



# Stoneham Arch Bridge Highway 73

Stoneham, Quebec



The suspended Stoneham Arch Bridge is an aesthetically pleasing solution to a unique site requirement. The choice of hot-dip galvanizing was preferred by the engineer because of its durability and cost compared to Cor-Ten steel in this highly corrosive environment. The resulting bridge is a beautiful and cost-effective marriage between structural steel and reinforced concrete.

The arched bridge design, unusual for a highway overpass, was chosen primarily to overcome two problems; uneven and rocky field conditions, as well as the very obtuse angle at which the road passed over the highway, which did not fit well with typical overpass construction. Steel beams were chosen for the deck because of the lighter weight as compared to concrete. These beams were also designed to be galvanized rather than metallized, again, for economic and performance reasons. As for the reinforcing steel, the choice of hot dip galvanizing was obvious since the concrete arches needed to be protected both structurally and aesthetically.



This type of bridge design, combining steel and concrete, is not often used. The unique design of this type of bridge makes it very interesting both architecturally and structurally. The use of galvanizing in all aspects of the bridge breaks new ground for our industry. Galvanized structural steel, galvanized reinforcing steel in the concrete, and even the supporting cables are galvanized.

The province of Quebec has a long history of being a leader in the use of galvanizing, going back to fully-galvanized road bridges from the early 1960s and galvanized reinforcing steel since the 1990s in road structures. The new ministry standards for an expected 75-year lifespan further drove the need for galvanizing in road infrastructure. 🚗

## Galvanizers

Corbec Inc. - Montreal  
Corbec Inc. - Quebec City

## Owner

Ministry of Transportation Quebec

## Engineer

François Paradis - CIMA + s.e.n.c.

## Architect

Etienne Germain - Lemay & Associés

## Fabricators

François Vallière - ABF Rebar  
Proco Construction

# bridge and highway