Prefabricated Modular Steel Bridging Minimizes Work Zone Impact During Bridge Replacement

Acrow Bridge supplied Construction Bauval with a two lane super elevated detour bridge, offering a cost-effective solution for maintaining heavy traffic flow over Quebec's Autoroute 20, while protecting construction workers and motorists.

Boulevard Roland-Therien overpass in Longueil Quebec carries high traffic volumes in Quebec, with truck loading typically as heavy as 63 metric tonnes. On a daily basis more than 20,000 drivers will have to use the superstructure. The existing concrete overpass is being replaced by Construction Bauval, a major Quebec-based contractor. Construction Bauval rented an Acrow bridge to provide a detour during construction. The overpass carries two lanes of traffic over the six lane Autoroute 20 beneath.

By renting Acrow's modular steel bridge instead of constructing a traditional concrete and steel temporary detour bridge, the contractor was able to reduce costs. An Acrow bridge is much faster and simpler to install and remove thus improving profitability and scheduling. There are also no disposal costs as there would have been with a custom built concrete and steel detour bridge.

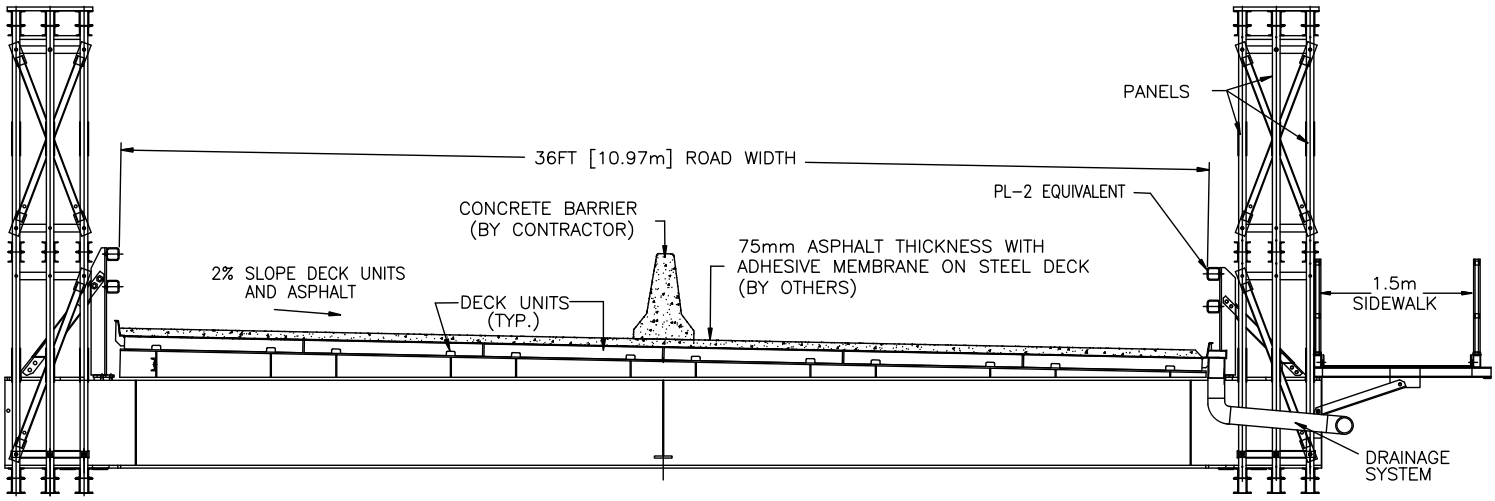
The Acrow bridge detour solution minimizes work zone impact, maintains traffic flow and protects construction workers and motorists. Because the bridge is situated beside the existing bridge it also minimizes the need for re-alignment of the road.

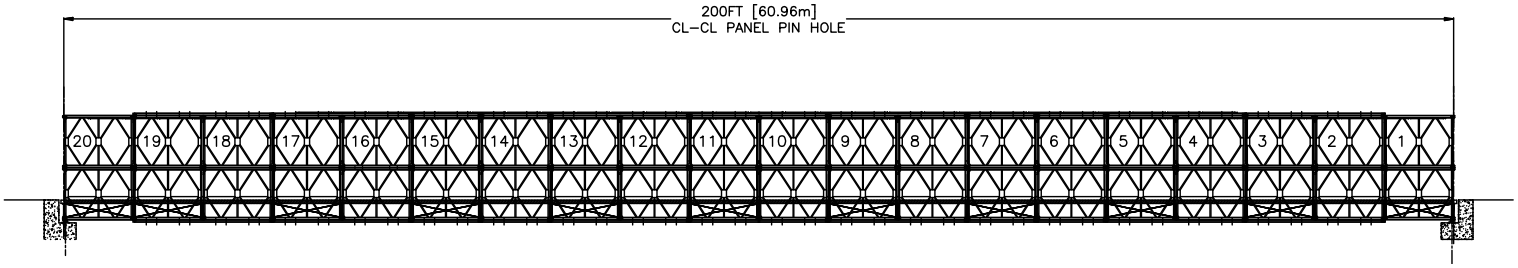
At 200 feet (60M) in length with a roadway 36 feet (11M) in width, the bridge provides plenty of room for two lanes of traffic including a concrete barrier to separate the lanes. The detour features Acrow's standard steel decking overlaid with asphalt. The deck is super elevated to maintain safety as the bridge is within a horizontal curve.

The use of detour bridges has grown significantly in recent years as more and more contractors use them to stay on or ahead of schedule and control costs, while providing a safe and dependable route for traffic. The Acrow detour bridge, which can be rented or purchased, is particularly popular because of its modular steel design. Durable and easy to assemble, disassemble, transport, store and customize for future use, many contractors purchase Acrow bridges, because they are a cost-effective investment and provide a proven competitive advantage.

Traffic flow and safety

Acrow bridges used as temporary detours address two major issues during highway and road construction. By providing a temporary roadway that is predictable and unchanging, traffic disruptions are significantly reduced while the safety of motorists and construction workers is greatly enhanced. This is a safer, faster and more economical alternative to "phased" construction in which lanes are moved as needed to divert traffic around work sites.





Specifications

Bridge length:
200 feet (60M) span

Bridge width:
The Acrow bridge has a 36 foot (11M) clear travel way between the guide rails.

Guide rails:
A PL-2 Equivalent Guard rail was supplied by Acrow

Deck surface:
Asphalt over orthotropic steel decking

Bridge erection:
Launched utilizing specialized vehicles supporting the bridge from the road beneath

Live load:
The bridge was designed in accordance with CL625 design loading as per CHBDC-2006 code.

Bridge design:

(A) Panel chords, diagonals & verticals, panel reinforcing chords, Rakers to AASHTO M223 GD 65

(B) Decking, raker brace, transom, top chord brace, swaybrace, transom brace, diagonal chord brace to AASHTO GD 50

(C) Panel pins to ASTM A 193 GD b7

(D) Bolts to AASHTO M164M – A325

Bridge finish:

- All major components galvanized to AASHTO M111 – ASTM A 123
- All bolts are hot dipped galvanized
- All pins are electro galvanized

Special features:

- Super elevation
- Drainage system
- Highway rate guard rail system
- Cambered to offset dead load deflection

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