Atlantic Industries Limited

PROJECT PROFILE

Super•Cor supports one of Canada's major transportation hubs

CPR Intermodal Yard just North of Toronto

The Canadian Pacific Railway (CPR) faced a challenge when creating a grade separation for trains and trucks heading in and out of their intermodal yard in Kleinberg, just north of Toronto's Pearson International Airport. The solution was a two-lane service road for trucks and an overpass for trains, all in the same yard. CPR chose engineered Super•Cor steel structures to carry the loads of their heavy and frequent trains over the service road.

Project at a glance:

Product: Super•Cor Structural Plate Bridges and Tunnel

Sector: Transportation

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Extreme load, high water table and low height of cover.
Coupled with the need for strength was a need to build the grade separation without disturbing the water table, which meant engineering two very strong bridges, each with a very low height of cover – only 1400 mm. AIL designed the Super•Cor bridge to withstand Cooper E-80 live loads, which easily supports the total weight of the trains (5,350 tons). The design load presented by the trains is 4.2 times more severe than the Ontario highway design load, the heaviest in Canada.

Encased Concrete Ribs added strength for extreme loading.
Reinforcing Super•Cor is not usually required, but with the extreme loads that CPR required the bridges to handle, AIL designed the ribs to be filled with concrete under the railway loading. The finished product combines the lightweight and tensile strength of steel with the compressive strength of concrete. Like all Super•Cor, the CPR bridges came in small, lightweight pieces that were easy to transport and erect. The assembly of the two structures began on July 18 and the track was open to train traffic just one month later.

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Head Office:
32 York Street
Sackville, New Brunswick
Canada E4L 4R4
1-877-245-7473

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