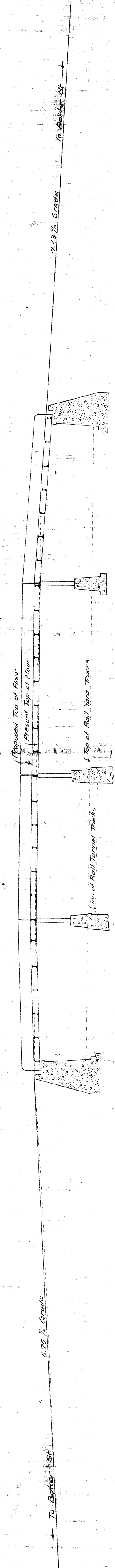
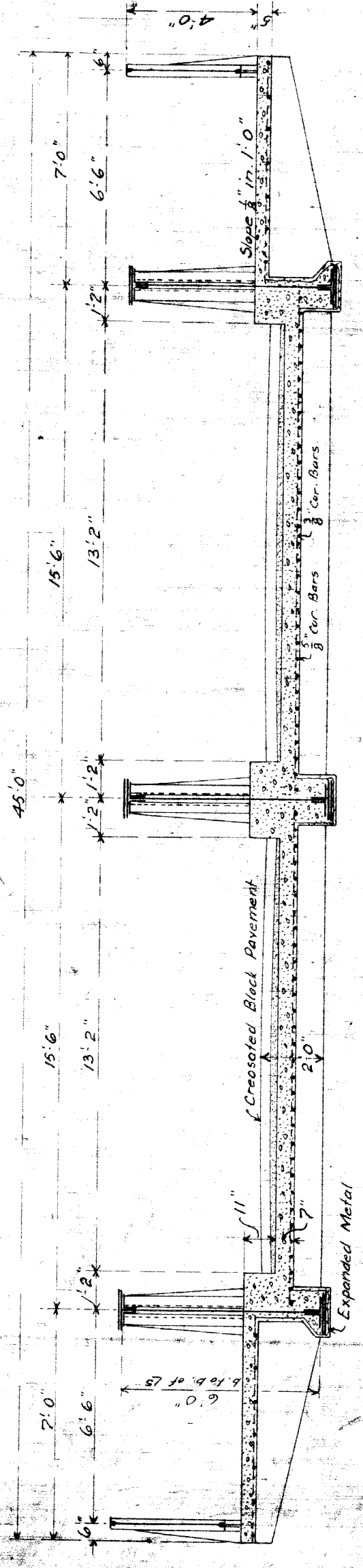


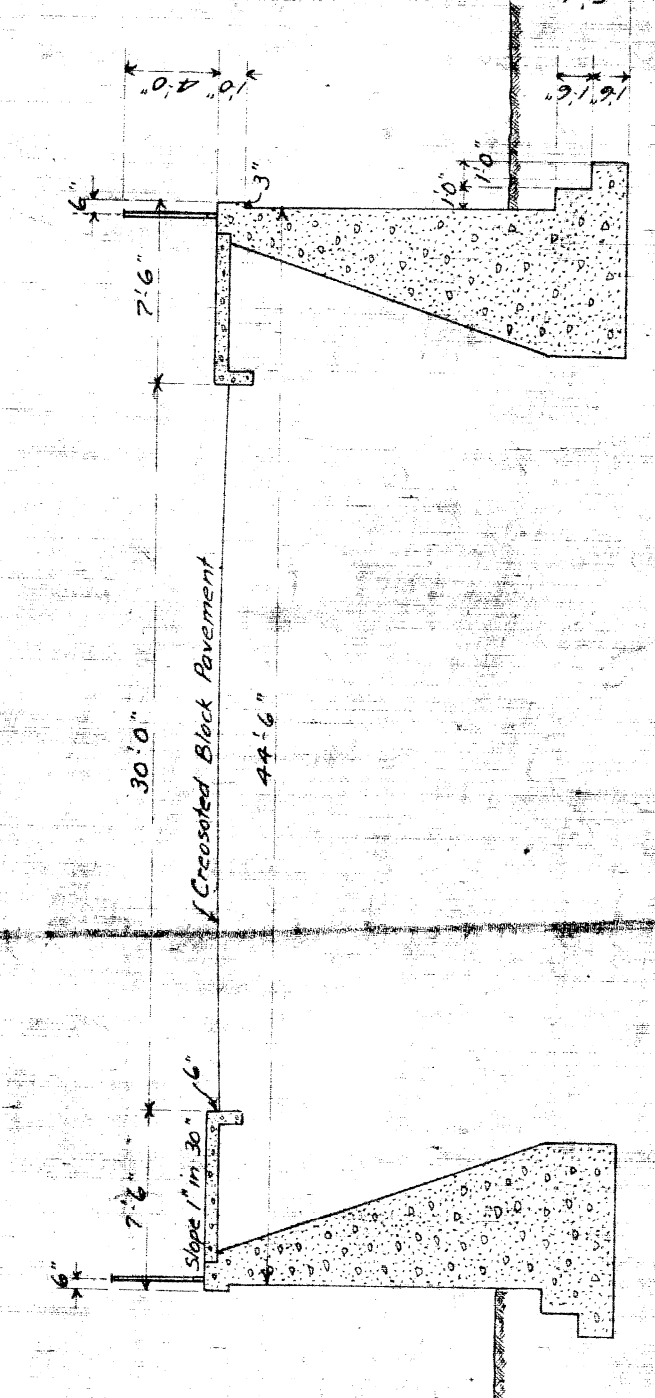
PLAN OF BRIDGE
Scale: 1/4" = 20 ft



ELEVATION ON CENTER LINE OF 14TH AVE.
Scale: 1/4" = 20 ft



CROSS SECTION THROUGH BRIDGE
Scale: 1/4" = 1 ft

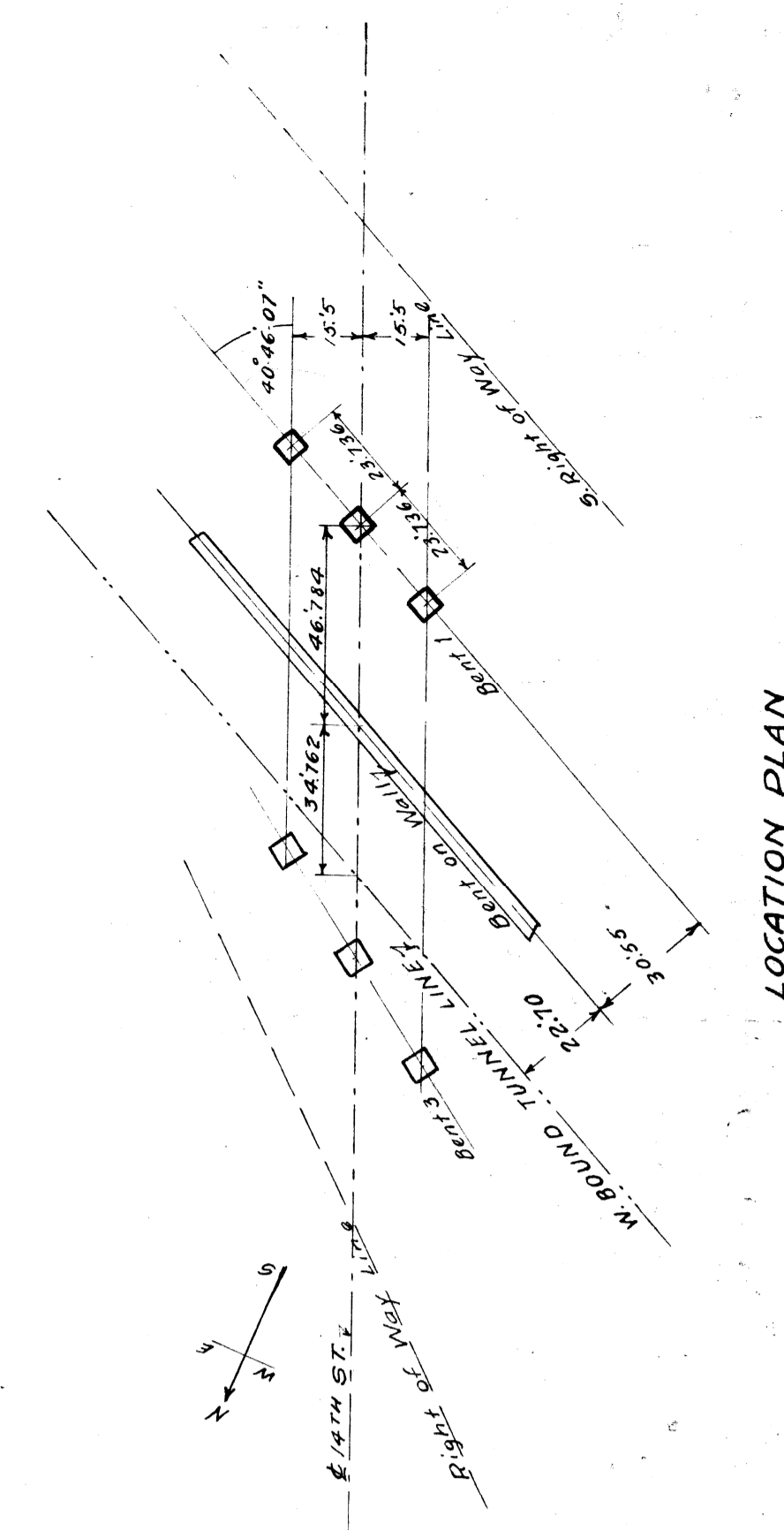


CROSS SECTION THROUGH APPROACH
Scale: 1/4" = 1 ft

PLAN OF PROPOSED BRIDGE
OVER THE MICHIGAN CENTRAL RAILROAD
AT FOURTEENTH AVENUE

CITY ENGINEER'S OFFICE
DETROIT, MICHIGAN
Dec 30th 1908

15' from center of main line to center of bent



LOCATION PLAN

NOTE
 CONTENTS FOR CONCRETE
 MAKE BENT 15' BELOW EL 111.62 OF 14TH ST.
 REQUIREMENTS FOR I BEAMS 16" x 16"
 BARS AS FOLLOWS -

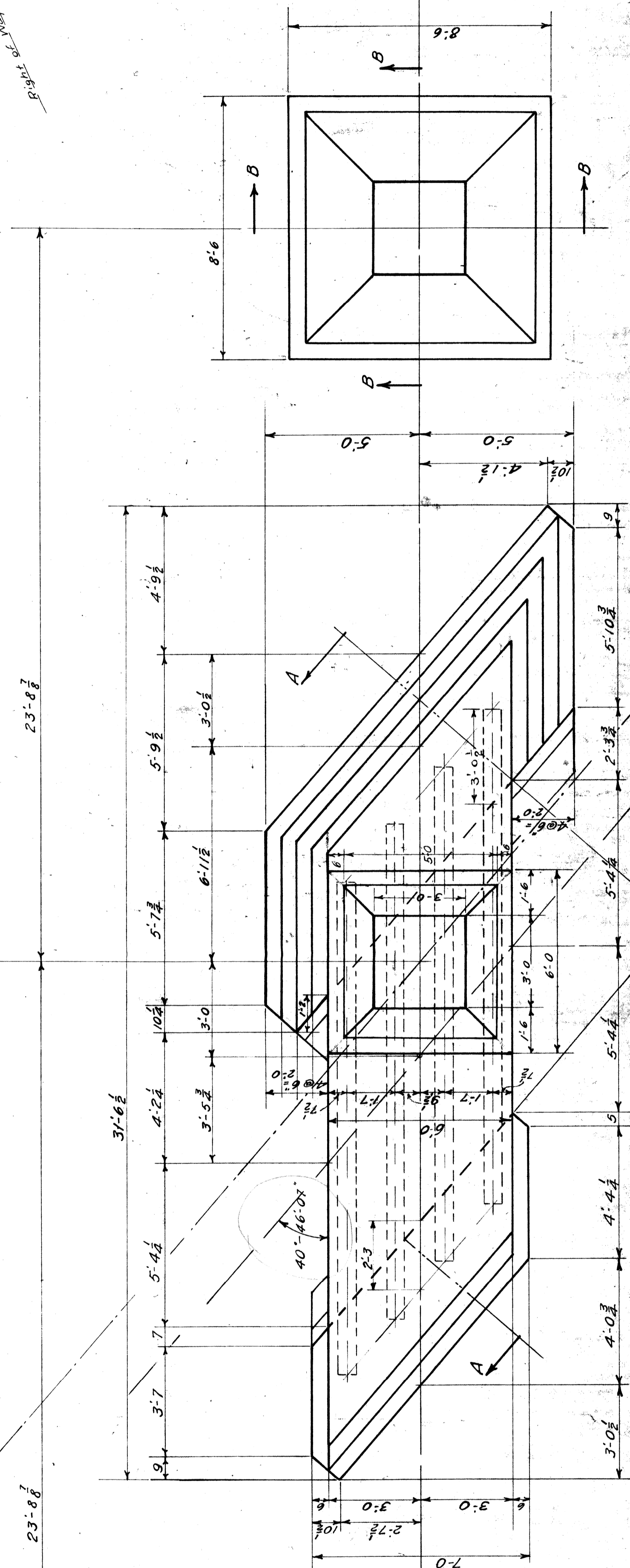
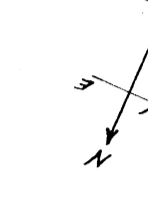
6	1/2"	14'0"
15	5/8"	9'6"
11	1"	5'6"
16	1 1/4"	5'0"
48	1 1/2"	8'0"
12	1 1/2"	11'0"

MATERIAL FOR DOMELS
 WHEREVER HORIZONTAL DIMTS ARE
 MADE SET DOMELS 3/4" LONG 250 CC

CENTER POST LOAD 342,000 LBS
 S/D/JE

M. C. R. R. DIV. - MAIN LINE
 Bridge No. 14 TH ST
 PIERS BENT 1

Approved: *[Signature]* Chief Engineer
 Checked: *[Signature]* District Engineer
 Drawn by: *[Signature]* Draftsman



SEWER 14 TH ST

SEWER 14 TH ST

SEWER 14 TH ST

SEWER 14 TH ST

SEWER 14 TH ST

SEWER 14 TH ST

SEWER 14 TH ST

SEWER 14 TH ST

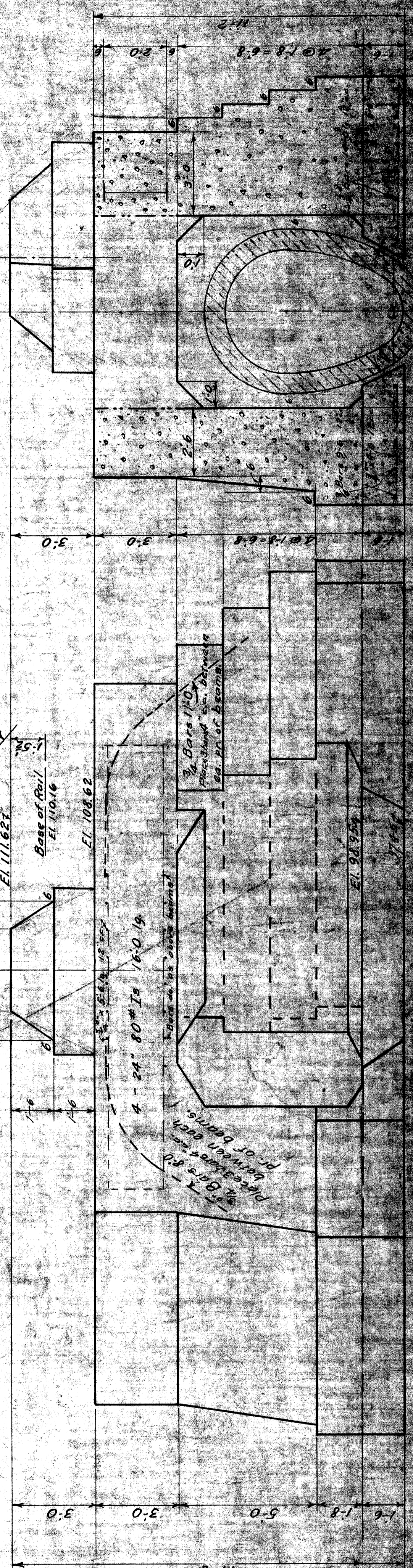
SEWER 14 TH ST

SEWER 14 TH ST

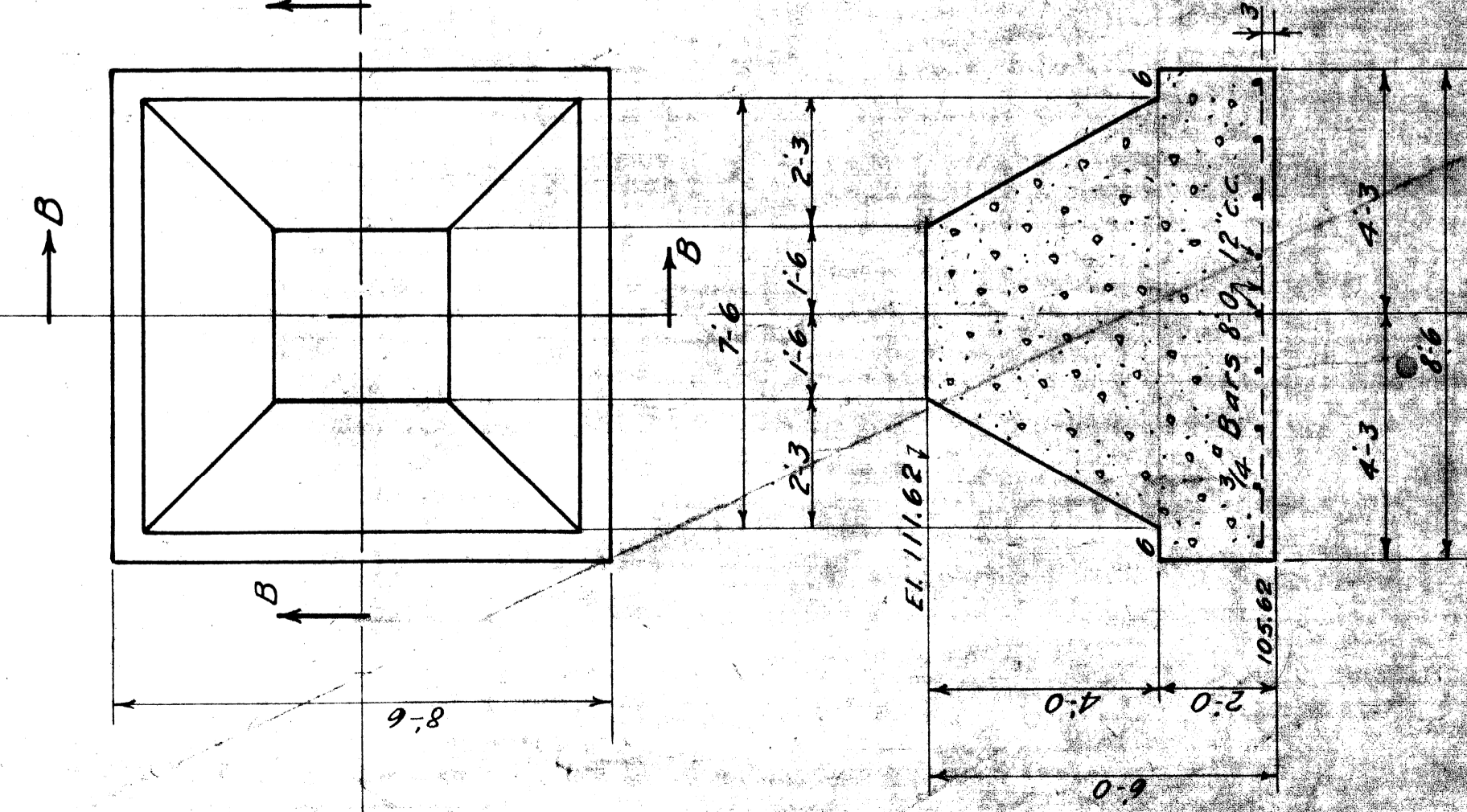
SEWER 14 TH ST

SEWER 14 TH ST

SEWER 14 TH ST



ELEVATION - SIDE OF BENT



SEC. BB

128
50

125
50

124
50

121
52.08

23-0
101

Face of Wall

14TH AVE.

Face of Wall

SOUTH APPROACH OF 14TH AVE. BRIDGE
Scale 1 in. = 10 ft.

to note

Gas pipe Rail

AMERICAN
INJECTOR
CO

120

122

123

126

127

Old Sewer Grade

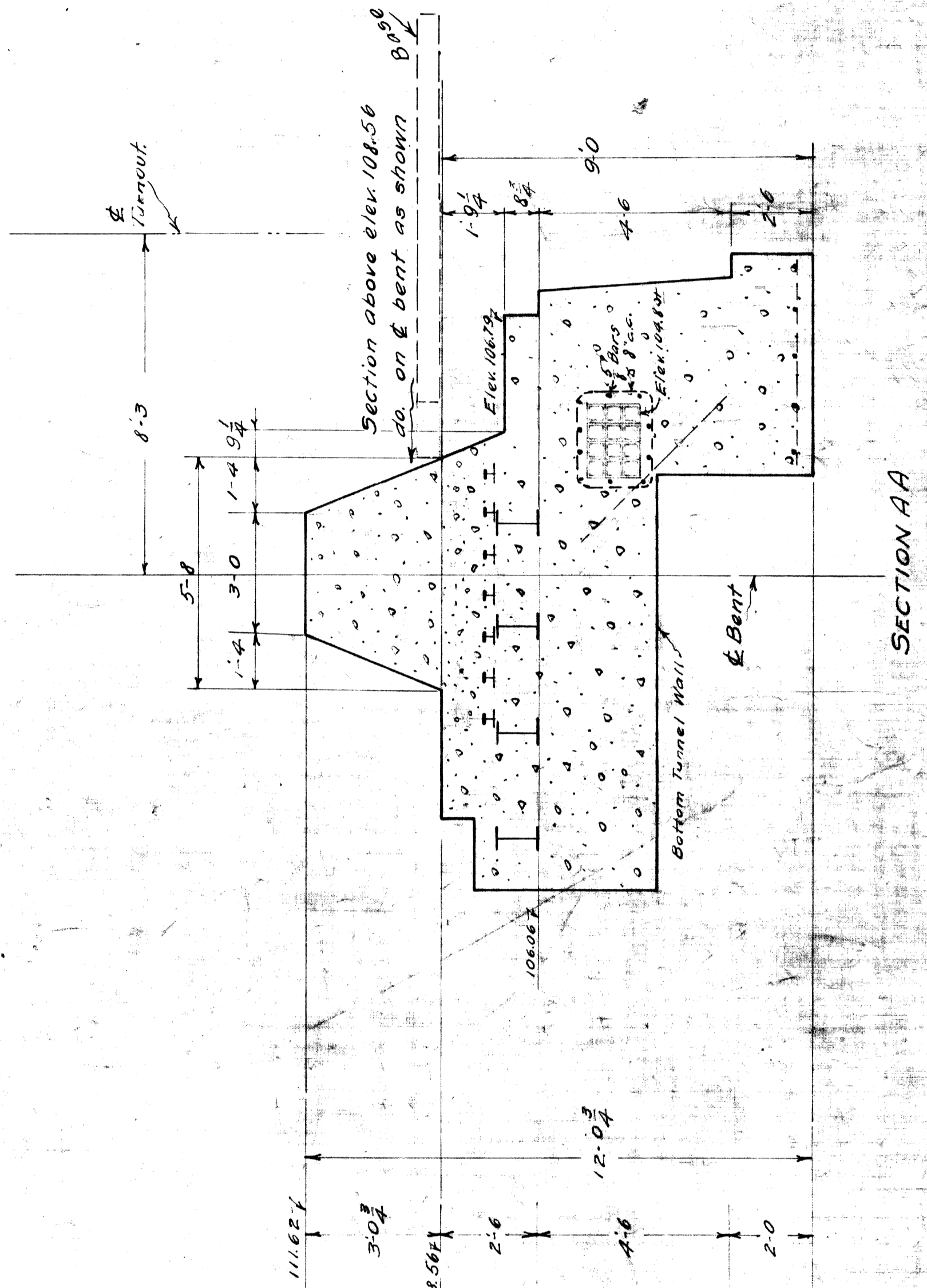
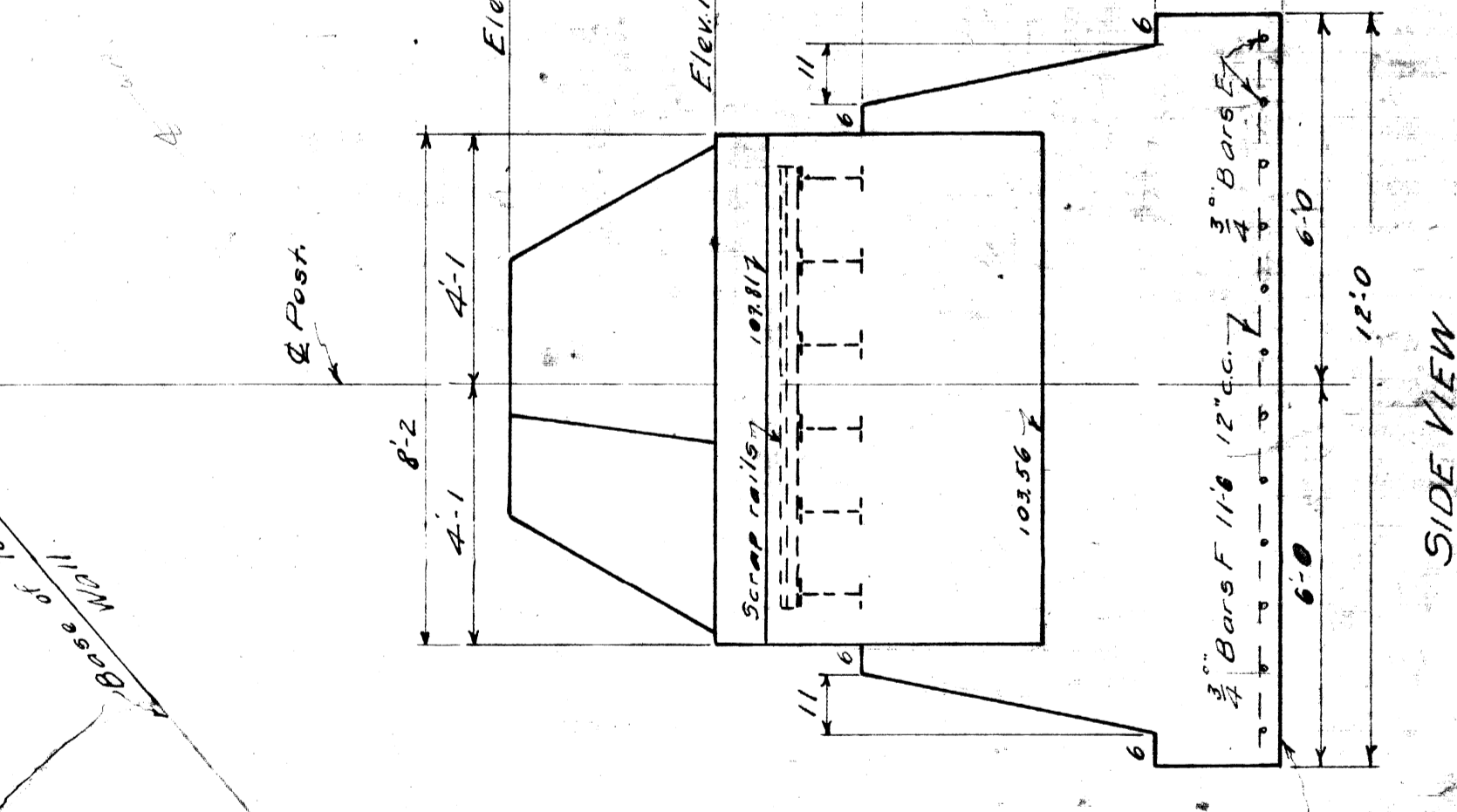
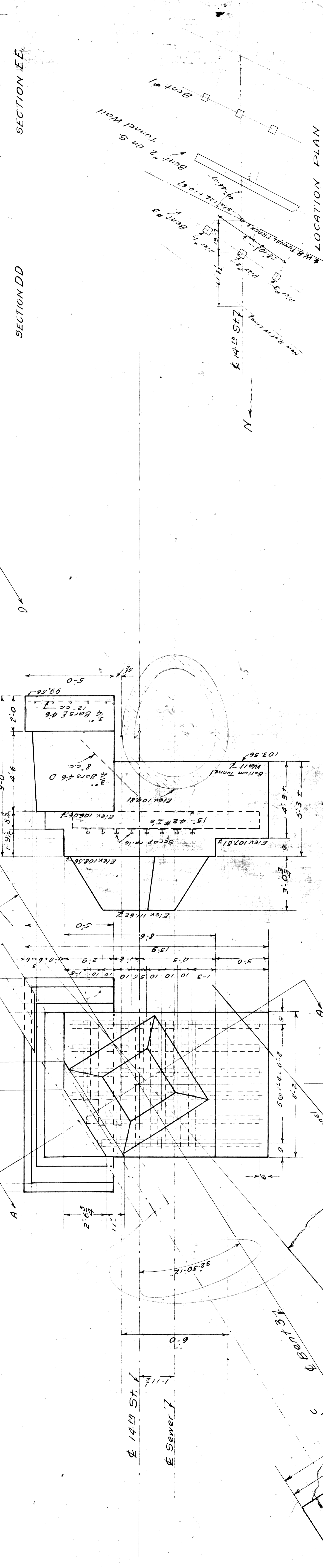
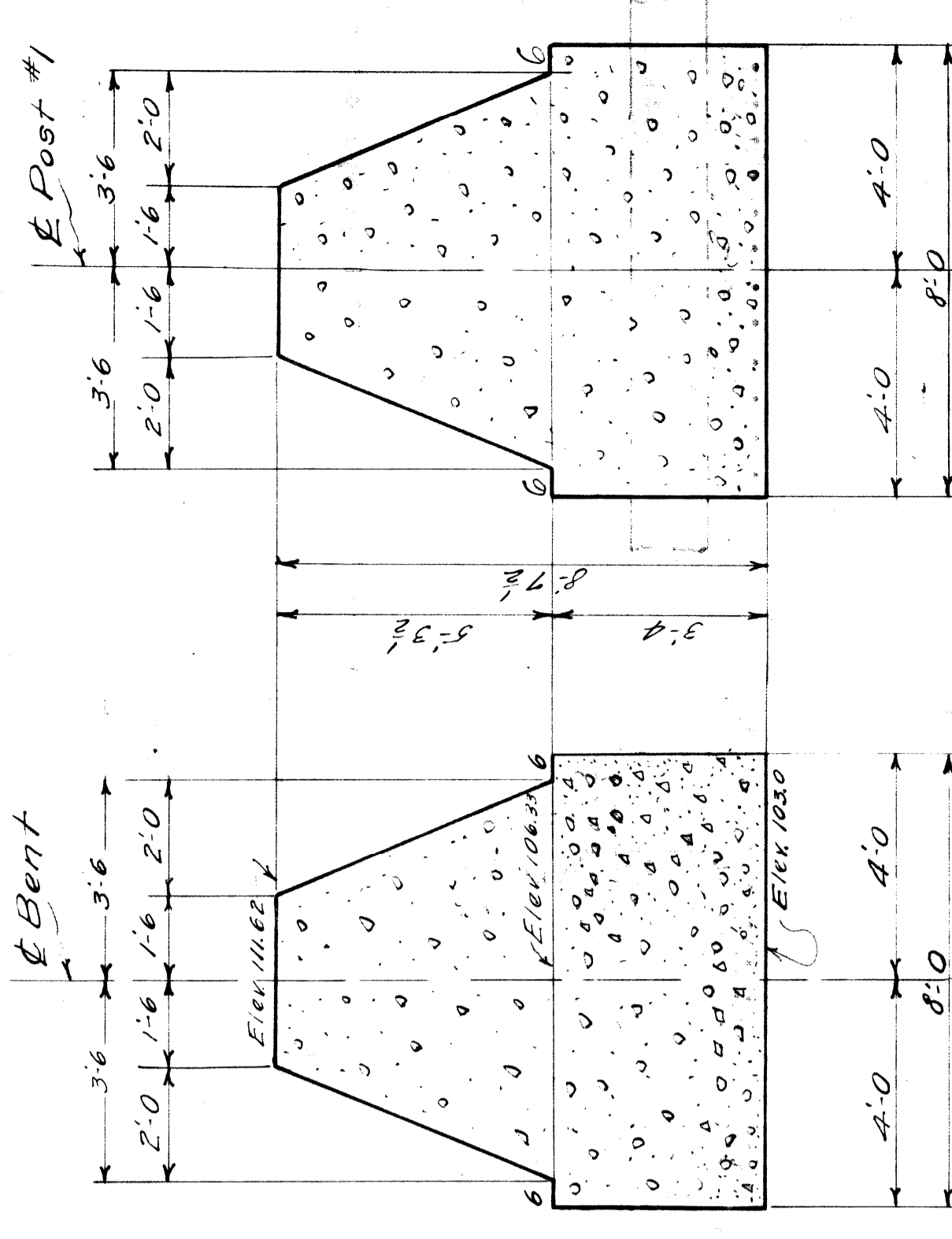
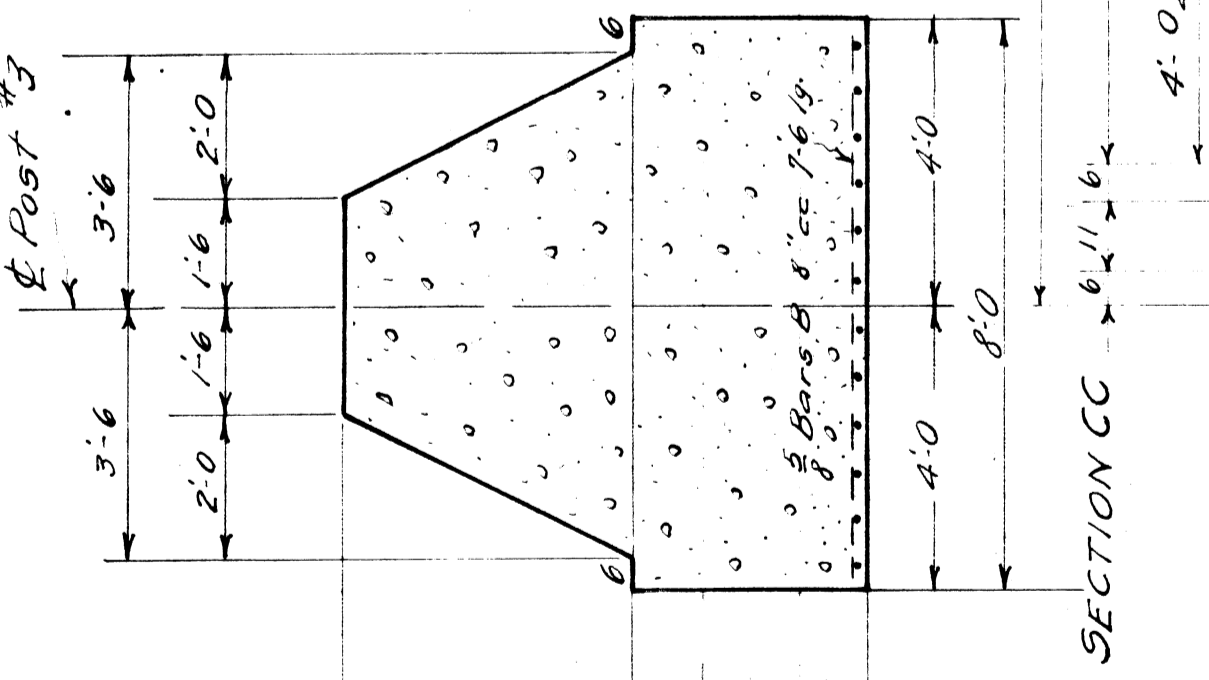
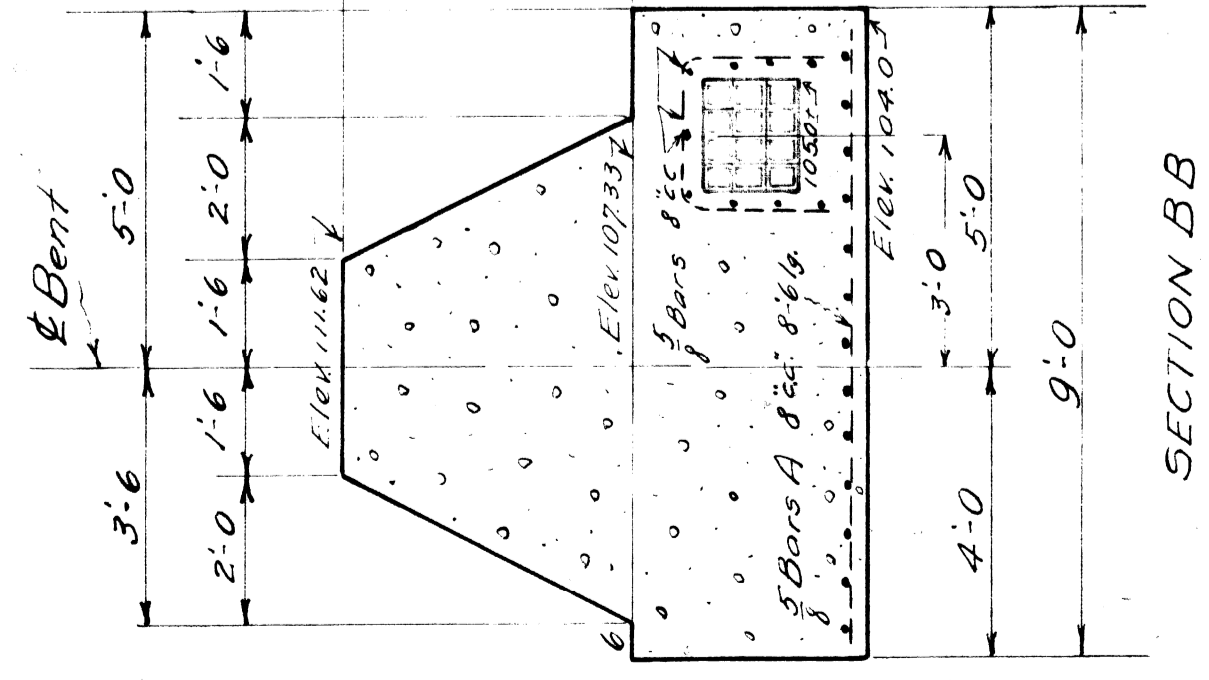
Top of new wells grade 66.9

New Crowned and Grade 66.9

Old Sewer Grade

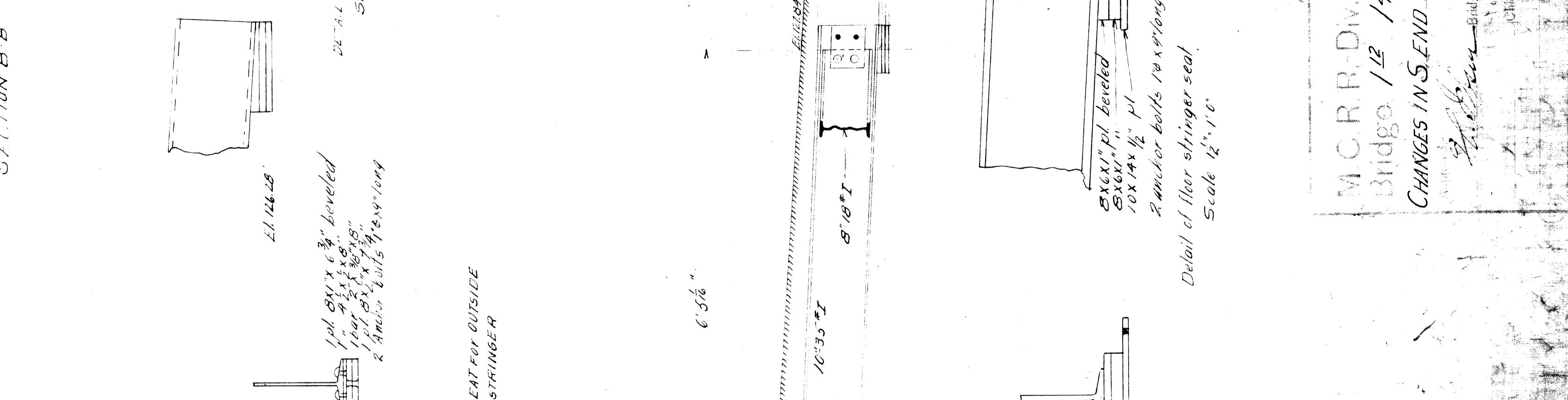
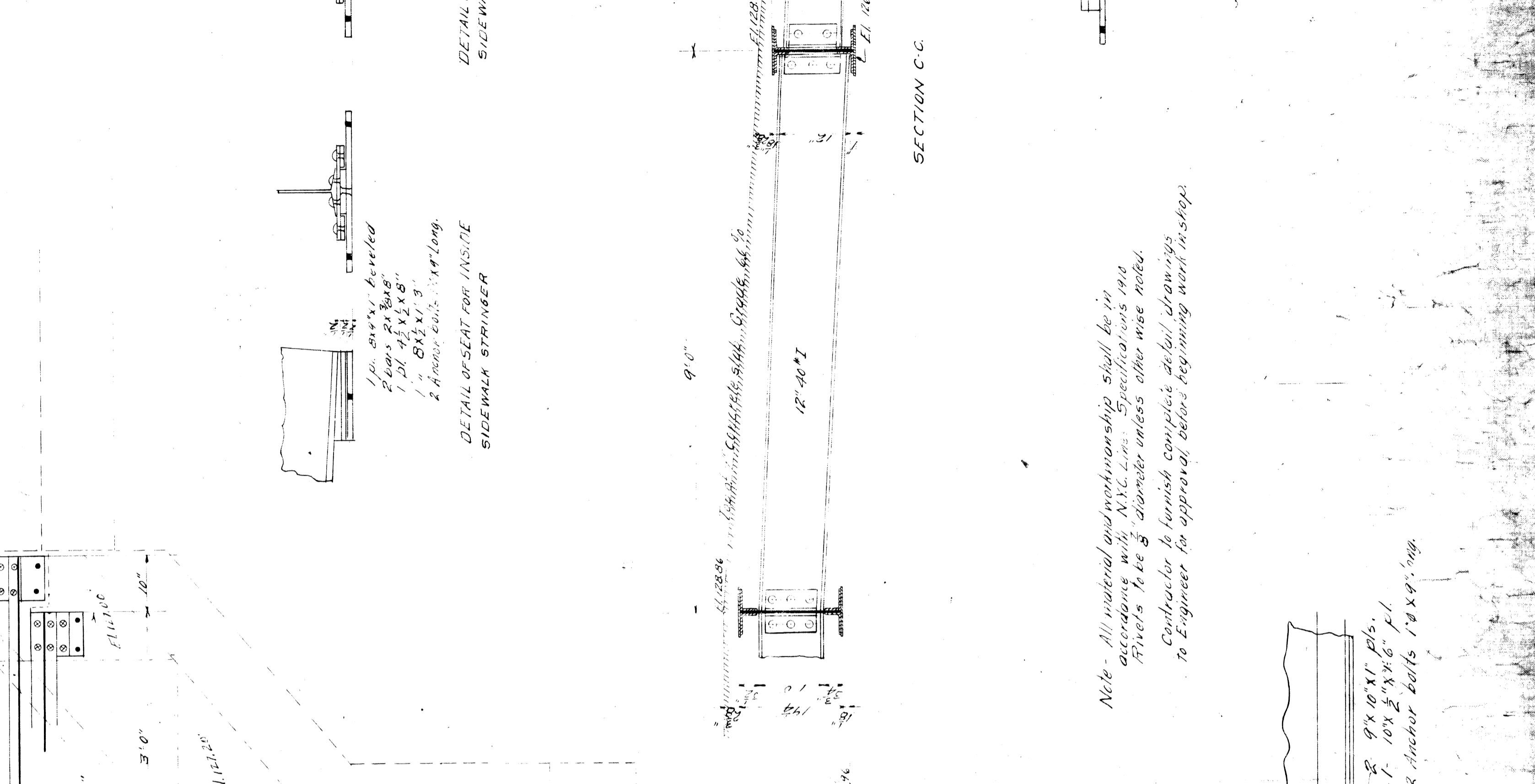
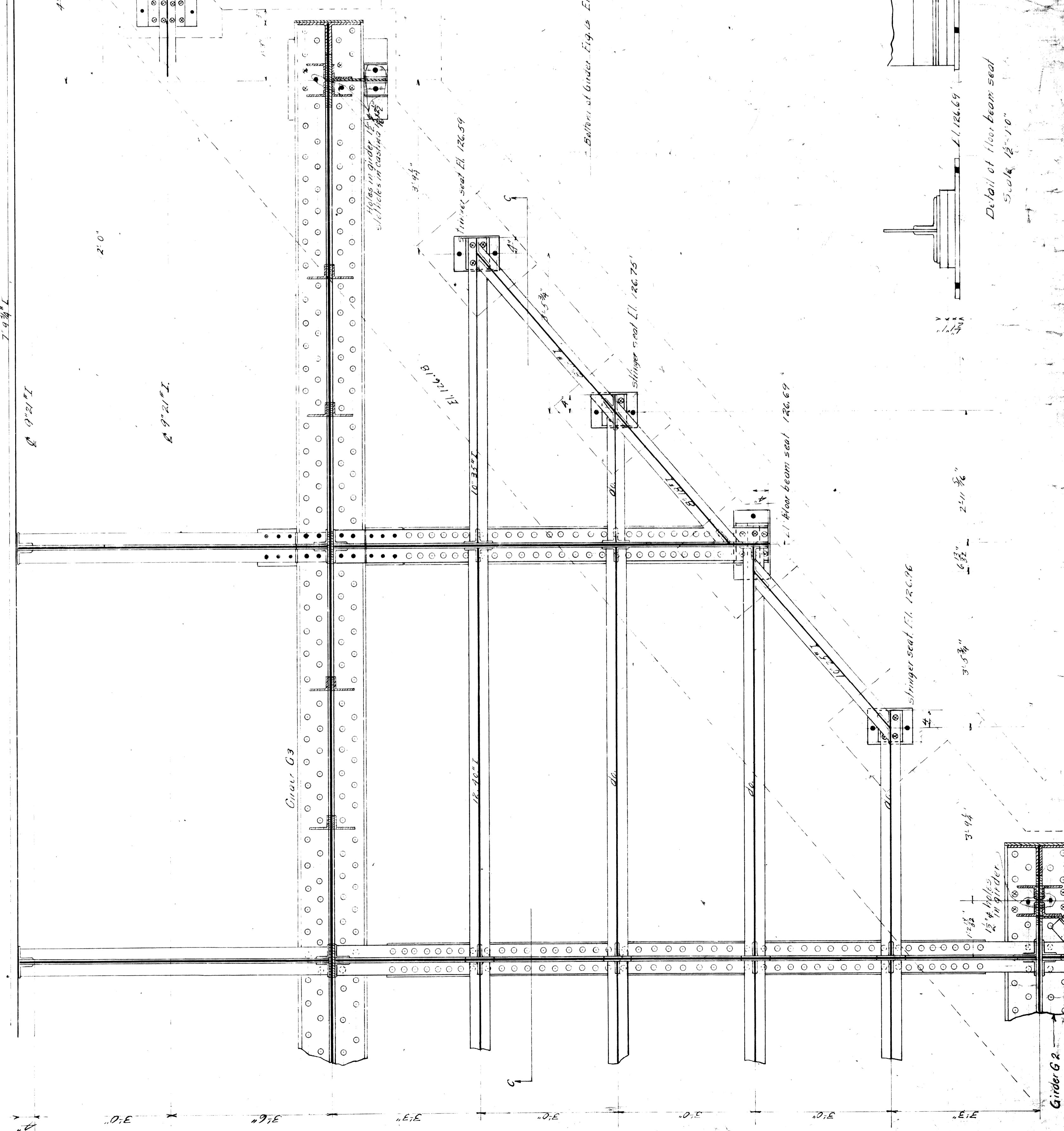
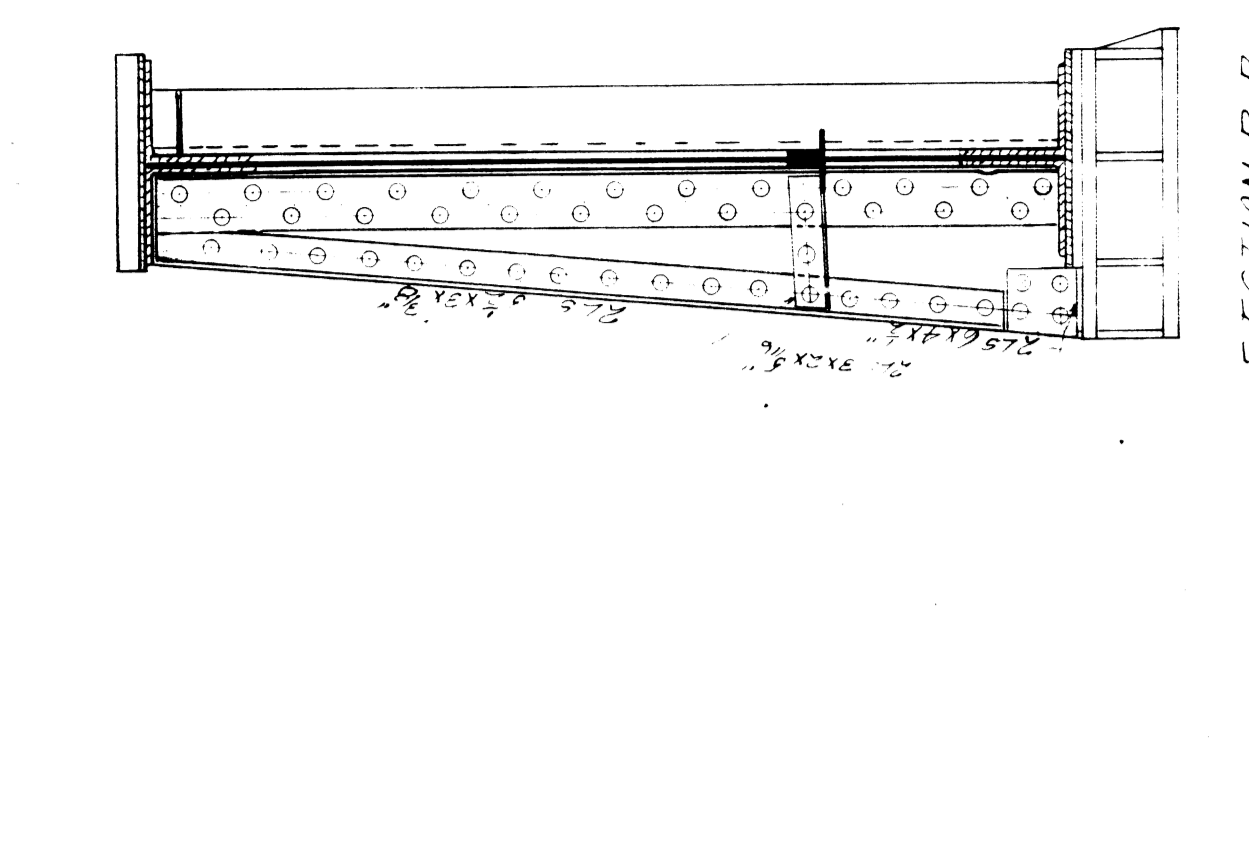
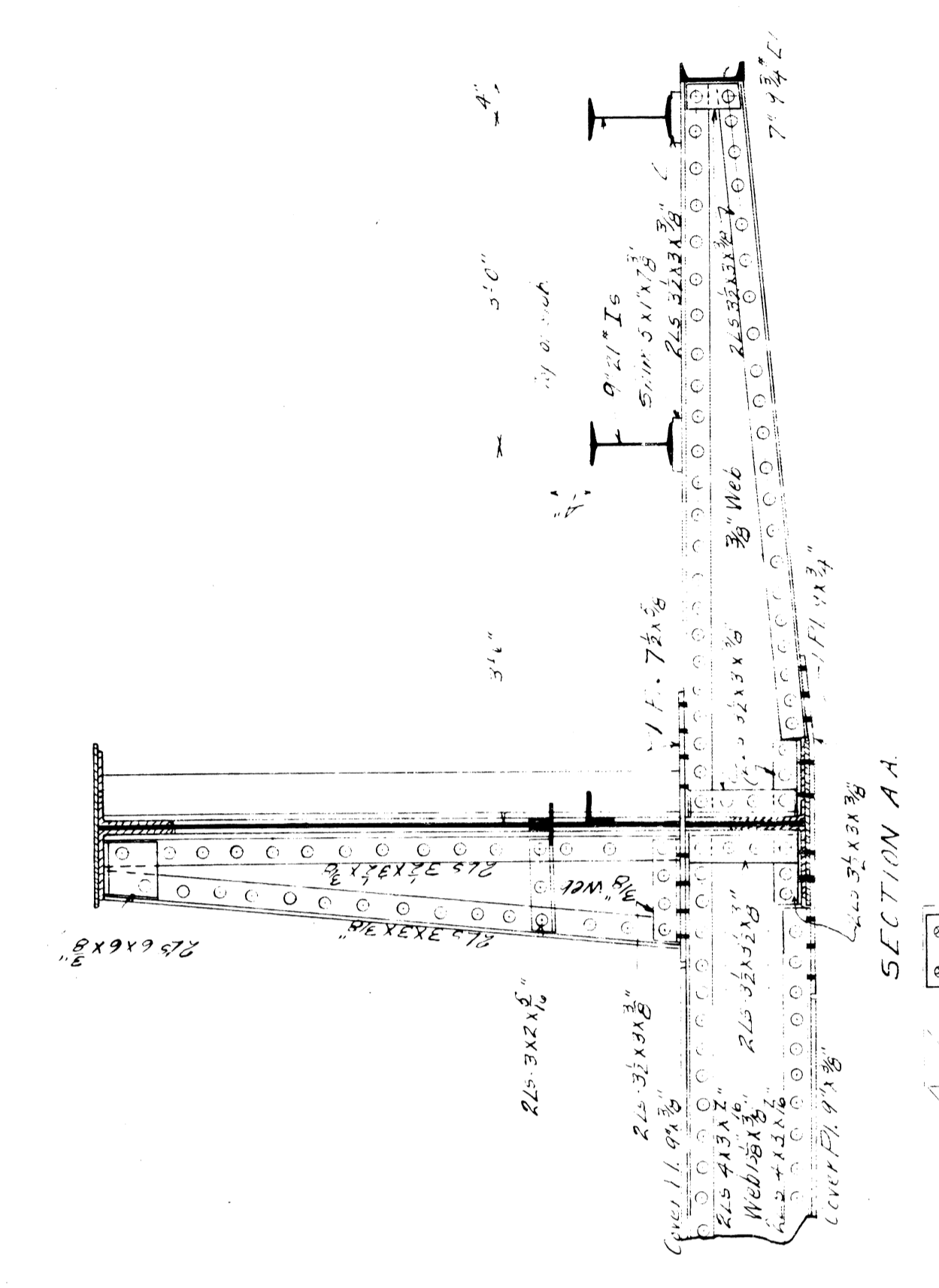
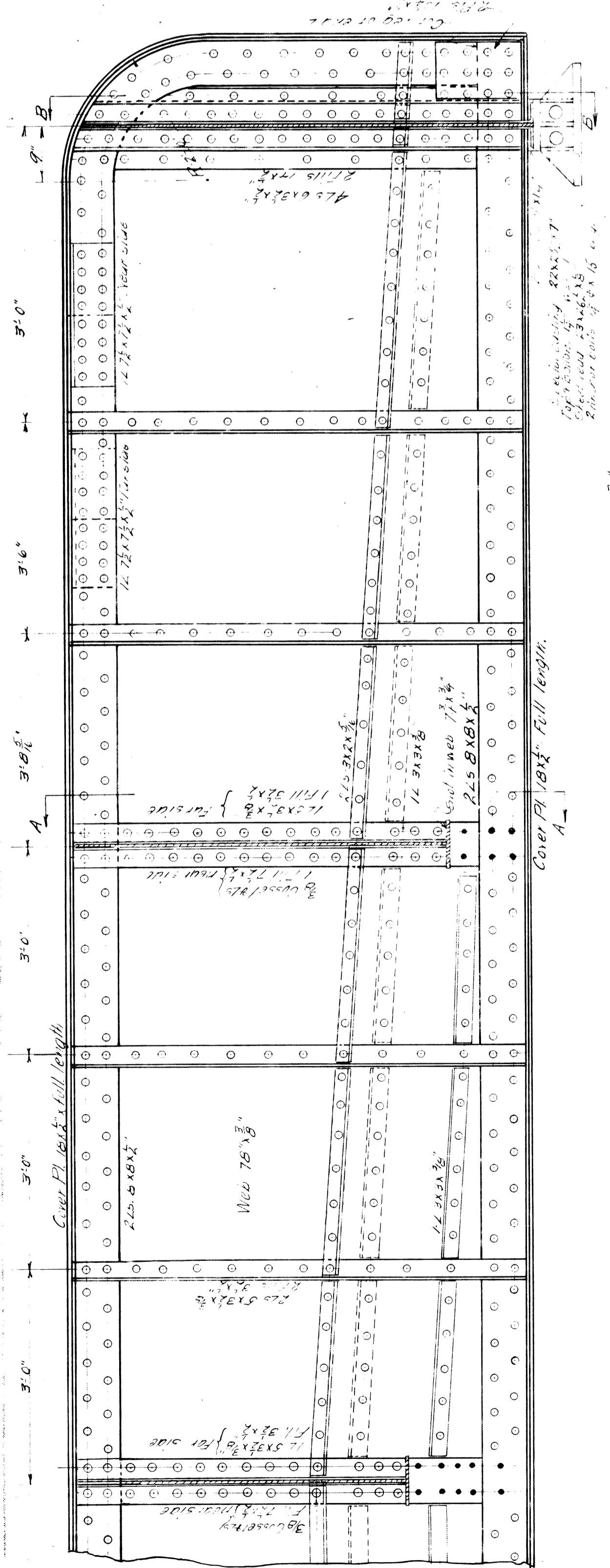
PROFILE Scale 1 in. = 10 ft.
Vertical 1 in. = 5 ft.

FILE X056



NOTE
 REQD 12 BARS @ 8" O.C.
 12 BARS @ 8" O.C. FOR DUCTS.
 15" x 42" I's AS FOLLOWS
 4 @ 10'-9"
 1 @ 8'-9"
 1 @ 7'-0"
 2 @ 6'-0"
 1 @ 4'-6"
 MAKE TOP 6" (ABOVE ELEK 111.12) 1:2 MIX
 NEXT 2" 1:2:3 MIX
 BALANCE 4:1:6
 CONTENTS 47 YDS.
 ADDL. BARS
 12 @ 8" O.C. @ 4'-6"
 12 @ 8" O.C. @ 4'-6"
 5 @ 8" O.C. @ 4'-6"
 5 @ 8" O.C. @ 4'-6"

M. C. R. R. DIV. - MAIN LINE
 Bridge 112 14th St.
 PIERS - BENT #3
 Approved: [Signature]
 Bridge Engineer: [Signature]
 Drawn By: [Signature]
 Checked By: [Signature]
 Chief Engineer: [Signature]
 Scale: 1" = 1'-0"
 Sheet 61



SECTION A-A
SECTION B-B
SECTION C-C

2x4-5/8" x 1/4"
Weld 7/16"
2x4-5/8" x 1/4"
Cover Pl. 1/8" x 1/4" full length

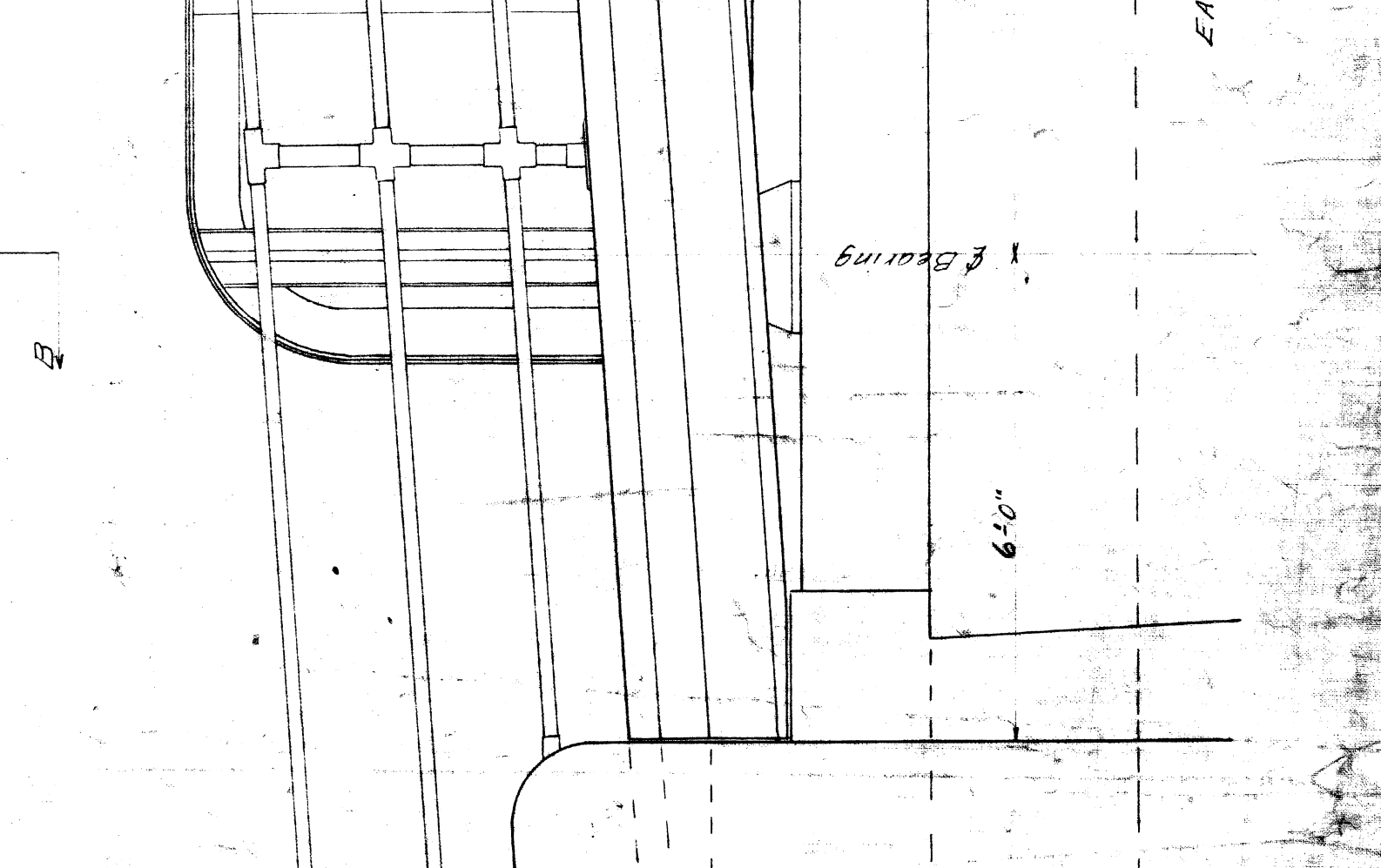
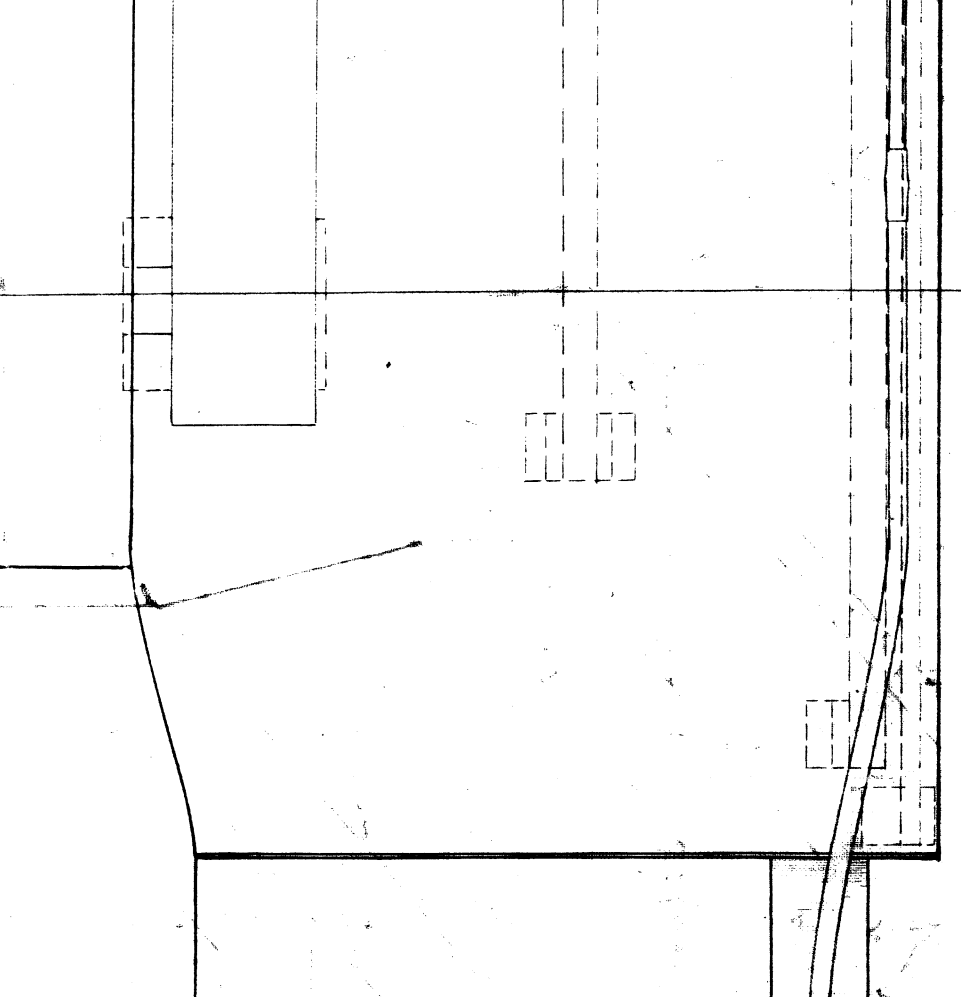
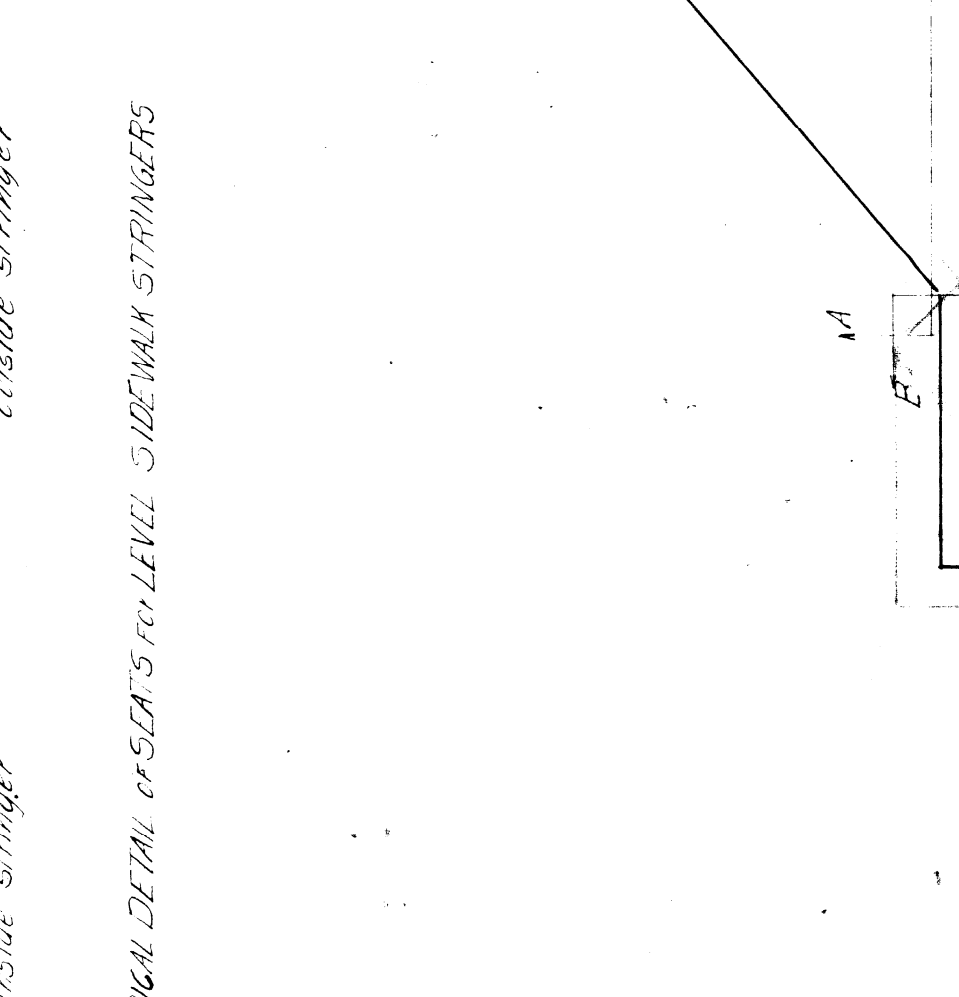
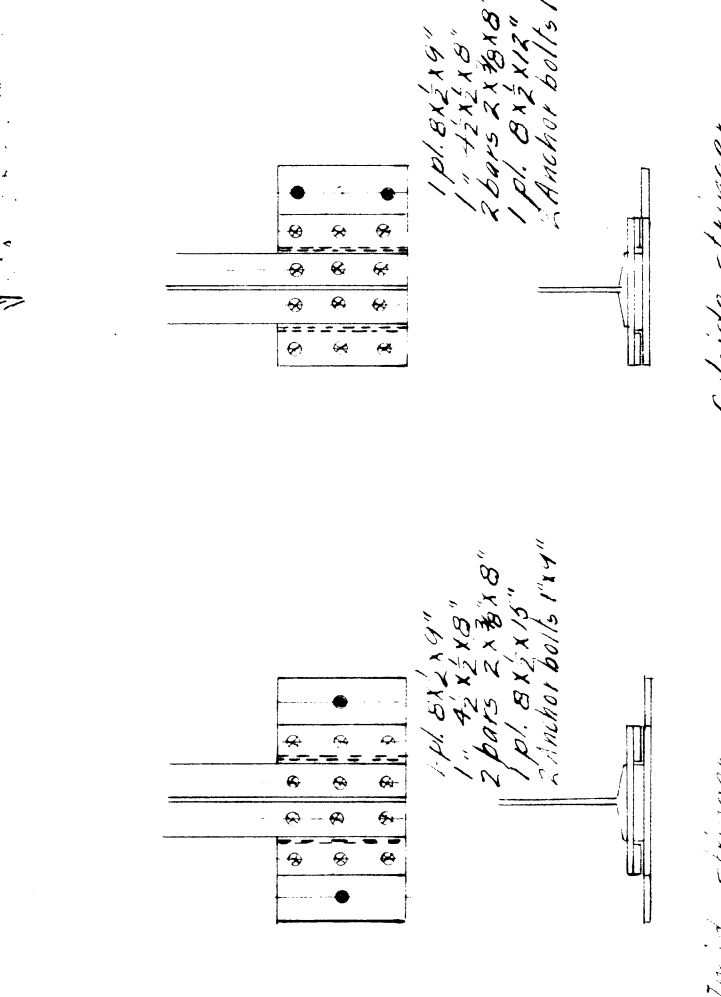
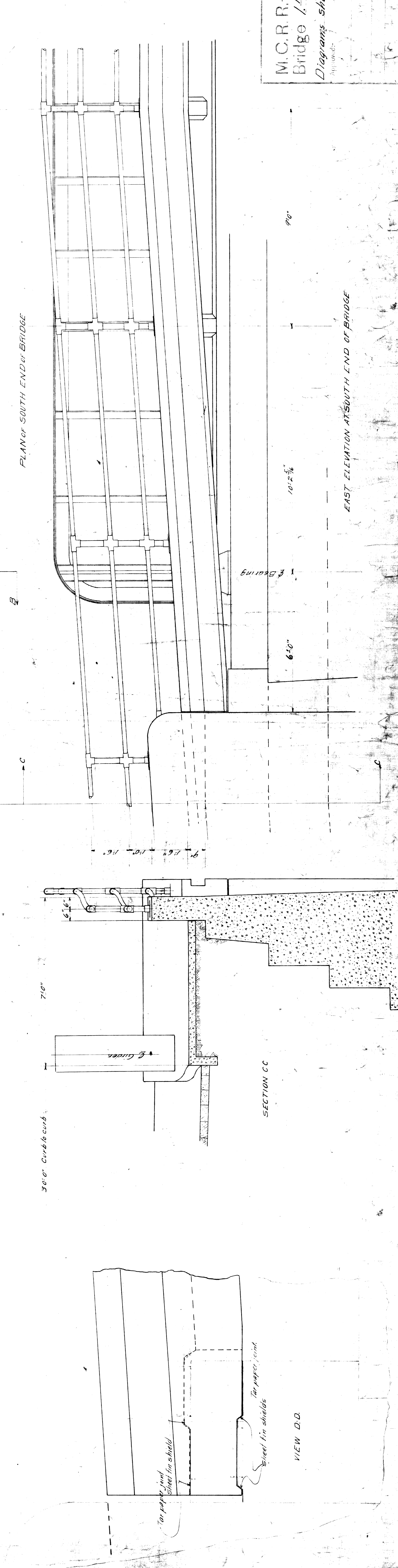
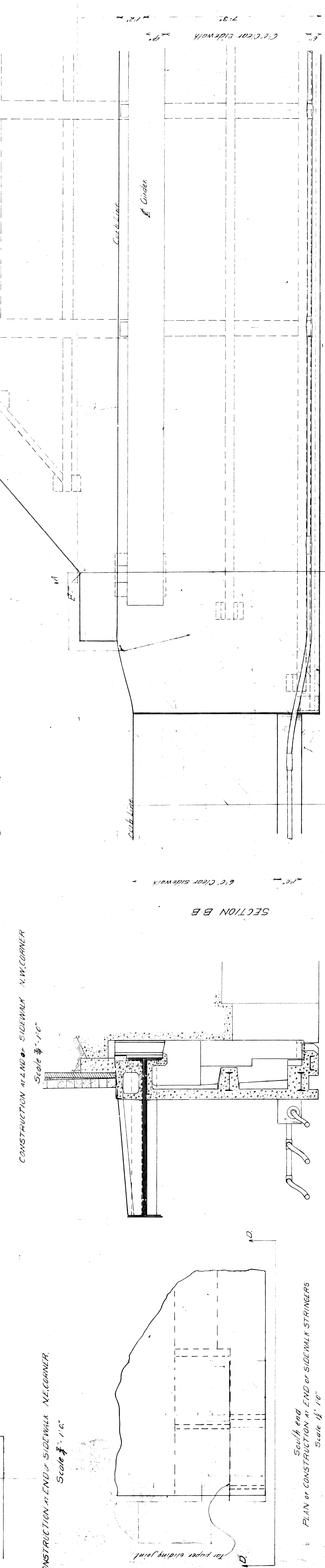
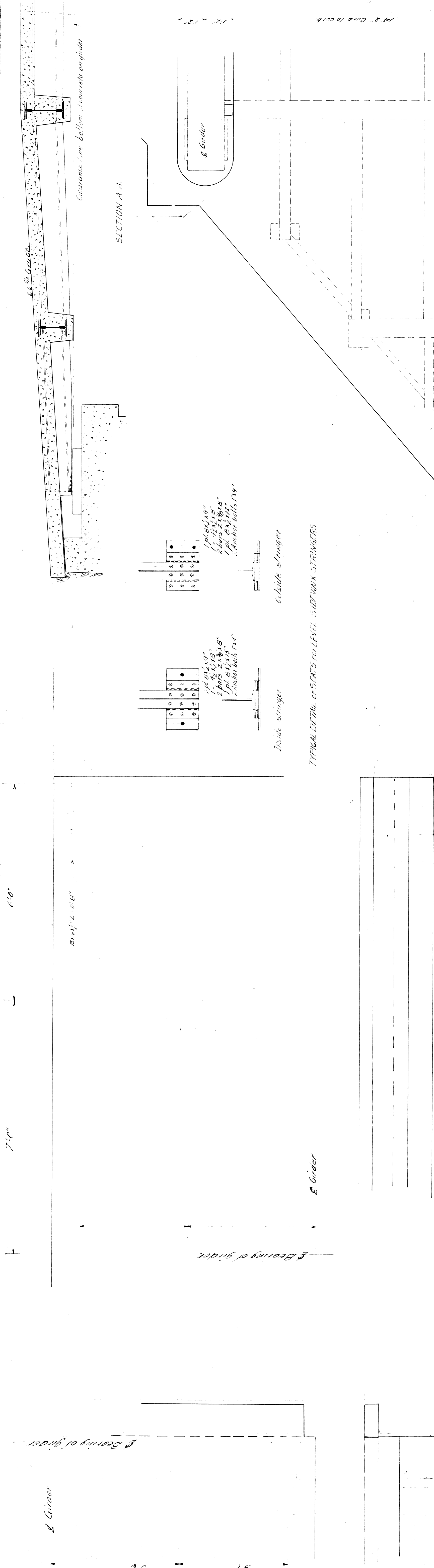
Girder G3
Girder G2
Stringer seat Fl. 126.59
1/2" floor beam seat 126.69

2x4-5/8" x 1/4"
Weld 7/16"
2x4-5/8" x 1/4"
Detail of floor stringer seal
Scale 1/2" = 1'-0"

2x4-5/8" x 1/4"
Weld 7/16"
2x4-5/8" x 1/4"
Detail of floor beam seal
Scale 1/2" = 1'-0"

Note - All material and workmanship shall be in accordance with N.Y.C. Laws. Specifications and Details for the work shall be furnished by the Contractor to the Engineer for approval, before beginning work on site.

M.C.R.R. DIV. MAIN LINE
Bridge 126 14th STREET
CHANGES IN SEND DUE TO STREET GRAD

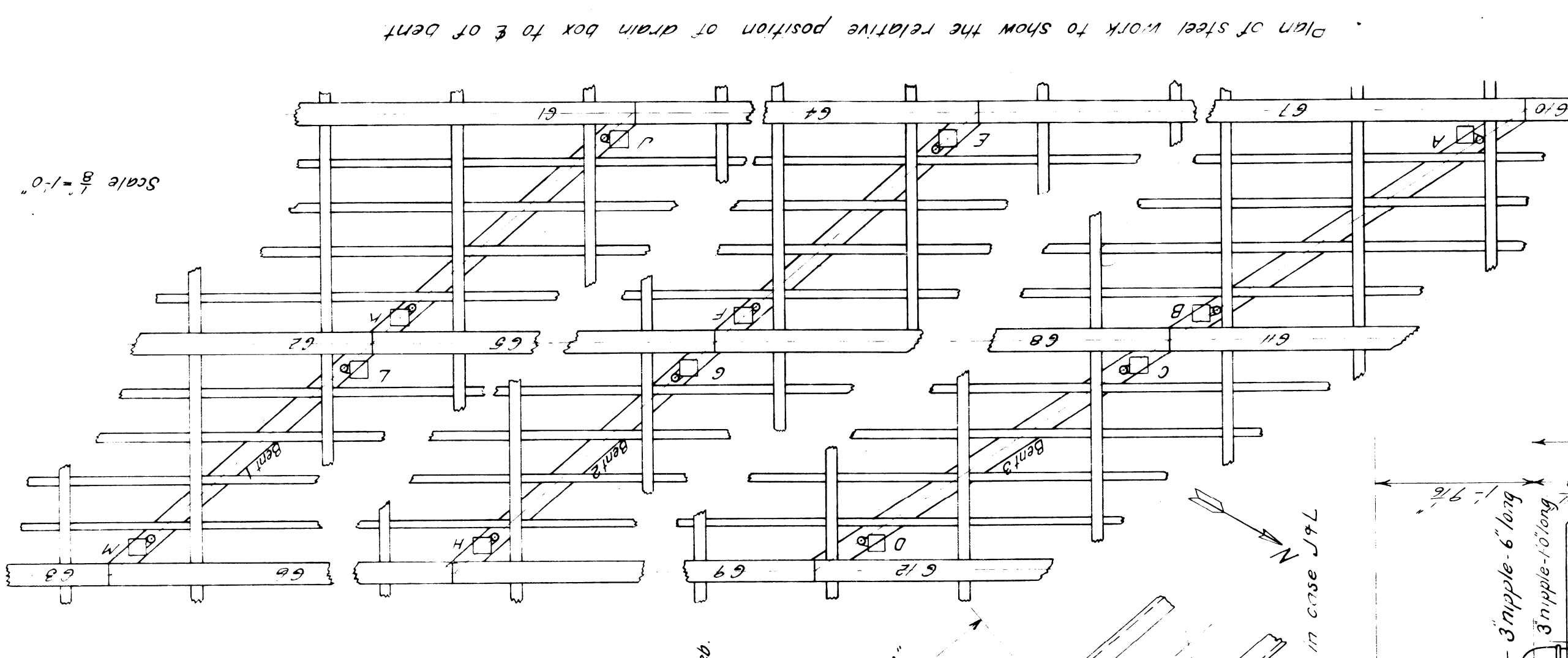


M. C. R. R. Div. - MAIN LINE
 Bridge 1.18 14th STREET
 Diagrams showing construction at end of bridge

Scale 1/2" = 1'-0"

Drawn by J. J. [unclear]
 Checked by [unclear]
 Chief Engineer [unclear]
 [unclear]
 [unclear]

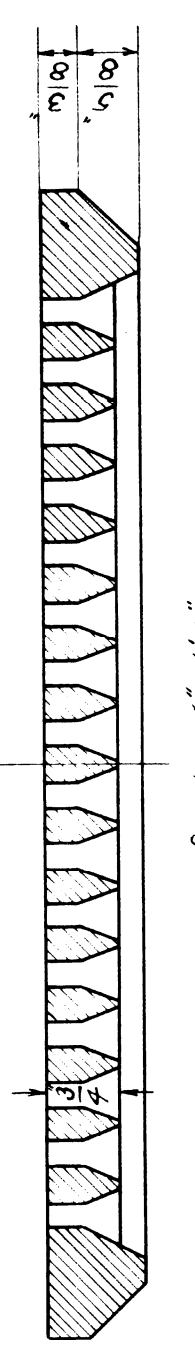
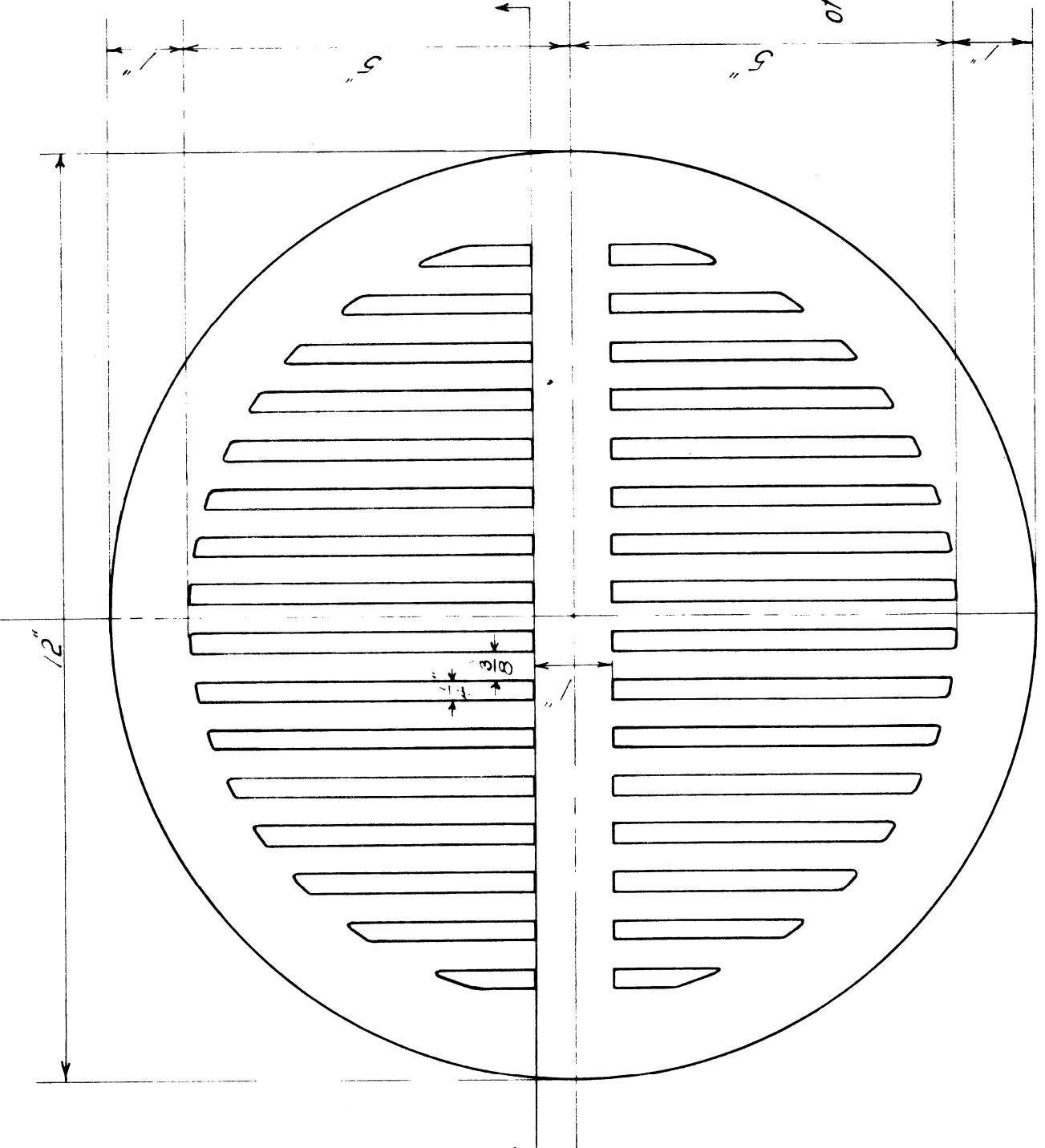
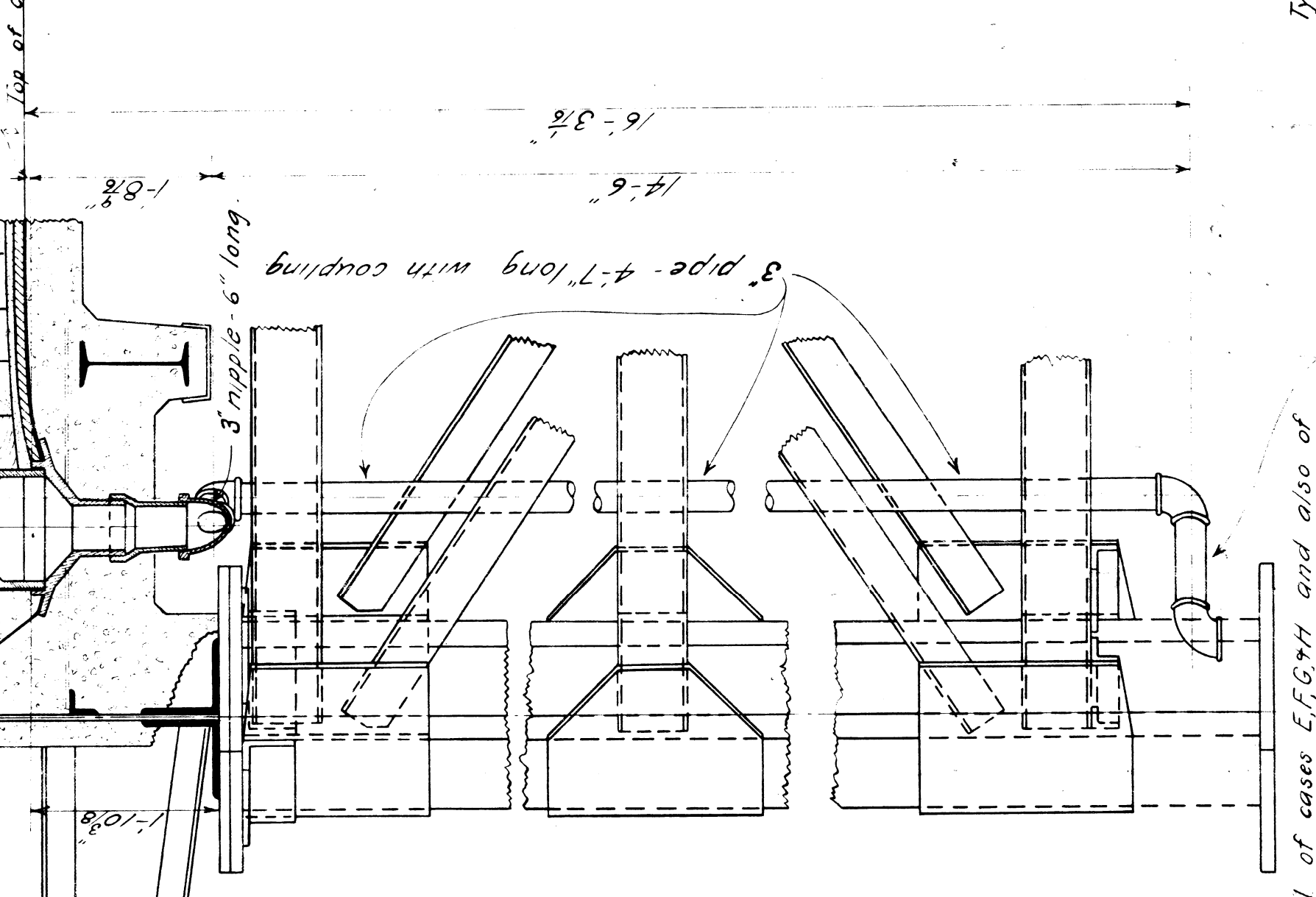
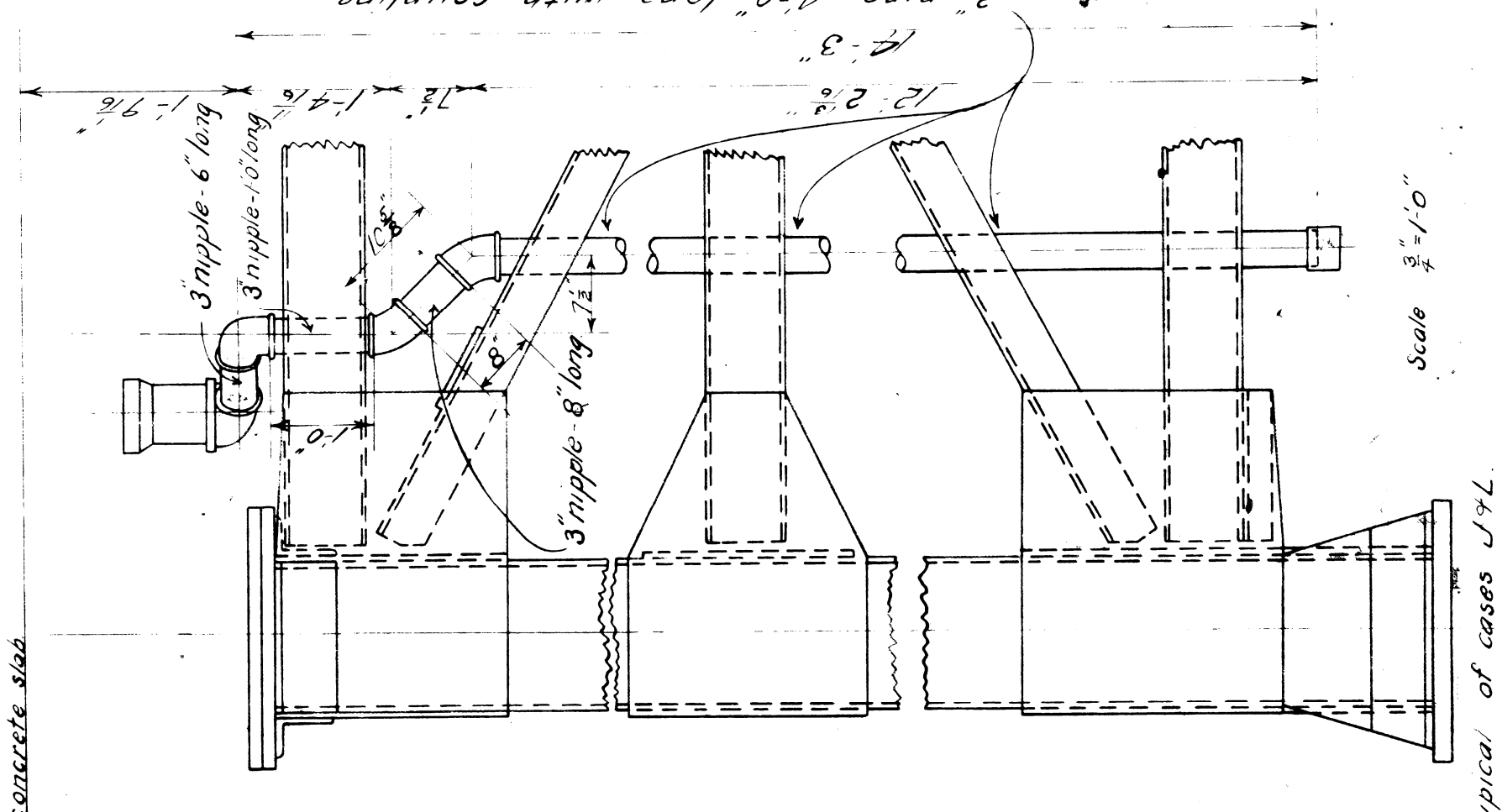
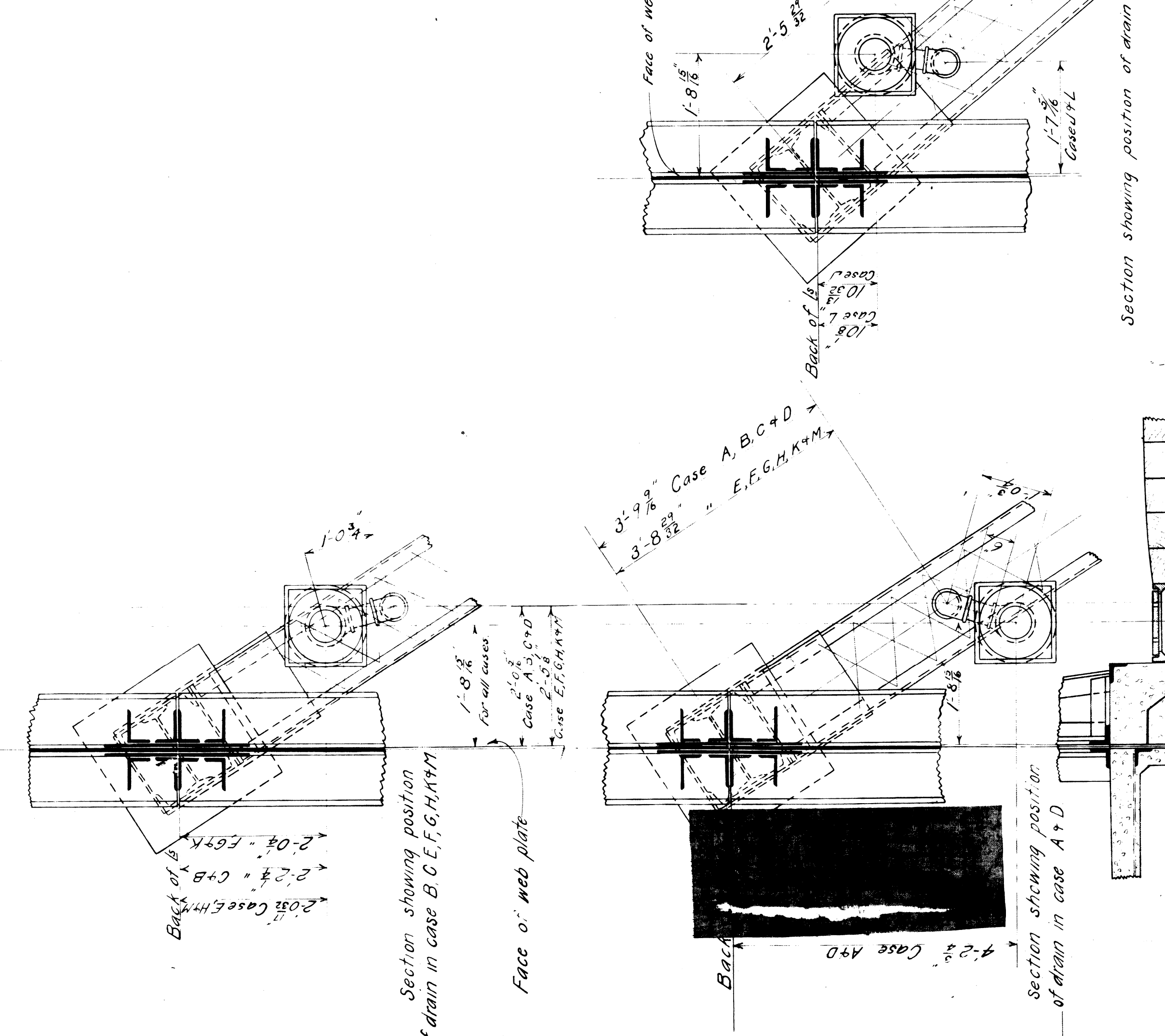
M. C. R. R. Div. - Main Line.
 Bridge 112 14th St.
 Details of Drain Castings
 Scale as given.
 Drawn by J. W. Oct 1911.
 Checked by G. E. Oct 1911.
 Chief Engineer, Traced by J. W. Oct 1911.
 Revised



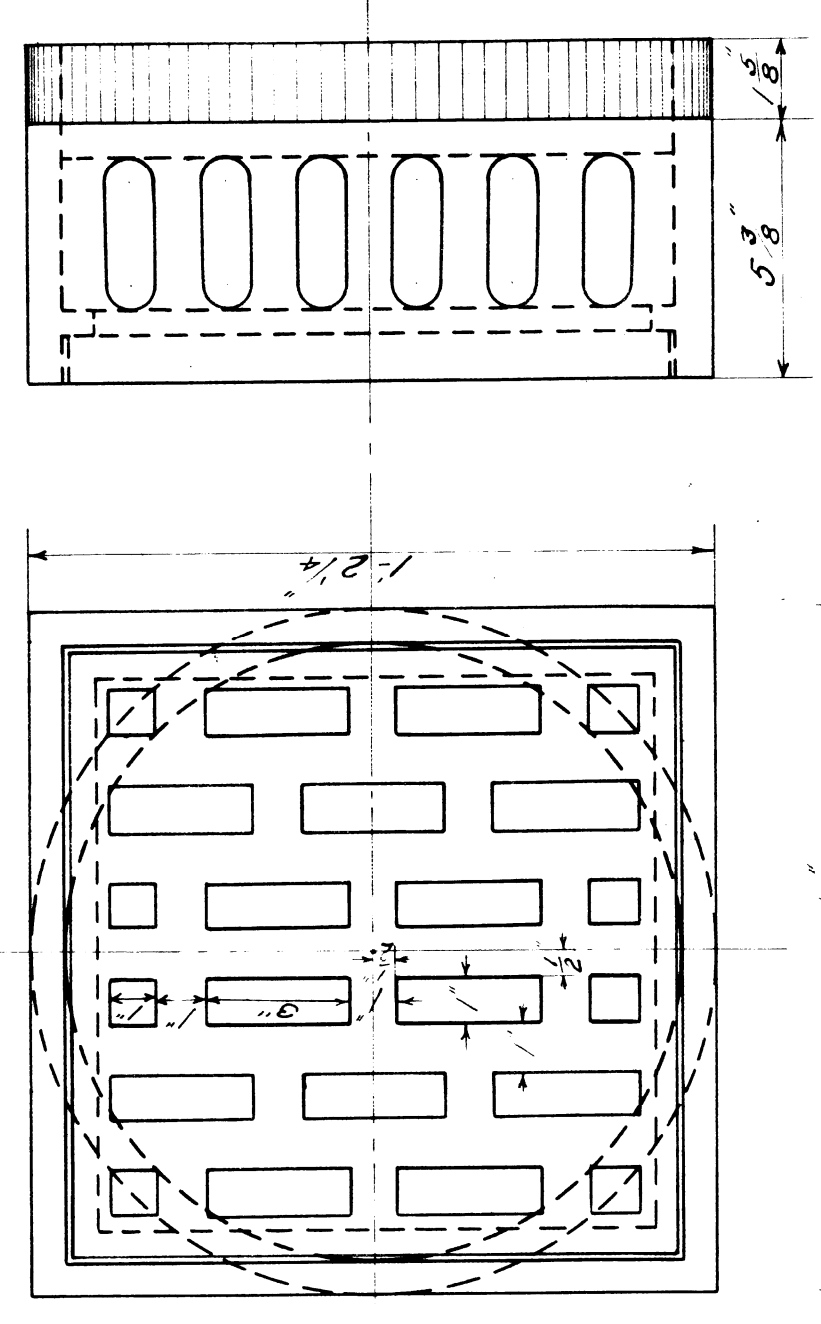
Bill of material

No	Size	Material	Quantity
12	3"x3"	MI	Reducing elbows
20	3"x3"	MI	Elbows
7	3"x3"	MI	45°
12	3"	MI	6" nipples
2	3"	MI	8"
2	3"	MI	12"

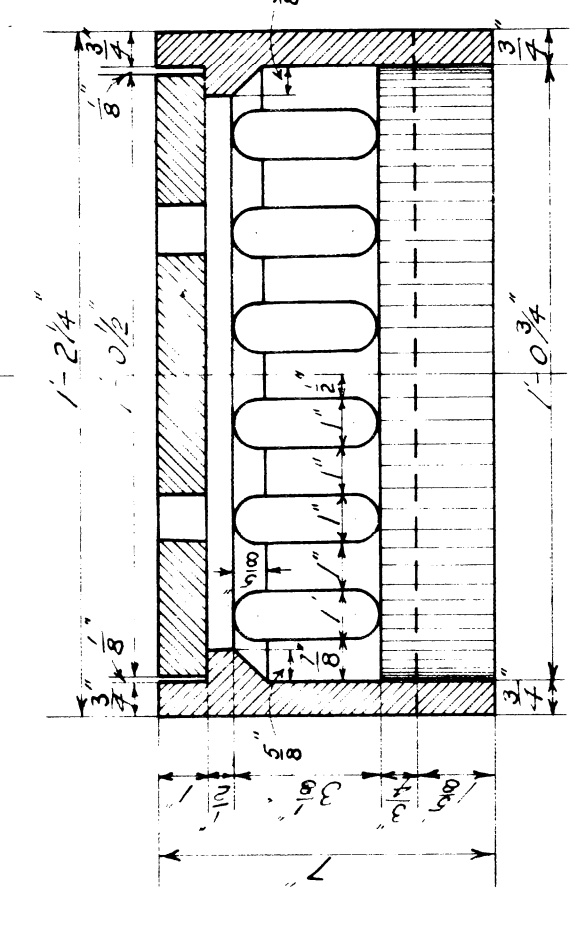
30 pieces 3" MI pipe 4'-7" long, both ends threaded and standard coupling on one end
 6 pieces 3" MI pipe 4'-0" long, both ends threaded and standard coupling on one end
 4 pieces 3" MI pipe 1'-6" long, both ends threaded



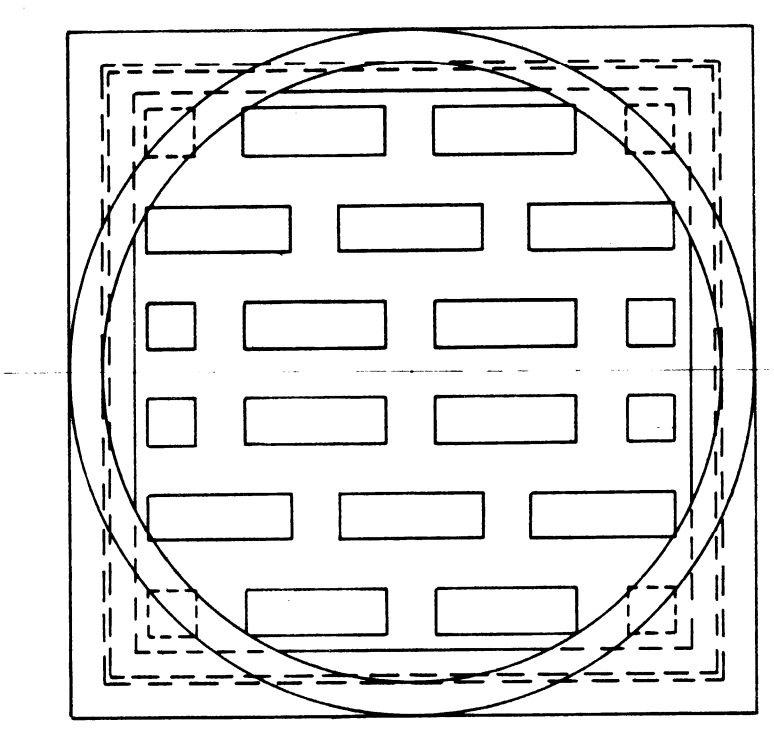
Grate - 12 wanted MA G.



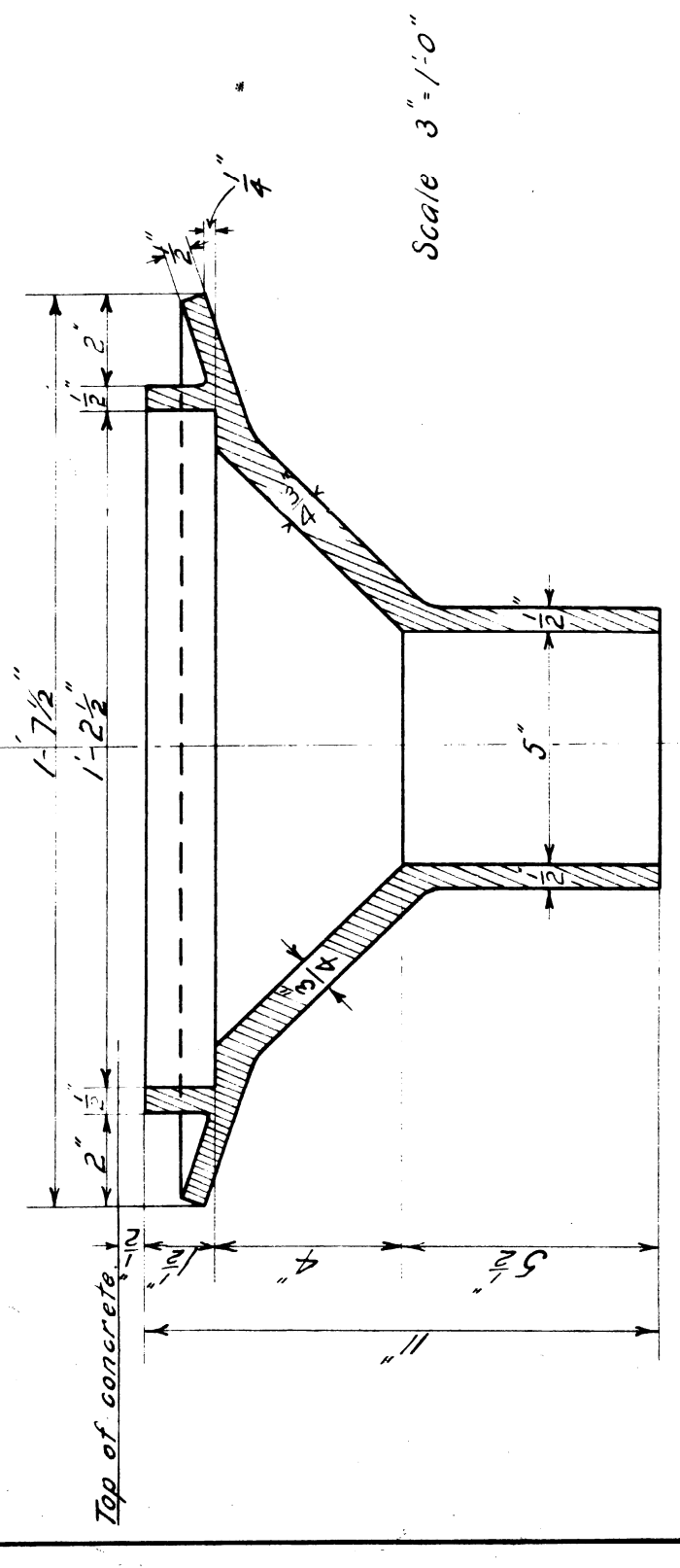
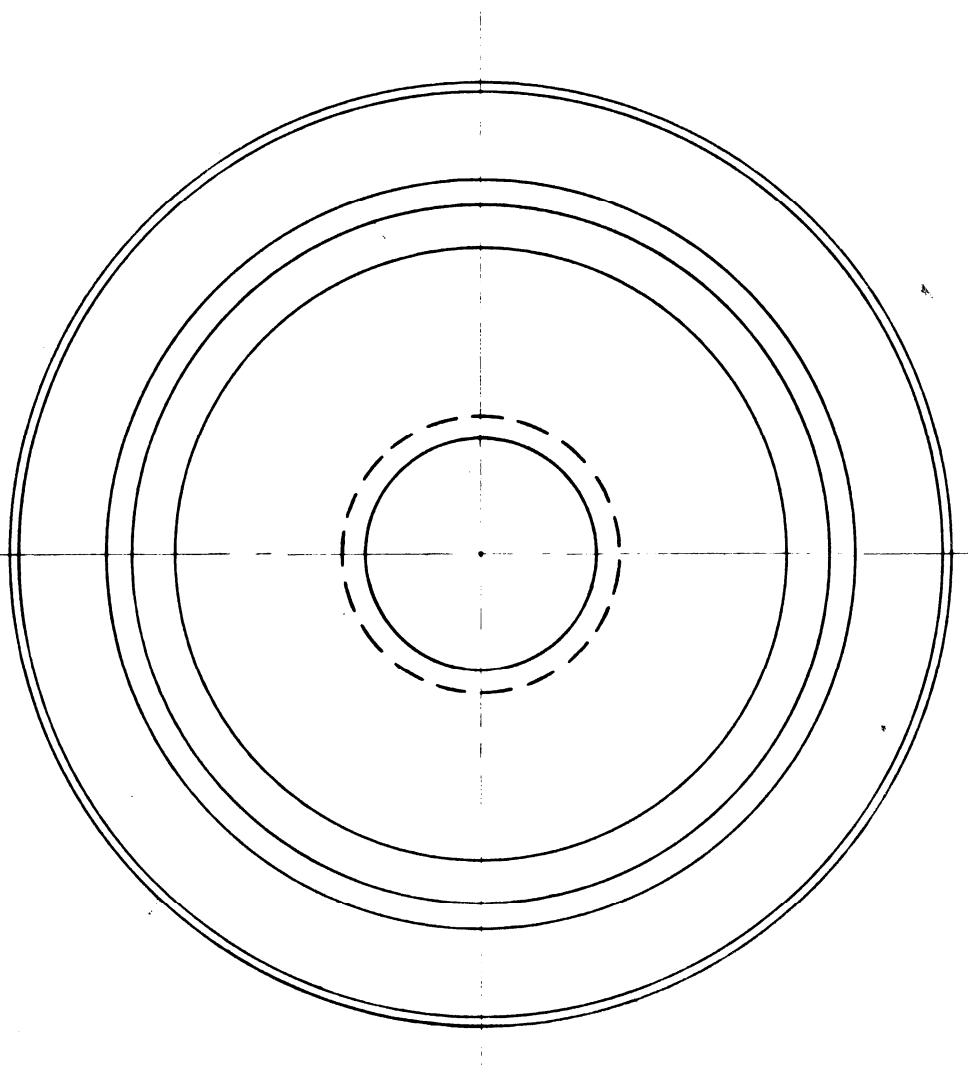
Scale 3/4"=1'-0"



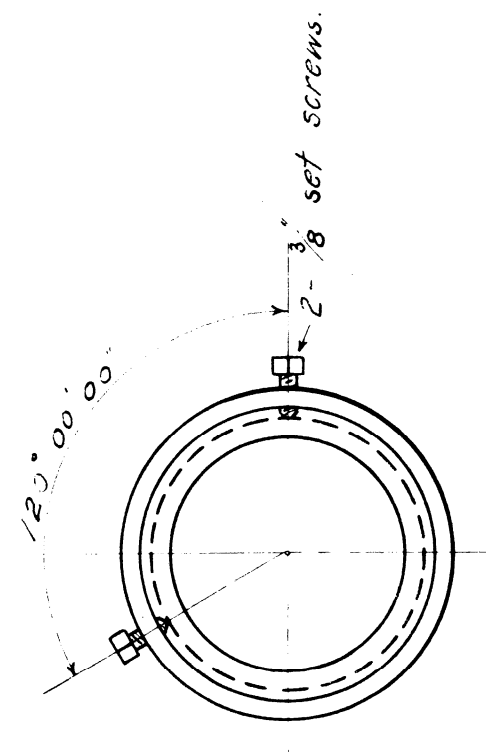
Standard 5 pipe sleeve



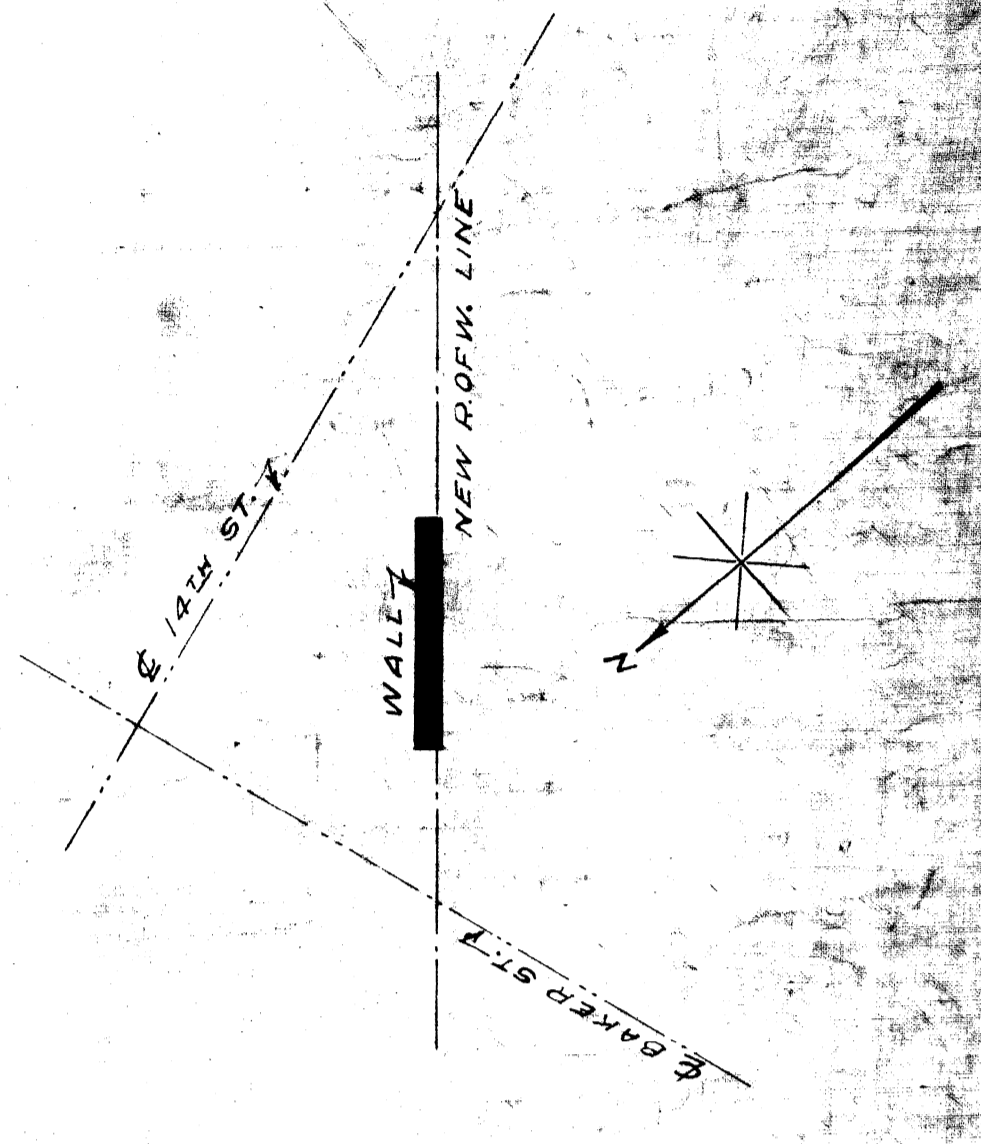
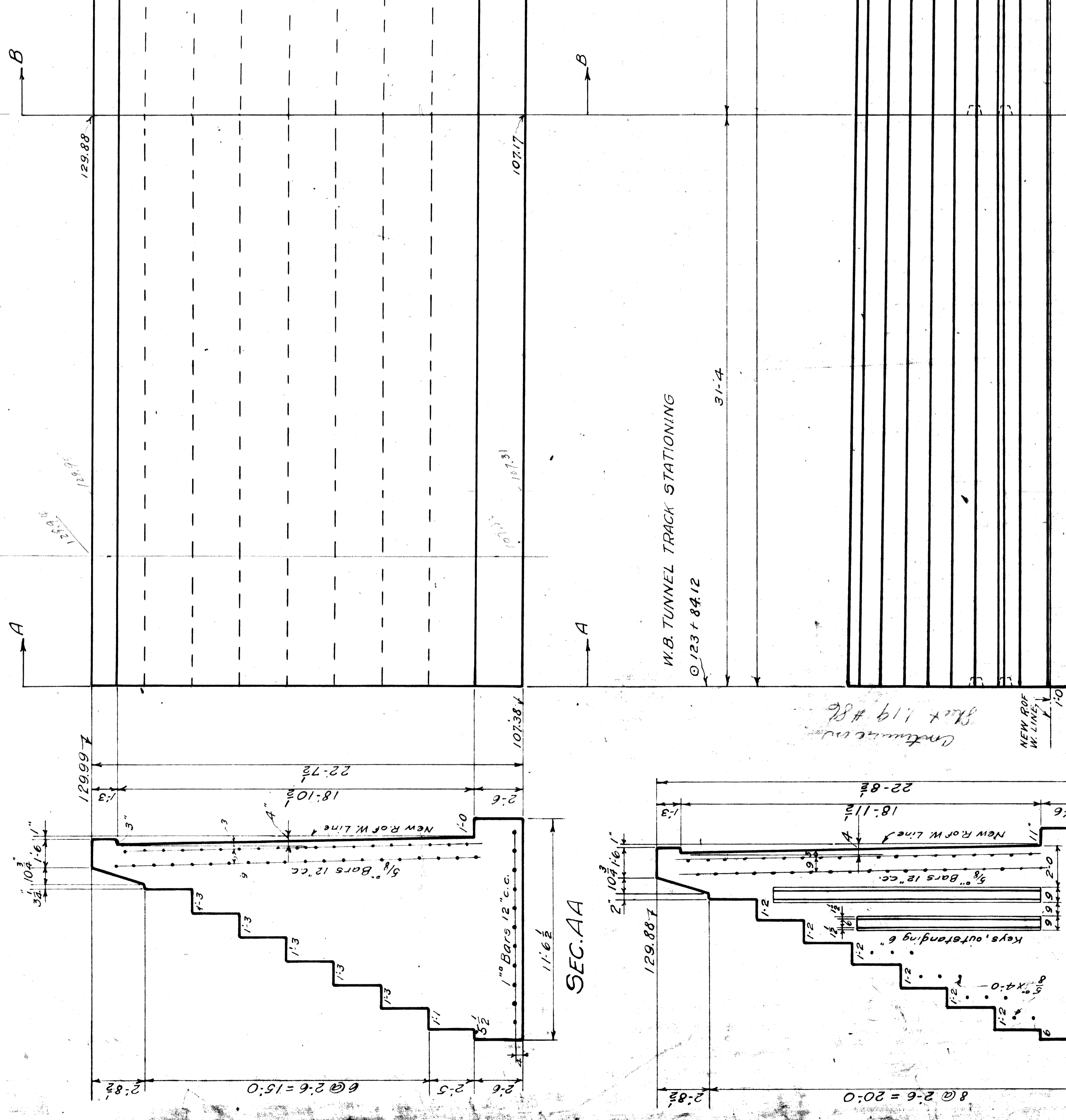
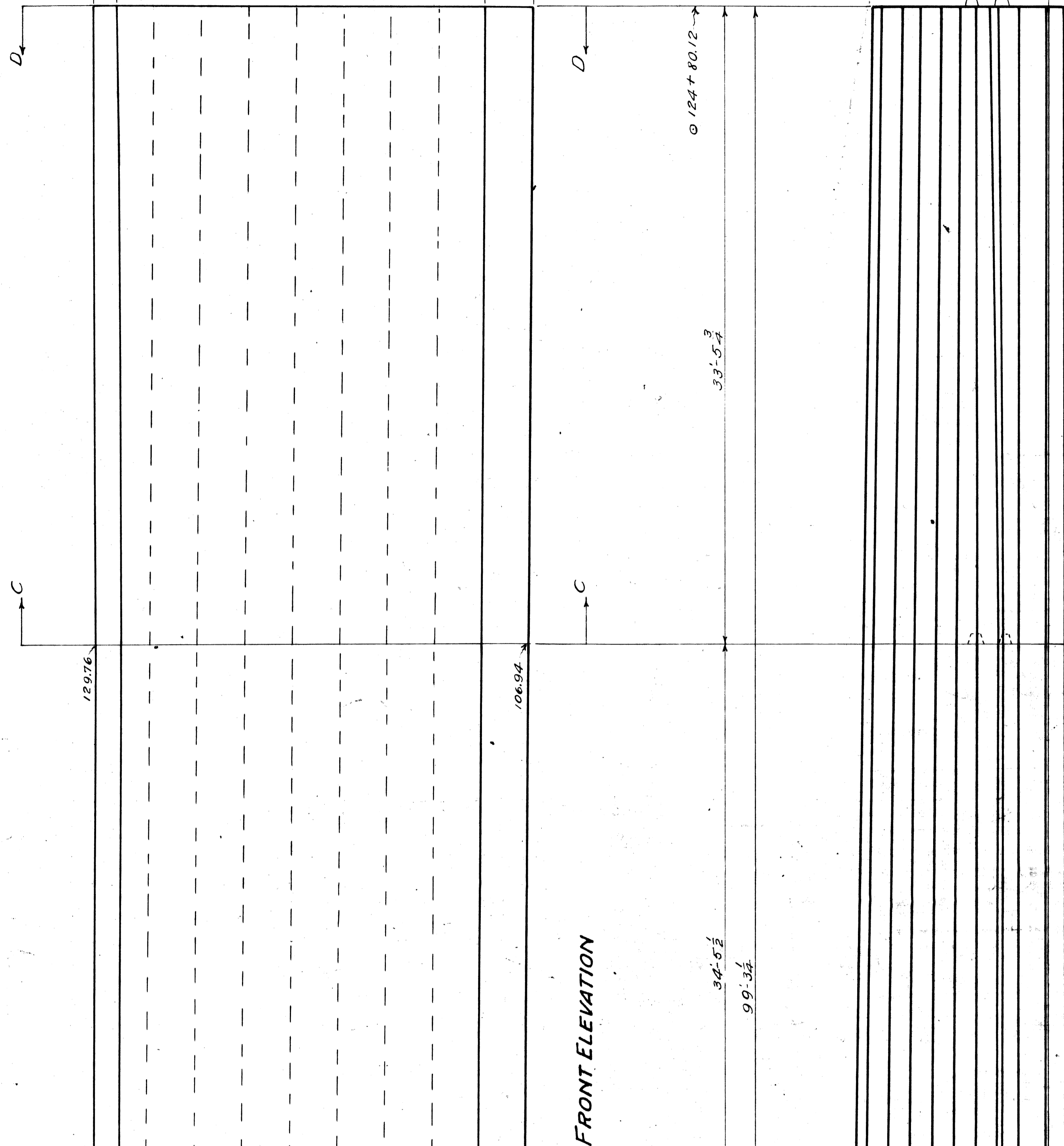
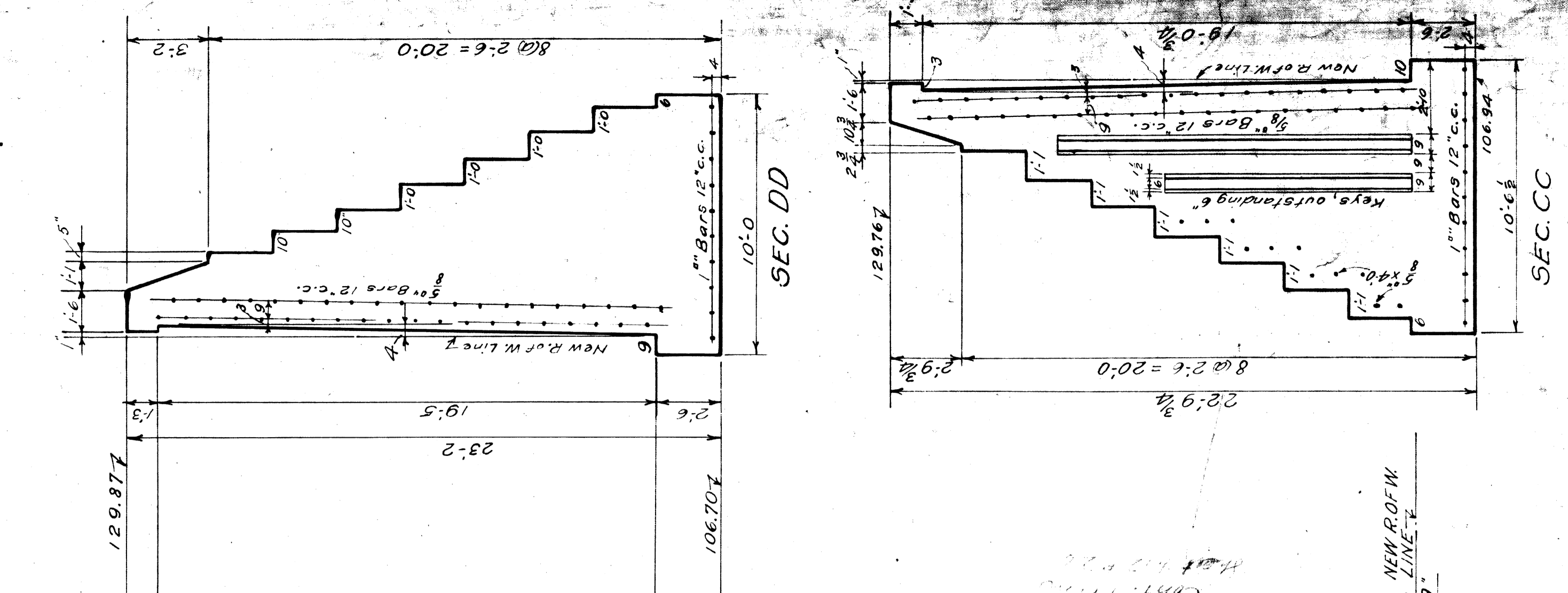
DC 3 12 wanted
 Cast iron sleeve.



DC 1 12 wanted



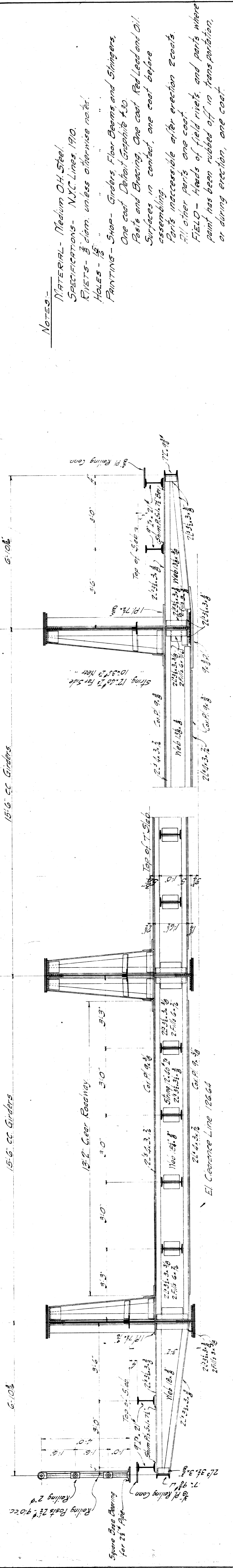
DC 2 12 wanted



NOTES

THIS WALL CONNECTS BAKER ST. AND 14TH ST. N. ABUTMENTS.
 MAKE CONCRETE 1 PART CEMENT ; 2 1/2 PARTS SAND ; 4 PARTS CRUSHED STONE.
 POUR EACH SECTION OF WALL COMPLETE FROM FOOTING TO UNDERSIDE OF COPING IN ONE DAY.
 PLACE 6"x9" KEYS AND EXTRA BARS, 3/4" x 4'-0" AT VERTICAL JOINTS.
 BIND SPLICES AND INTERSECTIONS OF RODS SECURELY WITH NO.14 WIRE LAPPING THE FORMER 2'-6" AND USING NOT LESS THAN 24 TURNS OF WIRE.
 PILE CRUSHED STONE AROUND OPEN UPPER ENDS OF DRAIN PIPES. TAKE CARE THAT CONCRETE DOES NOT GET INTO PIPES DURING CONSTRUCTION.
 PAINT BACK OF WALL WITH 1 COAT SARCO PRIMER AND 1 COAT SARCO NO. 1.
 CONTENTS 485 YDS.
 BARS REQUIRED:- 120'-0" x 32'-0" LONG. THRU BB AND CC FACE OF WALL.
 40'-0" x 8'-0" FACE E. END.
 33'-0" x 32'-0" FOOTING THRU BB AND CC E. END.
 10'-0" x 8'-0" FOOTING THRU BB AND CC W. END.
 30'-0" x 4'-0" At back of vertical joints.

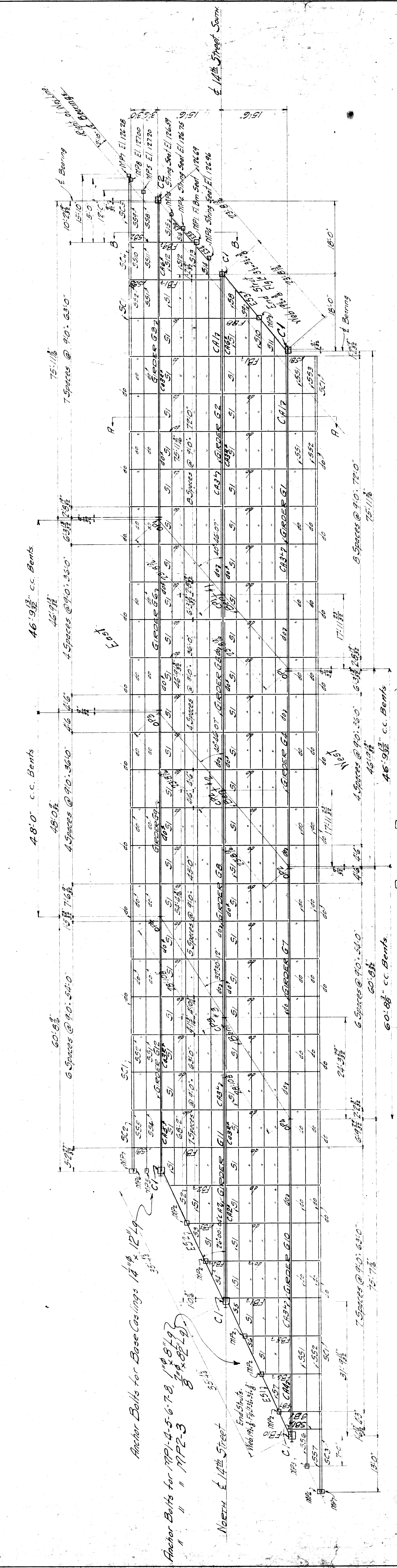
M. C. R. B. - Div. - MAIN LINE
 WALL ALONG R.O.F.W. LINE
 BETWEEN 14TH & BAKER ST.
 Approved: [Signature]
 Scale: As Shown
 Checked by: [Signature]
 Chief Engineer: [Signature]
 Designer: [Signature]
 Sheet No. 1/2
 File No. X056-16



SECTION R-R

SECTION B-B

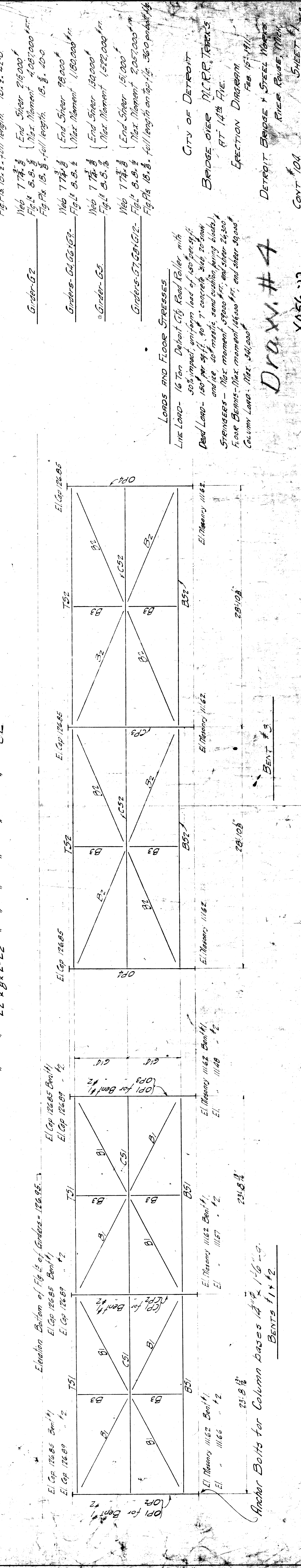
NOTES-
 MATERIAL - Medium OH Steel.
 SPECIFICATIONS - NYC Lines, 1910.
 FITTINGS - 3/8 diam. unless otherwise noted.
 HOLES - 1/8"
 PAINTING - Shop - Girders, Floor Beams and Stringers.
 One coat Detroit Graphite #10.
 Posts and Bracing, One coat Red Lead and Oil.
 Surfaces in contact, one coat before assembling.
 Parts inaccessible after erection 2 coats.
 All other parts one coat.
 FIELD - Heads of field rivets, and parts where point has been rubbed off in trans partition, or during erection, one coat.



PLAN OF BRIDGE

Scale 1/4" = 1'-0"

NOTE: Sheet lead 27x6x1/4 to be used under All Posts
 " " 22x8x1/4 " " " " Base Castings C1
 " " 22x8x1/4 " " " " " " " " " " " "



SECTIONS OF GIRDERS

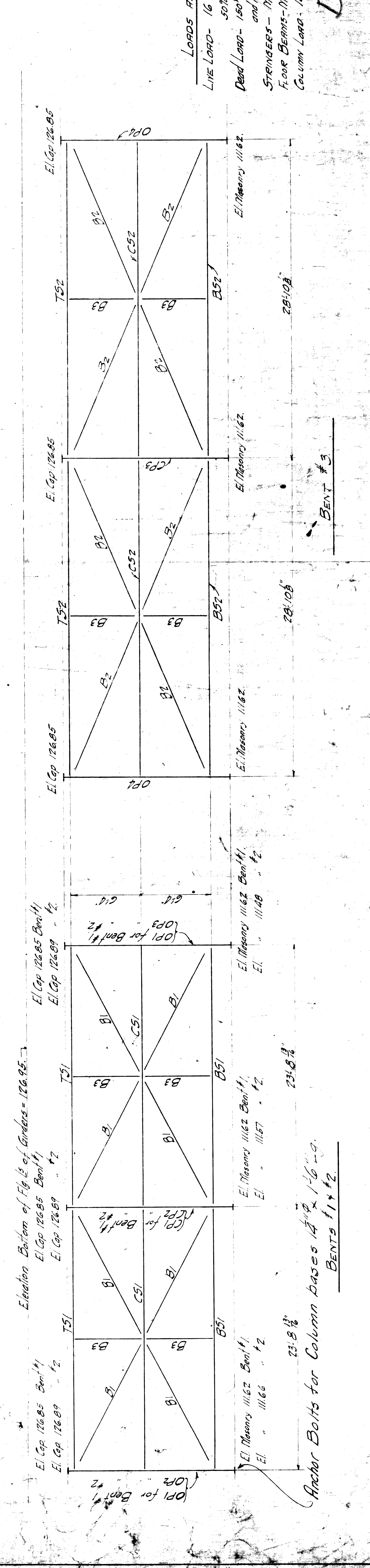
Web 7 7/8" (End Shear 181,000*
 Girders-G1,G3,G04,G11- Fig. 8.8.2 (Max. Moment 3,189,000*
 Fig. 18.8.2, full length 18.8.200

Web 7 7/8" (End Shear 219,000*
 Girders-G2 Fig. 8.8.3 (Max. Moment 4,027,000*
 Fig. 18.8.3, full length 18.8.200

Web 7 7/8" (End Shear 98,000*
 Girders-G4,G6,G15- Fig. 8.8.2 (Max. Moment 1,800,000*
 Fig. 18.8.2, full length on top fig. 32.0 and 34.0

Web 7 7/8" (End Shear 130,000*
 Girders-G5 Fig. 8.8.3 (Max. Moment 2,057,000*
 Fig. 18.8.3, full length on top fig. 32.0 and 34.0

Web 7 7/8" (End Shear 151,000*
 Girders-G7,G8,G12- Fig. 8.8.2 (Max. Moment 2,057,000*
 Fig. 18.8.2, full length on top fig. 32.0 and 34.0



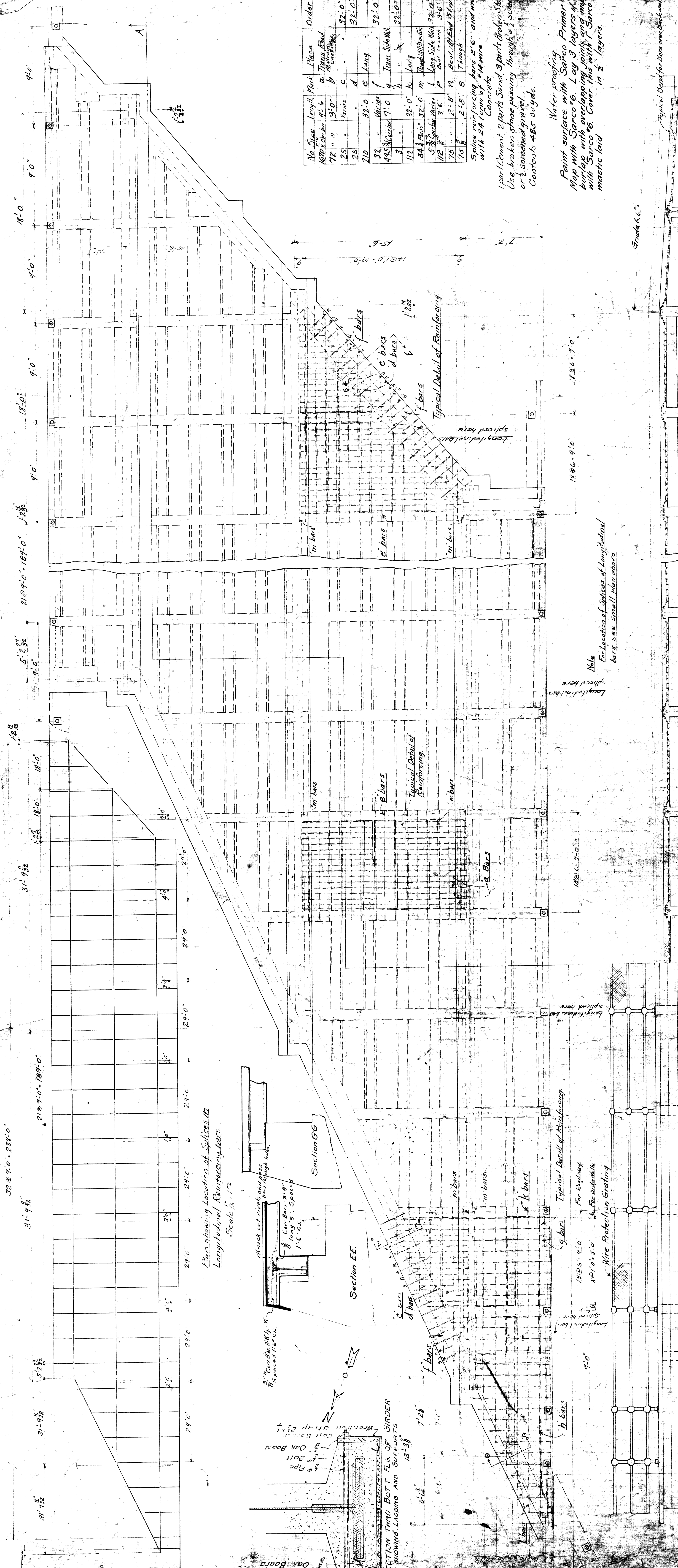
LOADS AND FLOOR STRESSES

LINE LOAD - 16 Ton Detroit City Road Roller with 50% impact uniform load of 150 lbs/sq ft
 Dead Load - 150 lbs/sq ft for 7 concrete slab to show analysis of mesh and sand cushioning blocks
 STRESSSES - Max. moment 2900 ft-lb, end shear 25,300
 Floor Beams - Max. moment 146,000 ft-lb, end shear 39,000
 Gullion Lane - Max. 341,000

CITY OF DETROIT
 BRIDGE OVER M.C.R.R. TRACKS
 AT 14th AVE.
 ERECTION DIAGRAM
 FEB 15, 1911

DETROIT BRIDGE & STEEL WORKS
 RIVER FRANKLIN
 CONT # 104
 SHEET # 104

Draw. # 4
 X056.17

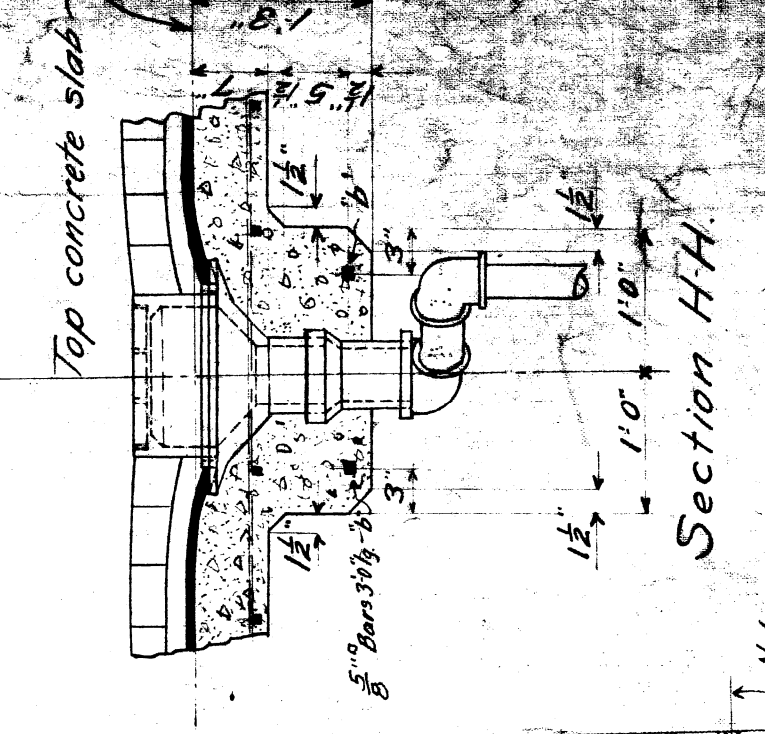


No	Size	Length	Mark	Place	Order
122	1/2"	9'-6"	a	Trans. Rod	32'-0"
72	1/2"	3'-0"	b	Trans. Rod	32'-0"
25	1/2"	3'-0"	c	Trans. Rod	32'-0"
25	1/2"	3'-0"	d	Trans. Rod	32'-0"
210	3/8"	32'-0"	e	Long	32'-0"
445	3/8"	7'-0"	f	Trans. Side Mch	32'-0"
3	3/8"	32'-0"	g	Long	32'-0"
112	3/8"	32'-0"	k	Long	32'-0"
34	3/8"	32'-0"	m	Trans. Side Mch	32'-0"
512	3/8"	32'-0"	n	Long Side Mch	32'-0"
112	3/8"	32'-0"	p	Trans. Side Mch	32'-0"
75	3/8"	2'-8"	r	Bot. of Girder	32'-0"
75	3/8"	2'-8"	s	Trans.	32'-0"

Splice reinforcing bars 2'-6" and wires with 24 turns of wire concrete

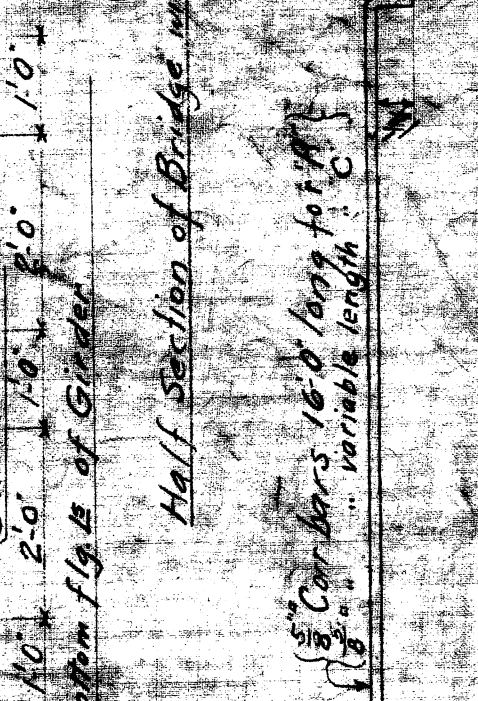
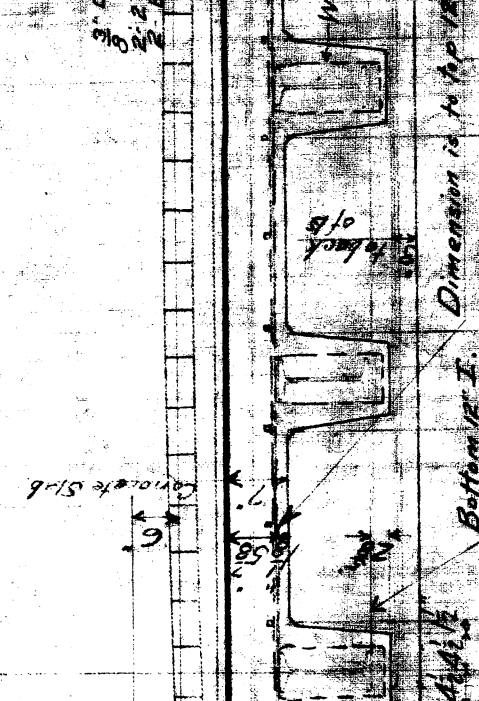
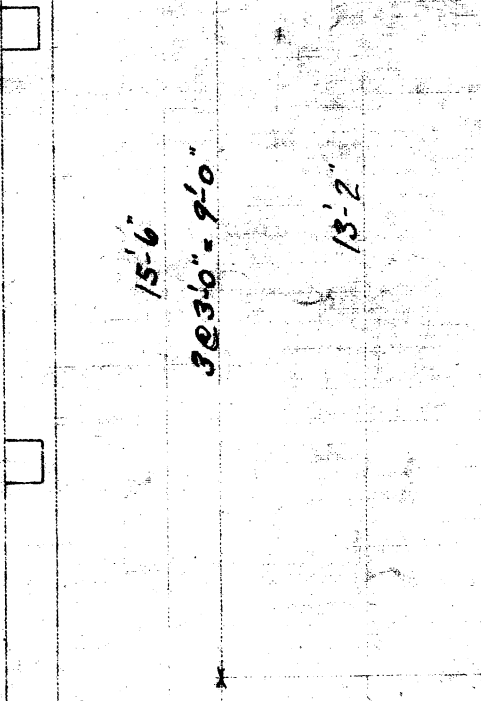
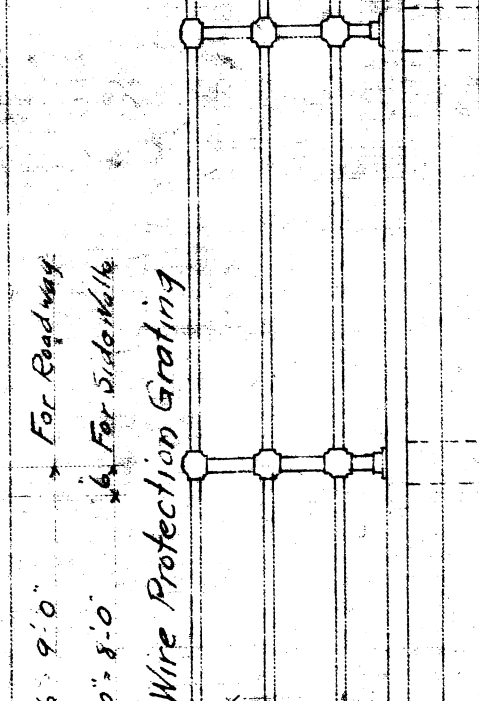
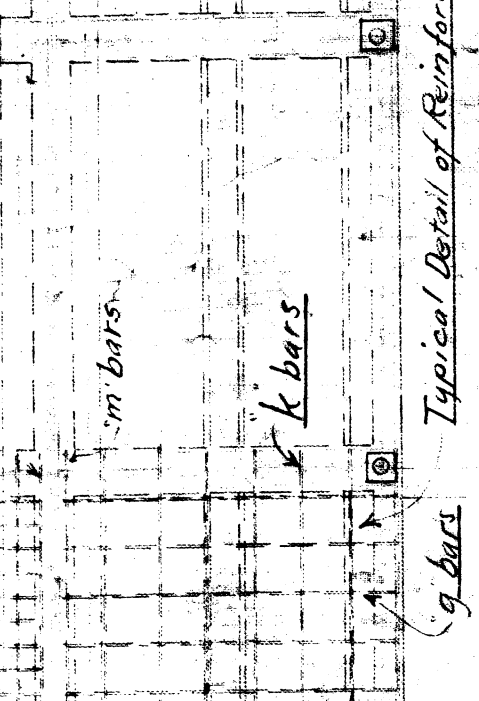
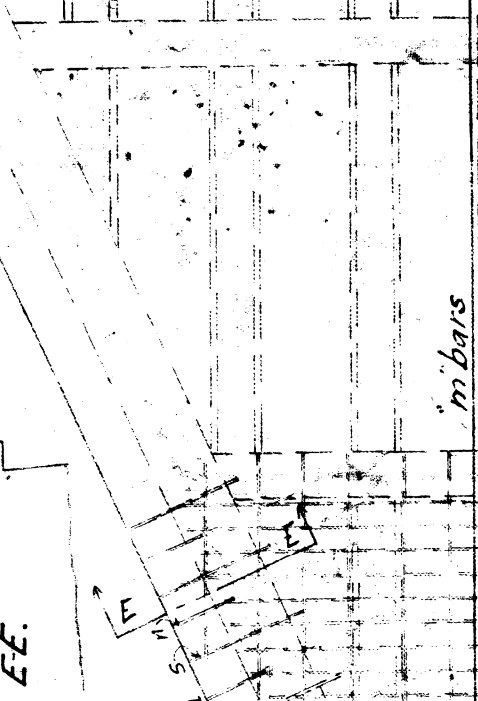
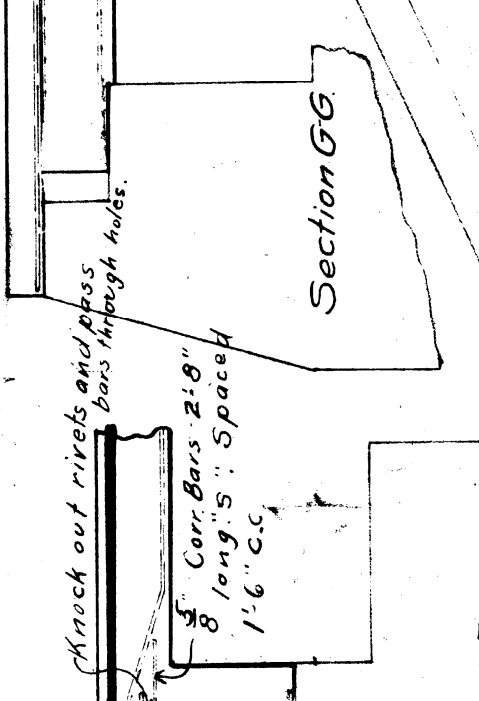
1 part Cement, 2 parts Sand, 3 parts Broken Stone
Use broken stone passing through a 3 screen on 1/2 screened gravel.
Contents 4.85 cu yds.

Water proofing
Paint surface with Sarco Primer
Mop with Sarco 6. Lay 3 layers of
Burage with overlapping joints and mop
with Sarco 6. Cover this with Sarco
mastic sand in 1/2 layers.



Section HH
Note: Ribs in lower gage line of 6x6's knocked out in field and both can be lagged to be put in their place.

Plan showing location of Splices in Longitudinal Reinforcing bars
Scale 1/4" = 1'-0"



M.C.H.R. DIV. Main Line
Bridge 125 14th Street
Concrete Floor

Drawn by H. X050-70

Detail of Bars in Section of Bridge without Lagging
Detail of Bars in Section of Bridge with Lagging