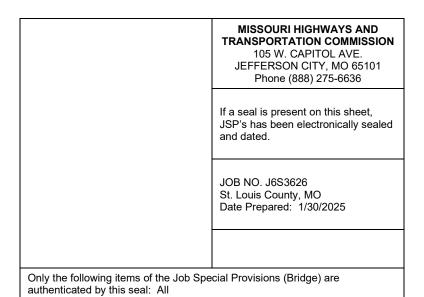
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#### A. CONSTRUCTION REQUIREMENTS

- **1.0 Description.** This provision contains general construction requirements for this project.
- **2.0 Construction Requirements.** The plans and the asbestos and lead inspection report(s) for the existing structure(s) and the geotechnical report for the new structure(s) are included in the contract in the bridge electronic deliverables zip file for informational purposes only.
- **2.1** In order to assure the least traffic interference, the work shall be scheduled so that a lane or the bridge closure is for the absolute minimum amount of time required to complete the work. A lane or the bridge shall not be closed until material is available for continuous construction and the contractor is prepared to diligently pursue the work until the closed lane or bridge is opened to traffic.
- **2.2** Bridge work by contractor forces, including erection, rehabilitation or demolition, shall not be allowed over traffic unless a bridge platform protection system is installed below the work area except for work performed above a deck that is intact. The protection system shall be capable of catching all falling objects such as tools, overhang brackets or materials. Lifting of objects that are heavier than the capacity of the bridge protection system shall not be permitted.
- **2.3** Provisions shall be made to prevent any debris and material from falling onto the roadway. If determined necessary by the engineer, any debris and material that falls below the bridge outside the previously specified limits shall be removed as approved by the engineer at the contractor's expense. Traffic under the bridge shall be maintained in accordance with the contract documents.
- **2.4** Any damage sustained to the remaining structure as a result of the contractor's operations shall be repaired or the material replaced as approved by the engineer at the contractor's expense.
- **2.5** Provisions shall be made to prevent damage to any existing utilities. Any damage sustained to the utilities as a result of the contractor's operations shall be the responsibility of the contractor. All costs of repair and disruption of service shall be as determined by the utility owners and as approved by the engineer.
- **3.0 Method of Measurement.** No measurement will be made.
- **4.0 Basis of Payment.** Payment for the above described work will be considered completely covered by the contract unit price for other items included in the contract.

#### B. CONCRETE CRACK FILLER

**1.0 Description.** This work shall consist of preparing and treating the concrete bridge deck cracks with a high molecular weight methacrylate (HMWM) or methyl methacrylate (MMA) crack filler material. This type of surface treatment shall be in accordance with this job special provision, the standard specifications and the manufacturer's recommendations. The objective of this treatment is to seal all concrete deck cracks in order to preserve and extend the life span of the deck.

- **2.0 Materials.** The low viscosity concrete bridge deck crack filler shall be a high molecular weight methacrylate (HMWM) or methyl methacrylate (MMA) system in accordance with Sec 1053 and shall be on MoDOT's qualified product list.
- 3.0 Construction Requirements.
- **3.1 Equipment.** Application equipment shall be as recommended by the manufacturer. The spray equipment, tanks, hoses, brooms, rollers, coaters, squeegees, etc. shall be thoroughly clean, dry, and free of foreign matter, oil residue and water prior to application of the treatment.
- **3.2 Cleaning, Surface Preparation and Sealing.** Surfaces which are to be treated shall meet the approved product's requirements for surface condition. The contractor shall furnish the engineer with written instructions for the surface preparation requirements, and a representative of the manufacturer shall be present to ensure that the surface conditions meet the manufacturer's requirements.
- **3.2.1** At a minimum, the surface shall be thoroughly cleaned to remove dust, dirt, oil, wax, curing components, efflorescence, laitance, coatings and other foreign materials. The manufacturer or manufacturer's representative shall approve the use of chemicals and other cleaning compounds to facilitate the removal of these foreign materials before use. The treatment shall be applied within 48 hours following surface preparation.
- **3.2.2** Cleaning equipment shall be fitted with suitable traps, filters, drip pans and other devices to prevent oil and other foreign material from being deposited on the surface.
- **3.2.3** The deck shall be shot blasted or water blasted to clean out cracks and allowed to dry prior to sealing.
- **3.2.4** Before starting sealing operations, all cracks shall be blown out with dry high-pressure air.
- **3.2.5** The contractor shall prevent sealer material from leaking through the deck at any cracks, construction joints or at precast panel joints on the bottom side of the deck that reflect through the slab. The contractor shall take measures to treat these areas to prevent loss of material intended to seal the deck.
- **3.2.6** The contractor shall follow the manufacturer's recommendations for a method and material resistant to effects of the deck sealer to prevent leakage of deck sealer through the bridge deck.
- **3.3 Application.** After leakage prevention measures are completed, a flood application shall be performed on the entire deck surface to fill all cracks. Flood application and broadcast aggregate shall be placed in accordance with the manufacturer's application rates. The crack filler material shall not be permitted to run into drains.
- **3.4 Opening to Traffic.** Traffic shall be allowed on the deck only after the treated area is visibly dry. Dried coating shall not leave residue on glass, painted metal or automobiles.
- **4.0 Method of Measurement.** Measurement will be made to the nearest square yard measured longitudinally from end of bridge approach slab to end of bridge approach slab and transversely

### JOB SPECIAL PROVISIONS (BRIDGE)

from roadway face of curb to roadway face of curb. Additional areas to be sealed will be identified on the plans. No deduction will be made for gaps to avoid raised pavement markers, manholes or other obstructions. Final measurement will not be made except for authorized changes during construction or where appreciable errors are found in the contract quantity. The revision or correction will be computed and added to or deducted from the contract quantity.

**5.0 Basis of Payment.** Payment for the above described work, including all material, equipment, labor and any other incidental work necessary to complete this item, will be considered completely covered by the contract unit price for Concrete Crack Filler.

# C. GALVANIZING STRUCTURAL STEEL

- **1.0 Description.** This job special provision contains general requirements for galvanizing structural steel as shown on the plans and shall be in addition to the requirements of Sec 712.
- **2.0 Material.** All new structural steel shall be galvanized in accordance with ASTM A 123 and Sec 1081. Repairs to the galvanized coating shall be in accordance with ASTM A 780, hot-stick zinc alloy method. Zinc rich paints will not be allowed. Protective coatings specified in Sec 1081 will not be required for the new galvanized structural steel.
- 3.0 Construction Requirements.
- **3.1** Shear studs shall be placed in the shop so that they may be galvanized with the beam.
- **4.0 Method of Measurement.** No measurement will be made.
- **5.0 Basis of Payment.** Payment for the above described work, including all material, equipment, labor and any other incidental work necessary to complete this item, will be considered completely covered by the contract lump sum price for Galvanizing Structural Steel.

# D. REINFORCING STEEL (STAINLESS STEEL)

**1.0 Description.** This special provision covers deformed stainless steel solid bars for use as reinforcement of concrete exposed to conditions requiring resistance to corrosion. Unless otherwise stated in this special provision, Section 706 of the Missouri Standard Specifications for Highway Construction shall apply.

The standard sizes and dimensions of deformed bars and their numerical designation shall be equivalent to those listed in Table 1 of ASTM A955. Unless otherwise stated below, all aspects of the solid bars shall conform to ASTM A955.

Reinforcing steel shall be accurately manufactured and bent to the dimensions and shapes shown on the plans, preferably at the manufacturing facility or shop. Cutting and bending tolerances for reinforcing steel shall be in accordance with the Concrete Reinforcing Steel Institute's manual of standard practice.

#### 2.0 Material, Manufacturing and Chemical Composition Requirements.

All stainless steel solid bars shall have the following physical properties:

UNS Designation S24100 (Type: XM-28)

### JOB SPECIAL PROVISIONS (BRIDGE)

Minimum yield strength: 60 ksi Minimum tensile strength: 90 ksi

The bars shall be hot-rolled from properly identified heats or batches with separate reference numbers (i.e. heat number or batch number).

The chemical composition of the XM-28 stainless steel shall conform to Table 1 of ASTM A276. An analysis of each heat or batch of stainless steel material shall be provided by the manufacturer and shall meet the chemical composition requirements of the material specified. Another type of stainless steel solid bar with equivalent or better physical properties and corrosion resistance than XM-28 may be substituted but do not mix different bar types.

## 3.0 Construction Requirements.

To avoid delays in the construction of the bridge, the stainless steel solid rebar shall be ordered 80 days prior to placement unless otherwise approved by the engineer. The contractor is advised to contact and to communicate with the manufacturer as to the lead time available to them.

Reinforcing steel shall be protected from damage at all times. When placed in the work, it shall be free from dirt, oil, paint, grease, loose mill scale, thick rust and other foreign substances. All stainless steel solid bars shall be placed on plastic plastic coated wire, or stainless steel bar supports and shall be held securely in correct position by use of approved plastic coated tie wires, molded plastic clips, or stainless steel wire. Stainless steel bar supports and wires shall be alloy type 316, 316L, 316LN or same type as stainless steel bar in the slab. Plastic or stainless steel bar supports shall meet or exceed the load carrying capacity of, and use the same spacing as, metal bar supports, and shall be placed in a configuration that does not restrict concrete flow and consolidation around and under the bar support. Reinforcing bars shall be positively secured against displacement. Care shall be exercised to maintain proper clearance between the forms and the reinforcement. Measurements to reinforcing steel shall be made to the centerline of bar, except where clear distance from face of concrete is shown on the plans. Before concrete is placed, any dried mortar shall be cleaned from the reinforcing steel. Prior to concrete placement and after the reinforcing bars are secured to approved bar supports, a final visual inspection will be made and all damaged areas shall be replaced as required by the engineer. Such inspection will not relieve the contractor of the responsibility for constructing the unit in accordance with the plans.

Bars shall not be spliced except where shown on the plans or permitted by the engineer. The use of splices shall be avoided at points of maximum stress. Where possible, splices shall be staggered and arranged to develop the full strength of the bar. Splices shall be made by lapping the bars a length at least equal to that shown on the plans or as authorized by the engineer. Mechanical bar splices shall be capable of developing 125 percent of the specified yield strength of the bar being spliced and shall be installed in accordance with the manufacturer's recommendations. When using mechanical bar splices for the stainless steel solid bars, the mechanical bar splices shall be the same type of stainless steel as the bars being connected. Welding of the reinforcement will not be permitted.

Bar lengths shown on the bridge plans comply with the 60 feet maximum length.

When placing stainless steel solid bars, they shall be prevented from coming into contact with other steel items such as drains, prestressing strand and shear connectors. Direct contact of stainless steel solid reinforcement to uncoated (plain) steel reinforcement will not be allowed. Direct contact of stainless steel solid reinforcement to epoxy coated steel reinforcement will be

acceptable as long as the epoxy coating has not been damaged. When stainless steel reinforcement is attached to uncoated (plain) steel reinforcement, nylon, pvc, or polyethylene spacers shall be used to maintain a minimum 1 inch clearance between the two metals. Nylon cable ties shall be used to bind the spacers to the reinforcement.

- **4.0 Acceptance.** Acceptance of stainless steel solid rebar will be according to this section and ASTM A955. The contractor shall provide to the engineer the following documentation in triplicate, which will be the basis for acceptance, prior to placing any stainless steel solid reinforcing. The following documentation shall be provided on a per heat or batch basis:
  - Manufacturer's certification that information is accurate and representative of the material
  - Stainless steel type and name
  - Chemical composition of the stainless steel
  - Hot rolling condition
  - Bar size
  - Physical properties (yield, tensile, and elongation tests on each bar size)
  - Hardness
  - Bend properties
  - Corrosion resistance results
- **5.0 Method of Measurement**. No measurement will be made.
- **6.0 Basis of Payment**. Payment for the above described work will be completely covered by the contract unit price for Slab on Steel and Reinforcing Steel (Stainless Steel) and will be considered full compensation for all labor, equipment and material to complete the described work.

#### E. PARTIAL REMOVAL OF RAISED MEDIAN CURB

- **1.0 Description.** This work shall consist of the partial removal of the existing raised median curb as the first step to providing a level riding surface for Stage 1 Traffic on existing bridge A0650. Refer to the Roadway Plans for all other steps taken.
- **2.0 Construction Requirements.** The removal of the existing raised median curb shall be removed to the limits as shown on the bridge plans.
- **3.0 Method of Measurement.** The extent of removal may vary from the estimated quantities, but the contract unit price shall prevail regardless of the variation. Raised median curb removal will be measured to the nearest square foot.
- **4.0 Basis of Payment.** Payment for the above described work, including equipment, labor and any other incidental work necessary to complete this item, will be considered completely covered by the contract unit price for Partial Removal of Raised Median Curb.

## F. SPECIAL CHANGE ORDER AND VALUE ENGINEERING CONSIDERATION

**1.0 Description.** Increased Federal Share has been approved by FHWA for an innovative technology or practice. The Commission will receive an additional five percent (5%) Federal Share of the overall contract value due to innovations within the following pay item(s):

Pay Item Number	Pay Item Description	Innovation
7069911	Reinforcing Steel (Stainless Steel)	Stainless Reinforcing Rebar
7129901	Galvanizing Structural Steel	Galvanized Wide Flange Beam
N/A	N/A	Simple for Dead Continuous for Live (SDCL) design methodology

Due to the increased federal share, the project components related to the innovation(s) described above must be constructed with the materials, quantities, methods and innovations as shown on the project plans and specifications. If the contractor requests materials, quantities, methods or innovations other than those included in the plans and specifications, the request must be reviewed and approved by the Commission and FHWA. Approved changes to the innovation items above shall be at no additional cost to the Commission and shall not increase the contract time.

- **2.0** Consideration of Change Orders and Value Engineering Change Proposals (VECP). Change ordering and/or value engineering the pay item(s) listed in section 1.0 of this job special provision jeopardizes ability for the Commission to receive an additional Federal Share for the overall contract value. Special consideration should be given to the change order value for removing such item(s) from the contract ensuring that the benefit outweighs the cost.
- **3.0 Contacting Financial Services.** If it is determined that the proposed change order and/or VECP outweighs the additional overall five percent (5%) Federal Share value, the engineer shall notify the MoDOT project manager.