

Projects First-Round Winner

Innovations Challenge
<http://wwwi/intranet/cr/SolutionsAtWork/Innovations.htm>

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Weathering Steel Washers



Description

Typically on new construction for weathering steel bridges, the installation of slab drains requires connecting them to the web of the weathering steel girder. Dissimilar material properties and a moisture rich environment combine to make this area highly susceptible to corrosion. The current practice is a three-step process intended to prevent this potential corrosion. The process involves painting the bracket with an epoxy mastic paint prior to installation, installing the bracket assembly and then painting the plain bolt attaching the bracket to the web with epoxy mastic paint.

On the Daniel Boone Bridge project, the three-step process was not going to be efficient for the contractor and thus would cause extra time and costs and would result in additional worker exposure. As a result, Polytetrafluoroethylene (PTFE) washers were added to both sides of the web, one each at the head and nut of a galvanized bolt for the assembly. The PTFE washers seal the connection and prevent water penetration through the connection, thus eliminating the potential for corrosion. This alternative method was discussed and approved by the Central Office Bridge Division.

Benefit

The weathering steel washer installation saves time and money by reducing the steps required to complete the slab drain installation and the number of trades associated with a single operation. The money savings is realized in mobilization, labor, materials and equipment costs. Safety is improved by reducing worker exposure through the elimination of a follow up painting operation for each assembly location.

Materials

Total materials cost \$7.

For More Information Contact:

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Additional photos can be seen by accessing the Innovations Challenge homepage at:
<http://wwwi/intranet/cr/SolutionsAtWork/Innovations.htm>.