Site C Clean Energy Project

Year of Construction: 2022
Location: Fort St.John, BC
Product Installed: Bentofix CSRNWH
System: Geosynthetic Liner

CASE STUDY

CHALLENGE

This hydroelectric earthfill dam on the Peace River near Fort St. John, BC included several components: an earthfill dam 1,050 metres long and 60 metres high, a 1,100 MW generating station and associated structures, an 83 kilometre long reservoir, realignment of six sections of Highway 29, and two 77 kilometres transmission lines along an existing transmission line right-of-way, connecting site C to the existing provincial power grid. Construction on Site C project began in July 2015 and is set to be completed in 2025.

SOLUTION

Bentofix CSRNWH – a thick polypropylene coated double heavy weight nonwoven scrim-reinforced with a heavy bentonite content GCL (CSRNWH) was used underneath a thick PVC liner near the Site C Main Earthfill Dam.

This GCL was selected to within the high hydraulic head pressures. Scrim-Reinforced GCLs have been shown time and time again to be able to withstand hydraulic head pressures to avoid internal erosion of the bentonite.

SPECIAL NOTE

- Over 100,000 SQM made, tested, and supplied.
- Scrim-Reinforced Nonwoven bottom fabric.
- High Peel & Tensile strength GCL.
- Low geomembrane type permeability liner.
- High puncture resistant GCL.
- Weather resistant GCL.
- High head pressure resistant GCL.
- Thermally Locked GCL - low bulk void ratio GCL.

Picture courtesy of Arcadis