Trusted Utility Partners

ALBERTA ENVIRONMENT & PARKS

CASE STUDY

Alberta Parks

Operations and Maintenance of 13 Water & Wastewater Systems in Remote Locations

APPLICATION: Municipal

CAPACITY: 1.8 GPM (10 m^3/d) to 27.5 GPM (150 m^3/d)

LOCATION: Kananaskis, AB

COMMENCED: 2018

TECHNOLOGY:
Conventional and Membrane Based

CONTACT DETAILS:
Philip Urwin
Maintenance Technologist
Alberta Environment
T. (403) 512-3325

BACKGROUND

H_2O Innovation commenced this operation and maintenance project in the Kananaskis region in 2018. A current staff of five full-time employees, two part-time employees and one Project Manager maintain the facilities, which are class II & III sewage treatment plants (STP) and class I & II water treatment plants (WTP). These systems not only service several provincial park campgrounds located throughout the 4,000 km2 of Kananaskis County, but they also provide safe drinking water and wastewater treatment for provincial park staff and residents of the firebase.

SCOPE OF WORK

In early 2018, the Operation & Maintenance division of H_2O Innovation signed a five-year contract with Alberta Environment and Parks to provide utility management services to eleven potable water systems and two sewage treatment facilities with 26 lift stations. One of the potable water systems is a facility for which H_2O Innovation supplied the equipment in 2007. The equipment we provided was a dual train ultrafiltration (UF) treatment system to treat the water at the William Watson Lodge. H_2O Innovation is also upgrading the William Watson Lodge sewage treatment system with a new membrane bioreactor (MBR). The new MBR, which has replaced an old facility in need of improvement, provides flexibility for future expansions.

All facilities are small package plants. The complexity of the project in terms of operation and maintenance lies in their geographical location, as they are set deep in the heart of the Kananaskis mountain range. The circuit of over 300 km implies long distances between the facilities in harsh winter conditions. The majority of the facilities are in areas with no cell phone or internet coverage, which also further complicates day-to-day operations. Significant pre-planning for our staff of eight is key to the success of this project.

Both of the sewage treatment plants we operate achieve a finished water criteria (biochemical oxygen demand [BOD] and total suspended solids [TSS]) of 5/5. One of these plants discharges water into the fen, an ecologically sensitive watercourse.