



Bridge-Plate Reline Kamouraska, QC

OWNER**CONTRACTOR****LOCATION**

Ministry of Transportation of Quebec

Coffrage Provincial Inc.

Kamouraska, QC

In Monk Linear Park, near the town of Tourville in Kamouraska, a failing concrete bridge was in need of rehabilitation. The Ministry of Transportation of Quebec (MTQ) required an innovative solution to upgrade the deteriorating river crossing. Armtec proposed using Bridge-Plate Deep Corrugated Steel Plate (DCSP) to reline the existing structure.

The Challenge:

The existing bridge was in very poor condition, with concrete crumbling to the touch. The proposed solution needed to minimize further damage in order to maintain a safe working environment for construction personnel.

The embankment height above the existing structure was 7.5m. This made replacement of the bridge an expensive option. The large span of the existing structure was 9,100mm which narrowed the choice of rehabilitation solutions. The structure was located in a remote area with limited access. All materials and equipment required for the project needed to be easily transported to the job location.

The existing bridge spanned an environmentally sensitive waterway. Diverting it or interfering with the riverbed was prohibited.



The Solution:

Armtec proposed rehabilitation of the structure using a 5.0mm thick Bridge-Plate arch. This solution provided a significant cost savings versus a new bridge installation. The arch was designed for a 7,798mm span, 36.0m length and 3,903mm height. Installation required insertion of the Bridge-Plate into the existing structure. Contact needed to be minimized in order to ensure that further crumbling of the concrete bridge would not occur. Once inserted, concrete was injected as grout to fill the spaces between both structures.

Bridge-Plate's modular components were easily transported to the job site. The contractor chose to preassemble the Bridge-Plate with double rings each measuring 2.4m in length. A second team was in charge of constructing the footings on site. Once the concrete footing cured, sections of the Bridge-Plate were inserted by sliding them on polyethylene bands specially installed on the concrete footings. The insertion proceeded very smoothly and a medium size excavator was sufficient to pull the new structure inside the existing one.

The plate insertion phase took only a few days to complete. A reinforced concrete cast-in-place headwall was installed as an end treatment. The project was successfully completed in September 2014. Bridge-Plate provided a cost-effective solution for this environmentally sensitive area.



TECHNICAL DETAILS

Bridge-Plate
Span: 7,798mm
Rise: 3,903mm
Length: 36.0m

**Find out how Bridge-Plate can be used on your next project.
Contact us today!**



Armtec is a leading national manufacturer of a comprehensive range of infrastructure products and engineered construction solutions for customers in a diverse cross-section of industries. With operations coast to coast, we are a trusted partner for transportation, public works, forestry, oil and gas, and mining operations throughout the country and abroad. Since 1908 our commitment to quality, customer service and innovation has set the benchmark in the Canadian drainage and bridge landscape.

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