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

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FLOOD CONTROL
OFFICE COPY
"AS-BUILT" PLANS

DEPARTMENT OF PUBLIC WORKS

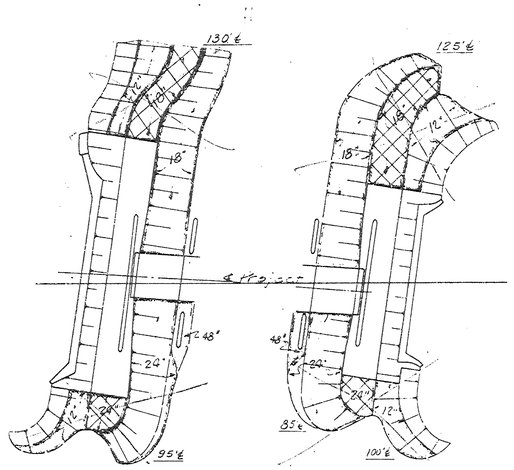
R. W. BRUGGEMAN, P.E. DIRECTOR OF PUBLIC WORKS

BILL E. SMITH, P.E. CITY ENGINEER

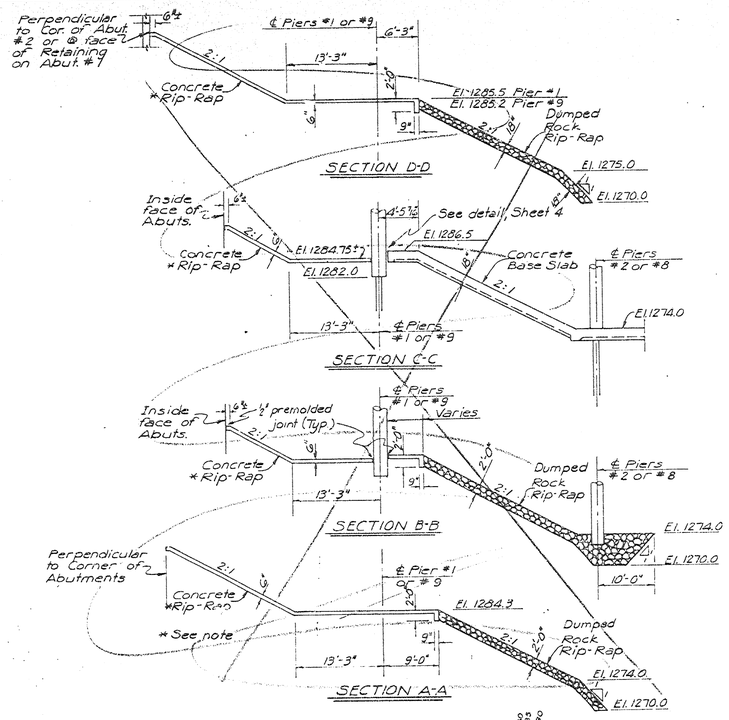
R. S. DELAMATER & ASSOCIATES, WICHITA, CONSULTING ENGINEERS

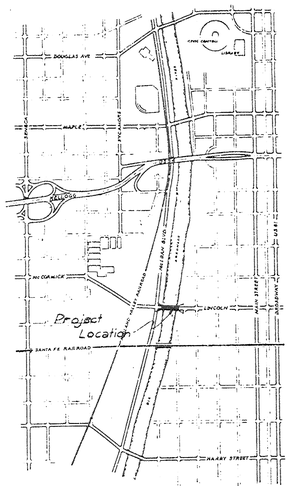
PROJECT C18-46 DECEMBER, 1968

Received FEB 8 1971

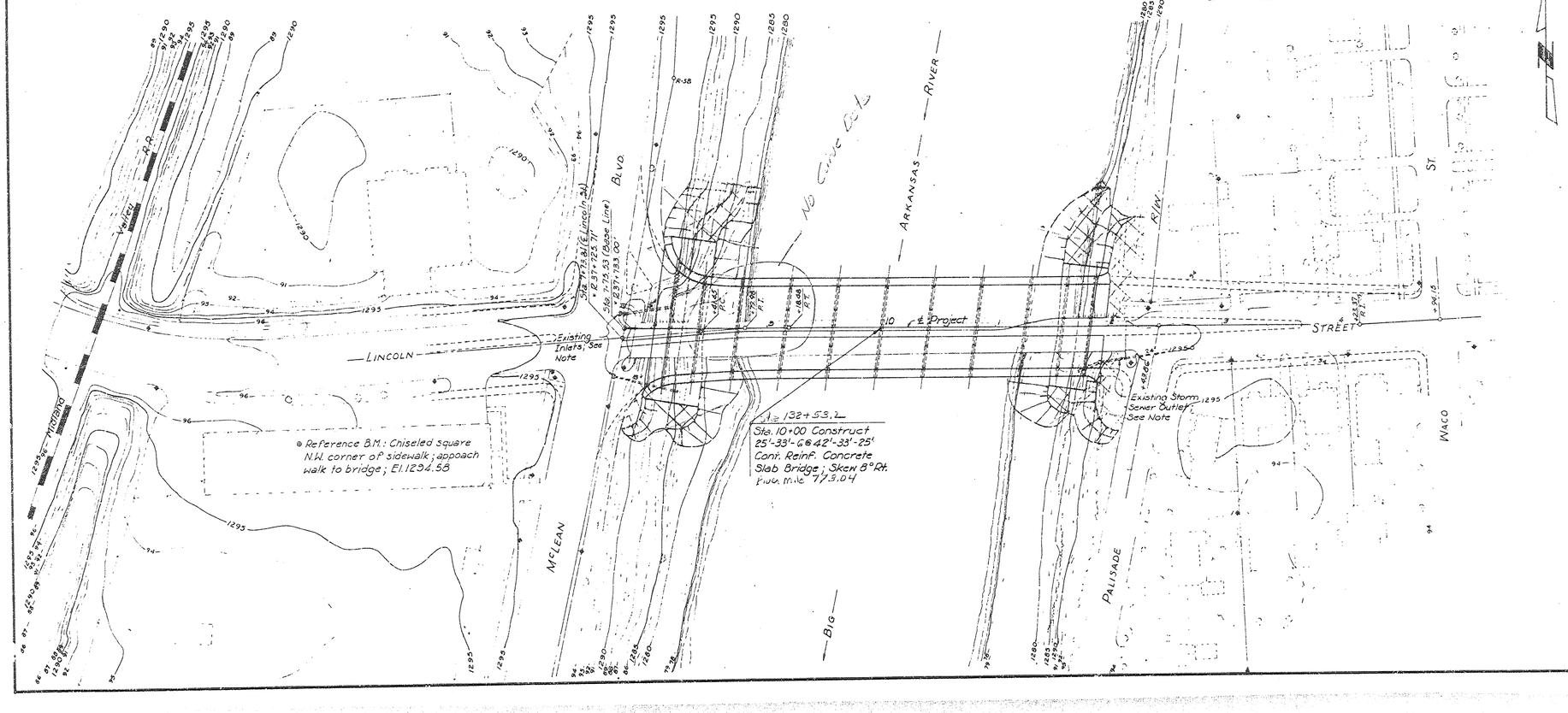


RIPRAP THICKNESS & LIMITS OF PROJECT GRADING





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, 6/6 mesh, with toewalls as indicated. Form or cut joints as indicated and at approximately 10' spacing elsewhere, with steel thru the joints.

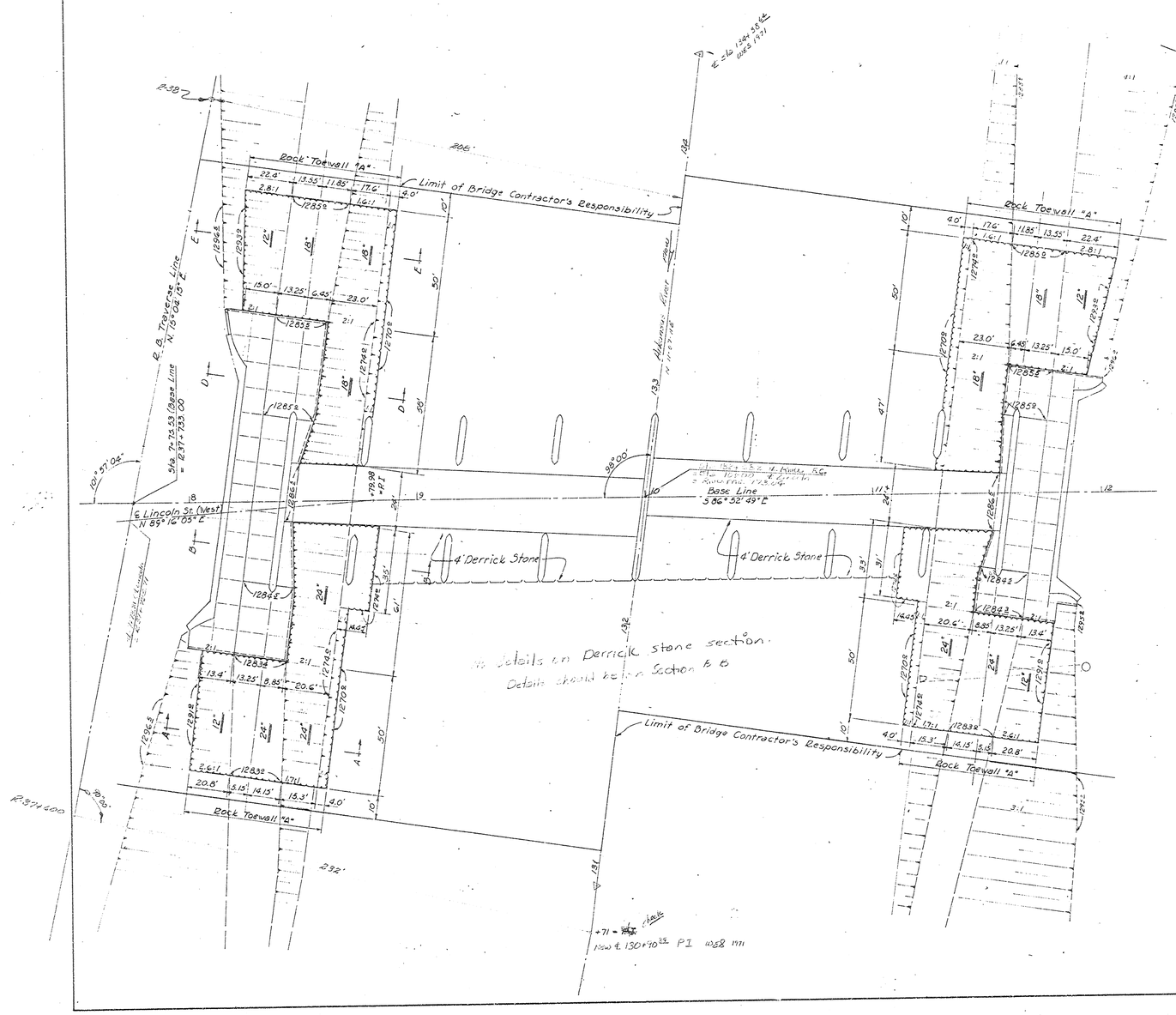
See Specifications for details of Dumped Rock Riprap.

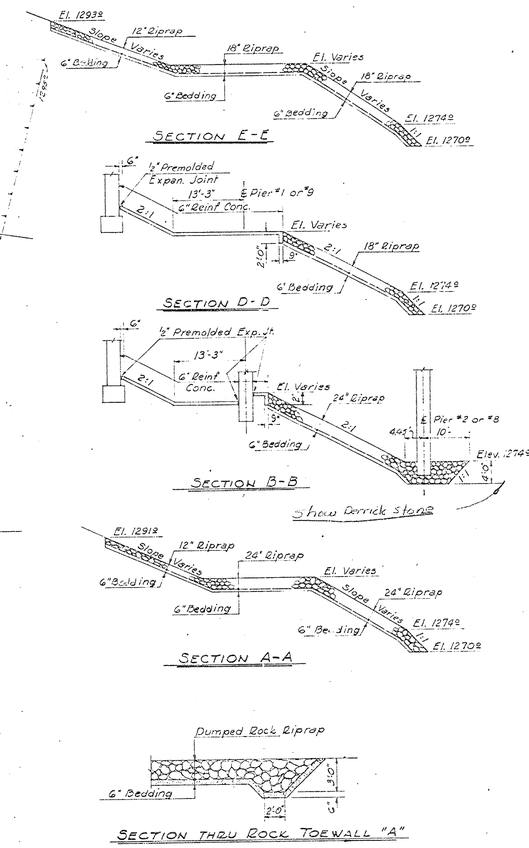
Provide temporary drainage, as noted in the specifications, from the three existing inlets and storm sewers shown.

Approved FEB 9 1971

See Sheet No. 2-A 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 CONSULTING ENGINEER WICHITA KANSAS	DATE December, 1968 SCALE 1"=40' DWG. NO. 89-E-2





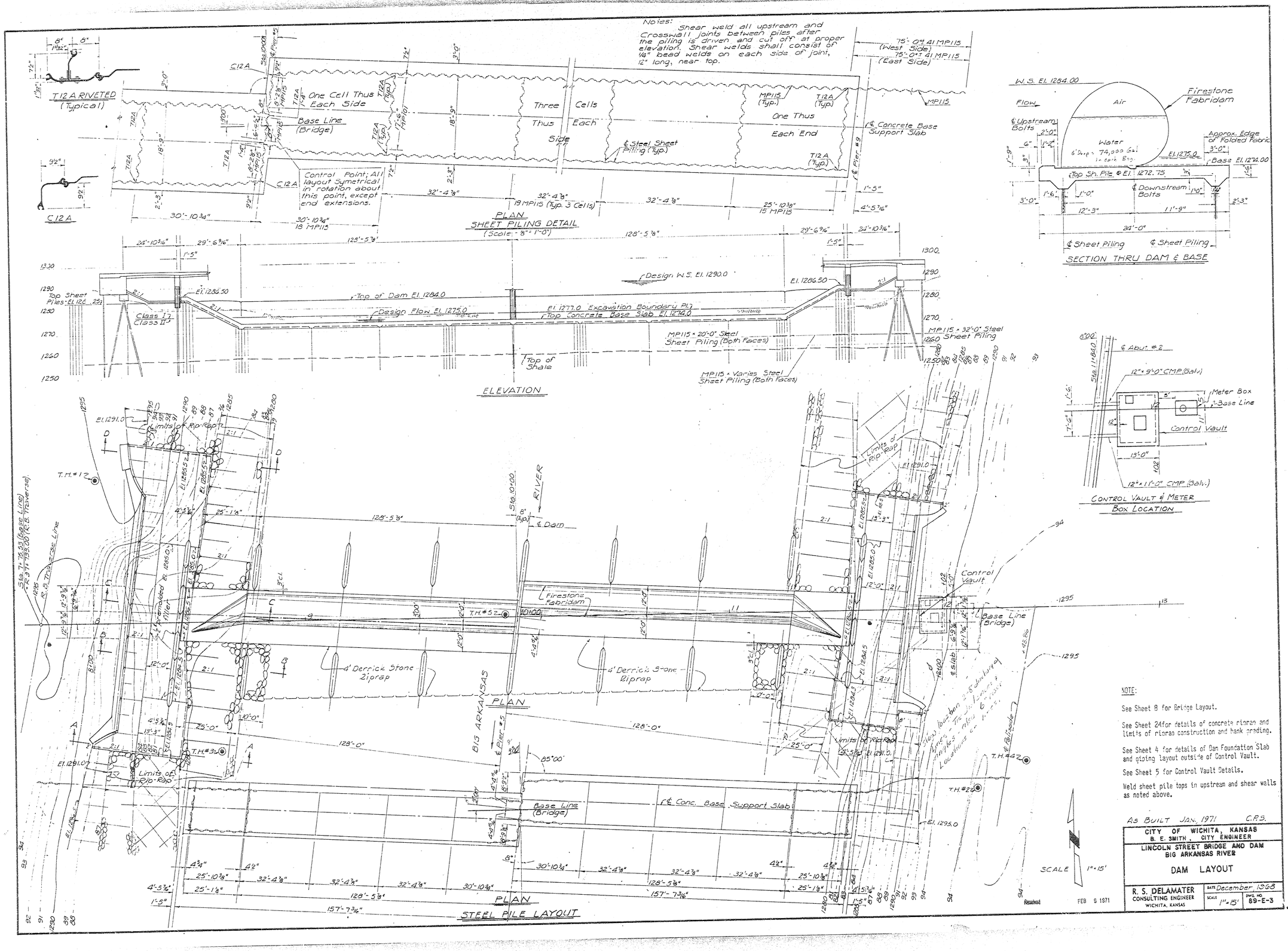
NOTES

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 B. 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 1969 SCALE —— DWG. NO. 89-E-2A

Notes:
Shear weld all upstream and Crosswall joints between piles after the piling is driven and cut off at proper elevation. Shear welds shall consist of 1/4" head welds on each side of joint, 12" long, near top.



NOTE:

See Sheet 8 for Bridge Layout.

See Sheet 24 for details of concrete riprap and limits of riprap construction and bank grading.

See Sheet 4 for details of Dam Foundation Slab and gtoing layout outside of Control Vault.

See Sheet 5 for Control Vault Details.

Weld sheet pile tops in upstream and shear walls as noted above.

As Built Jan. 1971 C.P.S.

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

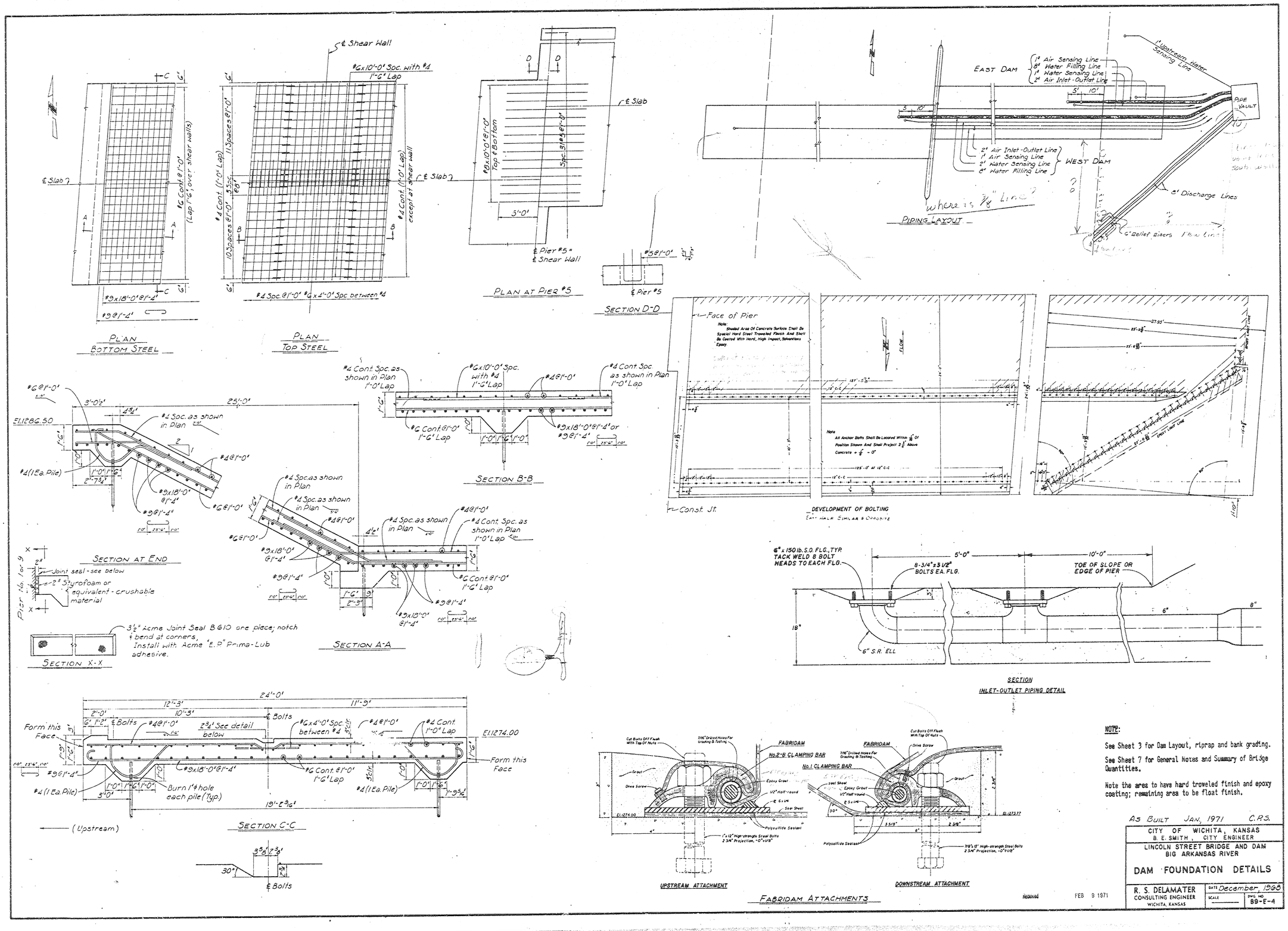
LINCOLN STREET BRIDGE AND DAM
BIG ARKANSAS RIVER

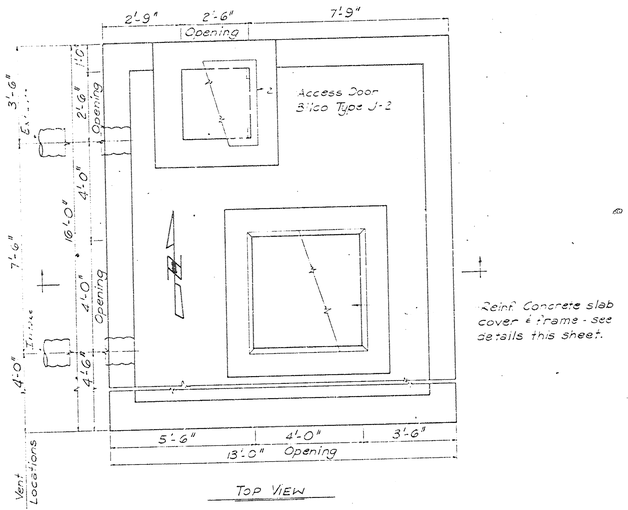
DAM LAYOUT

R. S. DELAMATER
CONSULTING ENGINEER
WICHITA, KANSAS

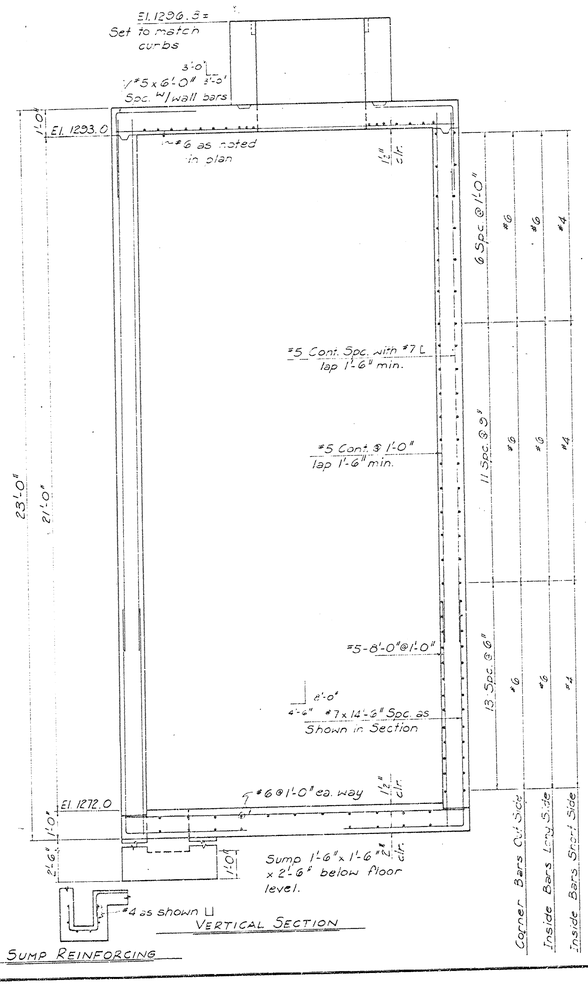
DATE December, 1968
SCALE 1" = 15'
DWG. NO. 89-E-3

Received FEB 5 1971


PLAN BOTTOM STEEL
PLAN TOP STEEL
PLAN AT PIER #5
SECTION D-D
PIPING LAYOUT
EAST DAM
WEST DAM
PIPE VAULT
SECTION B-B
SECTION AT END
SECTION A-A
SECTION X-X
SECTION C-C
DEVELOPMENT OF BOLTING
SECTION
INLET-OUTLET PIPING DETAIL
UPSTREAM ATTACHMENT
DOWNSTREAM ATTACHMENT
FABRIDAM ATTACHMENTS
NOTE:
See Sheet 3 for Dam Layout, riprap and bank grading.
See Sheet 7 for General Notes and Summary of Bridge Quantities.
Note the area to have hard troweled finish and epoxy coating; remaining area to be float finish.
AS BUILT JAN, 1971 C.R.S.
CITY OF WICHITA, KANSAS
B. E. SMITH, CITY ENGINEER
LINCOLN STREET BRIDGE AND DAM
BIG ARKANSAS RIVER
DAM FOUNDATION DETAILS
R. S. DELAMATER
CONSULTING ENGINEER
WICHITA, KANSAS
DATE December, 1968
SCALE
DWG. NO. 89-E-4
RECEIVED FEB 9 1971

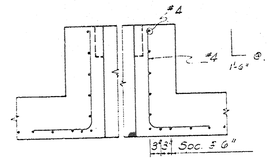


TOP VIEW

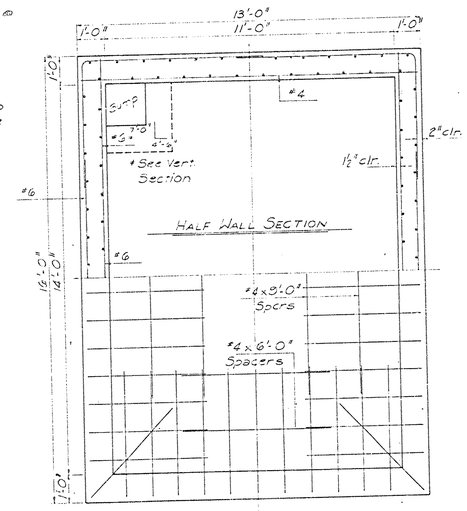


VERTICAL SECTION

SUMP REINFORCING

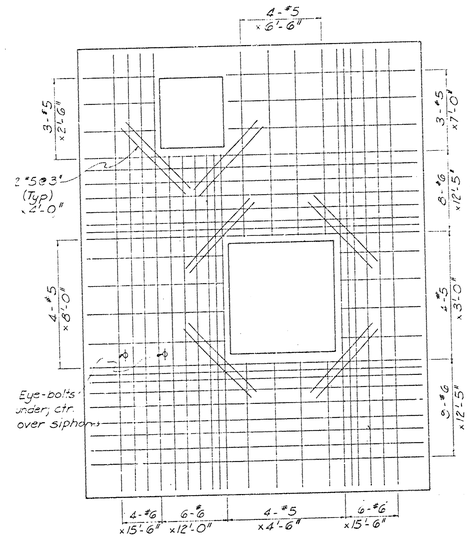


TYPICAL REINFORCING
EACH FACE EACH SHAFT

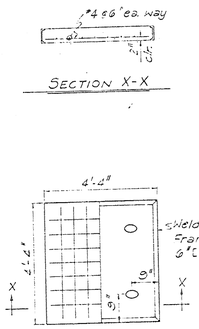


HALF WALL SECTION

HALF FLOOR PLAN
Steel in Bottom Face
Steel in top face - see Vert Section

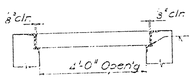


TOP REINFORCING

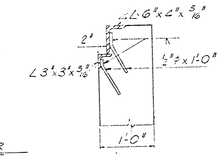


SECTION X-X

CONCRETE COVER DETAIL



SECTION THRU CONCRETE COVER AND FRAME

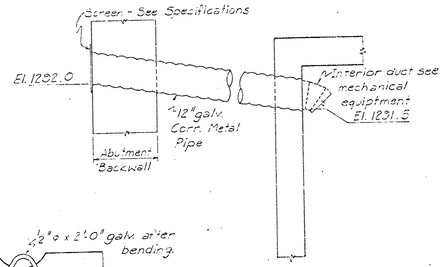


FRAME DETAIL

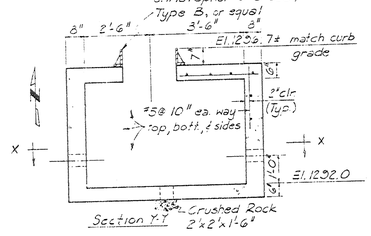
½" ø x 2'-0" galv. after bending.

FOUR LIFTING LOOPS THUS

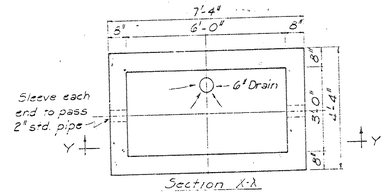
NOTE: Cover frames and shaft frames - fit in the shop to proper clearance before galvanizing.



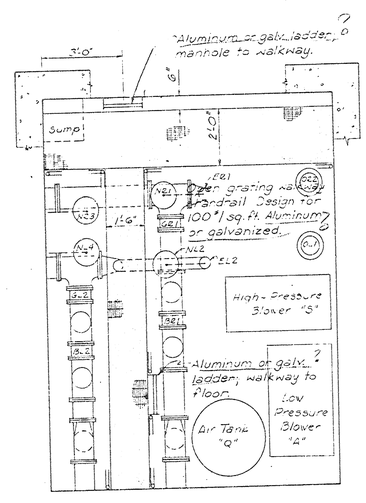
VENT DETAIL



Section Y-Y



Section X-X
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.

Received FEB 9 1971

CITY OF WICHITA, KANSAS B. 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 89-E-5

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 BASE-BELT DRIVE-DRIVE GUARDS AND ADJUSTABLE WEIGHTED PRESSURE RELIEF VALVE
B	CRANE MONARCH BUTTERFLY VALVE - WITH AIR OPERATING CYLINDER
C	PLASTO-MATIC VALVE - SERIES EE - NORMALLY CLOSED 2"
D	PLASTO-MATIC VALVE - SERIES EE - STANDARD 2"
E	BAILEY FLOAT VALVE NO 27 P.P 2"
F	VICTAULIC BUTTERFLY VALVE 4"
G	CRANE MONARCH BUTTERFLY VALVE 8"
H	ASCO SOLENOID VALVE 1" - CAT NO.8030D10 2 WAY VALVE NORMALLY CLOSED
I	GLOBE VALVE 1"
J	CLIPPARD MINIMATIC CONTROL VALVES MODEL MJV-3
K	SMITH BLAIR COUPLINGS MODEL NO 435 6"X8"
L	DRESSER COUPLINGS STYLE NO 3/4"X1 1/4"
M	MAGNETHOL WATER LEVEL CONTROL - MODEL NO 27
N	GALVANIZED FLOAT TANK 12" DIA X 5'-0" LONG
O	EMERGENCY AIR BLOWOFF TANK LOWER 8"X11'-0" - UPPER 12"X 3'-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 3HB - 1 1/4" INLET-OUTLET - 1670 R.P.M 14 C.F.M AT 10.1 P.S.I 3 H.P. WITH BASE BELT DRIVE DRIVE GUARDS AND ADJUSTABLE WEIGHTED PRESSURE RELIEF VALVE
T	SINGLE STAGE ELECTRIC AIR COMPRESSOR 1/4 H.P - 2 CYL., 2.1 C.F.M 150 P.S.I CUTOUT PRESSURE MAY BE LOCATED WITH AIR OR WATER SYSTEM
U	ASCO 3 WAY SOLENOID VALVE 1/4" CAT NO 8317C3 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	APCO DRAIN VALVE 3/4" NO. 65, 3/16" DRAIN OPENING

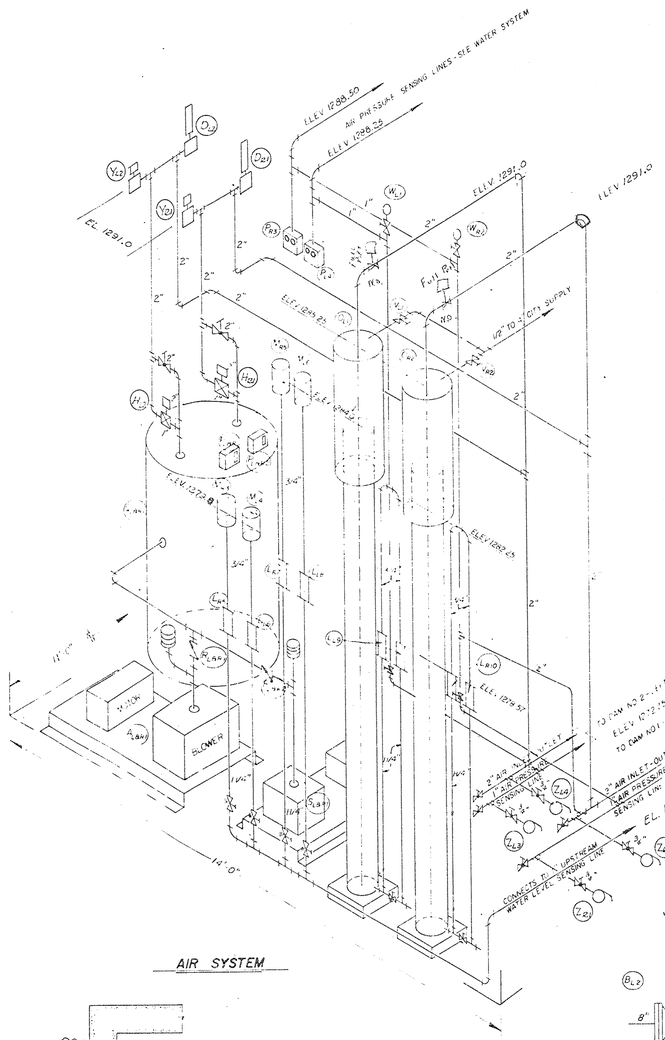
P.C BALL VALVE 1" & 2"

OHIO BRASS GLOBE VALVE

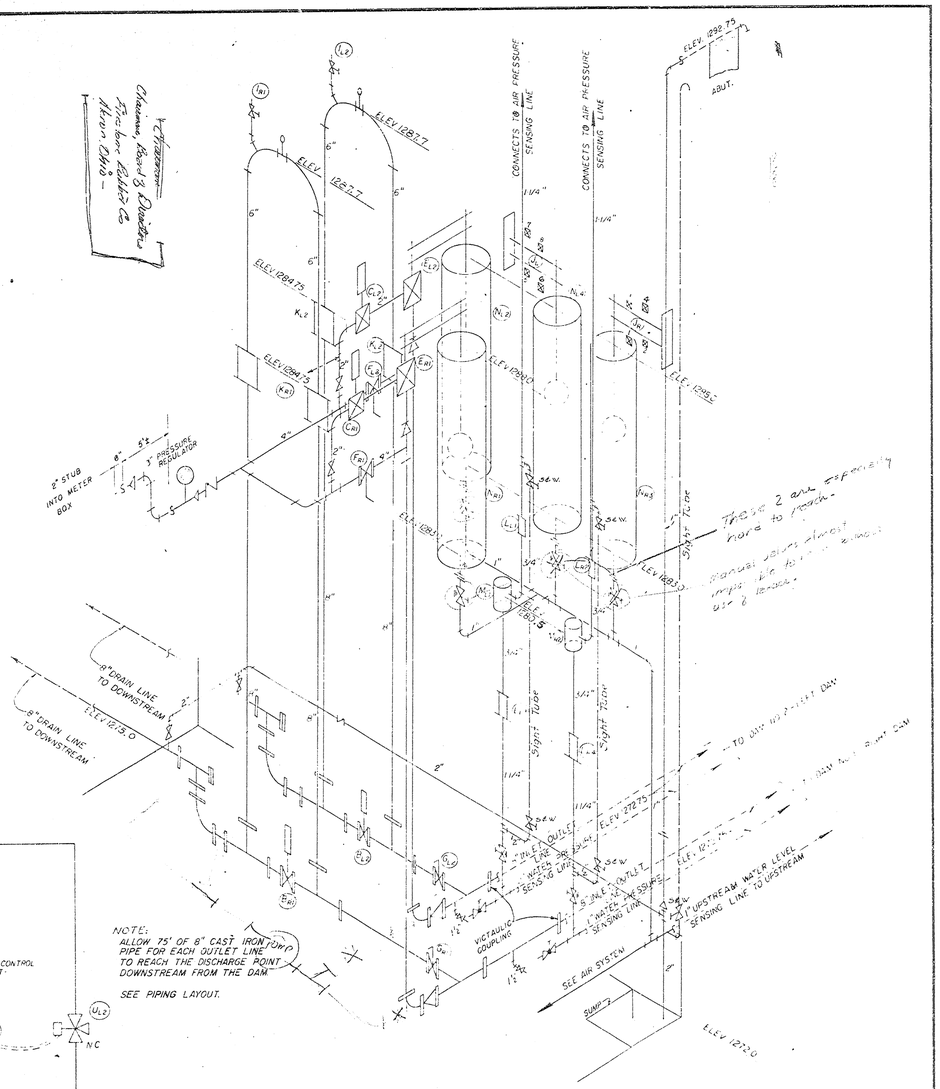
L-R DESIGNATES EITHER LEFT OR RIGHT DAM, FACING UPSTREAM

1,2,3 ETC DESIGNATES THE NO. OF THE PIECE OF EQUIPMENT

SUM PUMP NOT SHOWN



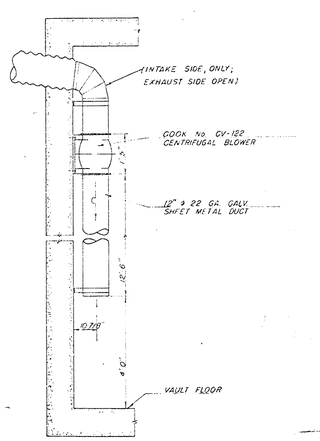
AIR SYSTEM



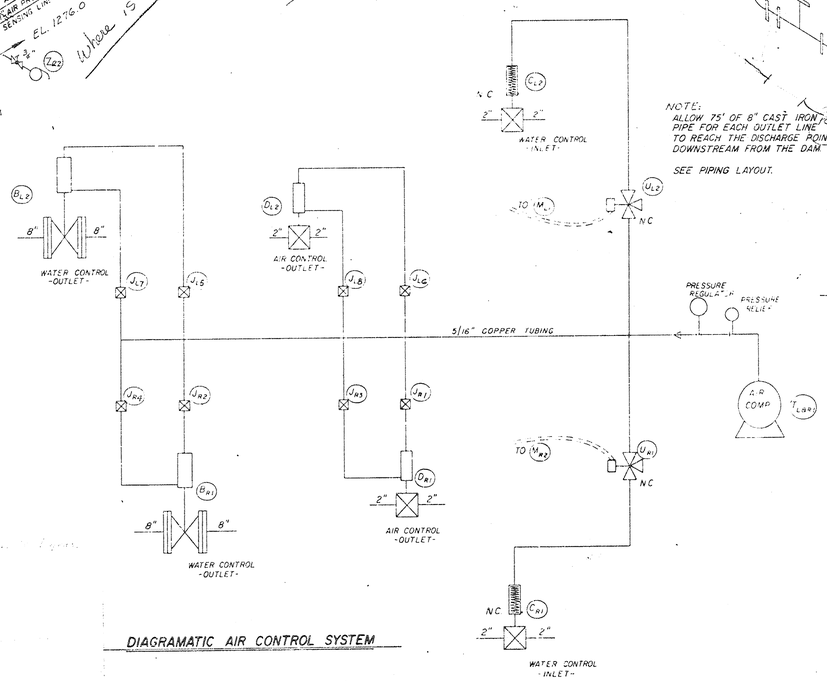
NOTE:
ALLOW 75' OF 8" CAST IRON PIPE FOR EACH OUTLET LINE TO REACH THE DISCHARGE POINT DOWNSTREAM FROM THE DAM

SEE PIPING LAYOUT.

WATER SYSTEM



DETAILS OF VENTILATOR INTAKE BLOWER



DIAGRAMATIC AIR CONTROL SYSTEM

NOTE:

See Sheet 5 for Vault and Meter Box details.

See Sheet 6 for further details of mechanical units.

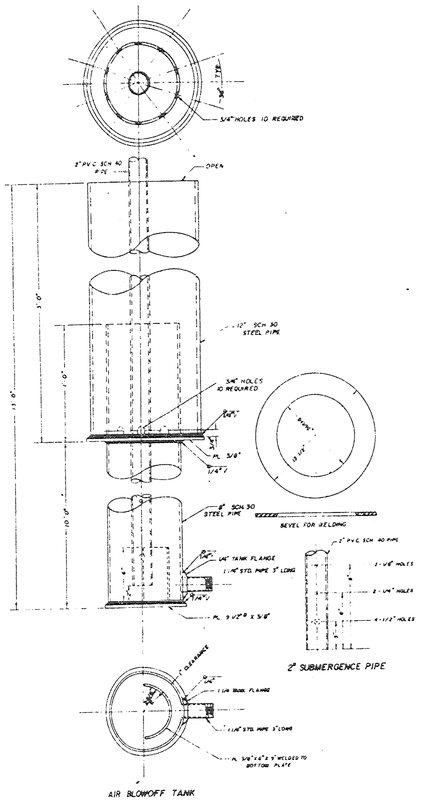
Water meter setting and connection will be done by others.

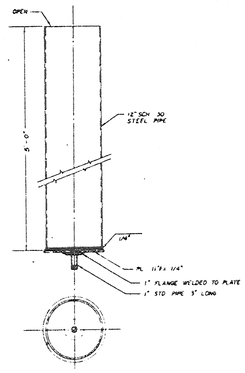
Piping layout is diagramatic, only, and subject to such shifting and detailed arrangement as required to provide adequate clearances within the vault and to align most efficiently with piping runs to and from outside the vault.

AS BUILT JAN. 1971 C.P.S.

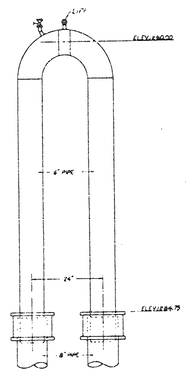
CITY OF WICHITA, KANSAS B. E. SMITH, CITY ENGINEER	
LINCOLN STREET BRIDGE AND DAM BIG ARKANSAS RIVER	
PIPING & CONTROLS	
R. S. DELAMATER CONSULTING ENGINEER WICHITA, KANSAS	DATE December 1968 SCALE —— DWG. NO. 89-E-6

FEB 9 1971

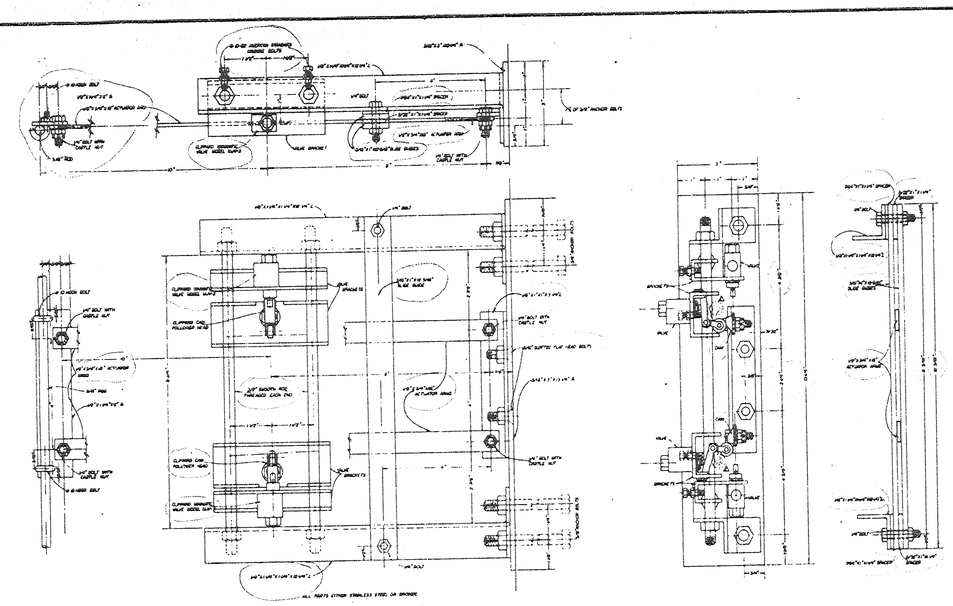




FLOAT TANK

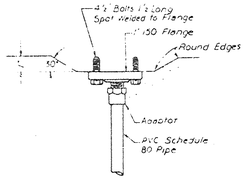


TOP PORTION OF SIPHON

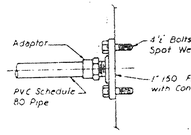


CONTROL VALVE ASSEMBLY

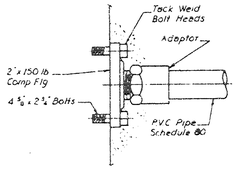
CAN NOT READ DIMENSIONS



1" BOTTOM & SLOPE CONNECTION



1" PIER CONNECTION



2" PIER CONNECTION

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	Lin. Ft.
Class AAA Concrete	305.8	Cu. Yds.
Reinforcing Steel	66,000	Lbs.
Anchor Bolts (680 bolts)	L.S.	L.S.
Fabridams Complete	L.S.	L.S.
Steel Sheet Piling (MP115)	10,027.5	Lin. Ft.

* SUMMARY OF CONTROL VAULT QUANTITIES		
Item	Quantity	Unit
Vault Excavation	190	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 Class I Cu. Yds.	Excavation Class II Cu. Yds.	Concrete Class A Cu. Yds.	Concrete Class AAA Cu. Yds.	Steel Reinf. Lbs.	Steel Struct. Lbs.	10" Steel Piles Lin. Ft.	12" Steel Piles Lin. Ft.	Bridge Handrail Lin. Ft.	Lights Under Br. L.S.	T. & S. L. Conduits L.S.	Approach Slabs Sq. Yds.	
Abutment #1	196	—	—	280.5	55,480	—	569.2	—	—	—	—	—	
Pier #1	34	—	76.7	—	12,240	—	—	584.7	—	—	—	—	
Pier #2	—	45	108.8	—	16,540	—	—	531.5	—	—	—	—	
Pier #3	—	45	109.1	—	16,300	—	—	541.5	—	—	—	—	
Pier #4	—	45	109.6	—	16,500	—	—	521.8	—	—	—	—	
Pier #5	—	40	146.3	—	17,380	—	—	477.6	—	—	—	—	
Pier #6	—	45	109.6	—	16,500	—	—	479.6	—	—	—	—	
Pier #7	—	45	109.1	—	16,500	—	—	493.3	—	—	—	—	
Pier #8	—	45	108.3	—	16,300	—	—	494.9	—	—	—	—	
Pier #9	32	—	71.1	—	11,330	—	—	481.4	—	—	—	—	
Abutment #2	163	—	—	258.0	44,550	—	447.5	—	—	—	—	—	
Superstr.	—	—	—	1,494.3	492,990	6,320	—	—	715.50	L.S.	L.S.	—	
Total	425	318	548.6	2,012.6	671,480	6,320	#1,016.7	14,606.3	715.50	L.S.	L.S.	221.5	

#20 Ø36' 40'40'

#14 Ø30' 28Ø34' 22Ø40' 28Ø32' 28Ø36'

GENERAL NOTES

COMMON EXCAVATION: There will be no direct payment for Common Excavation, or borrow, 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 limits 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-S16-44 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
B. E. SMITH, CITY ENGINEER

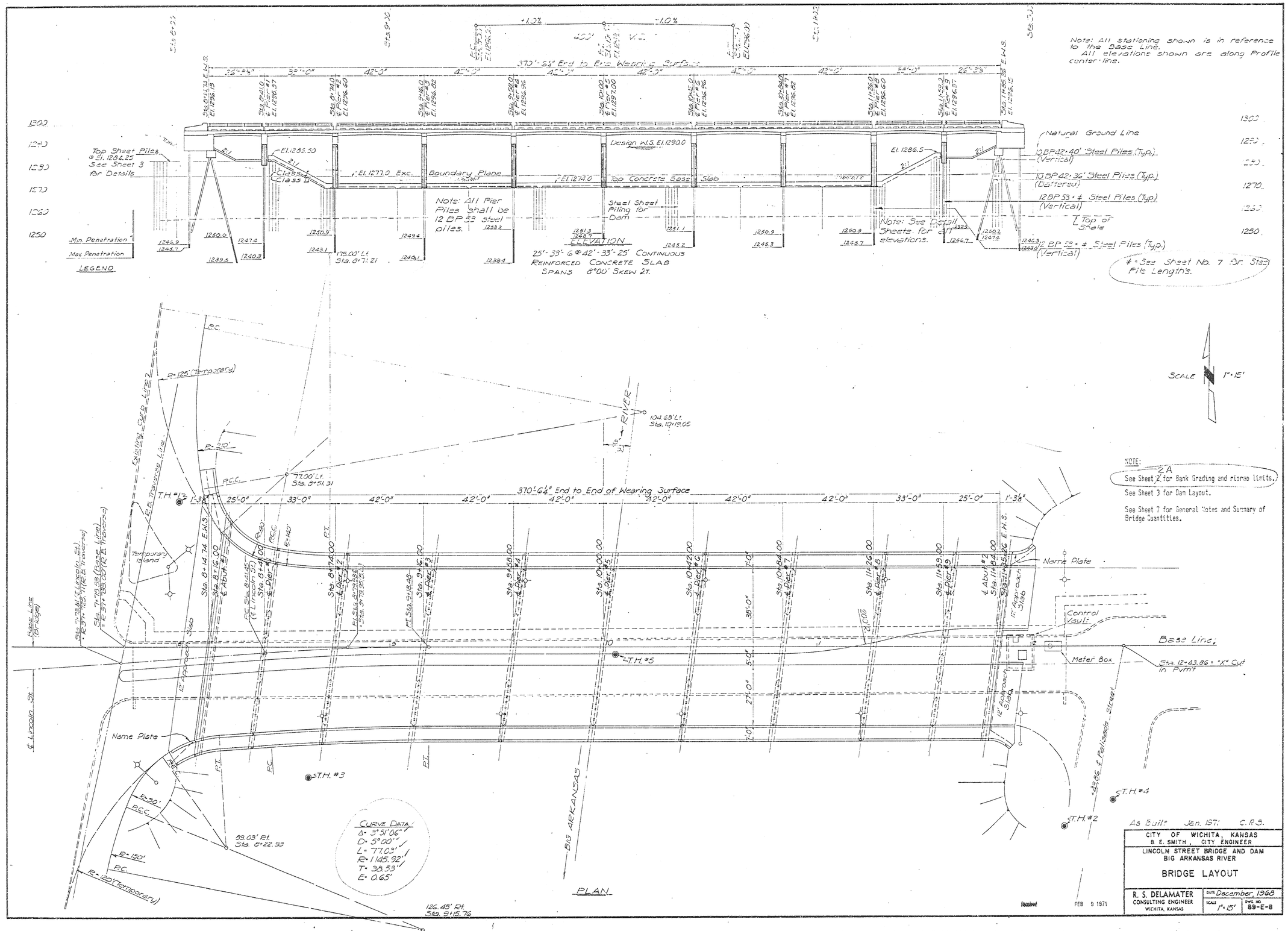
LINCOLN STREET BRIDGE AND DAM
BIG ARKANSAS RIVER

GENERAL NOTES & SUMMARY OF QUANTITIES

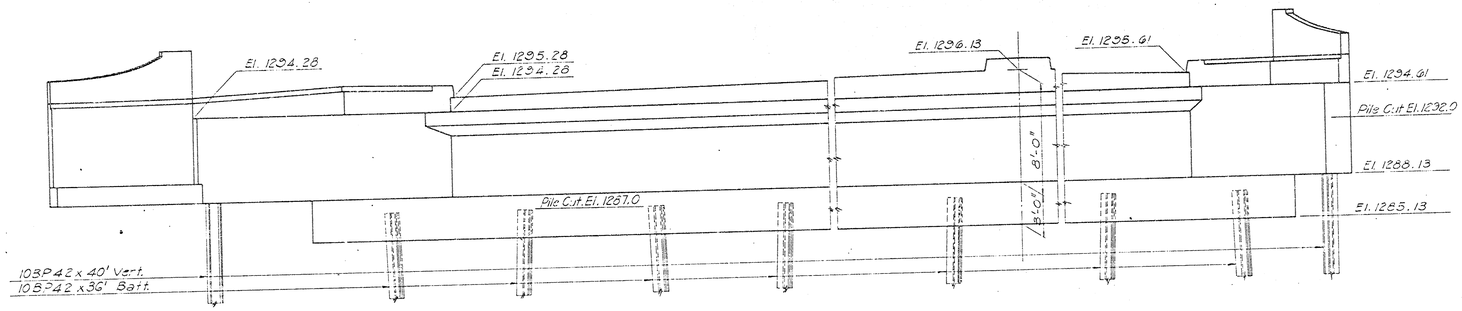
R. S. DELAMATER
CONSULTING ENGINEER
WICHITA, KANSAS

DATE December 1965
SCALE —
DWG. NO. 89-E-7

Received FEB 9 1971



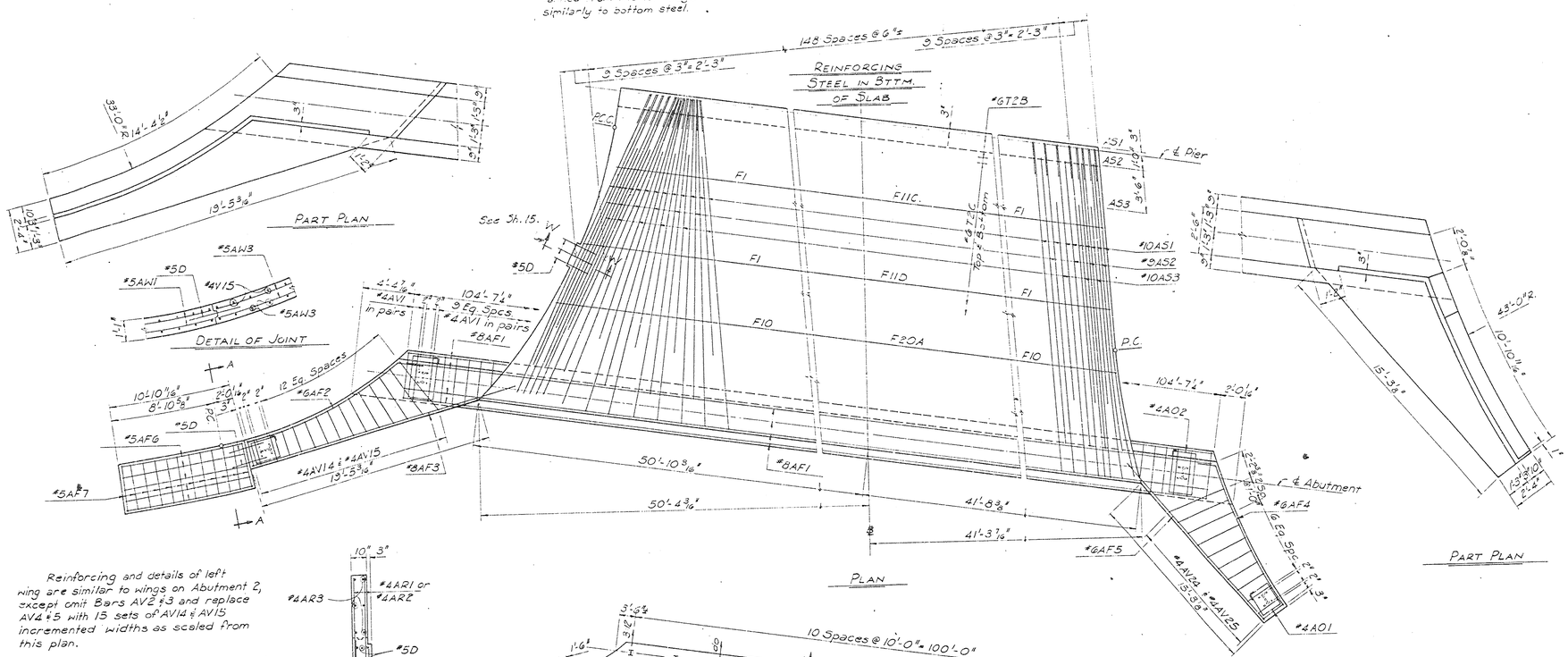
Note: All stationing shown is in reference to the Base Line.
All elevations shown are along Profile center-line.
370'-6¼" End to End Wearing Surface
Top Sheet Piles @ El. 1282.25 See Sheet 3 for Details
Min. Penetration
Max. Penetration
LEGEND
Class I
Class II
El. 1285.50
El. 1277.0 Exc.
Boundary Plane
Design W.S. El. 1290.0
El. 1274.0
Top Concrete Base Slab
Note: All Pier Piles shall be 12 BP 53 steel piles.
Steel Sheet Piling for Dam
ELEVATION
25'-33'-6 @ 42'-33'-25' CONTINUOUS REINFORCED CONCRETE SLAB SPANS 8°00' SKEW 2T.
Note: See Detail Sheets for all elevations.
El. 1286.5
Natural Ground Line
10 BP 42-40' Steel Piles (Typ.) (Vertical)
10 BP 42-36' Steel Piles (Typ.) (Battered)
12 BP 53 × ¢ Steel Piles (Typ.) (Vertical)
Top of Shale
12 BP 53 × ¢ Steel Piles (Typ.) (Vertical)
¢ = See Sheet No. 7 for Steel Pile Lengths.
SCALE 1"=15'
NOTE:
See Sheet 2A for Bank Grading and riprap limits.
See Sheet 3 for Dam Layout.
See Sheet 7 for General Notes and Summary of Bridge Quantities.
RIVER
104.68' Lt. Sta. 10+19.05
77.00' Lt. Sta. 8+51.31
370'-6¼" End to End of Wearing Surface
Existing Curb Line
R.B. Traverse Line
Temporary Island
Base Line (Bridge)
Base Line
Control Vault
Meter Box
Sta. 12+43.86 = "X" Cut in Pvmt
Name Plate
Name Plate
12' Approach Slab
12' Approach Slab
BIG ARKANSAS
Palisade Street
¢ Lincoln St.
T.H. #1
T.H. #2
T.H. #3
T.H. #4
T.H. #5
89.03' Rt. Sta. 8+22.93
126.45' Rt. Sta. 9+15.76
CURVE DATA:
Δ = 3°51'06"
D = 5°00'
L = 77.03'
R = 1145.92'
T = 38.53'
E = 0.65'
PLAN
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
DATE December, 1968
SCALE 1"=15'
DWG. NO. 89-E-8
Received FEB 9 1971



ELEVATION

Backwall reinforcing identical to Abutment No. 2 except for number of bars.

Top steel in slab is same pattern as Abut. No. 2 except turned from the left edge similarly to bottom steel.



NOTE:

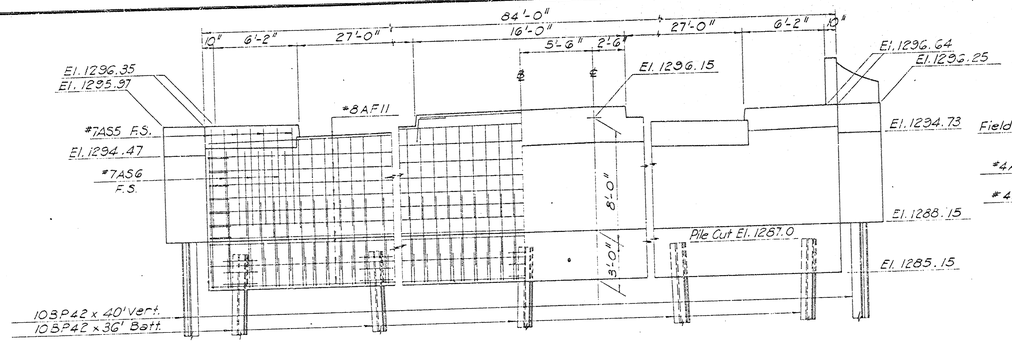
Refer to Sheet 10, Abutment No. 2. Longitudinal Section, Wing Section and other details are identical to those on Abutment No. 2 except as otherwise noted or dimensioned.

See Sheet 17 for details of wing rail.

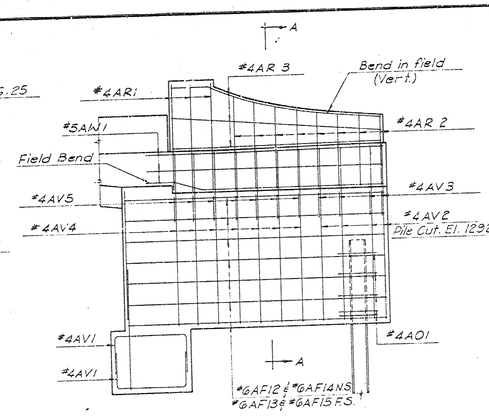
All concrete shall be Class AAA.

Approved FEB 9 1971

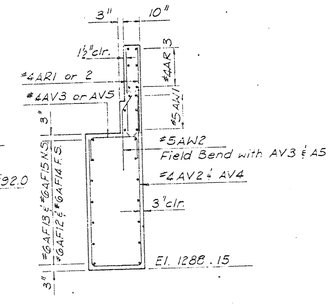
CITY OF WICHITA, KANSAS B. E. SMITH, CITY ENGINEER	
LINCOLN STREET BRIDGE AND DAM BIG ARKANSAS RIVER	
DETAILS, ABUTMENT 1	
R. S. DELAMATER CONSULTING ENGINEER WICHITA, KANSAS	DATE December, 1968 SCALE ____ DWG. NO. 89-E-9



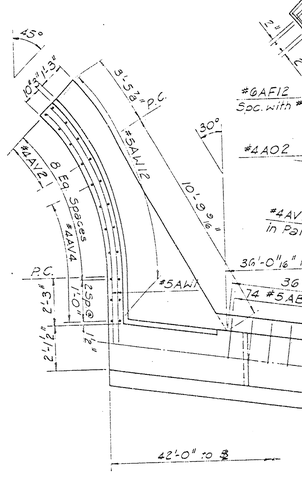
ELEVATION



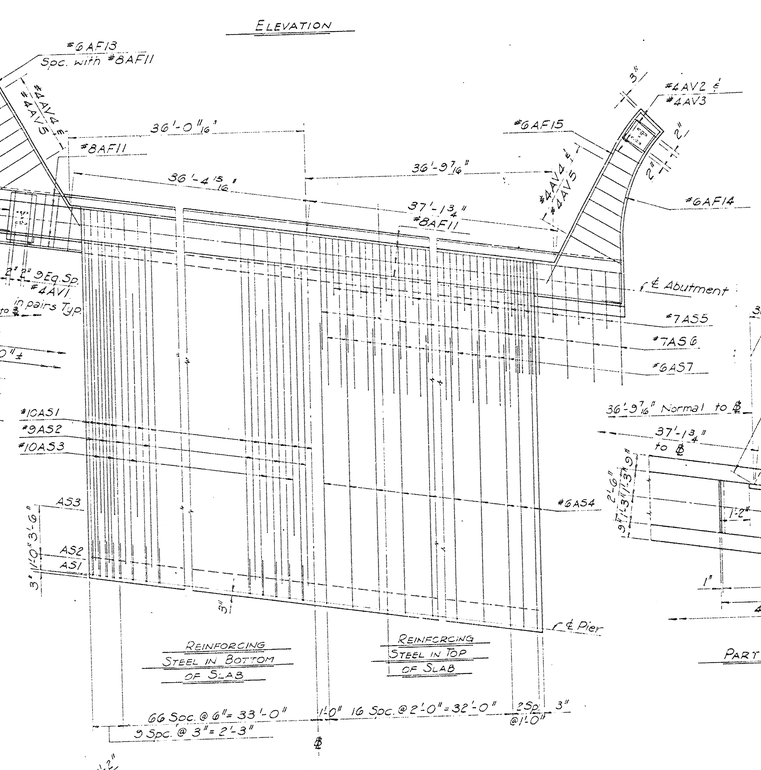
DEVELOPED VIEW OF WINGWALL



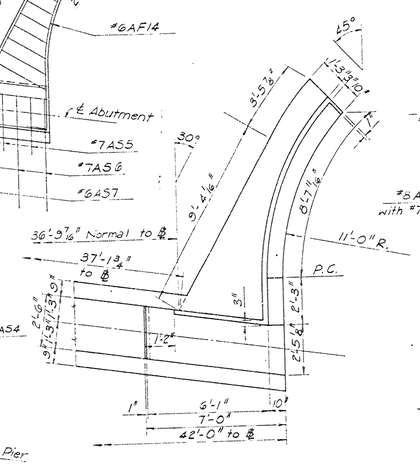
SECTION A-A



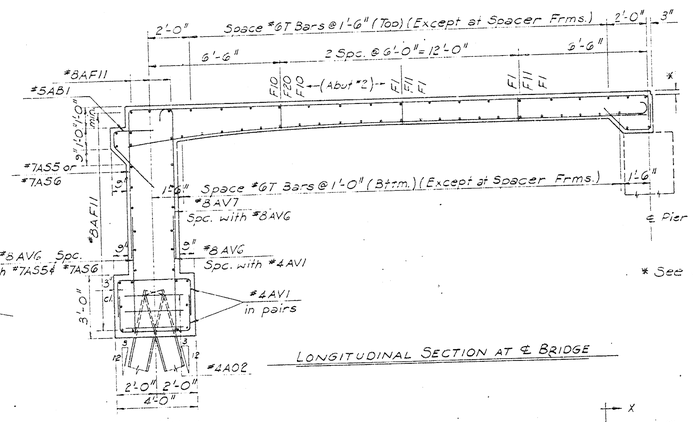
SECTION THRU WINGWALL



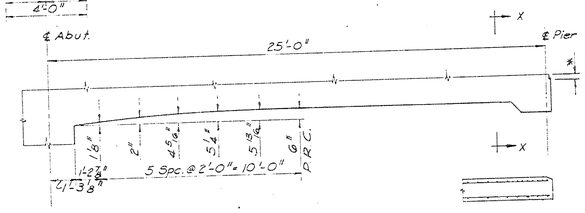
PLAN



PART PLAN

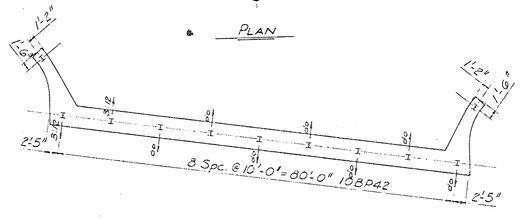


LONGITUDINAL SECTION AT ℄ BRIDGE

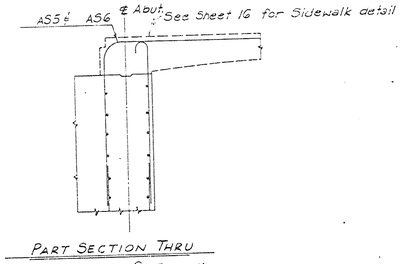


HAUNCH ORDINATES

PART SECTION X-X



FOOTING PLAN SHOWING PILE SPACING



PART SECTION THRU BACKWALL AT SIDEWALK

NOTE:

Refer to Sheet 9, Abutment No. 1. Details shown on this sheet apply to Abutment No. 1, except as otherwise indicated.

All concrete shall be Class AAA.

As Built Jan. 1971 C.F.S.

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

LINCOLN STREET BRIDGE AND DAM
BIG ARKANSAS RIVER

DETAILS, ABUTMENT 2

R. S. DELAMATER
CONSULTING ENGINEER
WICHITA, KANSAS

DATE December, 1968
SCALE
DWG. NO. 89-E-10

FEB 9 1971

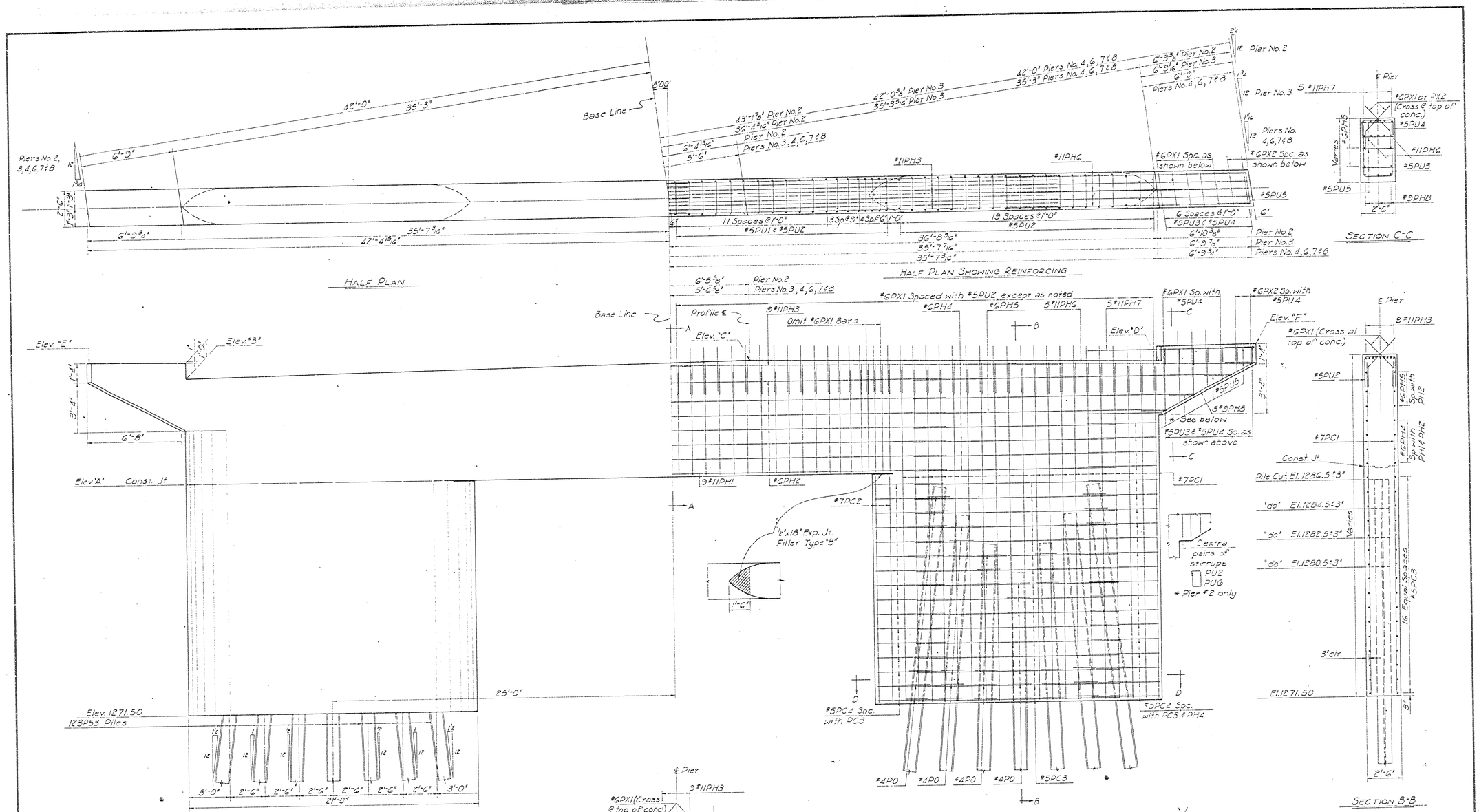


TABLE OF ELEVATIONS						
Location	Elev. "A"	Elev. "B"	Elev. "C"	Elev. "D"	Elev. "E"	Elev. "F"
Pier #2	1286.35	1294.24	1294.85	1294.36	1295.33	1295.44
Pier #3	1287.07	1294.46	1295.07	1294.59	1295.53	1295.67
Pier #4	1287.21	1294.58	1295.21	1294.73	1295.67	1295.82
Pier #6	1287.21	1294.56	1295.21	1294.75	1295.64	1295.88
Pier #7	1287.07	1294.42	1295.07	1294.63	1295.50	1295.72
Pier #8	1286.85	1294.18	1294.85	1294.42	1295.27	1295.51

NOTE:

See Sheet 7 for General Notes.

See Sheet 8 for Bridge Layout.

All concrete shall be Class A.

As Built Jan. 1971 C.P.S.

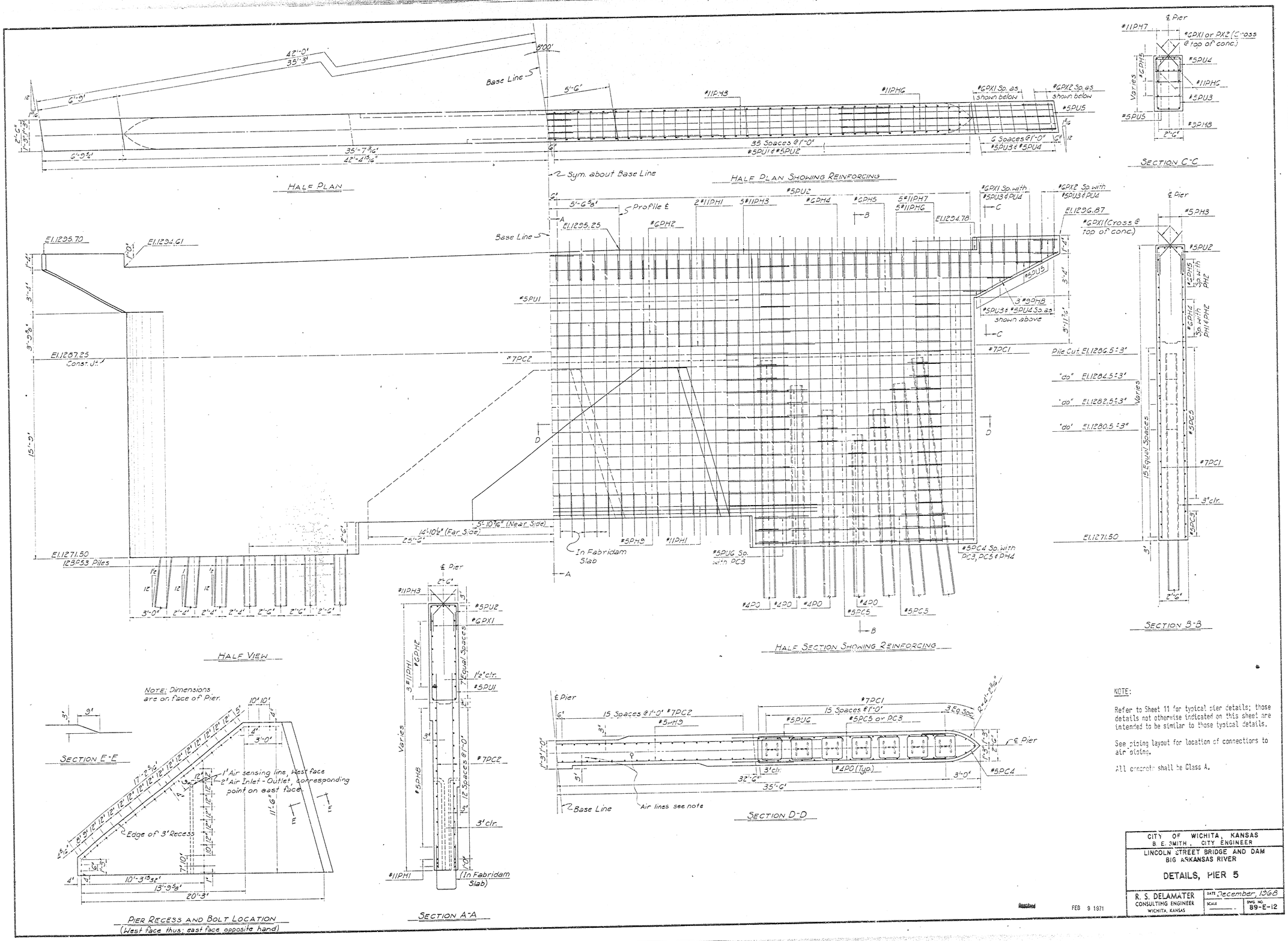
CITY OF WICHITA, KANSAS
B. E. SMITH, CITY ENGINEER

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
DWG. NO. 89-E-11

Received FEB 9 1971



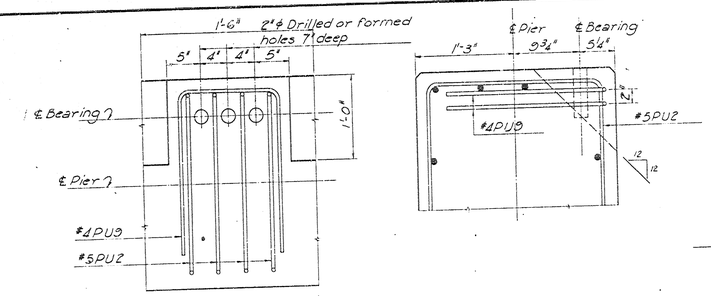
NOTE:

Refer to Sheet 11 for typical pier details; those details not otherwise indicated on this sheet are intended to be similar to those typical details.

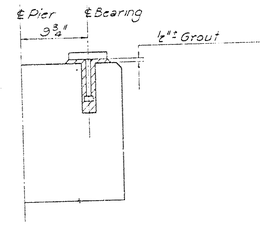
See piping layout for location of connections to air piping.

All concrete shall be Class A.

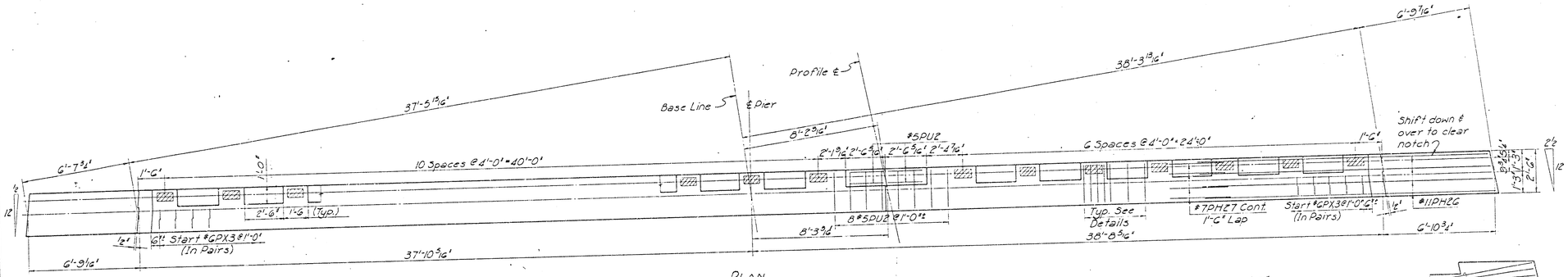
CITY OF WICHITA, KANSAS B. E. SMITH, CITY ENGINEER	
LINCOLN STREET BRIDGE AND DAM BIG ARKANSAS RIVER	
DETAILS, PIER 5	
R. S. DELAMATER CONSULTING ENGINEER WICHITA, KANSAS	DATE December, 1968 SCALE —— DWG. NO. 89-E-12



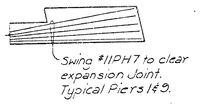
TYPICAL DETAIL AT BEARING PADS

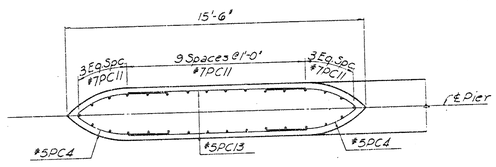


BEARING PLATE SETTING

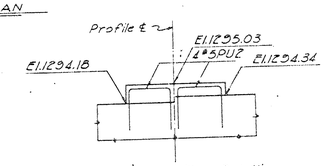


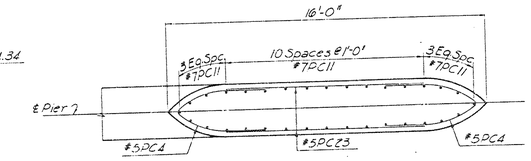
PLAN



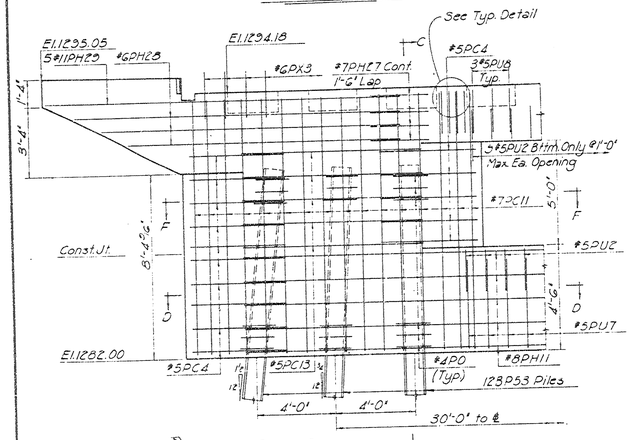


SECTION F-F

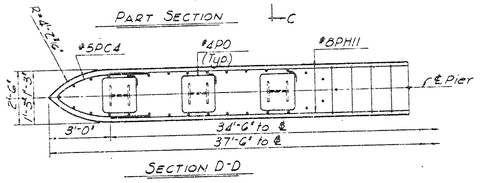




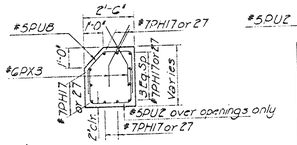
SECTION G-G



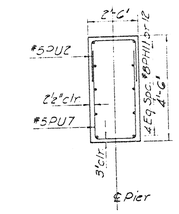
PART SECTION



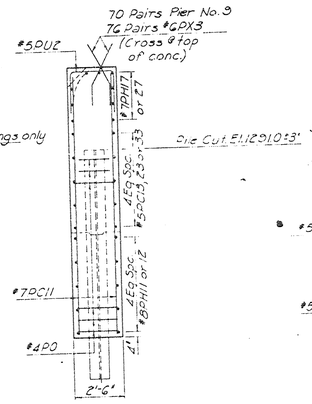
SECTION D-D



SECTION A-A

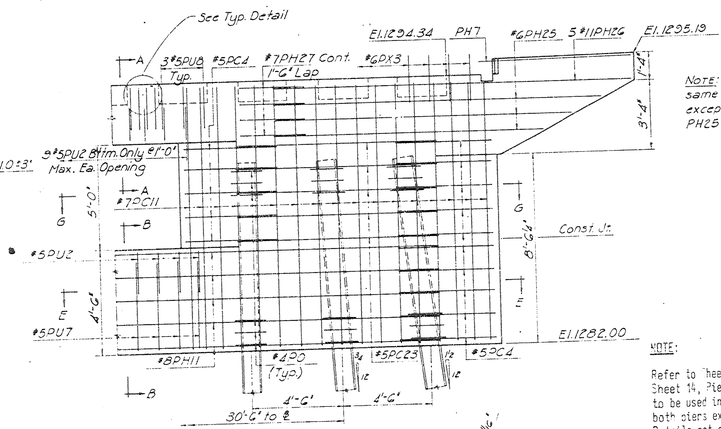


SECTION B-B



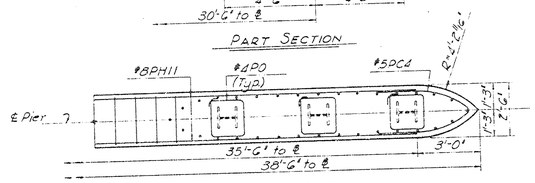
SECTION C-C

NOTE: Intermediate columns same as Pier No. 9



PART SECTION

NOTE: Bracket Reinf. same as Piers 2-8, except substitute PH25 & 26 for PH5 & 6



SECTION E-E

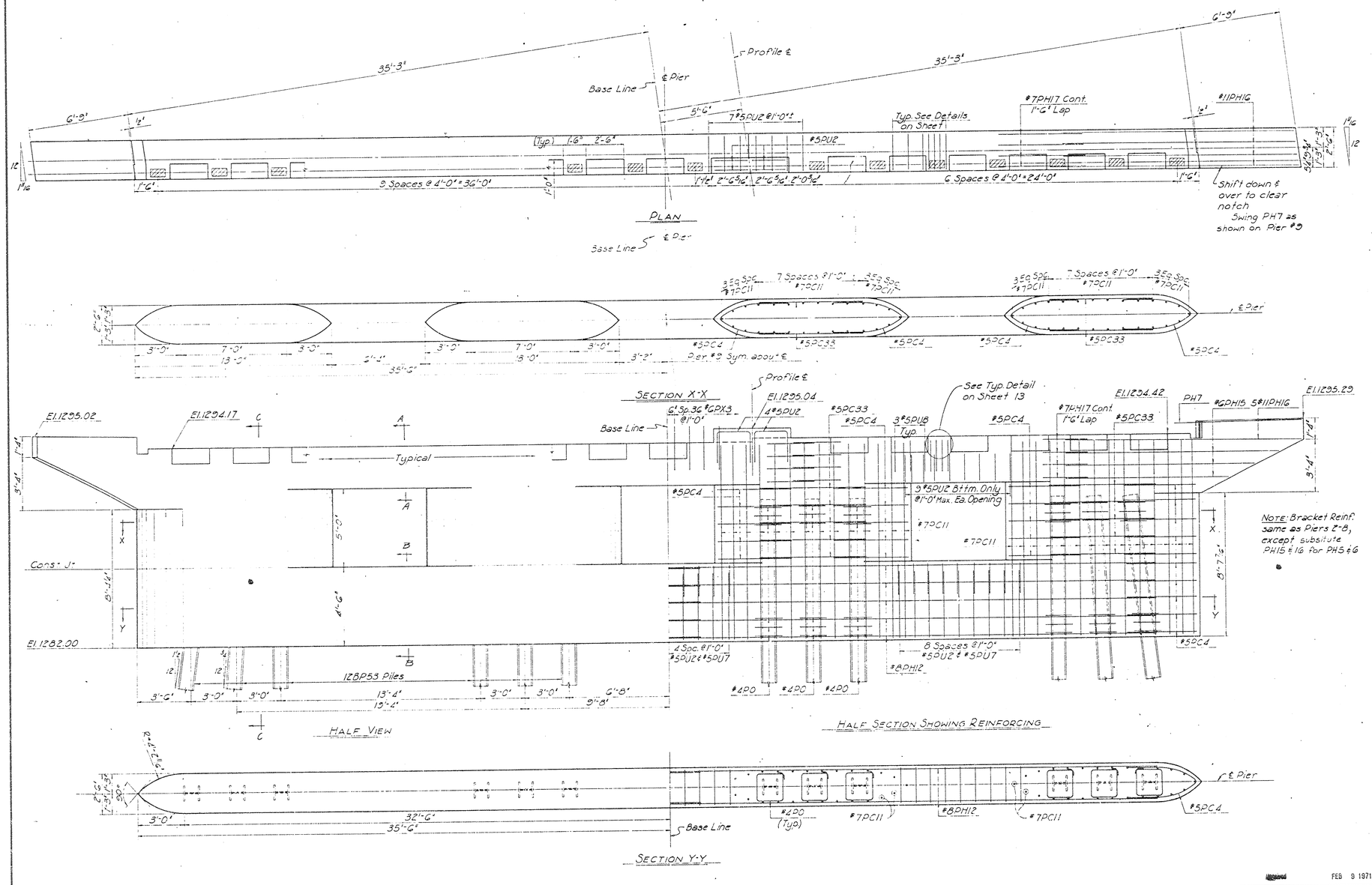
NOTE:

Refer to Sheet 11 for typical pier details, and to Sheet 14, Pier No. 9. This sheet and Sheet 14 are to be used in combination; details are identical on both piers except as otherwise noted or indicated. Details not otherwise indicated are intended to be similar to those shown as typical on Sheet 11.

All concrete shall be Class A.

FEB 9 1971

CITY OF WICHITA, KANSAS B. E. SMITH, CITY ENGINEER	
LINCOLN STREET BRIDGE AND DAM BIG ARKANSAS RIVER	
DETAILS, PIER 1	
R. S. DELAMATER CONSULTING ENGINEER WICHITA, KANSAS	DATE December, 1968 SCALE DWG. NO. 89-E-13



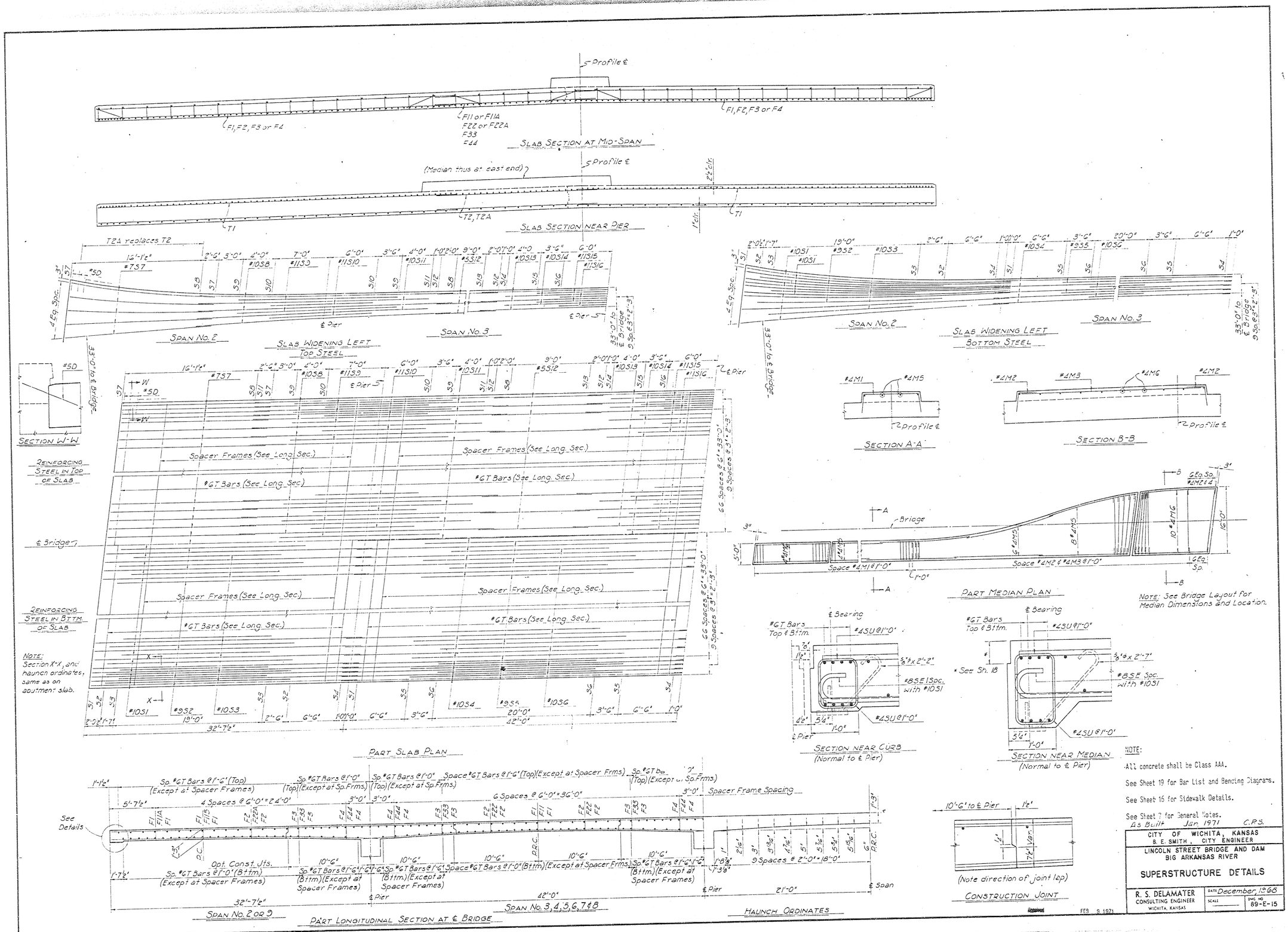
NOTE:

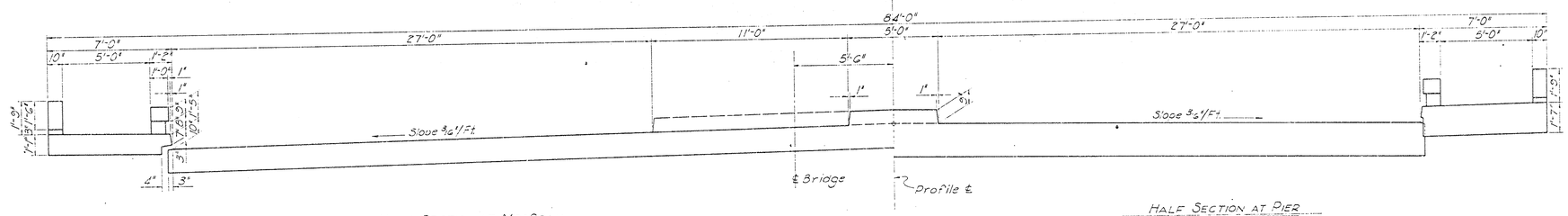
Refer to Sheet 11 for typical pier details, and to Sheet 13, Pier No. 1. This sheet and Sheet 13 are to be used in combination; details are identical on both piers except as otherwise noted or indicated. Details not otherwise indicated are intended to be similar to those shown as typical on Sheet 11.

All concrete shall be Class A.

FEB 9 1971

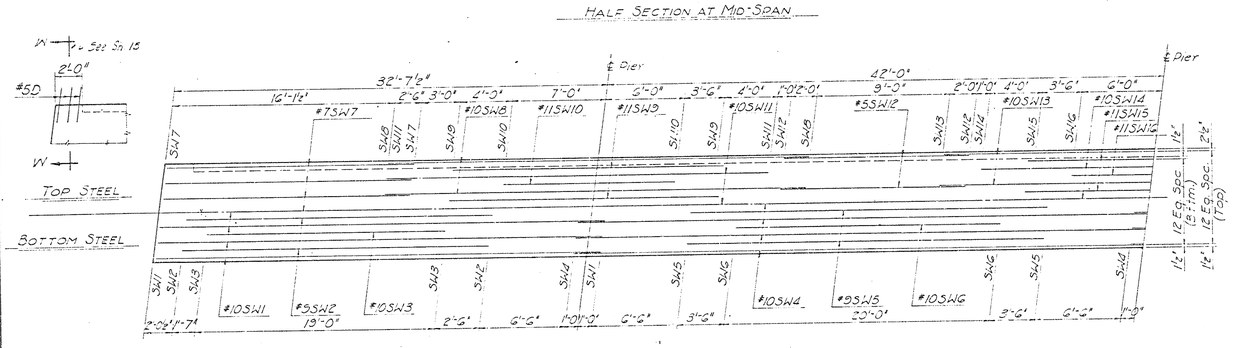
CITY OF WICHITA, KANSAS B. E. SMITH, CITY ENGINEER	
LINCOLN STREET BRIDGE AND DAM BIG ARKANSAS RIVER	
DETAILS, PIER 9	
R. S. DELAMATER CONSULTING ENGINEER WICHITA KANSAS	DATE [illegible] 1968 SCALE DWG. NO. 89-E-14


SLAB SECTION AT MID-SPAN
SLAB SECTION NEAR PIER
(Median thus at east end)
SPAN No. 2
SPAN No. 3
SLAB WIDENING LEFT
TOP STEEL
BOTTOM STEEL
SECTION W-W
SECTION A-A
SECTION B-B
REINFORCING STEEL IN TOP OF SLAB
REINFORCING STEEL IN BTTM. OF SLAB
NOTE: Section X-X, and haunch ordinates, same as on abutment slab.
Spacer Frames (See Long. Sec.)
#6T Bars (See Long. Sec.)
PART SLAB PLAN
PART MEDIAN PLAN
NOTE: See Bridge Layout for Median Dimensions and Location.
SECTION NEAR CURB
(Normal to ℄ Pier)
SECTION NEAR MEDIAN
(Normal to ℄ Pier)
See Sheet 19 for Bar List and Bending Diagrams.
See Sheet 16 for Sidewalk 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
SUPERSTRUCTURE DETAILS
R. S. DELAMATER
CONSULTING ENGINEER
WICHITA, KANSAS
DATE December, 1968
DWG. NO. 89-E-15
PART LONGITUDINAL SECTION AT ℄ BRIDGE
SPAN No. 2 OR 3
SPAN No. 3, 4, 5, 6, 7 & 8
HAUNCH ORDINATES
CONSTRUCTION JOINT
(Note direction of joint lap)
FEB 9 1971

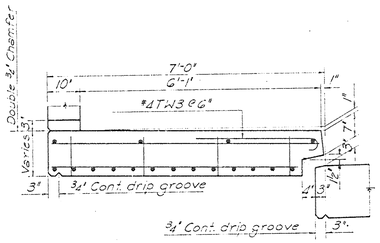


HALF SECTION AT MID-SPAN

HALF SECTION AT PIER

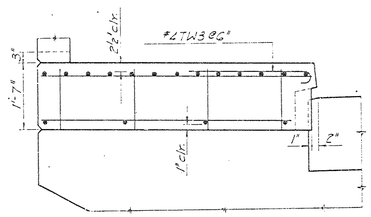


PART SIDEWALK PLAN

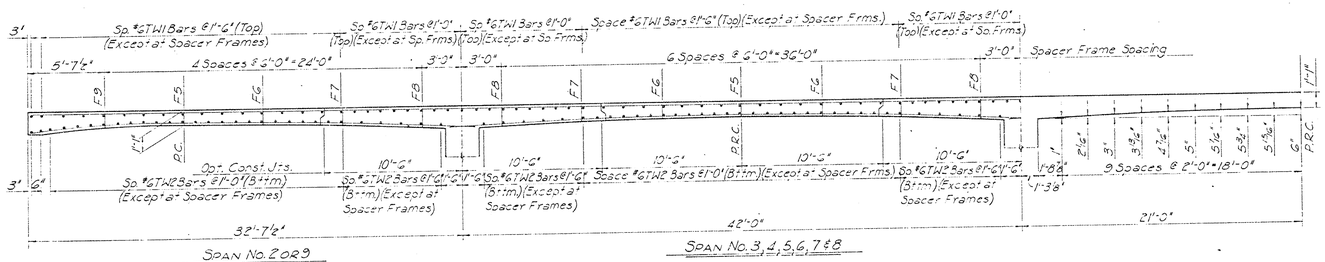


NOTE:
See Electrical Details, Sheet 21 for location of conduits.

SECTION NEAR MID-SPAN



SECTION AT PIER

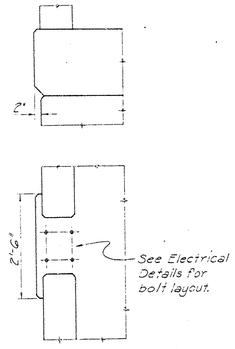


SPAN No. 2 & 9

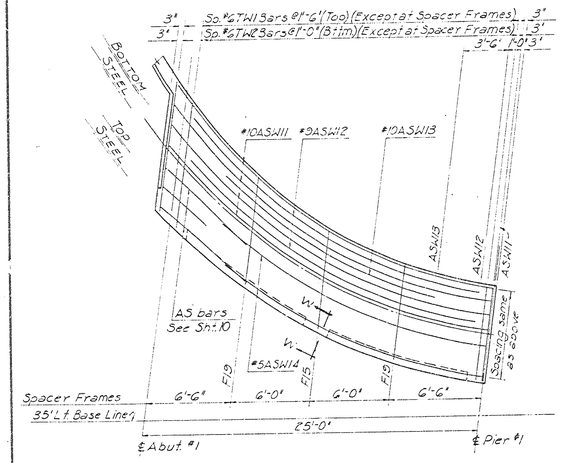
SPAN No. 3, 4, 5, 6, 7 & 8

PART LONGITUDINAL SECTION AT ℄ SIDEWALK

HAUNCH ORDINATES

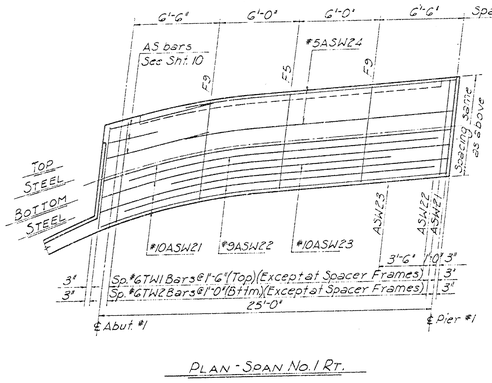


DETAIL OF EXTENSION FOR LIGHT SUPPORTS (Piers 2, 4, 6 & 8 Only)



PLAN - SPAN No. 1 LT.

NOTE:
Section A-A same as at piers.



PLAN - SPAN No. 1 RT.

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

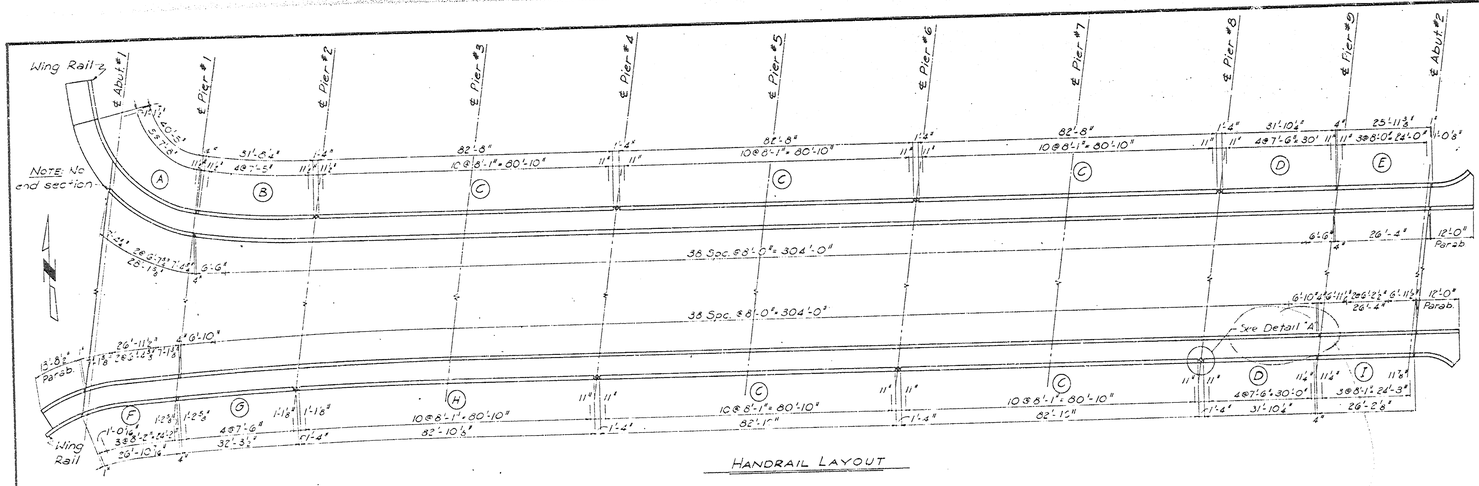
LINCOLN STREET BRIDGE AND DAM
BIG ARKANSAS RIVER

SIDEWALK DETAILS

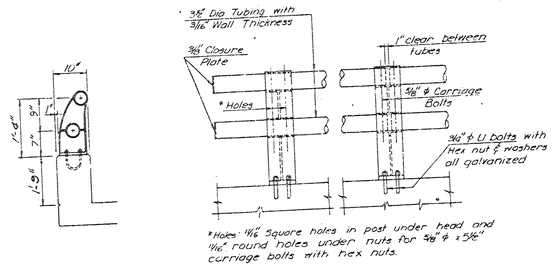
R. S. DELAMATER
CONSULTING ENGINEER
WICHITA, KANSAS

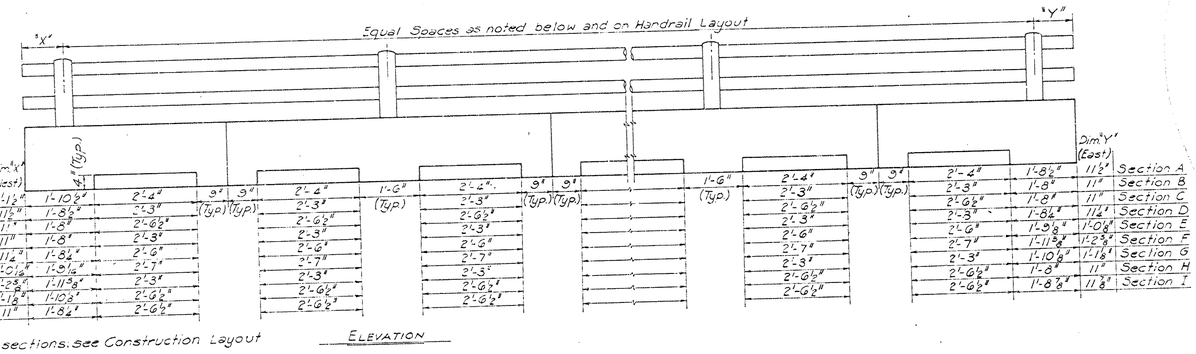
DATE December, 1963
SCALE
DWG. NO. 89-E-16

FEB 9 1971



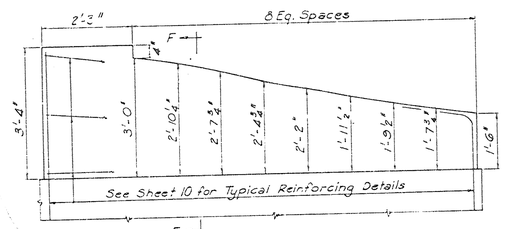
HANDRAIL LAYOUT



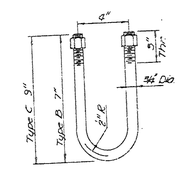


*NOTE: Curved rail sections: see Construction Layout

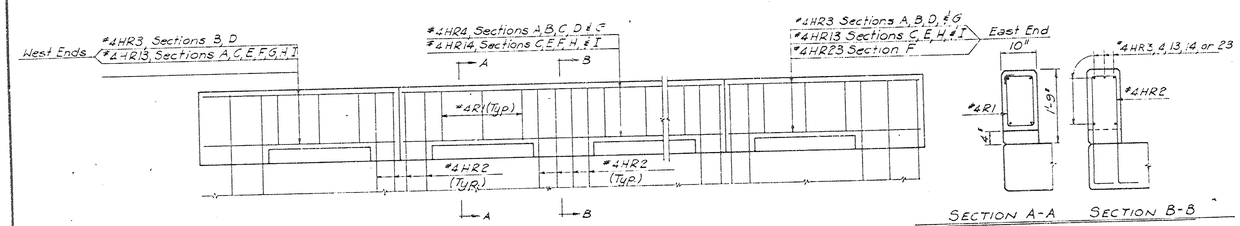
ELEVATION



ABUTMENT RAIL DETAIL

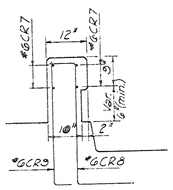


GALVANIZED U-BOLTS DETAILS

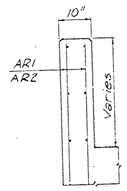


PART SIDEWALK RAIL ELEVATION SHOWING REINFORCING

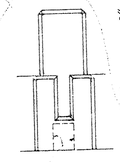
SECTION A-A SECTION B-B



SECTION E-E

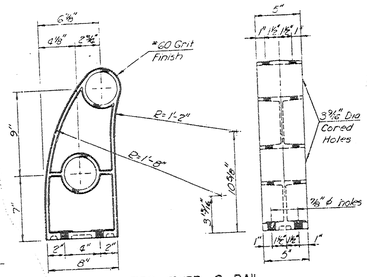


SECTION F-F



DETAIL "A"

Typical at Light Standard brackets



POST FOR TYPE C RAIL

ALUMINUM HANDRAIL DETAILS TYPE C

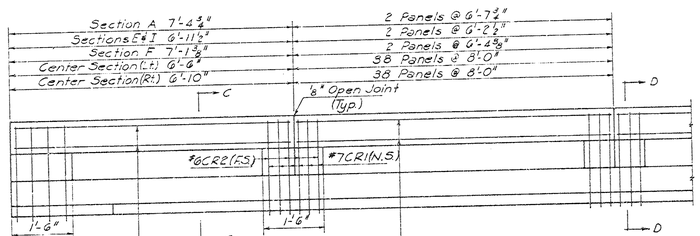
Notes: (Aluminum Handrail)

Handrail Tubing shall be fabricated in lengths to include two or three spaces.

Bolt holes in tubing of intermediate posts to be 11/16" diameter. At other posts 11/16" slotted holes centered on bolts @ 60°F.

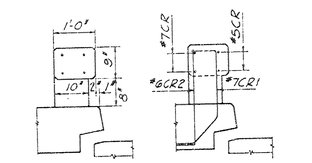
All rail post flanges and webs shall have a minimum thickness of 5/16" with 3° draft. Nominal thickness of base shall be 3/4" with minimum of 3/8".

Aluminum shims between concrete and post base may be used. The space below post shall be thoroughly caulked with Alumilastic compound or other approved material.

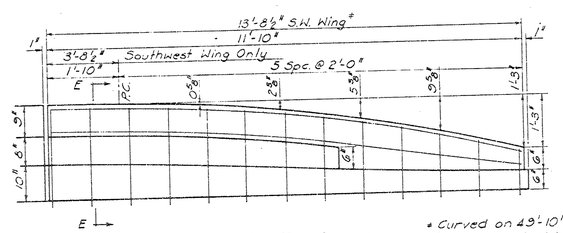


Section A	#5CR3 (N.S.) #7CR4 (F.S.)	Section A	#5CR5 (N.S.) #7CR6 (F.S.)
Sections E & I	#5CR13 (N.S.) #7CR14 (F.S.)	Sections E & I	#5CR15 (N.S.) #7CR16 (F.S.)
Section F	#5CR23 (N.S.) #7CR24 (F.S.)	Section F	#5CR25 (N.S.) #7CR26 (F.S.)
Ctr. Sec.	#5CR33 (N.S.) #7CR34 (F.S.)	Ctr. Sec.	#5CR35 (N.S.) #7CR36 (F.S.)

PART ROADWAY RAIL ELEVATION SHOWING REINFORCING



SECTION C-C SECTION D-D



ROADWAY RAIL END SECTION

* Curved on 49'-10" Radius; See approach slab, Sh. 20 Elevation shown from traffic side.

As Built Jan. 1971 C.P.S.

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

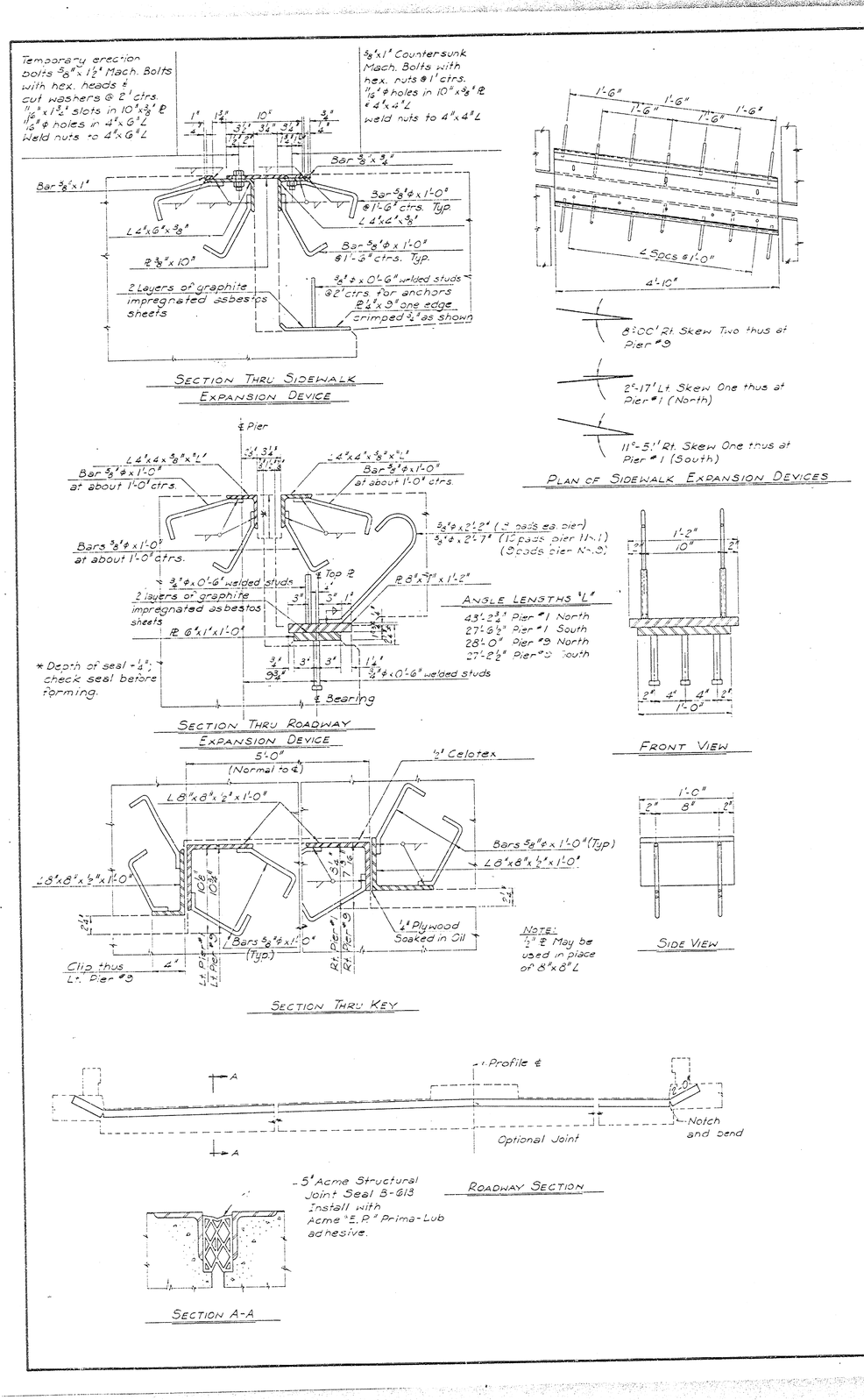
LINCOLN STREET BRIDGE AND DAM
BIG ARKANSAS RIVER

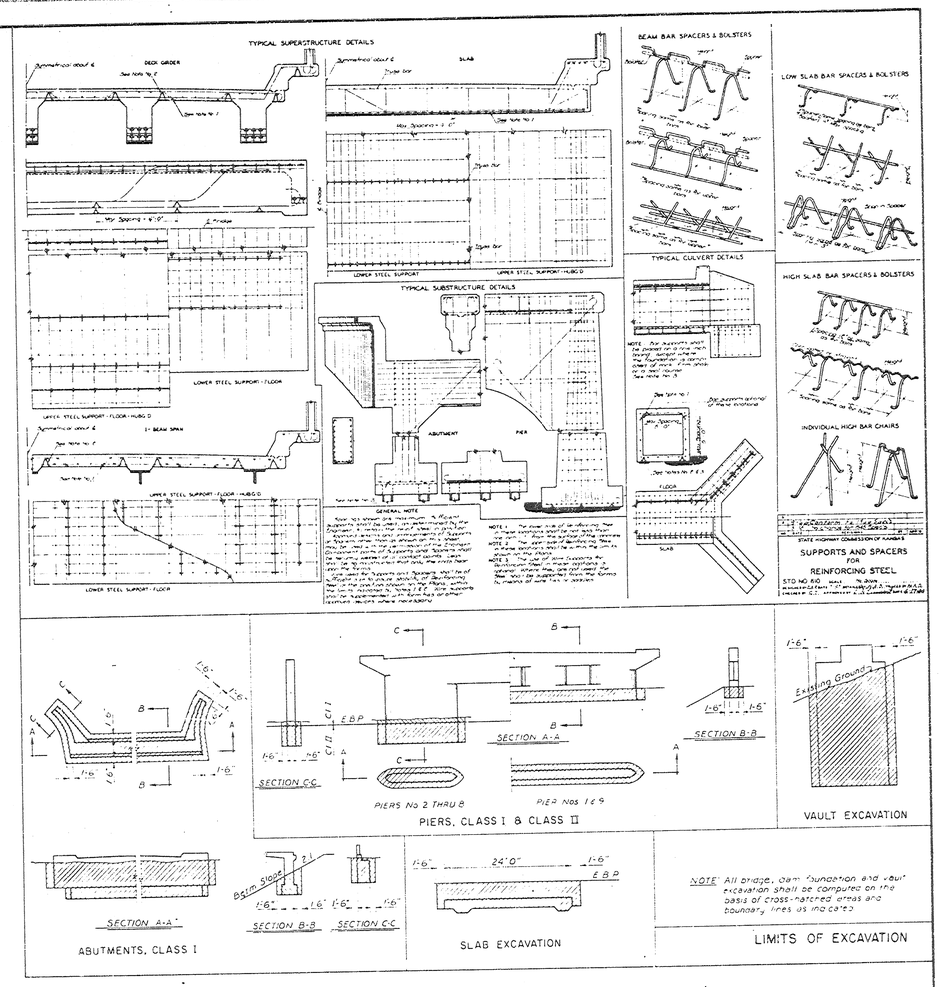
HANDRAIL DETAILS

R. S. DELAMATER
CONSULTING ENGINEER
WICHITA, KANSAS

DATE December 1968
SCALE
DWG. NO. 89-E-17

FEB 9 1971





NOTE:

All parts of expansion and bearing devices are included in the item of Structural Steel.

See Sheet 7 for General Notes.

Approved FEB 9 1971

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
DWG. NO. 89-E-18

ABUTMENT NO. 1

STRAIGHT BARS				BENT BARS			
Mark	No.Req.	Size	Length	Mark	No.Req.	Size	Length
AF1	90	8	37'-0"	AF2	7	6	16'-0"
AF3	7	8	24'-0"	AF4	7	6	14'-8"
AF5	7	6	18'-0"	AF7	12	5	4'-6"
AF6	22	5	10'-6"				
				AB1	93	5	5'-6"
AR1	12	4	4'-8"				
AR2	32	4	4'-4"	AO1	10	4	8'-8"
AR3	12	4	10'-8"	AO2	33	4	11'-6"
AS1	83	10	26'-0"	AS5	47	7	11'-6"
AS2	41	9	23'-0"	AS6	50	7	15'-6"
AS3	41	10	16'-0"	AS7	82	6	15'-0"
AS4	42	6	20'-0"				
				AW5	12	5	10'-0"
AW1	6	5	12'-0"				
AW2	26	5	4'-0"	AV1	210	4	7'-0"
AW3	6	5	13'-0"	AV7	105	8	8'-0"
AW4	12	4	7'-0"	AV14	15	4	*
				AV15	15	4	*
AV6	210	8	6'-6"	AV24	11	4	*
				AV25	11	4	*
D	11	5	2'-6"				
				M1	27	4	7'-9"
M5	4	4	26'-0"				
T2C	31	6	*	SE1	76	8	4'-0"
T1	72	6	30'-0"	SE2	76	5	3'-6"
T2B	5	6	20'-6"				
TW1	32	6	6'-9"	F1	4	*	*
TW2	48	6	6'-3"	F5	1	*	*
				F9	2	*	*
BENT BARS (CONT.)				F10	2	*	*
ASW11	7	10	28'-0"	F11C	1	*	*
ASW12	4	9	24'-6"	F11D	1	*	*
ASW13	2	10	18'-0"	F15	1	*	*
ASW14	4	5	21'-0"	F19	2	*	*
ASW21	7	10	26'-6"	F20A	1	*	*
ASW22	4	9	23'-6"				
ASW23	2	10	16'-6"	TW3	104	4	3'-5"
ASW24	4	5	20'-6"				

ABUTMENT NO. 2

AF11	90	8	30'-0"	AB1	74	5	5'-6"
AR1	12	4	4'-8"	AF12	7	6	15'-0"
AR2	32	4	4'-4"	AF13	7	6	15'-3"
AR3	12	4	10'-8"	AF14	7	6	15'-0"
				AF15	7	6	14'-9"
AW1	12	5	12'-0"				
AW2	22	5	4'-0"	AV1	168	4	7'-0"
				AV2	8	4	16'-0"
T1	72	6	30'-0"	AV3	8	4	4'-6"
T2	36	6	14'-0"	AV4	14	4	*
				AV5	14	4	*
AV6	173	8	6'-6"	AV7	84	8	8'-0"
AS1	75	10	26'-0"	AS5	43	7	11'-6"
AS2	38	9	23'-0"	AS6	46	7	15'-6"
AS3	36	10	16'-0"	AS7	74	6	15'-0"
AS4	38	6	20'-0"				
				M2	54	4	3'-0"
M3	20	4	*				
M4	7	4	15'-6"	SE1	71	8	4'-0"
M6	10	4	26'-0"	SE2	71	5	3'-6"
TW1	39	6	6'-9"	TW3	104	4	3'-5"
TW2	54	6	6'-3"				
				AO1	10	4	8'-8"
ASW1	14	10	26'-0"	AO2	27	4	11'-6"
ASW2	8	9	23'-0"				
ASW3	4	10	17'-0"	F1	4	*	*
ASW4	8	5	21'-0"	F11	2	*	*
				F10	2	*	*
				F20	1	*	*
				F5	2	*	*
				F9	4	*	*
				* See Bending Diagrams			

PIERS 2, 3, 4, 6, 7, 8 (Total for six Piers)

STRAIGHT BARS				BENT BARS			
Mark	No.Req.	Size	Length	Mark	No.Req.	Size	Length
PC1	468	7	22'-0"	PC4	432	5	10'-8"
PC2	36	7	15'-3"				
PC3	384	5	15'-0"	PO	504	4	7'-2"
PH1	54	11	40'-0"				
PH2	72	6	40'-0"				
PH3	108	11	30'-0"				
PH4	96	6	15'-0"	PU1	228	5	16'-3"
PH5	72	6	*	PU2	452	5	6'-3"
PH6	60	11	18'-0"	PU3	84	5	*
PH7	60	11	12'-0"	PU4	84	5	4'-7"
PH8	36	9	13'-0"	PU5	50	5	6'-3"
				PU6#	2	5	8'-3"
				PX1	1010	6	4'-3"
				PX2	48	6	3'-3"
				# For Pier No. 2 Only			

PIER NO. 5

PC1	78	7	22'-0"	PC4	40	5	10'-8"
PC2	64	7	15'-6"				
PC3	12	5	15'-9"	PO	84	4	7'-2"
PC5	52	5	18'-0"				
PH1	9	11	44'-0"				
PH2	12	6	40'-0"				
PH3	10	11	30'-0"	PU1	32	5	16'-3"
PH4	16	6	15'-0"	PU2	72	5	6'-3"
PH5	12	6	*	PU3	14	5	*
PH6	10	11	18'-0"	PU4	14	5	4'-7"
PH7	10	11	12'-0"	PU5	10	5	6'-3"
PH8	6	9	13'-0"	PU6	6	5	8'-3"
PH9	24	5	40'-0"				
				PX1	164	6	4'-3"
				PX2	8	6	3'-3"

PIER NO. 1

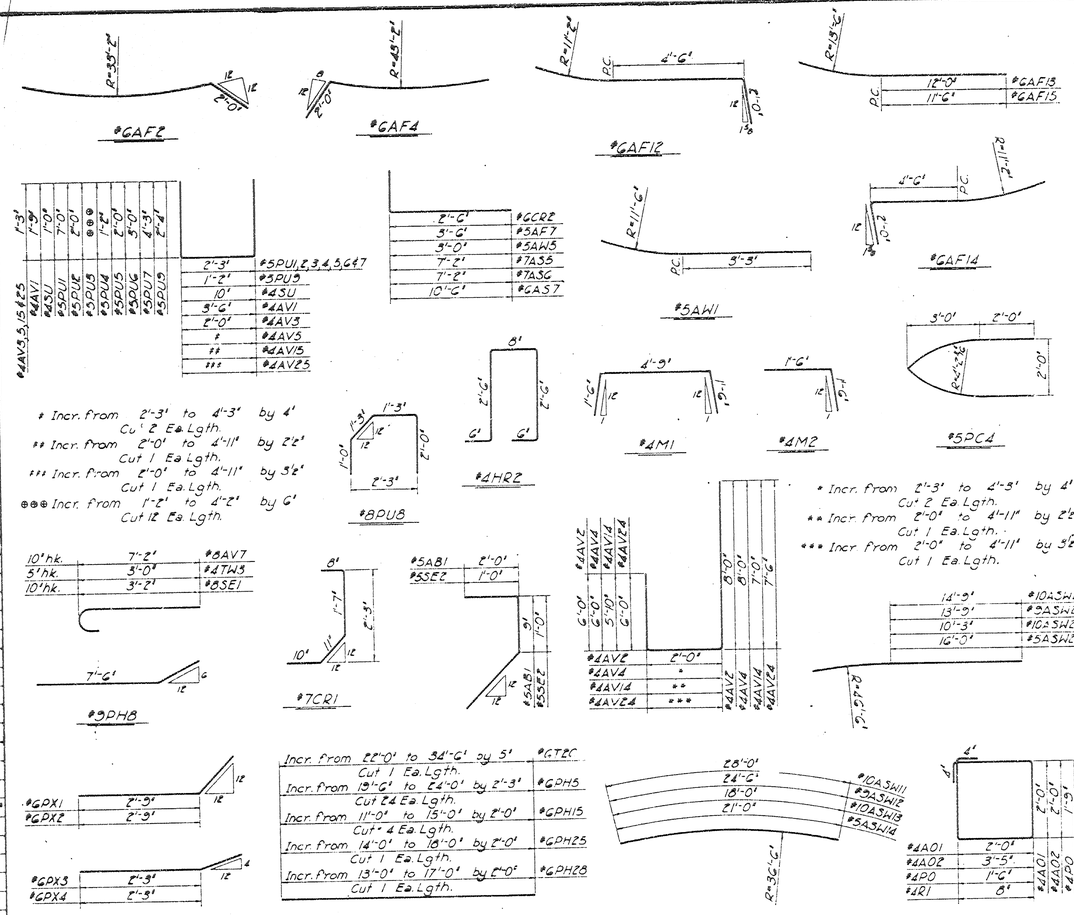
PC11	114	7	12'-0"	PC4	50	5	10'-8"
PC13	10	5	9'-0"				
PC23	10	5	10'-0"	PO	72	4	7'-8"
PC33	20	5	7'-0"				
PH7	10	11	12'-0"				
PH8	6	9	13'-0"				
PH11	20	8	36'-6"				
PH17	33	7	20'-0"	PU2	138	5	6'-3"
PH25	6	6	*	PU3	14	5	*
PH26	5	11	19'-0"	PU4	14	5	4'-7"
PH28	6	6	*	PU5	10	5	6'-3"
PH29	5	11	18'-0"	PU7	27	5	10'-9"
				PU8	48	5	5'-6"
				PU9	36	4	5'-10"
				PX3	172	6	3'-3"
				PX4	8	6	2'-9"

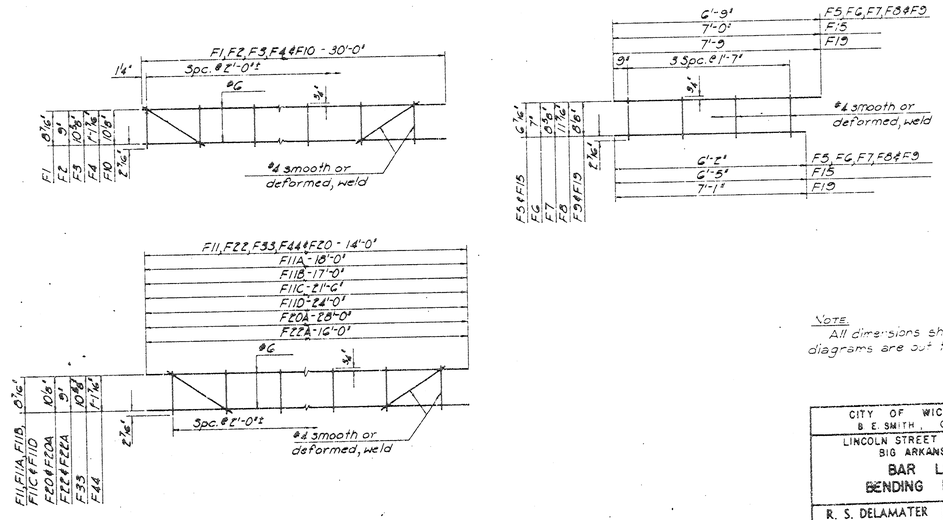
PIER NO. 9

PC11	104	7	12'-0"	PC4	50	5	10'-8"
PC33	40	5	7'-0"				
				PO	72	4	7'-8"
PH7	10	11	12'-0"				
PH8	6	9	13'-0"				
PH12	20	8	34'-0"				
PH15	12	6	*				
PH16	10	11	16'-0"	PU2	133	5	6'-3"
PH17	33	7	20'-0"	PU3	14	5	*
				PU4	14	5	4'-7"
				PU5	10	5	6'-3"
				PU7	27	5	10'-9"
				PU8	45	5	5'-6"
				PU9	34	4	5'-10"
				PX3	164	6	3'-3"
				PX4	8	6	2'-9"
				* See Bending Diagrams			

SUPERSTRUCTURE

STRAIGHT BARS				BENT BARS			
Mark	No.Req.	Size	Length	Mark	No.Req.	Size	Length
S1	154	10	33'-6"				
S2	76	9	23'-1"				
S3	72	10	19'-0"				
S4	450	10	44'-0"				
S5	228	9	27'-0"				
S6	216	10	20'-0"				
S7	150	7	18'-6"				
S8	76	10	33'-0"				
S9	76	11	20'-6"				
S10	72	11	13'-0"				
S11	74	10	30'-0"				
S12	228	5	13'-0"				
S13	190	10	33'-0"				
S14	185	10	27'-0"				
S15	190	11	19'-0"				
S16	180	11	12'-0"				
SW1	28	10	33'-6"				
SW2	16	9	23'-1"				
SW3	8	10	19'-0"				
SW4	84	10	44'-0"				
SW5	48	9	27'-0"				
SW6	24	10	20'-0"				
SW7	28	7	18'-6"				
SW8	16	10	33'-0"				
SW9	16	11	20'-6"				
SW10	8	11	13'-0"				
SW11	12	10	30'-0"				
SW12	48	5	13'-0"				
SW13	40	10	33'-0"				
SW14	30	10	27'-0"				
SW15	40	11	19'-0"				
SW16	20	11	12'-0"				
T1	862	6	30'-0"	R1	543	4	4'-6"
T2	326	6	14'-0"				
T2A	105	6	20'-0"	SE1	154	8	5'-0"
D	12	5	2'-6"	SU	310	4	2'-10"
M3	76	4	*	M1	243	4	7'-9"
M5	50	4	30'-0"	M2	152	4	3'-0"
TW1	406	6	6'-9"	TW3	1272	4	3'-5"
TW2	436	6	6'-3"				
CR3	8	5	7'-2"	CR1	588	7	4'-0"
CR4	8	7	7'-2"	CR2	408	6	3'-0"
CR5	8	5	6'-5"				
CR6	8	7	6'-5"	F1	20	*	*
CR13	16	5	6'-9"	F2	28	*	*
CR14	16	7	6'-9"	F3	28	*	*
CR15	16	5	6'-0"	F4	28	*	*
CR16	16	7	6'-0"	F5	16	*	*
CR23	16	5	6'-11"	F6	28	*	*
CR24	8	7	6'-11"	F7	28	*	*
CR25	8	5	6'-2"	F8	28	*	*
CR26	8	7	6'-2"	F9	4	*	*
CR33	8	5	6'-4"	F11	8	*	*
CR34	16	7	6'-4"	F11A	1	*	*
CR35	152	5	7'-10"	F11B	1	*	*
CR36	152	7	7'-10"	F22	13	*	*
				F22A	1	*	*
HR3	40	4	4'-6"	F33	14	*	*
HR4	80	4	7'-4"	F44	14	*	*
HR13	95	4	4'-9"				
HR14	300	4	7'-10"	HR2	748	4	6'-8"
HR23	5	4	5'-1"				
				* See Bending Diagrams			





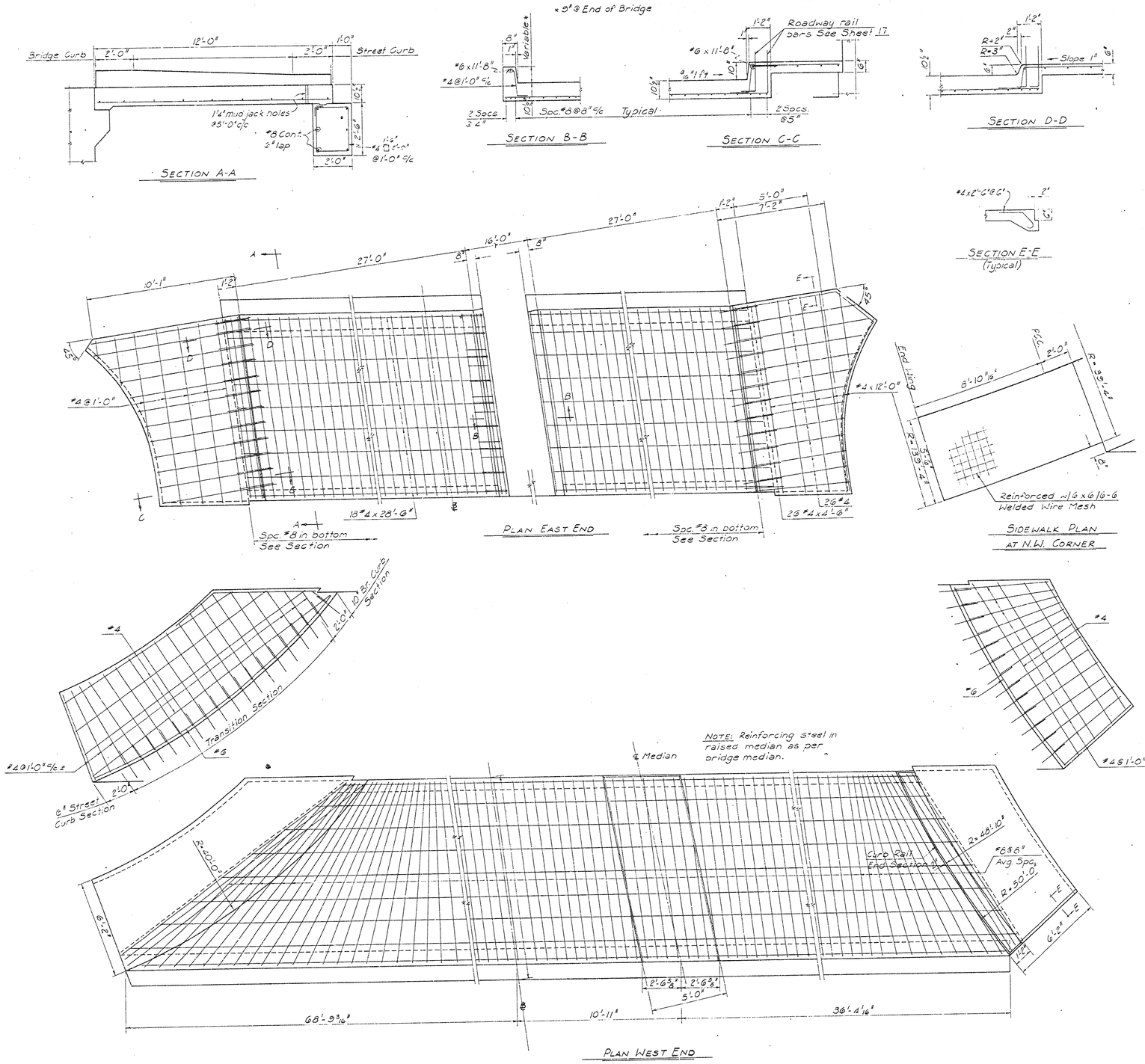
Note.
All dimensions shown in bending diagrams are out to out of bars.

CITY OF WICHITA, KANSAS
B. E. SMITH, CITY ENGINEER
LINCOLN STREET BRIDGE AND DAM
BIG ARKANSAS RIVER
BAR LIST & BENDING DIAGRAMS

R. S. DELAMATER
CONSULTING ENGINEER
WICHITA, KANSAS

DATE December 1968
SCALE
DWG. NO. 69-E-19

FEB 9 1971



NOTE:

All concrete shall be Class AAA.

Estimated slab area includes area of curbs and walks.

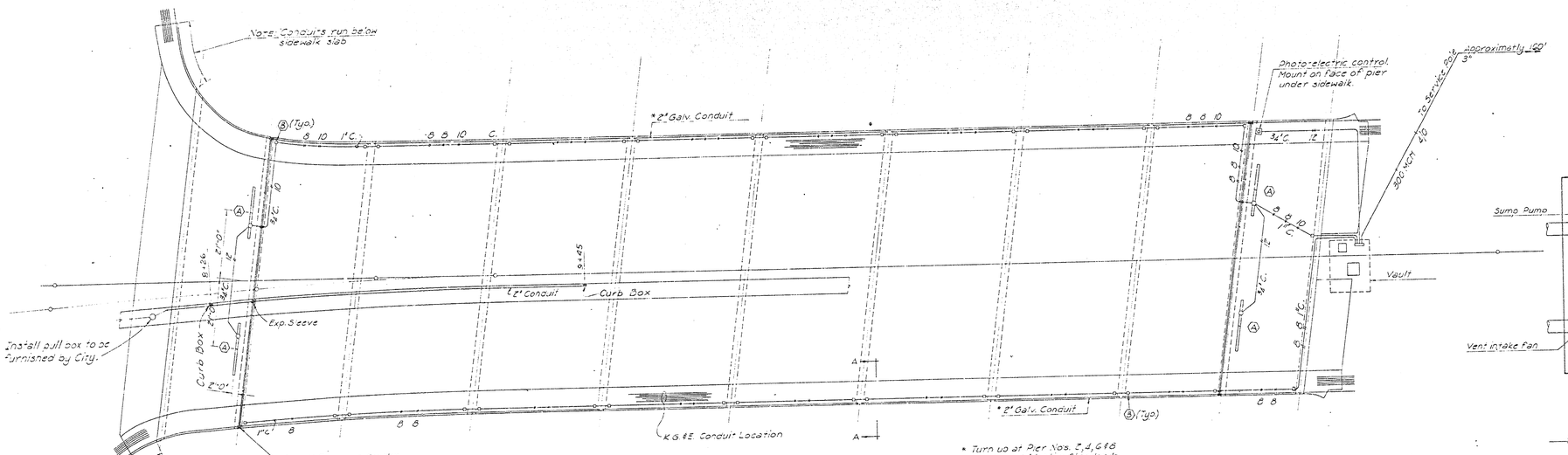
Estimated quantities in both slabs include:

Concrete	178 Cu. Yds.
Reinf. Steel	1,350 Lbs.

Cure all exposed surfaces with linseed oil emulsion as for bridge deck.

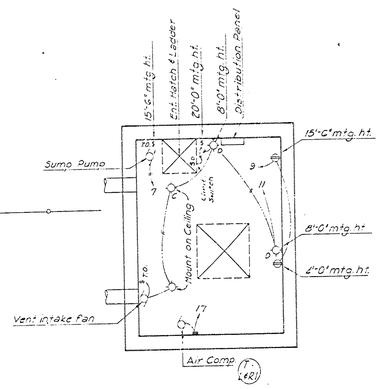
Approved FEB 5 1971

CITY OF WICHITA, KANSAS B. E. SMITH, CITY ENGINEER	
LINCOLN STREET BRIDGE AND DAM BIG ARKANSAS RIVER	
APPROACH SLABS	
R. S. DELAMATER CONSULTING ENGINEER WICHITA, KANSAS	DATE December, 1968 SCALE DWG. NO. 89-E-20



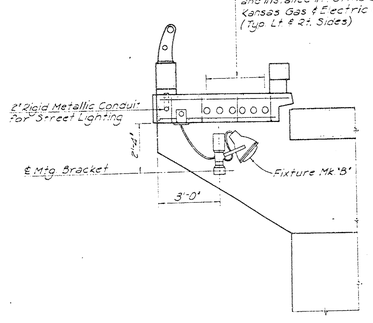
PLAN
Scale: 1" = 15'

* Turn up at Pier Nos. 2, 4, 6 & 8 for Street Lighting Standards See detail. Typical both sides of bridge.



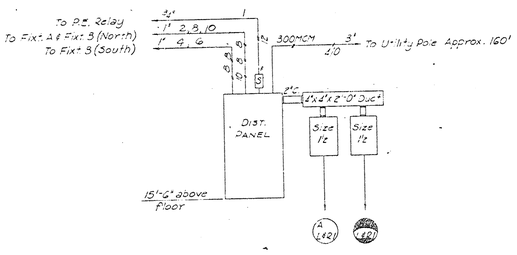
FLOOR PLAN OF VAULT
Scale: 4" = 1'-0"

FIXTURE LIST			
MARK	QUANTITY	MFR.	CAT. NO.
A	8 Ea.	Spaulding	8-CY-1-1500
B	32 Ea.	Crouse-Hinds	MVE-18 #16090
C	2 Ea.	Appleton	VXHA-2050 G
D	2 Ea	Appleton	VGAT-1050 G



VIEW A-A

PART SECTION THRU MEDIAN



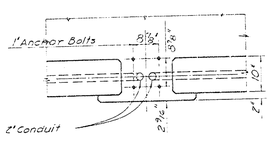
ELECTRICAL SERVICE RISER

NOTE:

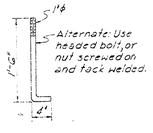
See Sheet 5 for location and size of Control Vault.

See Sheet 16 for exact location of street lights and section of sidewalk slab.

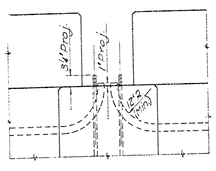
K. G. & E. conduits are not included in this contract; see the specifications.



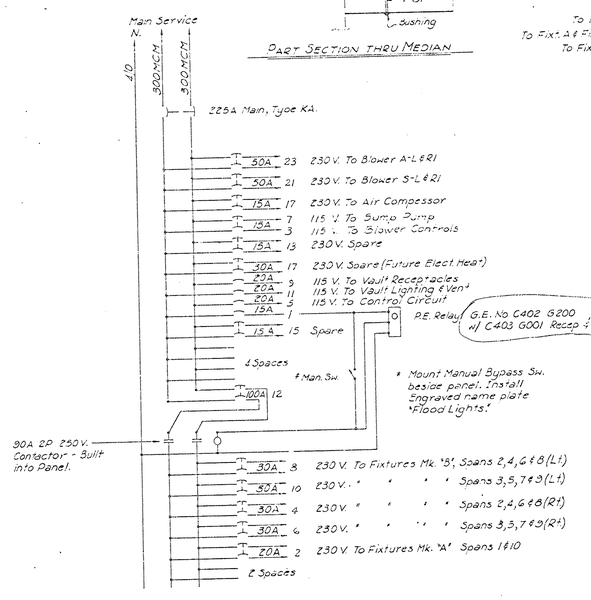
PLAN



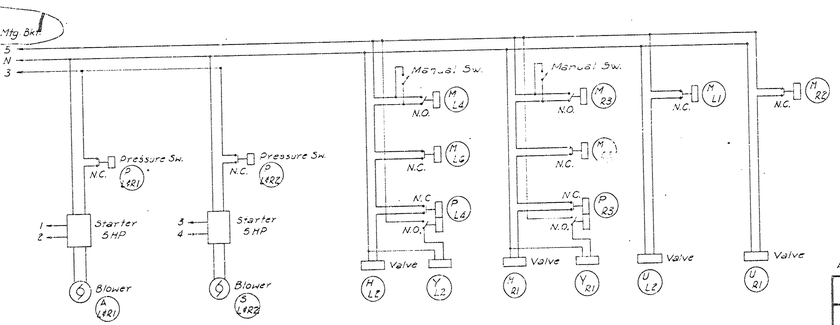
ANCHOR BOLT



ELEVATION
DETAIL AT LIGHT STANDARD



DISTRIBUTION PANEL
POWER & LIGHTING
120/240 V. 3W, 1Φ
Type NQO. NEMA 1 Enclosure



ELECTRICAL SCHEMATIC DIAGRAM
115 Volt Control Circuit

AS BUILT JAN, 1971 C.P.S.

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

LINCOLN STREET BRIDGE AND DAM
BIG ARKANSAS RIVER

ELECTRICAL LAYOUT

R. S. DELAMATER
CONSULTING ENGINEER
WICHITA, KANSAS

DATE December, 1968
SCALE
DWG. NO. 89-E-21

FEB 9 1971