**Reviewers: For widening steel bridges.**

 STRUCTURAL STEEL REQUIREMENTS 11/10/20

**1.0 Description.** This provision contains general structural steel requirements for this project.

**2.0 Material.** All material shall be in accordance with Division 1000, Material Details, and specifically as shown below. The gray epoxy-mastic primer (non-aluminum) shall be compatible with concrete and produce a dry film thickness of no less than 3 mils (75 μm).

| **Item** | **Section** |
| --- | --- |
| Structural Steel Construction | 712 |
| Gray Epoxy-Mastic Primer (non-aluminum) | 1045 |
| Structural Steel Fabrication | 1080 |
| Coating of Structural Steel | 1081 |

**3.0 Construction Requirements.**

**3.1** Before fabrication of new metalwork, the contractor shall make the necessary measurements in the field to verify dimensions of the existing structure where new members are affected. Any deviation of the dimensions shown on the plans shall be called to the engineer's attention. The contractor shall be responsible for developing all required dimensional adjustments and coordinating the implementation of the dimensional adjustments with all involved fabricators and subcontractors.

**3.2** Prior to erection of the new structural steel, the steel that is to remain shall be carefully inspected for irregularities. If such irregularities are found, the irregularities shall be brought to the attention of the engineer.

**3.3** Holes in the new diaphragm or cross frame connection plates and angles may be used as a template for drilling the holes in the existing material.

**3.4** A minimum edge distance shall be maintained for all field drilled holes. The minimum edge distance for bolts shall be as shown in table below measured from the centerline of holes.

| **Bolt Diameter** | **Minimum Edge Distance** |
| --- | --- |
| **inch (mm)** | **inch (mm)** |
| 3/4 (19.0) | 1-1/4 (32) |
| 7/8 (22.2) | 1-1/2 (38) |
| 1 (25.4) | 1-3/4 (45) |

**3.5** The surfaces of existing steel that will become faying surfaces for non-slip critical new connections, typically secondary members, shall be cleaned according to the manufacturer's recommendation and with a minimum of SSPC-SP-3 surface preparation and coated with one prime coat of Gray Epoxy-Mastic Primer (non-aluminum) in accordance with Sec 1081. The surfaces of existing steel that will become faying surfaces for slip critical new connections, typically primary members, shall be in accordance with contact surfaces in Sec 1081. Primary member connections include girder/beam splices, end diaphragms and intermediate diaphragms in curved structures.

**3.6** Exposed girder/beam areas that are not faying surfaces or not covered by concrete that are scratched, damaged by the contractor or by field welding operations shall be touched up with Gray Epoxy-Mastic Primer (non-aluminum) in accordance with Sec 1081. The areas shall receive the coating system as shown on the plans.

**4.0 Method of Measurement.** No measurement will be made.

**5.0 Basis of Payment.** Payment for the above described work will be considered completely covered by the contract unit price for the structural steel items included in the contract. No payments or adjustments will be made where new members are affected due to any deviation of the dimensions shown on plans or shop drawings.