



## **BACKGROUND AND HISTORY**

The planning and creation of a Water System Development Plan began in 2004, involving City of Yorkton staff and consultants specializing in this field. The city needed to upgrade the aging treatment system to handle present and future water project demands for the next 25 years. Many residents responded to a survey regarding water quality. The objectives and information gathered assisted in building the framework for the waterworks system.

### ***LOGAN GREEN WATER MANAGEMENT SYSTEM***

Federal and provincial government funding was obtained to assist in upgrading the waterworks system. Revenues received from monthly water bills produced the bulk of the city funding.

Yorkton is the largest urban centre in Saskatchewan that relies solely on underground aquifers for fresh water. Water is drawn from five main aquifers in various locations in and around the city. These aquifers are closely monitored by the City of Yorkton and are a sustainable and renewable resource. Well water is extracted from thirteen deep wells located within a ten kilometre radius of the city and pumped to the treatment plant for processing. Our new water treatment facility allows remote operation of any combination of these wells.

The Yorkton Water Treatment Plant houses two identical systems. When it becomes necessary to perform maintenance, the plant can run using one treatment system without interruption of service demand to the community. Having these two systems also gives us capacity to meet growing needs.

### **Backwash Water Treatment Process**

The iron and manganese particles collected in the filtration process must be removed by using a system called backwashing. Filters used to remove the iron and manganese must be flushed on a regular basis creating approximately 1,100 cubic metres (1,100,000 litres) of backwash water daily. Normally backwash water is flushed into the sewage system, where it substantially and unnecessarily increases the amount of water being treated in the sewage treatment plant. Some \$3 million dollars was saved on infrastructure alone by using the settlement process and the city expects savings of \$6.3 million in treatment costs over the life of the water treatment plant.

The water treatment plant incorporates innovative ways to handle this backwash water moving through a series of settlement ponds to purify it, before gradually recharging the natural aquifer.

All of the material excavated from the construction of the ponds and the treatment plant was used in the creation of six multi-use sporting fields just west of the water treatment plant. This area is being designed to host sporting events with adequate seating, parking and washroom facilities.

View the overall layout and design of the Logan Green Water Management System:

