MAGNA

ORDINANCE NO.: 2025-O-21 **DATE: October 28, 2025**

AN ORDINANCE OF THE MAGNA CITY COUNCIL APPROVING AND ADOPTING THE WATER USE AND PRESERVATION ELEMENT AS A NEW CHAPTER OF THE MAGNA GENERAL PLAN AS REQUIRED BY UTAH STATE LAW

RECITALS

WHEREAS, Magna City was incorporated and commenced operations in 2017 pursuant to State Law; and

WHEREAS, the Magna City Council ("Council") approved and adopted the Magna City General Plan on March 31, 2021; and

WHEREAS, the Council approved and adopted amendments to the Magna Moderate-Income Housing Plan, a component of the Magna City General Plan on September 27, 2022; and

WHEREAS, the Council approved and adopted the Magna City Active Transportation Plan on January 24, 2023; and

WHERAS, staff has proposed adoption of the Water Use & Preservation Element as a new chapter of the Magna General Plan, as required by Utah State Code §10-9a-403, ensuring the City coordinates land use planning with available water resources.

BE IT ORDAINED BY THE MAGNA CITY COUNCIL as follows:

1. The attached Water & Preservation Element is hereby added as an attachment to the current Magna City General Plan as in Attachment "A."
2. Severability. If a court of competent jurisdiction determines that any part of these Ordinances is unconstitutional or invalid, then such portion(s) of these Ordinances, or specific application of these Ordinances, shall be severed from the remainder, which shall continue in full force and effect.
3. Implementation. Magna City Staff are instructed to take administrative steps needed to incorporate the amended sections, as set forth in Attachment "A," for publication in Municode, including but not limited to making any formatting, grammatical, or other non-substantive changes to the Ordinances that may be needed.
4. Posting and Effective Date. After Magna City Staff have prepared Attachment "A" for publication to Municode, the staff shall post the attached summary pursuant to Utah Code §10-3-711(1)(b); and publish Attachment "A" to Municode. This ordinance will become effective as of the date the summary is posted and Attachment "A" is published to Municode.

{SIGNATURES ON FOLLOWING PAGE}

PASSED AND ADOPTED this 28th day of October 2025.

Signed by:
Eric Barney
77D3B989375E4F5...
Eric Barney, Mayor

ATTEST:

Signed by:
Diana Baun
5A3A98DE3BC64A6...
Diana Baun, City Recorder

APPROVED AS TO FORM:

City Attorney

Voting

Mayor Barney	voting Aye
Council Member Hull	voting Aye
Council Member Pierce	voting Absent
Council Member Prokopis	voting Aye
Council Member Sudbury	voting Aye

SUMMARY OF MAGNA CITY ORDINANCE NO. 2025-O-21

On the 28th day of October, 2025 the Magna City Council enacted Ordinance No. 2025-O-21, approving and adopting the water use and preservation element as a new chapter of the Magna General Plan as required by State Law.

MAGNA CITY COUNCIL

Signed by:
Eric Barney
77D3B9B9875E4E5...
Eric G. Barney, Mayor

ATTEST

Signed by:
Diana Baun
5A3A98DE3BC64A6...
Diana Baun, City Recorder

APPROVED AS TO FORM:

CITY ATTORNEY

Voting

Mayor Barney voting Aye
Council Member Hull voting Aye
Council Member Pierce voting Absent
Council Member Prokopis voting Aye
Council Member Sudbury voting Aye

A complete copy of Ordinance No. 2025-O-21 is available in the office of the Magna City Recorder, 860 Lavoy Drive, Suite 300, Taylorsville, Utah.

WATER

MAGNA CITY WATER ELEMENT

The General Plan Water Element is an opportunity for the municipalities in the state to coordinate their land use with the supply and conservation goals of their water providers. Magna is unique in its proximity to the Great Salt Lake, and as a municipality that still has significant amounts of vacant land. The potential for change in land use, and its location in the region make water considerations especially important for the City. The Water Element highlights what water resources are currently available to the City's Water providers and what will be needed based on the changes that the General Plan's Future Land Use map and other policies emphasize.

A crucial component of understanding the state of water in the City is to engage the City's providers. In the development of this water element Magna Water District and Jordan Valley Water Conservancy District were consulted in a series of meetings. Magna's water providers were able to contribute key information regarding existing conditions within the service areas, especially water availability, and how much water has been vetted by providers for potential future use. They were also key partners in contributing to the goals and policies that are articulated in this chapter. Land use decisions affect water usage, and land use choices should align with the agencies that provide this vital service.

This water element fulfills the requirements identified in **State Law 10-9a-403** including the following objectives:

1. Analyze the effect of permitted development or patterns of development on water demand and water infrastructure.
2. Consider methods of reducing water demand and per capita water use for existing development.
3. Consider methods of reducing water demand and per capita water use for future development.
4. Evaluate modifications that can be made to a local government's operations to reduce and eliminate wasteful water practices.

Thank you to our collaborators:

- Jordan Valley Water Conservancy District
- Magna Water District

WATER RESOURCES

WATER RESOURCES TODAY

The Magna Water District serves the majority of the developed city and some surrounding areas within West Valley and unincorporated Salt Lake County. Magna Water District sources water from a variety of wells, wholesale contracts, and irrigation companies.

Magna Water District provides culinary water to 10,771 connections and 34,476 people (Division of Water Rights, 2024). Magna Water District serves 1,444 secondary connections within the service area covering approximately 565.16 acres (Division of Water Rights, 2024). All secondary water use is for lawn and garden; none is used for agricultural purposes. Magna Water District sources secondary water from three shallow wells (Well No. 1-3) and purchases irrigation water from Kennecott Utah Copper and several canal companies.

The sources that sustain Magna's culinary and secondary water are described in *Table 1. Existing Water Sources* and *Table 2. Future Water Sources*. The district has an available annual capacity of 10,277 ac-ft. (2025, Magna Water Master Plan) combined culinary and secondary water today and an additional 5,363 ac-ft. of water available in the future, primarily new secondary water sources.

The City accounts for 93% of the parcels within the Magna Water District Service Area, with West Valley City accounting for approximately 7%. West Valley parcels within the service boundary have a higher rate of vacancy, which may indicate more development in the next several years and thus a higher share of the water needed to support growth. For the purposes of this plan element, analysis uses a consistent ratio over time, however, additional coordination with the district may be necessary to continue to monitor growth

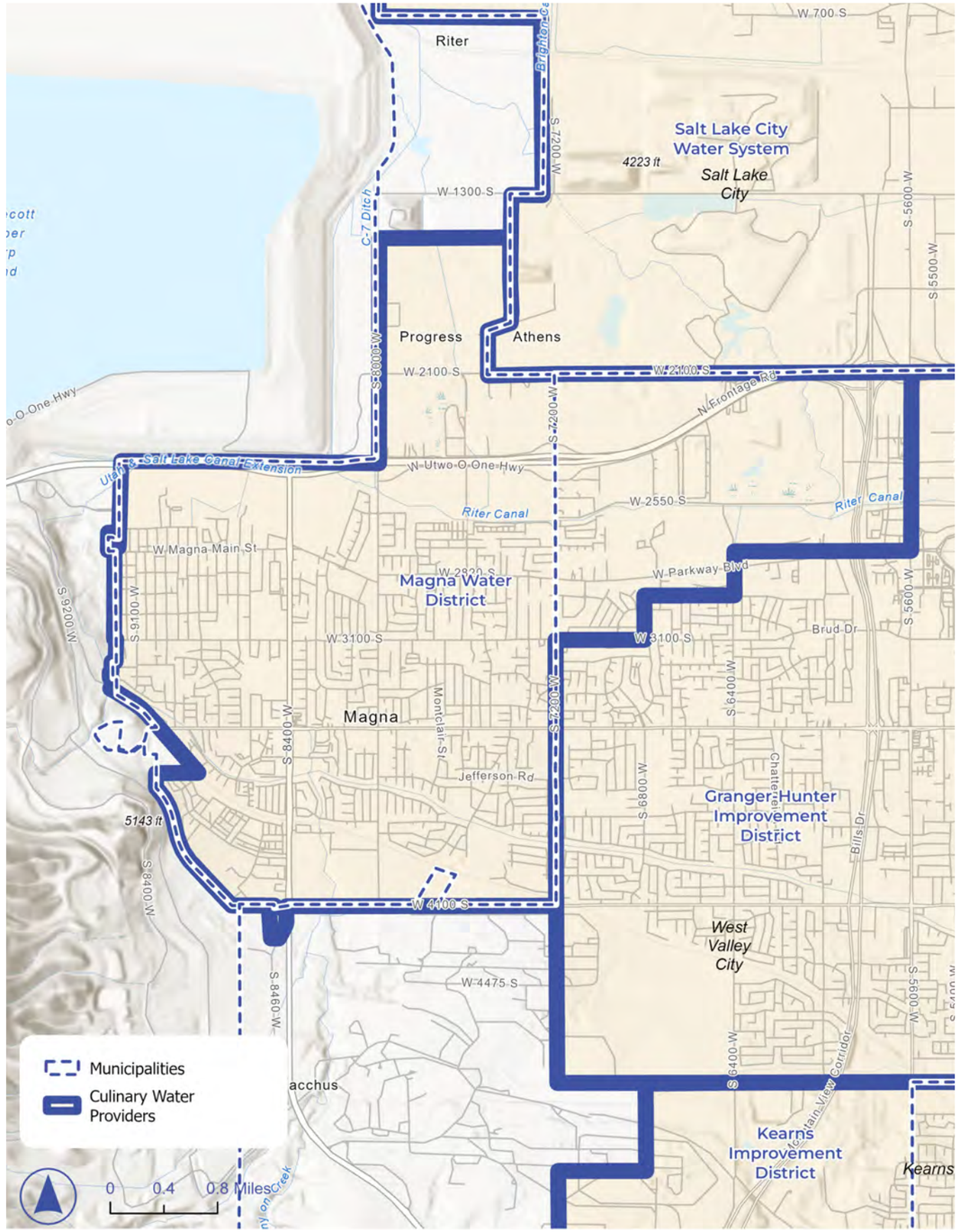

Figure 1. Water Providers Context Map (Utah DNR, 2023)

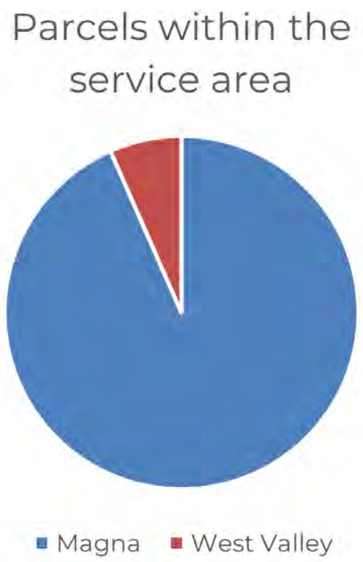

Figure 2. Share of Parcels within the Magna Water District Service Boundary

within and beyond the Magna City boundary in the future.

Magna Water District is the main provider and source of water that is associated with the City, however there are areas within the City boundary that are not serviced by any public water providers. These areas present a challenge to development, for several reasons. Firstly, the development process requires proof that there is sufficient water for the proposed development. Property owners may bring their own water rights and infrastructure to the City, however, this is a challenging and expensive approach for individuals. Water providers can also require proof that the development will provide sufficient infrastructure and bring with it the appropriate amount of water.

Water providers do not serve areas beyond their service boundary unless they elect to annex these outlying areas. The annexation process for service districts requires several steps, time, and staff and the annexation must be approved by the Lieutenant Governor. For areas within the City that are not served by Magna Water District, the Magna Water District may annex these areas, a nearby Water District, like the Salt Lake City Water System, may annex the area, or the development can bring water rights and infrastructure to be managed independently or as part of a smaller water company. Each of these options – maintaining water rights and infrastructure independently or expansion of service area boundaries through annexation are costly and time consuming. The lack of public water service in these areas of the City does not specifically prohibit growth, however it presents a significant challenge.

WATER RESOURCES IN THE FUTURE

The Magna Water District anticipates the following growth to the system (Shown in *Table 2. Future Water Source*). While there is some

TABLE 1. EXISTING WATER SOURCES (WATER MASTER PLAN, 2025)

Existing Source	Raw Annual Capacity (acre-ft)	Reliable Culinary Annual Capacity (acre-ft)	Reliable Secondary Annual Capacity (acre-ft)
Haynes Well Field	3250		
Barton Well Field	4550		
EDR Plant		6,864	
Existing Shallow Wells			287
JVWCD Contract		800	
JVWCD Option		160	
Canal Shares			1,344
Reuse Water			822
Subtotal - Existing	7,800	7,824	2,453
Assumed Share for Magna*	7254	6696	2,281

**See Figure 1 and the discussion above*

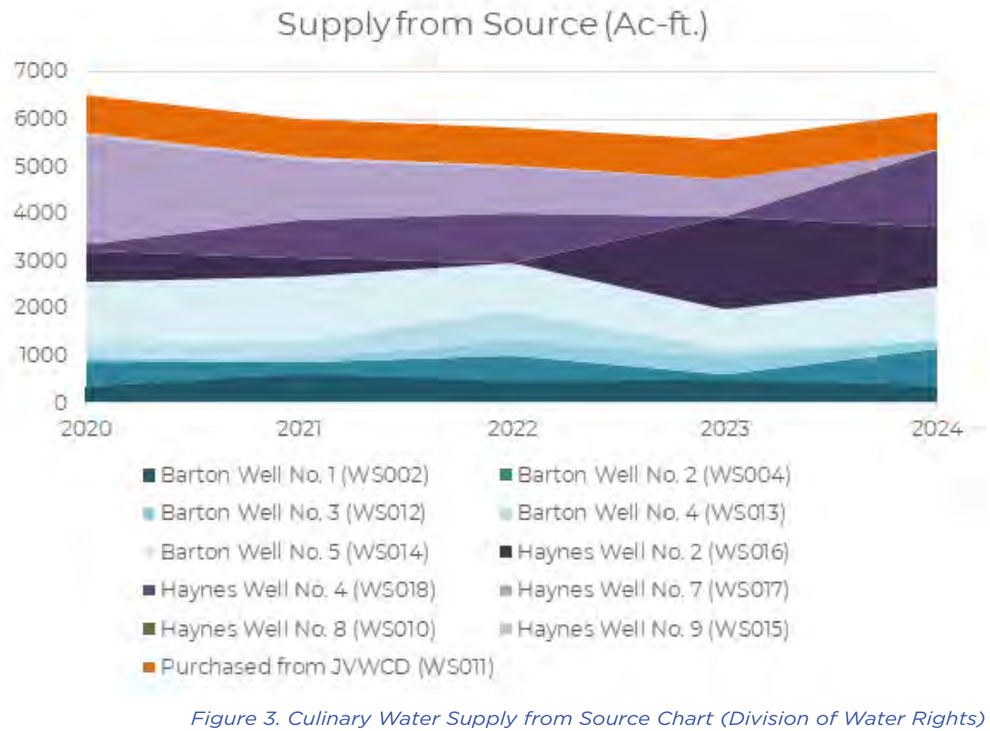

Figure 3. Culinary Water Supply from Source Chart (Division of Water Rights)

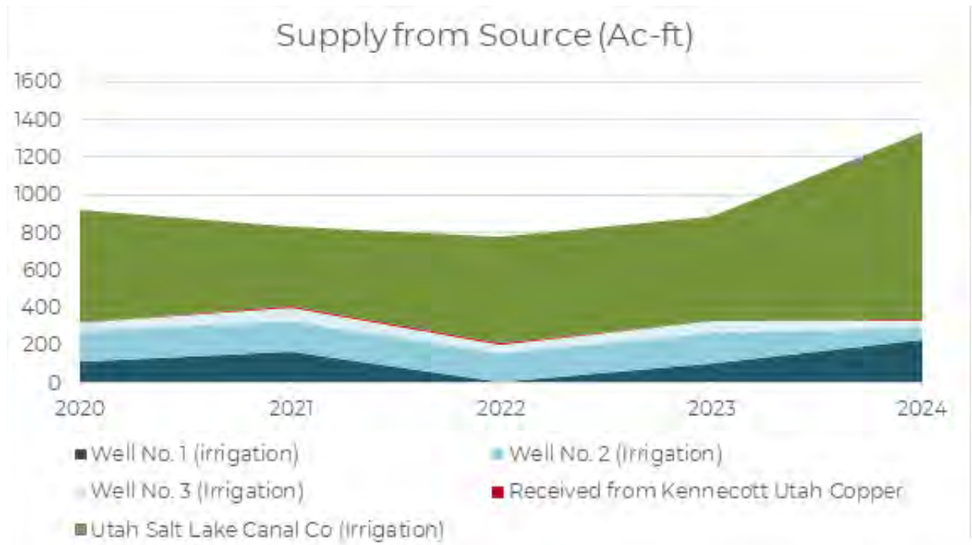

Figure 4. Secondary Water Supply from Source (Division of Water Rights)

expansion of culinary, the majority of source expansion is for secondary water, highlighting the district's approach to reducing culinary use through expansion of secondary. One of the most vulnerable sources for the district and the city is the Utah and Salt Lake Canal Company. As the district increases their secondary supply it also plans to shift its reliance on the canal company, with significant expansion of the secondary water supply through reuse water and new shallow wells. The future culinary supply is associated with the annexation areas and increases in the Jordan Valley Conservancy District wholesale contract based on a maximum allowance for each acre of land (1.65 ac-ft./acre).

WATER USE TODAY

Magna has a unique pattern of land use. Today a significant portion of the northern section of the City is preserved in nature preserves, see *Table 4 Protected Lands* and *Figure 5 Protected Land*, protecting the wetland habitats of the Great Salt Lake. This land is not anticipated to grow and currently does not use water from Magna Water District. The City currently has low water use compared to the state and the region. Water use is measured with two key metrics; firstly, the per capita water use (or gallons per capita per day) and second, the total water, in this case, millions of gallons (Mgal) used per year.

Per capita culinary water use in 2024 was significantly below the regional conservation goal of 183 gpcd by 2065. The Magna Water District tracks the indoor versus outdoor per capita water use. In 2023 per capita use was approximately 60 gpcd for indoor use in and 3.79 ac-ft/acre of irrigated land, such as yards and parks. Currently the outdoor water use far exceeds the 15 inch maximum annual use per square foot for landscaping that is prescribed by municipal code. This suggest that if every home and business in Magna were meeting outdoor water use levels mandated by the municipal code, landscapes within the city might look significantly different from their current appearance. The indoor water use is considered low, however the Magna Water District's Master Plan identifies a further conservation goal of 17% reduction by 2065 (Magna Water District Master Plan, 2025).

CURRENT AND FUTURE DEMAND IN THE DISTRICT

The Magna Water District is required by the state to monitor supply and demand in addition to recommendations for water conservation in the District's Water Conservation Plan. *Table 3. Population and Water Projections* shows the Water District's estimates for future demand, and the anticipated per capita use. Projections for a reduction in demand for culinary water use are demonstrated through scenarios highlighting the potential expansions of the secondary water supply. The chart demonstrates that if expansion in the secondary water supply system can be accomplished, significant reductions in demand for culinary water can be expected.

The Magna Water District extends beyond the City's boundaries into parts of West Valley City, thus these numbers reflect not only water demand for the City but the entire service area. As part of the General Plan effort, the future land use map for the City was used to create water demand projections for Magna. Today the City accounts for 93% of all parcels that are served by the water district (Culinary). While this gives a general idea of the approximate share of water supply that goes to the City, this is subject to change over time as development progresses in areas inside and beyond the city limits at different rates and intensities.

TABLE 2. FUTURE WATER SOURCE (WATER MASTER PLAN, 2025)

Future Source	Reliable Annual Capacity (acre-ft)	Reliable Culinary Annual Capacity (acre-ft)	Reliable Secondary Annual Capacity (acre-ft)
Additional Reuse Water			713
Additional Shallow Wells			1913
Little Valley (JVWCD Budget)	1,234	1,234	388
Kennecott Foothills (JVWCD Budget)	880	880	235
Subtotal - Future	2,114	2,114	3,249

MAJOR WATER USERS AND LAND USE CONSIDERATIONS

Major water users are an important component of the City's water story. Large landowners, public landowners, and agricultural lands exist within the boundary of the City. These users often present key opportunities for education or reduction of water waste. Magna's protected lands are highlighted in this section, other chapters in the General Plan identify other key lands, especially the Parks, Recreation, and Trails Chapters. The protection comes from unique land ownership which is summarized in *Table 4. Protected Lands*.

The Magna Water District does not service all land within the City boundary. While a considerable portion of the land in the

TABLE 3. POPULATION AND WATER PROJECTIONS (MAGNA WATER DISTRICT WATER CONSERVATION PLAN, 2021)

Provider	Population	Total Use (ac-ft)	Per capita Use (gpcd)	Conservation Goal (gpcd)	Capacity	Projected Demand w/out Secondary Expansion (ac-ft)	Projected Demand w Priority Secondary Expansion(ac-ft)	Projected Demand w Aggressive Secondary Expansion (ac-ft)
Magna Water District Culinary	34,476 (2024)	4,509.29 (2024)	142 (estimate, 2025)	173 (2060)	7,200	7,500	6,300	4,900
Magna Water District Irrigation	1,444 (Connections, 2024)	1,335.11 (2024)	NA1	NA	1,161	6752	2,500	4,900

1. The Conservation Plan does not identify per capita use for irrigation. This should be included in the overall number i.e. the sum of the total use columns divided by the total population of the service district (34,476).

2. The Water Conservation Plan identifies a demand that is lower than the use recorded for the water provider in 2024, the Conservation Plan was published in 2021, three years prior to the Division of Water Rights data point shown in the chart. 675 ac-ft of water is not considered adequate for the demand presently.

northern portion of the city is protected, there are swaths of land that are within the Utah Inland Port Authority Boundary and may develop into industrial or commercial uses in the future beyond the Magna Water District Service area. Industrial development in this area in the future will require either annexation into an existing water provider boundary or other acquisition of water rights and appropriate infrastructure.

AGRICULTURAL AND PROTECTED LANDS

While Magna has some agricultural uses, there are no Agricultural Protection Areas within the City limits. There are considerable portions of land within the city that are zoned as agriculture, however these zones are intended for residential land uses where there are already established residential uses, industrial uses in the northern portions of the city, or as preserved land. For those agricultural areas that remain within the city conservation of the land as agriculture is beneficial to landowners and community members, providing local food or greenspace. There are many protections that can incentivize farmers to maintain land in its current state, primarily using conservation easements or the agricultural protection areas. Property owners can explore options available from the Utah Department of Agriculture and Food at their website.

While agriculture can be an intense water use, there are ways to manage water waste, especially with the use of efficient irrigation systems. The Utah Department of Agriculture and Food and the National Resource Conservation Service maintain lists of resources that are available to farmers. In particular there are rebate programs that incentivize best management practices from irrigation system updates to rotational grazing.

PROTECTED WETLANDS & NATURAL AREAS

The northern portion of Magna has a considerable amount of protected land. Much of this land is located near the Great Salt Lake and the preserved area is meant to mitigate wetland deterioration. The land is intended to be reserved in its natural form, including natural vegetation, which assumes that there will not be significant changes in water use. These protected lands are shown in *Table 4. Protected Lands* which identifies the managing agency and the type of protections they are under. Their geographies are shown in *Figure 5 Protected Lands Map*.

The protected lands identified in *Table 4 Protected Lands* are part of a larger complex of 8,000 acres of conservation lands owned and managed by Kennecott Utah Copper Corporation, Salt Lake Airport Authority, Utah Mitigation Commission, Utah Division of Water Quality, the Nature Conservancy, and the National Audubon Society on the south and east shores of the Great Salt Lake(Utah Mitigation Commission). Much of the protected lands along the Great Salt Lake were acquired by entities to mitigate wetland impacts or preserve land reserved for wetlands and migratory shorebirds. Currently, this complex of protected lands includes over 4,000 acres within Magna City.

TABLE 4. PROTECTED LANDS (MUNICIPAL SERVICES DISTRICT)

Name	Agency	Protection	Land Owner
Magna Copper Park	Magna City	Open Space	Kennecott Utah Copper Corporation
South Shore Preserve	Utah Mitigation Commission	Wetland Conservation	National Audubon Society
Inland Sea Shorebird Preserve	Kennecott Utah Copper Corporation	Wetland Conservation	Kennecott Utah Copper Corporation
Lee Creek Natural Area	Utah Open Lands	Wetland Conservation/ Open Space	National Audubon Society
Utah Open Space Lands	Utah DNR, Utah State Parks, Division of State Lands and Forestry	Variety	State of Utah

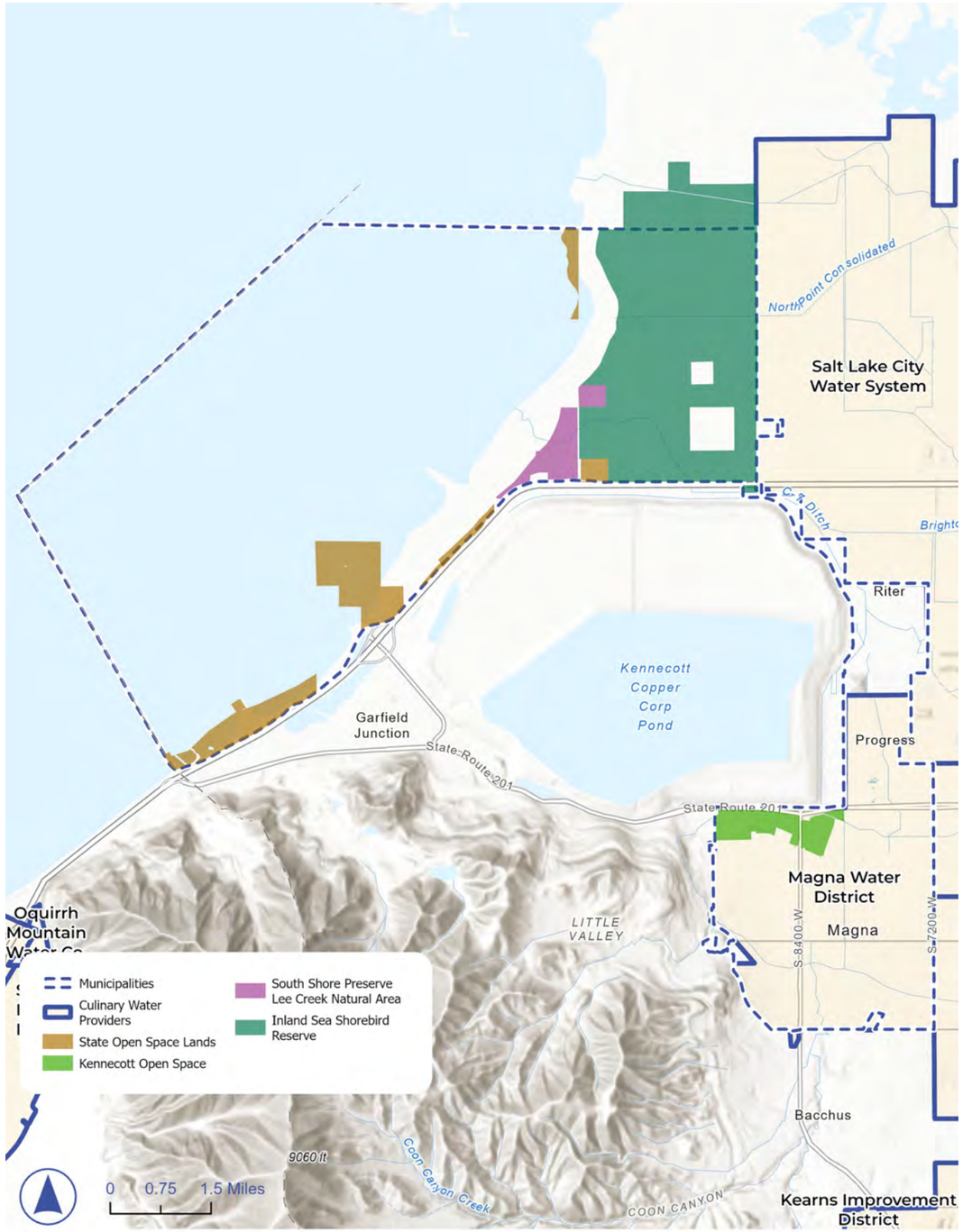

Figure 5. Protected Lands Map

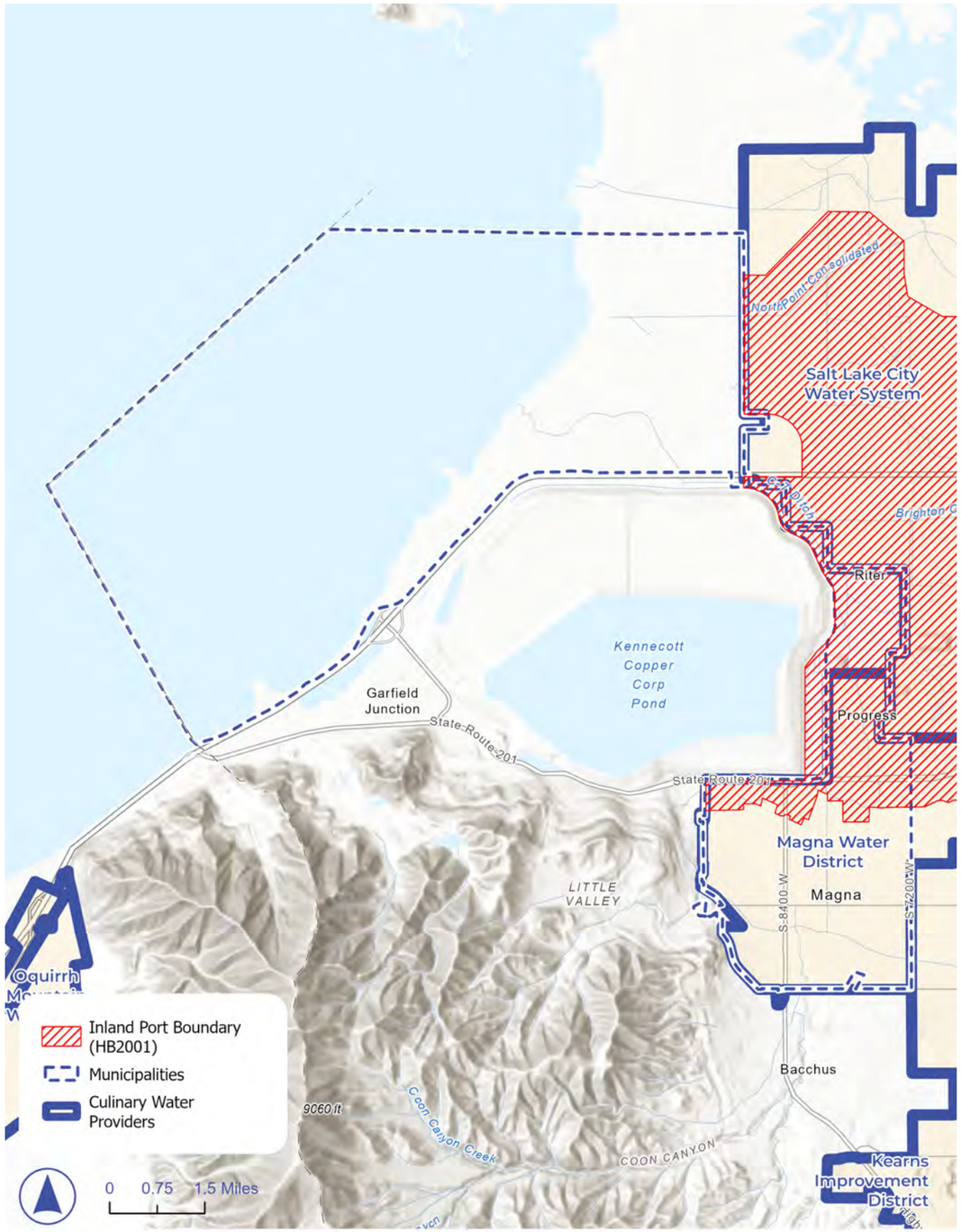

Figure 6. Utah Inland Port Boundary (Source: Salt Lake County)

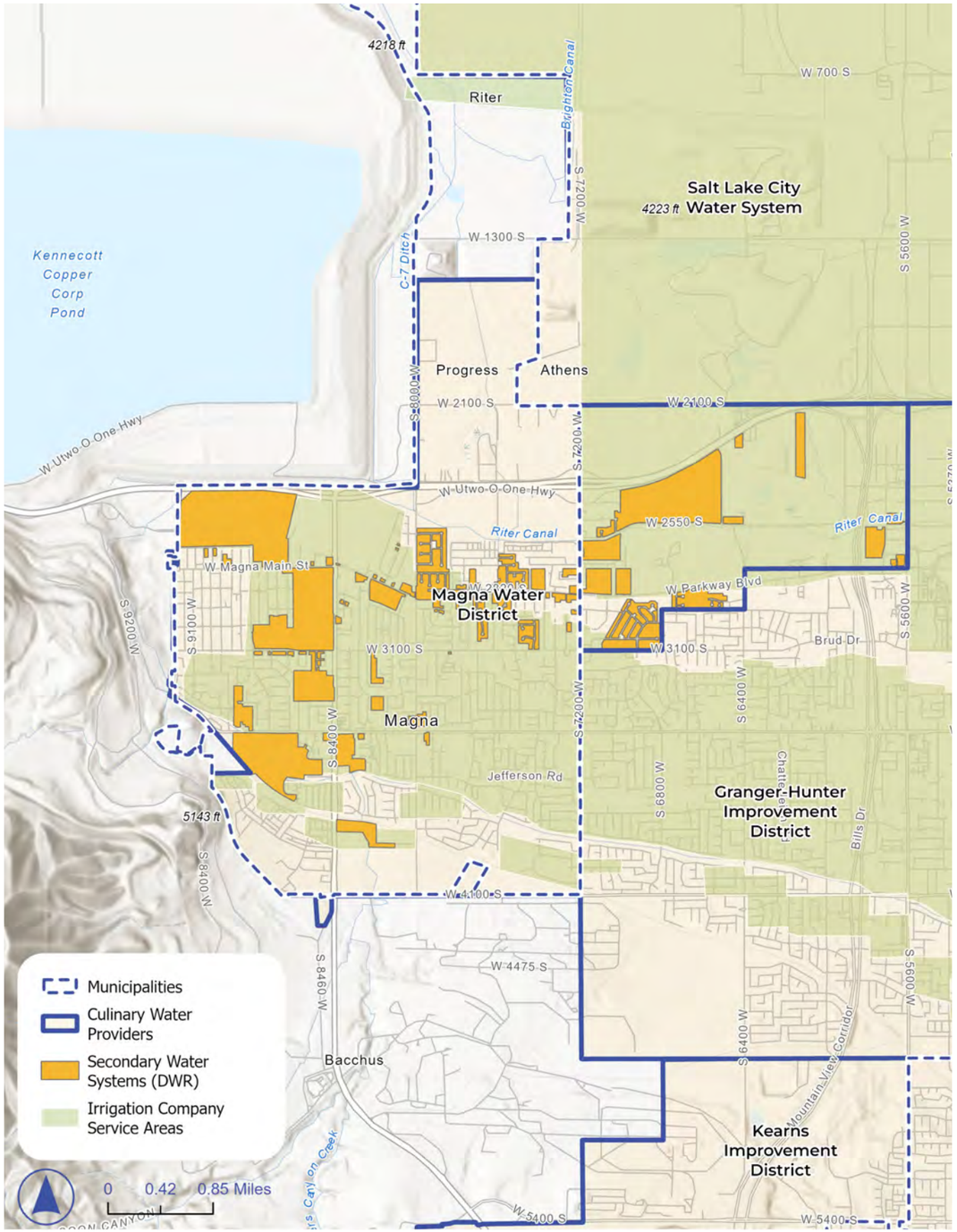

Figure 7. Secondary Water Use (DWR, 2022) and Irrigation Company Service Areas (DWR, 2024)

KENNECOTT OPEN SPACE (INCLUDING MAGNA COPPER PARK)

Magna Copper Park is owned by Kennecott Utah Copper Corporation and leased to, and managed by Magna City. This greater area, including the Copper Club Golf Course, represents a slightly different land use. The public park and golf course include a significant amount of improvements that require water including bathroom and irrigated recreation amenities. The park and golf course footprints account for only a portion of the protected land which is reserved for the use of Kennecott. This may develop in the future and presents another potential opportunity for waterwise landscaping or secondary water systems where appropriate.

UTAH INLAND PORT AUTHORITY

The state of Utah has a unique land use authority arrangement in a portion of the City. This authority is associated with HB 2001 generally this area is expected to see significant industrial growth. This area shown in *Figure 6. Utah Inland Port Boundary* is a portion of the Salt Lake Project Area. A portion of the Inland Port is shown as intersecting a portion of the City serviced by the Magna Water District and a portion of Magna that is not served by any public water providers.

Development in the City that lacks a public water provider must consider the options for providers and the City will need to consider the impact that the uses will have on the City's water demand as a whole, working with the established water provider.

This area is not considered in the overall water supply and demand analysis for this element. Portions of the City that are within the water service boundary and the inland port boundary are considered to be areas of significant potential industrial or commercial growth. The Utah Inland Port Authority is responsible for a phased planning process for the area. The portion highlighted in red in *Figure 6. Utah Inland Port Boundary* is subject to that master planning effort upon its completion. This may impact development patterns and water supply and demand.

CANAL AND IRRIGATION COMPANIES

Magna City is within the service areas of three Canal and Irrigation companies: Utah Lake Distributing Company (59-13), Brighton and North Point Irrigation Company (59-3659), and Utah & Salt Lake Canal Company (58-1753 and 59-3499). Additionally, Magna Water District has an expansive secondary system that serves several properties within city and parts of West Valley City. The District's secondary system sources water from the Utah & Salt Lake Canal Company, the Jordan Valley Water Conservancy District, and several surface wells.

Magna Water District has prioritized secondary water delivery to larger water users, especially institutional users like parks and City or County facilities. Alternative secondary irrigation may be available to property owners that fall within the irrigation service boundaries, if water users maintain shares in the company and infrastructure to divert and use the water.

ANTICIPATED DEMAND AND EXPANSION OF THE SYSTEM

FUTURE DEMAND MODEL FOR MAGNA CITY

Annual and per capita water usage for Magna was modeled at the parcel level, with projections informed by an area of change analysis, future land use designations, and established water use factors. Each parcel was modeled to represent both existing and anticipated future uses, accounting for changes in household and employment numbers where applicable. The output of the model anticipates daily water usage in gallons per day for every parcel in the study area (Magna city limits). These results are aggregated up to understand total daily water usage per day in gallons and can be extrapolated to gallons per capita per day based on population projections and annual water usage.

Areas of Change:

The Areas of Change analysis evaluated development potential by cataloging vacant parcels and identifying redevelopment opportunities. These areas provide the foundation for predicting where future water demand may increase due to new construction or shifts to higher-intensity land uses. In Magna, redevelopment potential was drawn from the 2021 General Plan, focusing on designated Catalytic Areas as the most likely redevelopment locations.

Future Land Use:

Water demand calculations were based on a future land use crosswalk table, which translated each land use into an equivalent residential unit (ERU) factor expressed in gallons per day (GPD). These ERUs are estimates of number of connections unique residential and employment uses have. One residential ERU is equal to an average consumption of 240 gallons per day, while ERU for employment uses is 105 gallons per day.

- Residential land uses were modeled using ERUs per household. Single Family Residential parcels receive 1 ERU per household (in other words one connection per household). One residential ERU is equal to an average consumption of 240 gallons per day. Multi-Family Residential uses receive 0.7 ERUs per household, equating to a lower usage based on smaller footprint and outdoor water use.

- Employment-based land uses were modeled using ERUs in two ways: (1) employees per 1000 Sq. Ft. and (2) ERU per developed acre, depending on the use. For example, recreation and agriculture are ERUs per developed acre due to smaller developed footprints, and demand of water uniformly being consumed more so across the entire parcel. Employees per 1000 Sq. Ft. was used for all other employment land uses as getting an estimate for number of employees based on building footprint fit a better estimate. ERU for employment use is 105 gallons per day, which is 2.28 times less than the ERU for Residential.

- Mixed-use designations applied both methods, incorporating ERUs for dwelling units and ERUs for employment acres.

Water Usage Factors based on Residential and Employment Land Uses are as shown in *Table 5. Water Usage Factors.*

TABLE 5. WATER USAGE FACTORS

Future Land Use	Residential (ERUs)	Employment (ERUs)
Agriculture	0	3 per developed acre
Commercial	0	2 employees per 1000 developed Sq Ft
Historic Commercial	0	2 employees per 1000 developed Sq Ft
Industrial	0	1 employee per 1000 developed Sq Ft
Institutional	0	5 employees per 1000 developed Sq Ft
Mixed-Use	0.7 per dwelling unit	4 employees per 1000 developed Sq Ft
Multi-Family Residential	0.7 per dwelling unit	0
Neighborhood Commercial	0.7 per dwelling unit	2 employees per 1000 developed Sq Ft
Open Space	0	0
Recreation	0	6.4 per developed acre
Residential	1 per dwelling unit	0
Transportation	0	0
Utilities	0	0.5 employees per 1000 developed Sq Ft

Modeling:

The Community Water Projections model is a GIS model that considers 5 geospatial parameters: parcels, land use, building square footage, acres, and areas of change. Parcels came from Salt Lake County's Assessors data, building footprints came from an imagery analysis (to calculate building square footage), land use came from the Municipal Water Districts, and acres were calculated through parcel geometries.

After collecting the spatial inputs, the model utilizes the future land use crosswalk information and infrastructure projections to model water usage for both indoor and outdoor use by land use type.

Results:

Figure 8. Magna Future Water Use are the results of the Community Water Projections modeling for Magna:

Based on these future projections, the city will have a per capita water use of 129.3 by the year 2065. This is well within the target for the Conservation Plan and the Regional Goal. The district will likely have a capacity of nearly 4,400 Mgal per year by 2065. The land use and water projections used in this plan element show that current growth projections will require 2,050 Mgal per year assuming conservation efforts identified in this and the Conservation Plan. The city may account for a relatively smaller portion of overall water use in the district moving into the future, especially as the District annexation areas continue to grow. Based on this analysis the City's demand alone will be approximately half of the available water in 2065.

This analysis does not include areas beyond the current Water District boundary. While the northern portion of the City may develop, it is anticipated that this development will primarily be commercial and industrial, and that the Utah Inland Port Authority Plans will apply. This development would require water rights and infrastructure including distribution, storage, and treatment. This analysis shows that significant development in northern Magna would potentially tax water resources and likely require significant effort on the part of developers.

This analysis does not explicitly include areas beyond the City's current boundaries. The Magna Water District anticipates annexing these areas and sourcing water from the Jordan Valley Water Conservancy District. This would naturally limit water considerably in these areas. According to the Manga Water District Master Plan:

> *If annexed into Magna Township, Little Valley and Kennecott Foothills have access to 1.35 acre-ft/acre of culinary water from JVWCD. If these developments fulfill certain conservation requirements from JVWCD they can qualify for up to 1.65*

TABLE 6. MAGNA 2065 WATER USAGE

Future Land Use	Total GPD	Employment Indoor GPD	Employment Outdoor GPD	Residential Indoor GPD	Residential Outdoor GPD
Commercial	2,346.71	1,408.02	938.68	-	-
Historic Commercial	382,719.14	153,167.49	102,111.66	82,836.00	44,604.00
Industrial	153,205.42	91,923.25	61,282.17	-	-
Institutional	1,689,065.60	1,013,295.36	675,530.24	156.00	84.00
Mixed Use	618,937.29	179,774.60	119,849.73	246,504.59	132,733.24
Multi-Family Residential	489,722.49	-	-	318,319.62	171,402.87
Open Space	-	-	-	-	-
Recreation	111,859.87	11,185.99	100,673.89	-	-
Residential	2,168,382.09	-	-	1,409,448.36	758,933.73
Utilities	2577.32442	1288.66221	1288.66221	0	0
Total	5,618,816	1,452,043	1,061,675	2,057,265	1,107,759

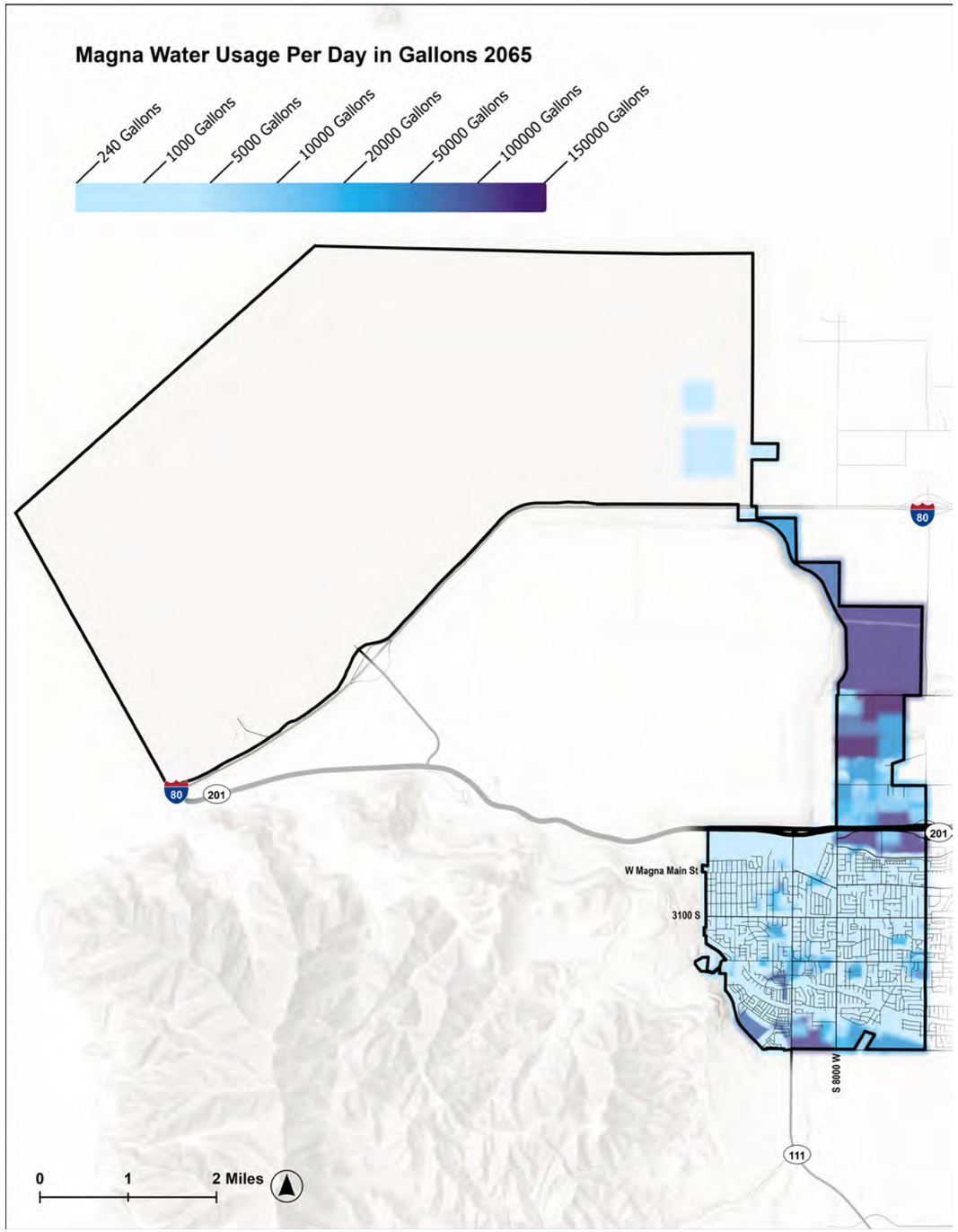

Figure 8. Magna Future Water Use

acre-ft/acre. This equates to 1,115 acre-ft/yr for Kennecott Foothills and 1,622 acre-ft/year for Little Valley. It has been assumed that this water will be used first to service culinary needs with any additional available water used in the secondary system.

In the case of any future annexations, Magna should update this plan element to include this water source and demand.

ANTICIPATED DEMAND IN THE MAGNA WATER DISTRICT

Magna is anticipated to grow quickly over the next 45 years. *Figure 8. Magna Future Water Use* and *Figure 9. Culinary water Production* Requirements shows the anticipated demand and capacity up to the year 2060. Secondary expansion is a crucial piece of the District's plan to meet future demand, by reducing the amount of treated water used for outdoor use. Per capita water use in Magna is already within the goal GPCD use for the region however the District Water Conservation plan also highlights a goal of additional reduction. The expansion of their conservation programs is anticipated but will not adequately address reduction to future demand without secondary water expansion.

Secondary Expansion

To ensure future water needs are met, Magna Water District is investing in the expansion of its secondary water system. The expansion of the secondary system is crucial for the district to continue to serve future growth and development for the future. Currently, the District does not have adequate secondary sources to meet an aggressive expansion scenario for the long-term. Key to this aggressive expansion scenario will be improvements to the water treatment facility. The district has already worked to secure grant funding from a variety of sources to make this expansion a reality.

Secondary Expansion Scenarios:

1. Aggressive Expansion: This scenario assumes that secondary water will be expanded to all of the existing service area within Magna Water District by the year 2040. The secondary system will continue to grow at the pace of development thereafter. This scenario is designed to represents what would happen if the District were to make expansion of the secondary system a top priority and invest significantly in expansion through its service area.
2. Priority Expansion of Secondary: Because expansion of the secondary system is expected to require significant initial investment, it was deemed prudent to consider a scenario with less aggressive expansion of the system. This scenario assumes that secondary water will be expanded only to new growth or as necessary to offset the culinary demands of new growth within the District. Under this scenario, expansion of the secondary into existing developments within the service area would only occur as more cost-effective opportunities arose. This means that the District would connect dry lines already in place but would otherwise wait to install secondary in existing neighborhoods until the County was rebuilding the streets. (Magna Water District Water Master Plan, 2020)

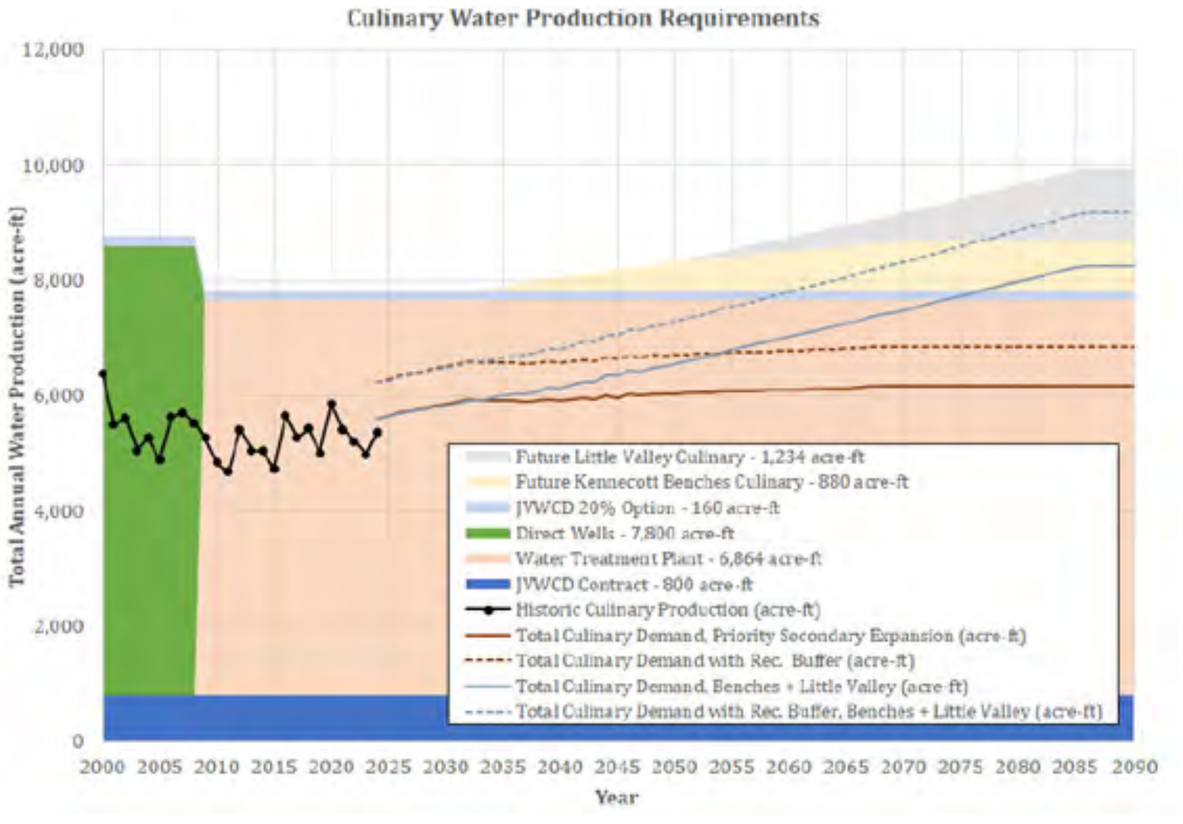

Figure 9. Culinary Water Production Requirements (Water Master Plan, 2025)

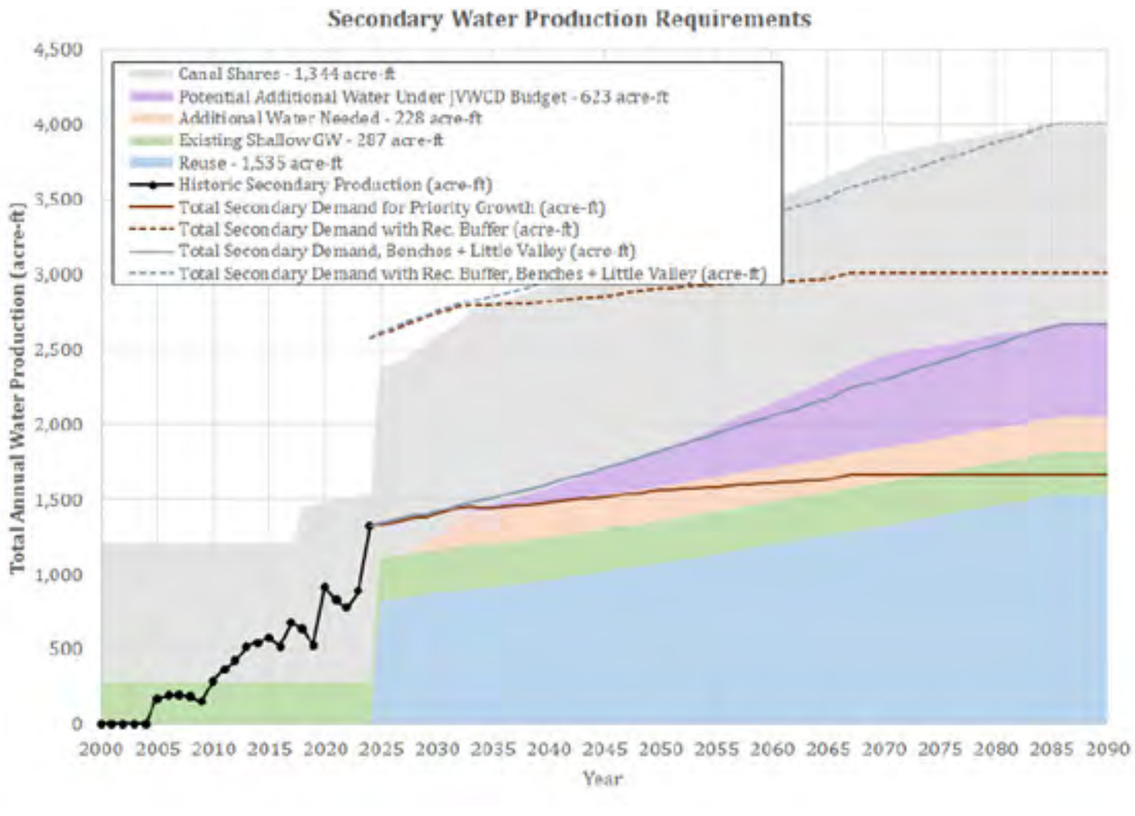

Figure 10. Secondary Water Production Requirements (Water Master Plan, 2025)

The District has supported the priority scenario for secondary expansion. This means that expansion of secondary water will be particularly important in areas of annexation as identified in the District's Water Master Plan. These areas are shown in *Figure 11. Potential Annexation Areas*. A major source of secondary water will be the effluent water from the District's wastewater treatment plant. Expansion of the system will require significant capital improvements including improvements to the wastewater treatment plant and secondary storage.

The District's Master Plan has expanded the service area annexation boundaries in the last 5 years. This indicates the development activity that is happening in unincorporated Salt Lake County adjacent to Magna. The Magna Water District has worked closely with Kennecott planning personnel to identify approximate growth rates in these areas, however information is limited.

These areas of interest should the City undergo an annexation process. Currently the areas are subject to Salt Lake County zoning and subdivision regulations, meaning that the City has no direct control over the layout of this new development, including key features like lot size and landscaping requirements that directly relate to water use. While annexation of these areas into the City is not a certainty, there are other options, including working with the County,

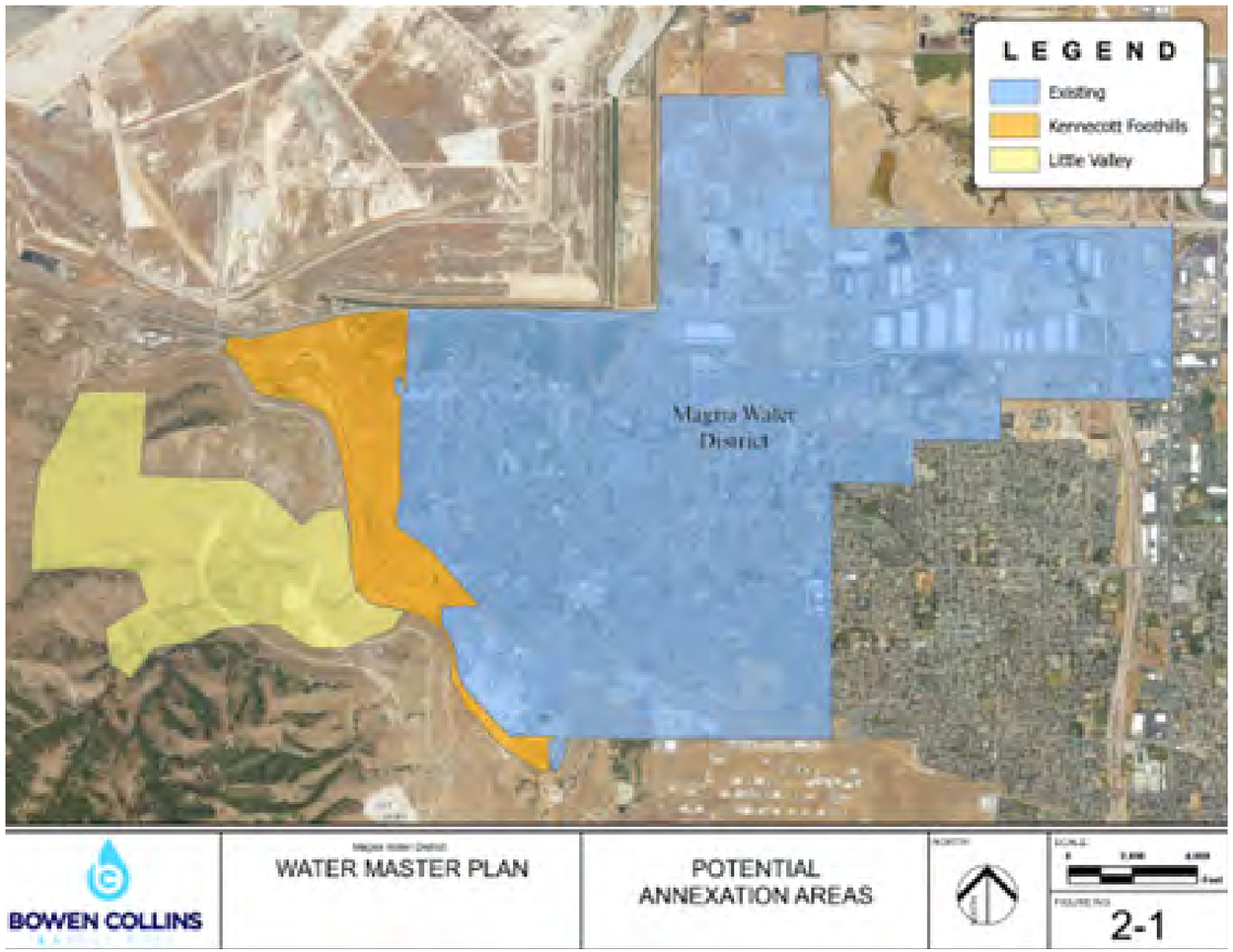

Figure 11. Potential Annexation Areas (Magna Water District Water Master Plan, 2025)

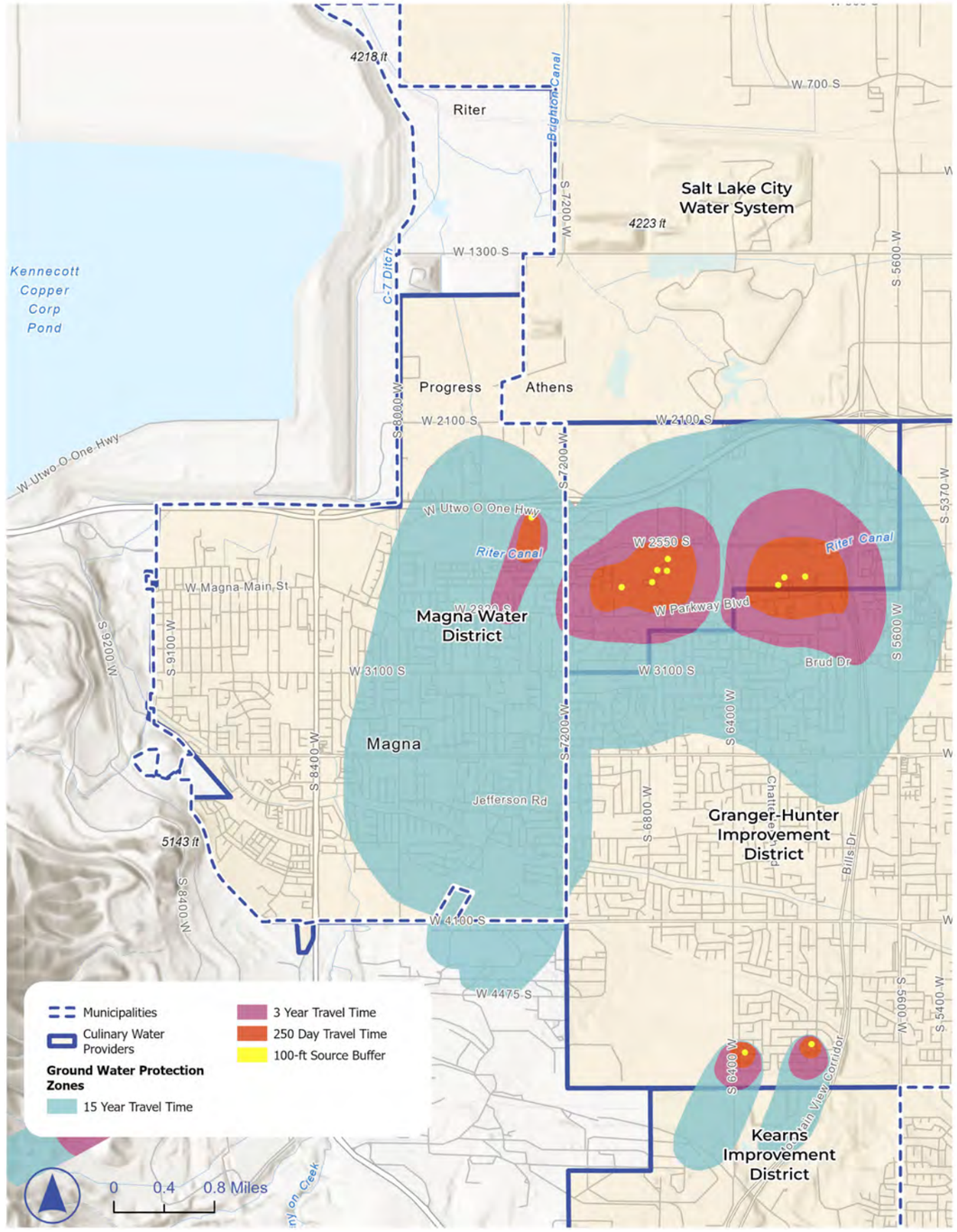

Figure 12. Source Water Projection Zones

Kennecott, and the Water District to apply certain regulations that may align with Magna's land use regulation in the future.

CONSERVATION TODAY

The District's Water Conservation Plan highlights several conservation methods that are already being carried out in the city that supplement the secondary water improvements. These conservation methods are a key piece of the overall strategy to conserve water and ensure continued availability for existing and future residents and businesses. Some key actions are as follows:

PROTECTING MAGNA'S WATER SOURCES

Identified culinary water source protection zones are shown on *Figure 12. Source Water Protection Zones*. These protection zones are established to ensure that no concentrated source of pollution is allowed within a zone that will adversely impact the quality of culinary water.

Primarily protections in these areas are specific to onsite wastewater disposal systems but may also include review of septic tanks, hazardous waste, and fertilizer use within the areas identified in *Figure 11. Potential Annexation Areas*. Magna Water District maintains the Water Quality report, ensuring that culinary water in the system meets all state and federal drinking water quality guidelines.

PROVIDER PROGRAMMING

Tiered Water Rates

Magna Water District has long promoted water conservation through its tiered rate structures and incentives for using secondary water where available. In 2019, the District updated its Master Plan, Impact Fee Facilities Study, and conducted a new Rate Study, with the updated rates adopted in April 2021 and scheduled to take effect in January 2022. The tiered system encourages efficient water use by charging higher rates as usage increases and incentivizing secondary water use to, supporting both conservation and sustainable management of water resources.

Public Education and Outreach

Magna Water District is committed to transparency and to helping customers adopt effective water conservation practices. The District fosters this through open Board meetings, annual consumer confidence reports, monthly water statement communications, and an open-door policy with the District Manager.

In addition, the District provides a variety of public outreach and education programs, including:

- News releases, conservation tips, newsletters, and other resources available on the District's website (https://magnawater.myruralwater.com/)
- Guidance for customers on managing their water needs
- Updates on the implementation of low-flow devices
- A partnership with Jordan Valley Water Conservation District (JVWCD) to offer conservation and landscaping classes for local residents
- School programs that teach students gardening and flower bed techniques

Meter Replacement

To improve efficiency and service, the District is upgrading its water meters to state-of-the-art automated reading technology. These new meters reduce field work orders by an estimated 15%, improve accuracy in water usage reporting, enhance customer service and response times, and free up staff for other innovative projects. To date, about 60% of meters over ten years old have been replaced with Neptune Technology Group's latest technology. Older meters still in use are maintained quarterly to ensure accurate monitoring of customer usage.

Drought Response

Since adopting its official Water Conservation Plan in 1999 (per Utah Code § 73-10-32), Magna Water District has maintained a framework to promote the efficient use of water and to safeguard this critical resource. The District's conservation policies include year-round guidelines as well as tiered restrictions that can be activated during drought or emergency conditions.

Conservation Framework:

- Level 1 – Voluntary Conservation (Always in Effect): Encourages customers to use water wisely through tiered pricing, education, and voluntary practices such as avoiding outdoor watering between 10:00 a.m. and 6:00 p.m., using efficient sprinklers, drought-tolerant landscaping, and low-flow fixtures.
- Level 2 – Mandatory Conservation: May restrict watering to specific times or days. Violations result in warnings and escalating fees to encourage compliance.
- Level 3 – Mandatory Restrictions: May include higher water rates, temporary bans on new lawns, or other limits to reduce overall water use during shortages.
- Level 4 – Emergency Restrictions: The most severe level, which may ban or strictly limit outdoor watering. Repeated violations can result in significant penalties and potential suspension of service.

TABLE 7. WATER WASTE IN MAGNA SECONDARY WATER SYSTEM

Year	Total From Sources	Total Metered Use	*Estimated Unmetered Water and Losses %
2024	1,335.11	809.29	39.38
2023	887.29	594.85	32.96
2022	776.26	508.23	34.53
2021	827.00	443.59	46.36
2020	918.27	602.66	34.37
2019*	521.44	462.28	11.35

**Water metering data became available in 2019, years prior do not have water loss data.*

TABLE 8. WATER WASTE IN MAGNA CULINARY WATER SYSTEM

Year	Total From Sources	Total Retail Use	Total Wholesale	*Estimated Water Loss %
2024	6,135.32	4,509.29	630.04	16.23
2023	5,555.30	3,990.59	573.47	17.84
2022	5,816.11	3,959.66	609.97	21.43
2021	6,014.23	4,216.40	604.19	19.85
2020	6,519.42	4,664.23	656.13	18.39
2019	5,554.28	3,689.67	553.68	23.60
2018	5,940.34	4,187.09	522.33	20.72
2017	5,808.41	4,030.82	582.91	20.57
2016	6,173.76	4,076.14	623.88	23.87
2015	5,068.97	4,159.25	0.00	17.95
2014	4,920.97	4,108.80	0.00	16.50

REDUCING WATER WASTE

In 2024 and in previous years, there has been a considerable amount of unmetered or waste in the District's secondary system. These percentages have grown, likely reflecting that metering is not keeping up with system expansion. Continued expansion of secondary water metering can significantly reduce the amount of water that is not accounted for. Additionally, water metering is shown to reduce per capita water use regardless of cost to consumer. The expansion of water metering thus is a critical piece of water conservation now and in future development in the City.

The culinary system also has gaps in monitoring or has a significant amount of water lost in distribution. Identification of leaks or other system improvements to decrease water loss is a high priority in the culinary system as well.

LAND USE CONNECTION

Secondary Water System Expansion

The secondary water system is the largest program within Magna Water District. Unlike many secondary systems in Utah, which often experience water waste and misuse due to the absence of accurate measurement tools, the District's system is unique because every user is equipped with a water meter. This universal metering has not only supported significant water conservation efforts but also enabled ongoing monitoring and management of usage, resulting in a substantial reduction in overall water consumption.

Ordinances/Standards

While the District does not have direct land use authority, it partners with Salt Lake County, Magna City, and West Valley City to promote water-wise landscaping. In 2004, the District worked with West Valley City to develop a Landscape Ordinance that incorporates conservation principles.

Magna's landscape ordinance was adopted in 2023 and was based closely on guidance from the Jordan Valley Conservancy District LocalScapes concept at the time. The ordinance applies to new development, building additions (greater than 20% increase in building coverage), and some requirements for building renovations that replace previous landscaping.

The ordinance includes significant restrictions to turf grass in all land uses, with more extensive restrictions on multi-family and commercial uses and a relatively restrictive water efficiency standard. Landscape plans must show a water allowance of no more than fifteen inches per square foot average for the entire landscaped area of the site. Multiplying this figure by the total irrigated landscape area in square feet yields the annual water budget for landscape use for the property. (A conversion factor of 0.62 shall be used to convert from inches of water utilized to gallons.) This efficiency standard incentivizes the use of hydrozones that group plant with similar water needs together on the same irrigation line, thus using more water per square foot for turf grass and relatively less for areas with waterwise plantings and mulch or alternative surface cover.

The LocalScapes concept has evolved over time, but focuses on functional spaces, separation of irrigation areas into hydrozones, reduction of turf grass to functional areas only, use of native or waterwise decorative plants, and efficient maintenance. The *Figure 13. Localscape Example Design* highlights an example of a LocalScape design. The Magna Landscape Ordinance does not call for restrictions to rear yards in single-family homes but does regulate all yards in commercial and multi-family development. *Figure 13. LocalScape Example Design* highlights options for all yard space in a single-family development; however, this is not required by the ordinance.

The ordinance and many of the water-wise and LocalScape design elements emphasize the importance of plant coverage. It is important to reduce water use, however, reducing plant coverage entirely increases the ground temperatures posing a health risk to residents and potentially increasing energy use indoors to maintain comfortable temperatures. The landscape ordinance calls for 30% living plant coverage (3 years after planting) at the ground level, excluding tree canopy coverage.

New plantings require additional water during the first several years after planting. After installation of a new landscape, there is a period of increased water need as new plants are established. The type of plant, maturity of the plant, location, and appropriate planting procedure all factor into the amount of water that is required in the early days of a developed landscape.

Figure 13. LocalScape Example Design (Source: MSD)

CONSERVATION FOR FUTURE GROWTH

Expansion of Secondary Water System

The Magna Water District supports the priority secondary water expansion scenario. This approach includes additions to the distribution system as development occurs with incremental additions to established neighborhoods as the City and County replace, maintain, and improve roadways over time. This approach balances the expansion of secondary water with consideration for cost and integration of new secondary sources over time.

Funding Expansion for Water Conservation Coordinator

Magna Water District does not have available resources or revenue to hire a single water conservation coordinator devoted to water conservation programs but rather relies on the cooperative efforts within the district. Looking to the future, additional coordination between Magna City and Magna Water District will be crucial for ongoing water conservation.

Photo Credit: © 2025 LOGAN SIMPSON

GOALS AND STRATEGIES

GOAL I.

Actively contribute to water conservation as a part of the Salt Lake region, protecting the health and safety community members today and in the future.

STRATEGY 1.

Align City land use policy with neighboring jurisdictions, service providers, and the preferences of community members to encourage development patterns that reduce water consumption.

Action i. Meet regularly with Magna Water District, West Valley City, Jordan Valley Conservancy District, Salt Lake County, and large land owners to assess development review processes, identify new large developments, and to ensure that development addresses the constraints of the water district.

Action ii. Consider interlocal agreements that may allow a joint city, county, and service provider representation for development review in areas that may reasonably be annexed into the City. The joint board or administrator should consider differences in the water budget/water allowance and the minimum front and side-street yard setbacks between county and city regulations, identifying which regulations should apply.

STRATEGY 2.

Ensure that Magna's ordinances allow for water conservation through appropriate site development standards.

Action i. Where applicable, the Magna Water District should be included in the certification of improvements submitted for a final plat application. The Water District may make recommendations about setbacks and street design that ensures sufficient space for secondary and culinary water.

STRATEGY 3.

Encourage best landscaping practice that reduces outdoor water use.

Action i. Consider retrofitted landscaping in public parks or institutional buildings to reduce water use and to showcase options for waterwise landscaping that are dynamic and attractive.

Action ii. Review the City's subdivision and zoning ordinances, linking to recommended native plant lists, and other landscaping resources regularly as new water-wise guidance becomes available from Utah State University, Jordan Valley Water Conservancy District, and other reputable sources.

Action iii. Encourage municipal landscape contracts with companies that are Qwel Certified or those that have successfully completed relevant classes from the Jordan Valley Conservancy District or the UNLA on public and private land.

Action iv. Provide educational options for the community and developers during the application process identifying alternative turf grass options like buffalograss, Bermudagrass, and Fescues, encourage visitation to demonstration gardens and local landscape classes, and use of template landscape designs from Jordan Valley Conservation Garden Park.

STRATEGY 4.

Reduce water waste.

Action i. Work with the Magna Water District to encourage the use of smart metering, increasing awareness of resources that private property owners have to view their water use daily.

Action ii. Align infrastructure improvements between the City, county, and service providers, encouraging the expansion of secondary lines when there are scheduled road improvements and replacing aging infrastructure when redevelopment or other improvements are already planned.

Action iii. Identify unaccounted water losses that are associated with new development. Confer with the water providers on how to reduce water waste in construction and work with developers throughout the planning and development process to reduce water waste.