

CASE STUDY

Residential Underground Stormwater Improvements: Brentwood StormTank®

LOCATION: Waterloo, ON

PROJECT TYPE: Pre-design, Product Supply, and On-site Technical Support

PRODUCT USED: Brentwood Stormwater Modular Tank System & Geotextile



▼ CHALLENGE:

A residential neighborhood in Waterloo, ON, had pre-existing ditches in front of properties to manage peak runoff from excess rainwater. However, these ditches featured steep side slopes, creating maintenance challenges for residents, especially as they aged.

The grass-lined swales required regular mowing, and overflow issues posed safety risks, as the area was subject to debris buildup and blocked culverts.

The client sought a cost-effective and robust stormwater solution that would improve accessibility for the neighborhood while effectively conveying surface water runoff.

▼ TITAN SOLUTION:

The client reached out to Titan, a trusted expert in geosynthetic solutions, to develop a preliminary resolution for the problem. Our stormwater technical specialist team provided a pre-design draft to the client, highlighting the advantages of using the Brentwood StormTank® system.



Installation of Brentwood StormTank®

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▼ TITAN SOLUTION CONT'D:

The high void modular tanks allow for effective stormwater management that is adaptable to different footprints and has a low profile for shallow installations.

The design incorporated a 100mm Geocell confinement layer placed above the modular system. This was done to reduce potential vertical pressure on the tank from vehicles that may occasionally park above. By combining the Brentwood StormTank® system with the Geocell layer, the design delivered a robust and long-lasting solution for effective stormwater management.

▼ ACHIEVEMENT

The implementation of a Low-Impact Development (LID) stormwater management system addressed critical safety concerns in the neighborhood while transforming it into a more sustainable community. This solution ensures long-term stormwater management and environmental resilience.

The LID approach offers significant benefits by managing runoff underground, optimizing land use on properties, and enhancing community accessibility. This project showcased how LID solutions can deliver win-win outcomes by improving stormwater management, accessibility, and environmental sustainability.

Titan provided on-site technical installation support for a system designed to store 150 cubic meters of stormwater, benefiting four homeowners, with plans for additional installations in the future.



Geocell Panel Installation



Installed System