

DynaSand® D2™ and TrojanUV3000Plus™
12,000 m³/d ADF

Case Study Details

A capacity rerating of the Kleinburg WPCP resulted in more stringent effluent quality requirements. At the same time York Region identified an opportunity to be able to use plant effluent as irrigation water at a local golf course. As a result, the upgraded plant was designed to achieve a very low effluent total phosphorus level, with an objective of 0.03 mg/L, and an *E. coli* level of 200 CFU/100 mL.

H2FLOW EQUIPMENT INC. supplied a DynaSand® D2™ filtration system for tertiary phosphorus removal at the plant. The D2™ system consists of a deep bed filter followed by a shallow bed filter operating in series. The first stage filter uses a larger sand grain size to give it more solids handling capacity and the second stage acts as a polishing filter, utilizing a smaller grain size and providing higher removal efficiencies. Each filter is continuously self-cleaning and the backwash water is treated in a Lamella® Gravity Settler. The filtration system consistently achieves the required effluent total phosphorus limit and at a lower capital and operating cost than a low-pressure membrane system.

A TrojanUV3000Plus™ system was provided for disinfection, which is also operating well. This system uses energy-efficient amalgam lamps with an automatic dimming function, and includes the ActiClean™ chemical/mechanical cleaning system to minimize maintenance.

Engineering Consultant: Conestoga Rovers
Installation Contractor: Maple Reinders
Start-Up: 2011