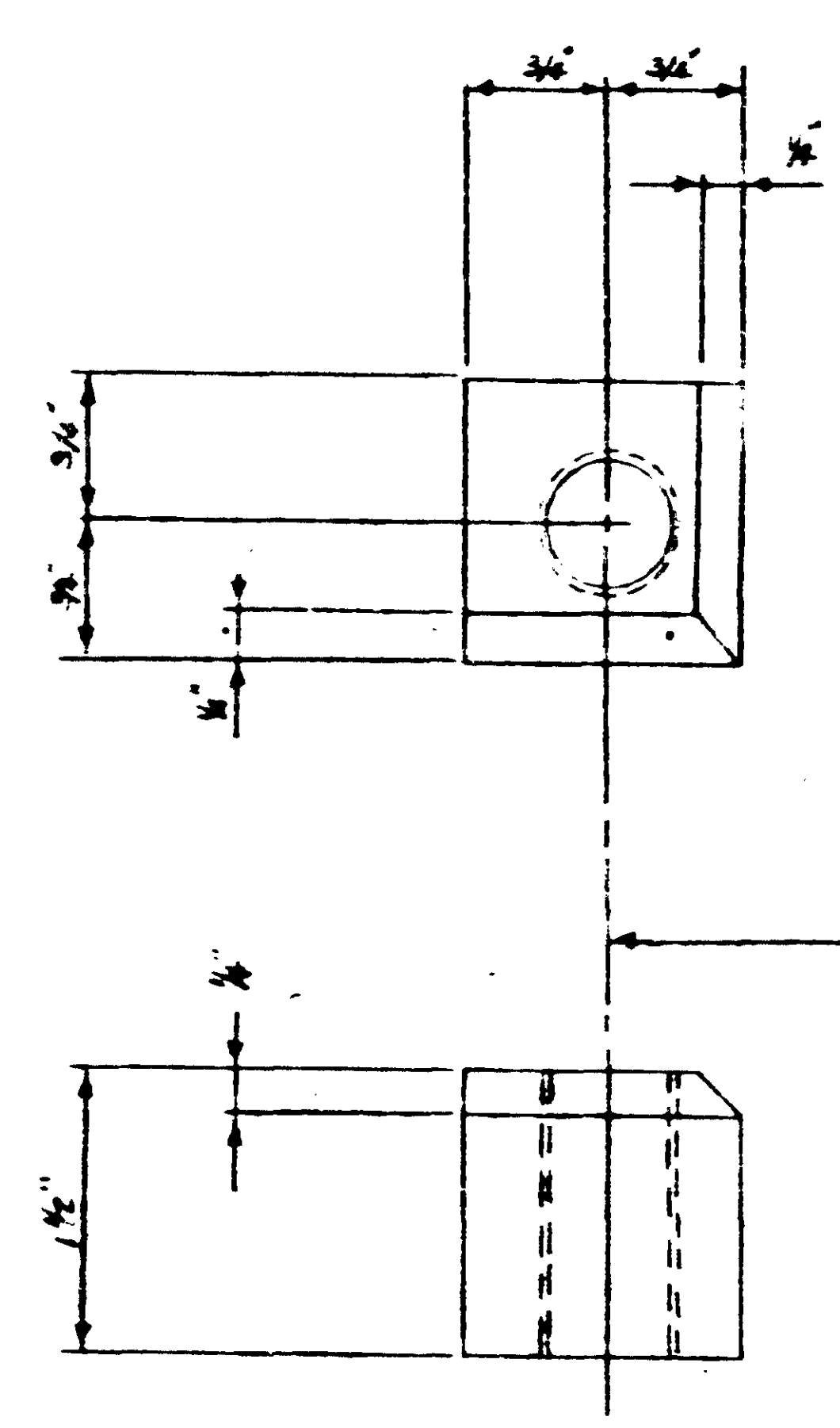


DETAIL OF DRAIN - 20 REQ'D
UNIT SHIPPING MARK DI-D20 (ONE EACH MARK)



DETAIL OF DD

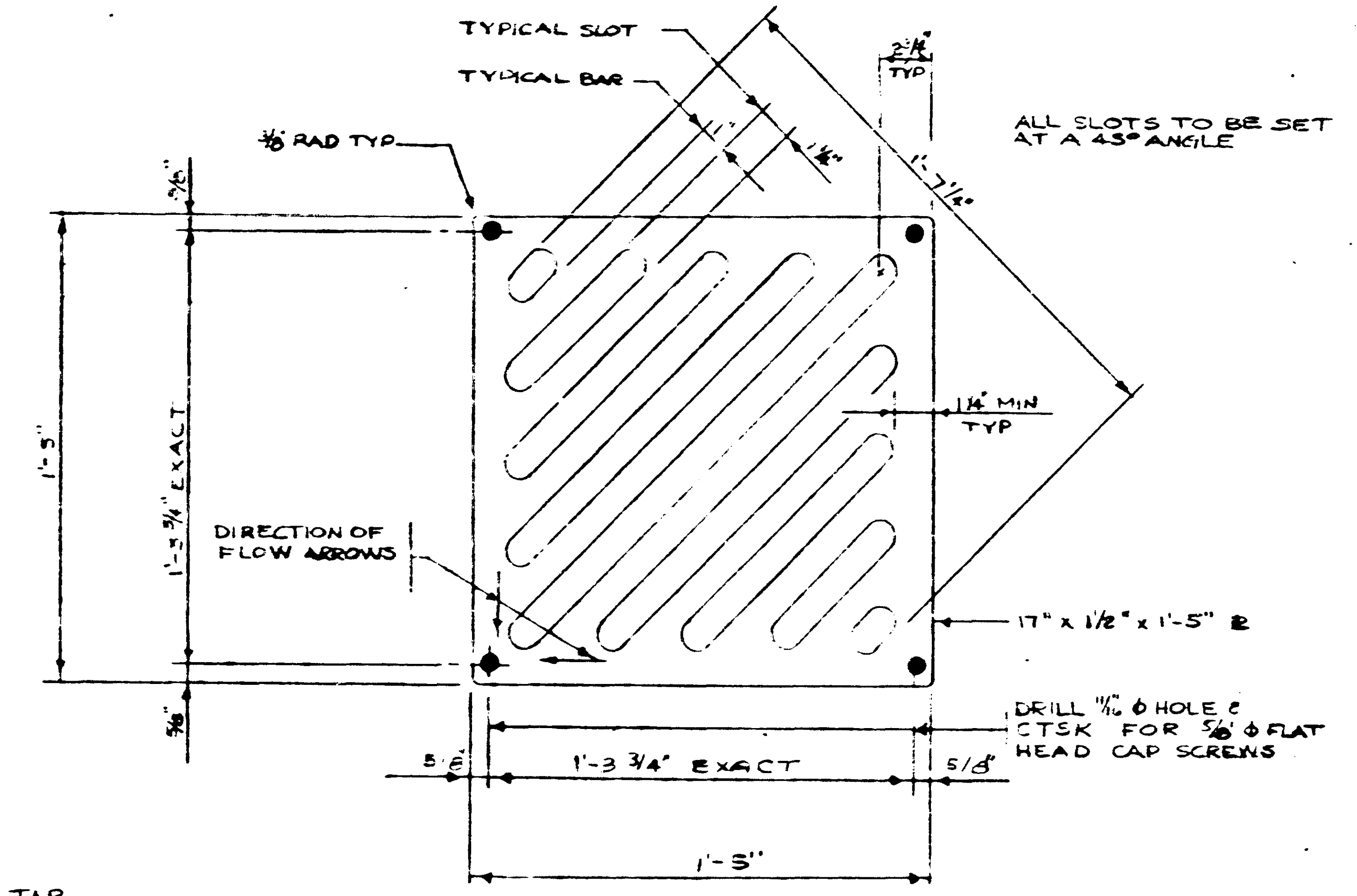
BILL OF MATERIAL			
ITEM	MARK	NO	DESCRIPTION
GRATE	GRATE	20	17" x 1 1/2" x 1'-5" R
		80	3/8" φ x 3" FLAT HEAD CAP SCREWS
DRAIN	DA	20	REC TUBE 10" x 6" x 1/4" x 1'-2"
	DB	40	6 3/8" x 3/8" x 1'-5 1/4" A
	DC	20	18" x 3/8" x 2'-4 1/2" R
	DD	80	1 1/2" x 1 1/2" x 0-1 1/2" BAR
	DE	50	3/8" φ x 5" BOLT
		160	3/8" HEX NUT
DF	80	2 1/8" x 3/8" O-2 1/2" R	

UNIT SHIPPING MARK DI-D20 (ONE EACH MARK)

GENERAL NOTES

ALL STEEL PLATES PER MHD 3306
 BLAST CLEAN SCUPPER & GRATE AFTER FABRICATION
 GALVANIZE SCUPPER & GRATE PER MHD 3394
 GALVANIZE HARDWARE PER MHD 3392
 GRATE OPENING AREA 110 SQ INCHES
 WORKMANSHIP AND FABRICATIONS PER MHD 2471

INSTALL GRATE WITH ARROW ON CURB SIDE & IN DIRECTION OF FLOW
 FABRICATE GRATE USING AUTOMATIC CONTROLLED CUTTING TORCH
 ALL WELDED CONTACT SURFACES MUST BE SEALED WITH WELD ALL AROUND BEFORE GALVANIZING



GRATE - 20 REQ'D
UNIT SHIPPING MARK DI-D20 (ONE EACH MARK)

NORTHERN CULVERT OPERATIONS
 SHAKOPEE, MINNESOTA

BRIDGE NO 2440
 FLOOR DRAIN DETAILS

FED PROJ NO BHP 005-2(67)
 STATE PROJ NO 2710-21

DATE OF DRAWING 12-3-71

SHEET 2 OF 7 SHEETS

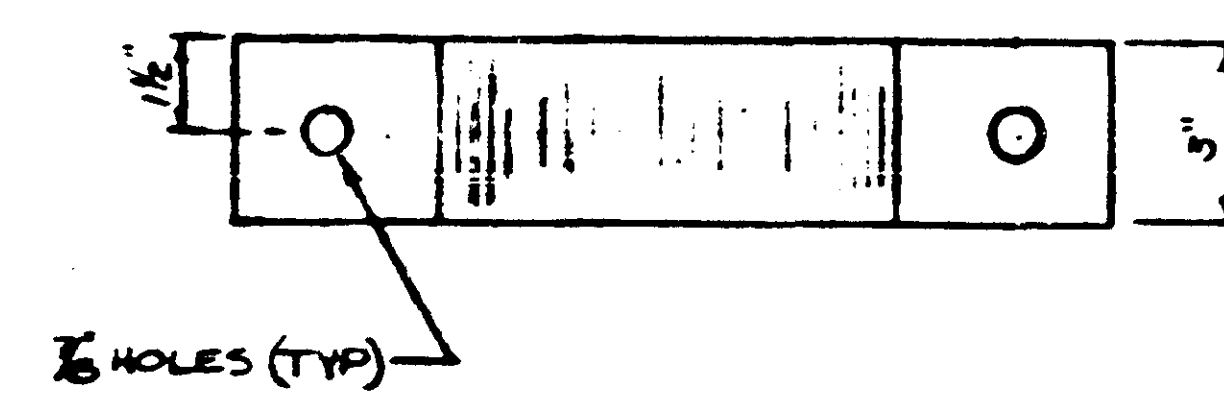
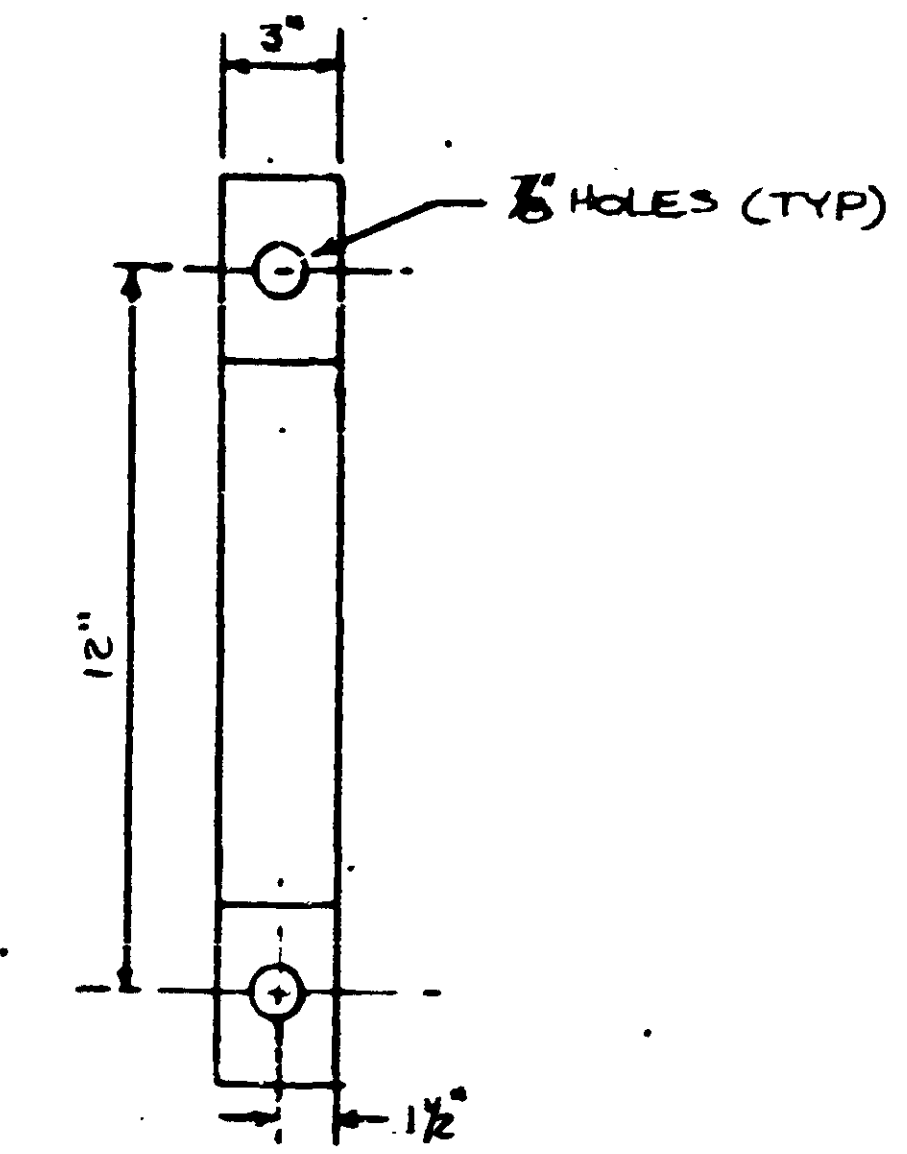
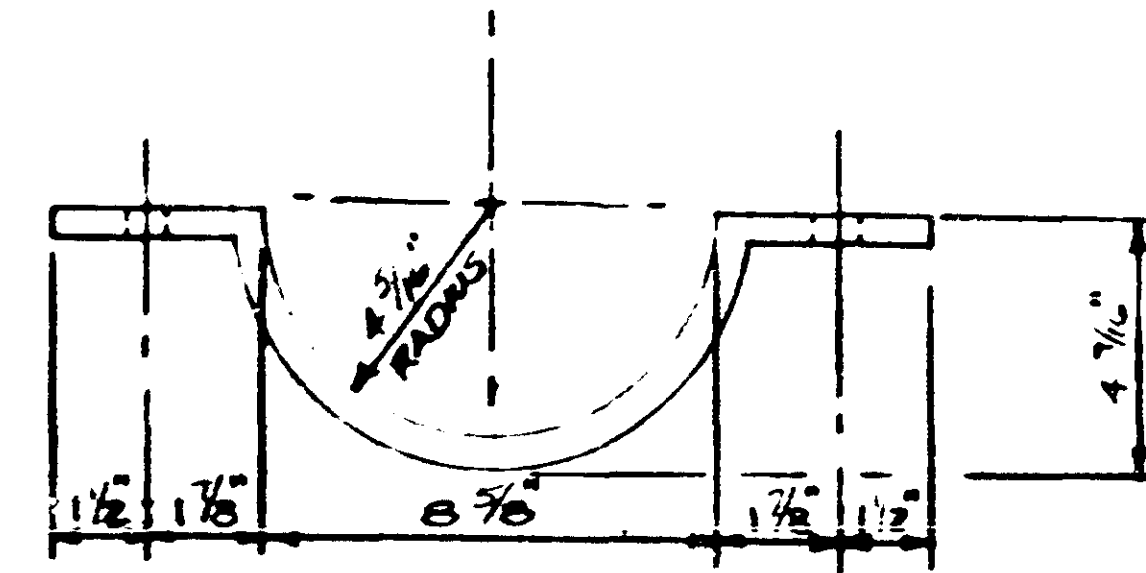
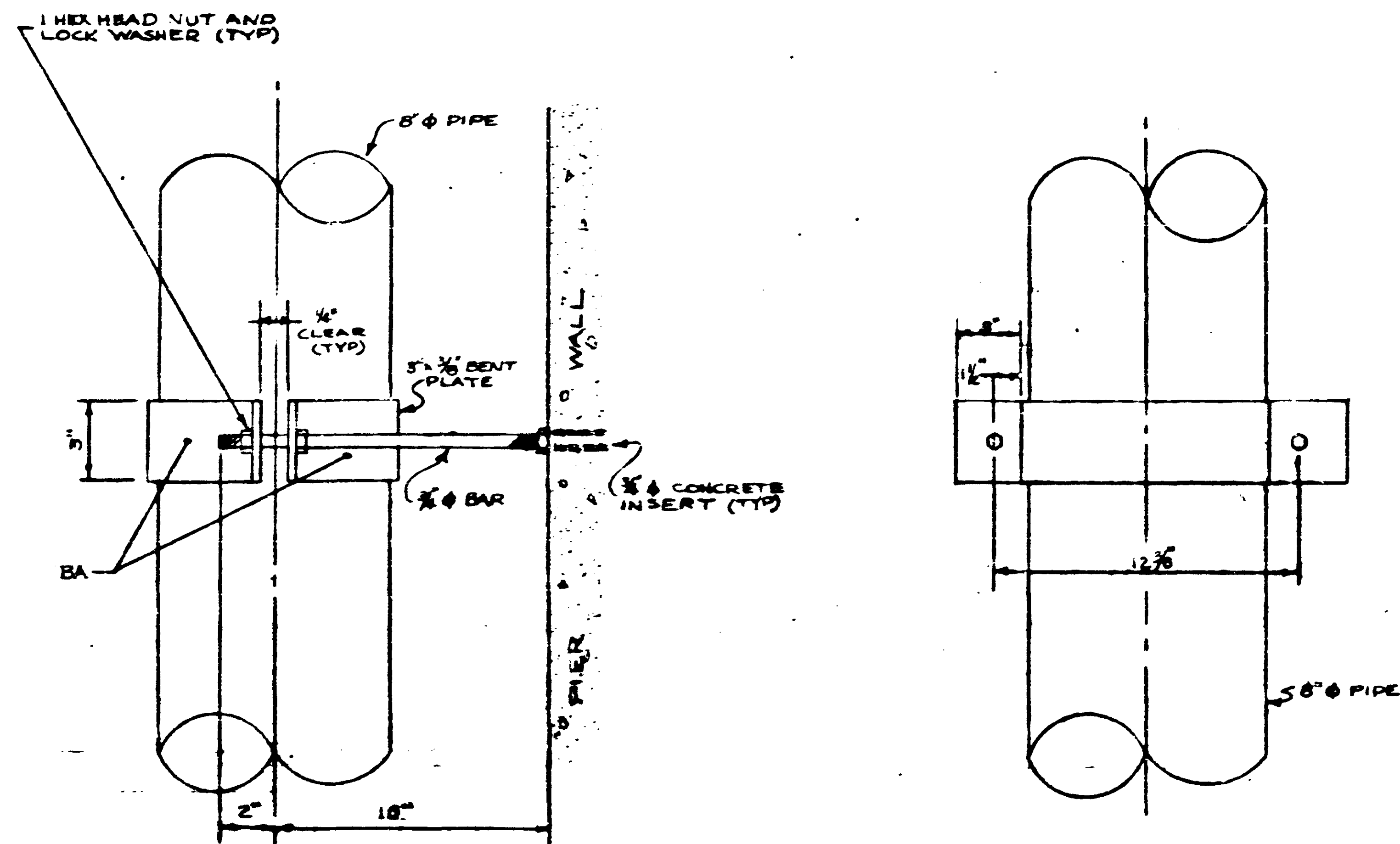
2440

DLC
 RR

ADJACENT DOCUMENT WAS SUPPLIED BY AGENCY NAMED BELOW, DURING THE REGULAR COURSE OF BUSINESS, TO BE FILMED BY STATE OF MINNESOTA MICROGRAPHIC SERVICES UNIT ACCORDING TO NATIONAL BUREAU OF STANDARDS REQUIREMENTS FOR PERMANENT MICROFILM AND ACCORDING TO FILED PROCEDURES FOR THIS DOCUMENT.

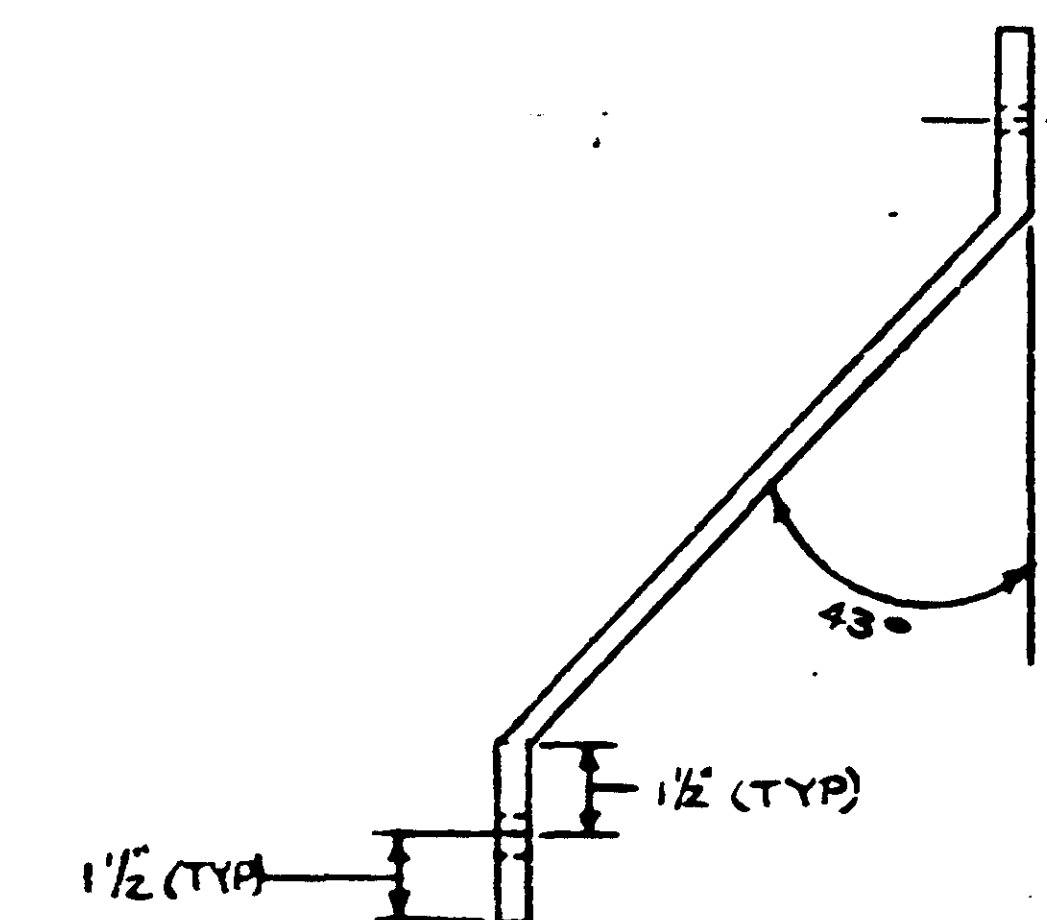
Agency Authority: _____ Date: 11-10-85

HALF BRACKET DETAIL
B1

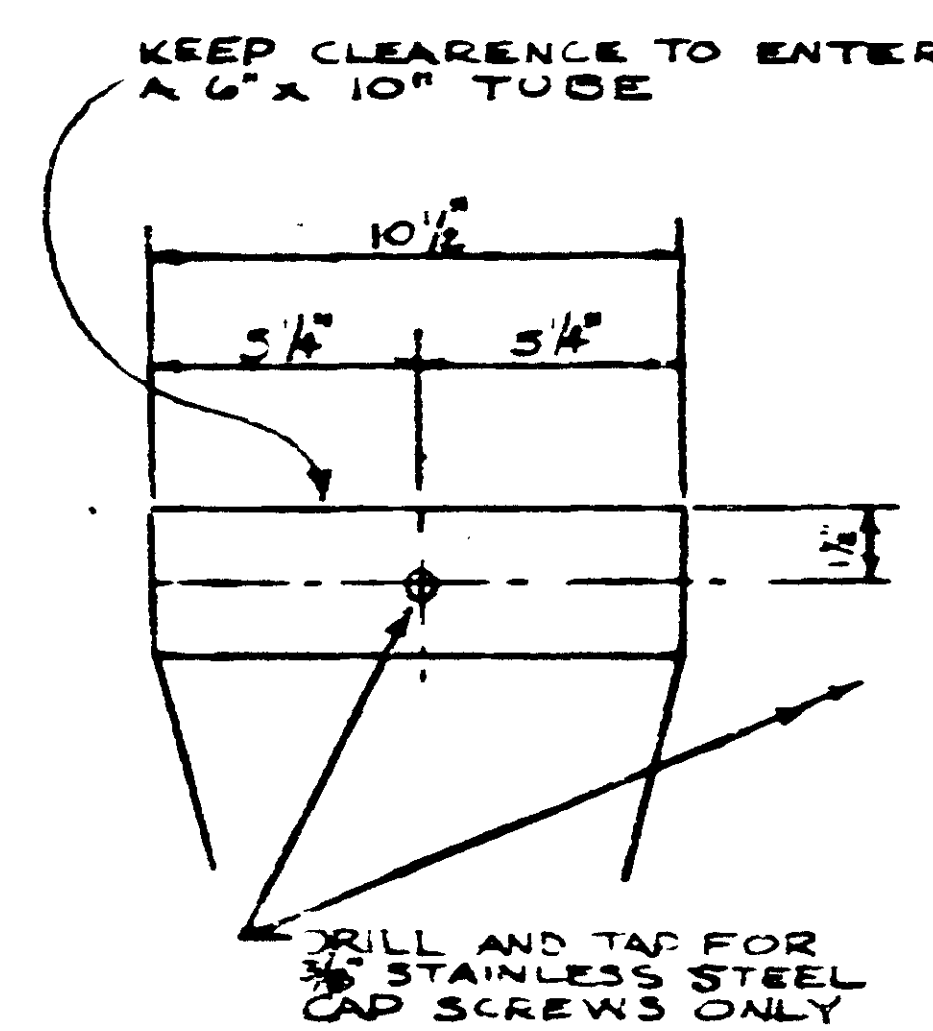
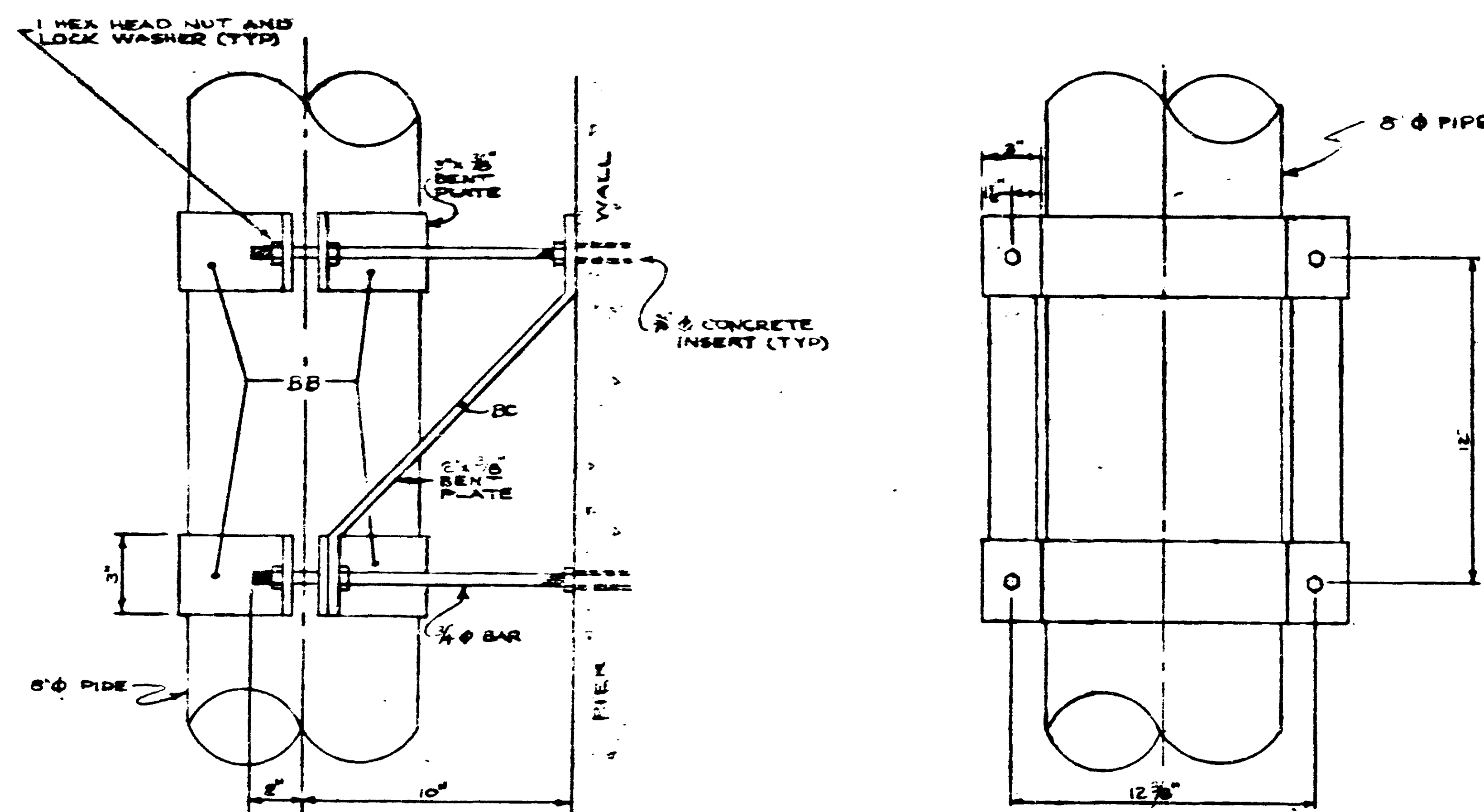


BB

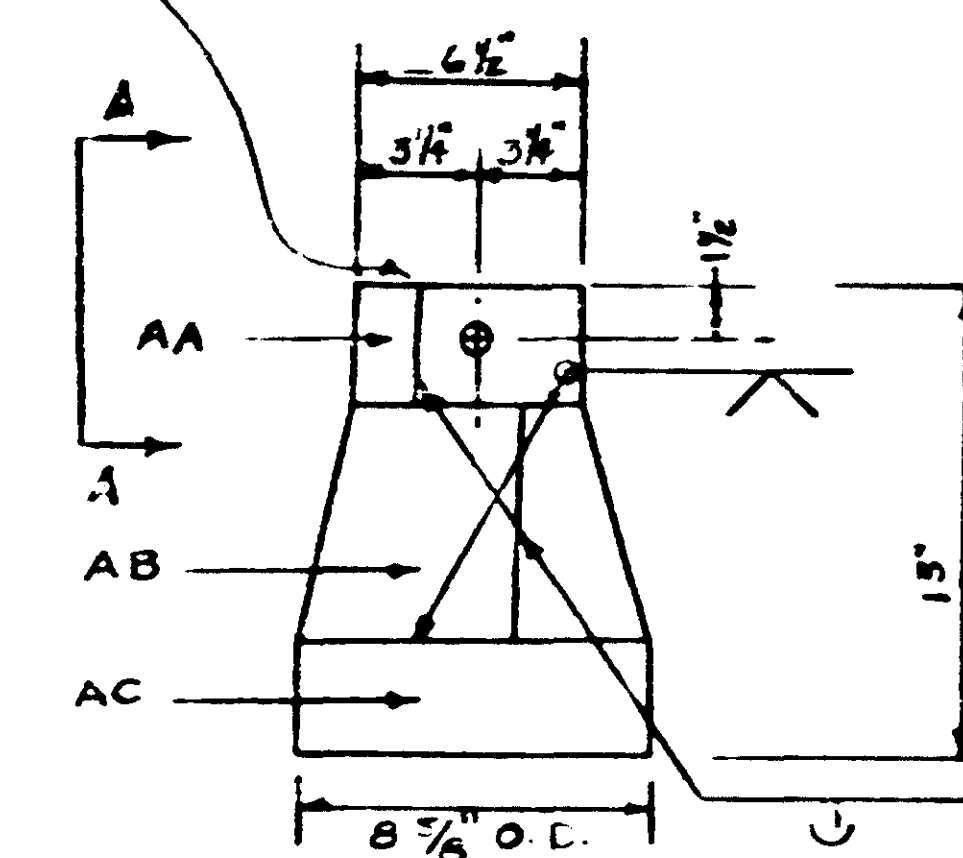
NOTE: THIS DETAIL IS ALSO TYPICAL FOR BA.



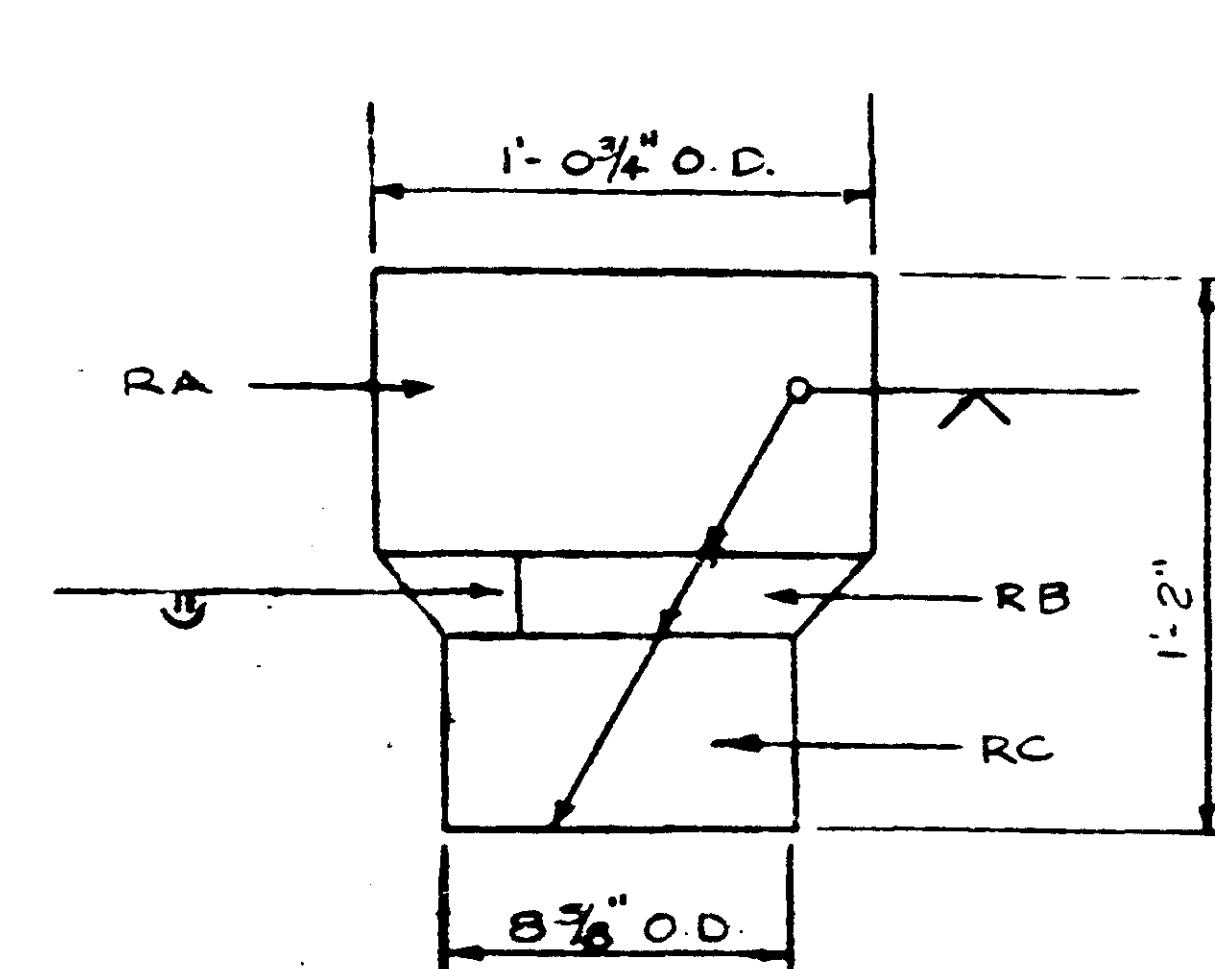
BC



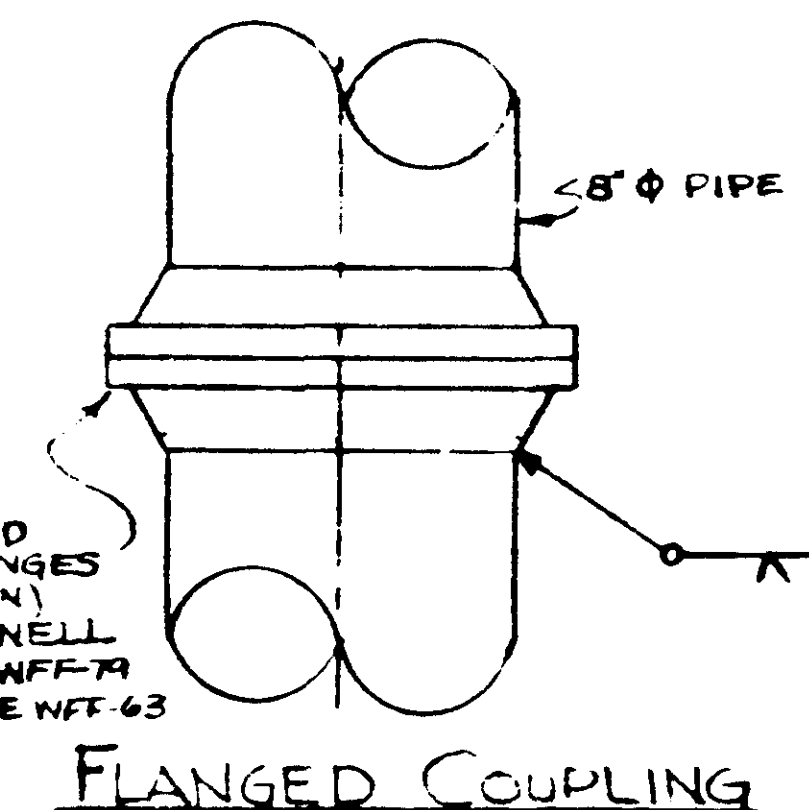
SECTION A-A



ADAPTER



REDUCER



FLANGED COUPLING

BILL OF MATERIALS			
ITEM	NO	MARK	DESCRIPTION
REDUCER	20	RA	12 1/2" STD PIPE x 0'-8"
	20	RB	2" x 1/4" x 3'-4" BENT PLATE
	20	RC	5/8" STD PIPE x 0'-4"
ADAPTER	20	AA	3' x 1/4" x 2'-10" BENT PLATE
	20	AB	6" x 1/4" x 3'-0"
	20	AC	5/8" STD PIPE x 0'-8"
FLANGED	20	-	STAINLESS STEEL CAP SCREWS
	18	-	1/2" WELD ON FLANGES
	144	-	3/8" HEX HEAD BOLTS x 0'-3/4"
COUPLING	144	-	3/8" HEX HEAD NUTS
	6	-	STANDARD 316L NO TT METALLIC CR

BILL OF MATERIALS		
QUAN	MARK	DESCRIPTION
36 UNITS	FULL BRACKET B2	224 BB 3' x 3/8" BAR x 19 1/2"
		112 BC 2' x 3/8" BAR x 19 1/2"
		224 5/8" x 1/4" ROD THREADED 5" EACH END
		872 3/8" HEX HEAD NUTS
		448 - LOCK WASHERS
		224 3/4" CONCRETE INSERTS
20 UNITS	HALF BRACKET B1	40 BA 3' x 3/8" BAR x 19 1/2"
		40 5/8" x 1/4" ROD THREADED 5" EACH END
		120 3/8" HEX HEAD NUTS
		80 - LOCK WASHERS
		40 3/4" CONCRETE INSERTS

NORTHERN CULVERT OPERATIONS
SHAKOPEE, MINNESOTA

BRIDGE NO 2440

PIPE CLAMPS AND FITTINGS

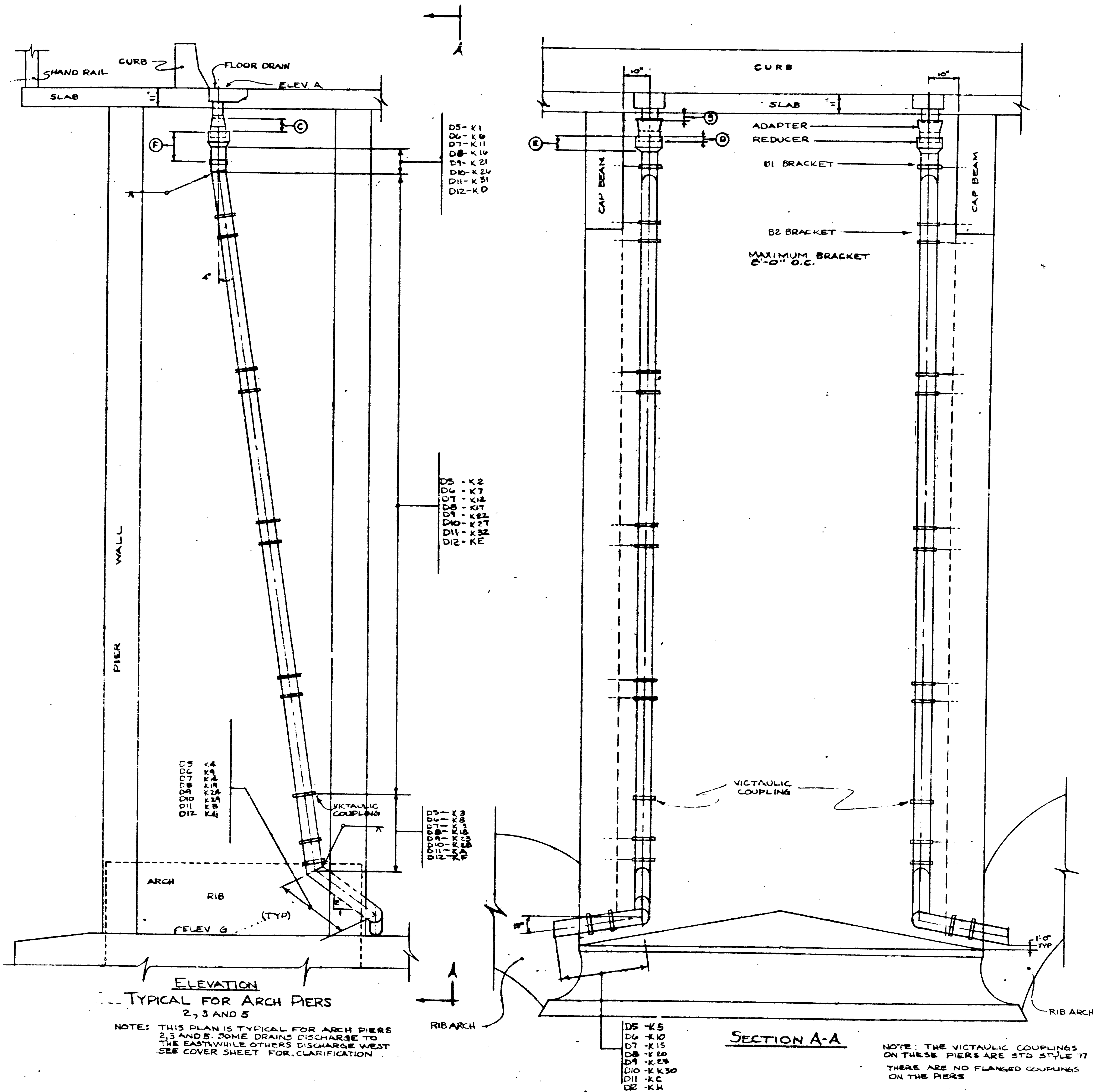
FED PROJ NO BHP005-2(67)
STATE PROJ NO 2710-21

DATE OF DRAWING 12-3-79

SHEET 2 OF 2 SHEETS

2440

DLG
RR



BILL OF MATERIAL

ITEM NO	MARK	DESCRIPTION	QUANTITY
1	K1	5" STANDARD PIPE X 0'-9 3/16" LONG	
2	K2	19'-1 1/4"	
3	K3	3'-0"	
4	K4	7'-5 1/2"	
5	K5	2'-11 5/8"	
6	K6	0'-10 7/16"	
7	K7	19'-1 1/4"	
8	K8	3'-0"	
9	K9	7'-5 1/2"	
10	K10	3'-11 5/8"	
11	K11	0'-10 7/16"	
12	K12	19'-1 1/4"	
13	K13	3'-0"	
14	K14	7'-5 1/2"	
15	K15	3'-11 5/8"	
16	K16	0'-10 7/16"	
17	K17	19'-1 1/4"	
18	K18	3'-0"	
19	K19	7'-5 1/2"	
20	K20	3'-11 5/8"	
21	K21	0'-11 1/4"	
22	K22	19'-1 1/4"	
23	K23	3'-0"	
24	K24	7'-5 1/2"	
25	K25	3'-11 5/8"	
26	K26	0'-11 1/4"	
27	K27	19'-1 1/4"	
28	K28	3'-0"	
29	K29	7'-5 1/2"	
30	K30	3'-11 5/8"	
31	K31	0'-11 1/4"	
32	K32	19'-1 1/4"	
33	KA	3'-0"	
34	KB	7'-5 1/2"	
35	KC	3'-11 5/8"	
36	KD	7'-5 1/2"	
37	KE	19'-1 1/4"	
38	KF	3'-0"	
39	KG	7'-5 1/2"	
40	KH	3'-11 5/8"	

ADAPTERS: 0 - SEE SHEET 3
REDUCERS: 8 - SEE SHEET 3
COUPLING: 0 - SEE SHEET 3
V COUPLING: 8 - SEE SHEET 3
BRACKETS: 8 B1 - SEE SHEET 3
 8 B2 - SEE SHEET 3

NOTE: DOWN POINT LENGTH TO BE FIELD MEASURED AS PERS
NOTE: SOME DOWN POINTS MAY BE OPPOSITE AS SHOWN IN THE ELEVATION
NOTE: FOR LETA - OF FITTINGS & REDUCERS, ADAPTERS OR SEE SHEET 3

DIMENSIONS

ITEM	DIMENSIONS	D5	D6	D7	D8	D9	D10	D11	D12	DRAIN NUMBERS
A		050.20	050.37	050.51	050.65	050.79	050.93	051.07	051.21	051.35
B	6" THIS DIMENSION IS TYPICAL									
C	8" THIS DIMENSION IS TYPICAL									
D	1" THIS DIMENSION IS TYPICAL									
E	10" THIS DIMENSION IS TYPICAL									
F	150" THIS DIMENSION IS TYPICAL									
G		051.43	051.57	051.71	051.85	051.99	052.13	052.27	052.41	052.55

NORTHERN CULVERT OPERATIONS
SHAKOPEE, MINNESOTA

BRIDGE NO 2440
PIER DETAIL 2, 3, & 5

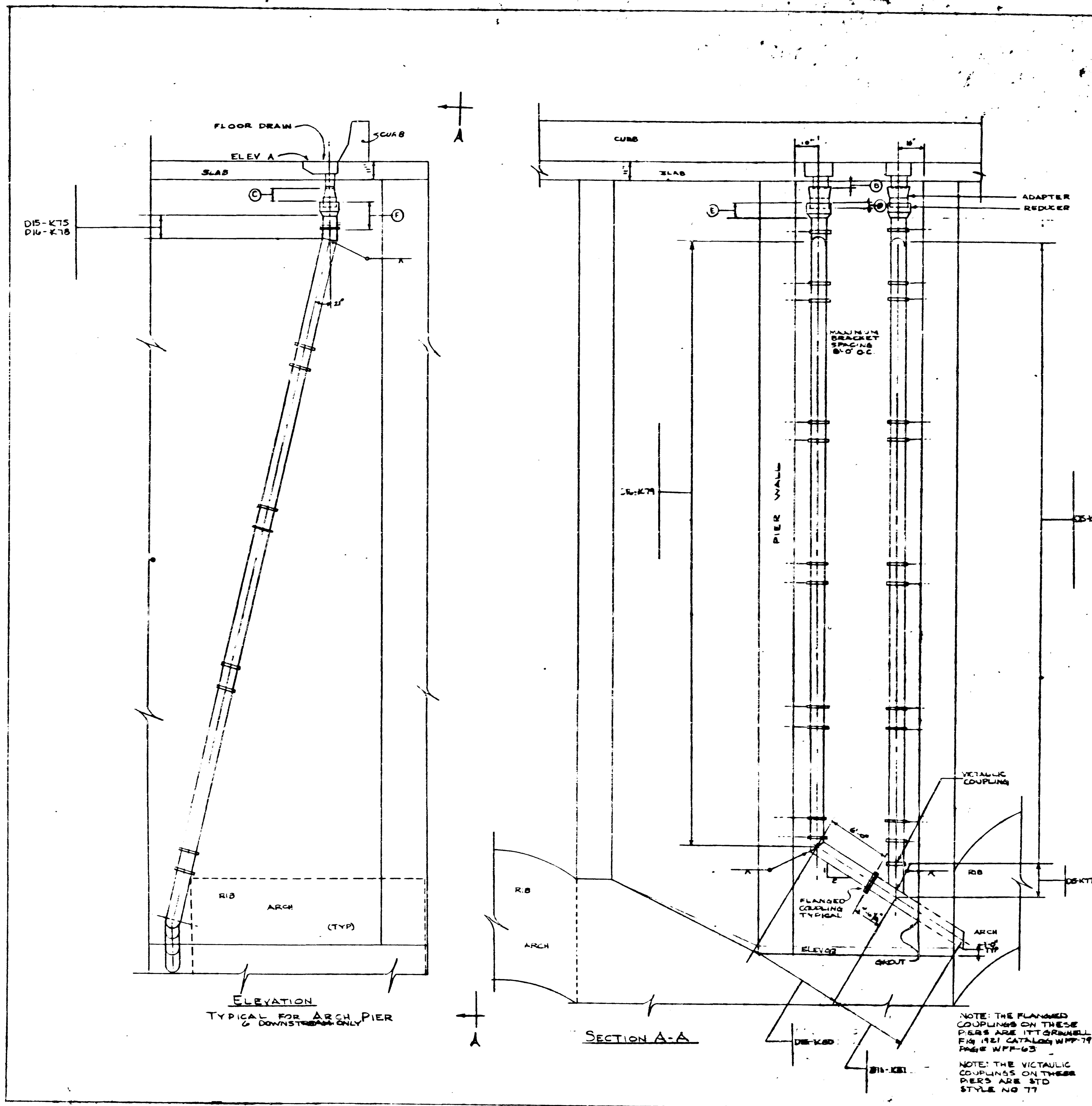
FED PROJ NO BHPO05-2(67)
STATE PROJ NO 2710-21

DATE OF DRAWING

SHEET 4 OF 7 SHEETS

2440

JLC
RR



BILL OF MATERIALS

ITEM	NO	MARK	DESCRIPTION
	1	K75	6" STD PIPE X 81.74' LONG
	1	K76	2.5" 1/2"
	1	K77	4'-3 3/4"
	1	K78	5'-9 3/4"
	1	K79	25'-1 1/2"
	1	K80	9'-6 1/2"
	1	K81	4'-3 3/4"
S T O R P S Z W O D			
	2	-	SEE SHEET 3
	2	-	SEE SHEET 3
	2	-	SEE SHEET 3
	1	-	SEE SHEET 3
	2	B1	SEE SHEET 3
	7	B2	SEE SHEET 3

NOTE: DOWNPOINT LENGTH TO BE FIELD MEASURED AS PIERS BECOME ACCESSIBLE.
 NOTE: FOR DETAIL OF FITTINGS & REDUCER ADAPTER SEE SHEET 3.

DIMENSIONS

ITEM	DIMENSIONS	D15	D16	DRAIN NUMBERS
A		851.69	851.63	
B	6" THIS DIMENSION IS TYPICAL			
C	8" THIS DIMENSION IS TYPICAL			
D	1" THIS DIMENSION IS TYPICAL			
E	10" THIS DIMENSION IS TYPICAL			
F	1-1/2" THIS DIMENSION IS TYPICAL			
G		811.83	811.83	

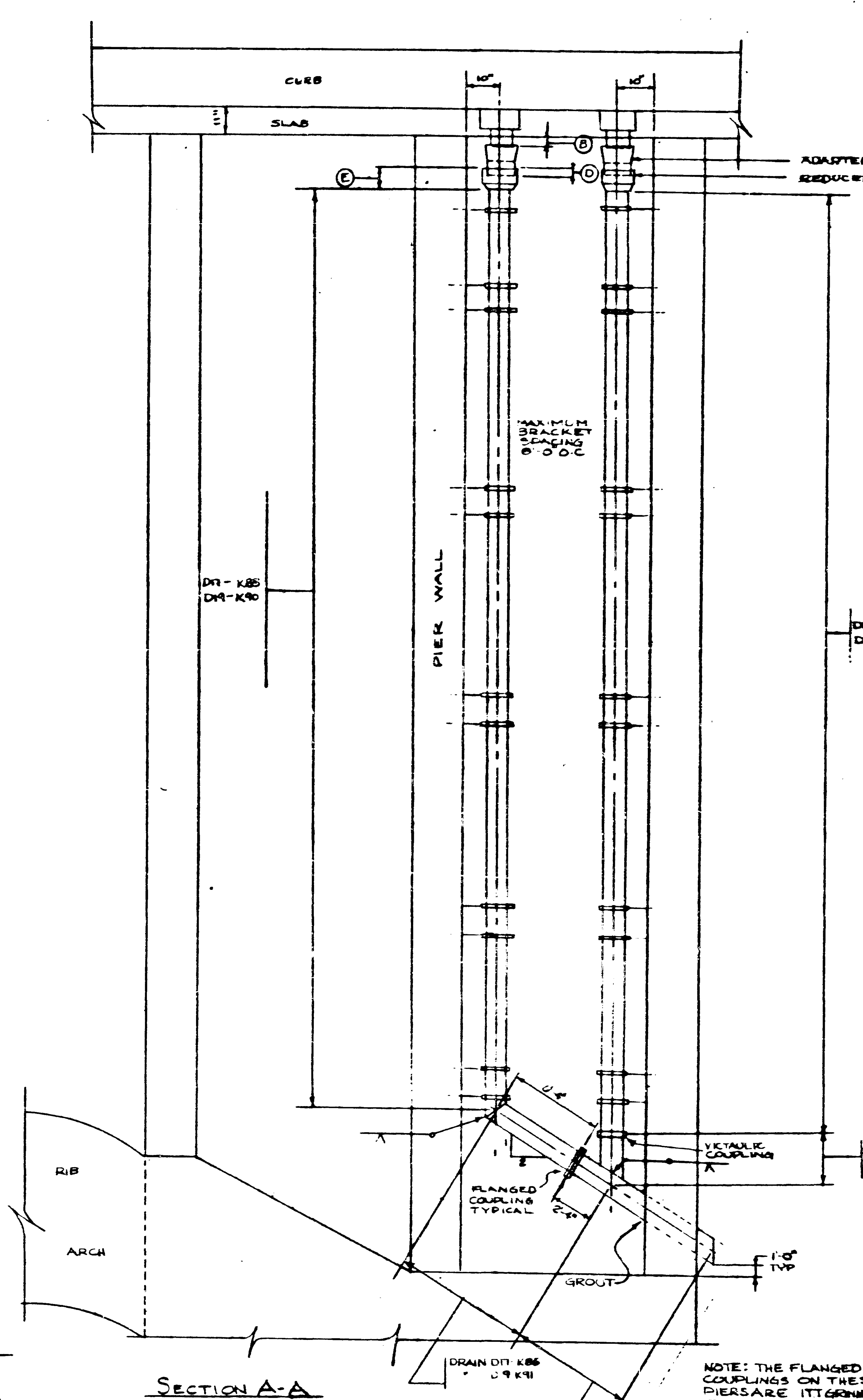
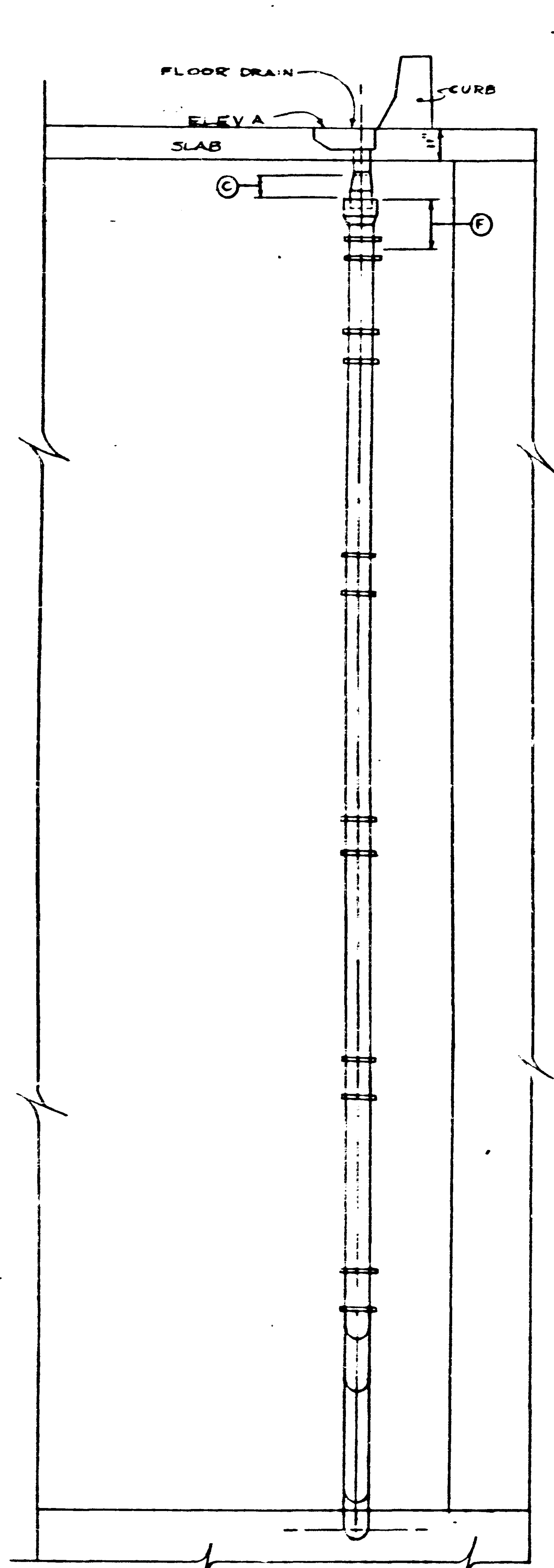
NORTHERN CULVERT OPERATIONS
 SHAKOPEE, MINNESOTA

BRIDGE NO. 2440

PIER DETAIL 6 DOWNSTREAM

FED PROJ NO BHP005-2(67) DATE OF DRAWING
 STATE PROJ NO 2710-21

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BILL OF MATERIAL

ITEM	NO	MARK	DESCRIPTION
S T U D I O R S N O D	1	K85	8" STD PIPE x 24' 1" LONG
	1	K86	" " " " 8'-8" "
	1	K87	" " " " 20'-0" "
	1	K88	" " " " 7'-10 7/16" "
	1	K89	" " " " 5'-1 1/2" "
	1	K90	" " " " 24'-1" "
	1	K91	" " " " 8'-8" "
	1	K92	" " " " 20'-0" "
	1	K93	" " " " 7'-10 7/16" "
	1	K94	" " " " 5'-1 1/2" "
	4	-	SEE SHEET 3
	4	-	SEE SHEET 3
	2	-	SEE SHEET 3
	2	-	SEE SHEET 3
4	B1	SEE SHEET 3	
10	B2	SEE SHEET 3	

NOTE: DIMENSION LENGTH TO BE FIELD MEASURED AS PIERS
 NOTE: FOR DETAILS OF FITTINGS & ADAPTERS, REDUCERS SEE SHEET 3.

DIMENSIONS

ITEM	DIMENSIONS	D17	D18	D19	D20	DRAIN NUMBERS
A		849.89	849.79	849.89	849.79	
B	6"	THIS DIMENSION IS TYPICAL				
C	8"	THIS DIMENSION IS TYPICAL				
D	11"	THIS DIMENSION IS TYPICAL				
E	10"	THIS DIMENSION IS TYPICAL				
F	11 1/2"	THIS DIMENSION IS TYPICAL				
G		815.28	815.28	815.28	815.28	

NORTHERN CULVERT OPERATIONS
 SHAKOPEE, MINNESOTA

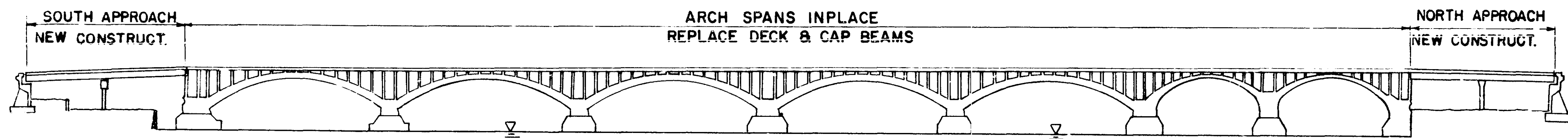
BRIDGE NO 2440
PIER DETAIL 8 (TYPICAL)

FED PROJ NO BHP005-2(67)
 STATE PROJ NO 2710-21

DATE OF DRAWING

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Agency Authority: *Minnesota Department of Transportation* Doc. ID: *117685* Date: *11/16/85*



DESIGN DATA
 and Interim
 1977 AASHTO Design Specifications
 Load Factor Design Method
 HS20 Loading and alternate designated in PPM 20-4 Section 4C
 Includes 17 psf Dead Load Allowance for Future
 Wearing Course Modifications

Maximum Allowable Design Stresses:
 Reinforced Concrete: $f'_c = 4000 \text{ PSI } n = 8$
 $f_y = 60,000 \text{ PSI Reinforcement}$
 Prestressed Concrete: $f'_c = 6,000 \text{ PSI } n = 6$
 $f_s = 270,000 \text{ PSI}$
 Structural Steel: $f_y = 36,000 \text{ PSI Structural Steel}$
 $Mn/Dst 3306$
 $Mn/Lst 3309$

24,100 Projected ADT for 2000

Deck Area:	South Approach	16,676 Sq.Ft.
	Arch Spans	124,082 Sq.Ft.
	North Approach	15,079 Sq.Ft.

INDEX OF SHEETS

SHEET	TITLE	SHEET	TITLE	SHEET	TITLE	SHEET	TITLE
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3	General Plan and Elevation South Approach	42	Diaphragm and Framing Details Sheet 4 of 4	82	Existing Railing Sheet 3 of 8	112	N.W.B.T. Sheet 9 of 16
4	General Plan and Elevation Arch Spans	43	5th Prestressed Concrete Beam	83	Existing Railing Sheet 4 of 8		(Horizontal Geometry Details)
5	General Plan and Elevation North Approach	44	Dead Load Deflection and Camber and North Approach Beams	84	Existing Railing Sheet 5 of 8	113	N.W.B.T. Sheet 10 of 16
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7	Working Point Layout	46	Beam Details South Approach Sheet 2 of 4	86	Existing Railing Sheet 7 of 8	114	N.W.B.T. Sheet 11 of 16
8	Working Point Tabulations	47	Beam Details South Approach Sheet 3 of 4	87	Existing Railing Sheet 8 of 8		(North and South Approach)
9	Elevation Tabulations Sheet 1 of 2	48	Beam Details South Approach Sheet 4 of 4	88	Drainage Details Arch Piers Sheet 1 of 2	115	N.W.B.T. Sheet 12 of 16
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13	Horizontal Geometry Details Sheet 3 of 3	52	Pouring Sequence	92	Roadway Lighting Details Sheet 2 of 2	117	N.W.B.T. Sheets 14 of 16
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15	South Approach Details Sheet 2 of 2	54	Slab Reinforcement Units 1-6	94	Typical Repair and Reconstruction Details	118	N.W.B.T. Sheet 15 of 16
16	South Abutment Sheet 1 of 2	55	Slab Reinforcement Units 7-25	95	Existing Deck Sections		(Pier Manhole and Miscellaneous Details)
17	South Abutment Sheet 2 of 2	56	Slab Reinforcement Units 26-31	96	Inspection Reports Sheet 1 of 4	119	N.W.B.T. Sheet 16 of 16
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19	North Abutment Sheet 2 of 2	58	Slab Reinforcement North Approach	98	Inspection Reports Sheet 3 of 4	120	Standard Details B101, B202
20	North Approach Details Sheet 1 of 2	59	Bill of Reinforcement (Slabs)	99	Inspection Reports Sheet 4 of 4	121	Standard Details B303, B304
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25	Miscellaneous Quantities	64	Sidewalk, Handrail and Traffic Rail Sheet 5 of 7	104	N.W.B.T. Sheet 1 of 16	126	Standard Details B910
26	Arch Pier 1 Sheet 1 of 2	65	Sidewalk, Handrail and Traffic Rail Sheet 6 of 7	105	N.W.B.T. Sheet 2 of 16	127	Existing Bridge Substructure Sheet 1 of 2
27	Arch Pier 1 Sheet 2 of 2	66	Sidewalk, Handrail and Traffic Rail Sheet 7 of 7		(General Plan and Elevation Arch Spans Permanent Conduits)	128	Existing Bridge Substructure Sheet 2 of 2
28	Arch Piers 2, 3, 4, and 5	67	Bill of Reinforcement (Sidewalk)	106	N.W.B.T. Sheet 3 of 16	129	Bridge Survey
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38	Finishing Plan North and South Approach	77	Traffic Rail Details Sheet 2 of 2				
39	Diaphragm and Framing Details Sheet 1 of 4	78	Concrete Railing (Type J)				
		79	Bill Reinforcement (Traffic Rail and Handrail)				

I HEREBY CERTIFY THAT THIS PLAN WAS PREPARED UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY REGISTERED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA

DATE *12/1/79* REG NO. *8719*

HOWARD, NEEDLES, TAMMEN & BERGENDOFF | HNTB
 CONSULTING ENGINEERS
 Minneapolis, Minnesota

TRUNK HIGHWAY NO. 65
 STATE OF MINNESOTA
 DEPARTMENT OF TRANSPORTATION

BRIDGE NO. 2440
 T. H. 65 (3rd AVE.) OVER MISS. RIVER,
 MAIN ST. & B.N. INC. TRKS. 0.3 MI. N.E.
 OF JCT. OF T.H. 12 & T.H. 65 IN MPLS.
 BRIDGE RECONSTRUCTION
 SEC. 23 T29N R24W

HENNEPIN COUNTY

APPROVED: *5-7-79* *[Signature]*
 BRIDGE ENGINEER DIRECTOR ENGINEERING SERVICES

SHEET NO. 1 OF 148 SHEETS 2440

SCHEDULE OF QUANTITIES

ITEM NO.	2105.522	2031.501	2401.501	2401.501	2401.501	2452.520	2401.521	2401.541	2401.541	2401.543	2402.521	2402.521	2402.585	2402.590
ITEM	Select Granular Barrow (GV)	Field Office, Type D	Concrete, Mix No. 1A43	Concrete, Mix No. 3Y43	Concrete, Mix No. 3X46A	STEEL H-TEST PILES, 30 FEET LONG	Structure Excavation, Class E	Reinforcement Bars	Reinforcement Bars (Epoxy Coated)	Spiral Reinforcement	Structural Steel (3306)	Structural Steel (3309)	Pipe Railing	Elastomeric Bearing Pads, Type 1
UNIT	Cu. Yd.	Each	Cu. Yd.	Cu. Yd.	Cu. Yd.	EACH	Cu. Yd.	Pound	Pound	Pound	Pound	Pound	Lin. Ft.	Each
QUANTITY	2034	1	587 (P)	4631 (P)	205 (P)	6	1341 (F)	1,443,453 (J)	759,131 (P)	1908 (P)	5575 (P)	443,296 (P)	4086 (P)	20
ITEM NO.	2402.530	2402.530	2402.530	2402.531	2402.531	2402.532	2402.532	2402.501	2433.501	2452.510	2452.511	2452.519	401.601	401.604
ITEM	Elastomeric Bearing Pads, Type 2	Elastomeric Bearing Pads, Type 3	Elastomeric Bearing Pads, Type 4	Expansion Joint Devices, Type 2	Expansion Joint Devices, Type 1	Elastomeric Bearing Assemblies, Type 1	Elastomeric Bearing Assemblies, Type 2	Prestressed Concrete Beams, Type 54-91	Prestressed Concrete Beams, Type 54-93	Structure Removals	Steel H-Piling Driven	Steel H-Piling Delivered	Conduit System (Lighting)	Surface Finish
UNIT	Each	Each	Each	Lin. Ft.	Lin. Ft.	Each	Each	Each	Each	Lump Sum	Lin. Ft.	Lin. Ft.	Lump Sum	Lump Sum
QUANTITY	10	9	9	120 (P)	122 (P)	10	10	10	10	1	2015	2015	1	1
ITEM NO.	401.602		402.601	504.601	2545.509	2452.510	401.605	401.605	401.606	041.606	2433.507	2433.502	433.606	504.601
ITEM	Drill and Grout		Drainage System	Watermain Hanger System	Conduit System (Telephone)	STEEL H-TEST PILES, 20 FEET LONG	Wearing Course Concrete, Mix No. 3X46A	Bridge Slab Concrete, Mix No. 3X33	Type J Railing Concrete, Mix No. 3X46A	Trainees	Remove Pedestrian Rail	Place Used Pedestrian Rail	Shotcrete	Concrete Mortar Patch
UNIT	Each		Lump Sum	Lump Sum	Lump Sum	EACH	Sq. Ft.	Sq. Ft.	Lin. Ft.	Hour	Lump Sum	Lump Sum	Cu. Yd.	Cu. Yd.
QUANTITY	3285		1	1	1	2	11,017 (P)	155,837 (F)	4091 (P)	10500	1	1	500	200

NO PART OF THIS PLAN WAS PREPARED UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY REGISTERED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA

GENERAL NOTES

1. CONSTRUCTION SPECIFICATIONS

The 1978 edition of The Minnesota Department of Transportation "Standard Specifications for Highway Construction" shall govern.

2. SUPERSTRUCTURE DIMENSIONS

Dimensions given are measured horizontally and at 45° F. unless noted.

All dimensions in the arch spans area are based on original plans and must be checked in the field. Dimensions to bearings at expansion joints shall be corrected to true lengths along the top of slab and then corrected perpendicular to grade.

3. REMOVAL SEQUENCE

Removal sequence for existing approaches and arch spans to be approved by the Engineer. No cutting will be permitted until the cutting limits have been outlined by the Contractor and approved by the Engineer. Removal and reconstruction shall conform to Spec. 2433.

4. REPAIR PROCEDURES AND CONSTRUCTION SEQUENCE

See "Typical Repair Details" sheet for general repair notes and construction sequence.

5. UTILITIES

Placement of NWBT and Water Department utility systems shall be in accordance with the plans and Special Provisions. Care shall be exercised in the removal of members affecting the structural integrity to the NWBT utility system and suitable protection as approved by the Engineer will be required. See sheet 94.

Abandoned utilities encountered during construction shall be removed and backfilled. Locations of existing utilities which are to remain in place shall be verified by the Contractor.

6. EXCAVATION AND EARTHWORK

The quantity of structure excavation for payment is computed with the elevations shown for each substructure unit as the upper limit. These elevations are shown in tabular form for Bents and Abutments on the "Miscellaneous Quantities" sheet.

7. CONCRETE

All concrete shall conform to Specification 2461. The edges of concrete on all exposed construction shall be finished with a 4" strip unless matching in-place strips.

All footing concrete shall be Concrete Mix No. 1A43. All traffic rail shall be Concrete Mix No. 3X46A. Deck and abutment expansion block concrete shall be Bridge Deck Concrete Mix No. 3X33. Wearing surface shall be Wearing Course Concrete Mix. No. Special Prestressed diaphragm concrete shall be Concrete Mix. No. 3Y43.

Sidewalk handrail shall be Concrete Mix No. 3X46 A. All other concrete shall be Concrete Mix No. 3Y43.

8. REINFORCEMENT BARS

Reinforcement bars other than spiral rod stock shall be deformed billet steel bars conforming to ASTM A615 Grade 60.

The first digit or the first two digits of each bar mark indicate the bar size. Bars marked with the suffix "E" shall be epoxy coated in accordance with special provisions.

The clear distance between reinforcement bars and face of concrete shall be 3" in footings and 2" elsewhere unless otherwise noted.

Reinforcement bars shall be shipped to the job site in bundles which are clearly identified by the specific location of the bars.

All bar dimensions are given out to out. All bars of a series shall vary by a constant increment.

9. SUBSTRUCTURE

Bridge seat reinforcement shall be carefully placed to avoid interference with drilling holes for anchor rods. The superstructure beams shall be erected in final position prior to drilling holes for and placing anchor rods.

See "Miscellaneous Quantities" sheet for pile notes.

10. SUPERSTRUCTURE

Reinforcing bars shall be field bent as required for curved portions of the diaphragm.

Reinforcing bars at the manholes and floor drains shall be field bent or cut as required to clear the drains and extra bars added as shown on the details.

The volume of approach span deck concrete for payment shall be computed using an average stool height of 2" on the South Approach and 1 1/2" on the North Approach.

11. STRUCTURAL STEEL

All steel for structural items shall conform to Spec. 3309 (Structural Steel) unless otherwise noted.

Field connections shall be made with 1/2" or high strength bolts or 1/2" pin bolts, except as noted.

Special reaming as per Spec. 2471.3E1d will be required for the beam splices.

Shear lugs shall not be placed on splice plates or points of change in flange thickness.

Diaphragms of bents shall be connected to avoid interference with the drilling of anchor bolt holes.

The ends of steel beams at the abutments shall be fabricated to a vertical line. Diaphragms at abutment ends of steel beams to be set vertical. All other diaphragms shall be normal to grade.

Only beams with a radius shown on the beam details sheets shall be curved horizontally.

Deflection and camber notes shown on "Diaphragm and Framing Details" sheet.

12. ARCH SPANS

Existing pier walls and spandrel walls and columns shall be cut as detailed in the plans. If unsound concrete exists below the planned cut line, additional cutting will be required as directed by the Engineer.

If cutting is required below the level described, the contractor shall salvage the existing reinforcement or lap new reinforcement of equal area. Removal of concrete below the indicated plan lines shall be considered incidental and costs included in price bid for appropriate replacement item of concrete. Additional reinforcement shall be considered incidental and included in price bid for other items.

All salvaged reinforcement in spandrel walls and columns and pier walls shall be lapped a minimum of two (2) feet.

See "Spandrel Wall Details" and "Spandrel Column Details" for location of spandrils to be completely removed. Where spandrils are completely removed new shear keys are to be cut and dowel bars grouted into the existing arch ribs or barrel arches with epoxy grout.

New pier walls, cap beams and spandrel walls and columns shall be constructed as detailed in the plans. Use Concrete Mix No. 3Y43 for all rebuilt portions of pier walls, spandrel walls and columns and for all new cap beams.

Reinforcing steel required in addition to that detailed in the plans shall be considered incidental and included in the price bid for other items.

13. GALVANIZING

The traffic rail and water main hanger system shall be galvanized in accordance with the procedures in the plans and Special Provisions.

14. SLABS AND TRAFFIC RAILS

Slab pouring sequence to be approved by Engineer. Do not place traffic rail for a particular approach span until the entire roadway slab for the adjacent spans are complete.

Do not place traffic rail for a particular arch span until the entire roadway slab for that span is complete.

15. HANDRAIL

The work shall consist of reinstalling the existing handrail in accordance with the plans and special provisions.

16. SHEAR DOWELS

All shear dowels shall be carefully and accurately aligned to ensure proper movement capacity. Shear dowels to be paid for as reinforcement bars.

17. EXISTING REINFORCING

The location, size and spacing of all existing reinforcement are based on original plan information and must be verified in the field.

18. LEGEND

- e. f. denotes each face
- n. f. denotes near face
- f. f. denotes far face
- Typ. denotes typical
- M.P. denotes Working Point
- Ser. denotes series

All arch spandrils are designated on the plans by a number, letter sequence. The number refers to the span and the letter refers to the individual spandrel. See "General Plan and Elevation-Arch Spans" for general location.

19. QUANTITIES

Quantity summary for arch piers and spandrils, superstructure, bents, abutments and walls are located on the "Miscellaneous Quantities" sheet 25.

Quantity summary for drainage system located on "Drainage Details-Arch Piers" sheet 89.

Quantity summary for lighting system located on "Roadway Lighting Details" sheet 32.

Quantity summary for structure repairs located on "Typical Repair Details" sheet 94.

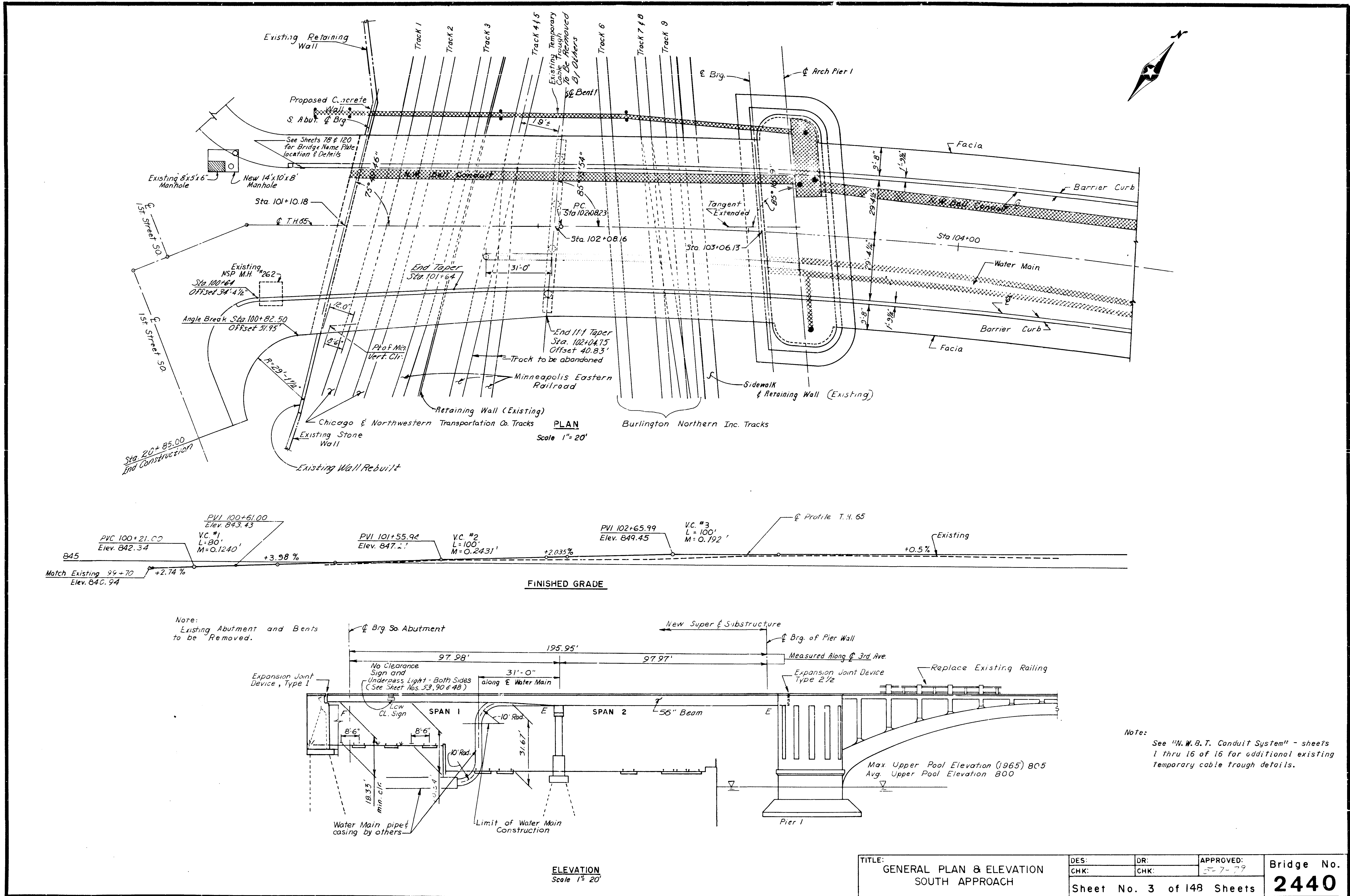
Quantity summary for N.W.B.T. conduit system located on Diaphragm and Framing Details sheet 4 of 4 sheet number 42.

Quantity summary for Water Main hanger system located on "Water Main Details" sheet 2 of 4 sheet number 101.

TITLE: GENERAL NOTES	DES:	DR:	APPROVED:	Bridge No. 2440
	CHK:	CHK:	5-7-79	
	Sheet No. 2 of 148 Sheets			

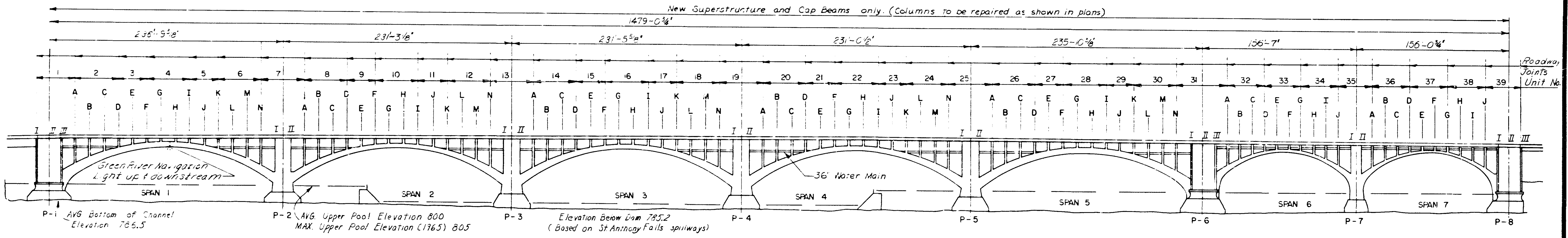
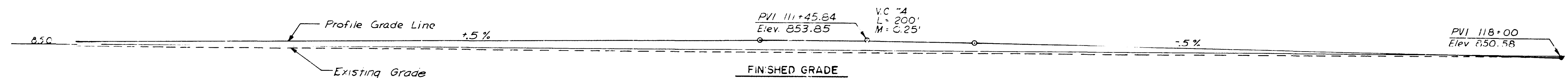
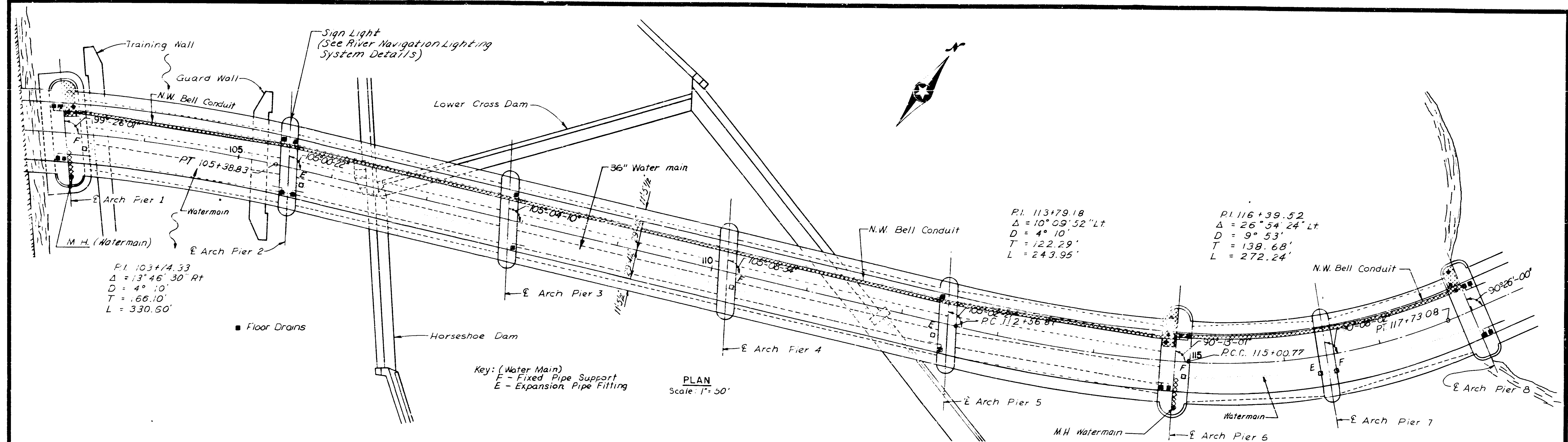
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DATE: 5/7/79 BY: [Signature]



Note:
See "W.W.B.T. Conduit System" - sheets 1 thru 16 for additional existing temporary cable trough details.

ALL THE INFORMATION IS SUPPLIED BY THE CLIENT NAMED HEREIN. THE ENGINEER'S RESPONSIBILITY IS LIMITED TO THE INFORMATION PROVIDED AND TO THE REQUIREMENTS FOR PERMANENT RECORD AND RECORDS TO THE PROVISIONS FOR THE PROJECT. THE ENGINEER IS NOT RESPONSIBLE FOR THE ACCURACY OF THE INFORMATION PROVIDED BY THE CLIENT.



ELEVATION
Scale: 1"=50'

Note: For roadway joint details see sheet number 49

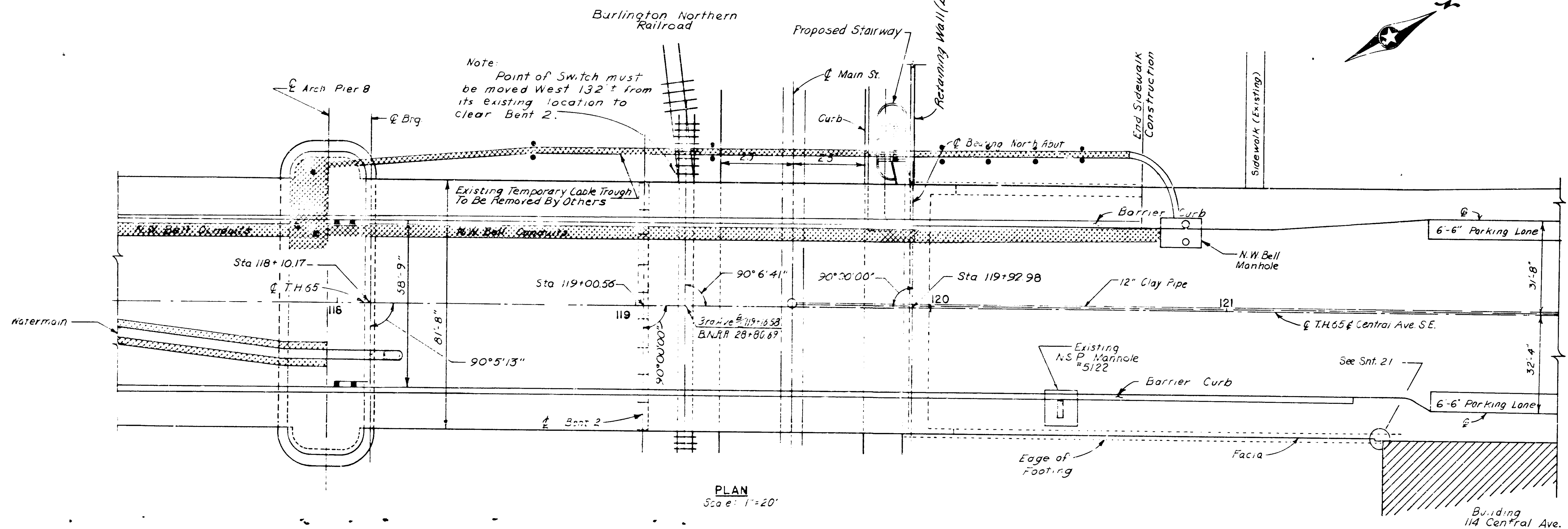
Note: Top of existing arch elevation = 843.3'



TITLE	DES.	DR.	APPROVED.	Bridge No.
GENERAL PLAN & ELEVATION	CHK:	CHK:	5-7-79	2440
ARCH SPANS	Sheet No. 4 of 148 Sheets			

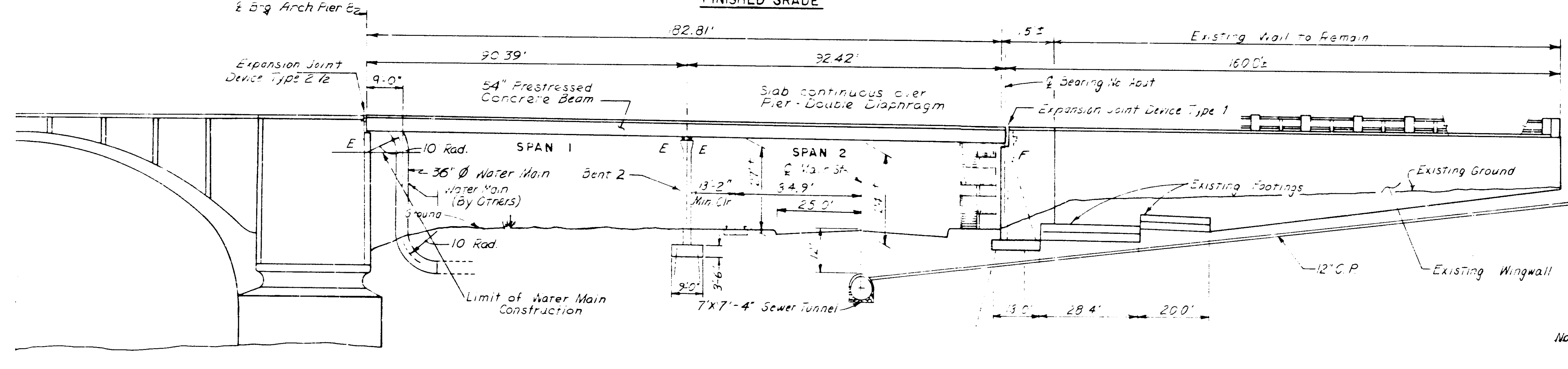
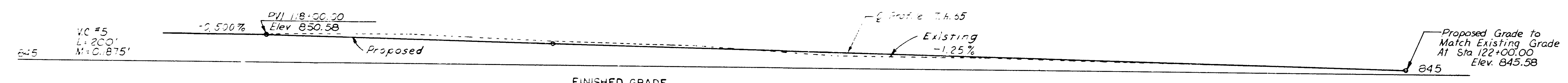
THIS DOCUMENT WAS PREPARED BY THE ILLINOIS STATE ENGINEERING BOARD IN ACCORDANCE WITH THE REQUIREMENTS FOR PERMANENT MICROFILM AND ACCORDING TO THE FOLLOWING PROCEDURE: 1. THE ORIGINAL DOCUMENT WAS REVIEWED AND FOUND TO BE ACCURATE AND COMPLETE. 2. THE ORIGINAL DOCUMENT WAS REPRODUCED ON MICROFILM. 3. THE REPRODUCED DOCUMENT WAS REVIEWED AND FOUND TO BE ACCURATE AND COMPLETE. 4. THE REPRODUCED DOCUMENT WAS INDEXED AND DESCRIBED. 5. THE REPRODUCED DOCUMENT WAS STORED IN THE MICROFILM DEPOSIT SERVICE. 6. THE REPRODUCED DOCUMENT WAS MADE AVAILABLE TO THE PUBLIC THROUGH THE MICROFILM DEPOSIT SERVICE.

Note:
All stationing must be checked
in field before construction.



PLAN
Scale: 1" = 20'

Note:
Existing & Proposed Grade
Elevations Are Vertical
Curves
Sta 118+00.00
Sta 119+00.00



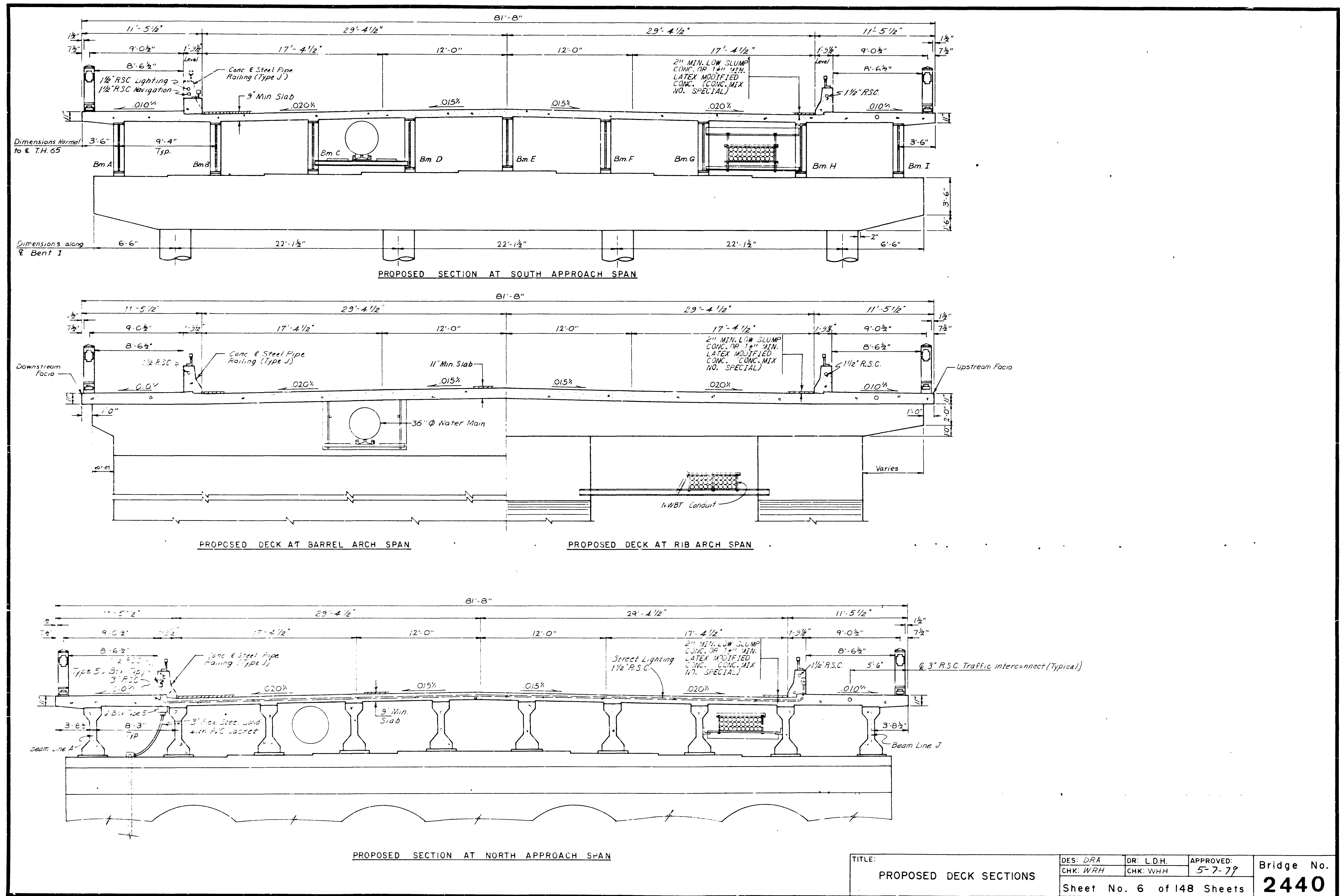
ELEVATION
Scale: 1" = 20'

Note:
Existing Abutment and
Benches to be Removed.

Note:
See "N.W.B.T. Conduit System" - sheets
1 thru 16 of 16 for additional existing
temporary cable trough details.

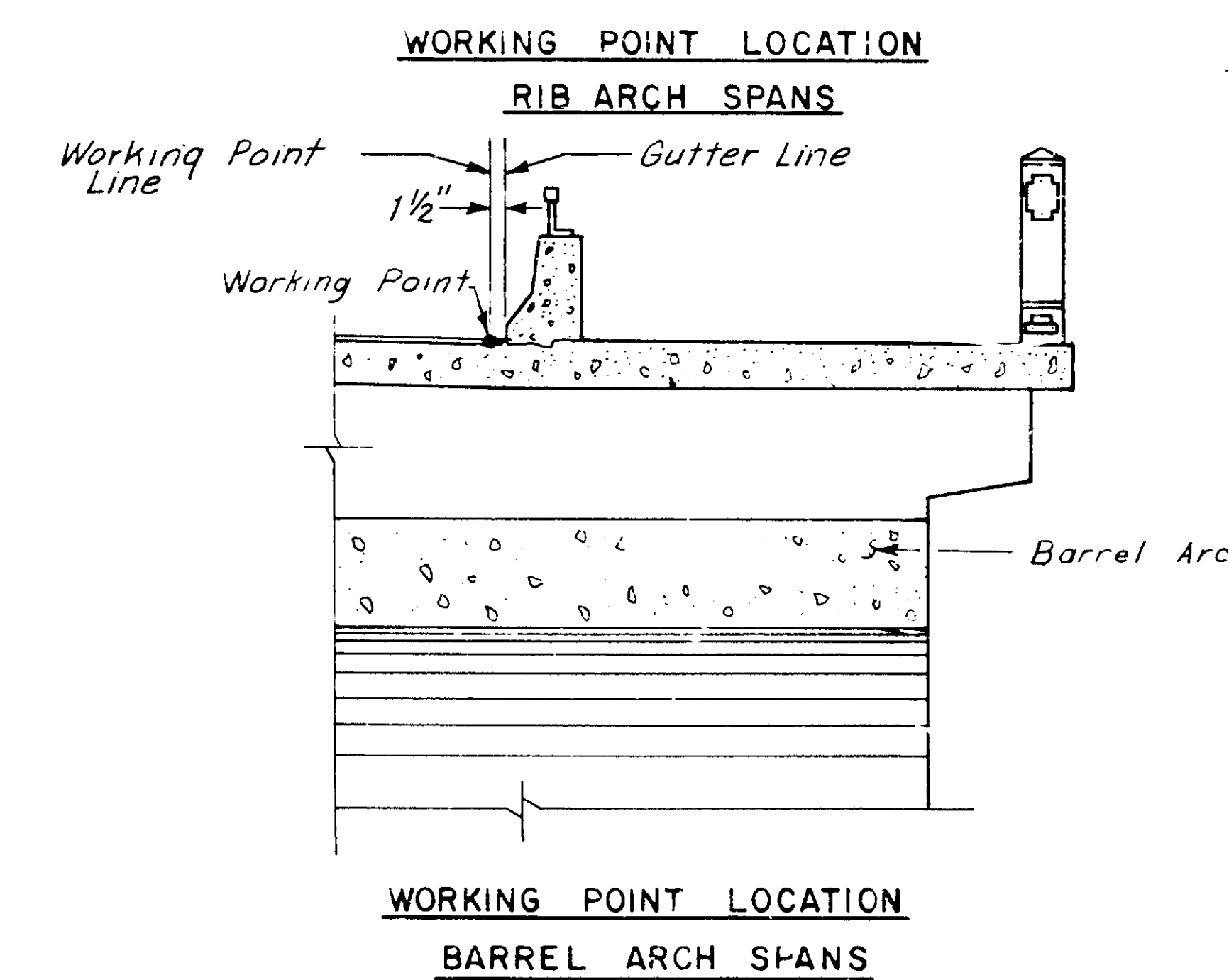
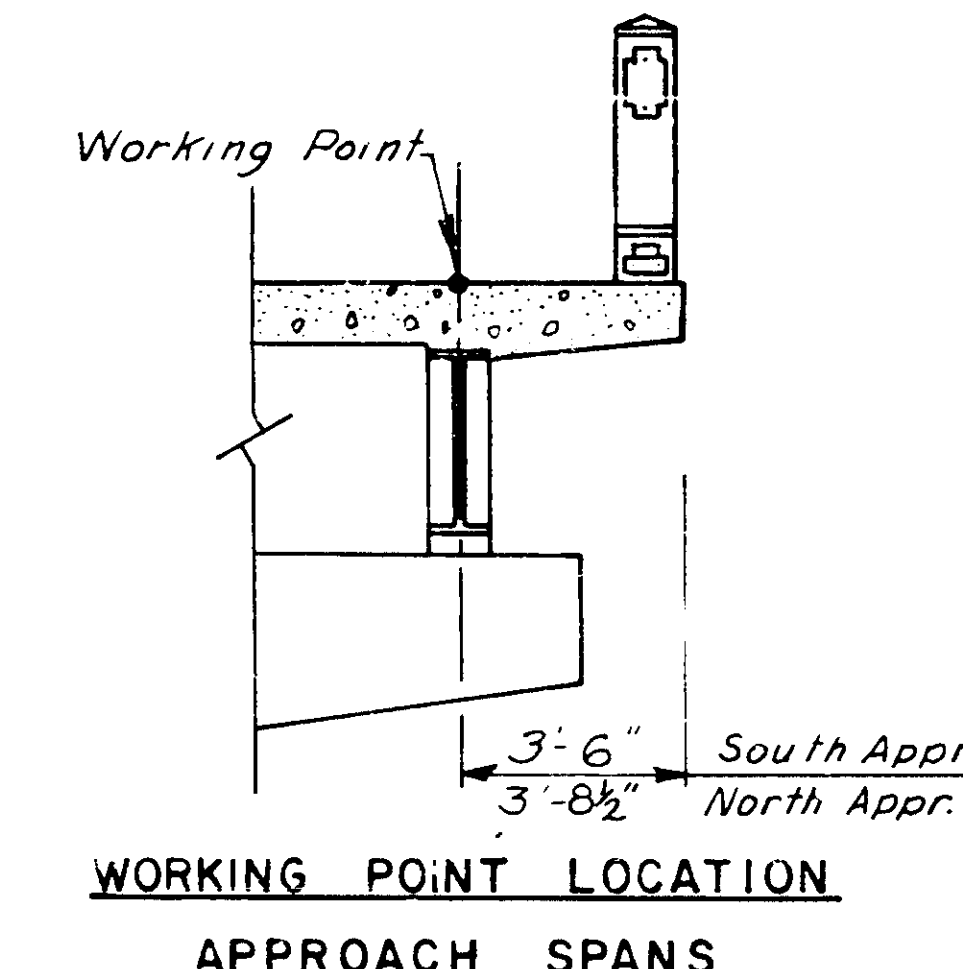
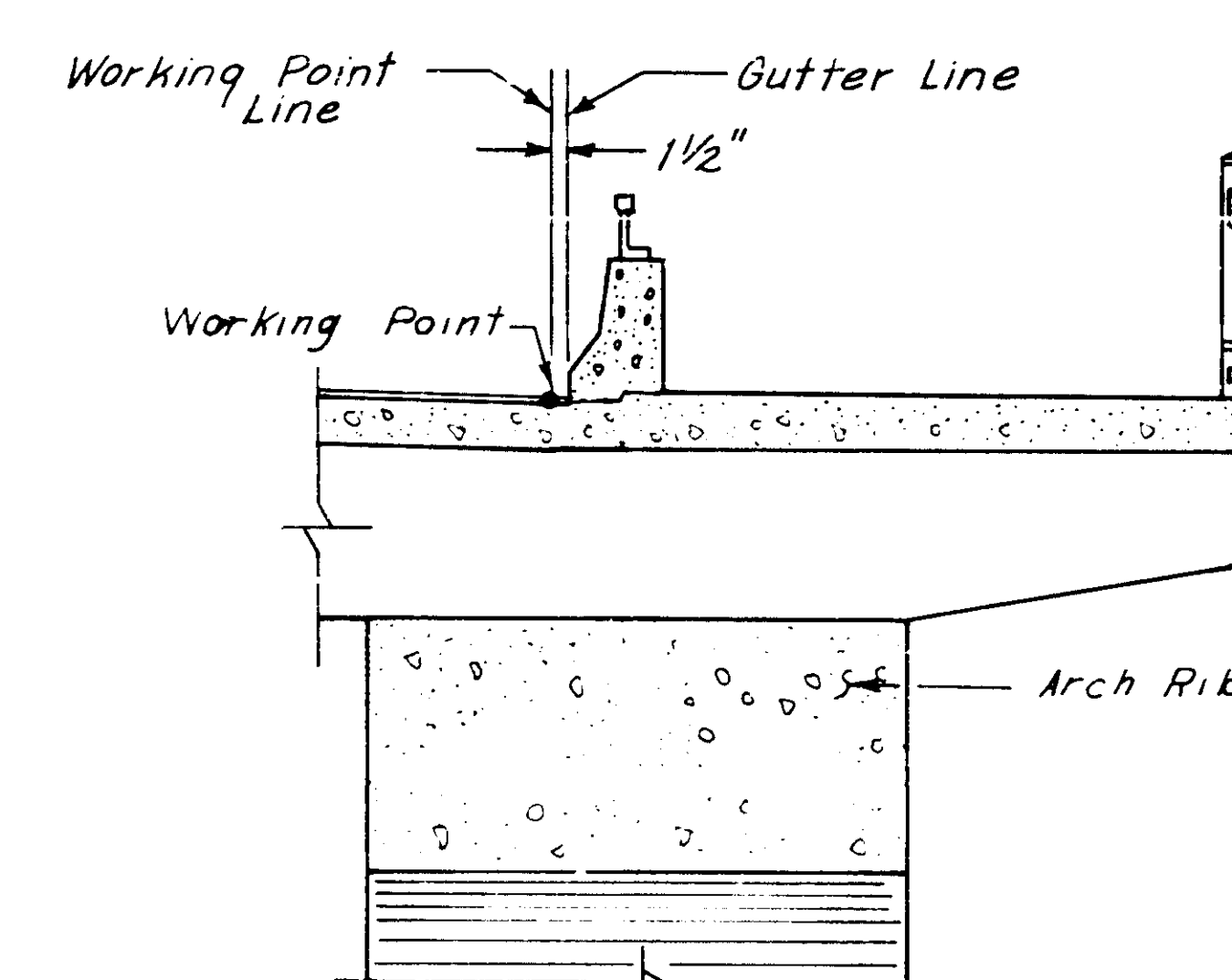
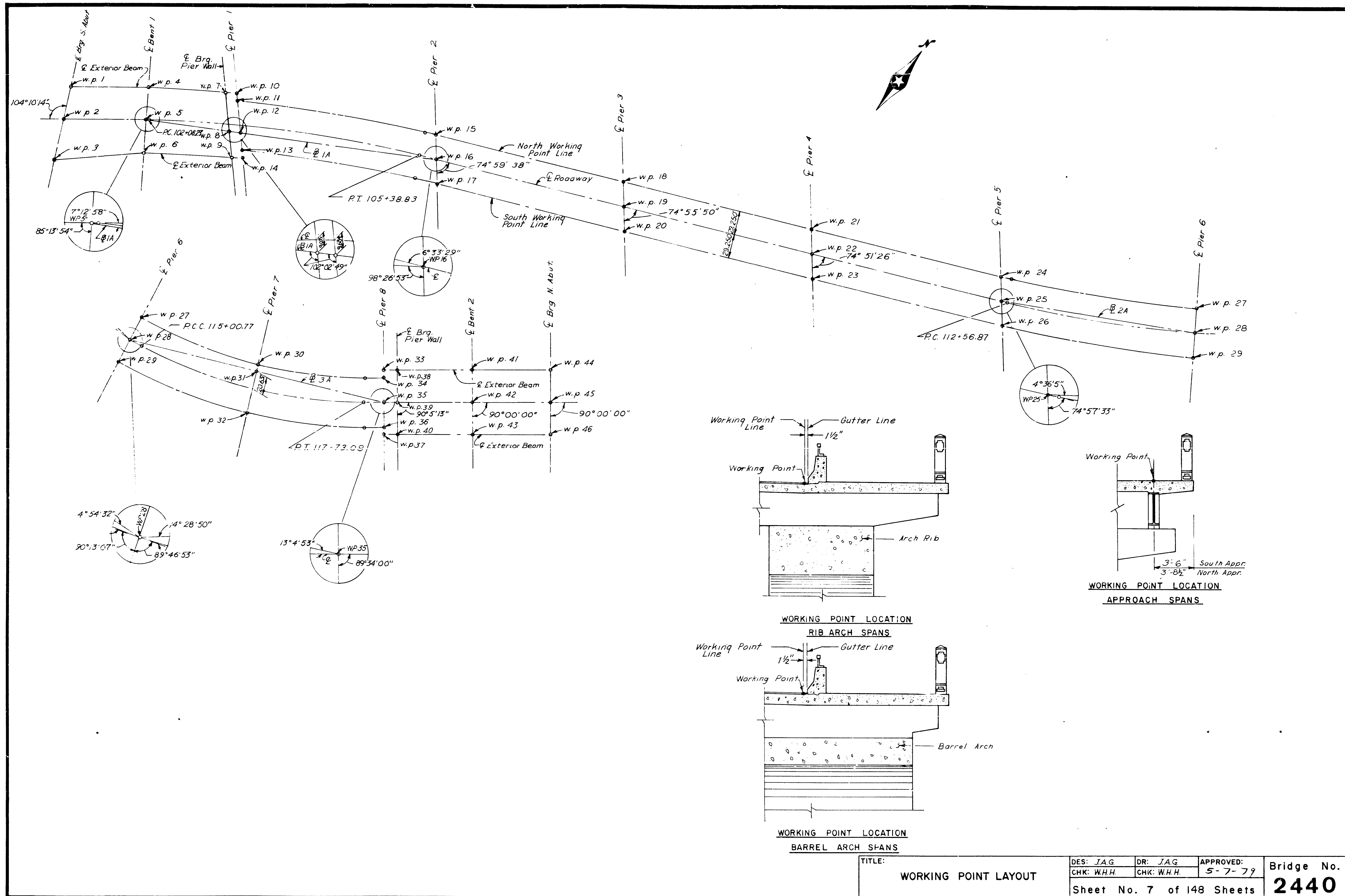
TITLE	DES:	DR:	APPROVED:	Bridge No.
GENERAL PLAN & ELEVATION	CHK:	CHK:	5-7-79	2440
NORTH APPROACH	Sheet No. 5 of 148 Sheets			

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TITLE:	DES: DRA	DR: L.D.H.	APPROVED:	Bridge No.
PROPOSED DECK SECTIONS	CHK: WRH	CHK: VHH	5-7-79	2440
	Sheet No. 6 of 148 Sheets			

NOT TO SCALE UNLESS OTHERWISE NOTED. ALL DIMENSIONS ARE IN FEET AND INCHES UNLESS OTHERWISE NOTED. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL NECESSARY PERMITS AND APPROVALS FROM THE APPROPRIATE AGENCIES. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL NECESSARY PERMITS AND APPROVALS FROM THE APPROPRIATE AGENCIES. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL NECESSARY PERMITS AND APPROVALS FROM THE APPROPRIATE AGENCIES.

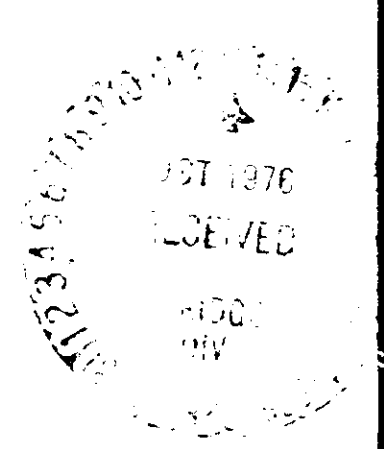


TITLE:		DES: JAG	DR: JAG	APPROVED:	Bridge No. 2440
WORKING POINT LAYOUT		CHK: W.H.H.	CHK: W.H.H.	5-7-79	
		Sheet No. 7 of 148 Sheets			

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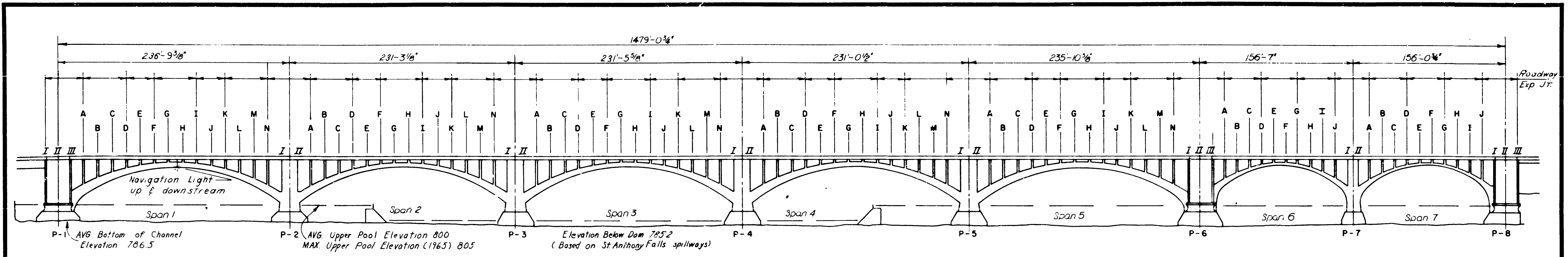
DIMENSIONS BETWEEN WORKING POINTS																																																				
W.P.	STATION	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43									
1	101+19.60	38.505		91.662	96.097	113.464			205.224																																											
2	101+10.18		48.512		97.975	101.942																																														
3	100+38.30			44.791		107.176																																														
4	102+11.20				37.459		91.651	107.749	125.522					136.118																																						
5	102+08.16					37.463		99.440	203.238																																											
6	102+05.04						121.164		104.258																																											
7	103+00.43							46.816		12.558	16.021	50.985	70.540	76.624			271.950																																			
8	103+07.53								28.763				12.685																																							
9	103+12.15									74.688	66.607		13.843	12.576																																						
10	103+12.50										8.188																																									
11	103+13.84											39.326			238.196	245.324	256.244			486.063																																
12	103+20.29												19.976				234.288																																			
13	103+23.56													8.199	231.029		234.708																																			
14	103+24.91																																																			
15	105+47.64															30.282		231.224	240.888	253.810				482.048																												
16	105+35.48																30.283		231.260																																	
17	105+63.32																	223.340		231.294																																
18	107+78.86																	30.293		231.430	241.127	254.088					481.810																									
19	107+86.74																		30.291		231.470																															
20	107+94.62																				223.471		231.510																													
21	110+10.29																				30.305		231.096	240.789	253.663																											
22	110+18.21																					30.303		231.042																												
23	110+26.13																						223.072		230.984																											
24	112+41.39																							30.287		238.457	242.904	252.707																								
25	112+49.25																								30.289		235.384																									
26	112+57.11																									234.988																										
27	114+85.01																										29.250		148.742	150.162	167.107																					
28	114+85.12																											29.250		154.668																						
29	114+85.23																											166.007																								
30	116+41.63																											8.619																								
31	116+41.65																																																			
32	116+41.77																																																			
33	117+97.48																																																			
34	117+97.54																																																			
35	117+97.76																																																			
36	117+97.98																																																			
37	117+98.04																																																			

DIMENSIONS BETWEEN WORKING POINTS																
W.P.	STATION	39	40	41	42	43	44	45	46							
38	118+10.23	37.125		90.332	97.662	116.931			197.260							
39	118+10.17		37.125		90.388	97.715										
40	118+10.12			117.018		90.444										
41	119+00.56				37.125		92.421	99.598	118.552							
42	119+00.56					37.125		92.421	99.599							
43	119+00.56						118.552		92.421							
44	119+92.98							37.125								
45	119+92.98								37.125							
46	119+92.98									37.125						

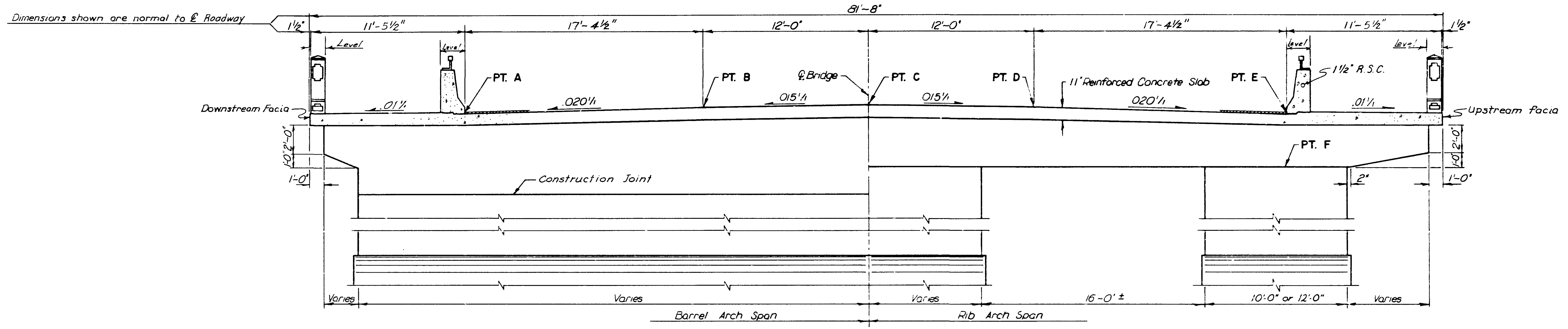


TITLE: WORKING POINT TABULATIONS
 DES: C.N.S. DR: APPROVED: 5-7-79
 CHK: R.L.L. CHK: Bridge No. 2440
 Sheet No. 8 of 148 Sheets

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 Date: 5-7-79
 Agency Name: Illinois State Police
 File No: 127040



ELEVATION
Scale: 1"=50'

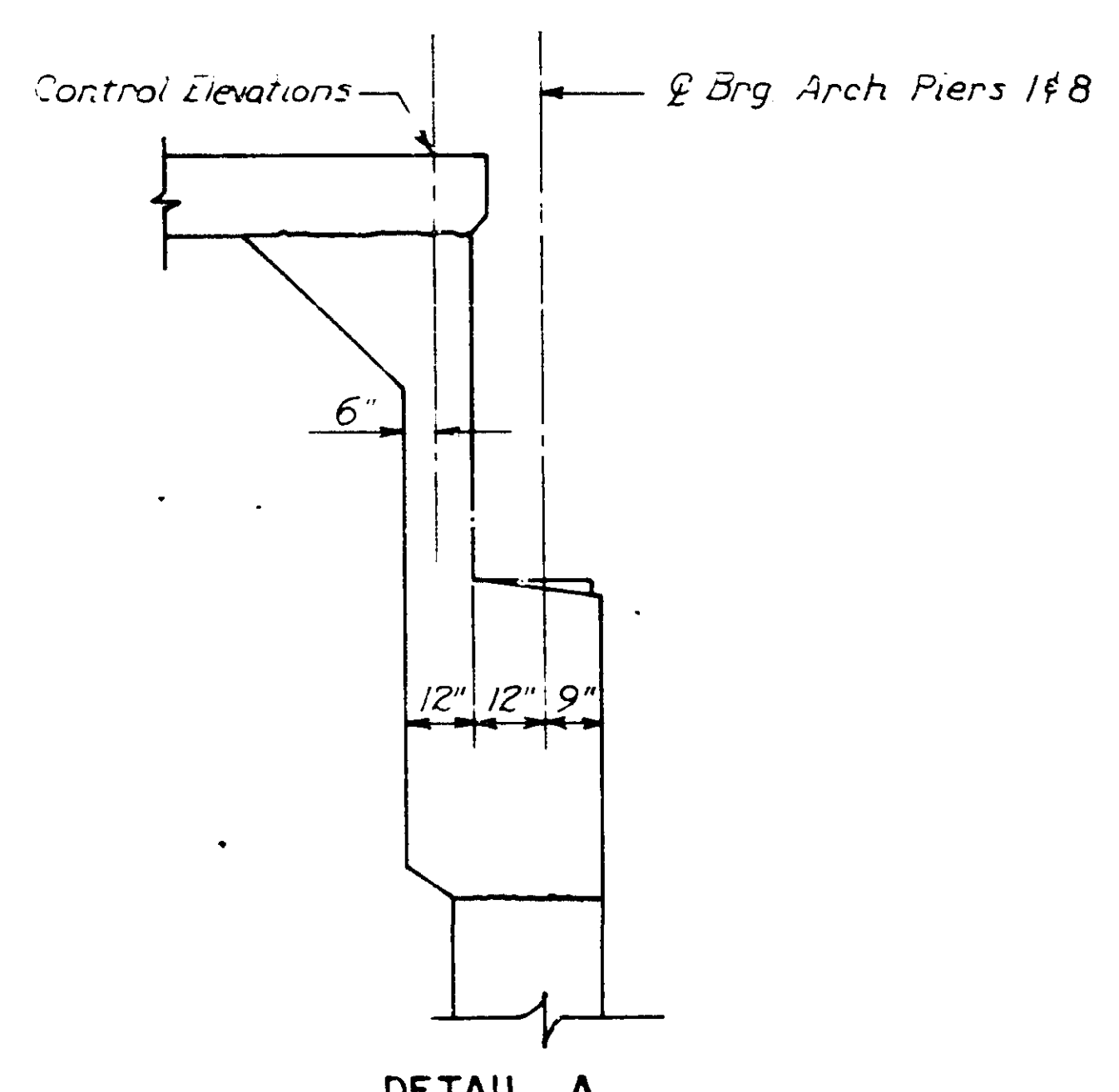


TYPICAL SECTION - ARCH SPANS
Scale 4"=1'-0"

Note: Elevations shown are along centerline of cap beam.
Top of cap beam elevations are 11" lower than elevations given on tables (Pts. A-E).

CONTROL ELEVATIONS - ARCH SPANS													
	PT. A	PT. B	PT. C	PT. D	PT. E	PT. F	PT. A	PT. B	PT. C	PT. D	PT. E	PT. F	
PIER I - I	849.14	849.48	849.64	849.45	849.09	(1)	SPAN 2 - B	850.58	850.91	851.07	850.87	850.51	846.59
PIER I - II	849.21	849.54	849.70	849.52	849.16	(1)	SPAN 2 - C	850.65	850.98	851.14	850.94	850.58	846.66
PIER I - III	849.27	849.60	849.77	849.59	849.23	(1)	SPAN 2 - D	850.73	851.06	851.22	851.02	850.66	846.74
SPAN 1 - A	849.35	849.68	849.84	849.66	849.30	845.38	SPAN 2 - E	850.80	851.13	851.29	851.09	850.73	846.81
SPAN 1 - B	849.42	849.75	849.91	849.73	845.37	845.45	SPAN 2 - F	850.87	851.20	851.36	851.16	850.80	846.88
SPAN 1 - C	849.49	849.82	849.98	849.80	849.44	845.52	SPAN 2 - G	850.94	851.27	851.43	851.23	850.87	846.95
SPAN 1 - D	849.57	849.90	850.06	849.87	849.51	845.59	SPAN 2 - H	851.01	851.34	851.50	851.30	850.94	847.02
SPAN 1 - E	849.64	849.97	850.14	849.94	849.58	845.66	SPAN 2 - I	851.09	851.42	851.58	851.38	851.02	847.10
SPAN 1 - F	849.72	850.04	850.21	850.02	849.65	845.73	SPAN 2 - J	851.16	851.49	851.65	851.45	851.09	847.17
SPAN 1 - G	849.79	850.11	850.28	850.09	849.72	845.80	SPAN 2 - K	851.23	851.56	851.72	851.52	851.16	847.24
SPAN 1 - H	849.86	850.19	850.35	850.16	849.80	845.88	SPAN 2 - L	851.30	851.63	851.79	851.59	851.23	847.31
SPAN 1 - I	849.94	850.26	850.43	850.23	849.87	845.95	SPAN 2 - M	851.37	851.70	851.86	851.66	851.30	847.38
SPAN 1 - J	850.01	850.33	850.50	850.30	849.94	846.02	SPAN 2 - N	851.45	851.78	851.94	851.74	851.38	847.45
SPAN 1 - K	850.08	850.41	850.57	850.38	850.01	846.09	PIER 3 - I	851.52	851.85	852.01	851.81	851.45	847.53
SPAN 1 - L	850.16	850.49	850.64	850.45	850.08	846.16	PIER 3 - II	851.59	851.92	852.08	851.88	851.52	847.60
SPAN 1 - M	850.23	850.55	850.72	850.52	850.15	846.23	SPAN 3 - A	851.66	851.99	852.15	851.95	851.59	847.67
SPAN 1 - N	850.30	850.62	850.79	850.59	850.22	846.30	SPAN 3 - B	851.73	852.06	852.22	852.02	851.66	847.74
PIER 2 - I	850.37	850.70	850.86	850.66	850.30	846.38	SPAN 3 - C	851.81	852.14	852.30	852.10	851.74	847.82
PIER 2 - II	850.44	850.77	850.93	850.73	850.37	846.45	SPAN 3 - D	851.88	852.21	852.37	852.17	851.81	847.89
SPAN 2 - A	850.51	850.84	851.00	850.80	850.44	846.52	SPAN 3 - E	851.95	852.28	852.44	852.24	851.88	847.96

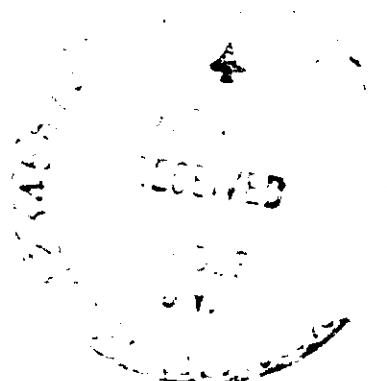
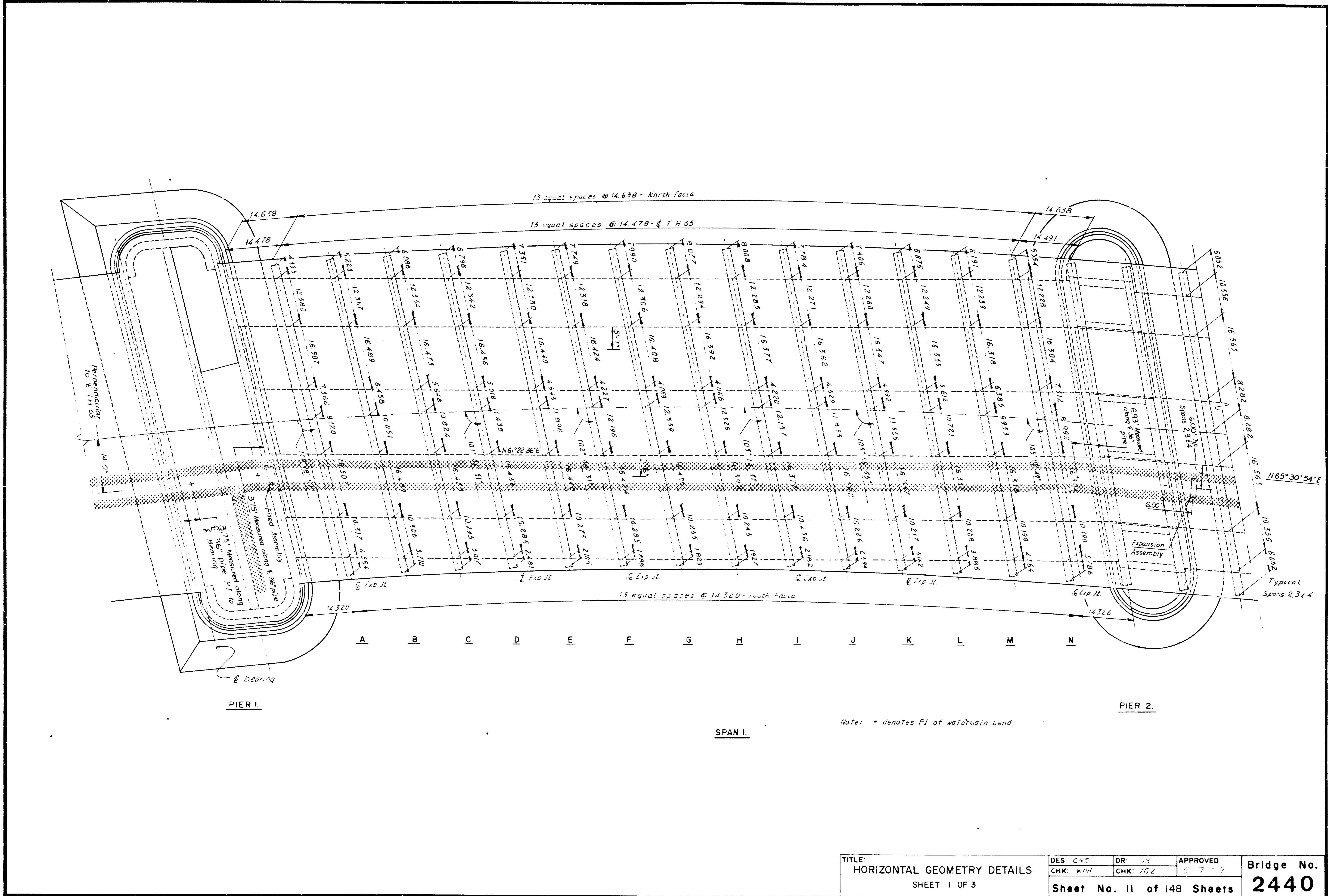
① See Detail A



DETAIL A

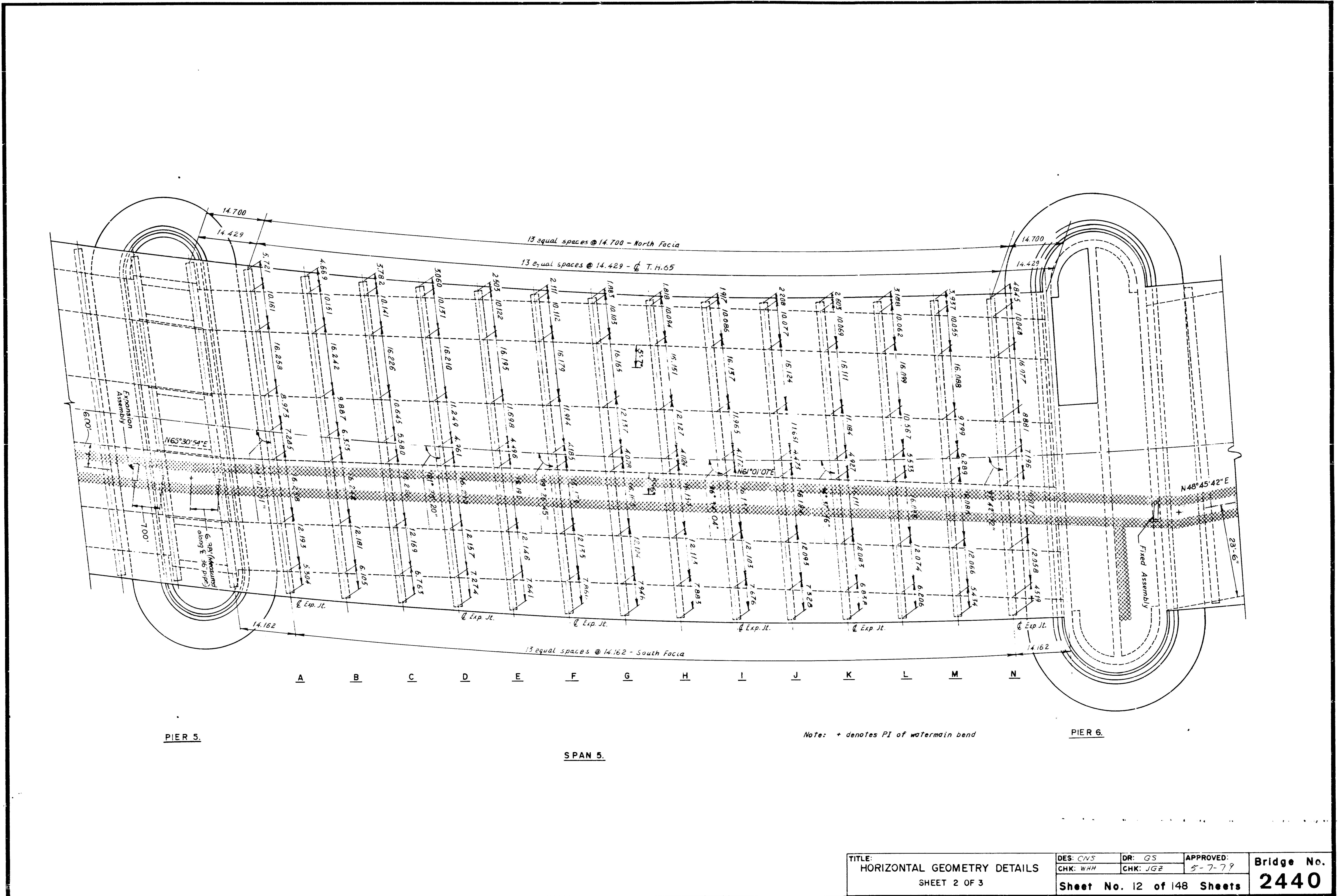
TITLE: ELEVATION TABULATIONS SHEET 1 OF 2	DES: W.H.H. CHK: D.R.A.	DR: CHK:	APPROVED: 5-7-79	Bridge No. 2440
Sheet No. 9 of 148 Sheets				

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TITLE: HORIZONTAL GEOMETRY DETAILS SHEET 1 OF 3		DES: CNS CHK: WHH	DR: SS CHK: JGE	APPROVED: 5-7-79	Bridge No. 2440
				Sheet No. 11 of 148 Sheets	

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PIER 5.

SPAN 5.

Note: + denotes PI of watermain bend

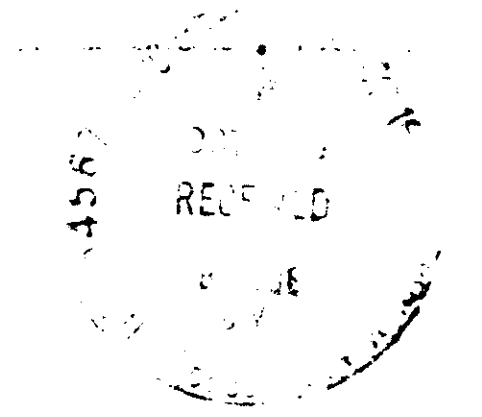
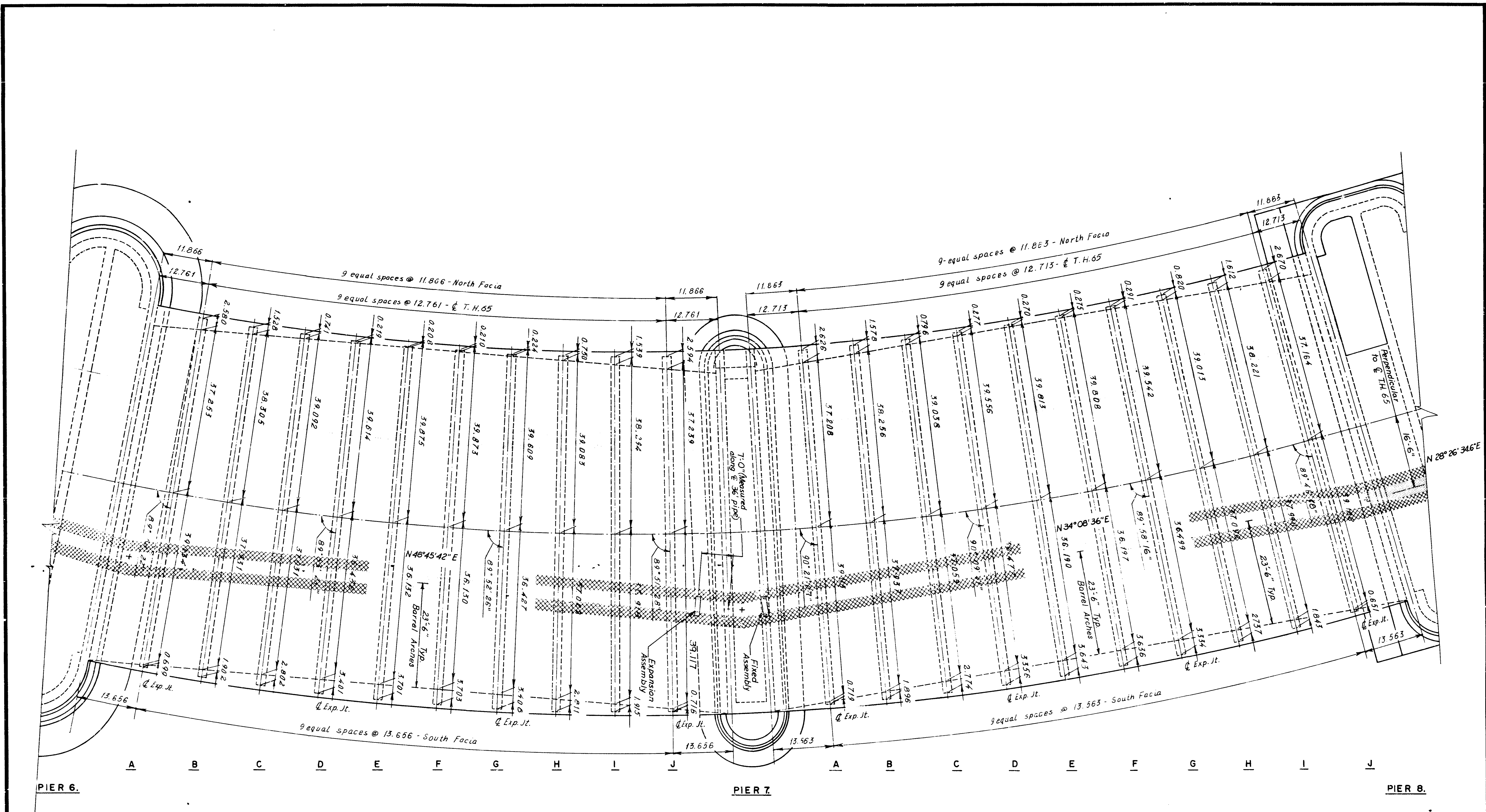
PIER 6.

TITLE:
HORIZONTAL GEOMETRY DETAILS
SHEET 2 OF 3

DES: CWS	DR: GS	APPROVED:
CHK: WHH	CHK: JGZ	5-7-79
Sheet No. 12 of 148 Sheets		

Bridge No.
2440

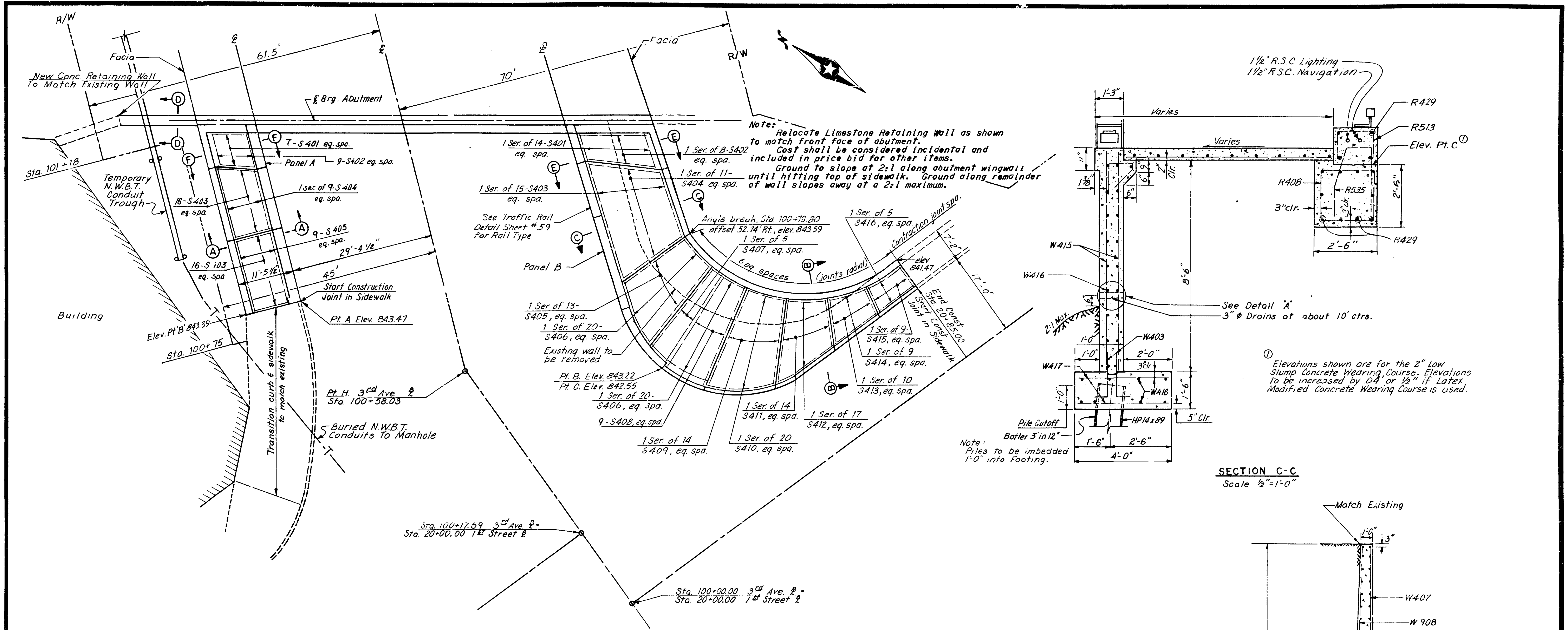
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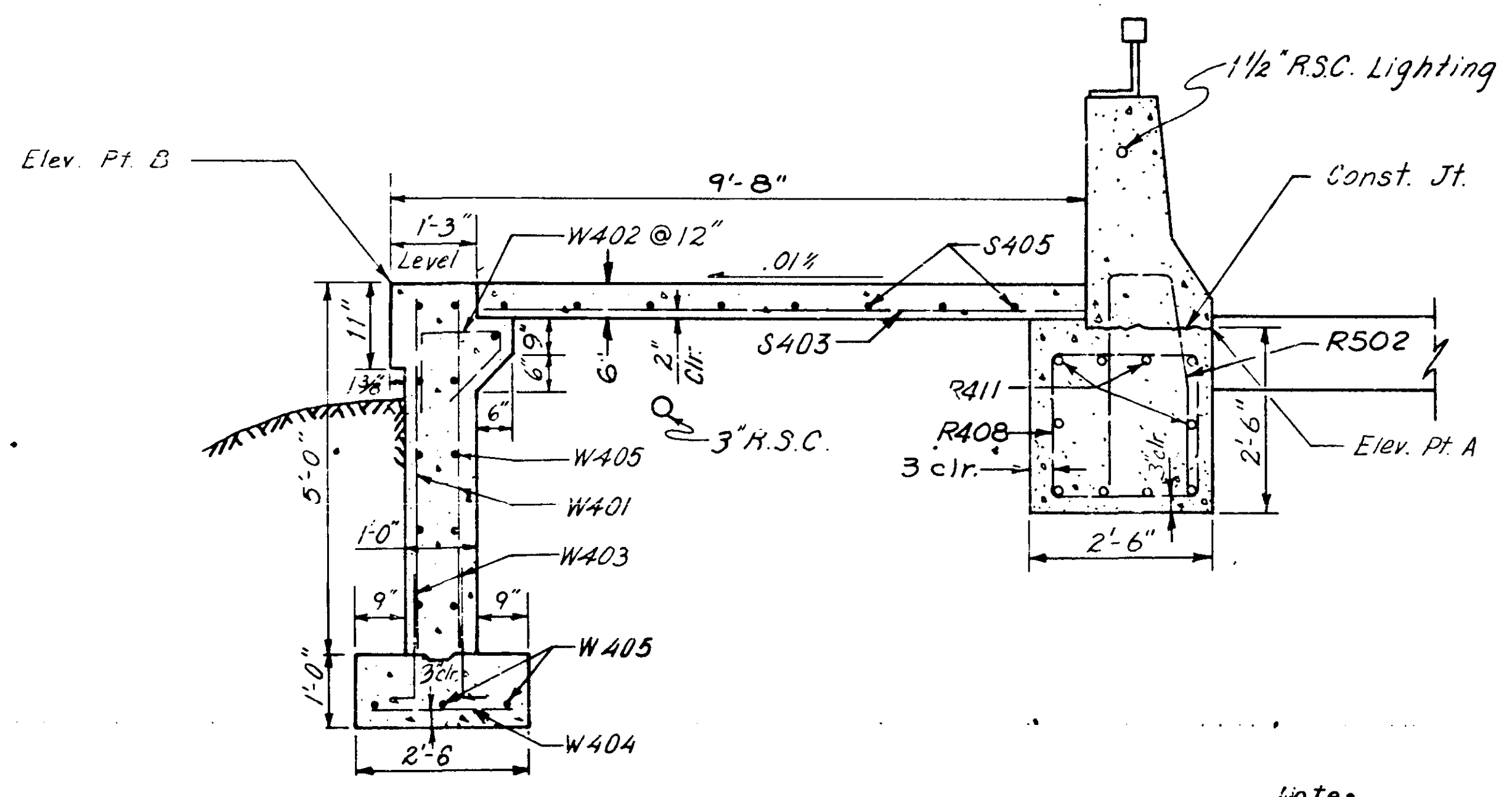
TITLE: HORIZONTAL GEOMETRY DETAILS SHEET 3 OF 3		DES: <i>CVS</i>	DR: <i>GS</i>	APPROVED: 5-7-79	Bridge No. 2440
		CHK: <i>WHH</i>	CHK: <i>JGZ</i>	Sheet No. 13 of 148 Sheets	

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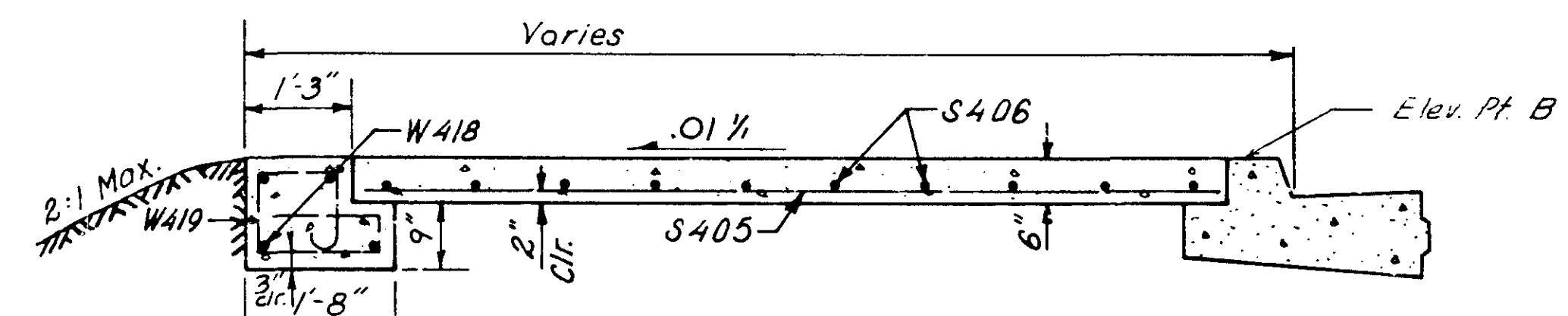
Bill Rube *Janet Havelock* *Robert* 8-7-83



SOUTH APPROACH WING WALL & SIDEWALK PLAN
Scale 1"=10'-0"

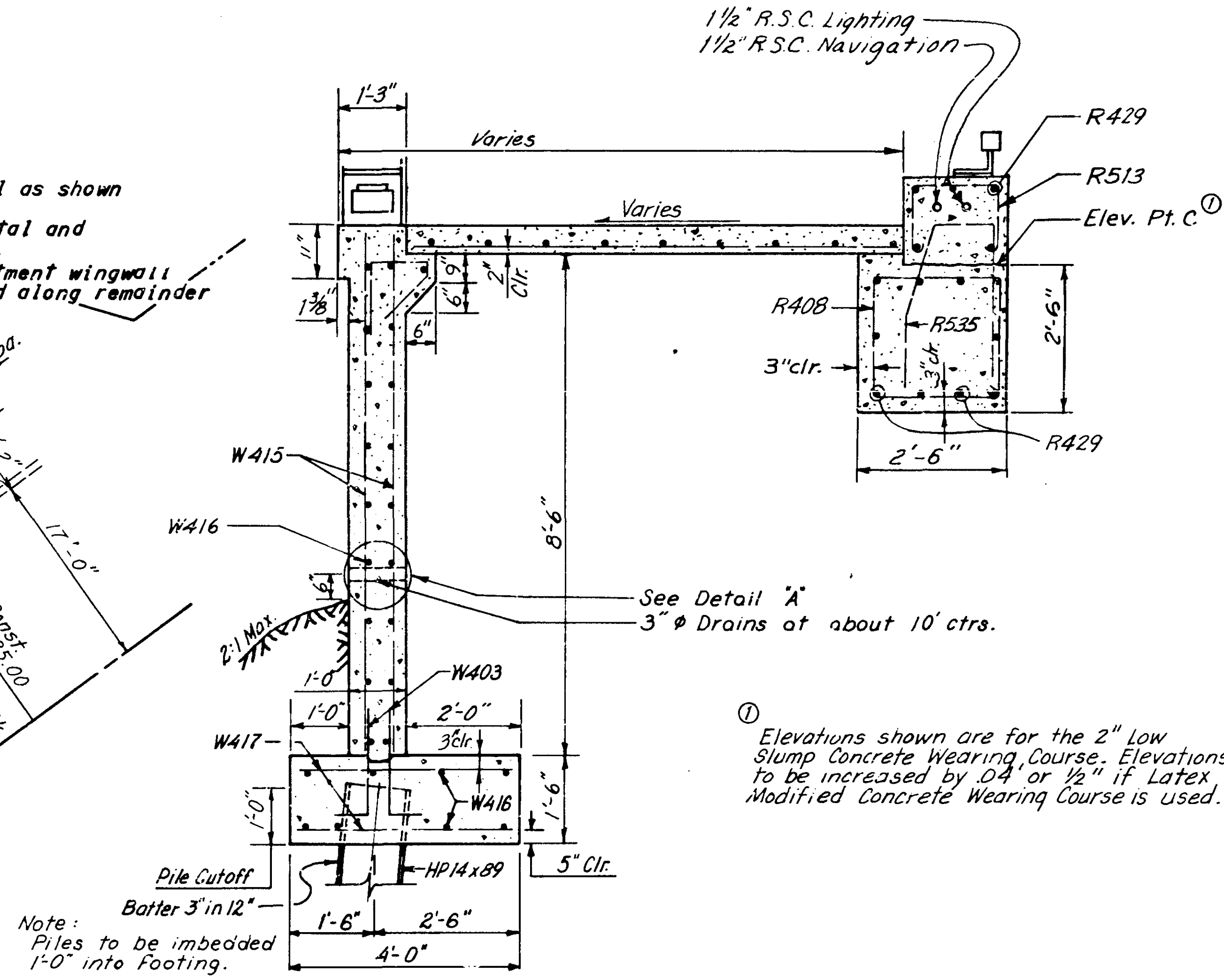


SECTION A-A
Scale 1/2"=1'-0"

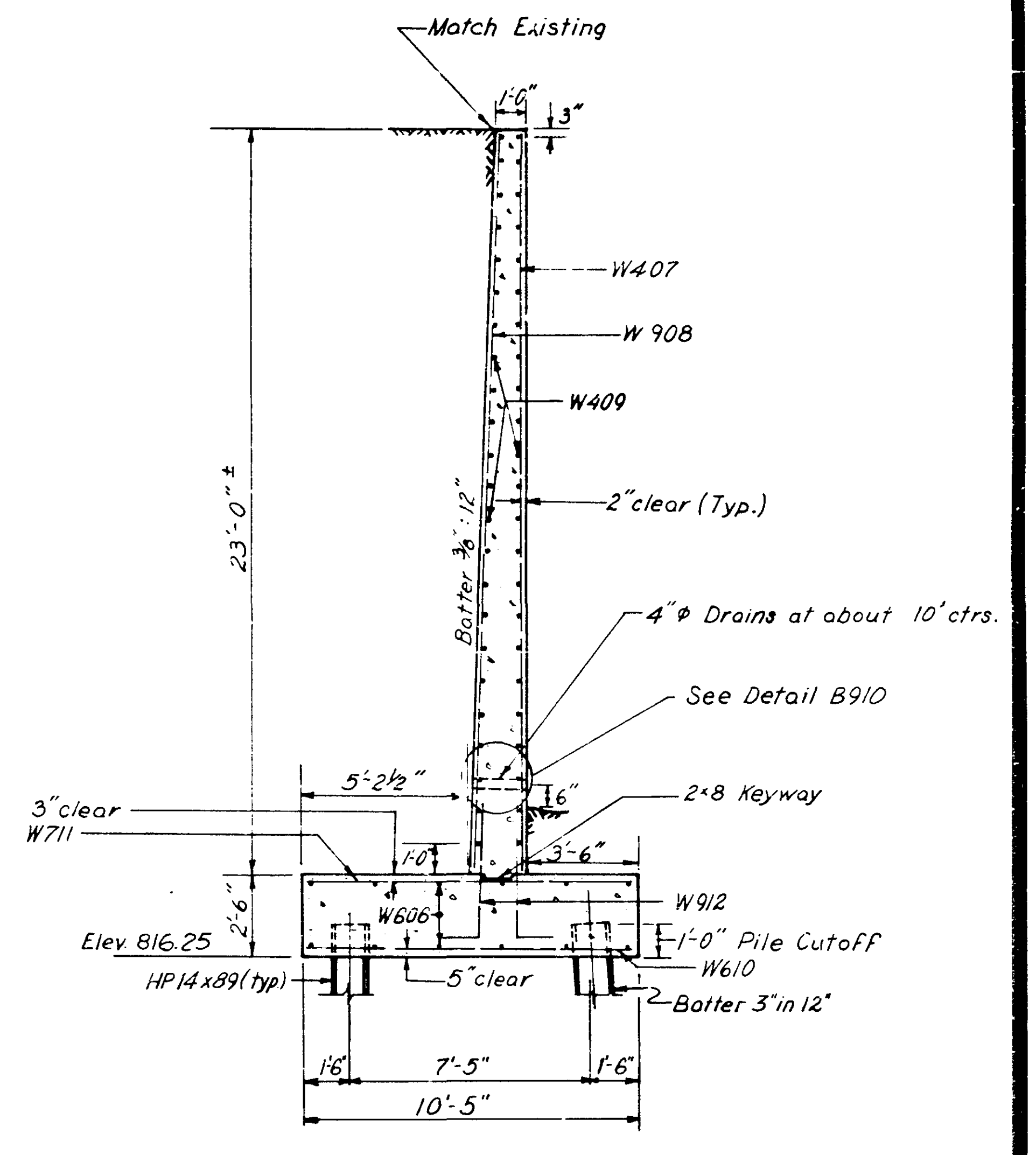


SECTION B-B
Scale 1/2"=1'-0"

Note: Sidewalk Footing pad shall be Concrete Mix No. 1A43. Special Curb and Gutter shall be Concrete Mix No. 3X46A.



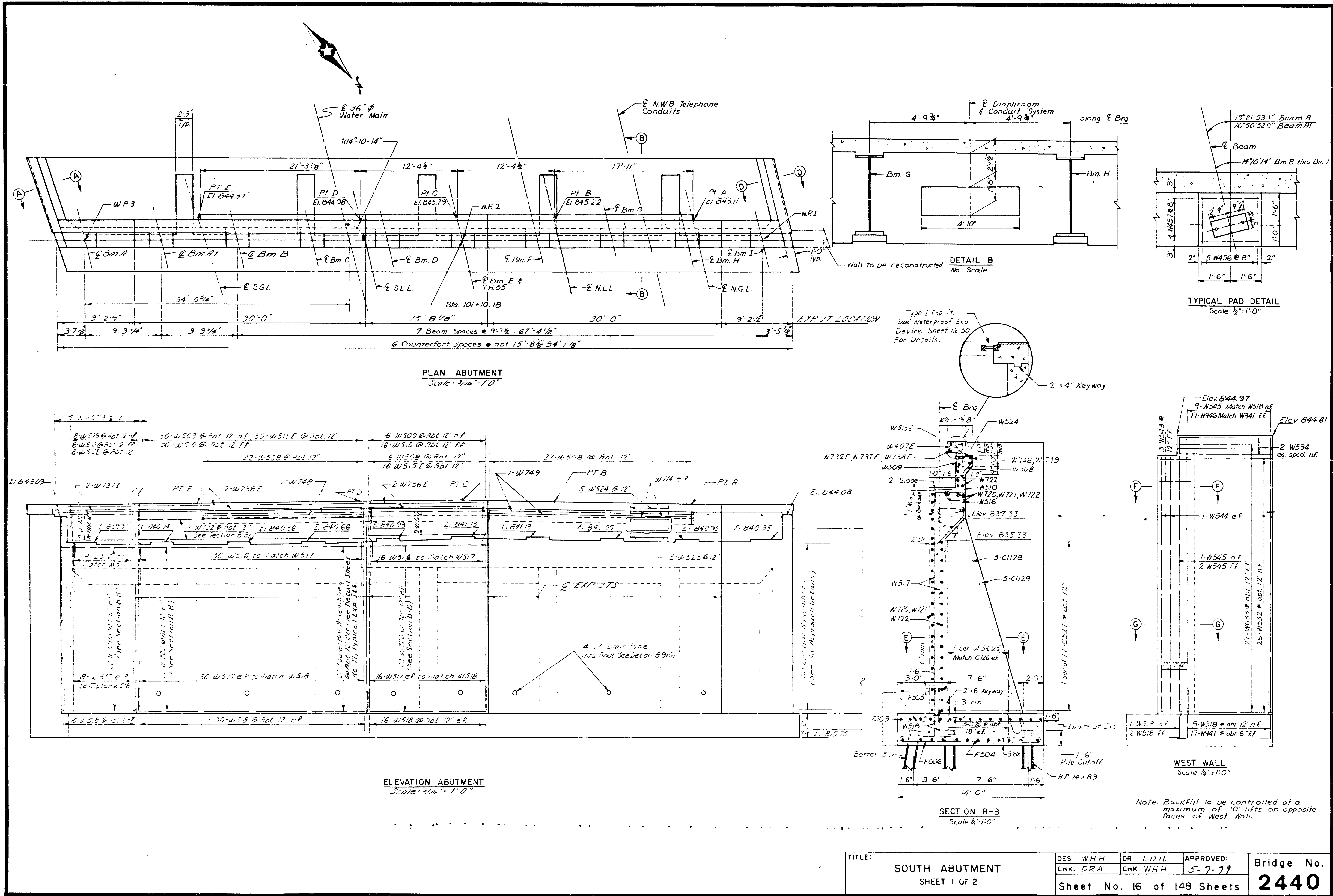
SECTION C-C
Scale 1/2"=1'-0"



SECTION D-D
Scale 1/4"=1'-0"

TITLE: SOUTH APPROACH DETAILS SHEET 1 OF 2	DES: G.S. CHK: C.B.M.	DR: G.S. CHK: C.B.M.	APPROVED: 5-7-79	Bridge No. 2440
Sheet No. 14 of 148 Sheets				

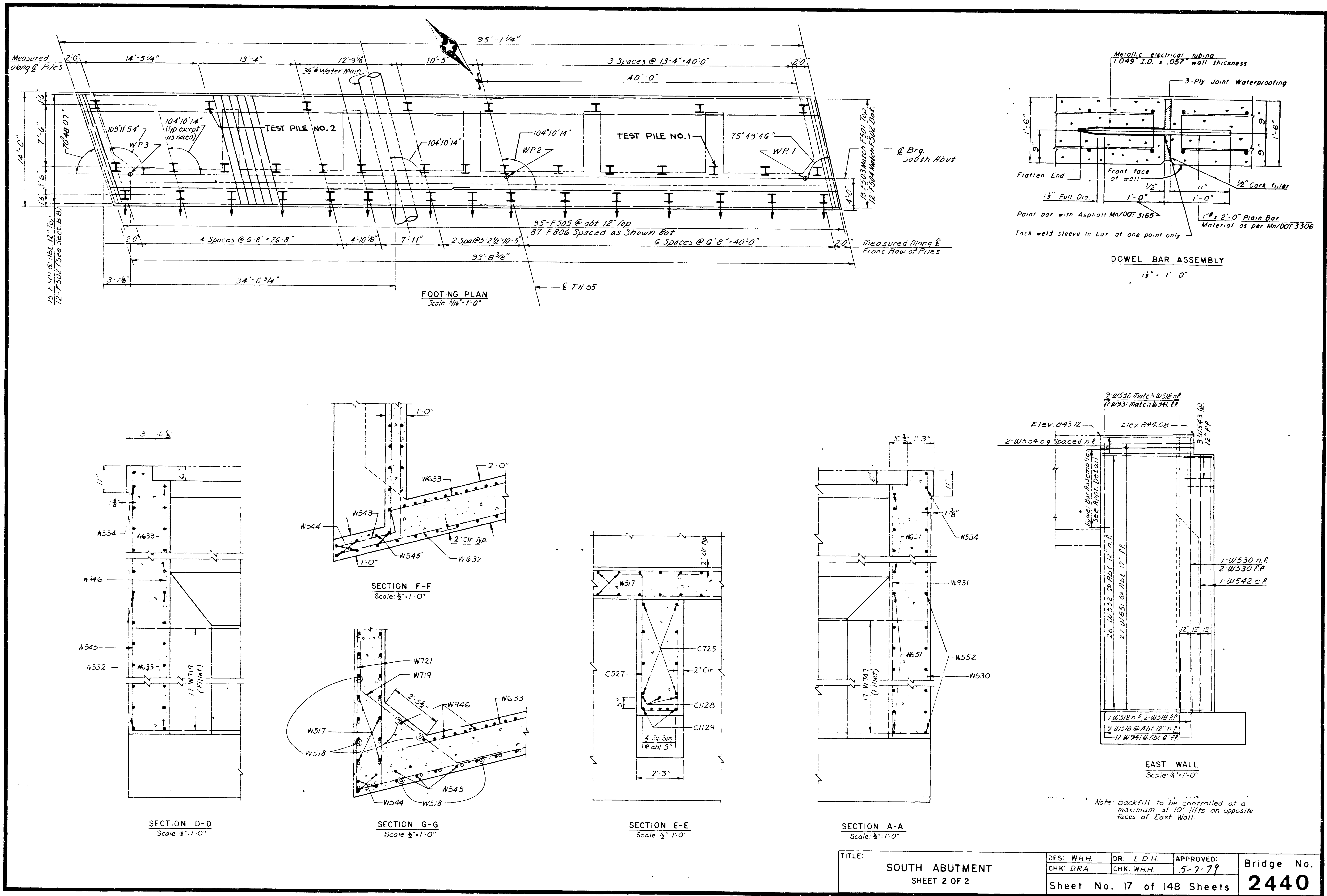
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TITLE:	DES: WHH	DR: LDH	APPROVED:	Bridge No.
SOUTH ABUTMENT	CHK: DRA	CHK: WHH	5-7-79	2440
SHEET 1 OF 2	Sheet No. 16 of 148 Sheets			

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Missouri State Highway Department
 State Engineer
 1-2-79

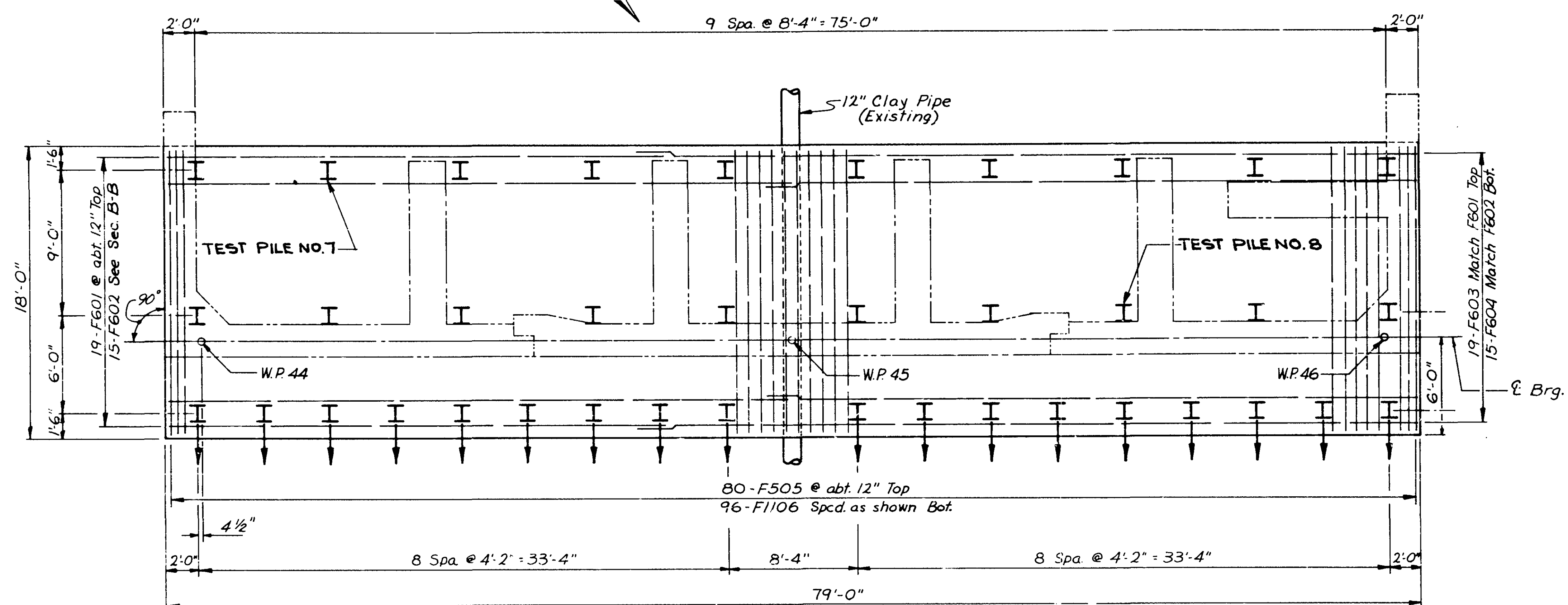


TITLE: SOUTH ABUTMENT SHEET 2 OF 2	DES: W.H.H.	DR: L.D.H.	APPROVED:	Bridge No. 2440
	CHK: D.R.A.	CHK: W.H.H.	5-7-79	
Sheet No. 17 of 148 Sheets				

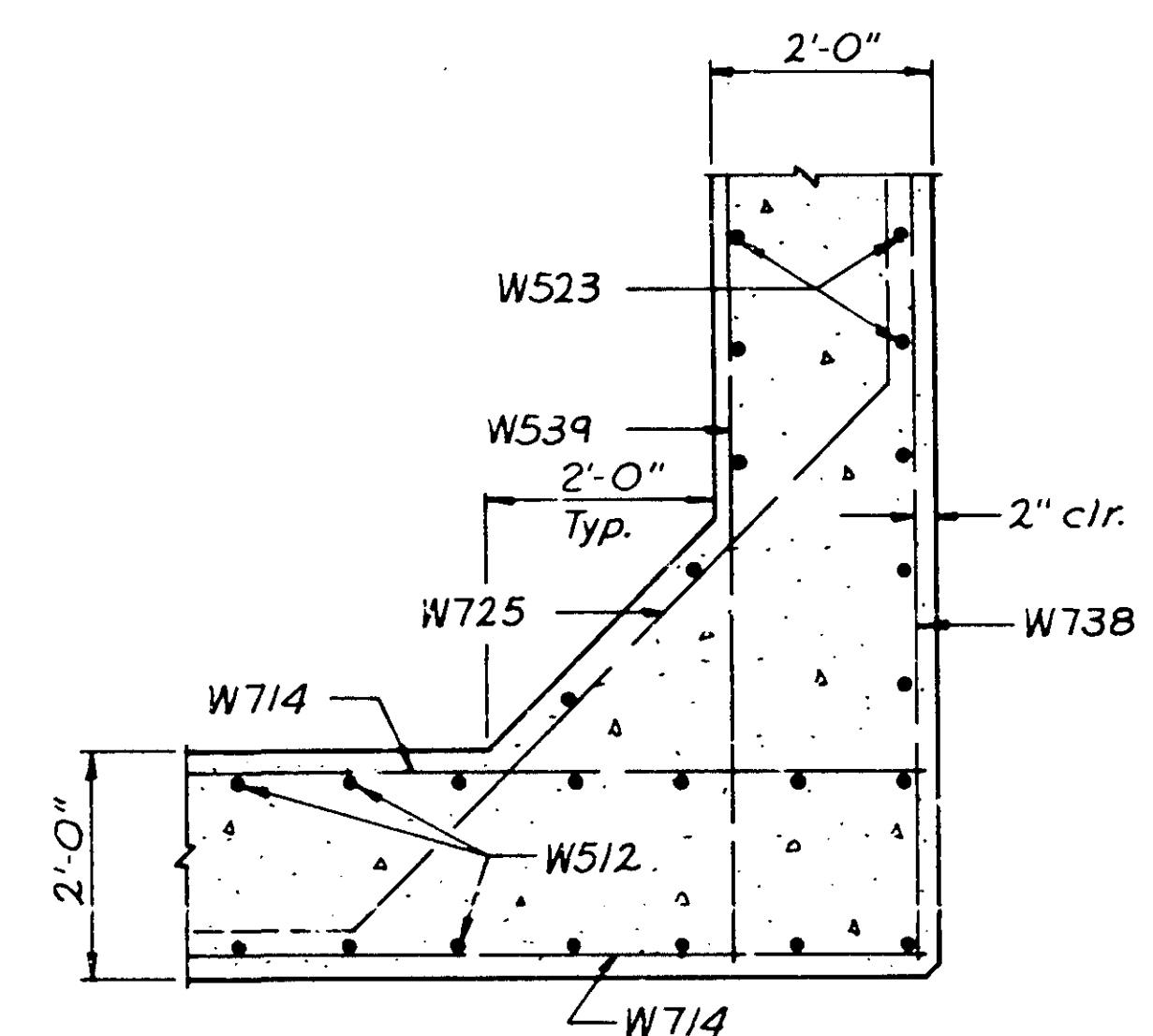
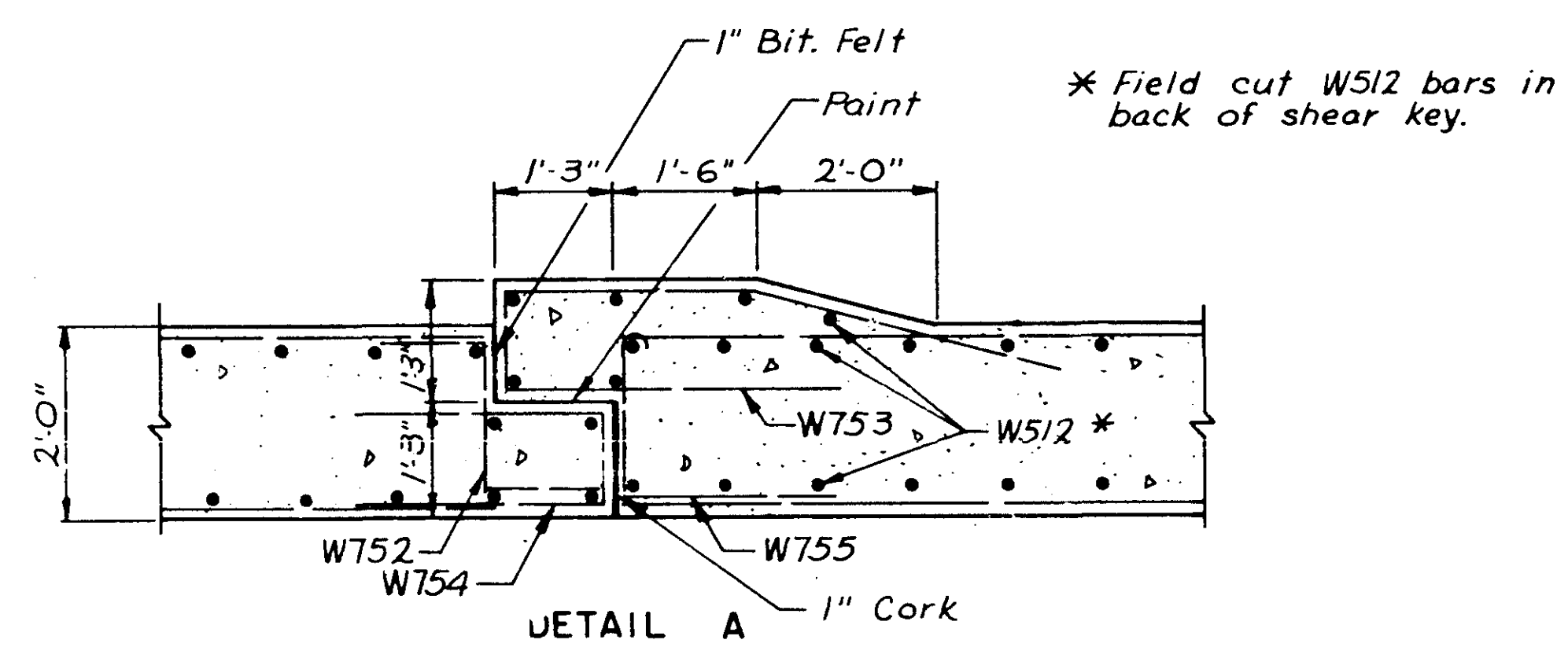
Note Backfill to be controlled at a maximum of 10' lifts on opposite faces of East Wall.

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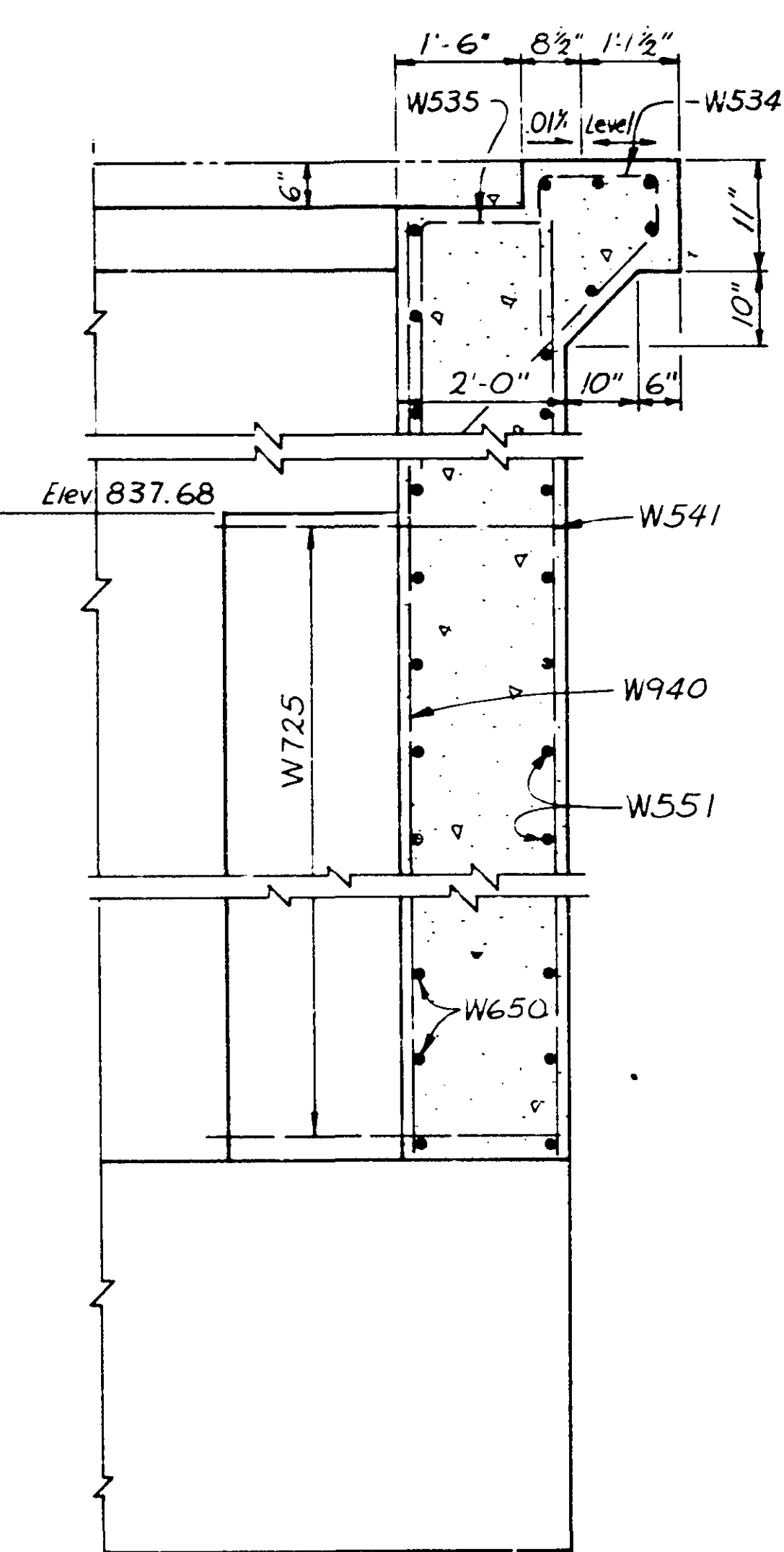
Note: 12" Ø clay pipe to be located in field before driving piles



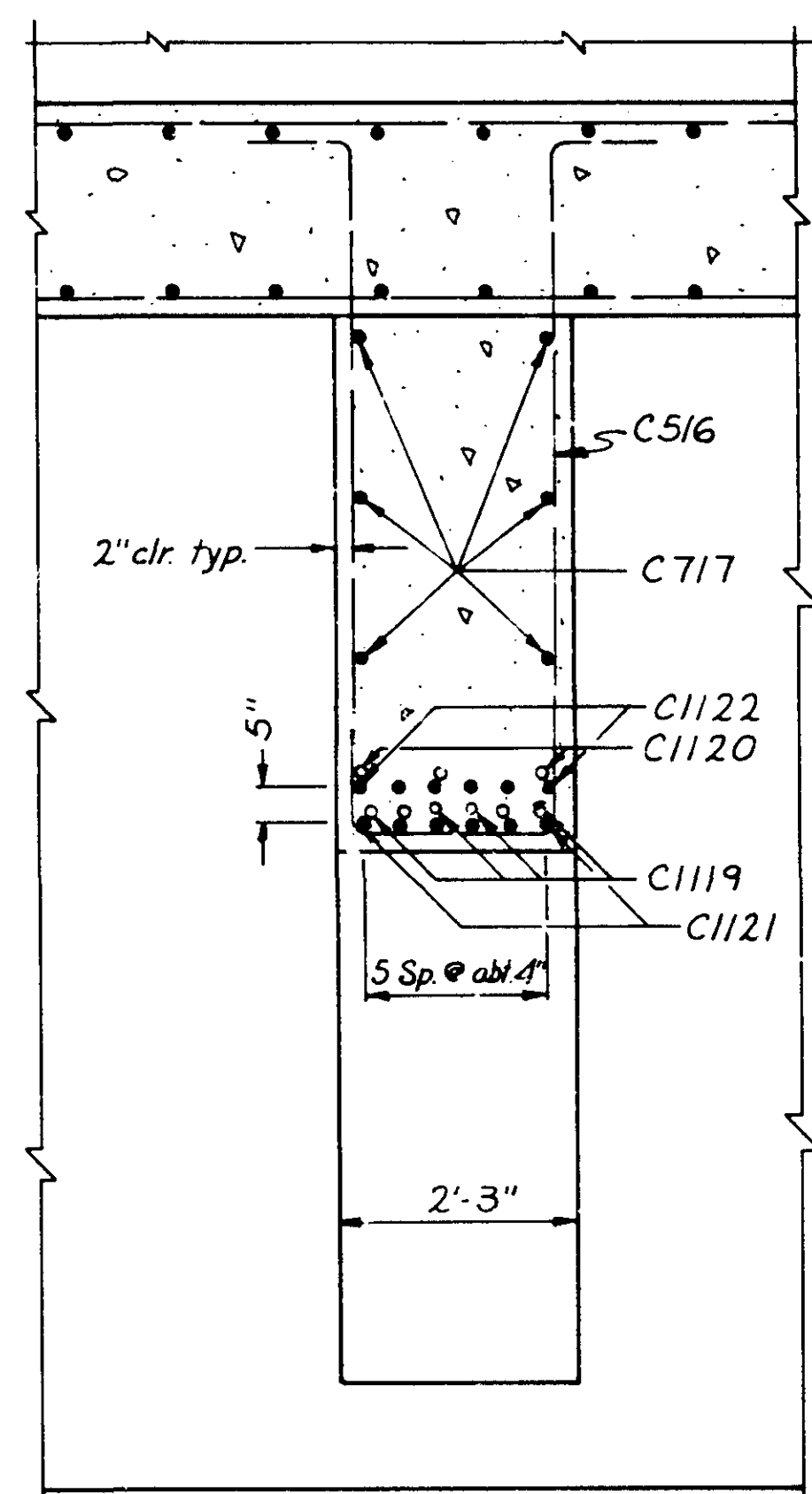
PLAN - FOOTING
Scale: 3/8" = 1'-0"



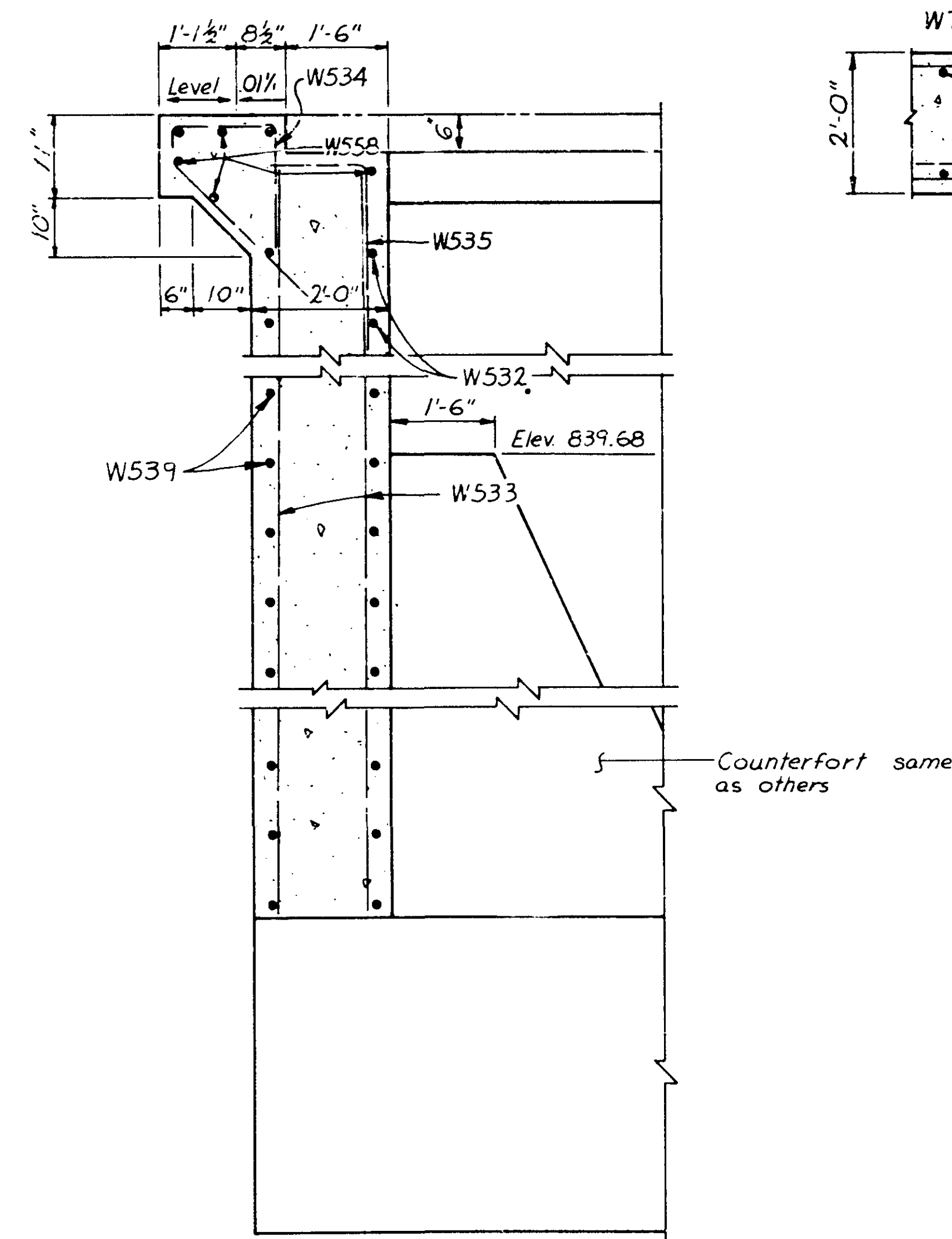
FILLET DETAIL
Scale: 1/2" = 1'-0"



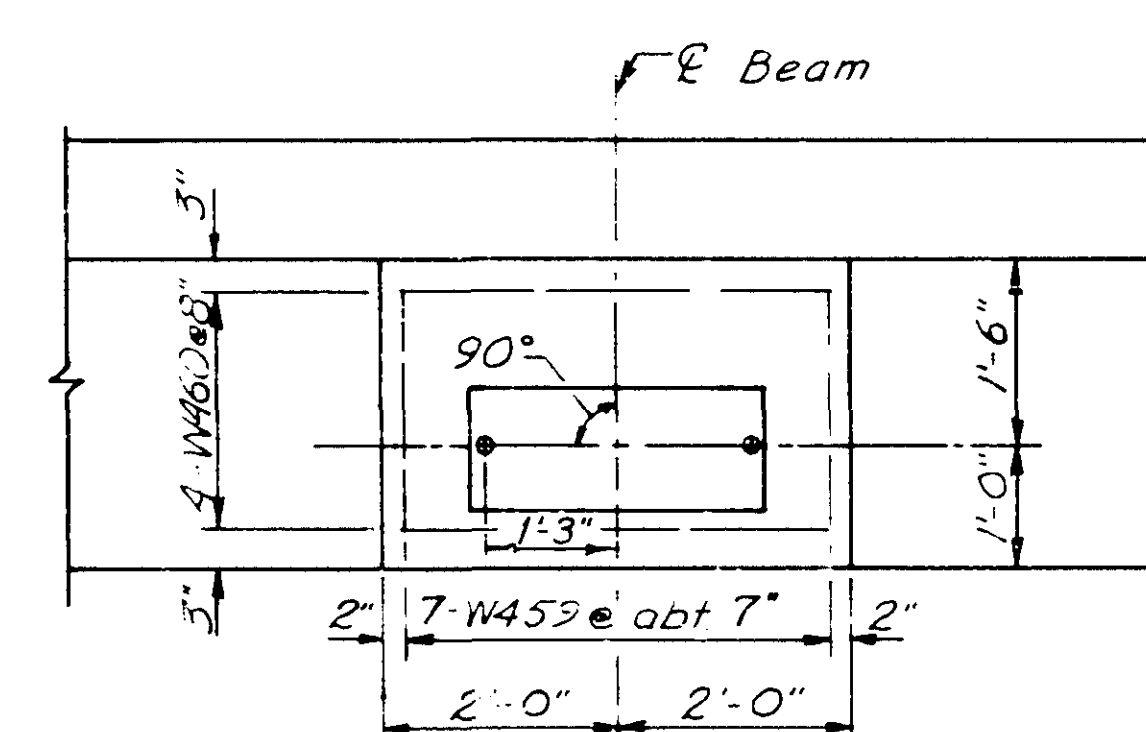
SECTION A-A
Scale: 1/2" = 1'-0"



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



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

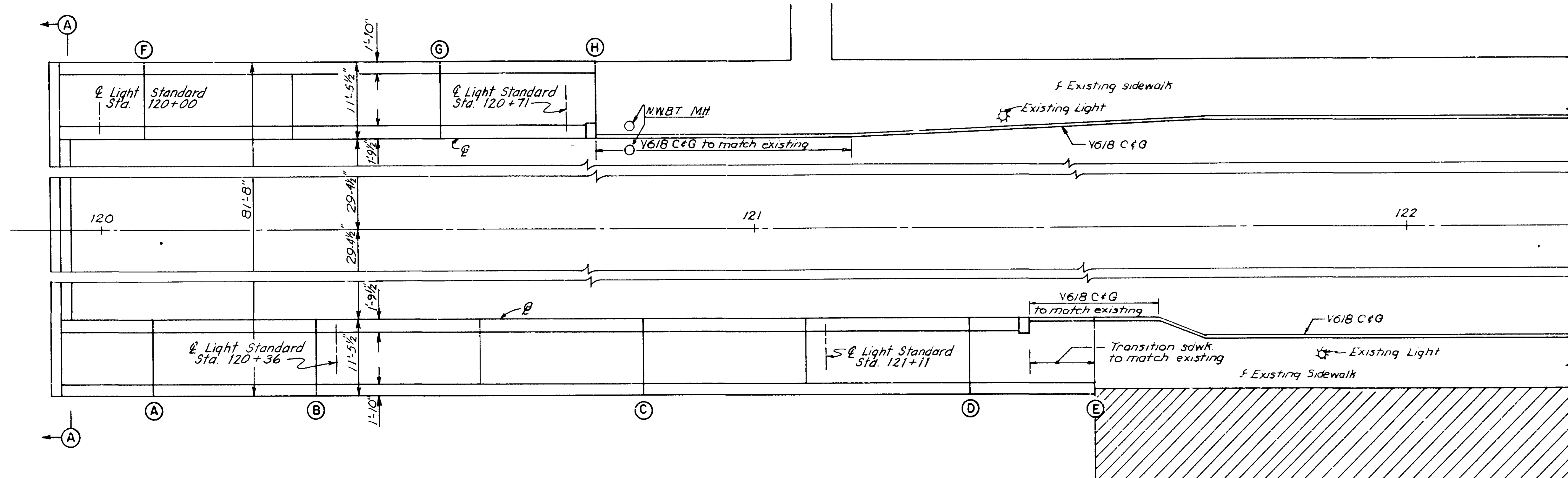


TYPICAL PAD DETAIL
Scale: 1/8" = 1'-0"

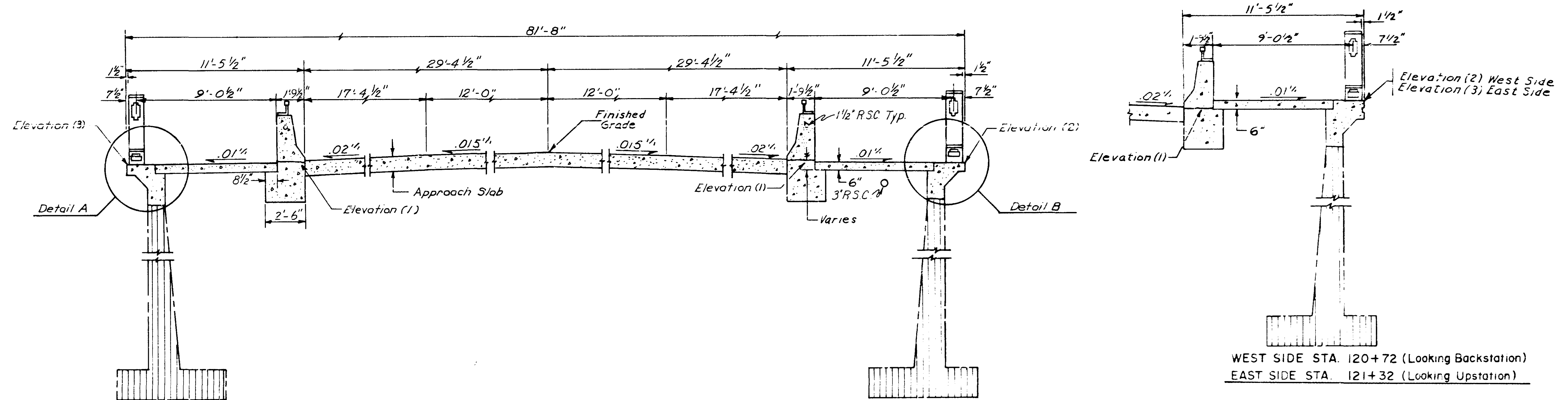
TITLE: NORTH ABUTMENT SHEET 2 OF 2	DES: W.H.H.	DR: L.D.H.	APPROVED:	Bridge No. 2440
	CHK: D.R.A.	CHK: W.H.H.	5-7-79	
	Sheet No. 19 of 148 Sheets			

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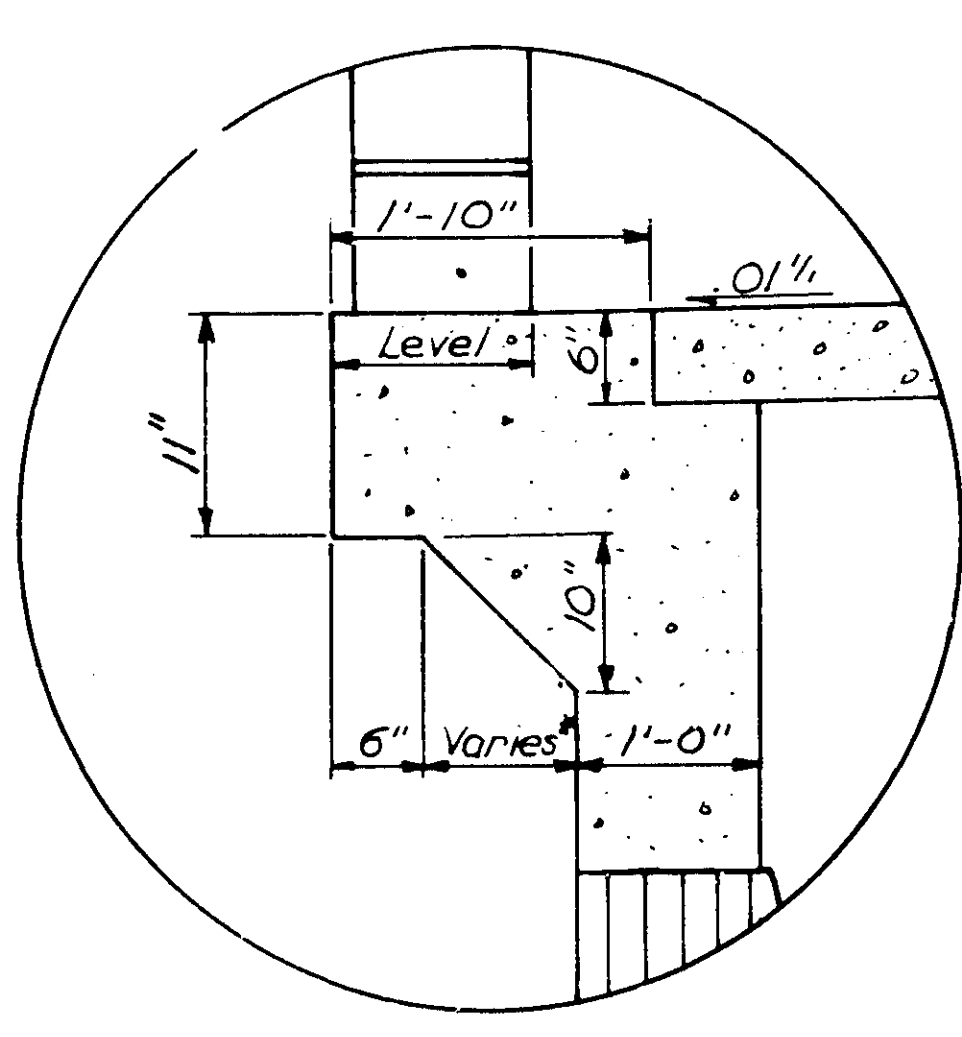
DATE: 1-2-83



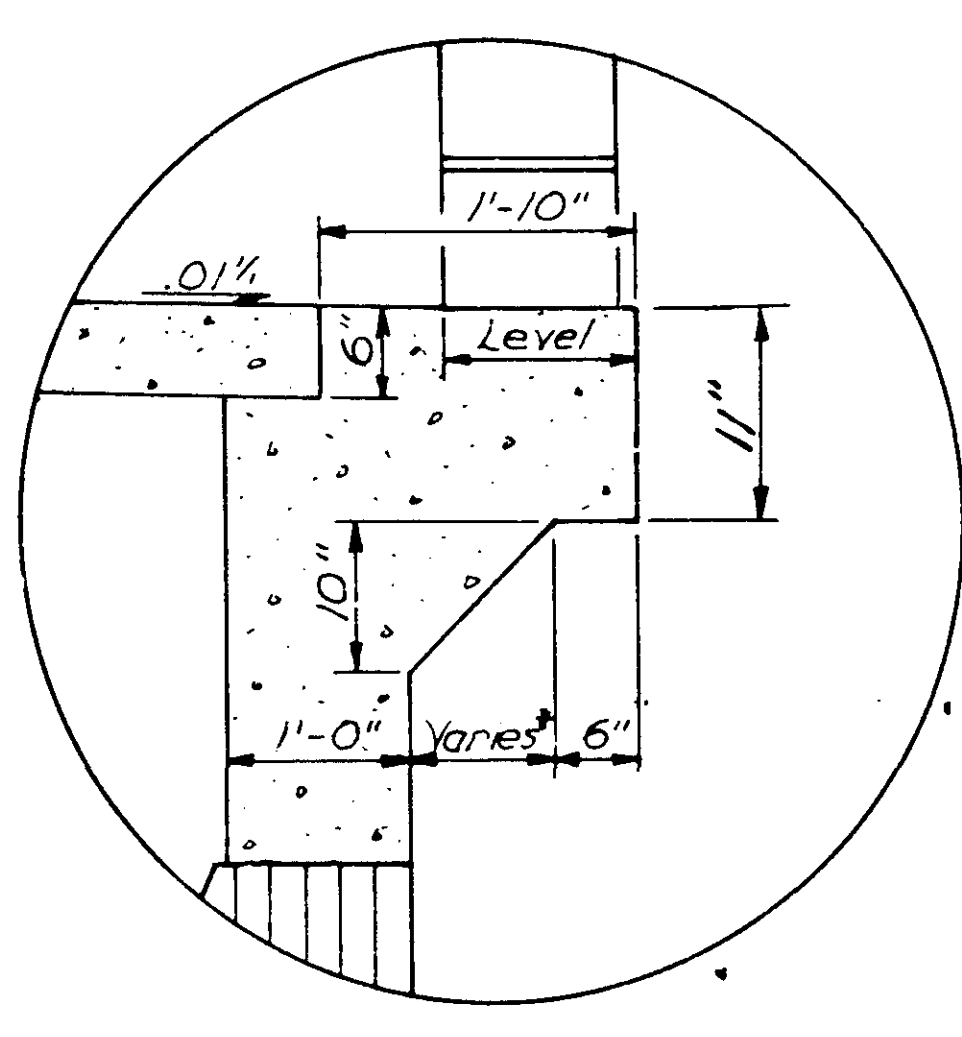
PLAN
Scale: 1"=10'-0"



SECTION A-A
Scale: 3/4"=1'-0"

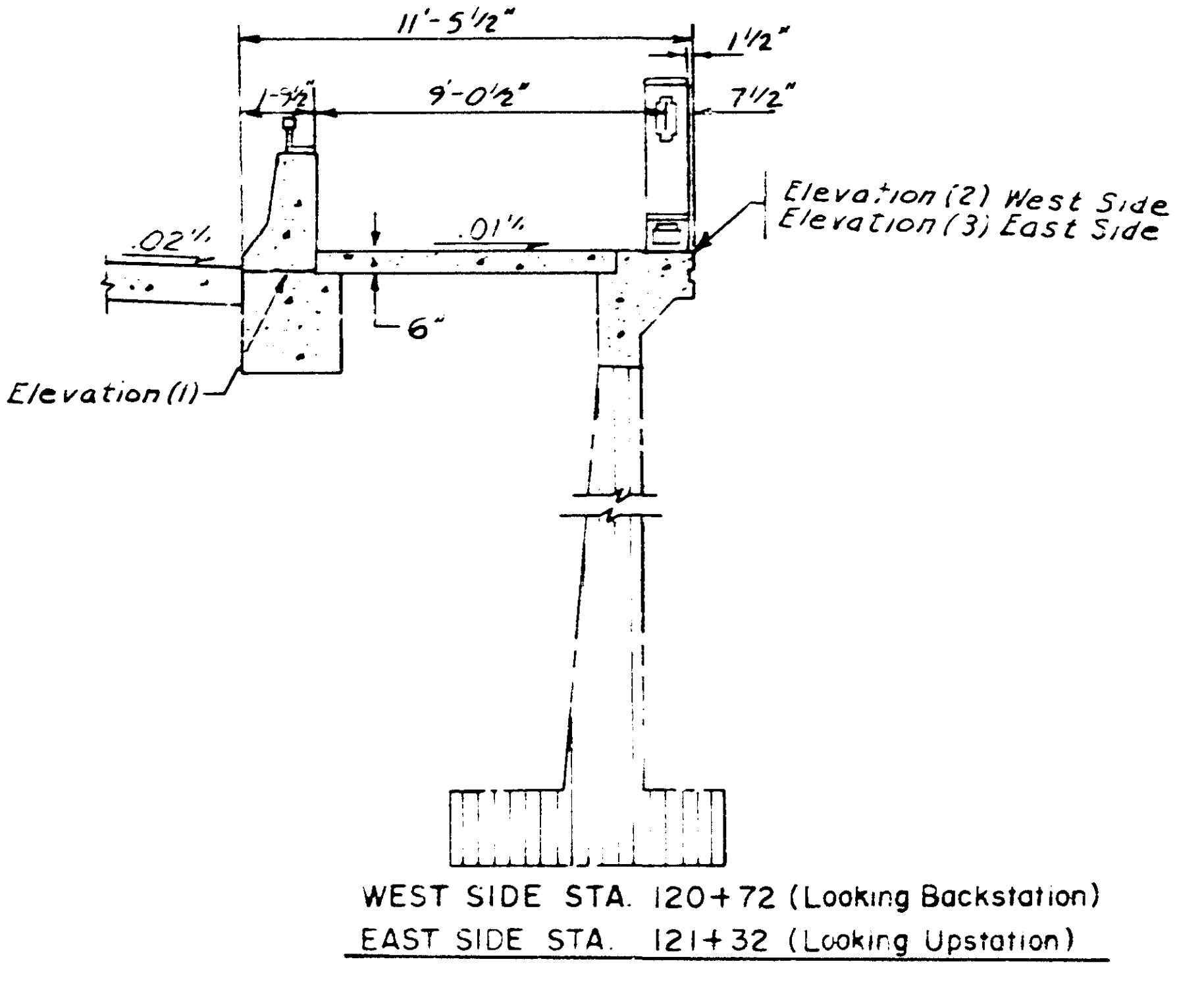


DETAIL A
Scale: 3/4"=1'-0"



DETAIL B
Scale: 3/4"=1'-0"

Note: Dimensions may vary with face of existing retaining walls in order to maintain 81'-8" from facia to facia.

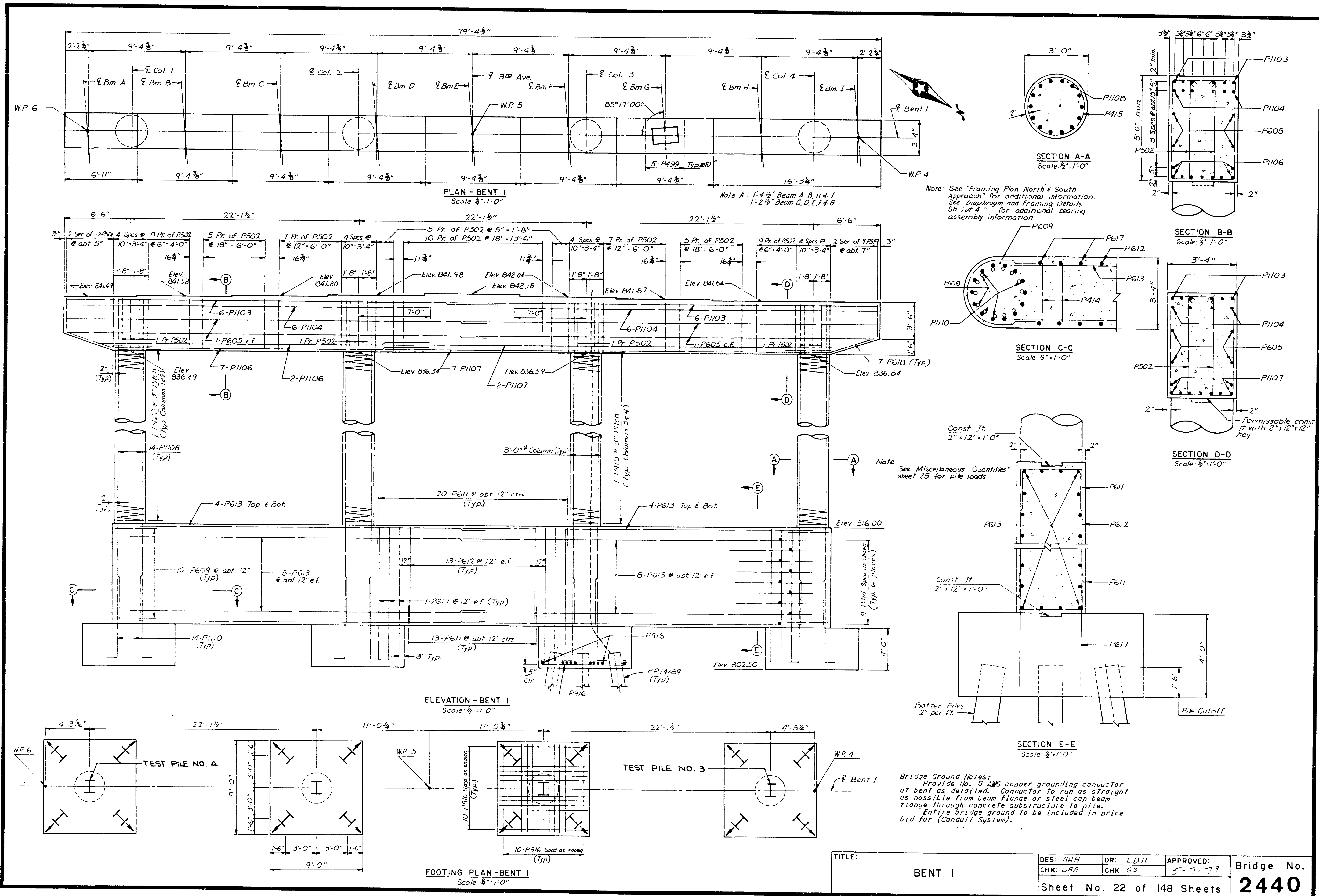


WEST SIDE STA. 120+72 (Looking Backstation)
EAST SIDE STA. 121+32 (Looking Upstation)

CONTROL ELEVATIONS			
STATION	ELEVATION (1)	ELEVATION (2)	ELEVATION (3)
120+02	847.36	848.44	847.44
120+12	847.24	847.38	847.31
120+22	847.11	847.33	847.19
120+32	846.98	847.28	847.06
120+42	846.86	847.22	846.94
120+52	846.74	847.17	846.81
120+62	846.61	847.11	846.69
120+72	846.48	847.06	846.56
120+82	846.36	-----	846.44
120+92	846.24	-----	846.31
121+02	846.11	-----	846.19
121+12	845.98	-----	846.06
121+22	845.86	-----	845.94
121+32	845.74	-----	845.81
121+42	845.61	-----	845.68
121+52	845.48	-----	845.56

Note: Elevation (1) given is for the 2" slump conc. wearing course. Elevations to be increased by .04" or .12" if latex modified concrete wearing course is used.

TITLE:	DES. VWH	DR. WWH	APPROVED:	Bridge No.
NORTH APPROACH DETAILS	CHK. DRA	CHK. GS	5-7-79	
SHEET 1 OF 2	Sheet No. 20 of 148 Sheets			2440



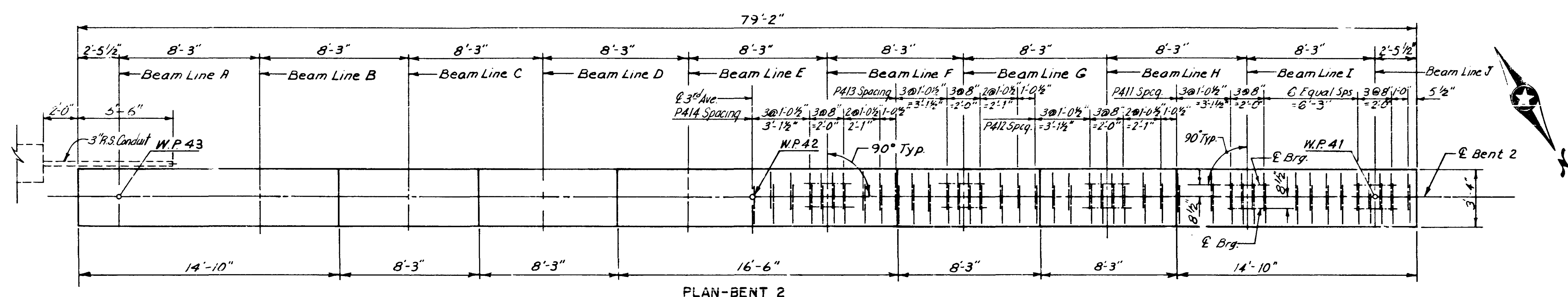
Note: See "Framing Plan North & South Approach" for additional information. See "Diaphragm and Framing Details Sh. 1 of 4" for additional bearing assembly information.

Note: See "Miscellaneous Quantities" sheet 25 for pile loads.

Bridge Ground Notes:
 Provide No. 0 AWG copper grounding conductor at bent as detailed. Conductor to run as straight as possible from beam flange or steel cap beam flange through concrete substructure to pile. Entire bridge ground to be included in price bid for (Conduit System).

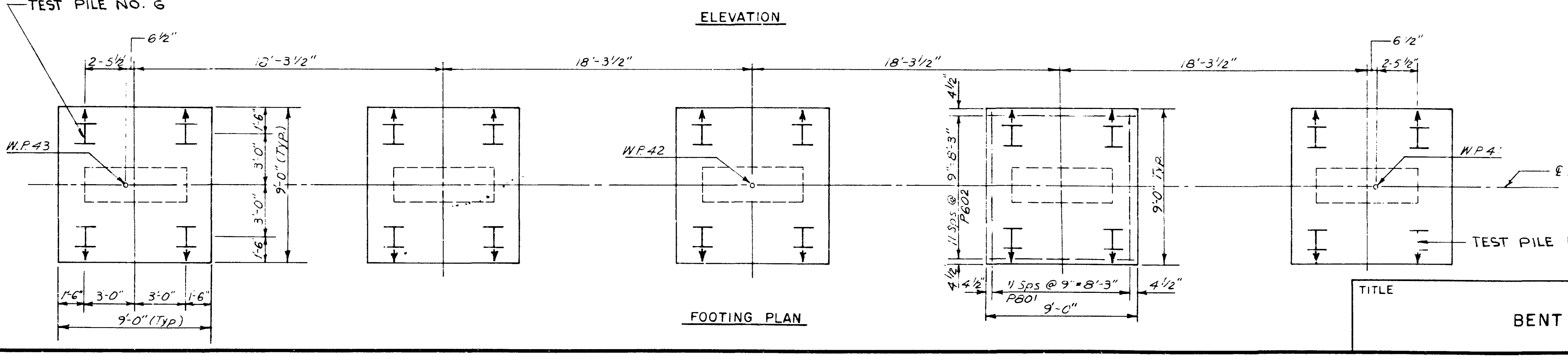
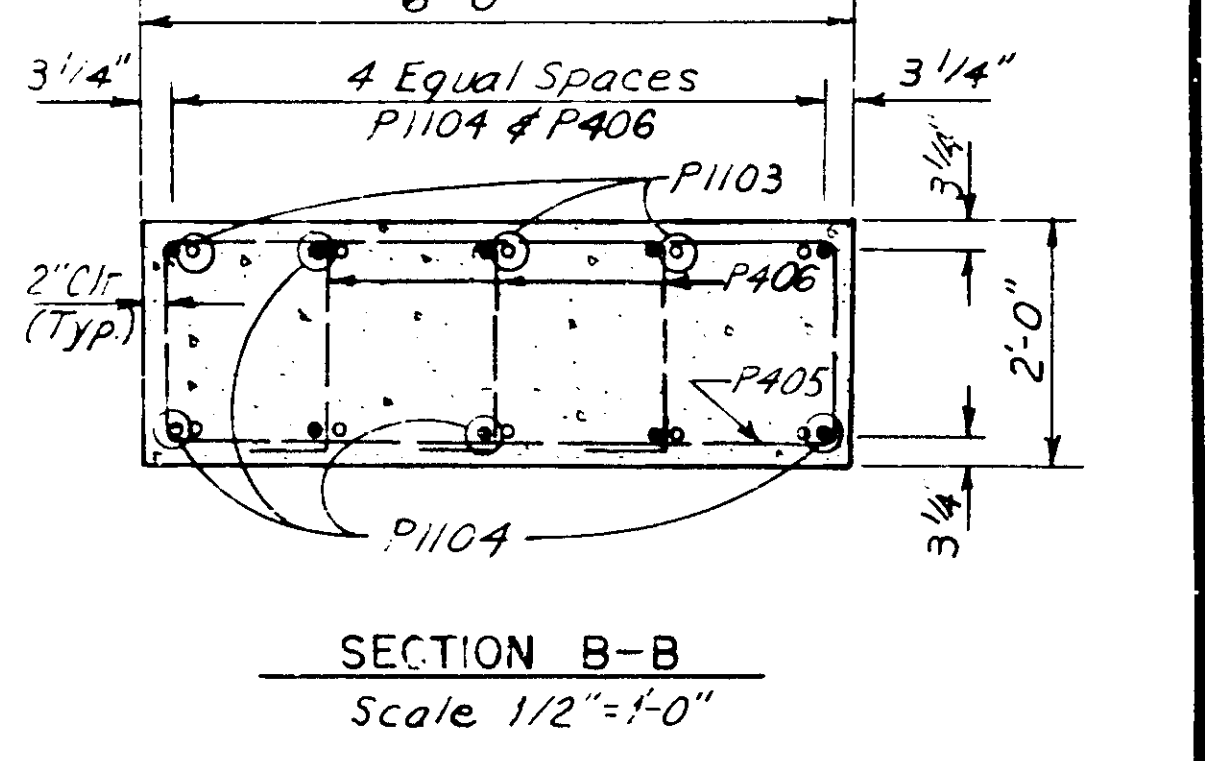
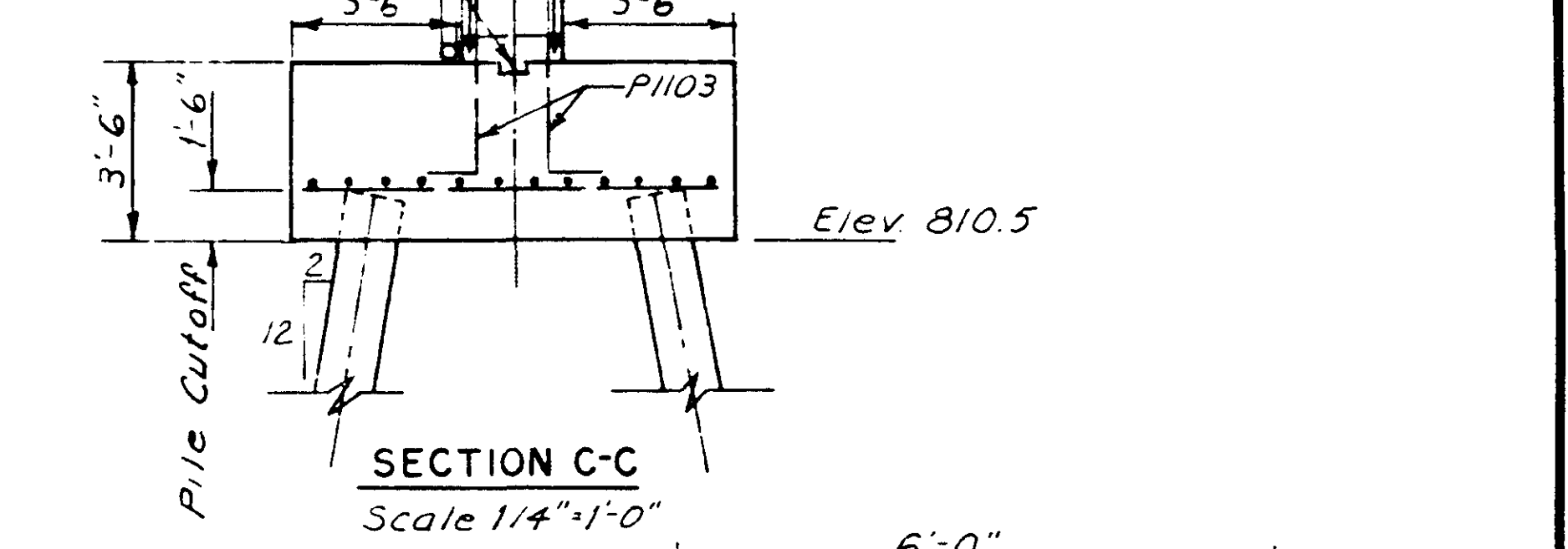
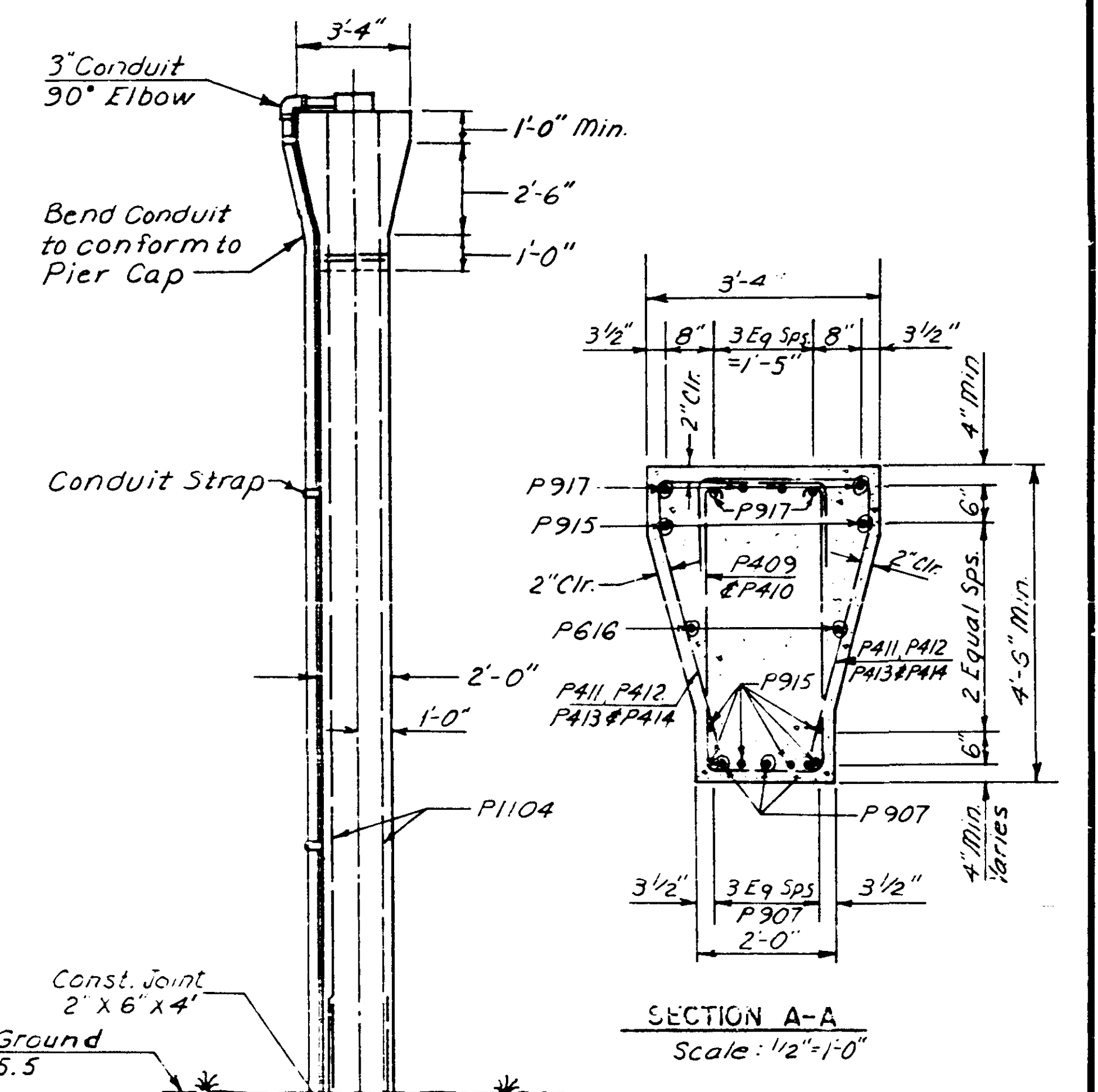
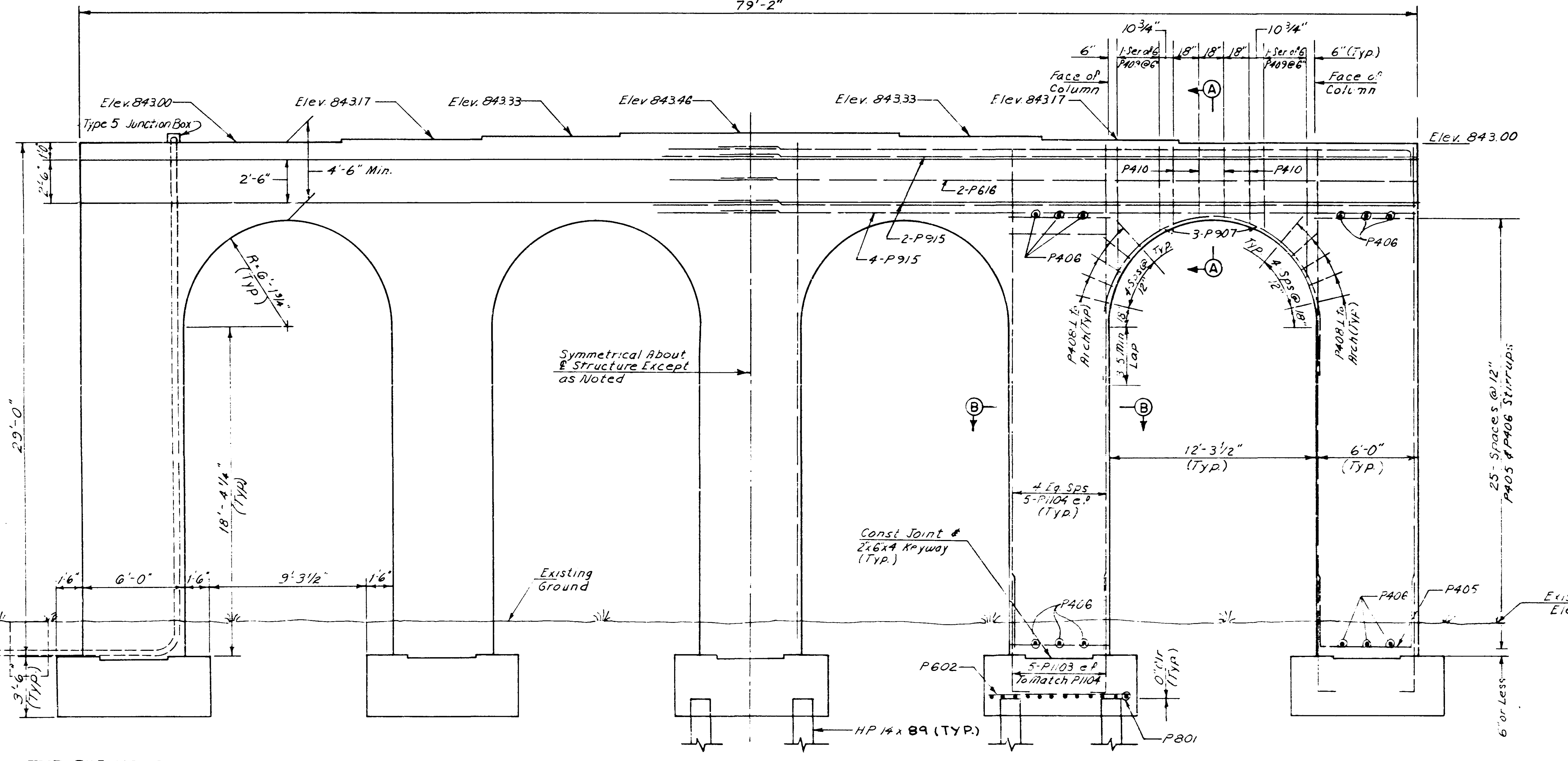
TITLE:	BENT I	DES: YWH	DR: LDH	APPROVED:	5-7-79	Bridge No.	2440
		CHK: DRA	CHK: G3			Sheet No. 22 of 148 Sheets	

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COMPUTED PILE LOADS - TONS /PILE	
BENT 2	
DEAD LOAD	71.6 Ton
LIVE LOAD	12.6 Ton
OVERTURNING	5.4 Ton
* DESIGN LOAD	89.6 Ton

* REDUCTION PER A.A.S.H.T.O. 1.2.22
1127/125 = 89.6 T



TITLE	BENT 2	DES: D.E.A.	DR: E.J.F.	APPROVED:	5-7-79	Bridge No.	2440
		CHK: W.R.H.	CHK: K.E.B.			Sheet No. 23 of 148 Sheets	

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BAR NO.	NO.	SIZE	LENGTH	TYPE	DIMENSIONS			LOCATION
					A	B	C	
SOUTH ABUTMENT								
F501	15	5	54-0	STR.				Ftg.
F502	12	5	47-0	STR.				Ftg.
F503	15	5	42-3	STR.				Ftg.
F504	12	5	49-3	STR.				Ftg.
F505	35	5	14-0	STR.				Ftg.
F806	87	8	15-10	100	14-0	0-11		Ftg.
W407E	95	4	3-9	107	1-3	0-8	0-7	Exp. Block
W508	65	5	3-9	118	1-4	0-8	6	Paving Block
W509	32	5	7-0	STR.				Wall
W510	32	5	6-0	STR.				Wall
W714	4	7	9-3	105	1-9	3-9		Backwall
W515E	92	5	5-8	105	0-8	2-6		Wall
W516	92	5	10-4	118	3-1	2-3	1-6	Wall
W517	184	5	20-9	STR.				Wall
W518	216	5	5-0	104	1-0			Ftg., Dowel Bars
W719	17	7	10-3	182	5-9	2-3	6	Fillet
W720	53	7	15-3	STR.				Wall
W721	106	7	8-9	STR.				Wall
W722	102	7	29-6	STR.				Wall
W523	5	5	4-8	109	0-8	1-3		Wall
W524	5	5	4-8	109	1-3	0-8		Wall
C725	10 Ser	7	4-0	STR.				Counterfort
	of 5		16-4					
C726	50	7	5-9	104	1-0			Ftg.
C527	5 Ser	5	10-11	121	1-11	3-6	1-0	Counterfort
	of 17		20-5			8-3		
C1128	15	11	26-5	184	2-3	21-0	3#	Counterfort
C1129	25	11	27-7	187	2-3	21-3	3#	Counterfort
W530	12	5	25-6	STR.				Wall (East)
W931	17	9	25-0	STR.				Wall (East)
W532	26	5	11-0	STR.				Wall (West)
W633	27	6	8-5	STR.				Wall (West)
W534	4	5	9-0	STR.				Wall
W736E	4	7	15-3	STR.				Exp. Block
W737E	8	7	9-3	STR.				Exp. Block
W738E	8	7	29-6	STR.				Exp. Block
W941	34	9	6-3	104	1-0			Ftg.
W542	4	5	24-3	STR.				Wall (East)
W543	6	5	4-0	104	1-0			Mask wall
W544	4	5	25-0	STR.				Wall (West)
W545	12	5	25-0	STR.				Wall (West)
W946	17	9	26-0	STR.				Wall (West)
W747	17	7	11-5	183	7-0	2-3	18	Fillet
W748	2	7	20-6	STR.				Paving Block
W749	2	7	26-0	STR.				Paving Block
W551	27	6	8-8	STR.				Wall (East)
W552	26	5	11-3	STR.				Wall (East)
BENT 1								
P501	2 Ser	5	11-8	109	2-2	3-2		Cap Beam
	of 12		14-8			4-8		
P502	152	5	14-8	109	2-2	4-8		Cap Beam
P1103	12	11	42-0	STR.				Cap Beam
P1104	12	11	35-6	STR.				Cap Beam
P605	8	8	41-0	STR.				Cap Beam
P1106	9	11	31-0	STR.				Cap Beam
P1107	9	11	43-0	STR.				Cap Beam
P1108	56	11	34-0	STR.				Column
P609	20	6	9-6	102	2-10	3-4		Crashwall
P1110	56	11	9-9	104	1-0	8-9		Footing
P611	99	4	7-0	105	3-0	2-0		Crashwall
P612	78	4	9-0	STR.				Crashwall
P613	48	4	34-6	STR.				Crashwall
P414	54	4	4-0	100	3-0	0-6		Crashwall
P415	2	4	123	20-10	2-8	0-3		Column
P916	80	9	11-0	100	8-6	1-3		Footings
P617	36	4	12-11	STR.				Crashwall
P518	14	8	7-3	108	2-3	4		Cap Beam
P519	2 Ser	5	11-8	109	2-2	3-2		Cap Beam
	of 9		14-8			4-8		
P420	2	4	123	20-8	2-8	0-3		Column
P499	45	4	5-6	105	3-0	1-3		Cap beam

BAR NO.	NO.	SIZE	LENGTH	TYPE	DIMENSIONS			LOCATION
					A	B	C	
NORTH ABUTMENT								
F601	19	6	32-0	STR.				Ftg.
F602	15	6	39-6	STR.				Ftg.
F603	19	6	49-0	STR.				Ftg.
F604	15	6	41-6	STR.				Ftg.
F505	80	5	17-6	STR.				Ftg.
F1106	96	11	19-10	100	17-6	1-2		Ftg.
W508	57	5	3-9	118	1-4	0-8	6	Paving Block
W509	74	5	-	STR.				Back Wall
W510	74	5	7-0	STR.				Wall
W511	78	5	11-0	118	3-1	2-3	1-6	Wall
W512	180	5	27-	STR.				Wall
W513	213	5	6-6	104	1-0			Ftg.
W714	100	7	21-6	STR.				Wall and Backwall
W715	73	7	32-8	STR.				Wall and Backwall
C516	5 Ser	5	10-11	121	1-11	3-6	1-0	Counterfort
	of 25		25-11			11-0		
C717	10 Ser	7	5-0	STR.				Counterfort
	of 6		24-0					
F718	60	7	7-3	104	1-0			Ftg.
C1119	30	11	16-10	181	2-3	13-0	4	Counterfort
C1120	15	11	15-10	181	2-0	13-0	4	Counterfort
C1121	30	11	24-6	182	1-0	3-0	4	Counterfort
C1122	30	11	24-0	101	1-7	22-5		Counterfort
W623	48	6	12-6	STR.				Wall
W725	50	7	10-9	183	6-9	2-0	12	Fillet
W726	2	7	12-0	STR.				Backwall
W727	2	7	5-6	STR.				Backwall
W728	4	7	9-3	105	1-9	3-9		Backwall
W529	4	5	4-8	109	1-3	0-8		Backwall
W530	4	5	4-8	109	0-8	1-3		Backwall
W532	10	5	12-10	STR.				East Wall
W533	28	5	33-0	STR.				East Wall
W534	28	5	5-9	118	1-5	0-4	1-6	East Wall
W535	28	5	3-6	104	2-0			East Wall
W738	29	7	15-6	STR.				East Wall
W539	29	5	15-6	STR.				East Wall
W940	25	9	33-4	STR.				West Wall
W541	13	5	33-4	STR.				West Wall
W545	10	5	12-0	STR.				West Wall
W948	21	9	8-9	104	1-0			West Wall
W550	29	6	14-6	STR.				West Wall
W551	29	5	14-6	STR.				West Wall
W752	50	7	4-7	185	1-3	1-8		Key
W753	50	7	8-9	186	0-11	2-7	3	Key
W754	50	7	6-11	105	0-11	3-0		Key
W755	50	7	4-10	111	1-9	2-3	0-5	Key
W756	4	7	12-5	STR.				Paving Block
W757	36	7	22-8	STR.				Jackwall
W558	6	5	13-6	STR.				East Wall
W459	70	4	4-0	105	2-0	1-0		Bearing Pad
W460	40	4	5-8	105	3-8	1-0		Bearing Pad
W561E	82	5	5-8	105	0-8	2-6		Exp. Block
Bent 2								
P801	60	8	8-6	STR.				Footing Horiz
P602	60	6	8-6	STR.				Footing Vert
P1103	30	11	8-6	104	1-6	7-0		Footing Dowel
P1104	50	11	28-6	STR.				Column
P405	130	4	7-6	109	4-8	1-8		Column Tie
P406	390	4	2-9	111				Column Tie
P907	24	9	15-3	125				Column
P408	40	4	5-0	105	1-8	1-8		Column
P409	8 Ser	4	12-8	107	1-8	5-0	6	Cap Stirrup
	of 6		18-2			7-9		
P410	8-Ser	4	11-0	107	1-8	4-2	6	Cap Stirrup
	of 2		12-0			4-8		
P411	68	4	7-0	119	0-10			Cap Tie
P412	36	4	7-2	119	1-0			Cap Tie
P413	36	4	7-4	119	1-2			Cap Tie
P414	34	4	7-6	119	1-4			Cap Tie
P915	16	9	41-0	STR.				Cap Beam Long.
P616	4	6	41-0	STR.				Cap Beam Long.
P917	12	9	42-6	104	1-6			Cap Beam Long.

BAR NO.	NO.	SIZE	LENGTH	TYPE	DIMENSIONS			LOCATION
					A	B	C	
SOUTHWEST RETAINING WALL (SO. APPROACH)								
W606	1 Ser	6	14-9	STR.				Footing
	of 5		16-6					
W407	17	4	22-6	STR.				Vertical
W908	30	9	22-6	STR.				Vertical
W409	46	4	15-8	STR.				Horizontal
W610	14	6	10-1	STR.				Footing
W711	33	7	10-1	STR.				Footing
W912	47	9	6-9	104	1-0			Footing
W613	1 Ser	6	14-4	STR.				Footing
	of 7		16-11					
W614	1	6	14-4	STR.				Footing
W615	1	6	16-11	STR.				Footing
W416	1 Ser	4	2-7	105	0-7	1-0		Horizontal
	of 23		3-4		1-4	1-0		
SOUTHWEST WALL (SO. APPROACH)								
W401	64	4	4-6	STR.				Vertical
W402	32	4						

BENT 1 & 2 - PILING, COMPUTED PILE LOADS, EXCAVATION LIMITS								
Bent	Bearing Piles	Computed Pile Loads Tons/Pile						Elev. of Upper Limit of Excavation
		Dead Load	Live Load	Over-Turning	Total	Allow Overstress %	Total @ 100%	
1	20	78	20	0	98	100	98	808.0
2	20	89	16	7	112	125	90	815.5
Stairway	4	23.6	4.2	14.6	42.4	125	34	815.75

ABUTMENT & RETAINING WALL - PILING, COMPUTED PILE LOADS, EXCAVATION LIMITS							
Location	Bearing Piles	Computed Pile Loads Tons/Pile					Elev. of Upper Limit of Excavation
		Dead Load + Earth Pressure	Live Load	Total	Allow Overstress %	Total @ 100%	
So. Abut	38	77	12	89	100	89	821.25
Wall 1	5	60	-	60	100	60	831.5
Wall 2	3	12	1	13	100	13	838.0
N. Abut	38	85	5	90	100	89	815.75

* Wall 1 - Southwest Retaining Wall (See Sheet no. 15)
 Wall 2 - Southeast Wall (See sheet no. 15)
 Note: Wall Quantities include Traffic Rail Footings.

QUANTITY SUMMARY FOR SUPERSTRUCTURE				
ITEM	UNIT	APPROACHES	ARCH SPANS	TOTAL
Concrete Mix 3Y43	Cu. Yd.	74	-	74
Neoprene Waterstop	Lin. Ft.	-	3190	3190
Concrete Mix 3x46A	Cu. Yd.	109	96	205
Bridge Slab Concrete Mix 3X33	Sq. Ft.	31,755	124,082	155,837
Wearing Course Concrete Mix Special	Sq. Ft.	22,761	88,256	111,017
Reinforcement Bars	Pound	123,400	683,339	806,539
Pipe Railing	Lin. Ft.	1078	3008	4086
Structural Steel (3306)	Pound	5575	-	5575
Structural Steel (3309)	Pound	443,296	-	443,296
Prestressed Concrete Beams, Type 54-91	Each	10	-	10
Prestressed Concrete Beams, Type 54-93	Each	10	-	10
Elastomeric Bearing Pads, Type 1	Each	20	-	20
" " " " 2	Each	10	-	10
" " " " 3	Each	9	-	9
" " " " 4	Each	9	-	9
Elastomeric Bearing Assemblies, Type 1	Each	10	-	10
" " " " 2	Each	10	-	10
Expansion Joint Devices, Type 1	Lin. Ft.	122	-	122
" " " " 2 1/2	Lin. Ft.	120	-	120
Bridge Name Plate	Each	1	-	1
Prefomed Joint Filler	-	-	-	-
Reinforcement Bars (Epoxy Coated)	Pound	128,127	574,221	702,348
Type J Railing Concrete Mix No. 3x46A	Lin. Ft.	1083	3008	4091

- Pipe railing shall be paid for in lined ft. inclusive from end to end of project.
- Bridge No. 2440 Project No. BHF-005-2(67) Date 1979 (To be included in price bid for other items)
- See schedule on sheet 49
- Includes Type J railing concrete and Handrail post concrete.
- The volume of bridge slab concrete Mix No. (3X33) was computed using the nominal pour thickness dimension details for use with the low slump concrete wearing course alternate and using an average steel height of 1 1/2 inches. Bridge slab concrete Mix No. 3x33, Volume is approximately 4421 Cu. Yds.
- Prestressed Concrete Diaphragms
- Wearing course concrete Mix No. Special, volume is approximately 686 Cu. Yd. using the low slump concrete wearing course alternate.
- Type J Railing Concrete, Mix No. 3x46A, Volume is approximately 612 Cu. Yds.

SUMMARY OF WALL AND ABUTMENT QUANTITIES		
ITEM	UNIT	QUANTITY
Concrete Mix No. 1A43	Cu. Yd.	487
Concrete Mix No. 3Y43	Cu. Yd.	679
Steel H-Test Piles, 30 Feet Long	Each	2
Reinforcement Bars	Pound	127,592
Class "E" Excavation	Cu. Yd.	1080
Steel H - Piling Driven	Lin. Ft.	1255
Steel H - Piling Delivered	Lin. Ft.	1255
Reinforcement Bars (Epoxy Coated)	Pounds	2025
S.M. Disk	Each	1
Steel H-Test Piles, 20 Feet Long	Each	2

- Includes all approach walls and stairway.
- Does not include test piles.
- State will furnish disk. Payment for placing to be included in price bid for all other items. See Std. No. 9301 for placing.

SUMMARY OF APPROACH SPAN BENT QUANTITIES		
ITEM	UNIT	QUANTITY
Concrete Mix No. 1A43	Cu. Yd.	100
Concrete Mix No. 3Y43	Cu. Yd.	249
Reinforcement Bars	Pound	54,274
Spiral Reinforcement	Pound	1908
Class "E" Excavation	Cu. Yd.	261
Steel H - Piling Driven	Lin. Ft.	760
Steel H - Piling Delivered	Lin. Ft.	760
Steel H - Test Piles, 30 Feet Long	Each	4

- Does not include test piles.
- Pile Notes:
 All piles to be HP 14XB9
 Pile spacing shown is @ bottom of footing.

- Abutment & wall piles marked thus H to be battered 3" per foot in direction shown. Bent & stairway piles marked thus H to be battered 2" per foot in direction shown.
- 2 steel test piles 30 feet long
 - 36 steel piles est. length 20 feet
 - 38 steel piles req'd. for south abut.
 - 2 steel test piles 30 feet long
 - 18 steel piles est. length 20 feet
 - 20 steel piles req'd. for bent 1
 - 2 steel test piles 30 feet long
 - 18 steel piles est. length 20 feet
 - 20 steel piles req'd. for bent 2
 - 2 steel test piles 20 feet long
 - 36 steel piles est. length 10 feet
 - 38 steel piles req'd. for north abut
 - 4 steel piles 10 feet long req'd. for stairway
 - 5 steel piles 20 feet long req'd. for wall 1
 - 3 steel piles 25 feet long req'd. for wall 2

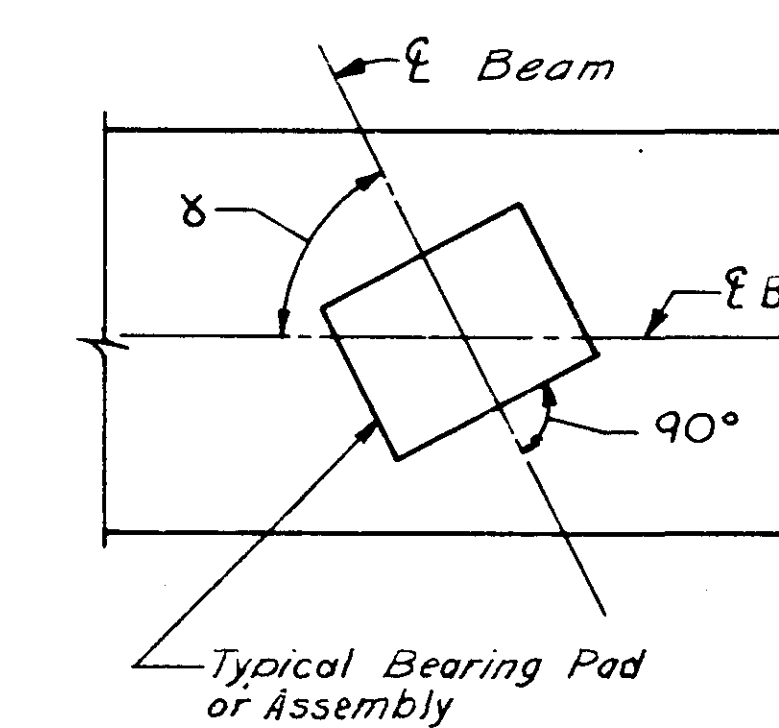
QUANTITY SUMMARY ARCH PIERS & SPANDRELS		
ITEM	UNIT	QUANTITY
Concrete Mix No. 3Y43	Cu. Yd.	3629
Reinforcement Bars	Pound	455,048
Drill and Grout	Each	5285
Polystyrene	-	-
Bit Felt	-	-
Reinforcement Bars (Epoxy Coated)	Pound	54,759

(2) See Schedule on Sheet 49

BEARING ASSEMBLY ANGLE δ

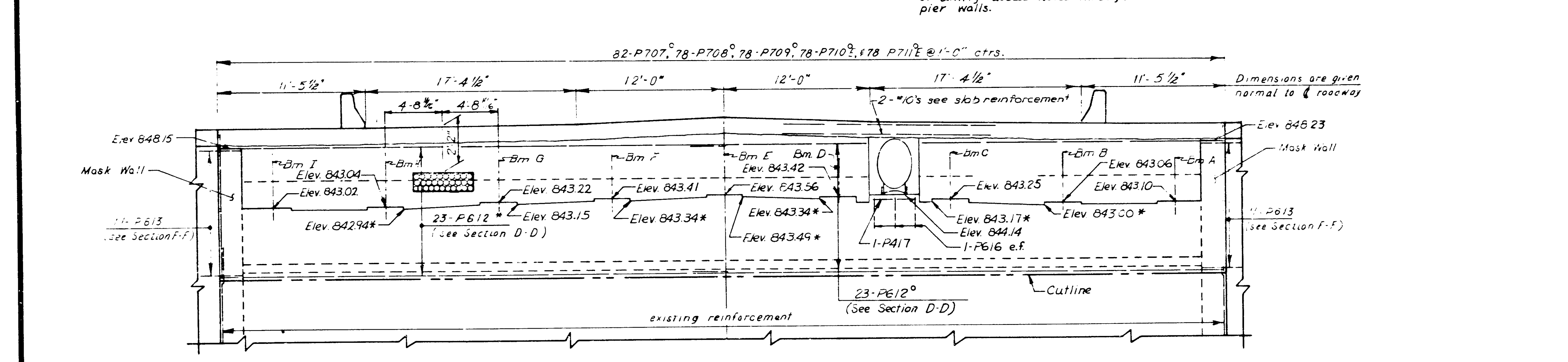
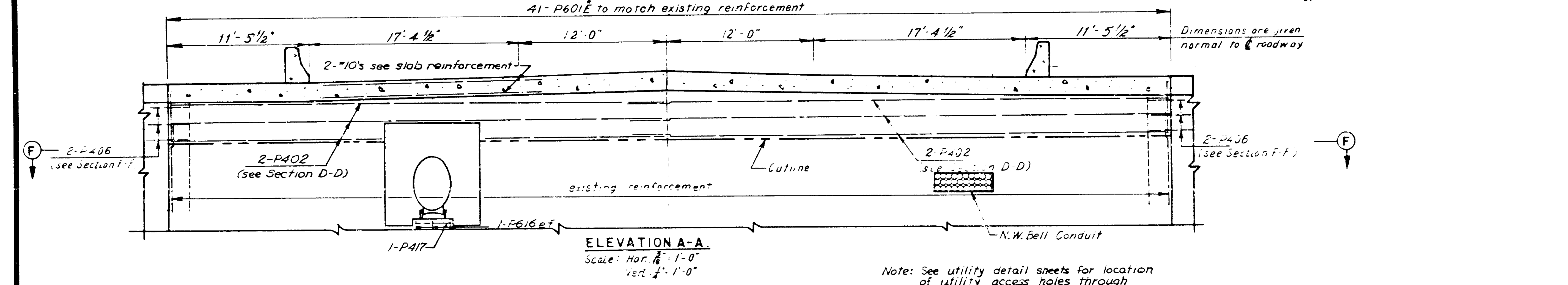
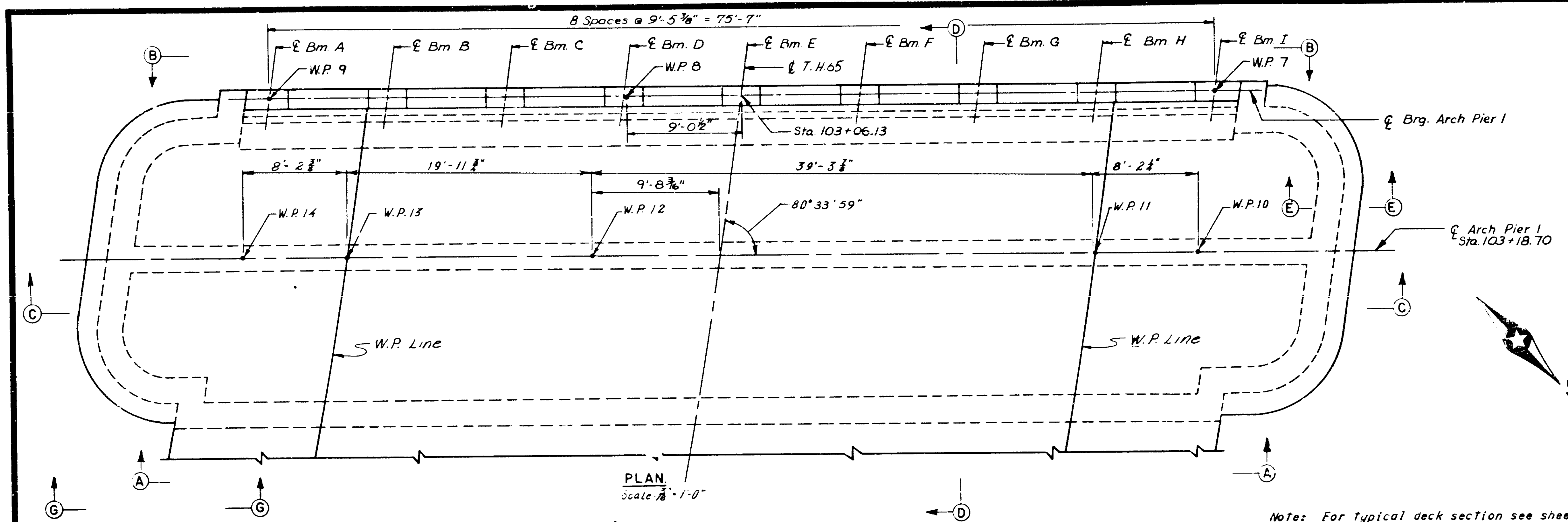
LOCATION	ANGLE
South Abutment	75°49'46"
Bent 1	85°17'00"
Arch Pier 1	98°54'36"
Arch Pier 8	89°54'47"
Bent 2-Brg. 1	90°00'00"
Bent 2-Brg. 2	90°00'00"
North Abutment	90°00'00"

Note: All bearing assembly angles at a particular location to be the same for all beams.



All bearing assemblies to be set normal to δ Beam. See individual abutment sheets for anchor bolt locations.

TITLE: MISCELLANEOUS QUANTITIES	DES: CHK:	DR: CHK:	APPROVED: 5-7-79	Bridge No. 2440
Sheet No. 25 of 148 Sheets				



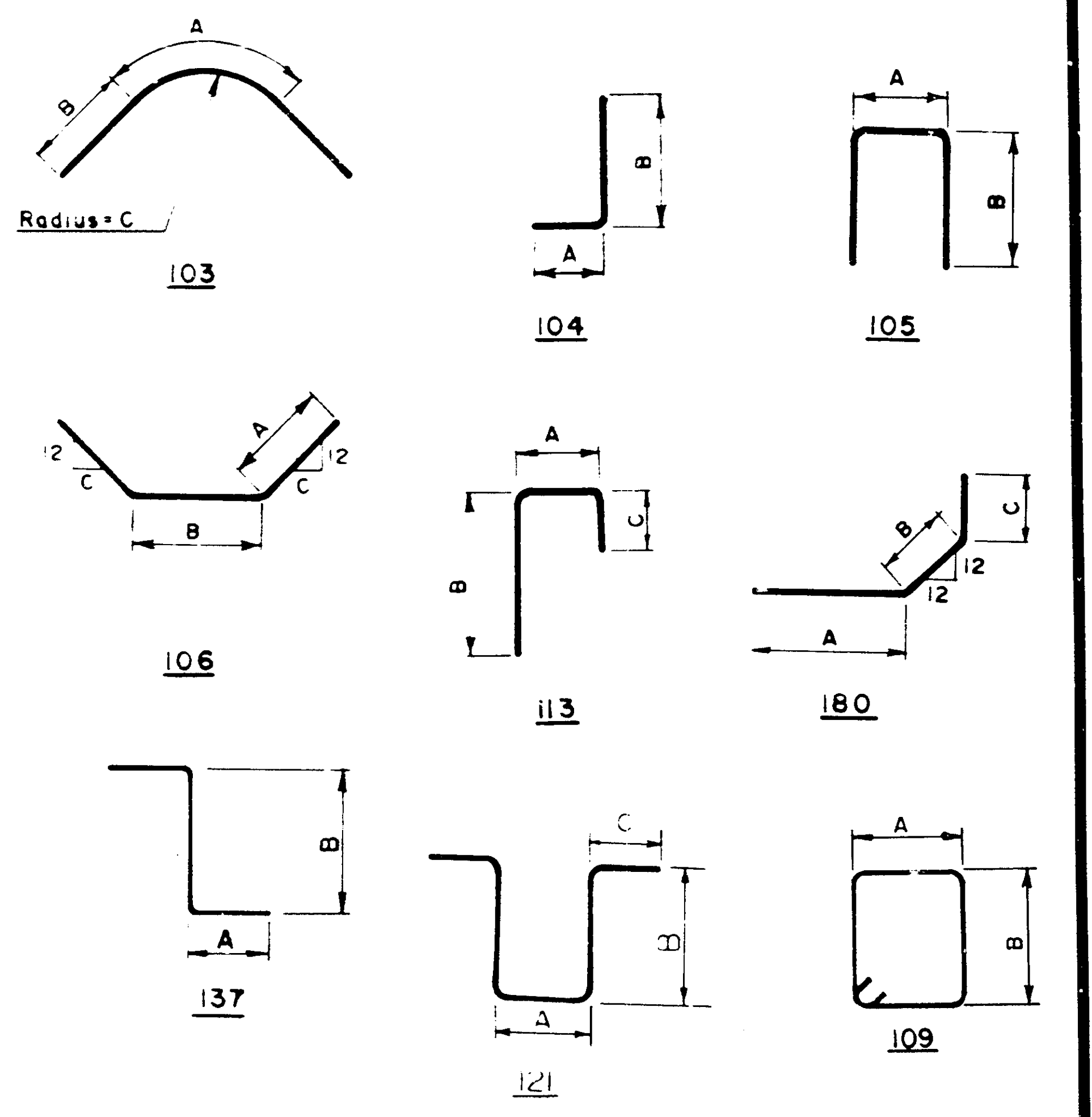
ELEVATION A-A
Scale: Hor: 1/4" = 1'-0"
Vert: 1/4" = 1'-0"

ELEVATION B-B
Scale: Hor: 1/4" = 1'-0"
Vert: 1/4" = 1'-0"

Note: Cut bars as necessary to clear utilities.
* Elevations along front face of pier wall.

Note: Original plans note existing reinforcement staggered at 2'-0" centers. TOTAL number of bars estimated and to be verified in the field. For top of wall elevations, see "Elevation Tabulations."

BILL OF REINFORCEMENT								
BAR	NO.	LENGTH	TYPE	DIMENSIONS			LOCATION	
				A	B	C		
P601E	112	6	9-0	105	1-6	3-9	Pier Wall	
P412	12	4	42-0	STR.			Pier Wall	
P403	12	4	50-2	STR.			Pier Wall	
P404	12	4	15-2	103	6-8	2-5	Pier Wall	
P405	12	4	17-6	103	9-1	2-5	Pier Wall	
P406	12	4	5-6	137	2-0	1-6	Pier Wall	
P707	82	7	11-3	180	8-7	1-0	1-8	Pier Wall
P708	78	7	7-10	STR.			Pier Wall	
P709	78	7	8-2	113	3-9	2-5	2-0	Pier Wall
P710E	78	7	8-2	106	4-2	2-0	12	Pier Wall
P711E	78	7	4-0	104	2-0	2-0		Pier Wall
P612	46	6	42-0	STR.			Pier Wall	
P613	10	6	5-6	137	2-0	1-6		Pier Wall
P414	45	4	3-5	105	1-5	1-0		Bearing Pad
P415	27	4	4-8	105	2-8	1-0		Bearing Pad
P616	12	6	2-6	STR.				Pier Wall
P417	2	4	9-3	109	1-7	2-8		Pier Wall
P618	12	6	8-6	121	1-6	2-0	1-6	Mask Wall



TITLE: ARCH PIER 1 SHEET 1 OF 2

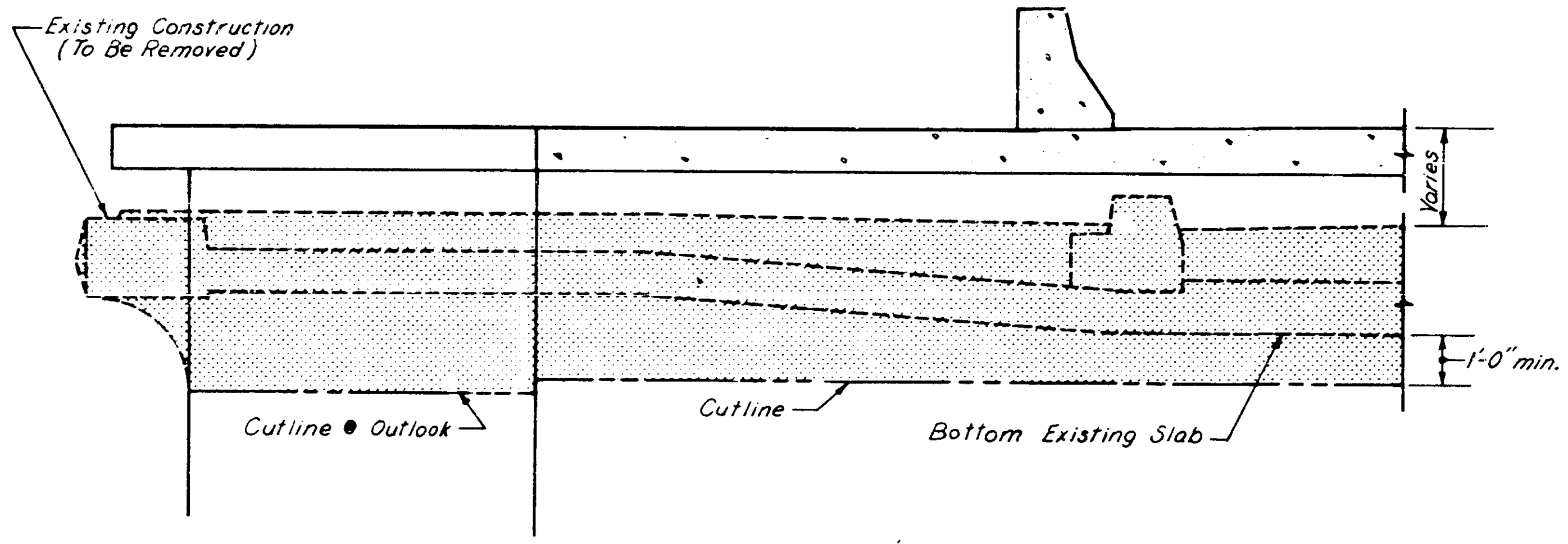
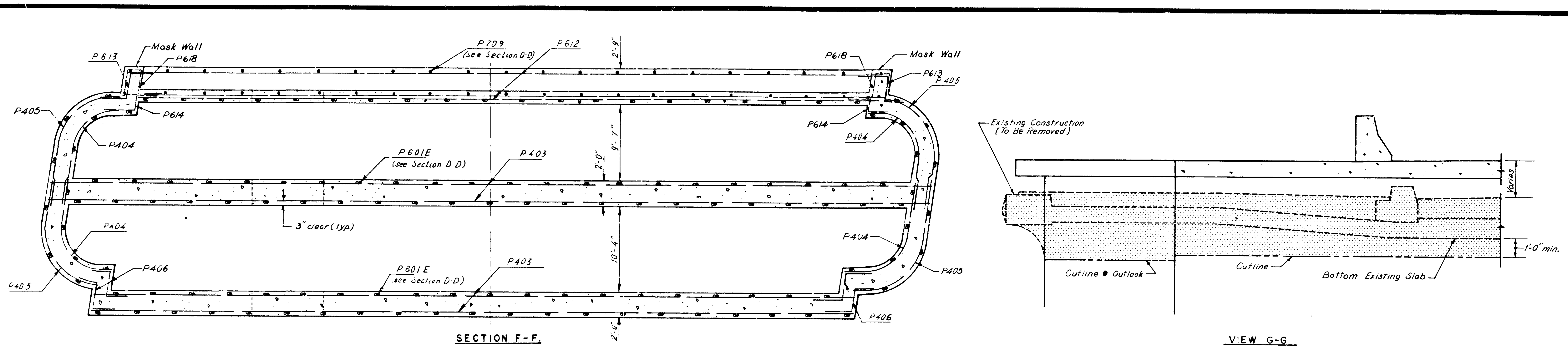
DES: GSE/DRA DR: GSE/DRA APPROVED: 5-7-79

CHK: ALL CHK: ALL

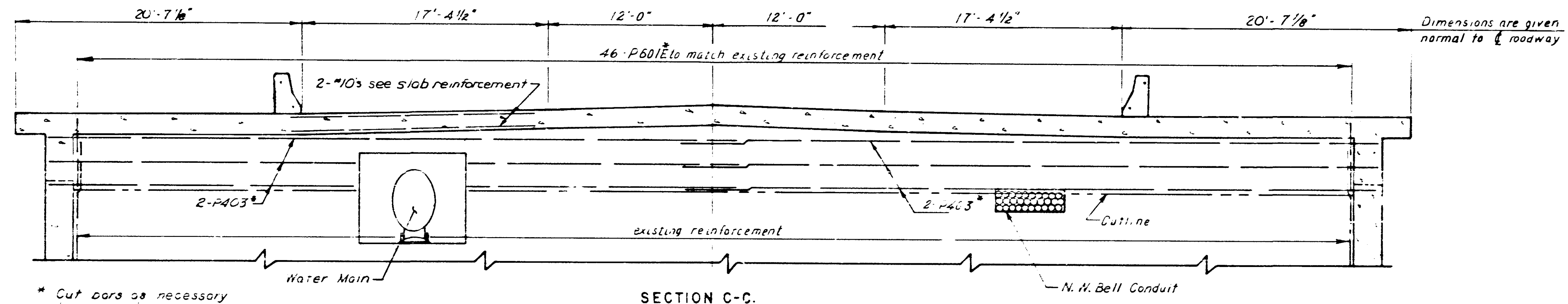
Sheet No. 26 of 148 Sheets

Bridge No. 2440

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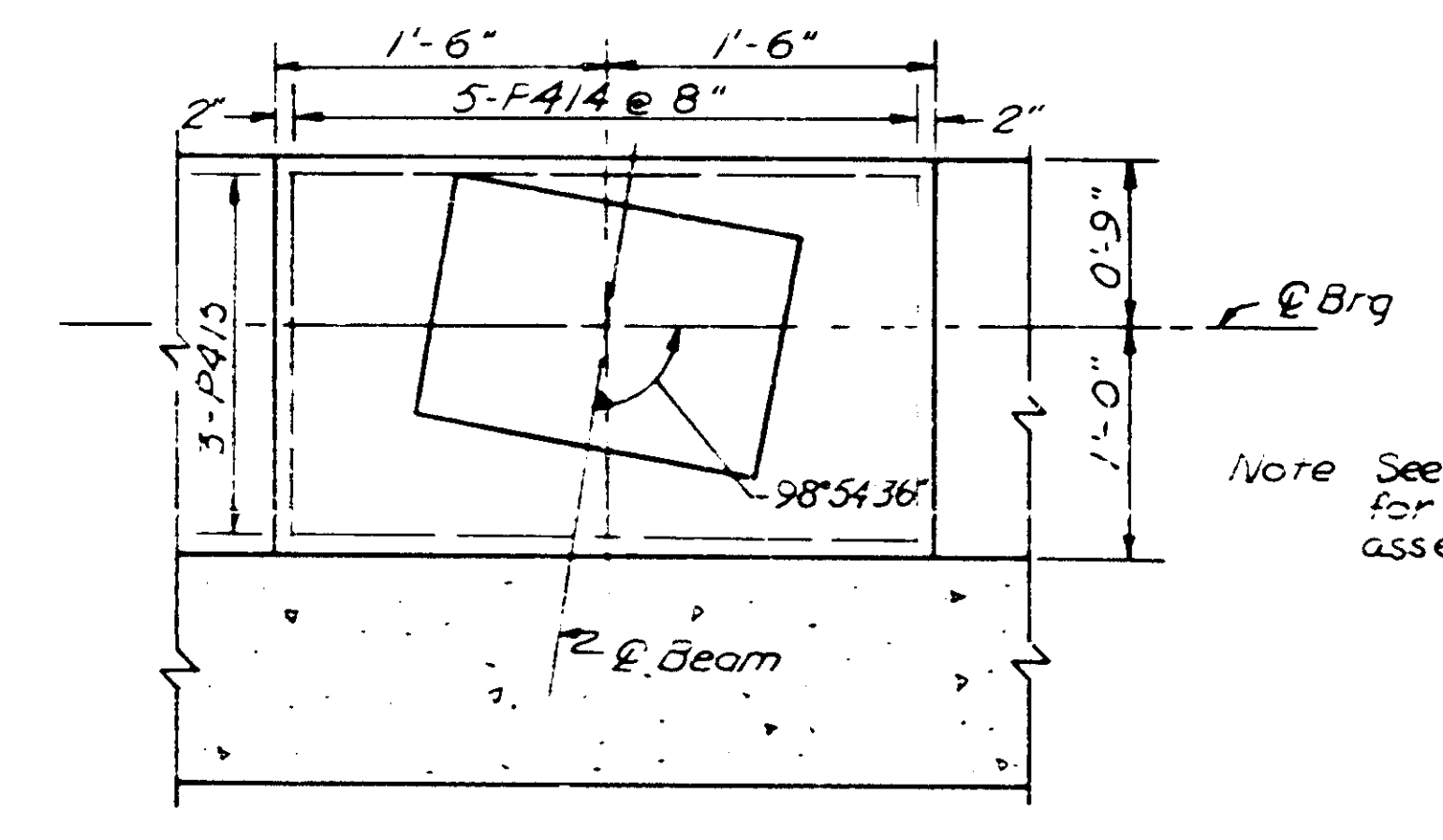


VIEW G-G
Scale 3/8" = 1'-0"
Typical for Piers 1, 6, & 8



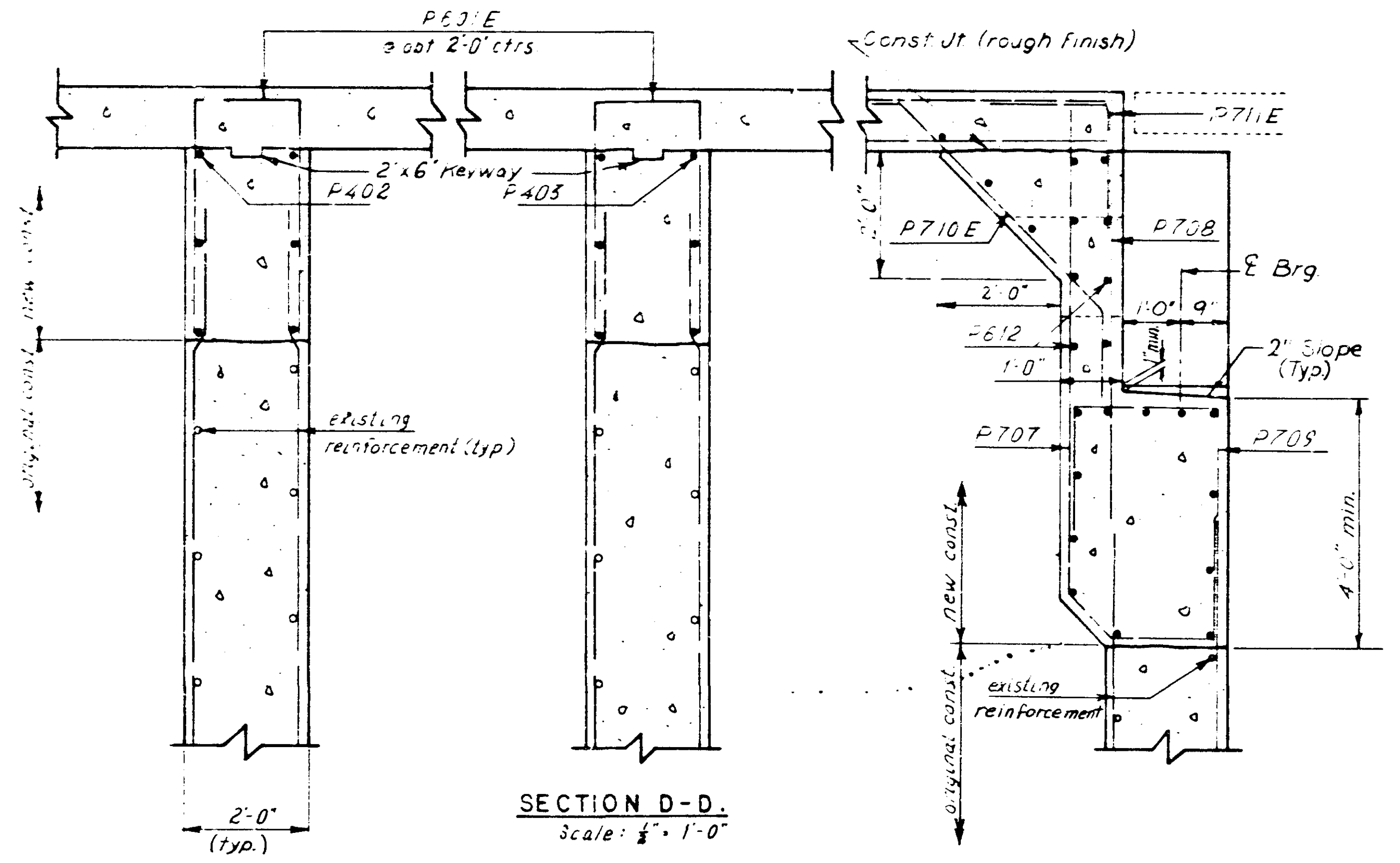
SECTION C-C
Scale: hor 1" = 1'-0"
vert 1/4" = 1'-0"

Notes: See Water Main Details - Sheet 1 of 2 for additional details.

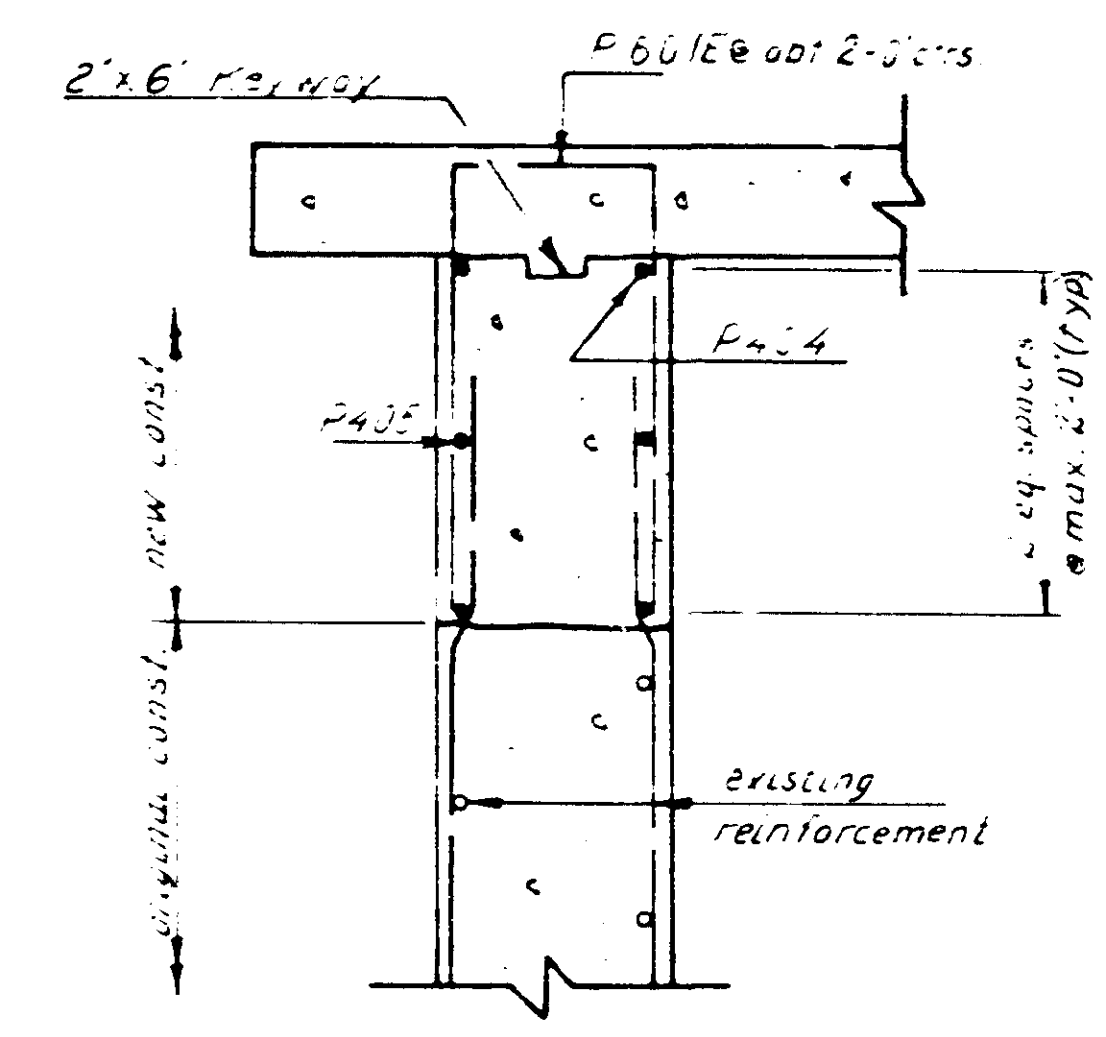


PAD DETAIL
Scale 1" = 1'-0"

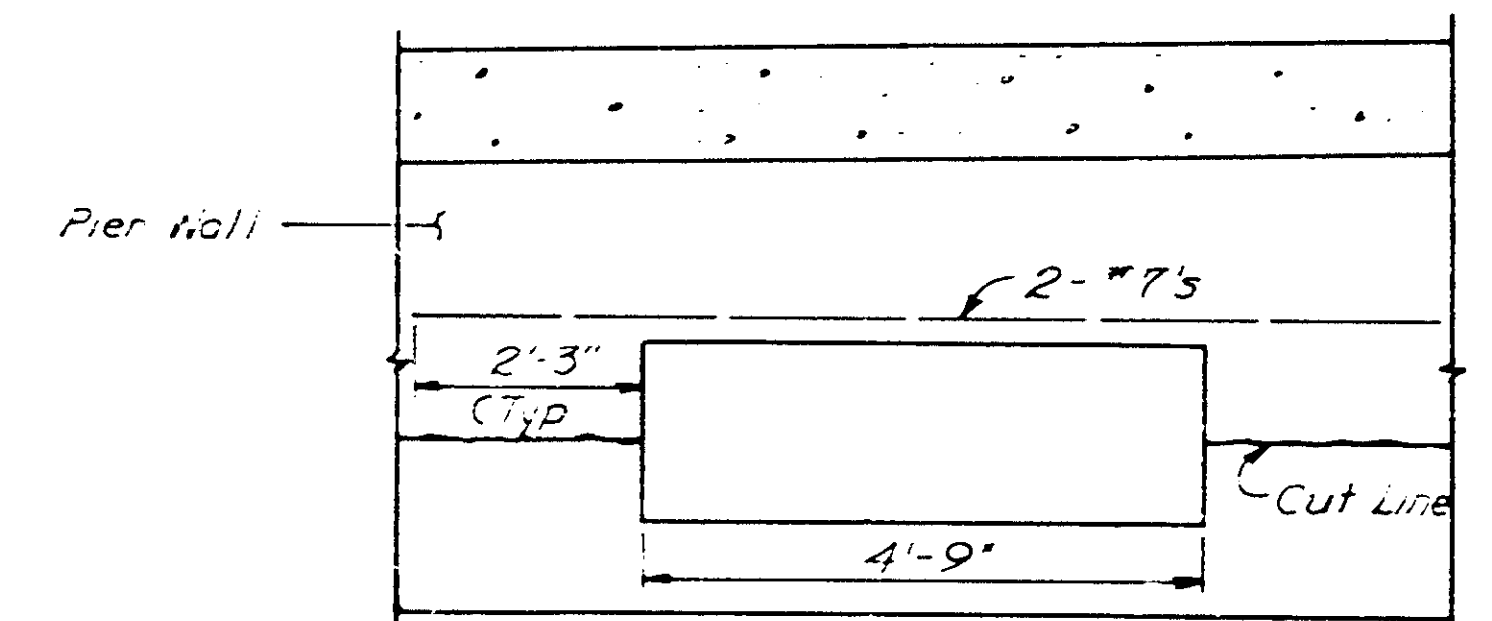
Note: See 'Miscellaneous Quantities' for additional bearing assembly information.



SECTION D-D
Scale: 1/4" = 1'-0"

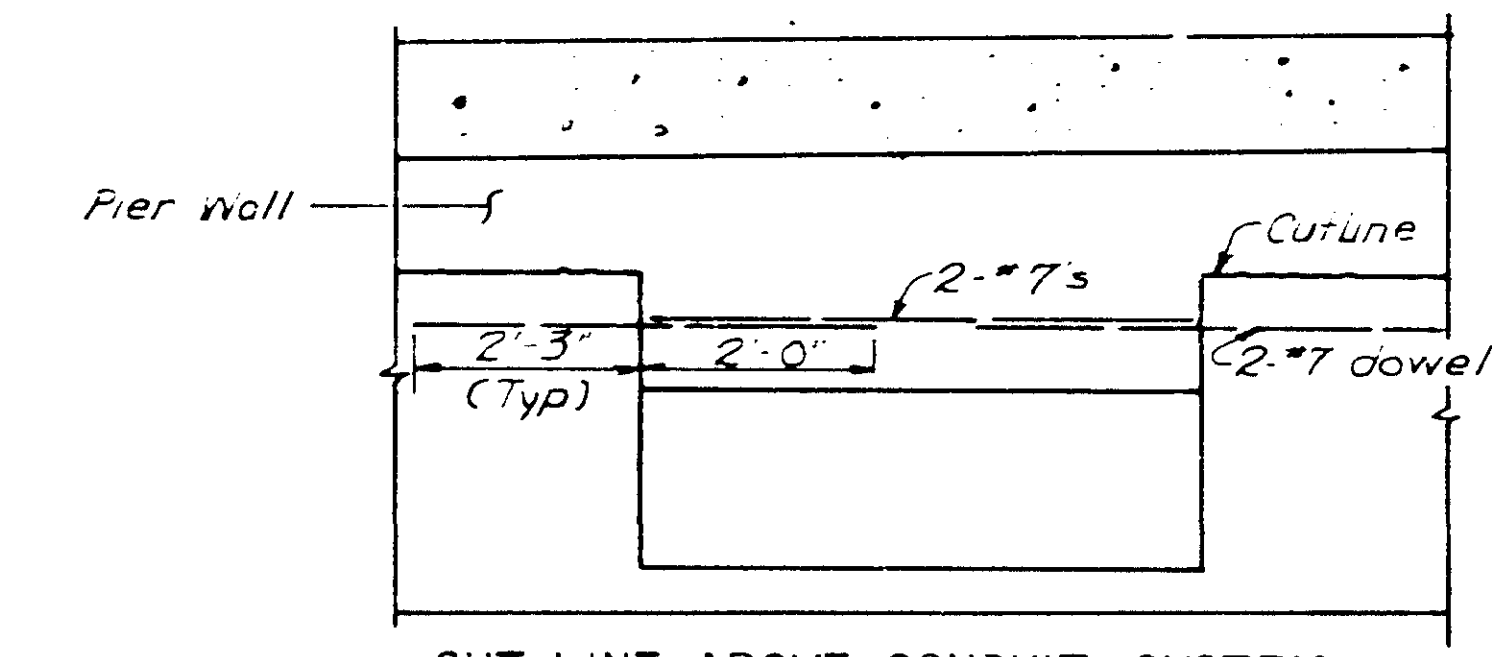


SECTION E-E
Scale: 1/4" = 1'-0"



CUT LINE BELOW CONDUIT SYSTEM

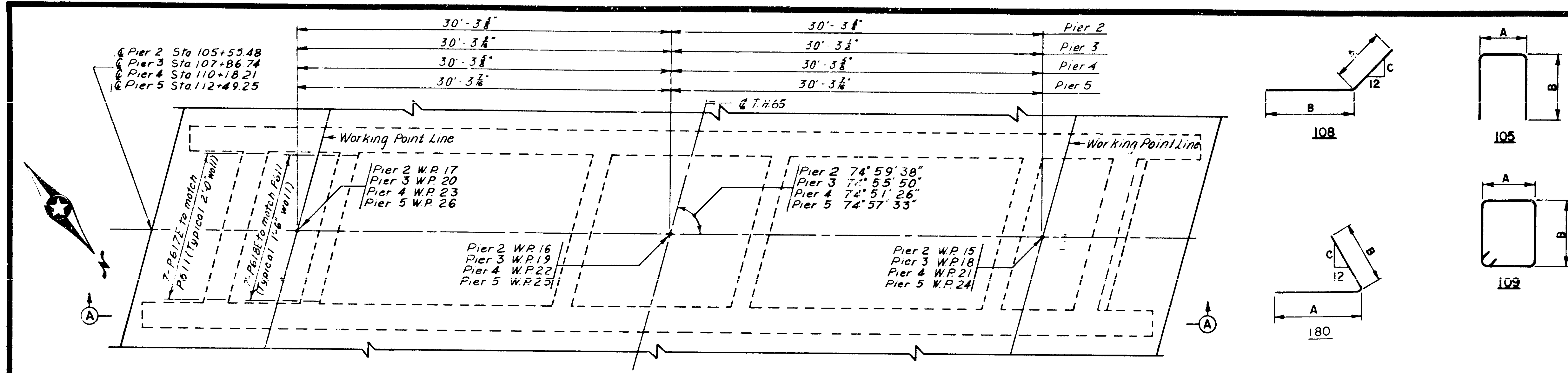
Note: Additional reinforcement in wall over conduit system to be considered incidental and included in price bid for other items.



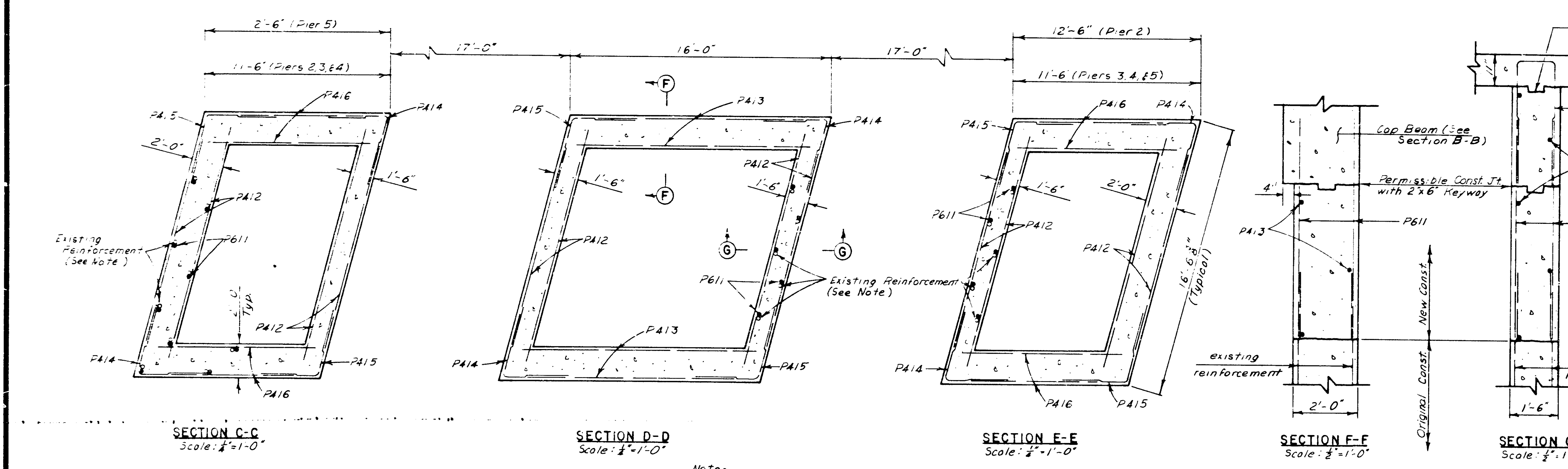
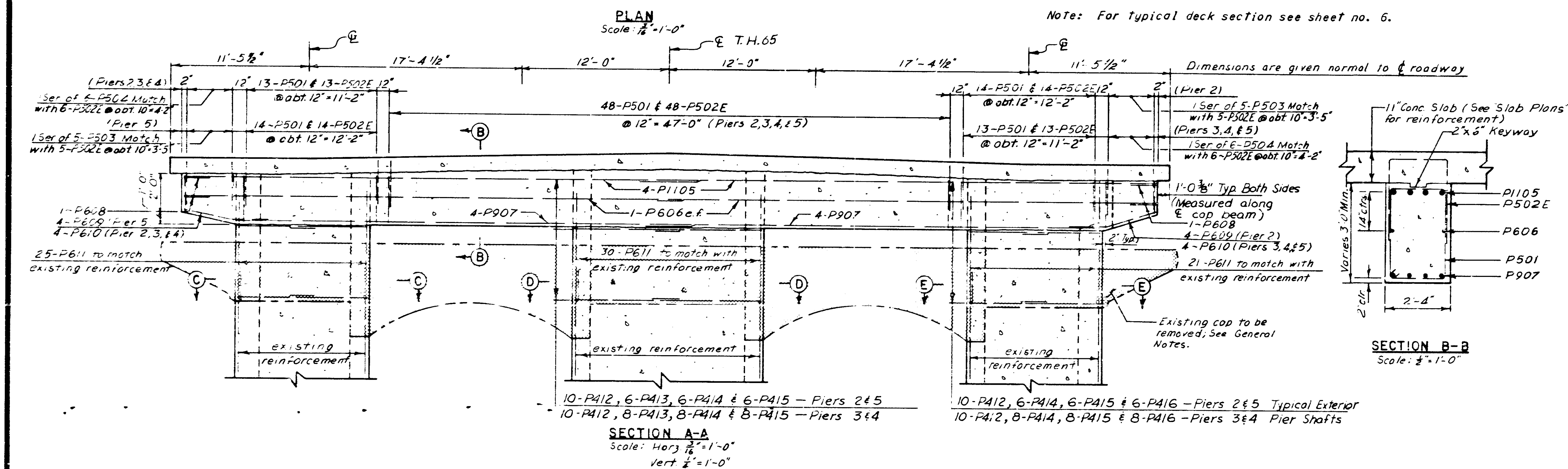
CUT LINE ABOVE CONDUIT SYSTEM

TITLE:	DES: GS&DRA	DR: GS&DRA	APPROVED:	Bridge No.
ARCH PIER 1	CHK: RLL	CHK: RLL	2-7-79	2440
SHEET 2 OF 2	Sheet No. 27 of 148 Sheets			

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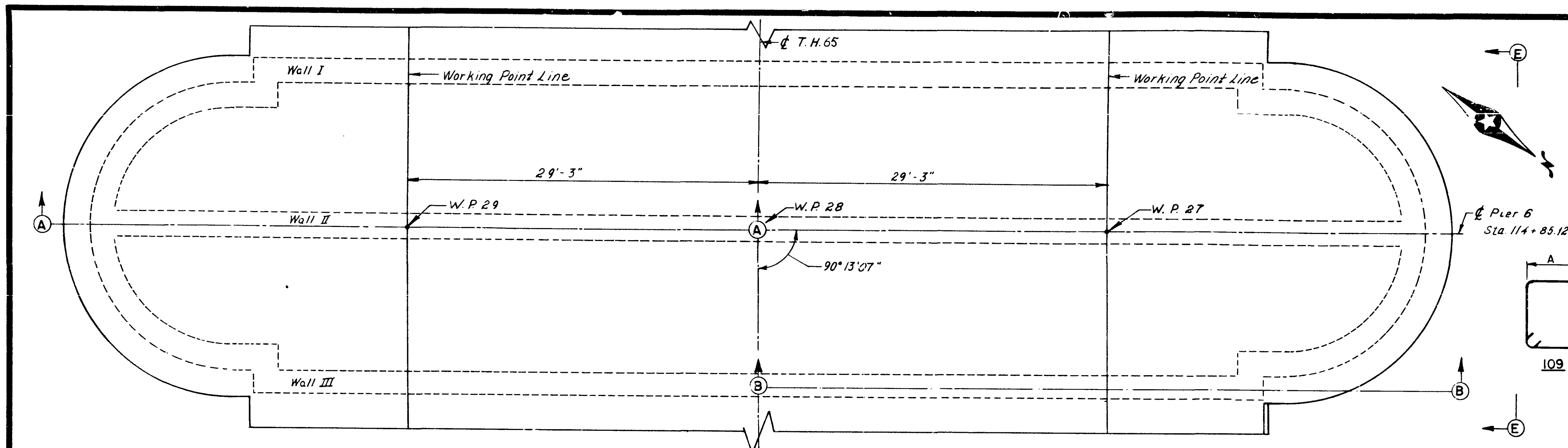
BILL OF REINFORCEMENT									
BAR	NO.	SIZE	LENGTH	TYPE	DIMENSIONS			LOCATION	
					A	B	C		
PIERS 2 AND 5 (2 REQUIRED)									
P501	150	5	10-2	109	2-0	2-8		Stirrups	
P502E	172	5	6-8	105	1-8	2-6		Cap Beam	
P503	2 Ser.	5	9-6	109	1-8	2-8		Stirrups	
	of 5		7-6			1-8			
P504	2 Ser.	5	9-6	109	1-8	2-8		Stirrups	
	of 6		7-6			1-8			
P1105	16	11	43-6	STR.				Cap Beam	
P606	8	6	42-4	STR.				Cap Beam	
P907	16	9	39-0	STR.				Cap Beam	
P608	8	6	5-8	105	1-8	2-0		Cap Beam	
P609	8	6	5-6	108	3-6	2-0	3	Cap Beam	
P610	8	6	6-6	108	4-6	2-0	2 1/2	Cap Beam	
P611	80	6	6-9	STR.				Column	
P412	30	4	14-6	STR.				Column	
P413	6	4	14-9	STR.				Column	
P414	18	4	6-0	180	3-0	3-0	45	Column	
P415	18	4	6-0	108	3-0	3-0	45	Column	
P416	12	4	10-9	STR.				Column	
P617E	14	6	9-2	105	1-8	3-9		Column	
P618E	28	6	8-8	105	1-2	3-9		Column	
PIERS 3 AND 4 (2 REQUIRED)									
P501	148	5	10-2	109	2-0	2-8		Stirrups	
P502E	172	5	6-8	105	1-8	2-6		Cap Beam	
P504	4 Ser.	5	9-6	109	1-8	2-8		Stirrups	
	of 6		7-6			1-8			
P1105	16	11	43-6	STR.				Cap Beam	
P606	8	6	42-0	STR.				Cap Beam	
P907	16	9	39-0	STR.				Cap Beam	
P608	8	6	5-8	105	1-8	2-0		Cap Beam	
P610	16	6	6-6	108	4-6	2-9	2 1/2	Cap Beam	
P611	80	6	6-9	STR.				Column	
P412	30	4	14-6	STR.				Column	
P413	8	4	14-9	STR.				Column	
P414	24	4	6-0	180	3-0	3-0	45	Column	
P415	24	4	6-0	108	3-0	3-0	45	Column	
P416	16	4	10-9	STR.				Column	
P617E	14	6	9-2	105	1-8	3-9		Column	
P618E	28	6	8-8	105	1-2	3-9		Column	



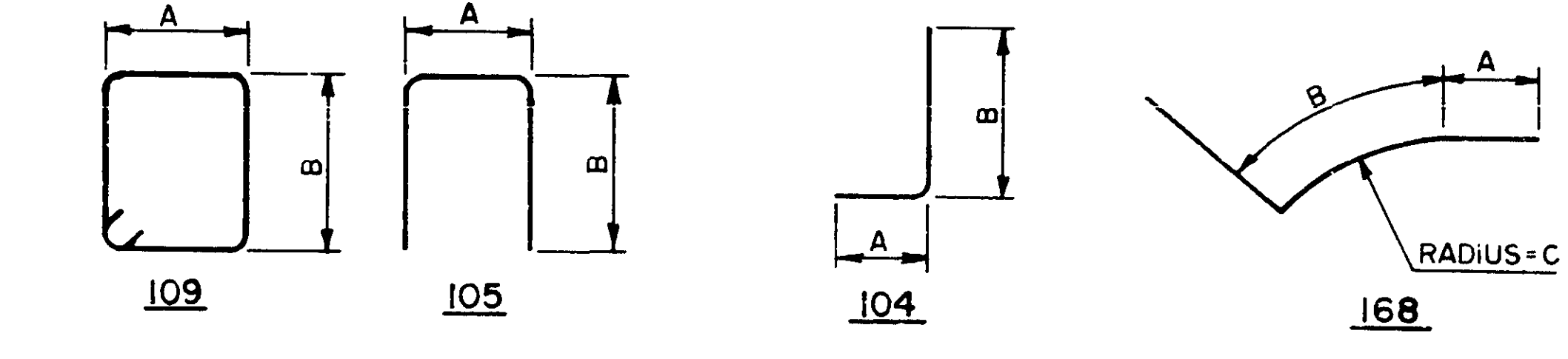
Note: Original plans note existing reinforcement staggered at 2'-0" centers. Total number of bars estimated and to be verified in the field. For top of wall elevations, see "Elevation Tabulations."

TITLE: ARCH PIERS 2,3,4 & 5	DES: DRA	DR: DRA	APPROVED: 5-7-9	Bridge No. 2440
	CHK: RLL	CHK: RLL		Sheet No. 28 of 148 Sheets

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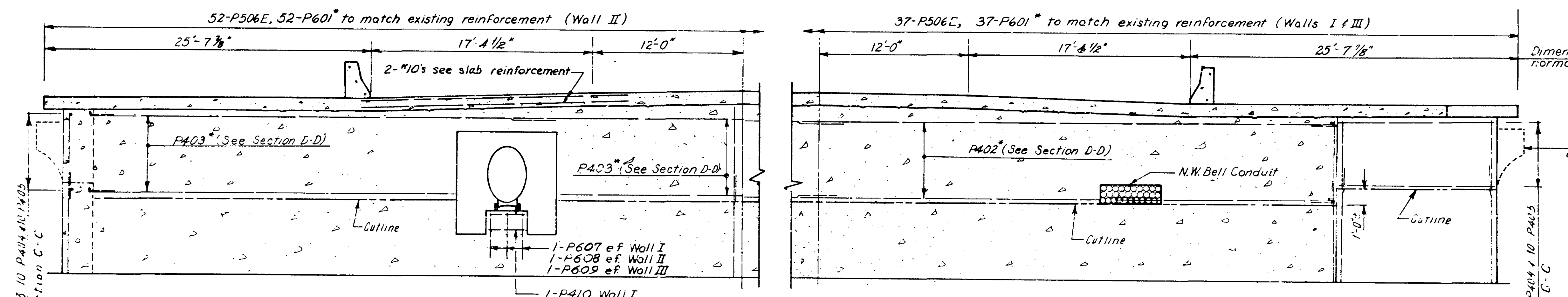


BAR NO.	NO.	SIZE	LENGTH	TYPE	DIMENSIONS			LOCATION
					A	B	C	
P601	169	6	5-1	Str.				Pier Wall
P402	20	4	41-6	Str.				Pier Wall
P403	15	4	36-6	Str.				Pier Wall
P404	20	4	21-3	168	2-0	19-3	11-0	Pier Wall
P405	20	4	4-0	104	2-0	2-0		Pier Wall
P506E	169	5	6-10	105	1-6	2-8		Pier Wall
P607	6	6	3-6	Str.				Pier Wall
P608	6	6	3-0	Str.				Pier Wall
P609	6	6	4-0	Str.				Pier Wall
P410	6	4	9-3	109	1-7	2-8		Pier Wall



PLAN
Scale: 3/16" = 1'-0"

Note: For typical deck section see sheet no. 6.

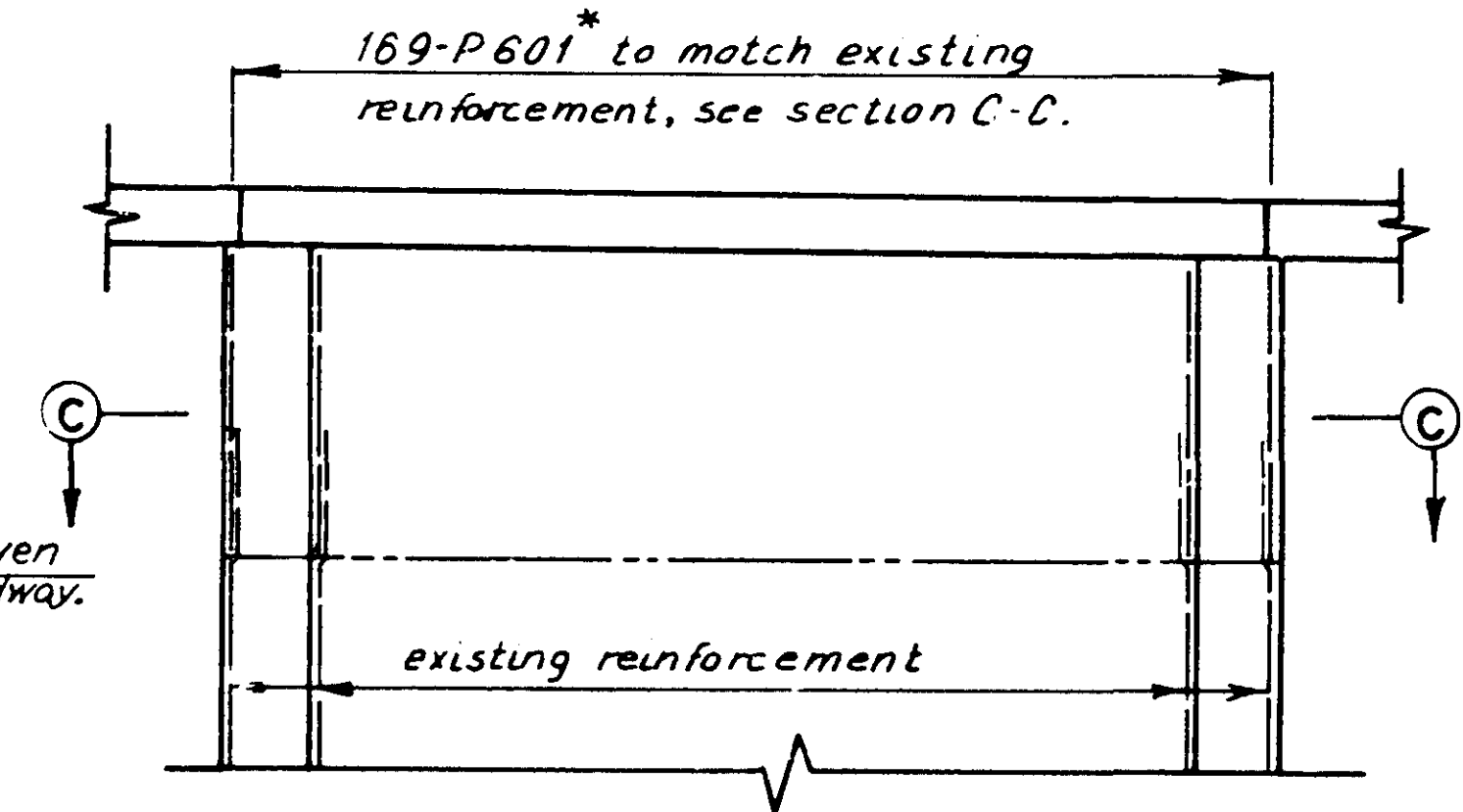


SECTION A-A
Scale: Hor: 3/16" = 1'-0"
Vert: 1/4" = 1'-0"

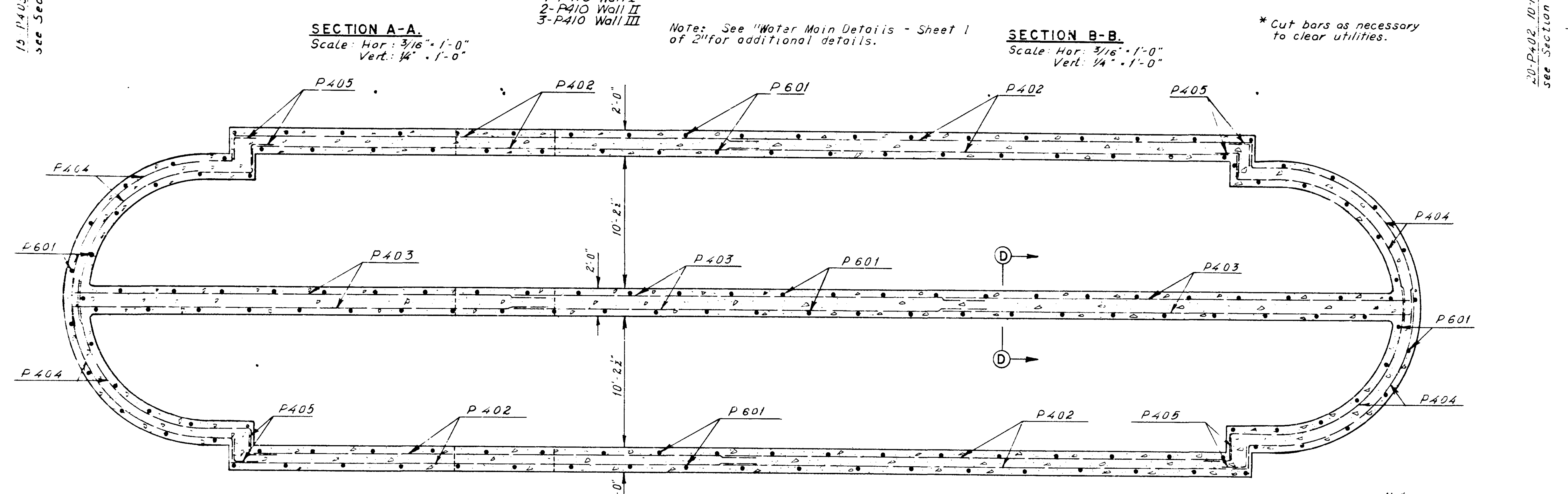
Note: See "Water Main Details - Sheet 1 of 2" for additional details.

SECTION B-B
Scale: Hor: 3/16" = 1'-0"
Vert: 1/4" = 1'-0"

* Cut bars as necessary to clear utilities.

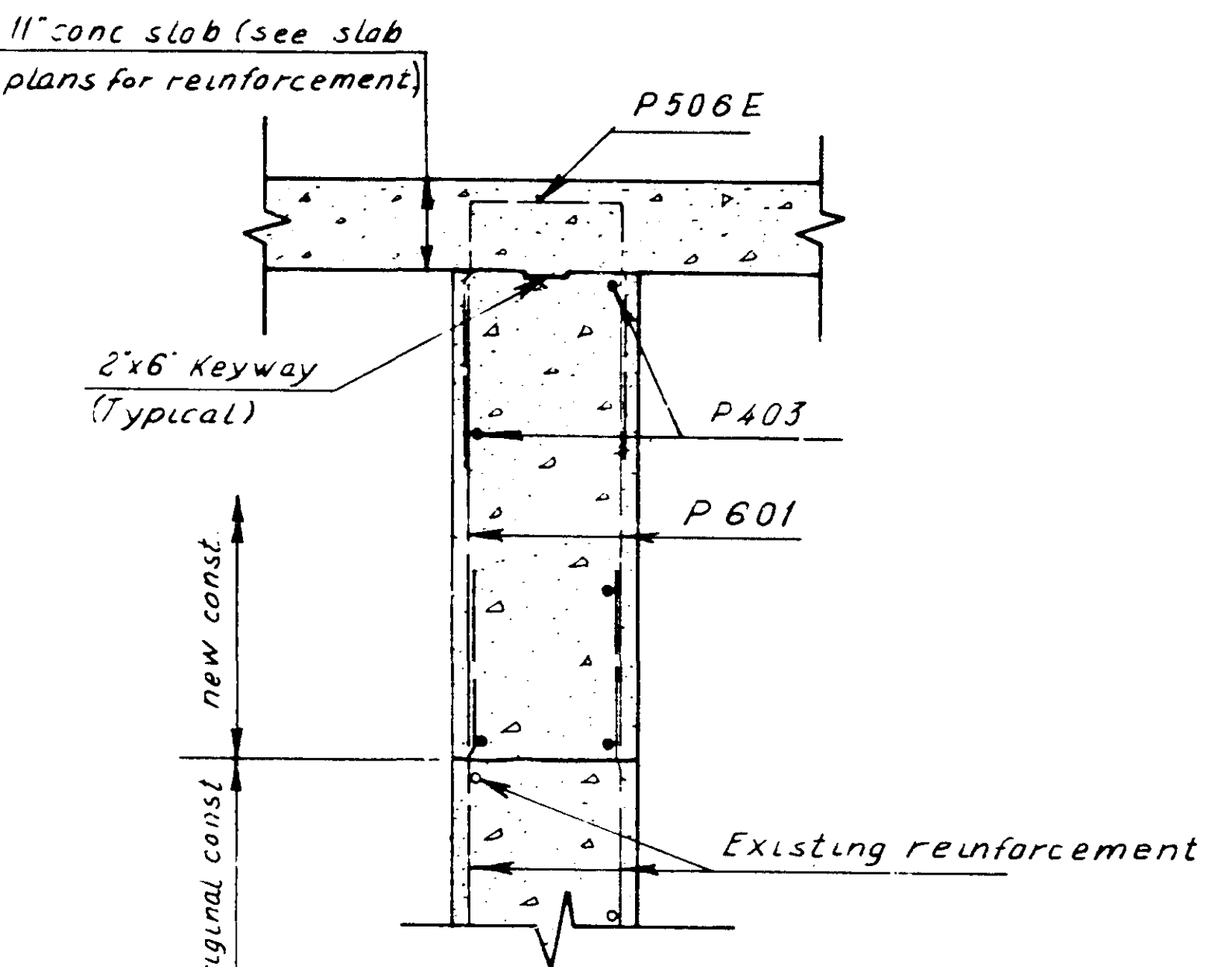


VIEW E-E
Scale: Hor: 3/16" = 1'-0"
Vert: 1/4" = 1'-0"



SECTION C-C
Scale: 3/16" = 1'-0"

Note: Original plans note existing reinforcement staggered at 21-0" centers. Total number of bars estimated and to be verified in the field. For Top of wall elevations, see "Elevation Tabulations."

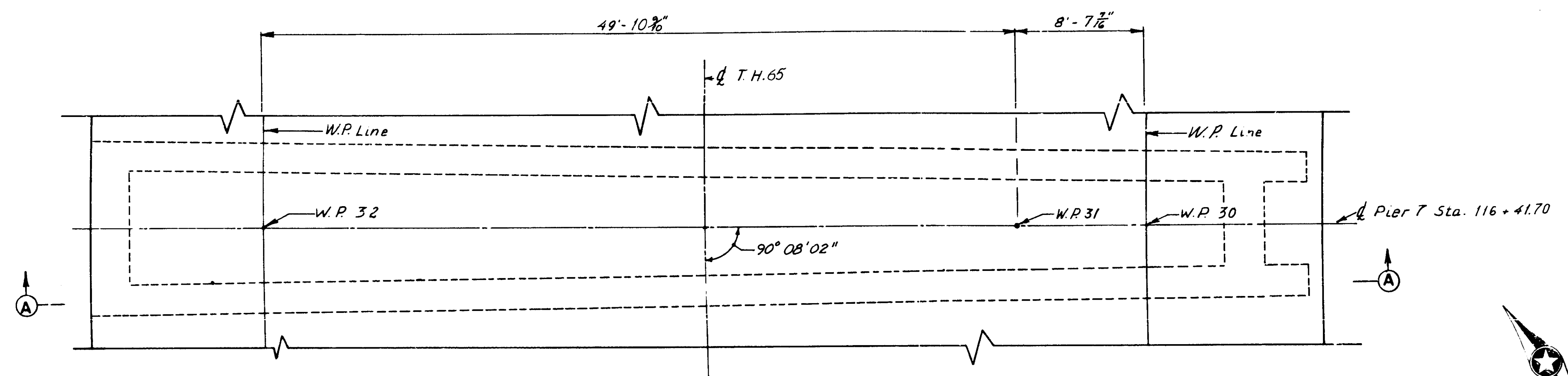


SECTION D-D
typ all walls
Scale: 1/4" = 1'-0"

Note: For additional reinforcement in walls over conduit system opening see "Arch Pier 1 Sheet 2 of 2"

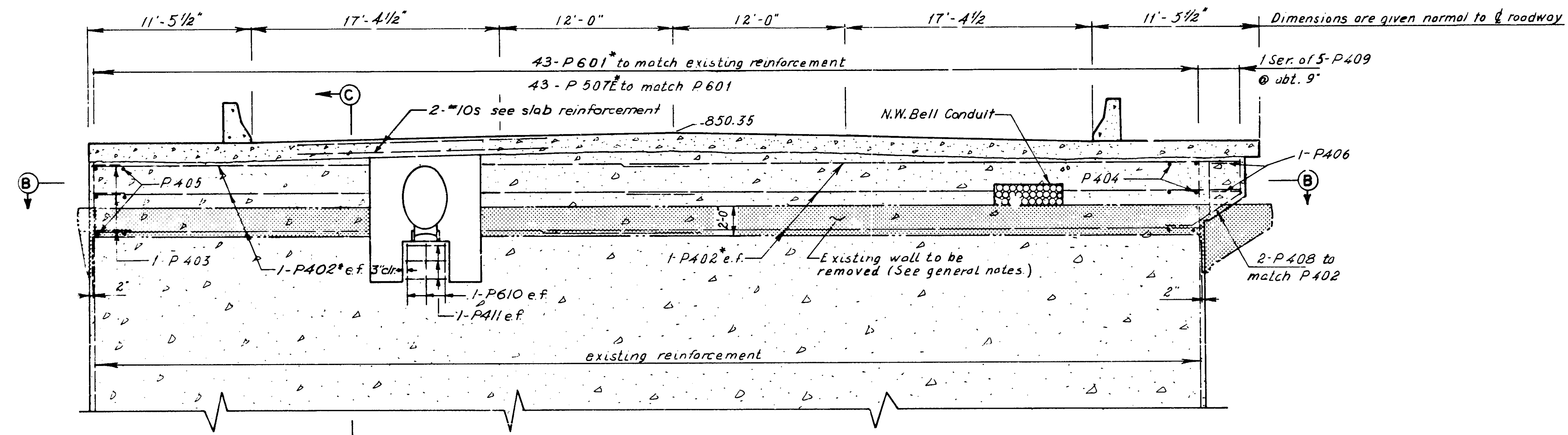
TITLE:	DES: GS	DR: GS	APPROVED:	Bridge No.
ARCH PIER 6	CHK: ALL	CHK: ALL	5-7-79	2440
	Sheet No. 29 of 148 Sheets			

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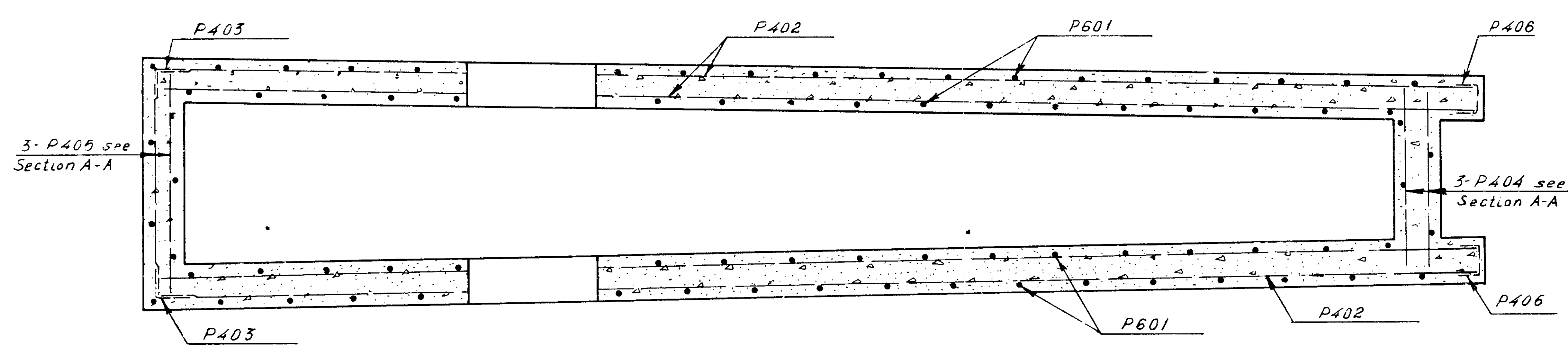
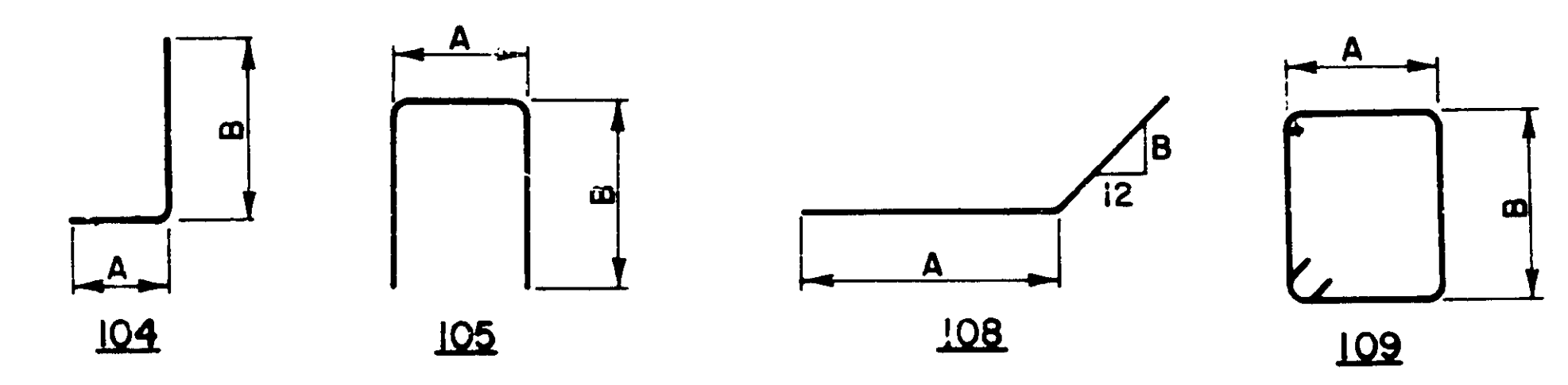


PLAN
Scale: 3/16" = 1'-0"
Note: For typical deck section see sheet no. 6.

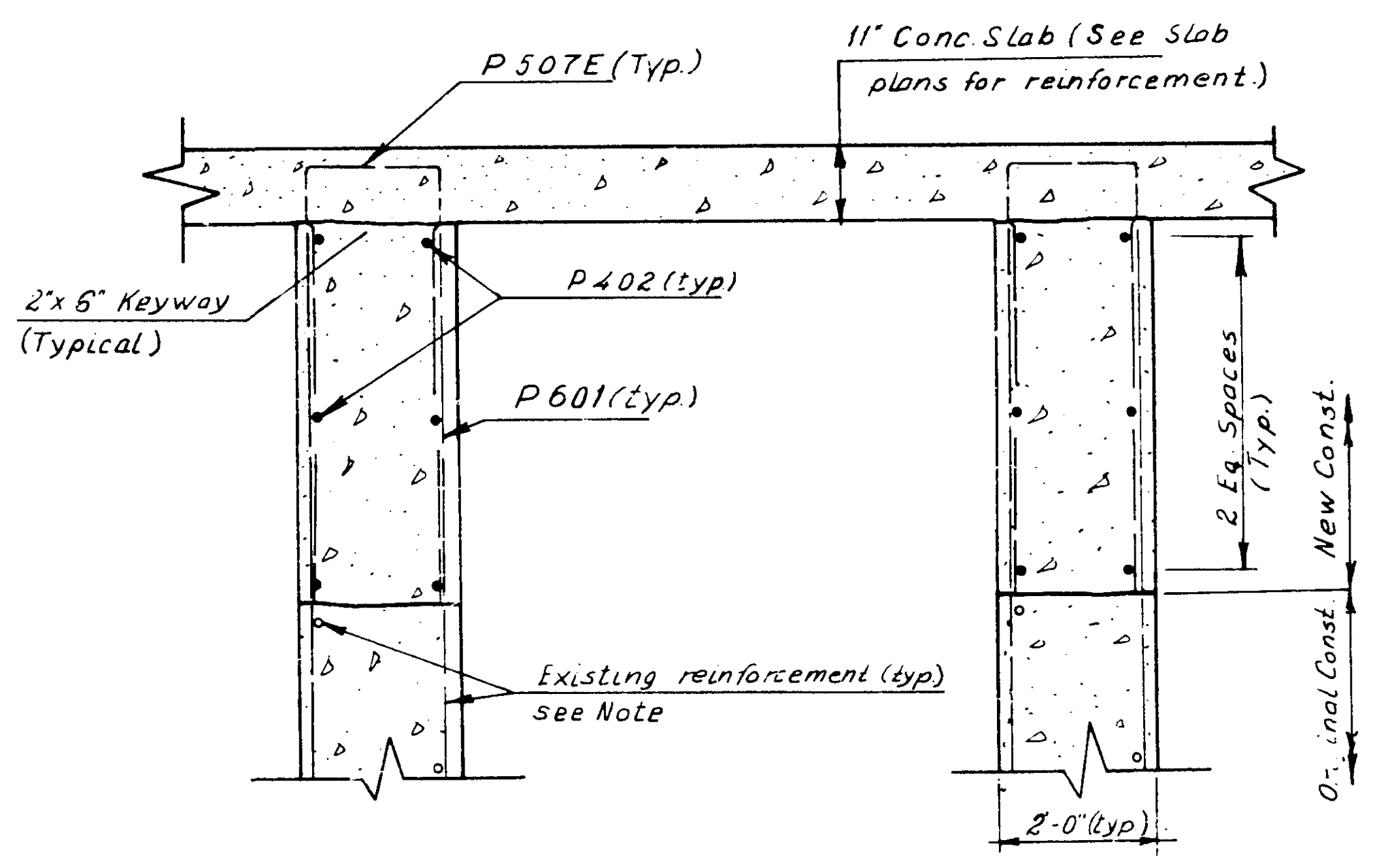
BILL OF REINFORCEMENT									
BAR	NO.	SIZE	LENGTH	TYPE	DIMENSIONS			LOCATION	
					A	B	C		
P601	87	6	4-6	Str.				Pier Wall	
P402	24	4	41-6	Str.				Pier Wall	
P403	6	4	6-0	104	3-0	3-0		Pier Wall	
P404	6	4	5-3	Str.				Pier Wall	
P405	6	4	7-2	Str.				Pier Wall	
P406	2	4	10-10	105	1-8	1-0		Pier Wall	
P507E	87	5	6-10	105	1-6	2-8		Pier Wall	
P408	2	4	4-2	108				Pier Wall	
P409	1 Ser.	4	7-6	109	1-8	1-8		Stirrups	
	of 5		9-6			2-8			
P610	12	6	4-6	Str.				Pier Wall	
P411	6	4	8-3	109	1-1	2-8		Pier Wall	



SECTION A-A
Scale: Hor: 3/16" = 1'-0"
Vert: 1/4" = 1'-0"
Note: All Pier Walls Identical.
Note: For additional reinforcement in walls over conduit system opening see "Arch Pier 1 Sheet 2 of 2".



SECTION B-B
No Scale.



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

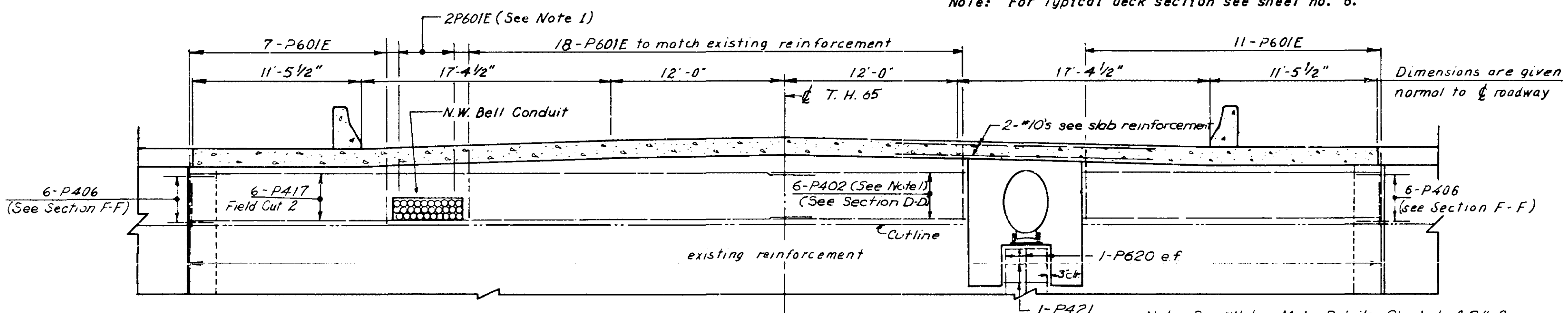
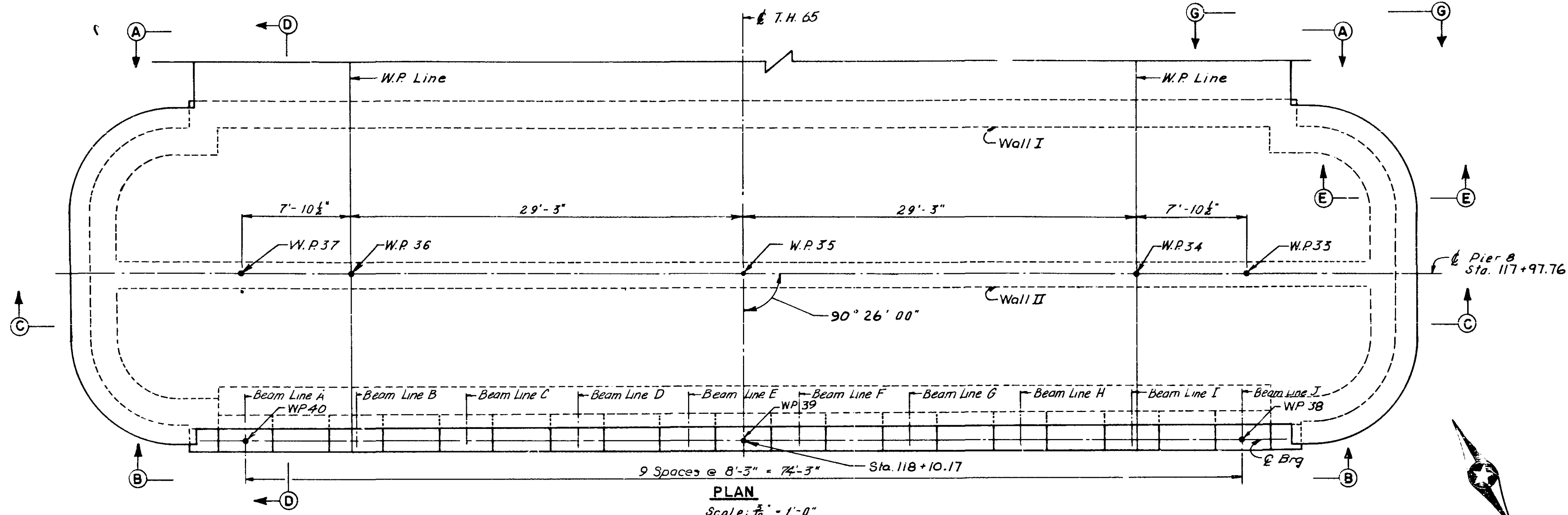
- Notes:
- Original plans note existing reinforcement staggered at 2'-0" ctrs. Total number of P601 bars estimated and to be verified in field.
 - For Cap Beam Elevations, see "Elevation Tabulations"
 - See Water Main detail sheets for additional dimensioning of opening.

TITLE:	DES: GS	DR: GS	APPROVED:	Bridge No.
ARCH PIER 7	CHK: DRA	CHK: DRA	5-7-79	2440
	Sheet No. 30 of 148 Sheets			

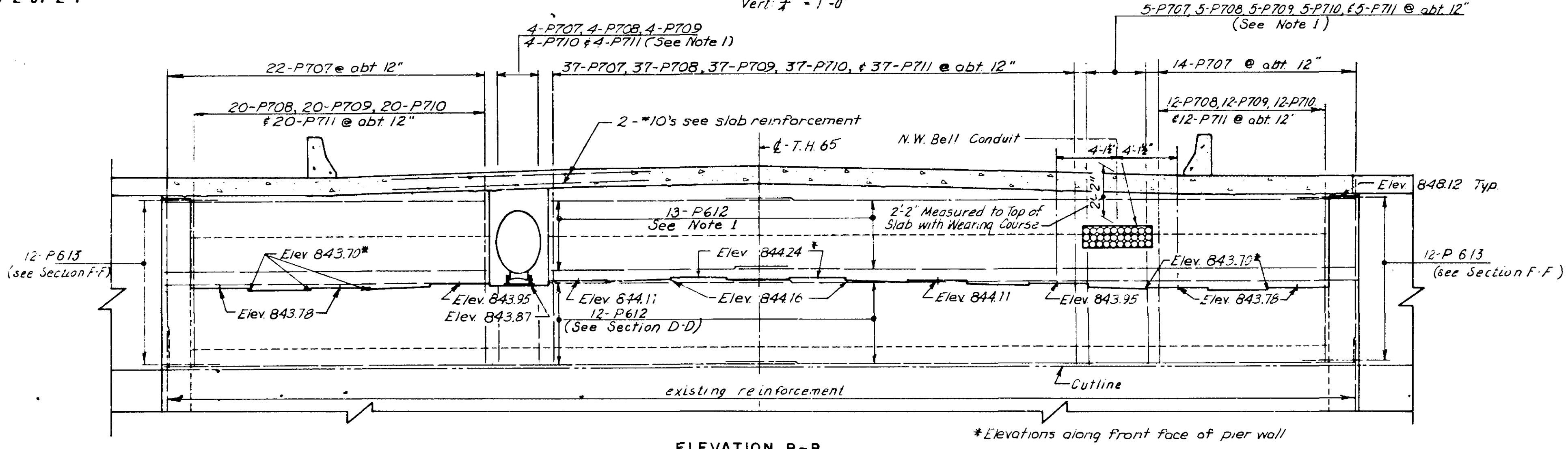
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 DRAWN BY: [Signature]
 CHECKED BY: [Signature]

BILL OF REINFORCEMENT

BAR	NO.	SIZE	LENGTH	TYPE	DIMENSIONS			LOCATION
					A	B	C	
P601E	116	6	11-0	105	1-6	4-9		Pier Wall
P402	12	4	44-6	Str.				Pier Wall
P403	12	4	49-6	Str.				Pier Wall
P404	12	4	16-2	103	6-11	6-3	4-5	Pier Wall
P405	12	4	17-6	103	9-3	6-3	5-11	Pier Wall
P406	12	4	6-0	137	2-0	2-0		Pier Wall
P707	82	7	10-3	180	8-0	0-9	1-6	Pier Wall
P708	78	7	9-6	Str.				Pier Wall
P709	78	7	8-0	113	2-3	3-9	2-0	Pier Wall
P710E	78	7	7-10	106	3-10	2-0	12	Pier Wall
P711E	78	7	4-0	104	2-0	2-0		Pier Wall
P612	50	6	42-0	Str.				Pier Wall
P613	12	6	6-0	137	2-0	2-0		Pier Wall
P614	12	6	5-6	137	2-0	1-6		Pier Wall
P615	12	6	8-6	121	1-6	2-0	1-6	Pier Wall
P417	50	4	3-3	105	1-3	1-0		Bearing Pad
P418	30	4	5-8	105	3-8	1-0		Bearing Pad
P719	8	7	8-6	Str.				Pier Wall
P620	6	6	4-0	Str.				Wall I
P421	5	4	9-3	109	1-7	2-8		Wall I & Wall II
P622	6	6	2-9	Str.				Wall II

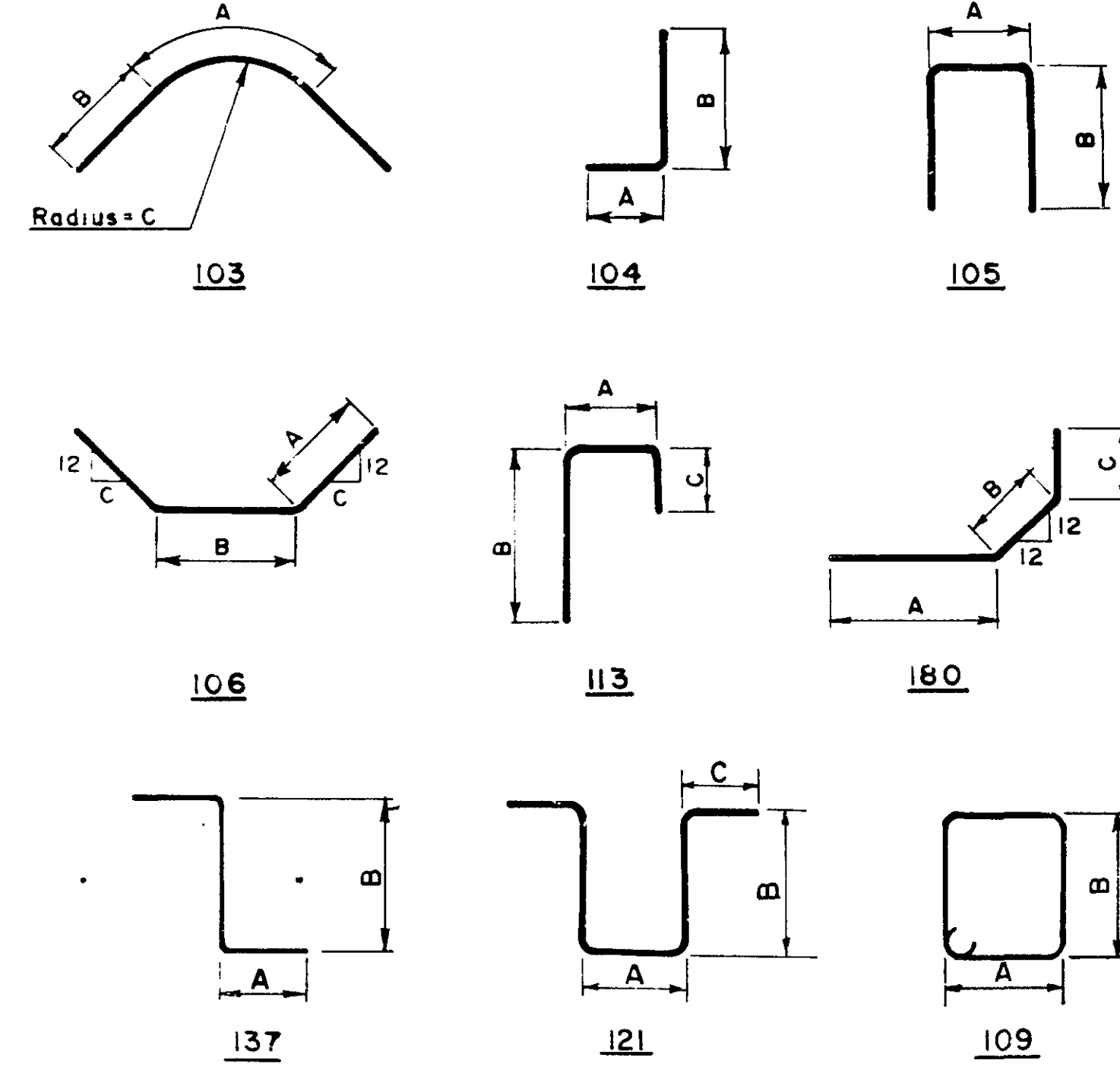


Note: For additional reinforcement in walls over conduit system opening see "Arch Pier 1 Sheet 2 of 2".



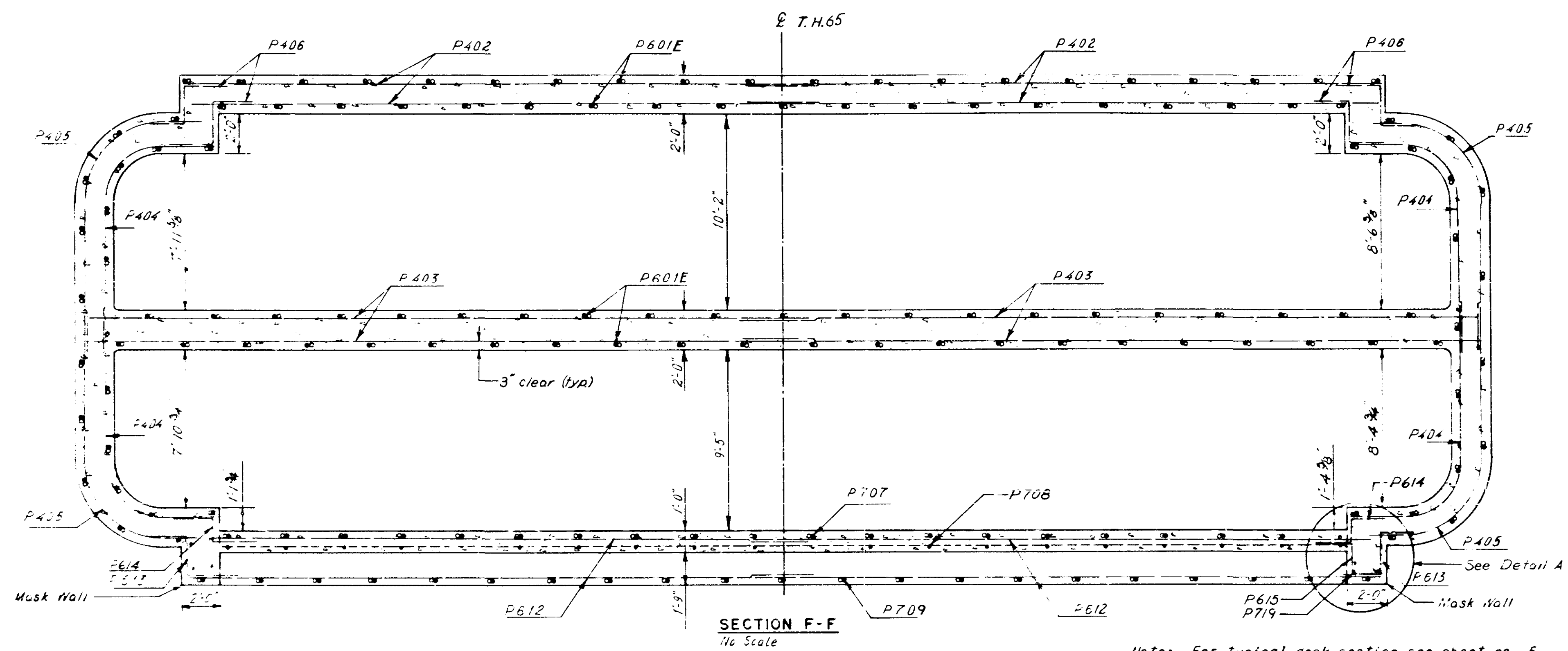
Note 1: Cut Bars as necessary to clear utilities.

Note: Original plans note existing reinforcement staggered at 2'-0" centers. Total number of bars estimated and to be verified in the field. For top of wall elevations, see "Elevation Tabulations."



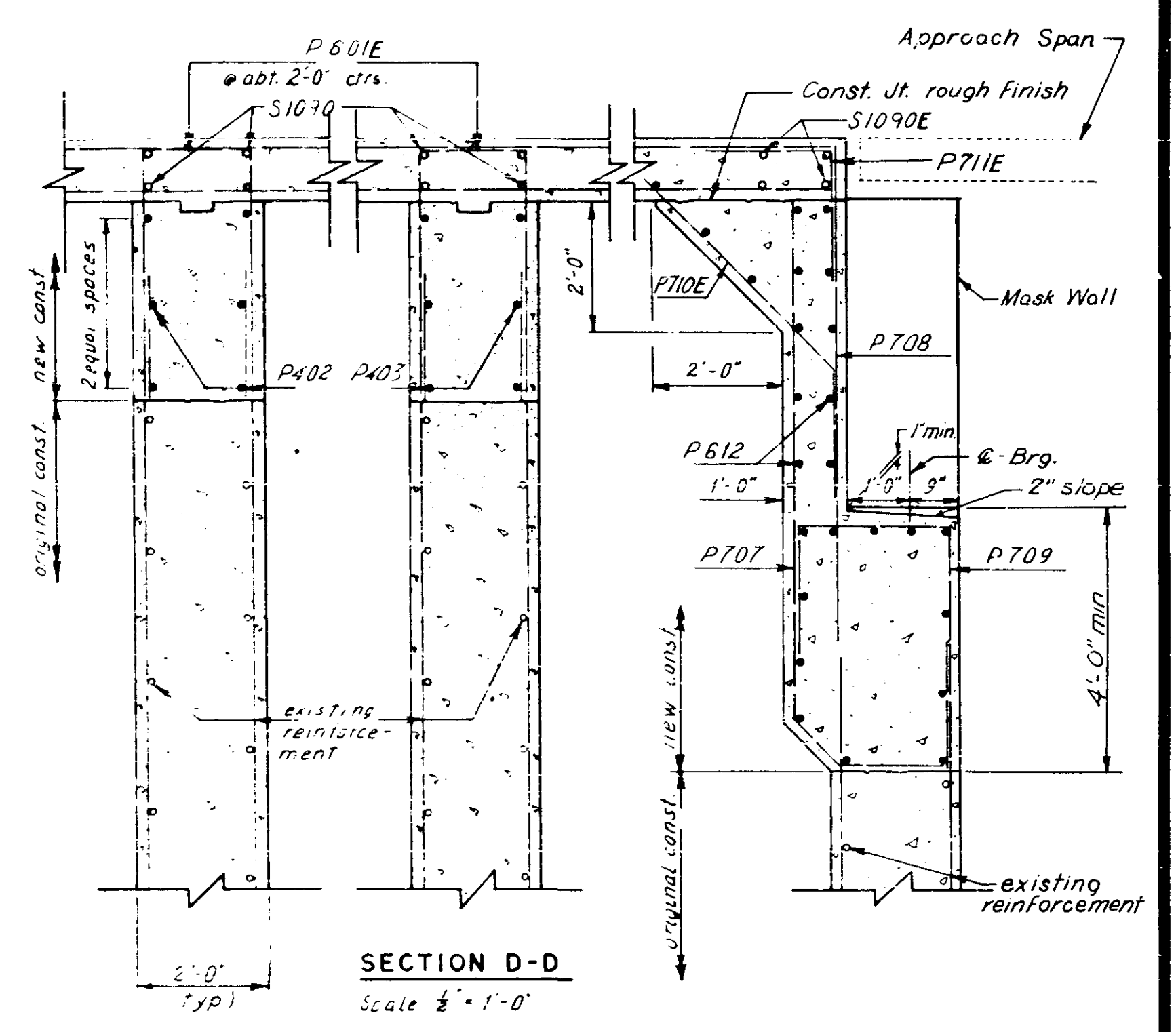
TITLE:	ARCH PIER 8 SHEET 1 OF 2	DES: GS CHK: RLL	DR: GS CHK: RLL	APPROVED: 5-7-79	Bridge No. 2440
Sheet No. 31 of 148 Sheets					

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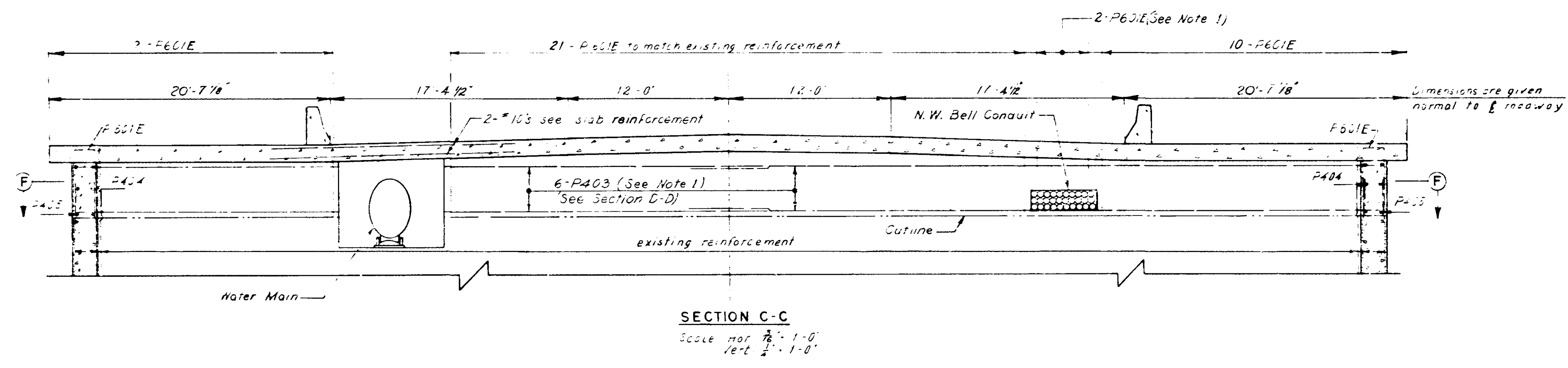


SECTION F-F
No Scale

Note: For typical deck section see sheet no. 6.



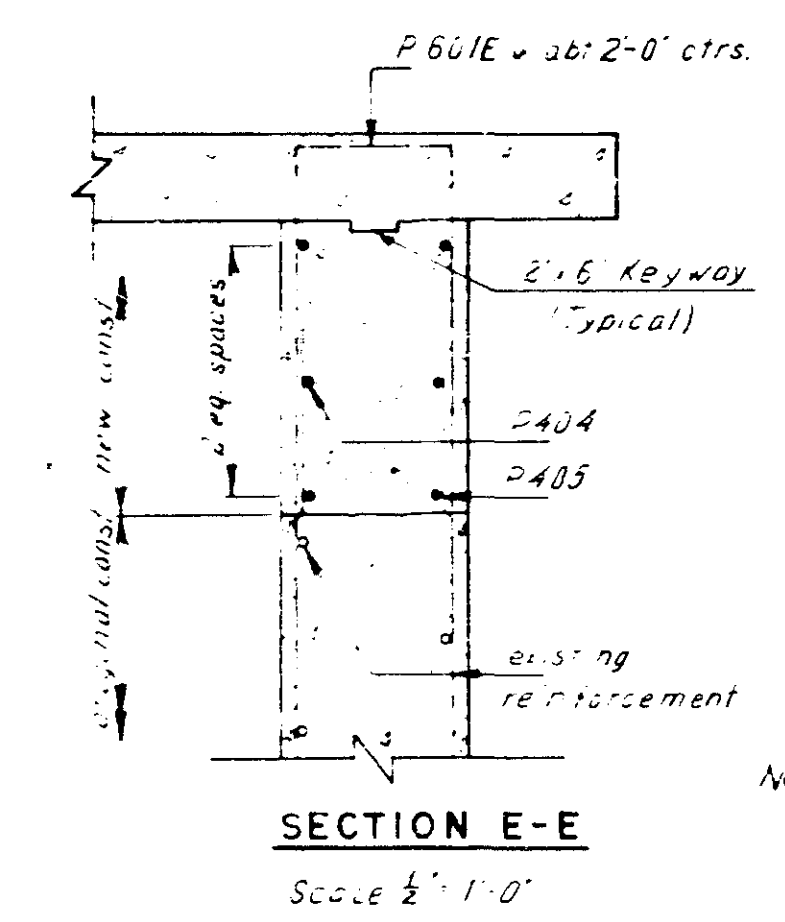
SECTION D-D
Scale 1/2" = 1'-0"



SECTION C-C
Scale for 7/8" = 1'-0"
rest 1/2" = 1'-0"

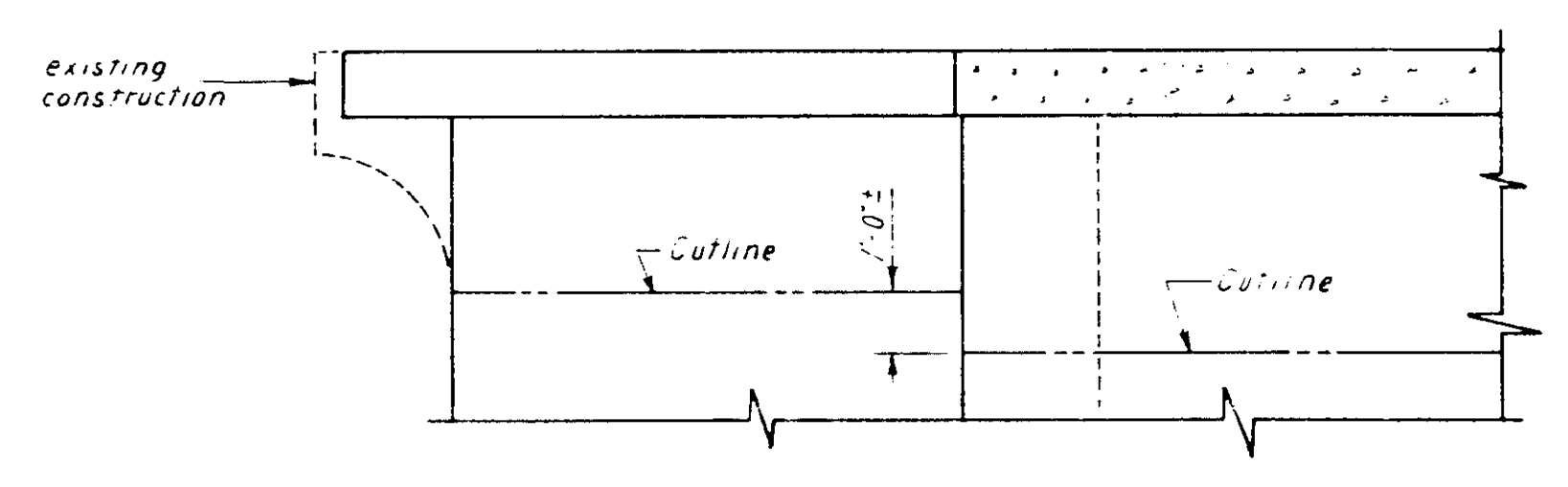
Note:
Cut or bend bars in field
as required to clear utilities.

Notes: See Water Main Details - Sheet 1
of 2 for additional details.

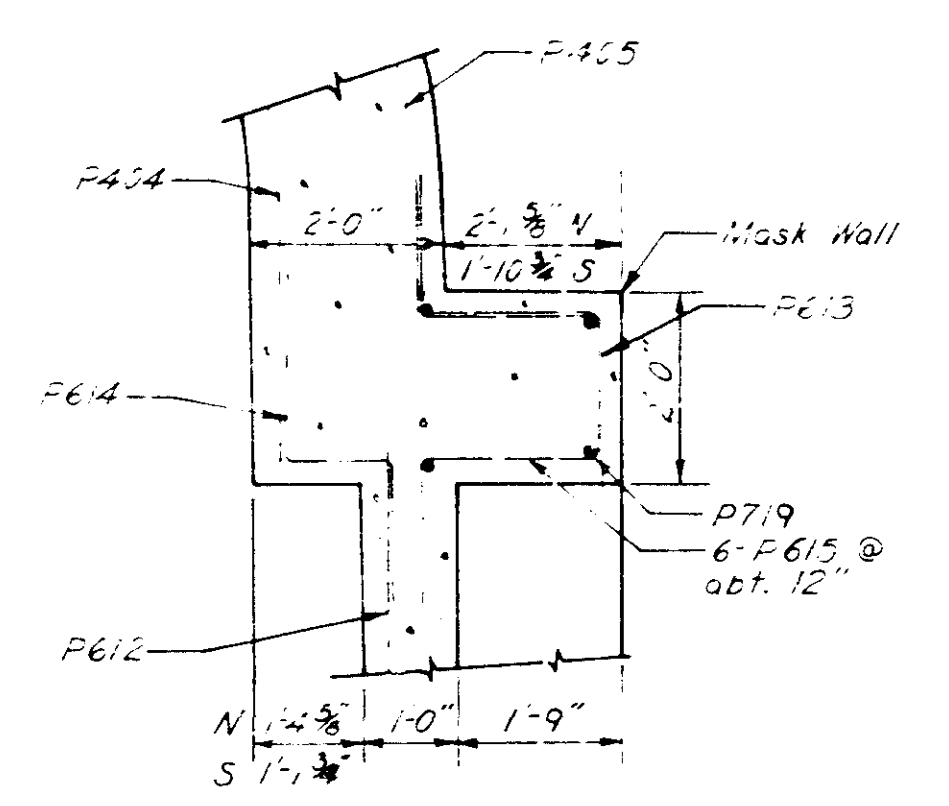


SECTION E-E
Scale 1/2" = 1'-0"

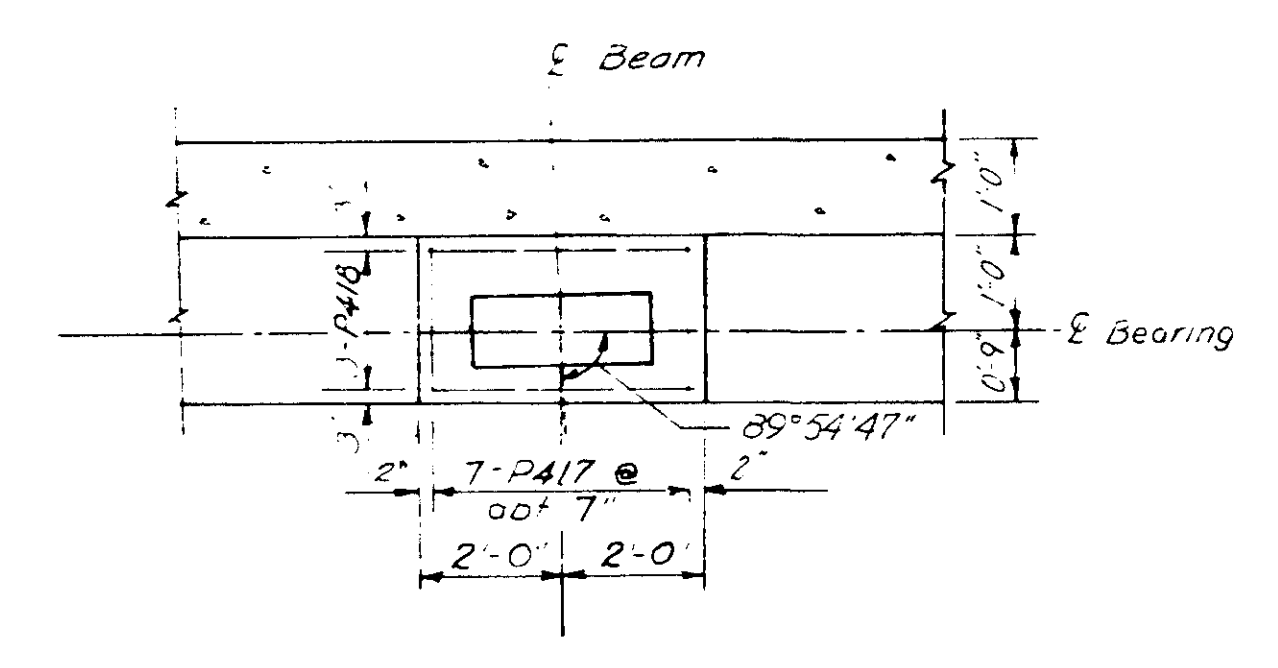
Note: See Miscellaneous
Quantities for additional
bearing assembly
information.



VIEW G-G
Scale: 3/8" = 1'-0"



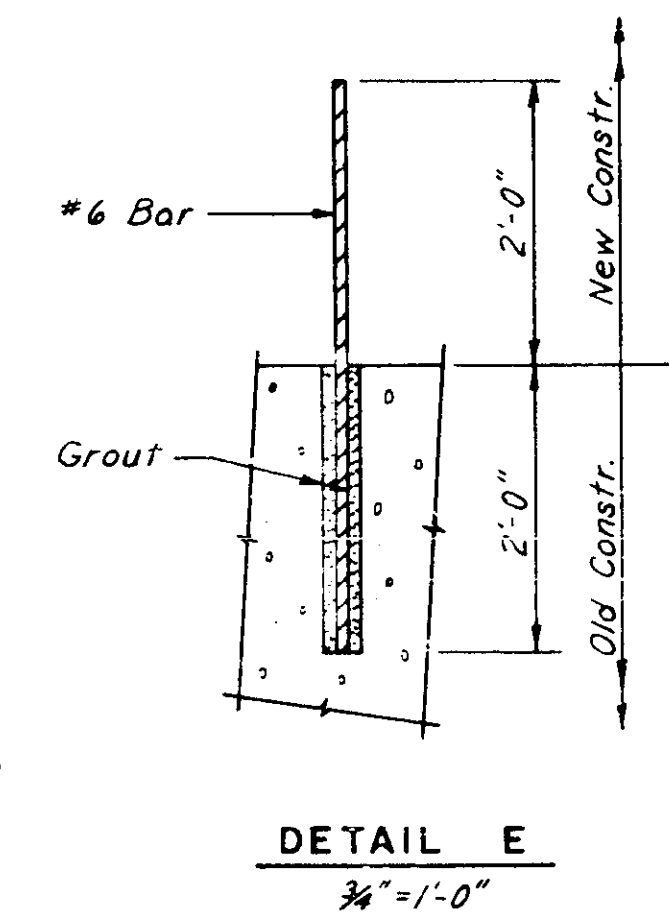
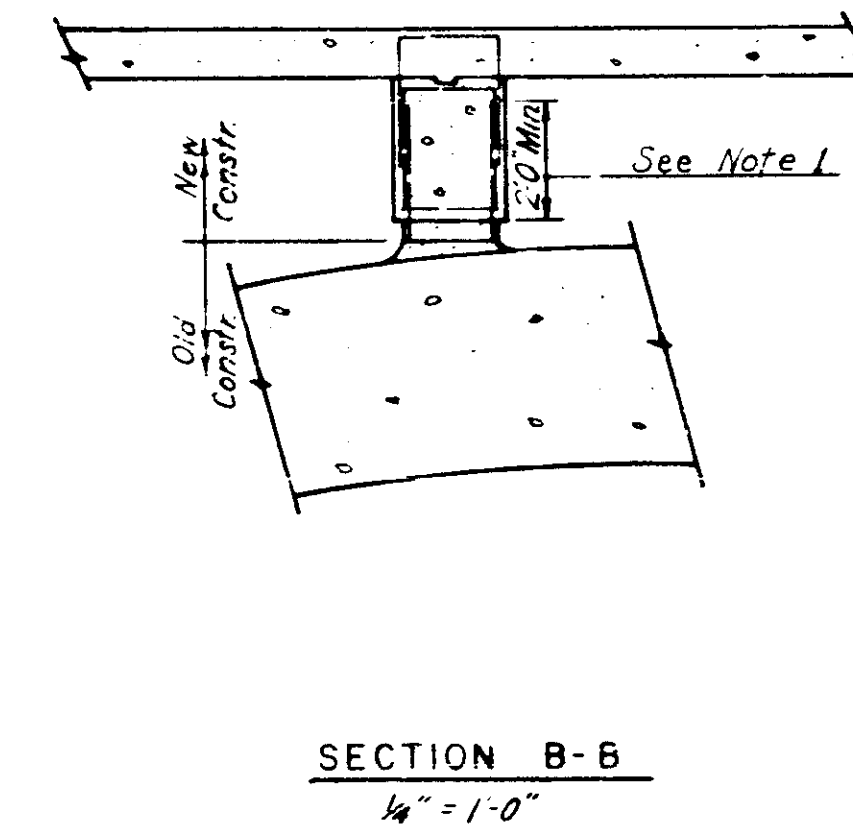
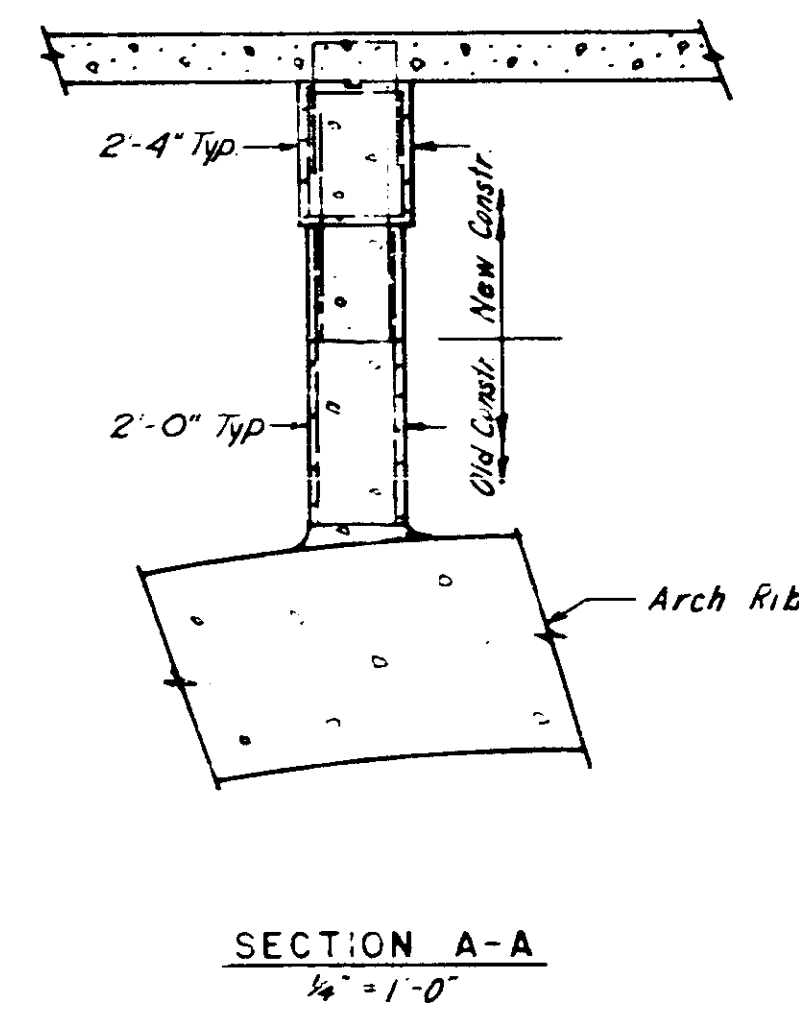
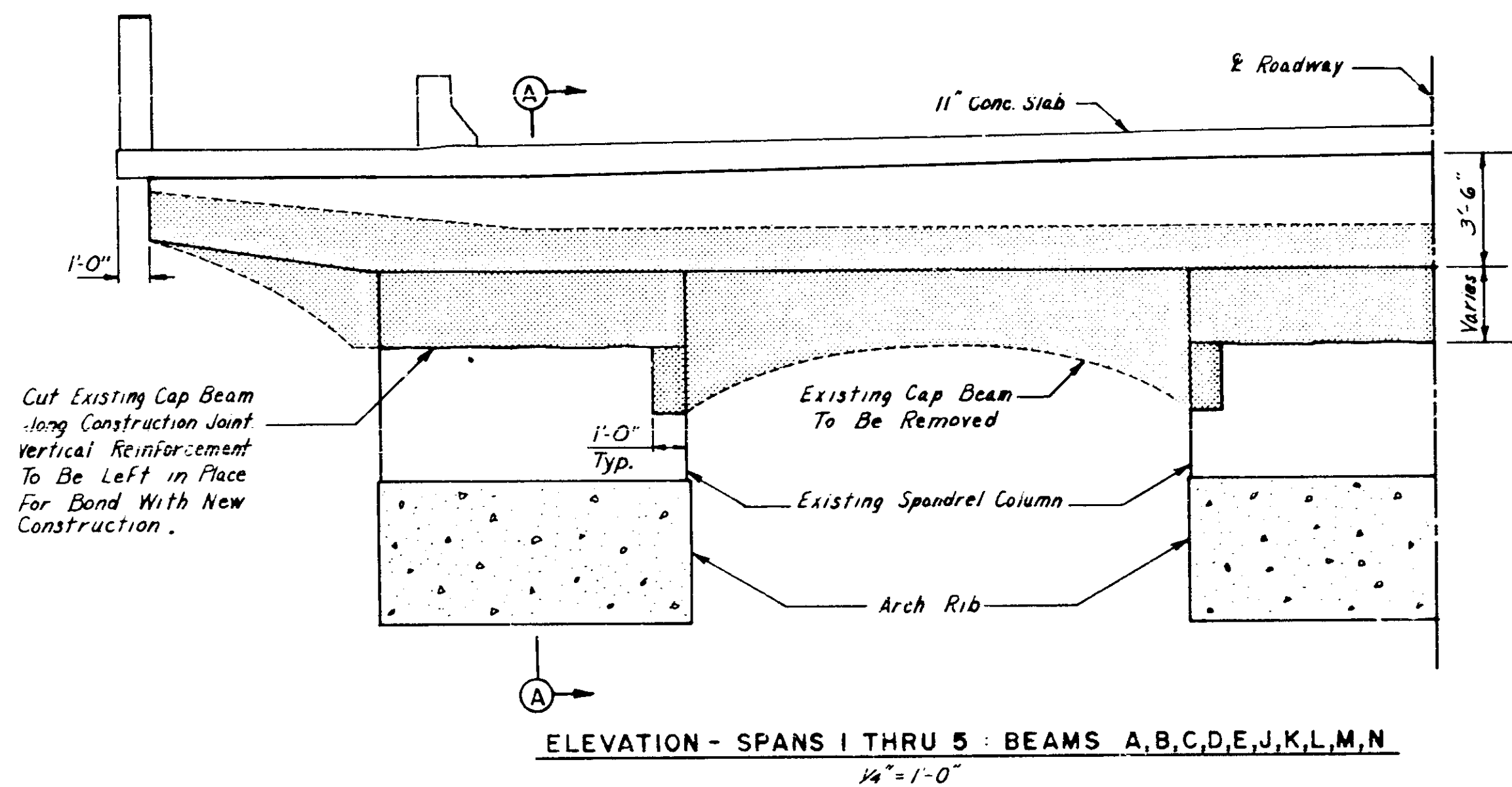
DETAIL A
Scale 1/2" = 1'-0"



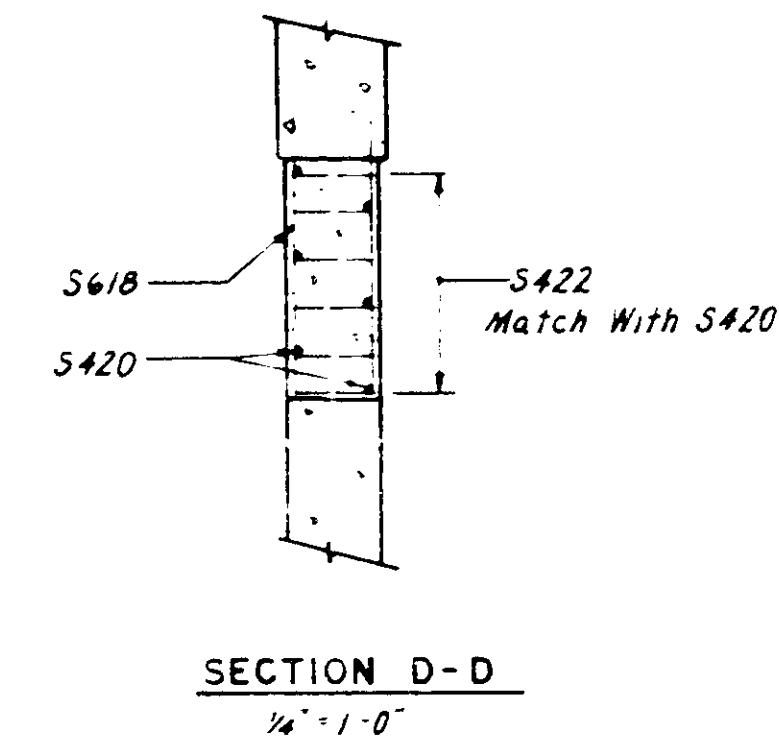
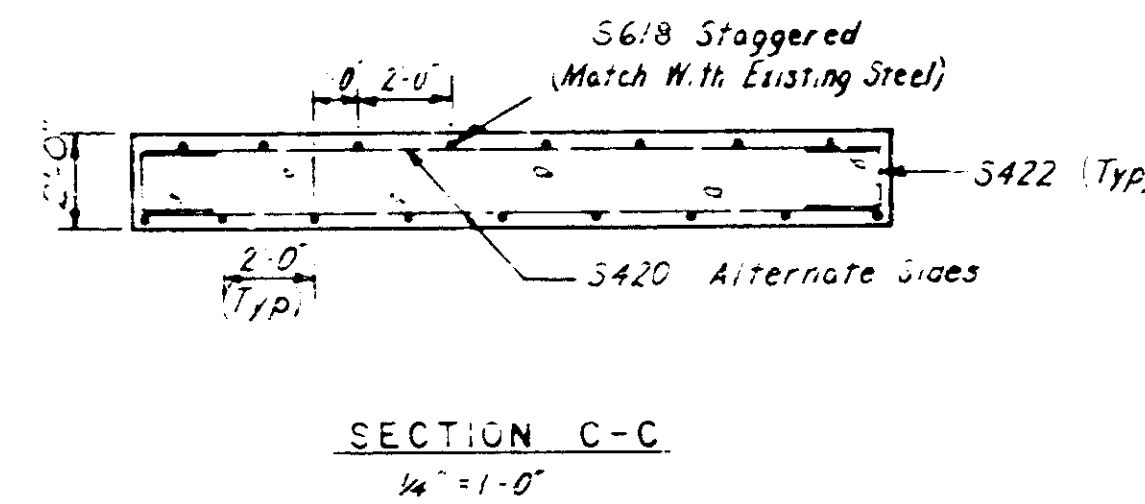
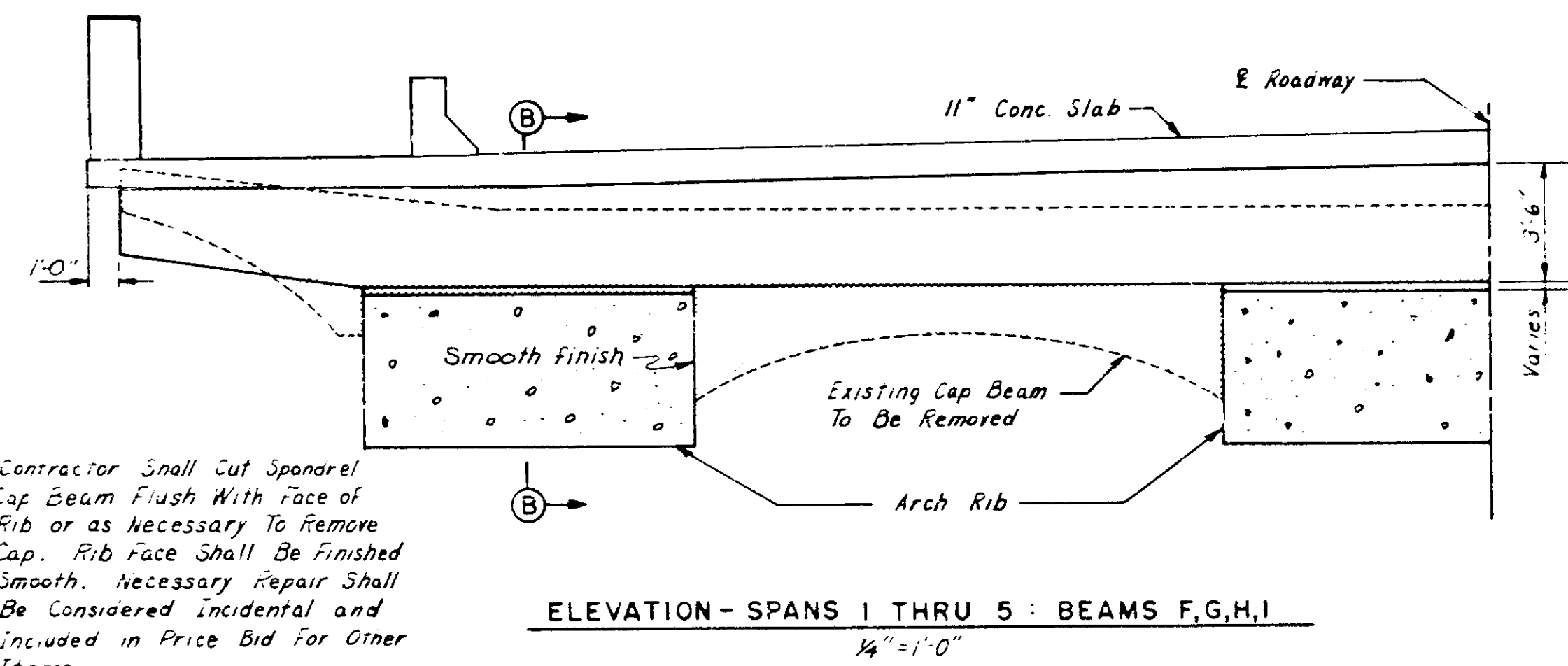
TYPICAL BEARING PAD DETAIL
No Scale

TITLE: ARCH PIER 8 SHEET 2 OF 2	DES: GS	DR: GS	APPROVED:	Bridge No. 2440
	CHK: RLL	CHK: RLL	5-7-79	
Sheet No. 32 of 148 Sheets				

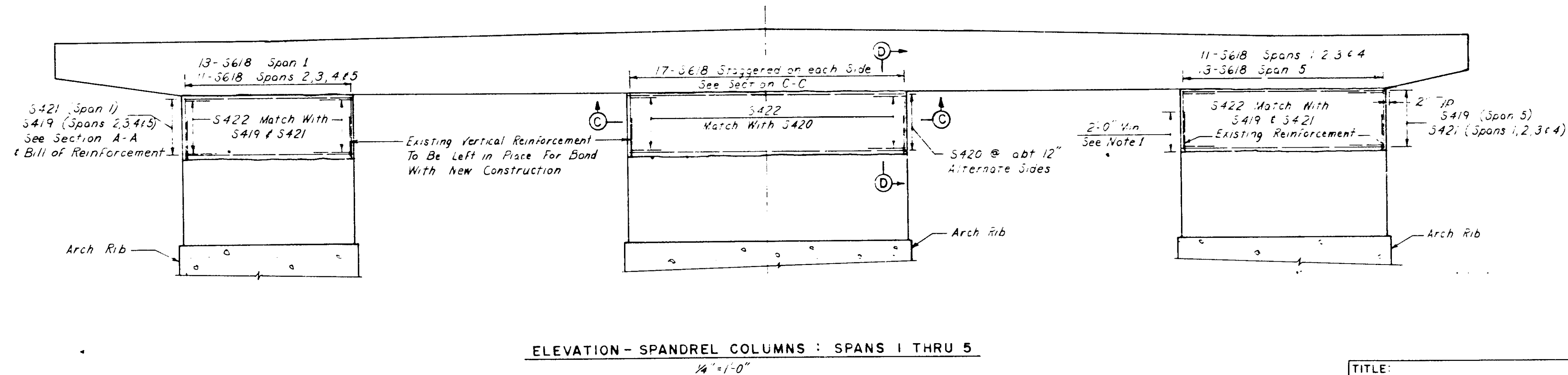
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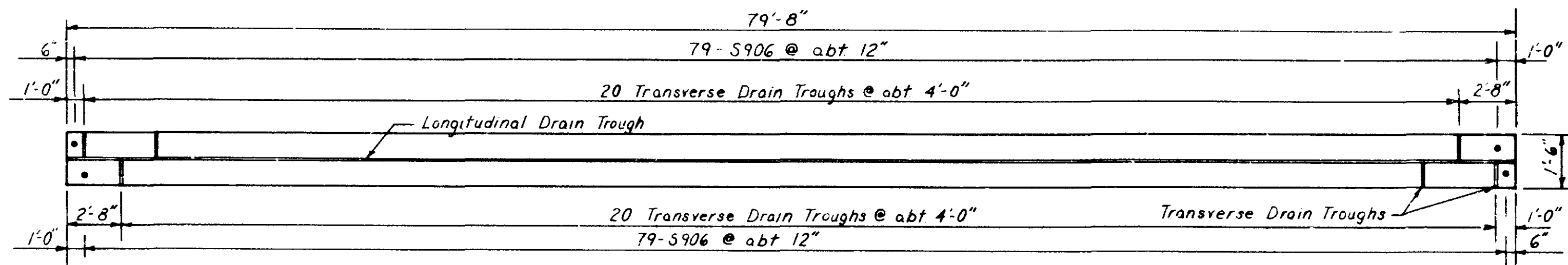
Note: For typical deck section see sheet no. 6.



Note 1:
In All Cases Where Less Than 2'-0" of Existing Reinforcement Can Be Saved, Contractor Shall Drill And Grout #6 Bars To Match Existing Reinforcement. See Detail E.



TITLE:	DES: CMS	DR: RLL	APPROVED:	Bridge No.
SPANDREL COLUMN DETAILS	CHK: RLL	CHK: AMA	5-7-79	2440
	Sheet No. 33 of 148 Sheets			

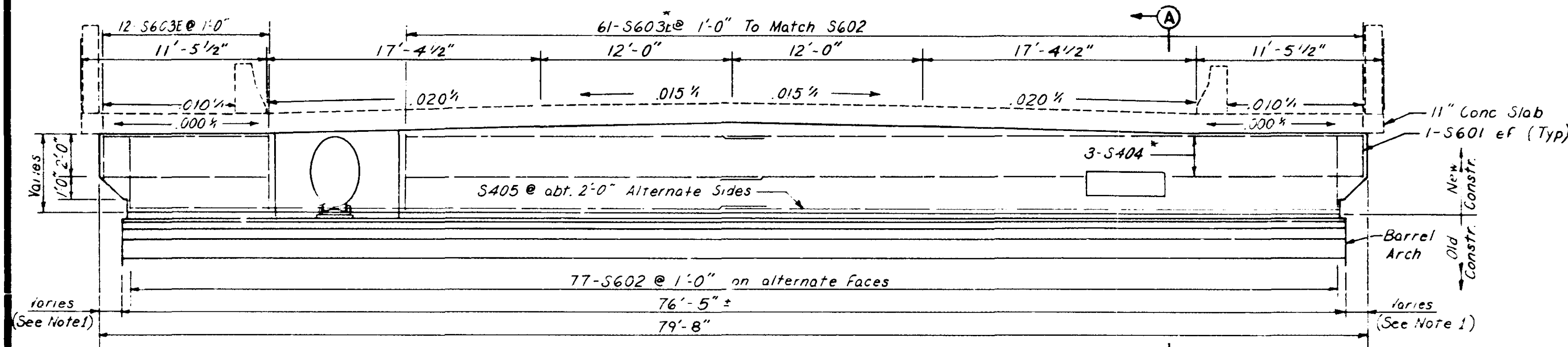


PLAN - SPANS 6 & 7: WALLS A, D, G, & J

Vert $\frac{3}{8}$ " = 1'-0"
 Horiz $\frac{1}{4}$ " = 1'-0"

See "Cap Beam Detail" sheet no 35 for drain trough detail.

Note: For typical deck section see sheet no. 6.



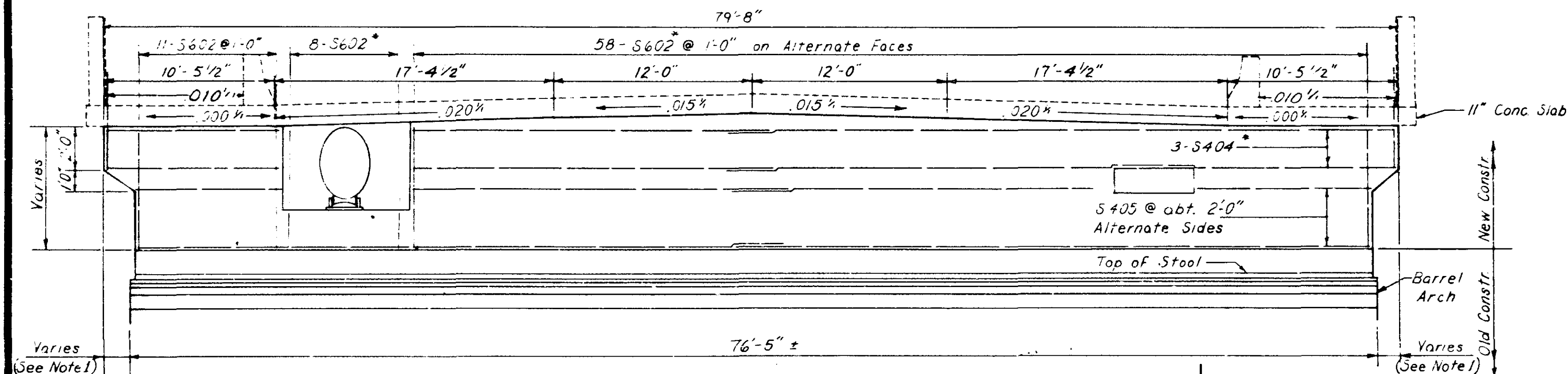
ELEVATION - SPANS 6 & 7: WALLS B, C, E, F, H & I

Vert $\frac{1}{4}$ " = 1'-0"
 Horiz $\frac{3}{16}$ " = 1'-0"

Remove Approx. Top 2'-0" of Existing Walls at all Fixed Joints Except Walls E & F - Remove To Stool Elevation.

Note: See "Water Main Details - Sheet 1 of 2" for additional details.

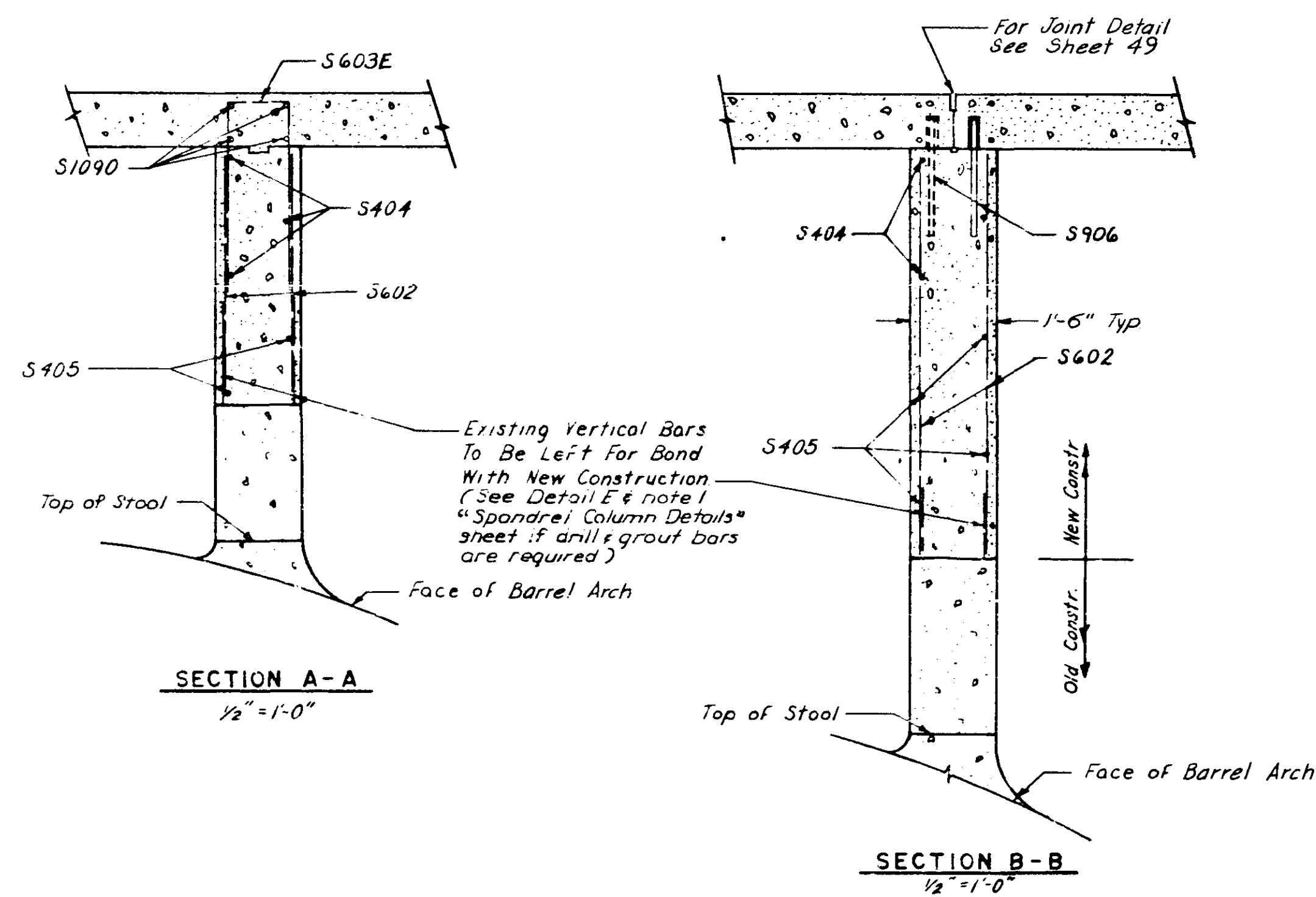
* Cut or bend bars in field as required to clear utilities.



ELEVATION - SPANS 6 & 7: WALLS A, D, G & J

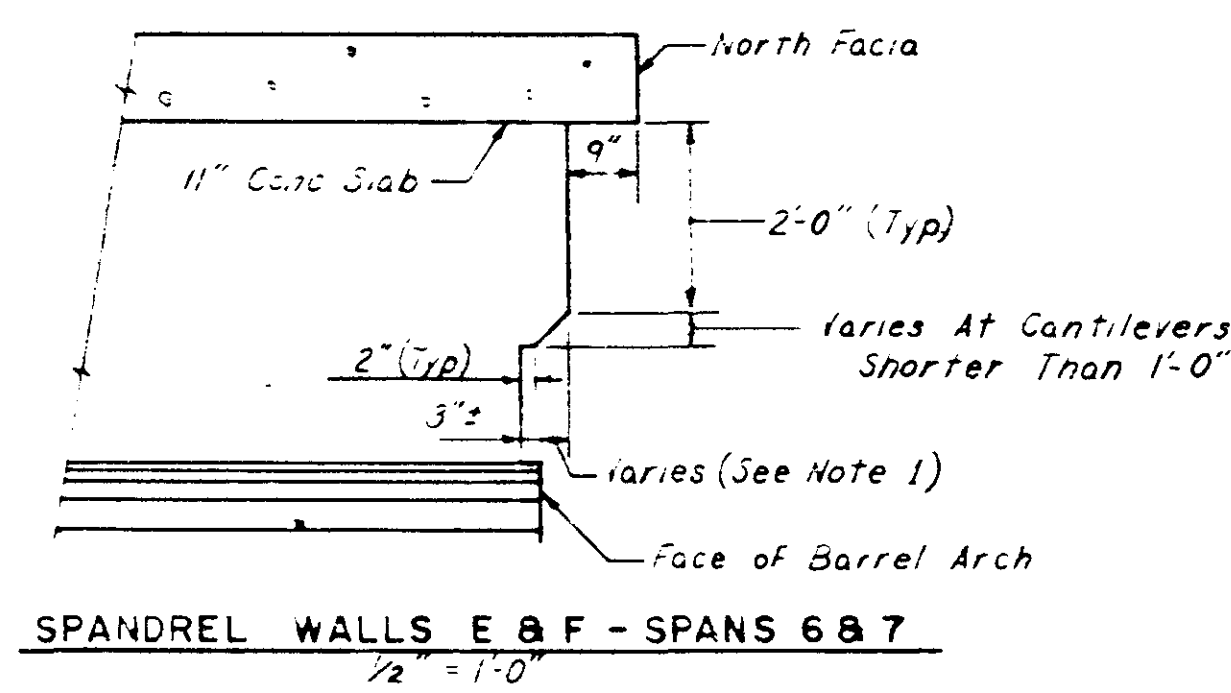
Vert $\frac{1}{4}$ " = 1'-0"
 Horiz $\frac{3}{16}$ " = 1'-0"

Remove Top 5'-0" of Existing Walls at all Expansion Joints. Remove Walls D & G To Stool Elevation.



SECTION A-A
 $\frac{1}{2}$ " = 1'-0"

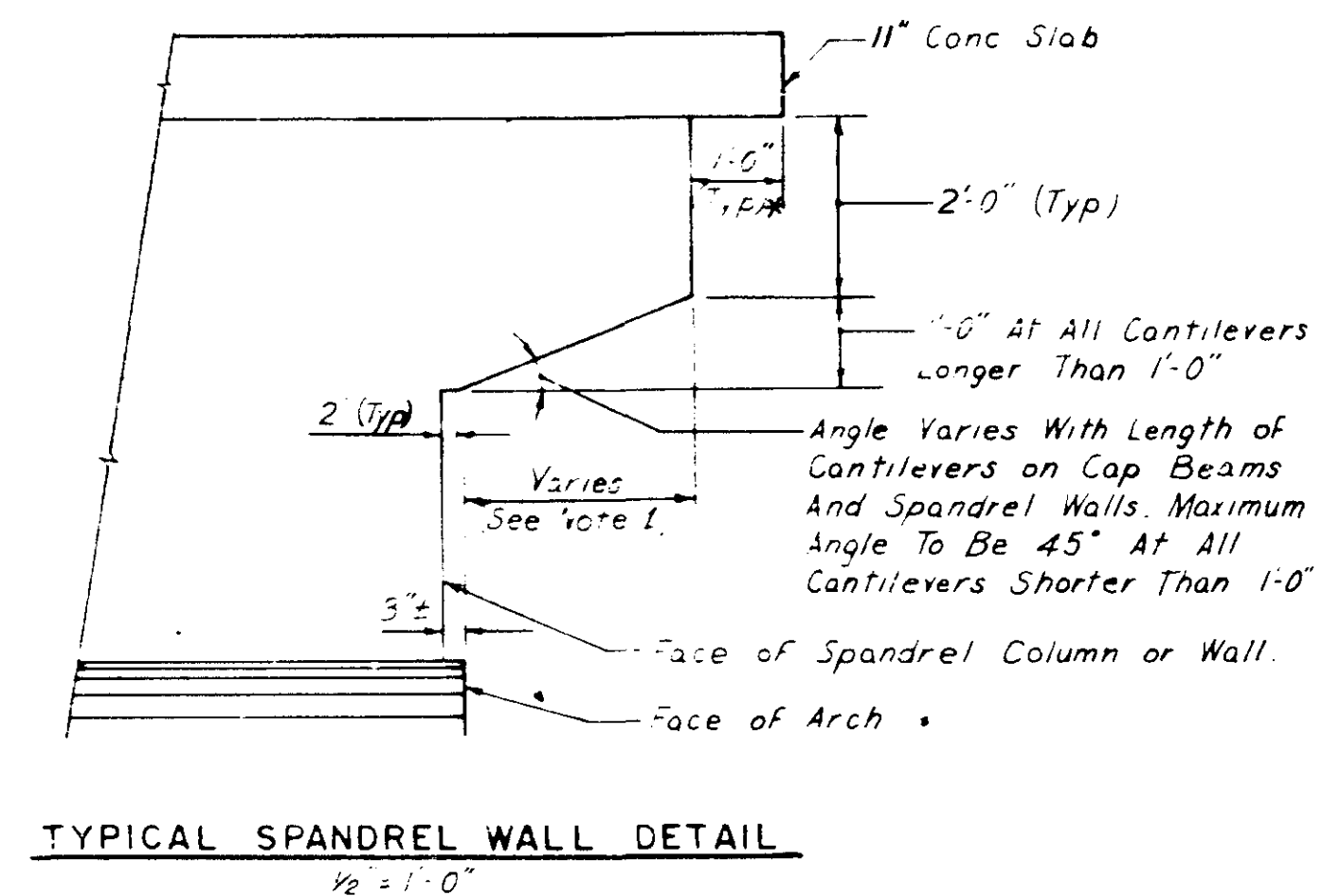
SECTION B-B
 $\frac{1}{2}$ " = 1'-0"



SPANDREL WALLS E & F - SPANS 6 & 7
 $\frac{1}{2}$ " = 1'-0"

Note 1: See "Horizontal Geometry Details" sheets for length of cantilevers.

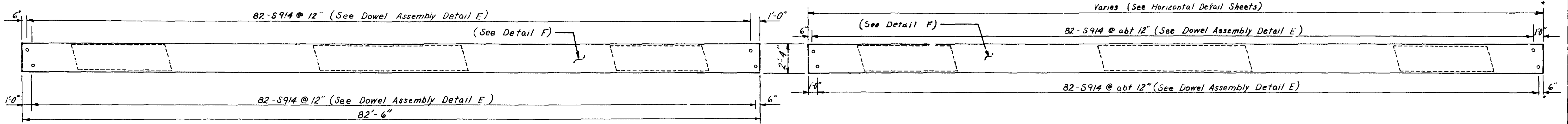
* Typical unless otherwise noted.



TYPICAL SPANDREL WALL DETAIL
 $\frac{1}{2}$ " = 1'-0"

Note: For additional reinforcement in walls over conduit system opening see "Arch Pier 1 Sheet 2 of 2"

TITLE:	DES: RLL	DR: RLL	APPROVED:	Bridge No.
SPANDREL WALL DETAILS	CHK: AMA	CHK: AMA	5-7-79	2440
	Sheet No. 34 of 148 Sheets			



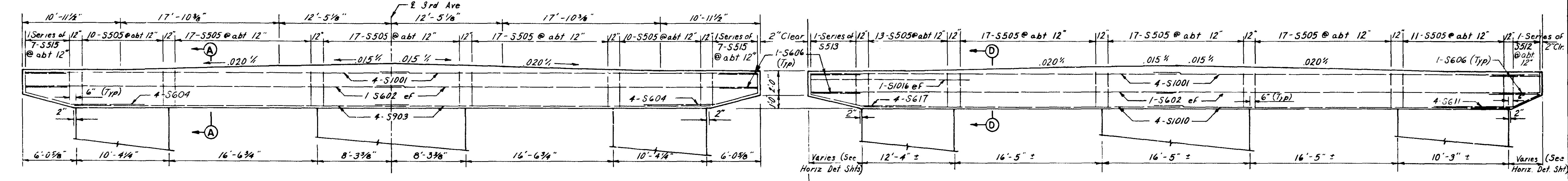
PLAN - EXPANSION CAP BEAMS: SPANS 2, 3 & 4

Vert $\frac{1}{4}$ " = 1'-0"
Horiz $\frac{3}{16}$ " = 1'-0"

Dimensions must be verified in the field.

PLAN - EXPANSION CAP BEAMS: SPANS 1 & 5

Vert $\frac{1}{4}$ " = 1'-0"
Horiz $\frac{3}{16}$ " = 1'-0"



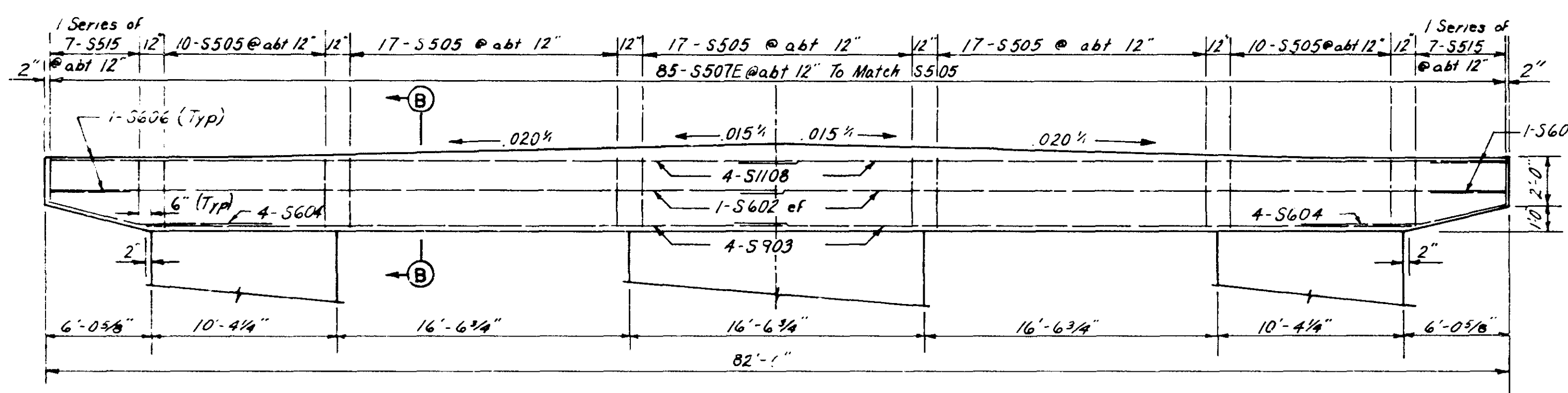
ELEVATION - EXPANSION CAP BEAMS: SPANS 2, 3, 4

Vert $\frac{1}{4}$ " = 1'-0"
Horiz $\frac{3}{16}$ " = 1'-0"

ELEVATION - EXPANSION CAP BEAMS: SPAN 1 & 5

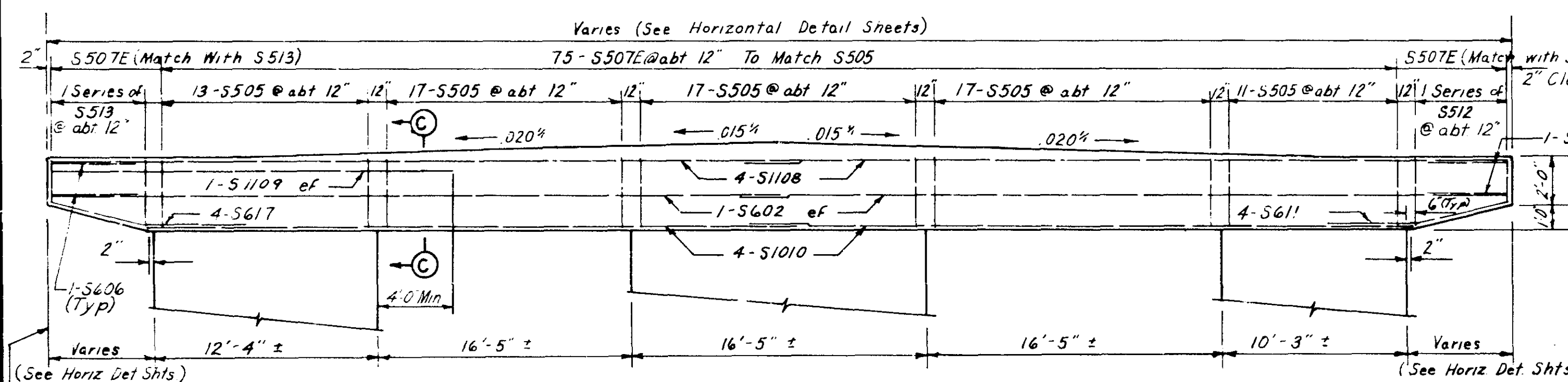
Vert $\frac{1}{4}$ " = 1'-0"
Horiz $\frac{3}{16}$ " = 1'-0"

Note: S1016 bars to be located on North facia (upstream side) of cap beam in Span 1 & on South facia (downstream side) of cap beam in Span 5



ELEVATION - FIXED CAP BEAMS: SPANS 2, 3, 4

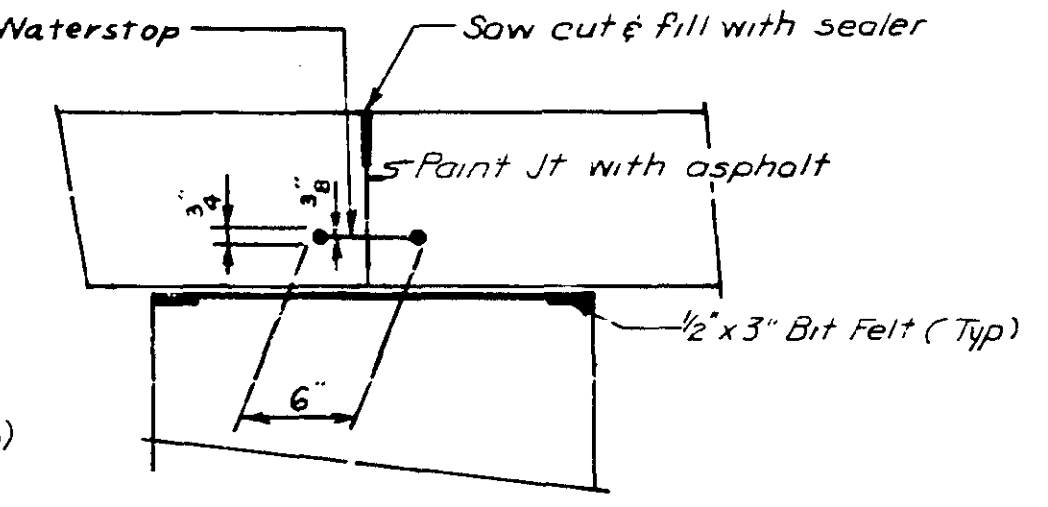
Vert $\frac{1}{4}$ " = 1'-0"
Horiz $\frac{3}{16}$ " = 1'-0"



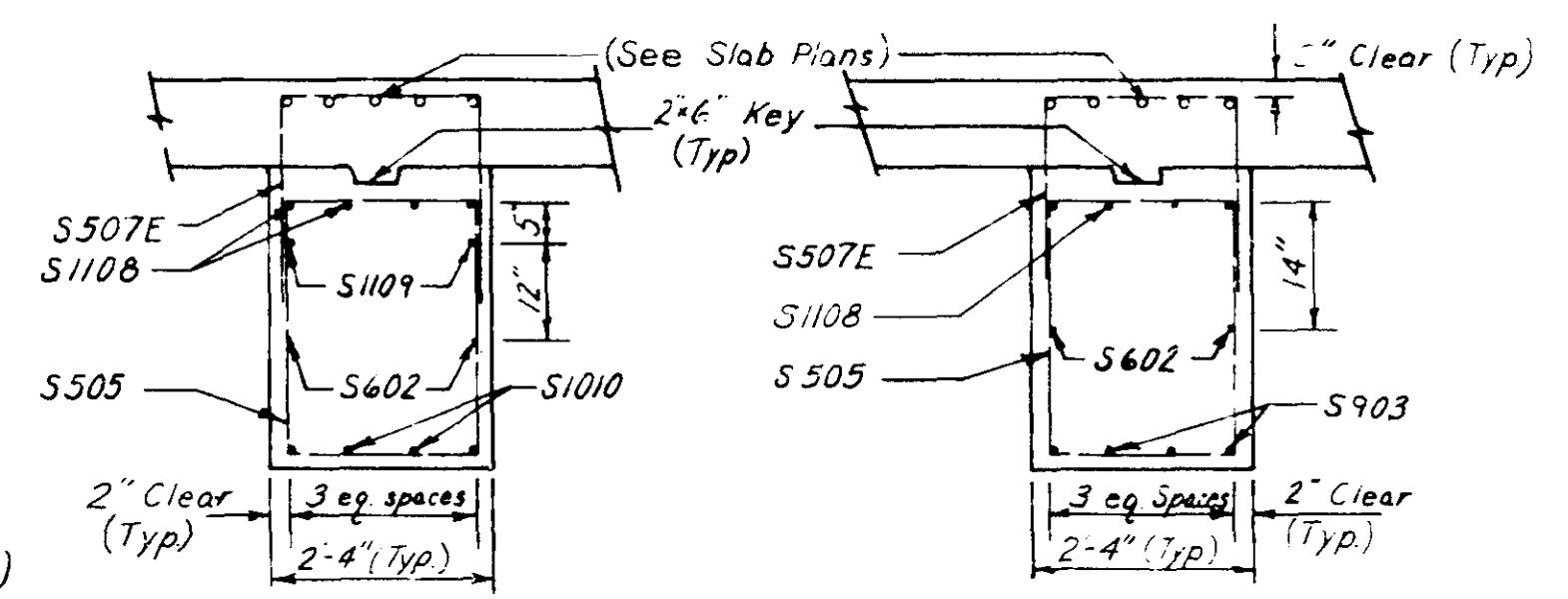
ELEVATION - FIXED CAP BEAMS: SPAN 1 & 5

Vert $\frac{1}{4}$ " = 1'-0"
Horiz $\frac{3}{16}$ " = 1'-0"

Note: S1109 bars to be located on North facia (upstream side) of cap beam in Span 1 & on South facia (downstream side) of cap beam in Span 5

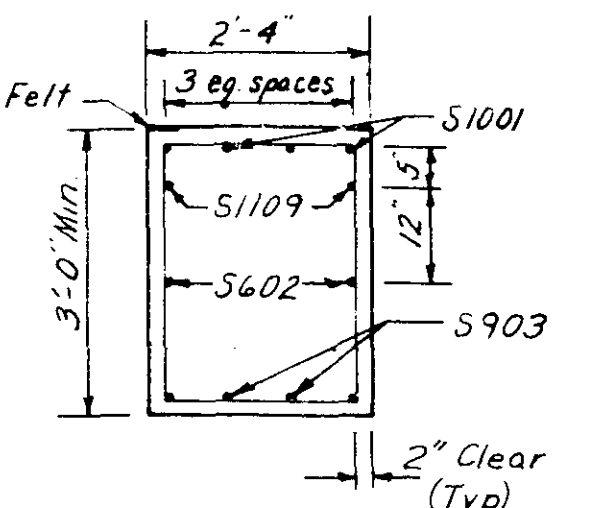


DETAIL F
No Scale

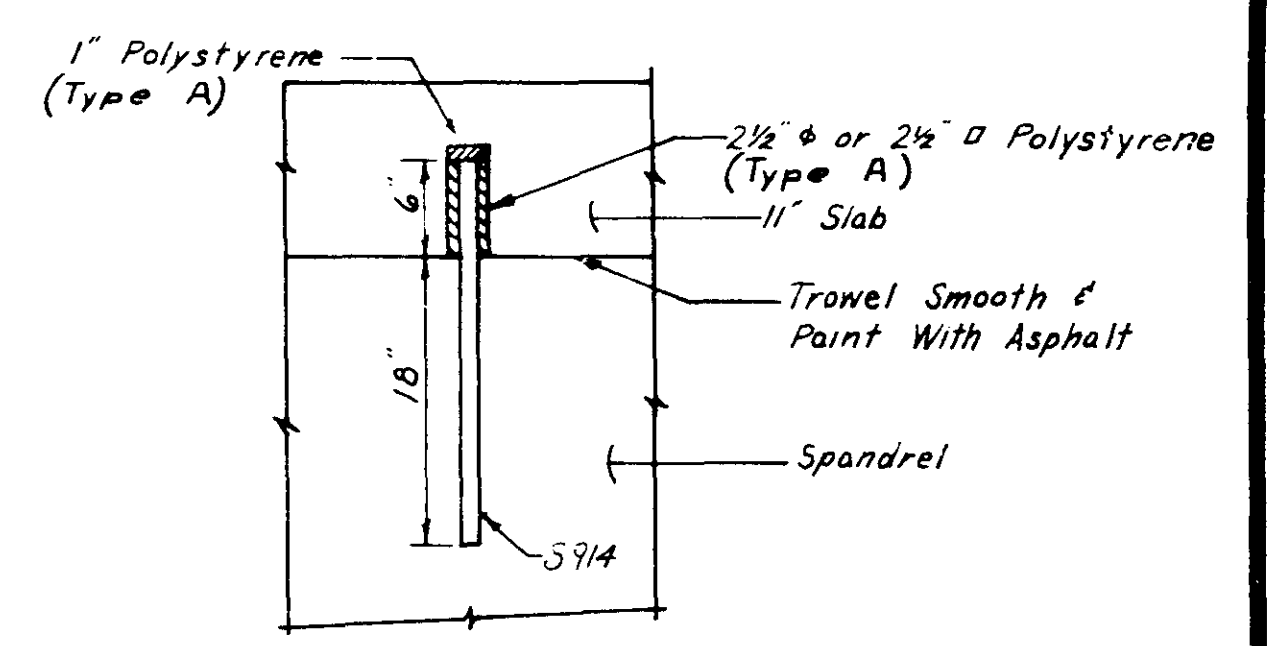


SECTION C-C
 $\frac{1}{2}$ " = 1'-0"

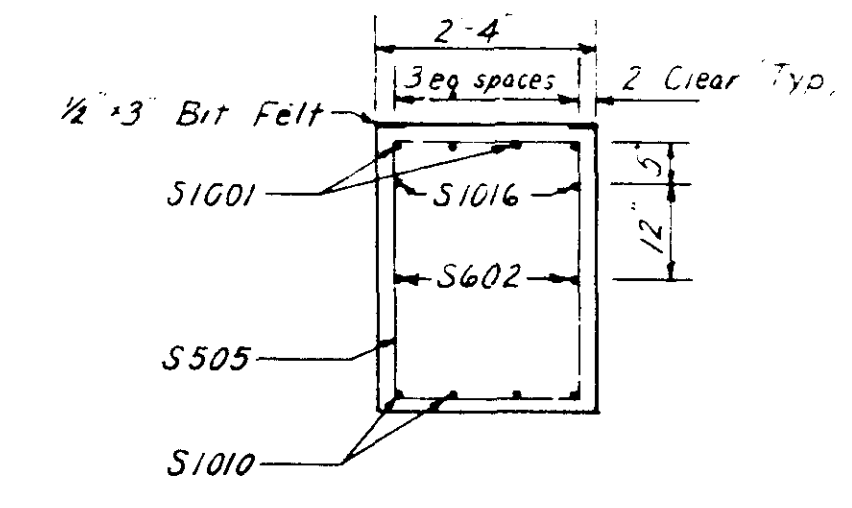
SECTION B-B
 $\frac{1}{2}$ " = 1'-0"



SECTION A-A
 $\frac{1}{2}$ " = 1'-0"



SHEAR DOWEL ASSEMBLY - DETAIL E
1" = 1'-0"



SECTION D-D
 $\frac{1}{2}$ " = 1'-0"

TITLE:	DES: CNS	DR: RLL	APPROVED:	Bridge No.
CAP BEAM DETAILS	CHK: RLL	CHK: AMA	5-7-79	2440
Sheet No. 35 of 148 Sheets				

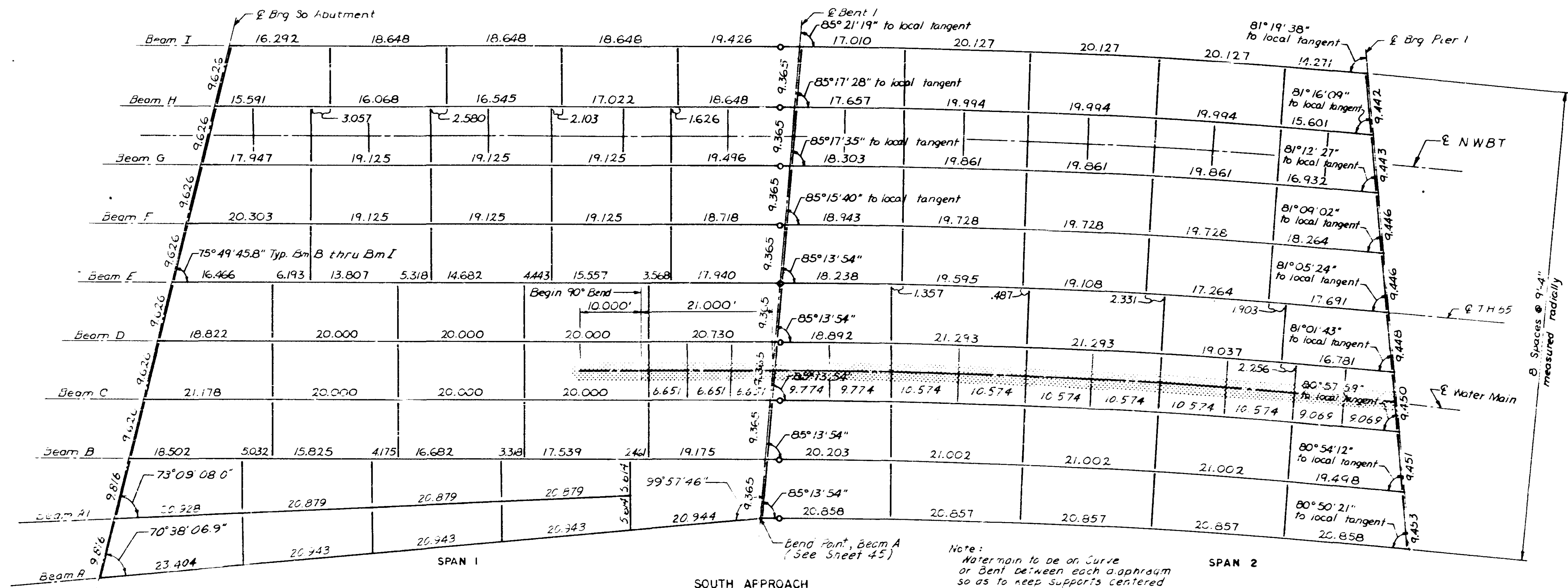
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See Example Bar List For Clarification

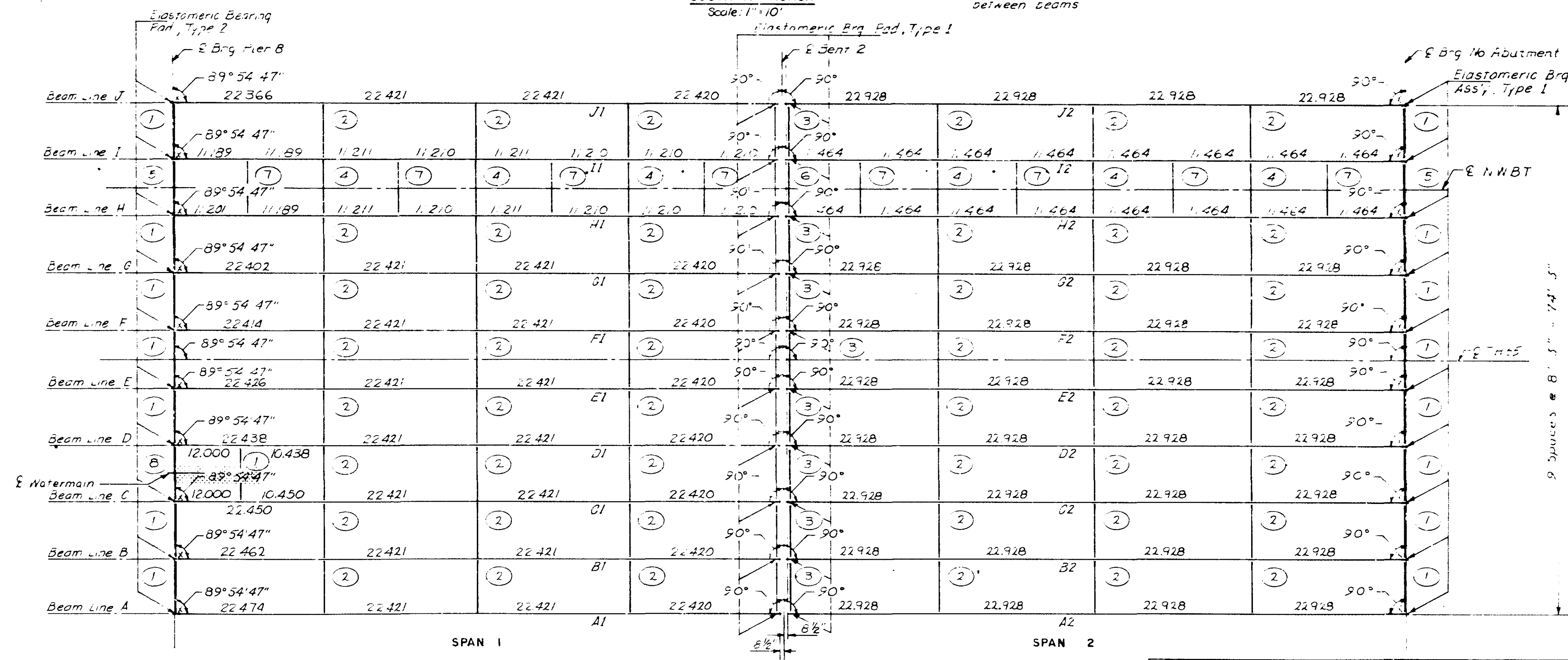
BAR NO.	SIZE	LENGTH	TYPE	DIMENSIONS			LOCATION
				A	B	C	
CAP BEAM REINFORCEMENT							
Spans 1 and 5: BEAMS A,D,F,I,K,N (12 Required) (Expansion Cap Beams)							
S1001	8	10	42-11	Str.			
S602	4	6	42-2	Str.			
S505	75	5	10-3	109	2-0	2-8	
S606	4	6	6-6	105	2-0	2-3	
S1010	8	10	37-4	Str.			
S611							See Tables 2 and 4
S512							See Tables 6 and 8
S513							See Tables 5 and 7
S914	164	9	2-0	Str.			Dowel Bar
S1016	2	10	24-3	Str.			
S617							See Tables 1 and 3
SPANS 2,3 AND 4: BEAMS A,D,F,I,K,N (18 REQUIRED) (Expansion Cap Beams)							
S1001	8	10	42-11	Str.			
S602	4	6	42-4	Str.			
S903	8	9	36-11	Str.			
S604	8	6	8-0	108	5-10	0-2	2-2
S505	71	5	10-3	109	2-0	2-8	
S606	4	6	6-6	105	2-0	2-3	
S914	164	9	2-0	Str.			Dowel Bar
S515	2 Ser.	5	8-3	109	2-0	1-8	
	of 7		10-3			2-8	
SPANS 1 AND 5: BEAMS B,C,E,G,H,J,L AND M (16 REQUIRED) (Fixed Cap Beams)							
S602	4	6	42-2	Str.			
S505	75	5	10-3	109	2-0	2-8	
S606	4	6	6-6	105	2-0	2-3	
S507E	87	5	7-4	105	2-0	2-8	
S1108	8	11	43-2	Str.			
S1109	2	11	24-3	Str.			
S1010	8	10	37-4	Str.			
S611							See Tables 2 and 4
S512							See Tables 6 and 8
S513							See Tables 5 and 7
S617							See Tables 1 and 3
SPANS 2,3 AND 4: BEAMS B,C,E,G,H,J,L AND M (24 REQUIRED) (Fixed Cap Beams)							
S602	4	6	42-4	Str.			
S903	8	9	36-11	Str.			
S604	8	6	8-0	108	5-10	0-2	2-2
S505	71	5	10-3	109	2-0	2-8	
S606	4	6	6-6	105	2-0	2-3	
S1108	8	11	43-1	Str.			
S515	2 Ser.	5	8-3	109	2-0	1-8	
	of 7		10-3			2-8	
S507E	85	5	7-4	105	2-0	2-8	
STIRRUP REINFORCEMENT							
TABLE 1							
SPAN 1, NORTH CANTILEVER							
S617	4	6	5-3	108	4-1	0-3	2-2 Beam A
S617	4	6	7-3	108	5-1	0-2	2-2 Beam B
S617	4	6	8-1	108	5-11	0-2	2-2 Beam C
S617	4	6	8-10	108	6-8	0-2	2-2 Beam D
S617	4	6	9-4	108	7-2	0-1	2-2 Beam E
S617	4	6	9-9	108	7-7	0-1	2-2 Beams F and J
S617	4	6	10-0	108	7-10	0-1	2-2 Beams G,H and I
S617	4	6	9-6	108	7-4	0-1	2-2 Beam K
S617	4	6	8-10	108	6-8	0-1	2-2 Beam L
S617	4	6	8-3	108	6-1	0-2	2-2 Beam M
S617	4	6	7-5	108	5-3	0-2	2-2 Beam N
TABLE 2							
SPAN 1, SOUTH CANTILEVER							
S611	4	6	6-7	108	4-5	0-2	2-2 Beam A
S611	4	6	5-9	108	3-7	0-3	2-2 Beam B
S611	4	6	5-1	108	2-11	0-4	2-2 Beam C
S611	4	6	4-7	108	2-5	0-5	2-2 Beam D and J
S611	4	6	4-2	108	2-0	0-6	2-2 Beam E
S611	4	6	4-0	108	1-10	0-7	2-2 Beams F and H
S611	4	6	3-11	108	1-9	0-7	2-2 Beam G
S611	4	6	4-3	108	2-1	0-6	2-2 Beam I
S611	4	6	5-3	108	3-1	0-4	2-2 Beam K

BAR NO.	SIZE	LENGTH	TYPE	DIMENSIONS			LOCATION
				A	B	C	
TABLE 2							
SPAN 1, SOUTH CANTILEVER (Cont.)							
S611	4	6	5-11	108	3-9	0-3	2-2 Beam L
S611	4	6	6-10	108	4-8	0-2	2-2 Beam M
S611	4	6	7-9	108	5-7	0-2	2-2 Beam N
TABLE 3							
SPAN 5, NORTH CANTILEVER							
S617	4	6	7-9	108	5-7	0-2	2-2 Beam A
S617	4	6	6-8	108	4-6	0-2	2-2 Beam B
S617	4	6	5-10	108	3-8	0-3	2-2 Beam C
S617	4	6	5-1	108	2-11	0-4	2-2 Beam D
S617	4	6	4-7	108	2-5	0-5	2-2 Beam E
S617	4	6	4-2	108	2-0	0-6	2-2 Beam F
S617	4	6	4-0	108	1-10	0-7	2-2 Beams G and I
S617	4	6	3-11	108	1-9	0-7	2-2 Beam H
S617	4	6	4-4	108	2-2	0-5	2-2 Beam J
S617	4	6	4-8	108	2-6	0-5	2-2 Beam K
S617	4	6	5-3	108	3-1	0-4	2-2 Beam L
S617	4	6	6-0	108	3-10	0-3	2-2 Beam M
S617	4	6	6-10	108	4-8	0-2	2-2 Beam N
TABLE 4							
SPAN 5, SOUTH CANTILEVER							
S611	4	6	7-4	108	5-2	0-2	2-2 Beam A
S611	4	6	8-1	108	5-11	0-2	2-2 Beams B and L
S611	4	6	8-9	108	6-7	0-2	2-2 Beams C and K
S611	4	6	9-3	108	7-1	0-1	2-2 Beams D and J
S611	4	6	9-8	108	7-6	0-1	2-2 Beams E and I
S611	4	6	9-10	108	7-8	0-1	2-2 Beams F,G,H
S611	4	6	7-6	108	5-4	0-2	2-2 Beam M
S611	4	6	6-7	108	4-5	0-2	2-2 Beam N
TABLE 5							
SPAN 5, NORTH CANTILEVER							
S513	1 Ser.	5	8-3	109	2-0	1-8	Beams A and N
	of 6		10-1			2-7	
S513	1 Ser.	5	8-3	109	2-0	1-8	Beam B
	of 5		10-1			2-7	
S513	1 Ser.	5	8-3	109	2-0	1-8	Beams C and M
	of 5		9-11			2-6	
S513	1 Ser.	5	8-3	109	2-0	1-8	Beams D and L
	of 4		9-11			2-6	
S513	1 Ser.	5	8-3	109	2-0	1-8	Beams E,J and K
	of 3		9-11			2-6	
S513	1 Ser.	5	8-3	109	2-0	1-8	Beams F,G,H and I
	of 3		9-9			2-5	
TABLE 6							
SPAN 5, SOUTH CANTILEVER							
S512	1 Ser.	5	8-3	109	2-0	1-8	Beams A and M
	of 6		10-1			2-7	
S512	1 Ser.	5	8-3	109	2-0	1-8	Beams B and L
	of 7		10-1			2-7	
S512	1 Ser.	5	8-3	109	2-0	1-8	Beams C,D,E,I,J,K
	of 8		10-1			2-7	
S512	1 Ser.	5	8-3	109	2-0	1-8	Beams F,G and H
	of 9		10-1			2-7	
S512	1 Ser.	5	8-3	109	2-0	1-8	Beam N
	of 5		10-1			2-7	
TABLE 7							
SPAN 1, NORTH CANTILEVER							
S513	1 Ser.	5	8-3	109	2-0	1-8	Beam A
	of 5		10-1			2-7	
S513	1 Ser.	5	8-3	109	2-0	1-8	Beams B and N
	of 6		10-1			2-7	
S513	1 Ser.	5	8-3	109	2-0	1-8	Beams C and M
	of 7		10-1			2-7	
S513	1 Ser.	5	8-3	109	2-0	1-8	Beams D,E,K,L
	of 8		10-1			2-7	
S513	1 Ser.	5	8-3	109	2-0	1-8	Beams F,G,H,I,J
	of 9		10-1			2-7	
TABLE 8							
SPAN 1, SOUTH CANTILEVER							
S512	1 Ser.	5	8-3	109	2-0	1-8	Beam A
	of 5		10-1			2-7	
S512	1 Ser.	5	8-3	109	2-0	1-8	Beams B,C and K
	of 4		9-11			2-6	
S512	1 Ser.	5	8-3	109	2-0	1-8	Beams E,F,G and H
	of 3		9-9			2-5	

BAR NO.	SIZE	LENGTH	TYPE	DIMENSIONS			LOCATION
				A	B	C	
TABLE 8							
SPAN 1, SOUTH CANTILEVER (Cont.)							
S512	1 Ser.	5	8-3	109	2-0	1-8	Beam M
	of 6		10-1			2-7	
S512	1 Ser.	5	8-3	109	2-0	1-8	Beams D,I,J
	of 3		9-11			2-6	
S512	1 Ser.	5	8-3	109	2-0	1-8	Beam L
	of 5		9-11			2-6	
S512	1 Ser.	5	8-3	109	2-0	1-8	Beam N
	of 7		10-1			2-7	
SPANDREL WALL REINFORCEMENT							
SPAN 5: WALLS B,C,E,F,H and I (6 REQUIRED)							
S601	4	6	1-8	Str.			
S602	77	6	4-6	Str.			
S603E	81	6	8-6	105	1-2	3-8	
S404	6	4	40-6	Str.			
S405	6	4	39-0	Str.			
S407*	3	4	8-7	109	1-1	2-10	
S609*	6	6	4-6	Str.			
* Not included in walls E & F							
SPAN 6: WALLS A AND J (2 REQUIRED)							
S601	4	6	1-8	Str.			
S602	77	6	7-8	Str.			
S404	6	4	40-6	Str.			
S405	8	4	39-0	Str.			
S906	158	9	2-0	Str.			
S407	2	4	8-7	109	1-1	2-10	
S608	6	6	3-6	Str.			
SPAN 6: WALLS D AND G (2 REQUIRED)							
S601	4	6	1-8	Str.			
S602	77	6	5-6	Str.			
S404	6	4	40-6	Str.			
S405	8	4	39-0	Str.			
S906	158	9	2-0	Str.			
S407	2	4	8-7	109	1-1	2-10	
S609*	6	6	4-6	Str.			
* Not included in walls E & F							
SPAN 7: WALLS A AND J (2 REQUIRED)							
S601	4	6	1-8	Str.			
S602	77	6	6-10	Str.			
S404	6	4	40-6	Str.			
S405	10	4	3				



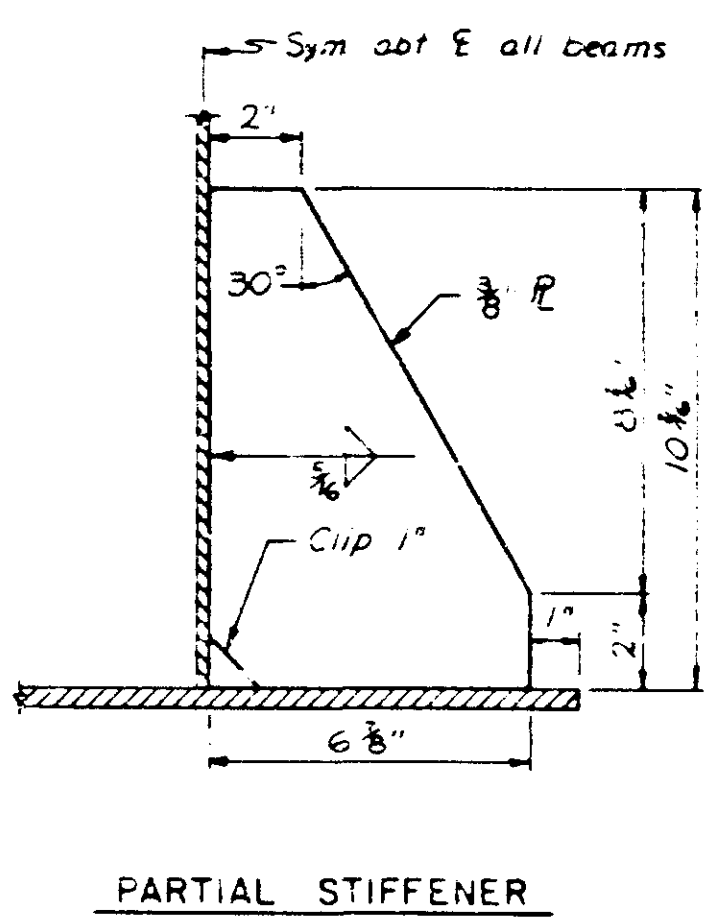
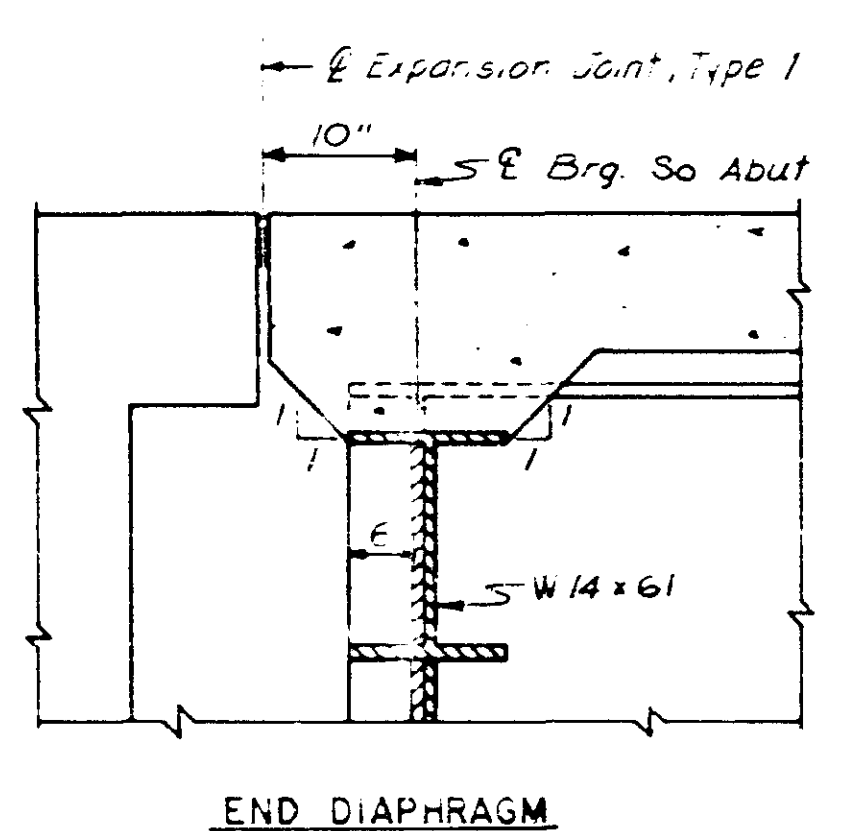
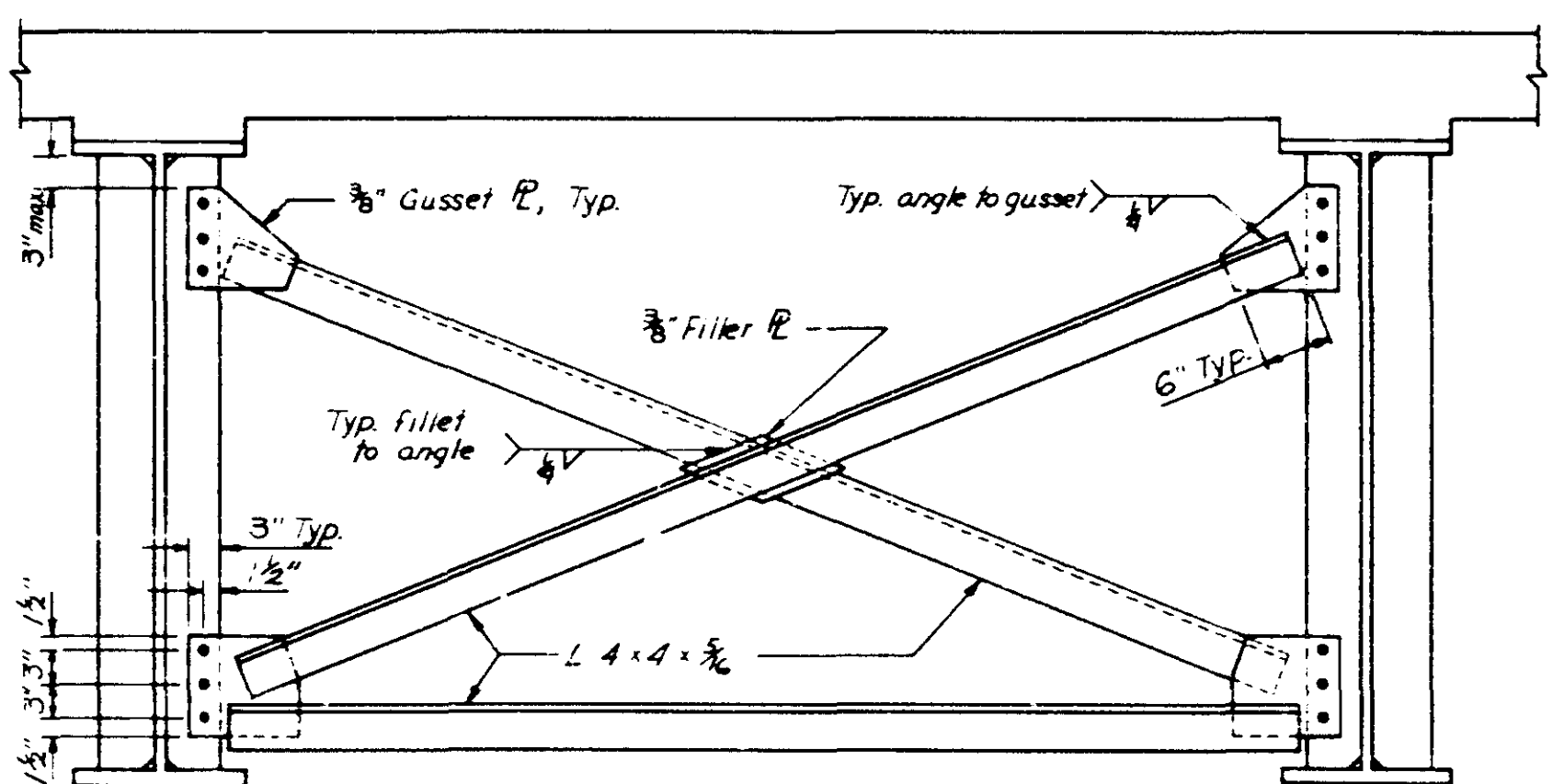
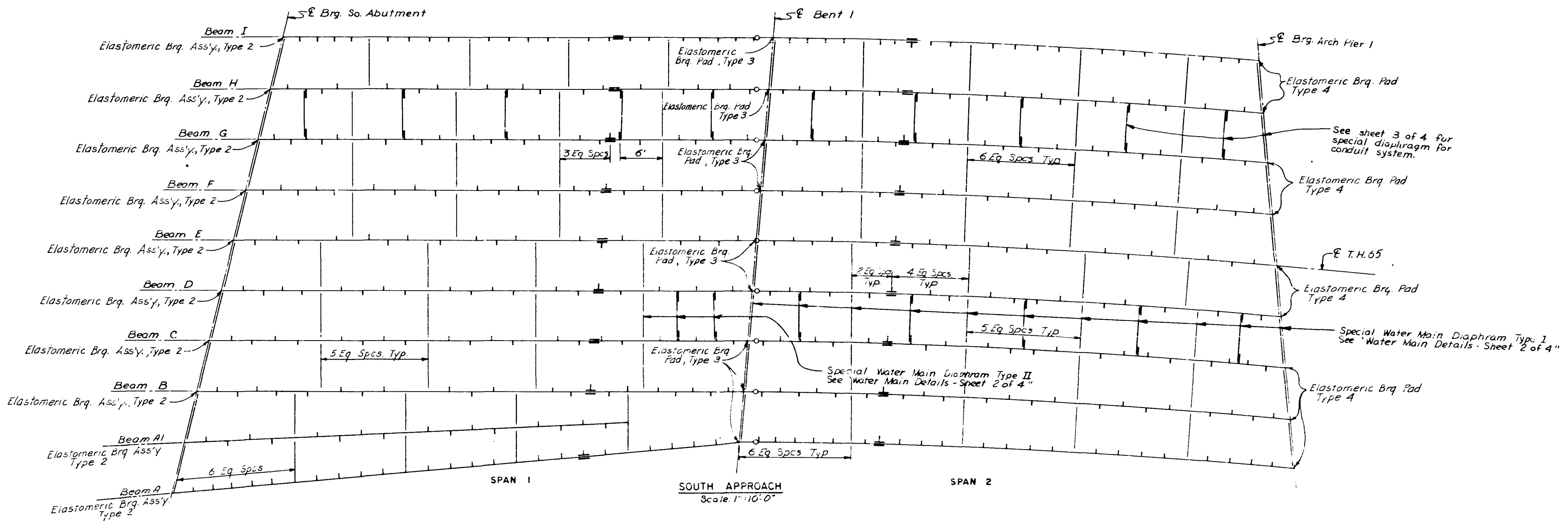
For So Approach Diaph. see sheet 39, 41 and Detail B402 on sheet 12.



For North Approach Diaph. see sheet 40 & 42.

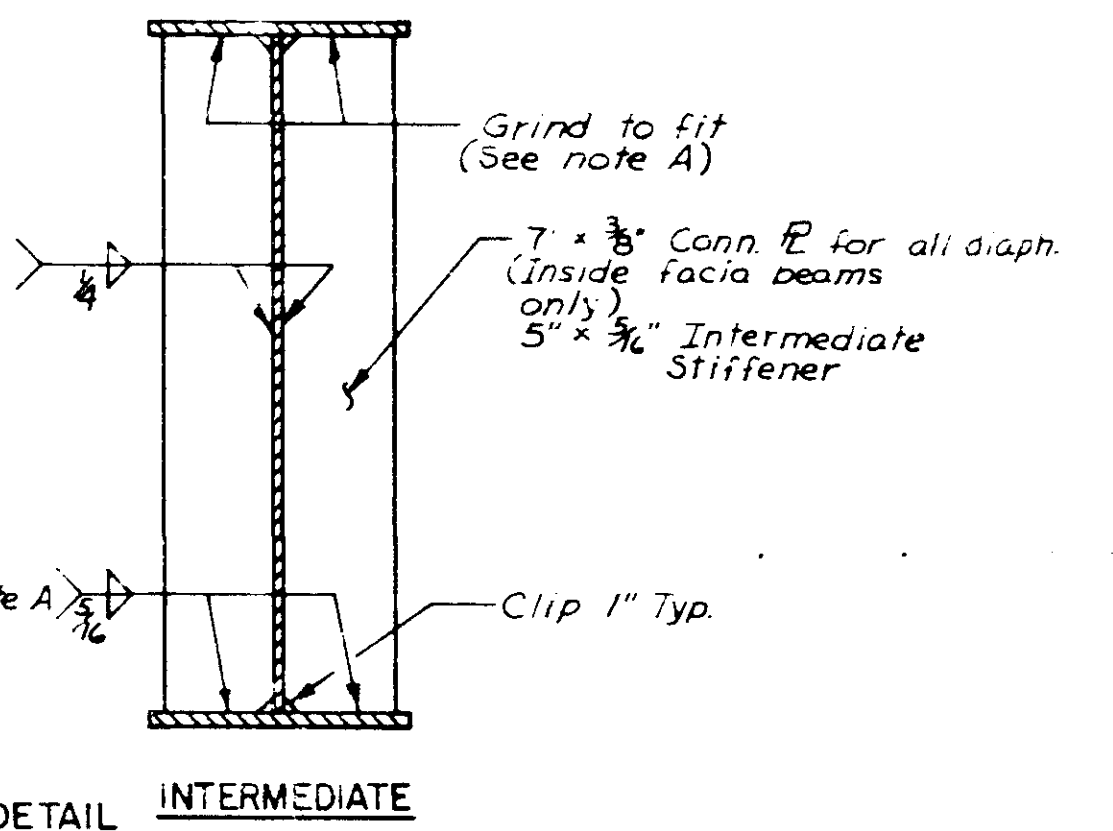
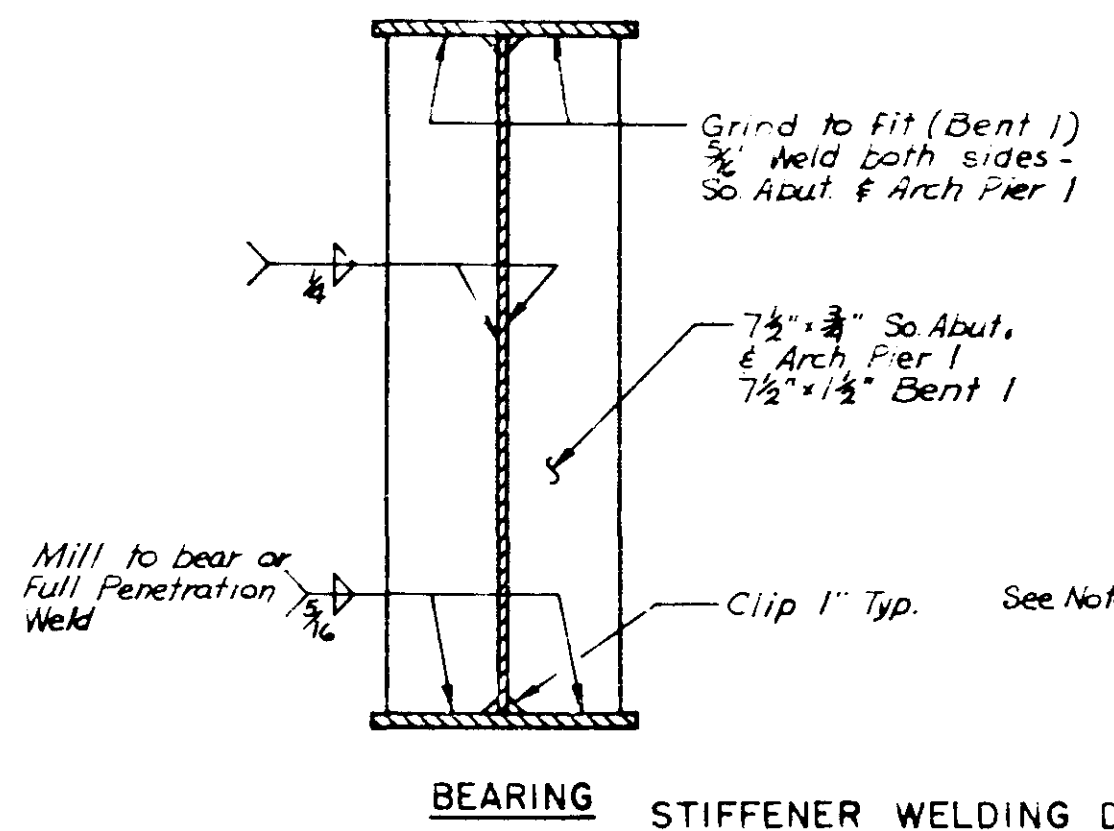
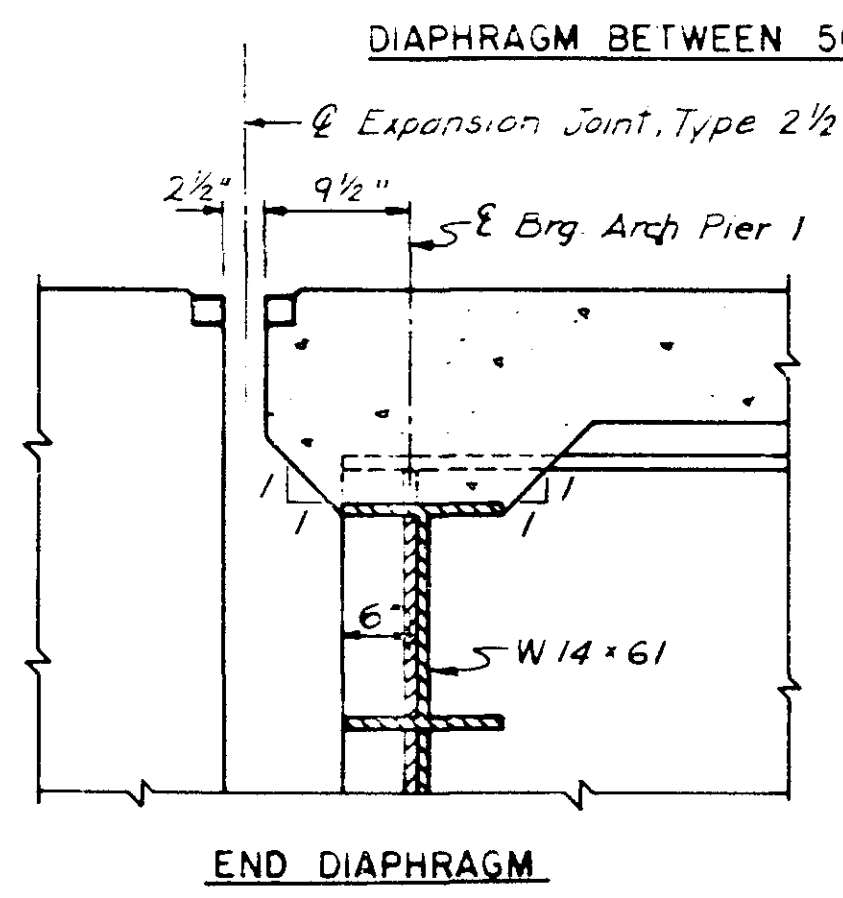
TITLE: FRAMING PLAN NORTH & SOUTH APPROACH		DES: <i>W.H.</i>	DR: <i>L.D.H.</i>	APPROVED: <i>5-7-79</i>	Bridge No. 2440
		CHK:	CHK:	Sheet No. 38 of 148 Sheets	

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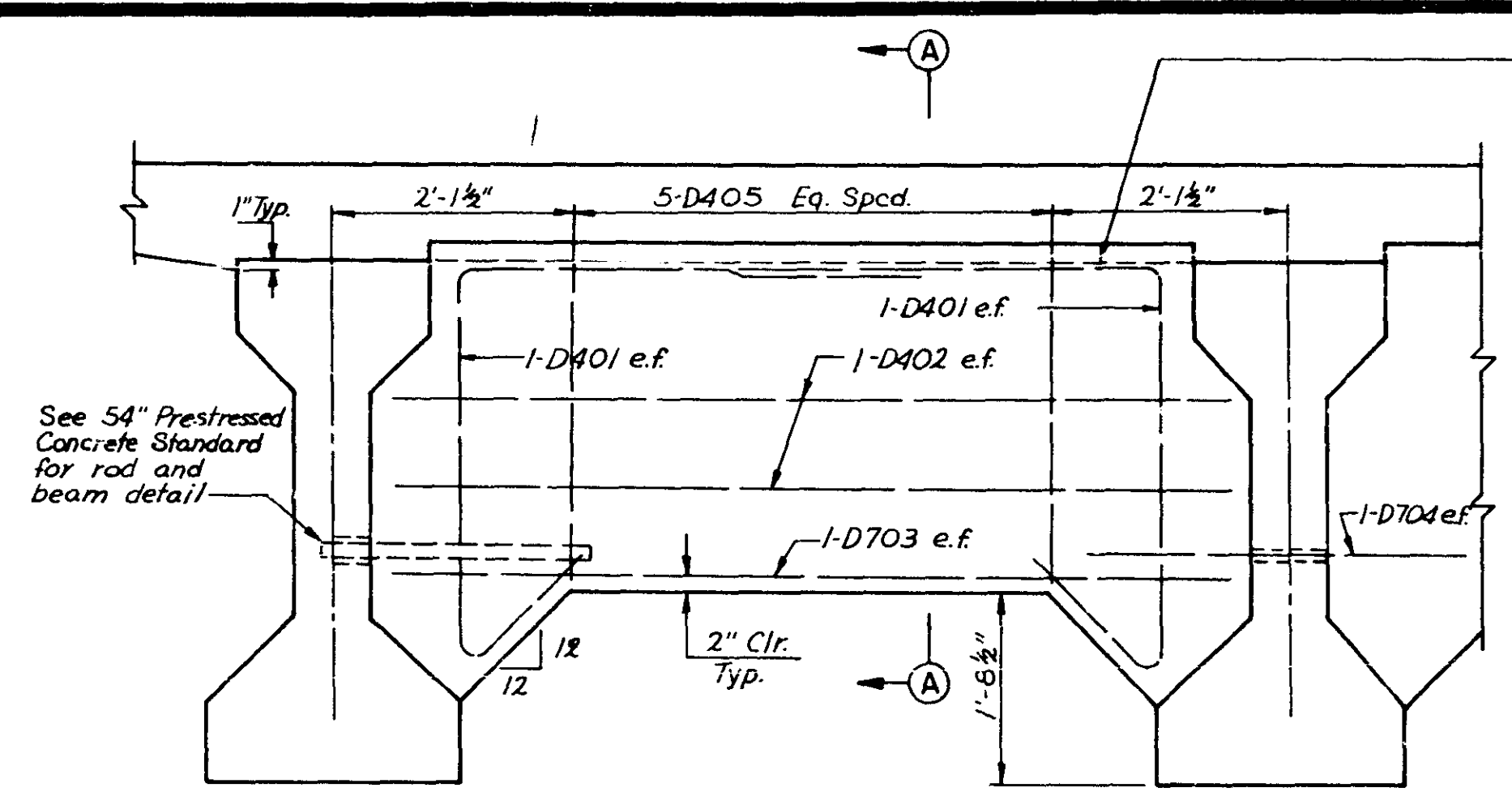
Note: For special diaphragms between Beams G and H So. Approach see sheet 3 of 4. For remaining diaphragms from So. Abutment to Bent 1 see Mn/DOT Standard 6402.

For location of partial stiffeners see sheet 47

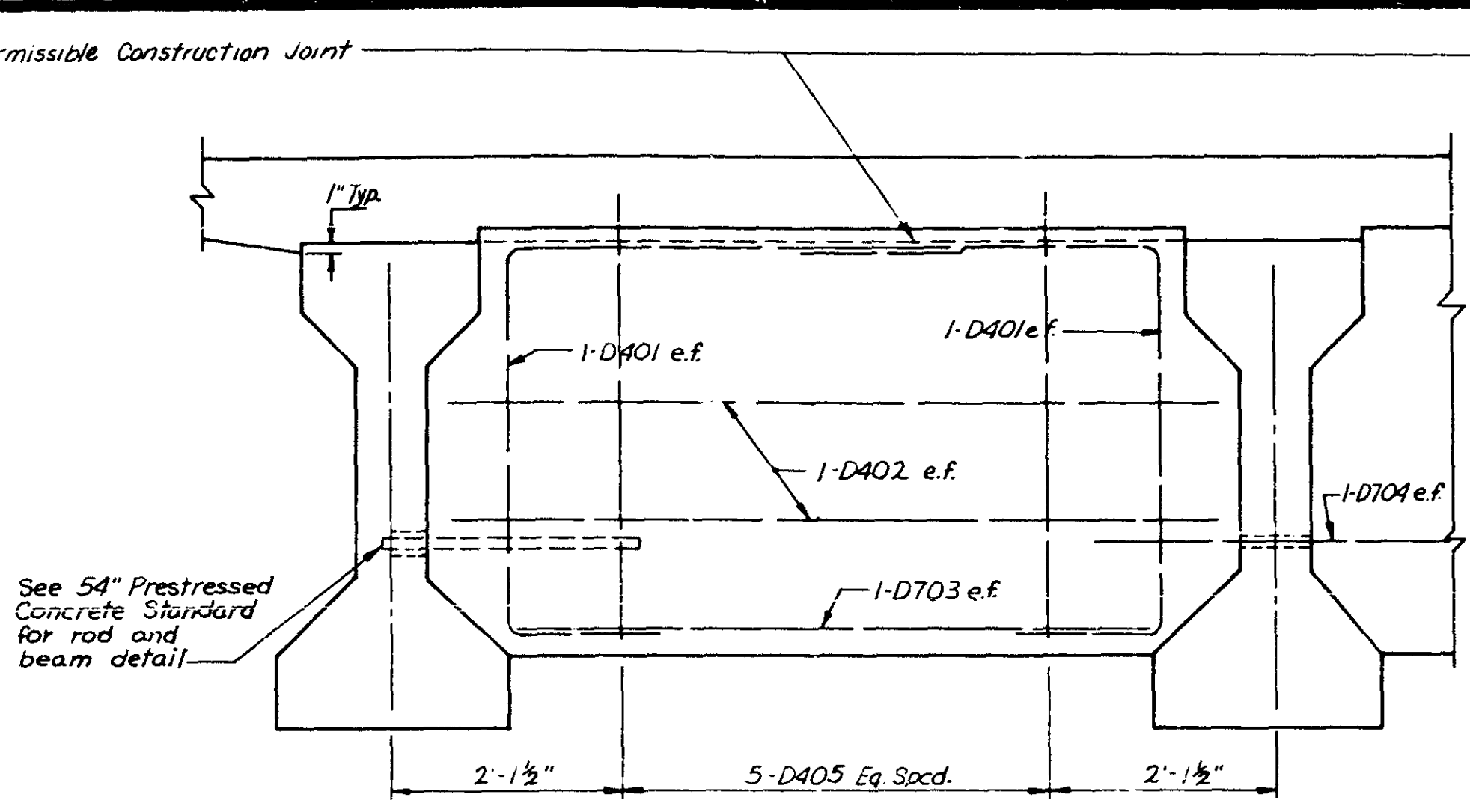


Note A: In areas where there are no shear connectors the intermediate stiffeners will be welded to the bottom and have a tight fit at the top. In areas where there are shear connectors, the intermediate stiffeners will be welded at the top and have a tight fit at the bottom.

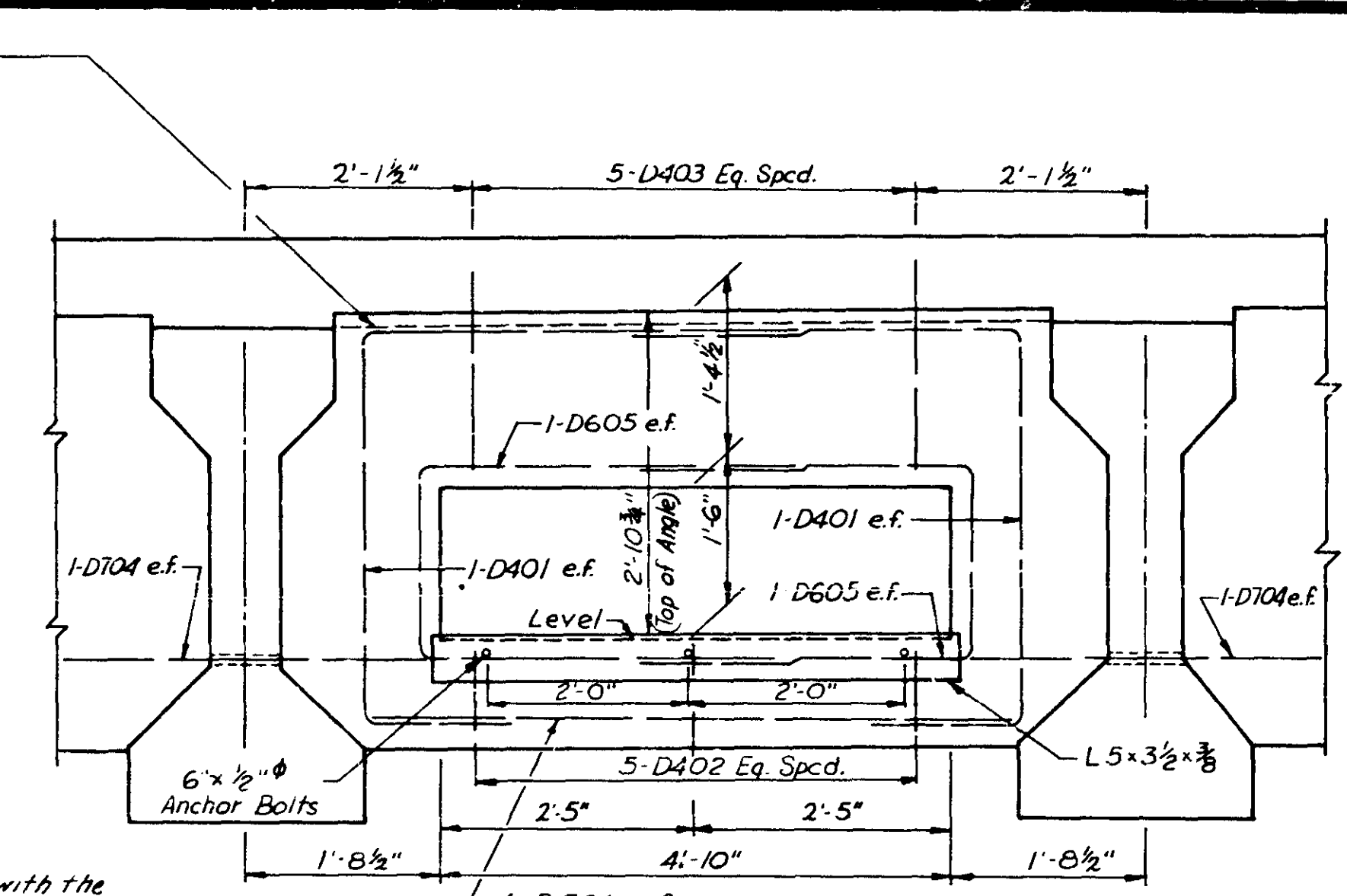
TITLE:	DES: WHH	DR: LDH	APPROVED:	Bridge No.
DIAPHRAGM AND FRAMING DETAILS	CHK: D.R.A	CHK: D.E.A	5-7-79	2440
SHEET 1 OF 4	Sheet No. 39 of 148 Sheets			



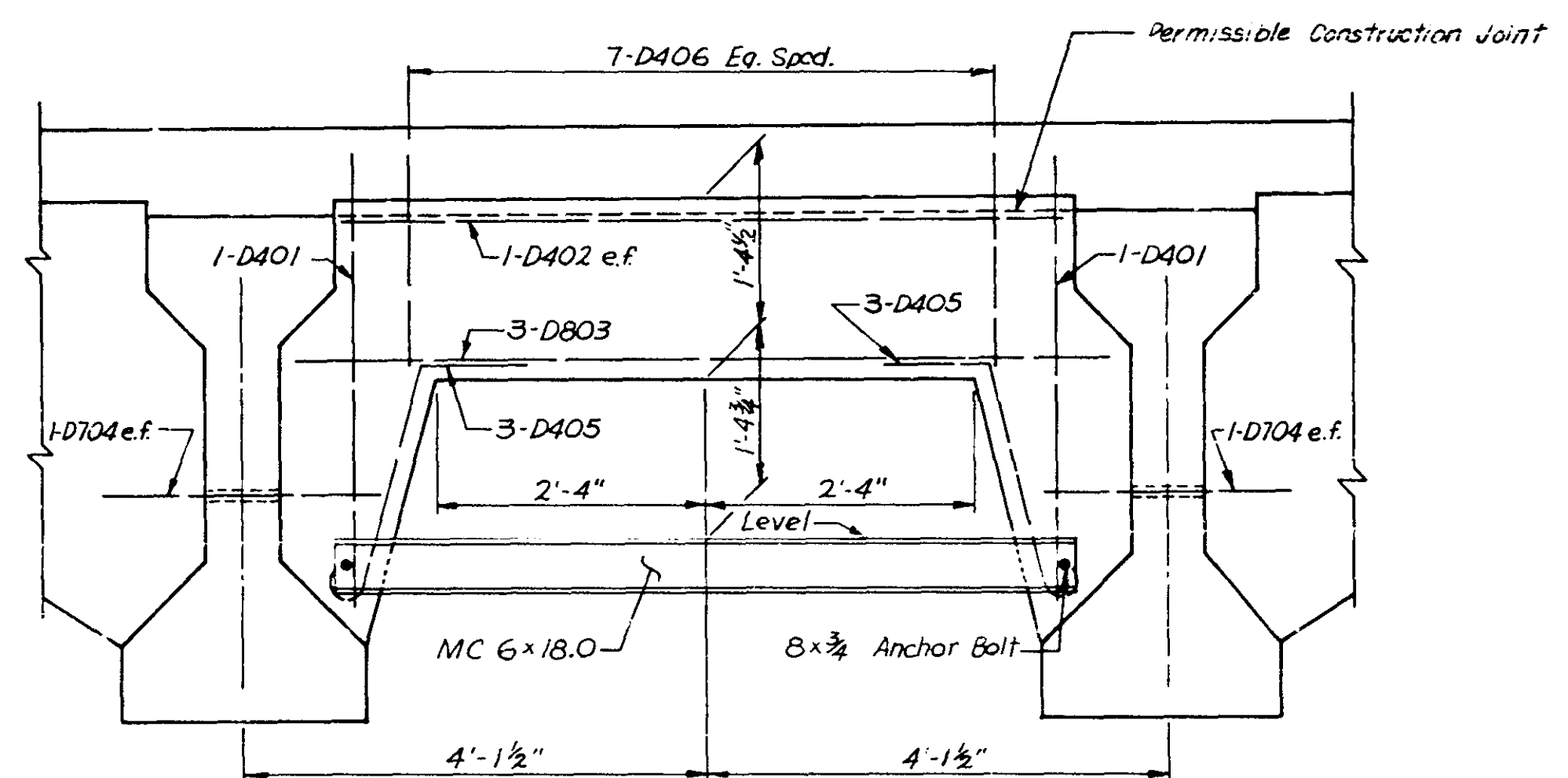
DIAPHRAGM AT NORTH ABUTMENT AND ARCH PIER 8
TYPE 1
Scale: 3/8"=1'-0"



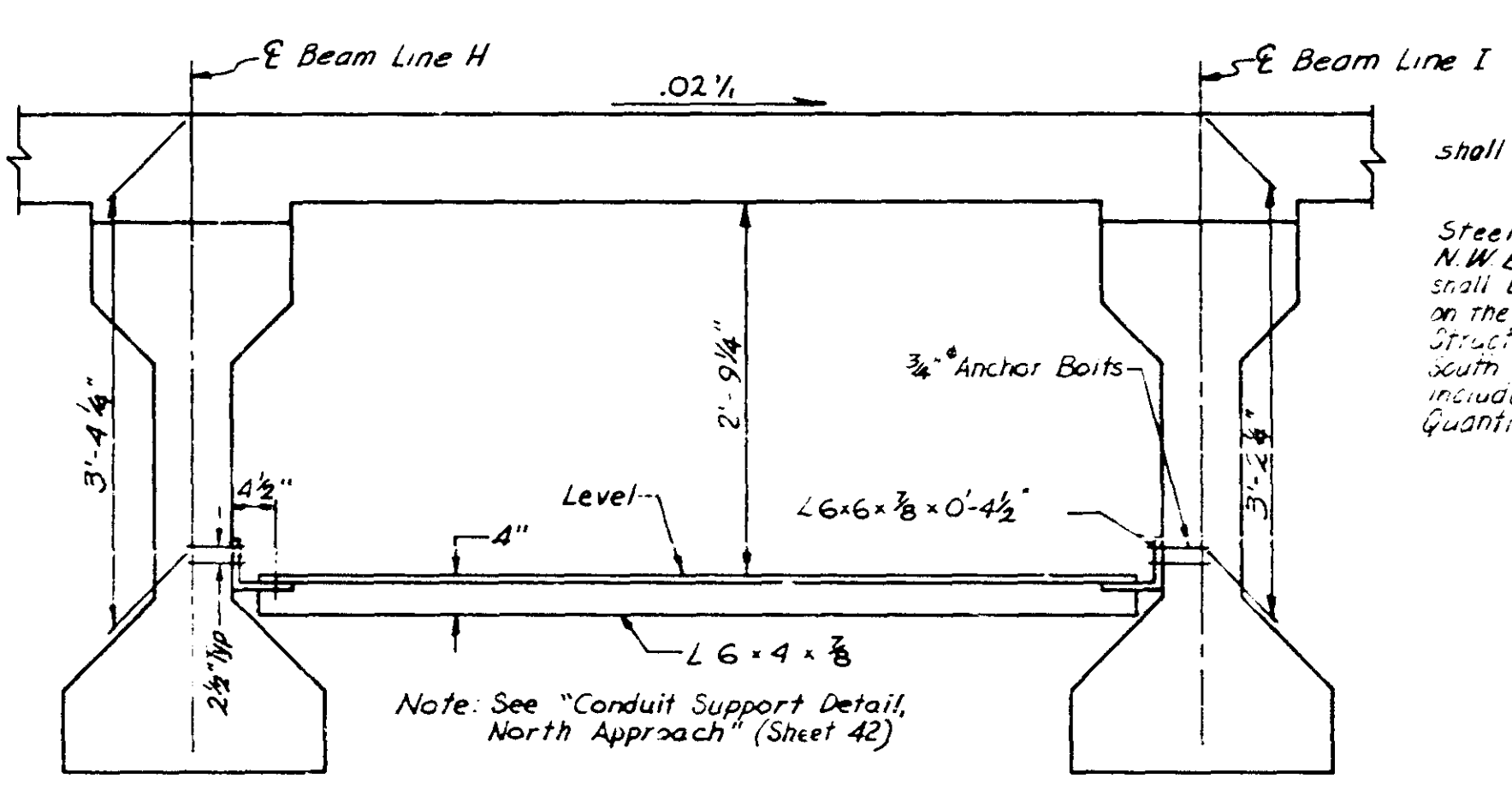
INTERMEDIATE DIAPHRAGM
TYPE 2 & 3
Scale: 3/8"=1'-0"



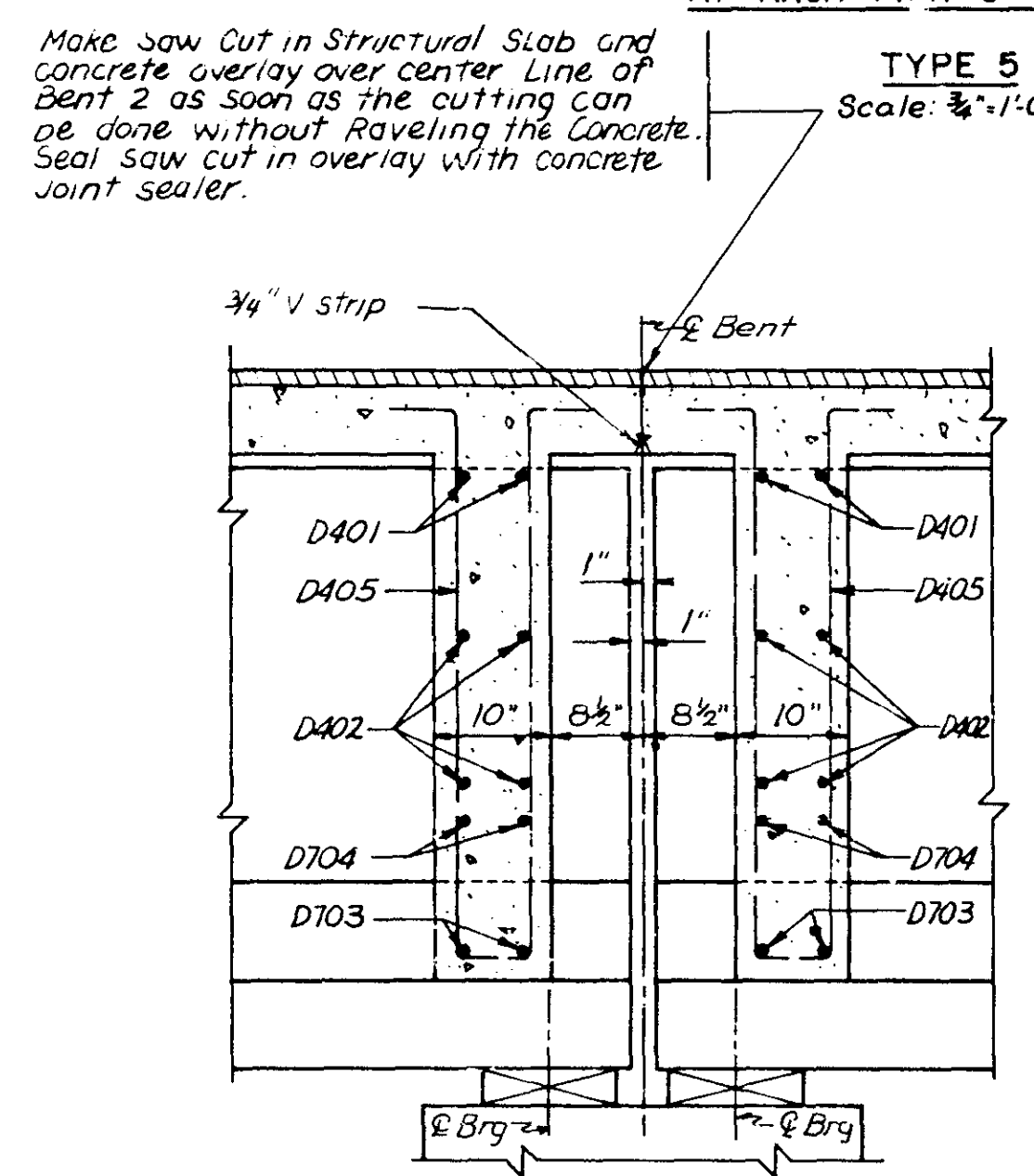
SPECIAL DIAPHRAGM FOR NWBT CONDUIT
TYPE 4 & 6
Scale: 3/8"=1'-0"



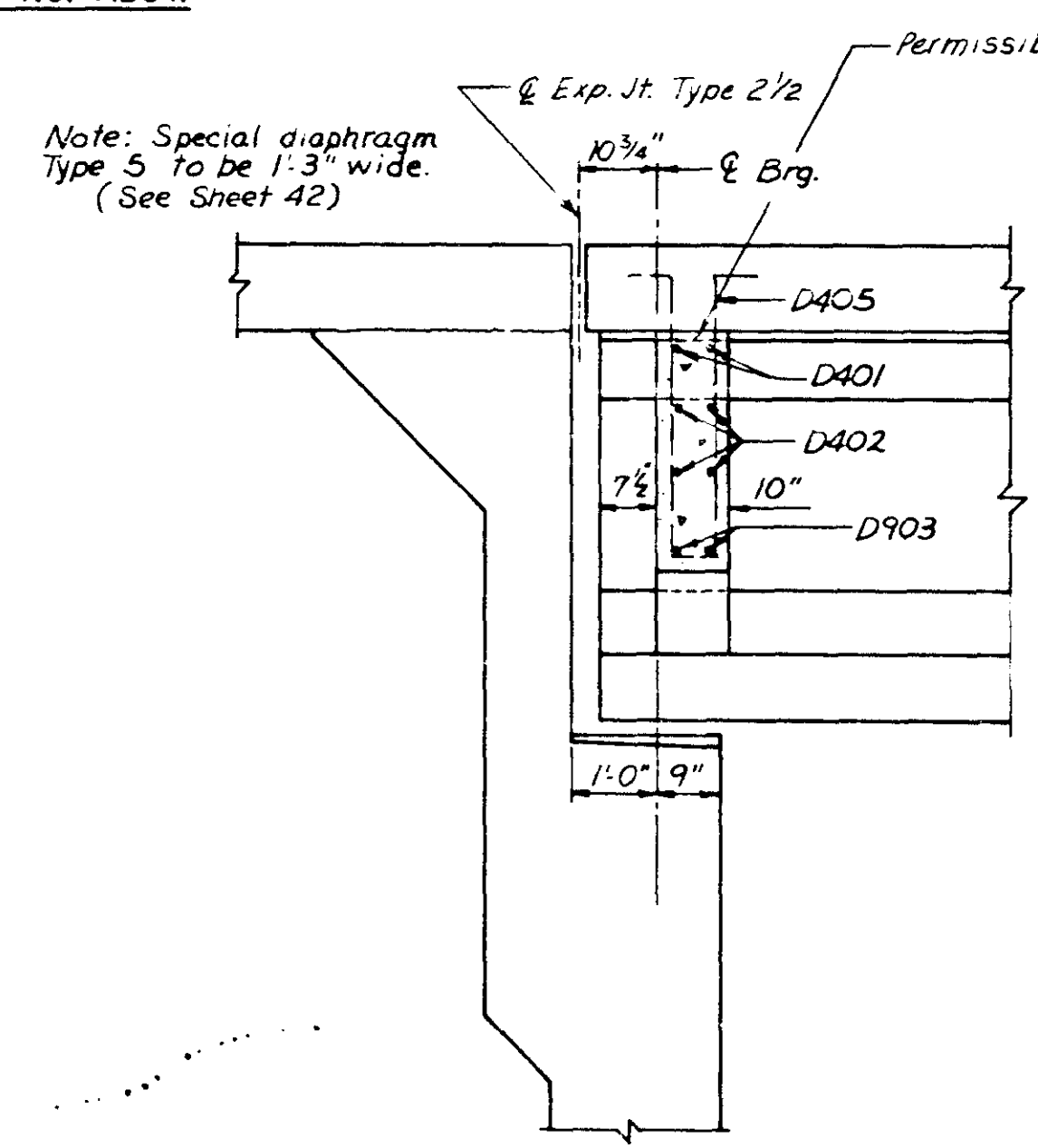
SPECIAL DIAPHRAGM FOR NWBT CONDUIT
AT ARCH PIER 8 & NO. ABUT.
TYPE 5
Scale: 3/8"=1'-0"



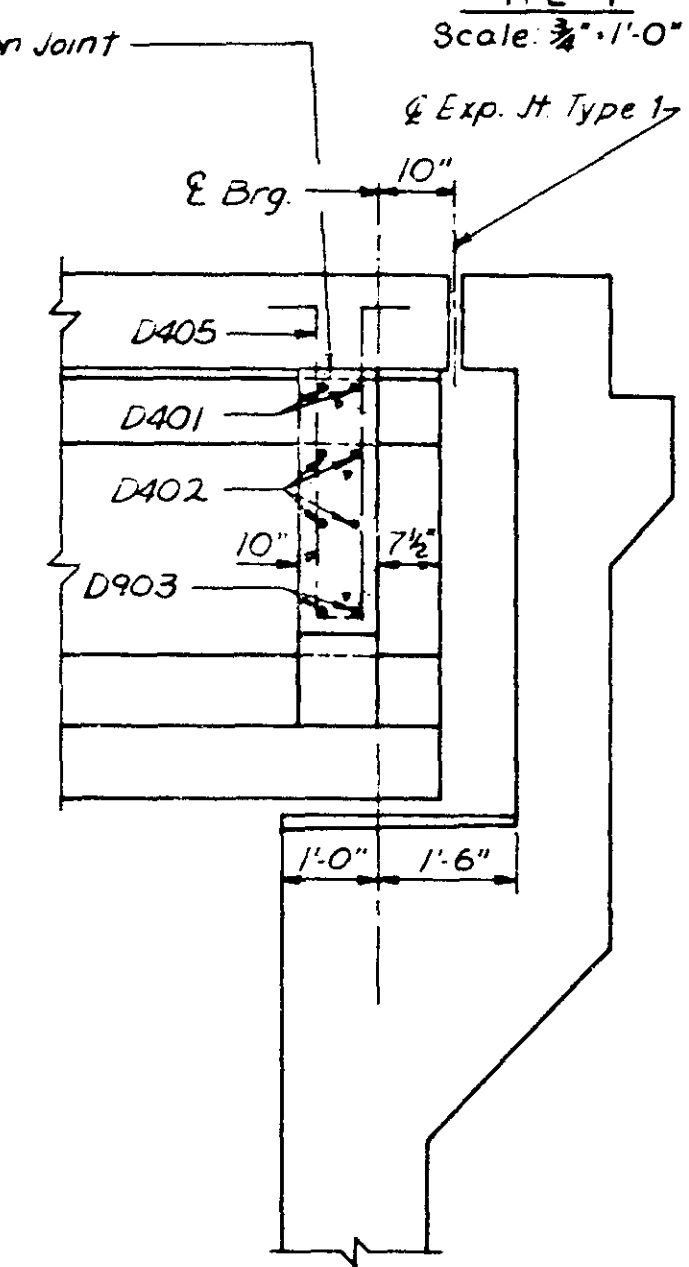
SPECIAL HANGER FOR NWBT CONDUIT
TYPE 7
Scale: 3/8"=1'-0"



TYPE 3
Scale: 3/8"=1'-0"



ARCH PIER 8



NORTH ABUTMENT

TYPE 1
SECTION A-A
Scale: 1/2"=1'-0"

All diaphragm bars shown are listed with the superstructure reinforcement. Diaphragm concrete and reinforcement quantities are included in superstructure quantities (except threaded rods are included in payment for prestressed beams).

Diaphragms shall be Concrete Mix No. 3143
Structural steel not included in the N.W.B.T. conduit system shall be Structural Steel (3306) on the North Approach and Structural steel (3309) on the South Approach. This steel is included in the Superstructure Quantities.

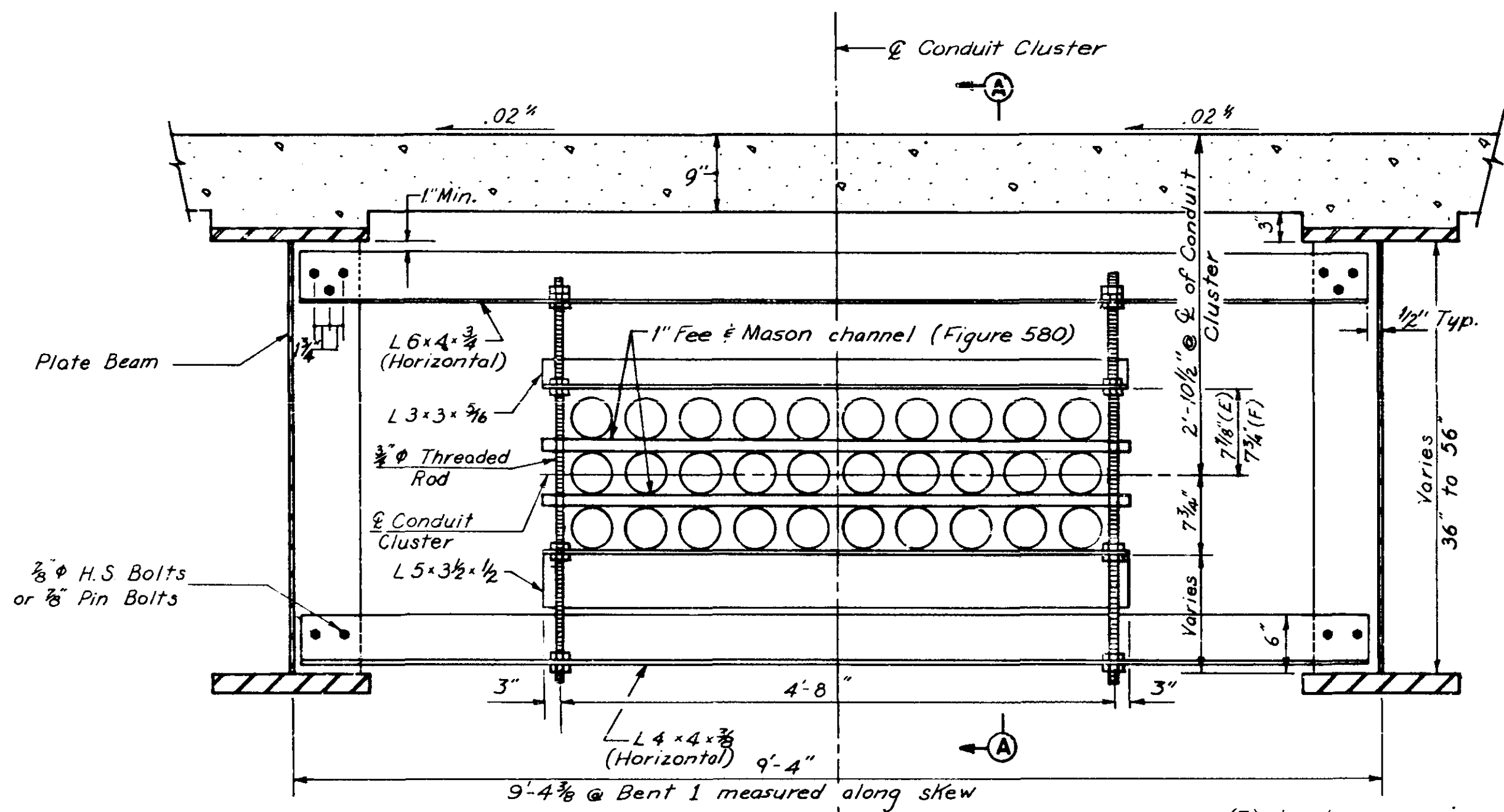
- (1) Billed under Type 1 Diaphragm.
- (2) Billed under Type 2 Diaphragm.
- (3) Billed under Type 3 Diaphragm.

BAR	NO.	SIZE	LENGTH	TYPE	DIMENSIONS			LOCATION	
					A	B	C		
TYPE 1 DIAPHRAGM (16 TOTAL)									
D401	4	4	8-6	Str.	189	3-9	3-6	12	Vertical
D402	4	4	7-1	Str.					Horizontal
D703	2	7	7-1	Str.					Horizontal
D704	32*	7	5-0	Str.					Horizontal
D405	5	4	8-0	Str.	121	0-6	3-3	0-6	Vertical
TYPE 2 DIAPHRAGM (48 TOTAL)									
D401	4	4	9-0	Str.	113	3-11	3-7		Vertical
D402	4	4	7-1	Str.					Horizontal
D703	2	7	6-0	Str.					Horizontal
D405	5	4	9-10	Str.	121	0-6	4-2	0-6	Vertical
D704	96*	7	5-0	Str.					Horizontal
TYPE 3 DIAPHRAGM (8 TOTAL)									
D401	8	4	9-0	Str.	113	3-11	3-7		Vertical
D402	8	4	7-1	Str.					Horizontal
D703	4	7	6-0	Str.					Horizontal
D704	32*	7	5-0	Str.					Horizontal
D405	10	4	9-10	Str.	121	0-6	4-2	0-6	Vertical
TYPE 4 DIAPHRAGM (6 TOTAL)									
D401	4	4	9-0	Str.	113	3-9	3-7		Vertical
D402	5	4	3-3	Str.	109	0-6	0-9		Vertical
D403	5	4	5-0	Str.	121	0-6	1-9	0-6	Vertical
D704	-	-	-	-	-	-	-	-	-
D605	4	6	9-2	Str.	105	3-7	2-0		Horizontal
D706	2	7	6-0	Str.					Horizontal
TYPE 5 DIAPHRAGM (2 TOTAL)									
D401	2	4	9-11	Str.	121	0-11	4-0	0-6	Vertical
D402	2	4	6-4	Str.					Horizontal
D803	3	8	7-1	Str.					Horizontal
D704	-	-	-	-	-	-	-	-	-
D405	6	4	3-10	Str.	190	1-0	2-3	3	Vertical
D406	7	4	5-9	Str.	121	0-11	1-11	0-6	Vertical
TYPE 6 DIAPHRAGM (1 TOTAL)									
D401	8	4	9-0	Str.	113	3-9	3-7		Vertical
D402	10	4	3-3	Str.	109	0-6	0-9		Vertical
D403	10	4	5-0	Str.	121	0-6	1-9	0-6	Vertical
D704	-	-	-	-	-	-	-	-	-
D605	8	6	9-2	Str.	105	3-7	2-0		Horizontal
D706	4	7	6-0	Str.					Horizontal

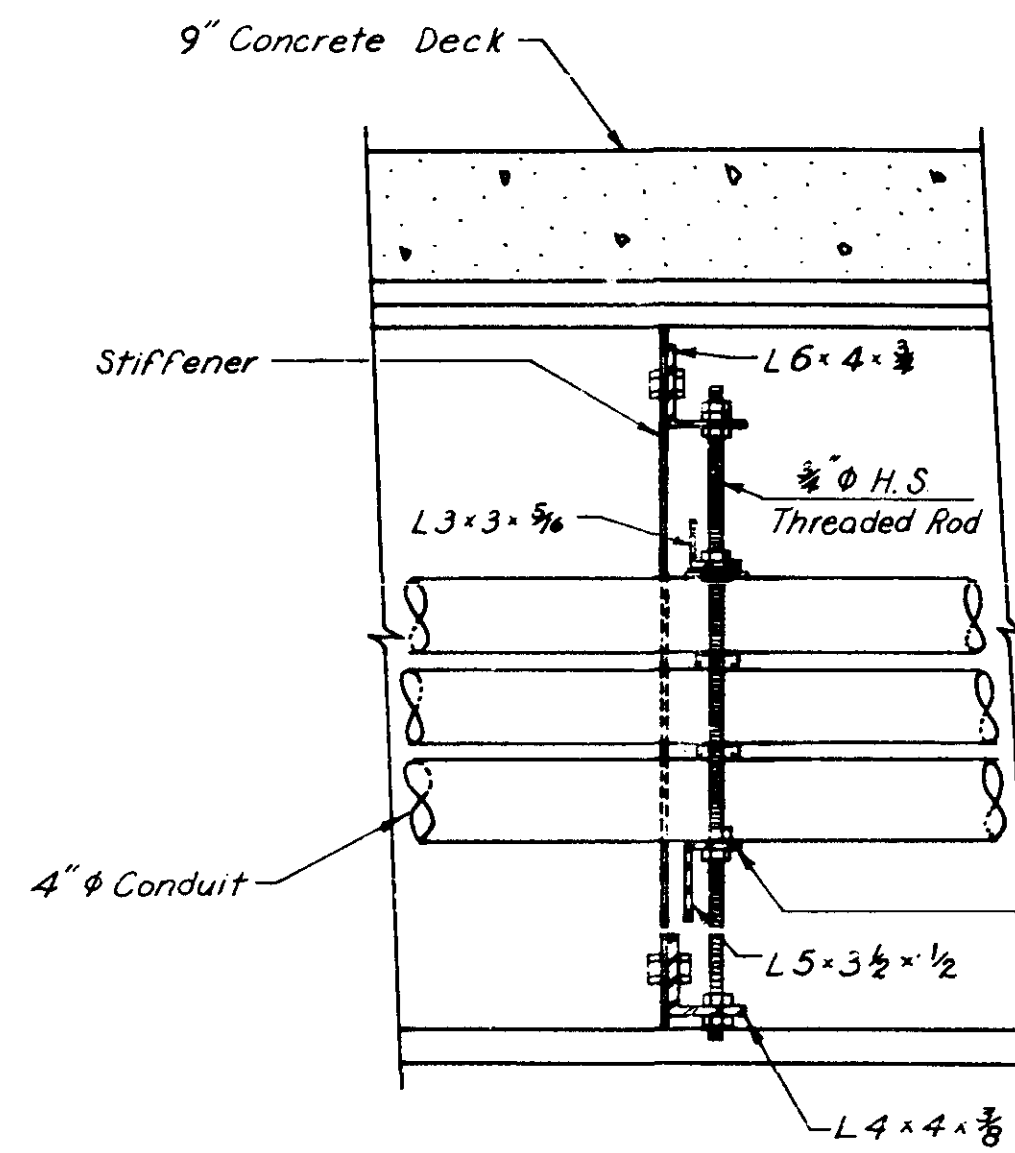
* Total number not to be multiplied by number of diaphragms of this type.

TITLE DIAPHRAGM AND FRAMING DETAILS SHEET 2 OF 4	DES. W.H.H. CHK. GS	DR. L.D.H. CHK. GS	APPROVED: 7-79	Bridge No. 2440
Sheet No. 40 of 148 Sheets				

Note: See Sheet 117 for detail of support at arch pier 1 wall II.



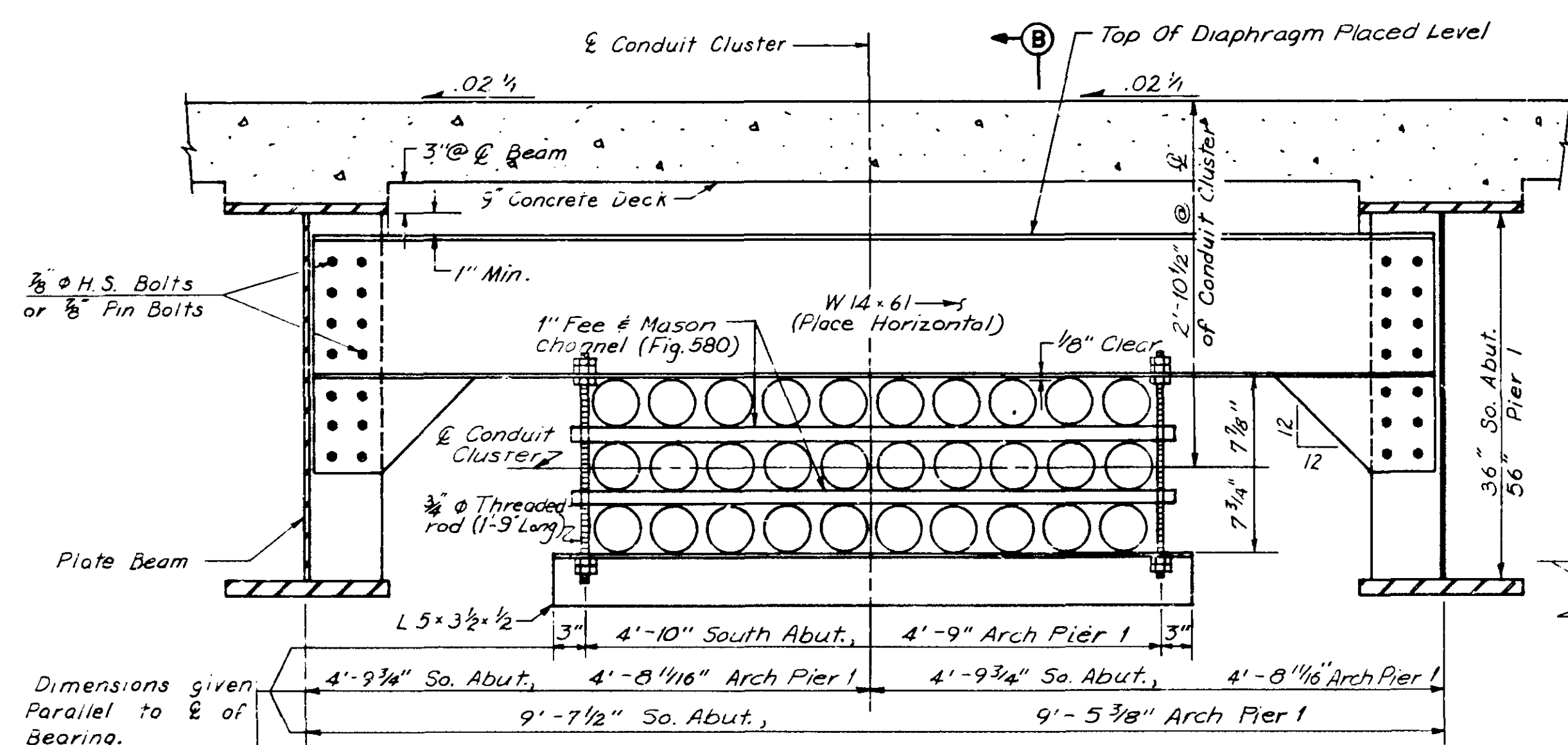
TYPICAL CONDUIT SUPPORT DIAPHRAGM
Scale: 1"=1'-0"



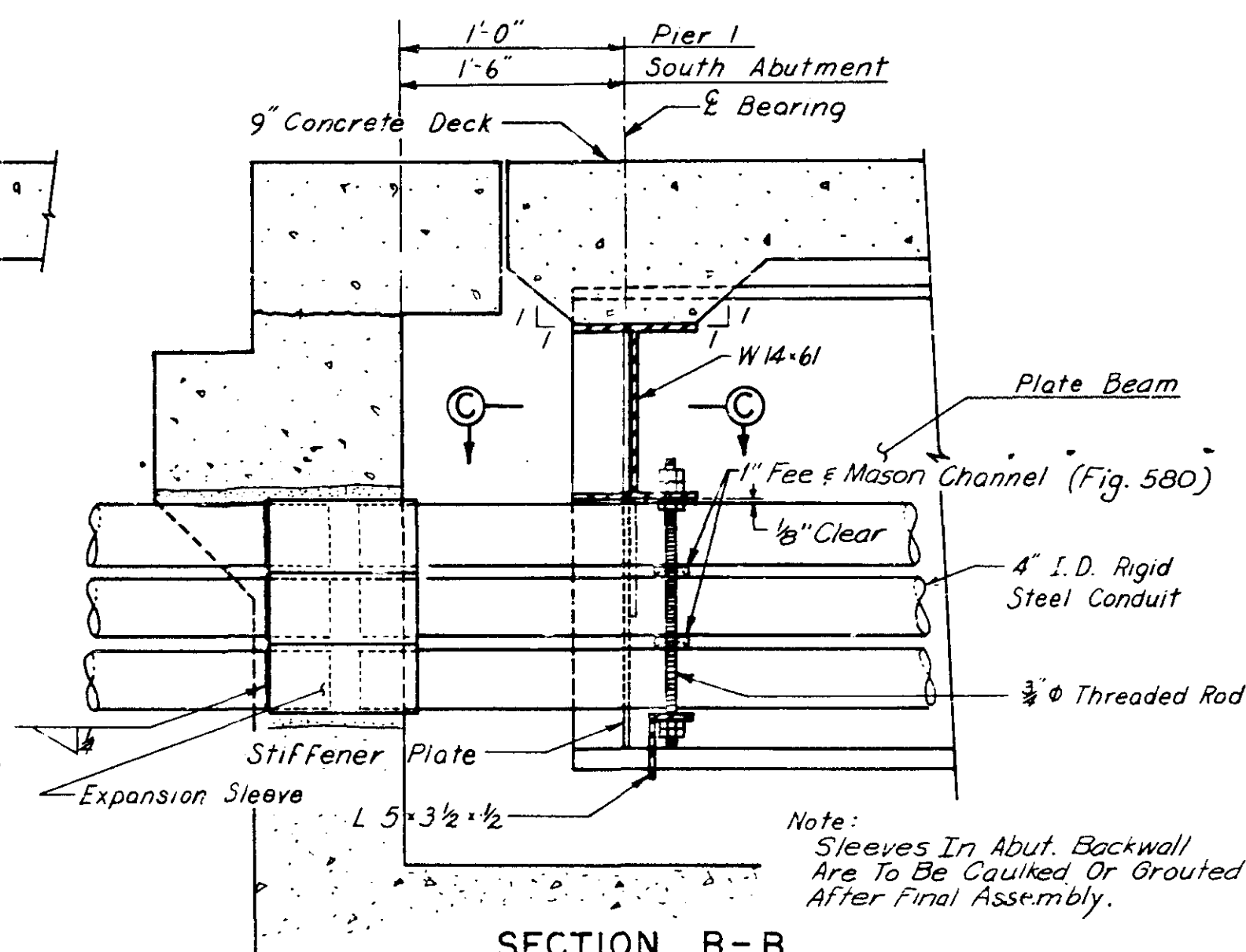
SECTION A-A
Scale: 1"=1'-0"

Note: Conduit Supports at Bent 1 are Fixed. All others are expansion.

Note: All support material between L 6x4 and L 4x4 for typical conduit support diaphragm and below W 14x61 for end diaphragm conduit support to be included in item 2545.509 Conduit System (Telephone). 4" steel conduits to be furnished by N.W.B.T. and placed under item 2545.509. See estimated quantities N.W.B.T. Conduit System sheet 42.

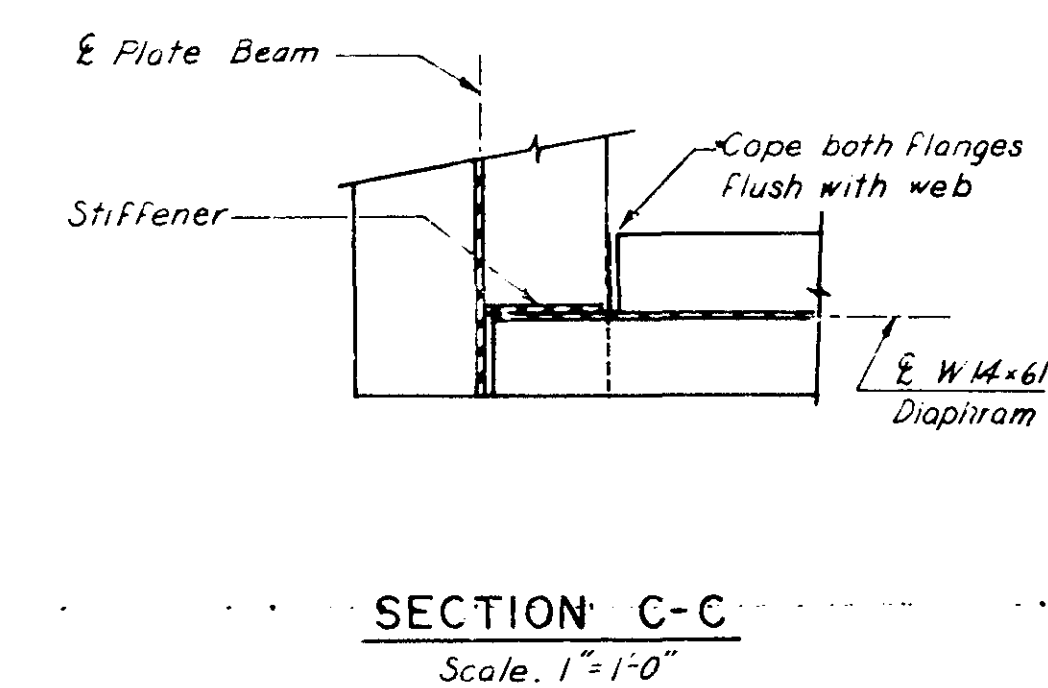


END DIAPHRAGM CONDUIT SUPPORT
Scale: 1"=1'-0"

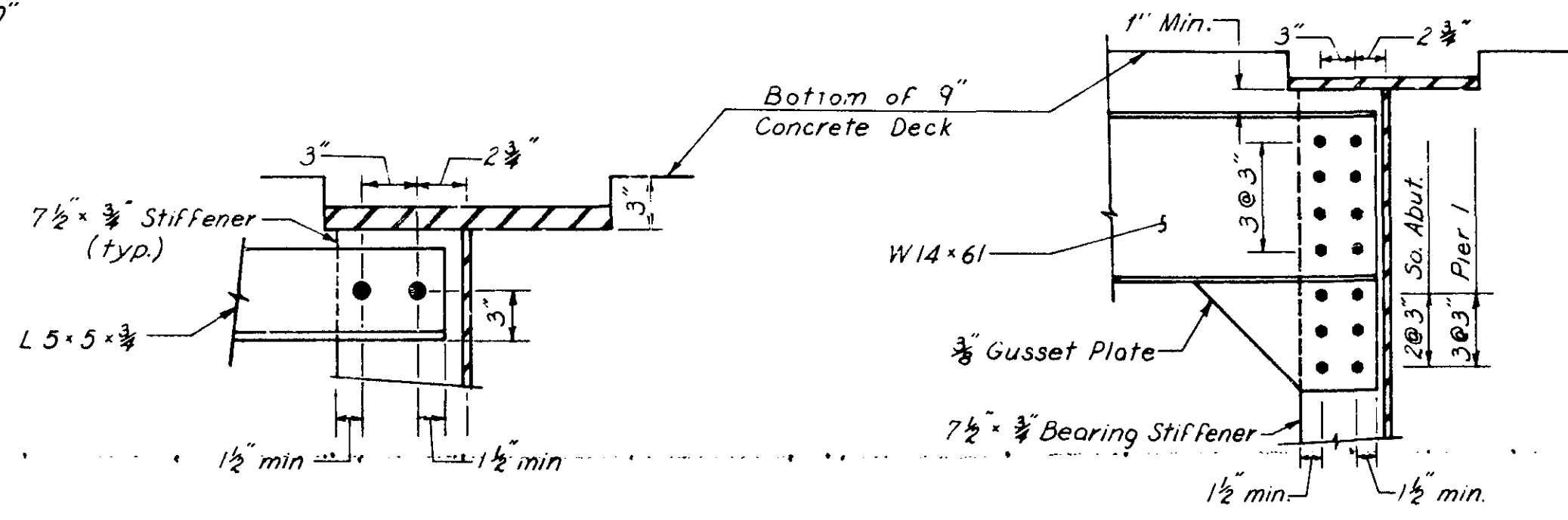


SECTION B-B
No Scale

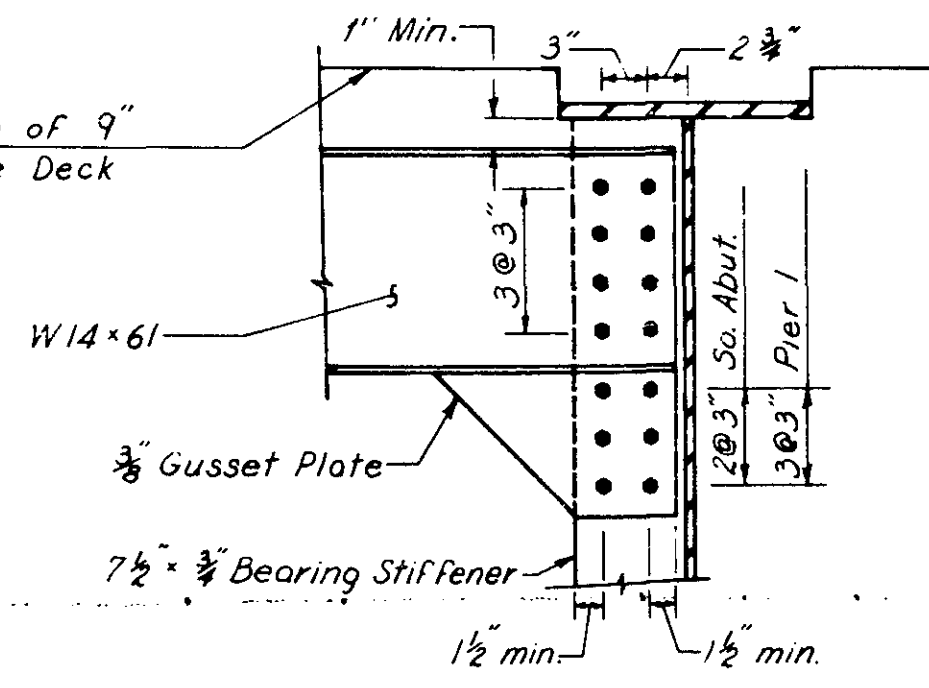
Note: Sleeves in Abut. Backwall Are To Be Caulked Or Grouted After Final Assembly.



SECTION C-C
Scale: 1"=1'-0"

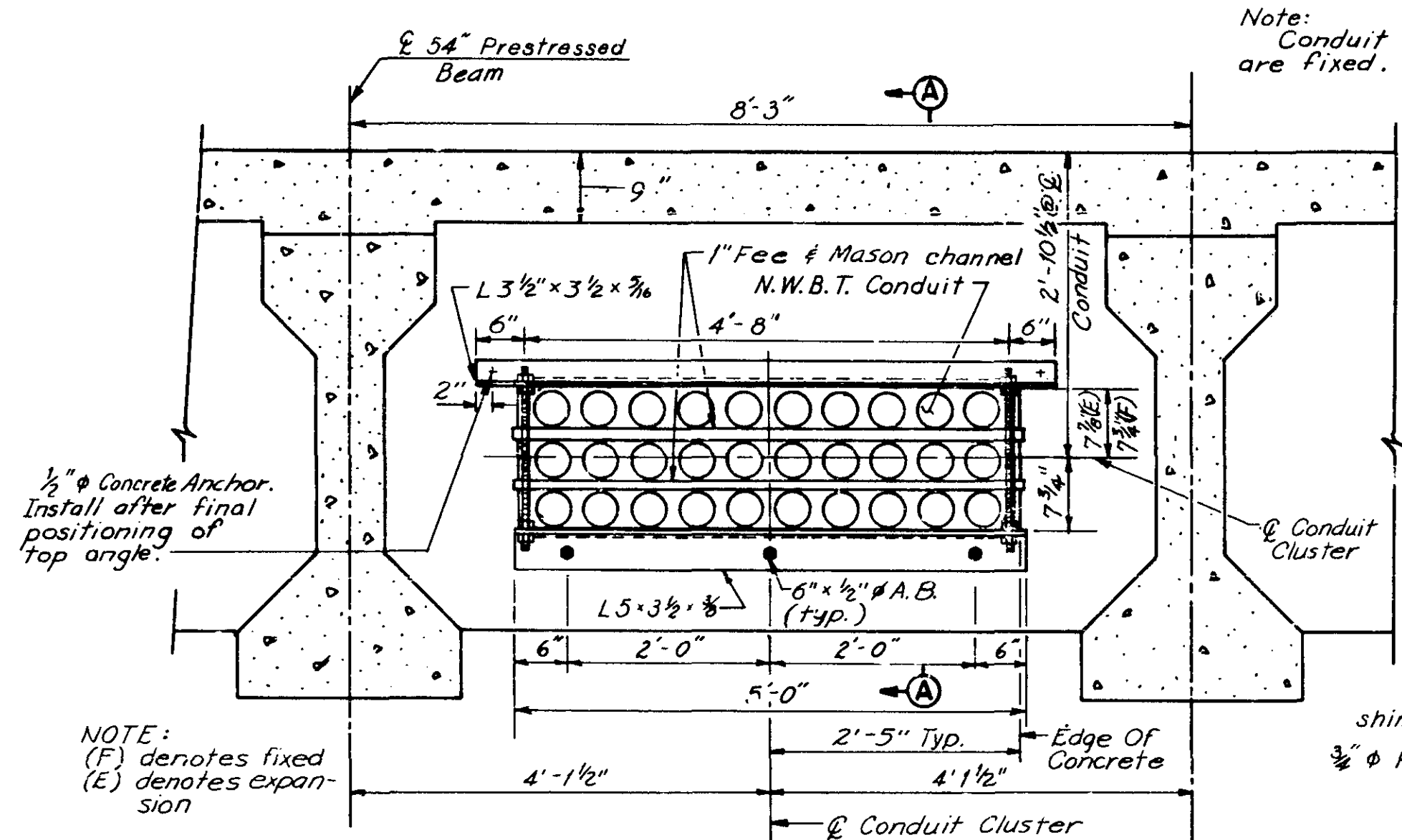


DETAIL "A"
Scale: 1 1/2"=1'-0"

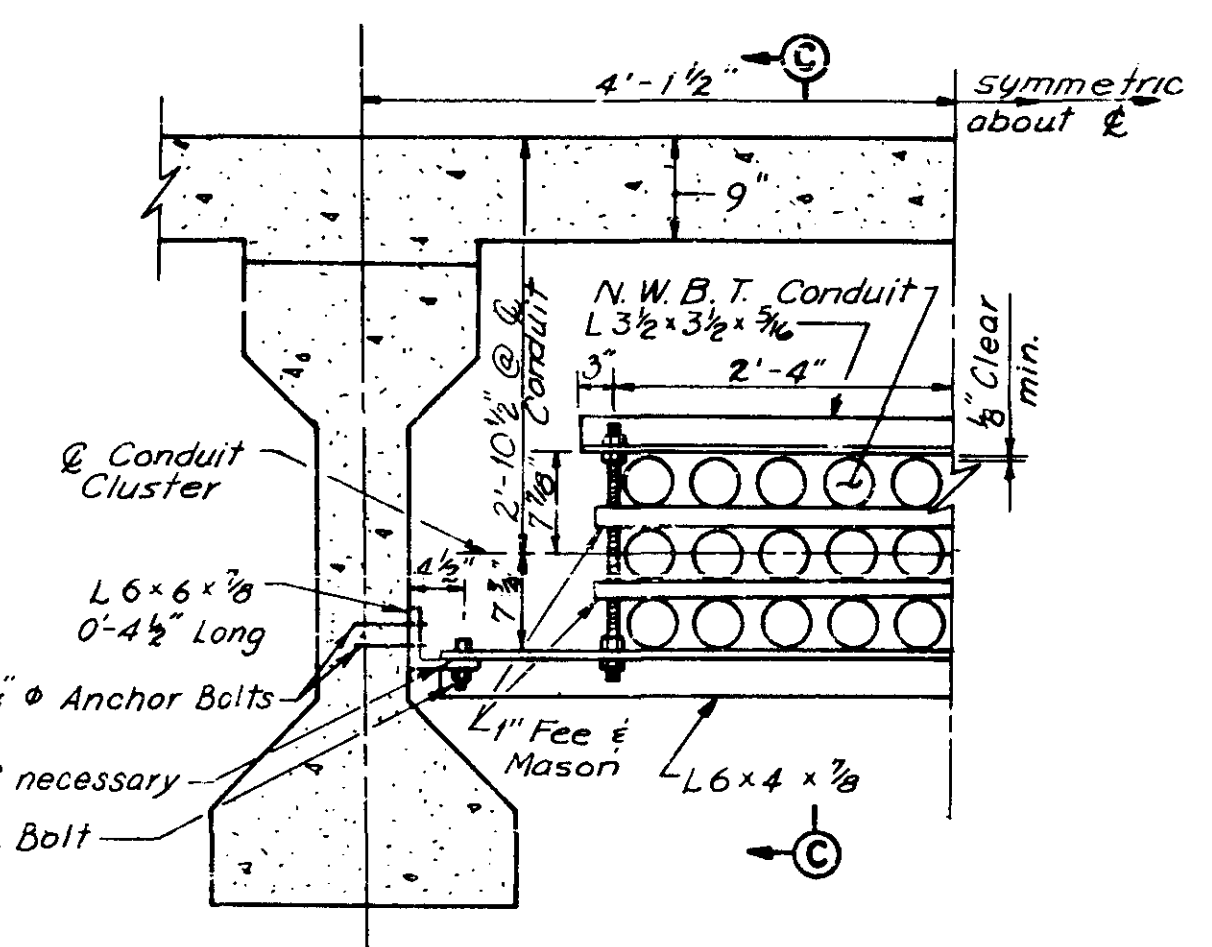


DETAIL "B"
Scale: 1"=1'-0"

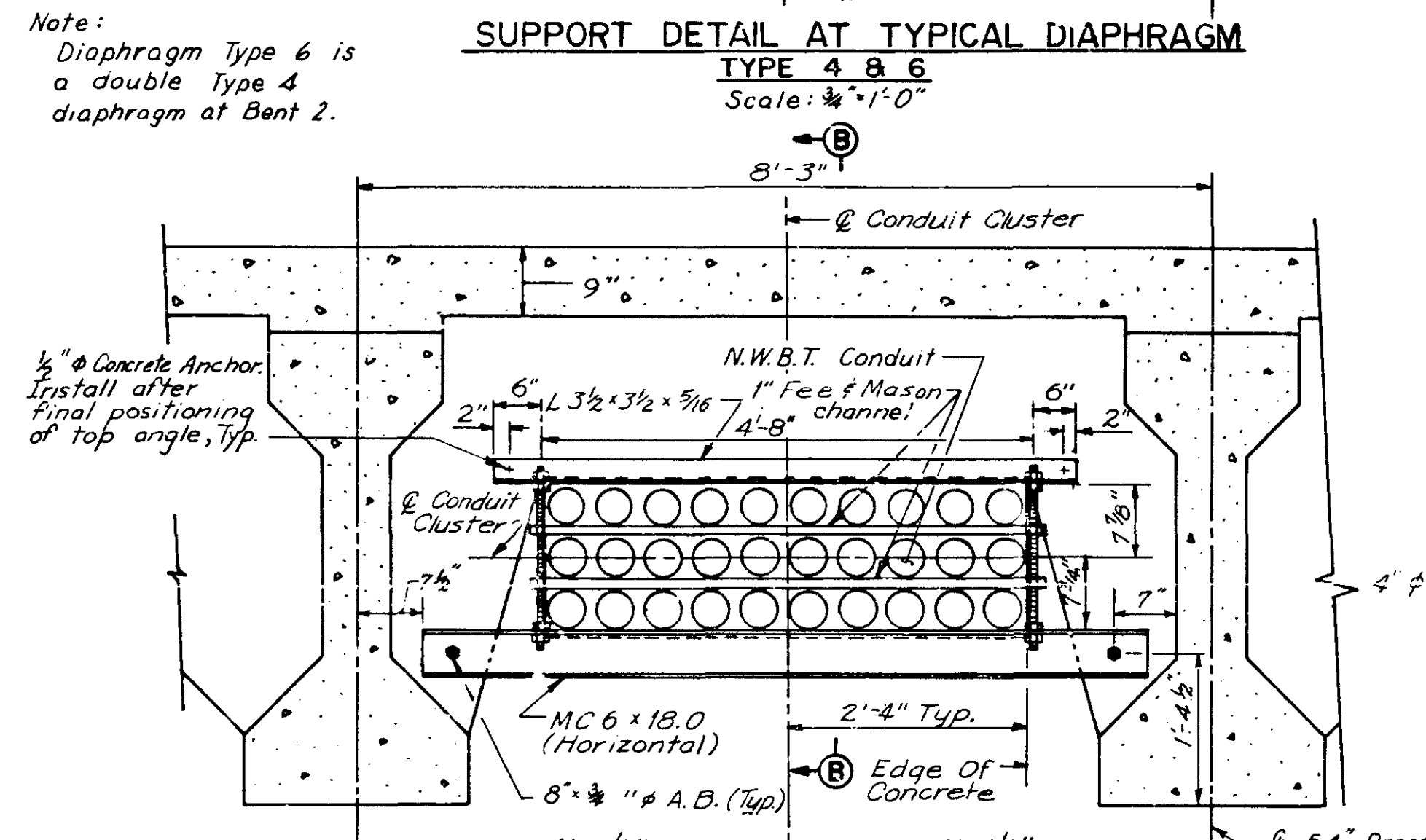
TITLE: DIAPHRAGM AND FRAMING DETAILS SHEET 3 OF 4	DES: RLL CHK: ROC	DR: RLL CHK: ROC	APPROVED: 5-7-79	Bridge No. 2440
	Sheet No. 41 of 148 Sheets			



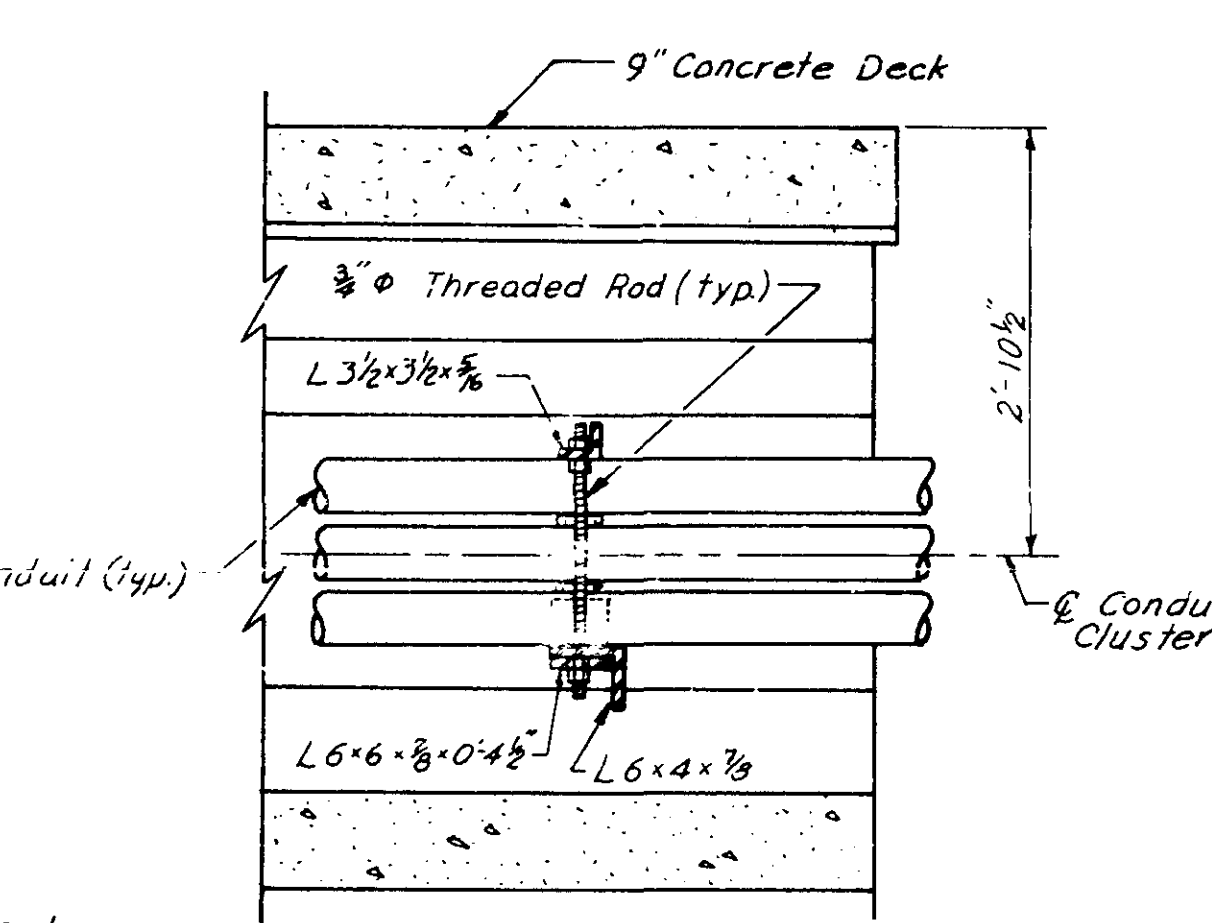
SUPPORT DETAIL AT TYPICAL DIAPHRAGM
TYPE 4 & 6
Scale: 3/4" = 1'-0"



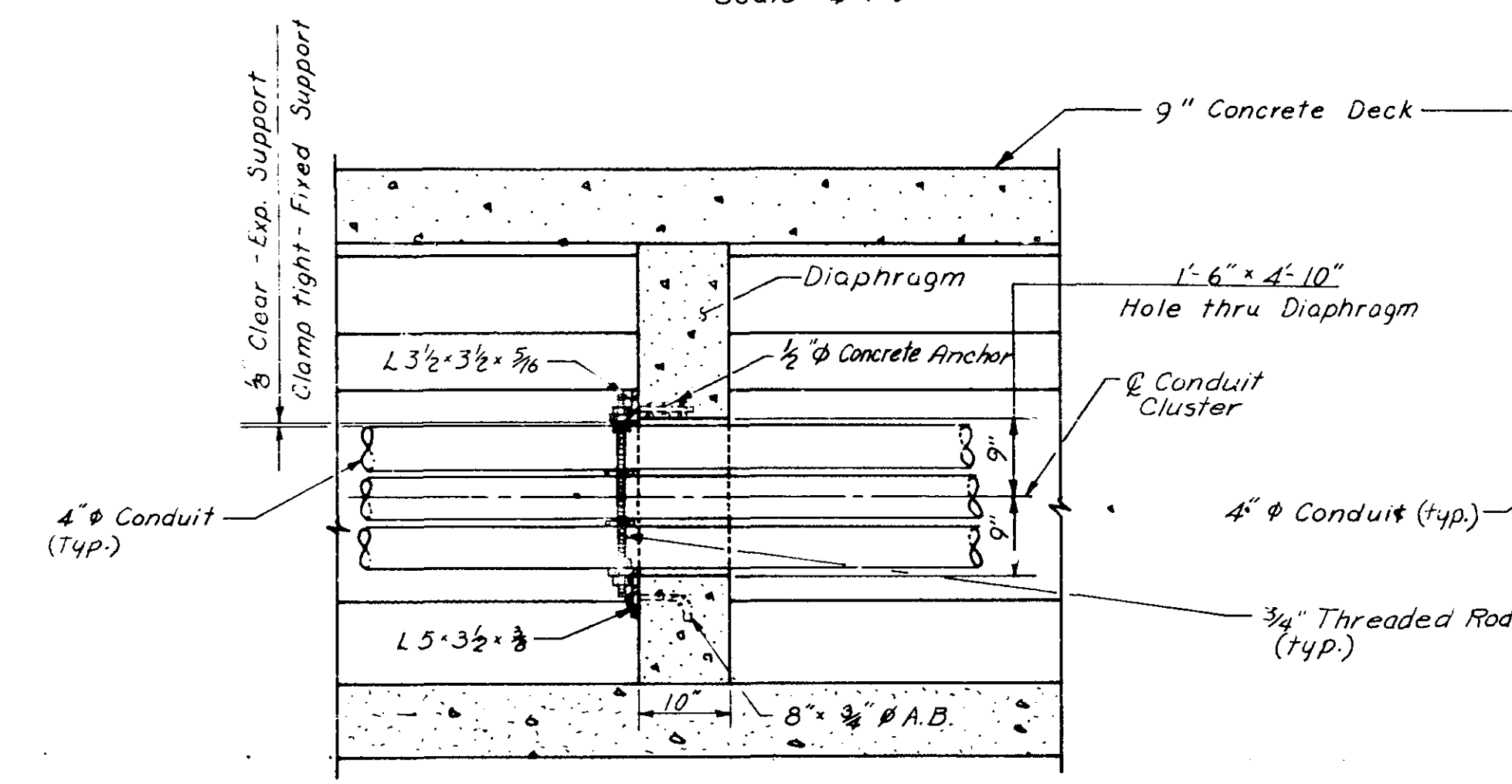
TYPICAL INTERMEDIATE CONDUIT SUPPORT
TYPE 7
Scale: 3/4" = 1'-0"



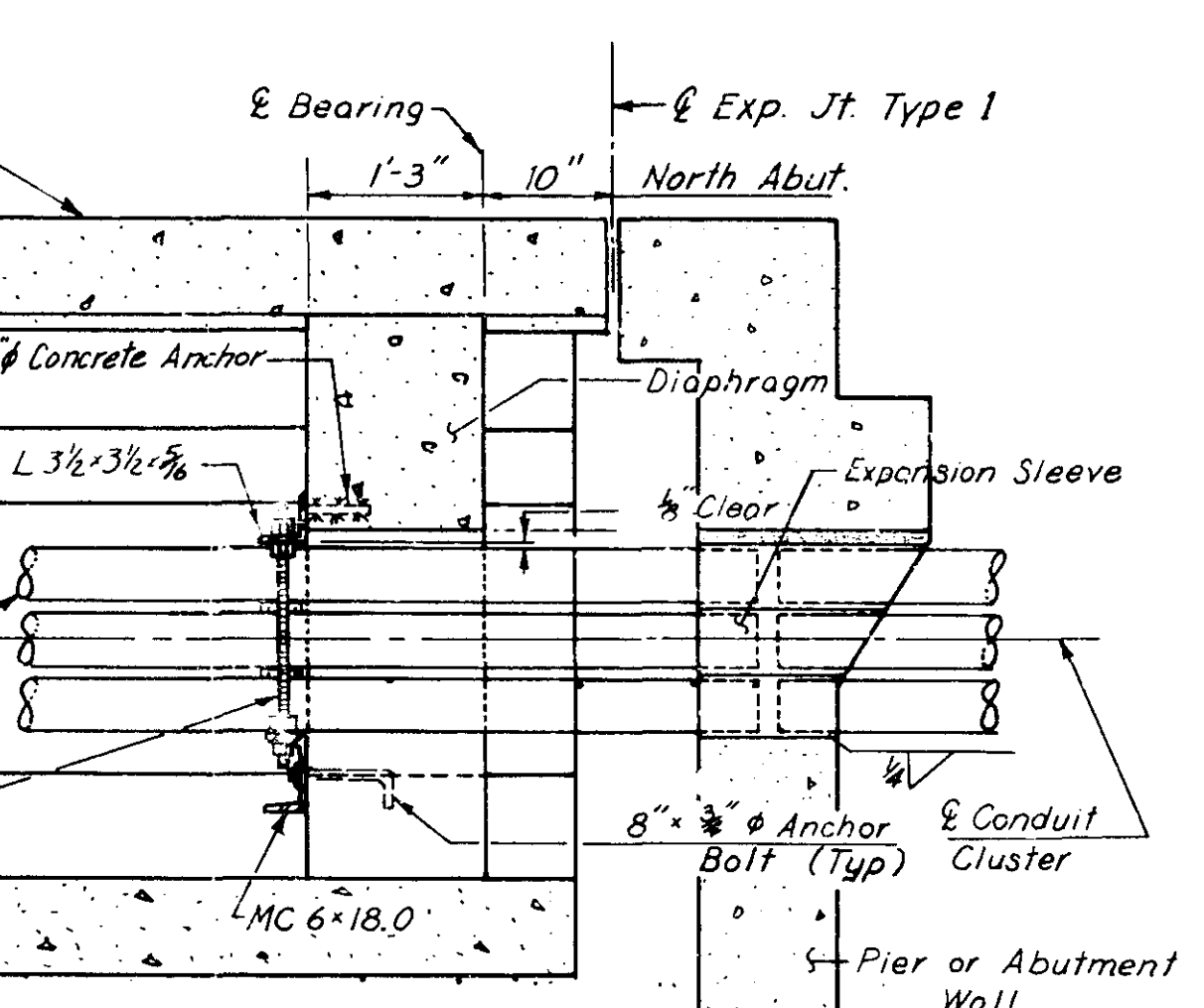
SUPPORT DETAIL AT END DIAPHRAGM
TYPE 5
Scale: 3/4" = 1'-0"



SECTION C-C
Scale: 3/4" = 1'-0"



SECTION A-A
Scale: 3/4" = 1'-0"



SECTION B-B
Scale: 3/4" = 1'-0"

Note: Sleeves in abutment backwall are to be caulked or grouted in after final assembly. Conduit and conduit hole details in Arch Pier B (Wall III) will be similar to section C-C on sheet no. 116.

Note: See Sheet 117 for detail of support at arch pier B - wall II.

ESTIMATED QUANTITIES - N.W.B.T. CONDUIT SYSTEM		
ITEM	UNIT	TOTAL
L 3 1/2 x 3 1/2 x 5/16	Lin. Ft.	98.00
L 3 x 3 x 5/16	Lin. Ft.	10.33
L 3 x 3 x 3/8	Lin. Ft.	98.16
L 5 x 3 1/2 x 5/16	Lin. Ft.	10.33
L 5 x 3 1/2 x 3/8	Lin. Ft.	108.66
1" F&M Channel	Lin. Ft.	397.33
3/4" Threaded rod (4'-4" long) - 4 nuts included	Each	22
3/4" Threaded rod (3'-6" long) - 4 nuts included	Each	16
3/4" Threaded rod (1'-9" long) - 4 nuts included	Each	44
4" Steel Conduit	Lin. Ft.	16,935
5" Steel Conduit (Extra Strong - Schedule 120)	Lin. Ft.	200
1/2" Concrete Anchor	Each	20
Access Hole ring and casting	Each	3
Pull Hole ring and casting	Each	6

(1) 4" conduits and sleeves to be furnished by N.W.B.T. and placed under item 2545.509. See sheet 116 for placement of conduit in barrel arch area. Conduit goes from south abutment to underground M.H. and from north abutment to underground M.H.. Underground M.H. by others (see sheet 107 and 108).

(2) Rings and castings to be furnished by N.W.B.T. and placed under item 2545.509. See sheet 117 for location.

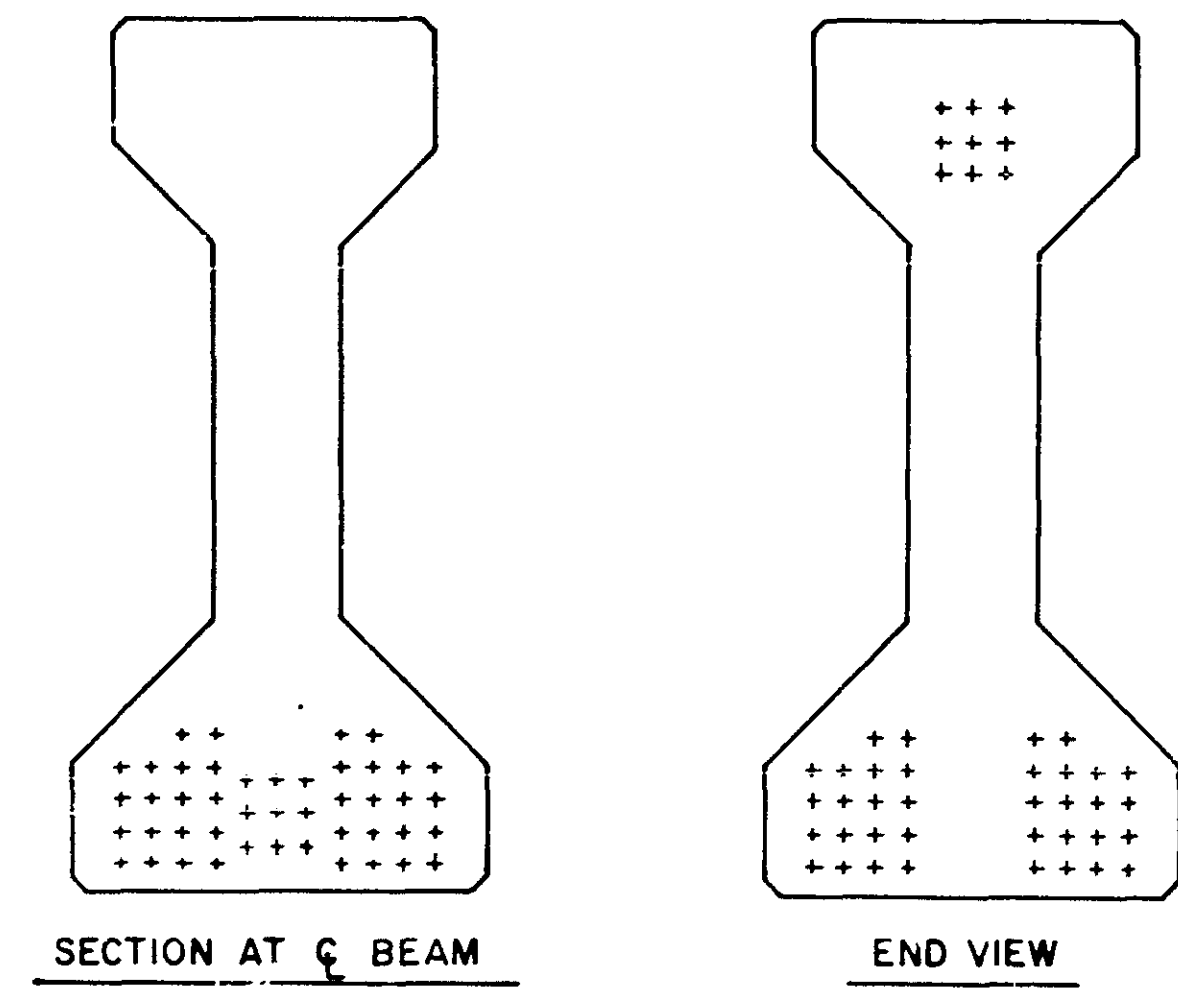
Note: Temporary N.W.S.T. cable trough in north and south approaches as shown on sheets 104 and 106 shall remain in place and be protected at all times - See Special Provisions. For details of N.W.B.T. conduit thru Arch Pier 1 and 8 and thru North and South Abutment see sheet 41 and 42 and sheets 116 and 117. All support material above L 5x3 1/2 x 5/16 for Type 4 & 6 and above MC 6x18.0 for Type 5 and above L 6x4 x 3/8 for Type 7 to be included in item 2545.509 Conduit System (Telephone). 4" conduits to be furnished by N.W.B.T. and placed under item 2545.509

TITLE: DIAPHRAGM AND FRAMING DETAILS SHEET 4 OF 4	DES: R.L.L. CHK: R.O.C.	DR: R.L.L. CHK: R.O.C.	APPROVED: 5-7-79	Bridge No. 2440
Sheet No. 42 of 148 Sheets				

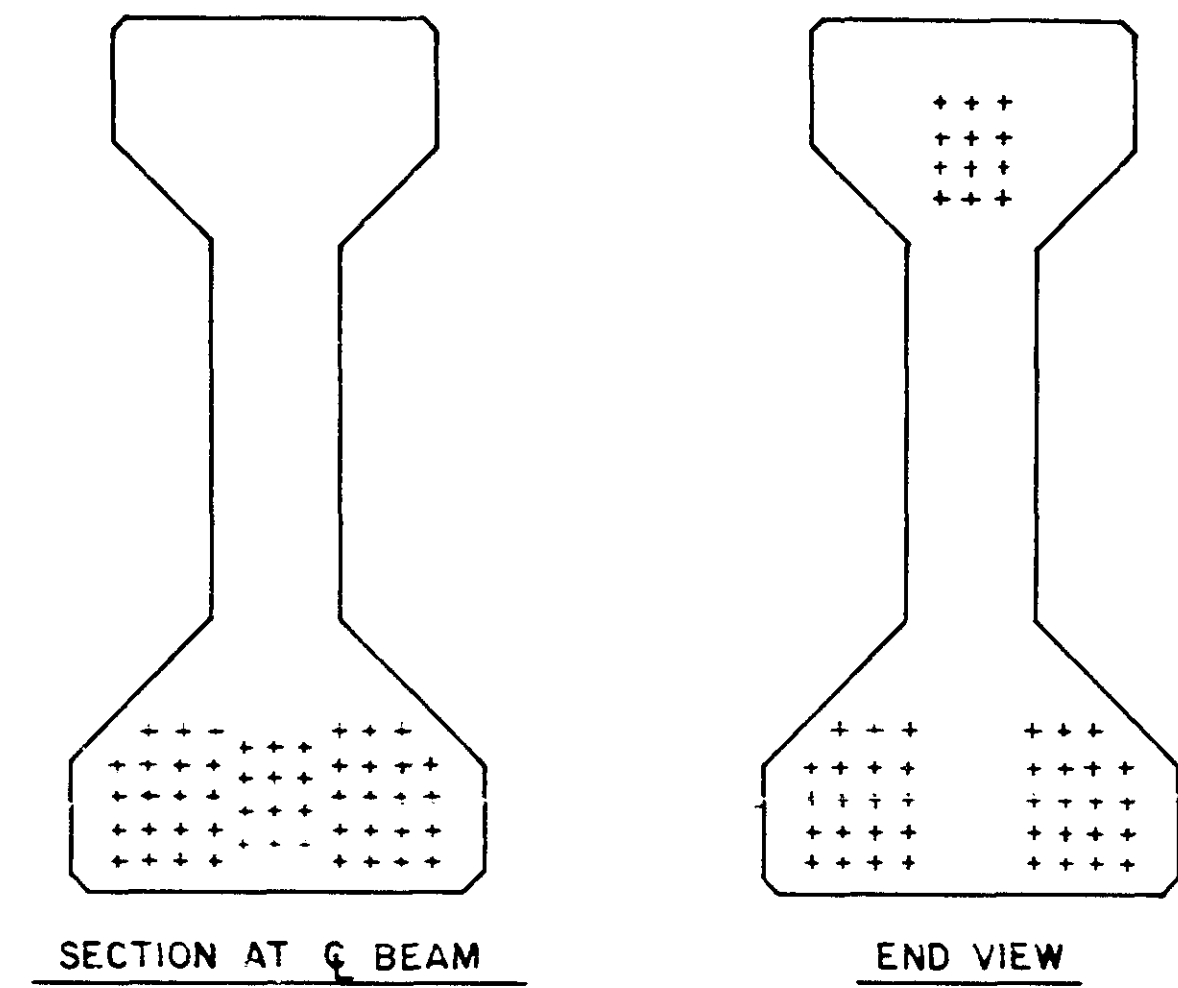
		SOUTH APPROACH																				
		SOUTH	SPAN 1								BENT 1 OR STUM END	SPAN 2								PIER		
		ABUT	1	2	3	4	5	6	7	8	9	1	2	3	4	5	6	7	8	9	1	
BEAM A	TOTAL DEF.	.000	.122	.224	.290	.316	.302	.254	.184	.107	.040	.000	-.008	.004	.027	.054	.077	.099	.087	.069	.038	.000
BEAM A	CONCRETE DEF.	.000	.103	.187	.244	.266	.253	.213	.154	.090	.034	.000	-.006	.004	.025	.048	.068	.078	.075	.060	.033	.000
BEAM A	TOTAL CAMBER	-	2 #	4 #	6 #	6 #	6 #	6 #	5 #	3 #	1 #	-	1 #	2 #	3 #	3 #	3 #	3 #	2 #	1 #	-	-
BEAM A1	TOTAL DEF.	.000	.083	.152	.208	.243	.255	.243	.208	.152	.083											
BEAM A1	CONCRETE DEF.	.000	.067	.127	.174	.204	.214	.204	.174	.127	.067											
BEAM A1	TOTAL CAMBER	-	1 #	3 #	4 #	4 #	5 #	4 #	4 #	3 #	1 #											
BEAM B	TOTAL DEF.	.000	.111	.204	.265	.289	.277	.234	.170	.099	.037	.000	-.006	.010	.036	.064	.087	.098	.094	.074	.041	.000
BEAM B	CONCRETE DEF.	.000	.096	.174	.228	.249	.239	.202	.147	.086	.033	.000	-.004	.009	.031	.056	.075	.085	.081	.065	.035	.000
BEAM B	TOTAL CAMBER	-	2 #	4 #	5 #	6 #	6 #	5 #	4 #	3 #	1 #	-	1 #	2 #	3 #	3 #	3 #	3 #	2 #	1 #	-	-
BEAM C	TOTAL DEF.	.000	.092	.168	.216	.232	.217	.176	.121	.064	.020	.000	.006	.030	.061	.091	.112	.120	.111	.086	.047	.000
BEAM C	CONCRETE DEF.	.000	.069	.125	.161	.171	.160	.129	.088	.047	.015	.000	.004	.021	.044	.066	.081	.087	.081	.062	.034	.000
BEAM C	TOTAL CAMBER	-	2 #	3 #	5 #	5 #	5 #	5 #	3 #	2 #	1 #	-	1 #	2 #	3 #	3 #	3 #	3 #	2 #	1 #	-	-
BEAM D	TOTAL DEF.	.000	.092	.168	.216	.232	.217	.176	.121	.064	.020	.000	.006	.030	.061	.091	.112	.120	.111	.086	.047	.000
BEAM D	CONCRETE DEF.	.000	.069	.125	.161	.171	.160	.129	.088	.047	.015	.000	.004	.021	.044	.066	.081	.087	.081	.062	.034	.000
BEAM D	TOTAL CAMBER	-	2 #	3 #	5 #	5 #	5 #	4 #	3 #	2 #	1 #	-	1 #	2 #	3 #	3 #	3 #	3 #	2 #	1 #	-	-
BEAM E	TOTAL DEF.	.000	.077	.140	.180	.193	.181	.147	.101	.054	.018	.000	.004	.022	.046	.070	.087	.093	.086	.067	.036	.000
BEAM E	CONCRETE DEF.	.000	.066	.118	.151	.162	.151	.124	.085	.045	.014	.000	.003	.018	.039	.059	.072	.077	.072	.056	.031	.000
BEAM E	TOTAL CAMBER	-	1 #	3 #	4 #	5 #	4 #	4 #	3 #	2 #	1 #	-	1 #	2 #	2 #	3 #	3 #	2 #	2 #	1 #	-	-
BEAM F	TOTAL DEF.	.000	.077	.140	.180	.193	.181	.147	.101	.054	.018	.000	.004	.022	.046	.070	.087	.093	.086	.067	.036	.000
BEAM F	CONCRETE DEF.	.000	.066	.118	.151	.162	.151	.124	.085	.045	.014	.000	.003	.018	.039	.059	.072	.077	.072	.056	.031	.000
BEAM F	TOTAL CAMBER	-	1 #	3 #	4 #	4 #	4 #	4 #	3 #	2 #	1 #	-	1 #	2 #	2 #	3 #	3 #	2 #	2 #	1 #	-	-
BEAM G	TOTAL DEF.	.000	.068	.123	.158	.169	.157	.126	.085	.043	.014	.000	.003	.012	.041	.064	.090	.086	.081	.062	.034	.000
BEAM G	CONCRETE DEF.	.000	.052	.094	.120	.128	.118	.095	.063	.032	.010	.000	.002	.012	.030	.047	.069	.064	.060	.047	.026	.000
BEAM G	TOTAL CAMBER	-	1 #	3 #	4 #	4 #	4 #	4 #	3 #	2 #	1 #	-	1 #	2 #	2 #	2 #	2 #	2 #	2 #	1 #	-	-
BEAM H	TOTAL DEF.	.000	.076	.139	.179	.192	.180	.147	.102	.055	.019	.000	.005	.022	.048	.072	.089	.095	.088	.069	.037	.000
BEAM H	CONCRETE DEF.	.000	.060	.129	.160	.170	.141	.115	.079	.042	.014	.000	.004	.019	.037	.055	.069	.074	.069	.053	.030	.000
BEAM H	TOTAL CAMBER	-	1 #	3 #	4 #	4 #	4 #	4 #	3 #	2 #	1 #	-	1 #	2 #	2 #	3 #	3 #	2 #	2 #	1 #	-	-
BEAM I	TOTAL DEF.	.000	.066	.119	.152	.165	.154	.126	.087	.047	.015	.000	.003	.012	.037	.057	.071	.075	.070	.054	.030	.000
BEAM I	CONCRETE DEF.	.000	.056	.103	.133	.143	.133	.109	.075	.041	.015	.000	.003	.015	.035	.053	.065	.065	.061	.044	.026	.000
BEAM I	TOTAL CAMBER	-	1 #	3 #	4 #	4 #	4 #	3 #	2 #	1 #	-	-	1 #	2 #	2 #	2 #	2 #	2 #	2 #	1 #	-	-

Dead Load Deflection and Camber Notes:
 Total deflection denotes deflection in feet due to concrete and steel.
 Concrete deflection denotes total deflection in feet for weight of slab, sidewalk, hand rail and traffic rail.
 Total camber denotes total camber in inches required for dead load deflections and vertical curve.
 Dead load deflections and vertical curve camber are from chords between bearings @ piers. All chords are based on top of slab elevations.

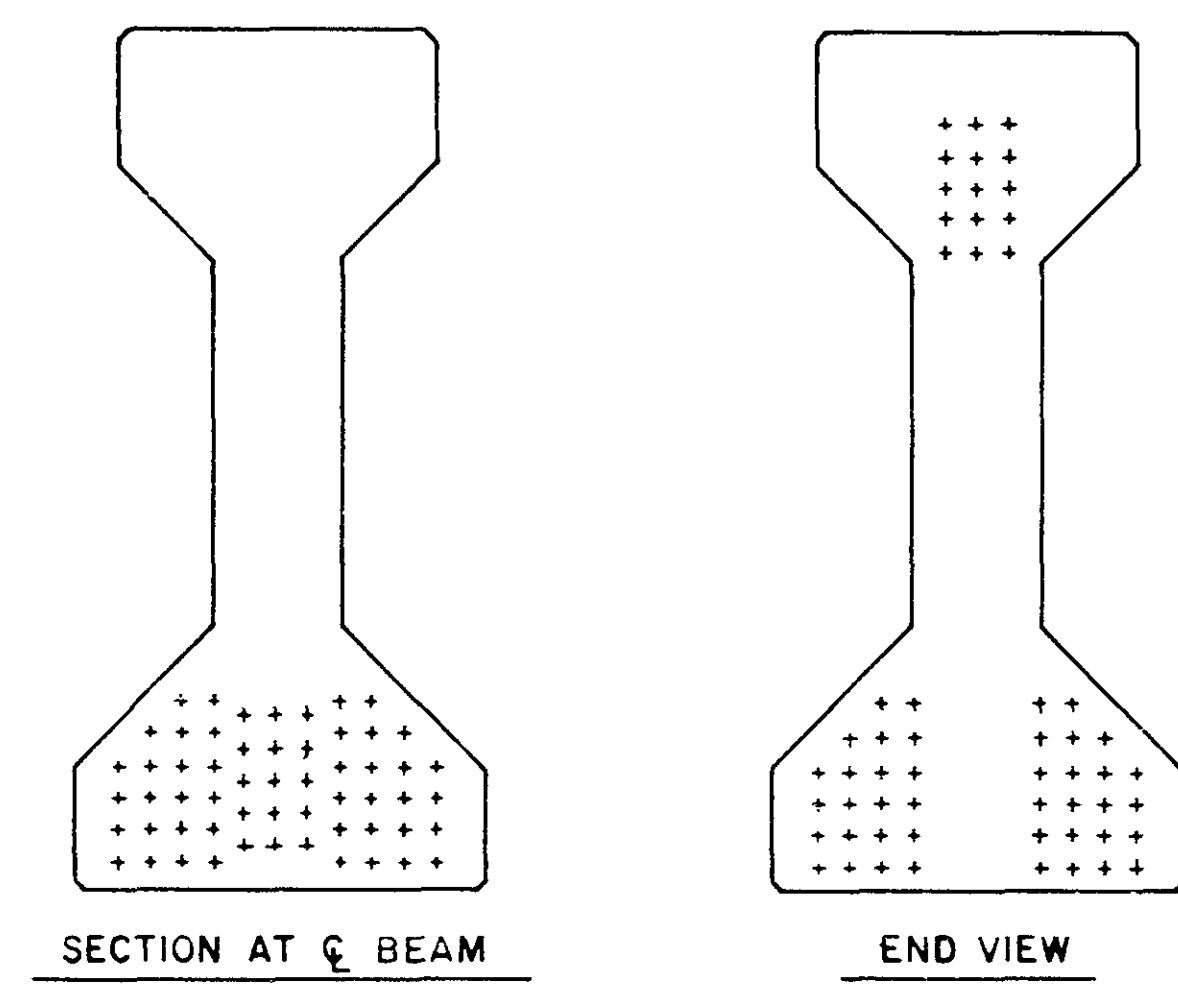
NORTH APPROACH			
BEAM LINE	TOTAL DEF.	SPAN 1	SPAN 2
A	.223	.223	.223
A	CONCRETE DEF.	.152	.152
A	EST. CAMBER	7 #	7 #
B	.223	.223	.223
B	CONCRETE DEF.	.152	.152
B	EST. CAMBER	7 #	7 #
C	.283	.283	.283
C	CONCRETE DEF.	.138	.138
C	EST. CAMBER	1 #	1 #
D	.283	.283	.283
D	CONCRETE DEF.	.38	.38
D	EST. CAMBER	1 #	1 #
E	.247	.247	.247
E	CONCRETE DEF.	.131	.131
E	EST. CAMBER	7 #	7 #
F	.247	.247	.247
F	CONCRETE DEF.	.131	.131
F	EST. CAMBER	7 #	7 #
G	.247	.247	.247
G	CONCRETE DEF.	.131	.131
G	EST. CAMBER	7 #	7 #
H	.283	.283	.283
H	CONCRETE DEF.	.38	.38
H	EST. CAMBER	1 #	1 #
I	.283	.283	.283
I	CONCRETE DEF.	.138	.138
I	EST. CAMBER	1 #	1 #
J	.223	.223	.223
J	CONCRETE DEF.	.152	.152
J	EST. CAMBER	7 #	7 #



(1) STRAND ARRANGEMENT



(2) STRAND ARRANGEMENT



(3) STRAND ARRANGEMENT

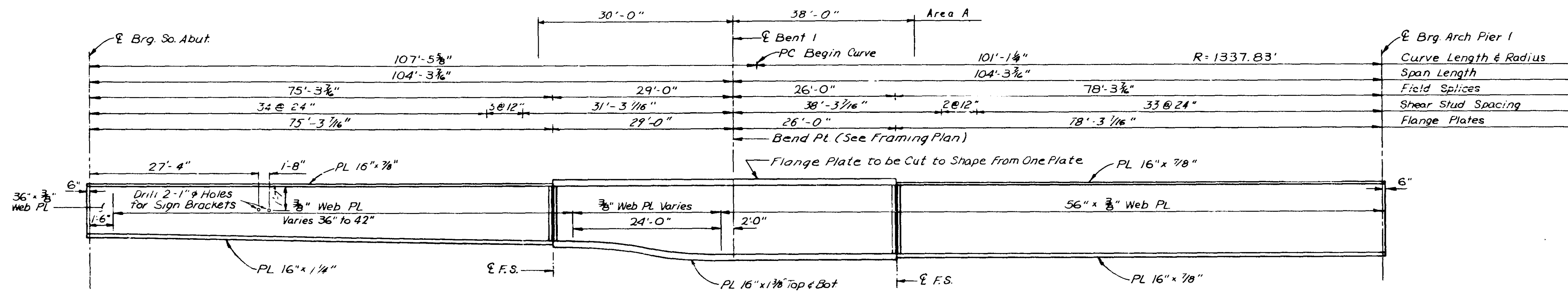
PRESTRESS BEAMS — NORTH APPROACH																				
SPAN	BEAM	TYPE	LENGTH (FT)		VERT. REINF. SPACE (INCHES)			HOLD DOWN FT	WT. TONS	INITIAL PRESTRESSING FORCE (LBS)	FINAL PRESTRESSING FORCE (LBS)	MIN. CONC. STRENGTH PSI		Y-DIMENSION (INCHES)			QUANTITY			
			ℓ-ℓ BRG.	OUT TO OUT	Ⓚ	Ⓛ	Ⓜ					① f'ci	② f'c	STRAIGHT	NO	ℓ SPAN		END		
1	A1	54-31(1)	A1	35.76	A1	31.71	20	20	Apt. 20	5.0	37.4	1,301,255	553,915	4610	5320	Straight	36	5.56	47.00	3
	B1		33.72	B1	30.97	Wrapped										5	5.00			
	J1		35.65	J1	30.87	Total										45	5.44			
1	C1	54-31(3)	C1	35.71	C1	30.93	20	20	Apt. 20	5.0	37.4	1,648,269	1,152,882	5100	5980	Straight	42	6.38	45.00	4
	D1		35.70	D1	30.93	Wrapped										15	7.00			
	H1		35.65	H1	30.97	Total										57	6.54			
	I1		35.64	I1	30.89															
1	E1	54-31(2)	E1	39.69	E1	30.94	20	20	Apt. 20	5.0	37.4	1,445,850	1,001,387	5106	5971	Straight	38	5.79	46.00	3
	F1		39.68	F1	30.93	Wrapped										12	6.00			
	G1		39.66	G1	30.91	Total										50	5.84			
2	A2	54-33(1)	A2	31.71	A2	32.36	20	20	Apt. 20	5.0	38.2	1,301,255	553,915	4510	5320	Straight	36	5.56	47.00	3
	B2		31.71	B2	32.36	Wrapped										5	5.00			
	J2		31.71	J2	32.36	Total										45	5.44			
2	C2	54-33(3)	C2	31.71	C2	32.36	20	20	Apt. 20	6.0	38.2	1,648,269	1,152,882	5100	5980	Straight	42	6.38	45.00	4
	D2		31.71	D2	32.36	Wrapped										15	7.00			
	H2		31.71	H2	32.36	Total										57	6.54			
	I2		31.71	I2	32.36															
2	E2	54-33(2)	E2	31.71	E2	32.36	20	20	Apt. 20	6.0	38.2	1,445,850	1,001,387	5106	5971	Straight	38	5.79	46.00	3
	F2		31.71	F2	32.36	Wrapped										12	6.00			
	G2		31.71	G2	32.36	Total										50	5.84			

Note: For additional prestress beam details, see sheet 43.

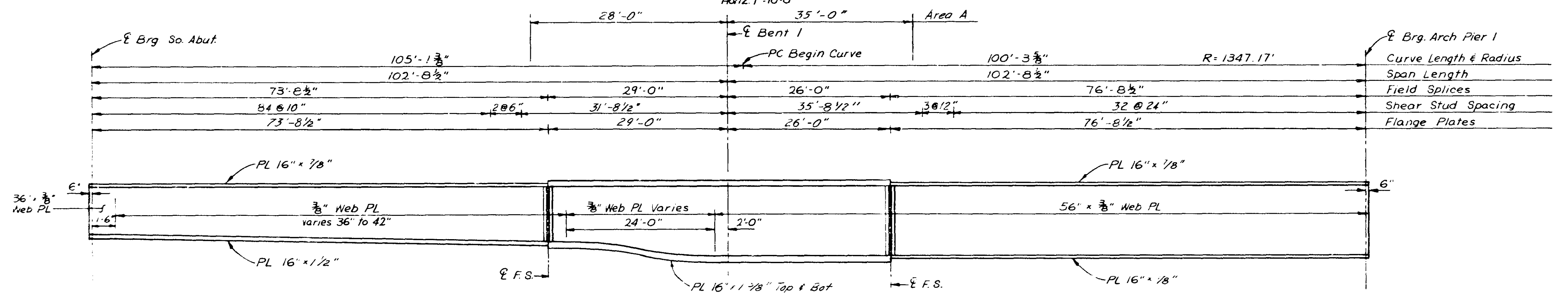
TITLE: DEAD LOAD DEFLECTION AND CAMBER AND NORTH APPROACH BEAMS

DES: WHH DR: L.D.H. APPROVED: 5-7-79
 CHK: DRA CHK: DRA
 Sheet No. 44 of 148 Sheets

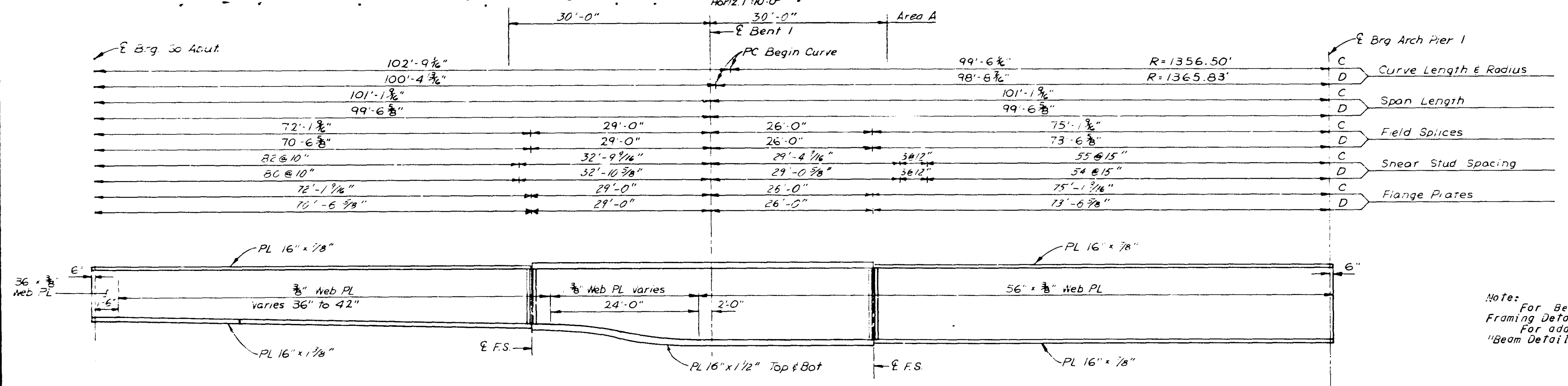
Bridge No. 2440



BEAM A
Scale Vert. 1/4" = 1'-0"
Horiz. 1" = 10'-0"



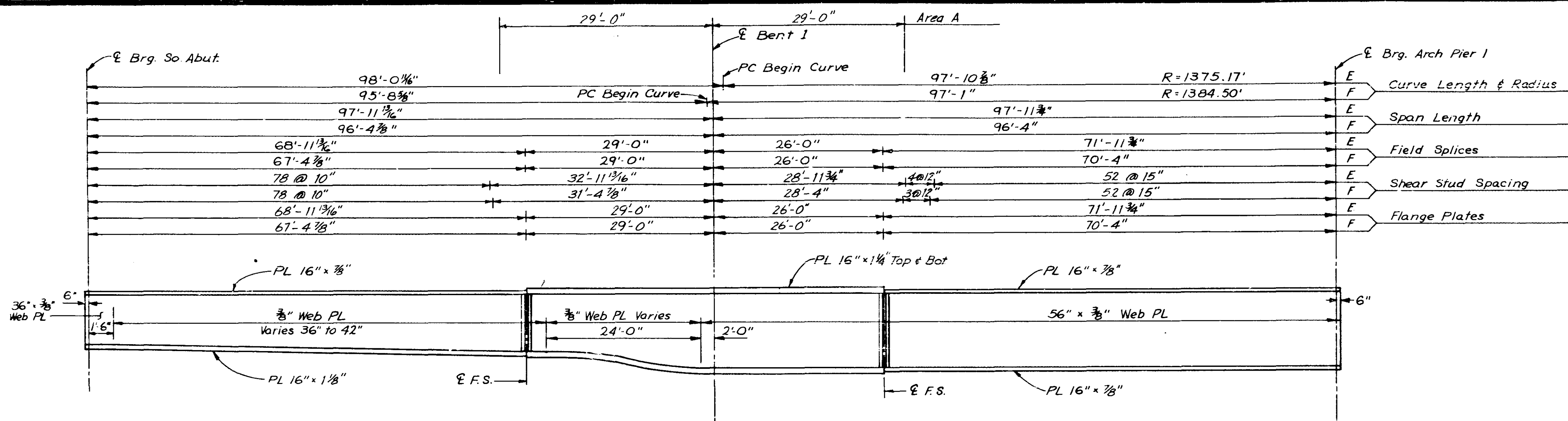
BEAM B
Scale Vert. 1/4" = 1'-0"
Horiz. 1" = 10'-0"



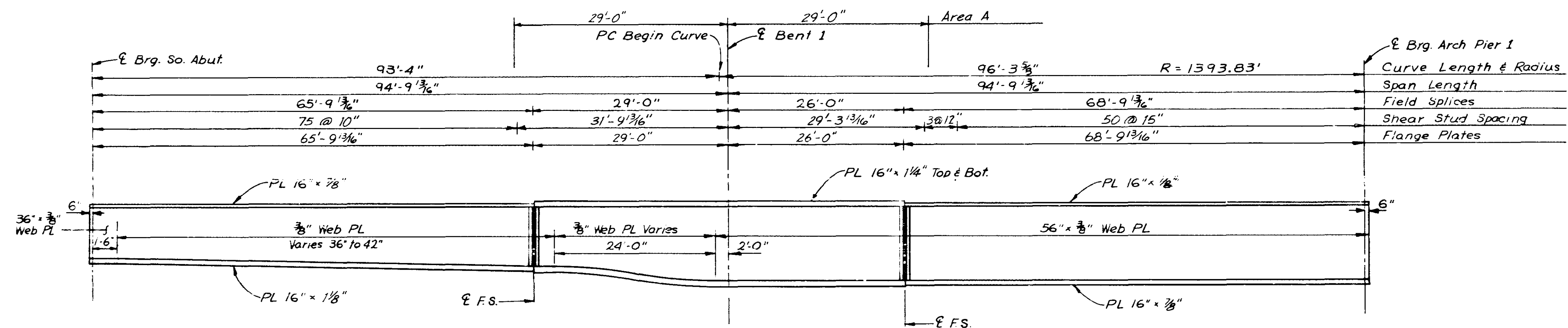
BEAMS C & D
Scale Vert. 1/4" = 1'-0"
Horiz. 1" = 10'-0"

Note: For beam stiffener see "Diaphragm and Framing Details - Sheet 1 of 4".
For additional beam and splice details see "Beam Details South Approach - Sheet 3 of 3".

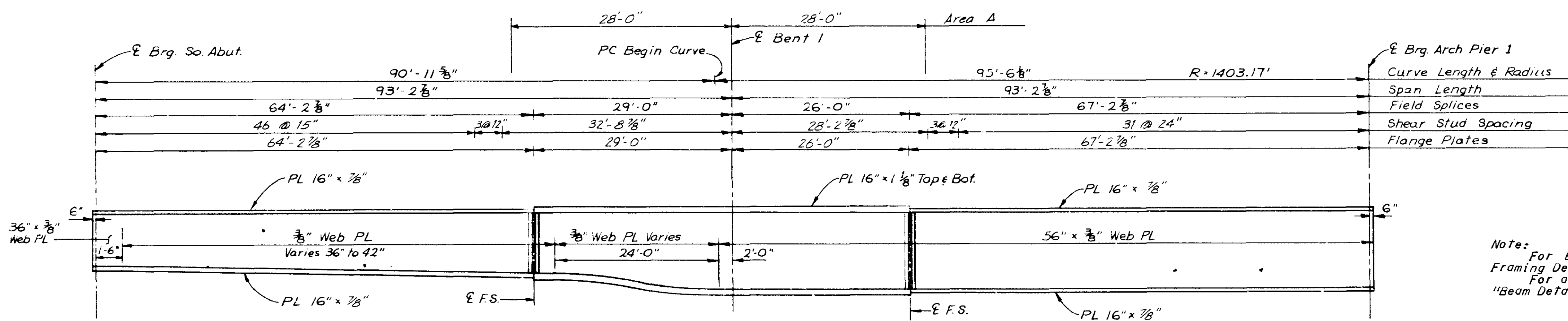
TITLE: BEAM DETAILS SOUTH APPROACH (SHEET 1 OF 4)	DES: WHH	DR: L.D.H.	APPROVED:	Bridge No. 2440
	CHK: DRA	CHK: WHH	5-7-79	
Sheet No. 45 of 148 Sheets				



BEAMS E & F
 Scale: Vert. $\frac{1}{4}''=1'-0''$
 Horiz. $1''=10'-0''$



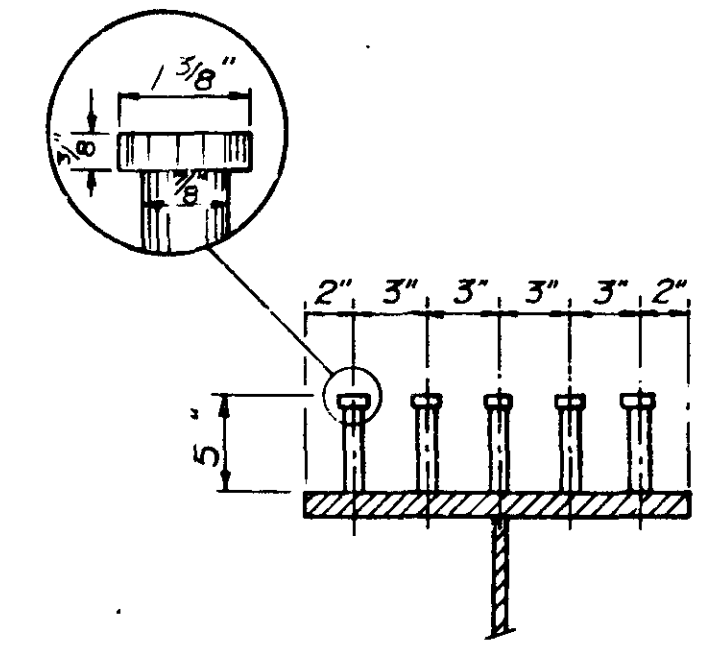
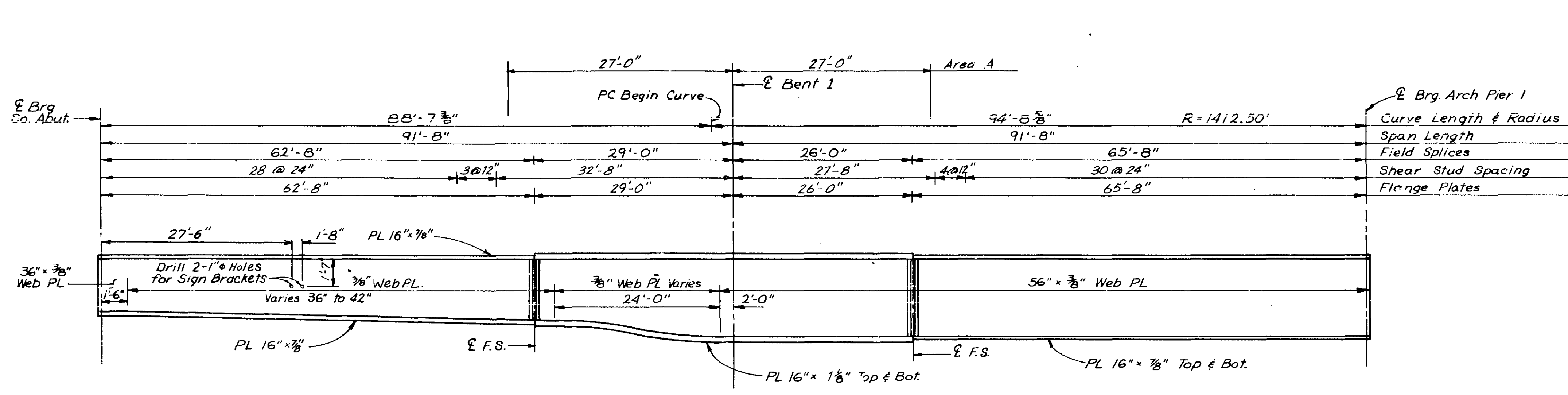
BEAM G
 Scale: Vert. $\frac{1}{4}''=1'-0''$
 Horiz. $1''=10'-0''$



BEAM H
 Scale: Vert. $\frac{1}{4}''=1'-0''$
 Horiz. $1''=10'-0''$

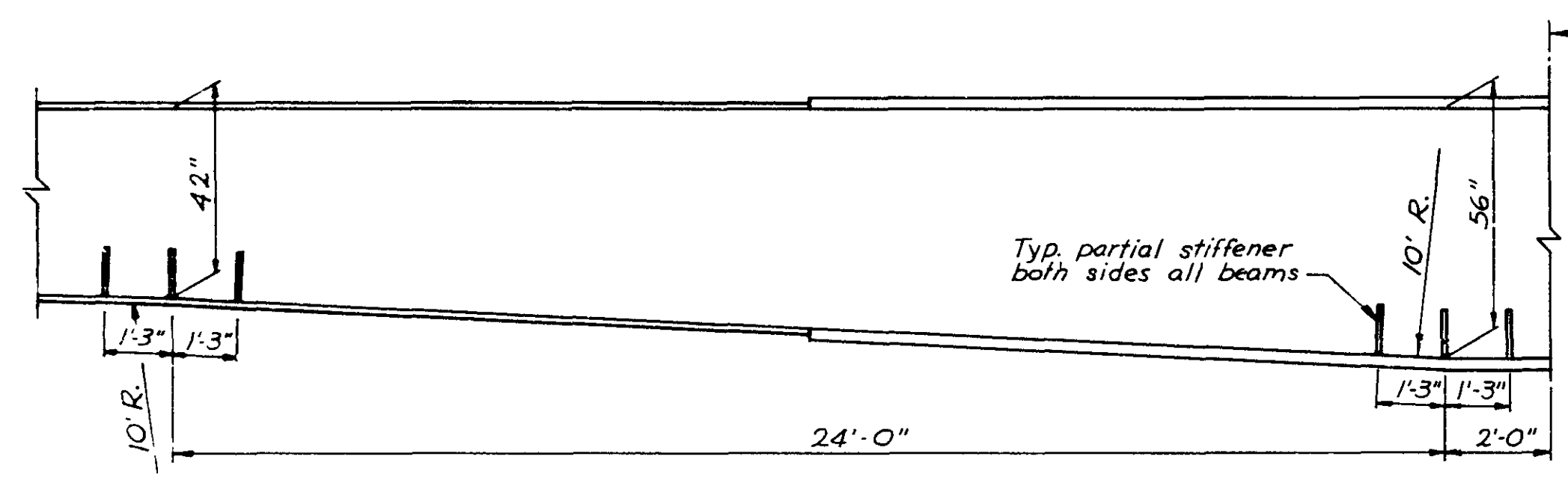
Note:
 For beam stiffener see "Diaphragm and Framing Details - Sheet 1 of 4".
 For additional beam and splice details see "Beam Details South Approach - Sheet 3 of 3".

TITLE: BEAM DETAILS SOUTH APPROACH (SHEET 2 OF 4)	DES. W.H.H.	DR. L.D.H.	APPROVED:	Bridge No. 2440
	CHK. DRA	CHK. WHH	5-7-19	
Sheet No. 46 of 148 Sheets				

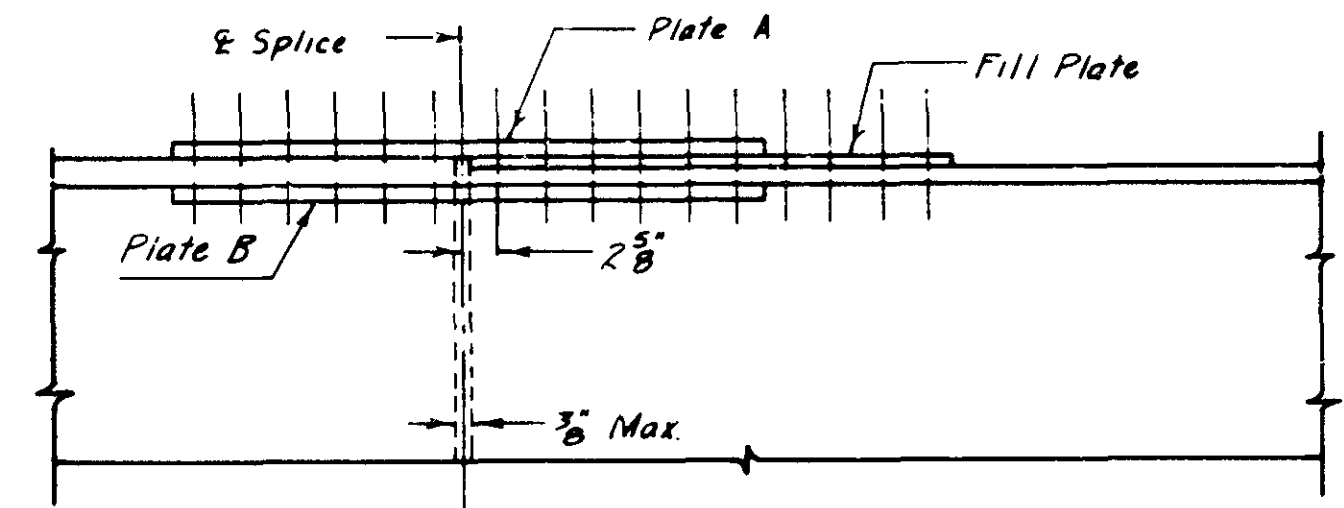
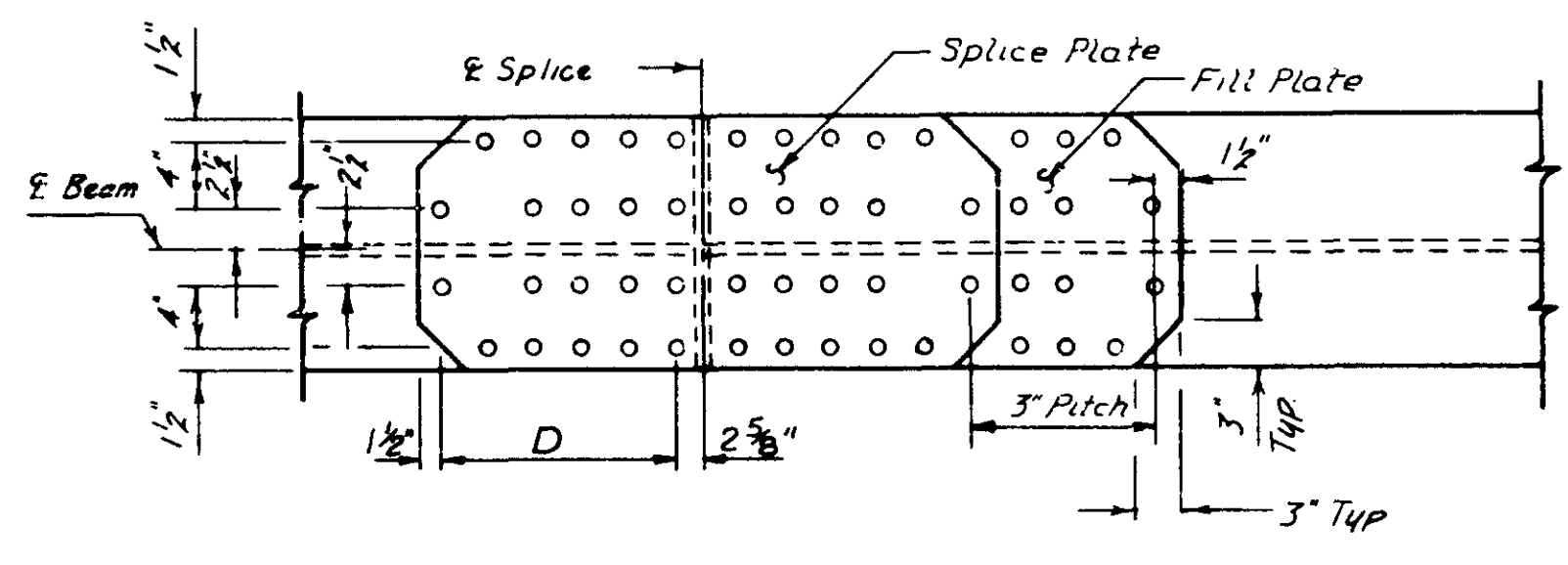


SHEAR CONNECTOR DETAIL

BEAM I
Scale: Vert. 1/4" = 1'-0"
Horiz. 1" = 10'-0"



TYPICAL BEAM HAUNCH

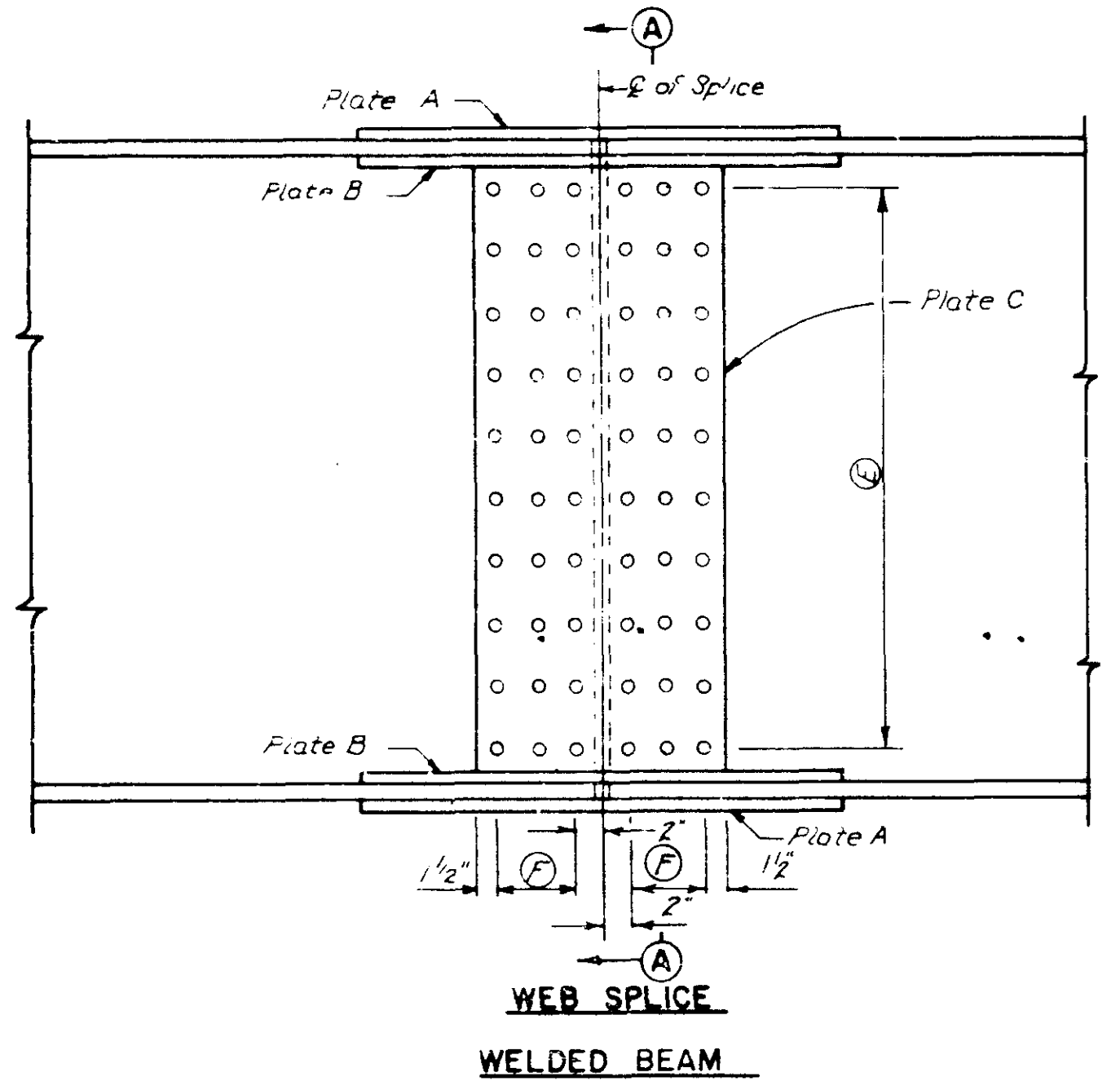


WELDED BEAM FILL PLATE DETAILS

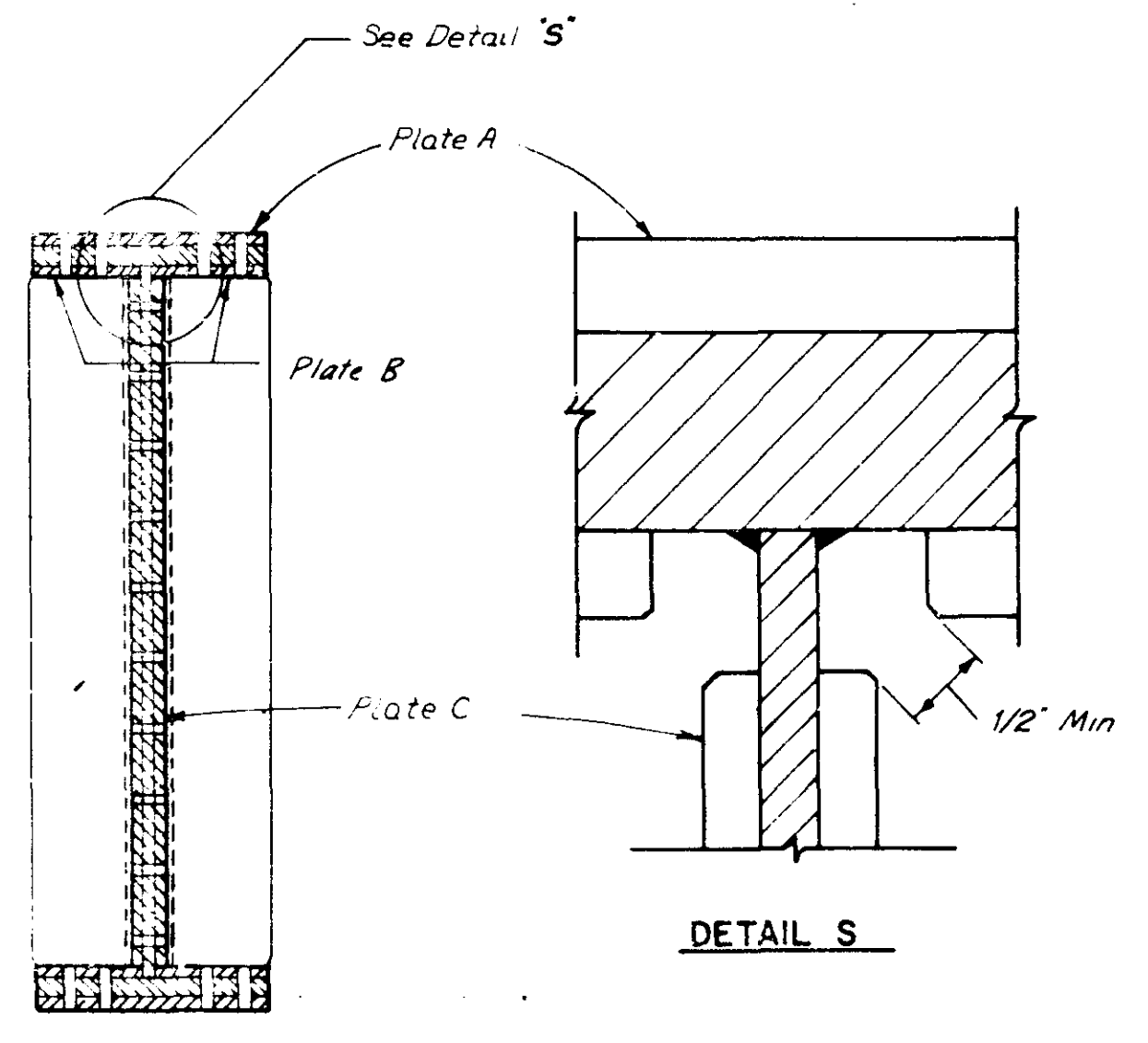
Note: For Beam stiffener see "Diaphragm and Framing Details - Sheet 1 of 4".

FLANGE SPLICES'						
SPLICE	PLATE	PLATE	DIMENSION	FILL	ADD BOLTS	
FLANGE	FLANGE	A	D	PLATE	FOR FILL	B
16 x 7	16 x 1 1/2	16 x 7	7 1/2 x 7	5 Spa. @ 3"	16 x 7	-
16 x 7	16 x 1 1/2	16 x 7	7 1/2 x 7	5 Spa. @ 3"	16 x 7	-
16 x 7	16 x 1 1/2	16 x 7	7 1/2 x 7	5 Spa. @ 3"	16 x 7	16
16 x 7	16 x 1 1/2	16 x 7	7 1/2 x 7	5 Spa. @ 3"	16 x 7	16
16 x 7	16 x 1 1/2	16 x 7	7 1/2 x 7	5 Spa. @ 3"	16 x 7	20
16 x 1 1/2	16 x 1 1/2	16 x 7	7 1/2 x 7	7 Spa. @ 3"	16 x 7	-
16 x 1 1/2	16 x 1 1/2	16 x 7	7 1/2 x 7	7 Spa. @ 3"	16 x 7	-
16 x 1 1/2	16 x 1 1/2	16 x 7	7 1/2 x 7	8 Spa. @ 3"	16 x 7	-
16 x 1 1/2	16 x 1 1/2	16 x 7	7 1/2 x 7	9 Spa. @ 3"	16 x 7	-

WEB	PLATE	DIMENSION	DIMENSION
	C	E	F
42 x 7	19 x 7	9 Spa. @ 4"	2 Spa. @ 3"
56 x 7	19 x 7	12 Spa. @ 4"	2 Spa. @ 3"

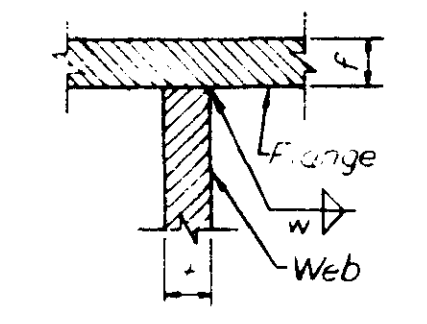


WEB SPLICE
WELDED BEAM



SECTION A-A

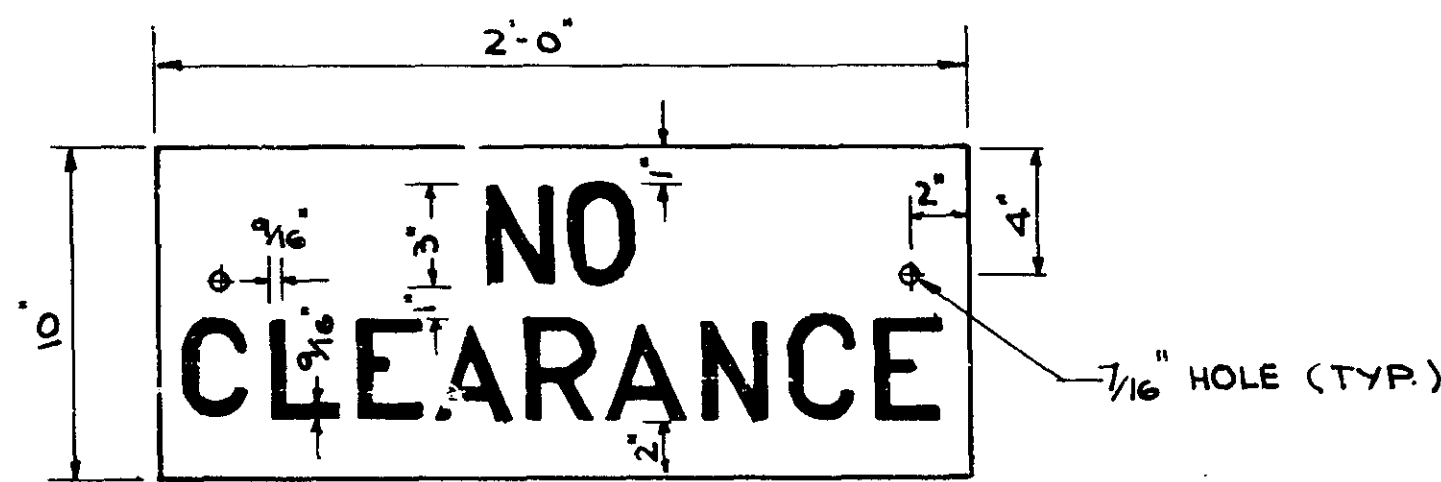
FLANGE TO WEB WELDS		
Web Thickness	Flange Thickness "t"	Weld Size "w"
5/16" - 3/8"	to 1/2"	3/16"
3/8" - 3/4"	5/8" - 3/4"	1/4"
3/8" - 3/4"	7/8" - 1 1/2"	5/16"
3/8" - 3/4"	1 1/2" - 2 1/4"	3/8"
3/8" - 3/4"	2 1/4" - 3"	1/2"



DETAIL S

TITLE:	DES: WHH	DR: LDH.	APPROVED:	Bridge No.
BEAM DETAILS	CHK: DRA	CHK: WHH.	5-7-79	2440
(SHEET 3 OF 4)	Sheet No. 47 of 148 Sheets			

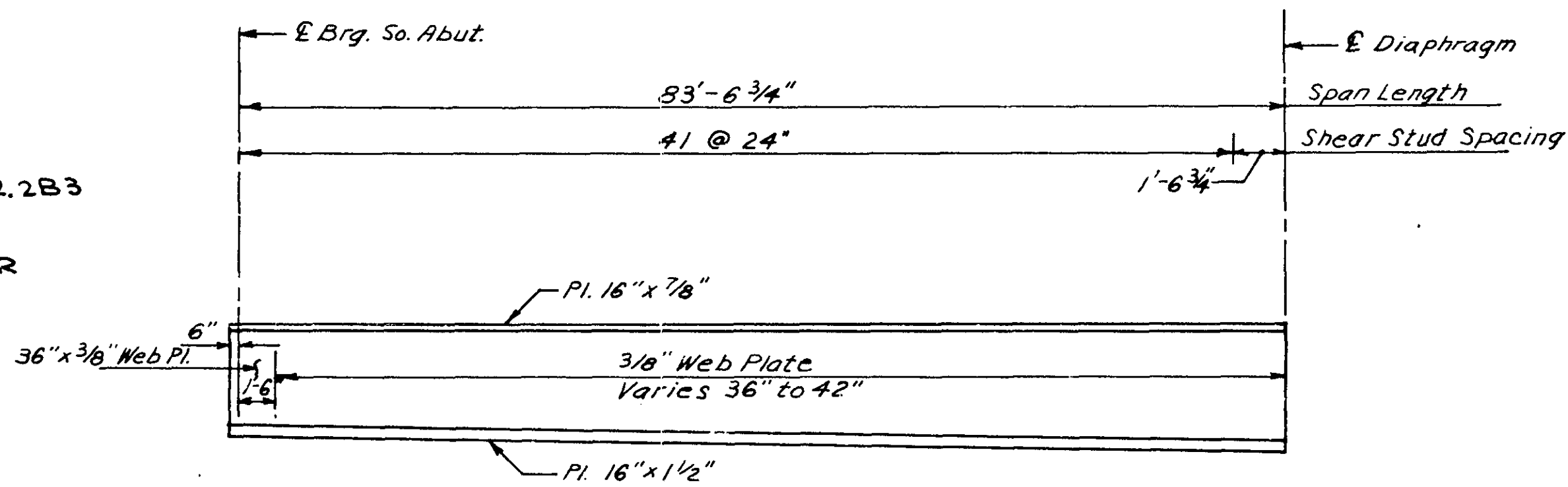
THIS DOCUMENT WAS PREPARED BY AGENCY NAMED BELOW, UNDER THE REGULAR COURSE OF BUSINESS...
 REPRODUCED BY STATE OF MARYLAND ARCHITECTURAL SERVICES UNIT ACCORDING TO NATIONAL BUILDING...
 REQUIREMENTS FOR PERMANENT MICROFILM AND ACCORDING TO FILED PROCEDURES FOR...
 DATE: 5-7-79



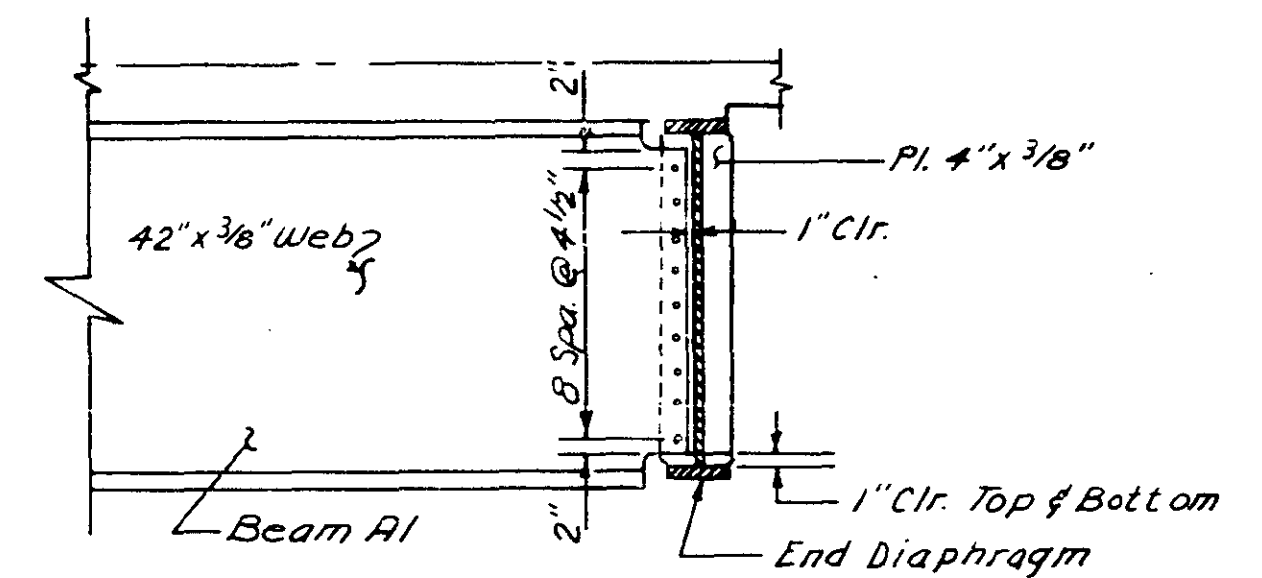
NO CLEARANCE SIGN (2 REQUIRED)
BLACK LETTERS ON WHITE BACKGROUND

SPECIFICATIONS:

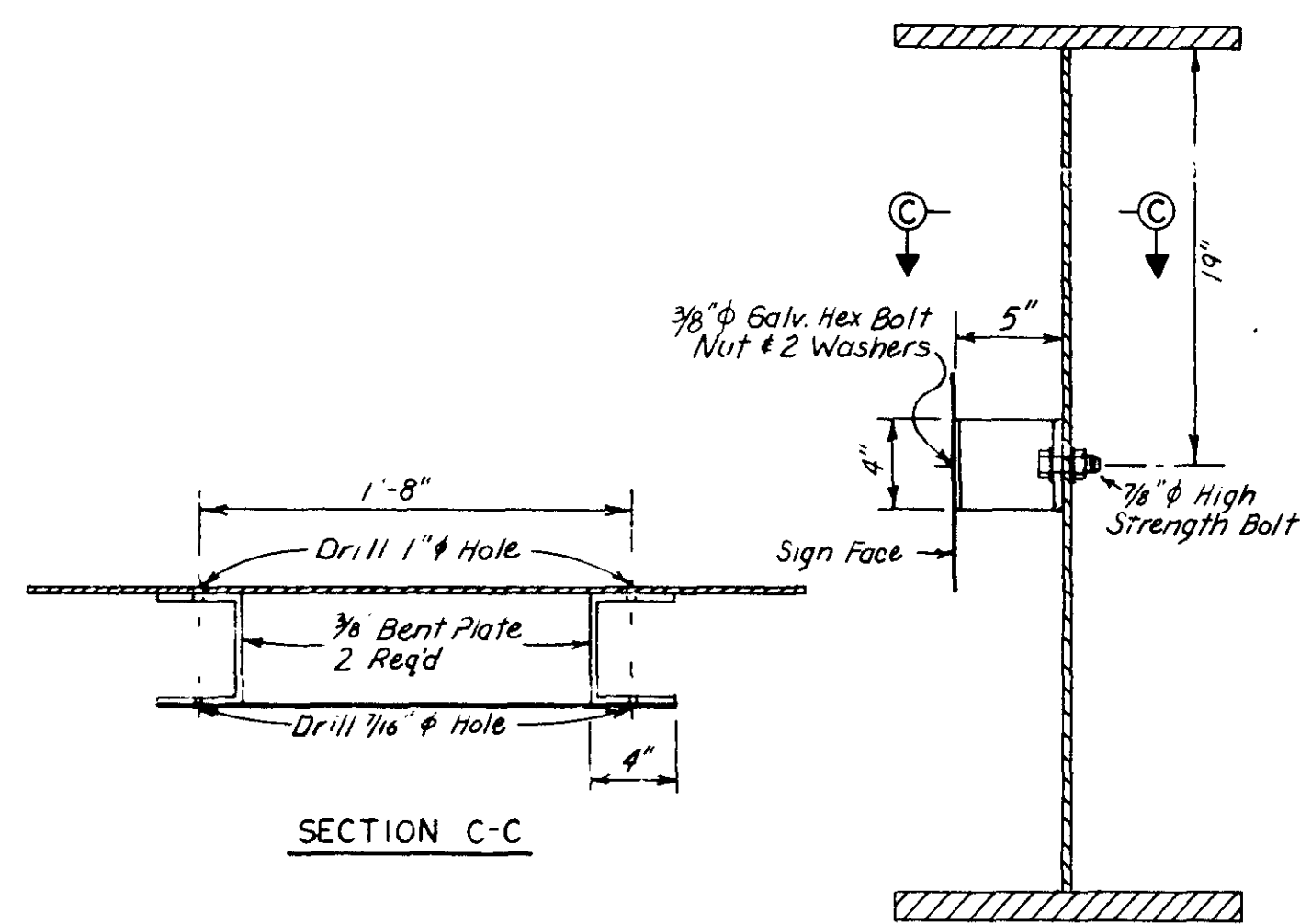
SIGN BASE MATERIAL SHALL COMPLY WITH Mn/DOT 3352.2A1B
SIGN FACE MATERIAL SHALL COMPLY WITH Mn/DOT 3352.2A6
SIGN LEGEND MATERIAL SHALL COMPLY WITH Mn/DOT 3352.2A5
SURFACE TREATMENT OF METAL SHALL COMPLY WITH Mn/DOT 3352.2B3
PAINTING SHALL COMPLY WITH Mn/DOT 3352.2B4
NC SHOP DRAWING REQUIRED
TO BE CONSIDERED INCIDENTAL ITEM. INCLUDED IN PRICE BID FOR
2402.521 STRUCTURAL STEEL (3309).



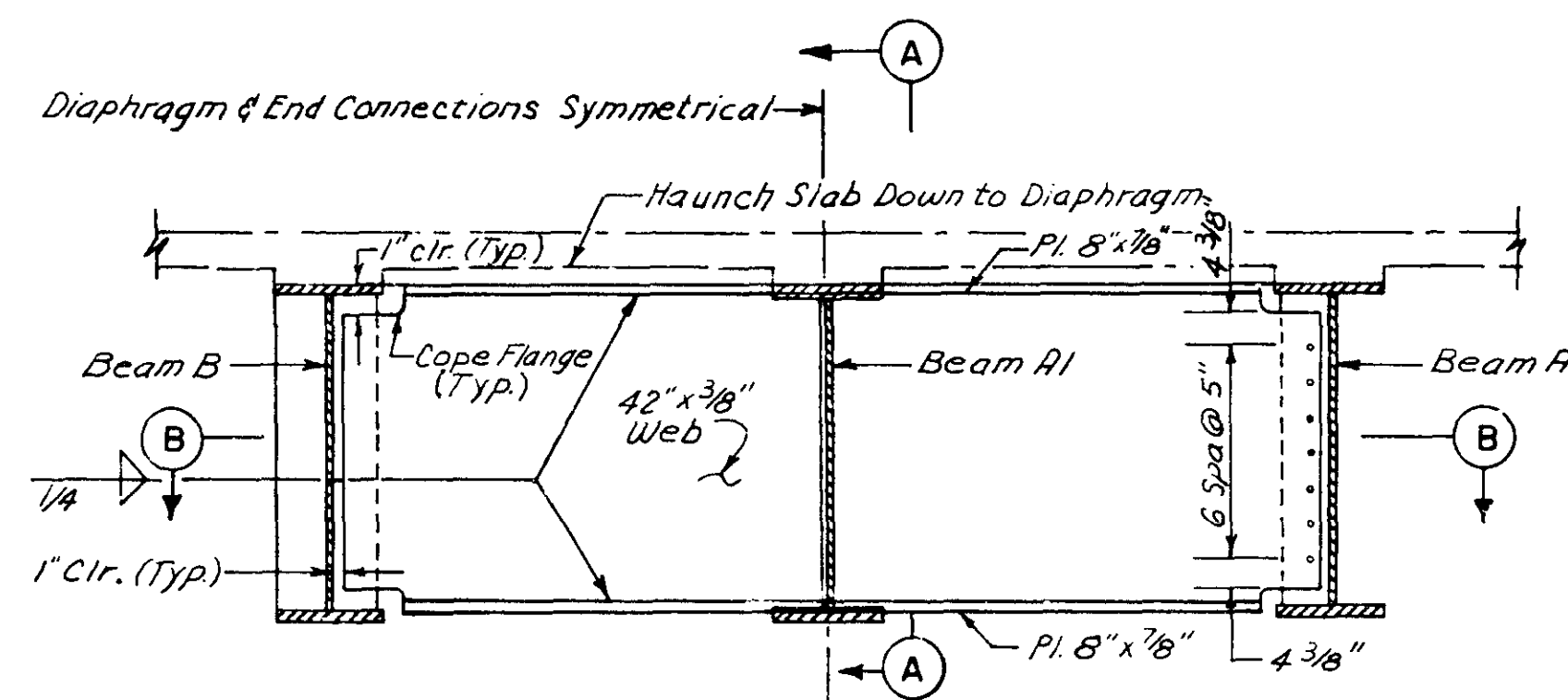
BEAM A1
Scale: Vert. 1/4" = 1'-0"
Horz. 1" = 10'-0"



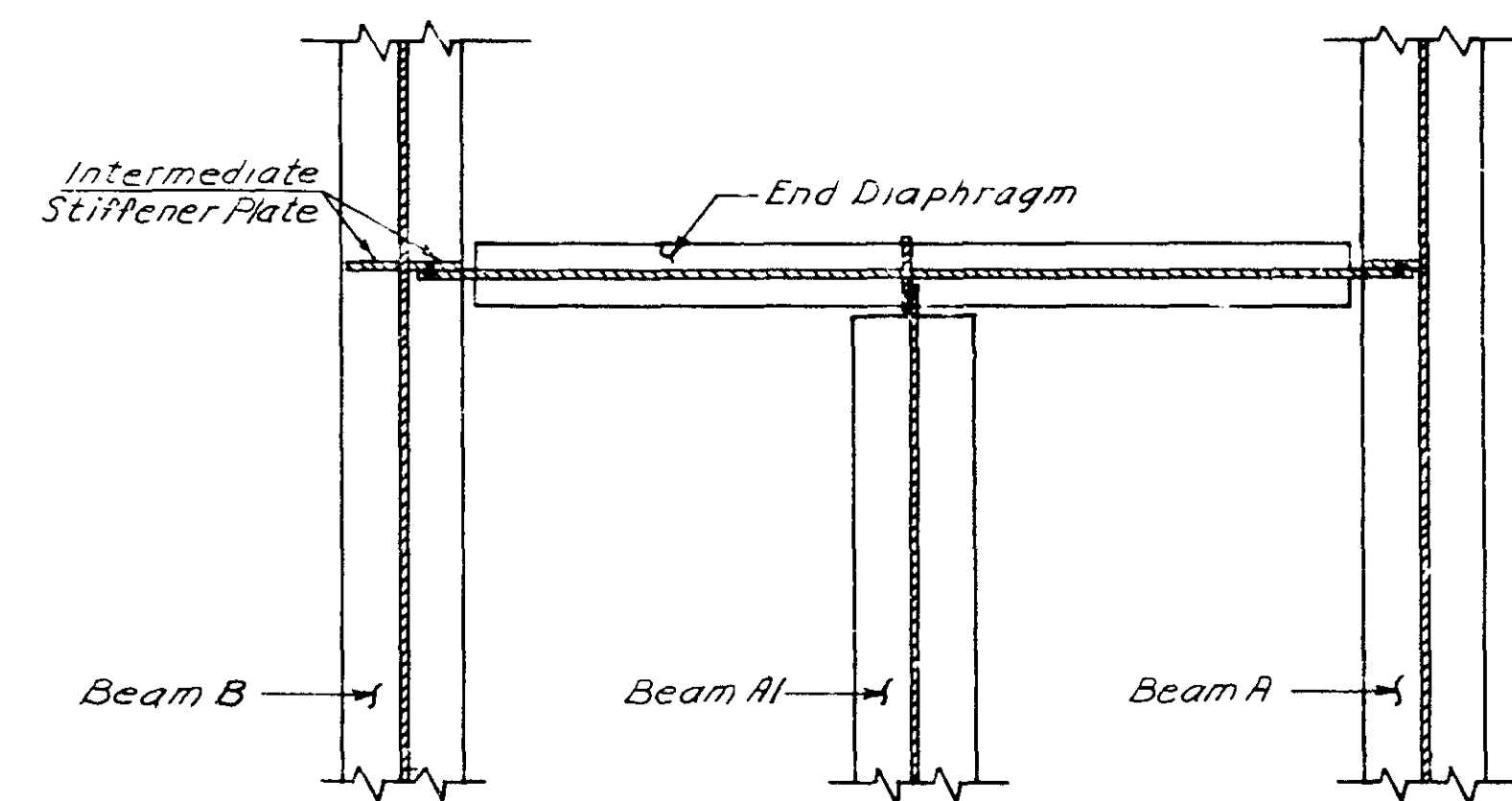
SECTION A-A
Scale: Vert. 1/2" = 1'-0"
Horz. 1/2" = 1'-0"



**NO CLEARANCE SIGN CONNECTION
TO FASCIA BEAMS A AND I**

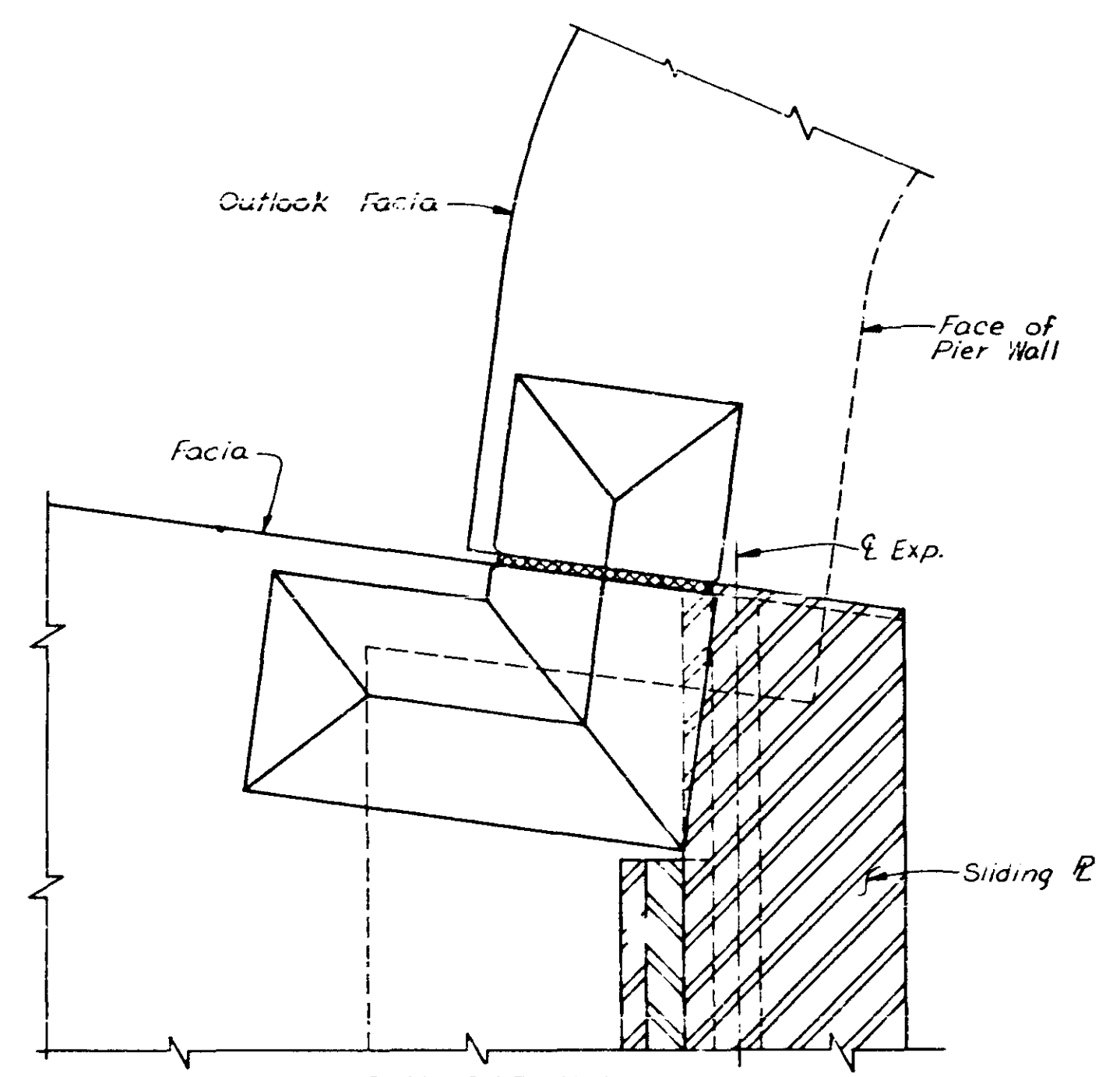


END DIAPHRAGM
Scale: Vert. 1/2" = 1'-0"
Horz. 1/2" = 1'-0"

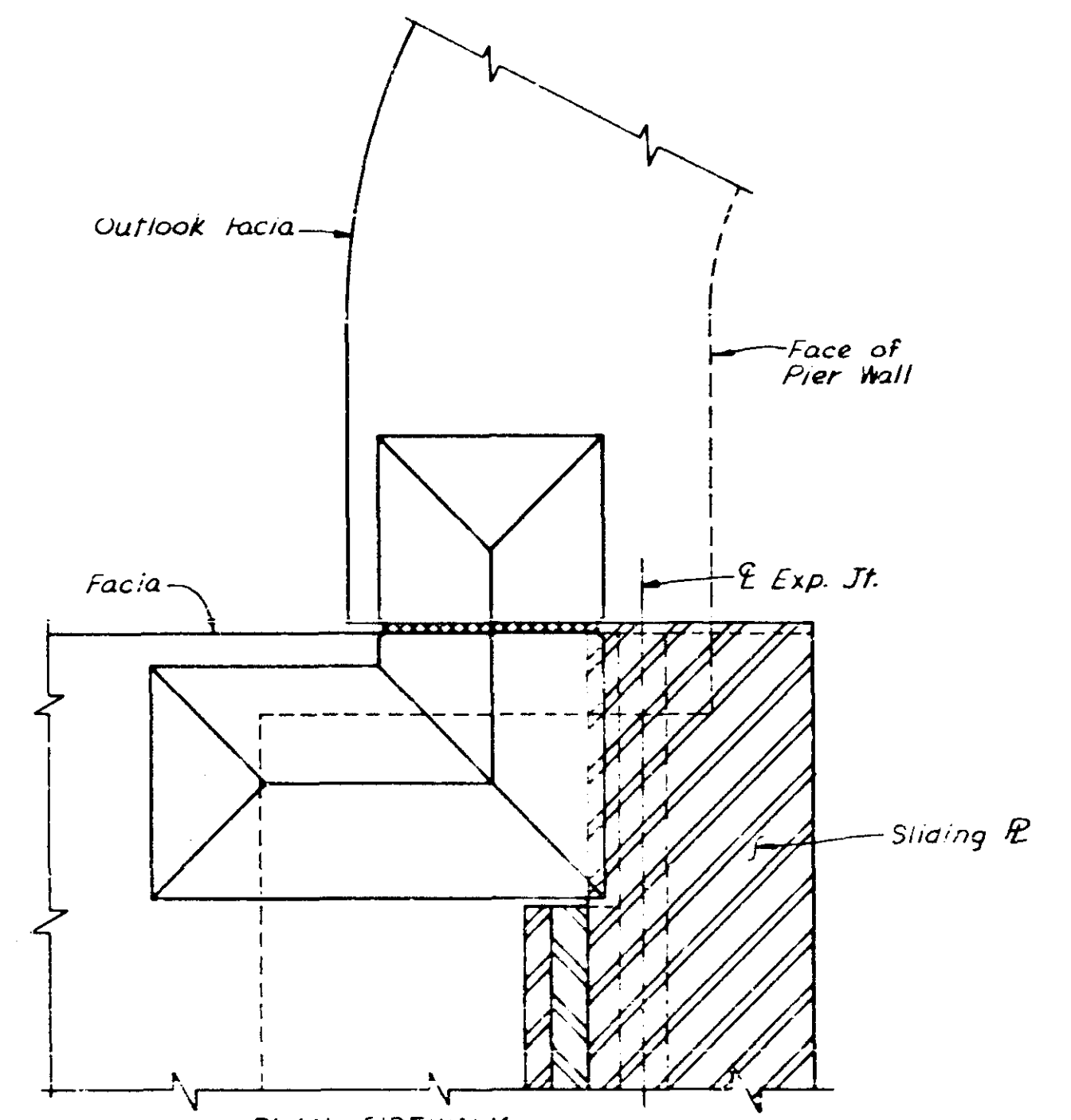


SECTION B-B
Scale: Vert. 1/2" = 1'-0"
Horz. 1/2" = 1'-0"

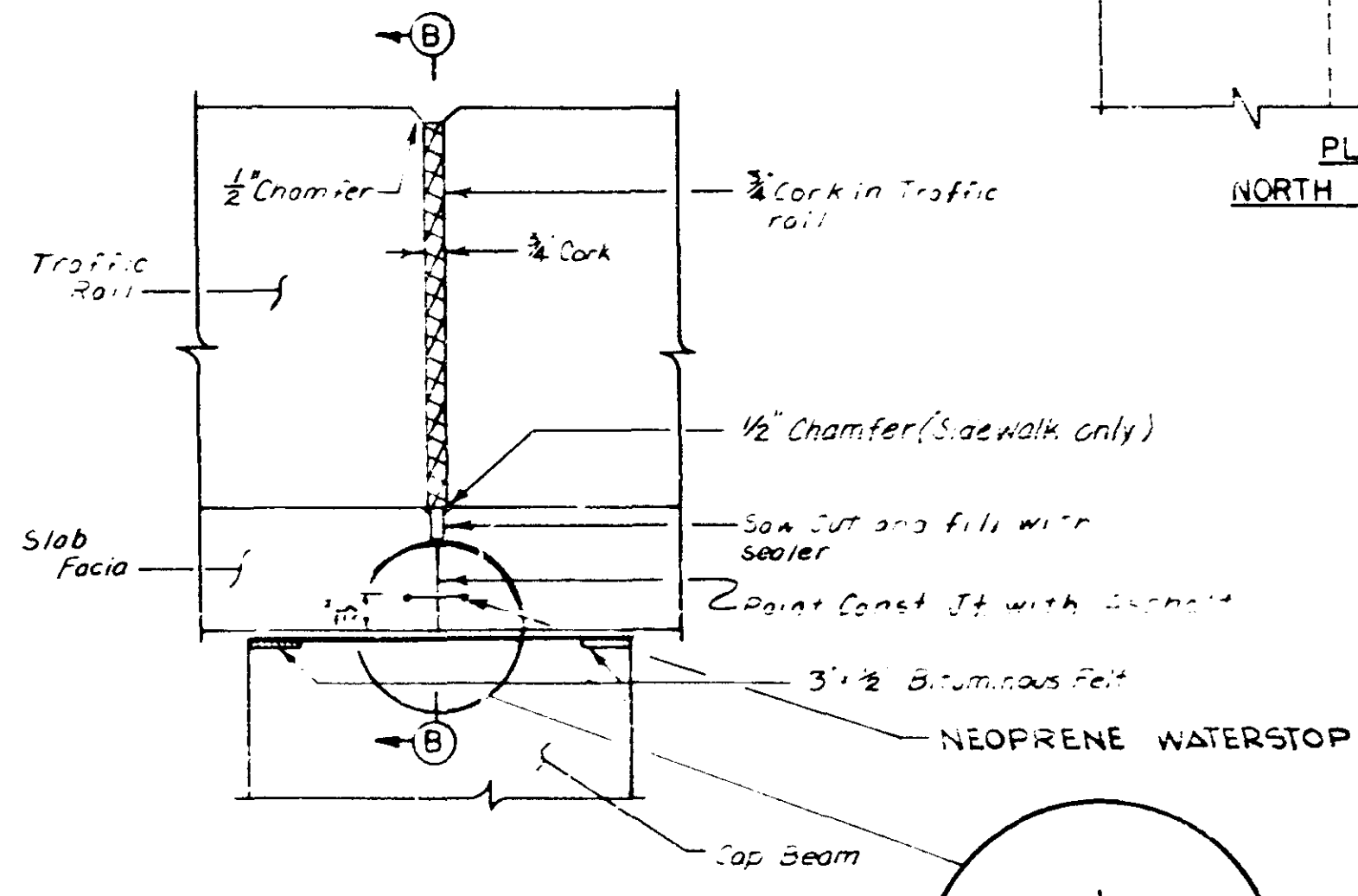
TITLE: BEAM DETAILS SOUTH APPROACH (Sheet No. 4 of 4)	DES. <i>WAH</i>	DR. <i>E.J.F.</i>	APPROVED	Bridge No. 2440
	CHK. <i>D.R.A.</i>	CHK. <i>WAH</i>	5-7-79	
Sheet No. 48 of 148 Sheets				



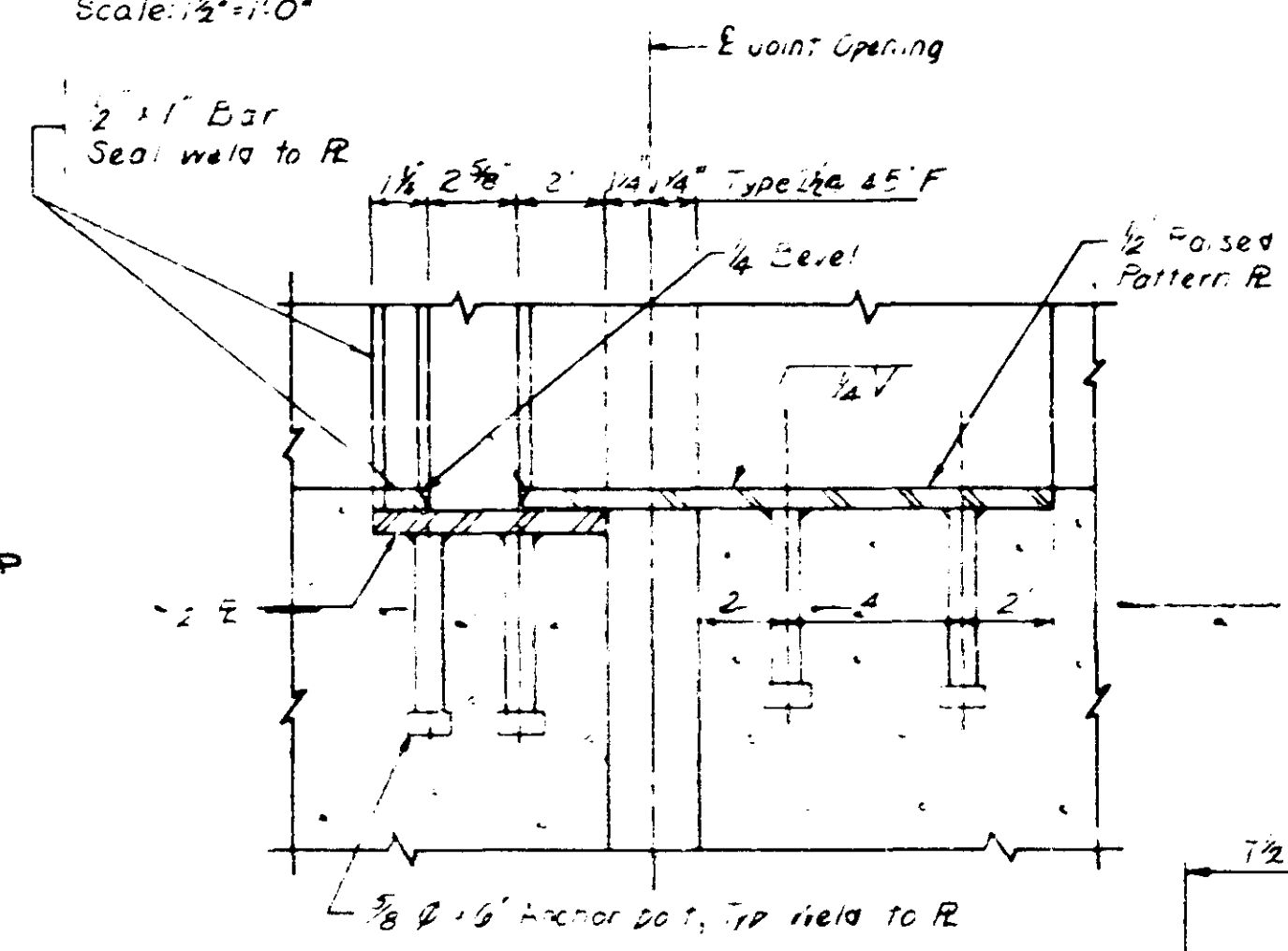
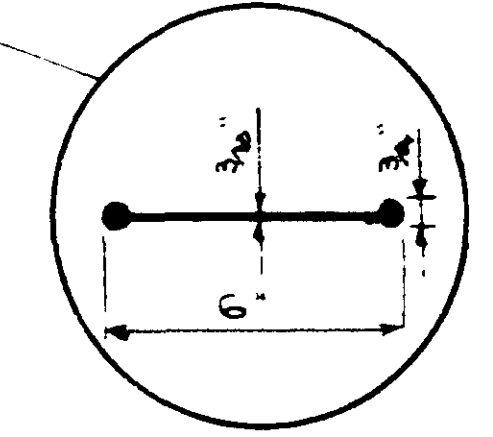
PLAN - SIDEWALK
NORTH SIDE PIER 1
Scale: 1/2" = 1'-0"



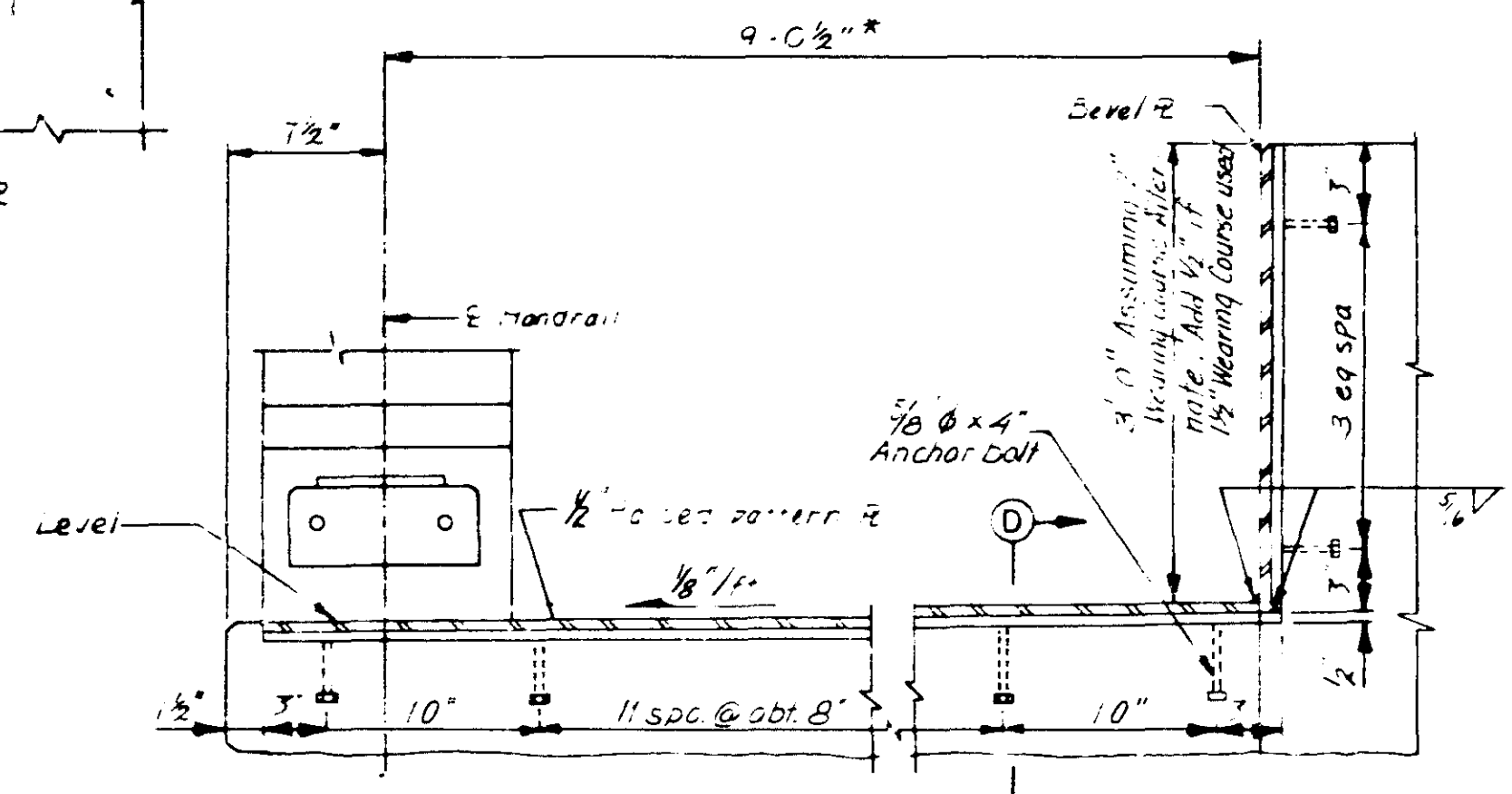
PLAN - SIDEWALK
NORTH & SOUTH SIDE PIER 8
Scale: 1/2" = 1'-0"



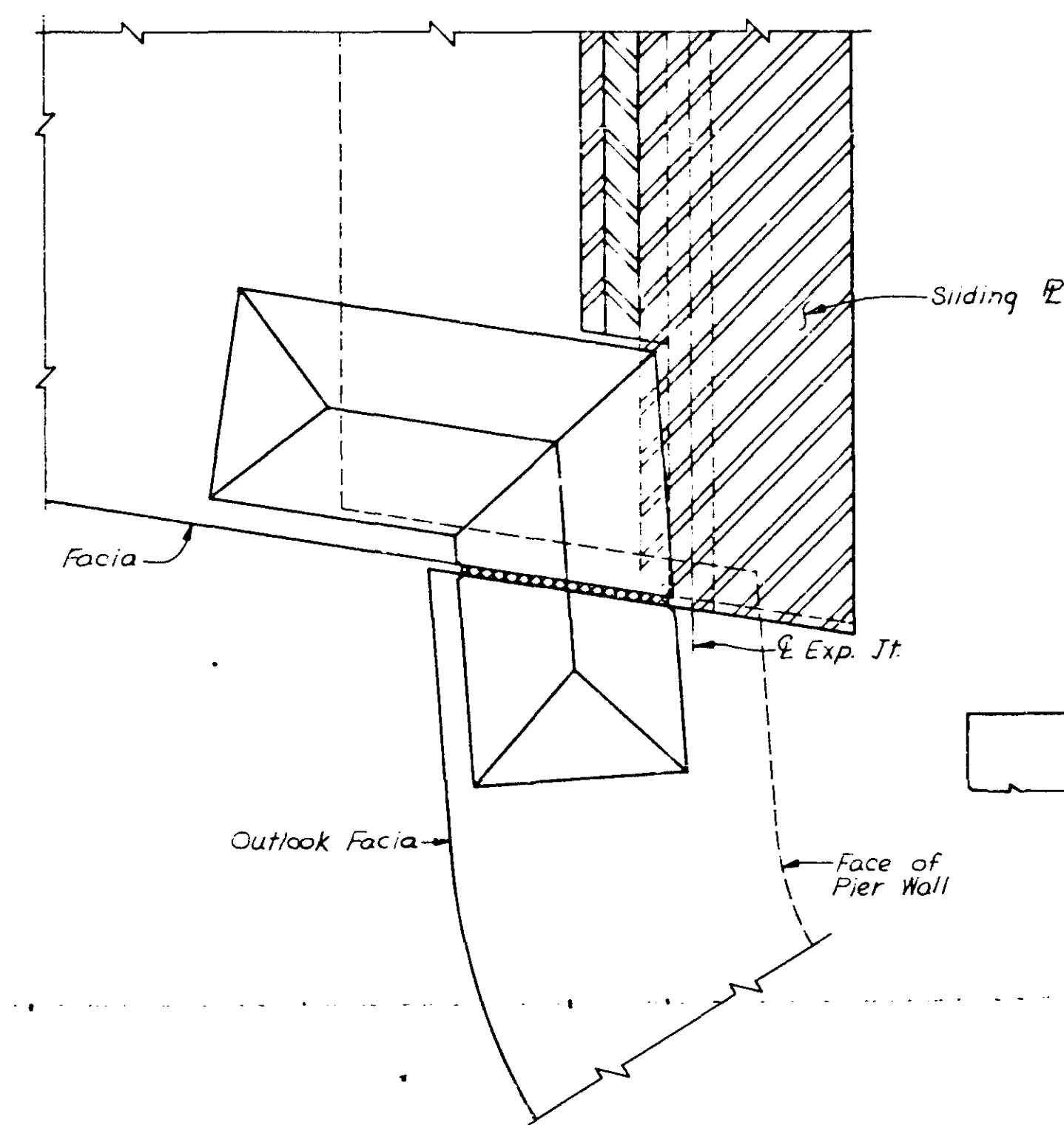
ARCH SPAN ROADWAY JOINTS
(For location see sheet 4)



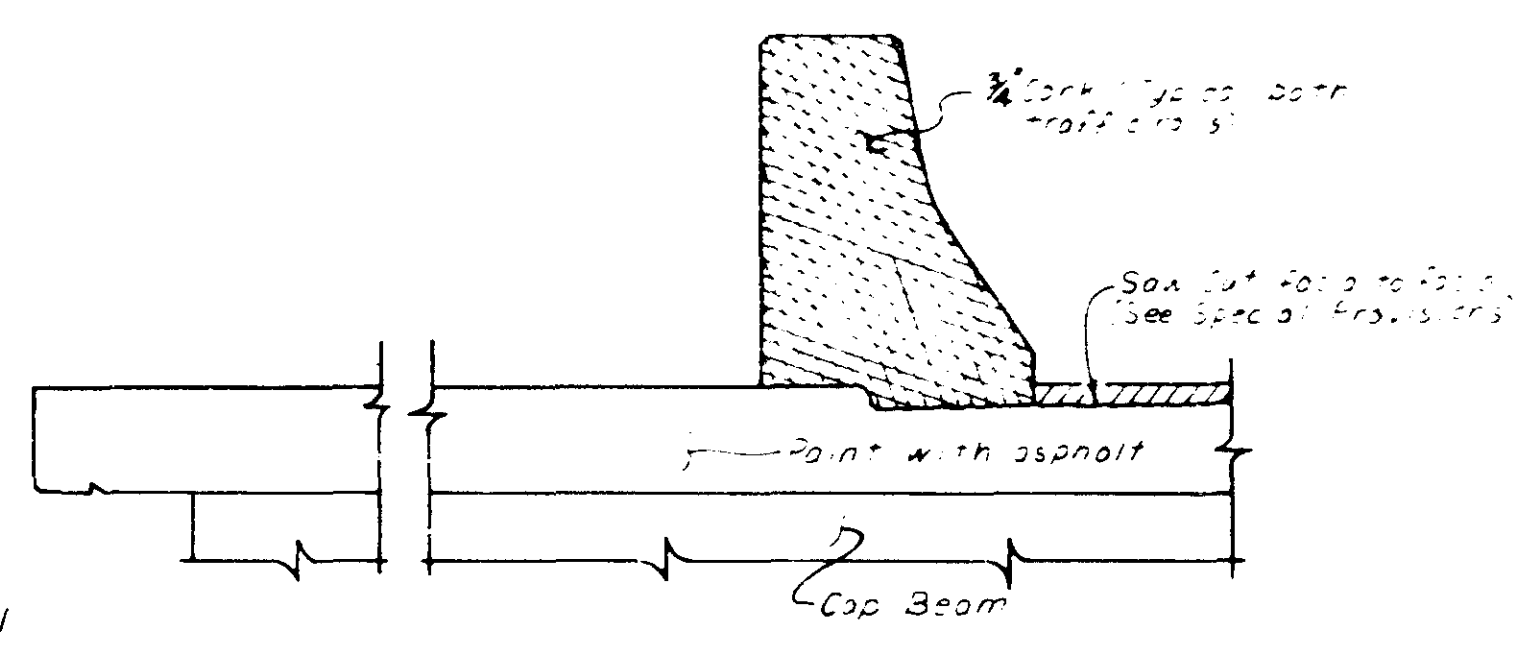
SECTION D-D
1/2" = 1'-0"



TYPICAL SECTION THRU SIDEWALK
TYPE 2
Scale: 3/8" = 1'-0"



PLAN - SIDEWALK
SOUTH SIDE PIER 1
Scale: 1/2" = 1'-0"



SECTION B-B
No Scale

LIST OF JOINT FILLER		
DESCRIPTION	SIZE	LOCATION
Bit. Felt	3" x 1/2"	6194 Lin. Ft. Cap Beam
Cork	1/2" x 3" - 0" x 2' - 9"	119 Pieces Traffic Rail
Cork	1" x 10" x 1/2" x 4' - 4"	216 Pieces Hand Rail
Cork	1" x 11" x 1/2" x 5' - 0"	1 Piece Southwest Wall
Cork	1" x 11" x 1/2" x 9' - 0"	1 Piece Southeast Wall
Cork	1" x 11" - 8" x 23' - 0"	2 Pieces Retaining Wall
Cork	1" x 11" - 0" x 2' - 6"	1 Piece Southwest Wall
Cork	1" x 11" - 3" x 1' - 8"	1 Piece Southeast Wall
Cork	1" x 11" - 6" x 4' - 0"	1 Piece Southeast Wall
Cork	1" x 21" - 6" x 10' - 5"	2 Pieces Retaining Wall
Polystyrene	6" x 2 1/2" x 2 1/2"	6232 Pieces Cap Beam
Polystyrene	1" x 2 1/2" x 2 1/2"	6232 Pieces Cap Beam

• Cut two pieces from one

Notes:
Sidewalk expansion joint material for "Type 2 1/2" & Type 1" expansion devices to be paid for as Structural Steel (3306).
See "Waterproof Expansion Device" for additional details.

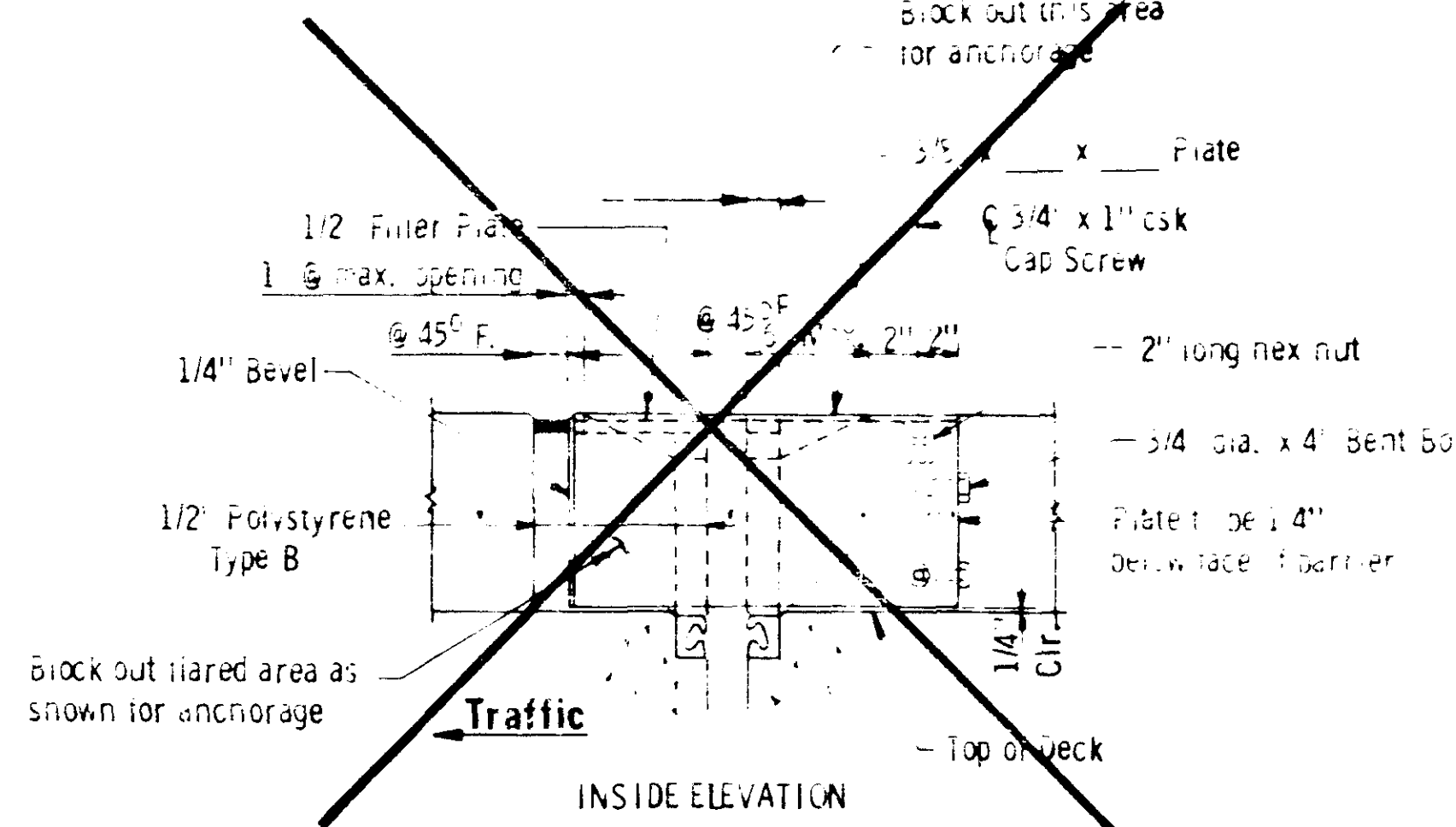
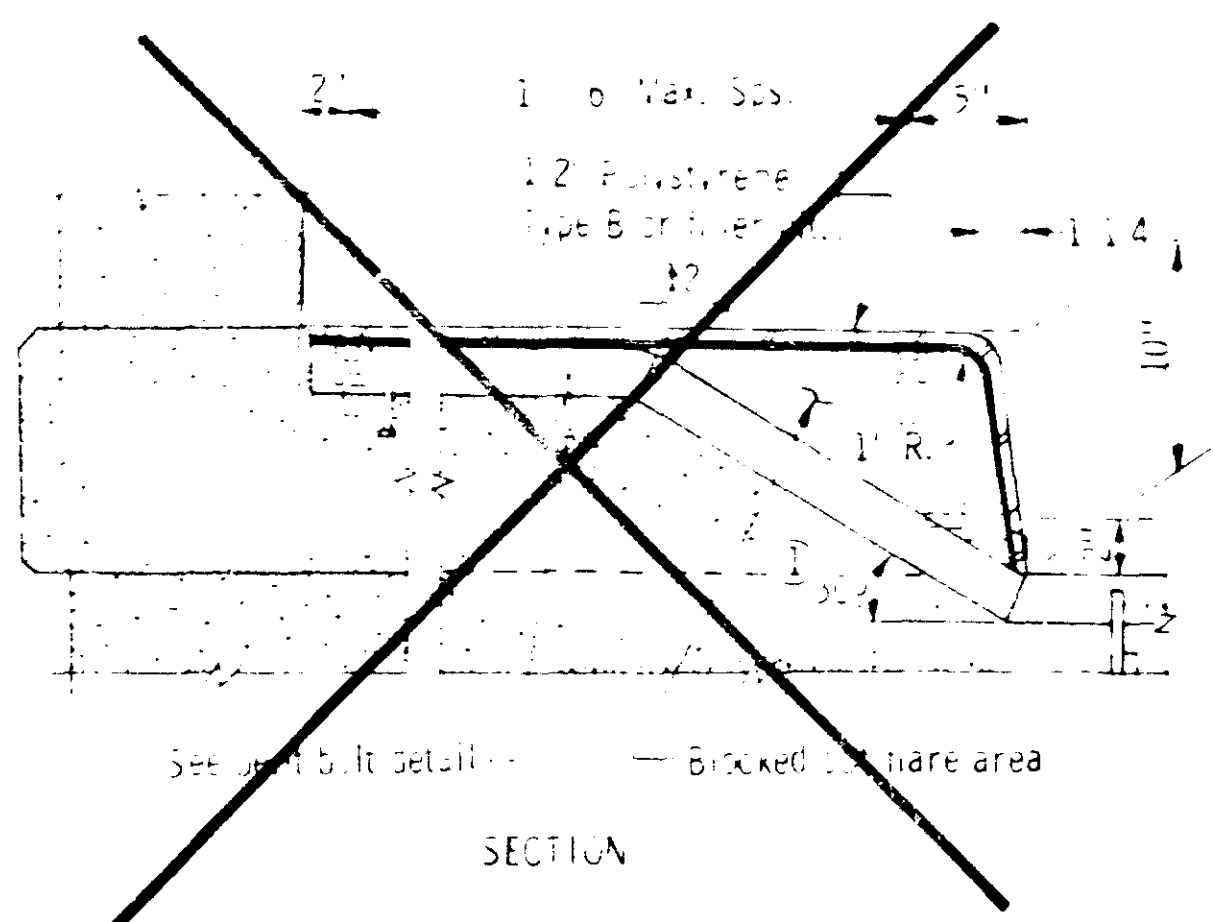
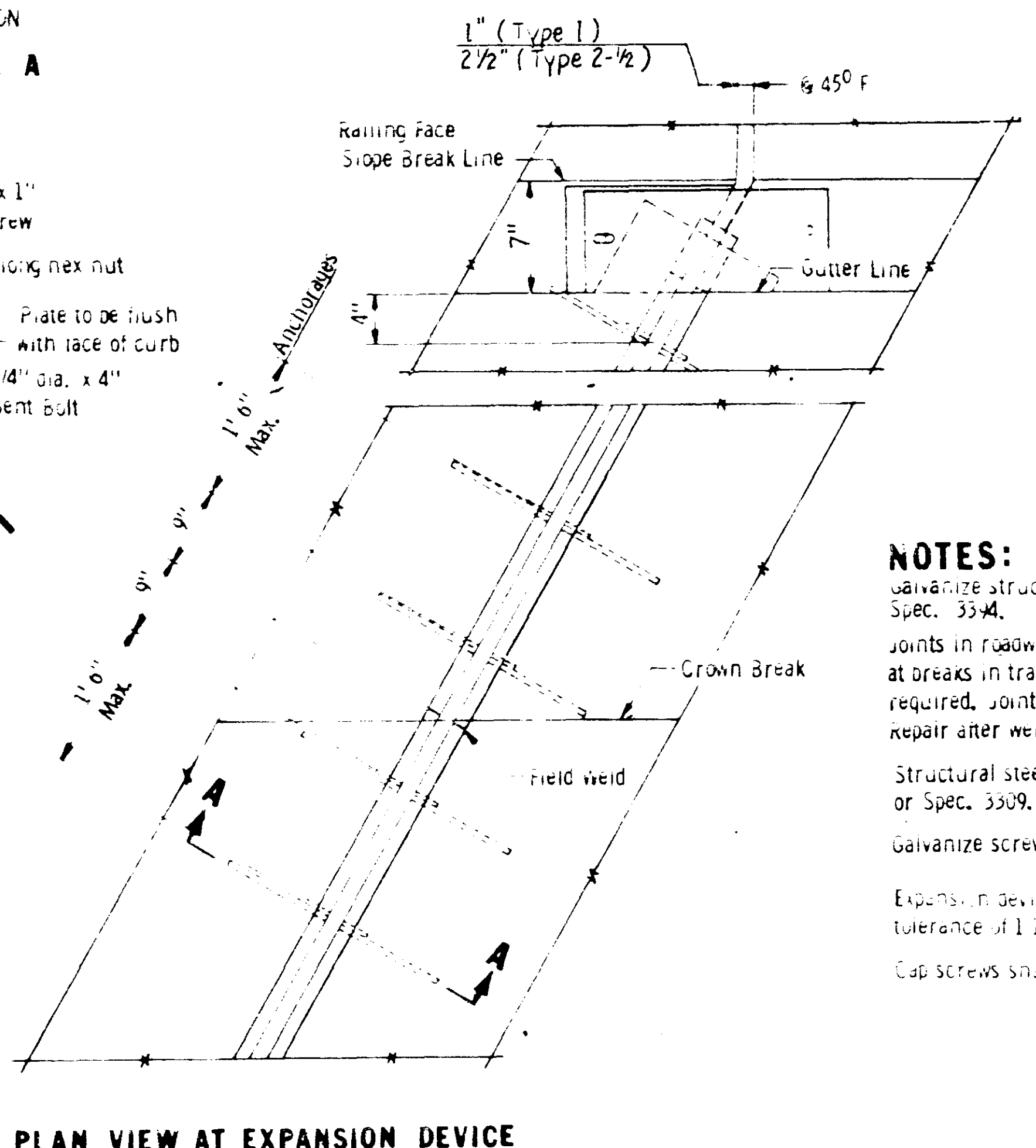
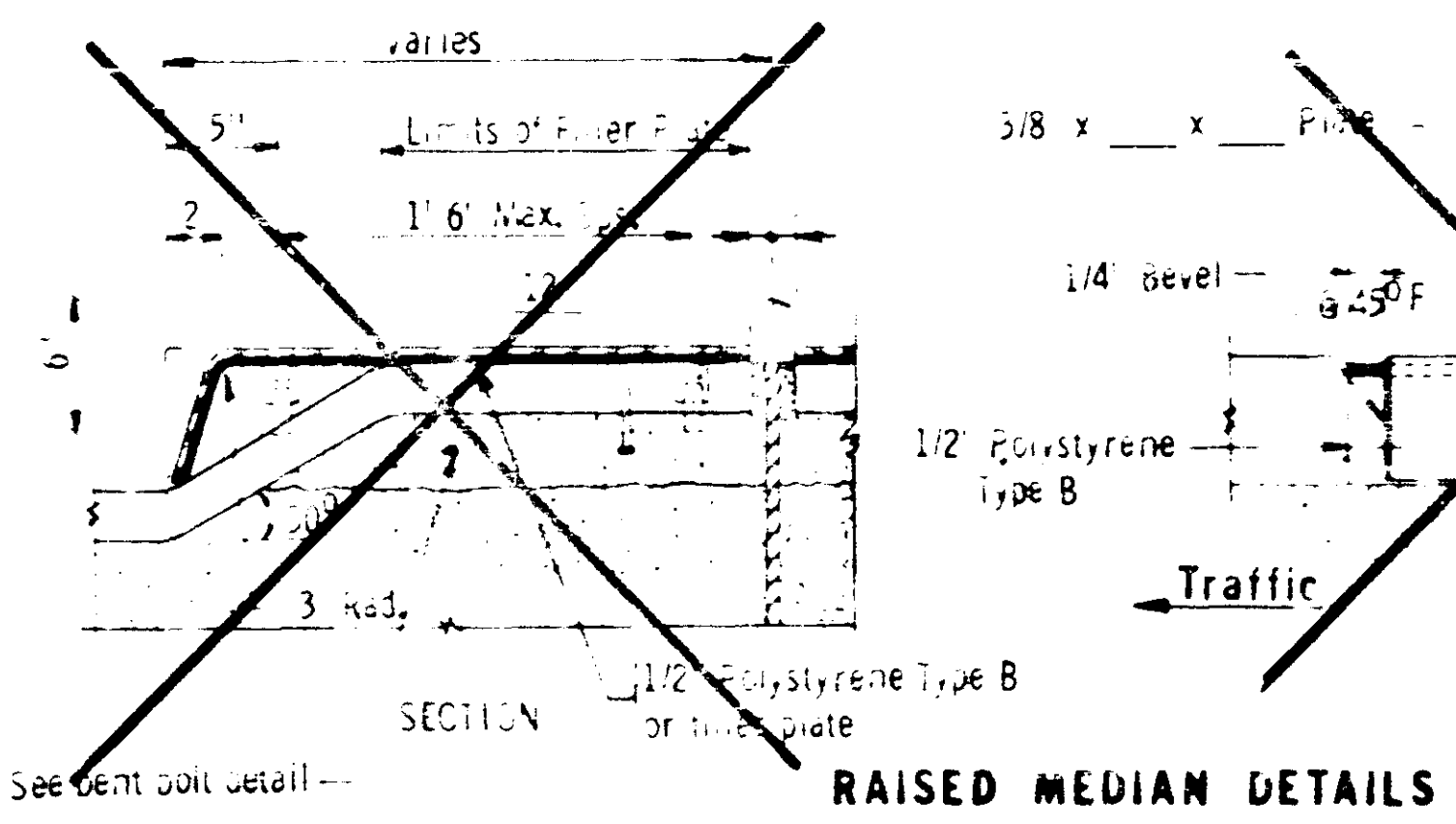
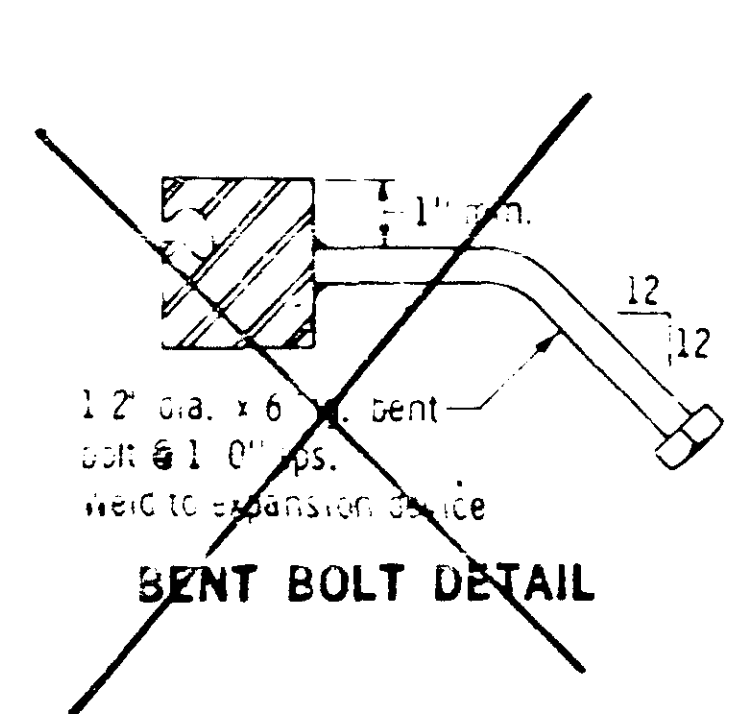
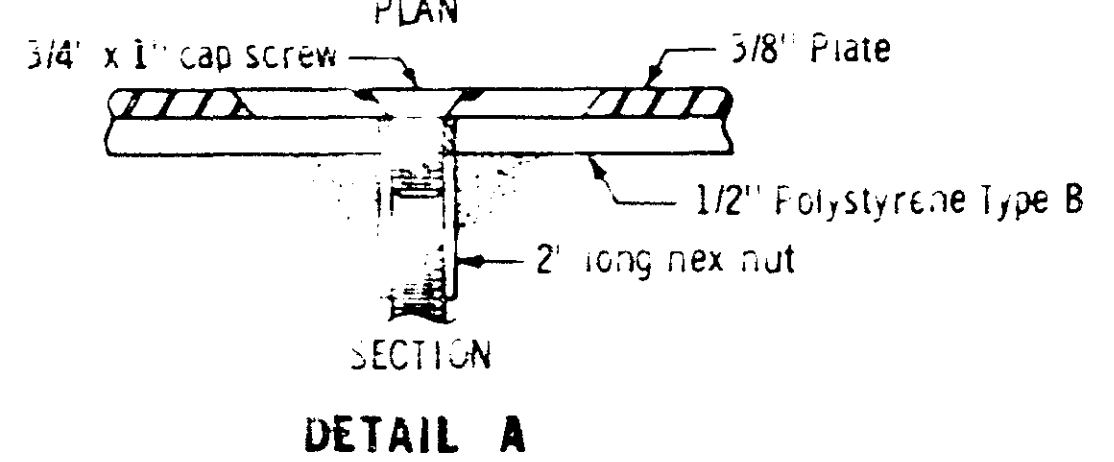
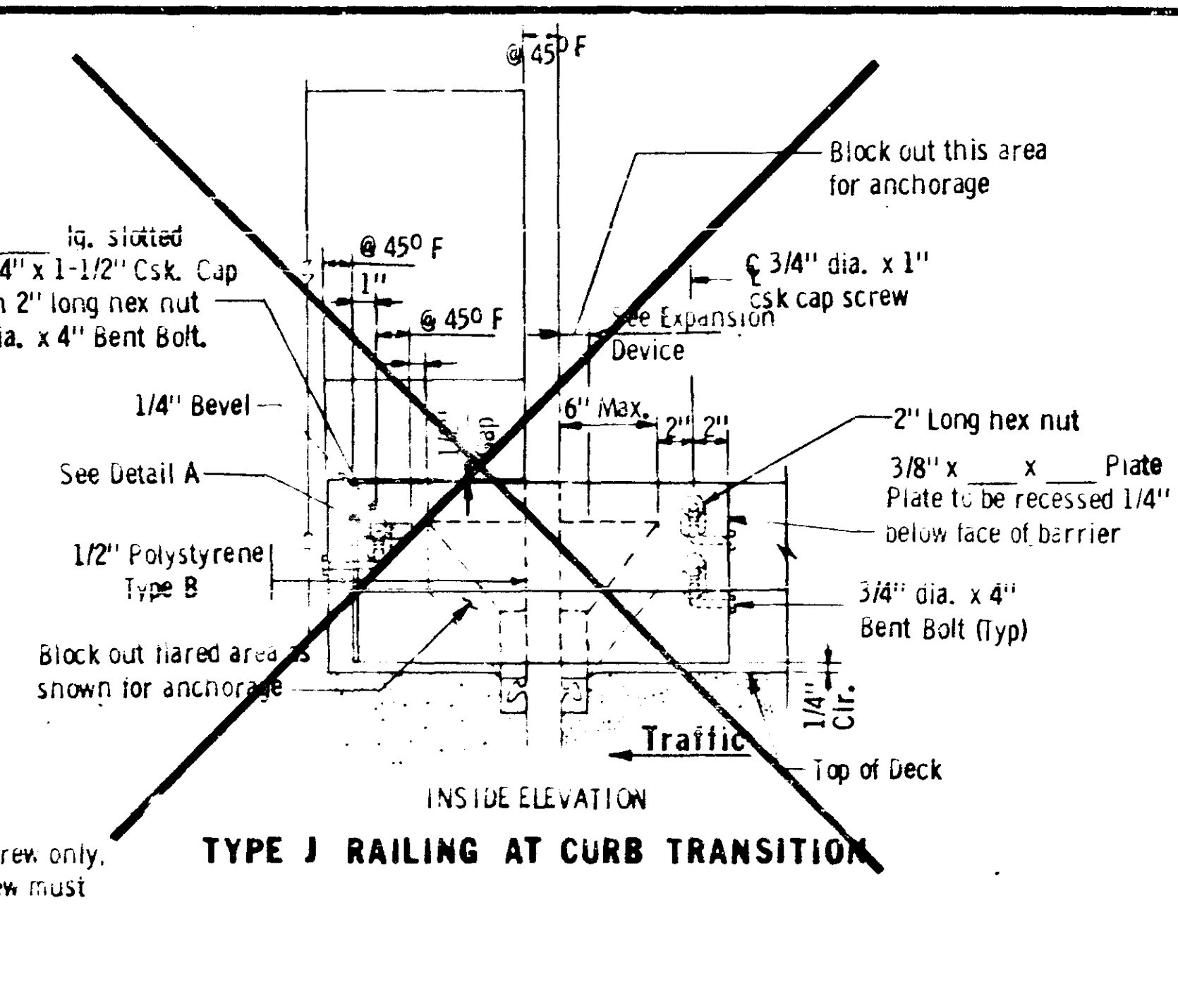
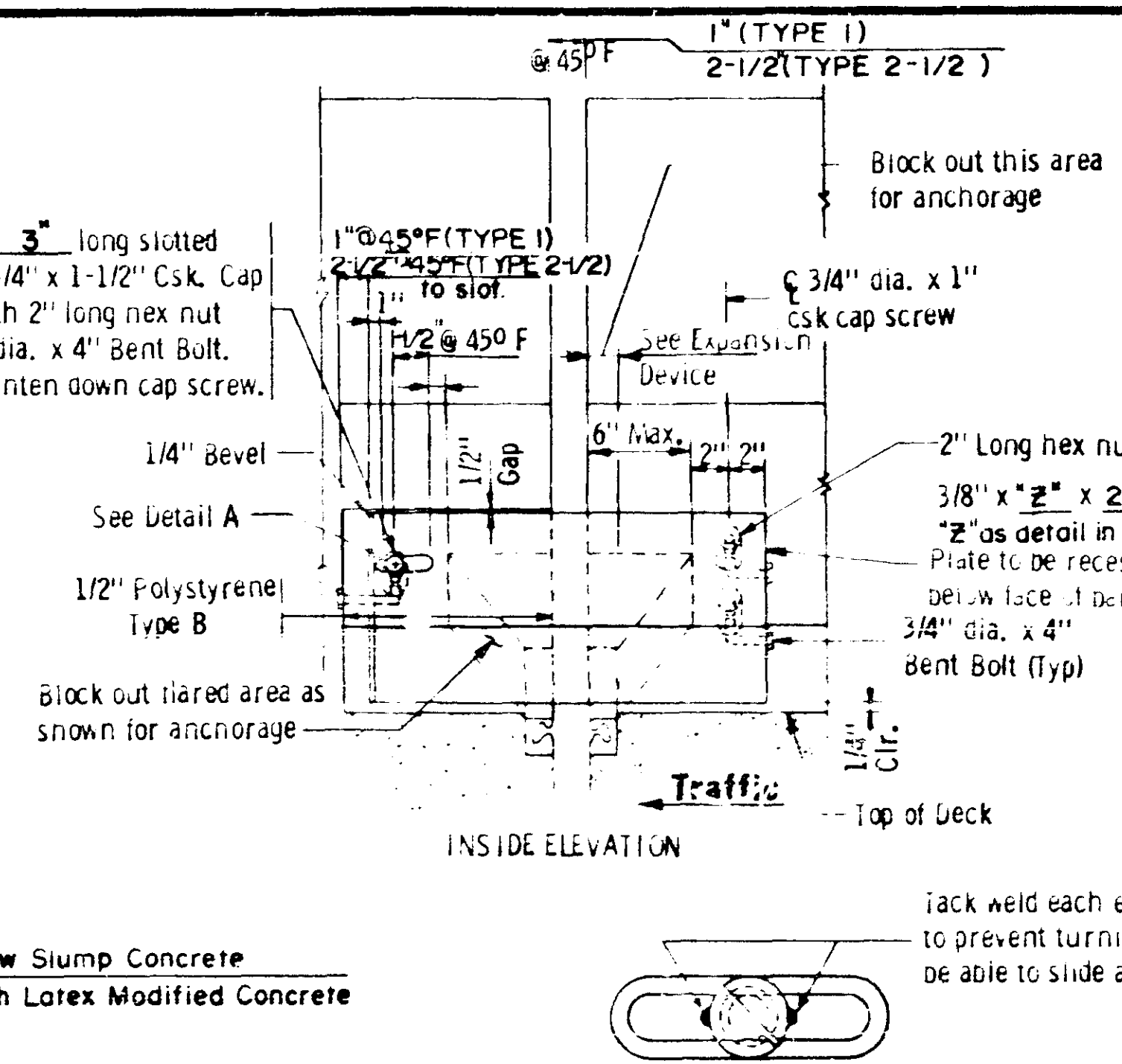
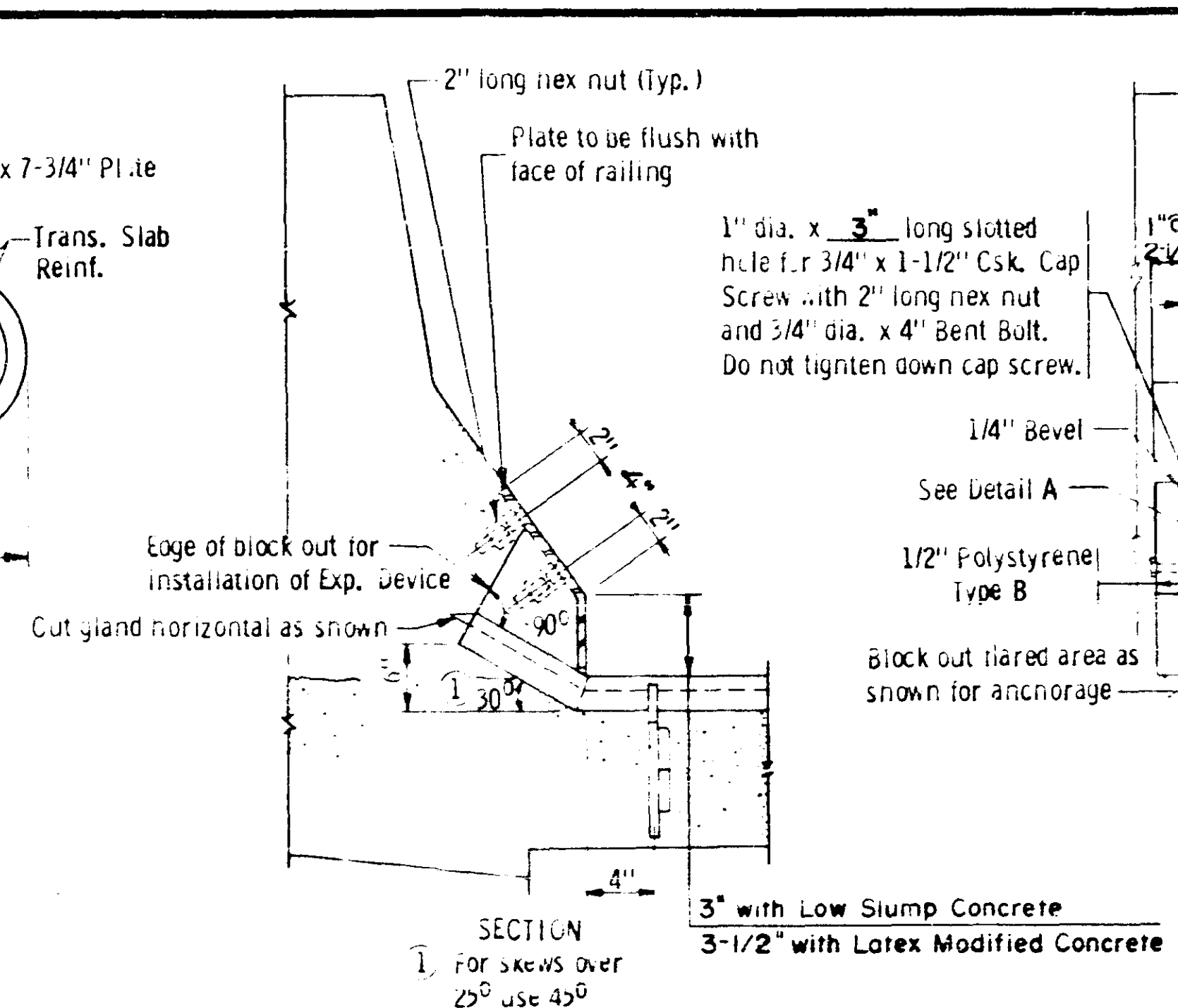
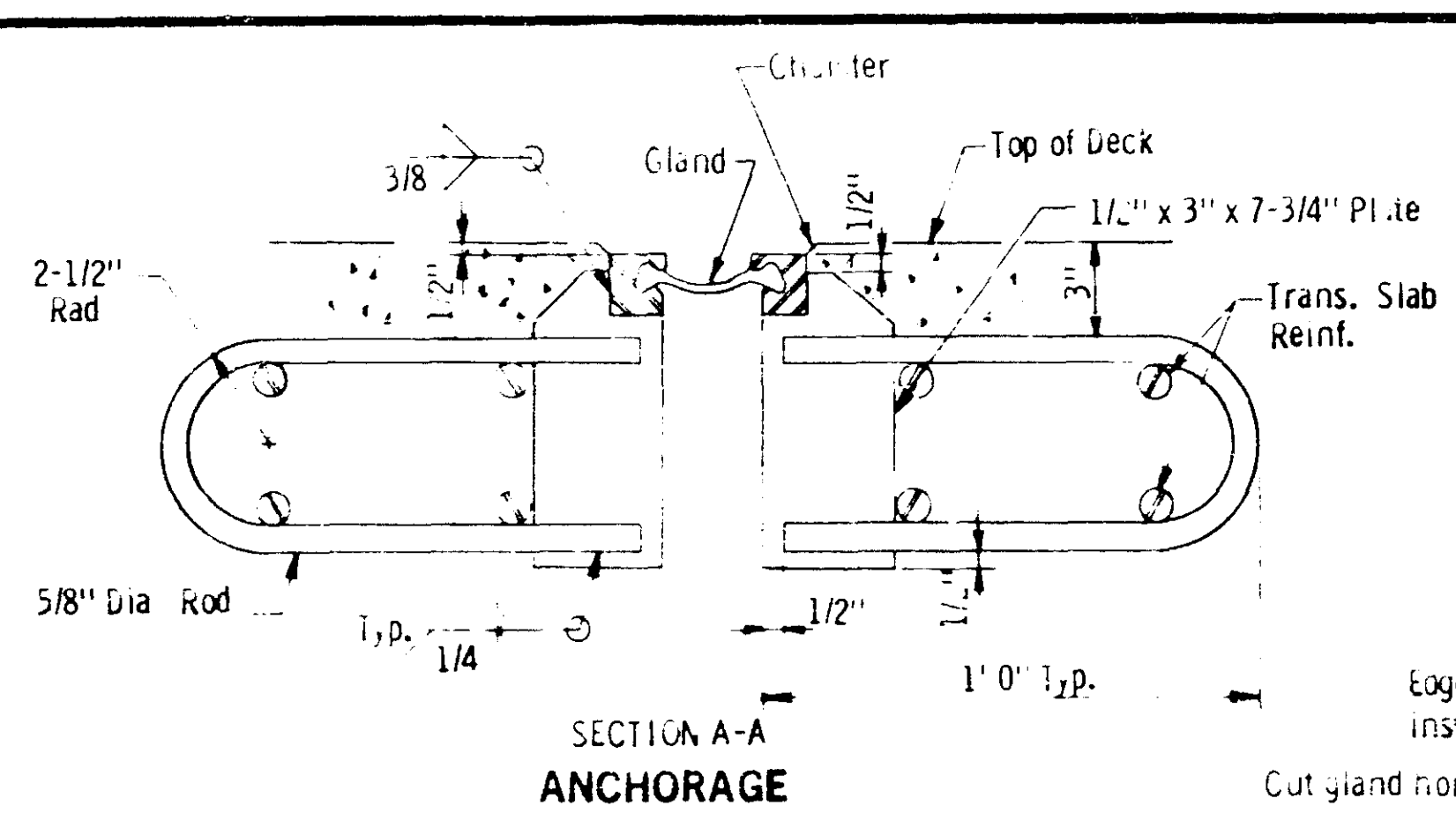
Joint opening to be adjusted as required for temperatures different than 45° F.
Location of expansion joints with respect to handrail posts and lookouts at Arch Pier 1 and Arch Pier 8 should be verified in the field before ordering joint material.

* Distance to be verified in field

Note: All metal required for sidewalk expansion joints included in item 2402.521 Structural Steel (3306).

TITLE: EXPANSION JOINT DETAILS	DES: D.R.A. CHK:	DR: LDH CHK:	APPROVED: 5-7-74	Bridge No. 2440
Sheet No. 49 of 148 Sheets				

ALL CONTRACT DOCUMENTS SHALL BE SUBJECT TO THE STANDARD SPECIFICATIONS FOR BRIDGE CONSTRUCTION, LATEST EDITION, AS PUBLISHED BY THE STATE OF MICHIGAN. MODIFICATIONS TO THESE SPECIFICATIONS SHALL BE INDICATED BY A REVISION NUMBER TO THE RIGHT OF THE SHEET NUMBER. REQUIREMENTS FOR PERMANENT INCREMENTAL AND ADJUSTABLE JOINTS SHALL BE AS SHOWN ON THE DRAWINGS.



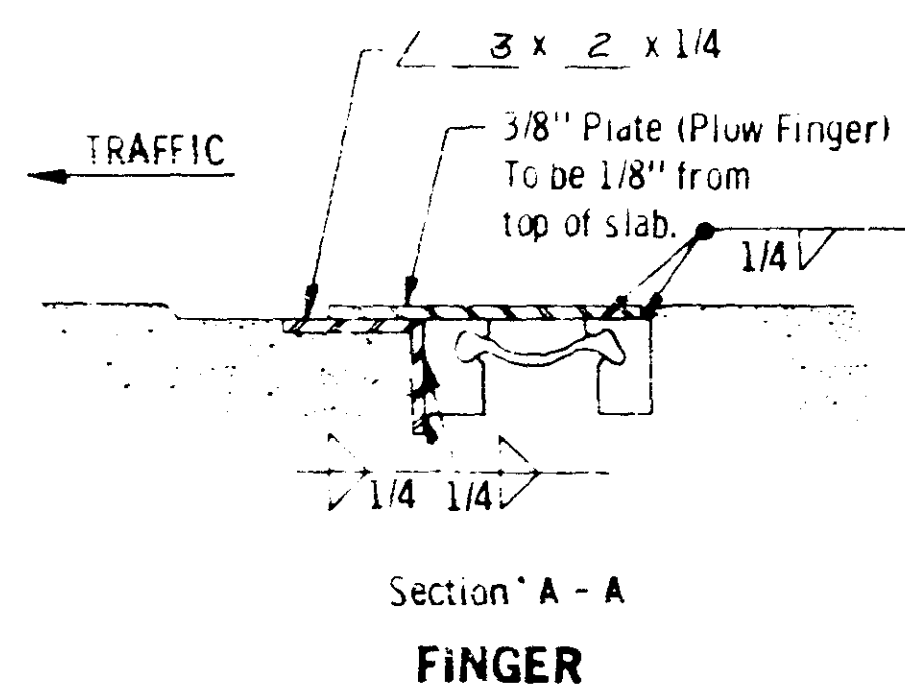
NOTES:
 Galvanize structural steel after fabrication as per Spec. 334A.
 Joints in roadway plate or extrusion shall be located at breaks in transverse profile and as otherwise required. Joints shall be close fit and welded, repair after welding as per Spec. 2471.3L.
 Structural steel shall comply with Spec. 3306, or Spec. 3309.
 Galvanize screws and nuts as per Spec. 3392.
 Expansion device shall be straightened to a tolerance of 1/16" in 10 ft.
 Cap screws shall be csk. 1/16" below top of plate.

Fig. 5-397.627

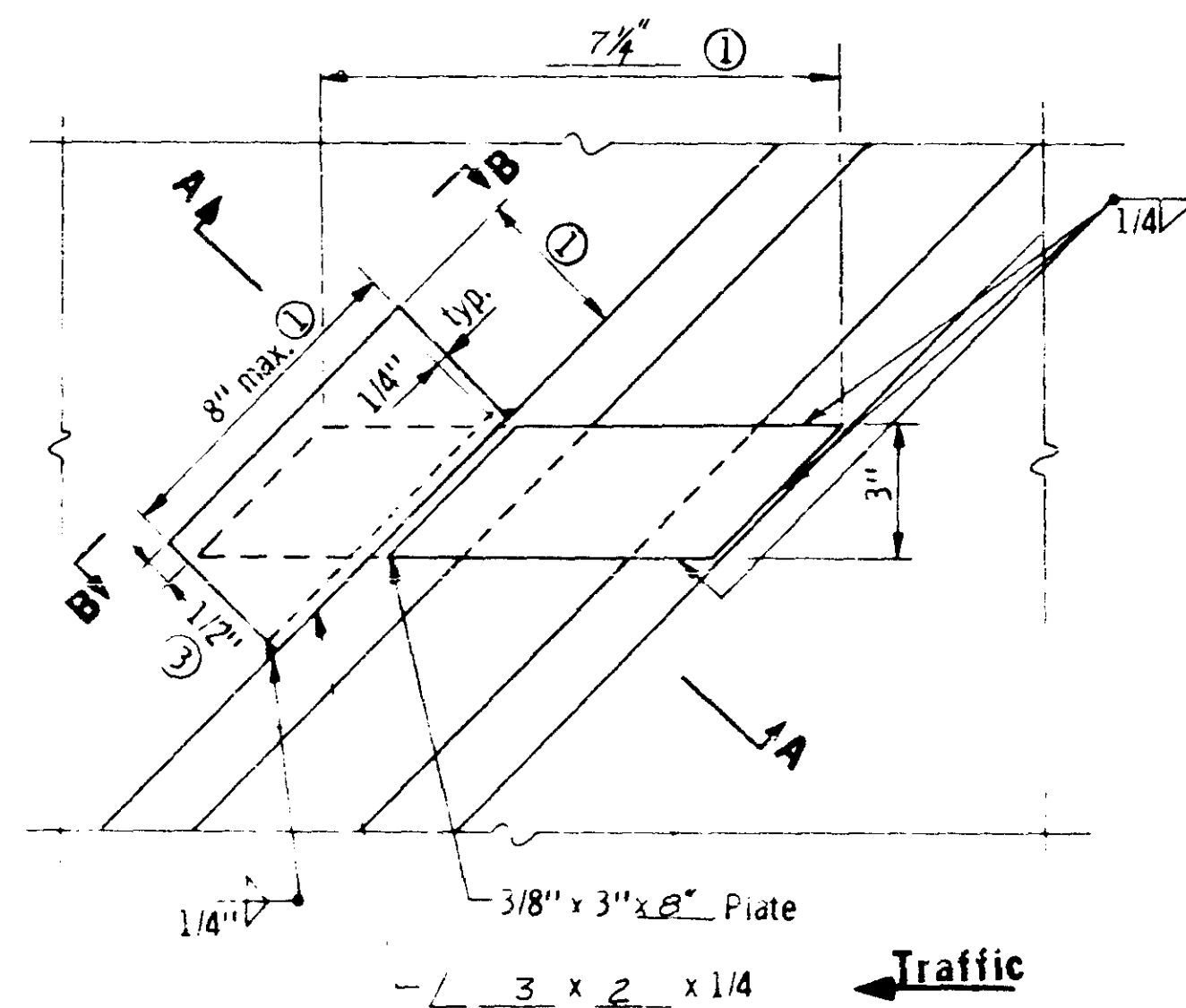
Revised: November 29, 1978 Approved: December 5, 1977

TITLE:	DES:	DR:	APPROVED:	Bridge No. 2440
WATERPROOF EXPANSION DEVICE	CHK:	CHK:	5-7-77	
Sheet No. 50 of 148 Sheets				

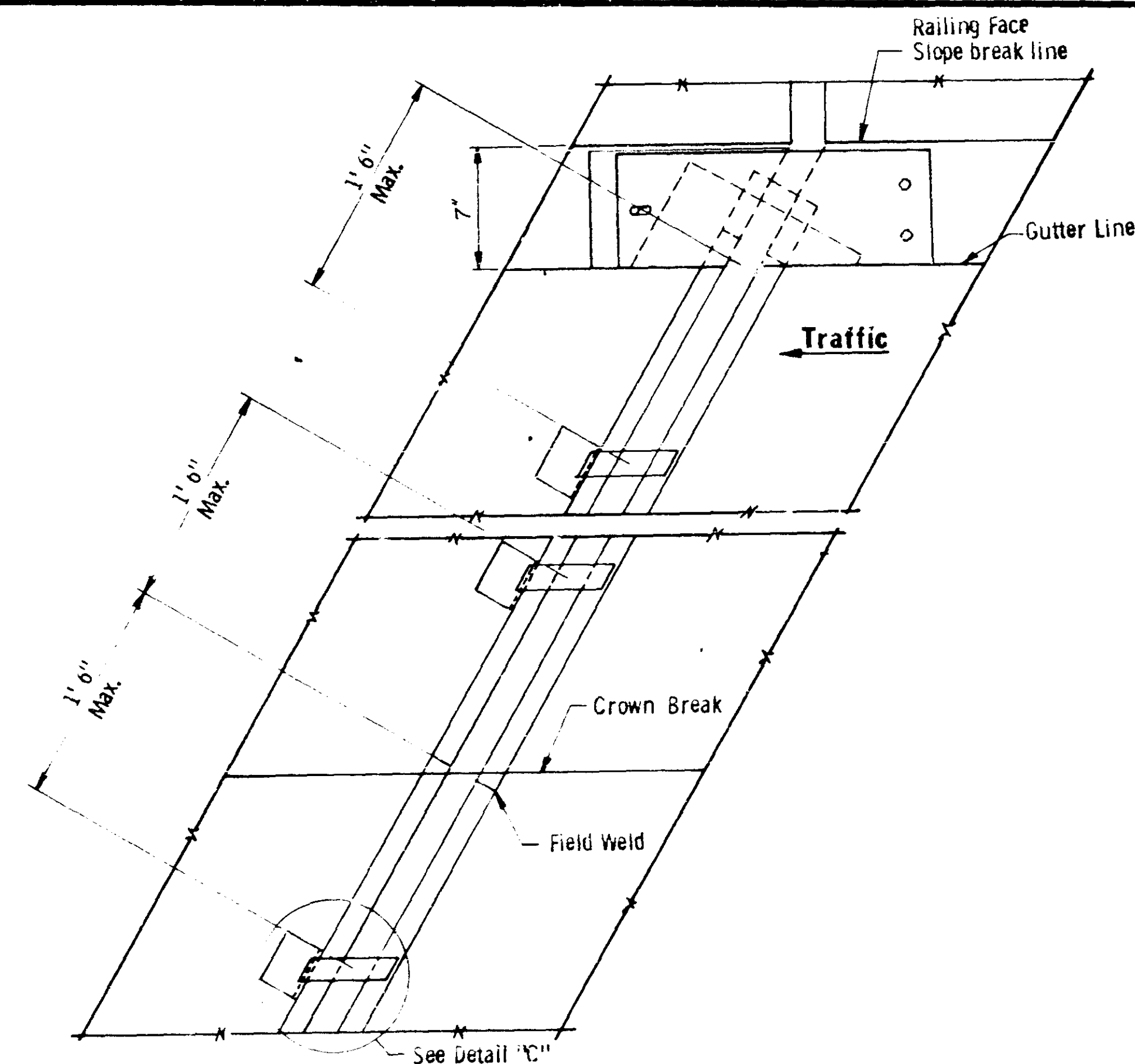
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② Field bend after welding to full bearing.



- ① varies with skew and expansion opening
- ③ Minimum in closed position



Max. spacing of plow fingers to be 4' 0" except as noted.

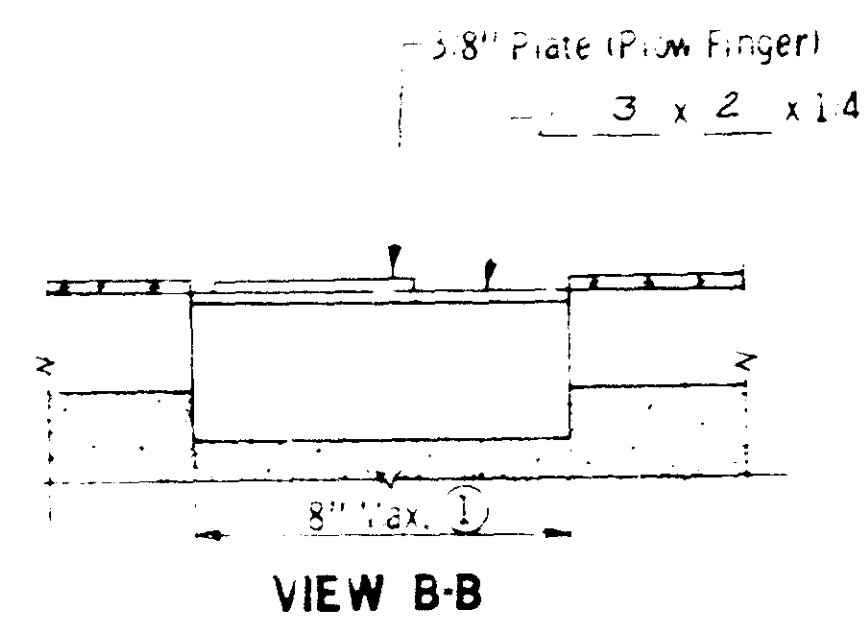
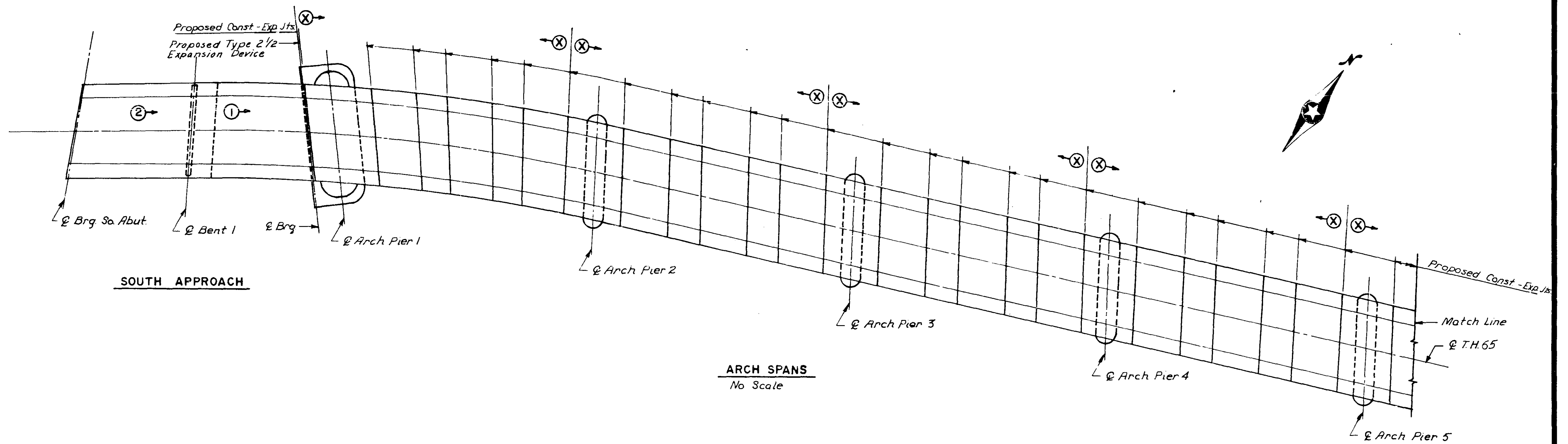


Fig. 5-397.628

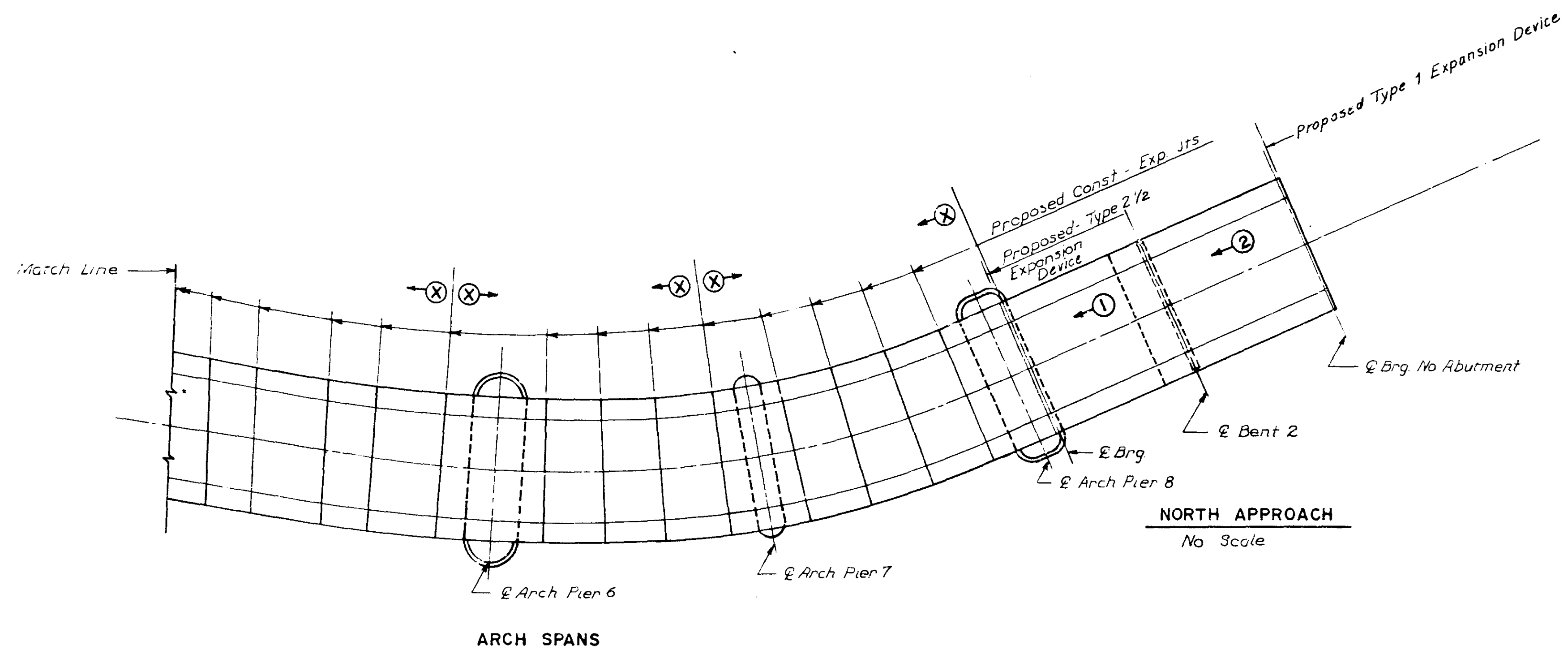
Revised: November 29, 1978 Approved: December 5, 1977

TITLE: WATERPROOF EXPANSION DEVICE SNOW PLOW PROTECTION (Use on skews over 10° and less than 45°)	DES: _____	DR: _____	APPROVED: _____	Bridge No. 2440
	CHK: _____	CHK: _____	5-7-79	
Sheet No. 51 of 148 Sheets				



SOUTH APPROACH

ARCH SPANS
No Scale

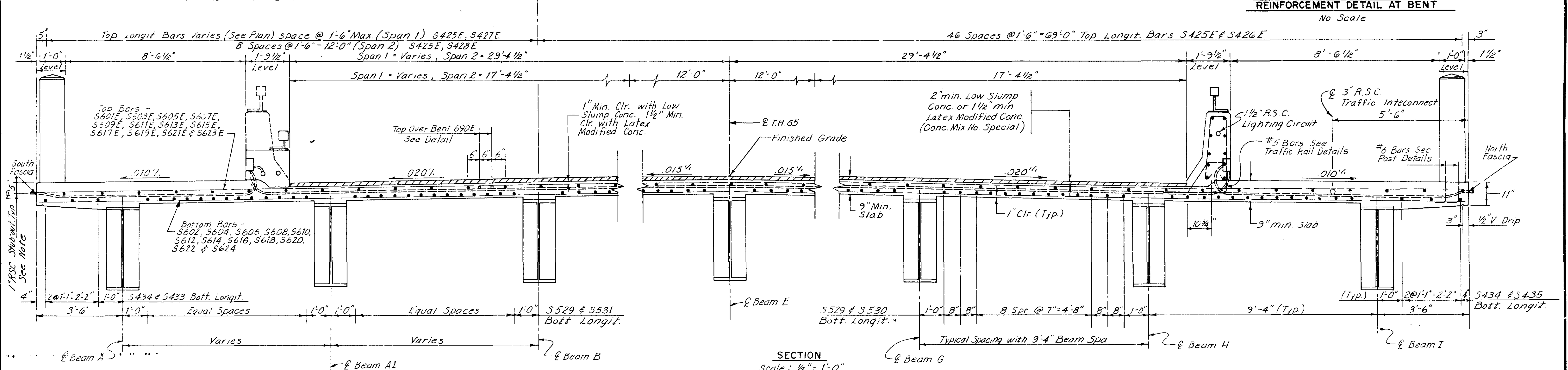
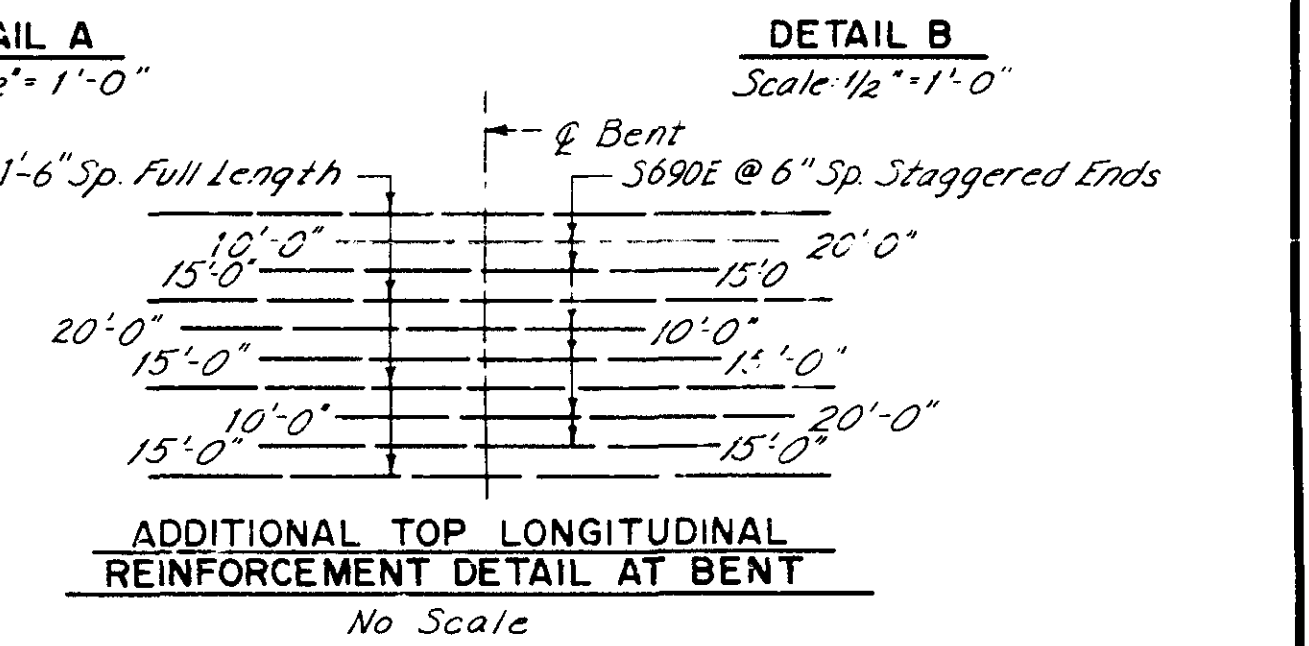
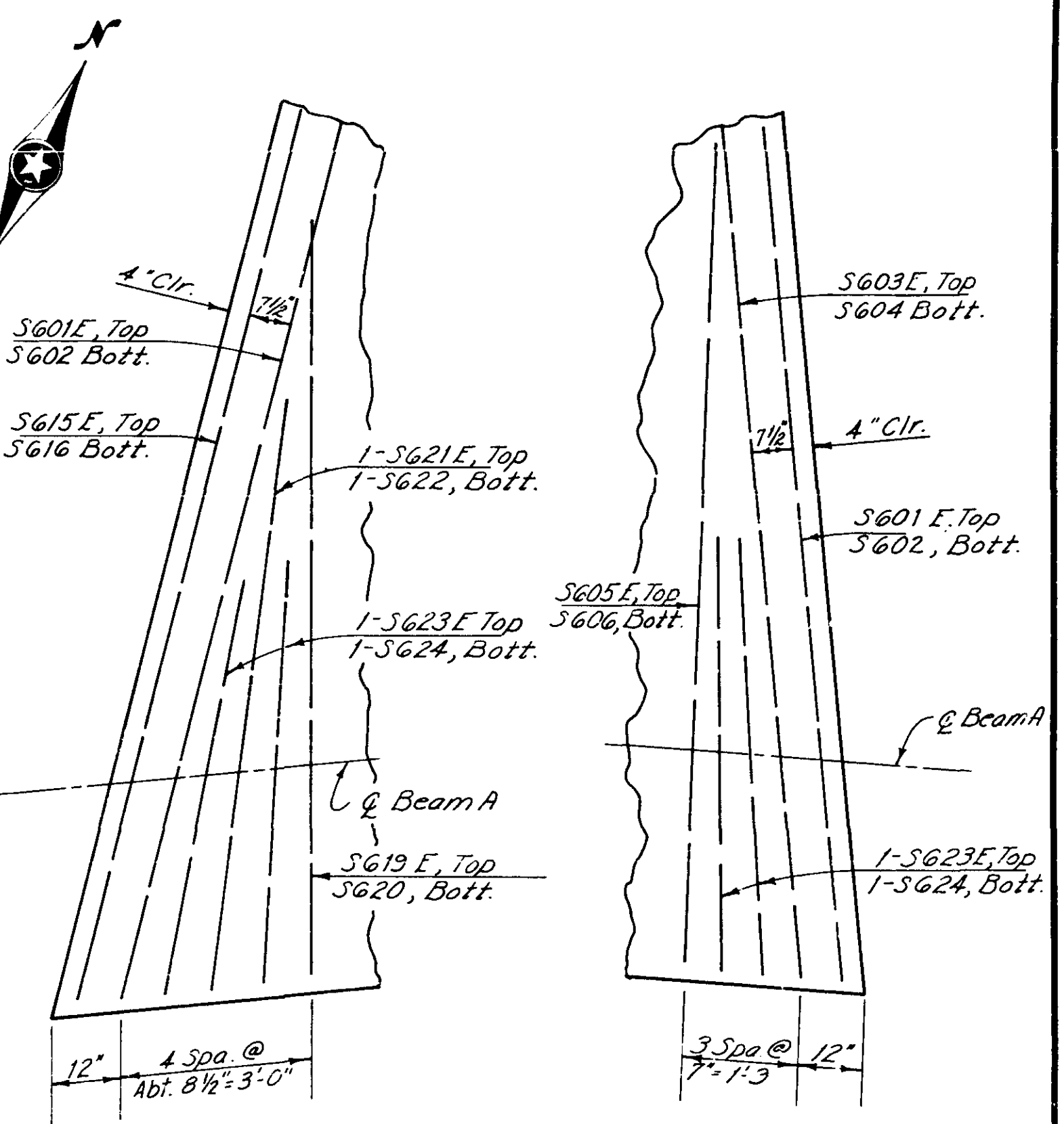
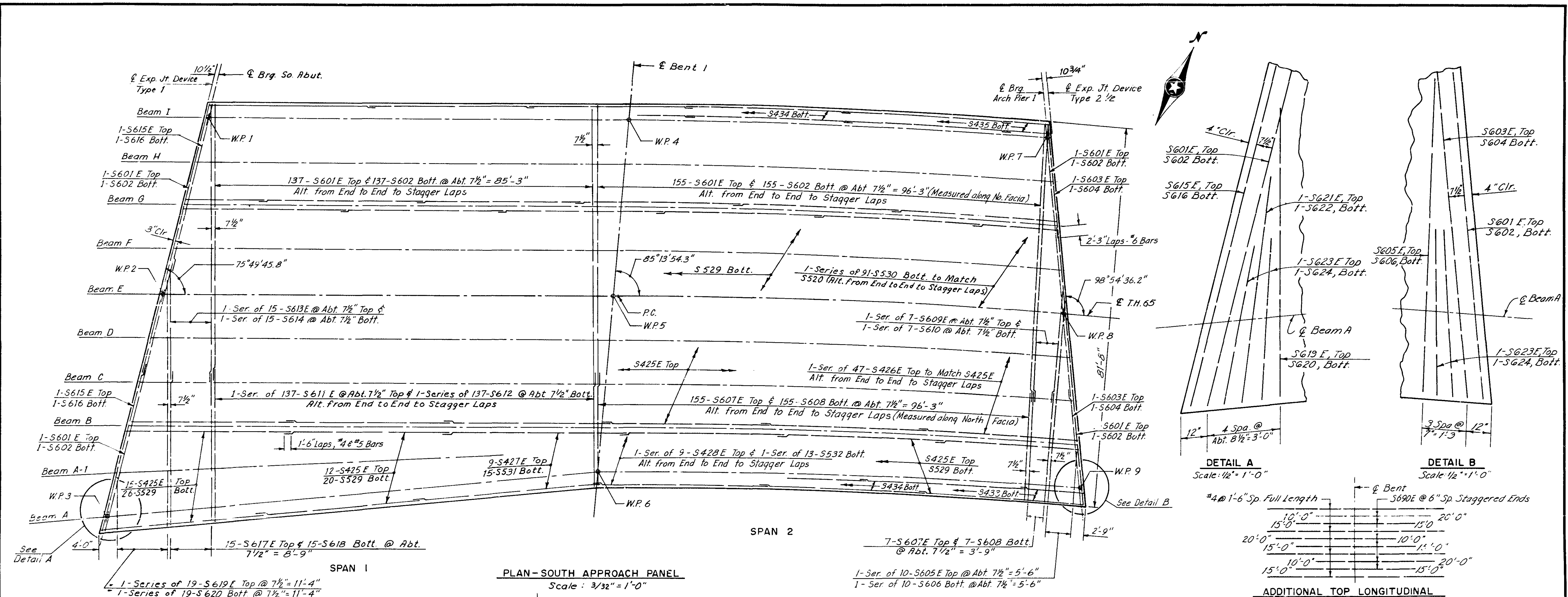


NORTH APPROACH
No Scale

ARCH SPANS

- Pouring Sequence And Direction
- ⊗ Pouring Sequence And Direction To Be Determined By Contractor And Approved By Engineer

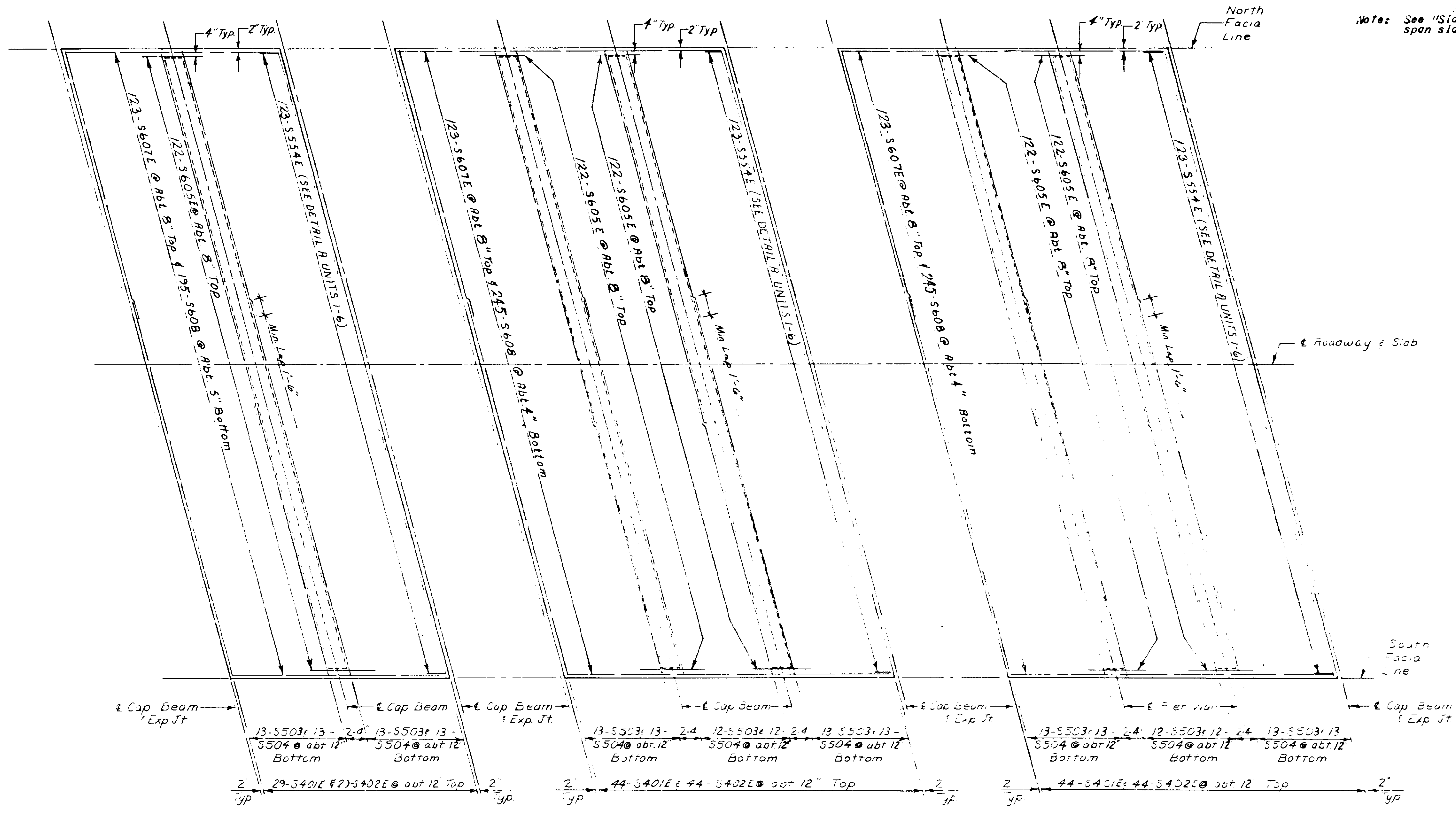
TITLE: POURING SEQUENCE	DES: <i>N.H.H.</i>	DR: <i>N.H.H.</i>	APPROVED:	Bridge No. 2440
	CHK: <i>RF5</i>	CHK:	<i>5-7-79</i>	
	Sheet No. 52 of 148 Sheets			



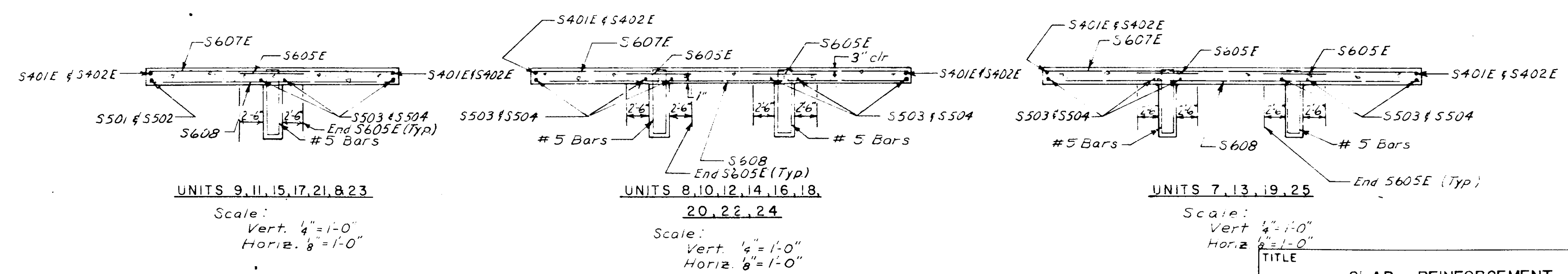
Note: Light to be placed on Slab Facia for lighting obstruction sign over railroad track at each edge of slab. Position to be verified in field (See Sheet No. 90)

TITLE SLAB REINFORCEMENT SOUTH APPROACH	DES: W.R.H.	DR: K.E.B.	APPROVED	Bridge No. 2440
	CHK: D.R.A.	CHK: D.R.A.	5-7-79	
	Sheet No. 53 of 148 Sheets			

Note: See "Slab Reinforcement Units 1-6" for arch span slab reinforcement notes.



PLAN
Scale 1/8" = 1'-0"



UNITS 9, 11, 15, 17, 21, 23
Scale:
Vert. 1/4" = 1'-0"
Horiz. 1/8" = 1'-0"

UNITS 8, 10, 12, 14, 16, 18, 20, 22, 24
Scale:
Vert. 1/4" = 1'-0"
Horiz. 1/8" = 1'-0"

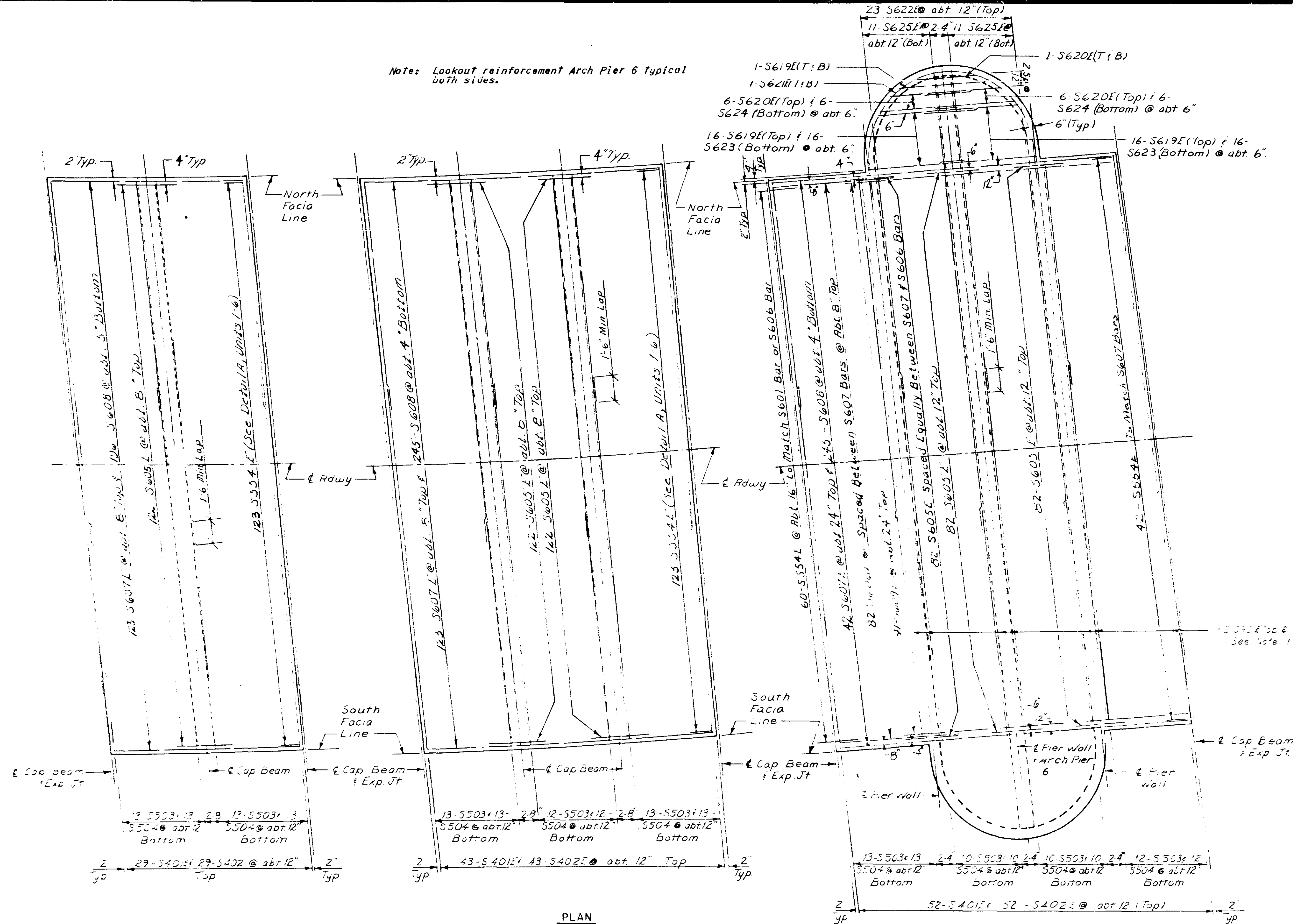
UNITS 7, 13, 19, 25
Scale:
Vert. 1/4" = 1'-0"
Horiz. 1/8" = 1'-0"

TITLE	DES. WRM	DR. E.J.F.	APPROVED	Bridge No. 2440
	CHK. D.A.A.	CHK. W.R.H.	5-7-79	
SLAB REINFORCEMENT UNITS 7-25				Sheet No. 55 of 148 Sheets

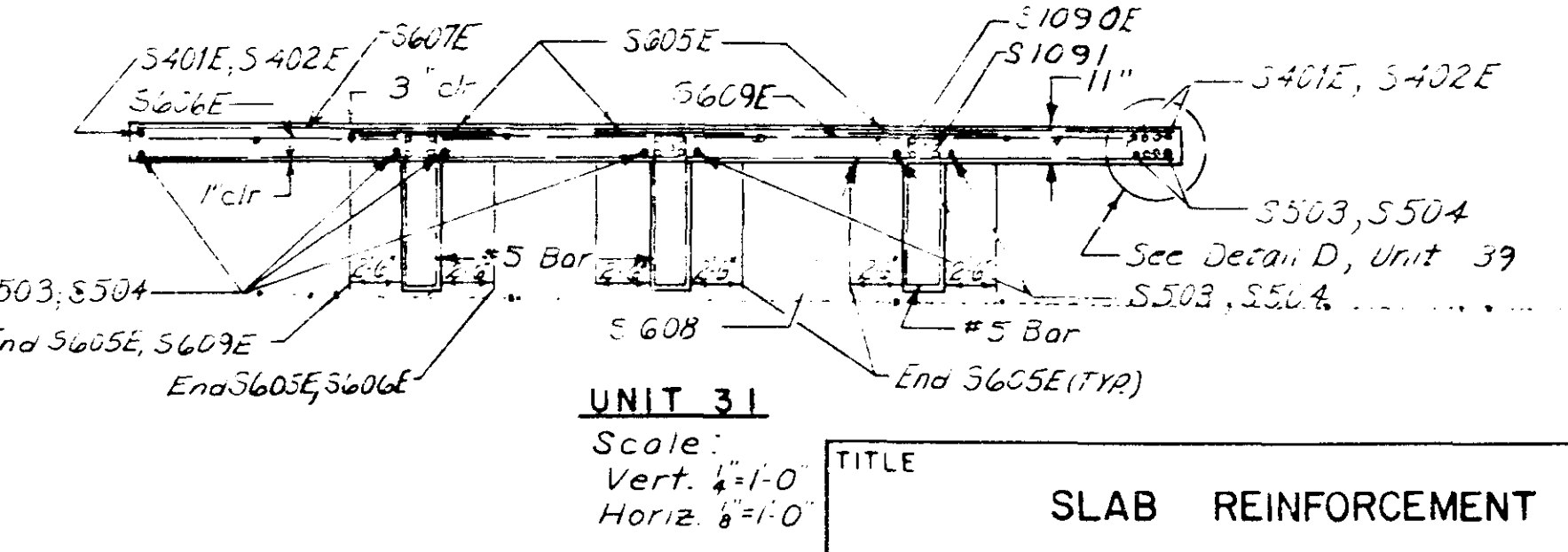
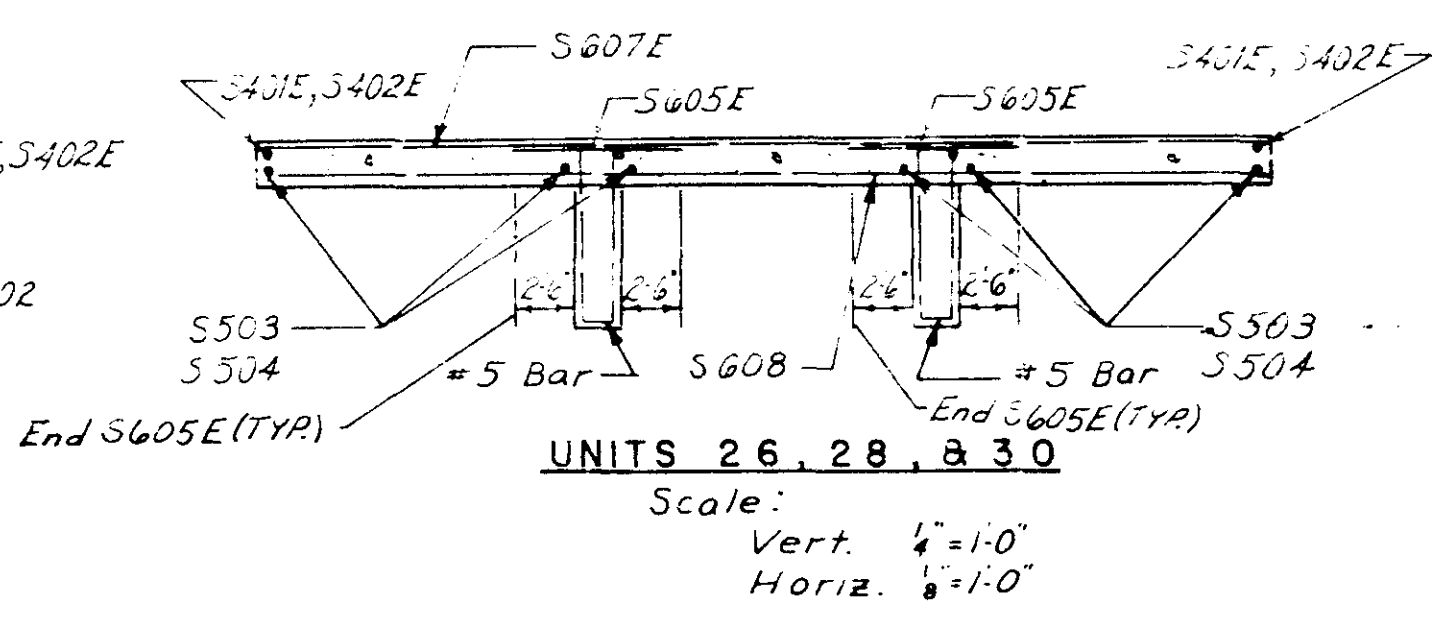
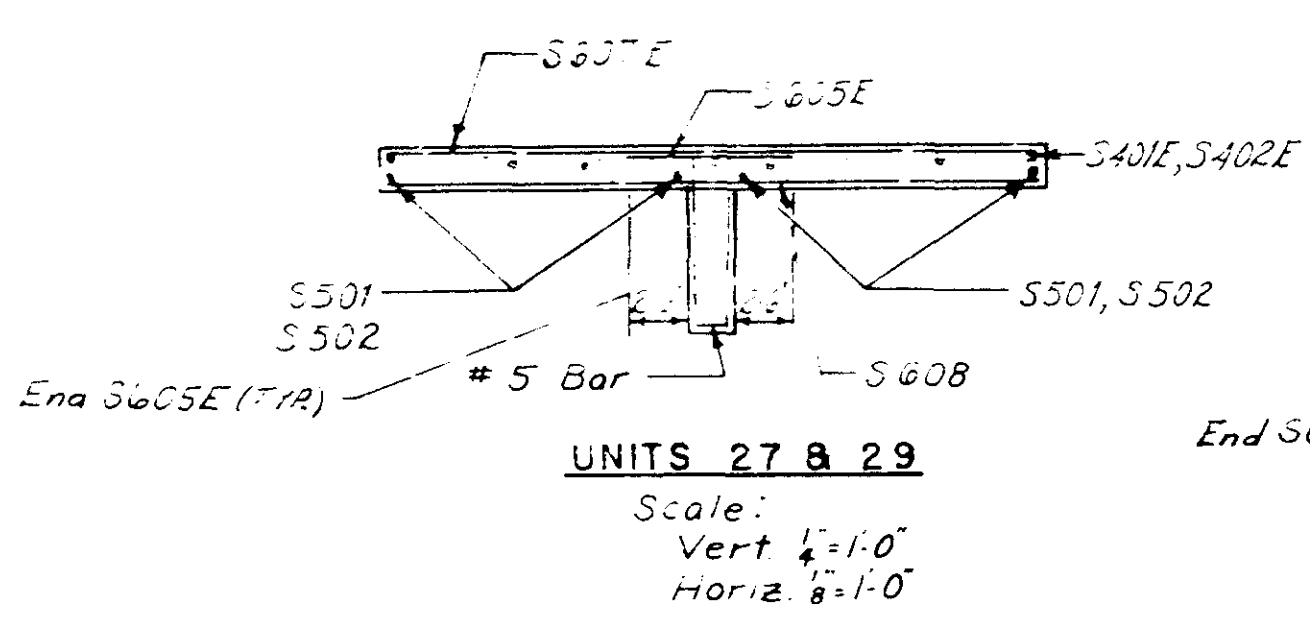
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Note: Lookout reinforcement Arch Pier 6 typical both sides.

Note: See "Slab Reinforcement Units 1-6" for arch span slab reinforcement notes.

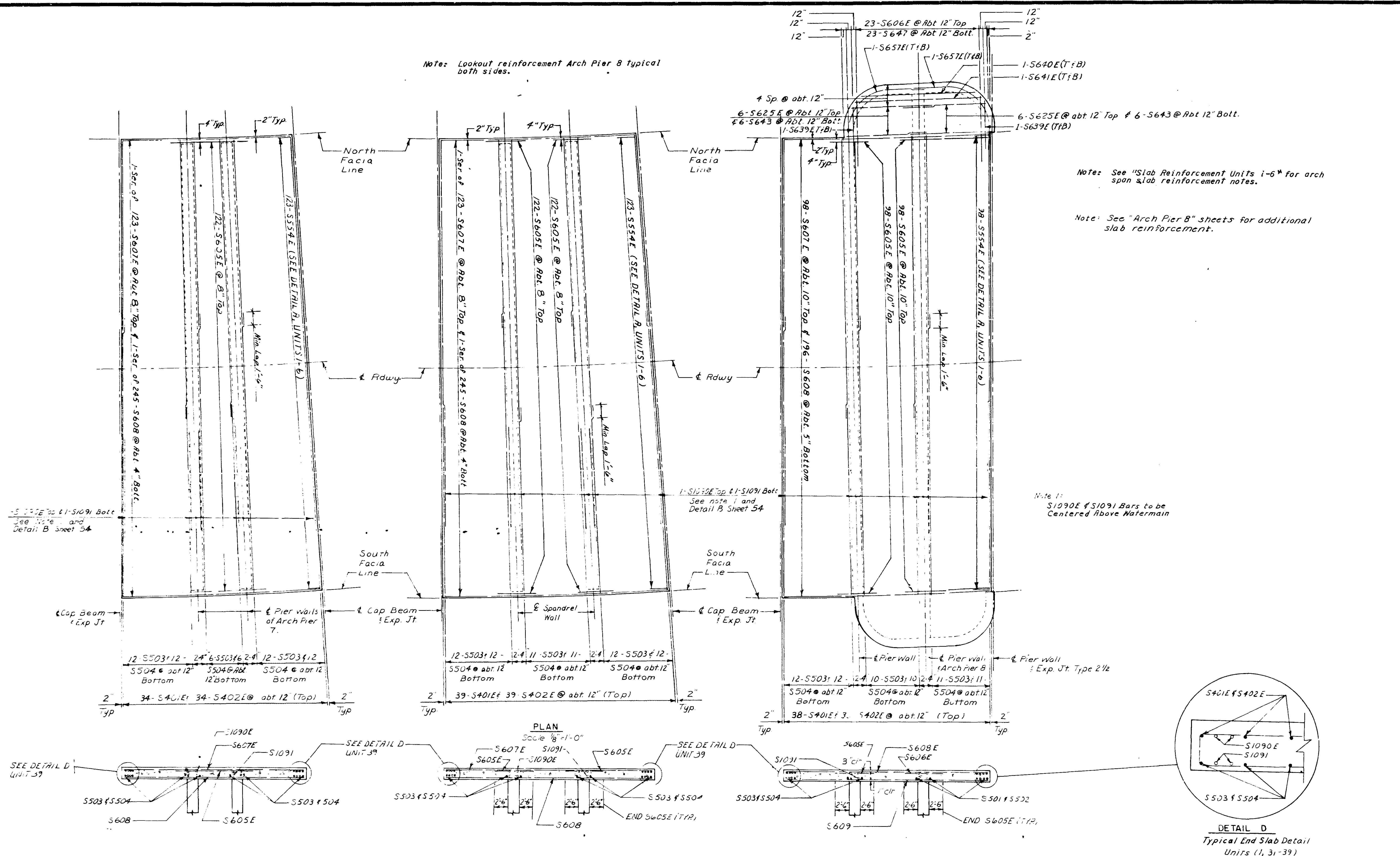


PLAN
Scale 1/8" = 1'-0"



TITLE SLAB REINFORCEMENT UNITS 26-31	DES WRH	DR RFO	APPROVED	Bridge No. 2440
	CHK DRA	CHK W.R.H.	5-7-79	
Sheet No. 56 of 148 Sheets				

Note: Lookout reinforcement Arch Pier 8 typical both sides.



Note: See "Slab Reinforcement Units i-6" for arch span slab reinforcement notes.

Note: See "Arch Pier 8" sheets for additional slab reinforcement.

Note 1:
S1090E & S1091 Bars to be Centered Above Waterman

UNIT 35
Scale:
Vert. 1/4"=1'-0"
Horiz. 1/8"=1'-0"

UNITS 32, 33, 34, 36, 37, & 38
Scale:
Vert. 1/4"=1'-0"
Horiz. 1/8"=1'-0"

UNIT 39
Scale:
Vert. 1/4"=1'-0"
Hor. 1/8"=1'-0"

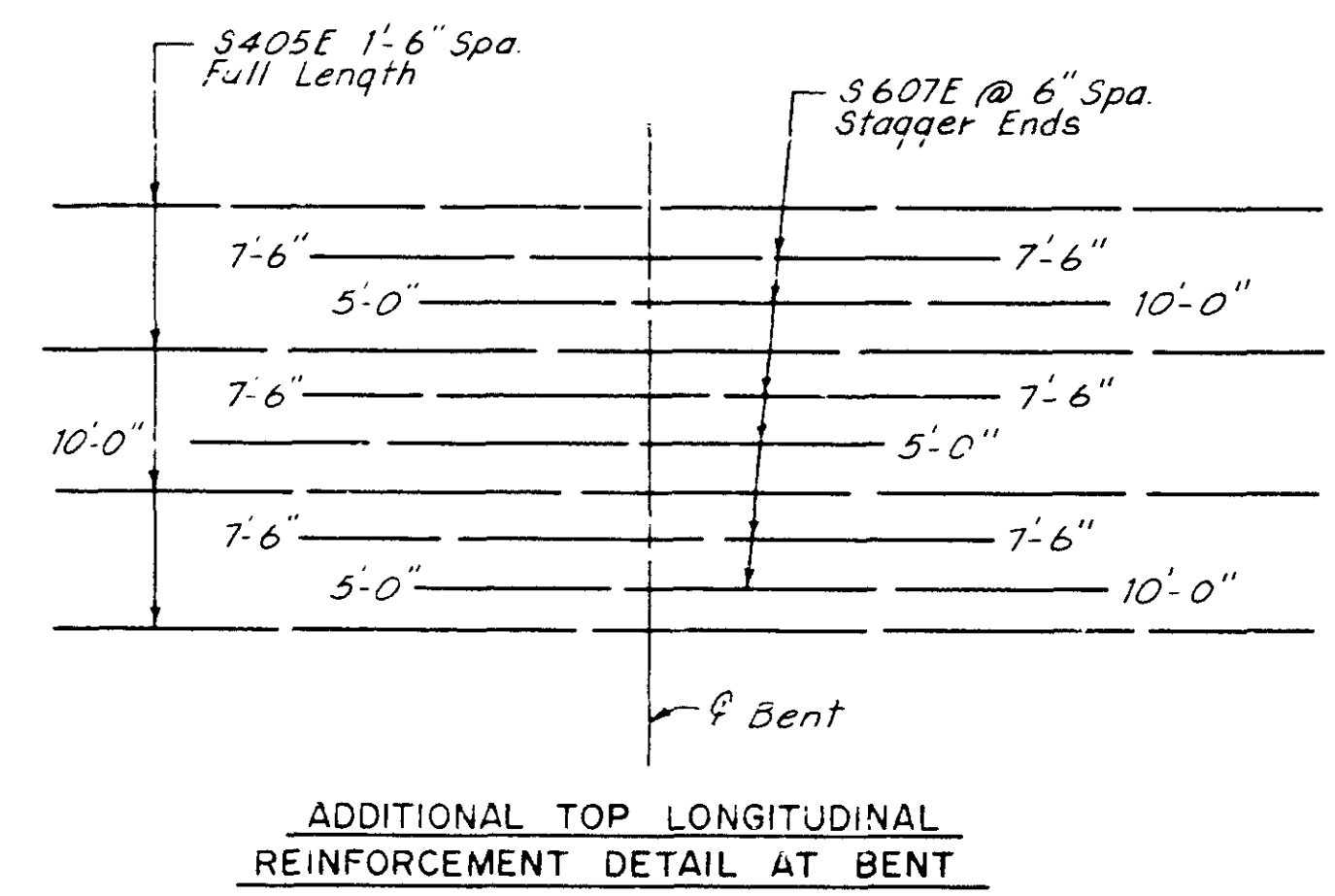
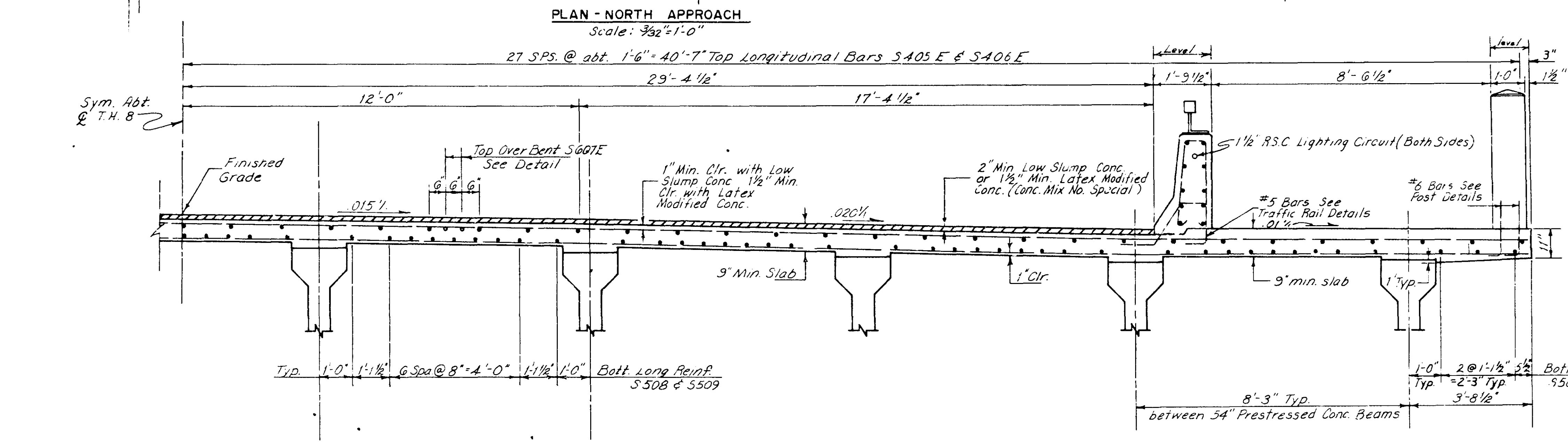
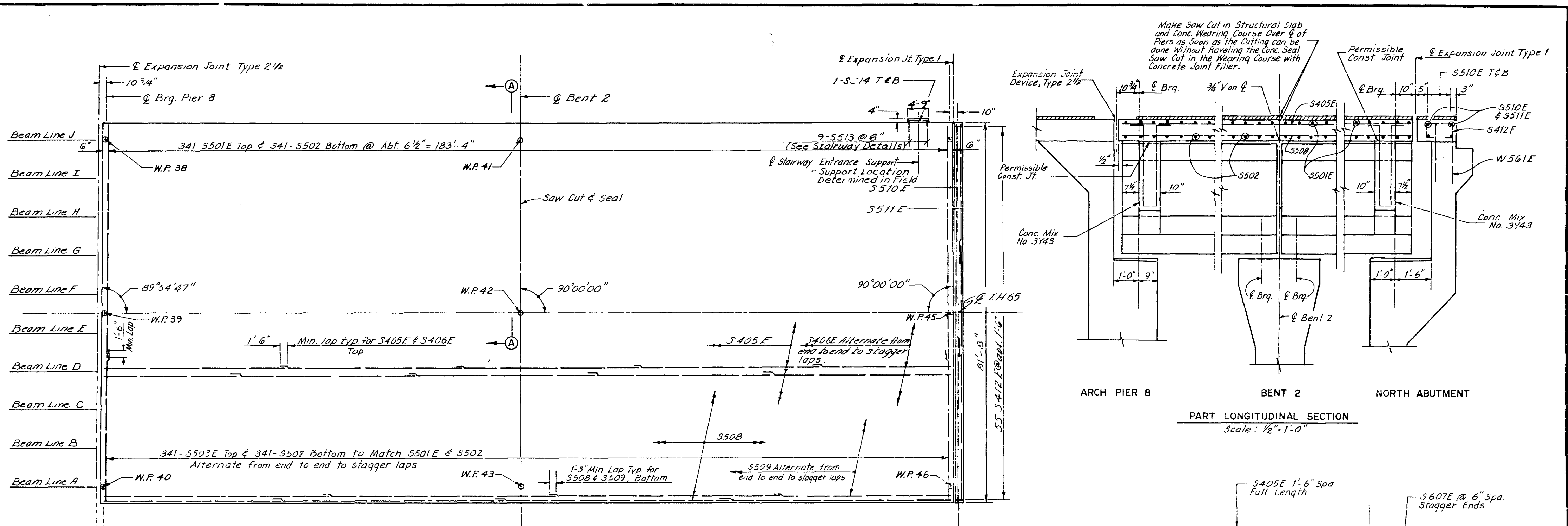
DETAIL D
Typical End Slab Detail
Units (1, 31-39)
Scale:
Vert. 1"=1'-0"
Horiz. 1"=1'-0"

SLAB REINFORCEMENT
UNITS 32-39

DES WAR	DR EJP	APPROVED
CHK DRA	CHK WAR	5-7-79
Sheet No. 57 of 148 Sheets		

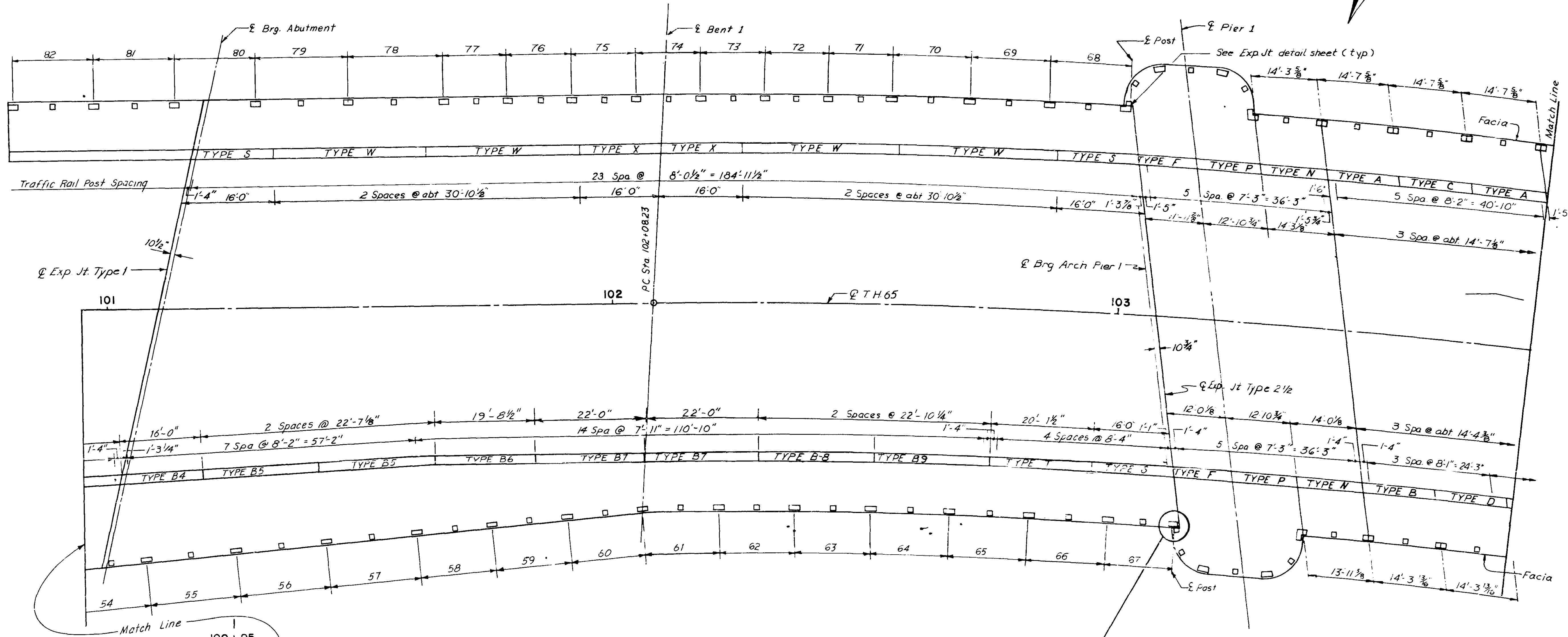
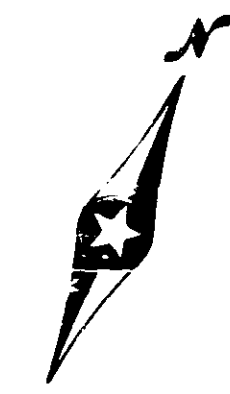
Bridge No.
2440

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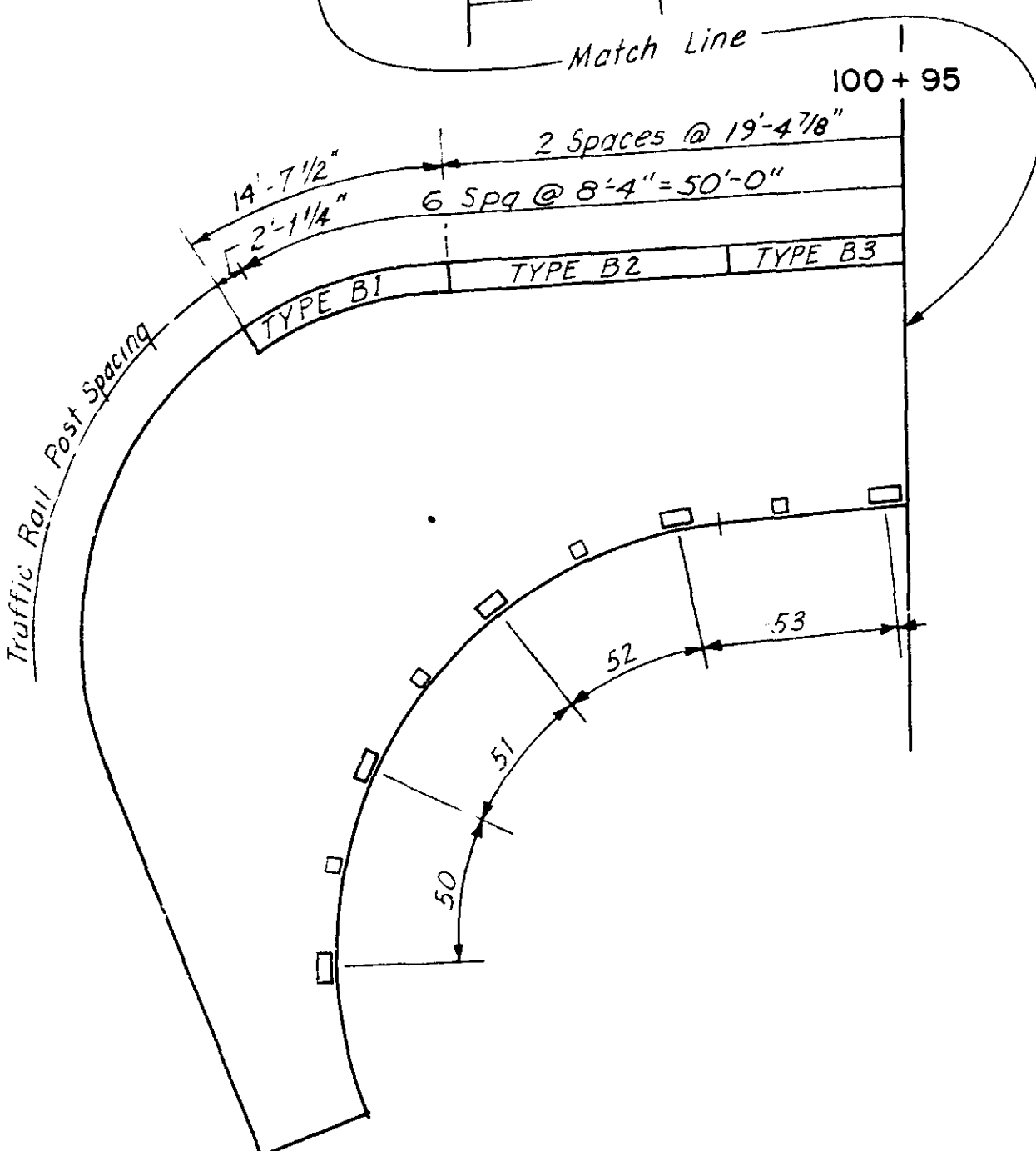


TITLE SLAB REINFORCEMENT NORTH APPROACH	DES: DRA	DR: RED/REB	APPROVED	Bridge No. 2440
	CHK: KEA	CHK: DRA	5-7-79	
Sheet No. 58 of 148 Sheets				

BAR	NO.	SIZE	LENGTH	TYPE	LOCATION	BAR	NO.	SIZE	LENGTH	TYPE	LOCATION	BAR	NO.	SIZE	LENGTH	TYPE	LOCATION	BAR	NO.	SIZE	LENGTH	TYPE	LOCATION	BAR	NO.	SIZE	LENGTH	TYPE	LOCATION																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																														
SOUTH APPROACH						Unit 2						Units 13 and 25 (2 Required)						Unit 31						Unit 39																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																			
S601E	296	6	60-0	Transv. Top		S401E	44	4	50-0	Transv. Top		S401E	44	4	50-0	Transv. Top		S401E	52	4	50-0	Transv. Top		S401E	38	4	50-0	Transv. Top		S602	296	6	60-0	Transv. Bott.		S402E	44	4	34-2	Transv. Top		S402E	44	4	35-9	Transv. Top		S402E	52	4	32-10	Transv. Top		S402E	38	4	33-0	Transv. Top		S603E	2	6	24-9	Transv. Top		S503	38	5	50-0	Transv. Bott.		S503	38	5	50-0	Transv. Bott.		S503	45	5	50-0	Transv. Bott.		S503	33	5	50-0	Transv. Bott.		S604	2	6	24-9	Transv. Bott.		S504	38	5	34-2	Transv. Bott.		S504	38	5	35-9	Transv. Bott.		S504	45	5	32-10	Transv. Bott.		S504	33	5	33-0	Transv. Bott.		S605E	1-Ser. of 10	6	12-6	Transv. Top		S605E	244	6	7-4	Long. Top		S605E	244	6	7-4	Long. Top		S605E	246	6	6-6	Long. Top		S605E	98	6	6-6	Long. Top		S606	1-Ser. of 10	6	44-0	Transv. Bott.		S607E	123	6	42-7	Long. Top		S607E	123	6	43-0	Long. Top		S607E	82	6	18-0	Long. Top		S607E	98	6	15-3	Long. Top		S607E	162	6	23-9	Transv. Top		S608	245	6	42-7	Long. Bott.		S608	245	6	43-0	Long. Bott.		S608	42	6	50-6	Long. Top		S608	98	6	36-0	Long. Top		S608	162	6	23-9	Transv. Bott.		S555E	123	5	7-1	End Stirrup		S555E	123	5	5-7	End Stirrup		S608	245	6	50-6	Long. Bott.		S608	196	6	36-0	Long. Bott.		S609E	1-Ser. of 7	6	25-0	Transv. Top		S401E	29	4	50-0	Transv. Top		S401E	29	4	50-0	Transv. Top		S609E	41	6	41-0	Long. Top		S610E	46	6	10-5	Outlook		S610	1-Ser. of 7	6	60-0	Transv. Bott.		S402E	29	4	35-6	Transv. Top		S402E	44	4	50-0	Transv. Top		S619E	68	6	13-7	Outlook		S625E	24	6	13-9	Outlook		S611E	1-Ser. of 137	6	23-8	Transv. Top		S503	26	5	50-0	Transv. Bott.		S402E	44	4	35-9	Transv. Top		S625	64	6	13-7	Outlook		S642	46	6	10-5	Outlook		S612	1-Ser. of 137	6	33-0	Transv. Bott.		S504	26	5	35-6	Transv. Bott.		S503	38	5	50-0	Transv. Bott.		S643	24	6	13-9	Outlook		S654E	98	5	5-7	End Stirrup		S613E	1-Ser. of 15	6	26-0	Transv. Top		S605E	122	6	7-4	Long. Top		S504	38	5	35-9	Transv. Bott.		S657E	8	6	21-3	Outlook		S1090E	8	10	18-0	Long. Top		S614	1-Ser. of 15	6	60-0	Transv. Bott.		S607E	123	6	28-3	Long. Top		S605E	244	6	7-4	Long. Top		S1091	8	10	18-0	Long. Bott.		S799E	4	7	5-0	Floor Drain and MH		S615E	2	6	36-3	Transv. Top		S608	196	6	28-3	Long. Bott.		S607E	123	6	42-2	Long. Top		S799E	28	7	5-0	Floor Drain and MH		S616	2	6	36-3	Transv. Bott.		S555E	123	5	7-1	End Stirrup		S608	245	6	42-2	Long. Bott.								S617E	15	6	33-0	Transv. Top		S799E	8	8	5-0	Nav. Light Access		S555E	123	5	7-7	End Stirrup								S618	15	6	33-0	Transv. Bott.																				S619E	1-Ser. of 19	6	12-0	Transv. Top																				S620	1-Ser. of 19	6	12-0	Transv. Bott.																				S621E	1	6	9-0	Transv. Top																				S622	1	6	9-0	Transv. Bott.																				S623E	4	6	6-6	Transv. Top																				S624	4	5	6-6	Transv. Bott.																				S425E	280	4	36-0	Long. Top and Bott.																				S426E	1-Ser. of 47	4	12-0	Long. Top																				S427E	9	4	40-0	Long. Top																				S428E	1-Ser. of 9	4	31-0	Long. Top																				S529	527	5	36-0	Long. Bott.																				S530	1-Ser. of 91	5	12-6	Long. Bott.																				S531	15	5	40-0	Long. Bott.																				S532	1-Ser. of 13	5	31-0	Long. Bott.																				S433	3	4	13-6	Long. Bott.																				S434	33	4	36-0	Long. Bott.																				S435	3	4	12-6	Long. Bott.																				S690E	184	6	30-0	Long. Top																				UNIT 1																								S401E	40	4	50-0	Transv. Top																				S402E	40	4	34-3	Transv. Top																				S503	35	5	50-0	Long. Bott.																				S504	35	5	34-3	Long. Bott.																				S605E	122	6	7-4	Long. Top																				S606E	122	6	16-4	Long. Top																				S607E	123	6	39-8	Long. Top																				S608	196	6	39-8	Long. Bott.																				S609E	40	6	10-5	Outlook																				S623E	4	6	15-8	Outlook																				S624E	4	6	23-0	Outlook																				S625E	24	6	13-9	Outlook																				S626E	8	6	9-0	Outlook																				S628E	4	6	8-0	Outlook																				S629E	4	6	7-6	Outlook																				S630	40	6	10-5	Outlook																				S631	24	6	13-9	Outlook																				S554E	123	5	5-7	End Stirrup																				S658E	8	6	21-3	Outlook																				S1090E	6	10	18-0	Transv. Top																				S1091	6	10	18-0	Transv. Bott.																				S799E	28	7	5-0	Floor Drain and MH																				Units 8, 10, 12, 14, 16, 18, 20, 22 and 24 (9 Required)						Unit 3						Unit 19						Unit 32, 33, and 34 (3 Required)						Unit 35						S401E	44	4	50-0	Transv. Top		S401E	29	4	50-0	Transv. Top		S401E	43	4	50-0	Transv. Top		S401E	39	4	50-0	Transv. Top		S401E	34	4	50-0	Transv. Top		S402E	44	4	35-9	Transv. Top		S402E	29	4	35-0	Transv. Top		S402E	43	4	35-6	Transv. Top		S402E	39	4	33-0	Transv. Top		S402E	34	4	33-0	Transv. Top		S503	38	5	50-0	Transv. Bott.		S503	26	5	50-0	Transv. Bott.		S503	38	5	50-0	Transv. Bott.		S503	35	5	50-0	Transv. Bott.		S503	30	5	50-0	Transv. Bott.		S504	38	5	35-9	Transv. Bott.		S504	26	5	35-0	Transv. Bott.		S504	38	5	35-6	Transv. Bott.		S504	35	5	33-0	Transv. Bott.		S504	30	5	33-0	Transv. Bott.		S605E	244	6	7-4	Long. Top		S605E	122	6	7-4	Long. Top		S605E	244	6	7-4	Long. Top		S605E	244	6	6-6	Long. Top		S605E	220	4	40-0	Long. Top		S606E	122	6	16-4	Long. Top		S607E	123	6	28-3	Long. Top		S607E	123	6	42-2	Long. Top		S607E	1-Ser. of 123	6	35-3	Long. Top		S607E	55	4	30-0	Long. Top		S607E	123	6	39-8	Long. Top		S608	196	6	28-3	Long. Bott.		S608	196	6	28-0	Long. Bott.		S608	6	35-3	Long. Bott.		S607E	108	6	15-0	Long. Top		S608	196	6	39-8	Long. Bott.		S554E	123	5	5-7	End Stirrup		S554E	123	5	7-7	End Stirrup		S608	of 245	6	40-7	Long. Bott.		S608	261	5	50-0	Long. Bott.		S609E	40	6	10-5	Outlook														S554E	of 245	5	5-7	End Stirrup		S509	87	5	38-6	Long. Bott.		S623E	4	6	15-8	Outlook														S1090E	8	10	18-0	Long. Top		S510E	4	5	50-0	Exp. Blk. Transv.		S624E	4	6	23-0	Outlook														S1091	8	10	18-0	Long. Bott.		S511E	4	5	33-0	Exp. Blk. Transv.		S625E	24	6	13-9	Outlook																				S412E	55	4	3-9	Exp. Blk. Transv.		S626E	8	6	9-0	Outlook																										S628E	4	6	8-0	Outlook																										S629E	4	6	7-6	Outlook																										S630	40	6	10-5	Outlook																										S631	24	6
S602	296	6	60-0	Transv. Bott.		S402E	44	4	34-2	Transv. Top		S402E	44	4	35-9	Transv. Top		S402E	52	4	32-10	Transv. Top		S402E	38	4	33-0	Transv. Top		S603E	2	6	24-9	Transv. Top		S503	38	5	50-0	Transv. Bott.		S503	38	5	50-0	Transv. Bott.		S503	45	5	50-0	Transv. Bott.		S503	33	5	50-0	Transv. Bott.		S604	2	6	24-9	Transv. Bott.		S504	38	5	34-2	Transv. Bott.		S504	38	5	35-9	Transv. Bott.		S504	45	5	32-10	Transv. Bott.		S504	33	5	33-0	Transv. Bott.		S605E	1-Ser. of 10	6	12-6	Transv. Top		S605E	244	6	7-4	Long. Top		S605E	244	6	7-4	Long. Top		S605E	246	6	6-6	Long. Top		S605E	98	6	6-6	Long. Top		S606	1-Ser. of 10	6	44-0	Transv. Bott.		S607E	123	6	42-7	Long. Top		S607E	123	6	43-0	Long. Top		S607E	82	6	18-0	Long. Top		S607E	98	6	15-3	Long. Top		S607E	162	6	23-9	Transv. Top		S608	245	6	42-7	Long. Bott.		S608	245	6	43-0	Long. Bott.		S608	42	6	50-6	Long. Top		S608	98	6	36-0	Long. Top		S608	162	6	23-9	Transv. Bott.		S555E	123	5	7-1	End Stirrup		S555E	123	5	5-7	End Stirrup		S608	245	6	50-6	Long. Bott.		S608	196	6	36-0	Long. Bott.		S609E	1-Ser. of 7	6	25-0	Transv. Top		S401E	29	4	50-0	Transv. Top		S401E	29	4	50-0	Transv. Top		S609E	41	6	41-0	Long. Top		S610E	46	6	10-5	Outlook		S610	1-Ser. of 7	6	60-0	Transv. Bott.		S402E	29	4	35-6	Transv. Top		S402E	44	4	50-0	Transv. Top		S619E	68	6	13-7	Outlook		S625E	24	6	13-9	Outlook		S611E	1-Ser. of 137	6	23-8	Transv. Top		S503	26	5	50-0	Transv. Bott.		S402E	44	4	35-9	Transv. Top		S625	64	6	13-7	Outlook		S642	46	6	10-5	Outlook		S612	1-Ser. of 137	6	33-0	Transv. Bott.		S504	26	5	35-6	Transv. Bott.		S503	38	5	50-0	Transv. Bott.		S643	24	6	13-9	Outlook		S654E	98	5	5-7	End Stirrup		S613E	1-Ser. of 15	6	26-0	Transv. Top		S605E	122	6	7-4	Long. Top		S504	38	5	35-9	Transv. Bott.		S657E	8	6	21-3	Outlook		S1090E	8	10	18-0	Long. Top		S614	1-Ser. of 15	6	60-0	Transv. Bott.		S607E	123	6	28-3	Long. Top		S605E	244	6	7-4	Long. Top		S1091	8	10	18-0	Long. Bott.		S799E	4	7	5-0	Floor Drain and MH		S615E	2	6	36-3	Transv. Top		S608	196	6	28-3	Long. Bott.		S607E	123	6	42-2	Long. Top		S799E	28	7	5-0	Floor Drain and MH		S616	2	6	36-3	Transv. Bott.		S555E	123	5	7-1	End Stirrup		S608	245	6	42-2	Long. Bott.								S617E	15	6	33-0	Transv. Top		S799E	8	8	5-0	Nav. Light Access		S555E	123	5	7-7	End Stirrup								S618	15	6	33-0	Transv. Bott.																				S619E	1-Ser. of 19	6	12-0	Transv. Top																				S620	1-Ser. of 19	6	12-0	Transv. Bott.																				S621E	1	6	9-0	Transv. Top																				S622	1	6	9-0	Transv. Bott.																				S623E	4	6	6-6	Transv. Top																				S624	4	5	6-6	Transv. Bott.																				S425E	280	4	36-0	Long. Top and Bott.																				S426E	1-Ser. of 47	4	12-0	Long. Top																				S427E	9	4	40-0	Long. Top																				S428E	1-Ser. of 9	4	31-0	Long. Top																				S529	527	5	36-0	Long. Bott.																				S530	1-Ser. of 91	5	12-6	Long. Bott.																				S531	15	5	40-0	Long. Bott.																				S532	1-Ser. of 13	5	31-0	Long. Bott.																				S433	3	4	13-6	Long. Bott.																				S434	33	4	36-0	Long. Bott.																				S435	3	4	12-6	Long. Bott.																				S690E	184	6	30-0	Long. Top																				UNIT 1																								S401E	40	4	50-0	Transv. Top																				S402E	40	4	34-3	Transv. Top																				S503	35	5	50-0	Long. Bott.																				S504	35	5	34-3	Long. Bott.																				S605E	122	6	7-4	Long. Top																				S606E	122	6	16-4	Long. Top																				S607E	123	6	39-8	Long. Top																				S608	196	6	39-8	Long. Bott.																				S609E	40	6	10-5	Outlook																				S623E	4	6	15-8	Outlook																				S624E	4	6	23-0	Outlook																				S625E	24	6	13-9	Outlook																				S626E	8	6	9-0	Outlook																				S628E	4	6	8-0	Outlook																				S629E	4	6	7-6	Outlook																				S630	40	6	10-5	Outlook																				S631	24	6	13-9	Outlook																				S554E	123	5	5-7	End Stirrup																				S658E	8	6	21-3	Outlook																				S1090E	6	10	18-0	Transv. Top																				S1091	6	10	18-0	Transv. Bott.																				S799E	28	7	5-0	Floor Drain and MH																				Units 8, 10, 12, 14, 16, 18, 20, 22 and 24 (9 Required)						Unit 3						Unit 19						Unit 32, 33, and 34 (3 Required)						Unit 35						S401E	44	4	50-0	Transv. Top		S401E	29	4	50-0	Transv. Top		S401E	43	4	50-0	Transv. Top		S401E	39	4	50-0	Transv. Top		S401E	34	4	50-0	Transv. Top		S402E	44	4	35-9	Transv. Top		S402E	29	4	35-0	Transv. Top		S402E	43	4	35-6	Transv. Top		S402E	39	4	33-0	Transv. Top		S402E	34	4	33-0	Transv. Top		S503	38	5	50-0	Transv. Bott.		S503	26	5	50-0	Transv. Bott.		S503	38	5	50-0	Transv. Bott.		S503	35	5	50-0	Transv. Bott.		S503	30	5	50-0	Transv. Bott.		S504	38	5	35-9	Transv. Bott.		S504	26	5	35-0	Transv. Bott.		S504	38	5	35-6	Transv. Bott.		S504	35	5	33-0	Transv. Bott.		S504	30	5	33-0	Transv. Bott.		S605E	244	6	7-4	Long. Top		S605E	122	6	7-4	Long. Top		S605E	244	6	7-4	Long. Top		S605E	244	6	6-6	Long. Top		S605E	220	4	40-0	Long. Top		S606E	122	6	16-4	Long. Top		S607E	123	6	28-3	Long. Top		S607E	123	6	42-2	Long. Top		S607E	1-Ser. of 123	6	35-3	Long. Top		S607E	55	4	30-0	Long. Top		S607E	123	6	39-8	Long. Top		S608	196	6	28-3	Long. Bott.		S608	196	6	28-0	Long. Bott.		S608	6	35-3	Long. Bott.		S607E	108	6	15-0	Long. Top		S608	196	6	39-8	Long. Bott.		S554E	123	5	5-7	End Stirrup		S554E	123	5	7-7	End Stirrup		S608	of 245	6	40-7	Long. Bott.		S608	261	5	50-0	Long. Bott.		S609E	40	6	10-5	Outlook														S554E	of 245	5	5-7	End Stirrup		S509	87	5	38-6	Long. Bott.		S623E	4	6	15-8	Outlook														S1090E	8	10	18-0	Long. Top		S510E	4	5	50-0	Exp. Blk. Transv.		S624E	4	6	23-0	Outlook														S1091	8	10	18-0	Long. Bott.		S511E	4	5	33-0	Exp. Blk. Transv.		S625E	24	6	13-9	Outlook																				S412E	55	4	3-9	Exp. Blk. Transv.		S626E	8	6	9-0	Outlook																										S628E	4	6	8-0	Outlook																										S629E	4	6	7-6	Outlook																										S630	40	6	10-5	Outlook																										S631	24	6																														
S603E	2	6	24-9	Transv. Top		S503	38	5	50-0	Transv. Bott.		S503	38	5	50-0	Transv. Bott.		S503	45	5	50-0	Transv. Bott.		S503	33	5	50-0	Transv. Bott.		S604	2	6	24-9	Transv. Bott.		S504	38	5	34-2	Transv. Bott.		S504	38	5	35-9	Transv. Bott.		S504	45	5	32-10	Transv. Bott.		S504	33	5	33-0	Transv. Bott.		S605E	1-Ser. of 10	6	12-6	Transv. Top		S605E	244	6	7-4	Long. Top		S605E	244	6	7-4	Long. Top		S605E	246	6	6-6	Long. Top		S605E	98	6	6-6	Long. Top		S606	1-Ser. of 10	6	44-0	Transv. Bott.		S607E	123	6	42-7	Long. Top		S607E	123	6	43-0	Long. Top		S607E	82	6	18-0	Long. Top		S607E	98	6	15-3	Long. Top		S607E	162	6	23-9	Transv. Top		S608	245	6	42-7	Long. Bott.		S608	245	6	43-0	Long. Bott.		S608	42	6	50-6	Long. Top		S608	98	6	36-0	Long. Top		S608	162	6	23-9	Transv. Bott.		S555E	123	5	7-1	End Stirrup		S555E	123	5	5-7	End Stirrup		S608	245	6	50-6	Long. Bott.		S608	196	6	36-0	Long. Bott.		S609E	1-Ser. of 7	6	25-0	Transv. Top		S401E	29	4	50-0	Transv. Top		S401E	29	4	50-0	Transv. Top		S609E	41	6	41-0	Long. Top		S610E	46	6	10-5	Outlook		S610	1-Ser. of 7	6	60-0	Transv. Bott.		S402E	29	4	35-6	Transv. Top		S402E	44	4	50-0	Transv. Top		S619E	68	6	13-7	Outlook		S625E	24	6	13-9	Outlook		S611E	1-Ser. of 137	6	23-8	Transv. Top		S503	26	5	50-0	Transv. Bott.		S402E	44	4	35-9	Transv. Top		S625	64	6	13-7	Outlook		S642	46	6	10-5	Outlook		S612	1-Ser. of 137	6	33-0	Transv. Bott.		S504	26	5	35-6	Transv. Bott.		S503	38	5	50-0	Transv. Bott.		S643	24	6	13-9	Outlook		S654E	98	5	5-7	End Stirrup		S613E	1-Ser. of 15	6	26-0	Transv. Top		S605E	122	6	7-4	Long. Top		S504	38	5	35-9	Transv. Bott.		S657E	8	6	21-3	Outlook		S1090E	8	10	18-0	Long. Top		S614	1-Ser. of 15	6	60-0	Transv. Bott.		S607E	123	6	28-3	Long. Top		S605E	244	6	7-4	Long. Top		S1091	8	10	18-0	Long. Bott.		S799E	4	7	5-0	Floor Drain and MH		S615E	2	6	36-3	Transv. Top		S608	196	6	28-3	Long. Bott.		S607E	123	6	42-2	Long. Top		S799E	28	7	5-0	Floor Drain and MH		S616	2	6	36-3	Transv. Bott.		S555E	123	5	7-1	End Stirrup		S608	245	6	42-2	Long. Bott.								S617E	15	6	33-0	Transv. Top		S799E	8	8	5-0	Nav. Light Access		S555E	123	5	7-7	End Stirrup								S618	15	6	33-0	Transv. Bott.																				S619E	1-Ser. of 19	6	12-0	Transv. Top																				S620	1-Ser. of 19	6	12-0	Transv. Bott.																				S621E	1	6	9-0	Transv. Top																				S622	1	6	9-0	Transv. Bott.																				S623E	4	6	6-6	Transv. Top																				S624	4	5	6-6	Transv. Bott.																				S425E	280	4	36-0	Long. Top and Bott.																				S426E	1-Ser. of 47	4	12-0	Long. Top																				S427E	9	4	40-0	Long. Top																				S428E	1-Ser. of 9	4	31-0	Long. Top																				S529	527	5	36-0	Long. Bott.																				S530	1-Ser. of 91	5	12-6	Long. Bott.																				S531	15	5	40-0	Long. Bott.																				S532	1-Ser. of 13	5	31-0	Long. Bott.																				S433	3	4	13-6	Long. Bott.																				S434	33	4	36-0	Long. Bott.																				S435	3	4	12-6	Long. Bott.																				S690E	184	6	30-0	Long. Top																				UNIT 1																								S401E	40	4	50-0	Transv. Top																				S402E	40	4	34-3	Transv. Top																				S503	35	5	50-0	Long. Bott.																				S504	35	5	34-3	Long. Bott.																				S605E	122	6	7-4	Long. Top																				S606E	122	6	16-4	Long. Top																				S607E	123	6	39-8	Long. Top																				S608	196	6	39-8	Long. Bott.																				S609E	40	6	10-5	Outlook																				S623E	4	6	15-8	Outlook																				S624E	4	6	23-0	Outlook																				S625E	24	6	13-9	Outlook																				S626E	8	6	9-0	Outlook																				S628E	4	6	8-0	Outlook																				S629E	4	6	7-6	Outlook																				S630	40	6	10-5	Outlook																				S631	24	6	13-9	Outlook																				S554E	123	5	5-7	End Stirrup																				S658E	8	6	21-3	Outlook																				S1090E	6	10	18-0	Transv. Top																				S1091	6	10	18-0	Transv. Bott.																				S799E	28	7	5-0	Floor Drain and MH																				Units 8, 10, 12, 14, 16, 18, 20, 22 and 24 (9 Required)						Unit 3						Unit 19						Unit 32, 33, and 34 (3 Required)						Unit 35						S401E	44	4	50-0	Transv. Top		S401E	29	4	50-0	Transv. Top		S401E	43	4	50-0	Transv. Top		S401E	39	4	50-0	Transv. Top		S401E	34	4	50-0	Transv. Top		S402E	44	4	35-9	Transv. Top		S402E	29	4	35-0	Transv. Top		S402E	43	4	35-6	Transv. Top		S402E	39	4	33-0	Transv. Top		S402E	34	4	33-0	Transv. Top		S503	38	5	50-0	Transv. Bott.		S503	26	5	50-0	Transv. Bott.		S503	38	5	50-0	Transv. Bott.		S503	35	5	50-0	Transv. Bott.		S503	30	5	50-0	Transv. Bott.		S504	38	5	35-9	Transv. Bott.		S504	26	5	35-0	Transv. Bott.		S504	38	5	35-6	Transv. Bott.		S504	35	5	33-0	Transv. Bott.		S504	30	5	33-0	Transv. Bott.		S605E	244	6	7-4	Long. Top		S605E	122	6	7-4	Long. Top		S605E	244	6	7-4	Long. Top		S605E	244	6	6-6	Long. Top		S605E	220	4	40-0	Long. Top		S606E	122	6	16-4	Long. Top		S607E	123	6	28-3	Long. Top		S607E	123	6	42-2	Long. Top		S607E	1-Ser. of 123	6	35-3	Long. Top		S607E	55	4	30-0	Long. Top		S607E	123	6	39-8	Long. Top		S608	196	6	28-3	Long. Bott.		S608	196	6	28-0	Long. Bott.		S608	6	35-3	Long. Bott.		S607E	108	6	15-0	Long. Top		S608	196	6	39-8	Long. Bott.		S554E	123	5	5-7	End Stirrup		S554E	123	5	7-7	End Stirrup		S608	of 245	6	40-7	Long. Bott.		S608	261	5	50-0	Long. Bott.		S609E	40	6	10-5	Outlook														S554E	of 245	5	5-7	End Stirrup		S509	87	5	38-6	Long. Bott.		S623E	4	6	15-8	Outlook														S1090E	8	10	18-0	Long. Top		S510E	4	5	50-0	Exp. Blk. Transv.		S624E	4	6	23-0	Outlook														S1091	8	10	18-0	Long. Bott.		S511E	4	5	33-0	Exp. Blk. Transv.		S625E	24	6	13-9	Outlook																				S412E	55	4	3-9	Exp. Blk. Transv.		S626E	8	6	9-0	Outlook																										S628E	4	6	8-0	Outlook																										S629E	4	6	7-6	Outlook																										S630	40	6	10-5	Outlook																										S631	24	6																																																												
S604	2	6	24-9	Transv. Bott.		S504	38	5	34-2	Transv. Bott.		S504	38	5	35-9	Transv. Bott.		S504	45	5	32-10	Transv. Bott.		S504	33	5	33-0	Transv. Bott.		S605E	1-Ser. of 10	6	12-6	Transv. Top		S605E	244	6	7-4	Long. Top		S605E	244	6	7-4	Long. Top		S605E	246	6	6-6	Long. Top		S605E	98	6	6-6	Long. Top		S606	1-Ser. of 10	6	44-0	Transv. Bott.		S607E	123	6	42-7	Long. Top		S607E	123	6	43-0	Long. Top		S607E	82	6	18-0	Long. Top		S607E	98	6	15-3	Long. Top		S607E	162	6	23-9	Transv. Top		S608	245	6	42-7	Long. Bott.		S608	245	6	43-0	Long. Bott.		S608	42	6	50-6	Long. Top		S608	98	6	36-0	Long. Top		S608	162	6	23-9	Transv. Bott.		S555E	123	5	7-1	End Stirrup		S555E	123	5	5-7	End Stirrup		S608	245	6	50-6	Long. Bott.		S608	196	6	36-0	Long. Bott.		S609E	1-Ser. of 7	6	25-0	Transv. Top		S401E	29	4	50-0	Transv. Top		S401E	29	4	50-0	Transv. Top		S609E	41	6	41-0	Long. Top		S610E	46	6	10-5	Outlook		S610	1-Ser. of 7	6	60-0	Transv. Bott.		S402E	29	4	35-6	Transv. Top		S402E	44	4	50-0	Transv. Top		S619E	68	6	13-7	Outlook		S625E	24	6	13-9	Outlook		S611E	1-Ser. of 137	6	23-8	Transv. Top		S503	26	5	50-0	Transv. Bott.		S402E	44	4	35-9	Transv. Top		S625	64	6	13-7	Outlook		S642	46	6	10-5	Outlook		S612	1-Ser. of 137	6	33-0	Transv. Bott.		S504	26	5	35-6	Transv. Bott.		S503	38	5	50-0	Transv. Bott.		S643	24	6	13-9	Outlook		S654E	98	5	5-7	End Stirrup		S613E	1-Ser. of 15	6	26-0	Transv. Top		S605E	122	6	7-4	Long. Top		S504	38	5	35-9	Transv. Bott.		S657E	8	6	21-3	Outlook		S1090E	8	10	18-0	Long. Top		S614	1-Ser. of 15	6	60-0	Transv. Bott.		S607E	123	6	28-3	Long. Top		S605E	244	6	7-4	Long. Top		S1091	8	10	18-0	Long. Bott.		S799E	4	7	5-0	Floor Drain and MH		S615E	2	6	36-3	Transv. Top		S608	196	6	28-3	Long. Bott.		S607E	123	6	42-2	Long. Top		S799E	28	7	5-0	Floor Drain and MH		S616	2	6	36-3	Transv. Bott.		S555E	123	5	7-1	End Stirrup		S608	245	6	42-2	Long. Bott.								S617E	15	6	33-0	Transv. Top		S799E	8	8	5-0	Nav. Light Access		S555E	123	5	7-7	End Stirrup								S618	15	6	33-0	Transv. Bott.																				S619E	1-Ser. of 19	6	12-0	Transv. Top																				S620	1-Ser. of 19	6	12-0	Transv. Bott.																				S621E	1	6	9-0	Transv. Top																				S622	1	6	9-0	Transv. Bott.																				S623E	4	6	6-6	Transv. Top																				S624	4	5	6-6	Transv. Bott.																				S425E	280	4	36-0	Long. Top and Bott.																				S426E	1-Ser. of 47	4	12-0	Long. Top																				S427E	9	4	40-0	Long. Top																				S428E	1-Ser. of 9	4	31-0	Long. Top																				S529	527	5	36-0	Long. Bott.																				S530	1-Ser. of 91	5	12-6	Long. Bott.																				S531	15	5	40-0	Long. Bott.																				S532	1-Ser. of 13	5	31-0	Long. Bott.																				S433	3	4	13-6	Long. Bott.																				S434	33	4	36-0	Long. Bott.																				S435	3	4	12-6	Long. Bott.																				S690E	184	6	30-0	Long. Top																				UNIT 1																								S401E	40	4	50-0	Transv. Top																				S402E	40	4	34-3	Transv. Top																				S503	35	5	50-0	Long. Bott.																				S504	35	5	34-3	Long. Bott.																				S605E	122	6	7-4	Long. Top																				S606E	122	6	16-4	Long. Top																				S607E	123	6	39-8	Long. Top																				S608	196	6	39-8	Long. Bott.																				S609E	40	6	10-5	Outlook																				S623E	4	6	15-8	Outlook																				S624E	4	6	23-0	Outlook																				S625E	24	6	13-9	Outlook																				S626E	8	6	9-0	Outlook																				S628E	4	6	8-0	Outlook																				S629E	4	6	7-6	Outlook																				S630	40	6	10-5	Outlook																				S631	24	6	13-9	Outlook																				S554E	123	5	5-7	End Stirrup																				S658E	8	6	21-3	Outlook																				S1090E	6	10	18-0	Transv. Top																				S1091	6	10	18-0	Transv. Bott.																				S799E	28	7	5-0	Floor Drain and MH																				Units 8, 10, 12, 14, 16, 18, 20, 22 and 24 (9 Required)						Unit 3						Unit 19						Unit 32, 33, and 34 (3 Required)						Unit 35						S401E	44	4	50-0	Transv. Top		S401E	29	4	50-0	Transv. Top		S401E	43	4	50-0	Transv. Top		S401E	39	4	50-0	Transv. Top		S401E	34	4	50-0	Transv. Top		S402E	44	4	35-9	Transv. Top		S402E	29	4	35-0	Transv. Top		S402E	43	4	35-6	Transv. Top		S402E	39	4	33-0	Transv. Top		S402E	34	4	33-0	Transv. Top		S503	38	5	50-0	Transv. Bott.		S503	26	5	50-0	Transv. Bott.		S503	38	5	50-0	Transv. Bott.		S503	35	5	50-0	Transv. Bott.		S503	30	5	50-0	Transv. Bott.		S504	38	5	35-9	Transv. Bott.		S504	26	5	35-0	Transv. Bott.		S504	38	5	35-6	Transv. Bott.		S504	35	5	33-0	Transv. Bott.		S504	30	5	33-0	Transv. Bott.		S605E	244	6	7-4	Long. Top		S605E	122	6	7-4	Long. Top		S605E	244	6	7-4	Long. Top		S605E	244	6	6-6	Long. Top		S605E	220	4	40-0	Long. Top		S606E	122	6	16-4	Long. Top		S607E	123	6	28-3	Long. Top		S607E	123	6	42-2	Long. Top		S607E	1-Ser. of 123	6	35-3	Long. Top		S607E	55	4	30-0	Long. Top		S607E	123	6	39-8	Long. Top		S608	196	6	28-3	Long. Bott.		S608	196	6	28-0	Long. Bott.		S608	6	35-3	Long. Bott.		S607E	108	6	15-0	Long. Top		S608	196	6	39-8	Long. Bott.		S554E	123	5	5-7	End Stirrup		S554E	123	5	7-7	End Stirrup		S608	of 245	6	40-7	Long. Bott.		S608	261	5	50-0	Long. Bott.		S609E	40	6	10-5	Outlook														S554E	of 245	5	5-7	End Stirrup		S509	87	5	38-6	Long. Bott.		S623E	4	6	15-8	Outlook														S1090E	8	10	18-0	Long. Top		S510E	4	5	50-0	Exp. Blk. Transv.		S624E	4	6	23-0	Outlook														S1091	8	10	18-0	Long. Bott.		S511E	4	5	33-0	Exp. Blk. Transv.		S625E	24	6	13-9	Outlook																				S412E	55	4	3-9	Exp. Blk. Transv.		S626E	8	6	9-0	Outlook																										S628E	4	6	8-0	Outlook																										S629E	4	6	7-6	Outlook																										S630	40	6	10-5	Outlook																										S631	24	6																																																																																										
S605E	1-Ser. of 10	6	12-6	Transv. Top		S605E	244	6	7-4	Long. Top		S605E	244	6	7-4	Long. Top		S605E	246	6	6-6	Long. Top		S605E	98	6	6-6	Long. Top		S606	1-Ser. of 10	6	44-0	Transv. Bott.		S607E	123	6	42-7	Long. Top		S607E	123	6	43-0	Long. Top		S607E	82	6	18-0	Long. Top		S607E	98	6	15-3	Long. Top		S607E	162	6	23-9	Transv. Top		S608	245	6	42-7	Long. Bott.		S608	245	6	43-0	Long. Bott.		S608	42	6	50-6	Long. Top		S608	98	6	36-0	Long. Top		S608	162	6	23-9	Transv. Bott.		S555E	123	5	7-1	End Stirrup		S555E	123	5	5-7	End Stirrup		S608	245	6	50-6	Long. Bott.		S608	196	6	36-0	Long. Bott.		S609E	1-Ser. of 7	6	25-0	Transv. Top		S401E	29	4	50-0	Transv. Top		S401E	29	4	50-0	Transv. Top		S609E	41	6	41-0	Long. Top		S610E	46	6	10-5	Outlook		S610	1-Ser. of 7	6	60-0	Transv. Bott.		S402E	29	4	35-6	Transv. Top		S402E	44	4	50-0	Transv. Top		S619E	68	6	13-7	Outlook		S625E	24	6	13-9	Outlook		S611E	1-Ser. of 137	6	23-8	Transv. Top		S503	26	5	50-0	Transv. Bott.		S402E	44	4	35-9	Transv. Top		S625	64	6	13-7	Outlook		S642	46	6	10-5	Outlook		S612	1-Ser. of 137	6	33-0	Transv. Bott.		S504	26	5	35-6	Transv. Bott.		S503	38	5	50-0	Transv. Bott.		S643	24	6	13-9	Outlook		S654E	98	5	5-7	End Stirrup		S613E	1-Ser. of 15	6	26-0	Transv. Top		S605E	122	6	7-4	Long. Top		S504	38	5	35-9	Transv. Bott.		S657E	8	6	21-3	Outlook		S1090E	8	10	18-0	Long. Top		S614	1-Ser. of 15	6	60-0	Transv. Bott.		S607E	123	6	28-3	Long. Top		S605E	244	6	7-4	Long. Top		S1091	8	10	18-0	Long. Bott.		S799E	4	7	5-0	Floor Drain and MH		S615E	2	6	36-3	Transv. Top		S608	196	6	28-3	Long. Bott.		S607E	123	6	42-2	Long. Top		S799E	28	7	5-0	Floor Drain and MH		S616	2	6	36-3	Transv. Bott.		S555E	123	5	7-1	End Stirrup		S608	245	6	42-2	Long. Bott.								S617E	15	6	33-0	Transv. Top		S799E	8	8	5-0	Nav. Light Access		S555E	123	5	7-7	End Stirrup								S618	15	6	33-0	Transv. Bott.																				S619E	1-Ser. of 19	6	12-0	Transv. Top																				S620	1-Ser. of 19	6	12-0	Transv. Bott.																				S621E	1	6	9-0	Transv. Top																				S622	1	6	9-0	Transv. Bott.																				S623E	4	6	6-6	Transv. Top																				S624	4	5	6-6	Transv. Bott.																				S425E	280	4	36-0	Long. Top and Bott.																				S426E	1-Ser. of 47	4	12-0	Long. Top																				S427E	9	4	40-0	Long. Top																				S428E	1-Ser. of 9	4	31-0	Long. Top																				S529	527	5	36-0	Long. Bott.																				S530	1-Ser. of 91	5	12-6	Long. Bott.																				S531	15	5	40-0	Long. Bott.																				S532	1-Ser. of 13	5	31-0	Long. Bott.																				S433	3	4	13-6	Long. Bott.																				S434	33	4	36-0	Long. Bott.																				S435	3	4	12-6	Long. Bott.																				S690E	184	6	30-0	Long. Top																				UNIT 1																								S401E	40	4	50-0	Transv. Top																				S402E	40	4	34-3	Transv. Top																				S503	35	5	50-0	Long. Bott.																				S504	35	5	34-3	Long. Bott.																				S605E	122	6	7-4	Long. Top																				S606E	122	6	16-4	Long. Top																				S607E	123	6	39-8	Long. Top																				S608	196	6	39-8	Long. Bott.																				S609E	40	6	10-5	Outlook																				S623E	4	6	15-8	Outlook																				S624E	4	6	23-0	Outlook																				S625E	24	6	13-9	Outlook																				S626E	8	6	9-0	Outlook																				S628E	4	6	8-0	Outlook																				S629E	4	6	7-6	Outlook																				S630	40	6	10-5	Outlook																				S631	24	6	13-9	Outlook																				S554E	123	5	5-7	End Stirrup																				S658E	8	6	21-3	Outlook																				S1090E	6	10	18-0	Transv. Top																				S1091	6	10	18-0	Transv. Bott.																				S799E	28	7	5-0	Floor Drain and MH																				Units 8, 10, 12, 14, 16, 18, 20, 22 and 24 (9 Required)						Unit 3						Unit 19						Unit 32, 33, and 34 (3 Required)						Unit 35						S401E	44	4	50-0	Transv. Top		S401E	29	4	50-0	Transv. Top		S401E	43	4	50-0	Transv. Top		S401E	39	4	50-0	Transv. Top		S401E	34	4	50-0	Transv. Top		S402E	44	4	35-9	Transv. Top		S402E	29	4	35-0	Transv. Top		S402E	43	4	35-6	Transv. Top		S402E	39	4	33-0	Transv. Top		S402E	34	4	33-0	Transv. Top		S503	38	5	50-0	Transv. Bott.		S503	26	5	50-0	Transv. Bott.		S503	38	5	50-0	Transv. Bott.		S503	35	5	50-0	Transv. Bott.		S503	30	5	50-0	Transv. Bott.		S504	38	5	35-9	Transv. Bott.		S504	26	5	35-0	Transv. Bott.		S504	38	5	35-6	Transv. Bott.		S504	35	5	33-0	Transv. Bott.		S504	30	5	33-0	Transv. Bott.		S605E	244	6	7-4	Long. Top		S605E	122	6	7-4	Long. Top		S605E	244	6	7-4	Long. Top		S605E	244	6	6-6	Long. Top		S605E	220	4	40-0	Long. Top		S606E	122	6	16-4	Long. Top		S607E	123	6	28-3	Long. Top		S607E	123	6	42-2	Long. Top		S607E	1-Ser. of 123	6	35-3	Long. Top		S607E	55	4	30-0	Long. Top		S607E	123	6	39-8	Long. Top		S608	196	6	28-3	Long. Bott.		S608	196	6	28-0	Long. Bott.		S608	6	35-3	Long. Bott.		S607E	108	6	15-0	Long. Top		S608	196	6	39-8	Long. Bott.		S554E	123	5	5-7	End Stirrup		S554E	123	5	7-7	End Stirrup		S608	of 245	6	40-7	Long. Bott.		S608	261	5	50-0	Long. Bott.		S609E	40	6	10-5	Outlook														S554E	of 245	5	5-7	End Stirrup		S509	87	5	38-6	Long. Bott.		S623E	4	6	15-8	Outlook														S1090E	8	10	18-0	Long. Top		S510E	4	5	50-0	Exp. Blk. Transv.		S624E	4	6	23-0	Outlook														S1091	8	10	18-0	Long. Bott.		S511E	4	5	33-0	Exp. Blk. Transv.		S625E	24	6	13-9	Outlook																				S412E	55	4	3-9	Exp. Blk. Transv.		S626E	8	6	9-0	Outlook																										S628E	4	6	8-0	Outlook																										S629E	4	6	7-6	Outlook																										S630	40	6	10-5	Outlook																										S631	24	6																																																																																																																								
S606	1-Ser. of 10	6	44-0	Transv. Bott.		S607E	123	6	42-7	Long. Top		S607E	123	6	43-0	Long. Top		S607E	82	6	18-0	Long. Top		S607E	98	6	15-3	Long. Top		S607E	162	6	23-9	Transv. Top		S608	245	6	42-7	Long. Bott.		S608	245	6	43-0	Long. Bott.		S608	42	6	50-6	Long. Top		S608	98	6	36-0	Long. Top		S608	162	6	23-9	Transv. Bott.		S555E	123	5	7-1	End Stirrup		S555E	123	5	5-7	End Stirrup		S608	245	6	50-6	Long. Bott.		S608	196	6	36-0	Long. Bott.		S609E	1-Ser. of 7	6	25-0	Transv. Top		S401E	29	4	50-0	Transv. Top		S401E	29	4	50-0	Transv. Top		S609E	41	6	41-0	Long. Top		S610E	46	6	10-5	Outlook		S610	1-Ser. of 7	6	60-0	Transv. Bott.		S402E	29	4	35-6	Transv. Top		S402E	44	4	50-0	Transv. Top		S619E	68	6	13-7	Outlook		S625E	24	6	13-9	Outlook		S611E	1-Ser. of 137	6	23-8	Transv. Top		S503	26	5	50-0	Transv. Bott.		S402E	44	4	35-9	Transv. Top		S625	64	6	13-7	Outlook		S642	46	6	10-5	Outlook		S612	1-Ser. of 137	6	33-0	Transv. Bott.		S504	26	5	35-6	Transv. Bott.		S503	38	5	50-0	Transv. Bott.		S643	24	6	13-9	Outlook		S654E	98	5	5-7	End Stirrup		S613E	1-Ser. of 15	6	26-0	Transv. Top		S605E	122	6	7-4	Long. Top		S504	38	5	35-9	Transv. Bott.		S657E	8	6	21-3	Outlook		S1090E	8	10	18-0	Long. Top		S614	1-Ser. of 15	6	60-0	Transv. Bott.		S607E	123	6	28-3	Long. Top		S605E	244	6	7-4	Long. Top		S1091	8	10	18-0	Long. Bott.		S799E	4	7	5-0	Floor Drain and MH		S615E	2	6	36-3	Transv. Top		S608	196	6	28-3	Long. Bott.		S607E	123	6	42-2	Long. Top		S799E	28	7	5-0	Floor Drain and MH		S616	2	6	36-3	Transv. Bott.		S555E	123	5	7-1	End Stirrup		S608	245	6	42-2	Long. Bott.								S617E	15	6	33-0	Transv. Top		S799E	8	8	5-0	Nav. Light Access		S555E	123	5	7-7	End Stirrup								S618	15	6	33-0	Transv. Bott.																				S619E	1-Ser. of 19	6	12-0	Transv. Top																				S620	1-Ser. of 19	6	12-0	Transv. Bott.																				S621E	1	6	9-0	Transv. Top																				S622	1	6	9-0	Transv. Bott.																				S623E	4	6	6-6	Transv. Top																				S624	4	5	6-6	Transv. Bott.																				S425E	280	4	36-0	Long. Top and Bott.																				S426E	1-Ser. of 47	4	12-0	Long. Top																				S427E	9	4	40-0	Long. Top																				S428E	1-Ser. of 9	4	31-0	Long. Top																				S529	527	5	36-0	Long. Bott.																				S530	1-Ser. of 91	5	12-6	Long. Bott.																				S531	15	5	40-0	Long. Bott.																				S532	1-Ser. of 13	5	31-0	Long. Bott.																				S433	3	4	13-6	Long. Bott.																				S434	33	4	36-0	Long. Bott.																				S435	3	4	12-6	Long. Bott.																				S690E	184	6	30-0	Long. Top																				UNIT 1																								S401E	40	4	50-0	Transv. Top																				S402E	40	4	34-3	Transv. Top																				S503	35	5	50-0	Long. Bott.																				S504	35	5	34-3	Long. Bott.																				S605E	122	6	7-4	Long. Top																				S606E	122	6	16-4	Long. Top																				S607E	123	6	39-8	Long. Top																				S608	196	6	39-8	Long. Bott.																				S609E	40	6	10-5	Outlook																				S623E	4	6	15-8	Outlook																				S624E	4	6	23-0	Outlook																				S625E	24	6	13-9	Outlook																				S626E	8	6	9-0	Outlook																				S628E	4	6	8-0	Outlook																				S629E	4	6	7-6	Outlook																				S630	40	6	10-5	Outlook																				S631	24	6	13-9	Outlook																				S554E	123	5	5-7	End Stirrup																				S658E	8	6	21-3	Outlook																				S1090E	6	10	18-0	Transv. Top																				S1091	6	10	18-0	Transv. Bott.																				S799E	28	7	5-0	Floor Drain and MH																				Units 8, 10, 12, 14, 16, 18, 20, 22 and 24 (9 Required)						Unit 3						Unit 19						Unit 32, 33, and 34 (3 Required)						Unit 35						S401E	44	4	50-0	Transv. Top		S401E	29	4	50-0	Transv. Top		S401E	43	4	50-0	Transv. Top		S401E	39	4	50-0	Transv. Top		S401E	34	4	50-0	Transv. Top		S402E	44	4	35-9	Transv. Top		S402E	29	4	35-0	Transv. Top		S402E	43	4	35-6	Transv. Top		S402E	39	4	33-0	Transv. Top		S402E	34	4	33-0	Transv. Top		S503	38	5	50-0	Transv. Bott.		S503	26	5	50-0	Transv. Bott.		S503	38	5	50-0	Transv. Bott.		S503	35	5	50-0	Transv. Bott.		S503	30	5	50-0	Transv. Bott.		S504	38	5	35-9	Transv. Bott.		S504	26	5	35-0	Transv. Bott.		S504	38	5	35-6	Transv. Bott.		S504	35	5	33-0	Transv. Bott.		S504	30	5	33-0	Transv. Bott.		S605E	244	6	7-4	Long. Top		S605E	122	6	7-4	Long. Top		S605E	244	6	7-4	Long. Top		S605E	244	6	6-6	Long. Top		S605E	220	4	40-0	Long. Top		S606E	122	6	16-4	Long. Top		S607E	123	6	28-3	Long. Top		S607E	123	6	42-2	Long. Top		S607E	1-Ser. of 123	6	35-3	Long. Top		S607E	55	4	30-0	Long. Top		S607E	123	6	39-8	Long. Top		S608	196	6	28-3	Long. Bott.		S608	196	6	28-0	Long. Bott.		S608	6	35-3	Long. Bott.		S607E	108	6	15-0	Long. Top		S608	196	6	39-8	Long. Bott.		S554E	123	5	5-7	End Stirrup		S554E	123	5	7-7	End Stirrup		S608	of 245	6	40-7	Long. Bott.		S608	261	5	50-0	Long. Bott.		S609E	40	6	10-5	Outlook														S554E	of 245	5	5-7	End Stirrup		S509	87	5	38-6	Long. Bott.		S623E	4	6	15-8	Outlook														S1090E	8	10	18-0	Long. Top		S510E	4	5	50-0	Exp. Blk. Transv.		S624E	4	6	23-0	Outlook														S1091	8	10	18-0	Long. Bott.		S511E	4	5	33-0	Exp. Blk. Transv.		S625E	24	6	13-9	Outlook																				S412E	55	4	3-9	Exp. Blk. Transv.		S626E	8	6	9-0	Outlook																										S628E	4	6	8-0	Outlook																										S629E	4	6	7-6	Outlook																										S630	40	6	10-5	Outlook																										S631	24	6																																																																																																																																																						
S607E	162	6	23-9	Transv. Top		S608	245	6	42-7	Long. Bott.		S608	245	6	43-0	Long. Bott.		S608	42	6	50-6	Long. Top		S608	98	6	36-0	Long. Top		S608	162	6	23-9	Transv. Bott.		S555E	123	5	7-1	End Stirrup		S555E	123	5	5-7	End Stirrup		S608	245	6	50-6	Long. Bott.		S608	196	6	36-0	Long. Bott.		S609E	1-Ser. of 7	6	25-0	Transv. Top		S401E	29	4	50-0	Transv. Top		S401E	29	4	50-0	Transv. Top		S609E	41	6	41-0	Long. Top		S610E	46	6	10-5	Outlook		S610	1-Ser. of 7	6	60-0	Transv. Bott.		S402E	29	4	35-6	Transv. Top		S402E	44	4	50-0	Transv. Top		S619E	68	6	13-7	Outlook		S625E	24	6	13-9	Outlook		S611E	1-Ser. of 137	6	23-8	Transv. Top		S503	26	5	50-0	Transv. Bott.		S402E	44	4	35-9	Transv. Top		S625	64	6	13-7	Outlook		S642	46	6	10-5	Outlook		S612	1-Ser. of 137	6	33-0	Transv. Bott.		S504	26	5	35-6	Transv. Bott.		S503	38	5	50-0	Transv. Bott.		S643	24	6	13-9	Outlook		S654E	98	5	5-7	End Stirrup		S613E	1-Ser. of 15	6	26-0	Transv. Top		S605E	122	6	7-4	Long. Top		S504	38	5	35-9	Transv. Bott.		S657E	8	6	21-3	Outlook		S1090E	8	10	18-0	Long. Top		S614	1-Ser. of 15	6	60-0	Transv. Bott.		S607E	123	6	28-3	Long. Top		S605E	244	6	7-4	Long. Top		S1091	8	10	18-0	Long. Bott.		S799E	4	7	5-0	Floor Drain and MH		S615E	2	6	36-3	Transv. Top		S608	196	6	28-3	Long. Bott.		S607E	123	6	42-2	Long. Top		S799E	28	7	5-0	Floor Drain and MH		S616	2	6	36-3	Transv. Bott.		S555E	123	5	7-1	End Stirrup		S608	245	6	42-2	Long. Bott.								S617E	15	6	33-0	Transv. Top		S799E	8	8	5-0	Nav. Light Access		S555E	123	5	7-7	End Stirrup								S618	15	6	33-0	Transv. Bott.																				S619E	1-Ser. of 19	6	12-0	Transv. Top																				S620	1-Ser. of 19	6	12-0	Transv. Bott.																				S621E	1	6	9-0	Transv. Top																				S622	1	6	9-0	Transv. Bott.																				S623E	4	6	6-6	Transv. Top																				S624	4	5	6-6	Transv. Bott.																				S425E	280	4	36-0	Long. Top and Bott.																				S426E	1-Ser. of 47	4	12-0	Long. Top																				S427E	9	4	40-0	Long. Top																				S428E	1-Ser. of 9	4	31-0	Long. Top																				S529	527	5	36-0	Long. Bott.																				S530	1-Ser. of 91	5	12-6	Long. Bott.																				S531	15	5	40-0	Long. Bott.																				S532	1-Ser. of 13	5	31-0	Long. Bott.																				S433	3	4	13-6	Long. Bott.																				S434	33	4	36-0	Long. Bott.																				S435	3	4	12-6	Long. Bott.																				S690E	184	6	30-0	Long. Top																				UNIT 1																								S401E	40	4	50-0	Transv. Top																				S402E	40	4	34-3	Transv. Top																				S503	35	5	50-0	Long. Bott.																				S504	35	5	34-3	Long. Bott.																				S605E	122	6	7-4	Long. Top																				S606E	122	6	16-4	Long. Top																				S607E	123	6	39-8	Long. Top																				S608	196	6	39-8	Long. Bott.																				S609E	40	6	10-5	Outlook																				S623E	4	6	15-8	Outlook																				S624E	4	6	23-0	Outlook																				S625E	24	6	13-9	Outlook																				S626E	8	6	9-0	Outlook																				S628E	4	6	8-0	Outlook																				S629E	4	6	7-6	Outlook																				S630	40	6	10-5	Outlook																				S631	24	6	13-9	Outlook																				S554E	123	5	5-7	End Stirrup																				S658E	8	6	21-3	Outlook																				S1090E	6	10	18-0	Transv. Top																				S1091	6	10	18-0	Transv. Bott.																				S799E	28	7	5-0	Floor Drain and MH																				Units 8, 10, 12, 14, 16, 18, 20, 22 and 24 (9 Required)						Unit 3						Unit 19						Unit 32, 33, and 34 (3 Required)						Unit 35						S401E	44	4	50-0	Transv. Top		S401E	29	4	50-0	Transv. Top		S401E	43	4	50-0	Transv. Top		S401E	39	4	50-0	Transv. Top		S401E	34	4	50-0	Transv. Top		S402E	44	4	35-9	Transv. Top		S402E	29	4	35-0	Transv. Top		S402E	43	4	35-6	Transv. Top		S402E	39	4	33-0	Transv. Top		S402E	34	4	33-0	Transv. Top		S503	38	5	50-0	Transv. Bott.		S503	26	5	50-0	Transv. Bott.		S503	38	5	50-0	Transv. Bott.		S503	35	5	50-0	Transv. Bott.		S503	30	5	50-0	Transv. Bott.		S504	38	5	35-9	Transv. Bott.		S504	26	5	35-0	Transv. Bott.		S504	38	5	35-6	Transv. Bott.		S504	35	5	33-0	Transv. Bott.		S504	30	5	33-0	Transv. Bott.		S605E	244	6	7-4	Long. Top		S605E	122	6	7-4	Long. Top		S605E	244	6	7-4	Long. Top		S605E	244	6	6-6	Long. Top		S605E	220	4	40-0	Long. Top		S606E	122	6	16-4	Long. Top		S607E	123	6	28-3	Long. Top		S607E	123	6	42-2	Long. Top		S607E	1-Ser. of 123	6	35-3	Long. Top		S607E	55	4	30-0	Long. Top		S607E	123	6	39-8	Long. Top		S608	196	6	28-3	Long. Bott.		S608	196	6	28-0	Long. Bott.		S608	6	35-3	Long. Bott.		S607E	108	6	15-0	Long. Top		S608	196	6	39-8	Long. Bott.		S554E	123	5	5-7	End Stirrup		S554E	123	5	7-7	End Stirrup		S608	of 245	6	40-7	Long. Bott.		S608	261	5	50-0	Long. Bott.		S609E	40	6	10-5	Outlook														S554E	of 245	5	5-7	End Stirrup		S509	87	5	38-6	Long. Bott.		S623E	4	6	15-8	Outlook														S1090E	8	10	18-0	Long. Top		S510E	4	5	50-0	Exp. Blk. Transv.		S624E	4	6	23-0	Outlook														S1091	8	10	18-0	Long. Bott.		S511E	4	5	33-0	Exp. Blk. Transv.		S625E	24	6	13-9	Outlook																				S412E	55	4	3-9	Exp. Blk. Transv.		S626E	8	6	9-0	Outlook																										S628E	4	6	8-0	Outlook																										S629E	4	6	7-6	Outlook																										S630	40	6	10-5	Outlook																										S631	24	6																																																																																																																																																																																				
S608	162	6	23-9	Transv. Bott.		S555E	123	5	7-1	End Stirrup		S555E	123	5	5-7	End Stirrup		S608	245	6	50-6	Long. Bott.		S608	196	6	36-0	Long. Bott.		S609E	1-Ser. of 7	6	25-0	Transv. Top		S401E	29	4	50-0	Transv. Top		S401E	29	4	50-0	Transv. Top		S609E	41	6	41-0	Long. Top		S610E	46	6	10-5	Outlook		S610	1-Ser. of 7	6	60-0	Transv. Bott.		S402E	29	4	35-6	Transv. Top		S402E	44	4	50-0	Transv. Top		S619E	68	6	13-7	Outlook		S625E	24	6	13-9	Outlook		S611E	1-Ser. of 137	6	23-8	Transv. Top		S503	26	5	50-0	Transv. Bott.		S402E	44	4	35-9	Transv. Top		S625	64	6	13-7	Outlook		S642	46	6	10-5	Outlook		S612	1-Ser. of 137	6	33-0	Transv. Bott.		S504	26	5	35-6	Transv. Bott.		S503	38	5	50-0	Transv. Bott.		S643	24	6	13-9	Outlook		S654E	98	5	5-7	End Stirrup		S613E	1-Ser. of 15	6	26-0	Transv. Top		S605E	122	6	7-4	Long. Top		S504	38	5	35-9	Transv. Bott.		S657E	8	6	21-3	Outlook		S1090E	8	10	18-0	Long. Top		S614	1-Ser. of 15	6	60-0	Transv. Bott.		S607E	123	6	28-3	Long. Top		S605E	244	6	7-4	Long. Top		S1091	8	10	18-0	Long. Bott.		S799E	4	7	5-0	Floor Drain and MH		S615E	2	6	36-3	Transv. Top		S608	196	6	28-3	Long. Bott.		S607E	123	6	42-2	Long. Top		S799E	28	7	5-0	Floor Drain and MH		S616	2	6	36-3	Transv. Bott.		S555E	123	5	7-1	End Stirrup		S608	245	6	42-2	Long. Bott.								S617E	15	6	33-0	Transv. Top		S799E	8	8	5-0	Nav. Light Access		S555E	123	5	7-7	End Stirrup								S618	15	6	33-0	Transv. Bott.																				S619E	1-Ser. of 19	6	12-0	Transv. Top																				S620	1-Ser. of 19	6	12-0	Transv. Bott.																				S621E	1	6	9-0	Transv. Top																				S622	1	6	9-0	Transv. Bott.																				S623E	4	6	6-6	Transv. Top																				S624	4	5	6-6	Transv. Bott.																				S425E	280	4	36-0	Long. Top and Bott.																				S426E	1-Ser. of 47	4	12-0	Long. Top																				S427E	9	4	40-0	Long. Top																				S428E	1-Ser. of 9	4	31-0	Long. Top																				S529	527	5	36-0	Long. Bott.																				S530	1-Ser. of 91	5	12-6	Long. Bott.																				S531	15	5	40-0	Long. Bott.																				S532	1-Ser. of 13	5	31-0	Long. Bott.																				S433	3	4	13-6	Long. Bott.																				S434	33	4	36-0	Long. Bott.																				S435	3	4	12-6	Long. Bott.																				S690E	184	6	30-0	Long. Top																				UNIT 1																								S401E	40	4	50-0	Transv. Top																				S402E	40	4	34-3	Transv. Top																				S503	35	5	50-0	Long. Bott.																				S504	35	5	34-3	Long. Bott.																				S605E	122	6	7-4	Long. Top																				S606E	122	6	16-4	Long. Top																				S607E	123	6	39-8	Long. Top																				S608	196	6	39-8	Long. Bott.																				S609E	40	6	10-5	Outlook																				S623E	4	6	15-8	Outlook																				S624E	4	6	23-0	Outlook																				S625E	24	6	13-9	Outlook																				S626E	8	6	9-0	Outlook																				S628E	4	6	8-0	Outlook																				S629E	4	6	7-6	Outlook																				S630	40	6	10-5	Outlook																				S631	24	6	13-9	Outlook																				S554E	123	5	5-7	End Stirrup																				S658E	8	6	21-3	Outlook																				S1090E	6	10	18-0	Transv. Top																				S1091	6	10	18-0	Transv. Bott.																				S799E	28	7	5-0	Floor Drain and MH																				Units 8, 10, 12, 14, 16, 18, 20, 22 and 24 (9 Required)						Unit 3						Unit 19						Unit 32, 33, and 34 (3 Required)						Unit 35						S401E	44	4	50-0	Transv. Top		S401E	29	4	50-0	Transv. Top		S401E	43	4	50-0	Transv. Top		S401E	39	4	50-0	Transv. Top		S401E	34	4	50-0	Transv. Top		S402E	44	4	35-9	Transv. Top		S402E	29	4	35-0	Transv. Top		S402E	43	4	35-6	Transv. Top		S402E	39	4	33-0	Transv. Top		S402E	34	4	33-0	Transv. Top		S503	38	5	50-0	Transv. Bott.		S503	26	5	50-0	Transv. Bott.		S503	38	5	50-0	Transv. Bott.		S503	35	5	50-0	Transv. Bott.		S503	30	5	50-0	Transv. Bott.		S504	38	5	35-9	Transv. Bott.		S504	26	5	35-0	Transv. Bott.		S504	38	5	35-6	Transv. Bott.		S504	35	5	33-0	Transv. Bott.		S504	30	5	33-0	Transv. Bott.		S605E	244	6	7-4	Long. Top		S605E	122	6	7-4	Long. Top		S605E	244	6	7-4	Long. Top		S605E	244	6	6-6	Long. Top		S605E	220	4	40-0	Long. Top		S606E	122	6	16-4	Long. Top		S607E	123	6	28-3	Long. Top		S607E	123	6	42-2	Long. Top		S607E	1-Ser. of 123	6	35-3	Long. Top		S607E	55	4	30-0	Long. Top		S607E	123	6	39-8	Long. Top		S608	196	6	28-3	Long. Bott.		S608	196	6	28-0	Long. Bott.		S608	6	35-3	Long. Bott.		S607E	108	6	15-0	Long. Top		S608	196	6	39-8	Long. Bott.		S554E	123	5	5-7	End Stirrup		S554E	123	5	7-7	End Stirrup		S608	of 245	6	40-7	Long. Bott.		S608	261	5	50-0	Long. Bott.		S609E	40	6	10-5	Outlook														S554E	of 245	5	5-7	End Stirrup		S509	87	5	38-6	Long. Bott.		S623E	4	6	15-8	Outlook														S1090E	8	10	18-0	Long. Top		S510E	4	5	50-0	Exp. Blk. Transv.		S624E	4	6	23-0	Outlook														S1091	8	10	18-0	Long. Bott.		S511E	4	5	33-0	Exp. Blk. Transv.		S625E	24	6	13-9	Outlook																				S412E	55	4	3-9	Exp. Blk. Transv.		S626E	8	6	9-0	Outlook																										S628E	4	6	8-0	Outlook																										S629E	4	6	7-6	Outlook																										S630	40	6	10-5	Outlook																										S631	24	6																																																																																																																																																																																																																		
S609E	1-Ser. of 7	6	25-0	Transv. Top		S401E	29	4	50-0	Transv. Top		S401E	29	4	50-0	Transv. Top		S609E	41	6	41-0	Long. Top		S610E	46	6	10-5	Outlook		S610	1-Ser. of 7	6	60-0	Transv. Bott.		S402E	29	4	35-6	Transv. Top		S402E	44	4	50-0	Transv. Top		S619E	68	6	13-7	Outlook		S625E	24	6	13-9	Outlook		S611E	1-Ser. of 137	6	23-8	Transv. Top		S503	26	5	50-0	Transv. Bott.		S402E	44	4	35-9	Transv. Top		S625	64	6	13-7	Outlook		S642	46	6	10-5	Outlook		S612	1-Ser. of 137	6	33-0	Transv. Bott.		S504	26	5	35-6	Transv. Bott.		S503	38	5	50-0	Transv. Bott.		S643	24	6	13-9	Outlook		S654E	98	5	5-7	End Stirrup		S613E	1-Ser. of 15	6	26-0	Transv. Top		S605E	122	6	7-4	Long. Top		S504	38	5	35-9	Transv. Bott.		S657E	8	6	21-3	Outlook		S1090E	8	10	18-0	Long. Top		S614	1-Ser. of 15	6	60-0	Transv. Bott.		S607E	123	6	28-3	Long. Top		S605E	244	6	7-4	Long. Top		S1091	8	10	18-0	Long. Bott.		S799E	4	7	5-0	Floor Drain and MH		S615E	2	6	36-3	Transv. Top		S608	196	6	28-3	Long. Bott.		S607E	123	6	42-2	Long. Top		S799E	28	7	5-0	Floor Drain and MH		S616	2	6	36-3	Transv. Bott.		S555E	123	5	7-1	End Stirrup		S608	245	6	42-2	Long. Bott.								S617E	15	6	33-0	Transv. Top		S799E	8	8	5-0	Nav. Light Access		S555E	123	5	7-7	End Stirrup								S618	15	6	33-0	Transv. Bott.																				S619E	1-Ser. of 19	6	12-0	Transv. Top																				S620	1-Ser. of 19	6	12-0	Transv. Bott.																				S621E	1	6	9-0	Transv. Top																				S622	1	6	9-0	Transv. Bott.																				S623E	4	6	6-6	Transv. Top																				S624	4	5	6-6	Transv. Bott.																				S425E	280	4	36-0	Long. Top and Bott.																				S426E	1-Ser. of 47	4	12-0	Long. Top																				S427E	9	4	40-0	Long. Top																				S428E	1-Ser. of 9	4	31-0	Long. Top																				S529	527	5	36-0	Long. Bott.																				S530	1-Ser. of 91	5	12-6	Long. Bott.																				S531	15	5	40-0	Long. Bott.																				S532	1-Ser. of 13	5	31-0	Long. Bott.																				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Top		S402E	39	4	33-0	Transv. Top		S402E	34	4	33-0	Transv. Top		S503	38	5	50-0	Transv. Bott.		S503	26	5	50-0	Transv. Bott.		S503	38	5	50-0	Transv. Bott.		S503	35	5	50-0	Transv. Bott.		S503	30	5	50-0	Transv. Bott.		S504	38	5	35-9	Transv. Bott.		S504	26	5	35-0	Transv. Bott.		S504	38	5	35-6	Transv. Bott.		S504	35	5	33-0	Transv. Bott.		S504	30	5	33-0	Transv. Bott.		S605E	244	6	7-4	Long. Top		S605E	122	6	7-4	Long. Top		S605E	244	6	7-4	Long. Top		S605E	244	6	6-6	Long. Top		S605E	220	4	40-0	Long. Top		S606E	122	6	16-4	Long. Top		S607E	123	6	28-3	Long. Top		S607E	123	6	42-2	Long. Top		S607E	1-Ser. of 123	6	35-3	Long. Top		S607E	55	4	30-0	Long. Top		S607E	123	6	39-8	Long. Top		S608	196	6	28-3	Long. Bott.		S608	196	6	28-0	Long. Bott.		S608	6	35-3	Long. Bott.		S607E	108	6	15-0	Long. Top		S608	196	6	39-8	Long. Bott.		S554E	123	5	5-7	End Stirrup		S554E	123	5	7-7	End Stirrup		S608	of 245	6	40-7	Long. Bott.		S608	261	5	50-0	Long. Bott.		S609E	40	6	10-5	Outlook														S554E	of 245	5	5-7	End Stirrup		S509	87	5	38-6	Long. Bott.		S623E	4	6	15-8	Outlook														S1090E	8	10	18-0	Long. Top		S510E	4	5	50-0	Exp. Blk. Transv.		S624E	4	6	23-0	Outlook														S1091	8	10	18-0	Long. Bott.		S511E	4	5	33-0	Exp. Blk. Transv.		S625E	24	6	13-9	Outlook																				S412E	55	4	3-9	Exp. Blk. Transv.		S626E	8	6	9-0	Outlook																										S628E	4	6	8-0	Outlook																										S629E	4	6	7-6	Outlook																										S630	40	6	10-5	Outlook																										S631	24	6																																																																																																																																																																																																																																																
S610	1-Ser. of 7	6	60-0	Transv. Bott.		S402E	29	4	35-6	Transv. Top		S402E	44	4	50-0	Transv. Top		S619E	68	6	13-7	Outlook		S625E	24	6	13-9	Outlook		S611E	1-Ser. of 137	6	23-8	Transv. Top		S503	26	5	50-0	Transv. Bott.		S402E	44	4	35-9	Transv. Top		S625	64	6	13-7	Outlook		S642	46	6	10-5	Outlook		S612	1-Ser. of 137	6	33-0	Transv. Bott.		S504	26	5	35-6	Transv. Bott.		S503	38	5	50-0	Transv. Bott.		S643	24	6	13-9	Outlook		S654E	98	5	5-7	End Stirrup		S613E	1-Ser. of 15	6	26-0	Transv. Top		S605E	122	6	7-4	Long. Top		S504	38	5	35-9	Transv. Bott.		S657E	8	6	21-3	Outlook		S1090E	8	10	18-0	Long. Top		S614	1-Ser. of 15	6	60-0	Transv. Bott.		S607E	123	6	28-3	Long. Top		S605E	244	6	7-4	Long. Top		S1091	8	10	18-0	Long. Bott.		S799E	4	7	5-0	Floor Drain and MH		S615E	2	6	36-3	Transv. Top		S608	196	6	28-3	Long. Bott.		S607E	123	6	42-2	Long. Top		S799E	28	7	5-0	Floor Drain and MH		S616	2	6	36-3	Transv. Bott.		S555E	123	5	7-1	End Stirrup		S608	245	6	42-2	Long. Bott.								S617E	15	6	33-0	Transv. Top		S799E	8	8	5-0	Nav. Light Access		S555E	123	5	7-7	End Stirrup								S618	15	6	33-0	Transv. Bott.																				S619E	1-Ser. of 19	6	12-0	Transv. Top																				S620	1-Ser. of 19	6	12-0	Transv. Bott.																				S621E	1	6	9-0	Transv. Top																				S622	1	6	9-0	Transv. Bott.																				S623E	4	6	6-6	Transv. Top																				S624	4	5	6-6	Transv. Bott.																				S425E	280	4	36-0	Long. Top and Bott.																				S426E	1-Ser. of 47	4	12-0	Long. Top																				S427E	9	4	40-0	Long. Top																				S428E	1-Ser. of 9	4	31-0	Long. Top																				S529	527	5	36-0	Long. Bott.																				S530	1-Ser. of 91	5	12-6	Long. Bott.																				S531	15	5	40-0	Long. Bott.																				S532	1-Ser. of 13	5	31-0	Long. Bott.																				S433	3	4	13-6	Long. Bott.																				S434	33	4	36-0	Long. Bott.																				S435	3	4	12-6	Long. Bott.																				S690E	184	6	30-0	Long. Top																				UNIT 1																								S401E	40	4	50-0	Transv. Top																				S402E	40	4	34-3	Transv. Top																				S503	35	5	50-0	Long. Bott.																				S504	35	5	34-3	Long. Bott.																				S605E	122	6	7-4	Long. Top																				S606E	122	6	16-4	Long. Top																				S607E	123	6	39-8	Long. Top																				S608	196	6	39-8	Long. Bott.																				S609E	40	6	10-5	Outlook																				S623E	4	6	15-8	Outlook																				S624E	4	6	23-0	Outlook																				S625E	24	6	13-9	Outlook																				S626E	8	6	9-0	Outlook																				S628E	4	6	8-0	Outlook																				S629E	4	6	7-6	Outlook																				S630	40	6	10-5	Outlook																				S631	24	6	13-9	Outlook																				S554E	123	5	5-7	End Stirrup																				S658E	8	6	21-3	Outlook																				S1090E	6	10	18-0	Transv. Top																				S1091	6	10	18-0	Transv. Bott.																				S799E	28	7	5-0	Floor Drain and MH																				Units 8, 10, 12, 14, 16, 18, 20, 22 and 24 (9 Required)						Unit 3						Unit 19						Unit 32, 33, and 34 (3 Required)						Unit 35						S401E	44	4	50-0	Transv. Top		S401E	29	4	50-0	Transv. Top		S401E	43	4	50-0	Transv. Top		S401E	39	4	50-0	Transv. Top		S401E	34	4	50-0	Transv. Top		S402E	44	4	35-9	Transv. Top		S402E	29	4	35-0	Transv. Top		S402E	43	4	35-6	Transv. Top		S402E	39	4	33-0	Transv. Top		S402E	34	4	33-0	Transv. Top		S503	38	5	50-0	Transv. Bott.		S503	26	5	50-0	Transv. Bott.		S503	38	5	50-0	Transv. Bott.		S503	35	5	50-0	Transv. Bott.		S503	30	5	50-0	Transv. Bott.		S504	38	5	35-9	Transv. Bott.		S504	26	5	35-0	Transv. Bott.		S504	38	5	35-6	Transv. Bott.		S504	35	5	33-0	Transv. Bott.		S504	30	5	33-0	Transv. Bott.		S605E	244	6	7-4	Long. Top		S605E	122	6	7-4	Long. Top		S605E	244	6	7-4	Long. Top		S605E	244	6	6-6	Long. Top		S605E	220	4	40-0	Long. Top		S606E	122	6	16-4	Long. Top		S607E	123	6	28-3	Long. Top		S607E	123	6	42-2	Long. Top		S607E	1-Ser. of 123	6	35-3	Long. Top		S607E	55	4	30-0	Long. Top		S607E	123	6	39-8	Long. Top		S608	196	6	28-3	Long. Bott.		S608	196	6	28-0	Long. Bott.		S608	6	35-3	Long. Bott.		S607E	108	6	15-0	Long. Top		S608	196	6	39-8	Long. Bott.		S554E	123	5	5-7	End Stirrup		S554E	123	5	7-7	End Stirrup		S608	of 245	6	40-7	Long. Bott.		S608	261	5	50-0	Long. Bott.		S609E	40	6	10-5	Outlook														S554E	of 245	5	5-7	End Stirrup		S509	87	5	38-6	Long. Bott.		S623E	4	6	15-8	Outlook														S1090E	8	10	18-0	Long. Top		S510E	4	5	50-0	Exp. Blk. Transv.		S624E	4	6	23-0	Outlook														S1091	8	10	18-0	Long. Bott.		S511E	4	5	33-0	Exp. Blk. Transv.		S625E	24	6	13-9	Outlook																				S412E	55	4	3-9	Exp. Blk. Transv.		S626E	8	6	9-0	Outlook																										S628E	4	6	8-0	Outlook																										S629E	4	6	7-6	Outlook																										S630	40	6	10-5	Outlook																										S631	24	6																																																																																																																																																																																																																																																																														
S611E	1-Ser. of 137	6	23-8	Transv. Top		S503	26	5	50-0	Transv. Bott.		S402E	44	4	35-9	Transv. Top		S625	64	6	13-7	Outlook		S642	46	6	10-5	Outlook		S612	1-Ser. of 137	6	33-0	Transv. Bott.		S504	26	5	35-6	Transv. Bott.		S503	38	5	50-0	Transv. Bott.		S643	24	6	13-9	Outlook		S654E	98	5	5-7	End Stirrup		S613E	1-Ser. of 15	6	26-0	Transv. Top		S605E	122	6	7-4	Long. Top		S504	38	5	35-9	Transv. Bott.		S657E	8	6	21-3	Outlook		S1090E	8	10	18-0	Long. Top		S614	1-Ser. of 15	6	60-0	Transv. Bott.		S607E	123	6	28-3	Long. Top		S605E	244	6	7-4	Long. Top		S1091	8	10	18-0	Long. Bott.		S799E	4	7	5-0	Floor Drain and MH		S615E	2	6	36-3	Transv. Top		S608	196	6	28-3	Long. Bott.		S607E	123	6	42-2	Long. Top		S799E	28	7	5-0	Floor Drain and MH		S616	2	6	36-3	Transv. Bott.		S555E	123	5	7-1	End Stirrup		S608	245	6	42-2	Long. Bott.								S617E	15	6	33-0	Transv. Top		S799E	8	8	5-0	Nav. Light Access		S555E	123	5	7-7	End Stirrup								S618	15	6	33-0	Transv. Bott.																				S619E	1-Ser. of 19	6	12-0	Transv. Top																				S620	1-Ser. of 19	6	12-0	Transv. Bott.																				S621E	1	6	9-0	Transv. Top																				S622	1	6	9-0	Transv. Bott.																				S623E	4	6	6-6	Transv. Top																				S624	4	5	6-6	Transv. Bott.																				S425E	280	4	36-0	Long. Top and Bott.																				S426E	1-Ser. of 47	4	12-0	Long. Top																				S427E	9	4	40-0	Long. Top																				S428E	1-Ser. of 9	4	31-0	Long. Top																				S529	527	5	36-0	Long. Bott.																				S530	1-Ser. of 91	5	12-6	Long. Bott.																				S531	15	5	40-0	Long. Bott.																				S532	1-Ser. of 13	5	31-0	Long. Bott.																				S433	3	4	13-6	Long. Bott.																				S434	33	4	36-0	Long. Bott.																				S435	3	4	12-6	Long. Bott.																				S690E	184	6	30-0	Long. Top																				UNIT 1																								S401E	40	4	50-0	Transv. Top																				S402E	40	4	34-3	Transv. Top																				S503	35	5	50-0	Long. Bott.																				S504	35	5	34-3	Long. Bott.																				S605E	122	6	7-4	Long. Top																				S606E	122	6	16-4	Long. Top																				S607E	123	6	39-8	Long. Top																				S608	196	6	39-8	Long. Bott.																				S609E	40	6	10-5	Outlook																				S623E	4	6	15-8	Outlook																				S624E	4	6	23-0	Outlook																				S625E	24	6	13-9	Outlook																				S626E	8	6	9-0	Outlook																				S628E	4	6	8-0	Outlook																				S629E	4	6	7-6	Outlook																				S630	40	6	10-5	Outlook																				S631	24	6	13-9	Outlook																				S554E	123	5	5-7	End Stirrup																				S658E	8	6	21-3	Outlook																				S1090E	6	10	18-0	Transv. Top																				S1091	6	10	18-0	Transv. Bott.																				S799E	28	7	5-0	Floor Drain and MH																				Units 8, 10, 12, 14, 16, 18, 20, 22 and 24 (9 Required)						Unit 3						Unit 19						Unit 32, 33, and 34 (3 Required)						Unit 35						S401E	44	4	50-0	Transv. Top		S401E	29	4	50-0	Transv. Top		S401E	43	4	50-0	Transv. Top		S401E	39	4	50-0	Transv. Top		S401E	34	4	50-0	Transv. Top		S402E	44	4	35-9	Transv. Top		S402E	29	4	35-0	Transv. Top		S402E	43	4	35-6	Transv. Top		S402E	39	4	33-0	Transv. Top		S402E	34	4	33-0	Transv. Top		S503	38	5	50-0	Transv. Bott.		S503	26	5	50-0	Transv. Bott.		S503	38	5	50-0	Transv. Bott.		S503	35	5	50-0	Transv. Bott.		S503	30	5	50-0	Transv. Bott.		S504	38	5	35-9	Transv. Bott.		S504	26	5	35-0	Transv. Bott.		S504	38	5	35-6	Transv. Bott.		S504	35	5	33-0	Transv. Bott.		S504	30	5	33-0	Transv. Bott.		S605E	244	6	7-4	Long. Top		S605E	122	6	7-4	Long. Top		S605E	244	6	7-4	Long. Top		S605E	244	6	6-6	Long. Top		S605E	220	4	40-0	Long. Top		S606E	122	6	16-4	Long. Top		S607E	123	6	28-3	Long. Top		S607E	123	6	42-2	Long. Top		S607E	1-Ser. of 123	6	35-3	Long. Top		S607E	55	4	30-0	Long. Top		S607E	123	6	39-8	Long. Top		S608	196	6	28-3	Long. Bott.		S608	196	6	28-0	Long. Bott.		S608	6	35-3	Long. Bott.		S607E	108	6	15-0	Long. Top		S608	196	6	39-8	Long. Bott.		S554E	123	5	5-7	End Stirrup		S554E	123	5	7-7	End Stirrup		S608	of 245	6	40-7	Long. Bott.		S608	261	5	50-0	Long. Bott.		S609E	40	6	10-5	Outlook														S554E	of 245	5	5-7	End Stirrup		S509	87	5	38-6	Long. Bott.		S623E	4	6	15-8	Outlook														S1090E	8	10	18-0	Long. Top		S510E	4	5	50-0	Exp. Blk. Transv.		S624E	4	6	23-0	Outlook														S1091	8	10	18-0	Long. Bott.		S511E	4	5	33-0	Exp. Blk. Transv.		S625E	24	6	13-9	Outlook																				S412E	55	4	3-9	Exp. Blk. Transv.		S626E	8	6	9-0	Outlook																										S628E	4	6	8-0	Outlook																										S629E	4	6	7-6	Outlook																										S630	40	6	10-5	Outlook																										S631	24	6																																																																																																																																																																																																																																																																																																												
S612	1-Ser. of 137	6	33-0	Transv. Bott.		S504	26	5	35-6	Transv. Bott.		S503	38	5	50-0	Transv. Bott.		S643	24	6	13-9	Outlook		S654E	98	5	5-7	End Stirrup		S613E	1-Ser. of 15	6	26-0	Transv. Top		S605E	122	6	7-4	Long. Top		S504	38	5	35-9	Transv. Bott.		S657E	8	6	21-3	Outlook		S1090E	8	10	18-0	Long. Top		S614	1-Ser. of 15	6	60-0	Transv. Bott.		S607E	123	6	28-3	Long. Top		S605E	244	6	7-4	Long. Top		S1091	8	10	18-0	Long. Bott.		S799E	4	7	5-0	Floor Drain and MH		S615E	2	6	36-3	Transv. Top		S608	196	6	28-3	Long. Bott.		S607E	123	6	42-2	Long. Top		S799E	28	7	5-0	Floor Drain and MH		S616	2	6	36-3	Transv. Bott.		S555E	123	5	7-1	End Stirrup		S608	245	6	42-2	Long. Bott.								S617E	15	6	33-0	Transv. Top		S799E	8	8	5-0	Nav. Light Access		S555E	123	5	7-7	End Stirrup								S618	15	6	33-0	Transv. Bott.																				S619E	1-Ser. of 19	6	12-0	Transv. Top																				S620	1-Ser. of 19	6	12-0	Transv. Bott.																				S621E	1	6	9-0	Transv. Top																				S622	1	6	9-0	Transv. Bott.																				S623E	4	6	6-6	Transv. Top																				S624	4	5	6-6	Transv. Bott.																				S425E	280	4	36-0	Long. Top and Bott.																				S426E	1-Ser. of 47	4	12-0	Long. Top																				S427E	9	4	40-0	Long. Top																				S428E	1-Ser. of 9	4	31-0	Long. Top																				S529	527	5	36-0	Long. Bott.																				S530	1-Ser. of 91	5	12-6	Long. Bott.																				S531	15	5	40-0	Long. Bott.																				S532	1-Ser. of 13	5	31-0	Long. Bott.																				S433	3	4	13-6	Long. Bott.																				S434	33	4	36-0	Long. Bott.																				S435	3	4	12-6	Long. Bott.																				S690E	184	6	30-0	Long. Top																				UNIT 1																								S401E	40	4	50-0	Transv. Top																				S402E	40	4	34-3	Transv. Top																				S503	35	5	50-0	Long. Bott.																				S504	35	5	34-3	Long. Bott.																				S605E	122	6	7-4	Long. Top																				S606E	122	6	16-4	Long. Top																				S607E	123	6	39-8	Long. Top																				S608	196	6	39-8	Long. Bott.																				S609E	40	6	10-5	Outlook																				S623E	4	6	15-8	Outlook																				S624E	4	6	23-0	Outlook																				S625E	24	6	13-9	Outlook																				S626E	8	6	9-0	Outlook																				S628E	4	6	8-0	Outlook																				S629E	4	6	7-6	Outlook																				S630	40	6	10-5	Outlook																				S631	24	6	13-9	Outlook																				S554E	123	5	5-7	End Stirrup																				S658E	8	6	21-3	Outlook																				S1090E	6	10	18-0	Transv. Top																				S1091	6	10	18-0	Transv. Bott.																				S799E	28	7	5-0	Floor Drain and MH																				Units 8, 10, 12, 14, 16, 18, 20, 22 and 24 (9 Required)						Unit 3						Unit 19						Unit 32, 33, and 34 (3 Required)						Unit 35						S401E	44	4	50-0	Transv. Top		S401E	29	4	50-0	Transv. Top		S401E	43	4	50-0	Transv. Top		S401E	39	4	50-0	Transv. Top		S401E	34	4	50-0	Transv. Top		S402E	44	4	35-9	Transv. Top		S402E	29	4	35-0	Transv. Top		S402E	43	4	35-6	Transv. Top		S402E	39	4	33-0	Transv. Top		S402E	34	4	33-0	Transv. Top		S503	38	5	50-0	Transv. Bott.		S503	26	5	50-0	Transv. Bott.		S503	38	5	50-0	Transv. Bott.		S503	35	5	50-0	Transv. Bott.		S503	30	5	50-0	Transv. Bott.		S504	38	5	35-9	Transv. Bott.		S504	26	5	35-0	Transv. Bott.		S504	38	5	35-6	Transv. Bott.		S504	35	5	33-0	Transv. Bott.		S504	30	5	33-0	Transv. Bott.		S605E	244	6	7-4	Long. Top		S605E	122	6	7-4	Long. Top		S605E	244	6	7-4	Long. Top		S605E	244	6	6-6	Long. Top		S605E	220	4	40-0	Long. Top		S606E	122	6	16-4	Long. Top		S607E	123	6	28-3	Long. Top		S607E	123	6	42-2	Long. Top		S607E	1-Ser. of 123	6	35-3	Long. Top		S607E	55	4	30-0	Long. Top		S607E	123	6	39-8	Long. Top		S608	196	6	28-3	Long. Bott.		S608	196	6	28-0	Long. Bott.		S608	6	35-3	Long. Bott.		S607E	108	6	15-0	Long. Top		S608	196	6	39-8	Long. Bott.		S554E	123	5	5-7	End Stirrup		S554E	123	5	7-7	End Stirrup		S608	of 245	6	40-7	Long. Bott.		S608	261	5	50-0	Long. Bott.		S609E	40	6	10-5	Outlook														S554E	of 245	5	5-7	End Stirrup		S509	87	5	38-6	Long. Bott.		S623E	4	6	15-8	Outlook														S1090E	8	10	18-0	Long. Top		S510E	4	5	50-0	Exp. Blk. Transv.		S624E	4	6	23-0	Outlook														S1091	8	10	18-0	Long. Bott.		S511E	4	5	33-0	Exp. Blk. Transv.		S625E	24	6	13-9	Outlook																				S412E	55	4	3-9	Exp. Blk. Transv.		S626E	8	6	9-0	Outlook																										S628E	4	6	8-0	Outlook																										S629E	4	6	7-6	Outlook																										S630	40	6	10-5	Outlook																										S631	24	6																																																																																																																																																																																																																																																																																																																																										
S613E	1-Ser. of 15	6	26-0	Transv. Top		S605E	122	6	7-4	Long. Top		S504	38	5	35-9	Transv. Bott.		S657E	8	6	21-3	Outlook		S1090E	8	10	18-0	Long. Top		S614	1-Ser. of 15	6	60-0	Transv. Bott.		S607E	123	6	28-3	Long. Top		S605E	244	6	7-4	Long. Top		S1091	8	10	18-0	Long. Bott.		S799E	4	7	5-0	Floor Drain and MH		S615E	2	6	36-3	Transv. Top		S608	196	6	28-3	Long. Bott.		S607E	123	6	42-2	Long. Top		S799E	28	7	5-0	Floor Drain and MH		S616	2	6	36-3	Transv. Bott.		S555E	123	5	7-1	End Stirrup		S608	245	6	42-2	Long. Bott.								S617E	15	6	33-0	Transv. Top		S799E	8	8	5-0	Nav. Light Access		S555E	123	5	7-7	End Stirrup								S618	15	6	33-0	Transv. Bott.																				S619E	1-Ser. of 19	6	12-0	Transv. Top																				S620	1-Ser. of 19	6	12-0	Transv. Bott.																				S621E	1	6	9-0	Transv. Top																				S622	1	6	9-0	Transv. Bott.																				S623E	4	6	6-6	Transv. Top																				S624	4	5	6-6	Transv. Bott.																				S425E	280	4	36-0	Long. Top and Bott.																				S426E	1-Ser. of 47	4	12-0	Long. Top																				S427E	9	4	40-0	Long. Top																				S428E	1-Ser. of 9	4	31-0	Long. Top																				S529	527	5	36-0	Long. Bott.																				S530	1-Ser. of 91	5	12-6	Long. Bott.																				S531	15	5	40-0	Long. Bott.																				S532	1-Ser. of 13	5	31-0	Long. Bott.																				S433	3	4	13-6	Long. Bott.																				S434	33	4	36-0	Long. Bott.																				S435	3	4	12-6	Long. Bott.																				S690E	184	6	30-0	Long. Top																				UNIT 1																								S401E	40	4	50-0	Transv. Top																				S402E	40	4	34-3	Transv. Top																				S503	35	5	50-0	Long. Bott.																				S504	35	5	34-3	Long. Bott.																				S605E	122	6	7-4	Long. Top																				S606E	122	6	16-4	Long. Top																				S607E	123	6	39-8	Long. Top																				S608	196	6	39-8	Long. Bott.																				S609E	40	6	10-5	Outlook																				S623E	4	6	15-8	Outlook																				S624E	4	6	23-0	Outlook																				S625E	24	6	13-9	Outlook																				S626E	8	6	9-0	Outlook																				S628E	4	6	8-0	Outlook																				S629E	4	6	7-6	Outlook																				S630	40	6	10-5	Outlook																				S631	24	6	13-9	Outlook																				S554E	123	5	5-7	End Stirrup																				S658E	8	6	21-3	Outlook																				S1090E	6	10	18-0	Transv. Top																				S1091	6	10	18-0	Transv. Bott.																				S799E	28	7	5-0	Floor Drain and MH																				Units 8, 10, 12, 14, 16, 18, 20, 22 and 24 (9 Required)						Unit 3						Unit 19						Unit 32, 33, and 34 (3 Required)						Unit 35						S401E	44	4	50-0	Transv. Top		S401E	29	4	50-0	Transv. Top		S401E	43	4	50-0	Transv. Top		S401E	39	4	50-0	Transv. Top		S401E	34	4	50-0	Transv. Top		S402E	44	4	35-9	Transv. Top		S402E	29	4	35-0	Transv. Top		S402E	43	4	35-6	Transv. Top		S402E	39	4	33-0	Transv. Top		S402E	34	4	33-0	Transv. Top		S503	38	5	50-0	Transv. Bott.		S503	26	5	50-0	Transv. Bott.		S503	38	5	50-0	Transv. Bott.		S503	35	5	50-0	Transv. Bott.		S503	30	5	50-0	Transv. Bott.		S504	38	5	35-9	Transv. Bott.		S504	26	5	35-0	Transv. Bott.		S504	38	5	35-6	Transv. Bott.		S504	35	5	33-0	Transv. Bott.		S504	30	5	33-0	Transv. Bott.		S605E	244	6	7-4	Long. Top		S605E	122	6	7-4	Long. Top		S605E	244	6	7-4	Long. Top		S605E	244	6	6-6	Long. Top		S605E	220	4	40-0	Long. Top		S606E	122	6	16-4	Long. Top		S607E	123	6	28-3	Long. Top		S607E	123	6	42-2	Long. Top		S607E	1-Ser. of 123	6	35-3	Long. Top		S607E	55	4	30-0	Long. Top		S607E	123	6	39-8	Long. Top		S608	196	6	28-3	Long. Bott.		S608	196	6	28-0	Long. Bott.		S608	6	35-3	Long. Bott.		S607E	108	6	15-0	Long. Top		S608	196	6	39-8	Long. Bott.		S554E	123	5	5-7	End Stirrup		S554E	123	5	7-7	End Stirrup		S608	of 245	6	40-7	Long. Bott.		S608	261	5	50-0	Long. Bott.		S609E	40	6	10-5	Outlook														S554E	of 245	5	5-7	End Stirrup		S509	87	5	38-6	Long. Bott.		S623E	4	6	15-8	Outlook														S1090E	8	10	18-0	Long. Top		S510E	4	5	50-0	Exp. Blk. Transv.		S624E	4	6	23-0	Outlook														S1091	8	10	18-0	Long. Bott.		S511E	4	5	33-0	Exp. Blk. Transv.		S625E	24	6	13-9	Outlook																				S412E	55	4	3-9	Exp. Blk. Transv.		S626E	8	6	9-0	Outlook																										S628E	4	6	8-0	Outlook																										S629E	4	6	7-6	Outlook																										S630	40	6	10-5	Outlook																										S631	24	6																																																																																																																																																																																																																																																																																																																																																																								
S614	1-Ser. of 15	6	60-0	Transv. Bott.		S607E	123	6	28-3	Long. Top		S605E	244	6	7-4	Long. Top		S1091	8	10	18-0	Long. Bott.		S799E	4	7	5-0	Floor Drain and MH		S615E	2	6	36-3	Transv. Top		S608	196	6	28-3	Long. Bott.		S607E	123	6	42-2	Long. Top		S799E	28	7	5-0	Floor Drain and MH		S616	2	6	36-3	Transv. Bott.		S555E	123	5	7-1	End Stirrup		S608	245	6	42-2	Long. Bott.								S617E	15	6	33-0	Transv. Top		S799E	8	8	5-0	Nav. Light Access		S555E	123	5	7-7	End Stirrup								S618	15	6	33-0	Transv. Bott.																				S619E	1-Ser. of 19	6	12-0	Transv. Top																				S620	1-Ser. of 19	6	12-0	Transv. Bott.																				S621E	1	6	9-0	Transv. Top																				S622	1	6	9-0	Transv. Bott.																				S623E	4	6	6-6	Transv. Top																				S624	4	5	6-6	Transv. Bott.																				S425E	280	4	36-0	Long. Top and Bott.																				S426E	1-Ser. of 47	4	12-0	Long. Top																				S427E	9	4	40-0	Long. Top																				S428E	1-Ser. of 9	4	31-0	Long. Top																				S529	527	5	36-0	Long. Bott.																				S530	1-Ser. of 91	5	12-6	Long. Bott.																				S531	15	5	40-0	Long. Bott.																				S532	1-Ser. of 13	5	31-0	Long. Bott.																				S433	3	4	13-6	Long. Bott.																				S434	33	4	36-0	Long. Bott.																				S435	3	4	12-6	Long. Bott.																				S690E	184	6	30-0	Long. Top																				UNIT 1																								S401E	40	4	50-0	Transv. Top																				S402E	40	4	34-3	Transv. Top																				S503	35	5	50-0	Long. Bott.																				S504	35	5	34-3	Long. Bott.																				S605E	122	6	7-4	Long. Top																				S606E	122	6	16-4	Long. Top																				S607E	123	6	39-8	Long. Top																				S608	196	6	39-8	Long. Bott.																				S609E	40	6	10-5	Outlook																				S623E	4	6	15-8	Outlook																				S624E	4	6	23-0	Outlook																				S625E	24	6	13-9	Outlook																				S626E	8	6	9-0	Outlook																				S628E	4	6	8-0	Outlook																				S629E	4	6	7-6	Outlook																				S630	40	6	10-5	Outlook																				S631	24	6	13-9	Outlook																				S554E	123	5	5-7	End Stirrup																				S658E	8	6	21-3	Outlook																				S1090E	6	10	18-0	Transv. Top																				S1091	6	10	18-0	Transv. Bott.																				S799E	28	7	5-0	Floor Drain and MH																				Units 8, 10, 12, 14, 16, 18, 20, 22 and 24 (9 Required)						Unit 3						Unit 19						Unit 32, 33, and 34 (3 Required)						Unit 35						S401E	44	4	50-0	Transv. Top		S401E	29	4	50-0	Transv. Top		S401E	43	4	50-0	Transv. Top		S401E	39	4	50-0	Transv. Top		S401E	34	4	50-0	Transv. Top		S402E	44	4	35-9	Transv. Top		S402E	29	4	35-0	Transv. Top		S402E	43	4	35-6	Transv. Top		S402E	39	4	33-0	Transv. Top		S402E	34	4	33-0	Transv. Top		S503	38	5	50-0	Transv. Bott.		S503	26	5	50-0	Transv. Bott.		S503	38	5	50-0	Transv. Bott.		S503	35	5	50-0	Transv. Bott.		S503	30	5	50-0	Transv. Bott.		S504	38	5	35-9	Transv. Bott.		S504	26	5	35-0	Transv. Bott.		S504	38	5	35-6	Transv. Bott.		S504	35	5	33-0	Transv. Bott.		S504	30	5	33-0	Transv. Bott.		S605E	244	6	7-4	Long. Top		S605E	122	6	7-4	Long. Top		S605E	244	6	7-4	Long. Top		S605E	244	6	6-6	Long. Top		S605E	220	4	40-0	Long. Top		S606E	122	6	16-4	Long. Top		S607E	123	6	28-3	Long. Top		S607E	123	6	42-2	Long. Top		S607E	1-Ser. of 123	6	35-3	Long. Top		S607E	55	4	30-0	Long. Top		S607E	123	6	39-8	Long. Top		S608	196	6	28-3	Long. Bott.		S608	196	6	28-0	Long. Bott.		S608	6	35-3	Long. Bott.		S607E	108	6	15-0	Long. Top		S608	196	6	39-8	Long. Bott.		S554E	123	5	5-7	End Stirrup		S554E	123	5	7-7	End Stirrup		S608	of 245	6	40-7	Long. Bott.		S608	261	5	50-0	Long. Bott.		S609E	40	6	10-5	Outlook														S554E	of 245	5	5-7	End Stirrup		S509	87	5	38-6	Long. Bott.		S623E	4	6	15-8	Outlook														S1090E	8	10	18-0	Long. Top		S510E	4	5	50-0	Exp. Blk. Transv.		S624E	4	6	23-0	Outlook														S1091	8	10	18-0	Long. Bott.		S511E	4	5	33-0	Exp. Blk. Transv.		S625E	24	6	13-9	Outlook																				S412E	55	4	3-9	Exp. Blk. Transv.		S626E	8	6	9-0	Outlook																										S628E	4	6	8-0	Outlook																										S629E	4	6	7-6	Outlook																										S630	40	6	10-5	Outlook																										S631	24	6																																																																																																																																																																																																																																																																																																																																																																																																						
S615E	2	6	36-3	Transv. Top		S608	196	6	28-3	Long. Bott.		S607E	123	6	42-2	Long. Top		S799E	28	7	5-0	Floor Drain and MH		S616	2	6	36-3	Transv. Bott.		S555E	123	5	7-1	End Stirrup		S608	245	6	42-2	Long. Bott.								S617E	15	6	33-0	Transv. Top		S799E	8	8	5-0	Nav. Light Access		S555E	123	5	7-7	End Stirrup								S618	15	6	33-0	Transv. Bott.																				S619E	1-Ser. of 19	6	12-0	Transv. Top																				S620	1-Ser. of 19	6	12-0	Transv. Bott.																				S621E	1	6	9-0	Transv. Top																				S622	1	6	9-0	Transv. Bott.																				S623E	4	6	6-6	Transv. Top																				S624	4	5	6-6	Transv. Bott.																				S425E	280	4	36-0	Long. Top and Bott.																				S426E	1-Ser. of 47	4	12-0	Long. Top																				S427E	9	4	40-0	Long. Top																				S428E	1-Ser. of 9	4	31-0	Long. Top																				S529	527	5	36-0	Long. Bott.																				S530	1-Ser. of 91	5	12-6	Long. Bott.																				S531	15	5	40-0	Long. Bott.																				S532	1-Ser. of 13	5	31-0	Long. Bott.																				S433	3	4	13-6	Long. Bott.																				S434	33	4	36-0	Long. Bott.																				S435	3	4	12-6	Long. Bott.																				S690E	184	6	30-0	Long. Top																				UNIT 1																								S401E	40	4	50-0	Transv. Top																				S402E	40	4	34-3	Transv. Top																				S503	35	5	50-0	Long. Bott.																				S504	35	5	34-3	Long. Bott.																				S605E	122	6	7-4	Long. Top																				S606E	122	6	16-4	Long. Top																				S607E	123	6	39-8	Long. Top																				S608	196	6	39-8	Long. Bott.																				S609E	40	6	10-5	Outlook																				S623E	4	6	15-8	Outlook																				S624E	4	6	23-0	Outlook																				S625E	24	6	13-9	Outlook																				S626E	8	6	9-0	Outlook																				S628E	4	6	8-0	Outlook																				S629E	4	6	7-6	Outlook																				S630	40	6	10-5	Outlook																				S631	24	6	13-9	Outlook																				S554E	123	5	5-7	End Stirrup																				S658E	8	6	21-3	Outlook																				S1090E	6	10	18-0	Transv. Top																				S1091	6	10	18-0	Transv. Bott.																				S799E	28	7	5-0	Floor Drain and MH																				Units 8, 10, 12, 14, 16, 18, 20, 22 and 24 (9 Required)						Unit 3						Unit 19						Unit 32, 33, and 34 (3 Required)						Unit 35						S401E	44	4	50-0	Transv. Top		S401E	29	4	50-0	Transv. Top		S401E	43	4	50-0	Transv. Top		S401E	39	4	50-0	Transv. Top		S401E	34	4	50-0	Transv. Top		S402E	44	4	35-9	Transv. Top		S402E	29	4	35-0	Transv. Top		S402E	43	4	35-6	Transv. Top		S402E	39	4	33-0	Transv. Top		S402E	34	4	33-0	Transv. Top		S503	38	5	50-0	Transv. Bott.		S503	26	5	50-0	Transv. Bott.		S503	38	5	50-0	Transv. Bott.		S503	35	5	50-0	Transv. Bott.		S503	30	5	50-0	Transv. Bott.		S504	38	5	35-9	Transv. Bott.		S504	26	5	35-0	Transv. Bott.		S504	38	5	35-6	Transv. Bott.		S504	35	5	33-0	Transv. Bott.		S504	30	5	33-0	Transv. Bott.		S605E	244	6	7-4	Long. Top		S605E	122	6	7-4	Long. Top		S605E	244	6	7-4	Long. Top		S605E	244	6	6-6	Long. Top		S605E	220	4	40-0	Long. Top		S606E	122	6	16-4	Long. Top		S607E	123	6	28-3	Long. Top		S607E	123	6	42-2	Long. Top		S607E	1-Ser. of 123	6	35-3	Long. Top		S607E	55	4	30-0	Long. Top		S607E	123	6	39-8	Long. Top		S608	196	6	28-3	Long. Bott.		S608	196	6	28-0	Long. Bott.		S608	6	35-3	Long. Bott.		S607E	108	6	15-0	Long. Top		S608	196	6	39-8	Long. Bott.		S554E	123	5	5-7	End Stirrup		S554E	123	5	7-7	End Stirrup		S608	of 245	6	40-7	Long. Bott.		S608	261	5	50-0	Long. Bott.		S609E	40	6	10-5	Outlook														S554E	of 245	5	5-7	End Stirrup		S509	87	5	38-6	Long. Bott.		S623E	4	6	15-8	Outlook														S1090E	8	10	18-0	Long. Top		S510E	4	5	50-0	Exp. Blk. Transv.		S624E	4	6	23-0	Outlook														S1091	8	10	18-0	Long. Bott.		S511E	4	5	33-0	Exp. Blk. Transv.		S625E	24	6	13-9	Outlook																				S412E	55	4	3-9	Exp. Blk. Transv.		S626E	8	6	9-0	Outlook																										S628E	4	6	8-0	Outlook																										S629E	4	6	7-6	Outlook																										S630	40	6	10-5	Outlook																										S631	24	6																																																																																																																																																																																																																																																																																																																																																																																																																																				
S616	2	6	36-3	Transv. Bott.		S555E	123	5	7-1	End Stirrup		S608	245	6	42-2	Long. Bott.								S617E	15	6	33-0	Transv. Top		S799E	8	8	5-0	Nav. Light Access		S555E	123	5	7-7	End Stirrup								S618	15	6	33-0	Transv. Bott.																				S619E	1-Ser. of 19	6	12-0	Transv. Top																				S620	1-Ser. of 19	6	12-0	Transv. Bott.																				S621E	1	6	9-0	Transv. Top																				S622	1	6	9-0	Transv. Bott.																				S623E	4	6	6-6	Transv. Top																				S624	4	5	6-6	Transv. Bott.																				S425E	280	4	36-0	Long. Top and Bott.																				S426E	1-Ser. of 47	4	12-0	Long. Top																				S427E	9	4	40-0	Long. Top																				S428E	1-Ser. of 9	4	31-0	Long. Top																				S529	527	5	36-0	Long. Bott.																				S530	1-Ser. of 91	5	12-6	Long. Bott.																				S531	15	5	40-0	Long. Bott.																				S532	1-Ser. of 13	5	31-0	Long. Bott.																				S433	3	4	13-6	Long. Bott.																				S434	33	4	36-0	Long. Bott.																				S435	3	4	12-6	Long. Bott.																				S690E	184	6	30-0	Long. Top																				UNIT 1																								S401E	40	4	50-0	Transv. Top																				S402E	40	4	34-3	Transv. Top																				S503	35	5	50-0	Long. Bott.																				S504	35	5	34-3	Long. Bott.																				S605E	122	6	7-4	Long. Top																				S606E	122	6	16-4	Long. Top																				S607E	123	6	39-8	Long. Top																				S608	196	6	39-8	Long. Bott.																				S609E	40	6	10-5	Outlook																				S623E	4	6	15-8	Outlook																				S624E	4	6	23-0	Outlook																				S625E	24	6	13-9	Outlook																				S626E	8	6	9-0	Outlook																				S628E	4	6	8-0	Outlook																				S629E	4	6	7-6	Outlook																				S630	40	6	10-5	Outlook																				S631	24	6	13-9	Outlook																				S554E	123	5	5-7	End Stirrup																				S658E	8	6	21-3	Outlook																				S1090E	6	10	18-0	Transv. Top																				S1091	6	10	18-0	Transv. Bott.																				S799E	28	7	5-0	Floor Drain and MH																				Units 8, 10, 12, 14, 16, 18, 20, 22 and 24 (9 Required)						Unit 3						Unit 19						Unit 32, 33, and 34 (3 Required)						Unit 35						S401E	44	4	50-0	Transv. Top		S401E	29	4	50-0	Transv. Top		S401E	43	4	50-0	Transv. Top		S401E	39	4	50-0	Transv. Top		S401E	34	4	50-0	Transv. Top		S402E	44	4	35-9	Transv. Top		S402E	29	4	35-0	Transv. Top		S402E	43	4	35-6	Transv. Top		S402E	39	4	33-0	Transv. Top		S402E	34	4	33-0	Transv. Top		S503	38	5	50-0	Transv. Bott.		S503	26	5	50-0	Transv. Bott.		S503	38	5	50-0	Transv. Bott.		S503	35	5	50-0	Transv. Bott.		S503	30	5	50-0	Transv. Bott.		S504	38	5	35-9	Transv. Bott.		S504	26	5	35-0	Transv. Bott.		S504	38	5	35-6	Transv. Bott.		S504	35	5	33-0	Transv. Bott.		S504	30	5	33-0	Transv. Bott.		S605E	244	6	7-4	Long. Top		S605E	122	6	7-4	Long. Top		S605E	244	6	7-4	Long. Top		S605E	244	6	6-6	Long. Top		S605E	220	4	40-0	Long. Top		S606E	122	6	16-4	Long. Top		S607E	123	6	28-3	Long. Top		S607E	123	6	42-2	Long. Top		S607E	1-Ser. of 123	6	35-3	Long. Top		S607E	55	4	30-0	Long. Top		S607E	123	6	39-8	Long. Top		S608	196	6	28-3	Long. Bott.		S608	196	6	28-0	Long. Bott.		S608	6	35-3	Long. Bott.		S607E	108	6	15-0	Long. Top		S608	196	6	39-8	Long. Bott.		S554E	123	5	5-7	End Stirrup		S554E	123	5	7-7	End Stirrup		S608	of 245	6	40-7	Long. Bott.		S608	261	5	50-0	Long. Bott.		S609E	40	6	10-5	Outlook														S554E	of 245	5	5-7	End Stirrup		S509	87	5	38-6	Long. Bott.		S623E	4	6	15-8	Outlook														S1090E	8	10	18-0	Long. Top		S510E	4	5	50-0	Exp. Blk. Transv.		S624E	4	6	23-0	Outlook														S1091	8	10	18-0	Long. Bott.		S511E	4	5	33-0	Exp. Blk. Transv.		S625E	24	6	13-9	Outlook																				S412E	55	4	3-9	Exp. Blk. Transv.		S626E	8	6	9-0	Outlook																										S628E	4	6	8-0	Outlook																										S629E	4	6	7-6	Outlook																										S630	40	6	10-5	Outlook																										S631	24	6																																																																																																																																																																																																																																																																																																																																																																																																																																																												
S617E	15	6	33-0	Transv. Top		S799E	8	8	5-0	Nav. Light Access		S555E	123	5	7-7	End Stirrup								S618	15	6	33-0	Transv. Bott.																				S619E	1-Ser. of 19	6	12-0	Transv. Top																				S620	1-Ser. of 19	6	12-0	Transv. Bott.																				S621E	1	6	9-0	Transv. Top																				S622	1	6	9-0	Transv. Bott.																				S623E	4	6	6-6	Transv. Top																				S624	4	5	6-6	Transv. Bott.																				S425E	280	4	36-0	Long. Top and Bott.																				S426E	1-Ser. of 47	4	12-0	Long. Top																				S427E	9	4	40-0	Long. Top																				S428E	1-Ser. of 9	4	31-0	Long. Top																				S529	527	5	36-0	Long. Bott.																				S530	1-Ser. of 91	5	12-6	Long. Bott.																				S531	15	5	40-0	Long. Bott.																				S532	1-Ser. of 13	5	31-0	Long. Bott.																				S433	3	4	13-6	Long. Bott.																				S434	33	4	36-0	Long. Bott.																				S435	3	4	12-6	Long. Bott.																				S690E	184	6	30-0	Long. Top																				UNIT 1																								S401E	40	4	50-0	Transv. Top																				S402E	40	4	34-3	Transv. Top																				S503	35	5	50-0	Long. Bott.																				S504	35	5	34-3	Long. Bott.																				S605E	122	6	7-4	Long. Top																				S606E	122	6	16-4	Long. Top																				S607E	123	6	39-8	Long. Top																				S608	196	6	39-8	Long. Bott.																				S609E	40	6	10-5	Outlook																				S623E	4	6	15-8	Outlook																				S624E	4	6	23-0	Outlook																				S625E	24	6	13-9	Outlook																				S626E	8	6	9-0	Outlook																				S628E	4	6	8-0	Outlook																				S629E	4	6	7-6	Outlook																				S630	40	6	10-5	Outlook																				S631	24	6	13-9	Outlook																				S554E	123	5	5-7	End Stirrup																				S658E	8	6	21-3	Outlook																				S1090E	6	10	18-0	Transv. Top																				S1091	6	10	18-0	Transv. Bott.																				S799E	28	7	5-0	Floor Drain and MH																				Units 8, 10, 12, 14, 16, 18, 20, 22 and 24 (9 Required)						Unit 3						Unit 19						Unit 32, 33, and 34 (3 Required)						Unit 35						S401E	44	4	50-0	Transv. Top		S401E	29	4	50-0	Transv. Top		S401E	43	4	50-0	Transv. Top		S401E	39	4	50-0	Transv. Top		S401E	34	4	50-0	Transv. Top		S402E	44	4	35-9	Transv. Top		S402E	29	4	35-0	Transv. Top		S402E	43	4	35-6	Transv. Top		S402E	39	4	33-0	Transv. Top		S402E	34	4	33-0	Transv. Top		S503	38	5	50-0	Transv. Bott.		S503	26	5	50-0	Transv. Bott.		S503	38	5	50-0	Transv. Bott.		S503	35	5	50-0	Transv. Bott.		S503	30	5	50-0	Transv. Bott.		S504	38	5	35-9	Transv. Bott.		S504	26	5	35-0	Transv. Bott.		S504	38	5	35-6	Transv. Bott.		S504	35	5	33-0	Transv. Bott.		S504	30	5	33-0	Transv. Bott.		S605E	244	6	7-4	Long. Top		S605E	122	6	7-4	Long. Top		S605E	244	6	7-4	Long. Top		S605E	244	6	6-6	Long. Top		S605E	220	4	40-0	Long. Top		S606E	122	6	16-4	Long. Top		S607E	123	6	28-3	Long. Top		S607E	123	6	42-2	Long. Top		S607E	1-Ser. of 123	6	35-3	Long. Top		S607E	55	4	30-0	Long. Top		S607E	123	6	39-8	Long. Top		S608	196	6	28-3	Long. Bott.		S608	196	6	28-0	Long. Bott.		S608	6	35-3	Long. Bott.		S607E	108	6	15-0	Long. Top		S608	196	6	39-8	Long. Bott.		S554E	123	5	5-7	End Stirrup		S554E	123	5	7-7	End Stirrup		S608	of 245	6	40-7	Long. Bott.		S608	261	5	50-0	Long. Bott.		S609E	40	6	10-5	Outlook														S554E	of 245	5	5-7	End Stirrup		S509	87	5	38-6	Long. Bott.		S623E	4	6	15-8	Outlook														S1090E	8	10	18-0	Long. Top		S510E	4	5	50-0	Exp. Blk. Transv.		S624E	4	6	23-0	Outlook														S1091	8	10	18-0	Long. Bott.		S511E	4	5	33-0	Exp. Blk. Transv.		S625E	24	6	13-9	Outlook																				S412E	55	4	3-9	Exp. Blk. Transv.		S626E	8	6	9-0	Outlook																										S628E	4	6	8-0	Outlook																										S629E	4	6	7-6	Outlook																										S630	40	6	10-5	Outlook																										S631	24	6																																																																																																																																																																																																																																																																																																																																																																																																																																																																																				
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S619E	1-Ser. of 19	6	12-0	Transv. Top																				S620	1-Ser. of 19	6	12-0	Transv. Bott.																				S621E	1	6	9-0	Transv. Top																				S622	1	6	9-0	Transv. Bott.																				S623E	4	6	6-6	Transv. Top																				S624	4	5	6-6	Transv. Bott.																				S425E	280	4	36-0	Long. Top and Bott.																				S426E	1-Ser. of 47	4	12-0	Long. Top																				S427E	9	4	40-0	Long. Top																				S428E	1-Ser. of 9	4	31-0	Long. Top																				S529	527	5	36-0	Long. Bott.																				S530	1-Ser. of 91	5	12-6	Long. Bott.																				S531	15	5	40-0	Long. Bott.																				S532	1-Ser. of 13	5	31-0	Long. Bott.																				S433	3	4	13-6	Long. Bott.																				S434	33	4	36-0	Long. Bott.																				S435	3	4	12-6	Long. Bott.																				S690E	184	6	30-0	Long. Top																				UNIT 1																								S401E	40	4	50-0	Transv. Top																				S402E	40	4	34-3	Transv. Top																				S503	35	5	50-0	Long. Bott.																				S504	35	5	34-3	Long. Bott.																				S605E	122	6	7-4	Long. Top																				S606E	122	6	16-4	Long. Top																				S607E	123	6	39-8	Long. Top																				S608	196	6	39-8	Long. Bott.																				S609E	40	6	10-5	Outlook																				S623E	4	6	15-8	Outlook																				S624E	4	6	23-0	Outlook																				S625E	24	6	13-9	Outlook																				S626E	8	6	9-0	Outlook																				S628E	4	6	8-0	Outlook																				S629E	4	6	7-6	Outlook																				S630	40	6	10-5	Outlook																				S631	24	6	13-9	Outlook																				S554E	123	5	5-7	End Stirrup																				S658E	8	6	21-3	Outlook																				S1090E	6	10	18-0	Transv. Top																				S1091	6	10	18-0	Transv. Bott.																				S799E	28	7	5-0	Floor Drain and MH																				Units 8, 10, 12, 14, 16, 18, 20, 22 and 24 (9 Required)						Unit 3						Unit 19						Unit 32, 33, and 34 (3 Required)						Unit 35						S401E	44	4	50-0	Transv. Top		S401E	29	4	50-0	Transv. Top		S401E	43	4	50-0	Transv. Top		S401E	39	4	50-0	Transv. Top		S401E	34	4	50-0	Transv. Top		S402E	44	4	35-9	Transv. Top		S402E	29	4	35-0	Transv. Top		S402E	43	4	35-6	Transv. Top		S402E	39	4	33-0	Transv. Top		S402E	34	4	33-0	Transv. Top		S503	38	5	50-0	Transv. Bott.		S503	26	5	50-0	Transv. Bott.		S503	38	5	50-0	Transv. Bott.		S503	35	5	50-0	Transv. Bott.		S503	30	5	50-0	Transv. Bott.		S504	38	5	35-9	Transv. Bott.		S504	26	5	35-0	Transv. Bott.		S504	38	5	35-6	Transv. Bott.		S504	35	5	33-0	Transv. Bott.		S504	30	5	33-0	Transv. Bott.		S605E	244	6	7-4	Long. Top		S605E	122	6	7-4	Long. Top		S605E	244	6	7-4	Long. Top		S605E	244	6	6-6	Long. Top		S605E	220	4	40-0	Long. Top		S606E	122	6	16-4	Long. Top		S607E	123	6	28-3	Long. Top		S607E	123	6	42-2	Long. Top		S607E	1-Ser. of 123	6	35-3	Long. Top		S607E	55	4	30-0	Long. Top		S607E	123	6	39-8	Long. Top		S608	196	6	28-3	Long. Bott.		S608	196	6	28-0	Long. Bott.		S608	6	35-3	Long. Bott.		S607E	108	6	15-0	Long. Top		S608	196	6	39-8	Long. Bott.		S554E	123	5	5-7	End Stirrup		S554E	123	5	7-7	End Stirrup		S608	of 245	6	40-7	Long. Bott.		S608	261	5	50-0	Long. Bott.		S609E	40	6	10-5	Outlook														S554E	of 245	5	5-7	End Stirrup		S509	87	5	38-6	Long. Bott.		S623E	4	6	15-8	Outlook														S1090E	8	10	18-0	Long. Top		S510E	4	5	50-0	Exp. Blk. Transv.		S624E	4	6	23-0	Outlook														S1091	8	10	18-0	Long. Bott.		S511E	4	5	33-0	Exp. Blk. Transv.		S625E	24	6	13-9	Outlook																				S412E	55	4	3-9	Exp. Blk. Transv.		S626E	8	6	9-0	Outlook																										S628E	4	6	8-0	Outlook																										S629E	4	6	7-6	Outlook																										S630	40	6	10-5	Outlook																										S631	24	6																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																				
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S621E	1	6	9-0	Transv. Top																				S622	1	6	9-0	Transv. Bott.																				S623E	4	6	6-6	Transv. Top																				S624	4	5	6-6	Transv. Bott.																				S425E	280	4	36-0	Long. Top and Bott.																				S426E	1-Ser. of 47	4	12-0	Long. Top																				S427E	9	4	40-0	Long. Top																				S428E	1-Ser. of 9	4	31-0	Long. Top																				S529	527	5	36-0	Long. Bott.																				S530	1-Ser. of 91	5	12-6	Long. Bott.																				S531	15	5	40-0	Long. Bott.																				S532	1-Ser. of 13	5	31-0	Long. Bott.																				S433	3	4	13-6	Long. Bott.																				S434	33	4	36-0	Long. Bott.																				S435	3	4	12-6	Long. Bott.																				S690E	184	6	30-0	Long. Top																				UNIT 1																								S401E	40	4	50-0	Transv. Top																				S402E	40	4	34-3	Transv. Top																				S503	35	5	50-0	Long. Bott.																				S504	35	5	34-3	Long. Bott.																				S605E	122	6	7-4	Long. Top																				S606E	122	6	16-4	Long. Top																				S607E	123	6	39-8	Long. Top																				S608	196	6	39-8	Long. Bott.																				S609E	40	6	10-5	Outlook																				S623E	4	6	15-8	Outlook																				S624E	4	6	23-0	Outlook																				S625E	24	6	13-9	Outlook																				S626E	8	6	9-0	Outlook																				S628E	4	6	8-0	Outlook																				S629E	4	6	7-6	Outlook																				S630	40	6	10-5	Outlook																				S631	24	6	13-9	Outlook																				S554E	123	5	5-7	End Stirrup																				S658E	8	6	21-3	Outlook																				S1090E	6	10	18-0	Transv. Top																				S1091	6	10	18-0	Transv. Bott.																				S799E	28	7	5-0	Floor Drain and MH																				Units 8, 10, 12, 14, 16, 18, 20, 22 and 24 (9 Required)						Unit 3						Unit 19						Unit 32, 33, and 34 (3 Required)						Unit 35						S401E	44	4	50-0	Transv. Top		S401E	29	4	50-0	Transv. Top		S401E	43	4	50-0	Transv. Top		S401E	39	4	50-0	Transv. Top		S401E	34	4	50-0	Transv. Top		S402E	44	4	35-9	Transv. Top		S402E	29	4	35-0	Transv. Top		S402E	43	4	35-6	Transv. Top		S402E	39	4	33-0	Transv. Top		S402E	34	4	33-0	Transv. Top		S503	38	5	50-0	Transv. Bott.		S503	26	5	50-0	Transv. Bott.		S503	38	5	50-0	Transv. Bott.		S503	35	5	50-0	Transv. Bott.		S503	30	5	50-0	Transv. Bott.		S504	38	5	35-9	Transv. Bott.		S504	26	5	35-0	Transv. Bott.		S504	38	5	35-6	Transv. Bott.		S504	35	5	33-0	Transv. Bott.		S504	30	5	33-0	Transv. Bott.		S605E	244	6	7-4	Long. Top		S605E	122	6	7-4	Long. Top		S605E	244	6	7-4	Long. Top		S605E	244	6	6-6	Long. Top		S605E	220	4	40-0	Long. Top		S606E	122	6	16-4	Long. Top		S607E	123	6	28-3	Long. Top		S607E	123	6	42-2	Long. Top		S607E	1-Ser. of 123	6	35-3	Long. Top		S607E	55	4	30-0	Long. Top		S607E	123	6	39-8	Long. Top		S608	196	6	28-3	Long. Bott.		S608	196	6	28-0	Long. Bott.		S608	6	35-3	Long. Bott.		S607E	108	6	15-0	Long. Top		S608	196	6	39-8	Long. Bott.		S554E	123	5	5-7	End Stirrup		S554E	123	5	7-7	End Stirrup		S608	of 245	6	40-7	Long. Bott.		S608	261	5	50-0	Long. Bott.		S609E	40	6	10-5	Outlook														S554E	of 245	5	5-7	End Stirrup		S509	87	5	38-6	Long. Bott.		S623E	4	6	15-8	Outlook														S1090E	8	10	18-0	Long. Top		S510E	4	5	50-0	Exp. Blk. Transv.		S624E	4	6	23-0	Outlook														S1091	8	10	18-0	Long. Bott.		S511E	4	5	33-0	Exp. Blk. Transv.		S625E	24	6	13-9	Outlook																				S412E	55	4	3-9	Exp. Blk. Transv.		S626E	8	6	9-0	Outlook																										S628E	4	6	8-0	Outlook																										S629E	4	6	7-6	Outlook																										S630	40	6	10-5	Outlook																										S631	24	6																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																				
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S623E	4	6	6-6	Transv. Top																				S624	4	5	6-6	Transv. Bott.																				S425E	280	4	36-0	Long. Top and Bott.																				S426E	1-Ser. of 47	4	12-0	Long. Top																				S427E	9	4	40-0	Long. Top																				S428E	1-Ser. of 9	4	31-0	Long. Top																				S529	527	5	36-0	Long. Bott.																				S530	1-Ser. of 91	5	12-6	Long. Bott.																				S531	15	5	40-0	Long. Bott.																				S532	1-Ser. of 13	5	31-0	Long. Bott.																				S433	3	4	13-6	Long. Bott.																				S434	33	4	36-0	Long. Bott.																				S435	3	4	12-6	Long. Bott.																				S690E	184	6	30-0	Long. Top																				UNIT 1																								S401E	40	4	50-0	Transv. Top																				S402E	40	4	34-3	Transv. Top																				S503	35	5	50-0	Long. Bott.																				S504	35	5	34-3	Long. Bott.																				S605E	122	6	7-4	Long. Top																				S606E	122	6	16-4	Long. Top																				S607E	123	6	39-8	Long. Top																				S608	196	6	39-8	Long. Bott.																				S609E	40	6	10-5	Outlook																				S623E	4	6	15-8	Outlook																				S624E	4	6	23-0	Outlook																				S625E	24	6	13-9	Outlook																				S626E	8	6	9-0	Outlook																				S628E	4	6	8-0	Outlook																				S629E	4	6	7-6	Outlook																				S630	40	6	10-5	Outlook																				S631	24	6	13-9	Outlook																				S554E	123	5	5-7	End Stirrup																				S658E	8	6	21-3	Outlook																				S1090E	6	10	18-0	Transv. Top																				S1091	6	10	18-0	Transv. Bott.																				S799E	28	7	5-0	Floor Drain and MH																				Units 8, 10, 12, 14, 16, 18, 20, 22 and 24 (9 Required)						Unit 3						Unit 19						Unit 32, 33, and 34 (3 Required)						Unit 35						S401E	44	4	50-0	Transv. Top		S401E	29	4	50-0	Transv. Top		S401E	43	4	50-0	Transv. Top		S401E	39	4	50-0	Transv. Top		S401E	34	4	50-0	Transv. Top		S402E	44	4	35-9	Transv. Top		S402E	29	4	35-0	Transv. Top		S402E	43	4	35-6	Transv. Top		S402E	39	4	33-0	Transv. Top		S402E	34	4	33-0	Transv. Top		S503	38	5	50-0	Transv. Bott.		S503	26	5	50-0	Transv. Bott.		S503	38	5	50-0	Transv. Bott.		S503	35	5	50-0	Transv. Bott.		S503	30	5	50-0	Transv. Bott.		S504	38	5	35-9	Transv. Bott.		S504	26	5	35-0	Transv. Bott.		S504	38	5	35-6	Transv. Bott.		S504	35	5	33-0	Transv. Bott.		S504	30	5	33-0	Transv. Bott.		S605E	244	6	7-4	Long. Top		S605E	122	6	7-4	Long. Top		S605E	244	6	7-4	Long. Top		S605E	244	6	6-6	Long. Top		S605E	220	4	40-0	Long. Top		S606E	122	6	16-4	Long. Top		S607E	123	6	28-3	Long. Top		S607E	123	6	42-2	Long. Top		S607E	1-Ser. of 123	6	35-3	Long. Top		S607E	55	4	30-0	Long. Top		S607E	123	6	39-8	Long. Top		S608	196	6	28-3	Long. Bott.		S608	196	6	28-0	Long. Bott.		S608	6	35-3	Long. Bott.		S607E	108	6	15-0	Long. Top		S608	196	6	39-8	Long. Bott.		S554E	123	5	5-7	End Stirrup		S554E	123	5	7-7	End Stirrup		S608	of 245	6	40-7	Long. Bott.		S608	261	5	50-0	Long. Bott.		S609E	40	6	10-5	Outlook														S554E	of 245	5	5-7	End Stirrup		S509	87	5	38-6	Long. Bott.		S623E	4	6	15-8	Outlook														S1090E	8	10	18-0	Long. Top		S510E	4	5	50-0	Exp. Blk. Transv.		S624E	4	6	23-0	Outlook														S1091	8	10	18-0	Long. Bott.		S511E	4	5	33-0	Exp. Blk. Transv.		S625E	24	6	13-9	Outlook																				S412E	55	4	3-9	Exp. Blk. Transv.		S626E	8	6	9-0	Outlook																										S628E	4	6	8-0	Outlook																										S629E	4	6	7-6	Outlook																										S630	40	6	10-5	Outlook																										S631	24	6																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																				
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S425E	280	4	36-0	Long. Top and Bott.																				S426E	1-Ser. of 47	4	12-0	Long. Top																				S427E	9	4	40-0	Long. Top																				S428E	1-Ser. of 9	4	31-0	Long. Top																				S529	527	5	36-0	Long. Bott.																				S530	1-Ser. of 91	5	12-6	Long. Bott.																				S531	15	5	40-0	Long. Bott.																				S532	1-Ser. of 13	5	31-0	Long. Bott.																				S433	3	4	13-6	Long. Bott.																				S434	33	4	36-0	Long. Bott.																				S435	3	4	12-6	Long. Bott.																				S690E	184	6	30-0	Long. Top																				UNIT 1																								S401E	40	4	50-0	Transv. Top																				S402E	40	4	34-3	Transv. Top																				S503	35	5	50-0	Long. Bott.																				S504	35	5	34-3	Long. Bott.																				S605E	122	6	7-4	Long. Top																				S606E	122	6	16-4	Long. Top																				S607E	123	6	39-8	Long. Top																				S608	196	6	39-8	Long. Bott.																				S609E	40	6	10-5	Outlook																				S623E	4	6	15-8	Outlook																				S624E	4	6	23-0	Outlook																				S625E	24	6	13-9	Outlook																				S626E	8	6	9-0	Outlook																				S628E	4	6	8-0	Outlook																				S629E	4	6	7-6	Outlook																				S630	40	6	10-5	Outlook																				S631	24	6	13-9	Outlook																				S554E	123	5	5-7	End Stirrup																				S658E	8	6	21-3	Outlook																				S1090E	6	10	18-0	Transv. Top																				S1091	6	10	18-0	Transv. Bott.																				S799E	28	7	5-0	Floor Drain and MH																				Units 8, 10, 12, 14, 16, 18, 20, 22 and 24 (9 Required)						Unit 3						Unit 19						Unit 32, 33, and 34 (3 Required)						Unit 35						S401E	44	4	50-0	Transv. Top		S401E	29	4	50-0	Transv. Top		S401E	43	4	50-0	Transv. Top		S401E	39	4	50-0	Transv. Top		S401E	34	4	50-0	Transv. Top		S402E	44	4	35-9	Transv. Top		S402E	29	4	35-0	Transv. Top		S402E	43	4	35-6	Transv. Top		S402E	39	4	33-0	Transv. Top		S402E	34	4	33-0	Transv. Top		S503	38	5	50-0	Transv. Bott.		S503	26	5	50-0	Transv. Bott.		S503	38	5	50-0	Transv. Bott.		S503	35	5	50-0	Transv. Bott.		S503	30	5	50-0	Transv. Bott.		S504	38	5	35-9	Transv. Bott.		S504	26	5	35-0	Transv. Bott.		S504	38	5	35-6	Transv. Bott.		S504	35	5	33-0	Transv. Bott.		S504	30	5	33-0	Transv. Bott.		S605E	244	6	7-4	Long. Top		S605E	122	6	7-4	Long. Top		S605E	244	6	7-4	Long. Top		S605E	244	6	6-6	Long. Top		S605E	220	4	40-0	Long. Top		S606E	122	6	16-4	Long. Top		S607E	123	6	28-3	Long. Top		S607E	123	6	42-2	Long. Top		S607E	1-Ser. of 123	6	35-3	Long. Top		S607E	55	4	30-0	Long. Top		S607E	123	6	39-8	Long. Top		S608	196	6	28-3	Long. Bott.		S608	196	6	28-0	Long. Bott.		S608	6	35-3	Long. Bott.		S607E	108	6	15-0	Long. Top		S608	196	6	39-8	Long. Bott.		S554E	123	5	5-7	End Stirrup		S554E	123	5	7-7	End Stirrup		S608	of 245	6	40-7	Long. Bott.		S608	261	5	50-0	Long. Bott.		S609E	40	6	10-5	Outlook														S554E	of 245	5	5-7	End Stirrup		S509	87	5	38-6	Long. Bott.		S623E	4	6	15-8	Outlook														S1090E	8	10	18-0	Long. Top		S510E	4	5	50-0	Exp. Blk. Transv.		S624E	4	6	23-0	Outlook														S1091	8	10	18-0	Long. Bott.		S511E	4	5	33-0	Exp. Blk. Transv.		S625E	24	6	13-9	Outlook																				S412E	55	4	3-9	Exp. Blk. Transv.		S626E	8	6	9-0	Outlook																										S628E	4	6	8-0	Outlook																										S629E	4	6	7-6	Outlook																										S630	40	6	10-5	Outlook																										S631	24	6																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																				
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S427E	9	4	40-0	Long. Top																				S428E	1-Ser. of 9	4	31-0	Long. Top																				S529	527	5	36-0	Long. Bott.																				S530	1-Ser. of 91	5	12-6	Long. Bott.																				S531	15	5	40-0	Long. Bott.																				S532	1-Ser. of 13	5	31-0	Long. Bott.																				S433	3	4	13-6	Long. Bott.																				S434	33	4	36-0	Long. Bott.																				S435	3	4	12-6	Long. Bott.																				S690E	184	6	30-0	Long. Top																				UNIT 1																								S401E	40	4	50-0	Transv. Top																				S402E	40	4	34-3	Transv. Top																				S503	35	5	50-0	Long. Bott.																				S504	35	5	34-3	Long. Bott.																				S605E	122	6	7-4	Long. Top																				S606E	122	6	16-4	Long. Top																				S607E	123	6	39-8	Long. Top																				S608	196	6	39-8	Long. Bott.																				S609E	40	6	10-5	Outlook																				S623E	4	6	15-8	Outlook																				S624E	4	6	23-0	Outlook																				S625E	24	6	13-9	Outlook																				S626E	8	6	9-0	Outlook																				S628E	4	6	8-0	Outlook																				S629E	4	6	7-6	Outlook																				S630	40	6	10-5	Outlook																				S631	24	6	13-9	Outlook																				S554E	123	5	5-7	End Stirrup																				S658E	8	6	21-3	Outlook																				S1090E	6	10	18-0	Transv. Top																				S1091	6	10	18-0	Transv. Bott.																				S799E	28	7	5-0	Floor Drain and MH																				Units 8, 10, 12, 14, 16, 18, 20, 22 and 24 (9 Required)						Unit 3						Unit 19						Unit 32, 33, and 34 (3 Required)						Unit 35						S401E	44	4	50-0	Transv. Top		S401E	29	4	50-0	Transv. Top		S401E	43	4	50-0	Transv. Top		S401E	39	4	50-0	Transv. Top		S401E	34	4	50-0	Transv. Top		S402E	44	4	35-9	Transv. Top		S402E	29	4	35-0	Transv. Top		S402E	43	4	35-6	Transv. Top		S402E	39	4	33-0	Transv. Top		S402E	34	4	33-0	Transv. Top		S503	38	5	50-0	Transv. Bott.		S503	26	5	50-0	Transv. Bott.		S503	38	5	50-0	Transv. Bott.		S503	35	5	50-0	Transv. Bott.		S503	30	5	50-0	Transv. Bott.		S504	38	5	35-9	Transv. Bott.		S504	26	5	35-0	Transv. Bott.		S504	38	5	35-6	Transv. Bott.		S504	35	5	33-0	Transv. Bott.		S504	30	5	33-0	Transv. Bott.		S605E	244	6	7-4	Long. Top		S605E	122	6	7-4	Long. Top		S605E	244	6	7-4	Long. Top		S605E	244	6	6-6	Long. Top		S605E	220	4	40-0	Long. Top		S606E	122	6	16-4	Long. Top		S607E	123	6	28-3	Long. Top		S607E	123	6	42-2	Long. Top		S607E	1-Ser. of 123	6	35-3	Long. Top		S607E	55	4	30-0	Long. Top		S607E	123	6	39-8	Long. Top		S608	196	6	28-3	Long. Bott.		S608	196	6	28-0	Long. Bott.		S608	6	35-3	Long. Bott.		S607E	108	6	15-0	Long. Top		S608	196	6	39-8	Long. Bott.		S554E	123	5	5-7	End Stirrup		S554E	123	5	7-7	End Stirrup		S608	of 245	6	40-7	Long. Bott.		S608	261	5	50-0	Long. Bott.		S609E	40	6	10-5	Outlook														S554E	of 245	5	5-7	End Stirrup		S509	87	5	38-6	Long. Bott.		S623E	4	6	15-8	Outlook														S1090E	8	10	18-0	Long. Top		S510E	4	5	50-0	Exp. Blk. Transv.		S624E	4	6	23-0	Outlook														S1091	8	10	18-0	Long. Bott.		S511E	4	5	33-0	Exp. Blk. Transv.		S625E	24	6	13-9	Outlook																				S412E	55	4	3-9	Exp. Blk. Transv.		S626E	8	6	9-0	Outlook																										S628E	4	6	8-0	Outlook																										S629E	4	6	7-6	Outlook																										S630	40	6	10-5	Outlook																										S631	24	6																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																				
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S529	527	5	36-0	Long. Bott.																				S530	1-Ser. of 91	5	12-6	Long. Bott.																				S531	15	5	40-0	Long. Bott.																				S532	1-Ser. of 13	5	31-0	Long. Bott.																				S433	3	4	13-6	Long. Bott.																				S434	33	4	36-0	Long. Bott.																				S435	3	4	12-6	Long. Bott.																				S690E	184	6	30-0	Long. Top																				UNIT 1																								S401E	40	4	50-0	Transv. Top																				S402E	40	4	34-3	Transv. Top																				S503	35	5	50-0	Long. Bott.																				S504	35	5	34-3	Long. Bott.																				S605E	122	6	7-4	Long. Top																				S606E	122	6	16-4	Long. Top																				S607E	123	6	39-8	Long. Top																				S608	196	6	39-8	Long. Bott.																				S609E	40	6	10-5	Outlook																				S623E	4	6	15-8	Outlook																				S624E	4	6	23-0	Outlook																				S625E	24	6	13-9	Outlook																				S626E	8	6	9-0	Outlook																				S628E	4	6	8-0	Outlook																				S629E	4	6	7-6	Outlook																				S630	40	6	10-5	Outlook																				S631	24	6	13-9	Outlook																				S554E	123	5	5-7	End Stirrup																				S658E	8	6	21-3	Outlook																				S1090E	6	10	18-0	Transv. Top																				S1091	6	10	18-0	Transv. Bott.																				S799E	28	7	5-0	Floor Drain and MH																				Units 8, 10, 12, 14, 16, 18, 20, 22 and 24 (9 Required)						Unit 3						Unit 19						Unit 32, 33, and 34 (3 Required)						Unit 35						S401E	44	4	50-0	Transv. Top		S401E	29	4	50-0	Transv. Top		S401E	43	4	50-0	Transv. Top		S401E	39	4	50-0	Transv. Top		S401E	34	4	50-0	Transv. Top		S402E	44	4	35-9	Transv. Top		S402E	29	4	35-0	Transv. Top		S402E	43	4	35-6	Transv. Top		S402E	39	4	33-0	Transv. Top		S402E	34	4	33-0	Transv. Top		S503	38	5	50-0	Transv. Bott.		S503	26	5	50-0	Transv. Bott.		S503	38	5	50-0	Transv. Bott.		S503	35	5	50-0	Transv. Bott.		S503	30	5	50-0	Transv. Bott.		S504	38	5	35-9	Transv. Bott.		S504	26	5	35-0	Transv. Bott.		S504	38	5	35-6	Transv. Bott.		S504	35	5	33-0	Transv. Bott.		S504	30	5	33-0	Transv. Bott.		S605E	244	6	7-4	Long. Top		S605E	122	6	7-4	Long. Top		S605E	244	6	7-4	Long. Top		S605E	244	6	6-6	Long. Top		S605E	220	4	40-0	Long. Top		S606E	122	6	16-4	Long. Top		S607E	123	6	28-3	Long. Top		S607E	123	6	42-2	Long. Top		S607E	1-Ser. of 123	6	35-3	Long. Top		S607E	55	4	30-0	Long. Top		S607E	123	6	39-8	Long. Top		S608	196	6	28-3	Long. Bott.		S608	196	6	28-0	Long. Bott.		S608	6	35-3	Long. Bott.		S607E	108	6	15-0	Long. Top		S608	196	6	39-8	Long. Bott.		S554E	123	5	5-7	End Stirrup		S554E	123	5	7-7	End Stirrup		S608	of 245	6	40-7	Long. Bott.		S608	261	5	50-0	Long. Bott.		S609E	40	6	10-5	Outlook														S554E	of 245	5	5-7	End Stirrup		S509	87	5	38-6	Long. Bott.		S623E	4	6	15-8	Outlook														S1090E	8	10	18-0	Long. Top		S510E	4	5	50-0	Exp. Blk. Transv.		S624E	4	6	23-0	Outlook														S1091	8	10	18-0	Long. Bott.		S511E	4	5	33-0	Exp. Blk. Transv.		S625E	24	6	13-9	Outlook																				S412E	55	4	3-9	Exp. Blk. Transv.		S626E	8	6	9-0	Outlook																										S628E	4	6	8-0	Outlook																										S629E	4	6	7-6	Outlook																										S630	40	6	10-5	Outlook																										S631	24	6																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																				
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S531	15	5	40-0	Long. Bott.																				S532	1-Ser. of 13	5	31-0	Long. Bott.																				S433	3	4	13-6	Long. Bott.																				S434	33	4	36-0	Long. Bott.																				S435	3	4	12-6	Long. Bott.																				S690E	184	6	30-0	Long. Top																				UNIT 1																								S401E	40	4	50-0	Transv. Top																				S402E	40	4	34-3	Transv. Top																				S503	35	5	50-0	Long. Bott.																				S504	35	5	34-3	Long. Bott.																				S605E	122	6	7-4	Long. Top																				S606E	122	6	16-4	Long. Top																				S607E	123	6	39-8	Long. Top																				S608	196	6	39-8	Long. Bott.																				S609E	40	6	10-5	Outlook																				S623E	4	6	15-8	Outlook																				S624E	4	6	23-0	Outlook																				S625E	24	6	13-9	Outlook																				S626E	8	6	9-0	Outlook																				S628E	4	6	8-0	Outlook																				S629E	4	6	7-6	Outlook																				S630	40	6	10-5	Outlook																				S631	24	6	13-9	Outlook																				S554E	123	5	5-7	End Stirrup																				S658E	8	6	21-3	Outlook																				S1090E	6	10	18-0	Transv. Top																				S1091	6	10	18-0	Transv. Bott.																				S799E	28	7	5-0	Floor Drain and MH																				Units 8, 10, 12, 14, 16, 18, 20, 22 and 24 (9 Required)						Unit 3						Unit 19						Unit 32, 33, and 34 (3 Required)						Unit 35						S401E	44	4	50-0	Transv. Top		S401E	29	4	50-0	Transv. Top		S401E	43	4	50-0	Transv. Top		S401E	39	4	50-0	Transv. Top		S401E	34	4	50-0	Transv. Top		S402E	44	4	35-9	Transv. Top		S402E	29	4	35-0	Transv. Top		S402E	43	4	35-6	Transv. Top		S402E	39	4	33-0	Transv. Top		S402E	34	4	33-0	Transv. Top		S503	38	5	50-0	Transv. Bott.		S503	26	5	50-0	Transv. Bott.		S503	38	5	50-0	Transv. Bott.		S503	35	5	50-0	Transv. Bott.		S503	30	5	50-0	Transv. Bott.		S504	38	5	35-9	Transv. Bott.		S504	26	5	35-0	Transv. Bott.		S504	38	5	35-6	Transv. Bott.		S504	35	5	33-0	Transv. Bott.		S504	30	5	33-0	Transv. Bott.		S605E	244	6	7-4	Long. Top		S605E	122	6	7-4	Long. Top		S605E	244	6	7-4	Long. Top		S605E	244	6	6-6	Long. Top		S605E	220	4	40-0	Long. Top		S606E	122	6	16-4	Long. Top		S607E	123	6	28-3	Long. Top		S607E	123	6	42-2	Long. Top		S607E	1-Ser. of 123	6	35-3	Long. Top		S607E	55	4	30-0	Long. Top		S607E	123	6	39-8	Long. Top		S608	196	6	28-3	Long. Bott.		S608	196	6	28-0	Long. Bott.		S608	6	35-3	Long. Bott.		S607E	108	6	15-0	Long. Top		S608	196	6	39-8	Long. Bott.		S554E	123	5	5-7	End Stirrup		S554E	123	5	7-7	End Stirrup		S608	of 245	6	40-7	Long. Bott.		S608	261	5	50-0	Long. Bott.		S609E	40	6	10-5	Outlook														S554E	of 245	5	5-7	End Stirrup		S509	87	5	38-6	Long. Bott.		S623E	4	6	15-8	Outlook														S1090E	8	10	18-0	Long. Top		S510E	4	5	50-0	Exp. Blk. Transv.		S624E	4	6	23-0	Outlook														S1091	8	10	18-0	Long. Bott.		S511E	4	5	33-0	Exp. Blk. Transv.		S625E	24	6	13-9	Outlook																				S412E	55	4	3-9	Exp. Blk. Transv.		S626E	8	6	9-0	Outlook																										S628E	4	6	8-0	Outlook																										S629E	4	6	7-6	Outlook																										S630	40	6	10-5	Outlook																										S631	24	6																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																				
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S690E	184	6	30-0	Long. Top																				UNIT 1																								S401E	40	4	50-0	Transv. Top																				S402E	40	4	34-3	Transv. Top																				S503	35	5	50-0	Long. Bott.																				S504	35	5	34-3	Long. Bott.																				S605E	122	6	7-4	Long. Top																				S606E	122	6	16-4	Long. Top																				S607E	123	6	39-8	Long. Top																				S608	196	6	39-8	Long. Bott.																				S609E	40	6	10-5	Outlook																				S623E	4	6	15-8	Outlook																				S624E	4	6	23-0	Outlook																				S625E	24	6	13-9	Outlook																				S626E	8	6	9-0	Outlook																				S628E	4	6	8-0	Outlook																				S629E	4	6	7-6	Outlook																				S630	40	6	10-5	Outlook																				S631	24	6	13-9	Outlook																				S554E	123	5	5-7	End Stirrup																				S658E	8	6	21-3	Outlook																				S1090E	6	10	18-0	Transv. Top																				S1091	6	10	18-0	Transv. Bott.																				S799E	28	7	5-0	Floor Drain and MH																				Units 8, 10, 12, 14, 16, 18, 20, 22 and 24 (9 Required)						Unit 3						Unit 19						Unit 32, 33, and 34 (3 Required)						Unit 35						S401E	44	4	50-0	Transv. Top		S401E	29	4	50-0	Transv. Top		S401E	43	4	50-0	Transv. Top		S401E	39	4	50-0	Transv. Top		S401E	34	4	50-0	Transv. Top		S402E	44	4	35-9	Transv. Top		S402E	29	4	35-0	Transv. Top		S402E	43	4	35-6	Transv. Top		S402E	39	4	33-0	Transv. Top		S402E	34	4	33-0	Transv. Top		S503	38	5	50-0	Transv. Bott.		S503	26	5	50-0	Transv. Bott.		S503	38	5	50-0	Transv. Bott.		S503	35	5	50-0	Transv. Bott.		S503	30	5	50-0	Transv. Bott.		S504	38	5	35-9	Transv. Bott.		S504	26	5	35-0	Transv. Bott.		S504	38	5	35-6	Transv. Bott.		S504	35	5	33-0	Transv. Bott.		S504	30	5	33-0	Transv. Bott.		S605E	244	6	7-4	Long. Top		S605E	122	6	7-4	Long. Top		S605E	244	6	7-4	Long. Top		S605E	244	6	6-6	Long. Top		S605E	220	4	40-0	Long. Top		S606E	122	6	16-4	Long. Top		S607E	123	6	28-3	Long. Top		S607E	123	6	42-2	Long. Top		S607E	1-Ser. of 123	6	35-3	Long. Top		S607E	55	4	30-0	Long. Top		S607E	123	6	39-8	Long. Top		S608	196	6	28-3	Long. Bott.		S608	196	6	28-0	Long. Bott.		S608	6	35-3	Long. Bott.		S607E	108	6	15-0	Long. Top		S608	196	6	39-8	Long. Bott.		S554E	123	5	5-7	End Stirrup		S554E	123	5	7-7	End Stirrup		S608	of 245	6	40-7	Long. Bott.		S608	261	5	50-0	Long. Bott.		S609E	40	6	10-5	Outlook														S554E	of 245	5	5-7	End Stirrup		S509	87	5	38-6	Long. Bott.		S623E	4	6	15-8	Outlook														S1090E	8	10	18-0	Long. Top		S510E	4	5	50-0	Exp. Blk. Transv.		S624E	4	6	23-0	Outlook														S1091	8	10	18-0	Long. Bott.		S511E	4	5	33-0	Exp. Blk. Transv.		S625E	24	6	13-9	Outlook																				S412E	55	4	3-9	Exp. Blk. Transv.		S626E	8	6	9-0	Outlook																										S628E	4	6	8-0	Outlook																										S629E	4	6	7-6	Outlook																										S630	40	6	10-5	Outlook																										S631	24	6																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																												
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S608	196	6	39-8	Long. Bott.		S554E	123	5	5-7	End Stirrup		S554E	123	5	7-7	End Stirrup		S608	of 245	6	40-7	Long. Bott.		S608	261	5	50-0	Long. Bott.		S609E	40	6	10-5	Outlook														S554E	of 245	5	5-7	End Stirrup		S509	87	5	38-6	Long. Bott.		S623E	4	6	15-8	Outlook														S1090E	8	10	18-0	Long. Top		S510E	4	5	50-0	Exp. Blk. Transv.		S624E	4	6	23-0	Outlook														S1091	8	10	18-0	Long. Bott.		S511E	4	5	33-0	Exp. Blk. Transv.		S625E	24	6	13-9	Outlook																				S412E	55	4	3-9	Exp. Blk. Transv.		S626E	8	6	9-0	Outlook																										S628E	4	6	8-0	Outlook																										S629E	4	6	7-6	Outlook																										S630	40	6	10-5	Outlook																										S631	24	6																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																											
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S624E	4	6	23-0	Outlook														S1091	8	10	18-0	Long. Bott.		S511E	4	5	33-0	Exp. Blk. Transv.		S625E	24	6	13-9	Outlook																				S412E	55	4	3-9	Exp. Blk. Transv.		S626E	8	6	9-0	Outlook																										S628E	4	6	8-0	Outlook																										S629E	4	6	7-6	Outlook																										S630	40	6	10-5	Outlook																										S631	24	6																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																					
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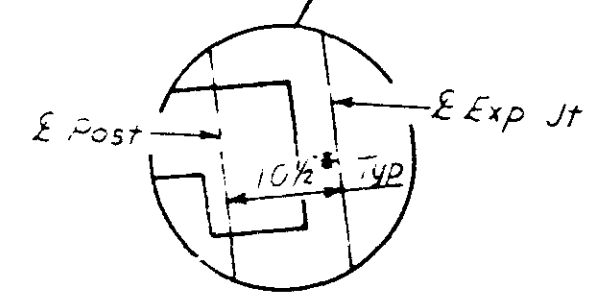
HANDRAIL & TRAFFIC RAIL - SOUTH APPROACH & UNITS 1 & 2
Scale: 3/32" = 1'-0"



General Notes:
 All longitudinal dimensions shown must be verified in the field.
 All sidewalk and handrail dimensions are measured along the slab facias.
 All traffic rail dimensions are measured along the gutter lines.
 See Bill of Reinforcement (Traffic Rail for reinforcement bar details. No reinforcement shall extend through joints.
 For details of expansion joints see "Expansion Joint Details" sheet.
 For details of Type panels for Traffic rail see "Traffic Rail Details" sheets 1 of 2 and 2 of 2.
 See "Concrete Railing (Type J)" with Pipe and Integral End Post for additional Traffic rail notes and details.
 Reinforcing bars on curve shall be field bent as required.
 Any variation from existing to proposed handrail post spacing shall be adjusted for in the new post dimensions.
 See "Handrail Post Details" for post dimensions.

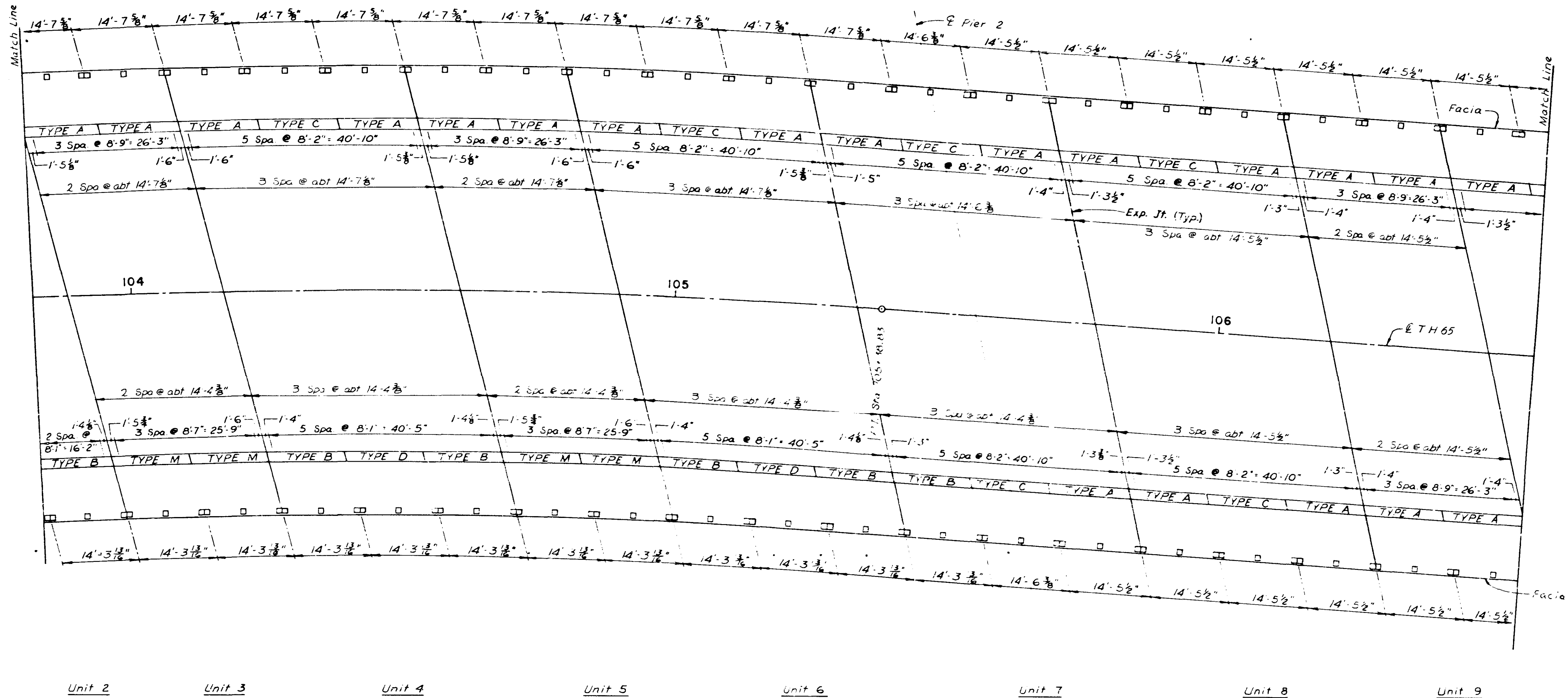
Note: See "Existing Handrail Details" for numbering sequence and approximate dimensions of handrails to be placed on South Approach as shown. Contractor to establish numbering sequence for handrails on arch spans to insure replacement of handrails in existing positions.

Note: See "South Approach Details" for traffic rail on South Approach off bridge.



* Dimension to be verified in the field

TITLE HANDRAIL & TRAFFIC RAIL DETAILS SOUTH APPROACH, UNITS 1 & 2 SHEET 1 OF 7	DES: RLL	DR: RLL	APPROVED:	Bridge No. 2440
	CHK: WHH	CHK: WHH	7. 7. 77	
Sheet No. 60 of 148 Sheets				

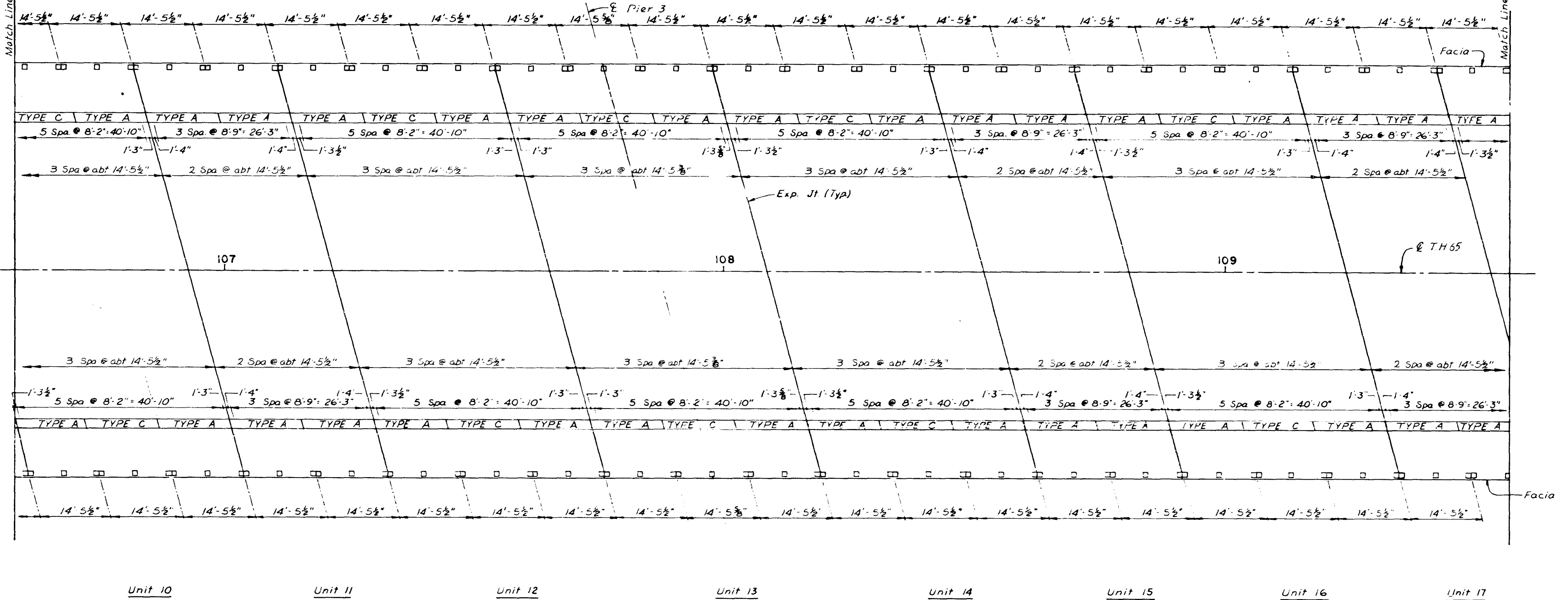


SIDEWALK, HANDRAIL & TRAFFIC RAIL - UNITS 2-9
Scale 3/8" = 1'-0"

Note: For details of type panels for traffic rails see 'Traffic Rail Detail' sheets 1 of 1 and 2 of 2.

TITLE: SIDEWALK, HANDRAIL & TRAFFIC RAIL DETAILS UNITS 2-9 SHEET 2 OF 7	DES: WHH	DR: LDH	APPROVED:	Bridge No. 2440
	CHK: RLL	CHK: RLL	5-7-79	
Sheet No. 61 of 148 Sheets				

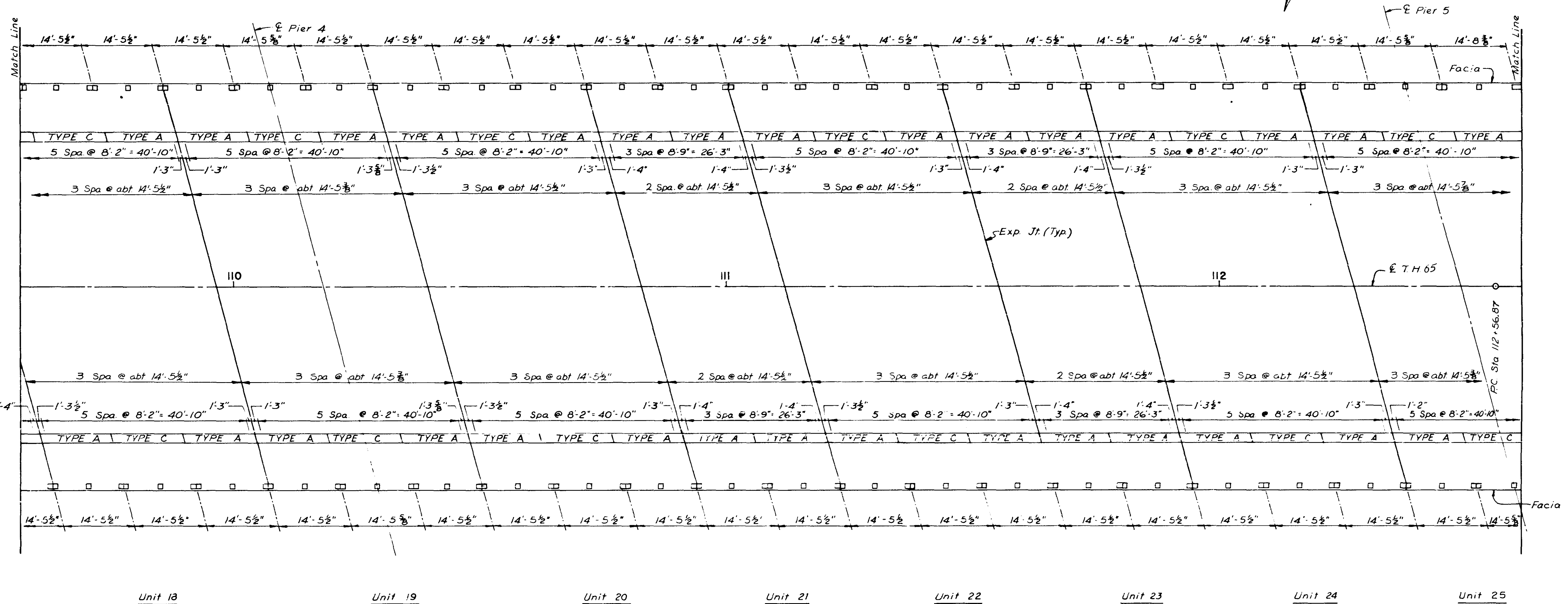
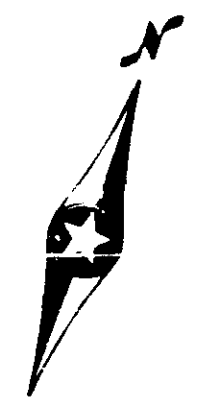
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SIDEWALK, HANDRAIL & TRAFFIC RAIL - UNITS 10-17
 Scale: $\frac{3}{32} = 1'-0"$

Note: For details of type panels for traffic rails see "Traffic Rail Details" sheets 1 of 1 and 2 of 2.

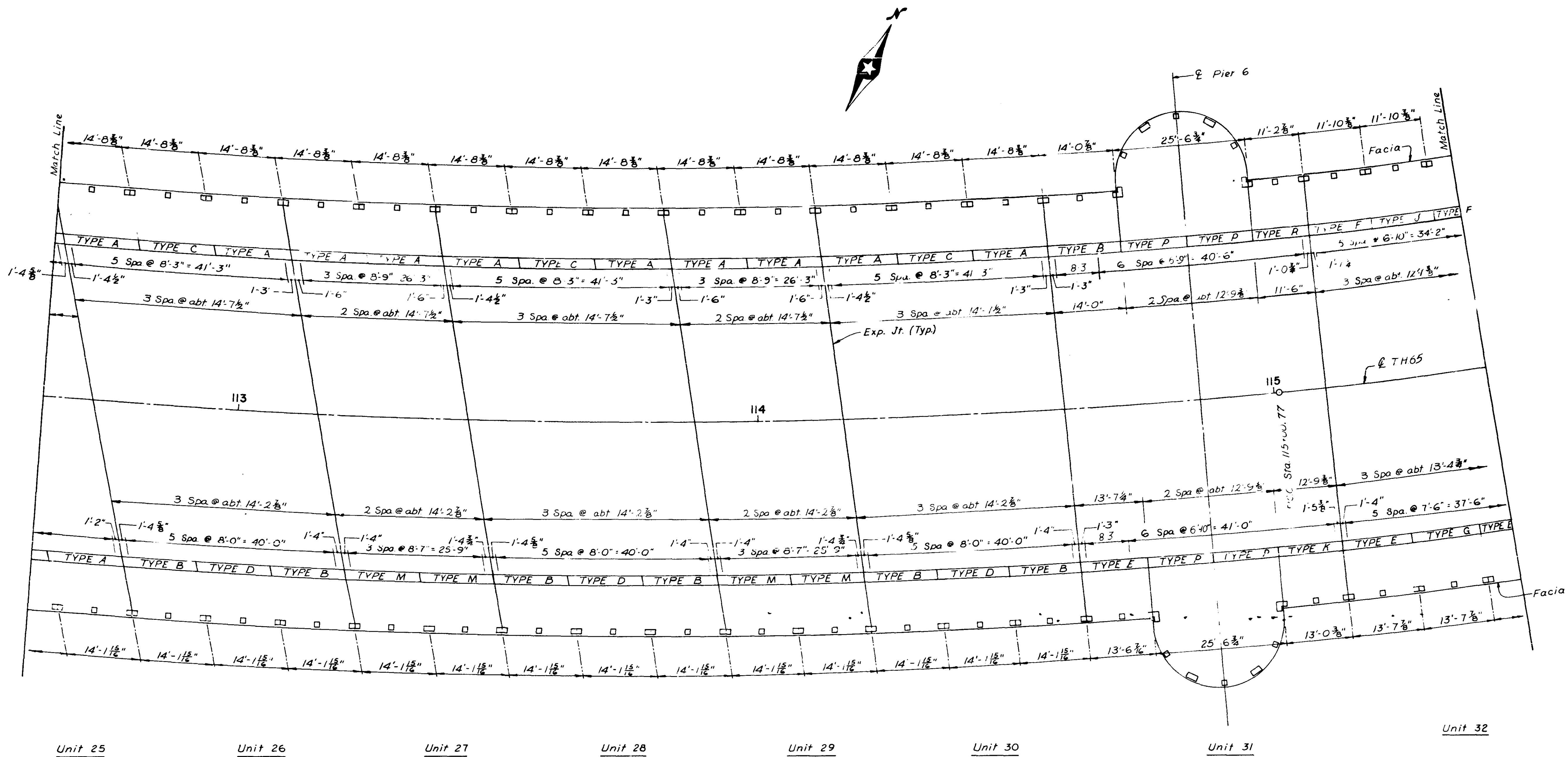
TITLE: SIDEWALK, HANDRAIL & TRAFFIC RAIL DETAILS UNITS 10-17 SHEET 3 OF 7	DES:	DR:	APPROVED:	Bridge No. 2440
	CHK:	CHK:	5-7-79	
Sheet No. 62 of 148 Sheets				



SIDEWALK, HANDRAIL & TRAFFIC RAIL - UNITS 18 - 25
 Scale: $\frac{3}{32}'' = 1'-0''$

Note: For details of 'in. panels for traffic rails see 'Traffic Rail Details' sheets 1 of 1 and 2 of 2.

TITLE: SIDEWALK, HANDRAIL & TRAFFIC RAIL DETAILS UNITS 18-25 SHEET 4 OF 7	DES: WHH	DR: LDH	APPROVED:	Bridge No. 2440
	CHK: RLL	CHK: RLL	5-7-79	
Sheet No. 63 of 148 Sheets				

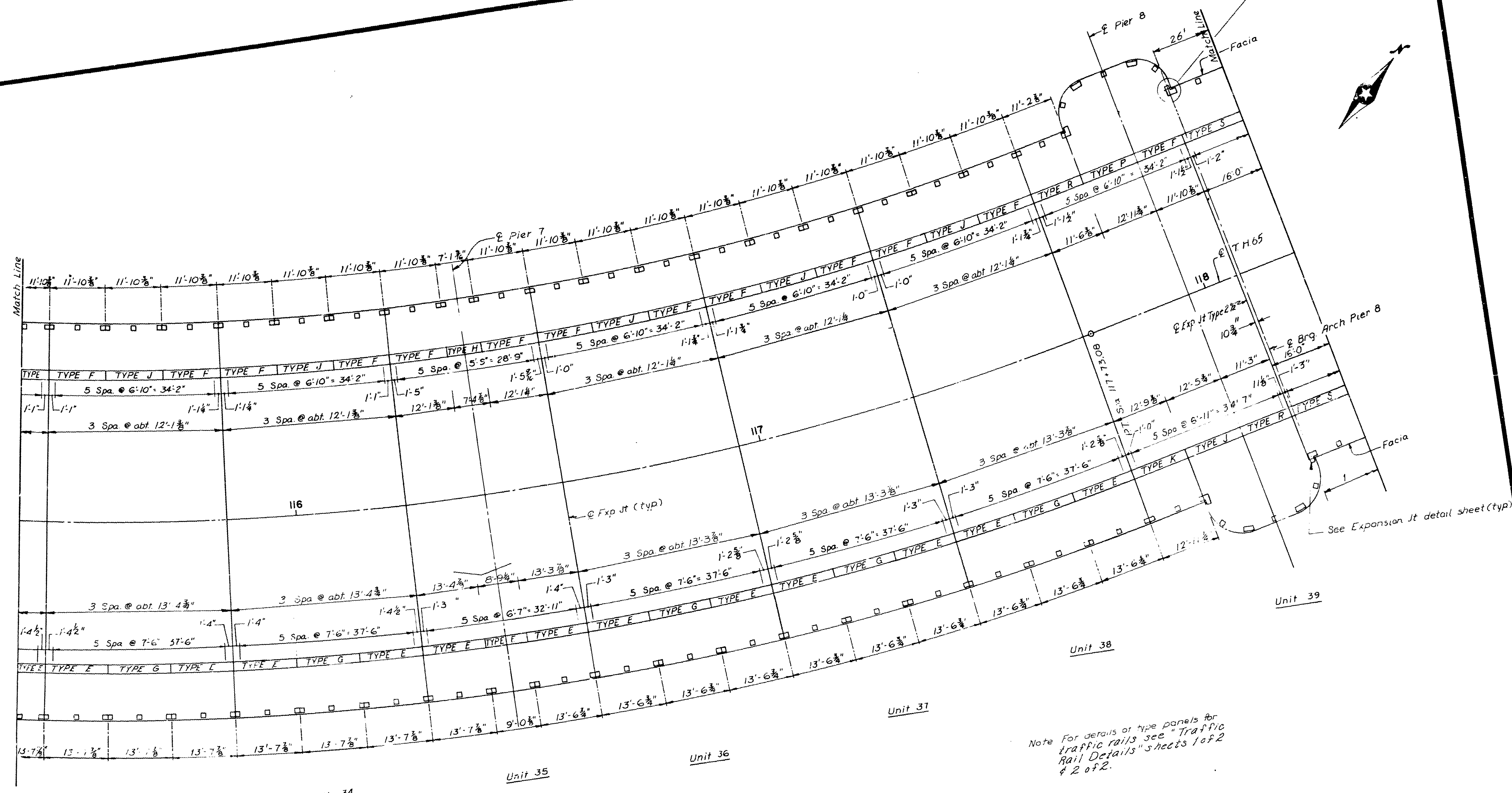
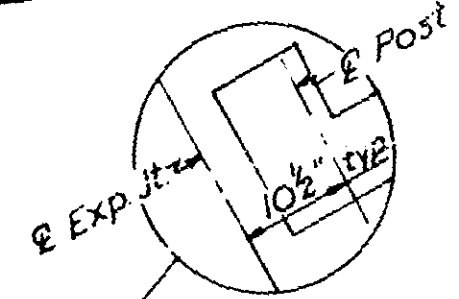


SIDEWALK, HANDRAIL & TRAFFIC RAIL - UNITS 25 - 32
 Scale: 1/32" = 1'-0"

Note: For details of type panels for traffic rails, see "Traffic Rail Details" sheets 1 of 2 & 2 of 2.

TITLE: SIDEWALK, HANDRAIL & TRAFFIC RAIL DETAILS UNITS 25-32 SHEET 5 OF 7	DES: WHH	DR: LDH	APPROVED:	Bridge No. 2440
	CHK: RLL	CHK: RLL	5-7-79	
	Sheet No. 64 of 148 Sheets			

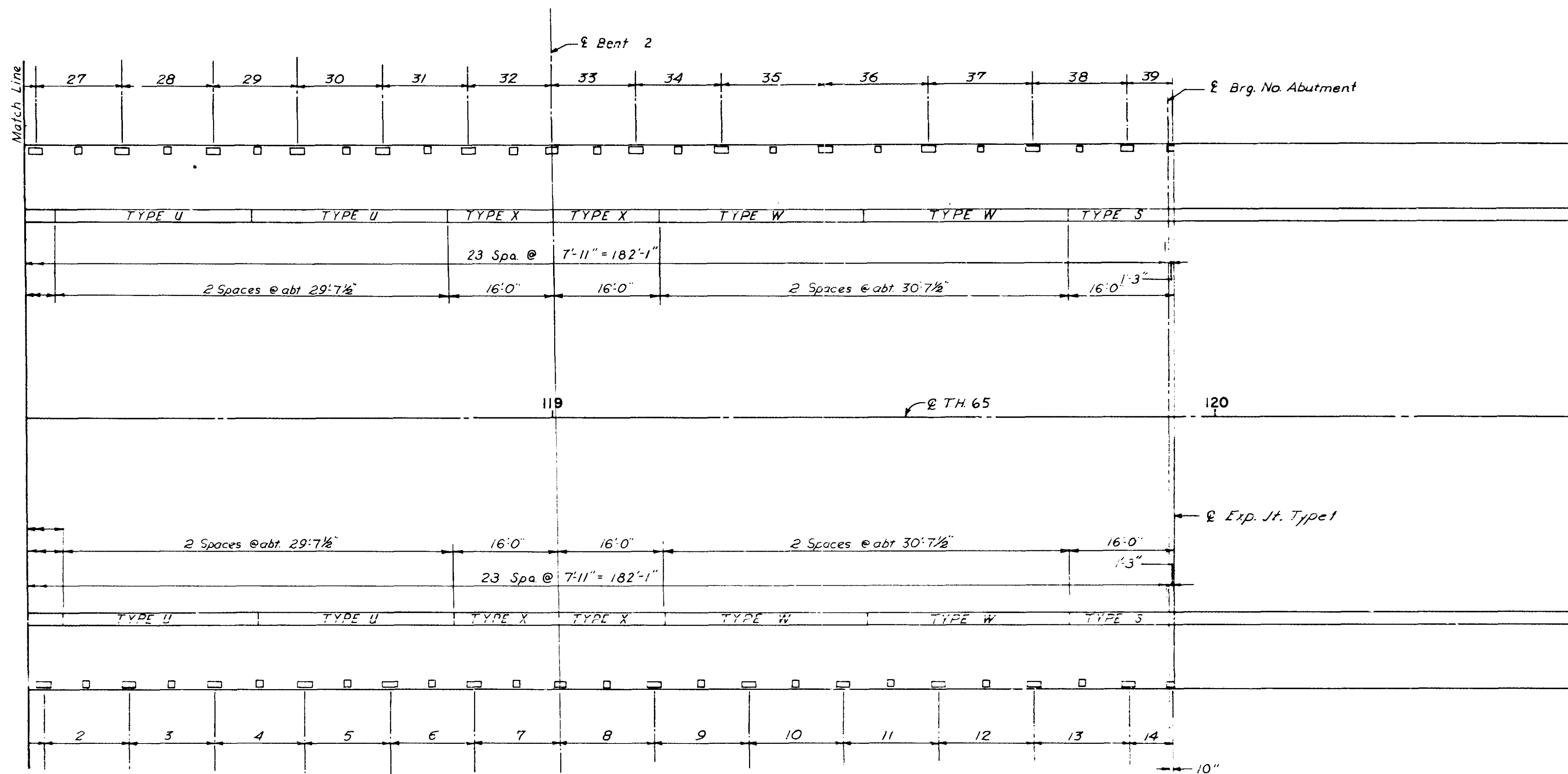
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Note For details of type panels for traffic rails see "Traffic Rail Details" sheets 1 of 2 & 2 of 2.

SIDEWALK, HANDRAIL & TRAFFIC RAIL - UNITS 33-39
 Scale: 3/32" = 1'-0"

TITLE: SIDEWALK, HANDRAIL & TRAFFIC RAIL DETAILS UNITS 33-39 SHEET 6 OF 7	DES: WHH	DR: LDH	APPROVED:	Bridge No. 2440
	CHK: RLL	CHK: WHH	5-7-79	
Sheet No. 65 of 148 Sheets				



SIDEWALK, HANDRAIL & TRAFFIC RAIL - NORTH APPROACH
 Scale $\frac{3}{32}'' = 1'-0''$

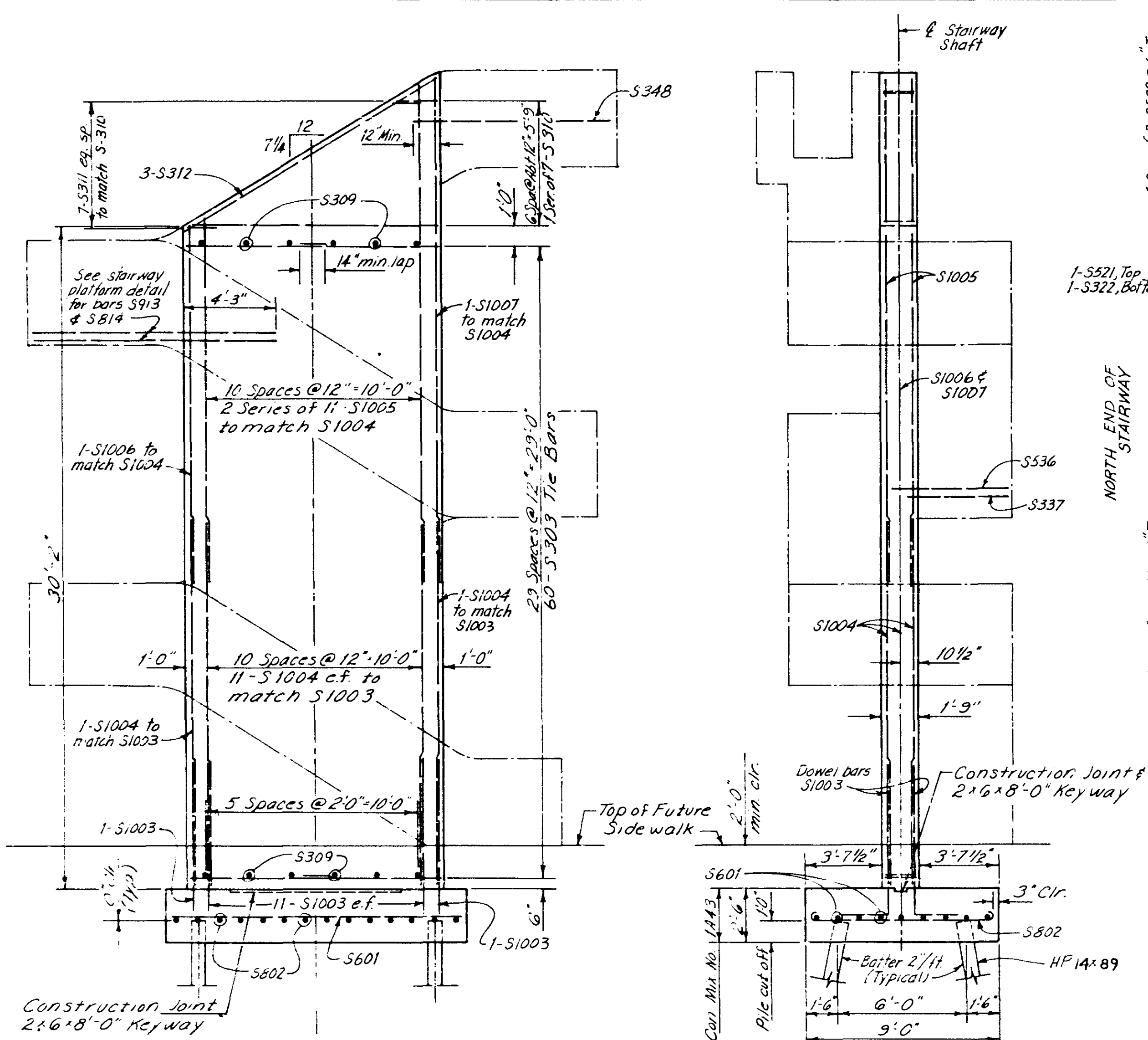
Note:-
 For details of type panels for traffic rails see
 "Traffic Rail Details" sheet 1 of 2 and 2 of 2.
 See "Existing handrail Details" for corresponding
 numbering sequence and approximate dimensions of
 handrails to be placed on North Approach as shown.
 See "Sidewalk, Handrail and Traffic Rail Details
 South Approach, Units 1 and 2" for general notes.
 For additional sidewalk, handrail and traffic rail
 and wall details of approach to the bridge see "North
 Approach Details" sheet 1 of 2 and 2 of 2.

TITLE: SIDEWALK, HANDRAIL & TRAFFIC RAIL DETAILS NORTH APPROACH SHEET 7 OF 7	DES: WHH	DR: RLL	APPROVED:	Bridge No. 2440
	CHK: RLL	CHK: WHH	5-7-79	
Sheet No. 66 of 148 Sheets				

BAR	NO.	SIZE	LENGTH	TYPE	DIMENSIONS			LOCATION
					A	B	C	
SOUTH APPROACH								
S401	482	4	9-4	STR.				Transverse
S402	482	4	3-6	STR.	185	1-3	0-10	Transverse
S403	482	4	3-6	STR.	132	1-3	0-9	2 Transverse
S434	48	4	27-0	STR.				Longitudinal
S435	48	4	53-9	STR.				Longitudinal
UNIT 1								
S401	30	4	9-4	STR.				Transverse
S404	12	4	14-1	STR.				Longitudinal
S405	12	4	13-10	STR.				Longitudinal
S419	30	4	12-8	STR.				Longitudinal
S420	1 Ser.	4	6-2	STR.				Longitudinal
	of 7		12-6					
S421	22	4	18-9	STR.				Transverse
S422	1 Ser.	4	13-6	STR.				Transverse
	of 8		18-9					
S423	1 Ser.	4	14-0	STR.				Transverse
	of 8		18-9					
S424	24	4	11-6	STR.				Longitudinal
S425	1 Ser.	4	5-1	STR.				Longitudinal
	of 11		12-6					
S426	1	4	2-0	STR.				Transverse
S427	1 Ser.	4	11-0	STR.				Transverse
	of 9		18-9					
S428	1 Ser.	4	4-6	STR.				Longitudinal
	of 9		12-6					
S429	1 Ser.	4	7-0	STR.				Longitudinal
	of 11		12-6					
S430	1 Ser.	4	16-1	STR.				Transverse
	of 6		18-9					
S431	1	4	4-5	STR.				Transverse
S442	84	4	3-6	STR.	185	1-3	1-0	Transverse
S443	86	4	3-6	STR.	132	1-3	1-0	2 Transverse
UNITS 2, 4, 5, 25, 28, 30 (6 Required)								
S401	30	4	9-4	STR.				Transverse
S404	36	4	14-1	STR.				Longitudinal
S405	36	4	13-10	STR.				Longitudinal
S442	30	4	3-6	STR.	185	1-3	1-0	Transverse
S443	30	4	3-6	STR.	132	1-3	1-0	2 Transverse
UNITS 3, 5, 27, 29 (4 Required)								
S401	50	4	9-4	STR.				Transverse
S404	24	4	14-1	STR.				Longitudinal
S405	24	4	13-10	STR.				Longitudinal
S442	60	4	3-6	STR.	185	1-3	1-0	Transverse
S443	60	4	3-6	STR.	132	1-3	1-0	2 Transverse
UNITS 7 AND 25 (2 Required)								
S401	30	4	9-4	STR.				Transverse
S404	60	4	14-1	STR.				Longitudinal
S405	12	4	13-10	STR.				Longitudinal
S442	90	4	3-6	STR.	185	1-3	1-0	Transverse
S443	90	4	3-6	STR.	132	1-3	1-0	2 Transverse
UNITS 8, 10, 12, 13, 14, 15, 18, 19, 20, 22, 24 (14 Required)								
S401	50	4	9-4	STR.				Transverse
S404	72	4	14-1	STR.				Longitudinal
S442	90	4	3-6	STR.	185	1-3	1-0	Transverse
S443	90	4	3-6	STR.	132	1-3	1-0	2 Transverse
UNITS 3, 11, 15, 17, 21, 23 (6 Required)								
S401	60	4	9-4	STR.				Transverse
S404	48	4	14-1	STR.				Longitudinal
S442	50	4	3-6	STR.	185	1-3	1-0	Transverse
S443	50	4	3-6	STR.	132	1-3	1-0	2 Transverse
UNIT 31								
S401	55	4	9-4	STR.				Transverse
S406	12	4	13-2	STR.				Longitudinal
S433	4 Ser.	4	11-0	STR.				Transverse
	of 14		23-6					
S436	56	4	12-5	STR.				Longitudinal
S437	4 Ser.	4	1-6	STR.				Longitudinal
	of 15		12-5					
S438	12	4	10-10	STR.				Longitudinal
S440	12	4	12-8	STR.				Longitudinal
S441	12	4	13-8	STR.				Longitudinal
S442	111	4	3-6	STR.	185	1-3	1-0	Transverse
S443	111	4	3-6	STR.	132	1-3	1-0	2 Transverse

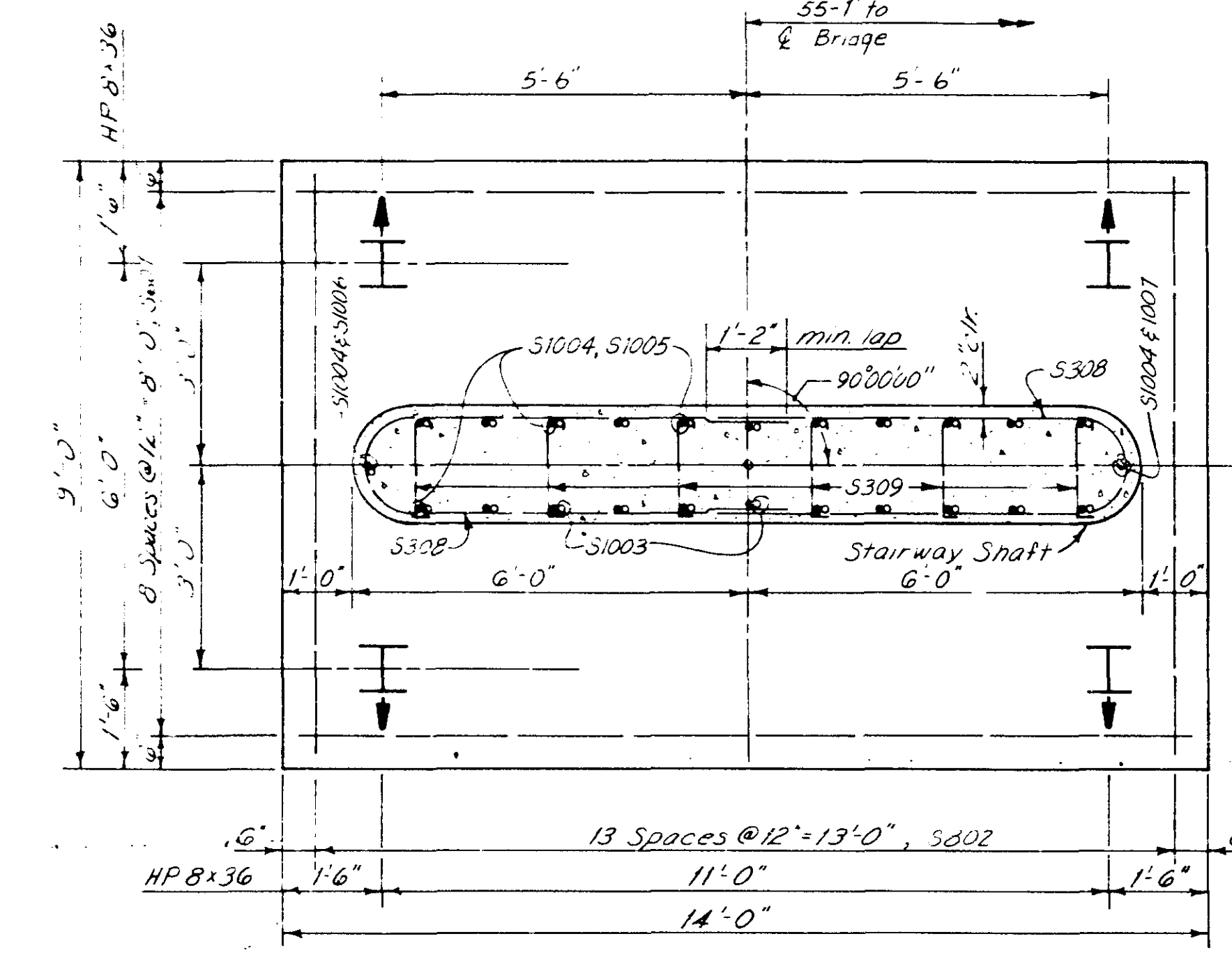
BAR	NO.	SIZE	LENGTH	TYPE	DIMENSIONS			LOCATION
					A	B	C	
UNITS 32, 33, 34, 36, 37, 38 (6 Required)								
S401	81	4	9-4	STR.				Transverse
S406	36	4	13-2	STR.				Longitudinal
S407	36	4	11-6	STR.				Longitudinal
S442	81	4	3-6	STR.	185	1-3	1-0	Transverse
S443	81	4	3-6	STR.	132	1-3	1-0	2 Transverse
UNIT 35								
S401	72	4	9-4	STR.				Transverse
S406	24	4	13-2	STR.				Longitudinal
S407	24	4	11-6	STR.				Longitudinal
S408	12	4	8-8	STR.				Longitudinal
S409	12	4	6-3	STR.				Longitudinal
S442	72	4	3-6	STR.	185	1-3	1-0	Transverse
S443	72	4	3-6	STR.	132	1-3	1-0	2 Transverse
UNIT 39								
S401	26	4	9-4	STR.				Transverse
S410	13	4	12-3	STR.				Longitudinal
S411	2 Ser.	4	5-2	STR.				Longitudinal
	of 10		12-6					
S412	20	4	18-4	STR.				Transverse
S413	2 Ser.	4	12-0	STR.				Transverse
	of 8		18-4					
S414	13	4	12-7	STR.				Longitudinal
S415	2 Ser.	4	4-3	STR.				Longitudinal
	of 10		17-10					
S416	13	4	11-4	STR.				Longitudinal
S417	13	4	10-9	STR.				Longitudinal
S418	2 Ser.	4	15-0	STR.				Transverse
	of 7		18-4					
S432	7	4	3-2	STR.				Transverse
S438	12	4	10-9	STR.				Longitudinal
S439	12	4	12-7	STR.				Longitudinal
S442	78	4	3-6	STR.	185	1-3	1-0	Transverse
S443	78	4	3-6	STR.	132	1-3	1-0	2 Transverse
NORTH APPROACH								
S401	406	4	9-4	STR.				Transverse
S402	406	4	3-6	STR.	185	1-3	0-10	Transverse
S403	406	4	3-6	STR.	132	1-3	0-9	2 Transverse
S433	48	4	47-6	STR.				Longitudinal
S434	48	4	46-6	STR.				Longitudinal
NORTH APPROACH OFF BRIDGE SIDEWALK								
S401	236	4	7-6	STR.				Transverse
S402	45	4	24-8	STR.				Longitudinal
S403	11	4	8-11	STR.				Transverse
S404	2	4	5-8	STR.				Longitudinal
S405	9	4	18-8	STR.				Transverse
S406	9	4	10-10	STR.				Longitudinal
S407	18	4	22-4	STR.				Longitudinal
S408	9	4	23-7	STR.				Longitudinal
S409	11	4	12-0	STR.				Longitudinal
S410	20	4	3-6	STR.	111	1-2	1-9	Longitudinal
SOUTH WEST SIDEWALK (OFF BRIDGE)								
S402	9	4	7-0	STR.				Longitudinal
S403	32	4	9-0	STR.				Transverse
S404	1 Ser.	4	13-9	STR.				Longitudinal
	of 10		15-3					
S405	10	4	15-3	STR.				Longitudinal

BAR	NO.	SIZE	LENGTH	TYPE	DIMENSIONS			LOCATION
					A	B	C	
S401	10	4	8-0	STR.				Transverse
S402	12	4	7-0	STR.				Longitudinal
S403	19	4	9-0	STR.				Transverse
S404	1 Ser.	4	13-6	STR.				Longitudinal
	of 10		15-0					
S405	1 Ser.	4	7-10	STR.				Transverse
	of 20		9-3					
S406	1 Ser.	4	14-10	STR.	151	14-10	30-0	Longitudinal
	of 10		19-5		132	13-8	38-9	
S407	1 Ser.	4	6-2	STR.				Transverse
	of 19		7-10					
S408	1 Ser.	4	14-10	STR.	151	14-10	30-0	Longitudinal
	of 7		18-9		18-9	38-9		
S409	1 Ser.	4	4-10	STR.				Transverse
	of 10		5-2					
S410	1 Ser.	4	14-10	STR.	151	14-10	30-0	Longitudinal
	of 5		17-11		17-11	38-9		
S411	12	4	3-6	STR.	111	1-2	1-9	Longitudinal
SOUTH EAST SIDEWALK (OFF BRIDGE)								
S401	1 Ser.	4	81-0	STR.				Longitudinal
	of 14		71-0					
S402	1 Ser.	4	131-6	STR.				Transverse
	of 8		141-8					
S403	1 Ser.	4	131-6	STR.				Longitudinal
	of 15		241-0					
S404	1 Ser.	4	151-3	STR.				Transverse
	of 25		151-6					
S405	1 Ser.	4	151-3	STR.				Transverse
	of 13		191-9					
S406	2 Ser.	4	71-9	STR.				Longitudinal
	of 20		131-3					
S407	1 Ser.	4	191-9	STR.				Transverse
	of 5		201-6					
S408	9	4	211-6	STR.				Transverse
S409	1 Ser.	4	1710	STR.				Transverse
	of 14		211-3					
S410	1 Ser.	4	71-9	STR.				Longitudinal
	of 20		131-9					
S411	1 Ser.	4	91-6	STR.				Transverse
	of 14		161-9					
S412	1 Ser.	4	71-9	STR.				Longitudinal
	of 17		131-6					
S413	1 Ser.	4	51-3					

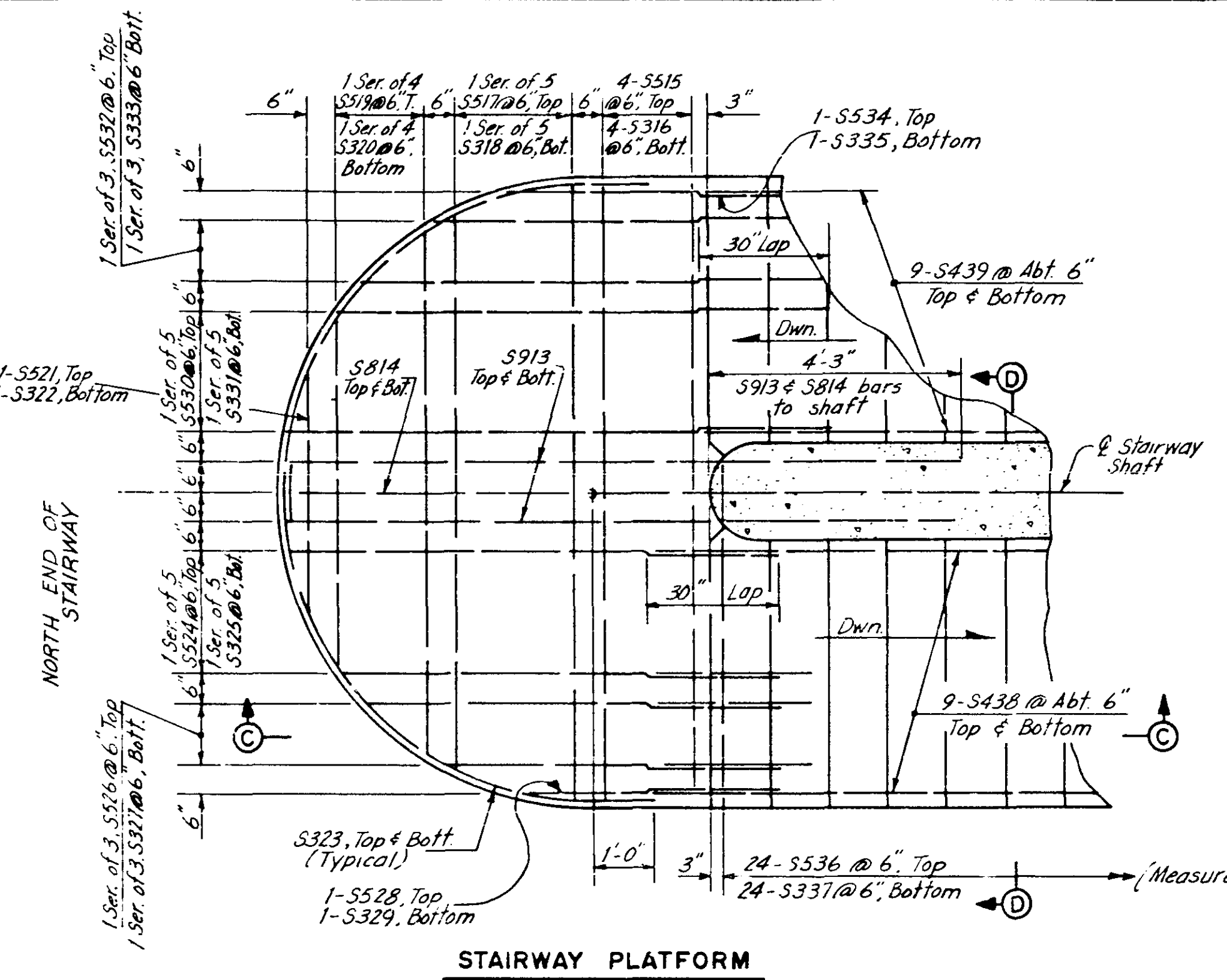


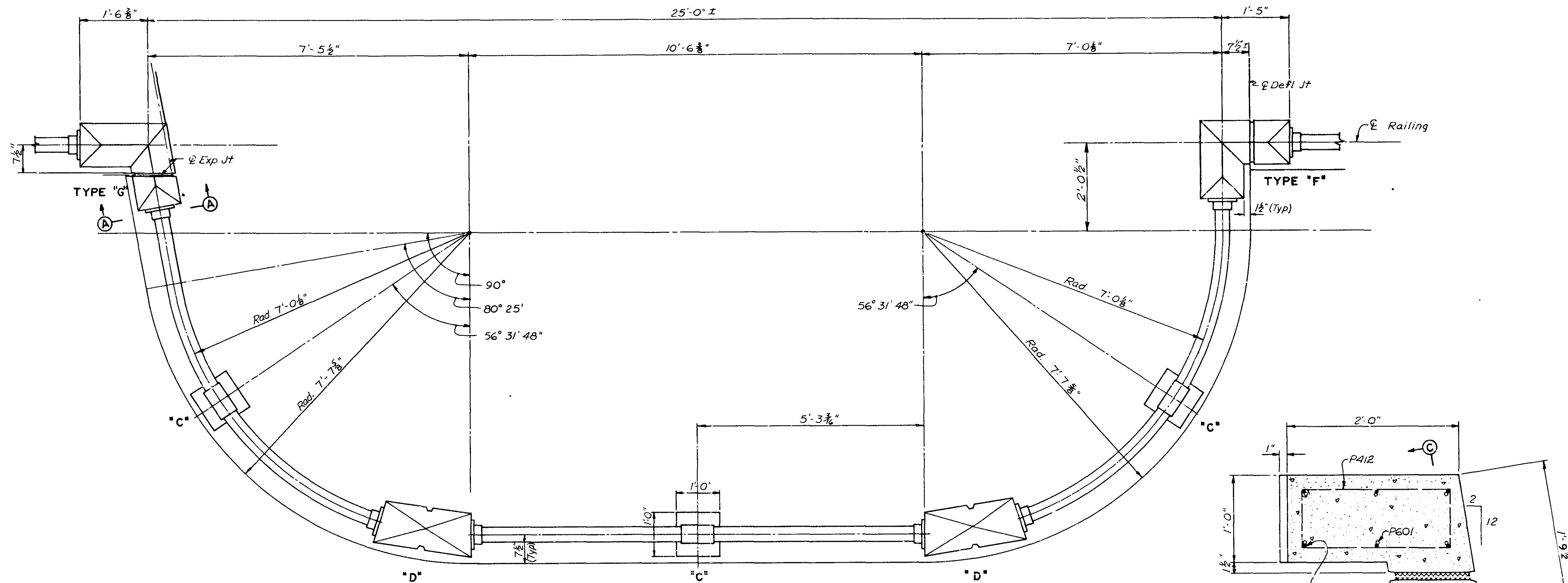
ELEVATION
Scale: 1/4" = 1'-0"

END VIEW
Scale: 1/4" = 1'-0"

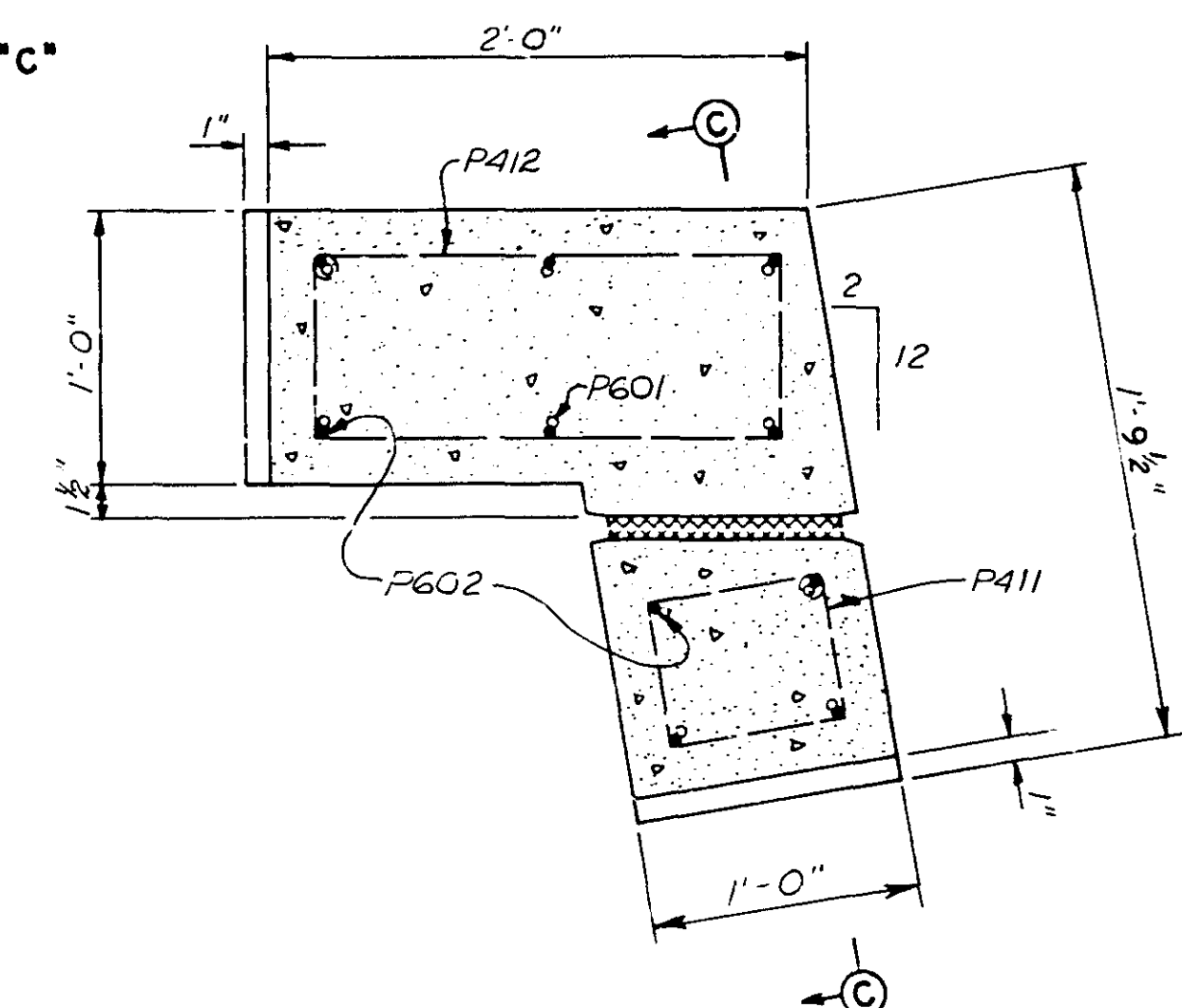


FOOTING PLAN
Scale: 1/2" = 1'-0"

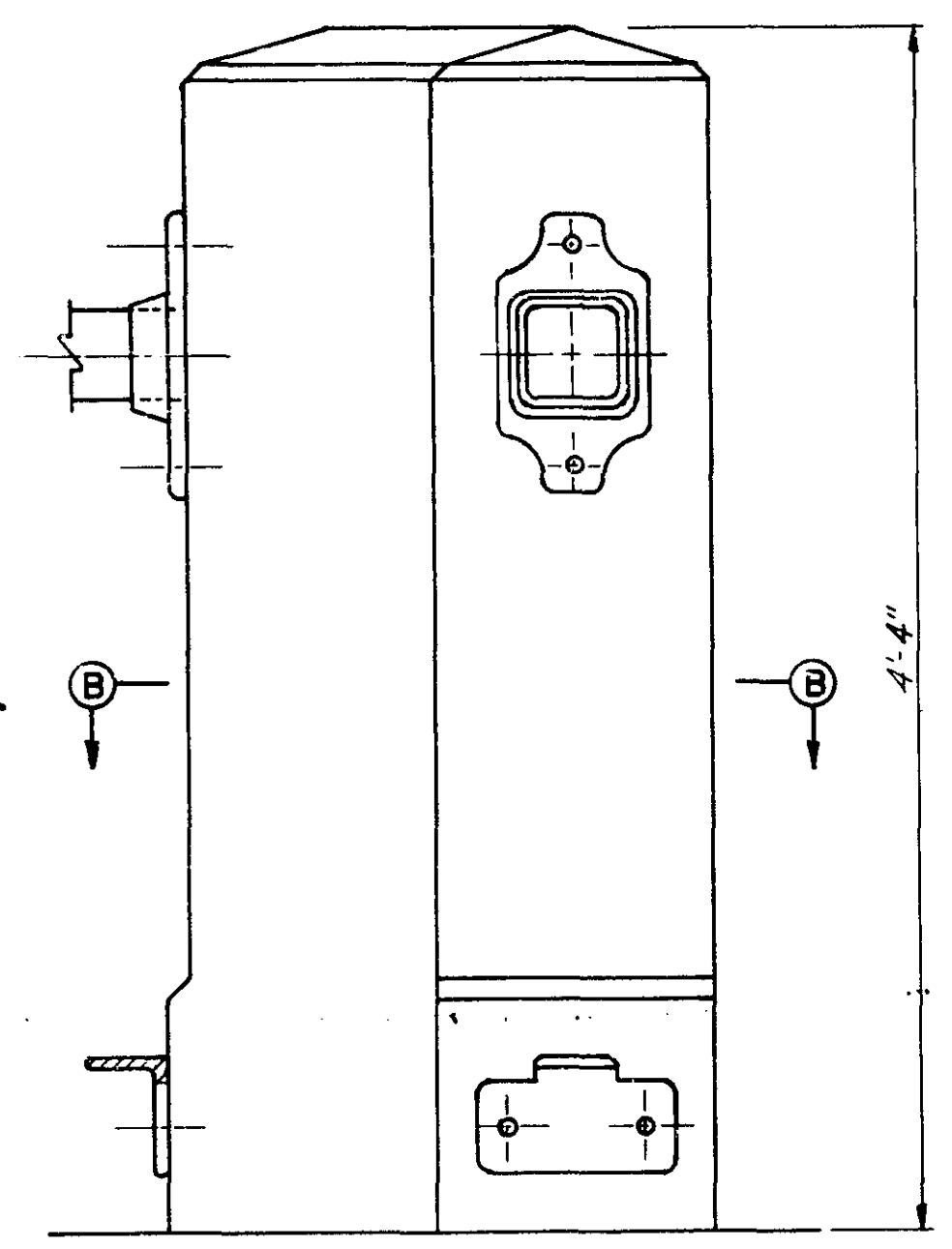




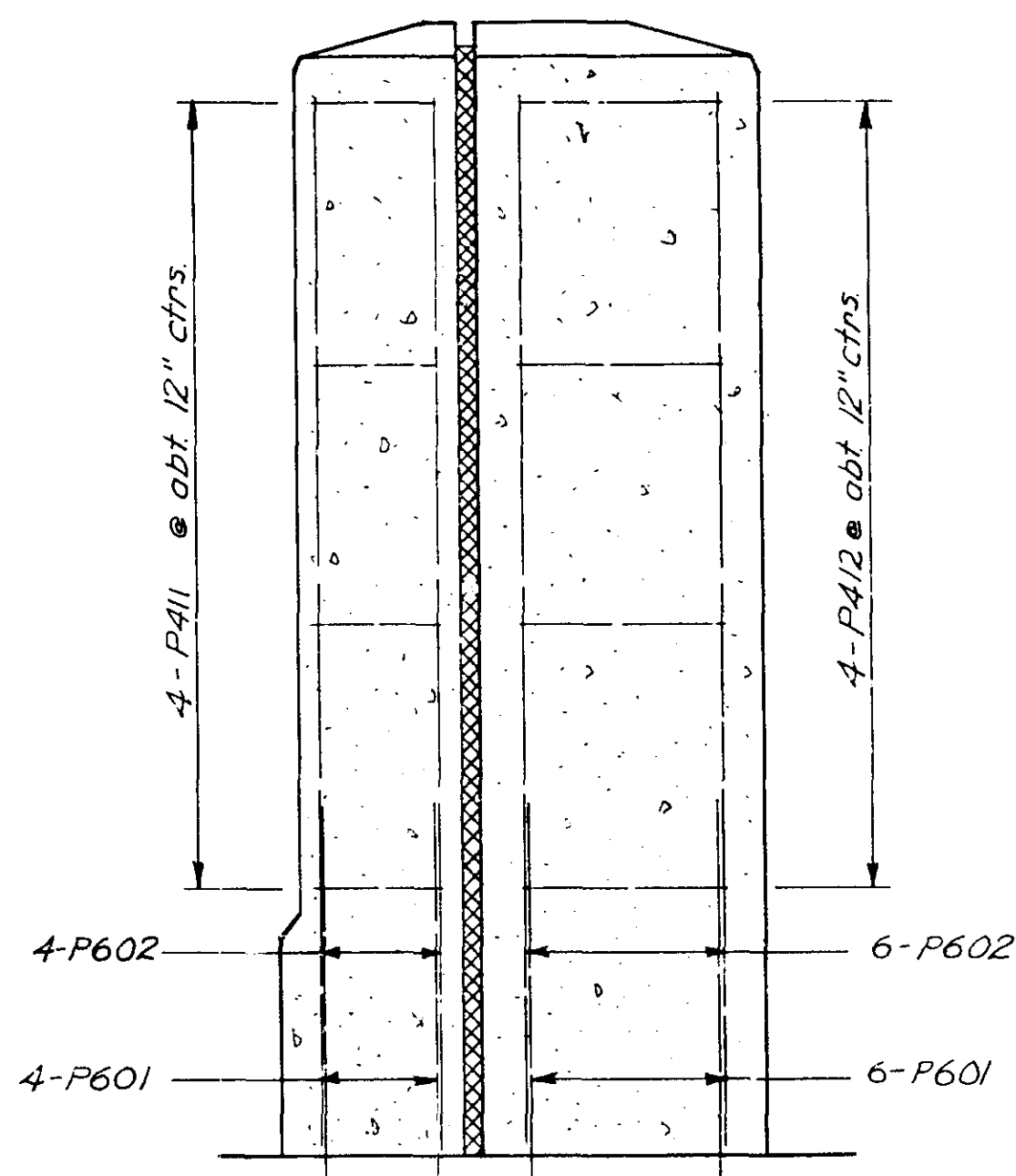
PLAN - OUTLOOK
Scale: 3/4" = 1'-0"



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



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

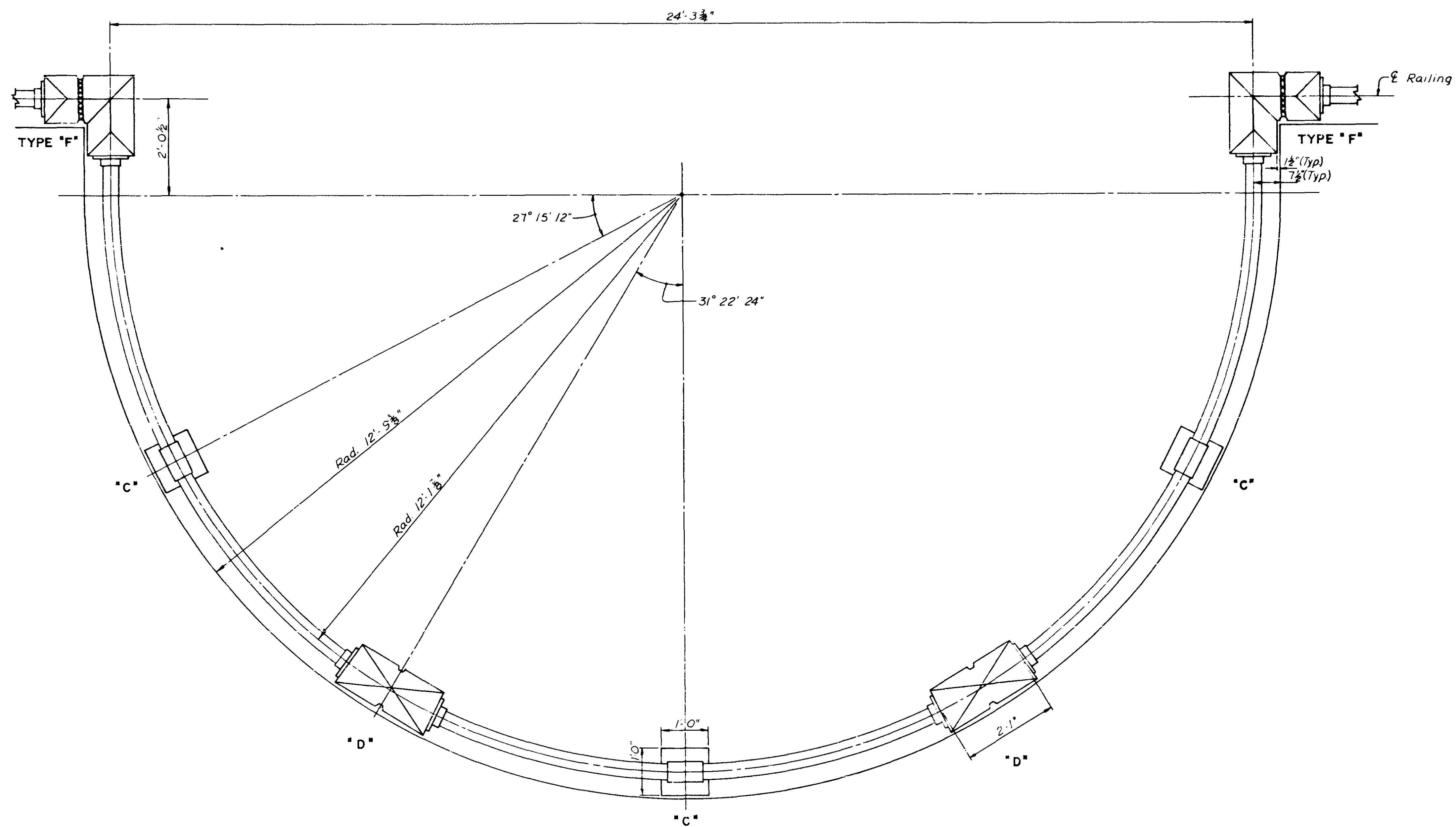


SECTION C-C
Scale: 1/2" = 1'-0"

Note:
For typical post dimensions and Type "C" post details see "Handrail Post Details" sheet.
For Type D and F post details see "Handrail Post Details - Pier 8" sheet 1 and 2 of 2.

TYPE G

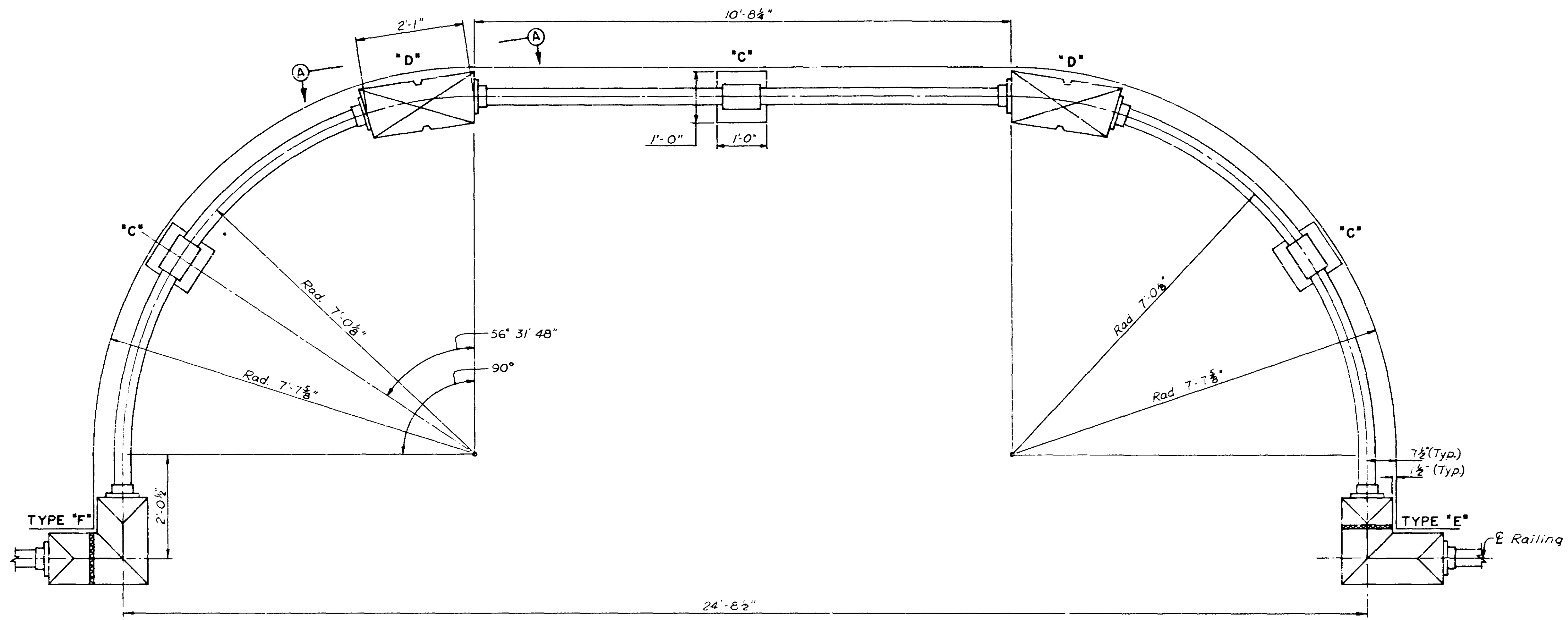
TITLE: HANDRAIL POST DETAILS PIER 1	DES: WHH	DR: LDH	APPROVED	Bridge No. 2440
	CHK: LDH	CHK: WHH	5-7-79	
	Sheet No. 71 of 148 Sheets			



PLAN - OUTLOOK
Scale: 3/4" = 1'-0"

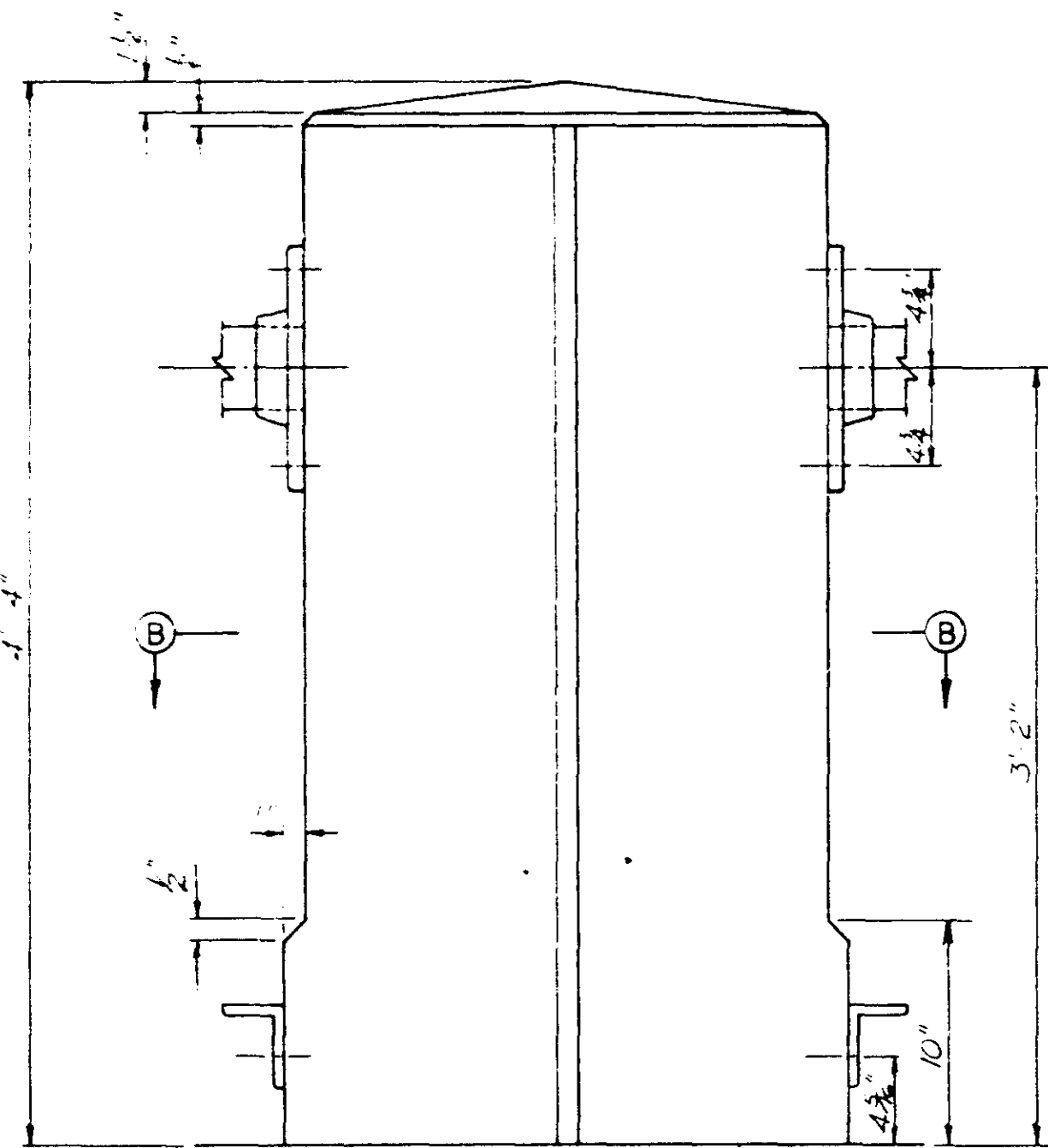
Note: For typical post dimensions and Type "C" post details see "Handrail Post Details" sheet.
For Type D and F post details see "Handrail Post Details - Pier 8" sheet 1 and 2 of 2.

TITLE: HANDRAIL POST DETAILS PIER 6	DES: WHH	DR: LDH	APPROVED:	Bridge No. 2440
	CHK:	CHK: WHH	5-7-79	
Sheet No. 72 of 148 Sheets				

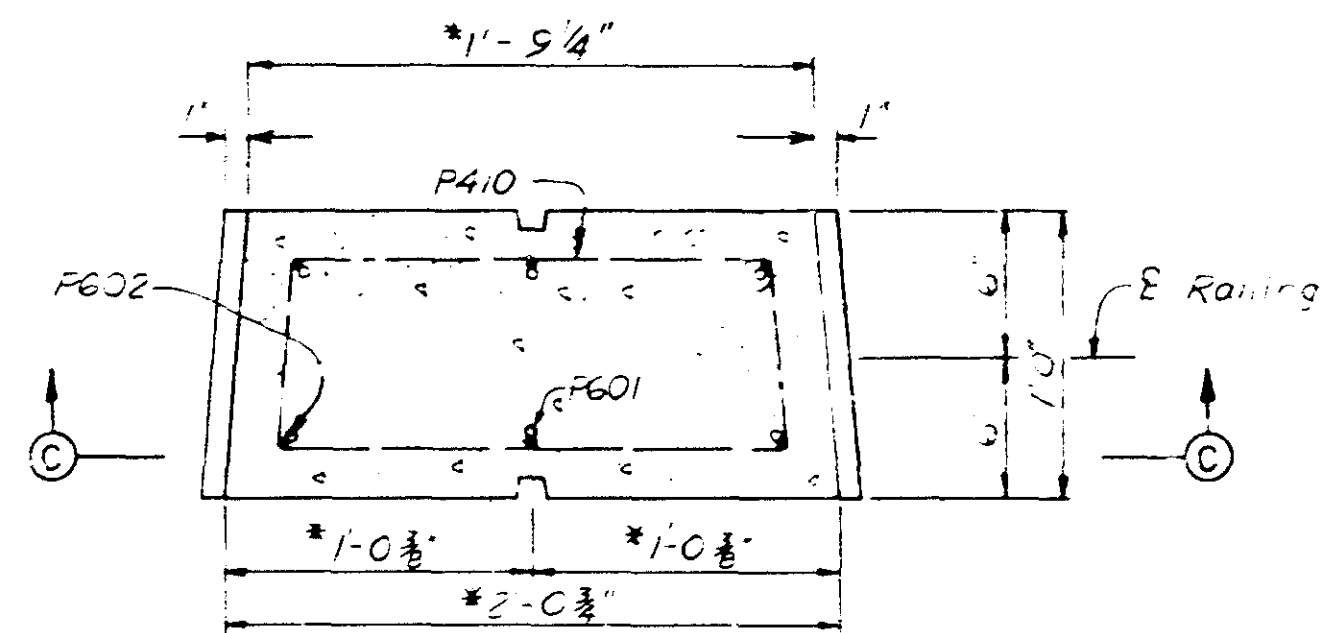


PLAN - OUTLOOK - NORTH END
Scale 3/4" = 1'-0"

• Adjust post dimensioning as necessary to provide for adequate handrail spacing.

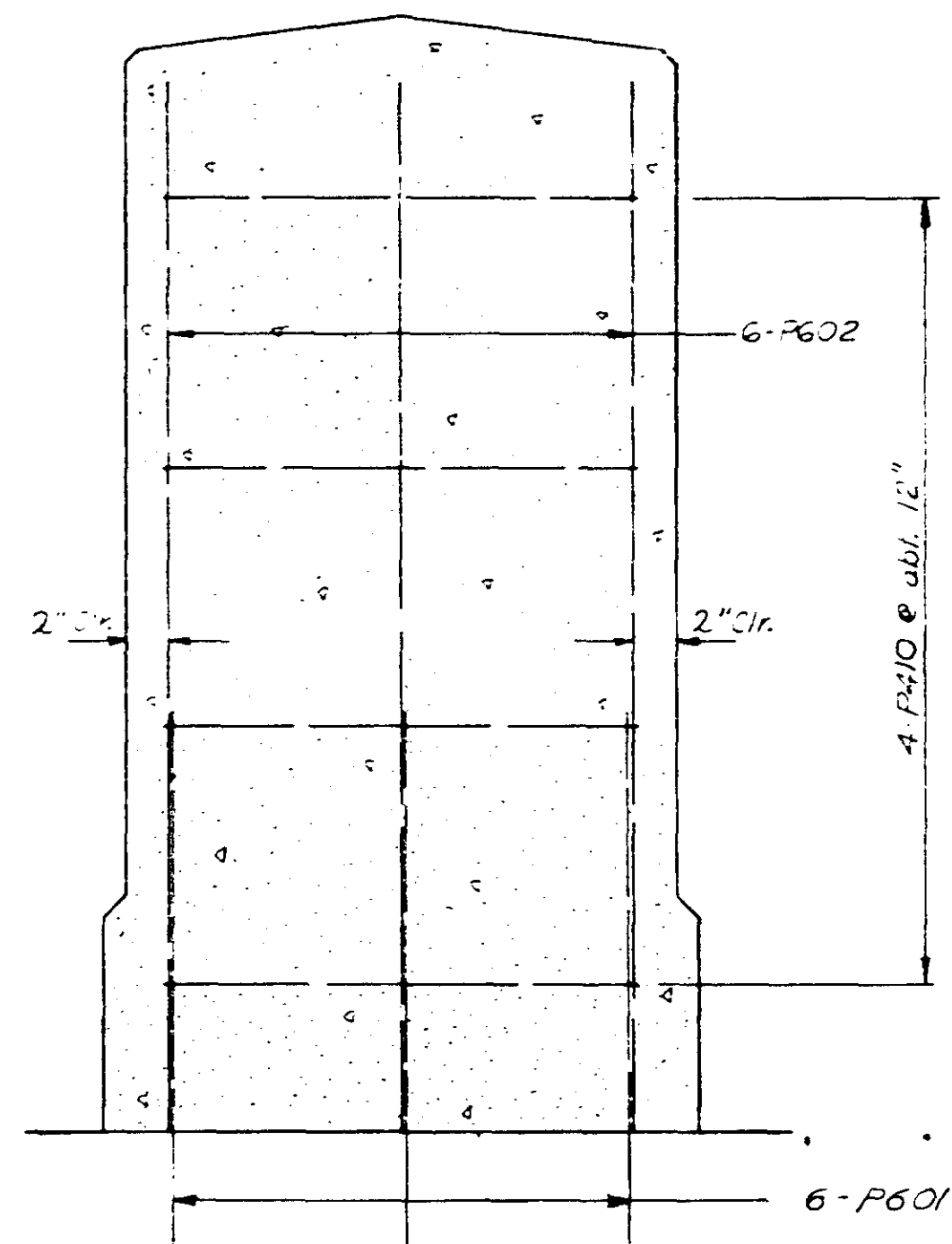


ELEVATION A-A - TYPE D
Scale 1/2" = 1'-0"



SECTION B-B
Scale 1/2" = 1'-0"

Note:
For typical post dimensions and Type "C" post details see "Handrail Post Details" sheet.
See "Handrail Post Details Pier 8" sheet 1 of 2 for Type E and F posts.

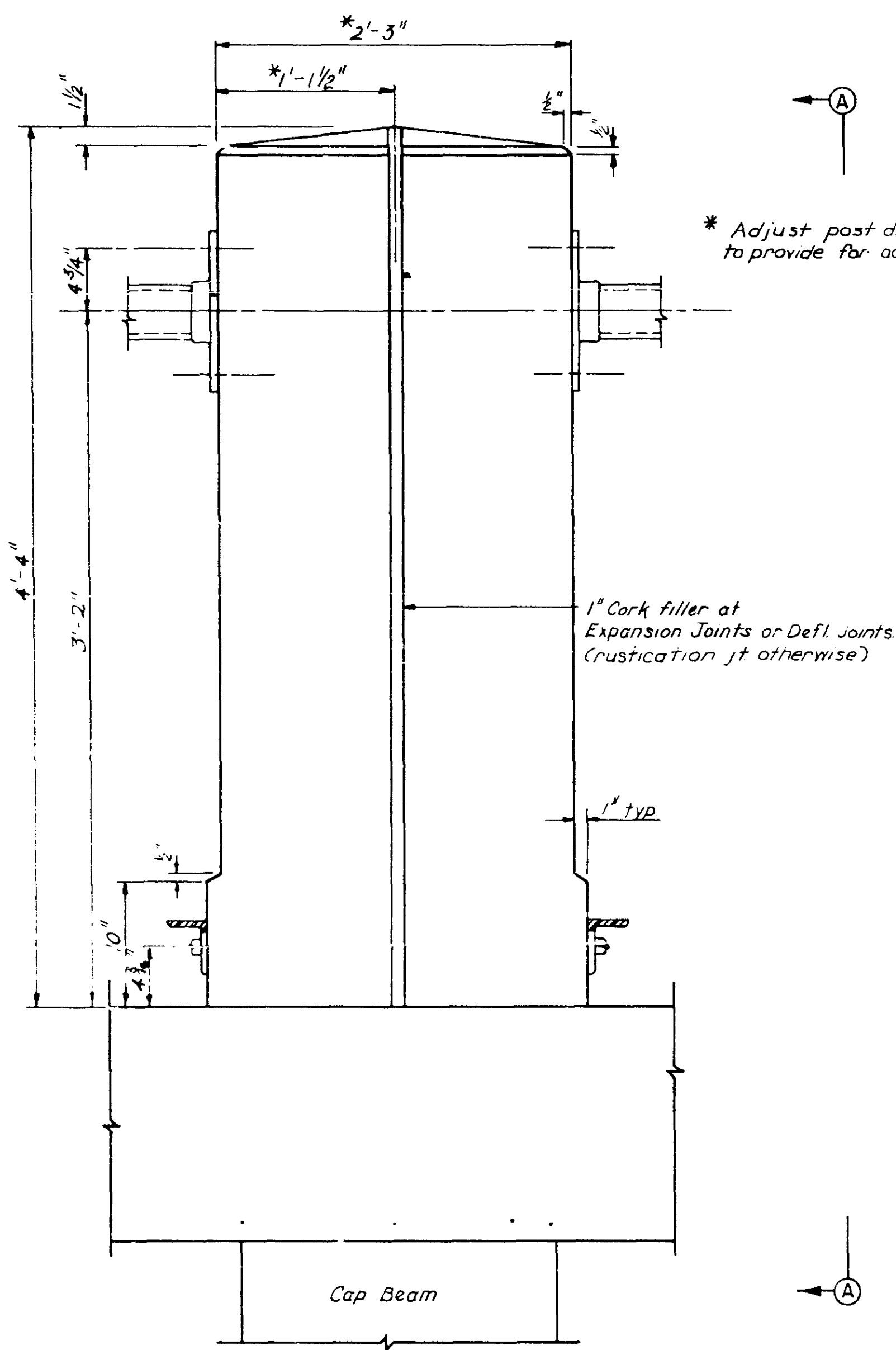


SECTION C-C
Scale 1/2" = 1'-0"

TITLE: HANDRAIL POST DETAILS
PIER 8
SHEET 2 OF 2

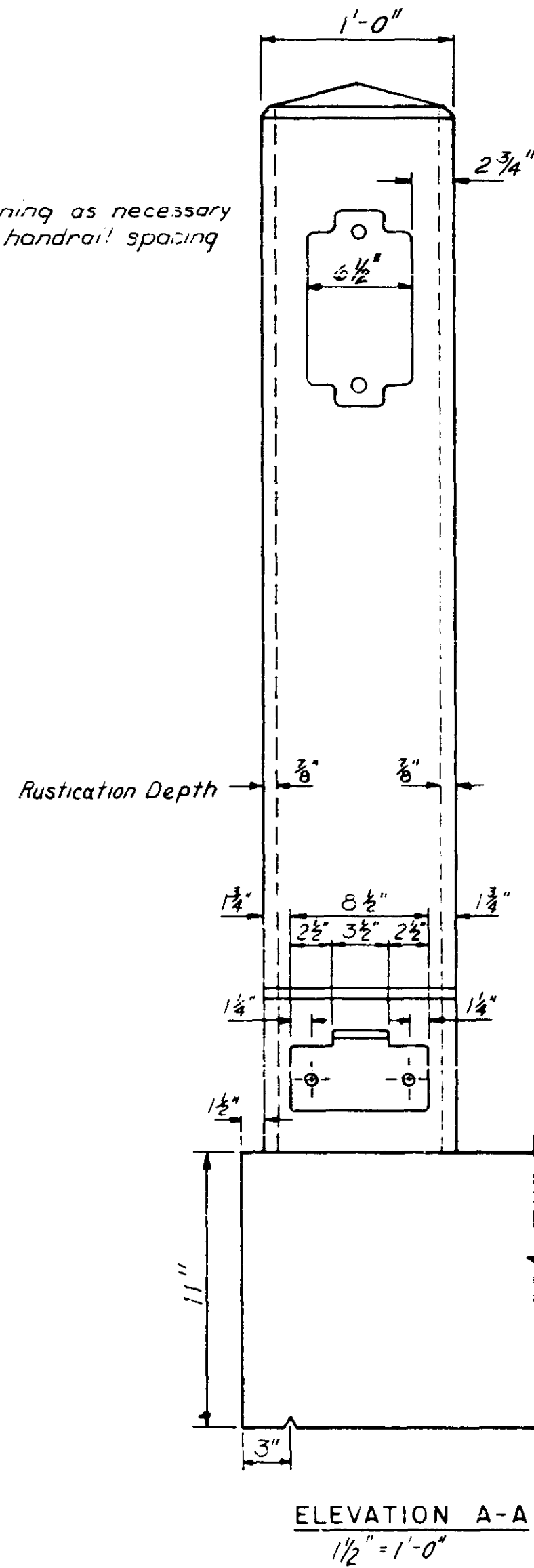
DES: WHH	DR: LDH	APPROVED:
CHK:	CHK: WHH	5-7-79
Sheet No. 74 of 148 Sheets		

Bridge No.
2440

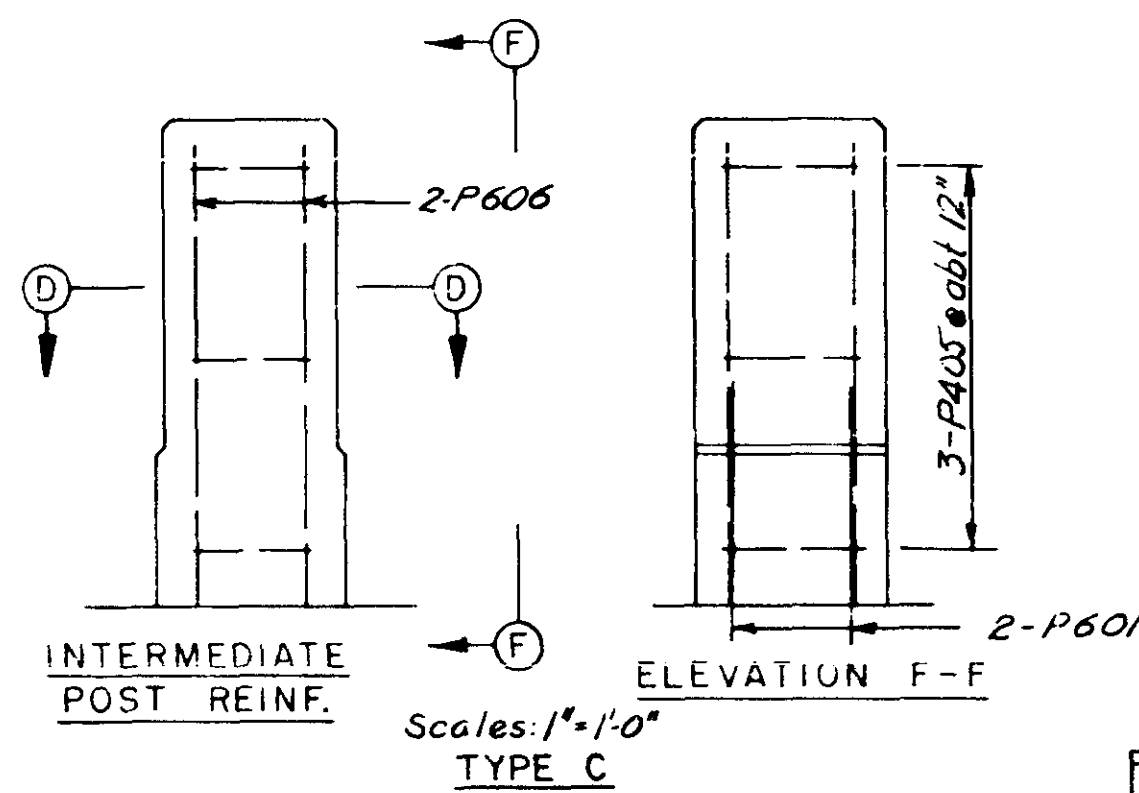


ELEVATION - TYPES A & B
Scale: 1/2" = 1'-0"

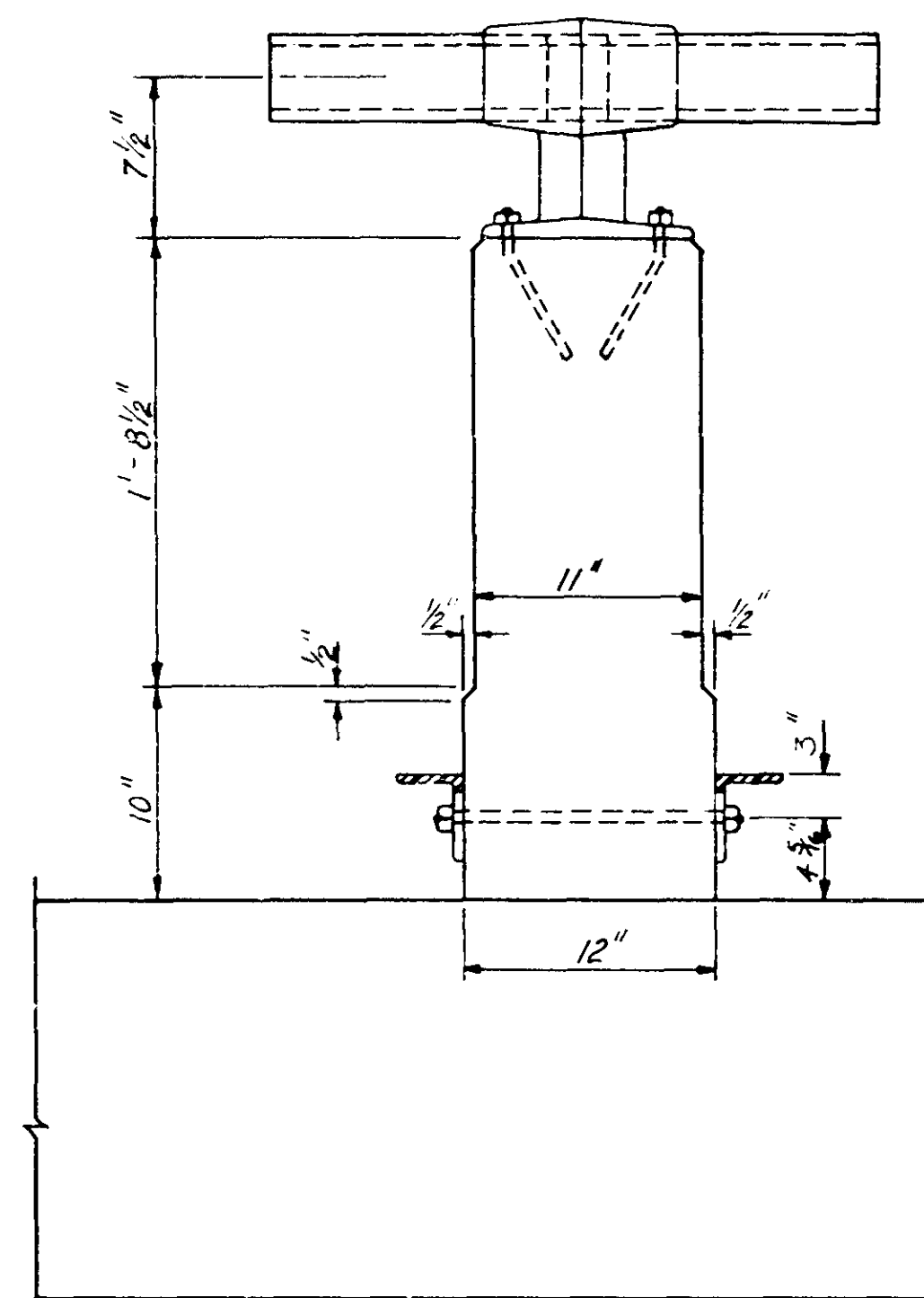
* Adjust post dimensioning as necessary to provide for adequate handrail spacing



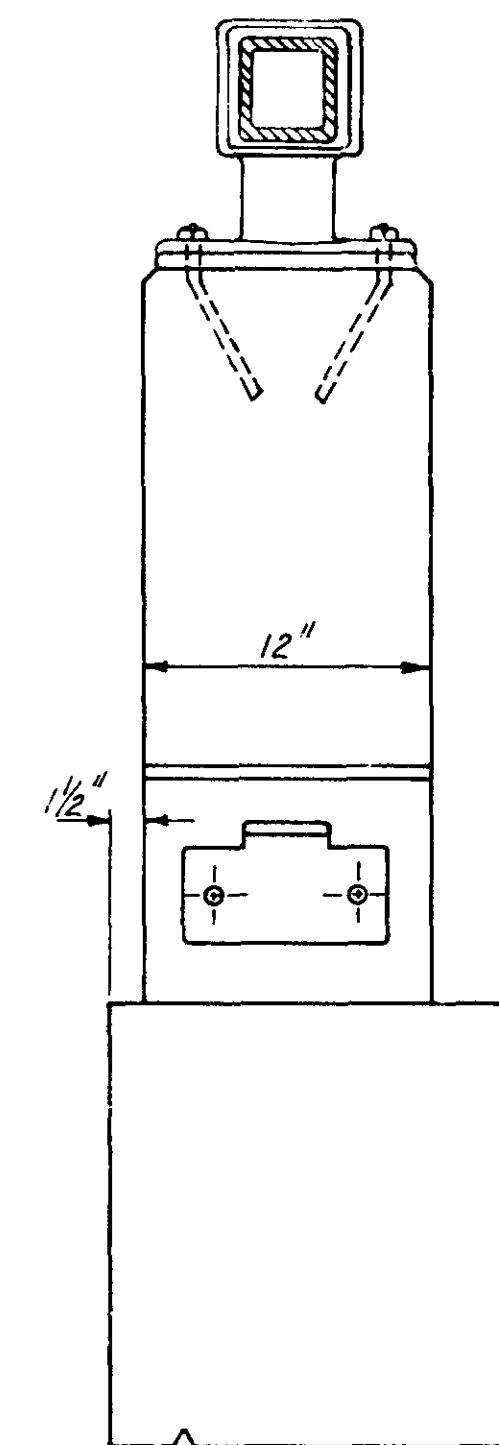
ELEVATION A-A
1/2" = 1'-0"



Scale: 1" = 1'-0"
TYPE C

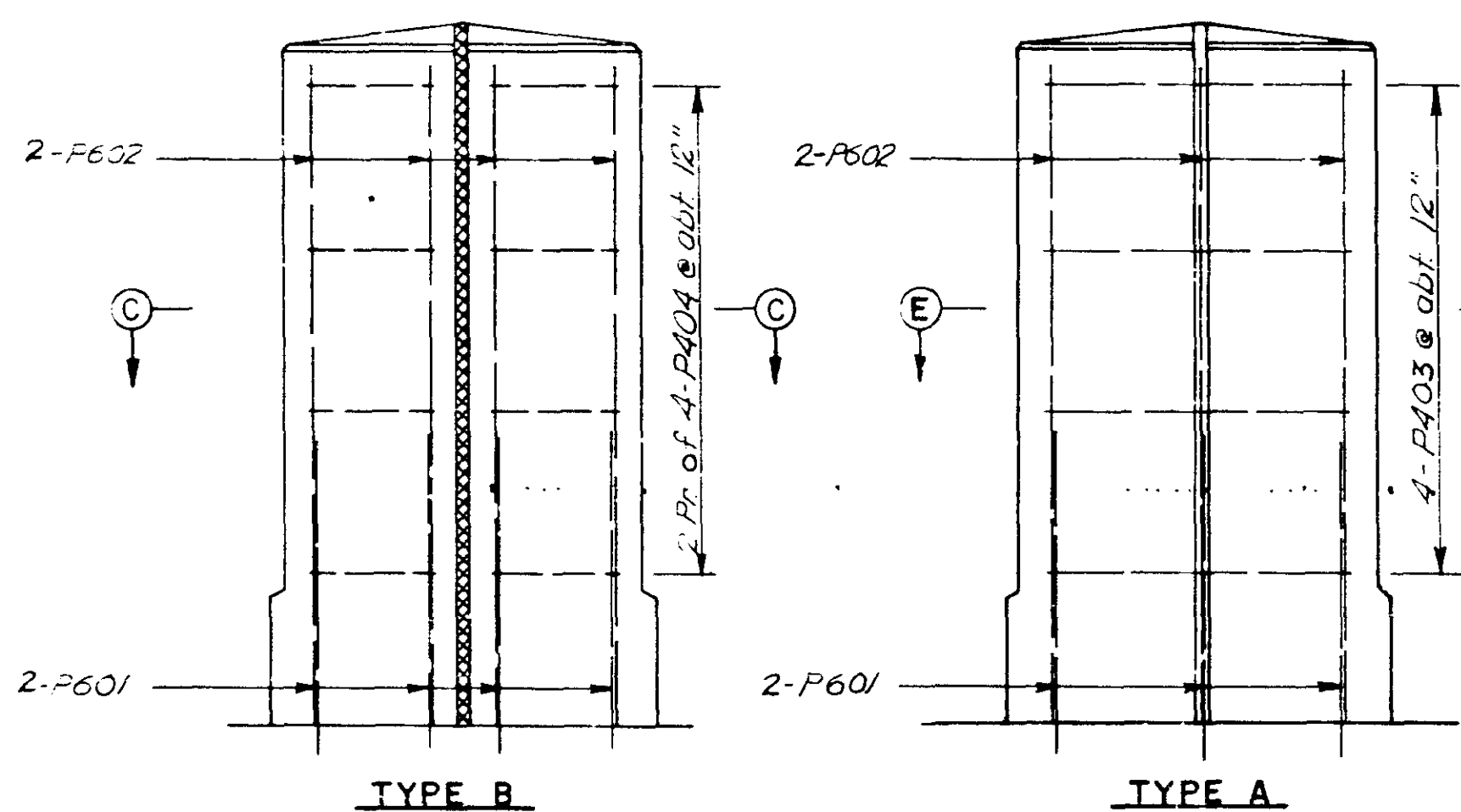


ELEVATION
1/2" = 1'-0"



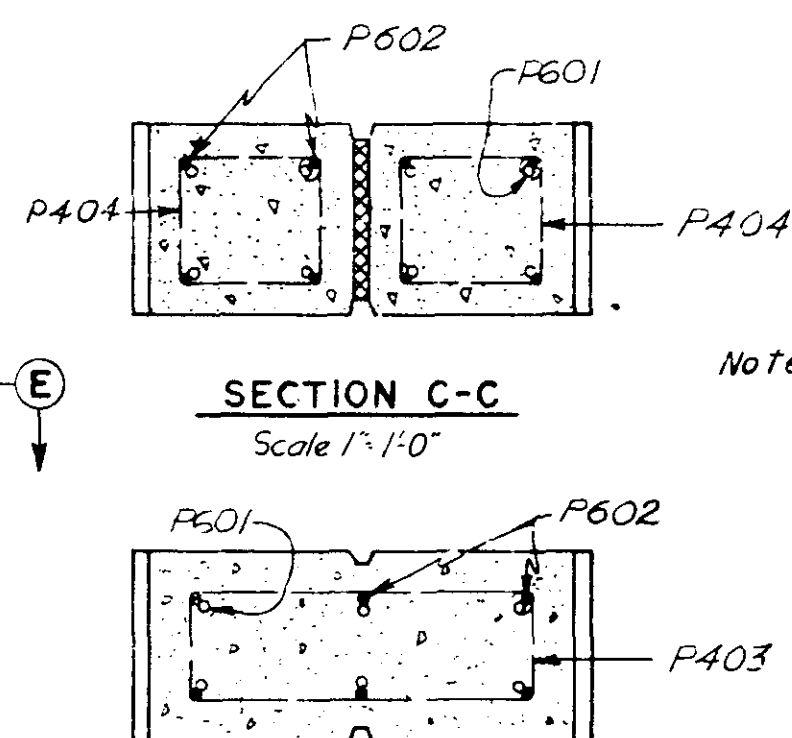
ELEVATION B-B
1/2" = 1'-0"

INTERMEDIATE POST - TYPE C



TYPE B

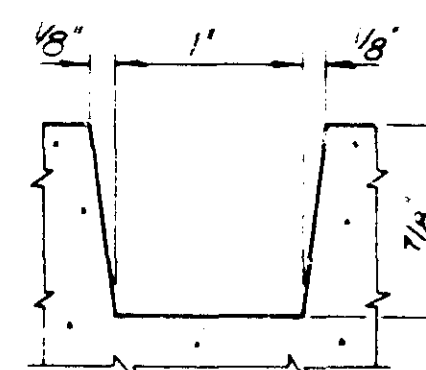
TYPE A



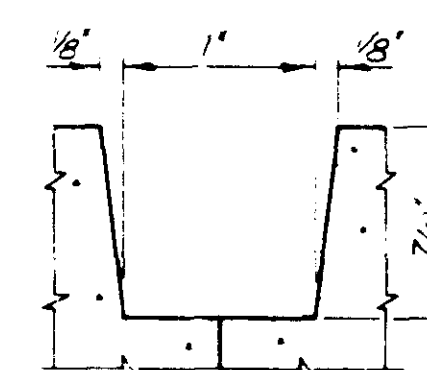
SECTION C-C
Scale: 1" = 1'-0"

SECTION E-E
Scale: 1" = 1'-0"

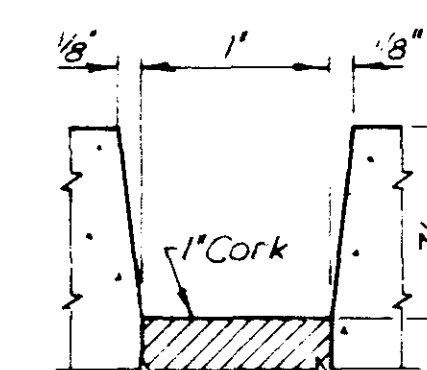
Note: Handrail Concrete included in item 2401.501 Concrete Mix 3x46A and handrail reinforcement included in item 2401.541 Reinforcement Bars. Removal, storage, replacement, and miscellaneous hardware such as bolts and angles included in item 2433.512 Place Used Pedestrian Rail & item 2433.507 Remove Pedestrian Rail.



IN WALL

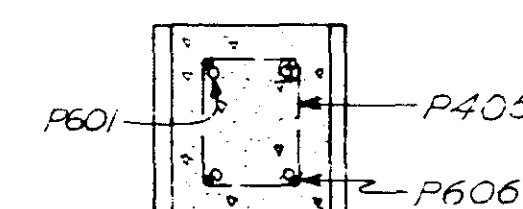


AT CONTR. JOINT



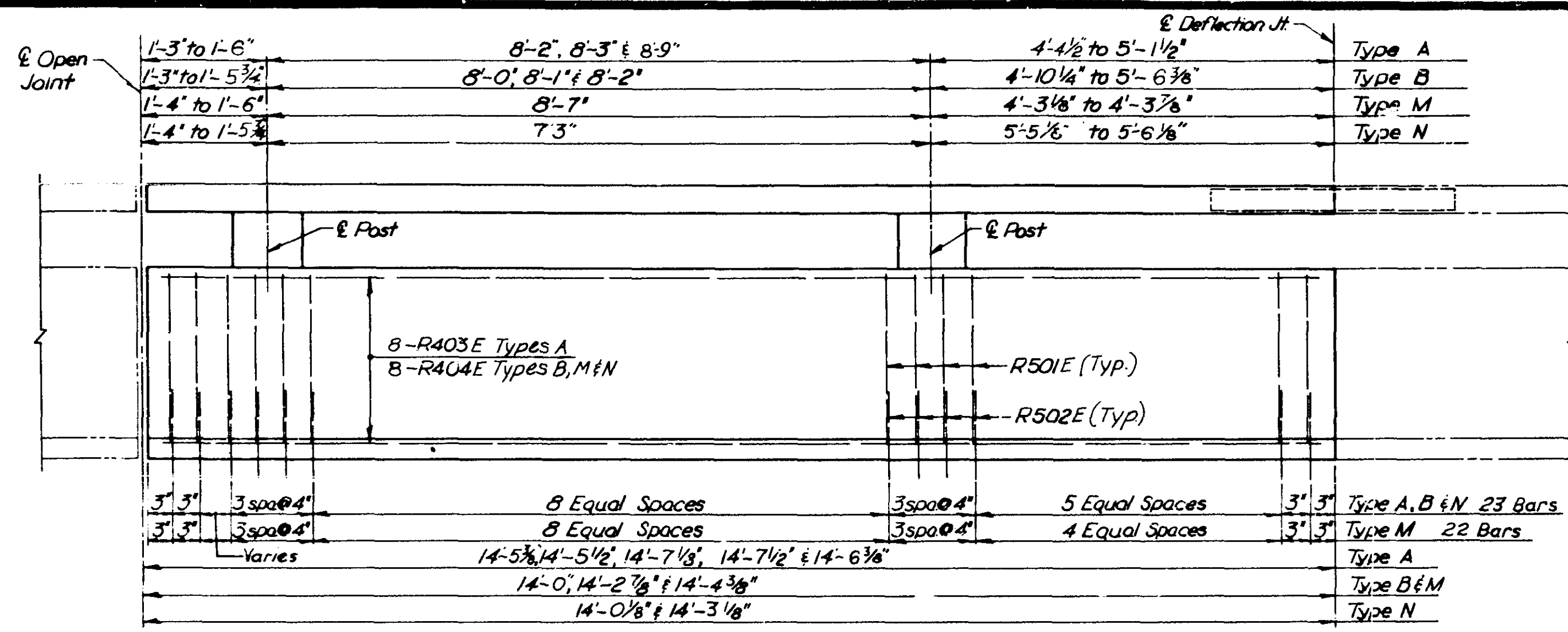
AT EXP. JOINT

RUSTIGATION DETAILS

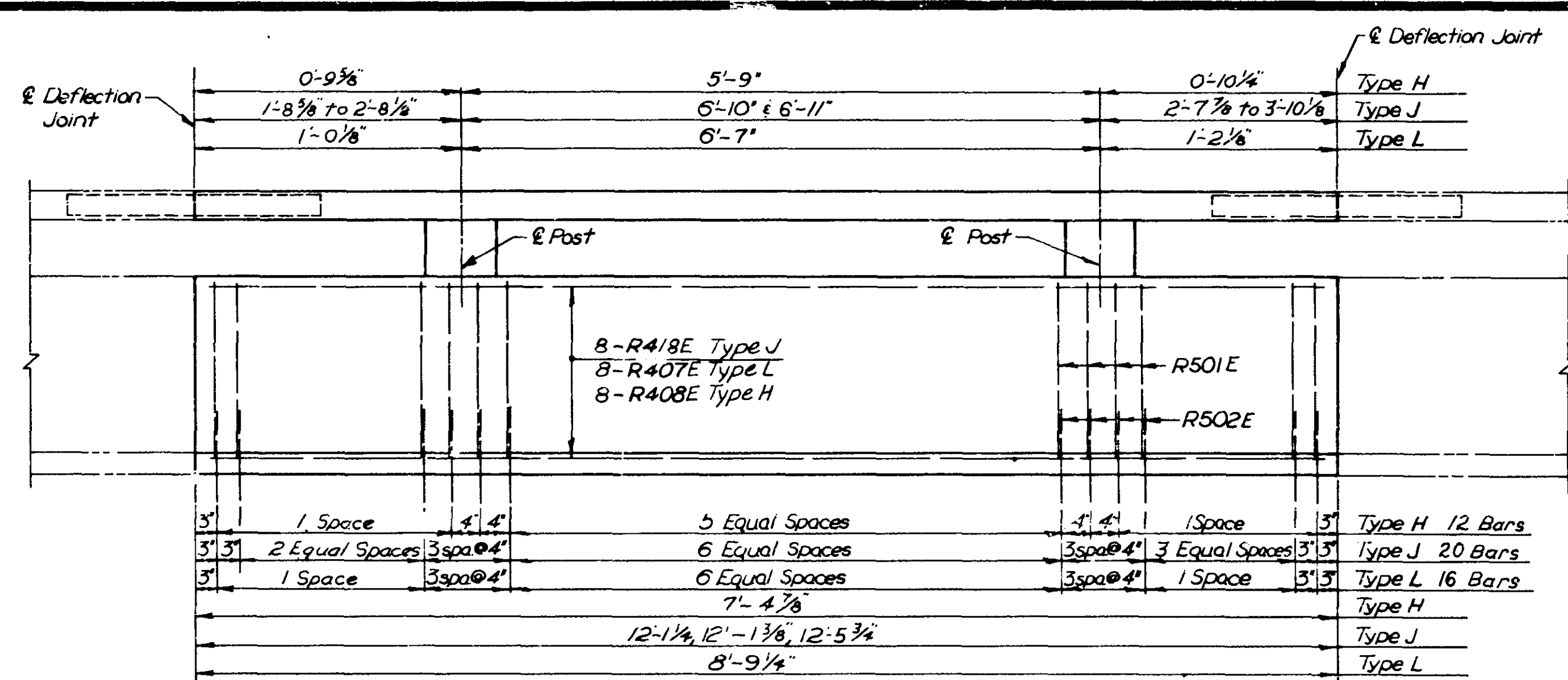


SECTION D-D

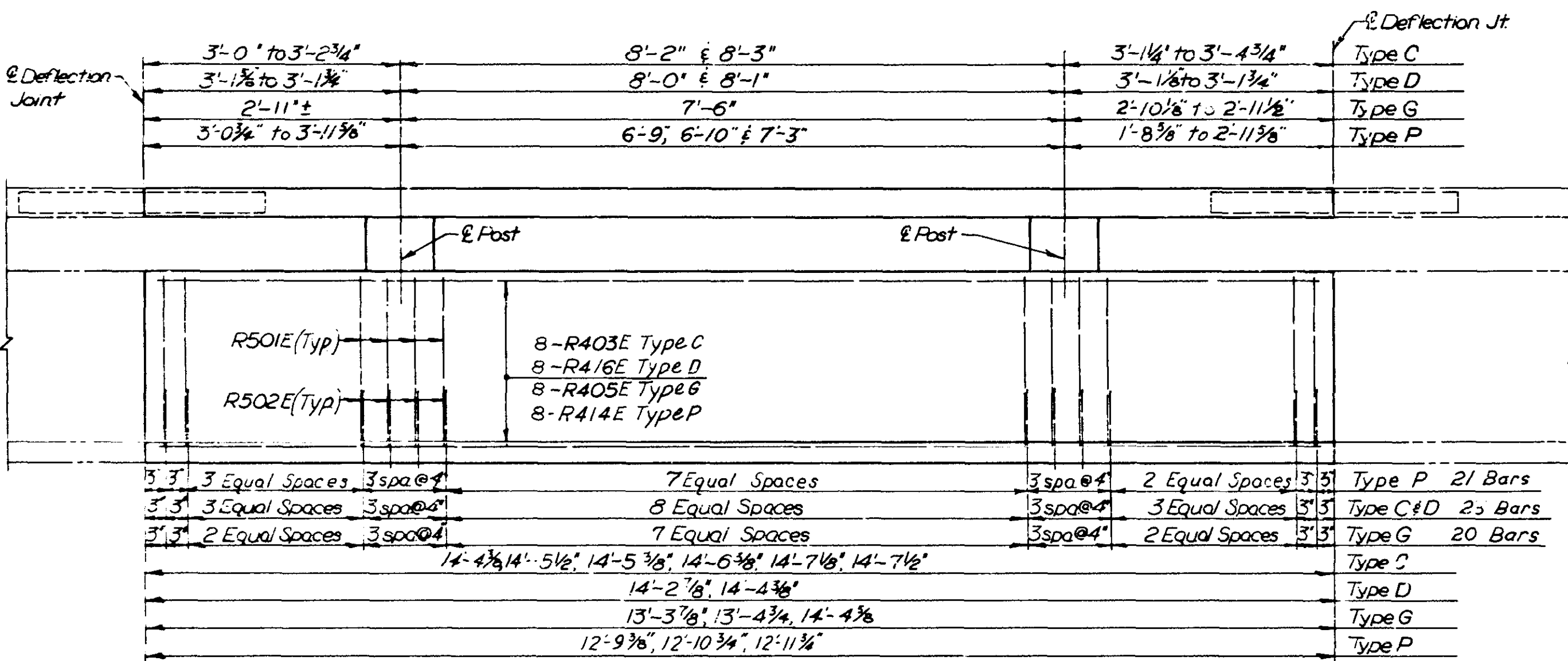
TITLE: HANDRAIL POST DETAILS	DES: WHH	DR: LDH	APPROVED:	Bridge No. 2440
	CHK: LDH	CHK: WHH	5-7-79	
Sheet No. 75 of 148 Sheets				



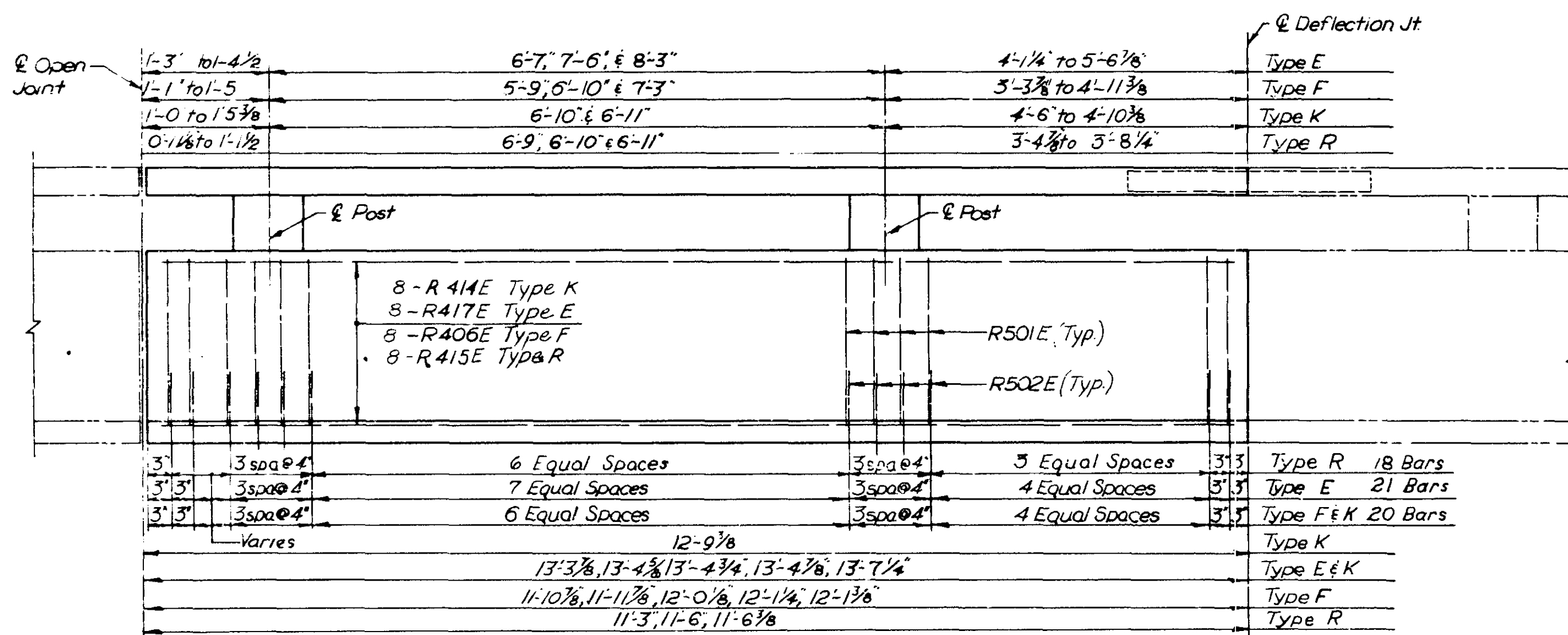
TYPICAL DETAIL - TYPE A, B, M, & N
Scale: 3/4" = 1'-0"



TYPICAL DETAIL - TYPE H, J, & L
Scale: 3/4" = 1'-0"



TYPICAL DETAIL - TYPE C, D, G, & P
Scale: 3/4" = 1'-0"

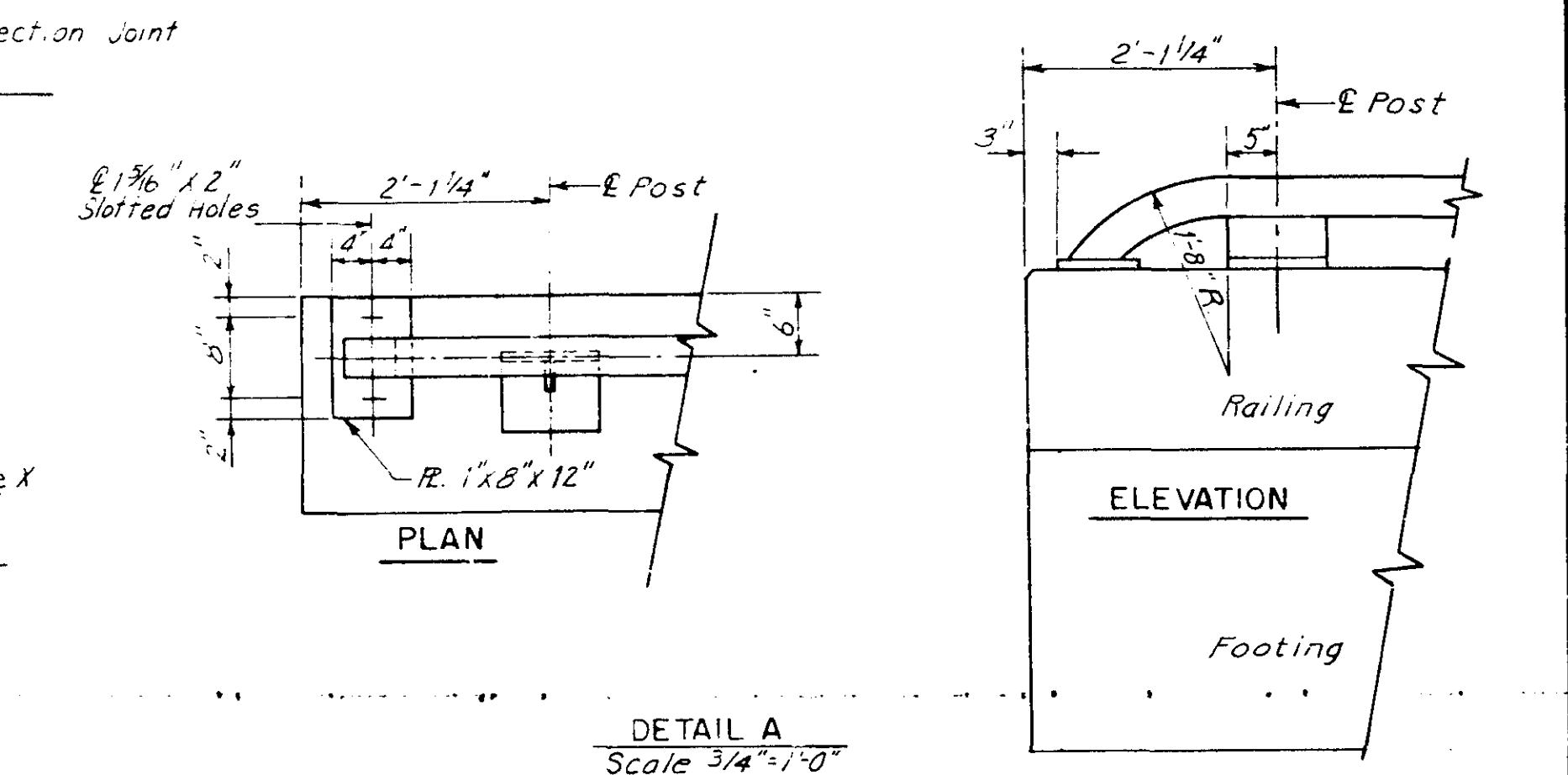
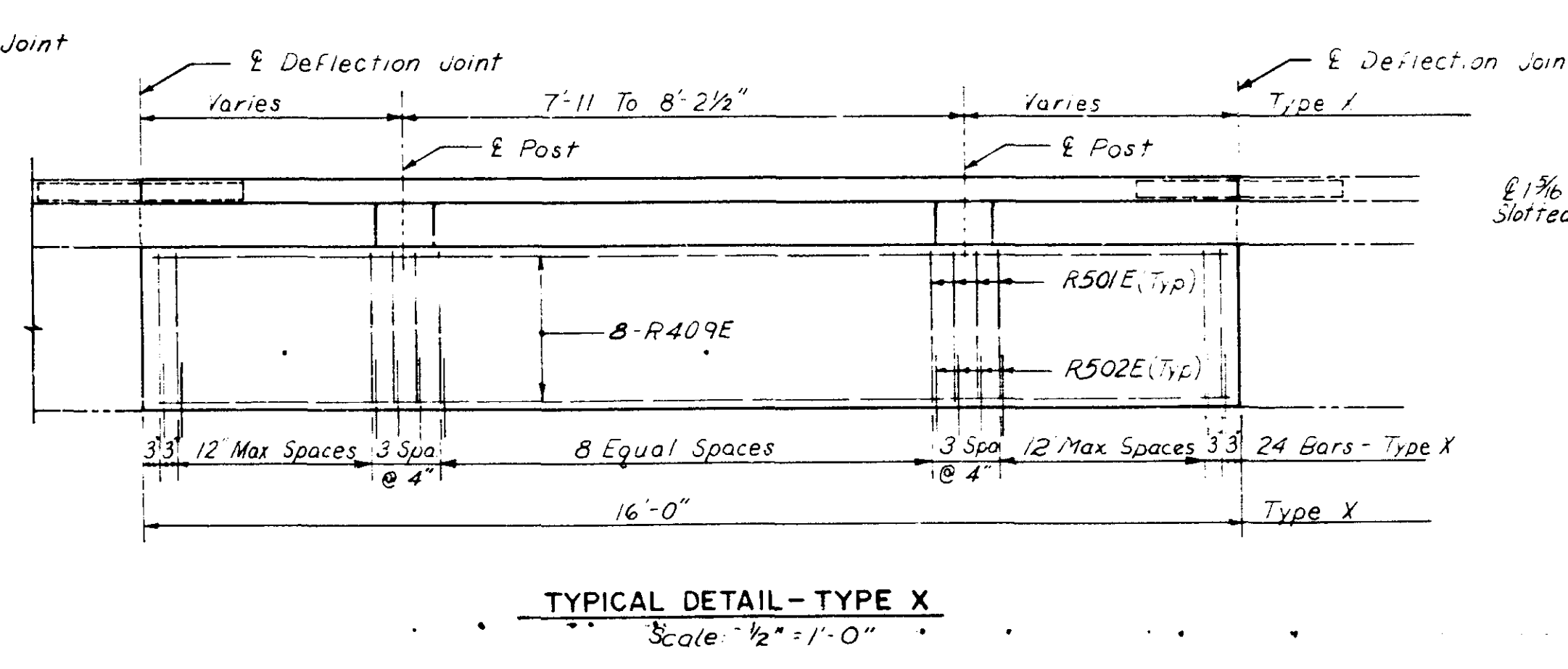
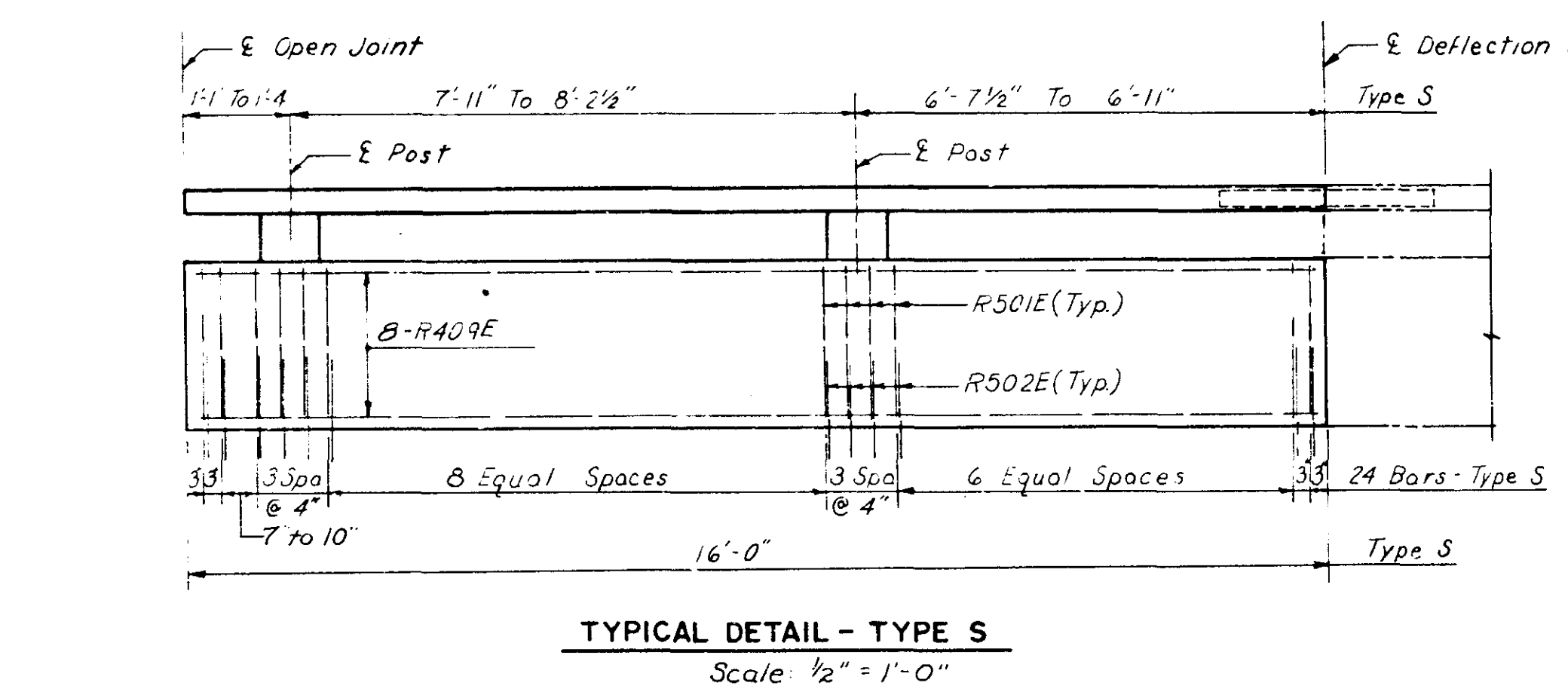
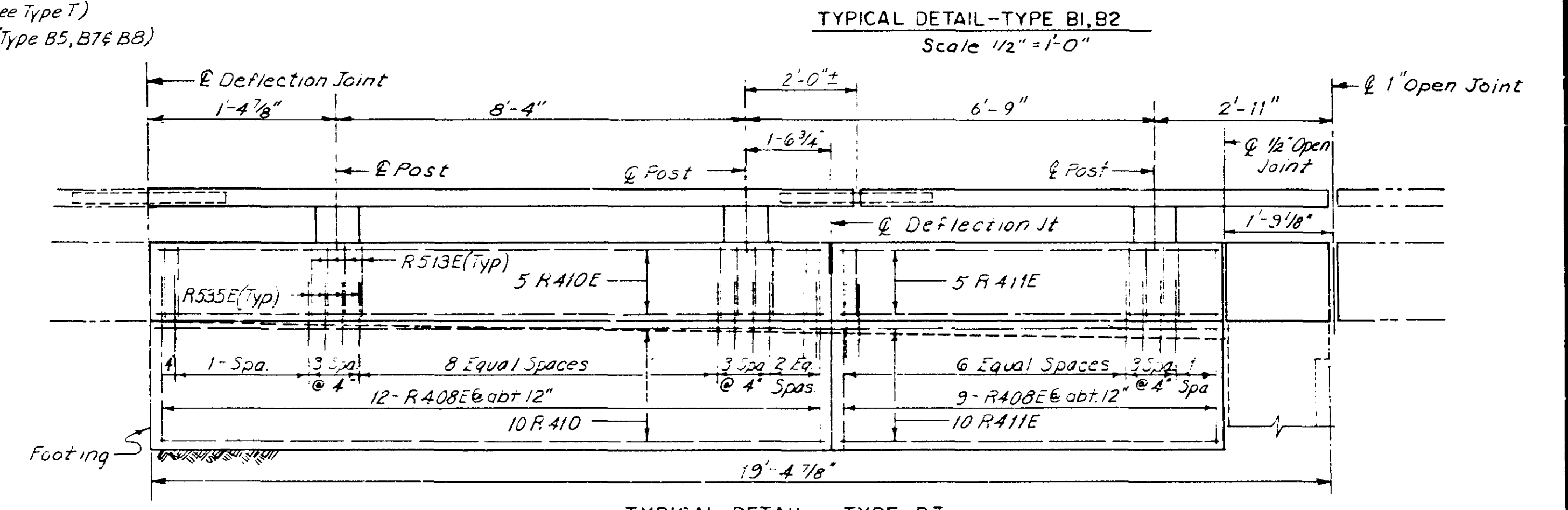
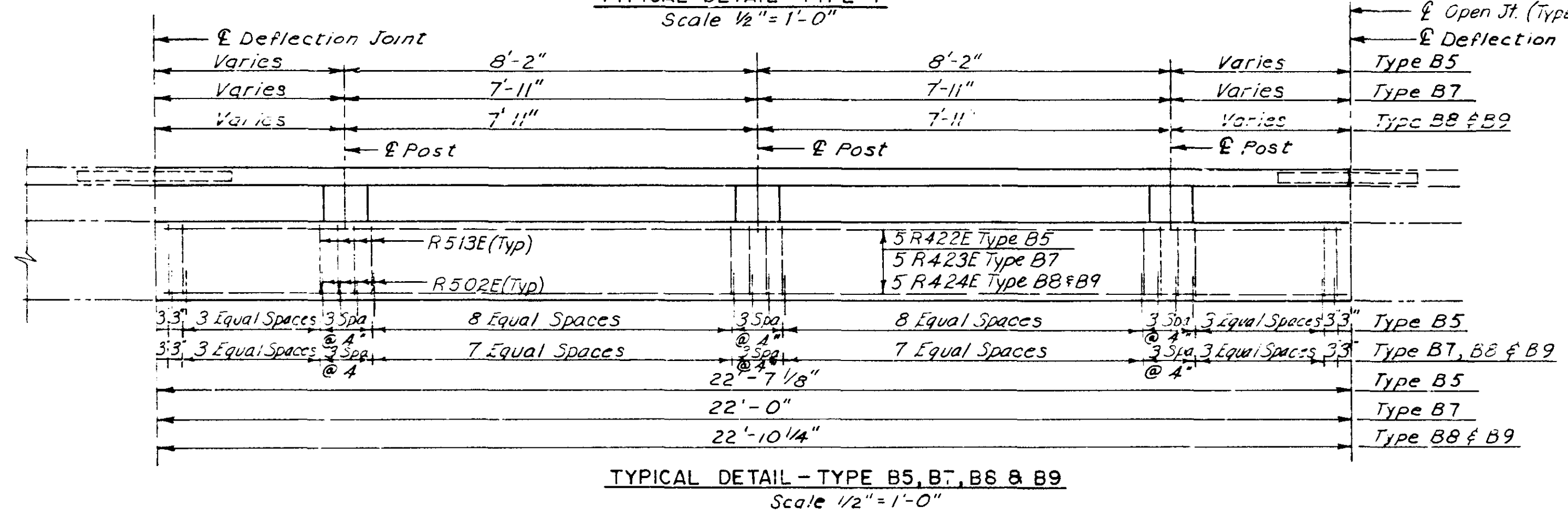
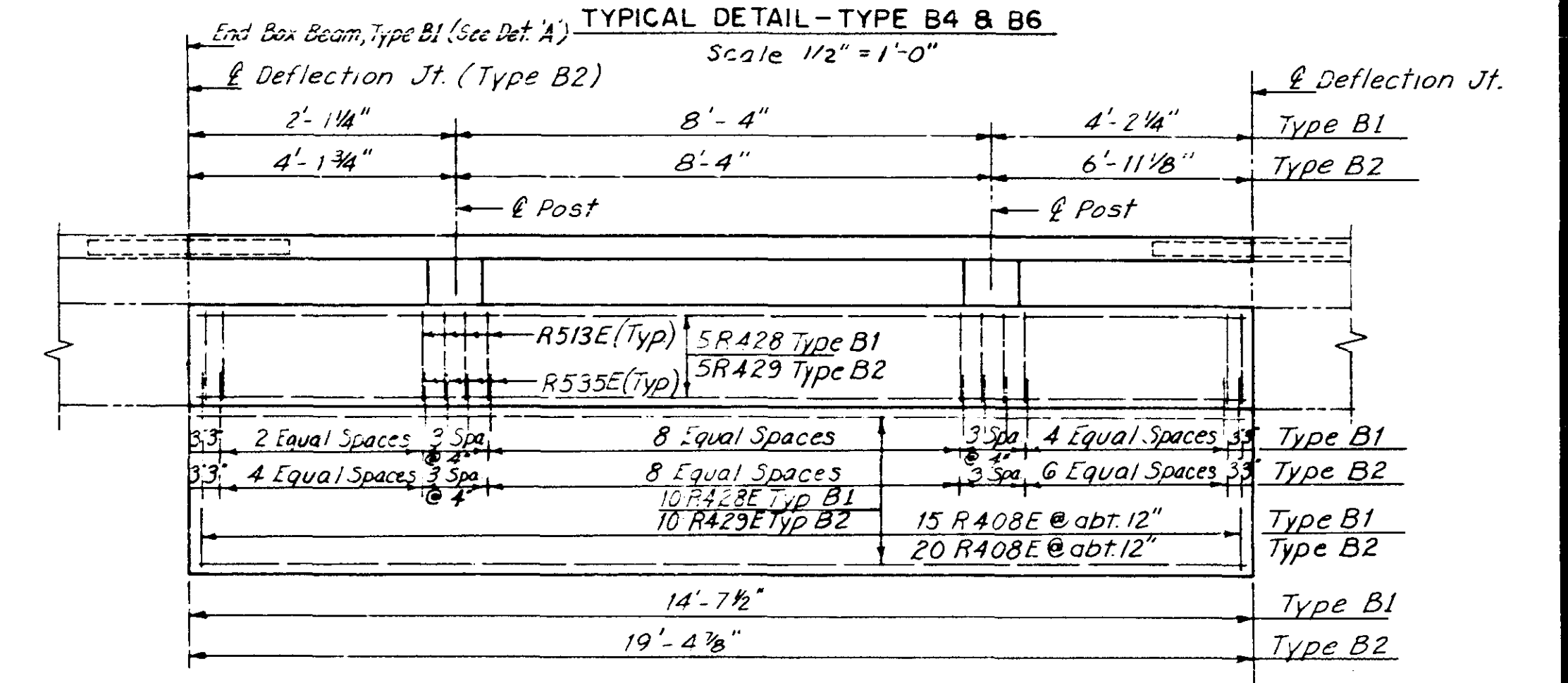
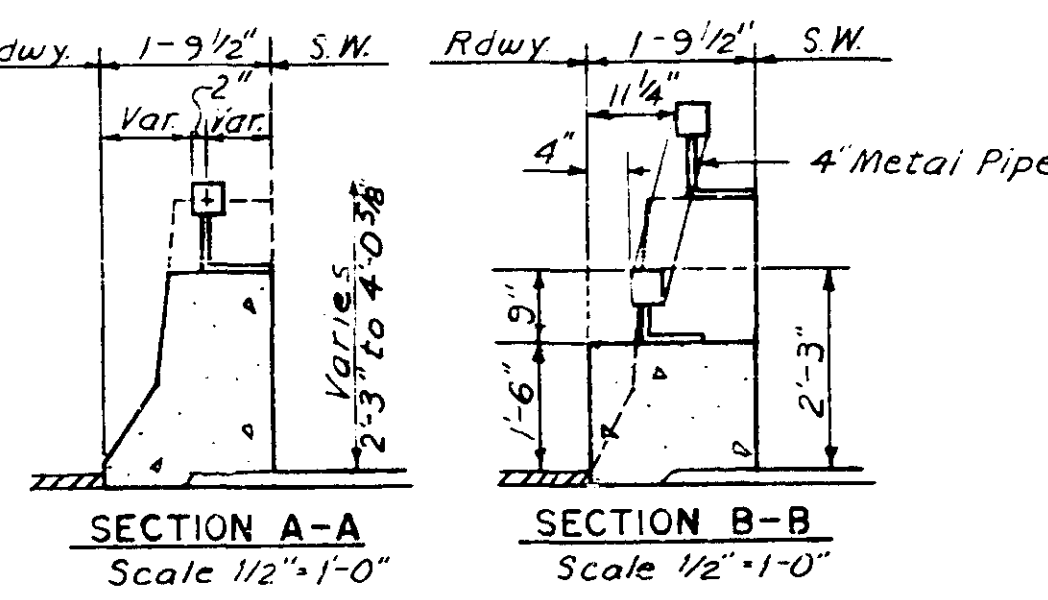
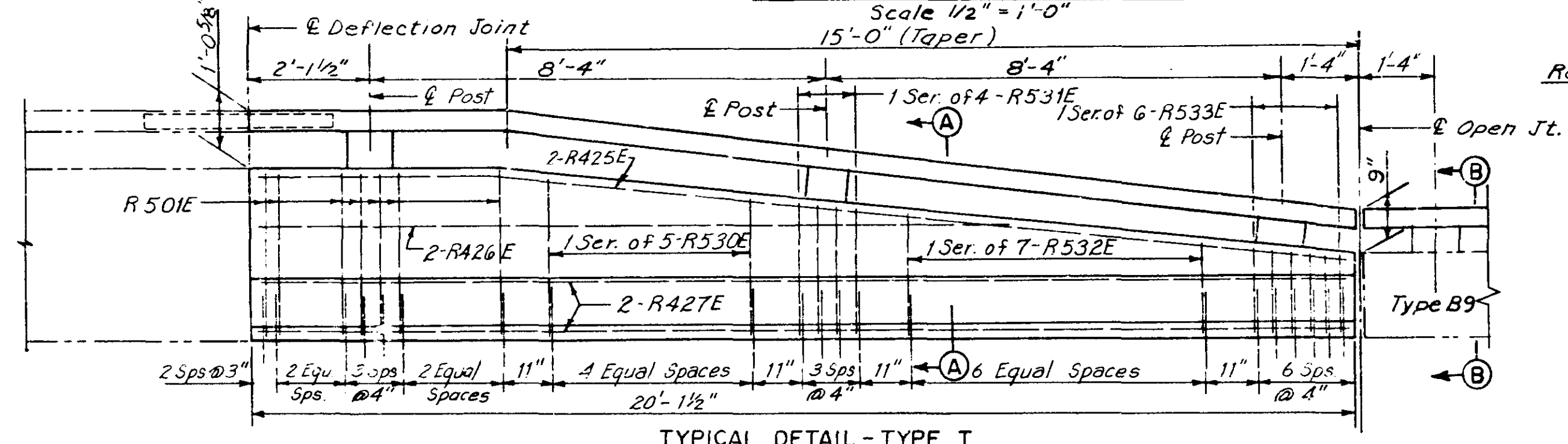
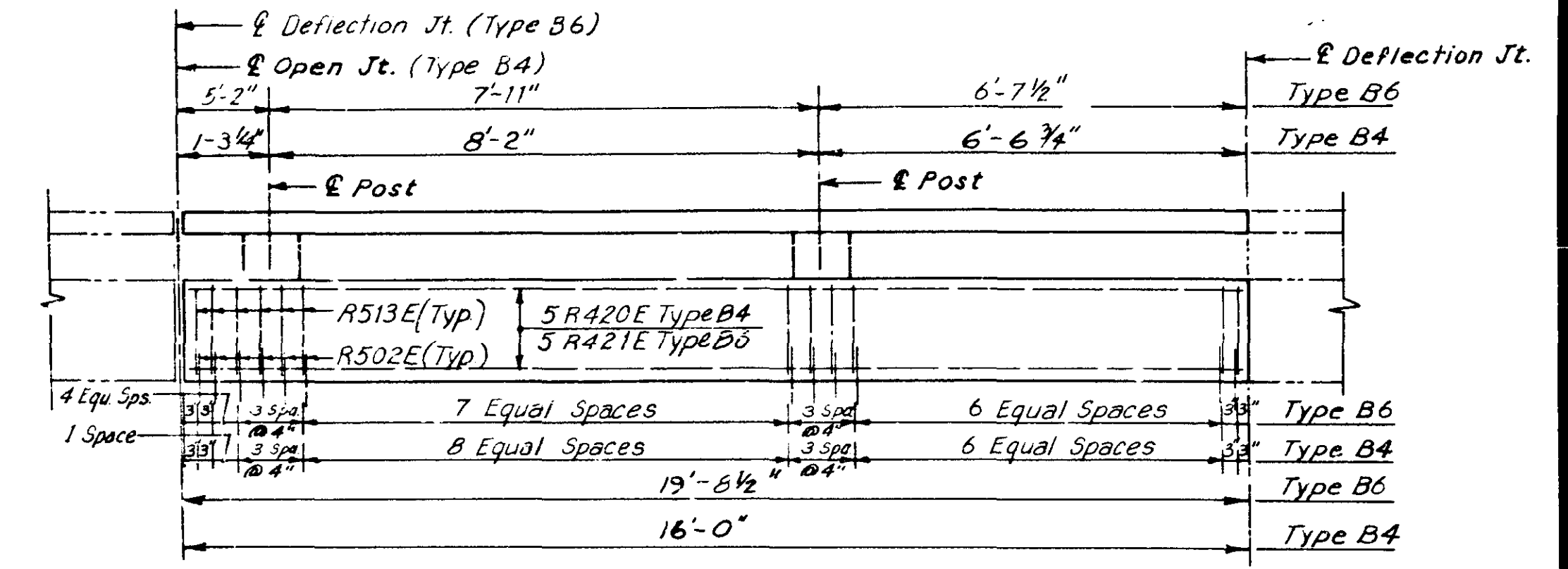
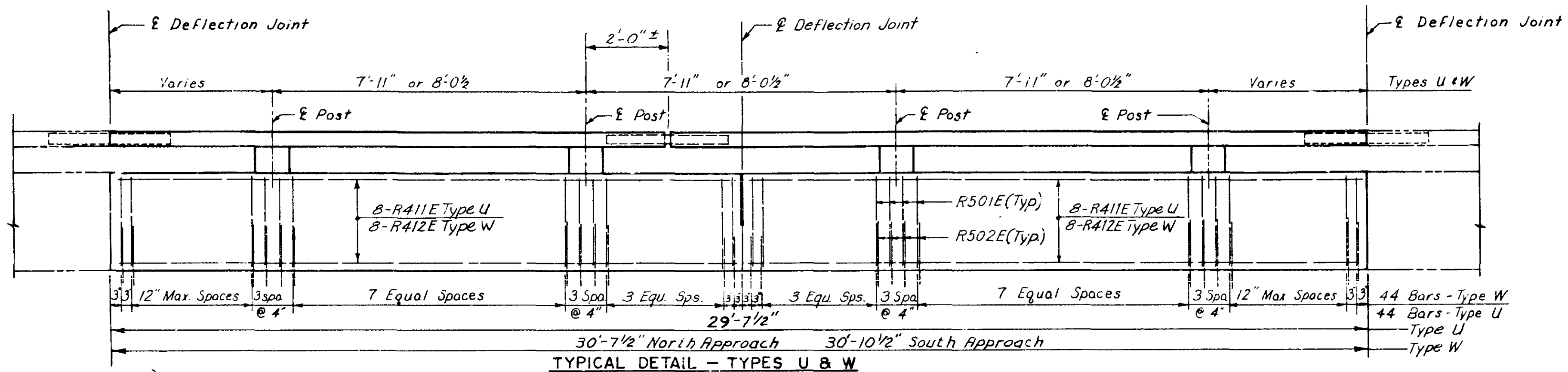


TYPICAL DETAIL - TYPE E, F, K, & R
Scale: 3/4" = 1'-0"

Note:
See "Concrete Railing (Type J)" sheet for additional details.
See "Sidewalk, Handrail and Traffic Rail Details South Approach, Units 1 and 2" for general notes.
For clarification and location of dimensions shown on "Typical Details," see "Sidewalk, Handrail and Traffic Rail Details."
See "Roadway Lighting Details" sheets for Light Blister Location and Details.

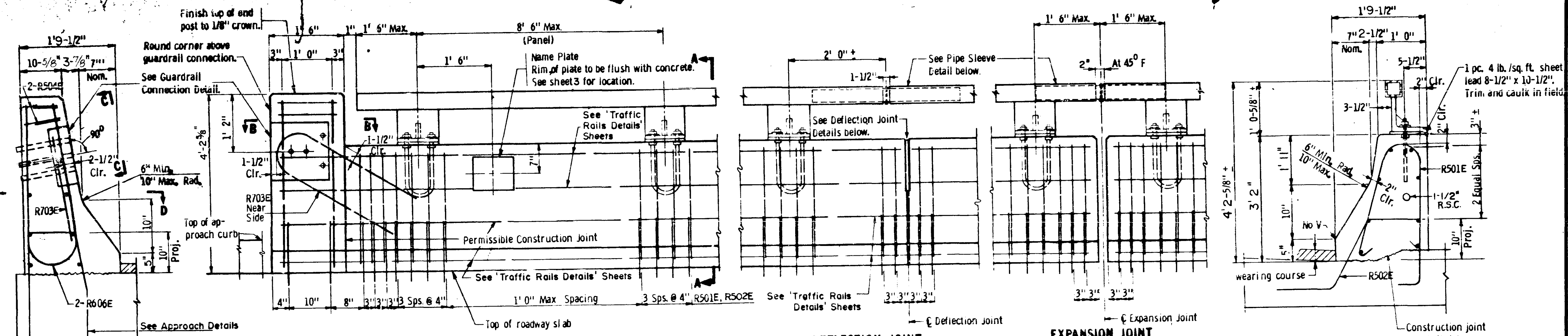
TITLE:	TRAFFIC RAIL DETAILS SHEET 1 OF 2	DES: WHH CHK: CPM	DR: DRA CHK: CPM	APPROVED: 5-7-79	Bridge No. 2440
				Sheet No. 76 of 148 Sheets	

ALL DOCUMENTS MUST BE FILED BY COUNTY NAMED ABOVE DURING THE REGULAR COURSE OF BUSINESS...
REQUIREMENTS FOR PERMANENT MICROFILM AND MICROFORMS TO FILED PROCEDURES ETC.



TITLE:	DES: RLL	DR: RLL	APPROVED:	Bridge No.
TRAFFIC RAIL DETAILS	CHK: CPM	CHK: CPM	5-7-79	2440
SHEET 2 OF 2	Sheet No. 77 of 148 Sheets			

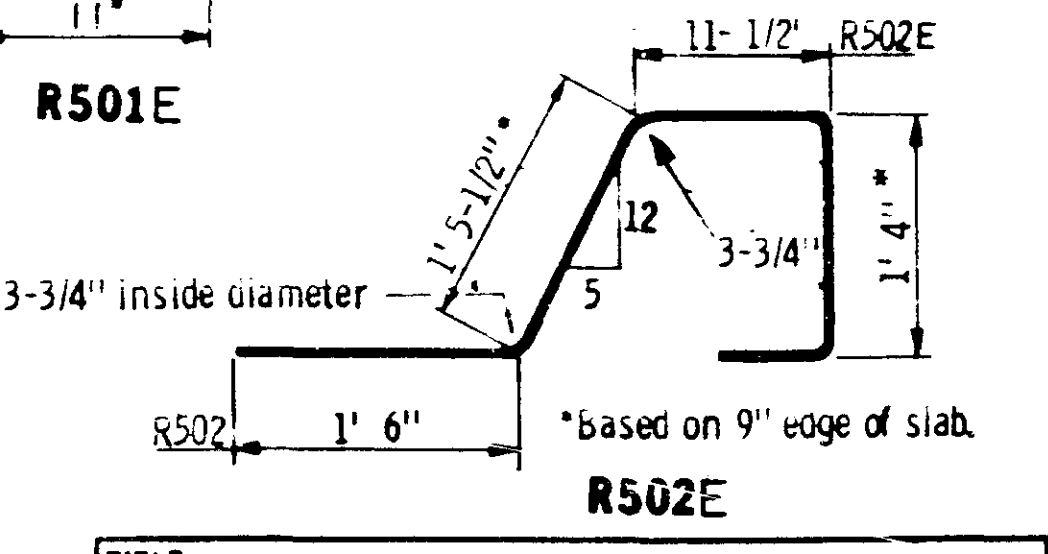
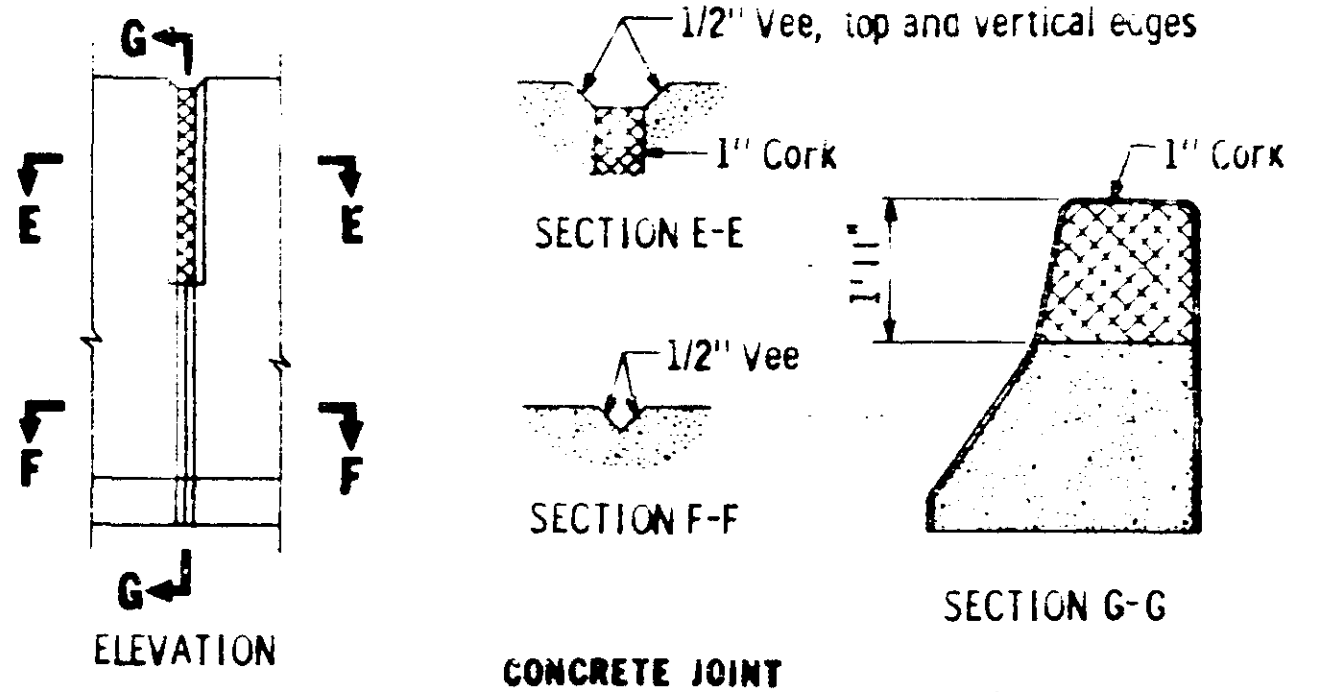
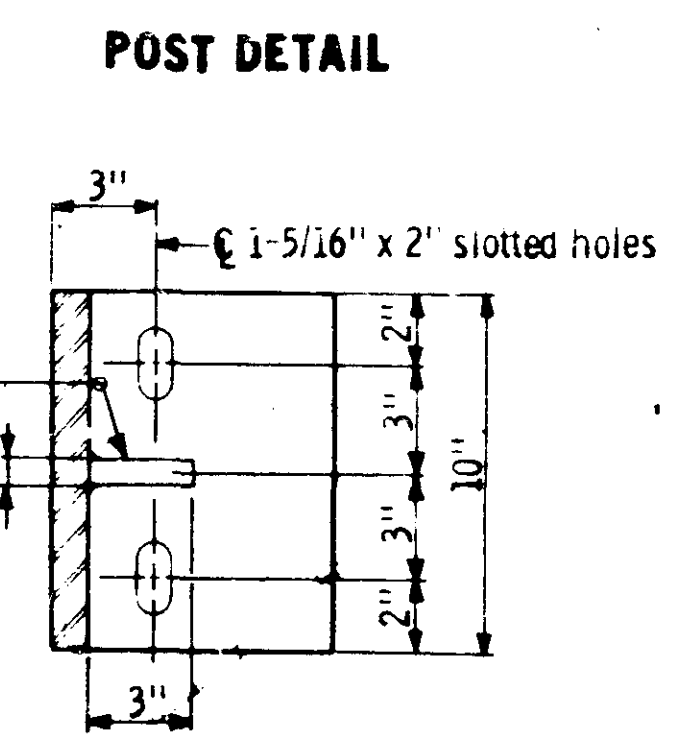
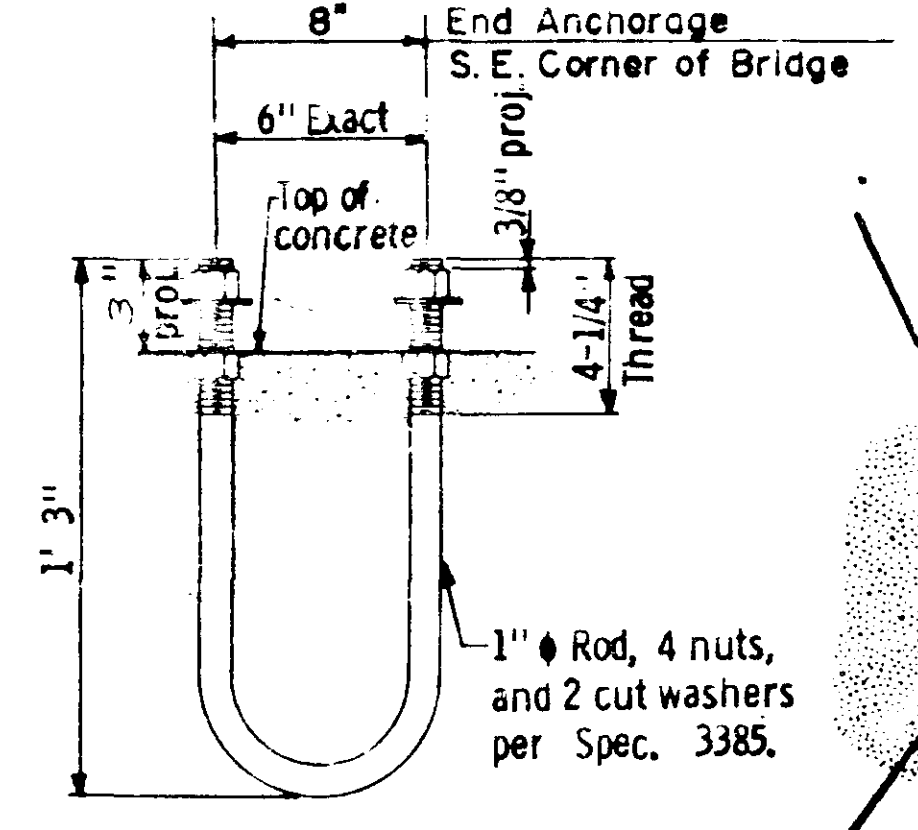
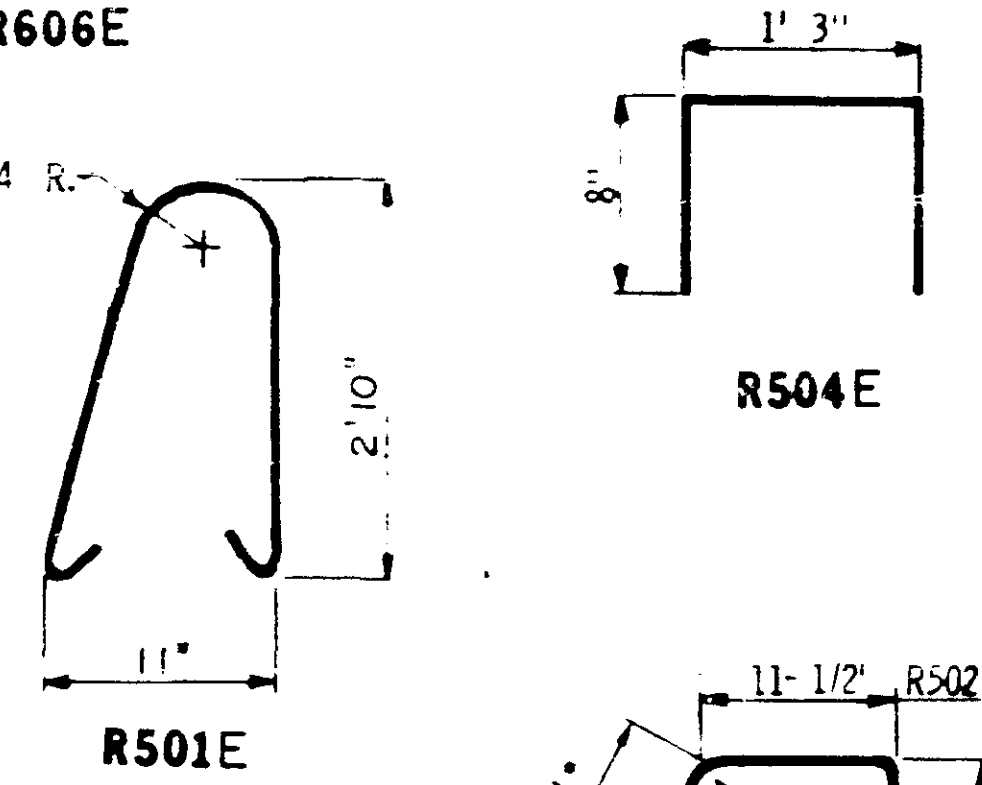
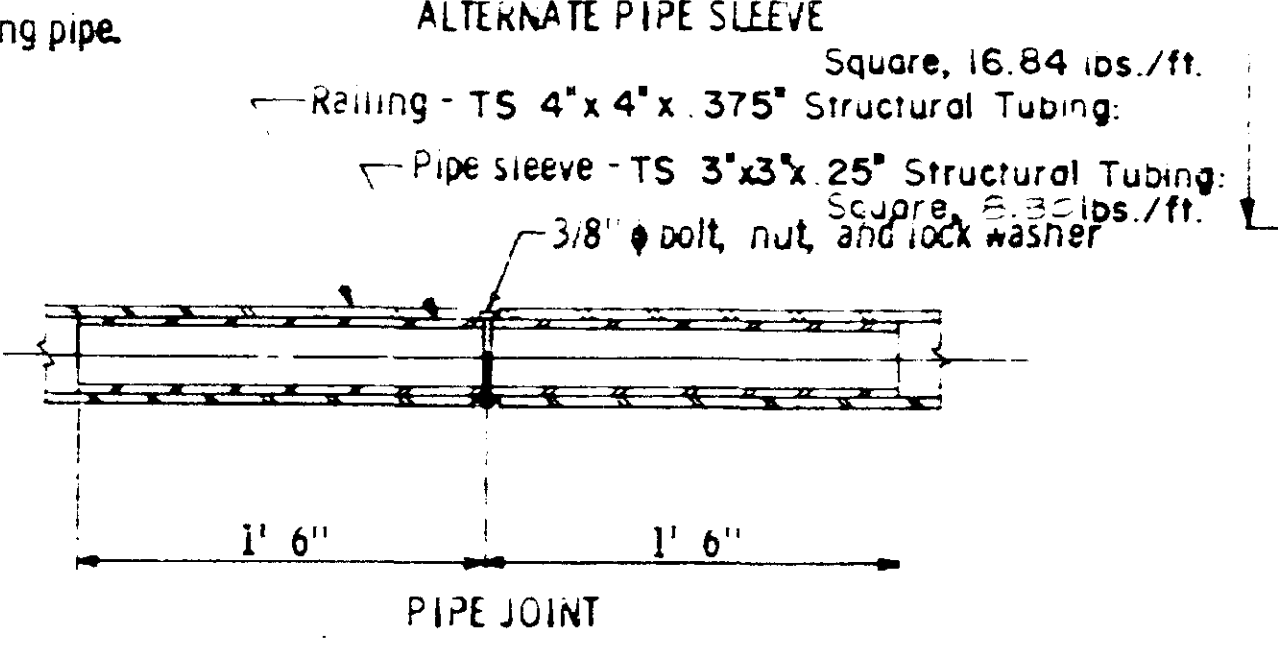
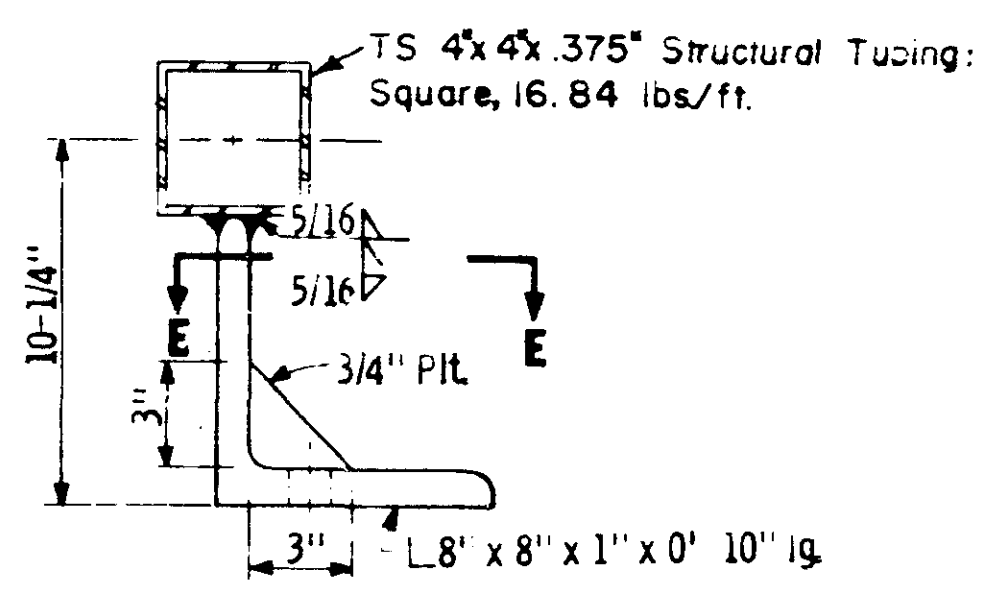
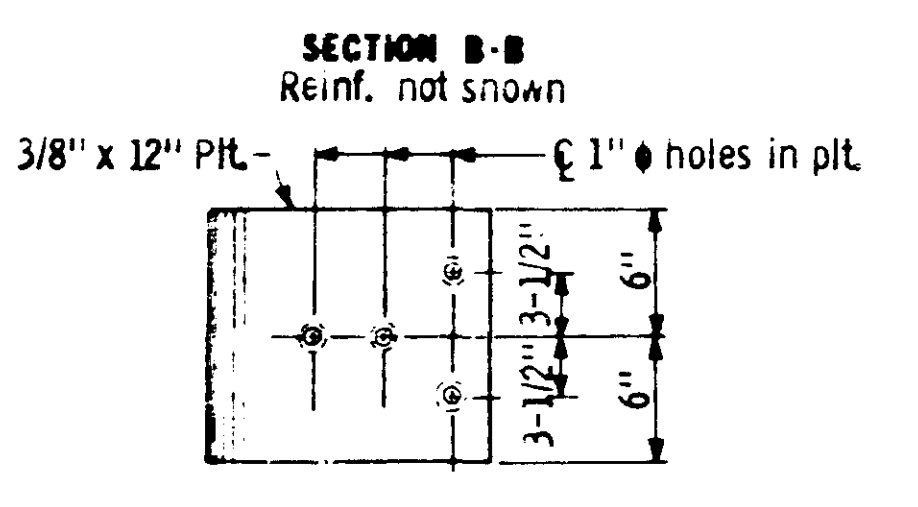
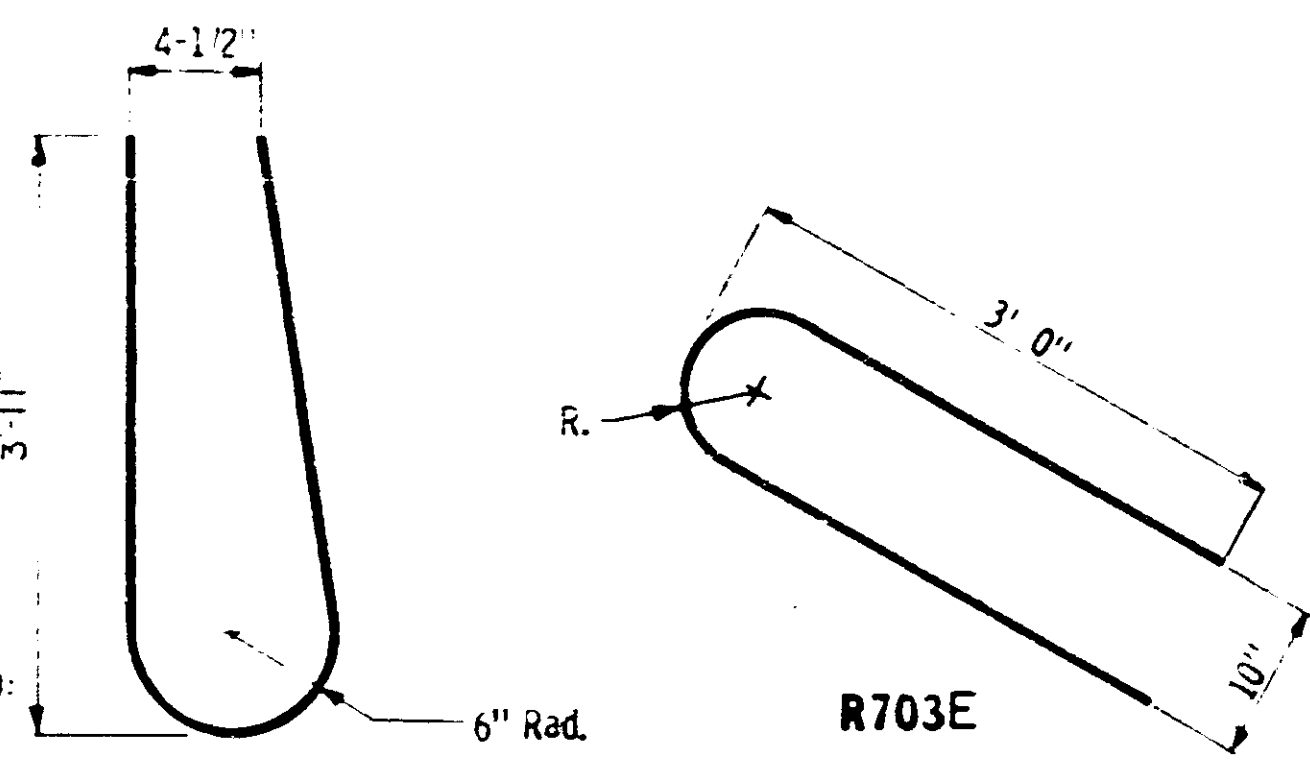
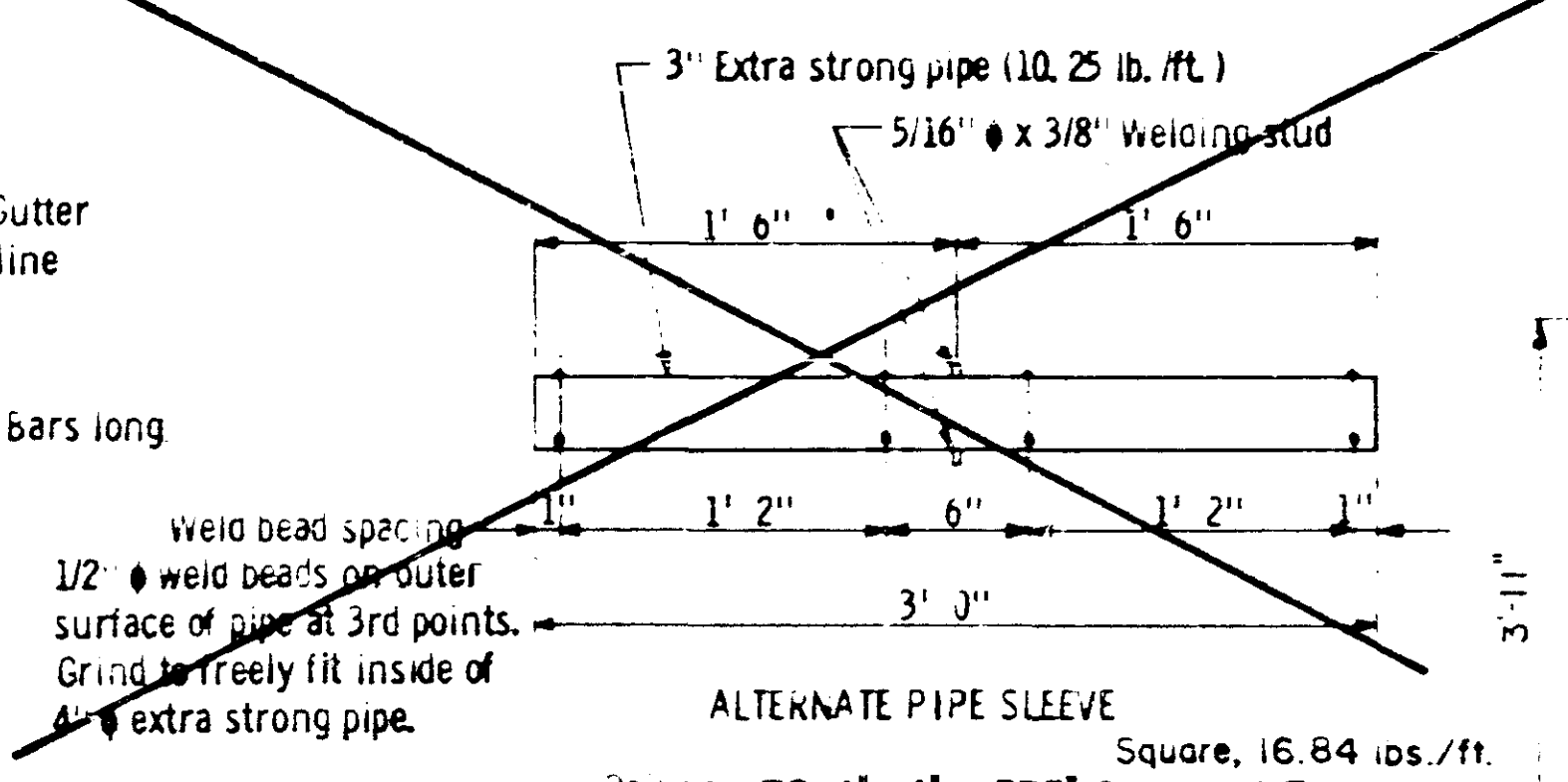
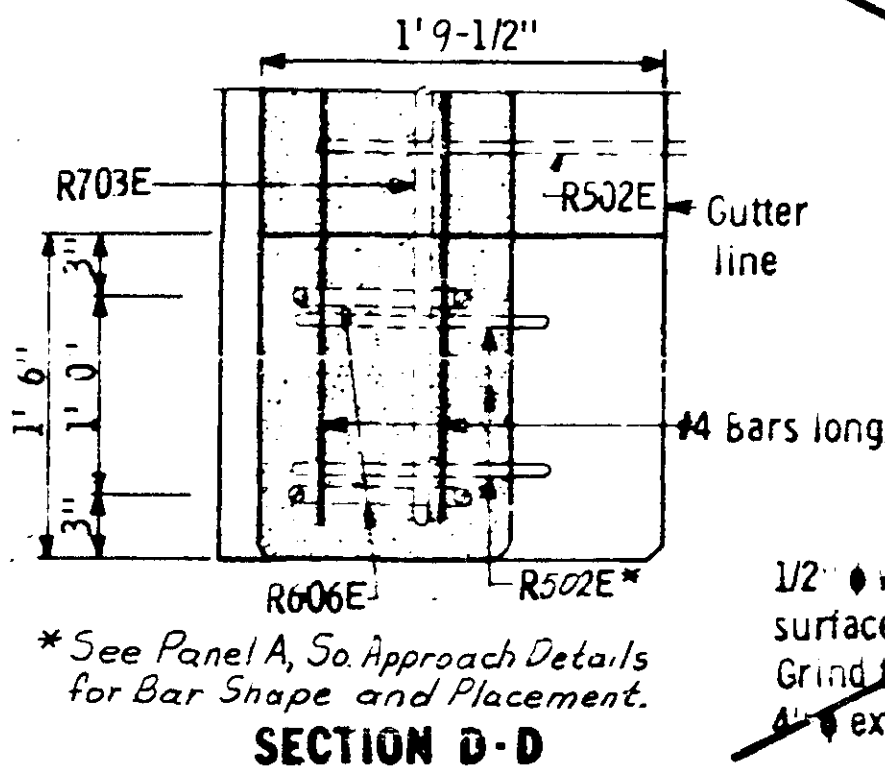
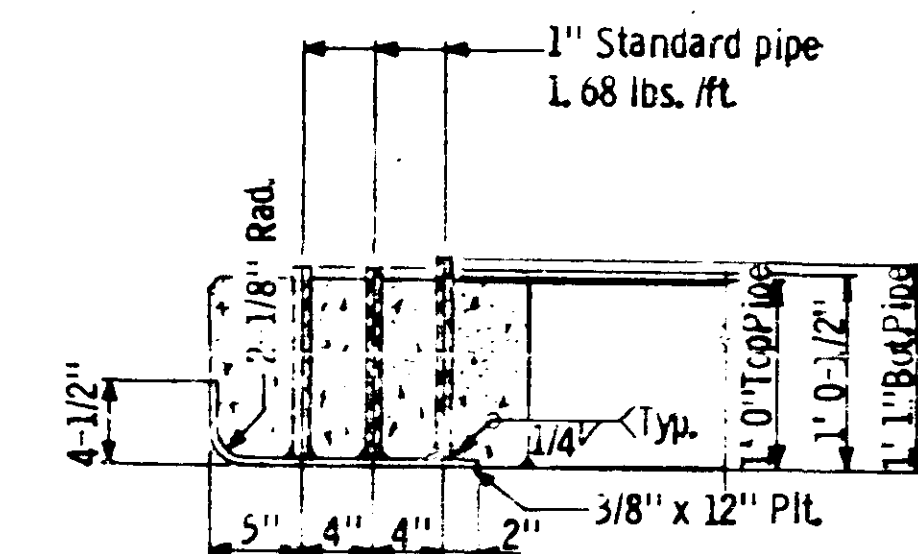
DESIGNED DEVELOPER HAS SUPPLIED BY COMPANY NAMED AS BEING THE REGULAR COURSE OF BUSINESS AS REQUIRED BY STATE OF MINNESOTA ENGINEERING STATUTES AND ACCORDING TO NATIONAL BOARD OF FIRE UNDERWRITERS REQUIREMENTS FOR PERMANENT MICROFILM AND ACCORDING TO AIAA PROCEEDINGS FOR 1978.



BILL OF REINFORCEMENT FOR RAILING

BAR NO	LENGTH	SHAPE	LOCATION
R501E	7'4"	Bent	Rail Vertical
R502E	5'9"	Bent	Rail Vertical
R703E	6'6"	Bent	End at G.R. Conn.
R504E	2'7"	Bent	End Post
R606E	8'6"	Bent	End Post

GENERAL NOTES
 PIPE AND STRUCTURAL STEEL SHALL BE CLEANED AND PAINTED IN ACCORDANCE WITH THE APPLICABLE PROVISIONS OF MH/DOT 2477. THE COLOR OF THE VINYL FINISH COAT, WHEN DRY, SHALL BE DARK BRONZE MATCHING ANODIC 313.



GENERAL NOTES
 Conc. Railing = 634 lbs./ft.
 Conc. Railing = .152 cu. yds./ft.
 Railbase to be Concrete Mix No. 3X46A
 Pipe shall comply with Spec. 3362. The 4" sq. tube shall have a minimum yield point of 35000 P. S. I.
 Guardrail connection & rail posts to be Structural Steel, Spec. 3306.
 Finish all edges of railbase and end post with 1/2" vee, except where otherwise noted.
 Anchorage shall be accurately placed to provide correct alignment of railing. Set normal to grade.

Galvanize bolts and anchorages per Spec. 3392.
 See superstructure sheet for joint spacing.
 Maximum spacing of concrete deflection joints shall be 20'-0".
 Railpipe deflection joints shall be placed in same panel as concrete deflection joints.
 Price bid for pipe railing includes the post anchorages and all material above railbase. Guardrail connection to be included in price bid for other items.
 Length of concrete railing for payment is measured between outside faces of concrete end posts.
 Railing quantities are included in summary of quantities for superstructure.
 Length of pipe railing for payment is measured end to end of pipe.

TITLE: CONCRETE & STEEL PIPE RAILING (TYPE I) WITH INTEGRAL END POST

DES: **DR:** **APPROVED:**

CHK: **CHK:** **5-7-79**

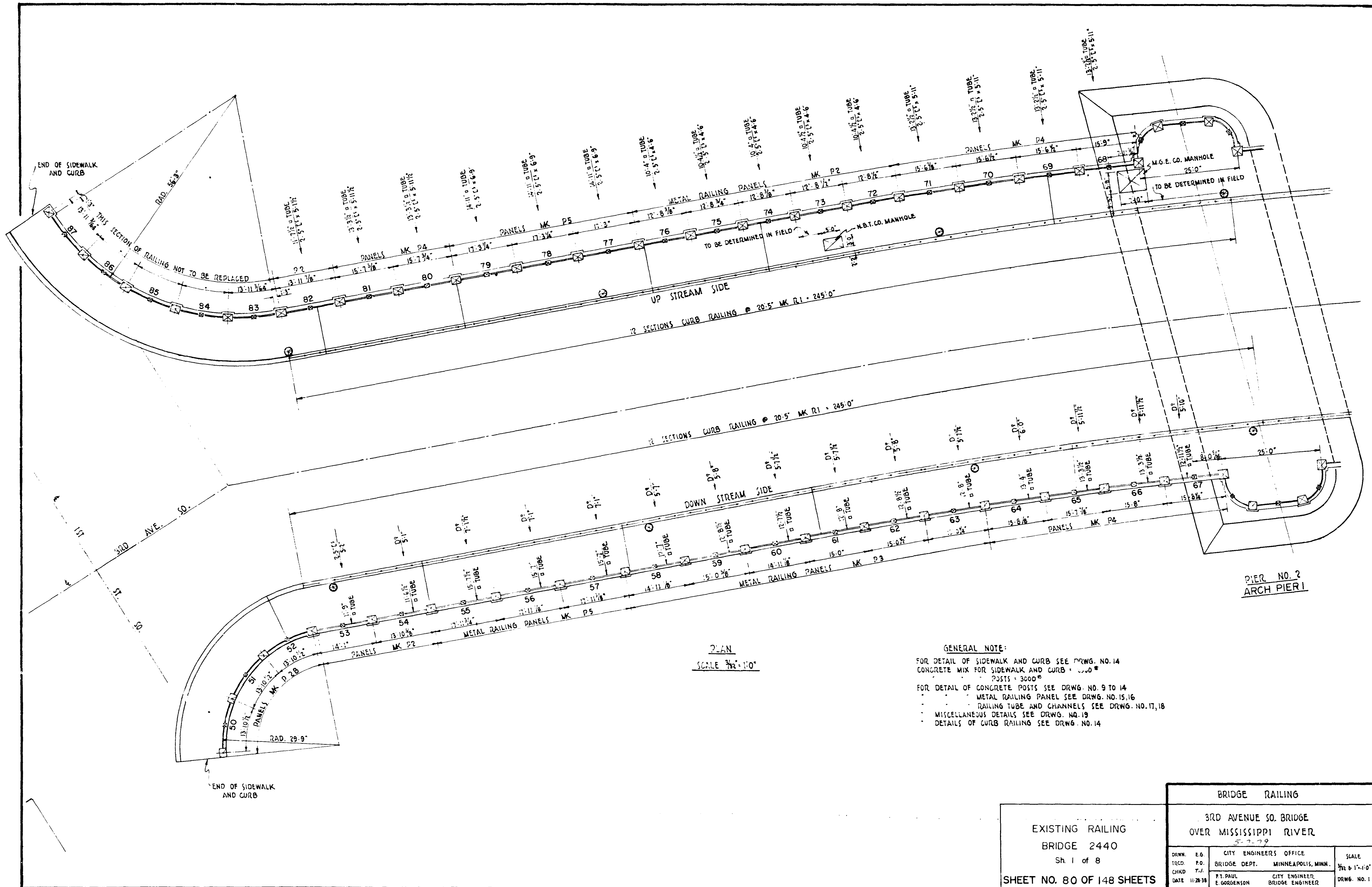
Bridge No. 2440
Sheet No. 78 of 148 Sheets

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BAR	NO.	SIZE	LENGTH	TYPE	DIMENSIONS			LOCATION
					A	B	C	
TRAFFIC RAIL REINFORCEMENT								
SOUTH APPROACH OFF BRIDGE								
TRAFFIC RAIL-PANEL A								
R501E	50	5	7-4	127				Rail Transverse
R502E	52	5	5-9	182	1-3			Rail Transverse
R606E	2	6	7-4	188				End Vertical
R504E	4	5	2-7	105	1-3	0-8		End Longitudinal
R703E	1	7	6-6	102	0-10	3-0		End of T.R.Conn.
R407E	18	4	7-4	Str.				Rail Longitudinal
R408E	37	4	8-9	109	2-0	2-0		Rail Transverse
R409E	8	4	1-4	Str.				Rail Longitudinal
R410E	18	4	12-6	Str.				Rail Longitudinal
R411E	18	4	15-5	Str.				Rail Longitudinal
TRAFFIC RAIL-PANEL B								
R408E	56	4	71-0	201				Transverse
R410E	15	4	11-0	-				Longitudinal
R513E	80	5	5-4	150				Transverse
R411E	15	4	6-0	-				Longitudinal
R428E	15	4	14-3	-				Longitudinal
R429E	15	4	19-0	-				Longitudinal
R535E	80	5	5-9	182	1-3			Transverse
SOUTH APPROACH								
R501E	284	5	7-4	127				Transverse
R502E	537	5	5-9	159				Transverse
R409E	32	4	15-8	Str.				Longitudinal
R412E	64	4	15-0	Str.				Longitudinal
R513E	231	5	5-4	150				Transverse
R420E	5	4	15-8	-				Longitudinal
R421E	5	4	19-3	-				Longitudinal
R422E	10	4	22-3	-				Longitudinal
R423E	10	4	21-8	-				Longitudinal
R424E	10	4	22-6	-				Longitudinal
R425E	2	4	19-9	-				Longitudinal
R426E	2	4	13-3	-				Longitudinal
R427E	4	4	19-9	-				Longitudinal
R530E	1-Ser	5	6-6	127				Transverse
	of 5		7-2					
R531E	1-Ser	5	6-0	127				Transverse
	of 4		6-2					
R532E	1-Ser	5	4-10	127				Transverse
	of 7		5-10					
R533E	1-Ser	5	4-4	127				Transverse
	of 6		4-8					
UNIT 1								
R501E	131	5	7-4	127				Transverse
R502E	131	5	5-9	159				Transverse
R404E	16	4	13-9	Str.				Longitudinal
R406E	16	4	11-7	Str.				Longitudinal
R414E	16	4	12-6	Str.				Longitudinal
UNIT 2, 6, 26, 30 (4 REQUIRED)								
R501E	138	5	7-4	127				Transverse
R502E	138	5	5-9	159				Transverse
R403E	24	4	14-1	Str.				Longitudinal
R404E	16	4	13-9	Str.				Longitudinal
UNIT 3, 5, 27, 29 (4 REQUIRED)								
R501E	90	5	7-4	127				Transverse
R502E	90	5	5-9	159				Transverse
R403E	16	4	14-1	Str.				Longitudinal
R404E	16	4	13-9	Str.				Longitudinal
UNITS 4 and 28 (2 REQUIRED)								
R501E	141	5	7-4	127				Transverse
R502E	141	5	5-9	159				Transverse
R403E	24	4	14-1	Str.				Longitudinal
R404E	16	4	13-9	Str.				Longitudinal
R416E	8	4	13-11	Str.				Longitudinal
UNIT 7								
R501E	141	5	7-4	127				Transverse
R502E	141	5	5-9	159				Transverse
R403E	40	4	14-1	Str.				Longitudinal
R404E	8	4	13-9	Str.				Longitudinal

BAR	NO.	SIZE	LENGTH	TYPE	DIMENSIONS			LOCATION
					A	B	C	
UNITS 8, 12, 14, 18, 20, 24 (6 REQUIRED)								
R501E	138	5	7-4	127				Transverse
R502E	138	5	5-9	159				Transverse
R403E	48	4	14-1	Str.				Longitudinal
UNITS 9, 11, 15, 17, 21, 23 (6 REQUIRED)								
R501E	92	5	7-4	127				Transverse
R502E	92	5	5-9	159				Transverse
R403E	32	4	14-1	Str.				Longitudinal
UNITS 10, 13, 16, 19, 22, 25 (6 REQUIRED)								
R501E	141	5	7-4	127				Transverse
R502E	141	5	5-9	159				Transverse
R403E	48	4	14-1	Str.				Longitudinal
UNIT 31								
R501E	169	5	7-4	127				Transverse
R502E	169	5	5-9	159				Transverse
R404E	8	4	13-9	Str.				Longitudinal
R414E	40	4	12-6	Str.				Longitudinal
R415E	8	4	11-0	Str.				Longitudinal
R417E	8	4	13-1	Str.				Longitudinal
UNITS 32, 33, 36, 38 (4 REQUIRED)								
R501E	122	5	7-4	127				Transverse
R502E	122	5	5-9	159				Transverse
R405E	8	4	13-0	Str.				Longitudinal
R406E	16	4	11-7	Str.				Longitudinal
R417E	16	4	13-1	Str.				Longitudinal
R418E	8	4	11-10	Str.				Longitudinal
UNIT 34, 37 (2 REQUIRED)								
R501E	125	5	7-4	127				Transverse
R502E	125	5	5-9	159				Transverse
R405E	8	4	13-0	Str.				Longitudinal
R406E	16	4	11-7	Str.				Longitudinal
R417E	16	4	13-1	Str.				Longitudinal
R418E	8	4	11-10	Str.				Longitudinal
UNIT 35								
R501E	110	5	7-4	127				Transverse
R502E	110	5	5-9	159				Transverse
R406E	16	4	11-7	Str.				Longitudinal
R407E	8	4	8-5	Str.				Longitudinal
R408E	8	4	7-0	Str.				Longitudinal
R417E	16	4	13-1	Str.				Longitudinal
UNIT 39								
R501E	116	5	7-4	127				Transverse
R502E	116	5	5-9	159				Transverse
R406E	8	4	11-7	Str.				Longitudinal
R414E	16	4	12-6	Str.				Longitudinal
R415E	16	4	11-0	Str.				Longitudinal
R418E	8	4	11-10	Str.				Longitudinal
NORTH APPROACH								
R501E	544	5	7-4	127				Transverse
R502E	544	5	5-9	159				Transverse
R409E	64	4	15-8	Str.				Longitudinal
R411E	64	4	14-6	Str.				Longitudinal
R412E	64	4	15-0	Str.				Longitudinal
NORTH APPROACH OFF BRIDGE								
TRAFFIC RAIL								
R501E	357	5	7-4	127				Rail
R502E	363	5	5-9	182	2-0			Rail
R606E	4	6	7-4	188				End Rail
R405E	90	4	24-8	Str.				Rail and Footing
R504E	4	5	2-7	105	1-3	8		End Rail
R703E	2	7	6-6	102	0-10	3-0		End Rail
R409E	18	4	12-0	Str.				Rail and Footing
R410E	18	4	8-6	Str.				Rail and Footing
R411E	236	4	11-0	201				Footing
R412E	18	4	10-10	Str.				Rail and Footing
R413E	36	4	22-4	Str.				Rail and Footing
R414E	18	4	23-6	Str.				Rail and Footing
R415E	16	4	1-4	Str.				Rail
HANDRAIL REINFORCEMENT								
SOUTH APPROACH OFF BRIDGE								
P601	76	6	4-6	104	1-6			Types A and C

BAR	NO.	SIZE	LENGTH	TYPE	DIMENSIONS			LOCATION
					A	B	C	
SOUTH APPROACH								
P602	48	6	4-0	Str.				Type A
P403	32	4	5-11	109	0-8	1-11		Type A
P405	24	4	3-1	109	0-8	0-6		Type C
P606	28	6	2-3	Str.				Type C
SOUTH APPROACH								
P601	266	6	4-6	104	1-6			Types A,C,F and G
P602	162	6	4-0	Str.				Types A,F and G
P403	100	4	5-11	109	0-8	1-11		Type A
P405	78	4	3-1	109	0-8	0-6		Type C
P606	104	6	2-3	Str.				Type C
P412	8	4	5-2	109	0-8	1-8		Type G
UNIT 1								
P601	92	6	4-6	104	1-6			Types B,C,D,F and G
P602	60	6	4-0	Str.				Types B,D,F and G
P404	8	4	3-5	109	0-8	0-8		Type B
P405	24	4	3-1	109	0-8	0-6		Type C
P606	34	6	2-3	Str.				Type C
P407	8	4	4-6	109	0-8	1-4		Type F
P410	16	4	5-0	174	0-8	1-5		Type D
P411	16	4	2-9	109	0-8	0-4		Types F and G
UNITS (2, 4, 5, 7, 8, 10, 12, 13, 14, 16, 18, 19, 20, 22, 24, 25, 26, 28, 30, 32, 33, 34, 36, 37, 38) (25 Required)								
P601	72	6	4-6	104	1-6			Types B and C
P602	48	6	4-0	Str.				Type B
P404	48	4	3-5	109	0-8	0-8		Type B
P405	18	4	3-1	109	0-8	0-6		Type C
P606	24	6	2-3	Str.				Type C
UNITS (3, 5, 9, 11, 15, 17, 21, 23, 27, 29) (10 REQUIRED)								
P601	48	6	4-6	104	1-6			Types B and C
P602	32	6	4-0	Str.				Type B
P404	32	4	3-5	109	0-8	0-8		Type B
P405	12	4	3-1	109	0-8	0-6		Type C
P606	16	6	2-3	Str.				Type C

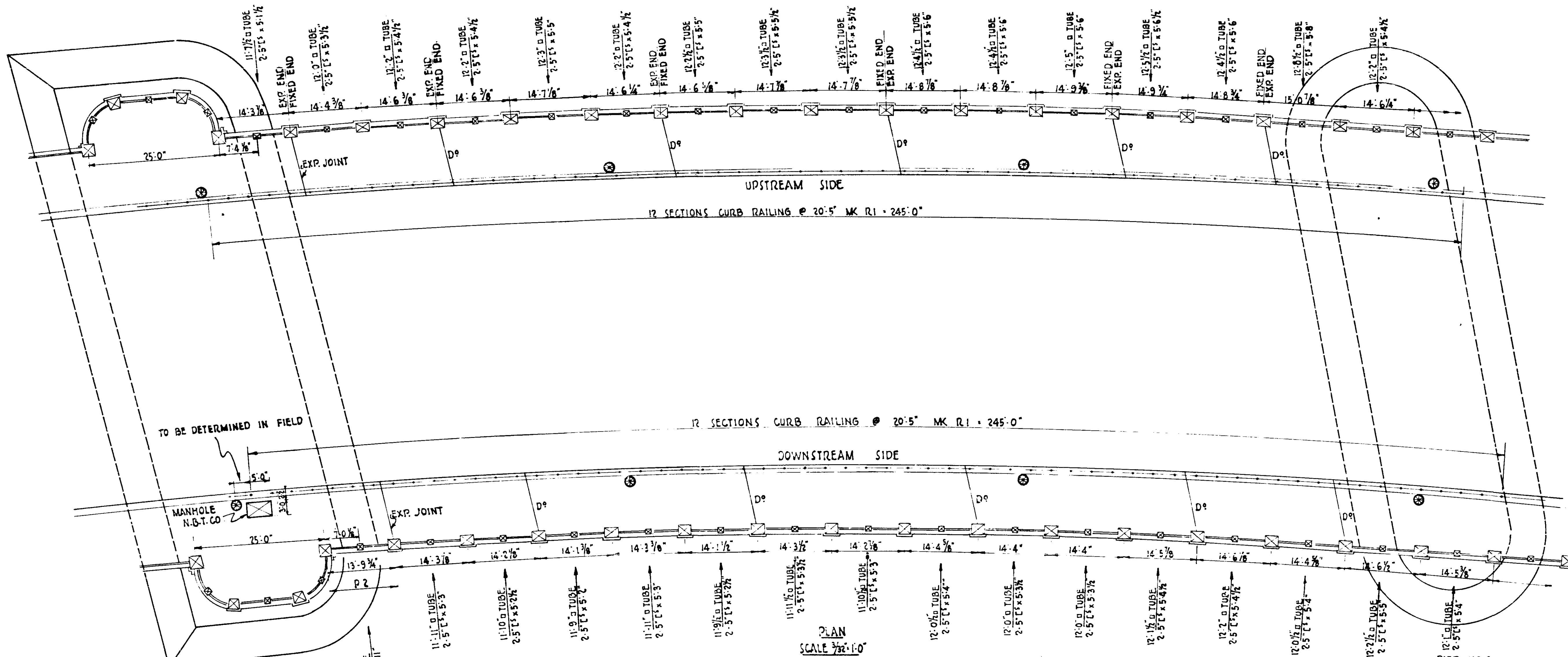


PLAN
SCALE 3/32" = 1'-0"

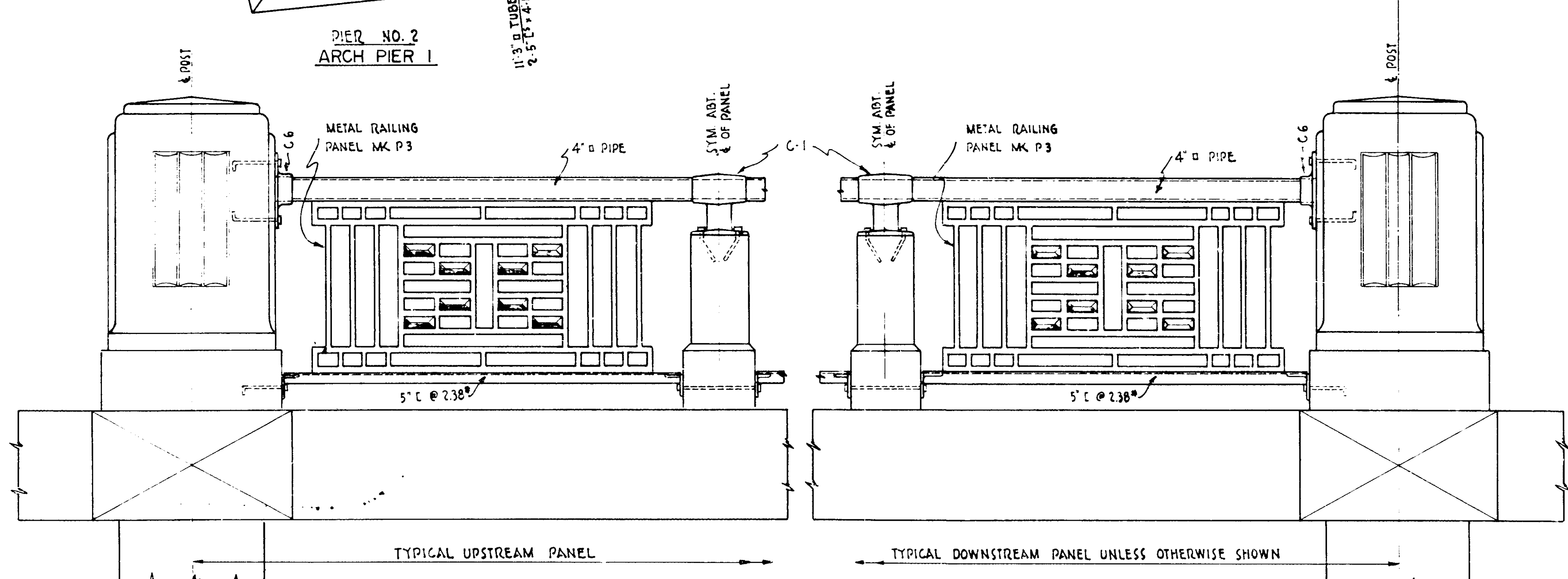
GENERAL NOTE:
 FOR DETAIL OF SIDEWALK AND CURB SEE DRWG. NO. 14
 CONCRETE MIX FOR SIDEWALK AND CURB = C-2000*
 POSTS = 3000*
 FOR DETAIL OF CONCRETE POSTS SEE DRWG. NO. 9 TO 14
 METAL RAILING PANEL SEE DRWG. NO. 15, 16
 RAILING TUBE AND CHANNELS SEE DRWG. NO. 17, 18
 MISCELLANEOUS DETAILS SEE DRWG. NO. 19
 DETAILS OF CURB RAILING SEE DRWG. NO. 14

EXISTING RAILING BRIDGE 2440 Sh. 1 of 8 SHEET NO. 80 OF 148 SHEETS		BRIDGE RAILING 3RD AVENUE SO. BRIDGE OVER MISSISSIPPI RIVER 5-7-79	
		CITY ENGINEERS OFFICE BRIDGE DEPT. MINNEAPOLIS, MINN. P.T. PAUL E. GORGENSON CITY ENGINEER BRIDGE ENGINEER	SCALE 3/32" = 1'-0" DRWG. NO. 1

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PLAN
SCALE 3/32" = 1'-0"

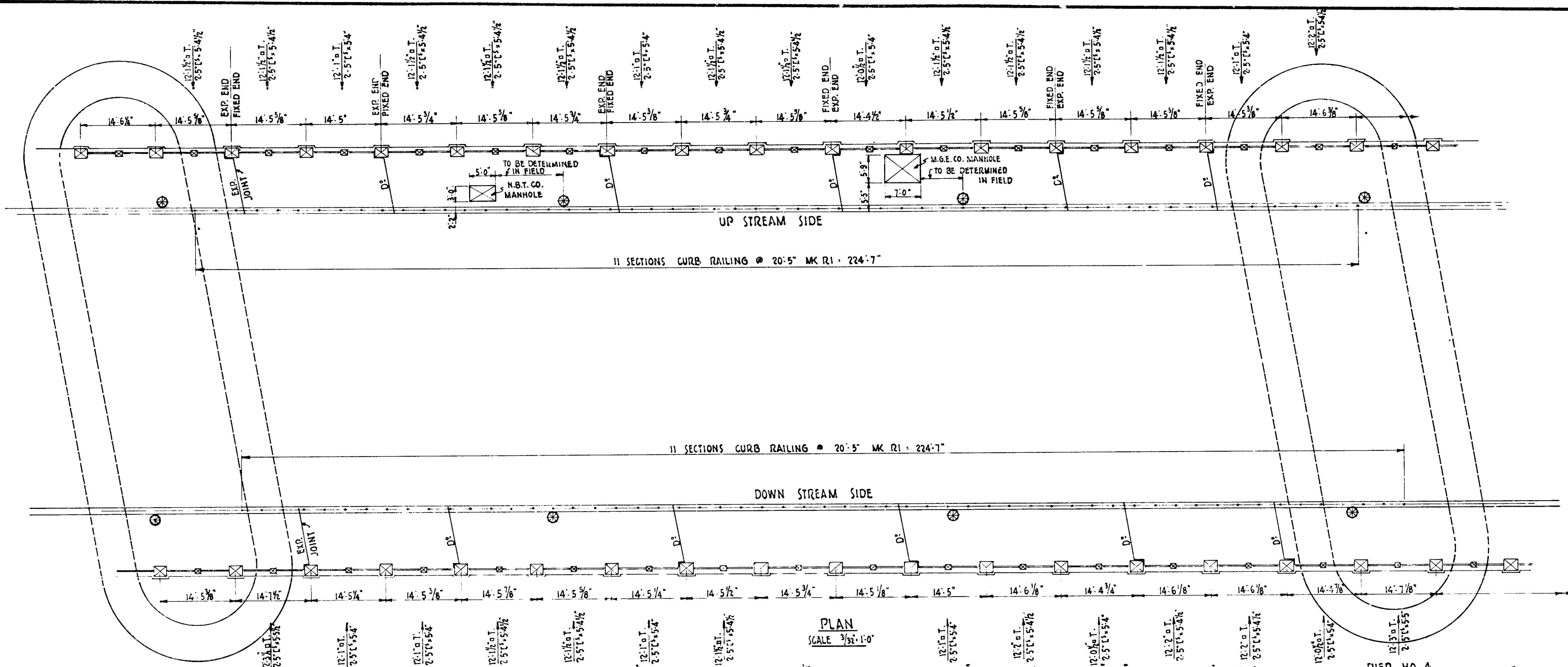


ELEVATION OF RAILING PANELS BETWEEN PIERS NO. 2 & 3
SCALE 1" = 1'-0"

GENERAL NOTE:
 FOR DETAILS OF SIDEWALK AND CURB SEE DRWG. NO. 14
 CONCRETE MIX FOR SIDEWALK AND CURB = 2500 #
 POSTS = 3000 #
 FOR DETAIL OF CONCRETE POSTS SEE DRWG. NO. 9 TO 14
 METAL RAILING PANELS SEE DRWG. NO. 15, 16
 RAILING TUBE AND CHANNELS SEE DRG. NO. 17, 18
 MISCELLANEOUS DETAILS SEE DRWG. NO. 19
 FOR DETAILS OF CURB RAILING SEE DRWG. NO. 14

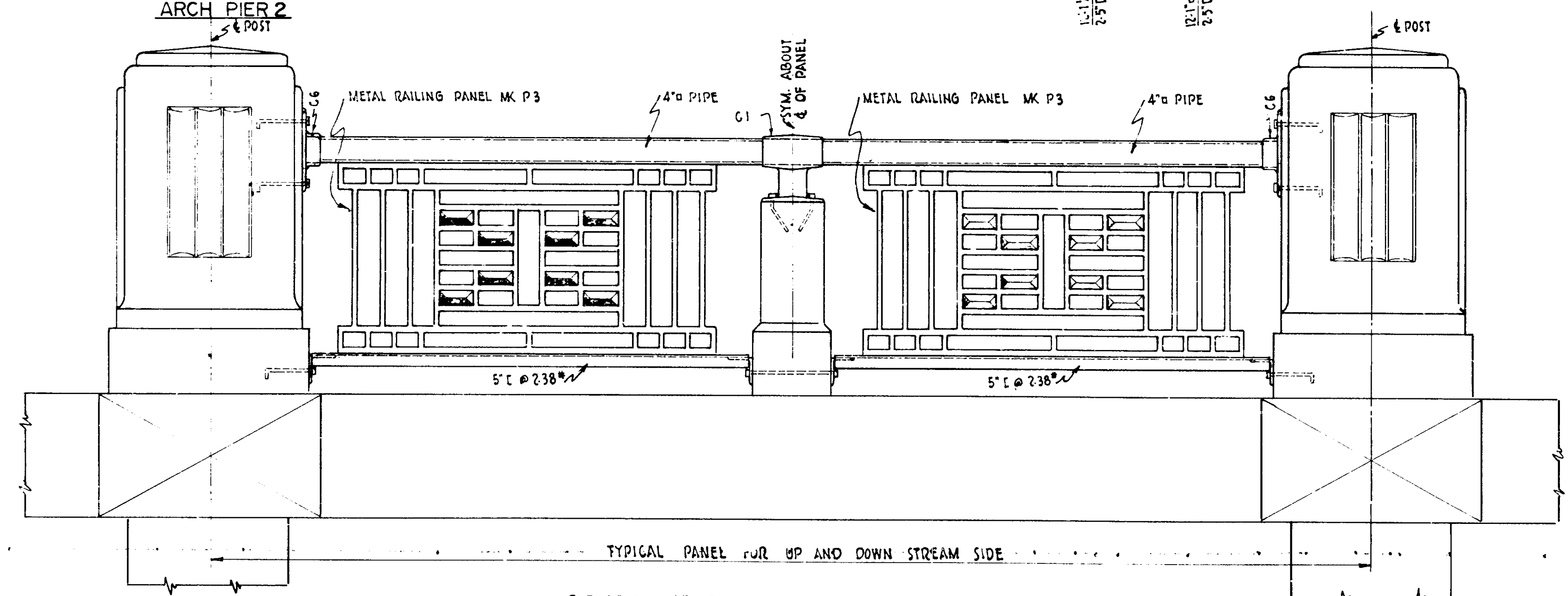
BRIDGE RAILING		
3RD AVENUE SO. BRIDGE OVER MISSISSIPPI RIVER 5-7-79		
DRWN. E.G.	CITY ENGINEERS OFFICE	SCALE
TRCD. F.O.	BRIDGE DEPT. MINNEAPOLIS, MINN.	3/32" = 1'-10"
CHKD. T.J.	F.T. PAUL E. GORSENIOW	CITY ENGINEER, BRIDGE ENGINEER
DATE 11-21-38	DRWG. NO. 2	

EXISTING RAILING
 BRIDGE 2440
 Sh. 2 of 8
 SHEET NO. 81 OF 148 SHEETS



PIER NO. 3
ARCH PIER 2

PIER NO. 4
ARCH PIER 3

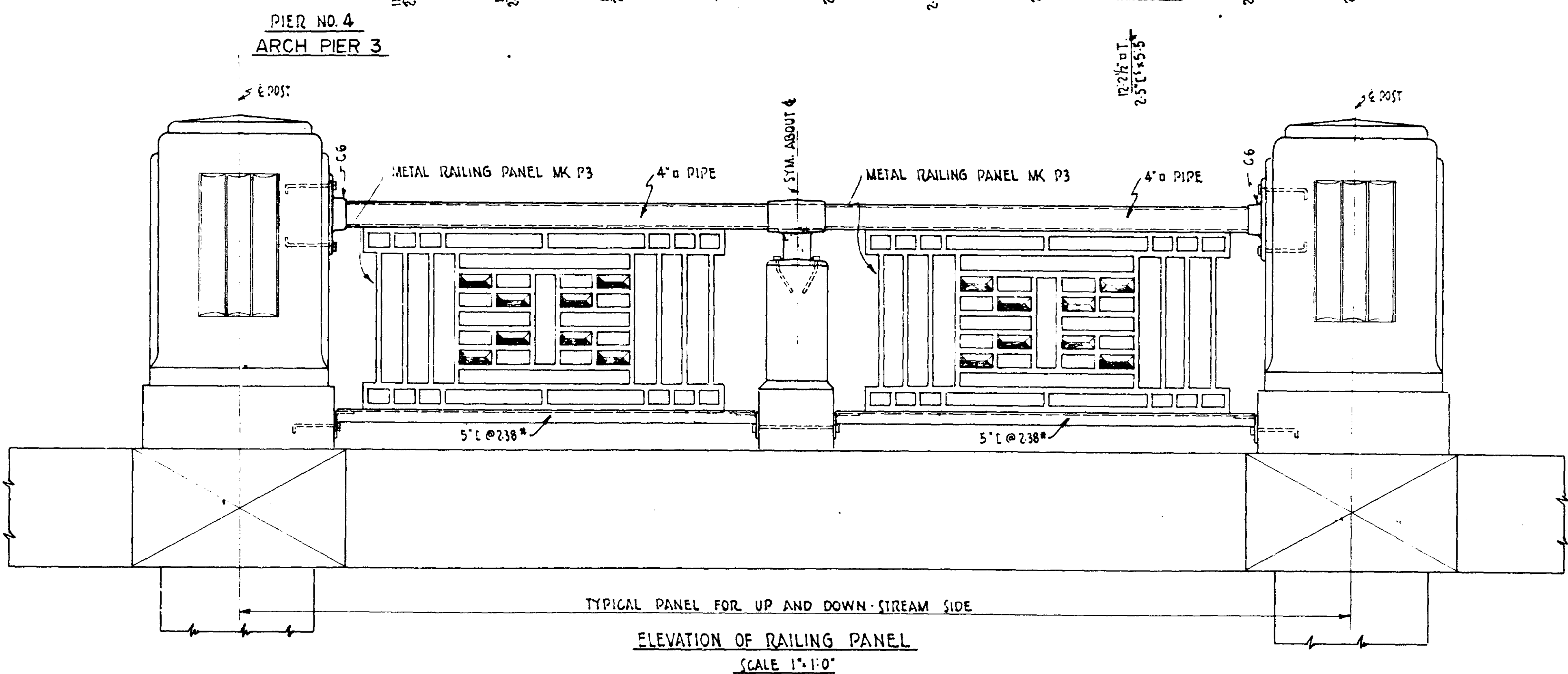
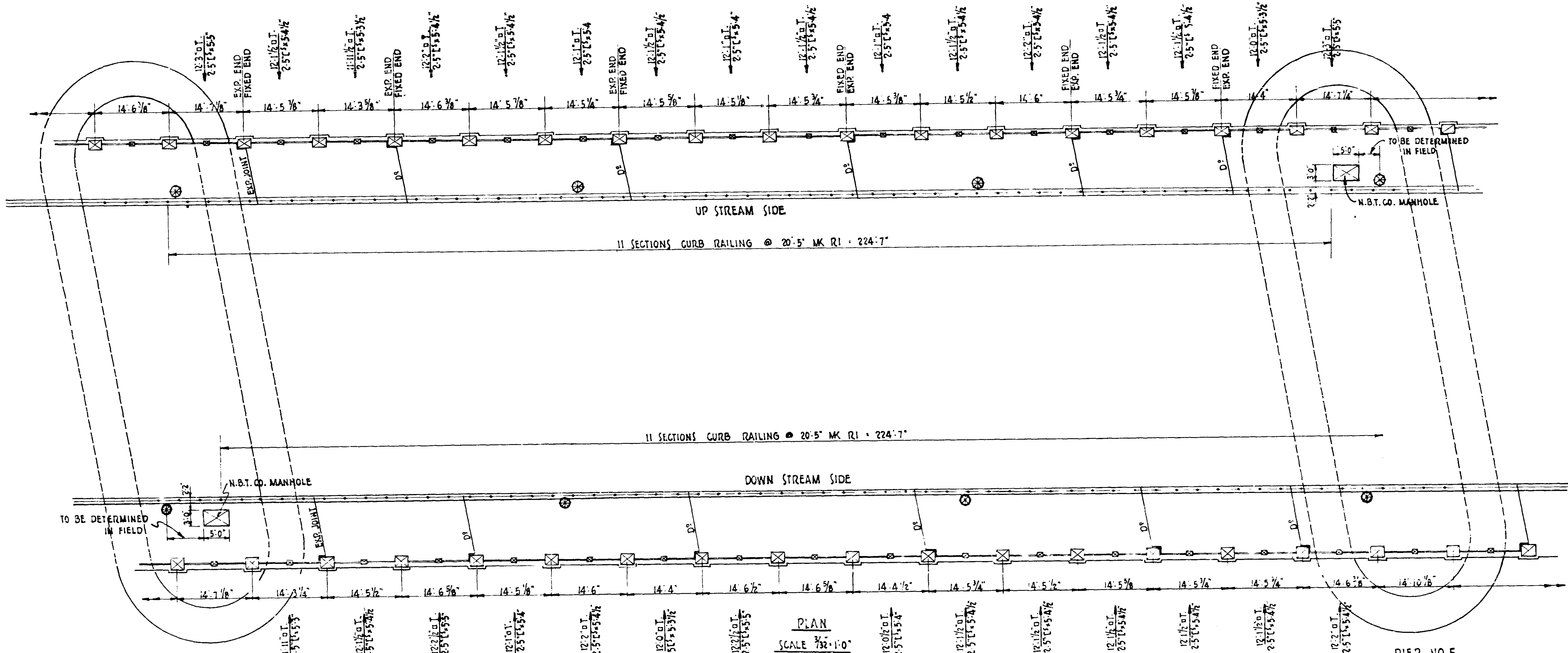


GENERAL NOTE:

- FOR DETAILS OF SIDEWALK AND CURB SEE DRAWING NO. 14
- CONCRETE MIX FOR SIDEWALK AND CURB = 2500*
- POSTS = 3000*
- FOR DETAIL OF CONCRETE POSTS SEE DRAWING NO. 9 TO 14
- METAL RAILING PANELS SEE DRAWING NO. 15, 16
- RAILING TUBE AND CHANNELS SEE DRAWING NO. 17, 18
- MISCELLANEOUS DETAILS SEE DRAWING NO. 19
- DETAIL OF CURB RAILING SEE DRAWING NO. 14

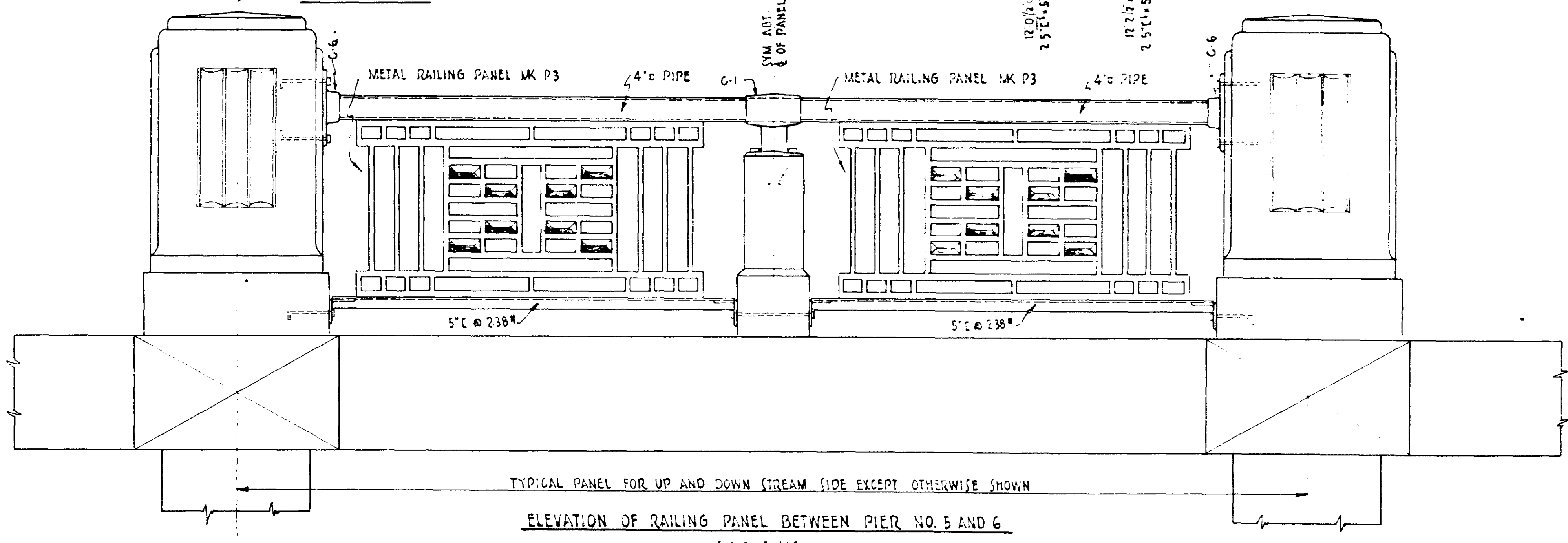
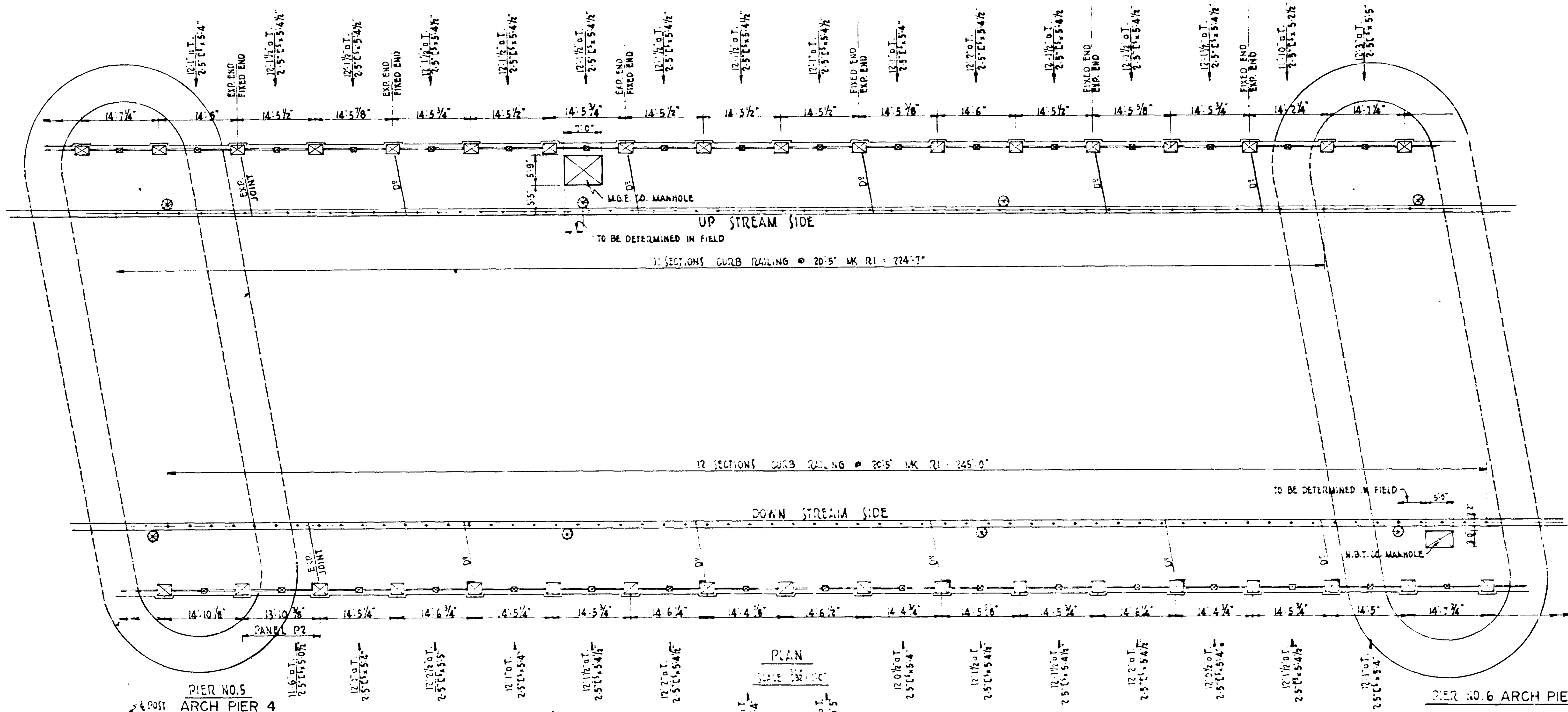
EXISTING RAILING BRIDGE 2440 Sh. 3 of 8		BRIDGE DEPT. CITY ENGINEERS OFFICE MINNEAPOLIS MINNESOTA		SCALE 3/32" = 1'-0" DRWG. NO. 3
SHEET NO. 82 OF 148 SHEETS		DATE 12-6-38 E.T. PAUL E. GORGENSON		CITY ENGINEER BRIDGE ENGINEER

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GENERAL NOTE:
 FOR DETAIL OF SIDEWALK AND CURB SEE DRAWING NO. 14.
 CONCRETE MIX FOR SIDEWALK AND CURB - 2500#
 POSTS - 3000#
 FOR DETAIL OF CONCRETE POSTS SEE DRAWING NO. 9 TO 14.
 METAL RAILING PANELS SEE DRAWING NO. 15, 16.
 RAILING TUBE AND CHANNELS SEE DRAWING NO. 17, 18.
 MISCELLANEOUS DETAILS SEE DRAWING NO. 19.
 DETAIL OF CURB RAILING SEE DRAWING NO. 14.

BRIDGE RAILING	
3RD AVE. SO. BRIDGE OVER MISSISSIPPI RIVER	
EXISTING RAILING BRIDGE 2440 Sh. 4 of 8	
DRWN. E.G.	BRIDGE DEPT. CITY ENGINEER'S OFFICE
TRCD. F.D.	MINNEAPOLIS MINNESOTA
CHKD. T.J.	
DATE	FT. PAUL CITY ENGINEER E. GORGENSON BRIDGE ENGINEER
SHEET NO. 83 OF 148 SHEETS	
SCALE 3/32" = 1'-0" DRWG. NO. 4	



GENERAL NOTE:

FOR DETAIL OF SIDEWALK AND CURB SEE DRAWING NO. 14

CONCRETE MIX FOR SIDEWALK AND CURB - 2500*

POSTS - 3000*

FOR DETAIL OF CONCRETE POSTS DRAWINGS NO. 9 TO 14

METAL RAILING PANELS SEE DRAWINGS NO. 15, 16

RAILING TUBE AND CHANNELS SEE DRAWINGS NO. 17, 18

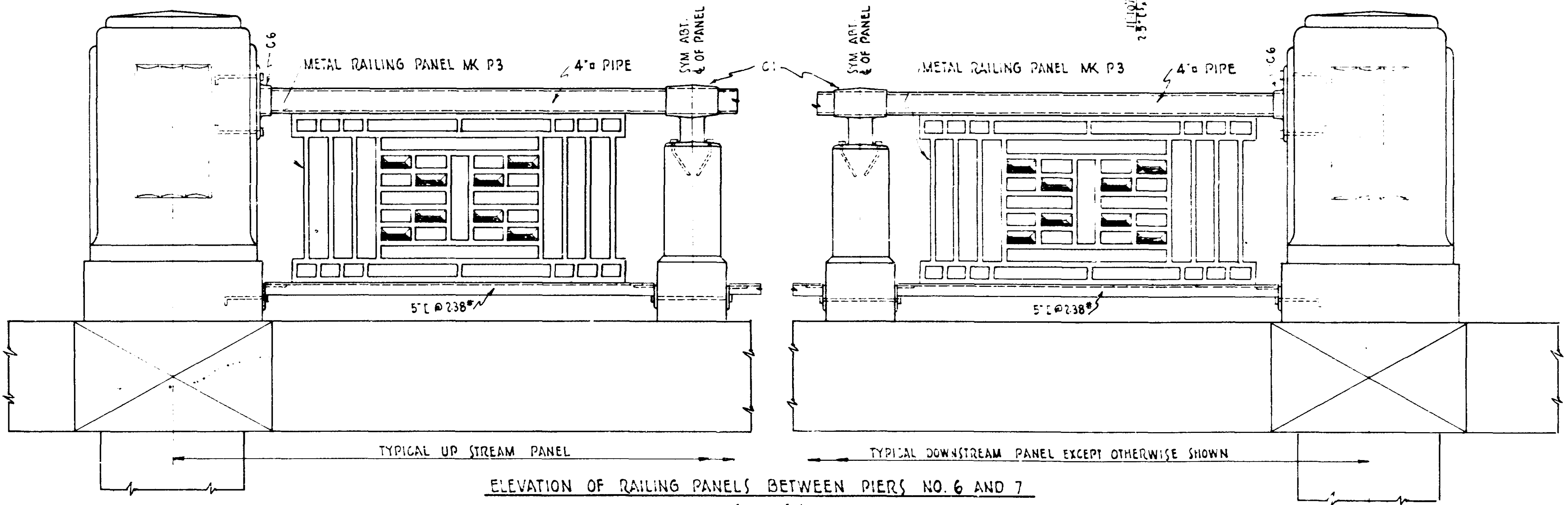
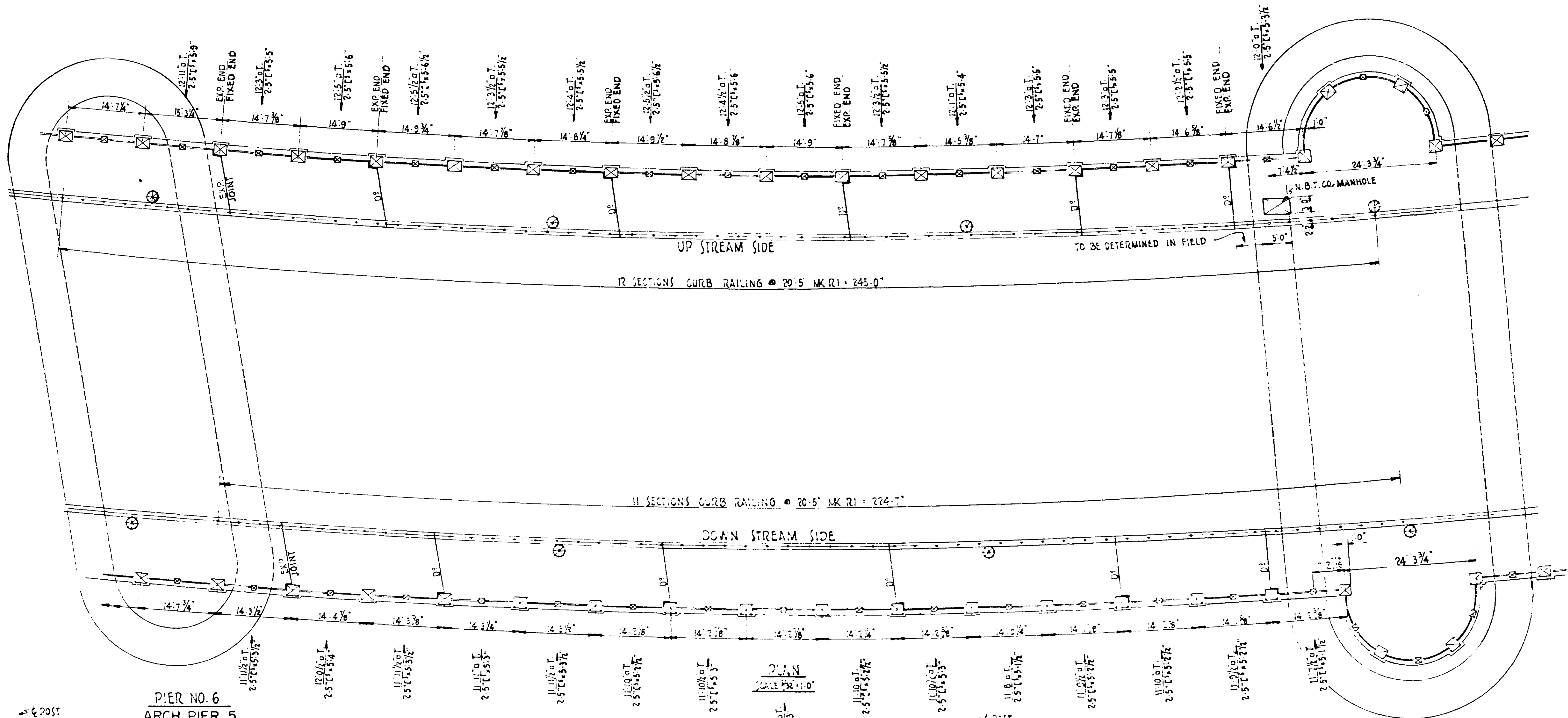
MISCELLANEOUS DETAILS SEE DRAWING NO. 19

DETAIL OF CURB RAILING SEE DRAWING NO. 14

BRIDGE RAILING			
3RD AVENUE SO. BRIDGE OVER MISSISSIPPI RIVER			
5-7-79			
DRWN. E.G.	BRIDGE DEPT.	CITY ENGINEER'S OFFICE	SCALE
TRCD. F.O.	MINNEAPOLIS	MINNESOTA	3/8" @ 1"=1'-0"
CHKD. T.J.			DRWG NO. 5
DATE	FT. PAUL	CITY ENGINEER	
	E. GORGENSON	BRIDGE ENGINEER	

EXISTING RAILING
BRIDGE 2440
Sh. 5 of 8
SHEET NO. 84 OF 148 SHEETS

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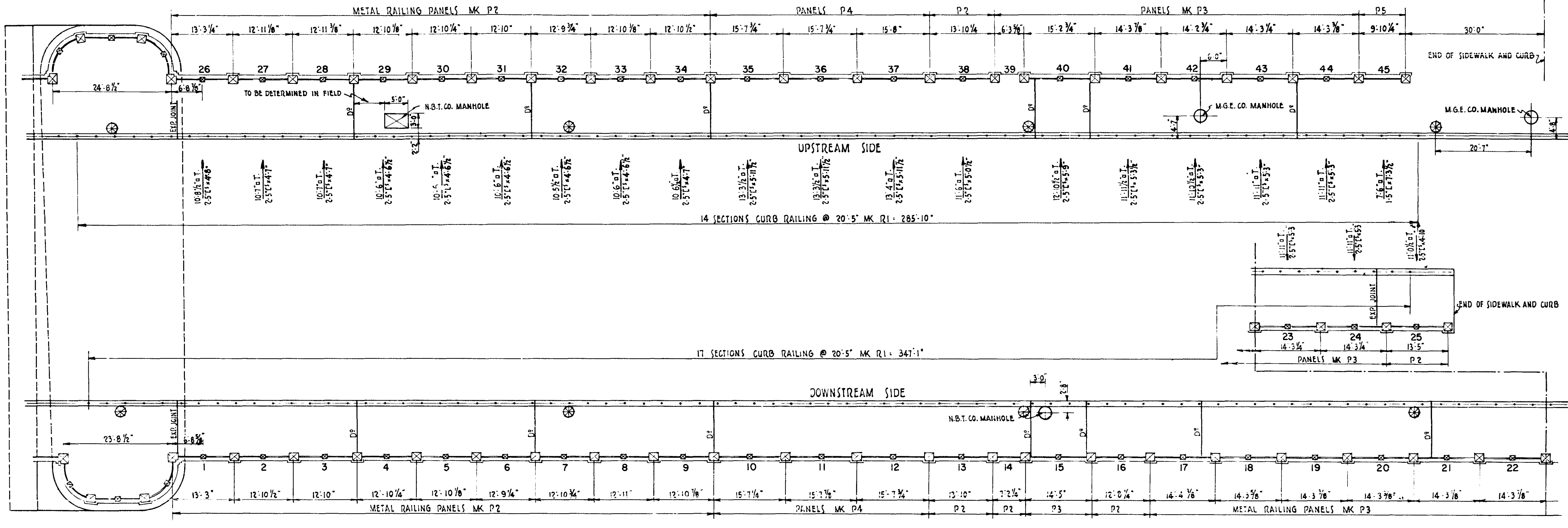
ELEVATION OF RAILING PANELS BETWEEN PIERS NO. 6 AND 7
SCALE 1"=1'-0"

GENERAL NOTE:
 FOR DETAIL OF SIDEWALK AND CURB SEE DRAWING NO. 14.
 CONCRETE MIX FOR SIDEWALK AND CURB - 2500*
 POSTS - 3000*
 FOR DETAIL OF CONCRETE POSTS SEE DRAWING NO. 9 TO 14.
 METAL RAILING PANELS SEE DRAWING NO. 15, 16.
 RAILING TUBE AND CHANNELS SEE DRAWING NO. 17, 18.
 MISCELLANEOUS DETAILS SEE DRAWING NO. 19.
 DETAIL OF CURB RAILING SEE DRAWING NO. 14.

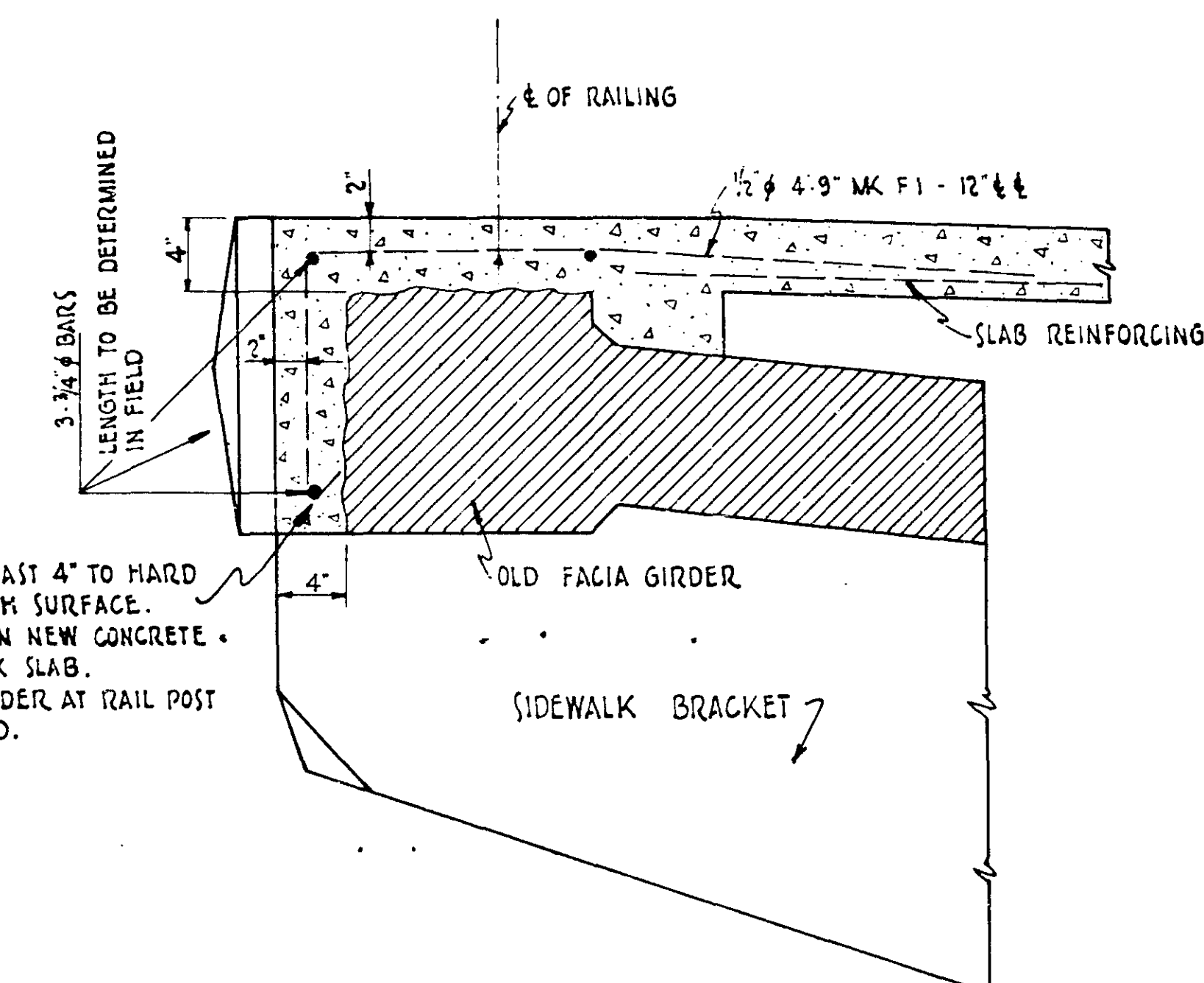
BRIDGE RAILING			
3RD AVENUE SO. BRIDGE OVER MISSISSIPPI RIVER 5-7-79			
DRWN. E.G.	BRIDGE DEPT.	CITY ENGINEER'S OFFICE	SCALE
TRED. F.D.	MINNEAPOLIS	MINNESOTA	3/8" = 1'-10"
CHKD. T.J.	FT. PAUL	CITY ENGINEER	DRWG. NO. 6
DATE	E. GORGENSEN	BRIDGE ENGINEER	

EXISTING RAILING
 BRIDGE 2440
 Sh. 6 of 8
 SHEET NO. 85 OF 148 SHEETS

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PLAN
SCALE 3/32" = 1'-0"



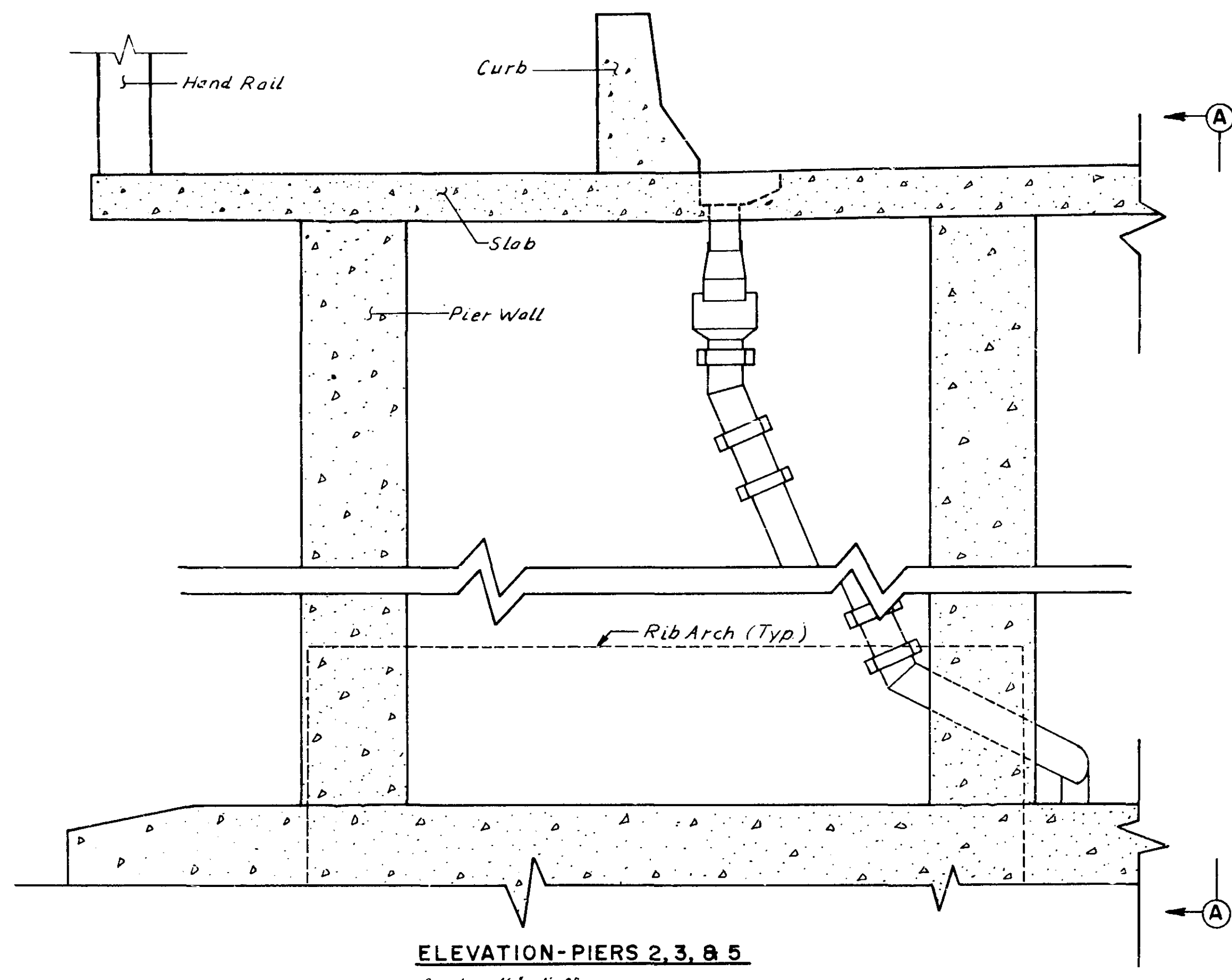
LOOSE CONCRETE TO BE REMOVED AT LEAST 4" TO HARD CONCRETE LEAVING A CLEAN AND ROUGH SURFACE. AFTER REINFORCING PLACED AS SHOWN NEW CONCRETE TO BE POURED TOGETHER WITH SIDEWALK SLAB. WHERE THE OUTSIDE PROJECTION OF GIRDER AT RAIL POST IS IN BAD SHAPE IT HAS TO BE REPLACED.

DETAIL SHOWING REPAIR OF BAD FACIA GIRDERS

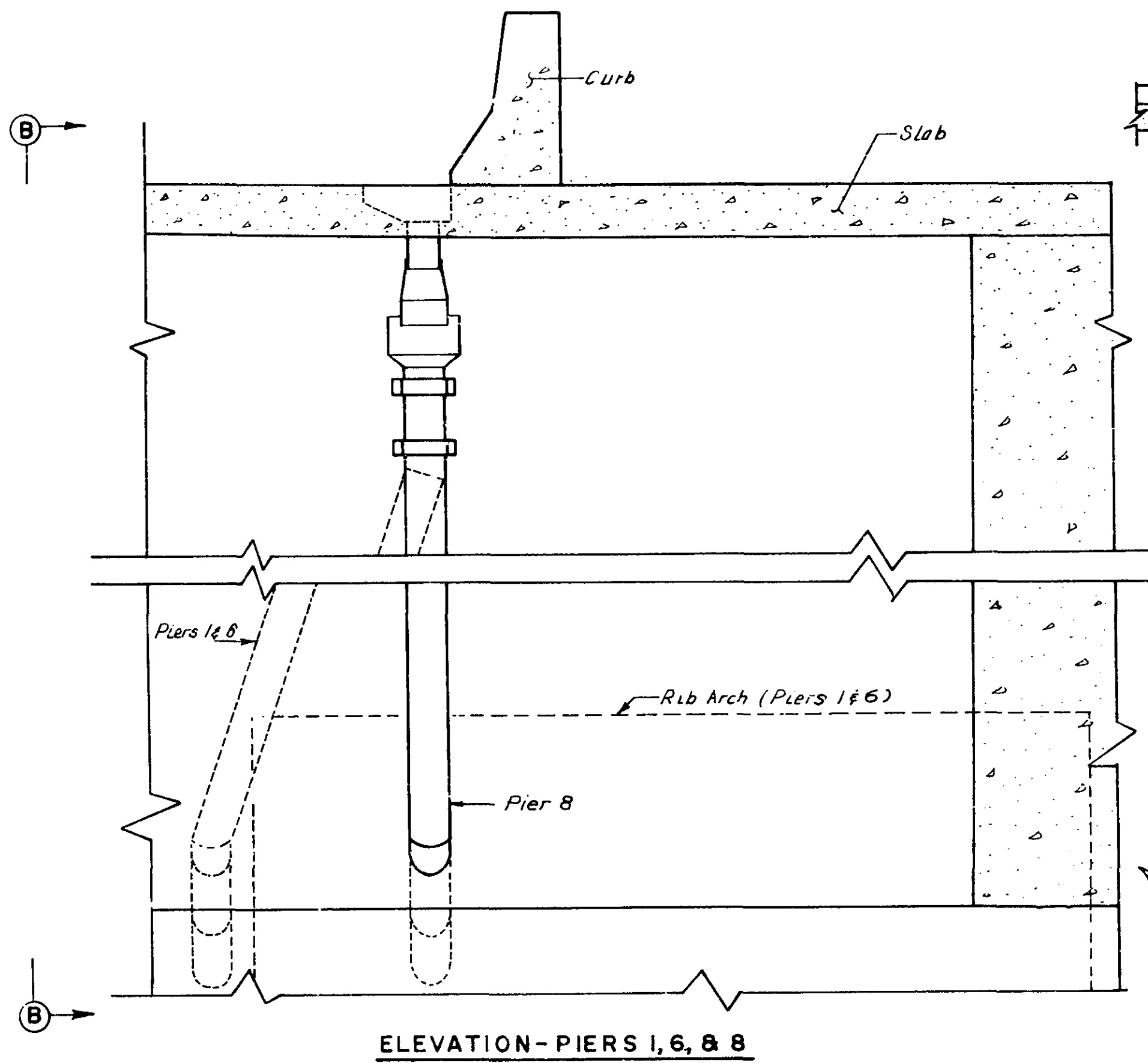
- GENERAL NOTE:**
- FOR DETAIL OF SIDEWALK AND CURB SEE DRAWING NO. 14.
 - CONCRETE MIX FOR SIDEWALK AND CURB - 2500#
 - POSTS - 3000#
 - FOR DETAIL OF CONCRETE POSTS SEE DRAWING NO. 9 TO 14.
 - METAL RAILING PANELS SEE DRAWING NO. 15, 16.
 - RAILING TUBE AND CHANNELS SEE DRAWING NO. 17, 18.
 - MISCELLANEOUS DETAILS SEE DRAWING NO. 19.
 - DETAIL OF CURB RAILING SEE DRAWING NO. 14.

EXISTING RAILING		BRIDGE RAILING	
BRIDGE 2440		3RD AVENUE SO. BRIDGE	
Sh. 8 of 8		OVER MISSISSIPPI RIVER	
DRWN. E.G.	BRIDGE DEPT.	CITY ENGINEER'S OFFICE	SCALE
TRCD. P.O.	MINNEAPOLIS	MINNESOTA	3/32" = 1'-0"
CHKD. T.J.	DATE		DRWG. NO. 8
SHEET NO. 87 OF 148 SHEETS		5-7-79	

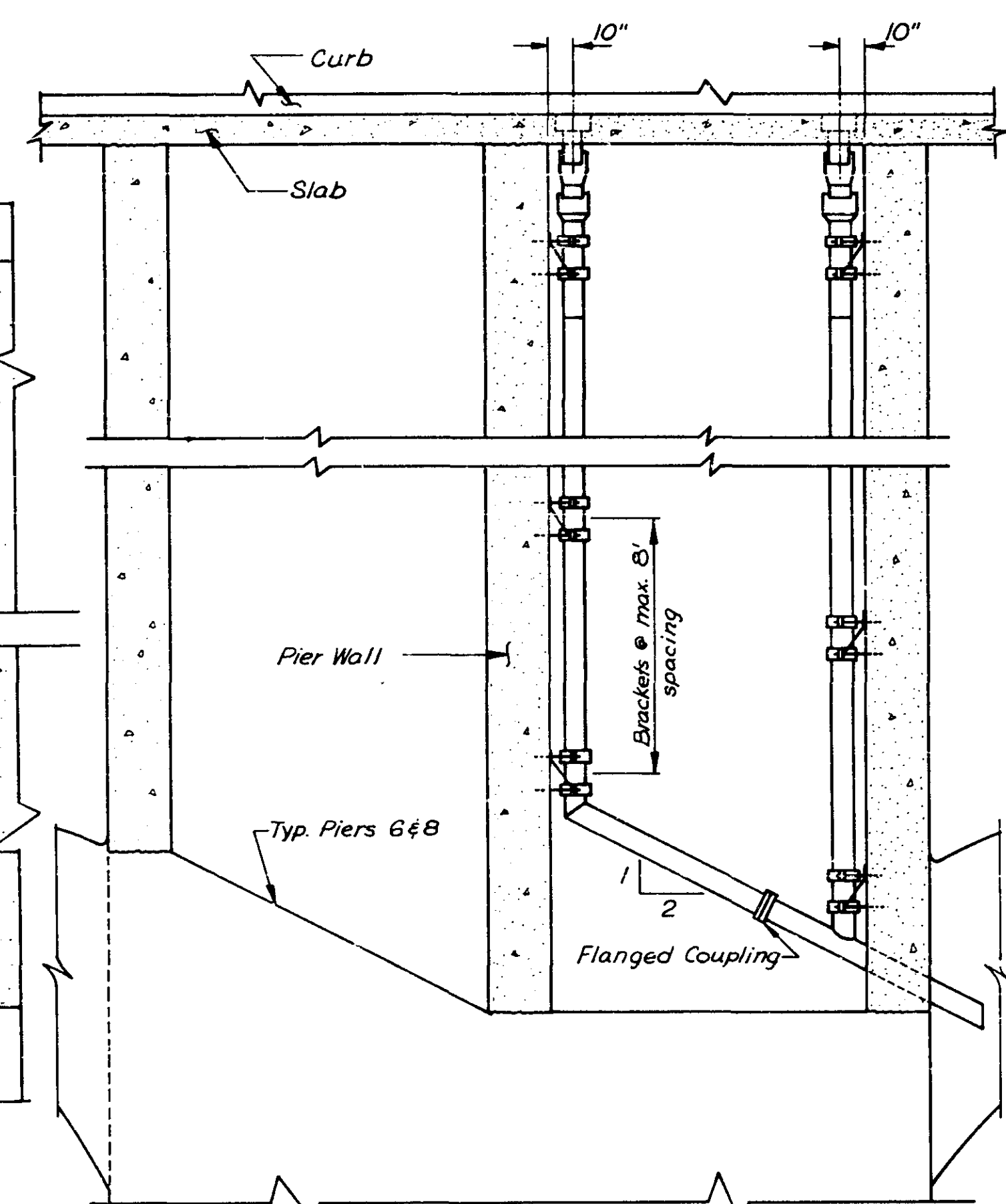
THIS DOCUMENT WAS PREPARED BY AGENCY NAMED BELOW THROUGH THE REGULAR COURSE OF BUSINESS AND IS NOT TO BE FILED BY STATE OF MINNESOTA ARCHIVES BRIDGE UNIT ACCORDING TO NATIONAL BUREAU OF STANDARDS REQUIREMENTS FOR PERMANENT MICROFILM AND ACCORDING TO FILED PROCEDURES FOR 108



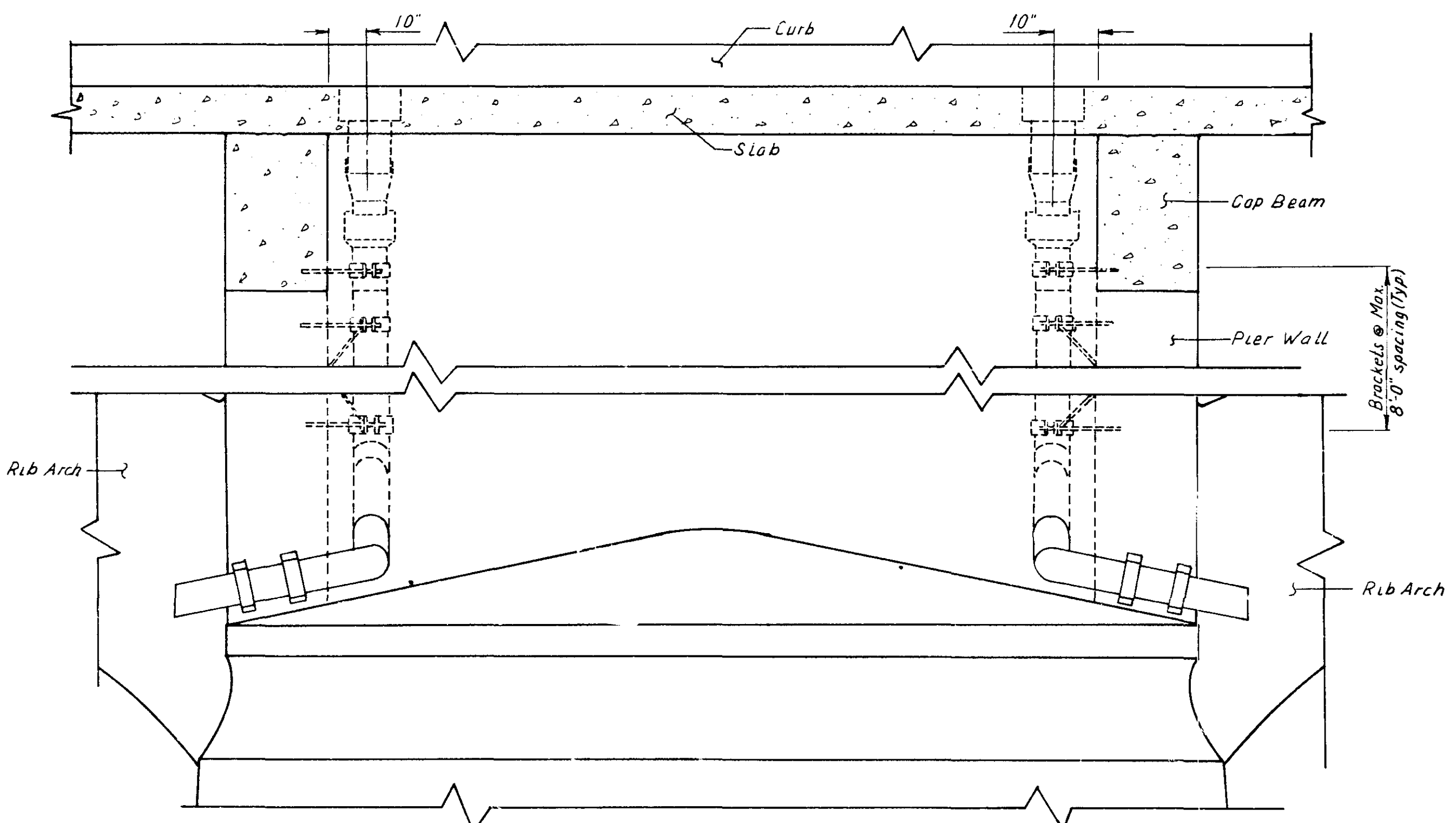
ELEVATION-PIERS 2, 3, & 5
Scale: 1/2" = 1'-0"



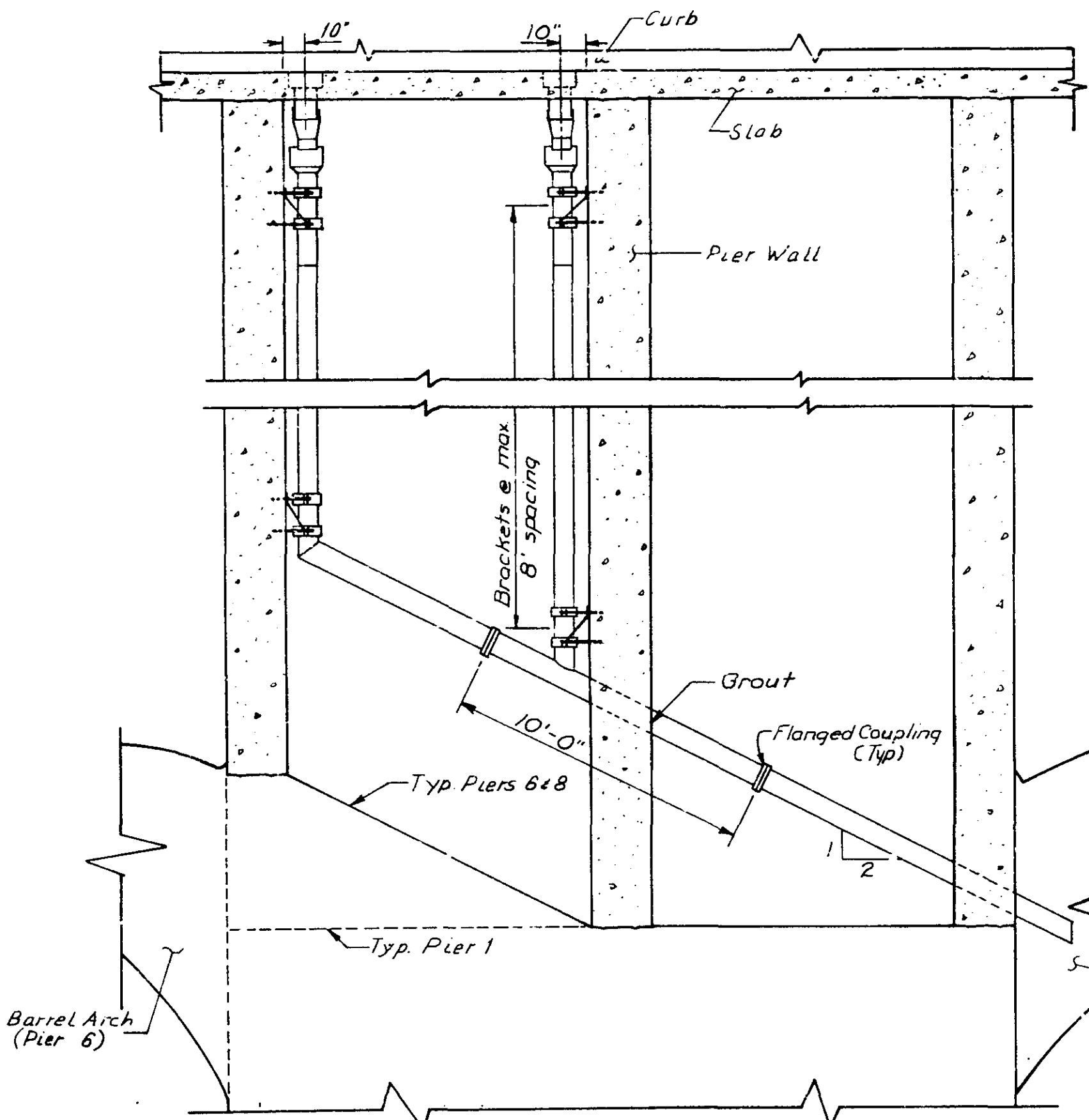
ELEVATION-PIERS 1, 6, & 8
Scale: 1/2" = 1'-0"



SECTION B-B (PIER 3 & 6)
Scale: 1/4" = 1'-0" * Downstream side only



SECTION A-A (PIERS 2, 3, & 5)
Scale: 1/2" = 1'-0"

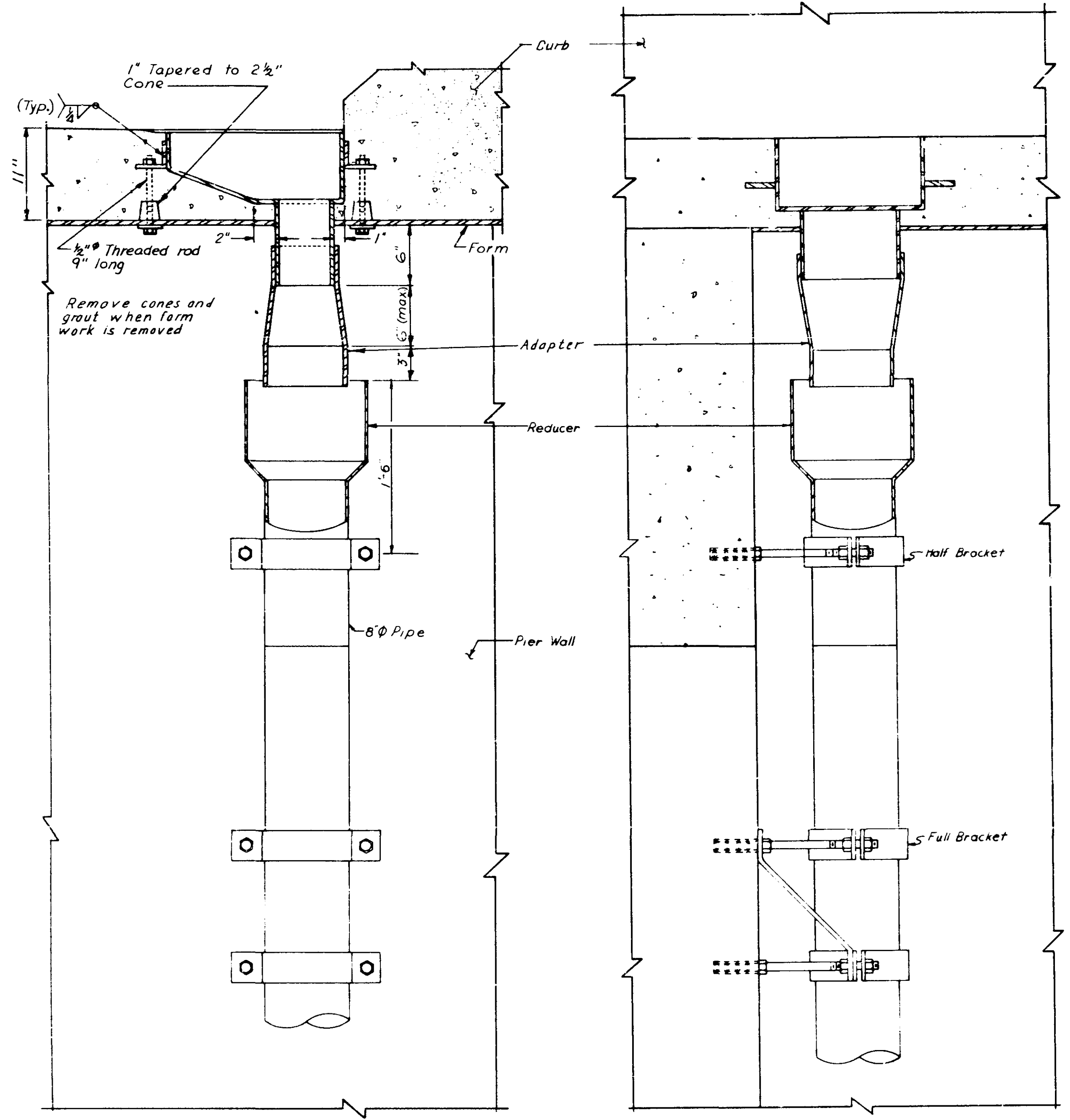


SECTION B-B (PIERS 1 & 6) * Upstream side only
Scale: 1/4" = 1'-0"

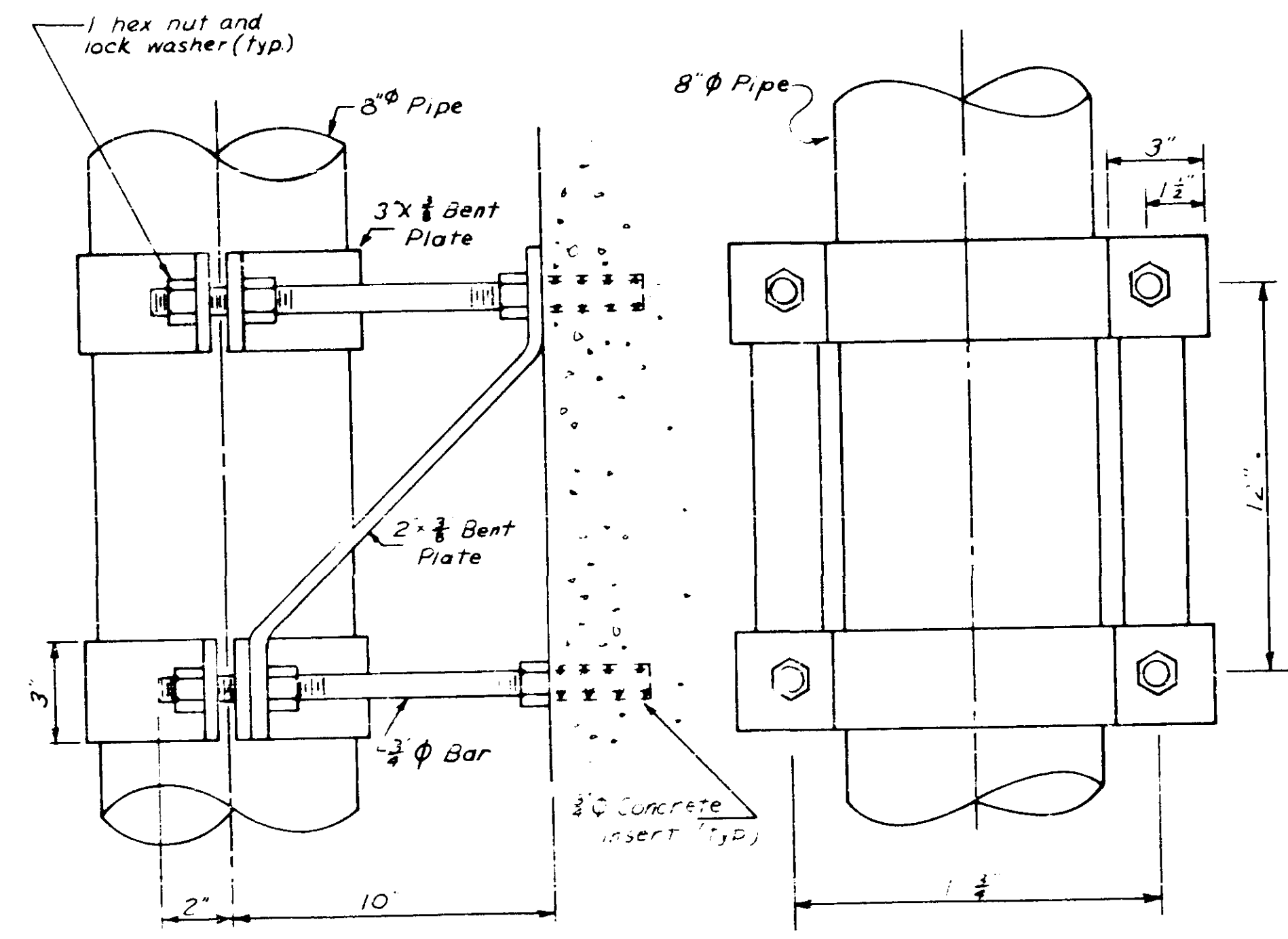
Drainage System Notes:
Steel for adapter and reducer shall conform to Structural Steel (3306), unless otherwise noted.
All pipe and pipe fittings shall conform to (3302), except material shall conform to (3306).
For details of scuppers (floor drains) see Detail B701 Modified and Sheet 89.
Adapter for scuppers from rectangular to round to be made from 1/2" plate and 8" pipe. Fully weld all joints. Adapter to be fastened to scupper with 4 stainless steel cap screws.
Use standard 8" pipe with .25" min. wall thickness. All reducers to be 12" x 8" unless otherwise noted. Bolt anchors shall be four-unit threaded type per (3387).
Threaded rods, bolts, nuts, lock washers, concrete inserts and bolt anchors to be galvanized after fabrication per (3392). All other materials to be galvanized per (3394).
For general location of scuppers (floor drains) see "General Plan and Elevation Arch Spans." Location of scupper shall be such that the adapters are centered over reducers attached to the piers at a temperature of 45° F.
Before any shop detail drawings are made or any fabrication done, except for floor drains and adapter, the Contractor shall make sufficient field measurements to ensure that the drainage system will fit properly. These field measurements shall be shown on the shop detail drawings.
8" pipe, to be fastened to piers with brackets at a maximum spacing of 8'-0".
The item "Drainage System" shall include all material and labor required for the complete drainage system as shown and noted.

Note: For Piers 3 and 5 delete one pair of drains. See "General Plan and Elevation Arch Spans" for additional location of drains.

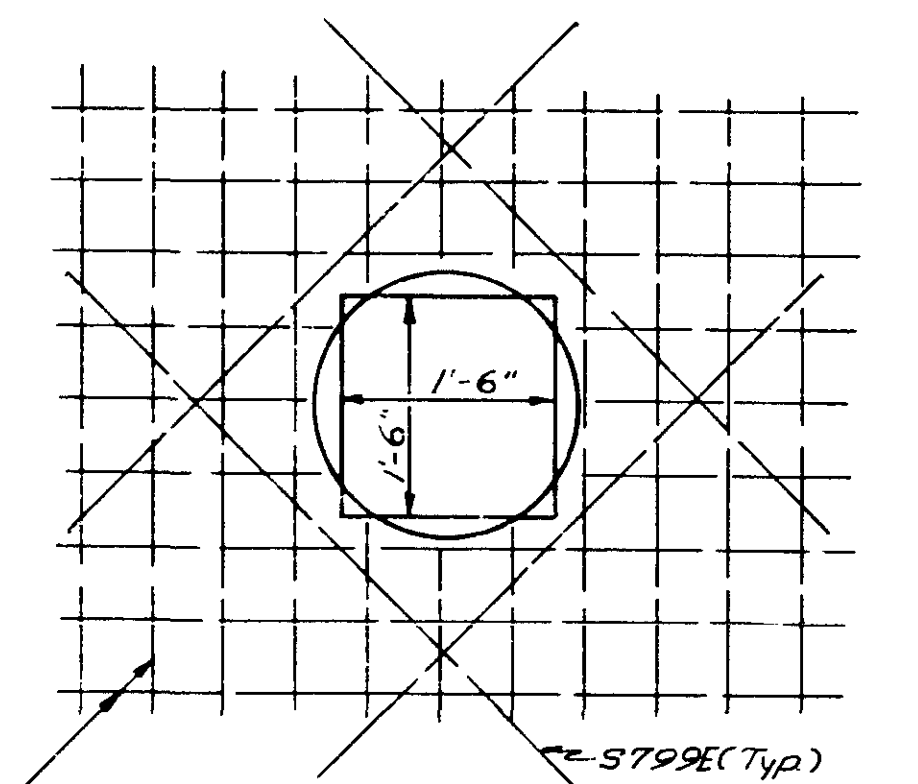
TITLE: DRAINAGE DETAILS - ARCH PIERS	DES: GS	DR: GS	APPROVED: 5-7-79	Bridge No. 2440
SHEET 1 OF 2	CHK: WHH	CHK: RLL	Sheet No. 88 of 148 Sheets	



SECTION THROUGH BOX DRAIN
& ATTACHMENTS
Scale: 1/2" = 1'-0"



BRACKET DETAIL
Scale 3/4" = 1'-0"



REINFORCEMENT PLAN AT
MANHOLE AND DRAIN
Scale: 3/4" = 1'-0"

QUANTITY SUMMARY FOR DRAINAGE SYSTEM

ITEM	QUANTITY			TOTALS
	PIER 1, 6	PIER 2	PIER 3, 5	
Welded Box Drain Type (B701) (Scuppers)	4	4	2	20
Adapter	4	4	2	20
Reducer	4	4	2	20
Full Bracket	18	24	12	96
Half Bracket	-	4	2	8
Flanged Coupling	3	-	-	12
Elbows	6	12	6	42
Tee	2	-	-	6
8" ϕ Pipe (ft.)	153	160	80	785

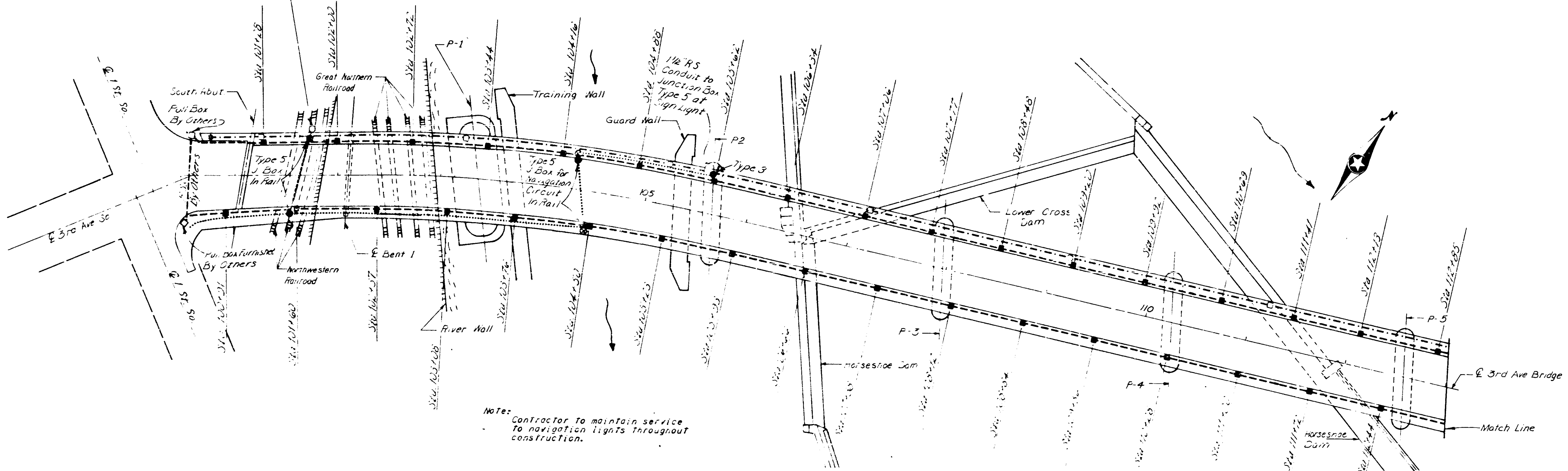
* Quantities given are for each pier.

Note: Quantity Summary for Drainage System is for the contractors convenience only and price bid for system shall be for the complete system. See Special Provisions.

TITLE DRAINAGE DETAILS - ARCH PIERS SHEET 2 OF 2	DES: GS	DR: GS	APPROVED	Bridge No. 2440
	CHK: WHH	CHK: RLJ	5-7-79	
Sheet No. 89 of 148 Sheets				

ALL CONTRACT DOCUMENTS ARE PRINTED BY AGENCY (UNLESS NOTED OTHERWISE). THE REGULAR COURSE OF BUSINESS SHALL BE FOLLOWED BY STATE OF MISSISSIPPI ARCHITECTURAL SERVICES UNIT ACCORDING TO NATIONAL BOARD OF ARCHITECTS REQUIREMENTS FOR PERMANENT MICROFILM AND ACCORDING TO NATIONAL BOARD OF ARCHITECTS REQUIREMENTS FOR PERMANENT MICROFILM AND ACCORDING TO FILED PROCEDURES 10/1/88

Clearance lights over railroad track position to be verified in field and installed on slab fascia, see slab reinforcement, South Approach.

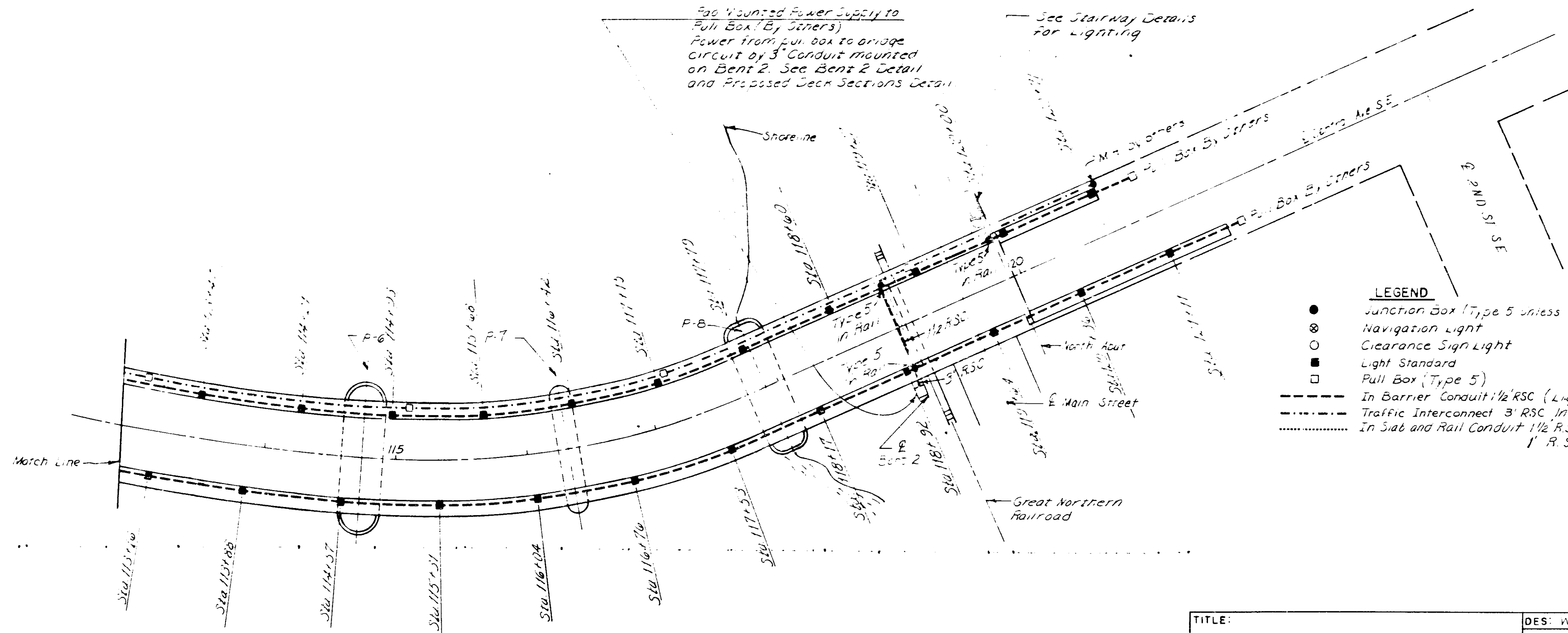


Note: Contractor to maintain service to navigation lights throughout construction.

For Mounted Power Supply to Full Box (By Others) Power from full box to bridge circuit by 3" Conduit mounted on Bent 2. See Bent 2 Detail and Proposed Deck Sections Detail

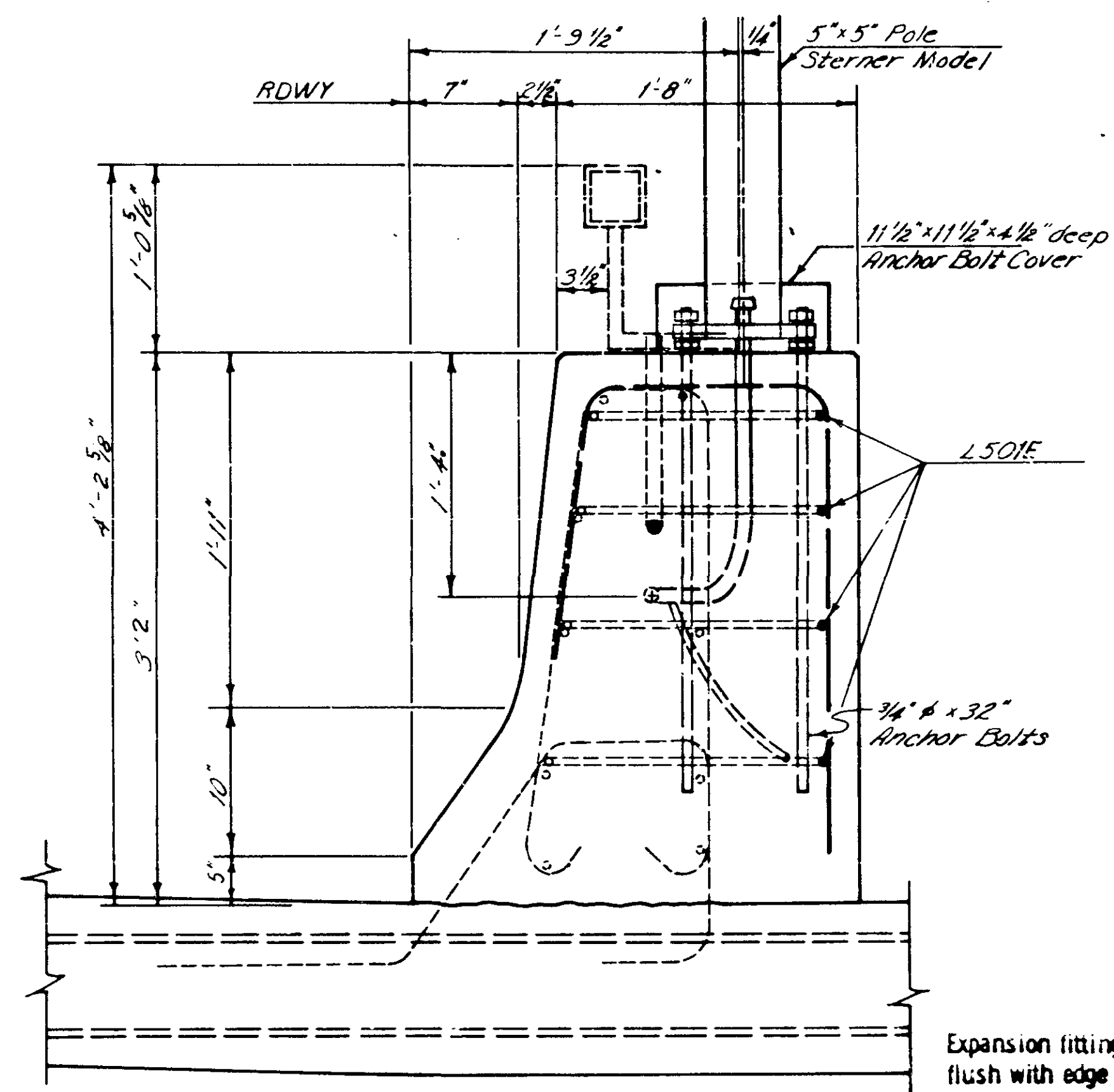
See Stairway Details for Lighting

Note: 3" traffic interconnect conduit system in sidewalk to extend from approximate station 100+57 to station 120+76 and shall terminate into a manhole at each end. Manhole to be provided by others. 11 Type 5 Junction Boxes shall be placed in sidewalk at intervals not to exceed 200 feet.

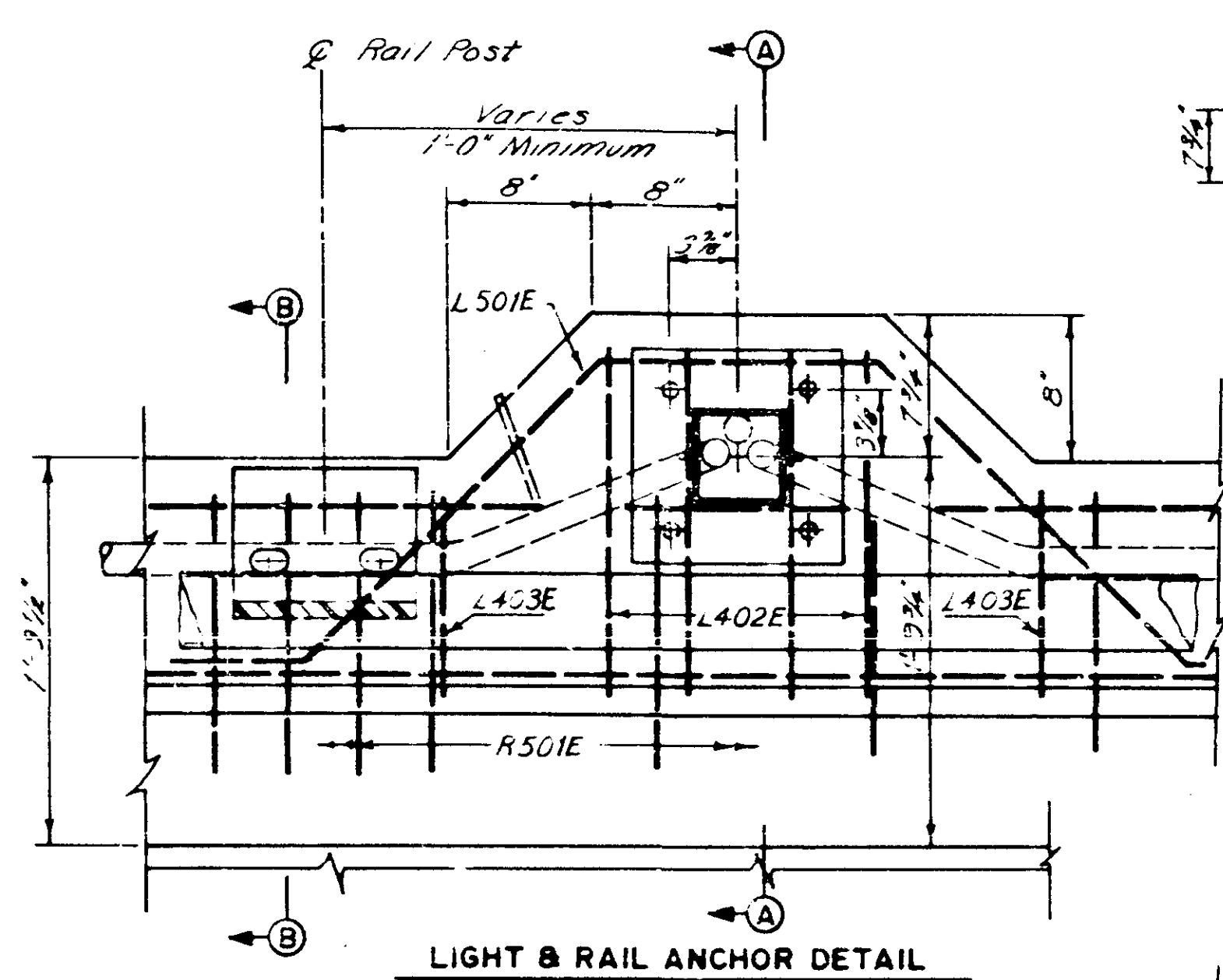


- LEGEND**
- Junction Box (Type 5 unless Specified otherwise)
 - Navigation Light
 - ⊗ Clearance Sign Light
 - Light Standard
 - Full Box (Type 5)
 - In Barrier Conduit 1/2" RSC (Lighting)
 - - - Traffic Interconnect 3" RSC in Slab
 - In Slab and Rail Conduit 1/2" RSC (Navigation Lighting), 1" R.S.C. (Clearance Sign Light)

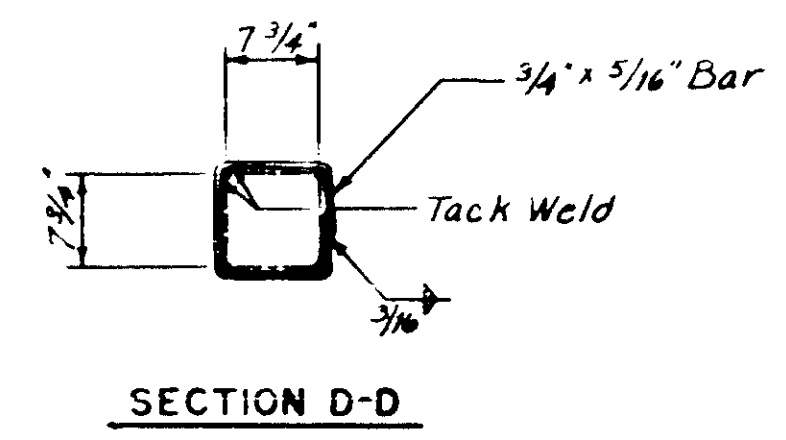
TITLE: ROADWAY LIGHTING SYSTEM	DES: WNH CHK: LDH	DR: LDH CHK: WNH	APPROVED 5-7-79	Bridge No. 2440
	Sheet No. 90 of 148 Sheets			



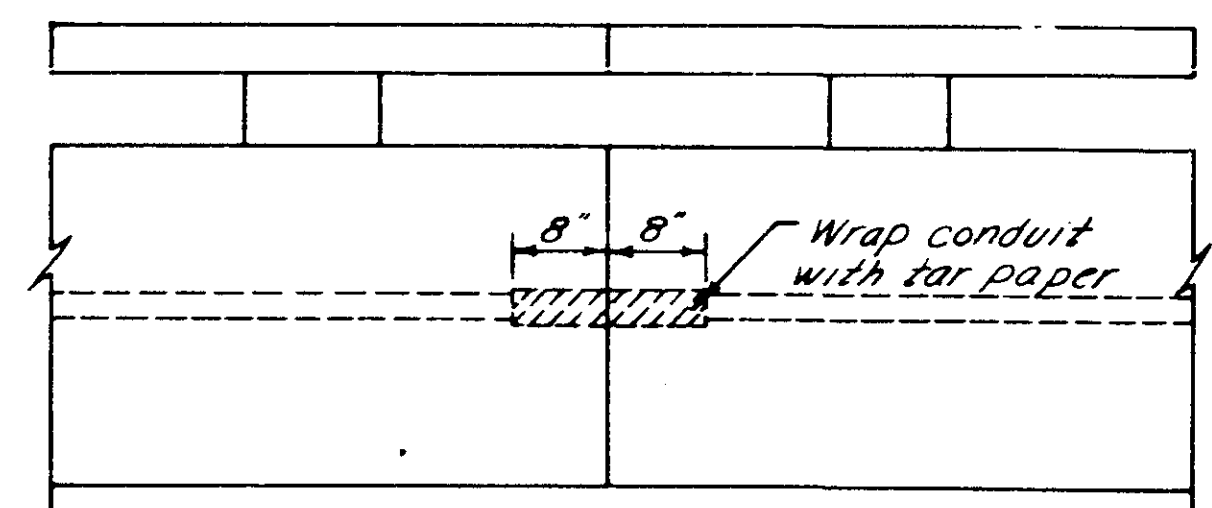
SECTION A-A



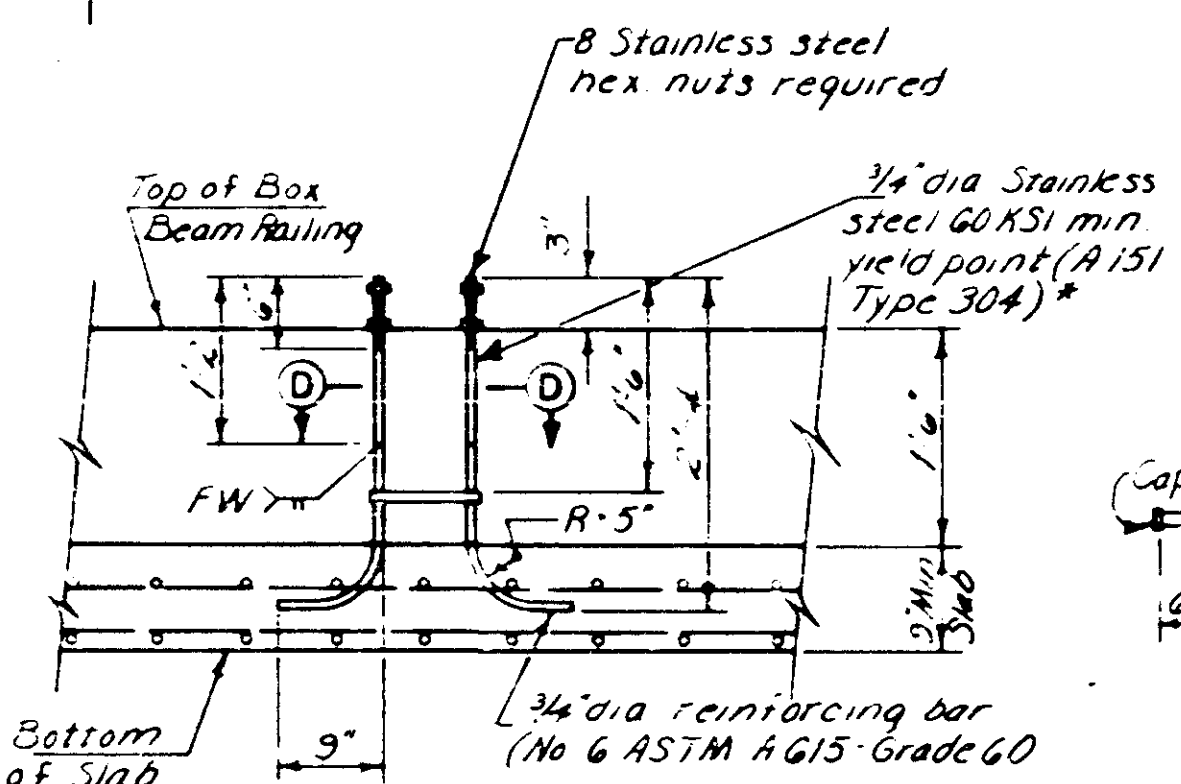
LIGHT & RAIL ANCHOR DETAIL



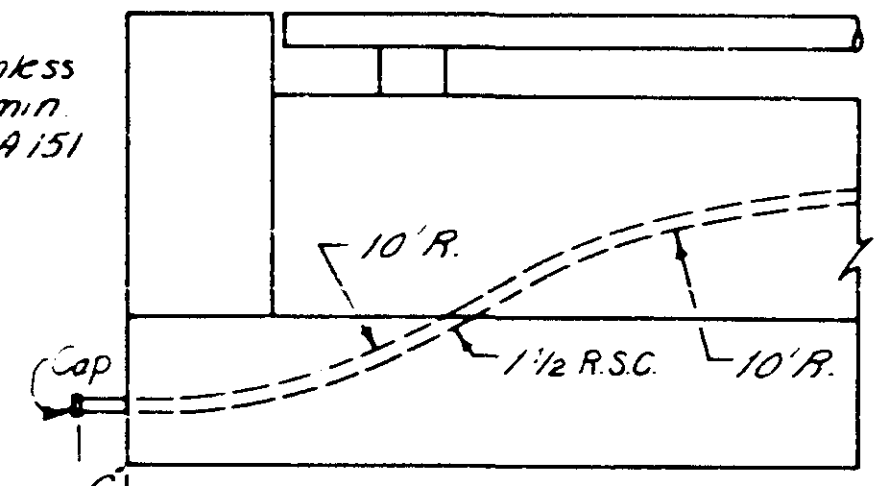
SECTION D-D



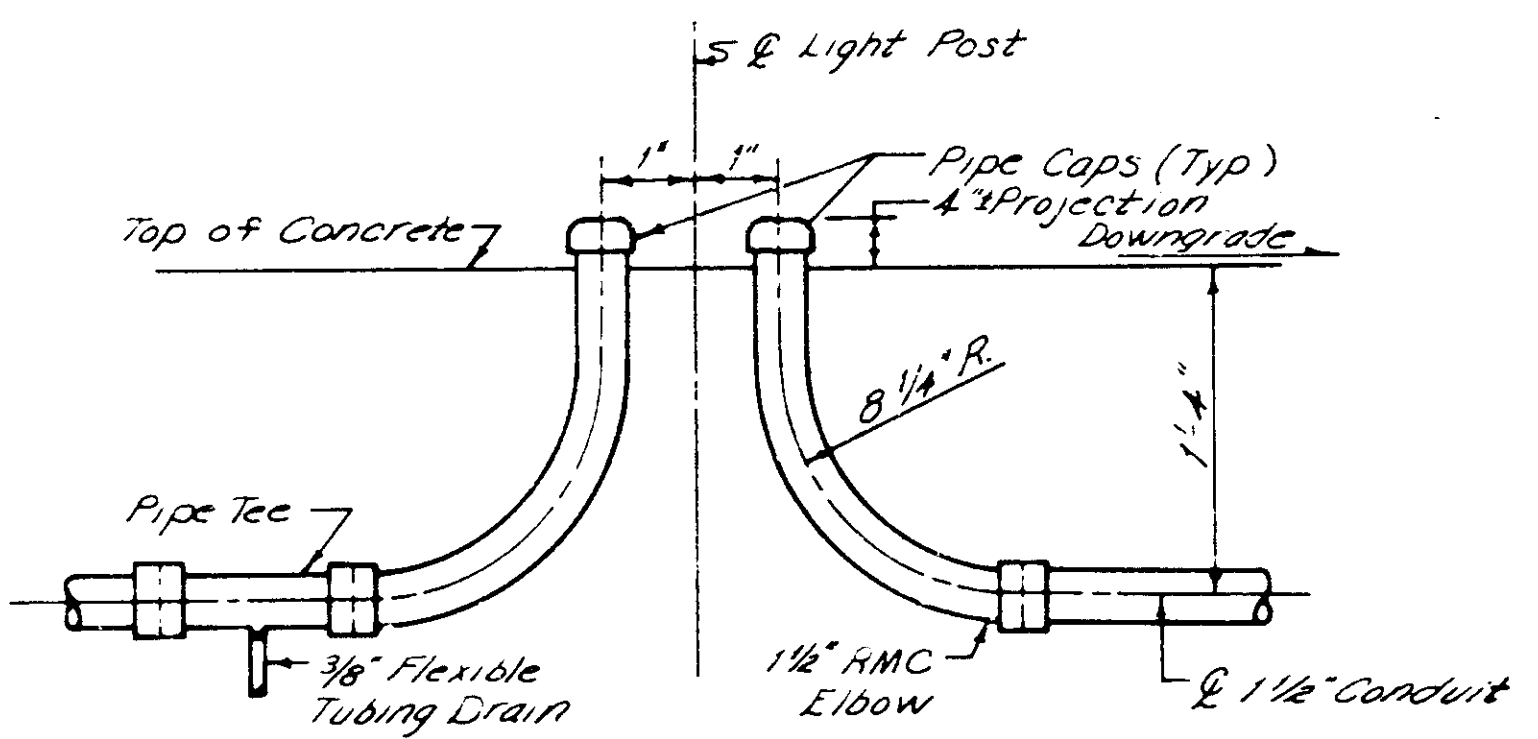
CONDUIT IN TRAFFIC RAIL OR SLAB AT DEFLECTION JOINT



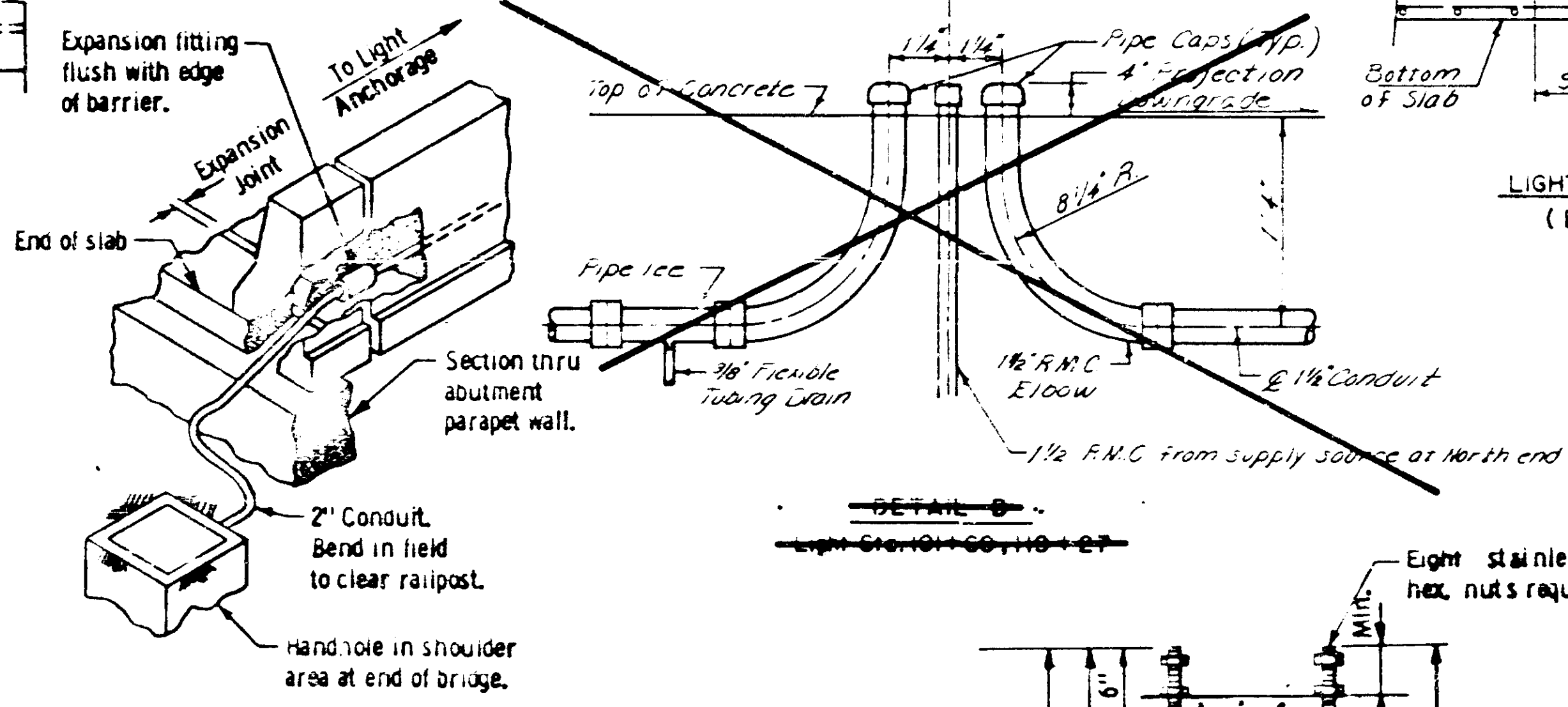
ELEVATION LIGHT STANDARD ANCHORAGE (Box Beam Railing)



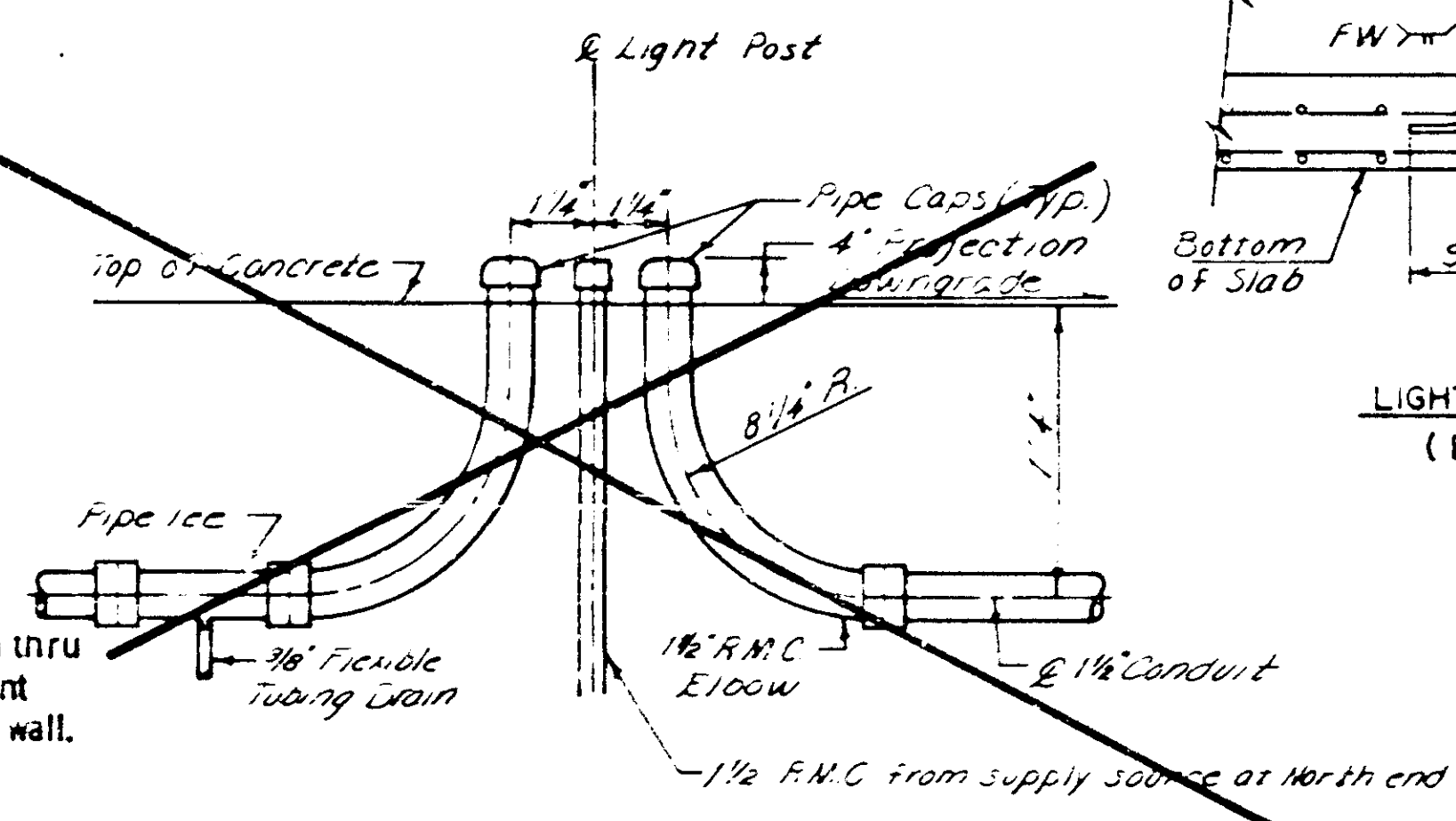
IN-CURB TO UNDERGROUND CONDUIT TRANSITION



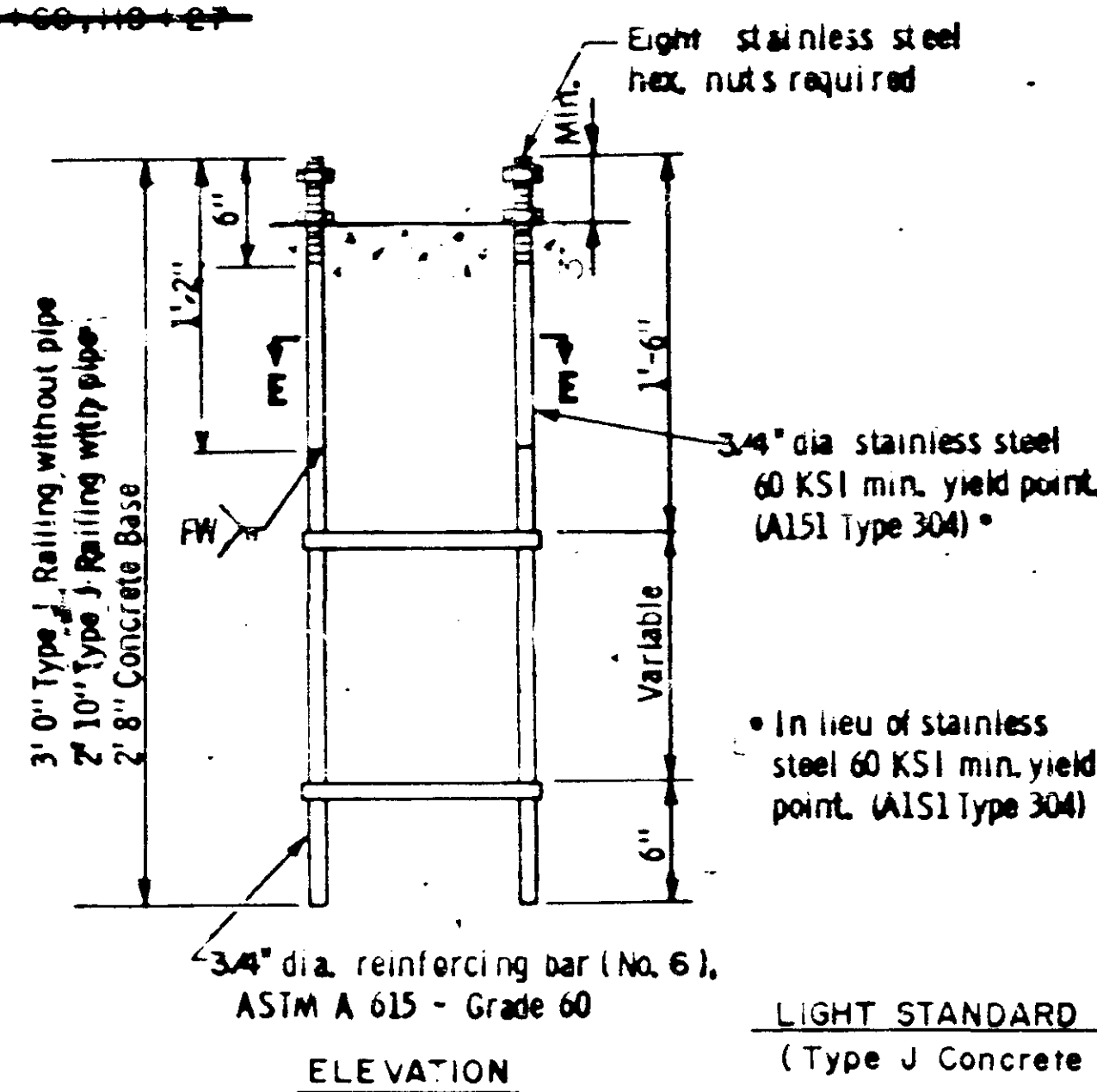
DETAIL A



VIEW AT END OF BRIDGE (Approach Slab Not Shown)



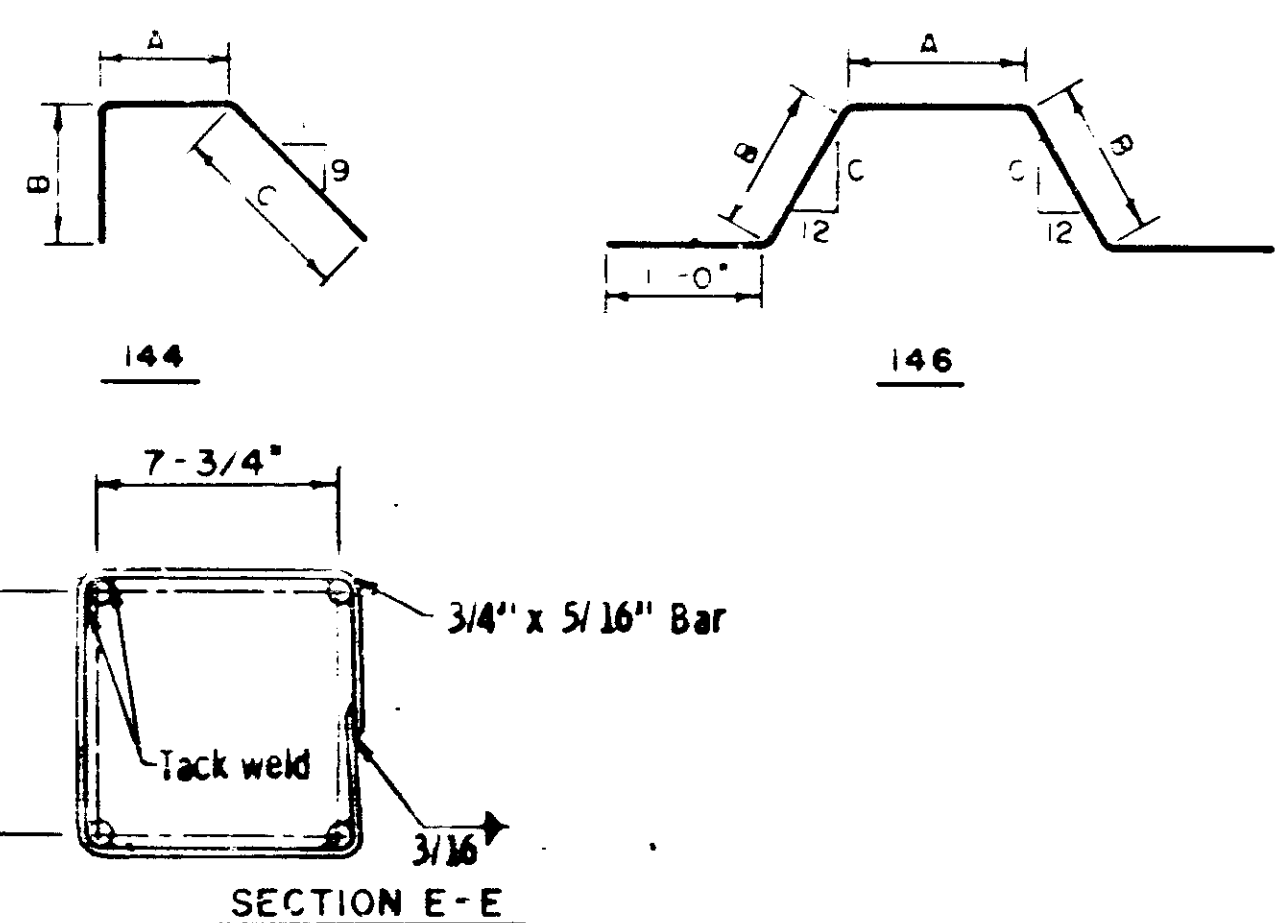
DETAIL B



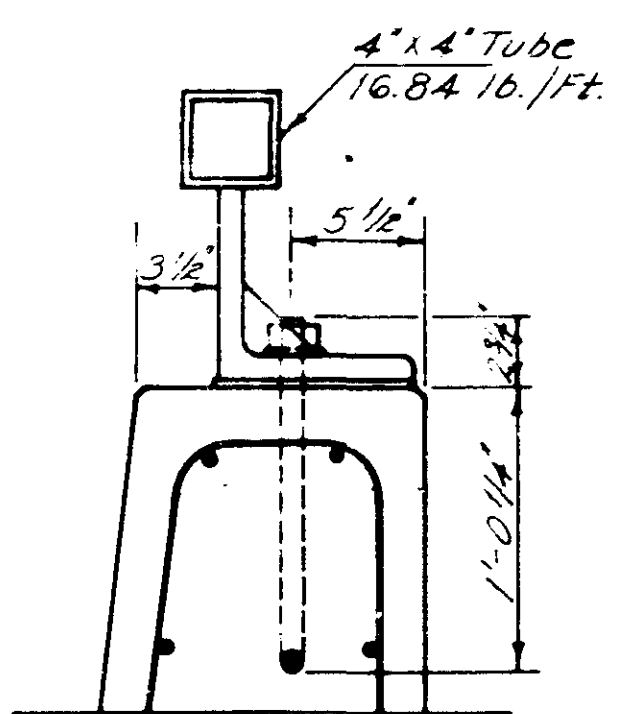
ELEVATION LIGHT STANDARD ANCHORAGE (Type J Concrete Railing)

BILL OF REINFORCEMENT (ADDITIONAL BARS AT LIGHT BLISTER)

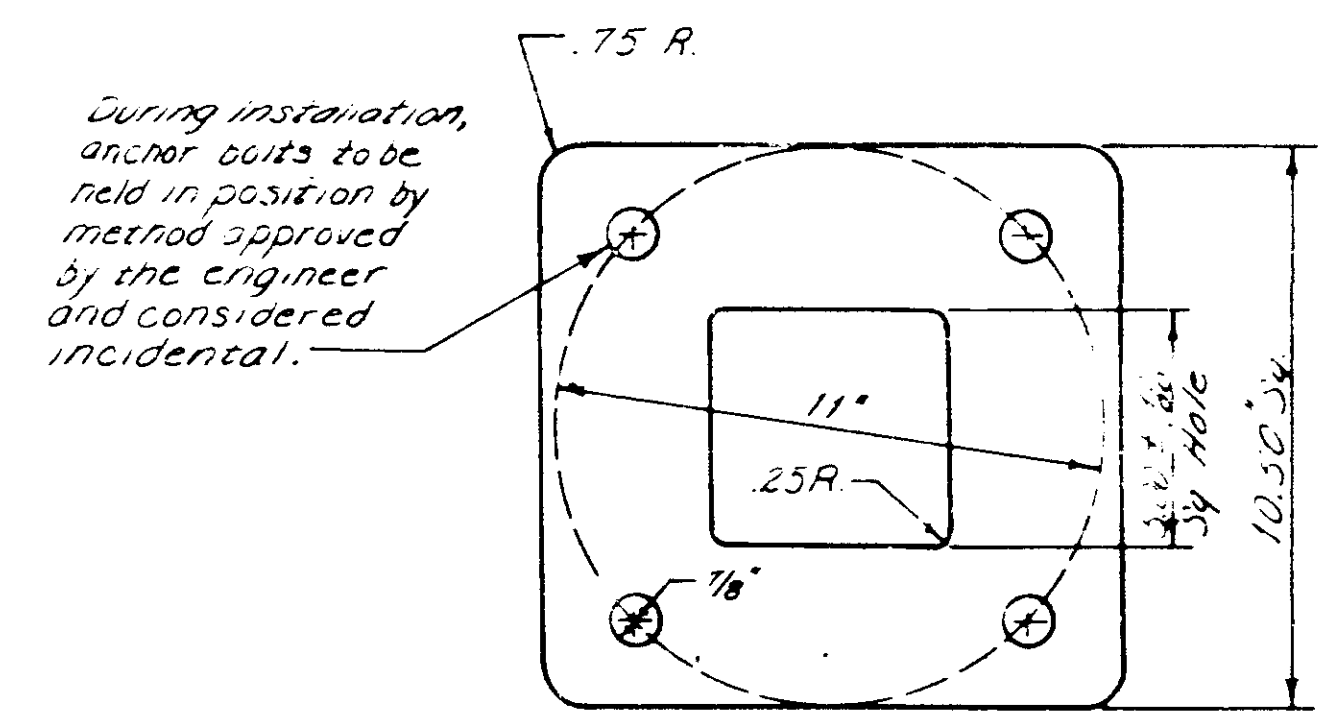
BAR NO.	NO.	LENGTH	TYPE	DIMENSIONS			LOCATION
				A	B	C	
ONE LIGHT BLISTER (
L501E	4	5	7'-0"	1'-3"	1'-9"	12	Horizontal
L402E	4	4	5'-5"	1'-4"	2'-7"	1'-6"	Vertical
L403E	2	4	4'-9"	0'-8"	2'-7"	1'-6"	Vertical



SECTION E-E



SECTION B-B

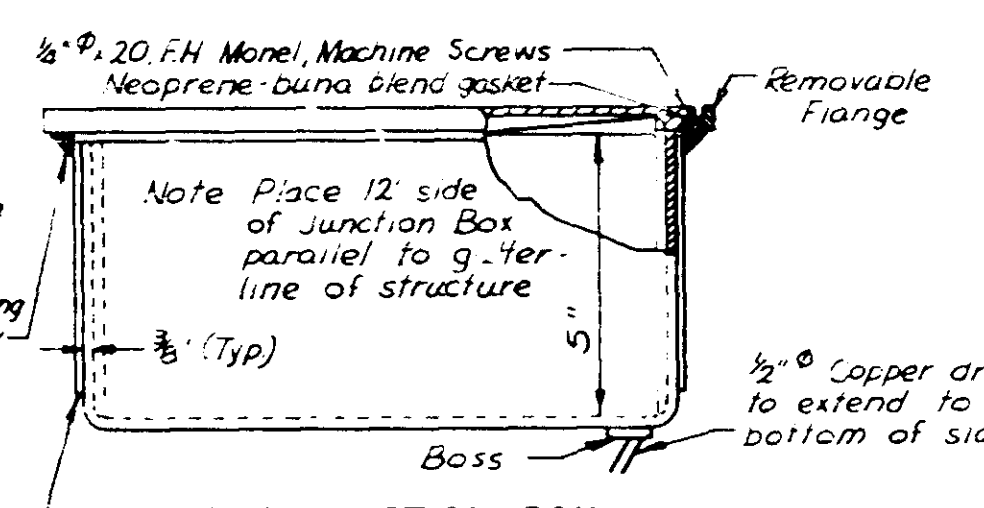
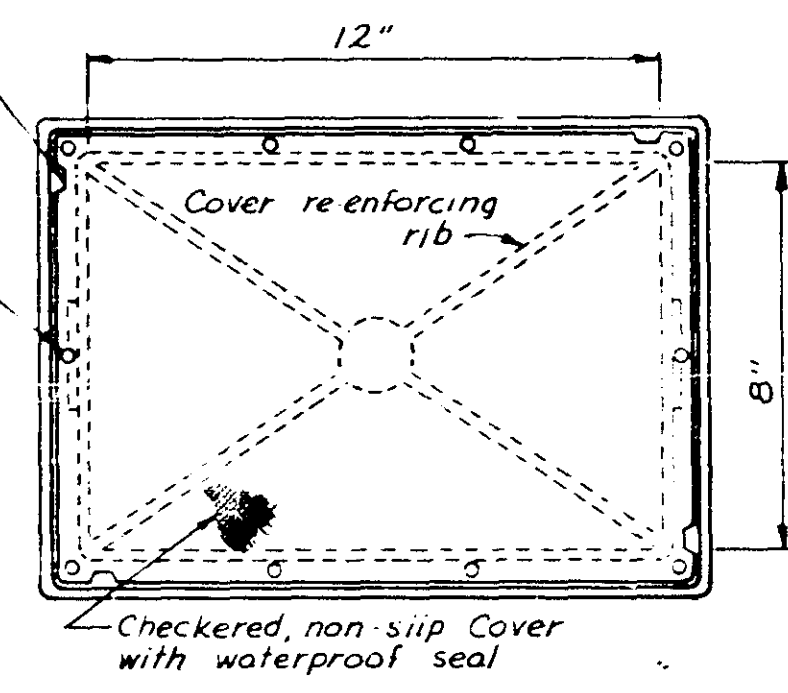
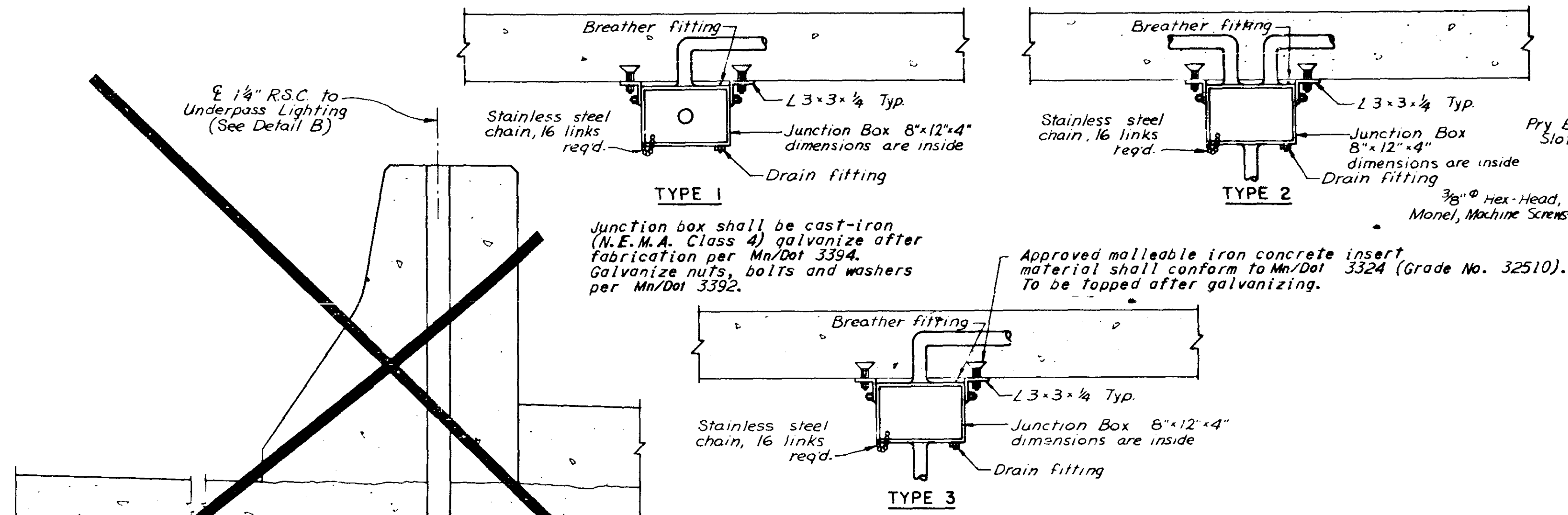


BOLT CIRCLE AND LIGHT BASE DETAIL

TITLE:	DES: JCK	DR: RED	APPROVED:	Bridge No. 2440
ROADWAY LIGHTING DETAILS	CHK: WHH	CHK: WHH	7-79	
SHEET 1 OF 2	Sheet No. 91 of 148 Sheets			

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LIGHTING QUANTITIES		
ITEM	UNIT	QUANTITY
3" R.S.C.	L.F.	2060
1 1/2" R.S.C.	L.F.	5050
1" R.S.C.	L.F.	96
Bridge Ground	L.F.	40
3/8" Flexible Tubing	L.F.	40
Stairway Light Assembly	Each	3
Junction Box	Each	3
Type 1	Each	1
Type 3	Each	1
Type 4	Each	1
Type 5	Each	21
Navigation Light Assembly	Each	2
Anchor Bolt Assembly	Each	57
1/2" Expansion Joint Fitting	Each	10
3" Expansion Joint Fitting	Each	4
3" Flexible Steel Conduit (Waterlight)	L.F.	7
1 1/2" Flexible Steel Conduit (Waterlight)	L.F.	12
Access Hatch	Each	2

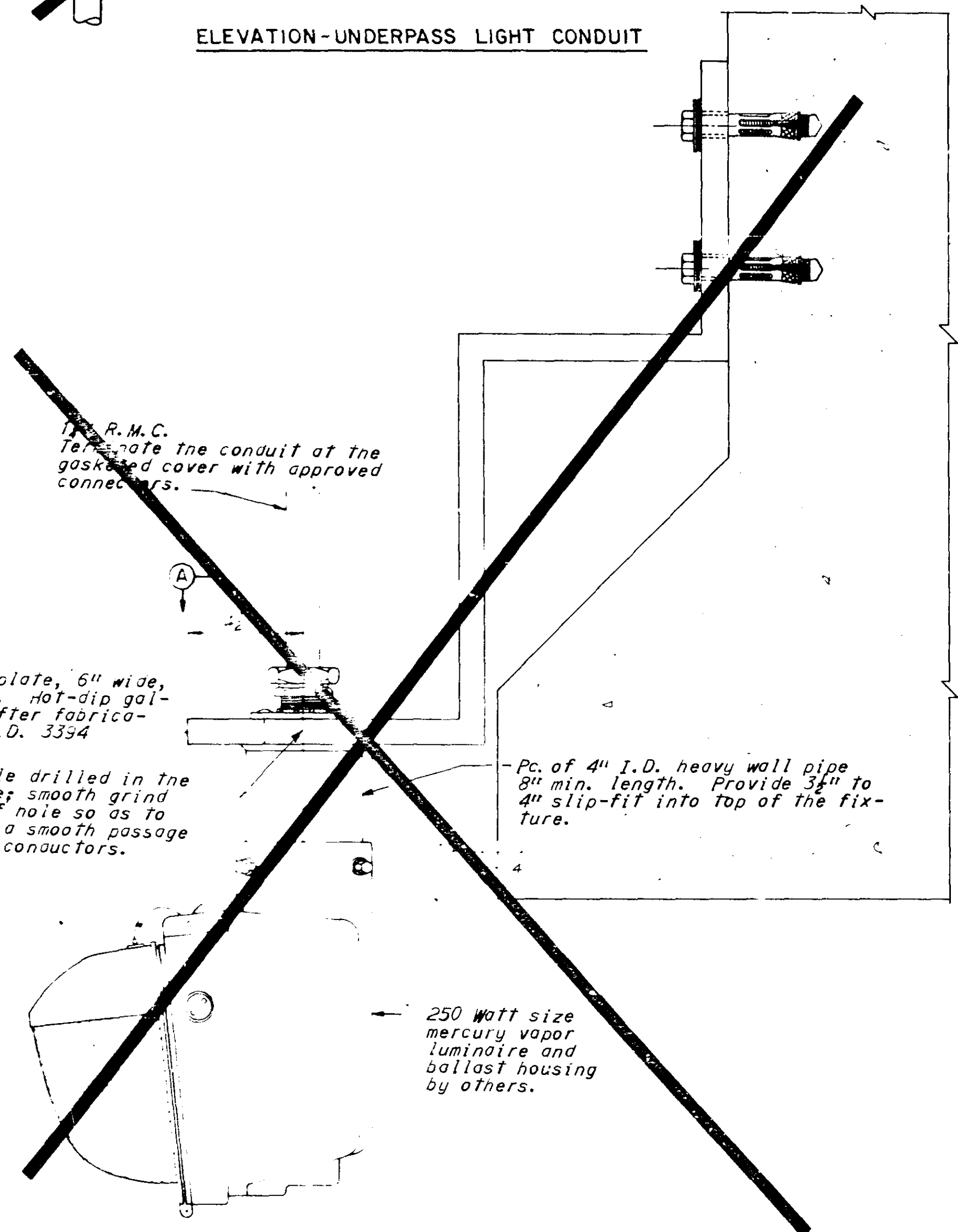


Note: Quantity Summary for lighting is for the contractors convenience only and price bid for system shall be for the complete system. See Special Provisions.

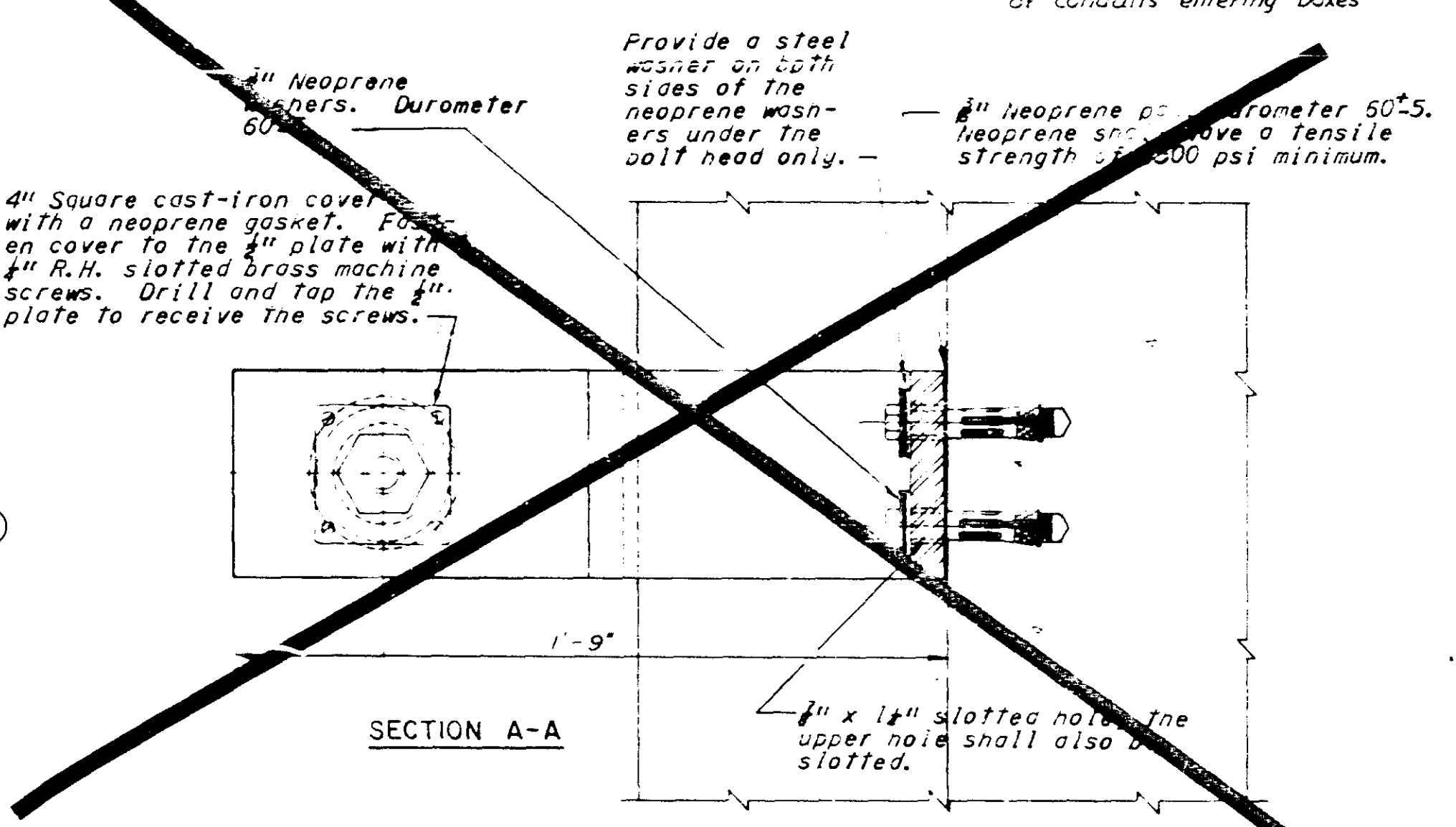
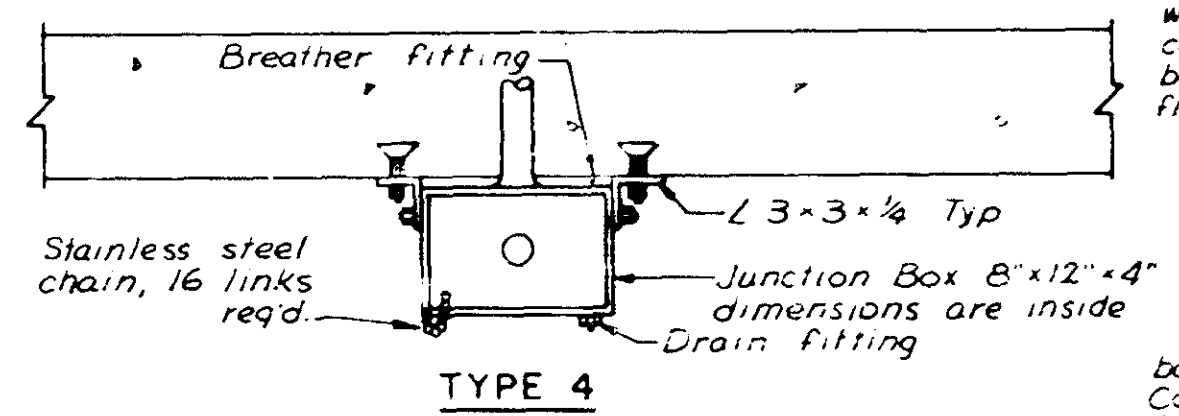
LEGEND

- Junction Box
- Light Standard
- Underpass Light
- - - Exposed Conduit (1/4" R.S.C.)
- - - In Barr. Conduit (2" R.S.C.)
- - - In Slab Conduit (1/4" R.S.C.)

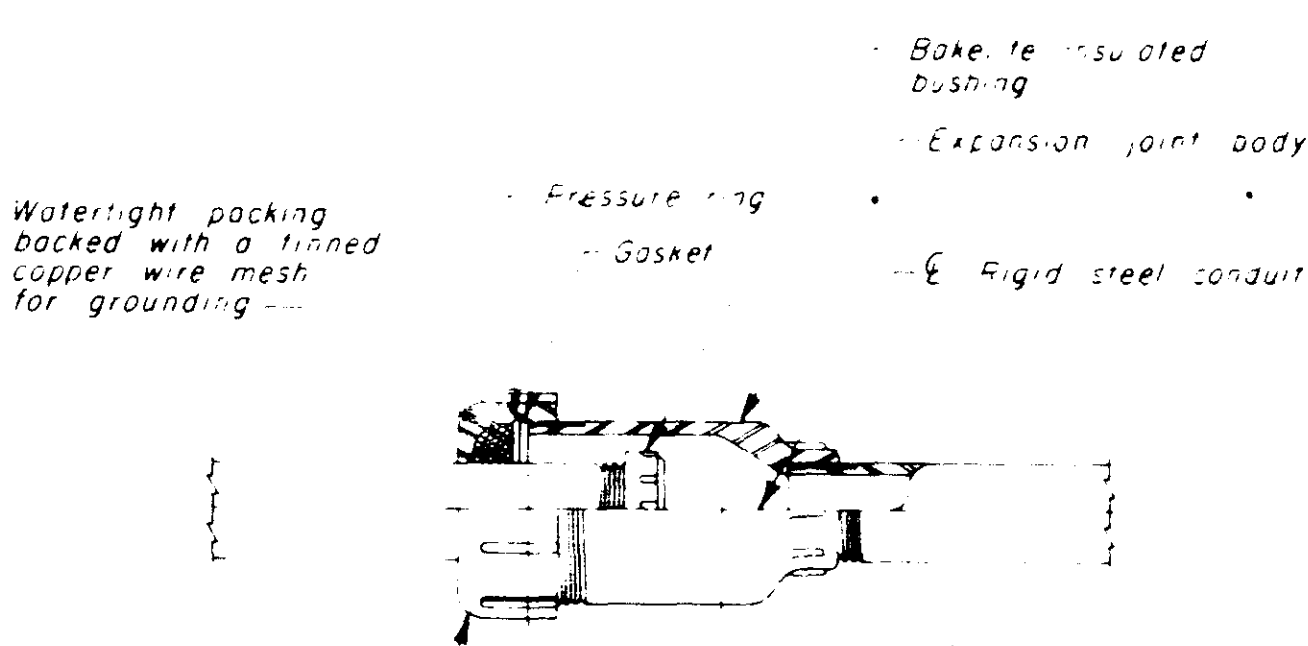
ELEVATION-UNDERPASS LIGHT CONDUIT



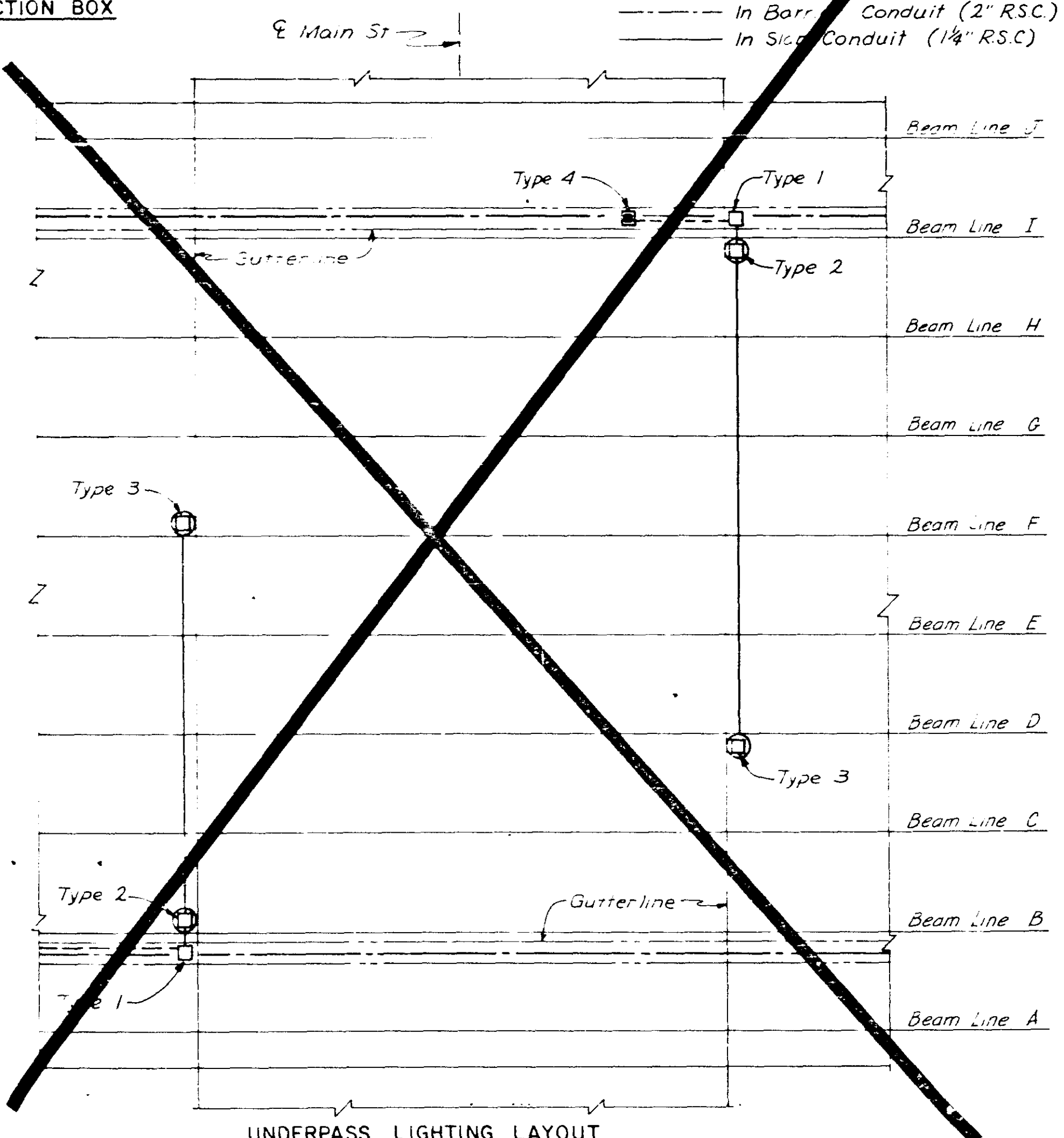
UNDERPASS - LIGHT DETAIL



SECTION A-A

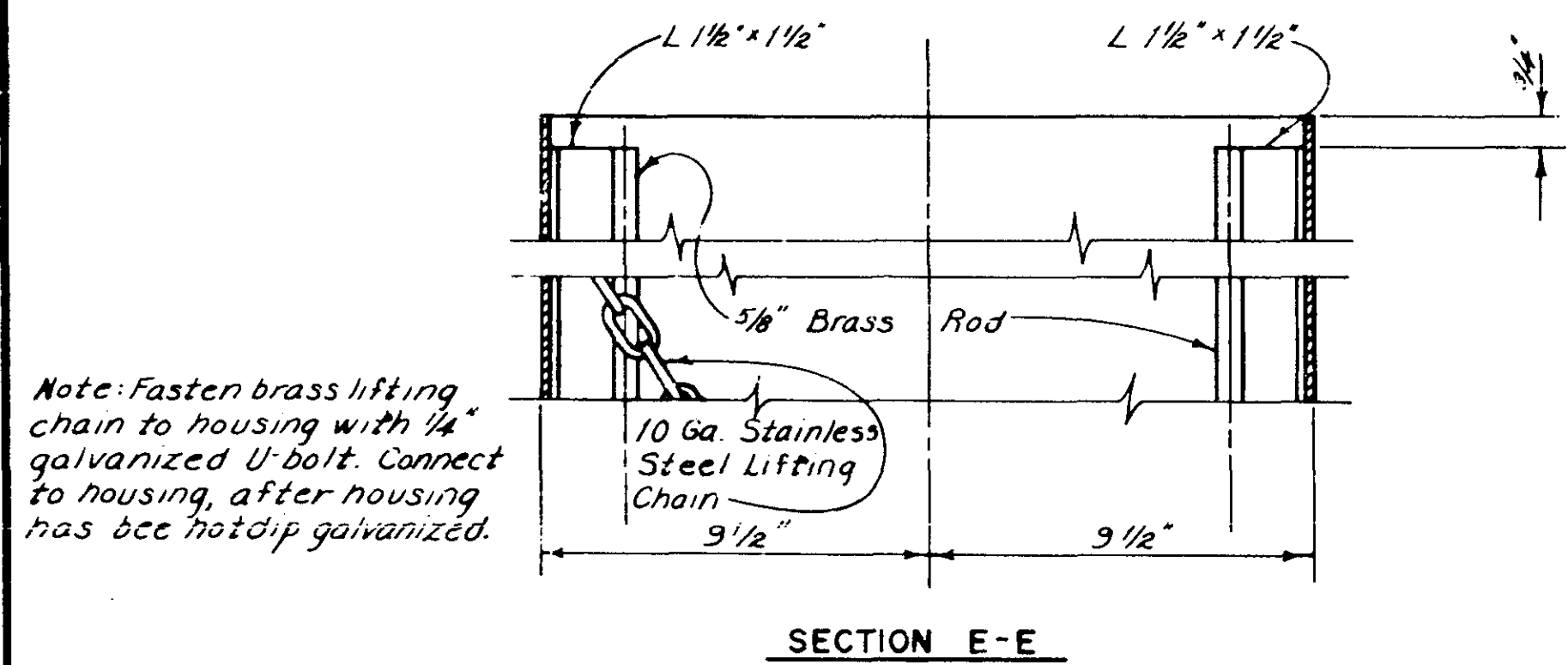


EXPANSION JOINT FITTING DETAIL

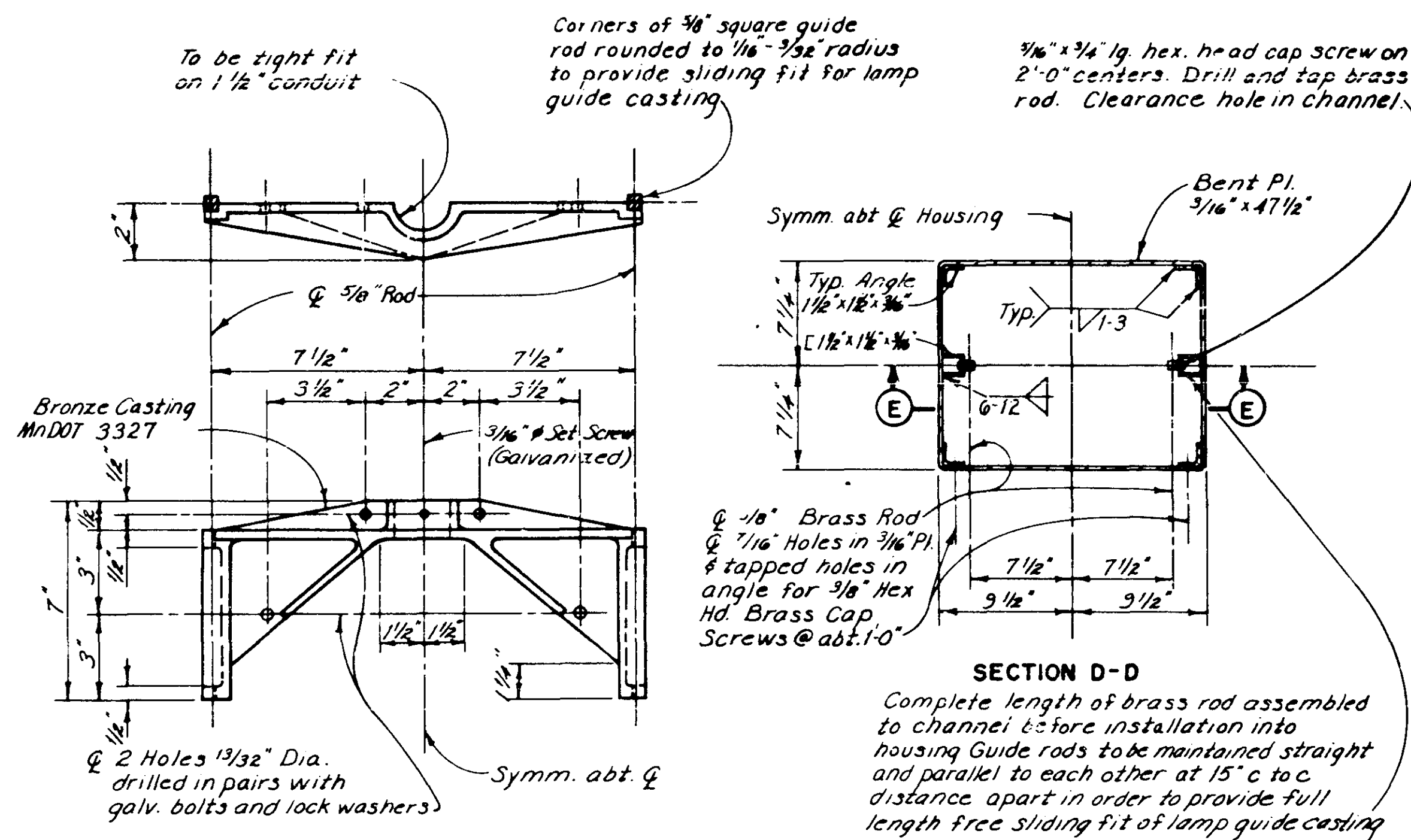
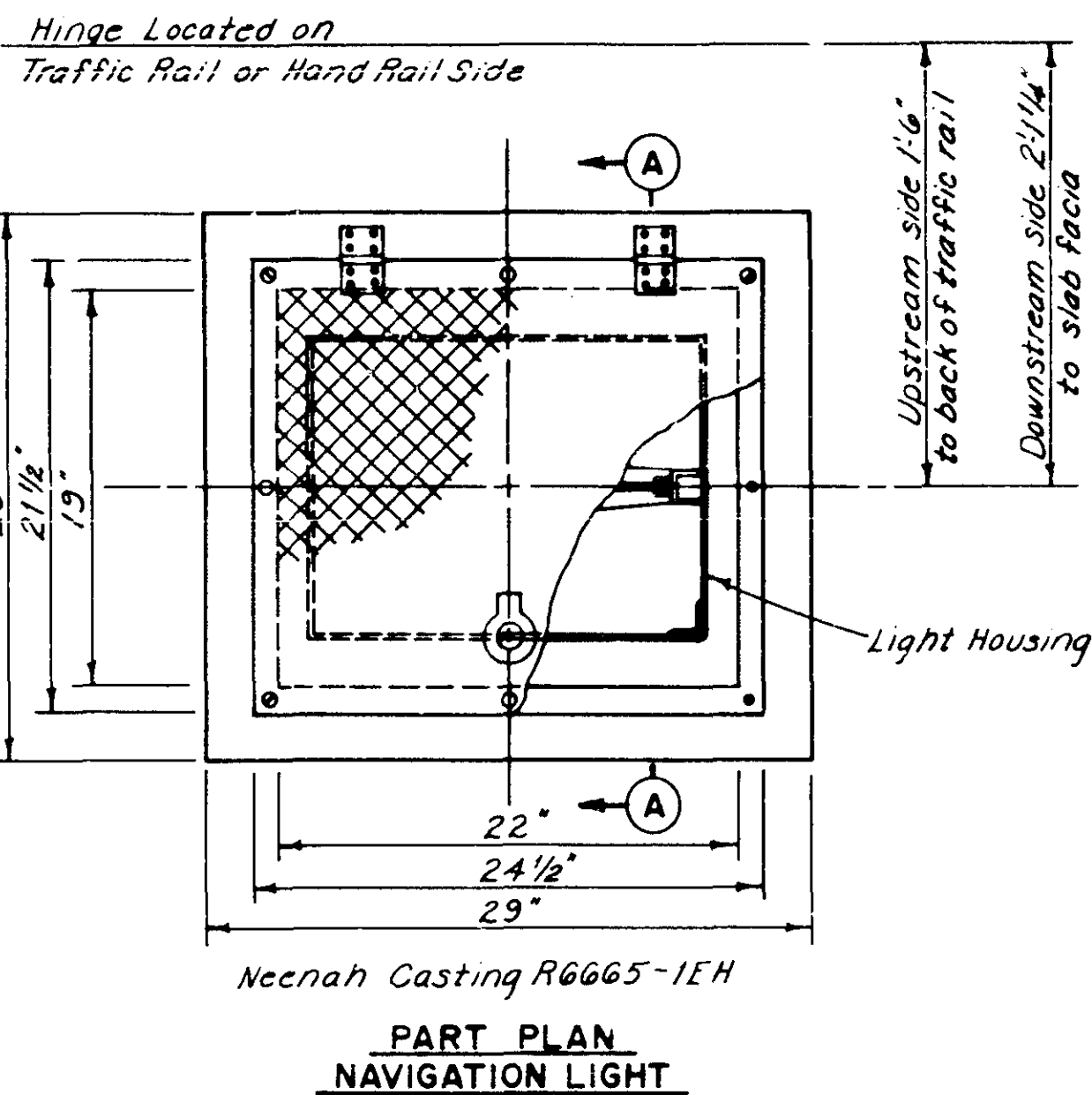


UNDERPASS LIGHTING LAYOUT

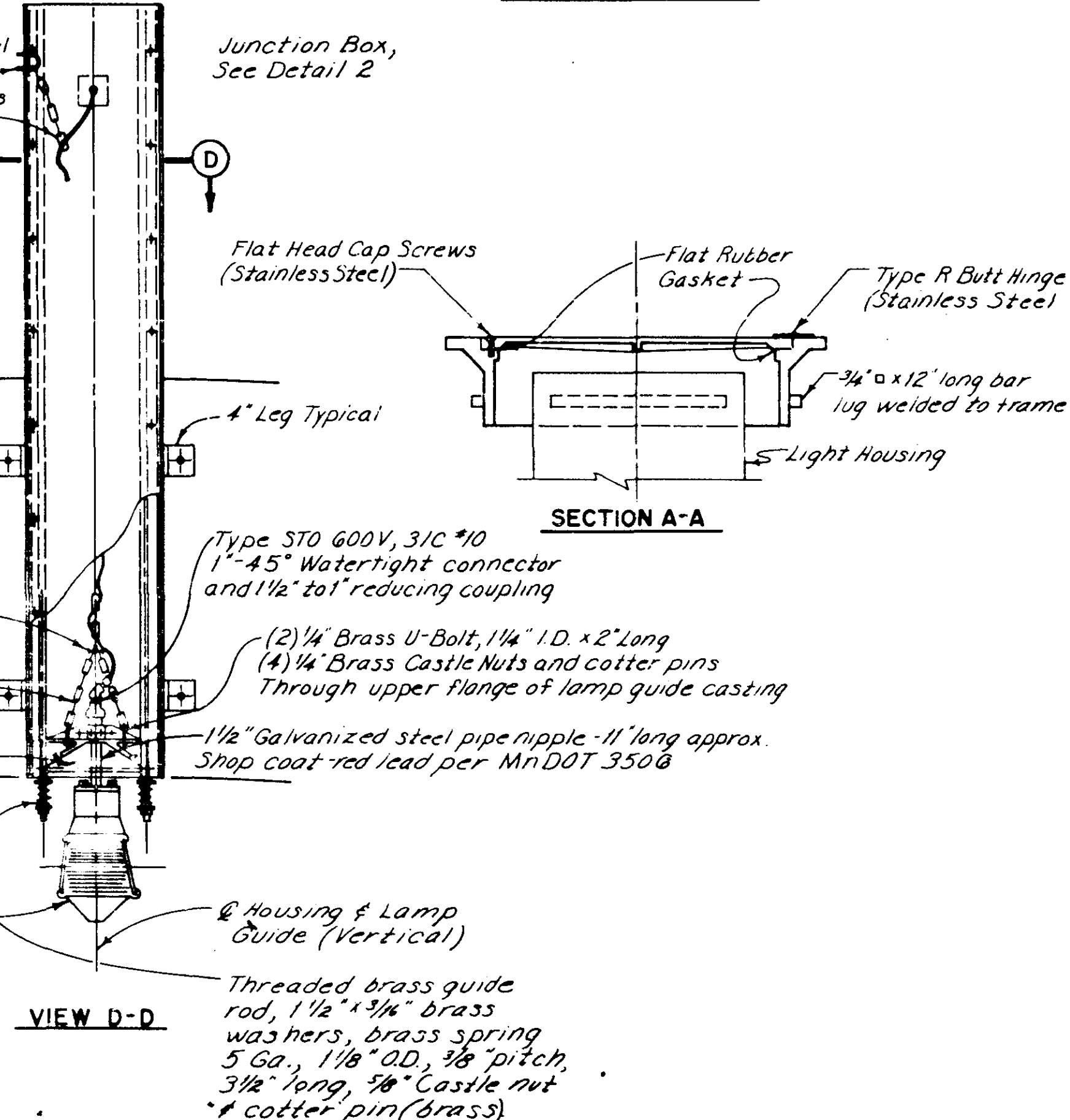
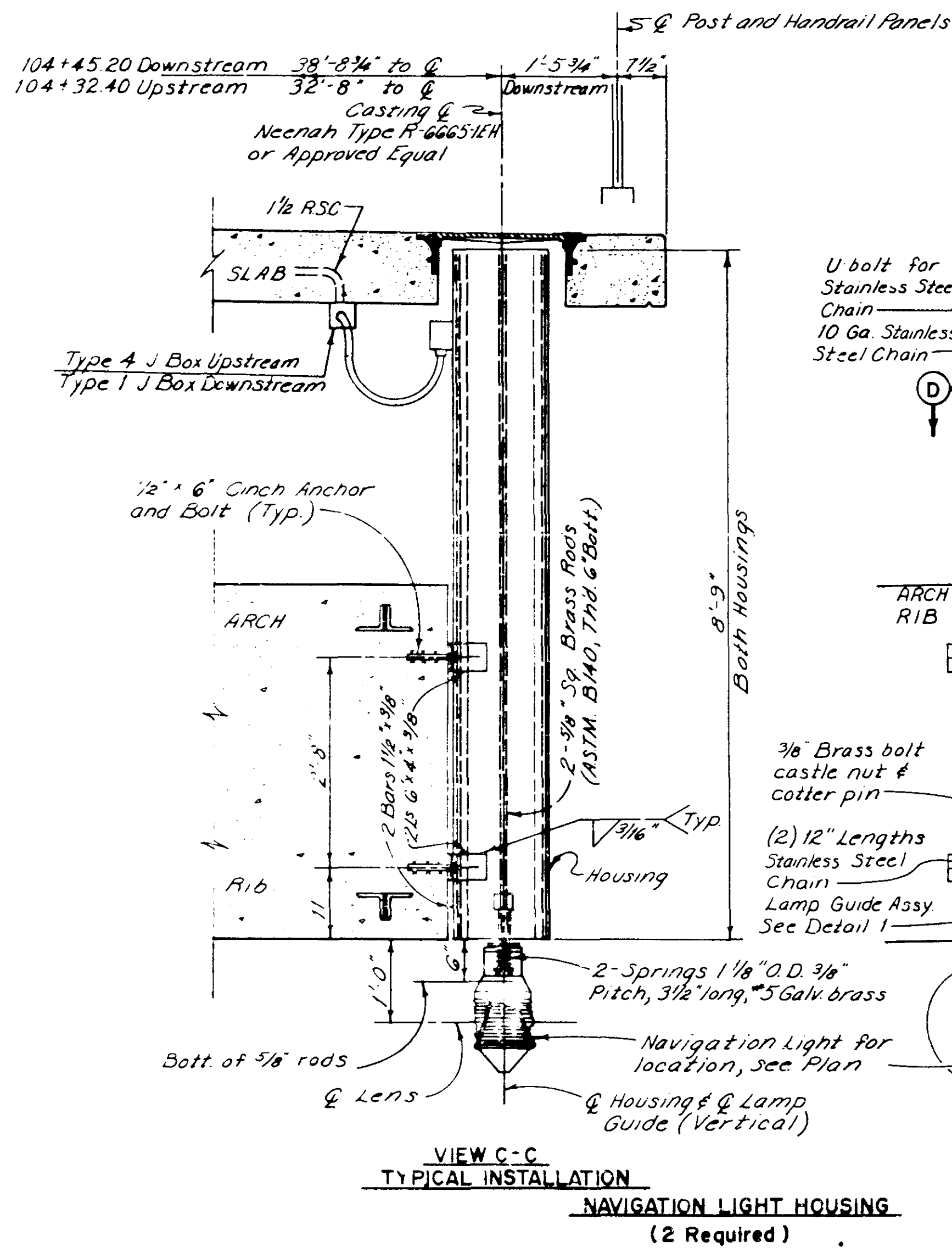
TITLE: ROADWAY LIGHTING DETAILS SHEET 2 OF 2	DES: LDH CHK: WHH	DR: LDH CHK: WHH	APPROVED: 5-7-79	Bridge No. 2440
			Sheet No. 92 of 148 Sheets	



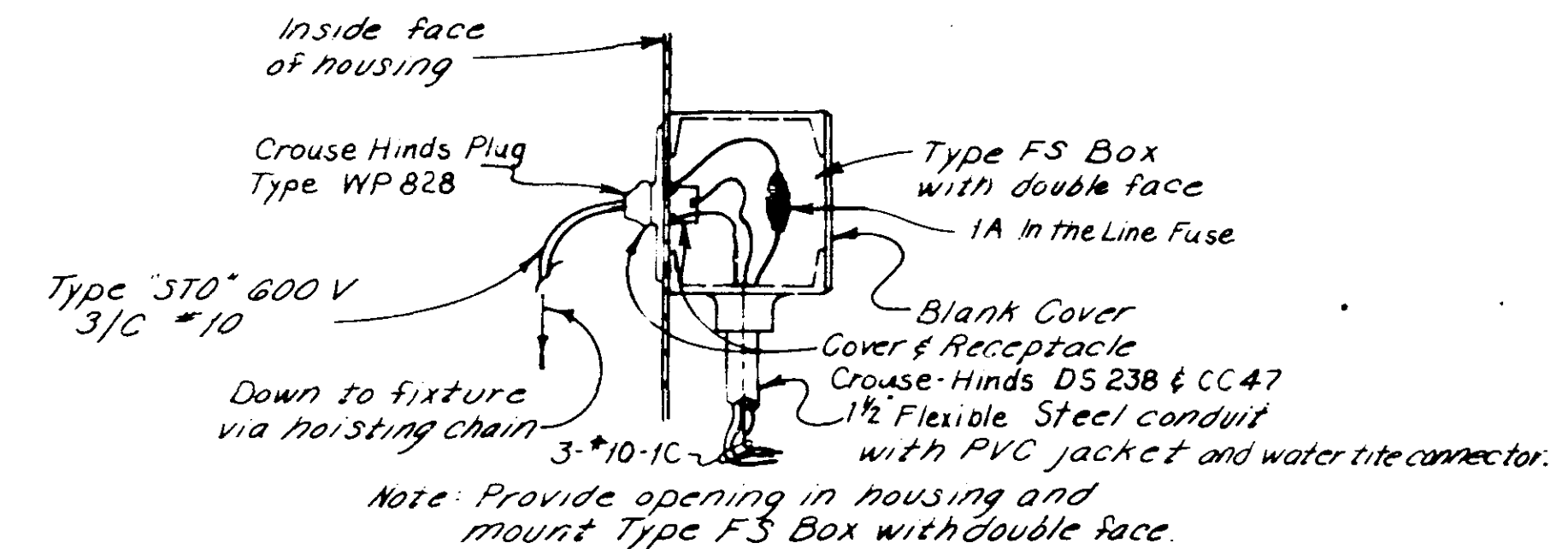
Note: Fasten brass lifting chain to housing with 1/4" galvanized U-bolt. Connect to housing, after housing has been hot-dip galvanized.



Note: Assembly consists of two bronze castings bolted. Assembled in pairs and match mark. 2 Assemblies required.



DETAIL 2 JUNCTION BOX



NOTES

All structural steel shall be galvanized per MnDOT 3394. Housing frame and cover shall be welded as shown with brass rods brazed to 3/8" bars, after housing has been hot-dip galvanized. All electrical devices to be "corrosion resistant."

TITLE:	DES: JCK	DR: REO	APPROVED:	Bridge No. 2440
NAVIGATION LIGHTS AND ACCESS-ARCH SPAN I	CHK: DRA	CHK: DRA	5-7-79	
Sheet No. 93 of 148 Sheets				

GENERAL REPAIR NOTES

All repairs are based on the 1968 inspection. The quantities of cement for shotcrete, concrete mortar patch and epoxy crack seal shown in the plans represent estimated quantities required for repair of spalled areas and cracks at the time of the inspection.

Areas to be repaired shall be designated by the Engineer as the work progresses. Concrete mortar patch shall be used on horizontal surfaces and vertical areas at the discretion of the Engineer, see Special Provisions.

See Special Provisions for shotcrete and epoxy specifications. Keys are to be notched into the existing concrete over which shotcrete is to be placed. Areas in which the thickness of shotcrete will be 2 inches or more and or areas in excess of six square feet require reinforcement of 2 x 2 x 12 wire mesh anchored each way at 18 to 24 inches on center.

Restoration of lost section of reinforcement due to corrosion consists of chipping away to expose a length of sound bar or fabricated shape, sandblasting and replacement if the cross-sectional area has been reduced by corrosion to less than 50% of the original section. The corroded portion is to be cut out and a new bar of equivalent area is to be lapped a minimum of 30 bar diameters. In the case of fabricated shape, an equivalent section may be butt welded in place, or cover plates added.

Longitudinal and or transverse cracks found in the arch ribs require hand chipping to determine the extent of deterioration. Cracks that are shallow and tight require cleaning and sealing with epoxy crack seal.

Following repairs, all surfaces of existing members reused in the reconstructed structure are to be coated with surface finish see Special Provision. All repairs shall be performed in a manner so as to produce a uniform finished surface. See Special Provisions.

RECONSTRUCTION SEQUENCE

1. Utility hanger system for NWBT shall be in place and ASP and NWBT cables shall be removed, abandoned or relocated by others before structure removal is started.
2. Remove railing, sidewalk, bituminous surface, track, granite blocks and sand cushion. The full width of the bridge shall be removed in a manner to maintain balanced loads on the arch rib.
3. Remove concrete deck and spandrel columns as required.
Note: In Arch Spans 1 thru 5 it is possible to remove alternate supports for N.W.B.T. conduits for repair of spandrels. If the support has to be removed at a conduit expansion joint, however, provision for a temporary support @ the expansion joint will have to be made.
4. Repair arches, piers and spandrel columns and construct new portion of piers and spandrel columns.
5. Complete placement of NWBT conduit system @ Water Main support system.
6. Place new drainage system and pour new deck.
7. Complete construction.



Note: If any work is done from the river within the navigation channel, a Coast Guard Permit will be required. No material shall be discarded in the river. See Special Provisions.

* Quantity includes all or portions thereof of existing walls as shown or noted in the plans.

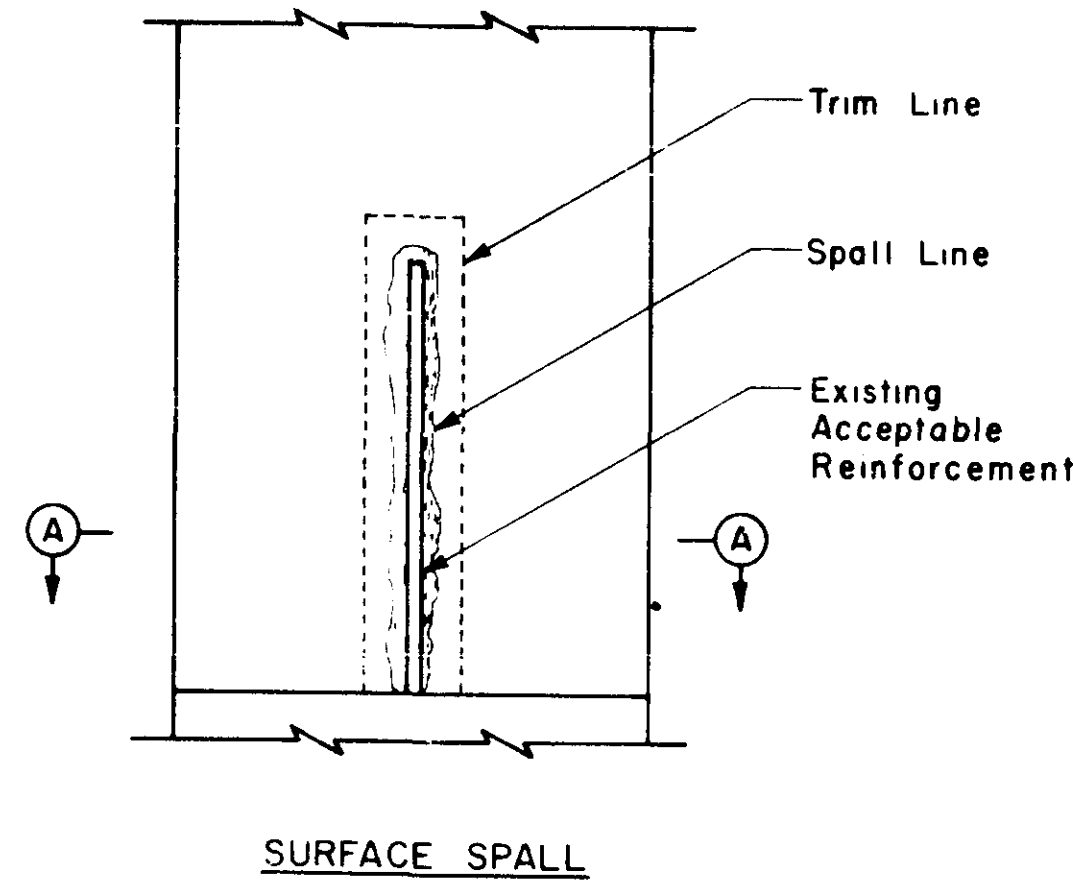
Note: Structure repair quantities are approximate only and furnished for the Contractor's convenience.

STRUCTURE REPAIR QUANTITY SUMMARY		
ITEM	UNIT	QUANTITY
Concrete Mix No. 3Y37	Cu. Yds.	4
Epoxy Crack Seal	Lin. Ft.	900
Shotcrete	Cu. Yds.	7
Surface Finish	Sq. Yds.	33,200
Concrete Mortar Patch	Cu. Yds.	3

ESTIMATED REMOVAL QUANTITIES		
ARCH SPANS		
ITEM	UNIT	QUANTITY
Bituminous Surface	Cu. Yds.	2190
Sand base or lean concrete base	Cu. Yds.	1881
Concrete Deck and Sidewalk	Cu. Yds.	6416
Concrete Cap, Column and Pier Walls	Cu. Yds.	2353
APPROACH SPANS		
ITEM	UNIT	QUANTITY
South Approach	Sq. Ft.	18,770
North Approach	Sq. Ft.	15,270

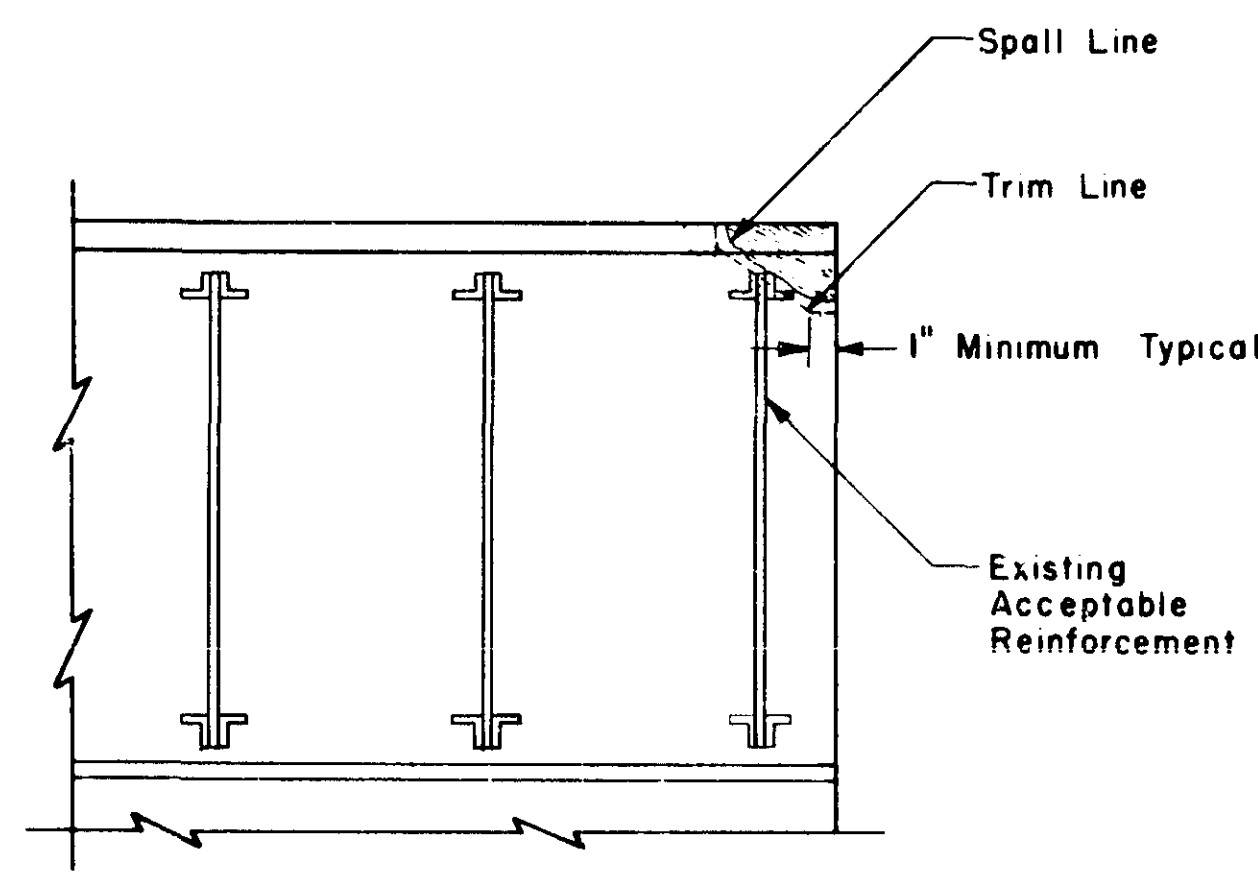
Note: Removal, storage and restoration of existing hand rail to be paid for under Item No. 2433.507 & Item No. 2433.512.

Note: Removal quantities are approximate only and furnished for the contractor's convenience. The lump sum bid for structure removal shall include all removal and disposal as required by the plans and specifications.

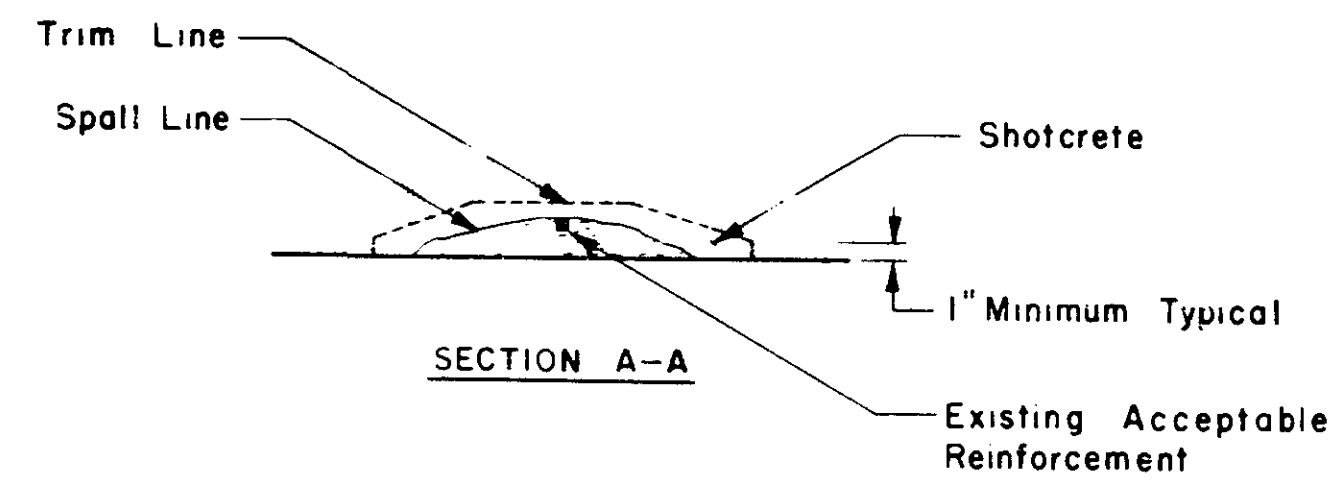


SURFACE SPALL

Note: The edges along the trim line are to be squared up to avoid "feathering" of the new concrete.

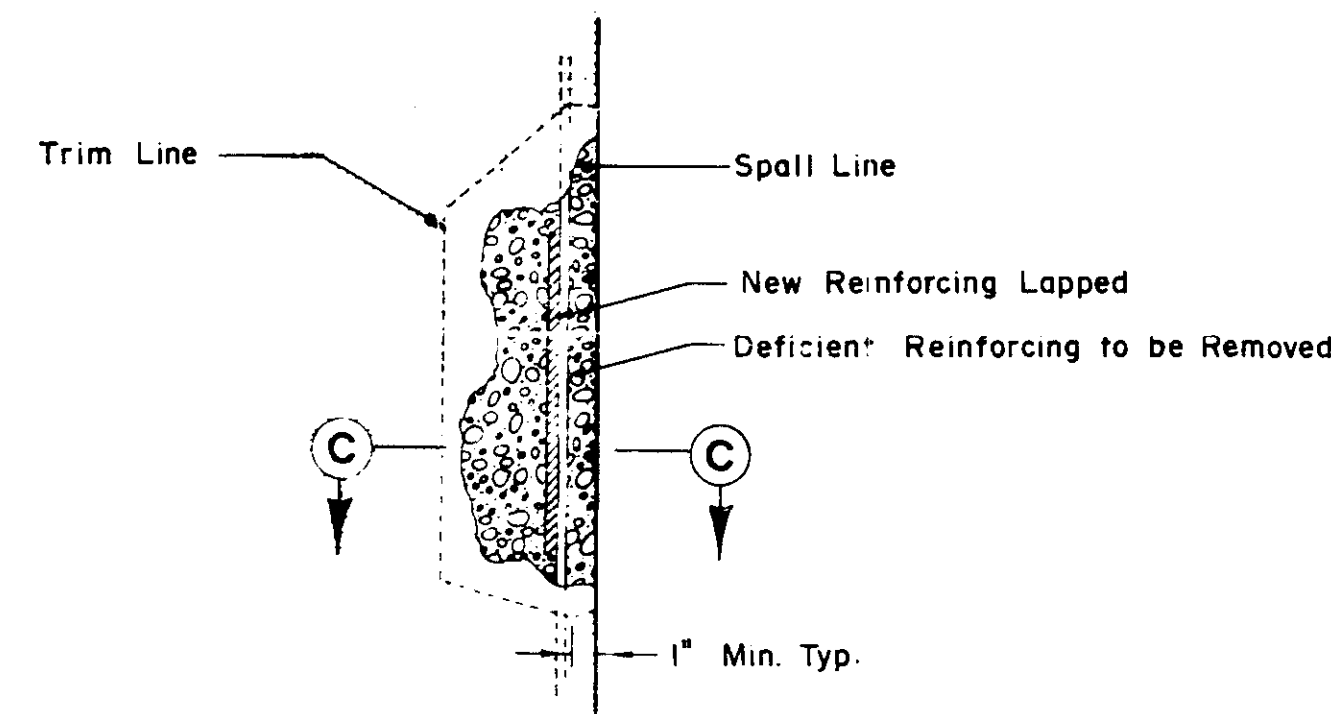


CORNER SPALL

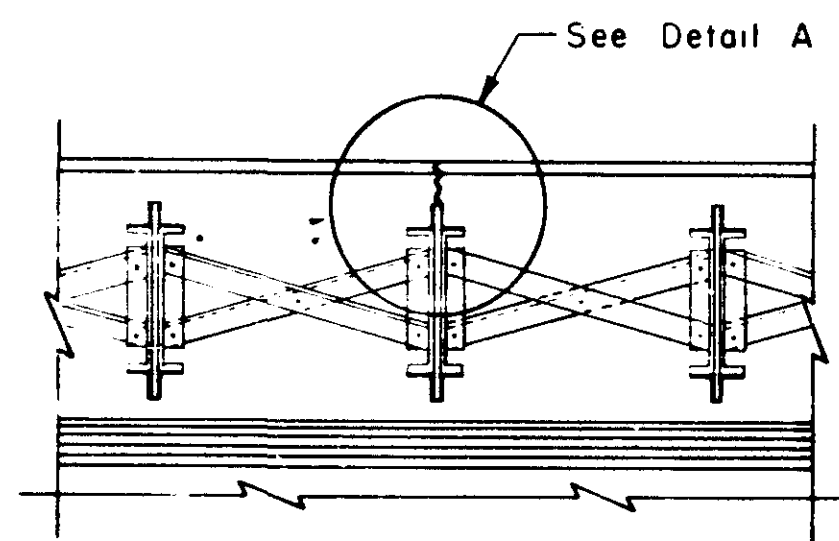


SECTION A-A

Note: Reinforcement to replace corroded reinforcement to be considered incidental and included in price bid for other items.

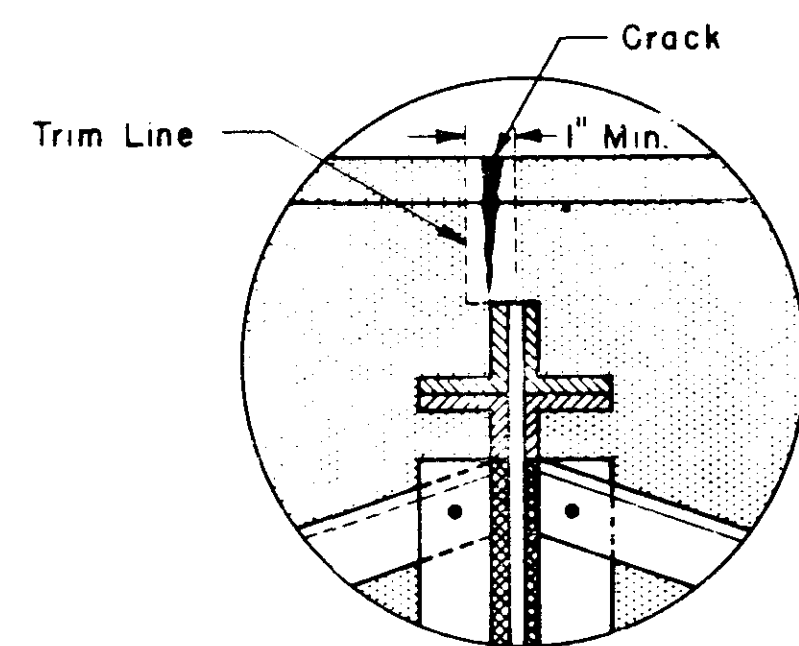


SPALL DEFICIENT REINFORCING

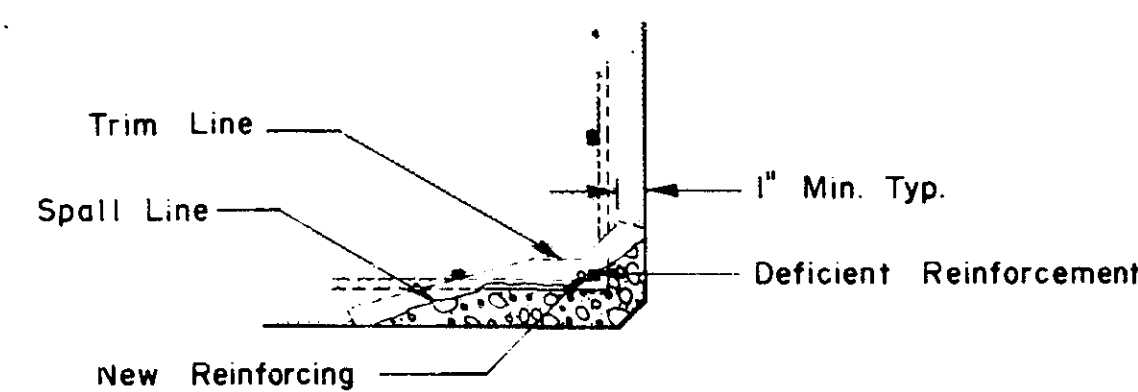


SURFACE CRACK

Note: If crack is tight and concrete sound, fill crack with epoxy crack seal. If crack is not tight, chip out and fill with concrete mortar patch. See Special Provision.

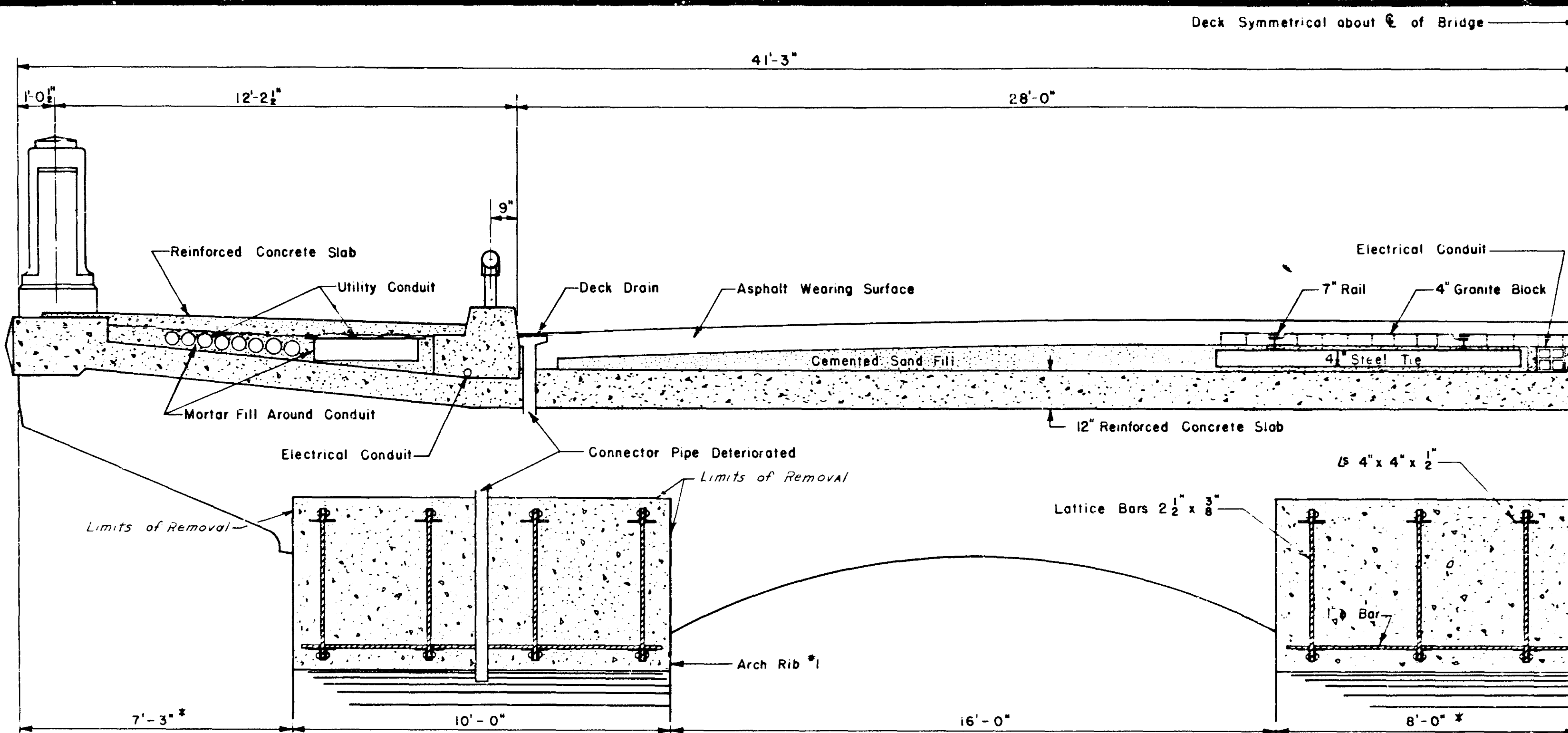


DETAIL A

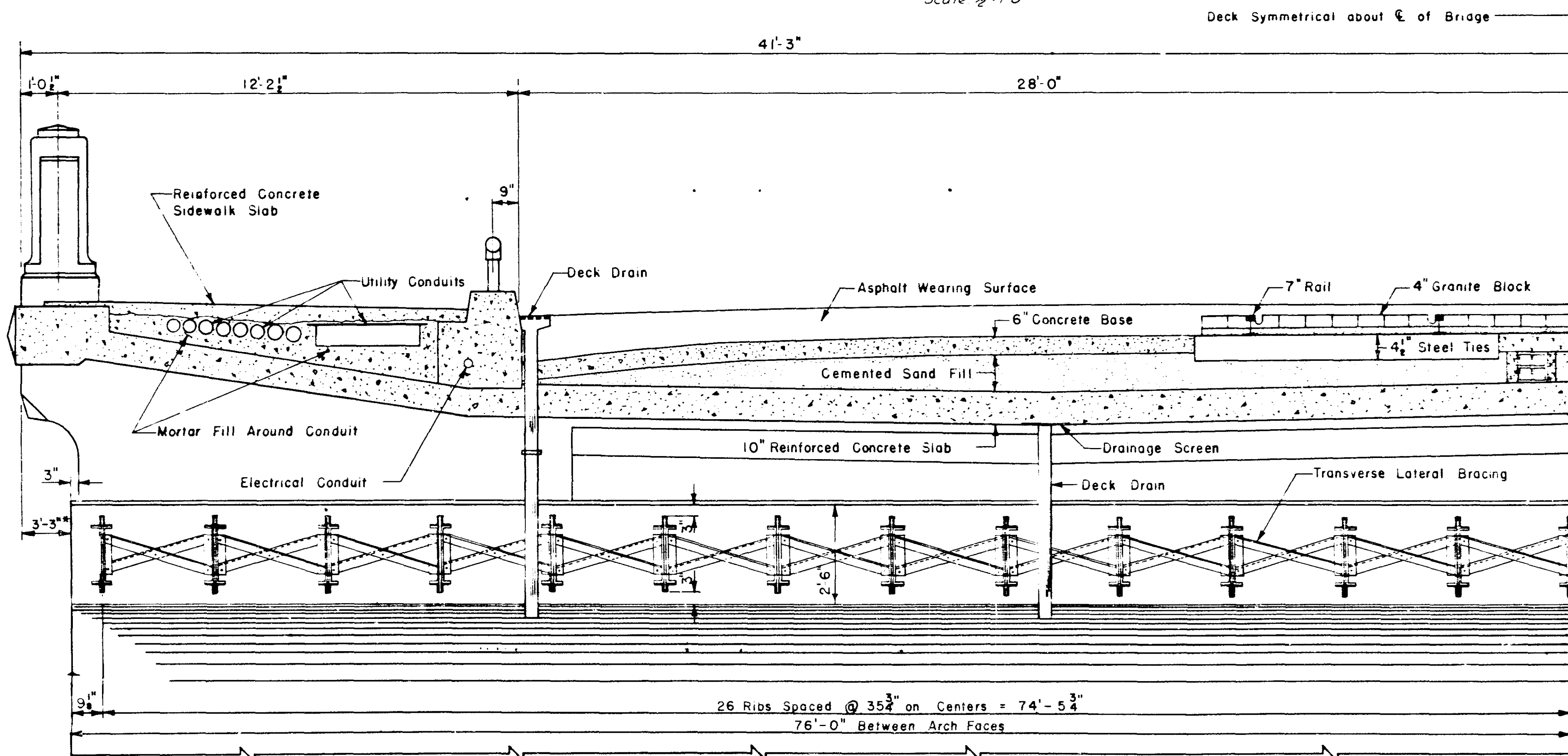


SECTION C-C

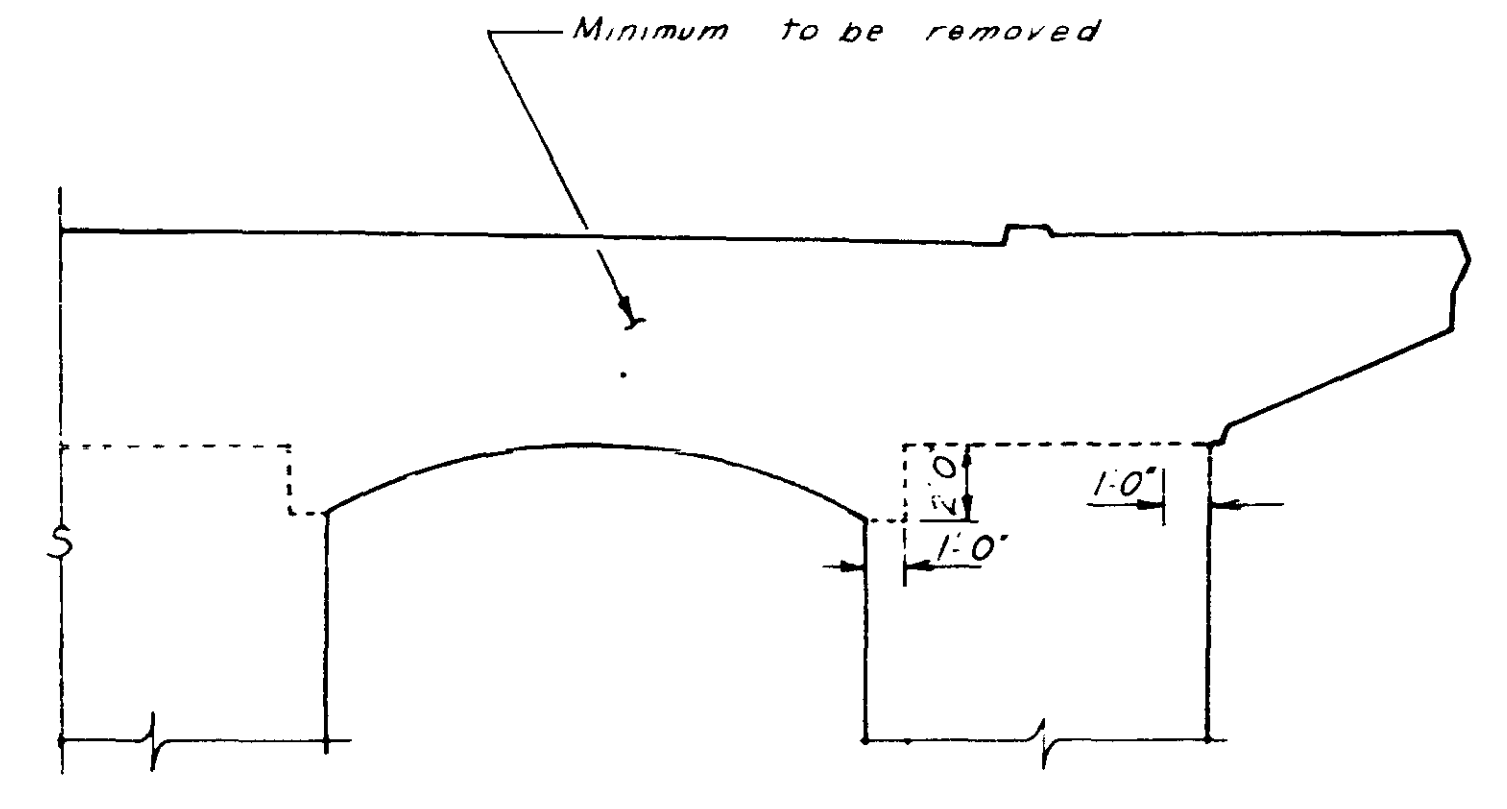
TITLE: TYPICAL REPAIR & RECONSTRUCTION DETAILS	DES: WHH	DR: WHH	APPROVED: 5-7-79	Bridge No. 2440
	CHK:	CHK:		Sheet No. 94 of 148 Sheets



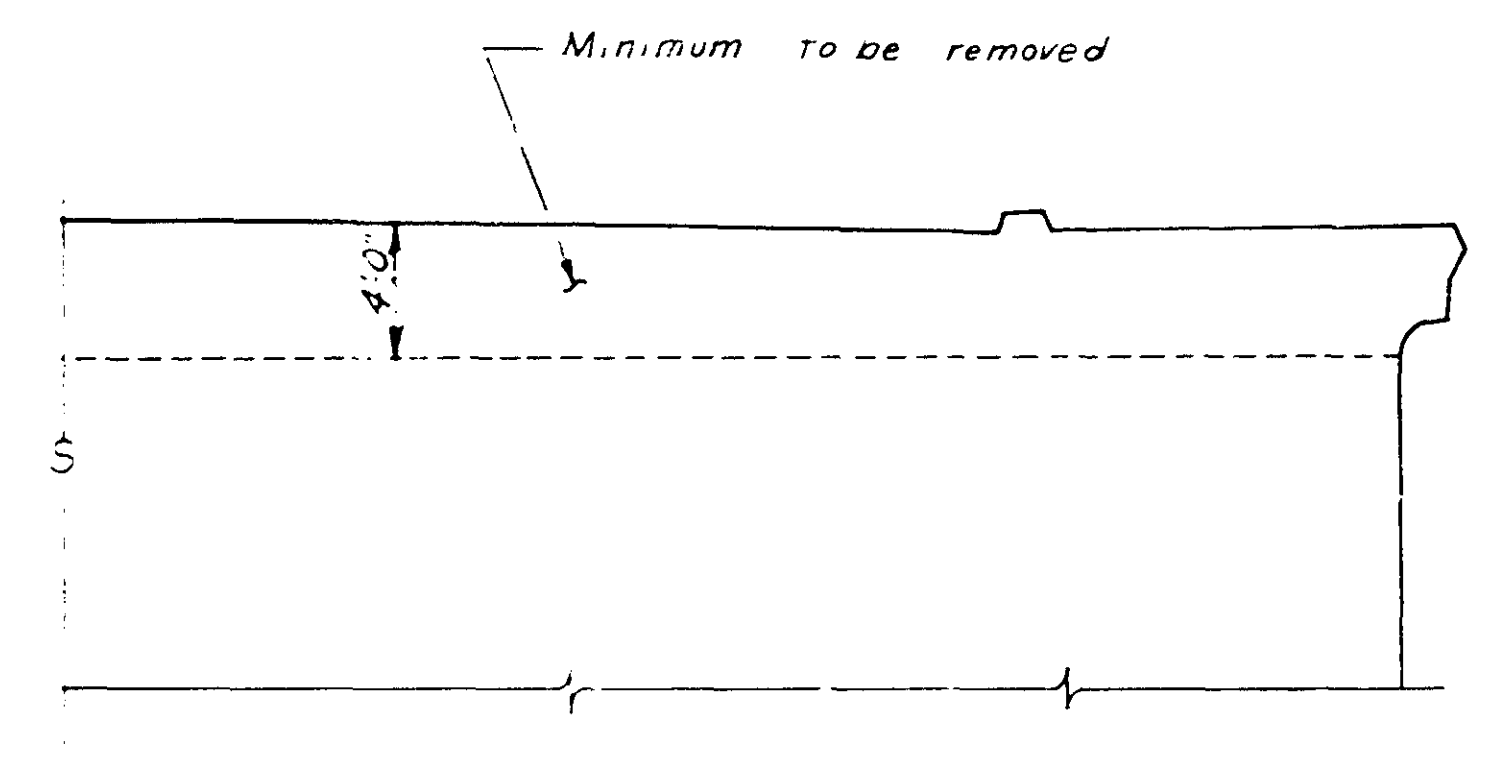
EXISTING SECTION AT RIB ARCH SPANS
Scale: 1/2" = 1'-0"



EXISTING SECTION AT BARREL ARCH SPANS
Scale: 1/2" = 1'-0"



CAP BEAM REMOVAL
RIB ARCH SPANS



CAP BEAM REMOVAL
BARREL ARCH SPANS

Note: Existing data obtained from old construction plans & is not guaranteed to be correct.

Note: *Varies on the Curve

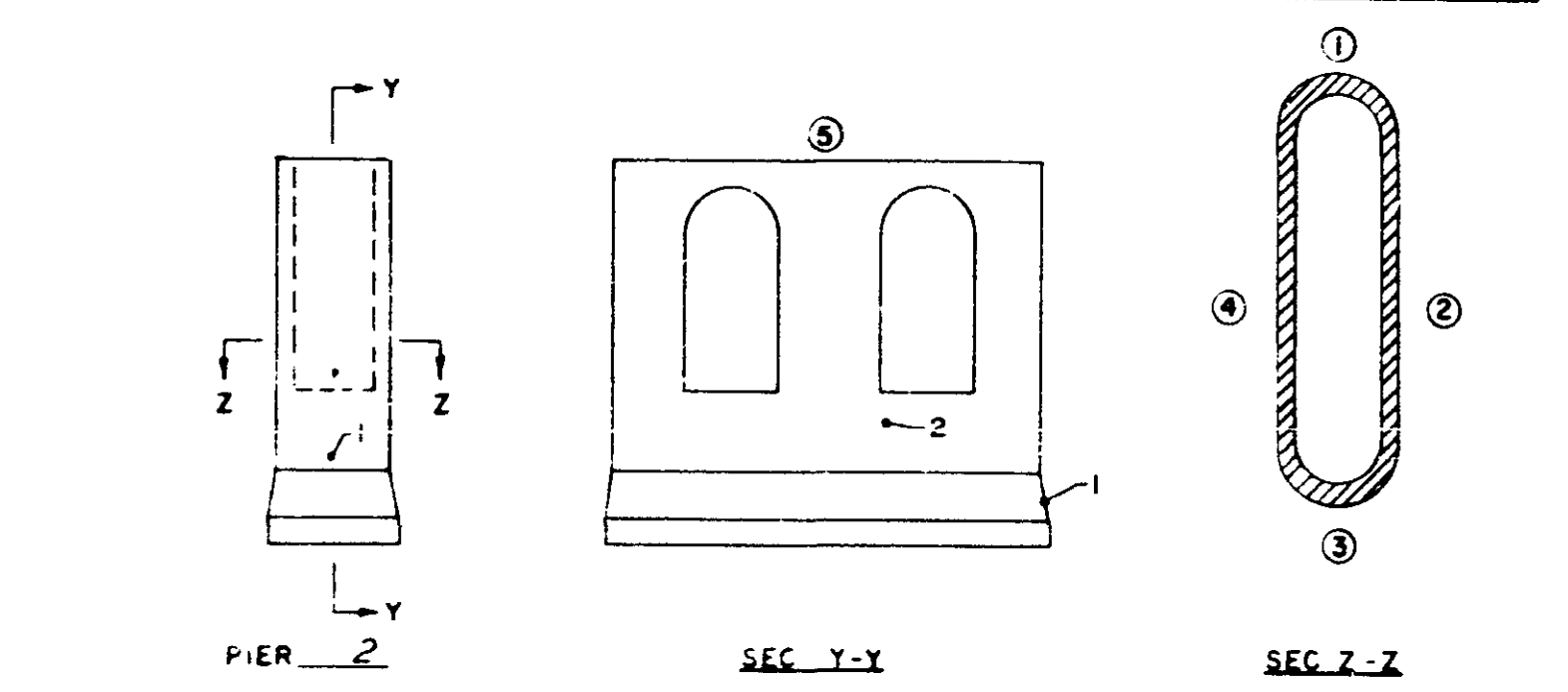
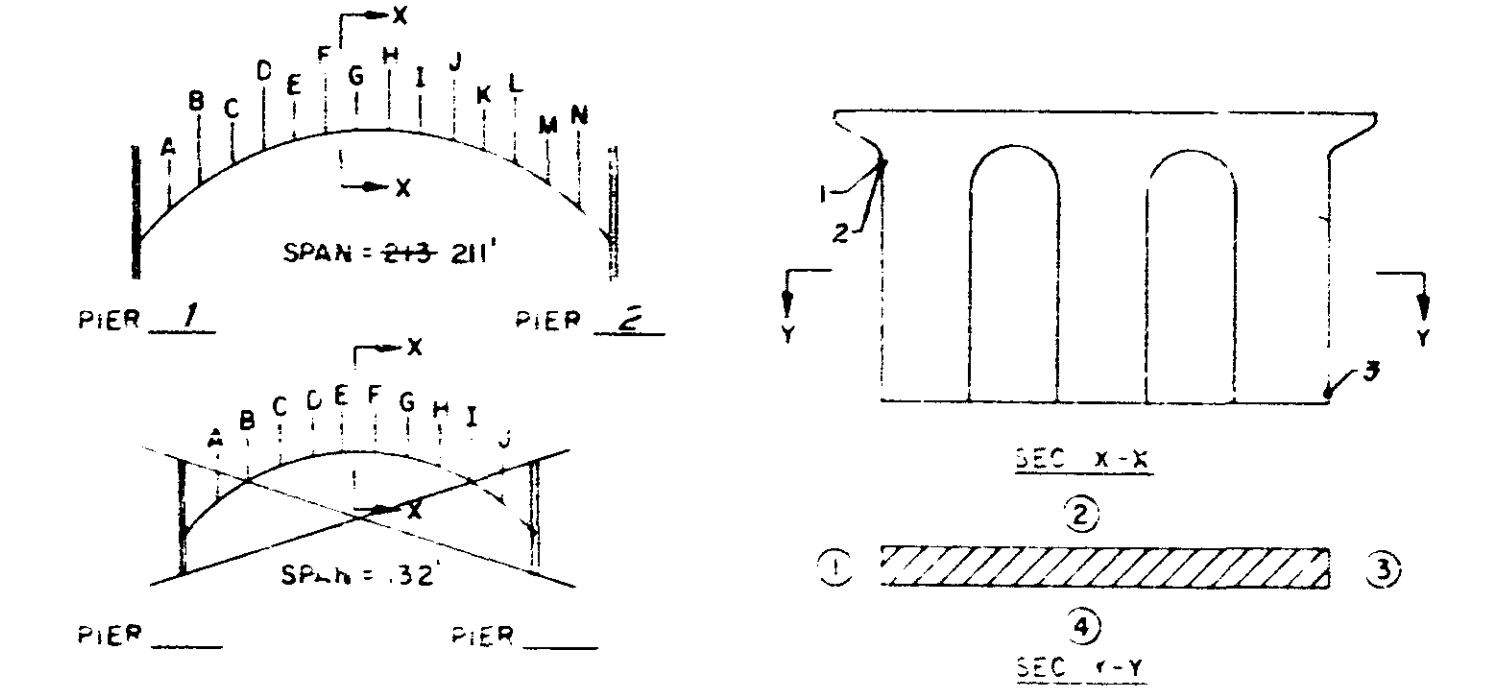
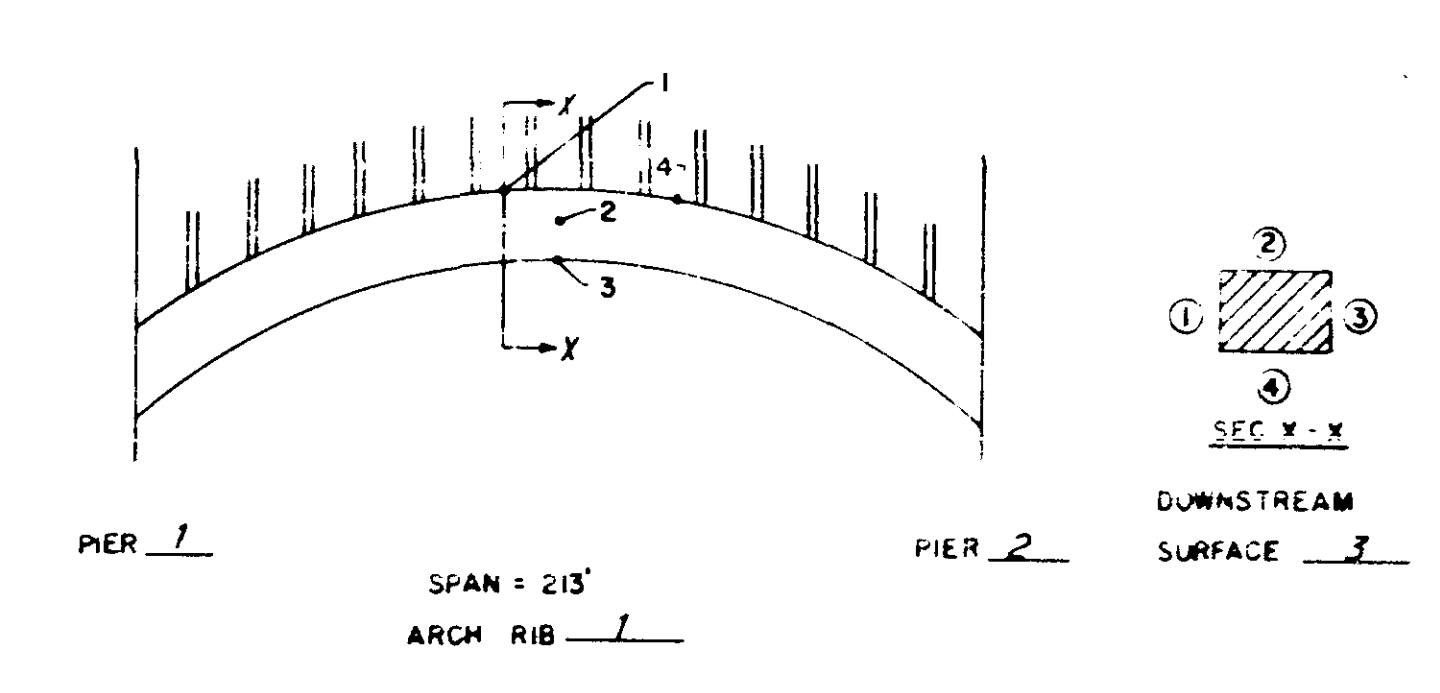
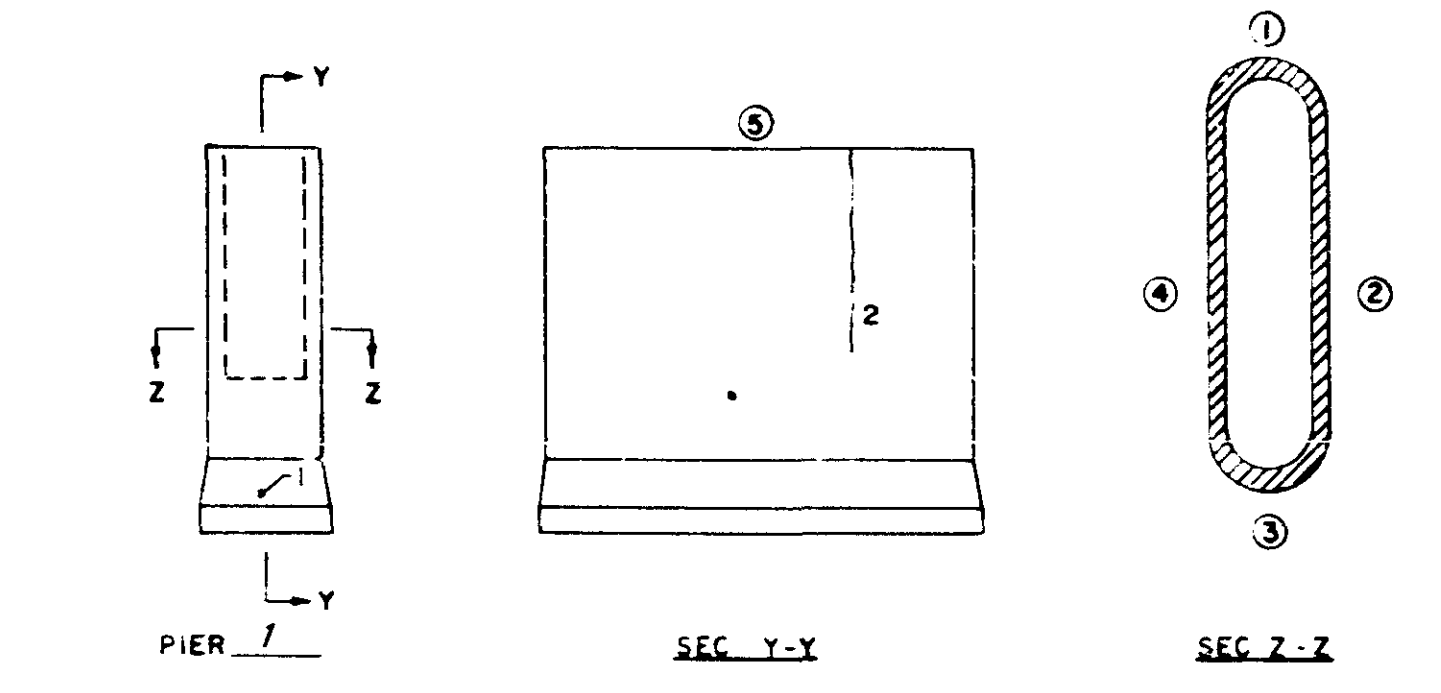
TITLE	DES:	DR: WRT	APPROVED:	Bridge No.
EXISTING DECK SECTIONS	CHK:	CHK:	5-7-79	2440
	Sheet No. 95 of 148 Sheets			

BRIDGE NUMBER 2440
T.H.65 (THIRD AVE.) OVER THE MISSISSIPPI RIVER
MINNEAPOLIS, MINNESOTA
INSPECTION REPORT
HOWARD, NEEDLES, TAMMEN & BERGENDOFF JOB NO. 2083 INSPECTOR RDB
CONSULTING ENGINEERS DATE 1-22-68 RECORDER RDL

BRIDGE NUMBER 2440
T.H.65 (THIRD AVE.) OVER THE MISSISSIPPI RIVER
MINNEAPOLIS, MINNESOTA
INSPECTION REPORT
HOWARD, NEEDLES, TAMMEN & BERGENDOFF JOB NO. 2083 INSPECTOR RDB
CONSULTING ENGINEERS DATE 1-20-68 RECORDER RDL

BRIDGE NUMBER 2440
T.H.65 (THIRD AVE.) OVER THE MISSISSIPPI RIVER
MINNEAPOLIS, MINNESOTA
INSPECTION REPORT
HOWARD, NEEDLES, TAMMEN & BERGENDOFF JOB NO. 2083 INSPECTOR RDB
CONSULTING ENGINEERS DATE 1-20-68 RECORDER RDL

BRIDGE NUMBER 2440
T.H.65 (THIRD AVE.) OVER THE MISSISSIPPI RIVER
MINNEAPOLIS, MINNESOTA
INSPECTION REPORT
HOWARD, NEEDLES, TAMMEN & BERGENDOFF JOB NO. 2083 INSPECTOR RDB
CONSULTING ENGINEERS DATE 1-20-68 RECORDER RDL



Point	Surface	Remarks	Shotcrete	Poured Concrete
1	3	Surface Spalls		
2	2	Cracked Thru		

Point	Surface	Remarks	Shotcrete	Poured Concrete
1	1-2	Corner spall 12'x6'x5"		2 C.F.
2	1	Surface Spall 7'x5'x4"		12 C.F.
3	4-1	Corner Spall 12'x8'x8"		25 C.F.
4	1-2	Corner Spall 12'x8'x8"		25 C.F.

Point	Surface	Remarks	Shotcrete	Poured Concrete
1	1-2	C - 2 Corner Spalls ea. 6'x4'x4"		2 C.F.
4-1				
2	4-1	L - Corner Spall 7'x4'x4"		1 C.F.
3	2-3	C - Corner Spall 1'x1'x6"		1 C.F.

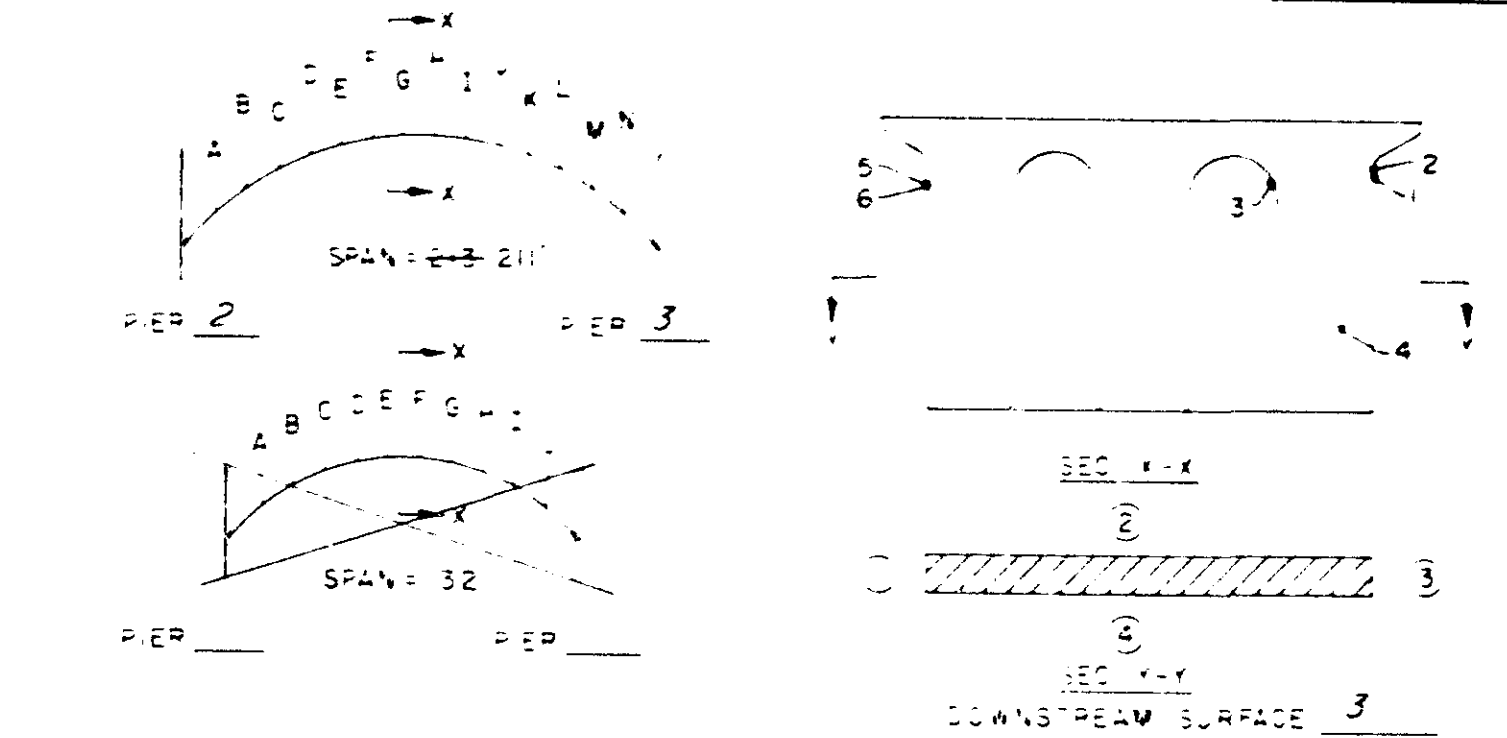
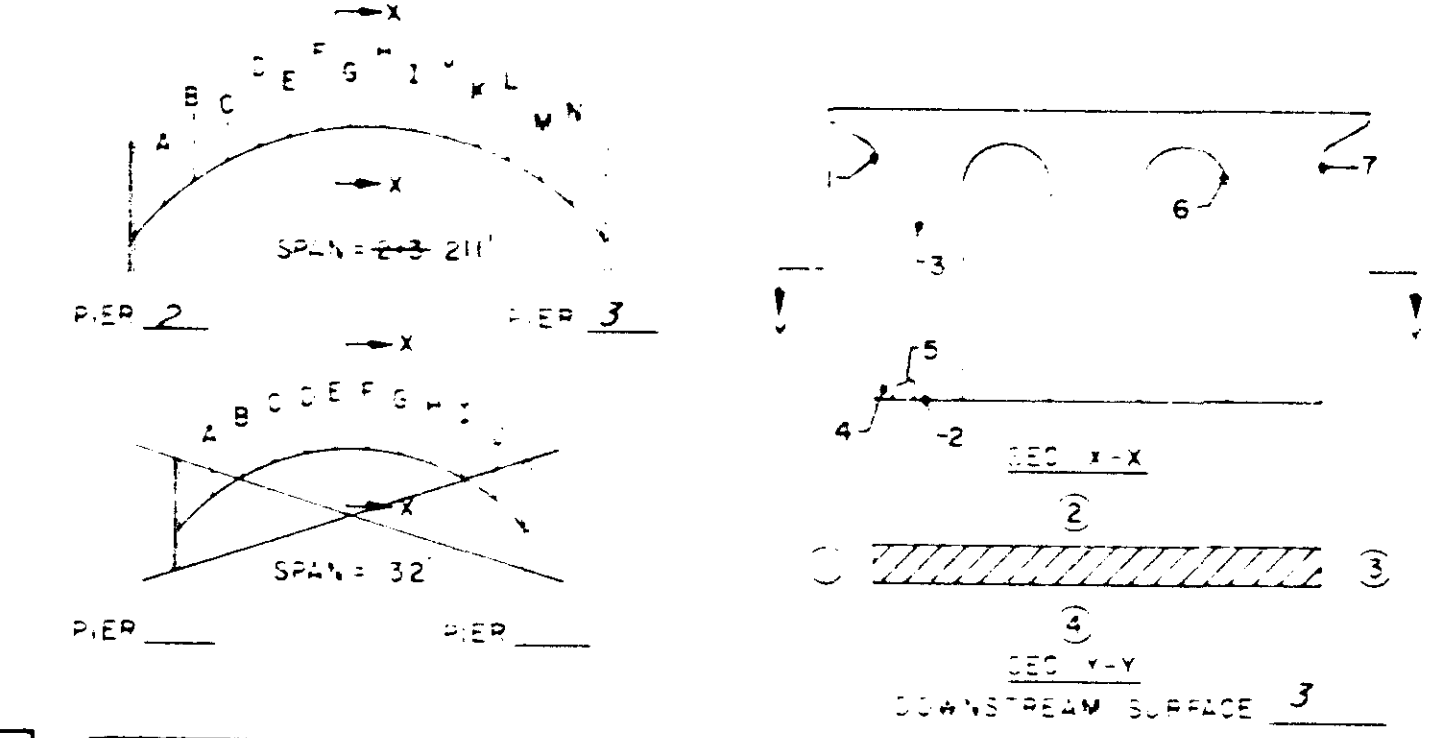
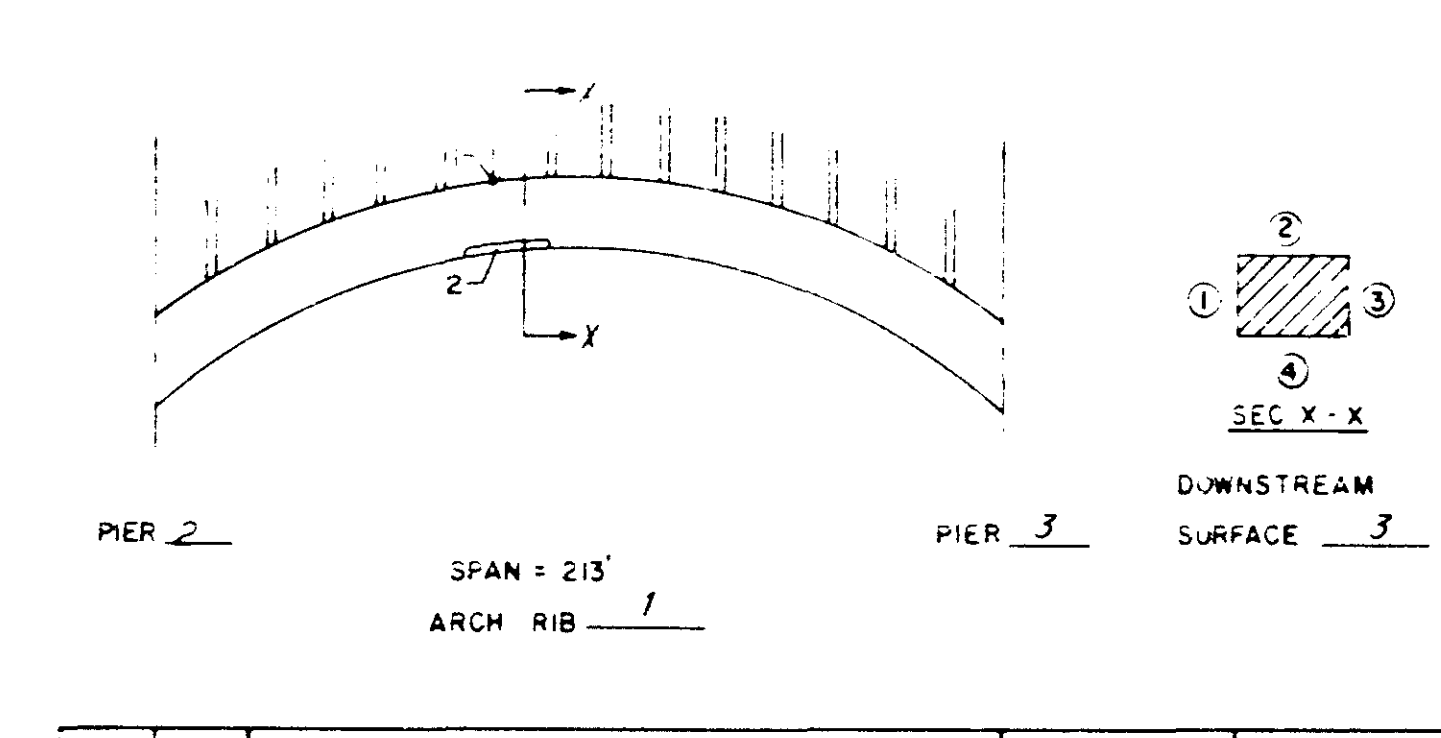
Point	Surface	Remarks	Shotcrete	Poured Concrete
1	3	Surface Spall		
2	2	Surface Spall		

BRIDGE NUMBER 2440
T.H.65 (THIRD AVE.) OVER THE MISSISSIPPI RIVER
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INSPECTION REPORT
HOWARD, NEEDLES, TAMMEN & BERGENDOFF JOB NO. 2083 INSPECTOR RDB
CONSULTING ENGINEERS DATE 1-20-68 RECORDER RDL

BRIDGE NUMBER 2440
T.H.65 (THIRD AVE.) OVER THE MISSISSIPPI RIVER
MINNEAPOLIS, MINNESOTA
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BRIDGE NUMBER 2440
T.H.65 (THIRD AVE.) OVER THE MISSISSIPPI RIVER
MINNEAPOLIS, MINNESOTA
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BRIDGE NUMBER 2440
T.H.65 (THIRD AVE.) OVER THE MISSISSIPPI RIVER
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Point	Surface	Remarks	Shotcrete	Poured Concrete
1	1-2	Rib 1 - Corner Spall 4'x6'x6"		1 C.F.
2	3,4	Rib 1 - Corner Spall 20'x1'x1'		6 C.F.
2	1,4	Rib 3 - Corner Spall 12'x1'x1'		4 C.F.

Point	Surface	Remarks	Shotcrete	Poured Concrete
1	4-1	A - Corner spall 4'x4'x4"		1 C.F.
2	4	A and B - 2 Surface Spalls @ 12'x1'x1'		2 C.F.
3	2	A - 2 Surface Spalls 11' 21'x6'x1"		1 C.F.
4	4	E - Surface Spall 1'x6'x2"		1 C.F.
5	2	F - Corner Spall 10'x6'x6"		2 C.F.
6	1,2	N - 2 Cor Spalls 8'x6'x6"		3 C.F.
7	2-3			
	3-4	N - 2 Cor Spalls 11' 16'x4'x5"		2 C.F.

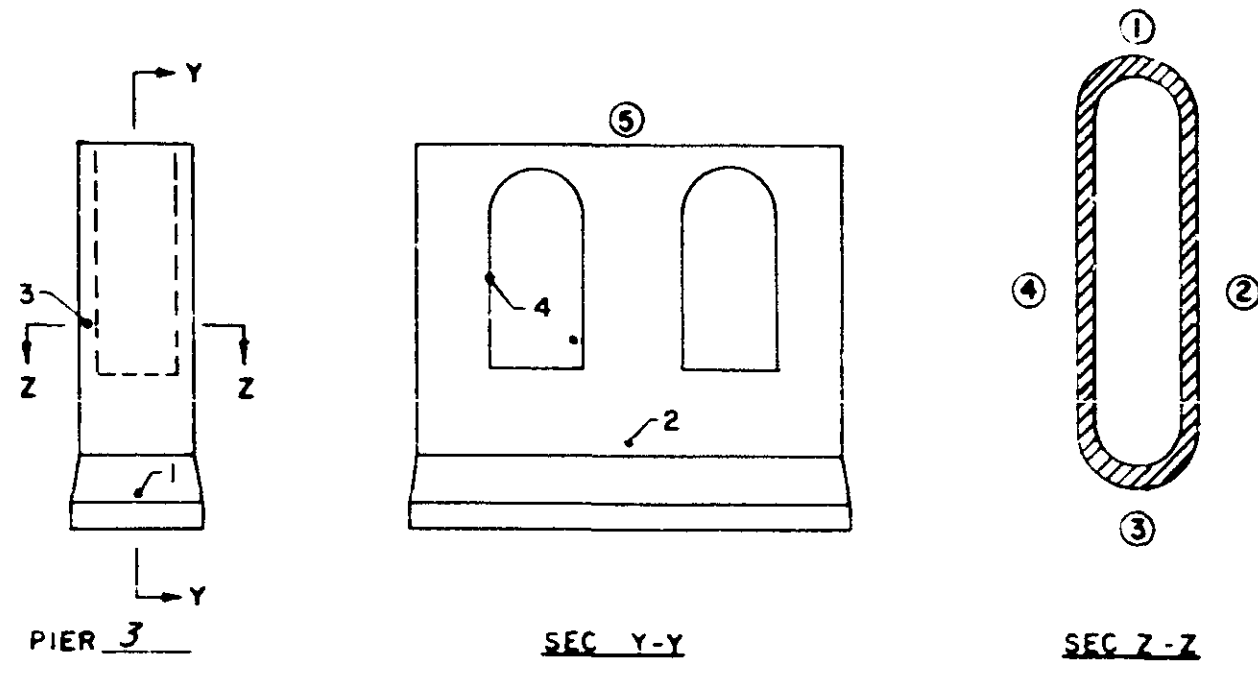
Point	Surface	Remarks	Shotcrete	Poured Concrete
1	3-4	C - Corner Spall 7'x4'x4"		1 C.F.
2	2-3	B - Corner Spall 4'x8'x4"		1 C.F.
3	4	B - Corner Spall 6'x4'x4"		1 C.F.
4	2	A - Surface Spall 3'x6'x1"		1 C.F.
5	4-1	L - 2 Cor Spalls ea. 6'x4'x4"		2 C.F.
6	1-2	L - Corner Spall 5'x6'x6"		1 C.F.

Note:
The Owner does not guarantee the completeness or accuracy of these reports. The contractor shall verify to his satisfaction the extent of work required before submitting bid.

TITLE: INSPECTION REPORTS SHEET 1 OF 4
DES: DR: JGZ APPROVED: 5-7-79
CHK: CHK: SHEET No. 96 of 148 Sheets Bridge No. 2440

BRIDGE NUMBER 2440
 T.H.65 (THIRD AVE.) OVER THE MISSISSIPPI RIVER
 MINNEAPOLIS, MINNESOTA
INSPECTION REPORT
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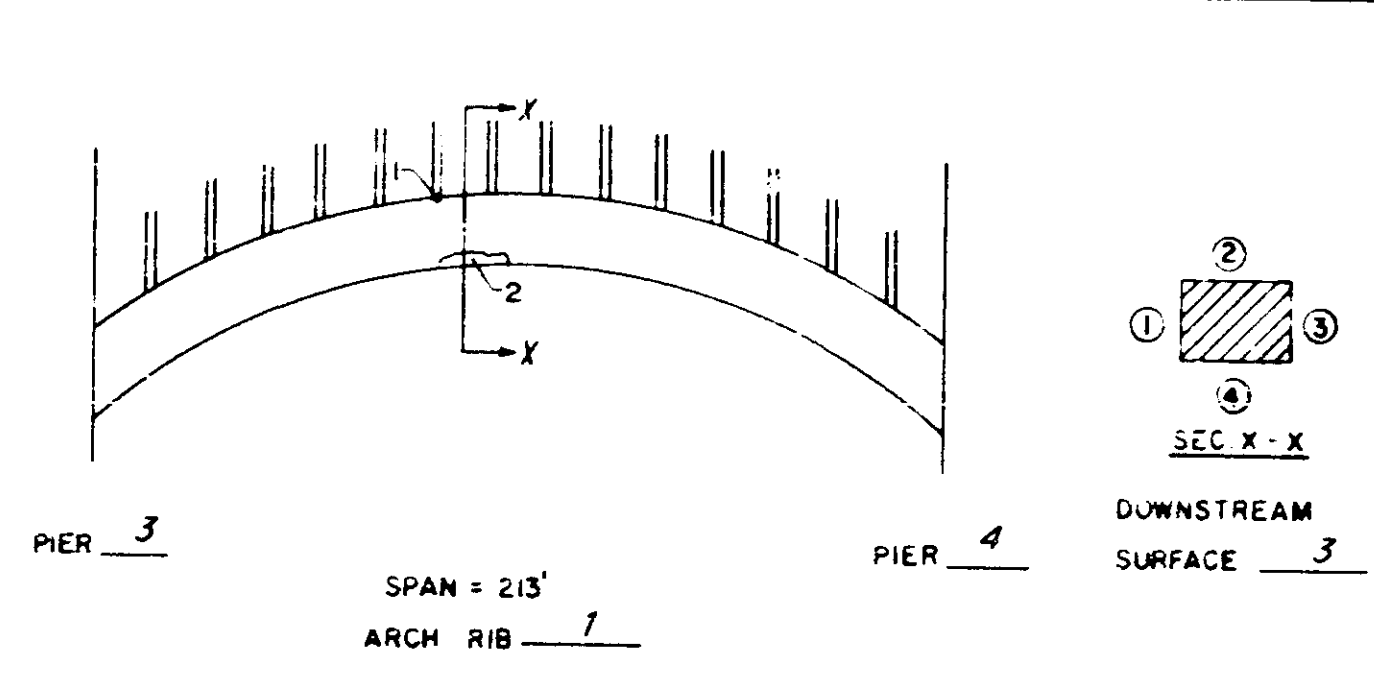
PIER 3
 DOWNSTREAM SURFACE
 SHEET 1



Point	Surface	Remarks	Shotcrete	Poured Concrete
1	3	Surface Spalling		
2-3		Surface Spalling on Cantilever 3'x1"	1 C.F.	
3-4		Downstream Cantilever Corner Spall 3'x6"x6"	1 C.F.	
1-2		Surface Spalls downstream and upstream Cantilever Corner Spall 4'x3"x3"	1 C.F.	
2	4	Surface Spall downstream end		
3	1	2 Surface Spalls ttl. 2'x1'x1" on Cantilever Corner Spall 6'x5'x5"	1 C.F.	
4		Downstream face of upstream column Surface Spall 12'x8'x1"	1 C.F.	

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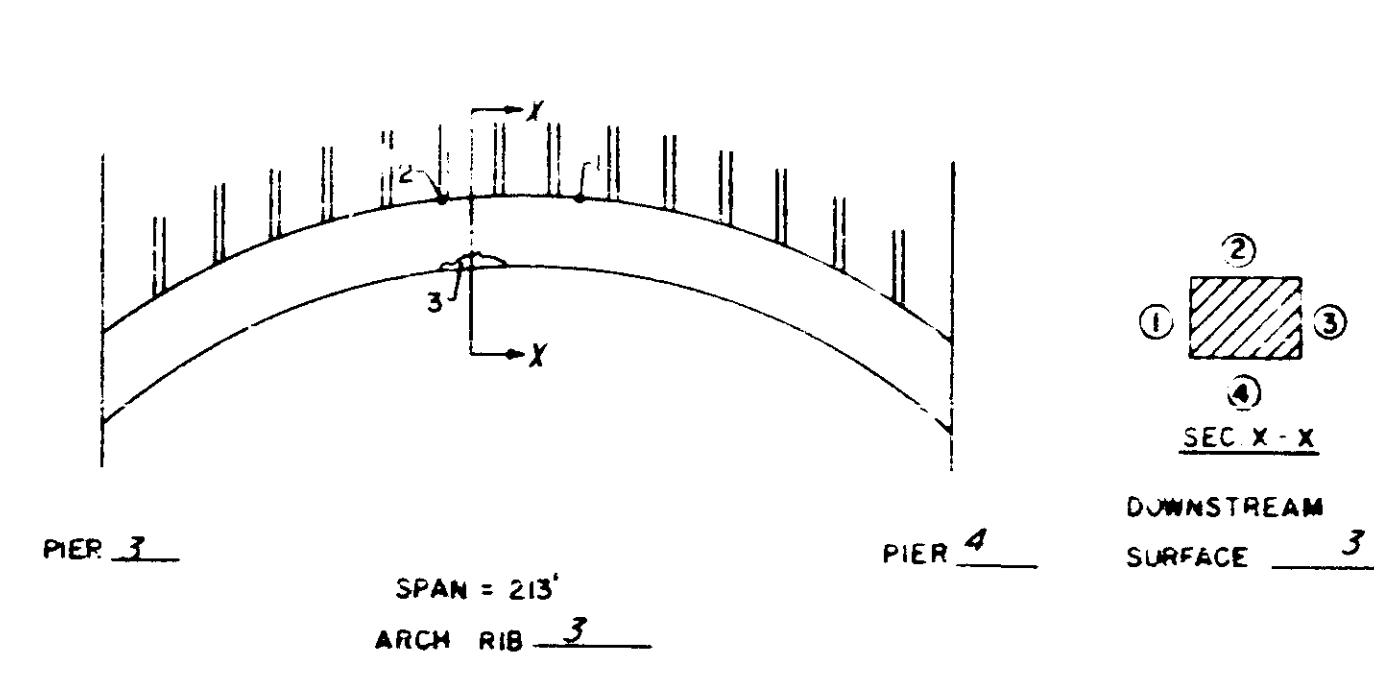
SPAN No. 7
 PIER 3 TO 4
 ARCH RIB 1
 SHEET 1 of 1



Point	Surface	Remarks	Shotcrete	Poured Concrete
1	1-2	Corner Spall 3'x1'x1"	1 C.F.	
2	3,4	Corner Spall 18'x1'x1"	6 C.F.	

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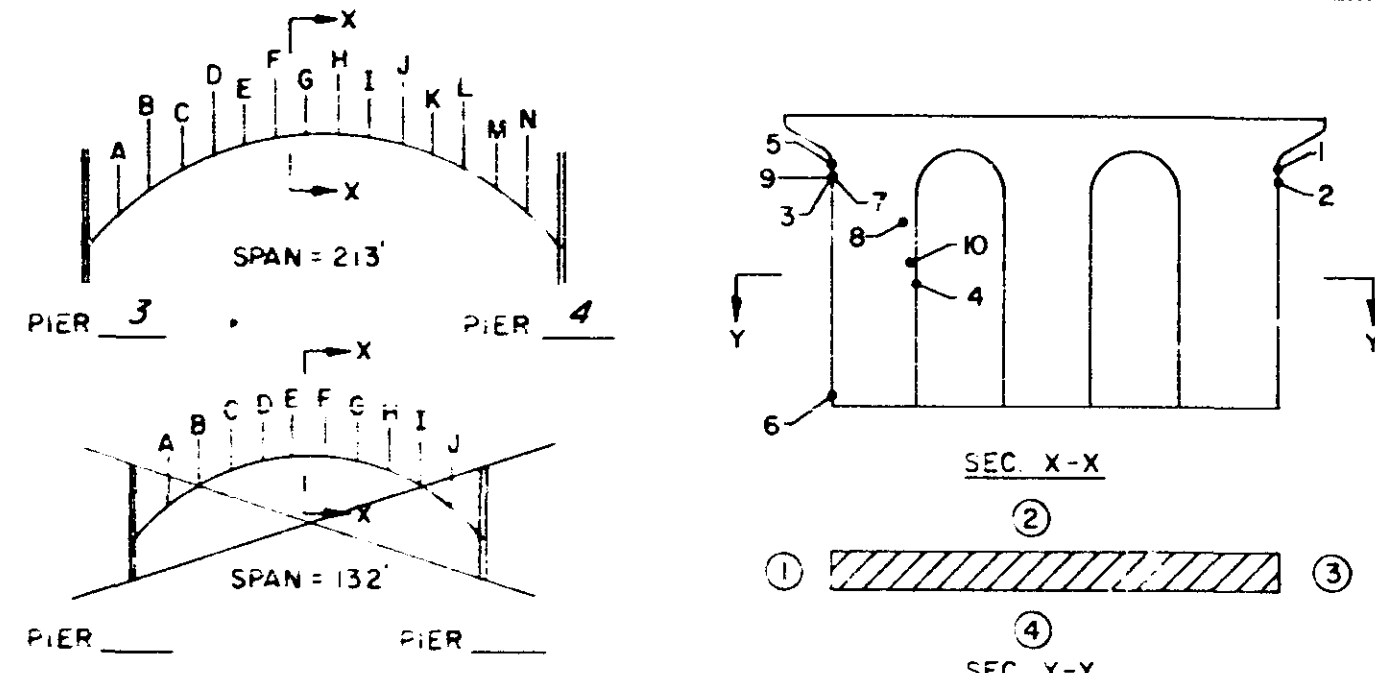
SPAN No. 7
 PIER 3 TO 4
 ARCH RIB 3
 SHEET 1 of 1



Point	Surface	Remarks	Shotcrete	Poured Concrete
1	2-3	Corner spall 5'x6'x6"	1 C.F.	
2	2-3	Corner spall 4'x6'x6"	1 C.F.	
3	1,4	Corner Spall 12'x1'x1"	4 C.F.	

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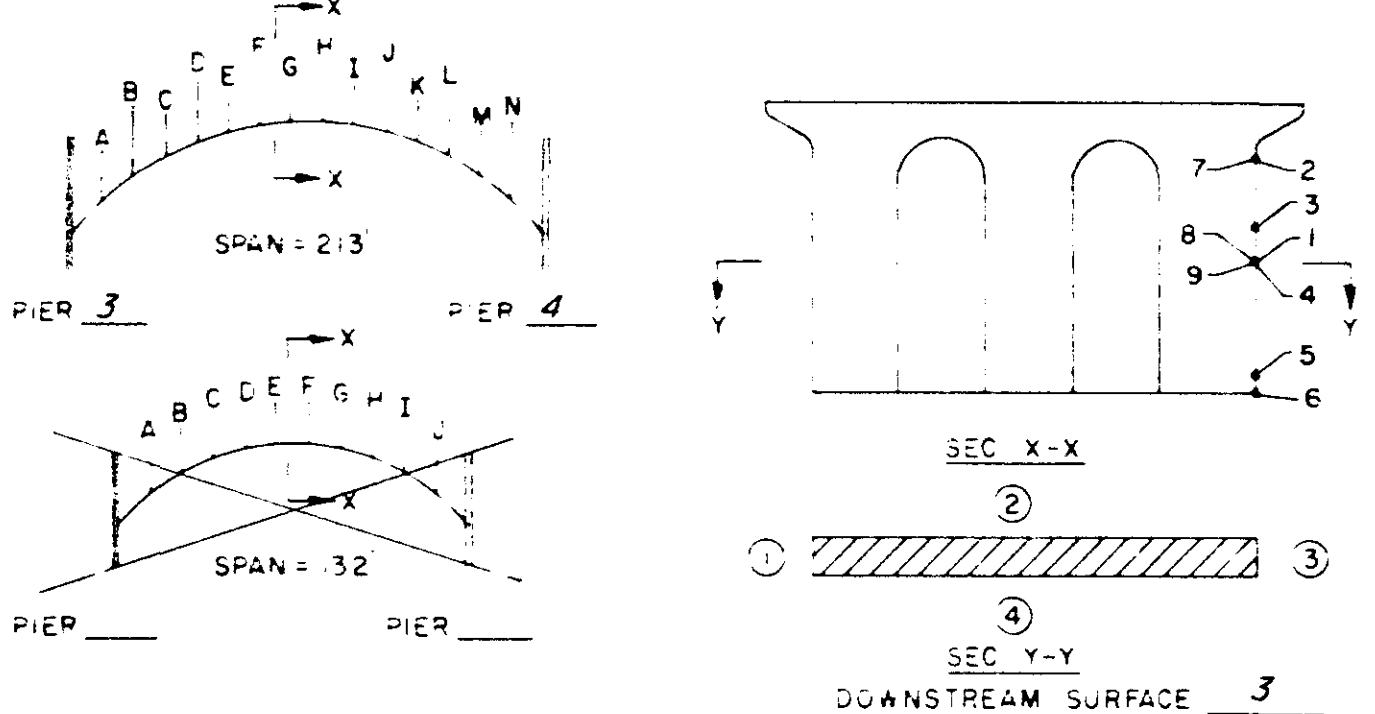
SPAN No. 7
 PIER 3 TO 4
 SPANDREL COL all
 SHEET 3 of 5



Point	Surface	Remarks	Shotcrete	Poured Concrete
1	3-4	B - Corner Spall 7'x4'x4"	1 C.F.	
2	3-4	A - Corner Spall 8'x5'x6"	2 C.F.	
3	1-2	A - 2 Corner Spall 22'x6'x6"	4 C.F.	
4	3-4	A - 2 Corner Spalls 24'x6'x8"	5 C.F.	
5	4-1	C - 2 Corner Spalls @ 6'x4'x4"	2 C.F.	
6	4-1	E - Corner Spall 1'x4'x4"	1 C.F.	
7	4	L - Surface Spalls 1'x1'x1"	1 C.F.	
8	4-1	L - Corner Spall 12'x5'x5"	2 C.F.	
9	4-1	M - 2 Corner Spalls ttl 16'x4'x4"	2 C.F.	
10	2	N - Surface Spall 4'x6'x1"	1 C.F.	

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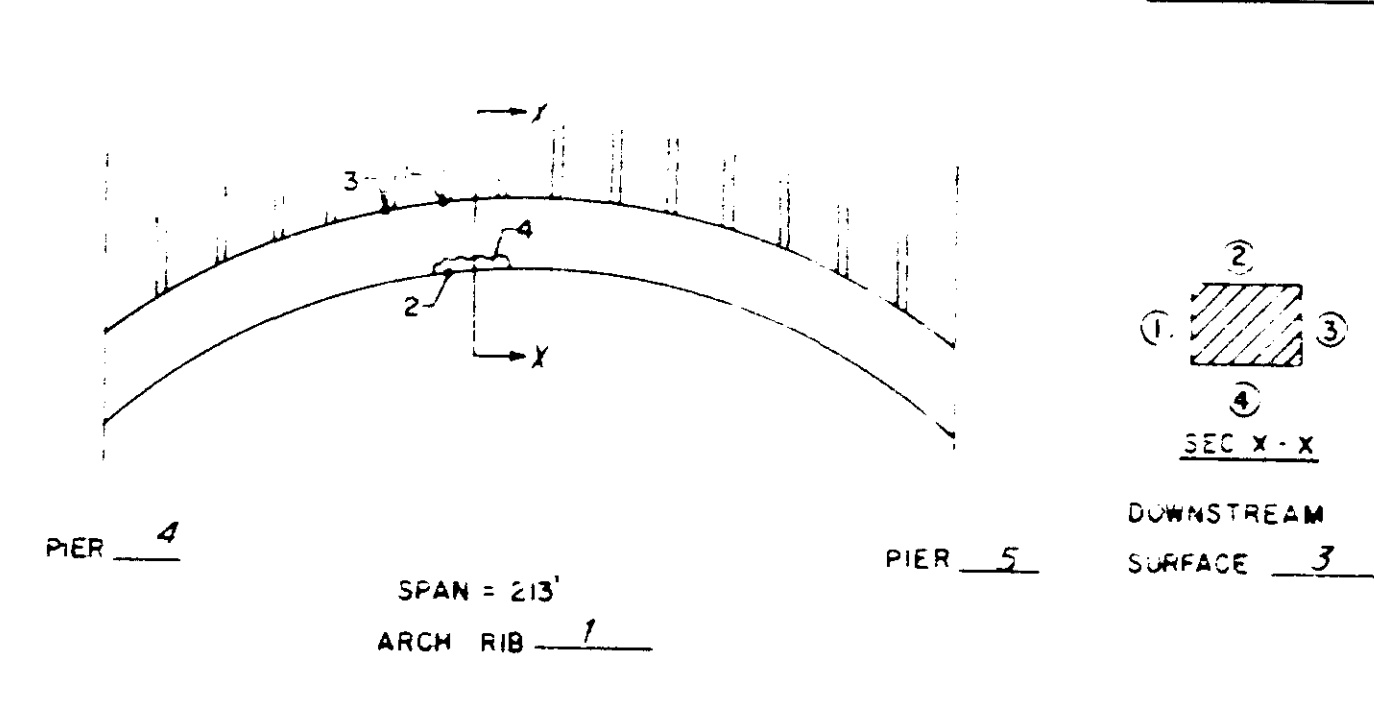
SPAN No. 2
 PIER 3 TO 4
 SPANDREL COL all
 SHEET 1 of 5



Point	Surface	Remarks	Shotcrete	Poured Concrete
1	2-3	N - Corner Spall 24'x5'x8"	4 C.F.	
2	2-3	M - Corner Spalls 6'x4'x4"	1 C.F.	
3	2-3	L - Corner Spall 12'x6'x8"	4 C.F.	
4	3-4	L - Corner Spall 12'x4'x4"	2 C.F.	
5	2-3	2 Surface Spalls 1'x6'x6" each	1 C.F.	
6	2-3	E - 2 Corner Spalls 1'x6'x6" each	1 C.F.	
7	2-3	D - Corner Spall 5'x4'x4"	1 C.F.	
8	2-3	C - Corner Spall 12'x4'x1"	3 C.F.	
9	3-4	C - Corner Spall 12'x8'x8"	3 C.F.	

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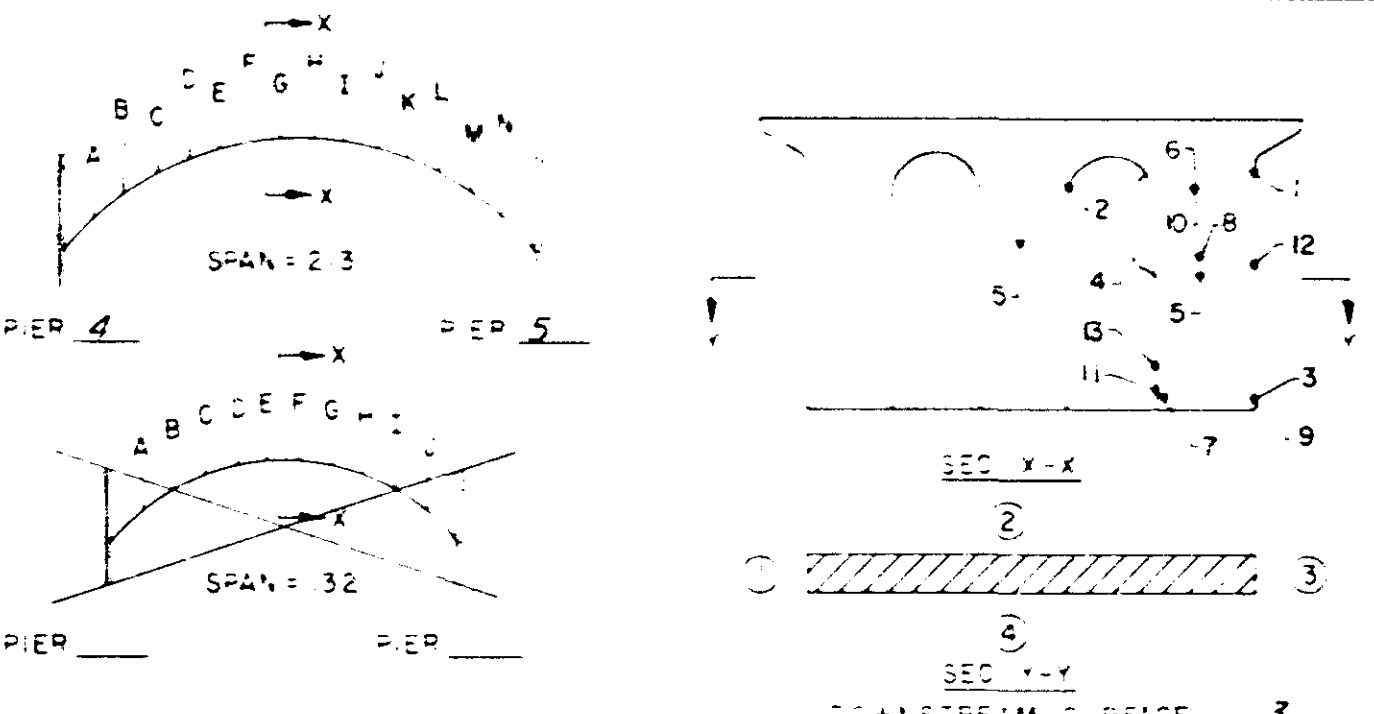
SPAN No. 8
 PIER 4 TO 5
 ARCH RIB 1
 SHEET 1 of 1



Point	Surface	Remarks	Shotcrete	Poured Concrete
1	1-2	Corner Spall 6'x1'x2'	3 C.F.	
2	4-1	Corner Spall 8'x6'x6"	2 C.F.	
3	1-2	Corner Spall 6'x6'x6"	1 C.F.	
4	3,4	Corner Spall 15'x1'x1"	5 C.F.	

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 T.H.65 (THIRD AVE.) OVER THE MISSISSIPPI RIVER
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SPAN No. 8
 PIER 4 TO 5
 SPANDREL COL all
 SHEET 1 of 5

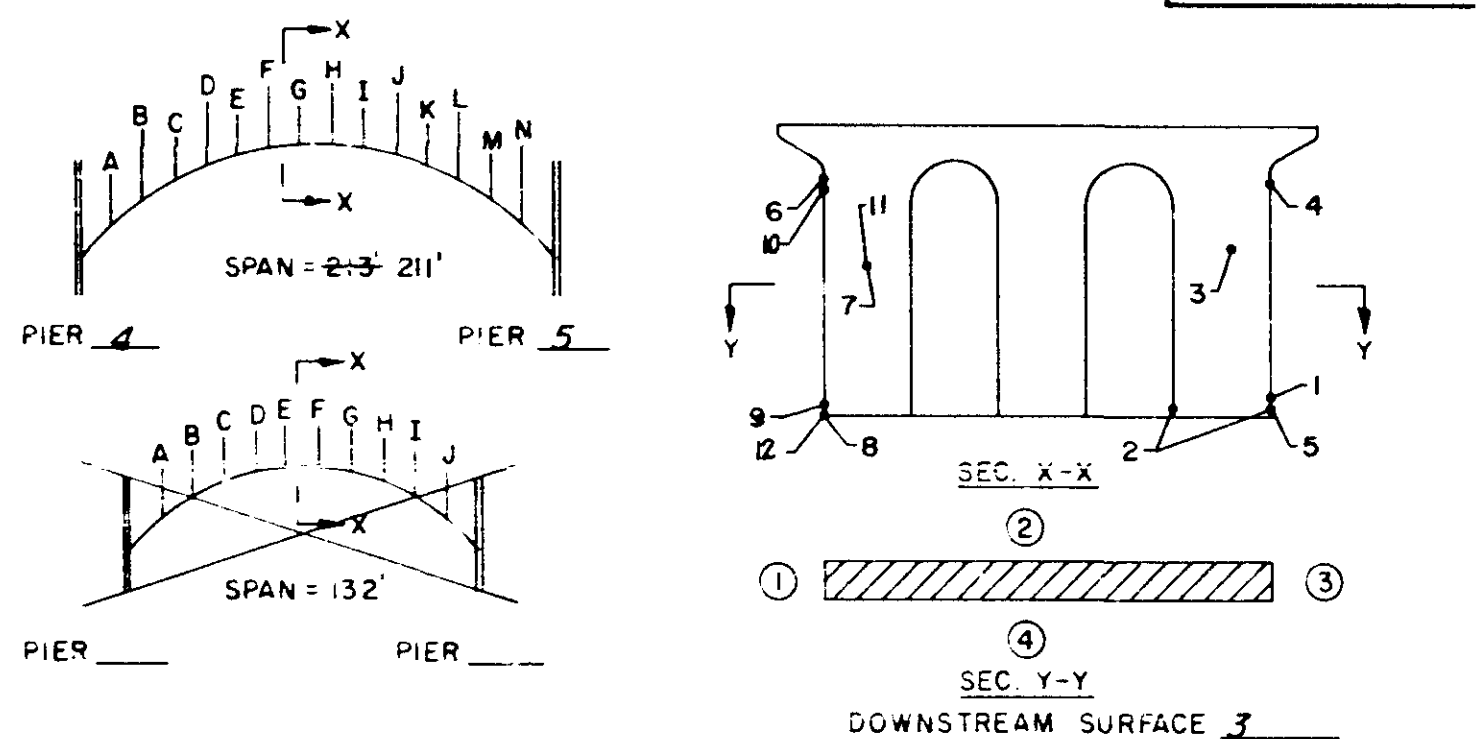


Point	Surface	Remarks	Shotcrete	Poured Concrete
1	2-3	N - Corner Spall 5'x6'x6"	1 C.F.	
2	2-3	N - Corner Spall 3'x8'x8"	1 C.F.	
3	1-2	N - Corner Spall 4'x6'x1"	1 C.F.	
4	1-4	N - Corner Spall 30'x1'x8"	8 C.F.	
5	4	N - General Scaling on entire col.		
6	4	N - Surface Spall 3'x8'x1"	1 C.F.	
7	2	L - Calcium Deposits		
8	2	L - 2 Surface Spalls ttl 2'x6'x2"	1 C.F.	
9	4	L - Scaling and Calcium Deposit		
10	2-3	C - Corner Spall 2'x2'x1"	1 C.F.	
11	4	C - Surface Spall 6'x5'x2" corner	5 C.F.	
12	1-4	C - Corner Spall 7'x1'x6"	2 C.F.	
13	2-3	B - Corner Spall 17'x5'x5"	3 C.F.	

TITLE: INSPECTION REPORTS
 SHEET 2 OF 4
 DES: DR: JGZ APPROVED: 5-7-79
 CHK: CHK: Bridge No. 2440
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T.H.65 (THIRD AVE.) OVER THE MISSISSIPPI RIVER
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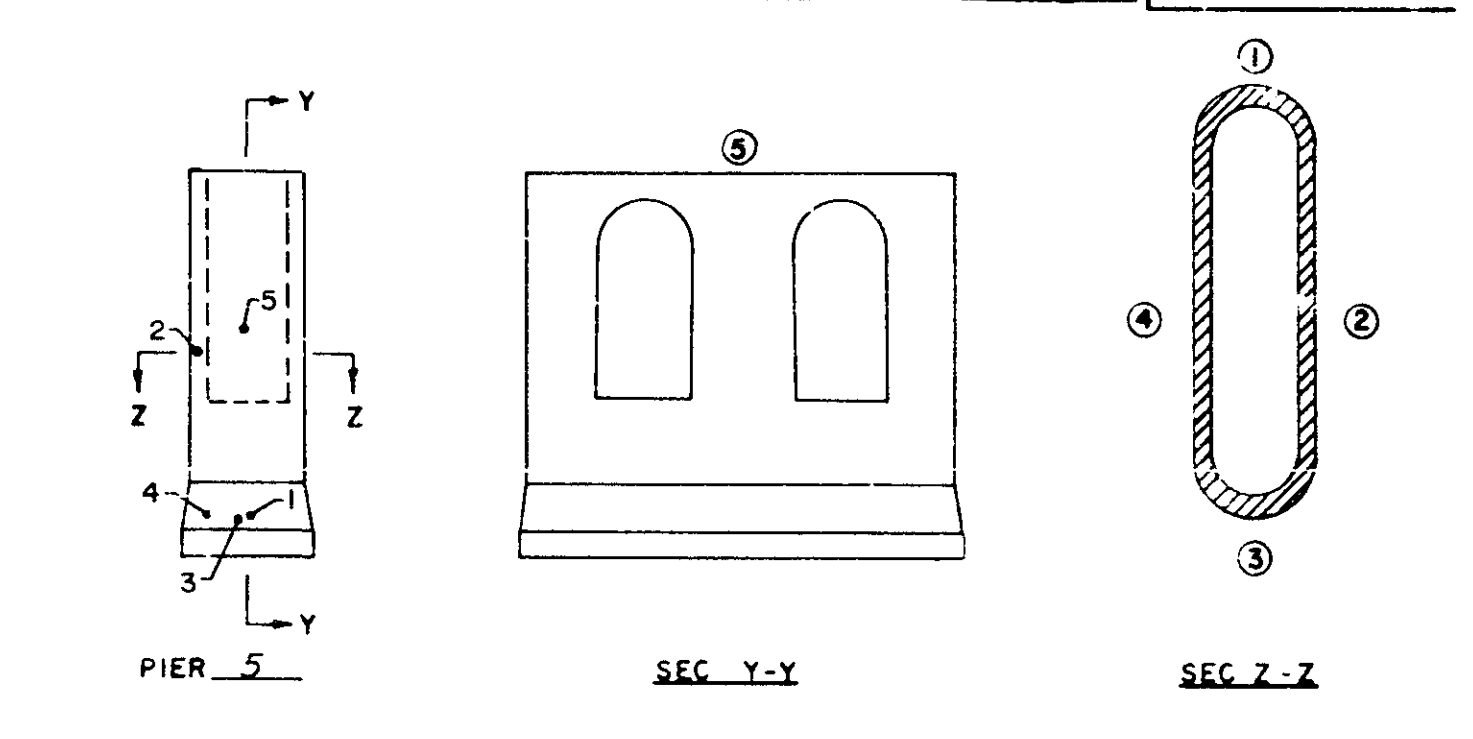
SPAN No. 8
PIER 4 TO 5
SPANDREL COL. 11
SHEET 3 of 5



Point	Surface	Remarks	Shotcrete	Poured Concrete
1	2-3	B - Corner Spall 3'x1'x1'	1 C.F.	
2	1-2	A - 2 Corner Spalls 9'x1'x1'	6 C.F.	
3	2-3	A - 4 Surface Spalls 11' 20'x1'x1'	2 C.F.	
4	2-3	A - Corner Spall 6'x4'x5"	1 C.F.	
5	3-4	A - Corner Spall 2'x1'x1'	1 C.F.	
6	1-4	M - Corner Spall 5'x4'x4"	1 C.F.	
7	4	N - Surface Spall 33'x1'x4"	11 C.F.	
8	1-4	N - Corner Spall 5'x6'x2'	2 C.F.	
9	1-4	K - Corner Spall 2'x6'x6"	1 C.F.	
10	4-1	A - Corner Spall 9'x6'x6"	2 C.F.	
11	2	A - 2 Surface Spalls 11' 20'x8'x1"	2 C.F.	
12	4-1	K - Corner Spall 2'x2'x6"	1 C.F.	

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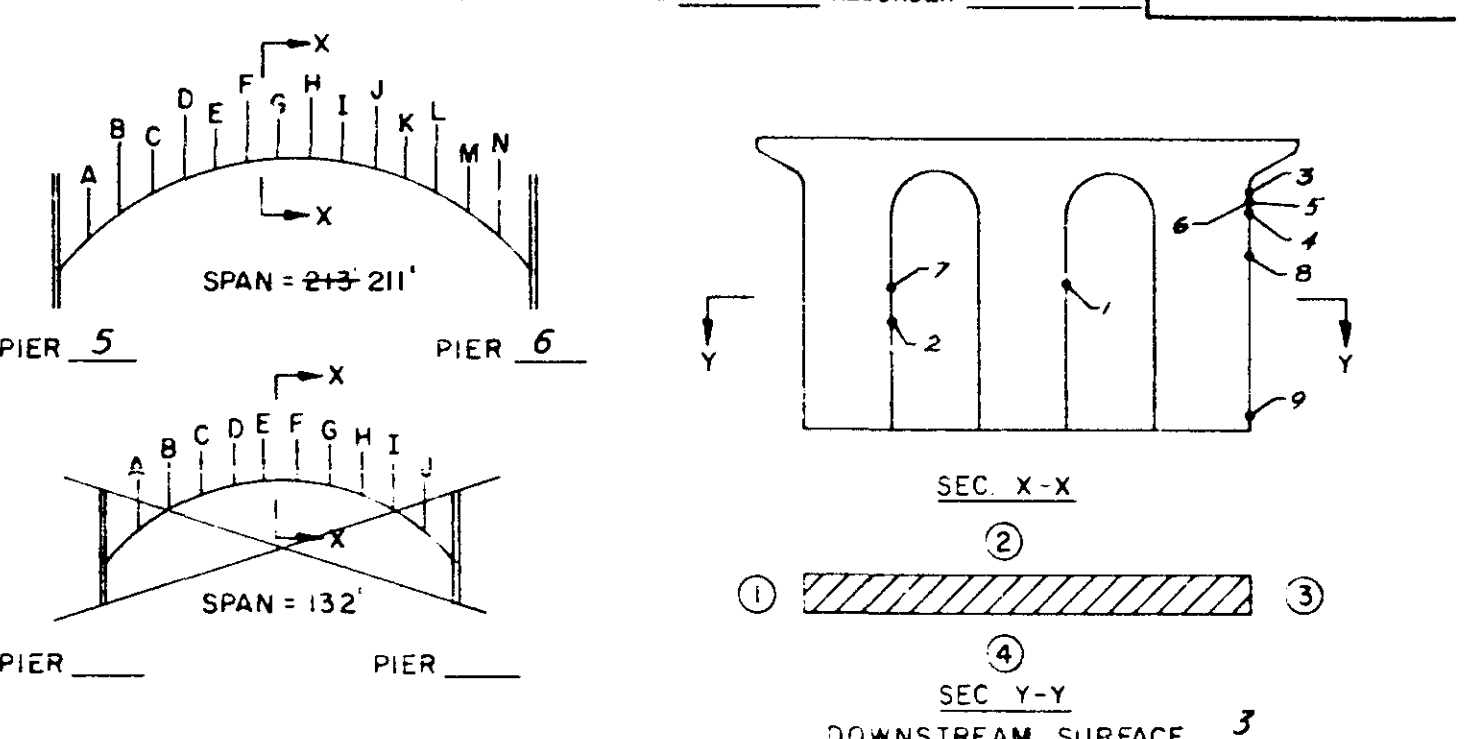
PIER 5
DOWNSTREAM SURFACE 3
SHEET 1



Point	Surface	Remarks	Shotcrete	Poured Concrete
1	3	Surface Spalling		
2	3	3 Surface Spalls 11' 3'x6'x1"	1 C.F.	
3	3	Spalling		
4	1	Minor Surface Spalling (covered with snow)		
5	1	7 Surface Spalls 11' 7'x6'x1"	1 C.F.	

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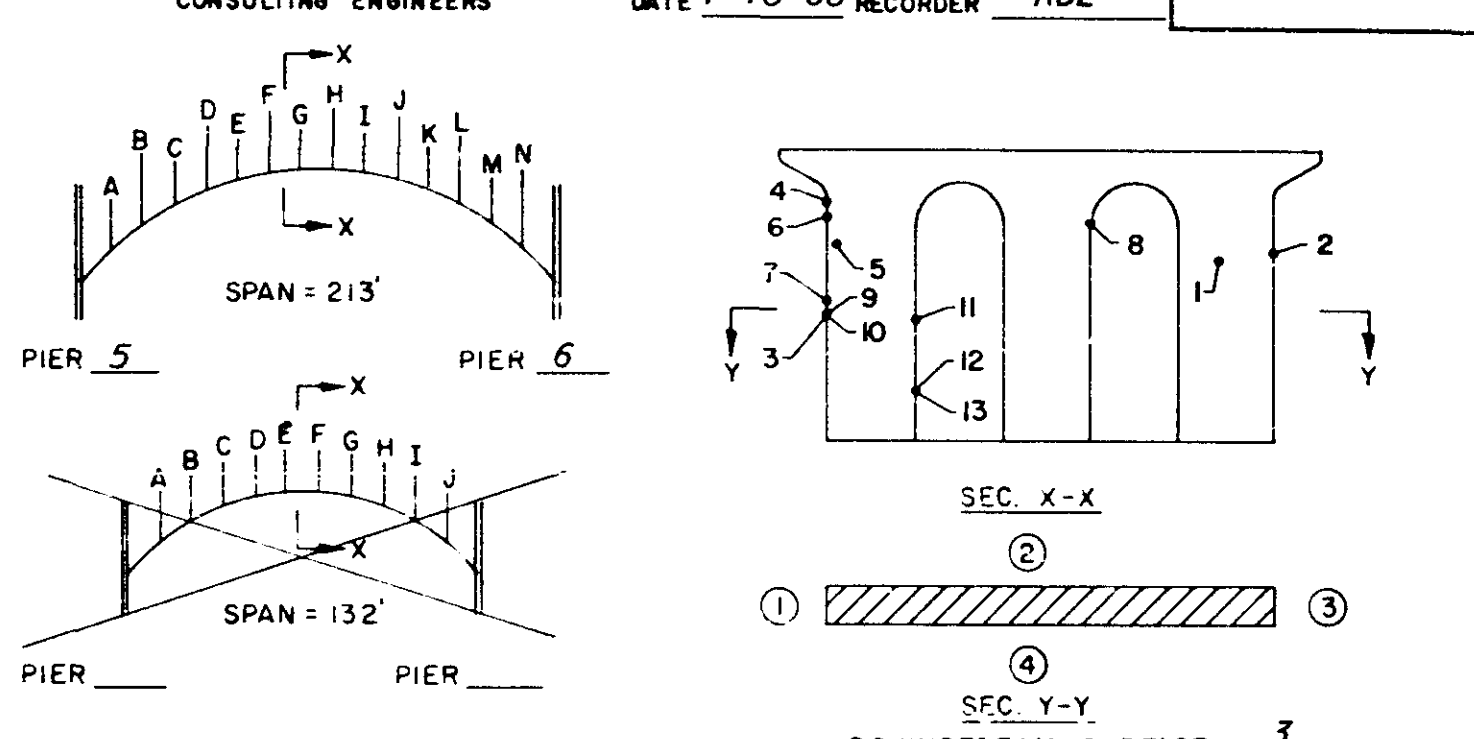
SPAN No. 9
PIER 5 TO 6
SPANDREL COL. 11
SHEET 1 of 4



Point	Surface	Remarks	Shotcrete	Poured Concrete
1	2-3	N - Corner Spall 8'x6'x4"	1 C.F.	
2	2-3	N - Corner Spall 6'x12'x5"	3 C.F.	
3	2-3	N - Corner Spall 10'x6'x6"	2 C.F.	
4	3-4	N - Corner Spall 6'x4'x4"	1 C.F.	
5	2-3	L - Corner Spall 5'x4'x4"	1 C.F.	
6	2-3	D - Corner Spalls 6'x4'x4" each	1 C.F.	
7	2-3	C - Corner Spall 8'x4'x4"	1 C.F.	
8	2-3	A - Corner Spall 12'x4'x4"	2 C.F.	
9	2-3	A - Corner Spall 3'x1'x8"	1 C.F.	

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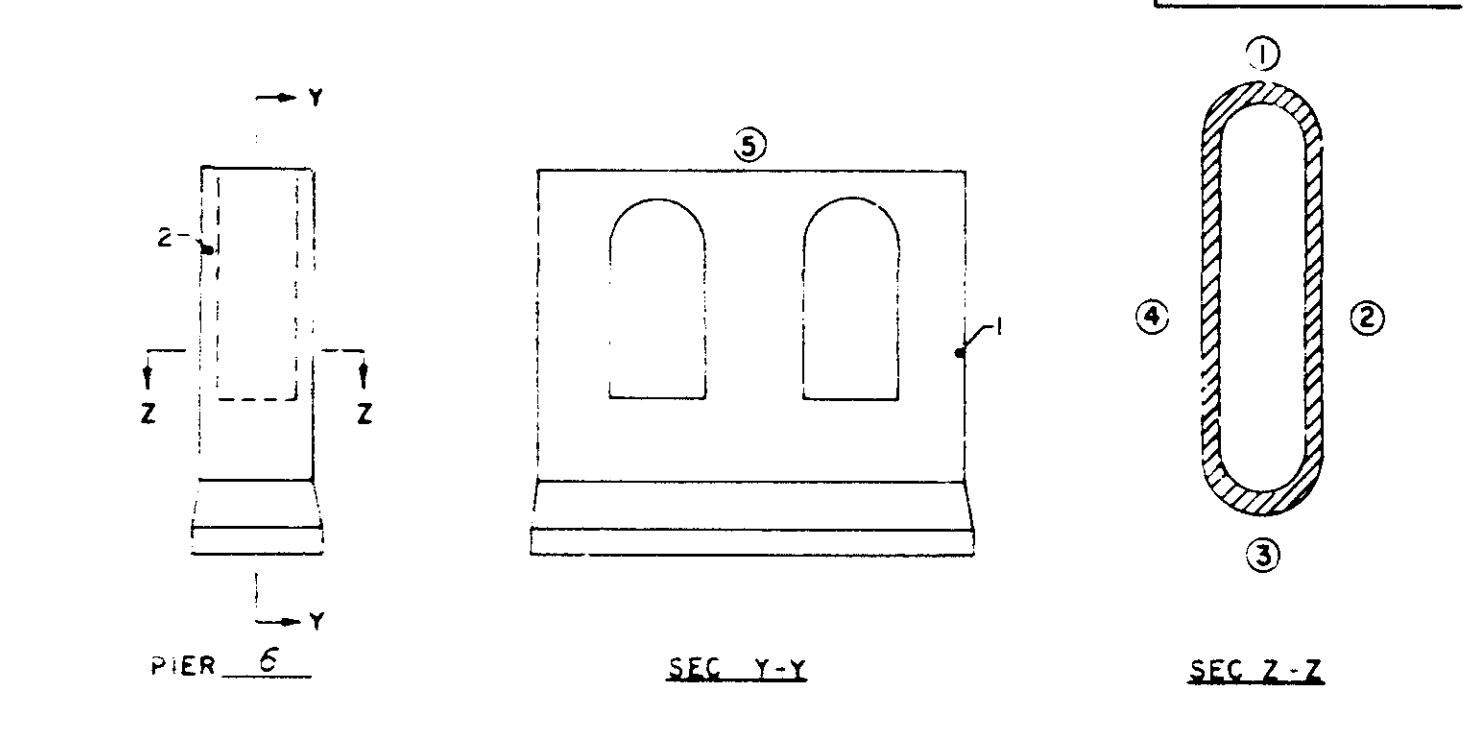
SPAN No. 9
PIER 5 TO 6
SPANDREL COL. 11
SHEET 3 of 4



Point	Surface	Remarks	Shotcrete	Poured Concrete
1	4	A - General Spalling		
2	3-4	A - Corner Spall 10'x4'x4"	2 C.F.	
3	4-1	A - Corner Spall 12'x5'x5"	2 C.F.	
4	1-2	A - Corner Spall 6'x5'x4"	1 C.F.	
5	2	A - Surface Spall 15'x8'x1"	1 C.F.	
6	1-2	B - Corner Spall 4'x6'x4"	1 C.F.	
7	4-1	C - Corner Spall 7'x4'x4"	1 C.F.	
8	2-3	A - Corner Spall 11'x1'x4"	3 C.F.	
9	4-1	L - Corner Spall 6'x6'x6"	1 C.F.	
10	1-2	L - Corner Spall 7'x6'x4"	1 C.F.	
11	3-4	N - Corner Spall 18'x4'x1"	4 C.F.	
12	2-3	N - Corner Spall 18'x6'x6"	3 C.F.	
13	2	N - Surface Spall 5'x6'x1"	1 C.F.	

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T.H.65 (THIRD AVE.) OVER THE MISSISSIPPI RIVER
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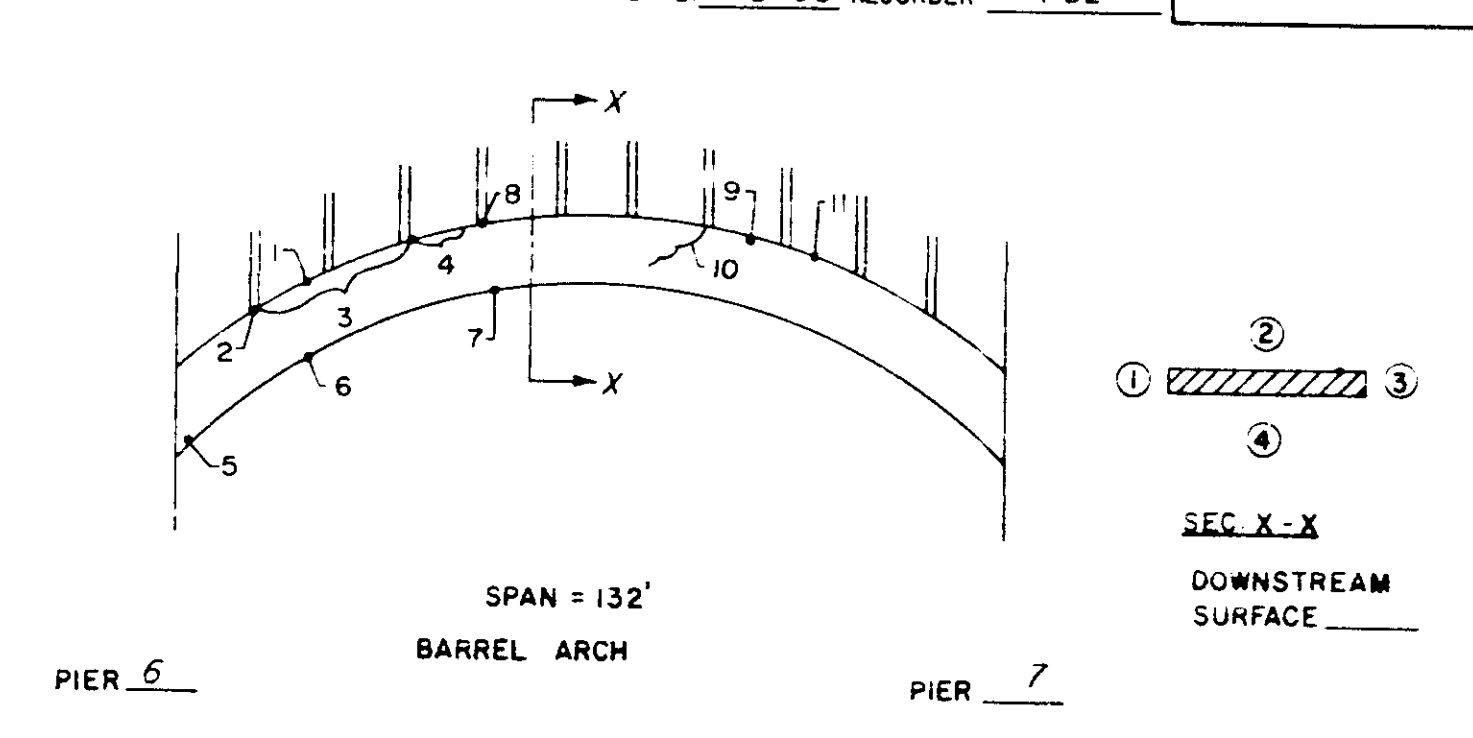
PIER 6
DOWNSTREAM SURFACE 2
SHEET 1 of 1



Point	Surface	Remarks	Shotcrete	Poured Concrete
1	2	Surface Spall 15'x6'x2"	2 C.F.	
2	3	Surface Spall 3'x6'x1"	1 C.F.	

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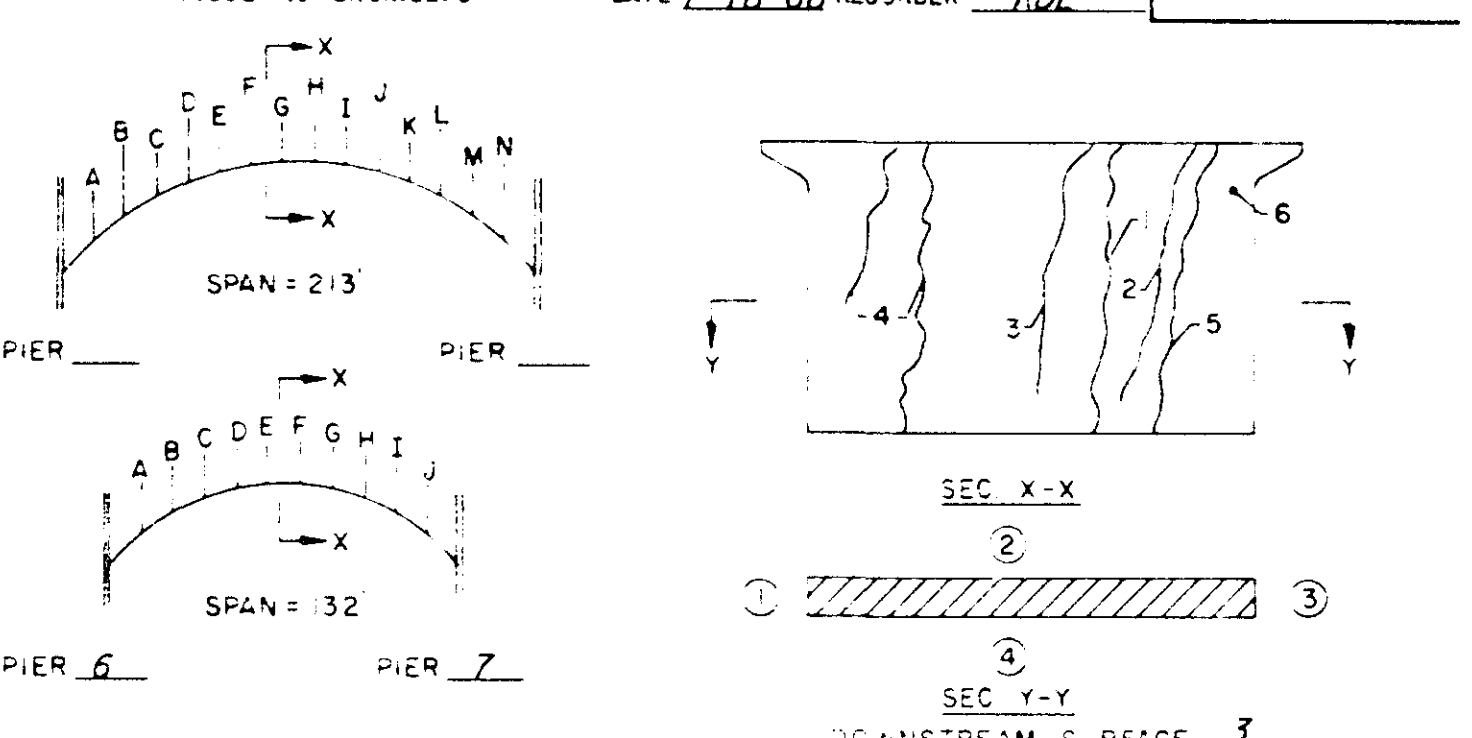
SPAN No. 10
PIER 6 TO 7
BARREL ARCH
SHEET 2 of 2



Point	Surface	Remarks	Shotcrete	Poured Concrete
1	2	Hole 6'x4'x5" deep	1 C.F.	
2	2-3	Surface Spalling		
3	1-2	Corner Spall 24'x6'x10"	5 C.F.	
4	1-2	Corner Spall 8'x8'x10"	2 C.F.	
5	1-4	Corner Spall 4'x1'x1'	2 C.F.	
6	1-4	Corner Spall 4'x6'x6"	1 C.F.	
7	1-4	Corner Spall 8'x10'x10"	2 C.F.	
8	1-2	Corner Spall 3'x8'x8"	1 C.F.	
9	1-2	Corner Spall 16'x6'x6"	3 C.F.	
10	1	Crack Depth Unknown		10" Crack
11	1-2	Corner Spall 20'x6'x6"	4 C.F.	

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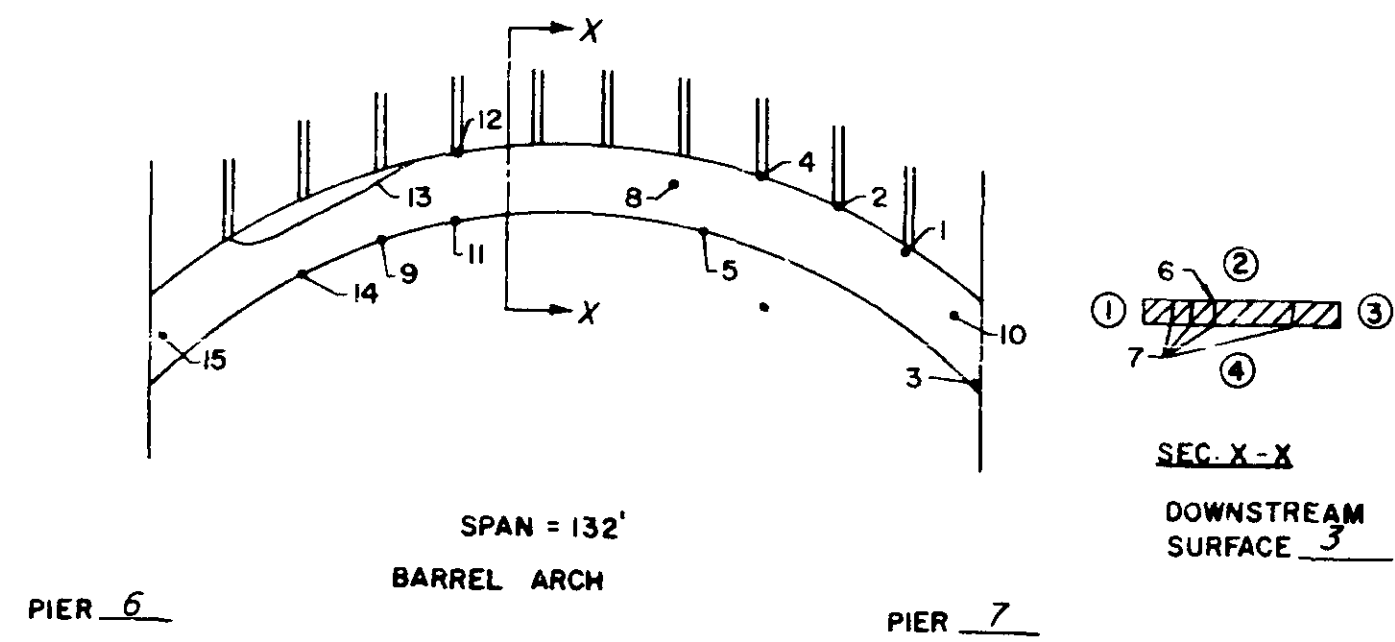
SPAN No. 10
PIER 6 TO 7
SPANDREL COL. 11
SHEET 1 of 2



Point	Surface	Remarks	Shotcrete	Poured Concrete
1	2	J - Cracked thru		
2	2	I - Cracked thru		18.5 L.F.
3	2	I - Cracked thru		
4	4	I - 2 Cracks thru		
5	2	H - Cracked thru		
6	2	G - General Spalling		

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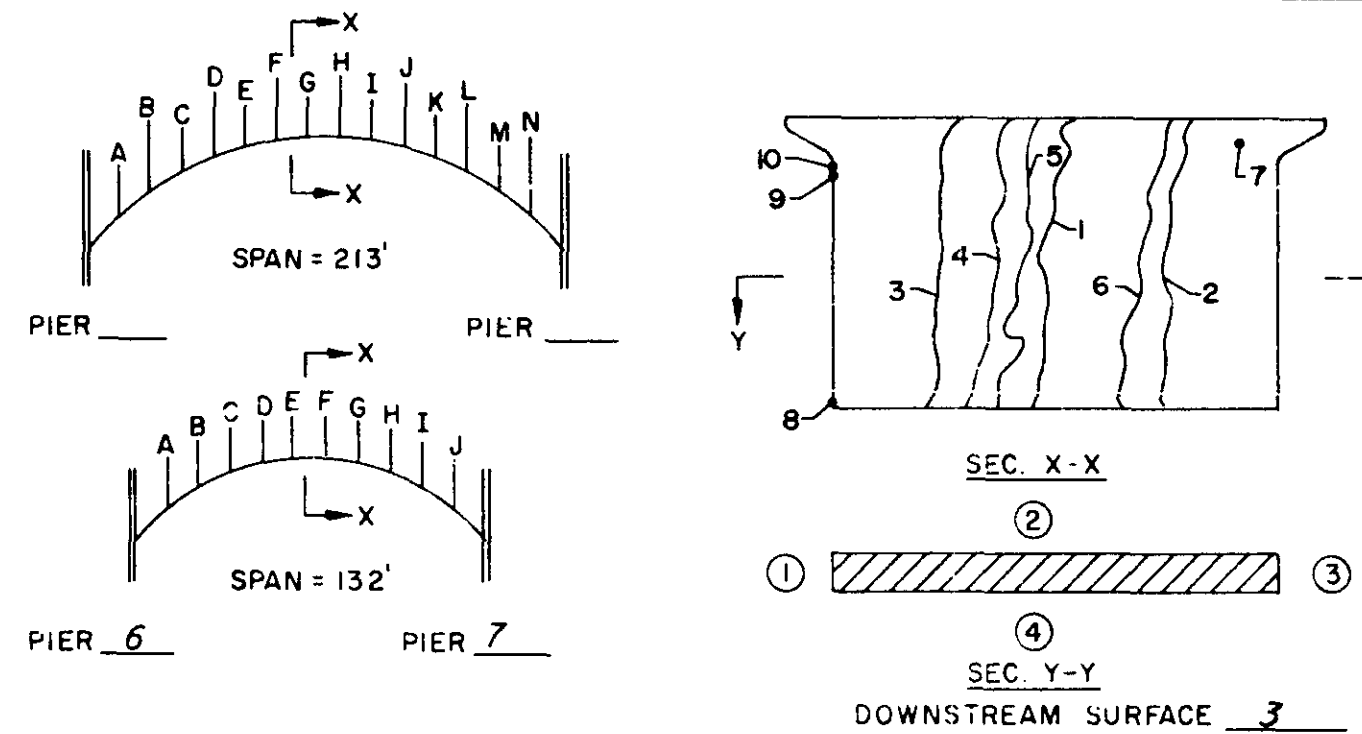
SPAN No. 10
 PIER 6 TO 7
 BARREL ARCH
 SHEET 1 of 2



Point	Surface	Remarks	Shotcrete	Poured Concrete
1	2-3	Corner Spall 8'x1'x2'	4 C.F.	
2	2-3	Corner Spall 10'x1'x1'	3 C.F.	
3	3-4	Corner Spall 8'x3'x2'	6 C.F.	
4	2-3	Corner Spall 4'x6'x6"	1 C.F.	
5	3-4	Corner Spall 6'x4'x4"	1 C.F.	
6	2	Crack from pier 7 to column J		14' Crack
7	2	4 Cracks from column A to B		4 12' Cracks
8	3	Surface Spall 3'x6'x1"	1 C.F.	
9	3-4	Corner Spall 20'x1'x1'	6 C.F.	
10	4	Surface Spall 3'x2'x2"	1 C.F.	
11	3-4	Corner Spall 7'x1'x1'	2 C.F.	
12	2-3	Corner Spall 4'x1'x18"	2 C.F.	
13	2-3	Corner Spall 30'x1'x1'	9 C.F.	
14	3-4	Corner Spall 6'x8'x8"	2 C.F.	
15	4	Surface Spall 3'x8'x2" each	1 C.F.	
2	2	2 Cracks from column B to C		2 11' Cracks
2	2	2 Cracks from column A to B		2 12' Cracks

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 JOB NO. 2083 INSPECTOR RDB
 DATE 1-18-68 RECORDER RDL

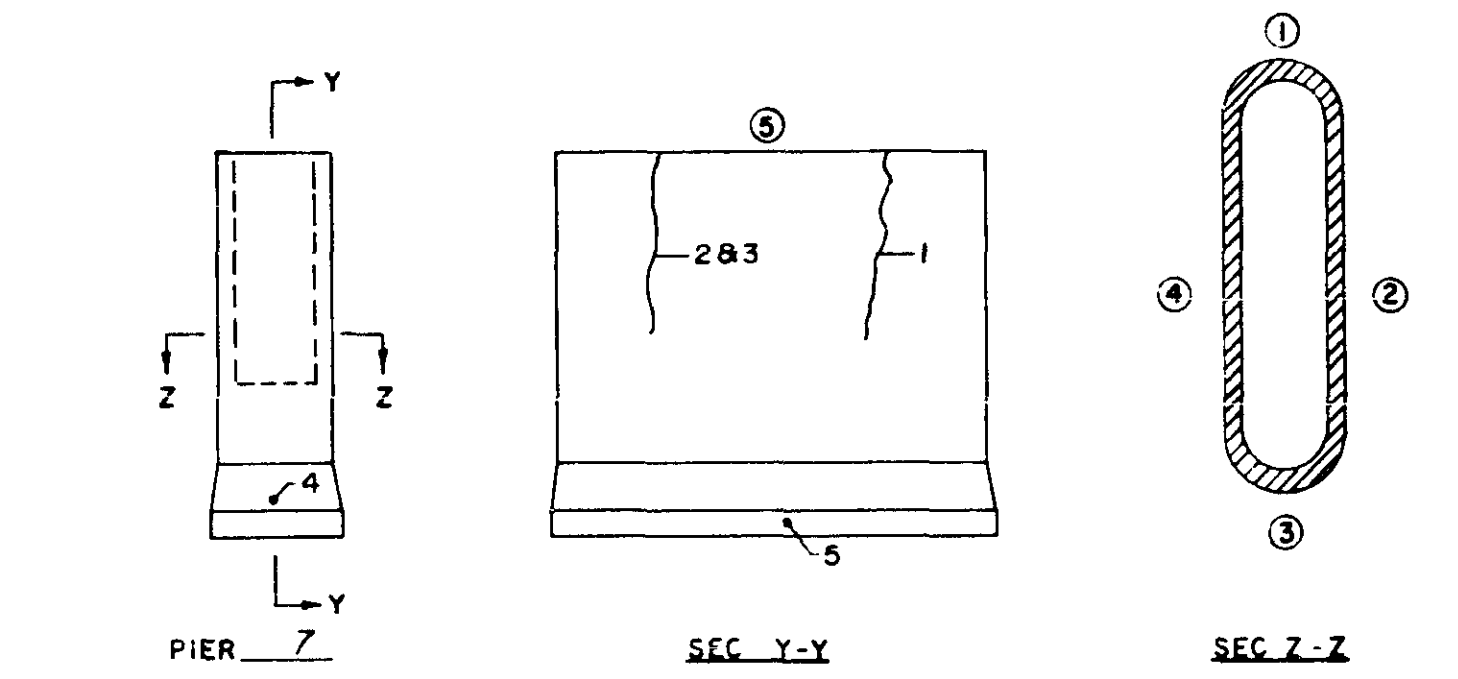
SPAN No. 10
 PIER 6 TO 7
 SPANDREL COL. all
 SHEET 2 of 2



Point	Surface	Remarks	Shotcrete	Poured Concrete
1	4	C - Cracked thru		5.5' Crack
2	4	C - Cracked thru		5.5' Crack
3	4	B - Cracked thru		10.2' Crack
4	4	B - Cracked thru		10.2' Crack
5	4	A - Cracked thru		16.2' Crack
6	4	A - Cracked thru		16.2' Crack
7	2	A - 2 Surface Spalls 9'x6'x1"	1 C.F.	
8	4-1	G - Corner Spall 2'x6'x6"	1 C.F.	
9	4-1	H - Corner Spall 4'x4'x4"	1 C.F.	
10	1-2	J - 2 Corner Spalls 12'x6'x6"	2 C.F.	
4-1				

BRIDGE NUMBER 2440
 T.H.65 (THIRD AVE.) OVER THE MISSISSIPPI RIVER
 MINNEAPOLIS, MINNESOTA
INSPECTION REPORT
 HOWARD, NEEDLES, TAMMEN & BERGENDOFF CONSULTING ENGINEERS
 JOB NO. 2083 INSPECTOR RDB
 DATE 1-17-68 RECORDER RDL

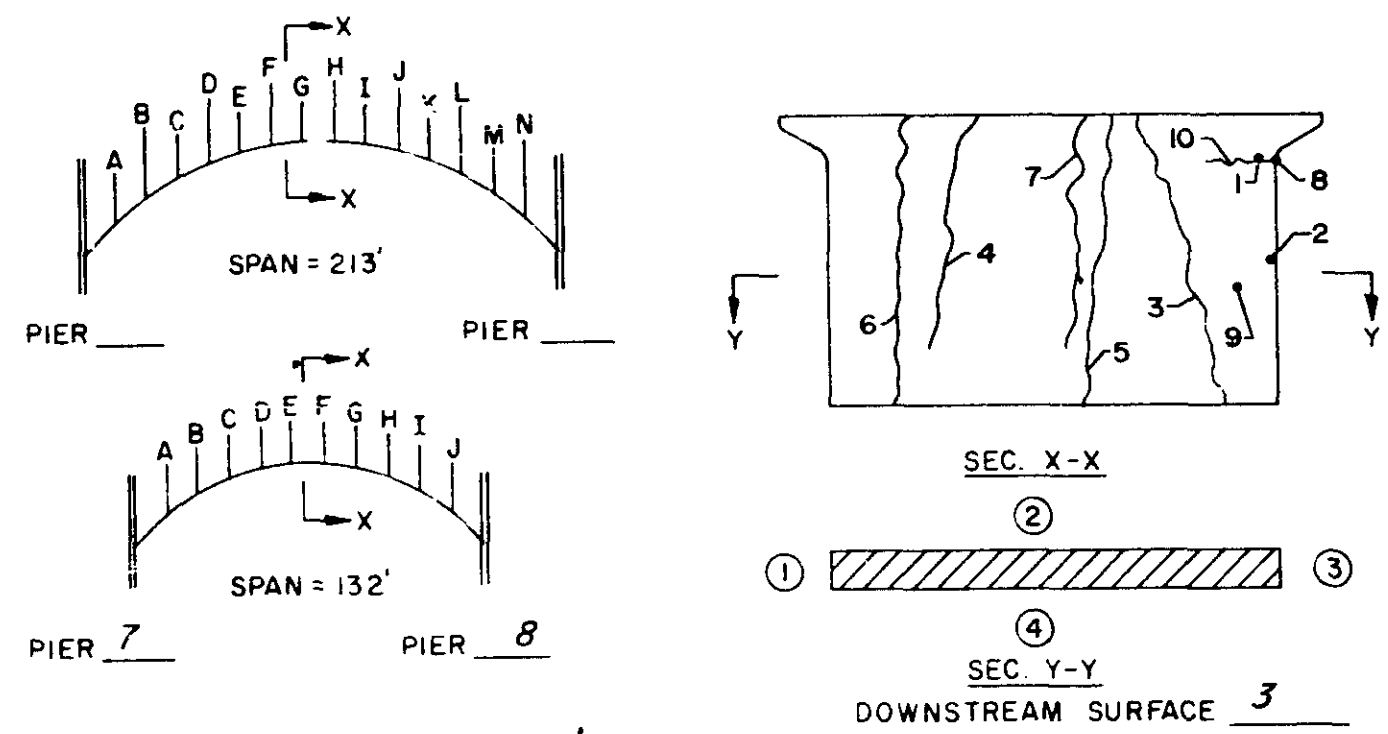
PIER 7
 DOWNSTREAM SURFACE 3
 SHEET 1 of 1



Point	Surface	Remarks	Shotcrete	Poured Concrete
1	4	Crack		24'
2	2	Crack		24'
3	4	Crack		24'
4	3	General Spalling		
5	4	Surface Spalling		

BRIDGE NUMBER 2440
 T.H.65 (THIRD AVE.) OVER THE MISSISSIPPI RIVER
 MINNEAPOLIS, MINNESOTA
INSPECTION REPORT
 HOWARD, NEEDLES, TAMMEN & BERGENDOFF CONSULTING ENGINEERS
 JOB NO. 2083 INSPECTOR RDB
 DATE 1-17-68 RECORDER RDL

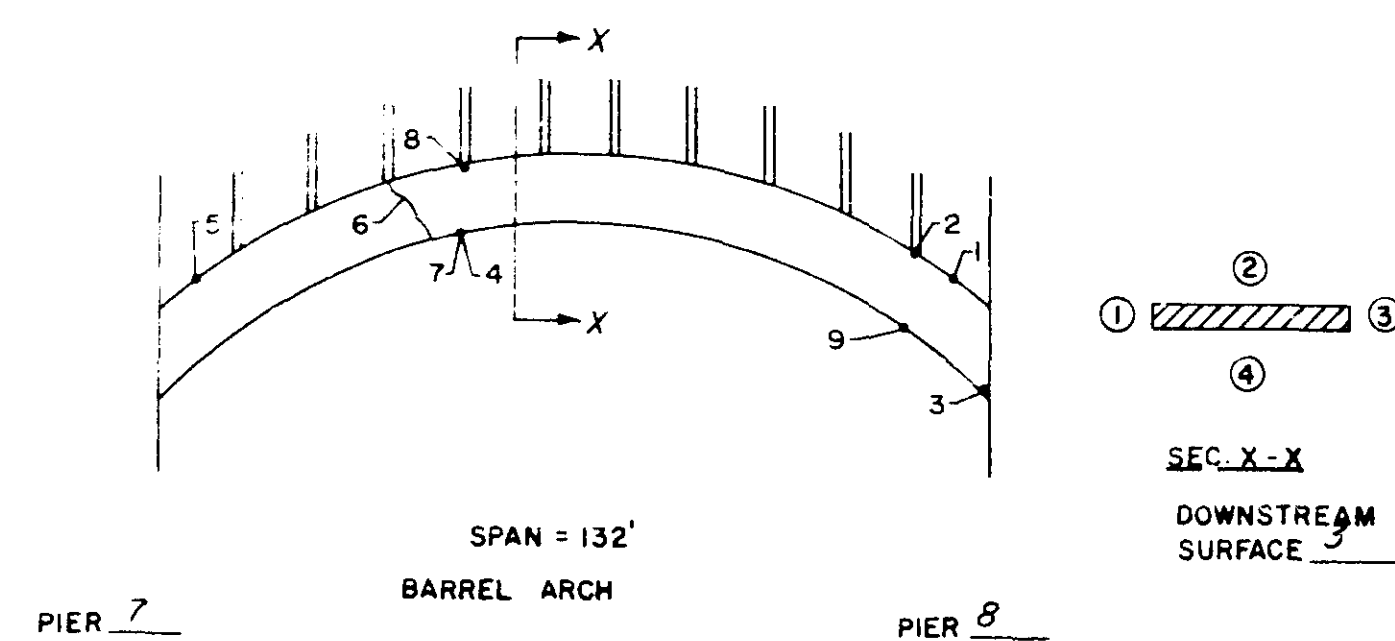
SPAN No. 11
 PIER 7 TO 8
 SPANDREL COL. all
 SHEET 1 of 1



Point	Surface	Remarks	Shotcrete	Poured Concrete
1	2	G - Calcium deposits on surface		
2	2-3	C - Corner Spall 4'x4'x6"	1 C.F.	
3	2	B - Crack		10' Crack
4	2	B - Crack		7' Crack
5	4	A - Crack		16' Crack
6	4	A - Crack		16' Crack
7	4	B - Crack		7' Crack
8	2-3, 3-4	B - 2 Corner Spalls @ 6'x4'x4"	2 C.F.	
9	3	C - General Scaling		
10	2, 3, 4	A - horizontal crack 7' long		7' Crack

BRIDGE NUMBER 2440
 T.H.65 (THIRD AVE.) OVER THE MISSISSIPPI RIVER
 MINNEAPOLIS, MINNESOTA
INSPECTION REPORT
 HOWARD, NEEDLES, TAMMEN & BERGENDOFF CONSULTING ENGINEERS
 JOB NO. 2083 INSPECTOR RDB
 DATE 1-17-68 RECORDER RDL

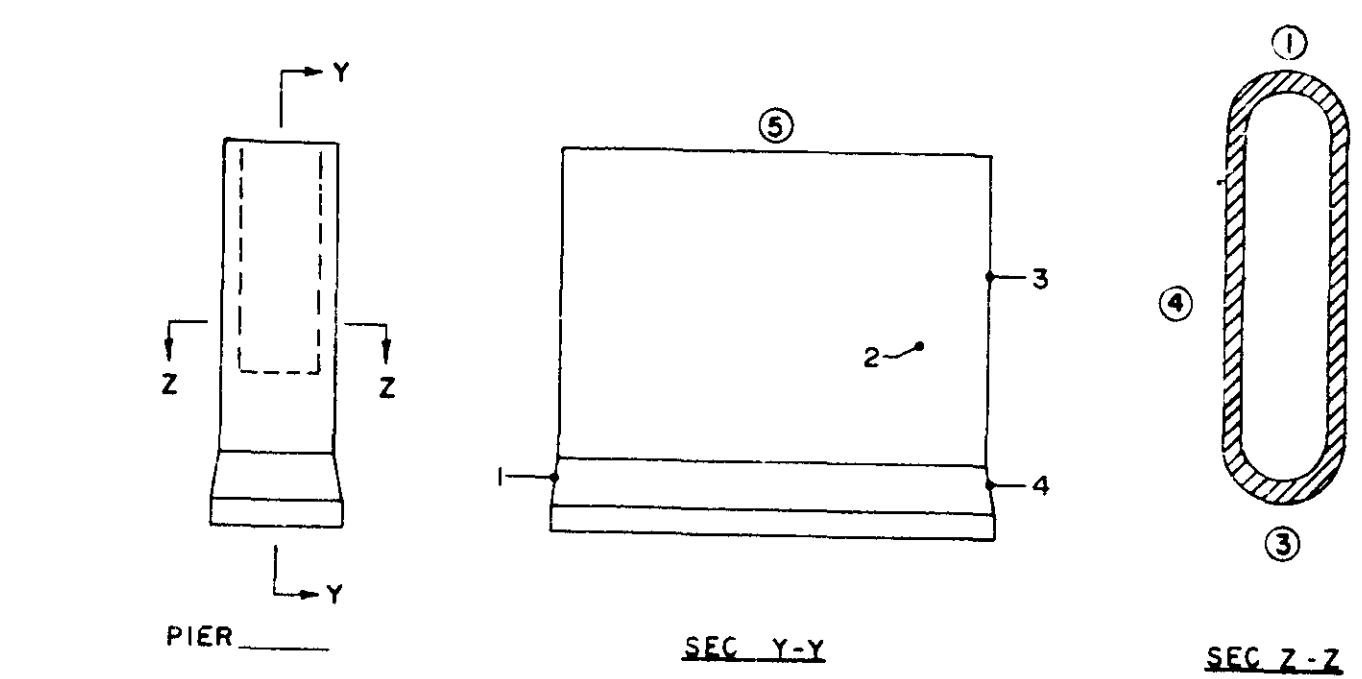
SPAN No. 11
 PIER 7 TO 8
 BARREL ARCH
 SHEET 1 of 1



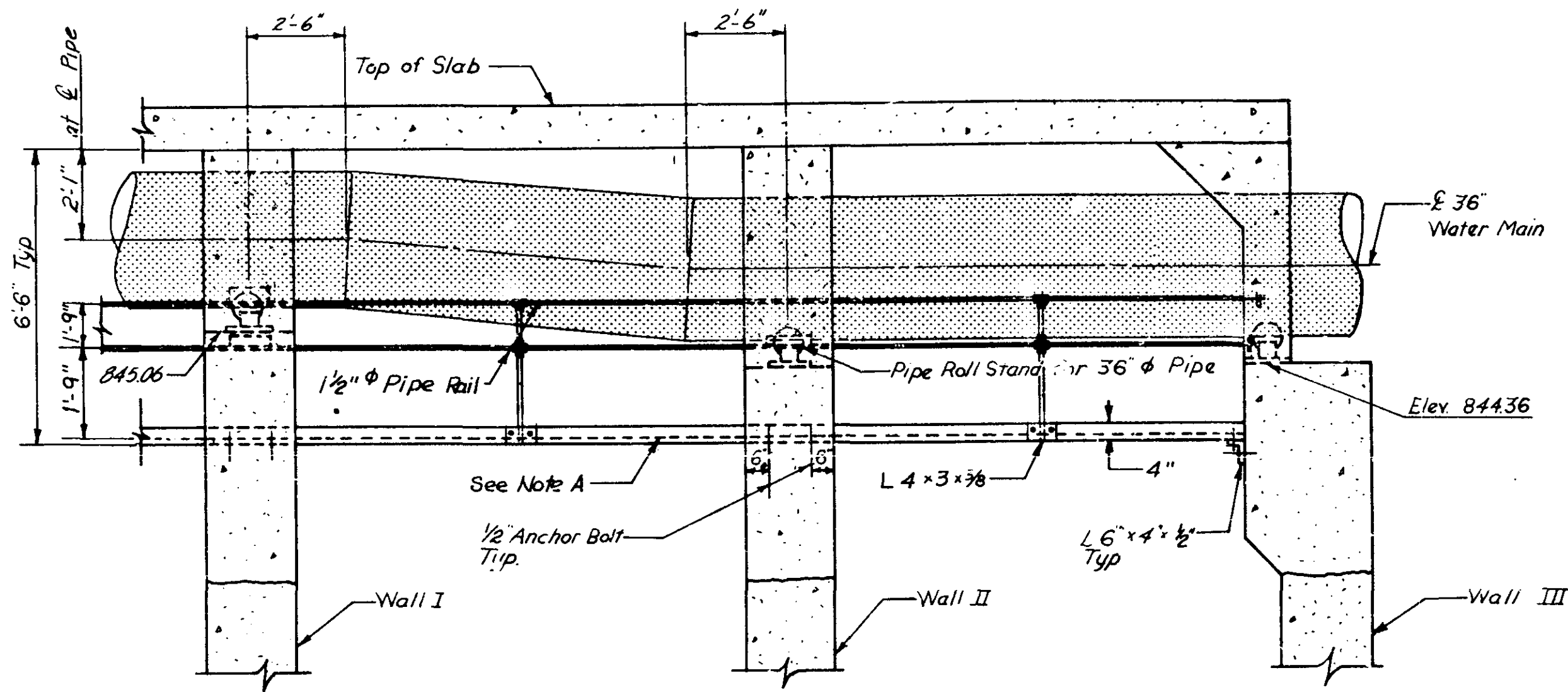
Point	Surface	Remarks	Shotcrete	Poured Concrete
1	2-3	Corner Spall 14'x12'x2"	3 C.F.	
2	2-3	Corner Spall 7'x6'x6"	2 C.F.	
3	3-4	Corner Spall 10'x2'x2'	1 C.F.	
4	3-4	Corner Spall 12'x2'x2'	1 C.F.	
5	1-2	Corner Spall 12'x2'x8"	2 C.F.	
6	1	Crack		10" Crack
7	1-4	Corner Spall 12'x1'x1'	4 C.F.	
8	1-2	Corner Spall 3'x6'x6"	1 C.F.	
9	4-1	Corner Spall 4'x2'x1'	2 C.F.	

BRIDGE NUMBER 2440
 T.H.65 (THIRD AVE.) OVER THE MISSISSIPPI RIVER
 MINNEAPOLIS, MINNESOTA
INSPECTION REPORT
 HOWARD, NEEDLES, TAMMEN & BERGENDOFF CONSULTING ENGINEERS
 JOB NO. 2083 INSPECTOR RDB
 DATE 1-22-68 RECORDER RDL

PIER 8
 DOWNSTREAM SURFACE 3
 SHEET 1 of 1

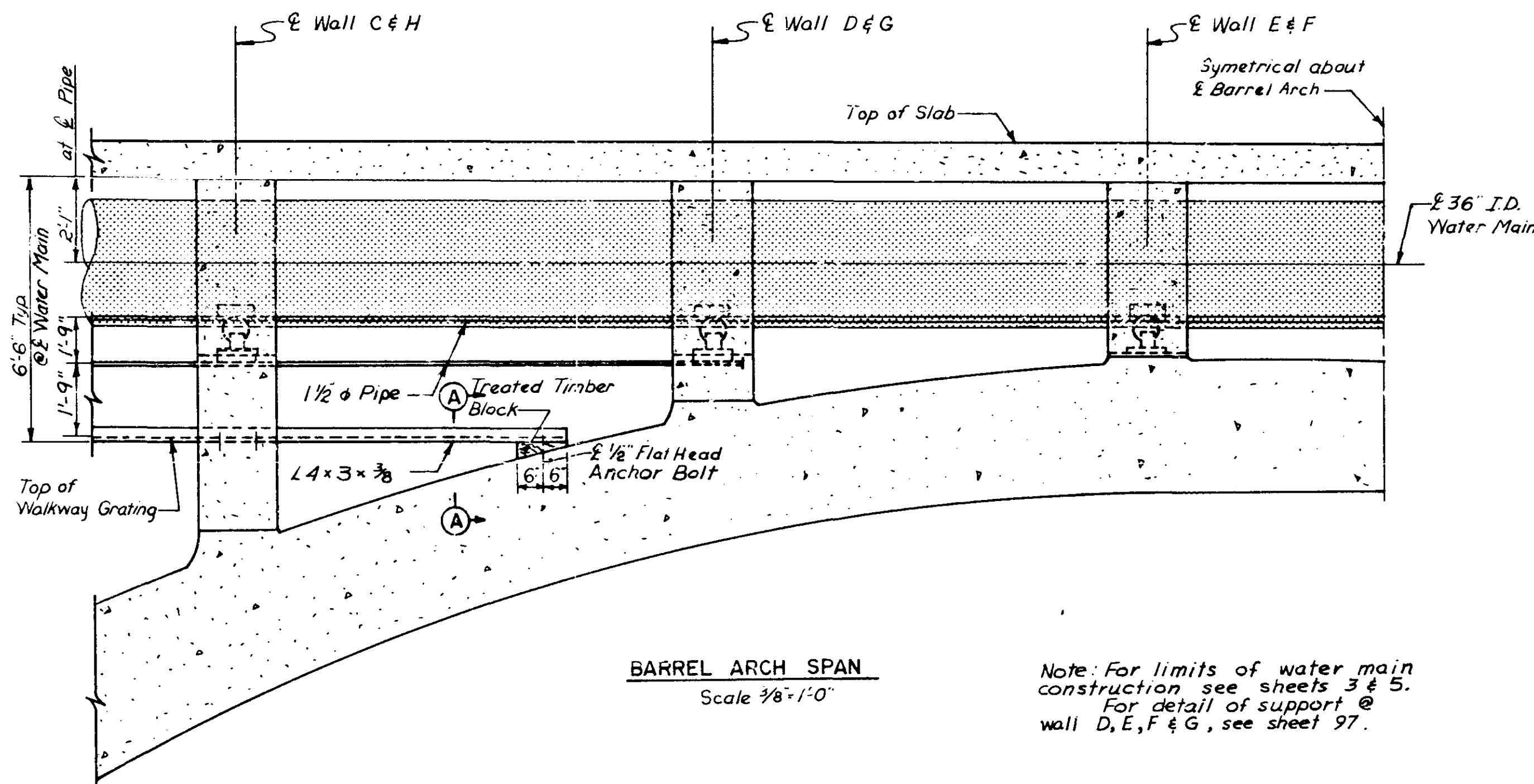


Point	Surface	Remarks	Shotcrete	Poured Concrete
1	1	Minor Surface Spalling 30 S.F. x 1"	3 C.F.	
2	2	2 Surface Spalls 6'x4'x1"	1 C.F.	
3	3	2 Surface Spalls 2'x4'x1"	1 C.F.	
4	3	Surface Spalls 50 SF x 5"	21 C.F.	



Note A: Grating shall be $\frac{3}{4}$ " x $\frac{1}{8}$ " bearing bars spaced @ $1\frac{1}{4}$ " centers and $\frac{1}{2}$ " x $\frac{1}{8}$ " cross bars spaced @ 4" centers. Wearing surface of bearing bars and cross bars shall be plain.

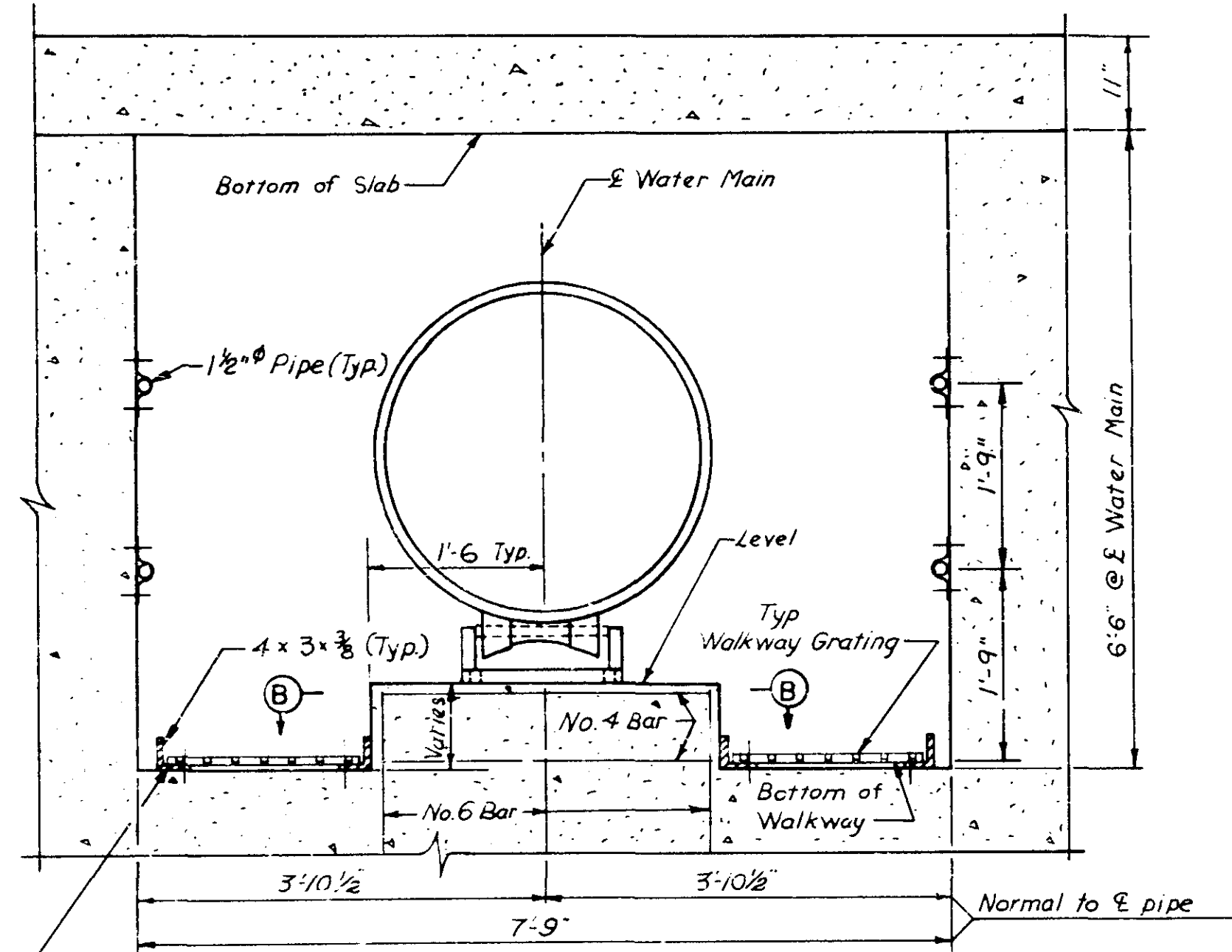
PIER 8
Scale $\frac{3}{8}$ " = 1'-0"



BARREL ARCH SPAN
Scale $\frac{3}{8}$ " = 1'-0"

Note: For limits of water main construction see sheets 3 & 5. For detail of support @ wall D, E, F & G, see sheet 97.

Attach pipe rail to concrete with $2 \times \frac{3}{8}$ " bent strap and $2 \times \frac{1}{2}$ " concrete anchors.



PIER 6-WALL II & III

PIER 7

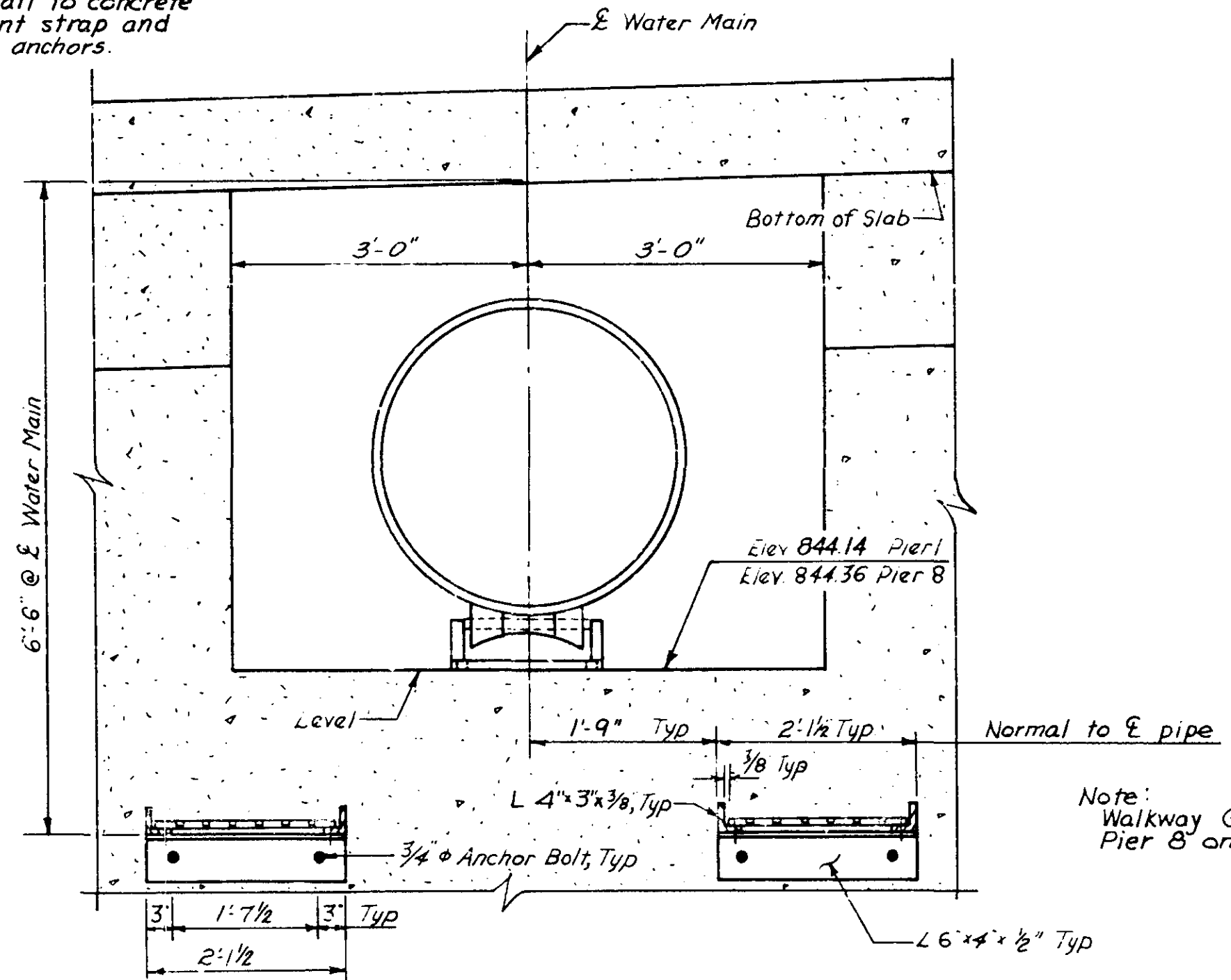
PIER 8-WALLS I & II & III

BARREL ARCH RIBS A, B, C, H, I, & J

Scale $\frac{3}{4}$ " = 1'-0"

Positive (welded or bolted) anchorage to meet manufacturer's recommendations.

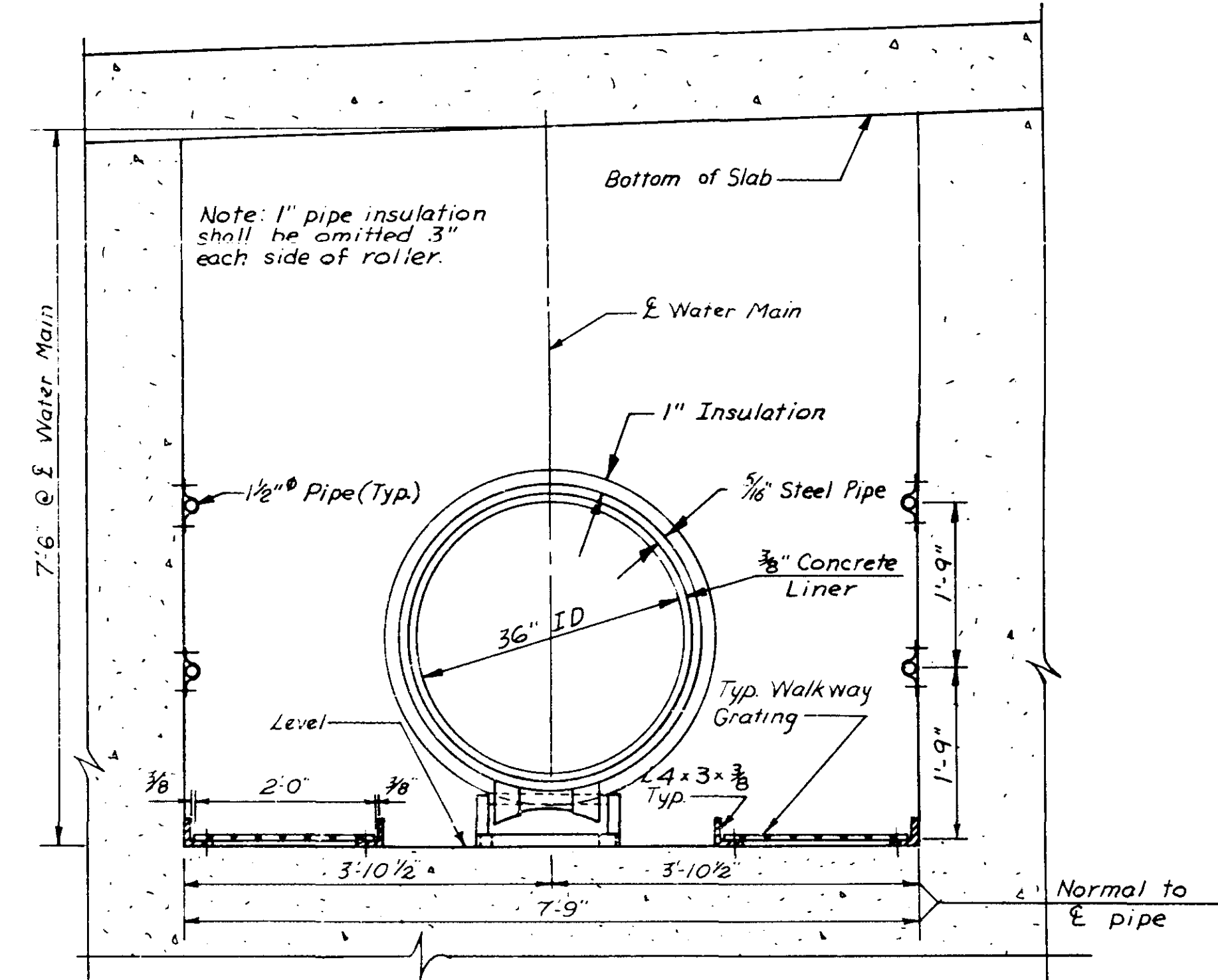
Note: There shall be a fixed assembly at Pier 6 - Wall III and Pier 7 - Wall II. See "Water Main Details" sheet 2 of 4 for details.



PIER 1-WALL I & PIER 8-WALL III

Scale $\frac{3}{4}$ " = 1'-0"

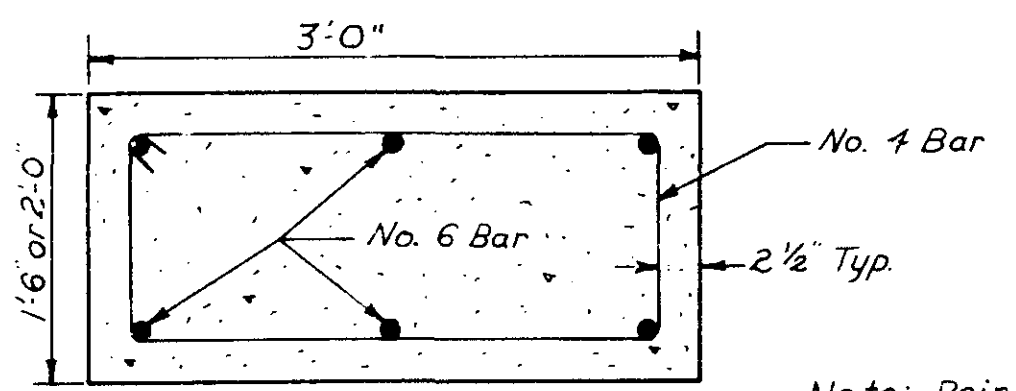
Note: Walkway Grating at Pier 8 only.



PIER 1-WALL II & III, PIER 6-WALL I

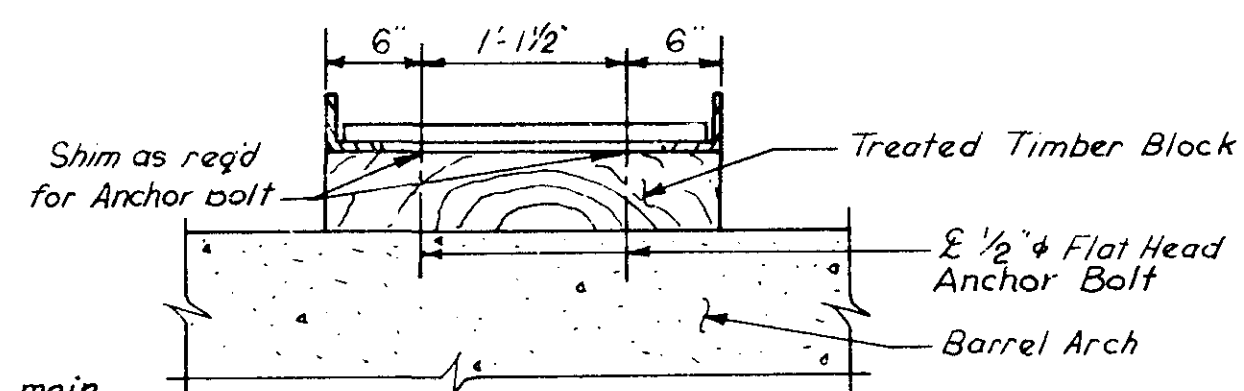
Scale $\frac{3}{4}$ " = 1'-0"

Note: There shall be a fixed assembly at Pier 1 - Wall III. See "Water Main Details" sheet 2 of 4 for details.



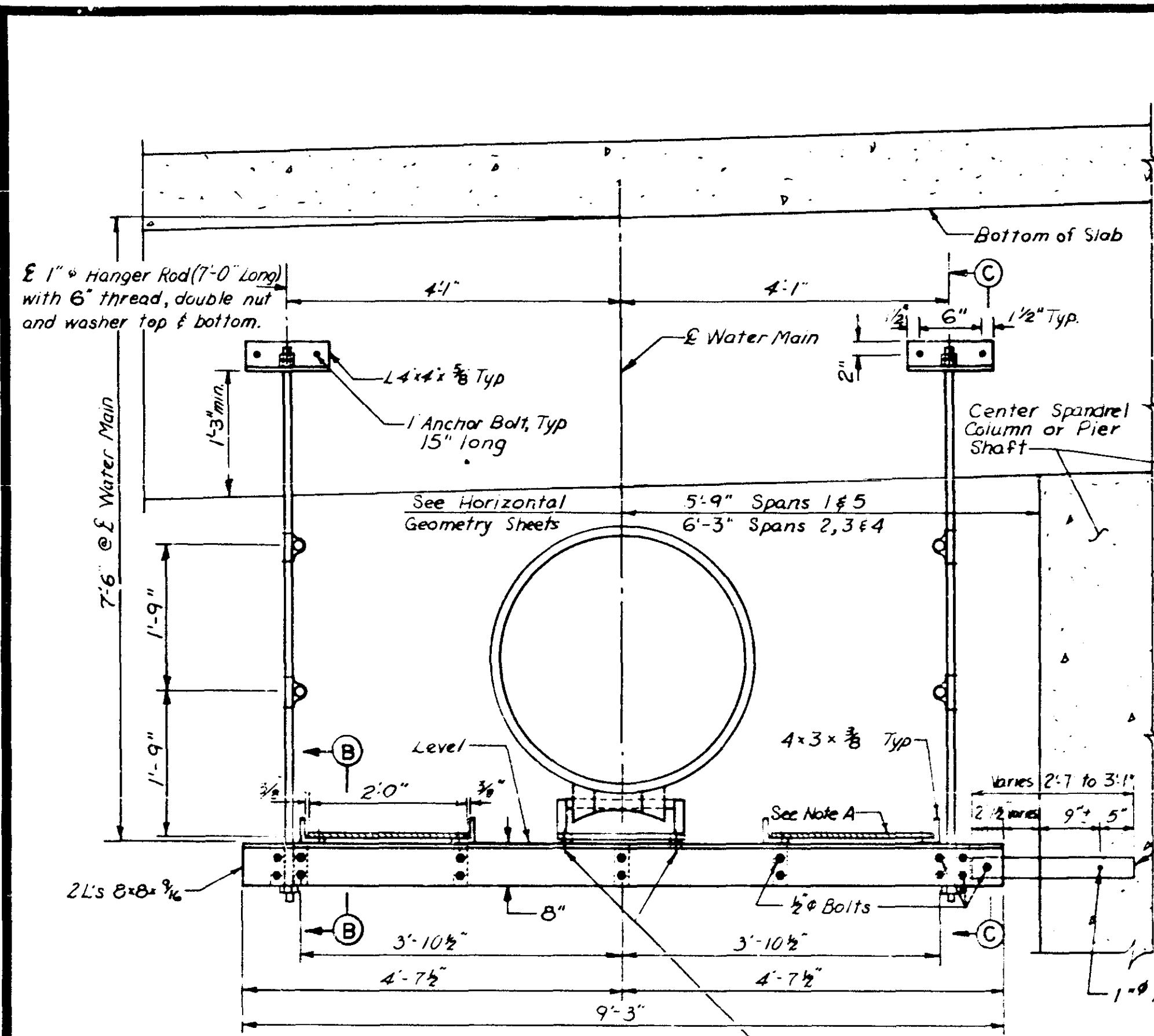
SECTION B-B
No Scale

Note: Reinf. for water main pads (Section B-B) shall be considered incidental and included in price bid for watermain hanger system



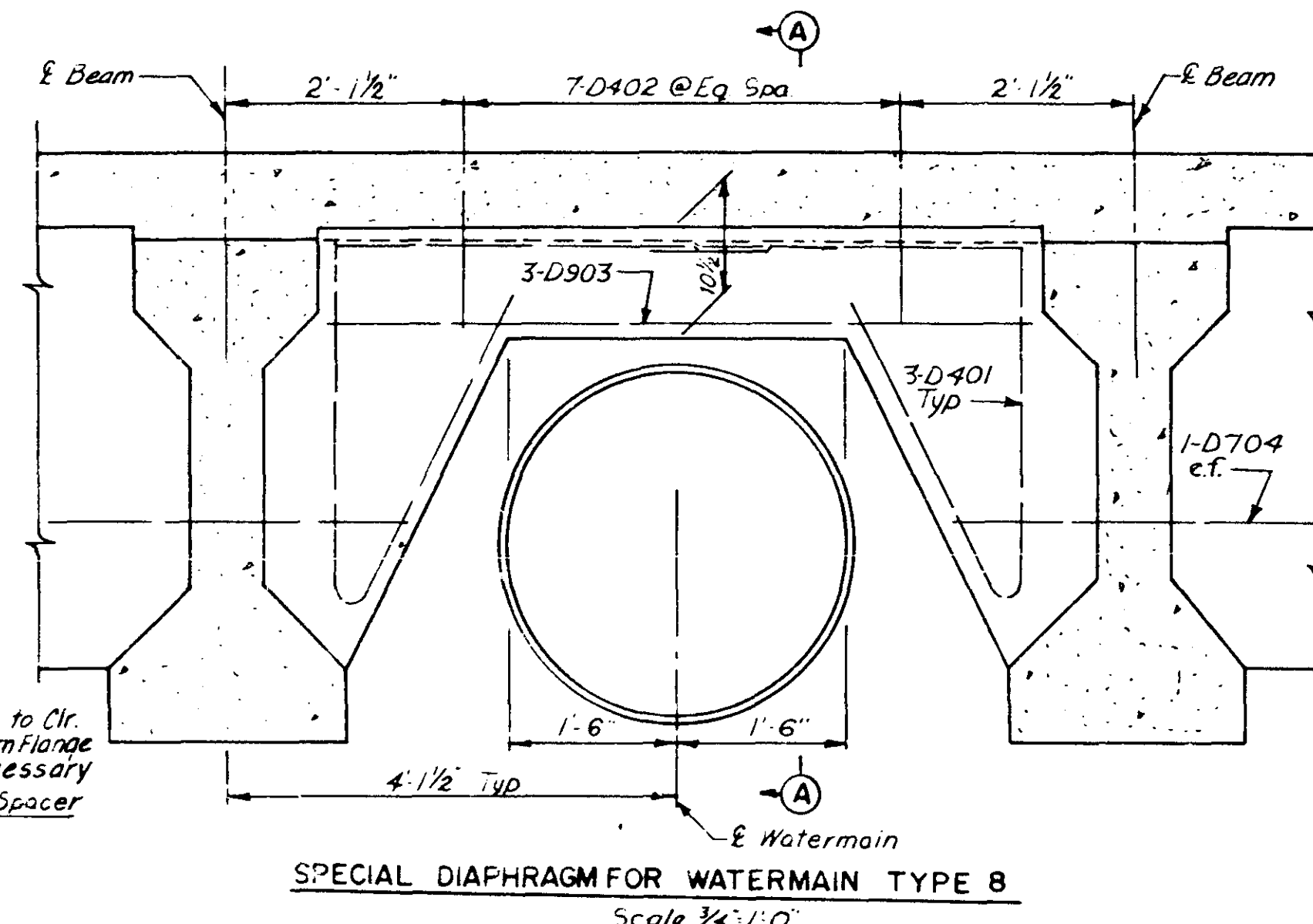
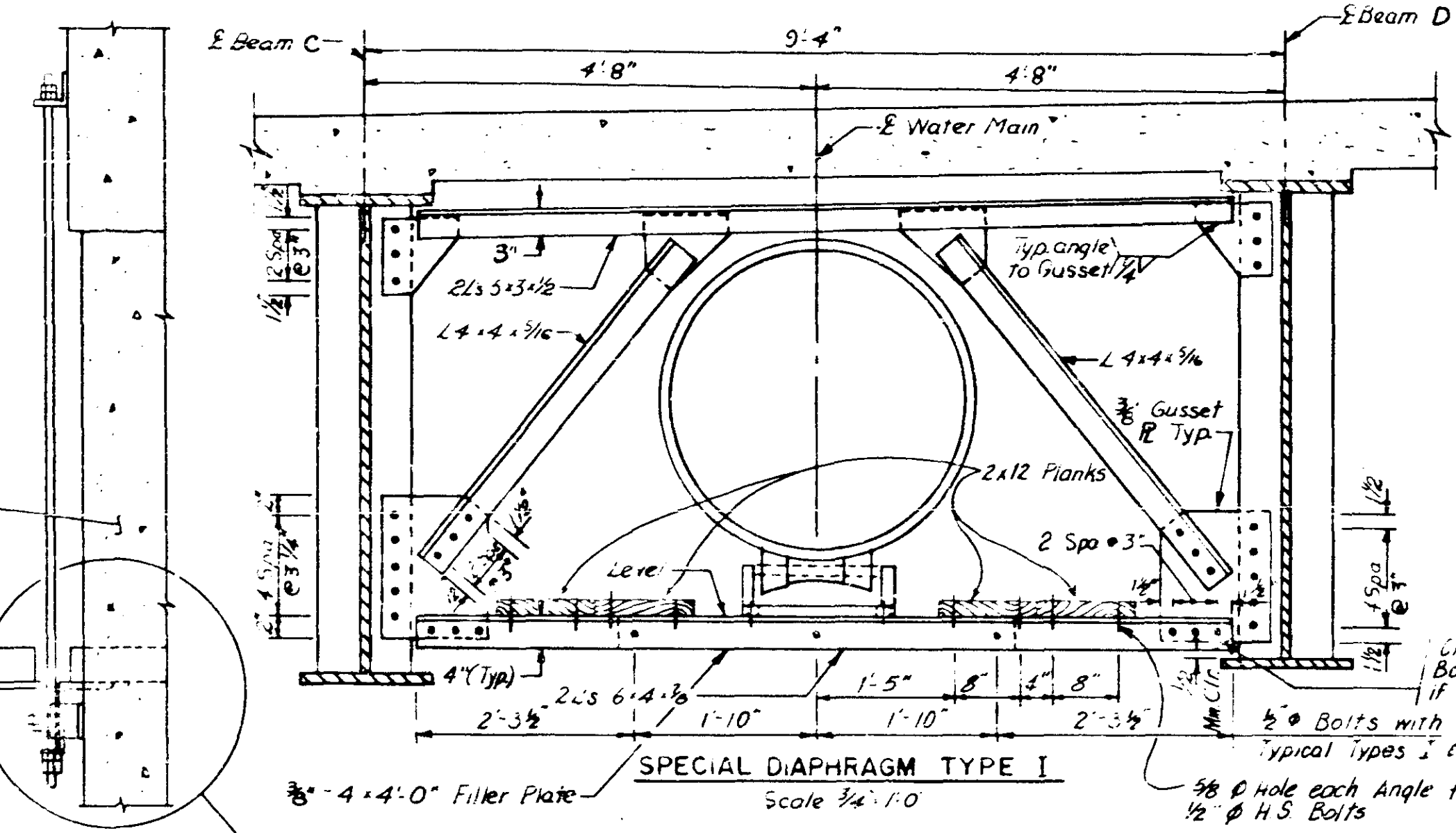
SECTION A-A
Scale 1:1'-0"

TITLE:	DES: CBM	DR: CBM	APPROVED:	Bridge No.
WATER MAIN DETAILS	CHK: WHH	CHK: WHH	5-7-79	
SHEET 1 OF 4	Sheet No. 100 of 148 Sheets			2440



Note A:
Grating shall be 3/8" x 3/8" bearing bars spaced at 1 1/2" centers and 1/2" x 1/2" cross bars spaced at 4" centers. Wearing surface of bearing bars and cross bars shall be plain.

SPANDREL ARCH RIBS
PIERS 2,3,4,8,5
Scale 3/4"=1'-0"



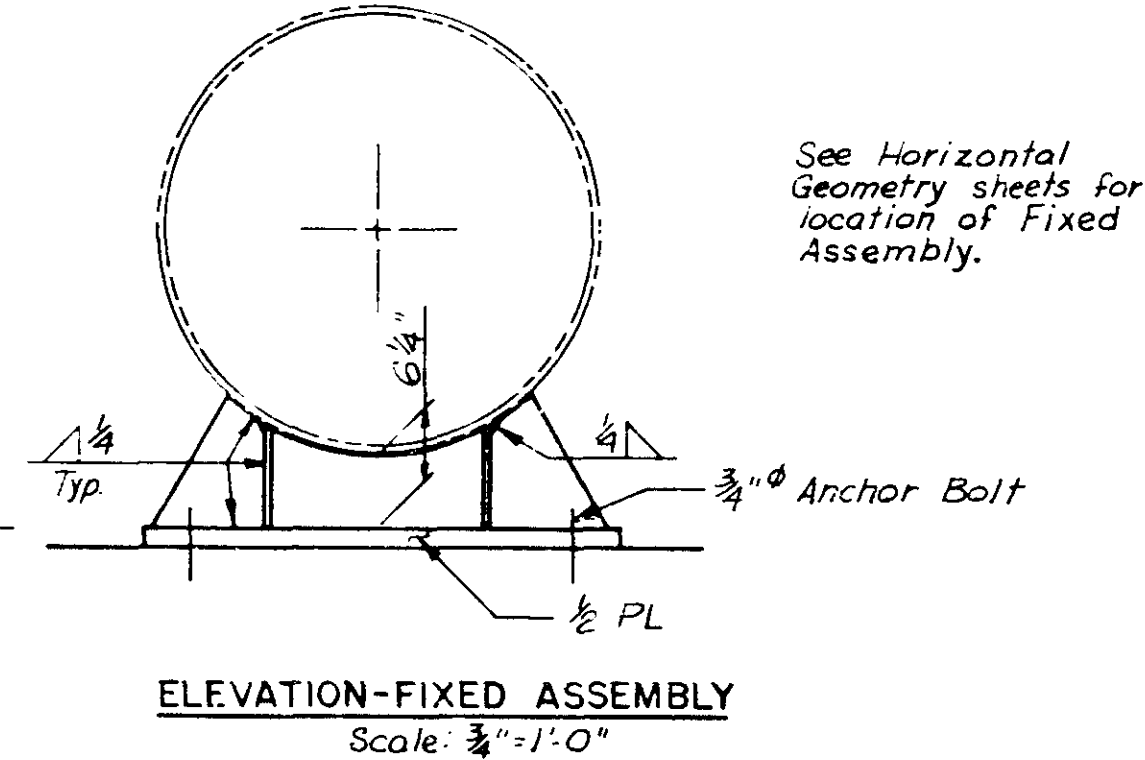
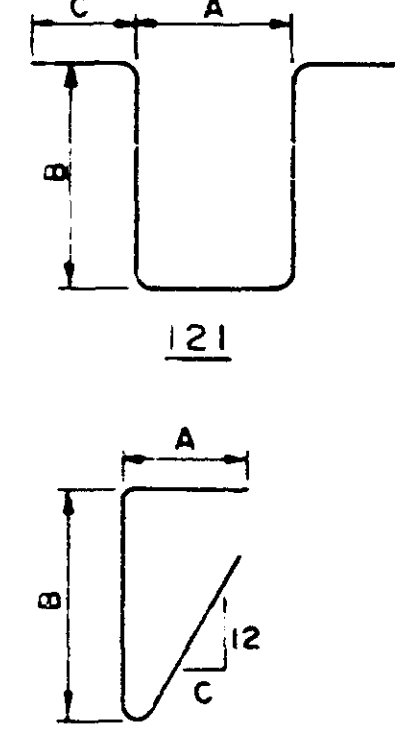
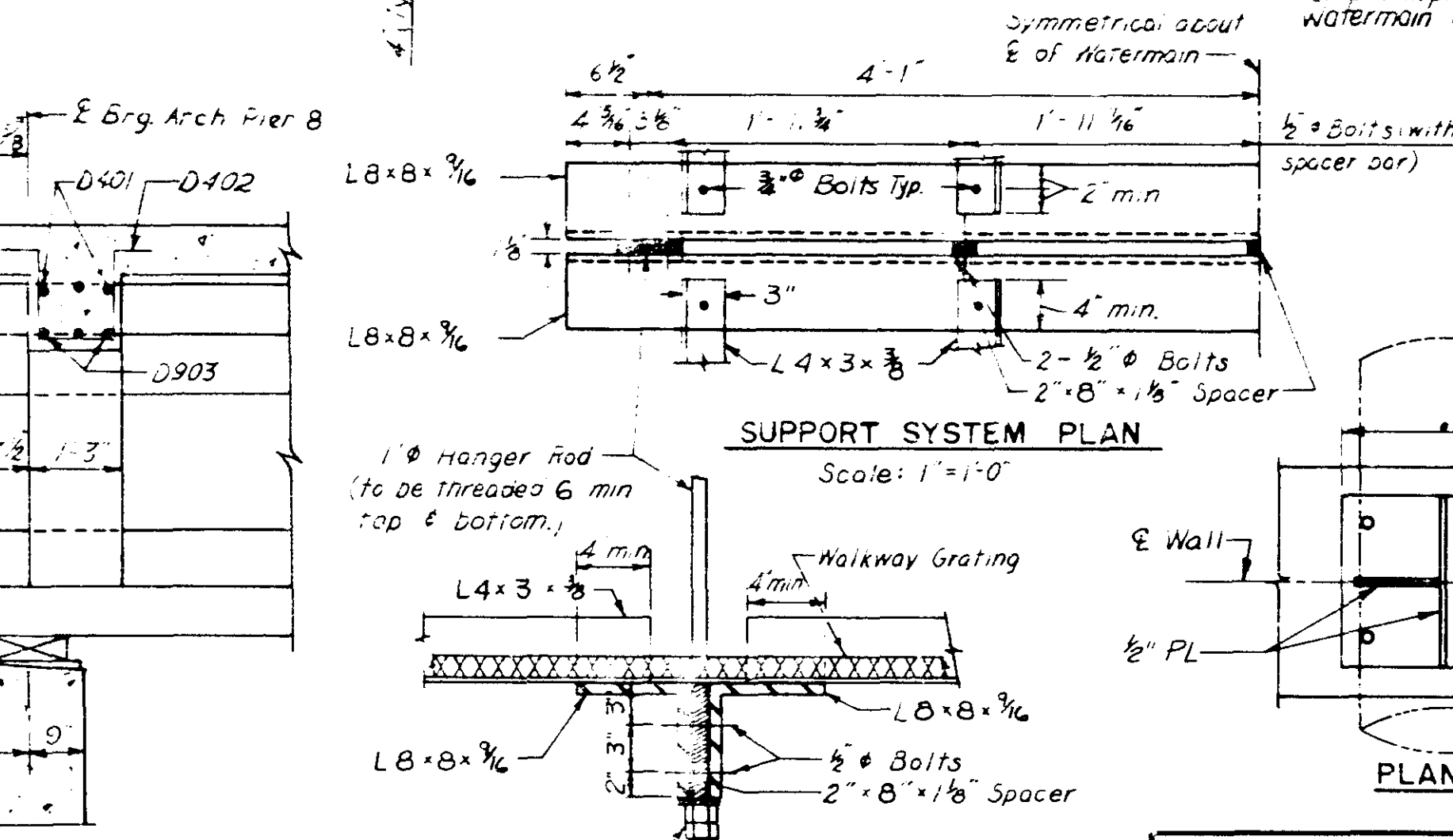
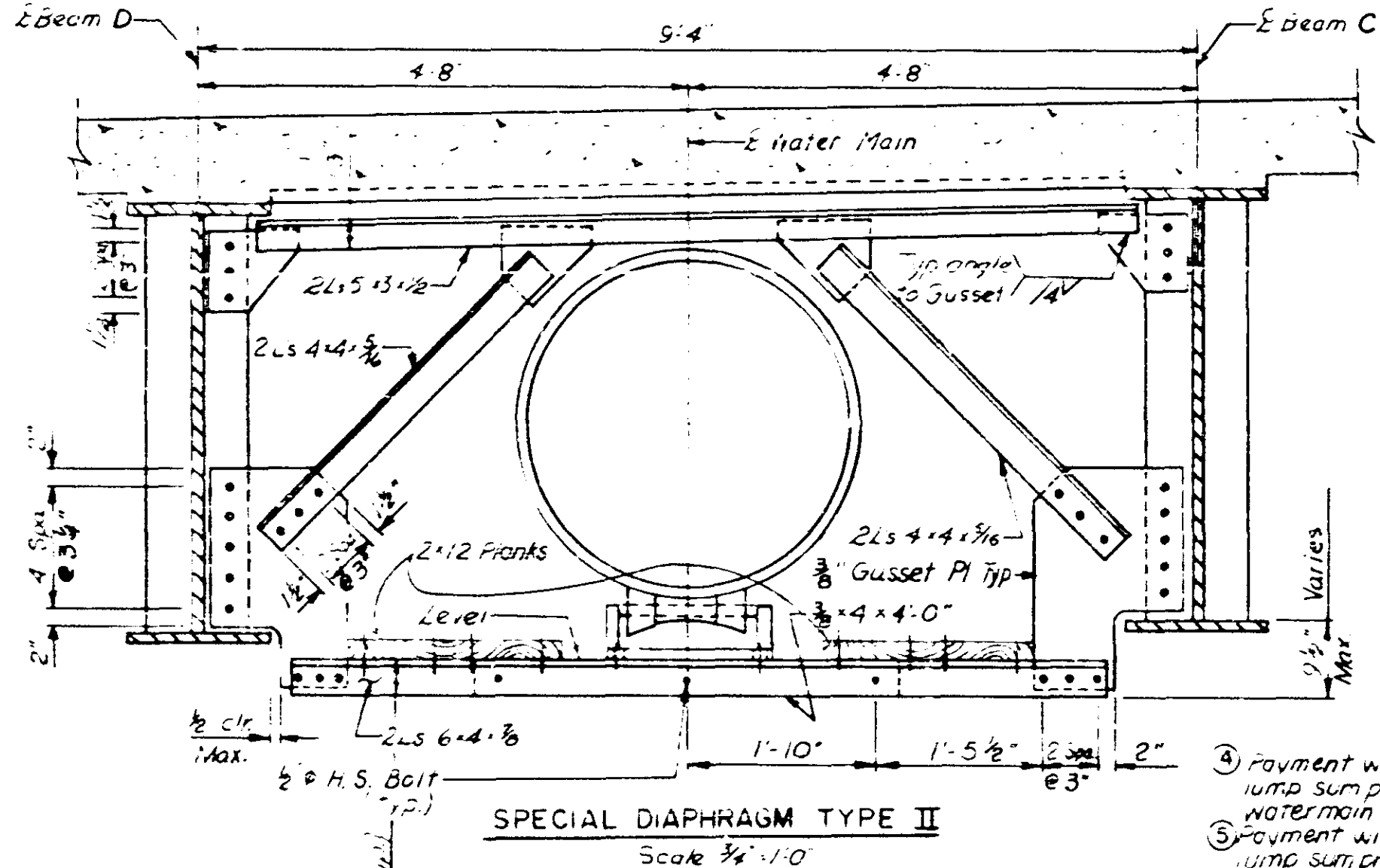
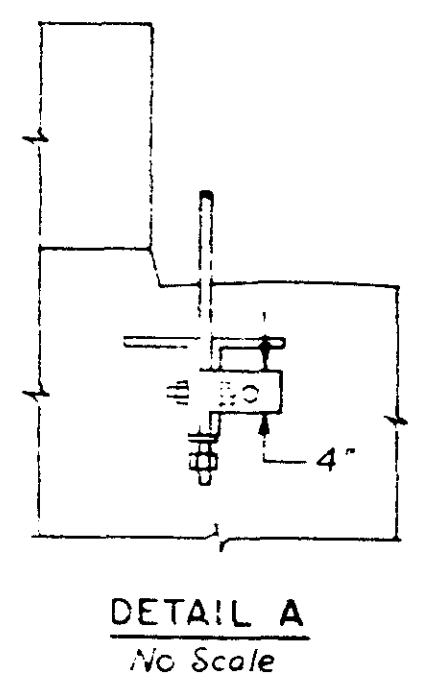
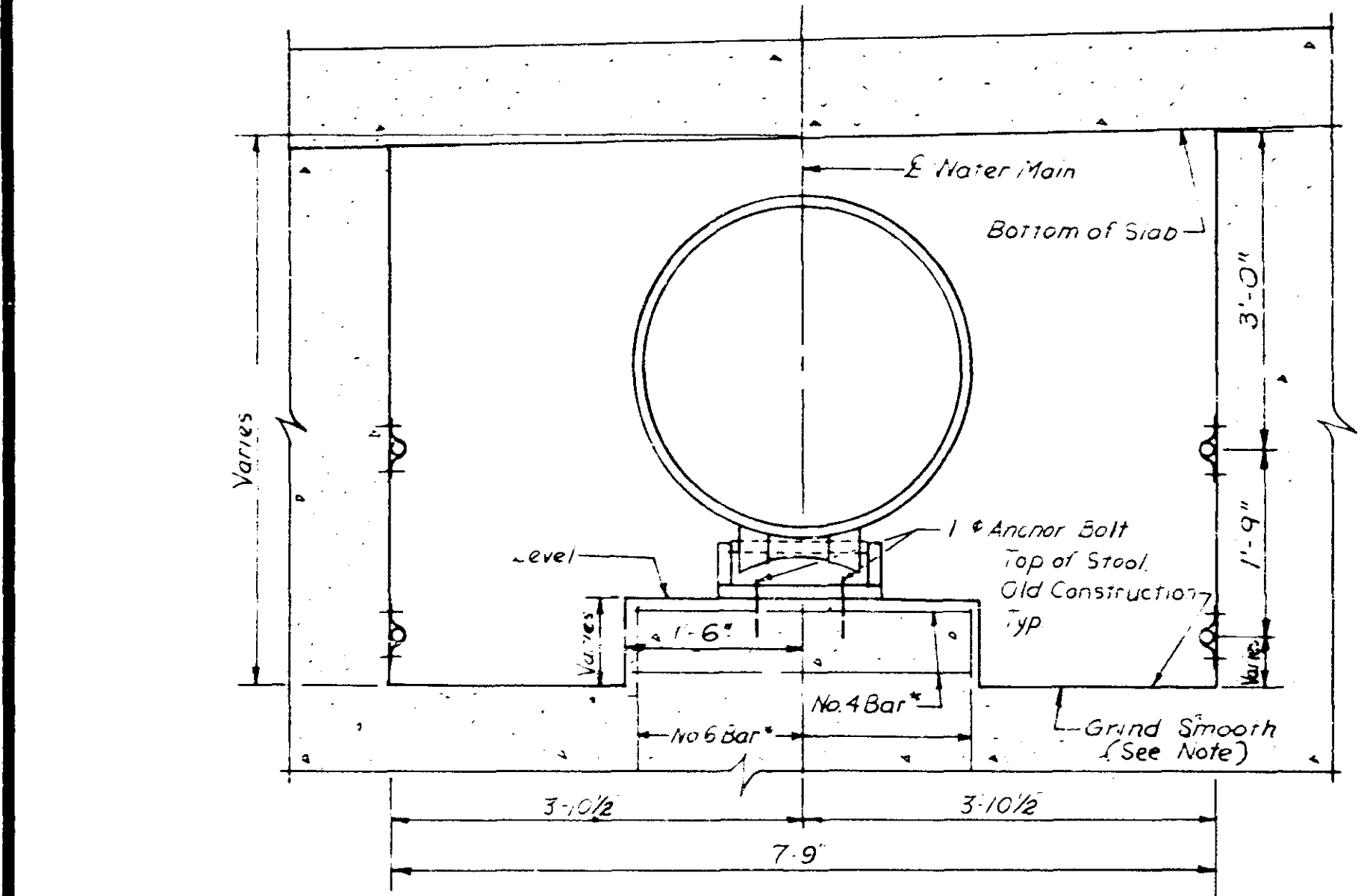
BILL OF REINFORCEMENT							
BAR NO.	NO.	LENGTH	TYPE	DIMENSIONS			LOCATION
				A	B	C	
D401	6	4	10-6	189	3-9	3-6	Diaphragm
D402	7	4	4-7	121	0-11	1-4	Diaphragm
D903	3	9	6-6	Str.			Diaphragm

WATER MAIN QUANTITY SUMMARY		
④	Walkway Grate	5750 Sq. Ft.
⑤	Roller Assembly & Stand	118 Each
③④	Support Steel	103,772 Lb.
④	Pipe Rail	6,918 LF
④	1" Hanger Rod	154 Each
②⑤	Manhole Castings	2 Each
③	Expansion Assembly	3 Each
③	36" Pipe	1730 LF
④	2" x 12 Planks	81 F.B.M.
④	Fixed Assembly	4 Each
④	Leveling Assembly	2 Each

① All bolts to be A325 high strength bolts unless otherwise shown or noted. All grating, hanger rods, support steel, fixed assemblies, leveling assemblies, pipe rail and misc. hardware shall be galvanized. Quantity summary for water main is as shown above. Any additional minor items and slight changes of quantities required shall be furnished by the Contractor with no additional compensation.

② Manhole casting to be a Neenah R6660 OH, with Type T flush ring, holding latch, type "C" Drop handle, and type "H" Cam Locking Device.

③ Does not include So. Approach special diaphragms type 1 & 2.



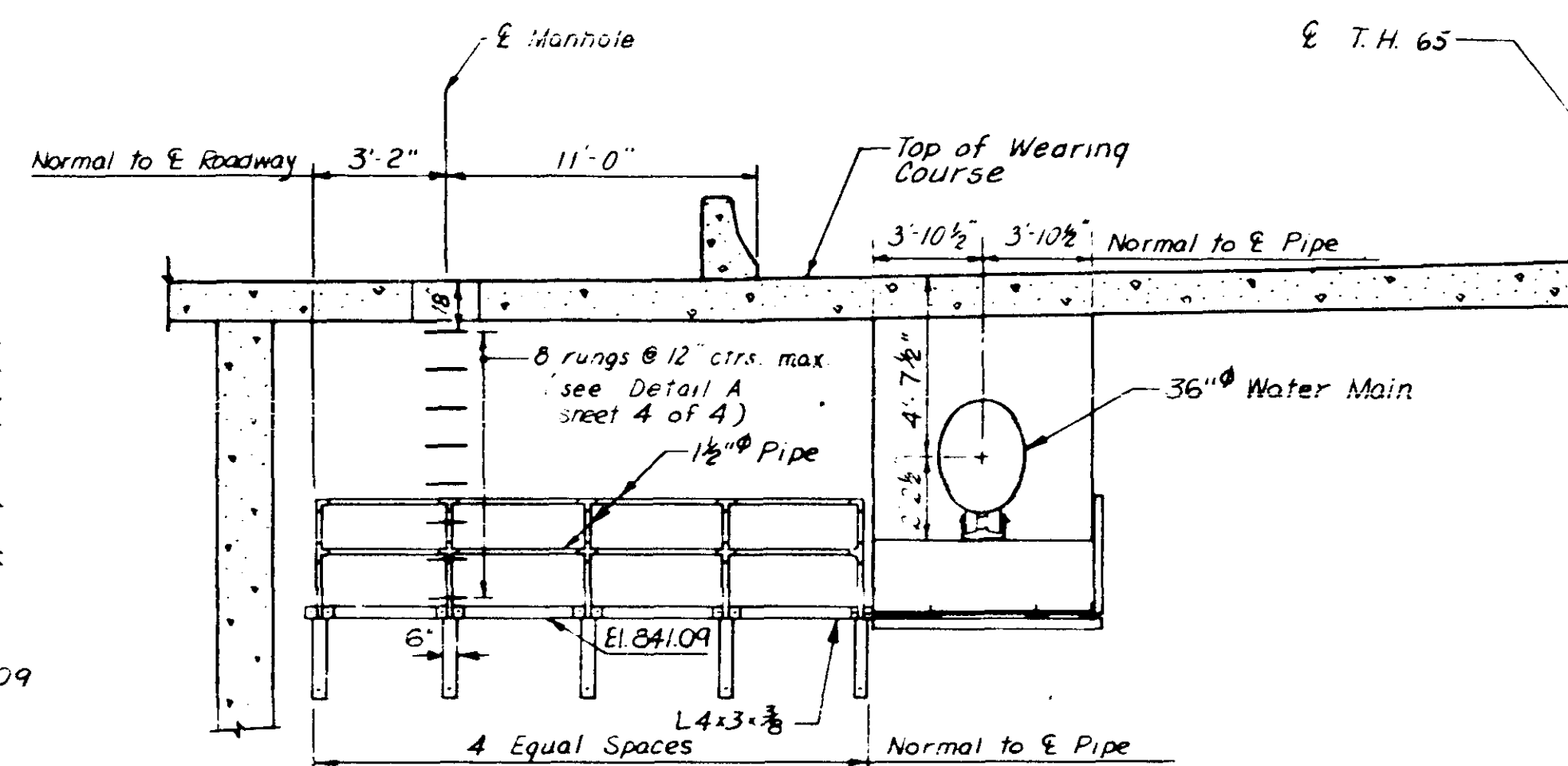
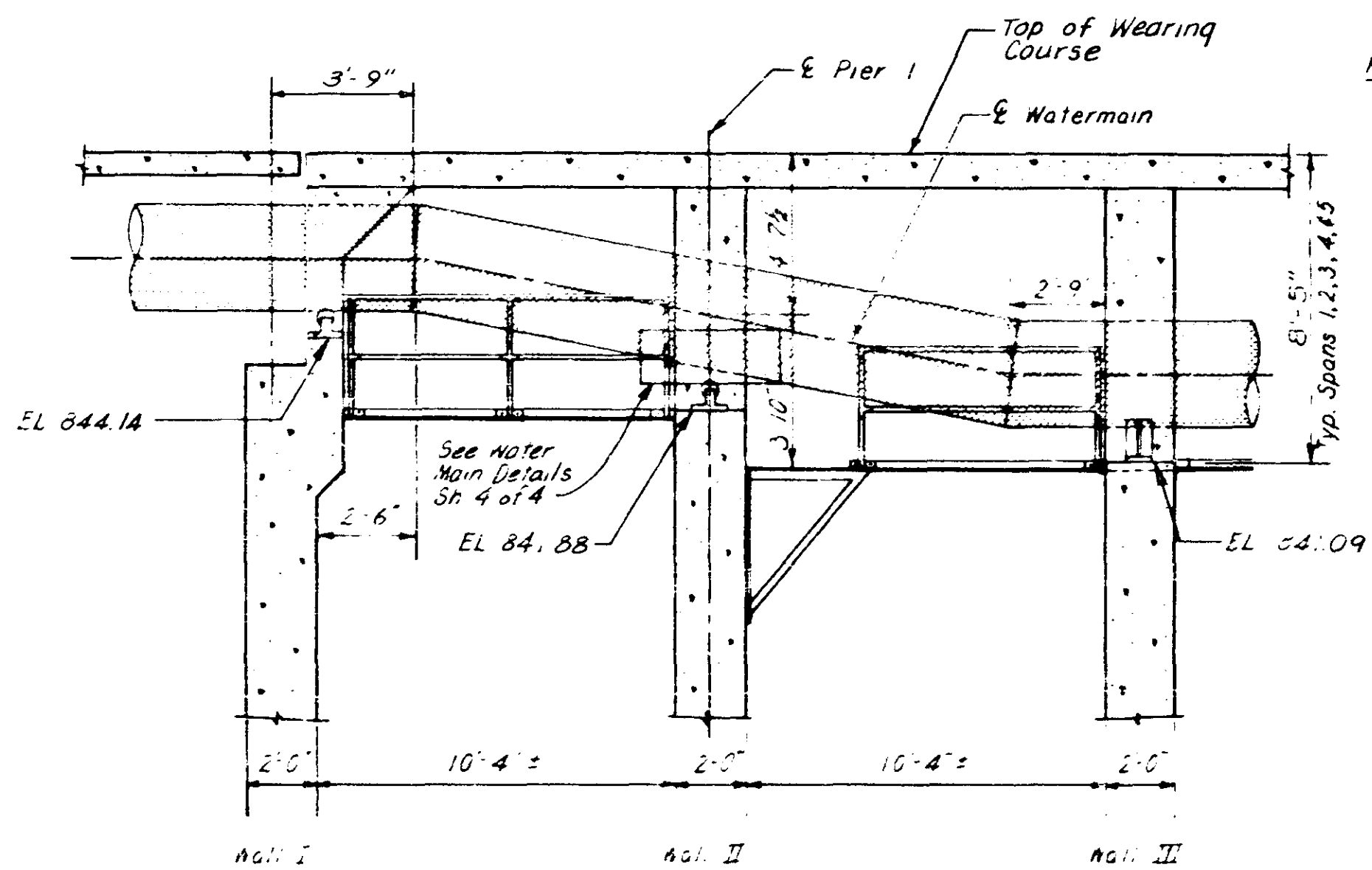
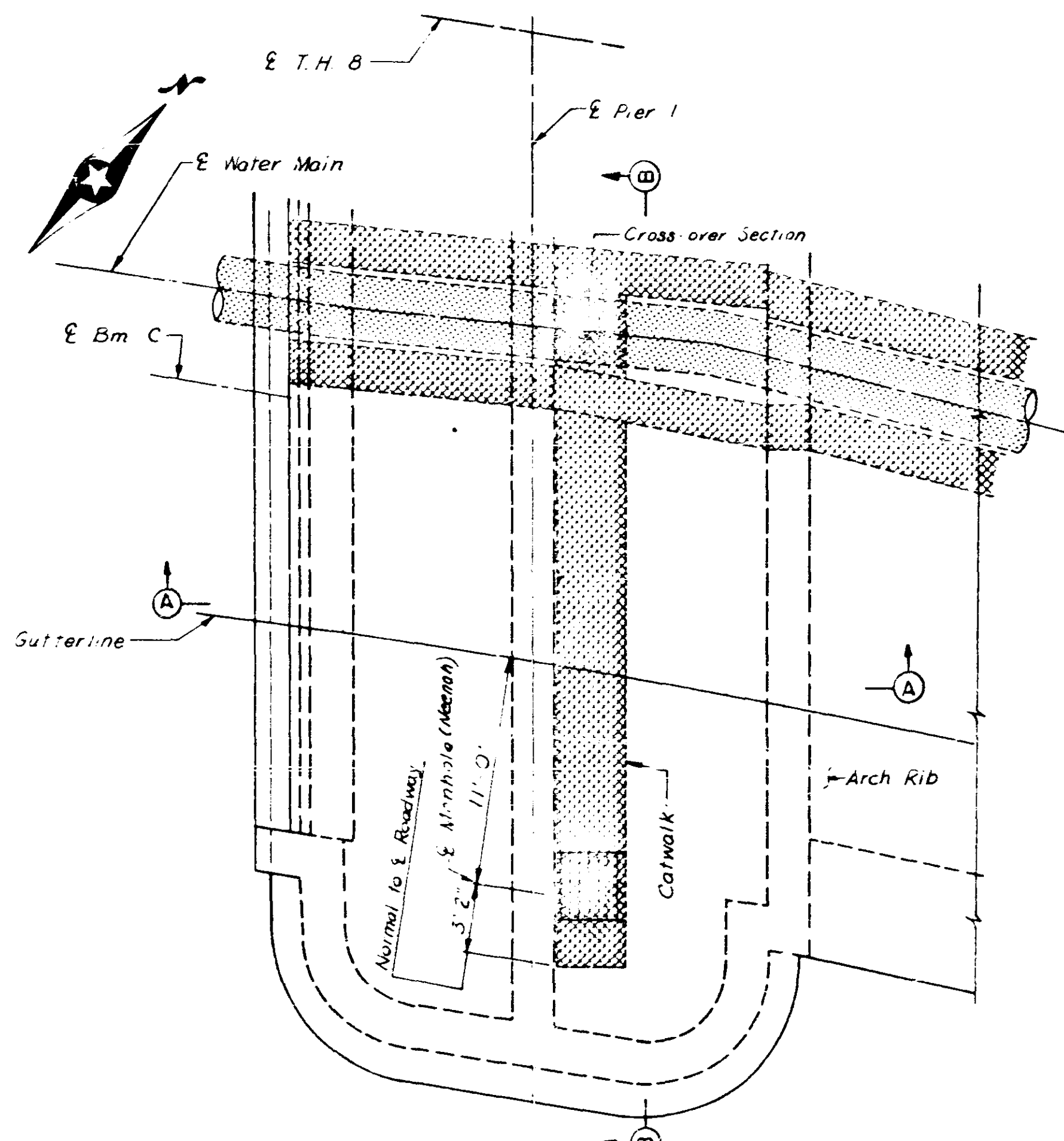
*Barrel Arch Ribs D & G only

Note: Dimensions are normal or parallel to E pipe. All rollers are to be placed normal to E pipe.

Note: Contractor shall have the option of grinding, or applying epoxy grout to provide a smooth surface.

SECTION A-A Scale 1/2"=1'-0"

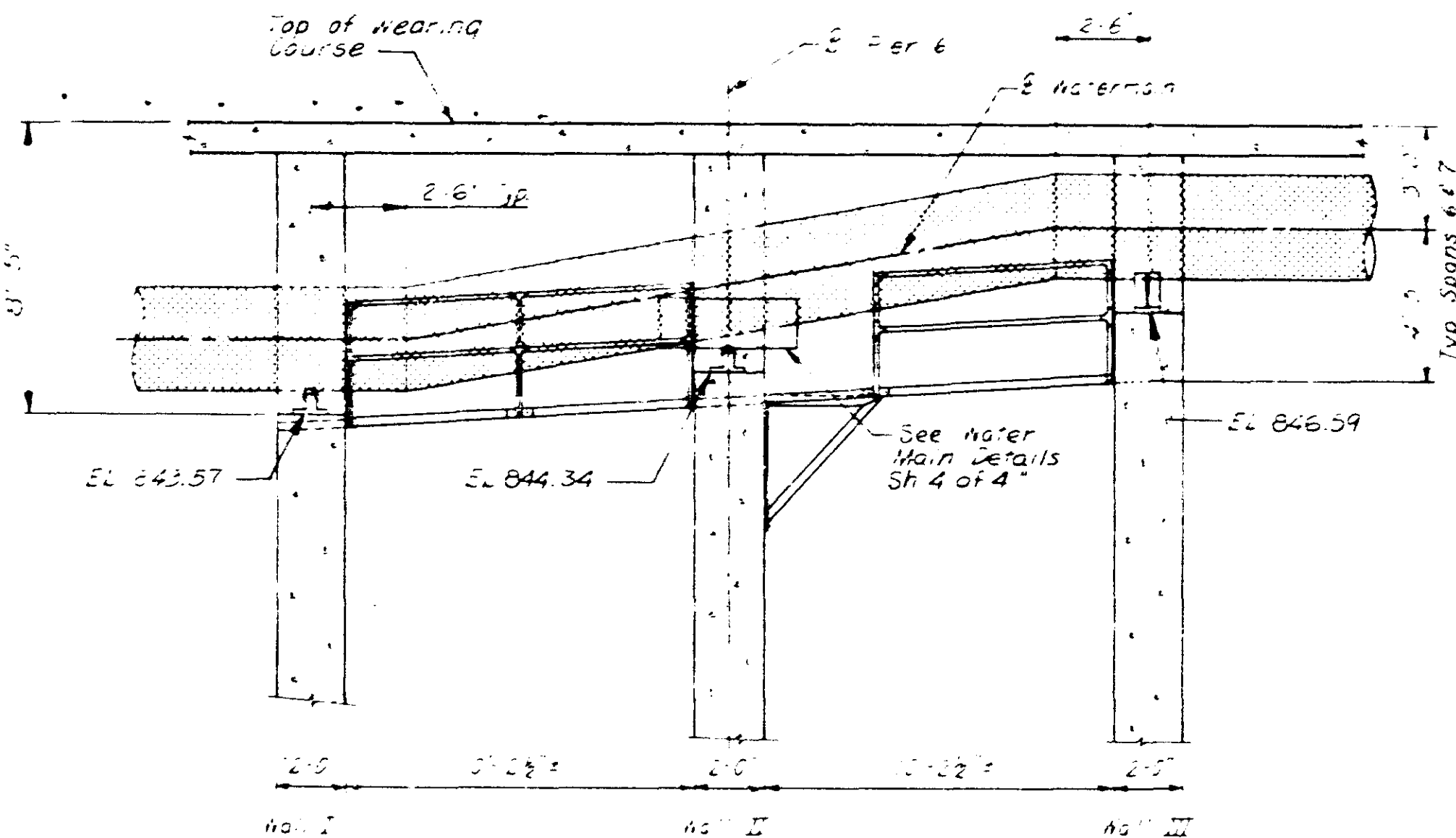
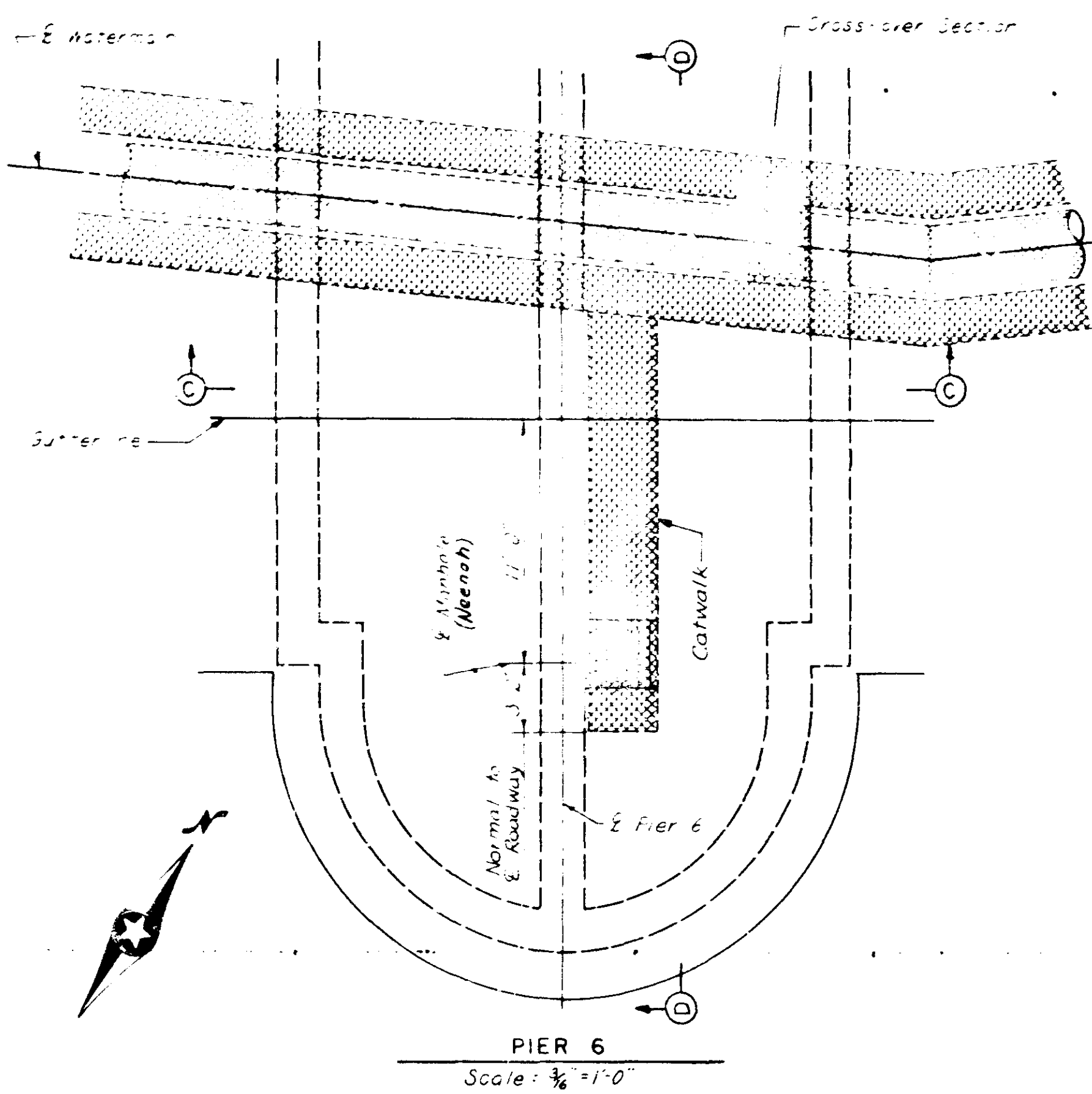
SECTION B-B Scale: 1 1/2"=1'-0"



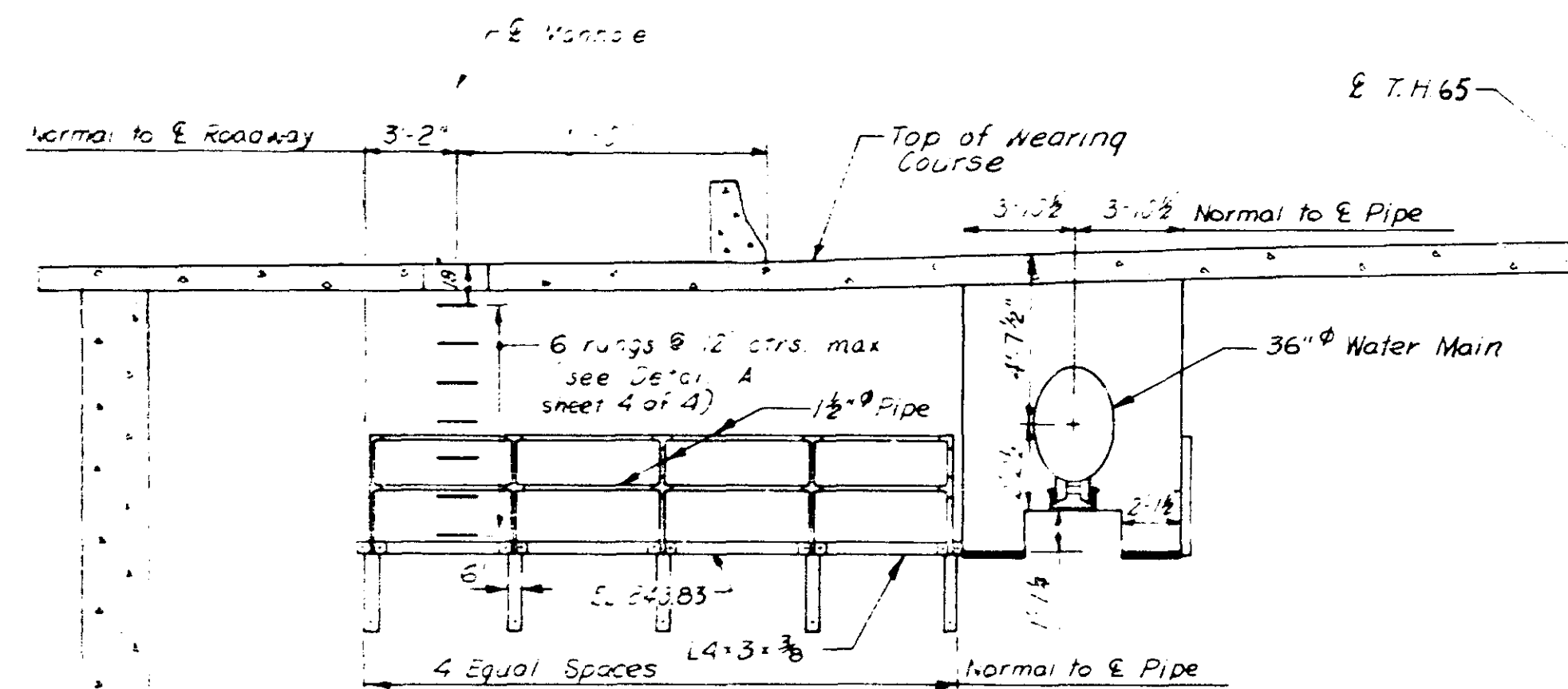
SECTION B-B
Scale: Horiz. $\frac{1}{8}'' = 1'-0''$
vert. $\frac{1}{4}'' = 1'-0''$

Note: For Carwalk details see sheet 103

vertical dimensions are at E of Watermain.

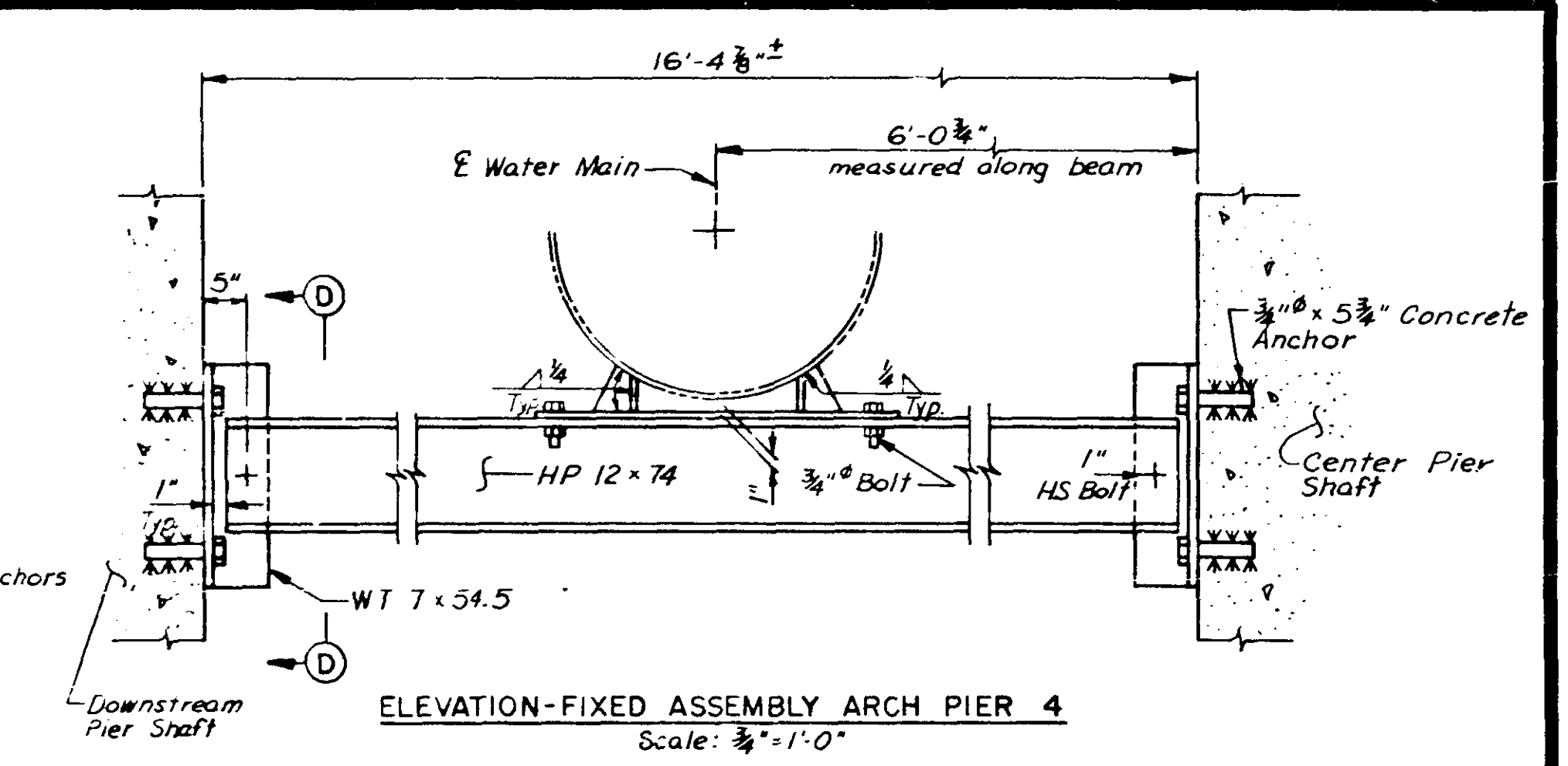
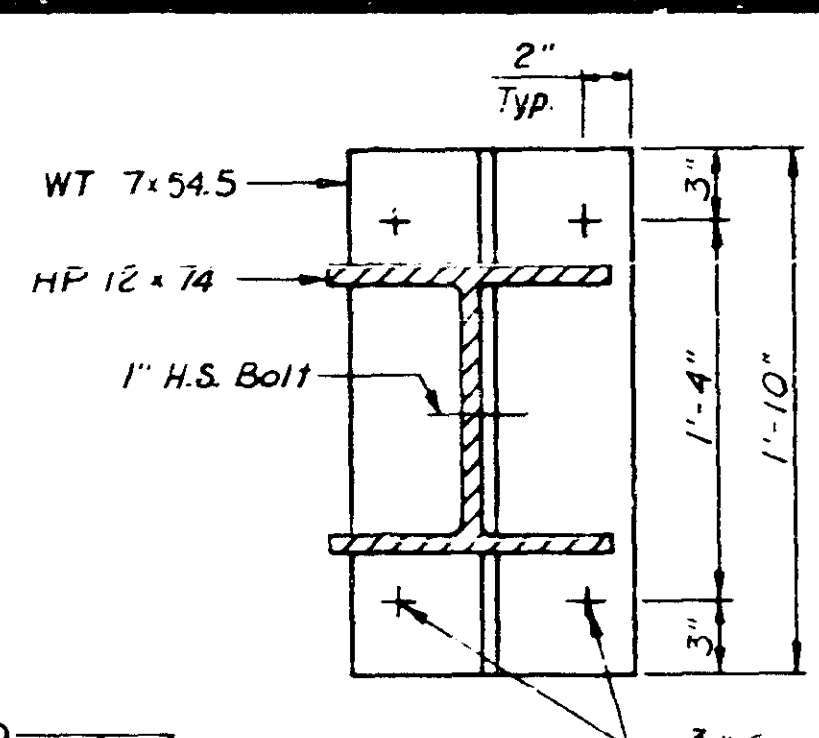
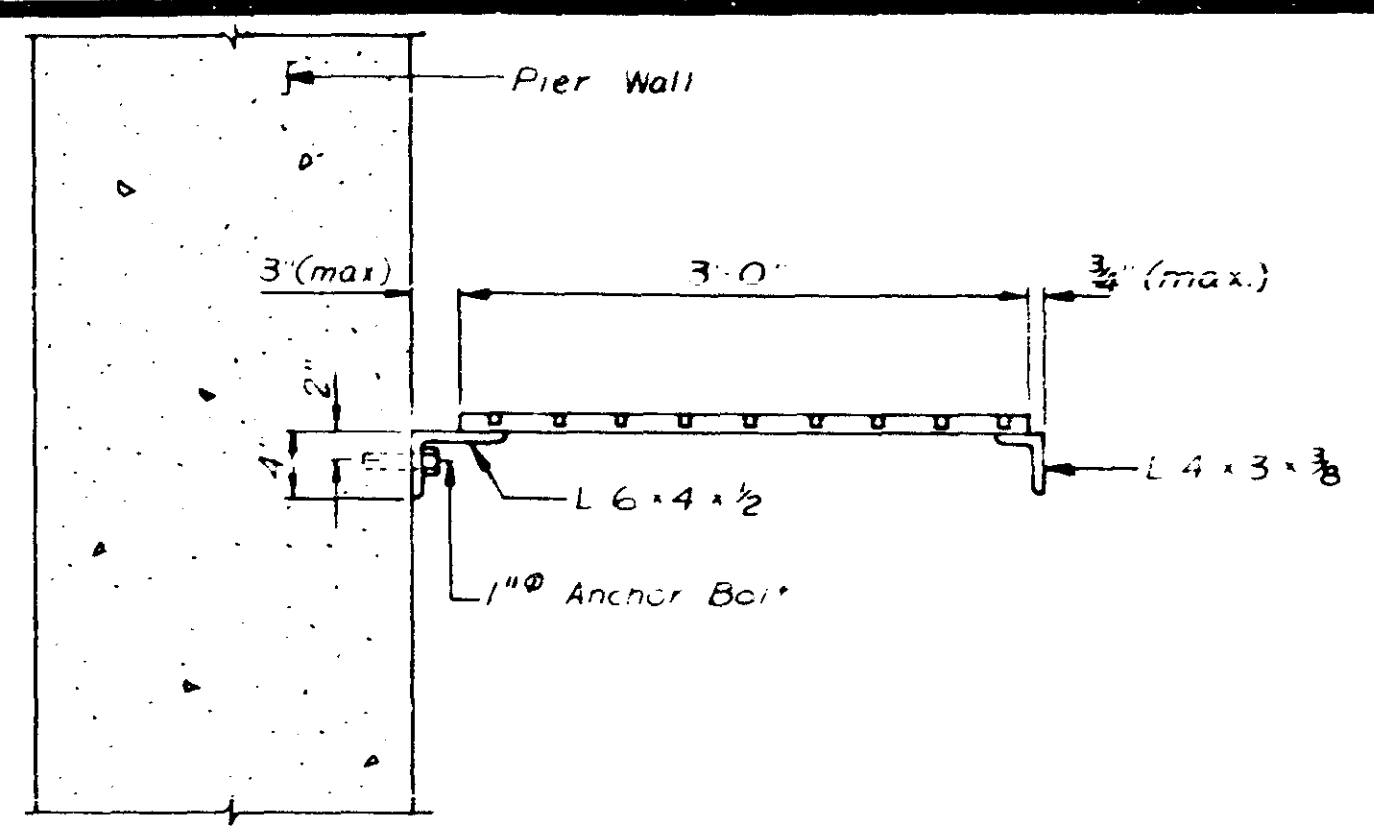
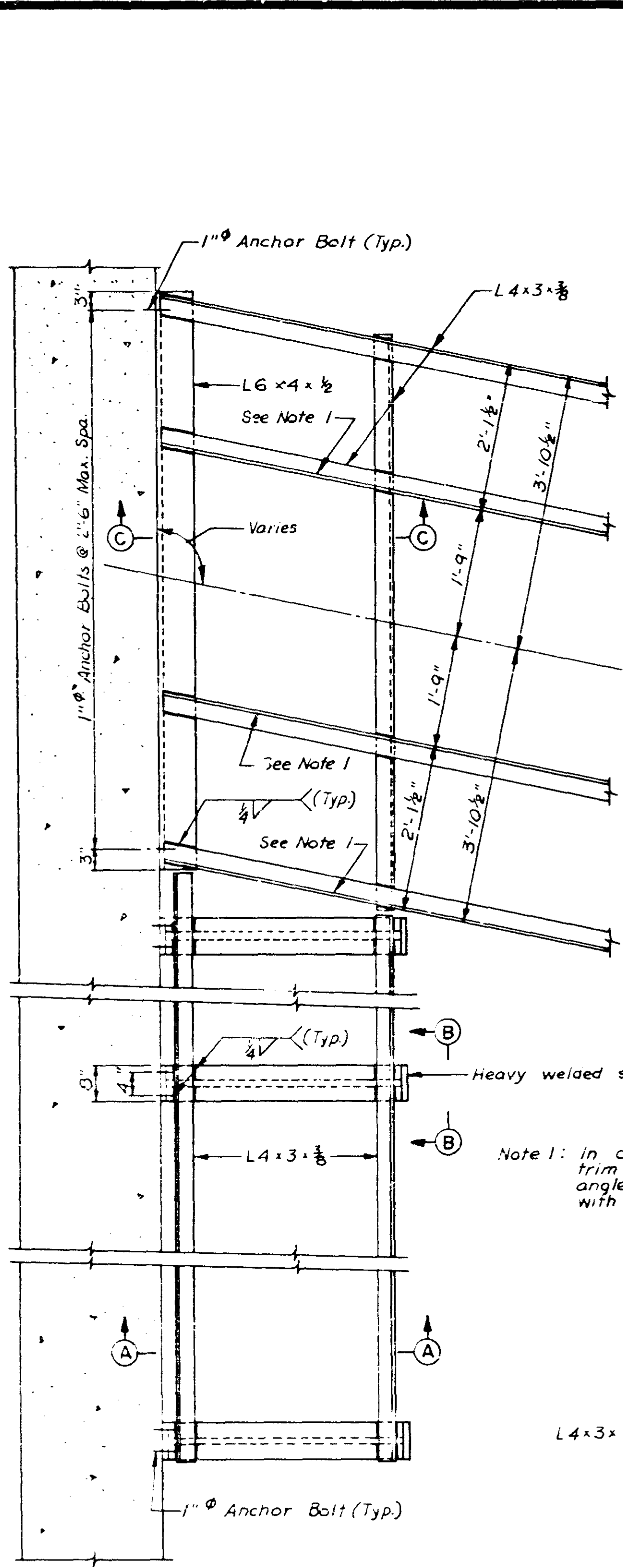


SECTION C-C
Scale: $\frac{1}{4}'' = 1'-0''$

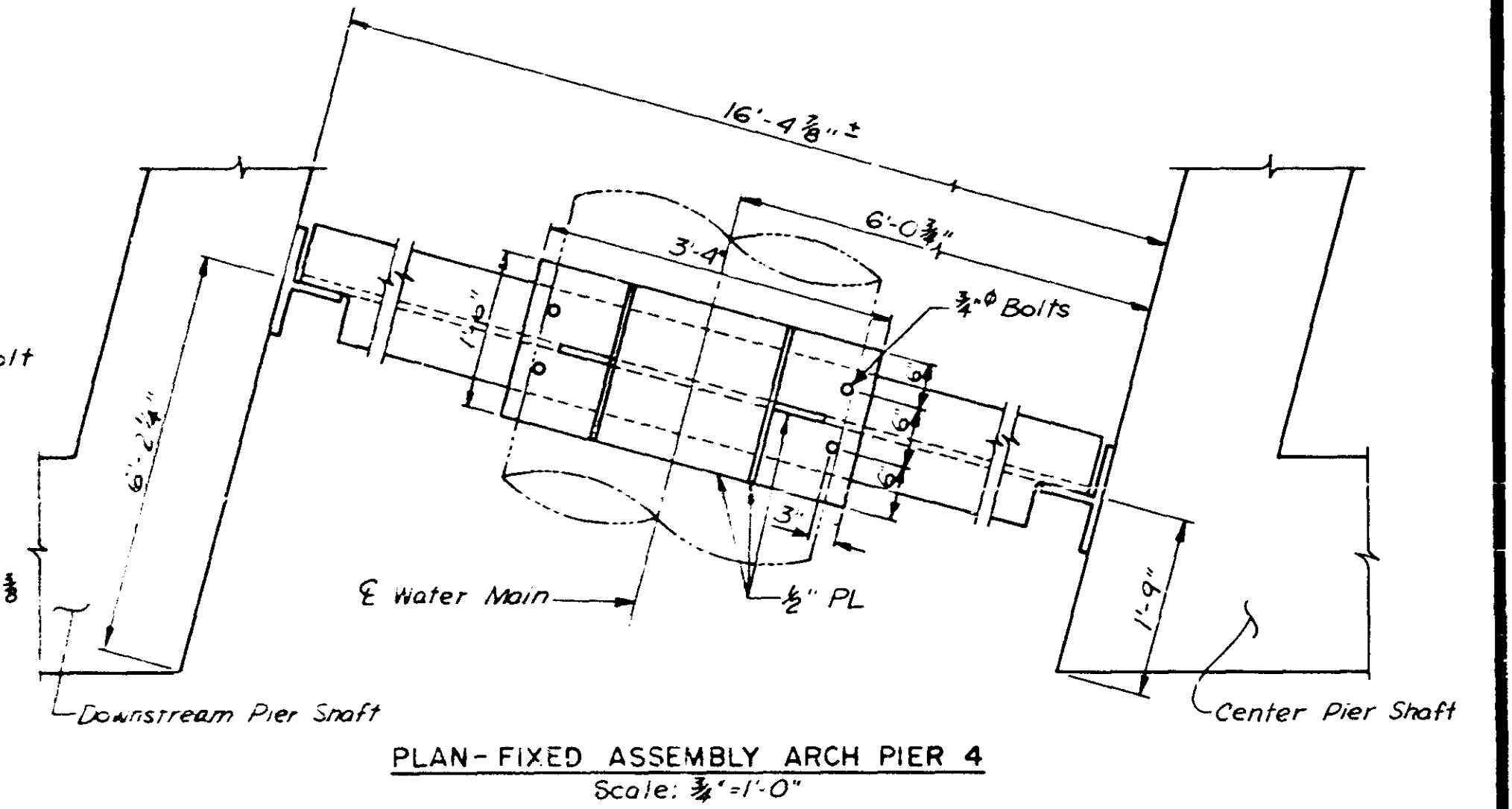
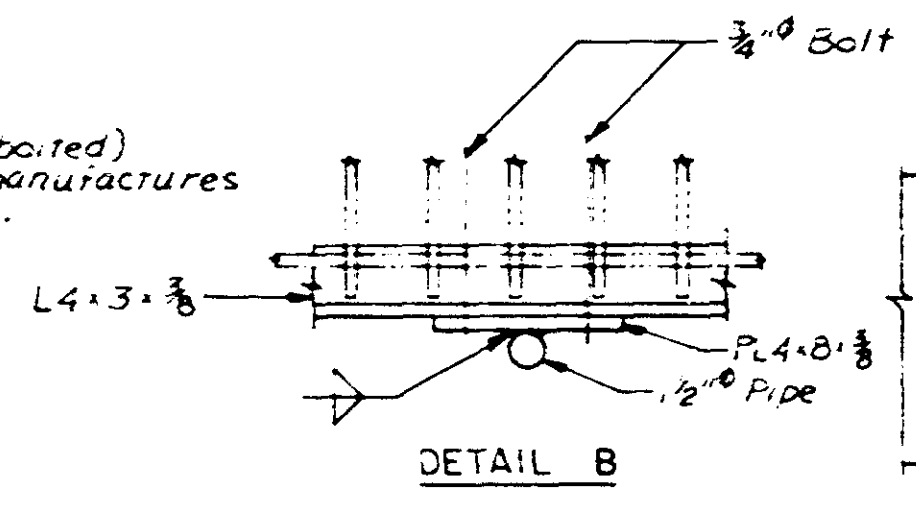
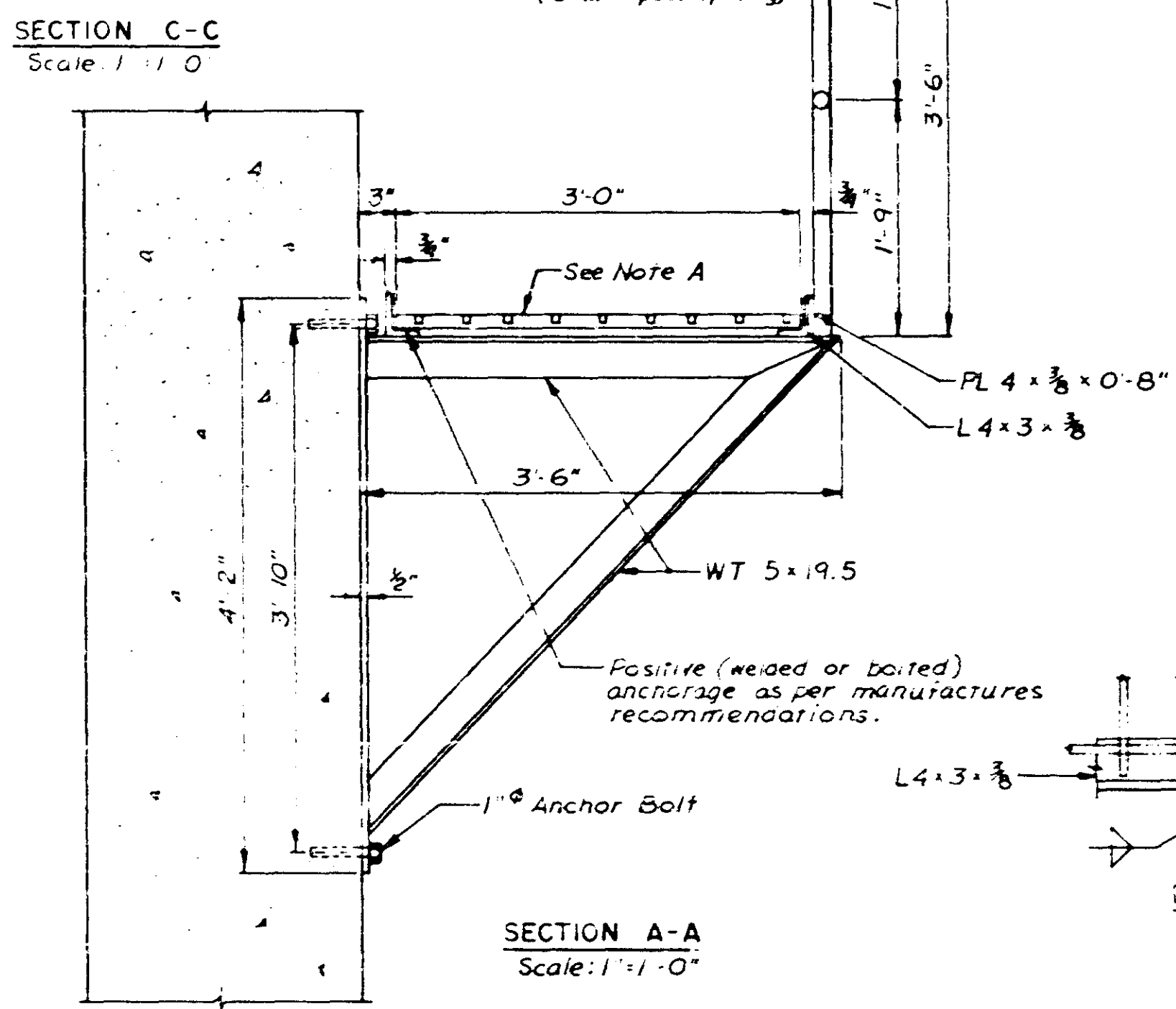


SECTION D-D
Scale: Horiz. $\frac{1}{8}'' = 1'-0''$
vert. $\frac{1}{4}'' = 1'-0''$

TITLE: WATER MAIN DETAILS SHEET 3 OF 4	DES: RLL	DR: RLL	APPROVED:	Bridge No. 2440
	CHK:	CHK:	5-7-79	
Sheet No. 102 of 148 Sheets				



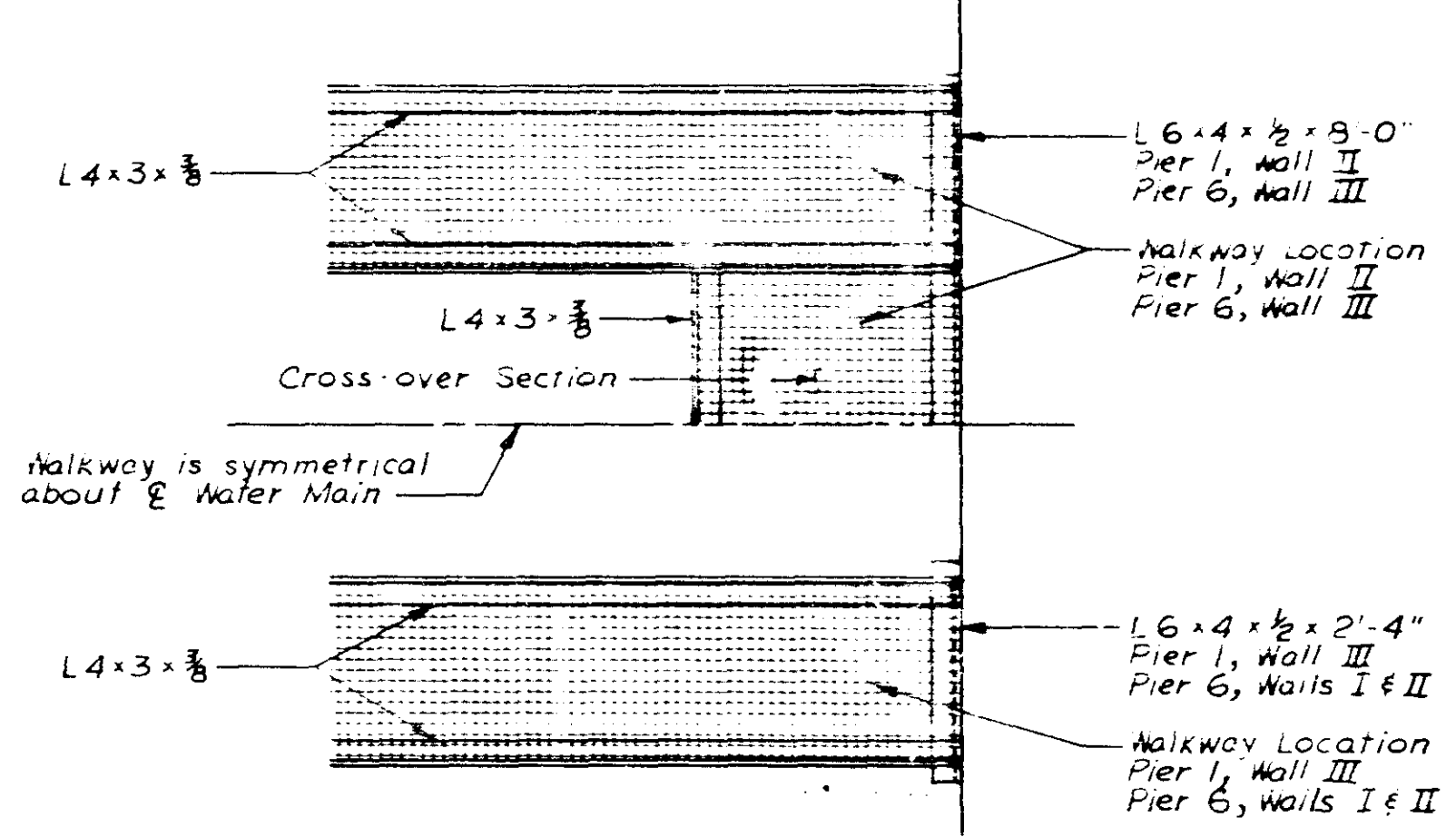
Note: Galvanize all structural steel per (3394) and all hardware per (3392) Repair Galvanizing after field welding per (2471.3L3)



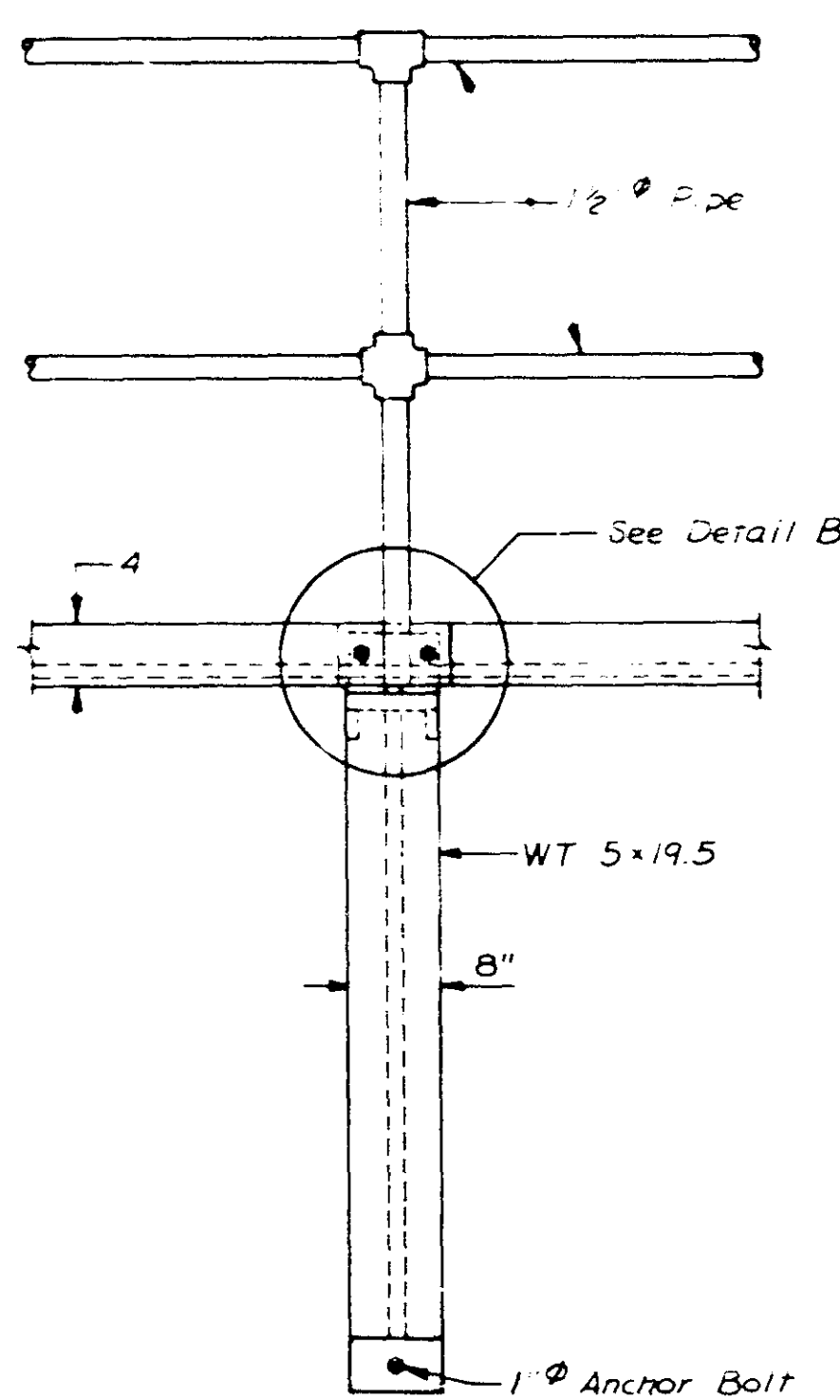
CATWALK FRAMING PLAN Scale: 3/4"=1'-0"

Note 1: In cross over area trim vert leg of angle (4x3x3/8) flush with top of grating.

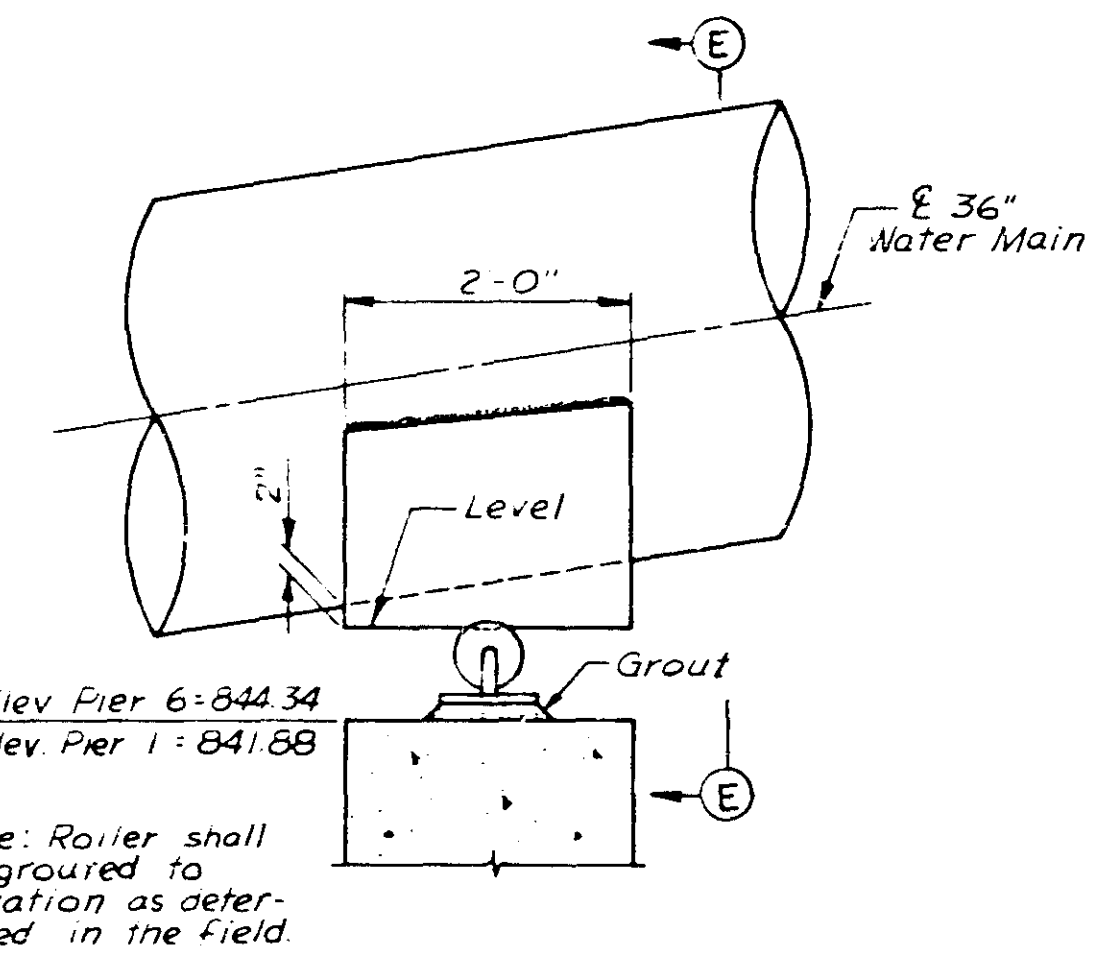
Note A: Grating shall be 1/4 inch bearing bars spaced 4 inches centers and 1/2 inch cross bars spaced 8 inches centers. Bearing surface of bearing bars and cross bars shall be plain.



TYPICAL CATWALK PLAN Scale: 1/2"=1'-0"

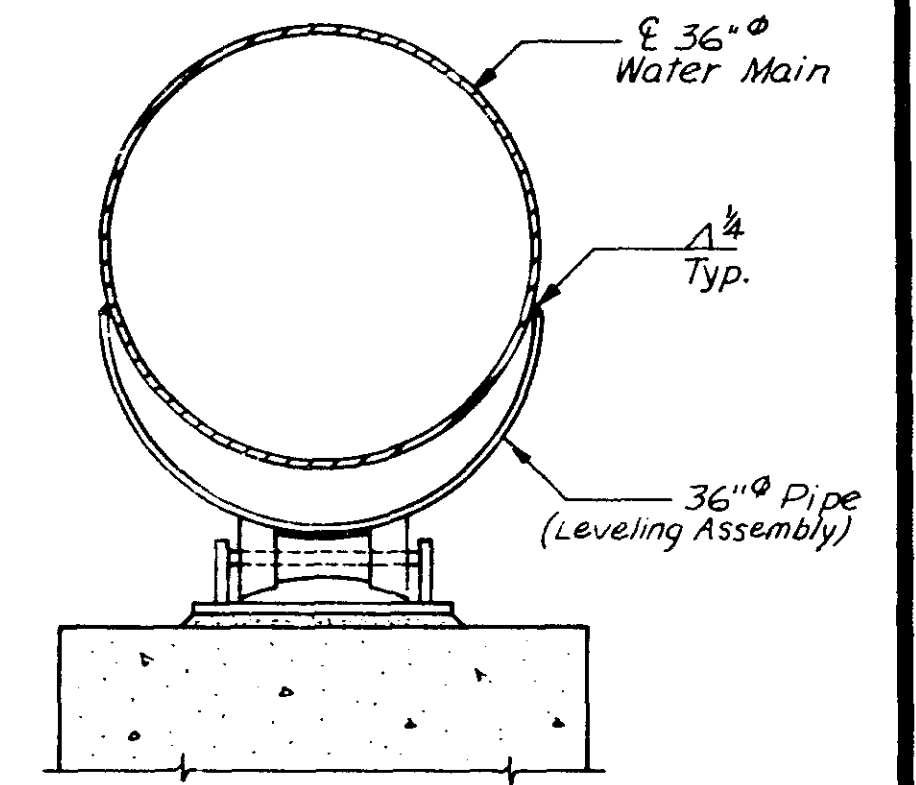


VIEW B-B Scale: 1"=1'-0"

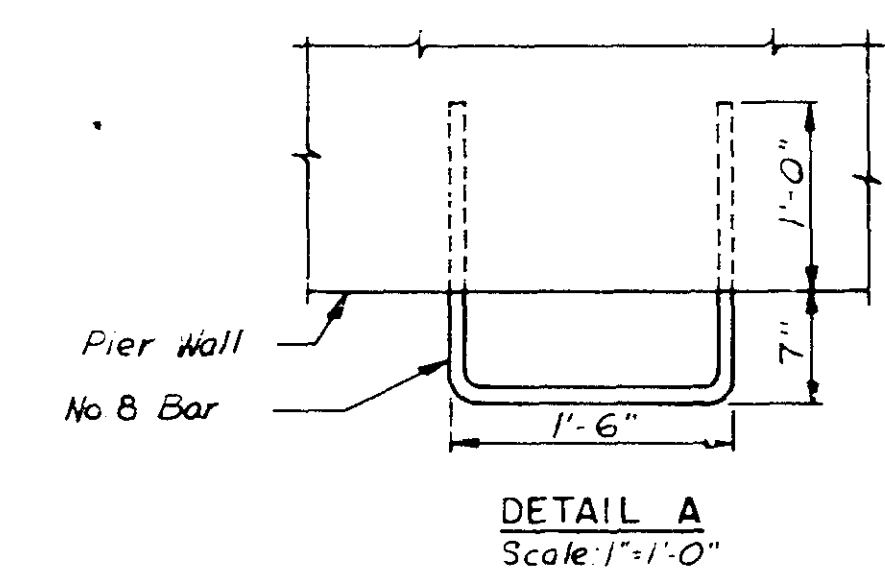


Note: Roller shall be grouted to elevation as determined in the field.

ROLLER DETAIL @ PIER 1-WALL II & PIER 6-WALL II Scale: 3/4"=1'-0"



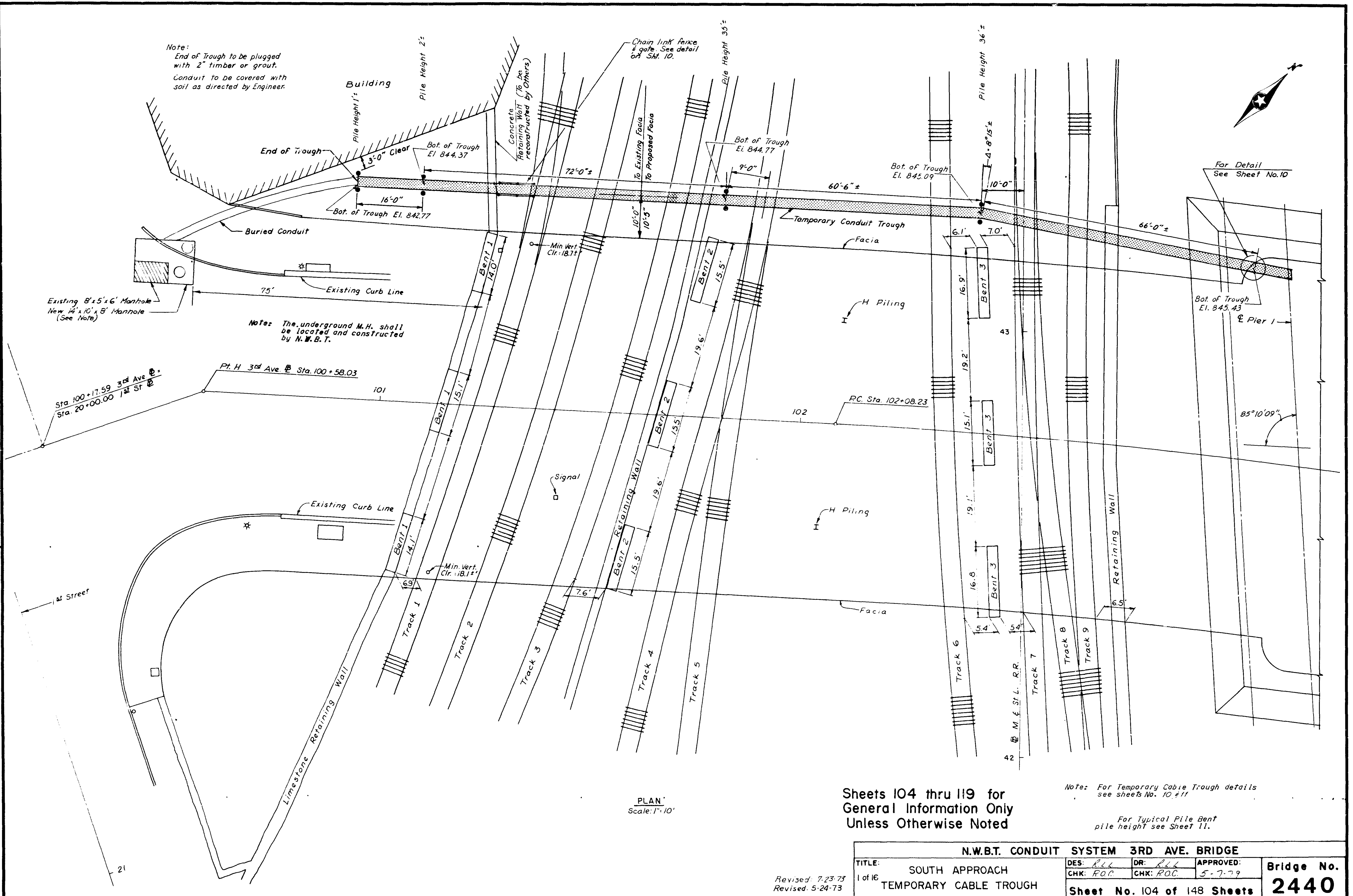
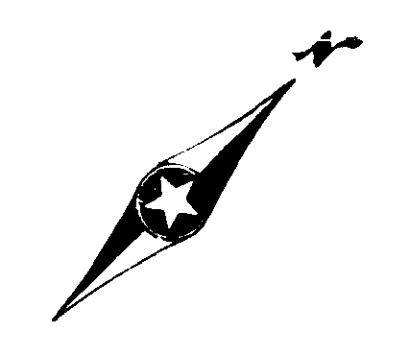
SECTION E-E Scale: 3/4"=1'-0"



DETAIL A Scale: 1"=1'-0"

TITLE: WATER MAIN DETAILS SHEET 4 OF 4	DES: DRA	DR: LDH	APPROVED: 5-7-79	Bridge No. 2440
	CHK: WHH	CHK: DRA		
Sheet No. 103 of 148 Sheets				

Note:
 End of Trough to be plugged
 with 2" timber or grout.
 Conduit to be covered with
 soil as directed by Engineer.



PLAN
 Scale: 1"=10'

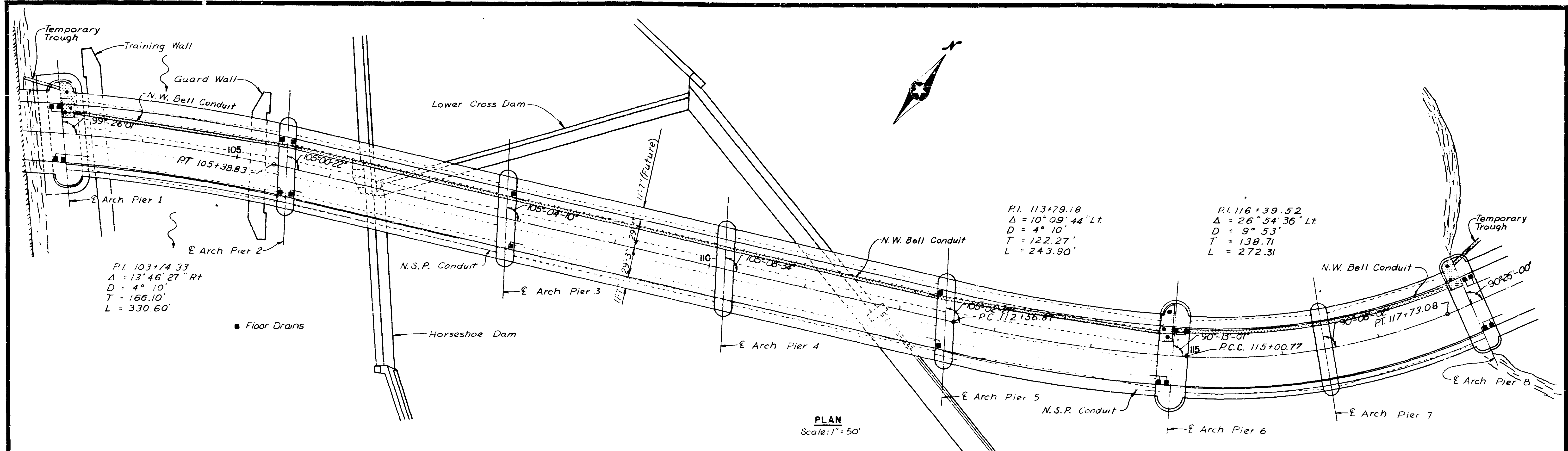
Sheets 104 thru 119 for
 General Information Only
 Unless Otherwise Noted

Note: For Temporary Cable Trough details
 see sheets No. 10 & 11

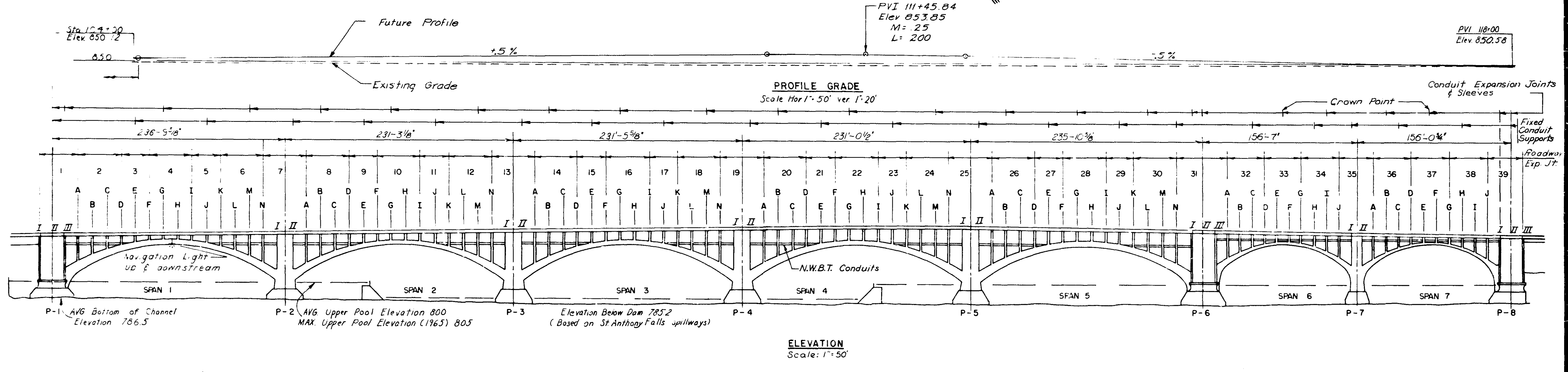
For Typical Pile Bent
 pile height see Sheet 11.

N.W.B.T. CONDUIT SYSTEM 3RD AVE. BRIDGE			
TITLE:	SOUTH APPROACH	DES: <i>RLK</i>	DR: <i>RLK</i>
1 of 16	TEMPORARY CABLE TROUGH	CHK: <i>ROC</i>	CHK: <i>ROC</i>
			APPROVED: 5-7-79
Sheet No. 104 of 148 Sheets			Bridge No. 2440

Revised: 7-23-73
 Revised: 5-24-73



PLAN
Scale: 1" = 50'



PROFILE GRADE
Scale Hor 1" = 50' ver 1" = 20'

ELEVATION
Scale: 1" = 50'

Note: Top of existing arch elevation = 845.3'

Notes: For manhole details @ Arch Piers 1, 6 and 8 see sheets No. 14, 15 and 16. For conduit details see sheets No. 12 and 13. All conduit supports not shown as fixed or expansion shall be assembled with 1" clearance as shown on conduit assembly details.

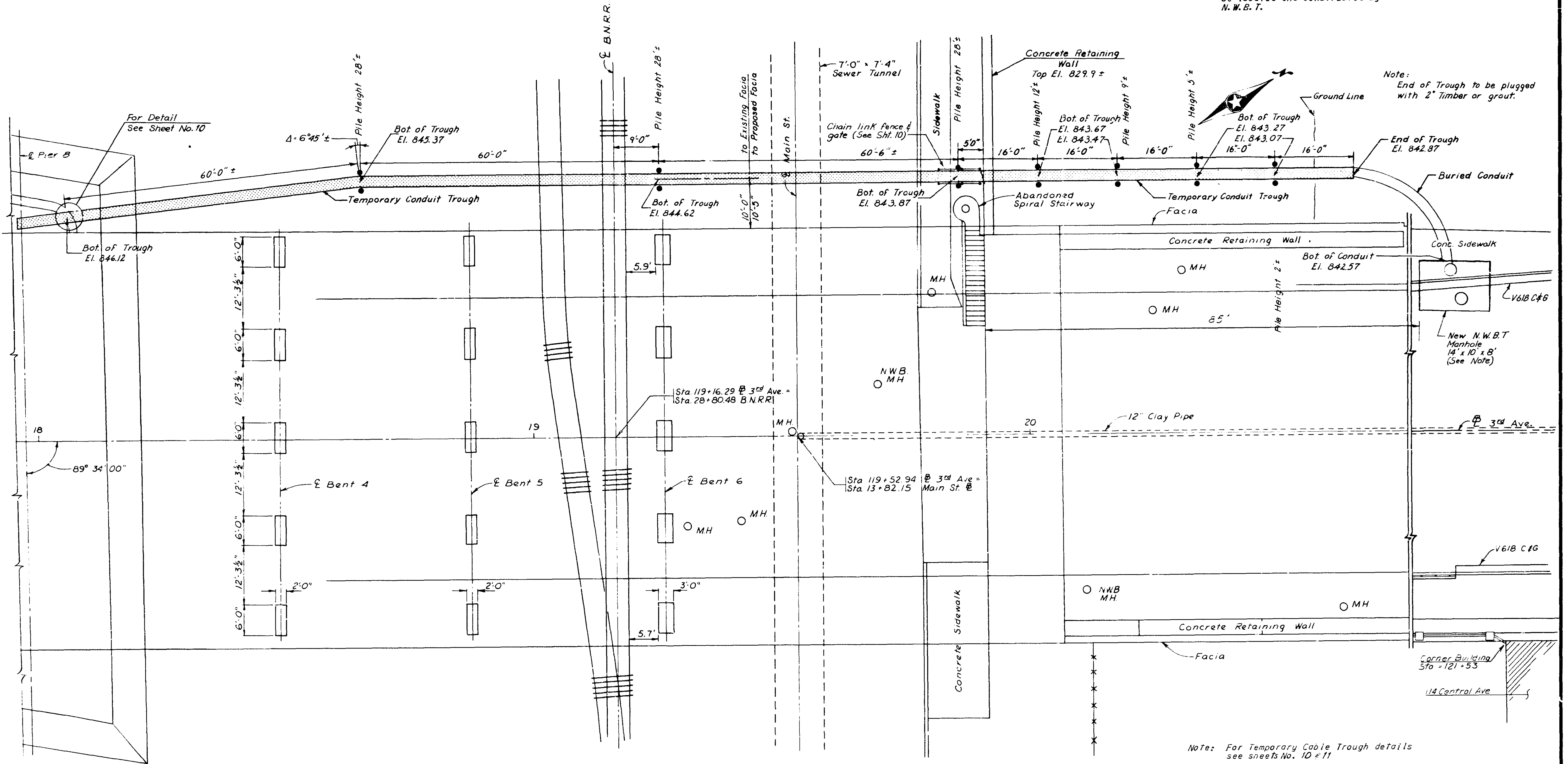
Sheets 104 thru 119 for
General Information Only
Unless Otherwise Noted

N.W.B.T. CONDUIT SYSTEM 3RD AVE. BRIDGE			
TITLE	DES: RLL	DR: RLL	APPROVED:
GENERAL PLAN & ELEVATION	CHK: RAC	CHK: RAC	5-7-79
2 of 16	ARCH SPANS		Bridge No.
	PERMANENT CONDUITS		2440
Sheet No. 105 of 148 Sheets			

Revised: 7-23-73
Revised: 5-25-73

Note: The underground M.H. shall be located and constructed by N.W.B.T.

Note: End of Trough to be plugged with 2" Timber or grout.



Note: For Temporary Cable Trough details see sheets No. 10 & 11

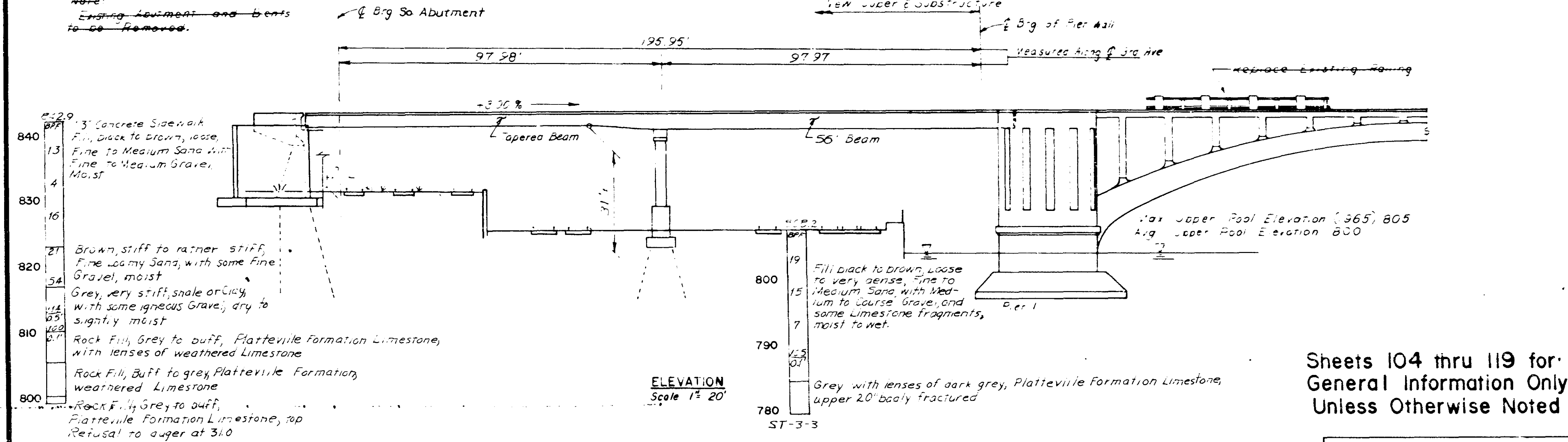
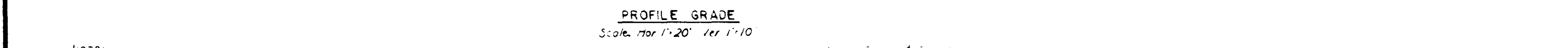
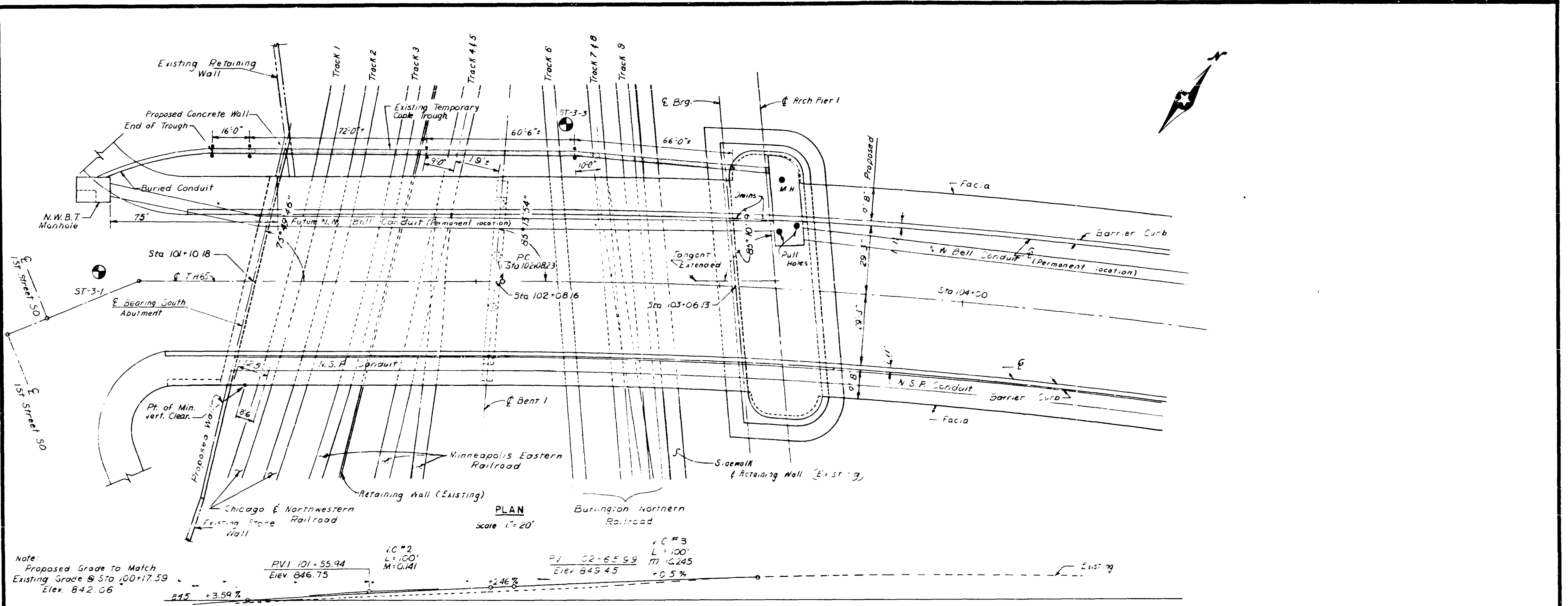
For Typical Pile bent and pile height see Sheet 11.

PLAN
Scale: 1" = 10'

Sheets 104 thru 119 for
General Information Only
Unless Otherwise Noted

Revised: 7-25-73
Revised: 5-25-73

N.W.B.T. CONDUIT SYSTEM 3RD AVE. BRIDGE				
TITLE	NORTH APPROACH	DES. R.L.L.	DR. R.L.L.	APPROVED
3 of 16	TEMPORARY CABLE TROUGH	CHK. R.O.C.	CHK. R.O.C.	5-7-79
Sheet No. 106 of 148 Sheets				Bridge No. 2440

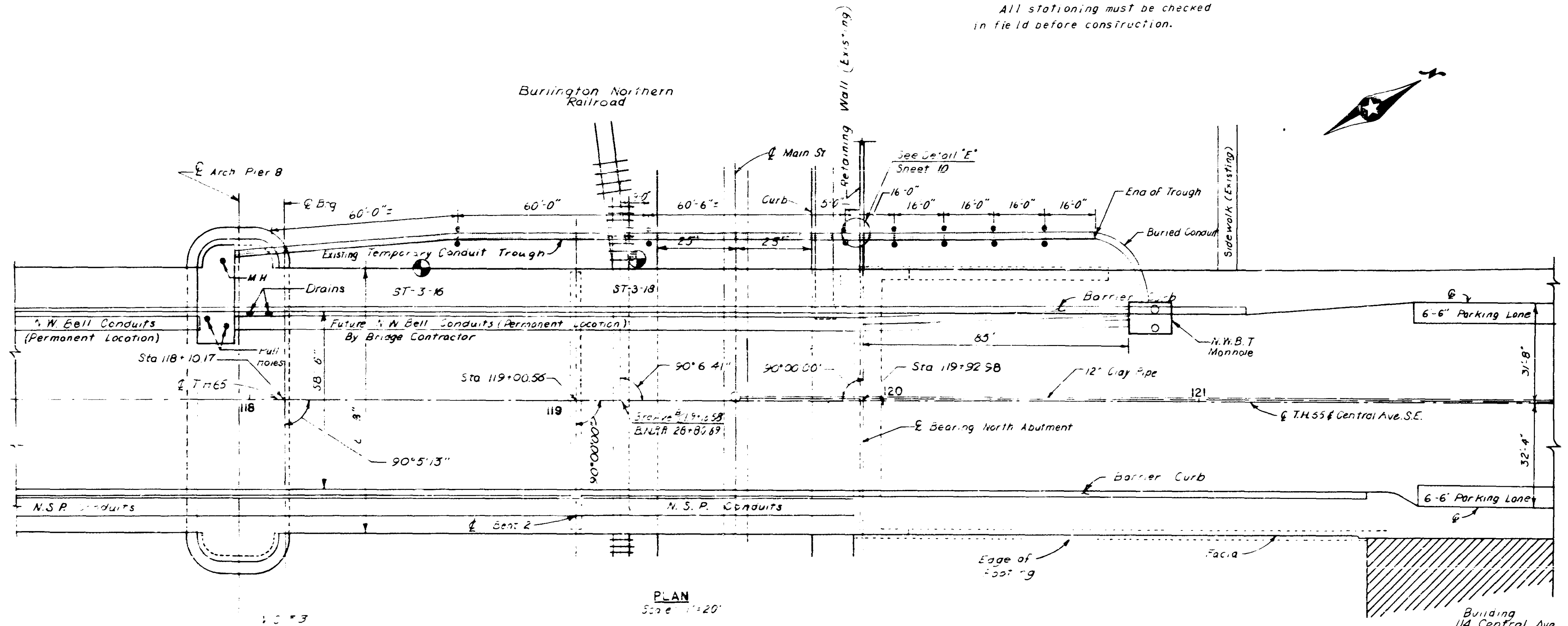
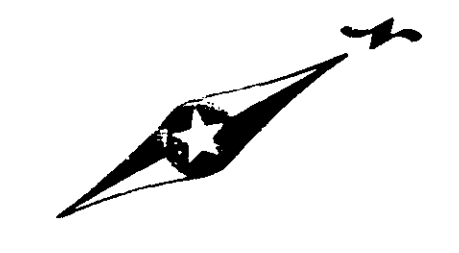


Sheets 104 thru 119 for
General Information Only
Unless Otherwise Noted

N.W.B.T. CONDUIT SYSTEM 3RD AVE. BRIDGE			
TITLE	DES. <i>R.L.</i>	DR. <i>R.L.</i>	APPROVED:
4 of 16	CHK. <i>R.O.C.</i>	CHK. <i>R.O.C.</i>	5-7-79
PLAN & ELEVATION SOUTH APPROACH FUTURE PERMANENT CONDUIT			Bridge No. 2440
Sheet No. 107 of 148 Sheets			

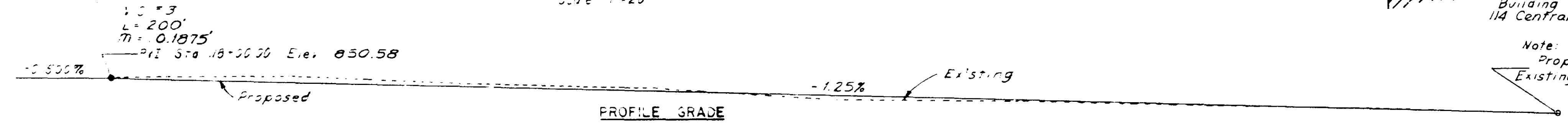
Revised: 7-23-73
Revised: 5-25-73

Note:
All stationing must be checked
in field before construction.



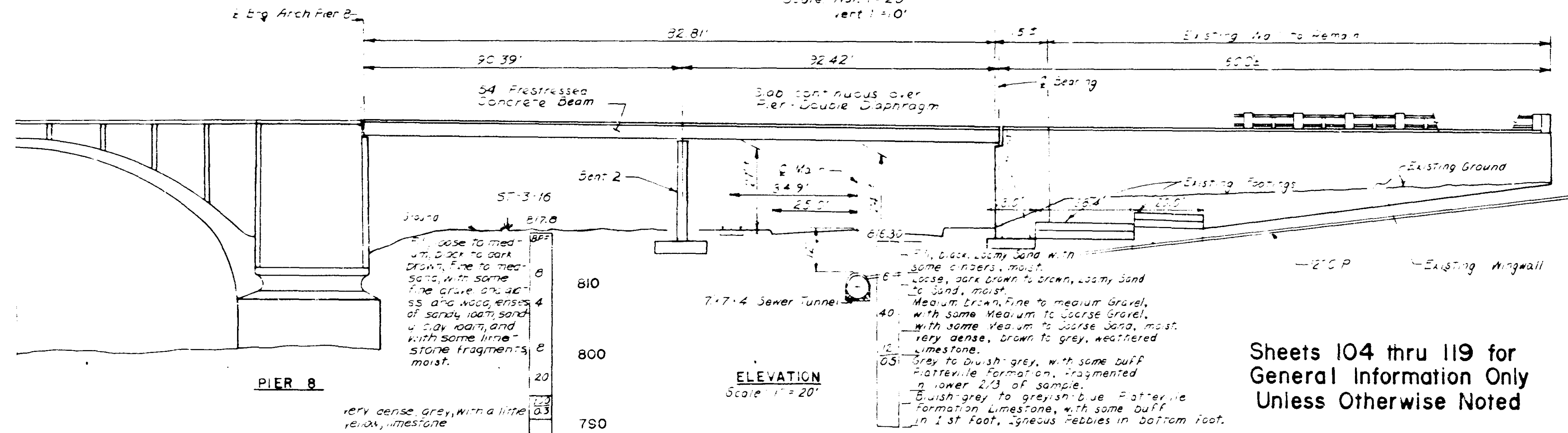
PLAN
Scale 1" = 20'

Note:
Existing & Proposed Grade
Elevations Are Identical @ Sta 118+00



PROFILE GRADE
Scale Horiz. 1" = 20'
Vert. 1" = 4'

Note:
Proposed Grade to Match
Existing Grade @ Sta 122+00.00
Elev. 845.58



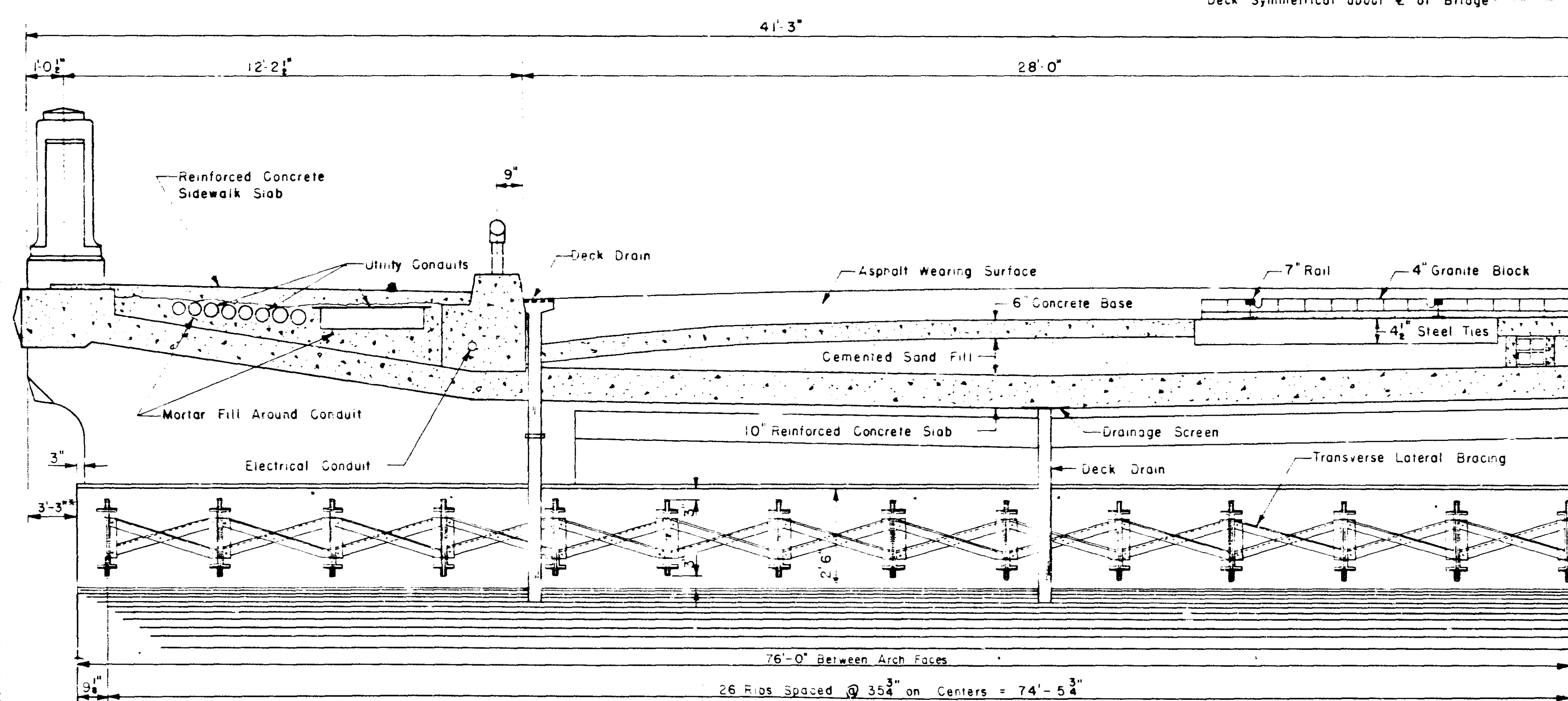
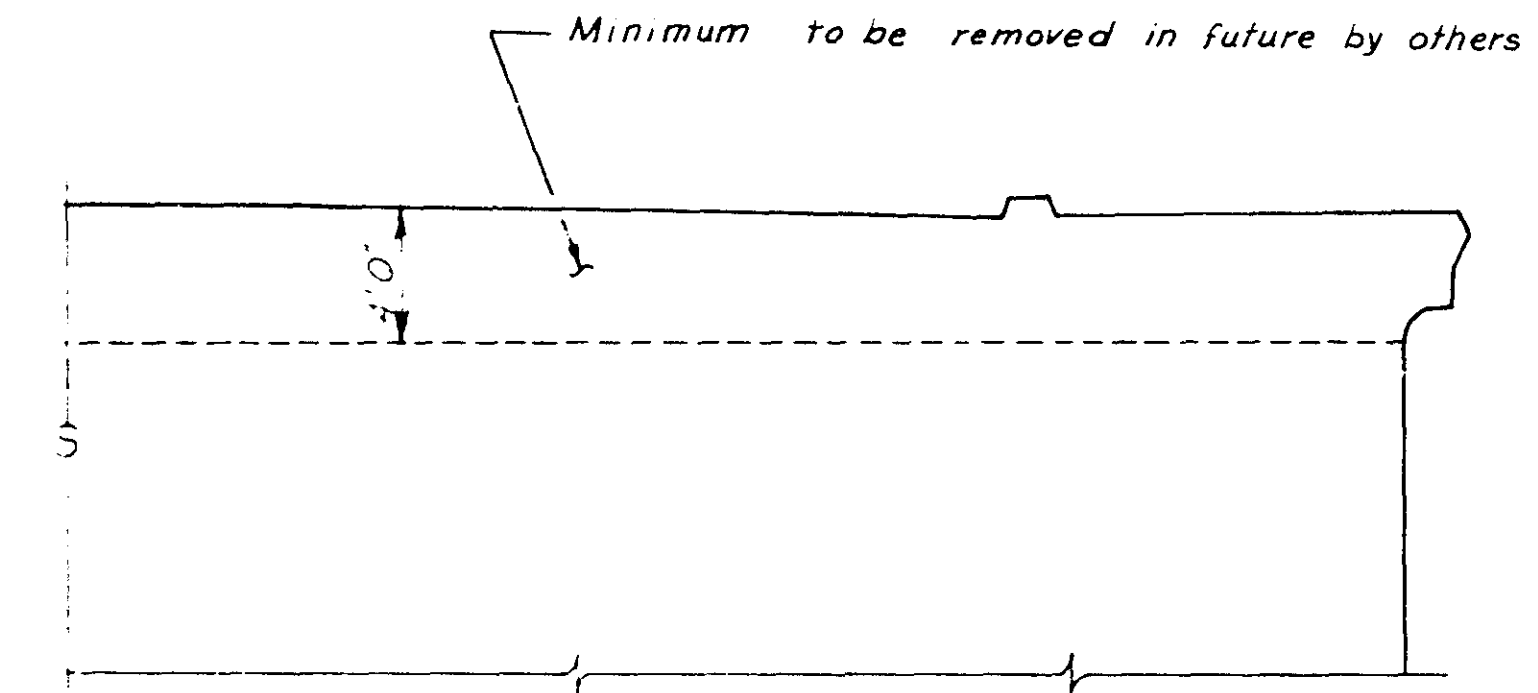
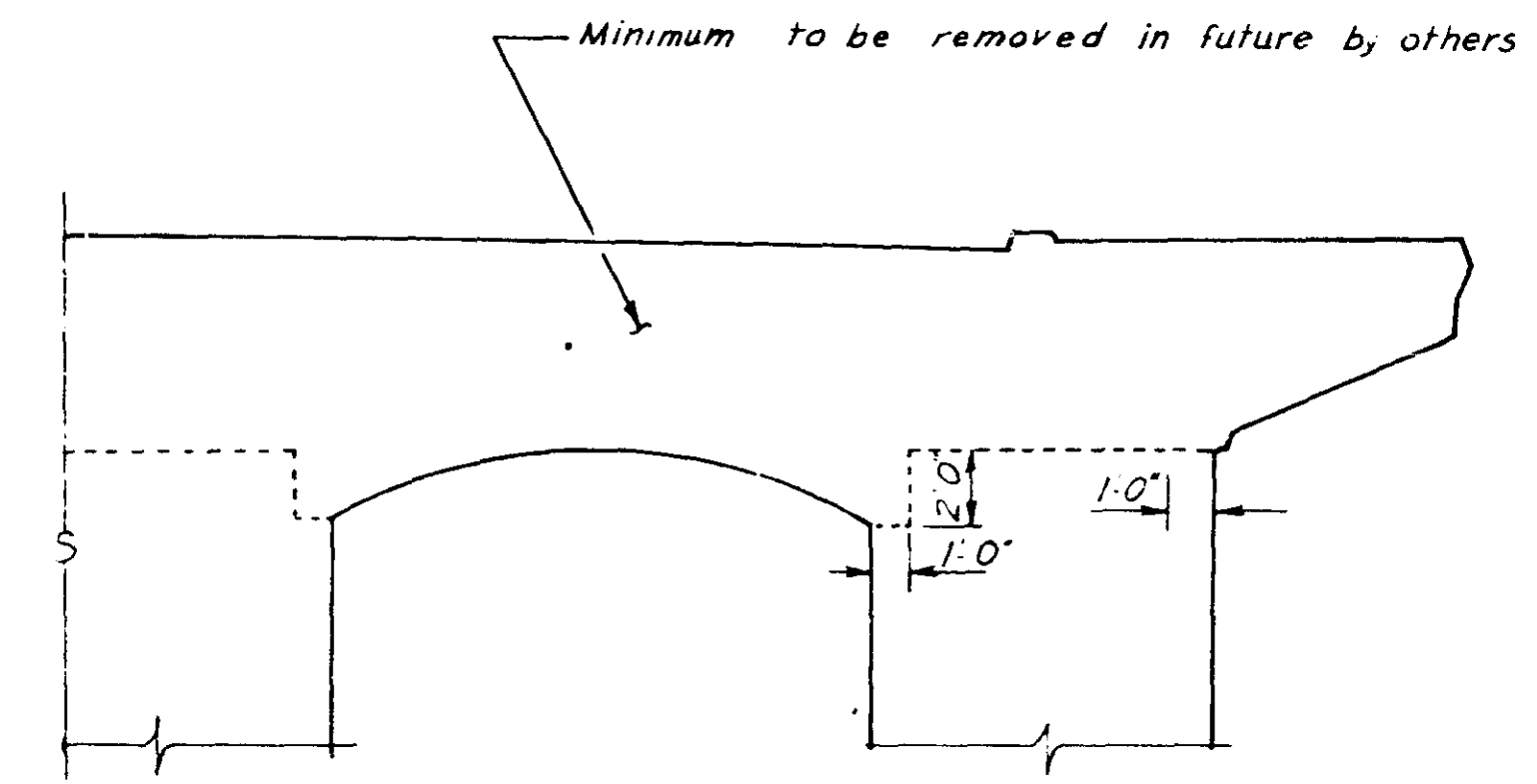
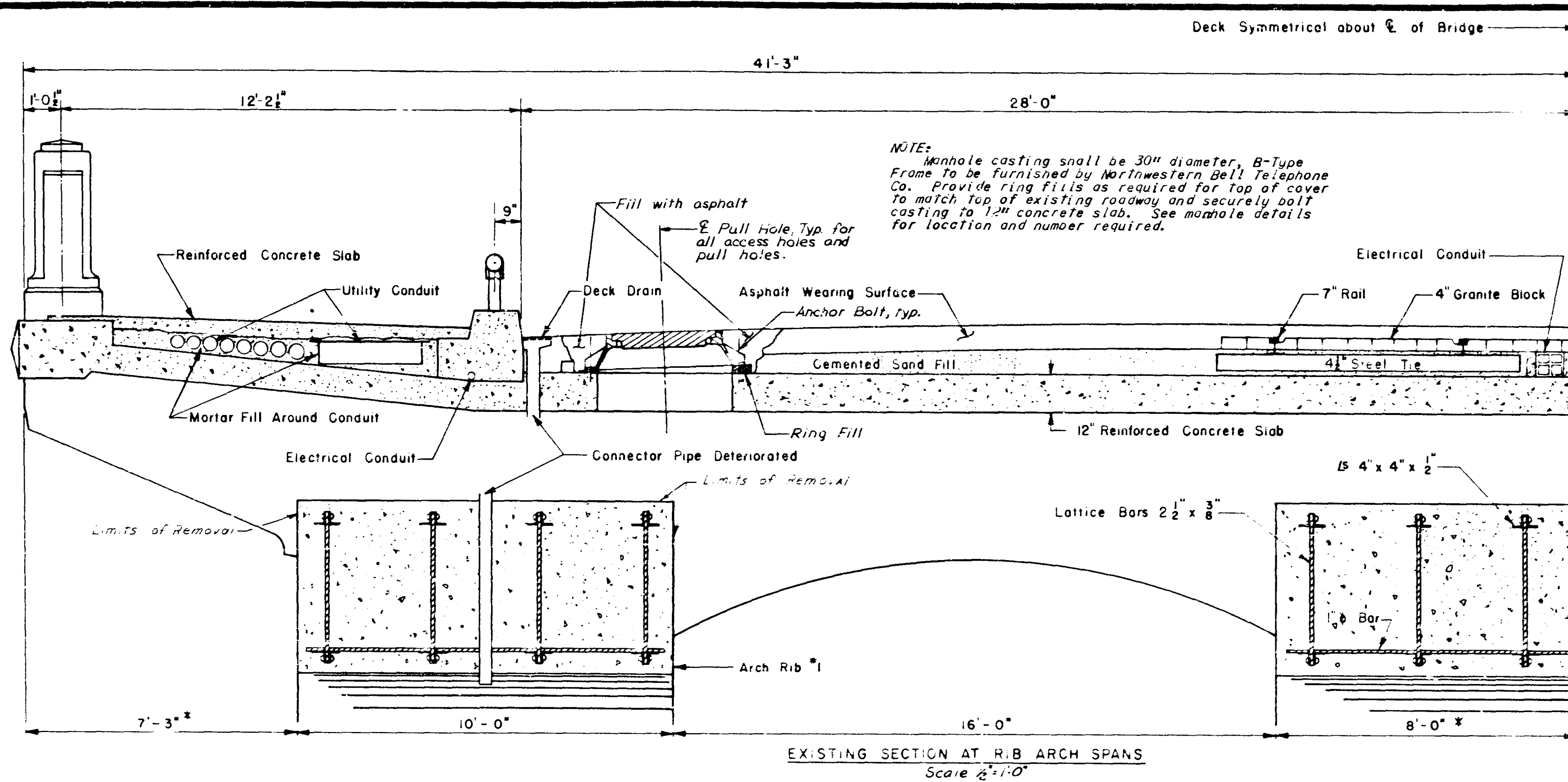
ELEVATION
Scale 1" = 20'

Sheets 104 thru 119 for
General Information Only
Unless Otherwise Noted

very dense grey, with a little
yellow, limestone
Buff and grey - Plattville
Formation limestone, frag-
mented in lower portion
Gray Plattville Formation
limestone with thin inter-
bedding of shale fragments
Average Refusal 26.5'

Revised: 7-23-73
Revised: 5-25-73

N.W.B.T. CONDUIT SYSTEM 3RD AVE. BRIDGE			
TITLE	DES:	DR:	APPROVED:
5 of 16 GENERAL PLAN & ELEVATION NORTH APPROACH FUTURE PERMANENT CONDUIT	CHK: R.O.C.	CHK: R.O.C.	5-7-79
Sheet No. 108 of 148 Sheets			Bridge No. 2440



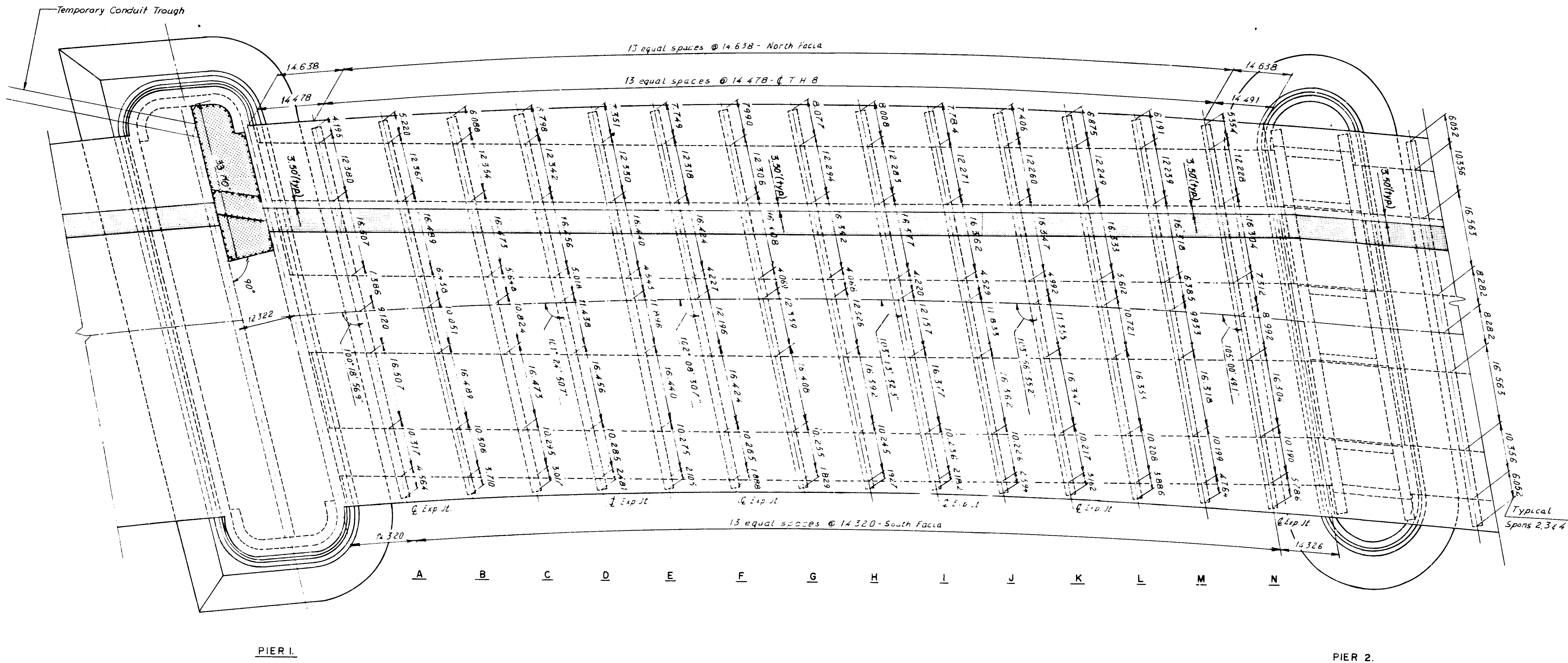
Note:
Existing data obtained from old construction plans & is not guaranteed to be correct.

* Varies on the curve

Sheets 104 thru 119 for
General Information Only
Unless Otherwise Noted

N.W.B.T. CONDUIT SYSTEM 3RD AVE. BRIDGE				
TITLE	DES W/H/H	DR L/D/H	APPROVED	Bridge No.
6 of 16	CHK <i>RL</i>	CHK <i>RL</i>	5-7-79	2440
Sheet No. 109 of 148 Sheets				

Revised: 7-23-73



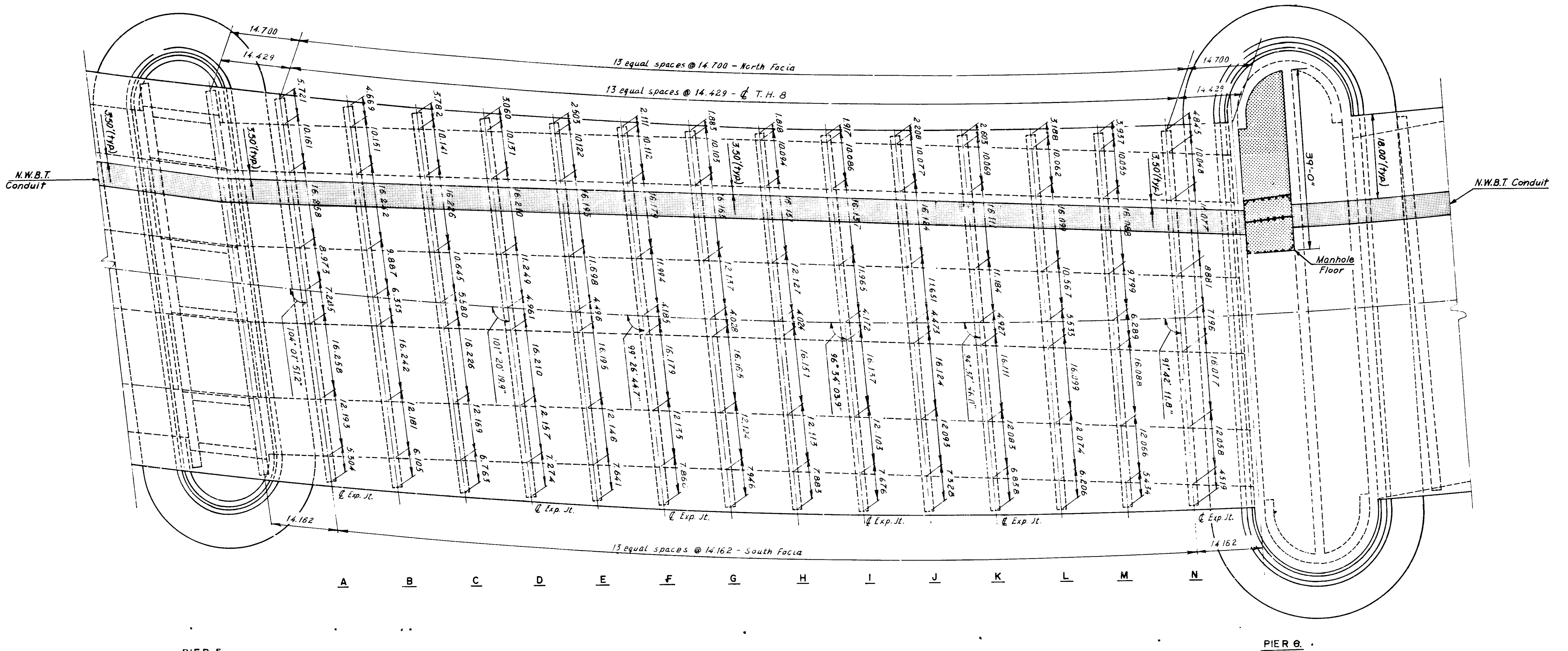
SPAN I.
Not to Scale

Sheets 104 thru 119 for
General Information Only
Unless Otherwise Noted

Revised: 7-24-73
Revised: 5-25-73

N.W.B.T. CONDUIT SYSTEM 3RD AVE. BRIDGE			
TITLE:	DES: CNS	DR: GS	APPROVED
HORIZONTAL GEOMETRY DETAILS	CHK: RLL	CHK: RLL	5-7-79
7 of 16	SHEET 1 OF 3		Bridge No. 2440
			Sheet No. 110 of 148 Sheets

THIS DOCUMENT WAS PREPARED BY THE UNIVERSITY OF CALIFORNIA, BERKELEY, UNDER CONTRACT NO. D-11-1-69-100-001 FOR THE FEDERAL BUREAU OF INVESTIGATION, U.S. DEPARTMENT OF JUSTICE. THE UNIVERSITY OF CALIFORNIA, BERKELEY, IS NOT RESPONSIBLE FOR ANY ERRORS OR OMISSIONS THAT MAY APPEAR HEREIN.



PIER 5.

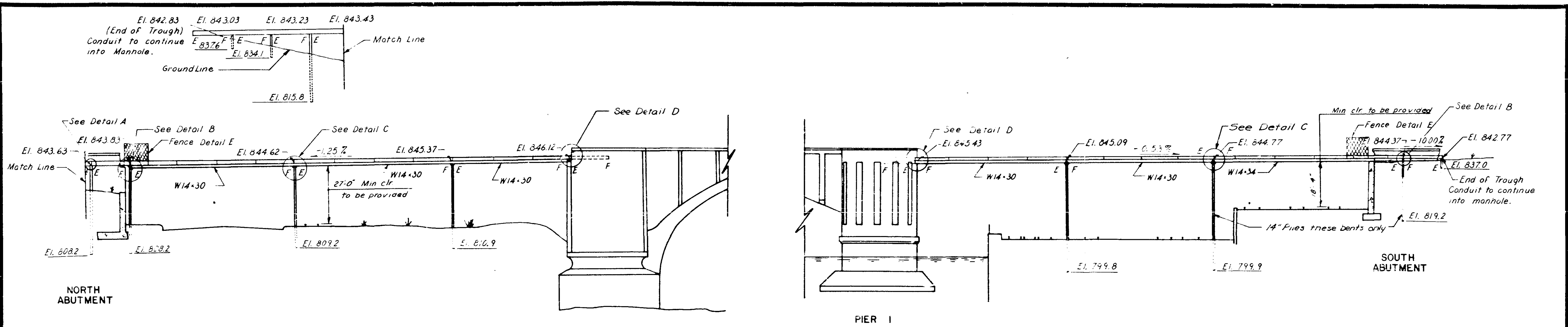
PIER 6.

SPAN 5.
Not to Scale

Sheets 104 thru 119 for
General Information Only
Unless Otherwise Noted

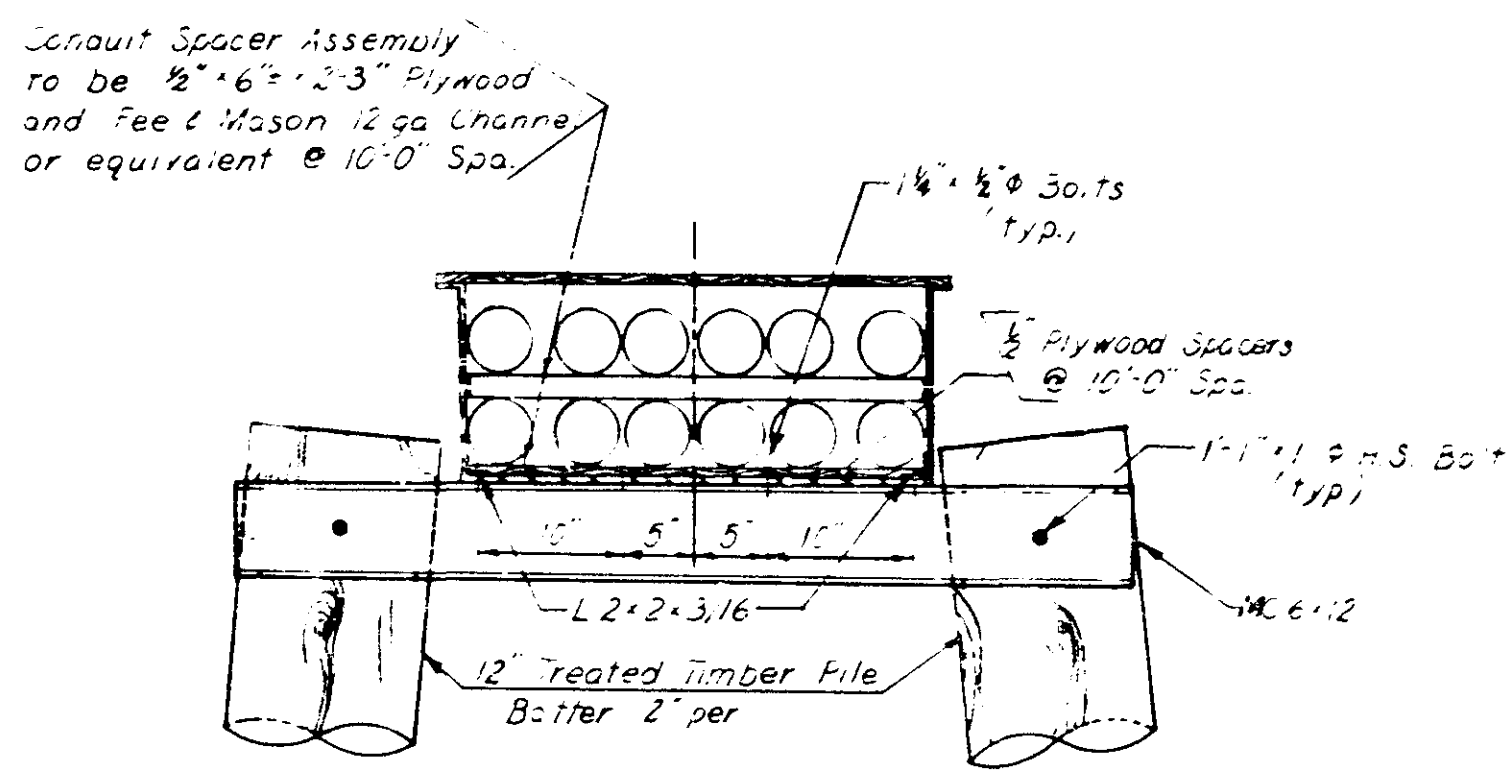
Revised: 7-24-73
Revised: 5-25-73

N.W.B.T. CONDUIT SYSTEM 3RD AVE. BRIDGE				Bridge No. 2440
TITLE: HORIZONTAL GEOMETRY DETAILS 8 of 16	DES: CWS CHK: RLL	DR: GS CHK: RLL	APPROVED: 5-7-79	
SHEET 2 OF 3			Sheet No. 111 of 148 Sheets	

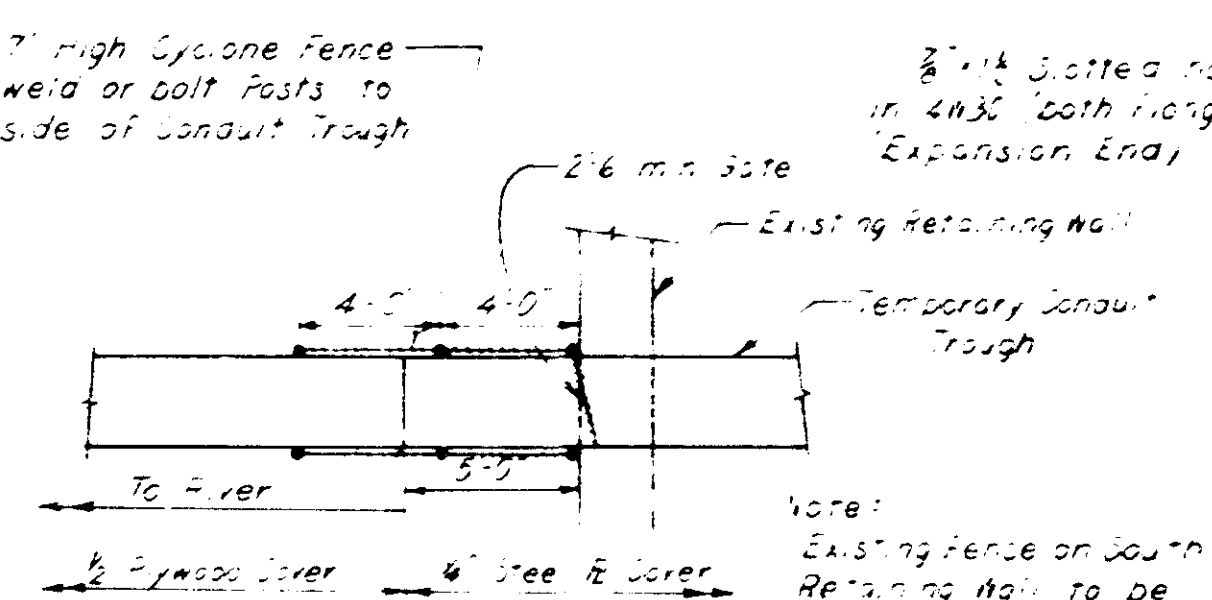


**TEMPORARY CONDUIT TROUGH ELEVATION
NORTH APPROACH**
Scale: 1" = 20'

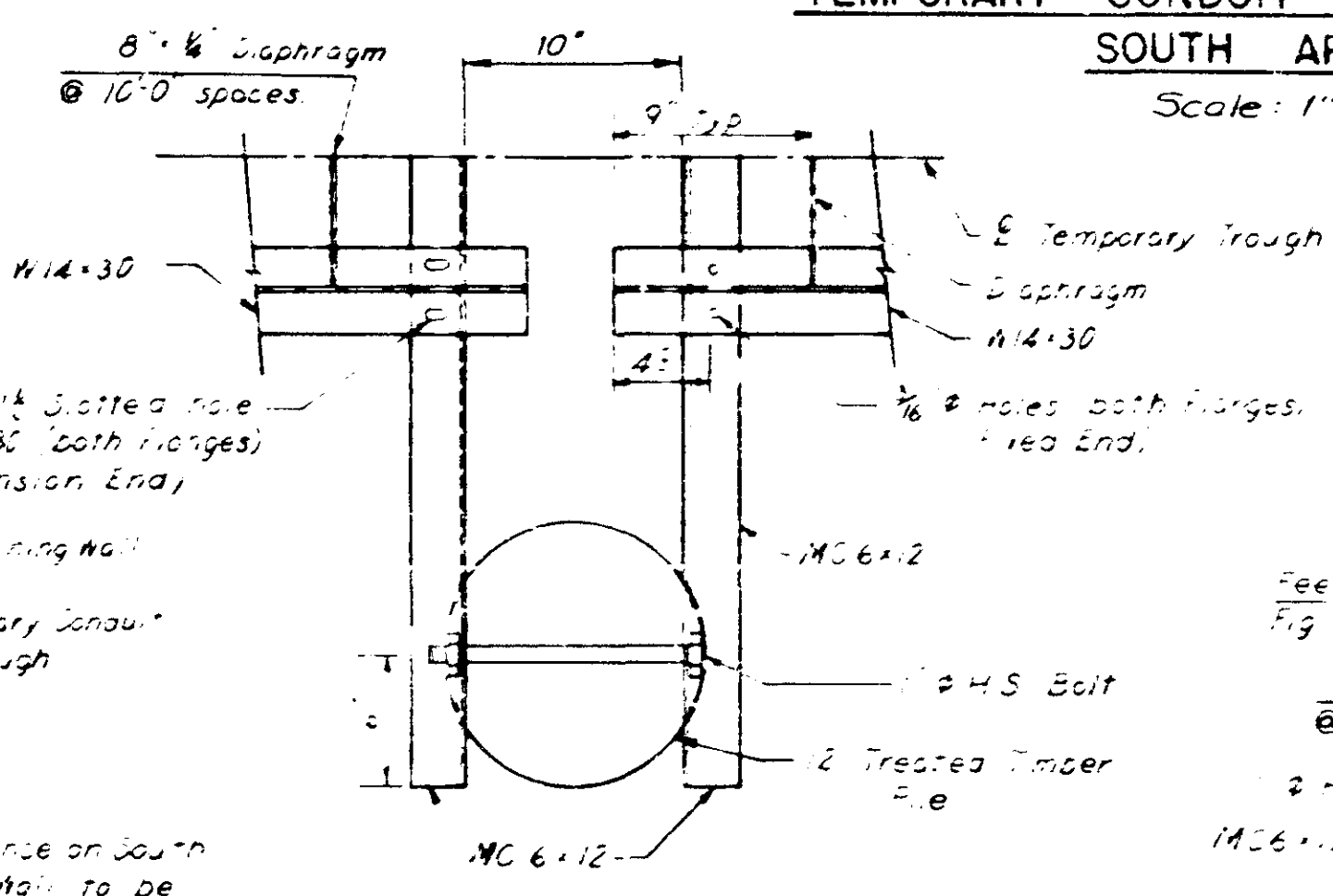
**TEMPORARY CONDUIT TROUGH ELEVATION
SOUTH APPROACH**
Scale: 1" = 20'



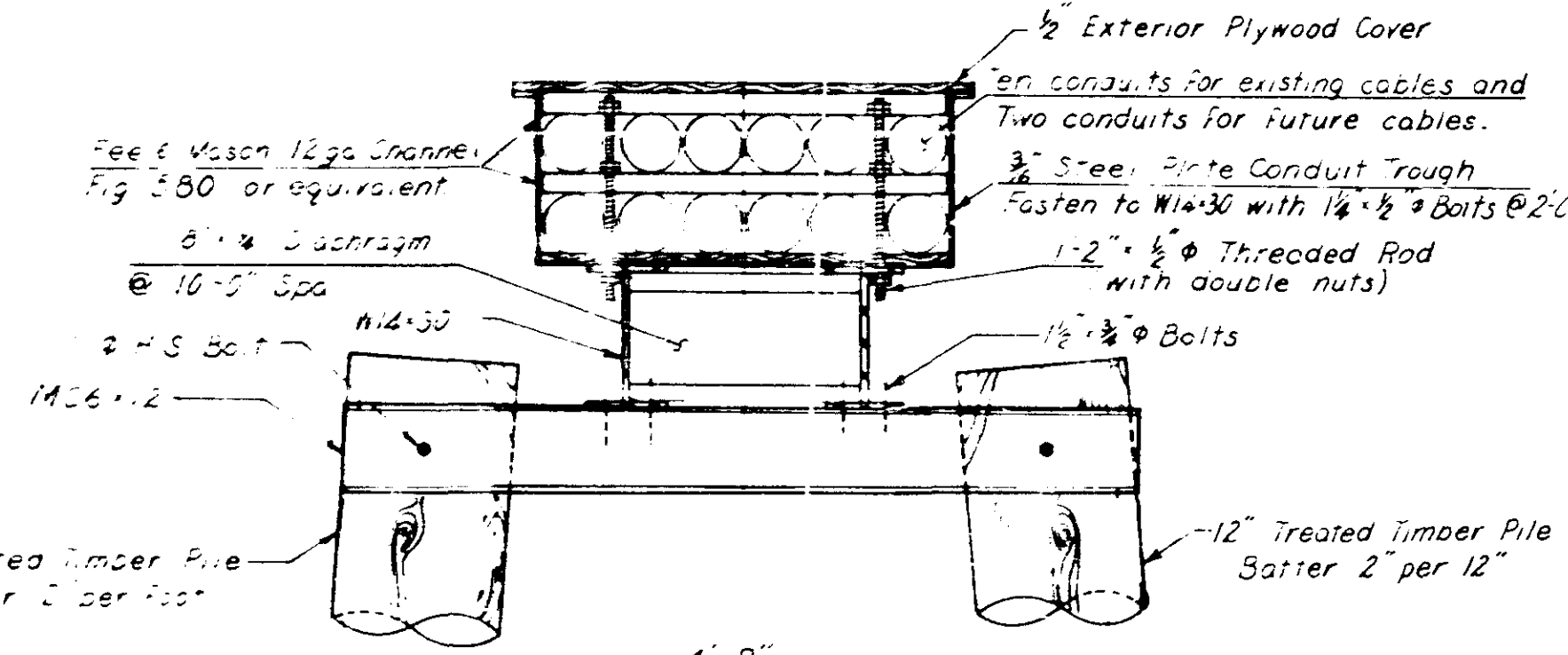
SECTION A-A
Scale: 1" = 1'-0"



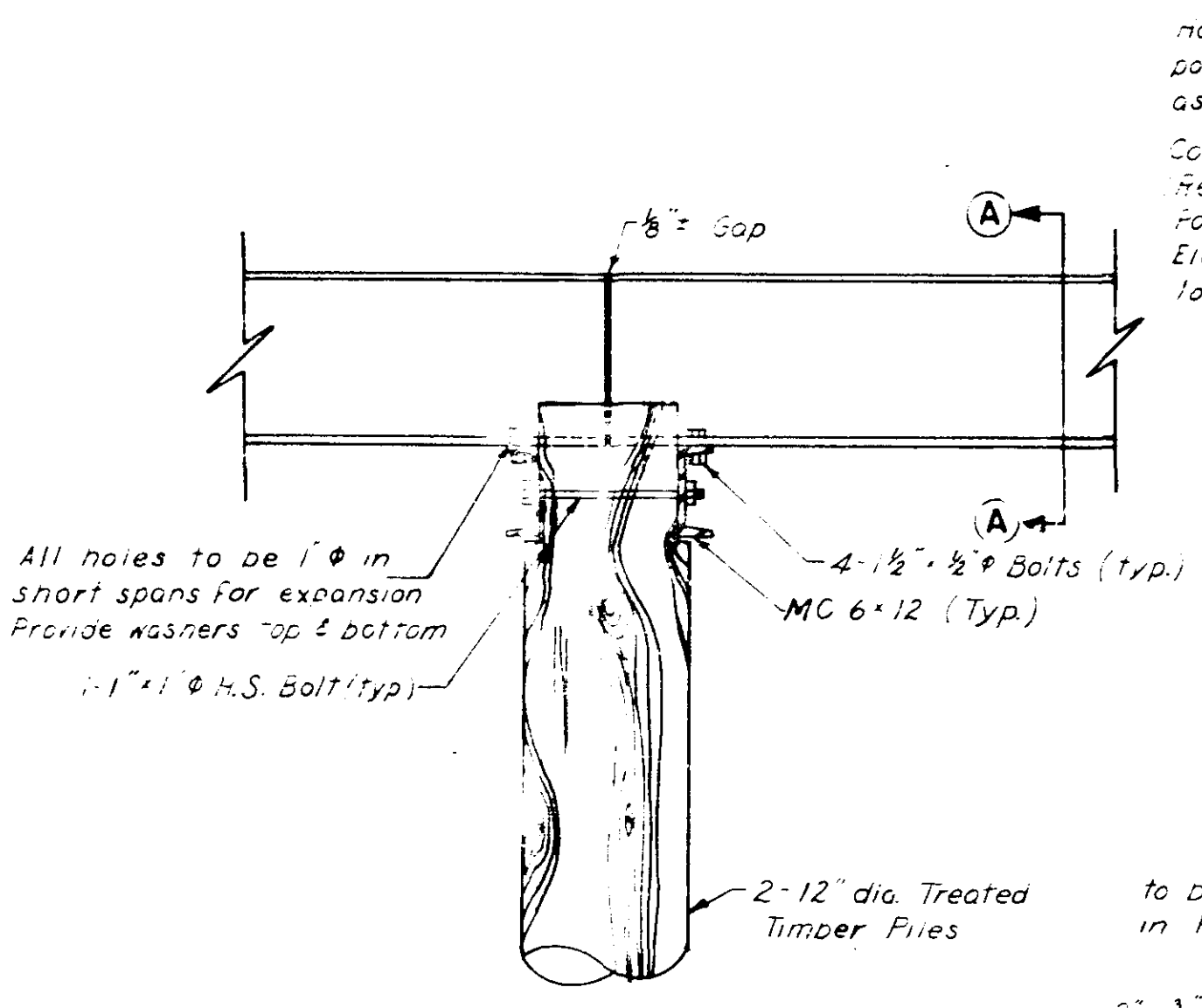
DETAIL E
Scale: 1/2" = 1'-0"



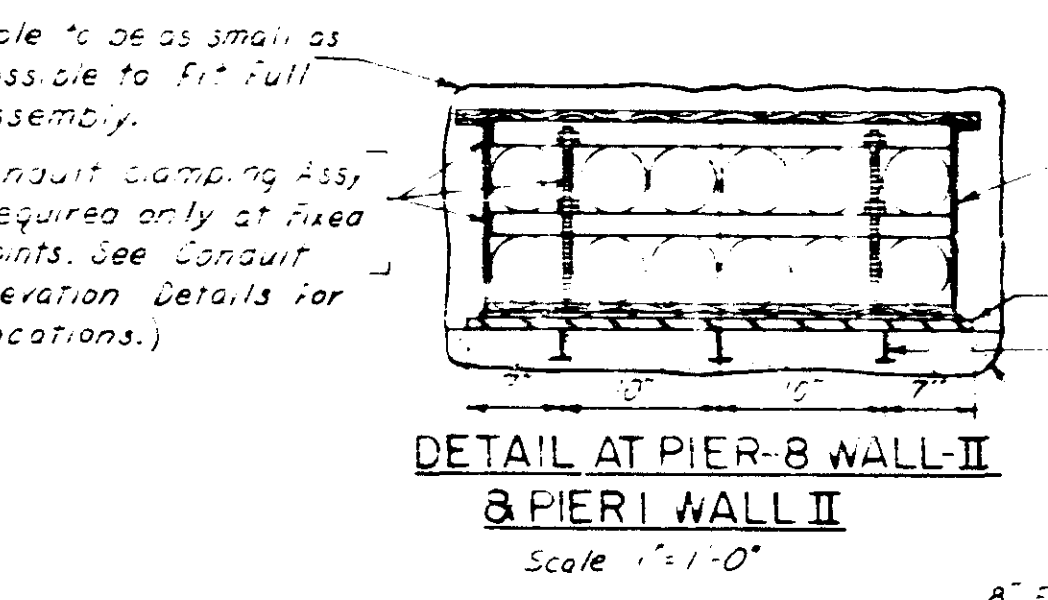
SECTION D-D
Scale: 2" = 1'-0"



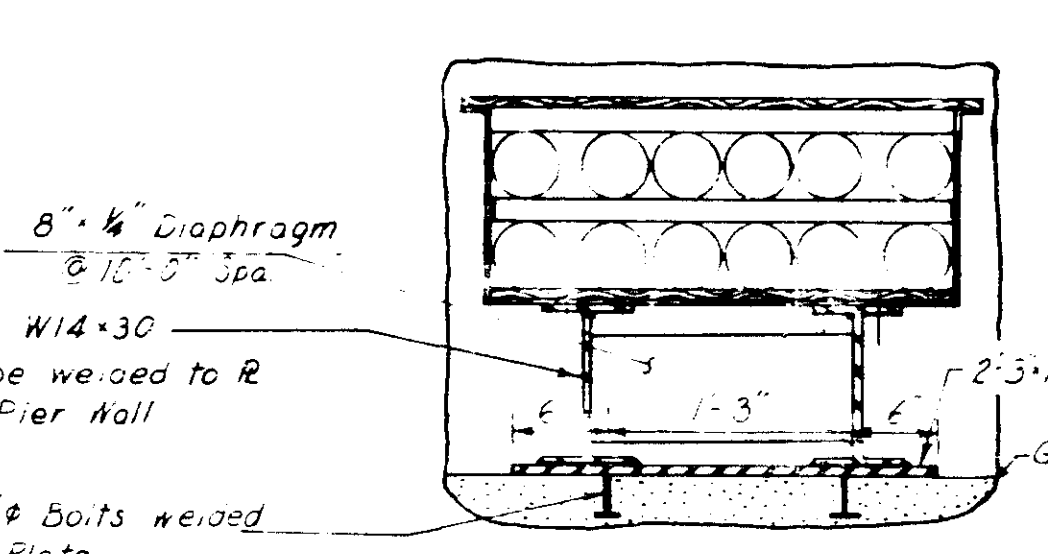
SECTION C-C
Scale: 1" = 1'-0"



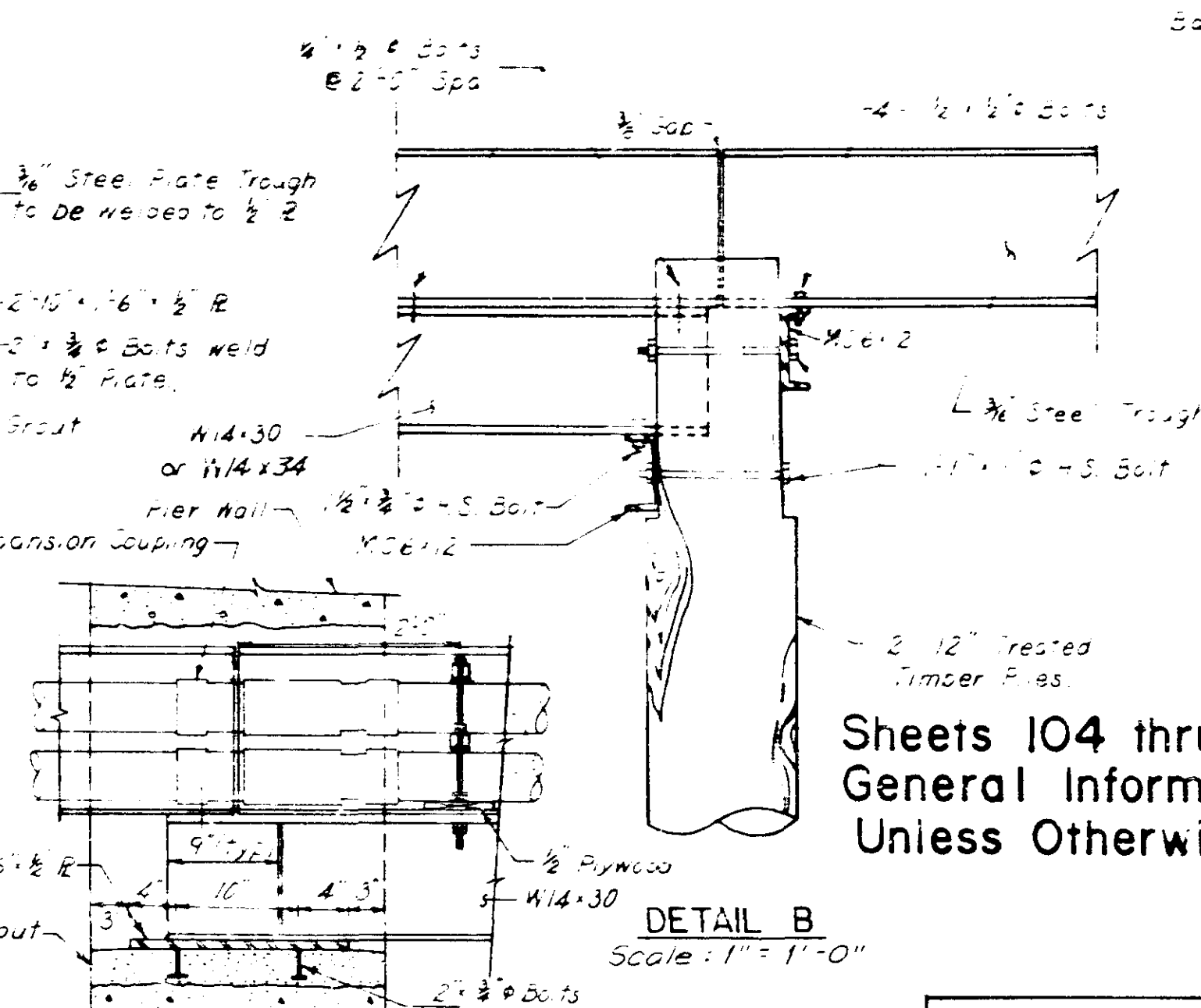
DETAIL A
Scale: 1" = 1'-0"



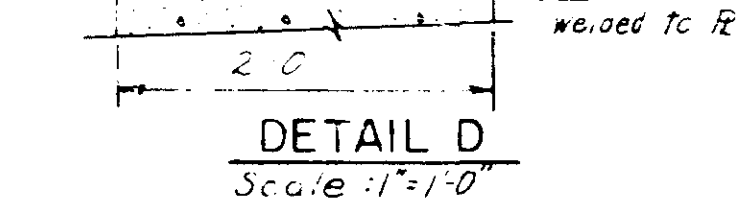
DETAIL AT PIER-8 WALL-II & PIER I WALL II
Scale: 1/2" = 1'-0"



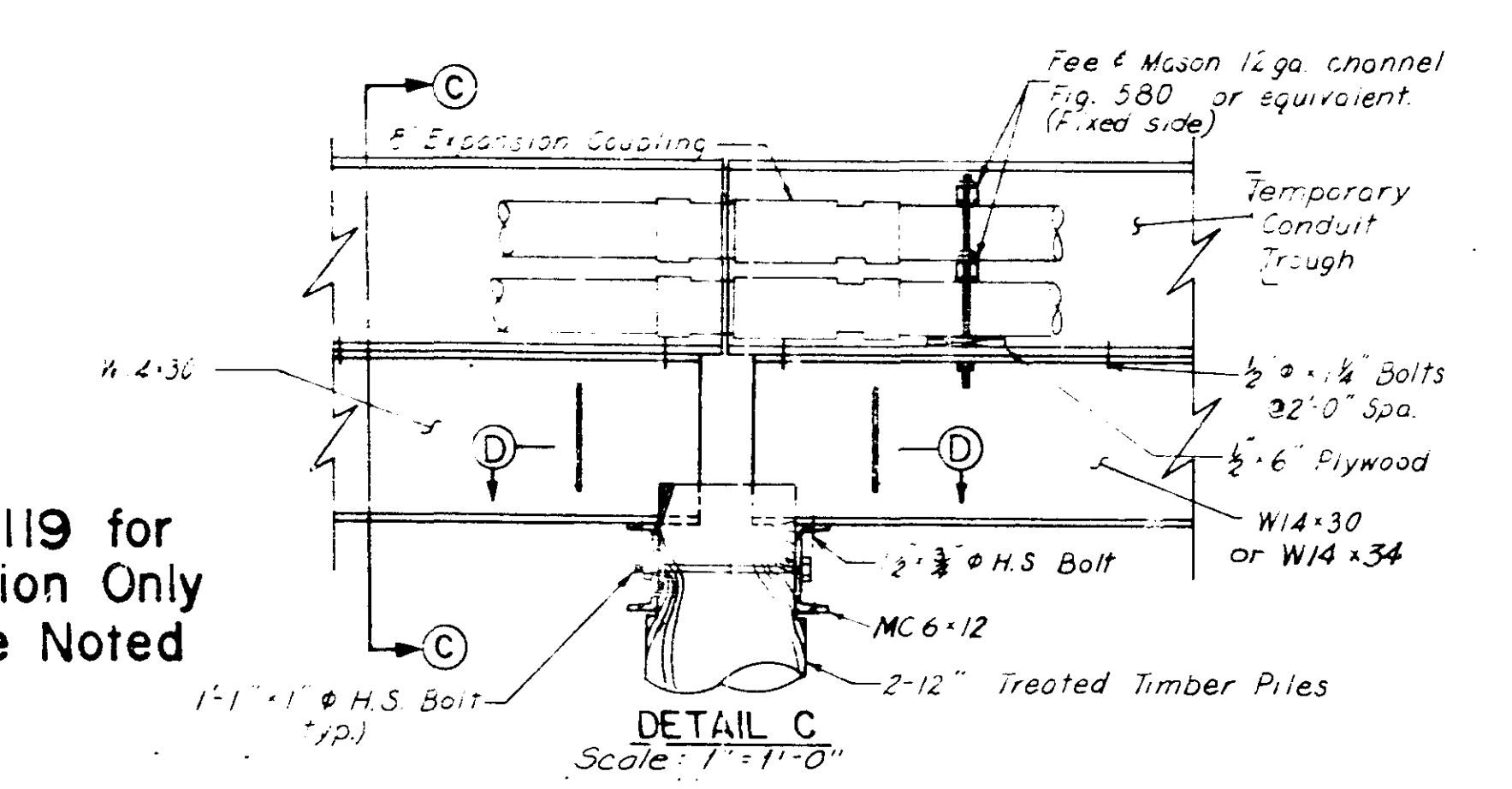
DETAIL AT PIER-1 WALL-I & PIER 8-WALL III
Scale: 1/2" = 1'-0"



DETAIL B
Scale: 1" = 1'-0"



DETAIL D
Scale: 1" = 1'-0"

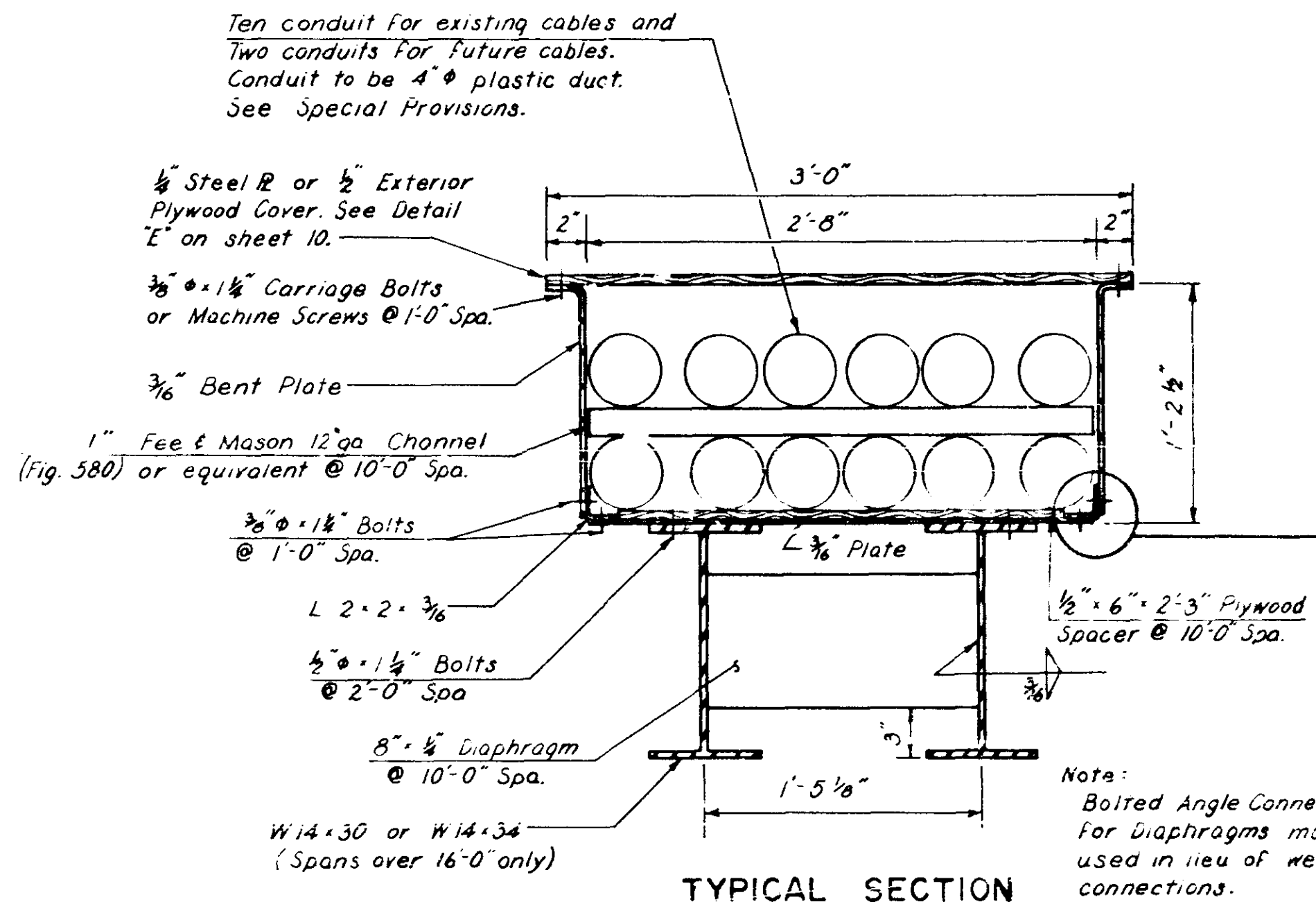


DETAIL C
Scale: 1" = 1'-0"

Sheets 104 thru 119 for
General Information Only
Unless Otherwise Noted

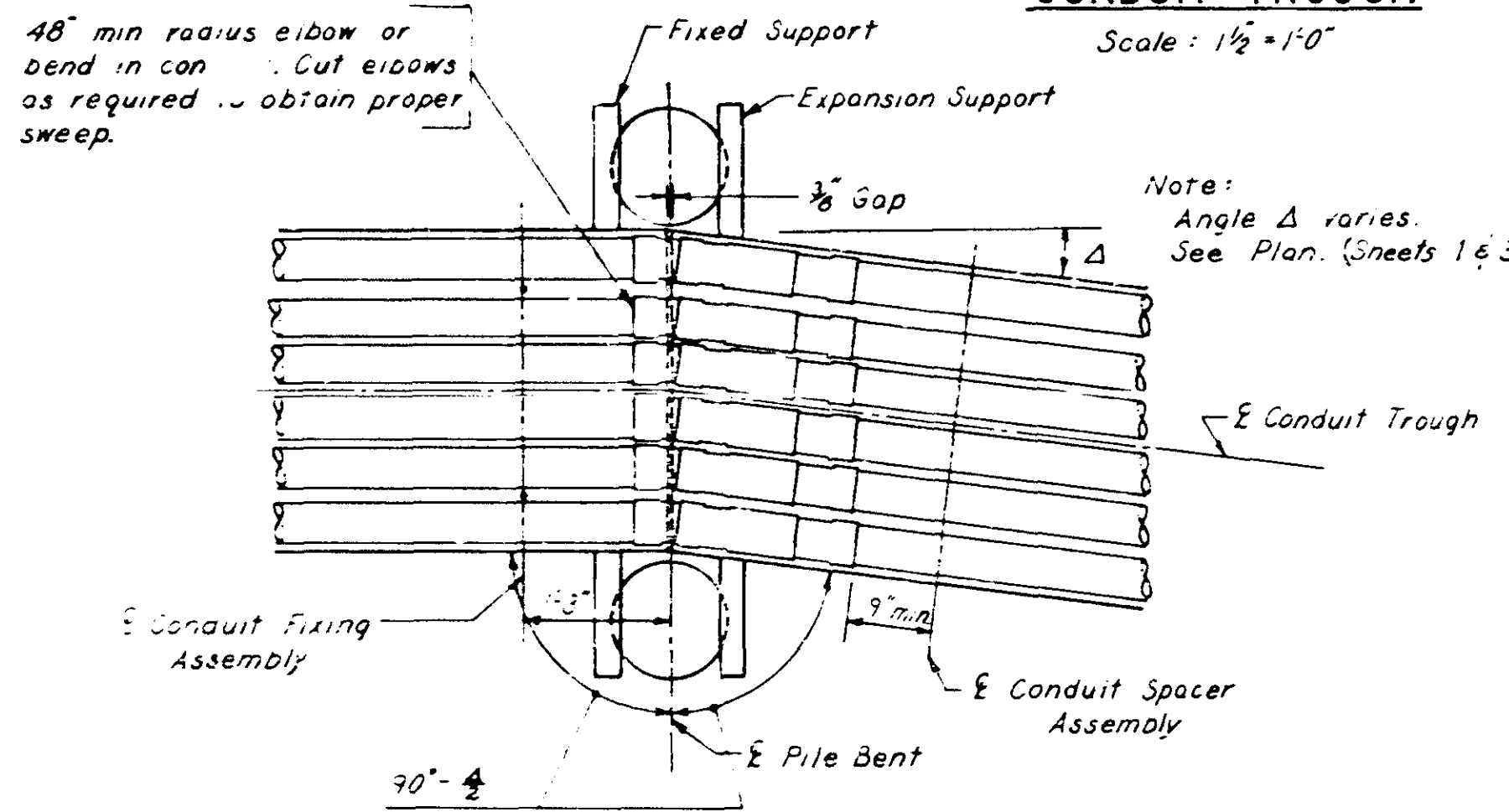
N.W.B.T. CONDUIT SYSTEM 3RD AVE. BRIDGE			
TITLE:	DES: <i>R.L.C.</i>	DR: <i>R.L.C.</i>	APPROVED:
10 of 16 TEMPORARY CONDUIT SYSTEM NORTH AND SOUTH APPROACH	CHK: <i>ROC</i>	CHK: <i>ROC</i>	5-7-79
Sheet No. 113 of 148 Sheets			Bridge No. 2440

Revised 7-24-73
Revised: 5-25-73

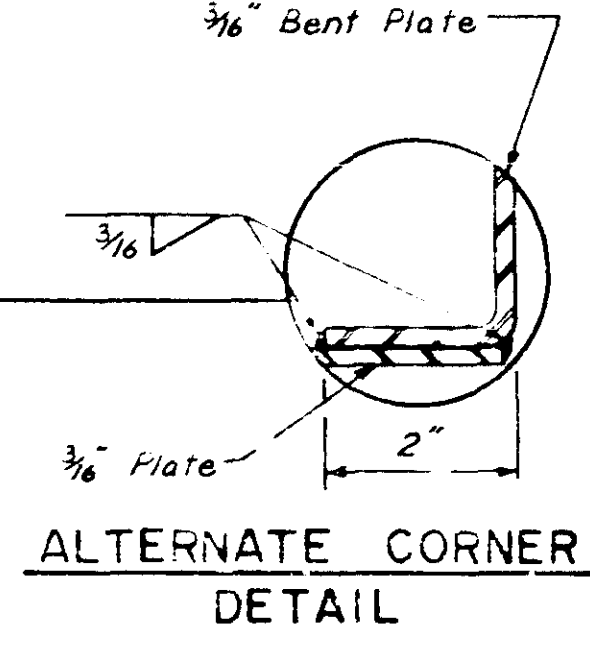


TYPICAL SECTION CONDUIT TROUGH
Scale: 1/2" = 1'-0"

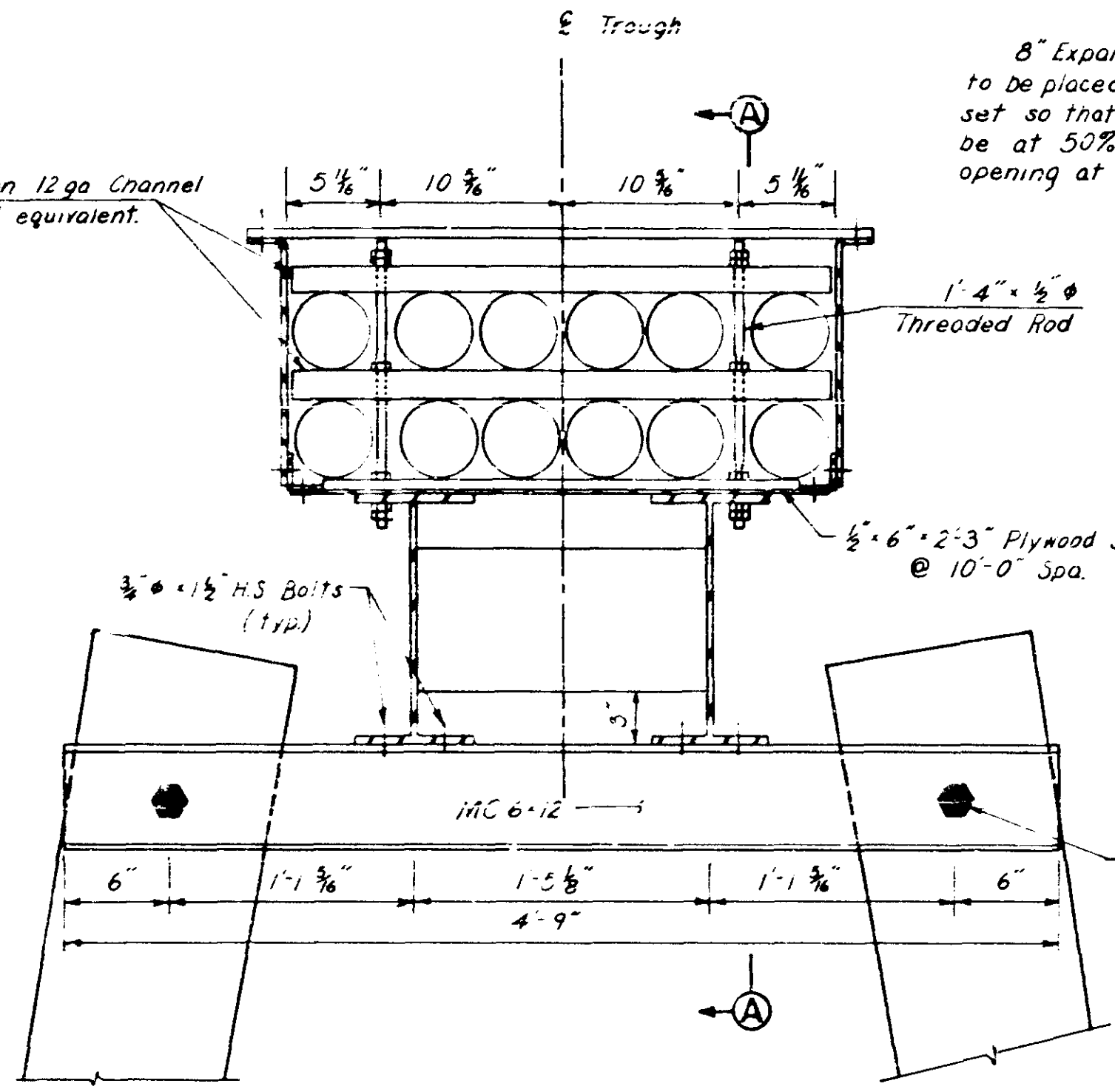
Note: Bolted Angle Connections for Diaphragms may be used in lieu of welded connections.



EXPANSION JOINT DETAIL AT BEND IN CONDUIT TROUGH
Scale: 3/8" = 1'-0"

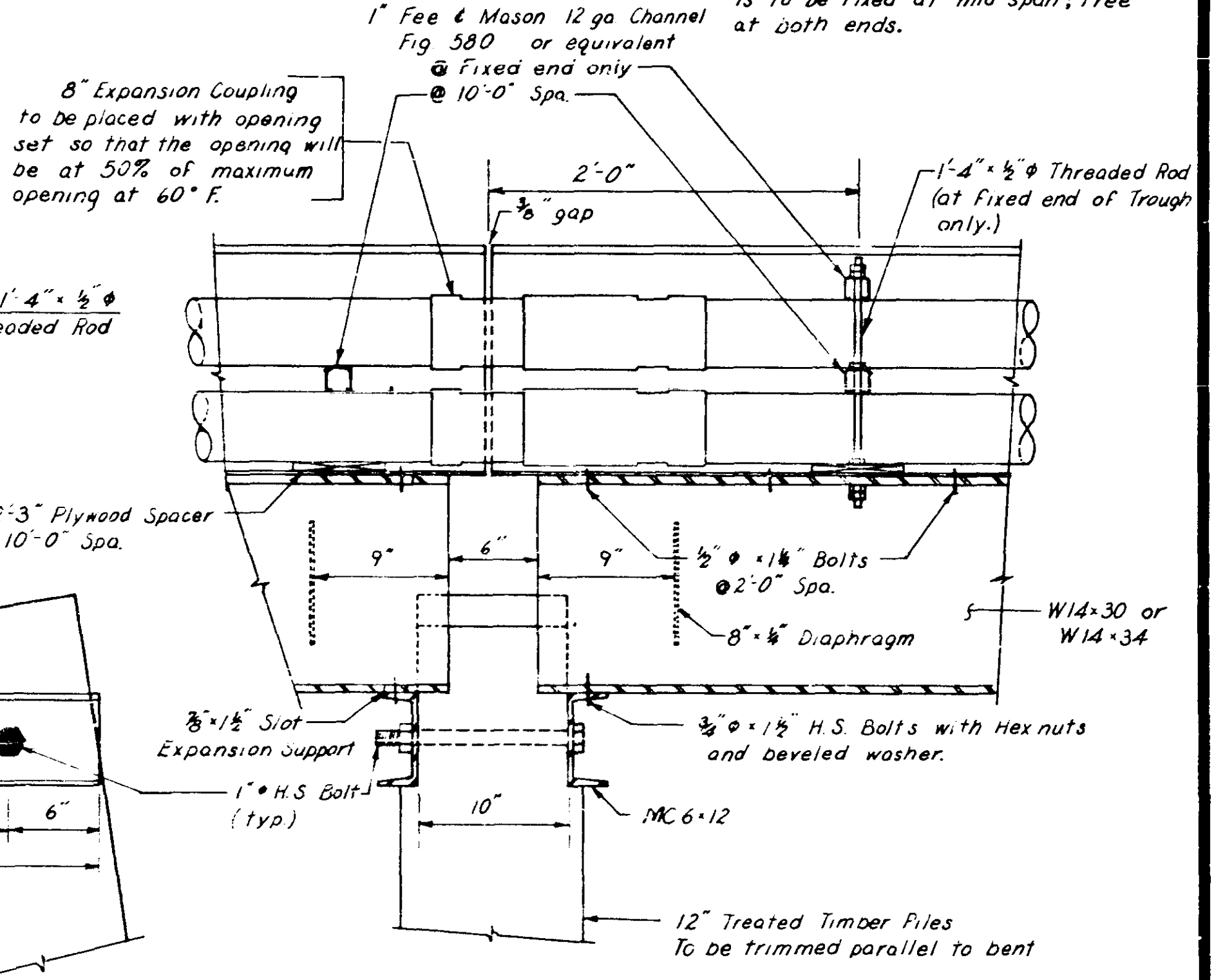


ALTERNATE CORNER DETAIL

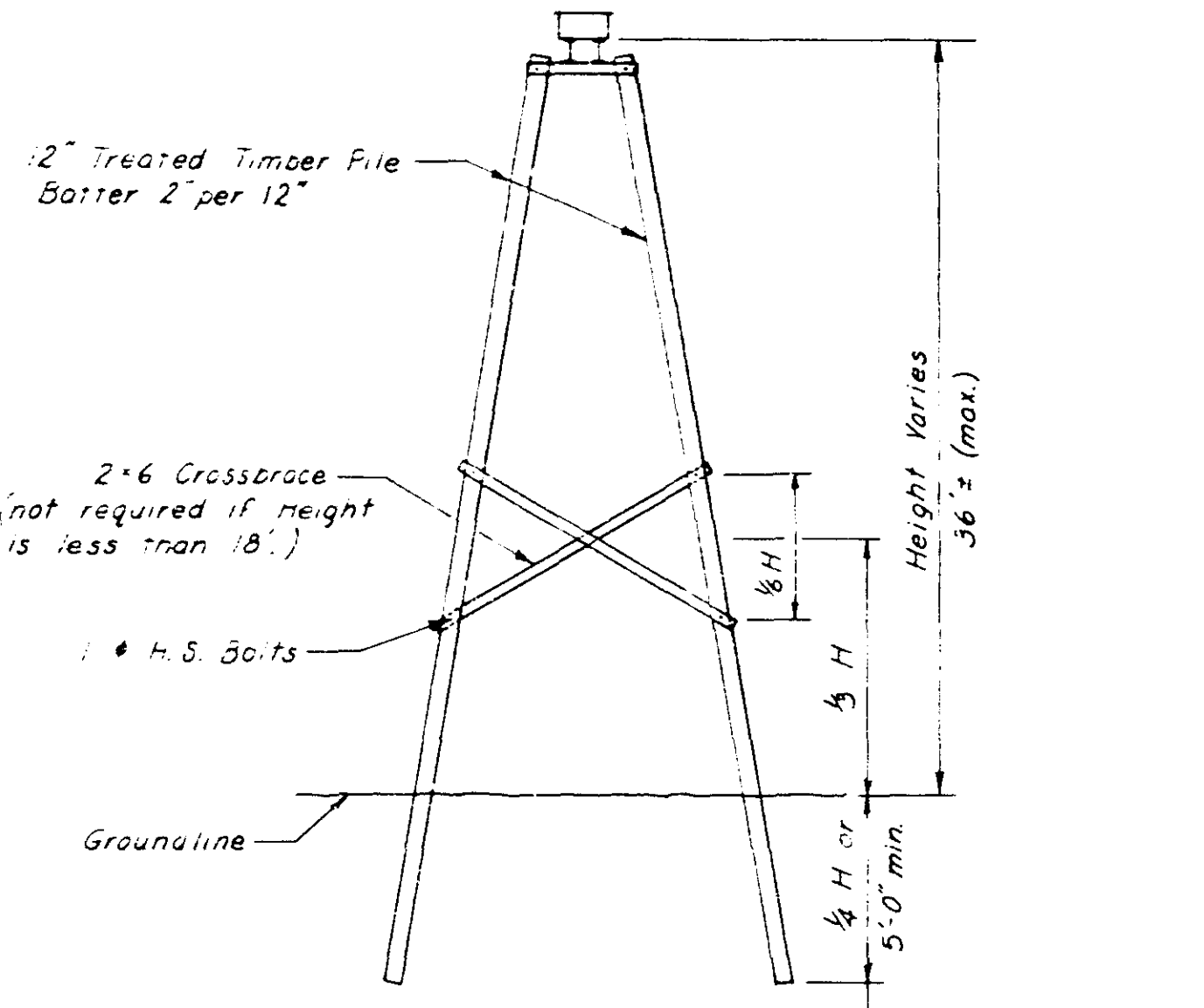


TYPICAL EXPANSION JOINT DETAIL
Scale: 1/2" = 1'-0"

Note: Pile bents adjacent to tracks 1 and 3 shall be 14" diameter at top of pile. MC6 x 12 channels shall be 10" back to back as shown in section A-A and bottom flange of channels shall bear on the pile timber.



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



TYPICAL PILE BENT
Scale: 3/8" = 1'-0"

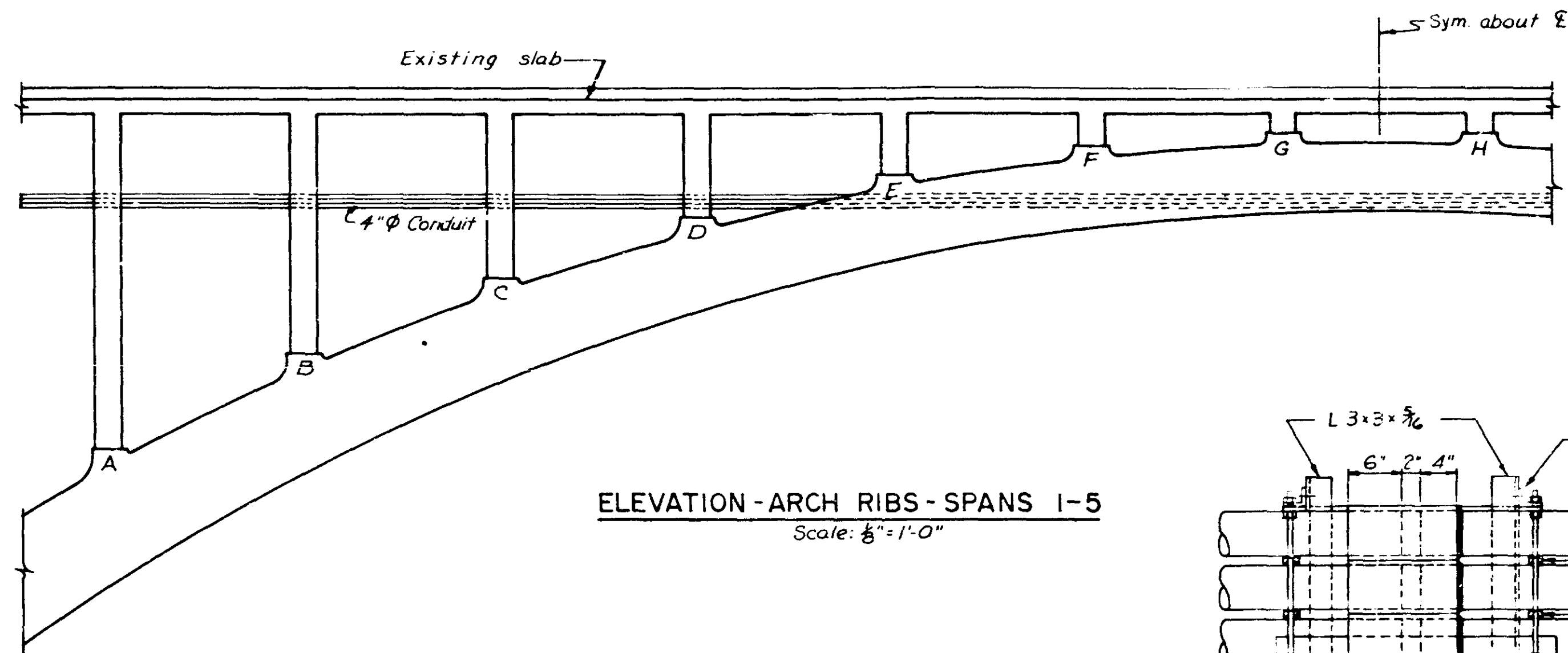
See pile tip elevations on sheet 10

Sheets 104 thru 119 for General Information Only Unless Otherwise Noted

N.W.B.T. CONDUIT SYSTEM 3RD AVE. BRIDGE				
TITLE: TYPICAL TEMPORARY CONDUIT TROUGH DETAILS 11 of 16	DES: RLL CHK: ROC	DR: RLL CHK: ROC	APPROVED: 5-2-70	Bridge No. 2440
Sheet No. 114 of 148 Sheets				

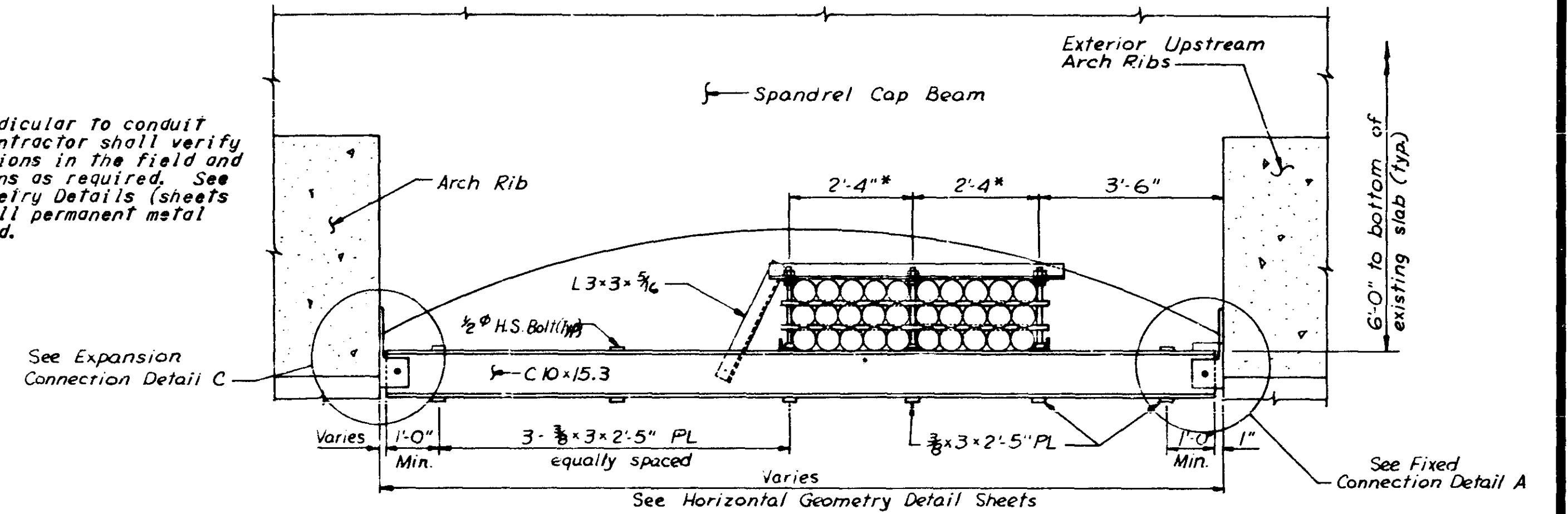
Revised 7-24-73

For type of conduit support see sheet no. 2

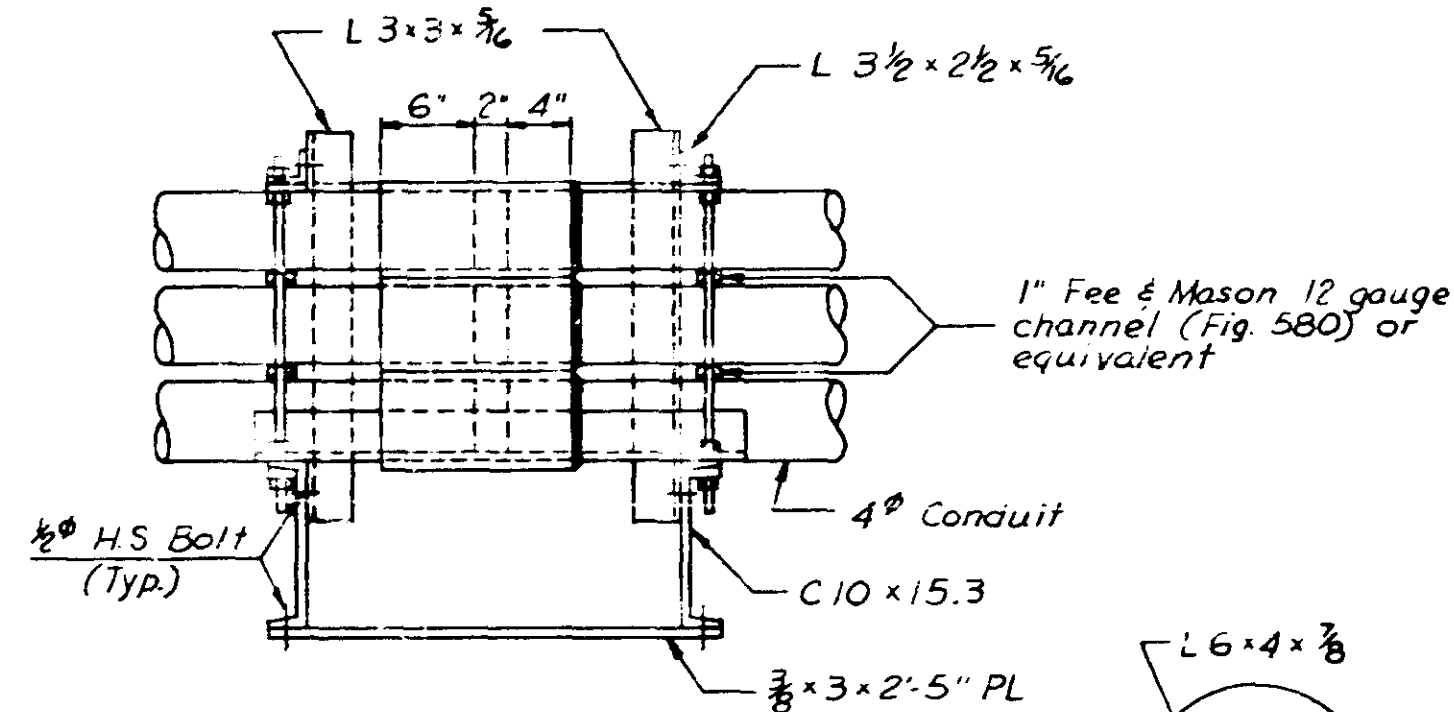


ELEVATION-ARCH RIBS - SPANS 1-5
Scale: 1/2"=1'-0"

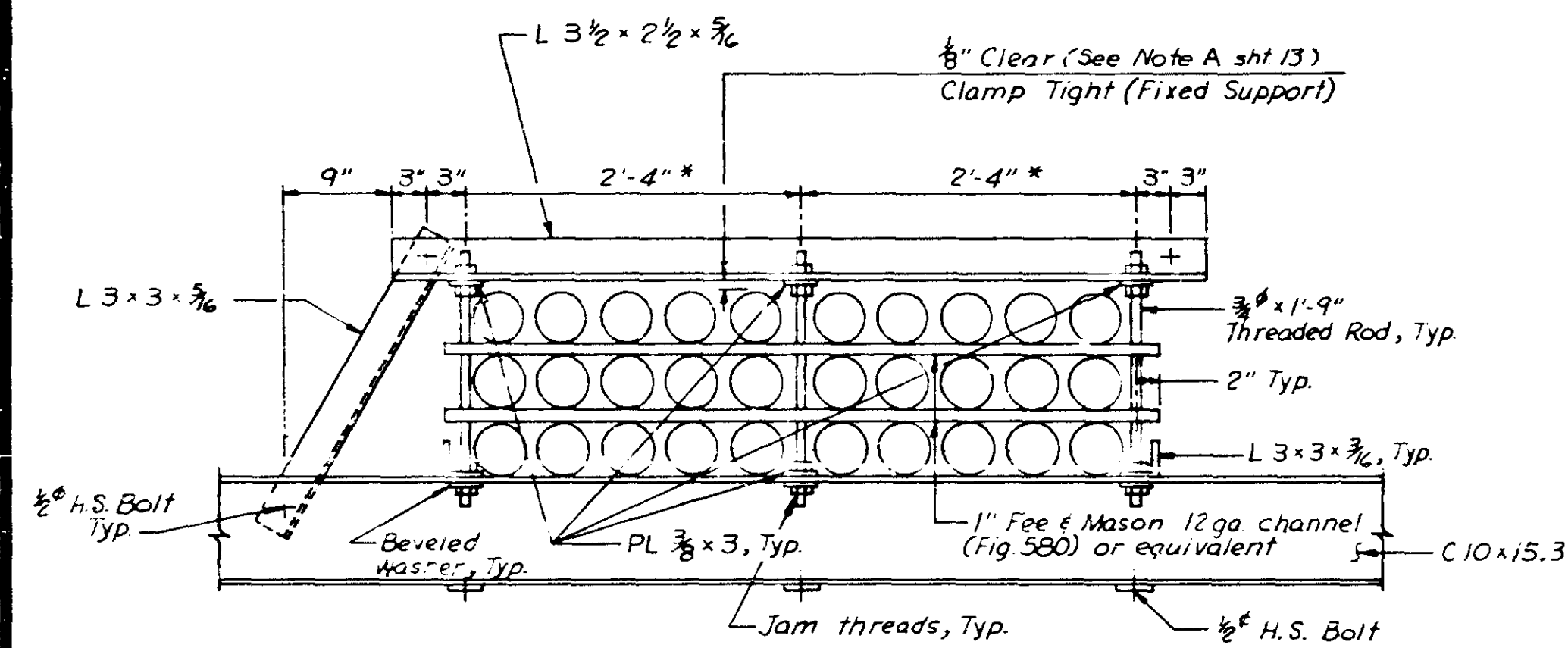
Measured perpendicular to conduit centerline. Contractor shall verify skew and dimensions in the field and adjust dimensions as required. See Horizontal Geometry Details (sheets 7, 8 and 9). All permanent metal to be galvanized.



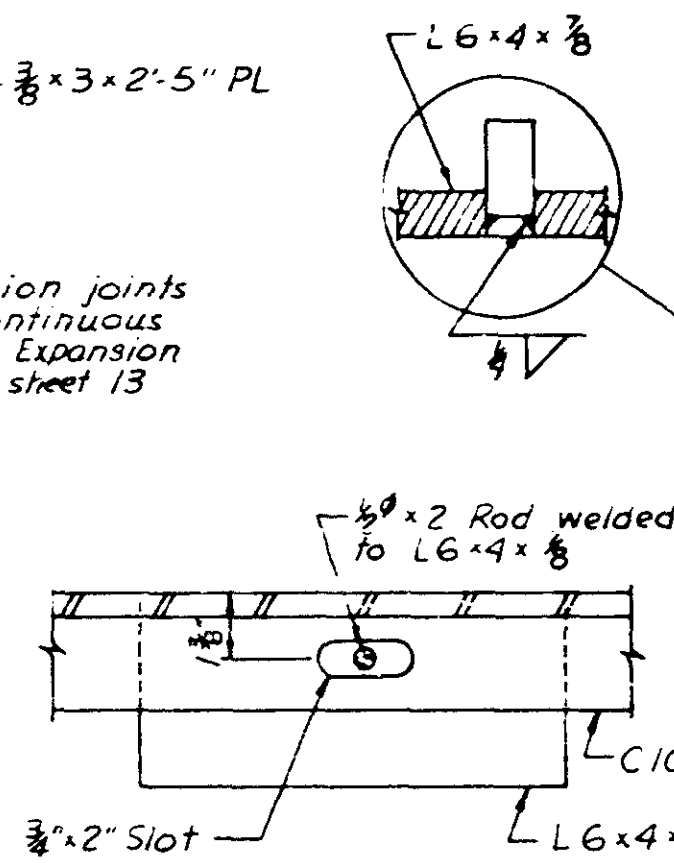
ELEVATION-SPANDRELS E,F,G,H,I & J
Scale: 1/2"=1'-0"



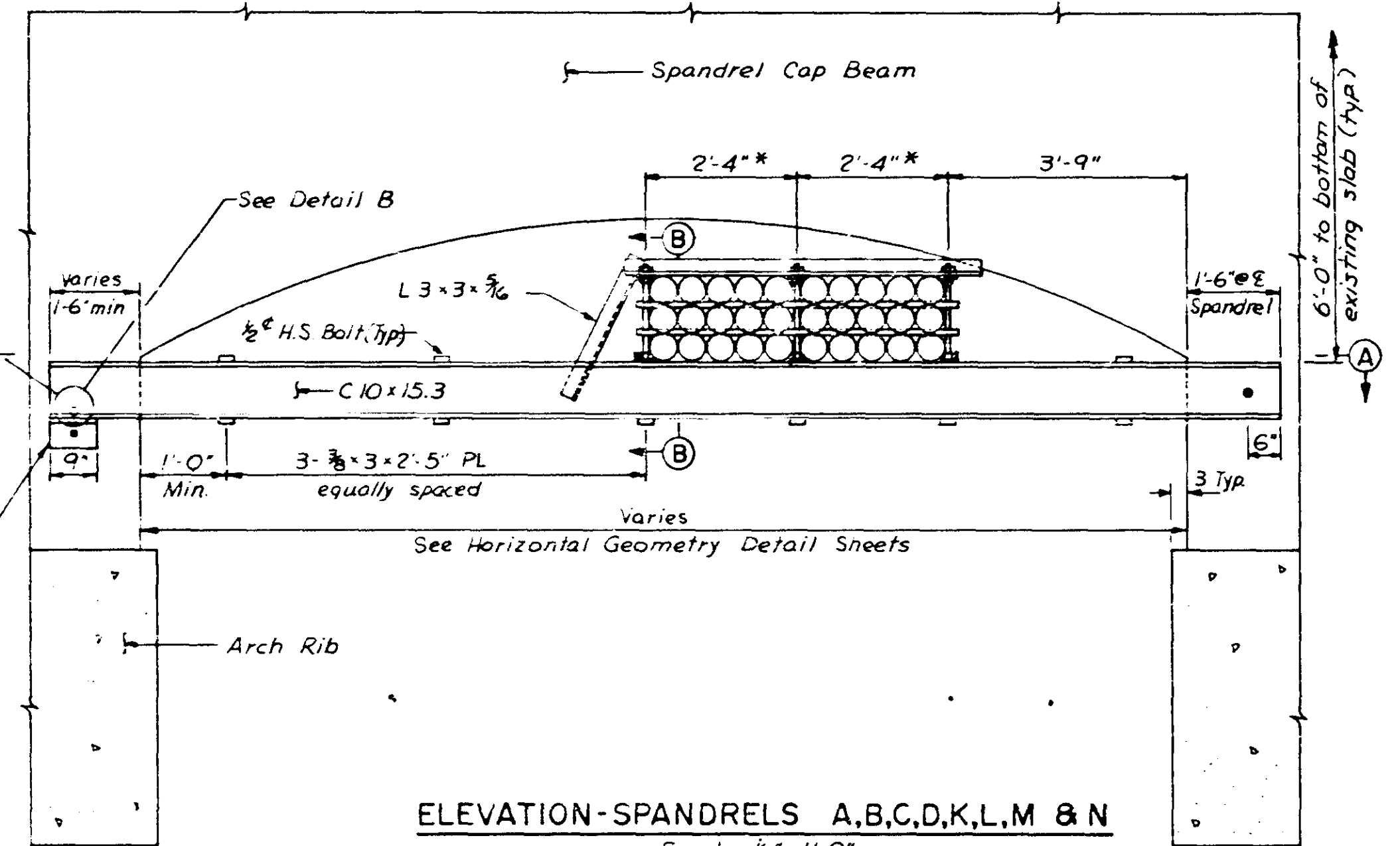
SECTION B-B
Scale: 1"=1'-0"



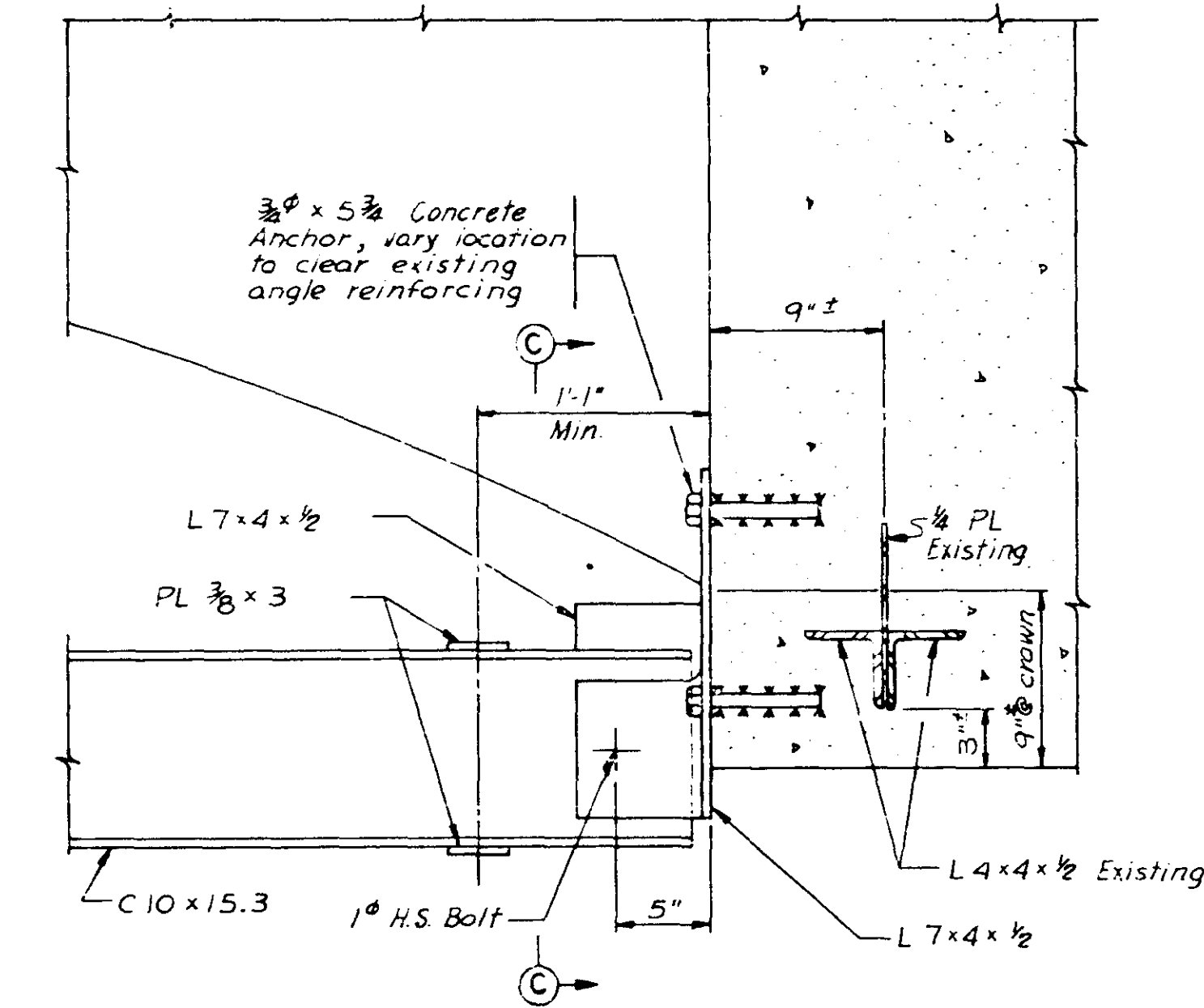
FINAL CONDUIT ASSEMBLY
Scale: 1"=1'-0"



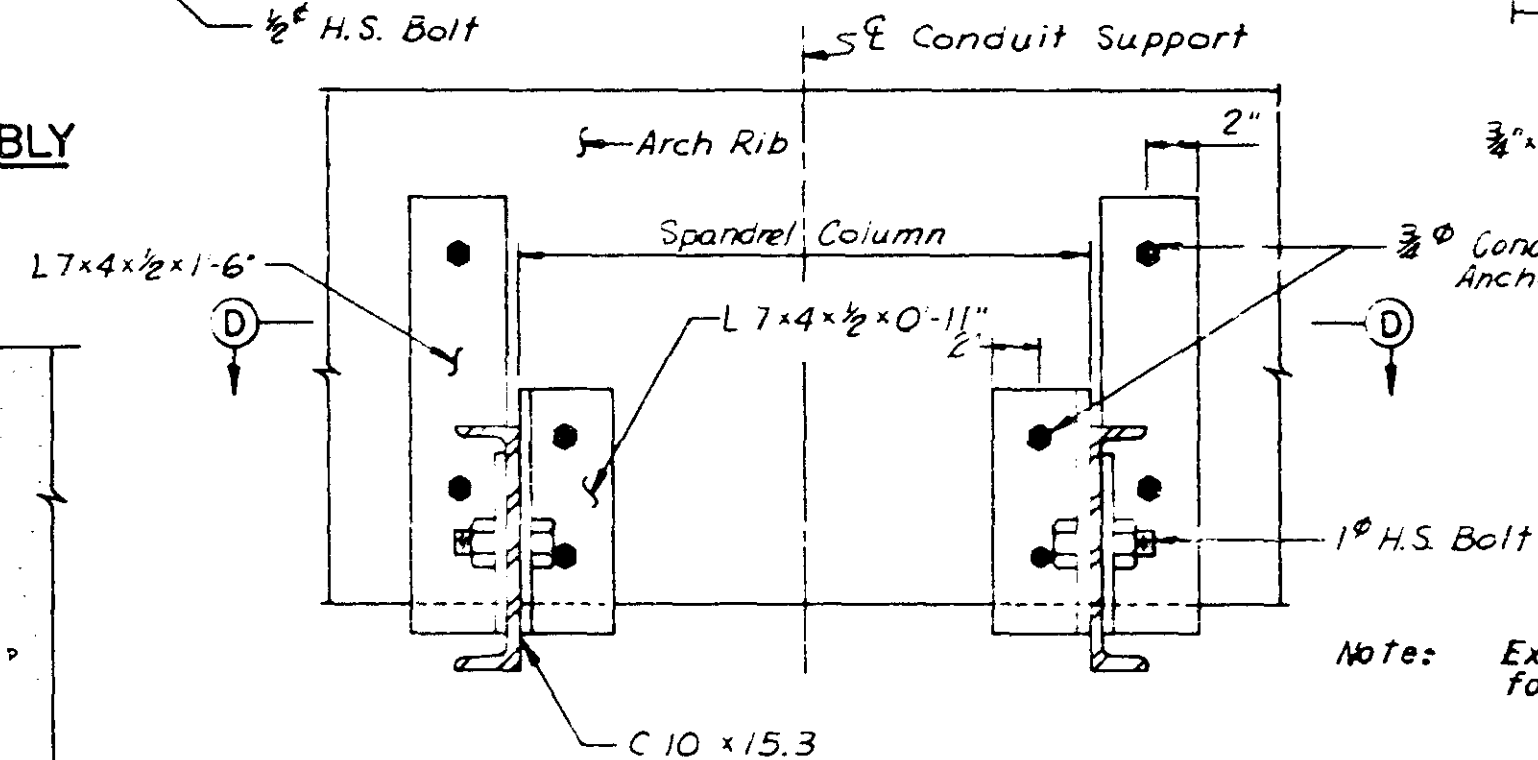
DETAIL B
Scale: 3"=1'-0"



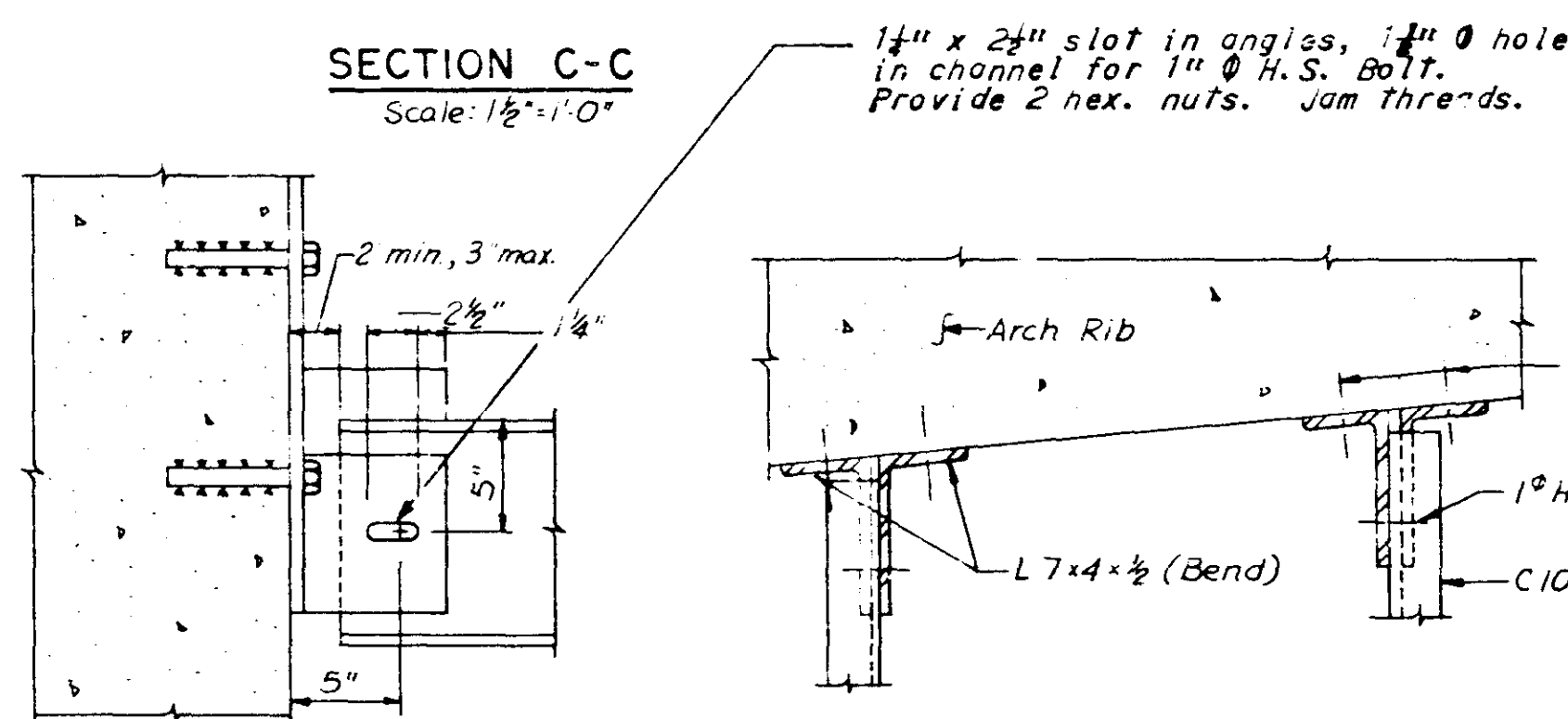
ELEVATION-SPANDRELS A,B,C,D,K,L,M & N
Scale: 1/2"=1'-0"



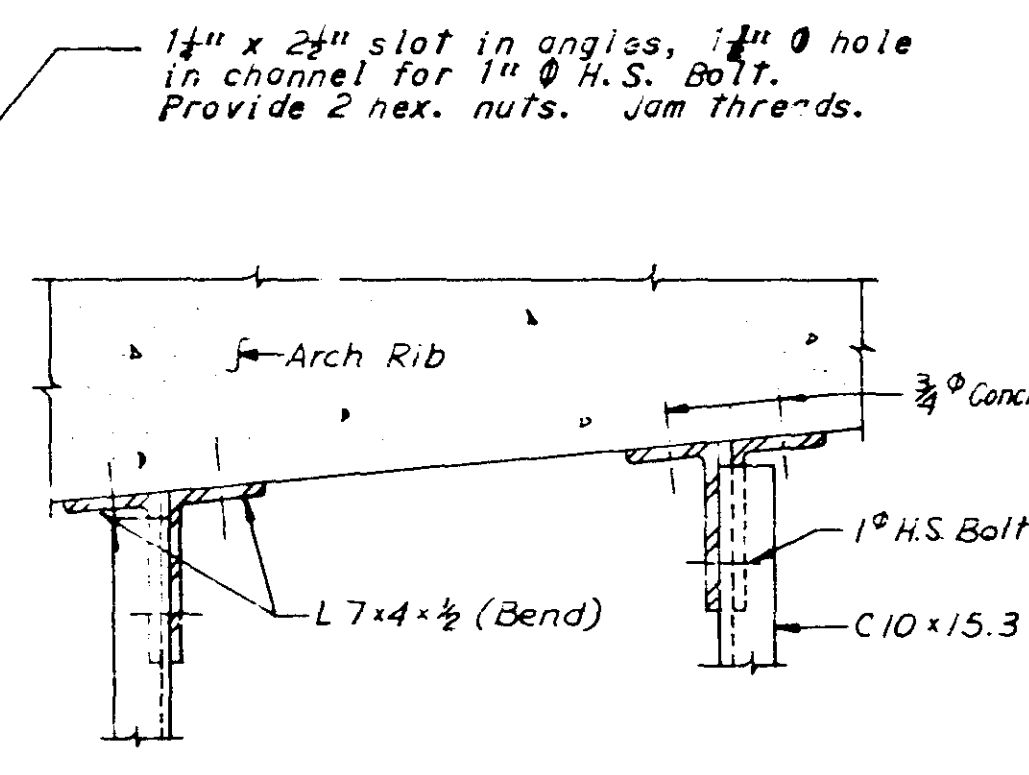
FIXED CONNECTION-DETAIL A
Scale: 1 1/2"=1'-0"



EXPANSION CONNECTION-DETAIL C
Scale: 1 1/2"=1'-0"

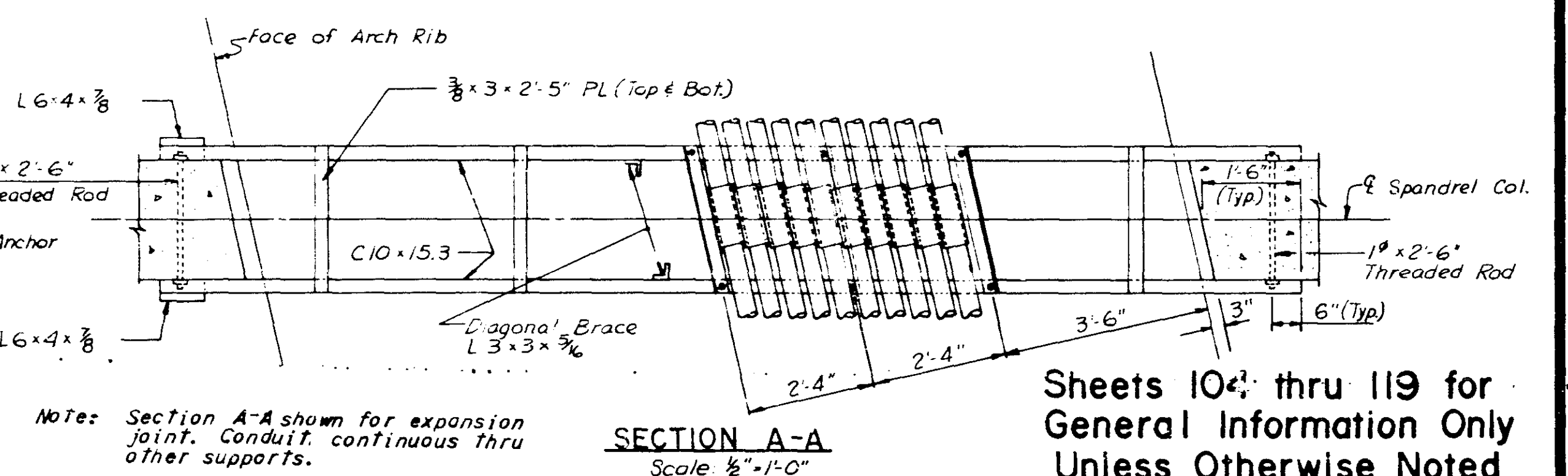


SECTION C-C
Scale: 1 1/2"=1'-0"



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

Note: For details thru pier walls see Barrel Arch sheet 13.

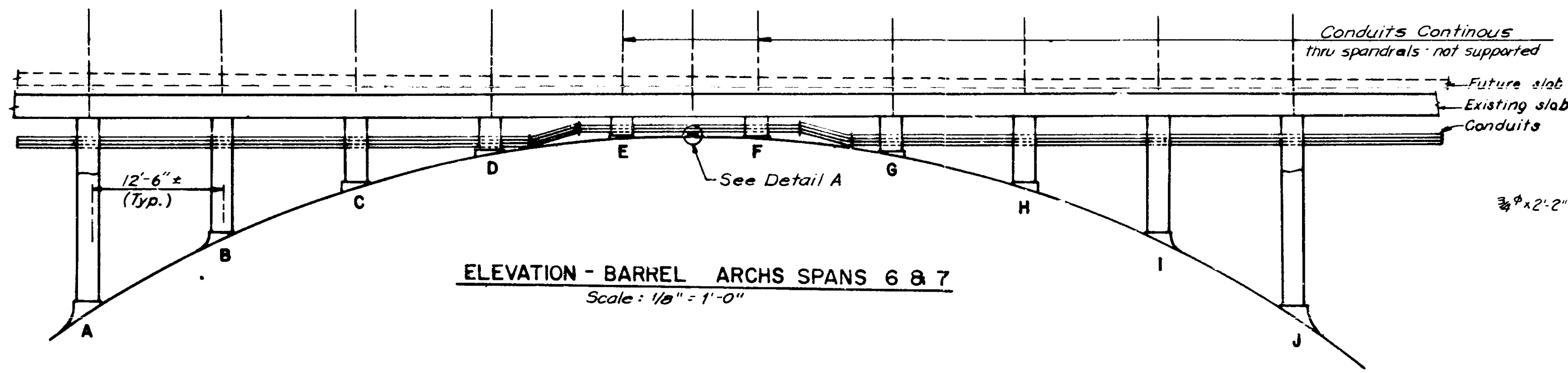


SECTION A-A
Scale: 1/2"=1'-0"

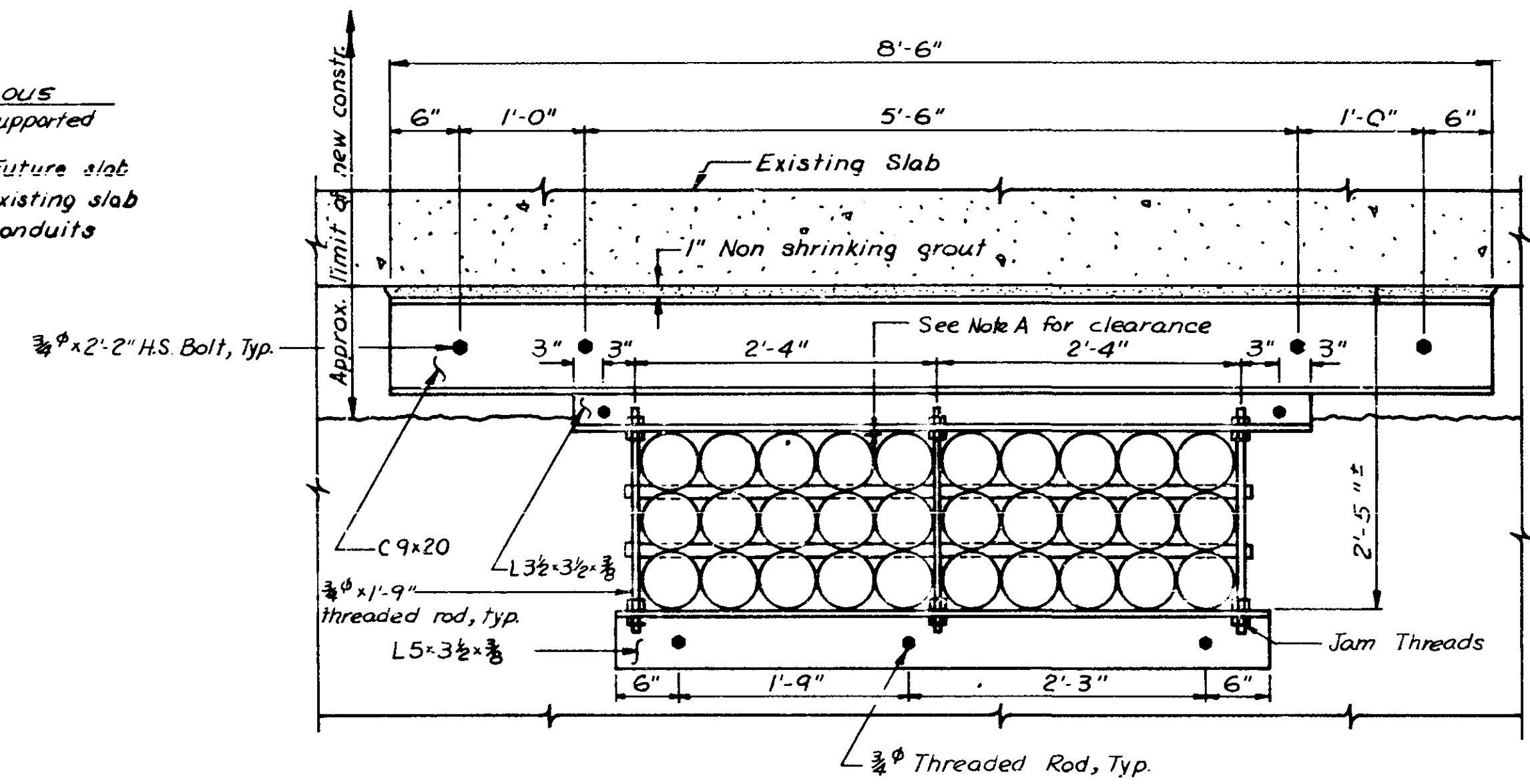
Sheets 104 thru 119 for General Information Only Unless Otherwise Noted

N.W.B.T. CONDUIT SYSTEM 3RD AVE. BRIDGE			
TITLE:	DES: RLL	DR: LDH	APPROVED:
12 of 16	CHK: ROC	CHK: WWH	5-7-79
CONDUIT SYSTEM RIB ARCH SPANS			Bridge No. 2440
Sheet No. 115 of 148 Sheets			

For type of conduit support, see sheet No. 2



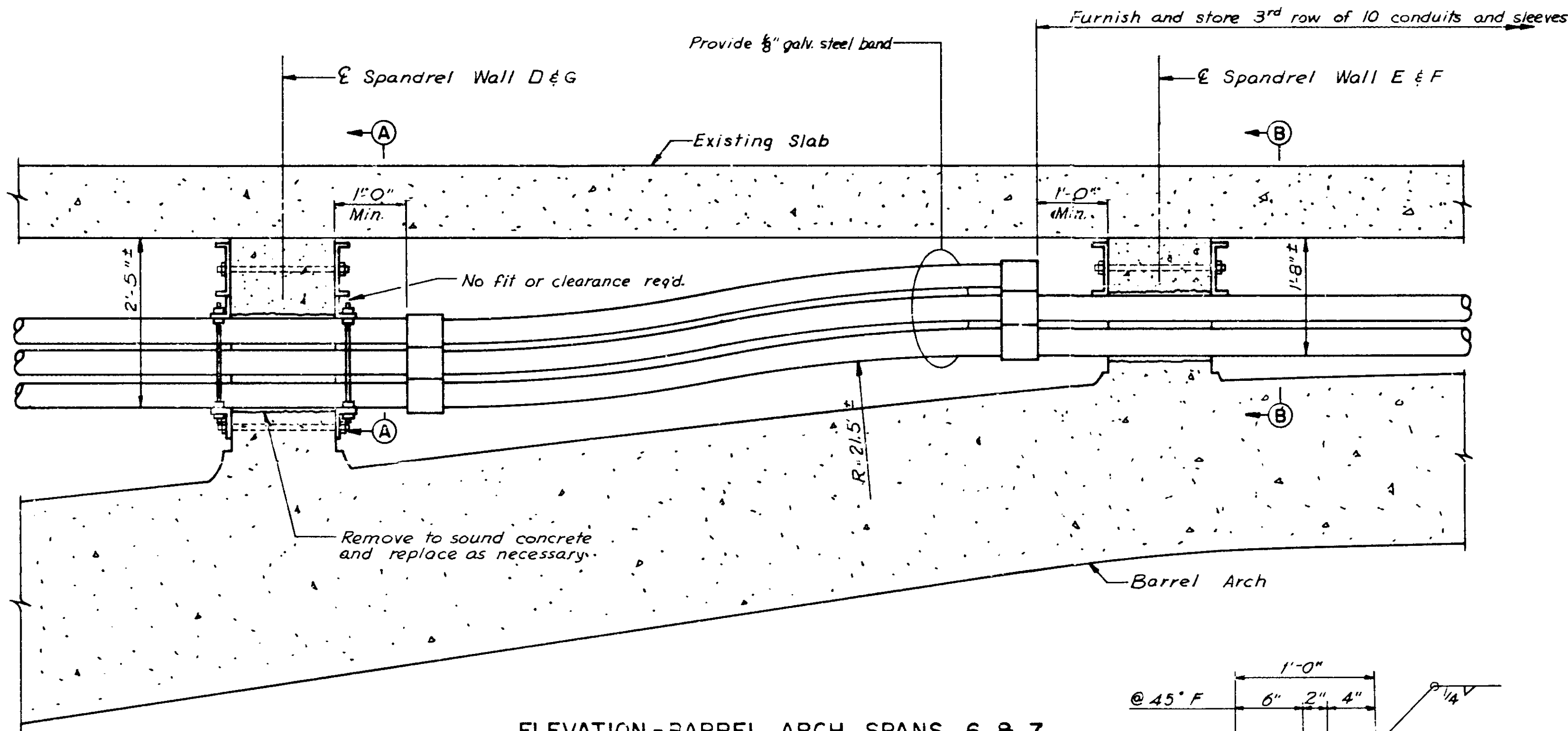
ELEVATION - BARREL ARCH SPANS 6 & 7
Scale: 1/8" = 1'-0"



SECTION A-A
Scale: 1" = 1'-0"

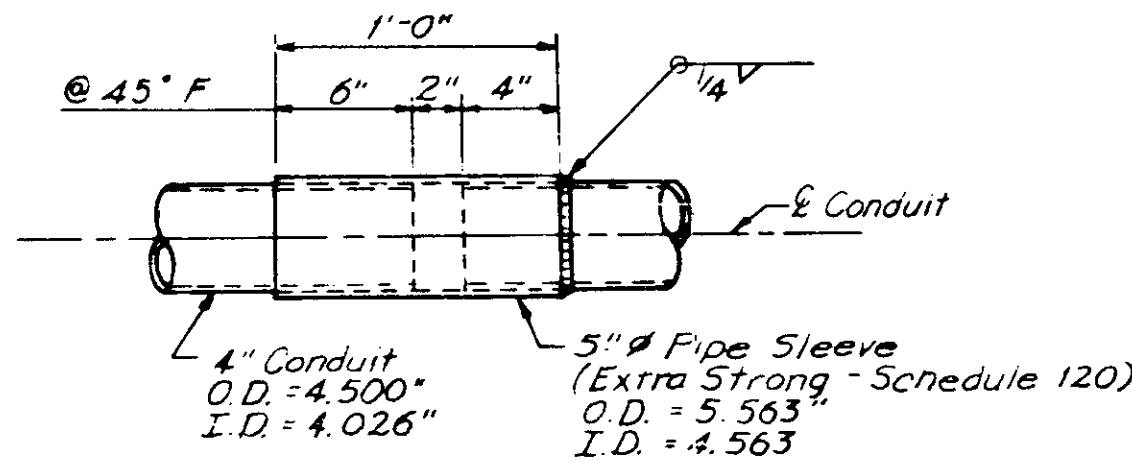
Note A: Where conduit is continuous and supported but not fixed provide 1" clearance to top angle as shown in final conduit assembly detail on sheet 12.

Note: Top L3 1/2 x 3 1/2 x 3/8 to be fixed to spandrel wall in final position with 1/2" diameter concrete anchors.



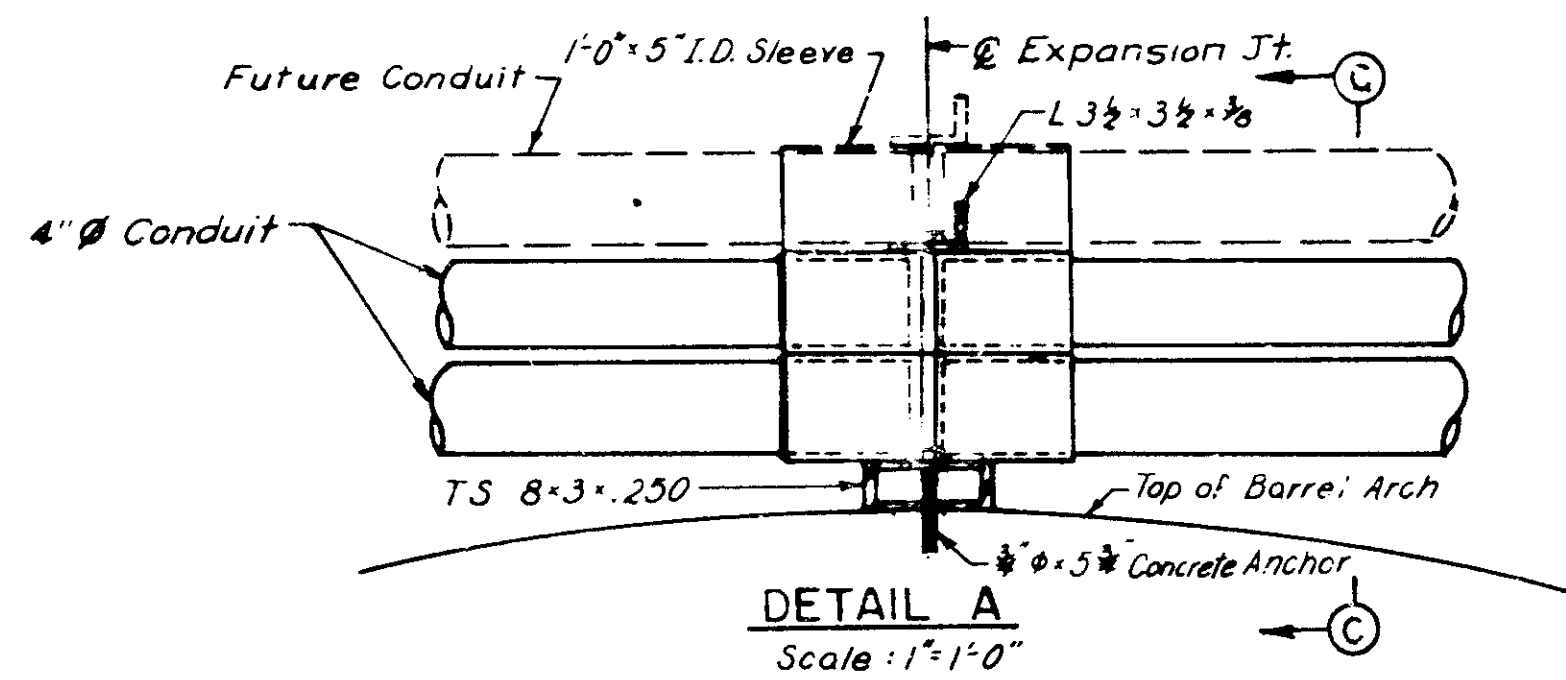
ELEVATION - BARREL ARCH SPANS 6 & 7
Scale: 3/8" = 1'-0"

Note: Where expansion sleeves are required, center sleeves at center of spandrel wall.

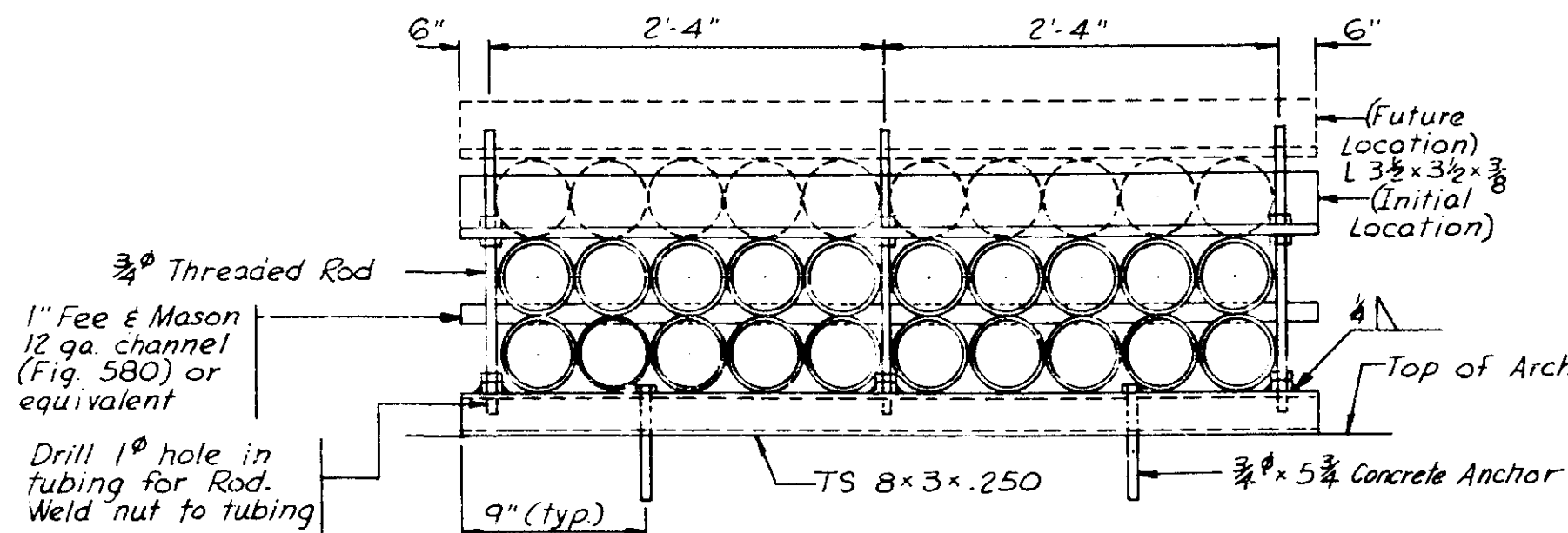


EXPANSION SLEEVE DETAIL
Scale: 1 1/2" = 1'-0"

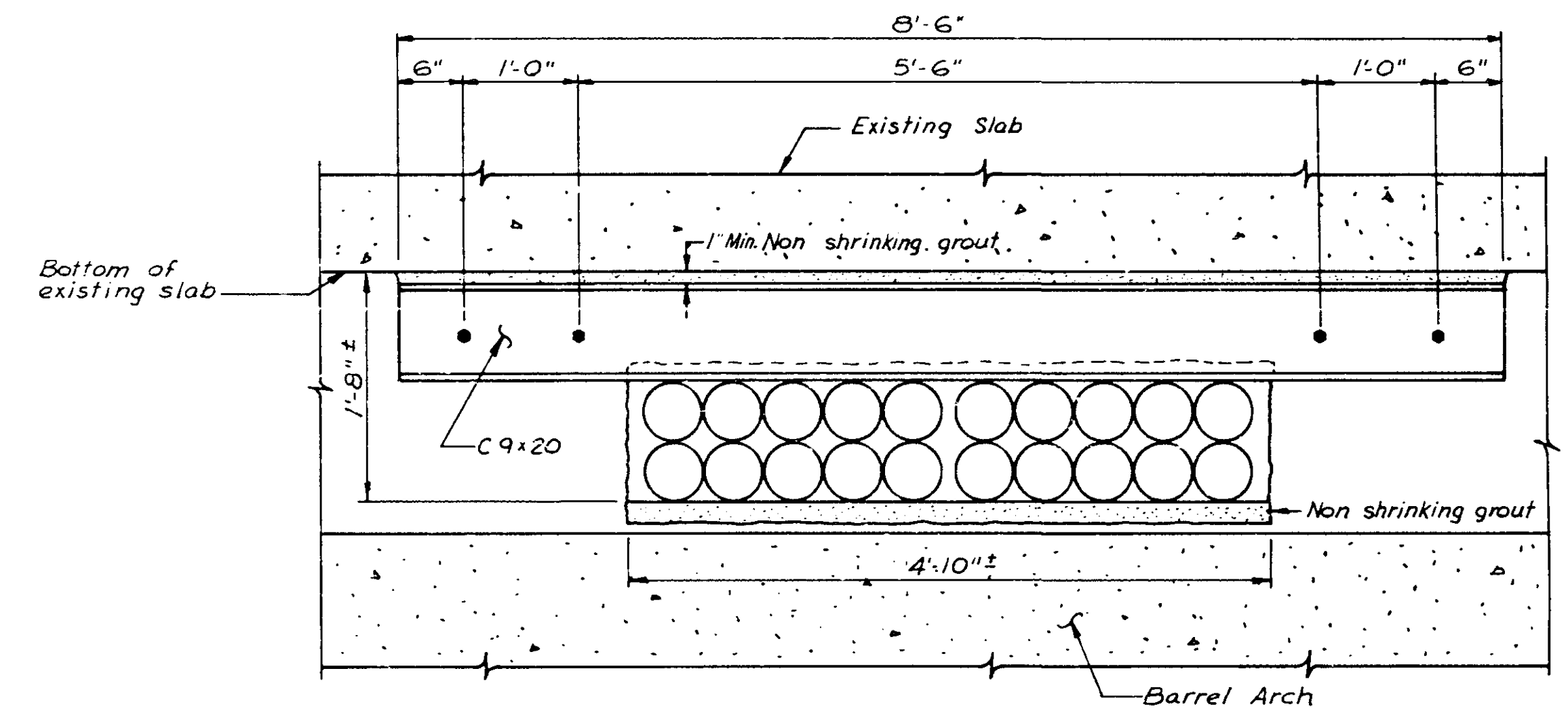
Note: Galvanize Sleeve End After Welding.



DETAIL A
Scale: 1" = 1'-0"



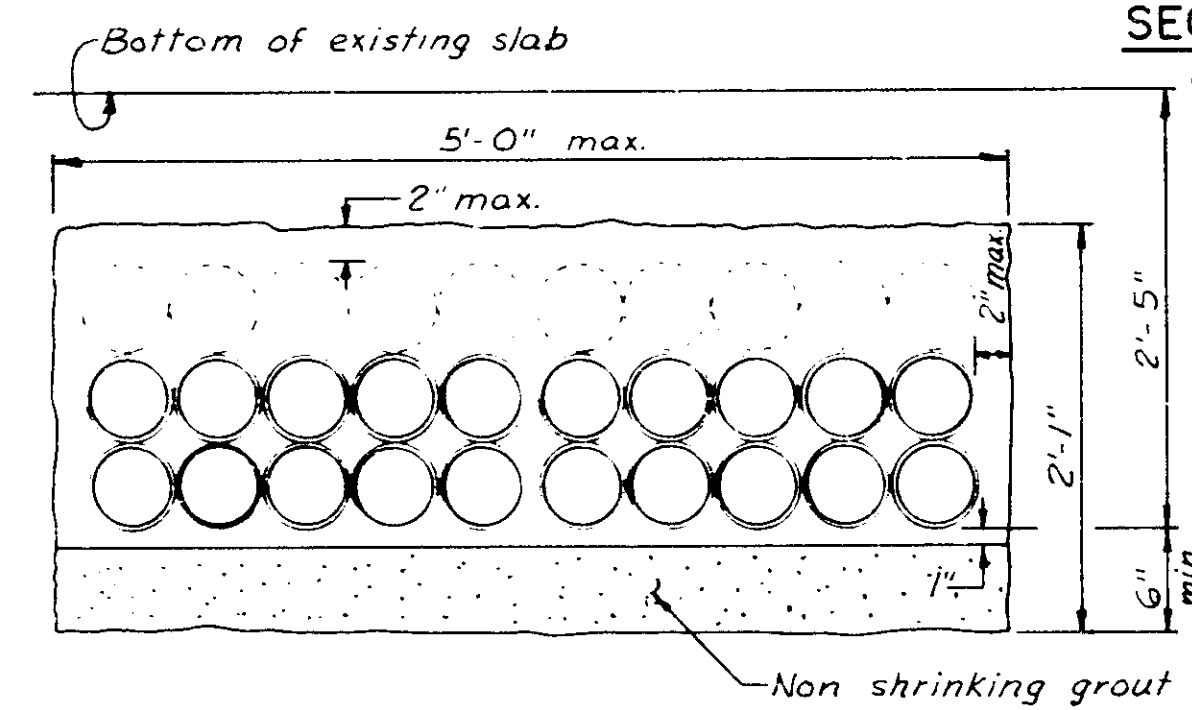
SECTION C-C
Scale: 1" = 1'-0"



SECTION B-B
Scale: 1" = 1'-0"

Note: C9 x 20 to be in place and grouted before cutting hole in spandrel wall. Holes thru walls to be as small as possible to fit full assembly.

Note: For additional conduit support details see sheet 12. All permanent metal to be galvanized.

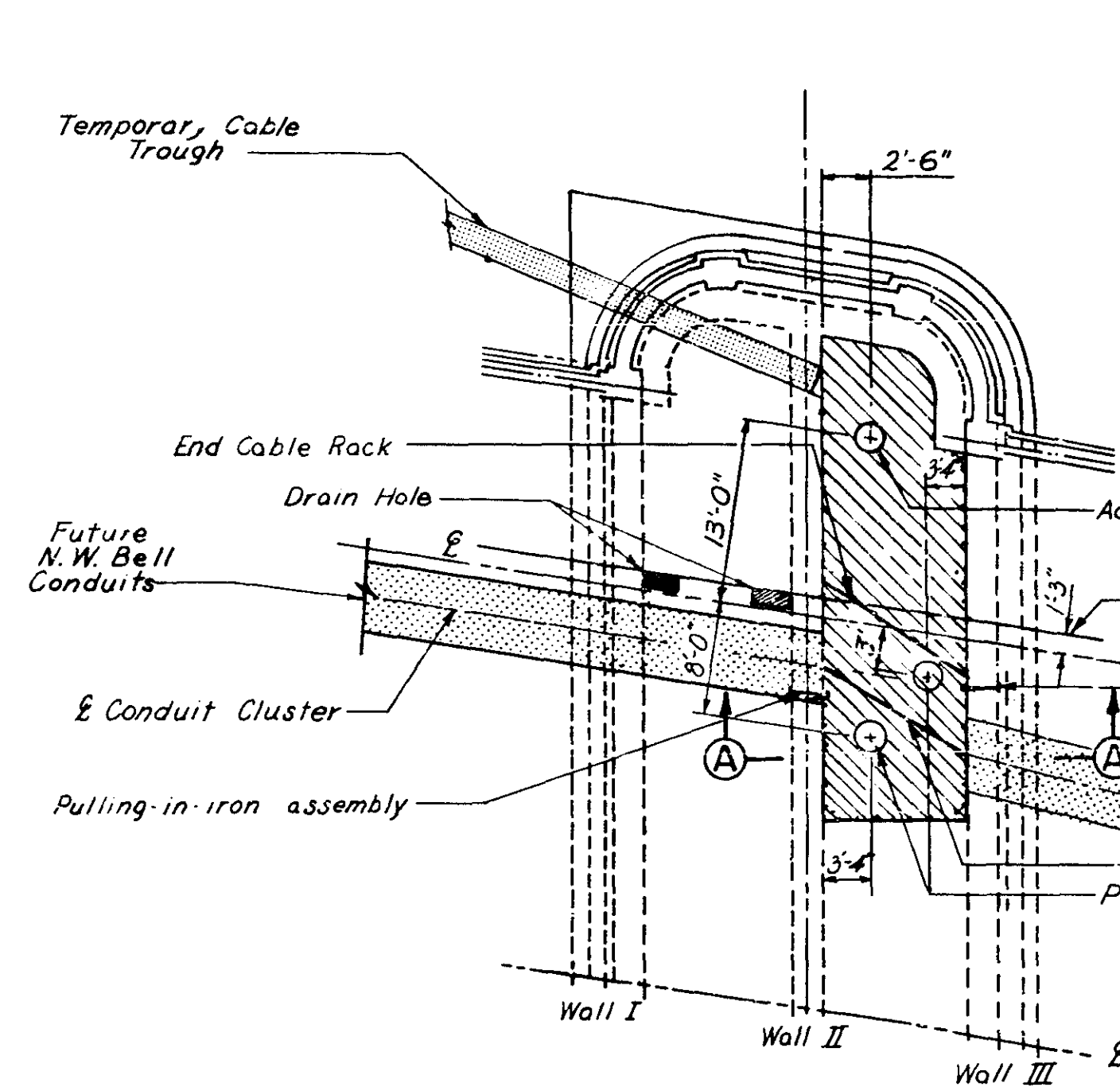


SPANDREL WALL & PIER WALL OPENING DETAIL

Sheets 104 thru 119 for General Information Only Unless Otherwise Noted

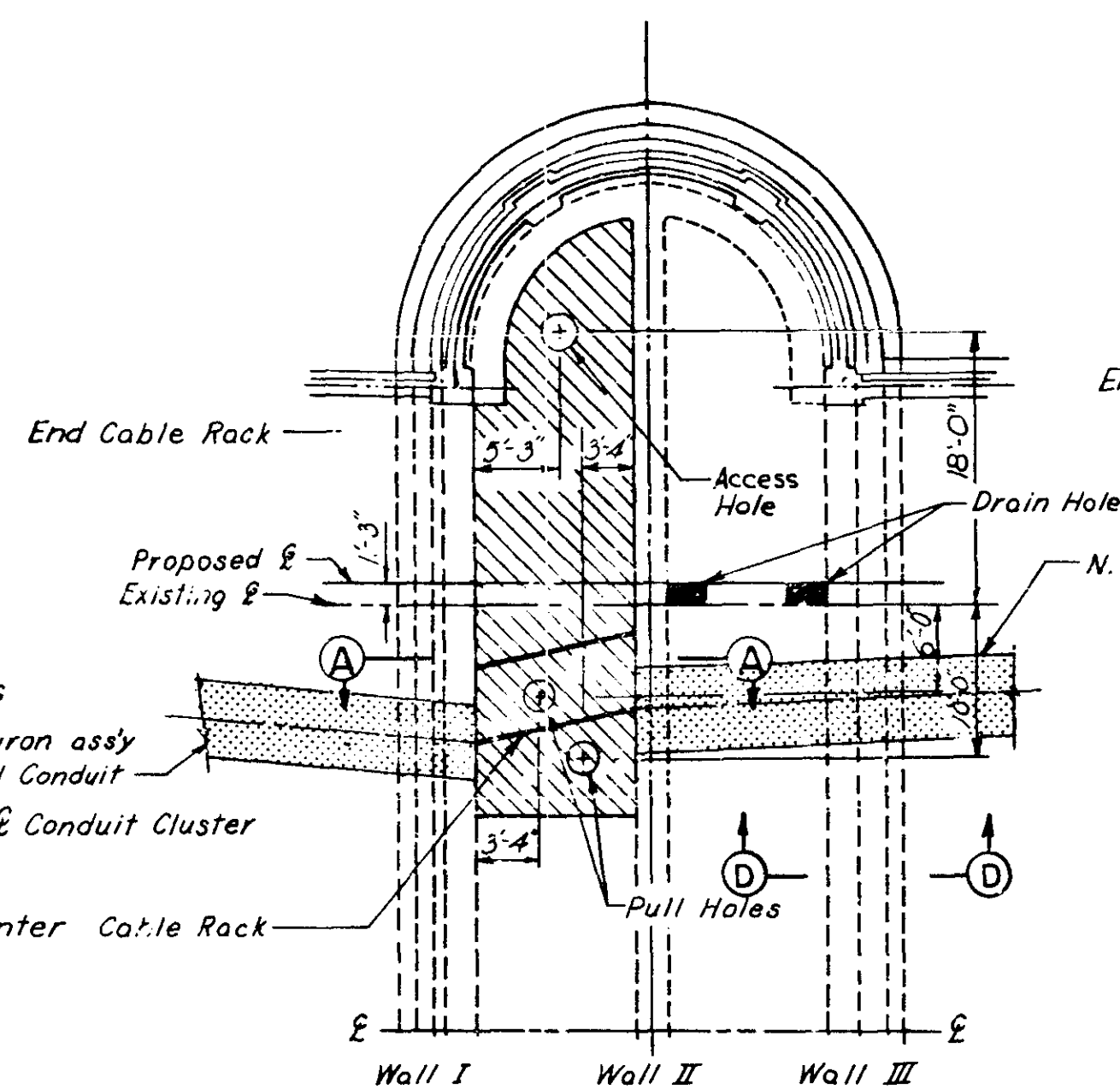
N.W.B.T. CONDUIT SYSTEM 3RD AVE. BRIDGE				Bridge No. 2440
TITLE: 13 of 16	CONDUIT SYSTEM BARREL ARCH SPANS	DES: RLL CHK: ROC.	DR: L.D.H. CHK: W.H.H.	
		APPROVED: 5-7-79		
Sheet No. 116 of 148 Sheets				

ALL SHEET DIMENSIONS AND QUANTITIES SHALL BE CHECKED BY THE REGULAR INSPECTOR OF THE PROJECT. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL NECESSARY PERMITS AND APPROVALS TO THE PROJECT. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL NECESSARY PERMITS AND APPROVALS TO THE PROJECT.

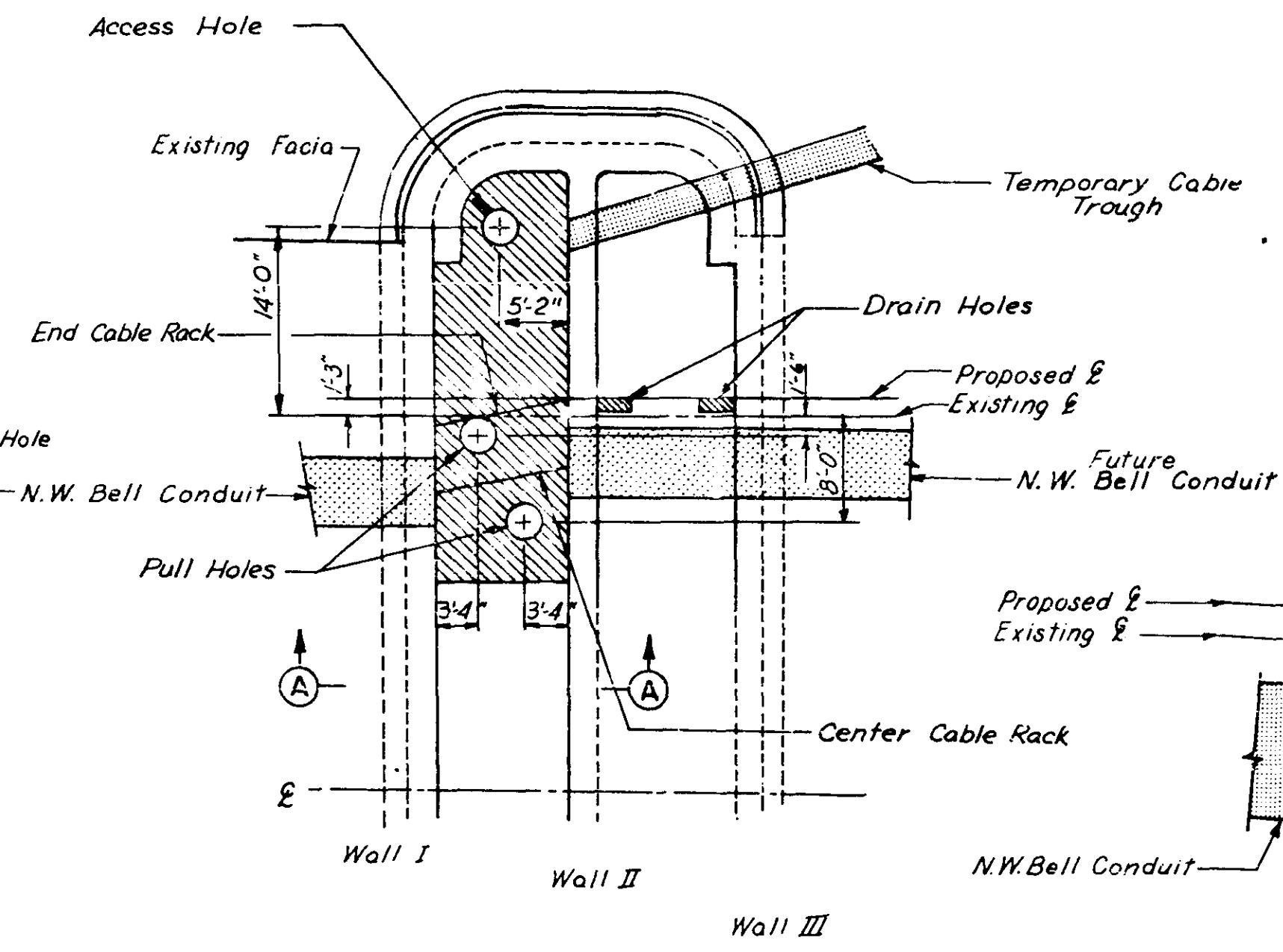


PIER 1
Scale: 3/32"=1'-0"

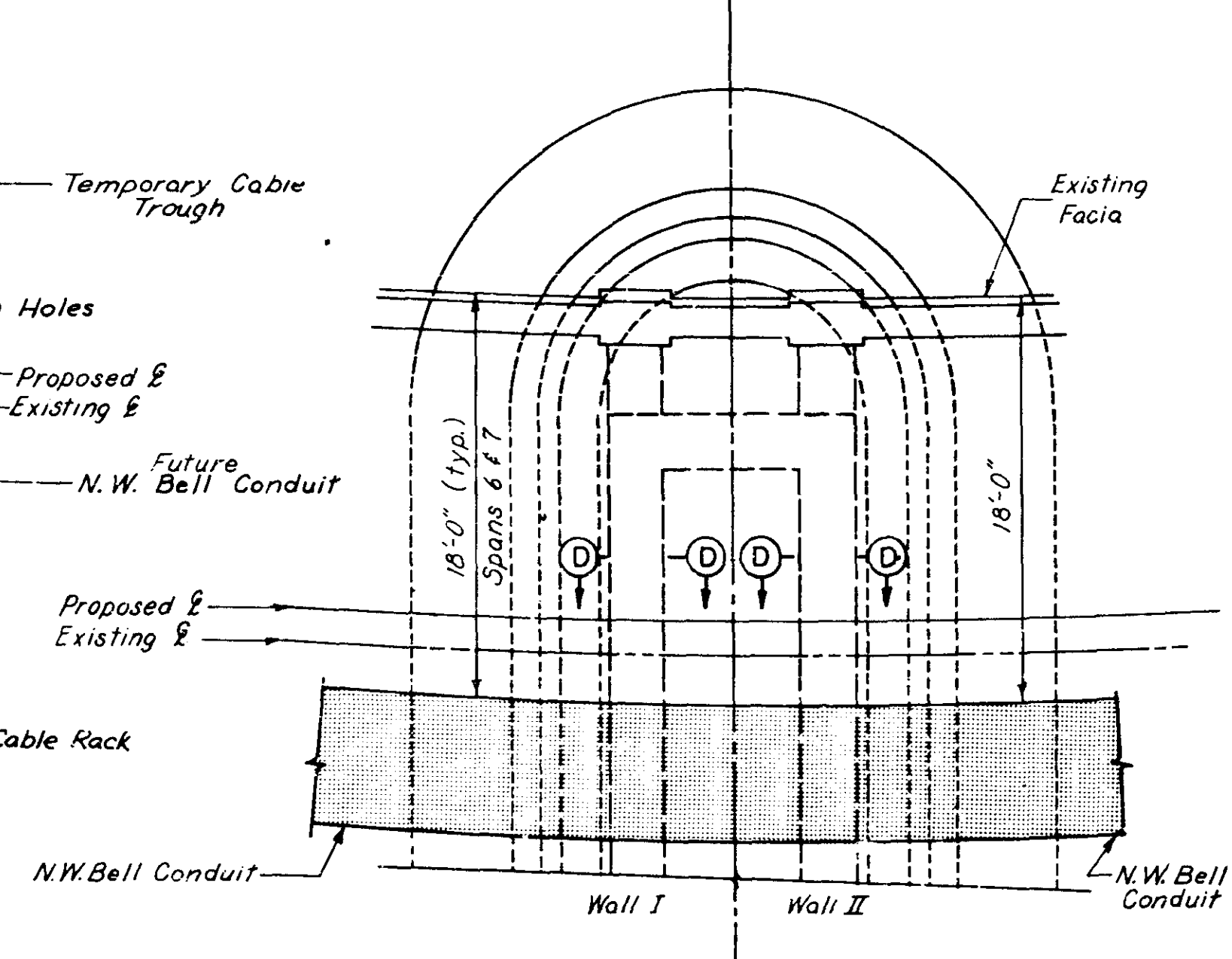
NOTE:
See sheet 6 for temporary place-
ment of castings for access holes and
pull holes.



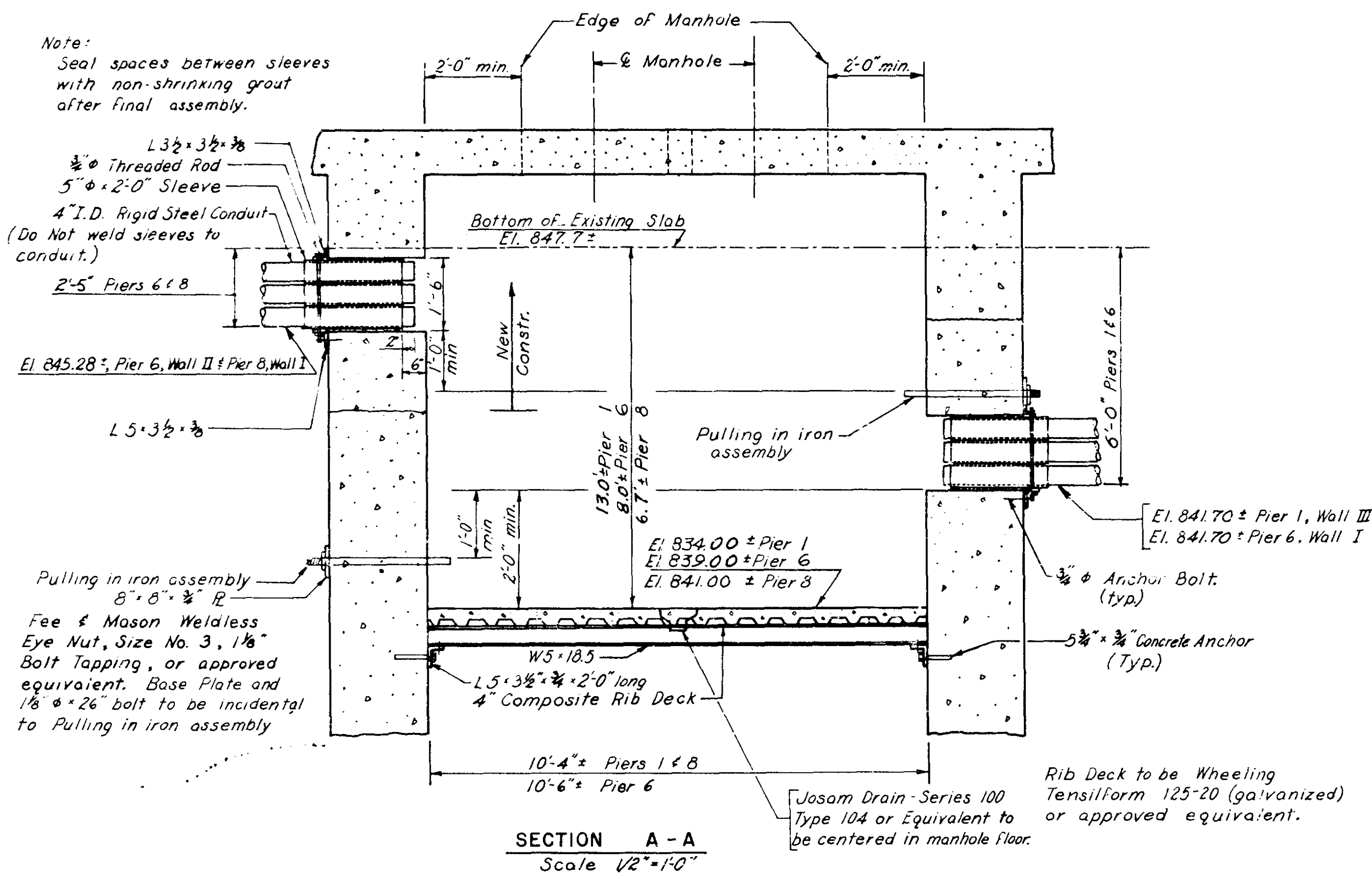
PIER 6
Scale: 3/32"=1'-0"



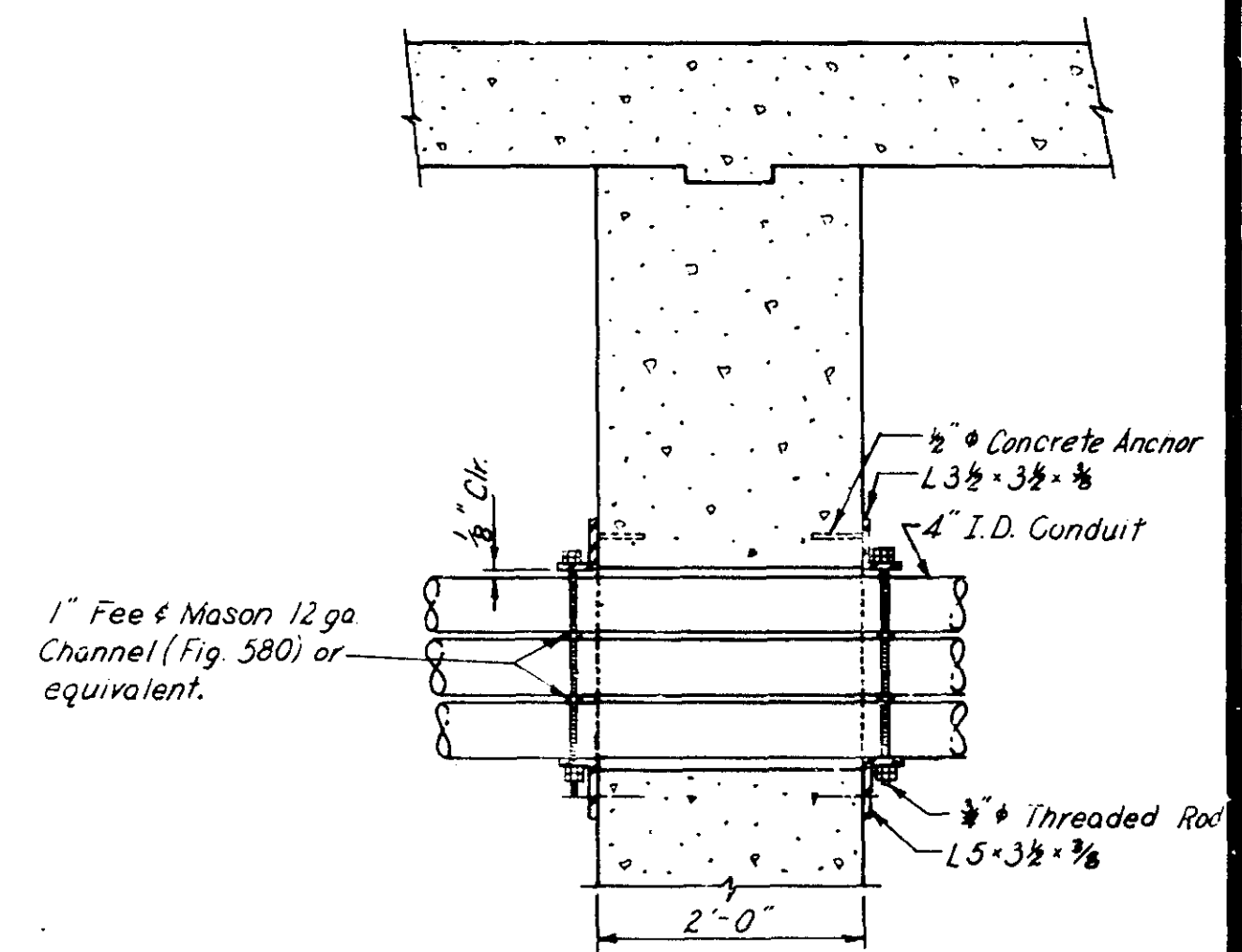
PIER 8
Scale: 3/32"=1'-0"



PIER 7
Scale: 3/16"=1'-0"



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

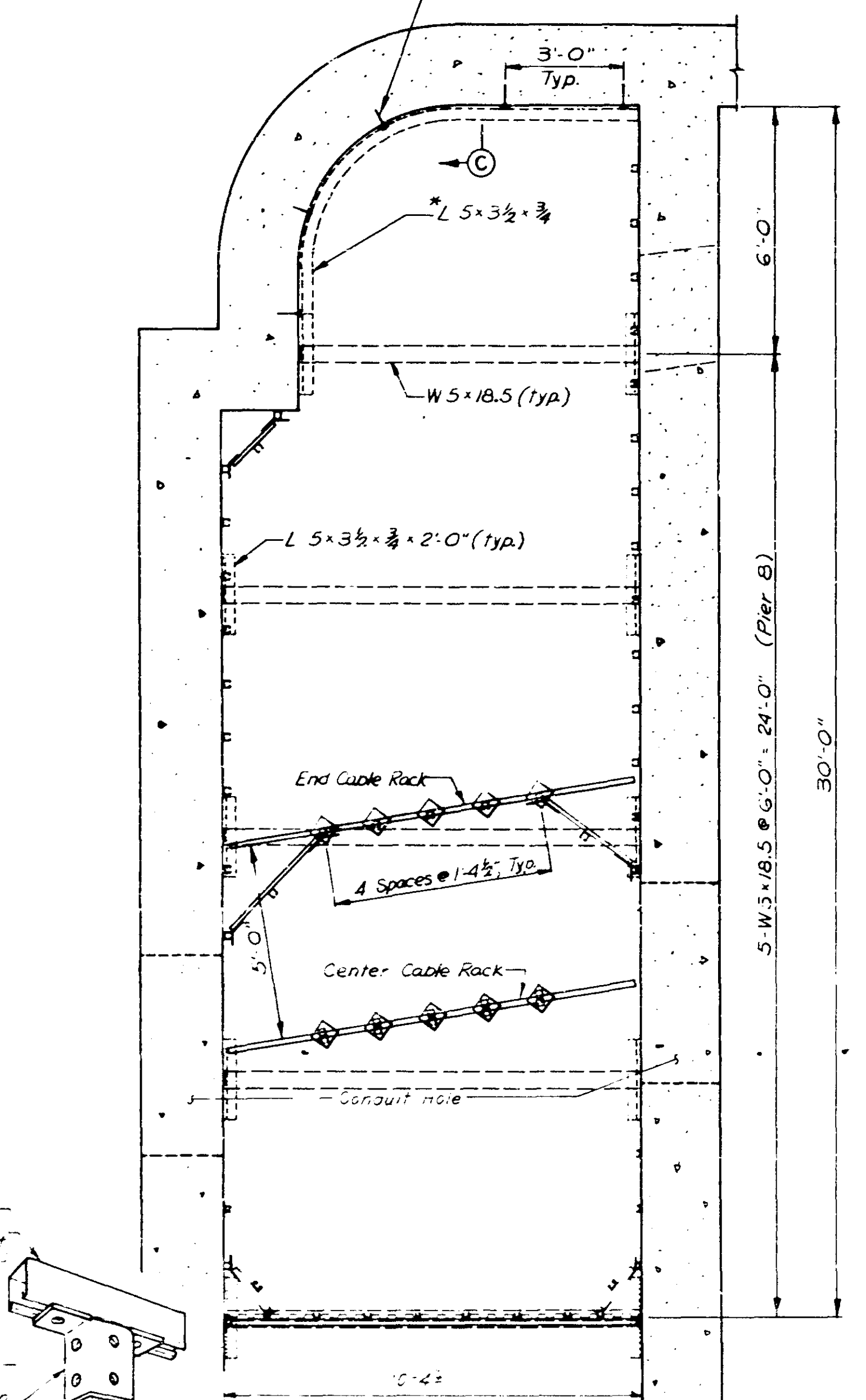
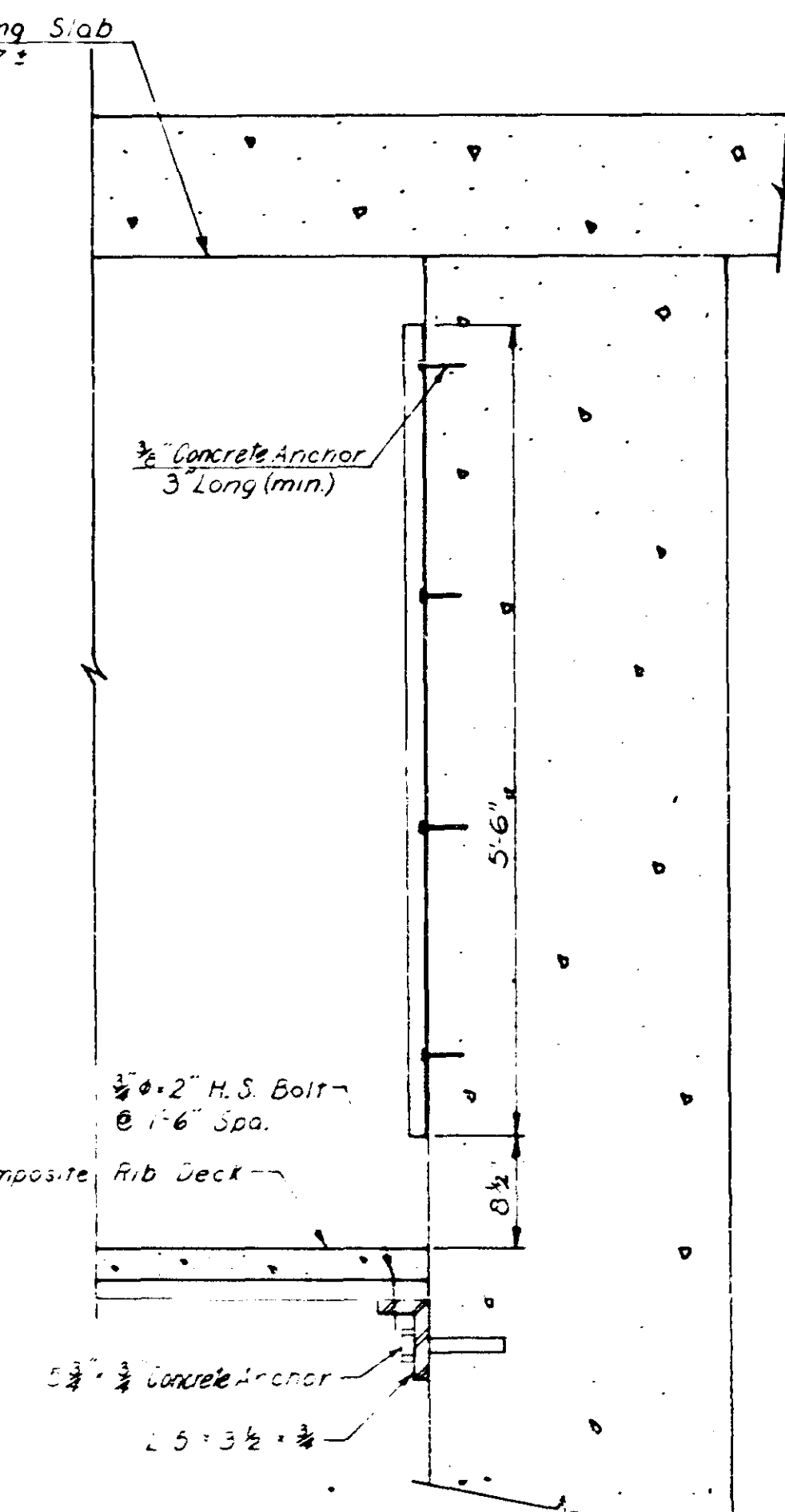
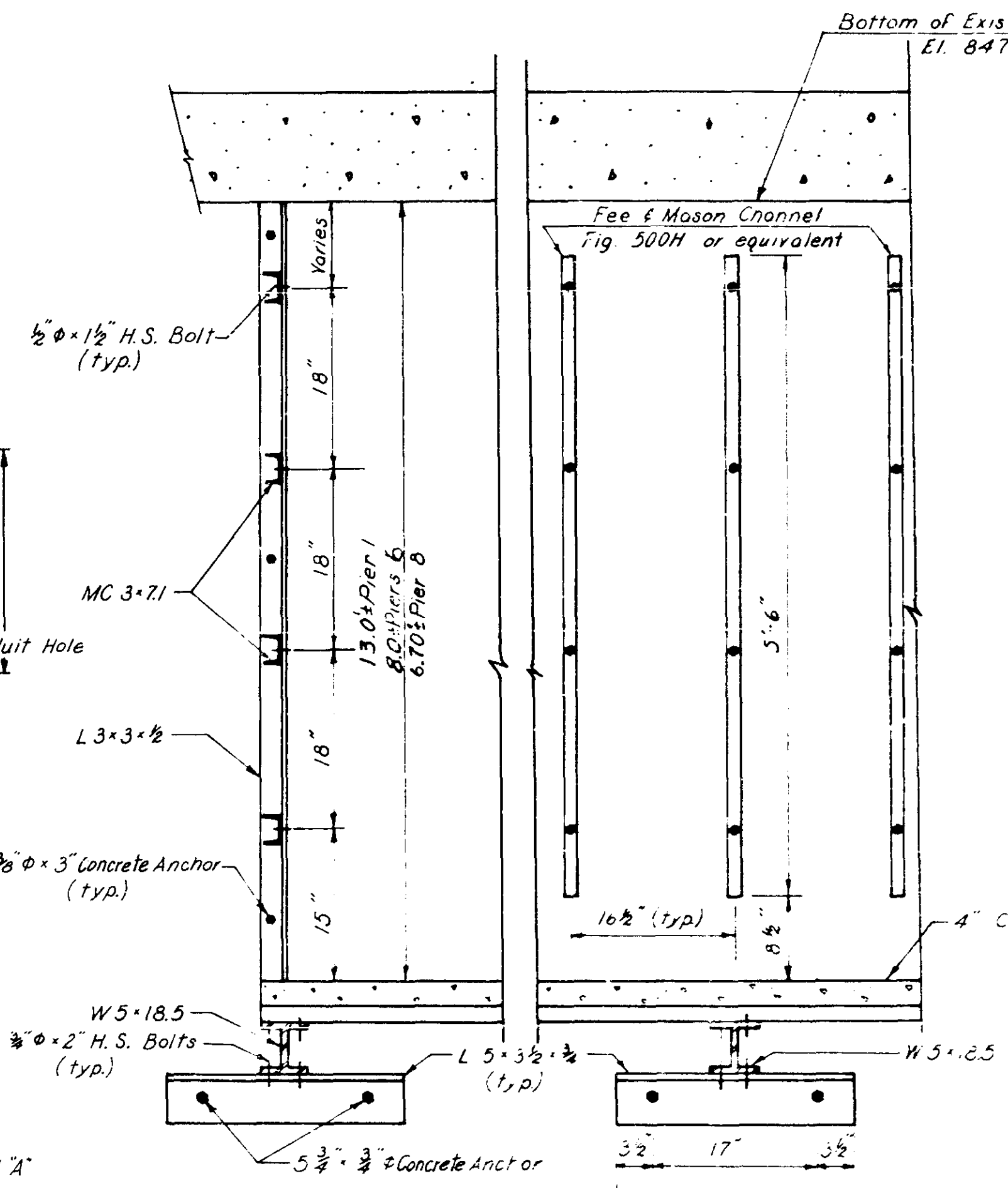
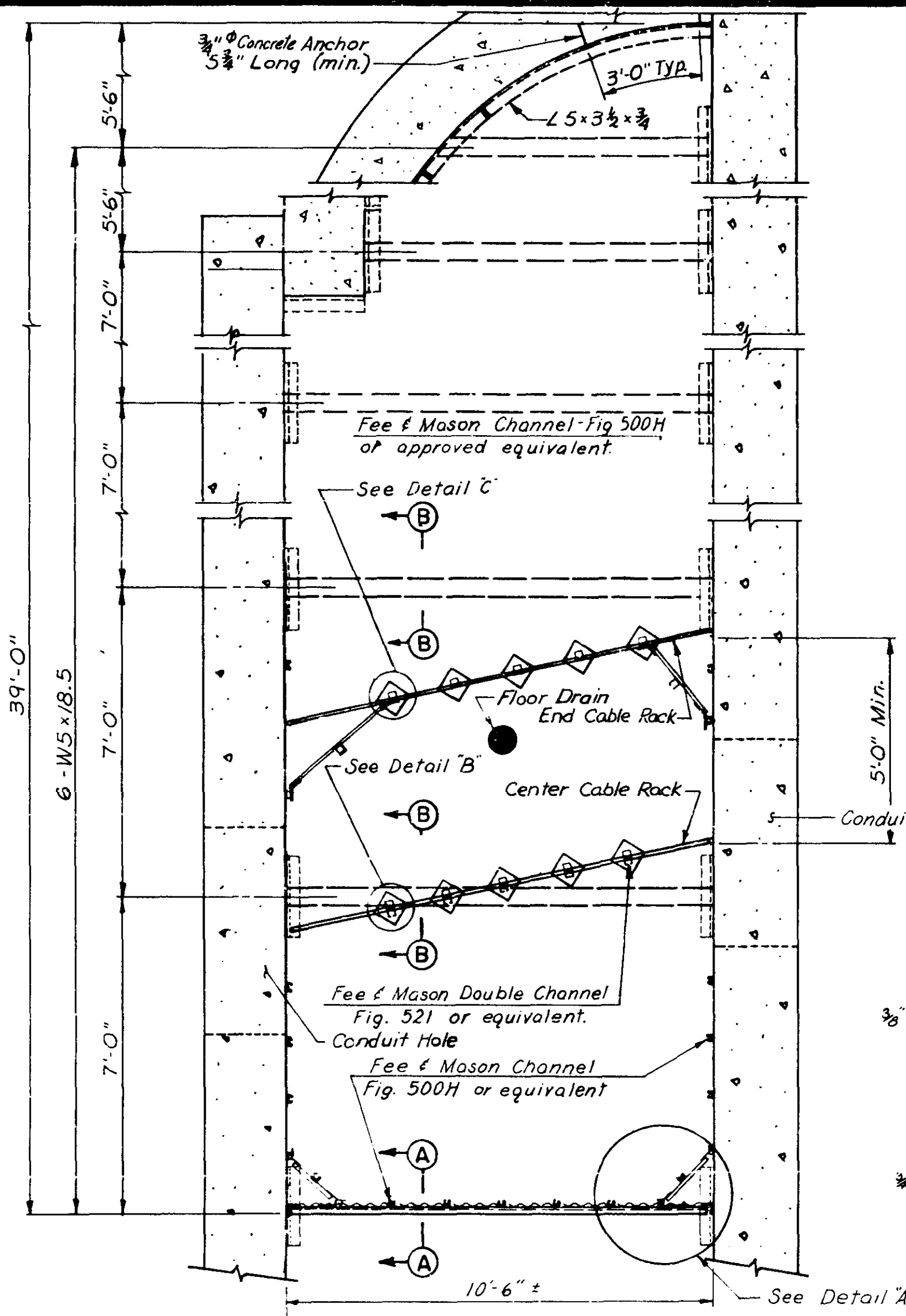


SECTION D-D
Scale: 3/8"=1'-0"

Sheets 104 thru 119 for
General Information Only
Unless Otherwise Noted

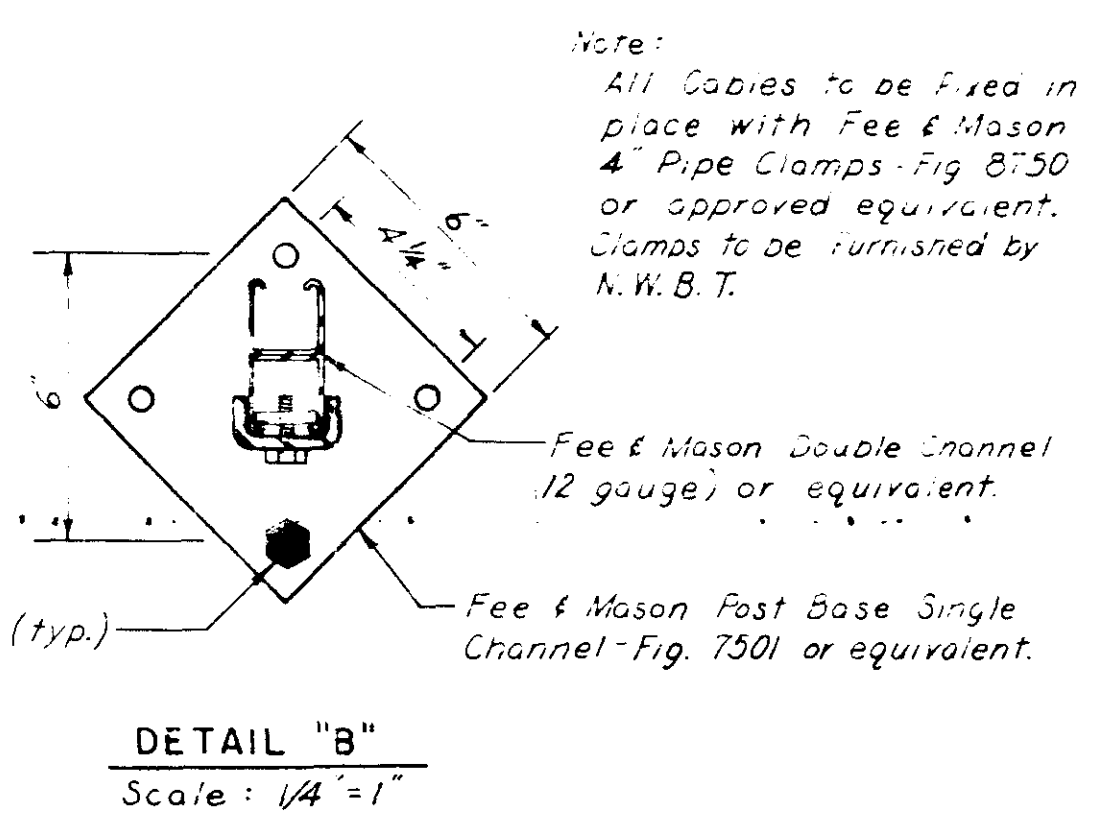
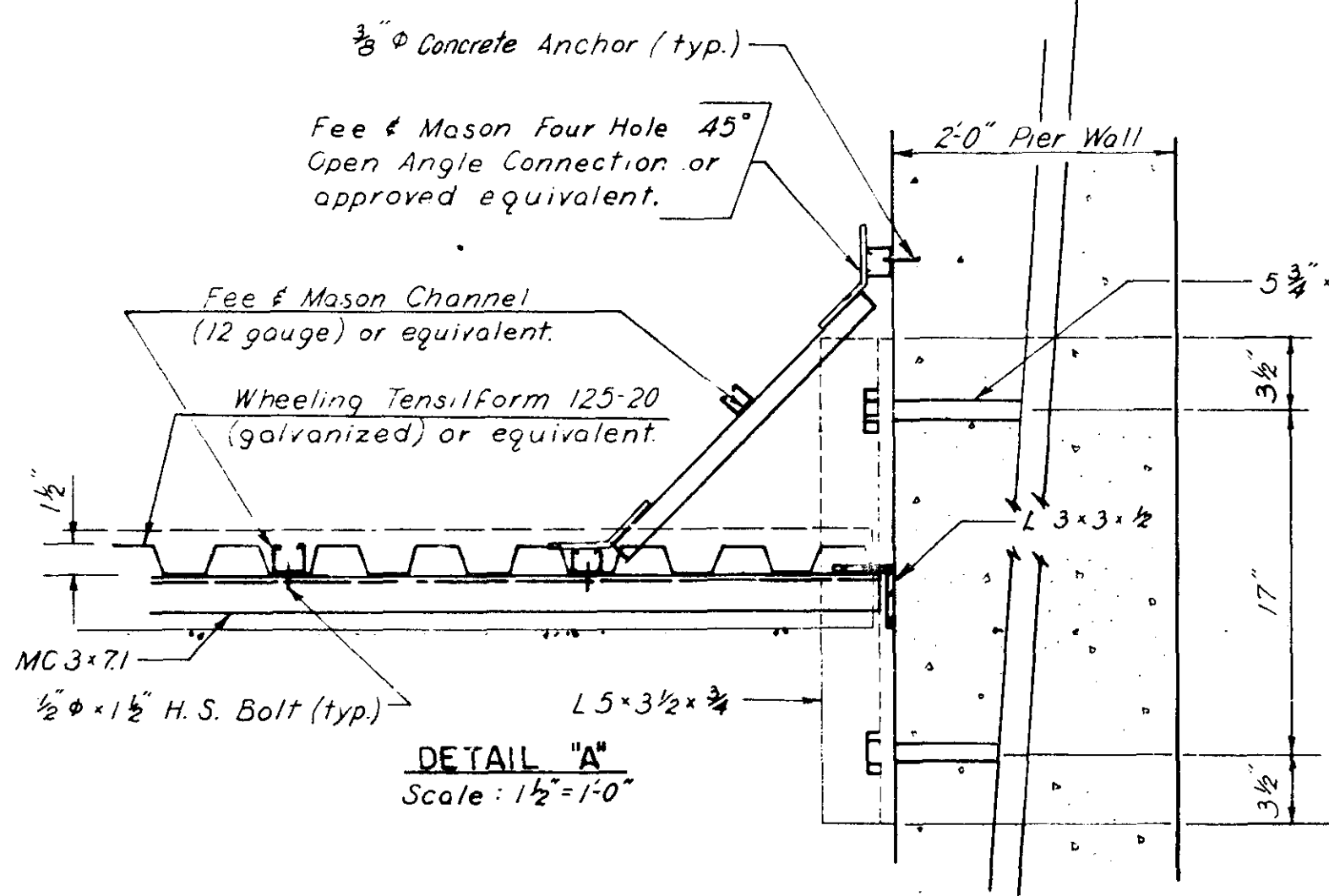
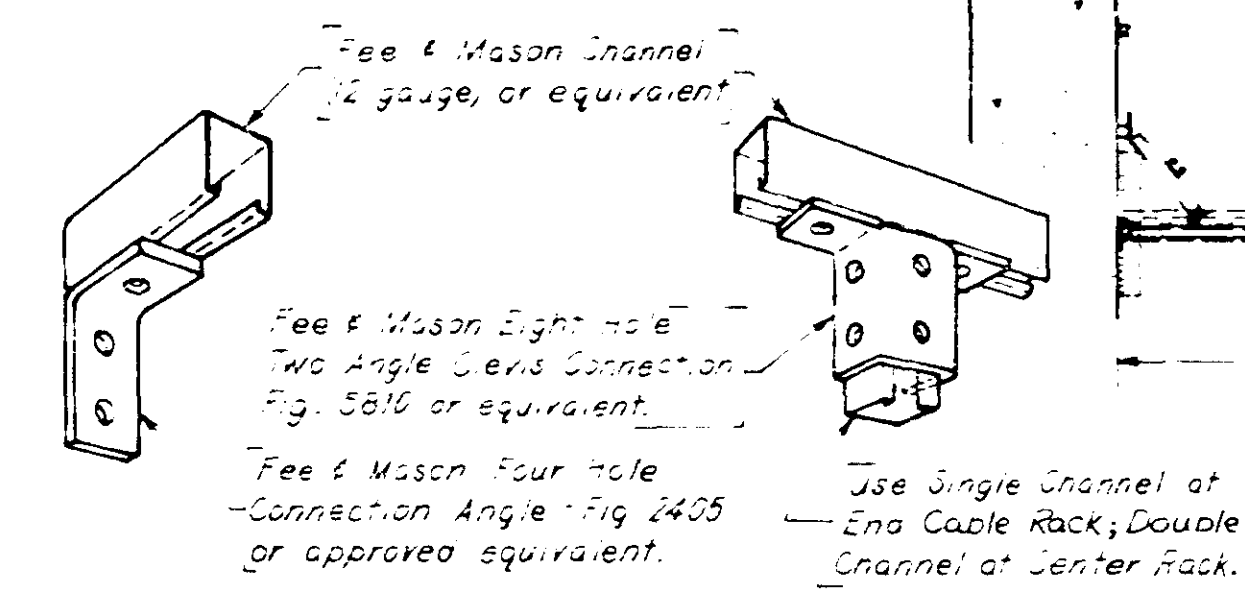
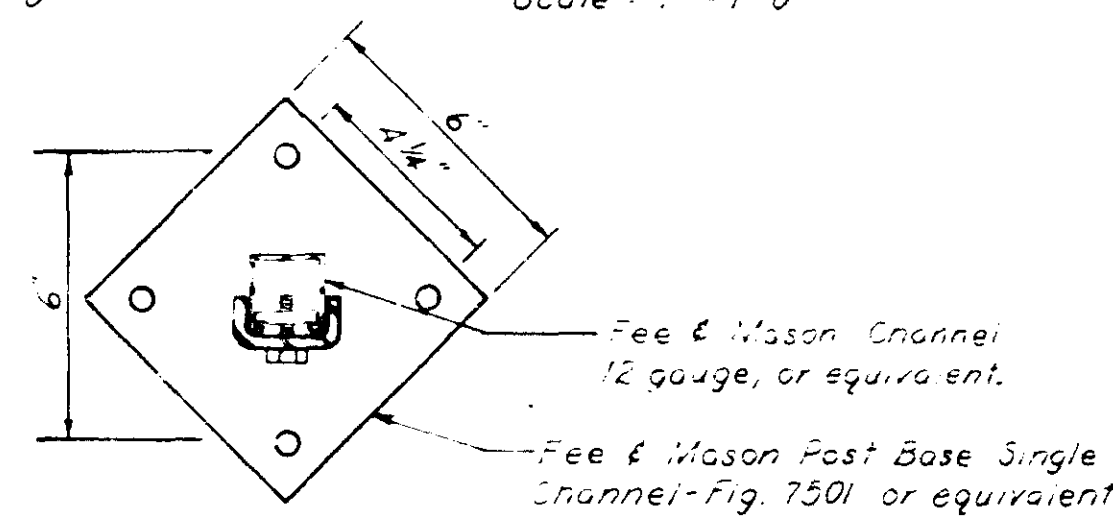
Revised: 7-24-73
Revised: 5-24-73

N.W.B.T. CONDUIT SYSTEM 3RD AVE. BRIDGE			
TITLE: PIER, MANHOLE, & MISCELLANEOUS 14 of 16	DES: R.L.L. CHK: R.O.C.	DR: R.L.L. CHK: R.O.C.	APPROVED: 5-7-79
Sheet No. 117 of 148 Sheets			Bridge No. 2440



Note:
All metal siding, Cable Support Channels and Brackets to be galvanized.

Note:
4" Composite Rib Deck to be Wheeling Tensiform 125-20 or approved equivalent.

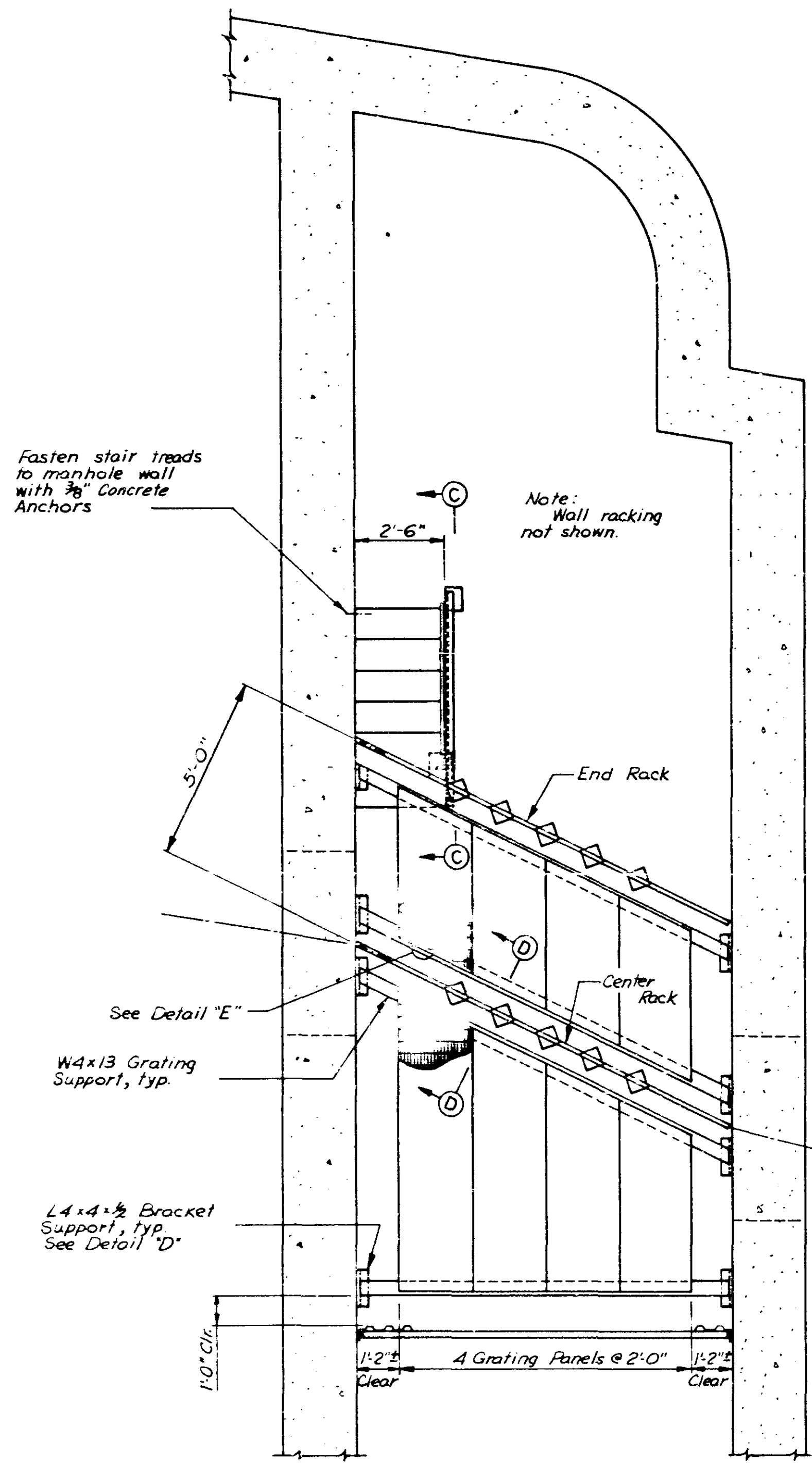


Sheets 104 thru 119 for General Information Only Unless Otherwise Noted.

N.W.B.T. CONDUIT SYSTEM 3RD AVE. BRIDGE			
TITLE:	DES: R.L.L.	DR: R.L.L.	APPROVED:
15 of 16	MANHOLE DETAILS	CHK: R.O.C.	CHK: R.O.C.
Sheet No. 118 of 148 Sheets			Bridge No. 2440

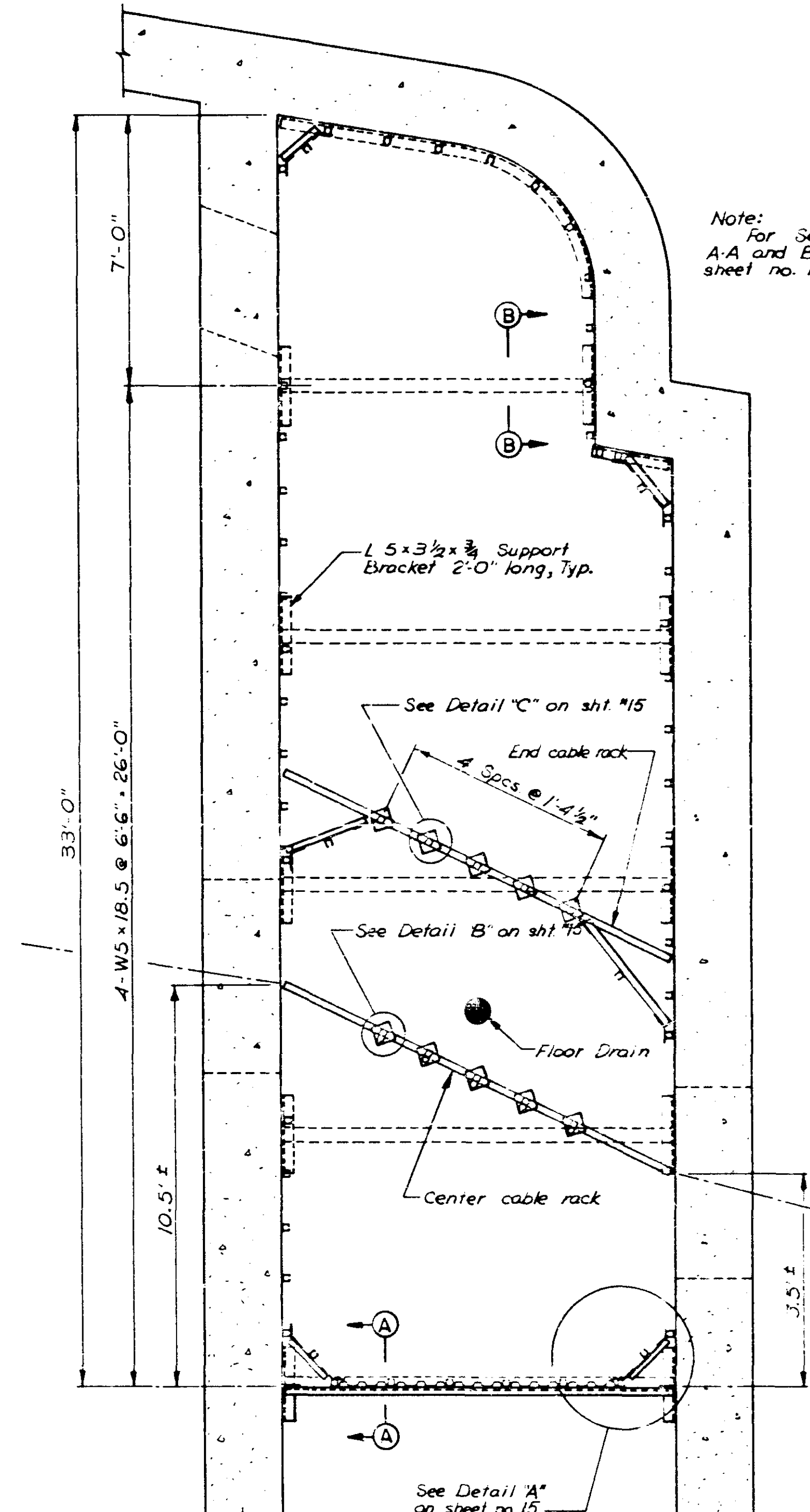
Revised 7-25-75

ALL DIMENSIONS ARE TO FACE UNLESS OTHERWISE NOTED. ALL DIMENSIONS ARE TO FACE UNLESS OTHERWISE NOTED. ALL DIMENSIONS ARE TO FACE UNLESS OTHERWISE NOTED.



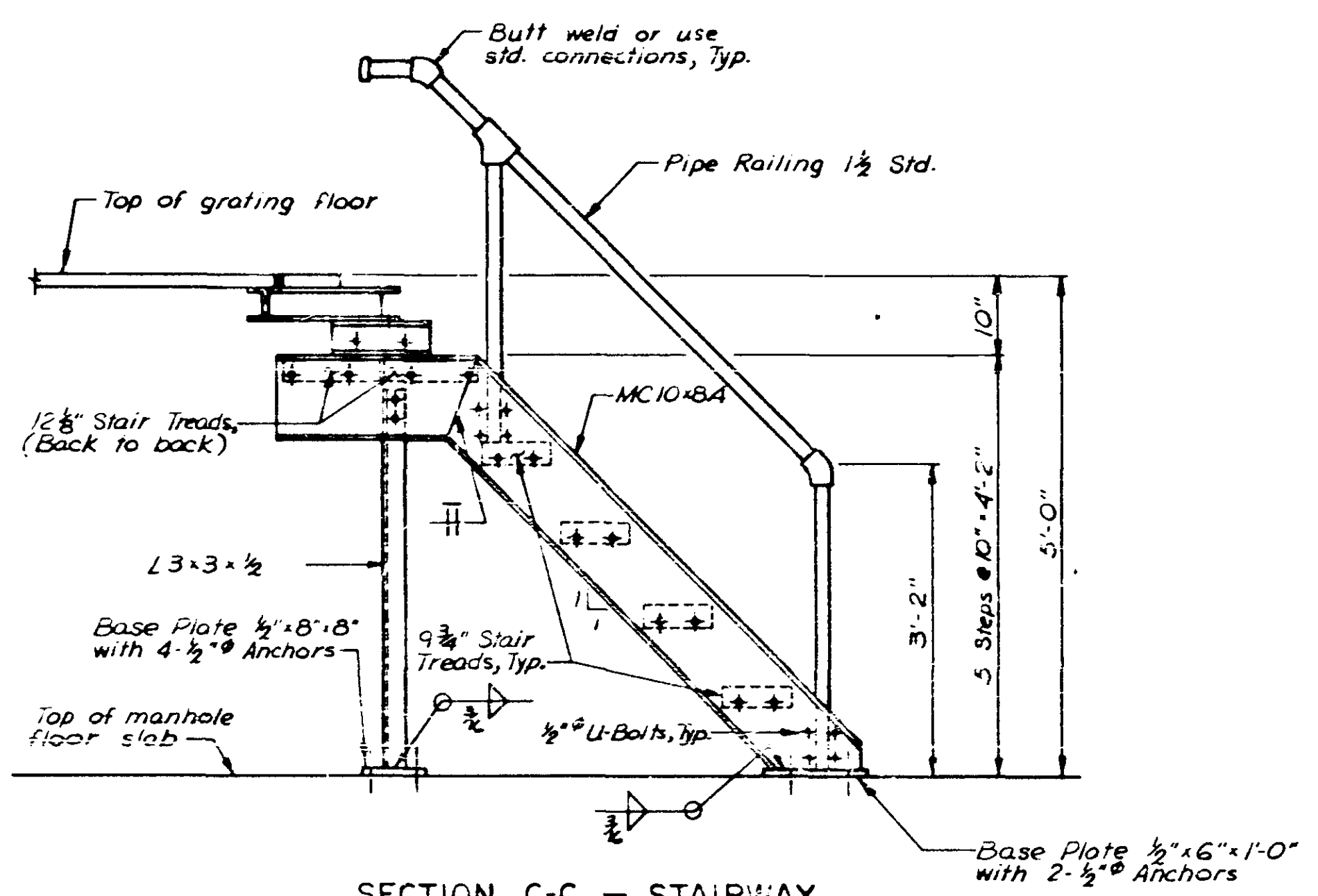
MANHOLE PLAN - PIER I
Not to Scale

Note: Manhole floor concrete shall be placed on Wheeling Tensiform 125-20 as manufactured by Wheeling Corrugating Company, Wheeling, West Virginia or approved equivalent.
Provide #4 - 4/4 welded wire mesh reinforcement and drape over interior supports so as to provide 1/2" cover. Mesh shall not be over 1" above form at midspan.
Erection and placing shall be in accordance with manufactures recommendations.

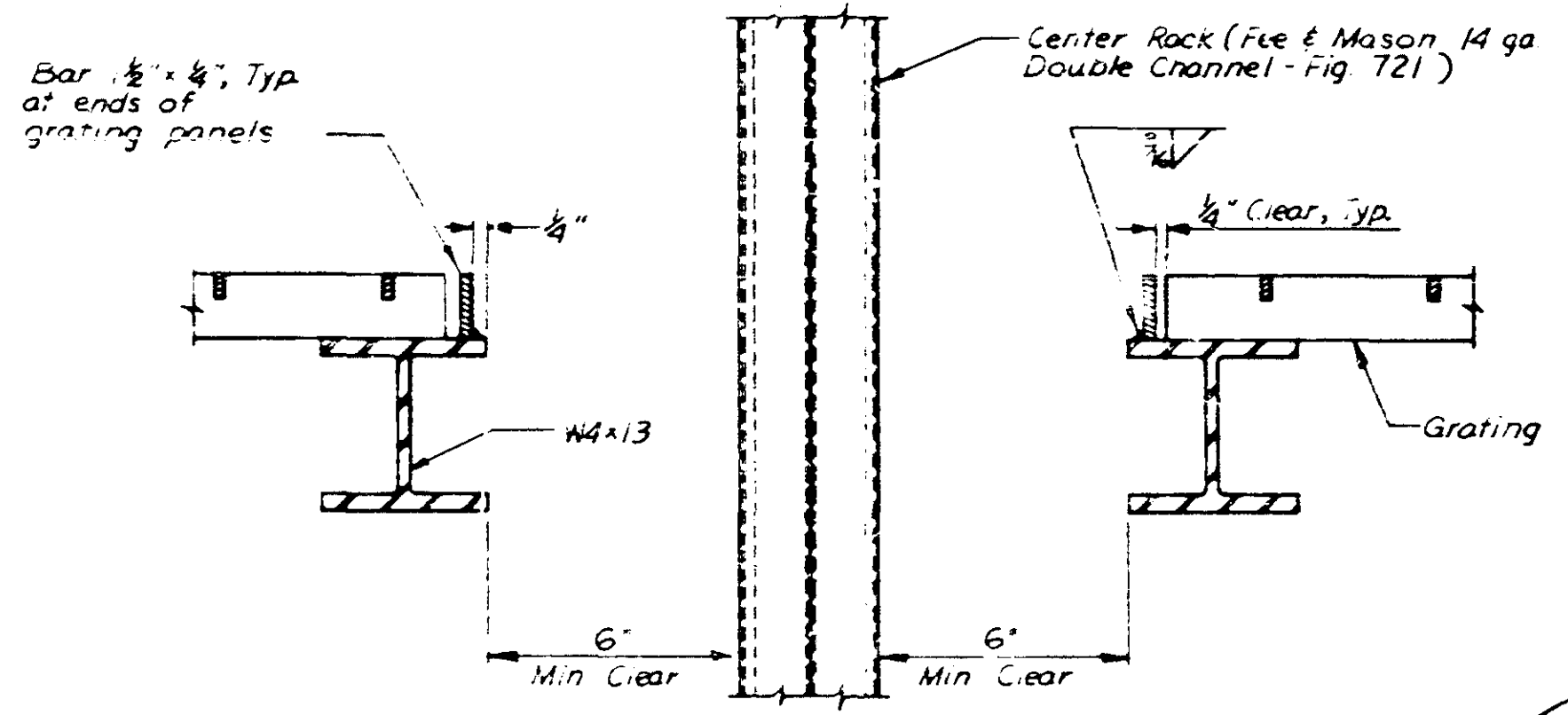


FLOOR PLAN AND RACKING DETAILS
Not to Scale

Note: For Sections A-A and B-B see sheet no. 15

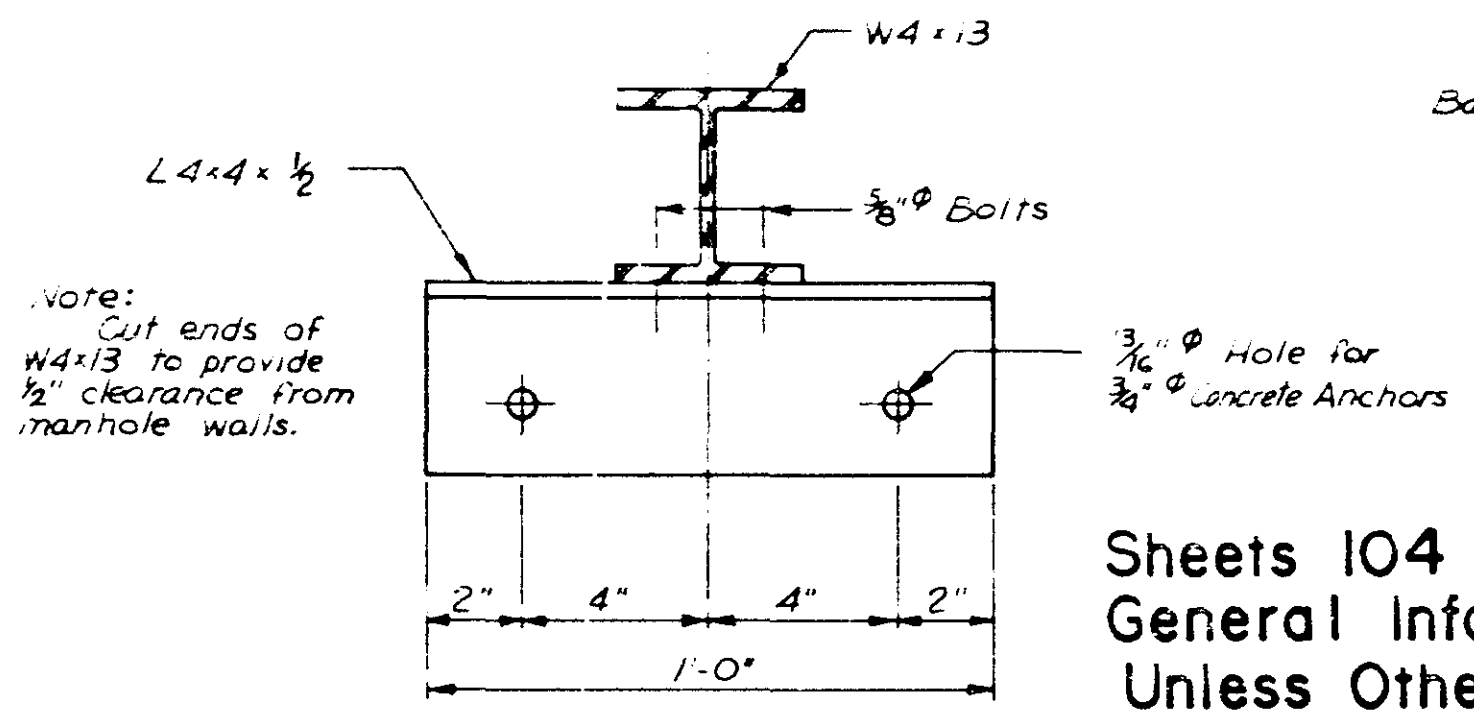


SECTION C-C - STAIRWAY
Scale: 3/8" = 1'-0"



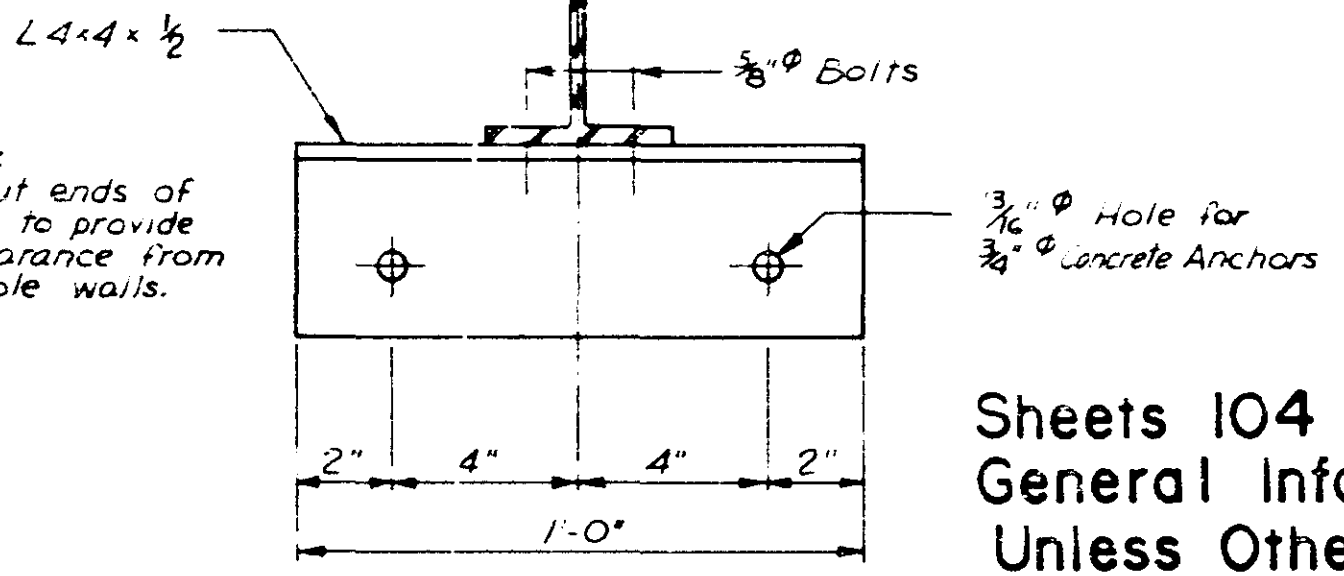
SECTION D-D

Note: Grating shall be Reliance Steel Products Company's Electro-Pressure welded construction, type 1R4 or approved equal, with 1" x 1/4" bearing bars spaced at 1 1/2" centers and 1/4" x 1/4" cross bars spaced at 4" centers. Stair Treads shall be Reliance Steel Products Company's Electro-Pressure welded steel, type 1R4; size 1" x 1/4" bearing bars on 1 1/2" centers and cross bars at 4" centers. Bearing surface of grating and treads shall be plain. Galvanize after fabrication.



DETAIL E
Scale: 3" = 1'-0"

Note: Cut ends of W4x13 to provide 1/2" clearance from manhole walls.

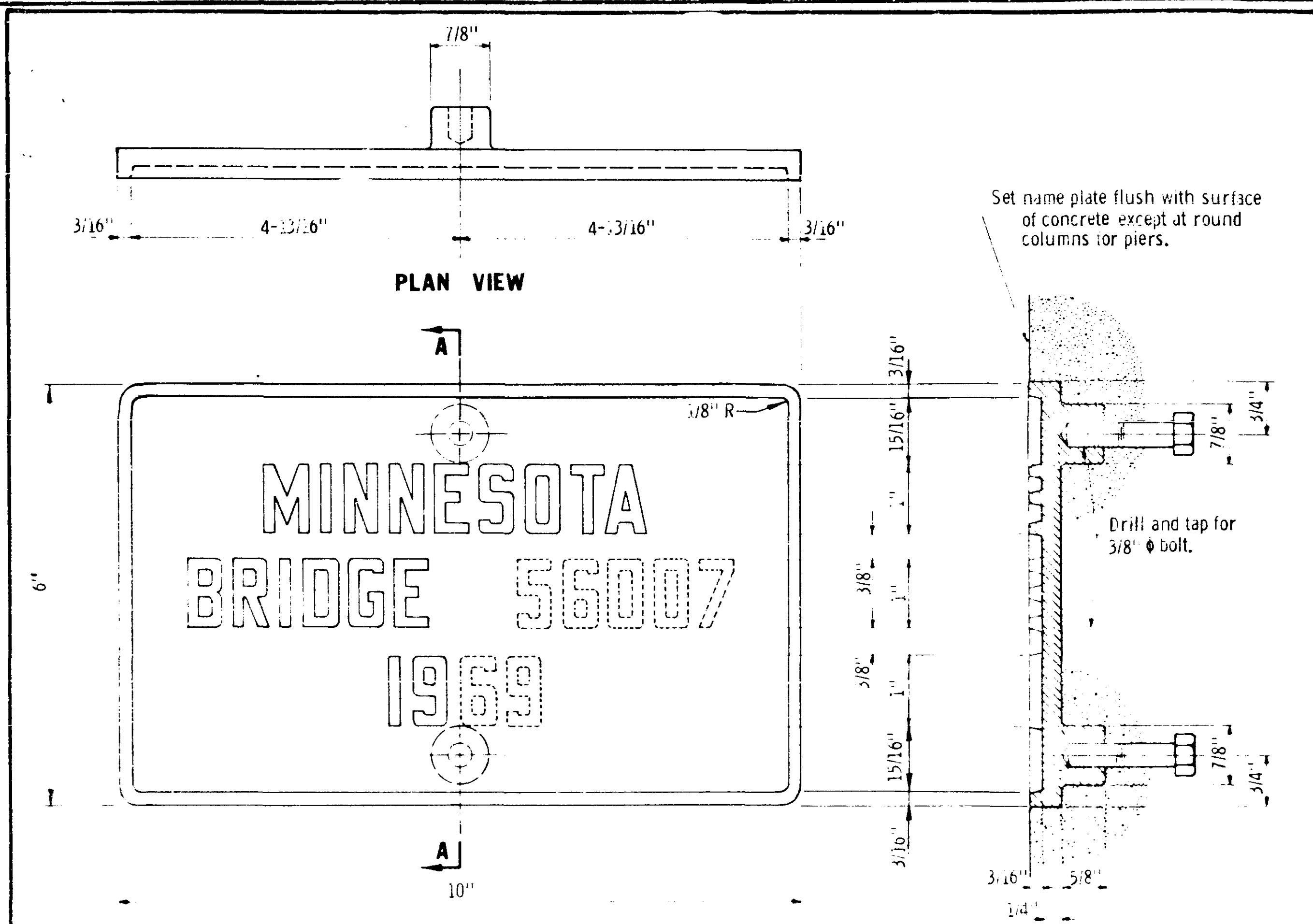


DETAIL D
Scale: 3" = 1'-0"

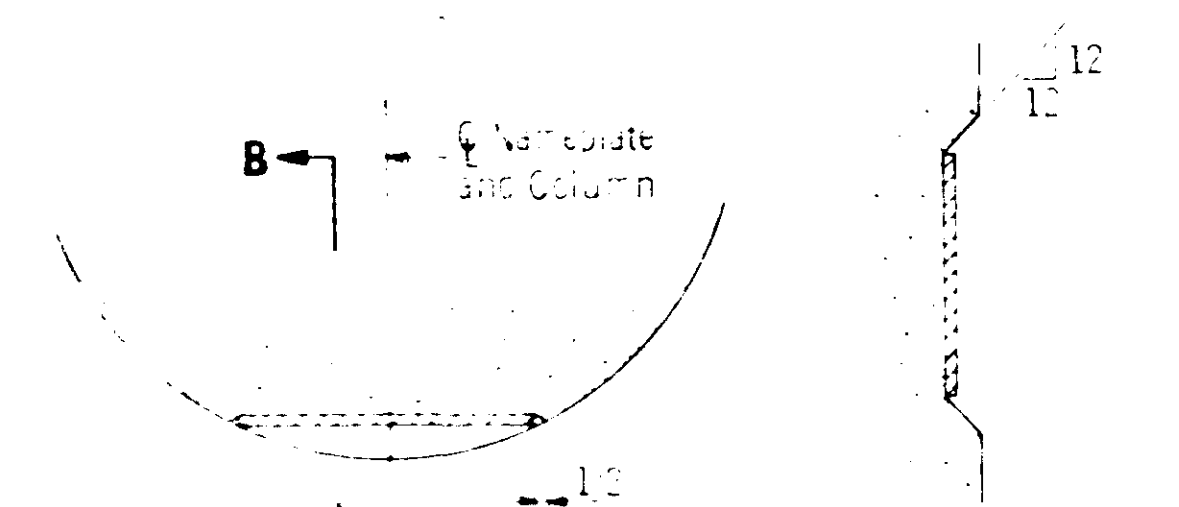
Sheets 104 thru 119 for General Information Only Unless Otherwise Noted

N.W.B.T. CONDUIT SYSTEM 3RD AVE. BRIDGE			
TITLE:	DES: R.O.C.	DR: L.D.H.	APPROVED:
16 of 16	MANHOLE DETAILS PIER I	CHK: R.O.C.	5-7-79
Sheet No. 119 of 148 Sheets			Bridge No. 2440

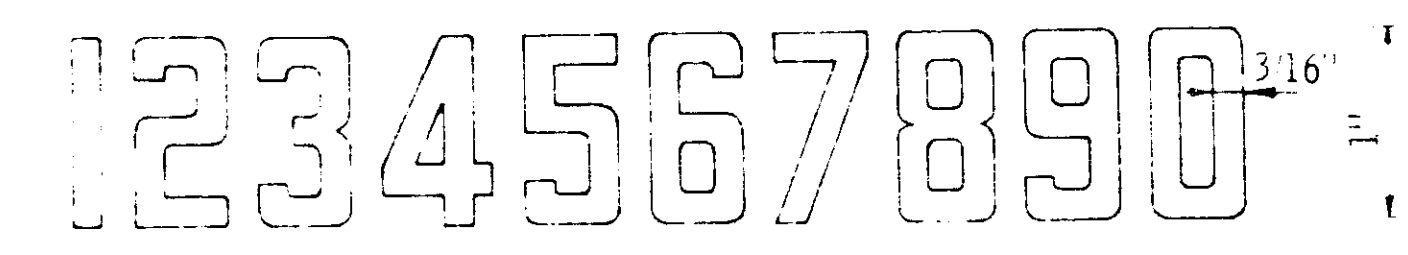
Revised: 7-25-73
Addition: 5-31-73



ELEVATION
 The numbers shown above are for illustration. Data to be shown on name plate is as follows:
 BRIDGE 2440
 YEAR 1979



SECTION B-B
NAMEPLATE PLACEMENT
 (Round Concrete Pier Columns)

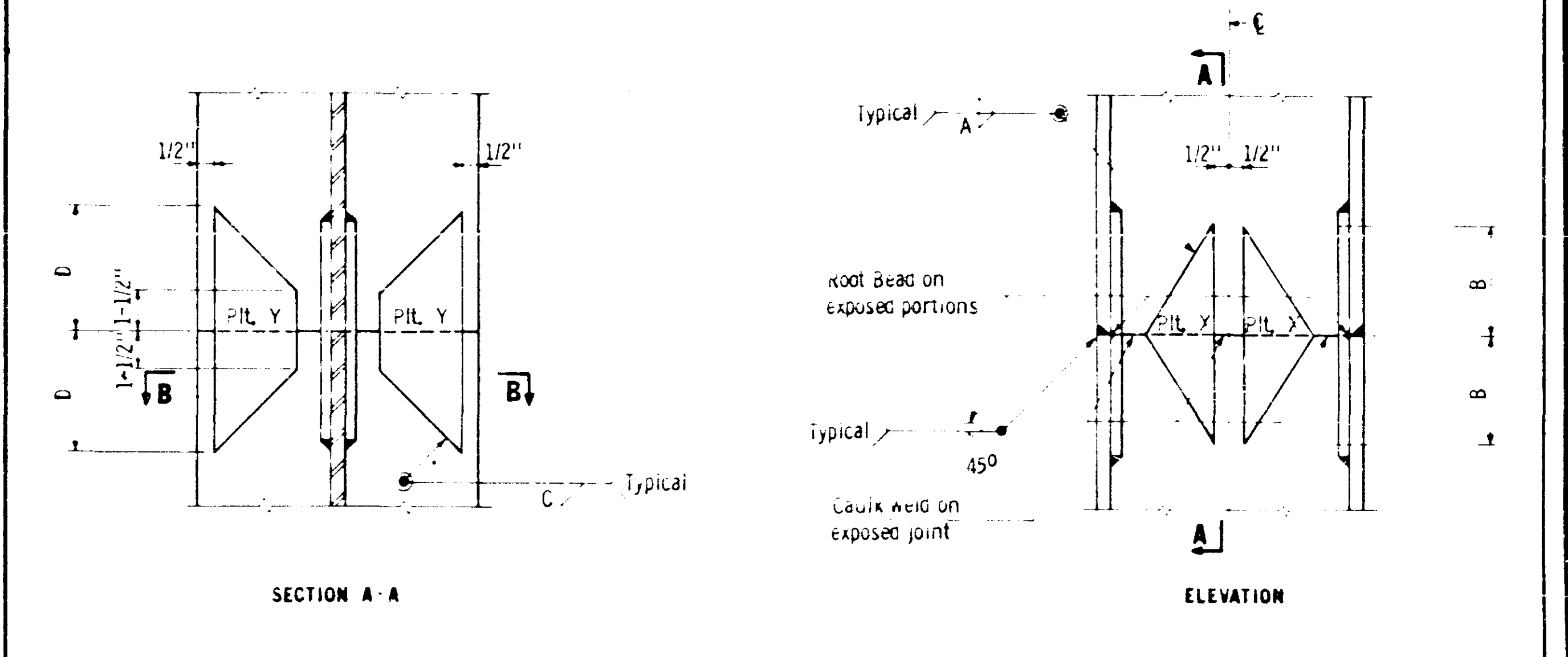
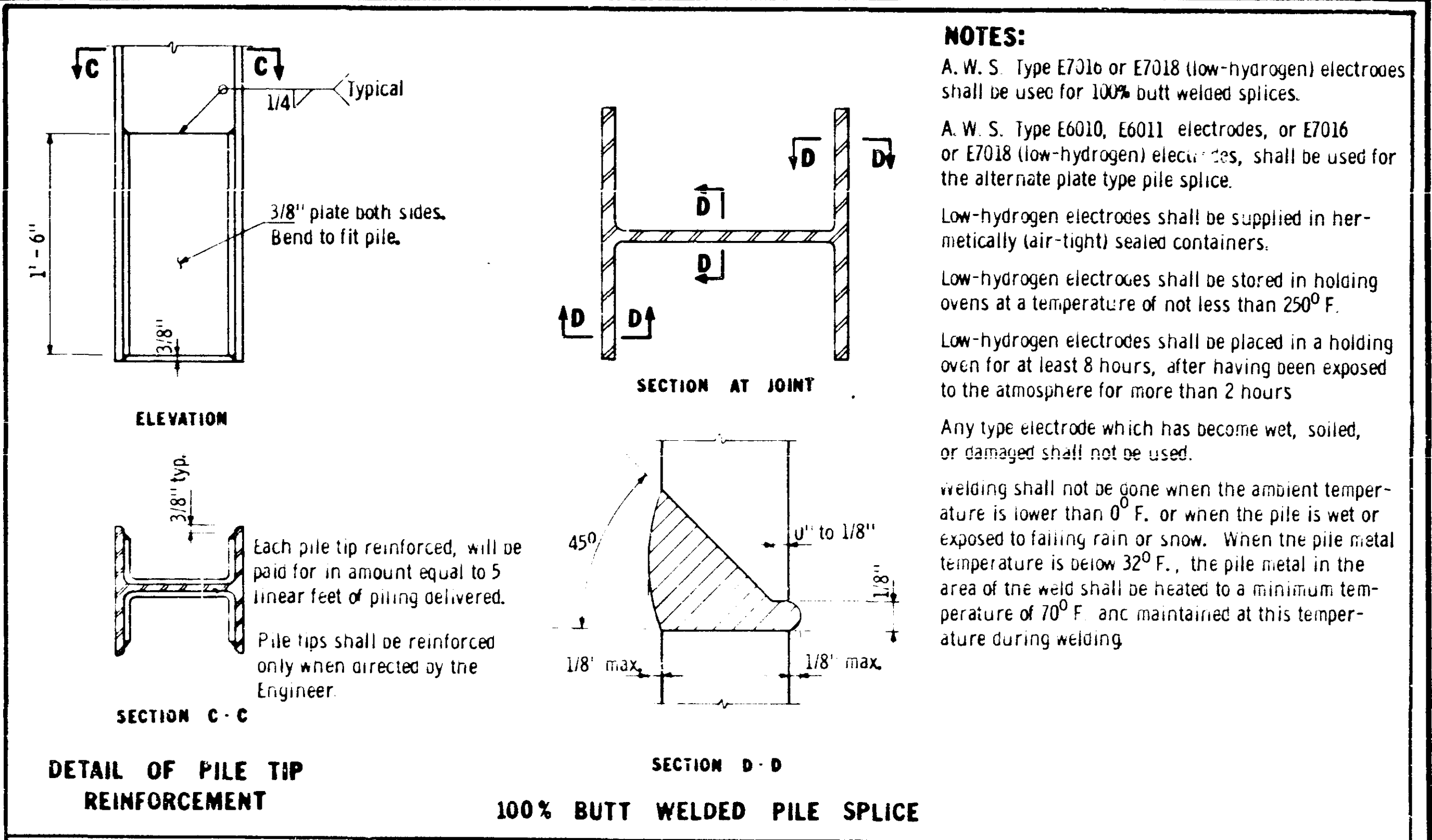


NUMBERS FOR NAMEPLATES

Specification Reference:
 D-71.3H - A. S. T. M. Designation: B145 - Alloy 636.

APPROVED: March 15, 1976	MINNESOTA DEPARTMENT OF TRANSPORTATION	DETAIL NO.
Developed by: OFFICE OF ENGINEERING STANDARDS AND BRIDGE DESIGN	BRIDGE NAMEPLATE TRUNK HIGHWAY BRIDGES	B101
Issued by: OFFICE OF ENGINEERING STANDARDS		

NOTES:
 No shop drawing required.
 Material shall comply with Mn/Dot 3327.
 Numbers and letters shall conform to those shown.
 Draft on letters shall not be more than 3/16 inch in 12 horizontal spacing of letters shall produce a balanced layout in proportion to spacing shown. Top surface of letters and frames shall be furnished.
 Furnish 2 steel bolts 3/8 inch diameter x 3 inch long with each plate.



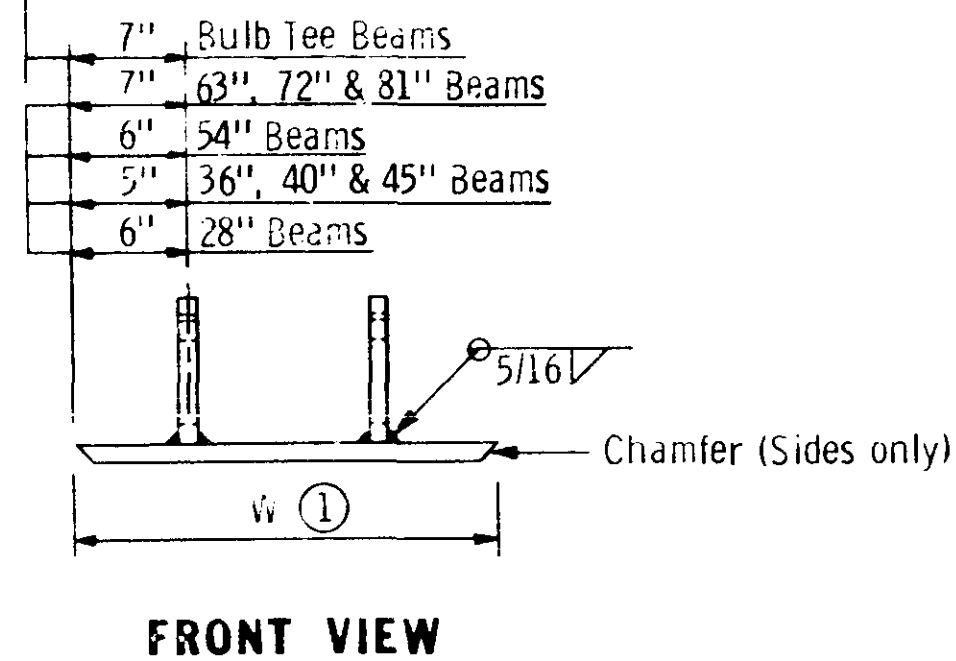
PILE SECTION	PLATE X		PLATE Y			
	Size	A	B	Size	C	D
HP10 x 42	2-1/2 x 3/8	1/4	4	3 x 3/8	5.16	4
HP10 x 57	2-1/2 x 1/2	5.16	4	3 x 1/2	5.16	5
HP12 x 53	3-1/2 x 3/8	1/4	5	4 x 3/8	5.16	5
HP12 x 74	3-1/2 x 1/2	5.16	6	4 x 1/2	5.16	6
HP14 x 73	4-1/2 x 3/8	1/4	7	5 x 3/8	5.16	6
HP14 x 89	4-1/2 x 7.16	5.16	7	5 x 1/2	5.16	7
HP14 x 102	4-1/2 x 1/2	5.16	7	5 x 9.16	3.8	7
HP14 x 117	4-1/2 x 9.16	3/8	7	5 x 5.8	3/8	8

ALTERNATE PILE SPLICE

APPROVED July 21, 1972	STATE OF MINNESOTA DEPARTMENT OF TRANSPORTATION	DETAIL NO.
<i>Richard A. Hoff</i> Engineering Standards Engineer RESEARCH AND STANDARDS DIVISION	PILE SPLICE and TIP REINFORCEMENT STEEL H BEARING PILES 10" TO 14"	B202

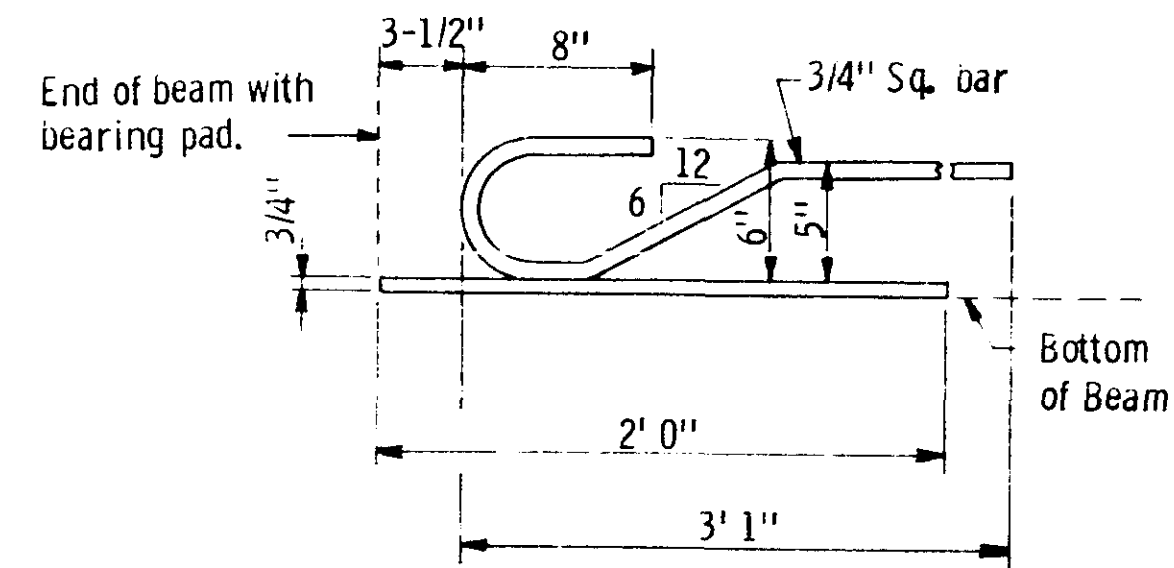
ALL RIGHTS RESERVED. THIS DOCUMENT IS THE PROPERTY OF THE STATE OF MINNESOTA. IT IS LOANED TO YOU BY THE STATE OF MINNESOTA. IT IS NOT TO BE REPRODUCED OR TRANSMITTED IN ANY FORM OR BY ANY MEANS, ELECTRONIC OR MECHANICAL, INCLUDING PHOTOCOPYING, RECORDING, OR BY ANY INFORMATION STORAGE AND RETRIEVAL SYSTEM, WITHOUT THE WRITTEN PERMISSION OF THE STATE OF MINNESOTA. THIS DOCUMENT IS THE PROPERTY OF THE STATE OF MINNESOTA. IT IS LOANED TO YOU BY THE STATE OF MINNESOTA. IT IS NOT TO BE REPRODUCED OR TRANSMITTED IN ANY FORM OR BY ANY MEANS, ELECTRONIC OR MECHANICAL, INCLUDING PHOTOCOPYING, RECORDING, OR BY ANY INFORMATION STORAGE AND RETRIEVAL SYSTEM, WITHOUT THE WRITTEN PERMISSION OF THE STATE OF MINNESOTA.

These dimensions may be modified to clear post tensioning tubes or prestressing strands. Changes must be approved by the Engineer.



① Dimension "W" to be the width at the bottom flange of the beam - 1/4".

SOLE PLATE FOR B305 BEARING

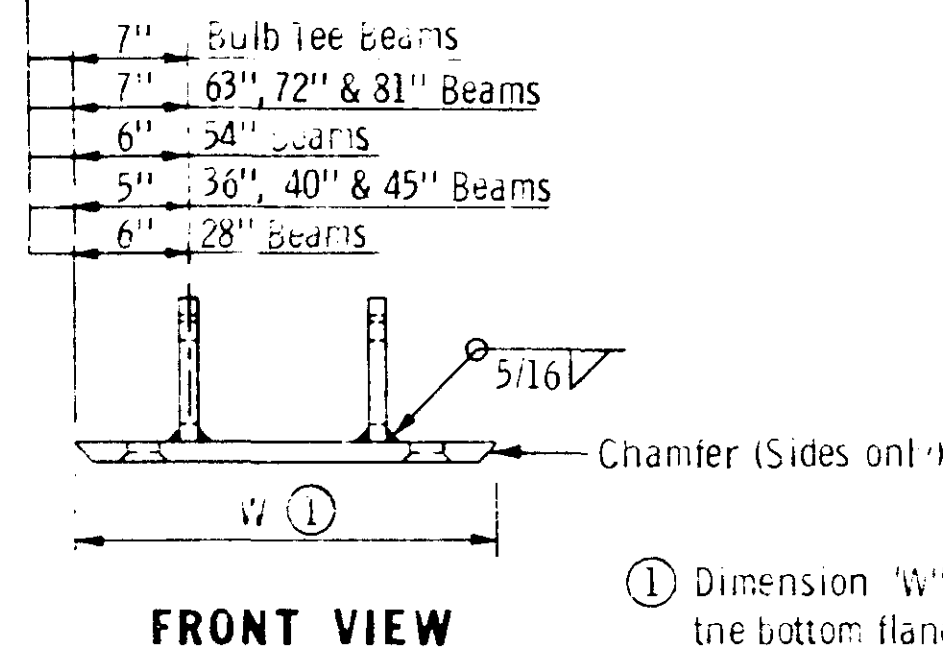


SIDE VIEW

NOTES

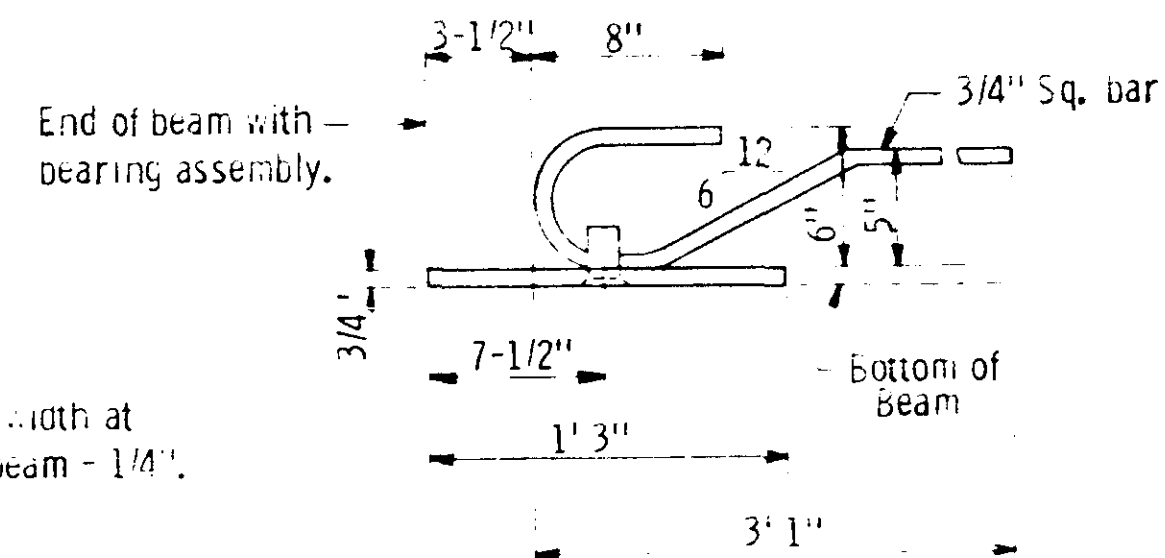
Material to be Structural Steel per Spec. 3306
Sole plate for Bearing Assembly to be hot dipped galvanized as per Spec. 3394 after fabrication.
Payment for sole plates to be included in price bid for Prestressed Concrete Beams.

These dimensions may be modified to clear post tensioning tubes or prestressing strands. Changes must be approved by the Engineer.



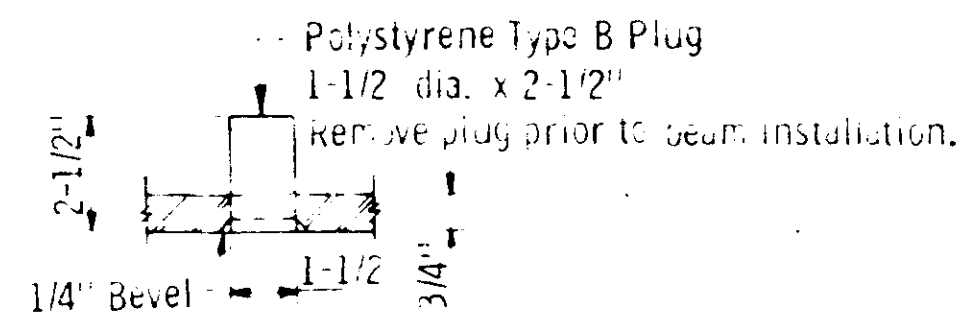
① Dimension "W" to be the width at the bottom flange of the beam - 1/4".

SOLE PLATE FOR B302 & B304 BEARING ASSEMBLY



SIDE VIEW

Showing placement in beam

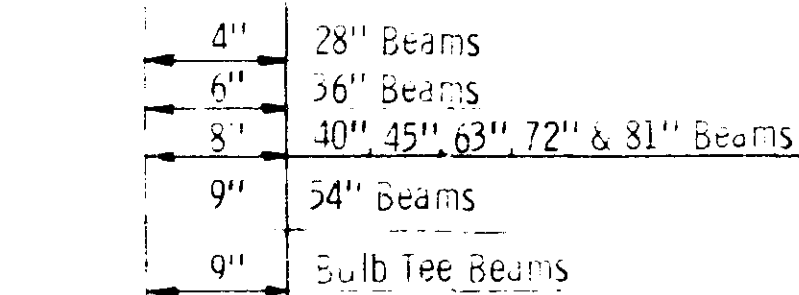
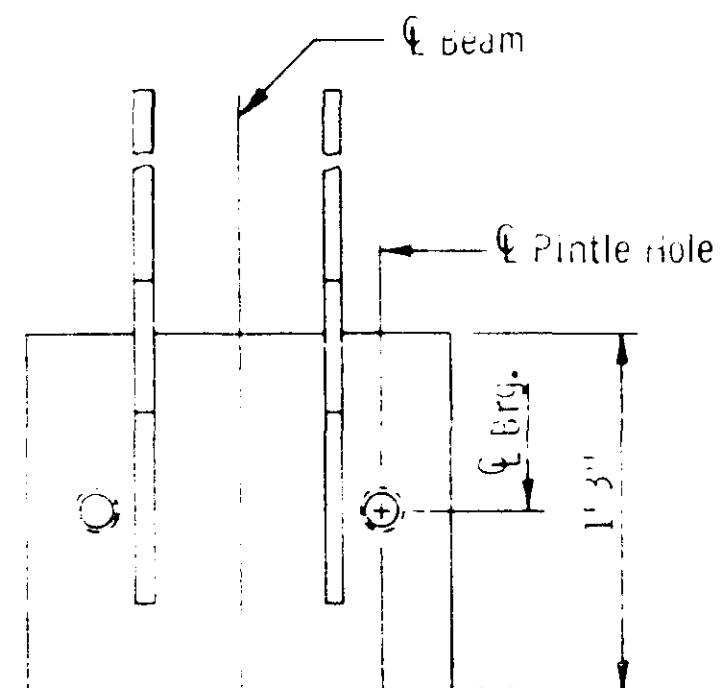


PINTE HOLE DETAIL

2 Required

NOTES

Material to be Structural Steel per Spec. 3306
Sole plate for Bearing Assembly to be hot dipped galvanized as per Spec. 3394 after fabrication. Pintle holes shall be free of zinc build up from galvanizing.
Payment for sole plates to be included in price bid for Prestressed Concrete Beams



PLAN VIEW

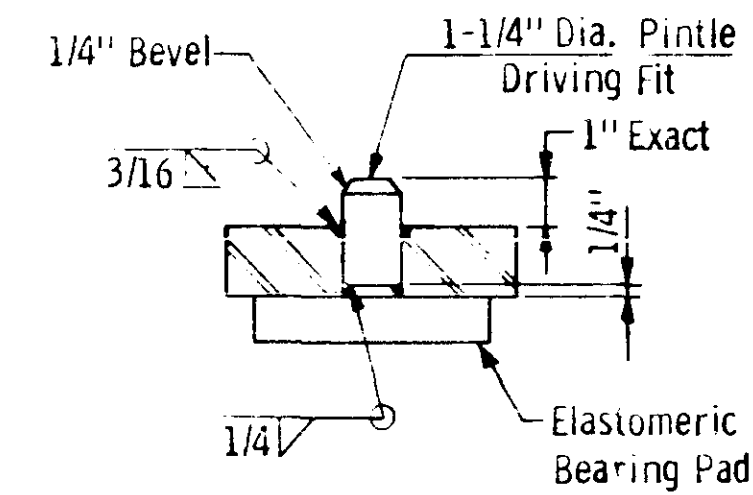
APPROVED: April 26, 1978
Developed by: ENGINEERING STANDARDS AND BRIDGES AND STRUCTURES
Issued by: ENGINEERING STANDARDS

STATE OF MINNESOTA
DEPARTMENT OF TRANSPORTATION
**SOLE PLATES
PRESTRESSED CONCRETE BEAMS**

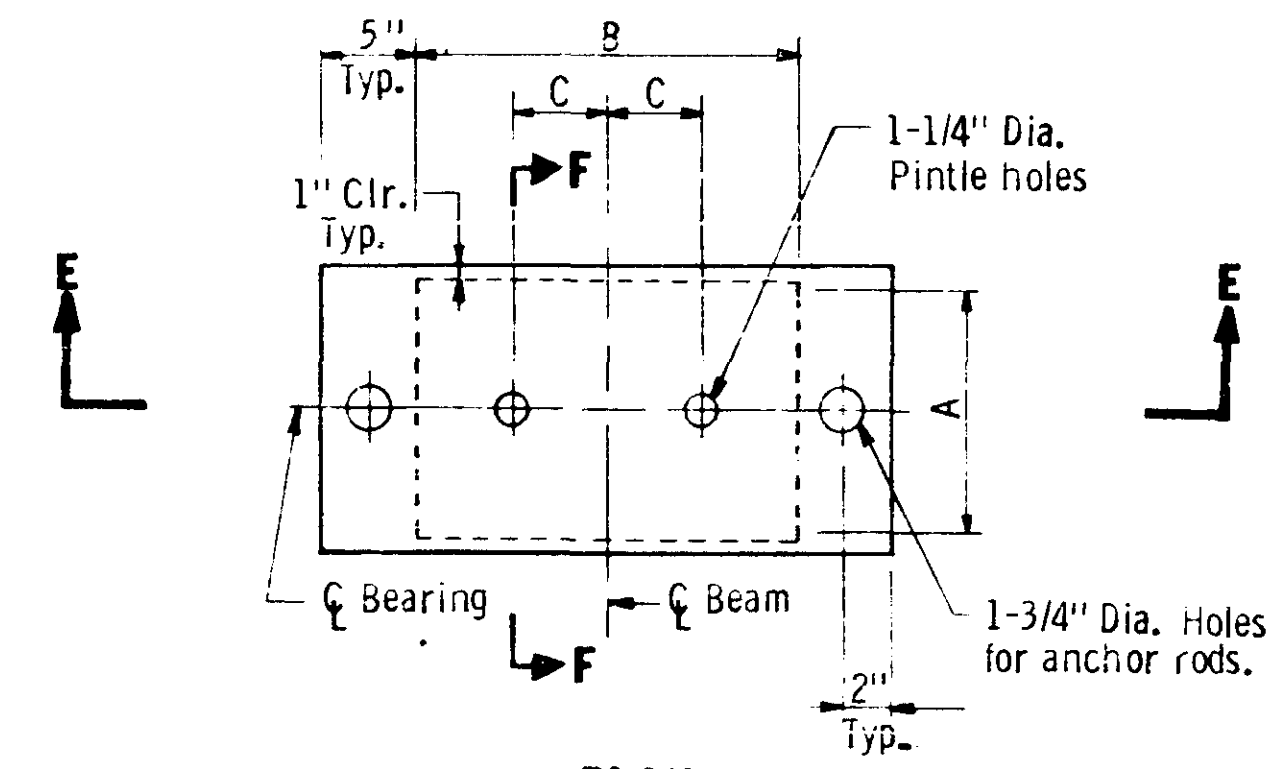
REVISION
Sept. 7, 1978

DETAIL NO.

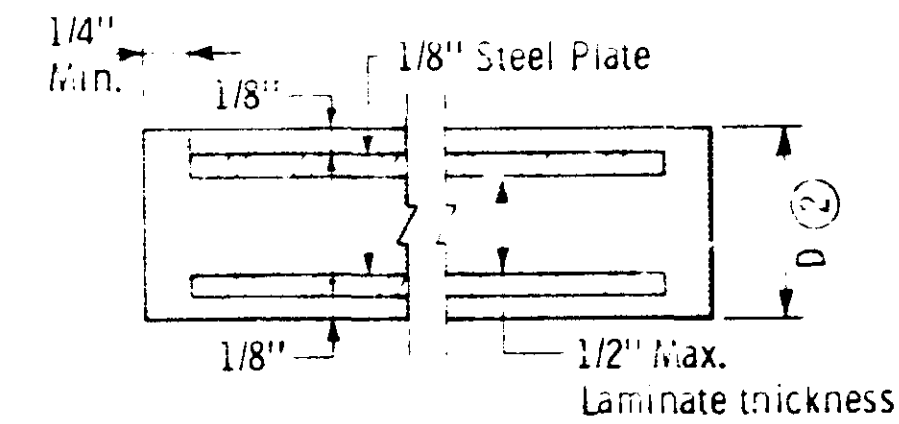
B303



SECTION F-F (ENLARGED)

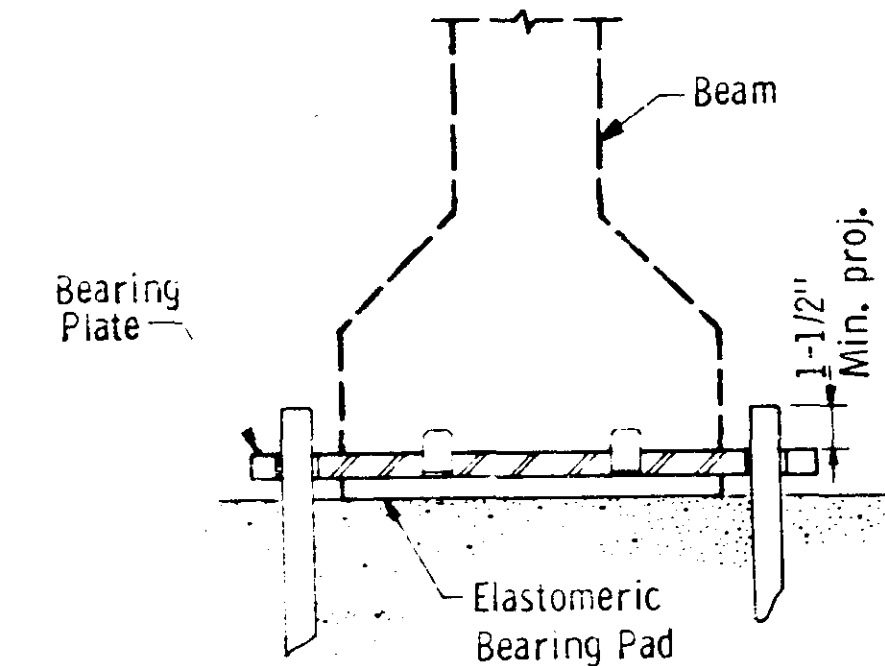


PLAN

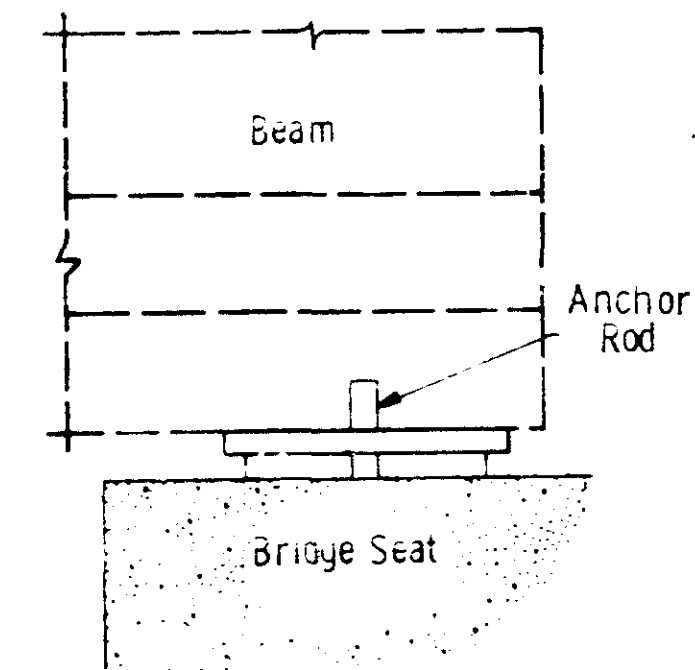


2 Total thickness including the steel plates
SECTION THRU PAD

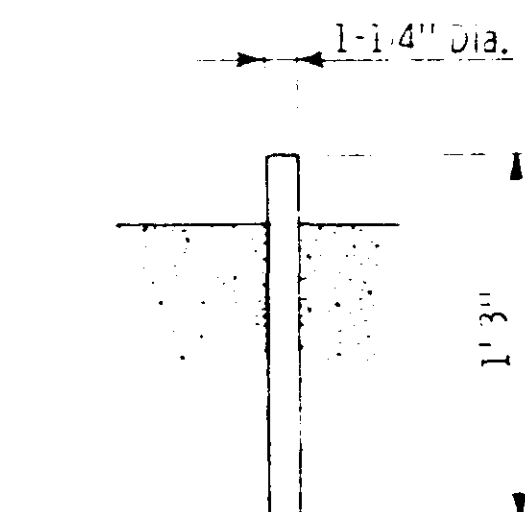
STEEL LAMINATE PAD DETAIL (1 Pad Shown)



SECTION E-E



SIDE ELEVATION



ANCHOR ROD DETAIL

ELASTOMERIC PAD TABLE

Beam Size	A	B	C	DL - LL Min. (Kips)	DL - LL Max. (Kips)	DL - LL Max. (Kips)	Shape Factor	Bearing Plate Size	Pad Thk. D	Assy. Type
28"	10"	14"	4"	28	69	110	6	12" x 24" x 1"	1/2"	
↓	12"	16"	4"	33	83	132	6	14" x 24" x 1"	1/2"	
↓	14"	18"	4"	39	97	155	7	16" x 24" x 1"	1/2"	
26"	10"	16"	5"	32	79	126	6	12" x 26" x 1"	1/2"	
↓	12"	18"	5"	38	95	152	7	14" x 26" x 1"	1/2"	
↓	14"	20"	5"	44	111	177	7	16" x 26" x 1"	1/2"	
40-45"	10"	20"	8"	40	99	158	7	12" x 30" x 1"	1/2"	
↓	12"	24"	8"	48	119	190	8	14" x 30" x 1"	1/2"	
↓	14"	28"	8"	56	139	222	8	16" x 30" x 1"	1/2"	
54"-81"	10"	24"	9"	45	113	190	7	12" x 34" x 1"	1"	
↓	12"	28"	9"	57	143	228	8	14" x 34" x 1"	1"	
↓	14"	32"	9"	67	167	267	9	16" x 34" x 1"	1"	
50"-54"	10"	22"	9"	44	109	174	7	12" x 32" x 1"	1/2"	
↓	12"	26"	9"	52	131	209	8	14" x 32" x 1"	1/2"	
↓	14"	30"	9"	61	153	244	9	16" x 32" x 1"	1/2"	
↓	16"	34"	9"	70	175	280	9	18" x 32" x 1"	1/2"	

NOTES

For elastomeric materials and construction, see Spec. 3741.
Pins and anchor rods shall comply with Spec. 5506.
Pintles shall comply with Spec. 3314, Type II.
Galvanize structural steel per Spec. 3394.
Payment for bearing assembly shall include all material on this detail.

APPROVED: April 26, 1978
Developed by: ENGINEERING STANDARDS AND BRIDGES AND STRUCTURES
Issued by: ENGINEERING STANDARDS

STATE OF MINNESOTA
DEPARTMENT OF TRANSPORTATION
**ELASTOMERIC BEARING ASSEMBLY
PRESTRESSED CONCRETE BEAMS
(FIXED)**

REVISION

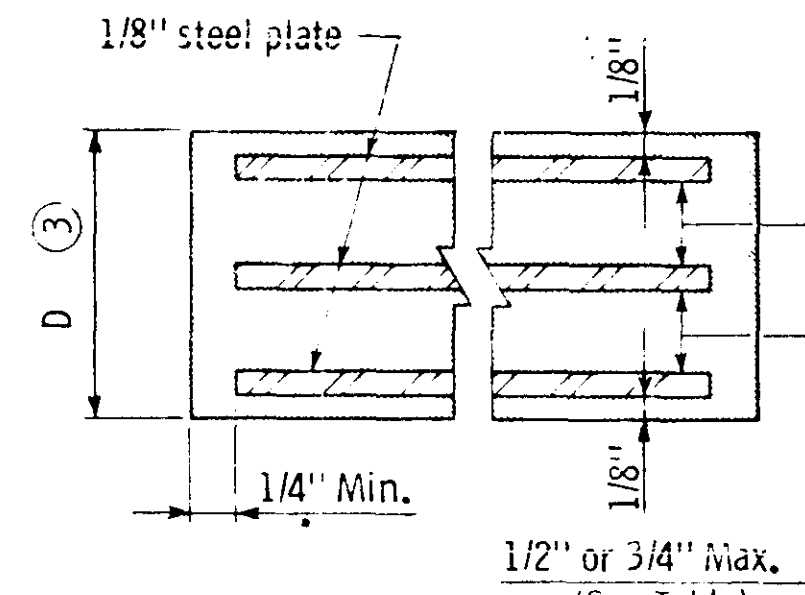
DETAIL NO.

B304

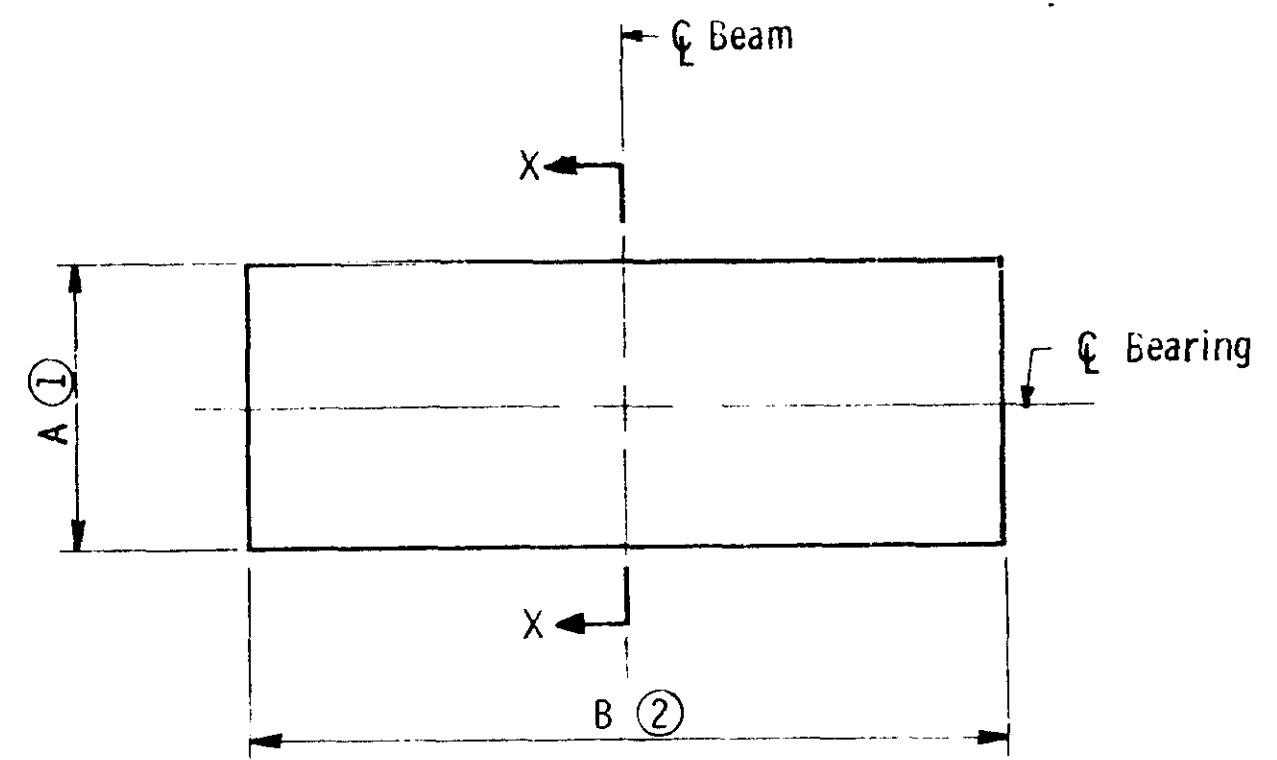
DETAILS

DES: 121
DR: 148
APPROVED: 5-7-79

Bridge No. **2440**



SECTION X-X
 ③ Total thickness including the steel plates
STEEL LAMINATE PAD DETAIL
 (1-1/2" pad shown)



PLAN
 ① Minimum A dimension shall be $3[D - 1/8 (\text{No. of steel plates})]$
 ② Minimum B dimension shall be $2[D - 1/8 (\text{No. of steel plates})]$

NOTE:
 For elastomeric materials and pad construction see Spec. 3741.
 All bearing pads are to bear evenly on the bearing seats.

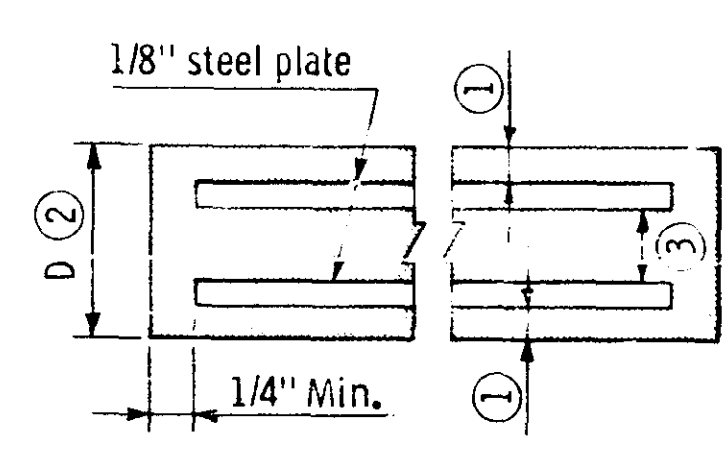
LAMINATE TABLE

MAXIMUM MOVEMENT	PAD THICKNESS	MAXIMUM NO. OF LAMINATES
1/2" Lam. 3/4" Lam.	D	1/2" Lam. 3/4" Lam.
1/4"	1"	1
7/16"	1-1/2"	2
5/8"	11/16"	2
13/16"	7/8"	2-1/2"
1"	1-1/8"	3
1-1/4"	1-5/16"	3-1/2"
1-7/16"	1-1/2"	4
1-5/8"	1-3/4"	4-1/2"
1-13/16"	1-15/16"	5
2"	2-3/16"	5-1/2"
2-1/4"	2-5/8"	6
2-7/16"	2-5/8"	6-1/2"
2-5/8"	2-13/16"	7
2-13/16"	3"	7-1/2"
3"	3-1/4"	8

TYPE 1
 TYPE 2

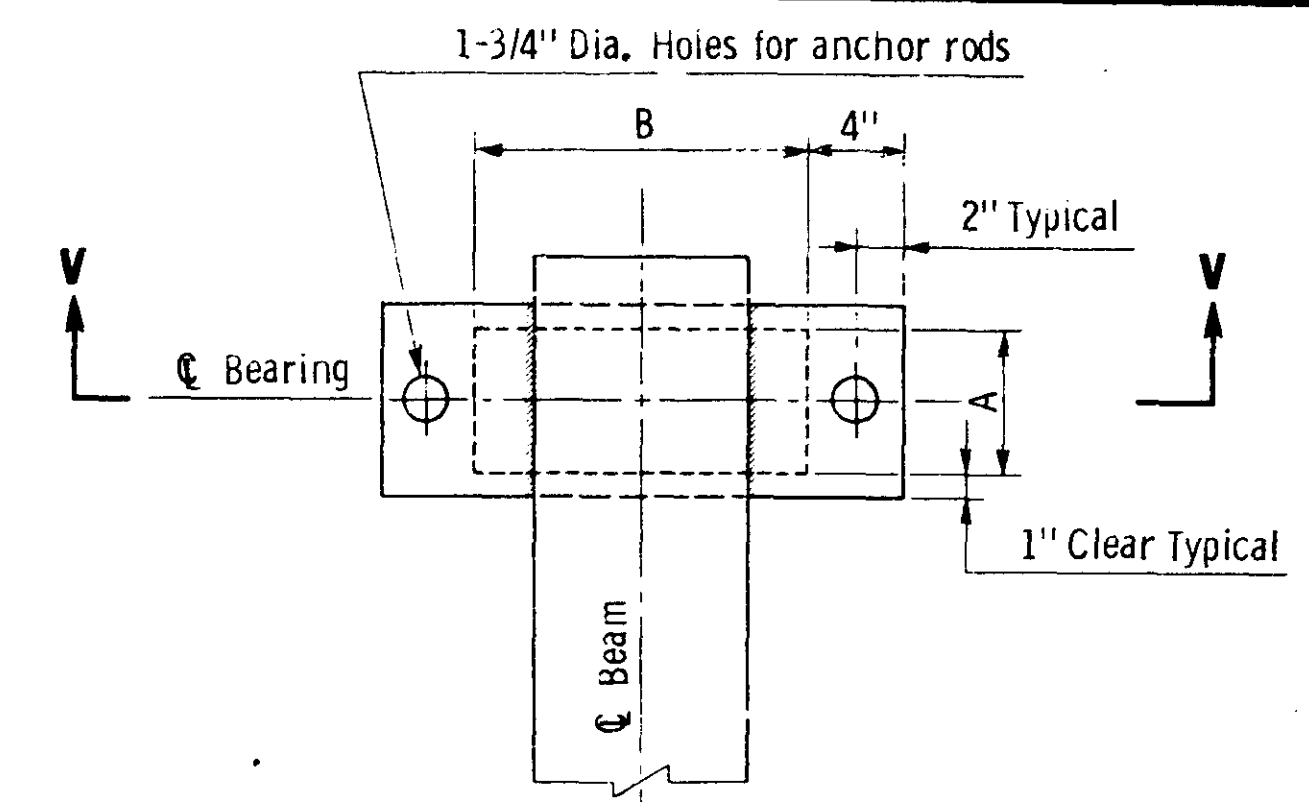
ELASTOMERIC PAD TABLE

Beam Size	A	B	D	DL Min. (Kips)	DL Max. (Kips)	DL + LL Max. (Kips)	Shape Factor	Max. Lam. Thk.	Pad Type
28"	10"	14"	14"	28	70	112	6	1/2"	
	12"	14"	14"	34	84	134	6		
	14"	14"	14"	39	98	157	7		
	16"	14"	14"	45	112	179	7		
	18"	14"	14"	50	126	202	8		
	20"	14"	14"	56	140	224	8		
	22"	14"	14"	62	154	246	9		
36"	10"	16"	16"	32	80	128	6		
	12"	16"	16"	38	96	154	7		
	14"	16"	16"	45	112	179	7		
	16"	16"	16"	51	128	205	8		
	18"	16"	16"	58	144	230	8		
	20"	16"	16"	64	160	256	9		
	22"	16"	16"	70	176	282	9		
	24"	16"	16"	77	192	307	6	3/4"	
40" & 45"	10"	20"	20"	40	100	160	7	1/2"	
	12"	20"	20"	48	120	192	8		
	14"	20"	20"	56	140	224	8		
	16"	20"	20"	64	160	256	9		
	18"	20"	20"	72	180	288	9		
	20"	20"	20"	80	200	320	7	3/4"	
	22"	20"	20"	88	220	352	7	3/4"	
	24"	20"	20"	96	240	384	7	3/4"	
40" - 81"	10"	24"	24"	48	120	192	7	1/2"	1
	12"	24"	24"	58	144	230	8	1/2"	
	14"	24"	24"	67	168	269	9	1/2"	
	16"	24"	24"	77	192	307	6	3/4"	2
	18"	24"	24"	86	216	346	7		
	20"	24"	24"	96	240	384	7		
	22"	24"	24"	106	264	422	8		
	24"	24"	24"	115	288	461	8		
30" Bulb	10"	22"	22"	44	110	176	7	1/2"	
	12"	22"	22"	53	132	211	8		
	14"	22"	22"	62	154	246	9		
	16"	22"	22"	70	176	282	9		

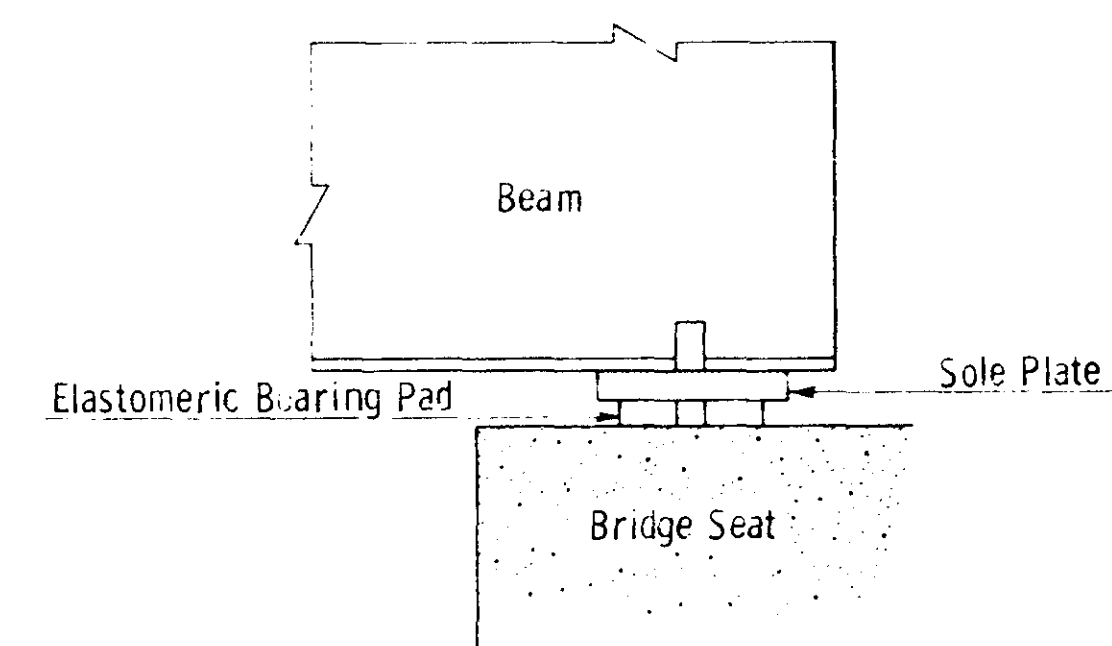


SECTION THRU PAD
 ① 1/8" for 1/2" and 3/4" laminate, 3/16" for 3/8" laminate.
 ② Total thickness including the steel plates.
 ③ For maximum laminate thickness, see Elastomeric Pad Table

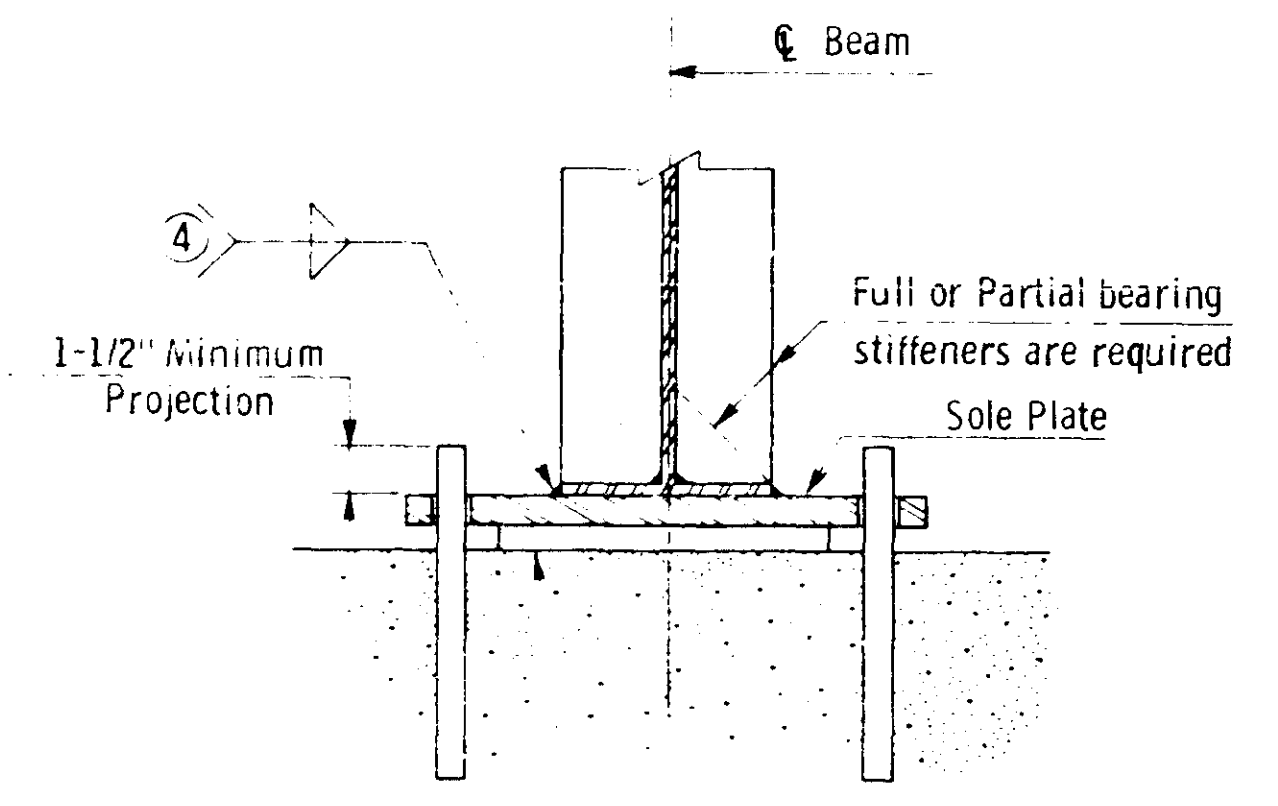
STEEL LAMINATE PAD DETAIL
 (1" pad with 3/8" laminate shown)



PLAN



SIDE ELEVATION
 (At beam end shown)



SECTION V-V

④ 5/16" minimum fillet weld for 3/4" up to and including 1-1/2" thick sole plates. 3/8" minimum fillet weld for over 1-1/2" to 2-1/4" thick sole plates.

ELASTOMERIC PAD TABLE

Pad Size	D	DL + LL Min. (Kips)	DL Max. (Kips)	DL + LL Max. (Kips)	Shape Factor	Sole Plate Size			Max. Lam. Thk.	Assy. Type
						For Beam Flanges 9" to 10-1/2"	For Beam Flanges 11-1/2" to 12"	For Beam Flanges 15" to 16"		
6" x 14"	1"	17	42	67	6	8" x 22" x 1-1/4"	8" x 22" x 1"	8" x 22" x 1"	3/8"	
6" x 16"	1"	19	48	77	6	8" x 24" x 1-1/2"	8" x 24" x 1-1/4"	8" x 24" x 1"	3/8"	
8" x 14"	1"	22	56	90	7	10" x 22" x 1-1/4"	10" x 22" x 1"	10" x 22" x 1"	3/8"	
8" x 16"	1"	26	64	102	7	10" x 24" x 1-1/2"	10" x 24" x 1-1/4"	10" x 24" x 1"	3/8"	
10" x 14"	1"	28	70	112	8	12" x 22" x 1-1/4"	12" x 22" x 1"	12" x 22" x 1"	3/8"	
10" x 16"	1"	32	80	128	6	12" x 24" x 1-1/2"	12" x 24" x 1-1/4"	12" x 24" x 1"	1/2"	
12" x 14"	1"	34	84	134	9	14" x 22" x 1-1/4"	14" x 22" x 1"	14" x 22" x 1"	3/8"	2
12" x 16"	1"	38	96	154	7	14" x 24" x 1-1/2"	14" x 24" x 1-1/4"	14" x 24" x 1"	1/2"	
14" x 16"	1"	45	112	179	7	16" x 24" x 1-1/2"	16" x 24" x 1-1/4"	16" x 24" x 1"	1/2"	
16" x 20"	1"	64	160	256	9	18" x 28" x 2"	18" x 28" x 1-1/2"	18" x 28" x 1-1/4"	1/2"	
18" x 20"	1"	72	180	288	9	20" x 28" x 2"	20" x 28" x 1-1/2"	20" x 28" x 1-1/4"	1/2"	
20" x 20"	2"	80	200	320	7	22" x 28" x 2"	22" x 28" x 1-1/2"	22" x 28" x 1-1/4"	3/4"	
22" x 20"	2"	88	220	352	7	24" x 28" x 2"	24" x 28" x 1-1/2"	24" x 28" x 1-1/4"	3/4"	
24" x 20"	2"	96	240	384	7	26" x 28" x 2"	26" x 28" x 1-1/2"	26" x 28" x 1-1/4"	3/4"	

NOTES:

For elastomeric materials and pad construction, see Spec. 3741.
 Anchor rods shall comply with Spec 3306.
 Galvanize anchor rods as per Spec 3394.

Payment for bearing assembly shall include elastomeric bearing pad and anchor rods.
 Sole Plate is to be of the same material Spec as the steel beam and is to be included in the weight of structural steel.
 Shop weld sole plate to the steel beam.

All bearing pads are to bear evenly on the bearing seats.

APPROVED: April 26, 1978
 Developed by: ENGINEERING STANDARDS, BRIDGES AND STRUCTURES
 Issued by: ENGINEERING STANDARDS

STATE OF MINNESOTA
 DEPARTMENT OF TRANSPORTATION
ELASTOMERIC BEARING PAD
PRESTRESSED CONCRETE BEAMS
(EXPANSION)

DETAIL NO.
B305

APPROVED: April 26, 1978
 Developed by: ENGINEERING STANDARDS, BRIDGES AND STRUCTURES
 Issued by: ENGINEERING STANDARDS

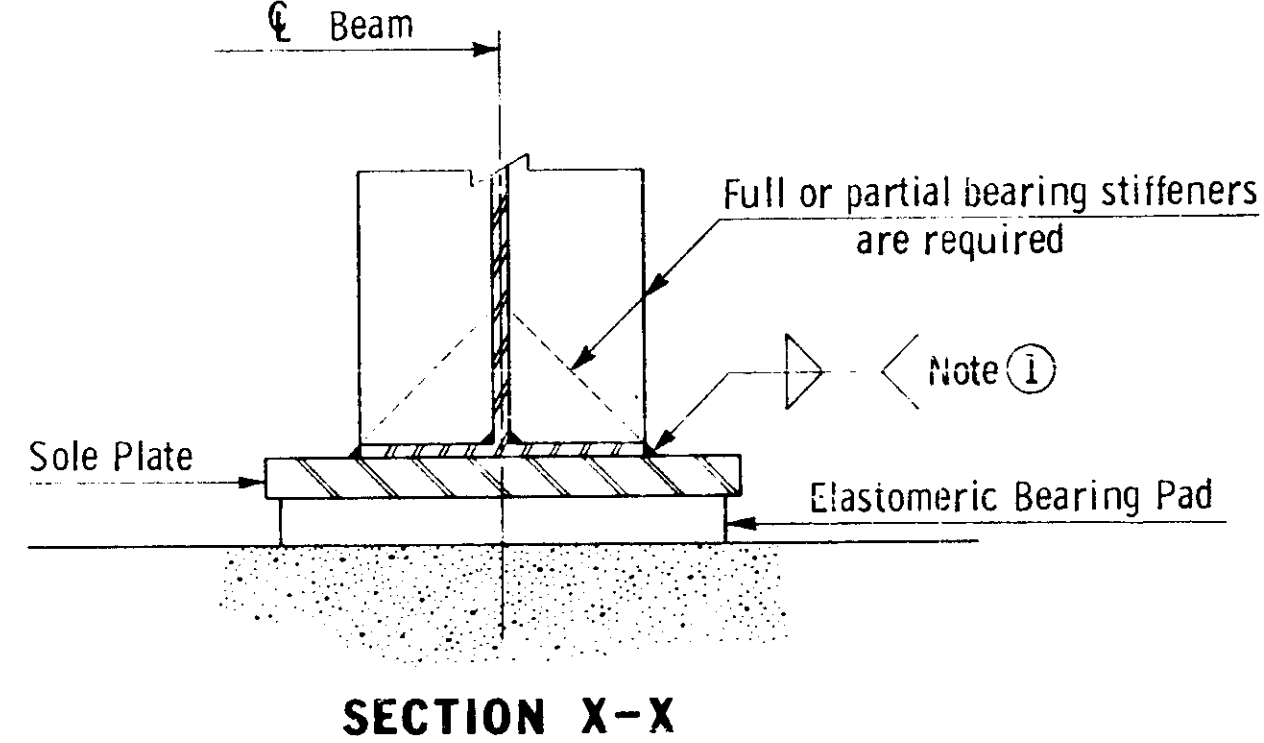
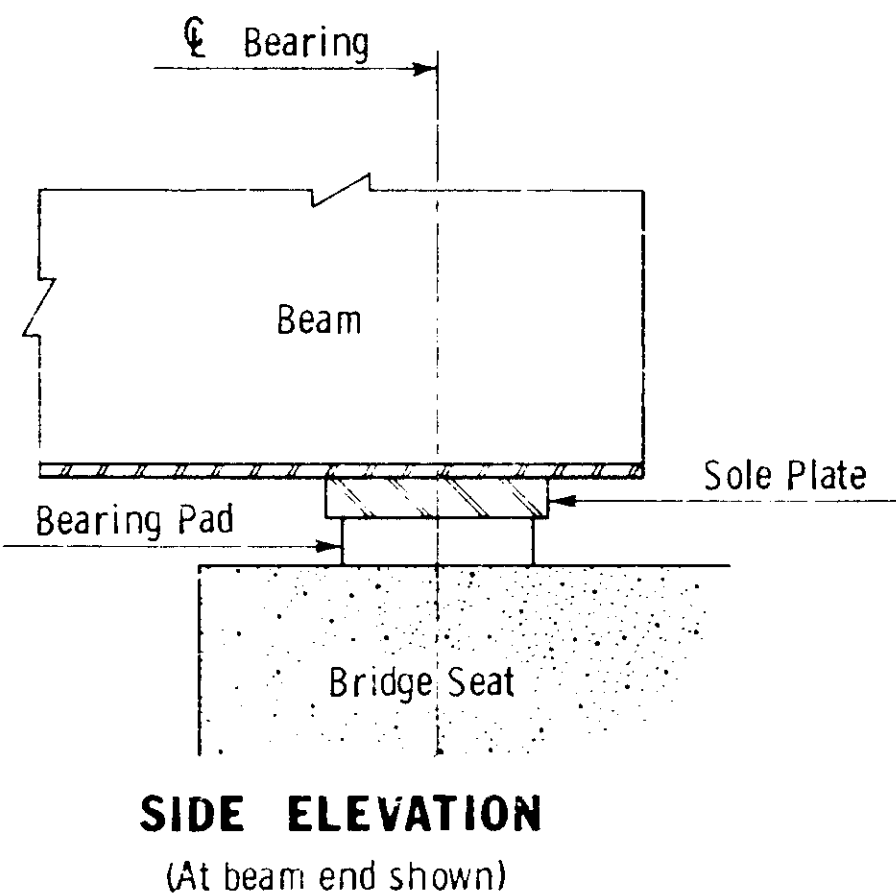
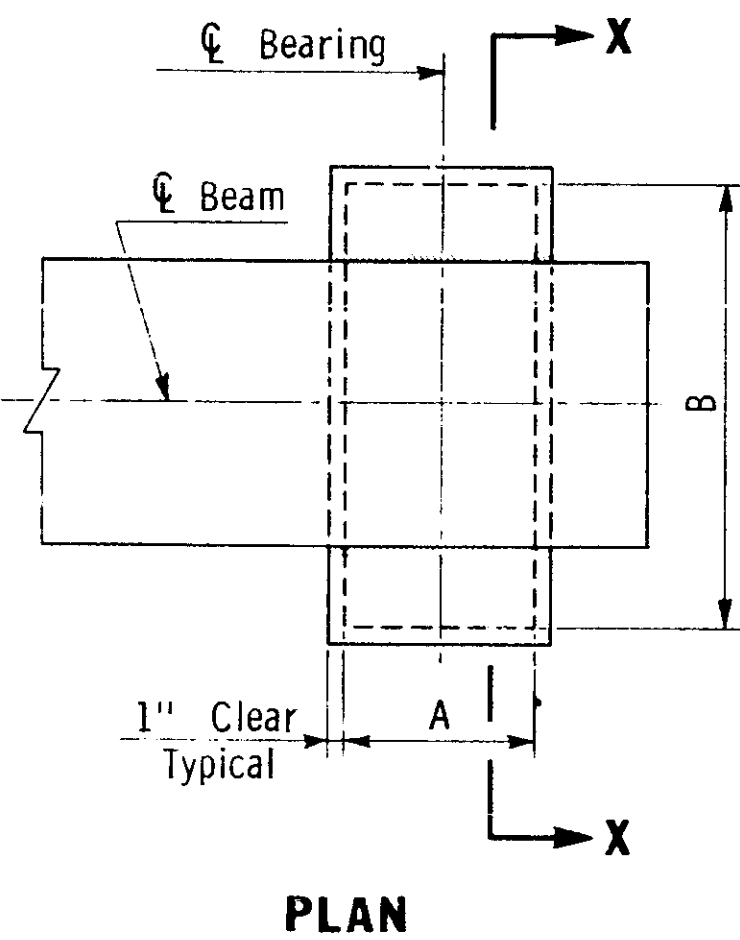
STATE OF MINNESOTA
 DEPARTMENT OF TRANSPORTATION
ELASTOMERIC BEARING ASSEMBLY
STEEL BEAMS
(FIXED)

DETAIL NO.
B354

ADJACENT DOCUMENT WAS SUPPLIED BY AGENCY NAMED BELOW, DURING THE REGULAR COURSE OF BUSINESS. TO BE FILMED BY STATE OF MINNESOTA MICROGRAPHIC SERVICES UNIT ACCORDING TO STANDARD MICROFILMING PRACTICES.

ELASTOMERIC PAD TABLE

Bearing Pad Size A B	D	DL + LL		Shape Factor	Sole Plate Size			Lam. Thk.	Pad Type
		Min. (Kips)	Max. (Kips)		For Beam Flanges 9" to 10-1/2"	For Beam Flanges 11-1/2" to 12"	For Beam Flanges 15" to 16"		
6" 14"	17	42	67	6	8" x 16" x 1-1/4"	8" x 16" x 1"	8" x 16" x 1"	3/8"	
6" 16"	19	48	77	6	8" x 18" x 1-1/2"	8" x 18" x 1-1/4"	8" x 18" x 1"		
8" 14"	22	56	90	7	10" x 16" x 1-1/4"	10" x 16" x 1"	10" x 16" x 1"		
8" 16"	26	64	102	7	10" x 18" x 1-1/2"	10" x 18" x 1-1/4"	10" x 18" x 1"		
10" 14"	28	70	112	8	12" x 16" x 1-1/4"	12" x 16" x 1"	12" x 16" x 1"		
10" 16"	32	80	128	8	12" x 18" x 1-1/2"	12" x 18" x 1-1/4"	12" x 18" x 1"	1/2"	
12" 14"	34	84	134	9	14" x 16" x 1-1/4"	14" x 16" x 1"	14" x 16" x 1"		
12" 16"	38	96	154	9	14" x 18" x 1-1/2"	14" x 18" x 1-1/4"	14" x 18" x 1"		
14" 16"	45	112	179	7	16" x 18" x 1-1/2"	16" x 18" x 1-1/4"	16" x 18" x 1"		
16" 20"	64	160	256	9	18" x 22" x 2"	18" x 22" x 1-1/2"	18" x 22" x 1-1/4"		4
18" 20"	72	180	288	9	20" x 22" x 2"	20" x 22" x 1-1/2"	20" x 22" x 1-1/4"		
20" 20"	80	200	320	7	22" x 22" x 2"	22" x 22" x 1-1/2"	22" x 22" x 1-1/4"	3/4"	
22" 20"	88	220	352	7	24" x 22" x 2"	24" x 22" x 1-1/2"	24" x 22" x 1-1/4"		
24" 20"	96	240	384	7	26" x 22" x 2"	26" x 22" x 1-1/2"	26" x 22" x 1-1/4"		3



① 5/16" minimum fillet weld for 3/4" up to and including 1-1/2" thick sole plates. 3/8" minimum fillet weld for over 1-1/2" to 2-1/4" thick sole plates.

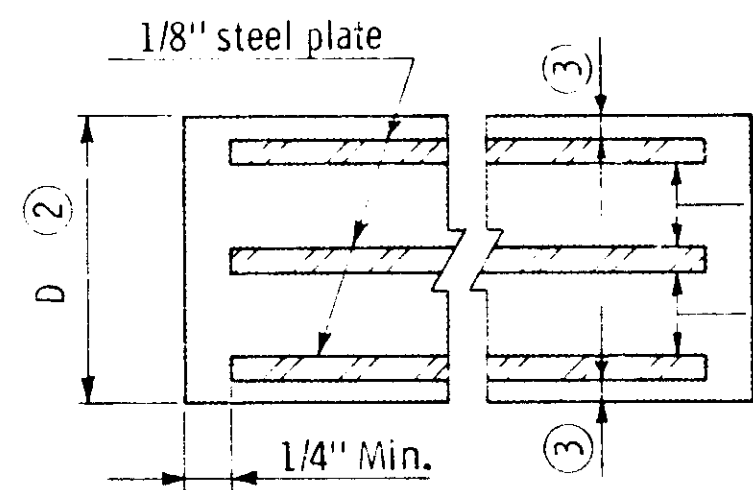
NOTES: All bearing pads are to bear evenly on the bearing seats. For elastomeric material and pad construction, see Spec. 3/41.

The Sole Plate will be the same material spec. as the steel beam and will be included in the weight of structural steel. Shop weld the sole plate to the steel beam.

Minimum A dimension shall be 3[D - 1/8 (No. of steel plates)]
Minimum B dimension shall be 2[D - 1/8 (No. of steel plates)]

MOVEMENT AND LAMINATE TABLE

MAXIMUM MOVEMENT		PAD THICKNESS	MAXIMUM NO. OF LAMINATES	
3/8" Lam.	1/2" Lam.	D	3/8" Lam.	1/2" Lam.
3/16"	1/4"	1"	1	1
3/8"	7/16"	1-1/2"	2	2
9/16"	5/8"	11/16" 2"	3	3
3/4"	13/16"	7/8" 2-1/2"	4	4
15/16" 1"	1-1/8"	3"	5	5
1-1/8"	1-1/4"	1-5/16" 3-1/2"	6	6
1-5/16"	1-7/16"	1-1/2" 4"	7	7
1-1/2"	1-5/8"	1-3/4" 4-1/2"	8	8
1-11/16"	1-13/16"	1-15/16" 5"	9	9
1-7/8"	2"	2-3/16" 5-1/2"	10	10
2-1/16"	2-1/4"	2-3/8" 6"	11	11
2-1/4"	2-7/16"	2-5/8" 6-1/2"	12	12
2-7/16"	2-5/8"	2-13/16" 7"	13	13
2-5/8"	2-13/16"	3" 7-1/2"	14	14
2-13/16"	3"	3-1/4" 8"	15	15



For maximum laminate thickness See Elastomeric Pad Table SECTION THRU PAD

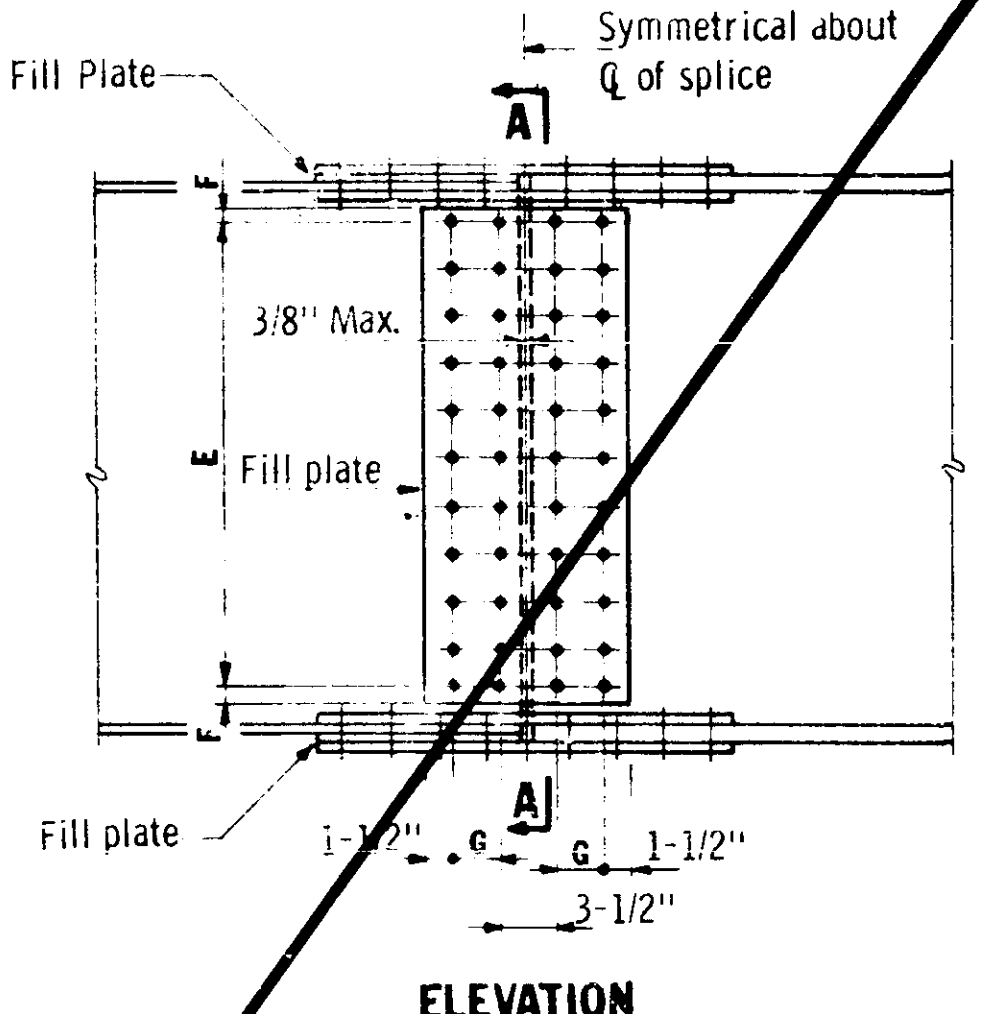
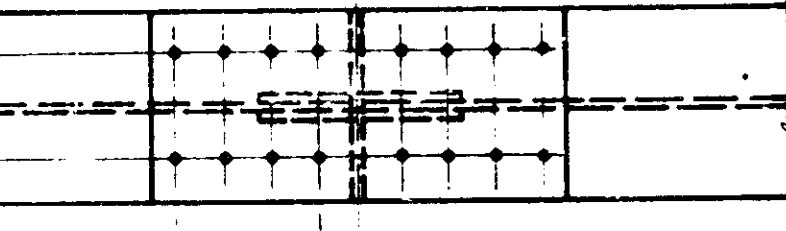
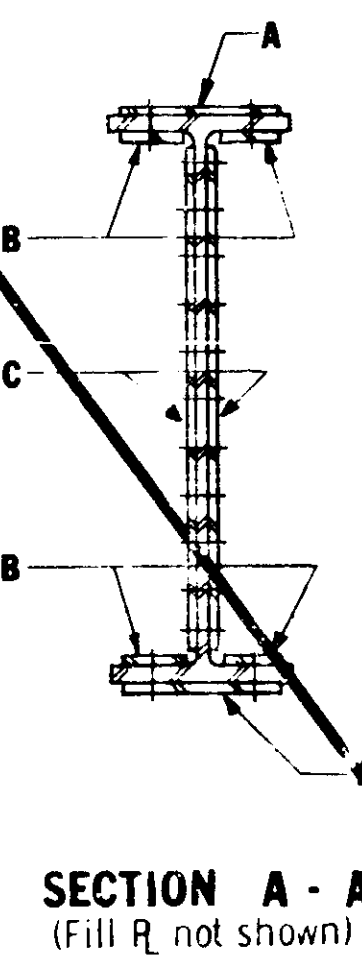
- ② Total thickness including the steel plates
- ③ 1/8" for 1/2" and 3/4" laminates 3/16" for 3/8" laminates

STEEL LAMINATE PAD DETAIL
(1-1/2" Pad With 1/2" Laminates Shown)

APPROVED: April 26, 1978
Developed by: ENGINEERING STANDARDS, BRIDGES AND STRUCTURES
Issued by: ENGINEERING STANDARDS

STATE OF MINNESOTA
DEPARTMENT OF TRANSPORTATION
ELASTOMERIC BEARING PAD
STEEL BEAMS
(EXPANSION)

DETAIL NO.
B355



NOTES:
Splice design is for structural steel M. H. D. 3309. When F = 1-1/4", top and bottom edge of plate C must be rolled or gas cut and finished as per Spec. 2471.3C4.
When beams are of unequal weight, use design for lighter beam.
Use 7/8" high strength bolts, or 7/8" pin bolts.
Fills shall be structural steel, minimum thickness 1/16". Where the difference in web thickness is 1/8" or more, place fills of same thickness on both sides of thinner web. Where difference in web thickness is less than 1/16" omit fills.

DESIGN DATA:
Load Factor Design Method
F_y = 50 k.s.i.
12.6k allowable "shear" per bolt at DL + 5/3(L + I)
Splice develops ult. moment M_U simultaneously with ult. shear V_U.
M_U = F_y S_x noncompact sec., M_U = F_y Z_x compact sec.
V_U = .55 F_y d_w
Area of holes in excess of 15% of gross area are deducted

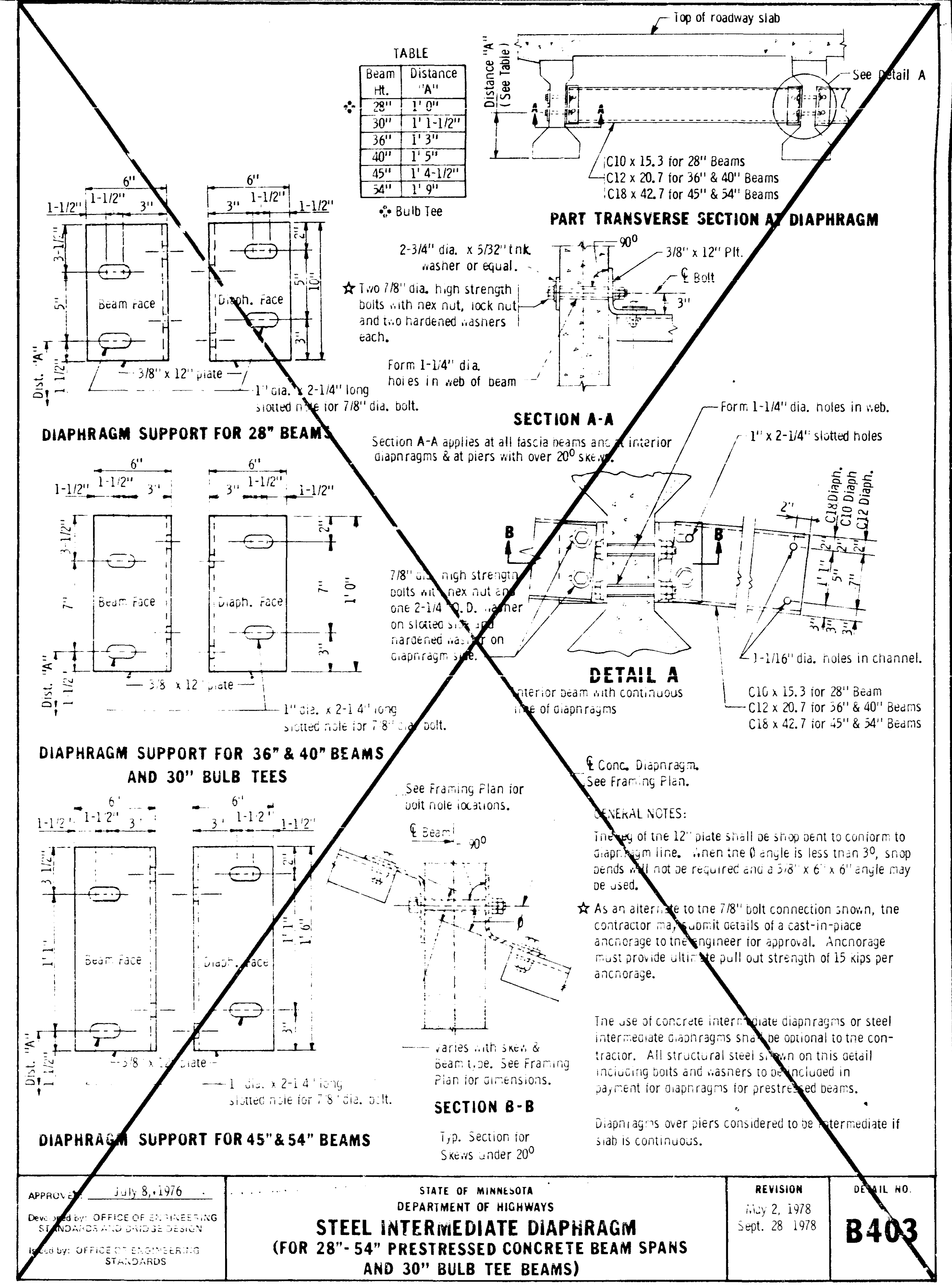
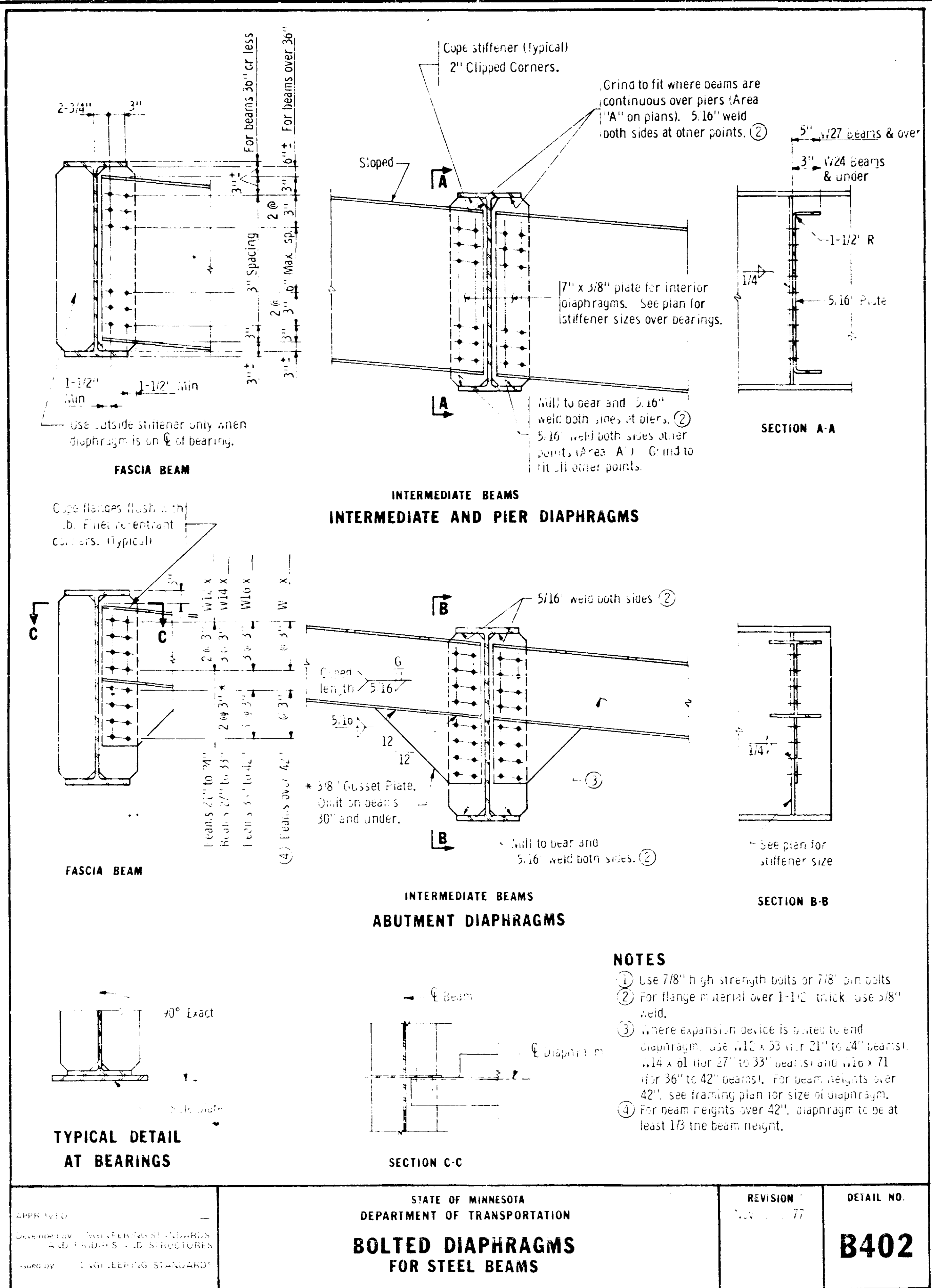
SIZE	A (In.)	B (In.)	C (In.)	D	E	F	G	H	Flange Fill R	Web Fill R
W21 x 44	7-16 x 6-1/2 x 26-1/4	7-16 x 2-1/2 x 26-1/4	5-16 x 17-1/2 x 22-1/2	5	5 Spcs	3"	1-1/4"	3"	4"	
W21 x 49	7-16 x 6-1/2 x 26-1/4	7-16 x 2-1/2 x 26-1/4	5-16 x 17-1/2 x 22-1/2	5	5 Spcs	3"	1-1/4"	3"	4"	
W21 x 55	7-16 x 6-1/2 x 26-1/4	7-16 x 2-1/2 x 26-1/4	5-16 x 17-1/2 x 22-1/2	5	5 Spcs	3"	1-1/4"	3"	4"	
W21 x 62	7-16 x 8-1/4 x 32-1/4	7-16 x 3-1/4 x 32-1/4	5-16 x 17-1/2 x 22-1/2	5	5 Spcs	3"	1-1/4"	3"	5-1/2"	
W21 x 68	7-16 x 8-1/4 x 32-1/4	11-16 x 3-1/4 x 32-1/4	5-16 x 17-1/2 x 22-1/2	5	5 Spcs	3"	1-1/4"	3"	5-1/2"	
W21 x 73	7-16 x 8-1/4 x 32-1/4	3-4 x 3-1/4 x 32-1/4	5-16 x 17-1/2 x 22-1/2	5	5 Spcs	3"	1-1/4"	3"	5-1/2"	
W21 x 82	7-16 x 9 x 36-1/4	13-16 x 3-1/2 x 36-1/4	5-16 x 16-7/8 x 22-1/2	6	5 Spcs	2-7/8"	1-1/4"	3"	5-1/2"	
W21 x 94	11-16 x 9 x 36-1/4	15-16 x 3-1/2 x 36-1/4	5-16 x 16-1/4 x 22-1/2	6	5 Spcs	2-3/4"	1-1/4"	3"	5-1/2"	
W24 x 55	7-16 x 7 x 26-1/4	7-16 x 2-1/2 x 26-1/4	5-16 x 20-1/2 x 12-1/2	6	5 Spcs	3"	1-1/4"	3"	4-1/2"	
W24 x 61	7-16 x 7 x 26-1/4	1-2 x 2-1/2 x 26-1/4	5-16 x 20-1/2 x 12-1/2	6	5 Spcs	3"	1-1/4"	3"	4-1/2"	
W24 x 68	7-16 x 8 x 32-1/4	1-2 x 2-1/2 x 32-1/4	5-16 x 20-1/2 x 12-1/2	6	5 Spcs	3"	1-1/4"	3"	5-1/2"	
W24 x 75	7-16 x 8 x 32-1/4	1-2 x 2-1/2 x 32-1/4	5-16 x 20-1/2 x 12-1/2	6	5 Spcs	3"	1-1/4"	3"	5-1/2"	
W24 x 84	7-16 x 9 x 36-1/4	5-8 x 3-1/2 x 36-1/4	5-16 x 19-3/4 x 12-1/2	6	5 Spcs	2-7/8"	1-1/4"	3"	5-1/2"	
W24 x 94	9-16 x 9 x 36-1/4	15-16 x 3-1/2 x 36-1/4	5-16 x 19-3/4 x 12-1/2	6	5 Spcs	2-7/8"	1-1/4"	3"	5-1/2"	
W24 x 109	9-16 x 12 x 50-1/4	9-16 x 5 x 50-1/4	5-16 x 19-3/4 x 12-1/2	6	5 Spcs	2-7/8"	1-1/4"	3"	6-1/2"	
W24 x 119	9-16 x 12 x 50-1/4	15-16 x 5 x 50-1/4	5-16 x 19-3/4 x 12-1/2	6	5 Spcs	2-7/8"	1-1/4"	3"	6-1/2"	
W24 x 120	9-16 x 12 x 50-1/4	15-16 x 5 x 50-1/4	5-16 x 19-3/4 x 12-1/2	6	5 Spcs	2-7/8"	1-1/4"	3"	6-1/2"	
W27 x 84	7-16 x 10 x 36-1/4	1-2 x 4 x 36-1/4	5-16 x 23-1/2 x 12-1/2	7	5 Spcs	3"	1-1/4"	3"	5-1/2"	
W27 x 94	7-16 x 10 x 36-1/4	13-16 x 4 x 36-1/4	5-16 x 22-5/8 x 12-1/2	7	5 Spcs	3"	1-1/4"	3"	5-1/2"	
W27 x 102	7-16 x 10 x 36-1/4	7-8 x 4 x 36-1/4	5-16 x 22-5/8 x 12-1/2	7	5 Spcs	3"	1-1/4"	3"	5-1/2"	
W27 x 114	7-16 x 10 x 36-1/4	15-16 x 4 x 36-1/4	5-16 x 21-3/4 x 16-1/2	8	5 Spcs	3-3/4"	1-1/2"	2 Spcs	5-1/2"	
W30 x 99	7-16 x 10 x 36-1/4	9-16 x 4 x 36-1/4	5-16 x 26 x 12-1/2	5	6 Spcs	2-7/8"	1-1/2"	3	5-1/2"	
W30 x 109	7-16 x 10 x 36-1/4	3-4 x 4-1/4 x 36-1/4	5-16 x 25-1/2 x 12-1/2	7	6 Spcs	2-7/8"	1-1/2"	3	5-1/2"	
W30 x 119	7-16 x 10 x 36-1/4	7-8 x 4-1/4 x 36-1/4	5-16 x 24-1/8 x 12-1/2	9	6 Spcs	3-1/2"	1-1/2"	2 Spcs	5-1/2"	
W30 x 124	7-16 x 10 x 36-1/4	15-16 x 4-1/4 x 36-1/4	5-16 x 24 x 18-1/2	9	6 Spcs	3-1/2"	1-1/2"	2 Spcs	5-1/2"	
W30 x 132	11-16 x 10 x 36-1/4	1-4-1/4 x 36-1/4	5-16 x 24 x 18-1/2	10	6 Spcs	3-1/2"	1-1/2"	2 Spcs	5-1/2"	
W33 x 119	7-16 x 11 x 50-1/4	7-8 x 4-1/2 x 50-1/4	5-16 x 27-3/4 x 18-1/2	7	6 Spcs	4-1/8"	1-1/2"	2 Spcs	6-1/2"	
W33 x 139	7-16 x 11 x 50-1/4	13-16 x 4-1/2 x 50-1/4	5-16 x 27 x 18-1/2	10	6 Spcs	4"	1-1/2"	2 Spcs	6-1/2"	
W33 x 141	11-16 x 11 x 50-1/4	1-4-1/2 x 50-1/4	5-16 x 27 x 18-1/2	10	6 Spcs	4"	1-1/2"	2 Spcs	6-1/2"	
W33 x 152	9-16 x 11 x 50-1/4	15-16 x 4-3/4 x 50-1/4	5-16 x 27-1/2 x 18-1/2	11	7 Spcs	3-1/2"	1-1/2"	2 Spcs	6-1/2"	
W33 x 159	9-16 x 12 x 50-1/4	3-4 x 4-3/4 x 50-1/4	5-16 x 31 x 18-1/2	9	6 Spcs	3-1/2"	1-1/2"	2 Spcs	6-1/2"	
W33 x 170	9-16 x 12 x 50-1/4	7-8 x 4-3/4 x 50-1/4	5-16 x 31 x 18-1/2	10	6 Spcs	3-1/2"	1-1/2"	2 Spcs	6-1/2"	
W36 x 127	9-16 x 12 x 50-1/4	1-4-3/4 x 50-1/4	5-16 x 30-1/2 x 18-1/2	12	6 Spcs	3-1/2"	1-1/2"	2 Spcs	6-1/2"	
W36 x 170	9-16 x 12 x 50-1/4	1-4-3/4 x 50-1/4	5-16 x 30 x 18-1/2	13	6 Spcs	3-1/2"	1-1/2"	2 Spcs	6-1/2"	
W36 x 182	13-16 x 12 x 50-1/4	1-1-1/8 x 4-3/4 x 50-1/4	5-16 x 29 x 18-1/2	14	6 Spcs	3-1/4"	1-1/2"	2 Spcs	6-1/2"	
W36 x 194	13-16 x 12 x 50-1/4	1-5-1/16 x 4-3/4 x 50-1/4	5-16 x 30 x 18-1/2	15	9 Spcs	3"	1-1/2"	2 Spcs	6-1/2"	

APPROVED: April 27, 1977
Developed by: ENGINEERING STANDARDS, BRIDGES AND STRUCTURES
Issued by: ENGINEERING STANDARDS

STATE OF MINNESOTA
DEPARTMENT OF TRANSPORTATION
BEAM SPLICES
(3309 STEEL)

DETAIL NO.
B400

AGENCY DOCUMENT SUPPLIED BY AGENCY NAMED BELOW, OWNING THE REGULAR COPIES TO BUREAU. TO BE FILMED BY STATE OF MINNESOTA MICROFILM SERVICE UNIT ACCORDING TO NATIONAL BUREAU OF STANDARDS REQUIREMENTS FOR PERMANENT MICROFILM AND ACCORDING TO FILED PROCEDURES FOR THIS DOCUMENT.



STATE OF MINNESOTA
DEPARTMENT OF TRANSPORTATION
**BOLTED DIAPHRAGMS
FOR STEEL BEAMS**

REVISION 1 July 8, 1976

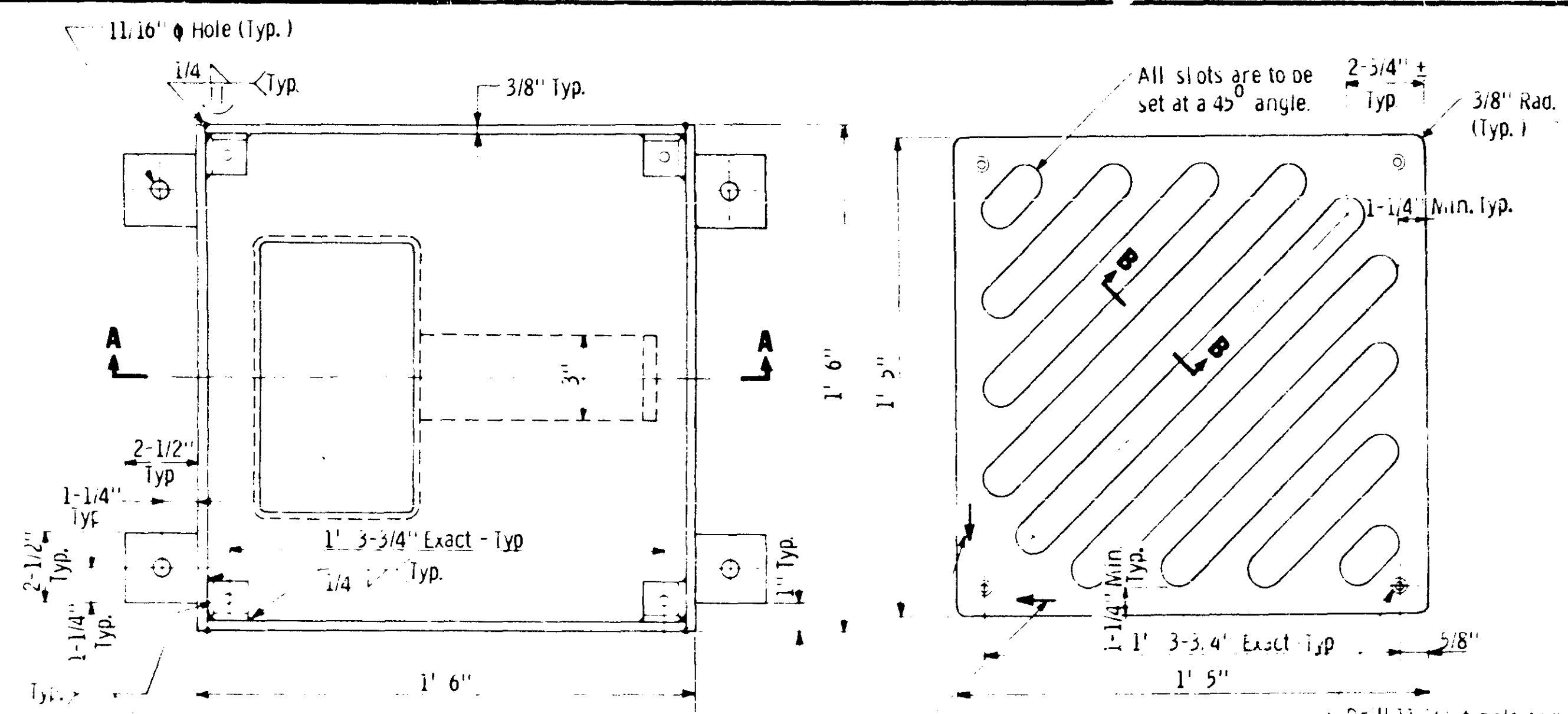
DETAIL NO. **B402**

STATE OF MINNESOTA
DEPARTMENT OF HIGHWAYS
**STEEL INTERMEDIATE DIAPHRAGM
(FOR 28"- 54" PRESTRESSED CONCRETE BEAM SPANS
AND 30" BULB TEE BEAMS)**

REVISION 1 May 2, 1978
2 Sept. 28, 1978

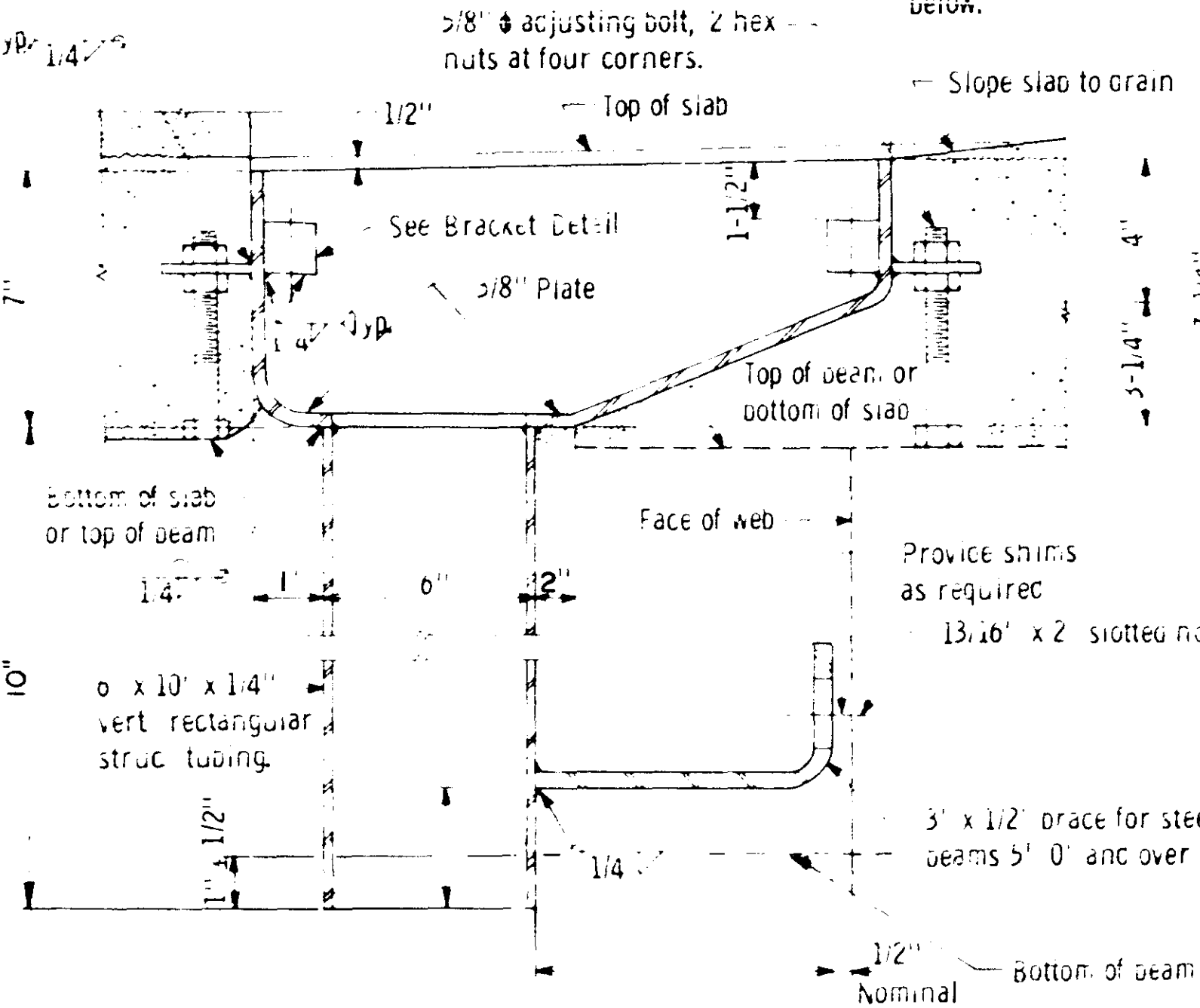
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PLAN VIEW
(Scupper)

GRATE



SECTION A-A

SECTION B-B

BRACKET DETAIL

NOTES

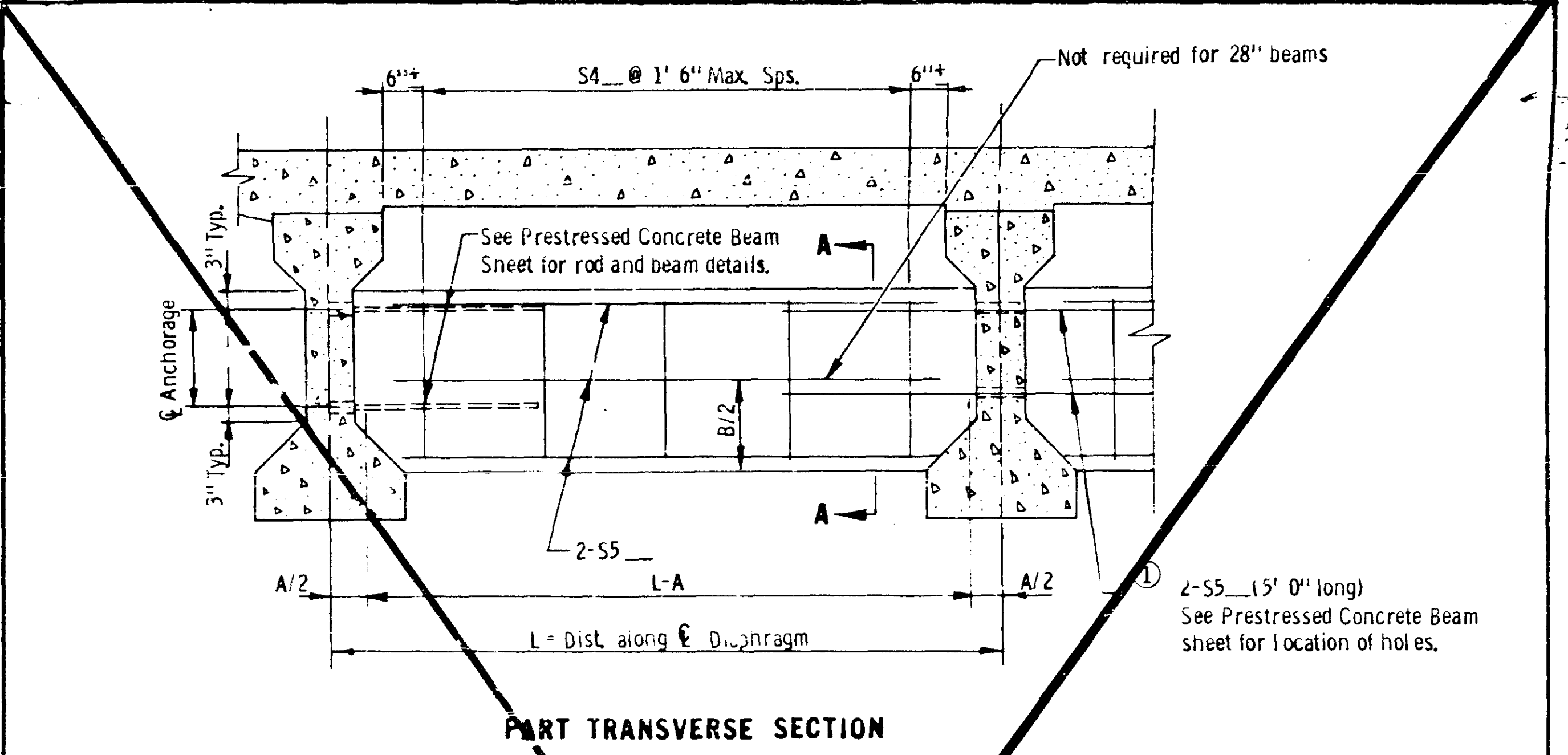
All steel plates per Mn/Dot 302.6. Fabricate grate using automatically controlled cutting torch.
 Available iron grate alternate per Mn/Dot 3324 Grade 302.8. Workmanship and fabrication per Mn/Dot 2471.
 Blast clean scupper and grate after fabrication.
 Galvanize scupper and grate per Mn/Dot 302.4.
 Galvanize hardware per Mn/Dot 302.2.
 Install grate with arrow on curb side and in direction of flow.

Grate opening area 110 sq. in.

APPROVED Aug. 12, 1975
 Developed by OFFICE OF ENGINEERING STANDARDS AND BRIDGE DESIGN
 Issued by: OFFICE OF ENGINEERING STANDARDS

MINNESOTA
 DEPARTMENT OF TRANSPORTATION
**BRIDGE FLOOR DRAIN
 WELDED BOX**

DETAIL NO.
B701

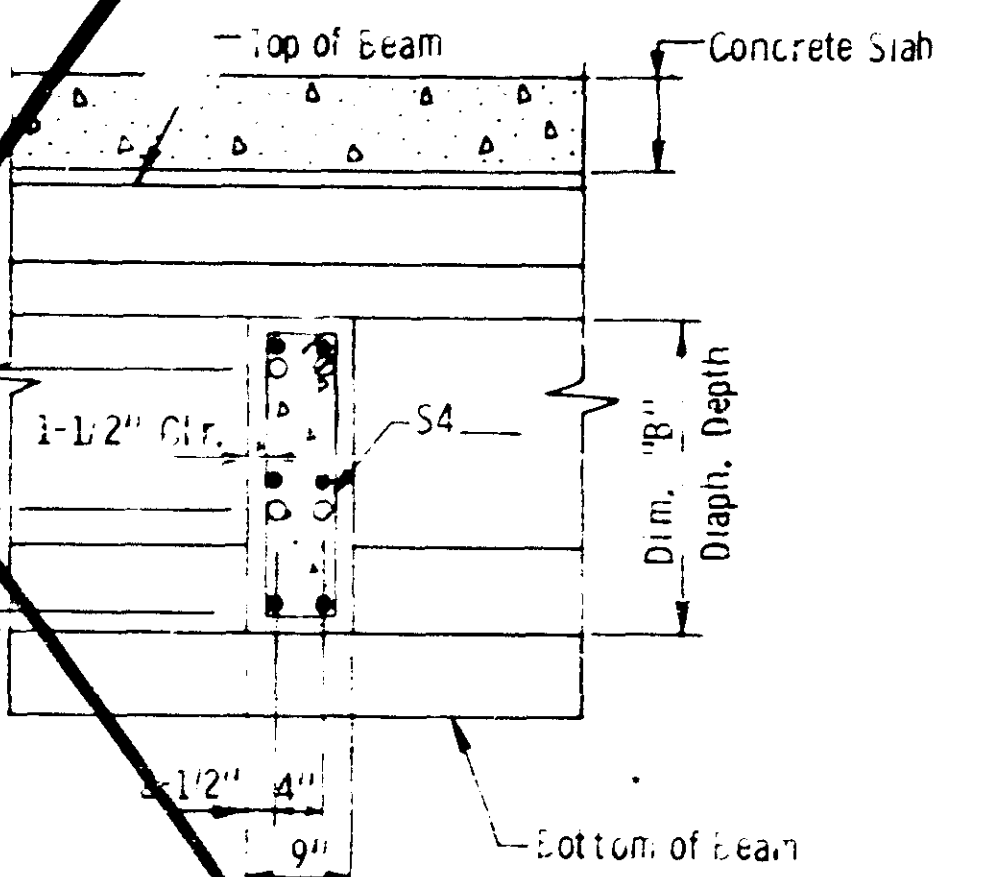


PART TRANSVERSE SECTION

Beam Ht.	Dim. "A" For Comp. Volume	Diaph. Dim. "B"	S4 Length
28"	7-1/2"	1'-4"	5'-9"
36"	7-3/4"	1'-9"	4'-7"
40"	8-3/4"	1'-11"	4'-11"
45"	9"	2'-2 1/2"	5'-6"
54"	10-1/2"	2'-8"	6'-5"

Concrete volume per diaphragm

$$\frac{(L-A) \times B \times .75}{27} = (\text{Cu. yd.})$$



SECTION A-A

GENERAL NOTES

- For diaphragms 20' and over, use threaded rods as shown on standard prestressed concrete beam sheet.
- All diaphragm concrete and reinforcement bars shown on this detail to be included in payment for diaphragms for prestressed beams. Threaded rods are included in payment for prestressed concrete beams.

APPROVED July 8, 1976
 Developed by OFFICE OF ENGINEERING STANDARDS AND BRIDGE DESIGN
 Issued by: OFFICE OF ENGINEERING STANDARDS

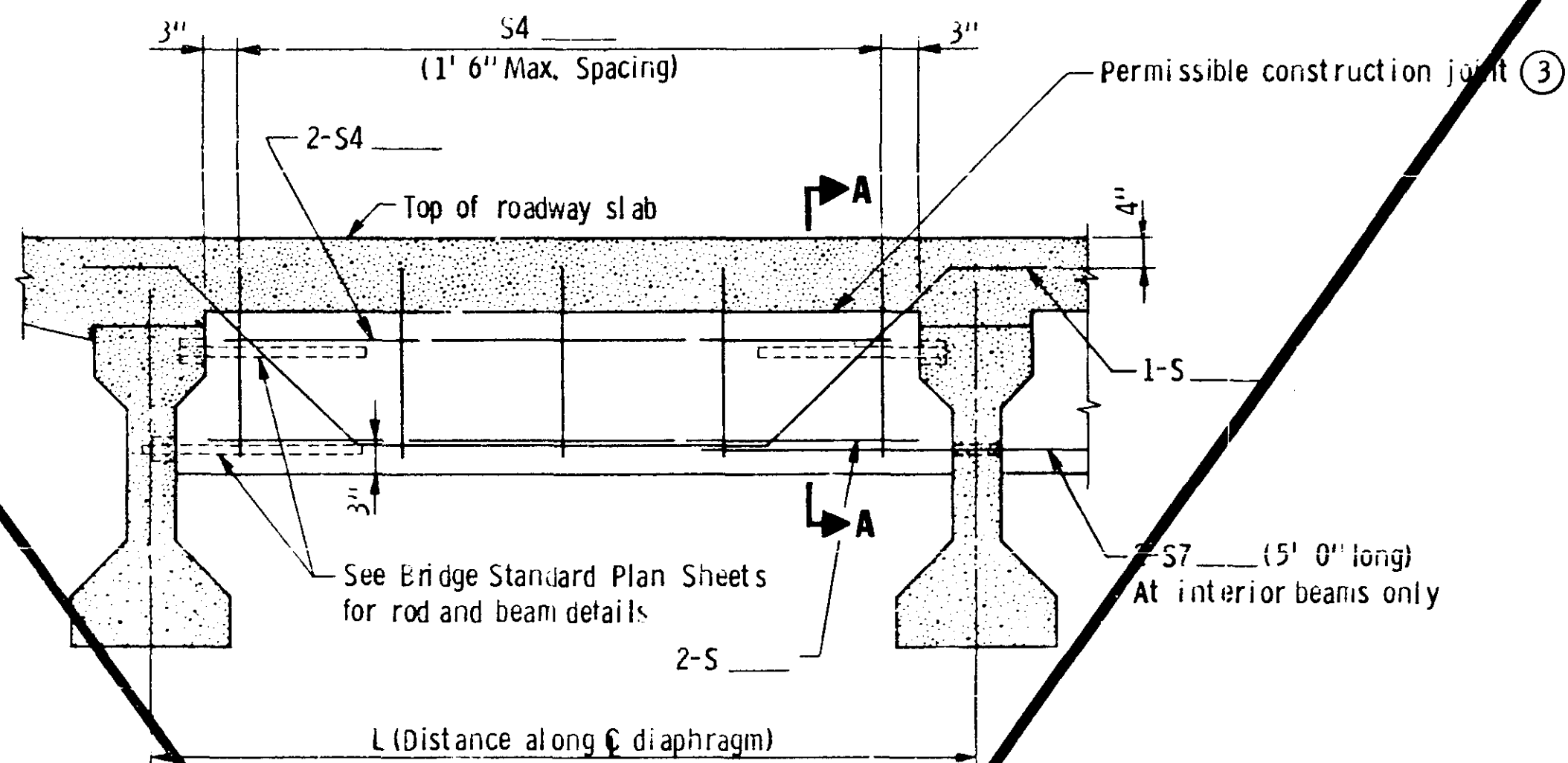
MINNESOTA
 DEPARTMENT OF TRANSPORTATION
**CONCRETE INTERMEDIATE DIAPHRAGM
 (FOR 28"-54" PRESTRESSED CONCRETE BEAM SPANS)**

DETAIL NO.
B802

DETAILS

DES LHK
 UR LHK
 APPROVED 5-7-79
 Sheet No. 125 of 148 Sheets

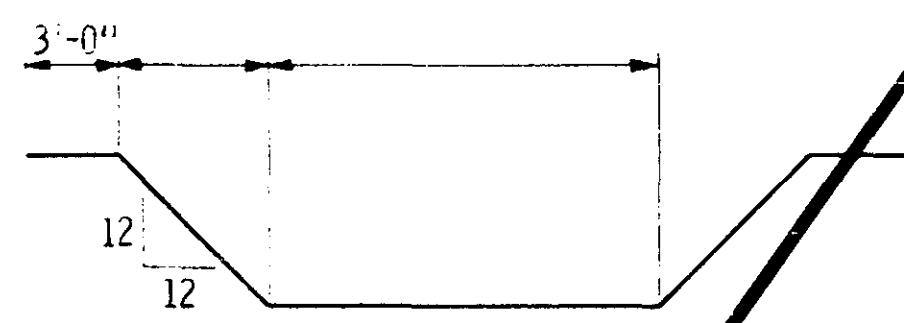
Bridge No.
2440



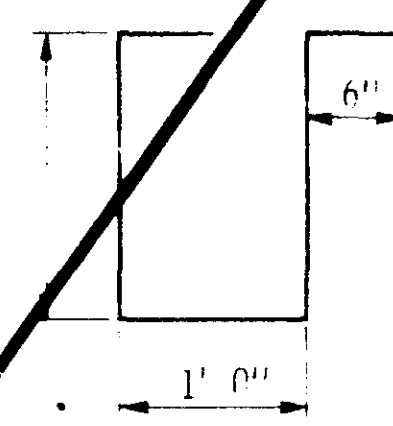
PART TRANSVERSE SECTION AT END DIAPHRAGM

LONGITUDINAL REINFORCEMENT IN BOTTOM OF DIAPHRAGM

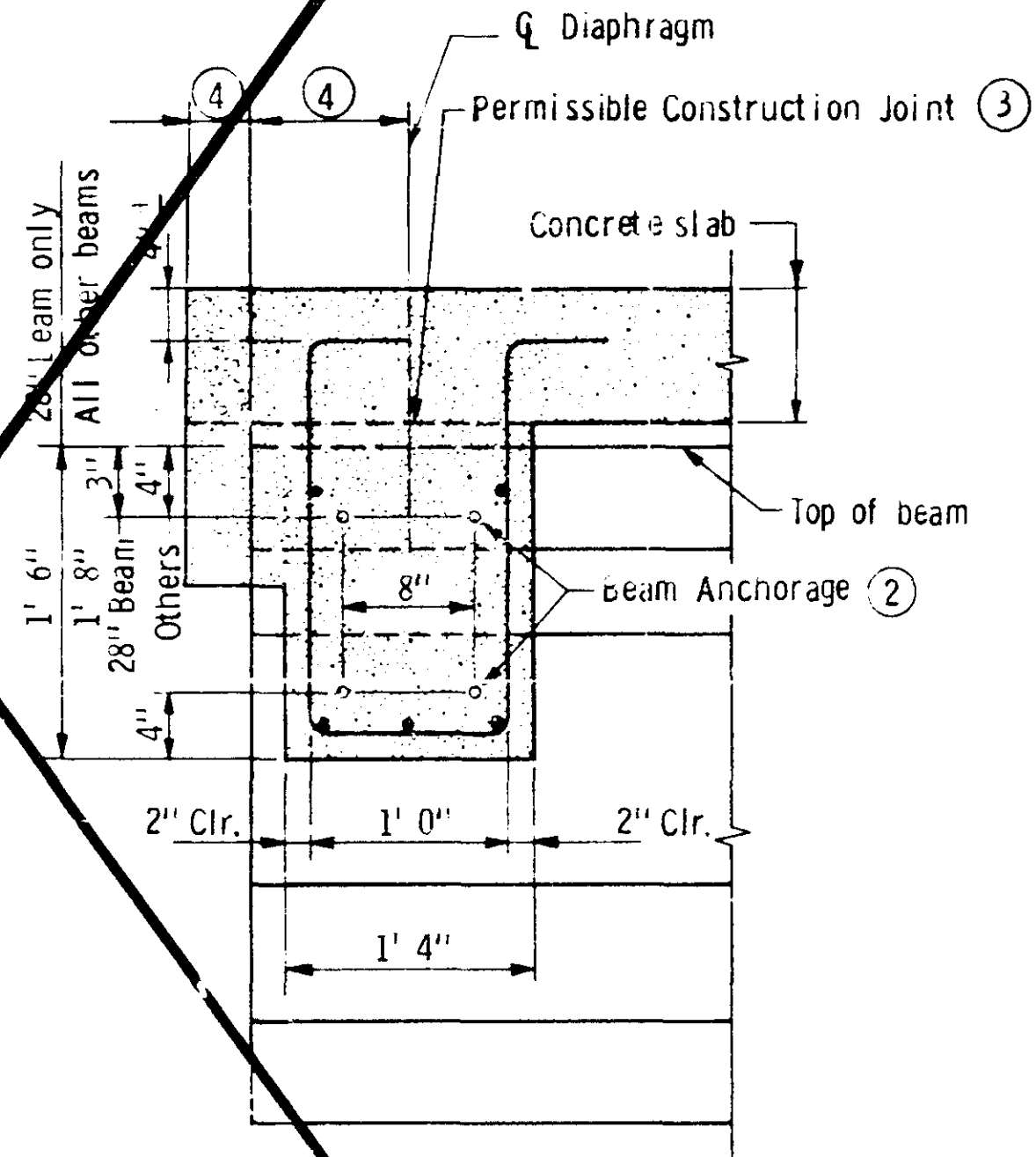
BEAM SPACING C TO C ①	EARS REQUIRED			
	STRAIGHT	BENT		
	NO.	SIZE	NO.	SIZE
Up to 8'	2	6	1	5
Over 8' to 11'	2	7	1	6
Over 11' to 13'	2	8	1	8
Over 13' to 15'	2	9	1	10
Over 15' to 18'	2	11	1	11



S



S4



SECTION A-A

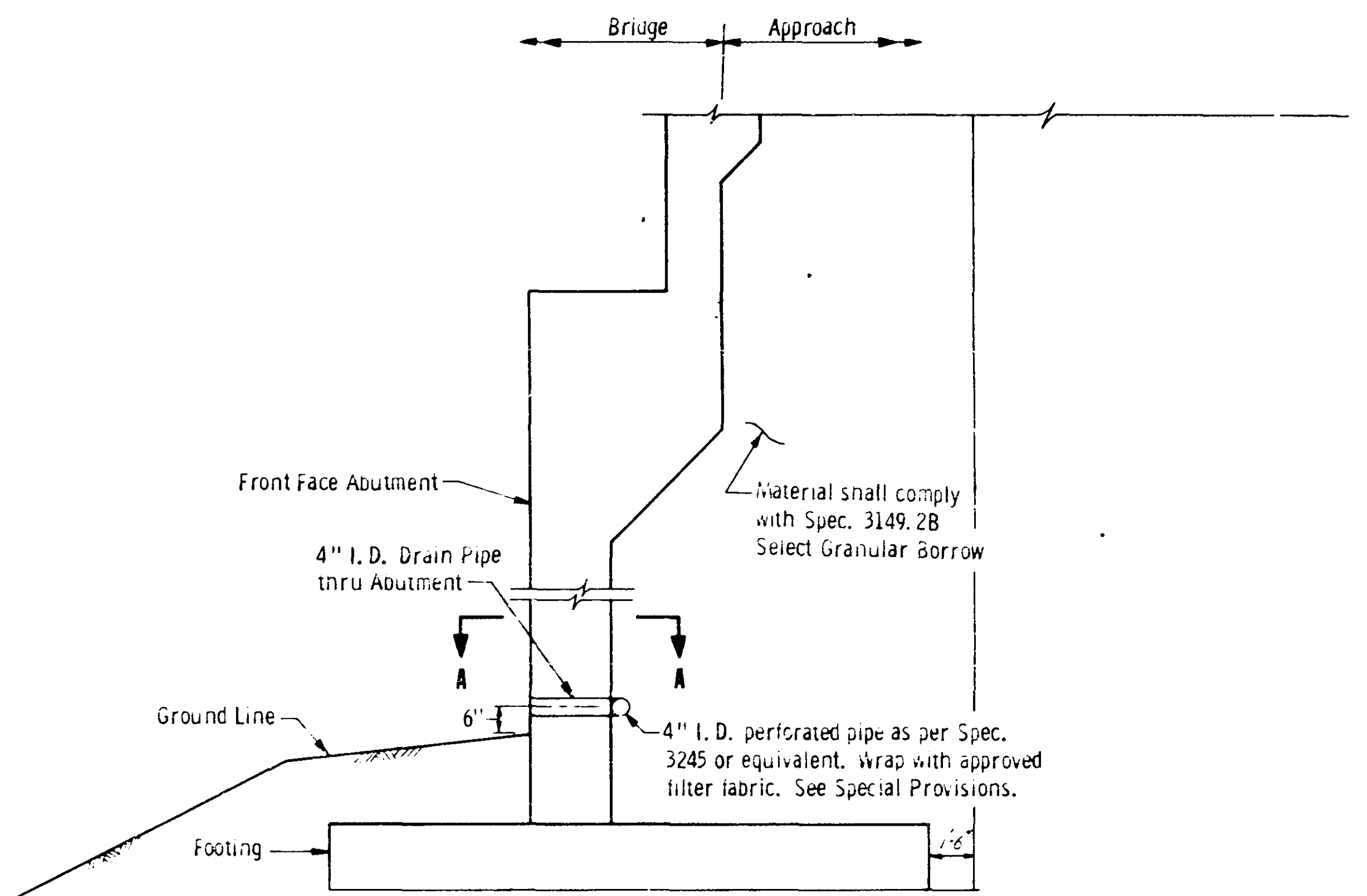
- NOTE:
- ① Distance measured along C of diaphragm.
 - ② BEAM ANCHORAGES
Fascia beams only: four 3/4" dia. threaded rods.
Interior beams: two 3/4" dia. threaded rods on top and two no. 7 bars on bottom.
 - ③ When construction joints are used at this location, diaphragm falsework shall remain in place until completion of slab curing period.
 - ④ See plans for dimensions.
 - ⑤ All diaphragm bars shown are listed with the superstructure reinforcement. Diaphragm concrete and reinforcement quantities are included in superstructure quantities (except threaded rods are included in payment for prestressed beams).

APPROVED: March 3, 1977
Developed by: ENGINEERING STANDARDS AND BRIDGES AND STRUCTURES
Issued by: ENGINEERING STANDARDS

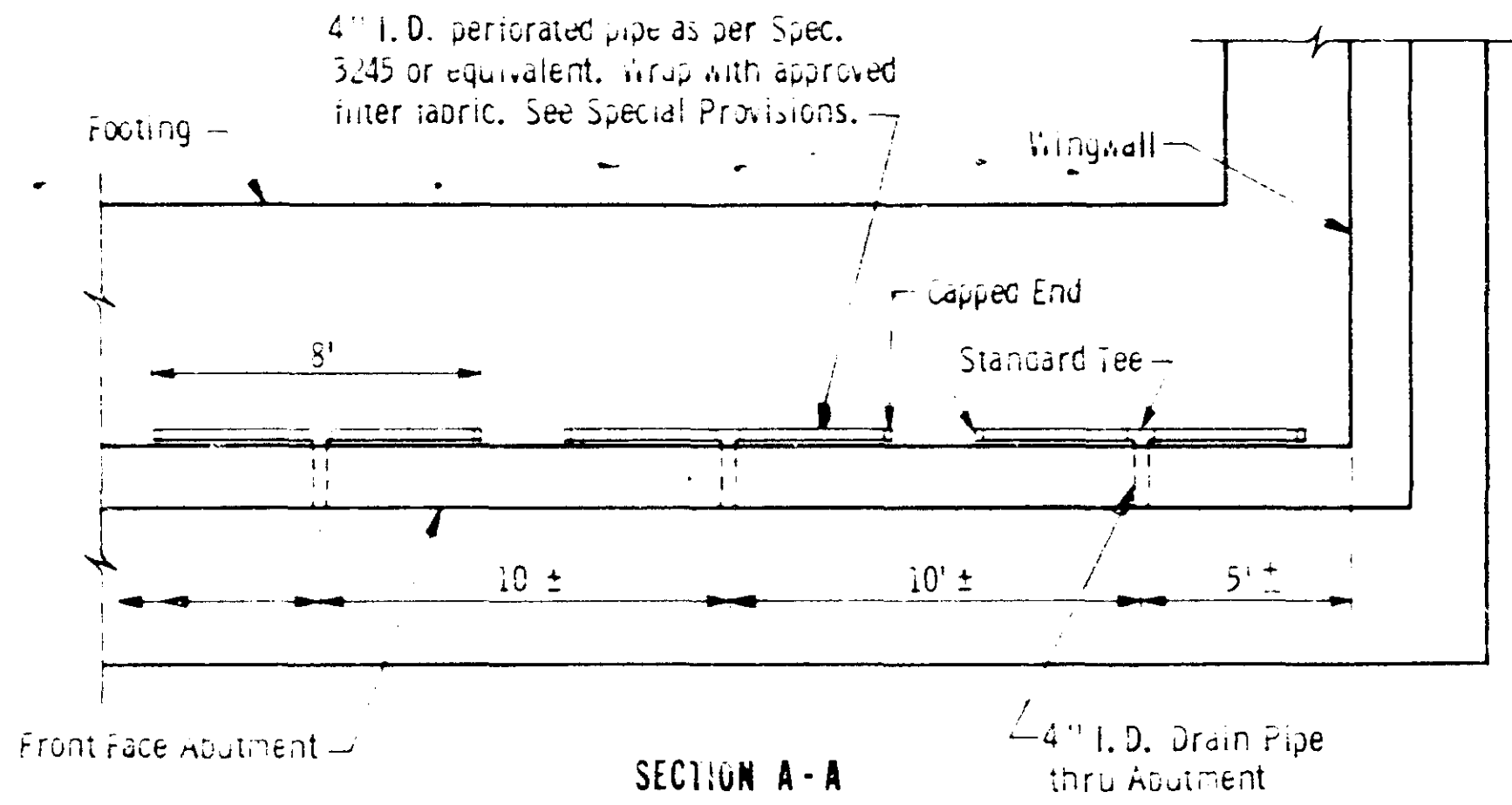
STATE OF MINNESOTA
DEPARTMENT OF TRANSPORTATION
END DIAPHRAGM
(28"-54" PRESTRESSED CONCRETE BEAM SPAN WITH PARAPET ABUTS.)

REVISED
Aug. 23, 1978

DETAIL NO.
B803



SECTION THRU ABUTMENT



SECTION A-A

APPROVED: March 3, 1977
Developed by: BRIDGE STANDARDS AND THE BRIDGES & STRUCTURES SECTION
Issued by: RESEARCH & STANDARDS

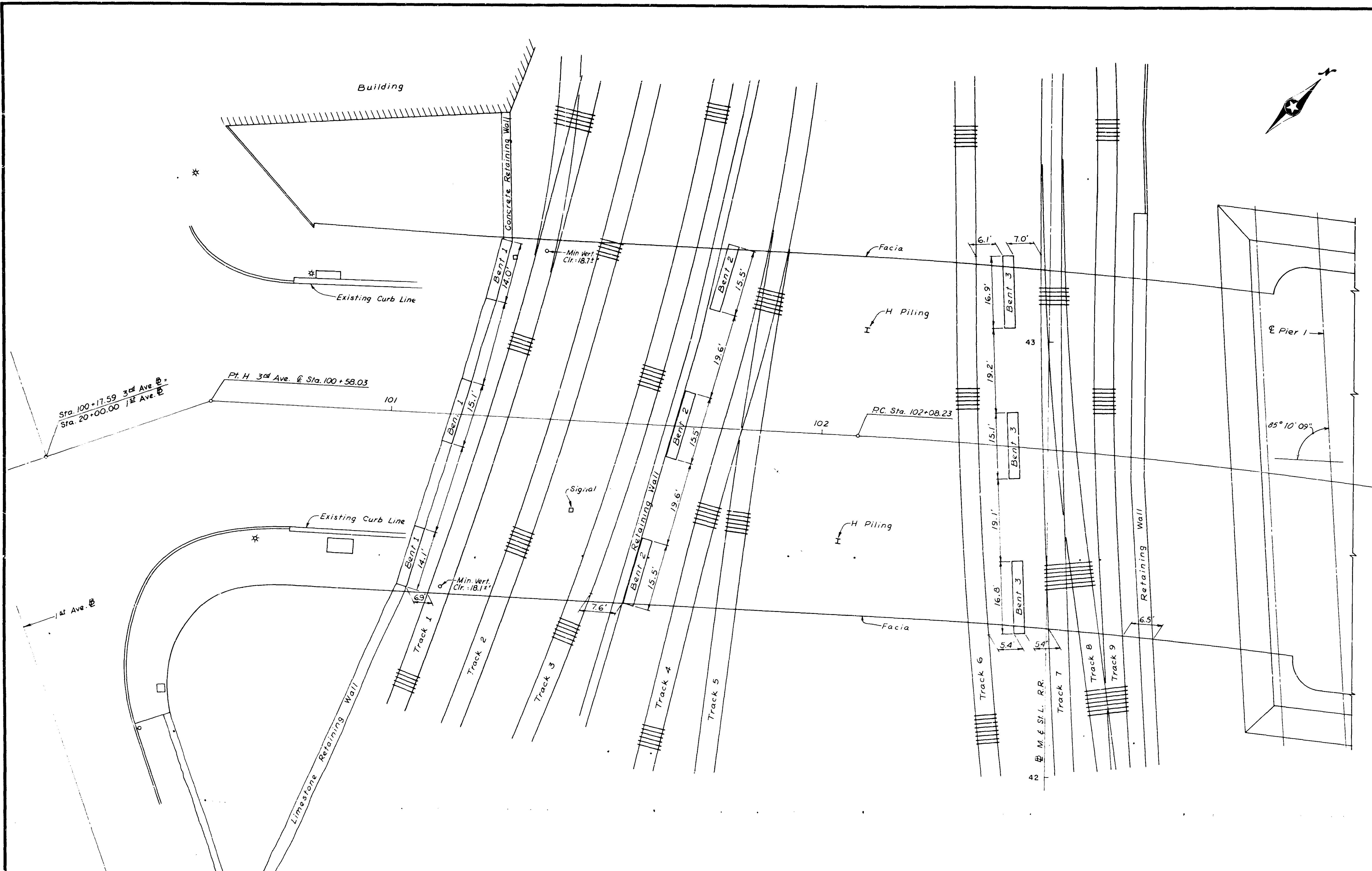
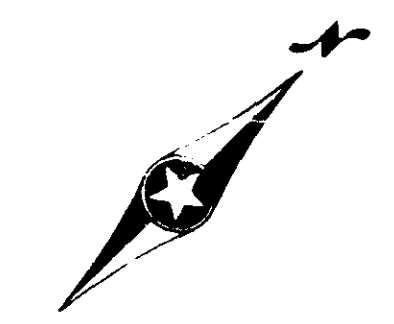
STATE OF MINNESOTA
DEPARTMENT OF TRANSPORTATION
DRAINAGE SYSTEM
FOR HIGH ABUTMENTS

REVISION
Nov. 8, 1977
Aug. 22, 1978

DETAIL NO.
B910
(MODIFIED)

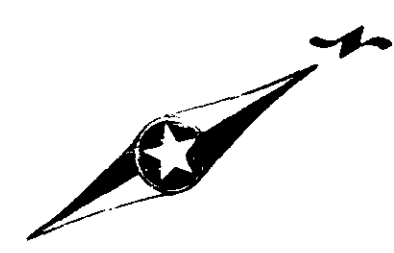
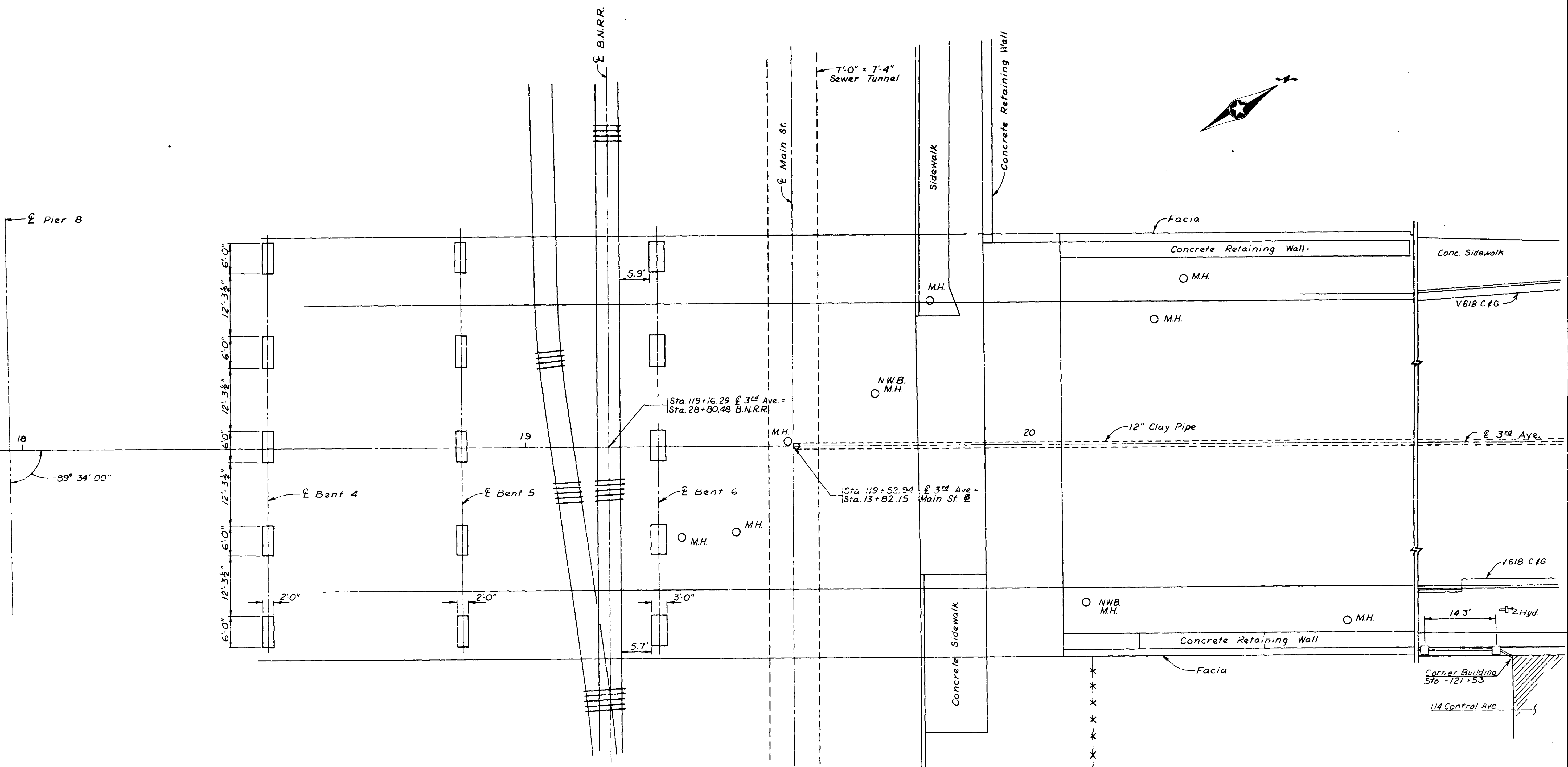
TITLE: **DETAILS**
DES: **CHK**
DOR: **CHK**
APPROVED: **5-2-79**
Sheet No. 26 of 148 Sheets
Bridge No. **2440**

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TITLE:	DES:	DR:	APPROVED:	Bridge No.
EXISTING BRIDGE SUBSTRUCTURE	CHK:	CHK:	5-7-79	2440
SHEET 1 OF 2	Sheet No. 127 of 148 Sheets			

THIS DOCUMENT WAS PREPARED BY THE TEXAS DEPARTMENT OF TRANSPORTATION, UNDER THE SUPERVISION OF THE TEXAS DEPARTMENT OF TRANSPORTATION, ENGINEERING DIVISION, AND UNDER THE SUPERVISION OF THE TEXAS DEPARTMENT OF TRANSPORTATION, ENGINEERING DIVISION, AND UNDER THE SUPERVISION OF THE TEXAS DEPARTMENT OF TRANSPORTATION, ENGINEERING DIVISION.



Note: Main Street and Sidewalk being renovated by others.

TITLE: EXISTING BRIDGE SUBSTRUCTURE SHEET 2 OF 2	DES:	DR:	APPROVED:	Bridge No. 2440
	CHK:	CHK:	5-7-79	
			Sheet No. 128 of 148 Sheets	

ALL RIGHT DOCUMENT WAS SUBMITTED BY AGENCY NAME BY THE COUNTY THE HAZARD HOUSE OF ...
 IN FILLED BY STATE OF MICHIGAN, METROGRAPHIC SERVICES UNIT, ACCORDING TO NATIONAL BEST OF ...
 RECORD REQUIREMENTS FOR PERMANENT RECORDING AND ACCORDING TO FILED PROCEDURES ...

CONTRACTED PROFILE

SCALE: HOR. 1" = 100' VER. 1" = 10'

ELEV
ELEV
ELEV
ELEV
ELEV
ELEV
ELEV
ELEV
ELEV
ELEV

TYPICAL SECTIONS & PERTINENT DATA

SCALES AS SHOWN

BENCH MARKS

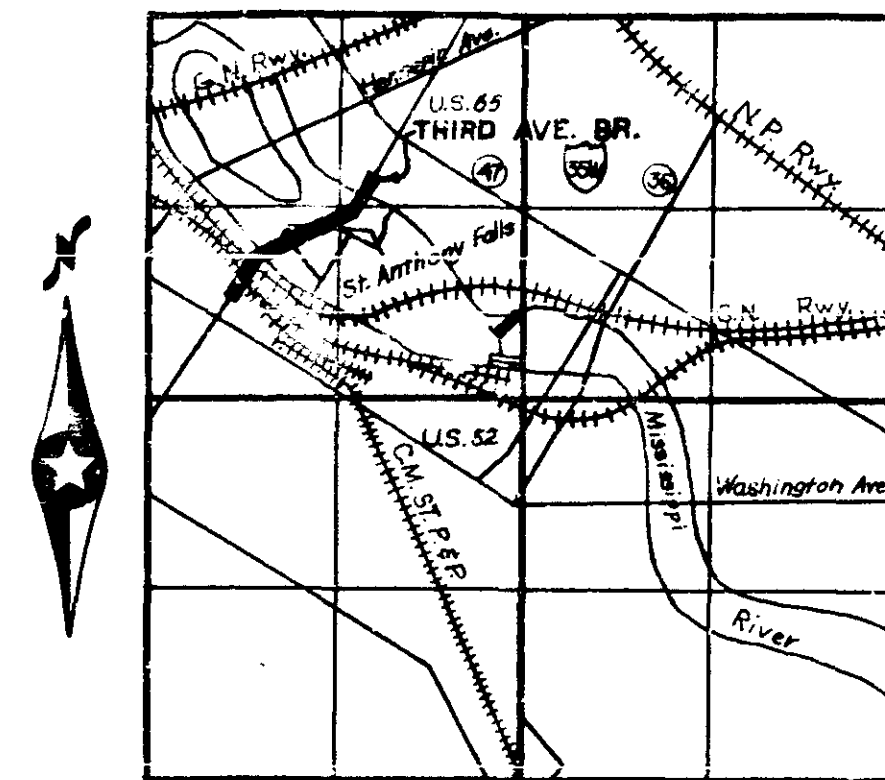
932 Central & University, 10' W. of E. Curb
of Central Ave., 16.65' S. of N. Curb of University (Elev. = 845.186')

S-52 Central & 2nd St. E., 3rd Ave Bridge
Std. Disc. in W. Edge of SDWK on W.
Side of Bridge 15' S. of N. End of Bridge (Elev. = 846.648')

S-51 1st St. S. & 3rd Ave. S., Std. Disc.
In 3rd Ave Bridge set in SDWK At Base
of Guard Rail 50' E. of W. End of Bridge
on S. Side. (Elev. = 844.533')

S-46 4th St. S. & 3rd Ave. Court House,
Std. Disc. set on Fire Dept. Window Ledge
W. of 4th St. (Elev. = 839.007')

Fed. Proj. No. BHF 005-2(67)



R W
INDEX MAP
(FOUR SECTIONS)

FOLLOW SEPARATE "INSTRUCTIONS FOR PREPARATION OF BRIDGE SURVEYS" WHEN MAKING BRIDGE SURVEYS.

DATA

- Preliminary recommendations of Engineer in charge of Bridge Survey:
 - Net span length and type of bridge.....
 - Width of roadway on bridge.....
 - Number and width of sidewalks, if any.....
 - Locate center of bridge at station.....
 - If a skew bridge is recommended, the angle of skew should be.....
 - Is piling required?.....
- Special features: Waterfalls, dams, exceptional floods, ice, driftwood, sliding banks, logging, etc.
- Changes: In height or length from that of old bridge, and reasons why.....
- Other bridges in vicinity:
 - Over some stream (particularly structures which carry high water without overflow of roadway); give location, length, height above water, net cross-sectional area at high water stage and estimated age.....
 - Over or under some highway or railroad; give location, length, horizontal and vertical clearances and estimated age.....
- Reasons why these bridges are, or are not, fair indications of what length the proposed bridge should be.....
- If structure is over a drainage ditch, is ditch gradient liable to be altered?.....
- Navigation clearances required, if any.....
- Information and evidence in regard to high water stages was obtained as follows.....
- Must contractor provide for traffic during construction of proposed bridge?.....
If so, by what means?.....

HYDRAULIC ENGINEERS RECOMMENDATION

HIGH AND LOW WATER ELEVATIONS

Date obtained from.....
reflects highest water elevation in the area of this construction to be..... and the lowest water elevation to be..... The above figures are for informational purposes only. The state neither warrants nor represents that these figures for high water and low water are in any way indicative of the high water or low water to be expected or encountered during this construction.

STATE OF MINNESOTA
DEPARTMENT OF TRANSPORTATION

BRIDGE SURVEY

FOR

PROPOSED BRIDGE LOCATED IN THE CITY..... OF

MINNEAPOLIS ON T.H. 65
(TOWN OR CITY) (T.H., C.S.A.M. OR C.A.R. NUMBER)

SEC. 23 TWP. 29N R. 24W

TOWNSHIP..... COUNTY HENNEPIN

SURVEY MADE DURING MONTH OF AUGUST 19 69

SURVEY MADE BY MINNESOTA HIGHWAY DEPT.

BRIDGE NO. 2440

SHIPPING POINT

Proposed Bridge is..... miles..... of

..... which is the nearest

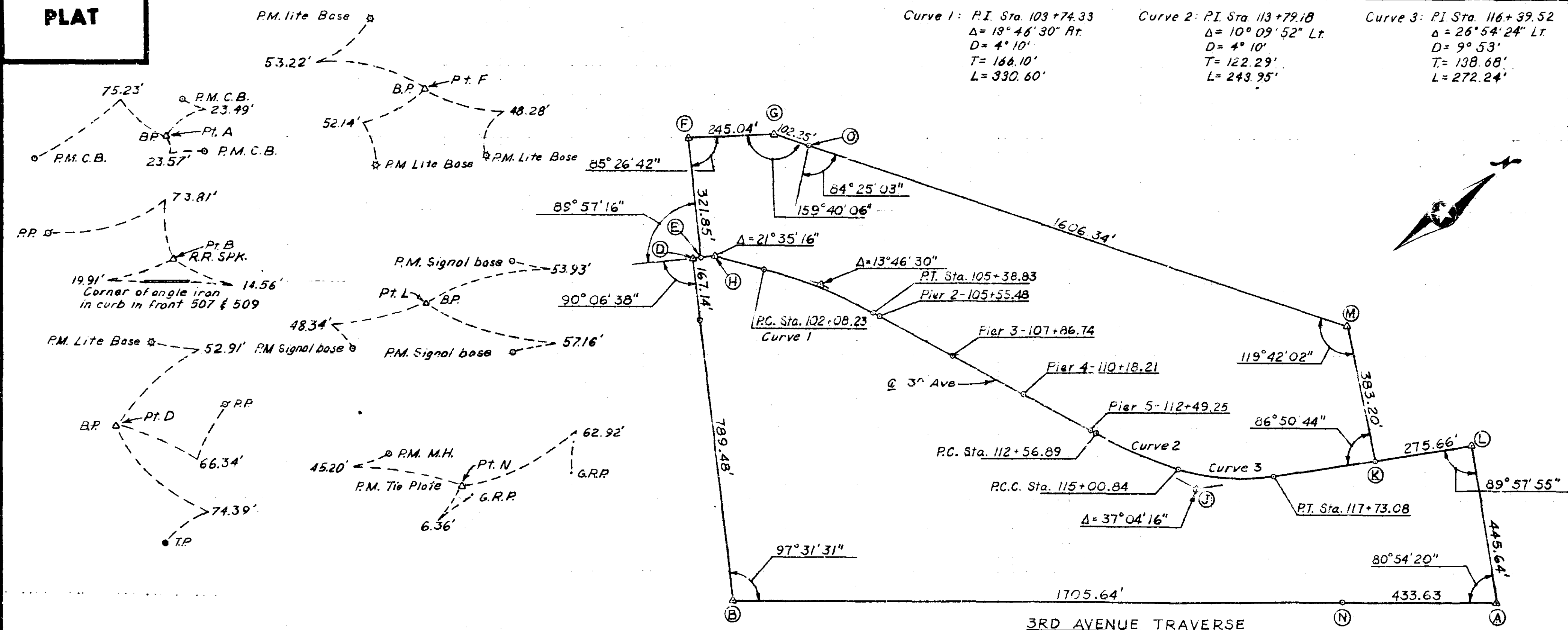
Railroad shipping point.

*(Give name of town, station or siding)

Date..... Project or County Engineer.....

Date..... District Engineer.....

PLAT



Area No. 59 Job No. 850

State Proj. No. 2710-21(T.H. NO. 65=105)

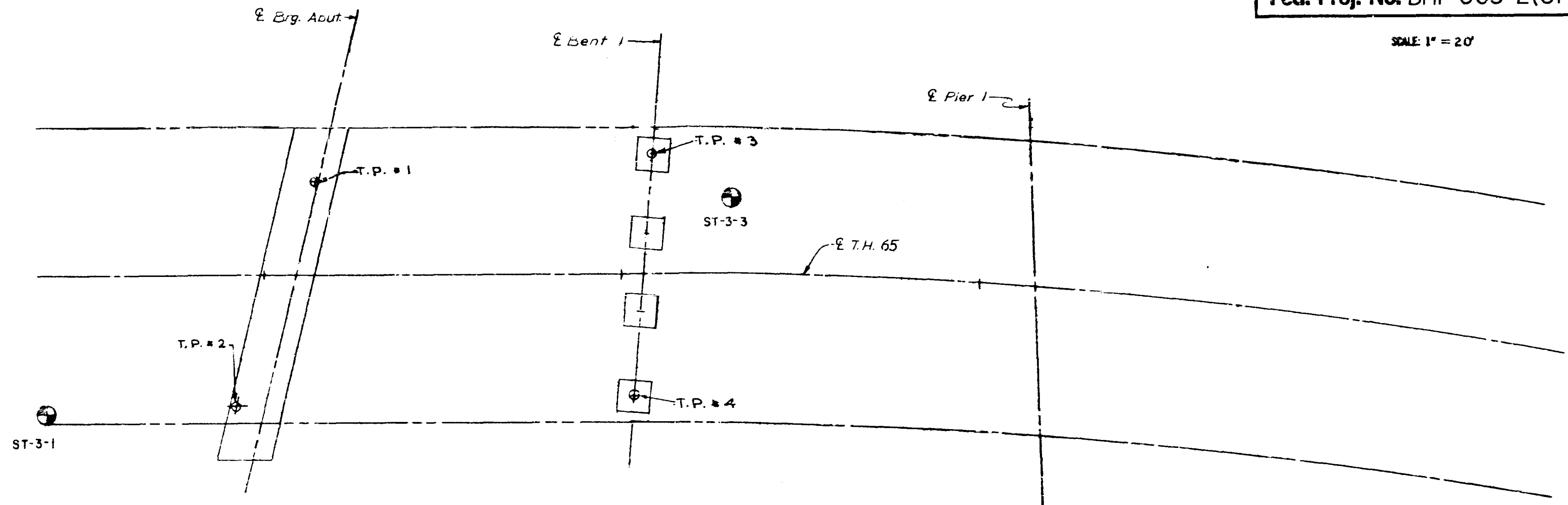
Sheet No. 129 of 148 Sheets

Bridge Survey Sheet (Sheet 1 of 2)

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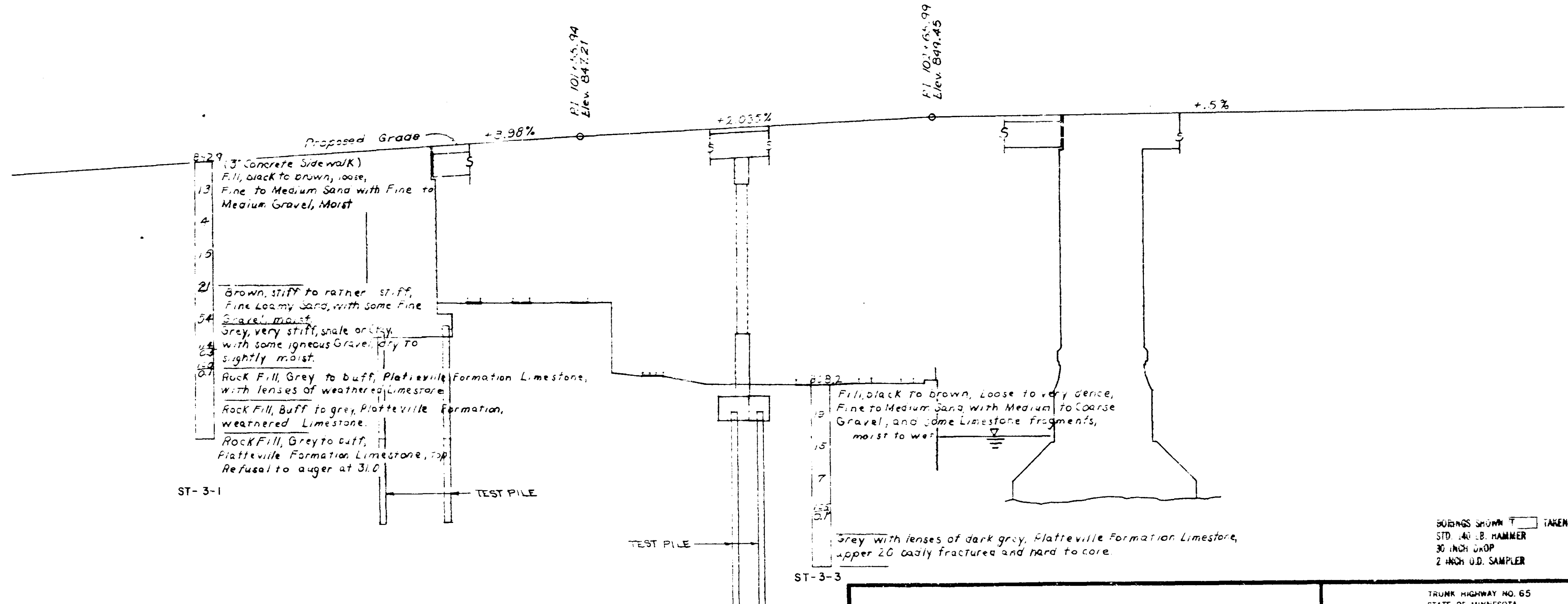
CENTER LINE OF LAYOUT

100



Note:
Proposed Grade to Match
Existing Grade @ Sta 99+70
Elev 840.94

ELEV 850
ELEV 840
ELEV 830
ELEV 820
ELEV 810
ELEV 800
ELEV 790
ELEV 780
ELEV 770
ELEV 760
ELEV 750



Proposed Grade
+3.98%
+2.035%
+1.5%

ST-3-1

TEST PILE

TEST PILE

ST-3-3

3'-29" 3" Concrete Sidewalk
Fill, black to brown, loose,
13" Fine to Medium Sand with Fine to
4" Medium Gravel, Moist
15"
21" Brown, stiff to rather stiff,
Fine Loamy Sand, with some Fine
54" Spalls, moist
4" Grey, very stiff, shale or clay,
with some igneous Gravel, dry to
23" slightly moist.
127" Rock Fill, Grey to buff, Platteville Formation Limestone,
with lenses of weathered Limestone.
Rock Fill, Buff to grey, Platteville Formation,
weathered Limestone.
Rock Fill, Grey to buff,
Platteville Formation Limestone, top
Refusal to auger at 310'

ST-3-1

TEST PILE

TEST PILE

ST-3-3

13'-82" 13" Fill, black to brown, Loose to very dense,
Fine to Medium Sand, with Medium to Coarse
15" Gravel, and some Limestone fragments,
moist to wet
7"
125' 0.7' Grey with lenses of dark grey, Platteville Formation Limestone,
upper 20' easily fractured and hard to core

SOILS SHOWN TAKEN WITH
STD. 140 L.B. HAMMER
30 INCH DROP
2 INCH U.D. SAMPLER

SUBSURFACE EXPLORATION FOR FOUNDATION DESIGN

For the design of the structure foundation, to obtain relative data concerning the character of material in and upon which the foundation might be built, borings and/or soundings were made at points approximately as indicated on this drawing with the log of such exploration data as interpreted for such design purpose as shown. The explorations were made by ordinary and conventional methods and care deemed adequate for such purpose. However, since it is a matter of common knowledge that the exact character of any material and its reaction is difficult to determine from such subsurface exploration and that the kind and character of material at the site where the foundations are built may vary substantially from that indicated by the log they are made available to the bidders simply for what they are worth, without any warranty, expressed or implied that the material to be encountered in building the foundation will conform therewith. If the log is used by the contractor in making his bid, it is hereby expressly stipulated that the Department accepts no responsibility for said use.

TRANSPORTATION

TRUNK HIGHWAY NO. 65
STATE OF MINNESOTA
DEPARTMENT OF TRANSPORTATION

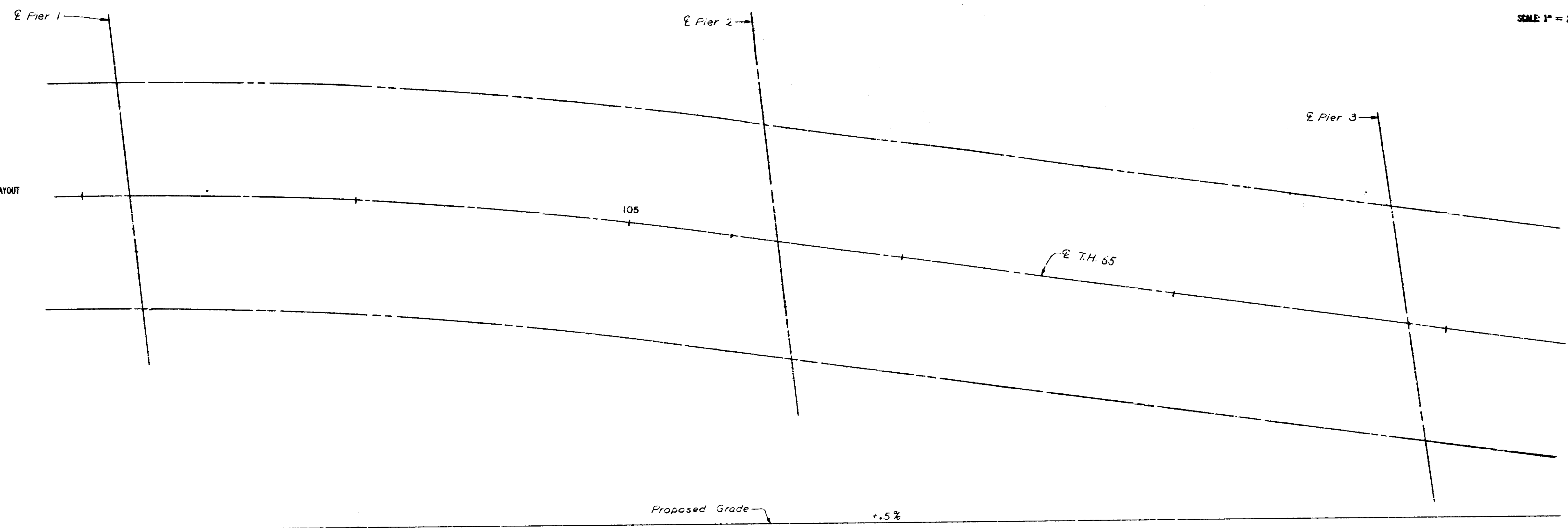
BRIDGE NO. 2440

BRIDGE SURVEY
PLAN AND PROFILE

SEE SHEET NO. FOR ADDITIONAL INFORMATION

State Proj. No. 2710-21 (T.H. NO. 65=105)

Sheet No. 130 of 148 Sheets



CENTER LINE OF LAYOUT

ELEV. 850

ELEV. 840

ELEV. 830

ELEV.

ELEV.

ELEV.

ELEV.

ELEV.

ELEV.

ELEV.

ELEV.

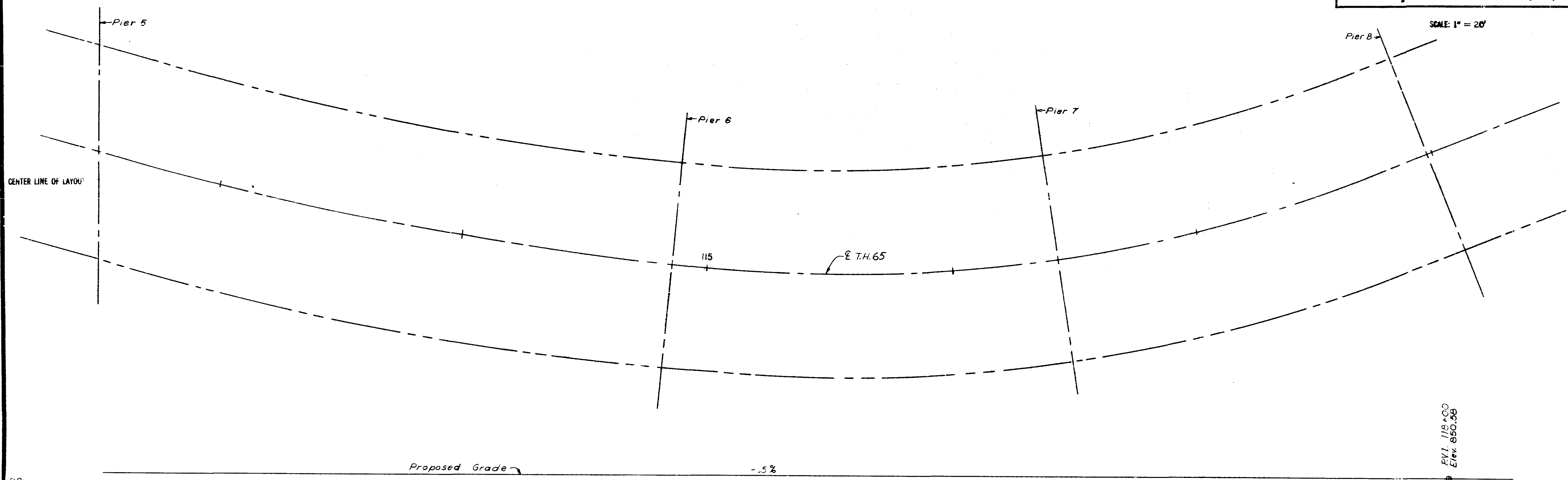
B.M. ELEV (M.S.L. 19 ADJ.)

BORINGS SHOWN TAKEN WITH
 STD. 140 LB. HAMMER
 30 INCH DROP
 2 INCH O.D. SAMPLER

<p align="center">SUBSURFACE EXPLORATION FOR FOUNDATION DESIGN</p> <p>For the design of the structure foundation, to obtain relative data concerning the character of material in and upon which the foundation might be built, borings and/or soundings were made at points approximately as indicated on this drawing with the log of such exploration data as interpreted for such design purpose as shown. The explorations were made by ordinary and conventional methods and care deemed adequate for such purpose. However, since it is a matter of common knowledge that the exact character of any material and its reaction is difficult to determine from such subsurface exploration and that the kind and character of material at the site where the foundations are built may vary substantially from that indicated by the log they are made available to the bidders simply for what they are worth, without any warranty, expressed or implied that the material to be encountered in building the foundation will conform therewith. If the log is used by the contractor in making his bid, it is hereby expressly stipulated that the Department accepts no responsibility for said use.</p> <p align="center">TRANSPORTATION</p>	<p align="center">TRUNK HIGHWAY NO. 65 STATE OF MINNESOTA DEPARTMENT OF TRANSPORTATION</p> <p align="center">BRIDGE NO. 2440</p> <p align="center">BRIDGE SURVEY PLAN AND PROFILE</p> <p>SEE SHEET NO. _____ FOR ADDITIONAL INFORMATION</p>
---	--

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SCALE: 1" = 20'



ELEV 850
ELEV 840
ELEV 830
ELEV
ELEV
ELEV
ELEV
ELEV
ELEV
ELEV
ELEV
ELEV

Proposed Grade -0.5%

BVI. 118+00
Elev. 850.58

BORINGS SHOWN TAKEN WITH
STD. 140 LB. HAMMER
30 INCH DROP
2 INCH O.D. SAMPLER

<p align="center">SUBSURFACE EXPLORATION FOR FOUNDATION DESIGN</p> <p>For the design of the structure foundation, to obtain relative data concerning the character of material in and upon which the foundation might be built, borings and/or soundings were made at points approximately as indicated on this drawing with the log of such exploration data as interpreted for such design purpose as shown. The explorations were made by ordinary and conventional methods and care deemed adequate for such purpose. However, since it is a matter of common knowledge that the exact character of any material and its reaction is difficult to determine from such subsurface exploration and that the kind and character of material at the site where the foundations are built, may vary substantially from that indicated by the log they are made available to the bidders simply for what they are worth, without any warranty, expressed or implied that the material to be encountered in building the foundation will conform therewith. If the log is used by the contractor in making his bid, it is hereby expressly stipulated that the Department accepts no responsibility for said use.</p> <p align="center">TRANSPORTATION</p>	<p>TRUNK HIGHWAY NO. 65 STATE OF MINNESOTA DEPARTMENT OF TRANSPORTATION</p>
	<p>BRIDGE NO. 2440</p> <p>BRIDGE SURVEY PLAN AND PROFILE</p>
SEE SHEET NO.	FOR ADDITIONAL INFORMATION

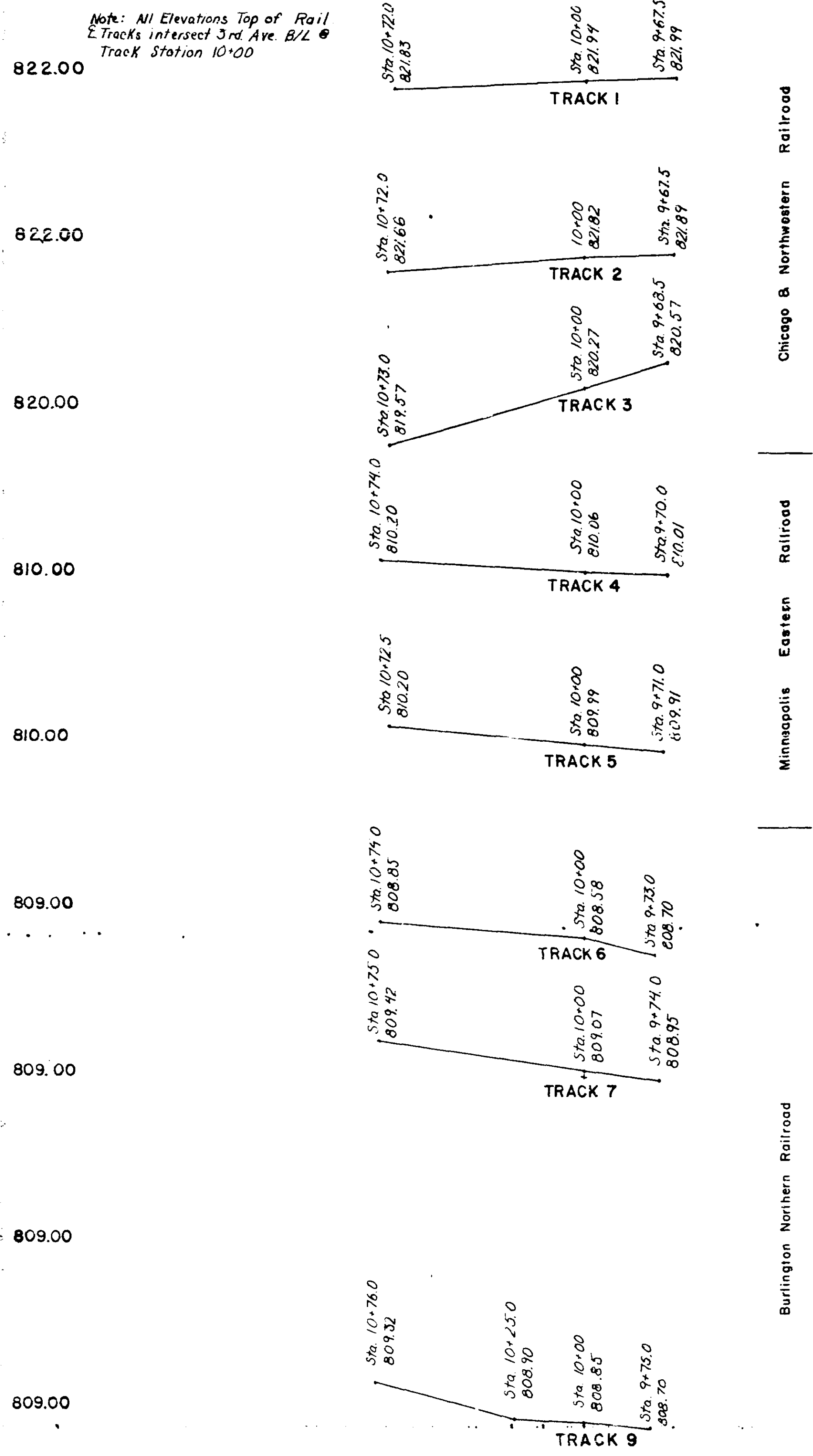
State Proj. No. 2710-21(T.H. NO. 65=105)

Sheet No. 133 of 148 Sheets

B.M. ELEV (M.S.L. 19 ADJ.)

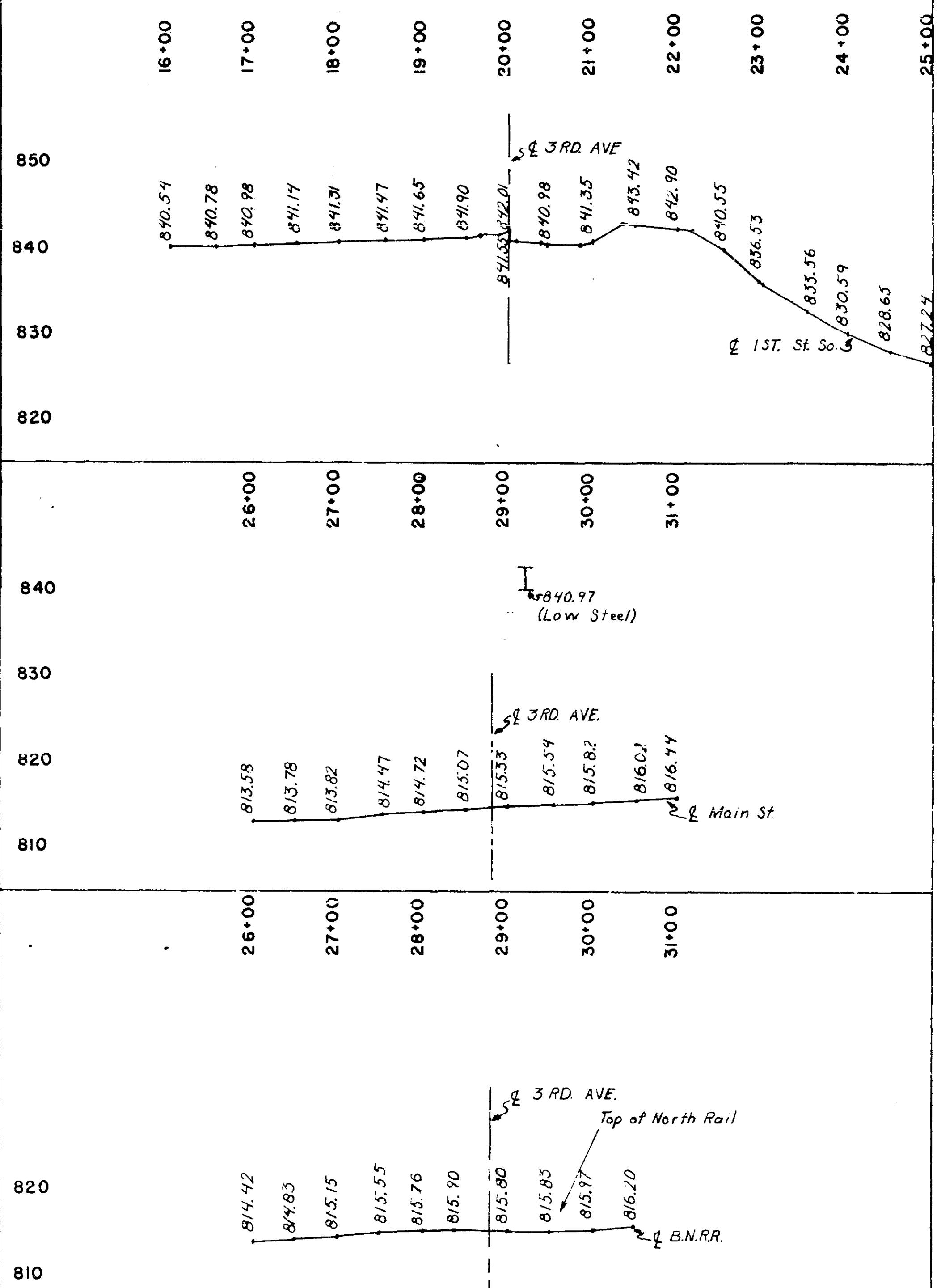
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RR TRACK PROFILES
SCALE: HOR. 1" = 30' VER. 1" = 1'

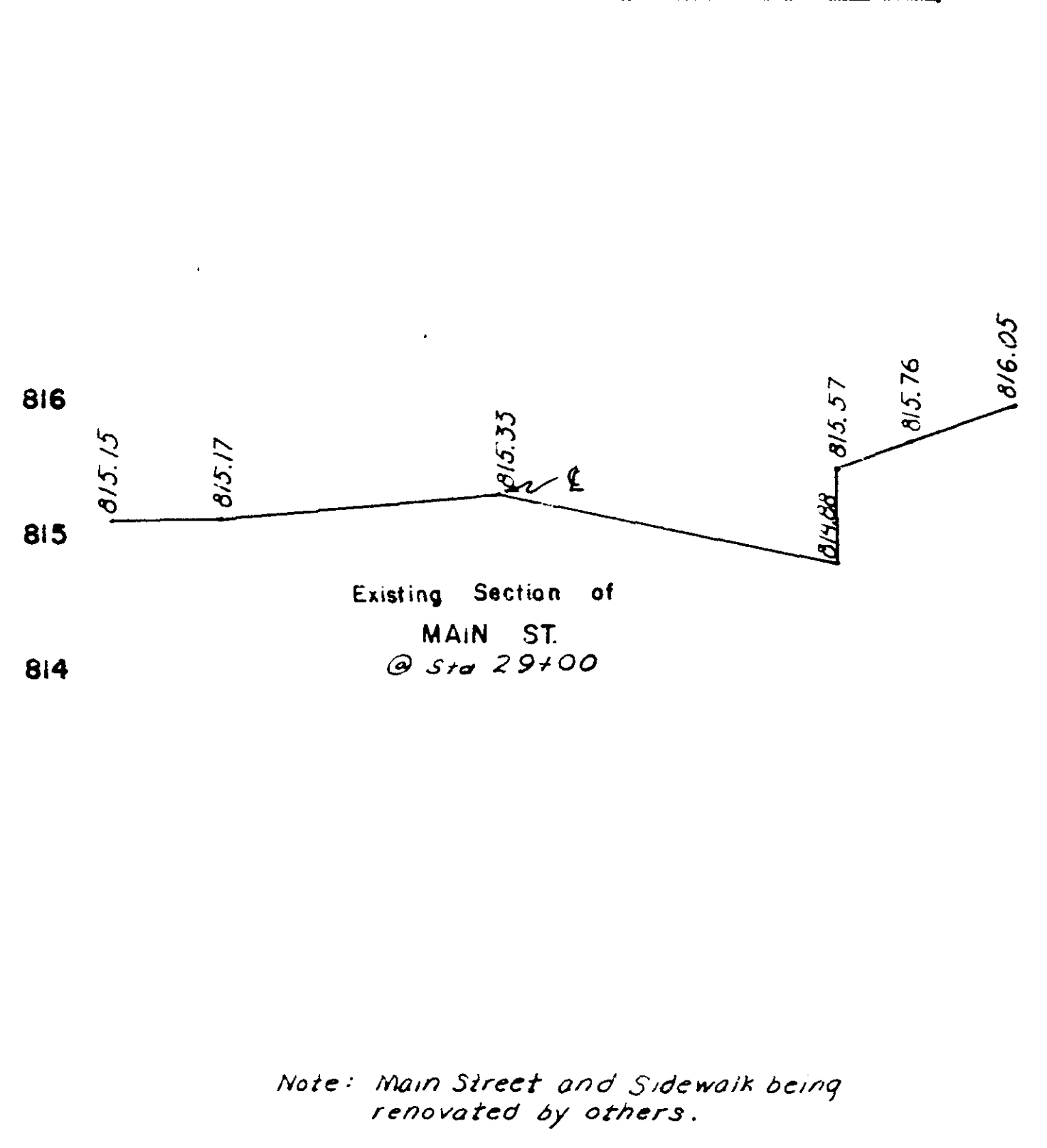


Chicago & Northwestern Railroad
Minneapolis Eastern Railroad
Burlington Northern Railroad

ROAD & R.R. TRACK PROFILES
SCALE: HOR. 1" = 100' VER. 1" = 10'



CROSS SECTION
SCALE: HOR. 1" = 10' VER. 1" = 1'



2710-21 (T.H. NO. 65=105)

TRUNK HIGHWAY NO. 65
STATE OF MINNESOTA
DEPARTMENT OF TRANSPORTATION

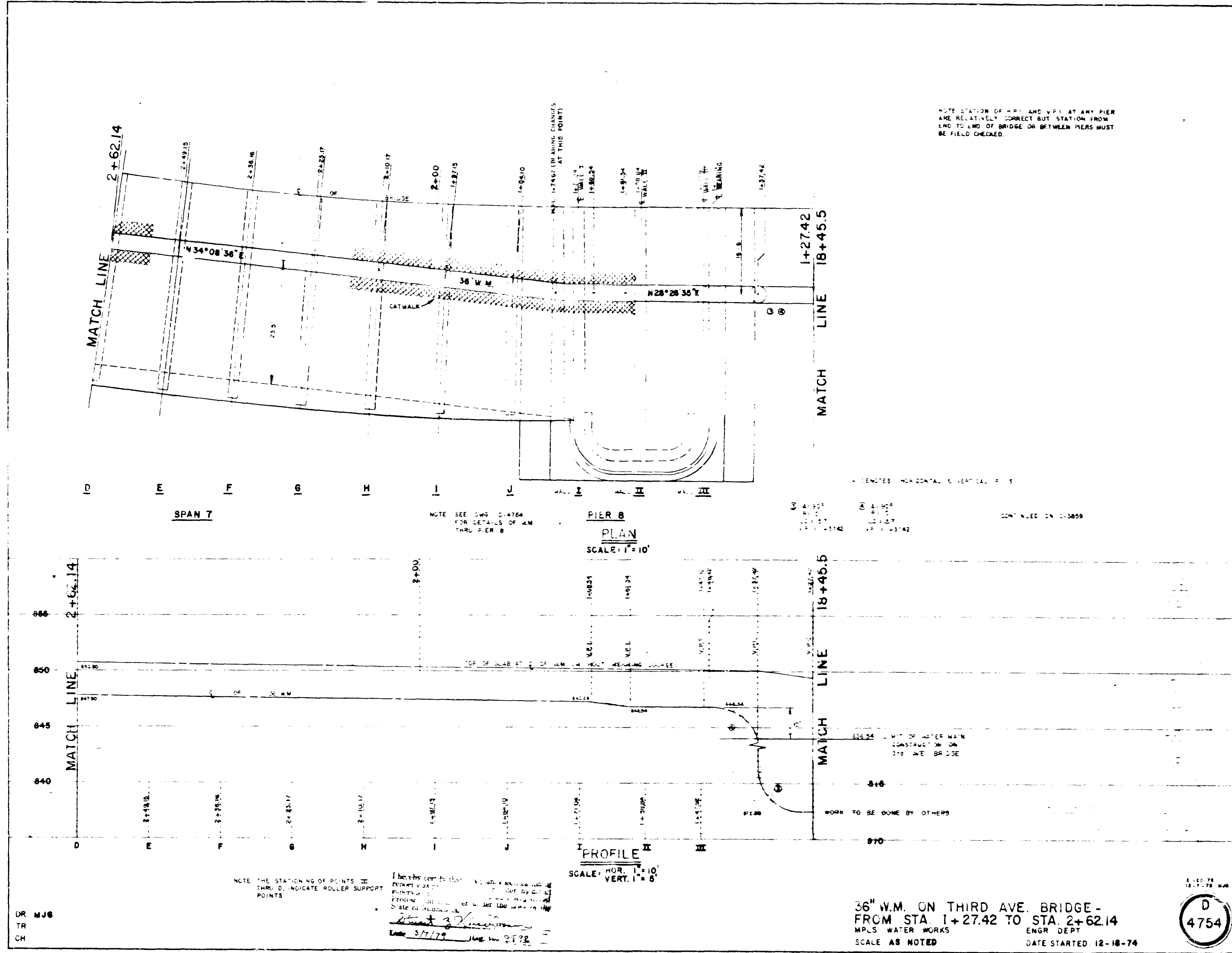
BRIDGE NO. 2440

PROFILES

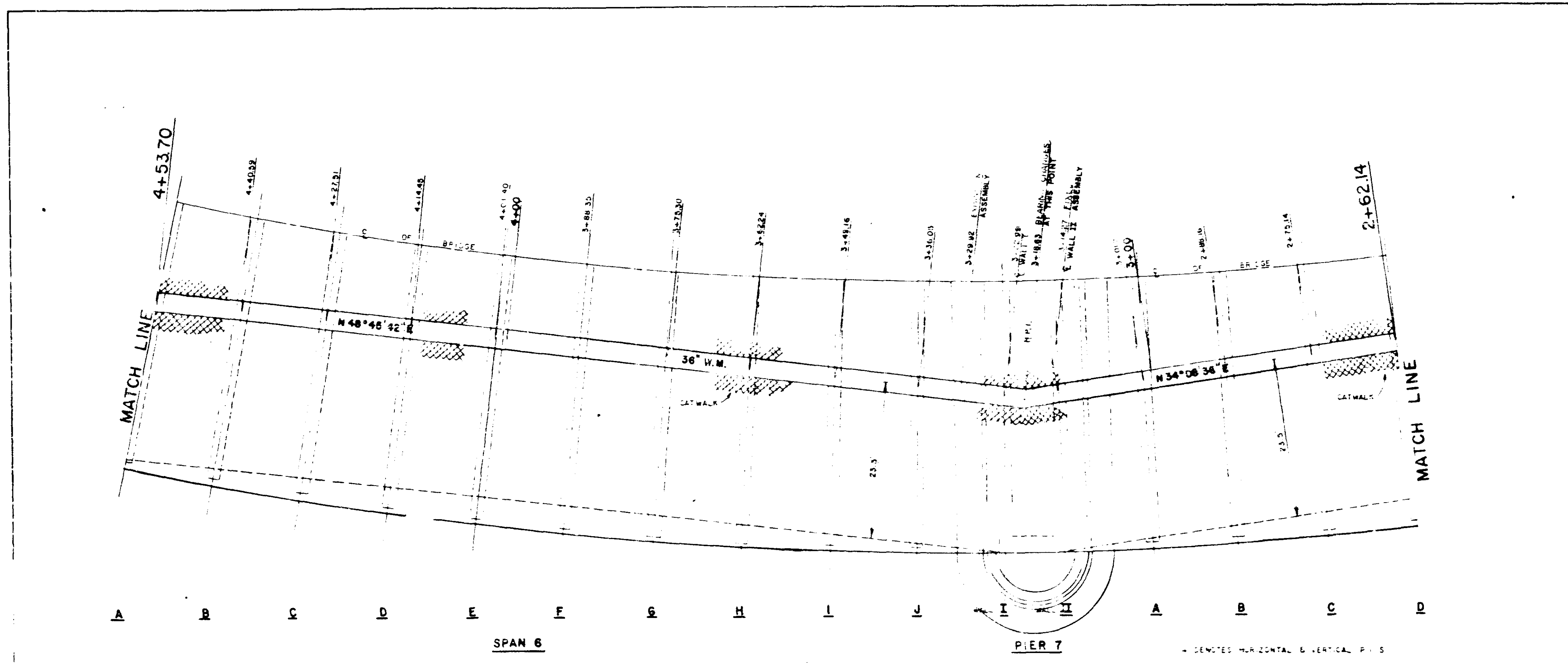
APPROVED:

SHEET NO. 135 OF 148 SHEETS 2440

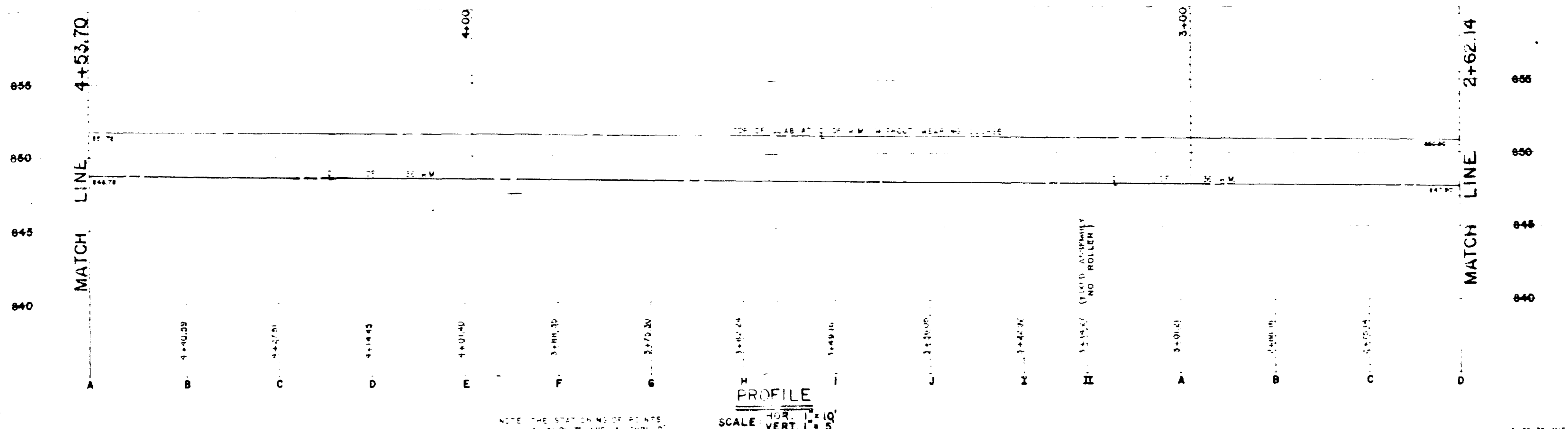
DES.
D.CH.
DR.
CH.



TITLE: WATERMAIN SYSTEM DETAILS	DES.:	DR:	APPROVED:	Bridge No. 2440
	CHK:	CHK:	5-7-79	
Sheet No. 136 of 148 Sheets				



PLAN
SCALE: 1" = 10'



PROFILE
HOR. SCALE: 1" = 10'
VERT. SCALE: 1" = 5'

NOTE: THE STATIONING OF POINTS A THROUGH D AND A' THROUGH D' INDICATE ROLLER SUPPORT POINTS.

36" W.M. ON THIRD AVE. BRIDGE -
FROM STA. 2+62.14 TO STA. 4+53.70
MPLS WATER WORKS ENGR DEPT
SCALE AS NOTED DATE STARTED 12-18-74

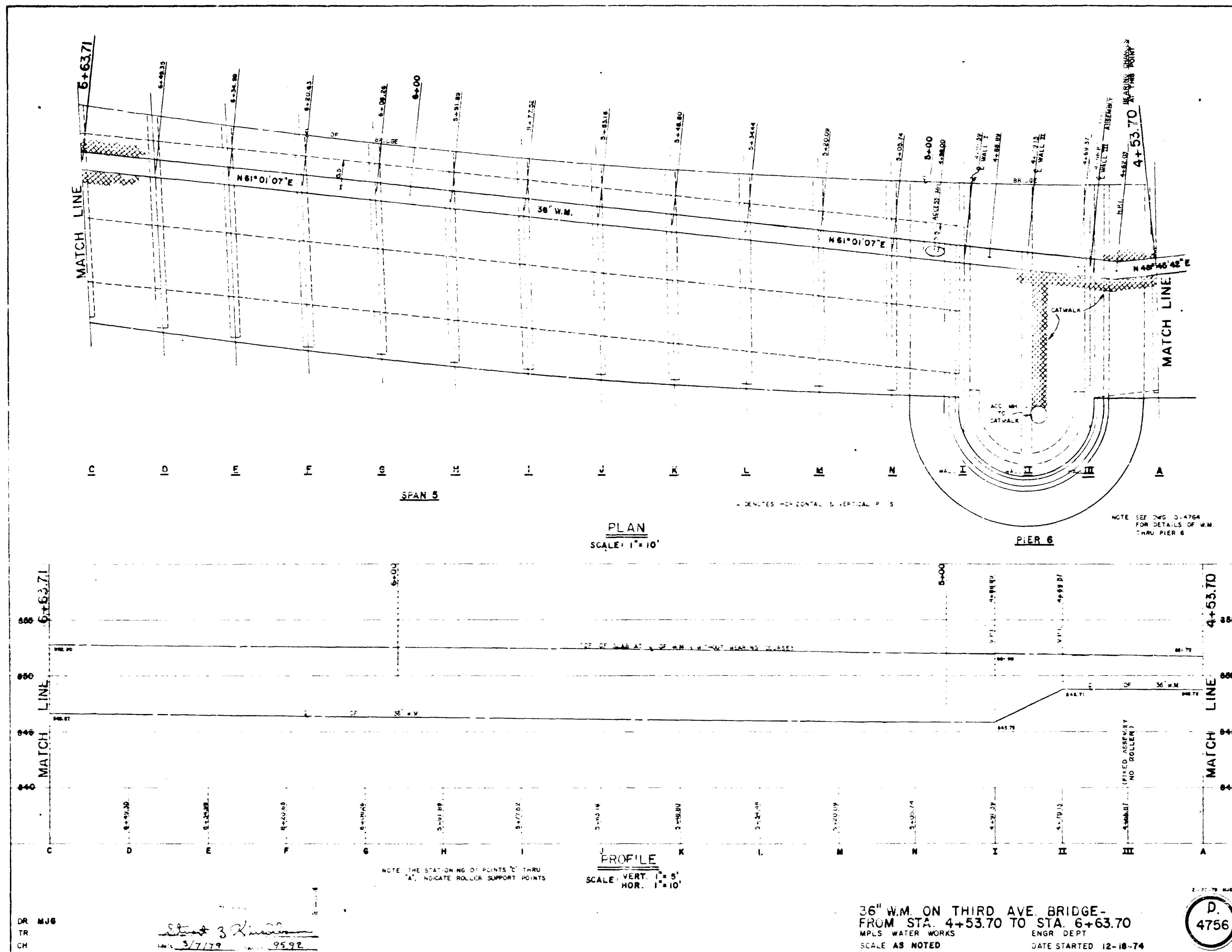
D
4755

DR MJG
TR
CH

Stuart J. Kimmel
3/7/79 9532

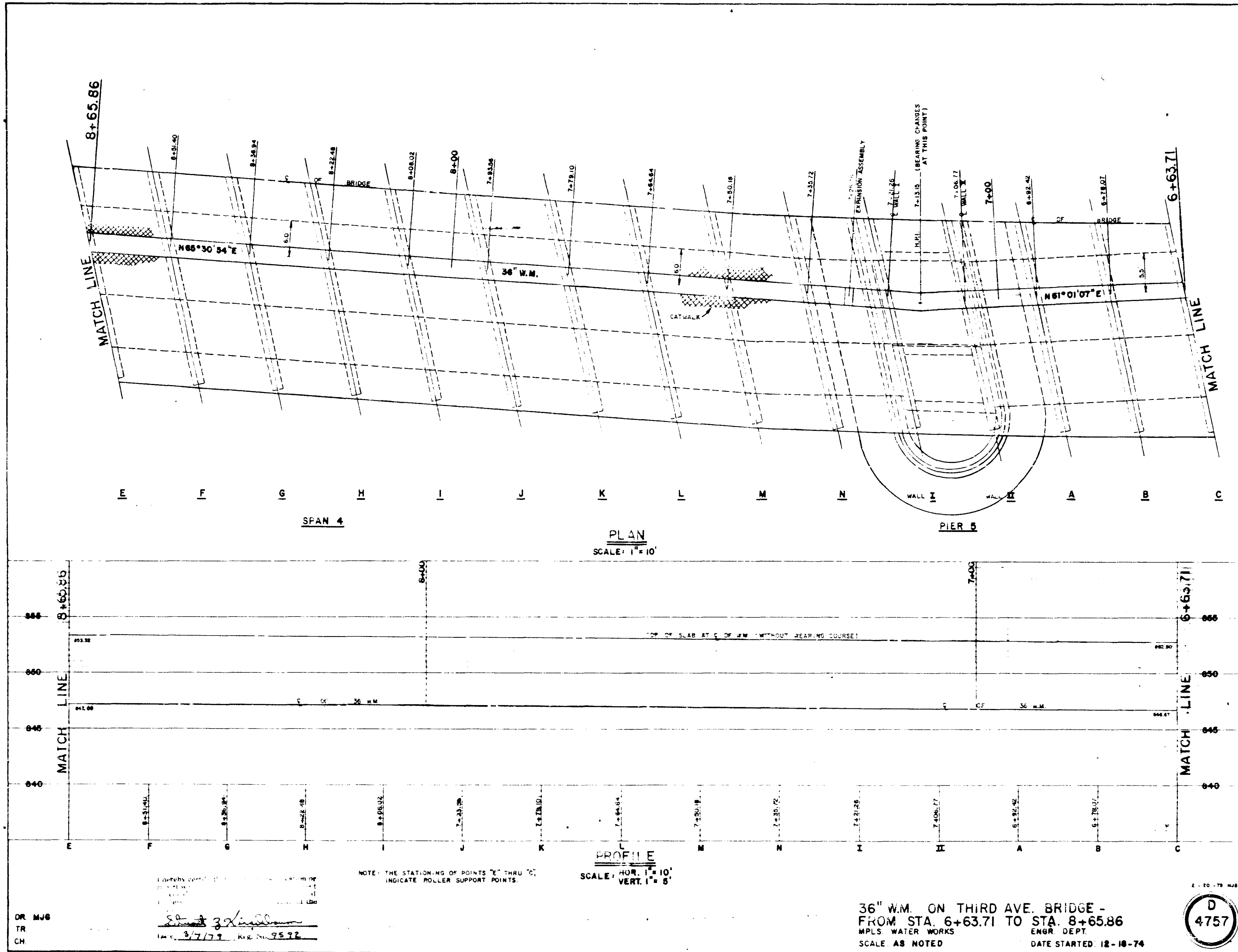
TITLE: WATERMAIN SYSTEM DETAILS	DES: CHK:	DR: CHK:	APPROVED: 5-7-79	Bridge No. 2440
	Sheet No. 137 of 148 Sheets			

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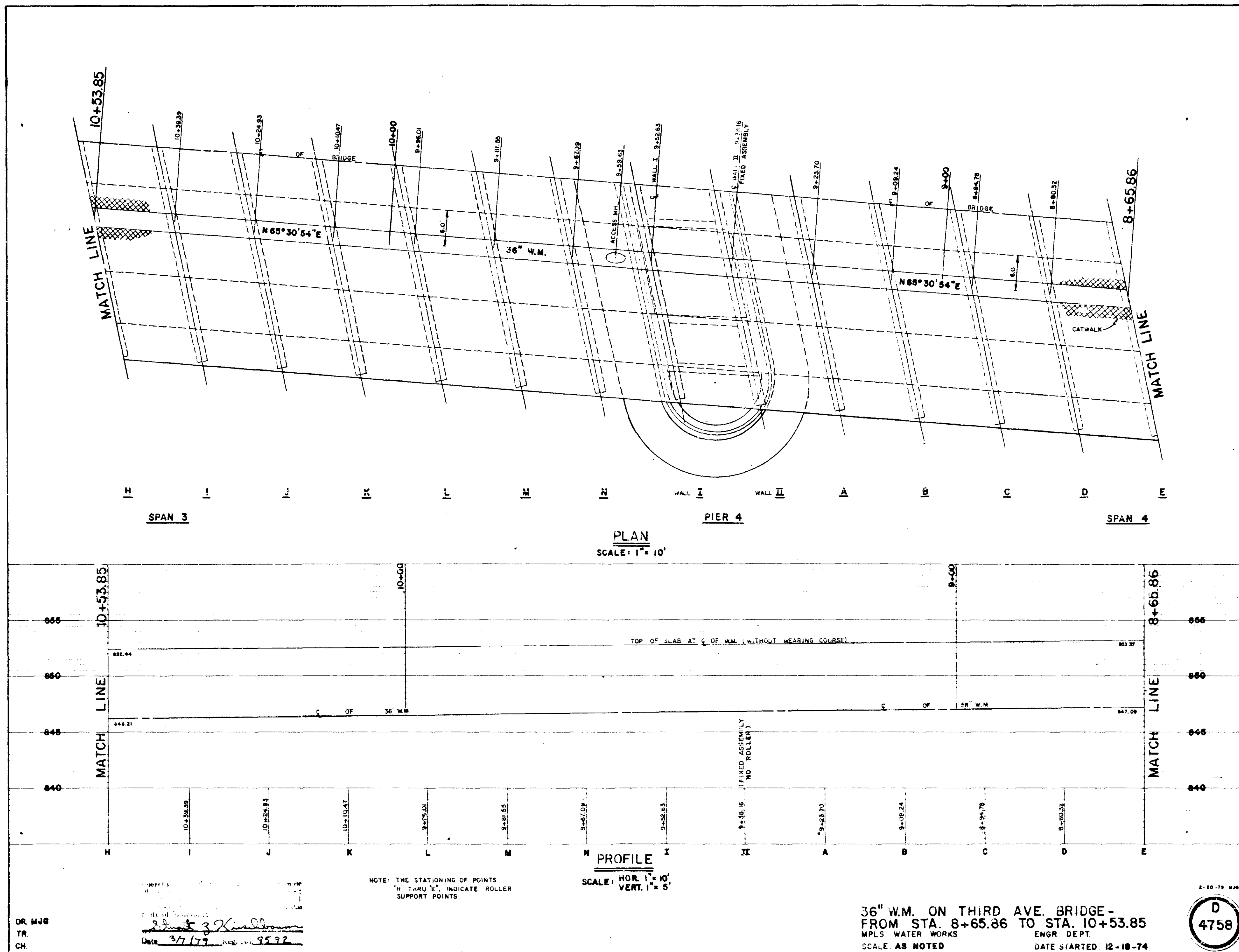


TITLE:	DES:	DR:	APPROVED:	Bridge No.
WATERMAIN SYSTEM DETAILS	CHK:	CHK:	5-7-79	2440
	Sheet No. 138 of 148 Sheets			

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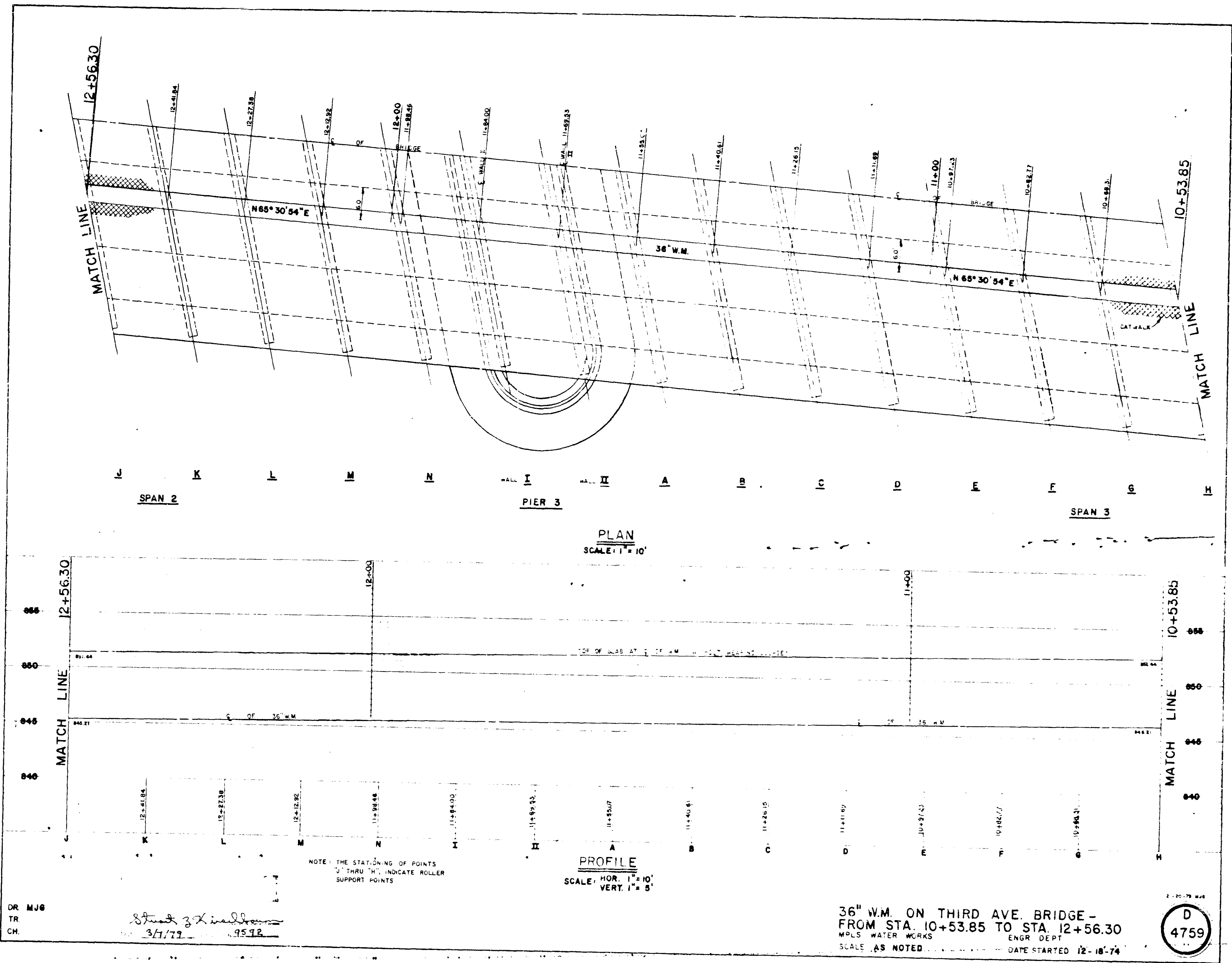


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WATERMAIN SYSTEM DETAILS	CHK:	CHK:	5-7-79	
Sheet No. 139 of 148 Sheets				



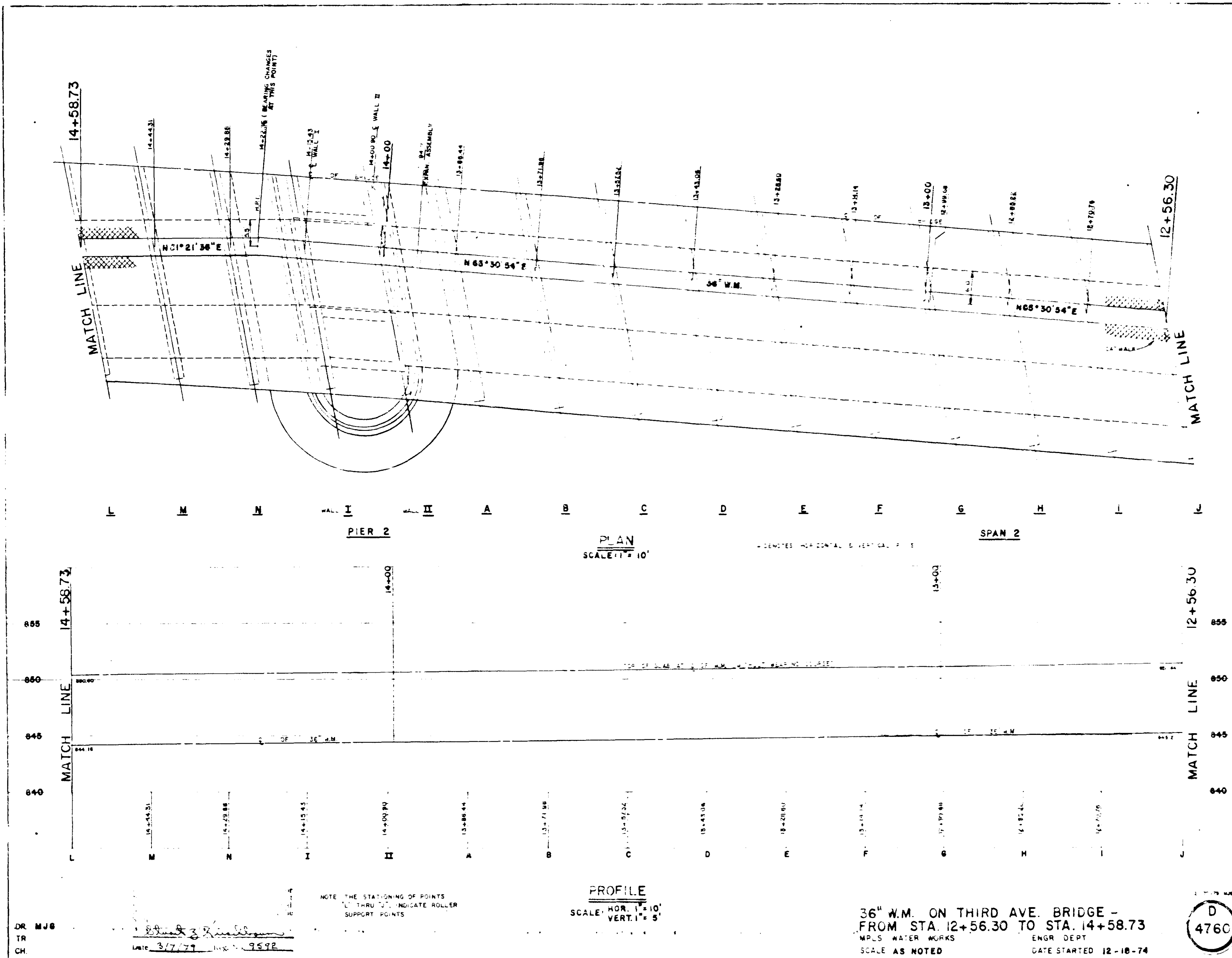
TITLE: WATERMAIN SYSTEM DETAILS	DES: CHK:	DR: CHK:	APPROVED: 5-7-79	Bridge No. 2440
	Sheet No. 140 of 148 Sheets			

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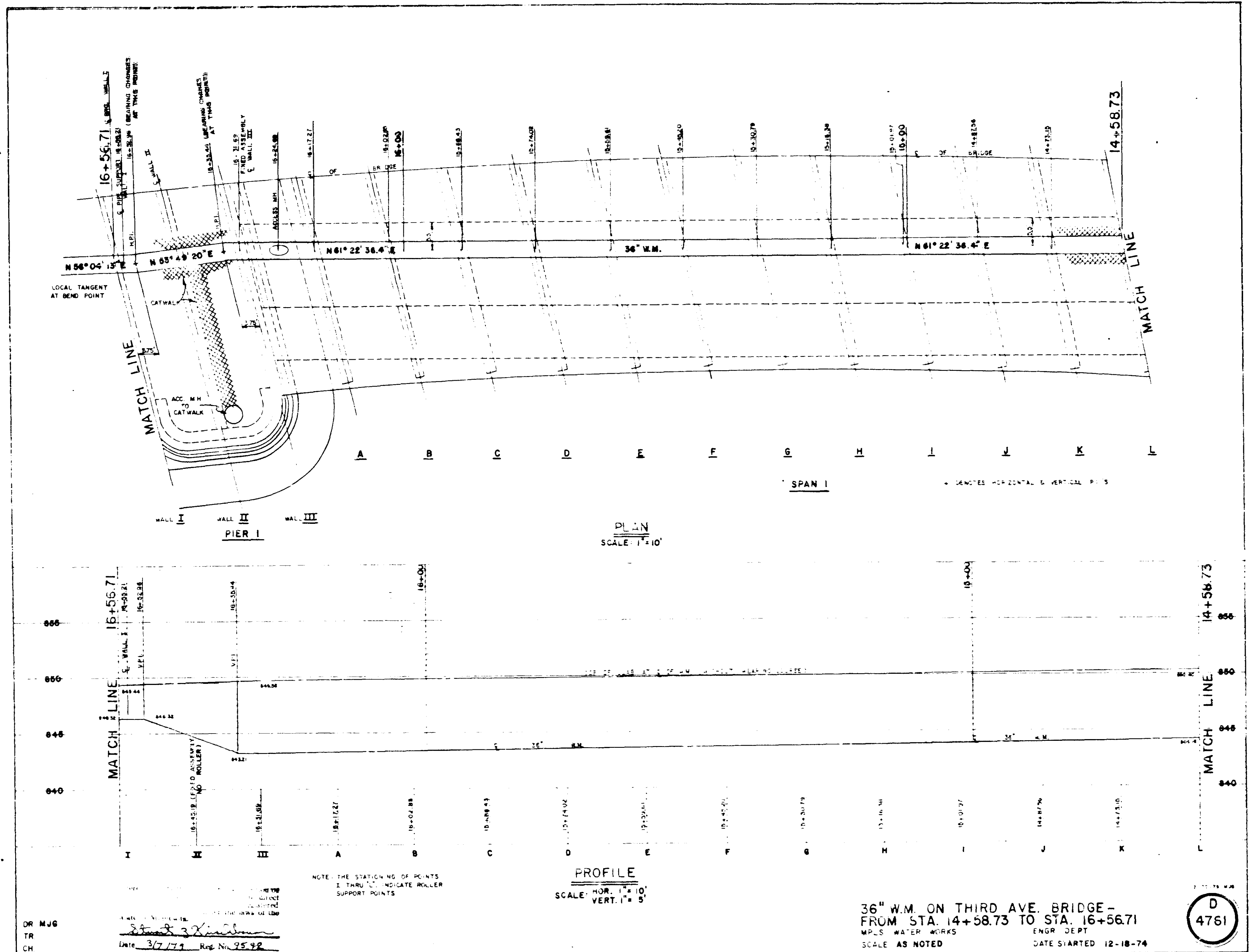


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WATERMAIN SYSTEM DETAILS	CHK:	CHK:	5-7-79	2440
	Sheet No. 141 of 148 Sheets			

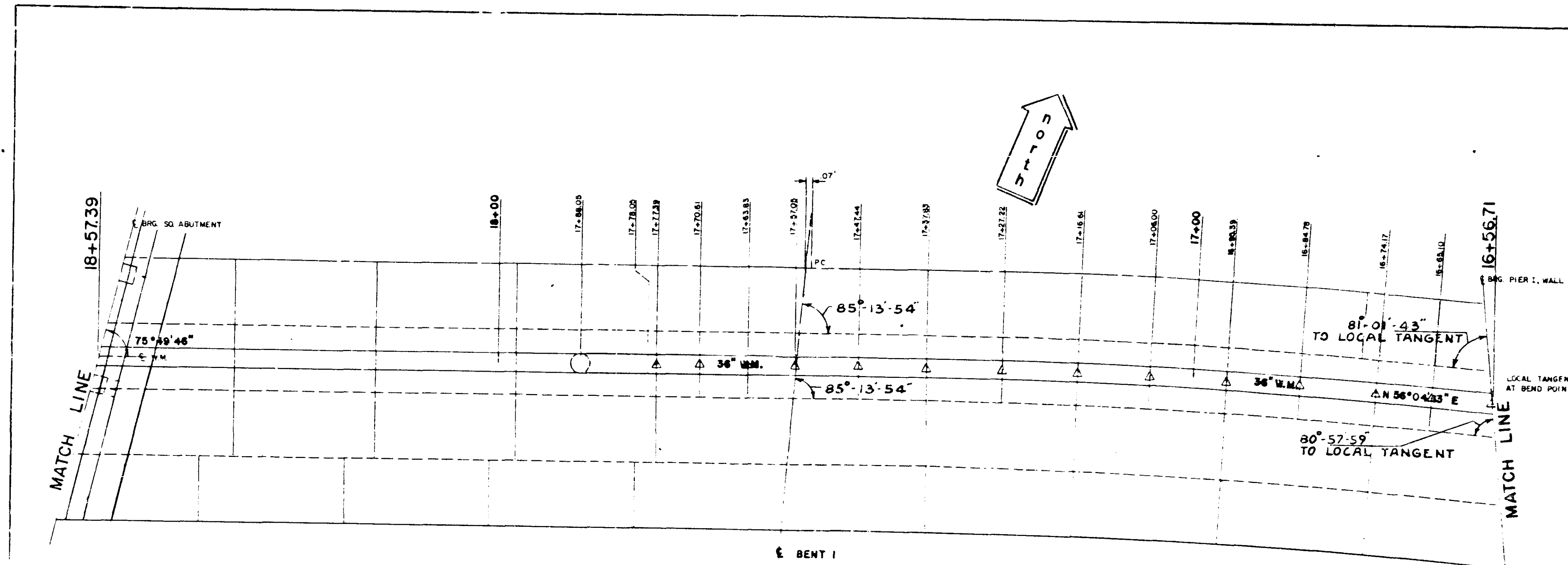
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 1974



TITLE:		DES:	DR:	APPROVED:	Bridge No. 2440
WATERMAIN SYSTEM DETAILS		CHK:	CHK:	5-7-79	
Sheet No. 142 of 148 Sheets					



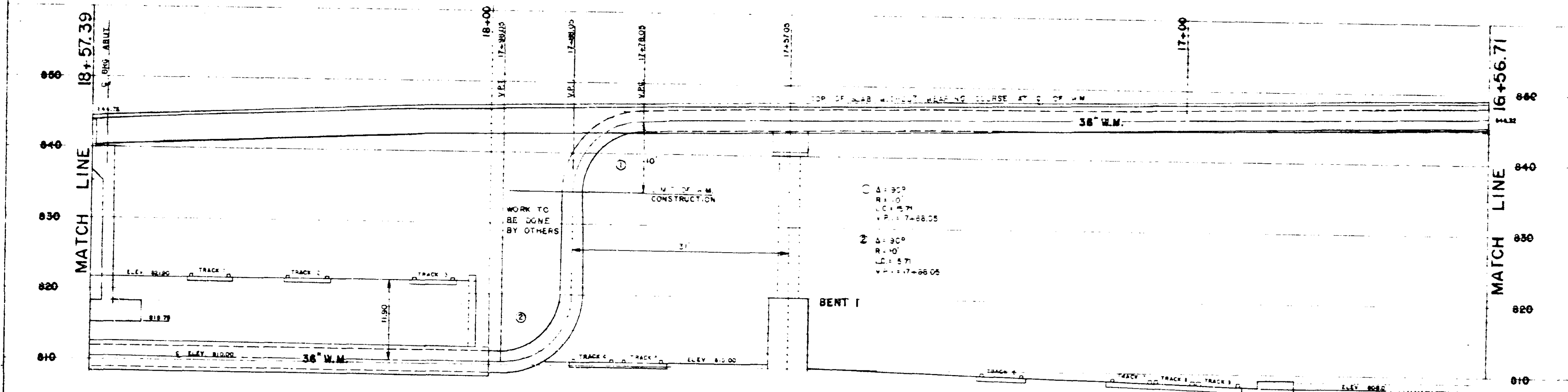
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WATERMAIN SYSTEM DETAILS		CHK:	CHK:	5-7-79	
Sheet No. 143 of 148 Sheets					



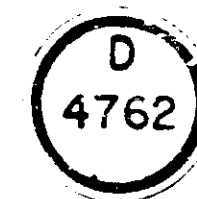
PLAN
SCALE: 1"=10'

NOTE:

WATERMAIN TO BE ON CURVE OR BENT BETWEEN EACH DIAPHRAGM (OR ROLLER SUPPORT POINT) SO AS TO KEEP SUPPORTS CENTERED BETWEEN BEAMS.



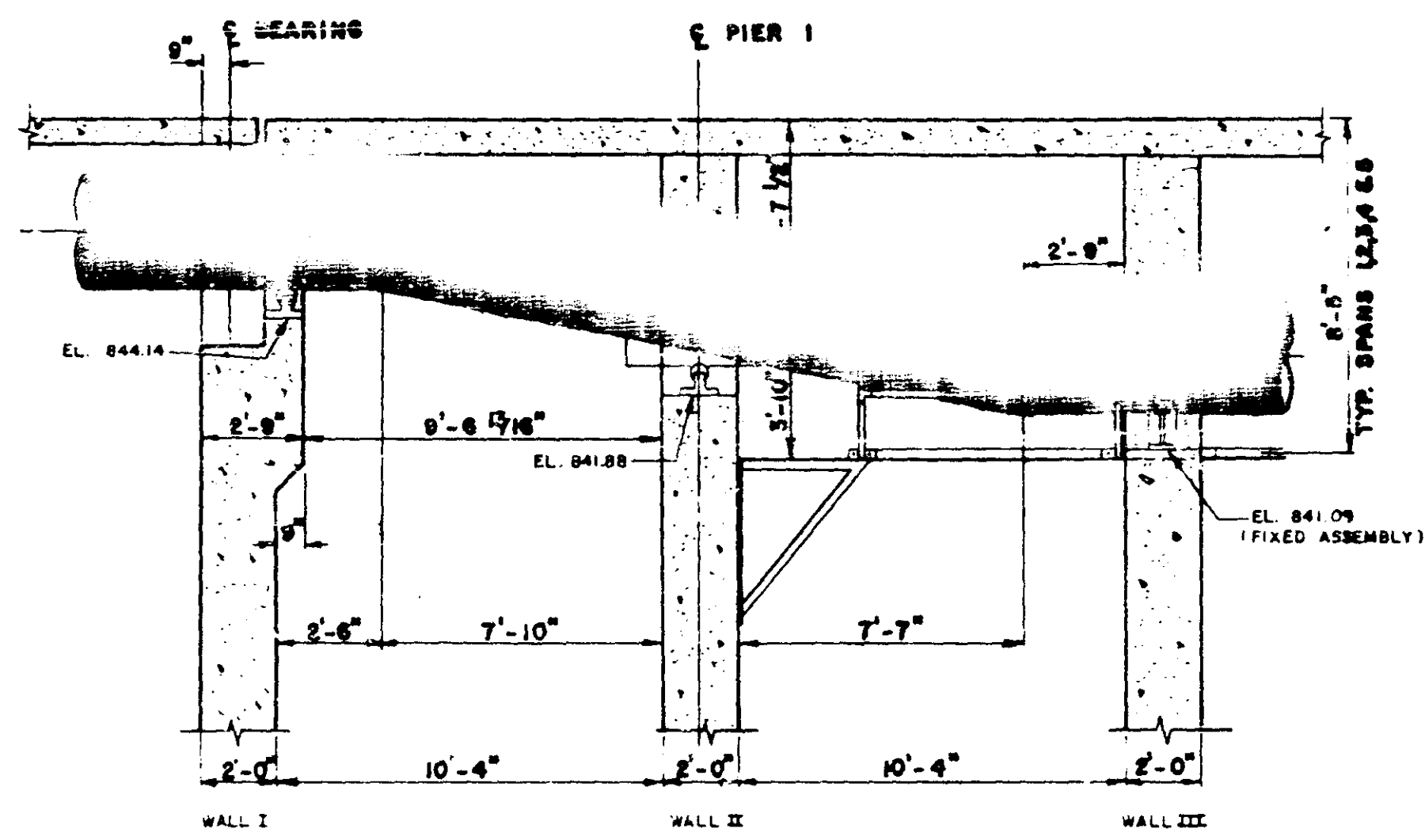
36" W.M. ON THIRD AVE. BRIDGE -
FROM STA. 16+56.71 TO STA. 18+57.39
MPLS WATER WORKS ENGR DEPT
SCALE AS NOTED DATE STARTED 3-10-78



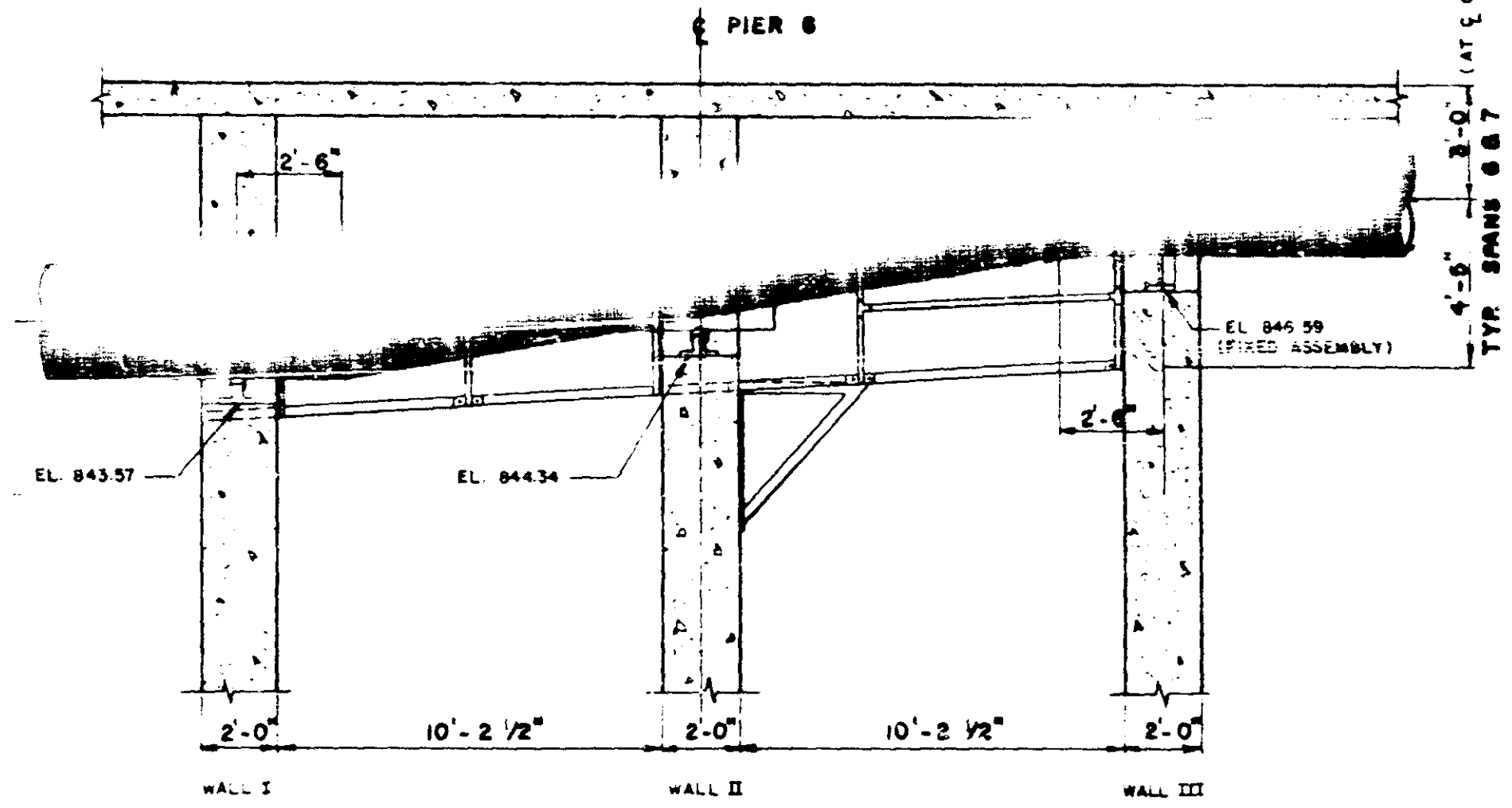
DR M+00
TR
CH

Stuart Z. ...
3/1/79 9592

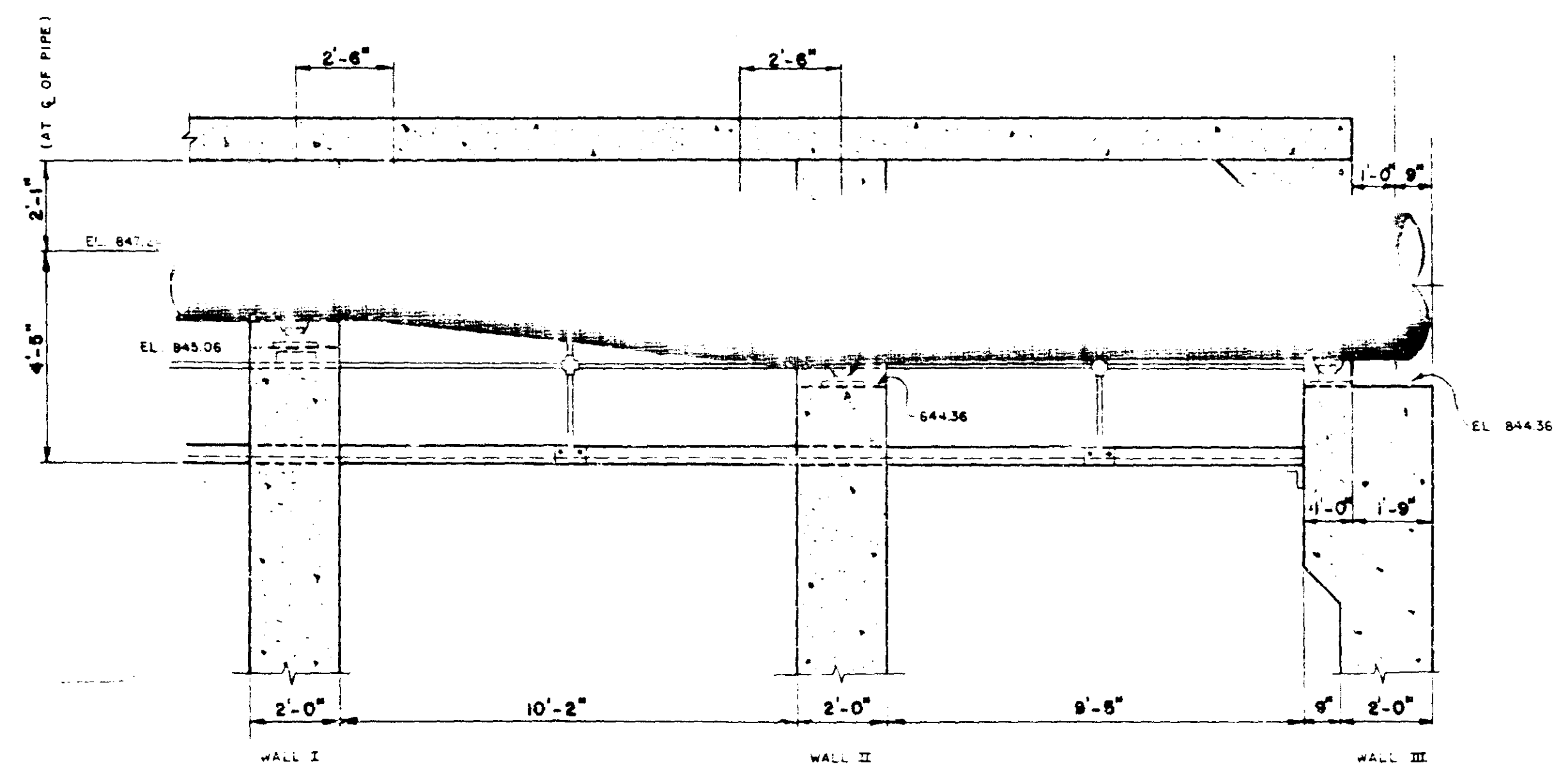
TITLE: WATERMAIN SYSTEM DETAILS	DES: CHK:	DR: CHK:	APPROVED: 5-7-79	Bridge No. 2440
			Sheet No. 144 of 148 Sheets	



SECTION OF PIER 1
SCALE: 1/4" = 1'-0"



SECTION OF PIER 6
SCALE: 1/4" = 1'-0"



SECTION OF PIER 8
SCALE: 3/8" = 1'-0"

NOTE: STATION OF H.P.I. AND V.P.I. AT ANY PIER ARE RELATIVELY CORRECT BUT STATION FROM END TO END OF BRIDGE OR BETWEEN PIERS MUST BE FIELD CHECKED.

NOTE: ALL DIMENSIONS SHOWN ARE NORMAL TO PIERS, EXCEPT DIMENSIONS TO V.P.I. WHICH ARE ALONG $\frac{1}{2}$ OF PIPE

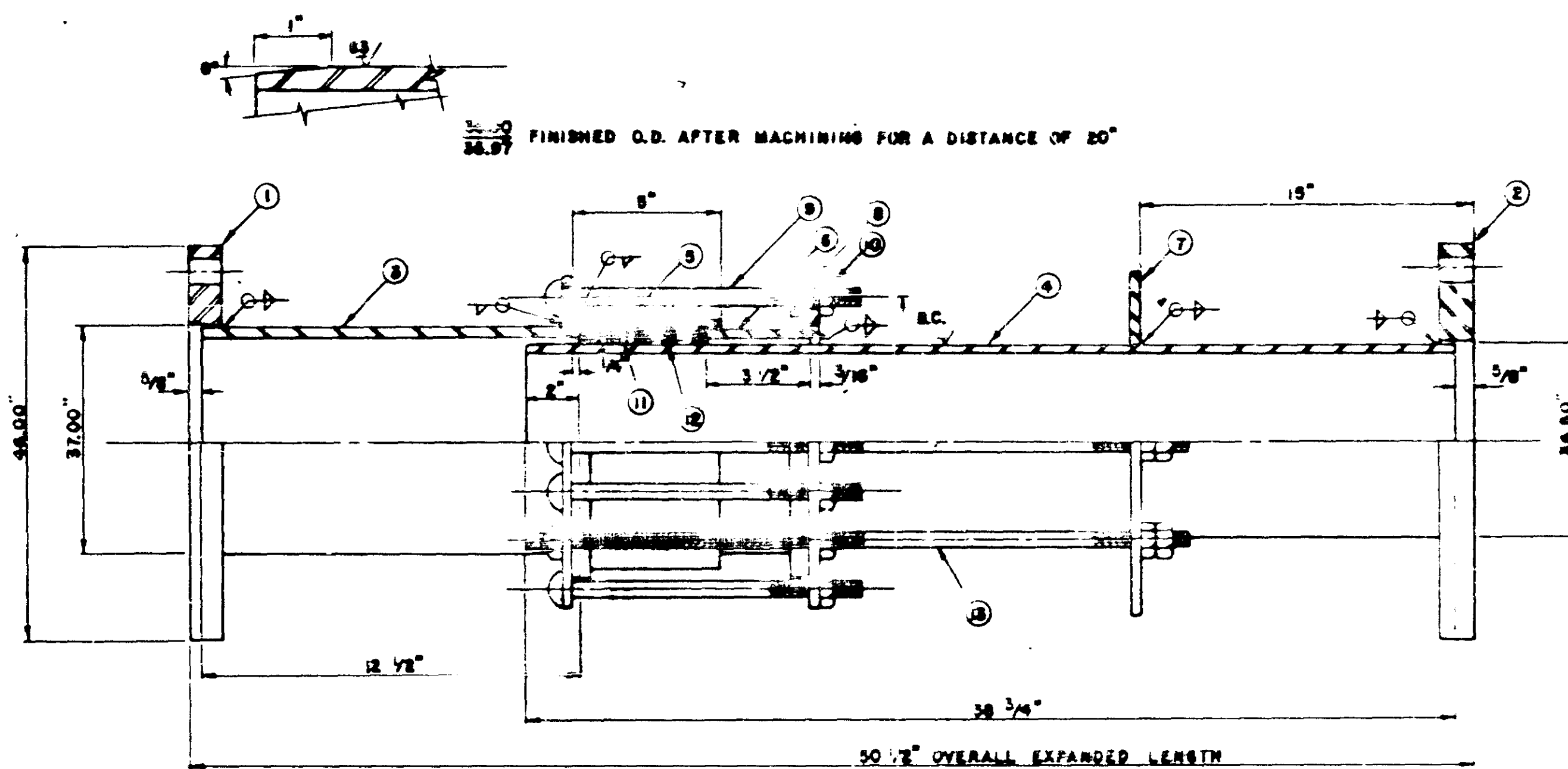
DR. MJO
TR.
CK.

DATE 3/7/77
DRAWN BY 3/7/77
CHECKED BY 3/7/77

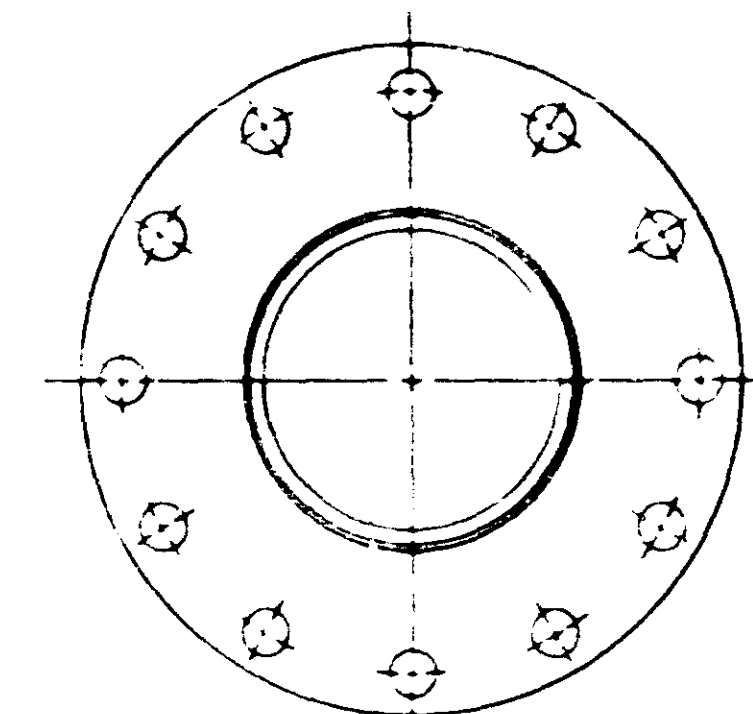
DETAILS OF 36" W.M. THRU PIERS ON THE THIRD AVENUE BRIDGE
MPLS. WATER WORKS ENGR. DEPT.
SCALE: AS NOTED DATE STARTED: 3-28-76

D
47

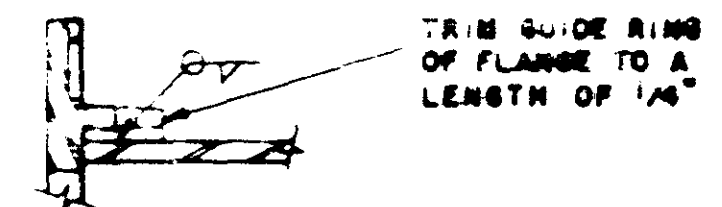
TITLE: WATERMAIN SYSTEM DETAILS	DES: CHK:	DR: CHK:	APPROVED: 5-7-79	Bridge No. 2440
	Sheet No. 145 of 148 Sheets			



NOTE: FLANGE HOLES MUST ALIGN ON END FLANGE



NOTE: COUPLINGS SHALL BE EPOXY COATED INSIDE AND OUTSIDE WITH A F.D.A. APPROVED PAINT FOR POTABLE WATER



DETAIL A

100 PSIG WORKING PRESSURE

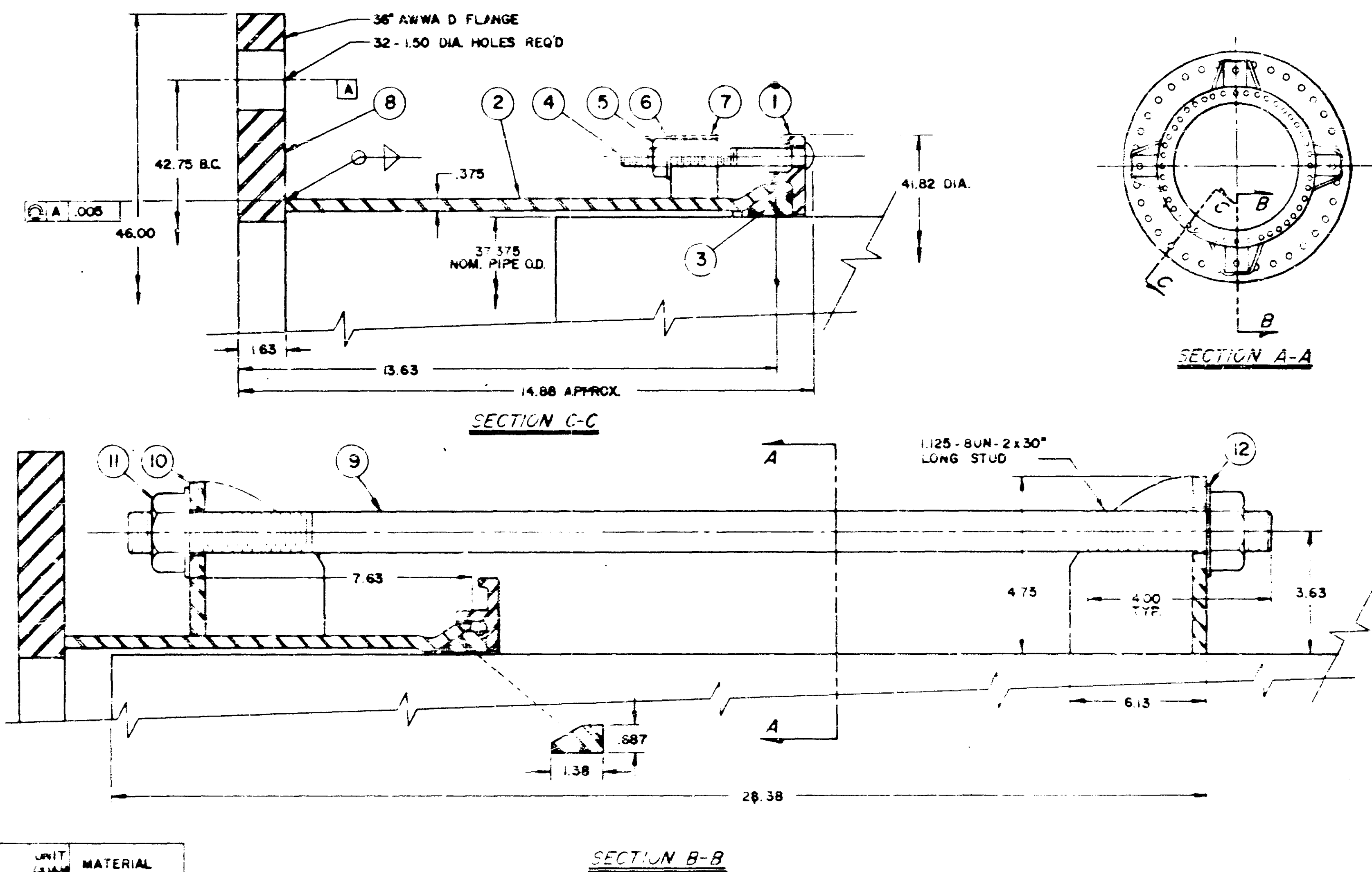
	DESCRIPTION	UNIT QUAN.	P/N	TOT QUAN.	R/S NO.	DWG. NO.	MAT'L	SIZE	I.D.	C.L.	UNIT WT.
1	FLANGE	1					ASTM A283 B	36" AN/NA-D			
2	FLANGE	1					ASTM A283 B	36" AN/NA-D			
3	BODY	1					ASTM A286 C	3/8" PLATE			
4	SLIP PIPE	1					ASTM A286 C	1/2" PLATE			
5	COLLAR RING	1					ASTM A 36	5/8" X 8"			
6	PACKING RING	1					ASTM A 36	5/8" X 3 1/2"			
7	LIMIT ROD FLANGE	1					A286 GR C	1/2" PLATE			
8	BODY FLANGE (2 REQ'D)	2					C 1018 STL	128 SECT			
9	BOLTS (DRUM)	18					ALLOY C-11	5/8" X 10 1/2" X 8"			
10	NUTS (Hvy. HEX.)	36					ALLOY C-11	5/8" - 11 NC			
11	FLAX PACKING	4					LUBE FLAX	1/2" 30			
12	RUBBER PACKING	5					BUNA-N	1/2" 30			
13	LIMIT RODS	5					ALLOY C-11	5/8" X 25" X 15" X 2 1/2"			

DR. TR. MJB
CN.

"ROCKWELL" TYPE 611 EXPANSION JOINT WITH 36" FLANGED ENDS, SLIP PIPE AND LIMIT RODS
MPLS. WATER WORKS
SCALE: NO SCALE
ENGR. DEPT.
DATE STARTED: 2-21-79

D
5069

TITLE:	DES.	DR.	APPROVED:	Bridge No.
WATERMAIN SYSTEM DETAILS	CHK:	CHK:	5-7-79	2440
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NO.	DESCRIPTION	UNIT QUANT.	MATERIAL
1	FOLLOWER	1	C1018
2	SLEEVE	1	A285 GR. C
3	BASKET	1	GR. 30
4	BOLTS, UNF. HOB.	20	AWWA C111
5	NUTS, HVT. HEX.	20	AWWA C111
6	WASHERS	20	PLATED STL.
7	COUPLER	20	A285 GR. C
8	FLANGE	1	A283 GR. B
9	STUDS	4	A193 GR. B7
10	HARNESSES, LUG	8	A285 GR. C
11	NUTS, HVT. HEX.	8	A194 GR. 2M
12	WASHER	8	PLATED STL.

36" AWWA CLASS D

100 PSIG WORKING PRESSURE

DR. DSB
TR.
CH.

ROCKWELL 913 FLANGED COUPLING
ADAPTOR WITH HARNESSES ASSEMBLY (STYLE 3F)
FOR A 37.375" O.D. FLANGED PIPE
MPLS. WATER WORKS ENGR. DEPT.
SCALE NONE DATE STARTED 3-28-79



TITLE	DES.	DR.	APPROVED	Bridge No.
WATERMAIN SYSTEM DETAILS	CHK:	CHK:	5-7-79	2440
	Sheet No. 148 of 148 Sheets			

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