

Rehabilitation of Structures on the Indiana Toll Road

Within the Extension of Structures Project, an analysis has detected an important existing deterioration in the elements of the structures after 50 years of service, due to the salts in the freeze/thaw process.

After a thorough identification of the existing damages, an appropriate treatment has been implemented on each element, with a supposed 50 year life span. A special treatment has been designed to alleviate the effects produced by the salts in the freeze/thaw

process, using cathodic protection to avoid the 'macro-pier' effect in the repaired areas. The novelty in the rehabilitation has been the implementation of zinc anodes, embedded in the highly alkaline mortar, which control the onset of corrosion.

The inefficiency of previous repairs has been analyzed due to the formation of macro-piling between the repaired area, which was anodic before repair, and the non-repaired, cathodic before intervention and becoming anodic.



USA/2007
Project data

Structural Type:
Steel beam Bridge
Location:
Indiana, USA
Date of Works:
2007
Scope of Works:
Diagnosis of Damage and
Definition of Rehabilitation Works