



SaskWater

Town of Gravelbourg Water Supply System

FREQUENTLY ASKED QUESTIONS

SaskWater provides water services to many municipalities in Saskatchewan and is proud of its partnership with the Town of Gravelbourg. Here's some information about your water supply system.

Q 1. What service does SaskWater provide to my community?

SaskWater supplies potable water to the Town of Gravelbourg on a wholesale basis. The community then delivers this water to you through its distribution system.

Q 2. What does the water supply system include?

The water supply system, owned and operated by SaskWater, includes the source water intake and pump station located at the Thomson Lake reservoir and approximately 10 km of pipeline to deliver the non-potable water to the water treatment plant.

The infrastructure is operated and maintained by two technologists and supported by a supervisor and district manager. The system is also monitored remotely 24 hours a day, seven days a week, by SaskWater's SCADA technology. That team is backed by SaskWater's special services unit which provides operations coverage when necessary; and our engineering team with the expertise to troubleshoot challenges and find solutions.

Q 3. What upgrades have been done to the water supply system?

SaskWater upgraded the water treatment plant in 2012 with a building expansion and switched the treatment process to a membrane filtration

system. This upgrade allows the system to produce high quality drinking water from a challenging water source.

Recent upgrades have also been made to enhance the life of the membrane filters.

Q 4. Who decides when upgrades are needed?

SaskWater consults with the town on an annual basis to discuss how the system is performing. At this time we develop a shared understanding of future capital and maintenance needs and plan accordingly.

Q 5. What is the treatment process?

The treatment process uses membrane filtration technology to remove the microorganisms, organic compounds, suspended particulate and dissolved minerals from the source water. The process includes the addition of chlorine as the final step for water disinfection. Membrane filtration requires the periodic cleaning and backwashing of filters to maintain their ability to filter the suspended material out.

Q 6. What are the challenges with the source water from Thomson Lake?

The water in Thomson Lake is supplied by overland runoff into the Wood River system. This source water is heavily influenced by agricultural activities in the immediate area of the reservoir. This creates water that contains a high level



of organic carbon, suspended particulate and minerals in the water. Water that contains high levels of organic carbon reacts with the disinfection chemicals (chlorine) causing the formation of Trihalomethanes and Halo Acetic Acids. Reduction of organic carbon and microcystin from the water is required to ensure that drinking water is safe for consumption. Both of those potential contaminants are reduced to safe levels by the treatment system.

Q 7. How do these challenges impact operating costs?

This challenging source water requires a sophisticated treatment process to reduce and remove the health related contaminants present in order to meet regulations. The seasonal changes from a shallow water source also cause significant increases in fluctuations in the turbidity and algae levels in the source water.

The poor quality of the source water increases the frequency that the filters must be cleaned and backwashed, resulting in increased wastewater generation. The water that is rejected by the membranes is called residual water which then requires processing to meet regulations for discharging the water to either the town sanitary sewer system or directly to the Wood River.

In short, the water treatment process is operationally intensive and includes a significant cost for maintaining and replacing the filter membranes.

Q 8. How are water rates determined?

The Town of Gravelbourg is SaskWater's customer. SaskWater bills the town for the wholesale potable water provided from the water treatment plant.

That water is then distributed to you through the town's distribution system. There are costs associated with owning and operating distribution systems that form part of the residential water rate charged to you by the town.

Q 9. Why did the rate structure change?

SaskWater and the Town of Gravelbourg agreed to transition the rate SaskWater charges the town from a volume based rate to a combination fixed fee and volumetric based rate. To support this transition, the Town of Gravelbourg is also changing its rate structure to a combination fixed fee and volumetric based rate. This results in a rate from the town to residents that is less impacted by fluctuating water usage.

SaskWater did not increase water rates to the Town of Gravelbourg in 2019, 2020 or 2021 and will not increase rates in 2022 or 2023.

SaskWater and Gravelbourg continue to work together on a future rate plan which ensures the residents continue to have safe and reliable water, and the costs associated with operating and maintaining the water supply system are being recovered.

Q 10. How is the SaskWater portion of my rate calculated?

SaskWater rates are split into two components; a fixed component that ensures adequate funding to support the majority of the operations and maintenance costs - costs that exist even if no water is being produced or used - and a variable component that is tied directly to the amount of water that is being consumed. The variable component is a smaller portion of the total rate, so water bills during peak usage periods remain relatively stable even if water consumption rises significantly.