SHAW PIPE

Project Name:
Dartmouth Crossing
Augusta Arch

Location:
Dartmouth Crossing, Dartmouth, Nova Scotia

Owner:
Dartmouth Crossing Limited

Contractor:
ACL Construction Limited

Project Designers:
EDM Environmental Design and Management

SHAW PIPE

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SHAW PIPE

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NEWSUPDATE

PROVIDING THE RIGHT SOLUTIONS.

DARTMOUTH CROSSING

E60/0 Bebo Augusta Arch Complete

Shaw Pipe is excited to announce the recent opening of the Dartmouth Crossing Augusta Arch Bridge, linking two retail phases at Dartmouth Crossing. Shaw Pipe was extensively involved in the design build of this project from the inception until its completion. Providing not only all of the precast concrete components, but also a substantial portion of the professional services required to get the project completed.

Augusta Arch

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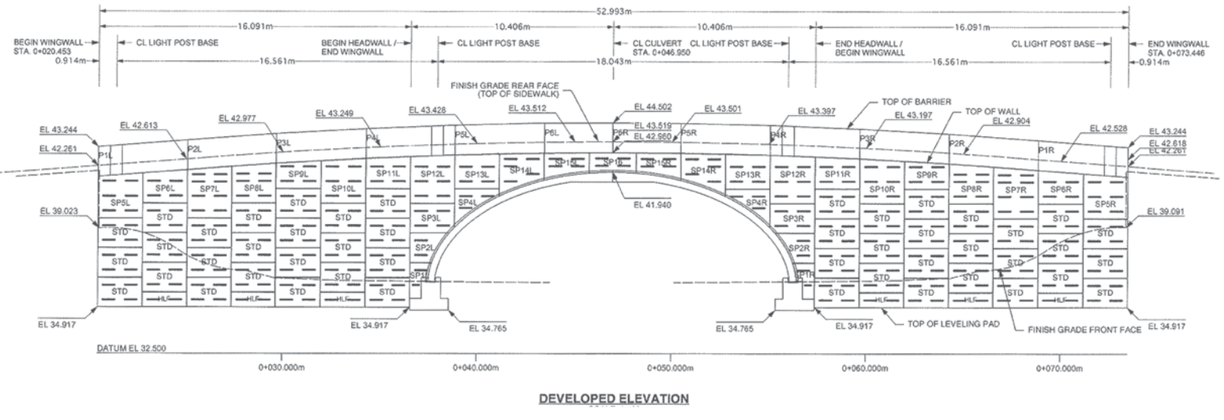
The first precast component that was supplied to the site was the precast arch footings. Due to environmental deadlines and construction timelines a precast footing was supplied allowing the installation to occur over a two day period. There were eight footing sections precast, all with a width of 3.4 meters and a height of 1.7 meters.

The next component Shaw Pipe supplied was an E60/0 Bebo arch. The Augusta Arch has a span of 18.25 meters and a rise in the center of 5.18 meters. An E60 arch is a two piece arrangement. Each half arch element is placed and then joined in the middle at the crown joint. There were 14 individual arch elements, once all installed made up seven arch rings with a total culvert length of 12.8 meters.

The next specialized component of the project was the creation of our new IsoGrid2 mechanically stabilized earth wall. Shaw Pipe, with support and co-operation from the Neel Company in Springfield, Virginia, developed a modular MSE panel for this project that is larger than other MSE panels currently being offered. The panel measures 2286mm wide by 1524mm high (3.48m2).

As with other MSE systems, the galvanized connection inserts are cast into the backs of the panels, and the sections are held in place by galvanized soil grids reinforcing the soil mass behind the face panel. Another aspect of the IsoGrid2 that was unique was that the panels had to match a specified radius at the top of the wall in order to achieve the desired appearance that the client requested. In total there were 36 specially shaped panels required to match the radius both at the top of the wall, as well as the requirement to match the radius around the arch.



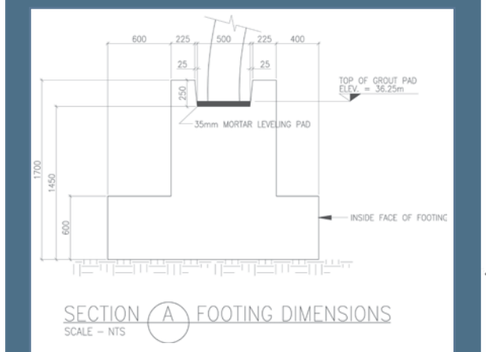
DEVELOPED ELEVATION

It was also decided at this time that a form liner would be used to enhance the appearance of the IsoGrid2 panels. A stone relief was decided upon after much consultation with the designers and the owner. Shaw Pipe had the liners custom manufactured to fit the new IsoGrid2 panel forms, and was able to achieve an attractive stone profile on the panels.

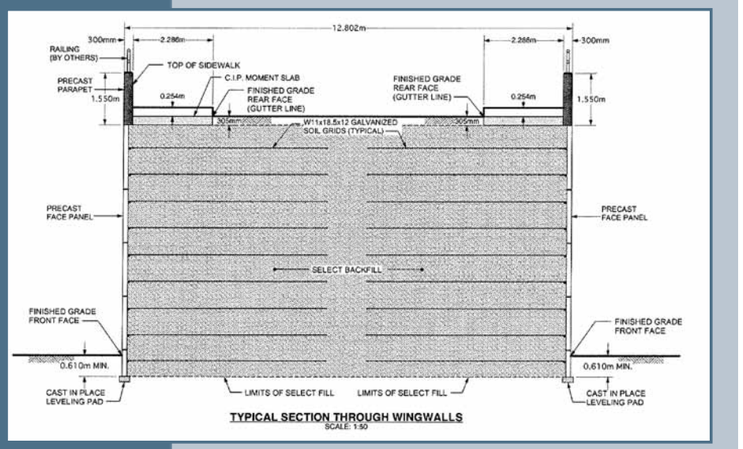
The second specialized component of the structure was the “Parapet Wall” required at the top of the IsoGrid2 wall for pedestrian and traffic control at street level. Again, with the support of the Neel Company, a parapet wall was created to meet the traffic and crash rating requirements. Also incorporated into this parapet wall were the monolithic integral light standards, complete with conduit openings that the decorative lamp poles would finally be attached to.

Once the construction had been completed of all the precast components an antique color relief was applied to the wall by Shaw Pipe. The “antiquing” was applied after construction at the project site and not at the plant. This ensured the proper color range was achieved.

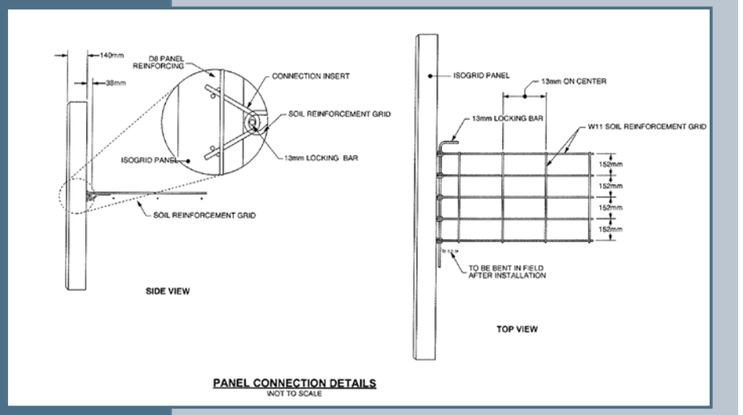
SPECS



SECTION A FOOTING DIMENSIONS
SCALE – NTS



TYPICAL SECTION THROUGH WINGWALLS
SCALE: 1:50



PANEL CONNECTION DETAILS
NOT TO SCALE