

CITY OF WICHITA

SEDGWICK COUNTY, KANSAS

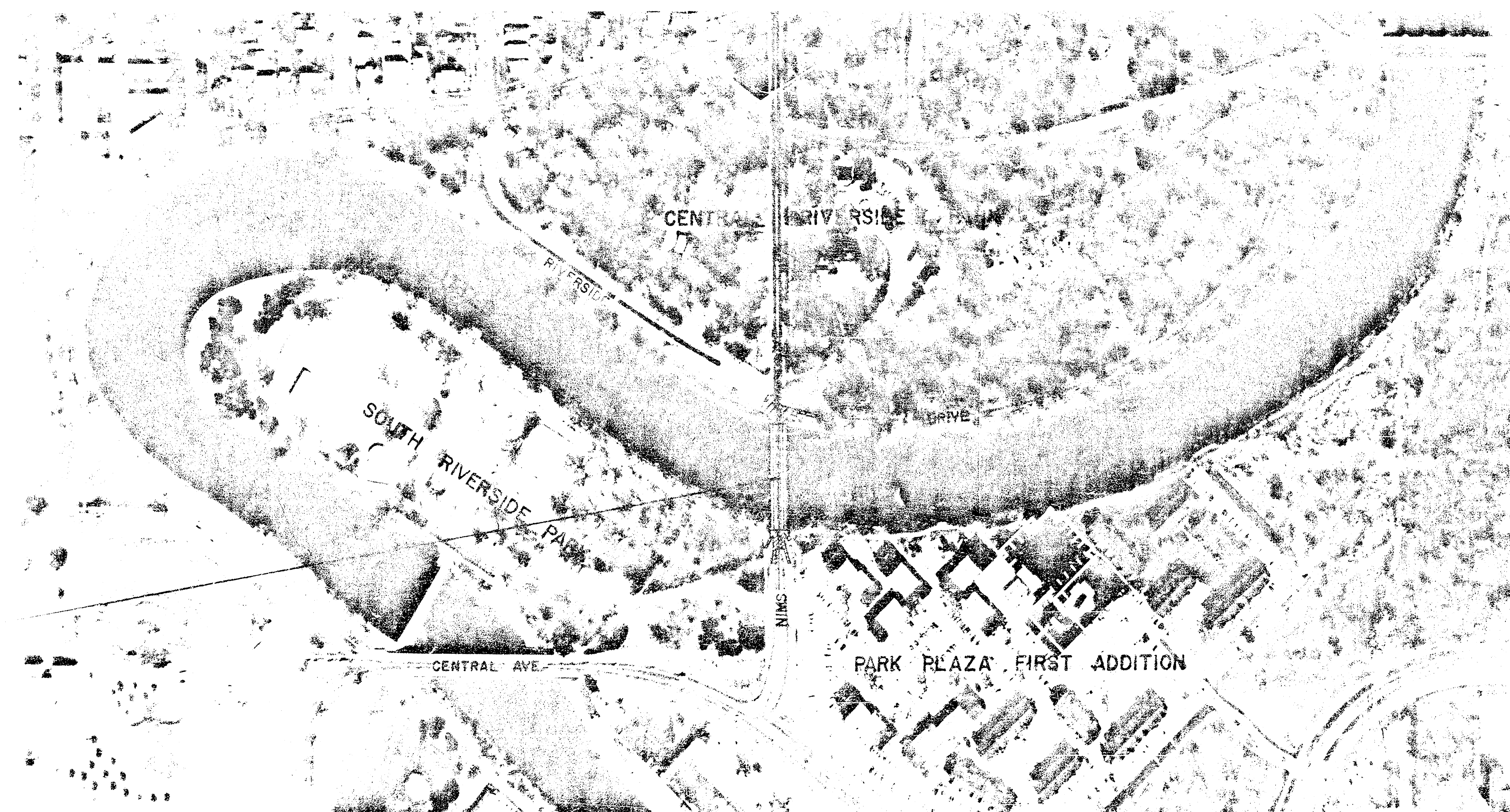
WOODMAN BRIDGE

PROJECT NO. DAKB 576042

INDEX OF SHEETS

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17	SUPPORTS AND SPACERS FOR REINFORCING STEEL

STA 11+75
45'-3" AT 52'-45" CONT. R.C.
SLAB SPANS 28'-0"
ROADWAY AND TWO 8'-0"
SIDEWALKS



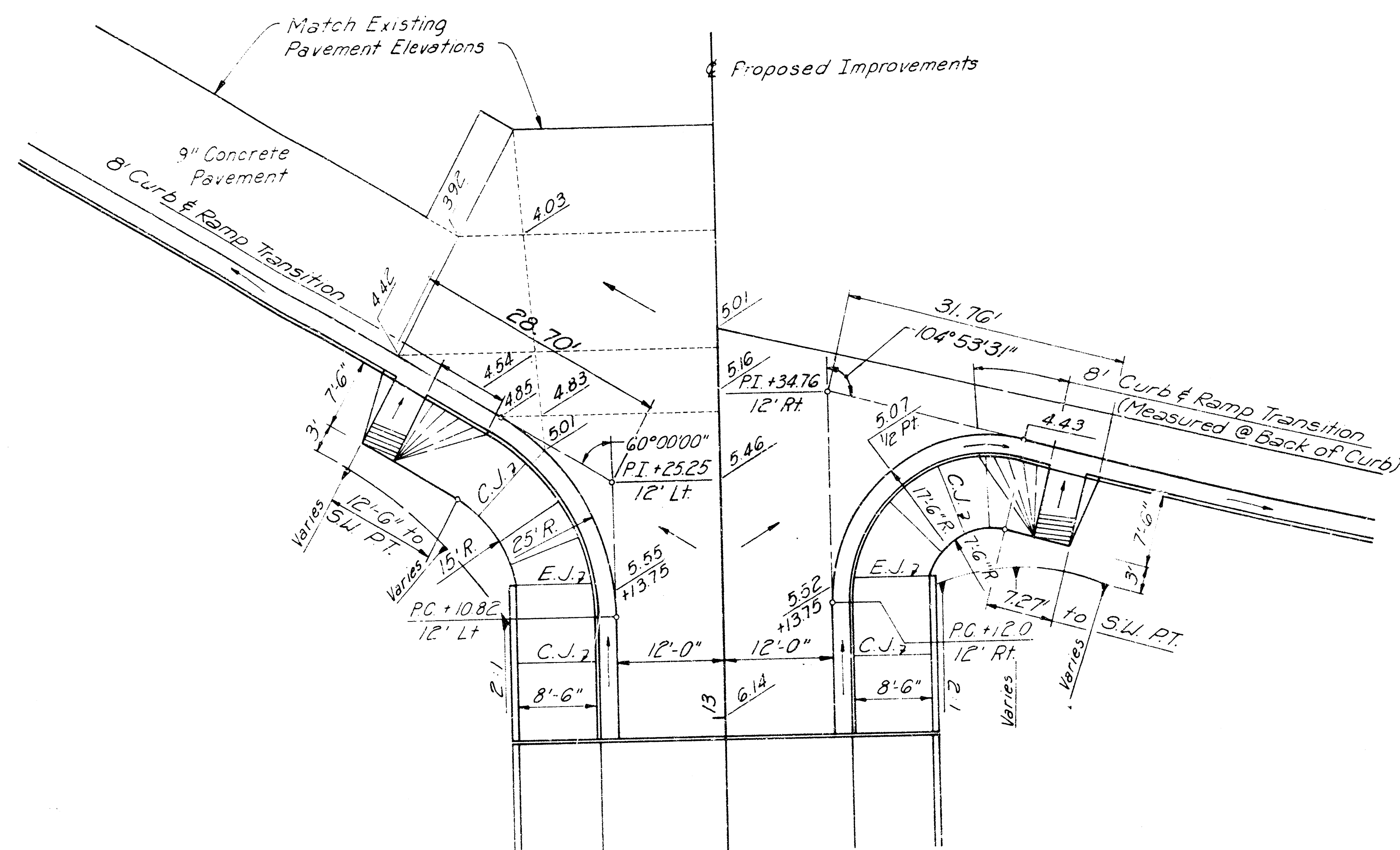
SCALE 1" = 200'

LITTLE ARKANSAS RIVER CROSSING

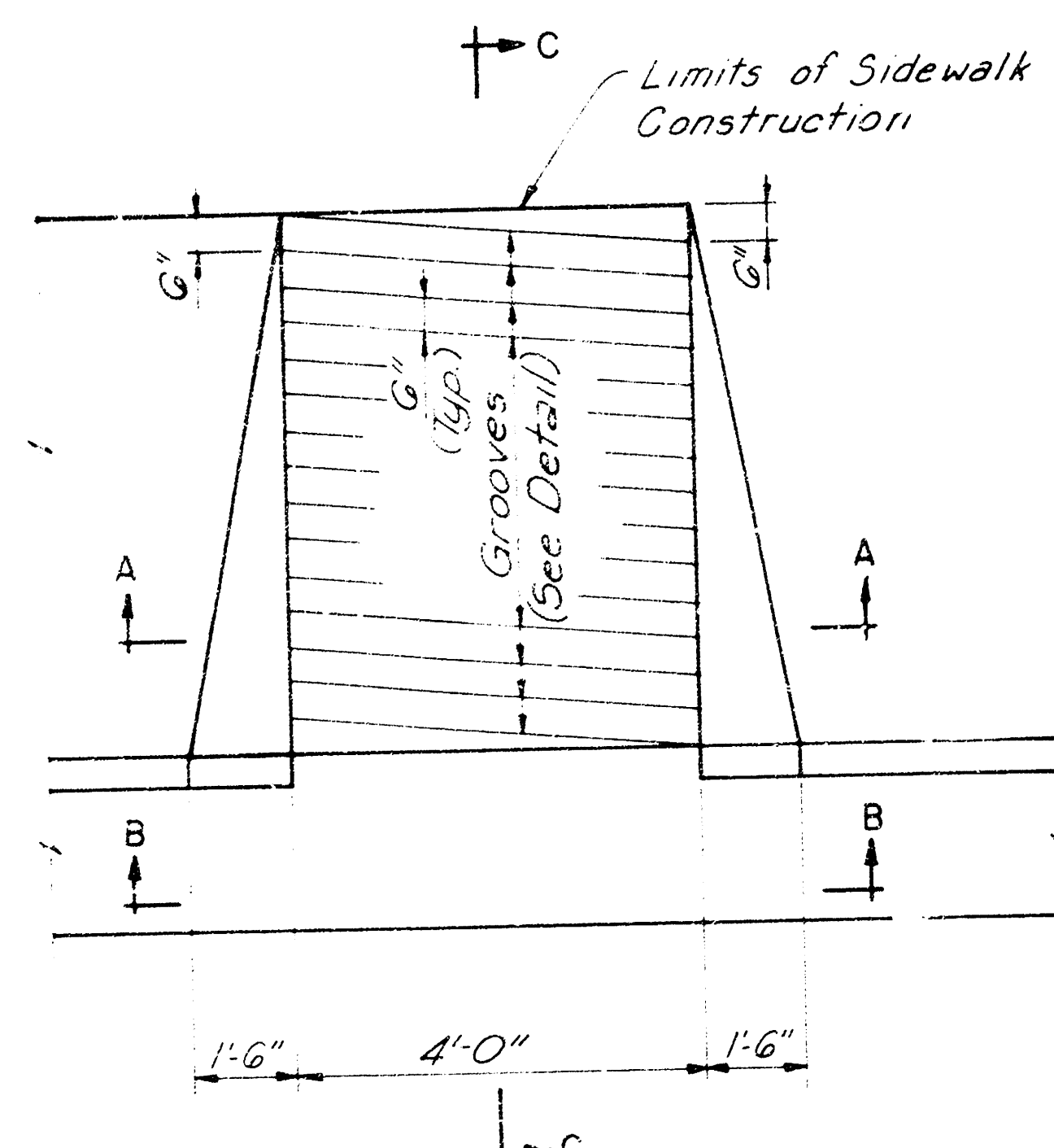
1977

PLANNED BY
PROFESSIONAL ENGINEERING CONSULTANTS, INC.

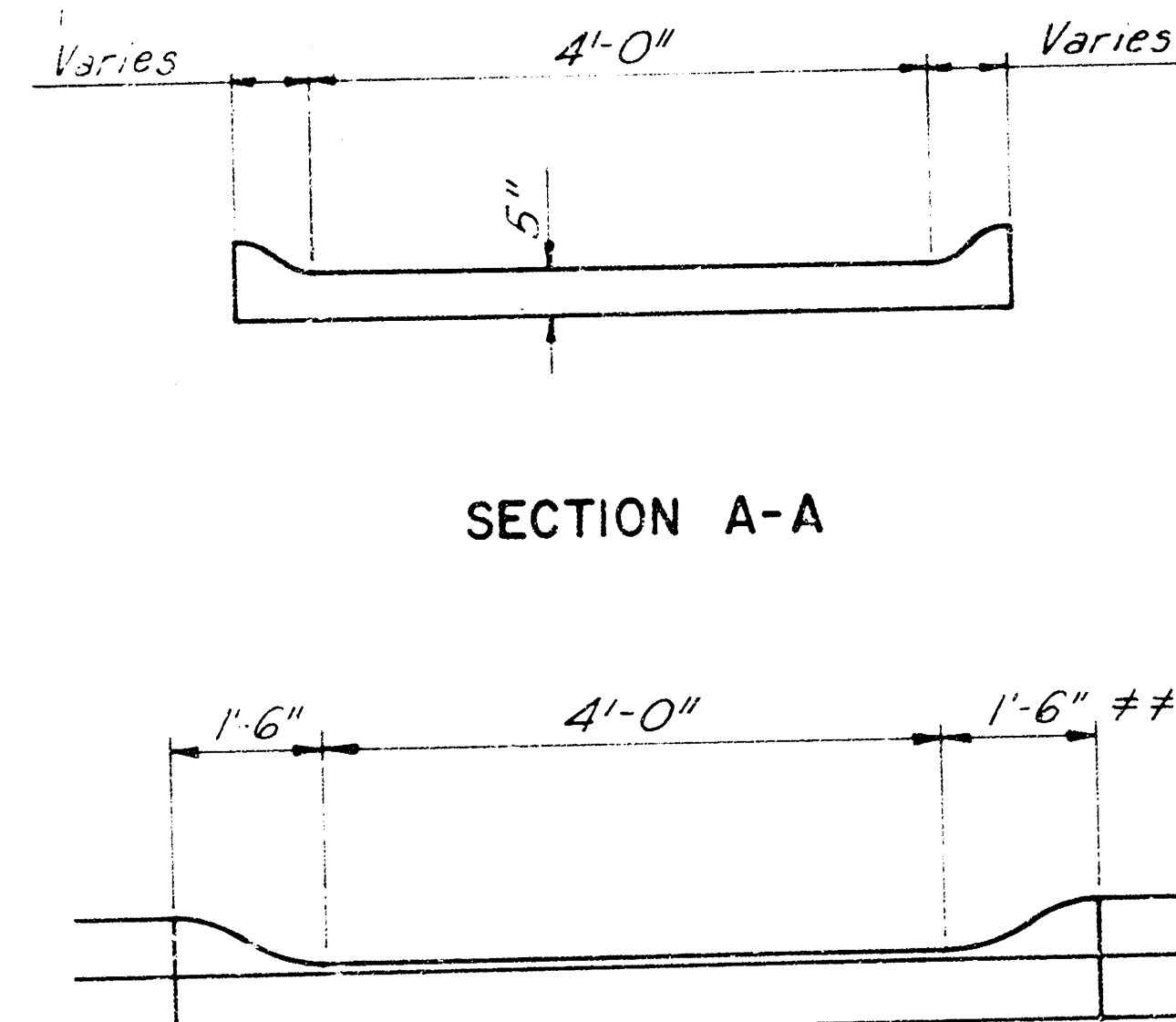
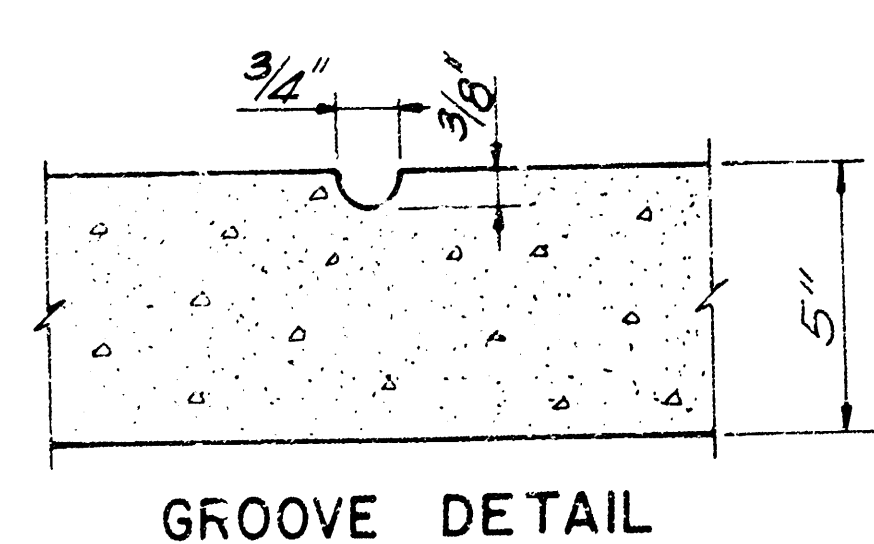
PROJECT NO.	SHEET NO.	TOTAL SHEETS
DAKB 576042	3	17



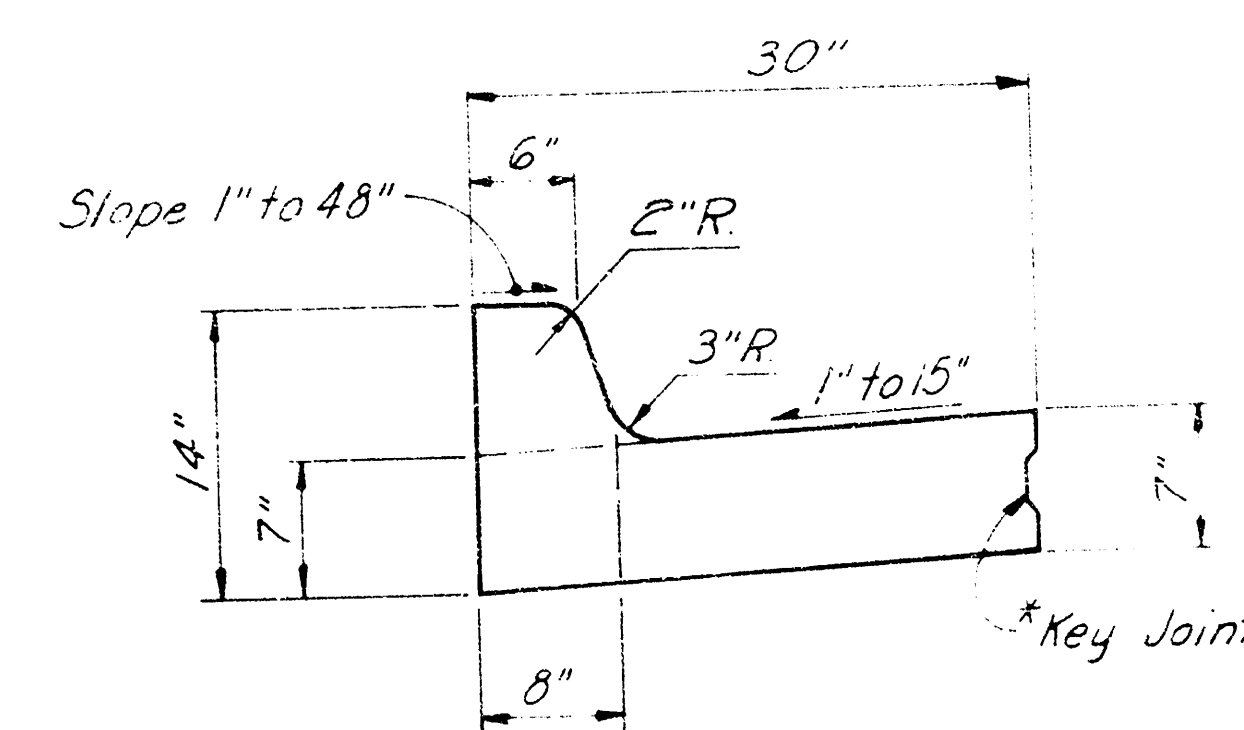
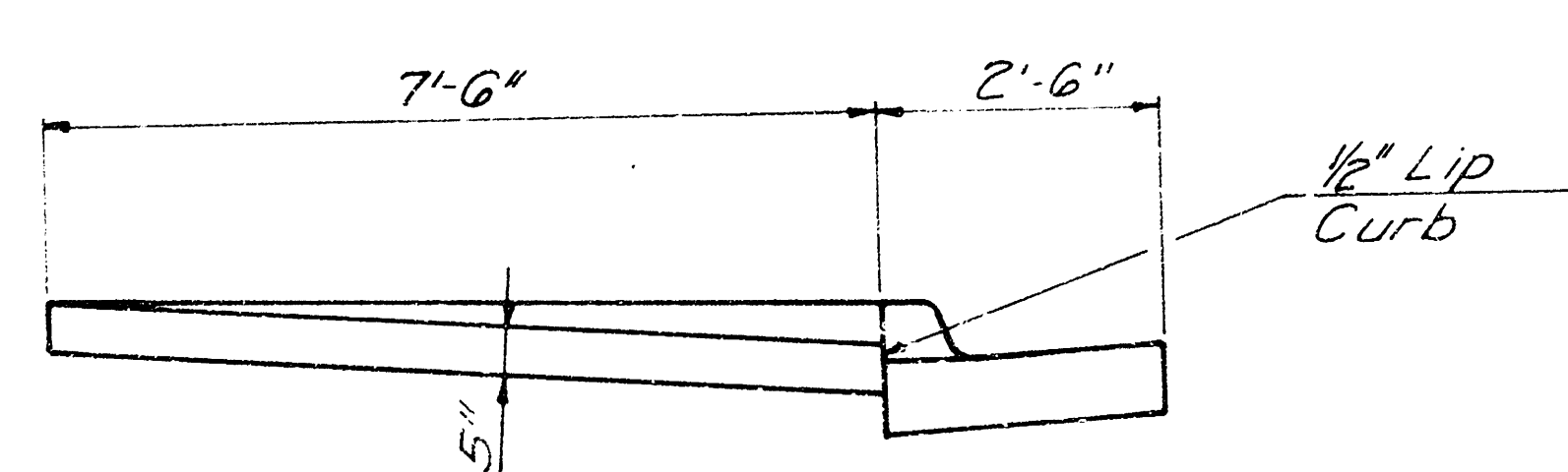
NORTH BRIDGE APPROACH
PAVING & SIDEWALK DETAILS



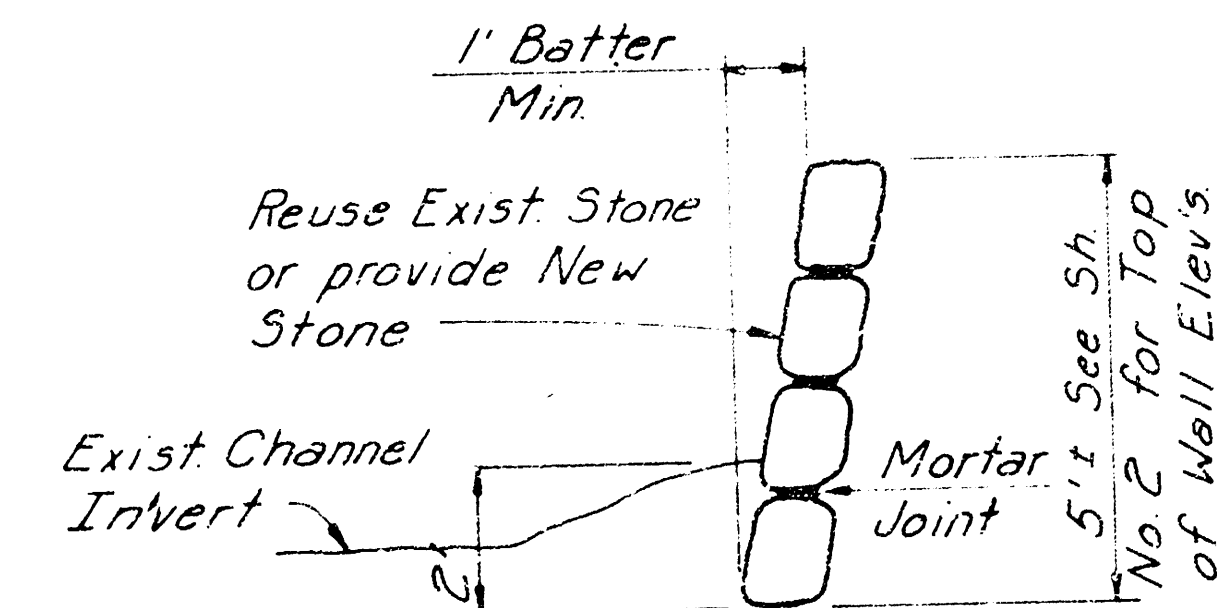
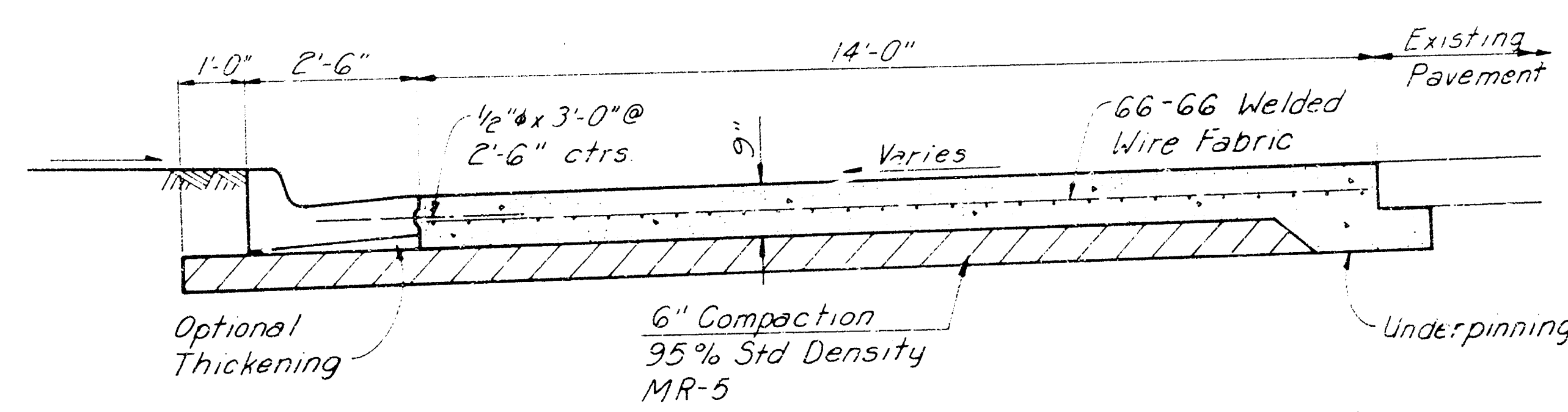
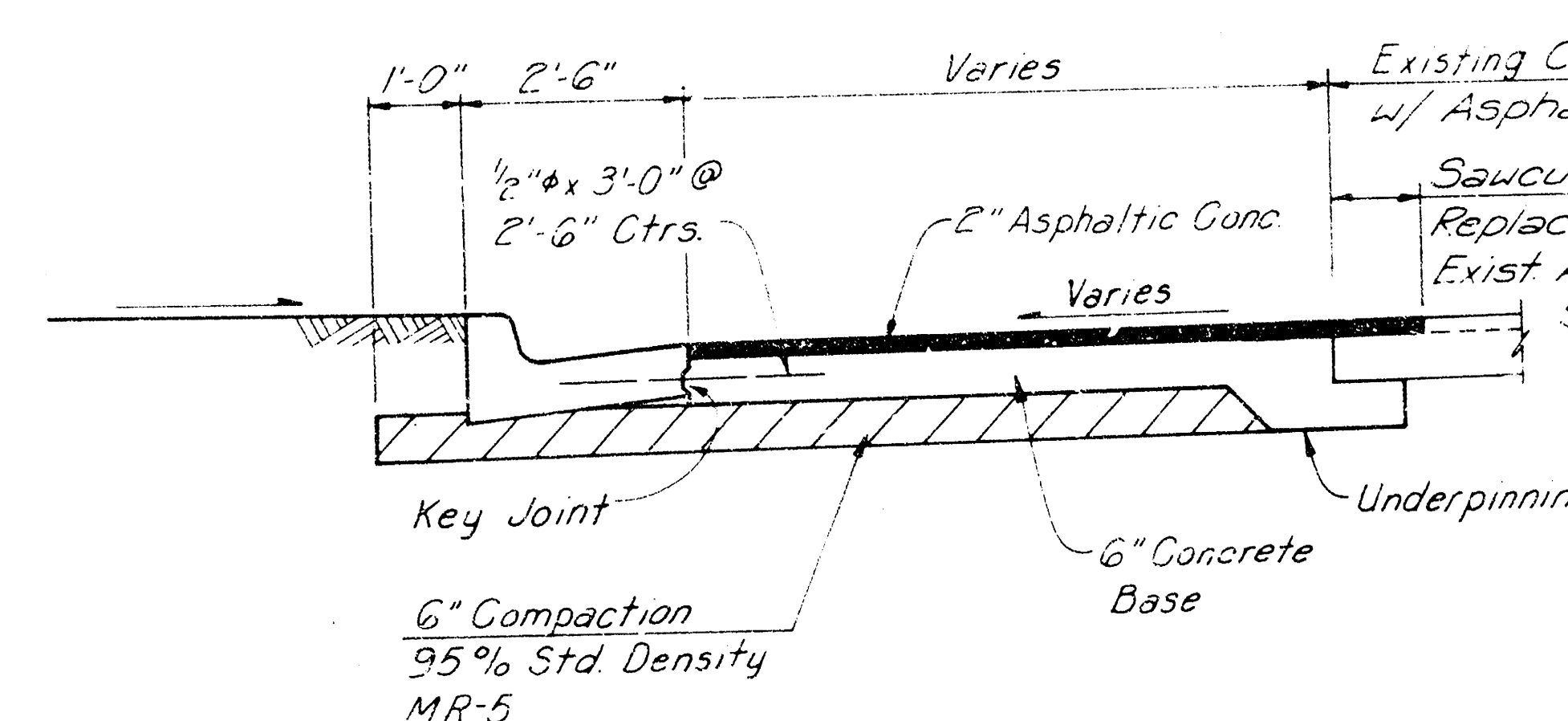
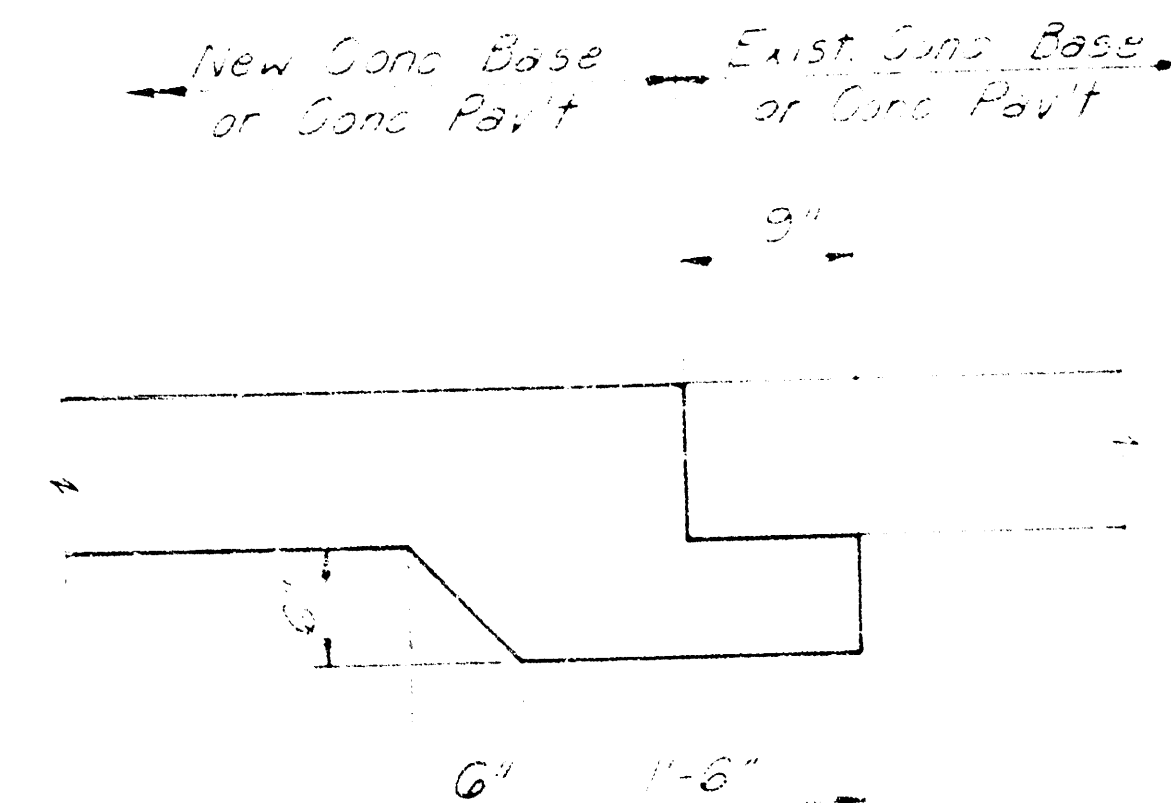
SIDEWALK RAMP DETAILS



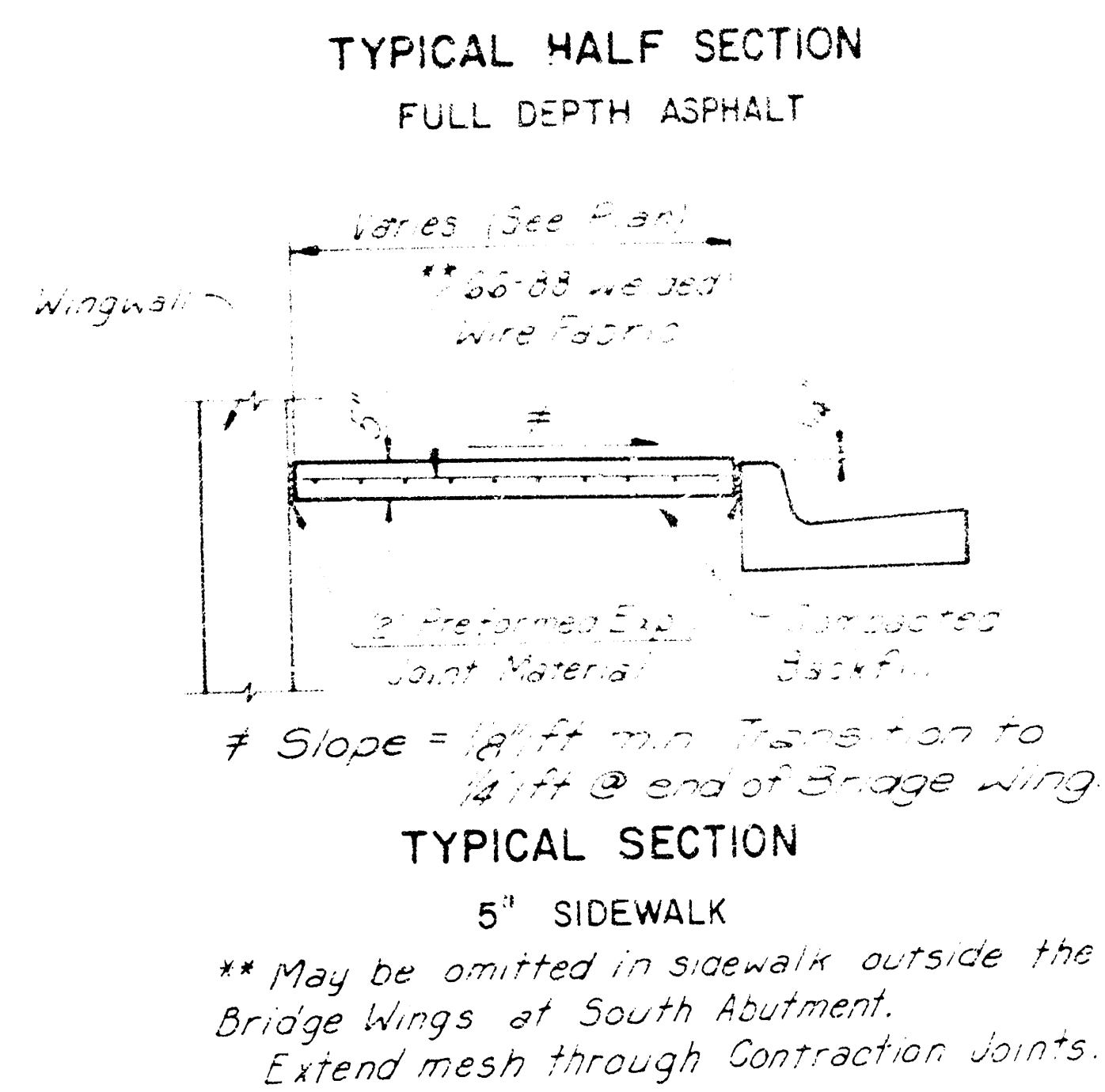
8' for Ramps @ N. Abut.
See detail this sheet



* Omit where Curb & Gutter
abuts full depth Asphalt
Pavement



Note: New stone shall be comparable
in size and shape to the
existing stone and shall be
as approved by the Engineer.

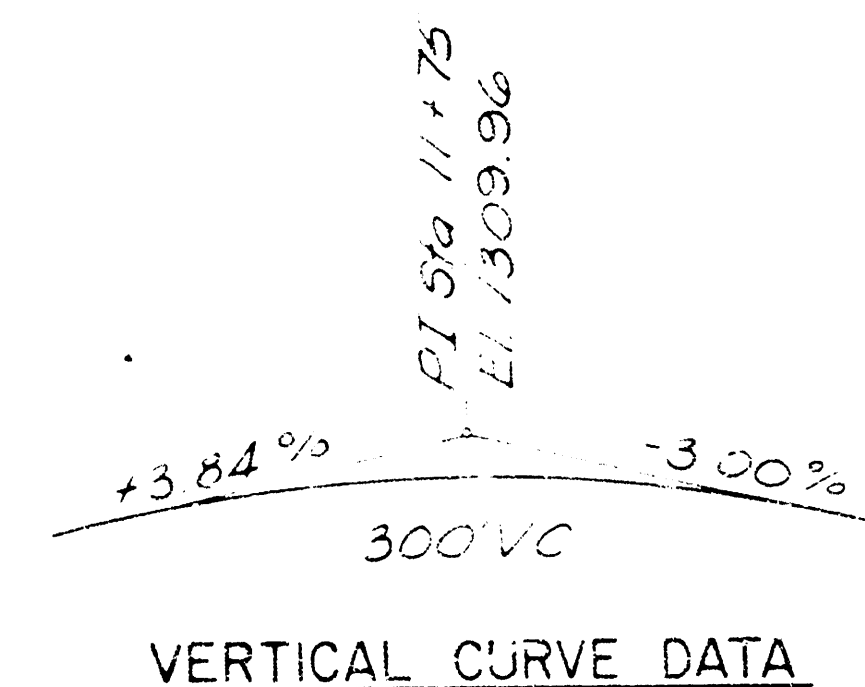


CITY OF WICHITA KANSAS
RW LINN, P.E. CITY ENGINEER
SURFACING DETAILS
WOODMAN BRIDGE
OVER THE LITTLE ARKANSAS RIVER
CITY OF WICHITA PROJECT NO. DAKB 576042
PROFESSIONAL ENGINEERING CONSULTANTS, P.A.
ENGINEERS
WICHITA, KANSAS

Designed by: _____
Drawn by: _____
Checked by: _____
Date: _____

3M*2 RR Spike in E Side of N Pole of
Dbl. Transformer & Power Pole Sta
14+42.2 Rt. (Ground Level) E1 13061025

Figure 1: Evolution of the number of nodes in the network. The plots show that the number of nodes increases over time, and the rate of increase is higher for larger networks.



LOADING: HS 20-44 AASHTO Specifications Edition of 1973.

UNIT STRESSES: $f_c = 4000 \text{ psi}$ $f_s = 6000 \text{ psi}$,
 $f_s = 20000 \text{ psi}$

EMBANKMENT: The Contractor shall complete the embankment after the abutments have been constructed.

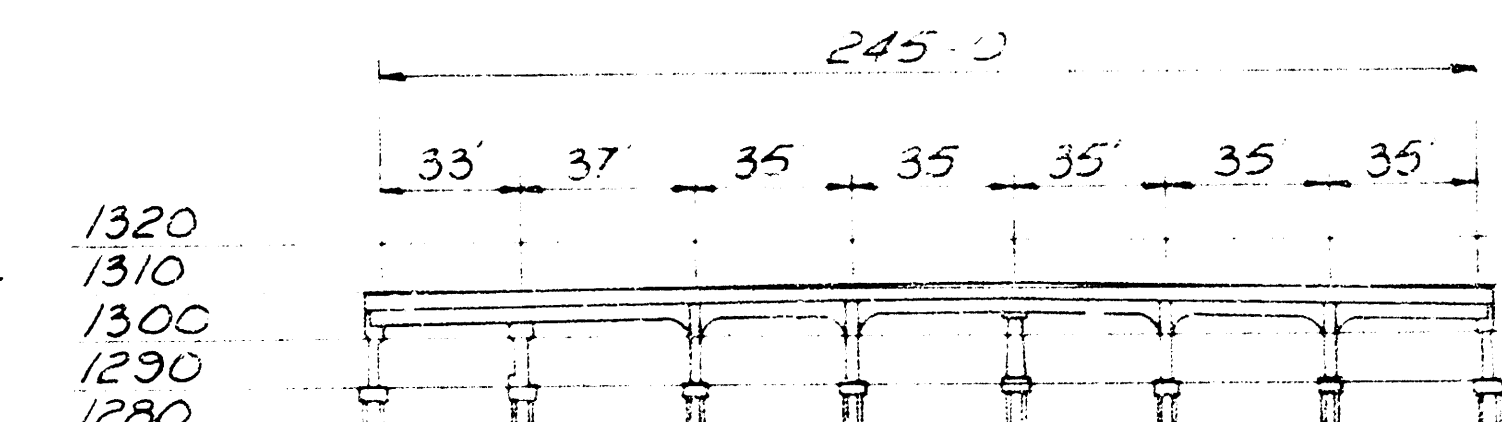
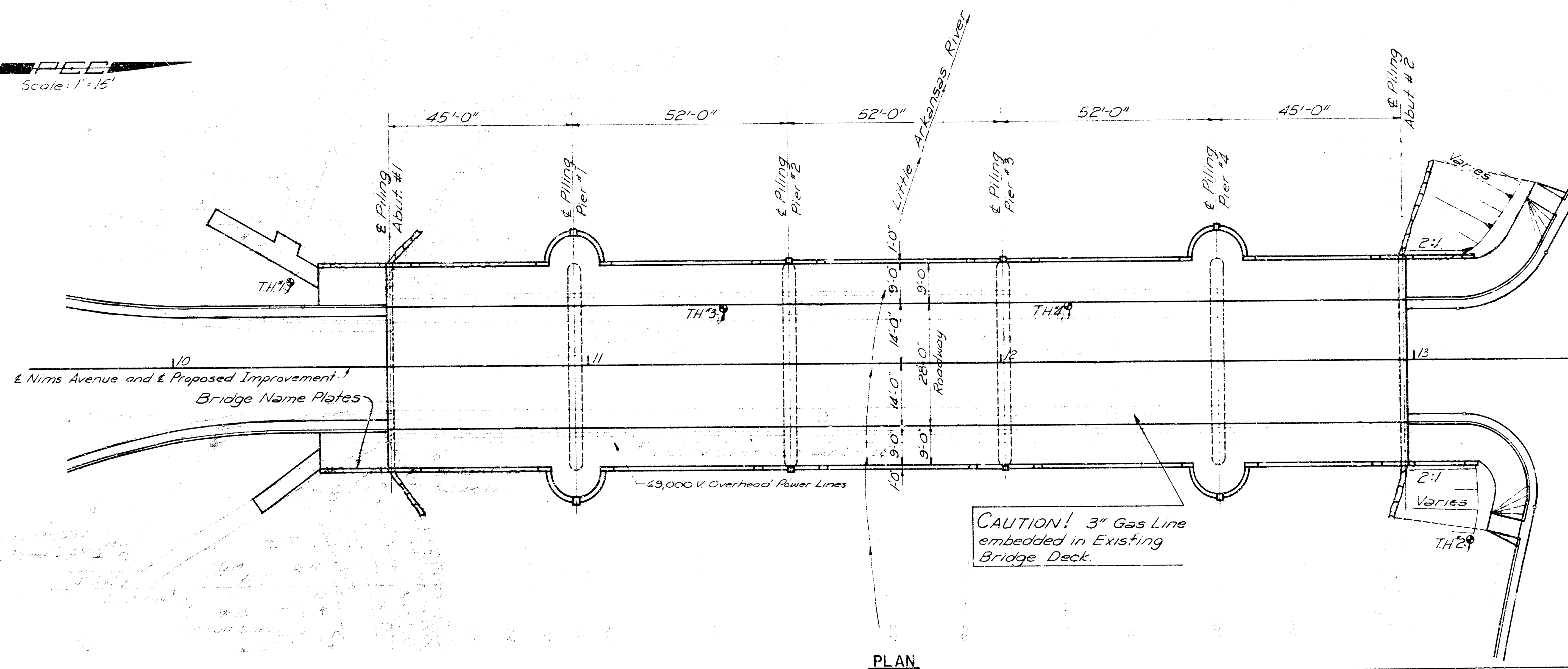
BRIDGE EXCAVATION: Elevation 296.6 shall designate the Excavation Boundary Plans of Class I and II Excavation Class I Above the Flume, Class II below See Bridge Excavation sheet for limits of pay excavation.

SOUNDINGS: The soundings shown on these plans are taken from notes obtained in the field and represent the best information to the City of Wichita Kansas. The logs of these soundings are available for review by prospective bidders at the office of the City Engineer, at the Consulting Engineers Office, 1440 E. English or at Allied Laboratories 203 South Ellis.

PILES: All piles shall be driven to a penetration into shale unless in the opinion of the Engineer such penetration cannot be obtained without injury to the pile. All piles shall be driven to a minimum composite bearing value as follows:
Abutment Wing Footings 35 Tons/Pile
Abutment Frontwall 48 Tons/Pile
Piers 51 Tons/Pile

REMOVAL OF EXISTING STRUCTURE: The Contractor shall remove the existing structure at 7th & 35th Concrete T-beam spans, concrete abutments and piers, or in construction of the new bridge. Existing piles shall be removed to a minimum elevation of 1285.00.

PEC
Scale: 1"=15'



EXISTING BRIDGE

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

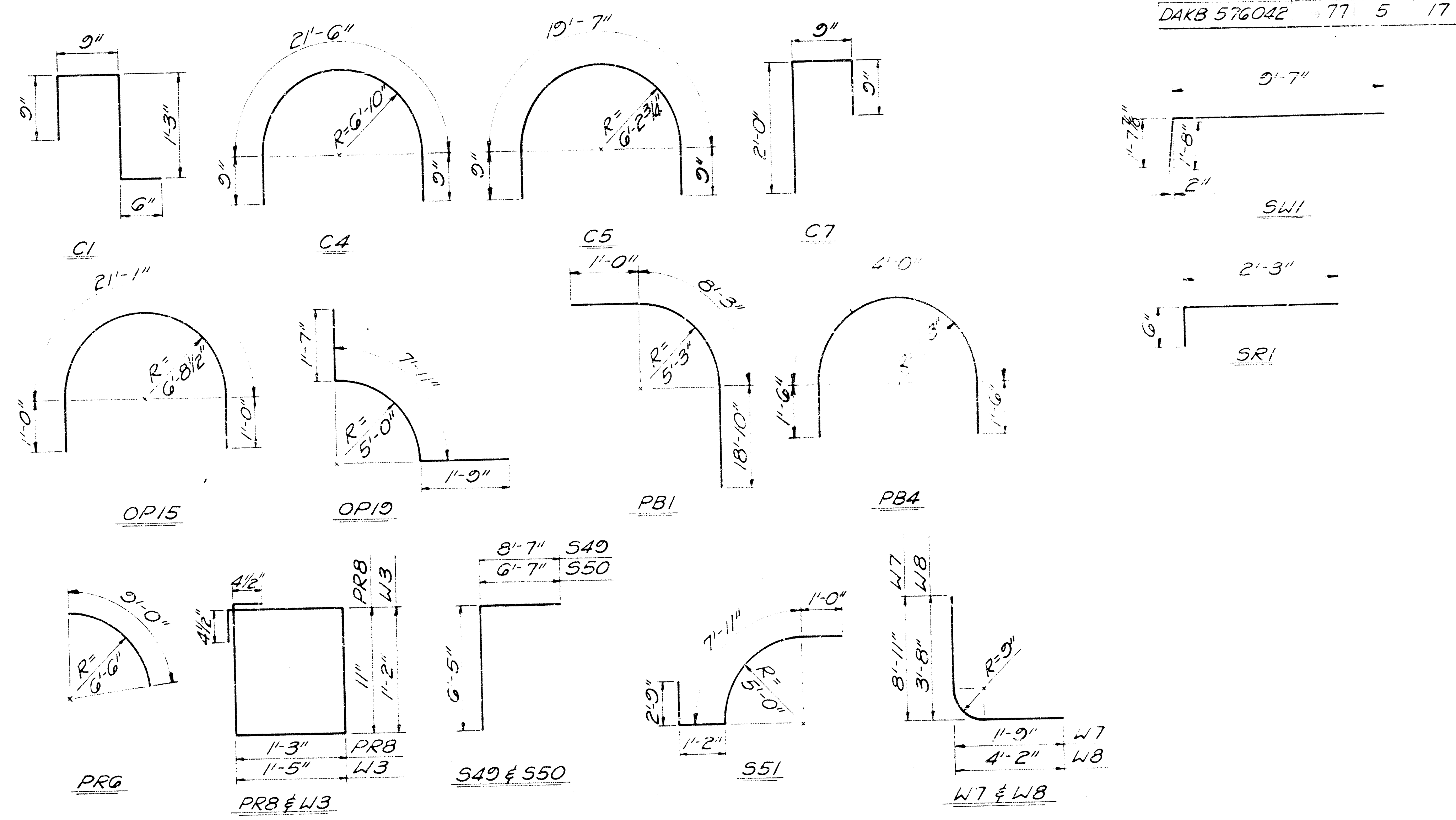
CONSTRUCTION LAYOUT
WOODMAN BRIDGE
OVER THE LITTLE ARKANSAS RIVER
CITY OF WICHITA PROJECT NO. DAKB 576042

PROFESSIONAL ENGINEERING CONSULTANTS, P.A.
ENGINEERS
WICHITA, KANSAS

Designed by	Checked by
Drawn by	Date

REINFORCING STEEL											
STRAIGHT BARS			STRAIGHT BARS			STRAIGHT BARS			BENT BARS		
Mark	No	Size Length	Mark	No	Size Length	Mark	No	Size Length	Mark	No	Size Length
A1	88	#8 14'-11"	PR1	24	#4 16'-11"	S35	12	#6 53'-0"	C1	528	#4 3'-3"
A2	88	#6 14'-11"	PR2	584	#4 4'-0"	S36	28	#8 31'-0"	C4	8	#6 23'-0"
A3	44	#4 43'-8"	PR3	48	#4 7'-11"	S37	16	#7 31'-0"	C5	4	#6 21'-11"
			PR4	24	#4 7'-8"	S38	42	#8 27'-0"	C7	68	#5 3'-6"
			PR5	48	#4 2'-8"	S39	16	#6 27'-0"			
AD1	76	#8 3'-0"	PR7	48	#6 4'-0"	S40	48	#8 21'-0"	FI	102	* *
						S41	12	#6 21'-0"			
						S42	44	#4 22'-0"			
AF1	10	#6 44'-8"	S1	52	#4 25'-6"	S43	16	#9 53'-0"	OP15	4	#4 23'-11"
AF2	60	#4 2'-2"	S2	28	#5 30'-3"	S44	6	#7 53'-0"	OP19	8	#4 11'-3"
			S3	32	#10 49'-0"	S45	14	#9 32'-0"			
			S4	28	#10 35'-6"	S46	8	#7 32'-0"			
C2	8	#6 39'-3"	S5	28	#10 28'-0"	S47	8	#7 27'-0"	PB1	626	#9 28'-11"
C3	16	#6 36'-8"	S6	32	#10 22'-0"	S48	6	#7 21'-0"	PB4	136	#5 7'-0"
C6	8	#5 16'-11"	S7	28	#5 17'-6"	SR2	2	#4 29'-8"			
			S8	32	#10 48'-6"						
			S9	28	#10 35'-0"	T1	114	#4 30'-0"	PR6	48	#4 9'-0"
OP1	56	#5 *	S10	28	#9 28'-0"	T2	228	#5 43'-8"	PR8	24	#4 5'-11"
OP2	20	#7 8'-3"	S11	32	#9 23'-6"						
OP3	8	#5 13'-5"	S12	14	#5 20'-6"	TR1	176	#7 9'-4"	S49	44	#6 15'-0"
OP4	4	#5 13'-0"	S13	26	#4 7'-0"	TR2	368	#7 2'-9"	S50	44	#6 13'-0"
OP5	4	#5 12'-5"	S14	20	#4 30'-0"	TR3	88	#7 *	S51	84	#5 12'-10"
OP6	4	#5 11'-7"	S15	20	#9 49'-0"	TR4	16	#7 16'-7"	SR1	60	#4 2'-9"
OP7	4	#5 10'-6"	S16	20	#8 35'-6"				SW1	426	#4 11'-3"
OP8	4	#5 9'-11"	S17	20	#8 28'-0"	W1	12	#7 20'-3"	W3	56	#4 5'-11"
OP9	4	#5 7'-2"	S18	20	#8 22'-0"	W2	4	#7 19'-0"	W7	64	#9 10'-5"
OP10	4	#4 8'-10"	S19	20	#4 17'-0"	W4	68	#9 17'-9"	W8	68	#9 7'-7"
OP11	4	#4 11'-4"	S20	20	#8 48'-6"	W5	44	#4 17'-9"			
OP12	4	#4 12'-9"	S21	20	#8 35'-0"	W6	104	#4 17'-8"			
OP13	4	#4 13'-3"	S22	20	#7 23'-6"						
OP14	32	#4 *	S23	20	#7 20'-0"	W1F1	44	#4 7'-0"			
OP16	8	#4 1'-9"	S24	10	#4 20'-0"	W1F2	32	#6 10'-2"			
OP17	8	#4 2'-4"	S25	32	#10 46'-0"	W1F3	48	#7 16'-11"			
OP18	8	#4 4'-0"	S26	12	#8 46'-0"	W1F4	12	#4 16'-11"			
OP20	24	#4 *	S27	28	#10 29'-6"						
			S28	16	#8 29'-6"						
			S29	28	#10 35'-0"						
PB2	48	#9 25'-3"	S30	16	#8 35'-0"						
PB3	104	#5 44'-0"	S31	32	#9 22'-6"						
PB5	24	#9 24'-0"	S32	12	#8 22'-6"						
			S33	44	#4 23'-6"						
			S34	32	#8 53'-0"						

* See Bending Diagrams

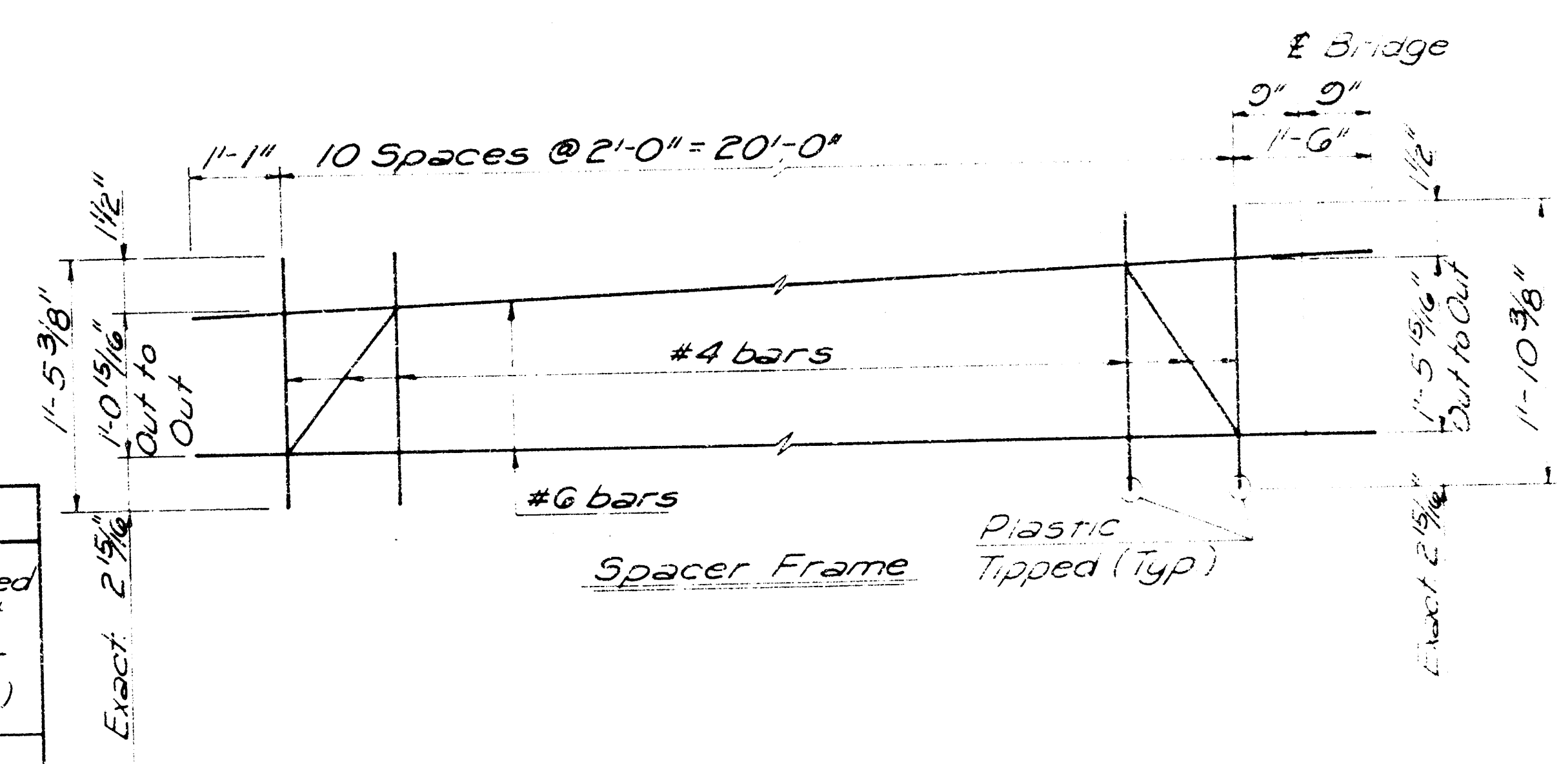


Increase from 1'-9" to 2'-7"
by 1" Increments (8 Each Length) TR3
Increase from 1'-6" to 4'-0"
by 1'-3" Increments (8 Each Length) OP20
Increase from 5'-9" to 7'-9"
by 8" Increments (8 Each Length) OP14
Increase from 5'-0" to 8'-9"
by 7/8" Increments (8 Each Length) OPI
TR3, OP20, OP14 & OPI

SUMMARY OF QUANTITIES														
Item	Excavation (Cu Yds.)		Class I Concrete (Cu Yds.)	1/4" Latex Surface Course (Sq Yds.)	Reinforcing Steel (Lbs.)	Concrete Piles (Lin Ft.)	Metal Handrail (Lin. Ft.)	Linseed Oil Surface Treatment (Sq Yds.)	Electric Lighting System (Lump Sum)	Removal of Existing Structure (Lump Sum)	Removal of Approach Pavement (Sq Yds.)	Roadway Pavement (Sq Yds.)	Concrete Sidewalk (Sq. Ft.)	Combined Curb & Gutter (Lin Ft.)
	Class I	Class II												
Location	150	421.2	111.8		12,315	587								
Abutment #1		215.3	979		19,575	448								
Pier #1		204.2	979		19,575	420								
Pier #2		201.2	979		19,575	420								
Pier #3		206.5	979		19,575	448								
Pier #4														
Abutment #2	125	389.3	111.9		12,315	629								
Substructure Total	275	1637.7	615.3		102,930	2952								
Superstruct. Total			1191.8	770	137,310		310.6	561			712	540	143	411
Approach														
Total	275	1637.7	1807.1	770	240,240	* 2952	310.6	561	Lump Sum	Lump Sum	712	540	1430	411
* Includes 7 @ 25', 7 @ 27', 6 @ 28',														

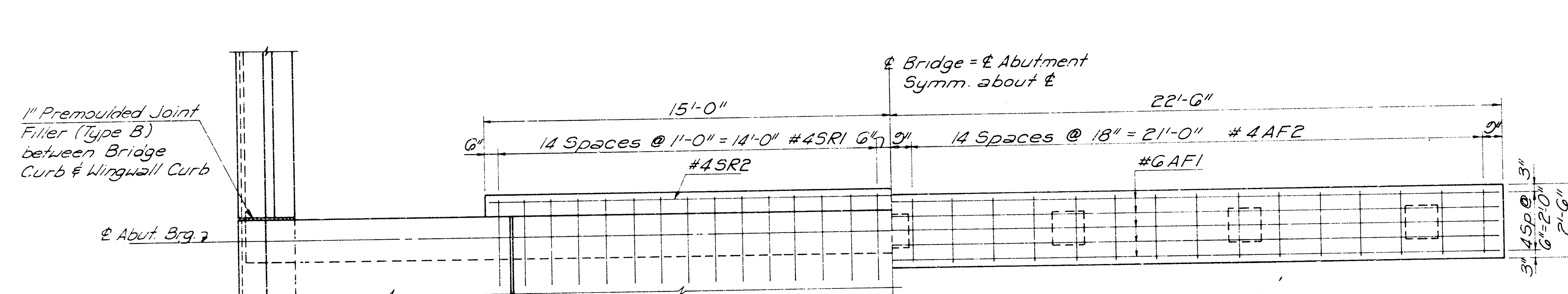
NOTE: Only one of the following types of Piles shall be used on this structure: Pipe 12 3/4" or Prestressed 14".

* Includes 7 @ 25', 7 @ 27', 6 @ 28', 14 @ 30' and 10 @ 32'



BENDING DIAGRAMS
(All dimensions are out to out of bars)

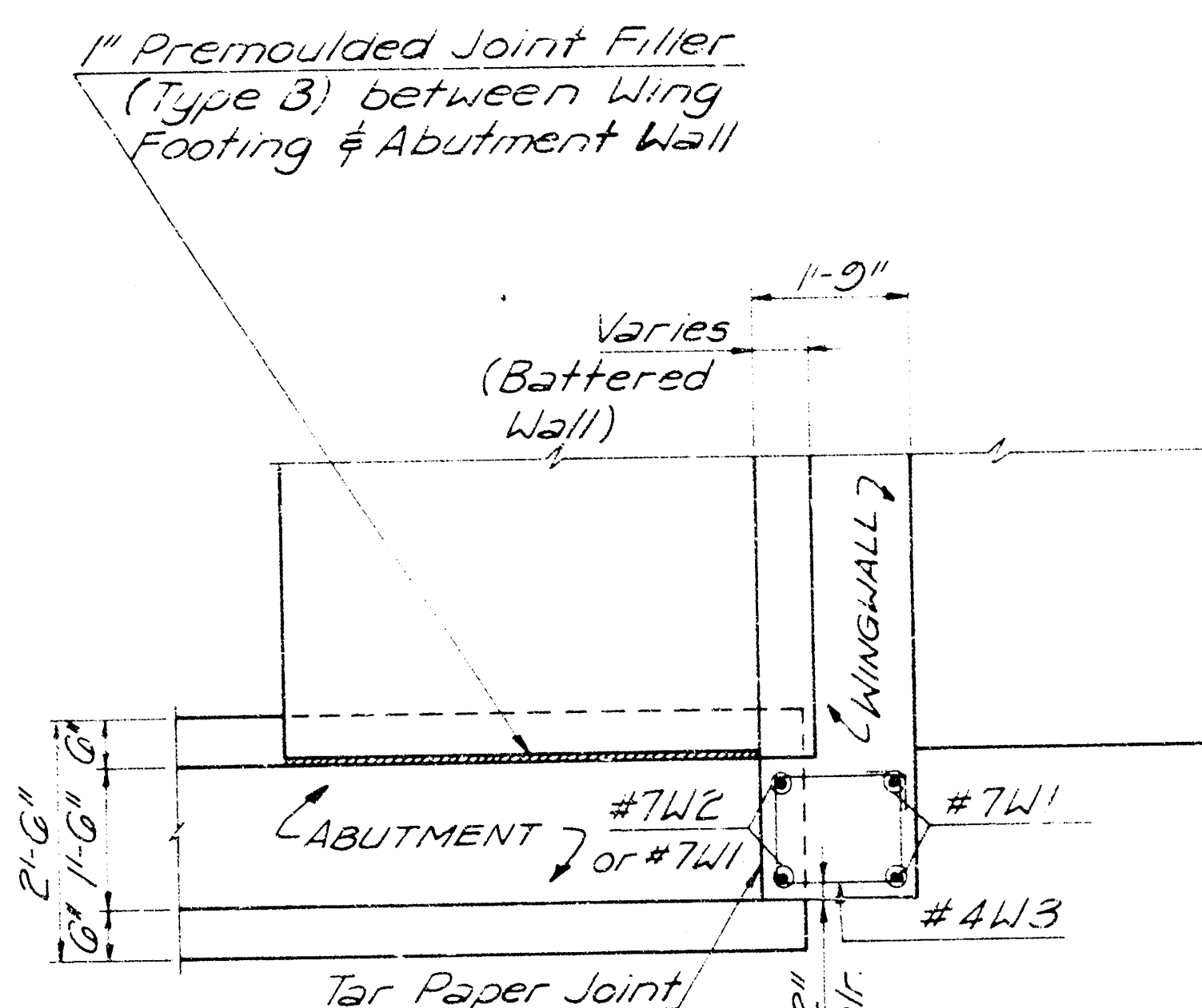
CITY OF WICHITA, KANSAS R.W. JENN, PE CITY ENGINEER	
SUMMARY OF QUANTITIES WOODMAN BRIDGE OVER THE LITTLE ARKANSAS RIVER CITY OF WICHITA PROJECT NO. DAKB 576042	
PROFESSIONAL ENGINEERING CONSULTANTS, P.A. 510 WEARS WICHITA, KANSAS	
Designed by	Checked by
Drawn by	Date



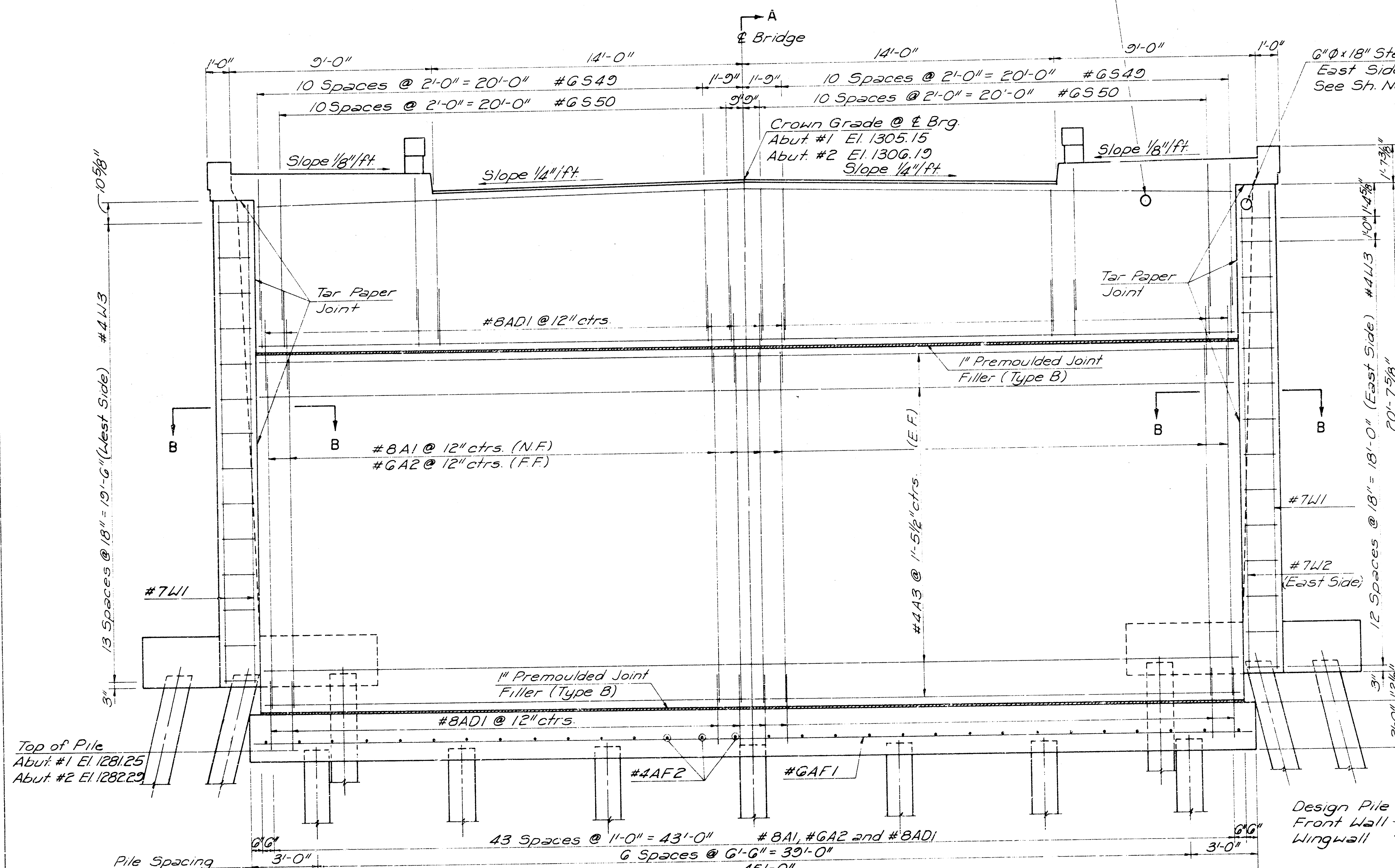
NOTE: (E.F.) = Each Face
(F.F.) = Far Face
(N.F.) = Near Face

HALF PLAN

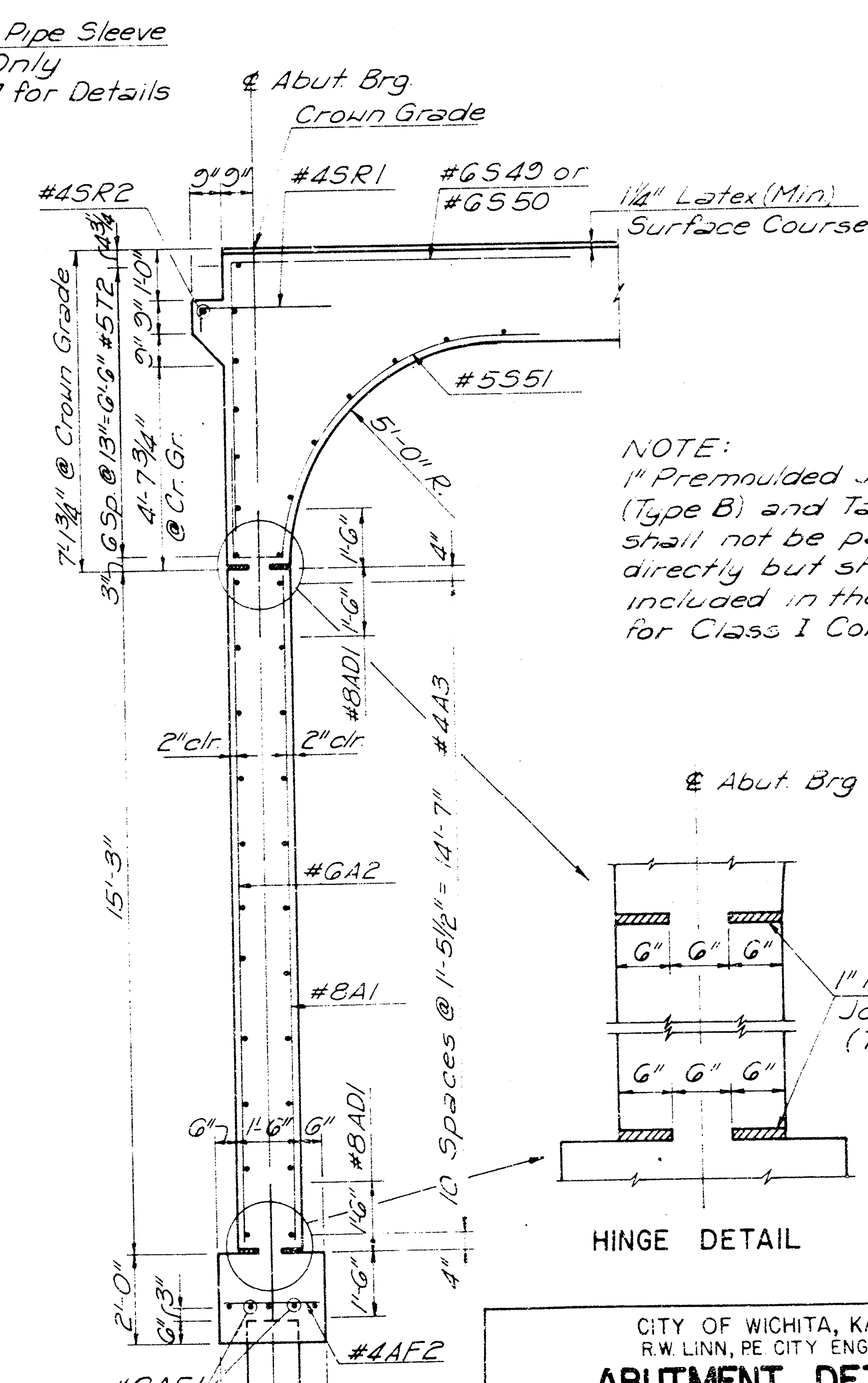
HALF FOOTING PLAN



SECTION B-B



ELEVATION

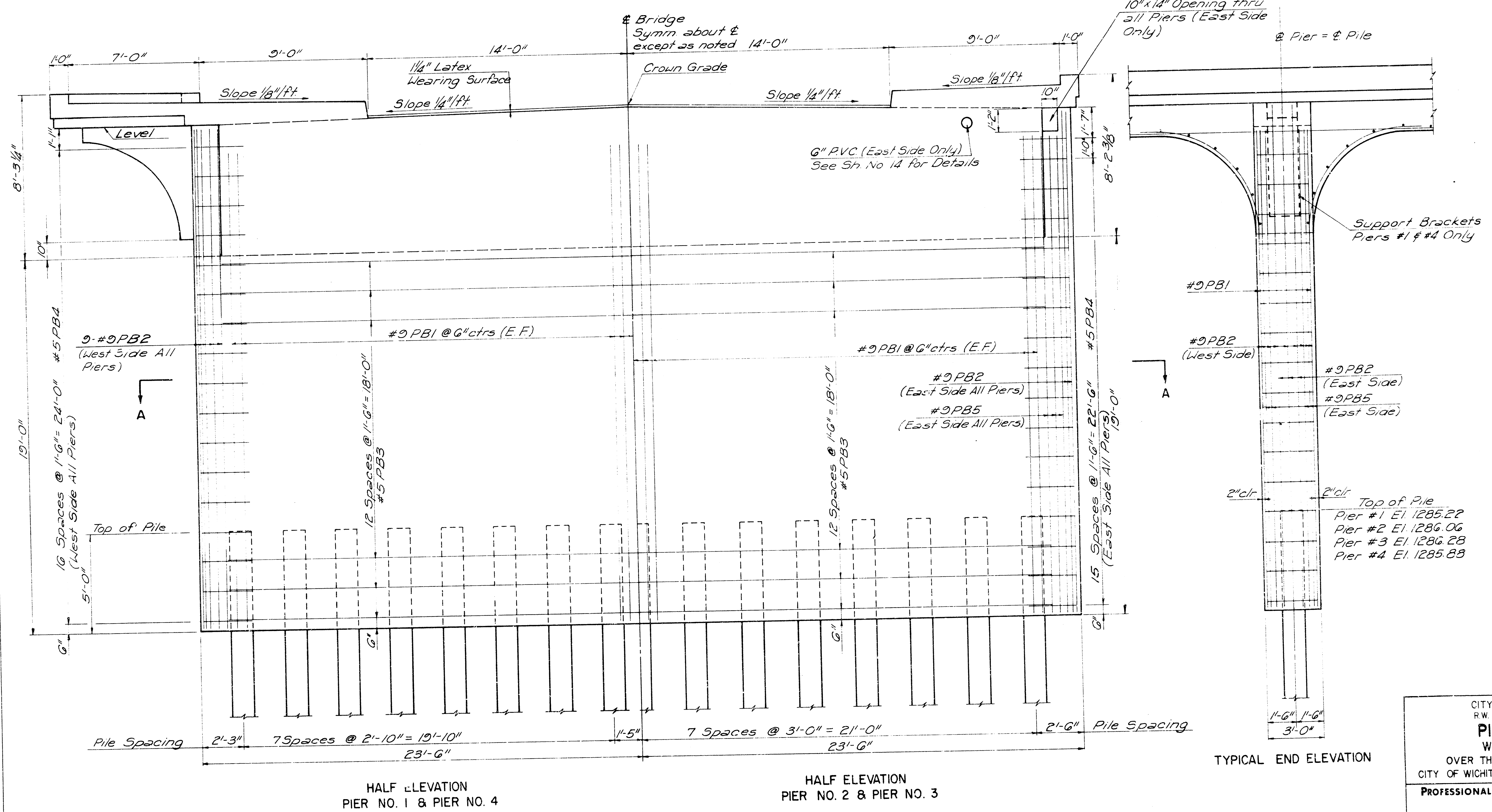
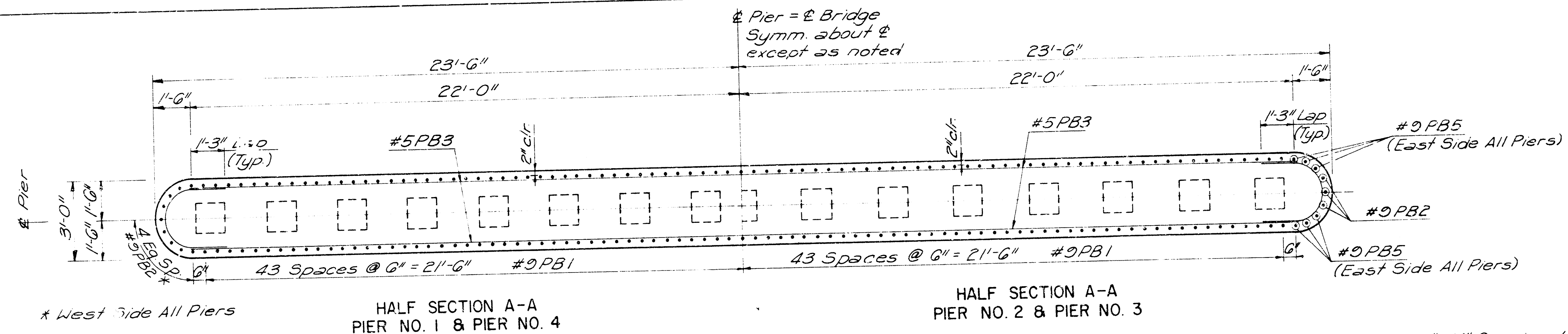


HINGE DETAIL

SECTION A-A

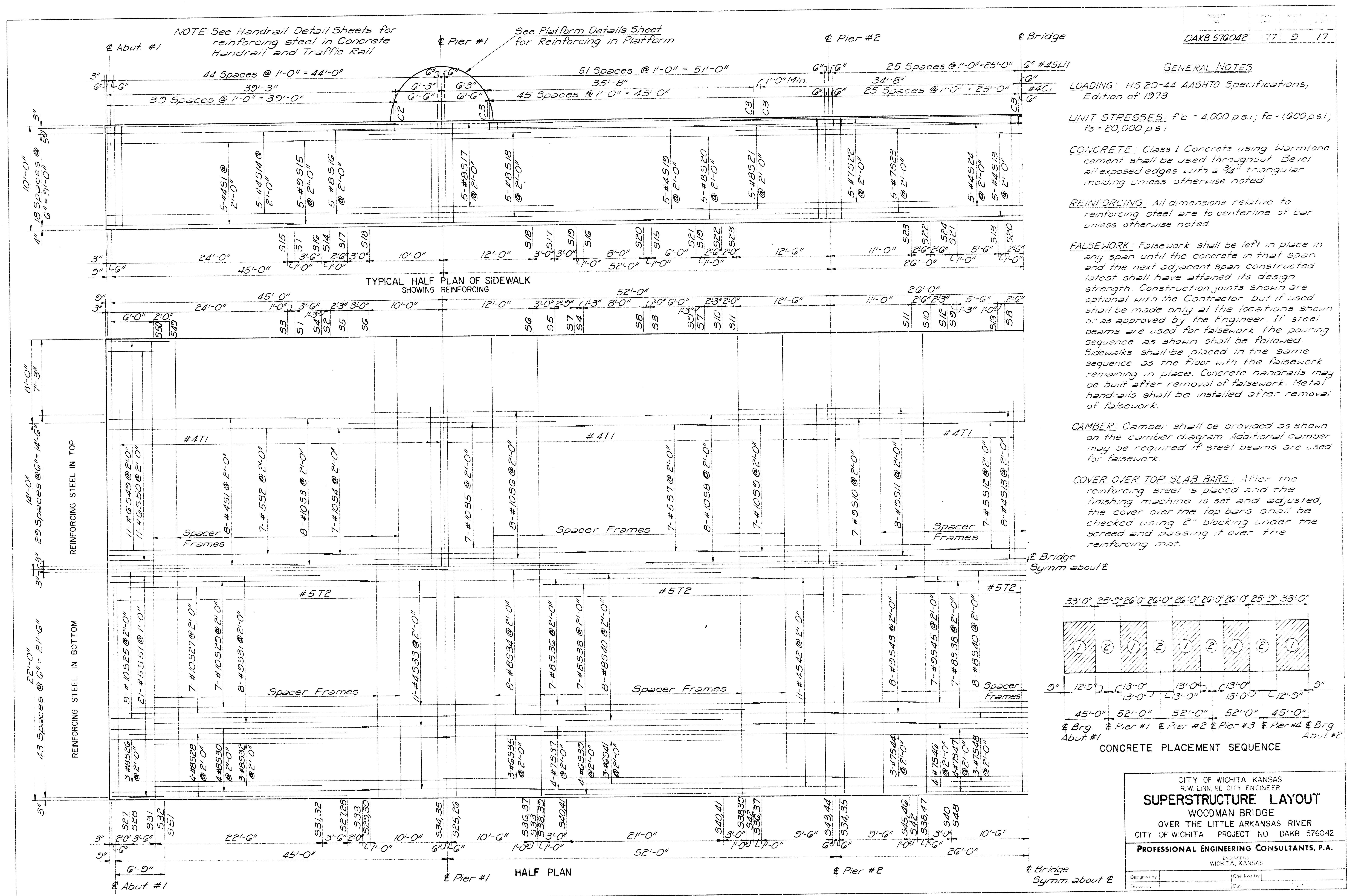
CITY OF WICHITA, KANSAS
R.W. LINN, PE CITY ENGINEER
ABUTMENT DETAILS
WOODMAN BRIDGE
OVER THE LITTLE ARKANSAS RIVER
CITY OF WICHITA PROJECT NO. DAKB 576042
PROFESSIONAL ENGINEERING CONSULTANTS, P.A.
ENGINEERS
WICHITA, KANSAS

Designed by _____
Checked by _____
Drawn by _____
Date _____

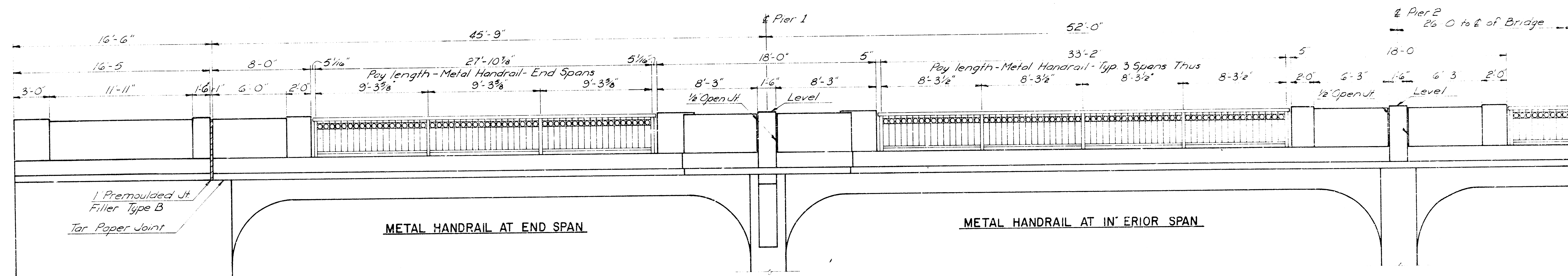


TYPICAL END ELEVATION

CITY OF WICHITA KANSAS
R.W. LINN, P.E. CITY ENGINEER
PIER DETAILS
WOODMAN BRIDGE
OVER THE LITTLE ARKANSAS RIVER
CITY OF WICHITA PROJECT NO. DAKB 576042
DESIGNED BY: [] CHECKED BY: []
DRAWN BY: [] DATE: []



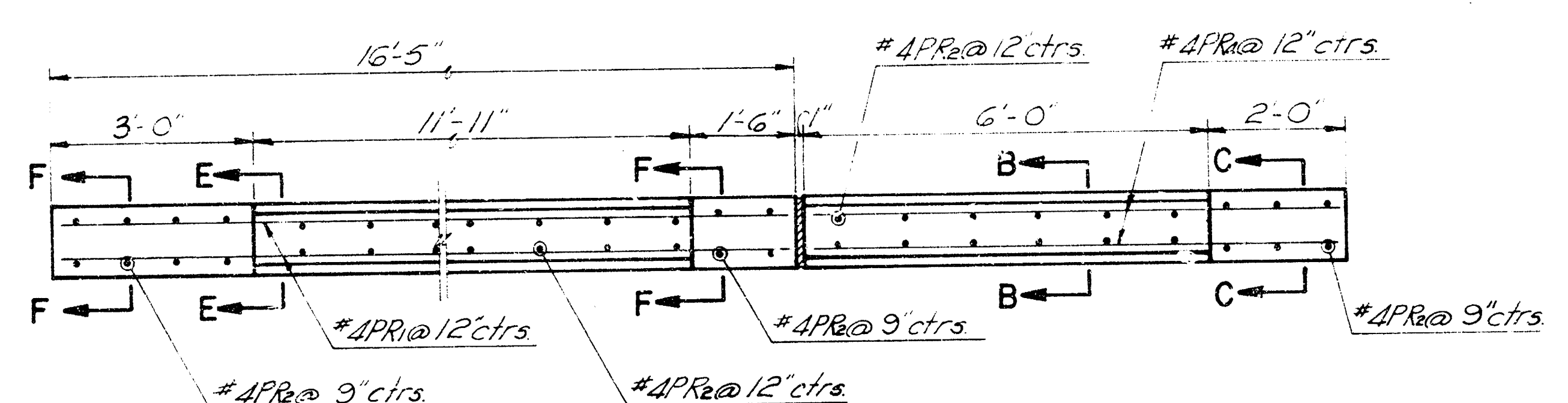
PROJECT NO.	SHEET NO.	TOTAL SHEETS
DAKB 576042	77	17



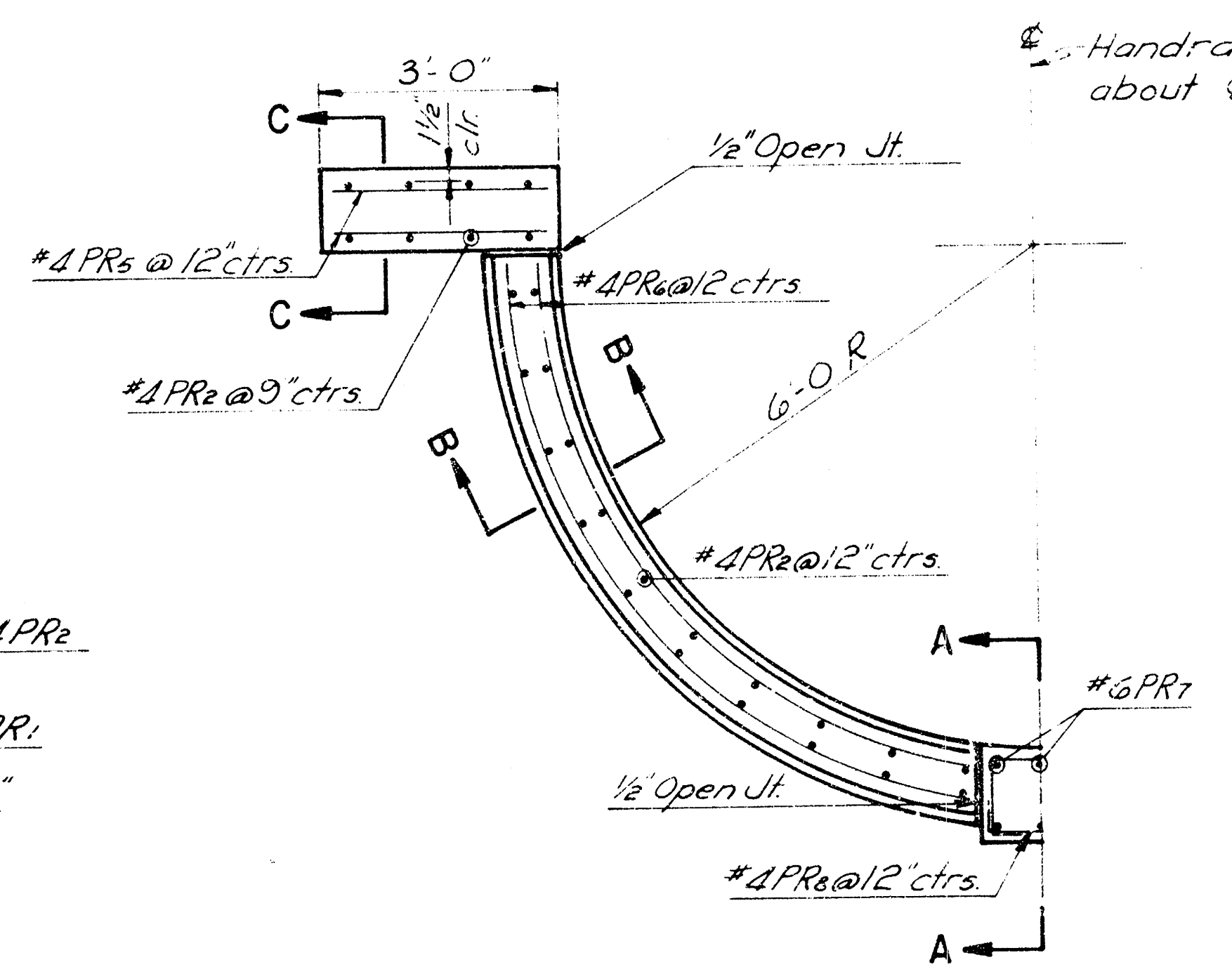
CONCRETE HANDRAIL AT ABUTMENT & WINGWALL

CONCRETE HANDRAIL AT PIER 1 & 4
ELEVATION

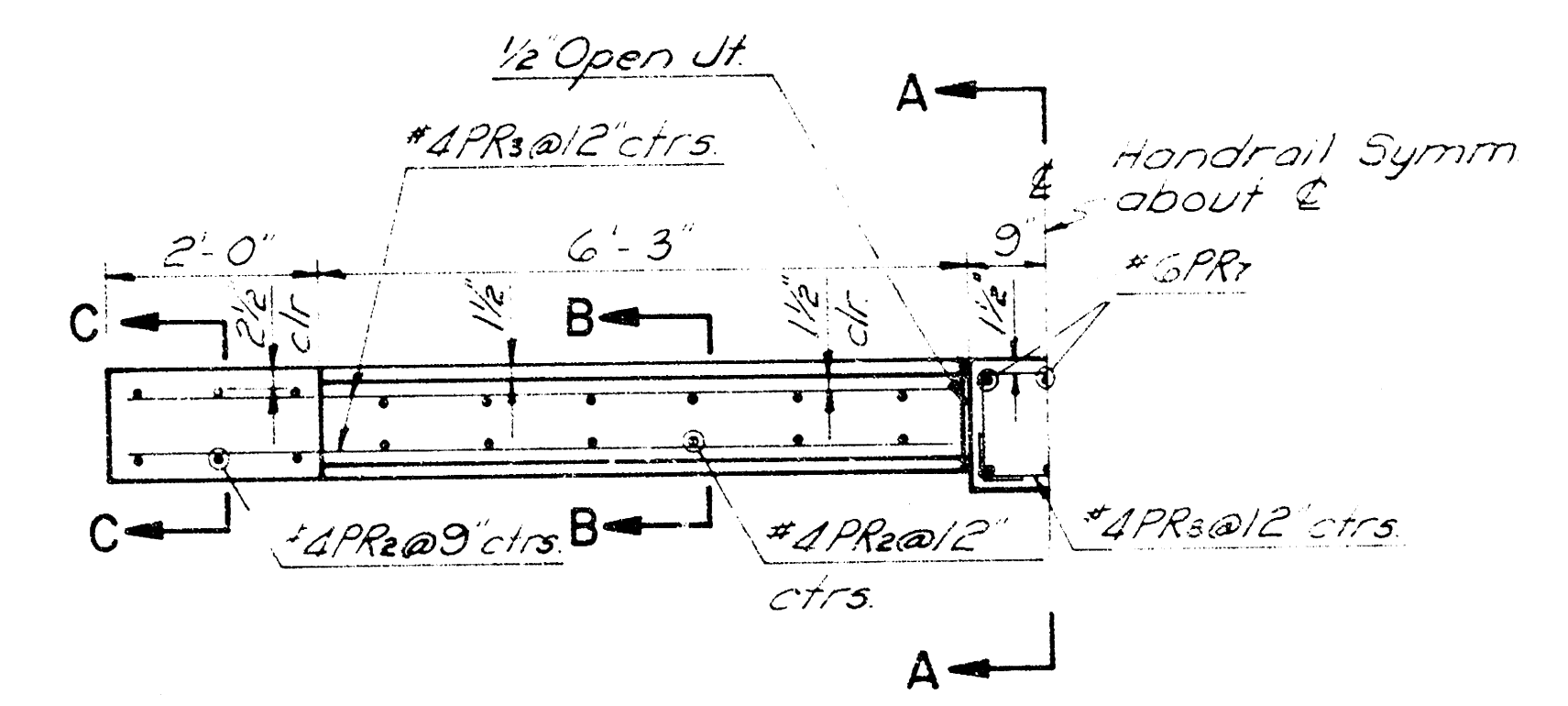
CONCRETE HANDRAIL AT PIER 2 & 3



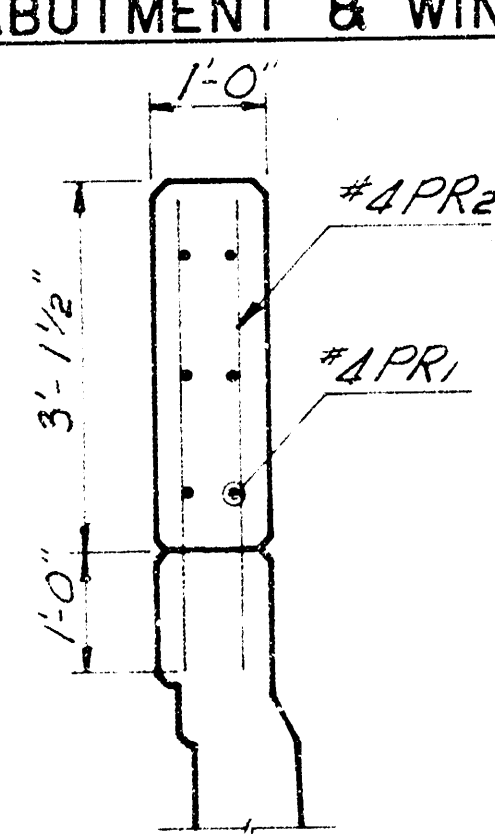
CONCRETE HANDRAIL AT ABUTMENT & WINGWALL



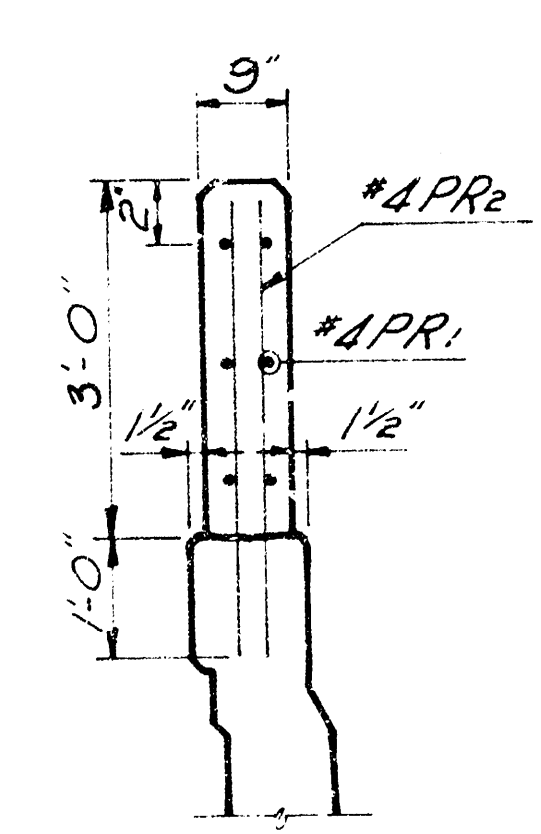
CONCRETE HANDRAIL AT PLATFORM



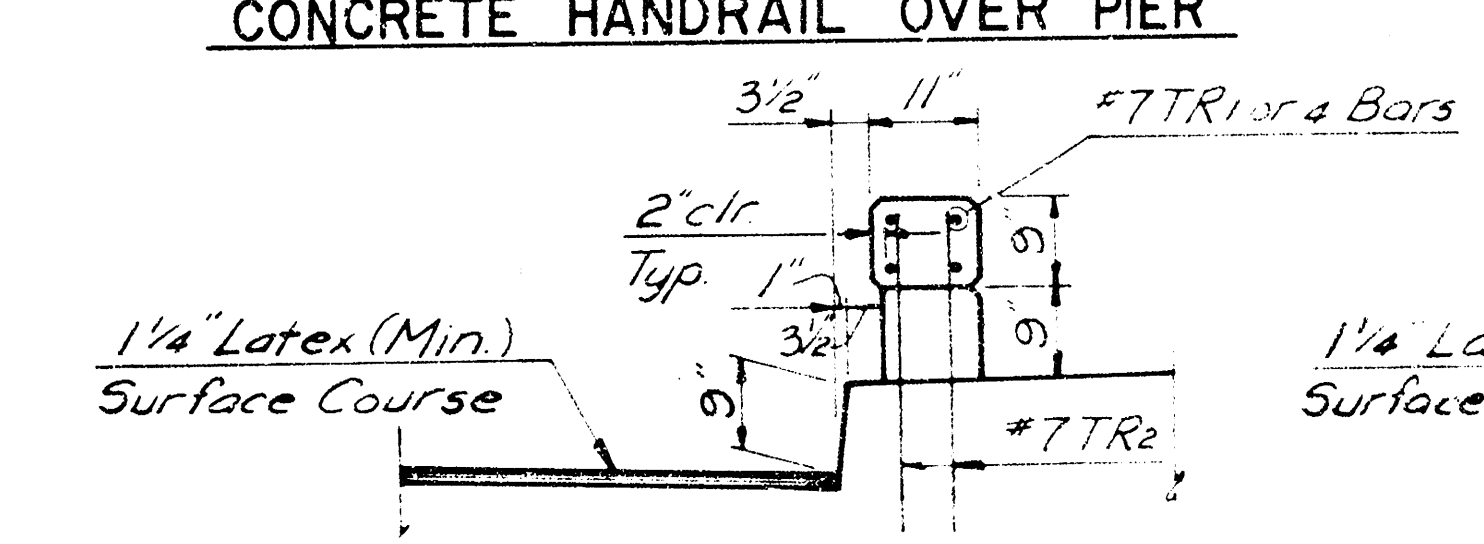
CONCRETE HANDRAIL OVER PIER



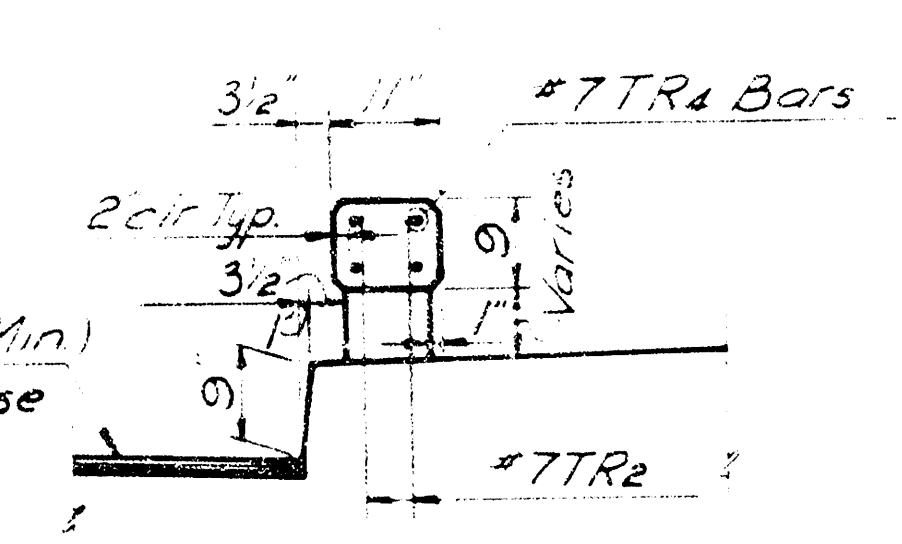
SECTION F-F



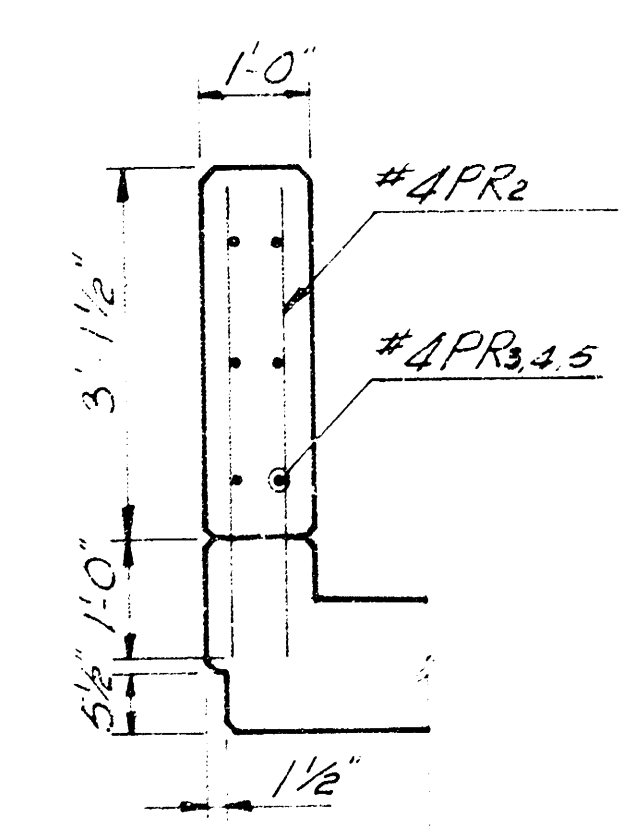
SECTION E-E



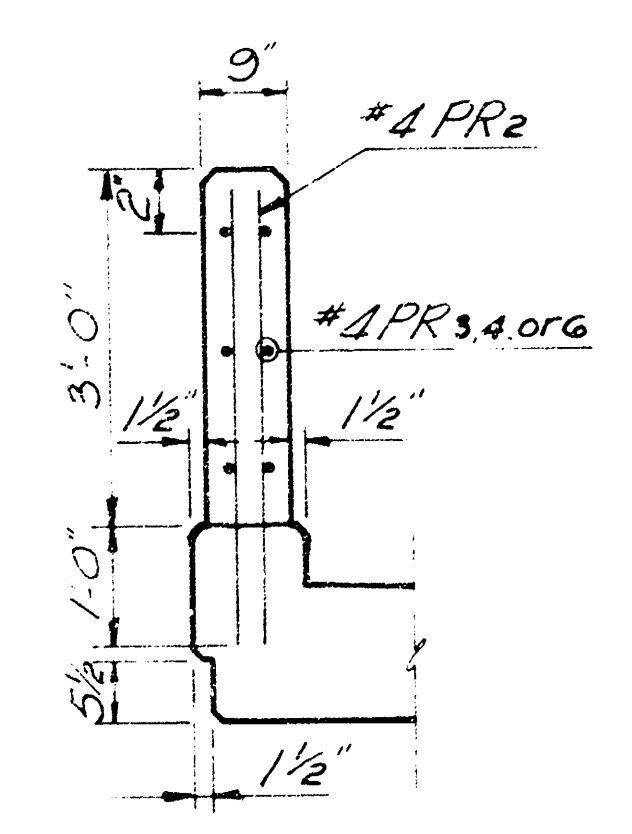
SECTION D-D



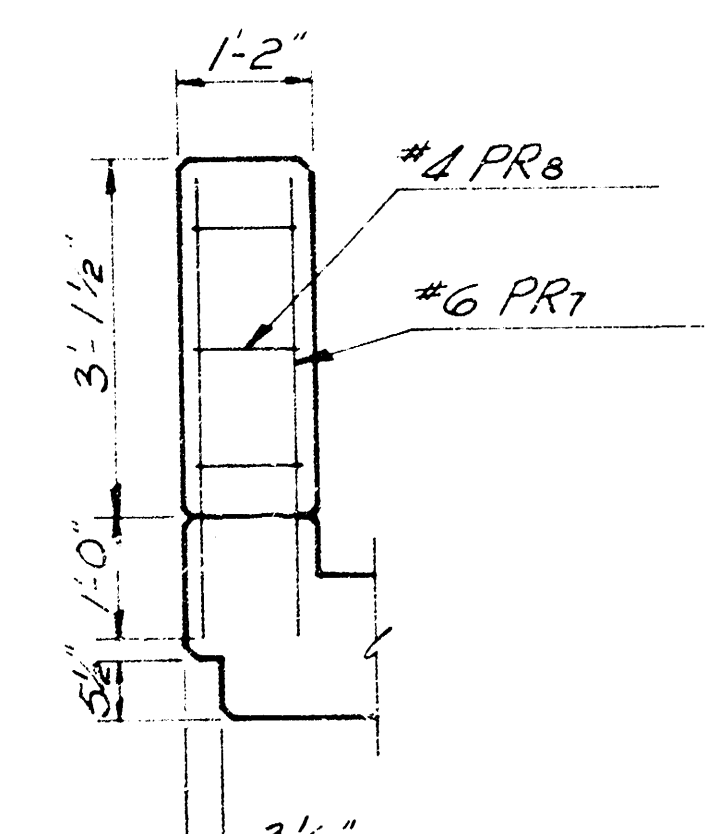
SECTION G-G



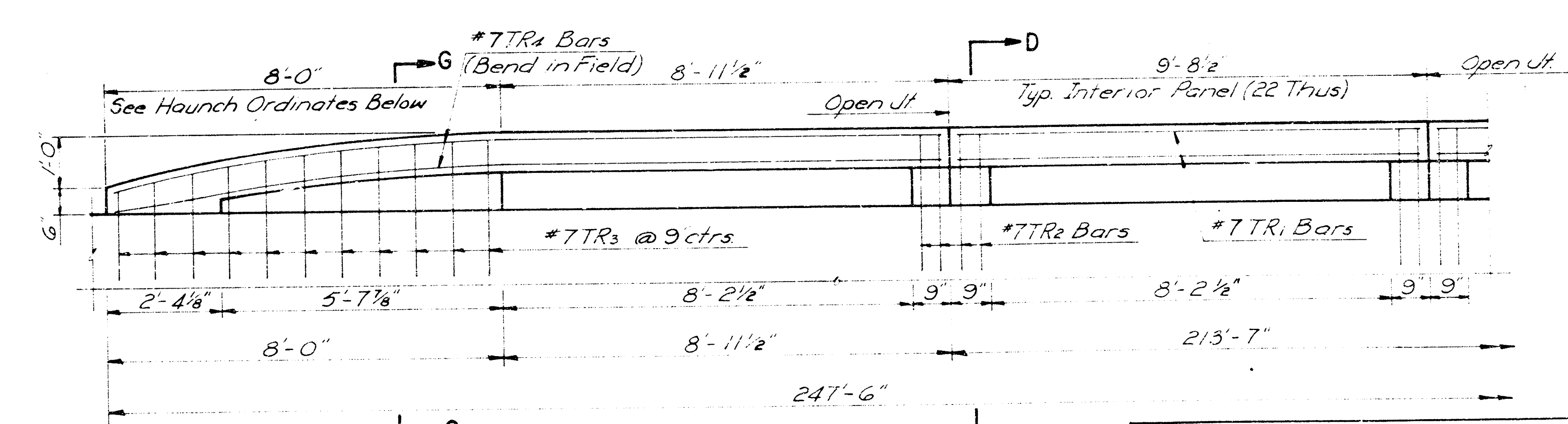
SECTION C-C



SECTION B-B

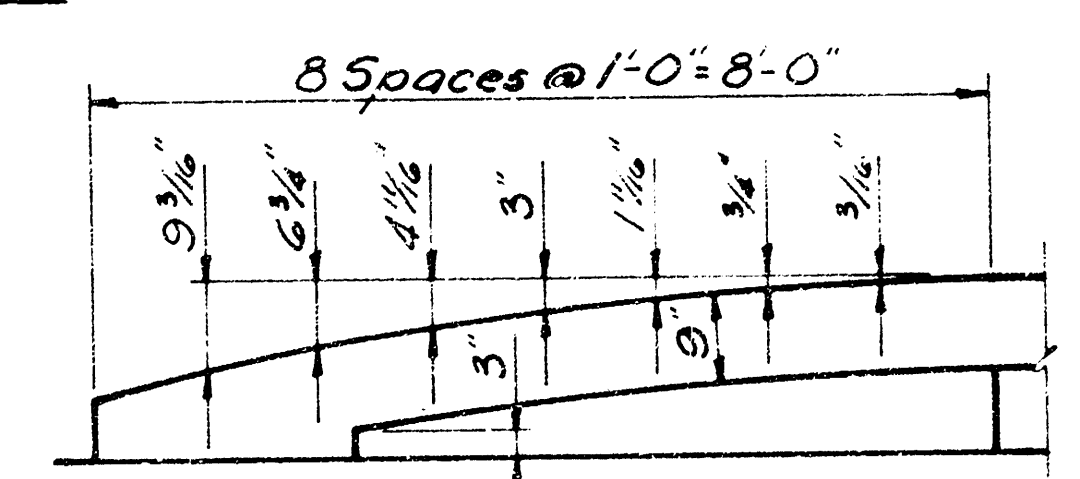


SECTION A-A



TRAFFIC RAIL ELEVATION

All handrail joints shall be 1/2" open joints except those within 10'-0" of the piers and those shall be 1/4" open joints.



HAUNCH ORDINATES

CITY OF WICHITA KANSAS
R.W. LINN, PE CITY ENGINEER

HANDRAIL DETAILS
WOODMAN BRIDGE
OVER THE LITTLE ARKANSAS RIVER
CITY OF WICHITA PROJECT NO. DAKB 576042

PROFESSIONAL ENGINEERING CONSULTANTS, P.A.
ENGINEERS
WICHITA, KANSAS

Designed by _____ Checked by _____
Drawn by _____ Date _____

PROJECT NO.	SHEET NO.	TOTAL SHEETS
DAKB 576042	13	17

*New Bridge Name Plate shall be $\frac{3}{16}$ "x24"x26" bronze with concealed mountings. It shall have a 1" wide border and ribbon style letters. It shall contain the following information:

WOODMAN BRIDGE
1976
CITY OF WICHITA
JAMES M. DONNELL - MAYOR
GLENN J. SHANAHAN VICE MAYOR
A. F. (TONY) CASADO
ROBERT I. CORY
CONNIE A. PETERS
COMMISSIONERS
E. H. DENTON
CITY MANAGER
DESIGN LOADING HS20-44

GENERAL NOTES

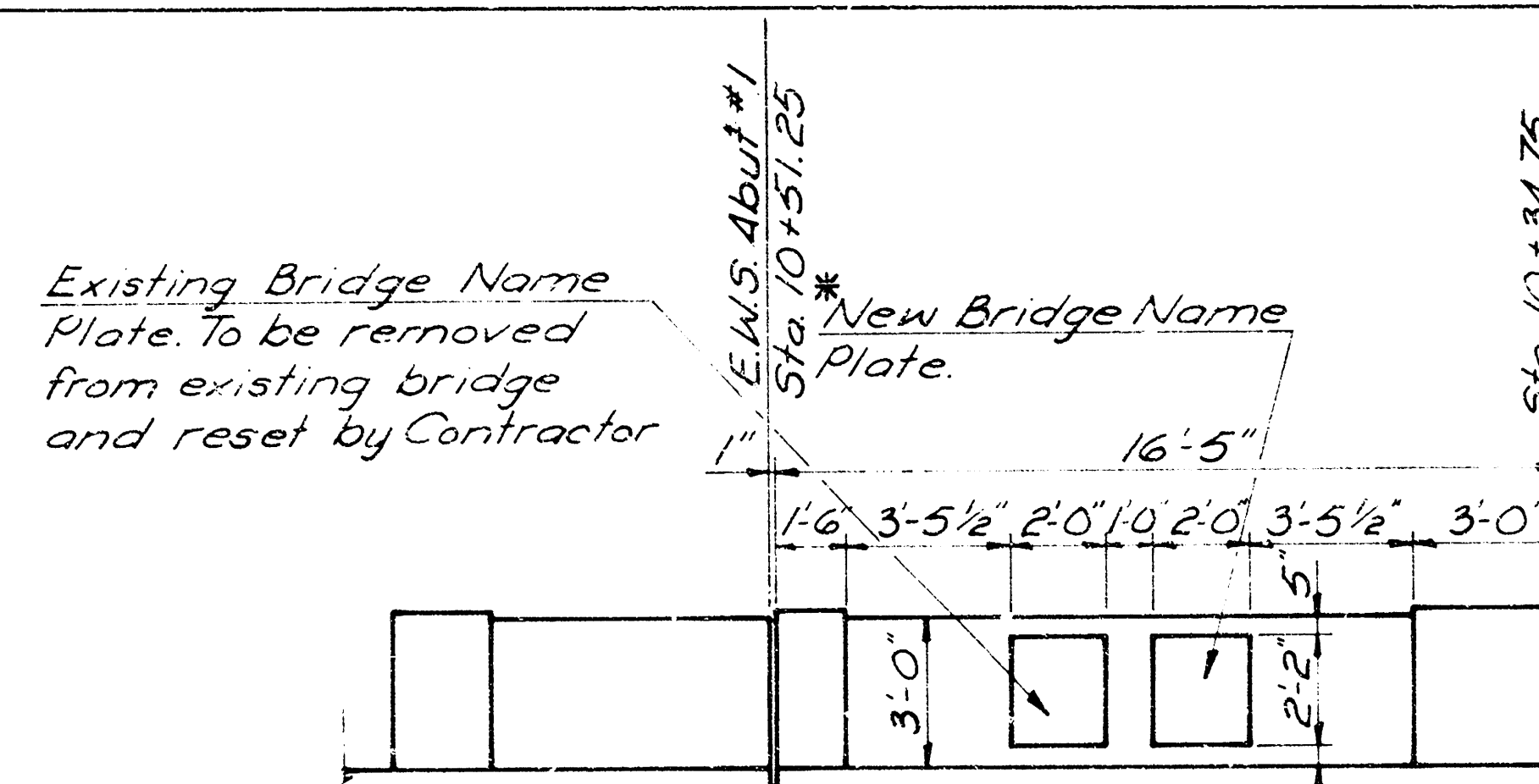
The top horizontal member of the rail and the posts shall be steel hollow structural tubing. Other shapes and plates shall conform to ASTM designation A36. All steel pipe shall conform to ASTM designation A53.

Rail shall be fabricated full length for each section, and shall be fabricated to match vertical curvature of the structure. Rail posts shall be perpendicular to top of parapet. Shims may be used between concrete and base plate of posts.

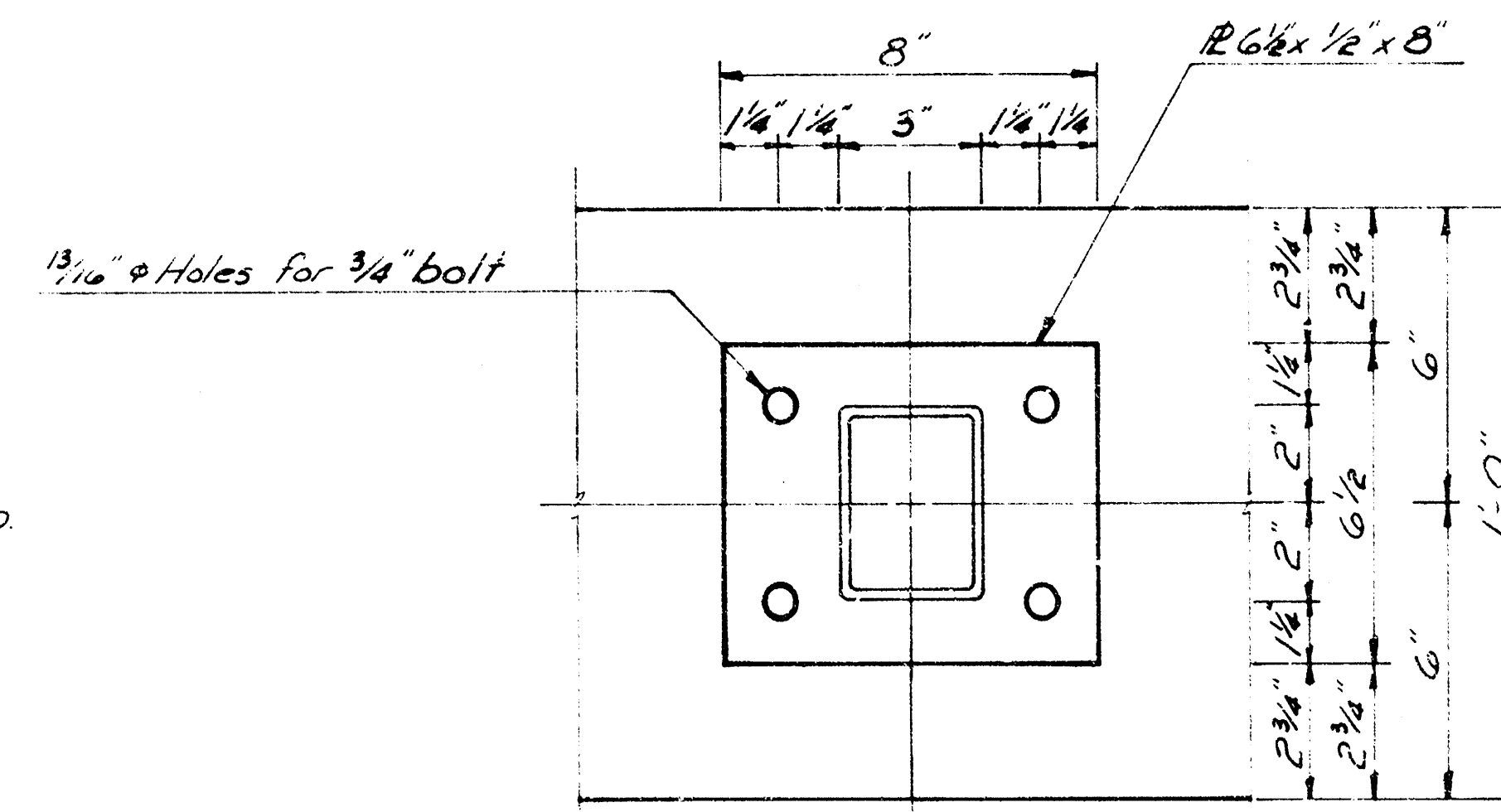
Anchors shall be $\frac{3}{4}$ " standard snap-off Phillips Red Head or approved equal. Washers shall conform to article 1006.14(e) of the standard specifications for State Road and Bridge Construction 1973 Edition Kansas Department of Transportation.

Exposed portion of bolt and washer shall receive two coats of black paint.

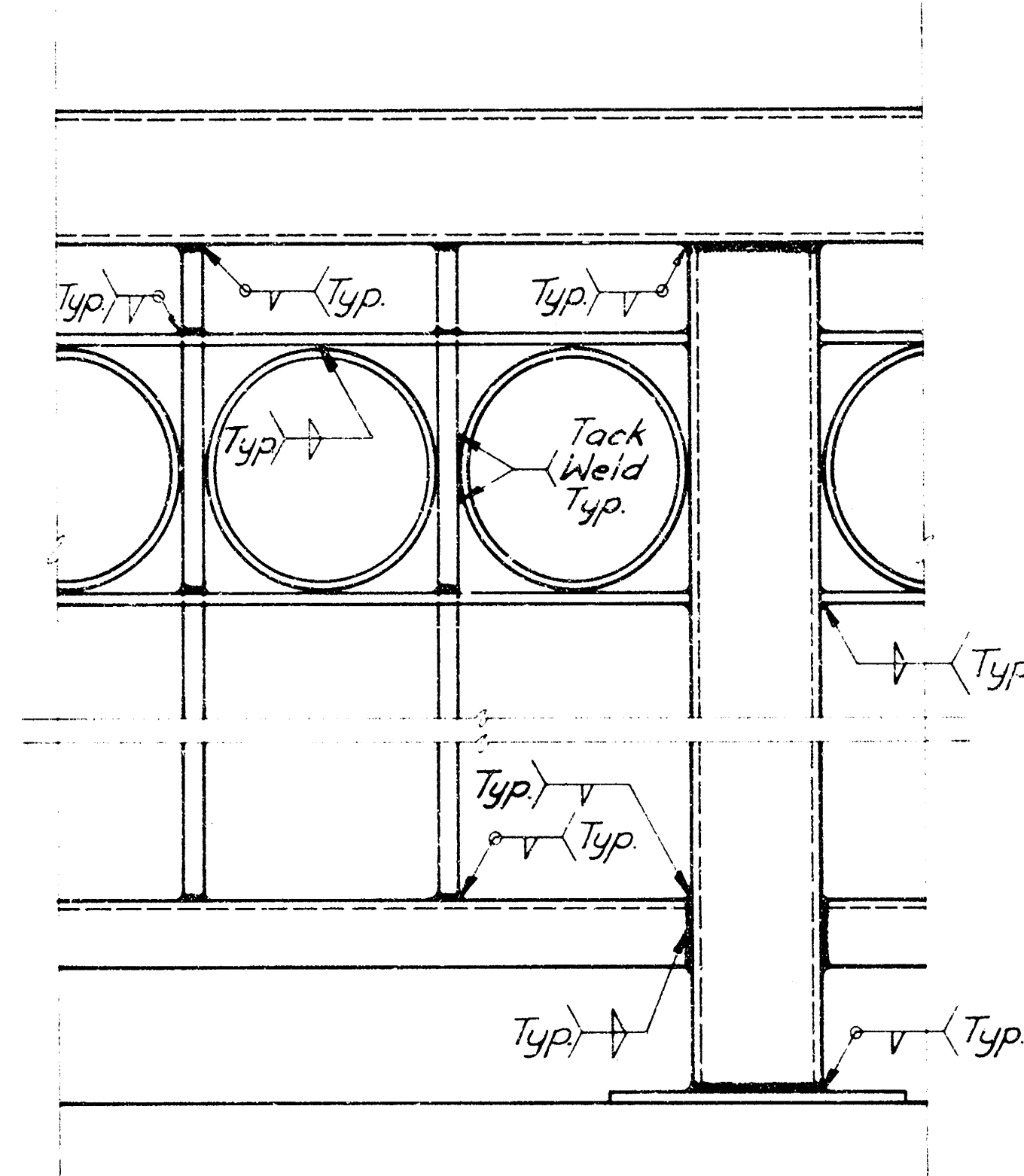
All parts of handrail shall be given one coat of red lead paint, one coat of black paint in the shop and one coat of black paint in the field.



BRIDGE NAME PLATE
(Abutment #1 - East Side Only)

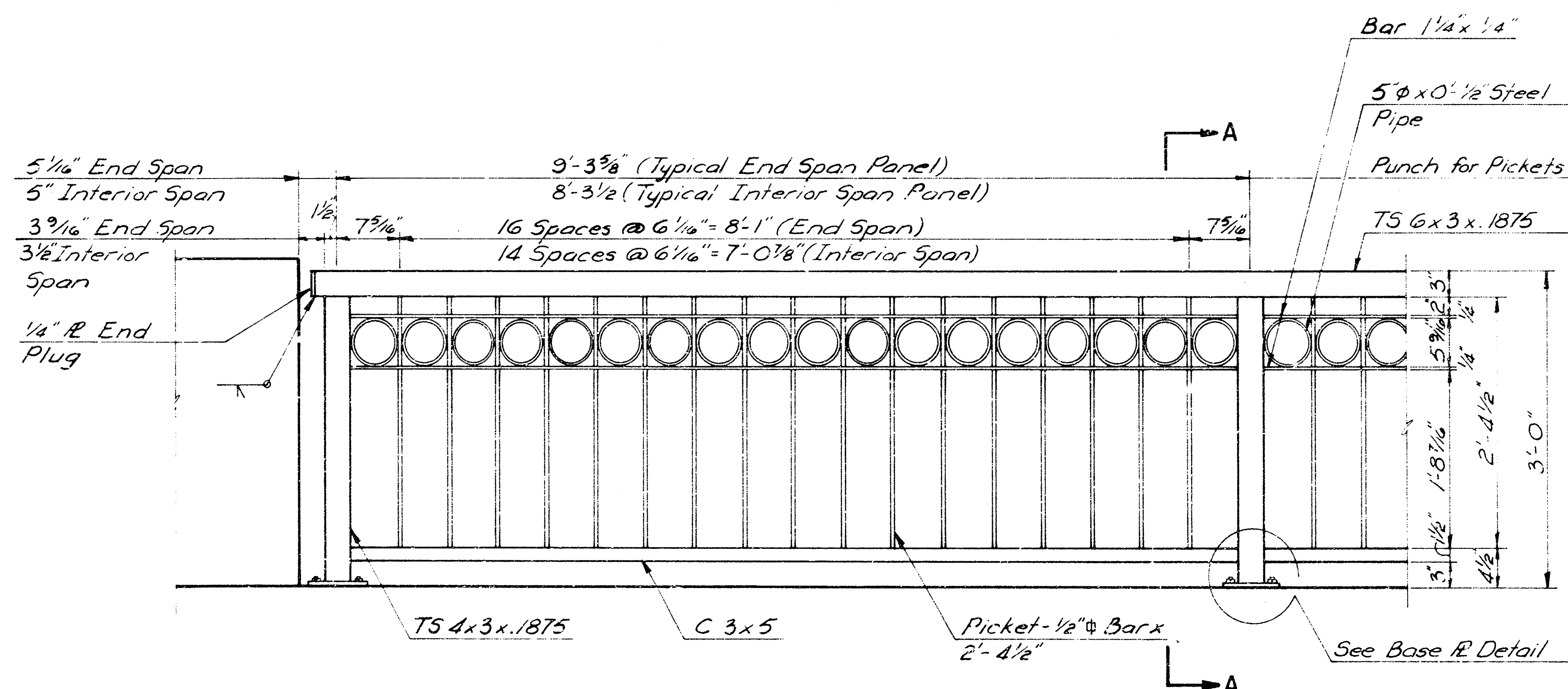


BASE PLATE DETAIL

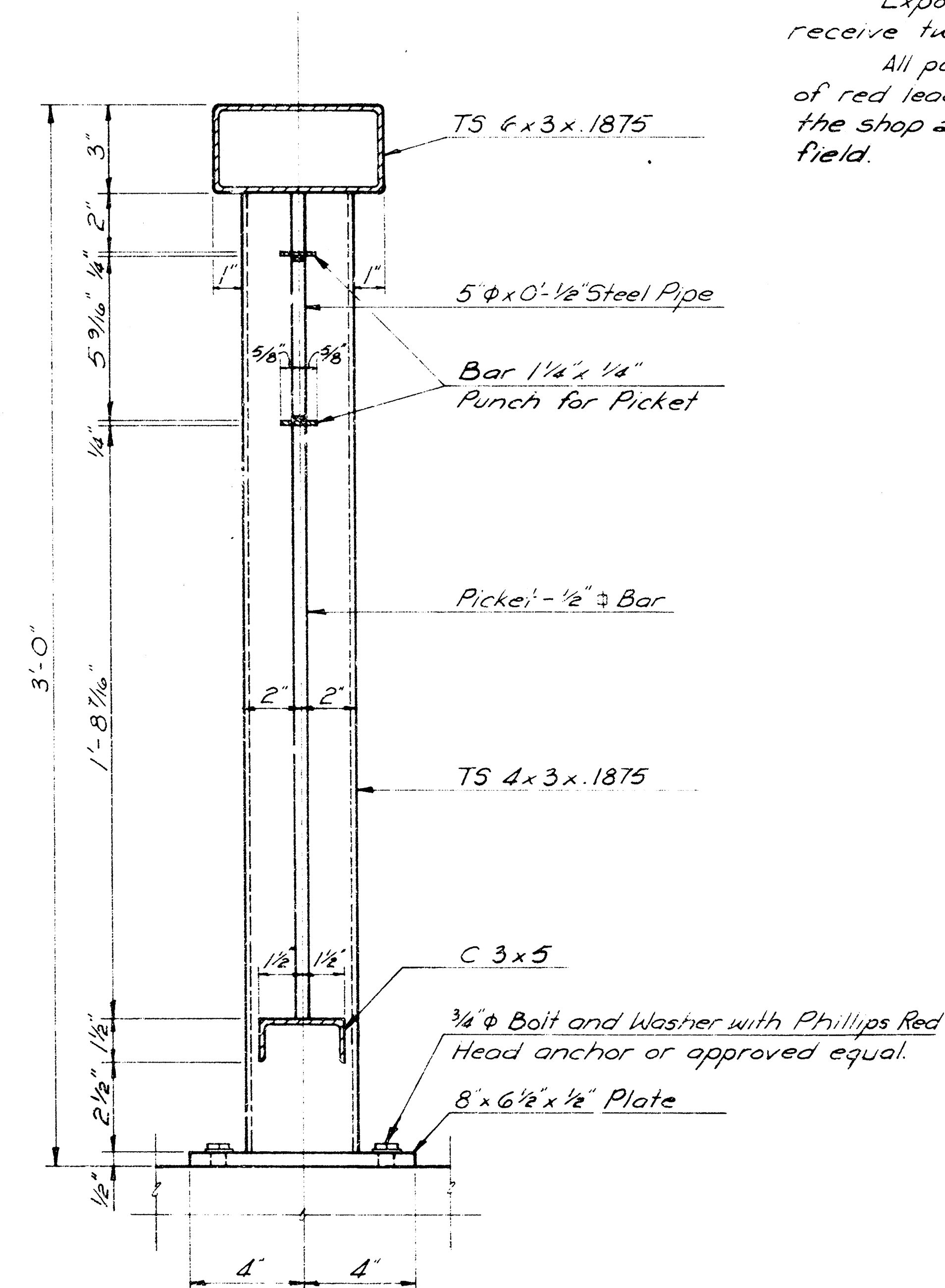


WELD DETAIL

All welds shall be $\frac{3}{16}$ " unless otherwise noted.

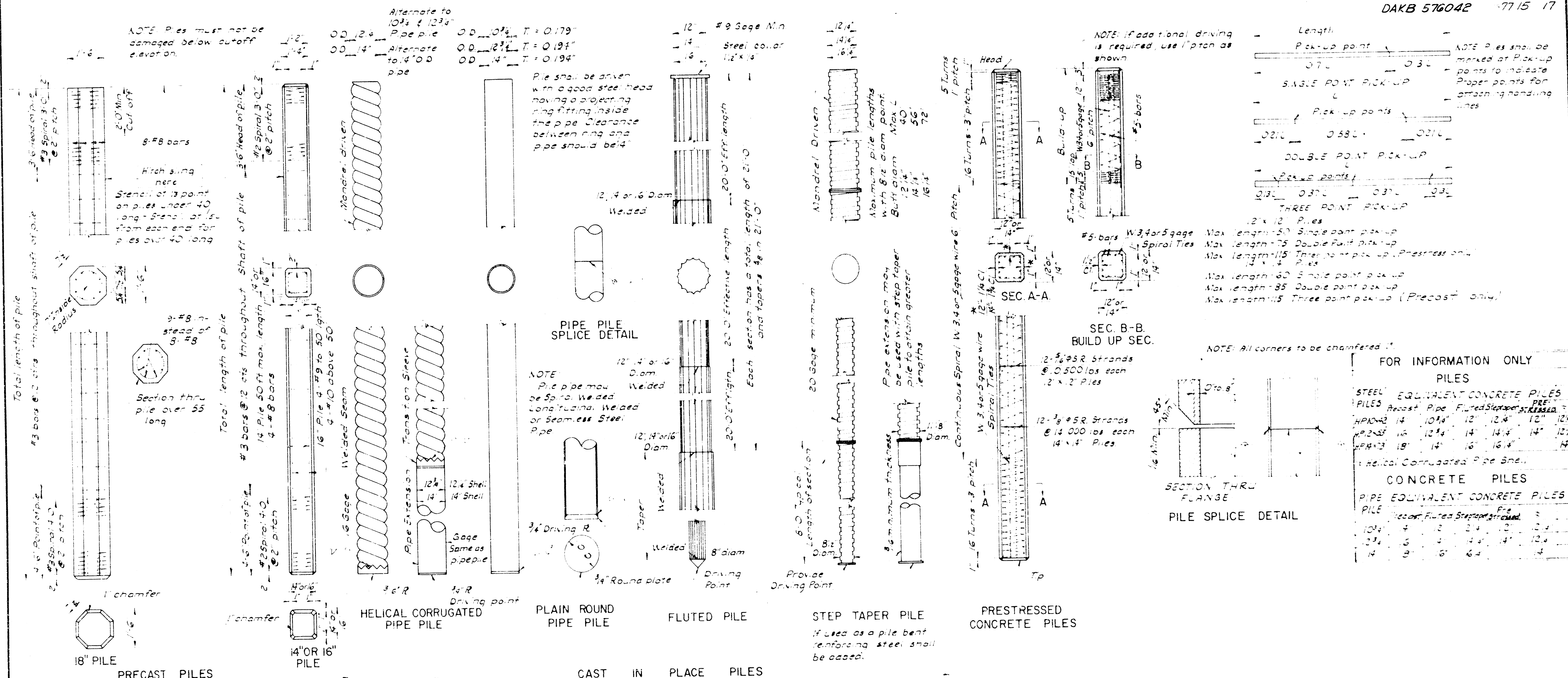


METAL HANDRAIL ELEVATION



SECTION A-A

CITY OF WICHITA KANSAS R.W. LINN, PE CITY ENGINEER			
HANDRAIL DETAILS			
WOODMAN BRIDGE			
OVER THE LITTLE ARKANSAS RIVER			
CITY OF WICHITA PROJECT NO. DAKB 576042			
PROFESSIONAL ENGINEERING CONSULTANTS, P.A.			
ENGINEERS WICHITA, KANSAS			
Designed by	Checked by	Drawn by	Plot by



GENERAL NOTES

- Specifications for Standard Specifications for State Road and Bridge Construction as currently used by the State Highway Commission of Kansas. (Ed. 1973).
- Concrete:
 - Concrete for cast-in-place shall be Class A concrete, f_c = 3,000 psi. See Sub-Article 703.07 (f)(1)(2) Standard Specifications.
 - Concrete for Precast and for Prestressed shall be Class AAA concrete, f_c = 4,000 psi. See Article 703.07 (a) Standard Specifications.
- Reinforcement:
 - Reinforcing bars shall be new billet steel ASTM Designation A-615 grade 40 without exception. Hoops and spirals may be either plain or deformed bars. See Sub-Section 1006.01 Standard Specifications.
- Precast Piles:
 - Precast piles shall conform to the requirements of Article 703.07 (a)(1)(c)(d) Standard Specifications.
- Cast-in-Place Shells:
 - Steel shells for Cast-in-Place Concrete Piles shall conform to the requirements of Sub-Section 1006.06 Standard Specifications.
 - All piles driven without mandrel shall be of the minimum gages on thicknesses shown above, except fluted pile use No. 9 gage minimum. Piles driven with mandrel 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 the mandrel is removed.
 - Improperly driven, broken or otherwise defective shells shall be removed and replaced or otherwise corrected to the satisfaction of the Engineer or the driving of an additional pile at no extra cost.
- The contractor shall maintain on the job at all times prior to and during the filling of the shells, a light suitable for visual inspection of the pile.
- Steel Piles:
 - Steel pile shall conform to requirements of Article 1006.04 (e) Standard Specifications.
- Pile Points:
 - Pile points shall conform to the dimensions shown and requirements of Sub-Article 1006.06 (b)(3) Standard Specification. Pile points shall be mill welded to pile.
- Welding:
 - All field welding shall meet the requirements of Sub-Section 703.06 Standard Specifications.
- Point:
 - All point shall comply with Sub-Section 1008.06 Standard Specifications, or as specified on the plans.
- Test Piles:
 - Test Piles shall be driven where called for on the Bridge plans. The test piles located within the limits of the substructure will become a part of the Bridge Pile System.
- Splices:
 - Splices for Steel Piles and Shell Piling shall be in accordance with details shown on this sheet and shall comply with Sub-Section 703.06 Standard Specifications.
 - Precast Concrete Pile splices shall comply with Sub-Article 703.07 (g)(1) Standard Specifications.
- Prestressed Concrete Pile splices shall be made in accordance with the manufacturer's recommendations subject to the approval of the Engineer.
- Driving Formula:
 - Driving Formula shall conform to Sub-Article 703.04 (d)(3) Standard Specifications.
- Mini Test Reports:
 - Steel Piles test reports shall comply with Sub-Article 1006.04 (e)(3) Standard Specifications.
 - Steel Shells test reports for cast-in-place piles shall comply with Article 1006.06 (d) Standard Specifications.
- Measurement and Payment:
 - Measurement for all piles shall comply with Sub-Section 703.08 Standard Specifications.
 - Payment for all piles shall comply with Sub-Section 703.09 Standard Specifications.

CITY OF WICHITA, PROJECT NO. DAKB 576042

6-9-73 Revised For 1973 Const. Spec. SEE ENCL. 1

5-8-76 Revised For 1976 Const. Spec. SEE ENCL. 2

4-8-84 Revised For 1984 Const. Spec. SEE ENCL. 3

3-27-86 Revised For 1986 Const. Spec. SEE ENCL. 4

1-24-88 Revised For 1988 Const. Spec. SEE ENCL. 5

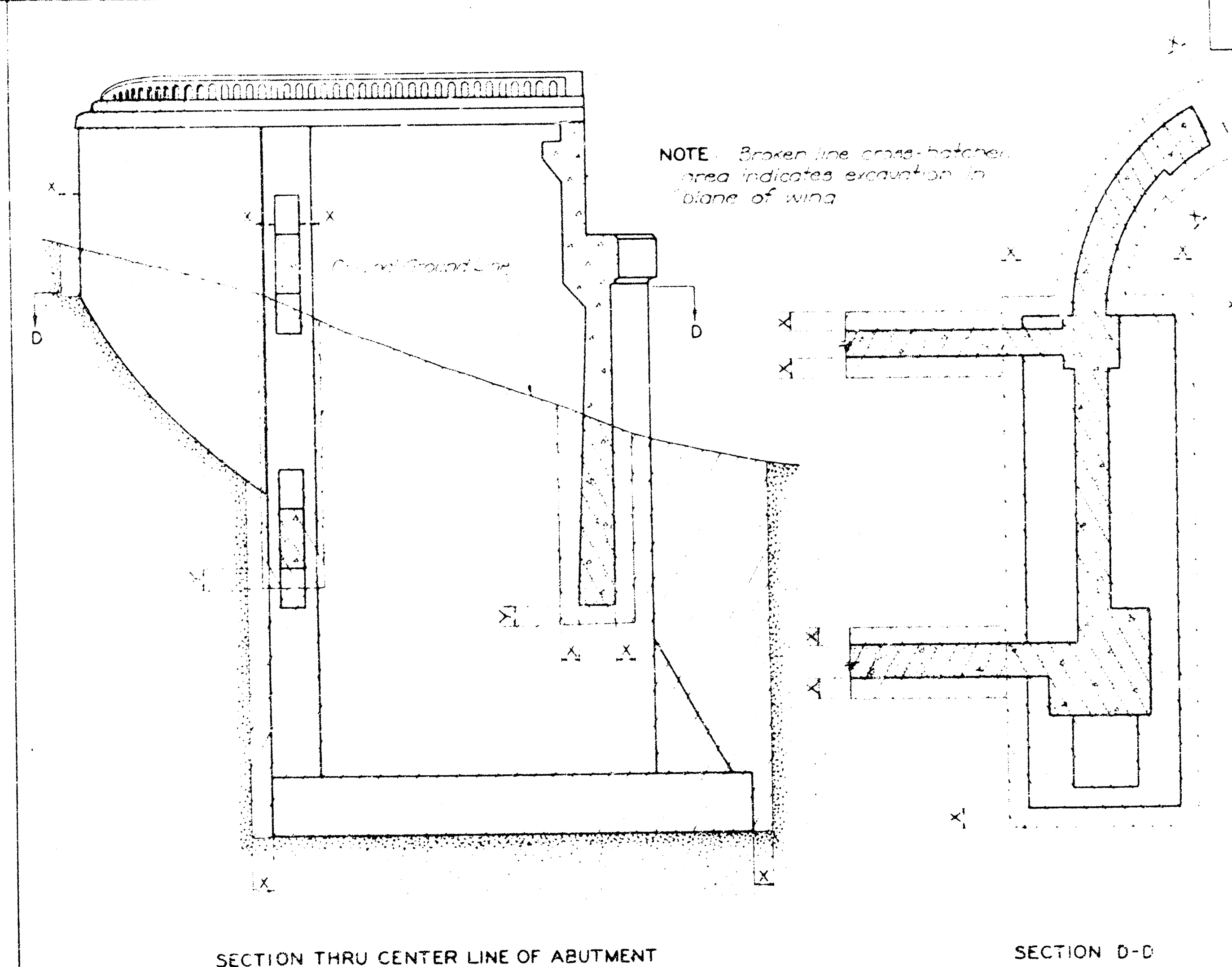
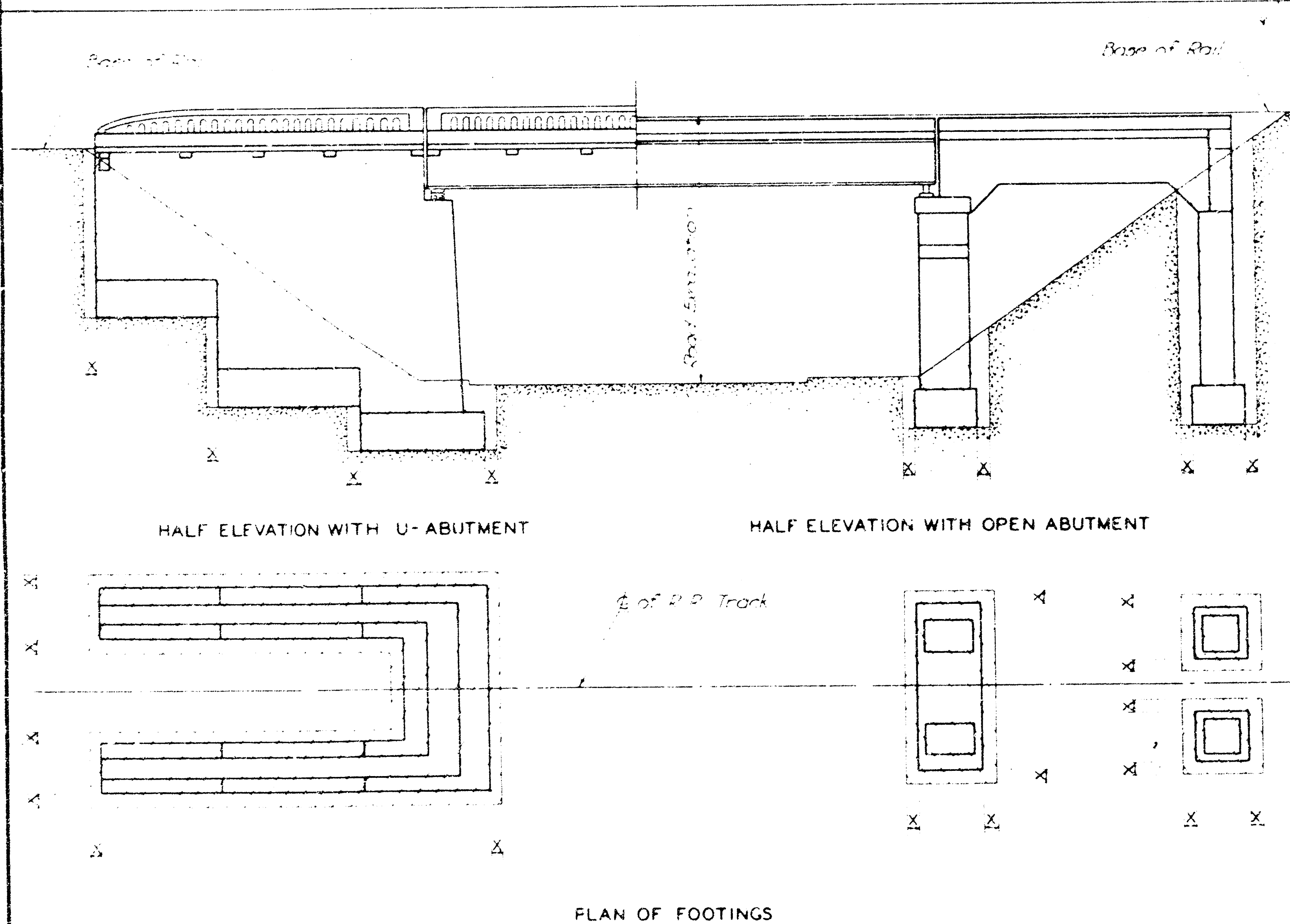
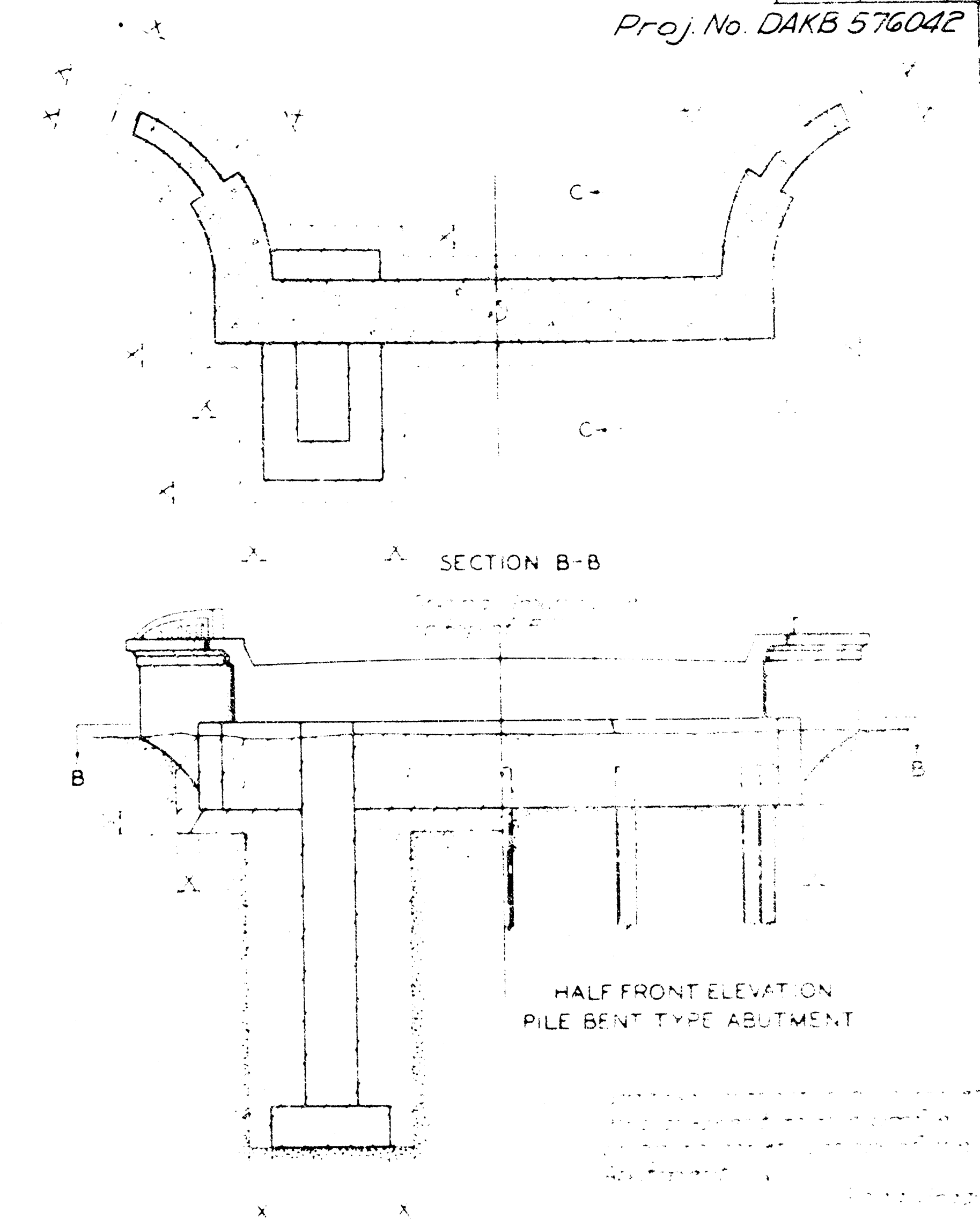
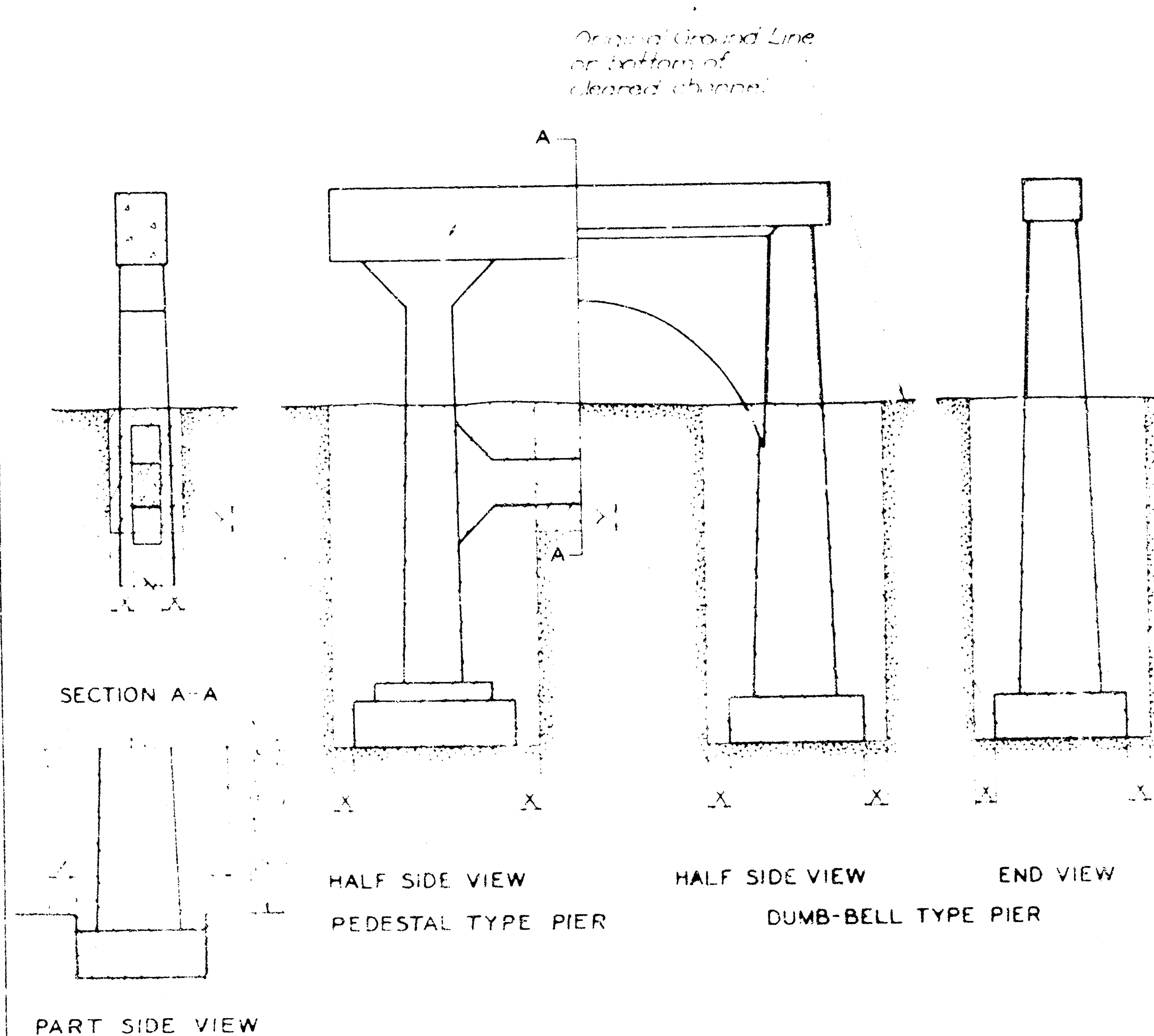
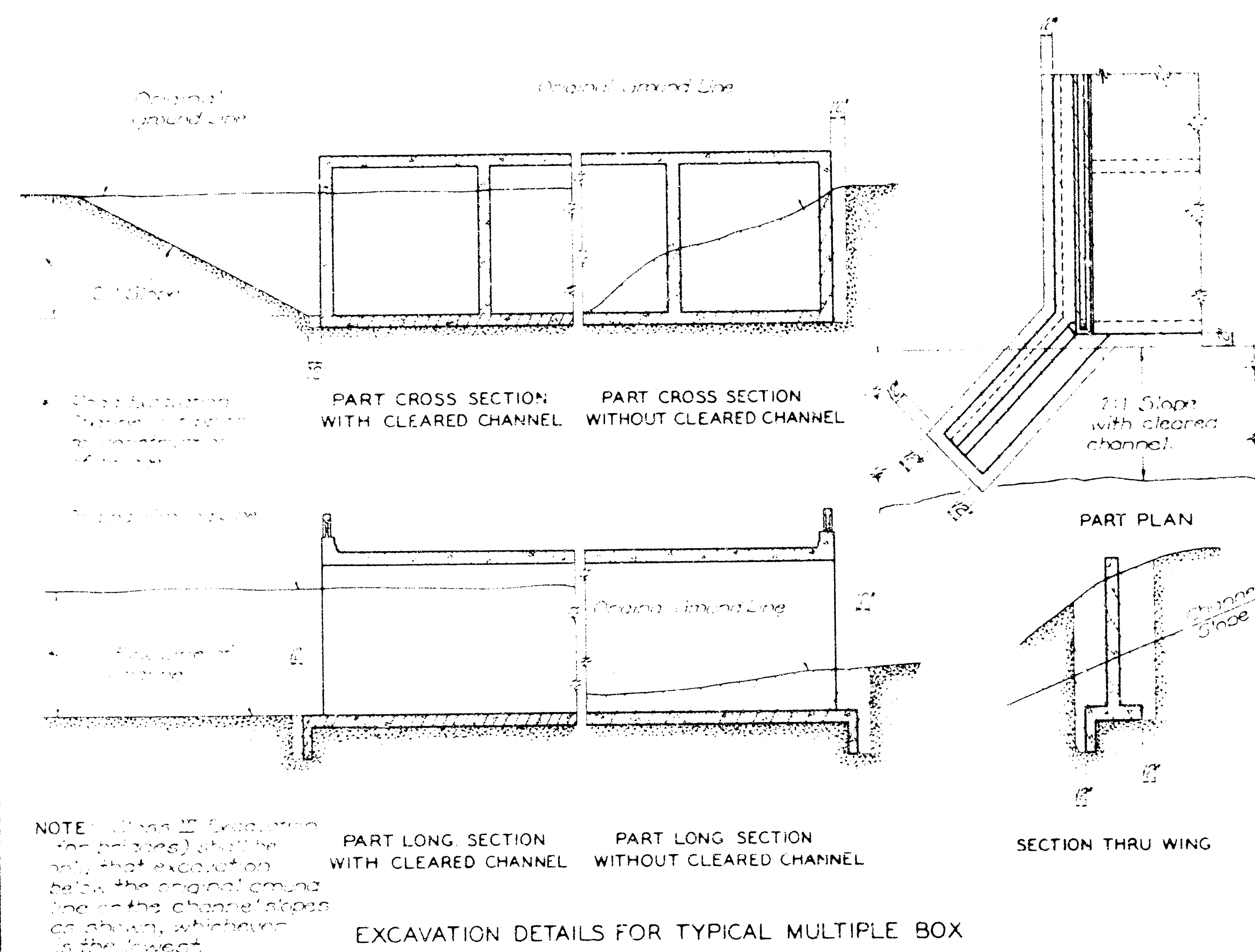
STATE HIGHWAY COMMISSION OF KANSAS

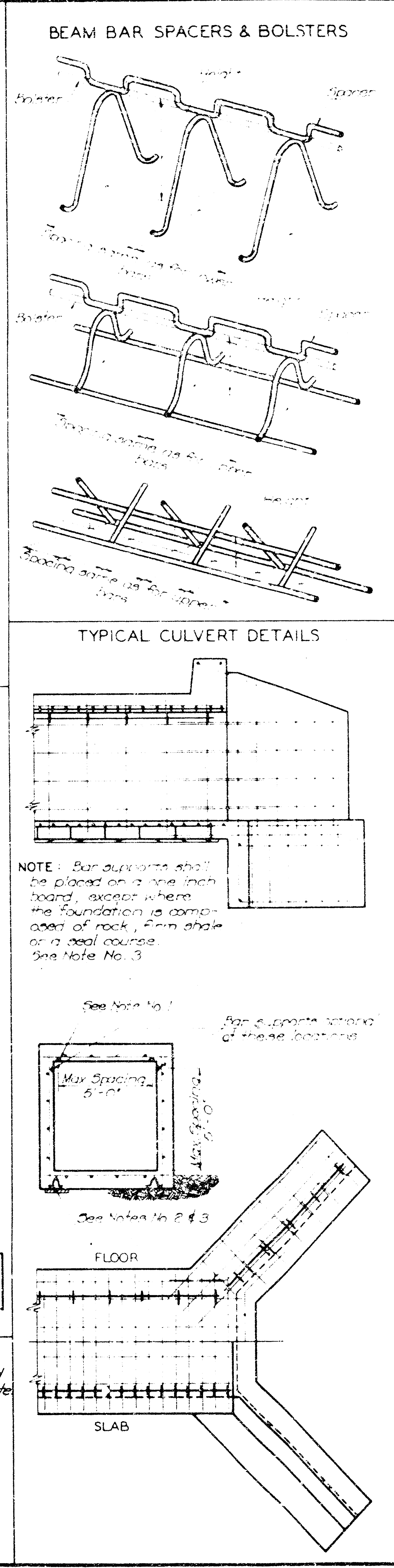
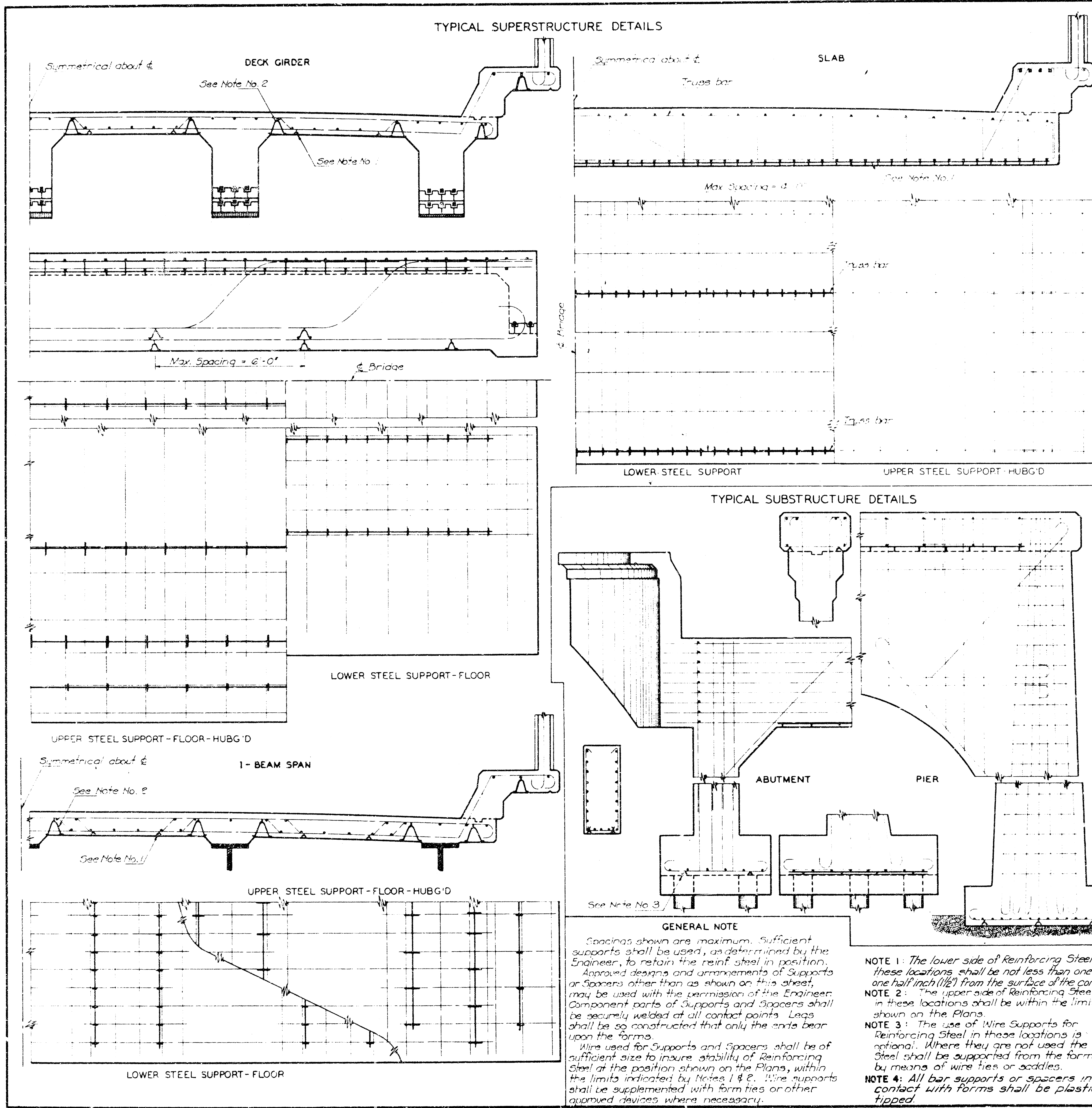
STANDARD PILE DETAILS

STD. NO. 102

Page No.	Field No.	Sheet No.	Total Sheets
	1977	16	17

DAKB 576042 Section

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Proj. No.	Fiscal Year	Sheet No.	Total Sheets
DAKB 576042	1977	17	17

Section

LOW SLAB BAR SPACERS & BOLSTERS

HIGH SLAB BAR SPACERS & BOLSTERS

INDIVIDUAL HIGH BAR CHAIRS

CITY OF WICHITA PROJECT NO. DAKB 576042

NO.	DATE	REVISIONS	BY	APP'D.
6				

STATE HIGHWAY COMMISSION OF KANSAS

SUPPORTS AND SPACERS FOR REINFORCING STEEL

STD NO 610 SCALE: 1" = 1'-0"

DESIGNED BY: DATE: DETAILED BY: TRACED BY: CHECKED BY: APPROVED BY: DATE: