Project Profile

Replacement GRS Bridge installs in just six days

When a major oil and gas operation needed to replace a failed culvert on an Alberta resource road, an AIL Geotextile Reinforced Soil Bridge proved to be the most economical and expedient solution.

GRS technology "puts the dirt to work"
GRS technology connects the arch structure to the backfill/ geotextile composite with a series of steel anchor rods to effectively transfer the loads into the surrounding GRS composite mass.

Project at a glance:

Location: Near Fox Creek, Alberta

Owner: ConocoPhillips Canada

Design/Build Contractor: Landmark Solutions

Consultants: Terratech Consulting / Allnorth Consulting

Product: AIL Geotextile Reinforced Soil Bridge

Application: Stream Crossing (Replacement)

Dimensions: Span 6.6 m, Rise 2.3 m, Length 18.4 m

Installation Time: Six days, August 20-26, 2013

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This innovation brings a wide array of benefits and resource road operators are taking notice.

- No need for concrete or pile footings
- Lightweight and ships economically to site
- Less encroachment on streams
- Allows for wide range of backfills
- High settlement tolerance
- Ideal for remote locations
- Low maintenance costs
- Fish friendly

For this replacement near Fox Creek, AB, a temporary stream bypass was created, the old 1.2 m round culvert was removed and foundation for the GRS structure was prepared. This was done while the new Super-Cor arch was being assembled nearby in three sections, ready to be lifted into place.

Granular backfill was installed with layers of geotextile forming a Geotextile Reinforced Soil (GRS) composite. The metal arch was connected to the GRS composite with steel anchor rods. The headwalls were built with L-shaped welded wire forms with geotextile at the wall face.

This project was the design/build contractor's first time assembling Super-Cor plate, but it went very smoothly with minimal crew and equipment. An AIL representative was on-site to provide assistance during construction. Special care was taken to ship the plates in small bundles to allow easy off-loading with smaller equipment. Good quality control on plate manufacturing tolerances ensured smooth assembly at the site.

Both the owner and the design/build contractor were pleased with the project outcome.

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