FHWA REGION NO.	STATE	PROJECT NO.	YEAR	SHEET NO.	TOTAL SHEETS
7	KANSAS	87 ER-164(1)	1974	11	28

DAKB 574005

GENERAL NOTES:

EXCAVATION: ALL EXCAVATION, INCLUDING EXCAVATING BERM SLOPES AS SHOWN ON SHEET 9, SHALL BE PAID FOR AS COMMON EXCAVATION. THE CONTRACTOR SHALL REMOVE ALL SUBSTANCES ENCOUNTERED IN EXCAVATING TO THE REQUIRED ELEVATION AND GRADE. NO SEPARATE PAYMENT WILL BE MADE FOR MATERIAL CLASSIFICATION REGARDLESS OF THE NATURE OF CONDITION OF THE MATERIALS, EXCEPT OLD CONCRETE SHALL BE PAID FOR AS ROCK EXCAVATION.

COMPACTED EMBANKMENTS: THE CONTRACTOR SHALL CONSTRUCT THE EMBANKMENTS ON THE LEFT BANK BERMS AND TOE OF SLOPES, AS SHOWN ON SHEET 9, BEFORE CONSTRUCTION OF THE BRIDGE; AND SHALL PLACE EMBANKMENT BEHIND ABUTMENTS, AS SHOWN AND DETAILED ON SHEET 5 AFTER COMPLETION OF ABUTMENTS, INCLUDING ABUTMENT DECKS.

BRIDGE EXCAVATION: ELEVATION 94.0 SHALL DESIGNATE THE EXCAVATION BOUNDARY PLANE. EXCAVATION ABOVE TO BE CLASS I, BELOW CLASS II.

SEE SHEET 24 FOR LIMITS OF PAY EXCAVATION.

SOUNDINGS: SOUNDING INFORMATION SHOWN ON SHEET 10 IS AS OBTAINED FROM BORINGS MADE IN THE FIELD, BY ENGINEERING TESTING COMPANY, AND REPRESENTS THE BEST INFORMATION AVAILABLE TO THE CITY OF WICHITA.

BEARING PILES: ALL BEARING PILES SHALL BE OF THE TYPE AND SIZE AS SHOWN ON SHEET 10. SPLICES FOR STEEL PILES SHALL BE IN ACCORDANCE WITH DETAILS SHOWN ON THIS SHEET AND SHALL COMPLY WITH SUBSECTION 705.06, STANDARD SPECIFICATIONS. PILES SHALL BE DRIVEN TO A MINIMUM COMPUTED BEARING VALUE OF 55 TONS PER PILE IN ABUTMENTS AND PIERS 1 & 6; 65 TONS PER PILE IN PIERS 2, 3, 4 & 5. ALL PILES SHALL BE DRIVEN TO BEARING IN SHALE, AS SHOWN, UNLESS IN THE OPINION OF THE ENGINEER SUCH PENETRATION CANNOT BE SECURED WITHOUT INJURY TO THE PILE.

PILE DRIVING: ALL PILES SHALL BE DRIVEN WITH A STEAM OR DIESEL HAMMER; IF A DIESEL HAMMER IS USED, SUFFICIENT HAMMER DATA SHALL BE PROVIDED TO PERMIT RATING BY THE ENGINEER BEFORE DRIVING STARTS.

CONCRETE: CLASS A(AE) CONCRETE SHALL BE USED IN PIERS AND RETAINING WALLS. CLASS AAA(AE) CONCRETE SHALL BE USED IN APPROACH SLABS, ABUTMENTS AND SUPERSTRUCTURE, INCLUDING RAILS AND DIAPHRAGMS, EXCEPT FOR PRESTRESSED BEAMS. BEVEL ALL EXPOSED EDGES WITH A 3/4" TRIANGULAR MOLDING UNLESS OTHERWISE NOTED.

SUPERSTRUCTURE TOPPING: TOPPING SHALL BE PLACED THE FULL WIDTH OF THE DECK. PLACING SHALL NOT BE STARTED UNTIL ALL REINFORCING STEEL FOR THE ENTIRE POUR IS IN PLACE AND APPROVED BY THE ENGINEER. THE THICKNESS INDICATED ON THE PLANS OF THE CAST IN PLACE CONCRETE DECK SHALL BE DEEMED A MINIMUM DIMENSION, AND EXTRA CONCRETE REQUIRED FOR LEVELING DUE TO UNEQUAL CAMBERS OF PRESTRESSED BEAMS SHALL NOT BE CAUSE FOR CHANGE IN PLAN QUANTITIES FOR PAYMENT. QUANTITIES HAVE BEEN COMPUTED TO INCLUDE ALLOWANCE FOR UNIFORM CAMBER.

CONCRETE SHALL HAVE NOT MORE THAN A TWO INCH SLUMP WHEN PLACED; BEFORE PLACING IS STARTED THE ENTIRE UPPER SURFACE OF THE PRECAST BEAMS TO BE COVERED SHALL HAVE BEEN SOAKED DOWN AND KEPT WET FOR AT LEAST 24 HOURS, AND THE SURFACE OF THE BEAMS SHALL BE KEPT MOIST AHEAD OF THE PLACING OF THE TOPPING, BY SPRINKLING IF NECESSARY, DIRECTLY AHEAD OF THE PLACING OPERATION. CONCRETE SHALL BE THOROUGHLY VIBRATED AND WORKED AHEAD IN A CONTINUOUS OPERATION ACROSS THE LENGTH OF THE BRIDGE, WORKING THE MIX IN SUCH A WAY AS TO INSURE THE BEST POSSIBLE ADHERENCE TO THE UNDERLYING CONCRETE, AND TAKING SPECIAL CARE THAT CONCRETE IS THOROUGHLY WORKED AND VIBRATED INTO THE JOINTS AND DIAPHRAGMS BETWEEN BEAMS.

SPECIAL CARE SHALL BE TAKEN THAT THE CURING, AS SPECIFIED ELSEWHERE, IS APPLIED PROGRESSIVELY ACROSS THE BRIDGE IN ACCORDANCE WITH THE SPECIFICATIONS.

LATEX SURFACE COURSE: ALL ROADWAY DECK, INCLUDING ABUTMENTS AND TOPPING OVER PRESTRESSED CONCRETE BEAMS SHALL RECEIVE A WEARING COURSE CONSISTING OF LATEX MODIFIED CONCRETE. THICKNESS TO BE 1 1/4 INCHES. (SEE SPECIAL PROVISIONS.)

STRUCTURAL STEEL: THE ITEM OF STRUCTURAL STEEL INCLUDES NOSE ANGLES ON PIERS, LONGITUDINAL ANGLES ALONG MEDIAN CURBS, AND SIDEWALK EXPANSION PLATE ASSEMBLIES. WHERE SO INDICATED, M222 STEEL MAY BE USED AT THE CONTRACTOR'S OPTION, BUT ALL ITEMS LISTED SHALL BE PAID FOR AS STRUCTURAL STEEL.

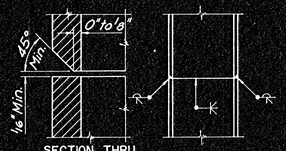
REINFORCING STEEL: ALL DIMENSIONS RELATIVE TO REINFORCING STEEL PLACEMENT ARE TO CENTERLINE OF BARS UNLESS OTHERWISE NOTED.

ALL DIMENSIONS SHOWN IN THE BENDING DIAGRAMS ARE OUT TO OUT OF BARS.

DESIGN:
DESIGN LOADING: HS20-44 A.A.S.H.T.O. SPECIFICATIONS (1973 EDITION)

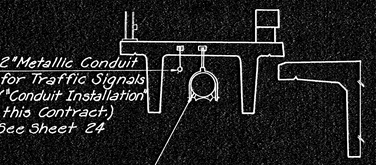
UNIT STRESSES: FC = 1,600 P.S.I. CLASS AAA(AE)
FC = 1,200 P.S.I. CLASS A(AE)
FS = 20,000 P.S.I. (REINF.)
F'C = 4,000 P.S.I. CLASS AAA(AE)
F'C = 3,000 P.S.I. CLASS A(AE)

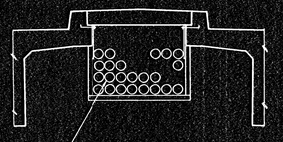
PILE LOADING: 55 TONS PER PILE, ABUTMENTS & PIERS 1 & 6
65 TONS PER PILE, PIERS 2, 3, 4 & 5

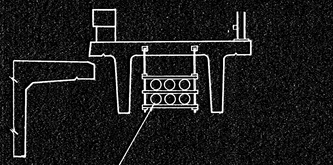


SECTION THRU FLANGE

PILE SPLICE DETAIL







CONCRETE INSERTS: CONCRETE INSERTS SHALL BE OF CAST MALLEABLE IRON WITH INTEGRAL NAIL LUGS AND LOOP FOR REINFORCING BAR, APPROXIMATELY 2" X 3 3/8" X 2 3/16" HIGH, RATED FOR 1,490 LBS. MAXIMUM RECOMMENDED LOAD, AND SHALL BE SUITABLE FOR USE WITH TOOTHED NUTS OF UP TO 7/8" TAPPING SIZE. THE CONCRETE INSERTS WILL NOT BE PAID FOR DIRECTLY, BUT SHALL BE SUBSIDIARY TO CLASS AAA(AE) CONCRETE.

PROPOSED LOCATIONS & DESIGN LOADS FOR FUTURE UTILITY INSTALLATIONS

SUMMARY OF BRIDGE QUANTITIES

Location	Excavation Class I Cu.Yds.	Excavation Class II Cu.Yds.	Concrete Class A(AE) Cu.Yds.	Concrete Cl. AAA(AE) Cu.Yds.	Steel Reinf. Lbs.	Steel Struct. Lbs.	Elastomeric Exp. Dev.(22¾) Lin.Ft.	Bearing Devices Lbs.	Steel Piles(10") Lin.Ft.	Steel Piles(12") Lin.Ft.	Prestr. Conc. Beams Walk Each	Prestr. Conc. Beams Rdwy. Each	Metal Handrail Lin.Ft.	Elastomeric Brg. Pads Each	Conduit Installation Lump Sum	Special Conc. Finish Sq.Yds.	Reinf. Conc. Riprap (5") Sq.Yds.	F.O.&Lab. Type "C" Each	Mobilization Lump Sum	Trainees (Hwy. Const.) Each	Precast Median Slabs Each	Latex Surf. Course(1¼) Sq.Yds.
Appr. Slab	33	—	—	45.9	5,690	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Abutment #1	125	—	—	205.0	51,620	—	—	—	816	—	—	—	—	—	—	183	397	—	—	—	—	219.7
Pier #1	60	—	88.9	—	19,180	—	—	2,719	704	—	—	—	—	—	—	165	—	—	—	—	—	—
Pier #2	—	228	137.0	—	30,770	157	—	—	—	816	—	—	—	8	—	245	—	—	—	—	—	—
Pier #3	—	228	137.4	—	30,830	157	—	—	—	816	—	—	—	—	—	245	—	—	—	—	—	—
Pier #4	—	228	137.4	—	30,830	157	—	—	—	816	—	—	—	—	—	245	—	—	—	—	—	—
Pier #5	—	228	137.0	—	30,770	157	—	—	—	816	—	—	—	8	—	245	—	—	—	—	—	—
Pier #6	55	—	88.9	—	19,180	—	—	2,719	704	—	—	—	—	—	—	165	—	—	—	—	—	—
Abutment #2	130	—	—	205.0	51,620	—	—	—	816	—	—	—	—	—	—	183	303	—	—	—	—	219.7
Appr. Slab	32	—	—	45.4	5,570	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Superstruct.	—	—	—	598.7	213,150	4730	116.3	—	—	—	10	50	885	—	—	628	—	—	—	—	41	1,950.3
Total	435	912	726.6	1099.8	489,210	5358	116.3	5,438	3,040	3,264	10	50	885	16	L.S.	2,304	700	ONE	L.S.	TWO	41	2,389.7

Rev. 10/29/74

NOTE: ONLY STEEL PILES HP10x42 SHALL BE USED IN THE ABUTMENTS AND IN PIERS 1 & 6.
ONLY STEEL PILES HP12x53 SHALL BE USED IN PIERS 2, 3, 4 & 5.

CITY OF WICHITA, KANSAS
R.W. LINN, P.E., CITY ENGINEER

FIRST STREET BRIDGE OVER THE ARKANSAS RIVER
GENERAL NOTES
SUMMARY OF BRIDGE QUANTITIES

DELAMATER, FREUND & SCHERER, P.A.
CONSULTING ENGINEERS
WICHITA, KANSAS

SCALE — DATE June, 1974 DWG. NO. 89-G-11