



Acrow Bridge Permits Critical Access During Lengthy Construction in North Vancouver

Detour bridge installed quickly despite confined work zone

When it became necessary to replace the 60-year-old Montroyal Bridge over Mosquito Creek, in the District of North Vancouver in British Columbia, plans specified a detour structure be in place ahead of and for the duration of the construction. Because the construction site is in close proximity to a fire station, it was critical that a route remain open to provide continuous passage of emergency vehicles.

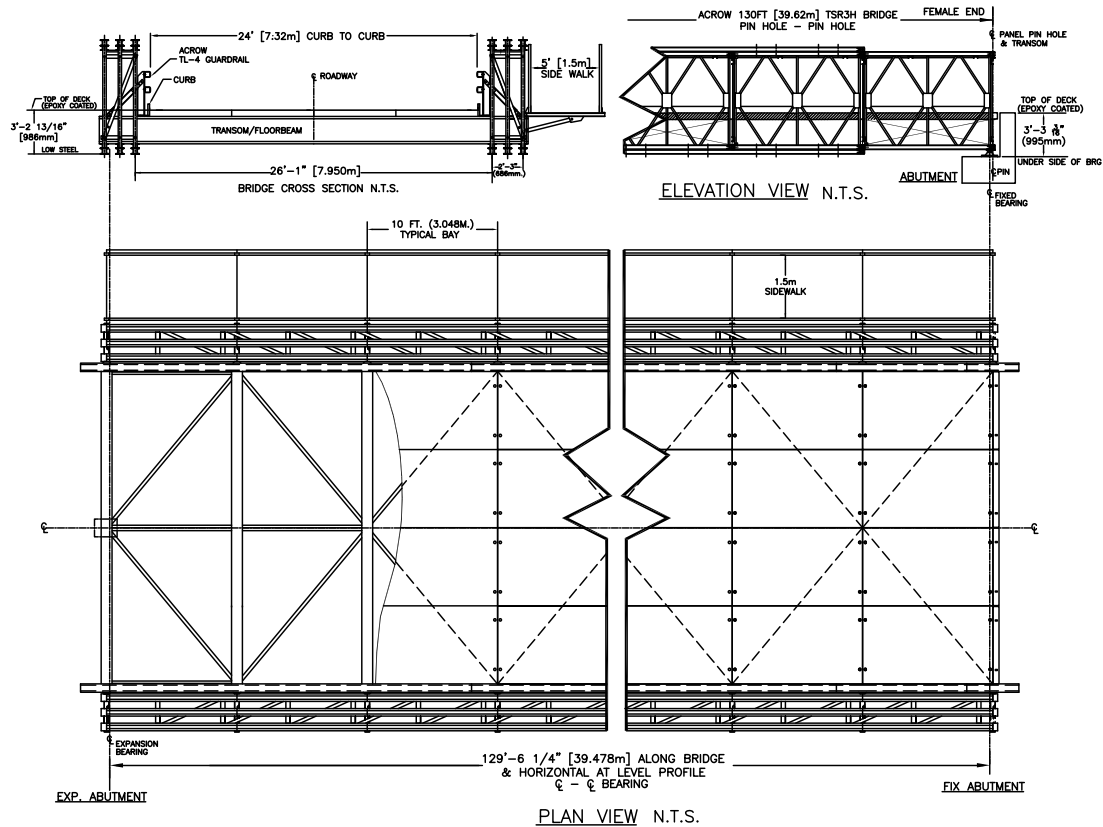
A two-lane Acrow bridge was chosen over other detour options for a number of reasons. The modular structure provided an ideal solution for the very tight worksite on this project, and Acrow's lightweight components allowed for staged installation.

The launching and erection of the detour bridge posed numerous challenges. Because no room was available to stage components on-site, the Acrow components

were delivered to a laydown area away from the site and brought to the work zone as needed. The build area was extremely limited on the west approach, so the bridge was erected on rollers, with additional rollers on top of a temporary launching pier — necessary for ease of erection and a safe launch.

For the final launch, a large crane positioned on the east approach was attached to the east end of the bridge. The structure was moved to its final position and held 6.6 feet (2m) above the east bearings while the temporary pier was removed, before being lowered and set on both abutment bearings.

The Acrow installation was completed in less than three weeks and the rented structure was in place for approximately one year.



Specifications

Bridge length:

130' (39.62m)

Roadway width:

24' (7.35m) curb-to-curb plus guide rail and 5' (1.5m) sidewalk

Deck surface:

Epoxy aggregate

Bridge erection method:

Crane-assisted launch

Design load:

Two lanes of BCL625 plus two large diameter water mains supported on contractor-supplied Super Studs fastened to the underside of the south side truss with a load of 239.83 lbs/ft (3.5 kN/m)

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:

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