Rail Infrastructure Solutions

KEEPING YOUR TRAINS ROLLING

- Turn-Key Engineered Approach
- Accelerated Construction Methods
- Rapid Response Emergency Solutions


Overpasses and Underpasses


Pedestrian Bridges


Water and Wetland Crossings


Retaining Walls and Abutments


Sound Barrier Walls

BUILDING IN VALUE FOR CLASS 1, SHORT LINE AND LRT SYSTEMS.

ail.ca

AIL

Canada's Bridge & Infrastructure Company™

Class 1

Short Line

LRT

Canada, we have your rail bridges. And more.

If you have a crossing, we can bridge it. We are Atlantic Industries Limited (AIL) and we offer a wide range of efficient bridges – Structural Plate, Prefabricated, Modular Panel, Culvert – all engineered to deliver optimum performance and value for your application. We also provide integrated products like Retaining Walls, Abutments and Sound Barrier Walls to make your bridging projects even more convenient.

By design, our complete line of value-engineered bridging solutions are easy to ship and install with minimal equipment and labour requirements, making them ideal even in remote locations.

With a Canada-wide network of engineering/sales offices and manufacturing plants, AIL is a proven project partner ready to help you with dependable design, engineering and on-site support services.

As a member of The AIL Group of Companies, we bring a world of resources and expertise to our projects in the railway, transportation, public works, mining, development and forestry sectors.

Specializing in efficient, low-maintenance infrastructure solutions for a wide variety of railway applications.

- Grade Separations and Approach Ramps
- Overpasses and Underpasses
- Box Culverts
- Water and Wetland Crossings
- Vehicular and Pedestrian Bridges
- Abutments and Retaining Walls
- Headwalls and Wingwalls
- Sound Barrier Walls
- Culverts, Fish Passages and Drainage
- Rehabilitations and Relines

AIL | Canada's Bridge & Infrastructure Company™

Grade Separations and Approach Ramps

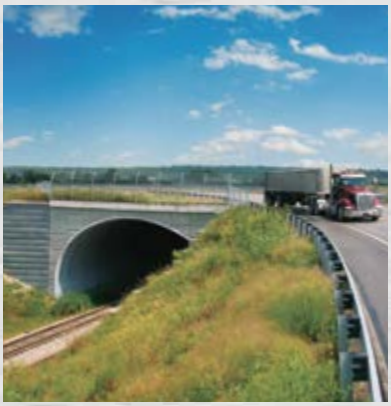
Supporting the heaviest railway loads, our Structural Steel Plate, Prefabricated Bridges and Retaining Wall Systems are go-to solutions for today's busy rail systems needing accelerated design and construction. Our ability to economically package these solutions makes them frequent companions in grade separation and approach ramp applications.

AIL has infrastructure solutions for virtually any application on today's Class 1, Short Line or LRT systems. Our engineered solutions ship economically to remote sites and install quickly with minimal equipment, material and labour requirements.

RAIL PROJECT PROFILES

Coal spur crossing spurs high grades from all sides

A level crossing on a Kanas coal spur line had been holding up traffic and impacting safety, earning a failing grade from motorists and railway workers alike. Colleagues from the adjoining Class 1 line recommended an economical Super•Cor®/Vist-A-Walls® solution for a new grade separation. When all was said and done, the new crossing was given an A+ from all parties.



Super•Cor® trumps concrete on time and cost

Super•Cor® was chosen over concrete alternatives for this spur line crossing because installation didn't require specific weather conditions, specialized contractors and equipment, or additional curing time. Plus, very little maintenance is required over the life cycle of the structure. The same can be said for our Vist-A-Wall® headwalls with Wire Wall / Cobble Stone finish.

Overpasses and Underpasses

Our versatile and attractive Structural Plate overpasses and underpasses are designed to meet railway clearances well beyond your needs. Ultra•Cor® or Super•Cor® Arches and Box Culverts, are recommended for larger applications. Bolt-A-Plate® is well-suited to less demanding applications and offers the widest array of size and shape configurations.

Box Culverts

Featuring a unique geometry for generous rail or road clearances, Box Culverts are the perfect solution for long-span, low-rise situations with shallow cover requirements. We offer many different possibilities in Box Culverts in Ultra•Cor® or Super•Cor® Structural Steel Plate or Dur•A•Span™ Aluminum Structural Plate — each one ready to shoulder the load for many years of low-maintenance service.

Modular Panel Bridge makes quick fix for CN ROW

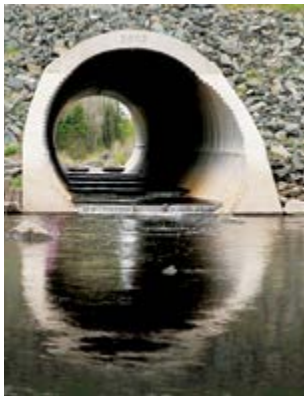
When CN Rail needed to replace a failing, century-old, right-of-way crossing on their main line near Amherst, NS, a Mabey Compact 200 System proved to be the most economical and versatile option for a speedy replacement. The new bridge was assembled at the site and lifted into place in one day, without interruption to rail traffic.

Maintaining a Low Profile in CPR intermodal hub

With a high water table and a very shallow cover, the Canadian Pacific Railway needed to keep a low profile for a grade separation in their Toronto intermodal yard. A Super•Cor® Low Profile Arch did just that and was still able to withstand Cooper E-80 live loads. Fifteen years later it seems that maintaining that Low Profile Arch has been a total non-event thanks to the advantages of long-lasting steel.

Water and Wetland Crossings

With difficult terrain and sensitive ecosystems, these crossings require extra care and engineering expertise. We can provide many types of solutions from Prefabricated Bridges and Structural Steel or Aluminum Plate for larger applications, to Geotextile Reinforced Soil Bridges and Corrugated Pipe for smaller ones. Naturally, our wall systems are always ready to lend their support for abutments, headwalls and the like.



Vehicular and Pedestrian Bridges

Durable and low-maintenance Modular Railway Bridges are designed by our in-house engineering team to meet the most stringent regulations and decrease or eliminate environmental impacts. Prefabricated Pedestrian Bridges are ideal for today's demanding light rail and intermodal crossings. Modular components for spans up to 122 m can be installed in one day for limited interruption to rail traffic.

Century-old CN culvert replaced in a weekend

RAPID RESPONSE **EMERGENCY SOLUTIONS**

A failed culvert needed to be completely replaced within a weekend work block and our Dur-A-Span™ Structural Aluminum Plate Culvert, and a highly organized construction team, were ready for the challenge. Alternating crews worked around the clock and the lightweight, pre-assembled culvert was installed with the tracks replaced in time for the Monday morning train.

Colorado transit hub bridge installs in just one day

A custom Prefabricated Pedestrian Bridge was used to connect a recreational trail system with a major transportation corridor in Fort Collins, CO. The three-section bridge installed in one day over the dedicated transit-way and a BNSF rail line. Non-structural arches were incorporated to add a more-graceful look and a custom painted finish was also used.

Abutments and Retaining Walls

Our engineered Vist-A-Wall MSE Structural Wall Systems® create cost-effective on-site abutments and retaining walls. They are available in a variety of Precast Panel finishes or as Wire Walls with natural cobblestone at the face. Our Two-Stage Precast Walls are ideal for areas where excessive settlement is anticipated. Vist-A-Walls' flexible design works well around various types of obstructions such as steel piles. Our Bolt-A-Bin®, cellular metal bin type walls are another economical option for abutments or steepened slopes.

Headwalls and Wingwalls

Our ability to design and supply buried arch bridges and their headwalls and wingwalls as a packaged solution creates additional opportunities to maximize value in railway infrastructure. Our Vist-A-Wall MSE Structural Wall Systems® site-adapt easily to steps, angles, curves, and other site anomalies. Other solutions are also available in different materials.

Vist-A-Walls® value-engineered for Saskatoon project

As part of the large scale Circle Drive South project in Saskatoon, the AIL team value-engineered specific aspects of our Vist-A-Walls® Two-Stage Precast installation to help the client save time and money. This included the use of all-season backfill material and a high-performance concrete mix only for selected areas with maximum highway salt exposure.

New crossing blends into historic Mississippi town

A major class 1 railway needed to upgrade their line speeds and prepare clearances for a future second line. The Town of Edwards wanted the crossing replacement to fit in with adjacent historic properties. Our Super•Cor® Arch gave them the needed clearance and our Vist-A-Wall Precast Panel Walls® with a heritage paint finish and an adobe brick texture fit in just fine.

Sound Barrier Walls

With their lighter weight, lower installed costs and long-term durability, AIL Sound Walls are a perfect choice to keep the peace in neighbourhoods along busy railways. They are installed easily on narrow job sites and are available in several attractive colours and configurations to satisfy important aesthetic considerations. Many of our installations have been replacements for deteriorating concrete systems.

Culverts, Fish Passages and Drainage

We offer various types of fish passage solutions. Our corrosion/abrasion resistant Dur•A•Span™ Aluminum Structural Plate is particularly well-suited to saltwater or aggressive environments. We also offer different finishes on Structural Steel Plate for extended service life. Specialized fish baffle inserts are available and open-bottom designs decrease environmental impact.

AIL Sound Wall benefits stack up in test track facility

The Washington Metropolitan Area Transit Authority chose AIL Sound Walls over concrete alternatives to keep the peace around their new test track facility. Our lightweight PVC panels meant better appearance, longer spans, fewer and smaller posts, easier handling of components in a tight site, flexibility around site anomalies and a lifetime of virtually no maintenance.

Four-day delivery aids CN washout replacement

The complete washout of an aging single culvert near Sault Ste. Marie, ON had left the rail line suspended above the raging river. An urgent solution was needed. AIL received the go-ahead on Thursday and had all 24 lengths of Corrugated Steel Pipe onsite by Monday. CN Rail teams got the job done in just four days.

RAPID RESPONSE **EMERGENCY SOLUTIONS**

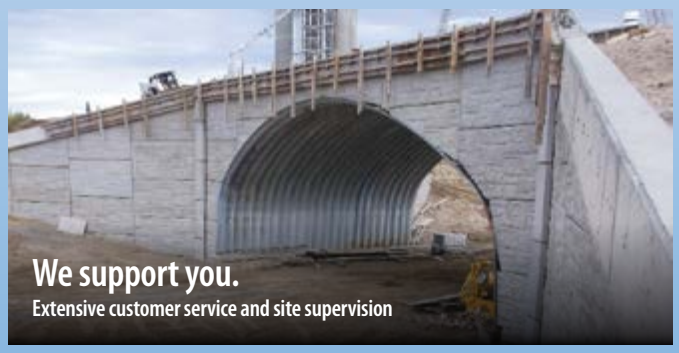
Rehabilitations and Relines

Our reline packages can help salvage older culvert or bridge structures and avoid the cost, traffic interruption and environmental issues of a full replacement. Custom-fit inserts can be made from Corrugated Pipe or various profiles of Structural Plate. One of our latest innovations, THE EDGE Super•Cor® Flange Connection, allows liners to be completely built from one side.

Your go-to project partner in efficient rail infrastructure

Save time and money; talk to our Rail Team. With an extensive project history behind us, we are well-poised to help with project budgets and planning. The earlier we get involved, the more you may save.

- Dedicated, in-house engineering team
- Proven design-build project partner
- Extensive knowledge of AREMA standards
- Quick turn-around for design and fabrication
- Full project cycle assistance and on-site supervision
- Many economical structure options to choose from
- Creative, value-engineered alternatives for structures
- Ability to meet single, double and triple AREMA clearance boxes



Super•Cor® reline extends life of Indiana rail bridge

Falling concrete is never a good thing for the traffic passing underneath. Several years ago, a Super•Cor® liner was built in sections and positioned inside this aging cast-in-place rail bridge and the void was filled through custom grout ports. Today, THE EDGE Super•Cor® Flange Connection provides even stronger and easier solutions for applications that require construction entirely from one side.

RAPID RESPONSE EMERGENCY SOLUTIONS

With locations across Canada, available inventories and in-house engineering expertise, we are your single source to fast track a wide variety of permanent or temporary structures, such as Corrugated Pipe, Modular Panel Bridges, smaller Structural Plate products and more.

Ultra•Cor® Structural Steel Plate

WIDER SPANS • HIGHER COVERS

- Combines all the advantages of lightweight construction with previously-unheard-of strength and durability
- The world's strongest corrugated steel plate
- Handles extreme loadings
- Spans up to 30 m (98')
- Corrugation profiles of 500 mm (20") pitch x 237 mm (9.5") depth
- Available in: Box Culverts, and; Standard, Low, Medium, or High Profile Arches
- Bottomless designs are environmentally-friendly
- Available with Best•Kote Polymer Coating

Super•Cor® Structural Steel Plate

- Premium, hot-dip galvanized, deep-corrugated, structural steel plate for larger applications
- Revolutionary alternative to conventional bridges
- Handles extreme loadings
- Spans can exceed 25 m (82')
- Corrugation profile of 381 mm (15") pitch x 140 mm (5.5") depth
- Available in: Box Culverts; Standard, Low, Medium, or High Profile Arches: Rounds and Ellipses
- Bottomless designs are environmentally-friendly
- Available with Best•Kote Polymer Coating

Super•Cor® with the Flange Connection.

- An alternative to the current "lapped" connection
- Accelerated assembly, easier fitting of plates
- Provides added strength to plate structures
- Added safety, structures can be built entirely from one side
- Facilitates curved structures (horizontal and vertical)
- Allows for leak-resistant structures

Build stronger, safer structures entirely from one side.

Bolt-A-Plate® Structural Steel Plate

- Industry-standard, hot-dip galvanized, corrugated, structural steel plate for medium and small applications
- Spans of 1.5 m (5') to 12 m (40')
- Corrugation profile of 152.4 mm (6") pitch x 51 mm (2") depth
- Available in: Standard, Low or High Profile Arches; Rounds; Horizontal or Vertical Ellipses; Pipe Arches, and; Pear Shaped
- Bottomless designs are environmentally-friendly
- Can reline older structures
- Available with Best•Kote Polymer Coating

Dur•A•Span™ Structural Aluminum Plate

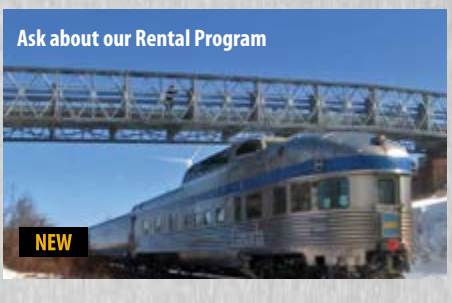
- Corrosion/abrasion-resistant solid aluminum alloy structural plate ideal for saltwater and aggressive soil environments
- Recommended for sites with corrosive soil and/or water
- Lightweight
- Performance proven in over 15,000 installations worldwide
- Spans can exceed 12.2 m (40')
- Corrugation profile of 229 mm (9") pitch x 64 mm (2.5") depth
- Available in: Box Culverts; Standard, or High Profile Arches; Rounds; Vertical Ellipses; Pipe Arches, and; Pear Shaped
- Bottomless designs are environmentally-friendly
- Can reline older structures

Geotextile Reinforced Soil (GRS) Bridges

- Exceptionally fast and economical resource road crossings
- Steel anchor rods connect a structural plate arch to the backfill/geotextile composite
- Transfers loads into the surrounding GRS mass
- No need for concrete footings or pile foundations
- Lightweight and ships economically to site
- Maintains existing stream bed
- Allows for wide range of backfills
- Fish friendly
- Scour resistant
- Spans of 6 m (19.7') to 12 m (39.3') or more

Custom Prefabricated Bridges

▶ Permanent or temporary applications ▶ Strong: able to withstand heavy-duty loading ▶ Variety of widths, spans up to 45.7 m (150') ▶ 2.4 m (8') wide modules are typical ▶ 10.8 cm (4.25") corrugated steel deck is standard ▶ Decking options – poured or precast concrete, asphalt, grating, wood or gravel ▶ Weathering, Galvanized or Painted Steel ▶ Curb or rail system ▶ Excellent fish passage solutions ▶ Sidewalks and utility corridors can be added to enhance use



Mabey Modular Panel Bridges

▶ Inventoried components ready to ship and install quickly by local crews ▶ Can be launched from one side without lifting equipment ▶ Permanent or temporary applications ▶ Easy to dismantle, store and reconfigure for multiple uses ▶ Strong: able to withstand heavy-duty loading ▶ Variety of widths, spans up to 90 m (295') ▶ Galvanized finish ▶ Available in Compact 200, Delta and Universal Systems ▶ Variety of decking options ▶ Bearing plates and pads ▶ Sidewalks and utility corridors can be added to enhance use

Vist-A-Wall MSE Structural Wall Systems®

▶ Economical system for retaining walls, steepened slopes and erosion control ▶ Heavy-duty, black or galvanized, steel wire interlocking wall and mat construction ▶ Can handle extreme surcharge loads ▶ Most cost-effective and easy way to construct headwall option for structural plate bridges ▶ Permanent or temporary applications ▶ Wall heights can exceed 30 m (100') ▶ Adapts to curves, angles and steps

Bolt-A-Bin® Cellular Bin Type Retaining Walls

▶ Economical, strong and versatile cellular bin-type retaining wall or abutment system
▶ Lightweight, easy to install and ideal for remote areas ▶ Galvanized and Aluminized Type 2 steel construction
▶ Size range of 1.2 m (4') to 8.5 m (28') in height, in 3 m (9.8') increments in length
▶ Full design and engineering support

AIL Sound Walls

▶ An industry leader in sound mitigation ▶ Meets accelerated test requirements for durability
▶ Impervious to rain, snow, ice and sleet ▶ Will not rust, rot, or stain
▶ Maintenance-free ▶ Wind load tested up to +225 kph (+140 mph)

Corrugated Steel and Aluminum Pipe

▶ Economical, strong, lightweight and easy to install ▶ Variety of sizes, thicknesses and materials
▶ Complete line of standard and specialized fittings and accessories ▶ Available in Round or Pipe Arch Profiles
▶ Can be used to reline existing systems

FOR PROJECT GUIDANCE AND ASSISTANCE, CALL TOLL-FREE 1-877-245-7473, OR EMAIL: INFO@AIL.CA

The information and suggested applications in this brochure are accurate and correct to the best of our knowledge, and are intended for general information purposes only. These general guidelines are not intended to be relied upon as final specifications, and we do not guarantee specific results for any particular purpose. We strongly recommend consultation with an Atlantic Industries Limited Technical Sales Representative before making any design and purchasing decisions.

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Get AIL's innovative engineered solutions working for your better bottom line.

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