BCL
CONSULTING ENGINEERS

NORTHERN VILLAGE OF BUFFALO NARROWS
WATER TREATMENT PLANT UPGRADES

PROJECT BACKGROUND

Growth in the community of Buffalo Narrows resulted in shortfalls in water treatment capacity and lack of treated water storage at the community`s existing treatment facility. Coupled with difficulties meeting Canadian Drinking Water Quality Guidelines due to seasonal fluctuations in their source water quality (Churchill Lake), BCL completed piloting, pre-design, detailed design, and is completing construction supervision for the new water treatment plant.

A pilot study was undertaken in 2011 which spanned several months to coincide with the seasonal fluctuations in raw water quality. The pilot program evaluated two membrane processes following the existing conventional treatment process. The study successfully proved the proposed process could effectively reduce the key parameters of turbidity, dissolved organic carbon and disinfection by-products.

The new treatment process includes an Ultra-Filtration stage to provide the initial treatment with a portion of the water passing through a second stage Nano-Filtration process. Blended water quality achieved by the new process is providing an excellent quality of water to the community, while greatly reducing the chemical use and operating cost of the facility.

PROJECT HIGHLIGHTS

New 525 m^2 building on a new 969,000 L treated water storage reservoir.
180 kW stand-by power generator set.
27.8 L/s (440 USgpm) Ultra-filtration & 12.6 L/s (200 USgpm) Nano-filtration process units.
New 25.2 L/s (400 USpgm) and 11.0 L/s (175 USgpm) distribution pumps and new 50.4 L/s (900 USgpm) standby pump.

BUDGET

Water Treatment Plant Upgrades - $6,100,000

YEAR OF COMPLETION

April 2014

| 200 - 302 Wellman Lane | Saskatoon, SK S7T 0J1 | PH: 1 (306) 477-2822 | www.bulleeconsulting.com |