount to a 13% reduction from the year 2015.

* Note: Historically, JVWCD used total gross water supplied as the basis for determining GPCD and previous conservation goals. Going forward, JVWCD will use total water delivered to end uses for two reasons: 1) the new regional goals are derived from total water delivered to end uses, and 2) JVWCD's water conservation programs primarily focus on end use demand management.



4 WATER CONSERVATION PROGRAMS, INITIATIVES, AND MEASURES

Reducing overall water use can be accomplished by persuading water users to modify their behaviors (water conservation) or by creating structural changes that allow water consuming tasks to be accomplished using less water (water efficiency). In order to meet JVWCD's goal, both approaches are needed.

Effective strategies for water conservation and efficiency are built on three pillars: education, incentives, and regulations. JVWCD offers a variety of programs, initiatives, and measures to target each of these pillars.

PILLAR 1: EDUCATION

Effective education helps water users make sound choices and preserve water resources for the future.

PILLAR 2: INCENTIVES

Effective incentive programs can influence water users to make structural changes that reduce water demand.

PILLAR 3: REGULATIONS

Effective regulations have indoor and outdoor water efficiency standards to help create more sustainable communities.

PILLAR 1: EDUCATION

Effective education helps water users make sound choices and preserve water resources for the future.

EXISTING EDUCATION AND OUTREACH PROGRAMS:

1. SLOW THE FLOW:

"Slow the Flow: Save H2O" is a public information and education campaign launched by JVWCD in 1999. In 2001, it was adopted by the Governor's Water Conservation Team (a team which consisted of five of Utah's largest water districts and DWRe) as a statewide initiative to raise awareness and connect Utahns to water conservation tips, tools, and resources. The campaign has continued to evolve over the years. Future adjustments to the campaign may be appropriate to emphasize new water conservation opportunities for Utahns. JVWCD continues to provide significant input and financial support to the campaign.

2. LOCALSCAPES

A recent focus of JVWCD has been to educate communities about Localscapes®—a simplified approach to landscaping for Utah. Localscapes use 66 percent less water than typical landscapes while reducing maintenance, increasing curb appeal and providing better landscape functionality. What sets Localscapes apart from previous approaches to water-efficient landscaping is that it offers a comprehensive solution to major landscape challenges faced by homeowners while also saving water. Education efforts include community outreach, online and in-person classes, a learning exhibit at JVWCD's demonstration garden, and partnerships with industry professionals.

3. CONSERVATION GARDEN PARK

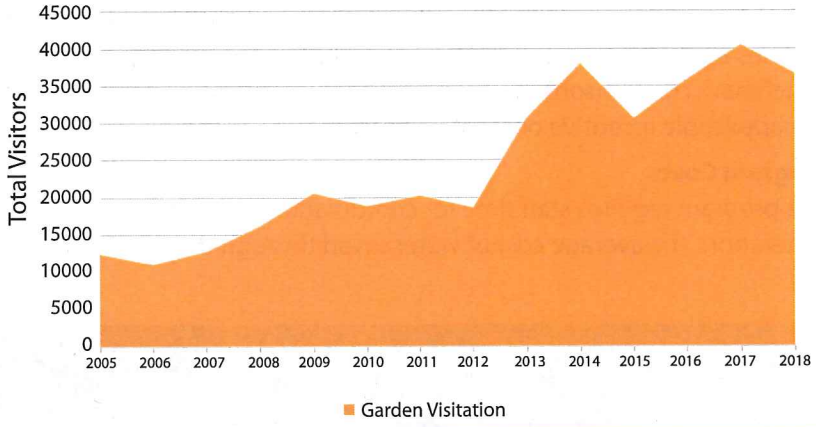
With more than nine acres of exhibits, pathways and Utah-friendly plants, Conservation Garden Park (Garden) is Salt Lake County's premier destination for information about water-efficient landscaping. Owned and operated by JVWCD, the Garden is open year-round with free admission to all patrons.

A list of the Garden's primary activities and programs include:

- **Community Classes:** Garden classes teach Utahns how to design, install, or maintain Utah-friendly landscapes. During 2018, more than 50 community classes were taught at the Garden.

- **Tours:** Garden staff regularly conduct free tours of the Garden for school groups, VIPs, church groups, class attendees, and plant enthusiasts.
- **Educational Exhibits:** More than 40 educational exhibits teach and reinforce principles of water-efficient landscaping. A brand new Localscapes exhibit is expected to be completed this year, which will provide hands-on residential landscape instruction.
- **Field Trips:** More than 5,000 school children visit the Garden each year. A bus transportation assistance program enables wide-spread participation in this program—providing the opportunity for a younger generation of Utahns to learn about water use efficiency.
- **Work and Learn Workshops:** Participants work alongside staff to help maintain the Garden while learning important skills hands-on.
- **Immersive Learning:** These sessions turn the Garden into an interactive learning environment to replicate common scenarios participants may face when installing or maintaining their landscapes. Some of the techniques taught include pruning, planting, lawn maintenance, and irrigation system repairs.
- **Garden Events:** Events range from fewer than 100 people to more than 3,500 participants. Types of events include Party in the Park (garden fair for families), an Urban Homestead Expo, and conservation conferences.
- **Plant Database:** JVWCD maintains a searchable database of Utah-friendly plants on the Garden's website. Visitors can find plants, view their watering requirements, and see pictures of each from various seasons. Future enhancements are planned where more information about plant maintenance and selection will be added.
- **Online Education:** New this year, JVWCD has produced online versions of some of its most popular courses, including: Introduction to Localscapes and Localscapes University. Anyone can access these classes online and on-demand. In the coming years, JVWCD will work to refine existing courses and to create additional online educational opportunities.

FIGURE 4.1 – **Conservation Garden Park Visitation**



4. LANDSCAPE CONSULTATIONS

Free landscape consultations are available to residents in JVWCD's service area. These consultations are designed to overcome barriers to homeowners in water efficient use and provide important information about a homeowner's landscape and irrigation system. Key to the consultations are correlating meter data with actual water use, providing watering schedules, and offering short-term and long-term recommendations for improved water efficiency.

Program Costs

This program involves site visits, coordination, communication with homeowners, preparation, and reporting. The average cost of water saved through this program is $1,576 per acre-foot.

5. CUSTOMER FEEDBACK TOOLS

Most Utahns are unaware of how much water they use. Direct feedback about water consumption coupled with suggested actions has been shown to decrease water use. JVWCD uses enhanced water bills, semi-annual reports, and a personalized web portal in its retail service area to provide this type of feedback and encourages its Member Agencies to adopt similar programs. These feedback tools are enhanced further by JVWCD's advanced metering infrastructure (AMI) which allows for leak detection alerts and water use notifications.

Program Costs

This program involves either developing custom software or purchasing the services from a third party. The average cost of water saved through this program is $1,164 per acre foot.

EDUCATION AND OUTREACH PROGRAMS UNDER DEVELOPMENT:

1. LEAK MITIGATION

Household leaks are responsible for an average of 8% of the total water used indoors annually. JVWCD is currently developing a leak mitigation program to help homeowners in its retail area locate and stop leaks. JVWCD has produced a leak mitigation guide that can help customers identify and fix leaks. This guide is distributed and used by field and customer service staff to address issues. In the future, JVWCD will use meter data to proactively identify accounts with potential leaks. Those customers will be notified and provided with information and materials.

Program Costs

This program requires staff time to create educational materials, communicate with customers, and analyze data. The average cost of water saved through this program is $921 per acre-foot.

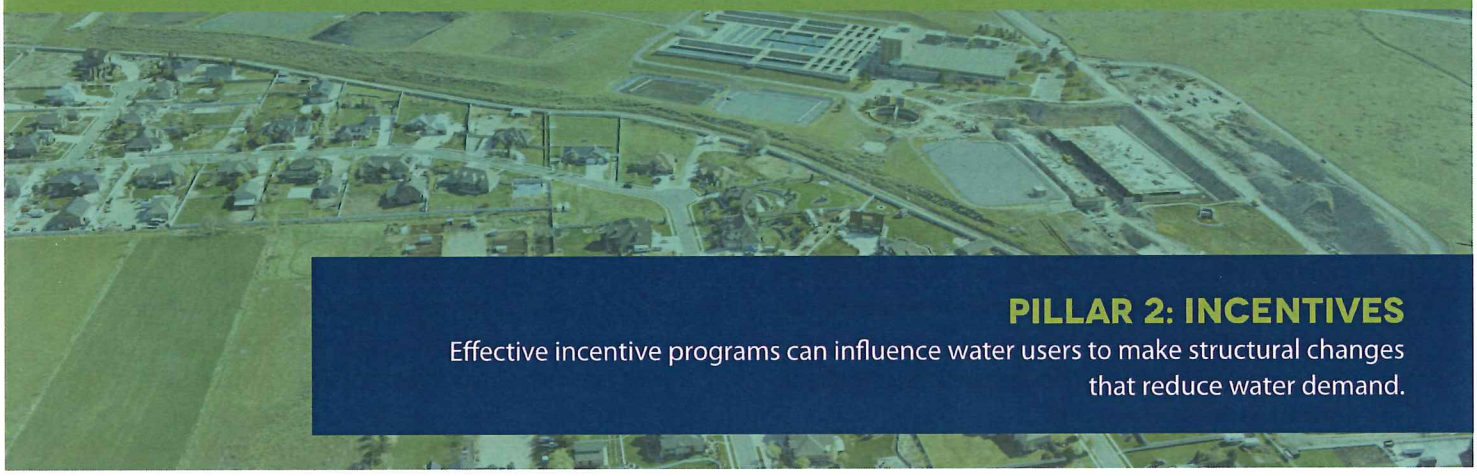
2. STRATEGIC WATER MANAGEMENT

While this program is still in development, here is a description of how it is intended to work:

Strategic Water Management is a joint effort between JVWCD and eligible commercial, industrial, and institutional water users to identify practices and measures that can save water. A water conservation technician will first perform an audit of indoor and outdoor water use. A report will then be prepared that outlines a list of recommendations, estimated water savings, estimated implementation costs, and industry benchmark comparisons. An economic analysis will be performed on recommended projects with estimates on any applicable incentive or rebate opportunities.

Program Costs

This program requires staff time for coordination with various agencies, meetings, site visits, and report generation. The average cost of water saved through this program is estimated to be $1,648 per acre-foot.



PILLAR 2: INCENTIVES

Effective incentive programs can influence water users to make structural changes that reduce water demand.

EXISTING INCENTIVES PROGRAMS:

Grants from DWRe and the federal WaterSmart program have been pivotal in reducing the net cost of these programs to JVWCD. JVWCD will continue to seek grant funding and requests that these funds continue to be made available in the future.

UTAH WATER SAVERS

In 2017, JVWCD developed UtahWaterSavers.com to host several turnkey water conservation programs for its service area. In 2018, the website was expanded in partnership with DWRe to host additional statewide rebate programs. This project is mutually beneficial to both agencies because it allows the agencies to share promotional, hosting, and development costs and provides a single resource for the public to use. Currently the following programs are managed through the Utah Water Savers website: Localscapes Rewards, Flip Your Strip, Toilet Replacement Rebates, Smart Controller Rebates, and Landscape Consultations. Widescale public recognition and use of Utah Water Savers will be essential to escalate the programs to the levels described in this plan.

1. LOCALSCAPES REWARDS

Because landscapes that use the Localscapes method are more sustainable and water thrifty, JVWCD provides incentives for residents within its service area to install Utah-friendly Localscapes. Applicants apply through Utahwatersavers.com and must either provide a professional landscape design or take Localscapes University to qualify for the reward. Payment is provided based on the actual square footage of irrigated and non-irrigated areas and participants must install any combination of the following: complete front yard, back yard, side yard, and/or park strip.

Program Costs

This program requires project design reviews, at least one site visit, coordination, and communication with the homeowner and/or landscape contractor. The average cost of water saved through this program is $585 per acre-foot.

2. LOCALSCAPES REWARDS FOR CONTRACTORS/DESIGNERS

Localscapes Professional Partners can receive a cash incentive for helping their clients participate in Localscapes Rewards. Designers receive a 10% match of their client's reward while contractors receive a 90% match of their client's reward. If one partner provides both the design and installation, they can receive the full reward amount. Localscapes partners must make sure their designs and installed landscapes for this program meet all Localscapes requirements.

Program Costs

Staff time for this program is mostly included in the homeowner reward program, with some additional coordination, communication, and administrative costs. This program adds to the cost of water saved through Localscapes Rewards. The average total cost to rebate both homeowner and contractor is $1,143 per acre-foot.

3. LOCALSCAPES REWARDS FOR HOME BUILDERS

Home builders who become Localscapes partners can receive a reward for installing a Localscape as part of home construction. Payment is provided based on actual square footage of irrigated and non-irrigated areas and landscapes must meet all Localscapes requirements.

Program Costs

This program requires project design reviews, at least one site visit, coordination, and communication with the home builder. The average cost of water saved through this program is $1,143 per acre-foot.

4. FLIP YOUR STRIP

Park strips are one of the easiest places to begin the transition to a more Utah-friendly landscape because they require minimal landscape design and are usually on their own sprinkler zone. A rebate of $1.00 per square foot is available to homeowners who convert their park strips from lawn to a water-efficient design. Only park strips with existing lawn qualify for the program. Finished projects must include 60% plant coverage, drip irrigation, and mulch. The rebate increases to $1.25 per square foot for participants who attend a free park strip class.

Program Costs

This program requires project reviews, two site visits, coordination, and communication with homeowners, and a rebate amount. The average cost of water saved through this program is $1,973 per acre-foot. Grant funds continue to help this program remain cost effective.

5. TOILET REBATES

Toilets use more water than any other indoor fixture and because toilets manufactured before 1994 use more gallons of water per flush, replacing them is an easy way to conserve water. A statewide toilet rebate program funded by DWRe allows homeowners to receive up to $100 per toilet when they replace a pre-1994 toilet with a WaterSense labeled toilet (limit two toilets per property). Applications are submitted through Utahwatersavers.com and routed to the appropriate water district to be reviewed for eligibility and accuracy before payments are processed and distributed by DWRe.

Program Costs

Since this program is funded by DWRe, costs for JVWCD are minimal. Some staff time is required to process applications and coordinate with other agencies. For JVWCD, the average cost of water saved through this program is $25 per acre foot.

6. SMART CONTROLLER REBATES

Smart controllers can turn irrigation systems on and off based on local weather and landscape conditions. A statewide smart controller rebate program, funded by DWRe, rebates Homeowners 50 percent of the cost of a WaterSense labeled smart controller, up to $150. Applications are submitted through Utahwatersavers.com and routed to the appropriate water district to be reviewed for eligibility and accuracy before payments are processed and distributed by DWRe.

Program Costs

Since this program is funded by DWRe, costs for JVWCD are minimal. Some staff time is required to process applications and coordinate with other agencies. For JVWCD, the average cost of water saved through this program is $127 per acre foot.

7. LANDSCAPE LEADERSHIP GRANTS

JVWCD's Landscape Leadership Grant program was created to help businesses, institutions, and associations become community leaders in water conservation. Funding is provided for landscaping projects that provide measurable water savings and have high promotional appeal. Projects may include landscape renovation projects that convert lawn to water-efficient landscaping, or new landscape construction projects that install water-efficient landscaping instead of considerable lawn areas.

Program Costs

This program requires project reviews, site visits, coordination, and communication with contractors and project owners. The typical cost of water saved through this program is $1,035 per acre-foot but can range between $500 and $1,600 per acre-foot depending on the project score.

8. MEMBER AGENCY GRANTS

The Member Agency Grant Program assists Member Agencies in funding and implementing water conservation measures, projects, and programs in their respective service areas. Funding matches are determined by the following tier structure:

- **Tier 1 Measure (Agency matches at least 20%):** This is for projects with proven, quantifiable water savings resulting in direct water use reduction. Upon applying, JVWCD will estimate the potential water savings to determine the funding match level. Examples of potential projects include landscaping projects that reduce turf or implement waterwise practices, indoor fixture replacement programs, Irrigation product rebates, secondary water metering for existing secondary connections, leak mitigation programs, or customer feedback programs.
- **Tier 2 Measure (Agency matches at least 40%):** This includes studies and projects that have a strong research component with the potential for significant future water use reduction. Examples of potential projects include studies relating to secondary water metering, water rate structures, demand management, end use, or cost effectiveness of conservation programs. Requests for consulting services are also considered Tier 2.
- **Tier 3 Measure (Agency matches at least 60%):** This involves conservation measures where water use reduction is difficult to determine. Examples of potential projects include promotion materials, public information campaigns, or demonstration gardens.

Program Costs

Depending on the project JVWCD will fund between 20-80 percent with a cap of $50,000 plus $1 per acre-foot of an agency's water purchase contract volume, in acre-feet per year.

INCENTIVES PROGRAMS UNDER DEVELOPMENT:

1. CUSTOM INCENTIVE PROGRAM

A custom incentive program is in development but is intended for commercial, institutional, or industrial properties with indoor or outdoor projects that do not involve landscaping but can produce quantifiable water savings. Examples include replacing high-flow plumbing fixtures (toilets, showerheads, urinals, faucets, spray valves, etc.), high-flow appliances, plumbing or irrigation improvements, and upgrading cooling towers. This program is designed to help offset the costs of improvements recommended in the Strategic Water Management program.

Program Costs

This program will require project reviews, site visits, coordination, communication with property owners or managers, and incentive amounts.

PILLAR 3: REGULATIONS

Effective regulations have indoor and outdoor water efficiency standards to help create more sustainable communities.

WATER EFFICIENCY STANDARDS

In 2019, JVWCD developed a set of water efficiency standards based on extensive research into landscape ordinances, water conservation programs, and indoor fixture standards of many western water providers and cities. These standards are now being used to guide JVWCD's planning, programs, initiatives, model landscape ordinances, and indoor fixture recommendations.

In summary, the water efficiency standards include the following:

INDOOR FIXTURES

- Toilets should be WaterSense labeled and use 1.28 gallons per flush or less.
- Urinals should be WaterSense labeled and use 0.5 gallons per flush or less.
- Showerheads should be WaterSense labeled and use 2.0 gallons per minute or less.
- Kitchen faucets should be WaterSense labeled and use 1.5 gallons per minute or less.

  Bathroom faucets should be WaterSense labeled and use 0.5 gallons per minute or less.
- Commercial pre-rinse spray valves should be

  WaterSense labeled and use 1.28 gallons per minute or less.
- Clothes washers should be ENERGY STAR certified and have an integrated water factor of 4.3 or less.
- Dishwashers should be ENERGY STAR certified and use 3.5 gallons per cycle or less.

RESIDENTIAL LANDSCAPES

- Lawn should not be used in park strips or other narrow areas that are less than eight feet wide.
- Plants, mulch, drip irrigation, and hardscape should be used instead.
- Lawn areas in residential landscapes should typically not exceed 35% of the total landscaped area and should be at least eight feet wide in all directions.
- Lawn areas should be free from obstructions such as trees, signposts, and boulders; and not used on steep slopes.

IRRIGATION DESIGN

- Outside of active recreation areas, lawn in commercial, industrial, and institutional landscapes should typically not exceed 20% of the total landscaped area.
- Lawn should not be used in park strips, parking lot islands, or other narrow areas that are less than eight feet wide. Plants, mulch, drip irrigation, and hardscape should be used instead.
- Lawn areas should be free from obstructions such as trees, signposts, and boulders; and not used on steep slopes.

COMMERCIAL, INDUSTRIAL, AND INSTITUTIONAL LANDSCAPES

- Bare soil should be covered with at least 3 to 4 inches of mulch to discourage weeds and retain moisture. The placement of weed fabric under the mulch is discouraged.
- Plants should be watered with drip irrigation using separate irrigation zones from lawn areas.
- As much as possible, plants with similar watering needs should be grouped together and watered based on their own watering needs.
- Spray irrigation in lawn areas should have only one type of sprinkler per zone.
- The use of EPA WaterSense labeled irrigation controllers with the ability to automatically adjust watering frequency is recommended.
    - o For large landscapes and multiple sites, central irrigation control systems are preferred.
    - o For smaller landscapes, including residential, Wi-Fi smart controllers are recommended for automatic watering adjustments and scheduling convenience.

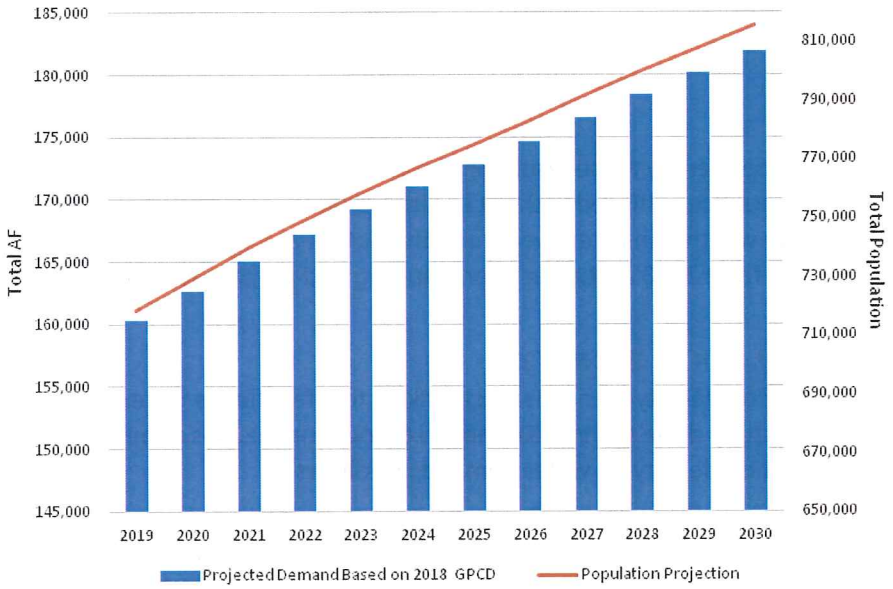
5 IMPLEMENTATION ASSUMPTIONS AND PLAN

Water use is influenced by a variety of factors. For example, changes in rainfall, temperature, regulations, or population density can significantly impact how much water is consumed from year to year. For the purposes of this plan, many of these influences will be assumed through 2030 so a comprehensive plan can be created. If the assumptions hold true, JVWCD's population and water demand projections show an 11,064 AF gap in future 2030 demand relative to the 2030 goal. If widescale adoption of the water efficiency standards are achieved, that gap could be reduced to 2,770 AF. This section describes some of the influences and assumptions used for understanding these gaps.

POPULATION, DEMAND PROJECTIONS, AND TIMELINE

Population projections for this plan are based on JVWCD's 2019 major conveyance, supply, and demand study. This study uses JVWCD's 2018 population estimates and projections made by the Wasatch Front Regional Council to calculate the population growth rate for multiple geographic segments known as traffic analysis zones. By doing this, JVWCD can estimate population growth for its entire service area and each Member Agency for each year through 2030.

FIGURE 5.1 – **Population, Water Demand Projections, and Timeline**



* Note: Wasatch Front Regional Council's traffic analysis zone projections were extrapolated from Utah's Long-term Demographic and Economic Projections, July 1, 2017, University of Utah Kem C. Gardner Policy Institute Projections

Water demand projections use the population projections and apply them to the 2018 per capita water use in JVWCD's service area for each year through 2030. The results are shown in Figure 5.1.

WEATHER

A recent study done by JVWCD staff showed that water demand is heavily influenced by weather patterns, particularly in the residential sector. Since 2000, there has been an increasing trend of hot and dry weather in JVWCD's service area, with the most extreme hot and dry year in 2013 and the most extreme wet and cold year in 2011.

A separate study by JVWCD staff normalized the impact of weather on water use in terms of GPCD by using the year 2000 as the baseline. The objective was to determine relative water use in each subsequent year if water demand was only influenced by weather, all other factors being equal. Table 5.1 shows the relative impact weather could have on water use in 2030 using different potential scenarios.

TABLE 5.1 – **Population, Water Demand Projections, and Timeline**

	2011 Weather Equivalent (cold/wet)	2013 Weather Equivalent (hot/dry)	2018 Weather Equivalent (latest dataset)	2030 Weather Trend (best fit from 2000)
NET DIFFERENCE IN 2030 DEMAND RELATIVE TO 2030 GOAL	-9,036 AF	17,460 AF	11,064 AF	12,892 AF

As can be seen by these results, if the weather in 2030 were like the cold and wet year of 2011, the 2030 goal would be achieved without additional water conservation efforts. However, due to the trend of hot and dry weather in recent years and the potential for continued warming, this report will use the latest dataset from 2018 as the basis for planning and prepare for a potential water savings gap of 11,064 AF.

POPULATION DENSITY

Population density is another factor likely to affect future water demand in JVWCD's service area. A recent study done by JVWCD staff led to four conclusions about the impact of higher residential population density on water demand, as follows:

1. As population density increases per acre, annual GPCD decreases.
2. Higher population density leads to a larger volume of water delivered per acre annually.
3. The increase in total volume per acre outpaces the reduction in GPCD.
4. The seasonal peak water use pattern becomes more buffered and less pronounced.

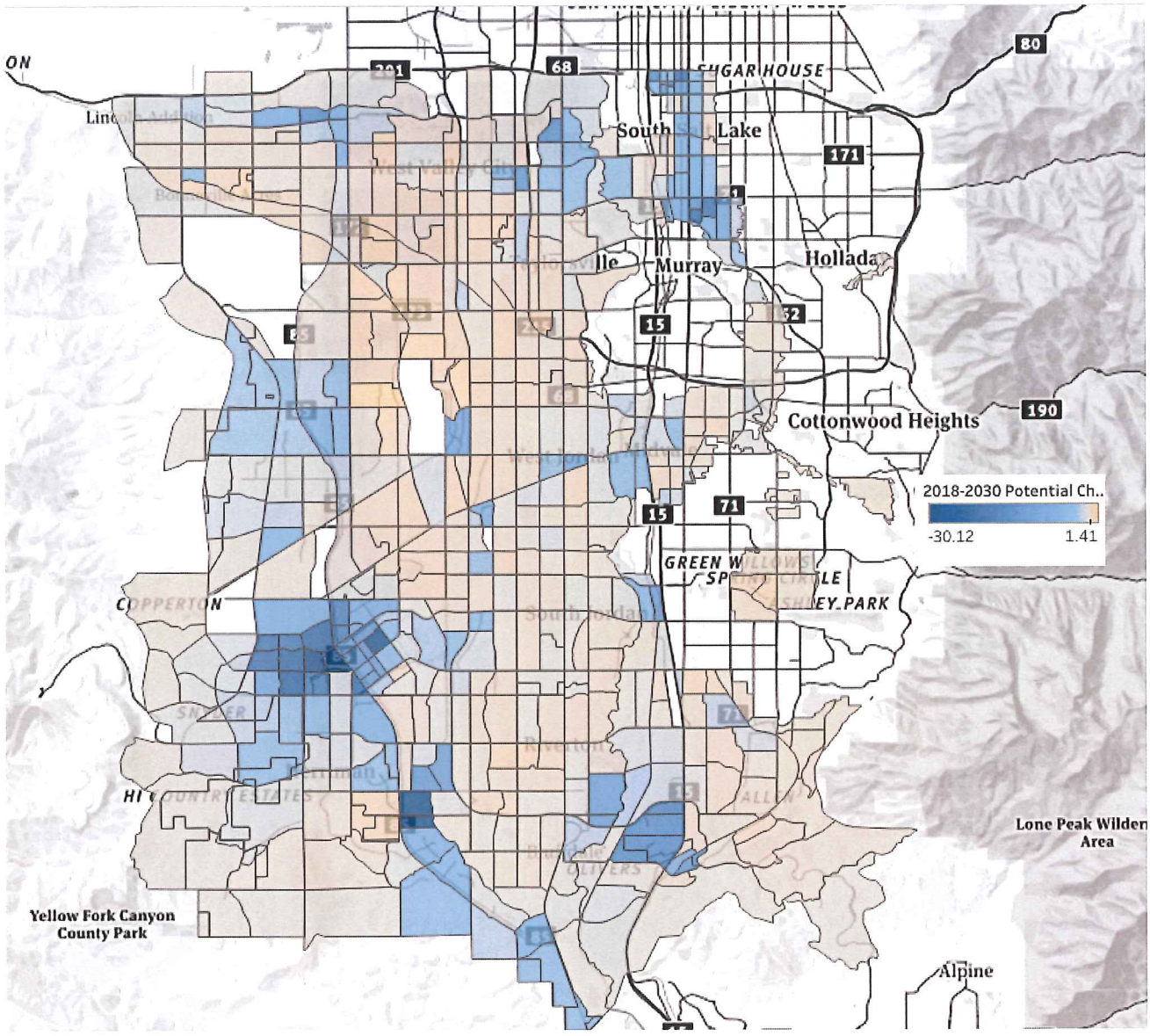
To determine the potential shift in GPCD due to changes in population density through 2030, the results of this study were combined with the Wasatch Front Regional Council traffic analysis zone population projections. The map in Figure 5.2 shows the potential shift in GPCD for each traffic analysis zone in JVWCD's service area. While many areas will see decreased GPCD due to higher population density, many more areas will see a slight increase because they are becoming less dense. Overall for the entire service area, the analysis shows a reduction of 0.5 GPCD or a total of 604 AF by 2030 due to increases in population density.

IMPACT OF POPULATION DENSITY

$$11{,}064^{(AF)} - 604^{(AF)} = 10{,}460^{(AF)}$$

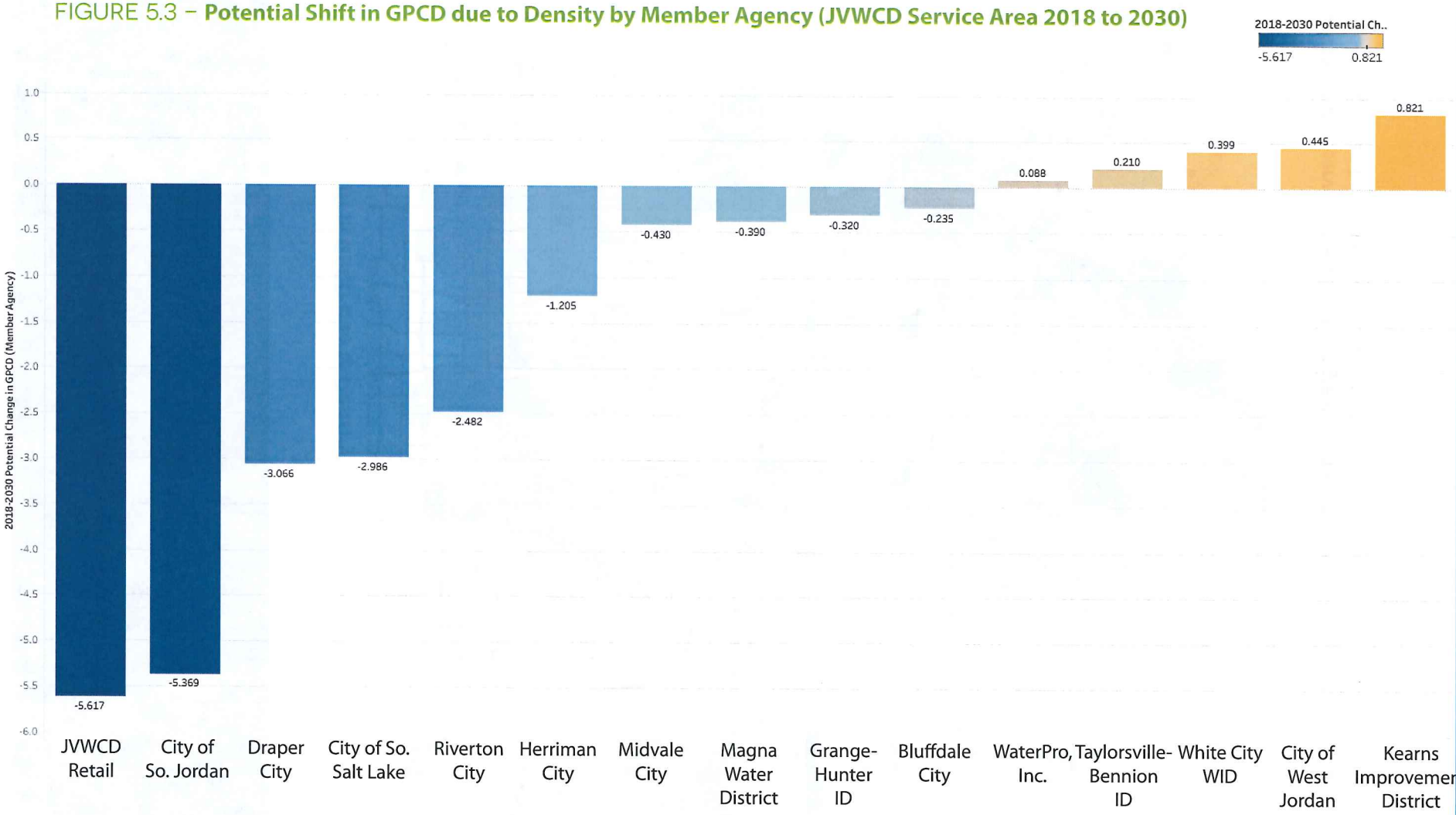
2030 GAP TO ACHIEVE GOAL — **REDUCTION DUE TO HIGHER DENSITY**

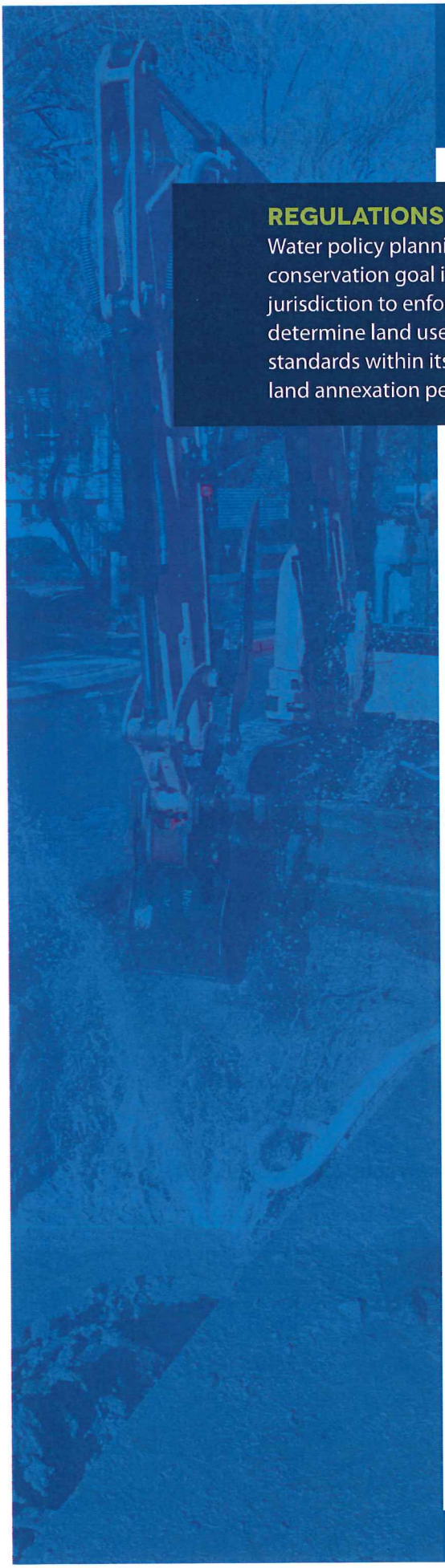
FIGURE 5.2 **Potential Shift in GPCD due to Density (JVWCD Service Area 2018 to 2030)**



Even though the impact service area-wide is not great, each Member Agency is affected differently by population density, as can be seen in Figure 5.3 (shown on next page).

FIGURE 5.3 – **Potential Shift in GPCD due to Density by Member Agency (JVWCD Service Area 2018 to 2030)**





REGULATIONS

Water policy planning and regulations will play a major role in whether JVWCD's conservation goal is achieved and how much it will cost. Though JVWCD does not have the jurisdiction to enforce water-efficient landscape ordinances, establish plumbing standards, determine land use, or dictate growth trends, it has tools to encourage water efficiency standards within its service area. These tools include tax increment financing contracts, new land annexation petitions, and water fees and charges.

TAX INCREMENT FINANCING

Tax increment financing provides a method for entities that receive property tax revenue to refund a portion of the tax to subsidize new development. It is intended to spur new development, finance costs related to land improvements, increase property values, and create new tax revenue. Development projects that seek tax increment financing from JVWCD must receive approval from JVWCD's Board of Trustees. As a condition of entering into these arrangements, JVWCD can require the new development to conform to water efficiency standards.

ANNEXATION PETITIONS

Annexation is a legal process by which property located outside of JVWCD's boundaries can become part of JVWCD's water service area. Property owners of unincorporated land may need to do this to have access to and receive water service. Annexation petitions into JVWCD are applicable for new lands annexing into Member Agencies and unincorporated areas that are doing so independent of a city or town. Annexation petitions to JVWCD must receive approval from JVWCD's Board of Trustees. As a condition of annexation, JVWCD can require that the annexed area conform to water efficiency standards.

WATER FEES AND CHARGES

JVWCD is currently studying multiple funding models to encourage the adoption of the water efficiency standards. Western water providers have employed a variety of techniques that have included adjustments to water impact fees, water purchase contracts, efficient landscape easements, multiple rate tiers, budget-based rates, water availability fees, etc. The results of the study are forthcoming and will be considered by JVWCD staff and the Board of Trustees to determine the best course of action.

JVWCD GOAL FOR REGULATIONS

In preparing this plan, it has become clear that outdoor landscaping for new construction is one of the most urgent areas of concern for achieving JVWCD's goal. Once installed, landscaping changes for water use efficiencies become cost prohibitive and often impractical for the property owners or JVWCD.

JVWCD has identified two tracks that may be taken to encourage water efficiency standards for new construction:

1. Aggressively escalate conservation staffing and spending as a counter to new developments. This would require extensive tracking and targeting of new developments and retrofitting those that are missed. Rebate incentive levels would likely need to increase for retrofits to ensure greater public participation.
2. Moderately increase conservation spending in conjunction with partnering with Member Agencies and cities to implement water efficiency standards on new construction and landscape installations. This would ensure indoor fixtures and landscapes are installed efficiently from the beginning and significantly reduce present and future costs of water conservation.

JVWCD's Board of Trustees and staff are actively pursuing the second option as it offers the best course of action for providing a sustainable water supply. JVWCD is targeting the year 2023 for service area wide adoption of the water efficiency standards. Table 5.2 provides a comparison of these two options for achieving the 2030 goal.

TABLE 5.2 – **Current and Future Budget and Staffing Requirements**

	2019 Budget and Staffing (current)	2030 Budget and Staffing (if water efficiency standards are adopted by 2023)	2030 Budget and Staffing (if no water efficiency standards are adopted)
TOTAL ANNUAL BUDGET	$1,655,242	$4,017,587	$17,846,925
FULL TIME EMPLOYEES	6	9	14
SEASONAL EMPLOYEE	10	12	16
TOTAL SPENDING (2019-2030)		$34,414,665	$116,487,082

Note: Both 2030 projections use a similar methodology to achieve the 2030 goal. Each conservation program has an estimated level of public participation, staffing time, budgetary cost, and associated water savings for each year through 2030.

If JVWCD's service area were to adopt the water efficiency standards for new construction by 2023, it would produce an additional 7,690 AF of water savings towards the goal.

IMPACT OF REGULATIONS ON THE PLAN

11,064 (AF) – **604 (AF)** – **7,690 (AF)** = **2,770**

2030 GAP TO ACHIEVE GOAL

REDUCTION BECAUSE OF HIGHER DENSITY

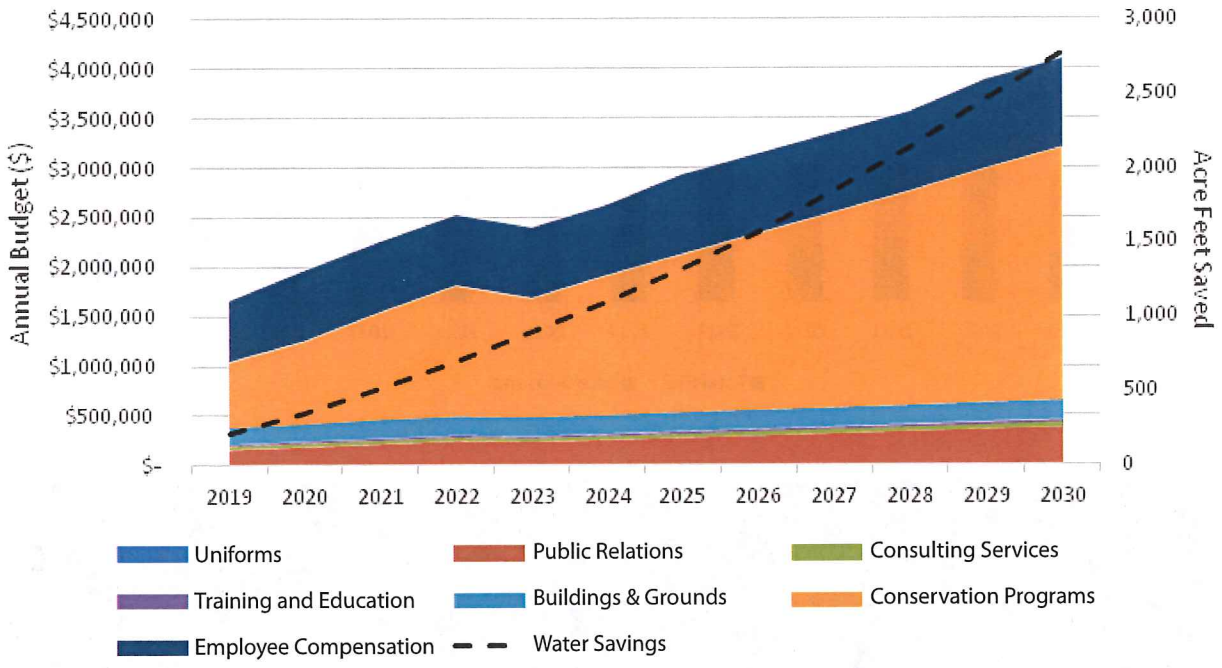
REDUCTION FROM ADOPTION OF WATER EFFICIENCY STANDARDS BY 2023.

IMPLEMENTATION PLAN

Considering all previously stated assumptions and projections, JVWCD will develop a plan to sequentially expand its programs to overcome the remaining gap of 2,770 AF by 2030. This section will describe the costs, programs, timing, and program participation necessary to achieve this water savings goal. Though other important efforts like education, outreach, and marketing campaigns will produce some water savings, they will not be considered as significant contributors to achieving the water conservation goal in this plan.

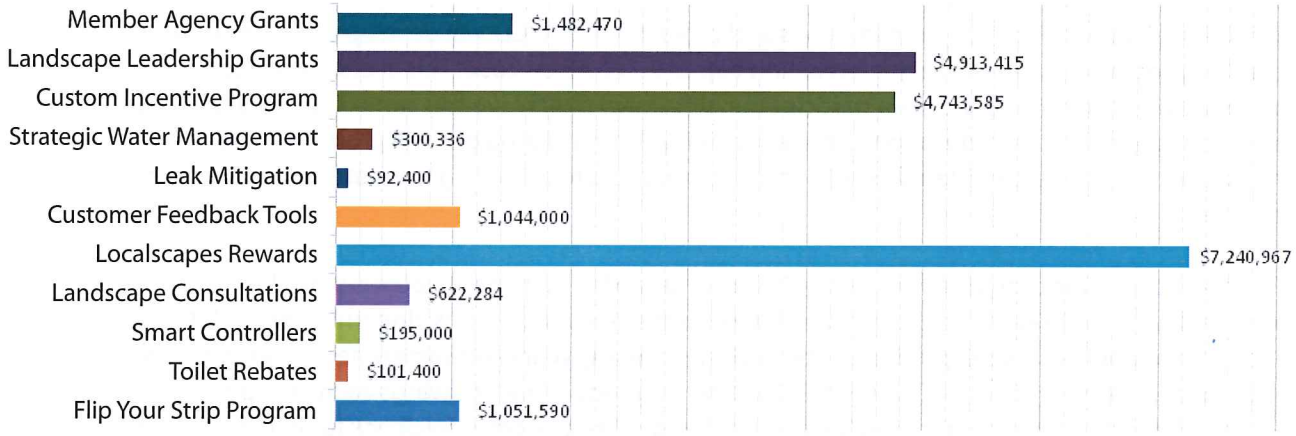
Figure 5.4 shows projections for all of JVWCD's conservation budget lines to accomplish the goal. Programs that incorporate structural efficiencies like landscape renovations, drip irrigation, toilet replacements, and indoor fixtures can produce water savings for many years and sometimes decades. For example, if a landscape were to be renovated in 2020, it would produce water savings each year through the planning period. Programs that rely on behavioral changes like customer feedback tools, consultations, audits, and smart controllers that have been disabled are less likely to produce savings for multiple years. Both program types and estimated annual savings are considered in the chart below.

FIGURE 5.4 – **Conservation Budget and Water Savings Projections**



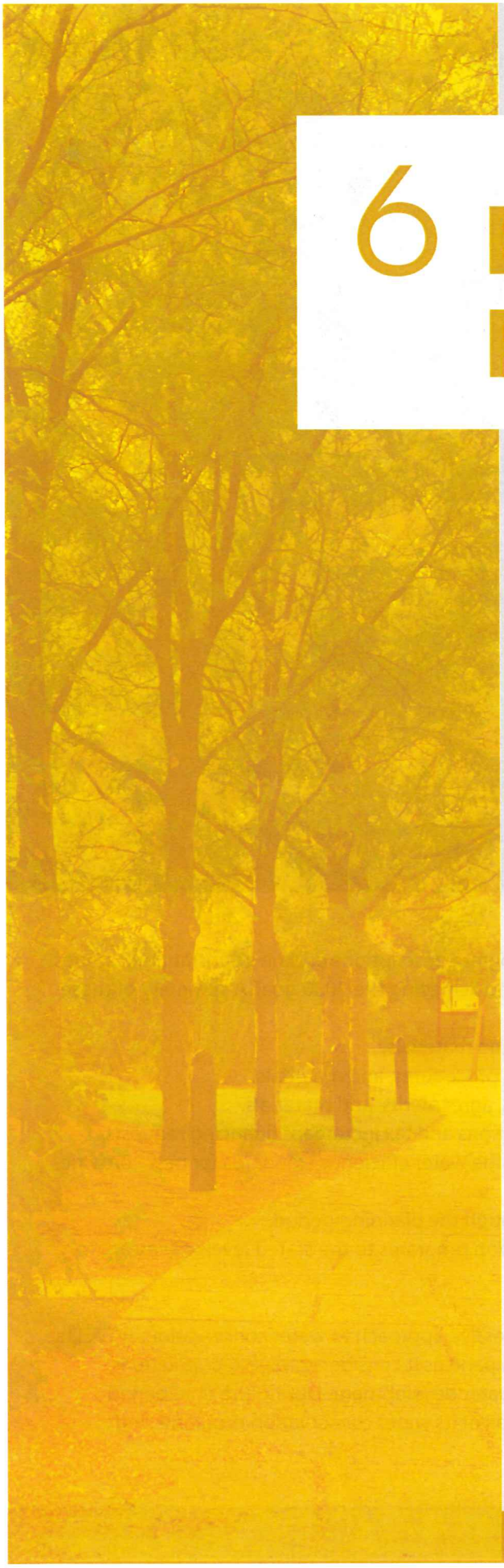
A breakdown of the conservation measures that produce water savings are provided in Figure 5.5. Each measure includes the rebate, staffing, marketing, and administrative expenses needed for program fulfillment.

FIGURE 5.5 – **Breakdown of Program Expenses (2019-2030)**



New full-time and seasonal positions will be needed to fulfill this plan as is shown in the chart below. To accommodate the projected demand for programs, 3 new full-time and 2 new seasonal positions will be needed through the planning period. The year 2020 shows need for the first of those three full-time positions.

FIGURE 5.6 – **Staffing Projections**



6 EVALUATION PROCESS

JVWCD's Board of Trustees and staff will perform an annual assessment of its conservation goal progress based on the following criteria:

1. Determine annual water use and GPCD
   a. Collect data from Member Agencies and retail service area (supply, demand, and population)
   b. Adjust projections and estimate water demand for the following year
2. Assess conservation need from JVWCD's programs
   a. Determine water savings gap using latest projections (ex. demand, population, density, and climate trends)
   b. Set needed conservation program participation levels to overcome identified gap (either maintain plan trajectory or escalate resource allocation)
3. Prepare and analyze water use and participation analytics
   a. Breakdown progress in residential, CII, indoor, outdoor, land area, and Member Agency water use
   b. Assess effectiveness of classes, advertising, marketing, and program participation
4. Prioritize and plan for the next year
   a. Prioritize advertising and marketing budgets using water use stats for targeting users and areas
   b. Track progress through year based on program level participation

SUMMARY 7

The previously stated implementation plan and conservation program descriptions outline important milestones and benchmarks for evaluating progress in executing this plan and achieving the 2030 goal. A summary of these major benchmarks is found below:

- Create leak mitigation program training, procedures, and materials.
- Create strategic water management program training, procedures, and materials.
- Create custom incentive program training, procedures, agreements, and materials.
- Require water efficiency standards for annexation petitions and tax increment financing requests.
- Target the year 2023 for service area wide adoption of the water efficiency standards for new construction.
- Hire 3 new full-time and 2 new seasonal positions through the planning period.
- Increase participation levels and budgets of conservation programs to the stated levels necessary to achieve the goal.

As a regional water provider, JVWCD has taken a strong and aggressive approach to water conservation. JVWCD's focus on, and investment in, conservation will only continue to expand as it considers growing populations, weather and climate uncertainty, and increasing costs of future water development. During the time period described in this plan, JVWCD will work to improve and increase all of its water conservation programs and effectiveness.

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NOTICE

Notice seeking public comment on the Conservation Plan Update was sent to the following and posted on JVWCD's websites:

- JVWCD's Member Agencies
- Division of Water Resources
- Salt Lake Tribune and Deseret News

The notices posted in the newspapers and sent to member agencies are attached on pages 37 and 38.

PUBLIC HEARING ABOUT THE 2019 CONSERVATION PLAN UPDATE

The agenda, minutes, and presentation for the public hearing held on November 13, 2019, where the Conservation Plan Update was presented, discussed, and adopted, are attached.

No public comments were received during the comment period or at the public hearing.

NOTICE OF PUBLIC HEARING

The Board of Trustees of the Jordan Valley Water Conservancy District has prepared the "2019 Water Conservation Plan Update" (hereafter referred to as the "Plan Update"). The Plan Update may be examined Monday through Friday, from 8:00 A.M. to 5:00 P.M., at the District's Administrative Office located at 8215 South 1300 West, West Jordan, Utah. The Plan Update may also be found on Jordan Valley Water Conservancy District's website at www.jvwcd.org. under Public Notices.

A public hearing on the Plan Update will be held on Wednesday, November 13, 2019, at 3:00 P.M. in the District's Administrative Office located at 8215 South 1300 West, West Jordan, Utah. At the hearing, the public may ask questions and obtain further information about the Plan Update and issues raised by it. Any person interested in presenting comments or other information for or against the Plan Update may (i) prior to the hearing, submit relevant comments and other information in writing to the Board (at the address given above); or (ii) at the hearing, present relevant comments and other information in writing and may also present comments and information orally.

Dated: 10-18-19

Bart Forsyth, Assistant Clerk
Jordan Valley Water Conservancy District

JORDAN VALLEY WATER
CONSERVANCY DISTRICT

RESOLUTION OF THE BOARD OF TRUSTEES

RESOLUTION NO. 19-34

APPROVING THE WATER CONSERVATION PLAN UPDATE

WHEREAS, pursuant to §73-10-32 Utah Code Ann. (1953) (the "Act"), Jordan Valley Water Conservancy District ("Jordan Valley") prepared a Water Conservation Plan in 1999, prepared updates to its Plan every five years, as required by law, and has now prepared an additional update to its Plan, (the "Updated Plan") as set forth in attached Exhibit 1 (the "Updated Plan");

WHEREAS, Jordan Valley has established in its Updated Plan a conservation goal to reduce water use within its service area to 187 gallons per capita per day by 2030;

WHEREAS, Jordan Valley has determined that achieving this conservation goal will sustain existing water supplies, eliminate or delay more expensive water supply and infrastructure projects, and assist in providing an adequate water supply for future generations;

WHEREAS, the Updated Plan identifies existing and proposed water conservation measures and programs needed to continue making progress towards achieving the goal; and,

WHEREAS, pursuant to the Act, Jordan Valley has held a public hearing, after reasonable and advance public notice, for purposes of inviting and encouraging discussion and public comment on the Updated Plan.

NOW, THEREFORE, BE IT RESOLVED by the Jordan Valley Water Conservancy District Board of Trustees:

1. Jordan Valley has met the requirements of the Act in its preparation of the Updated Plan.

2. The General Manager is authorized and directed to cause a copy of the Updated Plan to be filed with the Utah Division of Water Resources and with all other persons or entities deemed appropriate.

3. This Resolution shall take effect immediately upon execution by an authorized member of the Board.

PASSED, ADOPTED, and APPROVED this 13th day of November, 2019.

Corey L. Rushton
Chair of the Board of Trustees

ATTEST:

Richard P. Bay
Clerk

NOTICE OF PUBLIC HEARING/MEETING OF THE BOARD OF TRUSTEES
OF JORDAN VALLEY WATER CONSERVANCY DISTRICT

PUBLIC NOTICE is hereby given that the Board of Trustees of the Jordan Valley Water Conservancy District will hold a Public Hearing/Board meeting at 3:00 p.m. on Wednesday, November 13, 2019, at the District Administration Building located at 8215 South 1300 West, West Jordan, Utah.

Agenda

1. Call to order and introduction of visitors
2. Administration of Oath of Office to newly appointed Trustee
    a. Barbara L. Townsend
3. Public hearing on the Water Conservation Plan Update
    a. Verification of legal notification requirements
    b. Motion to open public hearing and receive public comments
    c. Comments from the Conservation Committee Chair
    d. Staff presentation:
        i. Overview of the water conservation plan update
    e. Questions from Trustees
    f. Invitation for public comments
        i. Acknowledgement of public comments received
        ii. Comments from visitors
    g. Motion to close public comment session
    h. Staff response and summary
    i. Motion to close public hearing
4. Consider adoption of Resolution No. 19-34, "Approving the Water Conservation Plan Update"
5. Approval of common consent items:
    a. Minutes of the Executive Committee meeting held October 15, 2019, and the Public Hearing/Board meeting held October 16, 2019
    b. Trustees expenses report for October 2019
6. Public comments
7. Consider approval of Board and Committee meetings' schedule for 2020
8. Consider adoption of Resolution No. 19-27, "Amending Water Efficiency Standards for Annexations of Real Property into the Jordan Valley Water Conservancy District"

9. Consider adoption of Resolution No. 19-28, "Establishing Jordan Valley Water Conservancy District's Wholesale Water Block Rates and Amending its Rules and Regulations for Wholesale Water Service"

10. Consider adoption of Resolution No. 19-25, "Impact Fee Resolution/Enactment"

11. Financial Matters

    a. Consider acceptance of the audit report by Gilbert & Stewart for fiscal year ending June 30, 2019

    b. Consider adoption of Resolution No. 19-29, "Authorizing a Transfer of Funds from the Revenue Fund to the Capital Projects Fund and Other Designated Reserve Funds"

12. Consider adoption of Resolution No. 19-30, "Approving Annexation of Lands into the Jordan Valley Water Conservancy District" (Granite School District)

13. Consider adoption of Resolution No. 19-31, "Approving Annexation of Lands into the Jordan Valley Water Conservancy District" (Kennecott Utah Copper LLC)

14. Consider adoption of Resolution No. 19-32, "Rescinding Resolution No. 19-21"

15. Consider adoption of Resolution No. 19-33, "Amending Jordan Valley Water Conservancy District's Policy Manual" (Personnel Rules and Regulations Manual)

16. Engineering, Maintenance, and Information Systems activities

    a. Consider award of construction contract for 6000 West 4700 South 1 Million Gallon Reservoir Vault Modifications

    b. Consider award of construction contract for Jordan Valley Water Treatment Plant Flocculation Basin Repairs

    c. Consider award of construction contract for Jordan Narrows Pump Station Automation

    d. Consider approval of a Master Agreement with Utah Department of Transportation for Construction of Porter Rockwell Bridge

17. Operations, Public Outreach, and Conservation activities

    a. Consider approval of a Water Conservation Funding Agreement with WaterPro, Inc.

18. Reporting items:

    a. Report on District awards/recognitions and presentations at AWWA Intermountain Section Conference

    b. Report on legislative bills by the Utah Water Task Force

    c. CUP/CUWCD activities report

    d. Conservation activities report

    e. Report on easement agreements signed by the General Manager

f. Report on facilities rental agreements signed by the General Manager

g. Report on District performance indicators for September 2019

h. Capital projects report for October 2019

i. Financial report for September 2019

j. Water supply report for September 2019

k. Media Coverage

19. Upcoming meetings:

a. Conservation Committee meeting, Monday, December 2, at 3:00 p.m.

b. Executive Committee meeting, Monday, December 2, at 4:00 p.m.

c. Board meeting, Wednesday, December 4, at 3:00 p.m.

d. Consider approval to cancel the Conservation Committee meeting and the Executive Committee meeting scheduled for December 2, 2019

20. Closed meeting located in District Administration building board room located at 8215 South 1300 West, West Jordan, Utah

a. Discussion of information provided during procurement process

b. Discussion of sale or purchase of real property and/or water rights or water shares

21. Open meeting

22. Consider procurement actions for professional services proposals

a. financial advisor services

b. legislative and strategic communications services

23. Consider approval to purchase easement for the 10200 South Pipeline Project

24. Adjourn

Date: November 12, 2019

By: Richard P. Bay
Richard P. Bay, District Clerk

Reasonable accommodation will be made for disabled persons needing assistance to attend or participate in this meeting. Please contact Beverly Parry at 801-565-4300.

MINUTES OF THE BOARD MEETING OF THE BOARD OF TRUSTEES OF JORDAN VALLEY WATER CONSERVANCY DISTRICT

(Unapproved and subject to change)

Held November 13, 2019

A public hearing/Board meeting of the Board of Trustees of the Jordan Valley Water Conservancy District was held Wednesday, November 13, 2019, at 3:00 p.m. at the District office at 8215 South 1300 West, West Jordan, Utah.

Trustees Present:
- Corey L. Rushton, Chair
- Greg R. Christensen
- Wm. Brent Johnson
- Karen D. Lang
- Scott L. Osborne
- Ronald E. Sperry
- Lyle C. Summers
- John H. Taylor
- Barbara L. Townsend

Trustees Not Present:

Staff Present:
- Richard Bay, General Manager/CEO
- Bart Forsyth, Assistant General Manager
- Alan Packard, Assistant General Manager
- Jason Brown, Information Systems Department Manager
- Brian Callister, Maintenance Department Manager
- Matt Olsen, Communications Department Manager
- Shane Swensen, Engineering Department Manager
- Shazelle Terry, Operations Department Manager
- Reid Lewis, General Counsel
- David Martin, Chief Financial Officer/Treasurer
- Brian McCleary, Controller
- Kurt Ashworth, Human Resources Manager
- Linda Townes, Public Information Manager
- Beverly Parry, Executive Assistant
- Michele Guy, Administrative Assistant
- Jess Morgan, Administrative Assistant
- Kevin Rubow, Staff Engineer
- Travis Christensen, Registered Engineer

Also Present:
- Greg Anderson, Public Works Director, Kearns Improvement District
- Riley Astill, Controller, Kearns Improvement District
- Don Bean, 8953 Summer Mesa Circle, Sandy, UT
- Darrell Casteel, Operations Manager, AE2S
- Justun Edwards, Public Works Director, Herriman City
- Chris Finlinson, Assistant General Manager, Central Utah Water Conservancy District
- Louie Fuell, Assistant General Manager, Granger-Hunter Improvement District
- Clint Jensen, General Manager, Granger-Hunter Improvement District
- Patrick Juhlin, CBRE
- Jason Luettinger, Bowen Collins & Associates
- Rick Maloy, South Jordan City

Brien Maxfield, Senior Engineer, Draper City
Annalee Munsey, Assistant General Manager, Metropolitan Water District of Salt Lake & Sandy
Ana Paz, Associate Engineer, South Jordan City
Terry Pollock, General Manager, Magna Water District
Jason Rasmussen, Public Works Director, South Jordan City
David Robertson, Vice President, Lewis Young Robertson and Burningham
Scott Robertson, Principal, Lewis Young Robertson and Burningham
Shawn Robinson, Operations Manager, Taylorsville-Bennion Improvement District
Jeff Stephenson, Rio Tinto/Kennecott
Ron Stewart, Gilbert & Stewart
Ryan Willeitner, Engineer, Jacobs Engineering
Jacob Young, Engineer, Brown & Caldwell

Call to order and introduction of visitors

Mr. Corey L. Rushton, Chair, convened the public hearing of the Jordan Valley Water Conservancy District Board of Trustees at 3:00 p.m. on Wednesday, November 13, 2019, in the Administration Building at 8215 South 1300 West in West Jordan, Utah. Mr. Rushton introduced the members of the Board and visitors.

Administration of Oath of Office to newly appointed Trustee

Mr. Richard Bay, General Manager, stated Ms. Barbara Townsend has been appointed by Governor Herbert to serve the remainder of a four-year term, through January 2022, as Trustee representing Division 7, which includes Granite Park, Holladay, Murray, South Cottonwood, Willow Creek, South Salt Lake, Union, White City Improvement District, Hi-Country Estates, and unincorporated areas. Ms. Townsend's confirmation by the Senate took place on October 16, 2019.

The Oath of Office statute requires that a notary public, or other similar official, administer the oath of office. Ms. Beverly Parry, Executive Assistant and Notary Public, administered the oath of office to Ms. Townsend.

Public hearing on the Water Conservation Plan Update

Verification of legal notification requirements

Mr. Rushton asked Mr. Reid Lewis, General Counsel, to report on verification of legal notification requirements for the public hearing. Mr. Lewis stated that Utah law requires reasonable, advance public notice be given for this public hearing. He said notice was published twice in the Salt Lake Tribune and Deseret News newspapers; and it was posted in the lobby of the District's administration building, on the State of Utah public notice website, and on the District's website. These postings and publications exceed the requirements for legal notification required by the Utah Code.

Motion to open public hearing and receive public comments

Mr. Rushton asked for a motion to open the public hearing. Mr. Lyle Summers moved to open the public hearing. Following a second by Ms. Barbara Townsend, the motion was unanimously approved by those present as follows:

Mr. Christensen – aye
Ms. Lang – not present
Mr. Rushton – aye
Mr. Summers – aye
Ms. Townsend - aye
Mr. Johnson – aye
Mr. Osborne – aye
Mr. Sperry – aye
Mr. Taylor – aye

Comments from the Conservation Committee Chair

Mr. Lyle Summers, Conservation Committee Chair, said that a great deal of work by District staff has gone into completing the Water Conservation Plan Update. He said JVWCD submitted an excellent first plan and has done an excellent job of updating the plan every five years since then. He briefly reviewed the purpose of the Conservation Plan Update.

Staff presentation

Mr. Bart Forsyth, Assistant General Manager, reviewed the process undertaken to complete the Water Conservation Plan Update and said it is the most comprehensive and complex conservation plan the District has ever prepared. Mr. Forsyth gave background on statewide water conservation goals. He turned the time over the Matt Olsen, Communications Department Manager, who presented highlights of the plan. Mr. Olsen reviewed the District's water conservation goal history, water use results and goals, population and water demand projections, 2018 water use results compared to 2030 water conservation goal, impact of regulations on the plan, and the proposed cost to implement the plan.

Ms. Karen Lang arrived at 3:11 p.m.

Questions from Trustees

There were no questions from Trustees.

Invitation for public comments and acknowledgement of public comments received

Mr. Forsyth said staff received one comment from the Utah Department of Water Resources (DWRe) which said they felt the conservation portion of the plan was outstanding, and they would have DWRe engineering staff review the District's system profile and numbers provided.

There were no other public comments.

Motion to close public comment session

Mr. Rushton asked for a motion to close the public comment session. Mr. John Taylor moved to close the public comment session. Following a second by Ms. Karen Lang, the motion was unanimously approved as follows:

Mr. Christensen – aye	Mr. Johnson – aye
Ms. Lang – aye	Mr. Osborne – aye
Mr. Rushton – aye	Mr. Sperry – aye
Mr. Summers – aye	Mr. Taylor – aye
Ms. Townsend - aye	

Staff response and summary

Mr. Forsyth said staff did a great job updating the Water Conservation Plan. He said the plan dovetails with many of the planning activities the District is currently doing, including the current Water Supply and Demand Study and ongoing financial planning.

Motion to close public hearing

Mr. Rushton asked for a motion to close the public hearing. Mr. Scott Osborne moved to close the public hearing. Following a second by Mr. Lyle Summers, the motion was unanimously approved as follows:

Mr. Christensen – aye
Ms. Lang – aye
Mr. Rushton – aye
Mr. Summers – aye
Ms. Townsend - aye
Mr. Johnson – aye
Mr. Osborne – aye
Mr. Sperry – aye
Mr. Taylor – aye

Consideration adoption of Resolution No. 19-34, "Approving the Water Conservation Plan Update"

Mr. Forsyth recommended adoption of Resolution No. 19-34, "Approving the Water Conservation Plan Update."

Mr. Rushton asked for a motion on the recommendation. Mr. Lyle Summers moved to adopt Resolution 19-34. Following a second by Mr. Ron Sperry, the motion was unanimously approved as follows:

Mr. Christensen – aye
Ms. Lang – aye
Mr. Rushton – aye
Mr. Summers – aye
Ms. Townsend - aye
Mr. Johnson – aye
Mr. Osborne – aye
Mr. Sperry – aye
Mr. Taylor – aye

Approval of common consent items

Mr. Rushton presented the minutes of the Executive Committee meeting held October 15, 2019, and the public hearing/Board meeting held October 16, 2019. He also presented the October Trustees Expenses Report. Mr. Rushton called for a motion. Mr. Scott Osborne moved to approve the minutes of the October 15 and October 16 meetings and the October Trustees Expenses Report. Following a second by Ms. Karen Lang, the motion was unanimously approved as follows:

Mr. Christensen – aye
Ms. Lang – aye
Mr. Rushton – aye
Mr. Summers – aye
Ms. Townsend - aye
Mr. Johnson – aye
Mr. Osborne – aye
Mr. Sperry – aye
Mr. Taylor – aye

Public comments

Mr. Scott Robertson, Lewis Young Robertson & Burningham (LYRB), spoke in support of the District retaining LYRB as financial advisors and reviewed examples of money-saving advice LYRB has provided the District in the past.

Consider approval of Board and Committee Meetings' schedule for 2020

Mr. Bay reviewed the proposed District Board and Committee Meetings schedule for 2020 and recommended approval of the schedule.

Mr. Rushton asked for a motion on the recommendation. Ms. Karen Lang moved to approve the Board and Committee Meetings schedule for 2020. Following a second by Mr. Ron Sperry, the motion was unanimously approved as follows:

Mr. Christensen – aye
Ms. Lang – aye
Mr. Rushton – aye
Mr. Summers – aye
Ms. Townsend - aye
Mr. Johnson – aye
Mr. Osborne – aye
Mr. Sperry – aye
Mr. Taylor – aye

Consider adoption of Resolution No. 19-27, "Amending Water Efficiency Standards for Annexations of Real Property into the JVWCD"

Mr. Forsyth reviewed the actions taken by the Board to establish water efficiency standards, which would be required in all new lands annexed into the District after January 15, 2019. He provided the Board with proposed changes to the initial resolution regarding water efficiency standards adopted by the Board in August 2019, and recommended adoption of Resolution No. 19-27, "Amending Water Efficiency Standards for Annexations of Real Property into the JVWCD."

Mr. Christensen said the resolution states the District's water conservation goal is to reduce per capita water use 25% by 2025, which is the old water conservation goal. He suggested it be updated to the new goal of 187 gallons of water per capita per day by 2030. Mr. Forsyth amended his recommendation to include the suggested change.

Mr. Rushton asked for a motion on the recommendation. Mr. Brent Johnson moved to approve Resolution No. 19-27, "Amending Water Efficiency Standards for Annexations of Real Property into the JVWCD" with the noted change. Following a second by Ms. Barbara Townsend, the motion was approved as follows:

Mr. Christensen – nay
Ms. Lang – aye
Mr. Rushton – aye
Mr. Summers – aye
Ms. Townsend - aye
Mr. Johnson – aye
Mr. Osborne – aye
Mr. Sperry – aye
Mr. Taylor – aye

Consider adoption of Resolution No. 19-28, "Establishing JVWCD's Wholesale Water Block Rates and Amending its Rules and Regulations for Wholesale Water Service"

Mr. Forsyth said this resolution has been drafted after considerable deliberation by this Board, and previous Boards, regarding the concept of existing water supply versus new water supply and existing lands versus newly annexed lands into the District. He reviewed the discussions that have taken place between the Board and staff on how a new wholesale block water rate structure could be administered. He said this resolution provides for implementation of a water rate structure consisting of two blocks, the first consisting of the District's existing water supply, including Utah Lake System (ULS) water, available to existing lands that have already been annexed into the District. The second block would consist of the District's new water supply, initially representing the District's CWP water supply, and would be available to newly annexed lands coming into the District after January 15, 2019. In order to administer these block water rates, a change to the Rules and Regulations for Wholesale Water Service would be necessary.

Mr. Alan Packard, Assistant General Manager, reviewed the background and analysis that went into the proposed policy changes. He said there are approximately 49 square miles of undeveloped land within the District's existing boundaries. If water efficiency standards are implemented in these lands, the District would have sufficient water supplies to meet the build-out demands. Mr. Packard reviewed the proposed changes to the District's Rules and Regulations for Wholesale Water Service, which include new water purchase agreements, incentive to keep current minimum purchase amounts, and be subject to the Member Agency implementing the District's water efficiency standards. Also included in the proposed policy changes is the new block water rates for wholesale water service, which Mr. Packard

reviewed.

Mr. Taylor asked if a Member Agency that implements the water efficiency standards exceeds 120% of their water purchase contract in a given year, because of unusual circumstances, will they have to increase their contract or pay Block 2 water rates. Mr. Packard said the Member Agency could contact the District and request a temporary water purchase agreement, which is one of the available contract categories in the Rules and Regulations for Wholesale Water Services for water.

Mr. Taylor asked if a Member Agency already meets the water conservation goal of 187 gpcd, will they still need to implement water efficiency standards. Mr. Packard said proposed policy changes would apply to all Member Agencies regardless of current per capita usage rates.

Mr. Christensen said he objected to the requirement that Member Agencies would have to enforce the implementation of water efficiency standards. Mr. Packard said staff has considered providing assistance to Member Agencies in plan review and with conservation grant funding, which could be made available to help support Member Agency efforts to implement and enforce water efficiency standards.

Mr. Rushton said Board members for many years have tried to figure out how to implement water availability fees for new lands annexed into the District. He said the present Board began discussing this issue 1½ years ago. There have been many discussions and suggestions made by the Board members as this concept was repeatedly brought before the Board for review. Mr. Rushton said the Board members have recognized that there needs to be equity among the Member Agencies in regard to dealing with annexation of new lands into the District. He said he supports this resolution and is ready to move forward in implementation of the block water rates for wholesale water service

Mr. Osborne said it is time for the Board to act on this issue. He said it would change people's lives and the way land development moves forward in the future, but it is time to adopt these water efficiency standards and wholesale block water rates.

Mr. Christensen said he does not disagree with the water efficiency standards, but disagrees with the application of the standards and feels this policy change is not equitable for all Member Agencies. Mr. Summers and Mr. Johnson spoke in support of the Rules and Regulations for Wholesale Water Service policy changes.

Mr. Packard recommended adoption of Resolution No. 19-28, "Establishing JVWCD's Wholesale Water Block Rates and Amending its Rules and Regulations for Wholesale Water Service."

Mr. Rushton asked for a motion on the recommendation. Mr. Lyle Summers moved to approve Resolution No. 19-28. Following a second by Ms. Karen Lang, the motion was approved as follows:

Mr. Christensen – nay
Ms. Lang – aye
Mr. Rushton – aye
Mr. Summers – aye
Ms. Townsend - aye
Mr. Johnson – aye
Mr. Osborne – aye
Mr. Sperry – aye
Mr. Taylor – aye

Consider adoption of Resolution No. 19-25, "Impact Fee Resolution/ Enactment"

Mr. Dave Martin, Chief Financial Officer, said it has been six years since the District has updated its impact fees, and The District retained Lewis Young Robertson & Burningham (LYRB) to perform the proposed update. He said LYRB performed an Impact Fee Facilities Plan and Impact Fee Analysis, and a public hearing was held on October 16, 2019. Mr. Martin recommended adoption of Resolution No. 19-25, "Impact Fee Resolution/Enactment" which would be in effect 90 days after approval.

Mr. Rushton asked for a motion on the recommendation. Ms. Karen Lang moved to approve Resolution No. 19-25. Following a second by Mr. Ron Sperry, the motion was unanimously approved by those present as follows:

Mr. Christensen – aye
Ms. Lang – aye
Mr. Rushton – aye
Mr. Summers – aye
Ms. Townsend - aye
Mr. Johnson – aye
Mr. Osborne – aye
Mr. Sperry – aye
Mr. Taylor – aye

Financial Matters

Consider acceptance of the audit report by Gilbert & Stewart for fiscal year ending June 30, 2019

Mr. Ron Sperry, Finance Chair, commended staff for their assistance in completing the audit. He then turned the time over to Mr. Ron Stewart, partner of Gilbert & Stewart, to review the audit report.

Mr. Stewart reviewed the audit process and stated that there are three objectives pertaining to the audit: 1) to determine if the numbers reported on the financial statement are accurate and materially correct, 2) to determine if internal controls are in place and working properly, and 3) to determine if the District is compliant with state rules and regulations. The unqualified opinion expressed by Gilbert & Stewart is that the financial statements present fairly, in all material respects, the financial position of the business type activities of the District as of June 30, 2019. Mr. Stewart said that in the evaluation of the District's internal controls, Gilbert & Stewart did not find any significant deficiencies or material weaknesses and the District met all compliance requirements in Utah law. There were no issues or findings.

Mr. Ron Sperry moved to accept the audit report by Gilbert & Stewart for fiscal year ending June 30, 3019. Following a second by Mr. John Taylor, the motion was unanimously approved as follows:

Mr. Christensen – aye
Ms. Lang – aye
Mr. Rushton – aye
Mr. Summers – aye
Ms. Townsend - aye
Mr. Johnson – aye
Mr. Osborne – aye
Mr. Sperry – aye
Mr. Taylor – aye

Consider adoption of Resolution No. 19-29, "Authorizing a Transfer of Funds from the Revenue Fund to the Capital Projects Fund and Other Designated Reserve Funds"

Mr. Martin stated that after the audit report is completed, an annual transfer from the Revenue Fund would be made to other funds, such as the Capital Projects and reserve funds. Mr. Martin recommended transferring funds from the Revenue Fund to the following funds: $5,458,272 to the Capital Projects Repair/Replacement Reserve Fund, $494,319 to the Development Fee Fund, $800,000 to the General Equipment Fund, $300,000 to the Emergency Reserve/Self-Insurance Fund, $500,000 to the Operation and Maintenance Fund, and $5,079,908 to the Revenue Stabilization Fund. He said that $1,310,849 of the fiscal year revenue is interest earned in other accounts and is not available for transfer. Mr. Martin recommended adoption of Resolution No. 19-29.

Mr. Rushton pointed out a typographical error on the resolution.

Mr. Rushton asked for a motion on the recommendation. Mr. Greg Christensen moved to adopt Resolution No. 19-29, "Authorizing a Transfer of Funds from the Revenue Fund to the Capital Projects Fund and Other Designated Reserve Funds" with the correction of the typographical error. Following a second by Mr. Ron Sperry, the motion was unanimously approved as follows:

Mr. Christensen – aye
Ms. Lang – aye
Mr. Rushton – aye
Mr. Summers – aye
Ms. Townsend - aye
Mr. Johnson – aye
Mr. Osborne – aye
Mr. Sperry – aye
Mr. Taylor – aye

Consider adoption of Resolution No. 19-30, "Approving Annexation of Lands into the JVWCD" (Granite School District)

Consider adoption of Resolution No. 19-31, "Approving Annexation of Lands into the JVWCD" (Kennecott Utah Copper LLC)

Mr. Lewis said that Resolution Nos. 19-30 and 19-31 can be considered for adoption together. He reviewed the location of the lands, which are within Magna Water District boundaries. He said the Board approved the Petition Certifications for these annexations at the October Board meeting. Following that meeting, Mr. Lewis, Mr. Bay, Mr. Forsyth, and Mr. Packard met with representatives of DR Horton, Granite School District, Kennecott Utah Copper, and Magna Water District on October 22, 2019. At this meeting, the water availability fee and water efficiency standards were discussed. Mr. Lewis recommended approval of Resolution Nos. 19-30 and 19-31, "Approving Annexation of Lands into the JVWCD."

Mr. Rushton asked for a motion on the recommendation. Mr. Greg Christensen moved to adopt Resolution Nos. 19-30 and 19-31. Following a second by Mr. Ron Sperry, the motion was unanimously approved as follows:

Mr. Christensen – aye
Ms. Lang – aye
Mr. Rushton – aye
Mr. Summers – aye
Ms. Townsend - aye
Mr. Johnson – aye
Mr. Osborne – aye
Mr. Sperry – aye
Mr. Taylor – aye

Consider adoption of Resolution No. 19-32, "Rescinding Resolution No. 19-21"

Mr. Lewis said the District received an annexation petition from SSSLC, for lands in Herriman. Ms. Lorrie Cowles, GIS Administrator, reviewed the petition, checked with the Salt Lake County Recorder's Office, and only found one owner listed for lot no. 4. The Board approved the Petition

Certification in August 2019, and Resolution 19-21, approving the annexation, in September 2019. Ms. Cowles then discovered there was a second owner of the property, identified as AK Legacy. Mr. JT Cracroft, Property Manager, ordered a title search which revealed only one owner of the property. On October 2, 2019, a Petition Certification was received from the second owner, AK Legacy. Mr. Lewis said it is necessary to rescind the previous adoption of Resolution 19-21 and begin the annexation process again. Mr. Lewis recommended adoption of Resolution No. 19-32, "Rescinding Resolution No. 19-21."

Mr. Rushton asked for a motion on the recommendation. Ms. Karen Lang moved to adopt Resolution No. 19-32. Following a second by Mr. Brent Johnson, the motion was unanimously approved as follows:

Mr. Christensen – aye
Ms. Lang – aye
Mr. Rushton – aye
Mr. Summers – aye
Ms. Townsend - aye
Mr. Johnson – aye
Mr. Osborne – aye
Mr. Sperry – aye
Mr. Taylor – aye

Consider adoption of Resolution No. 19-33, "Amending JVWCD's Policy Manual" (Personnel Rules and Regulations Manual)

Mr. Lewis stated legislation authorizing personal use of government property was adopted earlier in 2019. The Board added this to the Personnel Rules and Regulations Manual, and staff recommends that anyone using District property be required to sign a form which states how the property could be used. Mr. Lewis reviewed the form and recommended adoption of Resolution No. 19-33, "Amending JVWCD's Policy Manual."

Mr. Rushton asked for a motion on the recommendation. Mr. Brent Johnson moved to adopt Resolution No. 19-33. Following a second by Mr. Lyle Summers, the motion was unanimously approved as follows:

Mr. Christensen – aye
Ms. Lang – aye
Mr. Rushton – aye
Mr. Summers – aye
Ms. Townsend - aye
Mr. Johnson – aye
Mr. Osborne – aye
Mr. Sperry – aye
Mr. Taylor – aye

Engineering, Maintenance, and Information Systems activities

Consider award of construction contract for 6000 West 4700 South 1 Million Gallon Reservoir Vault Modifications

Mr. Packard said this project consists of the refurbishment of an existing valve vault for the 1 million gallon reservoir located at 6000 West 700 South, which was constructed in 1956. He said the improvements would include replacement of corroded piping and valves, replacement of concrete vault lid, installation of passive vault venting system, installation of a vault hatch and access ladder, and application of paint coatings. Mr. Packard recommended award of a construction contract for 6000 West 4700 South 1 Million Gallon Reservoir Vault Modifications to Lyndon Jones Construction in the amount of $105,000.

Mr. Rushton asked for a motion on the recommendation. Mr. Brent Johnson moved to award a construction contract to Lyndon Jones Construction in the amount $105,000 for the purpose of 6000 West 4700 South 1 Million Gallon Reservoir Vault Modifications. Following a second by Ms. Barbara Townsend, the motion was unanimously approved as follows:

Mr. Christensen – aye
Ms. Lang – aye
Mr. Rushton – aye
Mr. Summers – aye
Ms. Townsend - aye
Mr. Johnson – aye
Mr. Osborne – aye
Mr. Sperry – aye
Mr. Taylor – aye

Consider award of construction contract for JVWTP Flocculation Basin Repairs

Mr. Packard said part of the water treatment process at the JVWTP includes water traveling through flocculation basins constructed of reinforced concrete. There are large sections of the basin concrete floors that have cracks which could lead to leakage and more expensive repairs in the future. This project includes demolition and replacement of approximately 1,000 linear feet of existing trench drains within the two flocculation basins at JVWTP. MWDSLS would share in 2/7 of the cost of this project. Mr. Packard recommended awarding a construction contract for JVWTP Flocculation Basin Repairs to ACME Construction, Inc. in the amount of $373,533.

Mr. Rushton asked for a motion on the recommendation. Mr. John Taylor moved to award a construction contract for JVWTP flocculation basin repairs to ACME Construction, Inc. in the amount of $373,533. Following a second by Mr. Lyle Summers, the motion was unanimously approved as follows:

Mr. Christensen – aye
Ms. Lang – aye
Mr. Rushton – aye
Mr. Summers – aye
Ms. Townsend - aye
Mr. Johnson – aye
Mr. Osborne – aye
Mr. Sperry – aye
Mr. Taylor – aye

Consider Award of construction contract for Jordan Narrows Pump Station automation

Mr. Packard said the Jordan Narrows Pump Station (JNPS) is a critical facility which delivers Jordan River water to the Welby and Jacob Canals when it is in operation. Historically, the pump station has typically had a District employee present to monitor the operation. The JNPS Automation Upgrade project would connect the pumps and their equipment to the SCADA system to allow for remote operation of the pump station. The upgrades would reduce the need of operator presence on site and allow for the tracking and storage of important equipment parameters in the SCADA system. Mr. Packard recommended awarding a construction contract for Jordan Narrows Pump Station automation to Corrio Construction in the amount of $275,127.

Mr. Sperry asked what cost savings are expected from this automation upgrade. Mr. Shane Swensen said the salary savings should be recouped within 2-3 years. Mr. Osborne said he would like to have a Return on Investment provided on future automation upgrades.

Mr. Rushton asked for a motion on the recommendation. Mr. Scott Osborne moved to award a construction contract to Corrio Construction in the amount of $275,127 for JNPS automation. Following a second by Mr. Lyle Summers, the motion was unanimously approved as follows:

Mr. Christensen – aye
Ms. Lang – aye
Mr. Rushton – aye
Mr. Summers – aye
Ms. Townsend - aye
Mr. Johnson – aye
Mr. Osborne – aye
Mr. Sperry – aye
Mr. Taylor – aye

Consider approval of a Master Agreement with Utah Department of Transportation for Construction of Porter Rockwell Bridge

Mr. Packard said UDOT will be constructing a bridge for the extension of Porter Rockwell Boulevard from Redwood Road to 1300 West in Bluffdale. The District has a 48-inch pipeline near the area where the bridge will be located. He said this agreement provides for UDOT to protect the pipeline in place or, if necessary, to relocate the pipeline at UDOT's expense. Mr. Packard recommended approval of the Master Agreement and authorize the General Manager and General Counsel to make necessary revisions and execute the agreement.

Mr. Osborne asked if included in the agreement is an option that provides for UDOT to cover any additional costs that may arise when the pipeline needs to be serviced by the District in the future. Mr. Packard said included in the agreement is provision for UDOT to provide the District with equivalent access to the pipeline that the District has presently.

Mr. Rushton asked for a motion on the recommendation. Mr. Brent Johnson moved to approve a Master Agreement with UDOT for construction of Porter Rockwell Bridge and authorize the General Manager and General Counsel to make necessary revisions and execute the agreement. Following a second by Ms. Karen Lang, the motion was unanimously approved as follows:

Mr. Christensen – aye
Ms. Lang – aye
Mr. Rushton – aye
Mr. Summers – aye
Ms. Townsend - aye
Mr. Johnson – aye
Mr. Osborne – aye
Mr. Sperry – aye
Mr. Taylor – aye

Operations, Public Outreach, and Conservations activities

Consider approval of a Water Conservation Funding Agreement with WaterPro, Inc.

Mr. Forsyth reviewed the proposed Water Conservation Funding Agreement with WaterPro. He said this funding agreement would allow WaterPro to install 1-inch water meters, setters, cellular endpoints, and meter boxes on 150 existing unmetered residential pressure irrigation connections. The new meters would be capable of measuring secondary water flow, and after a short transition period, these customers would be billed for actual water usage with a tiered rate structure. Mr. Forsyth recommended approval of a Water Conservation Funding Agreement with WaterPro, Inc. in the amount of $50,950.

Mr. Taylor and Mr. Osborne both requested water savings results, as a result of installation of the secondary water meters, be provided to the Board.

Mr. Rushton asked for a motion on the recommendation. Mr. Ron Sperry moved to approve a Water Conservation Funding Agreement with WaterPro, Inc. Following a second by Mr. John Taylor, the motion was unanimously approved as follows:

Mr. Christensen – aye
Ms. Lang – aye
Mr. Rushton – aye
Mr. Summers – aye
Ms. Townsend - aye
Mr. Johnson – aye
Mr. Osborne – aye
Mr. Sperry – aye
Mr. Taylor – aye

Reporting items

Report on District awards/recognitions and presentations at AWWA IMS Conference

Report on legislative bills by the Utah Water Task Force

Mr. Bay and Mr. Brian McCleary, Controller, briefly reviewed the reporting items including a report on District awards/recognitions and presentations at the AWWA IMS Conference, a report on legislative bills by the Utah Water Task Force, the financial statement for September, and other routine reporting items.

Mr. Summers requested an explanation of the concept of water banking, which Mr. Bay provided.

Upcoming meetings

Mr. Rushton reviewed the upcoming December Board meeting dates including the Conservation Committee meeting, Monday, December 2 at 3:00 p.m.; Executive Committee meeting, Monday, December 2 at 4:00 p.m.; and regular Board meeting, Wednesday, December 4 at 3:00 p.m. He asked for a motion to cancel the Conservation Committee and Executive Committee meetings in December. Ms. Karen Lang moved to cancel the Conservation Committee and Executive Committee scheduled for December 2. After a second by Ms. Barbara Townsend, the motion was unanimously approved as follows:

Mr. Christensen – aye
Ms. Lang – aye
Mr. Rushton – aye
Mr. Summers – aye
Ms. Townsend - aye
Mr. Johnson – aye
Mr. Osborne – aye
Mr. Sperry – aye
Mr. Taylor – aye

Closed Session

Mr. Rushton proposed to convene a closed meeting at 5:48 p.m. in the Board room of the District's Administration Building at 8215 South 1300 West, West Jordan, Utah, to discuss the sale or purchase of real property and/or water rights or water shares.

Mr. Greg Christensen moved to go into closed session for the discussion. Following a second by Mr. Ron Sperry, the motion was unanimously approved as follows:

Mr. Christensen – aye
Ms. Lang – aye
Mr. Rushton – aye
Mr. Summers – aye
Ms. Townsend - aye
Mr. Johnson – aye
Mr. Osborne – aye
Mr. Sperry – aye
Mr. Taylor – aye

The closed meeting convened at 5:53 p.m. with all Trustees present. Also present were: Richard Bay, General Manager; Bart Forsyth, Assistant General Manager; Alan Packard, Assistant General Manager; Reid Lewis,

General Counsel; David Martin, Chief Financial Officer/Treasurer; Shane Swensen, Engineering Department Manager; JT Cracroft, Property Manager; and Beverly Parry, Executive Assistant.

No votes or actions were taken during the closed meeting.

Open meeting reconvened

The open meeting was reconvened at 6:01 p.m.

Consider procurement actions for professional services proposals

-financial advisor services

-legislative and strategic communications services

Mr. Martin recommended cancelling the RFP for financial advisor services and not award a contract at this time.

Ms. Karen Lang moved to cancel the RFP for financial advisor services. Following a second by Ms. Barbara Townsend, the motion was unanimously approved as follows:

Mr. Christensen – aye
Ms. Lang – aye
Mr. Rushton – aye
Mr. Summers – aye
Ms. Townsend – aye
Mr. Johnson – aye
Mr. Osborne – aye
Mr. Sperry – aye
Mr. Taylor – aye

No action was taken on the RFP for legislative and strategic communications services.

Consider approval to purchase easement for the 10200 South Pipeline Project

Mr. Packard recommended approval to purchase an easement from Rocky Mountain Power for the 10200 South Pipeline Project for $52,200 and authorize the General Manager and General Counsel to negotiate and execute the purchase agreement.

Ms. Barbara Townsend moved to approve purchase of an easement for the 10200 South Pipeline Project. Following a second by Ms. Karen Lang, the motion was unanimously approved as follows:

Mr. Christensen – aye
Ms. Lang – aye
Mr. Rushton – aye
Mr. Summers – aye
Ms. Townsend – aye
Mr. Johnson – aye
Mr. Osborne – aye
Mr. Sperry – aye
Mr. Taylor – aye

Adjourn

Mr. Rushton called for a motion to adjourn. Mr. Scott Osborne moved to adjourn. The motion was unanimously approved as follows:

Mr. Christensen – aye
Ms. Lang – aye
Mr. Rushton – aye
Mr. Summers – aye
Ms. Townsend – aye
Mr. Johnson – aye
Mr. Osborne – aye
Mr. Sperry – aye
Mr. Taylor – aye

The meeting adjourned at 6:04 p.m.

Corey L. Rushton, Chair of the Board of Trustees

Richard P. Bay, Clerk

FULFILLMENT OF 2014 CONSERVATION PLAN

JVWCD's 2014 Conservation Plan Update included a series of recommendations intended to help meet the conservation goal of reducing per capita water use 25% by 2025. These recommendations, and subsequent outcomes, are described at right.

RECOMMENDATIONS	OUTCOMES
Enhance education and public relations programs	• Added more conservation program-oriented classes based on Localscapes and Flip Your Strip. • Increased class attendance and general garden visitation • Began public advertising of Localscapes and Utah Water Savers • Published online courses of popular Localscapes classes
Enhance Water Check Program	• Transitioned to Landscape Consultations through Utah Water Savers
Enhance Member Agency Grant Program	• Increased available funding based on Member Agency purchase contract • Changed cost sharing based on program effectiveness
Create new social norm	• Localscapes is becoming the new social norm for landscaping
Encourage Metering of Secondary Water Systems	• Funding for secondary metering projects is provided through the Member Agency Grant Program • Continued participation with proposed legislative mandates and funding requirements
Encourage Wastewater Recycling	• JVWCD is continuing feasibility work • Timing of full project implementation will be dependent upon Central Utah Project Completion Act of 1992 funding
Implement Advanced Metering Infrastructure	• Completed in retail service area with robust customer feedback tools • Being implemented in various stages by most Member Agencies
Revisit model landscape ordinances and include residential developments	• Created an updated model landscape ordinance for cities • Included Localscapes requirements for residential developments
Provide incentives for landscape improvements, irrigation, and indoor fixtures.	• Created the Landscape Leadership Grant incentive for commercial, industrial, and institutional water users • Created Utah Water Savers to offer residential programs and rebates including Localscapes Rewards, Flip Your Strip, Landscape Consultations, toilet rebates, and smart controller rebates • Developed water efficiency standards for tax increment financing and annexation petitions

EVALUATION OF THE WATER CONSERVATION BEST MANAGEMENT PRACTICES

DWRe has published a list of 14 recommended water conservation practices they refer to as Best Management Practices (BMPs).

JVWCD has implemented or is planning to implement each of them as follows:

BMP 1 - Comprehensive Water Conservation Plans. JVWCD has produced water conservation plans every five years as required by Utah Code §73-10-32.

BMP 2 - Universal Metering. JVWCD's retail area is fully metered, and every wholesale connection is also metered. JVWCD continues to provide grant funds to Member Agencies to accelerate the adoption of metering for secondary water connections.

BMP 3 - Incentive Water Conservation Pricing. JVWCD has implemented a tiered water conservation rate in its retail service area as required by Utah Code §73-10-32.5. The rate structure is designed with a lower base charge and 3 rate tiers that increase based on the volume of water used.

BMP 4 - Water Conservation Ordinances. This BMP recommends measures such as a time-of-day watering ordinance, a water- efficient landscaping ordinance for all new commercial developments and a landscape ordinance that encourages water conservation. JVWCD updated its model landscape ordinance in early 2019 to include both commercial and residential developments and is now actively working with its Member Agencies to encourage adoption.

BMP 5 - Water Conservation Coordinator. This BMP recommends designating a Water Conservation Coordinator in each city to facilitate water conservation programs. JVWCD has had a conservation coordinator since 2000 and employs a staff of 6 full-time conservation employees and several seasonal employees.

BMP 6 - Public Information Program. This BMP encourages a public information program consistent with the recommendations of the Governor's Water Conservation Team. JVWCD actively participates and contributes to the statewide "Slow the Flow" campaign. Additionally, JVWCD developed and promotes the Localscapes concept to help change public perceptions about water-efficient landscaping. The District's Conservation Garden Park also provides classes, events, tours, resources, and materials to inform and education the public.

BMP 7 - System Water Audits, Leak Detection and Repair. This BMP recommends specific goals to reduce unaccounted-for water (non-revenue water), including an annual audit. JVWCD conducts an annual audit of its water production and sales. From 2004 through 2018, the average non-revenue water for JVWCD's treatment and distribution system was less than 3 percent, well below the industry average.

BMP 8 - Large Landscape Conservation Programs. This BMP recommends providing incentives and programs for large landscape water users. JVWCD's offers grant funds to its Member Agencies that can be used to install central irrigation controllers or install more water-efficient landscapes. The Landscape Leadership Grant is offered to other entities to fund water-efficient landscaping projects. JVWCD also offers training classes for irrigation managers and water audits for large outdoor irrigators.

BMP 9 - Water Survey Programs for Residential Customers. This BMP recommends water audits for residential water users. JVWCD offers a Landscape Consultation program that reviews landscape design and outdoor water use.

BMP 10 - Plumbing Standards. This BMP recommends identifying residences built prior to 1992 and developing a strategy to distribute indoor water saving devices. Indoor plumbing fixtures older than 1992 are high water use fixtures and replacing them with new, water-efficient fixtures will reduce water use. Through its partnership with DWRe, JVWCD helps to facilitate a toilet rebate program throughout its service area and funds similar programs for its Member Agencies.

BMP 11 - School Education Programs. BMP 11 recommends the support of local water education programs for elementary students. JVWCD supports the Utah Division of Water Resources' education programs. In addition, JVWCD has developed an "Environmental Encounters" program, designed around the 4th-grade school curriculum on water, and involves a tour of the Conservation Garden Park for 4th grade classes.

BMP 12 - Conservation Programs for Commercial, Industrial and Institutional (CII) Customers. This BMP recommends programs for CII customers. The Landscape Leadership Grant is offered to CII customers to fund water-efficient landscaping projects. Through its Member Agency Grant Program, JVWCD has implemented several incentive programs for CII users.

BMP 13 - JVWCD's current water supply plan assumes its Member Agencies will develop 7,000 AF per year of recycled wastewater to be used in secondary irrigation systems. Multiple feasibility studies are looking into using effluent from the Jordan Basin Water Reclamation Facility as one of the sources for this. JVWCD's current water supply plan also assumes its Member Agencies will develop 6,000 AF per year of potable supplies using treated and recycled wastewater.

BMP 14 - "Smart Controller" Technology. This BMP recommends the installation of "smart" controllers for irrigation of public spaces. JVWCD's offers grant funds to its Member Agencies that can be used to install central irrigation controllers. Through its partnership with DWRe, JVWCD also helps to facilitate a smart controller rebate program throughout its service area.

JORDAN VALLEY WATER
CONSERVANCY DISTRICT

Jordan Valley Water Conservancy District
8215 South 1300 West, West Jordan, UT 84088
Phone: 801.565.4300
Web: www.jvwcd.org

Water Efficient Landscaping Standards for Cities

This document outlines best practices for city landscaping provisions in *development agreements* and *landscape ordinances* to ensure a sustainable water supply into the future. It also includes best practices for maintaining and irrigating these landscapes.

Standards for Development Agreements and Landscape Ordinances

1. Residential Landscapes

- Sustainable residential landscape design is essential. The Localscapes® design approach can be used to meet this standard and allows homeowners to have landscapes that are attractive, functional, and water-efficient. (see: https://localscapes.com)
- Lawn should not be used in park strips or other narrow areas that are less than eight feet wide. Plants, mulch, drip irrigation, and hardscape should be used instead.
- Lawn areas in residential landscapes should typically not exceed 35% of the total landscaped area and should be at least eight feet wide in all directions.
- Lawn areas should be free from obstructions such as trees, sign posts, and boulders; and not used on steep slopes.
- All homebuilders should offer at least one water-efficient landscaping or Localscapes option to prospective home buyers.
- Model homes should be designed with water-efficient landscaping or as a Localscape. Model homes should include informational brochures on water-efficient landscaping or Localscapes.
- Homeowners Associations should be prohibited from enforcing any covenants that require lawn in areas less than 8 feet wide or in other areas that exceed 35% of the total landscaped area.

2. Commercial, Industrial, and Institutional Landscapes

- Outside of active recreation areas, lawn in commercial, industrial, and institutional landscapes should typically not exceed 20% of the total landscaped area.
- Lawn should not be used in park strips, parking lot islands, or other narrow areas that are less than eight feet wide. Plants, mulch, drip irrigation, and hardscape should be used instead.
- Lawn areas should be free from obstructions such as trees, sign posts, and boulders; and not used on steep slopes.
- New commercial, industrial, and institutional landscape projects should submit a landscape, irrigation, and planting plan to ensure it meets city water conservation requirements and guidelines.

3. Irrigation Design

- Bare soil should be covered with at least 3 to 4 inches of mulch to discourage weeds and retain moisture. The placement of weed fabric under the mulch is discouraged.
- Plants should be watered with drip irrigation using separate irrigation zones from lawn areas.
- As much as possible, plants with similar watering needs should be grouped together and watered based on their own watering needs.
- Spray irrigation in lawn areas should have only one type of sprinkler per zone.

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- The use of EPA WaterSense labeled irrigation controllers with the ability to automatically adjust watering frequency is recommended.
    - For large landscapes and multiple sites, central irrigation control systems are preferred.
    - For smaller landscapes, including residential, Wi-Fi smart controllers are recommended for automatic watering adjustments and scheduling convenience.

Best Practices for Maintenance and Irrigation

1. Maintenance

Weekly Maintenance Tasks

- Pull weeds or spot spray as necessary. Avoid spraying on windy days or getting too close to plants.
- Remove any trash that has accumulated.
- Mow and edge lawns as needed. Avoid cutting shorter than 2 to 3 inches.

Spring Maintenance Tasks

- Tree Pruning
    - Remove any dead, crossing, diseased, or excessive branches as needed.
    - Remove no more than 1/3 of total branches in one year.
    - Wait two years after planting new trees before pruning.
- Large (Woody) Shrub Pruning
    - Every other year, remove any dead, crossing, diseased, or excessive branches while maintaining the natural form of the plant.
- Ornamental Grasses
    - Cut back to 8 inches above the ground.
- Perennials
    - Cut back to 2 inches above the ground. Evergreen perennials are an exception to this.
- Lawn
    - Aerate and fertilize. Can also be repeated in fall.
- Planting and Mulch Areas
    - Apply pre-emergent herbicide to mulch areas to reduce weeds.
    - Refresh organic mulch every other year or as needed to maintain 3 to 4 inches of thickness.

2. Irrigation

- Water lawn 2 to 3 times per week during the summer, 1 time per week in spring and fall.
- Drip irrigate perennials deeply once per week during the summer.
- Drip irrigate established trees and shrubs deeply 1 to 2 times per month during the summer.
- The root zones of new plants should be kept moist until establishment, which is about 1 year for perennials and up to 3 years for trees.

WATER EFFICIENT LANDSCAPE ORDINANCE

ORDINANCE NUMBER <CITY ORDINANCE NUMBER>

Section 1. Preamble

A. Whereas, <CITY NAME> desires to promote the design, installation and maintenance of landscapes that are both attractive and water efficient;

B. Whereas, <CITY NAME> can accomplish these goals by adopting this ordinance; and,

C. Whereas, <CITY NAME> has the authority to adopt this ordinance pursuant to Utah Code Annotated (2010) § 10-3-702, and hereby exercises its legislative powers in doing so.

Section 2. Ordaining Clause

Be it ordained by the <CITY NAME>, that the Water Efficient Landscape Ordinance, Number <CITY ORDINANCE NUMBER>.

Section 3. Title, Water Efficient Landscape Requirements

A. An ordinance amending the Zoning Code of the City of <CITY NAME> so as to add a Water Efficient Landscape Ordinance of minimum landscape requirements. This ordinance shall be referred to as "<CITY NAME> City Water Efficient Landscape Ordinance".

Section 4. Purpose

The City Council has found that it is in the public interest to conserve the public's water resources and to promote water efficient landscaping. The purpose of this ordinance is to protect and enhance the community's environmental, economic, recreational, and aesthetic resources by promoting efficient use of water in the community's landscapes, reduce water waste and establish a structure for designing, installing and maintaining water efficient landscapes throughout the City.

Section 5. Definitions

The following definitions shall apply to this ordinance:

Active Recreation Area: An area that is dedicated to active play where turf grass may be used as the playing surface. Examples of active recreation areas include sports fields, play areas, and other similar uses.

Bubbler: An irrigation head that delivers water to the root zone by "flooding" the planted area, usually measured in gallons per minute. Bubblers exhibit a trickle, umbrella or short stream pattern.

Check Valve: A device used in sprinkler heads or pipe to prevent water from draining out of the pipe through gravity flow.

Controller: A device used in irrigation systems to automatically control when and how long sprinklers or drip systems operate.

Drip Emitter: Drip irrigation fittings that deliver water slowly at the root zone of the plant, usually measured in gallons per hour.

Grading Plan: The Grading Plan shows all finish grades, spot elevations, drainage as necessary and existing and new contours with the developed landscaped area.

Ground Cover: Material planted in such a way as to form a continuous cover over the ground that can be maintained at a height not more than twelve (12) inches.

Hardscape: Patios, decks and paths. Does not include driveways and sidewalks.

Irrigation Plan: The irrigation plan shows the components of the irrigation system with water meter size, backflow prevention, precipitation rates, flow rate and operating pressure for each irrigation circuit, and identification of all irrigation equipment.

Landscape Architect: A person who holds a professional license to practice landscape architecture in the state of Utah. Per State Code, licensed landscape architects, licensed architects, licensed land surveyors, and licensed engineers can professionally stamp plans that fall under the practice of landscape architecture. This includes commercial landscape and irrigation plans. Each municipality has the authority to require that only a licensed landscape architect can stamp plans that fall under the practice of landscape architecture.

Landscape Designer: A person who may or may not hold professional certificates for landscape design/architecture and cannot legally create commercial landscape plans. Landscape Designers generally focus on residential design and horticultural needs of home landscapes.

Landscape Documentation Package: The preparation of a graphic and written criteria, specifications, and detailed plans to arrange and modify the effects of natural features such as plantings, ground and water forms, circulation, walks and other features to comply with the provisions of this ordinance. The Landscape Documentation Package shall include a project data sheet, a Site Plan, a Planting Plan, an Irrigation Plan, Construction Details, and a Grading Plan.

Landscape Zone: A portion of the landscaped area having plants with similar water needs, areas with similar microclimate (i.e., slope, exposure, wind, etc.) and soil conditions, and areas that will be similarly irrigated. A landscape zone can be served by one irrigation valve, or a set of valves with the same schedule.

Landscaping: Any combination of living plants, such as trees, shrubs, vines, ground covers, annuals, perennials, ornamental grass, or seeding; natural features such as rock, stone, or bark chips; and structural features, including but not limited to, fountains, reflecting pools, outdoor art work, screen walls, fences or benches.

Localscapes®: A locally adaptable and environmentally sustainable urban landscape style that requires less irrigation than traditional Utah landscapes (see www.Localscapes.com).

Mulch: Any material such as rock, bark, wood chips or other materials left loose and applied to the soil.

Park Strip: A typically narrow landscaped area located between the back-of-curb and sidewalk.

Planting Plan: A Planting Plan shall clearly and accurately identify the type, size, and locations for new and existing trees, shrubs, planting beds, ground covers, turf areas, driveways, sidewalks, hardscape features, and fences.

Pop-up Spray Head: A sprinkler head that sprays water through a nozzle in a fixed pattern with no rotation.

Precipitation Rate: The depth of water applied to a given area, usually measured in inches per hour.

Pressure Regulating Valve: A valve installed in an irrigation mainline that reduces a higher supply pressure at the inlet down to a regulated lower pressure at the outlet.

Pressure Compensating: A drip irrigation system that compensates for fluctuating water pressure by only allowing a fixed volume of water through drip emitters.

Rotor Spray Head: A sprinkler head that distributes water through a nozzle by the rotation of a gear or mechanical rotor.

Runoff: Irrigation water that is not absorbed by the soil or landscape area to which it is applied, and which flows onto other areas.

Spray Sprinkler: An irrigation head that sprays water through a nozzle.

Stream Sprinkler: An irrigation head that projects water through a gear rotor in single or multiple streams.

Turf: A surface layer of earth containing mowed grass with its roots.

Water-Conserving Plant: A plant that can generally survive with available rainfall once established although supplemental irrigation may be needed or desirable during spring and summer months.

Section 6. Applicability of Water Efficient Landscape Ordinance

The provisions of this ordinance shall apply to all new and rehabilitated landscaping for public agency projects, private development projects, developer-installed landscaping in multi-family and single-family residential projects, and homeowner provided landscape improvements within the front, side, and rear yards of single and two-family dwellings.

Section 7. Landscape Design Standards

A. Plant Selection. Plants shall be well-suited to the microclimate and soil conditions at the project site. Both native and locally-adapted plants are acceptable. Plants with similar water needs shall be grouped together as much as possible.

Areas with slopes greater than 25 percent, or 4:1 grade, shall be landscaped with deep-rooting, water-conserving plants, that do not include turf.

Park strips and other landscaped areas less than eight (8) feet wide shall be landscaped with water-conserving plants, that do not include turf.

B. Mulch. After completion of all planting, all irrigated non-turf areas shall be covered with a minimum 3 to 4-inch layer of mulch to retain water, inhibit weed growth, and moderate soil temperature. Non-porous material shall not be placed under the mulch.

C. Soil Preparation. Soil preparation will be suitable to provide healthy growing conditions for the plants and to encourage water infiltration and penetration. Soil preparation shall include scarifying the soil to a minimum depth of six (6) inches and amending the soil with organic material as per specific recommendations of the Landscape Designer/Landscape Architect based on the soil conditions. In some cases, soil testing will provide additional recommendations for amending the soil.

D. Tree Selection. Tree species shall be selected based on growth characteristics and site conditions, including available space, overhead clearance, soil conditions, exposure, and desired color and appearance. Trees shall be selected as follows:

1. Broad canopy trees shall be selected where shade or screening of tall objects is desired;
2. Low-growing trees shall be selected for spaces under utility wires;
3. Select trees from which lower branches can be trimmed to maintain a healthy growth habit where visual clearance and natural surveillance is a concern;
4. Narrow or columnar trees shall be selected for small spaces, or where awnings or other building features limit growth, or where greater visibility is desired between buildings and the street for natural surveillance;
5. Street trees shall be planted within existing and proposed park strips, and in sidewalk tree wells on streets without park strips. Tree placement shall provide canopy cover (shade) and avoid conflicts with existing trees, retaining walls, above and below ground utilities, lighting, and other obstructions; and
6. Trees less than a two-inch caliper shall be double-staked until the trees mature to a two-inch caliper.

Section 8. Irrigation Design Standards

A. Pressure Regulation. A pressure regulating valve shall be installed and maintained by the consumer if the static service pressure exceeds 80 pounds per square inch (psi). The pressure-regulating valve shall be located between the meter and the first point of water use, or first point of division in the pipe, and shall be set at the manufacturer's recommended pressure for the sprinklers.

B. Irrigation Controller. Landscaped areas shall be provided with a WaterSense labeled smart irrigation controller which automatically adjusts the frequency and/or duration of irrigation events in response to changing weather conditions. All controllers shall be equipped with automatic rain delay or rain shut-off capabilities.

C. Each valve shall irrigate a landscape with similar site, slope and soil conditions and plant materials with similar watering needs. Turf and non-turf areas shall be irrigated on separate valves. Drip emitters and sprinklers shall be placed on separate valves.

D. Drip emitters or a bubbler shall be provided for each tree. Bubblers shall not exceed 1.5 gallons per minute per device. Bubblers for trees shall be placed on a separate valve unless specifically exempted by the City due to the limited number of trees on the project site.

E. Drip irrigation or bubblers shall be used to irrigate plants in non-turf areas.

F. Pop-up spray heads shall be at a minimum of four (4) inches in height to clear turf.

G. Sprinklers shall have matched precipitation rates with each control valve circuit.

H. Sprinkler heads shall be attached to rigid lateral lines with flexible material (swing joints) to reduce potential for breakage.

I. Check valves shall be required where elevation differences cause low-head drainage. Pressure compensating valves and sprinklers shall be required where a significant variation in water pressure occurs within the irrigation system due to elevation differences.

J. Filters and end flush valves shall be provided as necessary for drip irrigation lines.

K. Valves with spray or stream sprinklers shall be scheduled to operate between 6 p.m. and 10 a.m. to reduce water loss from wind and evaporation.

L. Program valves for multiple repeat cycles where necessary to reduce runoff, particularly on slopes and soils with slow infiltration rates.

Section 9. Landscapes in New Single-family Residential Developments

A. Homebuilders and/or developers subdividing lots and/or constructing new single-family residential homes shall offer a water-efficient landscaping option to prospective home buyers, such as the Localscapes design style. The water-efficient landscaping option shall meet the Landscape Design Standards and Irrigation Design Standards of this ordinance, and the turf area shall not exceed 35% of the total landscaped area.

B. Homebuilders and/or developers who construct model homes for a designated subdivision shall have at least one model home with water-efficient landscaping, such as the Localscapes design style. The water-efficient landscaping option shall meet the Landscape Design Standards and Irrigation Design Standards of this ordinance, and the turf area shall not exceed 35% of the total landscaped area.

C. Model homes shall have landscaping and irrigation plans approved by the City Planning Department prior to issuance of building permits, for which no variance may be granted, and which meet the aforementioned requirements.

D. Model homes shall include an informational brochure on water-efficient landscaping or Localscapes. Localscapes brochures can be obtained from the City Planning Department.

Section 10. Prohibition on Restrictive Covenants Requiring Turf

A. Any Homeowners Association governing documents, such as bylaws, operating rules, covenants, conditions, and restrictions that govern the operation of a common interest development, are void and unenforceable if they:

1. Require the use of turf in landscape areas less than 8 feet wide or require turf in other areas that exceed 35% of the landscaped area; or
2. Prohibit, or include conditions that have the effect of prohibiting, the use of water-conserving plants as a group; or
3. Have the effect of prohibiting or restricting compliance with this ordinance or other water conservation measures.

Section 11. Landscapes in Commercial, Industrial, and Institutional Developments

A. Commercial, industrial and institutional landscapes shall meet the Landscape Design Standards and Irrigation Design Standards of this ordinance, and the turf area shall not exceed 20% of the total landscaped area, outside of active recreation areas.

Section 12. Documentation for Commercial, Industrial, and Institutional Projects

Landscape Documentation Package. A copy of a Landscape Documentation Package shall be submitted to and approved by the City prior to the issue of any permit. A copy of the approved Landscape Documentation Package shall be provided to the property owner or site manager and to the local retail water purveyor. The Landscape Documentation Package shall be prepared by a professional landscape architect (PLA) and shall consist of the following items:

A. Project Data Sheet. The Project Data Sheet shall contain the following:

1. Project name and address;
2. Applicant or applicant agent's name, address, phone number, and email address;
3. Landscape architect's name, address, phone number, and email address; and
4. Landscape contractor's name, address, phone number and email address, if available at this time.

B. Planting Plan. A detailed planting plan shall be drawn at a scale that clearly identifies the following:

1. Location of all plant materials, a legend with botanical and common names, and size of plant materials;
2. Property lines and street names;
3. Existing and proposed buildings, walls, fences, utilities, paved areas and other site improvements;

4. Existing trees and plant materials to be removed or retained;
5. Scale: graphic and written;
6. Date of design;
7. Designation of landscape zones, and
8. Details and specifications for tree staking, soil preparation, and other planting work.

C. Irrigation Plan. A detailed irrigation plan shall be drawn at the same scale as the planting plan and shall contain the following information:

1. Layout of the irrigation system and a legend summarizing the type and size of all components of the system, including manufacturer name and model numbers;
2. Static water pressure in pounds per square inch (psi) at the point of connection to the public water supply;
3. Flow rate in gallons per minute and design operating pressure in psi for each valve and precipitation rate in inches per hour for each valve with sprinklers, and
4. Installation details for irrigation components.

D. Grading Plan. A Grading Plan shall be drawn at the same scale as the Planting Plan and shall contain the following information:

1. Property lines and street names, existing and proposed buildings, walls, fences, utilities, paved areas and other site improvements, and
2. Existing and finished contour lines and spot elevations as necessary for the proposed site improvements, as well as drainage.

Section 13. Plan Review, Construction Inspection, and Post-Construction Monitoring for Commercial, Industrial, and Institutional Projects

A. As part of the Building Permit approval process, a copy of the Landscape Documentation Package shall be submitted to the City for review and approval before construction begins.

B. All installers and designers shall meet state and local license, insurance, and bonding requirements, and be able to show proof of such.

C. During construction, site inspection of the landscaping may be performed by the City Building Inspection Department.

D. Following construction and prior to issuing the approval for occupancy, an inspection shall be scheduled with the Building Inspection Department to verify compliance with the approved landscape plans. The Certificate of Substantial Completion shall be

completed by the property owner, contractor or landscape architect and submitted to the City.

E. The City reserves the right to perform site inspections at any time before, during or after the irrigation system and landscape installation, and to require corrective measures if requirements of this ordinance are not satisfied.

Section 14. Effective Date

This ordinance shall be effective as of <EFFECTIVE DATE>.

Dated: _____	<CITY NAME>
	By: _____
	Its: _____ Mayor
[Municipal Recorder Attestation and Seal]	

JORDAN VALLEY WATER CONSERVANCY DISTRICT

Memorandum

To: Richard Bay, Bart Forsyth, and Alan Packard
From: Matt Olsen and Todd Schultz
Date: 1/16/2019
Subject: Report on Impact of Density on Per Capita Water Use

During the January 2018 Board Meeting, Scott Osborne asked our staff to evaluate the effect increasing housing density has on Gallons Per Capita Per Day (GPCD). The following is a report of our initial findings.

We are trying to answer two primary questions in this report.

- What impact does population density have on annual GPCD per acre?
- What impact does population density have on the annual volume of water delivered per acre?

Our study has led to the following conclusions:

1. As population density increases per acre, annual GPCD decreases.
2. Higher population density leads to a larger volume of water delivered per acre annually.
3. The increase in total volume per acre outpaces the reduction in GPCD.
4. The seasonal peak pattern becomes more buffered and less pronounced.

8215 SOUTH 1300 WEST, WEST JORDAN, UT 84088
T 801 565 4300 I JVWCD.ORG

Simulated Results

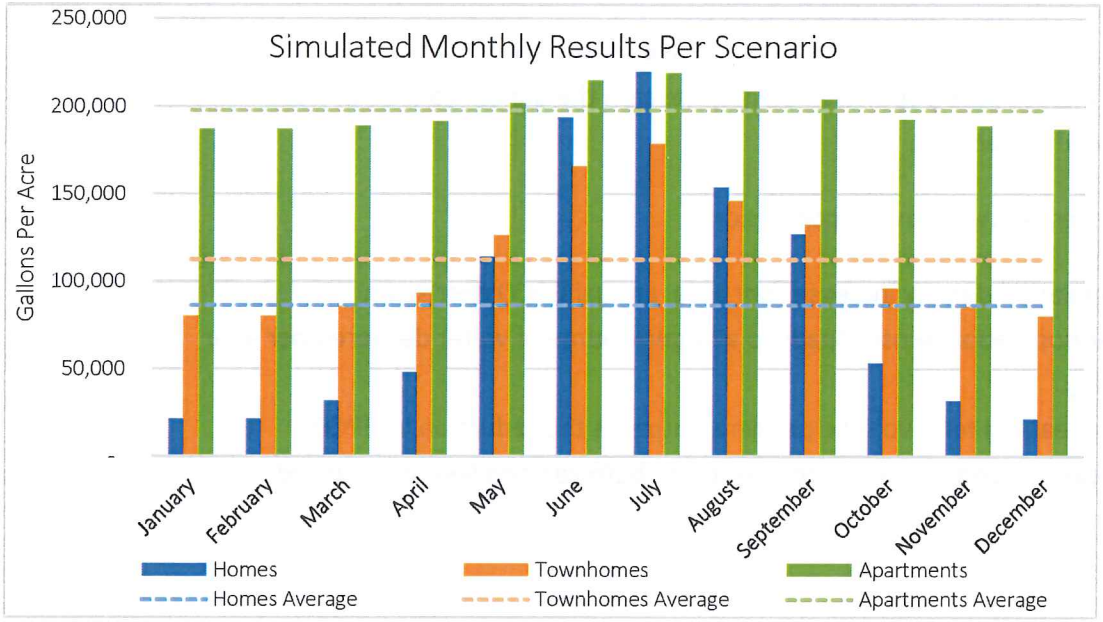
Our preliminary test was based on three real housing scenarios within *an acre of land* using indoor and outdoor water use assumptions.

1. 4 homes on .25 acre lots with traditional yards in Taylorsville
2. 18 townhomes with front yards and a shared landscape area in West Jordan
3. 60 apartments with a narrow landscape area in Midvale

Homes	Townhomes	Apartments
Housing Units: 4	Housing Units: 18	Housing Units: 60
Lawn (Sq. Ft): 31,300	Lawn (Sq. Ft): 15,540	Lawn (Sq. Ft): 5,000
People: 12 (3 per unit)	People: 45 (2.5 per unit)	People: 105 (1.75 per unit)

Note: Indoor use for this study used the 2016 Water Research Foundation, "Residential End Use" average indoor GPCD of 58.6. Outdoor use was estimated by using an annual distribution of 40 inches of water to the approximated lawn areas. People per household were internal estimations for illustration purposes.

We evaluated the *annual water use* and GPCD in each of these scenarios and a summary can be found below.



Note: See appendix for breakdown of data used in this chart.

2

Scenario	Annual Outdoor (Gal)	Annual Indoor (Gal)	Annual Gallons / Acre	GPCD
Homes	779,996	256,668	1,036,664	236.68
Townhomes	387,257	962,505	1,349,762	82.18
Apartments	124,600	2,245,845	2,370,445	61.85

The simulated results clearly show an escalating volume of water used per acre as density increases, even though GPCD decreases. It also shows that the lowest density scenario has the highest peak usage in July when compared to the other scenarios.

Retail Service Area Residential Results

The purpose of this study was to match the water use in portions of the District's *residential* retail service area into geographic boundaries defined by U.S. census blocks.

Data sources used:

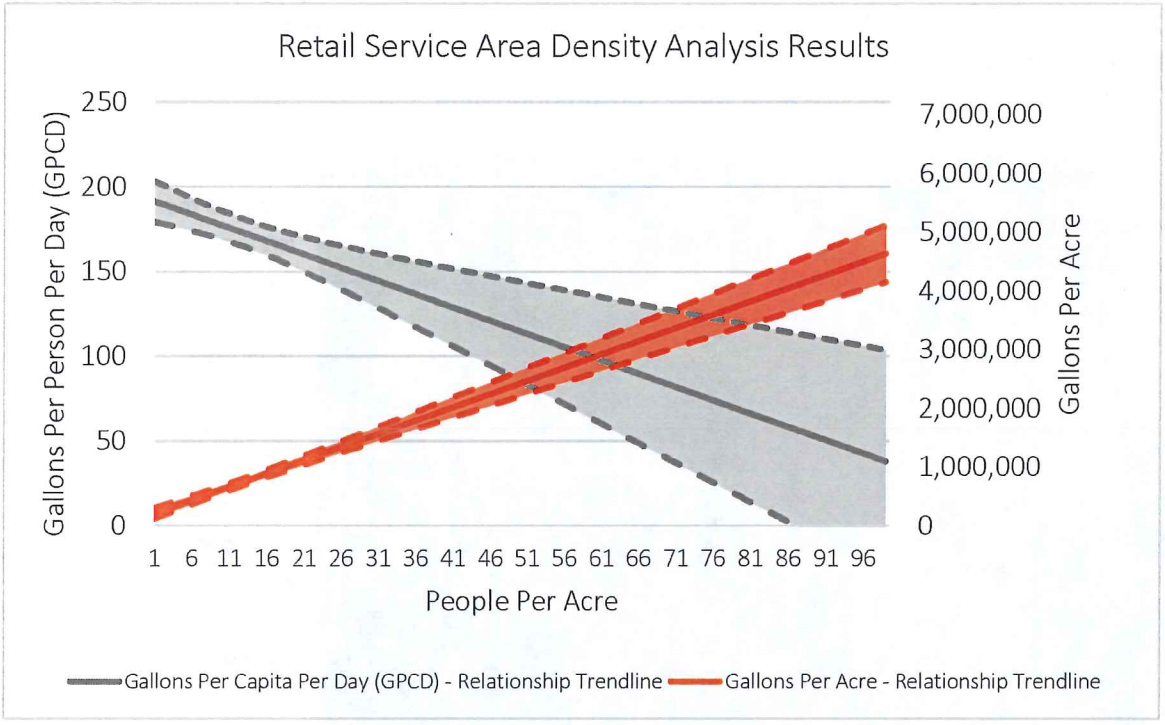
1. 2010 U.S. census block data boundaries (estimated population per block)
2. Retail service area boundaries in the GIS
3. 2010 residential retail service area water consumption data

Note: The image to the left is an example of how the retail area was subdivided. Each shape is a census block and each green dot represents a retail water meter.

Combining these data sources allows us to evaluate the water use of distinct population densities in the retail area. The sample used in the study had 191 census boundaries containing 3,305 residential accounts.

Two simple linear regression calculations were created based on actual data points from the data sources described above. One to show the relationship between increasing density and GPCD, and the other to show the relationship between increasing density and the total volume of water used in a given area. This analysis shows a similar trend to the simulated results. The table below summarizes some of the results:

People / Acre (density)	GPCD (trended use)	Gallons / Acre (trended volume)
10	177	615,211
20	162	1,066,772
30	146	1,518,333
40	130	1,969,894
50	115	2,421,455



Note: The shaded bands for each trendline represent a confidence level of 95%.

The previous chart shows a negative correlation between GPCD and increasing population density. It also shows a positive correlation between gallons per acre and increasing population density. While both calculations proved to be independently correlated, the relationship between density and total volume of water was stronger than the relationship between density and GPCD.

Conclusion

The results of both the simulated and retail service studies lead to the following conclusions:

1. As population density increases per acre, annual GPCD decreases.
2. Higher population density leads to a larger volume of water delivered per acre annually.
3. The increase in total volume per acre outpaces the reduction in GPCD.
4. The seasonal peak pattern becomes more buffered and less pronounced.

One Final Note

This study has dealt with residential development for single family homes, townhomes, and apartment complexes. But actual future land development will also include commercial, industrial, and institutional (CII) uses. The combined effect of these various uses of land development is unknown at this time. We assume, based on current development patterns, that future population density will increase, but this topic would benefit from additional study.

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Appendix

Housing Scenarios

FIRST STUDY (SIMULATED RESULTS)

4 – .25 Acre Lots

18 – Townhomes in an Acre

60 – Apartments in an Acre

Water Use Breakdown

Homes			
4	Housing Units		
31,300	Lawn (Sq. Ft)		
12	People		
Month	Total Outdoc	Total Indoor	Total Gallons
January	0	21,389	21,389
February	0	21,389	21,389
March	10,576	21,389	31,965
April	26,441	21,389	47,830
May	92,542	21,389	113,931
June	171,864	21,389	193,253
July	198,304	21,389	219,693
August	132,203	21,389	153,592
September	105,762	21,389	127,151
October	31,729	21,389	53,118
November	10,576	21,389	31,965
December	0	21,389	21,389
Annual Totals			
Total Outdoc	Total Indoor	Gallons Per /	GPCD
779,996	256,668	1,036,664	236.68

Townhomes			
18	Housing Units		
15,540	Lawn (Sq. Ft)		
45	People		
Month	Total Outdoc	Total Indoor	Total Gallons
January	0	80,209	80,209
February	0	80,209	80,209
March	5,251	80,209	85,460
April	13,127	80,209	93,336
May	45,946	80,209	126,154
June	85,328	80,209	165,537
July	98,455	80,209	178,664
August	65,637	80,209	145,845
September	52,509	80,209	132,718
October	15,753	80,209	95,962
November	5,251	80,209	85,460
December	0	80,209	80,209
Total Outdoc	Total Indoor	Gallons Per /	GPCD
387,257	962,505	1,349,762	82.18

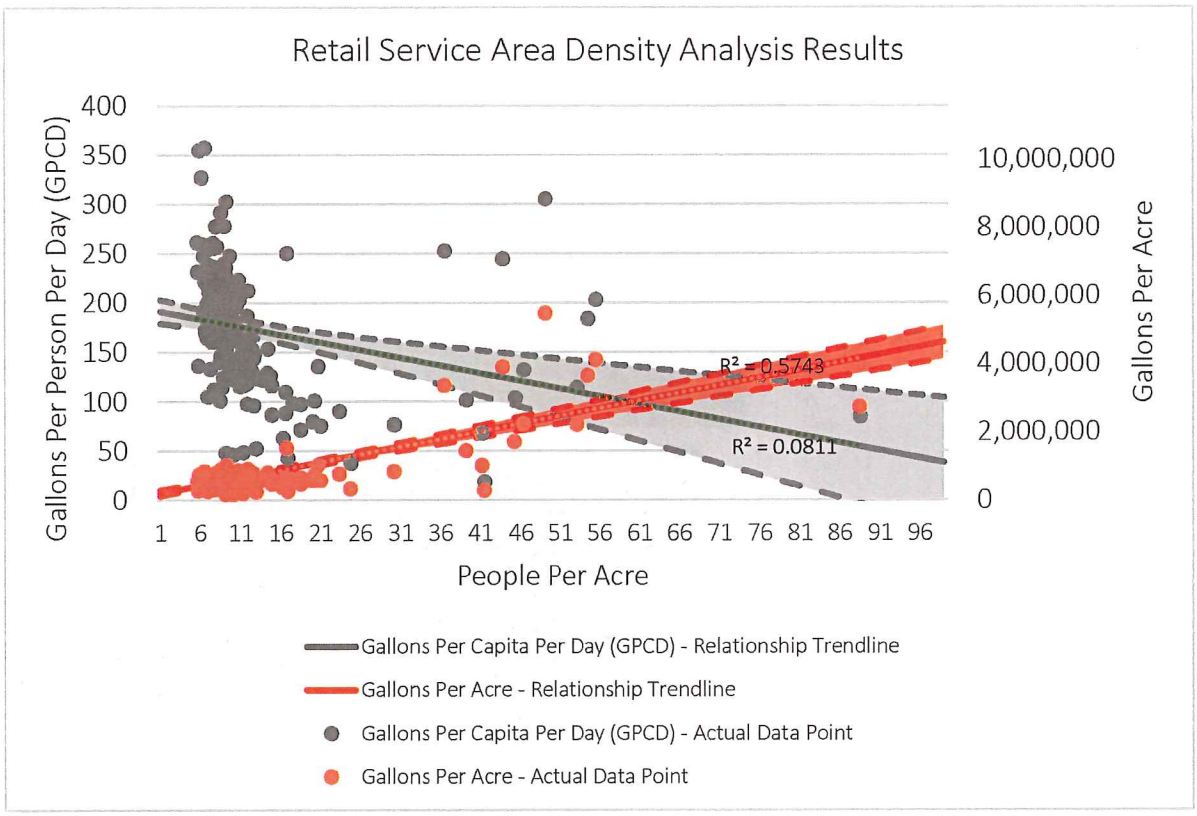
Apartments			
60	Housing Units		
5,000	Lawn (Sq. Ft)		
105	People		
Month	Total Outdoc	Total Indoor	Total Gallons
January	0	187,154	187,154
February	0	187,154	187,154
March	1,689	187,154	188,843
April	4,224	187,154	191,377
May	14,783	187,154	201,937
June	27,454	187,154	214,608
July	31,678	187,154	218,832
August	21,119	187,154	208,272
September	16,895	187,154	204,049
October	5,068	187,154	192,222
November	1,689	187,154	188,843
December	0	187,154	187,154
Total Outdoc	Total Indoor	Gallons Per /	GPCD
124,600	2,245,845	2,370,445	61.85

Outdoor Monthly Irrigation Assumptions

Month	% of Total Outdoor Use
March	1.4%
April	3.4%
May	11.9%
June	22.0%
July	25.4%
August	16.9%
September	13.6%
October	4.1%
November	1.4%

Distribution of 40 inches per square foot for the year

Detailed Retail Service Area Residential Chart



JORDAN VALLEY WATER
CONSERVANCY DISTRICT

Conservation Plan *Update*

2019 plan draft

November 13, 2019
Public Hearing

1

JORDAN VALLEY WATER
CONSERVANCY DISTRICT

Timeline

October 15, 2019
Conservation Committee Meeting to discuss draft plan

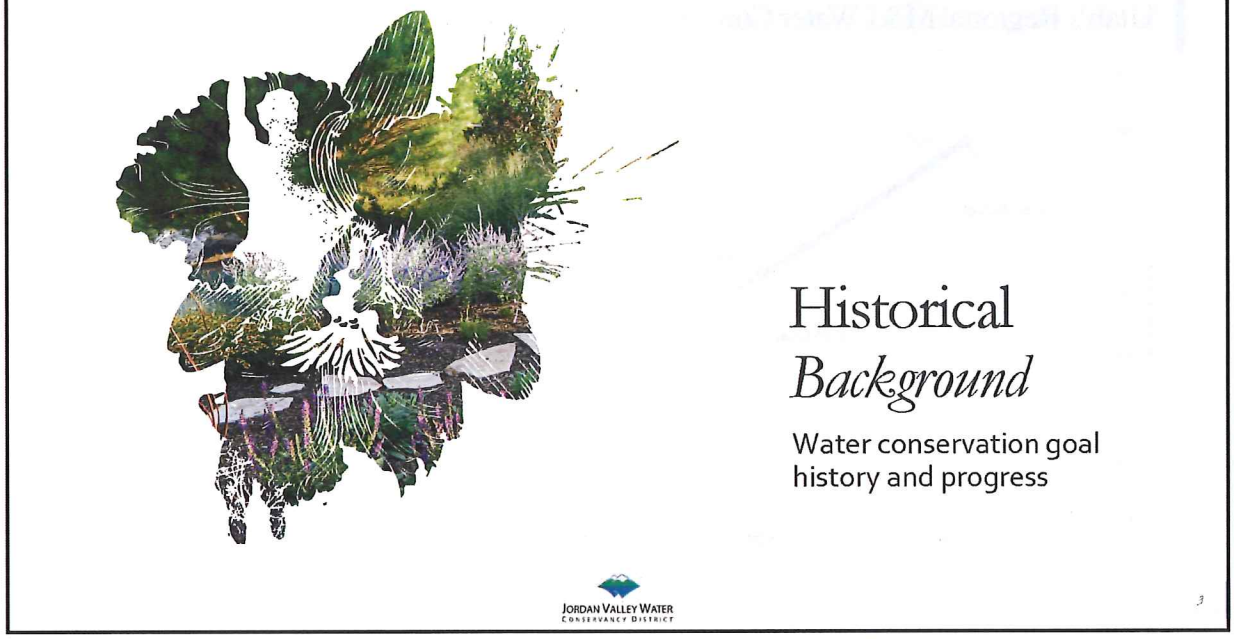
October 16, 2019 – November 13, 2019
Seek feedback from the public, post on JVWCD website and send draft to Member Agencies, Salt Lake County, and the Division of Water Resources

November 12, 2019
Conservation Committee Meeting to discuss public comments received up to that point

November 13, 2019
Public Hearing for additional public comment and consider formal adoption of the 2019 Conservation Plan Update if no significant changes are needed

December or January Board Meeting
If needed, formally adopt the 2019 Conservation Plan Update if more changes were needed based on Public Hearing and comment period

2


Historical
Background
Water conservation goal history and progress
JORDAN VALLEY WATER CONSERVANCY DISTRICT
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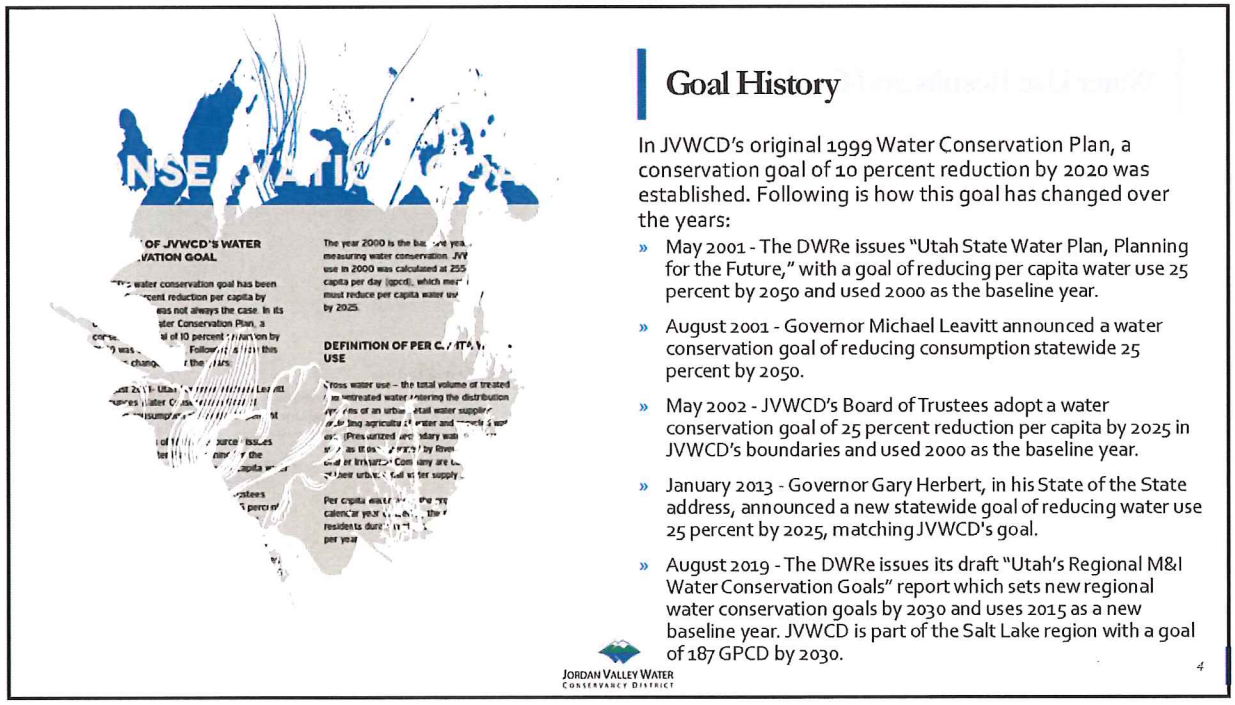
Goal History
In JVWCD's original 1999 Water Conservation Plan, a conservation goal of 10 percent reduction by 2020 was established. Following is how this goal has changed over the years:
» May 2001 - The DWRe issues "Utah State Water Plan, Planning for the Future," with a goal of reducing per capita water use 25 percent by 2050 and used 2000 as the baseline year.
» August 2001 - Governor Michael Leavitt announced a water conservation goal of reducing consumption statewide 25 percent by 2050.
» May 2002 - JVWCD's Board of Trustees adopt a water conservation goal of 25 percent reduction per capita by 2025 in JVWCD's boundaries and used 2000 as the baseline year.
» January 2013 - Governor Gary Herbert, in his State of the State address, announced a new statewide goal of reducing water use 25 percent by 2025, matching JVWCD's goal.
» August 2019 - The DWRe issues its draft "Utah's Regional M&I Water Conservation Goals" report which sets new regional water conservation goals by 2030 and uses 2015 as a new baseline year. JVWCD is part of the Salt Lake region with a goal of 187 GPCD by 2030.
JORDAN VALLEY WATER CONSERVANCY DISTRICT
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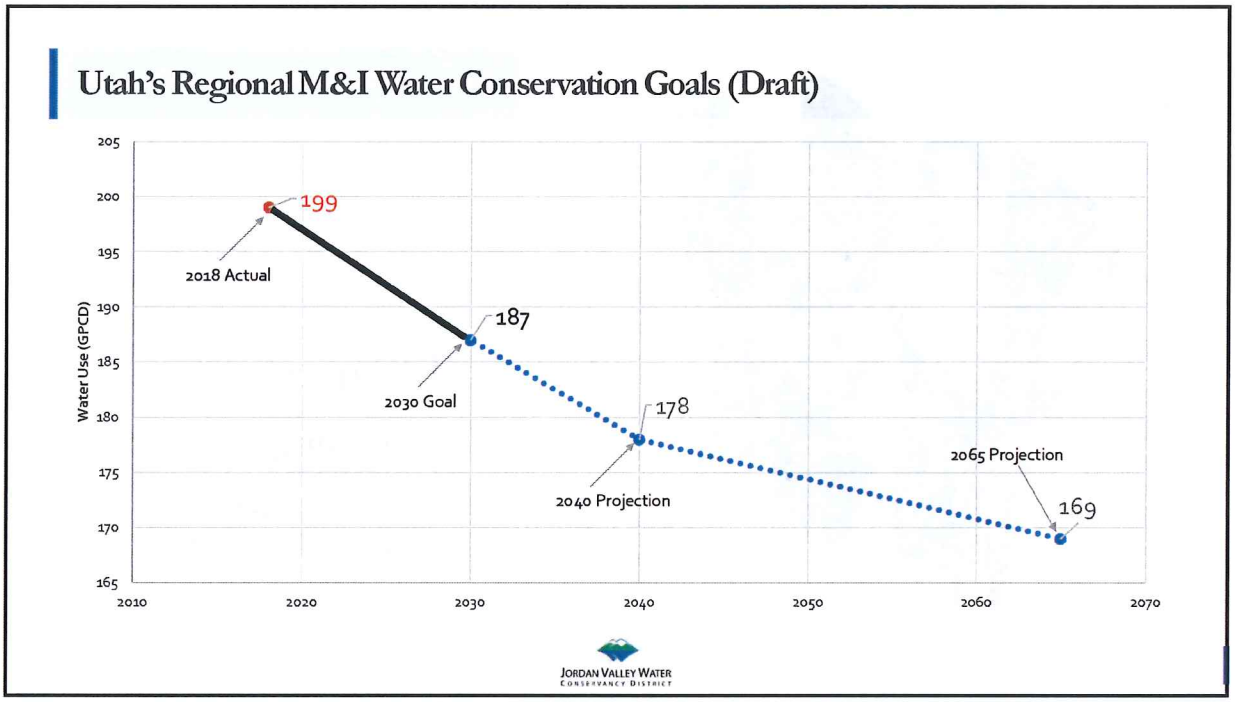
Utah's Regional M&I Water Conservation Goals (Draft)
Water Use (GPCD)
205
200
195
190
185
180
175
170
165
2010
2020
2030
2040
2050
2060
2070
199
2018 Actual
187
2030 Goal
178
2040 Projection
2065 Projection
169
Jordan Valley Water Conservancy District

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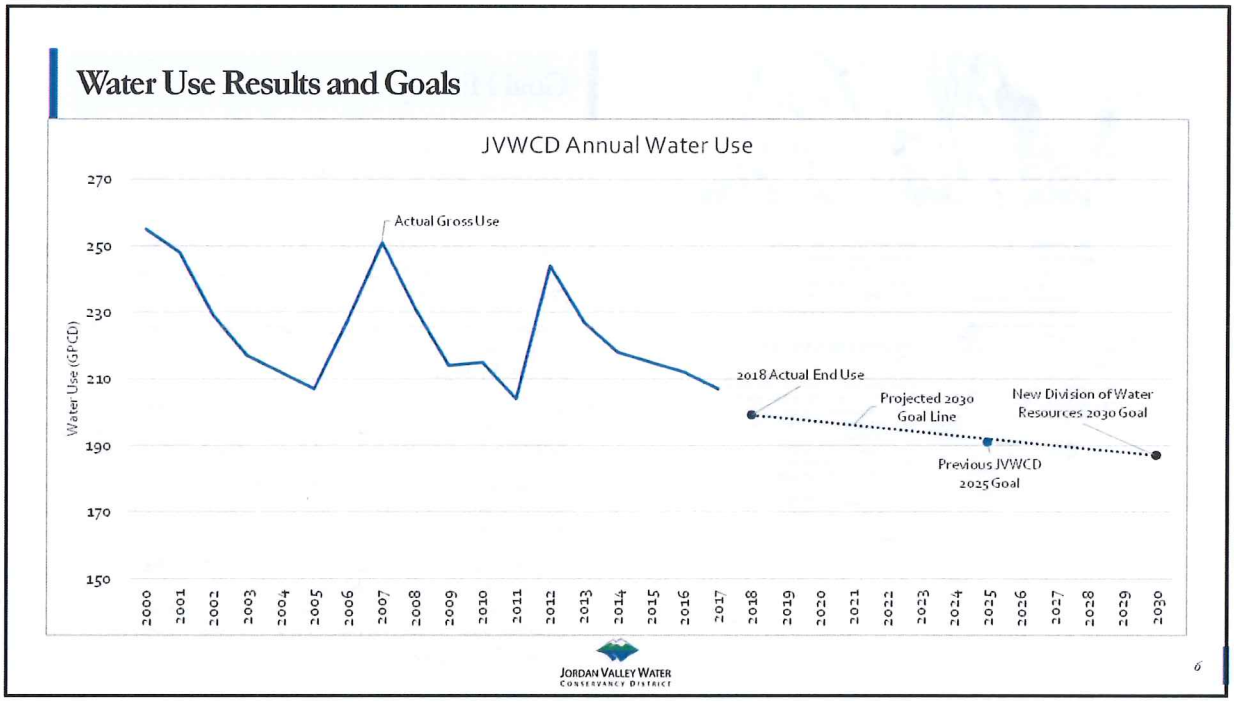
Water Use Results and Goals
JVWCD Annual Water Use
Water Use (GPCD)
270
250
230
210
190
170
150
Actual Gross Use
2018 Actual End Use
Projected 2030 Goal Line
New Division of Water Resources 2030 Goal
Previous JVWCD 2025 Goal
2000
2001
2002
2003
2004
2005
2006
2007
2008
2009
2010
2011
2012
2013
2014
2015
2016
2017
2018
2019
2020
2021
2022
2023
2024
2025
2026
2027
2028
2029
2030
Jordan Valley Water Conservancy District
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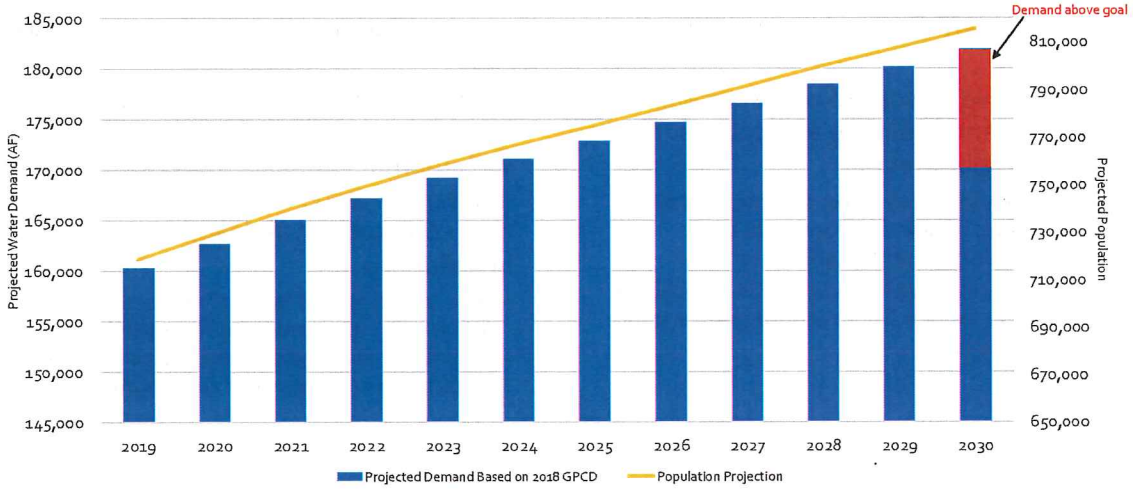
Population and Water Demand Projections (entire service area)



JORDAN VALLEY WATER CONSERVANCY DISTRICT

*If 2018 conditions (weather, water demand, and population density) persist through **2030**.

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2018 Water Use Results Compared to 2030 Goal

815,649
2030 Population

All M&I water delivered within the District's boundaries (includes Member Agency sources)

199
(GPCD) based on 2018 water use

187
(GPCD) based on 2030 goal

11,064
(AF) Above Goal

181,916
(AF) based on 2018 water use

170,851
(AF) based on 2030 goal

JORDAN VALLEY WATER CONSERVANCY DISTRICT

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Impact of Regulations on the Plan

If no water efficiency standards are adopted

» Aggressively escalate conservation staffing and spending as a counter to new developments.

- This would require extensive tracking and targeting of new developments and retrofitting those that are missed.
- Rebate incentive levels would likely need to increase for retrofits to ensure greater public participation.

If water efficiency standards are adopted by 2023

» Moderately increase conservation spending in conjunction with partnering with member agencies and cities to implement water efficiency standards on new construction and landscape installations.

- This would ensure indoor fixtures and landscapes are installed efficiently from the beginning and significantly reduce the present and future costs of water conservation

JORDAN VALLEY WATER CONSERVANCY DISTRICT

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Impact of Regulations on the Plan

	2019 Budget and Staffing (current)	2030 Budget and Staffing (if water efficiency standards are adopted by 2023)	2030 Budget and Staffing (if no water efficiency standards are adopted)
Total Annual Budget	$1,655,242	$4,090,008	$17,846,925
Full Time Employees	6	9	14
Seasonal Employee	10	12	16
Total Spending (2019-2030)		$34,312,565	$116,487,082

Note: Both 2030 projections use a similar methodology to achieve the 2030 goal. Each conservation program has an estimated level of public participation, staffing time, budgetary cost, and associated water savings for each year through 2030.

JORDAN VALLEY WATER CONSERVANCY DISTRICT

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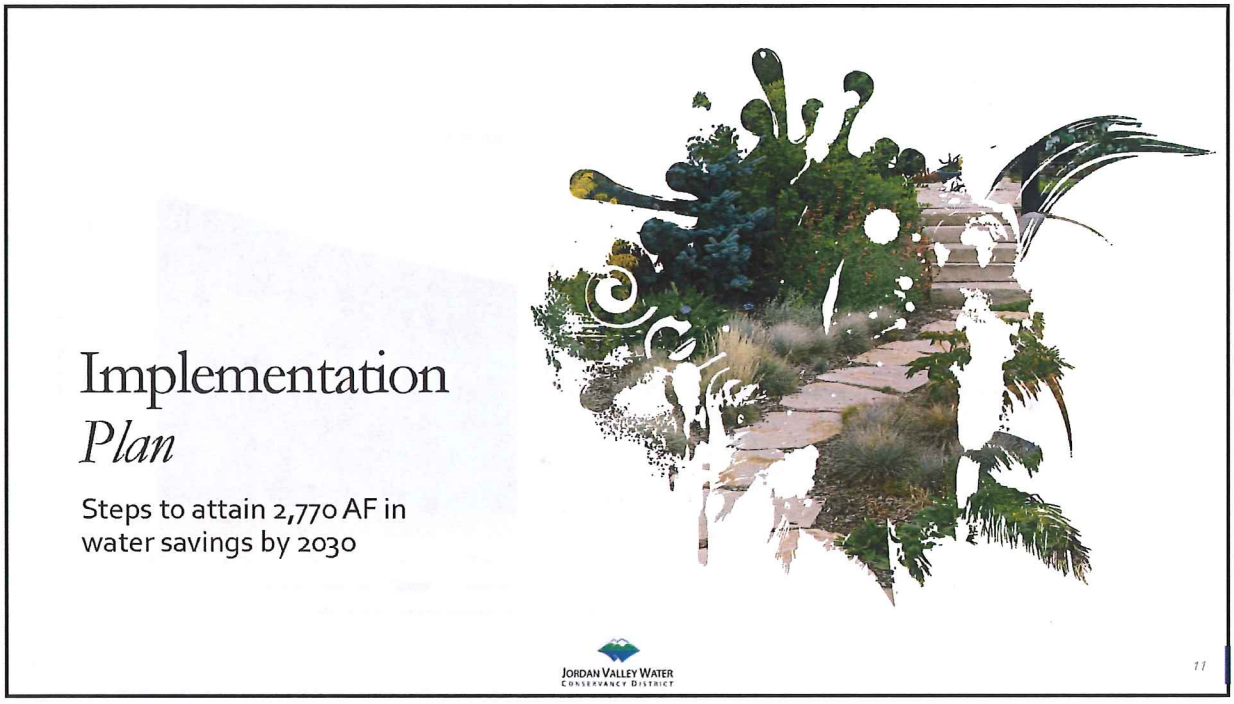
Implementation
Plan
Steps to attain 2,770 AF in water savings by 2030
JORDAN VALLEY WATER CONSERVANCY DISTRICT
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11


Water Conservation Programs and Offerings
Conservation Garden Park
Custom Incentive Program
Customer Feedback Tools
Education and Outreach
Flip Your Strip
Landscape Consultations
Landscape Leadership Grant
Leak Mitigation
Localscapes Rewards
Member Agency Grants
Smart Controllers
Strategic Water Management
Toilet Rebates
JORDAN VALLEY WATER CONSERVANCY DISTRICT
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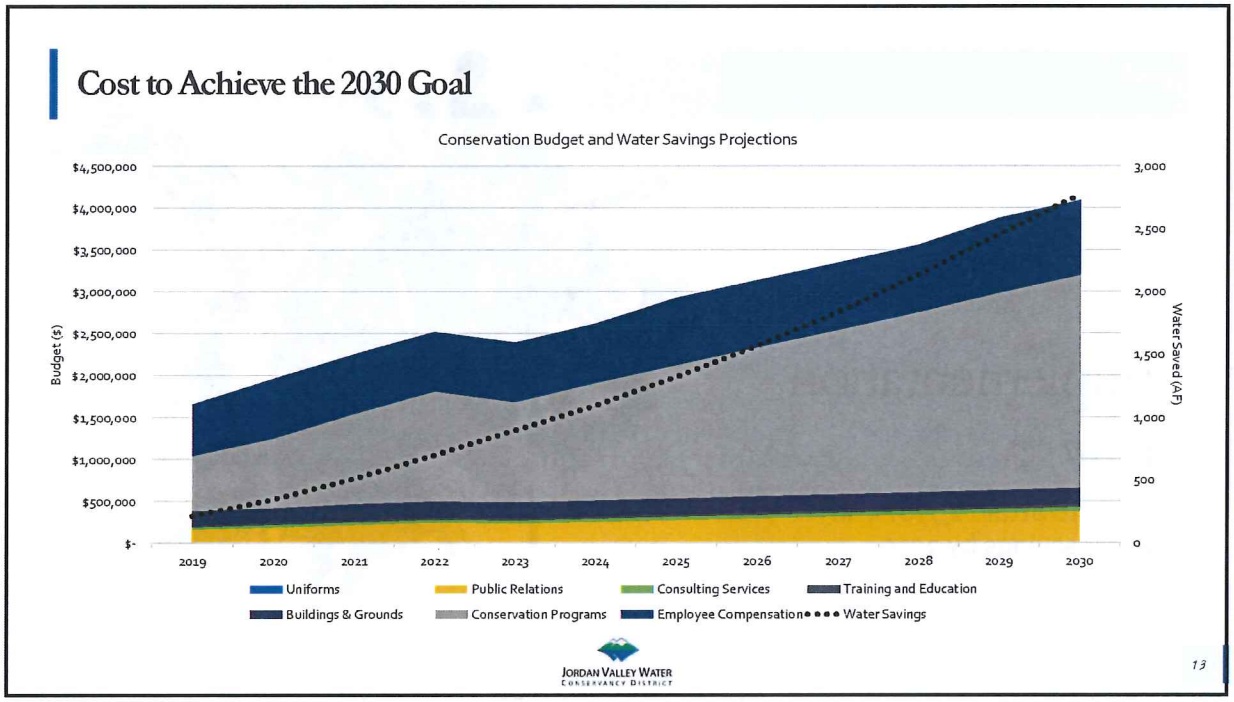
Cost to Achieve the 2030 Goal
Conservation Budget and Water Savings Projections
$4,500,000
$4,000,000
$3,500,000
$3,000,000
$2,500,000
$2,000,000
$1,500,000
$1,000,000
$500,000
$-
Budget ($)
3,000
2,500
2,000
1,500
1,000
500
0
Water Saved (AF)
2019 2020 2021 2022 2023 2024 2025 2026 2027 2028 2029 2030
Uniforms
Public Relations
Consulting Services
Training and Education
Buildings & Grounds
Conservation Programs
Employee Compensation
Water Savings
Jordan Valley Water Conservancy District
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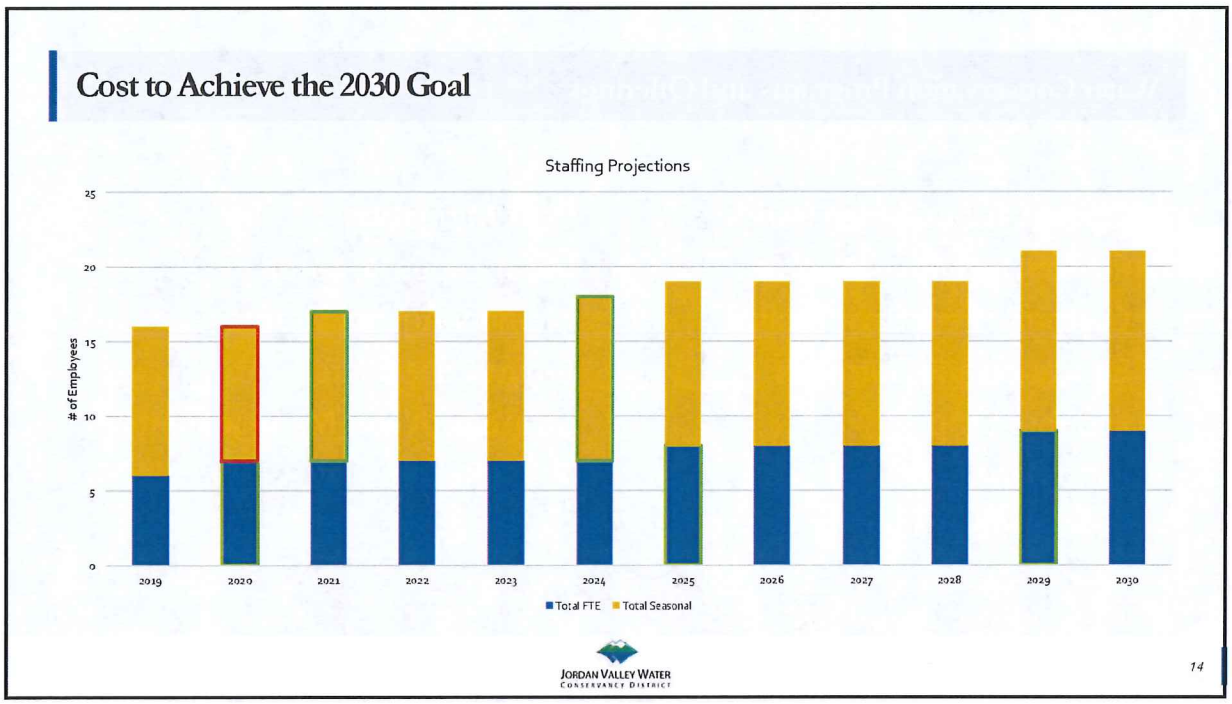
Cost to Achieve the 2030 Goal
Staffing Projections
25
20
15
10
5
0
# of Employees
2019 2020 2021 2022 2023 2024 2025 2026 2027 2028 2029 2030
Total FTE
Total Seasonal
Jordan Valley Water Conservancy District
14

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Summary of Conservation Plan

Milestones and benchmarks found in plan

- Create leak mitigation program training, procedures, and materials.
- Create strategic water management program training, procedures, and materials.
- Create custom incentive program training, procedures, agreements, and materials.
- Require water efficiency standards for annexation petitions and tax increment financing requests.
- Target the year 2023 for service area wide adoption of the water efficiency standards for new construction.
- Hire 3 new full-time and 2 new seasonal positions through the planning period.
- Increase participation levels and budgets of conservation programs to the stated levels necessary to achieve the goal.

JORDAN VALLEY WATER CONSERVANCY DISTRICT

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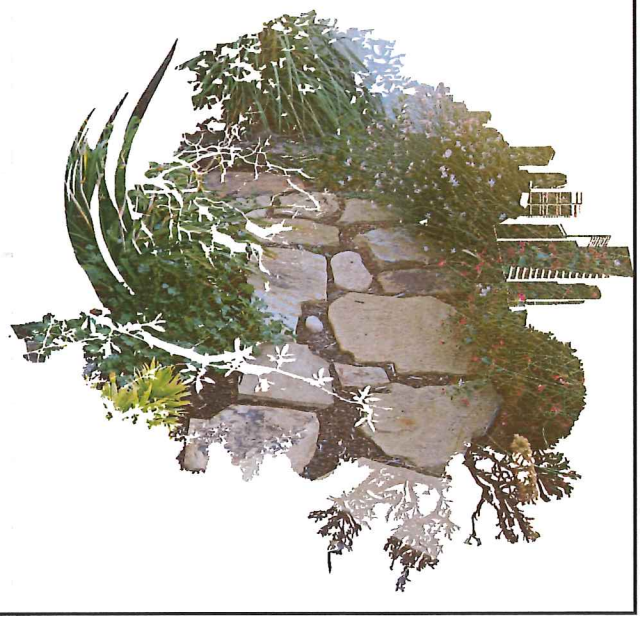
JORDAN VALLEY WATER
CONSERVANCY DISTRICT

Discussion/Questions



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