

# PROJECT PROFILE



## Project Basics

**Project Name:** Christina Lake Commercial Plant  
Storm Water Pond Project

**Installation Date:** March, 2015

**Product Type:** Western Excelsior Xtreme Armor System™ (XAS)  
utilizing PP5-Xtreme with Percussion Driven  
Anchors (PDAs)

**Project Location:** Christina Lake, Alberta, Canada

## Project Overview

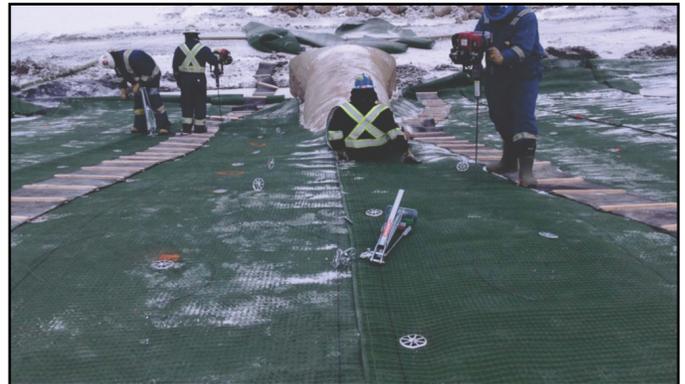
A commercial project was in search of an alternative to hard armor for the protection of a storm water pond. The site solution needed to be strong while protecting the steep basin slopes. The project planners turned to XAS for a solution that provided stability and confidence. With exceedingly steep banks, the strength of the system was key.

## Installation

PP5-Xtreme, a high-performance turf reinforcement mat (HPTRM), was installed over a geosynthetic underlayment. Stainless steel PDAs were installed to a three (3) foot depth and used to secure the HPTRM, restraining the basin side walls and adding surficial structural slope support. The anchors selected ensured the highest level of performance, and were able to be installed in frozen soils. In addition, the XAS system had the strength and porosity to handle submerged and fluctuating conditions. As the storm water pond would not be vegetated, the permanency of the XAS system was vital in its ability to replace the hard armor alternative, a cellular confinement system with rock. The XAS installation was used in conjunction with a rock layer that protected the toe of slope and basin floor.

## Performance

Even given the adverse weather conditions during installation, the Xtreme Armor System performed as design. The 3500 square meter geosynthetic alternative to the originally designed cellular confinement system resulted in over \$100,000 in project cost savings.



*Xtreme Armor System was installed atop a geosynthetic (top) and was secured with PDAs (middle). Even through cold and adverse conditions, the XAS saved the project substantially over a hard armor alternative (bottom).*

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Western Excelsior  
4609 E. Boonville-New Harmony Rd., Evansville, IN 47725  
(866) 540-9810 | [www.westernexcelsior.com](http://www.westernexcelsior.com)

