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 THIS SHEET HAS BEEN SIGNED, SEALED AND DATED ELECTRONICALLY.	MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION 105 W. CAPITOL AVE. JEFFERSON CITY, MO 65101 Phone (888) 275-6636
	CIVIL DESIGN INC. 5220 Oakland Avenue St. Louis, MO 63110 Certificate of Authority #2002006804 314-863-5570
	JOB NO. J6S3368 Franklin County, MO Date Prepared: 1/24/2024
Only the following items of the Job Special Provisions (Bridge) are authenticated by this seal: A-F	

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 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 closure is for the absolute minimum amount of time required to complete the work. A lane 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 is opened to traffic.

2.2 Qualified special mortar shall be a qualified rapid set concrete patching material in accordance with Sec 704. A qualified rapid set concrete patching material will not be permitted for half-sole repair, deck repair with void tube replacement, full depth repair, modified deck repair and substructure repair (formed) unless a note on the bridge plans specifies that a qualified special mortar may be used.

2.3 Provisions shall be made to prevent any debris and material from falling into the waterway. 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.

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.

2.6 A washer shall be required under head and nut when any reaming is performed for bolt installation.

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. SOLDIER PILE WALL

1.0 Description. This work shall consist of providing all labor, materials, and equipment necessary to fabricate and furnish the soldier piles, create and maintain the shaft excavations, set and brace the soldier piles into position and encase the soldier piles in concrete to the specified elevation. All work shall be according to the details shown on the plans and as directed by the Engineer.

2.0 Materials. The materials used for the soldier piles shall satisfy the following requirements:

JOB SPECIAL PROVISIONS (BRIDGE)

2.1 The structural steel components for the soldier piles shall conform to the requirements for ASTM A709, Grade 50, shall be galvanized full length, and shall be in accordance with Sec 702, except that they do not need to be driven.

2.2 Concrete for the drilled shaft and rock socket shall be Class B-2.

2.3 Temporary casing, if used, shall be produced by electric seam, butt, or spiral welding to produce a smooth wall surface, fabricated from steel satisfying ASTM A252 Grade 2. The minimum wall thickness shall be as required to resist the anticipated installation and dewatering stresses, as determined by the Contractor, but in no case less than ¼ in.

2.4 Slurry, if used, shall be in accordance with Sec 701.

2.5 Shear Connectors shall be in accordance with Sec 1037.

2.6 Concrete for the Cast-in-Place wall shall be Class B.

3.0 Construction Requirements.

3.1 General. The Contractor shall submit to the Engineer a plan for construction at least two weeks prior to start of the construction of the wall. This plan shall include proposed methods of construction, construction sequencing and address stability of the all elements at all stages of construction. The submittal shall also include any design or plans that require sealing by a Professional Engineer as described in these Job Special Provisions.

3.1.1 The exposed concrete surface shall be a smooth finish. Shotcrete finished wall face will not be allowed and a Value Engineering proposal to use Shotcrete will not be approved.

3.2 Drilled Shafts and Rock Sockets. The Drilled Shafts and Rock Sockets shall be constructed in accordance with Sec 701 and as shown on the plans except as modified herein.

3.2.1 The Contractor shall be solely responsible for stability of the drilled hole. Temporary casing or slurry may be used as designed by a Professional Engineer.

3.2.2 The holes shall be filled with Class B-2 Concrete from the bottom of shaft/socket to the elevation of the bottom of wall elevation as shown on the plans.

3.2.3 No reinforcement is required in the drilled shafts/rock sockets.

3.3 Steel Soldier Piles. Soldier Piles shall be set in the drilled shaft/rock socket holes. Driving is not required.

3.3.1 Shear connectors shall be shop or field welded to the piles as shown on the plans.

3.3.2 The soldier piles shall be adequately braced to the satisfaction of the Engineer throughout construction.

3.3.3 Tolerances.

(1) The center of the soldier pile shall be within 1 ½ in. of plan station and ½ in. offset at the top of the shaft.

(2) The out of vertical plumbness of the soldier pile shall not exceed 0.83 percent.

(3) The top of the soldier pile shall be within ± 1 in. of the plan elevation.

3.3.4 Piles shall be galvanized in accordance with Sec 1081 for their full length.

3.3.5 The piles shall be placed in the hole to allow adequate room for concrete or flowable backfill to flow around the pile.

3.4 Cast-in-Place Concrete Wall. The construction of the Cast-in-Place Concrete Wall shall be in accordance with Sec 703.

4.0 Method of Measurement. Measurement of standard pay items associated with construction of the soldier pile wall shall be in accordance with the applicable Section of the Standard Specifications. Miscellaneous pay items are shown below.

4.1 Soldier Piles. Measurement of soldier piles shall be in accordance with Sec 702 for piles.

5.0 Basis of Payment. Payment for the above described work will be considered completely covered in accordance with the applicable standard pay items and the miscellaneous pay items shown below.

5.1 Soldier Piles. Payment for furnishing and installing soldier piles, including temporary bracing will be considered completely covered by the contract unit price for "Galvanized Soldier Piles (W18x119)."

C. DRAINAGE SYSTEM

1.0 Description. This work item shall consist of constructing the soldier pile wall drainage system as shown on the plans and described in this special provision.

2.0 Materials.

2.1 Vertical Drain Core. The vertical drain core shall be in accordance with Sec 1012.3.3 for Vertical Drains at End Bents.

2.2 Geotextile Fabric. Geotextile fabric shall be in accordance with Sec 1011.3.1 for Subsurface Drainage Geotextile.

2.3 Porous Backfill. Porous backfill under the wall shall be in accordance with Sec 206 and Sec 1009 Grade 4.

2.4 Drain Pipe. Drain pipe shall be either 6" diameter corrugated metallic-coated steel pipe underdrain, 4" diameter corrugated polyvinyl chloride (PVC) drain pipe, or 4" diameter corrugated polyethylene (PE) drain pipe.

2.4.1 The drain pipe shall be perforated under the wall and plain pipe shall be used from end of wall to end of pipe.

3.0 Construction Requirements.

3.1 Shop Drawings. Shop drawings will not be required.

3.2 Vertical Drain Core. The vertical drain core shall be installed from the bottom of the wall to the top of the soldier piles. Drain core boards shall be placed between all piles, leaving 12" from edge of board to edge of pile flange in accordance with the plans.

3.3 Geotextile Fabric. Geotextile fabric shall protect the vertical drain core and porous backfill from infiltration of fines and shall be installed to the limits shown on the plans.

3.4 Pipe Terminations. The pipe shall daylight into an area to drain water away from the structure as approved by the engineer. The end of the pipe shall be fitted with a rodent screen that minimally impacts flow out of the pipe.

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 price for "Drainage System".

D. DEWATERING

1.0 Description. This provision covers dewatering the site as necessary to provide a suitable condition for construction of the box culvert as approved by the engineer. This work will only be performed at the discretion of the engineer and will be underrun if not required by the engineer. If the engineer determines it necessary to provide dewatering, the work shall be performed in accordance with [Sec 206](#) and this job special provision.

2.0 Construction Requirements. Dewatering shall provide a dry work area suitable to construct the box culvert within specifications, as approved by the engineer. Typical dewatering methods consist of, but are not limited to, construction of cofferdams, seal courses, over excavation, well point systems, dewatering and drainage diversion. Any dewatering method utilized shall conform to all environmental laws and regulations.

3.0 Method of Measurement. No measurement will be made.

4.0 Basis of Payment. Payment for dewatering will be made regardless of which dewatering means is utilized. No payment will be made if the work area is not maintained in a dewatered state as approved by the engineer. The lump sum payment for dewatering will be considered full compensation, and no time extensions will be made regardless of which means and methods are utilized by the contractor.

E. TEMPORARY SHORING

1.0 Description. This work shall consist of furnishing, installing, and removing temporary shoring, as required to safely retain embankment material during staged construction, in accordance with Sec 206, the contract plans, and specifically as follows.

2.0 Construction Requirements. The responsibility for the design and construction of the temporary shoring shall rest solely with the contractor. The design and plans for the temporary shoring shall be signed and sealed by a Registered Professional Engineer registered in the State of Missouri. The design shall ensure that the temporary shoring is braced or substantially secured to prevent soil movement during construction of the culvert extension. The temporary shoring shall become the property of the contractor.

3.0 Method of Measurement. No measurement shall be made for Temporary Shoring.

4.0 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 Item No. 206-55.00, Temporary Shoring.

F. EPOXY PRESSURE INJECTING

1.0 Description. Surface cracks in the substructure shall be pressure injected with epoxy. The engineer will designate the cracks to be repaired.

2.0 Material.

2.1 Epoxy. The epoxy material shall consist of a two-component system in accordance with the requirements of ASTM C 881, Type IV, Grade 1, except that the viscosity shall be a maximum of 4.5 poise (0.45 Pa·s). The Class designation of the epoxy shall be determined according to the temperature that exists on the job.

2.2 Certification. The contractor shall furnish manufacturer's certification that the material supplied is in accordance with these specifications. The certification shall include or have attached typical test results for all specified properties required by ASTM C 881 for the injecting resin. The engineer reserves the right to sample and test any or all material supplied.

3.0 Construction Requirements. The surface to receive the epoxy grout shall be cleaned of laitance, grease and foreign matter by sandblasting. The cracks shall be cleaned of debris by using oil-free and water-free compressed air or vacuum. After the cracks are cleaned, the epoxy shall be injected in accordance with manufacturer's recommendations. The temporary surface seal and placement and method of attachment of injection ports shall be in accordance with the epoxy manufacturer's recommendations.

4.0 Method of Measurement. The extent of epoxy pressure injecting may vary from the estimated quantity but the contract unit price shall prevail regardless of the variation. The epoxy pressure injecting will be measured to the nearest linear foot (0.5 m).

5.0 Basis of Payment. Accepted quantity of epoxy pressure injecting will be paid for at the contract unit price. 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 "Epoxy Pressure Injecting".