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drawn by : RAS
plotted by : ras 3-14-98

GENERAL NOTES

STRUCTURAL STEEL: All structural steel shall conform to the requirements of ASTM 709 Grade 36 unless otherwise designated on the plans.

Steel in members designated M270-50T2 shall conform to AASHTO M270 Grade 50T2 and mandatory supplemental impact properties therein for Zone 2.

SHOP SPLICES: Shop splices are to be made as shown on the plans or as approved by the Engineer.

RADIOGRAPHIC INSPECTION OF GIRDERS: All butt welds in flange plates and all but the middle one-third of the web butt welds in each span shall be radiographed.

WELDING: Material and fabrication shall conform to the KDOT Specifications and ANSI/AASHTO/AWS D1.5-88, Bridge Welding Code. Where referenced in the Bridge Welding Code, the following substitutions shall apply:

ASTM A709 Grade 36 for ASTM A36
AASHTO M270 Grade 50T2 for AASHTO M223 Grade 50
(Charpy tests required, Zone 2)

Material not covered by the Bridge Welding Code will be covered by ANSI/AWS D1.1-94.

The contractor shall show on the shop drawings at the tail of the weld symbol a code or symbol which refers to an approved prequalified weld procedure.

Unless otherwise noted all fillet welds to be 1/4".

SHOP MAGNETIC PARTICLE INSPECTION: Magnetic particle inspection shall be performed in accordance with the KDOT Standard Specifications.

ERECTION ELEVATION CHECKS: After abutment and pier concrete has cured and before setting any structural steel, the Contractor shall present verification to the Engineer that the elevations at the bearings match plan elevation (± 0.02').

ERECTION: Each line of girders shall be brought to the correct line, grade (or relative grade) camber, and secured in place prior to welding of the girder field splices. Falsework bents shall be provided as necessary to maintain the correct line and elevation, and shall remain in place until all girder splice connections are completed. The Contractor shall submit information to the Engineer which clearly shows the layout and use of falsework bents. Approval of such information is required prior to erection of structural steel.

CAMBER: The steel girders shall be cambered for the total dead load deflection and vertical curve. For girder camber requirements, see Sheet No. C70.

BOLTS: All bolts, nuts and washers used in bolted connections shall conform to the requirements of materials for High Strength Steel Bolts for Structural Joints ASTM A325, (Type I), and the Standard Specifications for highway Bridges, AASHTO Specifications, Edition of 1992 with current interims.

BOLTED CONNECTIONS: Oversized holes having a nominal diameter up to 3/16" larger than the bolt diameter may be used on one of the two members connected and shall be shown on the shop drawings. Hardened washers shall be installed over exposed oversized holes. Any reaming required that will remove more than 1/4" of material shall be reported to the Engineer before any reaming is done.

TEMPORARY CONNECTIONS: For erection purposes, the Contractor may, at his own expense, provide erection bolt holes. Such proposals shall be shown on the shop details. Erection holes in the girder webs shall be filled with bolts. The heads of bolts shall be placed on the outside faces of the webs.

GIRDER FIELD SPLICES: All girder field splices shall be welded connections. No field splice bolted connections will be allowed.

PAINTING: The shop and field coats applied to Structural Steel shall conform to the Inorganic Zinc Acrylic System except as follows:

Box Girder Inside Surfaces: The inside surfaces of the box girders shall be painted with a 6-mil (1 coat) zinc coating. One coat of inorganic zinc and a shop or field coat of waterborne acrylic shall be provided. The final coat shall provide a light surface.

Near Welded Field Connections: Girder surfaces within six inches of field splice welded connections shall not receive the shop coat of primer but shall be coated with a rust preventative coating in the shop in accordance with KDOT Specifications.

Top Flanges: (Studs applied in the shop)
The tops of the top flanges and the studs shall receive a shop coat with an approved Inorganic Zinc Primer.
Touch-up: All bolts, nuts, studs, and other small areas of damaged paint (10 Sq.Ft. or less) requiring touch-up will be prepared and painted with an approved Organic Zinc Primer (Carboline 859 or approved equal).
One approved paint supplier shall be as provided by Carboline; 350 Hanley Industrial Ct.; St. Louis, Mo.
The inorganic zinc primer would be Carboline II VOC with the water borne acrylic being Carboline 3350 with paint color #0516-red oxide. An allowed substitute, for the water borne acrylic, would be Carbothane 134 HG applied with 1 mil (miscot) plus 3 mil finish coat. A paint supply substitute may be made with the approval of the Engineer. (Tint Primer to nearly match final color. Final color to be Graffiti resistant.)

SHOP ASSEMBLY: Shop layout shall be "Type B" Assembly. In addition permanent diaphragm connections shall be verified in the shop laydown.

BLOCKING DIAGRAMS: Blocking diagrams on the shop details shall be referenced to a level line running the entire length of the girder.

WELDING OF HEADED STUD ANCHORS: Headed Stud Anchors shall be welded with automatically timed stud welding equipment connected to a suitable power source. All stud welding shall conform to KDOT Specifications.

BRIDGE EXCAVATION: The "excavation boundary plane" elevation is 1283.90 (static pool elevation). All excavation above and below the excavation boundary plane shall be Class I Excavation and Class II Excavation respectively. The excavation quantities were computed based on the static pool elevation. If excavation occurs with a lowered water level payment will be made based on the lowered water level as the new excavation boundary plane. See Bridge Excavation Sheet for limits of pay excavation.

ABUTMENT DEADMAN ANCHOR: Pay quantities for deadman anchor materials will be based on design plan quantities.

PILES: Steel piles shall be HP12x74 at abutments and HP12x74 at piers. All steel piles shall be driven to a penetration into shale. When piles have reached the specified bearing and are on or in bedrock, as shown on the plans, driving shall stop at that point to prevent damage to the pile.

All piling shall be driven to the allowable bearing value of 70 tons at the abutments and 50 tons and 70 tons at piers 1 or 4 and piers 2 or 3 respectively.

When using the pile driving formula in Section 704.04(d)(3) of the KDOT Specifications, the Contractor shall not drive the pile to MORE THAN 105 tons in the abutments and 75 tons or 105 tons in piers 1 or 4 and piers 2 or 3 respectively.

TEST PILING: Piling shall be driven at the locations shown on the plans or as directed by the Engineer. The test piling shall remain in place as part of the permanent structure.

DIMENSIONS: All dimensions shown on the design plans are horizontal dimensions unless otherwise noted.

CONSTRUCTION JOINTS: Construction joints shall be made only at locations indicated or as approved by the Engineer.

TEMPERATURE: The design temperature for all dimensions is 60° F.

FALSEWORK PLANS: Falsework details shall be designed and bear the seal of a licensed Professional Engineer. Five sets of details shall be submitted to the Engineer for review.

CONSTRUCTION LOADS: The Contractor shall submit to the Engineer information that defines the proposed equipment and methods to be used to place the concrete deck, including screed machine loads and load spacings.

DECK PROTECTIVE SYSTEM: All reinforcing steel in the superstructure shall be epoxy coated. A 1 1/2" Latex Surface Course shall be placed between gutterlines and Elastomeric Concrete.

CONCRETE: Class AAA Concrete (AE)(SA) shall be used in the roadway slab and barrier curb. Class AAA Concrete (AE) shall be used in the sidewalk superstructure, pier columns, pier beams and abutment substructure. Class AAA Concrete shall be used in the pier footings. "Concrete for Seal Course" shall be Class AAA Concrete. The contractor has the option of substituting Class AAA Concrete (AE) for Class AAA Concrete. All exposed edges shall be beveled with a 3/4" triangular moulding unless otherwise noted.

REINFORCING STEEL: All dimensions relative to reinforcing steel placement are to the centerline of bars unless otherwise noted. Bar bending and dimensions shall be as shown and noted on the bending diagrams. All reinforcing steel shall conform to the requirements of ASTM A615, Grade 60.

BACKFILL COMPACTION: Backfill compaction shall be required at all abutments and piers.

CONCRETE PLACING SEQUENCE ROADWAY: The sequence of placing concrete in the slab and curbs shall be as shown, or the Contractor shall submit an alternate placing sequence for review. The alternate placing sequence shall be given to the Engineer at the Preconstruction Conference. The alternate placing sequence shall include the proposed rate of concrete placement in cubic yards per hour, the plant capacity, a description of the equipment used in placing the concrete, proposed admixtures, and the quantity of concrete in each placing segment. Any additional cost for the Contractor's alternate plan of placing concrete, including admixtures, shall be at the Contractor's expense and shall be considered subsidiary to the bid item, "Class AAA Concrete (AE)(SA)". Approval of the Contractor's alternate sequence is required prior to placement of concrete in the deck.

CONCRETE PLACING SEQUENCE SIDEWALK:

When long span steel beams having a concrete dead load deflection greater than 1/4" are used or when timber falsework with greater than 12'-0" clear span is used, the placing sequence shown shall be followed. Segmental, combined or continuous pours are allowed, but any discontinuous pour must stop at a construction joint short of a pier.

When timber falsework with 12'-0" or less clear span is used, the Contractor, subject to the approval of the Engineer, may use a continuous pour or may discontinue the pour at any construction joint shown. Support Falsework must remain in place until the 7 1/2" slab has cured.

SPECIFICATIONS:

Design Specifications - AASHTO Standard Specifications for Highway Bridges, 1992 Edition with 1993 Interims. (Load Factor Design).

Construction Specifications - Kansas Department of Transportation, Standard Specifications for State Road and Bridge Construction, 1990.

All material and fabrication procedures shall be Shop Certified to comply with applicable specifications referenced in the Plans and Specifications.

DESIGN LOADING:

Live Load Roadway - HS20-44
Other Loads - As specified by AASHTO
(Pedestrian Load 85 lbs./ft.²)
Dead Load - Includes an allowance of 15 lbs. per sq. ft. for future wearing surface.

UNIT STRESSES:

Class AAA Concrete f'c = 4,000 psi
Class AAA Concrete (AE) f'c = 4,000 psi
Class AAA Concrete (AE)(SA) f'c = 4,000 psi
Reinforcing Steel (Grade 60) Fy = 60,000 psi

Structural Steel (Fatigue Stress Cycles - Case I)

ASTM A709 Grade 36 Fy = 36,000 psi
AASHTO M270 Grade 50T2 Fy = 50,000 psi

REMOVAL OF EXISTING STRUCTURE: See Sheet C78.

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No.	Revisions	By	Date
CITY OF WICHITA, KANSAS MICHAEL E. LINDEBAK, P.E.-CITY ENGINEER DOUGLAS AVENUE BRIDGE OVER ARKANSAS RIVER GENERAL NOTES BRIDGE			
CITY OF WICHITA PROJECT NO. 472-82721			
ENGINEERS PROFESSIONAL ENGINEERING CONSULTANTS, P.A. WICHITA, KANSAS			
Designed by	R.A.S.	checked by	R.A.S.
Drawn by	W.L.L.	Date	Sept. 1997
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