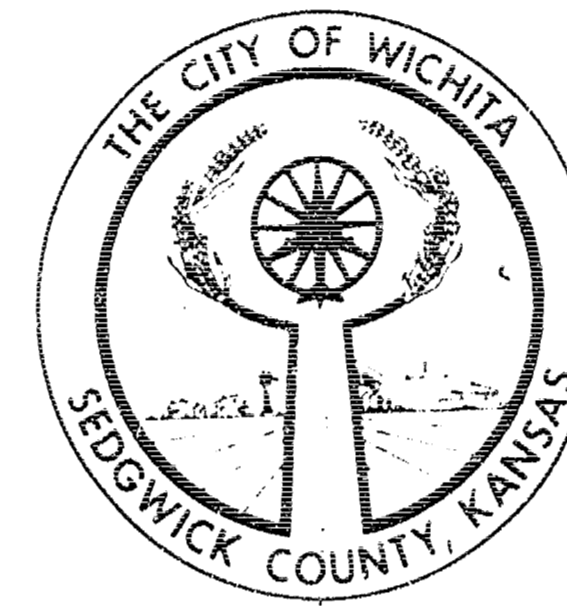


LINCOLN STREET BRIDGE AND DAM

OVER THE

ARKANSAS RIVER

CITY OF



WICHITA

WILLIAM D. ANDERSON, MAYOR

DONALD K. ENOCH A. PRICE WOODARD JR.

WALTER M. KEELER CLARENCE E. VOLLMER

COMMISSIONERS

RALPH WULZ, CITY MANAGER

DEPARTMENT OF PUBLIC WORKS

R. W. BRUGGEMAN, P.E. DIRECTOR OF PUBLIC WORKS

BILL E. SMITH, P.E. CITY ENGINEER

R. S. DELAMATER & ASSOCIATES, WICHITA, CONSULTING ENGINEERS

PROJECT C18-46

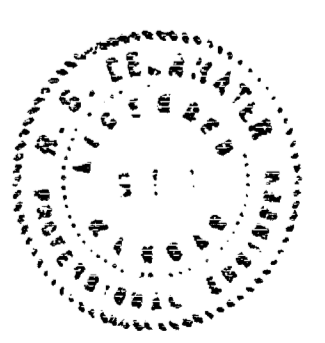
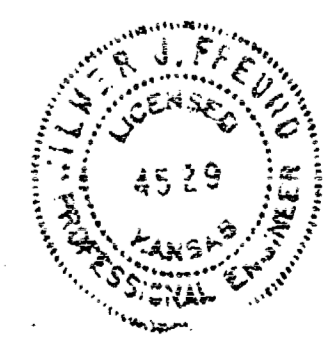
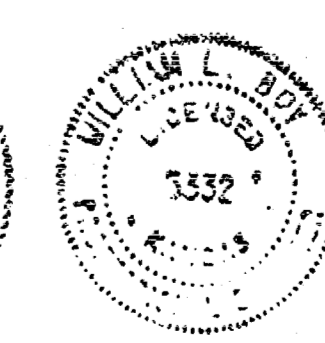
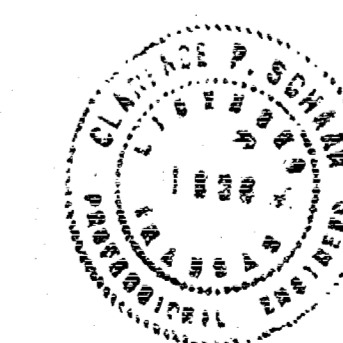
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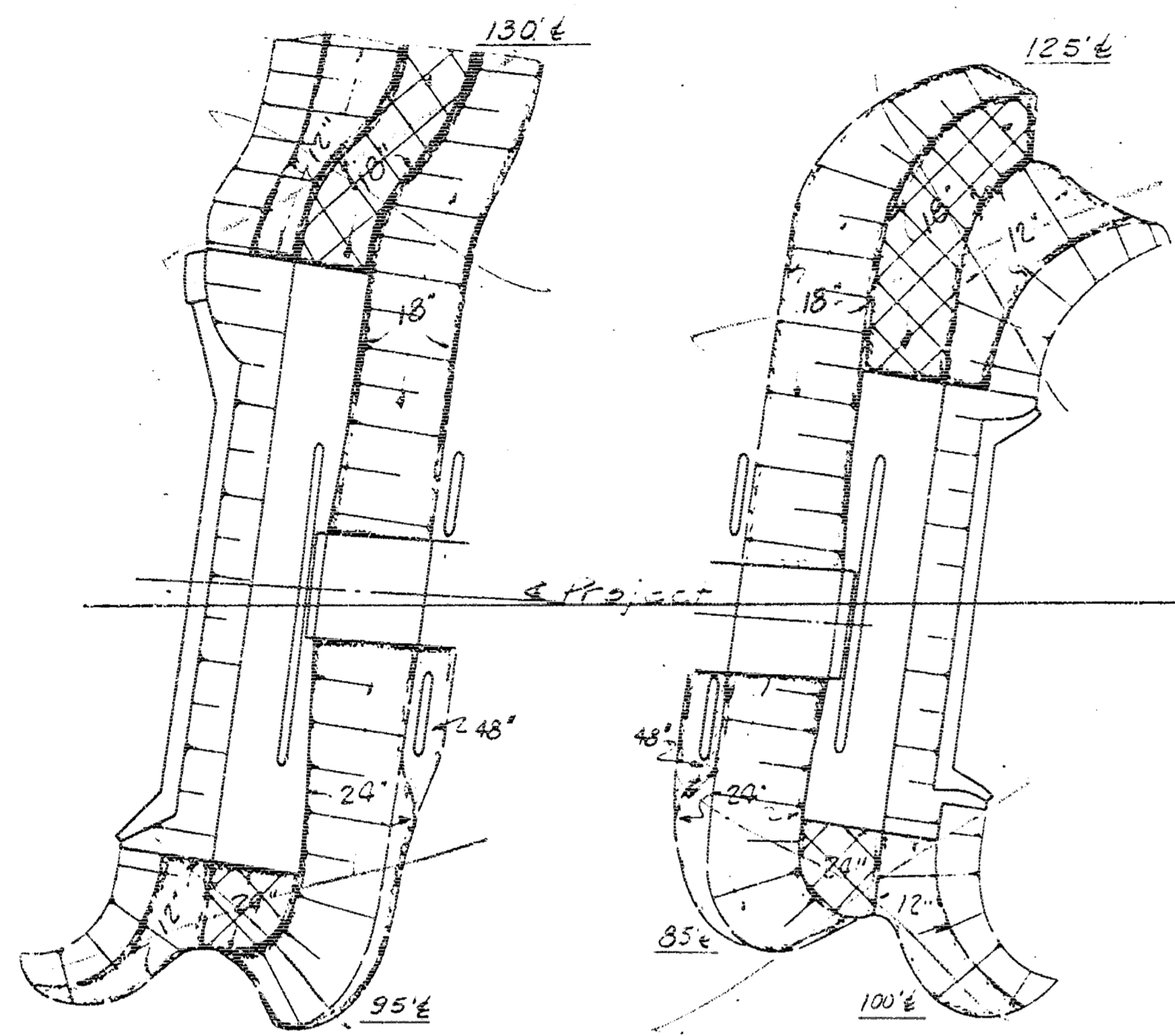
INDEX OF SHEETS

1. Title Sheet
2. Location Map, Grading and Riprap Details
3. Dam Layout
4. Dam Foundation Details
5. Control Vault Details
6. Piping and Controls
7. General Notes and Summary of Quantities
8. Bridge Layout
9. Details, Abutment 1
10. Details, Abutment 2
11. Piers 2, 3 & 4
Piers 6, 7 & 8
12. Details, Pier 5
13. Details, Pier 1
14. Details, Pier 9
15. Superstructure Details
16. Sidewalk Details
17. Handrail Details
18. Auxiliary Details
19. Bar List and Bending Diagrams
20. Approach Slabs
21. Electrical Layout - *Failed to show As-Built Bridge Lighting*

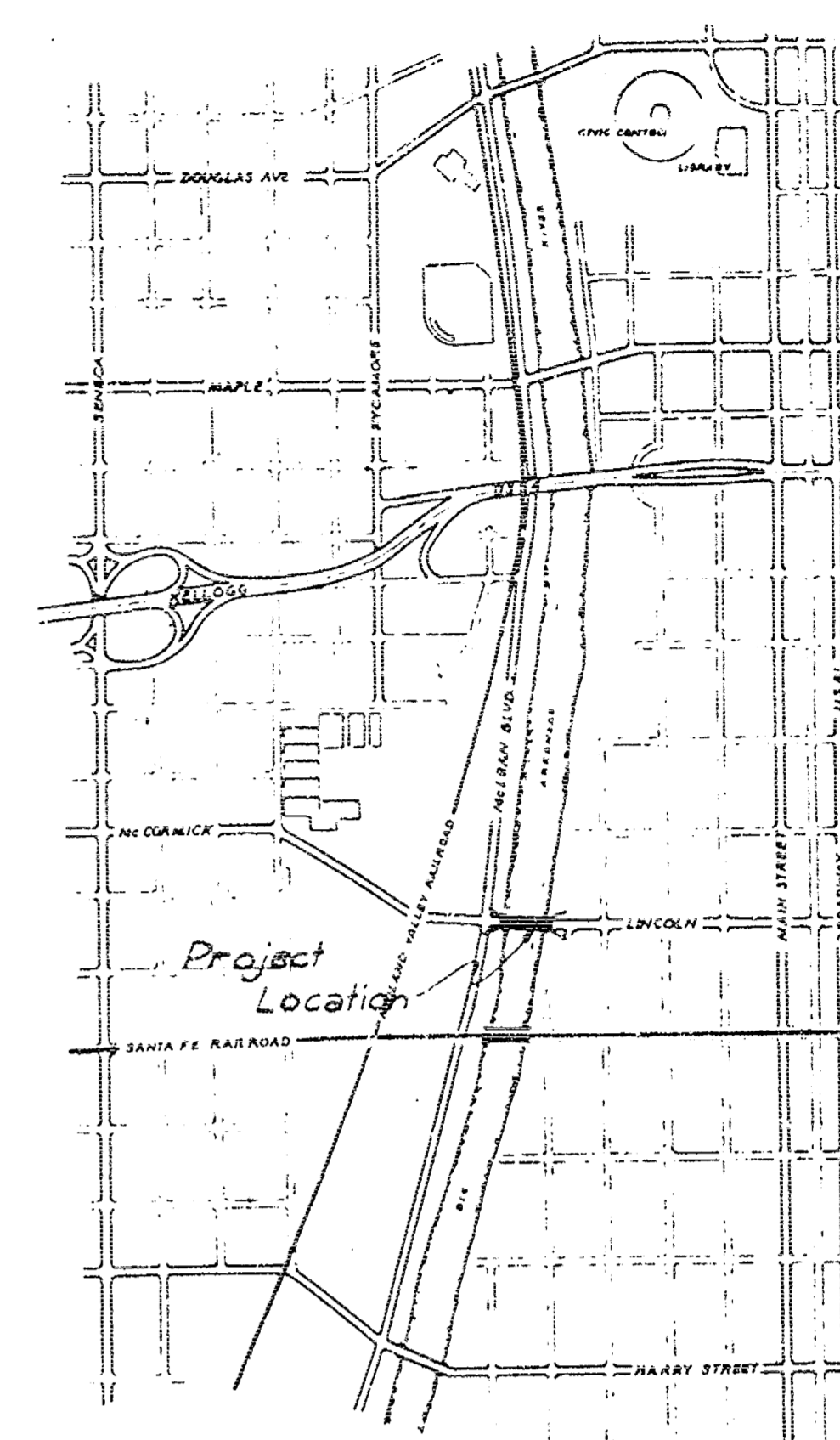
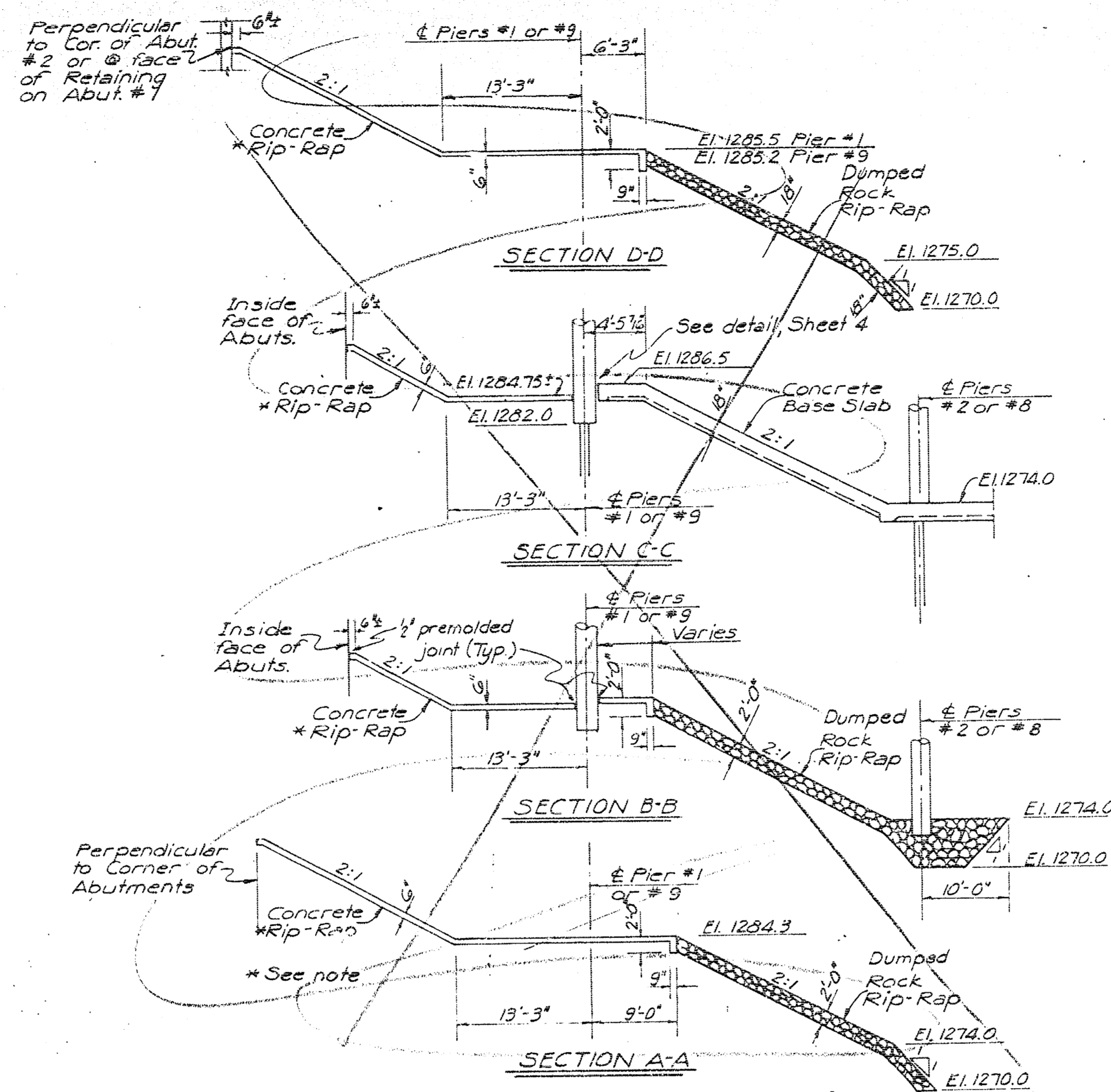
FLOOD CONTROL
OFFICE COPY

"AS-BUILT" PLANS

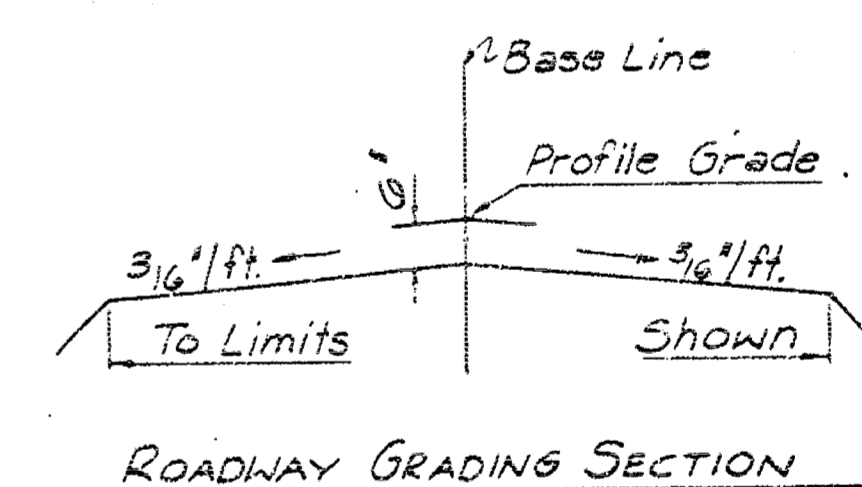




RIPRAP THICKNESS & LIMITS OF PROJECT GRADING

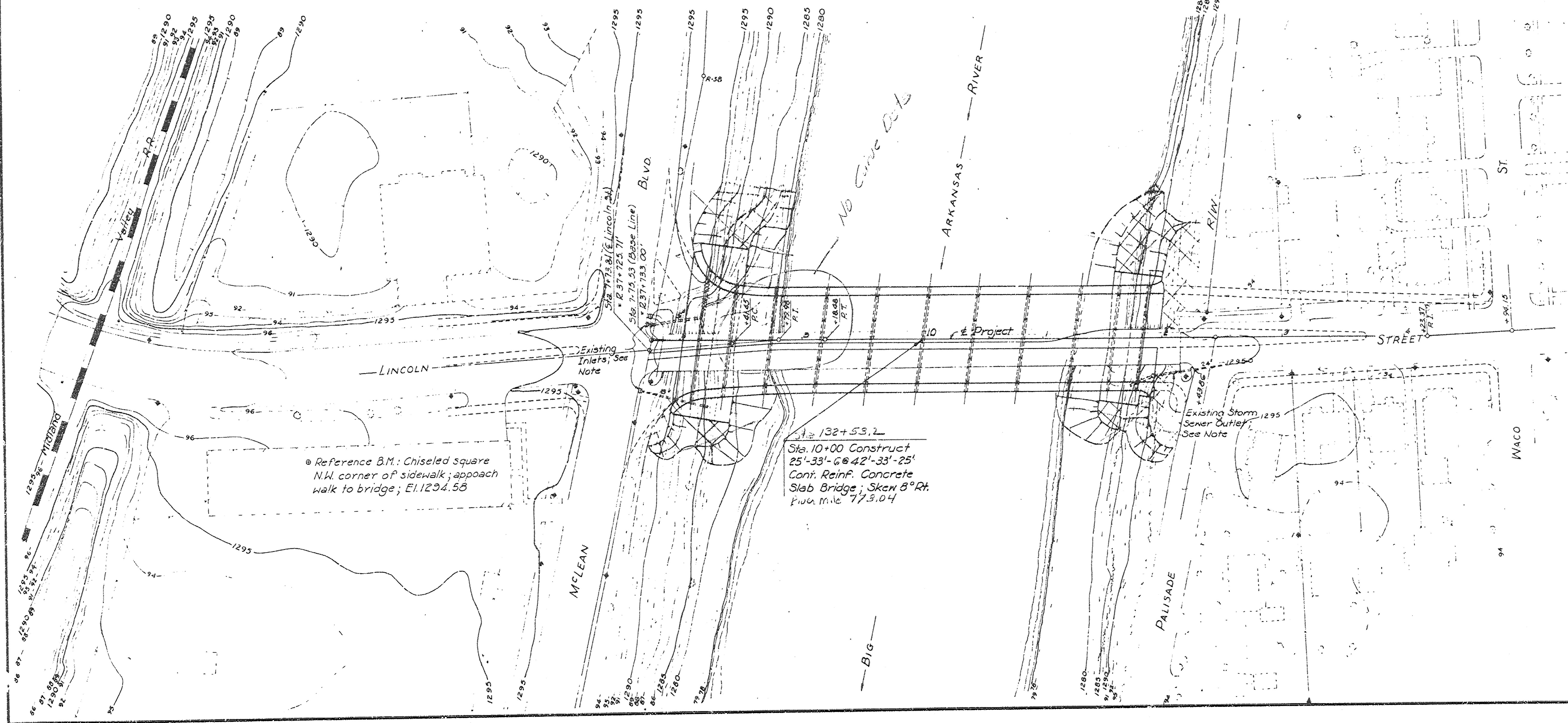


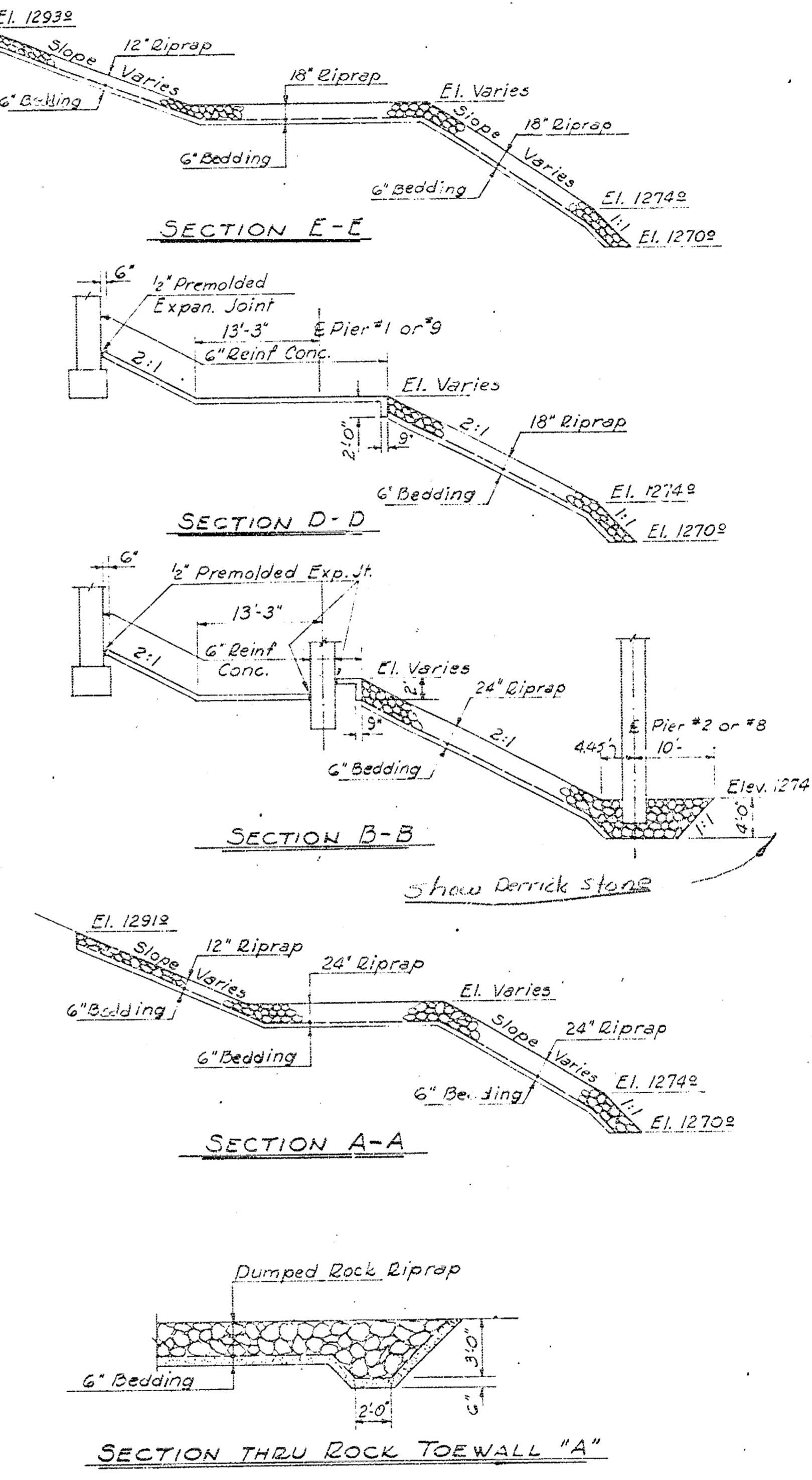
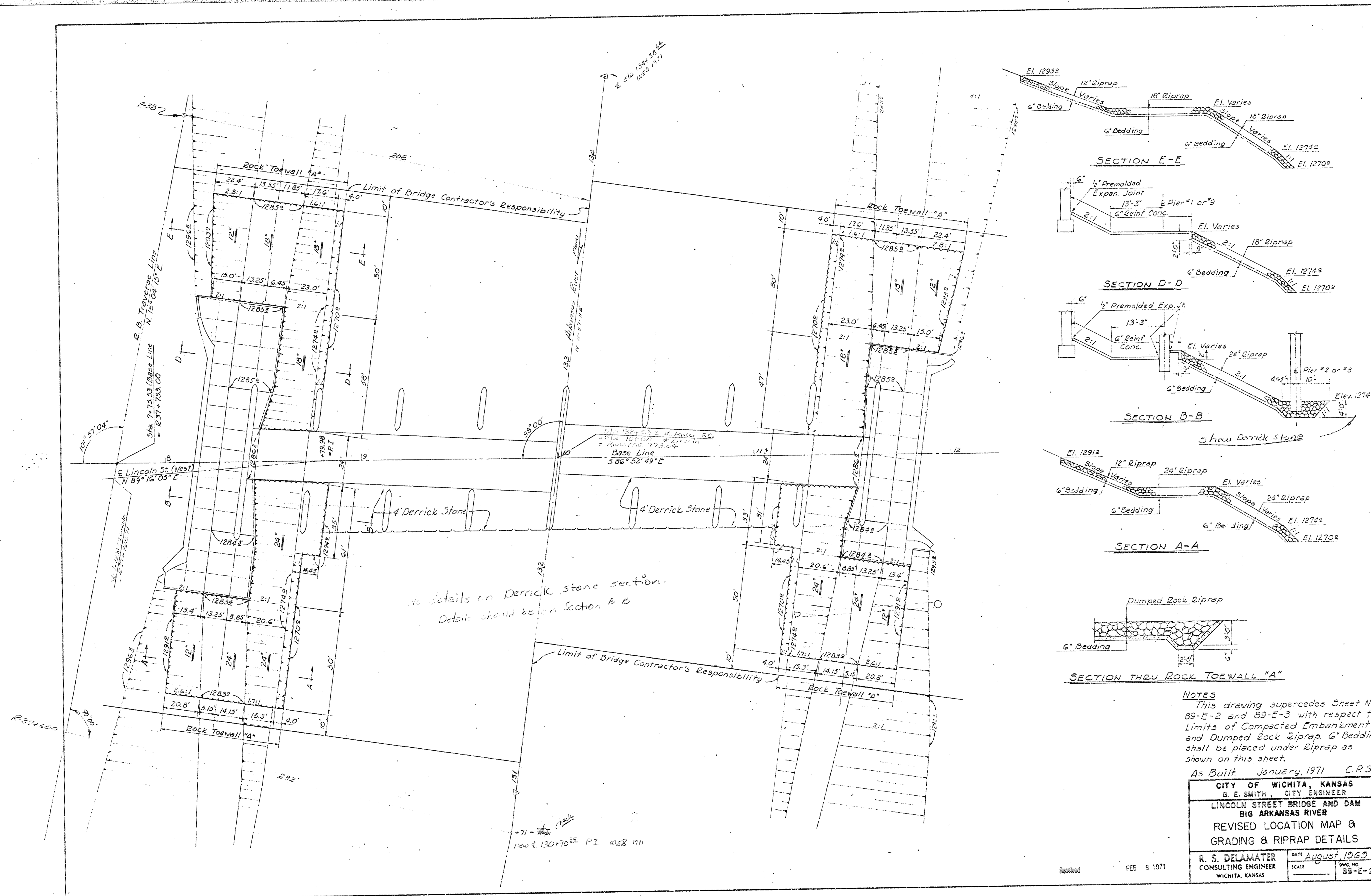
LOCATION MAP



NOTE:
 See Sheet 3 for Dam Layout.
 See Sheet 9 for Bridge Layout.
 See Sheet 3 for location of riprap sections; concrete riprap shall be Class A Concrete, 6" thick, reinforced with 6x6, 6/8 mesh, with toewalls as indicated. Form or cut joints as indicated and at approximately 10' spacing elsewhere, with steel thru the joints.
 See Specifications for details of Dumped Rock Riprap.
 Provide temporary drainage, as noted in the specifications, from the three existing inlets and storm sewers shown.

Received	FEB 9 1971
See Sheet No. 2A for As Built	
CITY OF WICHITA, KANSAS	
B. E. SMITH, CITY ENGINEER	
LINCOLN STREET BRIDGE AND DAM	
BIG ARKANSAS RIVER	
LOCATION MAP & GRADING & RIPRAP DETAILS	
R. S. DELAMATER	DATE December, 1968
CONSULTING ENGINEER	SCALE 1/4" = 10'
WICHITA, KANSAS	PROJECT NO. 89-E-2

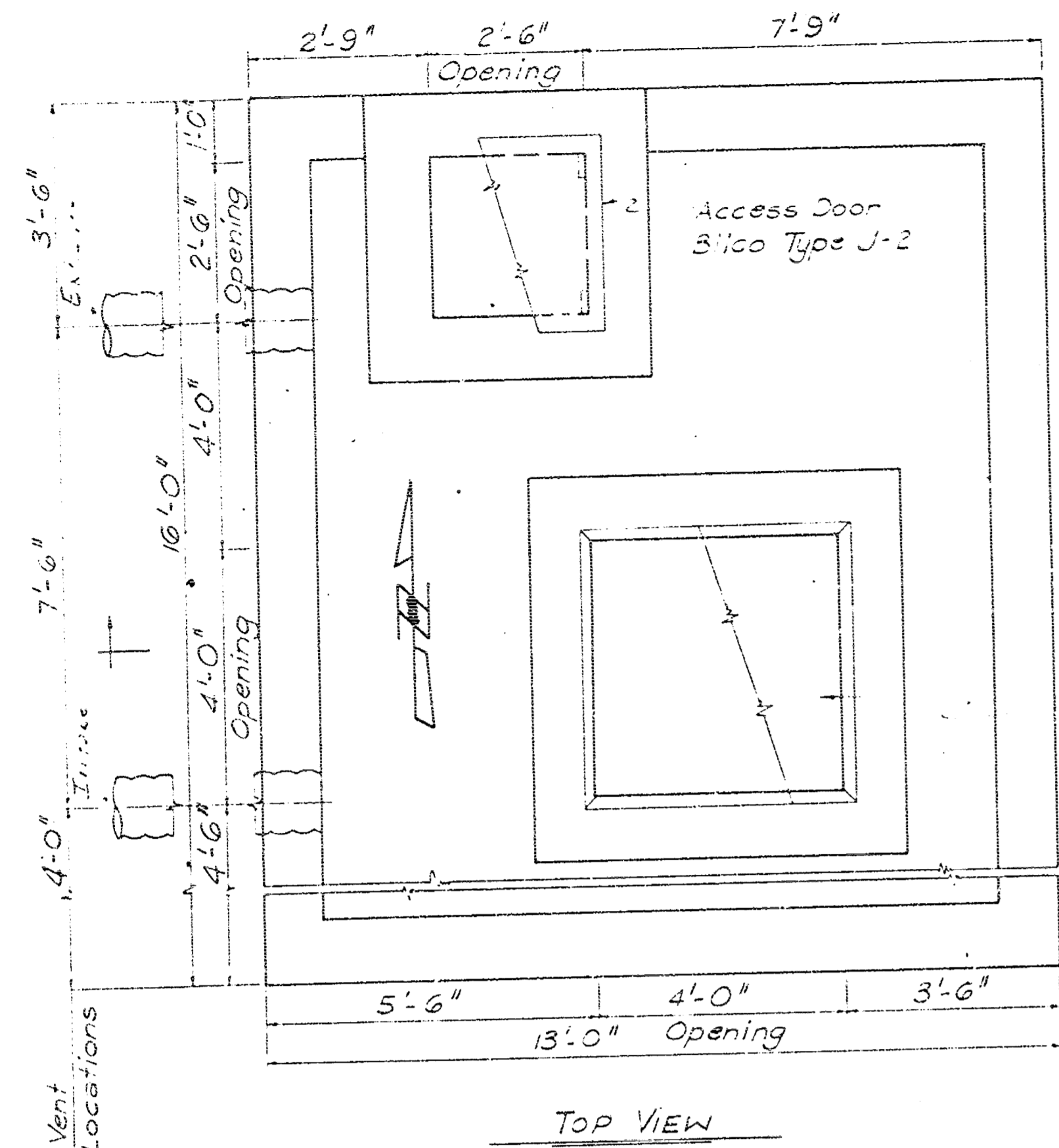




NOTES
 This drawing supercedes Sheet Nos. 89-E-2 and 89-E-3 with respect to Limits of Compacted Embankment and Dumped Rock Riprap. 6" Bedding shall be placed under Riprap as shown on this sheet.
 As Built, January 1971 C.P.S.

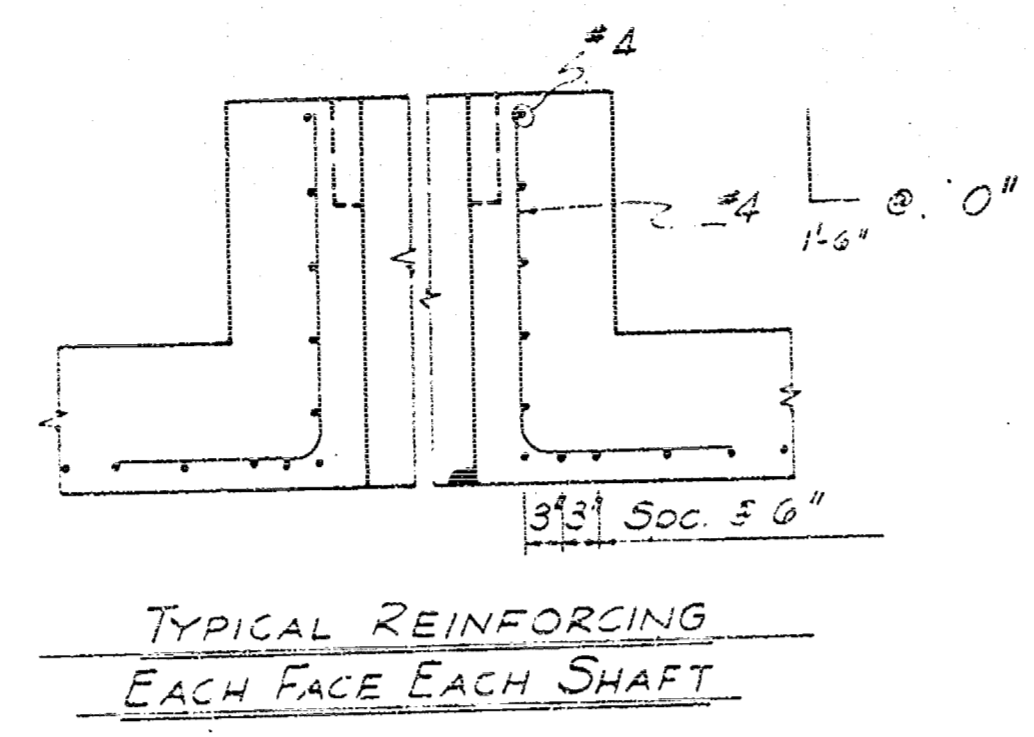
CITY OF WICHITA, KANSAS	
E. SMITH, CITY ENGINEER	
LINCOLN STREET BRIDGE AND DAM	
BIG ARKANSAS RIVER	
REVISED LOCATION MAP & GRADING & RIPRAP DETAILS	
R. S. DELAMATER CONSULTING ENGINEER WICHITA, KANSAS	DATE August 1965 SCALE 89-E-2A

Received FEB 9 1971

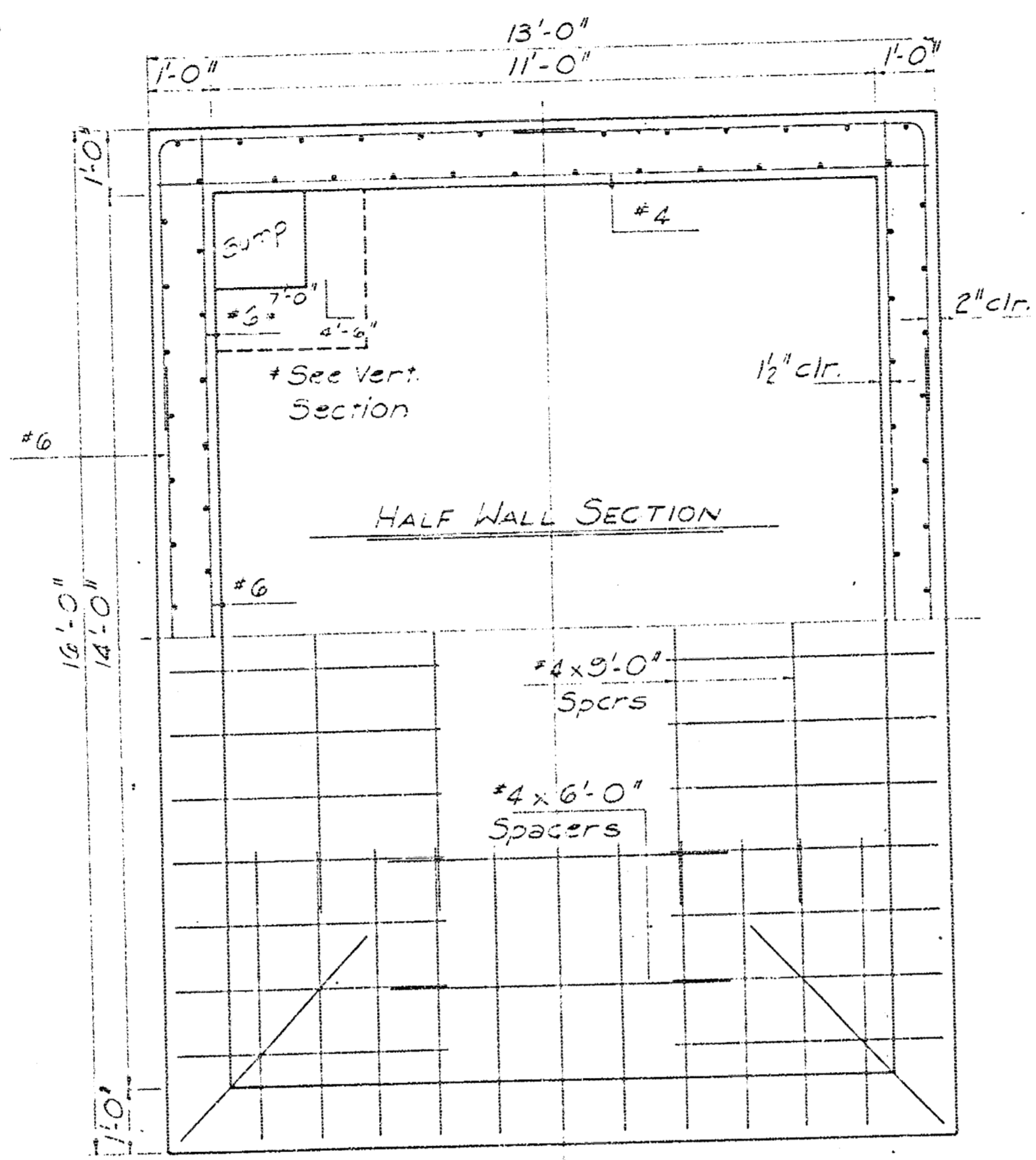


TOP VIEW

Reinf. Concrete slab cover & frame - see details this sheet.

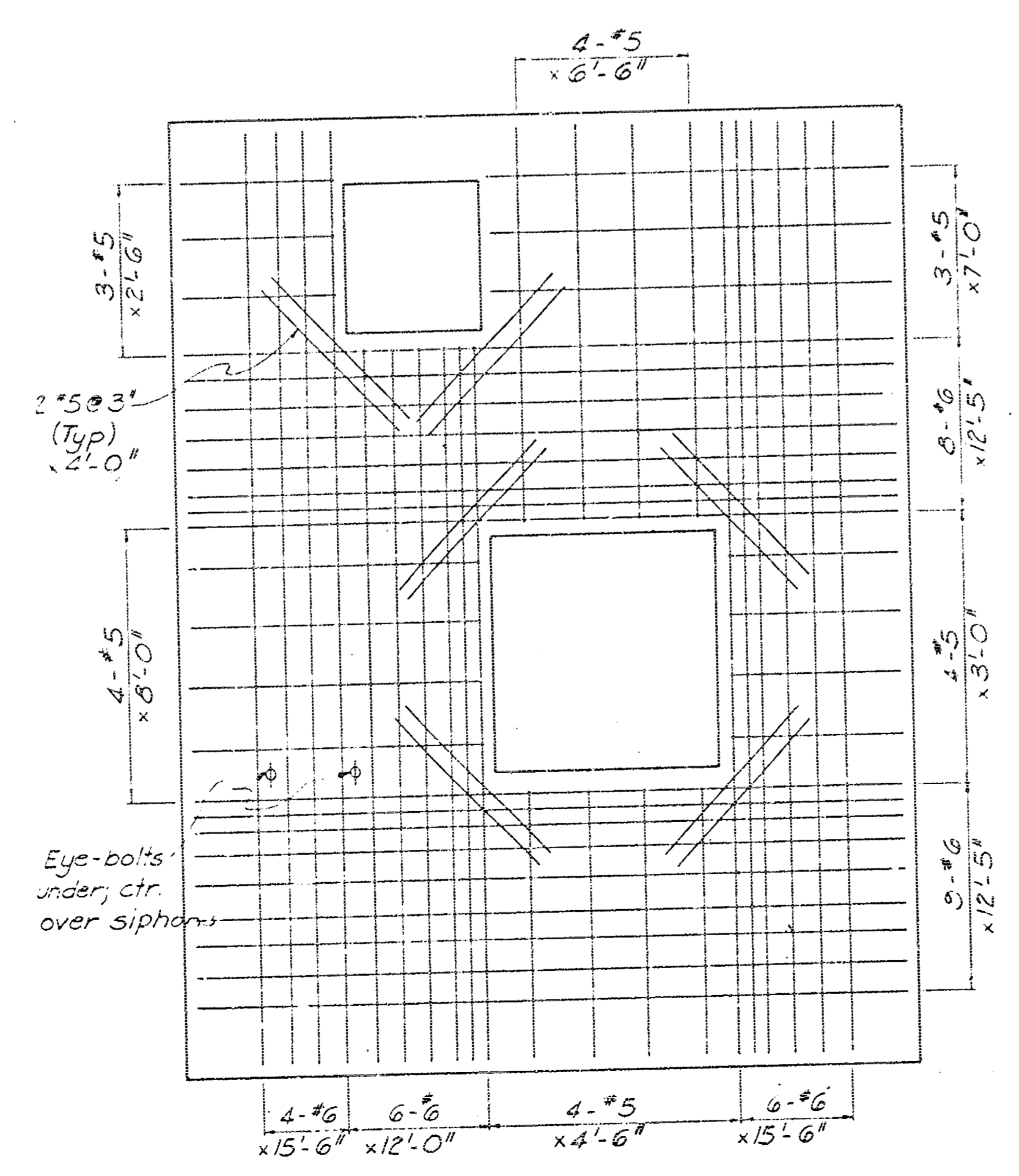


TYPICAL REINFORCING EACH FACE EACH SHAFT

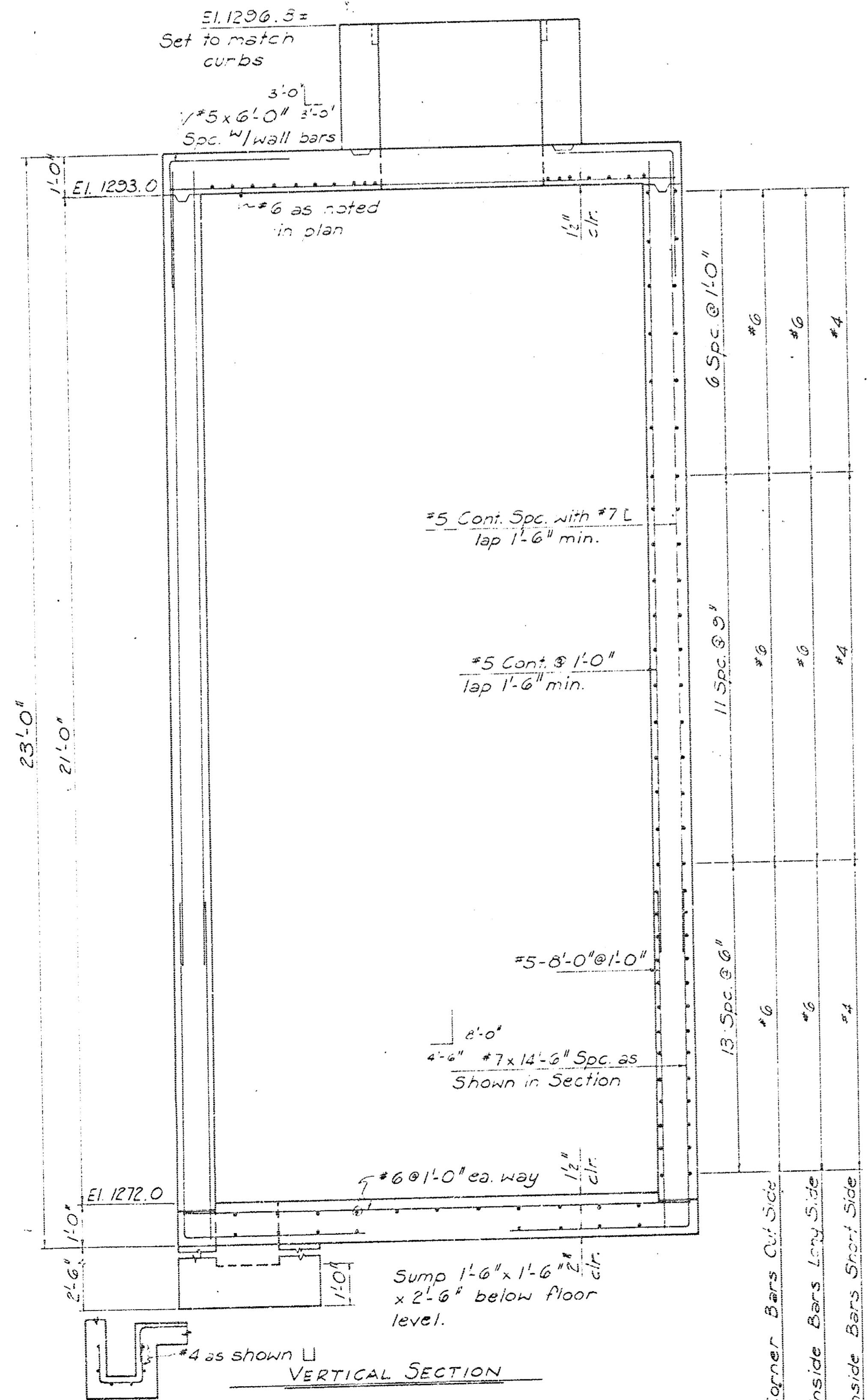


HALF WALL SECTION

Steel in bottom face
Steel in top face - see Vert. Section

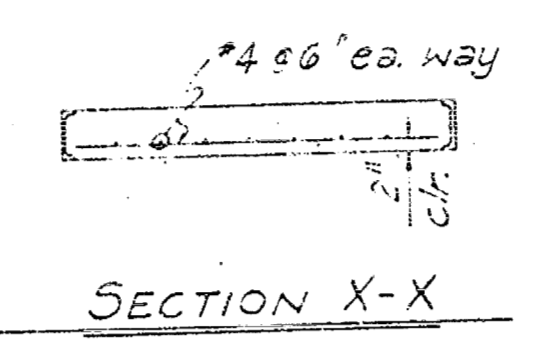


TOP REINFORCING

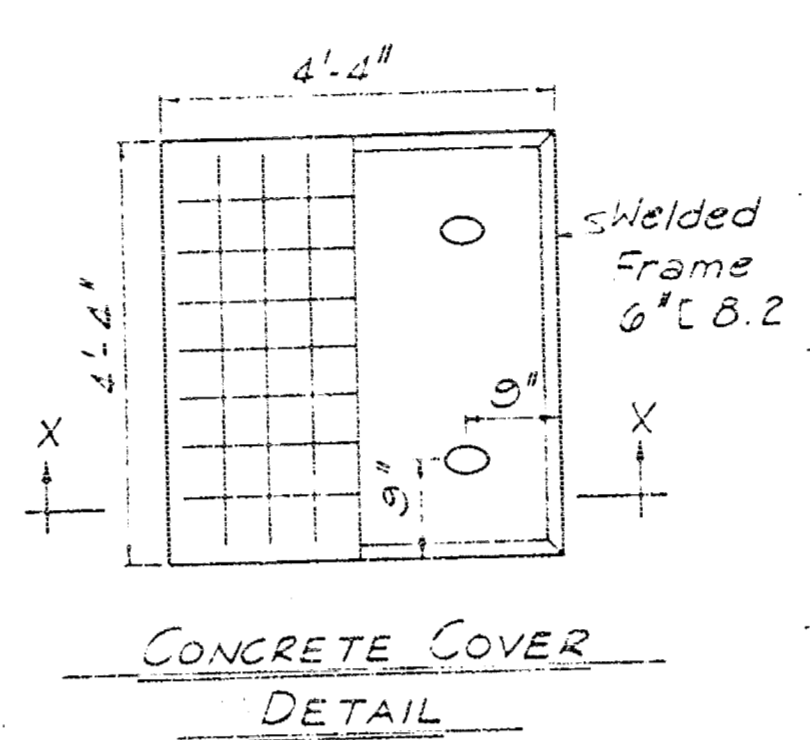


VERTICAL SECTION

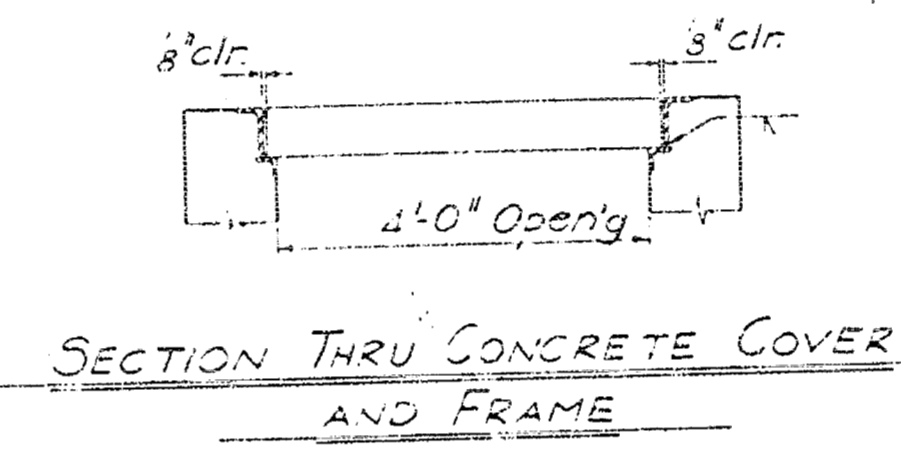
SUMP REINFORCING



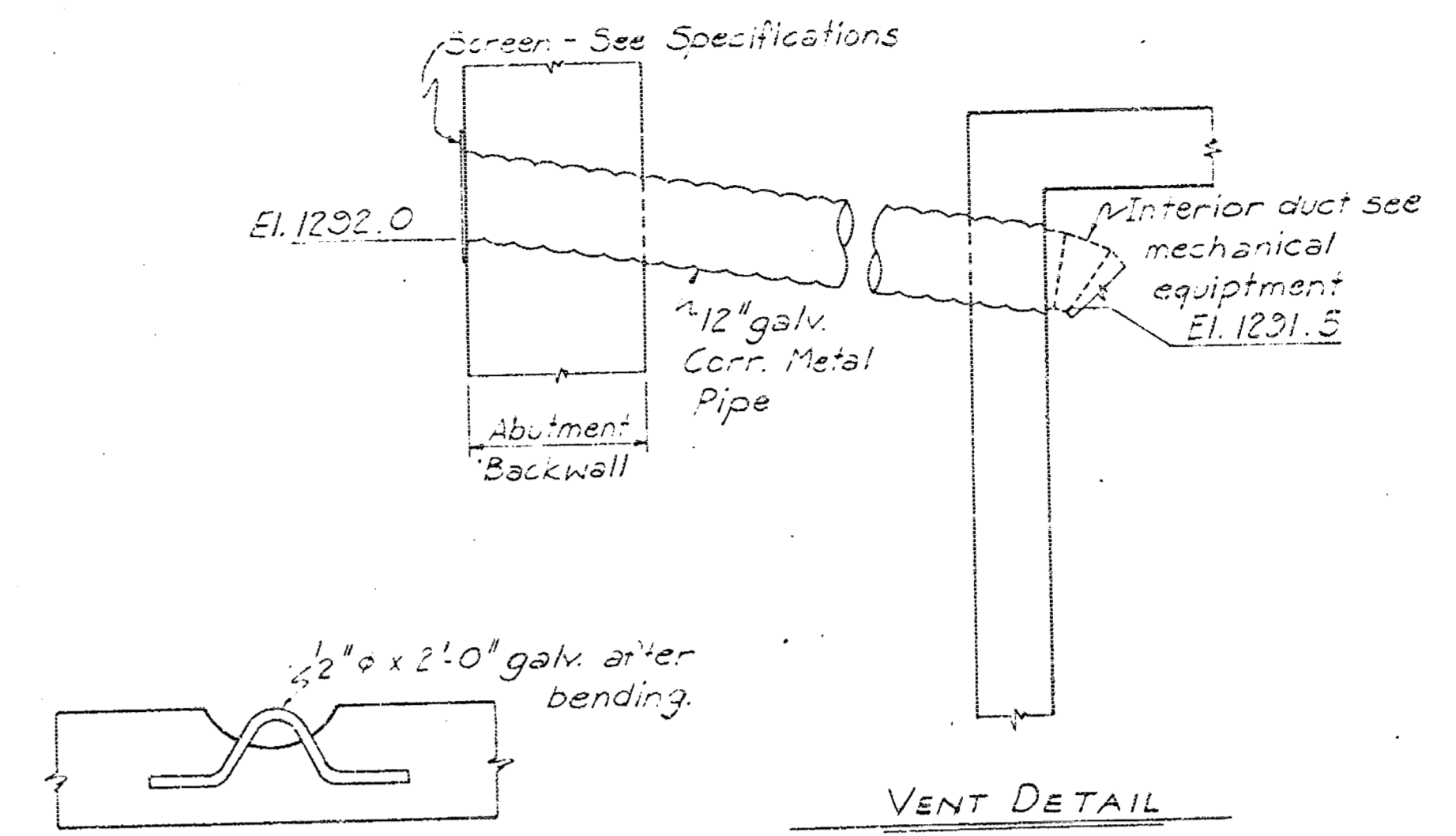
SECTION X-X



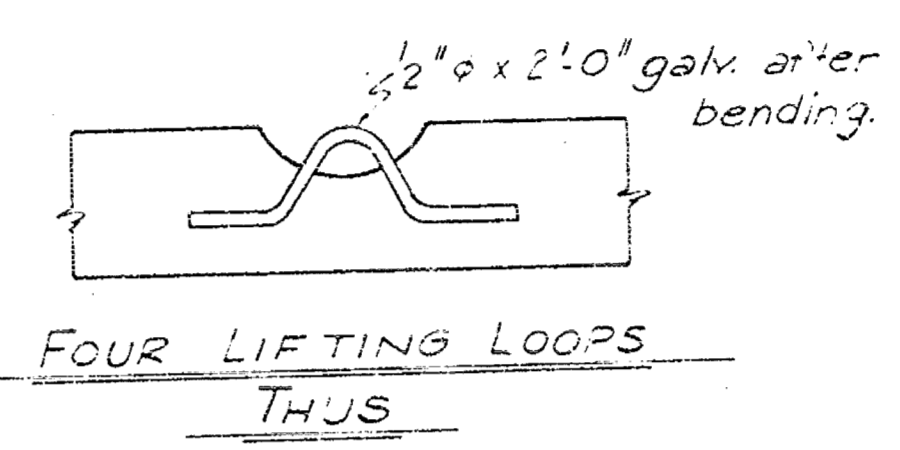
CONCRETE COVER DETAIL



SECTION THRU CONCRETE COVER AND FRAME

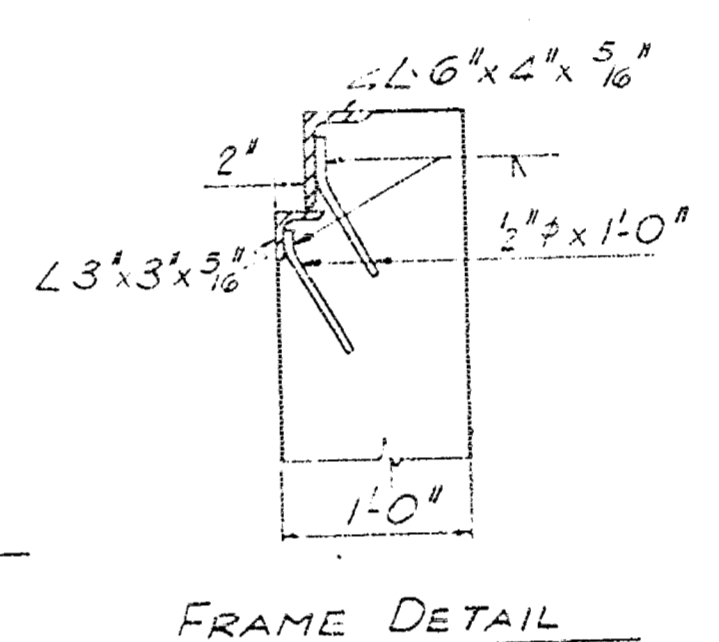


VENT DETAIL

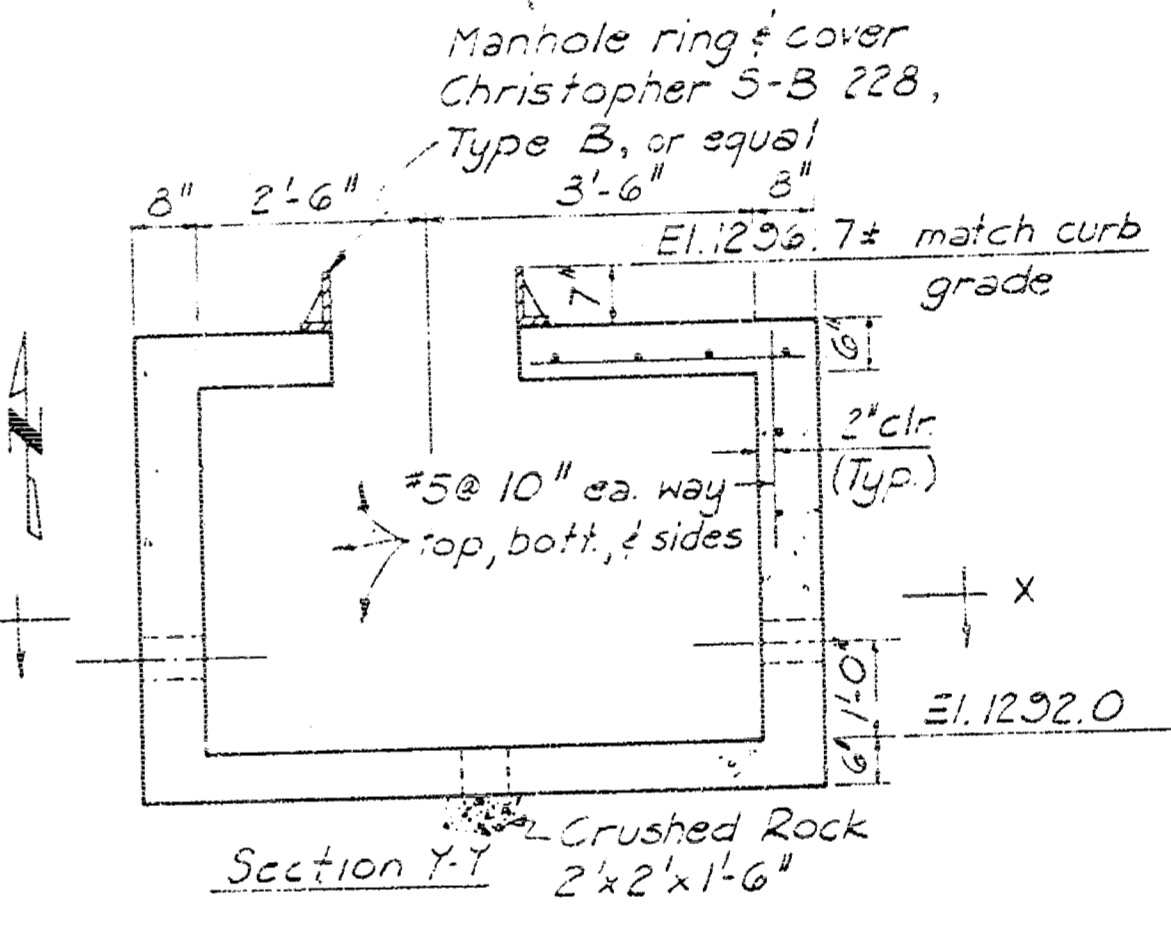


FOUR LIFTING LOOPS THUS

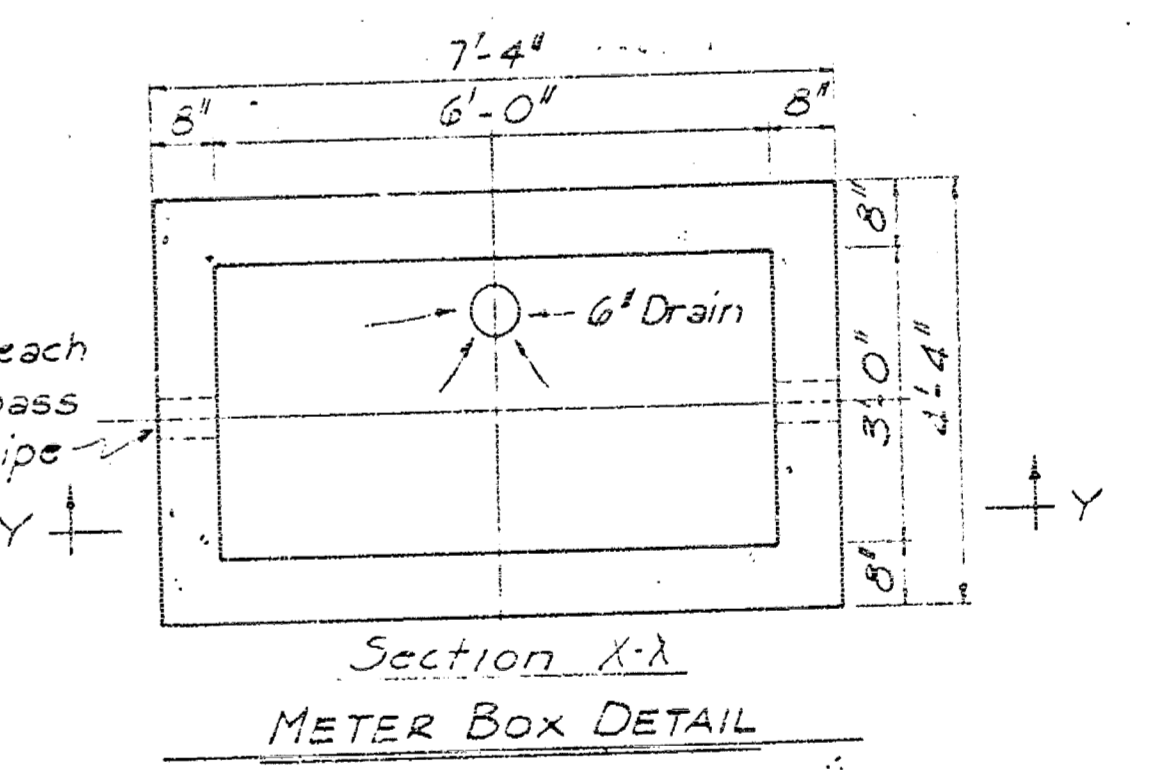
NOTE: Cover frames and shaft frames - fit in the shop to proper clearance before galvanizing.



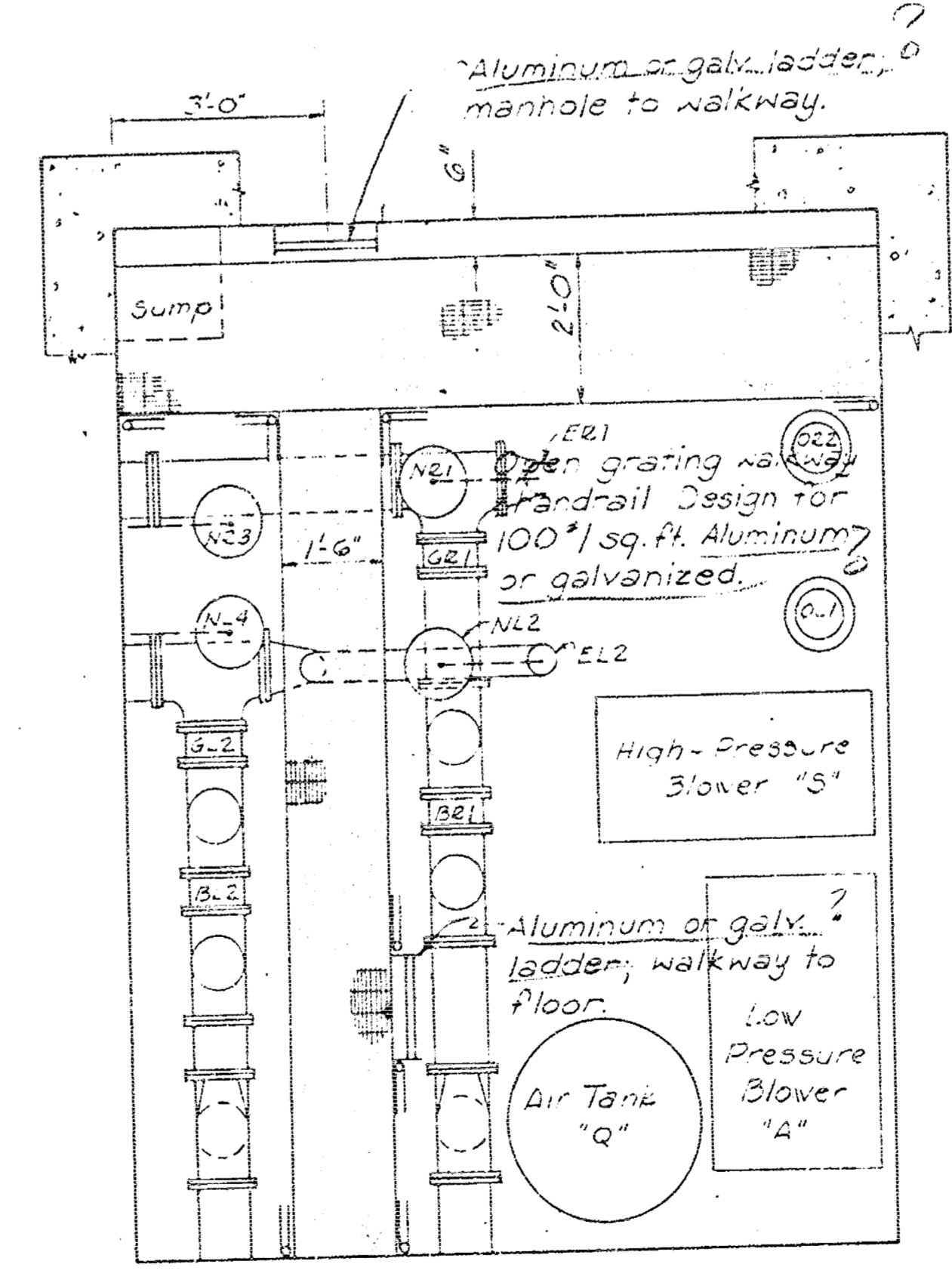
FRAME DETAIL



SECTION Y-Y



METER BOX DETAIL

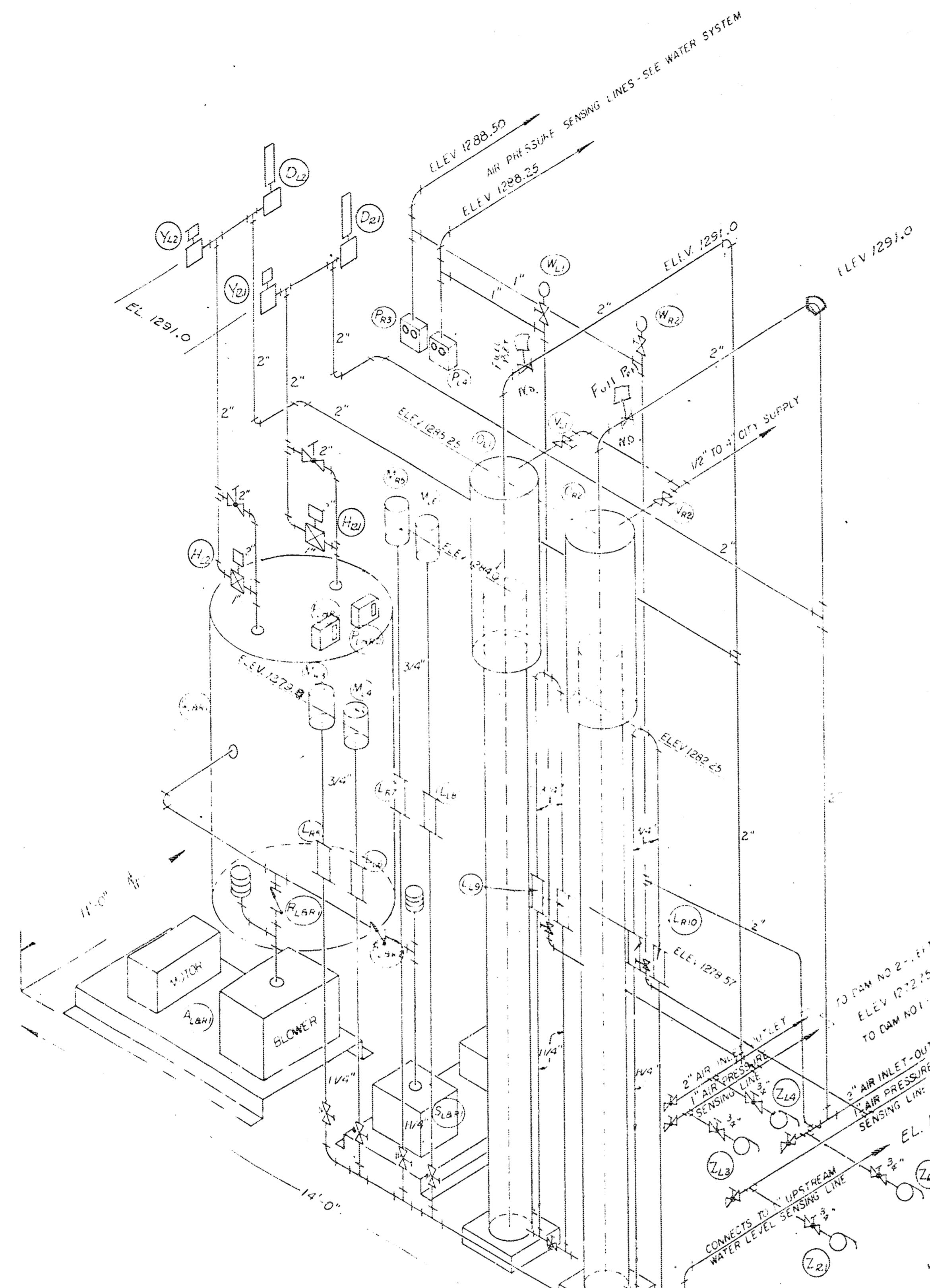


WALKWAY PLAN AT EL. 1284.0

NOTE:
All concrete shall be Class A.
Waterproof all vertical walls below elevation 1294.0 in accordance with the specifications.
Install walkways and ladders as indicated and as specified.
See specifications for details of manhole and equipment shaft frame and cover, and ventilation ducts.
After equipment is in place, seal the concrete cover with caulking compound.

As Built JAN. 1971 C.P.S.
CITY OF WICHITA, KANSAS
E. SMITH CITY ENGINEER
LINCOLN STREET BRIDGE AND DAM
BIG ARKANSAS RIVER
CONTROL VAULT DETAILS
R. S. DELAMATER
CONSULTING ENGINEER
WICHITA, KANSAS
DATE December 1968
SCALE
DWG. NO. 88-E-5

REVISIONS FEB 9 1971



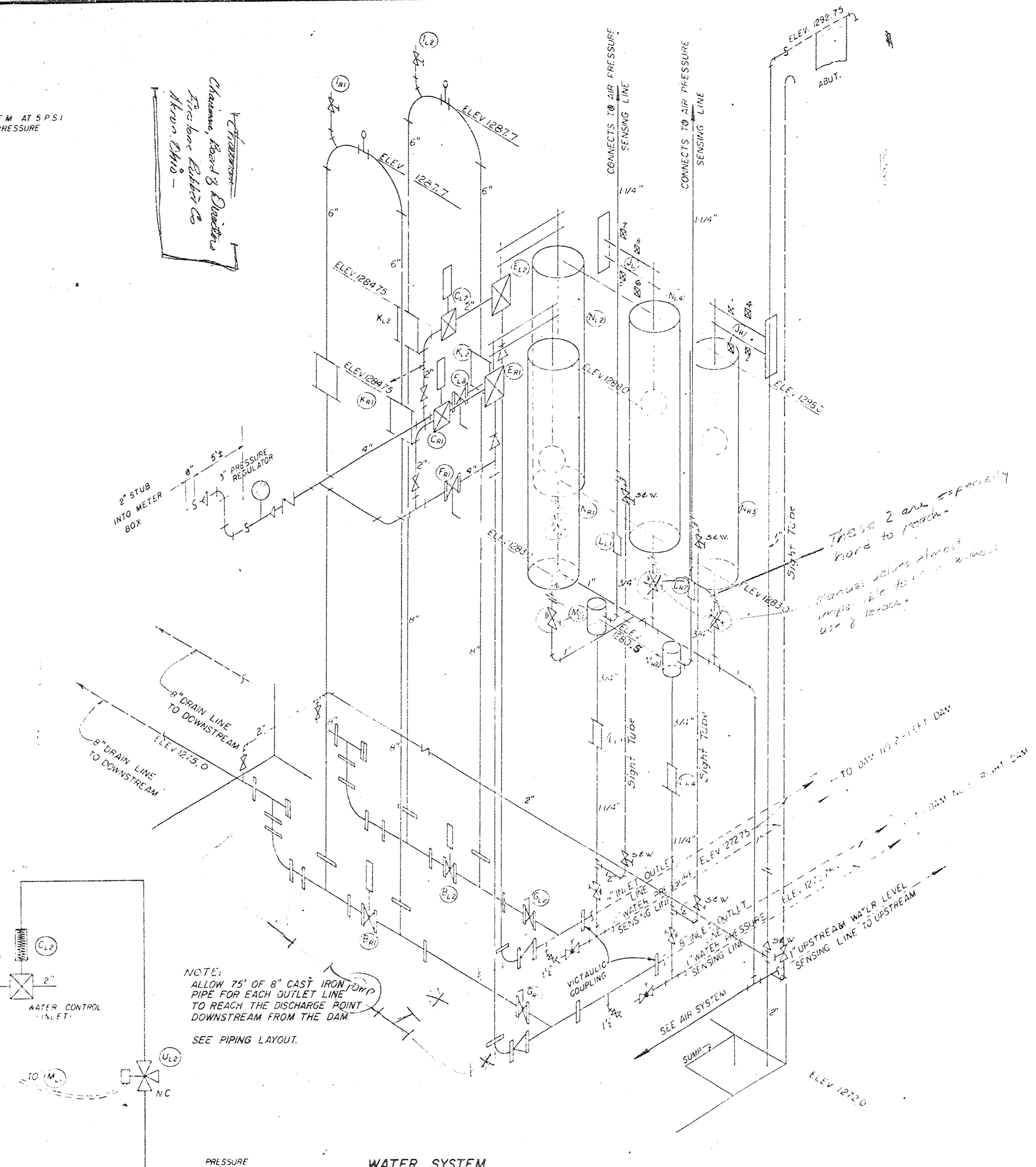
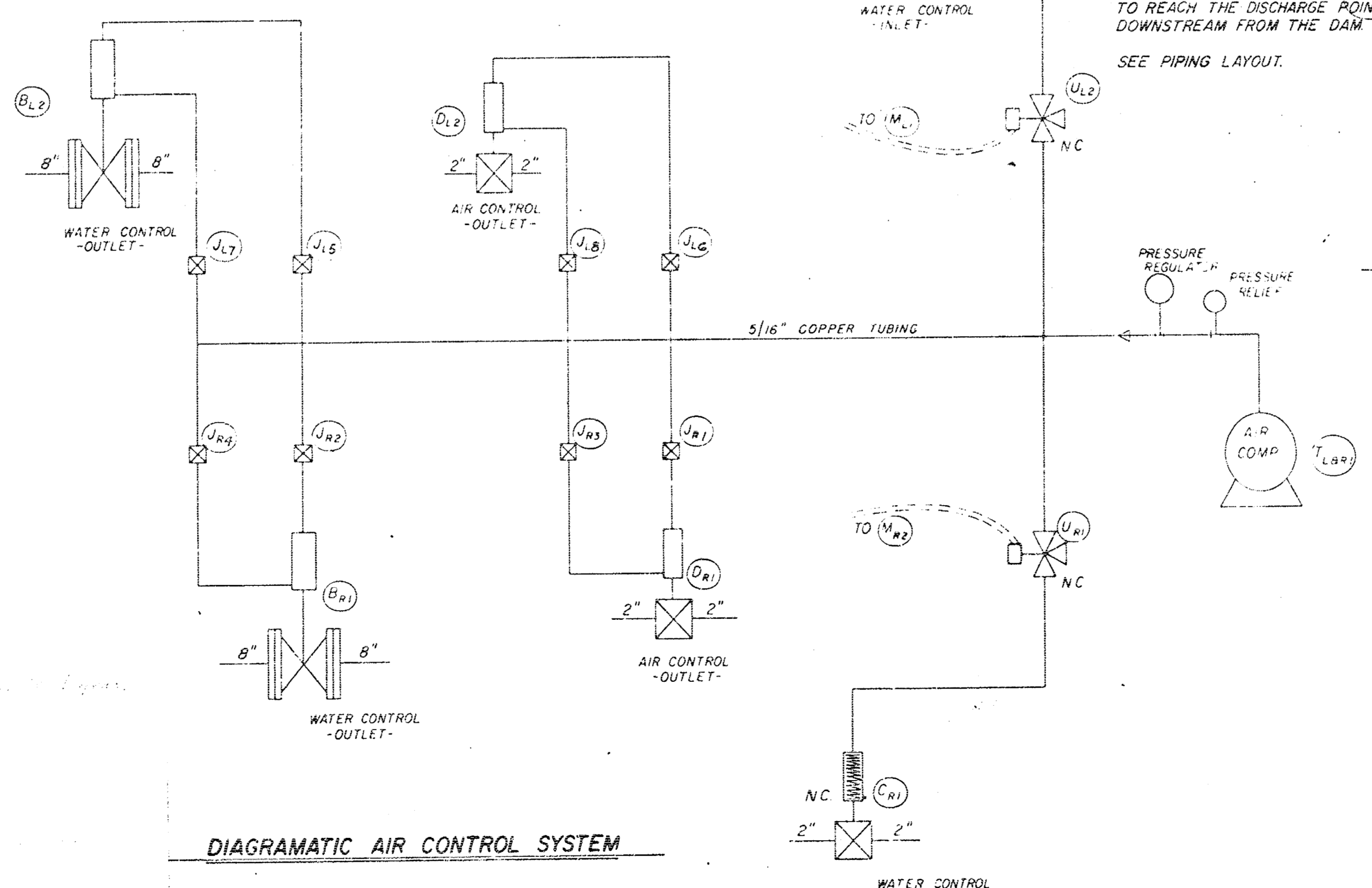
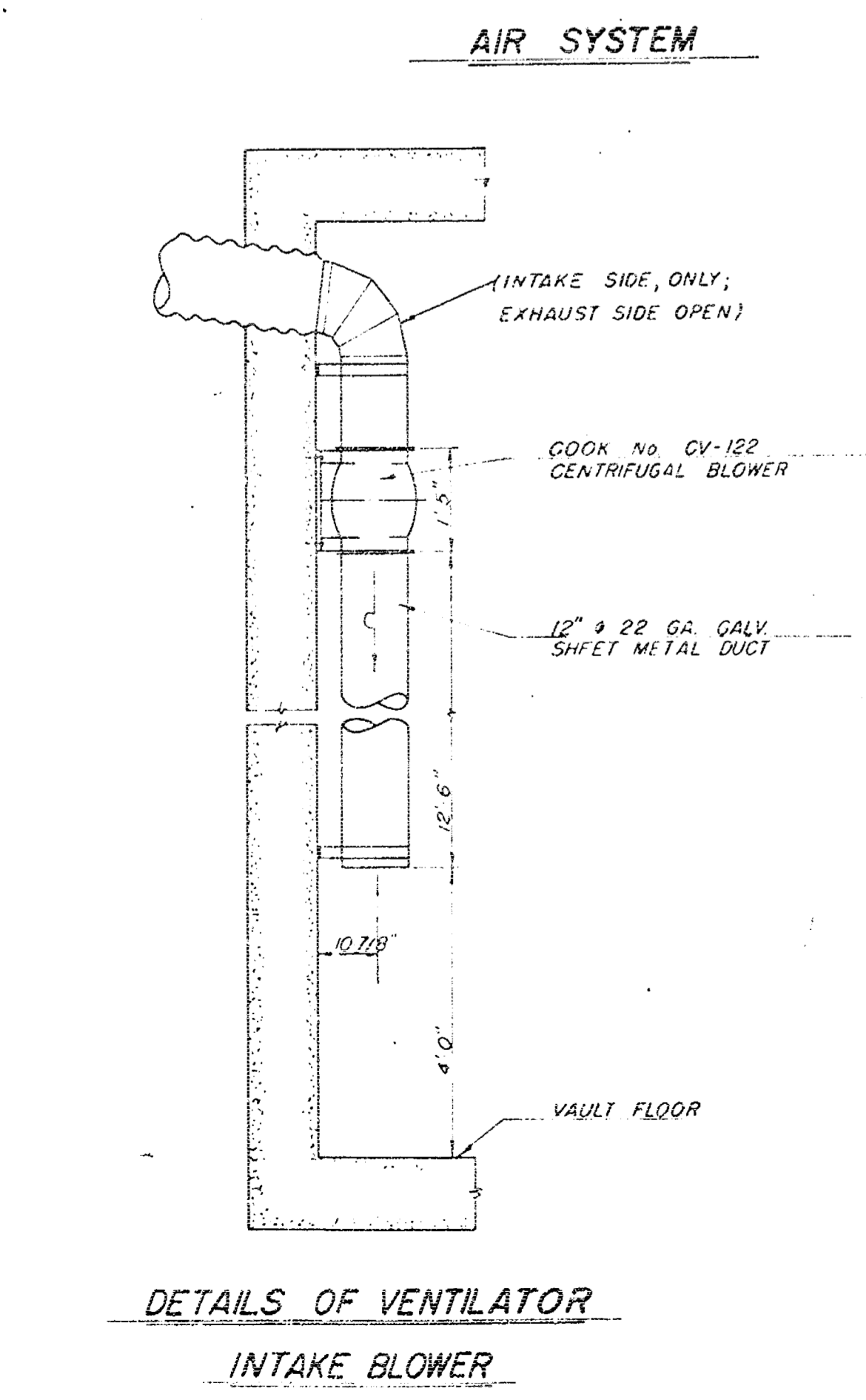
LEGEND

- A SUTORBILT BLOWER MODEL 4MV-2 1/2" INLET-OUTLET-1550 R.P.M. -122 C.F.M. AT 5 P.S.I. 5 H.P. WITH HASE-RELT DRIVE DRIVE GUARDS AND ADJUSTABLE WEIGHTED PRESSURE RELIEF VALVE
- B CRANE MONARCH BUTTERFLY VALVE - WITH AIR OPERATING CYLINDER
- C FLAST-O-MATIC VALVE - SERIES EE - NORMALLY CLOSED 2"
- D FLAST-O-MATIC VALVE - SERIES FF - STANDARD 2"
- E BAILEY FLOAT VALVE NO 27 P-2"
- F VICTAULIC BUTTERFLY VALVE 4"
- G CRANE MONARCH BUTTERFLY VALVE 8"
- H ASCO SOLENOID VALVE 1" CAT NO. 803010 2WAY VALVE NORMALLY CLOSED
- I GLOBE VALVE 1"
- J CLIPPARD MINIMATIC CONTROL VALVES MODEL MJV-3
- K SMITH BLAIR COUPLINGS MODEL NO 435 6" X 8"
- L DRESSER COUPLINGS STYLE 10 3/4" X 1 1/2"
- M MAGNETROL WATER LEVEL CONTROL - MODEL NO 27
- N GALVANIZED FLAT TANK 12" DIA X 5'-0" LONG
- O EMERGENCY AIR BLOWOFF TANK LOWER 8" X 11'-0" UPPER 12" X 13'-0"
- P DUAL PRESSURE SWITCH RANGE 0 TO 5 P.S.I.
- Q AIR PRESSURE STORAGE TANK 2'-9" DIA X 5'-0" HIGH
- R TECHNOCHECK CHECK VALVE
- S SUTORBILT BLOWER MODEL 5HB-1 1/4" INLET-OUTLET-1670 R.P.M. 5 H.P. WITH HASE-RELT DRIVE DRIVE GUARDS AND ADJUSTABLE WEIGHTED PRESSURE RELIEF VALVE
- T SINGLE STAGE ELECTRIC AIR COMPRESSOR 3/4 H.P. - 2CYL. - 10 C.F.M. 100 P.S.I. CUTOFF PRESSURE MAY BE LOCATED WITH AIR OR WATER SYSTEM
- U ASCO 3 WAY SOLENOID VALVE 1/4" CAT NO. 811725 CONST FIG NO 2 NORMALLY CLOSED
- V 1/2" NEEDLE VALVE
- W AIR PRESSURE GAUGE - 0 TO 5 P.S.I.
- Y ASCO SOLENOID VALVE 2" TWO-WAY, NORMALLY CLOSED
- Z ARCO DRAIN VALVE 3/4" NO. 65 3/8" DRAIN OPENING

1/2" C BALL VALVE 1" B 2"
 OHIO BRASS GLOBE VALVE
 DESIGNATES EITHER LEFT OR RIGHT DAM, FACING UPSTREAM
 L-R DESIGNATES EITHER LEFT OR RIGHT DAM, FACING UPSTREAM
 1,2,3,4 DESIGNATES THE NO. OF THE PIECE OF EQUIPMENT
 SUM PUMP NOT SHOWN

where is 3/8" line?

Chas. E. Smith & Co.
 1100 Ohio St.
 Kansas City, Mo.



NOTE:

See Sheet 5 for Vault and Meter Box details.

See Sheet 6 for further details of mechanical units.

Water meter setting and connection will be done by others.

Piping layout is diagrammatic, only, and subject to such shifting and detailed arrangement as required to provide adequate clearances within the vault and to align most efficiently with piping runs to and from outside the vault.

A5 BUILT JAN. 1971 C.R.S.

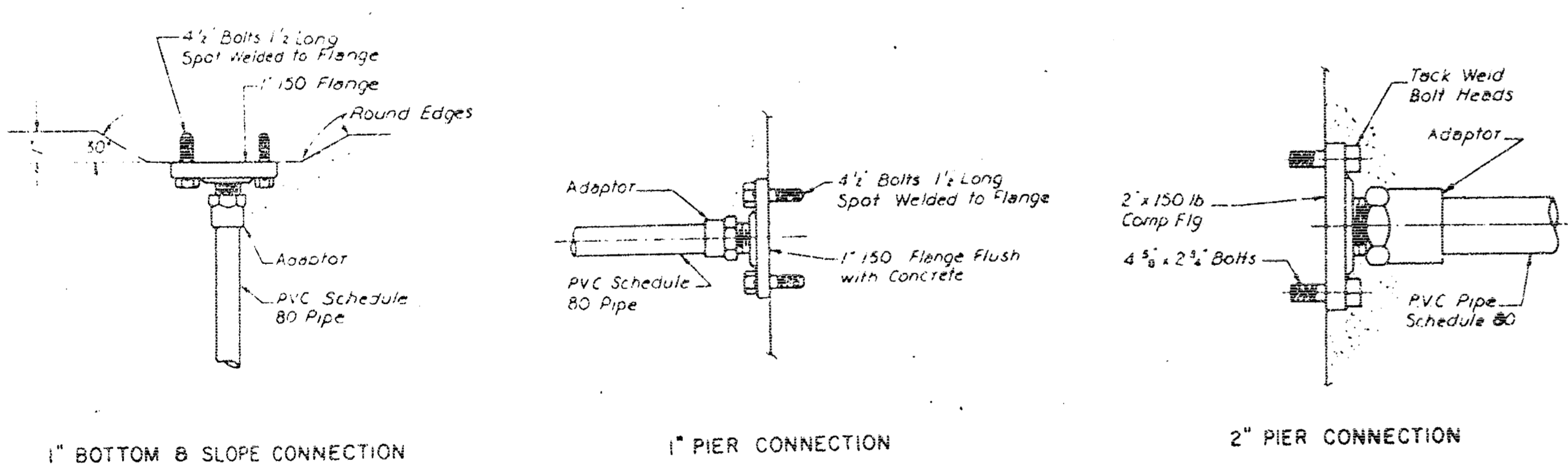
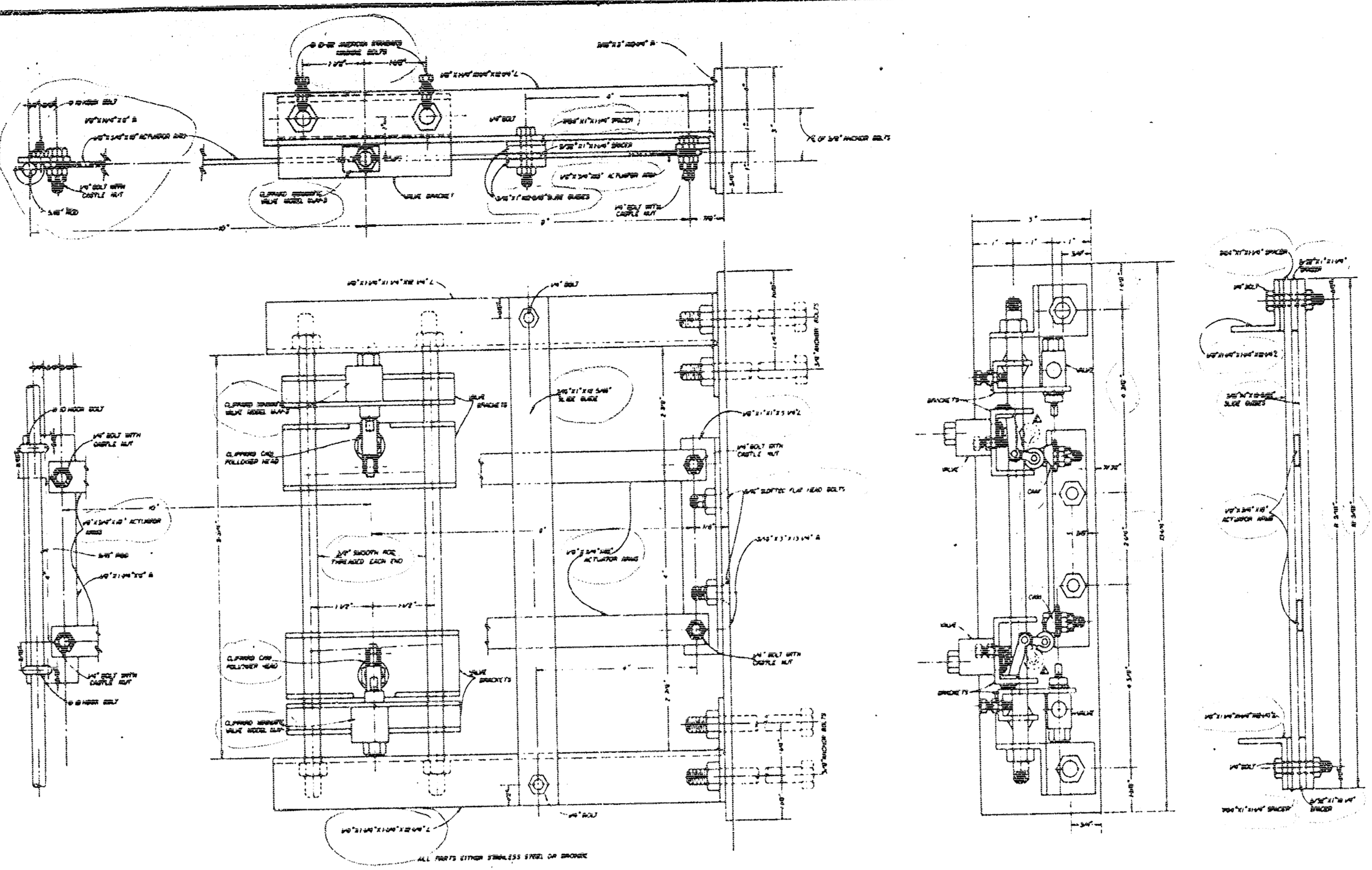
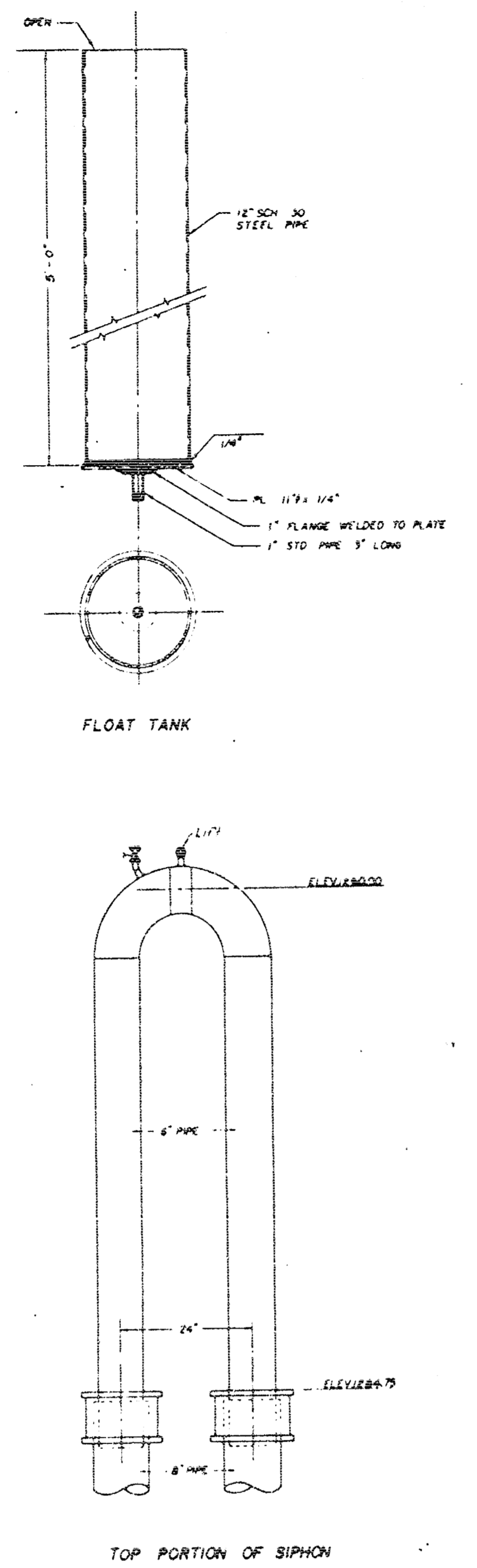
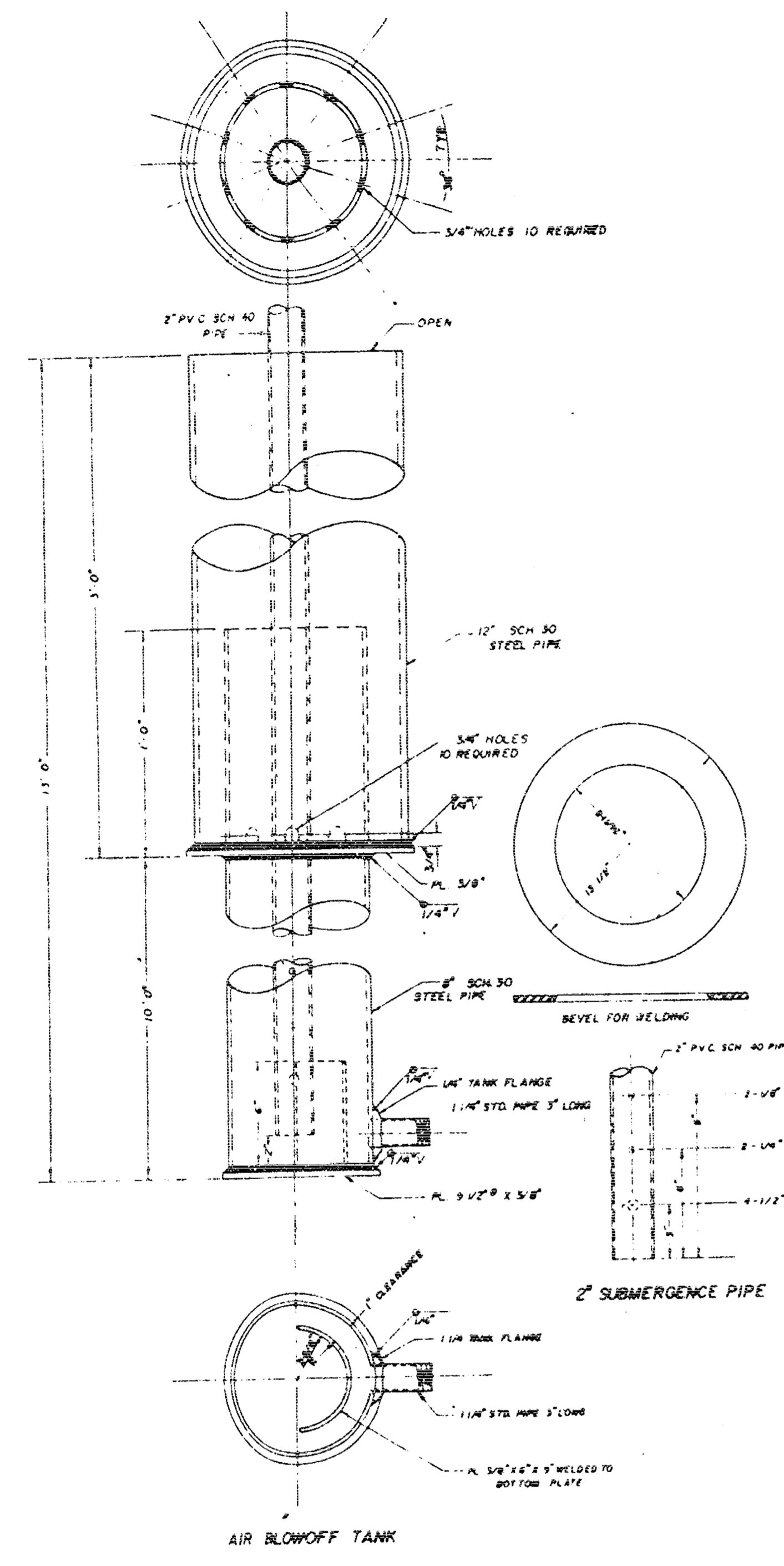
CITY OF WICHITA, KANSAS
 B. E. SMITH, CITY ENGINEER
 LINCOLN STREET BRIDGE AND DAM
 BIG ARKANSAS RIVER

PIPING & CONTROLS

R. S. DELAMATER
 CONSULTING ENGINEER
 WICHITA, KANSAS

DATE December, 1968
 SCALE
 DWG. NO. 89-E-6

FEB 9 1971



SUMMARY OF GRADING AND BANK PROTECTION QUANTITIES

Item	Quantity	Unit
Removal of Existing Structure	L.S.	L.S.
Compacted Embankment	4,538	Cu. Yds.
Dumped Rock Riprap	2,486	Cu. Yds.
Reinforced Concrete Riprap	885	Sq. Yds.

SUMMARY OF DAM QUANTITIES

Item	Quantity	Unit
Slab Excavation	1,230	Cu. Yds.
Steel Sheet Piling	5,773.6	Ltn. Ft.
Class AAA Concrete	305.8	Cu. Yds.
Reinforcing Steel	66,000	Lbs.
Anchor Bolts (630 bolts)	L.S.	L.S.
Fabricams Complete	L.S.	L.S.
Steel Sheet Piling (MPL15)	10,027.5	Ltn. Ft.

*** SUMMARY OF CONTROL VAULT QUANTITIES**

Item	Quantity	Unit
Vault Excavation	120	Cu. Yds.
Class A Concrete	64.3	Cu. Yds.
Reinforcing Steel	11,100	Lbs.
Vault Accessories	L.S.	L.S.
Electrical Installation	L.S.	L.S.

*Quantities include Meter Box

SUMMARY OF BRIDGE QUANTITIES

Location	Excavation		Concrete		Steel		10" Steel Piles Ltn. Ft.	12" Steel Piles Ltn. Ft.	Bridge Handrail Ltn. Ft.	Lights Under Br. L.S.	T. & S. L. Conduits L.S.	Approach Slabs Sq. Yds.
	Class I Cu. Yds.	Class II Cu. Yds.	Class A Cu. Yds.	Class AAA Cu. Yds.	Reinf. Lbs.	Struct. Lbs.						
Abutment #1	196		76.7	280.3	53,480		569.2					
Pier #1	34				12,240			584.7				
Pier #2		45	108.8		16,540			531.5				
Pier #3		45	103.1		16,300			541.5				
Pier #4		45	105.6		16,300			521.8				
Pier #5		40	146.3		17,580			477.6				
Pier #6		45	105.6		16,300			479.6				
Pier #7		45	109.1		16,300			493.3				
Pier #8		45	108.3		16,300			494.9				
Pier #9		45	71.1		11,350			481.4				
Abutment #2	163			236.0	44,220		447.5					
Superstr.				1,494.3	432,900	6,320		715.50	L.S.	L.S.		
Total	425	318	948.6	2,016.6	671,480	6,320	11,016.7	14,606.3	715.50	L.S.	L.S.	221.5

GENERAL NOTES
COMMON EXCAVATION: There will be no direct payment for Common Excavation, or borrows, as such. Payment will be for material in place, as Compacted Embankment.

EMBANKMENTS: The Contractor shall construct the embankments and grade the berms at the abutments as shown on Construction Layout and Contour Map prior to construction of the bridge.

EXCAVATION: Elevation 1277.0 constitutes the Excavation Boundary Plane for estimating quantities for Class I and Class II Bridge Excavation and Dam Slab Excavation; Class I above, Class II and Dam Slab Excavation below; see Sheet 18 for lists of pay excavation.

SOUNDINGS: Sounding information shown on Sheet 3 is as obtained from borings made in the field and represents the best information available to the City of Wichita.

PILES: All piles shall be driven to the penetration shown unless in the opinion of the Engineer such penetration cannot be secured without injury to the pile. Piles shall be driven to a minimum computed bearing value, for steel bearing piles, of 65 tons per pile in piers, and 55 tons per pile in abutments; and for sheet steel piles, of 15 tons per pile.

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

EXISTING STRUCTURE: The Contractor will remove the existing structure, consisting of a steel beam bridge on wood pile piers. All material to become the property of the Contractor, to be removed from the site.

FALSEWORK AND FORMING: Falsework under superstructure, including each sidewalk slab, shall be left in place in any span until the concrete in that span and the adjacent span constructed latest shall have attained its design strength; but in no case shall the falsework be removed before 14 days after placing concrete. Parapet walls under handrails shall preferably, but not necessarily, be placed after falsework supporting the walk has been removed. Camber shall be provided in the amounts shown on the Dead-Load Camber Diagram.

CONCRETE: Class AAA Concrete shall be used in Bridge Abutments and Superstructure, including walk and in Dam Foundation Slab; Class A in Bridge Piers and in the Control Vault.

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

DECK TREATMENT: Bridge deck shall be cured with Linseed Oil emulsion, in accordance with the Specifications.

DESIGN:
 Design Loading: H20-S16-AA A.A.S.H.O. Specifications (1965 Ed.)

Unit Stresses:
 fc = 1,600 p.s.i. Class AAA
 fc = 1,200 p.s.i. Class A
 fs = 20,000 p.s.i. (Reinf)
 f'c = 4,000 p.s.i. Class AAA
 f'c = 3,000 p.s.i. Class A

Pile Loading:
 65 tons per pile in piers
 55 tons per pile in abutments
 15 tons per pile for sheet piles

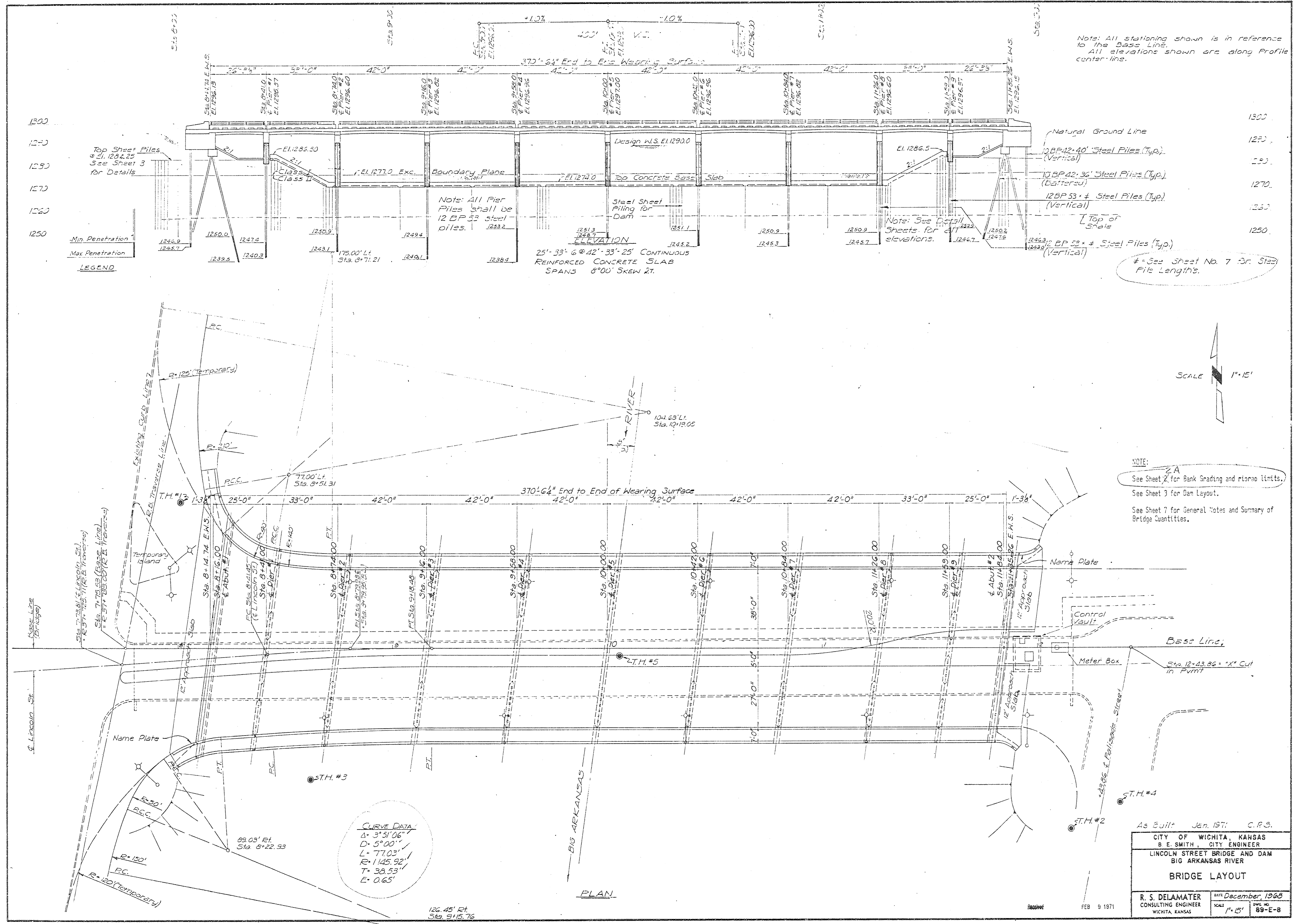
As Built Jan. 1971 C.P.S.

CITY OF WICHITA, KANSAS
 S. E. SMITH, CITY ENGINEER
 LINCOLN STREET BRIDGE AND DAM
 BIG ARKANSAS RIVER

GENERAL NOTES & SUMMARY OF QUANTITIES

R. S. DELAMATER
 CONSULTING ENGINEER
 WICHITA, KANSAS

December, 1968
 SCALE
 89-E-7



Note: All stationing shown is in reference to the Base Line.
All elevations shown are along Profile center-line.

Top Sheet Piles
E.L. 1262.25
See Sheet 3
for Details

Min. Penetration
1250.9
1250.7

Max. Penetration
1239.5
1240.3

LEGEND

Note: All Pier Piles shall be 12 BP 53 Steel Piles.

ELEVATION
25'-33'-6 @ 42'-33'-25' CONTINUOUS REINFORCED CONCRETE SLAB SPANS 8'00" SKEW 21.

Note: See Detail Sheets for all elevations.

Natural Ground Line

3BP 42 #40 Steel Piles (Typ.) (Vertical)

10BP 42 #36 Steel Piles (Typ.) (Barriers)

12BP 53 #4 Steel Piles (Typ.) (Vertical)

Top of Slab

BP 53 #4 Steel Piles (Typ.) (Vertical)

See Sheet No. 7 for Steel Pile Lengths.

SCALE 1" = 15'

NOTE:
2A
See Sheet 2 for Bank Grading and Retain Limits.
See Sheet 3 for Dam Layout.
See Sheet 7 for General Notes and Summary of Bridge Quantities.

CURVE DATA
Δ = 3° 51' 06"
D = 5° 00' 00"
L = 77.03'
R = 1145.92'
T = 38.53'
E = 0.65'

As Built Jan. 1971 C.P.S.

CITY OF WICHITA, KANSAS	
B. E. SMITH, CITY ENGINEER	
LINCOLN STREET BRIDGE AND DAM	
BIG ARKANSAS RIVER	
BRIDGE LAYOUT	
R. S. DELAMATER CONSULTING ENGINEER WICHITA, KANSAS	DRAWN December, 1965 SCALE 1" = 15' DWG. NO. 89-E-8

Received FEB 9 1971

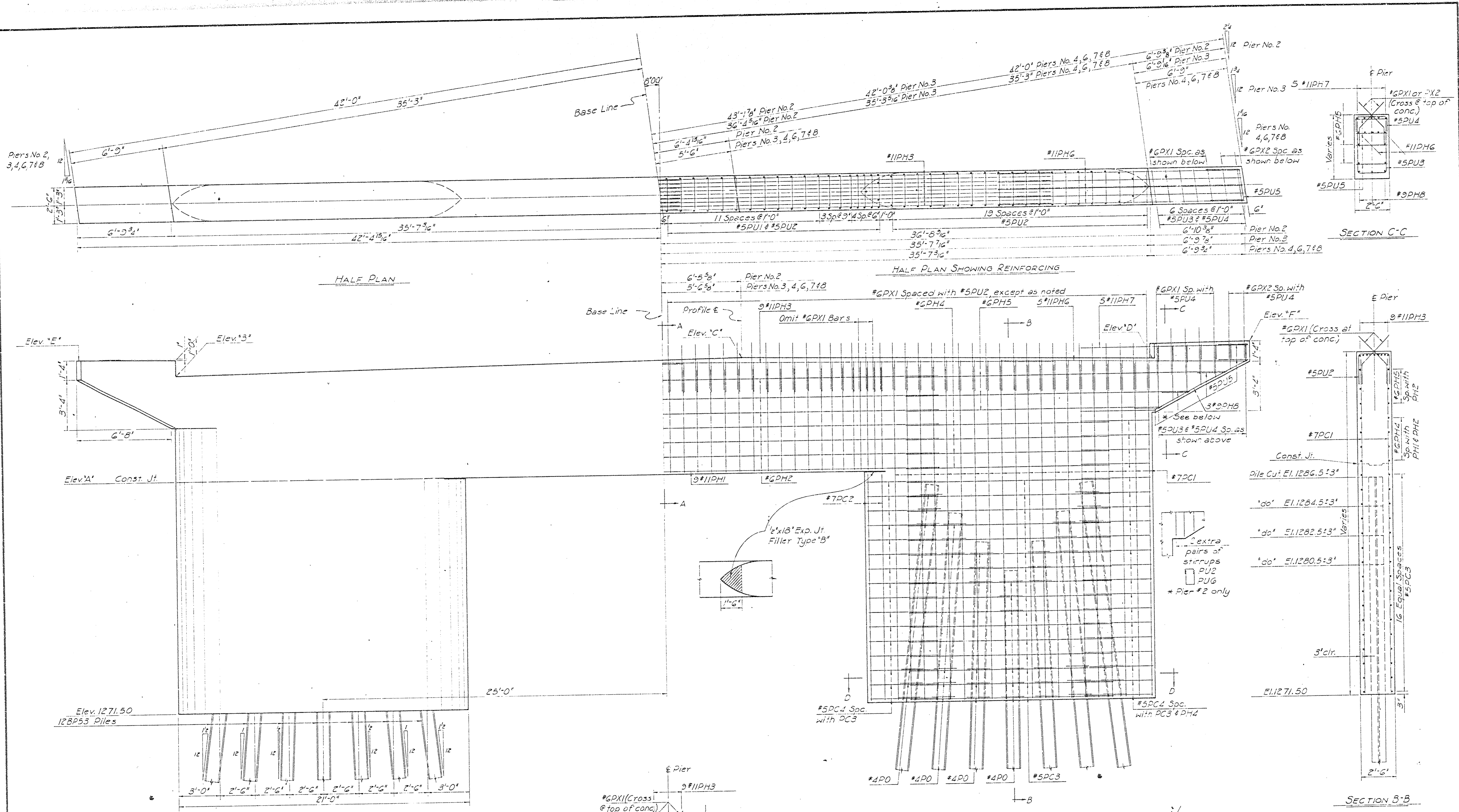


TABLE OF ELEVATIONS

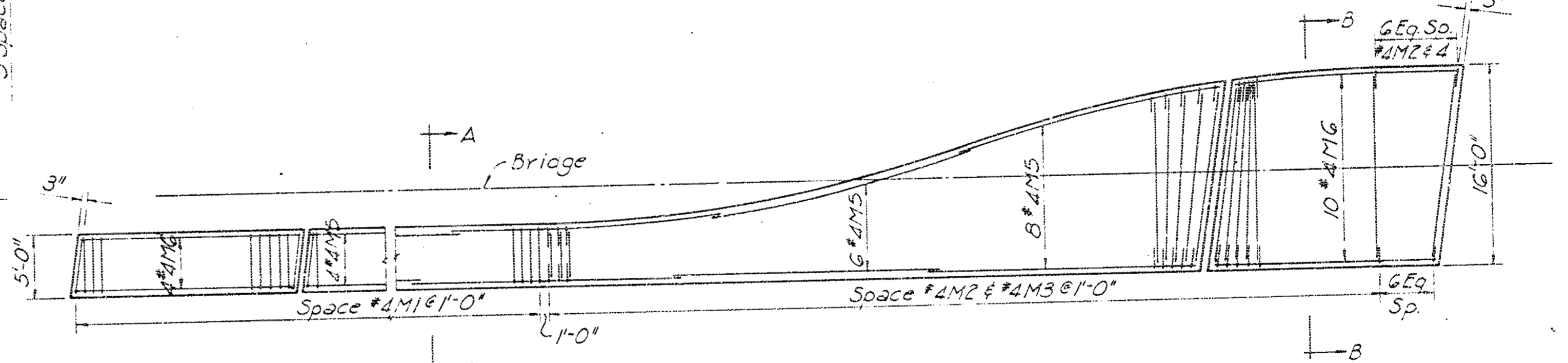
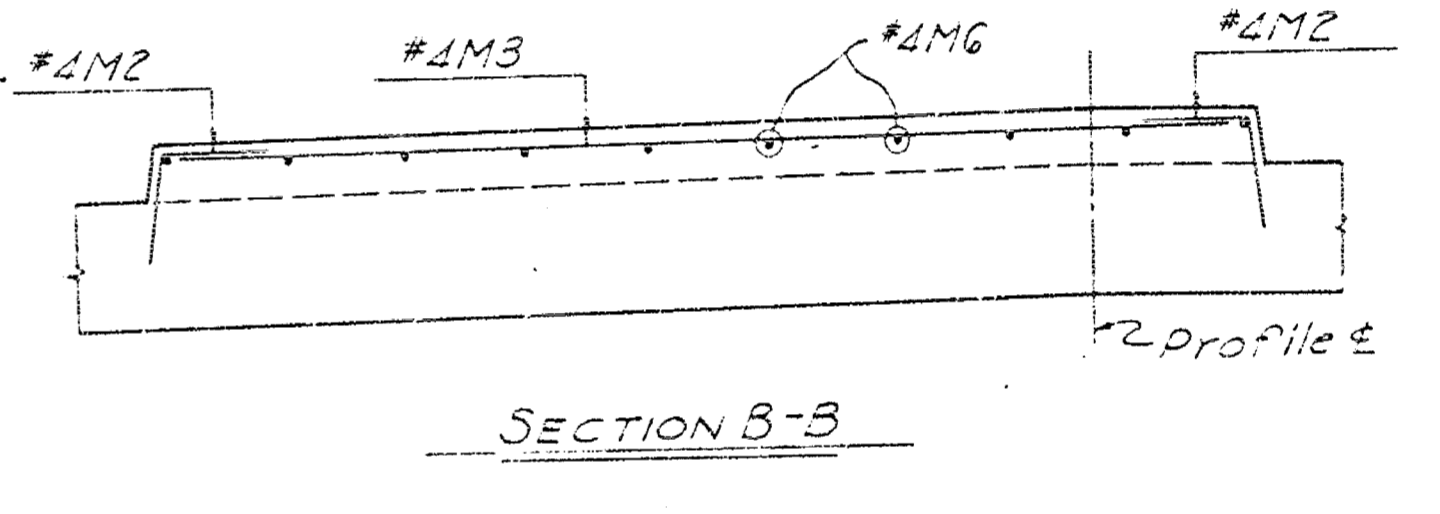
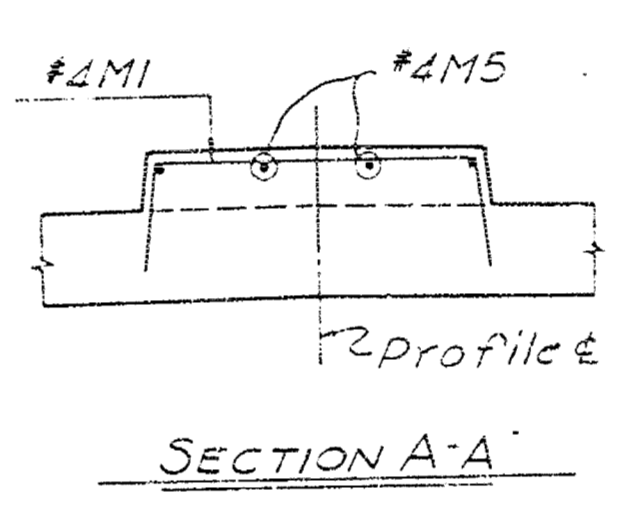
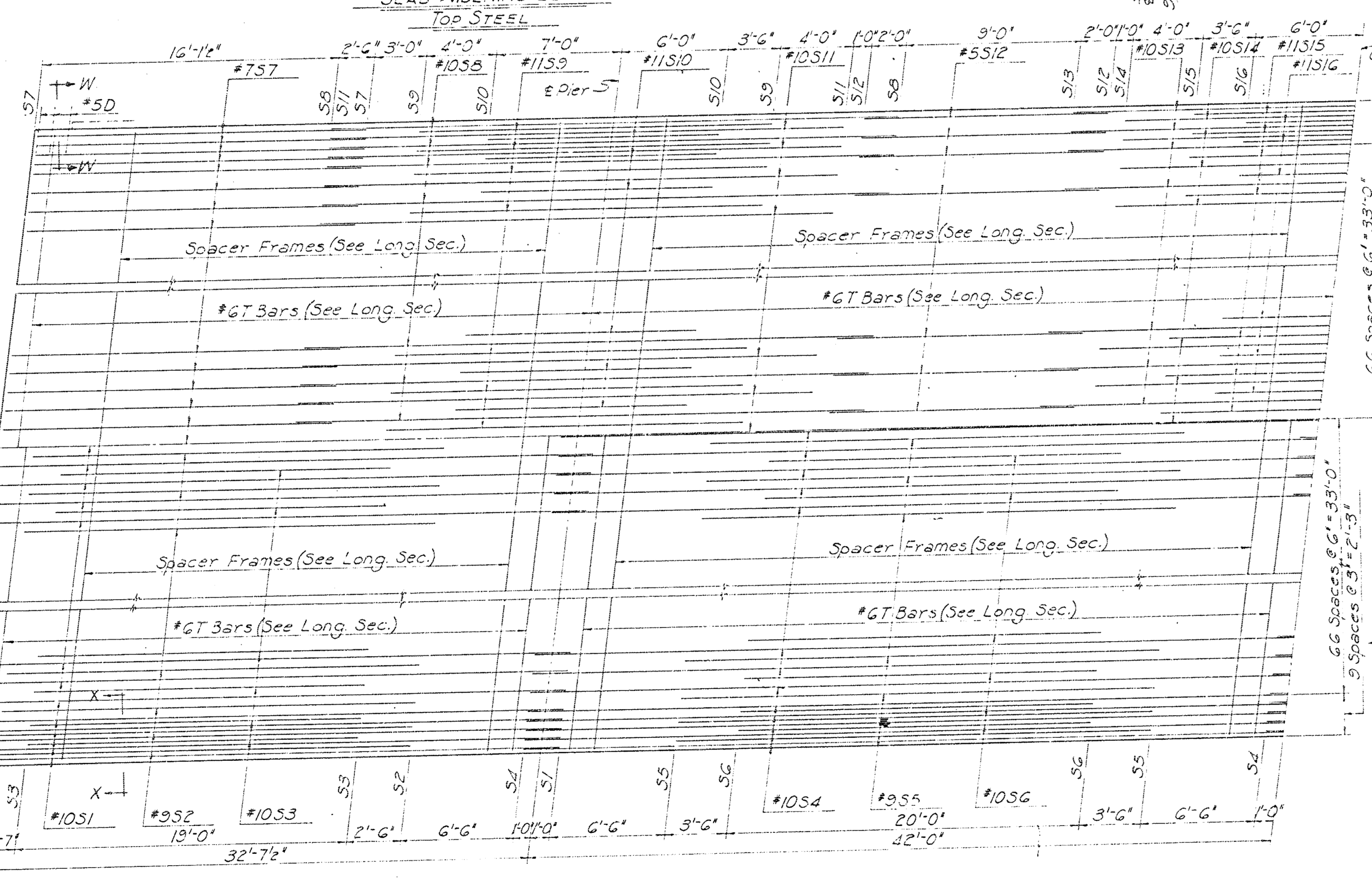
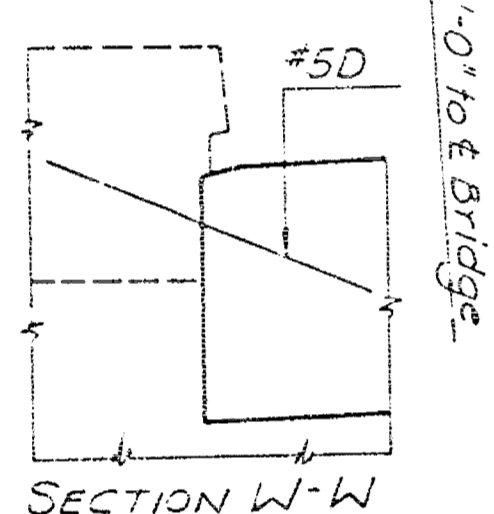
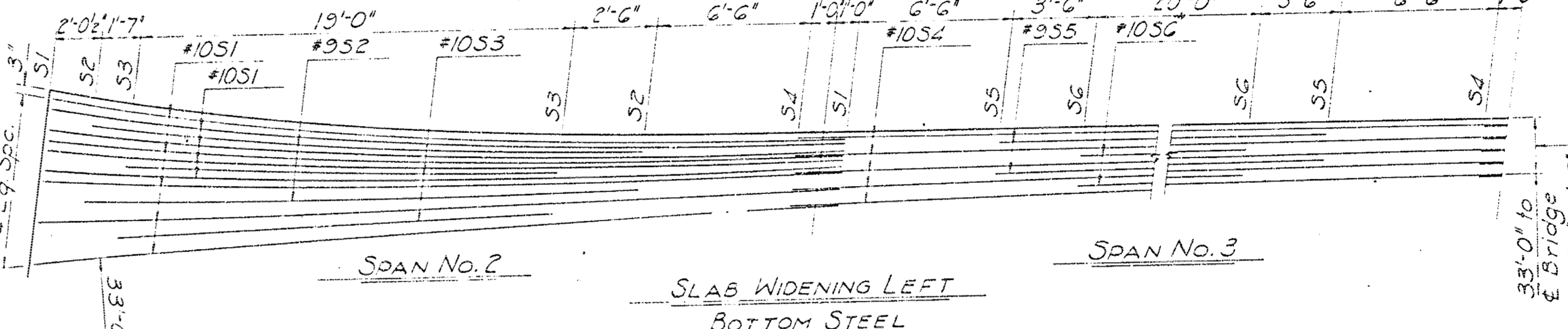
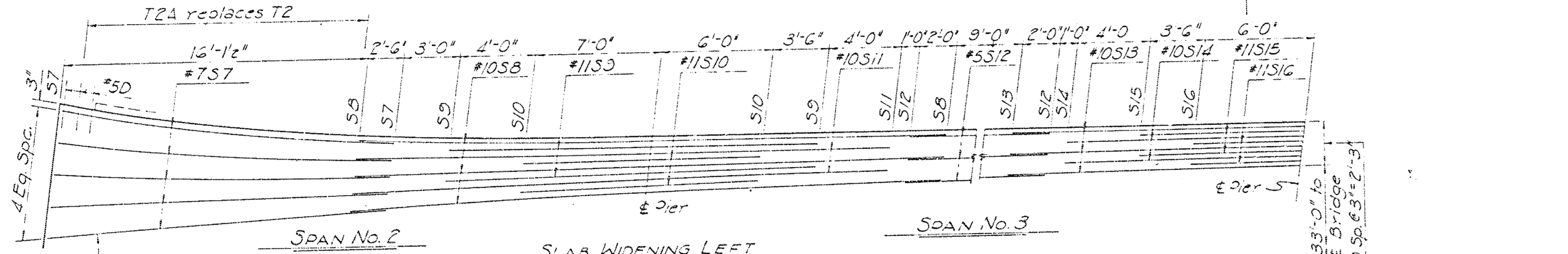
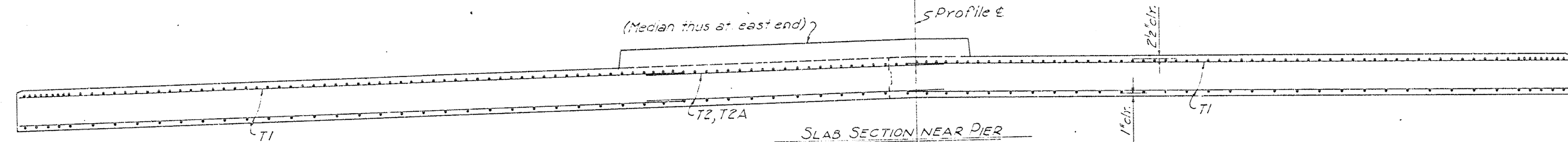
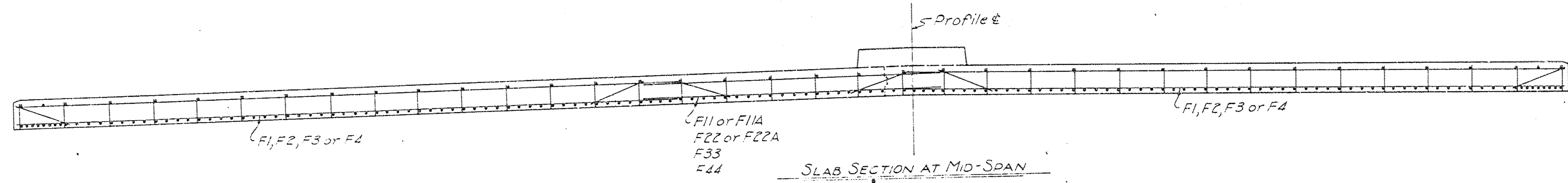
Location	Elev. 'A'	Elev. 'B'	Elev. 'C'	Elev. 'D'	Elev. 'E'	Elev. 'F'
Pier #2	1296.55	1294.24	1294.85	1294.36	1295.33	1295.44
Pier #3	1287.07	1294.46	1295.07	1294.59	1295.53	1295.67
Pier #4	1297.21	1294.58	1295.21	1294.73	1295.67	1295.82
Pier #6	1297.21	1294.56	1295.21	1294.75	1295.64	1295.84
Pier #7	1287.07	1294.42	1295.07	1294.63	1295.50	1295.72
Pier #8	1286.55	1294.18	1294.85	1294.42	1295.27	1295.51

NOTE:
 See Sheet 7 for General Notes.
 See Sheet A for Bridge Layout.
 All concrete shall be Class A.

As Built Jan 1971 C.P.S.

CITY OF WICHITA, KANSAS	
B. E. SMITH, CITY ENGINEER	
LINCOLN STREET BRIDGE AND DAM	
BIG ARKANSAS RIVER	
PIERS 2, 3, & 4	
PIERS 6, 7, & 8	
R. S. DELAMATER CONSULTING ENGINEER WICHITA, KANSAS	DATE December 1968 SCALE 89-E-11

FEB 9 1971

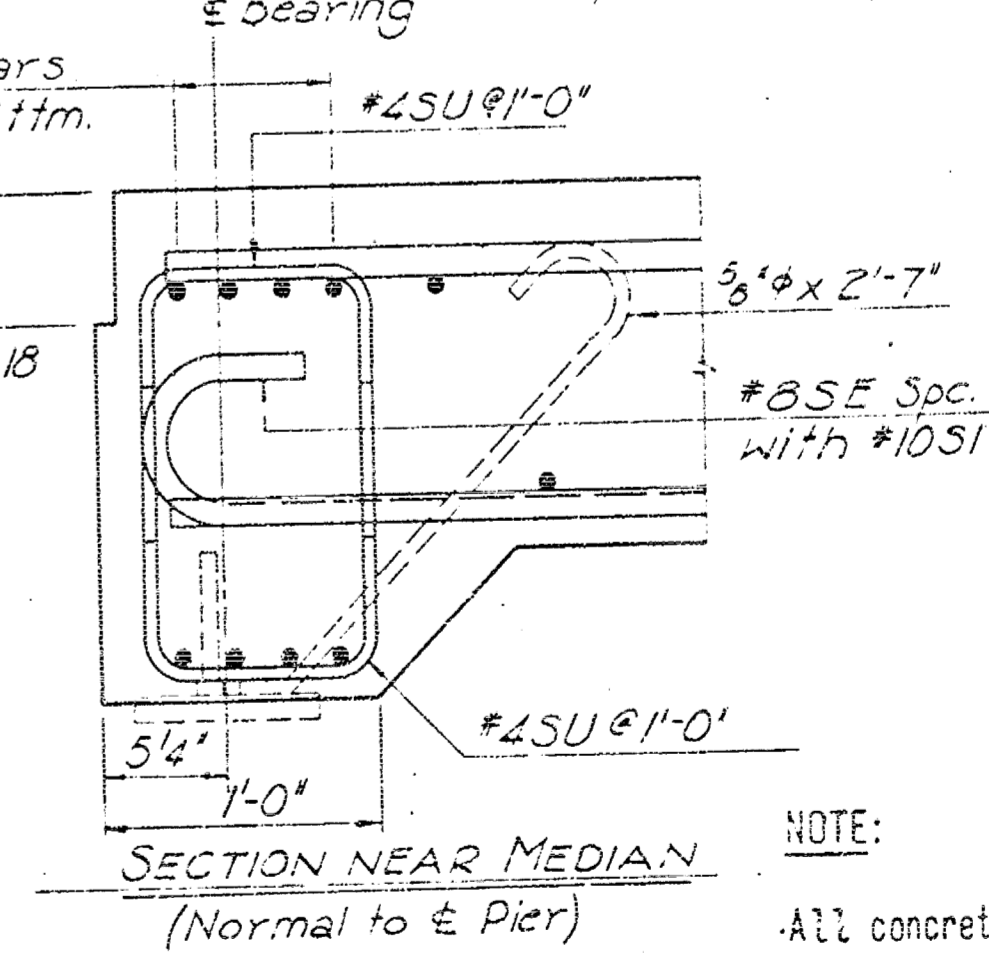
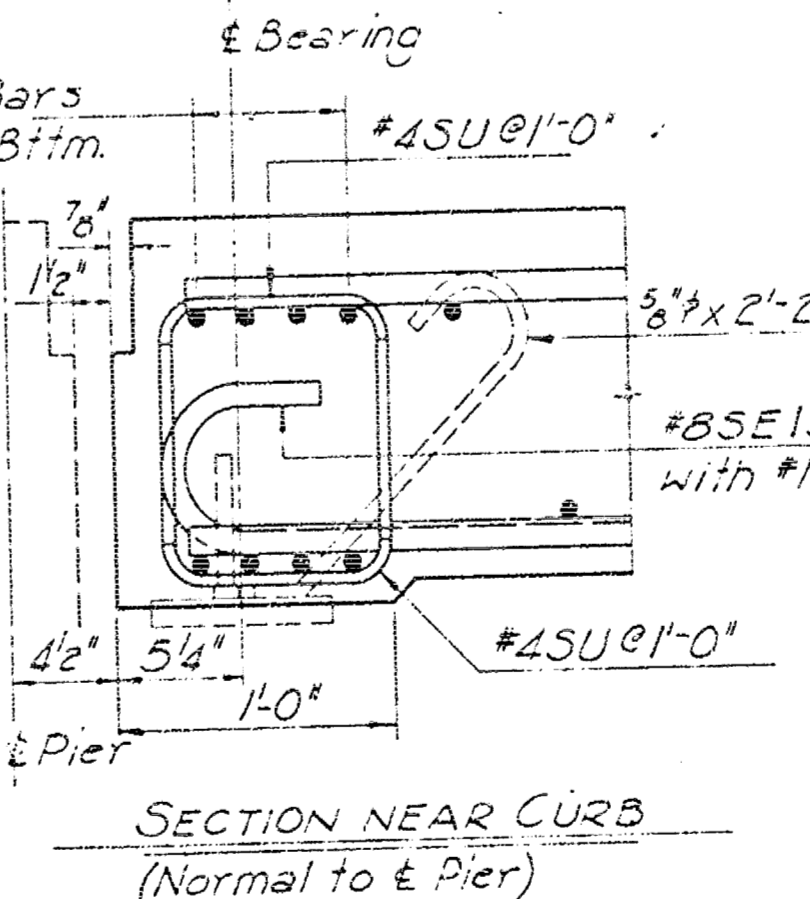


REINFORCING STEEL IN TOP OF SLAB

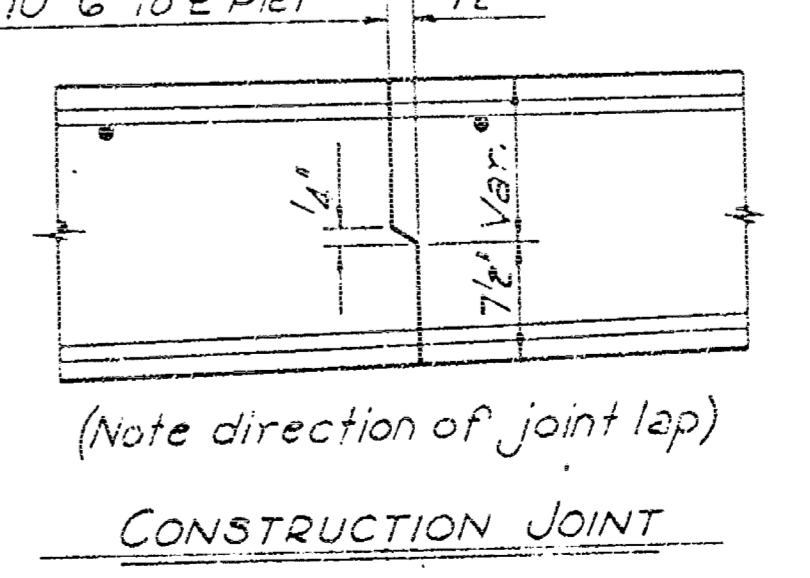
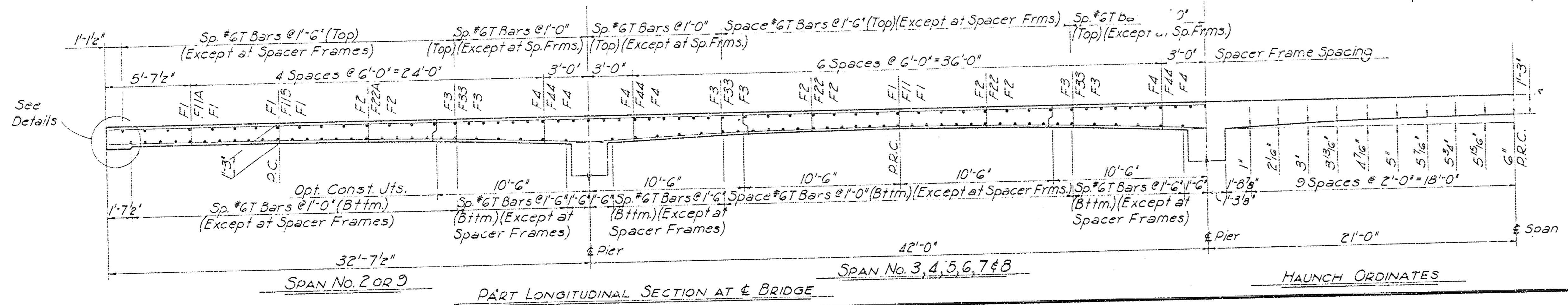
REINFORCING STEEL IN BTM OF SLAB

NOTE: Section X-X, and haunch ordinates, same as on adjacent slab.

NOTE: See Bridge Layout for Median Dimensions and Location.



NOTE: All concrete shall be Class AAA. See Sheet 19 for Bar List and Bending Diagrams. See Sheet 16 for Sidewalk Details. See Sheet 7 for General Notes.

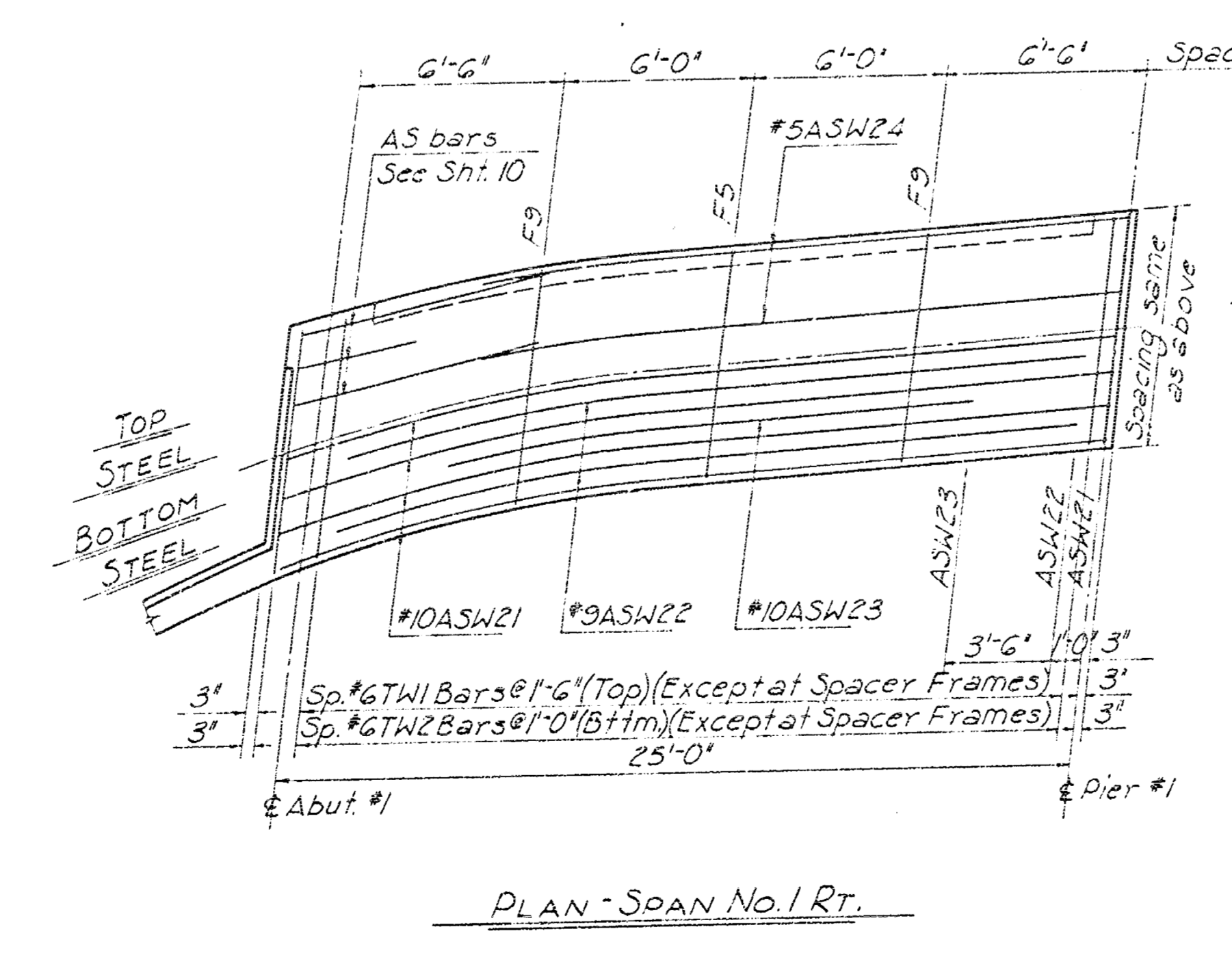
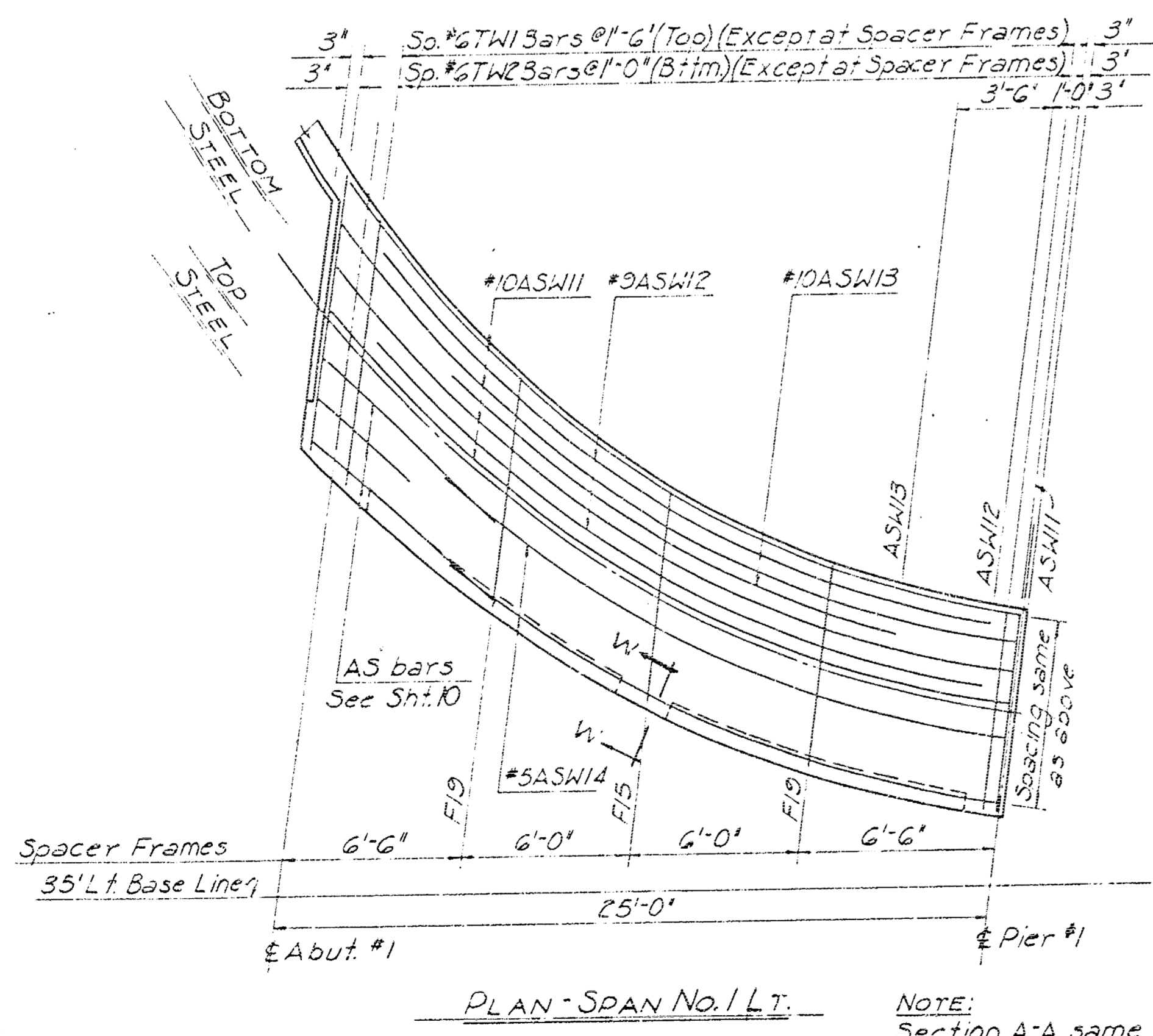
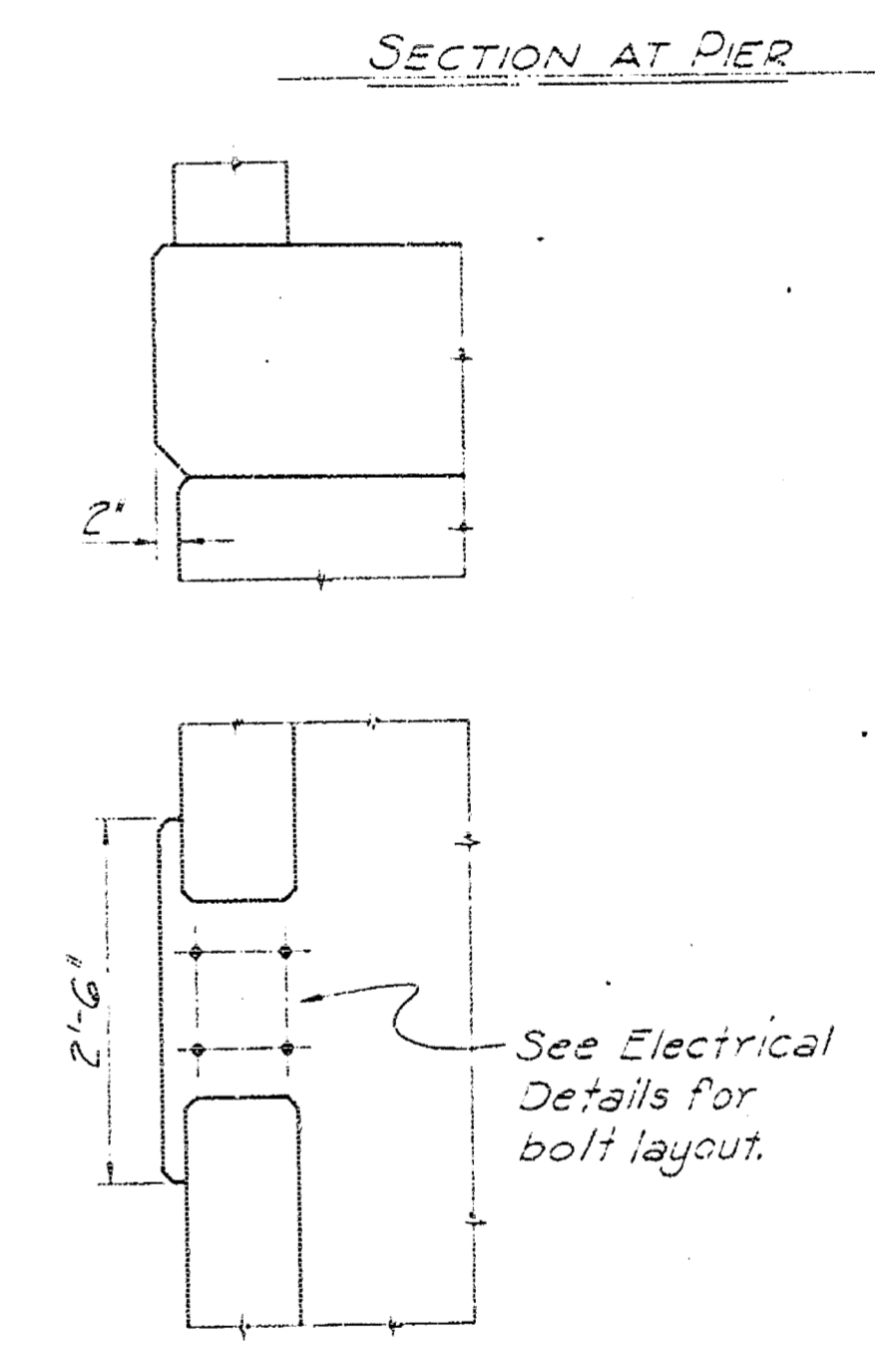
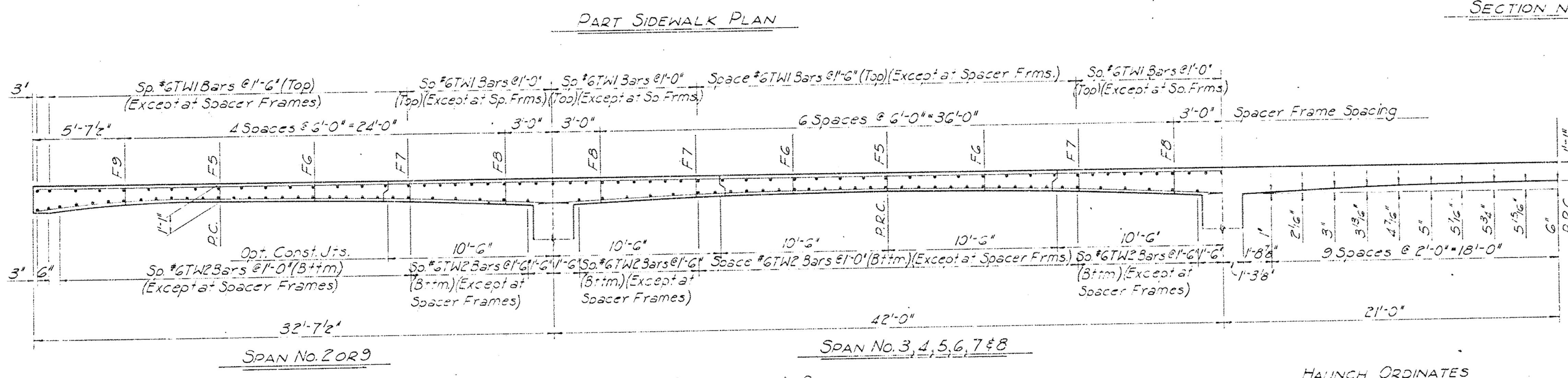
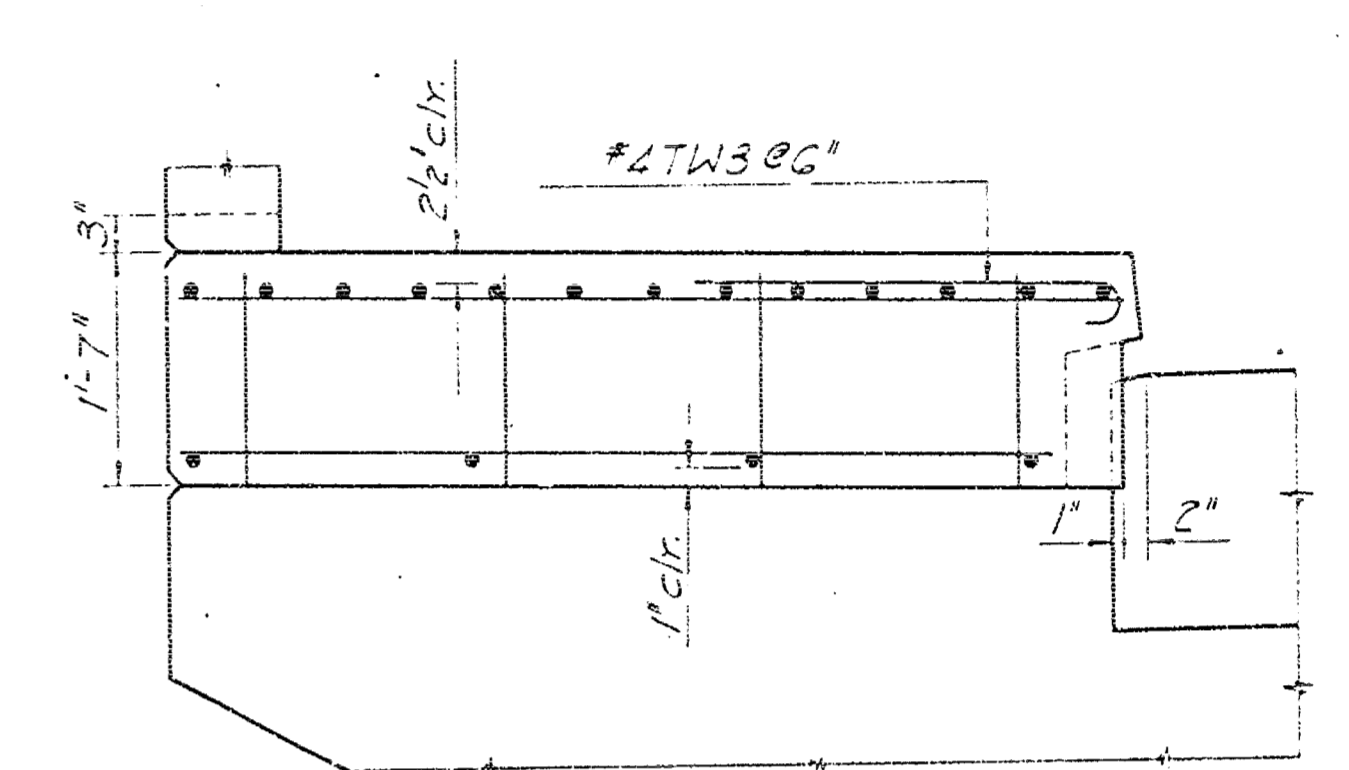
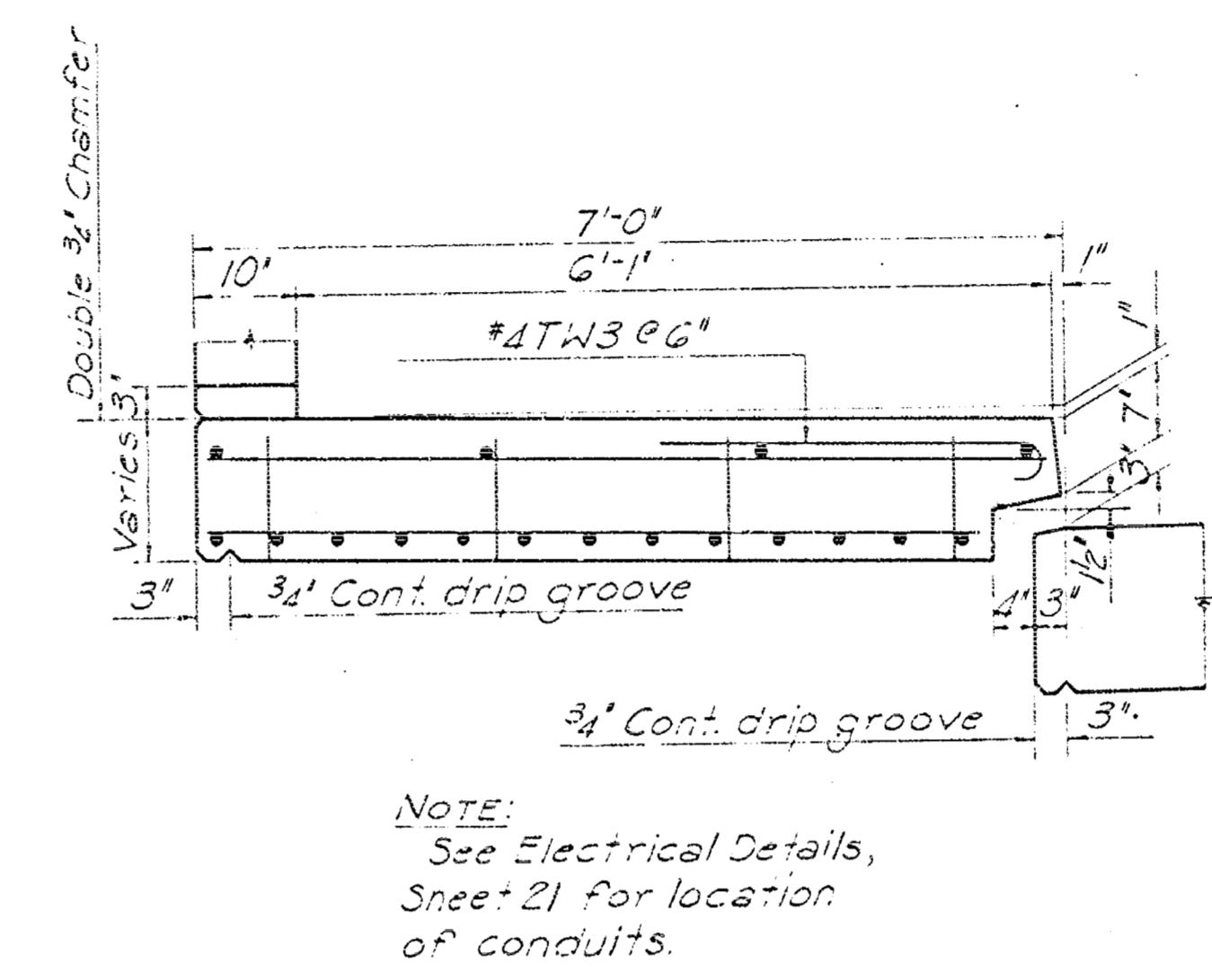
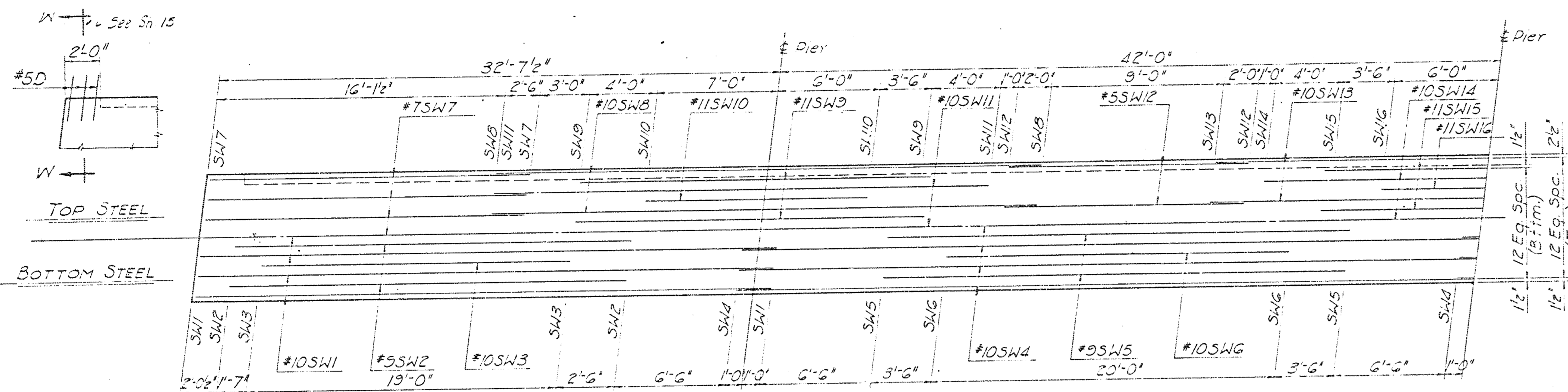
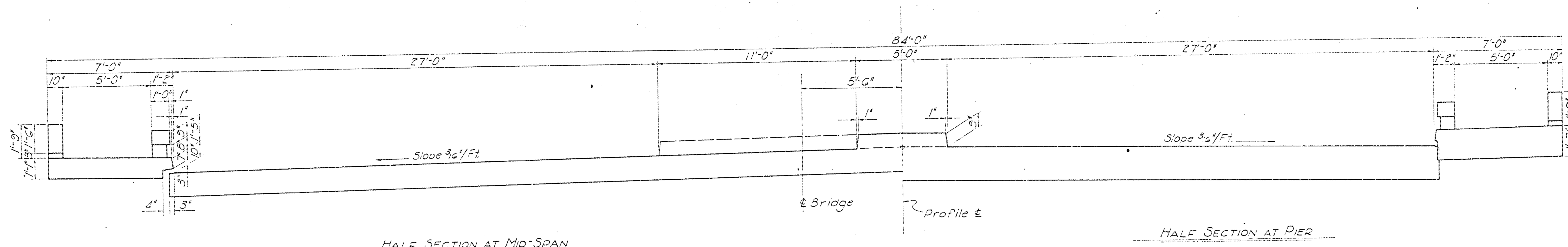


CITY OF WICHITA, KANSAS
 B. E. SMITH, CITY ENGINEER
 LINCOLN STREET BRIDGE AND DAM
 BIG ARKANSAS RIVER

SUPERSTRUCTURE DETAILS

R. S. DELAMATER
 CONSULTING ENGINEER
 WICHITA, KANSAS

DATE: December, 1968
 SCALE: _____
 Dwg. No. 89-E-15



NOTE: In walks for Abut. #2 use ASW1, 2, 3 & 4 and Frames F5 & F9 in appropriate positions.

NOTE: See Sheet 10 for Haunch Ordinates, parallel to Base Line, for all abutment walks.

NOTE: All concrete shall be Class AAA. See Sheet 19 for Bar List and Bending Diagrams. See Sheet 17 for Handrail Details. See Sheet 7 for General Notes.

As Built Jan. 1971 C.P.S.

CITY OF WICHITA, KANSAS
B. E. SMITH, CITY ENGINEER
LINCOLN STREET BRIDGE AND DAM
BIG ARKANSAS RIVER

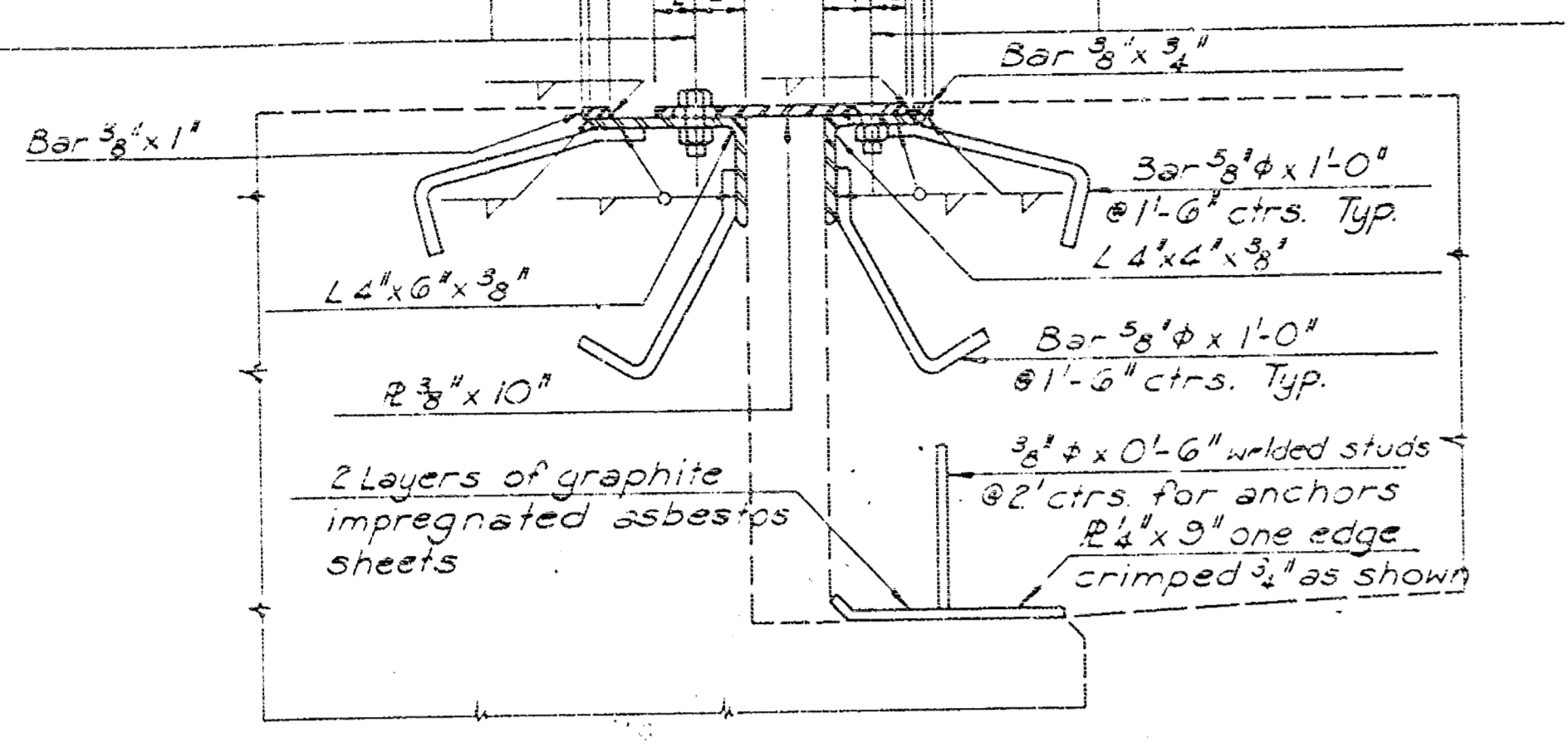
SIDEWALK DETAILS

R. S. DELAMATER
CONSULTING ENGINEER
WICHITA, KANSAS

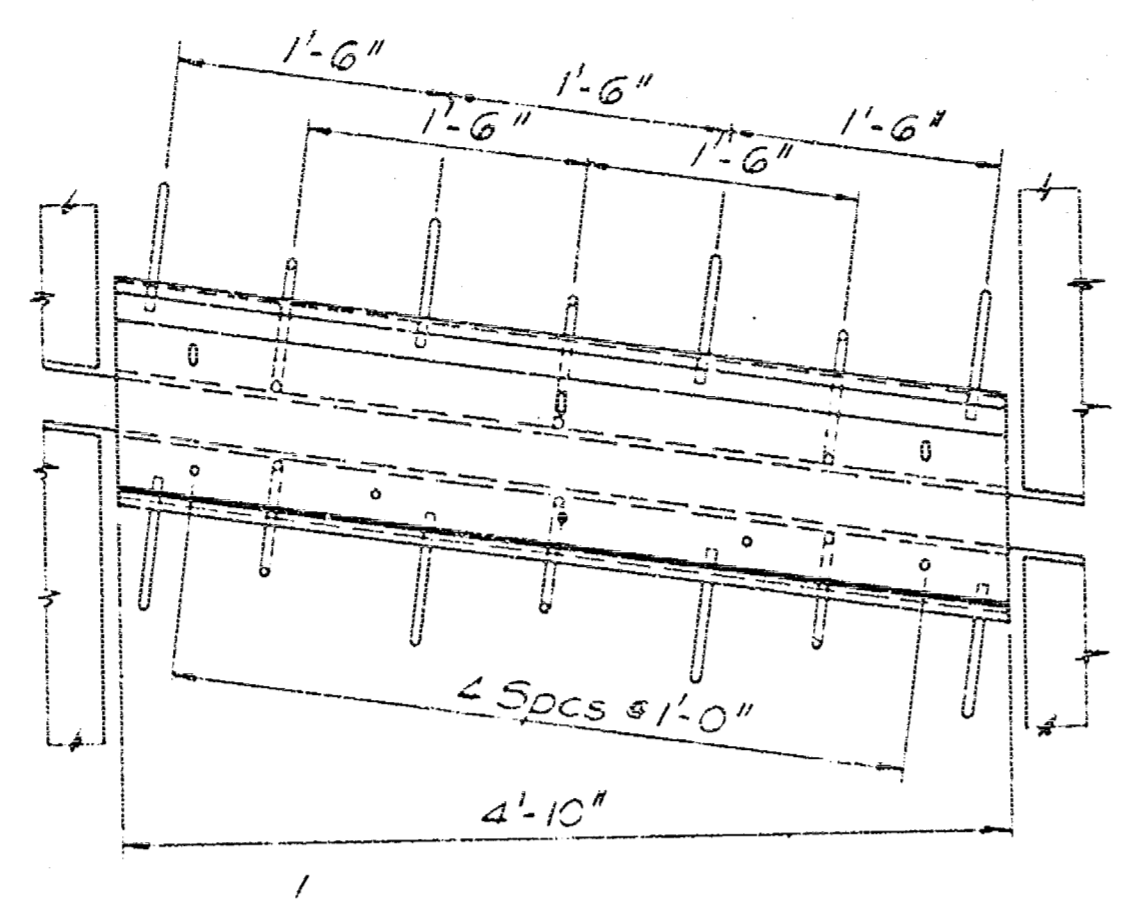
DATE December, 1968
SCALE
PAGE NO. 89-E-16

Temporary erection bolts $\frac{3}{8}$ " x $1\frac{1}{2}$ " Mach. Bolts with hex. heads & cut washers @ 2' ctrs. $\frac{1}{2}$ " x $1\frac{1}{2}$ " slots in 10 " x $\frac{3}{4}$ " @ $\frac{1}{2}$ " holes in 4 " x 6 " L. Weld nuts to 4 " x 6 " L.

$\frac{3}{8}$ " x 1 " Countersunk Mach. Bolts with hex. nuts @ $1'$ ctrs. $\frac{1}{2}$ " holes in 10 " x $\frac{3}{4}$ " @ $\frac{1}{2}$ " holes in 4 " x 6 " L. Weld nuts to 4 " x 6 " L.

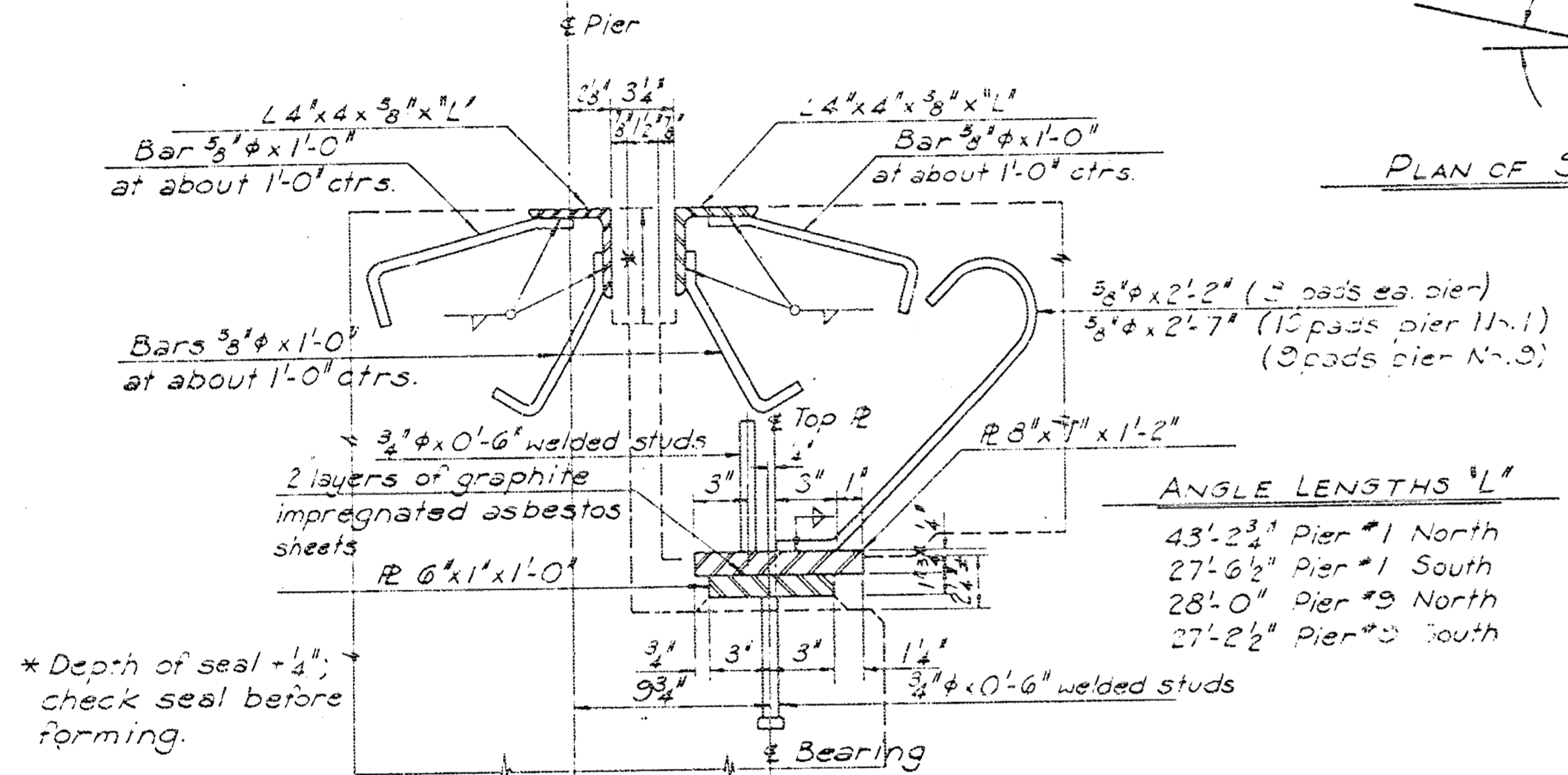


SECTION THRU SIDEWALK EXPANSION DEVICE



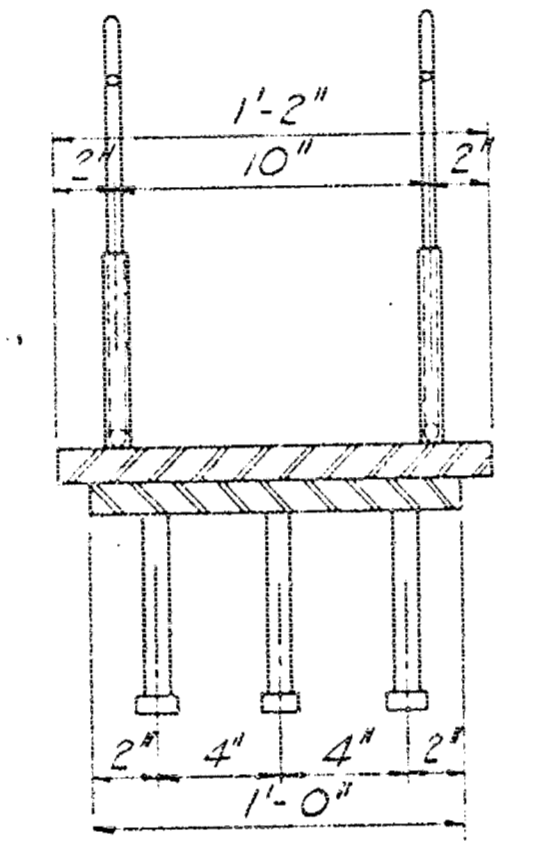
8:00' Rt Skew Two thus at Pier #9
 2:17' Lt Skew One thus at Pier #1 (North)
 11:51' Rt Skew One thus at Pier #1 (South)

PLAN OF SIDEWALK EXPANSION DEVICES



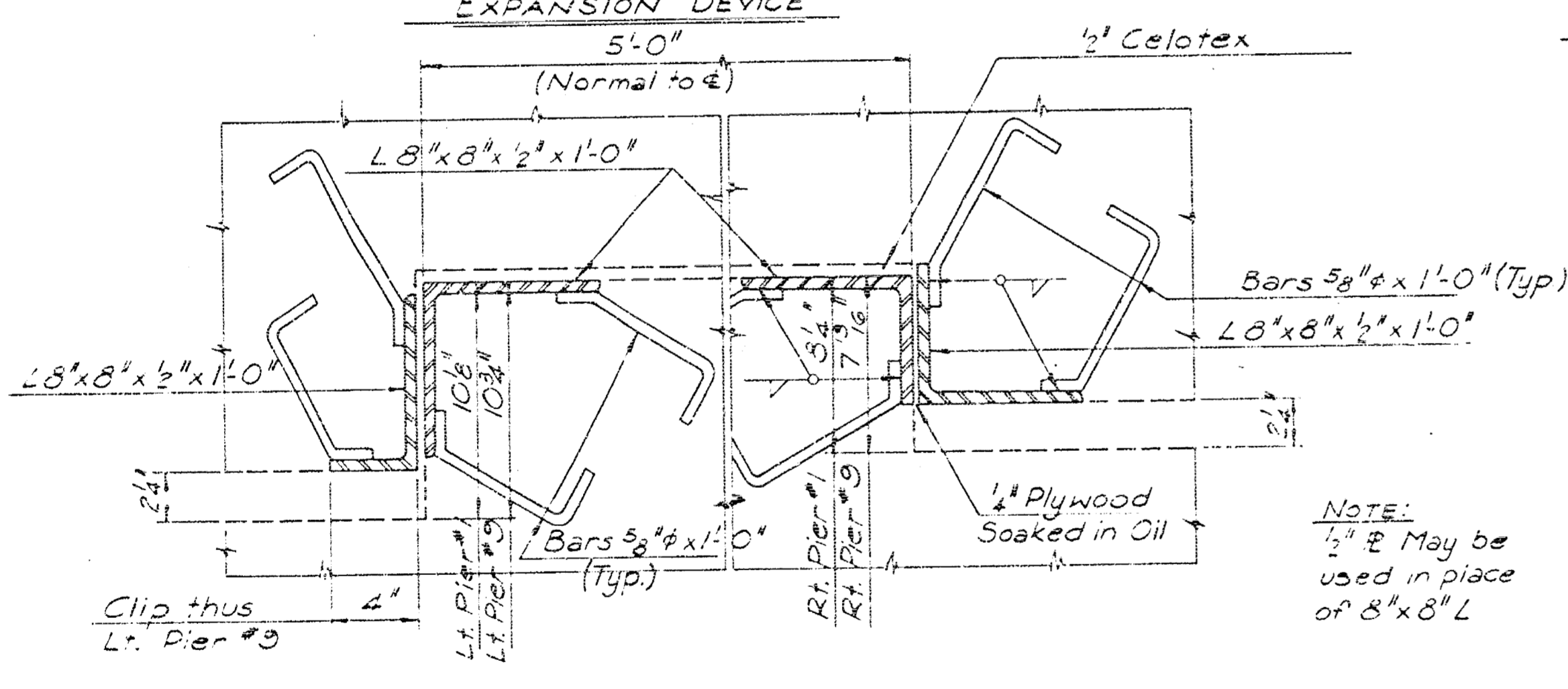
SECTION THRU ROADWAY EXPANSION DEVICE

ANGLE LENGTHS 'L'
 45:23' Pier #1 North
 27:62' Pier #1 South
 28:0' Pier #9 North
 27:22' Pier #9 South

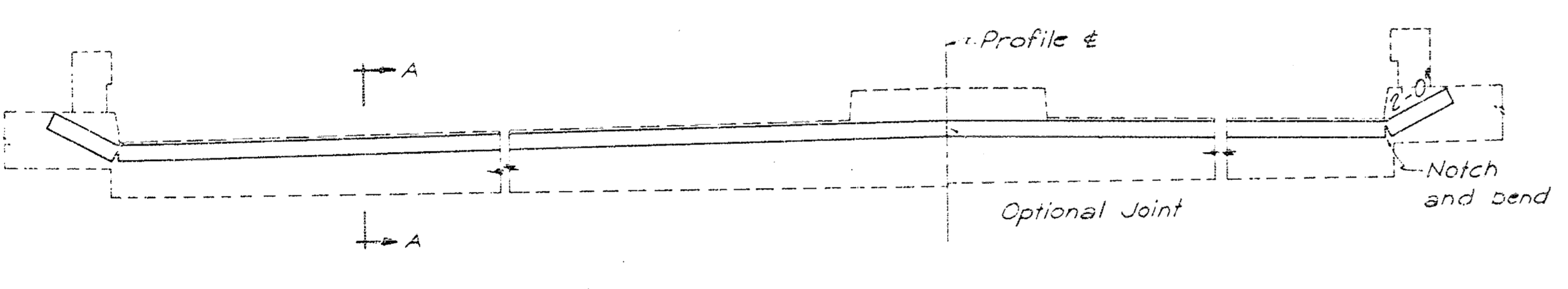


FRONT VIEW

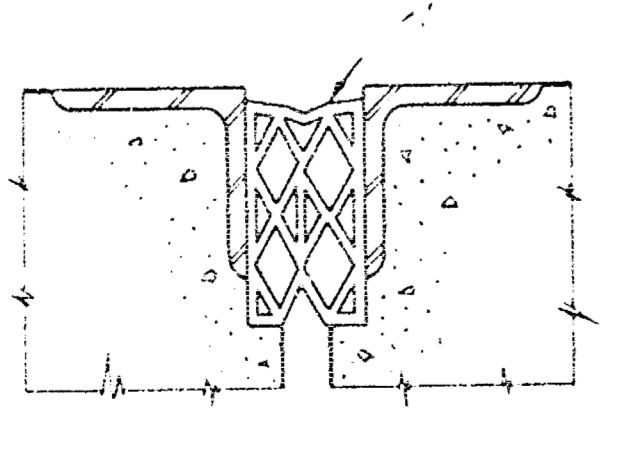
SIDE VIEW



SECTION THRU KEY

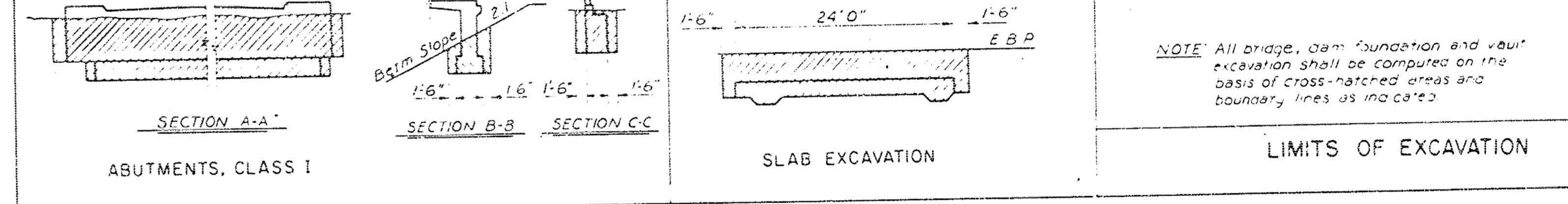
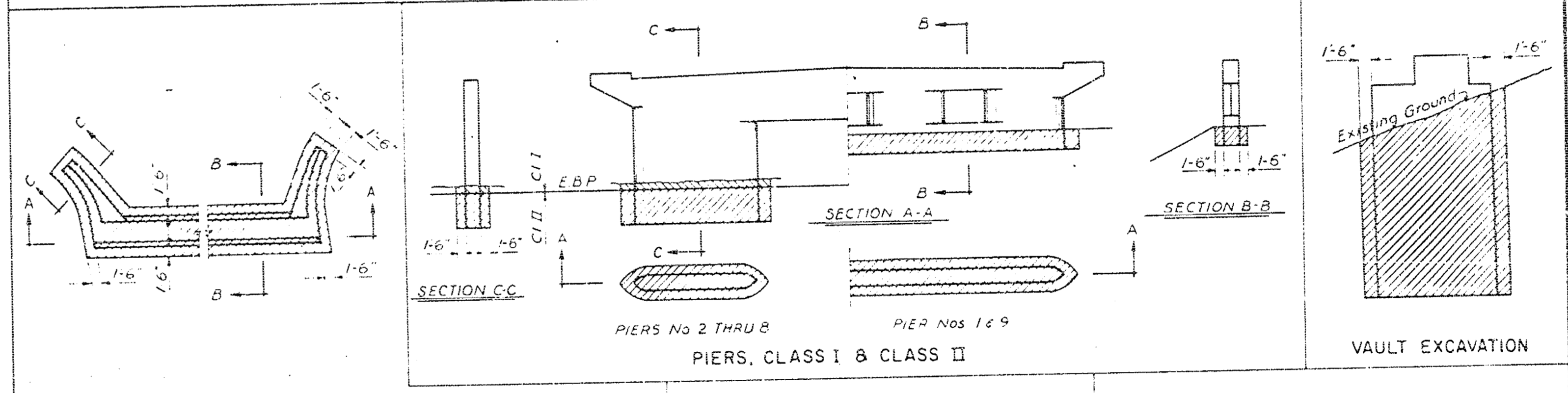
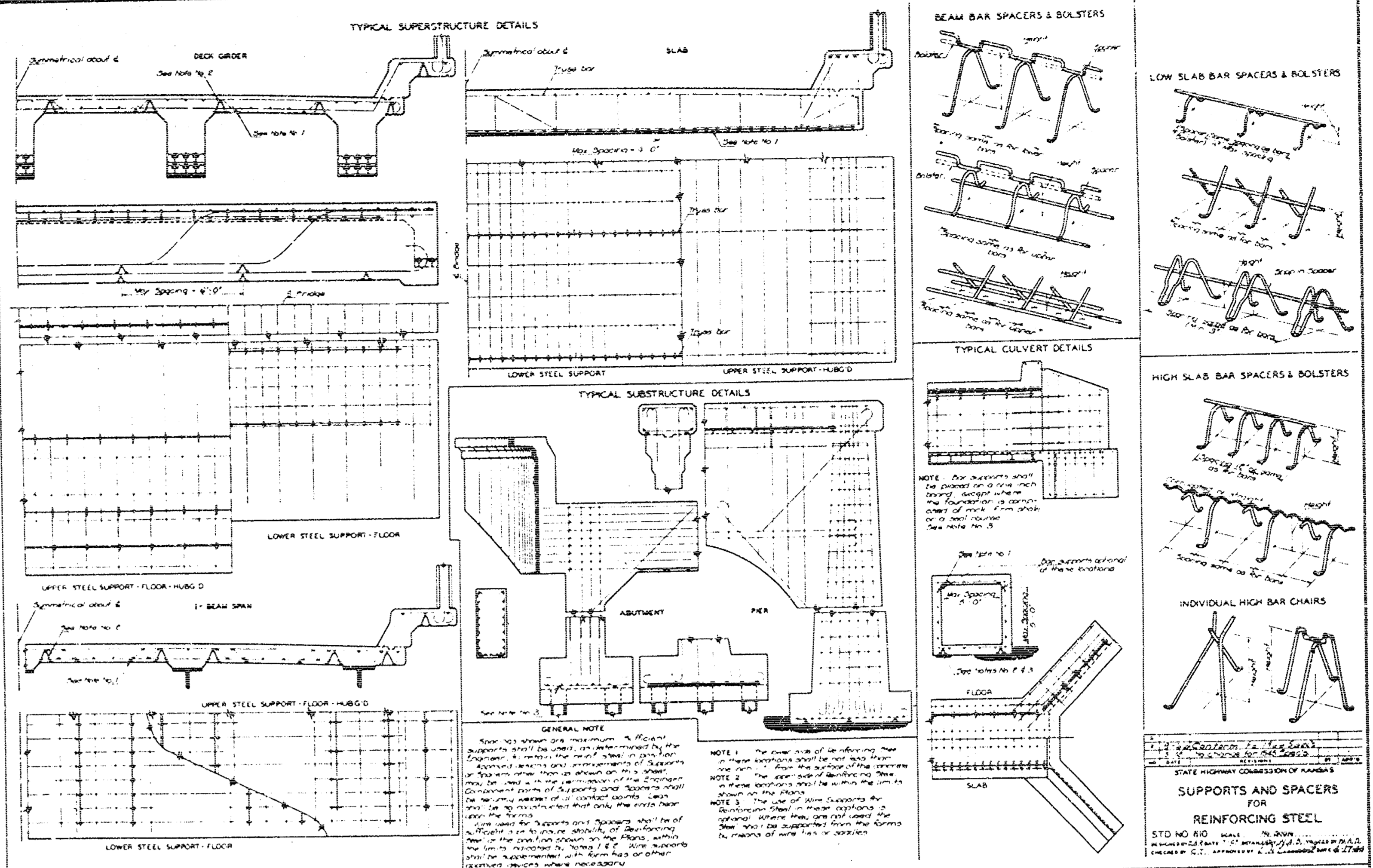


ROADWAY SECTION



SECTION A-A

-5' Acme Structural Joint Seal B-613
 Install with Acme 'E.R.' Prima-Lub adhesive.

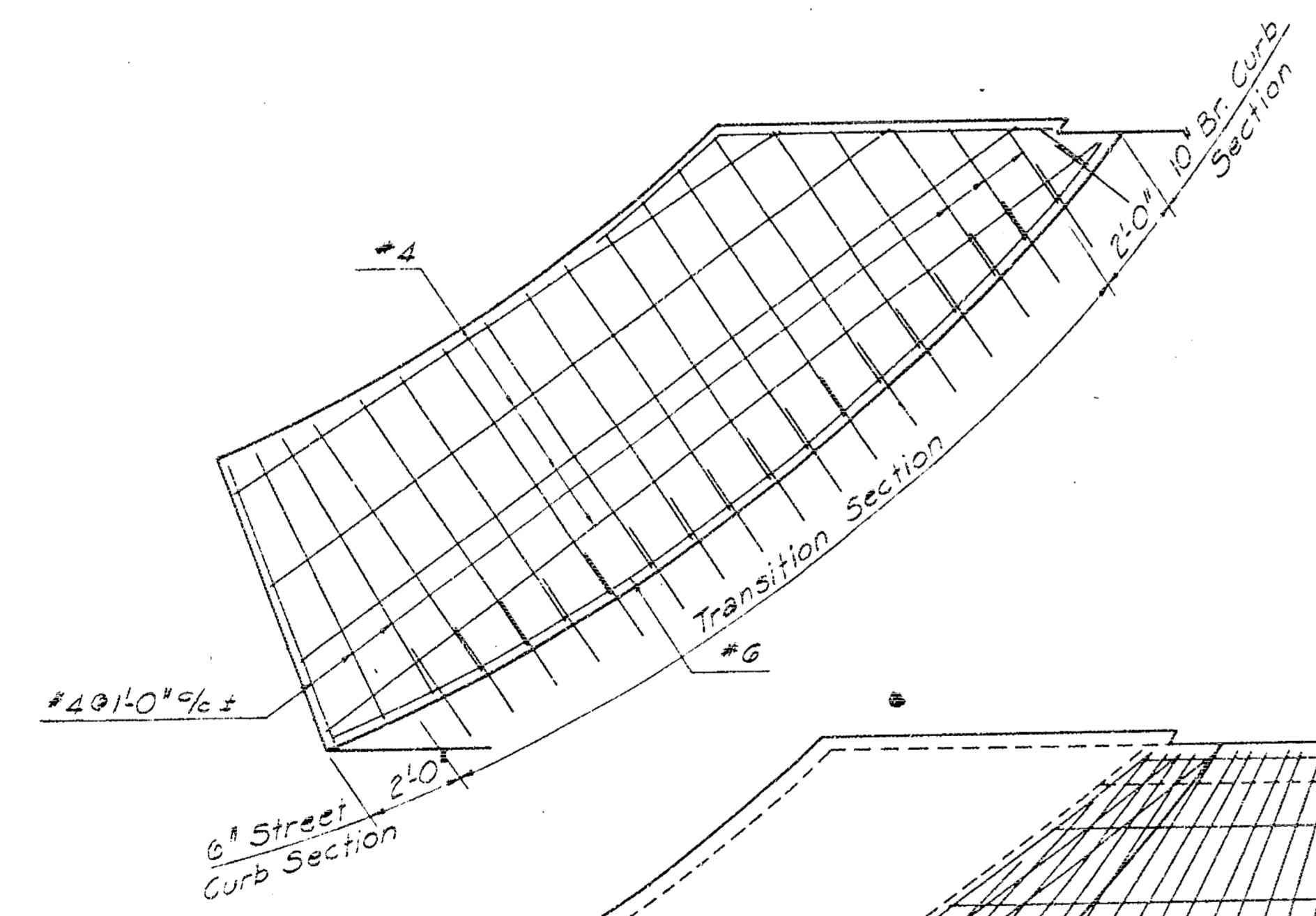
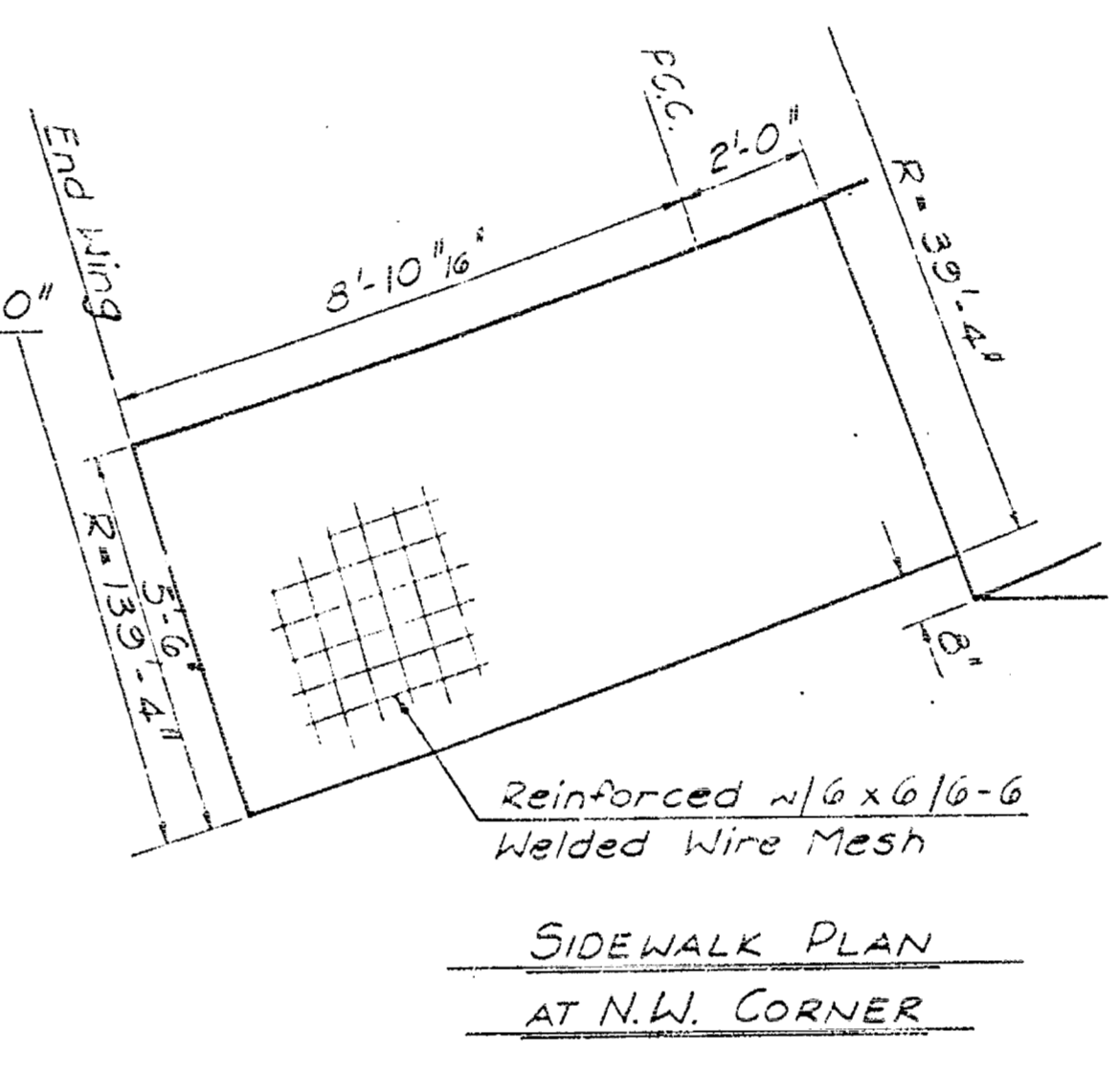
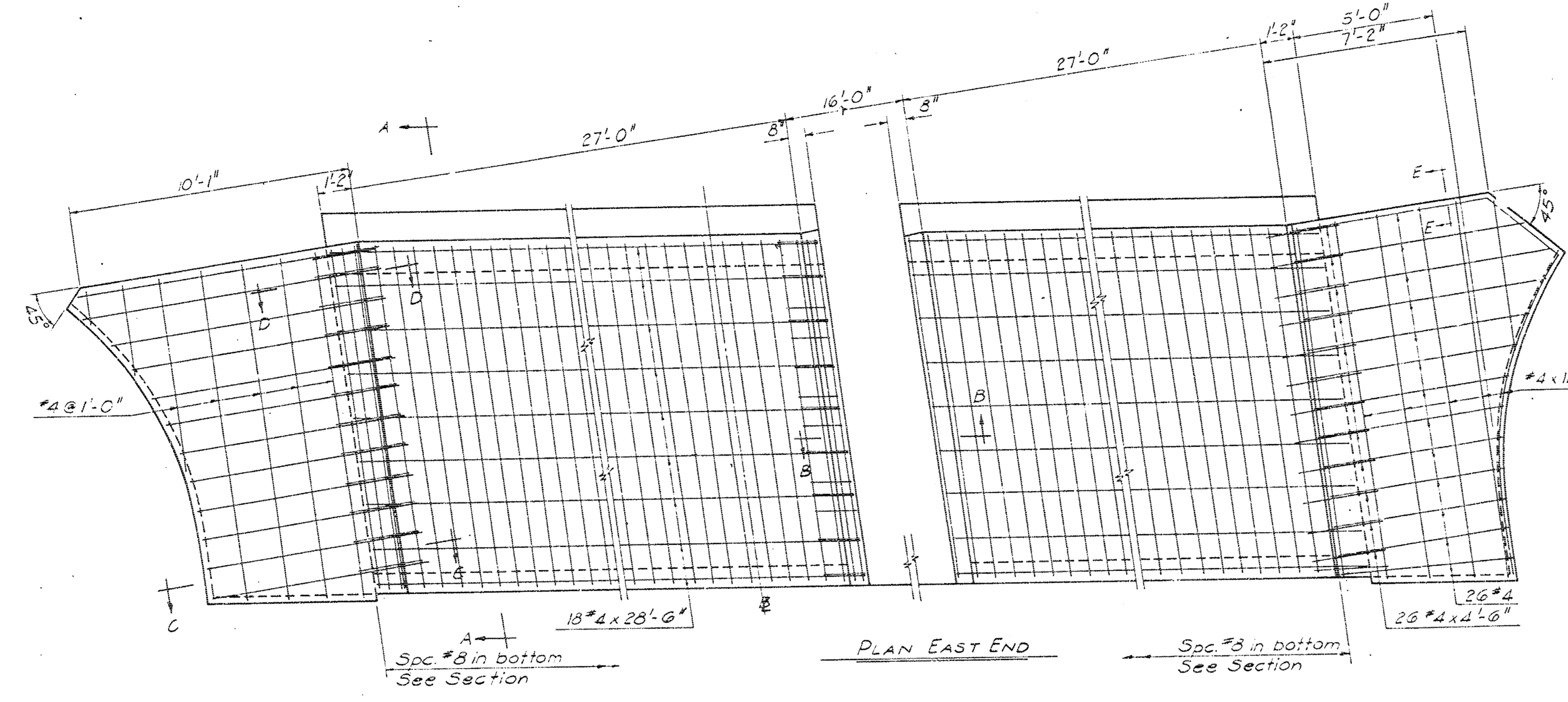
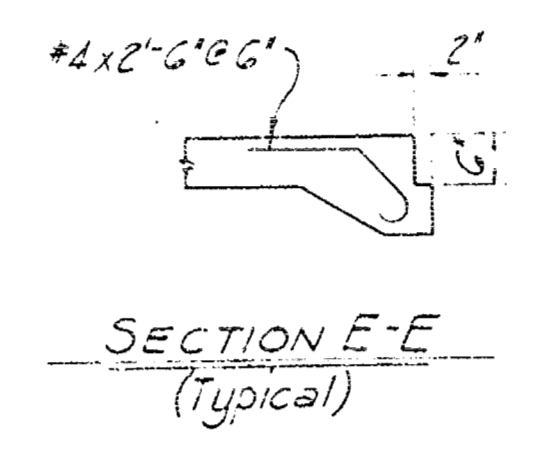
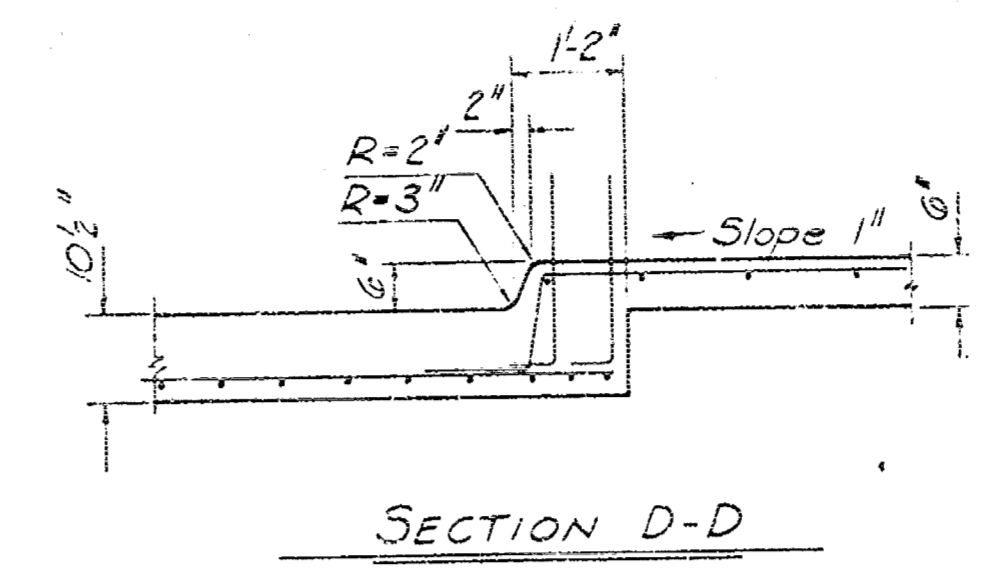
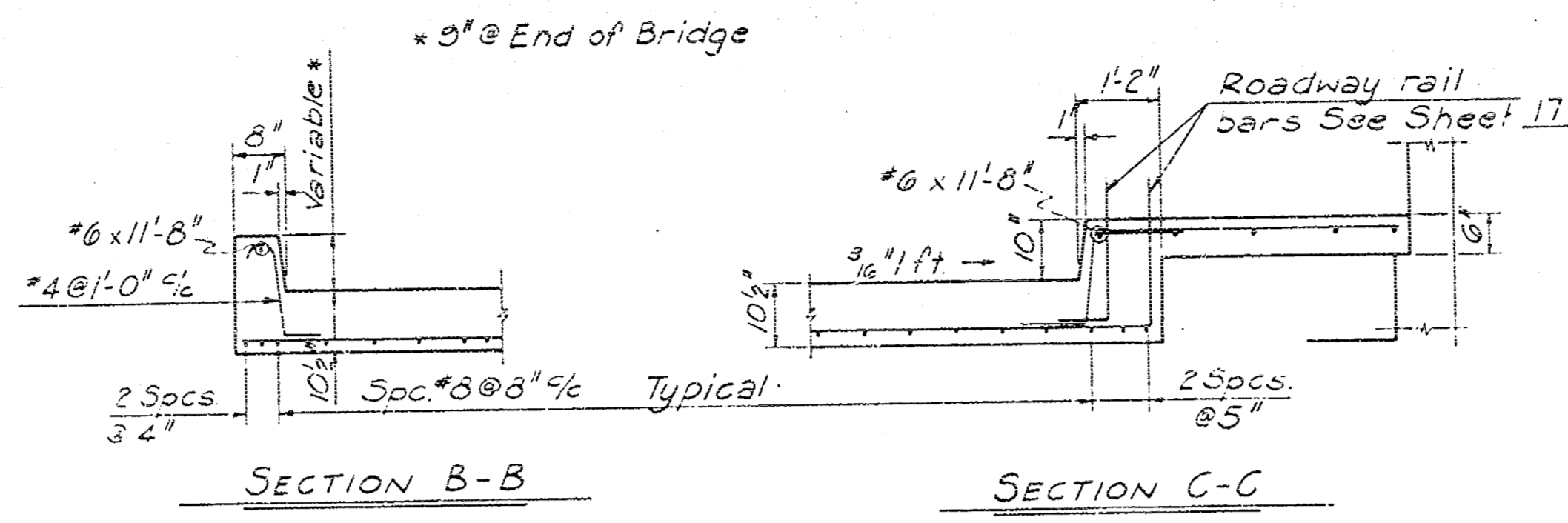
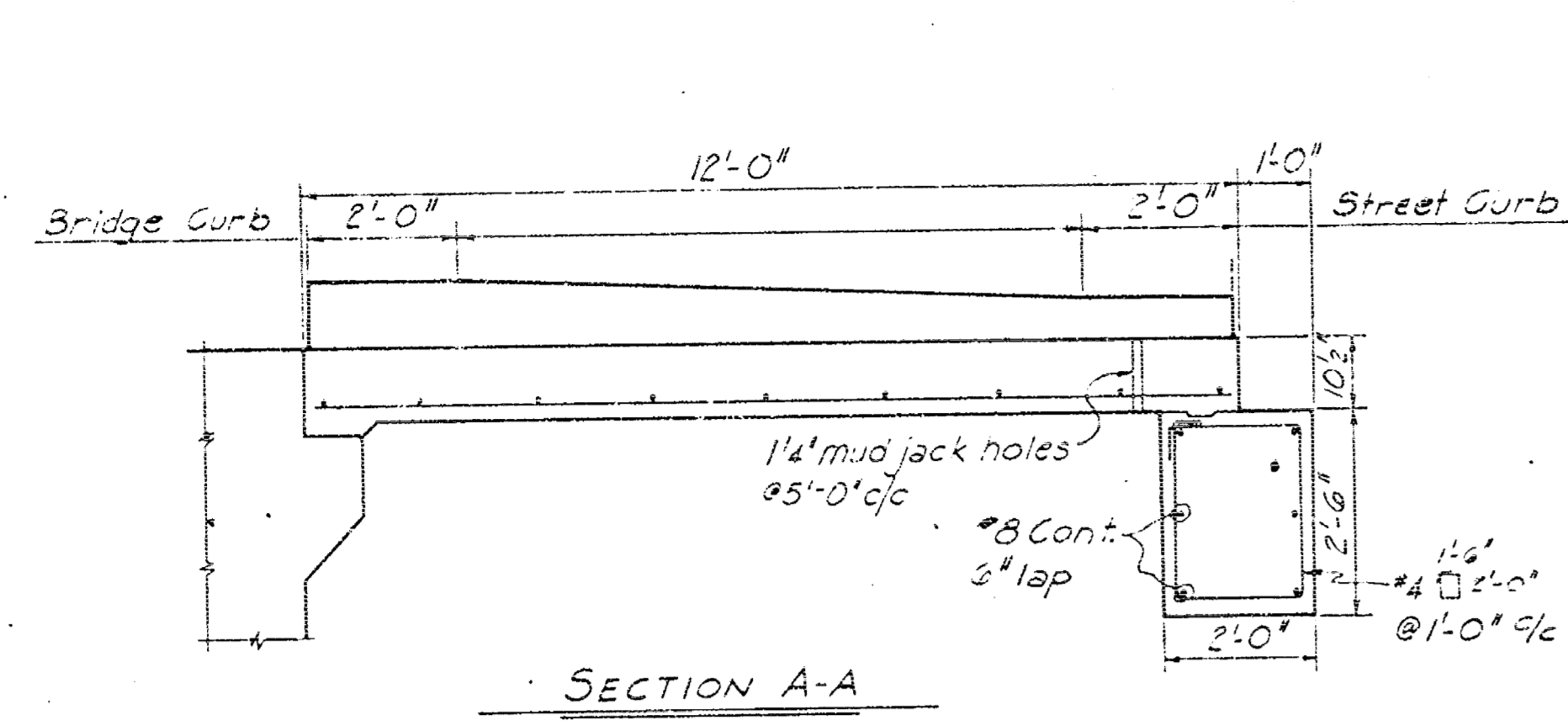


NOTE: All bridge, abutment and pier excavation shall be computed on the basis of cross-hatched areas and boundary lines as indicated.

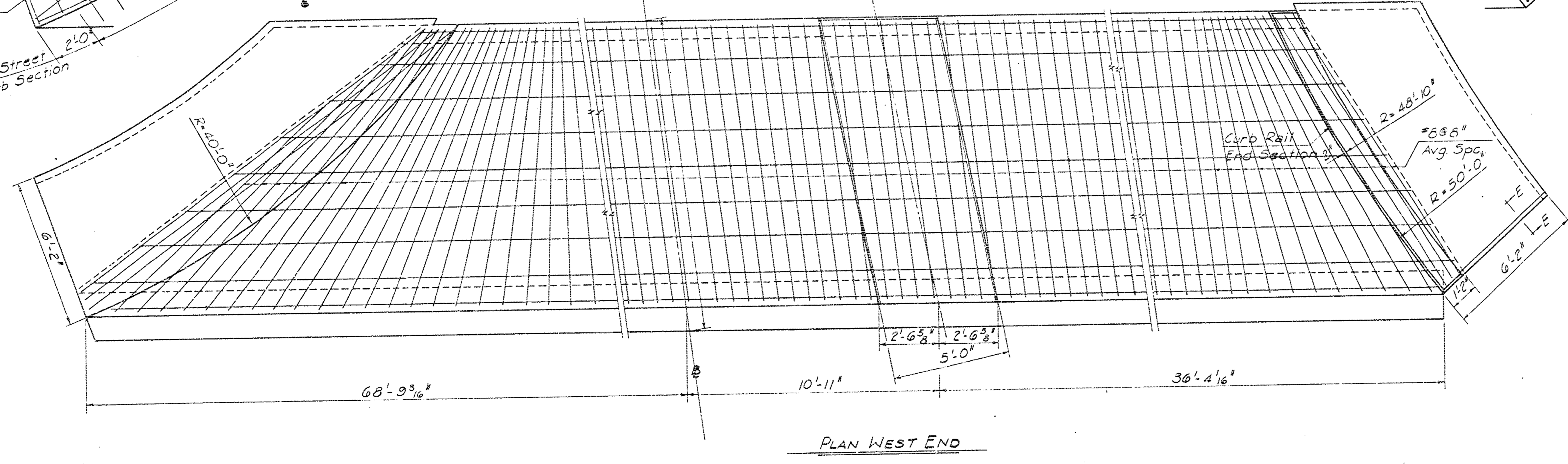
NOTE: All parts of expansion and bearing devices are included in the item of Structural Steel. See Sheet 7 for General Notes.

CITY OF WICHITA, KANSAS B. E. SMITH, CITY ENGINEER LINCOLN STREET BRIDGE AND DAM BIG ARKANSAS RIVER	
AUXILIARY DETAILS	
R. S. DELAMATER CONSULTING ENGINEER WICHITA, KANSAS	DATE: December, 1968 SCALE: _____ SHEET NO: 89-E-18

FEB 9 1971



NOTE: Reinforcing steel in raised median as per bridge median.



NOTE:
 All concrete shall be Class 44A.
 Estimated slab area includes area of curbs and walks.
 Estimated quantities in both slabs include:
 Concrete 178 Cu. Yds.
 Reinf. Steel 1,350 lbs.
 Cure all exposed surfaces with linseed oil emulsion as for bridge deck.

CITY OF WICHITA, KANSAS	
B. E. SMITH, CITY ENGINEER	
LINCOLN STREET BRIDGE AND DAM	
BIG ARKANSAS RIVER	
APPROACH SLABS	
R. S. DELAMATER	DRAWN December, 1968
CONSULTING ENGINEER	SCALE
WICHITA, KANSAS	89-E-20

FEB 5 1971

