Integrated Land Use and Water Element

Introduction

In 2022 and 2023, the Utah State Legislature passed Senate Bill 110 and Senate Bill 76, respectively, requiring most municipalities and all counties to develop an integrated land use and water conservation element of the General Plan. This document is intended to serve as the City of Bluffdale's required Integrated Land Use and Water Preservation Element. Water conservation and source protection are paramount as the City of Bluffdale continues to grow. This Element outlines the City's existing and projected water needs, conservation goals for the community, and their impacts on future land uses.

The City of Bluffdale has experienced rapid population growth in the past 20 years, going from a population of 4,700 people in 2000 to approximately 20,000 people today. Development has slowed in recent years due to the lack of developable land. Municipal general plans typically have a lifespan of five to ten years; Bluffdale's General Plan was most recently amended in 2022 and is midway through its lifespan. Updating the Plan regularly will allow the City to respond to changing needs by informing any necessary amendments to policies and ordinances. The next large-scale development will be when the Geneva Rock Mining Pit begins redevelopment, but that is not expected for at least 20-40 years after Geneva has completed all mining operations. The City will continue to see infill development in other areas over the next several years.

Existing Land Use and Water Demand

Existing Water Conservation Element and Land Use Element

Bluffdale has been recognized for its very low-density residential development pattern with large estate lots and horse properties to the west of Redwood Road and agricultural properties near the southern end of the city. Higher-density residential and commercial developments have been built within the last 15 years, particularly east of the Union Pacific railroad tracks, along Redwood Road, along Porter Rockwell Boulevard, and in the Bringhurst Station area.

The City anticipates the majority of its future growth will be within the gravel pit areas and along the 14600 South/Bluffdale Boulevard corridor, along with infill along Redwood Road through the Bringhurst Station development. These growth areas will include a mix of

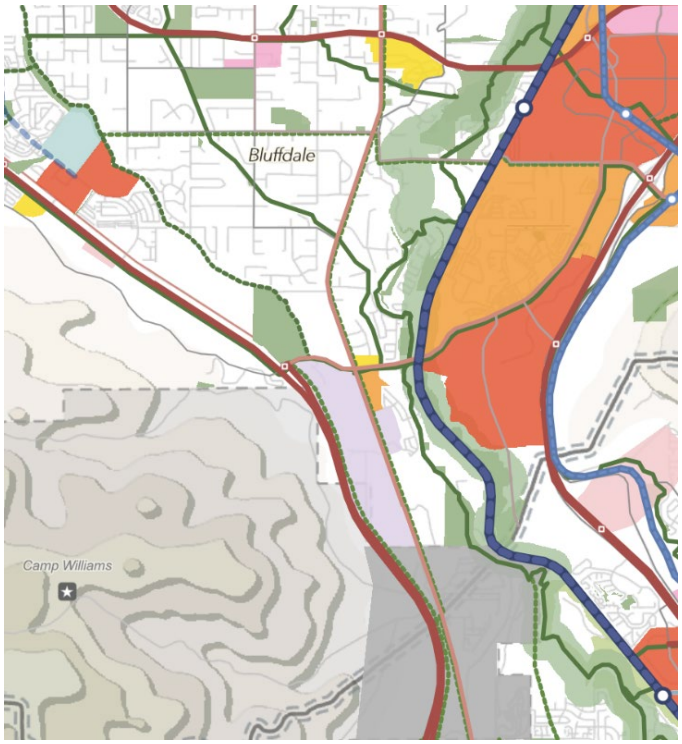


Figure 1: Excerpt of WFRC's Wasatch Choice Vision map, showing urban (red) and city (orange) centers where Bluffdale anticipates the majority of its future development.

residential and commercial uses. Under the existing Future Land Use Map, Bluffdale's anticipated population at 2050 buildout is 32,000 people, an increase of 205% over the 2020 decennial Census count. The City of Bluffdale adopted the existing Water Conservation Element of the General Plan[1] on February 10, 2016, through Resolution 2016-14[2]. The Element was most recently updated on January 26, 2022, through Resolution 2022-08[3]. City Staff utilized the Water Conservation Plan to inform the creation of this Element.

Bluffdale's Water System

As noted in the Water Conservation Element, most drinking water in the City is provided by the City of Bluffdale, with water sourced from the Jordan Valley Water Conservancy District ("District"). There are two private water systems within the city, each with about 20-30 customers and numerous residences with private wells. They have been excluded from this plan due to being outside the city's control and jurisdiction. Bluffdale owns and operates a public water system serving around 5,400 connections, including 5,249 residential and 268 commercial, industrial, and institutional users with indoor and outdoor water needs[4]. The City does not own or operate any of its own drinking water sources but instead contracts with the District to provide water through a formal Water Purchase Agreement. The agreement establishes a fixed annual volume and unit price and is renewed every three years. The City

[1] City of Bluffdale General Plan, Water Conservation Element (p. 287)

[2] February 10, 2026 City Council Meeting (Agenda; Minutes, pg. 6)

[3] January 26, 2022 City Council Meeting (Packet, pg. 41; Minutes, pg. 10)

[4] Exhibit 4. Total Service Connections by Type (JVWCD Draft Conservation Plan (Nov 2024))

pays for 100% of the contracted volume, whether it is used or not. As a contingency, the agreement also allows the City to use up to 120% of the contract volume (i.e. 20% more) at the same unit price. Beyond 120%, the unit price doubles. For 2025, the City is projected to use 110% of our contracted water amount. The District has the capacity to meet the City's current and buildout drinking water needs.

The District will always be the primary water supplier to the City, but the City is also looking at developing a back-up drinking water well to augment District's supply and serve as a back up in case of any interruptions in supply from the District due to natural disaster, equipment failure, or acts of sabotage. The City already owns and operates a secondary water well and is currently investigating getting the well certified to produce drinking water as well. We are always looking to acquire additional water rights to be used for a future well. If rights can be secured, the City may move forward with construction of another drinking water well.

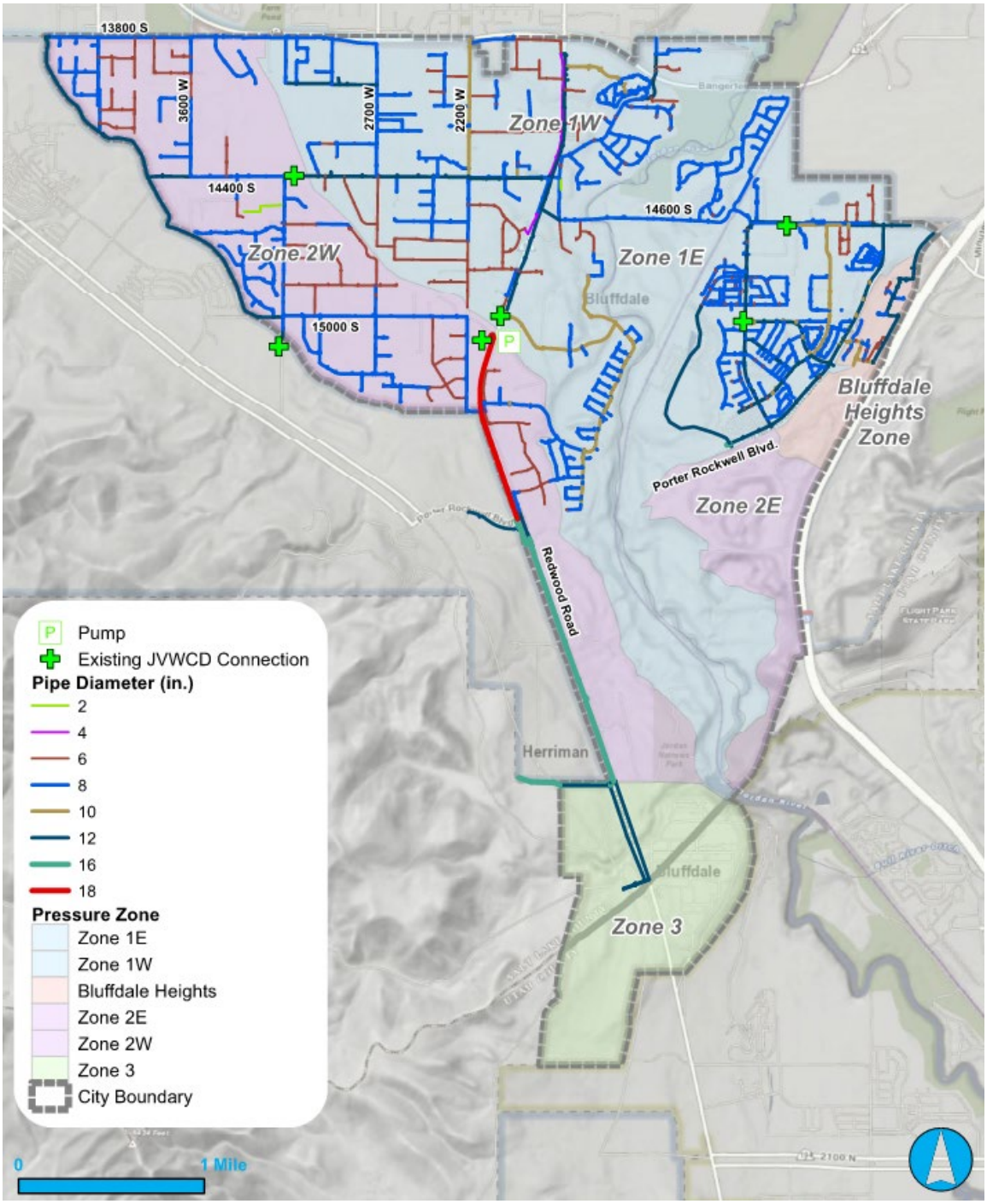
Due to differences in elevation, the City's water system is divided into four pressure zones that are fed by their own respective water tanks. The City currently operates or has agreements in place for three drinking water tanks, with a fourth being constructed in 2026. This will bring the City's water system to full build-out capacity except for the Geneva Pit parcel in eastern Bluffdale, adjacent to I-15.

Geneva Rock has shared very preliminary development plans showing a mix of high density residential and commercial properties similar to The Point project in Draper, but this plan is subject to change and is not expected to be acted upon for 20-40 years (according to Geneva Rock). The City is estimating the water needs of the current plan to be 750 Acre-ft to 1500 Acre-ft annually, but this is very broad due to their development plans being largely undecided. When the Geneva pit develops, additional water sources, storage tanks, and distribution systems will need to be constructed by them and dedicated to the City. Their project will need to meet all currently adopted Water Efficient Landscaping Ordinances. The City will also require the installation of secondary waterlines for large landscaping areas to reduce the demand on the drinking water system.

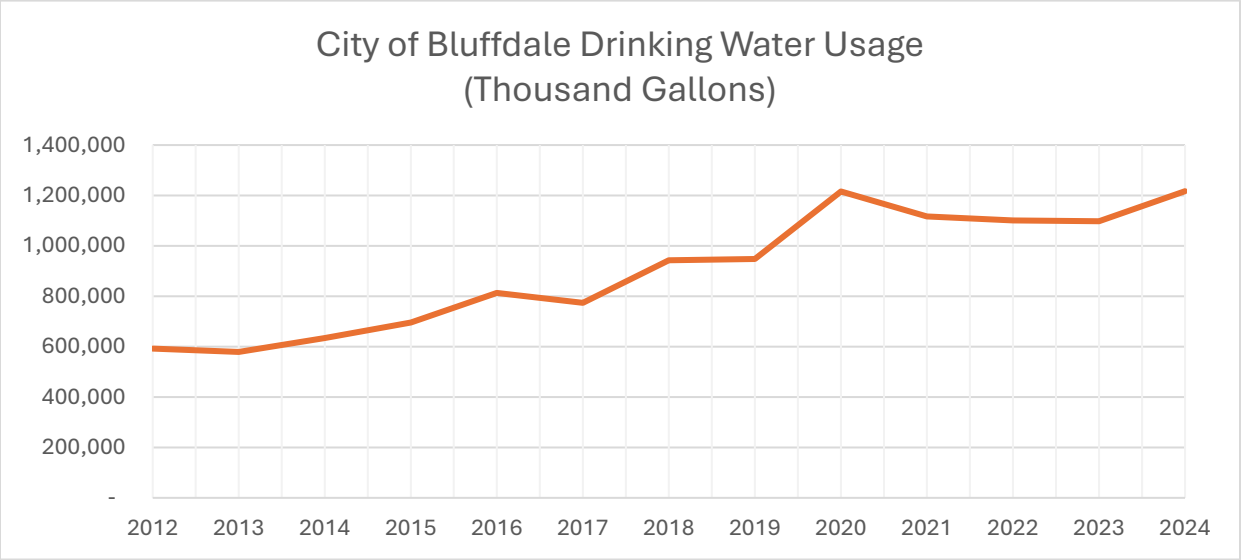
There is a city pressurized irrigation system throughout portions of Bluffdale with water supplied from the Welby Jacob Canal, groundwater sources, and return effluent from the Utah Data Center (UDC). There are five other canals (WaterPro, East Jordan Canal, South Jordan Canal, Utah Lake Distributing Canal, and Utah & Salt Lake Canal) throughout the city that feed dozens of private irrigation systems not under the City's control. New developments are required to provide secondary water infrastructure and canal shares[5] (or a

[5] See Bluffdale City Code Chapter 8.50

fee in lieu) in the amount of 5.0 Acre-ft per irrigable acre to provide non-culinary water for outdoor irrigation. The City is adding additional irrigation infrastructure during road projects to make city irrigation available to new neighborhoods, thereby alleviating pressure on the drinking water system. This is not expected to be a city-wide system but will be constructed as funds allow.



Water Demand



The City's water demand has grown an average of 5% per year (about 60,000 Gallons) and we expect this trend to continue until the City reaches full buildout, sometime around 2035. 2022 and 2023 saw significant reductions due to conservation efforts by Bluffdale residents, but 2024 was particularly hot, which increased drinking water demand for irrigation. 2025 has also been a very warm year, and we are projecting another increase in water usage over 2024.

As required by State Code § 10-9a-403, the City met with representatives from the District on February 24, 2025, to discuss Bluffdale's future development and water demands. The District has created a long-term water supply plan for the buildout of Bluffdale City. They have available water to supply all undeveloped areas within the City boundary as long as the adopted Water Conservation practices are followed. Any annexations into the City or large water users may need to bring additional water supplies to the District. It is also anticipated that the Geneva property will dedicate water rights and sources to the City when they redevelop the existing mine. The District noted their water conservation standards have been updated. Cities are not required to adopt the updated standards, however, a water contract cost incentive may be available for those who do. If the District indicates it is no longer able to provide water for future development, the City could consider requiring developers to supply their own drinking water sources or rights.

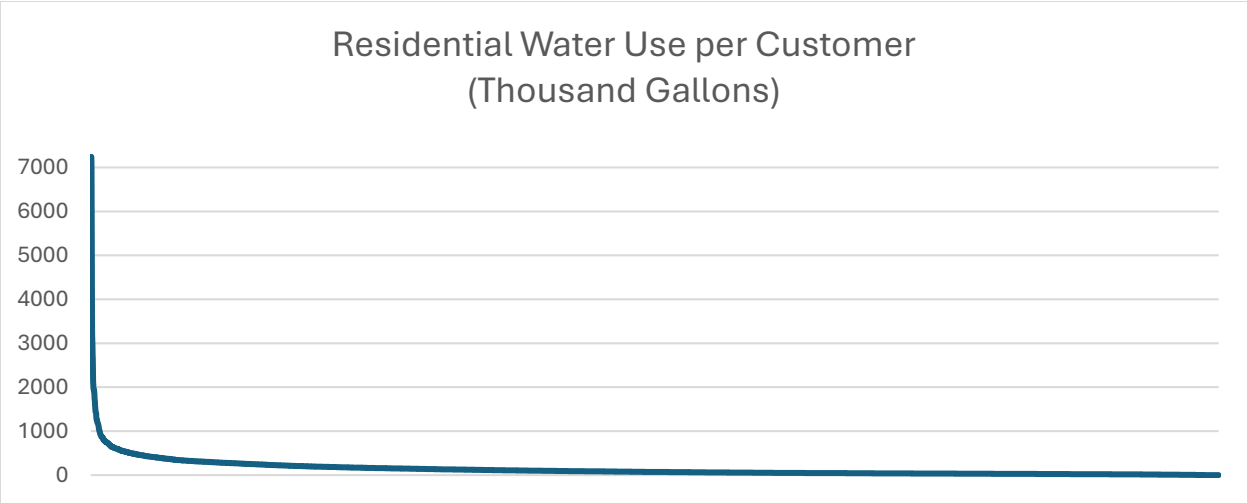
High-Demand Users

The largest water users within the City are the Utah Data Center (UDC), which uses drinking water for computer cooling, and users with large amounts of landscaping such as parks, schools, churches, and HOA communities. Of the 5,400 water customers, these 40 highest water users used 30% of all water within the city in August 2025.

This table shows the amount of connections per type and the amount of water used by each type. Following the State Division of Water Rights reporting guidelines, apartments are listed in the Commercial category. Parks, schools, the Utah Data Center, and all other government facilities are included in the Institutional category.

Connection Type	No. of Connections	Total Water Used by Connection Type (Gallons)	Percent of Water Used by Connection Type	Avg. Annual Water Used per Connection (Gallons)
Residential	5,262	734,481,000	72.7%	110,800
Institutional	87	243,085,000	20.8%	1,916,700
Commercial	179	65,952,000	6.5%	9,900
Industrial	2	904,000	0%	0

Most of the total water used in the city is by residential connections because there are so many relative to Institutional, Industrial, and Commercial. However, looking at the water use per connection shows that Institutional connections are by far the largest water user per connection. This is expected as this category includes parks, schools, churches, and the UDC. This data is useful for determining where to target conservation efforts.



This graph shows the total annual water user of each Residential connection in descending order. It shows that 95% of users are within the same amount, but there are several extremely high users that use many times more water than is expected. These users are HOA communities with lots of communal landscaping. Conservation efforts to remove turf grass, install drip irrigation systems, and install WaterSense controllers for these customers can help reduce this usage.

Even small reductions in water use per residential connection could add up to significant water savings due to the large amount of connections. Conservation efforts for institutional connections would need to focus on water wise landscape conversions to have a meaningful effect on usage.

The UDC has recently expanded operations and is using more water but is within the original Water Purchase Contract amount. This amount is included in our Water Purchase Contract with JVWCD as well.

Water use for landscaping is heavily dependent on the weather, with fluctuations from year to year depending on temperature and precipitation. However, the City can control the amount of landscaping that will be installed on future projects. We have adopted Water Efficiency standards from the District which limit the amount of high-water demand landscaping. Many of the high water use institutional connections were constructed prior to the standards being adopted. To reduce water demand from these existing areas, the city utilizes the Grant Assistance Program through the District to convert turf grass at city properties to water-wise landscaping. Any property owners within the city can take advantage of the Program.

The City requires secondary water to be provided to large landscaping areas whenever possible to reduce demand on the city's drinking water system, however secondary water is not always available. In these cases, drinking water is used for irrigation.

On September 10, 2025, the City adopted the 2025 Parks, Open Space, Recreation, and Trails Master Plan. The City currently has 92 acres of City-maintained parks and will need to develop an additional 12 acres of parks by 2050 to maintain a Level of Service of 4.0 acres per 1,000 residents. The Plan recommends implementing non-traditional parks and park features to maximize use of the facility but will likely also include less irrigable area.

Figure 2: Day Ranch Park utilizes a node of water-wise landscaping bordered by a walking path.

Conservation Goals

Bluffdale's Local Goals

Table 4-2 of the existing Water Conservation Element[6] outlines the City's proposed water conservation measures as well as an implementation strategy. These goals, and the City's progress, are outlined in the table below:

Conservation Measure	Implementation Plan	Current Status	Next Steps
Establish standards for new landscape construction (or reconstruction).	Adopt the JVWCD Water Efficiency Standards and enforce the corresponding water-efficient landscaping requirements with new construction.	**Complete** – The City adopted the JVWCD Water Efficiency Standards on May 26, 2021 by Ordinance 2021-06[7]	Continued Enforcement of Standards

[6] Element, pg. 306

[7] Ordinance 2021-06

Create a Water Efficient Landscape Ordinance.	As a complement to the JVWCD Water Efficiency Standards (which focus on new construction), the Water-Efficient Landscaping Ordinance would recommend water users to incorporate some sort of xeriscaping in their landscaping to be more water efficient.	**Complete** – The City adopted Ordinance 2020-13 on July 14, 2021[8] and enacted a Water Efficient Landscaping ordinance.	None
Discourage over watering through outreach campaigns.	Educate residents about resources available to determine proper irrigation amounts needed for landscaping	**Ongoing** – Outreach occurs at City Events and through bill stuffers.	Continue public education campaign.
Improve accuracy of the City's water use reporting.	Continue to compare customer end use with incoming JVWCD source flows and intra-system flows (plump stations and PRVs) to close the mass balance.	**Ongoing** – City is working on identifying water leaks and unmetered connections which would account for this "lost" water.	Continue identifying unmetered connections and leaks and conducting repairs and meter installations.
Regularly analyze water usage to search for regular extreme water users in Bluffdale.	Prepare a map to view where the highest water users are and where high usage occurs. Analyze the data regularly, such as on an annual basis (e.g., July for peak water use). Update the database with information such as usage per customer, etc.	**Ongoing** – Analyze monthly billing to identify patterns of high water usage.	Provide educational materials to high water users with ways to reduce usage. Identify if any leaks are present.
Meter all City connections to analyze consumption	Budget for and install meters at remaining unmetered parks and integrate data streams	**Completed** – All water services for City properties are metered.	Monitor meters to ensure no leaks.

[8] July 14, 2021 City Council Meeting (Packet, pg. 81; Minutes, pg. 11)

and control water waste.	with other water use analysis.		
Install instant read meters to alert Public Works of leaks.	Install new water meters that provide continuous monitoring and can alert the city if unusual water usage is detected, which may indicate a leak.	**Ongoing** – 90% of meters have been upgraded.	Finish installation of instant read meters.
Encourage residents to sign up for leak detection notifications.	The City's new instant read meters can also alert residents to unusual usage patterns indicating a leak. Residents do need to create an account to use this feature.	**Ongoing** – Only about 1% of customers have signed up for this service. Further public outreach is needed.	Continue public outreach and encourage residents to sign up.
Encourage Metering of Private Secondary Water Connections	Install meters on all private secondary water connections	**Ongoing**	Encourage private secondary water users to meter their water to report usage.
Reduce turf grass areas at City parks.	Replace areas of turf in non-recreation areas (e.g., between parking lots and sidewalks), especially small areas that are difficult to irrigate efficiently, with rock mulch or xeriscaping. Refer to JVWCD Water Efficiency Standards.	**Ongoing** - The City has utilized less turf in the construction of new parks (e.g. utilization of turf alternatives in Day Ranch Park) and continues to install landscaping on city properties compliant with JVWCD standards.	Continue to apply for Landscape Conversion Grants to convert turf grass at older facilities to water-wise landscaping.
Optimize irrigation of City parks.	Optimize water use at existing parks. Consider new timing, soil moisture sensors, fertilizers, wind resistant spray heads, etc.	**Ongoing** - Additional areas are being converted each year	Continue applying for grants to convert to water-wise irrigation practices.
Create an ongoing pipe replacement program.	Budget each year to replace older pipes in the distribution system.	**Ongoing** – Waterline replacement is conducted yearly as budgets allow.	Continue analyzing water pipe age and condition and

			programming future replacement.
Enforcement Action Against Using Un-Metered Water	Adopt resolution making un-metered water use unlawful	**Ongoing** – Enforcement is conducted whenever un-metered users are identified.	Continued Enforcement Action as water thefts are identified.

Regional Water Conservation Goals (Division of Water Resources)

The Utah Division of Water Resources adopted the Regional Water Conservation Goals[9] in November 2019. The City of Bluffdale is located in the Salt Lake and Provo River regions.

Table 7-1: Regional M&I 2030 Water Conservation Goals and Future Goal Projections

Region	2015 Baseline (gpcd)	2030 Goal		2040 Projection		2065 Projection	
		Goal (gpcd)	Reduction from 2015	Projection (gpcd)	Reduction from 2015	Projection (gpcd)	Reduction from 2015
Bear River	304	249	18%	232	24%	219	28%
Green River	284	234	18%	225	21%	225	21%
Lower Colorado River North	284	231	19%	216	24%	205	28%
Lower Colorado River South	305	262	14%	247	19%	237	22%
Provo River	222	179	20%	162	27%	152	32%
Salt Lake	210	187	11%	178	15%	169	19%
Sevier River	400	321	20%	301	25%	302	24%
Upper Colorado River	333	267	20%	251	25%	248	25%
Weber River	250	200	20%	184	26%	175	30%
Statewide	240	202	16%	188	22%	179	26%

Note M&I = municipal and industrial; gpcd = gallons per capita per day based on permanent population. Reported per capita use includes all residential, commercial, institutional, and industrial uses averaged over the permanent population in each region.

Jordan Valley Water Conservancy District Goals

The Jordan Valley Water Conservancy District has updated the District's water conservation goals[10] in the 2024 Conservation Plan, including a usage goal of 178 GPCD by 2030 and 174 GPCD by 2035.

The majority of Bluffdale's landmass is located within the Salt Lake region, however, federal uses (UDC) within Bluffdale's boundary are also located in the Provo River region. The Salt

[9] DWR Water Conservation Goals, November 2019

[10] Report - Page 43

Lake region entails an 11% reduction goal while the Provo River region's goal is higher at an anticipated 20% reduction.

According to the JVWCD's 2024 Annual Report, the City of Bluffdale utilized 365 more acre-feet of water in 2024 than in 2023. Our calculations show current drinking water demand of 167 GPCD, well below the State's 2030 goal of 187 GPCD and below the Jordan Valley Water Conservancy District's 2030 goal of 178 GPCD, demonstrating the City's commitment to local and regional efforts to conserve water.

Consultation with UDWR

Staff met with representatives from the Utah Division of Water Resources (UDWR) on February 10, 2025 to discuss the City's land use element and technical resources regarding regional conservation goals, and any potential impacts it may have on the Great Salt Lake. UDWR provided information and technical resources available for municipalities to meet regional conservation goals.

The City discussed its existing stormwater and drainage standards and processes with UDWR to determine any potential effects on the Great Salt Lake (GSL). The UDWR did not indicate any concerns with the City's LID, stormwater, or drainage standards that would impede water flow to the GSL.

Further, representatives from UDWR have reviewed this Element and provided comments and suggestions. Additional information has been provided herein in response to these comments.