

INDEX OF SHEETS

1. Title Sheet
 2. Construction Layout
 3. General Notes and Summary of Bridge Quantities
 4. Abutment Details
 5. Pier Details
 6. Roadway Beam Details
 7. Sidewalk Beam Details
 8. Superstructure Layout
 9. Superstructure Details
 10. Handrail Details
 11. Riprap and Approach Slab Details
 12. Bar List and Bending Diagrams
 13. Standard Pile Details
 14. Bridge Excavation
 15. Supports and Spacers for Reinforcing Steel
- 15A-15C CENTRAL AVE PAVING PLAN SHEETS (Right-of-Way Information Only)

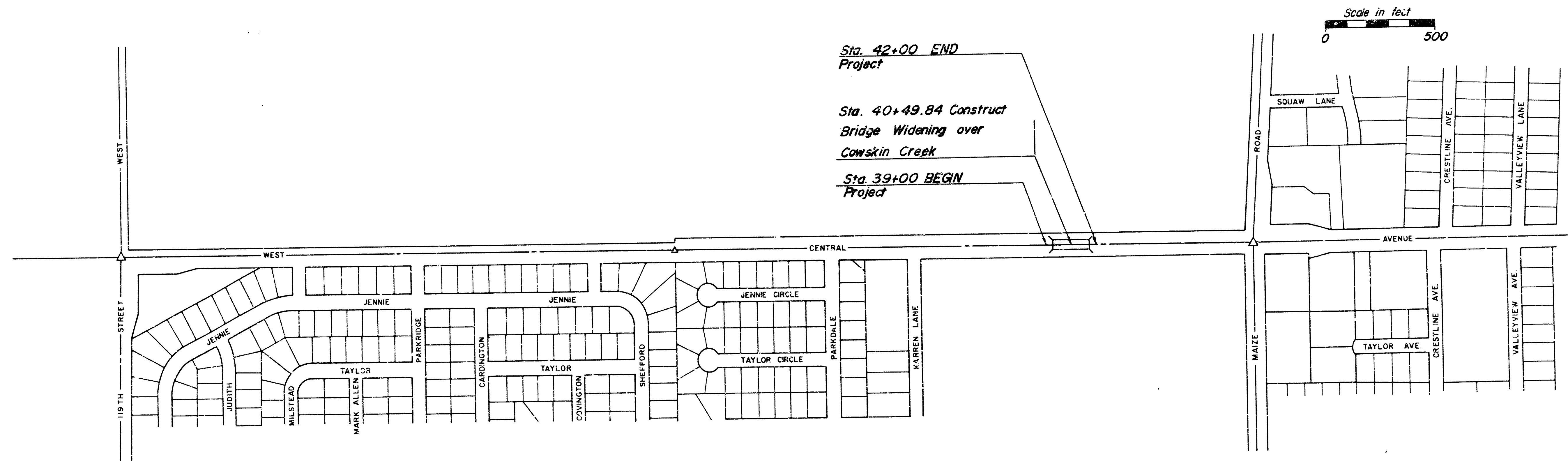
CITY OF WICHITA, KANSAS

BRIDGE WIDENING

(WEST CENTRAL AVENUE)

MIKE LINDEBAK / CITY ENGINEER

PROJ. NO. 472-76-245-81502-000-000-001



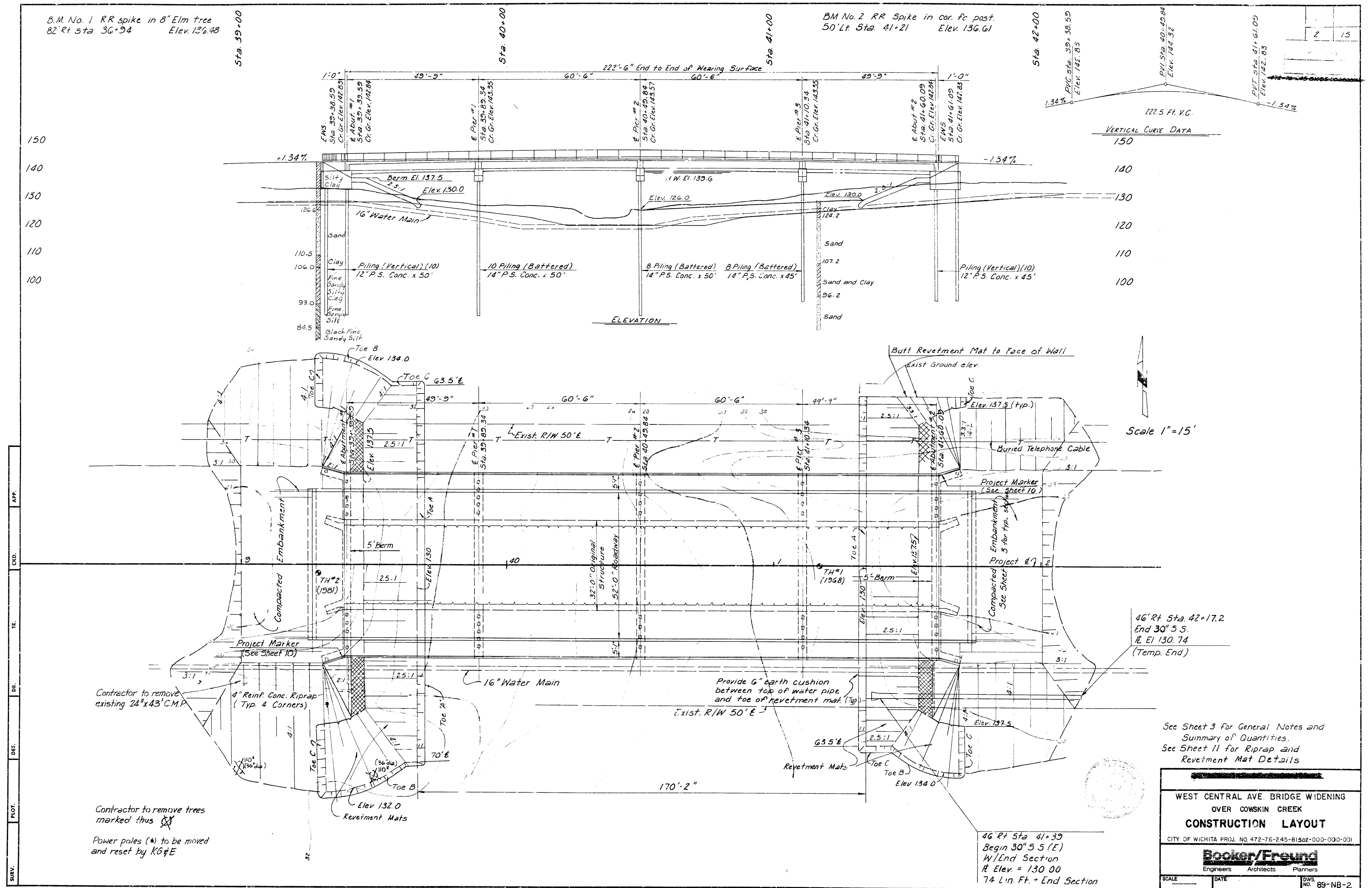
PLANS PREPARED BY

Engineers Architects Planners
WICHITA, KANSAS



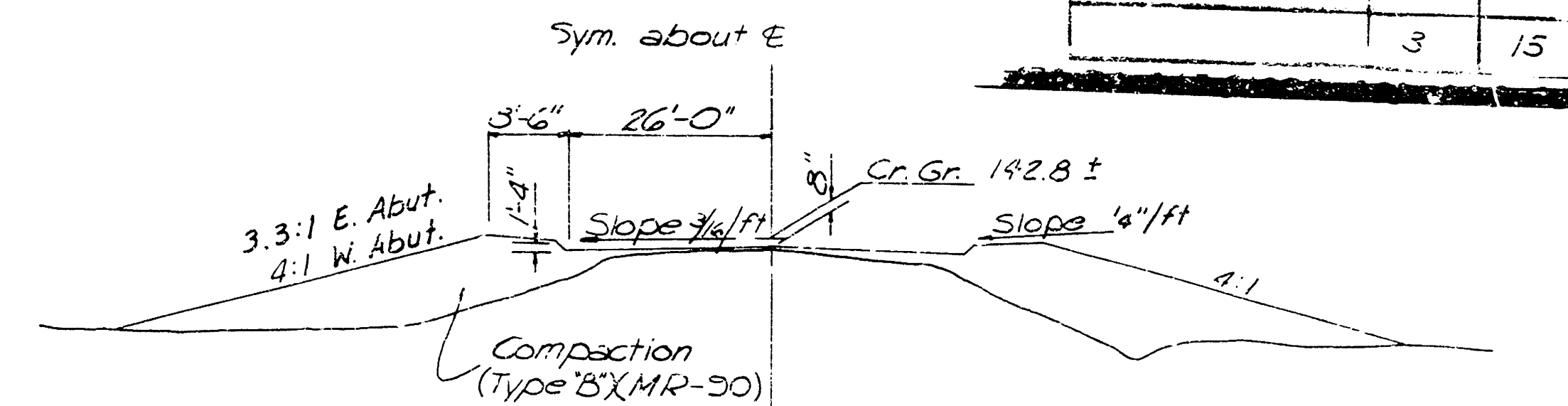
NOTE:

Traffic will not be carried through construction.

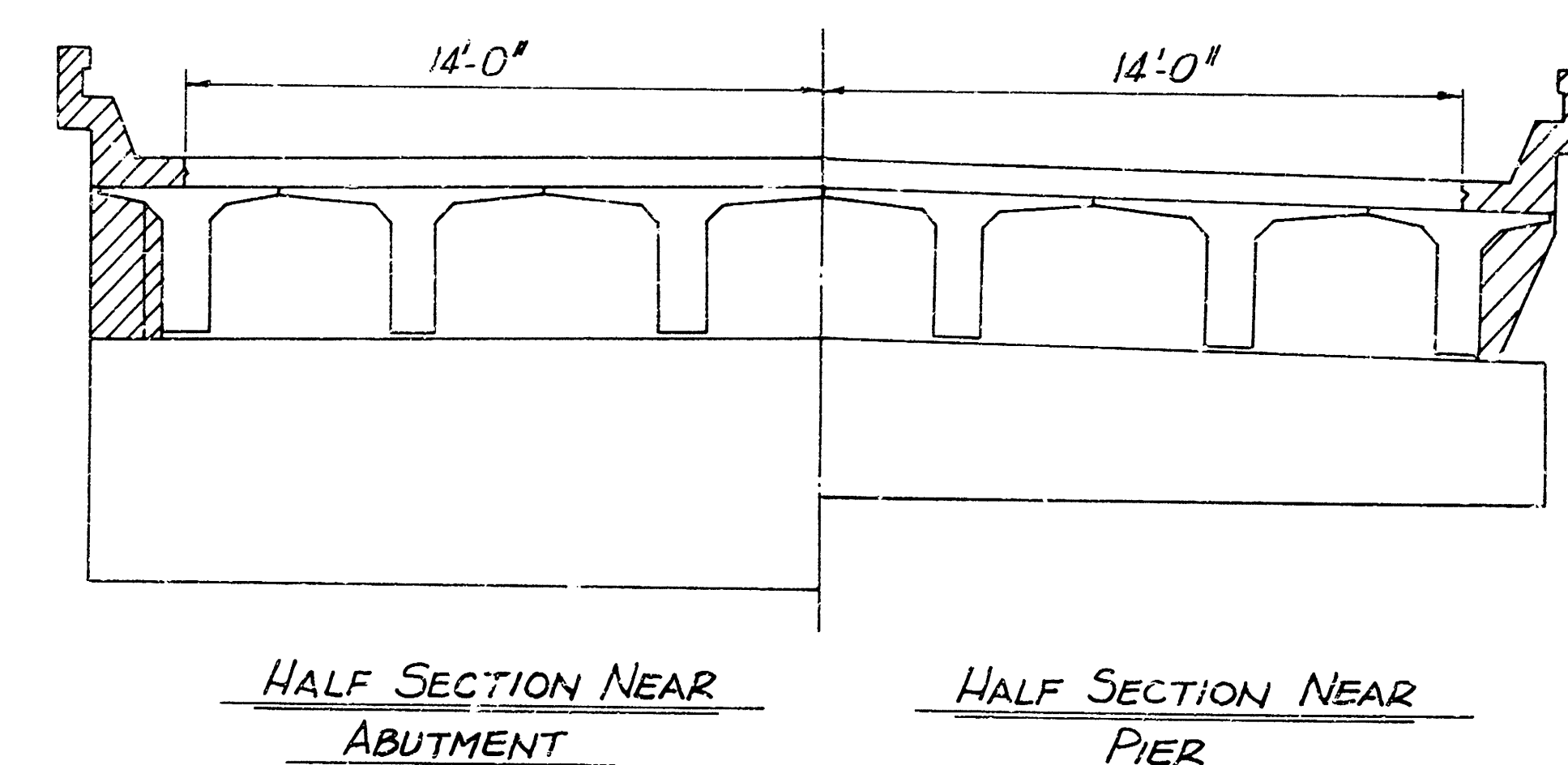
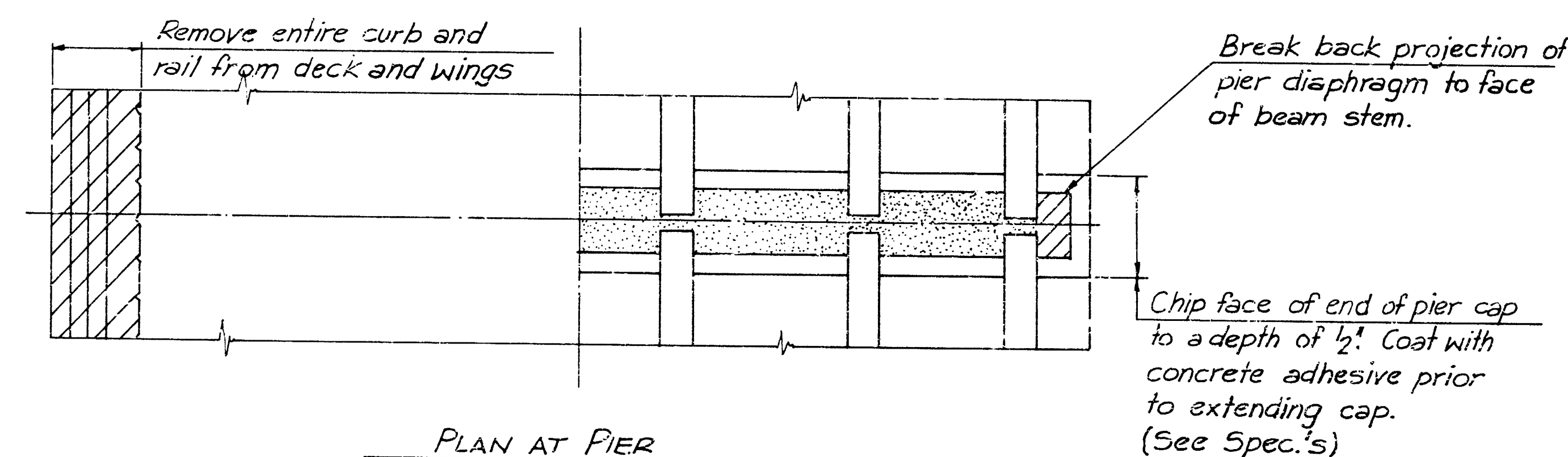
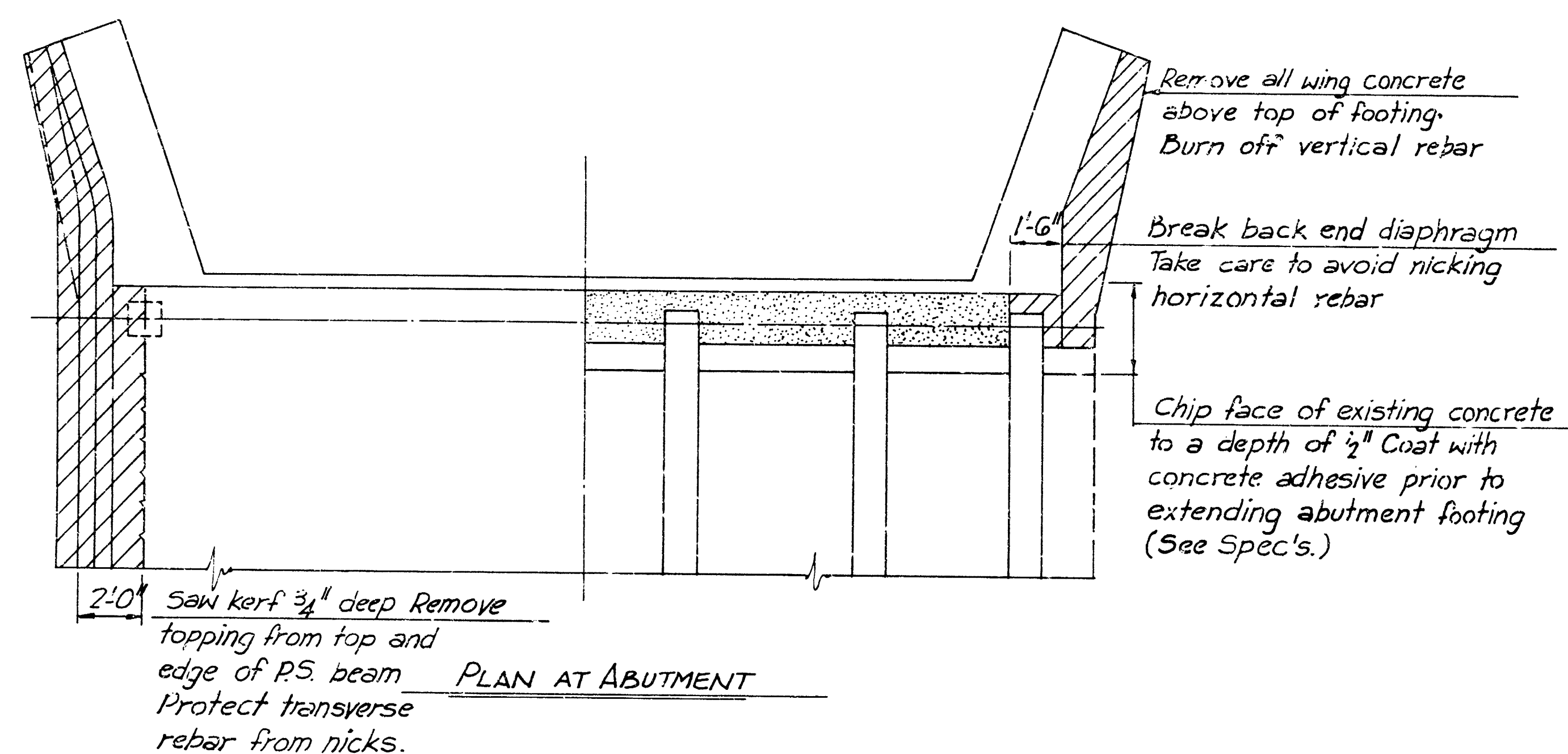


Location	Excavation Class III Excav. Cu. Yds.	Class AAA (AE) Concrete Cu. Yds.	Steel Reinf. Lbs.	Pr. Conc. S-T Beams Lin. Ft.	Pr. Conc. D-T Beams Lin. Ft.	Pr. Conc. Piles (12") Lin. Ft.	Pr. Conc. Piles (14") Lin. Ft.	Approach Slab Each	Latex Surf. Course (12") Sq. Yds.	Removal of Ex. Structure Lump Sum	Steel Handrail Lin. Ft.	30" Storm Sewer Lin. Ft.	4" Reinf. Conc. Riprap Sq. Yds.	Revetment Mats Sq. Yds.	Removal of Large Trees Each	Removal of Ex. CMP Lin. Ft.	Contractor Furnished Compacted Embankment Cu. Yds.
Abutment #1	20	32.5	2870			500											
Pier #1		13.1	1460				500										
Pier #2		13.1	1430				400										
Pier #3		13.1	1430				360										
Abutment #2	20	32.5	2870			450					13						
Superstructure		202.5	62,060	176.0	438.0				1296		442						
TOTAL	180	307.7	72,120	876.0	438.0	550	1,260	2	1296	Lump sum	468	18.2	81.2	992	2	43	1754

*8 @ 45'-10" **4 @ 45'-10" #10 @ 50' **13 @ 50' ** See details below 0 includes 1 End Section
 8 @ 53'-8" 4 @ 53'-8" 10 @ 45' 8 @ 45'



TYPICAL SECTION
 COMPACTED EMBANKMENT
 Sta. 39+00 to 39+38.59
 and Sta. 41+61.03 to 42+00



GENERAL NOTES:

BRIDGE EXCAVATION: All bridge excavation shall be Class III. See Sheet 14 for limits of Pay Excavation.

SOUNDINGS: Sounding information shown on Sheet 2 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: Piles shall be 12" prestressed concrete piles in abutments and 14" prestressed concrete piles in piers, as detailed on Sheet 13. 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. The design bearing value of the piles are 25 tons per pile in Abutments, 33 tons per pile in Pier #1, and 45 tons per pile in Piers #2 and #3. All piles except those at Abutment #1 and Pier #1 shall be driven to the design bearing values. Driving of piles for Abutment #1 and Pier #1 shall be halted as soon as design bearing values are achieved, or at one foot above cut-off elevation, whichever occurs first. Further driving may result in reduced bearing values.

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.

REMOVAL OF EXISTING STRUCTURE: See this sheet for details of removal of existing structure.

CONCRETE: Class AAA(AE) Concrete shall be used in the bridge construction, including abutments, piers, diaphragms, deck, rail, approach slabs and reinforced concrete riprap, except for prestressed concrete beams. Bevel all exposed edges with a 3/4" triangular molding unless otherwise noted.

REINFORCING STEEL: All reinforcing steel shall be Grade 40, minimum. 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.

DECK TREATMENT: Sidewalks, approach slabs and reinforced concrete riprap shall be cured with emulsified Linseed Oil, in accordance with the K.D.O.T. Specifications. As bricking of concrete traffic rail is completed, curing shall be continued by spraying with Linseed Oil Emulsion. Bridge (Roadway) deck shall receive a wearing course consisting of Latex Modified Concrete. Thickness will vary from a minimum of 1 inch to a maximum of 2 3/4 inches due to irregularities in the existing deck. See details on this sheet.

APPROACH SLABS: The item of "Approach Slab" includes fine grading, and furnishing, forming and finishing all concrete and reinforcing steel required for one approach slab at each end of the bridge, as detailed on Sheet 11.

Class AAA(AE) Concrete shall be used in approach slabs. Approximate quantities, each slab (2 thus): Class AAA(AE) Concrete: 402 Cu. Yds., Reinforcing Steel: 5170 Lbs., including 42 Lbs. of welded wire fabric.

REVESTMENT MATS: Revetment Mats shall be Fabric-form grouted erosion control mats fabricated and installed in accordance with these plans and the Supplemental Specifications.

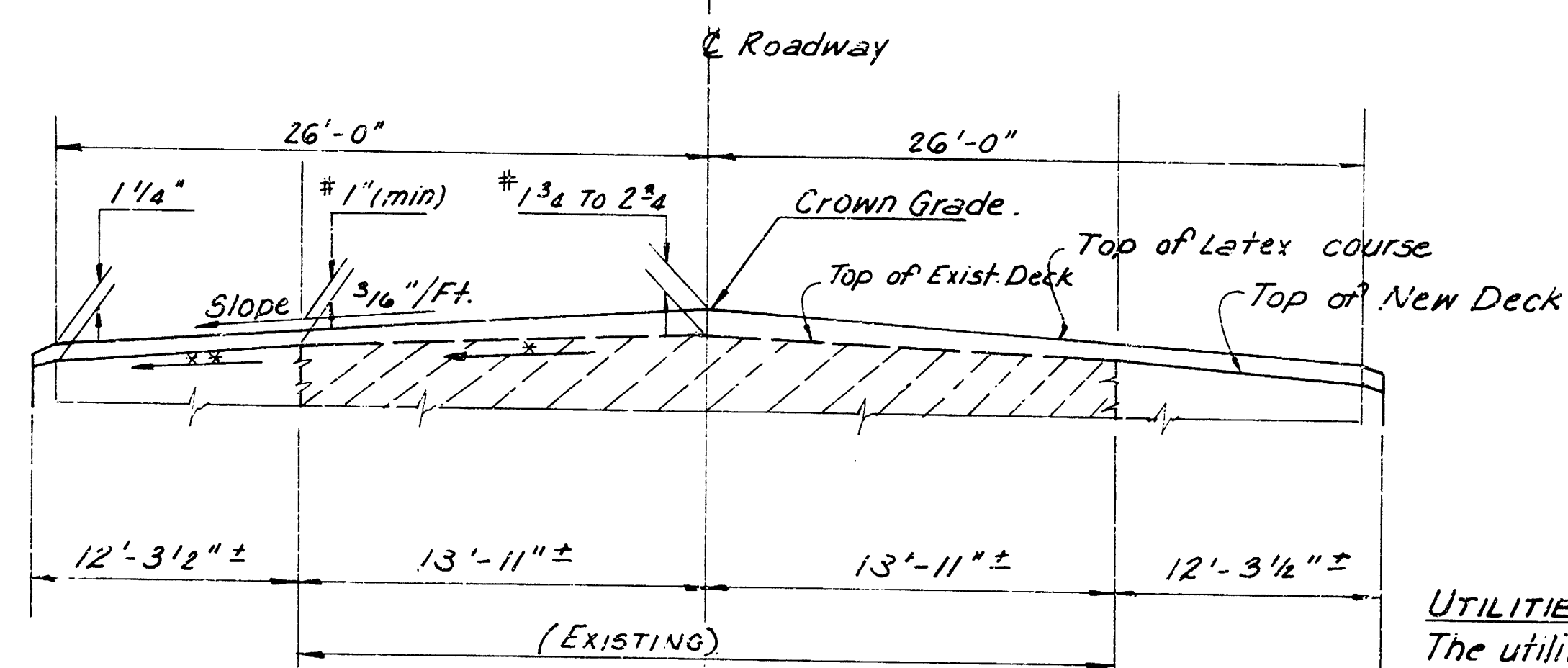
QUANTITIES: All quantities shown on these plans shall be used as final pay quantities, except that measurement of piling shall be in accordance with the Specifications.

GENERAL REQUIREMENTS: It is the intention of these Plans and Specifications that construction of this project shall be in accordance with applicable Standard Specifications and requirements of the Kansas Department of Transportation and that materials shall conform to these specifications unless otherwise noted.

DESIGN LOADING: H20-44 A.A.S.H.T.O. Spec. (1977 Edition)

UNIT STRESSES:
 $f'_c = 4,000$ p.s.i. Class AAA(AE)
 $f_c = 1,600$ p.s.i. Class AAA(AE)
 $f_s = 20,000$ p.s.i. Reinf. (Gr. 40)

DESIGN PILE PRESSURE:
 25 Tons per Pile (Abutments)
 33 Tons per Pile (Pier 1)
 45 Tons per Pile (Piers 2 & 3)



* Exst. Transverse Slope (Varies) flatter than 3/4"/ft.
 ** New Deck Transverse Slope 3/4"/ft. ±

* Note: Latex course thicknesses noted on this detail are based on field notes and are approximate.

LATEX COURSE DETAILS

Utilities
 Gas: Arkansas-Louisiana Gas Co.
 1630 South Baehr
 Wichita, KS 67218
 Mr. Tom Collins 942-8350
 Telephone: Southwestern Bell Telephone Co.
 626 N. Broadway
 Wichita, KS 67203
 Mr. R.M. Alley 268-2932
 Water Main (16"): Wichita Water Department
 Engineering 268-4555
 Electric: KGE. 264-1141

UTILITIES:
 The utilities as indicated on these plans, both above and below ground, represent the best information available at this time. It is the contractors responsibility to contact each of the utility companies involved for accurate field location of their utilities prior to beginning any excavation or construction work on this project.

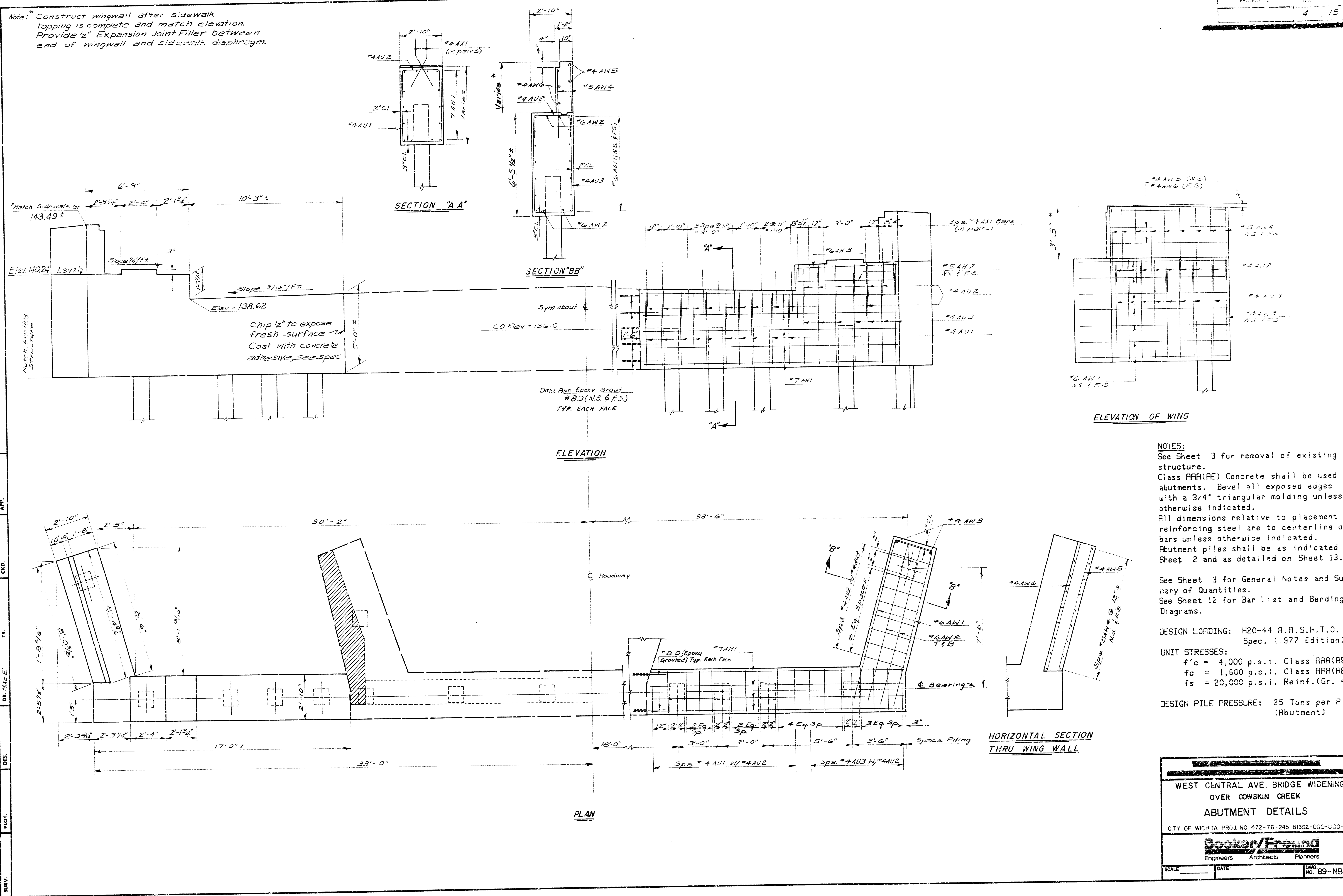
WEST CENTRAL AVE. BRIDGE WIDENING OVER COWSKIN CREEK	
GENERAL NOTES & SUMMARY OF BRIDGE QUANTITIES	
CITY OF WICHITA PROJ. NO. 472-76-243-81501-000-000-001	
Booker/Freund	
Engineers	Architects
Planners	
SCALE	DATE
DWG. NO. 89-NB-3	

GENERAL NOTES & SUMMARY
 OF BRIDGE QUANTITIES

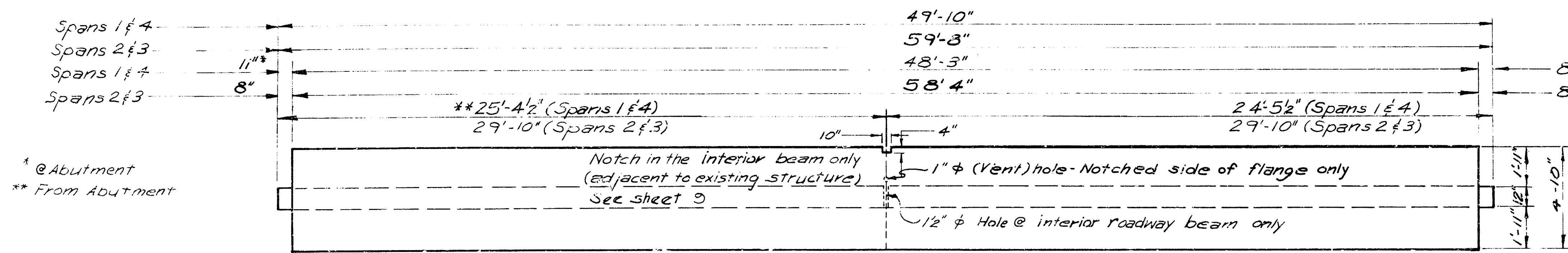
Dec-81

89-NB

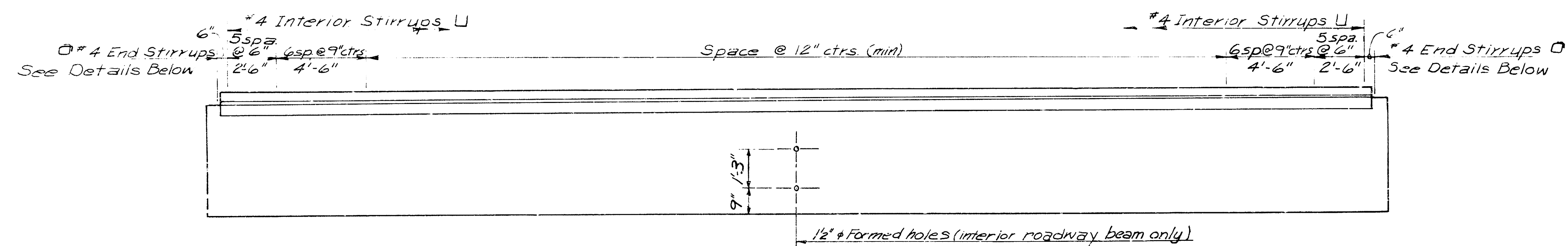
Note: Construct wingwall after sidewalk topping is complete and match elevation. Provide 2" Expansion Joint Filler between end of wingwall and sidewalk diaphragm.



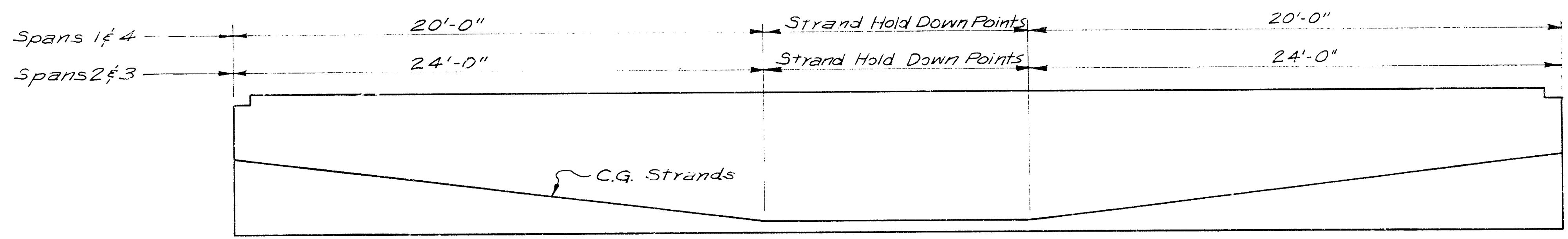
SURV.
 PLOT.
 DES.
 DR.
 TR.
 C.D.
 APP.



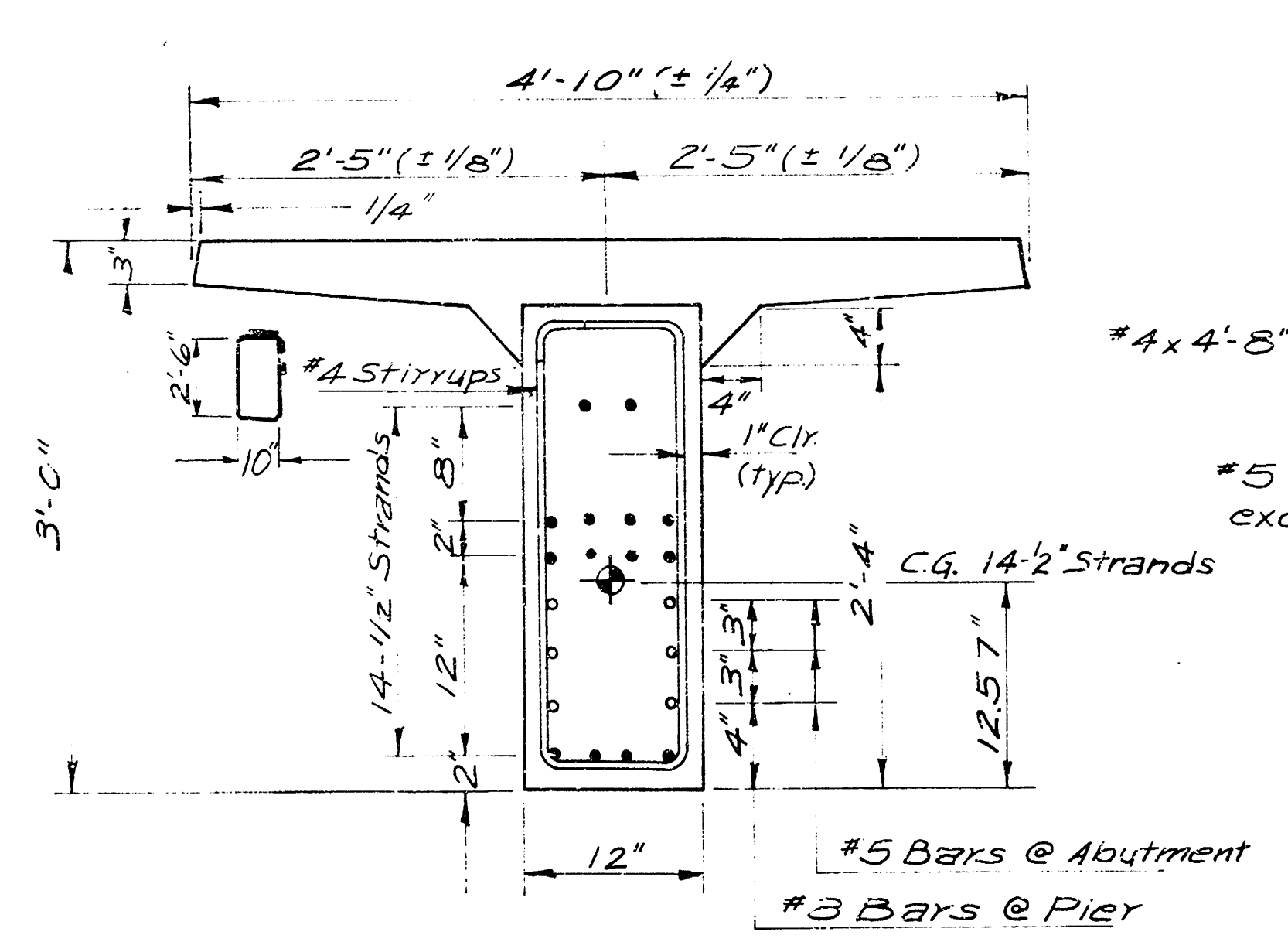
PLAN



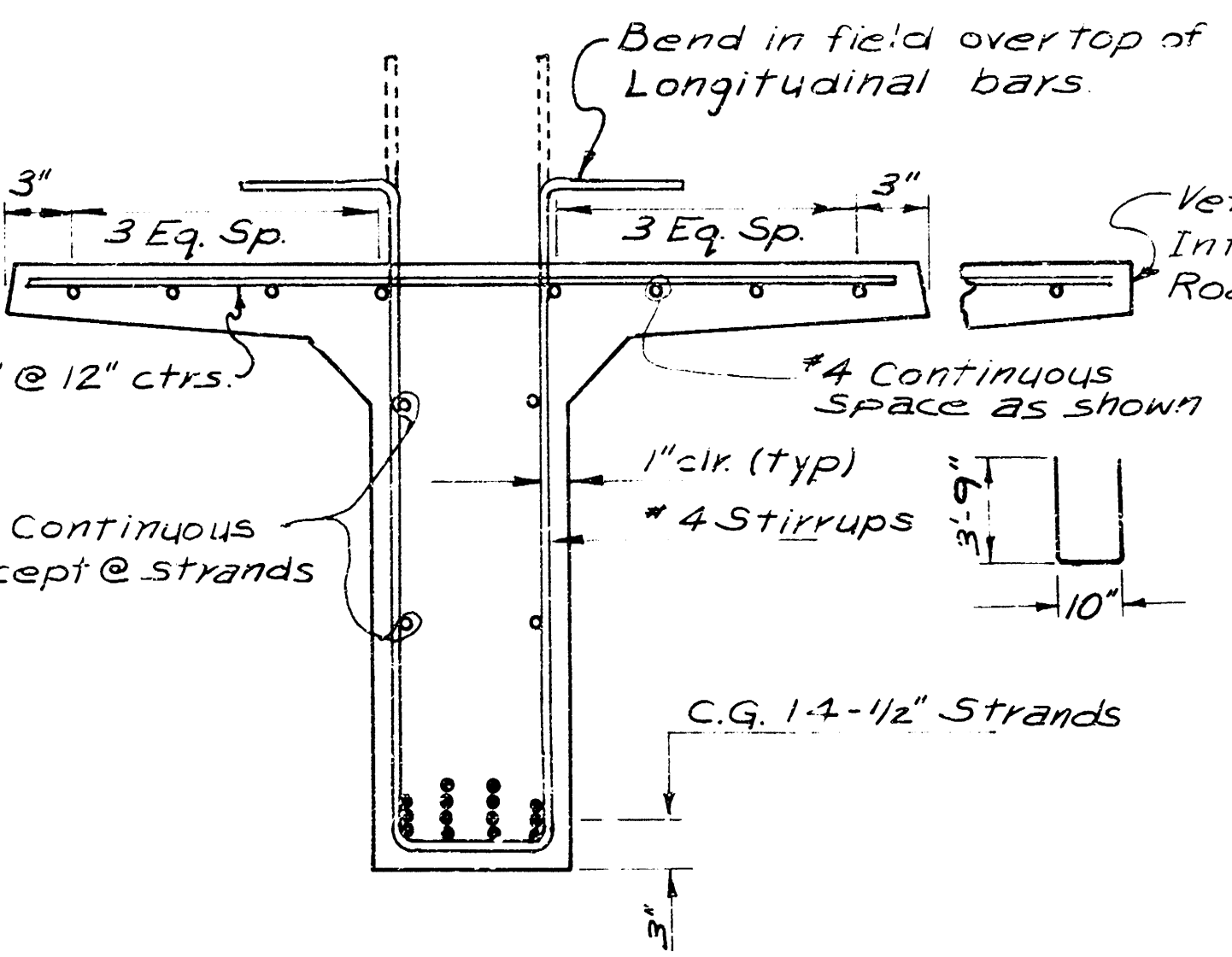
ELEVATION



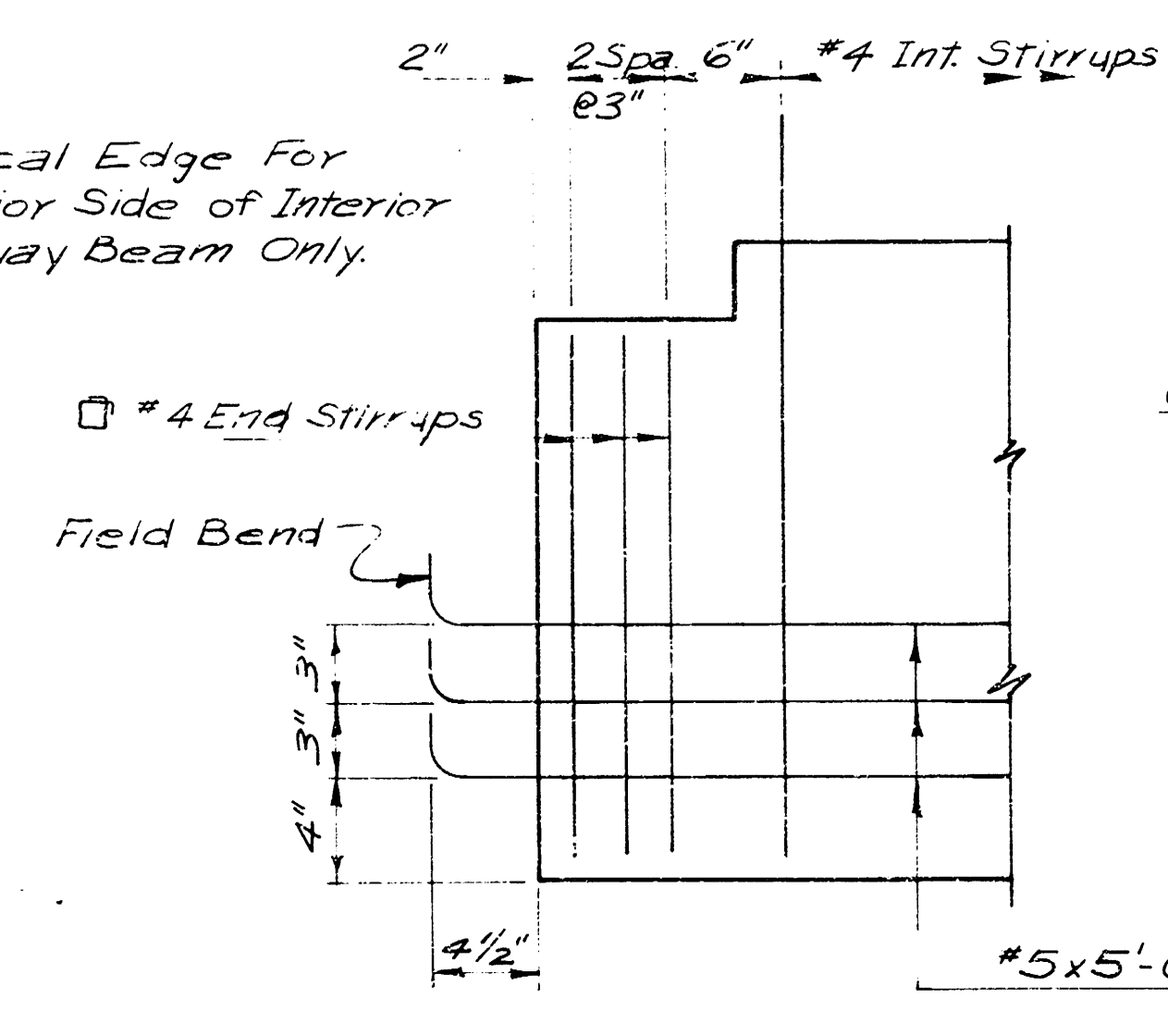
ELEVATION



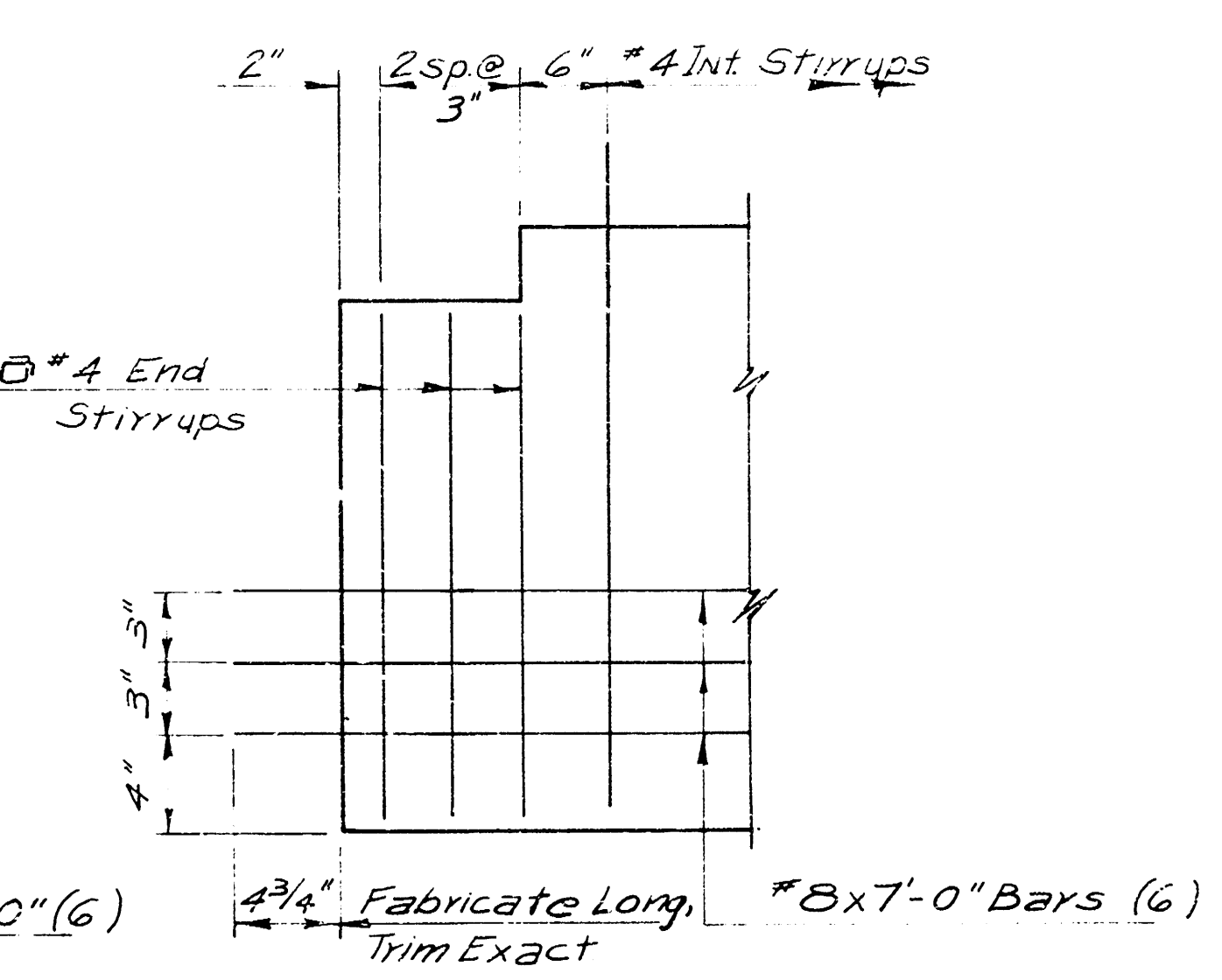
SECTION @ END



SECTION @ MID-SPAN



END DETAILS @ ABUTMENT



END DETAILS @ PIER

PRESTRESSING STEEL:
 1/2" nominal diameter 7-wire high ten-
 sile type, uncoated, stress relieved
 strands having the following properties:
 Minimum Ultimate Strength: 268,000 p.s.i.
 Initial Stress: 187,000 p.s.i.
 Initial Tension per Strand: 28,910 lbs.

All dimensions shown relative to place-
 ment of reinforcing steel are to center-
 line of bars or strands unless otherwise
 noted.

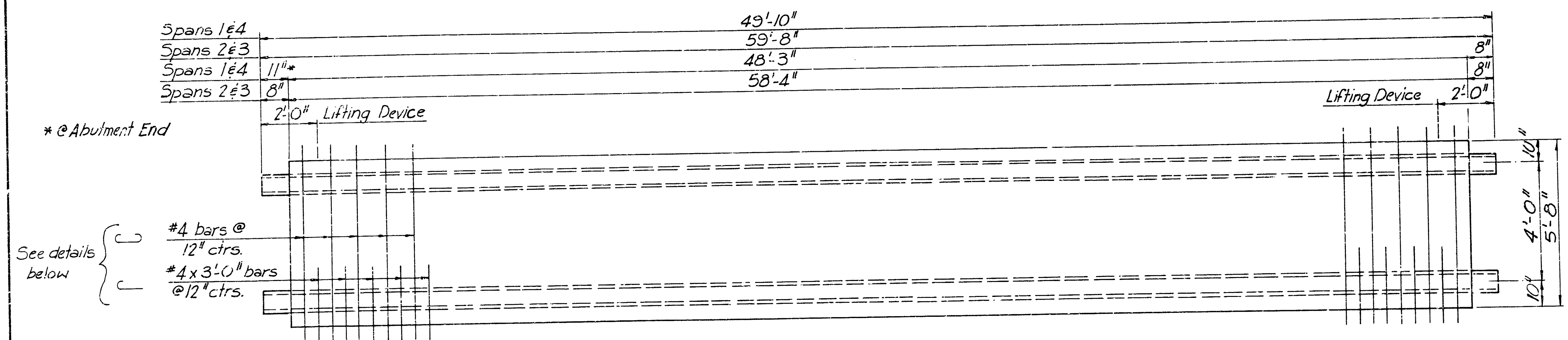
Precast beams shall at all times be
 handled and transported in an upright
 position and points of support shall be
 approximately the same during transporta-
 tion and storage as when the beam is in
 its final position.

See Sheet 9 for Beam Erection Notes.

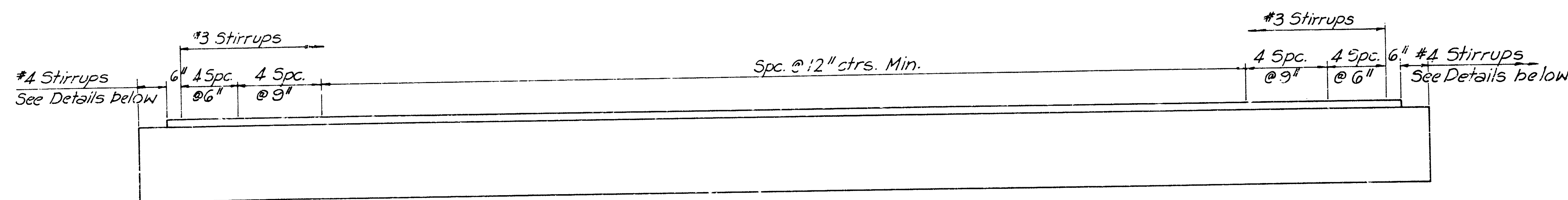
DESIGN LOADING: H20-44 A.R.S.H.T.O
 Spec. (1977 Edition)

UNIT STRESSES (ROADWAY BEAMS):
 Concrete: $f'c$ = 5,000 p.s.i. @ 28 days
 $f'ci$ = 4,350 p.s.i. (Minimum
 Release Strength)

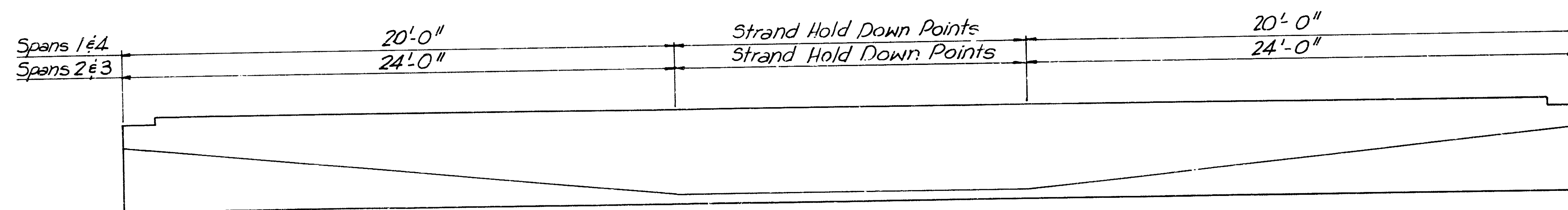
WEST CENTRAL AVE. BRIDGE WIDENING OVER COWSKIN CREEK ROADWAY BEAM DETAILS CITY OF WICHITA PROJ. NO. 472-76-245-81502-000-000-001 Booker/Freund Engineers Architects Planners	
SCALE _____ DATE _____	DWG NO. 89-NB-6



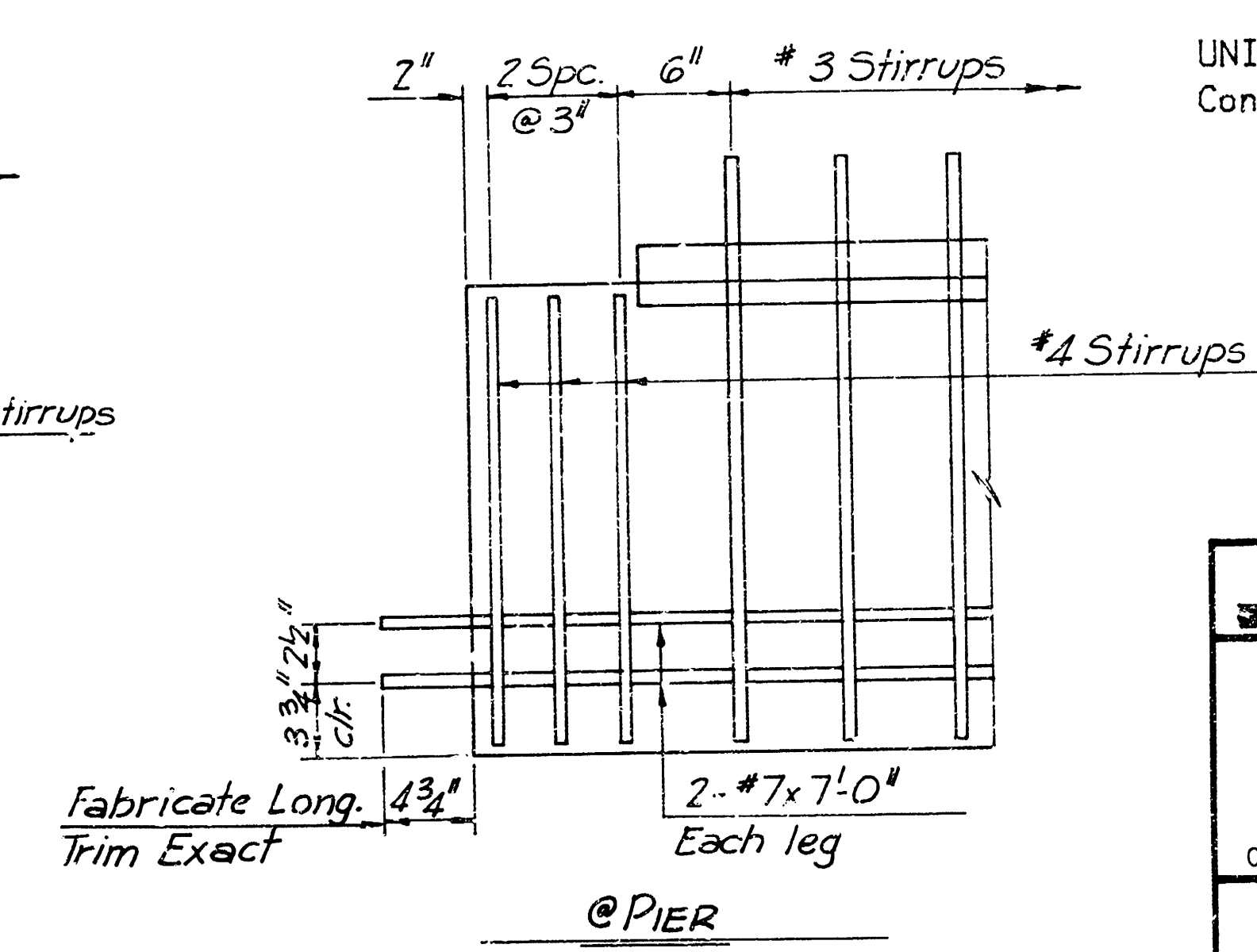
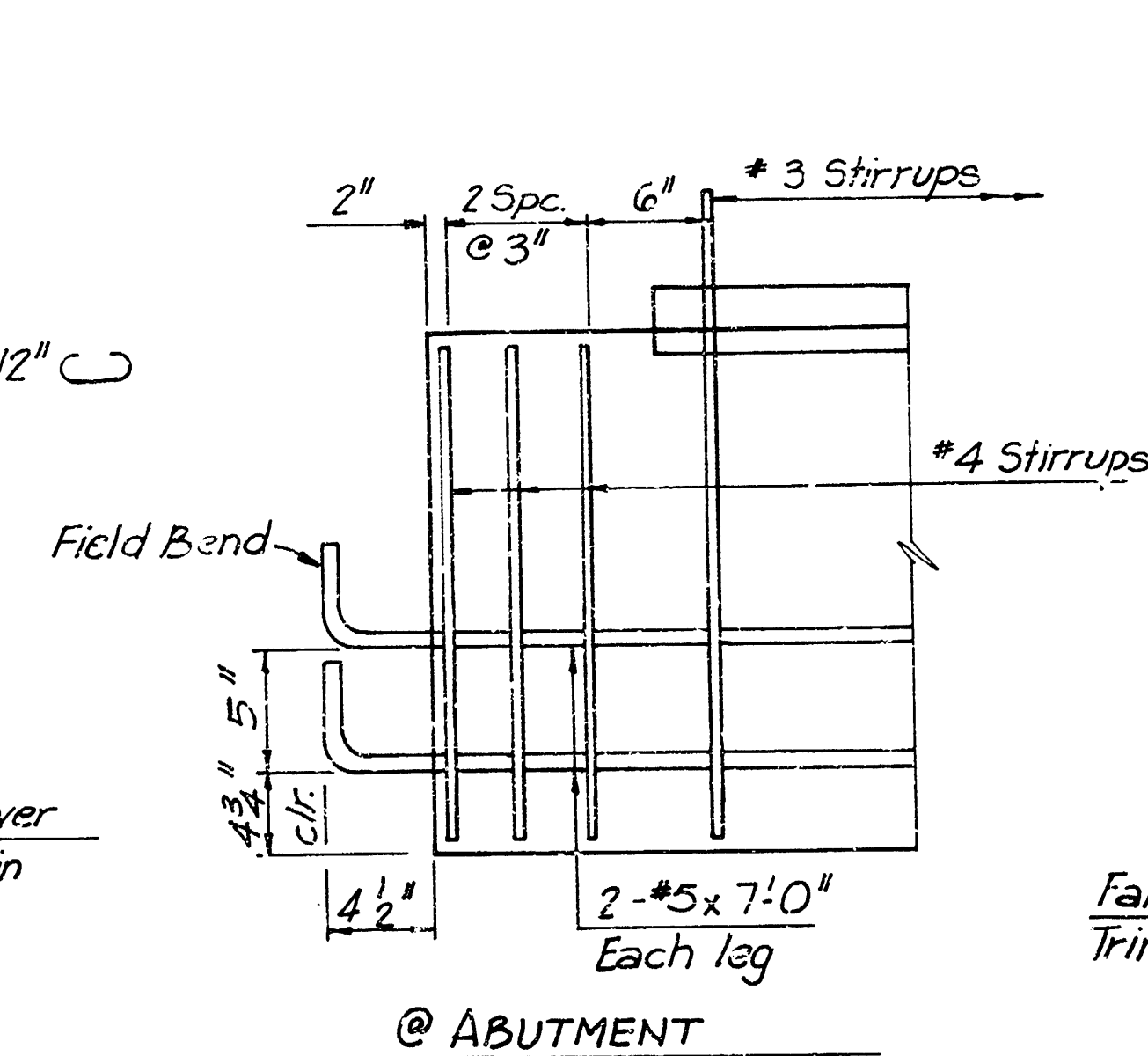
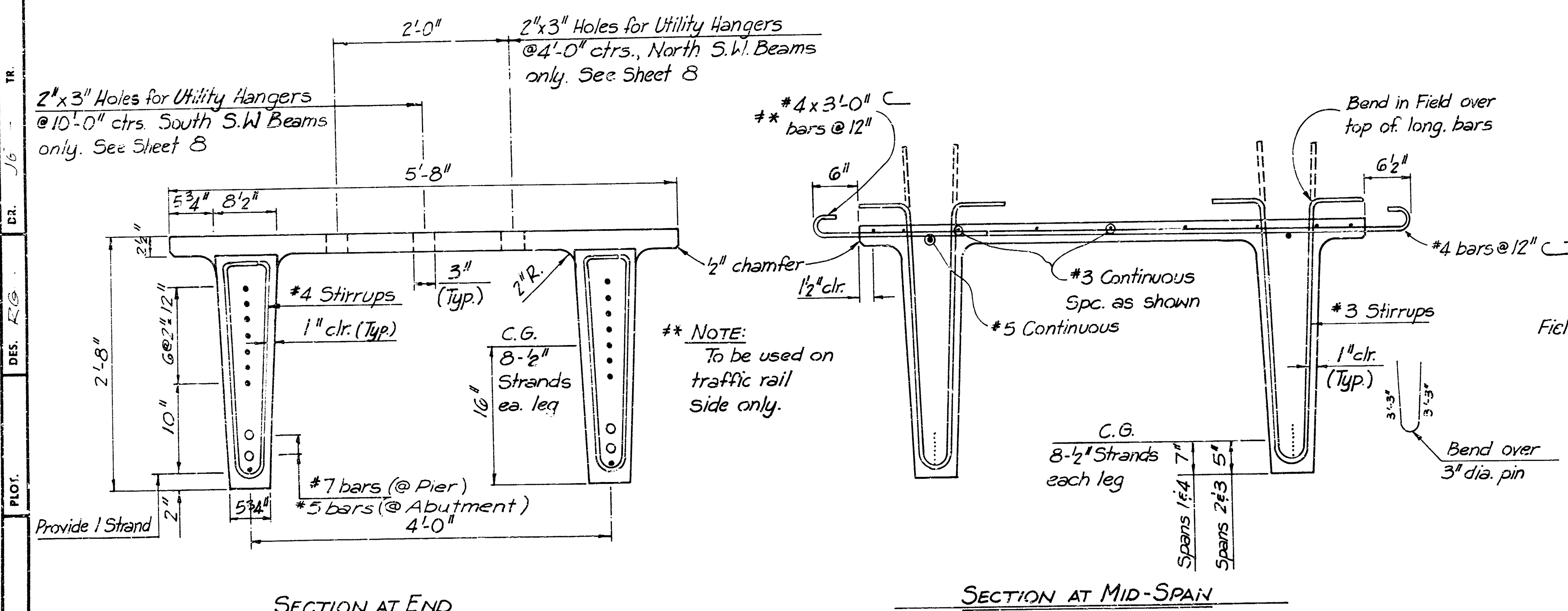
PLAN



ELEVATION



ELEVATION



PRESTRESSING STEEL:
1/2" nominal diameter 7-wire high tensile type, uncoated, stress relieved strands having the following properties:
Minimum Ultimate Strength: 268,000 p.s.i.
Initial Stress: 187,000 p.s.i.
Initial Tension per Strand: 28,910 lbs.

All dimensions shown relative to placement of reinforcing steel are to centerline of bars or strands unless otherwise noted.

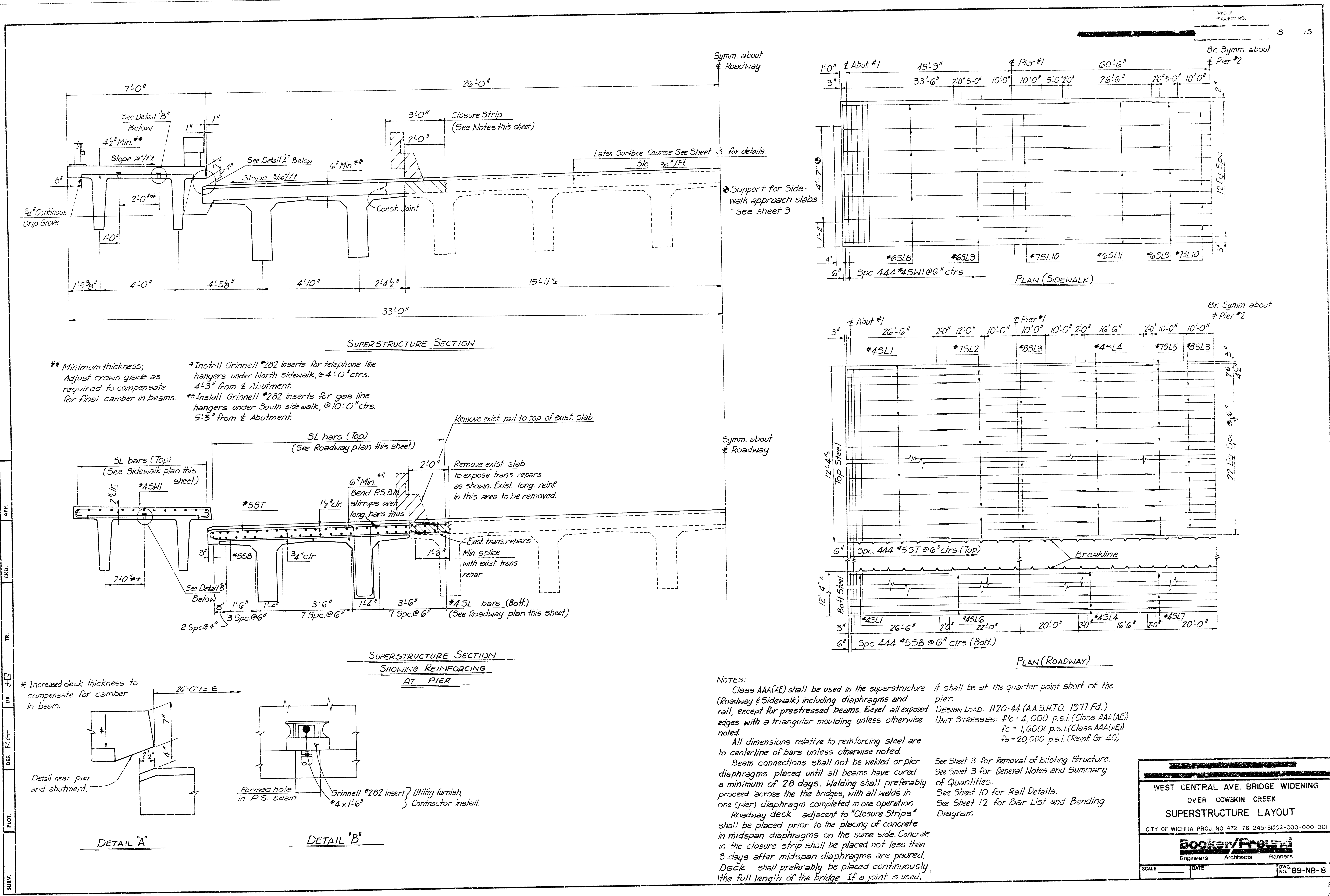
Precast beams shall at all times be handled and transported in an upright position and points of support shall be approximately the same during transportation and storage as when the beam is in its final position.

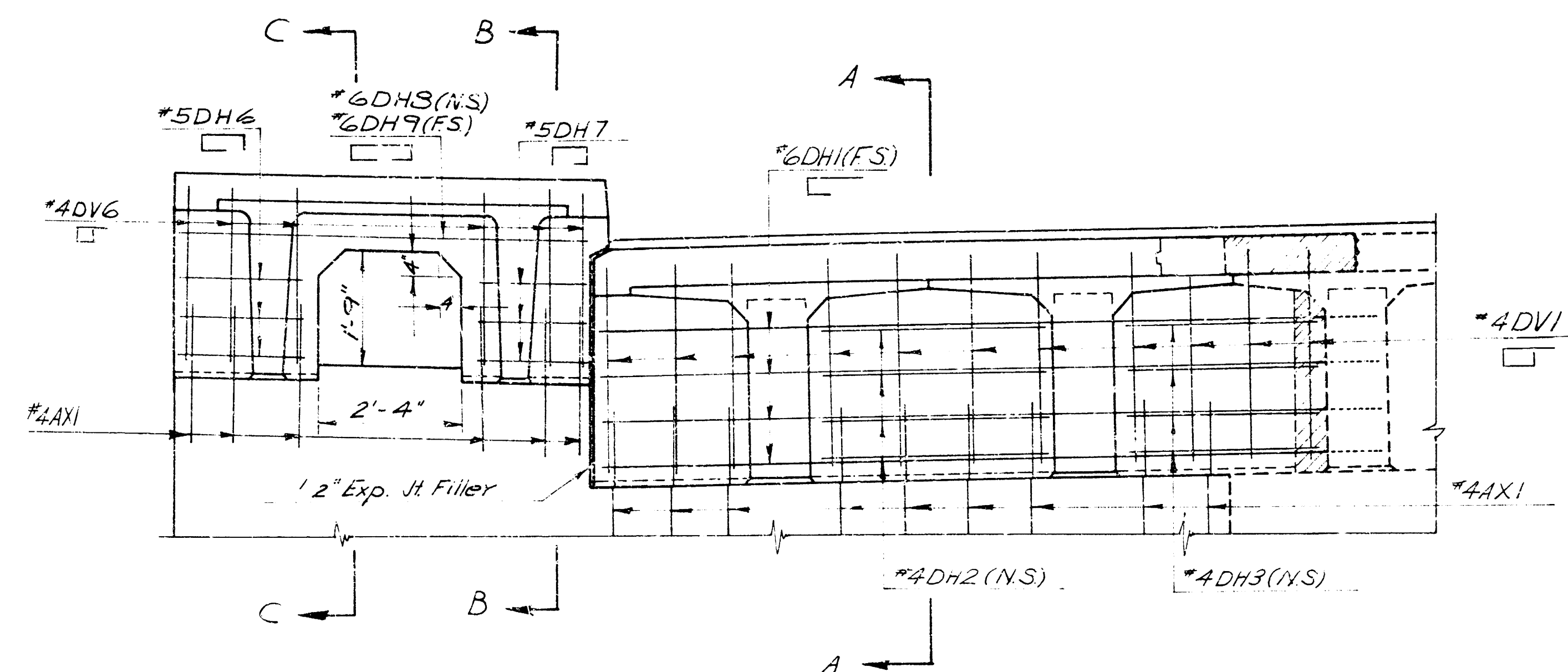
See Sheet 9 for Beam Erection Notes.

DESIGN LOADING: H20-44 A.R.S.H.T.O. Spec. (1977 Edition)

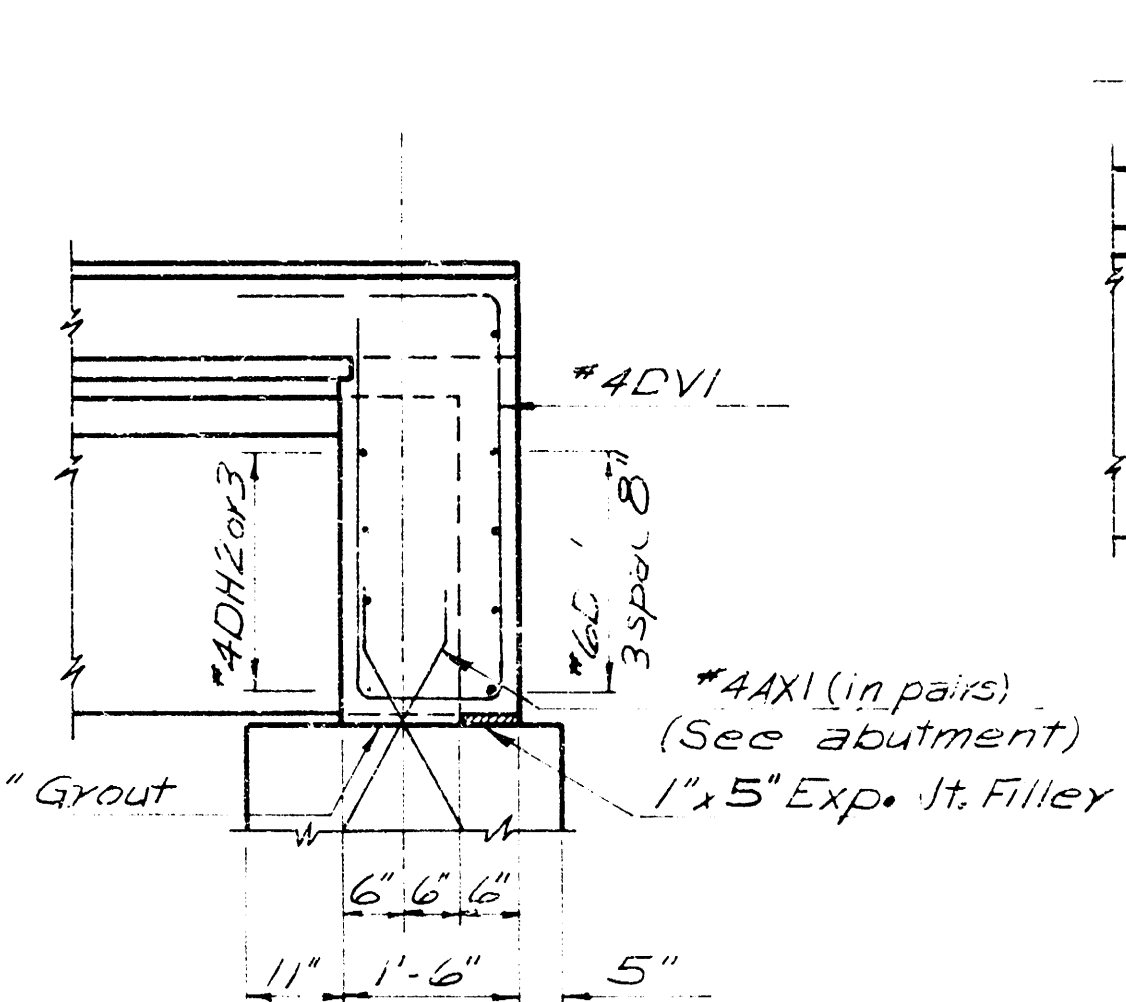
UNIT STRESSES (SIDEWALK BEAMS):
Concrete: $f'c = 5,000$ p.s.i. @ 28 days
 $f'ci = 4,000$ p.s.i. (Minimum Release Strength)

WEST CENTRAL AVE. BRIDGE WIDENING OVER THE COWSKIN CREEK		
SIDEWALK BEAM DETAILS		
CITY OF WICHITA PROJ. NO. 472-76-245-81502-000-000-001		
Booker/Freund		
Engineers	Architects	Planners
SCALE	DATE	DWG. NO. 89-NB-7

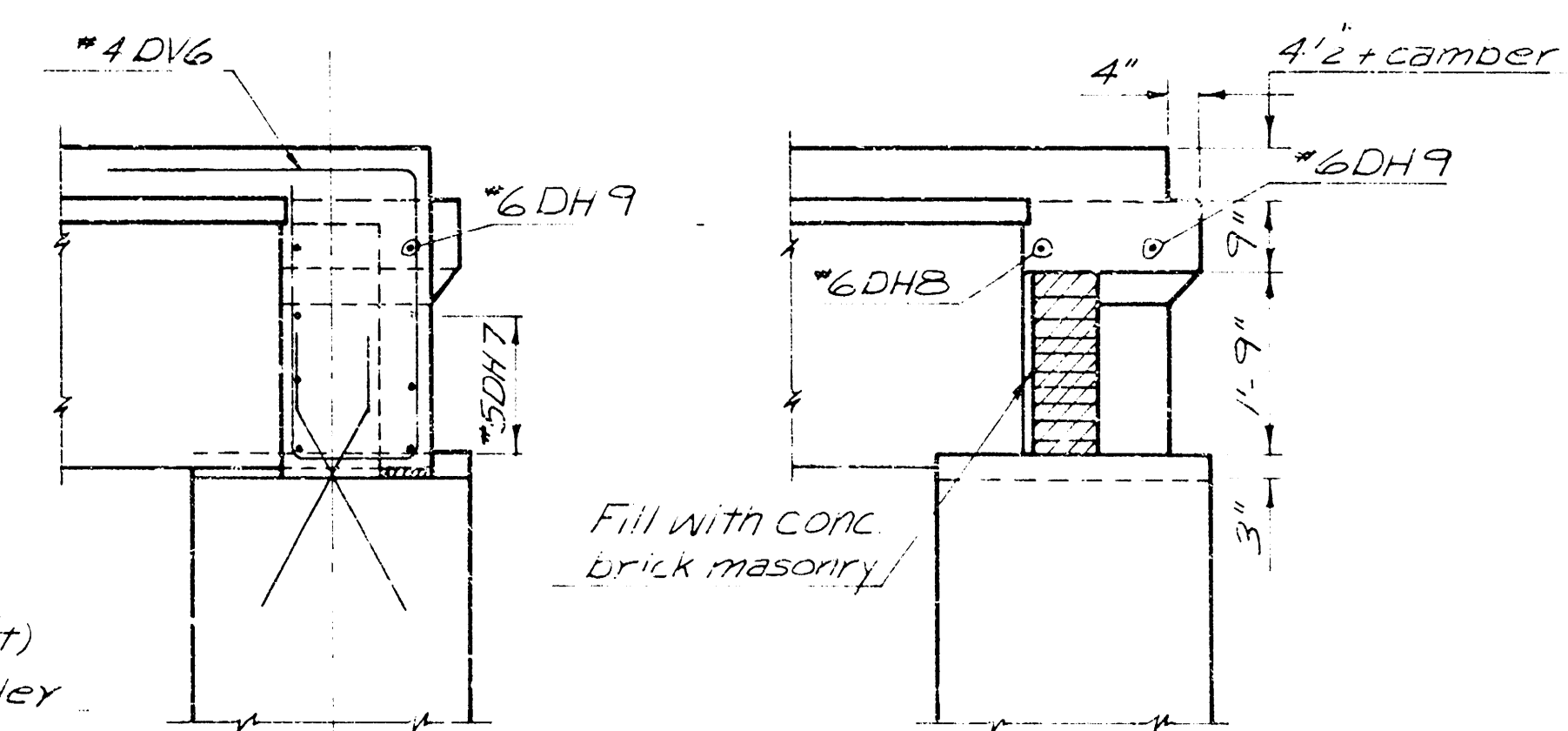




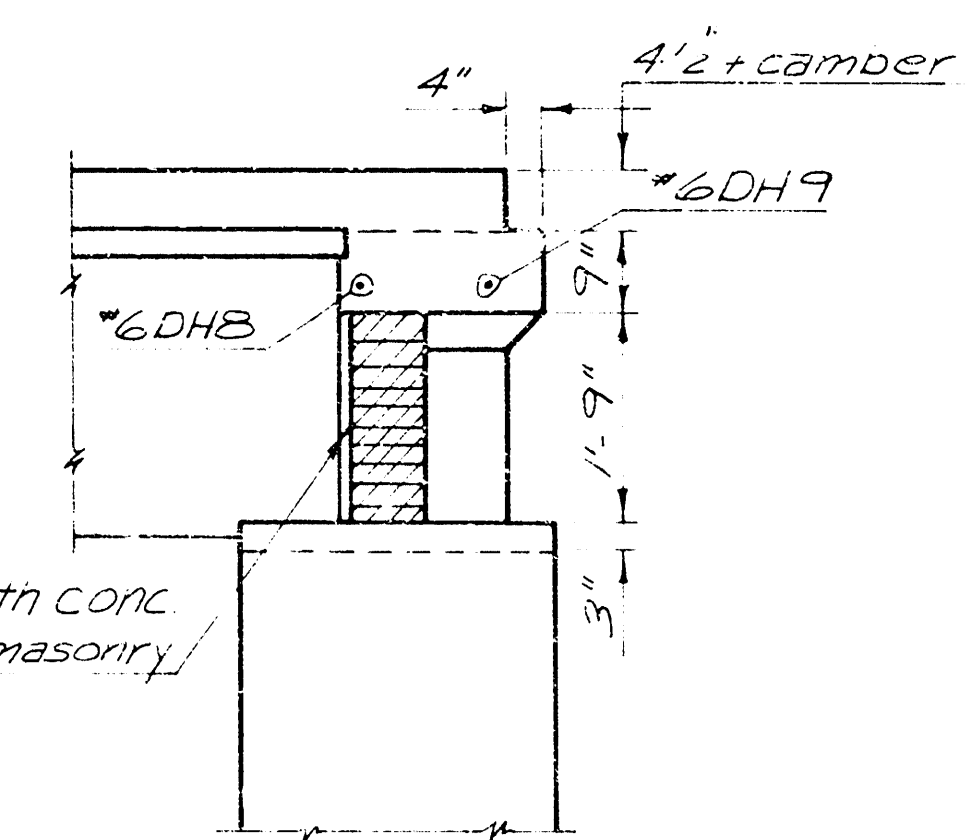
PART ELEVATION OF ABUTMENT DIAPHRAGM



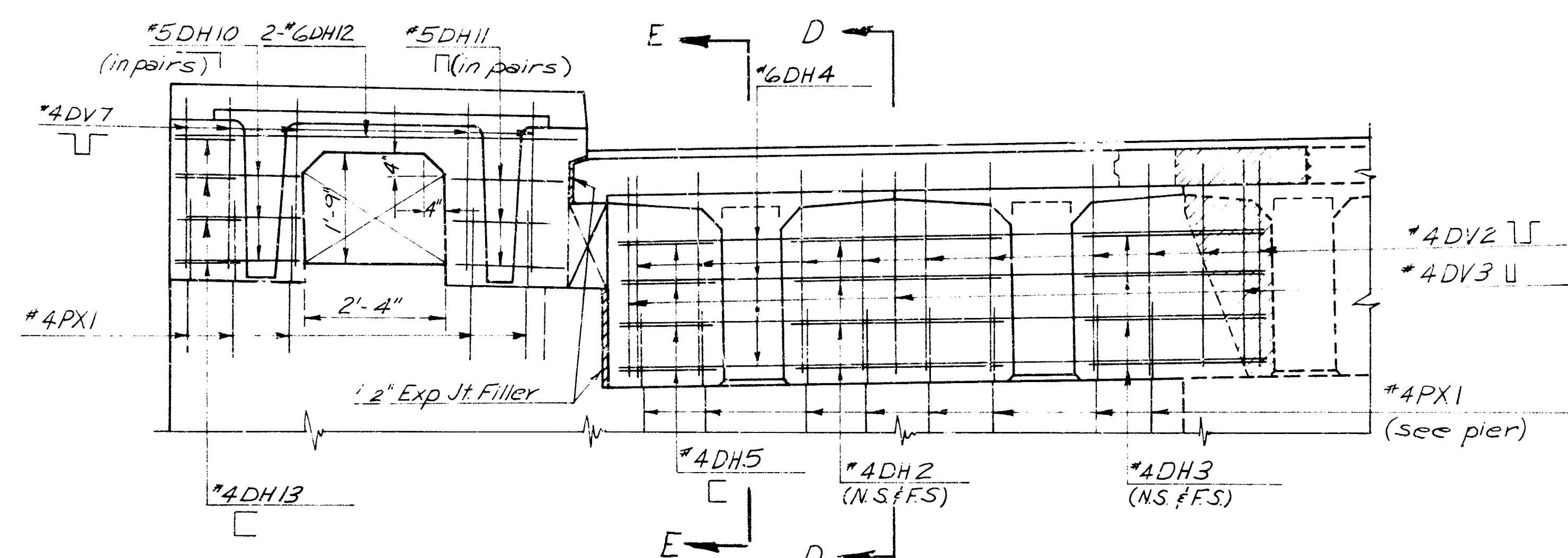
SECTION A-A



SECTION B-B

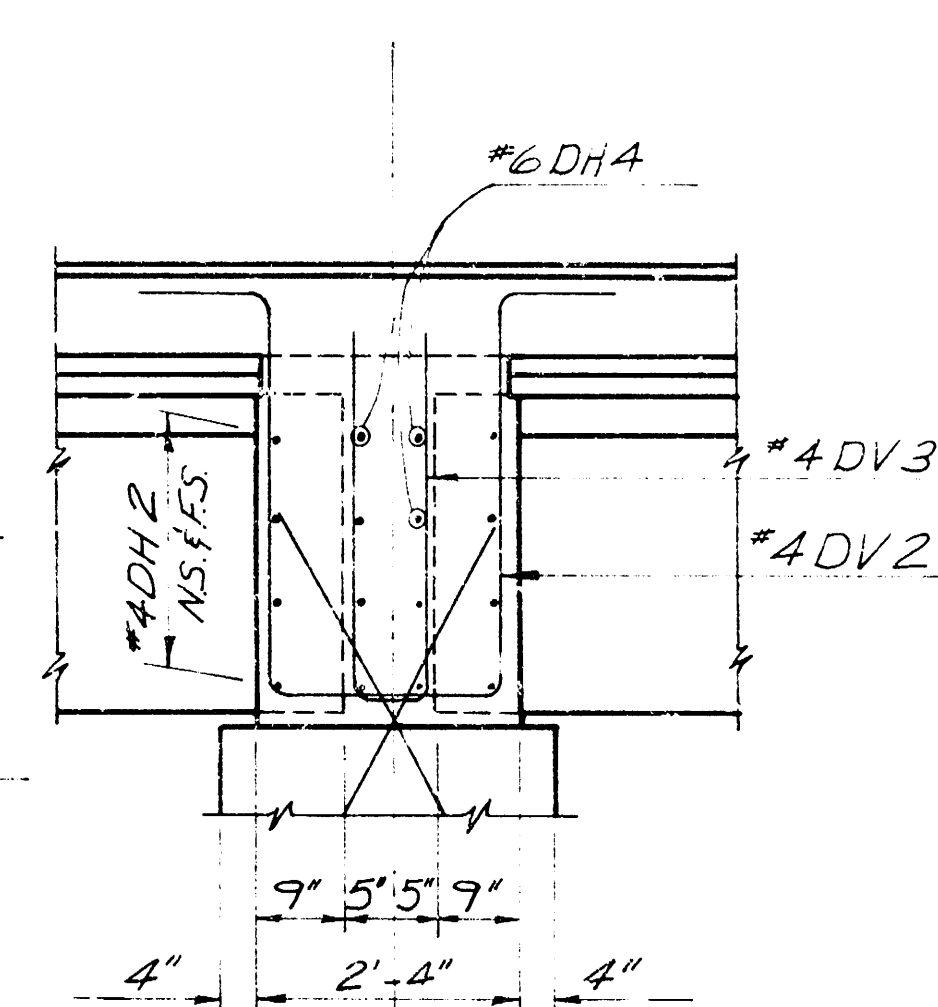


SECTION C-C

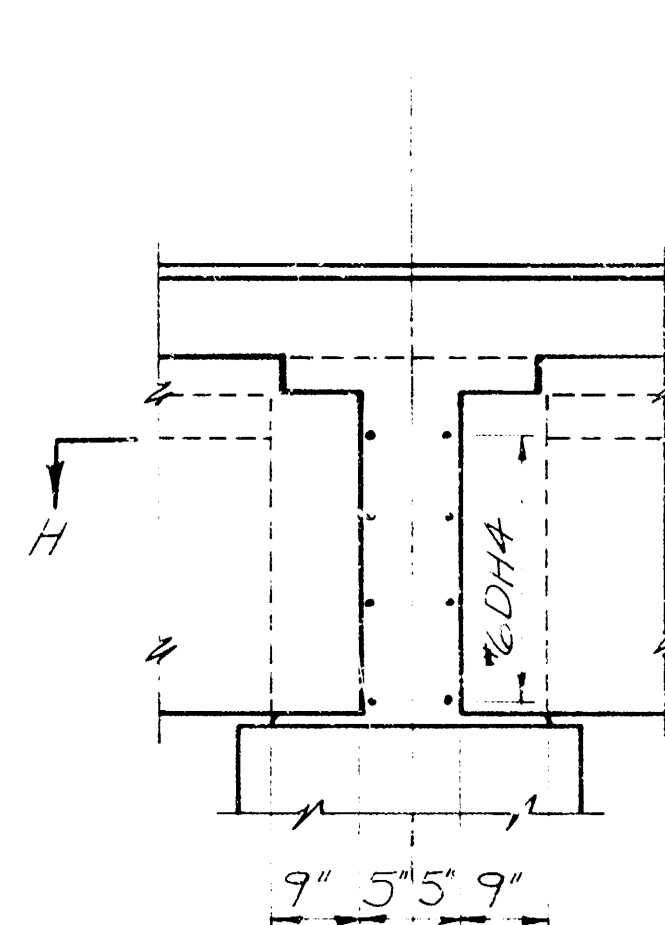


PART ELEVATION OF PIER DIAPHRAGM

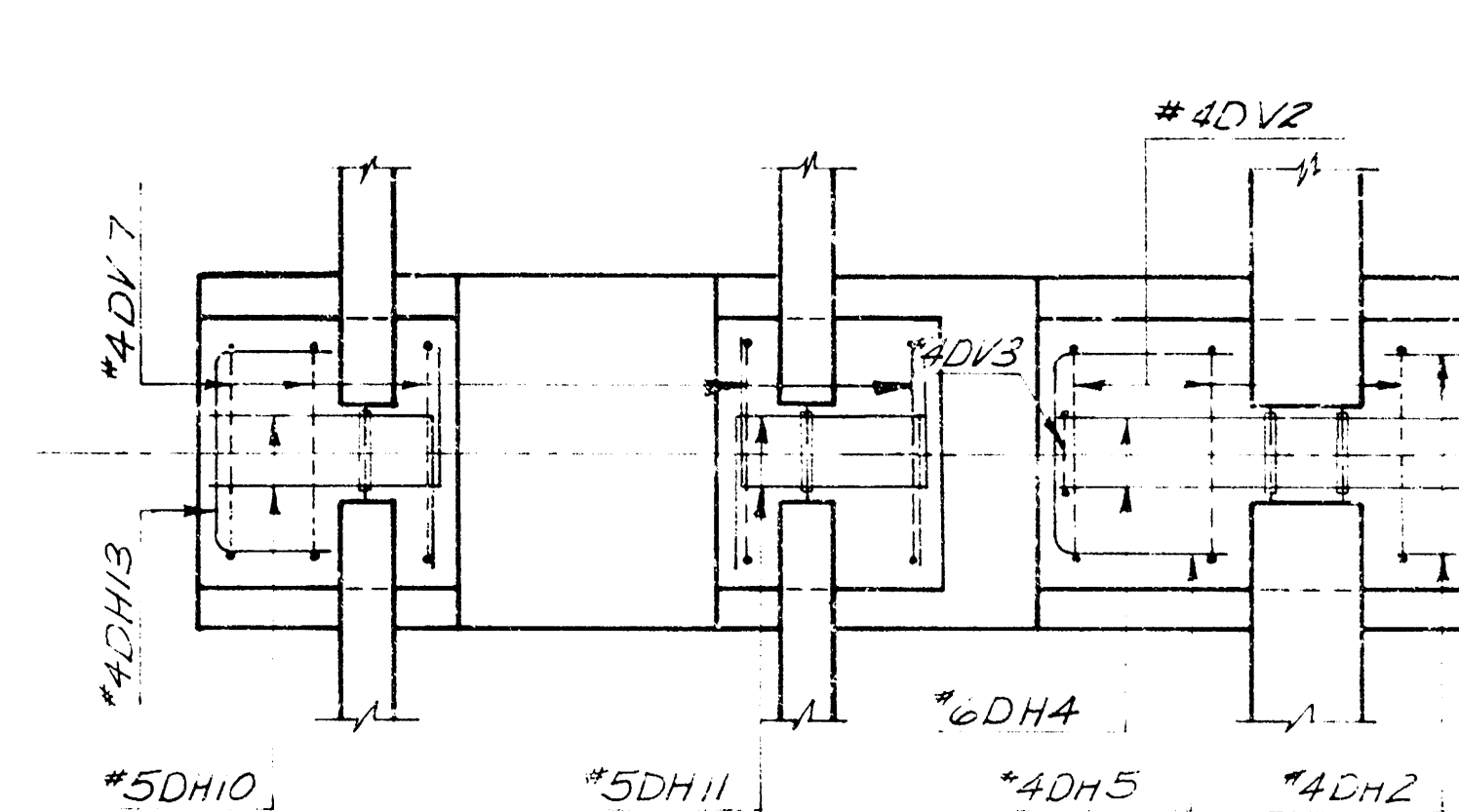
Caution: Prior to drilling in Prestressed Beams contractor shall perform radiographic inspection (such as X-ray photographs) in order to make sure that the drilled holes clear all "Prestressed Strands" in the existing beam. This work shall not be paid for directly but shall be subsidiary to the bid item Class AAA (AE) Concrete.



SECTION D-D



SECTION E-E



PLAN SECTION AT PIER

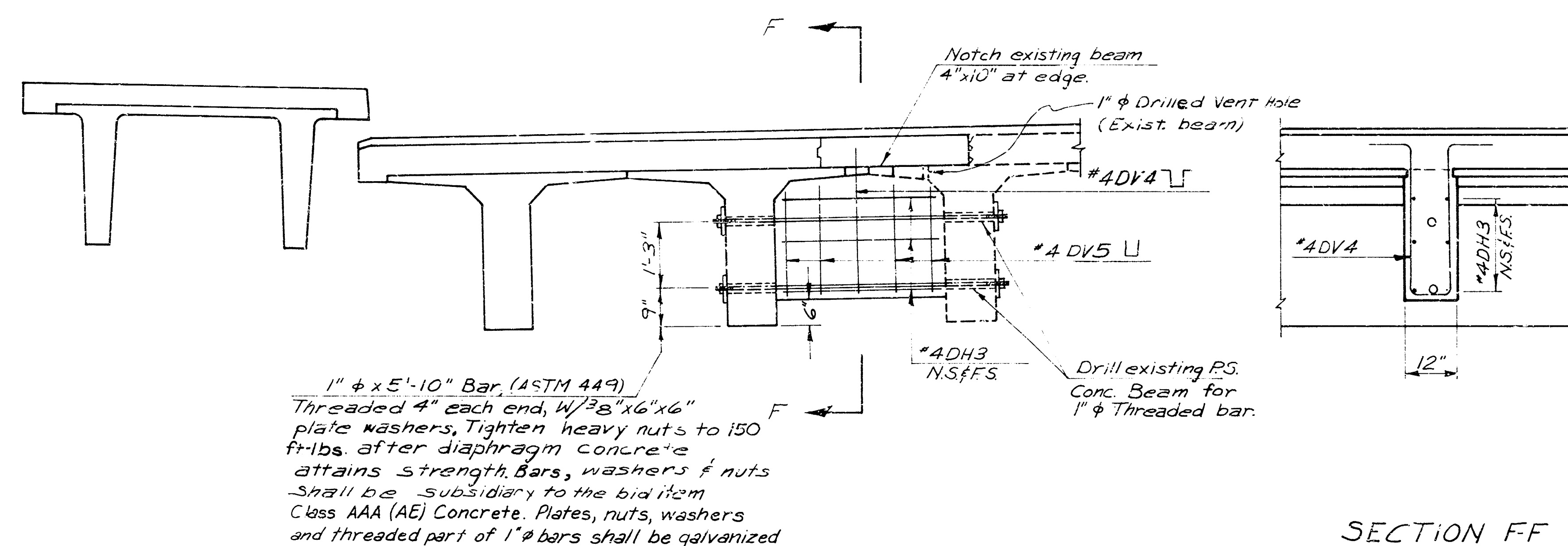
BEAM ERECTION NOTES:

Beams may be placed on the bridge at any time after the end of the curing period. Beams shall be placed and set as shown, with the tops conforming to the crown of the deck surface. Beams shall be set as indicated on this sheet, with each line of beams carefully aligned across the piers. In case of variation in length, equalize the variation between the two ends of the beam.

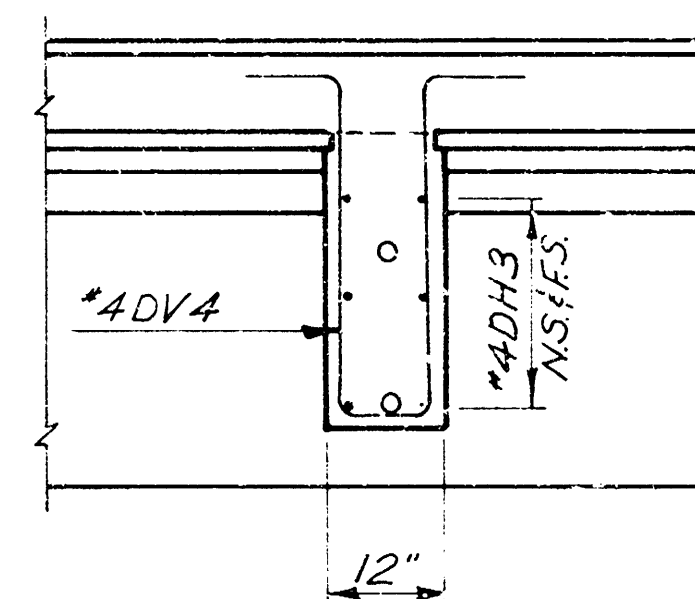
Set each beam on a full bed of stiff grout, as noted. To insure proper positioning, set each beam in position, without grout; lift one end at a time just sufficiently to place a grout bed, and set down on the grout.

Beam ends shall have a full bearing on grout, only; they shall not be set on metal bars or rods. Temporary wood or metal wedges may be used to maintain grout thickness and prevent tipping, but if used shall be removed before diaphragm concrete is placed. Temporary short shores under the flanges to the top of the pier may be helpful in maintaining beam position until diaphragm concrete is placed and set up.

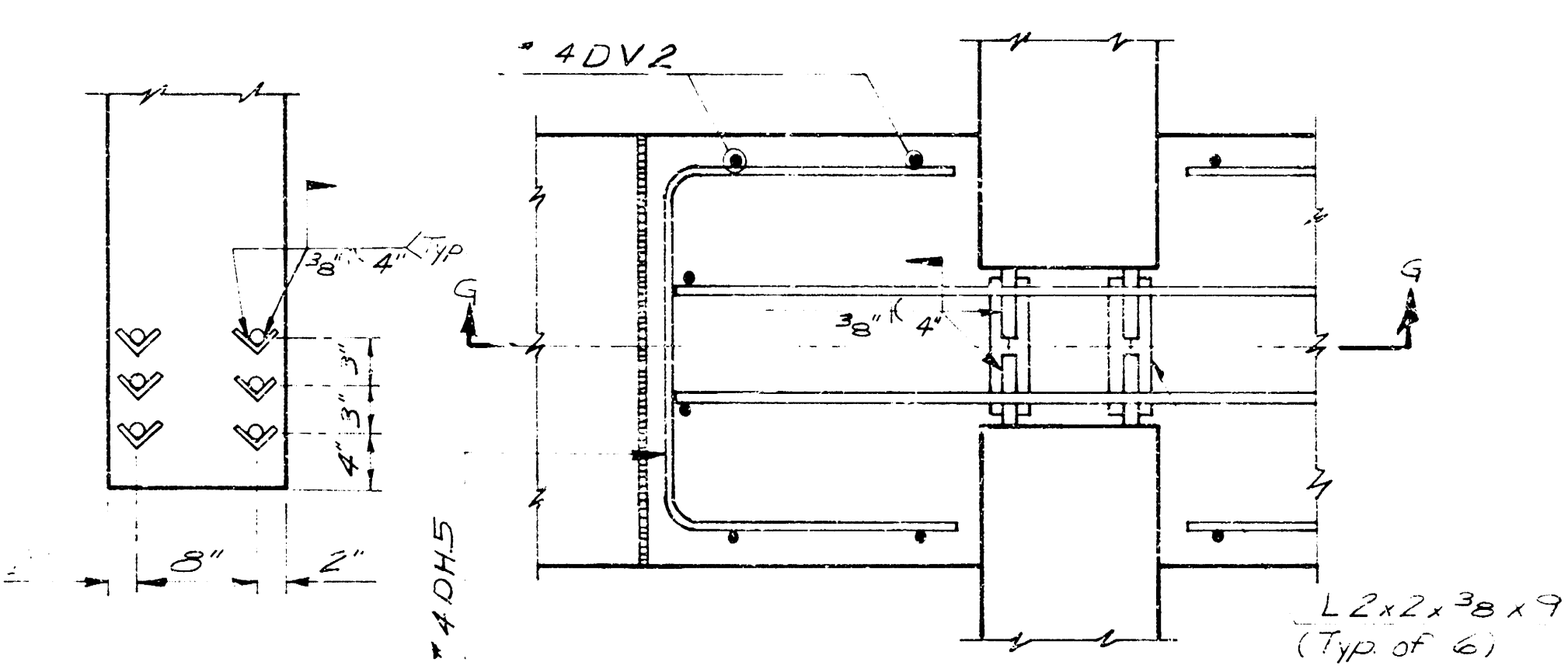
See Sheet 3 for Removal of Existing Structure.
See Sheet 8 for Superstructure Layout.



ELEVATION OF MID-SPAN DIAPHRAM



SECTION F-F



SECTION G-G

SECTION H-H

Note: Angles and welds typical
also at sidewalk beams.
Rotate angles if necessary.
Angles shall be subsidiary to the
bid item "Prestressed Concrete Beams"

WEST CENTRAL AVE. BRIDGE WIDENING
OVER COWSKIN CREEK

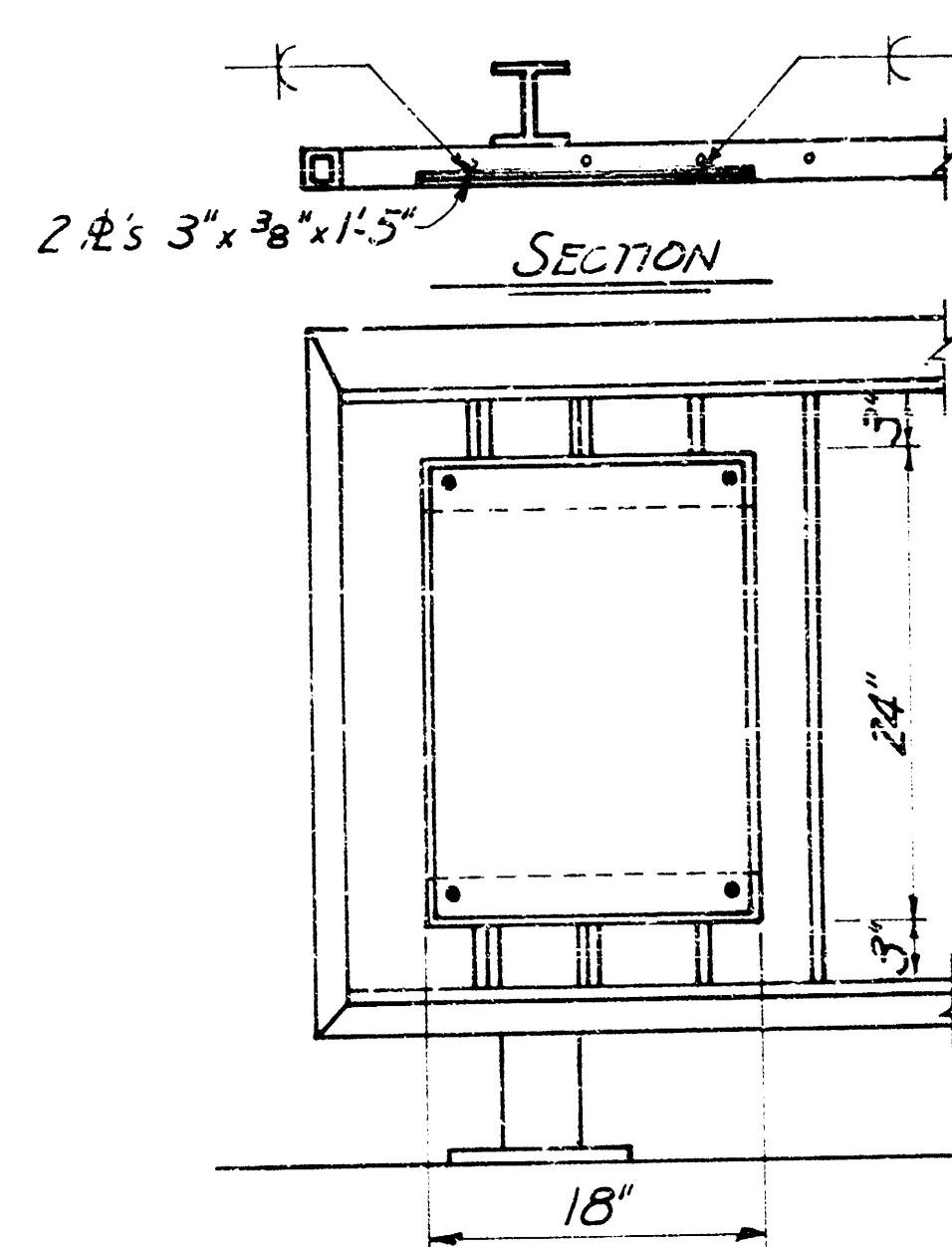
SUPERSTRUCTURE DETAILS

CITY OF MICHIGAN PROJ. NO. 472-76-145-B1502-000-000-000

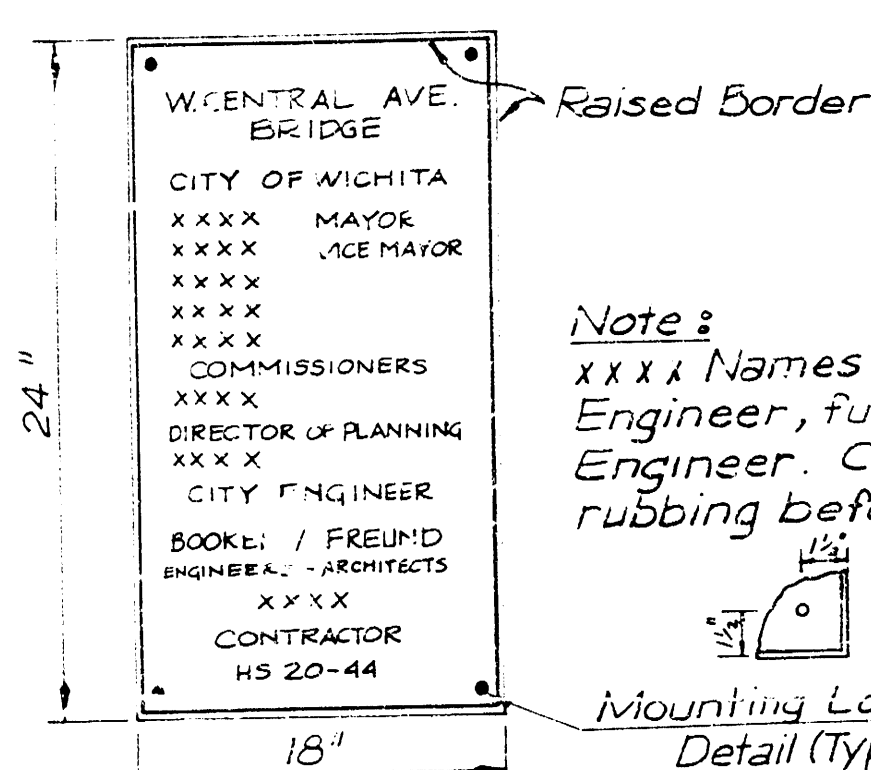
Booker/Freund
Engineers Architects Planners

SCALE	DATE	DWG. NO. B9-NR-9
-------	------	---------------------

PROJECT NO.	SHEET NO.	TOTAL SHEETS
10	15	



PROJECT MARKER MOUNTING



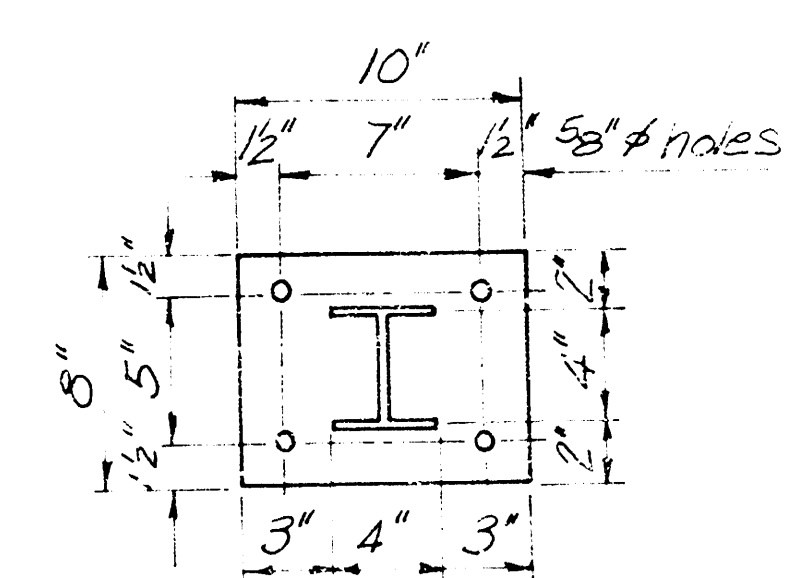
PROJECT MARKER
(To be furnished and installed by Contractor. Subsidiary to Bid Item "Steel Handrail")

NOTE:
Steel for handrail shall conform to ASTM A-500, Grade B structural steel tubing; posts, base plates and clip angles to be ASTM A-36 steel. Pay length for handrail is center to center of end posts. Shop and field coats shall conform to the basic Lead Silico Chromate system in accordance with the Standard Specifications.

PART ELEVATION

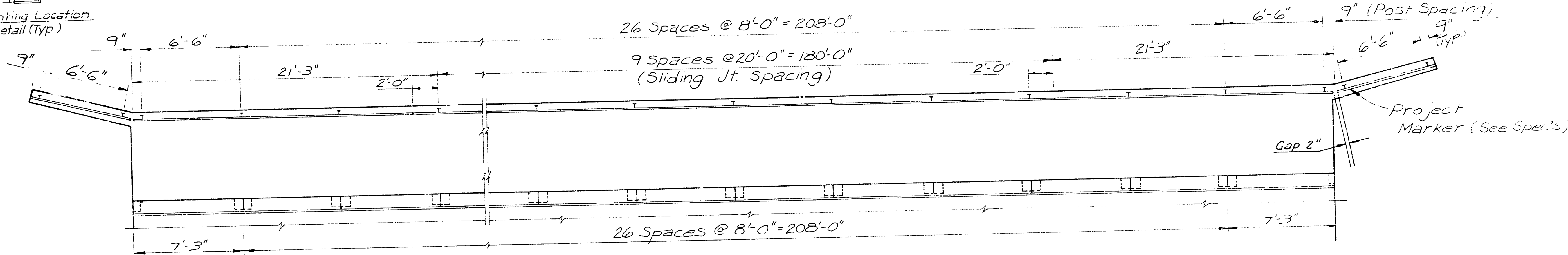
Baluster mounting alternate:
At the contractor's option, roll the pipe end; use longer pipe if necessary.

POST

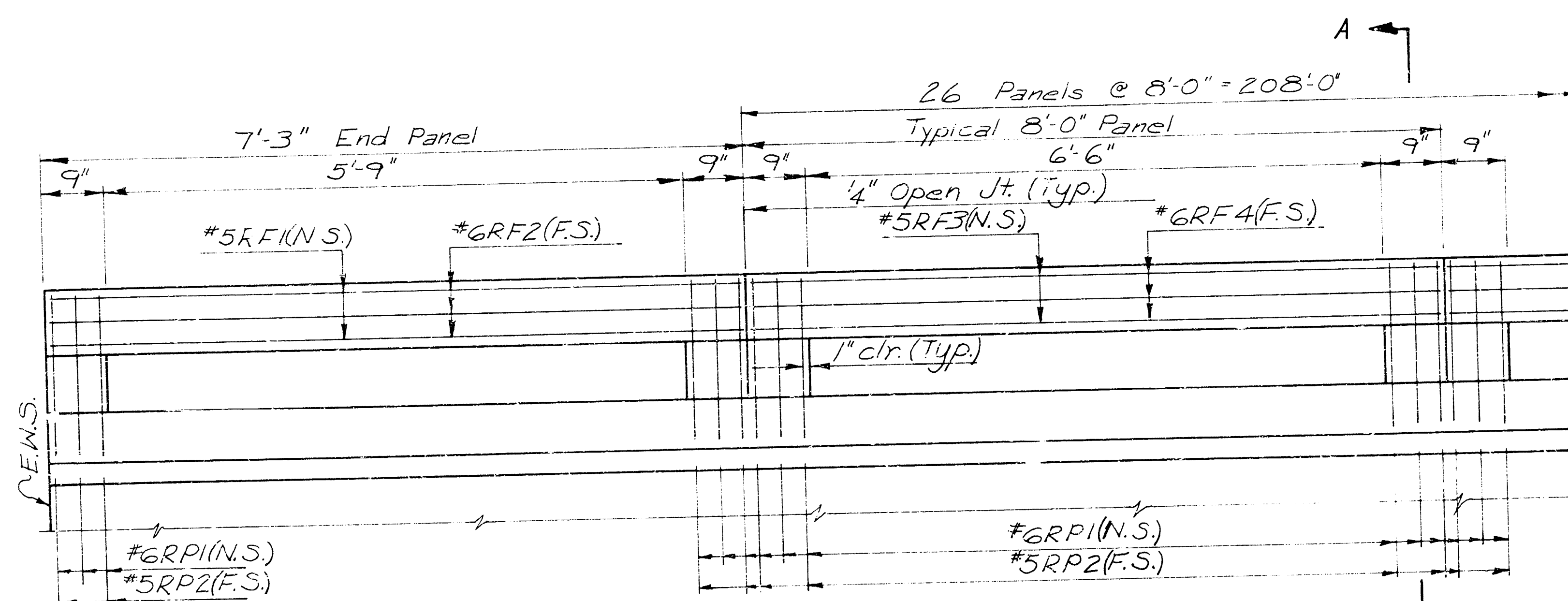


BASE PLATE
8" x 2" x 0" - 10"

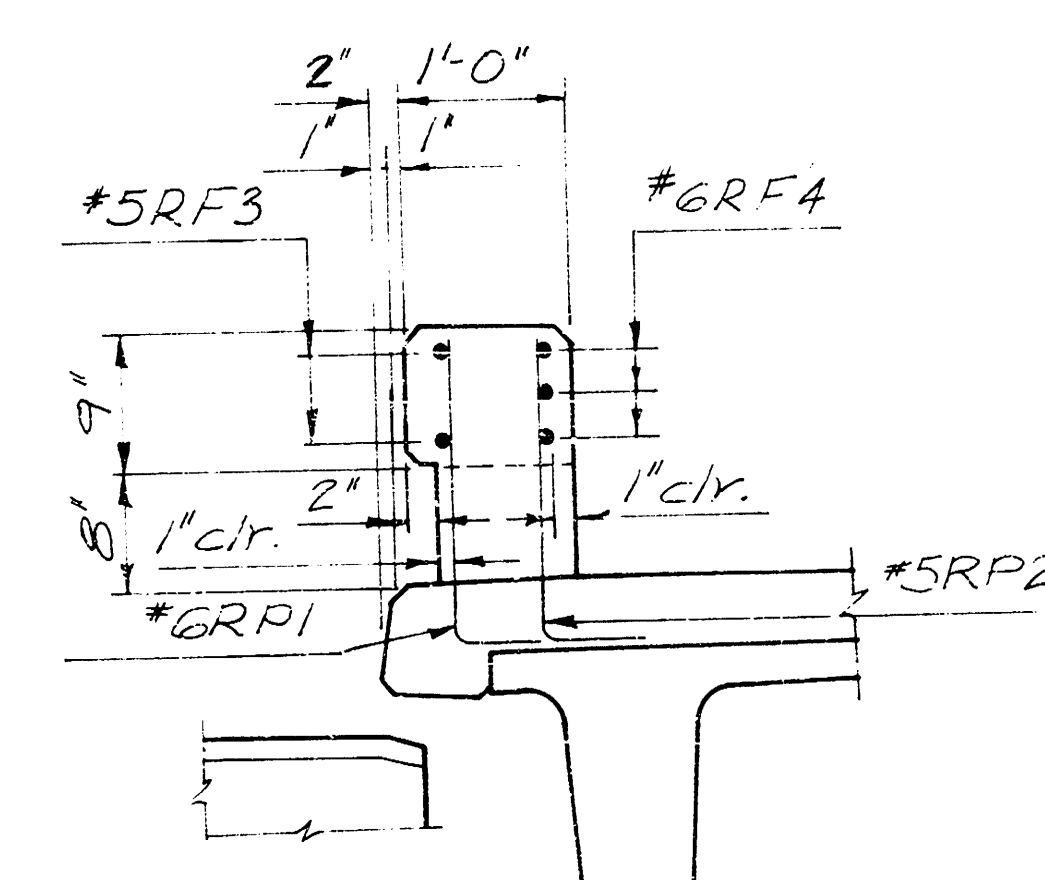
U-BOLT



HANDRAIL LAYOUT



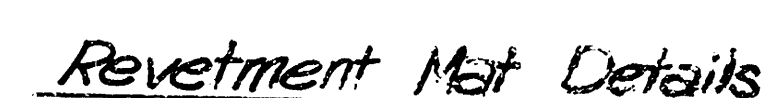
BRIDGE RAIL ELEVATION



SECTION A-A

See Sheet 3 for General Notes and Summary of Bridge Quantities.
See Sheet 12 for Bar List & Bending Diagrams.

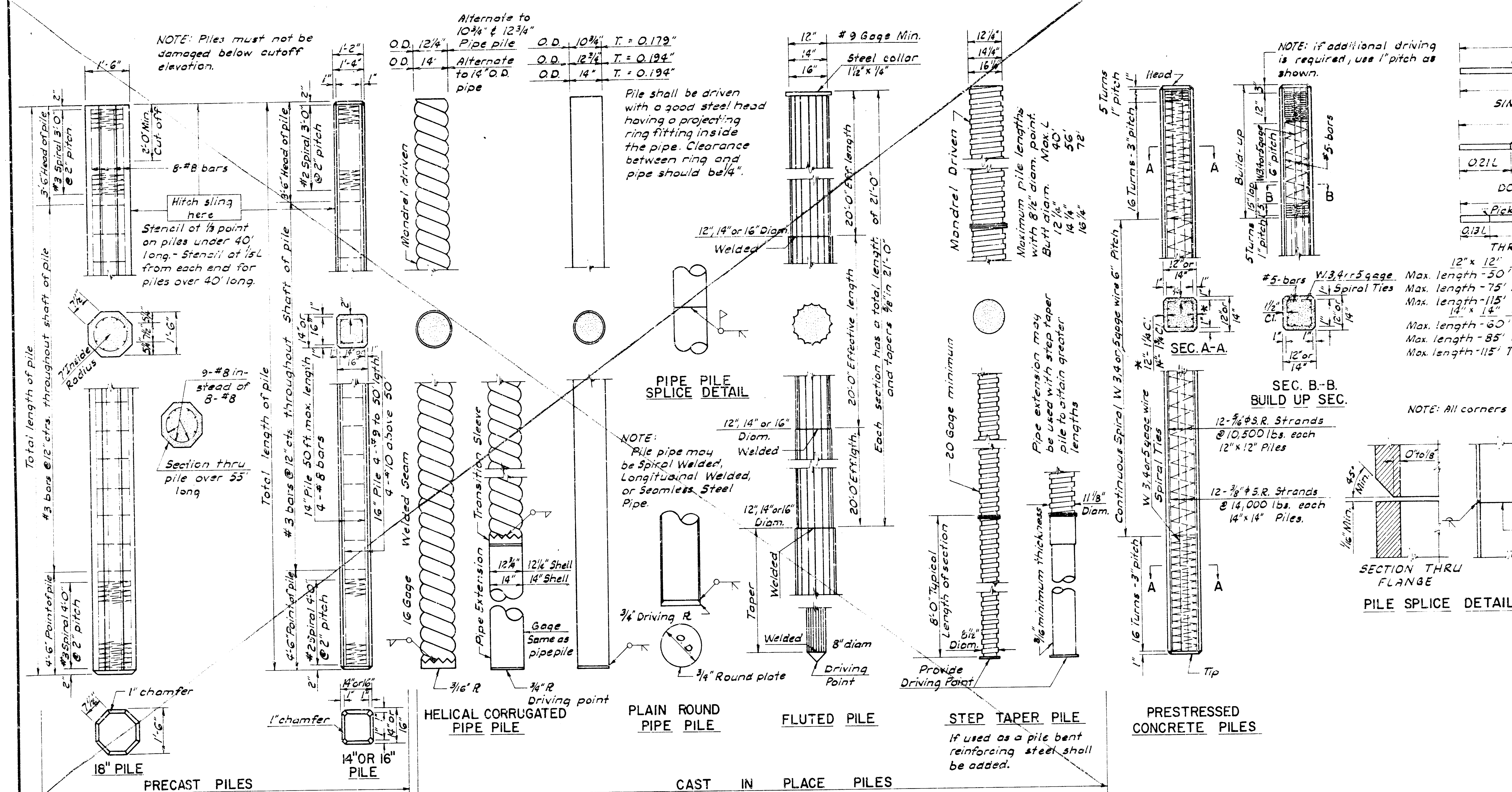
WEST CENTRAL AVE. BRIDGE WIDENING OVER COWSKIN CREEK HANDRAIL DETAILS	
CITY OF WICHITA PROJ. NO. 472-76-245-B1502-000-000-001	
Booker/Freund Engineers Architects Planners	
SCALE	DATE
DWG. NO. 89-NB-10	



NOTE: Riprap shall be of Class "A" concrete. Wire Reinforcing Mesh shall be of the electrically welded, square mesh type and shall be composed of No. W14 steel wire spaced at 6" ctrs. each way. Reinforcement shown is included in unit price bid for "Reinforced Concrete Riprap." Measurement of Concrete Riprap shall be in Sq. Yds. and shall be the outside surface area, including the toe wall, regardless of the thickening shown on the plans. Concrete Riprap shall be cured by use of Unseed Oil Emulsion. See Supplemental Specs.

SCALE	DATE	DWG. No. 89-NB-11
-------	------	-------------------

Abutments (2 thus)																Pier #1								Piers 2 & 3																Superstructure																*Approach Slabs (2 thus)																																																																																																																																																																																																																																																																																																																																																																																																																															
STRAIGHT BARS								BENT BARS								STRAIGHT BARS								BENT BARS								STRAIGHT BARS								BENT BARS								STRAIGHT BARS								BENT BARS																																																																																																																																																																																																																																																																																																																																																																																																																															
Mark	No. Reqd	Size	Lgth	Mark	No. Reqd	Size	Lgth	Mark	No. Reqd	Size	Lgth	Mark	No. Reqd	Size	Lgth	Mark	No. Reqd	Size	Lgth	Mark	No. Reqd	Size	Lgth	Mark	No. Reqd	Size	Lgth	Mark	No. Reqd	Size	Lgth	Mark	No. Reqd	Size	Lgth	Mark	No. Reqd	Size	Lgth																																																																																																																																																																																																																																																																																																																																																																																																																																																
AH1	28	7	16'-6"	AH3	8	6	3'-3"	P2	8	7	14'-8"	P1	10	6	17'-4"	P2	8	7	14'-8"	P1	10	6	17'-4"	SB	888	5	12'-0"	ST	888	5	12'-7"	AC2	4	6	11'-8"	AC1	8	4	3'-0"																																																																																																																																																																																																																																																																																																																																																																																																																																																
AH2	4	5	6'-6"					P3	4	6	15'-6"	P5	8	6	10'-8"	P3	4	6	15'-6"	P5	8	6	10'-8"	SL1	144	4	28'-6"																																																																																																																																																																																																																																																																																																																																																																																																																																																												
D	20	8	3'-0"					P4	4	6	16'-6"	P7	8	4	7'-5"	P4	4	6	16'-6"	P7	8	4	7'-5"	SL2	56	7	46'-0"	SW1	888	4	7'-8"	AS1	73	8	11'-8"	AS4	55	4	7'-6"																																																																																																																																																																																																																																																																																																																																																																																																																																																
								P6	4	4	7'-0"					P6	4	4	7'-0"					SL3	66	8	20'-0"					AS2	13	6	54'-8"																																																																																																																																																																																																																																																																																																																																																																																																																																																				
AW2	8	6	10'-0"	AU1	20	4	10'-6"	PU1	38	4	6'-3"	PU1	34	4	6'-3"	PU1	34	4	6'-3"	PU1	34	4	6'-3"	SL4	144	4	20'-6"	RPI	336	6	2'-8"	AS3	6	9	54'-8"																																																																																																																																																																																																																																																																																																																																																																																																																																																				
AW3	4	4	6'-6"	AU2	50	4	6'-0"	PU2	24	4	7'-9"	PU2	18	4	7'-9"	PU2	18	4	7'-9"	PU2	18	4	7'-9"	SL5	28	7	44'-0"	RP2	224	5	2'-8"																																																																																																																																																																																																																																																																																																																																																																																																																																																								
AW4	36	5	4'-6"	AU3	30	4	14'-6"	PU3	8	4	10'-9"	PU3	10	4	10'-9"	PU3	10	4	10'-9"	PU3	10	4	10'-9"	SL6	88	4	46'-0"																																																																																																																																																																																																																																																																																																																																																																																																																																																												
AW5	6	4	7'-9"					D	14	8	3'-0"	D	14	8	3'-0"	D	14	8	3'-0"	D	14	8	3'-0"	SL7	44	4	44'-0"					RF3	4	5	11'-9"																																																																																																																																																																																																																																																																																																																																																																																																																																																				
AW6	6	4	8'-2"	AW1	28	6	12'-0"	PU4	2	4	9'-9"	PU4	2	4	9'-9"	PU4	2	4	9'-9"	PU4	2	4	9'-9"	SL8	28	6	35'-6"	DH1	16	6	15'-7"	RF4	4	10	11'-9"																																																																																																																																																																																																																																																																																																																																																																																																																																																				
								PU5	2	4	7'-9"					PU5	2	4	7'-9"					SL9	42	6	34'-0"	DH5	24	4	5'-3"	RF5	2	6	7'-0"																																																																																																																																																																																																																																																																																																																																																																																																																																																				
				AX1	60	4	3'-0"																SL10	36	7	20'-8"	DH6	12	5	4'-8"					RP3	22	6	3'-1"																																																																																																																																																																																																																																																																																																																																																																																																																																																	
																							SL11	28	6	30'-6"	DH7	12	5	4'-6"	RP4	20	5	3'-1"																																																																																																																																																																																																																																																																																																																																																																																																																																																					
																							DH2	14	4	3'-2"	DH9	4	6	3'-11"	*For information only. Subsidiary to bid item "Approach Slab"																																																																																																																																																																																																																																																																																																																																																																																																																																																								
																							DH3	128	4	3'-0"	D10	36	5	3'-4"																																																																																																																																																																																																																																																																																																																																																																																																																																																									
																							DH4	48	6	10'-9"	DH11	36	5	4'-5"																																																																																																																																																																																																																																																																																																																																																																																																																																																									
																							DH8	4	6	3'-0"	DH13	24	4	3'-5"																																																																																																																																																																																																																																																																																																																																																																																																																																																									
																							DH12	12	6	6'-8"	DV1	44	4	10'-10"																																																																																																																																																																																																																																																																																																																																																																																																																																																									

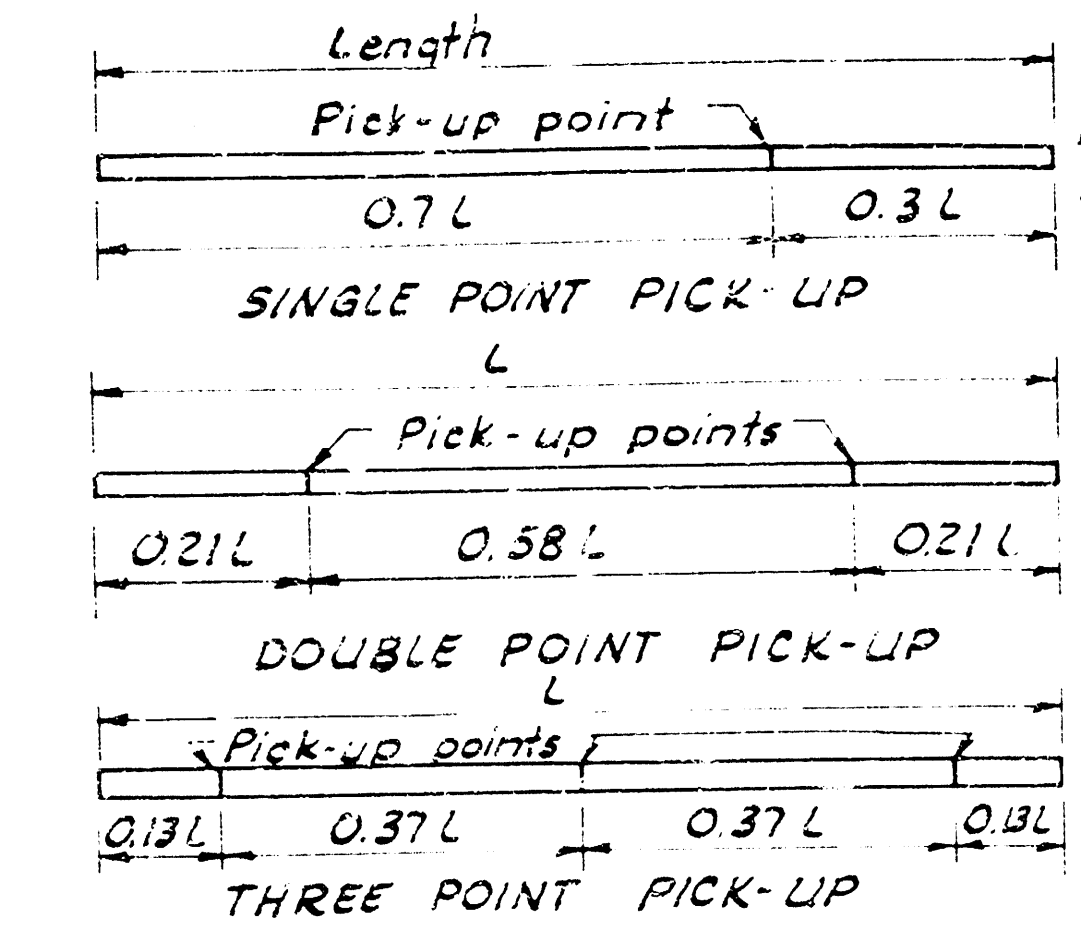


GENERAL NOTES

- Specifications:** Standard Specifications for State Road and Bridge Construction as currently used by the Kansas Dept. of Transportation. (Ed. 1980).
- Concrete:** Concrete for cast-in-place shall be $f'_c = 3,000$ p.s.i. See Sub-Article 703.07 (f)(1) Standard Specifications. Concrete for Precast shall be $f'_c = 4,000$ p.s.i. Concrete for Prestressed $f'_c = 5,000$ p.s.i. See Article 703.07 (a) Standard Specifications.
- Reinforcement:** Reinforcing bars shall be new billet steel A.S.T.M. Designation A-615 grade 40 without exception. Hoops and spirals may be either plain or deformed bars. See Sub-Section 1601 Standard Specifications.
- Precast Piles:** Precast piles shall conform to the requirements of Article 703.07 (a)(b)(c)(d) Standard Specifications.
- Cast-in-Place Shells:** Steel shells for Cast-in-Place Concrete Piles shall conform to the requirements of Sub-Section 1606 Standard Specifications. All piles driven without mandrel shall be of the minimum gages or 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.

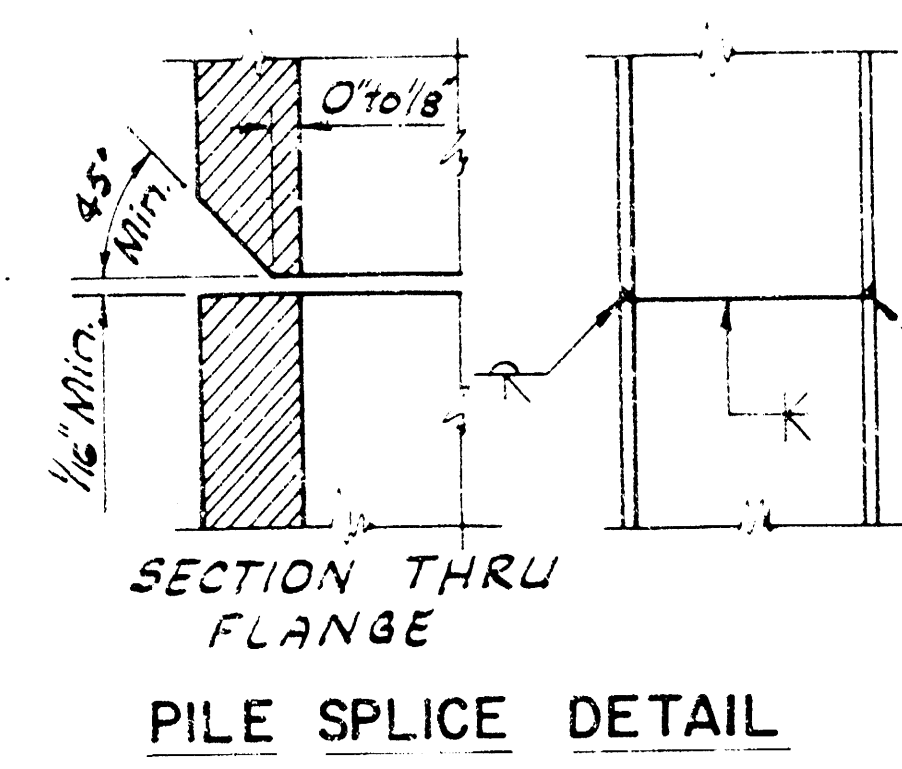
- Steel Pile:** Steel pile shall conform to requirements of Article 1604 (e) Standard Specifications.
- Pile Points:** Pile points shall conform to the dimensions shown and requirements of Sub-Article 1606 (b)(3) Standard Specification. Pile points shall be mill welded to pile.
- Welding:** All field welding shall meet the requirements of Sub-Section 703.06 Standard Specifications.
- Paint:** All paint shall comply with Sub-Section 1806 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.

- Driving Formula:** Driving Formula shall conform to Sub-Article 703.04 (d)(3) Standard Specifications.
- Mill Test Reports:** Steel Piles test reports shall comply with Sub-Article 1604 (e)(3) Standard Specifications. Steel Shells test reports for cast-in-place piles shall comply with Article 1606 (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.



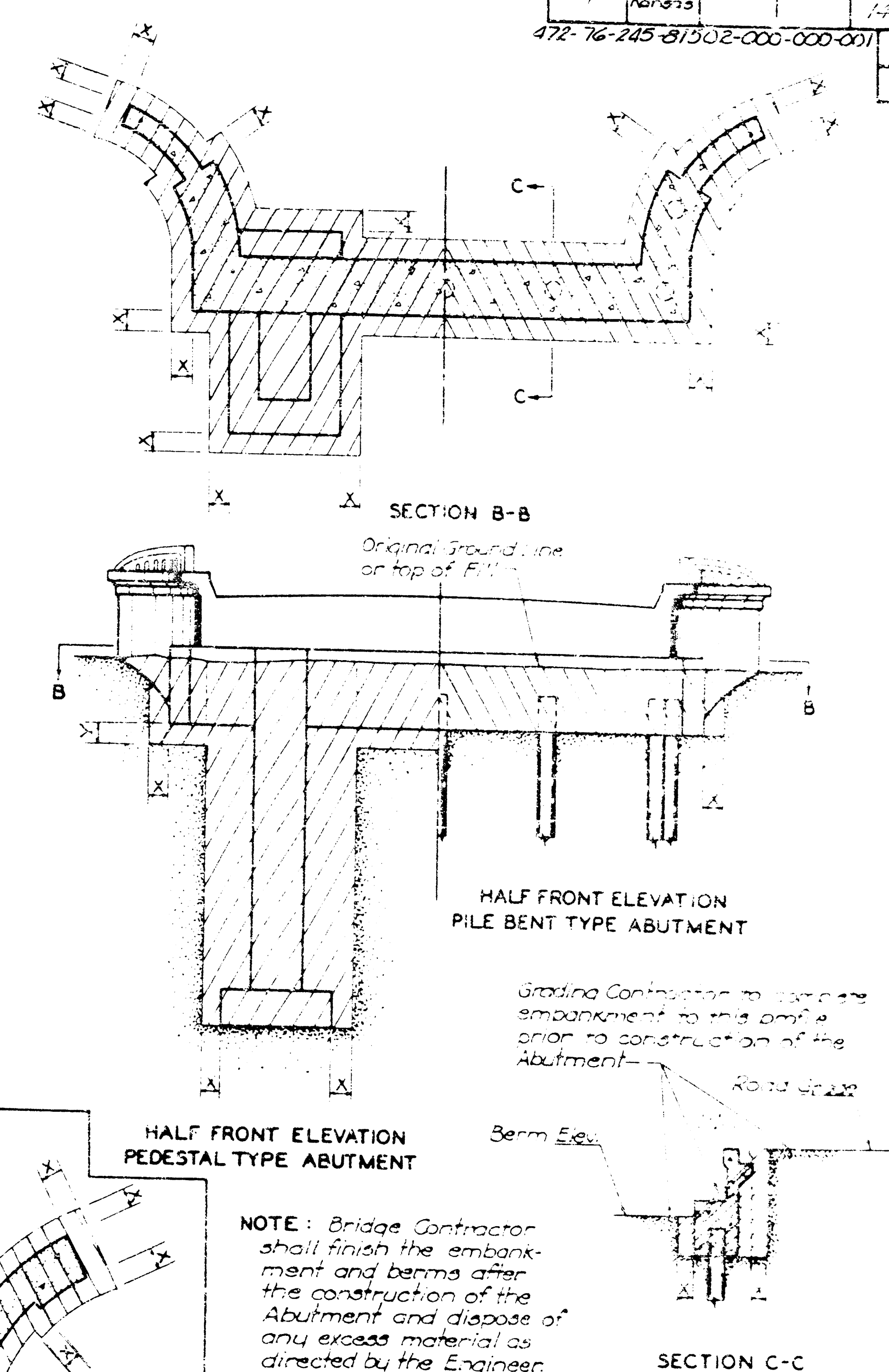
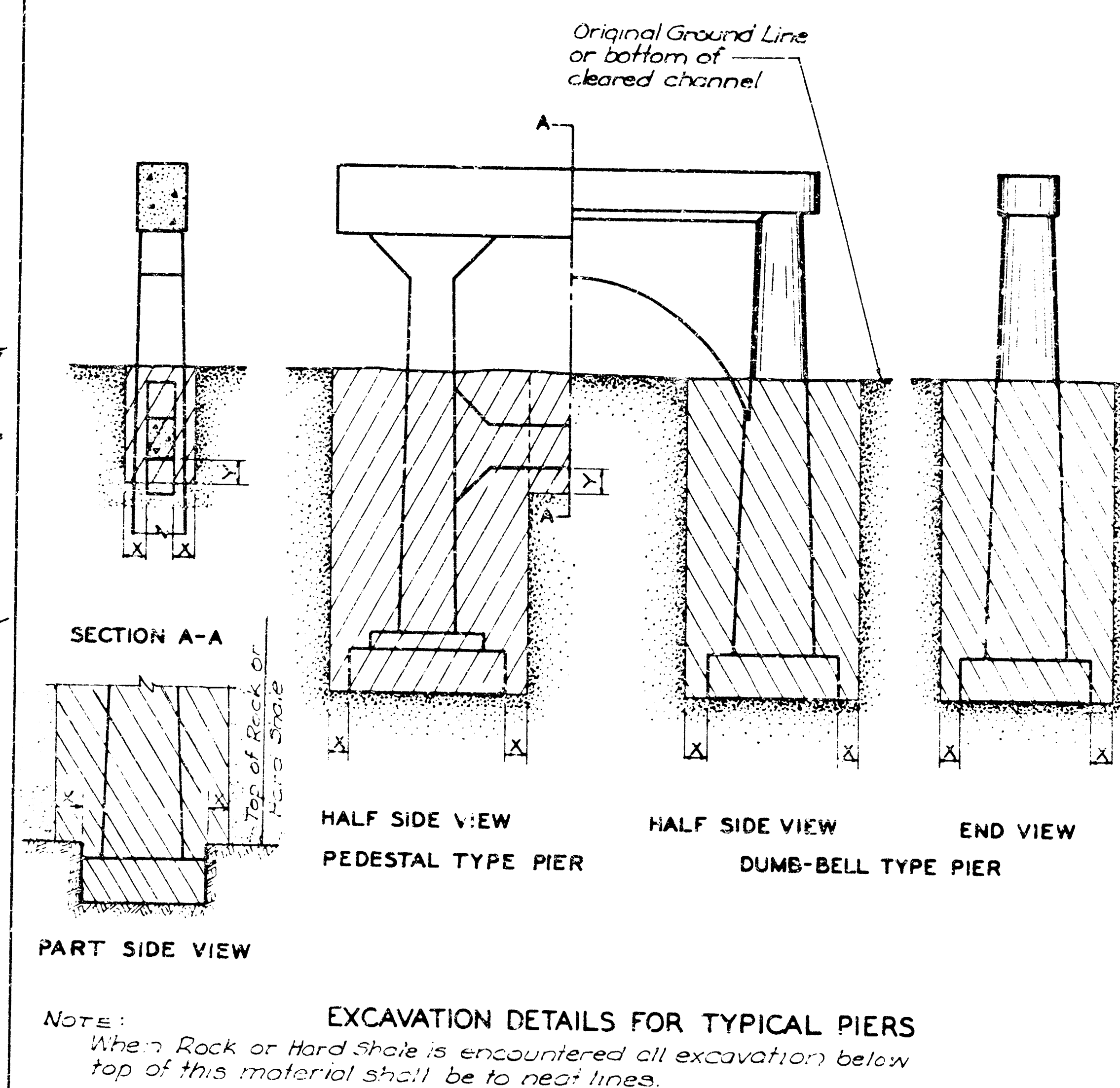
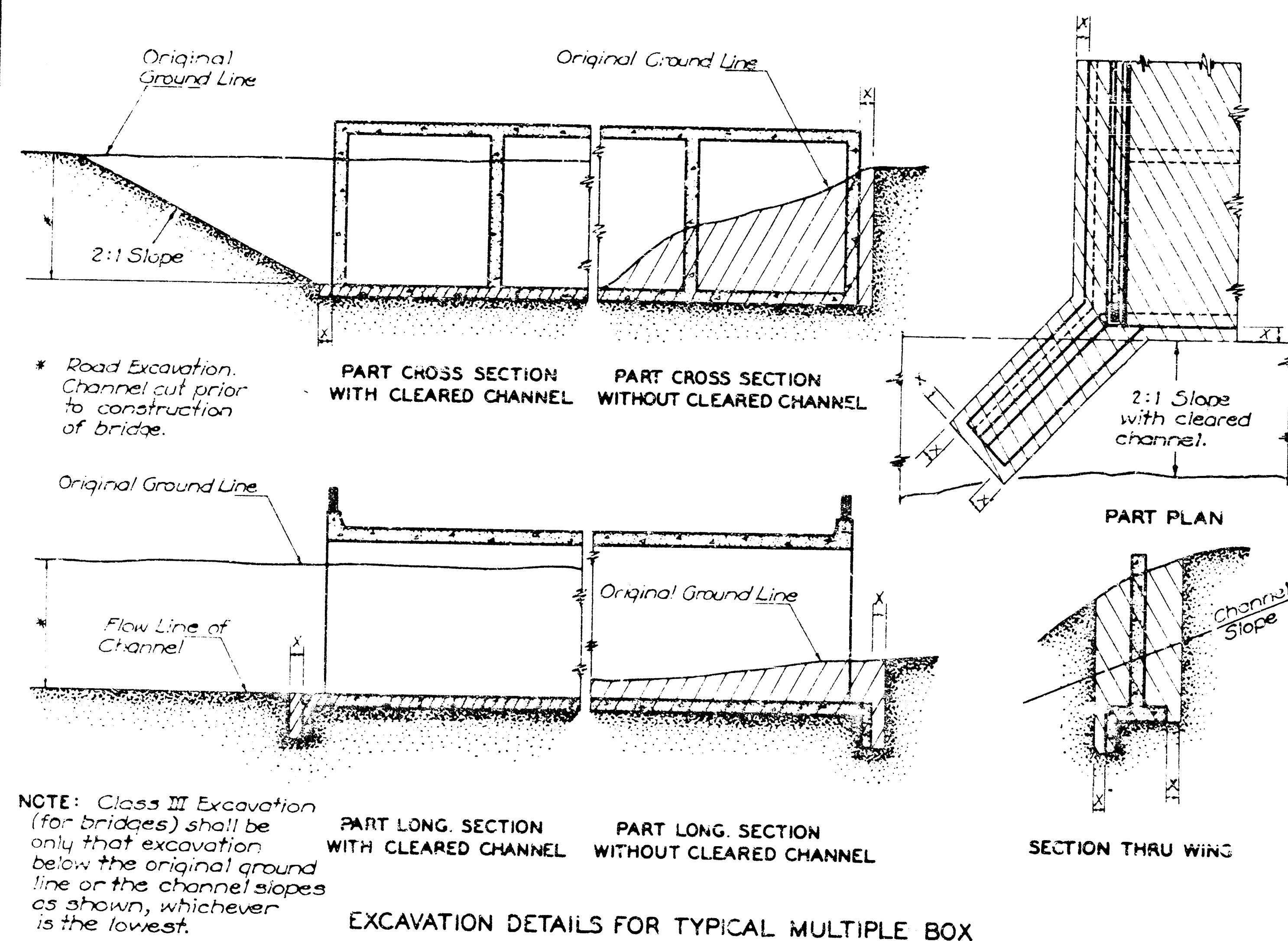
12" x 12" Piles
Max. length - 50' Single point pick-up
Max. length - 75' Double point pick-up
Max. length - 115' Three point pick-up (Prestress only)
14" x 14" Piles
Max. length - 60' Single point pick-up
Max. length - 85' Double point pick-up
Max. length - 115' Three point pick-up (Precast only)

FOR INFORMATION ONLY				
PILES				
STEEL PILES	EQUIVALENT CONCRETE PILES	PILES	PILES	PILES
HP10x42	14"	12"	12"	12"
HP12x53	16"	14"	14"	14"
HP14x73	18"	16"	16"	16"
* Helical Corrugated Pipe Shell				
CONCRETE PILES				
PIPE PILE	EQUIVALENT CONCRETE PILES	PILES	PILES	PILES
10 1/4"	14"	12"	12"	12"
12 1/4"	16"	14"	14"	14"
14"	18"	16"	16"	16"

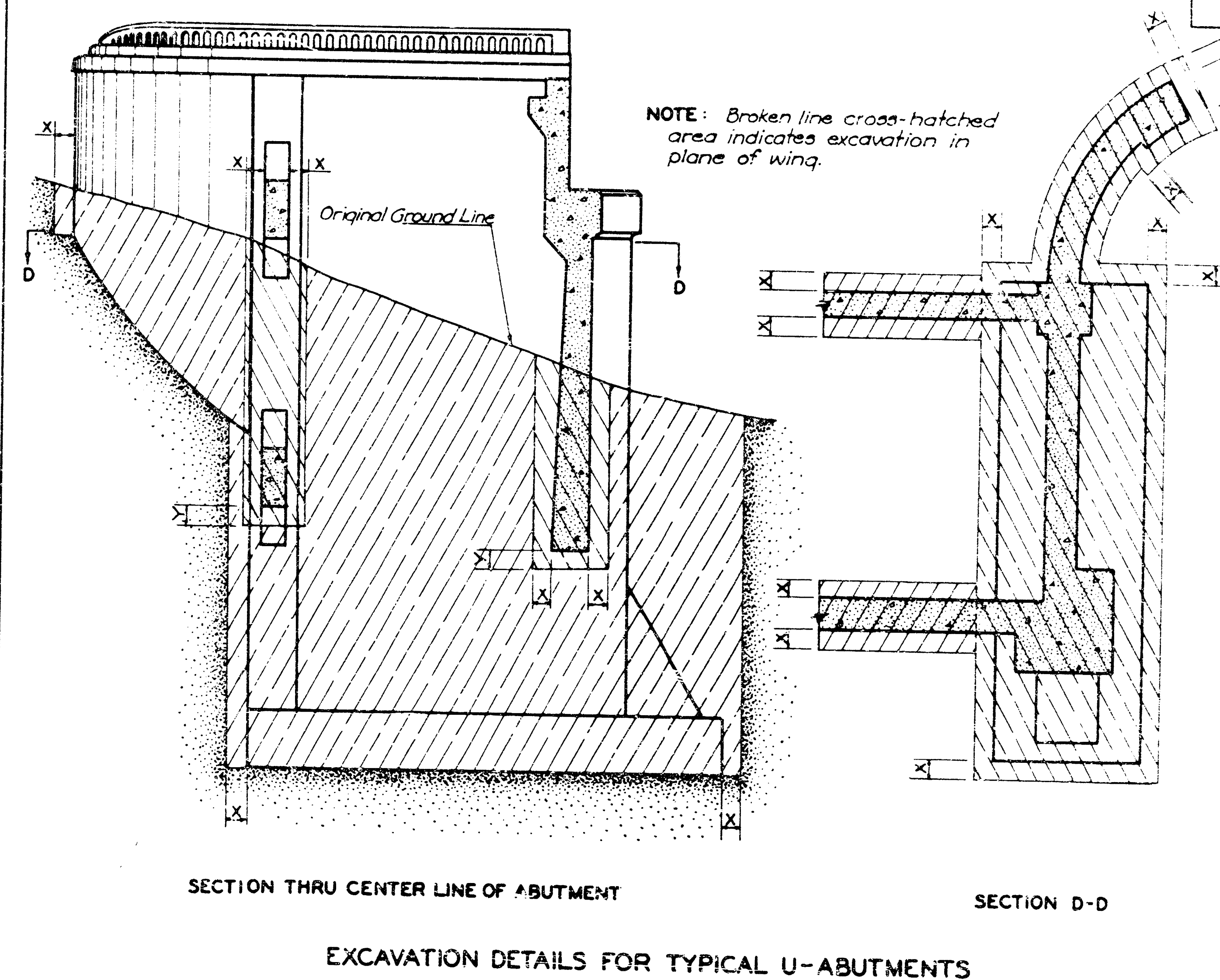


NO.	DATE	REVISIONS	BY	APP'D
9	8-7-80	Revised for 1980 Const. Spec.	W.J.N.	E.E.W.
8	8-19-76	Revised Concrete Strength	K.F.H.	E.E.W.
7	10-27-73	Revised from S.C. to K.O.C.	S.K.K.	E.E.W.
6	9-4-73	Revised for 1973 Const. Spec.	S.K.K.	E.E.W.
5	8-26-66	Revised Entire Gen. Note	J.C.L.	E.E.W.
4	4-8-64	Add Longitudinal Welded Steel Pile	J.C.L.	T.H.O.
3	4-4-61	Revised Choice of Pile Note	J.C.L.	T.H.O.
2	3-27-61	Revised Pile General Note	J.C.L.	T.H.O.
1	1-24-61	Remove hole in Prestressed Concrete Pile	J.C.L.	T.H.O.

Proj. No.	Sheet No.	Total Sheets	Section
472-16-245-81302-000-000-001	14	15	



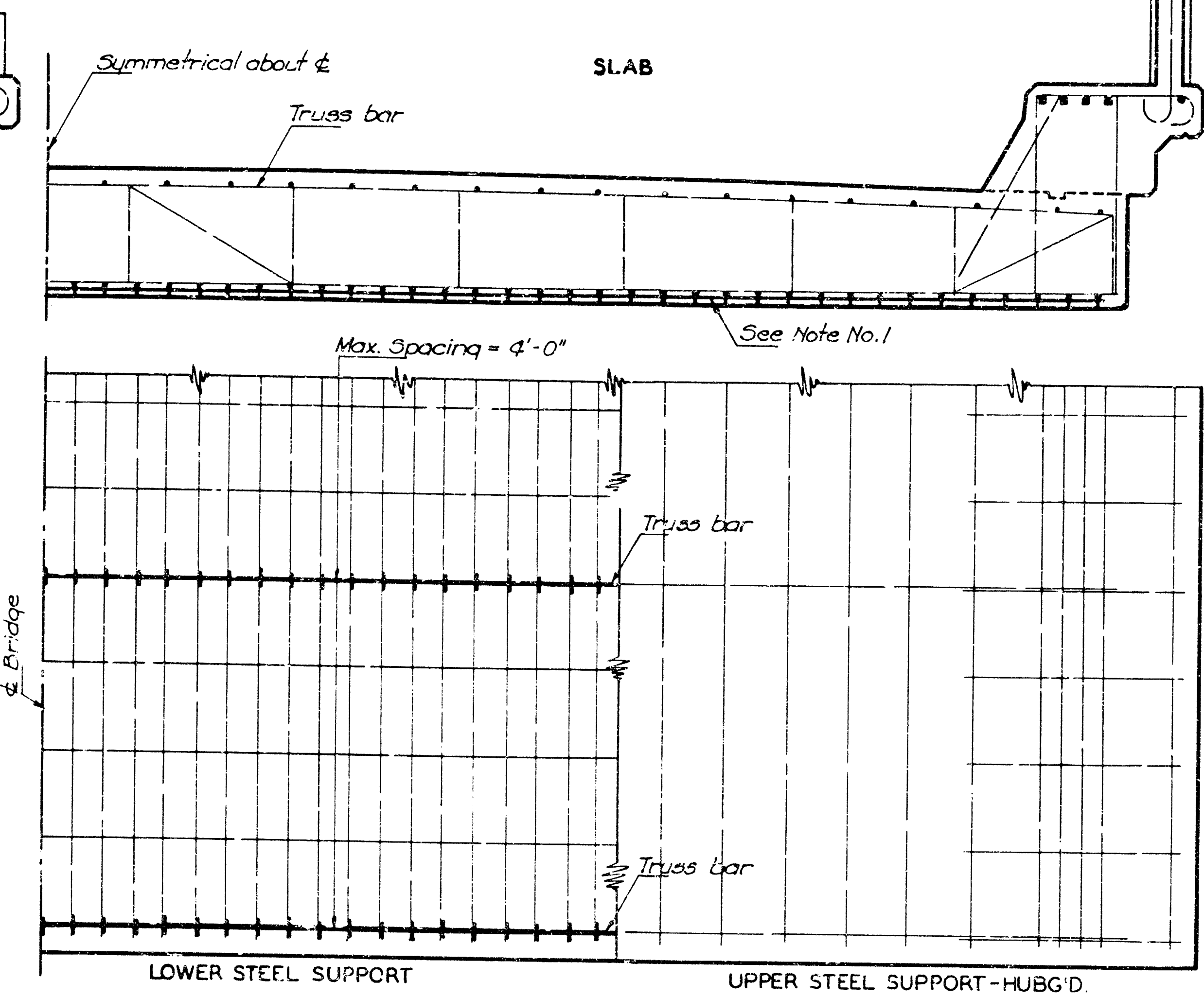
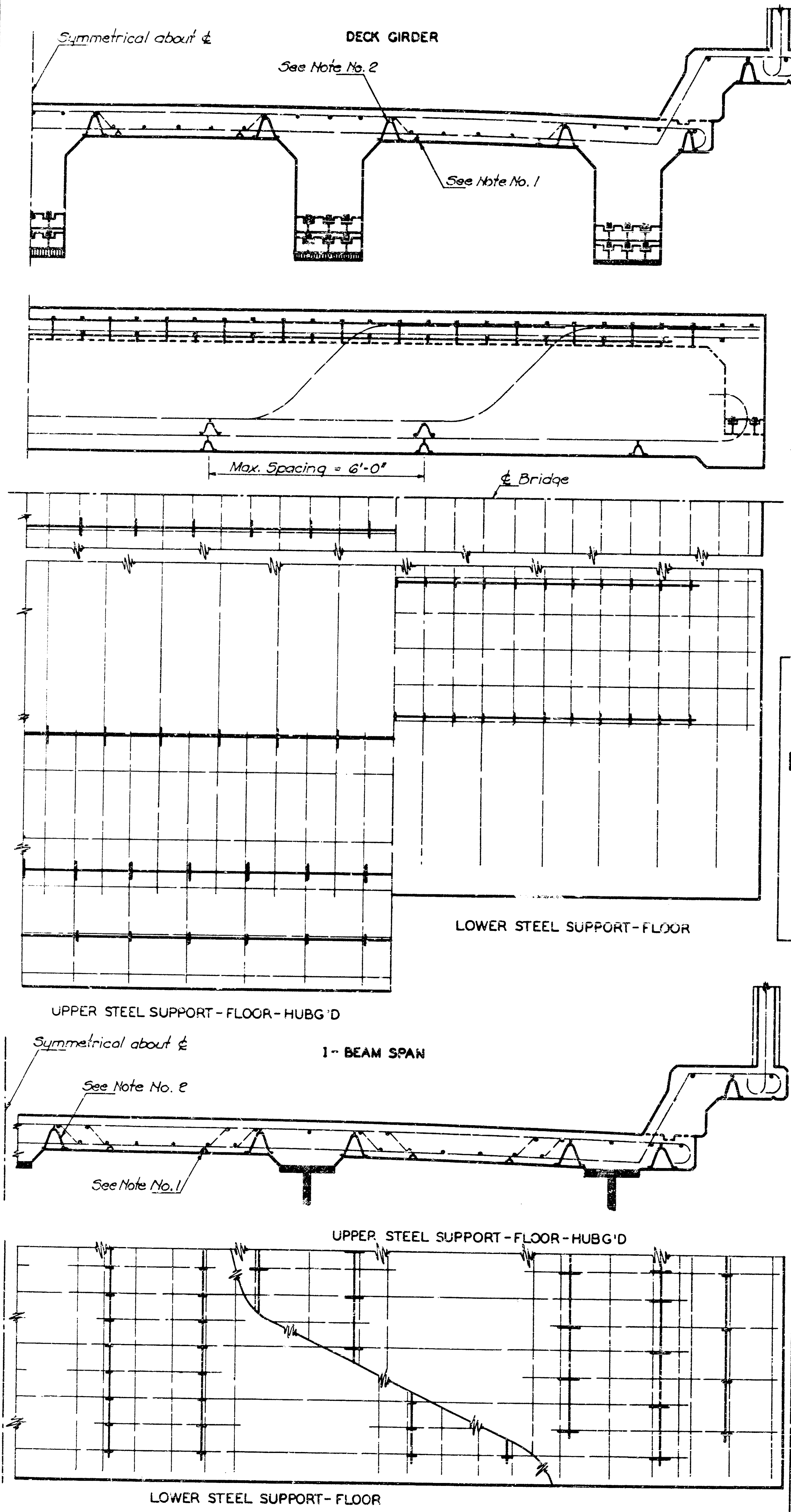
Sides of trenches in hard or compacted soil including embankments shall be shored, sheeted, braced or otherwise supported when the trench is more than 5 feet in depth and 8 feet or more in length. In lieu of the shoring, the sides of the trench above the 5 foot level may be sloped to preclude collapse. The slope for average soils shall be 1:1. If the angle of repose of the soil is less, flatter slopes shall be required.



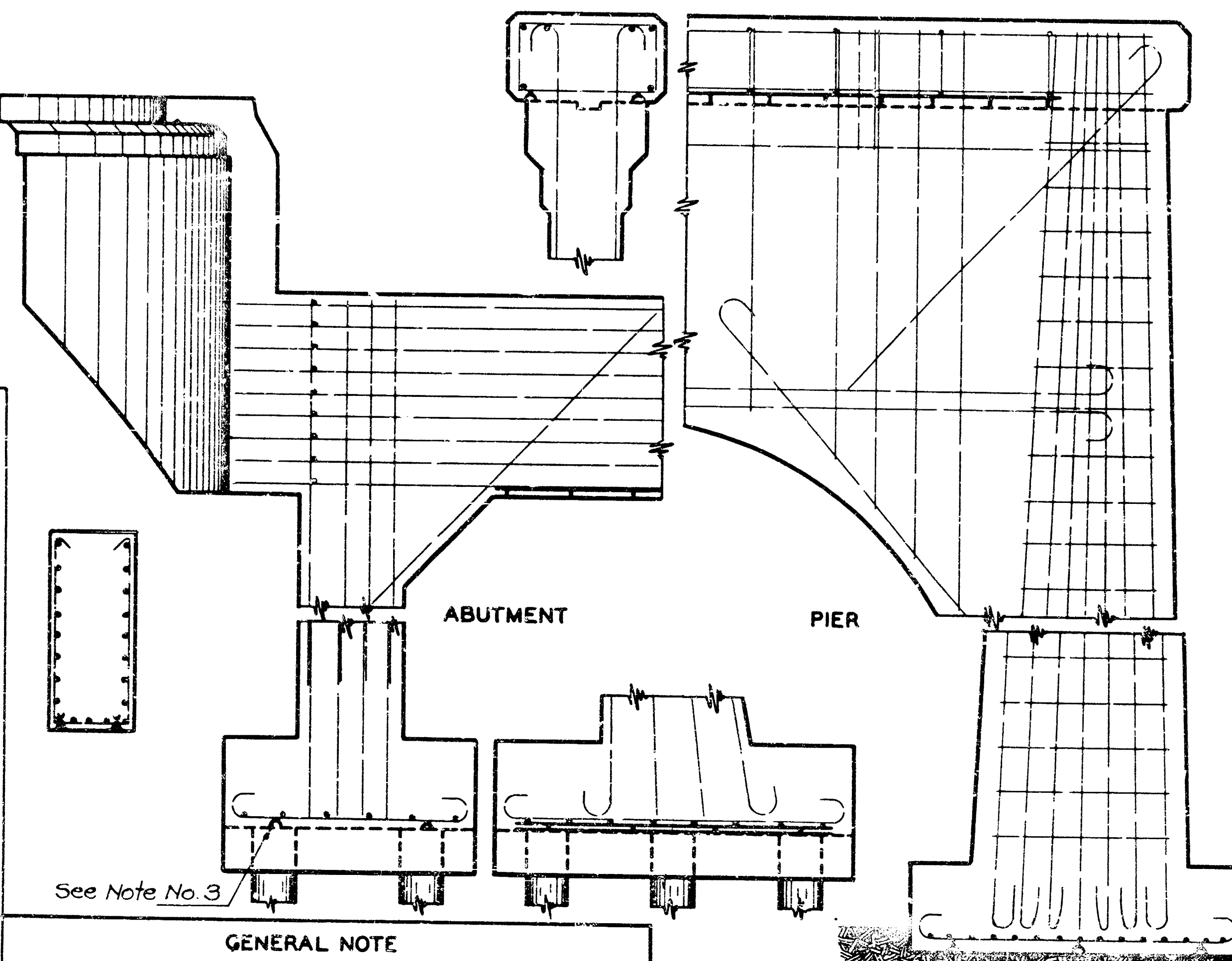
NOTE: All bridge excavation shall be computed on the basis of the cross-hatched areas and boundary lines indicated on this sheet. Dimension "X" shall be 2'-0" unless indicated otherwise on the general plans. Dimension "Y" shall be 1'-6" unless indicated otherwise on the general plans.

NO.	DATE	REVISIONS	BY	APP'D.
8	6/17/74	Revised "X" Dimension	W.A.P.A.	
KANSAS DEPARTMENT OF TRANSPORTATION				
BRIDGE EXCAVATION				
STD. NO. 100.1 SCALE 1/4" = 1'-0" (SEE 100.106 FOR NOTES)				
DESIGNED BY A.E. DATE 5-23-69, DETAIL BY W.A.P.A., TRACED BY W.A.P.A., CHECKED BY S.W., APPROVED BY J.C. COOPER, DATE 4-12-74				

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.

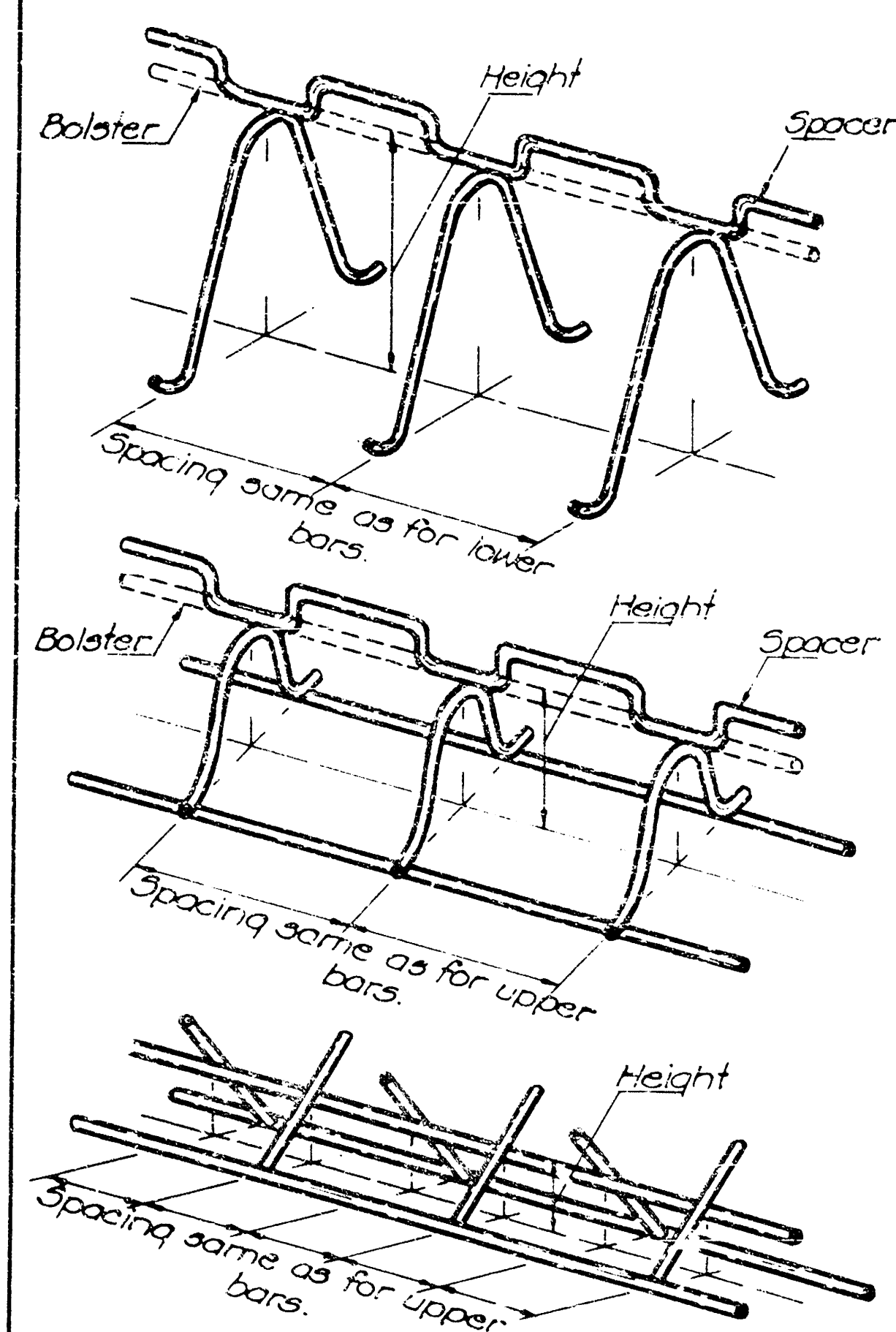
Wire used for Supports and Spacers shall be of sufficient size to insure stability of Reinforcing Steel at the position shown on the Plans, within the limits indicated by Notes 1 & 2. Wire supports shall be supplemented with form ties or other approved devices where necessary.

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.

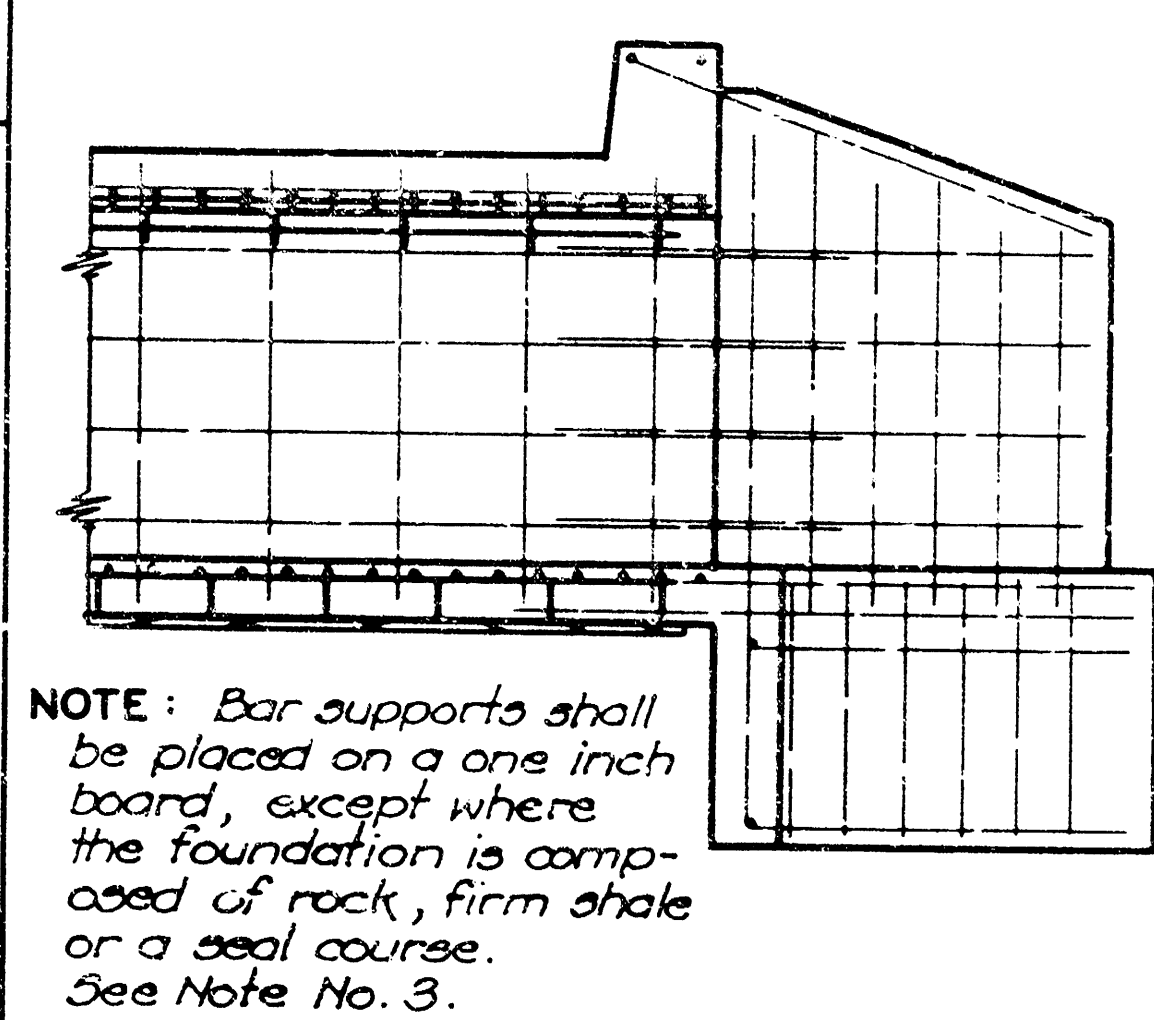
NOTE 2: The upper side of Reinforcing Steel in these locations shall be within the limits shown on the Plans.

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.

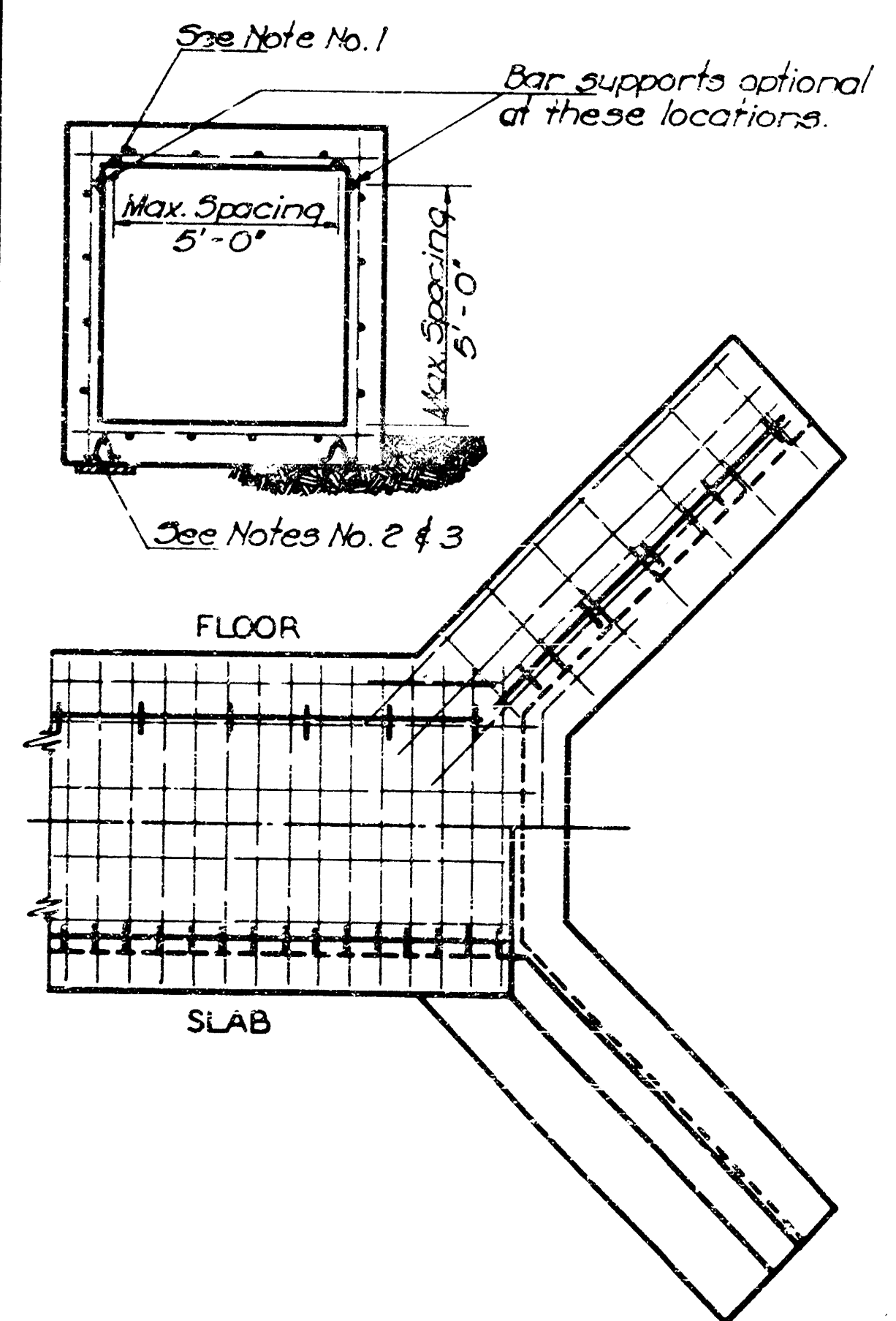
BEAM BAR SPACERS & BOLSTERS



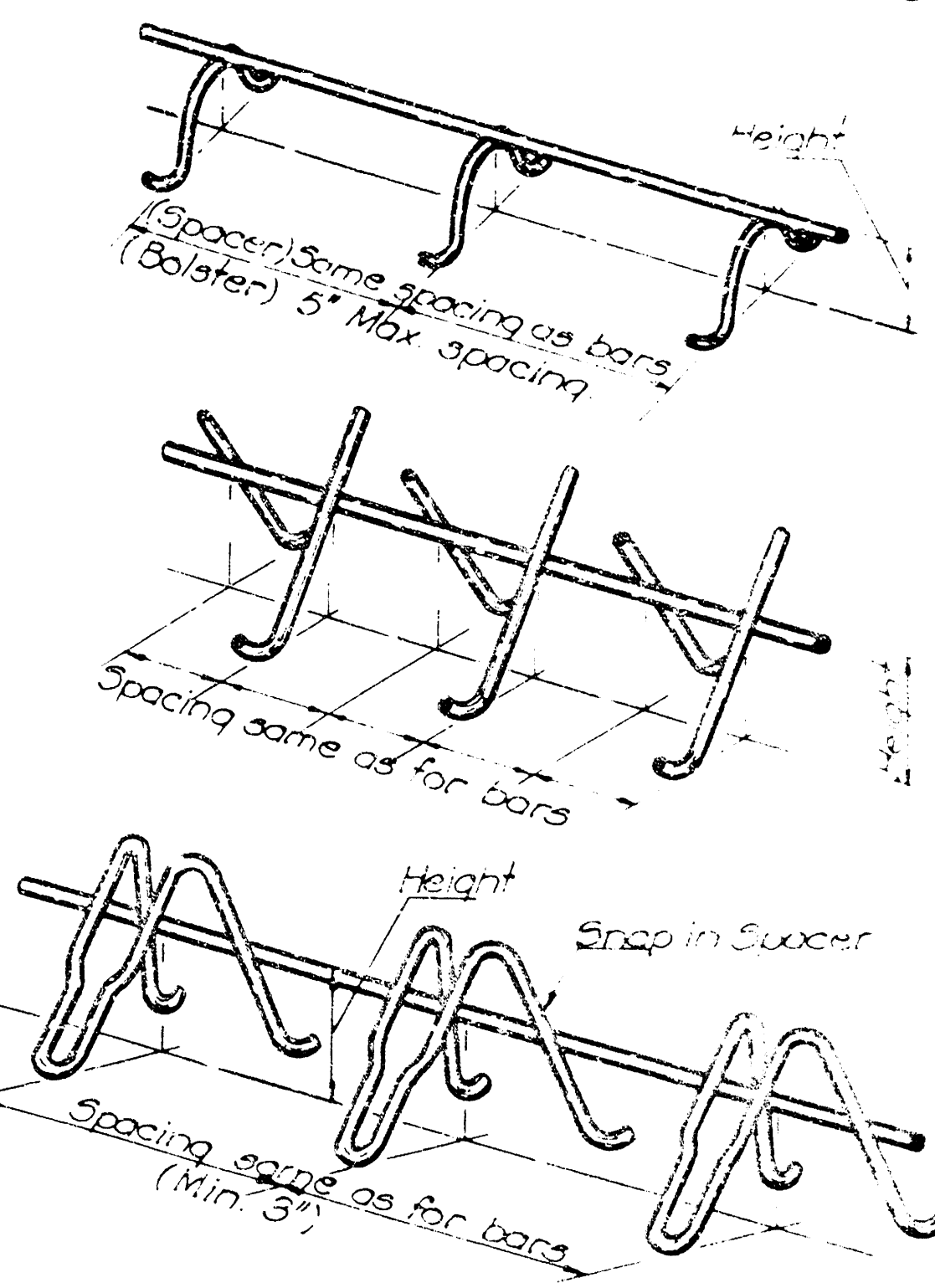
TYPICAL CULVERT DETAILS



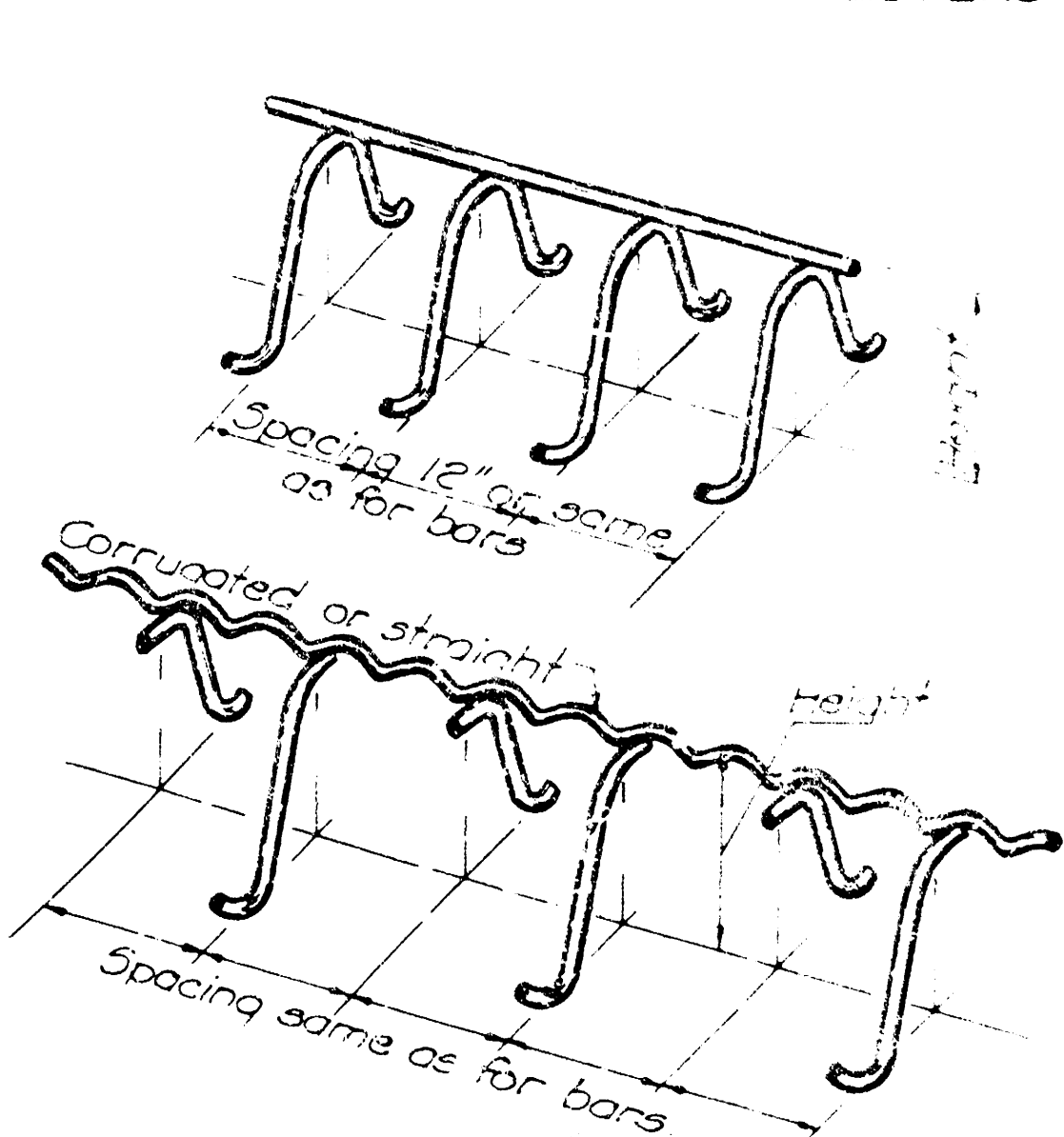
NOTE: Bar supports shall be placed on a one inch board, except where the foundation is composed of rock, firm shale or a seal course. See Note No. 3.



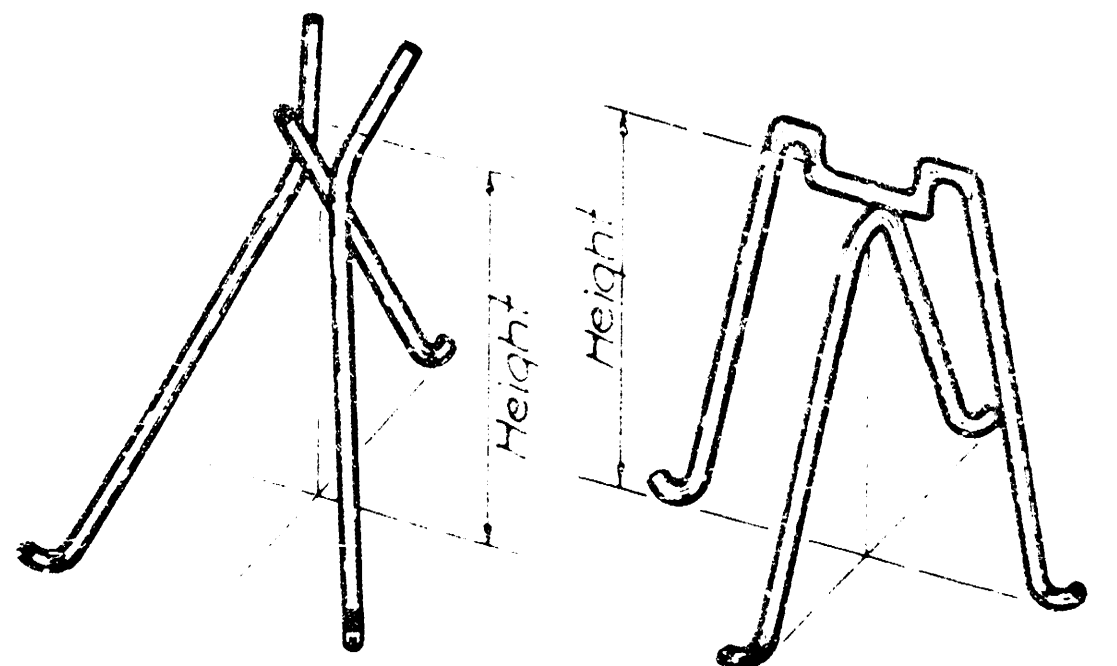
LOW SLAB BAR SPACERS & BOLSTERS



HIGH SLAB BAR SPACERS & BOLSTERS



INDIVIDUAL HIGH BAR CHAIRS



NO.	DATE	REVISIONS	BY	APP'D
6				

KANSAS DEPARTMENT OF TRANSPORTATION

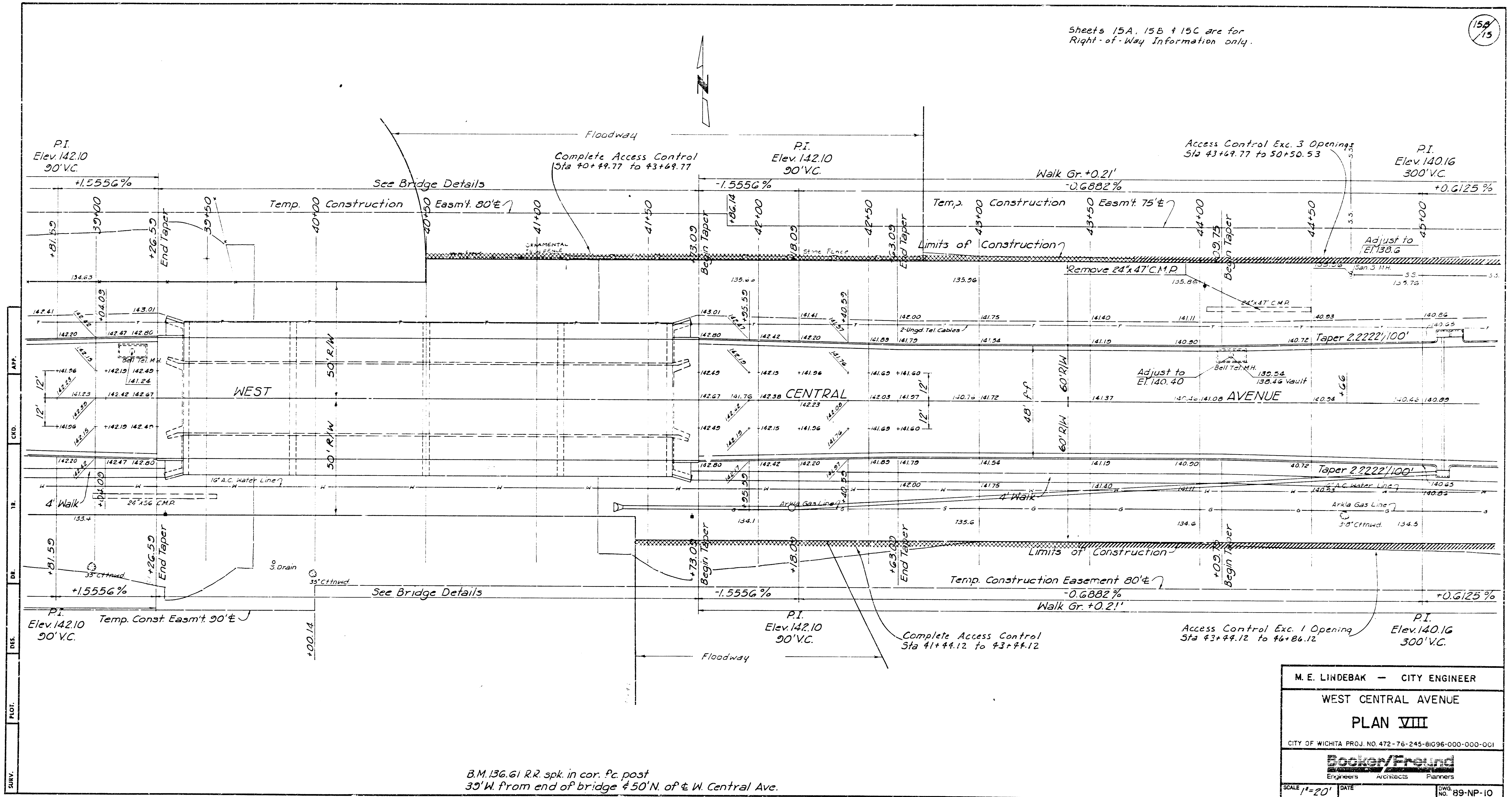
SUPPORTS AND SPACERS FOR REINFORCING STEEL

STD. NO. 610 SCALE: No. Scale

DESIGNED BY: A.R. DATE: 7-63, DETAILED BY: J.V. & B. P. TRACED BY: W.A. P.

CHECKED BY: G.C. APPROVED BY: L.S. Linnert DATE: 4-17-44

Sheets 15A, 15B & 15C are for Right-of-Way Information only.



B.M. 136.61 RR spk. in cor. P.C. post
30' W. from end of bridge & 50' N. of E. W. Central Ave.

M. E. LINDEBAK — CITY ENGINEER	
WEST CENTRAL AVENUE	
PLAN VIII	
CITY OF WICHITA PROJ. NO. 472-76-245-81096-000-000-001	
Booker/Freund Engineers Architects Planners	
SCALE 1"=20'	DATE
DWG. NO. 89-NP-10	

