

BERMINGHAM

FOUNDATION SOLUTIONS
SINCE 1897

PROJECT REPORT

Sterling Marine Fuels-Shore Retention and H Piles
Windsor, Ontario



Client: Sterling Marine Fuels

Consultant: Chall-ENG Services

Project Manager: Andrew Weltz, P.
Eng.

Supervision: Charlie Archdekin,
Kaustubh Shekhar

Birmingham Construction Ltd. completed a very challenging project for Sterling Marine Fuels in Windsor, Ontario. This project consisted of a shoring wall totaling 142 linear meters on both sides of the Detroit river slip as

well as foundation piling for various new installations on the property.

To access the shoreline on the south side of the slip, Birmingham had to pass over an exposed pipeline that transported asphalt cement. BCL designed and constructed a temporary bridge to move equipment and material closer to the shore. This bridge consisted of sheet pile walls on either side of the pipeline and various size wide-flange beams to function as struts and walers. The resulting frame was overlain by timber mats bound together with steel cable ties. This temporary bridge was utilized throughout the project as access to and egress from the south shoreline.

The ground conditions necessitated that the sheet pile walls on both sides of the slip be capable of resisting significant moments. BCL used a very heavy section for the sheet pile (SKZ 36) to provide adequate moment resistance. This project was the first time this heavy sectioned sheet pile was used in North America. This section is 13.6-mm thick and weighs 129.2-kg/m. The fact that the sheets ranged in height from 10.7-m to 15.3-m, presented a challenge for material handling and installation. BCL overcame these challenges using 100-ton crane with 28-m of boom and a Foster 4200 vibratory hammer capable of producing driving forces of up to 121-tons. Birmingham also drove 2,300 lineal-meters of H-Piles for various structural elements. These structures included an intricate conveyor system involving piles on a variety of batters. BCL used its vertical travel lead system and hydraulic spotter to drive these battered piles.



Phone: 1-905-528-7924 Toll Free: 1-800-668-9432

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Another important feature of this project was the elements. Windsor was hit by one of the worst winters it had experienced in years, with several snow storms and un-seasonably low temperatures throughout most of the season. Bermingham displayed its ability to work in cold conditions as work proceeded uninterrupted by the weather. The project was completed on schedule and the quality of the finished product was outstanding.

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September 30, 2011

Birmingham Construction Ltd.
600 Ferguson Ave. N
Wellington St. Marine Terminal
Hamilton, Ontario
L8L 4Z9

Attention: Mr. Andrew Weltz, P. Eng.

Slip Shorewall and Pilings Works
Sterling Marine Fuels
Dock Upgrade Project
3600 Russell Street
Windsor, Ontario

Dear Sir:

We/I appreciated your efforts and quality of work on the multi-million dollar Sterling Fuels over the past winter and spring (2011). Your field staff was especially appreciated as they worked through one of the coldest winters our area has experienced and their co-operation with the many other contractors on this site. We had many chall-engs on this project that was dealt with in a prudent and professional manner. Your works have been incorporated into this project and now have a coat of paint that added that finishing touch.

Good luck and planning on your projects and look forward to working with your company on future projects. Take care.

Yours truly,
Chall-ENG Services Inc.,
Consulting Engineers



H. Richard Patterson, P. Eng.,
President