

CASE STUDY

Stormwater Management System

LOCATION: Toronto, ON

PROJECT TYPE: Pre-Design, Supply & Installation

PRODUCT USED: Brentwood StormTank® Modules & 40mil LLDPE



▼ CHALLENGE:

Titan was engaged to assist with the design and installation of an underground stormwater management system for a commercial warehouse lot. Due to the impervious surface needed for business operations, the site required the capture of large volumes of stormwater.

Key Challenges:

Restricted Footprint: The available space for stormwater tanks was significantly smaller than the required storage capacity, necessitating a highly efficient solution with maximum void space.

Limited Laydown Area: The constrained site demanded meticulous planning of product deliveries, order of tank installation, and the overall project schedule had to be carefully reviewed to ensure no conflicts with other stakeholders.

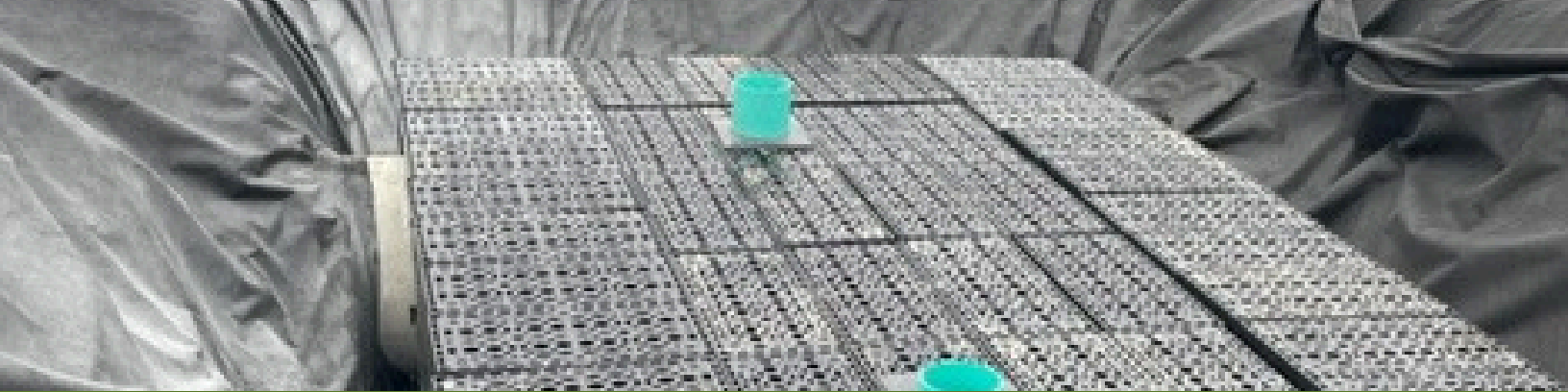
Complex Requirements: The project required an integrated solution that included irrigation capabilities and structures adjacent to the tanks, adding complexity to the design and installation process.



Tank Lined



Tank Chamber Before Installation



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▼ SOLUTION

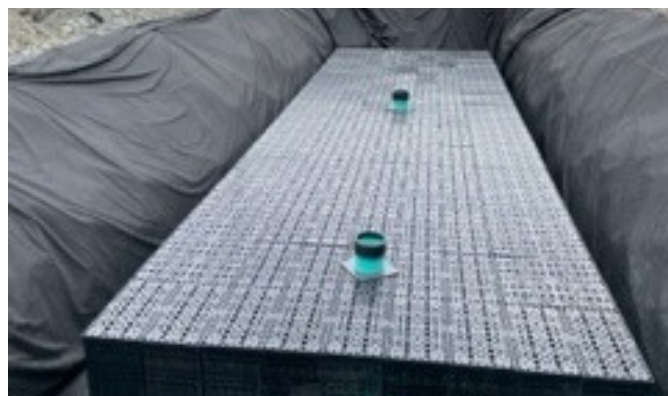
Titan provided design layouts to the Engineer for 5 stormwater management systems (each system was composed of anywhere from 100 to 812 modules) and field-fabricated 40mil Linear Low Density Polyethylene Liner (LLDPE).

The Brentwood StormTank® Module 25 was chosen to meet storage requirements within the provided footprint and ensure proper connection of inlets and outlets with sediment capture.

The 6 ft (1.83m) high tanks incorporated 10 Debris Rows to capture sediment, prevent downstream contamination, and support future maintenance needs.

The system was lined, and a catch basin with a pump was installed adjacent to the tanks to access stored rainwater for irrigation.

Titan also provided field support during installation, ensuring proper setup and liner installation.



Brentwood StormTank® Installed



Completed Tank Chamber

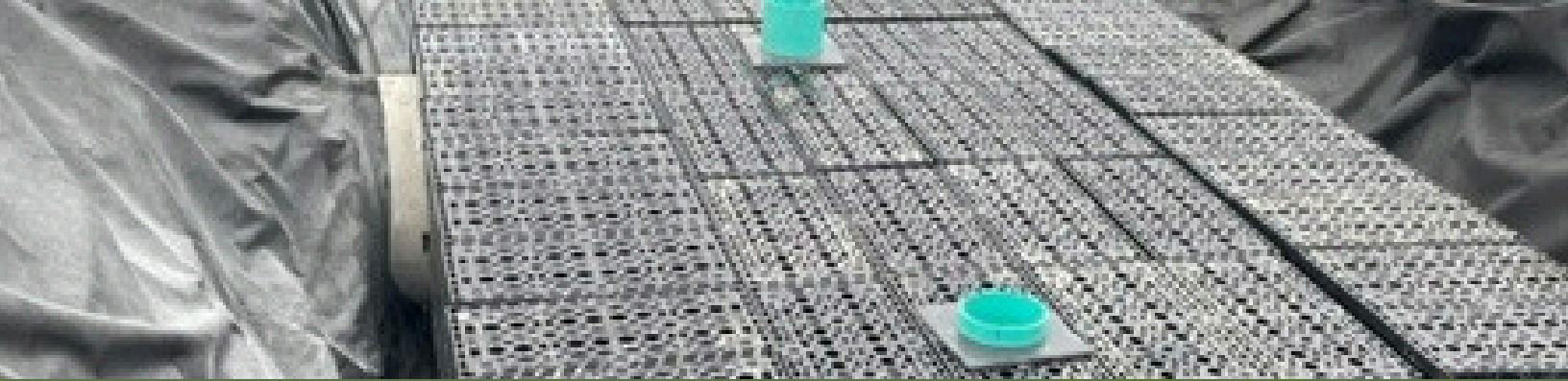
▼ ACHIEVEMENT

The implementation of Titan's solution resulted in significant achievements:

- Installation of 5 stormwater management systems (each system was composed of anywhere from 100 to 812 modules) providing over 645 m³ of stormwater storage.
- Integration of 10 Debris Rows tailored to inflow requirements for enhanced water quality.
- Using 1500 m² of 40mil LLDPE for impermeable lining contributes to long-term performance and reduced maintenance costs.

Project Wins:

- 97% void space within the tanks optimized project footprint.
- The geotextile layer prevented clogging, enhancing maintenance efficiency.
- Improved water quality is ensured by Debris Rows at inlets.
- 20-year warranty on StormTank® modules minimized maintenance expenses.



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PRODUCT DESCRIPTION

StormTank® Modules revolutionize stormwater management with their subsurface modular design. Engineered for quick turnaround and load-rated for extreme applications, like heavy trucks or under-fire access roads, these modules offer unmatched versatility and performance. It contains a higher void space than other water storage solutions.

The StormTank® Module 25 Series, in particular, boasts maximum strength and effective area utilization.

Its functional (stackable and a range of column heights) helps reduce the installation footprint.

Commonly used for stormwater retention, detention, infiltration, and rainwater harvesting, the flexible design helps meet and achieve strict runoff regulations.

