



**Planning and Development Services**  
860 Levoy Drive, Suite 300 • Taylorsville, UT 84123  
Phone: (385) 910-5600

## Kearns Planning Commission

### Public Meeting Agenda

**Monday, October 6, 2025, 6:00 P.M.**

#### **Location**

##### **Microsoft Teams**

[https://teams.microsoft.com/l/meetup-join/19%3ameeting\\_MjZINzFmMTktODE5MS00NmJhLWI2MGQtZmVhMjNIYmNhZjcz%40thread.v2/0?context=%7b%22Tid%22%3a%22fac3e0b8-c4a6-4120-b366-ee6cb2fb76a8%22%2c%22Oid%22%3a%22f8a001a5-21cc-482a-9f5a-682bacd87641%22%7d](https://teams.microsoft.com/l/meetup-join/19%3ameeting_MjZINzFmMTktODE5MS00NmJhLWI2MGQtZmVhMjNIYmNhZjcz%40thread.v2/0?context=%7b%22Tid%22%3a%22fac3e0b8-c4a6-4120-b366-ee6cb2fb76a8%22%2c%22Oid%22%3a%22f8a001a5-21cc-482a-9f5a-682bacd87641%22%7d)

Meeting ID: 259 277 396 396 7

Passcode: tQ3sG6hi

##### **Dial in by phone**

[+1 213-357-4434,,857115854#](tel:+12133574434,,857115854#) United States, Los Angeles

##### [Find a local number](#)

Phone conference ID: 857 115 854#

**Anchor Location**    **KEARNS ATHLETIC TRAINING AND EVENT CENTER**  
**5658 SOUTH COUGAR LANE**  
**MEETING ROOM**

**UPON REQUEST, WITH 5 WORKING DAYS NOTICE, REASONABLE ACCOMMODATIONS FOR QUALIFIED INDIVIDUALS MAY BE PROVIDED. PLEASE CONTACT WENDY GURR AT 385-468-6707.**  
**TTY USERS SHOULD CALL 711.**

The Planning Commission Public Meeting is a public forum where, depending on the agenda item, the Planning Commission may receive comment and recommendations from applicants, the public, applicable agencies and MSD staff regarding land use applications and other items on the Commission's agenda. In addition, it is where the Planning Commission takes action on these items, which may include: approval, approval with conditions, denial, continuance or recommendation to other bodies as applicable.

### **BUSINESS MEETING**

- 1) Welcome and approval of the agenda. (Motion/Voting)
- 2) **Commissioner Discussion and Staff Assignments:** this standing agenda item allows Planning Commissioners the opportunity to raise and discuss important issues related to current and long range planning in Kearns. The Commission may direct assignments to planning staff related to discussion items. (Discussion and Staff Direction: Planning Staff)
- 3) Approval of August 4, 2025, Planning Commission Meeting Minutes. (Motion/Voting)
- 4) Other Business Items. (As Needed)

**PUBLIC HEARING(S)**

**OAM2025-001490** – General Plan update to adopt the Water Element Plan. **Planner:** Bianca Paulino (Discussion/Recommendation)

**ADJOURN**

# **Rules of Conduct for Planning Commission Meetings**

## **PROCEDURE FOR PUBLIC COMMENT**

1. Any person or entity may appear in person or be represented by an authorized agent at any meeting of the Commission.
2. Unless altered by the Chair, the order of the procedure on an application shall be:
  - a. The supporting agency staff will introduce the application, including staff's recommendations and a summary of pertinent written comments and reports concerning the application
  - b. The applicant will be allowed up to 15 minutes to make their presentation.
  - c. The Community Council representative can present their comments as applicable.
  - d. Where applicable, persons in favor of, or not opposed to, the application will be invited to speak.
  - e. Where applicable, persons opposing the application, in whole or in part will be invited to speak.
  - f. Where applicable, the applicant will be allowed 5 minutes to provide concluding statements.
  - g. Surrebuttals may be allowed at the discretion of the Chair.

## **CONDUCT FOR APPLICANTS AND THE PUBLIC**

1. Speakers will be called to the podium by the Chair.
2. Each speaker, before talking, shall give his or her name and address.
3. All comments should be directed to the Commissioners, not to the staff or to members of the audience.
4. For items where there are several people wishing to speak, the Chair may impose a time limit, usually 3 minutes per person, or 5 minutes for a group spokesperson. If a time limit is imposed on any member or spokesperson of the public, then the same time limit is imposed on other members or spokespersons of the public, respectively.
5. Unless otherwise allowed by the Chair, no questions shall be asked by the speaker or Commission Members.
6. Only one speaker is permitted before the Commission at a time.
7. The discussion must be confined to essential points stated in the application bearing on the desirability or undesirability of the application.
8. The Chair may cease any presentation or information that has already been presented and acknowledge that it has been noted in the public record.
9. No personal attacks shall be indulged in by either side, and such action shall be sufficient cause for stopping the speaker from proceeding.
10. No applause or public outbursts shall be permitted.
11. The Chair or supporting agency staff may request police support to remove offending individuals who refuse to abide by these rules.
12. After the public comment portion of a meeting or hearing has concluded, the discussion will be limited to the Planning Commission and Staff.



**Meeting Body:** Kearns Planning Commission

**Meeting Date:** October 6<sup>th</sup>, 2025

**File Number & Project Type:**  
OAM2025-001490

This amendment adopts the Water Use & Preservation Element as a new chapter of the Kearns General Plan, ensuring compliance with state law and aligning future land use with available water resources and conservation goals.

**Planner:** Bianca Paulino

**Applicant:** N/A

**Key Findings:**

**Finding 1:** Adoption of the Water Use & Preservation Element is required under Utah Code §10-9a-403.

**Finding 2:** Projected growth can be supported by existing and planned water supplies if conservation goals are met.

**Finding 3:** The Element aligns the General Plan with sustainability and resource management goals.

**Staff Recommendation:** Staff recommends the Planning Commission forward a recommendation of approval of the Water Use & Preservation Element as an amendment to the Kearns General Plan.

**Exhibits:** Kearns Water Element Draft

# Ordinance Amendment

## PROJECT DESCRIPTION

The proposed action is the adoption of the Water Use & Preservation Element as a new chapter of the Kearns General Plan. This update is required by Utah Code §10-9a-403 and ensures that the City coordinates land use planning with available water resources. The Water Use & Preservation Element documents existing supply, projected future demand, and establishes conservation strategies. Adoption will impact all properties in Kearns by ensuring new and existing development is supported by sustainable water resources.

## ISSUES/CONCERNS

### **Issue 1:** State law compliance

**Analysis:** Utah Code requires municipalities to adopt a General Plan Water Use & Preservation Element. Without it, the City risks noncompliance. Adoption addresses this by providing an up-to-date element with provider coordination, supply and demand modeling, and conservation strategies.

### **Issue 2:** Growth and water demand

**Analysis:** Projected growth could increase water demand. The Water Use & Preservation Element demonstrates that even at full build-out, per capita demand remains within regional conservation goals. Land use policies and water-wise ordinances provide tools to maintain efficiency.

### **Issue 3:** Regional water conservation

**Analysis:** The health of the Great Salt Lake and regional air quality are tied to water conservation. The Water Use & Preservation Element strengthens Kearns' local landscaping standards, tiered rates, and coordination with water providers to reduce waste at the community level, while also advancing shared regional goals.

## GENERAL PLAN CONSIDERATIONS

The proposed amendment adopts the Water Use & Preservation Element as a new component of the Kearns General Plan. While not previously included, this Element is required under Utah Code §10-9a-403 and will serve as an addition to the adopted General Plan (2020).

The Element draws upon the Future Land Use Map (pp. 28–35, Kearns General Plan, 2020) to model anticipated growth and ensure it can be supported with available water resources. Adoption aligns the General Plan with state law and strengthens the Plan's goals for sustainability, resource management, and coordinated land use planning.

## APPLICABLE FACTORS FOR CONSIDERATION

Table 19.16.080 includes the following guidelines a planning commission and Council may consider in deciding zoning map and text amendments:

GUIDELINES FOR CONSIDERING ZONING TEXT AMENDMENTS
The proposed amendment is compatible with the Adopted General Plan.
The proposed amendment promotes the public health, safety and welfare.
The proposed amendment is compatible with the intent and general purposes of this Ordinance.
The proposed amendment corrects an error or omission, adds clarification to existing requirements, or reflects a change in policy.
The proposed amendment benefits the citizens of the Municipality as a whole.
The proposed amendment does not create a significant number of nonconformities.

## PUBLIC INPUT

Planning Staff has not received any comments from the public as of the completion of this staff report. Any comments that are received will be forwarded to the Kearns Planning Commission for review and will be summarized on October 6<sup>th</sup>, 2025.

## ANALYSIS AND RECOMMENDATION

### Analysis and Summary:

The proposed amendment adopts the Water Use & Preservation Element as a new chapter of the Kearns General Plan, fulfilling the requirements of Utah Code §10-9a-403. This Element was drafted in coordination with the Kearns Improvement District (KID) and Taylorsville-Bennion Improvement District

(TBID) to ensure that anticipated growth reflected in the Future Land Use Map can be supported by available water resources.

Key issues included ensuring compliance with state law, addressing long-term conservation goals, and coordinating land use with provider capacity. During the drafting process, staff incorporated feedback from providers and key stakeholders, integrated updated water conservation goals, and aligned ordinance references with the City's adopted landscaping standards. The Element demonstrates that projected demand at full build-out remains within regional conservation targets, and that ongoing ordinance updates, conservation programs, and interagency coordination will maintain system reliability.

**Recommendation:**

Staff recommends the Planning Commission forward a recommendation of approval of the Water Use & Preservation Element as an amendment to the Kearns General Plan.

**PLANNING COMMISSION OPTIONS:**

As a recommending body to the Council for zoning map amendments and text changes, the planning commission has the following options:

1. **Approval:** The planning commission recommends approval of application OAM2025-001490 to adopt the Water Use & Preservation Element as an additional chapter to the General Plan.
2. **Approval with changes:** The planning commission recommends approval of application OAM2025-001490 to adopt the Water Use & Preservation Element as an additional chapter to the General Plan.
3. **Denial:** Having considered the Guidelines for Zoning Text Amendments contained in Chapter 19.16 of the City of Kearns zoning ordinance, the planning commission recommends denial of application OAM2025-001490 to adopt the Water Use & Preservation Element as an additional chapter to the General Plan.

## Kearns Water Element

The General Plan Water Element is an opportunity for the municipalities in the state to coordinate their land use with the goals and supply of their water providers. Kearns is a small community and is primarily served by the Kearns Improvement District (KID) and the Bennion-Taylorsville Improvement District. The Water Element highlights what water resources are currently available in the City and what will be needed based not just on population projections, but also on the changes that the General Plan Future Land Use map and other policies.

Crucial to understanding the state of water in the City is engagement with local water providers. Key to consolidating and prioritizing information, recommendations, and policies is coordination with water providers and major water users. In the development of this water element Kearns Improvement District and Taylorsville-Bennion Improvement District were consulted in a series of meetings. This coordination effort allows the City to better anticipate the challenges that development will pose to provision of this key resource.

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 the City's government operations to reduce and eliminate water waste.

Thank you to our collaborators:

- Kearns Improvement District
- Taylorsville-Bennion Improvement District

## Water Resources

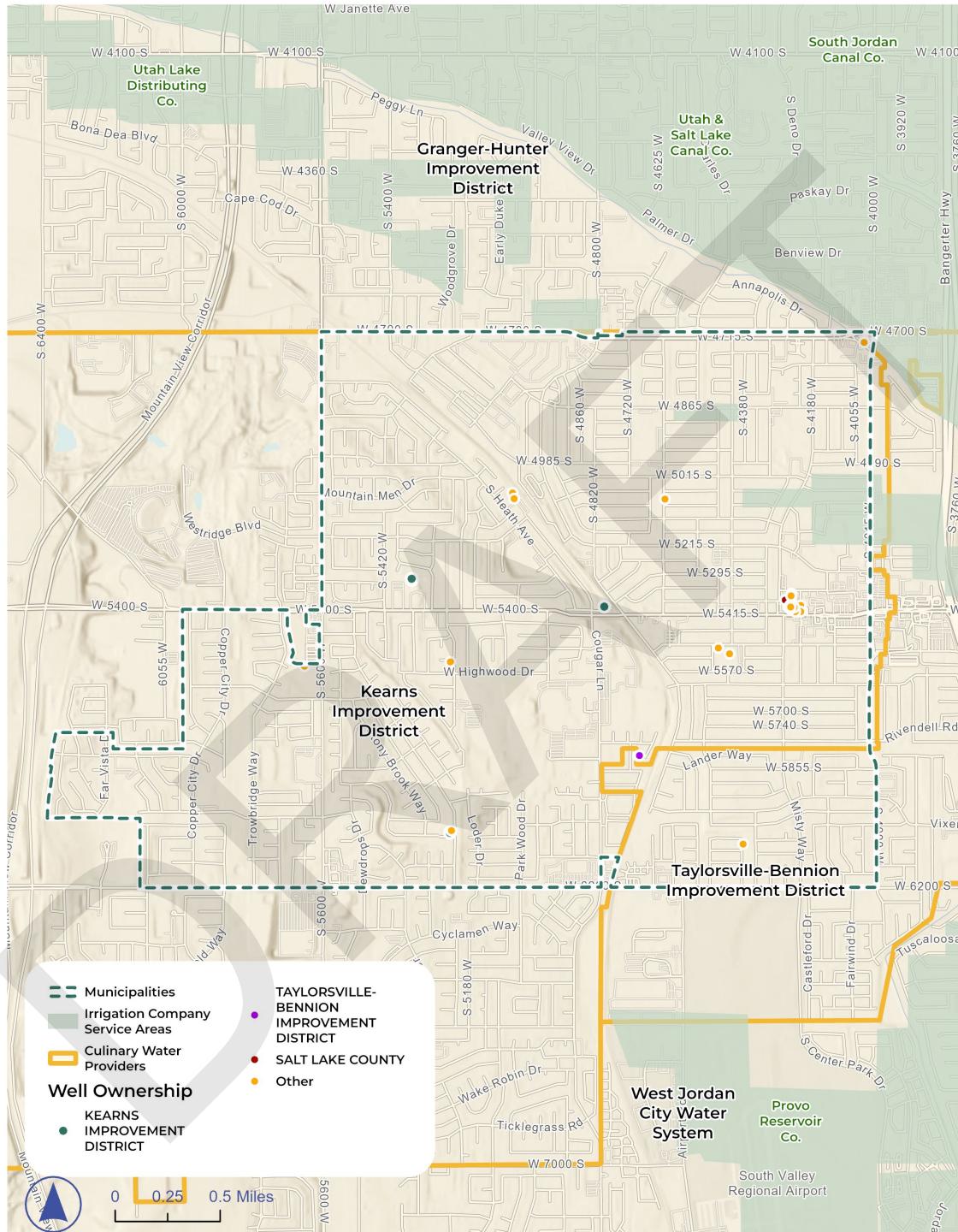


Figure 1. Water Resources Overview

### Existing Water Resources

Kearns residents are served by two public water providers, the Kearns Improvement District (KID) and the Taylorsville-Bennion Improvement District. KID serves the majority of the City

and portions of surrounding areas within West Valley, Taylorsville, West Jordan, and unincorporated Salt Lake County. Sources for Kearns Improvement District and Taylorsville Bennion Improvement District include:

- Jordan Valley Conservancy District wholesale agreement
- 12 Kearns Improvement District Deep Wells
- 9 active Taylorsville-Bennion Improvement District active wells

Kearns Improvement District receives much of their water via the wholesale agreement between Jordan Valley Conservancy District, accounting for roughly 93% of the total KID annual water use today, with the remaining 7% of water supply produced by 12 KID owned deep wells. The district is currently contracted to purchase 7,750 acre-feet of water from Jordan Valley Conservancy District with an allowable increase of 120% annually to meet district supply needs. In the future, contracted wholesale water deliveries between Jordan Valley Water Conservancy District and KID are expected to increase to 9,400 acre-feet annually with an allowed increase of 120% with a maximum annual supply of 11,280 acre-feet.

Taylorsville-Bennion Improvement District water production consists of water from 9 active wells with an additional 13 inactive wells. Currently, Taylorsville-Bennion produces roughly 65% of their annual water supply from District owned wells. The remaining supply is received from Jordan Valley Water Conservancy District through a wholesale contract of 4,700 acre-feet annually, or roughly 35% of the districts annual production, with no additional supply capacity anticipated in the future. The sources that sustain KID and Taylorsville-Bennion Improvement District's culinary water are described in *Table 1: Existing Water Sources* below.

Table 1: Existing Water Sources (KID Water Conservation Plan, 2022; Taylorsville Bennion Water Conservation Plan, 2024)		
Existing Source	Kearns Improvement District (Ac. Ft.)	Taylorsville-Bennion Improvement District (Ac. Ft.)
Existing Deep Wells	678.9	15,825
JVCWD Wholesale Supply Contact	9,300	4,700
Subtotal	9,978.9	20,525

In the future, KID anticipates continued wholesale contracts with the Jordan Valley Water Conservancy District, with a relatively small share coming from their existing wells. The Taylorsville-Bennion Improvement District plans to rehabilitate active wells over time, but does not require new sources to meet the future demands.

The City accounts for 57% of the parcels within the Kearns Improvement District, with the remaining service area encompassing sections of West Jordan (26%), West Valley City (13%), unincorporated Salt Lake County (3%) and Taylorsville (1%). Additionally, Kearns accounts for 7% of the parcels within the Taylorsville-Bennion Improvement District, with the remaining parcels within Taylorsville (88%), West Valley City (4%), and West Jordan (1%). While the distribution of parcels across these service areas is helpful, this does not necessarily account for the exact share that the City has in water use from each provider. Water users have different needs, for example parks which are generally all within one parcel require significantly more water than residential parcels, these different uses are dispersed differently throughout the cities that the districts serve.

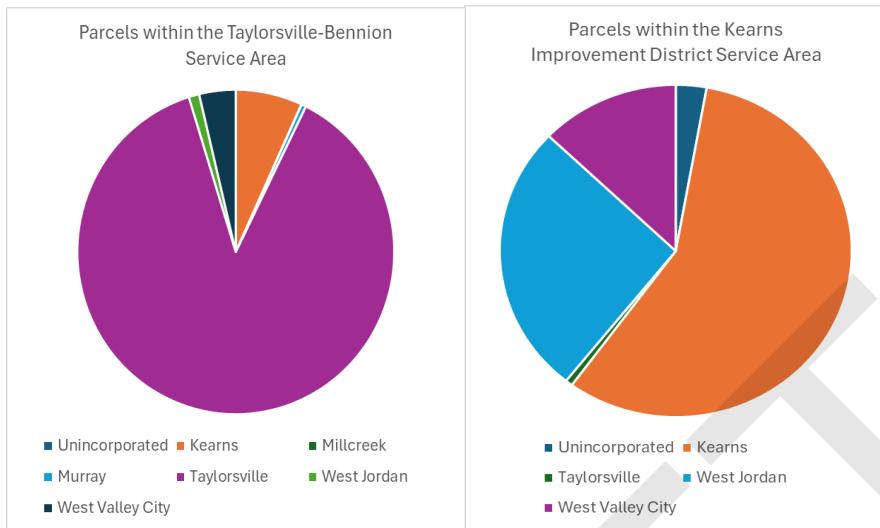


Figure 2. Share of Parcels within the Taylorville-Bennion Improvement District Boundary

Figure 3. Share of Parcels within the Kearns Improvement District Boundary

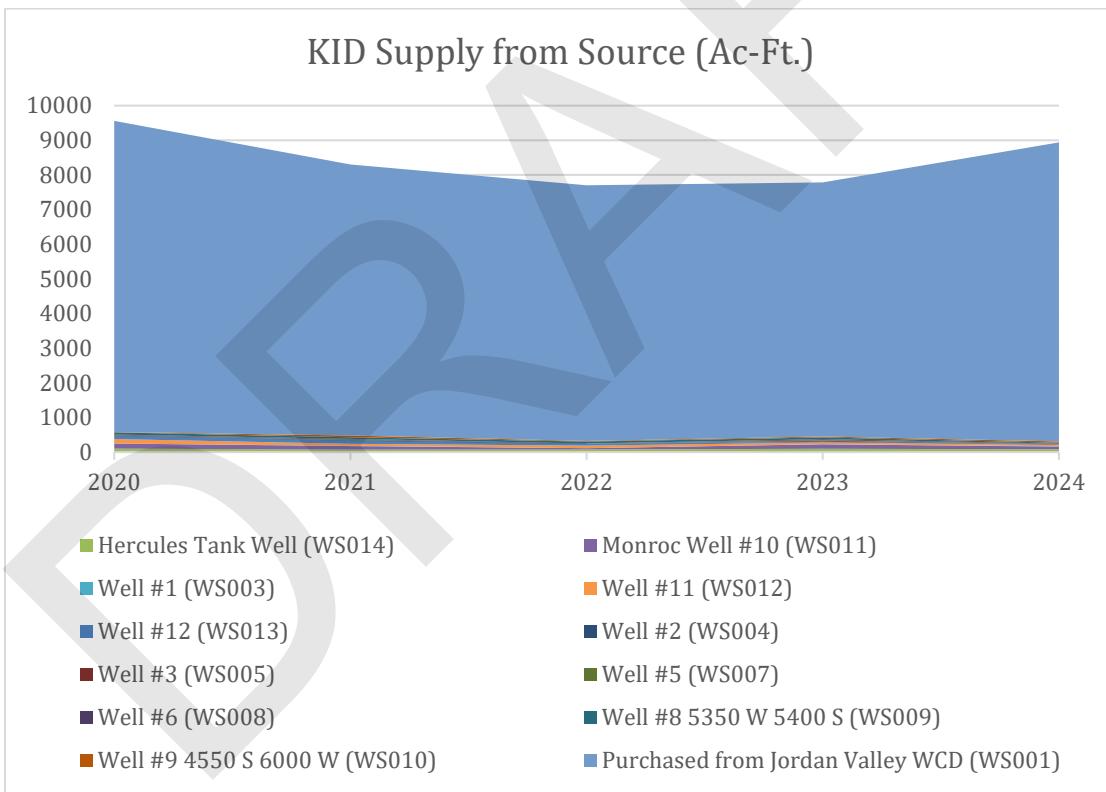


Figure 4. KID Culinary Water Supply in 2024 (Division of Water Rights, 2025)

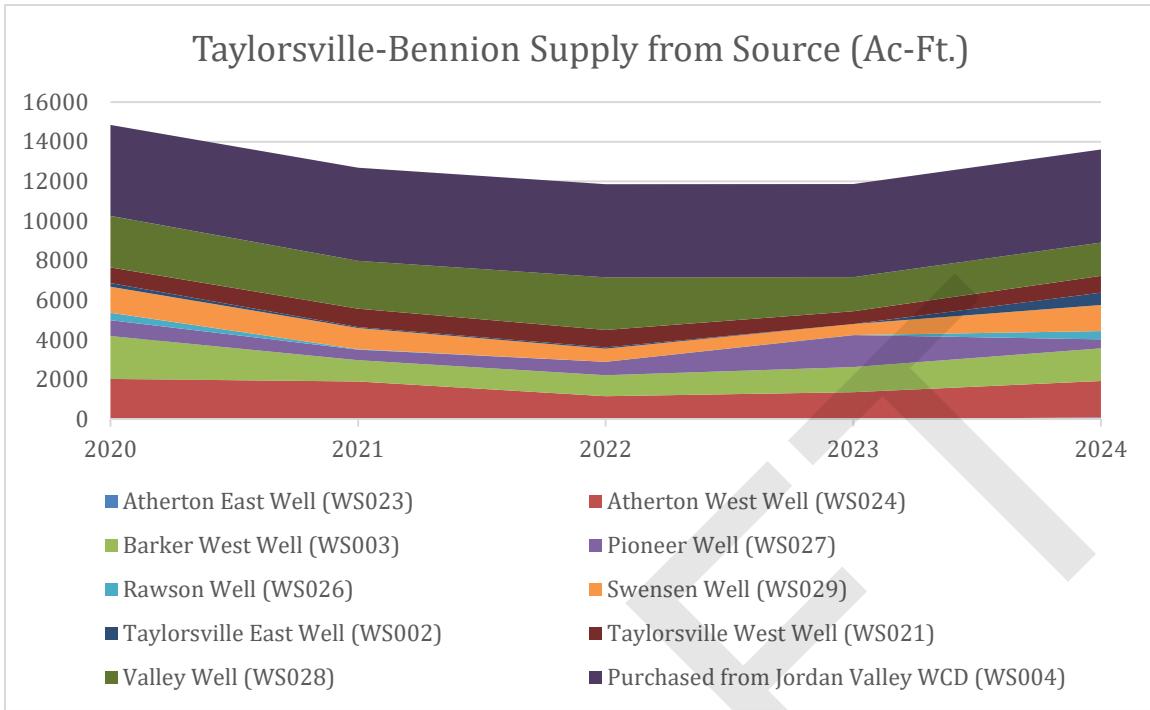


Figure 5. Taylorsville-Bennion Improvement District Culinary Water Supply in 2024 (Division of Water Rights, 2025)

### Secondary Water

Additionally, about 99 acres of the City are within the Utah Lake Distributing Co. service area. Secondary water is available through Utah Lake Distributing and the Utah & Salt Lake Canal Co. via Jordan River and the Utah Lake Dam. Neither KID nor the Taylorsville-Bennion Improvement Districts currently supply secondary water or anticipate development of their own secondary water infrastructure. The figure below depicts the secondary and irrigation service areas within the City.



Figure 6. Irrigation Companies

## Culinary Water Demand

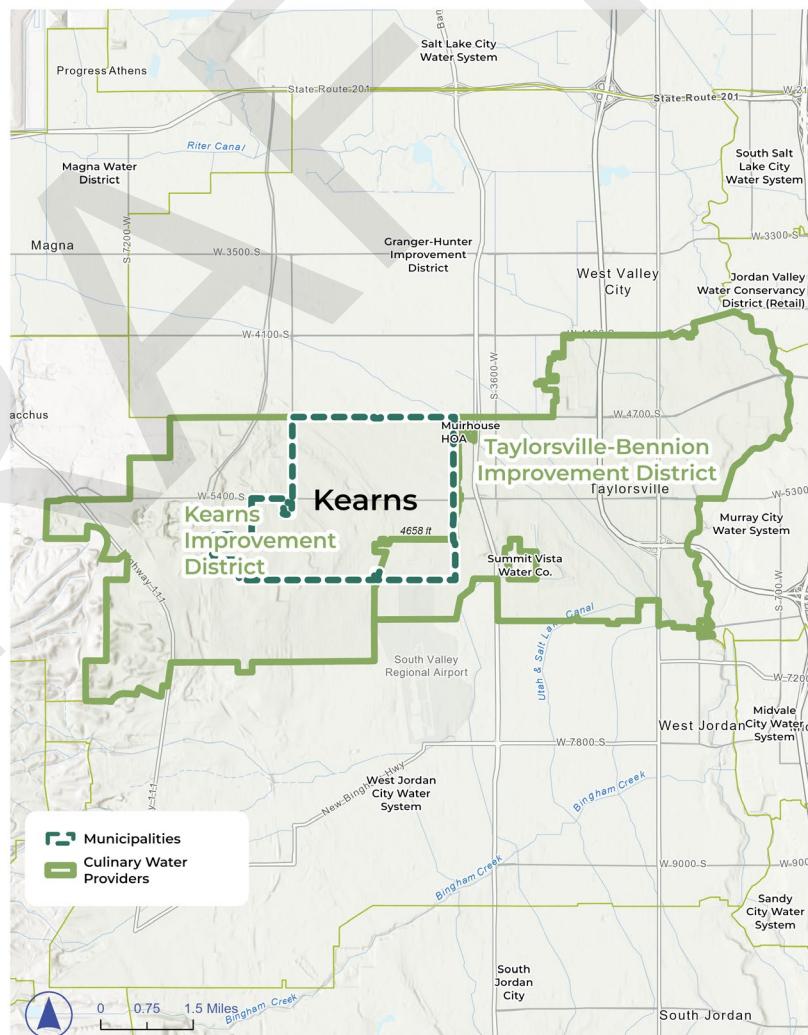
Demand for culinary water is closely monitored by water providers to help identify trends that can help them better understand future water supply needs, develop new sources, and identify conservation goals. The Water Conservation Plans and the Culinary Water Master Plans for each culinary water provider identify the number of connections, the use per connection and land use, the per capita water usage for each of the service areas, and peak usage numbers. The Conservation Plans identify conservation methods and specific timelines and implementation steps to achieve these goals and the impact that conservation will have on the total water demand. These plans project water demand and supply requirements to the year 2065, well beyond the life of the Kearns General Plan.

## Water Conservation Plans

Water Conservation Plans are updated by water providers every 5 years and are required by State law to include water conservation goals, actions, and associated timelines. Goals included in this water element directly reflect the goals and actions from each of the City's water providers, and should be regularly updated to reflect progress within these service areas and evolving conservation best practices.

- [Kearns Improvement District Water Conservation Plan](#)
- [Taylorsville Bennion Improvement District Water Conservation Plan](#)

The General Plan Element focuses more heavily on KID, which covers a higher proportion of the City. However, the improvement districts both extend beyond the city boundary. Because of this, additional land use analysis is used in this Water Element to identify needs and trends as they relate to the municipality itself, not just within the service provider boundaries. Importantly, this section identifies total connections, per capita use and goals, and actions that are being taken by both water providers to make the provision of water more efficient.



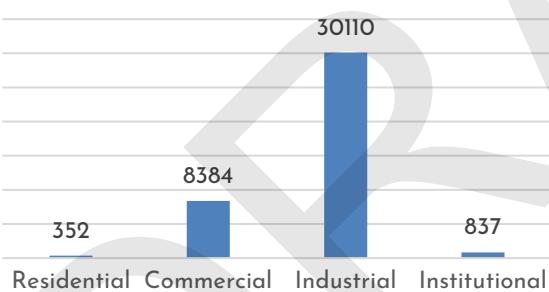
### Kearns Improvement District

The Kearns Improvement District was established in 1957 to provide water and sewer services to customers in Kearns after the closure of the Camp Kearns Army Base. In 1957 there were 3,100, today KID provides culinary water to 14,573 connections and serving a population of 56,555. The district serves Kearns, but also several surrounding cities, including West Valley, West Jordan, Taylorsville City, and unincorporated areas of Salt Lake County. Today the water users that use the most per connection are industrial and commercial users, however, the greatest proportion of water in the district is used for residential use which accounts for more land than commercial and industrial.

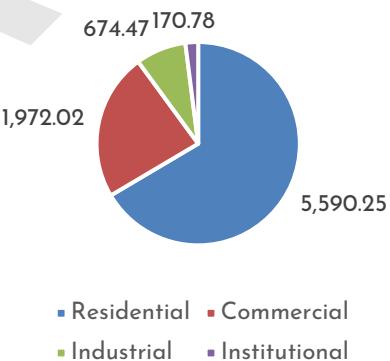
*Table 2. Customer Connections (2024, Source: DNR Division of Water Rights)*

Connection Type	Connections
Residential	14161
Commercial	210
Industrial	20
Institutional	182
Total	14,573
ERC Value	21,298

Average Gallons per Connection per Day



Total Use by Type (Ac-Ft)

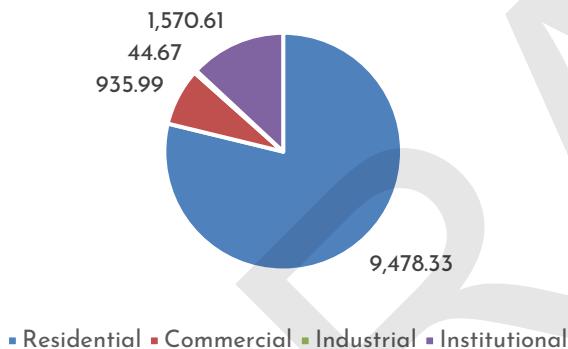


### Taylorsville-Bennion Improvement District

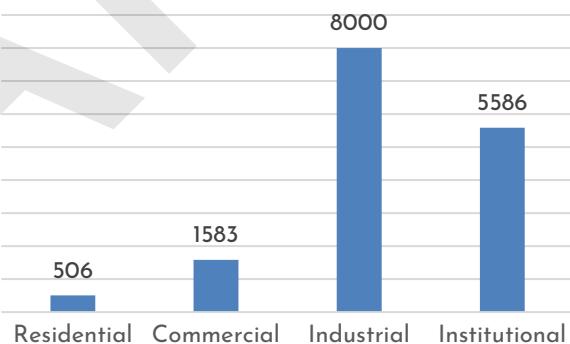
The District serves a population of 67,098 and provides wholesale water (approximately 108.25 ac-ft) to Muirhouse Homeowners Association and Summit Vista Water Company (2024, Source: [DNR Division of Water Rights](#)). Today residential connections use a higher amount of water compared to residential uses within KID and account for a larger proportion of overall water supplied by the district.

Table 3. Customer Connections (2024, Source: <a href="#">DNR Division of Water Rights</a> )	
Connection Type	Connections
Residential	16731
Commercial	528
Industrial	5
Institutional	251
Total	17,515
ERC Value	21234.46

Total Use by Type (Ac-Ft)



Gallons per Connection Per Day



## Agricultural and Protected Lands

There are no Agricultural Protection Areas within the City. Kearns is primarily an urban community. A small portion of the City does intersect the Utah Lake Distributing Company service boundary, as shown in Figure 6. Some residents with property within the service area may have shares in the company and access to irrigation water. More information about the company and associated water rights and shareholders can be found at the Division of Water Rights [Online Portal](#).

## Public and Quasi Public Lands

There are not significant amounts of protected or preserved land within the City limits. There are, however, public or quasi-public lands that are opportunity areas for water conservation and education. Because these areas may be more frequently trafficked, are often larger than typical single-family residential parcels, and because they are often managed by larger agencies, retrofitting landscapes in these facilities may be more attainable and impactful. In Kearns the following public/quasi-public uses include parks, administrative buildings, schools, and other public facilities like the Olympic Oval. In 2023 KID retrofitted landscaping surrounding 2 of their tanks within the city, exemplifying the potential that some of these lands may have for water-wise landscaping and the way that these installations can be marketed to the public as viable options.

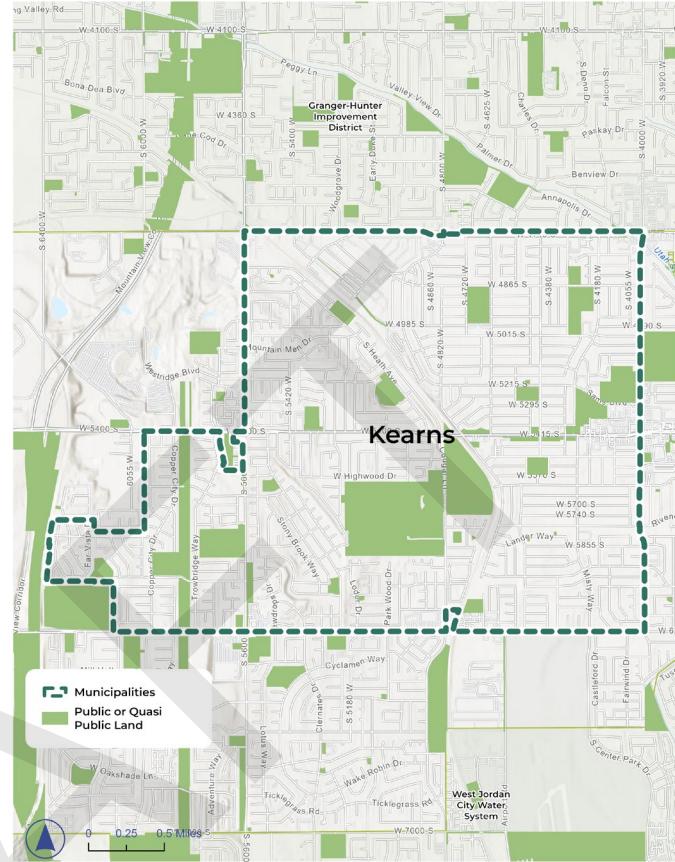


Figure 8. Public and Quasi-Public Land

Figure 8. Public and Quasi-Public Land



Figure 9. KID Office Tank Landscaping and TLA Tank Site Landscaping (Source: KID)

## Current and Future Demands in Improvement Districts

Both service districts have unique water use and availability. These population projections are sourced differently depending on the key factors present, and do not necessarily account for land use changes that the county may anticipate over the life of this plan. They also account for the entire service area which goes well beyond the Kearns boundary. Because of this, the Future Land Use Map is used to clearly illustrate the relationship between the desired future land uses and the water required to support these uses.

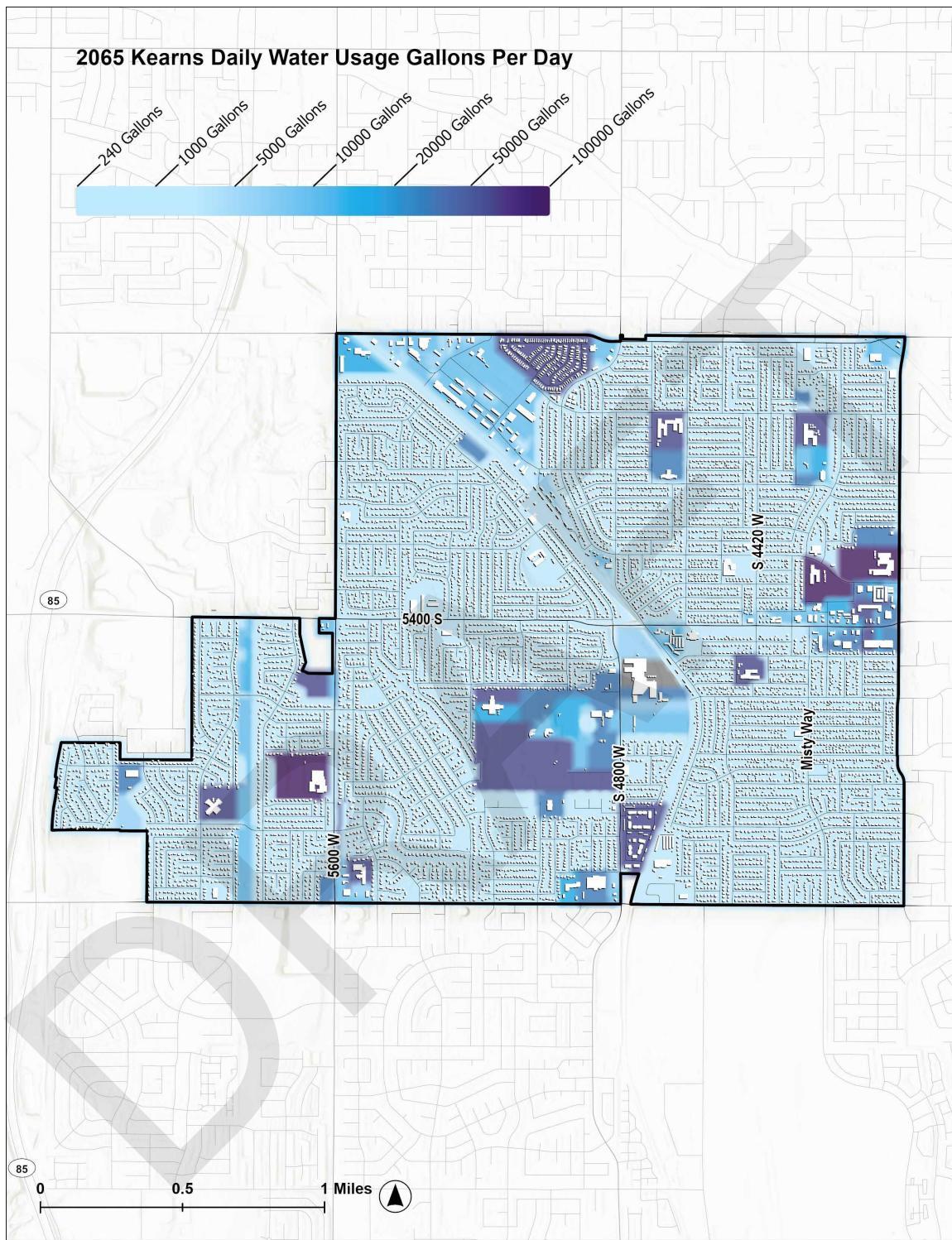
The service districts highlight conservation goals that are shown as per capita water use. These goals are within the target for the Salt Lake County region's 2065 goal of 183 gpcd. Based on land use analysis, the City is already within attainment of both conservation goals highlighted in the chart below.

Table 4. Water Conservation Demand and Supply Projections								
System	Population	Total Use (Mgal/year)	Per capita Use (gpcd)	Conservation Goal (gpcd)	Population Projection	Capacity (Mgal/year)	Projected Demand (Mgal/year)	Projected Demand w Conservation (Mgal/year)
KID	56,091	2739.6	147 (2021 - 5 year average)	140	76,266 (2065)	3,896	3,897	N/A
Taylorsville-Bennion Improvement District	67,098	3919.9	156 (2023)	171	70,362 (2050)	661.9	Approx. 6,500	Approx. 4,900

## Anticipated Demands in the City

### Future Demand Model for the City of Kearns

In order to understand the needs for the City based on the expected future land use, this element includes a model that projects water use based on the Future Land Use map. The Future Land Use map provides information about where and how intensely the City can anticipate growth that will impact its existing water resources. The map below highlights the areas in the county where the General Plan envisions additional residential, commercial, or industrial growth where it currently does not exist, thus adding additional connections to the existing water providers.



*Figure 10. Anticipated Future Water Demand*

Future annual and per capita water usage for Kearns was modeled at the parcel level, with projections informed by future land use designations, an Areas of Change analysis, 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 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 Kearns, redevelopment potential was informed by recent redevelopment trends in key corridors and activity centers.

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 different residential and employment uses have. A standard factor of 240 gallons per dwelling unit per day was applied for ERUs.

- Residential land uses were modeled using ERUs per dwelling unit.
- Employment-based land uses were modeled using ERUs per developed acre.
- Mixed-use designations applied both methods, incorporating ERUs for dwelling units and ERUs for employment per acre.

**Table 5. Water Usage Factors**

Future Land Use	Residential	Employment
Agriculture	0	3 per developed acre
Commercial	0	6.6 per developed acre
Historic Commercial	0	4 per developed acre
Industrial	0	6.8 per developed acre
Institutional	0	2.5 per developed acre
Mixed-Use	0.7 per dwelling unit	10 per developed acre
Multi-Family Residential	0.7 per dwelling unit	0
Neighborhood Commercial	0.7 per dwelling unit	5 per developed acre
Open Space	0	0
Recreation	0	6.4 per developed acre
Residential	1 per dwelling unit	0
Transportation	0	0
Utilities	0	0.5 per developed acre

### Parcel-Level Calculation Methods

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.

#### Residential Parcel-Level Usage

The Residential Water method calculates water usage for both indoor and outdoor use. Below are the following equations to total each parcel's water usage:

$$\text{Residential Total Gallons Per Day} = \text{Households} \times (\text{ERU per HH by LU}) \times (\text{Residential GPD per ERU})$$

$$\text{Split: Residential Outdoor Use} = \text{Residential Total Water Use} \times \text{Outdoor Share \%}$$

Residential Indoor = Residential Indoor - Residential Outdoor

The model first calculates existing water usage through the areas of change analysis identifying which parcels are currently developed and applying their land use factors. Then the model calculates future development, again through areas of change, by looking at vacant and redevelopment parcel potential. Parcels receive density additions based on their development potential and their future land use factors. Once the model calculates total water usage for each parcel to account for current and future trends, the model breaks the total water usage into an indoor and outdoor water share. The "Outdoor Share" is a percentage estimate of how much total water is used outdoor versus indoor. The model currently assumes 65% of water is used indoors and 35% is used outdoors for residential.

### Employment Parcel-Level Usage

Water usage for employment parcels were also calculated for outdoor and indoor use, as well as distinguishing the distribution of water based on the estimated number of employees per 1000 sq/ft or by developed acre. Below is the following methodology for this analysis.

$$\text{Employment Total Gallons Per Day} = (\text{Non-res Building Sqft} / 1,000) \times (\text{ERU per 1000 ksf by LU}) \times (\text{Employment GPD per ERU})$$

$$\text{Employment Outdoor} = \text{Total Employment} \times \text{Outdoor Share \%}$$

$$\text{Employment Indoor} = \text{Total Employment} - \text{Employment Outdoor}$$

$$\text{Employment Total Gallons Per Day (i.e. Recreation)} = \text{Acres} \times (\text{ERU per acre}) \times (\text{Employment GPD per ERU})$$

Similar to residential parcels, the model calculates the existing and future water usage via the Areas of Change, projecting water usage based on the likelihood of development on a parcel in the future. However, employment projections differ in that the projected water demand is tied to built area (1000 Sqft. blocks, "ksf") using an ERU per ksf factor, with an exception to Agriculture and Recreation parcels, which remain acreage based. The "Outdoor Share" for employment-based land uses has a base of 60% indoor water use and 40% outdoor water use.

For parcels with mixed-use designations, both residential and employment calculations were applied. For example, a "Mixed-Use" designation used the Multi-Family Residential ERU (0.7 per dwelling unit) alongside the Mixed-Use Employment ERU (10 per developed acre) to calculate the parcel's combined daily water use.

Table 6. Kearns Future Water Projections by Industry

Future Land Use	Total GPD	Employment Indoor GPD	Employment Outdoor GPD	Residential Indoor GPD	Residential Outdoor GPD
Commercial	379,494.37	128,344.45	85,562.96	107,631.53	57,955.44
Industrial	112,471.65	67,482.99	44,988.66	-	-
Institutional	597,716.26	358,629.75	239,086.50	-	-
Mixed Use	7,576.11	1,176.21	784.14	3,905.09	2,102.74
Multi-Family Residential	62,496.00	-	-	40,622.40	21,873.60
Neighborhood Commercial	101,972.20	12,842.48	8,561.65	54,038.77	29,097.80
Recreation	94,478.59	9,447.86	85,030.73	-	-
Residential	2,346,493.48	-	-	1,525,220.76	821,272.72
<b>Total GPD</b>	<b>3,702,698.67</b>	<b>577,923.74</b>	<b>464,014.65</b>	<b>1,731,418.55</b>	<b>932,302.30</b>

The total share of the water districts supply that is used within the city limits is subject to change, however the combined total capacity of both districts is 30,504 ac-ft. per year or 8,542

Mgal per year. **The City's projected demand of 1,351 Mgal per year is approximately 16% of the total combined supply.**

Assuming that the City grows as the Future Land Use map anticipates and maintains relatively consistent water use the per capita water use in 2065 will be approximately 121.6 gallons per capita per day by the year 2065. This is well within the targets of the conservation plans. This assumes that the maximum build out described in the General Plan is realized by the year 2065. Future updates to the General Plan and the Future Land Use Map should be analyzed with similar methods to identify any changes in land use expectations as they change in the future.

As identified, the city is within attainment of the conservation goals identified in the Conservation Plans. Conservation beyond the identified goals is important and should be a goal for Kearns and all that are served by both Taylorsville-Bennion Improvement District and KID. Both Conservation plans highlight a supply deficit in their conservation plans if conservation goals are not met. Every drop counts for these communities to ensure adequate supply and to reduce the costs required to expand water supply. Additionally, the region as a whole is directly related to the Great Salt Lake. Water that is removed from the system is water that is ultimately not flowing to the Great Salt Lake. No community is solely responsible for this regional feature, however, air quality and other environmental conditions for the entire region will be impacted by lower lake levels. The Utah Department of Environmental Quality monitors the health of the Lake and the Region. The State also created the Office of the Great Salt Lake Commissioner in 2023 to consider many factors that affect the Lake and the potential outcomes of different regional actions, including the conservation of water in communities within the watershed. Water providers and cities and counties should continue to monitor these resources to understand changes to conservation goals and the benefits they may have for the region's environment.

## Conservation & Protection Today

The water districts go to great lengths to ensure quality water sources that meet the demands of their customers. The districts maintain their own programming, set payment structures, and monitor water quality independently of the City. These programs help ensure that Kearns residents and businesses can access enough reliable and safe water. The City through its land use regulations can help progress the efforts of the water districts. The analysis above shows that Kearns future land use map encourages a pattern of development that will ultimately not put additional strain on water providers, and the City can encourage new development also progress water conservation, especially through their land use code.

## Programming Beyond the Municipality

### Protecting Kearns' Water Sources

Figure 7. illustrates the designated culinary source protection zones. These areas are regulated to prevent concentrated pollution sources that could compromise drinking water quality. The primary focus of protections relates to onsite wastewater treatment and disposal, though restrictions also extend to potential risks from septic systems, hazardous materials, and fertilizer application. Kearns and Taylorsville-Bennion maintain an annual water quality report, ensuring that water in the system meets all state and federal drinking water standards and guidelines. Both water providers have wholesale contracts with the Jordan Valley Water Conservancy District, which also takes steps to protect and monitor water sources.

### Utah Water System Efficiency and Water Loss Control Program

The Utah Water System Efficiency and Water Loss Control Program, launched in 2016 by the Division of Water Resources (DWR) in collaboration with the Intermountain Section of the American Water Works Association (IMS-AWWA) and Cavanaugh, was created to help utilities analyze and manage non-revenue water more effectively. The program promoted the adoption of best practices for water loss control statewide. As one of three districts in the pilot program, the KID gained valuable insight into its system efficiency and continues to apply this training to refine leak detection and water loss monitoring. Current practices include:

- Waterwise landscaping
- Comprehensive metering and monitoring

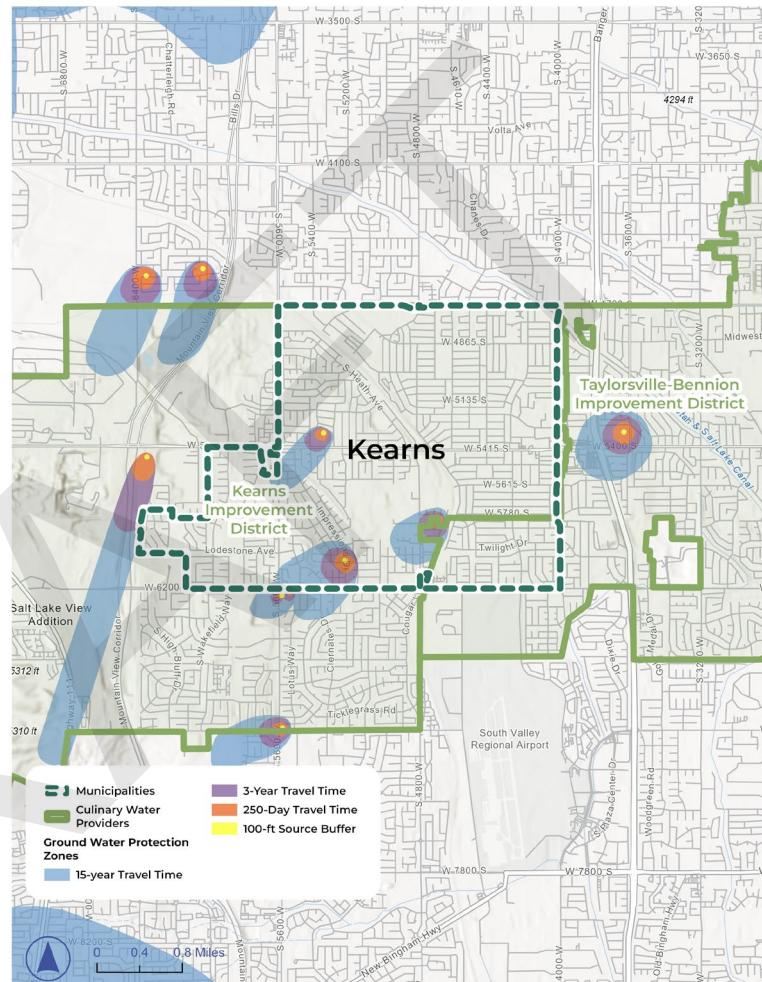


Figure 11. Ground Water Protection Zones

- Accounting for construction-related water use
- Tracking of non-metered water activities
- Ongoing testing, maintenance, and documentation of infrastructure
- Annual acoustical leak detection
- Main Water Replacement Programs
- Systematic recording within GIS system

#### ***Jordan Valley Water Conservancy District Water Efficiency Standards***

KID has provided significant input and consultation into the development of the Jordan Valley Water Conservation District (JVWCD) Water Efficiency Standards through the representation on the JVWCD Board of Trustees and via direct input with JVWCD staff. The water efficiency standards require conservation standards for indoor plumbing and outdoor landscaping across land use types and new landscaping construction for new homeowners KID has worked with Kearns, West Valley City, West Jordan City, and Taylorsville City to adopt these standards.

#### ***Water Conservation Rate Structure***

As part of the district's conservation efforts, KID has adopted a tiered water rate structure where the cost of water significantly increases as water use exceeds basic needs. In 1994, the Kearns Improvement District adopted an increasing block water rate schedule. The following table shows the District's 2022 and 2025-Tierd Water Rate Structure. The Tiered Water Rate structure is believed to be one of the most significant measures contributing to the reduction of water use in the District.

#### ***Conservation Programs***

KID has taken an active role in promoting long-term water conservation by implementing a variety of programs and community-focused initiatives. These efforts are designed to reduce water use, increase public awareness, and encourage efficient practices across the district. Key programs include:

- Hiring a part-time water conservation programs coordinator
- Conducting public information and education campaigns
- Establishing a conservation demonstration garden
- Offering a low-flow toilet giveaway program
- Distributing reduced-flow showerheads
- Providing landscape hose nozzle timers
- Conservation messaging on customer bills
- Residential and commercial water audits

#### ***Advanced Metering***

KID is investing in advanced metering infrastructure as part of its long-term water conservation strategy. As the community continues to grow, efficient water management is critical to meeting future demand. Advanced metering allows the District and its customers to better understand consumption patterns. By providing real-time data, the system encourages more mindful water use and supports conservation practices by encouraging efficient water use. This tool not only helps protect water resources today but also positions the District to accommodate future growth while protecting the reliability of its water supply.

#### ***Conservation Plan Updates***

Both Kearns and Taylorsville-Bennion Improvement Districts are committed to actively maintaining their Water Conservation Plans to be current and responsive to changing conditions. Updated every five years in accordance with state requirements, these plans use the

latest water use data and growth projections to refine conservation goals, evaluate program effectiveness, and identify new strategies for water efficiency and conservation. By integrating tools such as advanced metering, public outreach and education, rebates, and partnerships with local organizations, the districts ensure that conservation remains central to meeting future demand. Each update also serves as an opportunity to increase transparency and engage the public, providing residents with a clear roadmap for sustainable water use and encouraging active participation in protecting local resources.

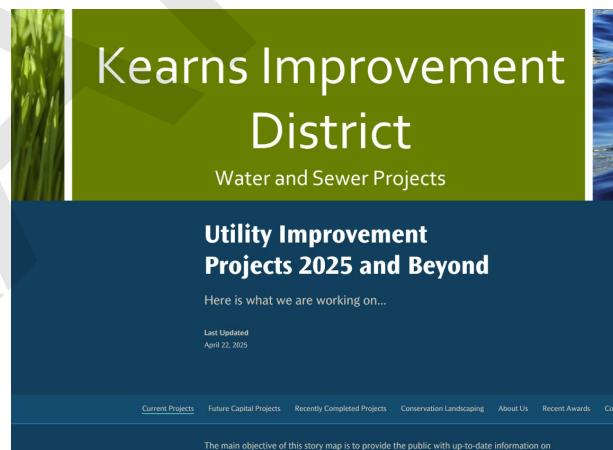
### ***Conservation Best Management Practices***

Kearns and Taylorsville-Bennion Improvement Districts both have an ongoing commitment to water conservation for the future by following Utah Division of Water Resources' best management practices. These practices include:

- Appointment of Conservation Director and Committee to help research, coordinate, create, and implement public information campaigns, programs, and incentives.
- Provide public messaging, materials, and resources to customers on water conservation practices.
- Hold in-person or remote events to educate and train customers on water conservation practices and technologies that can be implemented.
- Provide programs for landscape consultation, water budgeting, audits, and infrastructure retrofitting and replacement.
- Offer rebates, incentives, or rewards for water conservation practices.

### ***Reducing Water Waste***

Kearns Improvement District identifies system improvements. These include grey and green infrastructure. The District maintains a public portal highlighting major projects that move the City and the district toward their water conservation goals.



*Figure 12. Kearns Improvement District Project Portal*

## **The Kearns Land Use Connection**

### ***Ordinances/Standards***

While Kearns and Taylorsville-Bennion Improvement Districts do not have direct land use authority they do work with Salt Lake County, Kearns, West Jordan, and surrounding communities to promote water-wise landscaping. In 2022, KID adopted water efficiency landscaping standards that align with the LocalScapes concepts. The water efficiency standards set requirements for indoor and outdoor water use.

The Kearns landscape ordinance reinforces the LocalScapes elements that have been developed and are reevaluated by the Jordan Valley Water Conservancy District. These standards are not only required by the Kearns Improvement District and the Kearns zoning ordinance in new development and redevelopment, but they also allow residents to apply for rebate programs that can provide reimbursements for park strip plantings, front and side yard

landscape installations, and even classes offered at the Jordan Valley Water Conservancy Conservation Garden Park.

Kearns subdivision and landscape ordinance was adopted in 2023 and was based closely on guidance from the Jordan Valley Water Conservancy District Localscapes concept. The ordinance primarily applies to new development, or to building additions that significantly change the building footprint. Key requirements for residential landscaping include creating a central open space in front and back yards, locating gathering and activity areas outside this central zone, using paths and hardscape materials instead of turf for these gathering spaces, and limiting lawn coverage to no more than 35% of the total landscaped area or 250 square feet in single-family residential landscapes. Through these standards, the City encourages functional, attractive, and low-water-use landscapes, supported by educational programs and incentive opportunities offered by the Kearns Improvement District and the Jordan Valley Conservancy District.

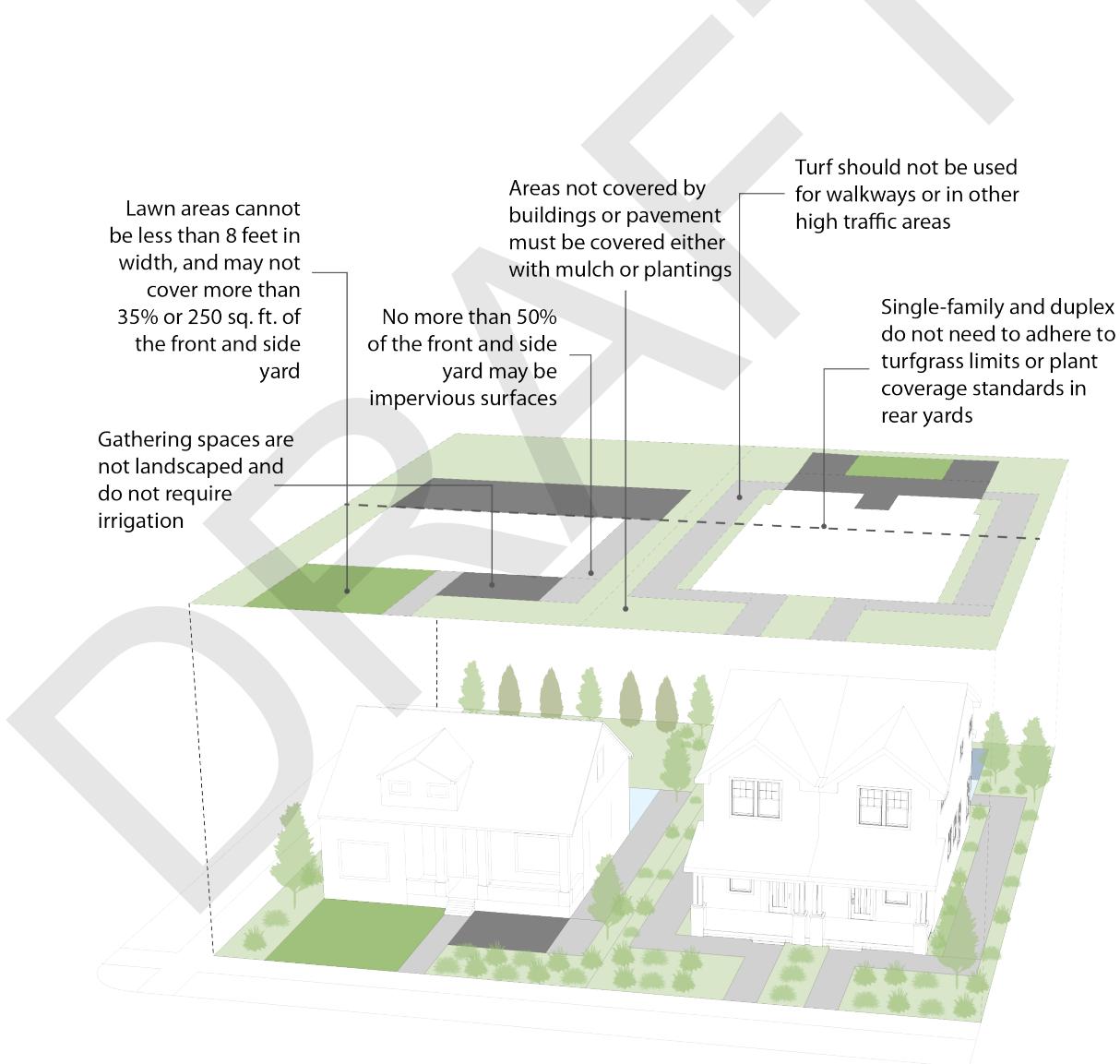


Figure 13. Key Components of Landscape Requirements in Residential Development

The LocalScapes concept has evolved over time, but centers on functional spaces, separation of irrigation areas into hydrozones, reduction of turfgrass to functional hardscapes and paths, the use of native or waterwise plants for landscaping, and regular maintenance. The image above highlights an example of design elements required in new residential development in Kearns. Multi-family and commercial uses are also subject to water efficiency standards, including the use of native or water-wise plantings, turfgrass reductions, and efficient irrigation systems. Commercial and multi-family development have higher restrictions on turfgrass coverage (no more than 20% of the total landscaped area may be turfgrass). These spaces are also required to adhere to the landscaping standards in rear yards as well as front and side yards. Multi-family housing is generally understood to have lower per capita water use than single-family residential because each dwelling unit shares landscaped areas and other recreation amenities.

Development of any kind is required to meet the water efficiency standards for the City. The maximum amount of water that can be used for landscaping is 15 inches per square foot (as an average of the entire landscaped area). For example, if a lot is 8,000 square feet it may have approximately 4,000 square feet of landscaped area after removing all buildings, sidewalks, and drives. The total water use for the entire property is a maximum of 37,479 gallons per year or 102 gallons per day. This further incentivizes the use of hydrozones, or areas in the landscaping that have similar water needs and unique irrigation schedules, allowing property owners to use relatively more water in turfgrass areas or on other non-native plantings while reducing the average water use in areas of lower water use. To better understand yearly water needs for certain plant species, the Utah State Extension has an easy to use [irrigation calculator](#) that highlights differences in water use across different types of plantings.

Vegetables and fruits, newly planted and annual plants, and cool season turfgrass generally have the highest water use. The calculator and other resources highlight the fact that establishing landscapes requires more water. Depending on species and location different landscape installations take different amounts of time for establishment. Meaning that root systems develop fully and can maintain growth with fewer additional resources. In the long term these water-wise installations provide water conservation and cost savings for property owners, but before plants are fully established all landscape installations will require relatively more water. Often establishment may range from one to 3 seasons.

The state and other agencies also provide guidance on the landscaping of park strips. The most significant requirement is that park strips less than 8 feet in width may not be planted with turfgrass. Kearns' landscape ordinance requires 50 percent landscape coverage in park strips regardless of size, and requires trees to be planted every 25 feet along the lot frontage for park strips 8 feet or wider. Street trees in park strips provide beautification and health benefits, by lowering the local temperature, they may also increase property values. The Kearns landscape ordinance provides guidance on the types of trees that may be planted and a list of prohibited trees. Options for park strip plantings are given below to assist property owners in the installation of landscaping that meets the City's requirements.

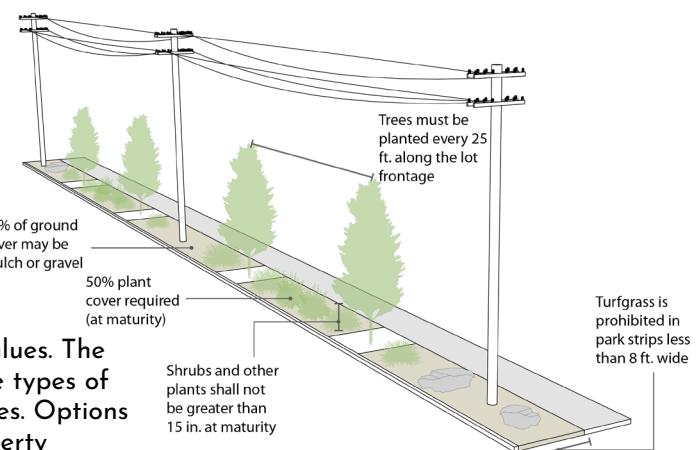


Figure 12. Overview of Park Strip Requirements

## Goals and Strategies

Some of these strategies and actions are associated with lands that have dynamic ownership structures. The City and the Municipal Services District should work closely with Salt Lake County and other collaborators to enact these goals and policies. While some of the physical improvements included in the action plan note public lands, some public lands are owned and managed by Salt Lake County. This plan does not govern the county's management of their public lands within the city, but should act as guides for any coordination that takes place between the City and the County in the provision of public land.

Goal: Reduce outdoor water usage throughout the City.					
Objective: Ensure that the City's zoning ordinances effectively advance water conservation goals.					
Actions	Responsible Parties	Timeline	Cost	Metric	Resources
Regularly update the ordinance to reflect the most recent guidance from the Utah State University, Jordan Valley Conservancy District, and other reputable sources.	MSD PDS, Kearns PC, Kearns CC	Ongoing	Staff time	NA	<a href="#">Jordan Valley Conservancy District Conservation Programs</a> <a href="#">Utah State University Water-Wise Landscape resources</a>
Regularly evaluate compliance with the City's landscape ordinance.	MSD PDS, Kearns PC, Kearns CC	Ongoing	Staff time	NA	
Update the landscape ordinance to encourage alternative turf options.	MSD PDS, Kearns PC, Kearns CC	Ongoing	Staff time	NA	
Provide options for landscape design in the General Plan facilitating compliance with the City's ordinances.	MSD PDS, Kearns PC, Kearns CC	Ongoing	Staff time	NA	
Reduce water waste in City-owned spaces.					
Where feasible contract landscaping to landscapers with Qwel certifications or other water efficient landscape education.	Kearns Public Works	Short term	\$	Number of contracts or public works staff members with Qwel certifications (or other relevant certifications/education)	<a href="#">Qwel Resources</a>
Prioritize sites for retrofitting landscaping to highlight native species and other water-efficient landscape elements.	MSD PDS, Kearns Public Works	Short term	Staff time	NA	
Retrofit landscapes in publicly owned land to emphasize water-wise principles.	Kearns Public Works	Mid term	\$\$		
Where possible replace cool season turf with alternative turfgrasses in	Kearns Public Works,	Mid term	\$\$		

public spaces (including buffalo grass and fescues).	SLCo Parks and Recreation				
Monitor water use over time to identify water conservation post landscape installation.	Kearns Public Works, SLCo Parks and Recreation	Mid term	Staff time		
<b>Objective:</b> Educate private property owners, providing resources that emphasize landscape options that are beautiful and conserve water.					
Market resources from the Kearns Improvement District and the Jordan Valley Conservancy District including conservation gardens and standard landscape plans.	Kearns PC, MSD PDS, JVWCD, KID, TBID	Ongoing	\$	Number of subscribers or viewers of marketing material on City channels including website and social media.	<a href="#">KID Conservation Programs</a> <a href="#">Jordan Valley Water Conservancy District Programs</a>
Incorporate Improvement District resources in city programming and spaces, including conservation events and classes.	Kearns PC, MSD PDS, JVWCD, KID, TBID	Ongoing	\$	Number of conservation classes or programs per year	<a href="#">Kearns Improvement District Conservation Programs</a>
<b>Goal:</b> Advance collaboration with service providers.					
<b>Objective:</b> Engage the improvement districts in development review.					
Include improvement district representation in pre application meetings for large multi family or mixed-use development that may have high water demand.	Kearns PC, MSD PDS, JVWCD, KID, TBID	Ongoing	Staff time	NA	
Engage improvement districts in all updates to the landscaping ordinance.	Kearns PC, MSD PDS, JVWCD, KID, TBID	Long term	Staff time	NA	
Engage improvement districts in future updates to the General Plan, particularly the Water Element and Land Use Chapters.	Kearns PC, MSD PDS, JVWCD, KID, TBID	Long term	Staff time	NA	