

City of McCleary
STAFF REPORT



To:	Mayor Miller and City Council
From:	Kevin Trehwella
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Department:	Water and Wastewater

Wastewater Operations Update

Here at the Wastewater Treatment plant the Influent Flow have decreased significantly with the ground water table dropping in summer. This is called summer flow, with influent to the WWTP being around 100,000 gallons a day. Everyone who lives on the West side of the Black Hills knows the late Fall moving into winter and spring is the rainy season. During the rainy season, with the influence of groundwater, flows can vary between 250,000 to 750,000 gallons a day into the WWTP.

Right now, we are experiencing Summer flows here at the WWTP (100,000g/day). These Summer flows are allowing for the Single Batch Reactors to operate efficiently at their Design Criteria.

The 5-day Biochemical Oxygen Demand tests are showing a 98 and 99% efficiency. With that kind of efficiency, it proves that the Inflow and Infiltration (I & I) flow in Fall, Winter and Spring greatly impact the efficiencies of the Single Batch Reactors. This costs the City more money since we are treating more rainwater and inert materials than we do in summer. The introduction of cooler groundwater, in the cooler months of the year into the plant, cools the overall temperature of the Sequential Batch Reactor (SBR) causing a decrease in the microbiological process. The slowing down of the microbiological process, which causes a decrease in efficiency, will cause an increase in our effluent NH3 and Total Suspended Solids. These increases in our WWTP Effluent has caused state violations and Federal NPDES Permit violations.

To resolve the current I&I problems, we must spend the money to fix the leaks. Past administrations have spent money on investigations as to where the groundwater is leaking into the sewer system, yet NO money has been spent on solving the issue.

The City's Public Works department does not have the equipment nor the manpower to resolve the current I&I problems we have. Working with the past resources we have identified where most of the I&I is coming from.

Currently, Public Works is working with the Department of Ecology to apply for grants so that we may narrow down the exact areas that we have to repair. After which we will have to spend money to repair the sewer lines that are identified as an I&I problem.

With the Wastewater Treatment Plant aging many pieces of equipment are coming to the end of their useful Lifespan. We have concrete that has separated from the influent splitter box which needs to be repaired. As you are aware, we are already looking at the replacement of the Effluent Chiller. We just found out that critical components of the effluent samplers are no longer being manufactured. Those will have to be replaced.

Recently one of the refrigerators for the samplers had to be replaced due to electrical problems. The HVAC for The Lab, which is supposed to be a temperature-controlled environment, stopped working.

Water Treatment and Distribution Update

At the Water Treatment plant, we recently identified a problem with the communications system between well 2 and well 3. Currently, we use a 900MHz signal to transmit data between the 2 wells. The Instability of the radio platform has caused us some control issues. Those control issues being that well 3 may not stop when it receives a signal to stop. We have an ethernet cable that was installed to transmit Well 3 motor speed signals. According to our repair vendor, we could use the Ethernet cable for more stable communications between the 2 wells houses, if it had been installed properly. We are working with the vendor on a solution to this problem. If we didn't want to use the ethernet we could purchase and pay a monthly fee for a secure stable radio signal. If we were to use the radio signal that is stable, we would have to pay for that every year for as long as the city operates 2 wells.

We hope this updated has been useful to outline some of the current work that is being planned and performed in the Water and Wastewater utilities. If you have any questions, please don't hesitate to contact us

Kevin Trewhella