



CASE STUDY

Titan StormSmart™ Tank - Sustainable Stormwater Storage in Action

LOCATION: Kelowna, British Columbia

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

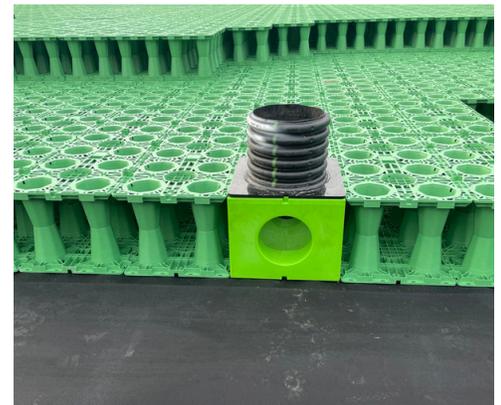
PRODUCT USED: Titan StormSmart™ Tank, 30mil LLDPE, TE-6 Non-Woven Geotextile, TE-8 Non-Woven Geotextile



CHALLENGE:

In 2024, the City of Kelowna launched an infrastructure upgrade along Shannon Lake Road in West Kelowna to improve stormwater management and flood protection. The project required a subsurface detention system that could deliver strong performance, meet storage requirements, and withstand vehicular traffic loads, all while minimizing environmental impacts.

Several challenges emerged during planning and design. The original layout for future expansion was not constructible, inspection ports were undersized for maintenance access, and the large 1,400 m² system footprint posed constructability and labor challenges. The City needed a solution that was cost-effective, technically sound, and built for long-term reliability.



TITAN SOLUTION

Titan Environmental Containment collaborated closely with Stantec, EMCO, and the contractor to refine the design and deliver a system tailored to the project's needs. Titan revised the system layout to ensure constructability and future expansion feasibility, while also proposing catch basin structures that provided improved inspection and maintenance access.



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TITAN SOLUTION CONT'D

To address footprint and labour demands, Titan implemented its StormSmart™ detention system, engineered with a 30mil LLDPE impermeable liner that fully wrapped the tank to prevent infiltration into surrounding soils and ensure controlled discharge through the outlet. The system also incorporated non-woven geotextiles and prefabricated pipe boots, which streamlined installation and reduced time on site.

A Titan technical representative was present throughout construction to provide oversight, troubleshoot potential issues, and maintain quality control. Following completion, Titan supplied detailed maintenance manuals and ensured accessible inspection ports were in place so the system could be effectively managed over its lifecycle. With a storage capacity of 1,220 m³, a 1.2 m cross-section height, and an HS-25 load rating capable of supporting vehicular traffic, the system exceeded the City's performance and structural requirements.



ACHIEVEMENT:

The Shannon Lake Road project was completed on schedule and delivered significant value to the community and stakeholders. Titan's StormSmart™ system provided 1,220 m³ of stormwater storage, reduced flood risk, and safeguarded surrounding soils and sensitive areas, while delivering notable cost savings compared to the original specification.

Beyond performance, the project enhanced community infrastructure by improving road safety and adding a new multi-use pathway that supports active transportation. Stakeholders praised Titan's proactive support, streamlined installation, and technical expertise, recognizing how the company combines innovative engineering, cost efficiency, and environmental responsibility to deliver long-lasting infrastructure solutions.