

# SEASIDE COTTAGE

Location: West Berlin, Nova Scotia

Project Type: Residential



**DUROTERRA™**



## DUCTILE IRON PILE ADVANTAGES

- Small equipment for easy mobilization
- Rapid installation
- Improved lateral capacity with grouted friction piles compared to helical piles

## PROJECT DESCRIPTION

Construction consisted of a new single-story cottage near the beach in West Berlin, Nova Scotia. While the structure was generally lightly-loaded, the possibility of extreme tides combined with poor soil conditions required the building be elevated above existing ground.

## GEOTECHNICAL CONDITIONS

The subsurface conditions encountered were loose homogenous sand extending approximately 12 feet below grade over bedrock.

## PROJECT CHALLENGES

Providing a foundation support solution for the one-story cottage located in a remote area to address the poor soil conditions and need to elevate the building to protect against extreme tides.



## DESIGN AND CONSTRUCTION SOLUTION

Initially contacted to provide a helical pile foundation solution, AMCON Limited conducted a soil probing program to determine the depth of the bedrock. Once the bedrock elevation was determined to be only 10 to 12 feet below grade, AMCON concluded that end-bearing Ductile Iron Piles (DIPs) would be the most economical solution given the loading of the structure and soil conditions encountered during the soil probing.

The design approach consisted of Series 118/7.5 (118mm diameter with 7.5mm wall thickness) Ductile Iron Piles installed to terminate by achieving “set” on the shallow bedrock. In total, eleven end-bearing DIPs were installed to “set” using a mid-sized excavator and hydraulic hammer to support the Bishop Cottage. The unique spigot and socket joint allowed for all the DIPs to be installed in just a few days thus greatly speeding up the construction schedule. Brackets were then welded to the top of the DIPs to easily accommodate the superstructure of the cottage.



### PROJECT TEAM

**DIP Design/Build Partner:** AMCON Limited  
**Structural Engineer:** ABLE Engineering Inc.