FHWA REGION NO.	STATE	PROJECT NO.	YEAR	SHEET NO.	TOTAL SHEETS
7	KANSAS	87U-1247-01	1992	24	79

PROJECT 87U-1247-01

ITEM	UNIT	ABUT #1	PIER #1	PIER #2	ABUT #2	SUPERSTRUCTURE	TOTAL
CLASS I EXCAVATION	C.Y.	140	—	—	140	—	280
CLASS II EXCAVATION	C.Y.	—	25	25	—	—	50
CLASS AAA(AE) CONC.	C.Y.	48.3	68.0	68.0	48.3	348.8	581.4
REINF. STEEL (GR. 60)(REG.)	LBS.	—	8,940	8,940	—	—	17,880
REINF. STEEL (GR.60)(EPOXY)	LBS.	4,980	510	510	4,980	103,630	114,610
STEEL PILES (TEST)(HP10x42)	LIN. FT.	55	—	—	55	—	**110
STEEL PILES (HP10x42) ▲	LIN. FT.	450	—	—	450	—	* 900
DRILLED SHAFT (54" DIA.)	LIN. FT.	—	113	113	—	—	226
LATEX S.C. (1-1/2")	SQ. YDS.	—	—	—	—	1,065	1,065
—	—	—	—	—	—	—	—
PREST. CONC. BEAMS (K3)	LIN. FT.	—	—	—	—	1,325	1,325
PREST. CONC. (BOX I)	LIN. FT.	—	—	—	—	383	383
BRIDGE HANDRAIL (3'-6") (METAL)	LIN. FT.	—	—	—	—	374	374
BRIDGE HANDRAIL (0'-9") (METAL)	LIN. FT.	—	—	—	—	384	384
ABUTMENT STRIP DRAIN	SQ. YDS.	75	—	—	75	—	150
COAL TAR MEM. PROT. COATING	SQ. YDS.	100	—	—	100	—	200
Br. Project Marker (Non-Participating)	Each	1	—	—	1	—	2
—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—

▲For bidding purposes only, actual quantity may change based on test piles driving and field conditions.

* Includes 18 @ 50'

** Includes 2 @ 55'

BRIDGE EXCAVATION:

Elevation 1281.5 shall designate the Excavation Boundary Plane; Class I above and Class II below. See the Bridge Excavation sheet for limits of pay excavation.

GRADING AND CHANNEL EXCAVATION:

The grading contractor shall make the channel improvements in the vicinity of the new bridge prior to the construction of the new bridge (and prior to driving of piles) and shall backfill and complete the embankments and channel improvements after completion of the bridge. Do not backfill behind the abutments until the completion of the superstructure construction and curing of the concrete in the superstructure and abutment.

REMOVAL OF EXISTING STRUCTURE:

The contractor shall remove Existing Bridge (STR. NO. 430400876810010) consisting of 4 @ 23' reinforced concrete flat slab spans with asphalt wearing surface, pedestal type abutments and piers, 34' roadway. All material removed shall become the property of the contractor and shall be removed from the site to a location furnished by the contractor and approved by the Engineer.

GEOLOGY:

The subsurface geology information shown on Construction Layout sheet is obtained in the field by Terracon Consultants and represents the best information available to the City of Wichita.

PILING:

Abutment Piles shall be driven only after the completion of the channel improvements and embankments at the abutments. All piles shall be steel HP10x42 and as detailed on Standard Pile Details sheet. All piling shall be driven to penetrate or bear upon the shale bedrock (Wellington Formation). Driving shall stop when in the opinion of the Engineer, additional driving may damage the piling.

All piling shall be driven to the minimum computed bearing value: Abutment No.1 -- 50 tons
Abutment No.2 -- 50 tons

When using the pile driving formula in the KDOT Standard Specifications, the Contractor shall not drive the pile MORE THAN 75 tons.
At any location where problems are experienced, pile damage is suspected or apparent refusal occurs significantly above the design pile tip elevation, the Engineer may request that the Pile Driving Analyzer (PDA) equipment be used.

DRILLED SHAFT:

Drilled shaft construction shall be by the cased method in accordance with KDOT specifications and as shown on plans. Permanent casing shall be required for all drilled shafts. The permanent casing may be a C.M.P.

CONCRETE:

All concrete shall be bid as "Class AAA (AE)". At the Contractor's option, he may use Class AAA Concrete in the footings and in the abutment below the bridge seat. Bevel all exposed edges of all concrete with a ¾" triangular moulding except as otherwise noted on the plans. Use double ¾" bevels at certain construction joints as noted on the plans.

REINFORCING STEEL:

All reinforcing steel shall be ASTM A615, GRADE 60. All reinforcing steel in corral rail, abutments, diaphragms, parapet wall, and cast-in-place deck shall be epoxy coated. Bar supports and bar chairs used in the deck shall be epoxy coated. All dimensions relative to the placement of reinforcing steel are to centerline of bars unless otherwise noted. All dimensions in the bar list and bending diagrams are out-to-out of bars unless otherwise noted.

LATEX SURFACE COURSE:

A 1 1/2" thick modified latex overlay shall be placed over the entire bridge roadway deck in accordance with the K.D.O.T. specifications, special provisions.

DESIGN DATA:

Loading:

HS20-44 A.A.S.H.T.O. Specifications 1989 Editions.

Unit Stresses:

Class AAA(AE) Concrete ----------F'c = 4,000 PSI
Prestress Beam Concrete ----------F'c = 5,000 PSI
(K3) & (Box-I) ----------F'ci = 4,000 PSI

Grade 60 Reinforcing Steel ----------Fy = 60,000 PSI

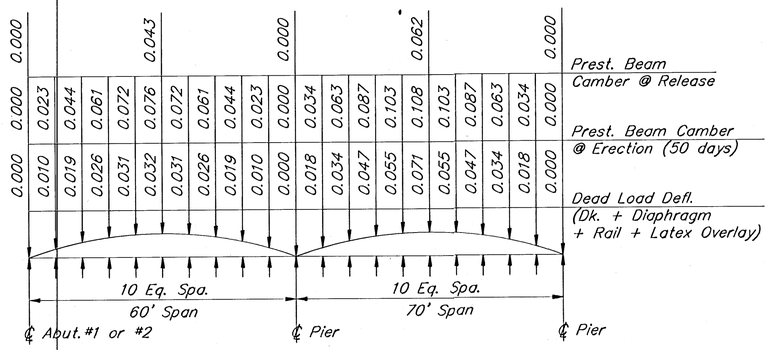
Prestressed Strands 1/2" Dia., Grade 270, uncoated, 7-wire low-relaxation strands.

ABUTMENT PILE PRESSURE:

Allowable pile pressure = 50 Tons/Pile
Actual pile pressure = 45 Tons/Pile

PILE FOOTING PRESSURE:

Allowable footing pressure = 170 Tons/Shaft
Actual footing pressure = 166 Tons/Shaft



K3 ROADWAY BEAM CAMBER AND DEAD LOAD DEFLECTION

NOTE:
Camber is Upward
Deflection is Downward

Ordinates are in feet
Beam Concrete: Ei=3,605 K.S.I.
Ef=4,031 K.S.I.

NOTE:

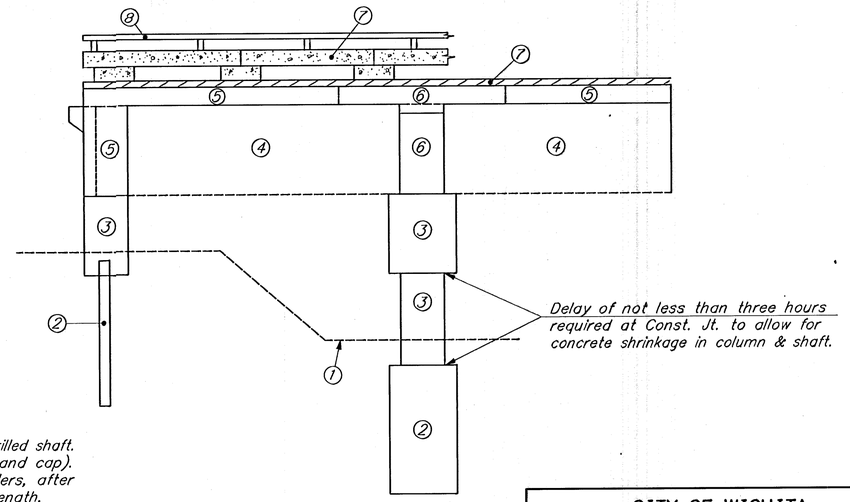
The finished deck slab shall be constructed to plan grade by varying the depth of the fillet over the beams to provide for prestress camber, concrete dead load deflection. After the beams are erected and prior to placing any formwork, the actual camber in each beam shall be measured in the field. Any variaton in the actual camber and the erection camber shown shall be corrected by varying the depth of the concrete fillets over the beams. A minimum fillet of ½" shall be provided near midspan.

The minimum slab depth over the beams shall be 6½". If necessary, the plan grade shall be adjusted in order to obtain minimum slab depth.

The deck concrete quantities are based on the variable thickness as shown above. Any additional deck concrete shall be Subsidiary to the bid item "Class AAA (AE) Concrete".

INDEX OF SHEETS

SHEET NO.	DESCRIPTION
24.	Auxiliary Details & General Notes
25.	Contour Map
26.	Construction Layout
27.	Abutment Details
28.-29.	Special Concrete Approach I & II
30.	Pier Details
31.	Abutment Diaphragm Details
32.	Pier Diaphragm Details
33.	Superstructure Layout
34.	Girder Layout
35.-37.	Sidewalk Girder Details I, II & III
38.	K3 Girder Details
39.	Standard Prestress. Conc. Beam Detail
40.	Corral Rail Details
41.	Handrail Layout
42.	Handrail Details
43.	Bar List and Bending Diagram
44.	Abutment Strip Drain



BRIDGE CONSTRUCTION SEQUENCING

1. Channel Excavation
2. Driving of abutment piles and constructing pier drilled shaft.
3. Construction of abutment and piers (column and cap).
4. Erection of roadway/sidewalk prestressed girders, after the abutments and piers attain the design strength.
5. Placement of abutment diaphragm and after 45-90 minutes, pour slab unit 1. See Superstructure Layout sheet for slab construction sequence.
6. Placement of pier diaphragm and after 45-90 minutes, pour slab unit 2.
7. Corral Rail construction and laying out the latex surface course after curing of roadway deck concrete.
8. Metal Handrail Construction after curing of corral rail concrete and placement of sidewalk girders.

CITY OF WICHITA
GEORGE WASHINGTON BLVD. BRIDGE OVER GYPSUM CREEK
AUX. DETAILS & GENERAL NOTES
CITY OF WICHITA PROJ. NO. 472-82156

Booker ASSOCIATES INC. OF KANSAS
Wichita Kansas

SCALE —— DATE June, 1992 DWG. NO. K9331

SURV. ——	PLOT CADD	DES. R.G./A.L.H.	DR. G.B./B.R.	TR. ——	CKD. R.G.	APP. S.K.B.

\K9331B2\SUNDTK
SCALE 1"=2'8"(3/8")