REMOVAL OF EXISTING BEARINGS 3/20/20

**1.0 Description.**

**1.1** With the deck removed, this work shall consist of but is not limited to raising and supporting existing girders and/or beams at the locations specified on the plans, removing and disposing of the existing bearings and anchor bolts and performing all other required preparations prior to installing new bearings and anchor bolts as shown on plans.

**1.2** The responsibility for the design and construction of falsework required to support the girders and/or beams during bearing removal and new bearing installation shall rest solely with the contractor. The design shall ensure that the falsework can support all applicable dead loads and any construction loads. The design shall also provide an adequate factor of safety when selecting the temporary support members. The falsework design and working plans including detailed computations shall be signed, sealed and stamped by a registered professional engineer in the State of Missouri in accordance with Authentication of Certain Documents in Sec 107.

**1.3** Existing girders and/or beams shall be subject to minimal construction loading by performing this work with the existing deck removed.

**1.4** Existing bearing top plates shall be removed and girder and/or beam surfaces cleaned and coated before placement of new bearings. The removal of the existing bearing top plate and cleaning shall be completed in such a manner as to not cause any damage to the existing bottom flange. Method of removal shall be as approved by the engineer.

**2.0 Construction Requirements and Materials.**

**2.1 Raising and Supporting the Superstructure.**

**2.1.1** Before beginning operations, the contractor shall submit to the engineer for review the method and sequence of operation proposed to be used in performing this work. With the deck removed, the contractor shall exercise caution when supporting the structural steel and shall raise the girders and/or beams the minimum extent necessary to perform this work with a maximum raise of 1/4 inch. Raising the girders and/or beams at the location of reset bearings shall be performed in a manner to prevent any damage to the adjoining steel. The lifting operation shall be performed only when authorized, but such authorization shall not relieve the contractor of responsibility for the safety of the operation or for damage to the structure. Any damage caused by the contractor’s operations shall be repaired at the contractor’s expense as approved by the engineer.

**2.1.2** Temporary timber supports (bearing stiffeners) shall be placed between the girder and/or beam flanges at each jacking location to prevent flange rotation. Permanent steel stiffening angles shall be designed and attached to the beam web when the beam web thickness is not adequate to support the jacking load.

**2.1.3** Raising the girders and/or beams shall be performed simultaneously and shall be performed in a manner to prevent any damage to the adjoining steel.

**2.1.4** Existing end diaphragms at bent may require loosening or be completely removed in order to install new anchor bolts and bearings as authorized by the engineer.

**2.1.5** Bolts of existing end diaphragms that must be loosened or removed shall be replaced with like size galvanized high strength bolts with washer under head and nut.

**2.2 Bearing Removal.**

**2.2.1** After the structural members are supported, the contractor shall remove the existing bearings.

**2.2.2** The contractor shall remove the existing anchor bolts to one inch below the concrete surface or to the extent needed for installation of the new anchor bolts as required by the plans and as authorized by the engineer. The resultant holes shall be filled with a qualified special mortar in accordance with Sec 704.

**2.3 Cleaning and Painting.** Faying surfaces where existing end diaphragms will be reconnected and inside of drilled holes and the bottom surface of existing flange which will become faying surfaces of new connections shall be cleaned and painted with one coat of gray epoxy-mastic primer (non-aluminum).

**3.0 Method of Measurement.** Final measurement for removal of the existing bearings and preparation for the installation of the new bearings will be made per each.

**4.0 Basis of Payment.** Payment for furnishing and placing all temporary falsework (including stiffeners), materials, removals, disposal of all falsework, labor, tools, equipment and all incidentals necessary to complete this item will be considered completely covered by the contract unit price for Removal of Existing Bearings.