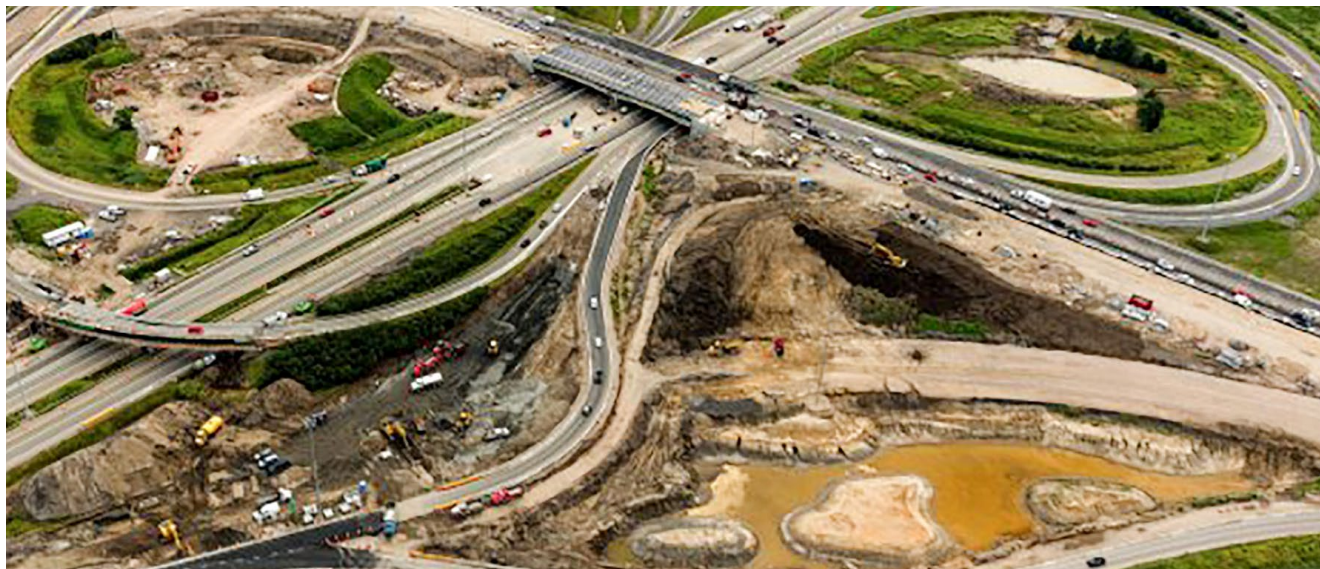


Highway Interchange A40/A73, Quebec (Canada)



Project description

Just north of Quebec City this project was a strategic redevelopment of highways Felix-Leclerc (40) and Laurentienne (73) interchange.

The interchange is located in the St-Lawrence Lowland part of a rift valley making it one of the rare regions prone to seismic events in the eastern part of Canada. In addition to seismic activity, the climate in Quebec City is known to vary over 40 °C from -17 °C during the winter and over 25 °C during the summer.

Based on these unique conditions, the Ministry of Transport of Quebec opted to seismically isolate this highway overpass increasing safety.

mageba scope

mageba supplied 18 Lead Rubber Bearings (LRB) seismic isolators. However, prior to production two full size prototypes had to go through a very stringent testing protocol, based on CAN/CSA S6-06, S6-14 and AASHTO LRFD.

The protocol included cooling of the two LRB prototypes at -30 °C for 72 hours prior to testing followed by additional testing after another 72 hours of cooling at -8 °C. Making this an unprecedented accomplishment.

Each guided LRB have a vertical load capacity of approximately 3,200 kN.

Highlights & Facts

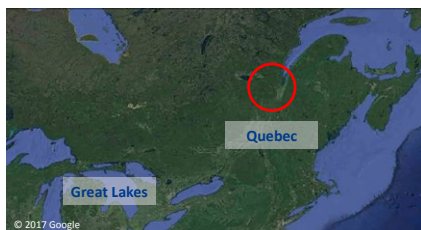
mageba products:

Type: LASTO®LRB lead rubber bearings of type S-550
Installation: 2015

Structure:

City: Quebec
Country: Canada
Type: Highway Interchange
Completed: 2016
Length: 80 m
Builder: EBC
Owner: Ministère des Transports du Québec (MTQ)

The structure is located in Quebec, Canada



The bearing after 72 hours of cooling at -30 °C



Prototype testing

