



Keeping Snowmobilers on Track With an Innovative Modular Solution

Replacing a recreational bridge across the Odell river, New Brunswick, Canada

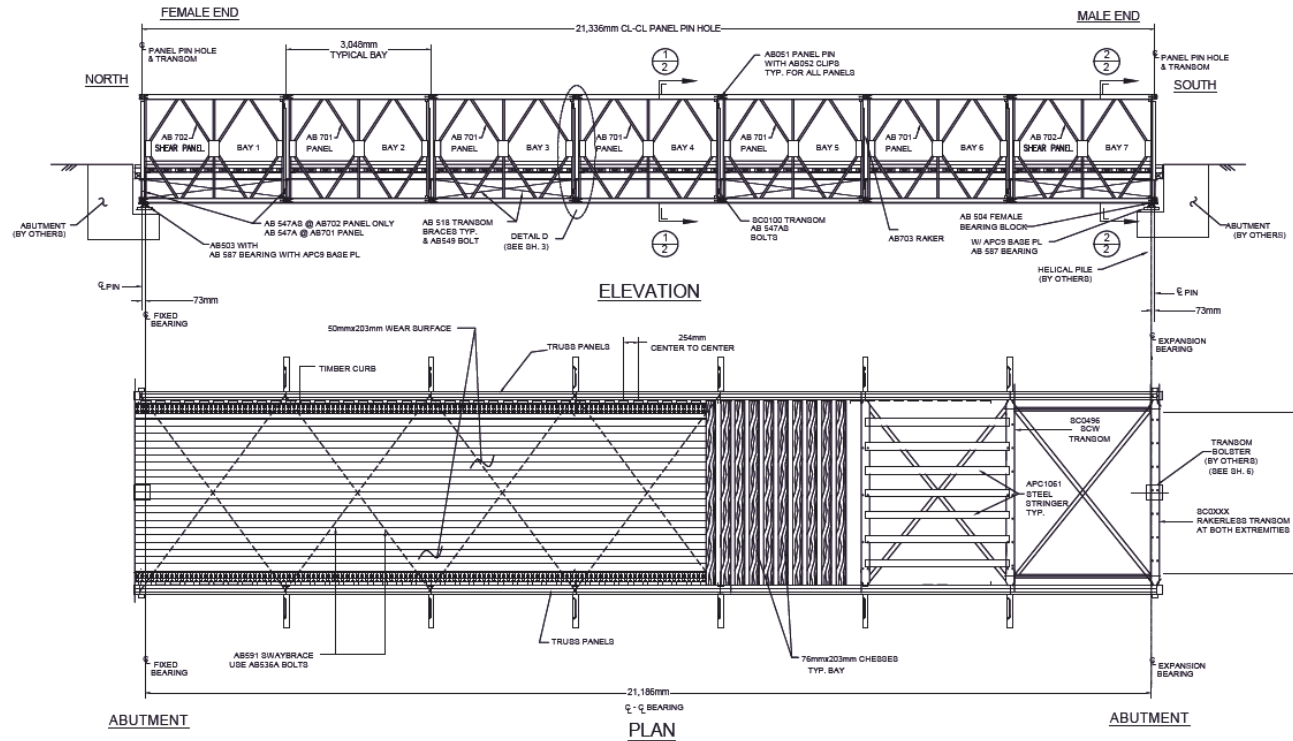
In the Spring of 2019, an ice jam in the Tobique river caused the smaller Odell river to back up. Large sections of ice then pushed the existing bridge off of its foundations. Located at the northern end of the Appalachian Mountain Range, the bridge was a vital crossing point on a popular section of the Province of New Brunswick recreational trail network near the village of Plaster Rock in New Brunswick, Canada. Its owners, New Brunswick's Department of Energy and Resources (NBDERD), decided it would be more expeditious and economical in the longer term to completely remove the old structure, rebuild the foundations and install a new bridge.

Design Engineers, Hilcon Limited, came up with a solution for innovative foundations which allow the bridge to be lifted, should the river ever back up

again, thereby preventing it from being pushed out of position.

A key design feature of the new bridge is a specially modified raker-less transom at either end. Each side is embedded, and if ice does touch the structure, it will move up and down, but not laterally. In effect, the modified transoms allow the bridge to slide up the sides of the extended curtain walls in high water, and slide back down when the water level has dropped.

A 70 foot (21.34m) long modular Acrow bridge was installed as a permanent replacement by Vail Civil Contractors Ltd. The project, which began in October 2020, was completed in only a few weeks, opening up the trail once again for the snowmobiler, just in time for the first snowfall of the year.



Specifications

Bridge length:

70' (21.34m)

Roadway width:

12' (3.67m)

Deck surface:

Timber deck

Bridge erection method:

Crane-assisted launch with the timber deck on

Design load:

Two lanes of snowmobile or one trail groomer

Standard Acrow bridge finish:

- All major components galvanized to AASHTO M111-ASTM A123
- All bolts are hot-dip galvanized
- All pins are electrogalvanized

Standard Acrow bridge specification:

- Panel chords, diagonals, verticals, reinforcing chords, rakers to AASHTO M223 GD 65
- Raker braces, transoms, top chord braces, swaybraces, transom braces, diagonal chord braces, decking to AASHTO M223 GD 50
- Panel pins to ASTM A 193 GD B7
- Bolts to AASHTO M164M - A325