



Temporary Detour Bridge Accommodates Vehicles and Vessels at the LaSalle Causeway in Ontario

Periodic removal and reinstallation of a versatile modular steel structure enabled marine access

After a bascule bridge at the LaSalle Causeway in Kingston, Ontario, was demolished in June 2024, owner and operator, Public Services and Procurement Canada (PSPC) adopted an innovative approach to reopening the crossing. A standard steel panel bridge from Acrow was selected to temporarily span the Cataraqui River, part of the Rideau Canal, a designated UNESCO World Heritage Site. It accommodates vehicles, pedestrians and cyclists, and to address the needs of marine traffic, the structure was designed to allow for its periodic removal and reinstallation to open the navigation channel to vessels.

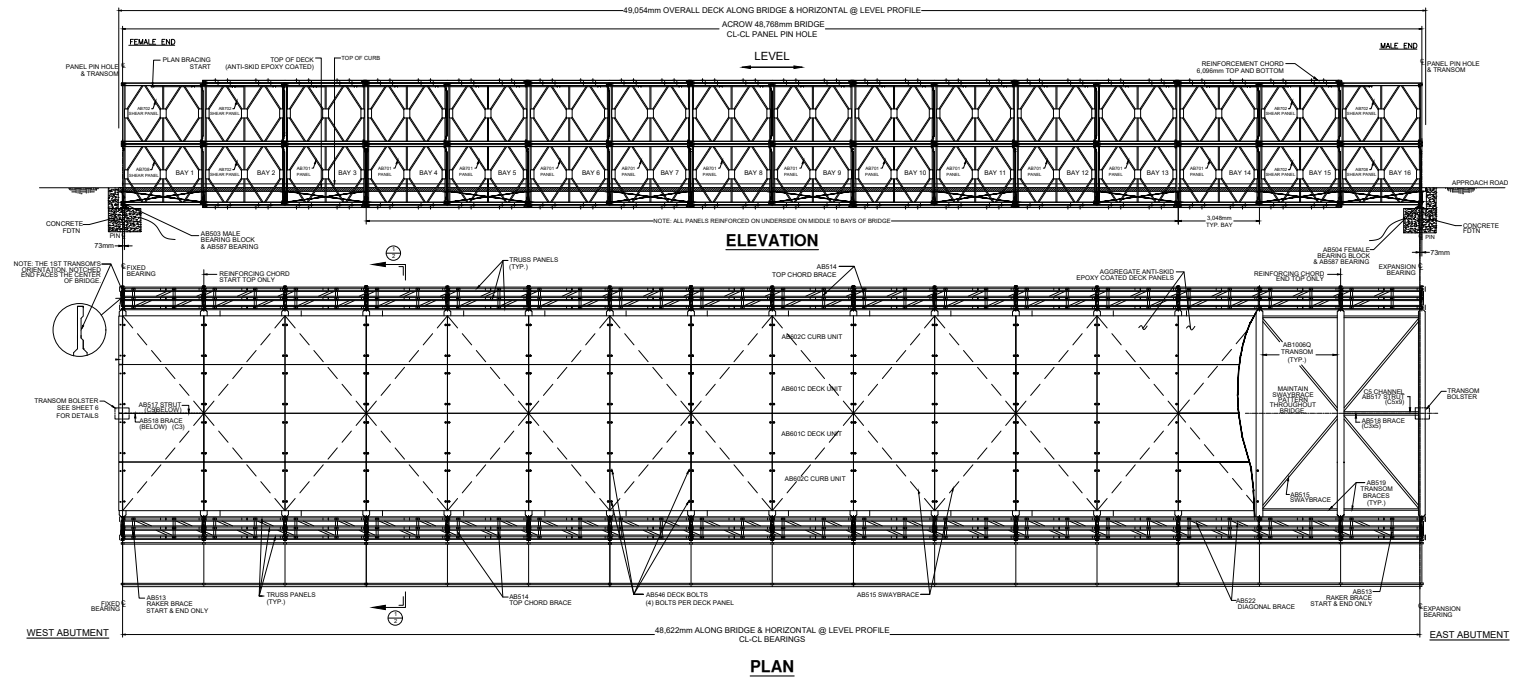
The two-lane modular bridge was provided to the installation contractor and assembled on rollers. It is 160 feet (48.8m) long and 24 feet (7.35m) wide, with a 5-foot-wide (1.5m) cantilevered pedestrian footwalk. The approaches required extensive preparation, and the existing abutments were modified for the prefabricated structure. Launched on September 20 with the assistance of a crane, the new temporary bridge opened to traffic on October 3. Acrow engineers,

on-site before and after the launch, ensured the bridge was constructed correctly and was safe to open.

Prior to the first removal, Acrow liaised with the specialist contractor responsible for lifting the moveable bridge to ensure that the correct pick points on the structure were utilized. Additional plates were added to the underside, at the pick points, to allow the bridge to tie into the lifting system on a floating barge.

On October 15, the bridge was removed to open the channel for nine hours. This was accomplished by de-ballasting the barge to raise the bridge off its bearings and floating it out of the channel. To reinstall the structure, the process was reversed, and the crossing reopened.

Acrow's high-strength galvanized modular steel bridge system proved the ideal solution to accommodate the demands of frequent removal and reinstallation sequences, and precision engineering and fabrication reliably ensured accurate alignment every time.



Specifications

Bridge length:

160' (48.8m)

Roadway width:

24' (7.35m) + 5' (1.5m) cantilever footwalk

Guide rails:

TL-4

Deck surface:

Epoxy aggregate

Bridge erection method:

Crane-assisted launch

Design load:

CL-625ONT

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