Sample project special: 613gls

02-03-11

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REVISION OF SECTIONS 613 AND 715

GIRDER LIGHTING SYSTEM

Sections 613 and 715 of the Standard Specifications are hereby revised for this project as follows:

Subsection 613.01 shall include the following:

Lighting System consists of furnishing and installing a lighting system inside box girder bridges to facilitate future inspection for deterioration and structural fatigue. A portable electric generator will be used to energize the permanently installed system during the periodic inspections.

Subsection 613.03 shall include the following:

During installation of the lighting system the Contractor shall not drill or weld on steel webs (walls) of the box girder.

Subsection 613.10 shall include the following:

Prior to final acceptance of the girder lighting system, the Contractor shall operate the system and demonstrate to the Engineer's satisfaction that all electrical and lighting equipment is operating properly. The Contractor shall demonstrate the compliance with the voltage drop limitation described in Section 715 by measuring the voltage at the source and far end of the system in the presence of the Engineer while operating the system under the prescribed load.

Temporary power, cabling, connectors, portable load, and test instruments shall be provided at the Contractor's expense.

Subsection 613.11 shall include the following:

The lighting system will be measured by the number of weatherproof load centers required. A load center and attending conduit, wiring, fixtures, hardware, receptacles, expansion devices, and switches shall be supplied and installed as a complete working unit.

Subsection 613.12 shall include the following:

**Pay Item Pay Unit**

Lighting System Each

Subsection 715.06 shall include the following:

Outlet boxes and conduit bodies shall have threaded hubs and gasketed covers.

Wiring for concrete box girder bridges. Wiring for concrete box girder bridges shall be installed in electrical metallic tubing, intermediate metal conduit, or galvanized rigid conduit. The boxes shall be securely mounted to the concrete wall with no less than two anchors 1.5 inches deep in the concrete.

Wiring for steel box girder bridges. Wiring for steel box girder bridges shall be installed in a minimum of ¾ inch galvanized rigid conduit. Outlet boxes shall be bolted to angle iron (1¼ inch x 1¼ inch x ⅛ inch minimum) that is mechanically fastened to the vertical or horizontal stiffeners. Each outlet box shall be securely fastened, via conduit and angle iron, to the stiffeners.

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REVISION OF SECTIONS 613 AND 715

GIRDER LIGHTING SYSTEM

Subsection 715.07 shall include the following:

Lighting system circuit wire shall be copper with THIN insulation with sufficient ampacity to carry the load and to limit the voltage drop to l0 percent or less when a l000-watt load is connected to the furthest receptacle.

For the purpose of the lighting system, the inside of the structure shall be considered an "outside location," and the components of the system shall be UL approved as weatherproof, WP.