

**DISTINCTIVE LANDFORM USING MARGINAL FILL FROM MAN MADE STORM POND
VAUGHAN, ONTARIO, CANADA**

Landscape Architecture

Problem

"The Cortelluci Vaughan Hospital will be the first Smart Hospital in Canada featuring fully integrated smart technology systems and dedicated devices that can speak directly to one another, and improve patient care." - Mackenzie Health In keeping with the concept of Smart Solutions and the need for improved construction methodologies. The goal of the site works portion of the project was to minimize the carbon footprint of the earthworks and create a green sustainable environment around the hospital.

The goal to reduce the carbon footprint was compounded with the need to construct a large storm pond to handle all the runoff from the site. In order to do so a large pit had to be dug out. Inevitably creating a large amount of surplus material.

With the hospital, parking lots and other amenities taking up the majority of the space. How does one maximize the use of all this surplus marginal soil without trucking and dumping off site?

Solution

HOC Architects solution was two fold. The terrain where the hospital is situated is relatively flat. In order to create a pleasing area which is currently free of height and to provide a berm that would blend with the green scape. A vegetated landform was devised.

The small footprint of the available space and the low friction angle for the marginal soils would be maximized by creating a Green Terramesh landform, in combination with the Maccaferri ParaDrain geogrids.

The Green Terramesh, a proven vegetated reinforced soil system using PVC coated and galvanized double twist wire would be able to create and support a 60' angle face slope, while the Paradrain geogrid would attend to the marginal fill. The ParaDrain composite construction allows for drainage to dissipate water pore pressure in cohesive silty clay soils while providing reinforcement yet simplifying and accelerating the construction process. In the end providing stability for the Landform once constructed.

The construction of the landform went as planned. An efficient reuse of soil, a maximization of space, with an overall reduction in carbon footprint. The sum of the parts working together in the creation of a living architectural land mass.

Client: MACKENZIE HEALTH

Designer / Consultant: HOC Architects Corporation

Contractor: Rocky River Construction

Products used (Qty.)

- Green Terramesh 860

Date of construction: 08/2018 - 12/2018



Start of Construction



ParaDrain Geogrid



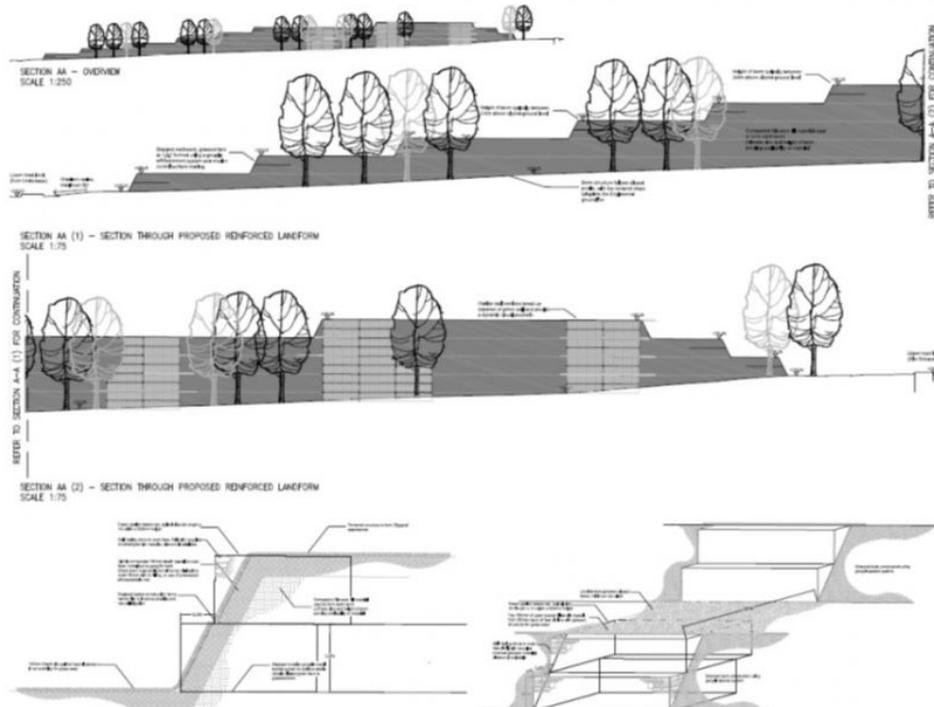
Construction of Gabion Drop Structures



Completed Landform



Vegetated Landform



Section of Landform

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