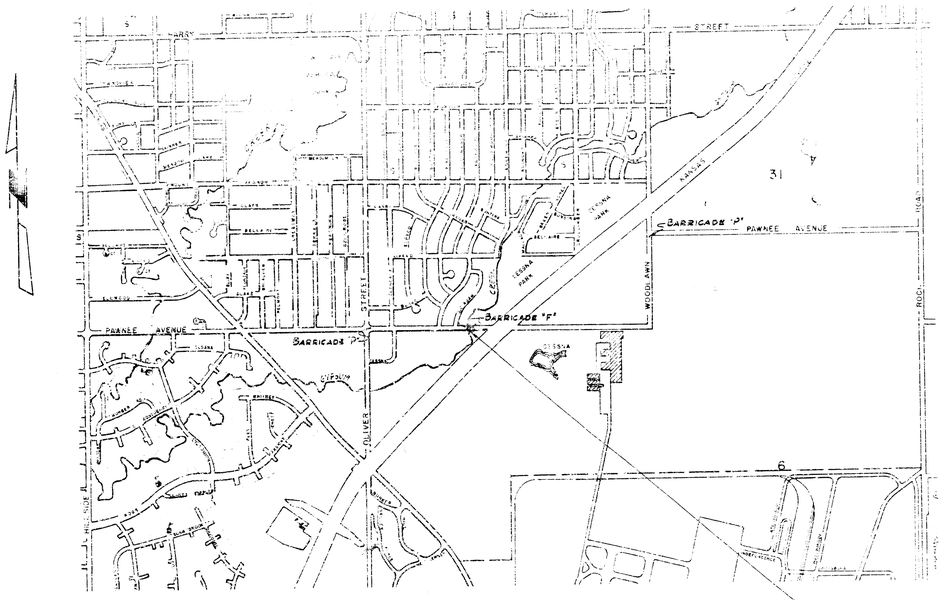
PAWNEE AVENUE BRIDGE

OVER

GYPSUM CREEK

WICHITA, KANSAS



INDEX OF SHEETS

DEPARTMENT OF PUBLIC WORKS

CITY OF WICHITA

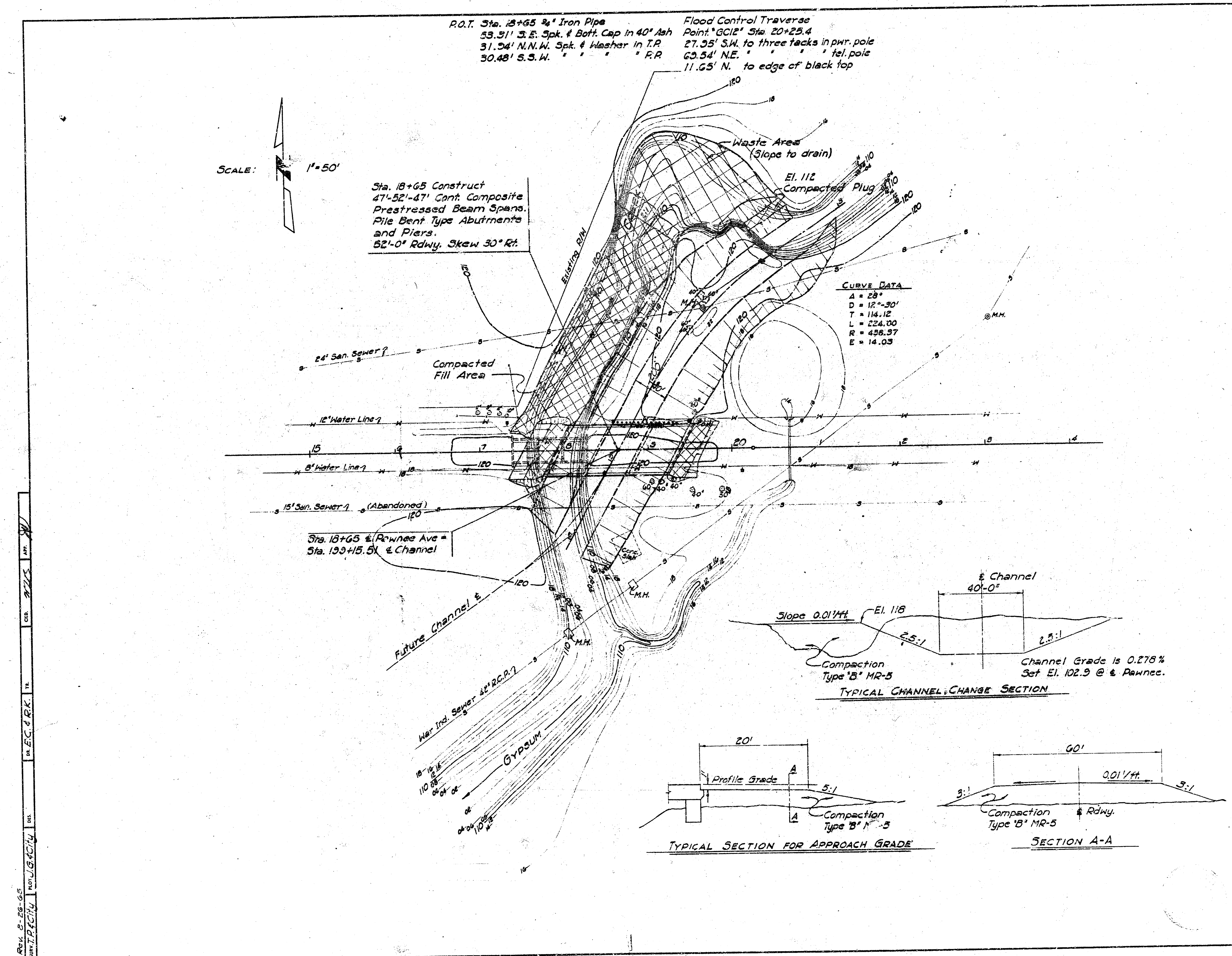
B. E. SMITH, CITY ENGINEER

PROJECT C15-47

PLANS PREPARED BY

H. S. DELAMATER, CONSULTING ENGINEER
WICHITA, KANSAS
AUGUST, 1966

PUB ROAD DIV. NO.	STATE	PROJECT NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
5	KANSAS	C15-47	1965	2	9



CITY OF WICHITA, KANSAS
B. E. SMITH, CITY ENGINEER

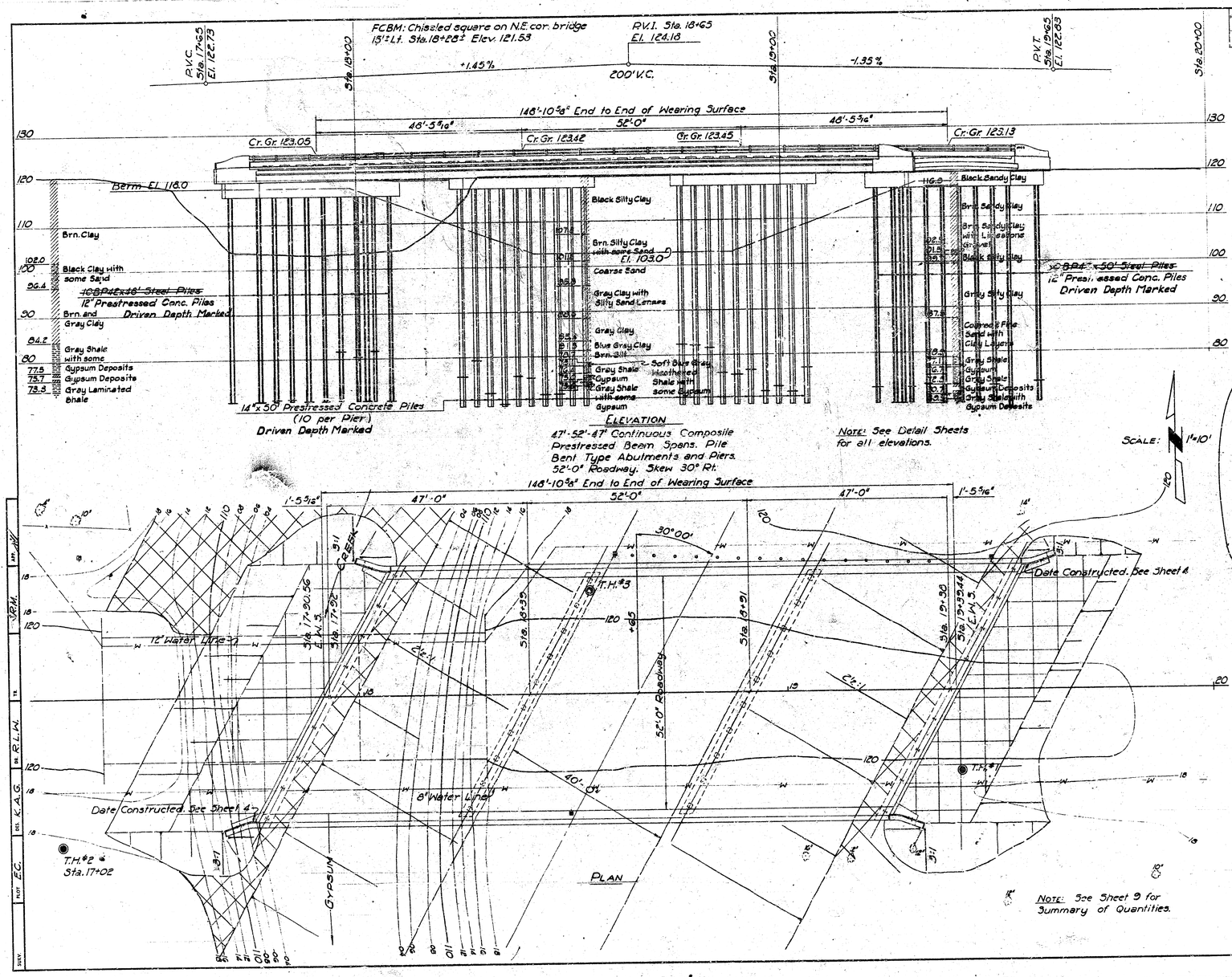
PAWNEE AVENUE BRIDGE OVER GYPSUM CREEK

CONTOUR MAP

R. S. DELAMATER
CONSULTING ENGINEER
WICHITA, KANSAS

DATE August, 1965
SCALE 1"=50'
DWG. NO. 79-M-2

PUB. ROAD DIV. NO.	STATE	PROJECT NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
5	KANSAS	C15-47	1965	3	9



GENERAL NOTES

EXISTING STRUCTURE: The Contractor shall remove the existing structure.

COMPACTED EMBANKMENTS: The Contractor shall construct the embankments and the berms at the abutments as shown on this sheet and the Contour Map prior to construction of the bridge.

BRIDGE EXCAVATION: All bridge excavation shall be Class III. See Sheet 9 for limits of pay excavation.

SOUNDINGS: Sounding information shown on this sheet is as obtained from borings made in the field and represents the best information available to the City of Wichita.

PILES: Piles shall be 14" prestressed concrete in piers and 10" steel piles in abutments, or alternate, as described and detailed on Sheet 9. Piles shall be driven to the penetration shown unless in the opinion of the Engineer such penetration cannot be secured without injury to the pile. All piles shall be driven to a minimum computed bearing value of 35 tons per pile in abutments, 45 tons per pile in piers.

PILE DRIVING: All piles shall be driven with a steam or diesel hammer; if a diesel hammer is used, sufficient transfer data shall be provided to permit rating by the Engineer before driving starts.

CONCRETE: Class A(AE) concrete shall be used in abutments and piers, except for prestressed piles. Class AA(AE) concrete shall be used in the superstructure, including curbs and diaphragms, except for prestressed beams. Bevel all exposed edges with a 3/4" triangular molding and fillet all corners 3/4" unless otherwise noted.

REINFORCING STEEL: All dimensions relative to reinforcing steel placement are to centerline of bars unless otherwise noted. All dimensions shown in bending diagrams are out to out of bars.

WATER LINES: Concrete inserts for pipe hangers are to be furnished by the owner of water lines (McConnell 17", Cessna 8", City's proposed 12") for installation by the Bridge Contractor.

DESIGN:

Design Loading: H20-S16-44 A.A.S.H.O. Specifications (1961 Ed.)

Unit Stresses:
- f'c = 1,650 p.s.i. Class AAA
- fc = 1,200 p.s.i. Class A
- fs = 20,000 p.s.i. (Rein.)
- f'c = 3,000 p.s.i. Class AAA
- f'c = 3,000 p.s.i. Class A

Pile Loading:
- 45 tons per pile in piers
- 35 tons per pile in abutments

QUANTITIES: All quantities shown on these plans shall be used as final pay quantities except that measurement and payment for piling shall be in accordance with the specifications.

GENERAL REQUIREMENTS: It is the intention of these plans and specifications that construction of the bridge shall be in accordance with applicable standard specifications and requirements of the Kansas State Highway Commission and that materials shall conform to these specifications unless otherwise expressly noted.

Note: (4-66)
Cessna laid new line South of bridge. McConnell's line to be taken over by City Water Dept. See sheet 7.

REV		DATE	
1	WLB	4-66	Rev. As Built

CITY OF WICHITA, KANSAS
B. E. SMITH, CITY ENGINEER

PAWNEE AVENUE BRIDGE OVER GYPSUM CREEK

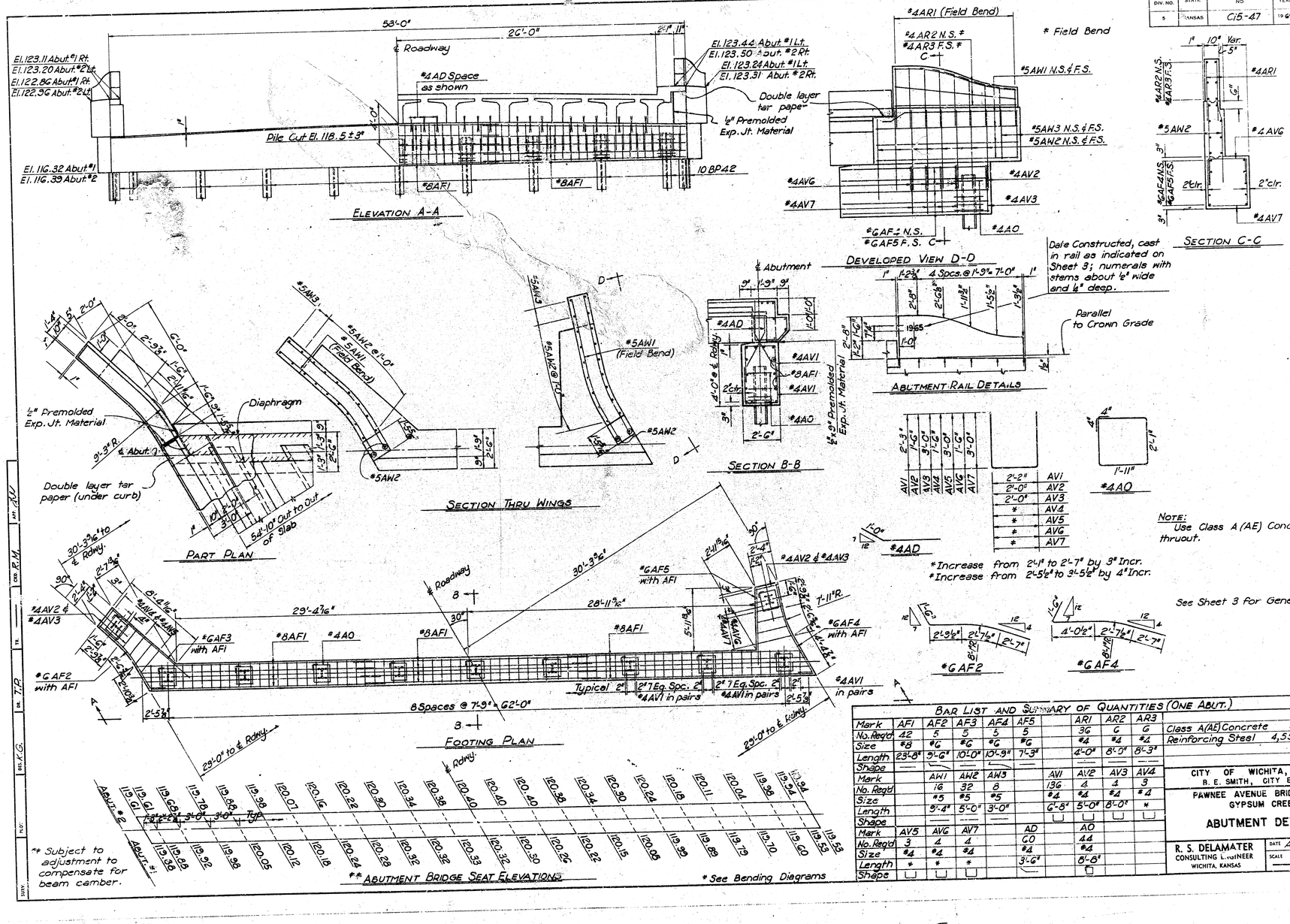
CONSTRUCTION LAYOUT

R. S. DELAMATER
CONSULTING ENGINEER
WICHITA, KANSAS

DATE August, 1965
SCALE 1"=10'
DWG. NO. 79-M-3

Elmer 7 Talis El Elmer
& Richard Talis

PUB. ROAD DIV. NO.	STATE	PROJECT NO	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
5	KANSAS	C-5-47	1965	4	9



BAR LIST AND SUMMARY OF QUANTITIES (ONE ABUT.)

Mark	AF1	AF2	AF3	AF4	AF5		AR1	AR2	AR3
No. Req'd	42	5	5	5	5		36	6	6
Size	#8	#6	#6	#6	#6		#4	#4	#4
Length	29'-8"	5'-6"	10'-0"	10'-9"	7'-3"		4'-0"	8'-0"	8'-3"
Shape	—	—	—	—	—		—	—	—

Mark	AW1	AW2	AW3		AV1	AV2	AV3	AV4
No. Req'd	16	32	8		136	4	4	3
Size	#5	#5	#5		#4	#4	#4	#4
Length	5'-4"	5'-0"	3'-0"		6'-8"	5'-0"	8'-0"	"
Shape	—	—	—		—	—	—	—

Mark	AV5	AV6	AV7		AD	AO
No. Req'd	3	4	4		60	44
Size	#4	#4	#4		#4	#4
Length	*	*	*		3'-6"	8'-8"
Shape	—	—	—		—	—

Class A(AE) Concrete 33.9 Cu. Yds.
Reinforcing Steel 4,550 Lbs.

CITY OF WICHITA, KANSAS
B. E. SMITH, CITY ENGINEER

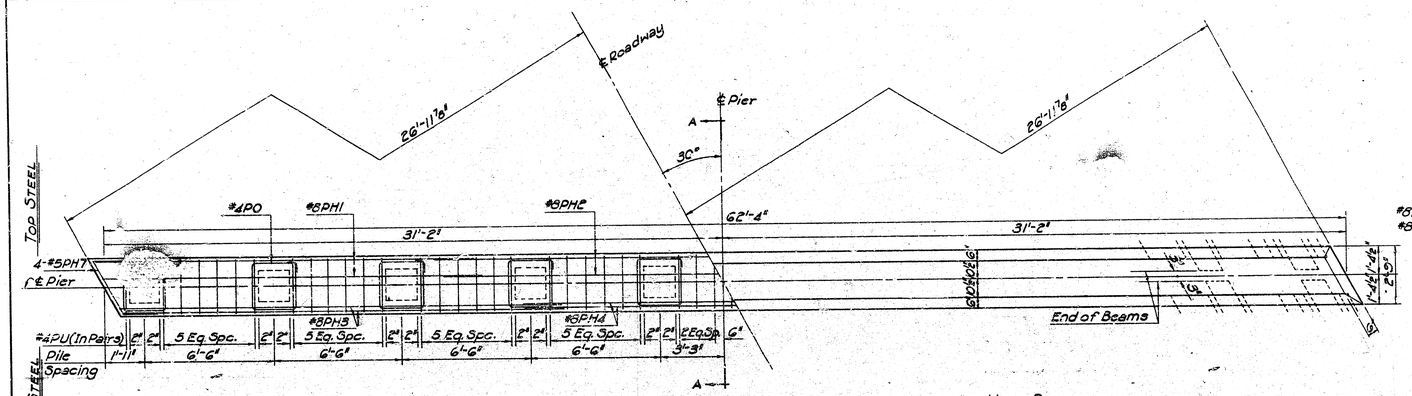
PAWNEE AVENUE BRIDGE OVER GYPSUM CREEK

ABUTMENT DETAILS

R. S. DELAMATER
CONSULTING ENGINEER
WICHITA, KANSAS

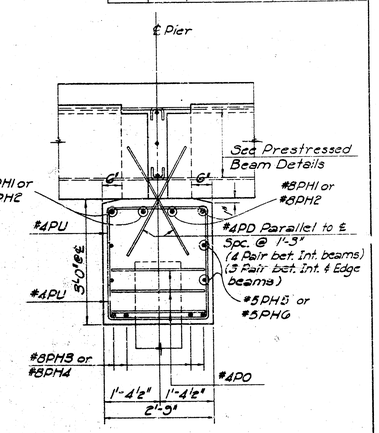
DATE August, 1965
SCALE —
DWG. NO. 79-M-4

PUB. ROAD DIV. NO.	STATE	PROJECT NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
9	KANSAS	C15-47	1965	5	9

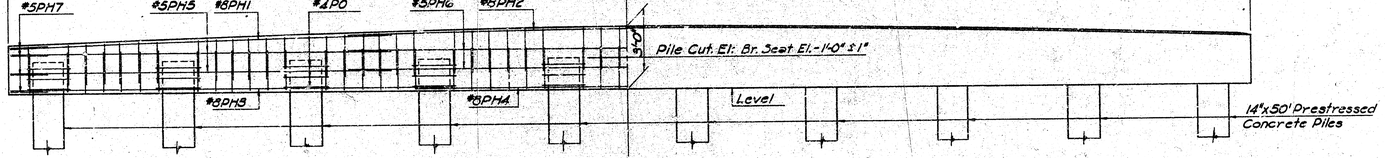


HALF PLAN SHOWING REINFORCING

HALF PLAN

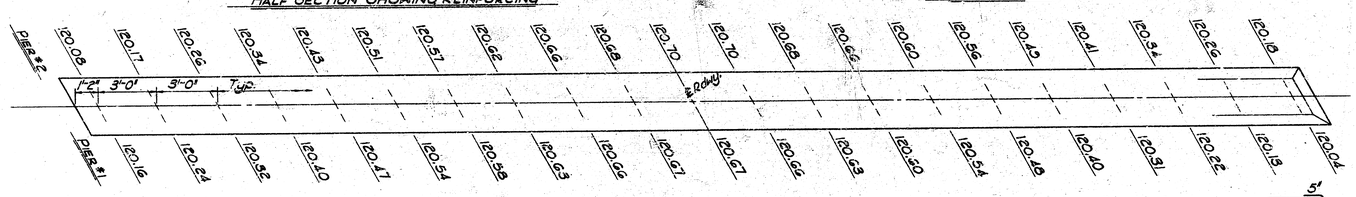


SECTION A-A

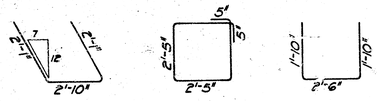


HALF SECTION SHOWING REINFORCING

HALF VIEW



PIER BRIDGE SEAT ELEVATIONS
(Subject to adjustment to compensate for beam camber)



NOTE:
Use Class A(AE) Concrete thruout.

See Sheet 3 for General Notes.

BAR LIST AND SUMMARY OF QUANTITIES (ONE PIER)

Mark	PD	PH1	PH2	PH3	PH4	PH5	PH6	PH7	PO	PU
No. Req'd	76	8	4	8	4	8	4	8	30	112
Size	#4	#8	#8	#8	#8	#5	#5	#5	#4	#4
Length	3'-0"	13'-0"	28'-0"	22'-3"	21'-6"	13'-0"	25'-0"	7'-0"	10'-6"	6'-2"
Shape	—	—	—	—	—	—	—	U	□	U

Class A(AE) Conc. 17.5 Cu. Yds.
Reinforcing Steel 2,570 Lbs.

CITY OF WICHITA, KANSAS
B. E. SMITH, CITY ENGINEER

PAWNEE AVENUE BRIDGE OVER GYPSUM CREEK

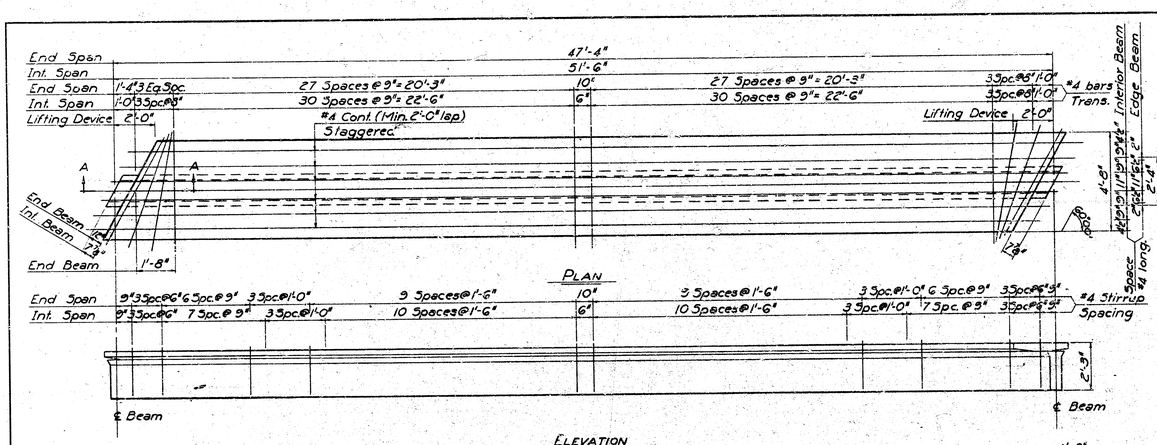
PIER DETAILS

R. S. DELAMATER
CONSULTING ENGINEER
WICHITA, KANSAS

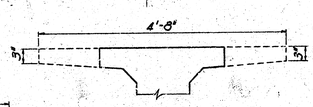
DATE August, 1965
SCALE —
DWG. NO. 79-M-5

DES. KAG
DET.
CHK. E.C.
QUAN.
TC.
CHK. R.M.
APP. [illegible]
SURV.

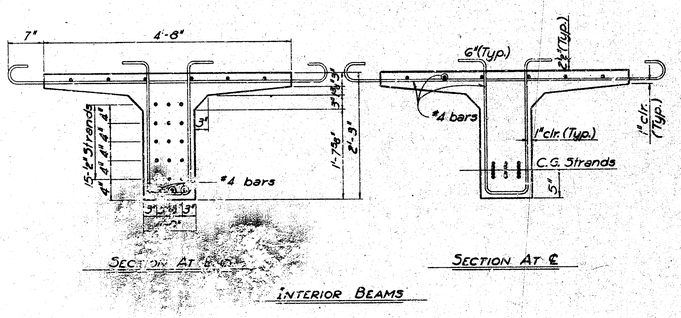
PUB. ROAD DIV. NO.	STATE	PROJECT NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
5	KANSAS	C15-47	1965	6	9



ELEVATION
(Similar for Interior and Edge Beams)

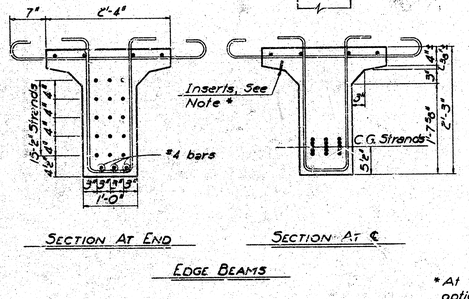


NOTE: Offset #4 bars slightly at ends, as shown.



SECTION AT ℄

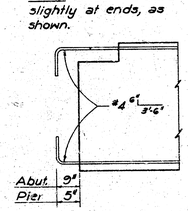
INTERIOR BEAMS



SECTION AT END

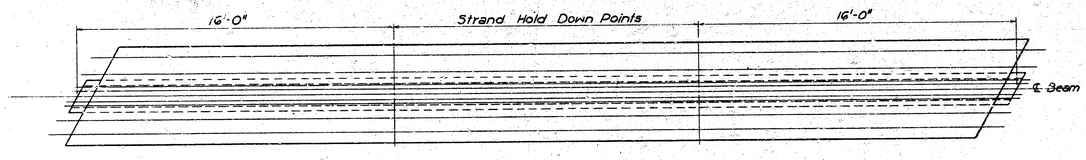
SECTION AT ℄

EDGE BEAMS

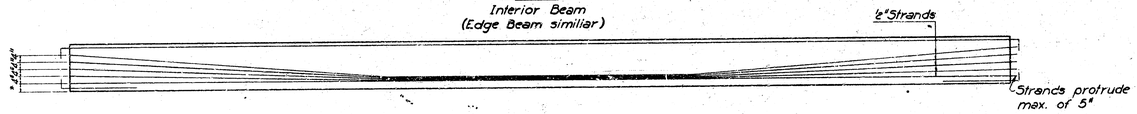


SECTION A-A

*At the Contractor's option: inserts to support forms for edge of slab.



PLAN
Interior Beam
(Edge Beam similar)



*4" - Interior Beam
4'2" - Edge Beam

ELEVATION

GENERAL NOTES

DESIGN:
Loading: H20-S16-44 A.A.S.H.O. Specifications (1961 Ed.)
Concrete: f'c = 6,000 p.s.i. at 28 days
f'ci = 4,650 p.s.i. Min. release strength
Prestressing steel: 1 2" nominal diameter 7-wire high tensil type, stress relieved strands having an ultimate strength of 41,300 lbs per strand.
Reinforcing Steel: fs = 20,000 p.s.i.

STEEL PLACEMENT: All dimensions shown relative to placement of reinforcing steel are to centerline of bars unless otherwise noted, all dimensions shown in the bending diagrams are out to out of bars.

HANDLING AND ERECTION: Each beam shall be equipped with lifting devices of sufficient strength to insure safe and proper handling of the beams. Details of lifting devices shall be submitted for approval by the engineer before fabrication for placing procedure and erection loads.

CITY OF WICHITA, KANSAS
B. E. SMITH, CITY ENGINEER

PAWNEE AVENUE BRIDGE OVER GYPSUM CREEK

PRESTRESSED BEAM DETAILS

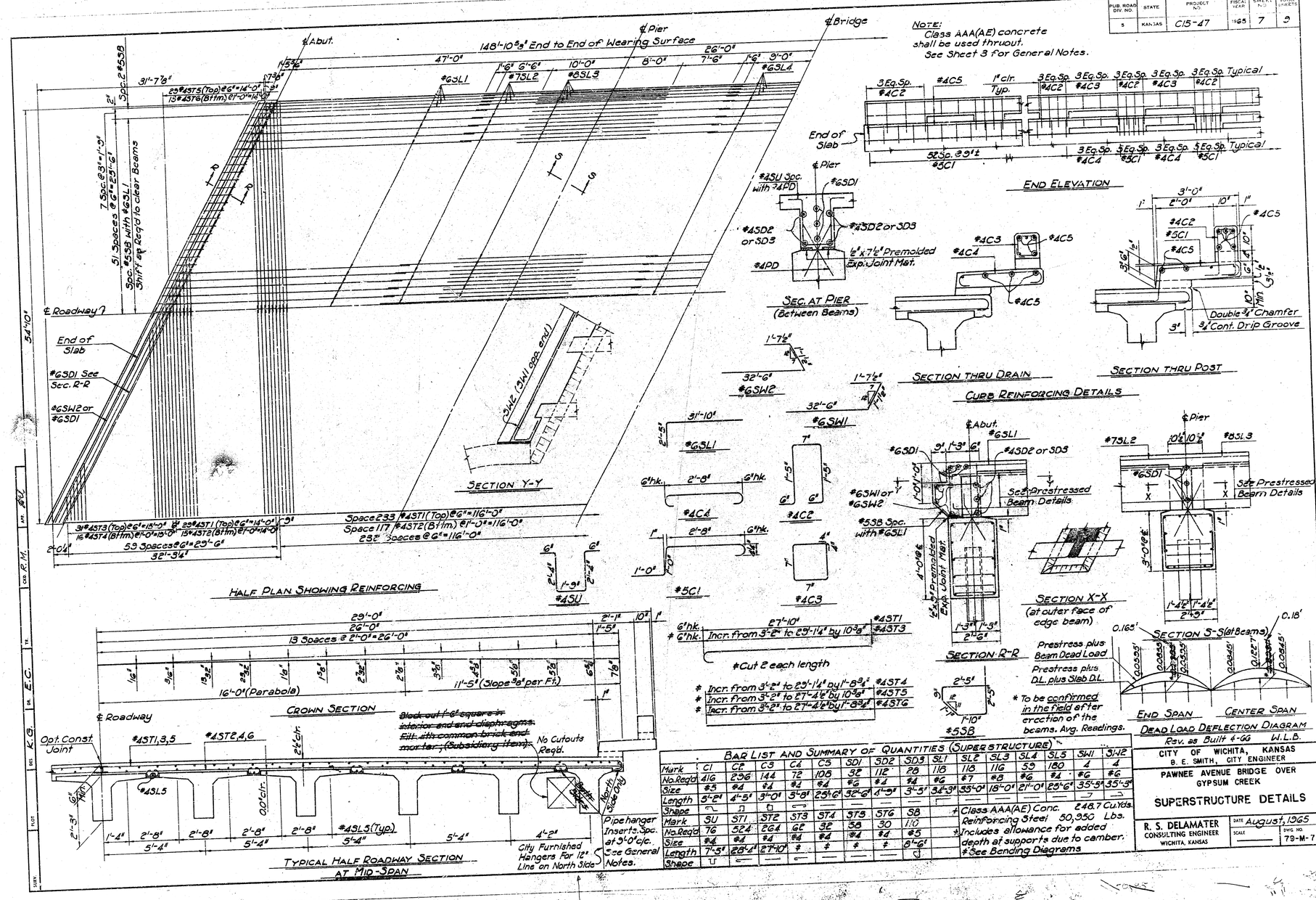
R. S. DELAMATER
CONSULTING ENGINEER
WICHITA, KANSAS

DATE August, 1965
SCALE ———
DWG. NO. 79-M-6

APP. | CHK. KHG | TR. | DR. R.L.H. | DES. K.A.G. | PLOT | SURV.

PUB. ROAD DIV. NO.	STATE	PROJECT NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
5	KANSAS	C15-47	1965	7	9

NOTE:
Class AAA(AE) concrete shall be used thruout.
See Sheet 3 for General Notes.



BAR LIST AND SUMMARY OF QUANTITIES (SUPERSTRUCTURE)

Mark	C1	C2	C3	C4	C5	SD1	SD2	SD3	SL1	SL2	SL3	SL4	SL5	SW1	SW2
No. Reqd	416	256	144	72	105	32	112	28	116	116	116	58	180	4	4
Size	#5	#4	#4	#4	#4	#6	#4	#4	#6	#7	#8	#6	#4	#6	#6
Length	5'-2"	4'-5"	3'-0"	5'-8"	25'-6"	32'-6"	4'-5"	3'-5"	34'-3"	35'-0"	18'-0"	21'-0"	25'-6"	35'-5"	35'-3"
Shape	⌐	⎍	□	⌐⌐	—	—	—	—	—	—	—	—	—	⊐	⊐
Mark	SU	ST1	ST2	ST3	ST4	ST5	ST6	S8							
No. Reqd	76	524	264	66	32	56	30	110							
Size	#4	#4	#4	#4	#4	#4	#4	#5							
Length	7'-5"	28'-4"	27'-10"	*	*	*	*	6'-6"							
Shape	U	⟍	—	⟍	—	—	—	⊐							

* Class AAA(AE) Conc. 246.7 Cu Yds.
Reinforcing Steel 50,950 Lbs.
* Includes allowance for added depth at supports due to camber.
# See Bending Diagrams

CITY OF WICHITA, KANSAS
B. E. SMITH, CITY ENGINEER

PAWNEE AVENUE BRIDGE OVER GYPSUM CREEK

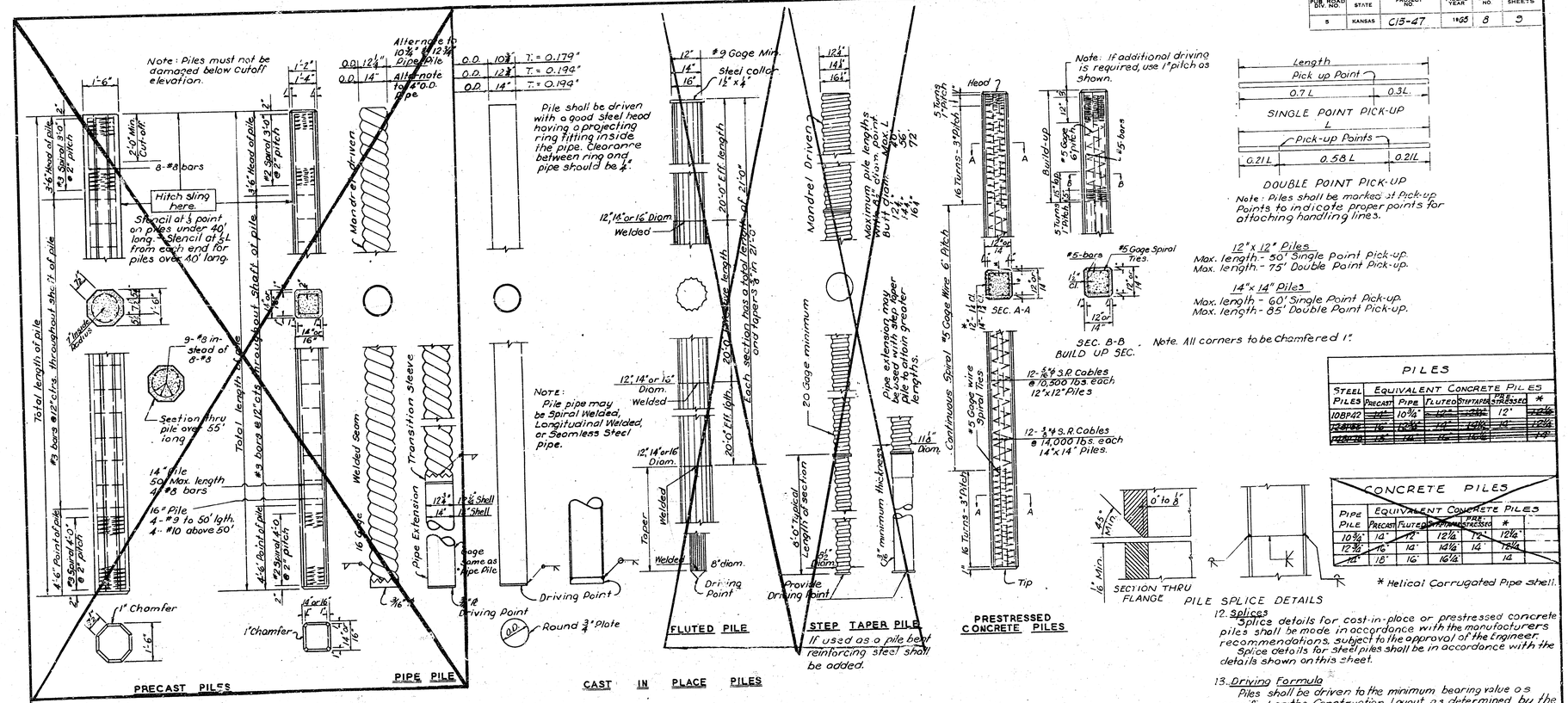
SUPERSTRUCTURE DETAILS

R. S. DELAMATER
CONSULTING ENGINEER
WICHITA, KANSAS

DATE August, 1965
SCALE —
DWG. NO. 79-M-7

Rev. as Built 6-66 W.L.B.

FUR. ROAD DIV. NO.	STATE	PROJECT NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
5	KANSAS	C15-47	1965	8	9



PILES

STEEL PILES	EQUIVALENT CONCRETE PILES					
	PRECAST	PIPE	FLUTED	STEP TAPER	PRESTRESSED	*
10BP42	12"	10¾"	12"	12"	12"	12"
12BP53	14"	12¾"	14"	14"	14"	14"
14BP89	16"	14"	16"	16"	16"	16"

CONCRETE PILES

PIPE PILE	EQUIVALENT CONCRETE PILES					
	PRECAST	FLUTED	PIPE	STEP TAPER	PRESTRESSED	*
10¾"	14"	12"	12¼"	12"	12¼"	-
12¾"	16"	14"	14¼"	14"	14¼"	-
14"	18"	16"	16¼"		14	-

* Helical Corrugated Pipe Shell.

General Notes

1. Specifications
Standard Specifications for State Road and Bridge Construction as currently used by State Highway Commission of Kansas.

2. Choice of Piles
Where Piles are specified, the contractor may elect to use either the steel pile specified on the footing plans or the equivalent precast concrete, cast-in-place concrete or prestressed concrete pile shown in the table on this sheet. Where Concrete Piles are specified the Contractor may elect to use either the size and type concrete pile specified on the footing plans or the equivalent precast concrete, cast-in-place concrete or prestressed concrete pile shown in the table on this sheet.
Other types of concrete piles not shown here are subject to the approval of the Engineer. Prestressed concrete piles, Helical corrugated pipe shell or Step taper piles shall not be used for abutments without expansion joints on bridges more than 120 ft. long.

3. Concrete.
All concrete for Precast and Cast-in-place shall be Class 'A' f'c = 3000 p.s.i. Concrete for Prestressed piles shall be Class AAA f'c = 4000 p.s.i.

4. Reinforcement
Reinforcing bars shall be new billet steel of intermediate grade without exception. Hoops and spirals may be either plain or deformed bars.

5. Precast Piles.
Precast piles shall conform to the requirements of Sub-Section G1-7.

6. Cast-in-place Shells
A. Pile shells shall have a minimum thickness as follows:
1. Piles driven without mandrel - Use gages or thicknesses shown above, except fluted pile use No. 9 gage minimum.
2. Piles driven with mandrel shell shall be of sufficient strength and thickness to withstand driving without injury and to resist harmful distortion and/or buckling due to soil pressure after being driven and the mandrel removed.
B. The contractor shall maintain on the job at all times prior to and during the filling of the shells, a light suitable for their inspection.
C. Improperly driven, broken or otherwise defective shells shall be removed and replaced or otherwise corrected to the satisfaction of the Engineer by removal and replacement, or the driving of an additional pile at no extra cost.

7. Steel Piles
Steel pile material shall meet the requirements of A.S.T.M. A7.

8. Pile Points
All Cast-in-place piles except mandrel driven piles shall be equipped with a steel driving point of ¾" minimum thickness. Driving points shall be mill welded to the pile.
Steel piles shall have a square cut end only. No driving point is required.

9. Welding.
All field welding shall meet the requirements of Article G1-6 Specifications.

10. Paint
Shall comply with the Kansas Standard Specifications. 1960 Edition.

11. Test Piles - Test piles shall be driven where called for on the Bridge plans. All test piles shall be located so that they will become part of the Bridge pile system.

12. Splices
Splice details for cast-in-place or prestressed concrete piles shall be made in accordance with the manufacturers recommendations, subject to the approval of the Engineer.
Splice details for steel piles shall be in accordance with the details shown on this sheet.

13. Driving Formula
Piles shall be driven to the minimum bearing value as specified on the Construction Layout as determined by the driving formulas stipulated in the Specifications.

14. Mill Test Reports
Notarized mill test reports, in triplicate, shall be furnished by the contractor for all steel pile and cast-in-place pile shells.

15. Payment
Payment for all piles will be made as set forth in the specifications.

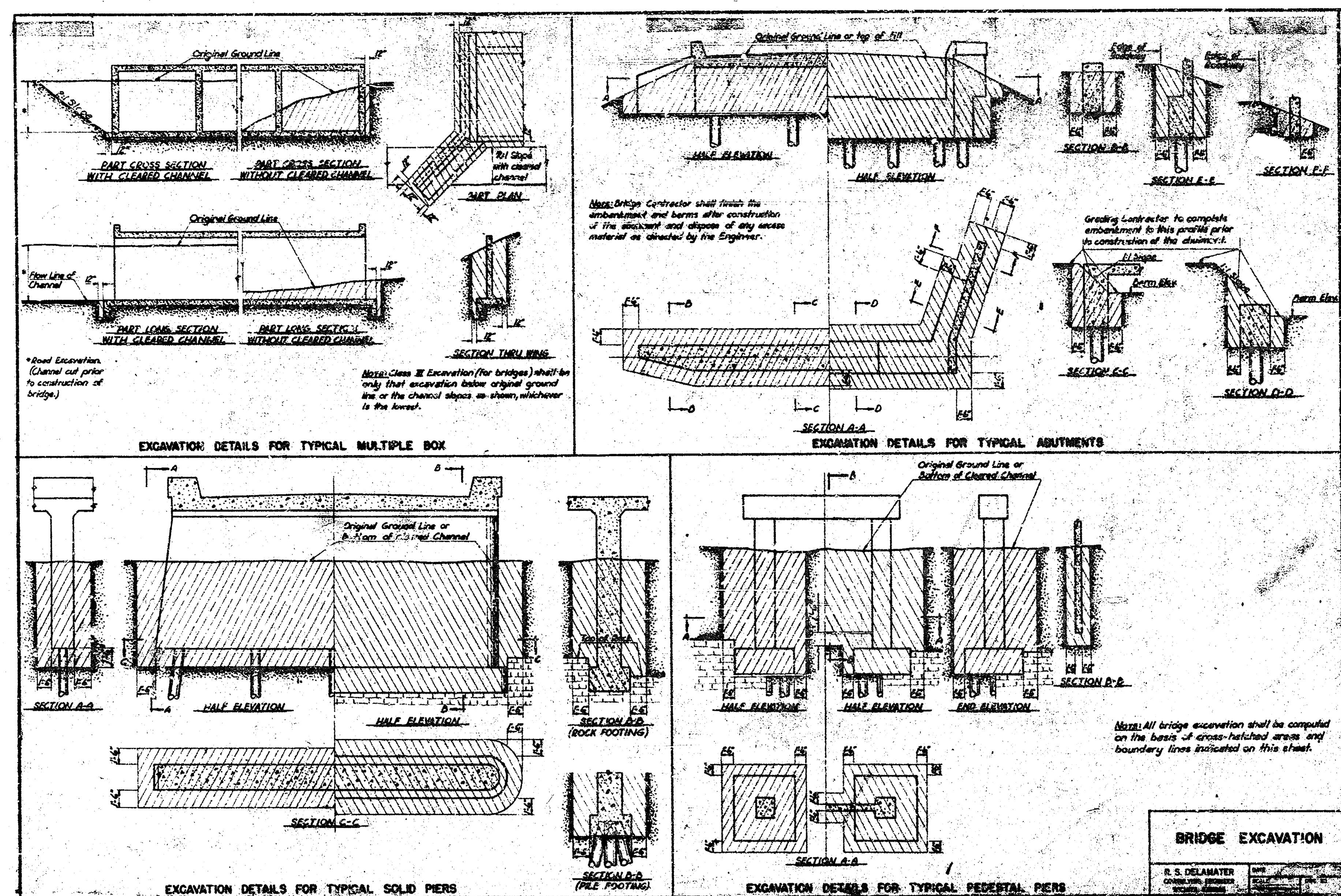
NO.	DATE	REVISIONS	BY	APP'D
4	4-8-64	Add Longitudinal Welded Pipe pile	J.C.L.	T.W.O.
3	4-2-64	Revise Choice of Pile note, Item 2	J.C.L.	T.W.O.
2	9-27-61	Revise Pipe Pile General Note	J.C.L.	T.W.O.
1	7-26-61	Remove hole in Prestressed Conc. Pile	J.C.L.	T.W.O.

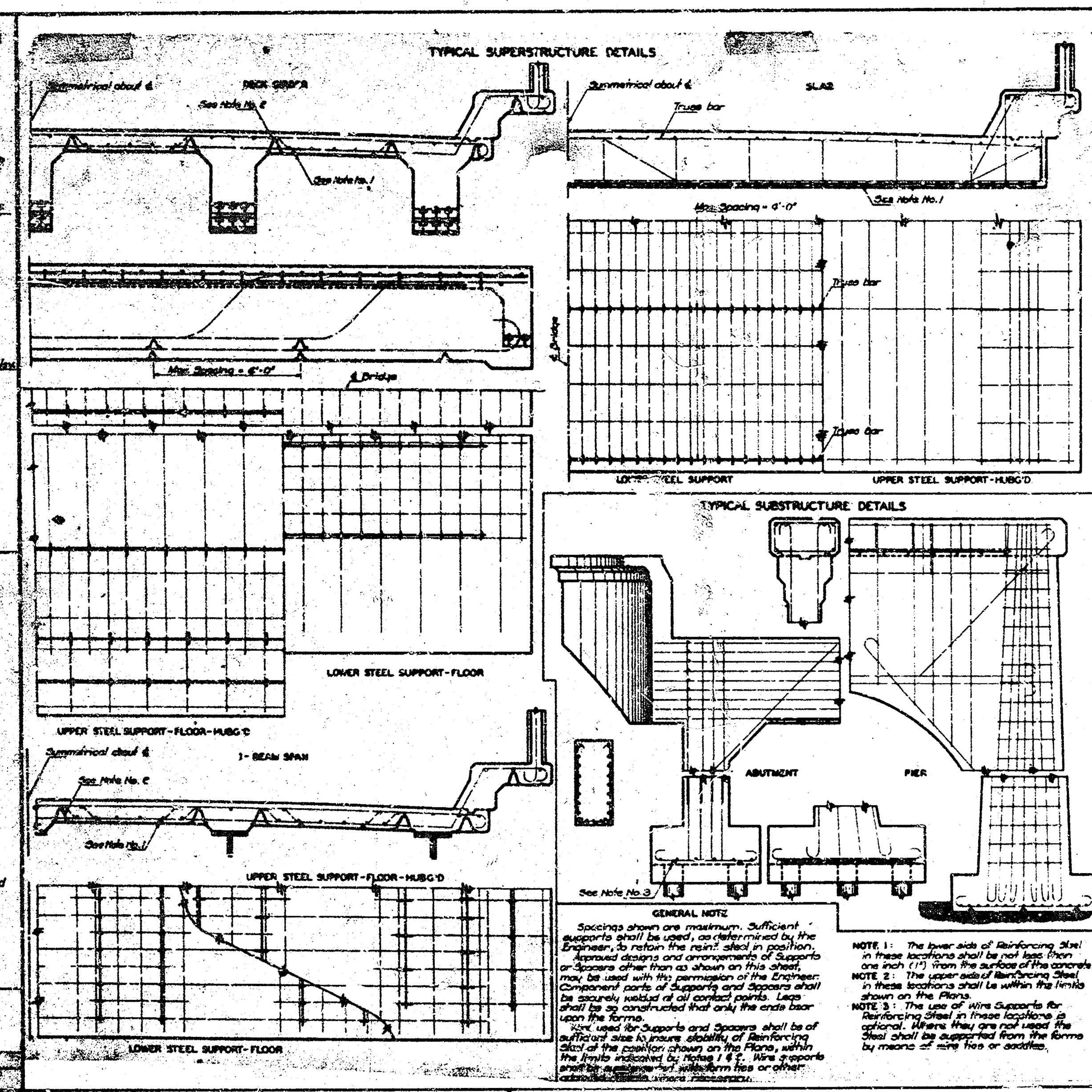
STATE HIGHWAY COMMISSION OF KANSAS

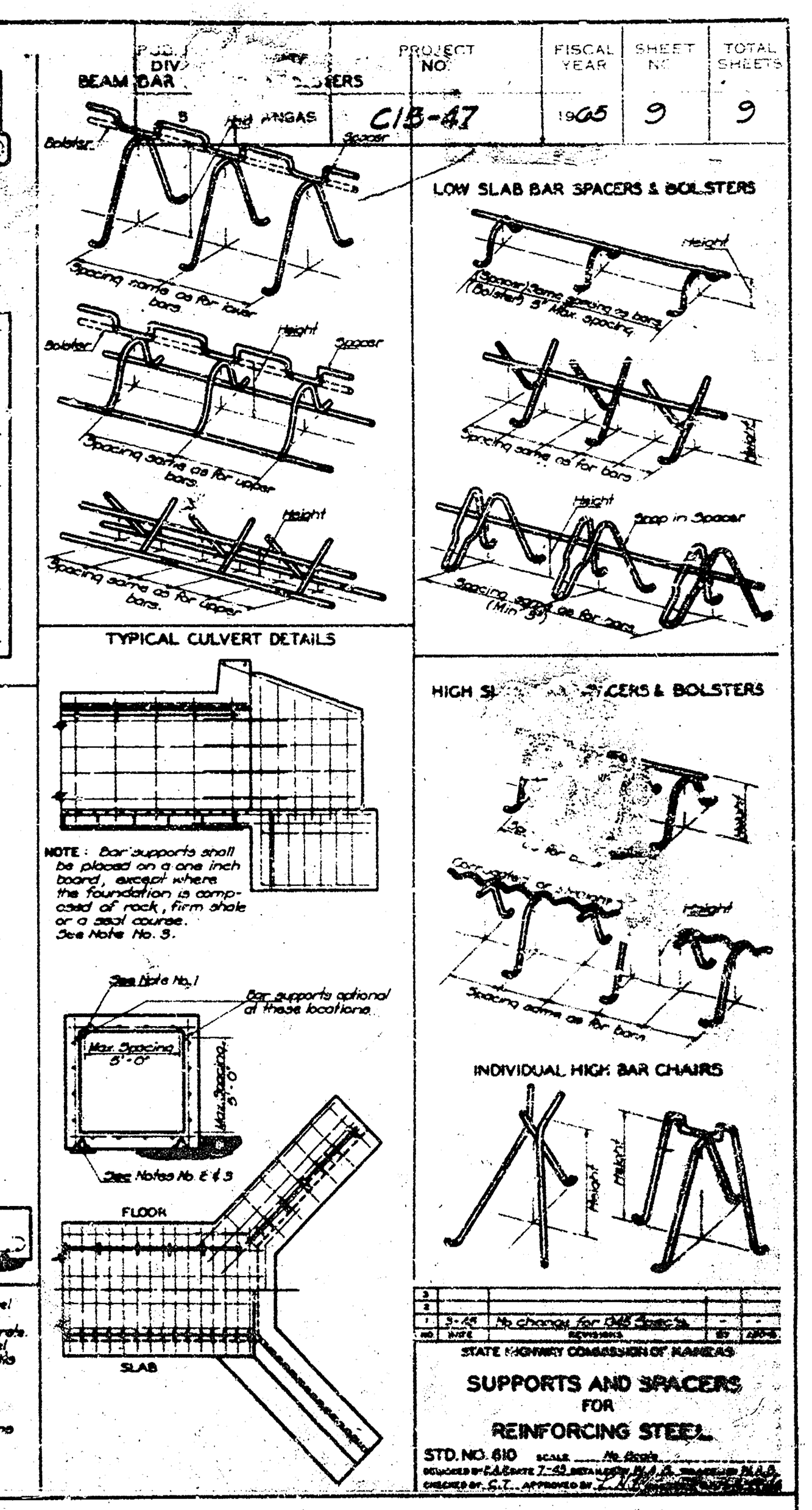
STANDARD PILE DETAILS

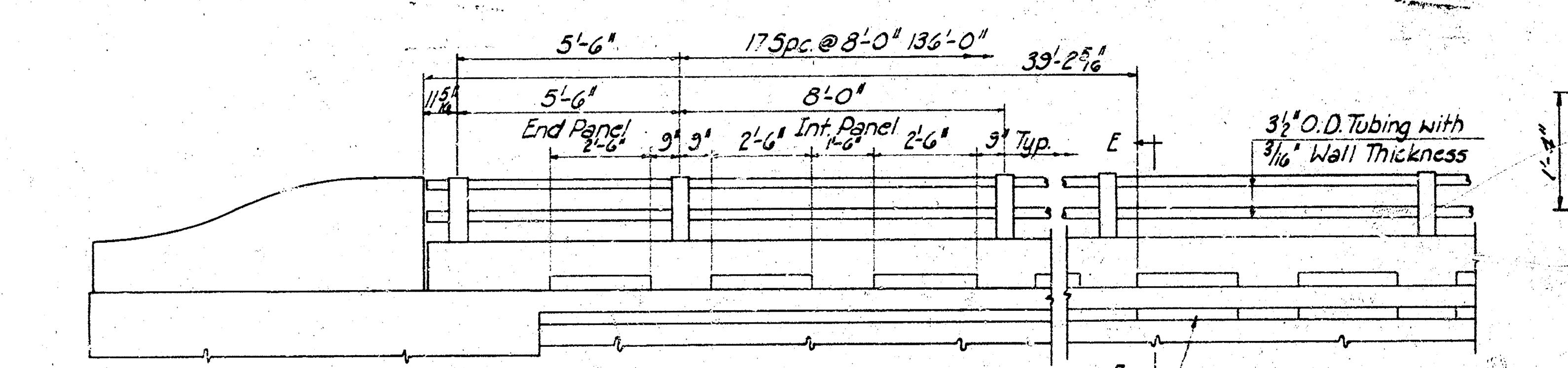
STD. NO. 102

SHEET NO.	OF	SCALE	APP'D
DESIGNED		DETAILED	QUANTITIES
DESIGN CK.		DETAIL CK.	QUAN. CK.
			TRACED
			TRACE CK.

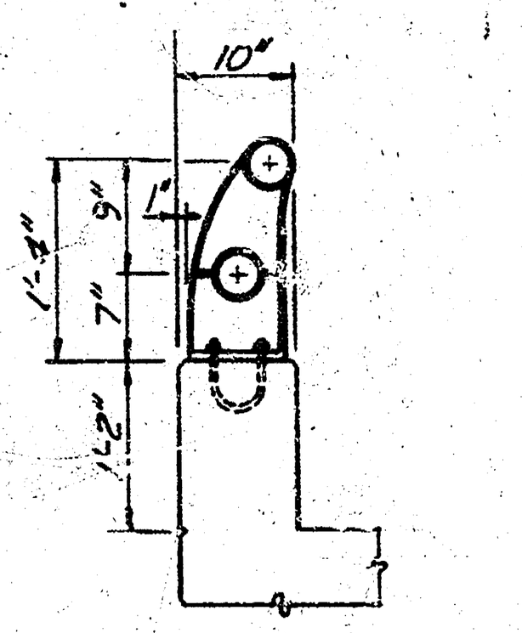




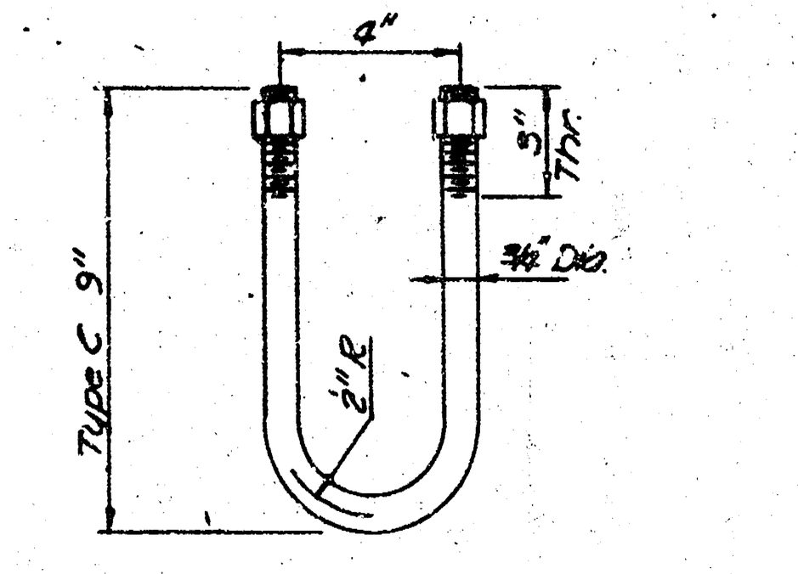




ELEVATION



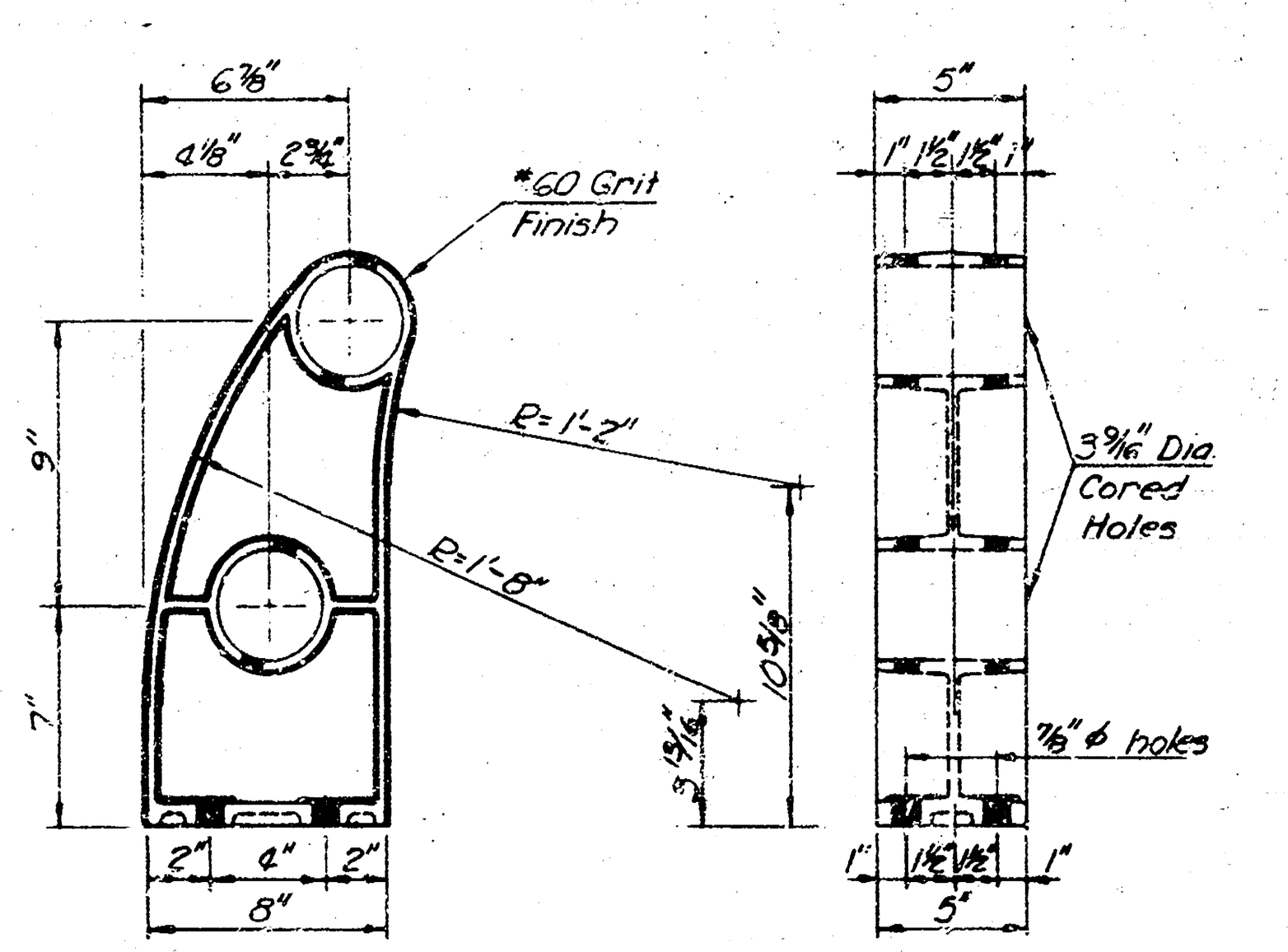
SECTION E-E



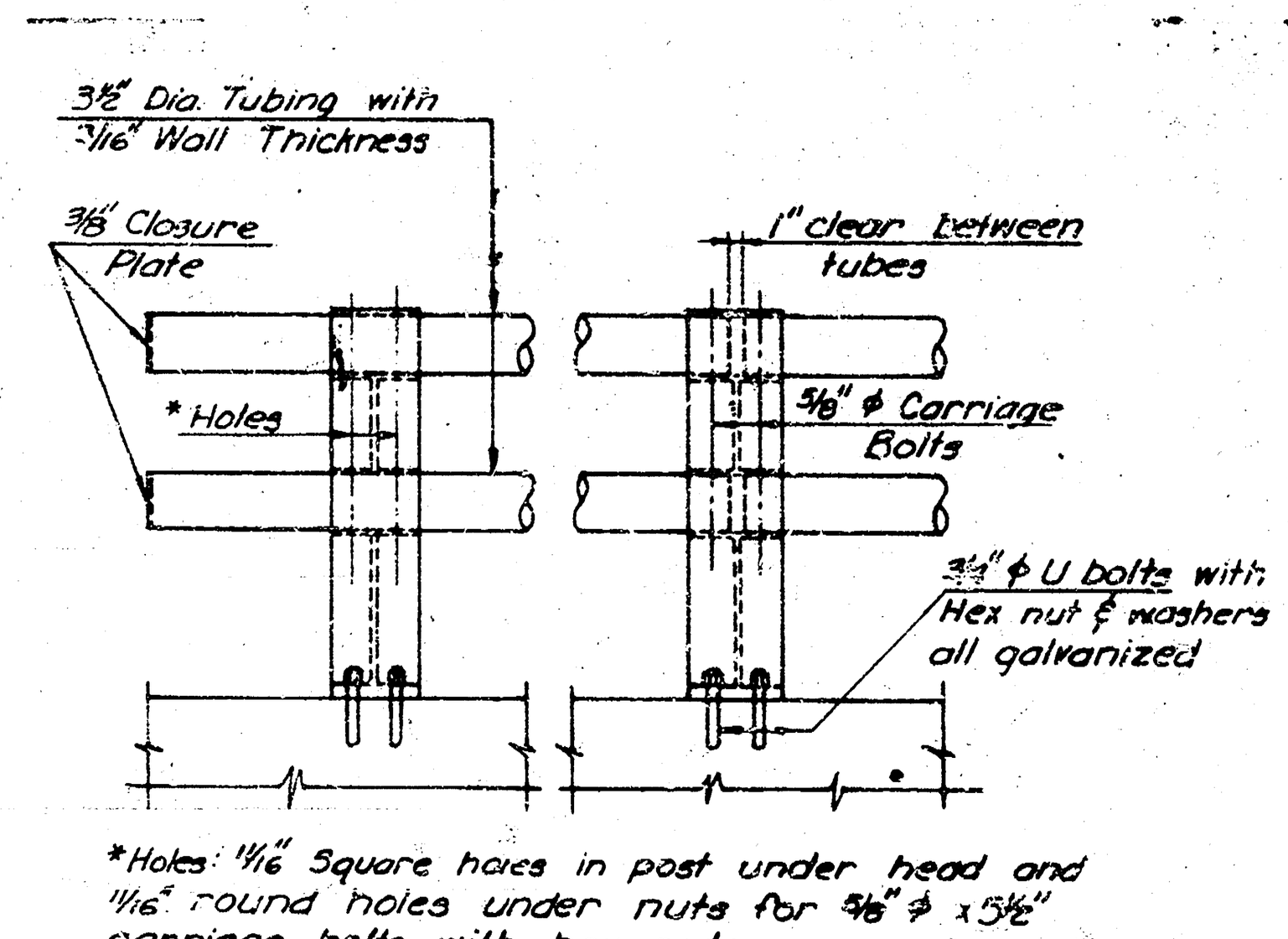
GALVANIZED U-BOLTS DETAILS

Note: All concrete and reinforcing steel for abutment wing rail is included in superstructure quantities.

Notes: (Aluminum Handrail)
Handrail Tubing shall be fabricated in lengths to include two or three spaces.
Bolt holes in tubing of intermediate posts to be 11/16" diameter. At other posts 11/16" slotted holes centered on bolts @ 60°F.
All rail post flanges and webs shall have a minimum thickness of 5/16" with 3° draft. Nominal thickness of base shall be 3/4" with minimum of 3/8".
Aluminum shims between concrete and post base may be used. The space below post shall be thoroughly caulked with Alumilastic compound or other approved material.



POST FOR TYPE C RAIL



*Holes 11/16" Square holes in post under head and 11/16" round holes under nuts for 5/8" Ø x 5 1/2" carriage bolts with hex nuts.

ALUMINUM HANDRAIL DETAILS TYPE C

STATE HIGHWAY COMMISSION OF KANSAS

STANDARD HANDRAIL DETAILS

Summary Of Bridge Quantities							
Item	Abut. #1	Pier #1	Pier #2	Abut. #2	Superst.	Total	Unit
Excavation, Class III	57	——	——	57	——	114	Cu. Yds.
Class AAA(AE) Conc.	——	——	——	——	248.7	248.7	Cu. Yds.
Class A (AE) Conc.	33.9	17.8	17.8	33.9	——	103.4	Cu. Yds.
Reinforcing Steel	4,550	2,570	2,570	4,550	50,950	65,190	Lbs.
Prestr's'd. Conc. Beams	——	——	——	——	33	33	Each
Aluminum Handrail	——	——	——	——	294.0	294.0	Lin. Ft.
Steel Piles 10"	550	——	——	528	——	1,078	Lin. Ft.
Prestr's'd. Conc. Piles 14"	——	500	500	——	——	1,000	Lin. Ft.

Summary Of Grading Quantities		
Item	Quan.	Unit
Common Excavation	18,900	Cu. Yds.
Compacted Embankment	10,200	Cu. Yds.
Removal of Exist Structure	L. S.	L. S.

CITY OF WICHITA, KANSAS
B. E. SMITH, CITY ENGINEER

PAWNEE AVENUE BRIDGE OVER GYPSUM CREEK

BAR SUPPORTS, BR. EXC., HANDRAIL SUMMARY OF QUANTITIES

R. S. DELAMATER
CONSULTING ENGINEER
WICHITA, KANSAS

DATE August, 1965
SCALE ——
DWG. NO. 79-M-9

11 1 3 (5)