

CASE STUDY

Underground Stormwater Tanks: Preventing Flooding & Controlling Discharge

LOCATION: Waterloo, Ontario

PROJECT TYPE: Pre-design, Product Supply, and Installation

PRODUCT USED: Brentwood Stormwater Modular Tank System & TE-6oz & TE-8oz Nonwoven Geotextile



TITAN

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CHALLENGE:

A consulting engineer team contacted Titan to help optimize their stormwater management design to prevent flooding and control the discharge rate into municipal storm sewers.

Key challenges included responding to the need for an impermeable liner to protect the customer's investment, the design of the tank with an irregular footprint, and constrained site access and space for installation.

The tank was near a parking garage, which required the system to be reinforced with an impermeable liner to ensure water would not saturate the surrounding soils and negatively impact its structural integrity.

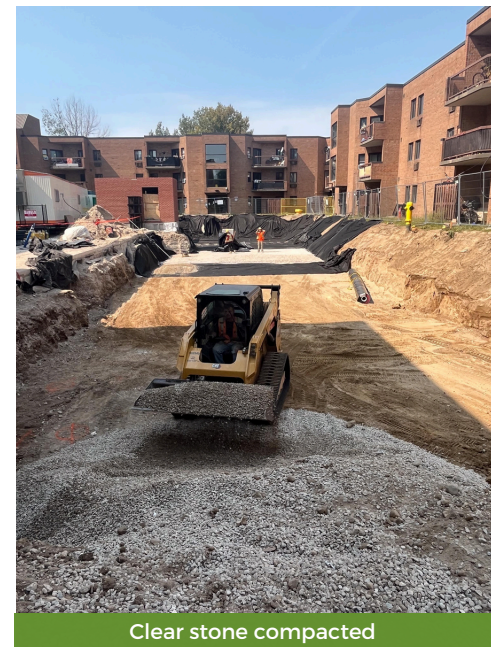
SOLUTION:

Titan provided the engineer with design layouts for a stormwater system consisting of 924 24-inch-high modules. The system features a 40-mil linear low-density polyethylene (LLDPE) impermeable liner wrapped around the modules, which is mechanically fastened to the catch basins adjacent to the tank.

The Brentwood StormTank® Module 25 was selected to fulfill storage requirements within the available footprint while ensuring proper inlet and outlet connections with effective sediment capture.



Preparing for module installation



Clear stone compacted



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SOLUTION CONT'D

The tanks incorporated a debris row at all six inlets for quality control, with nine observation ports for visual inspection and sediment removal.

StormTank® modules transform stormwater management with their subsurface modular design. Designed for quick installation and load-rated for extreme uses, such as heavy trucks or access roads under fire routes, these modules provide unparalleled versatility and performance.

ACHIEVEMENT

The implementation of Titan's solution led to significant improvements:

1. The installation of the stormwater management system now allows for a water storage capacity of 226.74 m³.
2. The introduction of an underground storage tank facilitates the repurposing of the surface area creating additional parking options.
3. Water quality has improved, as the system is designed to filter out sediment and debris before the water is discharged.



LLDPE liner installation



Debris Rows installation



Completed module installation