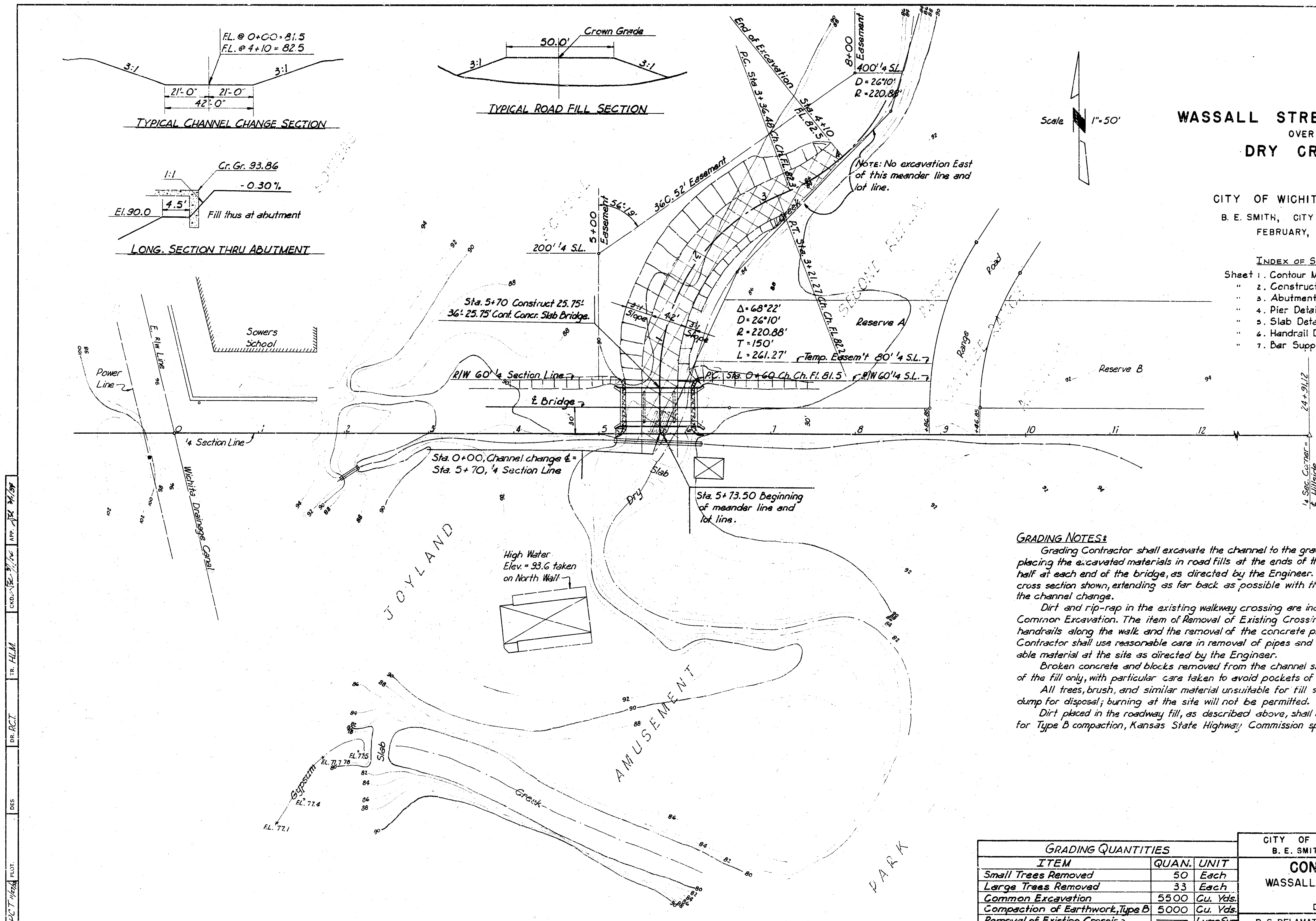
WASSALL STREET BRIDGE
OVER
DRY CREEK

CITY OF WICHITA, KANSAS
B. E. SMITH, CITY ENGINEER
FEBRUARY, 1954



INDEX OF SHEETS

GRADING NOTES:

Grading Contractor shall excavate the channel to the grade and dimensions indicated placing the excavated materials in road fills at the ends of the bridge, approximately half at each end of the bridge, as directed by the Engineer. Fills are to be built to the cross section shown, extending as far back as possible with the material available from the channel change.

Dirt and rip-rap in the existing walkway crossing are included in the quantities of Common Excavation. The item of Removal of Existing Crossing includes removal of handrails along the walk and the removal of the concrete pipe under the crossing. Contractor shall use reasonable care in removal of pipes and handrail, storing all salvageable material at the site as directed by the Engineer.

Broken concrete and blocks removed from the channel shall be scattered in the toe of the fill only, with particular care taken to avoid pockets of such material in the fill.

All trees, brush, and similar material unsuitable for fill shall be hauled to the city dump for disposal; burning at the site will not be permitted.

Dirt placed in the roadway fill, as described above, shall be compacted as specified for Type B compaction, Kansas State Highway Commission specifications.

GRADING QUANTITIES

ITEM	QUAN.	UNIT
Small Trees Removed	50	Each
Large Trees Removed	33	Each
Common Excavation	5500	Cu. Yds.
Compaction of Earthwork, Type B	5000	Cu. Yds.
Removal of Existing Crossing	—	Lump Sum
Water	1	M. Gal.

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

CONTOUR MAP
WASSALL STREET BRIDGE
OVER
DRY CREEK

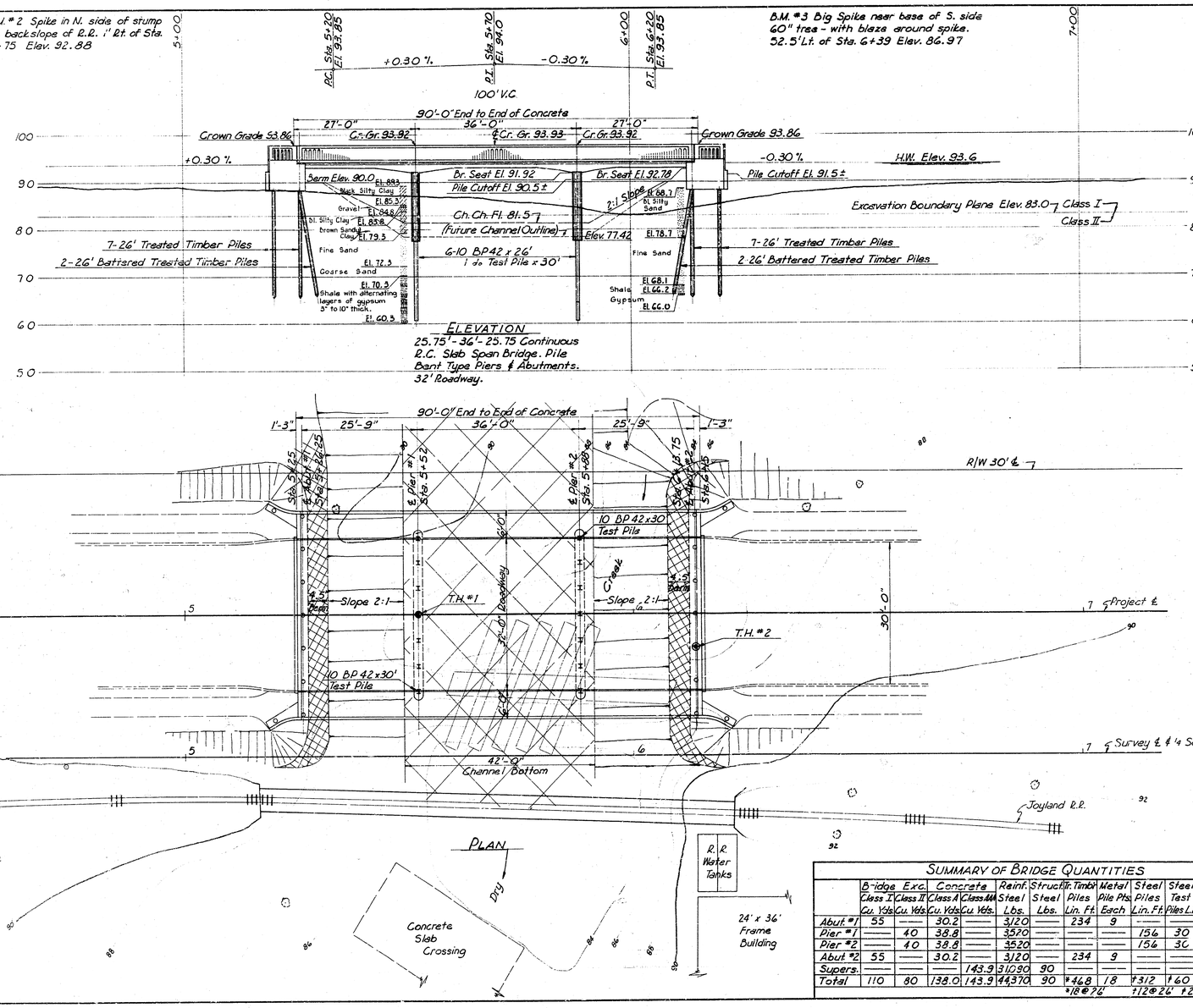
R. S. DELAMATER
CONSULTING ENGINEER
WICHITA, KANSAS

DATE March, 1954
SCALE 1" = 50'
DWG. NO. 79-D-1

SURV. P.C.T. | DR. P.C.T. | CR. H.L.M.

B.M. #2 Spike in N. side of stump on backslope of R.R. 1' Rt. of Sta. 4+75 Elev. 92.88

B.M. #3 Big Spike near base of S. side 60" tree - with blaze around spike. 52.5' Lt. of Sta. 6+39 Elev. 86.97



ELEVATION

25.75' - 36' - 25.75 Continuous R.C. Slab Span Bridge. Pile Bent Type Piers & Abutments. 32' Roadway.

PLAN

SUMMARY OF BRIDGE QUANTITIES

	Bridge Exc. Class I Cu. Yds	Bridge Exc. Class II Cu. Yds	Concrete Class A Cu. Yds	Concrete Class AAA Cu. Yds	Reinf. Steel Lbs.	Struct. Steel Lbs.	Tr. Timb. Piles Lin. Ft.	Metal Pile Pts. Each	Steel Piles Lin. Ft.	Steel Test Piles L.F.	Concr. H'Rail Lin. Ft.
Abut. #1	55	—	30.2	—	3120	—	234	9	—	—	15.33
Pier #1	—	40	38.8	—	3520	—	—	—	154	30	—
Pier #2	—	40	38.8	—	3520	—	—	—	154	30	—
Abut #2	55	—	30.2	—	3120	90	234	9	—	—	15.33
Supers.	—	—	—	143.9	31090	90	—	—	—	—	176.50
Total	110	80	138.0	143.9	44370	90	*468	18	†312	†60	207.16
							*18@26'		†12@26' †2@30'		

General Notes:

Channel Change & Grading: The Grading Contractor shall excavate the channel change at bridge site including existing crossing prior to construction of the piers and will construct embankment at abutments to Crown Grade prior to construction of abutments.

Bridge Excavation: Elevation 83.0 shall designate the Excavation Boundary Plane, Class I excavation above the plane and Class II below. Bridge excavation quantities shall be computed to a line 1'-6" outside of concrete lines all around.

Concrete: Concrete shall be Class A in abutments, piers and handrail and Class AAA in superstructure.

Piles: All piles shall be driven to the penetration shown unless in the opinion of the Engineer such penetration cannot be reached without injury to the piles. All treated timber piles shall be driven to a minimum computed bearing value of 20 tons per pile and all steel piles driven to a minimum computed bearing value of 37 tons per pile.

Soundings: Soundings shown on this sheet are as taken by borings in the field and represent the best information available to the City of Wichita.

Reinforcing Steel: All reinforcing steel shall conform to A.S.T.M. Specification A 305-49.

Design:

Design Loading: H 20-44 AASHO Specifications

Unit Stresses: fs = 20,000 p.s.i. reinforcing
fc = 1,200 p.s.i. Class A
fc = 1,600 p.s.i. Class AAA

Pile Loading: 20 tons per pile, Treated Timber
37 tons per pile, Steel

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 those specifications unless otherwise expressly noted.

Waterway Data

Maximum Design Discharge	4,500 c.f.s.
Area Required @ 6 ft/sec.	750 ft.²
Total Area Provided to Proposed Flow Line	750 ft.²
Total Area Provided to Future Flow Line	890 ft.²

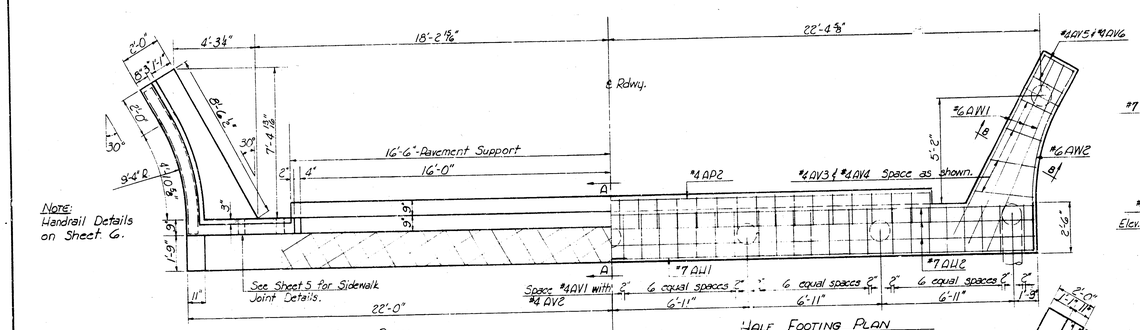
CITY OF WICHITA, KANSAS
B. E. SMITH, CITY ENGINEER

CONSTRUCTION LAYOUT
WASSALL STREET BRIDGE
OVER
DRY CREEK

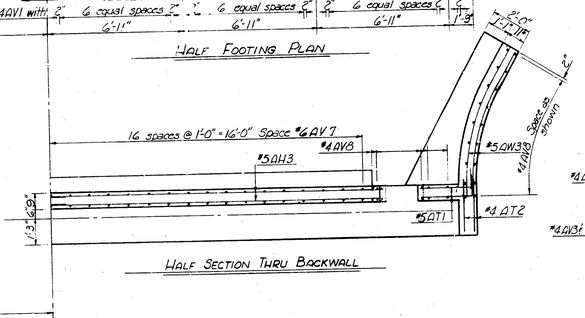
R. S. DELAMATER
CONSULTING ENGINEER
WICHITA, KANSAS

DATE March, 1954
SCALE 1" = 10'
DWG. NO. 79-D-2

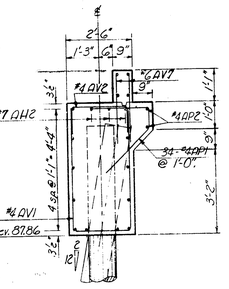
SURV. PCT. DES. R.S.D. DR. F.C.T. TR. H.L.M. CKD. A.R.H. APP. ABE 4/1/54



HALF PLAN

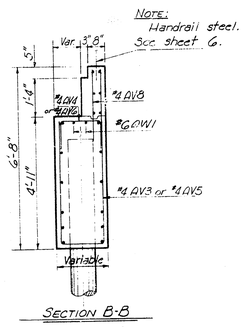


HALF FOOTING PLAN

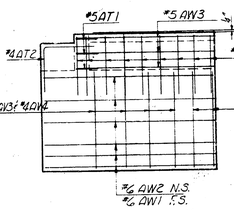


SECTION A-A

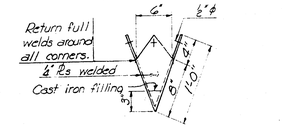
Scale: 1/2" = 1'-0"



SECTION B-B



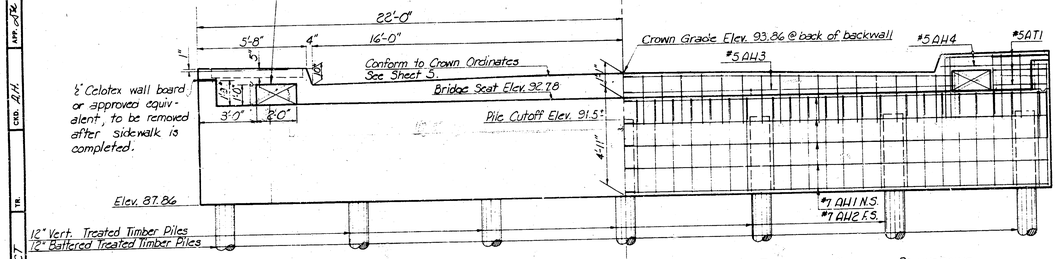
DEVELOPED VIEW OF WINGWALL



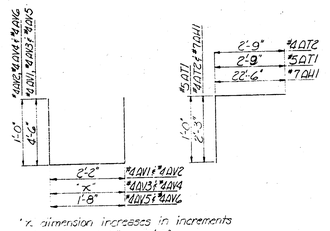
Fasten to pile with a 3/8" x 4" Boat Spike or 2-60d Spikes in each hole.

WELDED STEEL PILE POINT

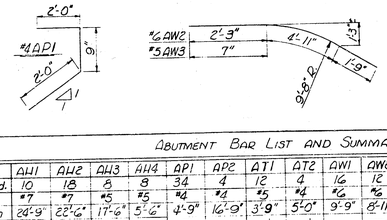
After concreting is complete, brick up these openings, using common brick in cement mortar; this work to be subsidiary to Class A Concrete bid item.



HALF FRONT ELEVATION



"x" dimension increases in increments of 5" from 1'-9" to 3'-0".



HALF FRONT ELEVATION SHOWING REINFORCING

* See bar bending diagrams

ABUTMENT BAR LIST AND SUMMARY OF QUANTITIES

Mark	AH1	AH2	AH3	AH4	AP1	AP2	AT1	AT2	AW1	AW2	AW3		AV1	AV2	AV3	AV4	AV5	AV6	AV7	AV8
No. Reqd.	10	18	8	8	34	4	12	4	16	12	12		44	44	8	8	4	4	44	56
Size	#7	#7	#5	#5	#4	#4	#5	#4	#6	#6	#5		#4	#4	#4	#4	#4	#4	#6	#6
Length	24'-9"	22'-6"	17'-6"	5'-6"	4'-9"	16'-9"	3'-9"	5'-0"	9'-9"	8'-11"	7'-3"		11'-2"	4'-2"	*	*	10'-8"	3'-8"	2'-3"	3'-0"
Shape	⌐	—	—	—	⌐	—	⌐	⌐	—	⌒	⌒		⌐	⌐	⌐	⌐	⌐	⌐	—	—

Class A Concrete	30.2 Cu. Yds.
Concrete Handrail	153.3 Lin. Ft.
Reinforcing Steel	3120 Lbs.
Treated Timber Piles	234 Lin. Ft.
Metal Pile Points	9 Each

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

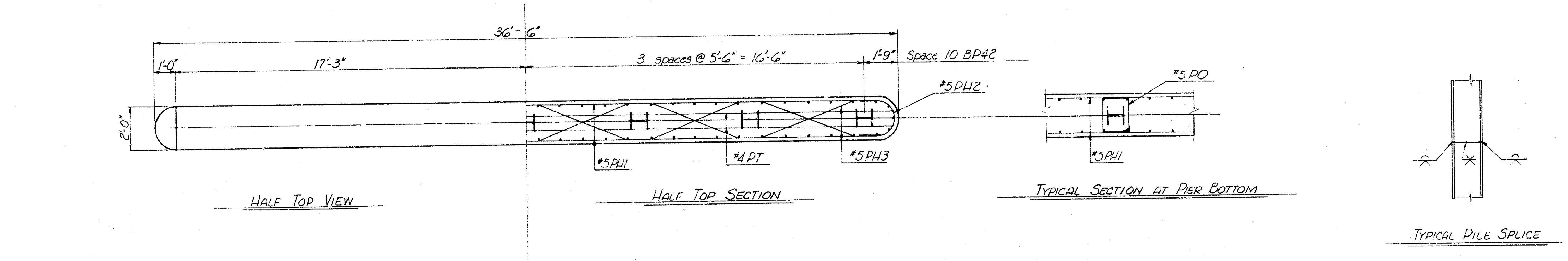
ABUTMENT DETAILS
WASSALL STREET BRIDGE
OVER
DRY CREEK

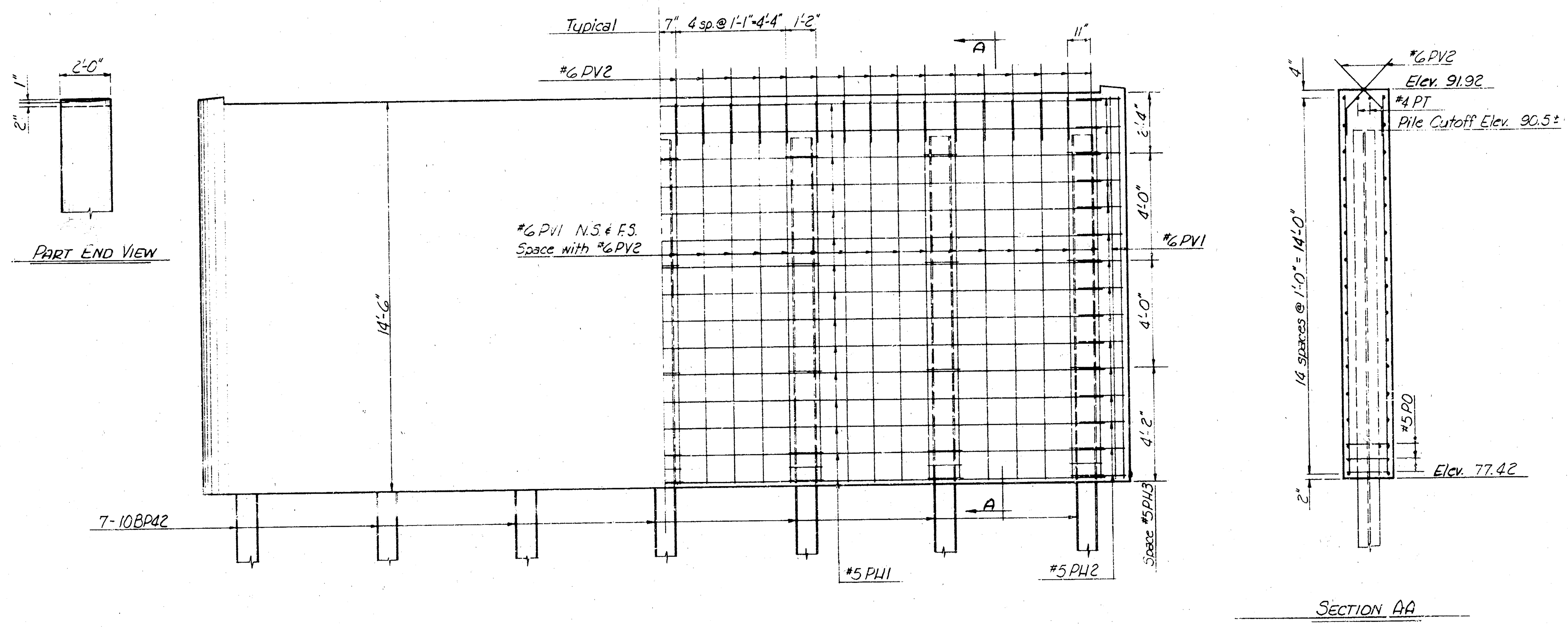
R. S. DELAMATER
CONSULTING ENGINEER
WICHITA, KANSAS

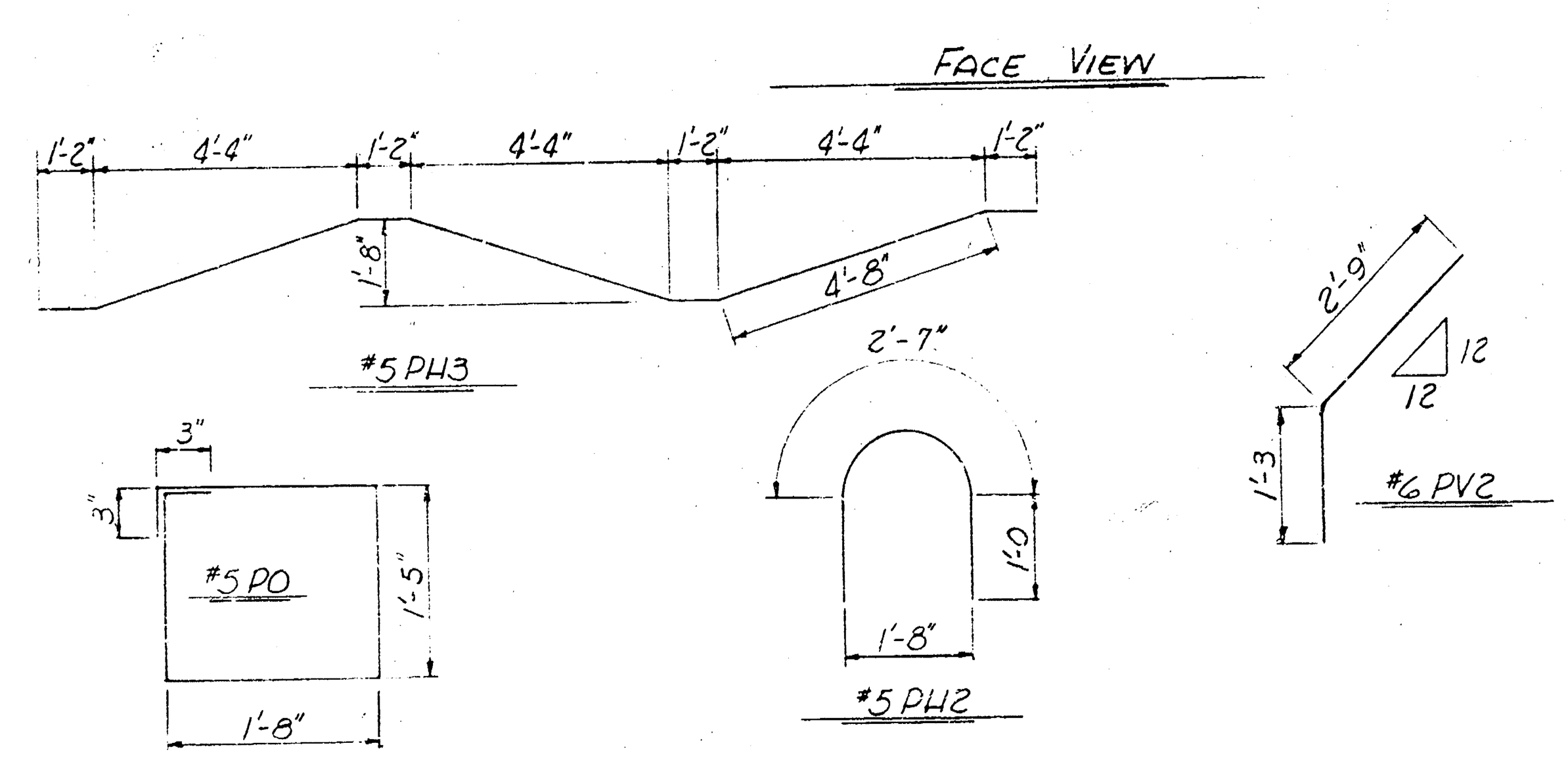
DATE March, 1954
SCALE 3/8" = 1'-0" 1" = 1'-0"
DWG. NO. 79-D-3

R. S. DELAMATER — No. 113 — REGISTERED ENGINEER — STATE OF KANSAS

Class A Concrete







NOTES:

Class A concrete shall be used throughout.

Bevel all exposed edges with a ¾" triangular molding and fillet all corners ¾" unless otherwise indicated.

All dimensions shown relative to reinforcing steel placement are to ℄ of bars unless otherwise noted. All dimensions shown in the bending diagrams are out to out of bars.

Design Loading: H20-44

Pile Loading: 37 tons per pile

SUMMARY OF PIER QUANTITIES

Mark	PH1	PH2	PH3	PV1	PV2	PO	PT		
No. Reqd.	30	30	12	70	64	21	2		
Size	#5	#5	#5	#6	#6	#5	#4		
Length	34'-6"	4'-7"	18'-8"	14'-2"	4'-0"	6'-8"	36'-2"		
Shape	—	∩	∿	—	⌐	▭	—		

Class A Concrete	38.8	Cu. Yds.
Reinforcing Steel	3520	Lbs.
Steel Piles (10 BP42)	156	Lin. Ft.
Steel Test Pile	30	Lin. Ft.

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

PIER DETAILS
WASSALL STREET BRIDGE
OVER
DRY CREEK

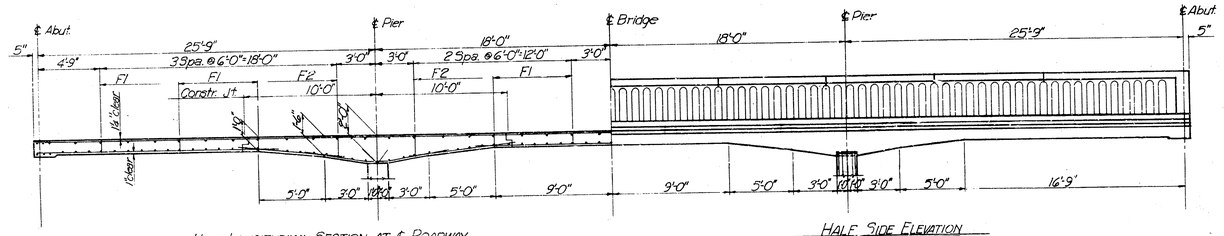
R. S. DELAMATER
CONSULTING ENGINEER
WICHITA, KANSAS

DATE March, 1954

DWG. NO. 79-D-4

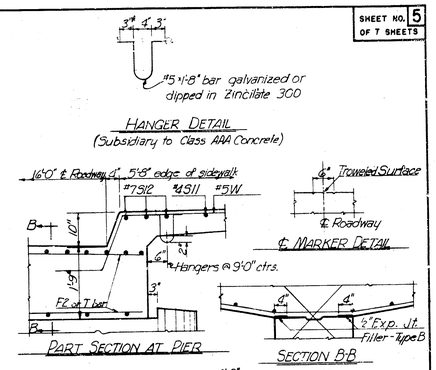
DR. PCT CKD. A.H.

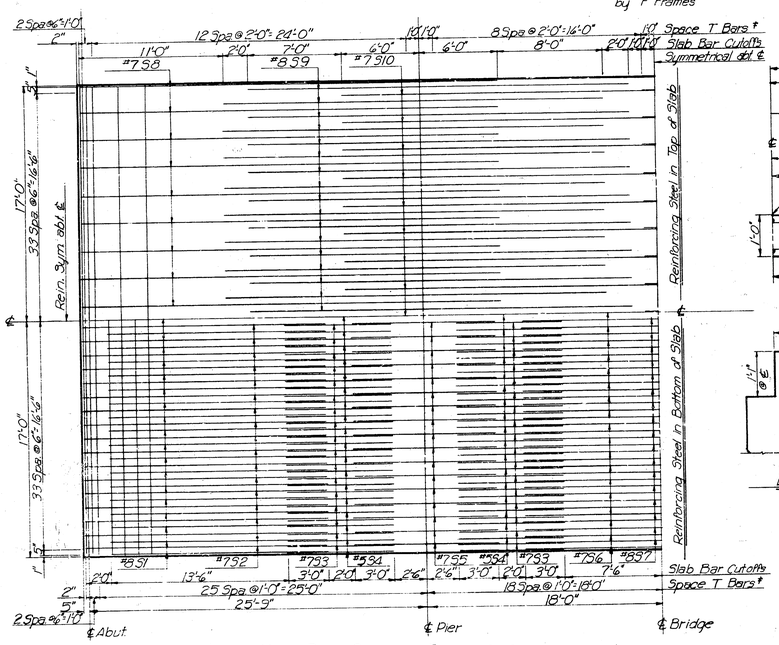
SHEET NO. 5 OF 7 SHEETS



HALF LONGITUDINAL SECTION AT ℄ ROADWAY

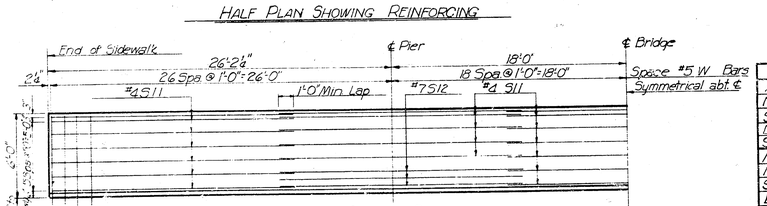
HALF SIDE ELEVATION



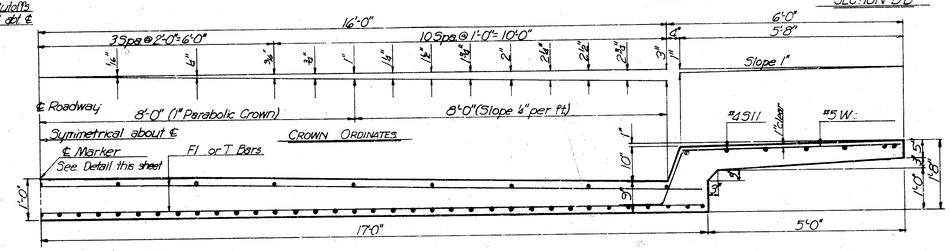


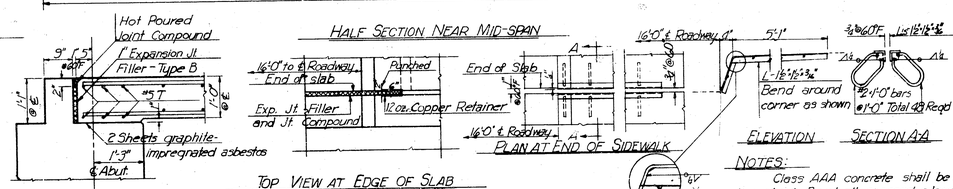
HALF PLAN SHOWING REINFORCING

* Except where replaced by F Frames



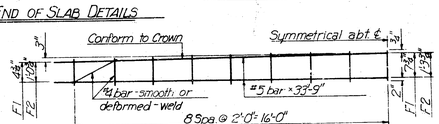
HALF PLAN OF SIDEWALK SHOWING REINFORCING

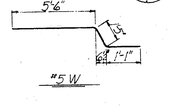




END OF SLAB DETAILS

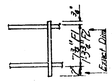
TOP VIEW AT EDGE OF SLAB



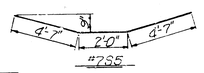


F-FRAMES

#5 - 67'-6" (F1 & F2)
#4 - 17'-4" (F1)
#4 - 29'-2" (F2)



F-FRAME DETAIL @ ℄



BENDING DIAGRAMS

* See Bending Diagrams

BAR LIST

Mark	F1	F2	S1	S2	S3	S4	S5	S6	S7
No. Reqd	10	4	70	68	136	140	68	35	34
Size	*	*	#8	#7	#7	#6	#7	#7	#6
Length	*	*	16'-6"	18'-6"	8'-0"	8'-0"	11'-2"	21'-0"	21'-0"
Shape									
Mark	S8	S9	S10	S11	S12	T	W		
No. Reqd	36	68	34	62	12	109	178		
Size	#7	#8	#7	#4	#7	#5	#5		
Length	32'0"	29'0"	25'0"	18'6"	18'-6"	33'-9"	8'-0"		
Shape									

SUMMARY OF QUANTITIES

Class AAA Concrete	143.9	Cu. Yd.
Concrete Handrail	176.5	Lin. Ft.
Reinforcing Steel	31,090	Lbs.
Structural Steel	90	Lbs.

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

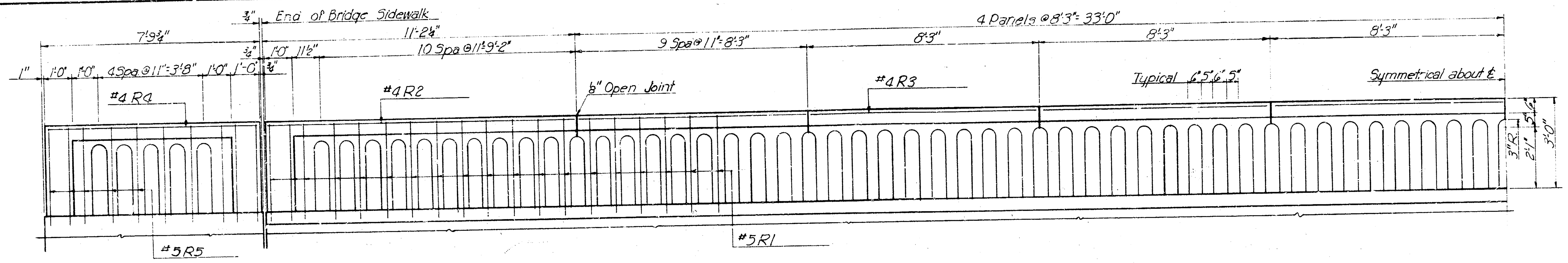
SLAB DETAILS
WASSALL STREET BRIDGE
OVER
DRY CREEK

R. S. DELAMATER
CONSULTING ENGINEER
WICHITA, KANSAS

DATE March, 1954
SCALE —
DWG. NO. 79-D-5

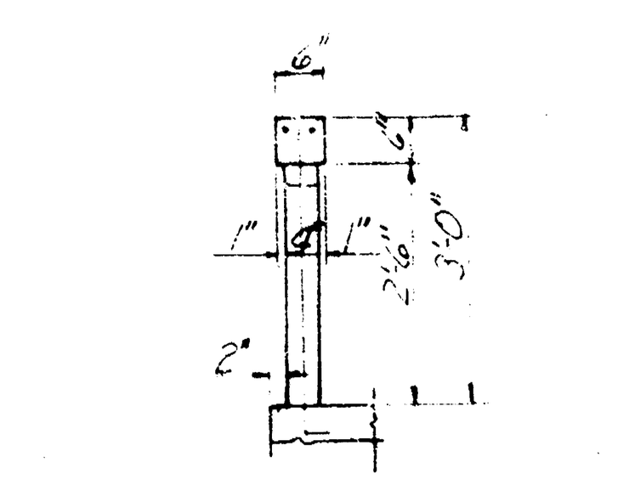
APP. PCT CKD. A.H. DR. A.H. DES. PILOT SURV.

SUPERSTRUCTURE DETAILS

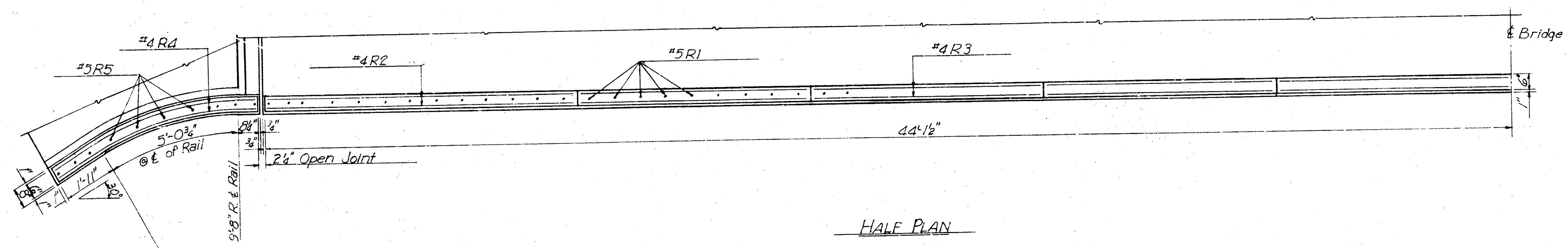


DEVELOPED VIEW OF ABUT. HANDRAIL

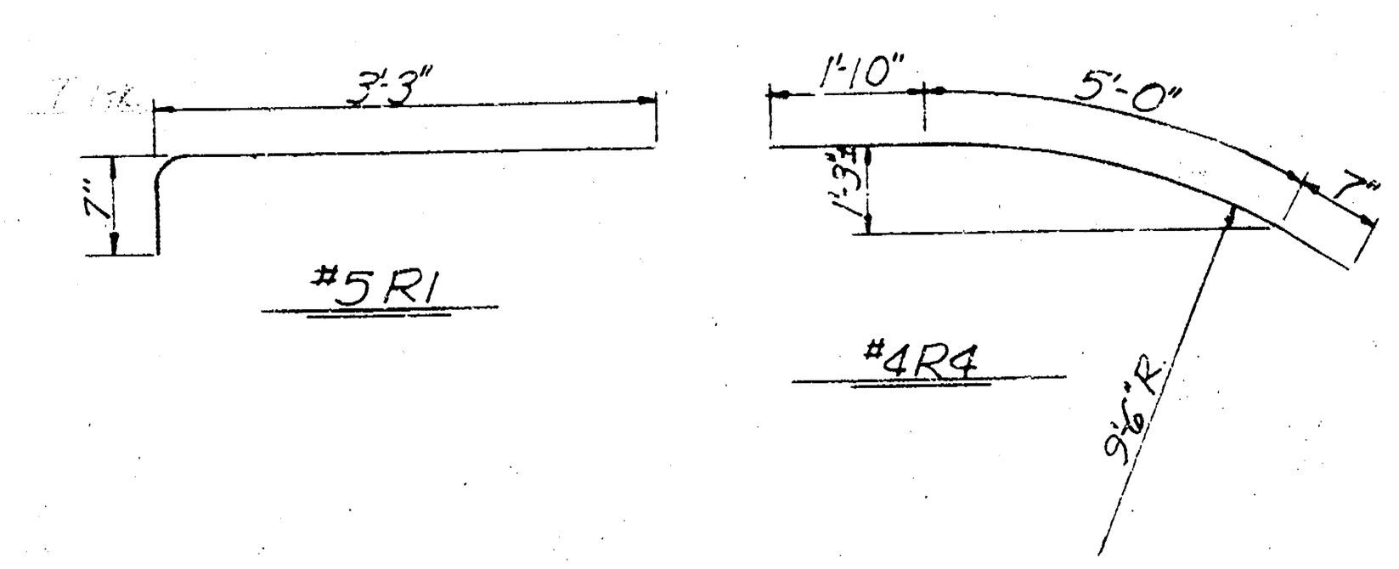
HALF ELEVATION OF BRIDGE HANDRAIL



SECTION THRU RAIL



HALF PLAN



BAR LIST					
Mark	R1	R2	R3	R4	R5
No. Req'd	196	8	32	8	40
Size	#5	#4	#4	#4	#5
Length	3'-10"	11'-0"	8'-0"	7'-5"	3'-10"
Shape					

SUMMARY OF QUANTITIES	
Class A Concrete	5.6 Cu. Yd.
Reinforcing Steel	1210 Lbs.

NOTES:

All concrete used in the handrail shall be Class A.

Bevel all exposed edges with a ½" triangular molding unless otherwise indicated.

Bid item "Concrete Handrail" shall include all Class A Concrete and reinforcing steel in handrail complete in place, as shown on this sheet.

Concrete Handrail shall be bid on basis of linear feet in place. The Class A Concrete and Reinforcing Steel quantities shown on this sheet are for Contractor's information only.

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

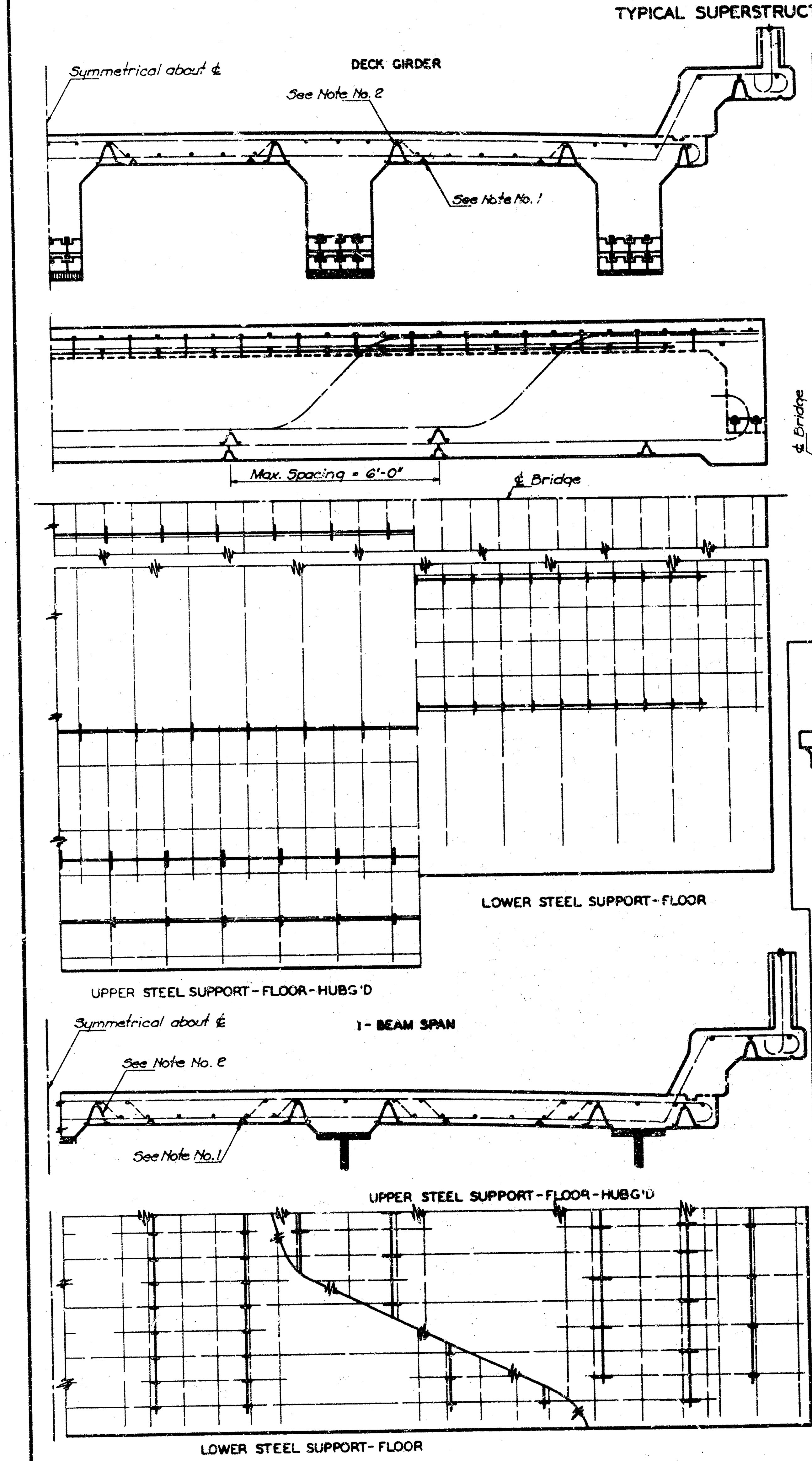
HANDRAIL DETAILS
WASSALL STREET BRIDGE
OVER
DRY CREEK

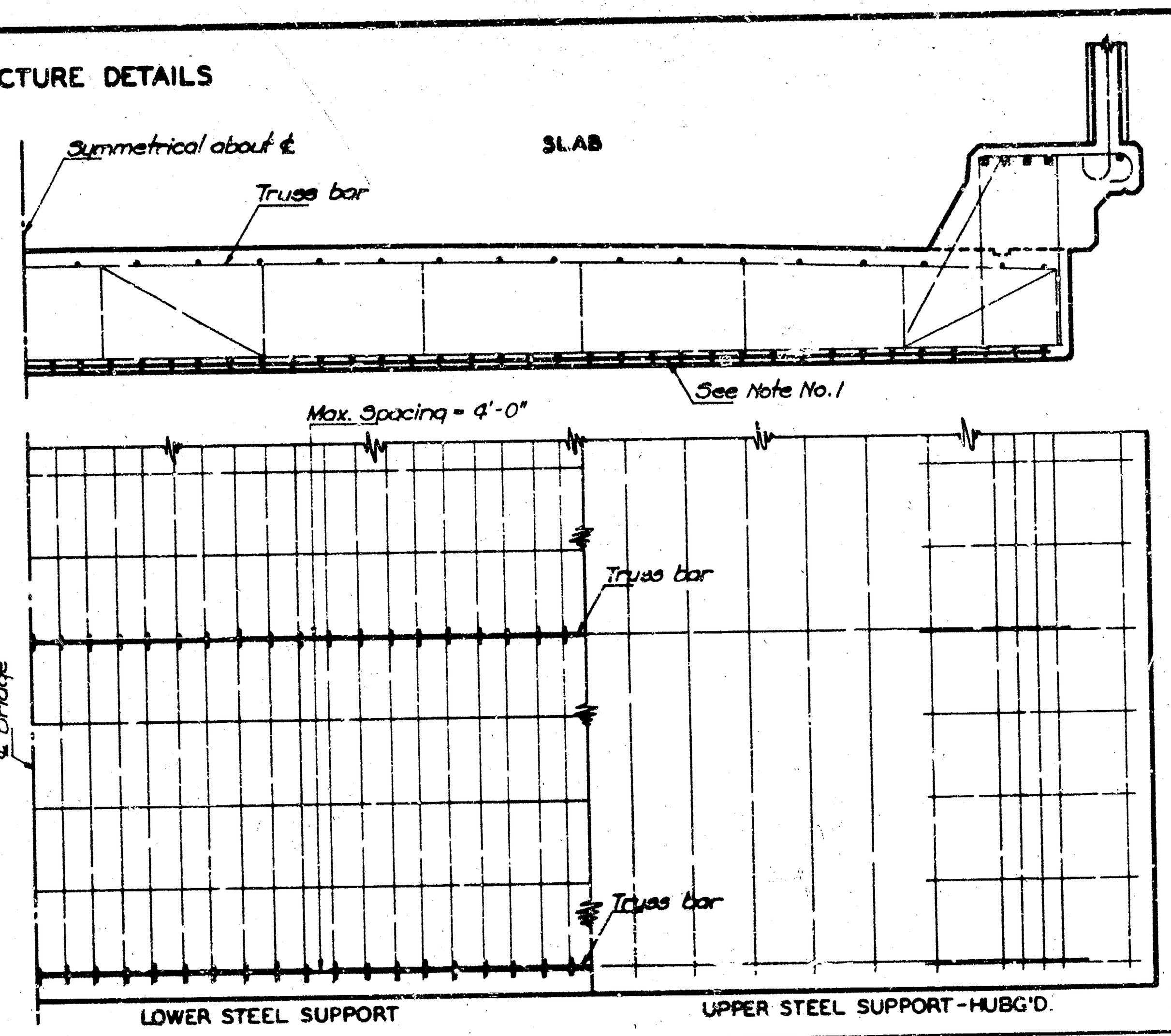
R. S. DELAMATER
CONSULTING ENGINEER
WICHITA, KANSAS

DATE March, 1954
SCALE ½" = 1'-0"
DWG. NO. 79-D-6

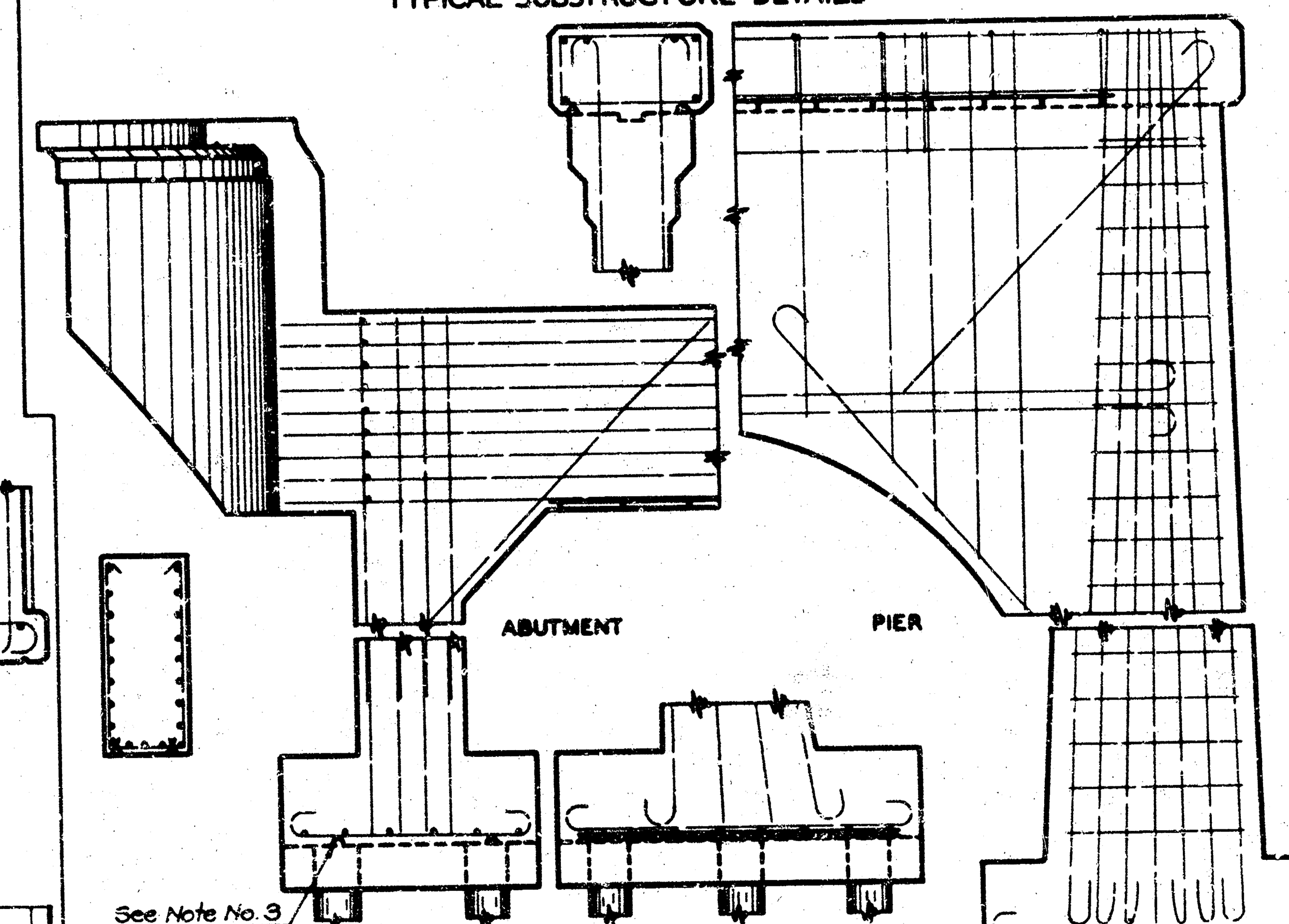
SURV. | PLOT. | DES. | DR. A.H. | TR. | CKD. PCT | APP.

TYPICAL SUPERSTRUCTURE DETAILS





TYPICAL SUBSTRUCTURE DETAILS



GENERAL NOTE

Spacings shown are maximum. Sufficient supports shall be used, as determined by the Engineer, to retain the reinf. steel in position.

Approved designs and arrangements of Supports or Spacers other than as shown on this sheet, may be used with the permission of the Engineer. Component parts of Supports and Spacers shall be securely welded at all contact points. Legs shall be so constructed that only the ends bear upon the forms.

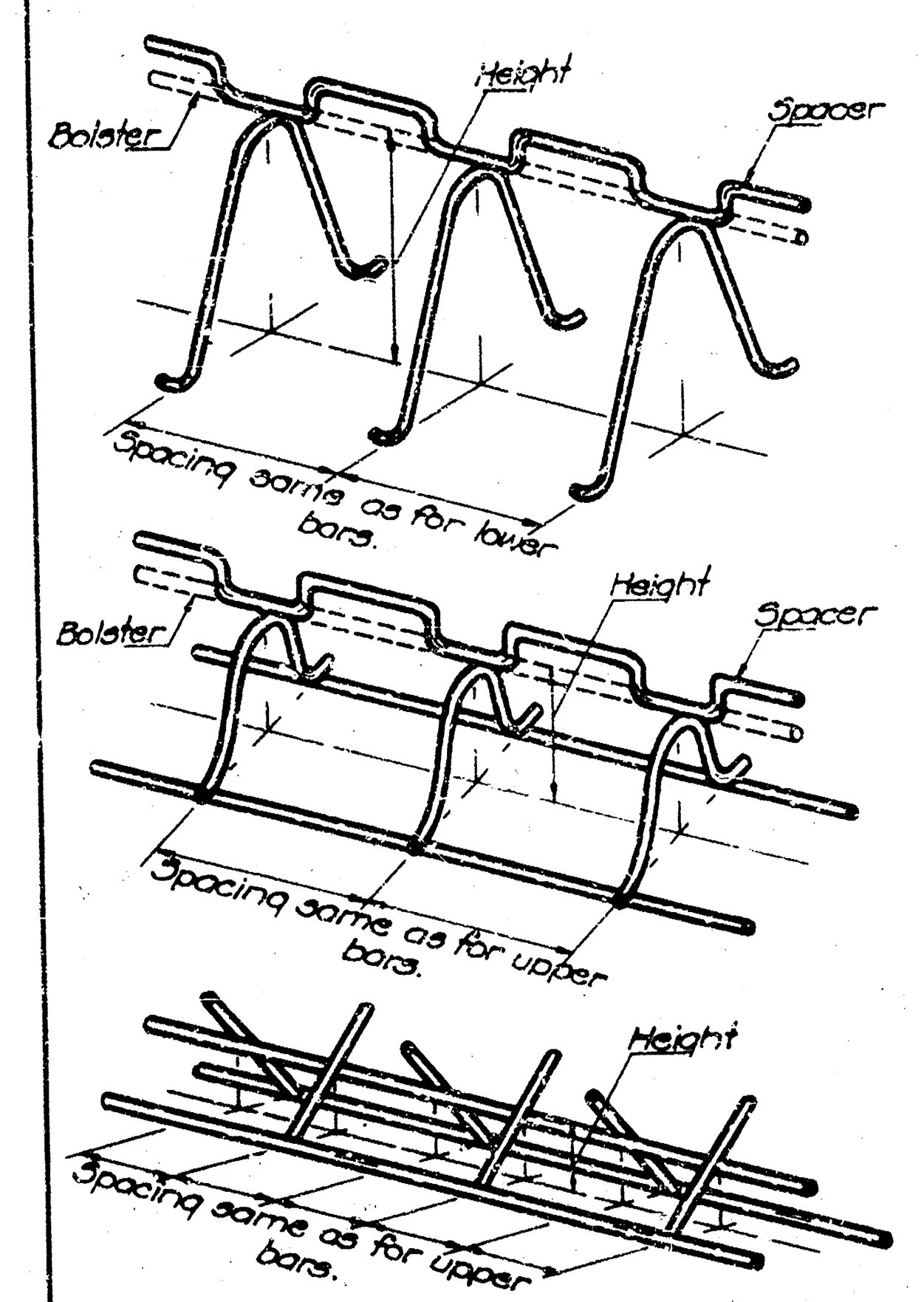
Wire used for Supports and Spacers shall be of sufficient size to insure stability of Reinforcing Steel at the position shown on the Plans, within the limits indicated by Notes 1 & 2. Wire supports shall be supplemented with form ties or other approved devices where necessary.

NOTE 1: The lower side of Reinforcing Steel in these locations shall be not less than one inch (1") from the surface of the concrete.

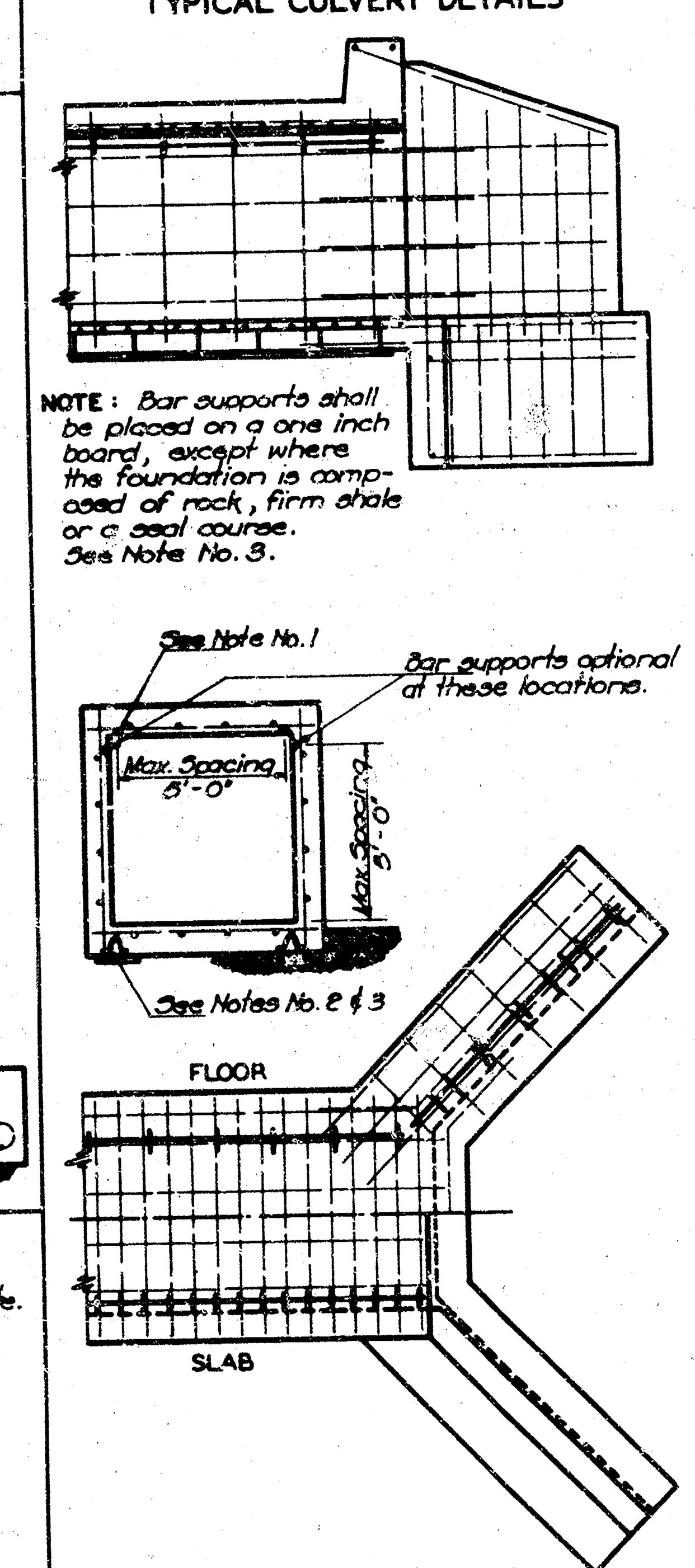
NOTE 2: The upper side of Reinforcing Steel in these locations shall be within the limits shown on the Plans.

NOTE 3: The use of Wire Supports for Reinforcing Steel in these locations is optional. Where they are not used the Steel shall be supported from the forms by means of wire ties or saddles.

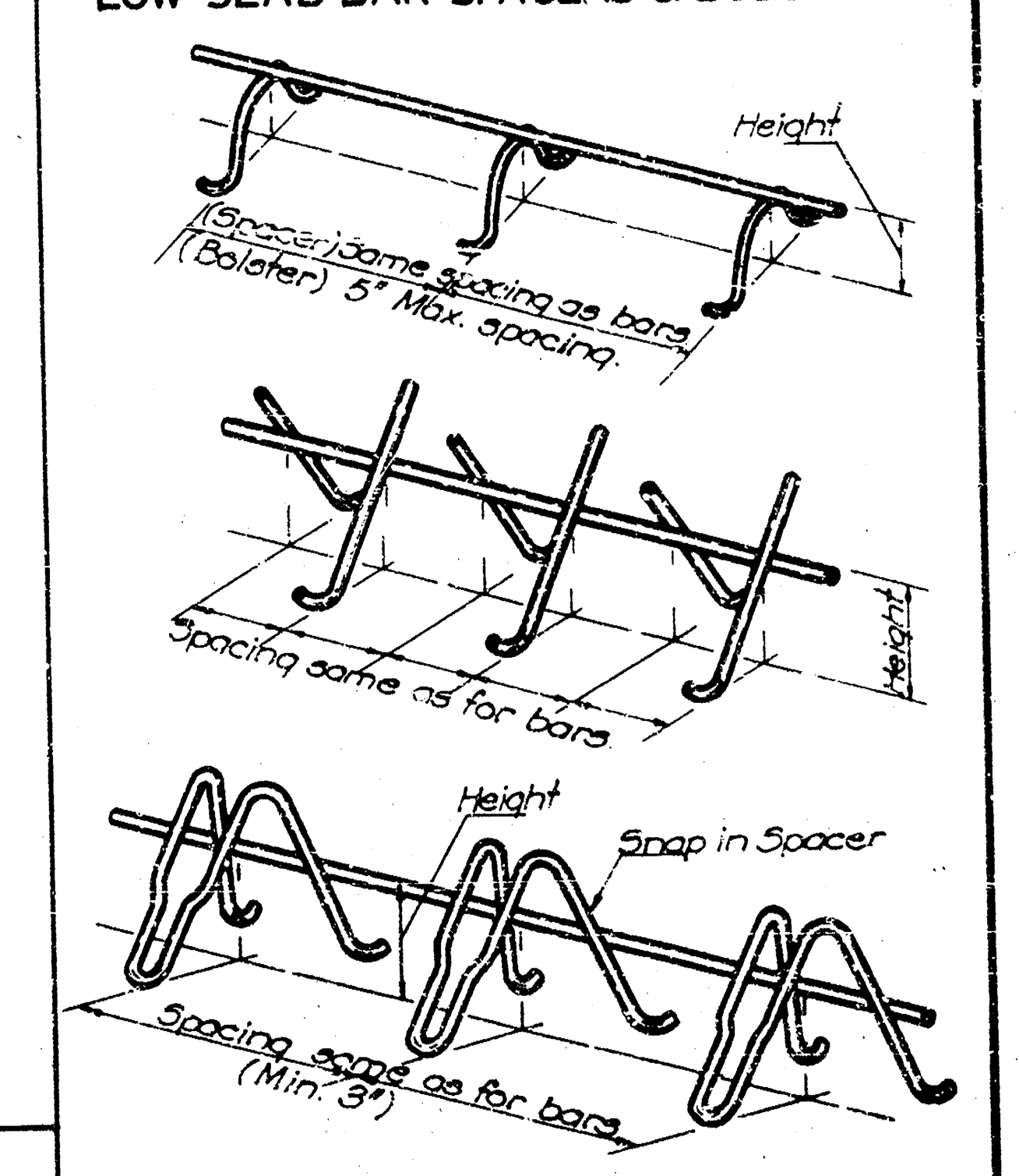
BEAM BAR SPACERS & BOLSTERS



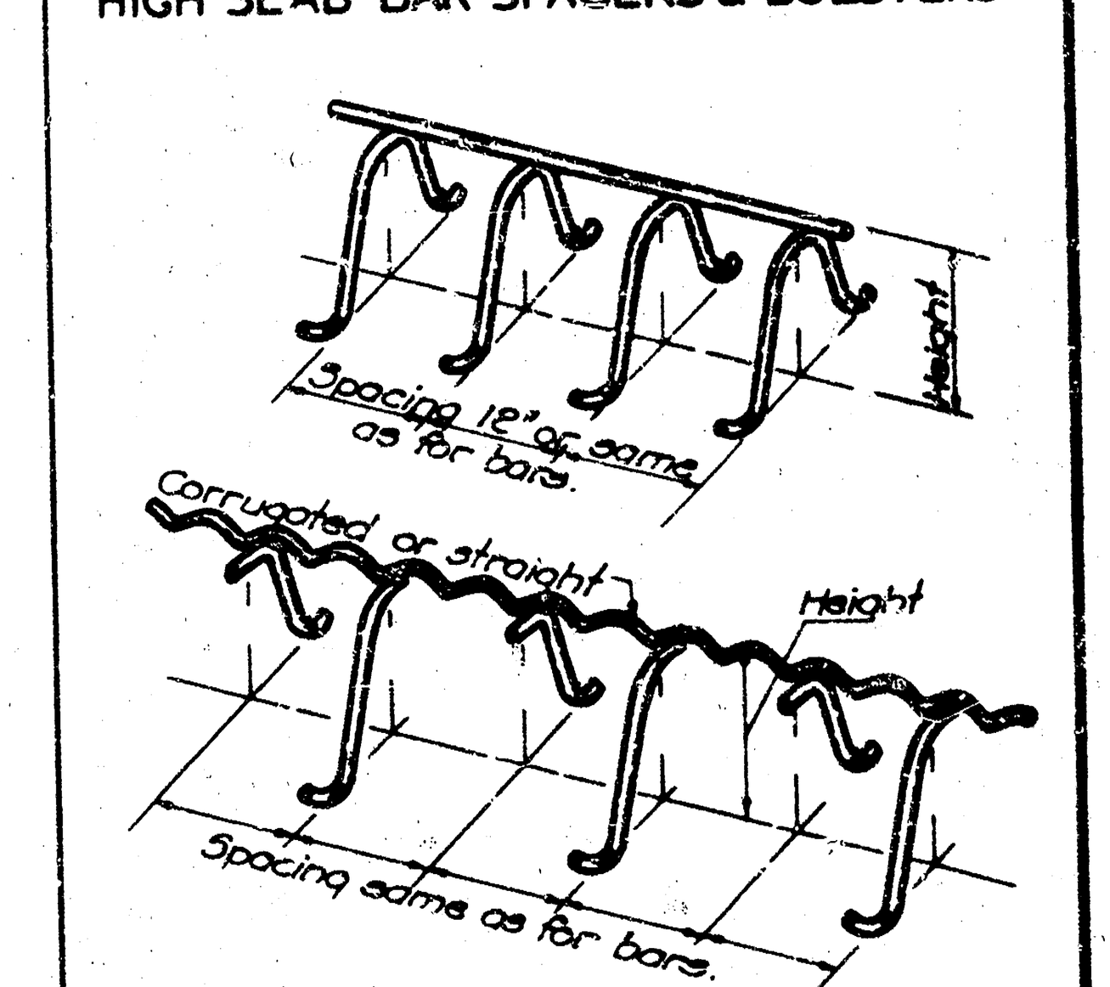
TYPICAL CULVERT DETAILS



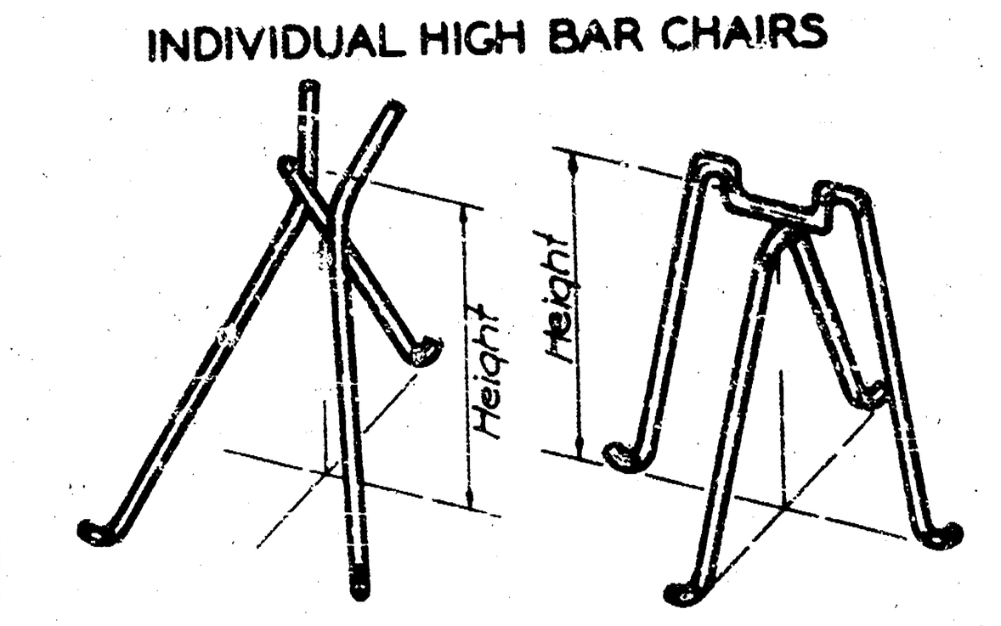
LOW SLAB BAR SPACERS & BOLSTERS



HIGH SLAB BAR SPACERS & BOLSTERS



INDIVIDUAL HIGH BAR CHAIRS



NO.	DATE	REVISIONS	BY	APP'D
3				
2				
1	3-45	No change for 1945 Spec's.	-	-

STATE HIGHWAY COMMISSION OF KANSAS

SUPPORTS AND SPACERS FOR REINFORCING STEEL

STD. NO. 610 SCALE No Scale

DESIGNED BY F.A.R. DATE 7-43 DETAILED BY W.A.B. TRACED BY W.A.B.

CHECKED BY C.T. APPROVED BY L.H. Vincent DATE 4-17-44