



Forensic Hospital Flood Mitigation



Vinyl Sheet Piles provide flood wall solution surrounding the Forensic Psychiatric Hospital.

LOCATION:

Coquitlam, British Columbia

PRODUCT:

Vinyl Sheet Piles

PROJECT PARTNERS:

Owner

BC Ministry of Technology, Innovation and Citizens Services

Consultant

Thurber Engineering Ltd.

Contractor

*Hall Constructors
Keller Pile Driving*

Completion Date

December 2014

Located in a park-like setting near the Fraser River in Coquitlam, British Columbia the Forensic Psychiatric Hospital supports patients with high quality, specialized clinical services, as well as a comprehensive range of vocational and rehabilitative programs. Given its proximity to the river, the hospital required protection from potential flooding — the second most expensive type of natural disaster.

Challenge

Due to the rising water levels of the adjacent Fraser River, a flood mitigation solution was required around the Forensic Psychiatric Hospital to provide protection to the buildings and grounds. The most significant challenge on this project was that on two sides of the property, land did not exist to allow for an earthen berm solution to be constructed. The hospital needed a solution that could be utilized in a tighter space.

Solution

Nilex recommended Vinyl Sheet Piles as a flood wall solution that would meet the client's standards while utilizing the space available. Vinyl Sheet Piles, which have been used for over 25 years, stand upright when driven into the ground allowing them to be installed right up against the property line. Compared to the alternative, Vinyl Sheet Piles require a small construction footprint and less equipment on site.

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Installation

To overcome the challenging soil conditions, Nilex in conjunction with CMI and Keller Pile Driving recommended pre-augering the holes in the soil and using CMI's PileClaw to ease the installation. Available in several lengths and sizes, the PileClaw is a proprietary steel mandrel installation technology which improves the installation of Vinyl Sheet Piles. It has been used to install Vinyl Sheet Piles at depths up to 70 feet.

On average, a crew of five installed 35 Vinyl Sheet Piles per day. Approximately 570 Vinyl Sheet Piles were installed in total using a fixed lead with a hydraulic stiff leg and the PileClaw.



Results

The Vinyl Sheet Piles provided a flood wall surrounding the Forensic Psychiatric Hospital that met the requirements of the BC Ministry of Technology, Innovation and Citizens Services. Nilex's Vinyl Sheet Pile solution provided approximately 30% cost savings when compared

to steel sheet piles. Vinyl Sheet piles are a cost-effective, sustainable, easy-to-install solution that can help control flooding while preventing overtopping, internal seepage and surface erosion.



The Nilex Advantage

Nilex is committed to unearthing better results. Whether it's for a civil, resource or environmental project, we offer the latest engineered and technically superior materials and techniques to save our customers time and money, and minimize the need to move or remove earth, and reduce the need for granular materials.

With over 35 years experience, a long-standing commitment to the environment and highly qualified staff, Nilex delivers the products and technologies that give clients an economic advantage with environmental benefit.