CASE STUDY

Quick4 Chambers Used in STEP System for New Community

Ardoise, NS

SYSTEM SPECIFICATIONS
Wastewater Treatment System for Residential Community

INSTALLATION DATE
2016

PRODUCTS
Quick4® Plus Standard Chambers

OWNER
Terra Firma Development Corp, Ardoise, NS

DISTRIBUTOR
Atlantic Purification Systems, LTD., Dartmouth, NS

DESCRIPTION

Forest Lakes is a four-season resort community just outside Halifax in Ardoise, Nova Scotia. The development includes 2,700 single-family, townhouse, and multi-unit residential units, the only Nicklaus Design championship golf course in Atlantic Canada, and a Village Centre with commercial and retail operations. Developer, Terra Firma Development Corporation, is utilizing a low impact development strategy along with a phased cluster-style "neighborhood" approach to help them retain the rural characteristics of the area including, large green spaces and recreational areas.

Each neighborhood at Forest Lakes utilizes a decentralized wastewater collection, treatment, and disposal system. A key design consideration was that the systems work reliably 24/7, 365 days a year in the northern, maritime climate typical of Nova Scotia. The initial neighborhood system, serving 50 single family and semi-detached homes, is designed to treat a peak flow of 13,526 US Gallons per day (51,200 Litres per day) of residential sanitary wastewater.

This initial system includes a watertight Septic Tank Effluent Pump (STEP) pressurized effluent sewer collection system that delivers primary effluent via small-diameter mainlines to an AdvanTex® AX100 Secondary Wastewater Treatment Plant. Treated effluent from the AX100 system is directed into the dispersal system dosing tank where it is pumped, on a timed and intermittent basis using pressurized micro-dosing, to a multi-celled, soil dispersal system that incorporates Infiltrator Quick4 Plus Standard Chamber laterals in an area bed arrangement. The area beds provide onsite secondary effluent dispersal and treatment in two cells, each with five zones. A hydraulic distributing valve at the head of each cell automatically and sequentially directs the pumped flow to the appropriate zone.

The Infiltrator chambers simplified the large bed construction and the chamber beds provide improved maintenance access and additional storage as compared to traditional methods. The open bottom chamber system design preserves the infiltrative capabilities of the soils which is especially helpful on larger sites.

The low impact development strategy and distributed wastewater treatment approach at Forest Lakes enabled project developers and engineers to protect the environment and maximize usable space.

Infiltrator Water Technologies
Part of ADS