

STATE	PROJECT NO.	YEAR	SHEET NO.	TOTAL SHEETS
KANSAS	TE-0284-01	2007	7	47

GENERAL NOTES

**BRIDGE EXCAVATION:** Elevation 1300.40 shall designate the Excavation Boundary Plane of Class I and Class II Excavation; Class I above the plane, Class II below the plane. See the "Bridge Excavation" sheet for the limits of pay excavation.

**DIMENSIONS:** Dimensions are taken from survey and existing plans. Adjust dimensions, especially vertical dimensions on the abutment wall and pier cap, based on actual existing location, under direction of Engineer.

**TEMPORARY SHORING:** The bid item "Temporary Shoring" includes all labor and material necessary to furnish shoring at the locations shown on the plans for the following three items:

Temporary bracing of the exterior girder, including the support of the existing exterior girder near the Abutments.

Temporary bracing of the embankment during excavation, including at the Abutments.

Temporary bracing of the abutment wingwalls during removal and construction of the abutment wall to prevent settlement or rotation of the wingwalls.

Maintain the temporary shoring until the Engineer authorizes its removal. The temporary shoring plans for all three items are to be designed and sealed by a Kansas registered Professional Engineer. Submit design calculations and shoring plans to the Field Engineer for review three weeks before work is scheduled to begin. Work shall not begin until the Engineer grants approval. Submit seven sets of details in compliance with KDOT Specifications to the Field Engineer for review.

**AUGER PILING:** All piles shall be Auger Piling in order to minimize vibration impacts on historical elements. Other pile types are accepted if Contractor can guarantee integrity of existing historic elements (rails, parapets, and exterior girder). The pressure grouted piles shall be constructed in accordance with KDOT specifications. The design capacity and length of each auger cast pile shall be based on the side friction & the bearing capacity in accordance with a subsurface investigation provided by a licensed Kansas soil engineer. The bottom elevation and installation of the pile shall be verified by the licensed Kansas soil engineer. Shop drawings bearing the seal of a Kansas licensed Engineer shall be submitted to the City of Wichita prior to installation of the auger piles. Shop Drawings shall show pile reinforcement, length, bearing capacity and installation procedures. All this work will not be paid for directly but shall be included in the bid item, "Temporary Shoring".

**ERECTION ELEVATION CHECKS:** After the abutment and pier concrete has cured and before setting any prestressed beams, present verification to the Engineer that the elevations at the bearings match plan elevation ( $\pm 1/4"$ ).

**ABUTMENT STRIP DRAIN:** See the General Notes on the "Abutment Strip Drain" sheet.

**BRIDGE BACKWALL PROTECTION SYSTEM:** See the General Notes on the "Abutment Strip Drain" sheet.

**SLOPE PROTECTION (Shot Rock):** Place Slope Protection (Shot Rock) to the limits and thicknesses shown on the plans or as directed by the Engineer.

**BACKFILL COMPACTION:** Compact backfill at the abutments as per KDOT specifications.

**FALSEWORK PLANS:** A Kansas licensed Professional Engineer shall design the falsework details. Details shall bear the seal of a licensed Professional Engineer. See the Bridge Design Manual, Section 5.1 "Review and Approval of Falsework Plans", for a listing of items to be included on the falsework plan. Submit seven sets of details in compliance with KDOT Specifications to the Field Engineer for review.

**SELECT GRANULAR FILL:** The bid item, "Select Granular Fill", is for the fill to be placed behind the abutment after wall reconstruction. This fill shall be the same as specified for the MSE Modular Retaining Wall.

**FALSEWORK INSPECTION:** Because of the critical importance of preserving the aesthetic elements on the slab edge of this structure during construction, and due to the inherent instability of maintaining a single existing girder under these aesthetic elements, this project has falsework plan requirements which are considered "Category I" by KDOT Specifications. The falsework designer of record will conduct an inspection of the as-built falsework. The bid item, "Falsework Inspection" is full compensation for all materials, labor and equipment. See KDOT Specifications.

**PRESTRESSED BEAM CONCRETE:** Use air entrained concrete with select course aggregate as specified in the KDOT Specifications. The release strength and 28 day strength requirements shall be as noted on the plans. Submit mix designs to the City of Wichita Engineering Division for approval.

**CAMBER:** Construct the finished deck to plan grade by varying the depth of the fillet over the beam to provide for prestress camber, concrete dead load deflection and vertical curvature. After the prestressed beams are erected measure the camber in the field by taking a profile of each beam. Correct any variation between the actual camber and concrete dead load deflection shown in the plans by varying the depth of the concrete fillets over the beam so that the finished floor is constructed to the theoretical grade. The minimum depth of the CIP slab over the beam shall be 6 1/2 inches (interior girders) & 6 inches (exterior girders) @ 1 beam (not including mortar & bricks.

The theoretical amount of concrete required for the fillets is 4.82 C.Y. This amount of concrete is included in the Summary of Quantities. Any additional concrete required to construct the fillets will be subsidiary.

**MILLING:** Mill sidewalk areas as shown on the plans. Mill 1 1/2" nominal of top of sidewalk deck. Take care in milling around existing reinforcing.

**SILICA FUME OVERLAY:** Place 1 1/2" silica fume overlay on sidewalk areas as shown on the plans, in accordance with K.D.O.T. Specifications. At 1 bents, provide cold joint with 1/2" Type B elastomeric joint material. Between 1 bents, saw cut overlay to match existing spacing of sidewalk jointing below.

**HANDRAIL REPAIR:** Clean existing handrail thoroughly by sandblasting & removing all damaged paint & rust. Hand brushing may be required at some locations in order to remove rust completely. Remove all horizontal handrail members and replace with shop fabricated pieces that act as one sealed unit of the same outside shape. Straighten all vertical members of the handrail. All handrail components shall be sandblasted and painted as per KDOT 1990 Standard Specifications and latest special provisions for primer and polyurethane finish coat. Color of metal rail shall be same as existing color. All work labor and material required to restore handrail shall be paid for by the linear foot "Handrail Repair".

Sandblast and paint existing handrail on existing retaining wall southeast of bridge. The work on this handrail on the retaining wall shall be subsidiary to "Steel Handrail Repair". For information only, the length of existing handrail on the retaining wall is approximately 50 feet.

**PRESSURE INJECT EPOXY GROUT:** Pressure inject epoxy grout into the cracks on the abutment wingwalls, pier walls, existing exterior girder, sidewalk and top of concrete base for metal handrail in accordance with the manufacturer's specifications. Work shall be performed by individuals qualified to work with this form of rehabilitation. Pay limits for this bid item are estimated crack lengths. Perform work and supply materials and equipment in accordance with KDOT specifications.

Pressure Inject Epoxy Grout Process:

1. Clean surface cracked concrete.
2. Apply cap sealer to cracks where epoxy may leak out during injection.
3. Set surface ports using Propoxy 300 Fast or approved equal.
4. Pressure inject Propoxy 50 or approved equal.
5. Ground off portions of epoxy that has seeped beyond surface of rail.
6. Remove surface ports.
7. At superstructure locations, apply thoro seal in accordance with these plans. Apply masonry coating to substructure locations designated on these plans.

All work and materials is subsidiary to bid item "Epoxy Resin Crack Repair".

DESIGN DATA

**DESIGN SPECIFICATIONS:**  
AASHTO Specifications, 2002 Edition and latest Interim Specifications. Load Factor Design


**DESIGN LOADING:**  
HS20-44

Design Dead Load includes an allowance of 15 psf for a future wearing surface.

UNIT STRESSES:

Concrete (Grade 4)	f'c = 4 ksi
Concrete (Grade 4)(AE)	f'c = 4 ksi
Concrete (Grade 4)(AE)(SA)	f'c = 4 ksi
Prestressed Beam Concrete	f'c = 6 ksi
Reinforcing Steel (Grade 60)	fy = 60 ksi
Prestressed Strand	1/2" Ø Grade 270 uncoated 7-wire low-relaxation strand

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CITY OF WICHITA JAMES ARMOUR, P.E., CITY ENGINEER 13TH STREET BRIDGE OVER LITTLE ARKANSAS RIVER		
<b>GENERAL NOTES</b>		
 1220 N. Wichita, Kansas		
SCALE	DATE 10/9/2007	DWG NO. 35750A