

RESOLUTION NO. 21-51

A RESOLUTION APPROVING THE TREMONTON CITY WATER CONSERVATION PLAN 2021 UPDATE

WHEREAS, in 1999, the Utah Legislature adopted a policy that required all water systems that serve five hundred connections or more to put together a Water Conservation Plan; and

WHEREAS, Water Conservation Plans are to be updated every five years; and

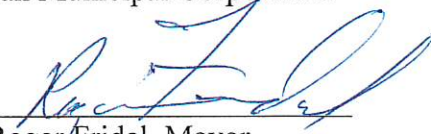
WHEREAS, the Water Conservation Plan helps residents determine lawn-watering needs; and

WHEREAS, it is time to update the Water Conservation Plan for 2021.

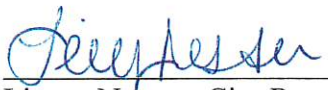
NOW, THEREFORE, BE IT RESOLVED that Tremonton City Council hereby adopts Resolution No. 21-51 approving the Tremonton City Water Conservation Plan 2021 as attached in Exhibit "A."

PASSED AND ADOPTED by the City Council of Tremonton City, State of Utah on this 7th day of December 2021.

TREMONTON CITY
A Utah Municipal Corporation

By 
Roger Fridal, Mayor

ATTEST:


Linsey Nessen, City Recorder





**Tremonton City Corporation
City Council Meeting
December 7, 2021
Meeting to be held at
102 South Tremont Street
Tremonton, Utah**

CITY COUNCIL WORKSHOP AGENDA

6:00 p.m.

1. Review of items listed on the 7:00 p.m. agenda
2. **CLOSED SESSIONS:**
 - a. *Strategy session to discuss the purchase of real property when public discussion of the transaction would disclose the appraisal or estimated value of the property under consideration or prevent the public body from completing the transaction on the best possible terms; and/or*
 - b. *Strategy session to discuss the character, professional competence or physical or mental health of an individual; and/or*
 - c. *Strategy sessions to discuss pending or reasonably imminent litigation; and/or*
 - d. *Discussions regarding security personnel, devices or systems*

Please note that any agenda item listed on the 6:00 p.m. City Council Workshop may be discussed in the 7:00 p.m. City Council Meeting

CITY COUNCIL MEETING AGENDA

7:00 p.m.

1. Opening Ceremony
2. Introduction of guests
3. Declaration of Conflict of Interest
4. Approval of agenda
5. Approval of minutes – November 16, 2021

6. Years of Service Award
 - a. Shannon Ellis, Assistant Librarian – 5 Years
7. Presentations:
 - a. Update of state of the hospital – Brandon Vonk, Hospital Administrator
8. Public Hearing(s):
 - a. To consider annexing approximately 132.757 acres of real property, referred to as the Rivers Edge Annexation, into Tremonton City’s incorporated limits. The 132.757 acres of real property is located north of Main Street and south of 600 North, generally between 950 East and State Road 13
9. Public comments: This is an opportunity to address the City Council regarding your concerns or ideas. Please limit your comments to three minutes.
10. New Council Business:
 - a. Discussion and consideration of adopting Ordinance No. 21-11 annexing approximately 132.757 acres of real property, referred to as the Rivers Edge Annexation, into Tremonton City’s incorporated limits. The 132.757 acres of real property is located north of Main Street and south of 600 North, generally between 950 East and State Road 13
 - b. Discussion and consideration of adopting Resolution No. 21-50 amending Tremonton City’s Articles of Incorporation to include approximately 132.757 acres of real property, referred to as the Rivers Edge Annexation, into Tremonton City’s incorporated limits. The 132.757 acres of real property is located north of Main Street and south of 600 North, generally between 950 East and State Road 13
 - c. Discussion and consideration of adopting Ordinance No. 21-12 creating a new zone district called the Rivers Edge Overlay Zone (REOZ) and approving the rezoning and zoning of approximately 135.5 acres from Residential District R1-10 and Mixed Use (MU) District, to an underlying zone district of Mixed Use (MU) District and an overlay zone district of the Rivers Edge Overlay Zone (REOZ) and approving the Rivers Edge Pre-Annexation and Master Development Agreement
 - d. Discussion and consideration of adopting Ordinance No. 21-13 creating a new zone called the Protection Area Zone (PAZ) District and zoning ten parcels of real property comprising approximately 30.6 acres, of which 22.988 is being zoned Protection Area (PA) Zone; 5.637 acres is being zoned Rural Residential, RR-1; and 1.976 is being zoned Mixed Use (MU)
 - e. Discussion and consideration of adopting Resolution No. 21-51 approving the Tremonton City Water Conservation Plan 2021 Update
 - f. Discussion and consideration of adopting Ordinance No. 21-14 amending Ordinance No. 21-10 for Transportation Impact Fee
 - g. Discussion and consideration of adopting Resolution No. 21-52 reaffirming that 19.12 acres of real property owned by Tremonton City is for the public purpose of developing a public park

- h. Discussion and consideration of adopting Resolution No. 21-53 approving and signing a letter of support for the PL83-566 Grant
 - i. Discussion and consideration of approving an appointment to the Planning Commission
11. Calendar Items and Previous Assignment
- a. Review of calendar
 - b. Review of past assignment
12. Reports & Comments:
- a. City Manager Reports and Comments
 - 1. National Association of RV Parks and Campgrounds recognition of the Aspen Grove RV Park as the “Park of the year” in the small parks category, 100 sites or less- Shawn Warnke, City Manager
 - b. Development Review Committee Report and Comments
 - c. City Department Head Reports and Comments
 - d. Council Reports and Comments
13. **CLOSED SESSIONS:**
- a. *Strategy session to discuss the purchase of real property when public discussion of the transaction would disclose the appraisal or estimated value of the property under consideration or prevent the public body from completing the transaction on the best possible terms; and/or*
 - b. *Strategy session to discuss the character, professional competence or physical or mental health of an individual; and/or*
 - c. *Strategy sessions to discuss pending or reasonably imminent litigation; and/or*
 - d. *Discussions regarding security personnel, devices or systems*
14. Adjournment

Anchor location for Electronic Meeting by Telephone Device. With the adoption of Ordinance No. 13-04, the Council may participate per Electronic Meeting Rules. Please make arrangements in advance.

Persons with disabilities needing special assistance to participate in this meeting should contact Linsey Nessen no later than 48 hours prior to the meeting.

Notice was posted December 3, 2021 a date not less than 24 hours prior to the date and time of the meeting and remained so posted until after said meeting. A copy of the agenda was delivered to The Leader (Newspaper) on December 3, 2021.

Linsey Nessen, CITY RECORDER



WATER CONSERVATION PLAN

(Update)

December 1, 2021

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1.01

DESCRIPTION OF TREMONTON CITY AND ITS WATER SYSTEM

Tremonton City is located on the Malad River, in the Bear River Valley, in northern Box Elder County. It was initially settled in 1888, although French-Canadian Trappers had entered the area much earlier. Tremonton was named for Tremont Illinois, which was where many of the early settlers had relocated from. The town of Tremont was incorporated in January of 1903. A short while later the Postal service requested that the town change its name because of confusion with Fremont Utah and that an “on” be added to the towns name. Thus, Tremonton was born.

The first recorded history of the Tremonton City water system is in 1910 when the Tremonton Town Board, S.B. Watland – President, S.N. Cole, A.N. Fishburn, Alvin Keller and J. Otto Pitt, had a 6-inch wooden water main installed. This main brought water from the canal which had been constructed from 1889 to 1903, from the west side of Tremonton. The water was piped throughout the city in wooden distribution pipes. As one can imagine, the water quality was not very desirable. In 1918 - 1919, the bad water situation was resolved when the City Council, Charles McClure – Mayor, J.A. King, David Holmgren, W.H. Stone, acquired a spring on the west hill side, the West Spring or (William Johnson Spring), and had new steel and cast-iron water mains installed to deliver this spring water to town.

The Tremonton City Water System has continued to evolve since 1918-1919 and the following are list of known projects and construction dates:

- ◆ In 1934 as part of a Roosevelt era WPA, Work Progress Administration relief project, a 112,000-gallon concrete storage reservoir was constructed on the west bench.
- ◆ In 1939 another WPA project on the east bench above Deweyville, a 210,000-gallon concrete reservoir was constructed and as part of the project, the Willow Spring or East Spring was acquired from property owners in the area. An 8-inch cast iron water main was installed from the east reservoirs to Tremonton City and new cast iron mains were installed through out the city, along with fire hydrants.
- ◆ In 1939 the old wooden mains were converted to secondary use and canal water replaced the spring water for use on lawns. The secondary water was done away with before the 1970’s because of the disrepair of the wooden mains.
- ◆ In the early 1950’s, an additional 400,000-gallon concrete water storage reservoir was added to the west bench, along with three additional springs along the east side of the Bear River, the South Spring (City Spring), Fish Spring (Germer Spring) and the North Spring. An 8-inch steel pipeline was installed from the springs in the river bottoms along 1000 North by Bear River High School into Tremonton City.
- ◆ In 1962 Tremonton City filed on unused water from Garland City’s spring along the Bear River. Thus, the Garland Overflow Spring source began.
- ◆ In the early 1970’s, the city constructed a third concrete reservoir on the west bench, 500,000-gallon.
- ◆ In 1979 the city constructed a second concrete reservoir, 1,000,000-gallon, on the east bench, above Deweyville, and installed a 14-inch asbestos concrete main along side of the 8-inch cast iron from the east reservoir, and also installed two flowing wells, 100-feet deep, in the north spring collection area.
- ◆ In 1983 the city developed a new spring on the east bench, just south of the East Spring. At the time it flowed 1,500+ gallons per minute (gpm). Since 1986, it has been virtually dry, periodically in wet seasons flowing 1-2 gpm.
- ◆ 1983 was the year that the Tremonton City water system first started disinfecting their drinking water, with the installation of Gaseous Chlorinator facilities on the west and east water sources.
- ◆ In 1985 the city replaced the 8-inch steel main along 1000 North to the springs along the Bear River with a 12-inch PVC main. Also, a new 10-inch main was installed from the west reservoirs down 2300 West to Main Street to the downtown area of Tremonton.

- ◆ In the 1992 a new 10-inch ductile iron line was installed on 1000 North to the UDOT Road Shed at Bothwell to bring the Bear River WCD water to the city and the area along the pipeline was annexed into the city.
- ◆ In 2001, a 750,000-gallon steel reservoir was constructed high on the west bench along with a pressure booster station that would deliver BRWCD and City water to the location.
- ◆ In 2005, a new 18-inch HDPE main was installed under the Bear River to combine the capacity of the 8-inch and 14-inch mains, thus replacing the old line under the river and the line attached to the bridge over the river. The largest line installed to date, besides the 18-inch, is a 16-inch ductile iron main along 2000 West. The larger size was installed to handle the growth in the future.
- ◆ In 2010 Tremonton City purchased the 1986 Cedar Ridge Well from David Z. Thompson and upgraded the pump, constructing a pumping facility. A new 12-inch ductile iron line was installed from the Cedar Ridge Subdivision to the East Side storage reservoir.
- ◆ In 2011, a 2,000,000-gallon concrete reservoir was construct on the east bench above Deweyville, next to the City's existing 1,000,000-gallon concrete reservoir.
- ◆ In 2015 an 18-inch ductile line was installed on 1000 North from 2300 West to 2000 West to replace the existing 10-inch PVC to handle future growth for the city.
- ◆ In 2000 Tremonton City developed its first Secondary Water project, for utilizing water shares from the Bear River Canal Company, the city designed a pressurized system that would pull water from the Central Canal and provided irrigation water to the Stevens Sprots Park Complex and the Alice C. Harris Middle School.
- ◆ In 2004 Tremonton City started design of a city-wide secondary irrigation system the first area to receive the pressurized irrigation was the developments of Spring Acres Subdivision and River Valley Subdivision. The city-wide designed was scrapped after City Council decide that the initial cost made the project not feasible.
- ◆ In 2018 Tremonton City decided that after years of efforts in developing additional culinary water, without great success, that they would expand the secondary irrigation city-wide, to be built out in phases. The first 2 expansions came in the 2 existing systems the city already had in place, Service Area 1 and Service Area 2, along with the expansion secondary water meters would be installed for each customer.
- ◆ In 2019 Tremonton City, started construction on Service Area 3 of the secondary water system, this would serve over 600 connections. The city decided that along with the expansion of the secondary water system, that they would transition from AMR Metering to AMI Metering, thus giving water customers more control and knowledge of their day-to-day water usage.
- ◆ In 2021 Tremonton City, started construction of Service Area 5, and Service Area 4 and further expansion of Service Area 2, with being able to serve over 600 existing customers and 100's of additional as developments grow.

The replacement of old main lines throughout the water system is on-going. The replacement project usually follows things such as multiple failures on a water main and to add capacity to an existing water main.

1.02 CURRENT POPULATION

In 2020, according to the census, Tremonton City's population is approximately 9,894. Tremonton City's estimated population, based on existing and new home occupancy in 2021 is 10,000.

**1.03
CURRENT CONNECTIONS**

Tremonton City serves approximately 3,022 residential, 285 commercial, 38 industrial, and 18 institutional service connections, with a total number of service connections of 3,363 (there are some with multiple units per connection for a total of 3,728 ERC’s). Tremonton City serves an area approximately 10 square miles or 6,400 acres. This area is constantly changing due to new property being annexed into the City. The Master Zoning Plan allows for the Tremonton City to grow to the size of approximately 30 square miles or 19,200 acres. This will happen many years in the future.

Tremonton City’s residents and City leaders place a high value on outdoor related activities. Because of this, some 76 acres have been set aside for outdoor recreational activities, such as golf course, parks and trails. They have also set aside 13 acres in cemetery. As of 2021, there are approximately 1,500 acres in irrigated agricultural area and approximately 400 acres in rangeland and dry farm non-irrigated agricultural area with in the city limits.

See attached map for Tremonton City’s current service area and zoning. (Appendix)

**1.04
INVENTORY OF WATER RESOURCES**

Over the past 6-years Tremonton City has been withdrawing an average of 2,746 acre-feet of water from our spring sources, with another average of 213 acre-feet being purchased from the Bear River Water Conservation District (BRWCD). Tremonton City currently utilizes three gravity flowing springs and four springs that are pumped up to our storage reservoirs, where it then enters the distribution system along with the purchased water from the BRWCD. The city has been able to meet our culinary and out door irrigation needs from these sources. In 2010 Tremonton City purchased another water source from a neighboring water system, this well has proven to be a low producer of water, during the summer months only has the capabilities of producing only 200 gpm. The new source was purchased to enhance our water source inventory and to shore up our current water needs in addition to preparing for our future growth, but has proven not to be of much benefit to our source inventory. In 2004, Tremonton City constructed a secondary water system for the large city owned parks, cemetery and the northwest area of the city. These secondary water system efforts will continue to be carried out as resources are available, to help conserve our precious culinary water.

Tremonton City has four reservoirs located in the northwest area of the City and three located east of the City, with the total capacity of 5,056,000 gallons. **(Table 1)**

See attached map for Tremonton City’s source and reservoir locations. (Appendix)

TABLE 1

Tremonton City Water Storage Reservoir Capacity’s

Reservoir	Capacity	Construction	Year
West Tank #1	112,000	Concrete	1934
West Tank #2	400,000	Concrete	1955
West Tank #3	500,000	Concrete	1975
Upper West	750,000	Steel	2001
East Tank #1	320,000	Concrete	1939
East Tank #2	1,100,000	Concrete	1979

East Tank #3	2,200,000	Concrete	2011
Total Gallons Storage	5,382,000		

Tremonton City owns shares in the Bear River Canal Company. This stock helps assure of the success of the secondary water system, for Tremonton City. (Table 2)

TABLE 2

City-Owned Shares in the Bear River Canal Company as of December 2021

Area Served	Shares
BRCC Shares Purchased by Tremonton City	466.596
BRCC Shares Provided by Developers for Development	57.274
Total BRCC Shares Owned by Tremonton City	523.870
BRCC Shares Needed for Complete City Secondary Water System Build-Out	1,297.400

Under current water rights, Tremonton City is entitled to withdraw 7,696 acre-feet annually from or springs and wells listed below. (Table 3)

TABLE 3

City-Owned Water Rights as of December 2021

Source Number & Name	Water Right Number	CFS	Acre-Feet Per Year	Time Period
01 – West Spring (Johnston Spring)	29-906	0.160	115.83	Year Round
02 – East Spring (Willow Spring)	29-1022	0.500	361.96	Year Round
03 – South Spring (City Spring)	29-1104	0.957	692.79	Year Round
04 – Fish Spring (Germer Spring)	29-1107	0.488	353.27	Year Round
05 – Garland Overflow (Garland Spring)	29-1370	3.348	2,423.67	Year Round
06 – North Spring	29-1141	1.500	1,085.88	Year Round
06 – North Wells	29-2520	3.460	2,504.75	Year Round
07 – Gardner Springs	29-2956	0.280	202.70	Year Round

In addition to our springs and wells, Tremonton City purchases water from the Bear River Water Conservancy District. This is a long-term contract, 30 years, to help in times of shortages and to help insure water for future growth. (Table 4)

TABLE 4

Contracted/Purchased Water Supply

Source Number & Name	Water Right Number	CFS	Acre-Feet Per Year	Time Period
08 – BRWCD (Newman Well)			150	Year Round

WATER USE

The following table shows the amount of water used for the years 2000, 2005, 2010, 2015, 2020, 2021. (Table 5)

TABLE 5

Tremonton City Water Use 2000 – 2005 – 2010 – 2015 - 2021

Year	Estimated Population	Equivalent Residential Connections	Water Used Million Gallons Per Year (MGY)	Average Gallons Per Day Used Per ERC (GPD)	Average Gallons Per Day Used Per Capita (GPD)	Total Acre Feet Used Per Year (AcFt/Y)
2000	5,666	1,822	726.7	1,092.7	351.4	2,230.2
2005	6,169	2,107	640.1	832.3	284.3	1,964.4
2010	7,647	2,398	909.4	1,039.0	325.8	2,790.8
2015	8,227	2,558	847.1	907.2	282.1	2,599.3
*2020	9,894	3,575	946.3	725.2	262.0	2,904.1
**2021	10,000	3,728	866.9	637.1	237.5	2,202.2

*From 2020 Federal Census Data

** 2021 From Estimate of Growth from Building Permit Sales

Current Water Use

In Tremonton City we have two industries that during or winter months water production uses an average of 25% to 35% of all water produced and in the summer months they use an average of all water produced 15% to 20%. These industries are food manufacturing industries so high-quality culinary water is of utmost importance to them, to meet USDA standards on food quality and on cleaning, these industries do the utmost towards water conservation, they realize that waste impacts their bottom-line revenues to both the water that is used to the wastewater that is discharged.

In 2021, Tremonton City's daily average, per capita indoor water use was 173 GPD/person or 464 GPD/ERC, prior to deducting the industrial use, after deducting the 30% of the two large industrial users the average per capita use is 122 GPD/person or 326 GPD/ERC. In warmer months of summer up to 70% of the culinary water produce may be used for outdoor watering, since constructing more secondary water system in 2017, the city has seen a reduction in the outdoor usage percentage, in 2021 with more users connecting to the secondary water system and with the requested conservation reduction, from Governor Cox, the city has seen a reduction to 53%. In summer months combined indoor/outdoor average water use per capita 427 GPD/person or 1,145 GPD/ERC, prior to deducting the industrial use, after deducting the 20% of the two large industrial users the average per capita use is 402 GPD/person or 916 GPD/ERC.

The following table shows the amounts of water currently available from Tremonton City's current sources with the current source production. (Table 6)

TABLE 6

Actual available water from City owned Water Sources as of December 2021

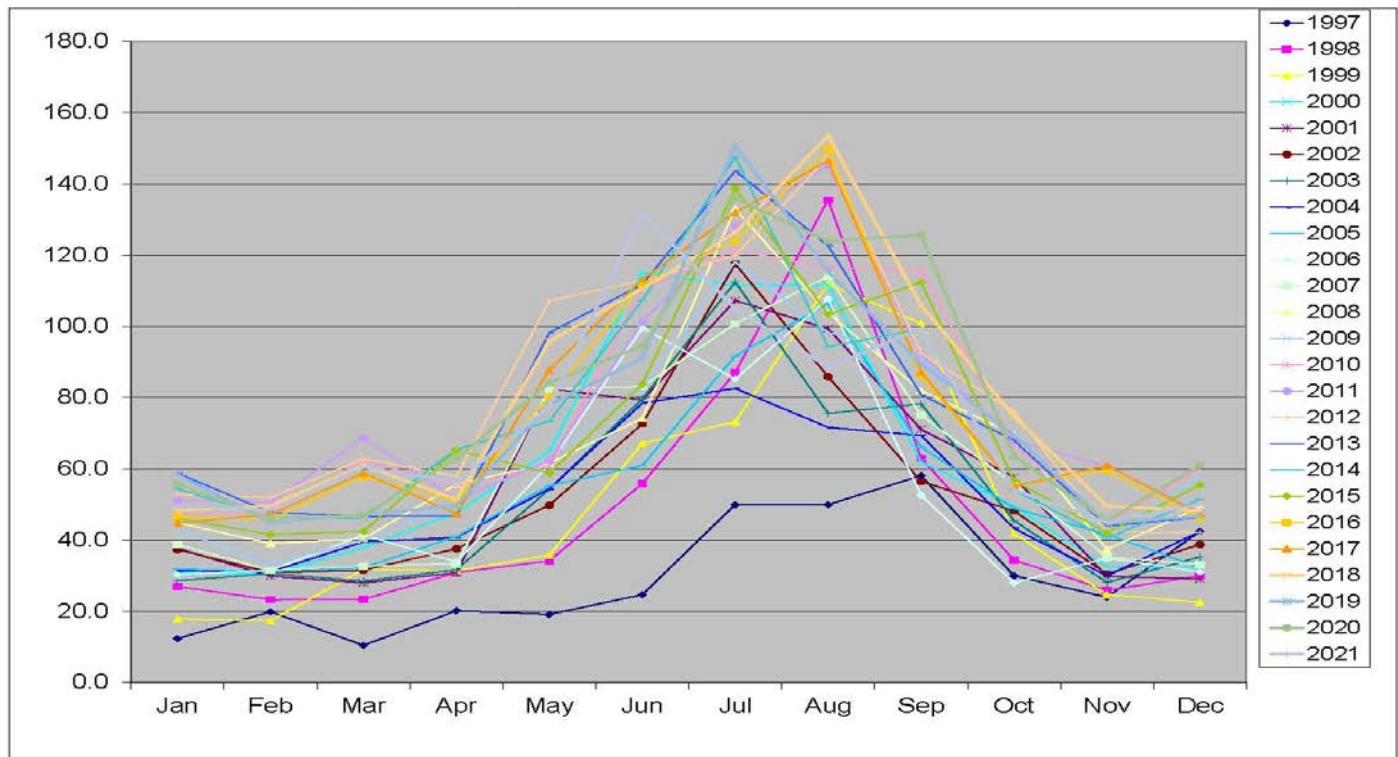
Source Number & Name	CFS	GPM	MGY	Acre-Feet Per Year
01 – West Spring (Johnston Spring)	0.167	75.02	39.43	121.00
02 – East Spring (Willow Spring)	0.271	121.63	63.93	196.19
03 – South Spring (City Spring)	0.620	278.08	146.16	448.54
04 – Fish Spring (Germer Spring)	0.446	200.00	25.01	76.75
05 – Garland Overflow (Garland Spring)	0.891	400.00	39.94	122.57
06 – North Spring	1.500	673.20	535.83	1,085.88
06 – North Wells	1.668	748.72	393.53	1,207.69
07 – Gardner Springs	0	0	0	0

Total actual available water in 2021 was 4,028 acre-feet annually.

Historical water use for Tremonton City is typical for a growing rural community. Peak water use typically occurs during the months of June through September, as indicated in the following table. (Table 7)

TABLE 7

**Typical Water Use
Tremonton City Monthly Water Use 1997 - 2021**



1.06 FUTURE WATER USE

Future Water Needs

Tremonton City is a city with a future and our expected growth rate thru 2032 is approximately 12,130 people with 4,332 ERC's.

Future Water & Storage Development

Tremonton City's future depends on water and water development. We have options available to us for additional water development.

Other water development options and opportunities include:

- ◆ Further development of a pressurized secondary water system throughout all of the city
- ◆ Drilling new culinary water wells at city owned sites
- ◆ Purchasing existing wells located in the Bothwell Pocket
- ◆ Reuse of the 2 MGD Effluent from the Tremonton City Wastewater Treatment Facility.
- ◆ Purchase additional water from the Bear River Water Conservancy District

See attached map for Tremonton City's secondary system service area. (Appendix)

1.07 WATER CONSERVATION

Water Conservation Efforts

Tremonton City's Public Works Director and Water Superintendent act as the Water Conservation Coordinators. It is their job to oversee and manage the City's water system and resources to their best financial and technical ability.

The city has encouraged our customers to use water wisely and provided educational information. We have encouraged an outdoor water time restriction of 8:00 pm – 10:00 am and most citizens have followed those actions. When feasible, Tremonton City follows these practices also, but with some of the large facilities, it is not always possible.

The city then embarked, since 2000, on an education campaign to educate its customers on proper lawn watering techniques and other educational measures. (Appendix)

Many of Tremonton City conservation efforts include:

- ◆ Education of the Public through the City Newsletter and water bill
- ◆ Education of the youth through schools and community youth groups
- ◆ Quick repairs of known water leaks
- ◆ Continual water audits and leak surveys
- ◆ Review of financial audits for timely water rate increases
- ◆ Metering of all users, both culinary and secondary

School groups are invited to come to the Public Works Facility, where they learn about Water Conservation and about our Water Reclamation Facility. We, as Water Conservation Coordinators, know that the youth are the

ones that will be making a difference in the future and their education in water conservation measurement is imperative for change.

Water Rates

Tremonton City officials have not adopted any official Water Conservation Ordinance, they have since 2017 adopted water conservation rates (6-tier) and in 2019 secondary water conservation rates (5-tier). The city has installed secondary water meters on all existing and new connections, since 2019.

Over the past 20-years, Tremonton City has put forth great efforts with regards to water conservation.

In July 2001, the water rates were adjusted, reducing the monthly minimum allotment from 15,000 gallons to 12,800 gallons. The base rate remained the same at \$13.00 and the overage charge was adjusted from \$0.98 per 1,000 gallons to \$1.13 per 1,000 gallons.

In July of 2004, the city once again adjusted its rates. The base rate was changed from \$13.00 to \$13.70 for 12,800 gallons to help the utility revenues meet our day-to-day operations and to put in reserves for capital projects in the future.

In January of 2017, the city enacted its first conservation water rate, \$8.00 per month base rate, with no allotted amount of water, and a 4-tier usage rate.

2017

4-Tier Culinary Water Conservation Rate with Cost Per 1,000 Gallon Per Tier

Base Rate	Tier 1	Tier 2	Tier 3	Tier 4
\$8.00	\$1.25	\$1.50	\$2.00	\$2.50
0 gallons	0 – 7,000	7,001 – 40,000	40,001 – 80,000	>80,001

In January of 2019, the city adjusted its water rates once again to pay for a bond to further construct more Secondary Water Projects and enacted secondary metering for existing customers and all future secondary customers. er rate, \$8.00 per month base rate, with no allotted amount of water, and a 4-tier usage rate.

2019

4-Tier Culinary Water Conservation Rate with Cost Per 1,000 Gallon Per Tier

Base Rate	Tier 1	Tier 2	Tier 3	Tier 4
\$10.00	\$1.25	\$1.50	\$2.00	\$2.50
0 gallons	0 – 7,000	7,001 – 40,000	40,001 – 80,000	>80,001

2019

5-Tier Secondary Water Conservation Rate with Cost Per 1,000 Gallon Per Tier

Base Rate	Tier 1	Tier 2	Tier 3	Tier 4	Tier 5
\$10.00	\$1.50	\$2.00	\$2.50	\$3.00	\$3.50
0 gallons	0 – 30,000	30,001 – 60,000	60,001 – 90,000	90,001 – 120,000	>120,001

In March of 2021, the city adjusted its water rates once again to pay for a second bond to further construct more Secondary Water Projects and enacted secondary metering for existing customers and all future secondary customers. er rate, \$8.00 per month base rate, with no allotted amount of water, and a 4-tier usage rate.

2020

6-Tier Culinary Water Conservation Rate with Cost Per 1,000 Gallon Per Tier

Base Rate	Tier 1	Tier 2	Tier 3	Tier 4	Tier 5	Tier 6
\$13.00	\$1.25	\$1.50	\$2.00	\$2.50	\$3.00	\$3.50
0 gallons	0 – 10,000	10,001 – 40,000	40,001 – 70,000	70,001 – 100,000	100,001 – 130,000	>130,001

2020

5-Tier Secondary Water Conservation Rate with Cost Per 1,000 Gallon Per Tier

Base Rate	Tier 1	Tier 2	Tier 3	Tier 4	Tier 5
\$10.00	\$1.25	\$1.75	\$2.25	\$2.75	\$3.25
0 gallons	0 – 30,000	30,001 – 60,000	60,001 – 90,000	90,001 – 120,000	>120,001

2021

6-Tier Culinary Water Conservation Rate with Cost Per 1,000 Gallon Per Tier

Base Rate	Tier 1	Tier 2	Tier 3	Tier 4	Tier 5	Tier 6
\$18.90	\$1.50	\$2.00	\$2.50	\$3.00	\$3.50	\$4.00
0 gallons	0 – 10,000	10,001 – 40,000	40,001 – 70,000	70,001 – 100,000	100,001 – 130,000	>130,001

Tremonton City also has a conservation rate for those customers that do not connect to the secondary water when it is available to their property.

2021

6-Tier Culinary Water Conservation Penalty Rate with Cost Per 1,000 Gallon Per Tier

Base Rate	Tier 1	Tier 2	Tier 3	Tier 4	Tier 5	Tier 6
\$18.90	\$1.50	\$3.25	\$5.00	\$6.50	\$8.00	\$9.50
0 gallons	0 – 10,000	10,001 – 40,000	40,001 – 70,000	70,001 – 100,000	100,001 – 130,000	>130,001

In the warmer months of the year, up to 65% of Tremonton City’s water is used for irrigation purposes. From 2000 - 2005, Tremonton City had seen a 12% reduction in water use, while the city was having a growth rate of 2.31%. From 2005 - 2010, Tremonton City saw a 29% increase in water use. This is mainly because of two industries expanding and locating in Tremonton. These two industries alone can some months use as much as 30% of all water produced for the city and also because from 2005 – 2008 Tremonton City had a higher-than-average residential growth rate of over 6%. Since 2010 the growth rate of Tremonton has slowed but it has remained steady at 2%. **(Tables 8, 9, 10 & 11)**

Tremonton City goal is to be realistic about our water reduction, knowing that residences and other water user’s habits can and will not be changed over night. We are striving for reduction in water use through education of the public, with hopes of changes in attitude. The city has not instituted large fees or fines for water use. Tremonton City water users simply pay for what is used. A portion of impact fees from new customers goes toward source development, allowing the growth to pay its way.

Tremonton City knows that if we can accomplish a reduction of a 0.5% to 1% per year over the next ten years, yet continue growing at reasonable rate, we feel that our users will benefit by saving costs in water development. Yet we know that with some commercial and industrial customers that we pursue to help with economic development, these reduction savings can easily be consumed. **(Example in Tables 8, 9, 10 & 11)**

TABLE 8**Tremonton City Water Conservation Efforts from 2000 – 2005 – 2010 – 2015 - 2021**

Month	2000	2005	2010	2015	2021
January	31,048,225	31,905,845	47,539,904	46,095,018	49,690,119
February	30,390,362	31,204,946	47,264,151	41,582,157	48,447,116
March	37,999,566	32,345,613	62,298,501	42,516,213	60,586,631
April	47,720,042	41,025,695	55,438,992	65,233,864	56,356,315
May	65,009,100	55,299,705	60,725,261	58,880,605	77,627,133
June	115,345,550	61,005,185	110,545,391	83,801,254	131,804,555
July	111,481,350	91,740,992	121,401,333	138,833,362	104,955,562
August	111,527,312	106,491,423	116,455,390	103,368,513	88,538,847
September	62,036,177	66,216,301	115,657,634	112,406,911	99,541,700
October	49,512,107	48,960,498	66,843,916	56,831,324	54,245,998
November	32,502,274	41,707,699	44,908,404	42,038,573	45,020,249
December	32,250,680	32,274,300	60,063,688	55,549,231	50,100,000
Total Gallons	726,822,745	640,178,202	909,142,565	847,137,025	866,959,802

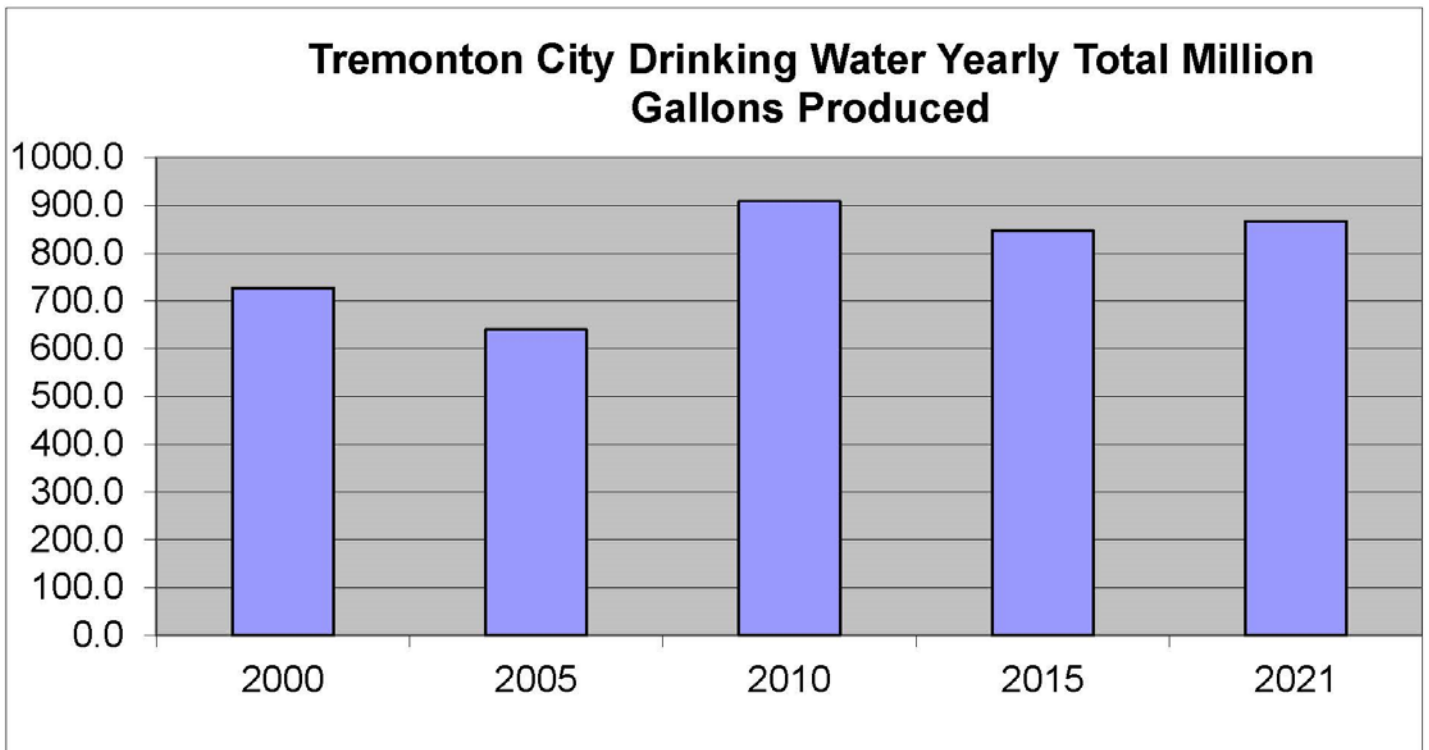
TABLE 9**Tremonton City Water Production Increases & Reductions from 2000 – 2005 – 2010 – 2015 - 2021**

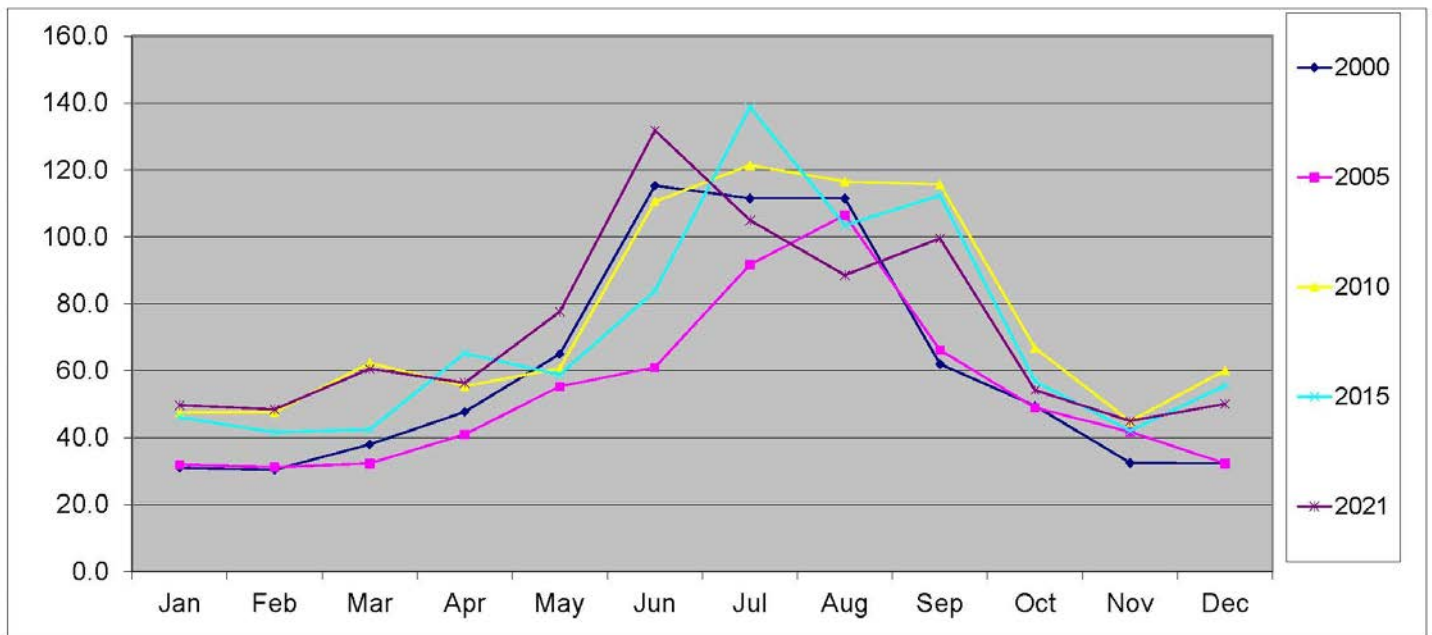
TABLE 10

Percent Water Use Reduction or Water Use Increase and Population Increase 2000 - 2021

Years	Water Use Reduction or Increase	Population Increase
2000 – 2005	11.9% Reduction	8.2%
2005 – 2010	29.6% Increase	19.5%
2010 – 2015	7.8% Reduction	7.0%
2015 – 2021`	2.3% Increase	17.7%
2000 - 2021	16.2% Increase	43.3%

TABLE 11

Tremonton Water Use 2000, 2005, 2010, 2015 & 2021



SUMMARY

Tremonton City continues to strive to reduce our overall water consumption:

2000 to 2021 there has been a 32.4% reduction in average per capita per day gallons of water use. (2000 – 351.4/capita) (2021 – 237.5/capita)

2020 to 2021 there was a reduction of 9.4% alone. (2020 262.0/capita) (2021 – 237.5/capita)

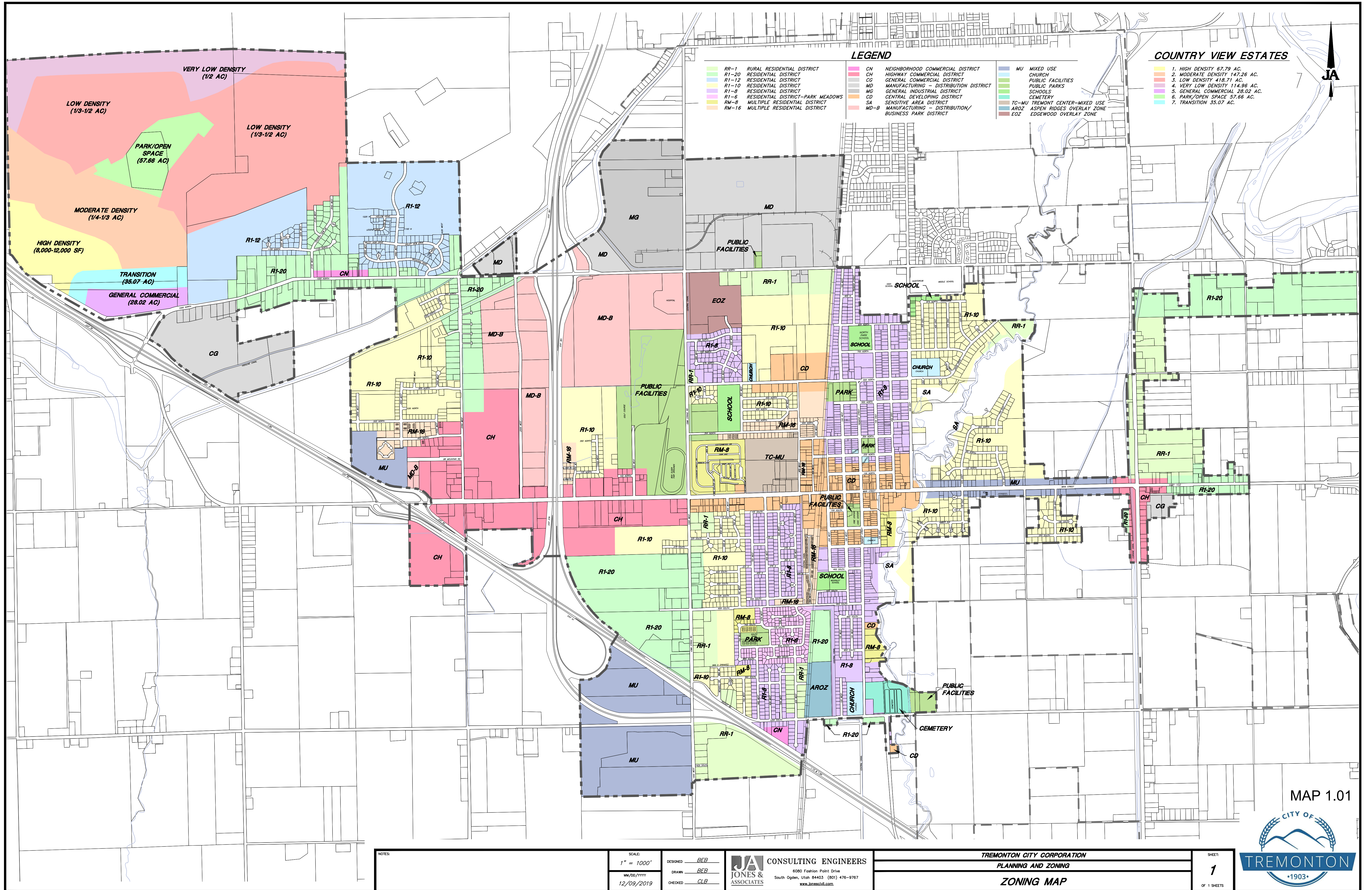
All the while having a population growth rate:

2000 to 2021 of 43.3%, (2000 – 5,666 pop) (2021 – 10,000 pop)

2020 to 2021 of 1.0%, (2020 – 9,984 pop) (2021 – 10,000 pop)

APPENDIX

- 1. Tremonton City's Service Area Map**
- 2. Tremonton City's Zoning Map**
- 3. Tremonton City's Culinary Water System Map**
- 4. Tremonton City's Secondary Water System Map**
- 5. Tremonton City's Secondary Water System Service Area Map**
- 6. Lawn Watering Guide**
- 7. Utah's Water Supply & Water Facts**
- 8. Tremonton City's Water Conservation Checklist**



MAP 1.01



NOTES: _____

SCALE: 1" = 1000'

DESIGNED: BER

DRAWN: BER

CHECKED: CLB

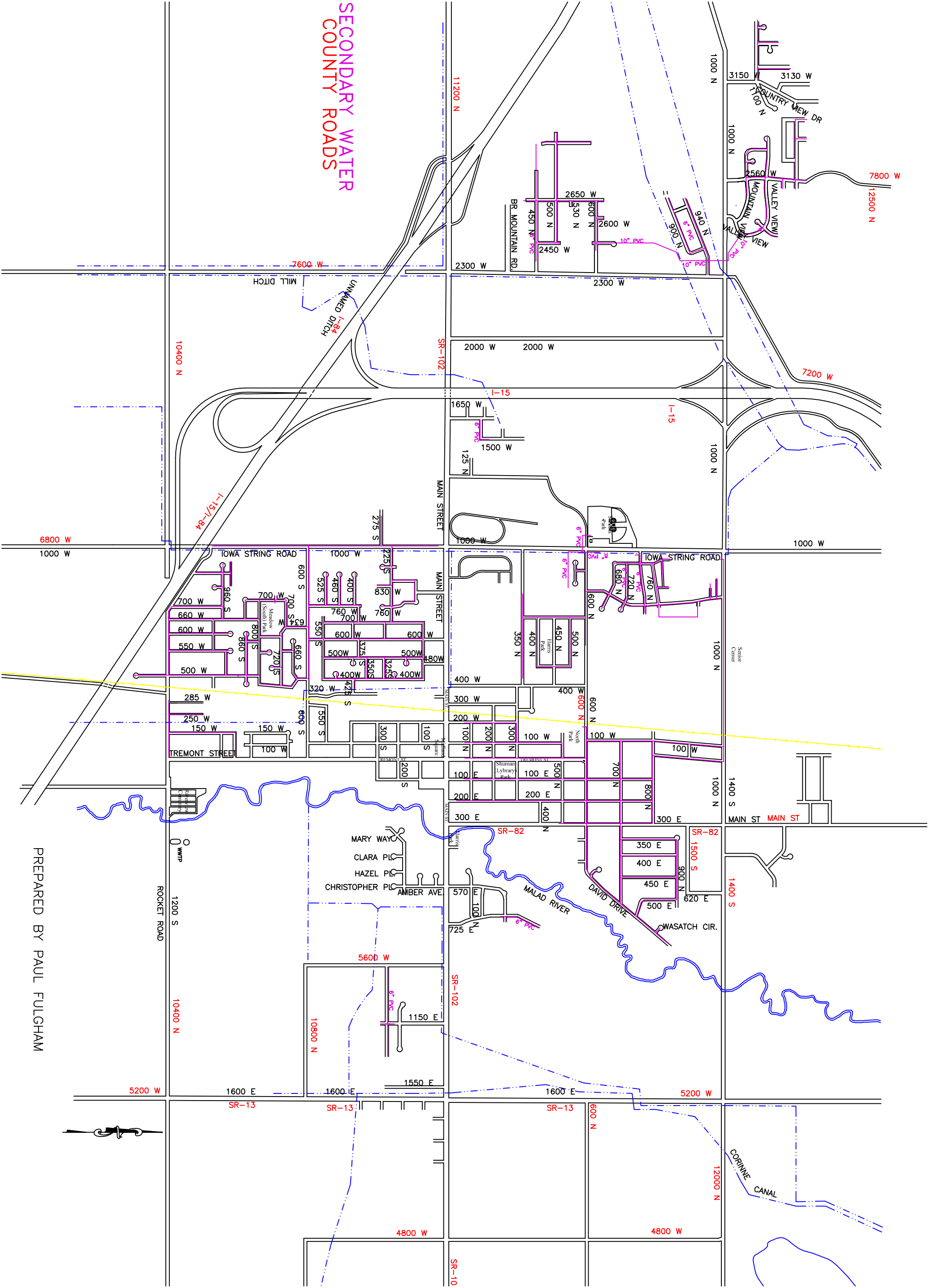
12/09/2019

JA CONSULTING ENGINEERS
 JONES & ASSOCIATES
 6080 Fashion Point Drive
 South Ogden, Utah 84403 (801) 476-9767
 www.jonescivil.com

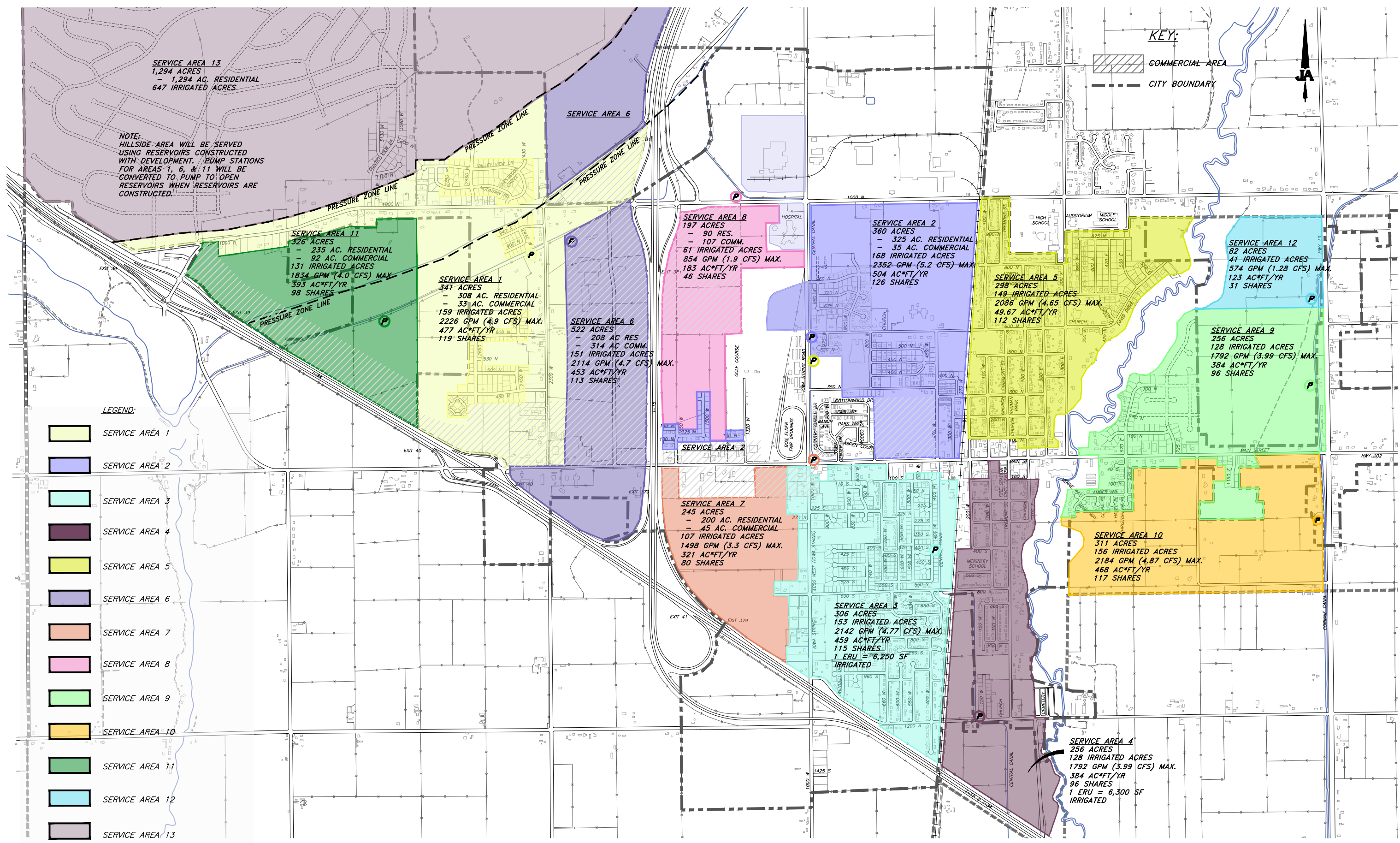
TREMONT CITY CORPORATION
 PLANNING AND ZONING
ZONING MAP

SHEET: **1**
 OF 1 SHEETS

SECONDARY WATER
COUNTY ROADS



PREPARED BY PAUL FULGHAM



PROJECT ENGINEER			
DATE	REV.	DATE	APPR.

SCALE: _____
 DESIGNED _____
 DRAWN _____
 CHECKED _____

JA
JONES & ASSOCIATES
 CONSULTING ENGINEERS
 1716 East 5600 South
 South Ogden, Utah 84403 (801) 476-9767

TREMONTON CITY
SECONDARY WATER CAPITAL FACILITIES PLAN
IRRIGATION SERVICE AREAS

Lawn Watering Guide

Lawn watering uses nearly half of the water around homes. Most of us tend to water too often and leave the sprinklers on too long.

Turf studies have shown that most lawns only need to be watered one every 3 or 4 days to stay healthy and green. Watering every day creates shallow roots. Watering infrequently develops deep roots and healthier turf. Grass roots grow deeper into the soil and become stronger with less watering. If grass does not spring back after being stepped on it's time to water. Water only when needed.

Use the watering schedule as a guide. Your lawn may need more water when it's extra hot or less when it's cool. Water less when it rains. Avoid watering on windy days or midday when the evaporation level is the highest. Try to water during the early morning hours. Proper lawn watering can save a lot of water - and that save you money. For more information on water conservation call (801) 538-7299.

Determine you lawn-watering needs.

1. Set 3 or more flat bottom cans or coffee mugs at various places on your lawn at least 4 feet from the sprinkler head.
2. Turn on your sprinkler(s) for 15 minutes.
3. Measure the depth of water in each can with a ruler and determine the average water depth in the cans.
4. Match your sprinkler output with the table below. Then water the number of minutes indicated.
 - o **For Example:** If your system puts out only 1/8 of an inch of water in 15 minutes you need to leave your sprinklers running for 52 minutes every four days to apply adequate water (this is for Spring). If your system is putting out 1 inch of water in 15 minutes then you need to leave your system running for 6 minutes every four days (for Spring)

Water Depth in Cans		1/8	3/16	1/4	5/16	3/8	1/2	5/8	3/4	1
S e a s o n	Spring (Water every 4 days)	Watering Time In Minutes								
		52	34	26	20	17	13	10	9	6
	Summer (Water every 3 days)	104	69	52	41	35	26	21	17	13
	Fall (Water every 3 days)	69	51	39	31	26	19	15	13	10

- Water through October 15 and again November 1st for winter.

Note: If water begins to run off; stop and let it soak in a few minutes, then continue for the recommended time.

St George / Dixie Area - Add 10 minutes to watering times above.

To use less water, you will need to make your sprinkler system more efficient or reduce the total number of irrigations you apply during the growing season. **Each unnecessary irrigation that can be eliminated will save enough water for about 104 showers, 52 baths, 52 loads of laundry, or 312 toilet flushes.**

Every minute counts!

For additional tips on how to irrigate more efficiently, contact your water supplier, local Utah State University Extension Horticulture Specialist, or one of the following organizations:

Center for Water Efficient Landscaping

www.hort.usu.edu/CWEL

Central Utah Water Conservancy District

Jordan Valley Water Conservancy District

Salt Lake City Public Utilities

Sandy City Public Utilities, 801-568-6048

US Bureau of Reclamation, 801-379-1000

www.uc.usbr.gov/progact/waterconsv/index.html

Utah Div. of Water Resources, 801-538-7254

<http://conservewater.utah.gov>

Utah Irrigation Association

<http://www.utahia.org>

Utah Nursery & Landscape Assoc. (UNLA)

<http://www.utahgreen.org>, 801-484-4426

Utah State University Extension

<http://ext.usu.edu>

Utah Water Conservation Forum

<http://www.utahwaterforum.org>

Washington County Water Conservancy

District, 435-673-3617

Weber Basin Water Conservancy District

<http://www.weberbasin.com>, 801-771-1677

RESIDENTIAL LAWN WATERING GUIDE

for

Box Elder County, Utah

DO YOU KNOW YOU COULD USE LESS WATER AND HAVE A HEALTHIER LAWN?



Checking contents of container after the test.

Most of us use drinking water to grow our lawns, flowers and other plants. On average, we use about two-thirds of our water outdoors, most of which goes on lawns. As much as one-half of the water is wasted through incorrect watering.

If you can answer these questions, you are probably watering correctly.

1. Do you know how much water you apply each time you irrigate your lawn?

2. Are you applying the water to your lawn evenly?

3. Do you know when your lawn needs water?

If you cannot answer these questions, the following three simple steps will help you find the answers and put you on the path to irrigate your lawn correctly.

STEP 1. Check Distribution Uniformity (Pattern) of Your Sprinklers. Remember, not all sprinklers apply the same amount of water. This is true of automatic, manual, or hose systems.

To check the distribution pattern, you will need at least 4 containers. Straight-sided containers like soup cans or milk cartons are fine but shallow tuna cans are too shallow and water splashes out. You may also use special water measuring cups (available from local Utah State University Extension Offices).



Suitable test containers could include special water measuring cups, open-topped milk cartons, or soup cans.

A) Place the 4 or more containers in a grid pattern over the lawn area to be checked.

B) Run your sprinklers for a period of time (at least 10 minutes) over the lawn. If you have overlapping sprinklers that run at different times, run both sets of sprinklers. Check each container and see if the amount of water in each is about the same. Make a note of those containers (areas) that have more or less water than average.

Try the following suggestions to apply water more evenly:

- Set the sprinklers to run for longer or shorter periods of time if they are on different valves.
- Check and repair clogged, damaged, or broken sprinkler heads. Also look for sprinklers that may be set into the ground too deeply or tilted. Sprinklers should be vertical and should not be obstructed by surrounding grass, plants, or other objects.
- Sprinklers running on the same line or valve should be the same model and have the right nozzle to cover the desired area.

C) After making adjustments, empty the containers and try the test again. Continue to make adjustments and run the test until the system is applying water as evenly as possible.

STEP 2. Determine how long you should run your sprinklers to apply the right amount of water.

Most areas of Utah have average high temperatures of 90° - 100° F. The suggested irrigation application is ½ inch of water each irrigation.

A) In your 4 containers, measure and mark a ½ inch depth. Note that the ½ inch line on the special water measuring cups is just above the measured markings on the side.

B) Turn on your sprinklers and time how long it takes for water to reach the marks in each container. With overlapping sets of sprinklers, split the run time equally between both sets of sprinklers. Figure the average run time for all containers.

C) If you see water running off your lawn, three or more soak cycles are recommended. Irrigate for three or more cycles allowing 1-hour in between each cycle. This will prevent water from running off the lawn.

Example: If your sprinklers take 21 minutes to apply ½ inch of water, you would use three 7-minute cycles. Run your sprinklers for 7 minutes each cycle and wait one hour in between each cycle.

STEP 3. Set Your Watering Schedule

Now that you know **how long** to water each time you irrigate, you need to know **how often** to irrigate. The following schedule shows how often to irrigate during the growing season.

Irrigation Schedule	
Month	Interval
Startup until April 30	Once every 7 days
May	Once every 4 days
June	Once every 3 days
July	Once every 3 days
August	Once every 3 days
September	Once every 6 days
October 1 to Shutdown	Once every 12 days

This schedule is based upon average or normal weather conditions. Unusual warm conditions may require an occasional irrigation a day earlier than scheduled. Rain storms or cool periods may allow postponing or skipping an irrigation.

By following the above suggestions, you will apply the **maximum** amount of water required by the lawn. You will also use about half of the water the average Utah homeowner uses. This schedule could save you as much as **one-fourth** of your yearly water usage. Even so, you may still be using more than is necessary.



UTAH'S WATER SUPPLY

Utah is the nation's second-driest state with 13 inches of average annual precipitation.

HOW MUCH:

	Million Acre- Feet/Year
Water can be stored in Utah's surface reservoirs?	7.5
Water do Utahns use annually?	6.0

WHAT PERCENTAGE OF UTAH'S WATER IS USED FOR:

Agriculture and Irrigation?	87.3%
Public and Domestic?	9.2%
Commercial and Industries?	3.5%

HOW MUCH WATER DO WE USE?

	Gallons per Day
Taking a bath or shower (per 5 minutes)	15-30
Washing dishes	15-60
Washing clothes	30
Cooking	10
Drinking	1/2
Toilets (per flush)	4-7
Washing the car	100
Water lawn and yard	180
Dripping faucet (1 drop per second)	4

WATER VOLUME OF SOME UTAH LAKES AND RESERVOIRS:

	Normal Capacity (Acre-Feet)
Bear Lake	1,420,000
Utah Lake	850,000
Great Salt Lake (elv. 4200)	15,370,140
Strawberry	1,107,000
Flaming Gorge	3,789,000
Lake Powell	28,000,000





Jordanelle

320,000

Water Facts

There are approximately 326,000,000 cubic miles of water on earth, covering 70 percent of the earth's surface.

WHAT PERCENTAGE IS:

Oceans	97.24%
Polar ice, glacier	2.15%
Groundwater	0.61%
Lakes	0.017%
Soil	0.005%
Atmosphere	0.0001%
Rivers	0.00001%

HOW MUCH WATER DOES IT TAKE TO PRODUCE ONE SERVING OF:

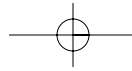


	<u>GALLONS</u>
Corn	61
Lettuce	6
Apples	16
Tomatoes	3
Oranges	22
Watermelon	100
Potatoes	6.5
Wheatbread	15
Milk	65
Cola soft drink	10
Steak	2,607
Pork	408
Chicken	408
Eggs (2)	136
Typical breakfast	209
Typical lunch	1,427
Typical dinner	2,897



ACRE-FOOT

One acre-foot equals approximately 326,000 gallons, enough to fill a football field to a depth of one foot or to supply the water needs of an average family of five for a year.



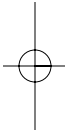
Sponsored by the Governor's Water Conservation Team



To locate some water-wise landscape examples near you, and to find out more ways you can help Slow The Flow, visit www.conservewater.utah.gov.

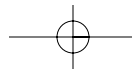
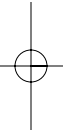
[More Information](#)

Remember, if we each save a little, we'll all save a lot.




**IT'S THE little things
WE TAKE FOR GRANTED.**

Water-Wise Landscaping

WATER MAY NOT SEEM LIKE
a big deal. UNTIL YOU
TRY living without it.



To look around Utah, most would never guess that it is actually the second-driest state in the nation – averaging only 13 inches of water each year. Working together and practicing easy conservation techniques, such as water-wise landscaping, is a huge step toward ensuring we have enough water for now and into the future.

WATER-WISE LANDSCAPING

Water-wise landscaping dramatically decreases water usage while allowing you to maintain a beautiful, lush landscape. It employs a host of ideas that conserve water, reduce maintenance and save money.

Water-wise landscaping doesn't mean drab, colorless, lifeless yards, but it does mean the application of these important principles:

Planning & Designs that are environmentally sound, financially feasible and aesthetically pleasing. Because lawns consume a lot of water, choose a landscape that limits the lawn size and beautifies the yard.

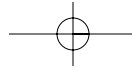
Soil Amendments that improve the soil and provide beneficial nutrients.

Appropriate Plant Selection using low-water use plants as much as possible. Group plants together that have similar water demands.

Efficient Irrigation that lessens water use and saves money. Apply water in the proper amount and only when necessary. Cycle your irrigation into two or three installments to avoid run-off. Group plants by water need.

Use Of Mulch reduces weeding, evaporation and slows erosion. Mulch with 2 to 3 inches of materials such as compost, ground bark, gravel or stone.

Appropriate Maintenance to repair hoses and irrigation leaks, and adjust your timers according to the season. Maintenance needs of a carefully planned water-wise landscape should decrease over time as plantings mature.



Sponsored by the Governor's Water Conservation Team



Remember, if we each save a little, we'll all save a lot.

To locate some water-wise landscape examples near you, and to find out more ways you can help Slow The Flow, visit www.conservewater.utah.gov.

[More Information](#)

If your lawn and plants are watered by different sprinkler zones, you will be able to save water by watering them appropriately. Shrubs, flowers and other decorative plants require 25 to 50 percent less water than lawn. If possible, water these zones a few minutes longer than the lawn but half as frequently.

Water By Zone

Cycle your watering schedule by breaking your total watering time into two or three installments, allowing an hour between waterings to let the water soak in. The more clay in your soil means more frequent and shorter cycles for your lawn.

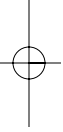
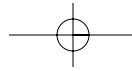
Cycle Your Irrigation

ADDITIONAL WATER-SAVING TIPS



HERE IN UTAH water is A precious commodity.

Monthly Lawn Watering Guide

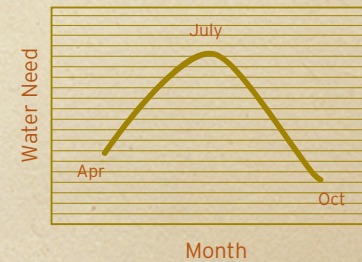


WE need TO MAKE every drop COUNT.



A typical Utah lawn has a water demand curve that begins in mid-April, rises to a peak in July, and then falls rapidly until mid-October. Adjusting your timer monthly to better follow this demand curve will save you water and money. An easy way to do this is keep the minutes constant and increase or decrease the number of days between watering.

Typical Lawn Water Demand Curve



MONTHLY WATERING GUIDE

These watering schedules are based on average conditions. If you already water less and are satisfied with how your lawn looks, don't increase your watering time. Instead, try decreasing your time. Turn down the minutes until you begin to see stress on your lawn, then turn it back up a bit and leave it. As you fine-tune your schedule you will save even more water and money.

If the recommended watering schedule does not seem to be enough water for your lawn, please check your system for inefficiencies and maintenance issues before increasing your run times. Watering a whole lawn to green-up just a few brown spots is an inefficient use of water.

* It is recommended to apply 1/2 inch per irrigation.
 ** It is recommended to apply 5/8 inch per irrigation.

Month	Northern Utah*	Southern Utah**
Mar.	No irrigation recommended	27 min. every 7 days
Apr.	No irrigation recommended	27 min. every 5 days
May	21 min. every 4 days	27 min. every 4 days
June	21 min. every 3 days	27 min. every 3 days
July	21 min. every 3 days	27 min. every 3 days
Aug.	21 min. every 3 days	27 min. every 3 days
Sep.	21 min. every 6 days	27 min. every 5 days
Oct.	21 min. every 10 days	27 min. every 7 days
Nov.	No irrigation recommended	27 min. every 10 days
Dec.	No irrigation recommended	No irrigation recommended

Please remember that these schedules are only recommendations. Each landscape has its own characteristics that affect its watering requirements.

The times have been calculated based on average application rates for spray heads. Times should be doubled for rotary heads.

The Water Conservation Checklist

Try this checklist to see where you stand and what you can do to help.

Check your toilet for leaks

A leak in your toilet may be wasting more than 100 gallons of water a day. To check, put a little food coloring in your toilet tank. If, without flushing, the coloring begins to appear in the bowl, you have a leak. Adjust or replace the flush valve or call a plumber.

Stop using your toilet as an ashtray or wastebasket.

Every time you flush a cigarette butt, facial tissue or other small bit of trash down the toilet, you waste five to seven gallons of water.

Put two plastic bottles in your toilet tank.

Your toilet can flush just as efficiently with less water than it now uses. To cut down water waste, put an inch or two of sand or pebbles in each of two plastic quart bottles to weigh them down. Fill them with water replace the lid and put them in your toilet tank, safely away from the operating mechanisms. Better yet, replace your old toilet with a new low-flow toilet. They are readily available in a variety of styles and colors. Opt for the reliable brand names.

Take shorter showers.

Long hot showers waste five to ten gallons of water every unneeded minute. Limit your showers to the time it takes to soap up, wash down and rinse off.

Install water-saving shower heads or flow restrictors.

Most shower heads put out five to ten gallons of water a minute, while three gallons is actually enough for a refreshing cleansing shower. Your local hardware or plumbing supply store stocks inexpensive water-saving shower heads that you can install yourself. For even less money, you can purchase a small plastic insert that will limit flow through your present shower head.

Turn off the water after you wet your toothbrush.

After you have wet your toothbrush and filled a glass for rinsing your mouth, there is no need to keep water pouring down the drain.

Rinse your razor in the sink.

Before shaving, partially fill your sink with a few inches of warm water. This will rinse your blade just as efficiently as running water, and far less wastefully.

Check faucets and pipes for leaks.

Even the smallest drip from a worn washer can waste 50 or more gallons of water a day. Larger leaks can waste hundreds.

Use your automatic dishwasher only for full loads.

Every time you run your dishwasher, you use about 25 gallons of water.

If you wash dishes by hand, don't leave the water running for rinsing.

If you have two sinks, fill one with soapy water and one with rinse water. If you have but one sink, gather all the washed dishes in the dish rack and rinse them with an inexpensive spray device.

Don't let the faucet run while you clean vegetables.

You can serve the same purpose by putting a stopper in the sink and filling the sink with clean water.

Keep a bottle of drinking water in the refrigerator.

This ends the wasteful practice of running tap water to cool it off for drinking.

Use your automatic washing machine only for full loads.

Your automatic washer uses 30 to 35 gallons of water in a cycle. That's a lot of water for three T-shirts.

Plant drought-resistant trees and plants.

There are many beautiful trees and plants that thrive in Utah with far less watering than other species.

Put a layer of mulch around trees and plants.

A layer of mulch will slow the evaporation of moisture.

Use a broom to clean driveways, sidewalks and steps.

Using a hose to push around a few leaves and scraps of paper can waste hundreds and hundreds of gallons of water.

Don't run the hose while washing your car.

Soap down your car with a pail of soapy water. Then use a hose just to rinse it off.

Teach your children that your hose and sprinklers are not toys.

There are a few things more cheerful than the sound of happy children playing under a hose or sprinkler on a hot day. Unfortunately, there are also few things more wasteful of precious water.

Water your lawn only when it needs it.

Watering frequently can be very wasteful as it doesn't allow for cool spells or rainfall that can reduce the need for watering. A good way to see if your lawn needs watering is to step on some grass. If the grass springs back up when you move, it doesn't need water.

Deep-soak your lawn.

When you do water your lawn, does it just long enough for water to seep down to the roots where it won't evaporate quickly and where it will do the most good. A light sprinkling which sits on the surface, will simply evaporate and be wasted. A slow steady fall of water is the best way to irrigate your lawn.

Water during the cool parts of the day.

Early morning is better than dusk since it helps prevent the growth of fungus.

Don't water the gutter.

Position your sprinklers in such a way that water lands on your lawn or garden, not on concrete, where it does no good. Avoid watering on windy days when much of your water may be carried off before it ever hits the ground.

Check for leaks in pipes, hoses, faucets and couplings.

Leaks outside the house may not seem as unbearable since they don't mess up the floor or drive you crazy at night. But they can be just as wasteful as leaks in the line from the water meter, even more wasteful.

Your Score

If you've checked:

- 19-23 boxes you're doing an excellent job saving water, energy and protecting our environment.
- 12-18 means you're doing a good job, but there's room for improvement.
- Less than 12 means you need to change your habits.