

PROJECT PROFILE



May 22, 2019

Kelowna GRS Bridge ready in time for spring freshet flows

Without the need for concrete footings, GRS Bridges are quick and easy to install with local crews, equipment and materials in any weather

The City of Kelowna, BC, needed to replace three undersized culverts under Spencer Road with a new open-flow stream crossing, but it had to be ready in time to handle the increased flows of the spring thaw. With a planned March 11 start, not only was time of the essence, it was also a perfect challenge for an innovative AIL Geotextile Reinforced Soil (GRS) Bridge.

That's because our GRS Bridges are patented buried bridge systems that "put the dirt to work," as dead and live loads are supported by the surrounding GRS compacted soil mass, consisting of multiple layers of geotextile and steel anchor rods. Without the need for concrete footings, GRS Bridges are quick and easy to install with local crews, equipment and materials in any weather.

Project at a glance:

Name: Spencer Road Crossing

Location: Kelowna, BC

Owner: City of Kelowna

Engineer: Terratech Consulting Ltd.

Contractor: Landmark Solutions

Sector: Transportation

Application: Stream Crossing

Product: AlL Geotextile Reinforced Soil (GRS) Bridge and Walls

Dimensions: Span 8.2 m, Rise 3 m, Length 25.9 m



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AIL worked closely with the contractor, Landmark Solutions, and the City of Kelowna to make sure the product arrived on time. We used our winter manufacturing capacity to make the Super-Cor Arch plates and get them to the site ahead of time.

Once the detour bridge was in place, the contractor got to work

Traffic and utilities were kept flowing by use of a temporary, singlelane detour bridge with an automatic traffic signal at each end. With that in place, things started to happen quickly:

- The stream flow was diverted using a sheet pile dam and 10" pumps.
- Excavation began and the old culverts were removed.
- The streambed and adjacent footings were reconstructed using boulders and washed in with cobble and gravel to naturalize the channel and provide scour protection for the arch structure.
- The Super•Cor Arch was pre-assembled over a three-day period and installed over the next two days.
- Over the next 10 days, the new structure was backfilled with the GRS composite up to the temporary bridge. The arch shape was monitored throughout to ensure the integrity of the structure.
- The temporary bypass bridge was removed on April 10.

A post-project meeting with the owner, engineer and contractor confirmed that all parties were pleased with the project's outcome and they hope to use it as a model for future crossings where concrete bridges are not necessarily the best option.



"The AIL GRS Bridge needed to be installed in a very short window, between the end of winter and beginning of spring freshet. Without the need for concrete footings, the structure went in very quickly with no issues well ahead of freshet flows. We would definitely consider this system again for similar applications."

— Brian Beach, P.Eng., Infrastructure Delivery Manager, City of Kelowna.

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