

QUESTION AND ANSWERS REGARDING SECONDARY WATER

Question: What is secondary water or pressurized irrigation?

Answer: Secondary water provides non-drinking water for irrigating landscape areas. Secondary water comes directly from the canals that run through Tremonton City. The canal water is pumped from the canal and pressurized into an underground distribution system. Secondary water is made available to property owners by a 1" lateral that is stubbed to a property. For Tremonton City's purposes the terms "secondary water" and "pressurized irrigation," are the same.

Question: Why is the City considering developing a secondary water system?

At present, the Tremonton City Culinary Water System is nearing capacity during July and August. A new culinary water source must be developed or the demand placed on the culinary water system during the outdoor irrigation season must be reduced. The City's "Culinary Water System Capital Facilities Plan & Impact Fee Facilities Plan" found that the water use for a typical residential home during the months of July and August is approximately 1/3 indoor use and 2/3 outdoor use. While the peak demand is experienced during the hottest months of the summer, the culinary water system must be designed to service this peak demand. Removing the irrigation from the culinary system would mean that three homes will be added to the culinary water system with the same impact as one home that does not have a separate irrigation source.

Question: So, the City needs additional water sources, why is the City doing a secondary water system instead of drilling a new well?

Answer: From 2011 until 2017, the State of Utah had a moratorium on the issuance of water rights and drilling of new wells as they studied the Malad-Lower Bear River Basin. The State of Utah's study showed that there are concerns with issuing new water rights and allowing the drilling of new wells where Tremonton City currently has its water sources. The State of Utah's concern is that any new well may affect the production of existing wells. Any new well proposed in the location that Tremonton City would desire will likely be highly contested by existing owners of wells and highly regulated by the State of Utah. There is a lot of uncertainty of if the City would be able to obtain additional water rights and a permit to drill a new well in the immediate and distant future.

It is also worth noting despite the City using geologist and other experts to site the location of a new well there is no certainty that any new well will produce significant amounts of water. Simply put is difficult to understand and know the location of aquifers and how the aquifer will respond and recharge when a new well is pumped. The City has determined that constructing a secondary water system is the most viable alternative to provide a reliable water supply to reduce the demands on the City's Culinary System.

Question: How did the City decide to construct a secondary water system?

Answer: The decision to construct a secondary water system has been studied for many years. In 2005, the first study for a secondary water system was prepared. At that time, the City started to develop a secondary water system, but later suspended the plans for the development of the secondary water system.

In 2016, the City Council again began to study the issue of developing a secondary water system and authorized a Secondary Water System Capital Facility Plan to be prepared to evaluate expanding the City's existing secondary water system as a way to reduce the demand on the City's Culinary System. Since 2016, the City Council has studied and analyzed the issue of developing a secondary water system. For reasons

more specifically explained elsewhere in this document, the City Council has decided that development of a secondary water system provides the most certainty in providing for the existing and future demands for water.

Question: What is the cost for the City to construct a secondary water system?

Answer: Providing a reliable water supply is an essential Tremonton City service, at present and into the future. As such the City's perspective of making decisions on cost is based on a long-term perspective. The cost to construct to build out a secondary water system for a 50-year planning horizon is approximately \$17 million (2017 dollar value).

Conversely, the cost to expand the City's culinary water system to meet the water demands for a 50-year planning horizon is 30.5 million dollars (2013 dollar value). One of the contributing factors to the discrepancy in cost between the two systems is that the culinary water system's infrastructure include sources, storage tanks, and transmission lines that must be sized for the peak demand which occurs during July and August when approximately 1/3 of the water use is for indoor use and 2/3 outdoor use. By constructing a secondary water system to service the entire City, there will remain capacity within the existing culinary water system to service future growth until 2050-2070.

Question: I have water shares in the Bear River Canal Company and wondered if the City would like to purchase these shares?

Answer: The water source for the City's secondary water system is from the Bear River Canal Company's canals, which flow through the City. For the City to have the ability to pump water from the Bear River Canal Company, the City must have shares equal to the amount of water pumped out of the canal. The City does have water shares in the Bear River Canal Company and will acquire more going forward. If you have, water shares that you would like to sale to the City, please contact Paul Fulgham, Public Works Director at 435-257-9471.

Question: How will the secondary water system be designed and constructed?

Answer: There are three major canals owned and operated by the Bear River Canal Company, which flow through the City. The proposed secondary water system makes use of the canal system by locating pumping stations at strategic locations along the canals. The secondary water system can be constructed in a modular fashion using the pump stations for each service area. The canals will be used as the storage reservoirs, and the underground distribution lines will be pressurized directly by pumps operating on variable frequency drives that pump water directly from the canals into the underground distribution system. The City needs to strategically locate the pump sites and create service areas based on the capacity of these pumps. Strategically the City has been divided into 12 service areas, and additional service areas will be needed in the distant future as the City grows.

Question: I thought the City already had a secondary water system?

Answer: The City had a secondary water system as far back as the 1950s when City repurposed the old wooden mains from the City original culinary water system, into a secondary water system. This system allowed canal water to be used on lawns instead of spring water. The secondary water system was done away with before the 1970s because of the disrepair of the wooden mains.

In 2004, the City started to construct a secondary system with the development of new subdivisions and institutional facilities. Specifically, secondary water was constructed with the development of River Valley and Spring Acres Subdivisions and included Jeanie Stevens Park; Alice C. Harris Intermediate

School for a total of 80 current active connections. In 2005, the first study for a secondary water system (Secondary Water Master Plan & Impact Fee Study) was prepared. At that time, the City Council determined that the cost to develop the secondary water system was too high compared to other more readily available water sources. As such, the plans to further develop a secondary water system were suspended, with the City continuing to operate and supply secondary water to the aforementioned subdivisions and intuitional facilities.

Question: When will secondary water be made available to my property?

Answer: The short-term objective of constructing a secondary water system is to reduce the demand placed on the culinary water system during the outdoor irrigation season. For this reason, the City is prioritizing the construction projects that can quickly reduce the demands of outdoor irrigation on the culinary water system. Several subdivisions have secondary distribution lines and are located by an existing pump station that can be quickly be put into service by leveraging existing secondary water infrastructure.

Additionally, the City is actively planning for the financing and construction of the secondary water system. For financing and construction purposes, the City has created service areas 1-12. These service areas can be constructed to operate independently of any other areas with a single pump station located on one of the canals flowing through the City. This approach allows the construction of the secondary water system to be constructed in a modular fashion as financing is made available. The prioritizing of the construction of these service areas is determined based upon construction costs compared to the estimated gallons of culinary water saved during July and August. Thus far, the City has prioritized the construction of the services area 3 which is generally be located between Main Street and Rocket Road and between 1000 West and the Central Canal in Tremonton City (see map below).



Other factors that assisted in the decision-making on prioritization included the size of the service area and the ability for contractors to reasonably complete the service area during a construction season. The City Council is committed to constructing services areas 1-12 in an order that makes practical and economic sense.

Question: What timeframe that secondary water would be available to me each year?

The City's secondary water system is a seasonal utility. The City's secondary water source is supplied by the Bear River Canal Company which typically start delivery water the first week in May and usually terminates water service the first week in November. Snowpack, reservoir levels, drought, and weather, play an important role in the availability of this irrigation water and these dates.

Question: Water in the canal looks dirty, how clean is the water in the secondary system?

Answer: Secondary water is non-potable water that has a lower quality than culinary water, and is unsafe to drink. The non-potable water supplied through the City secondary water system comes out of the Bear River at Cutler Dam and travels to Tremonton through a series of open canals. In some cases, the secondary water in the canal has already been used to irrigate an agricultural field or what is known as return flows, and the water that has not percolated into the field is returned to the canal via a tailwater ditch. As the water travels from Culter Dam and across agricultural fields, the water becomes permeated with silts. The City

will filter the secondary water system to remove as much silts and particles as possible. It is recommended that property owners also put a filter on their sprinkler system.

Question: How much will I pay for secondary water?

Answer: The City will charge a base fee of \$10.00 and a tiered usage rate for secondary water based on the amount of water that passes through a property owner’s secondary meter. Those property owners that use more secondary water will pay more per thousand gallons associated with the various tiers. Below is a chart that shows the three different rate schedule (Culinary Rate, Secondary Rate, and Culinary with Secondary Rate) and various tiers and cost per thousand gallons associated with the tiers. The tiered usage rate schedule is meant to incentivize water conservation. The City is also planning to install water meters on property where secondary water is available that will allow property owners access through the internet to receive close to real-time data about their culinary and secondary water use. The software will also allow property owners to target consumption and receive alerts from the software when they reach these consumption thresholds. If you would like to have a personalized estimate regarding your potential payment for secondary water, please contact the City Utility Billing Department at 257-9500.

		Culinary Rate	Secondary Rate	Culinary with Secondary
Monthly Base Rate		\$10.00	\$10.00	\$10.00
	Tier 1	0 - 7,000	0 - 30,000	0 - 7,000
Amount per 1,000 gallon		\$1.25	\$1.50	\$1.25
	Tier 2	7,001 - 40,000	30,001 - 60,000	7,001 - 40,000
Amount per 1,000 gallon		\$1.50	\$2.00	\$3.00
	Tier 3	40,001 - 80,000	60,001 - 90,000	40,001 - 80,000
Amount per 1,000 gallon		\$2.00	\$2.50	\$4.50
	Tier 4	>80,001	90,001 - 120,000	>80,000-
Amount per 1,000 gallon		\$2.50	\$3.00	\$6.00
	Tier 5		>120,001	
Amount per 1,000 gallon			\$3.50	

Question: What are the three different rate schedules of Culinary Rate, Secondary Rate, Culinary with Secondary and what circumstances will these rates schedules apply to a property owner?

Answer: The Culinary Rate is the current rate structure. This rate structure will apply to all property owners from November thru April billing. If a property owner does not have access to secondary water, they will continue on the Culinary Rate from May thru October billing.

Property owners that have access to secondary water be on the Secondary Rate and Culinary with Secondary Rate for the May thru October billing. The Secondary Rate applies to all water that passes through the secondary water meter, while the Culinary with Secondary Rate will apply to all water that passes through the culinary water meter. Secondary Rate and Culinary with Secondary Rate will be effective for each property owner one year after secondary water is made available to their property or when they start to use the secondary water, whichever occurs first.

For more information as to the different rate schedules, please contact the City Utility Billing Department at 257-9500.

Question: I have a shallow well, which I irrigate my landscaping from will I be required to connect to the secondary water system?

Answer: Every property in which the City has made secondary water available will be required to pay the Secondary Rate base fee of \$10.00 during the May thru October billing. If the property owner chooses not use the secondary water, there will be no usage fee incurred by the property owner. There is a different culinary water rate, which is entitled Culinary with Secondary that applies to property owners that have secondary water available to their property during the May thru October billing. The Culinary with Secondary rate has a relatively low-price usage fee for the first 7,000 gallons used, which is the typical amount of indoor water used by most property owners. The usage rates increase dramatically on the Culinary with Secondary rate above the first 7,000 gallons to discourage property owners from using culinary water for outdoor use. The Culinary with Secondary rate will be effective for each property owner one year after secondary water is made available to their property or when they start to use the secondary water, whichever occurs first.

Question: What will I need to do to connect the secondary water system to my existing sprinkler system and what might be the cost to make the connection?

Answer: The cost to connect the secondary water to an existing sprinkler system is dependent on several variables of how an existing property owner has configured their existing sprinkler system. The 1" secondary water connection will be brought to the side property line that is common with your neighbor and located within the park strip area. Most property owner's sprinkler systems are connected on a 3/4" line feeding from a 5/8" x 3/4" meter. The 1" secondary water connection will greatly increase the water pressure. Most culinary water meters are located in the center of the yard; the City is estimating there would be 50' of pipe that would need to be run at an installed cost of around \$1.50/foot (\$75 - \$100).

Based upon experience with some of the existing secondary water users in the City it is recommended that there be the installation of a filter mechanism on the property owners' sprinkling system. Filters range in cost of \$20 - \$250. Sprinkler heads that are recommended for secondary water are the impact design or the rotating stream design, impact heads cost between \$15 - \$25, rotating stream heads average \$8. The exact type of sprinkler head will depend on how large of an area that a sprinkler zone is watering. No special zone valves will be needed for the water quality.

Secondary water will likely require more effort by the property owner, because of the quality of the water source from the canal system is of lesser quality than the City's culinary water system. However, the quantity of available water when sprinkling will greatly increase.

Question: Can I have the City's culinary water and secondary water system connected to my sprinkler at the same time being and switch between the two water sources with a swing joint?

Answer: It is illegal to configure your sprinkler system such that it a sprinkler system is interconnected to the secondary water source and culinary water source. To have the two water sources connected to a sprinkler system at the same time with a swing joint creates a serious health hazard for the property owner and their surrounding neighbors. When these two water systems are interconnected the culinary water may become contaminated from secondary water, this may occur because of the higher pressure of the secondary or by a back-siphoning phenomenon, thus allowing the contamination of our culinary water system.