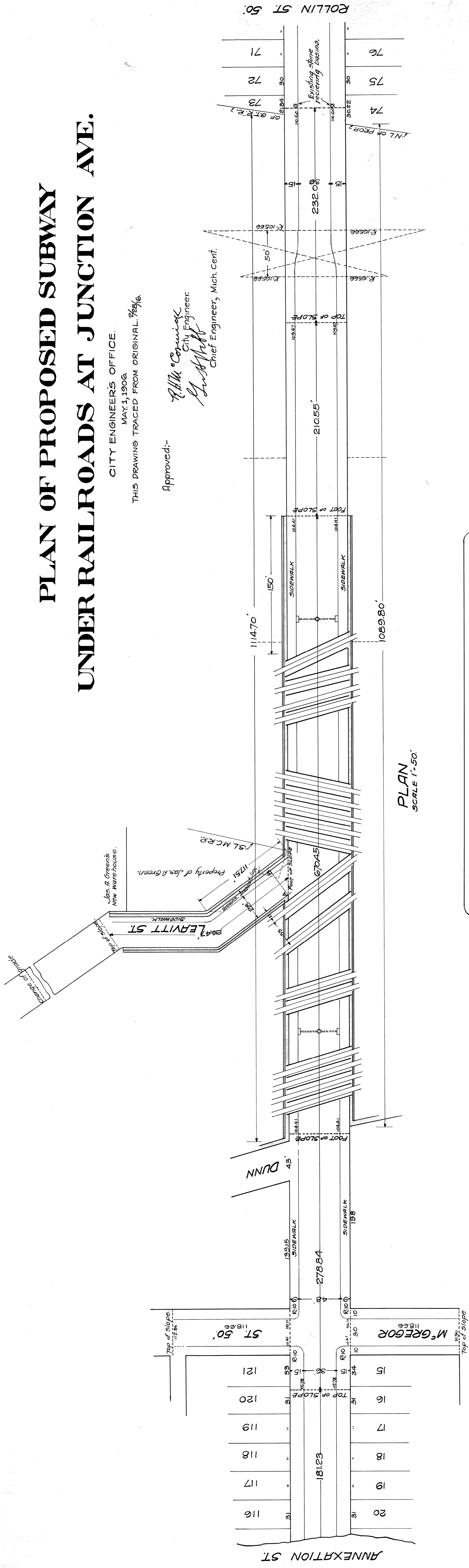


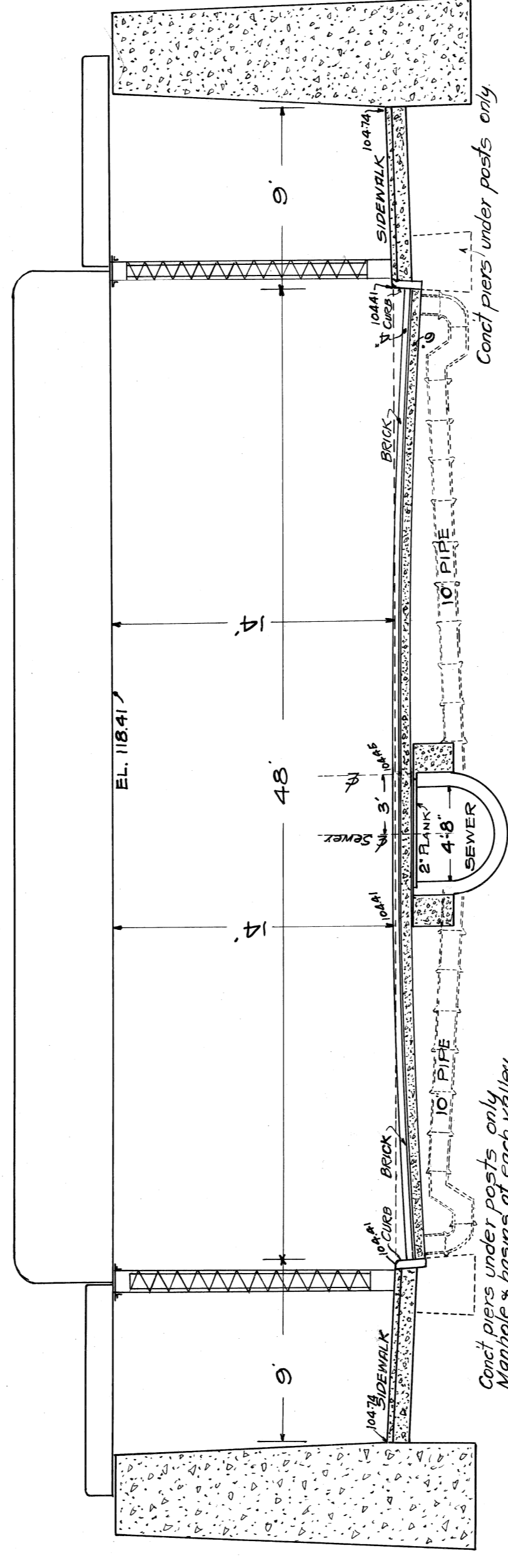
PLAN OF PROPOSED SUBWAY UNDER RAILROADS AT JUNCTION AVE.

CITY ENGINEERS' OFFICE.
MAY 1, 1906.
THIS DRAWING TRACED FROM ORIGINAL. 76%.

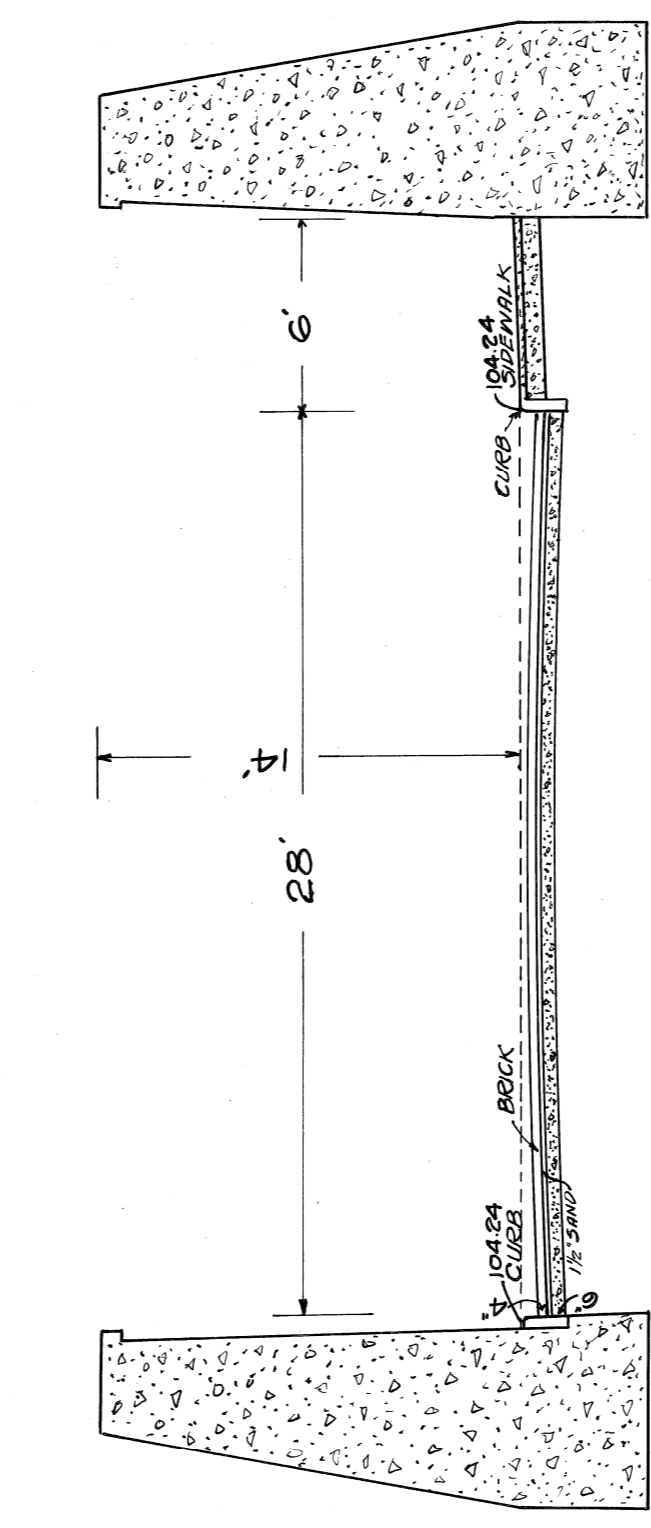
Approved:-
R. W. Condit
City Engineer.
W. A. Pratt
Chief Engineer, Mich. Cent.



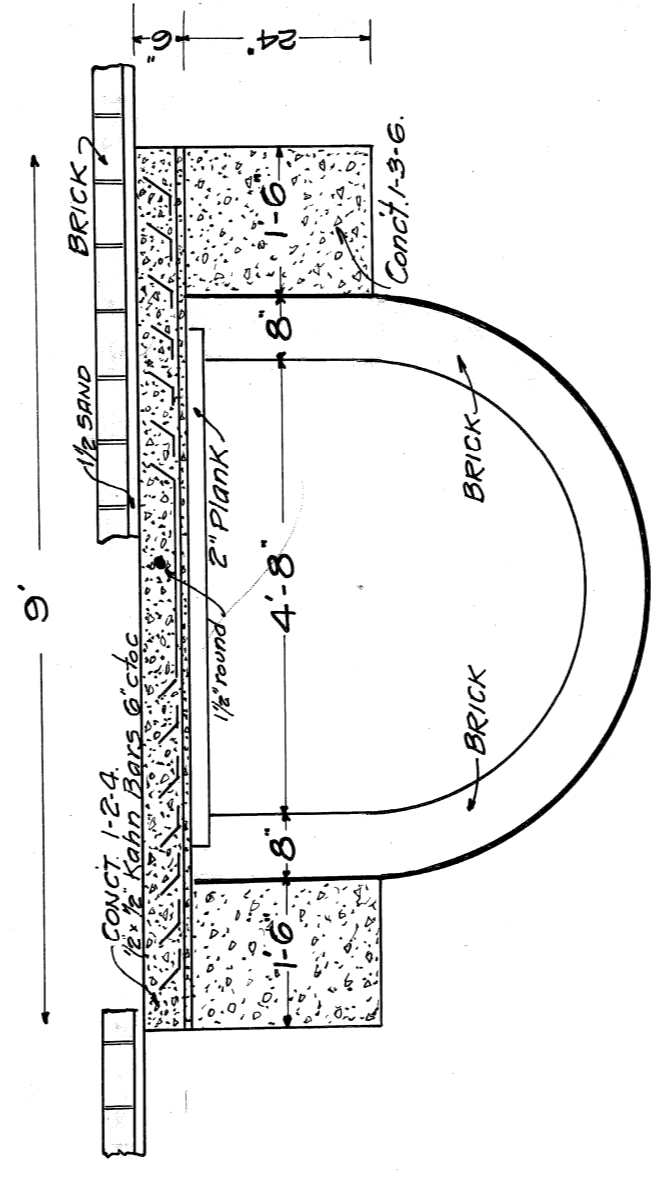
PLAN
SCALE 1"=50'



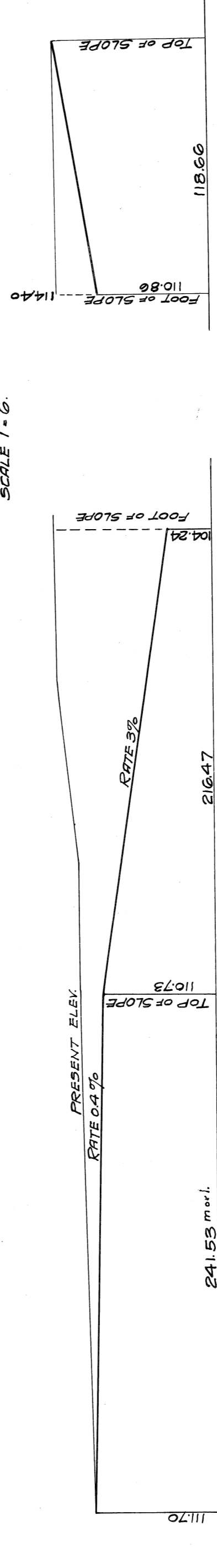
CROSS SEC. OF ROADWAY
SCALE 1"=6'



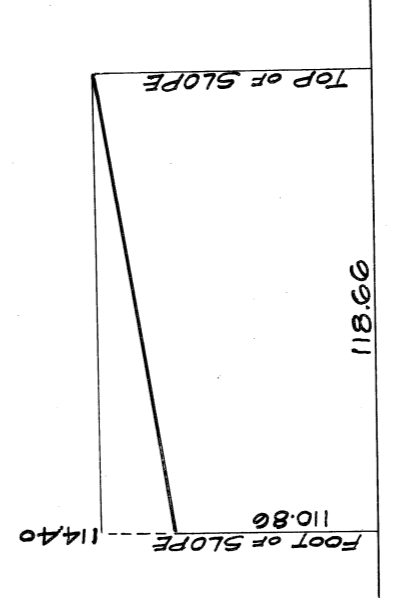
CROSS SEC. AT A-B ON LEAVITT ST.
SCALE 1"=6'



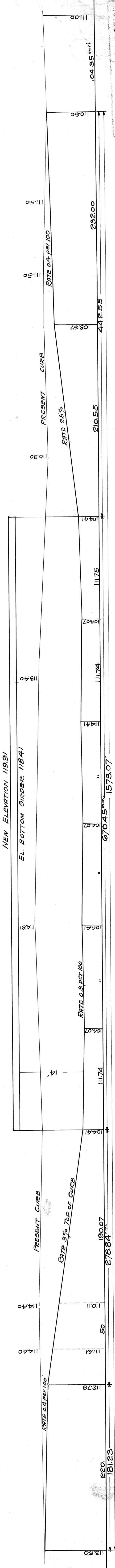
DETAIL OF REINFORCED SEWER.



PROFILE OF LEAVITT ST.



PROFILE OF MCGREGOR PL. E & W.



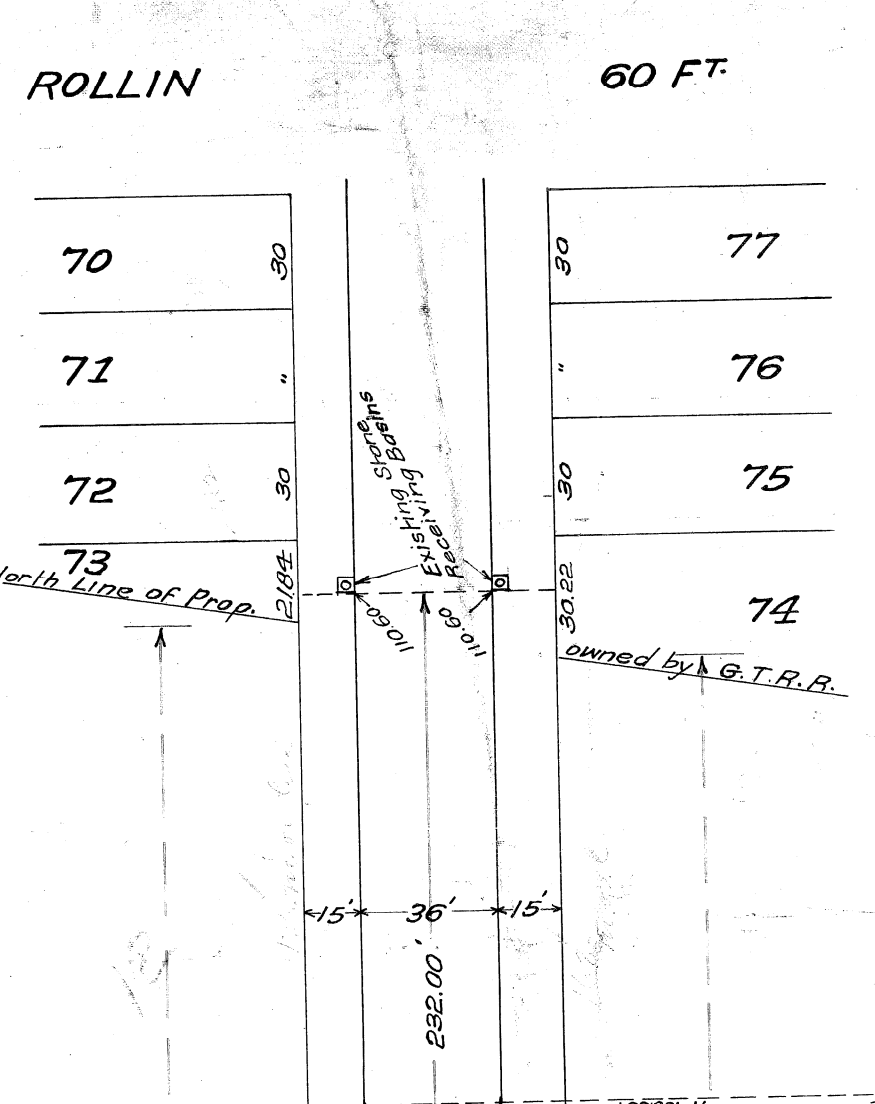
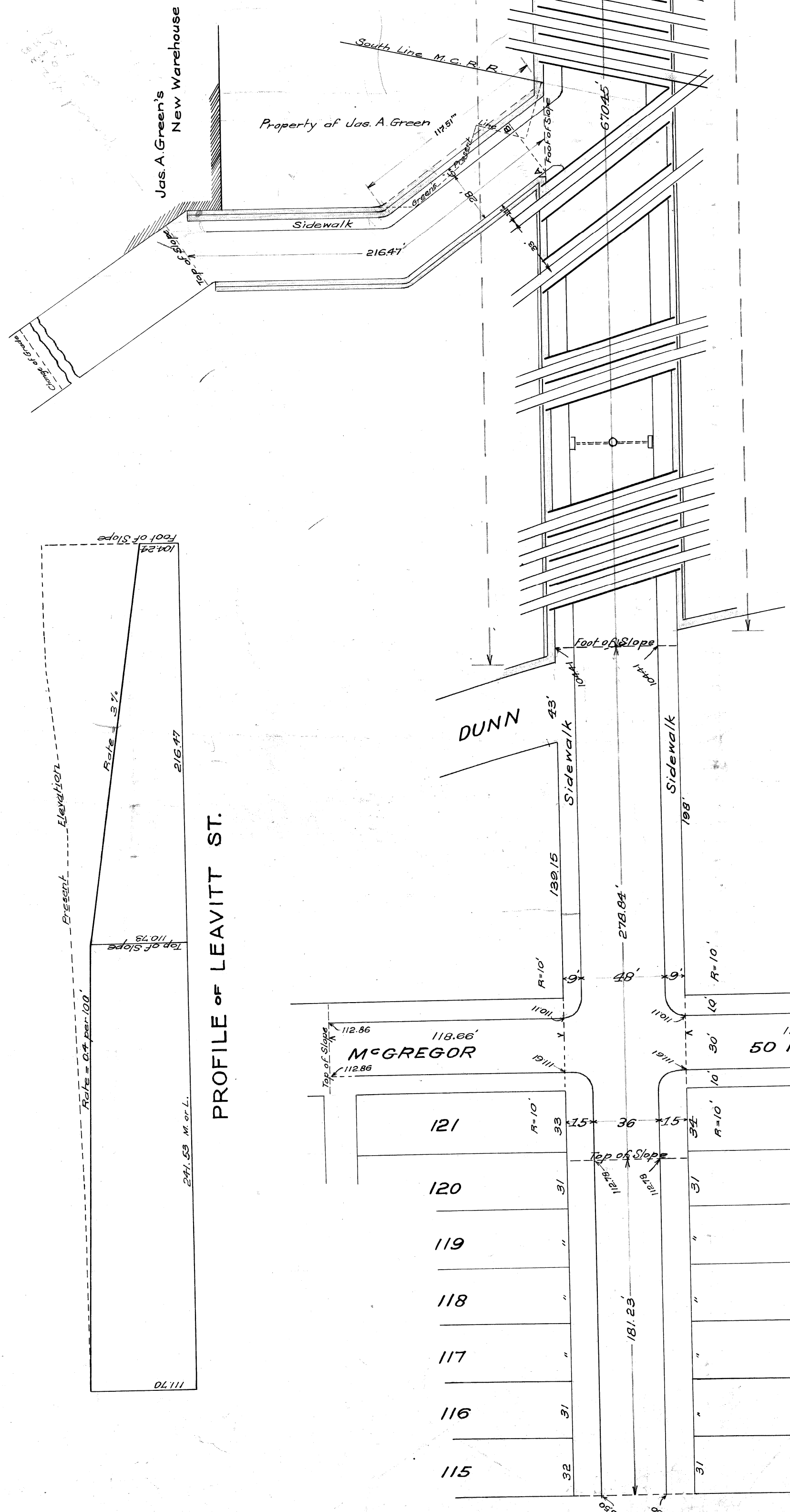
PROFILE ON CENTER LINE OF JUNCTION AVE.
HOR. SCALE - 1"=50'.
VER. SCALE - 1"=10'.

CITY ENGINEERS' OFFICE
CAREY, BRIDGES & CO.
Case A Drawn 4-I No. 204

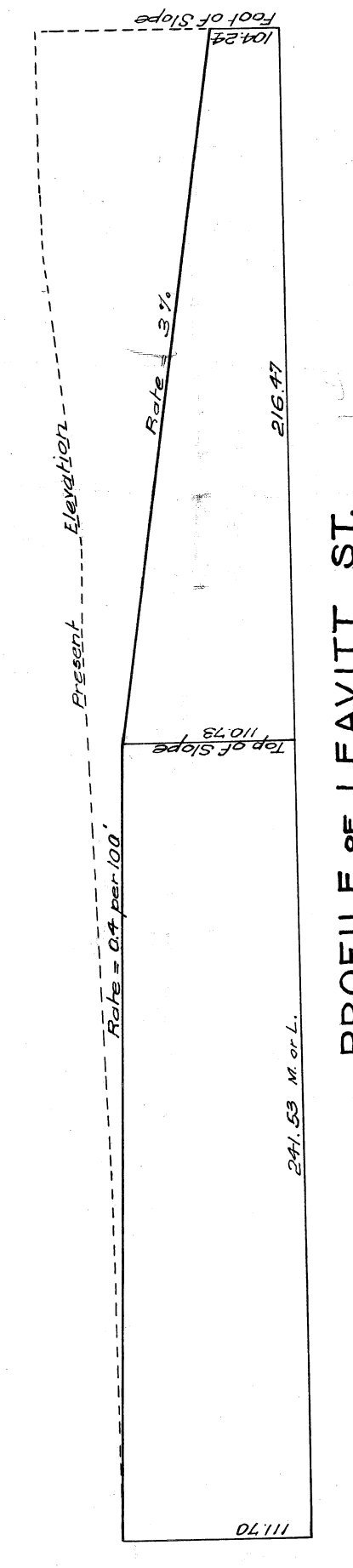
File XU-30-1

PLAN OF PROPOSED SUBWAY UNDER RAILROADS AT JUNCTION AVE.

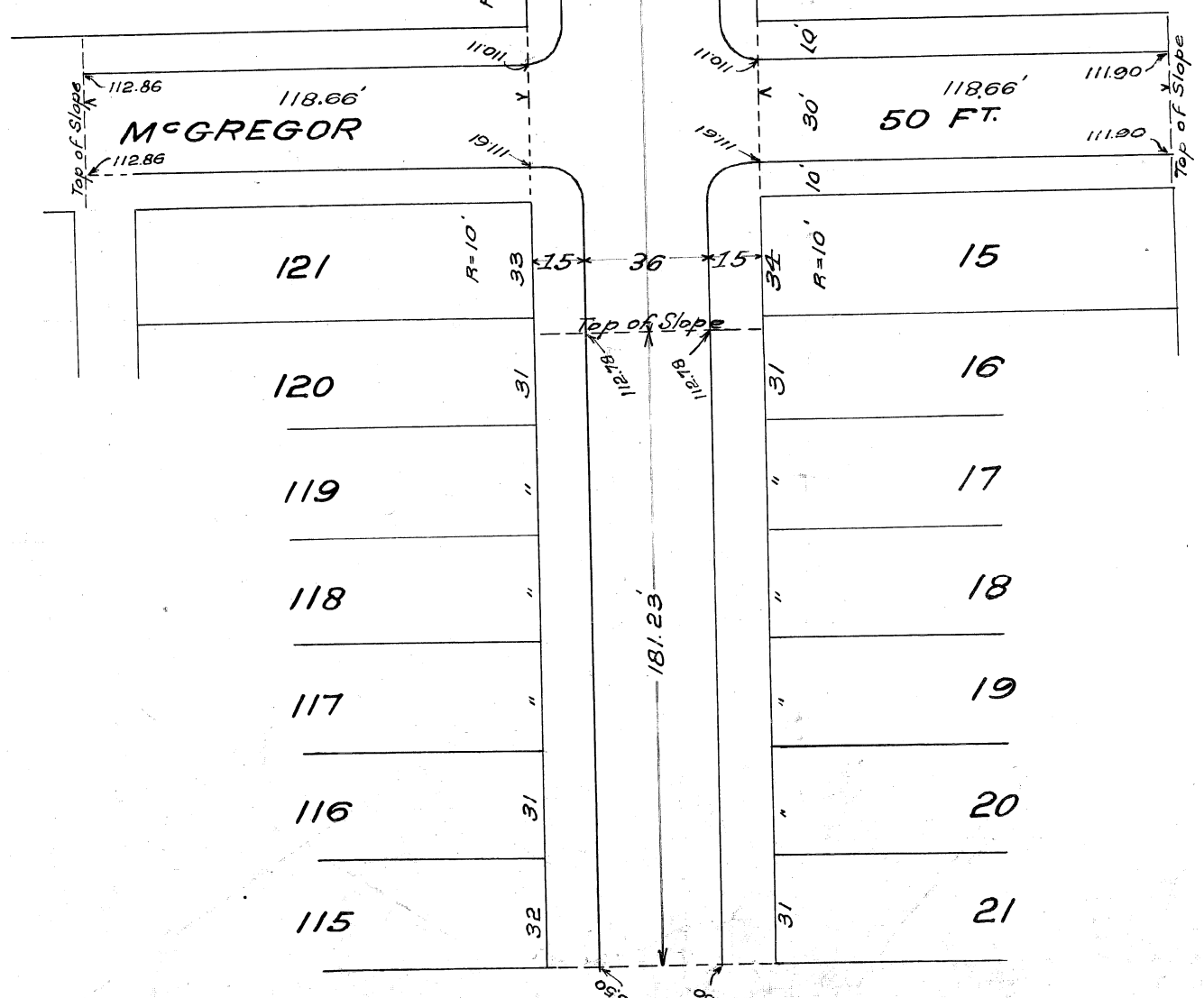
Approved: *R. Hill Conrueck* City Engineer.
L. A. Hall Chief Engineer Michigan Central.



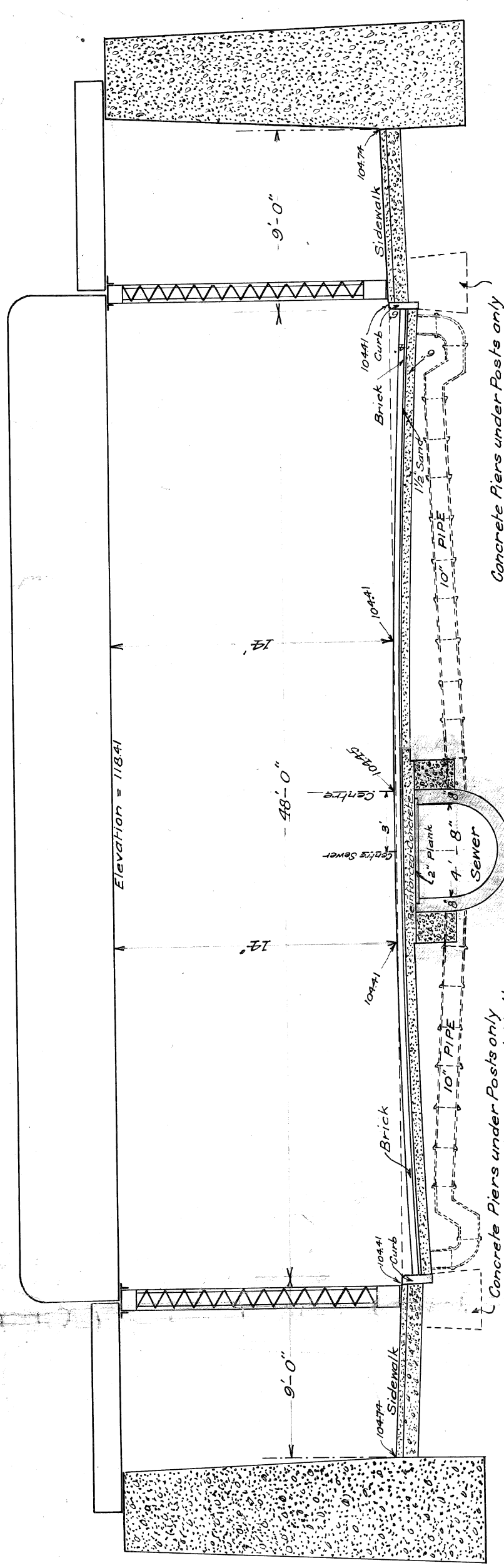
PLAN
Scale, one inch = 50 Feet.



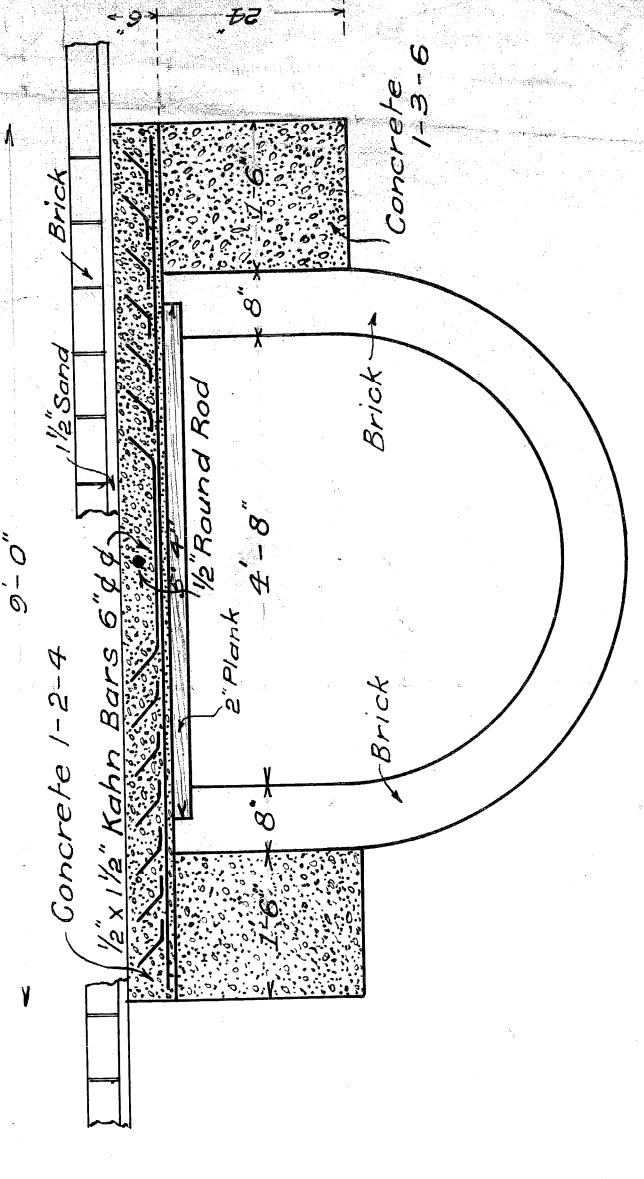
PROFILE OF LEAVITT ST.



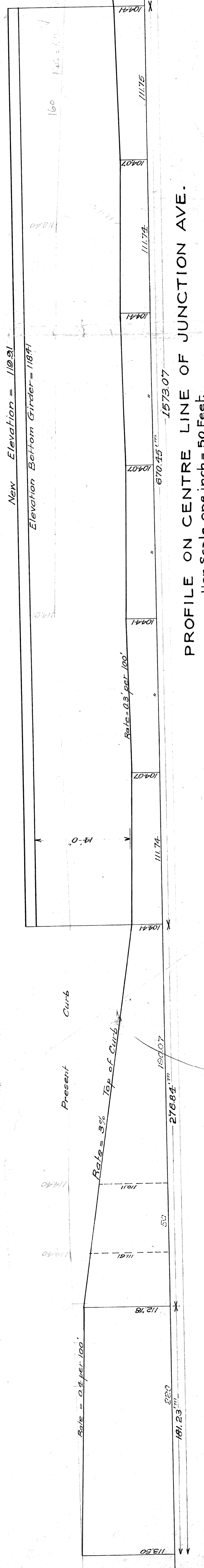
McGREGOR PL.
East & West.



CROSS SECTION AT AB ON LEAVITT STREET.
Scale, one inch = 6 Feet.



DETAIL SHOWING REINFORCED SEWER.



PROFILE ON CENTRE LINE OF JUNCTION AVE.
Hor. Scale, one inch = 50 Feet.
Ver. " " " = 10 "

File XU30-2

City Engineer's Office,
May 1, 1906.

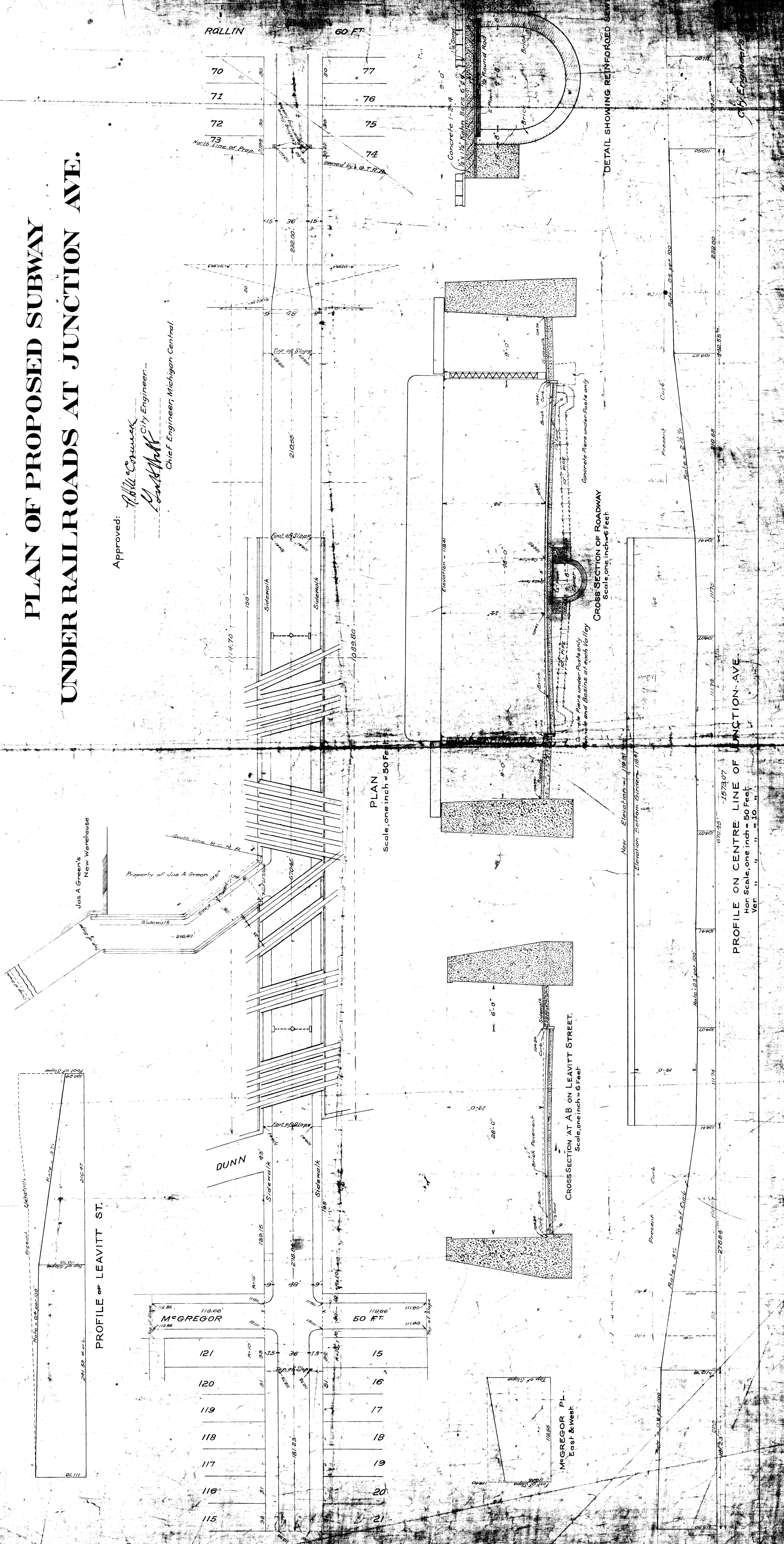
CITY ENGINEER'S OFFICE
GRADE REGULATION & RECORDS

A-5

A 7-I 20b

PLAN OF PROPOSED SUBWAY UNDER RAILROADS AT JUNCTION AVE.

Approved: *Abel Crummett*
City Engineer--
Charles H. Hall
Chief Engineer, Michigan Central.



PLAN
Scale, one inch = 50 Feet

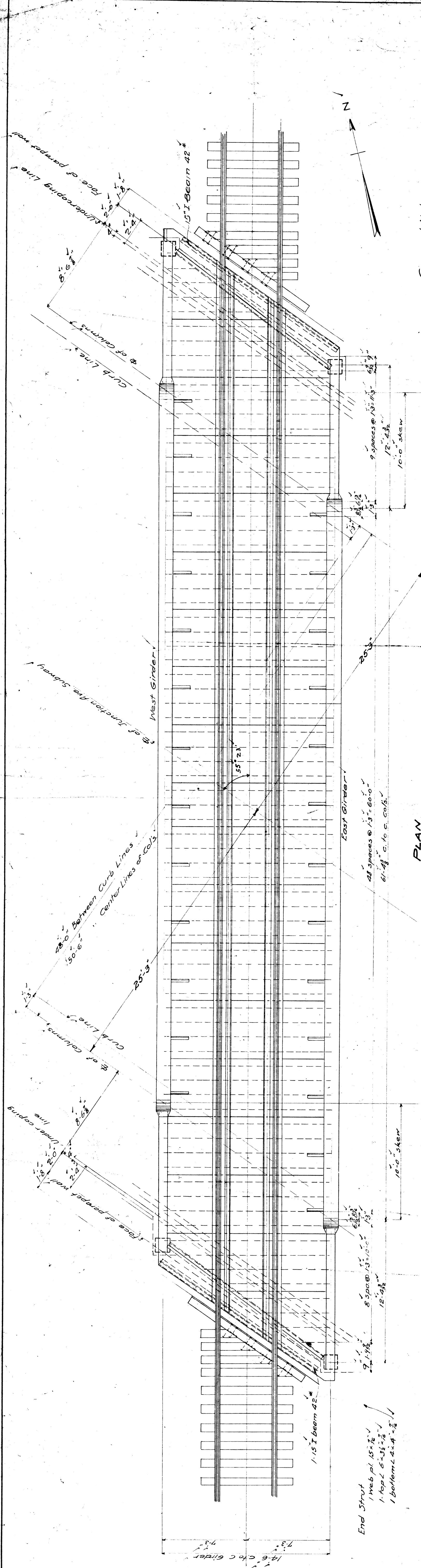
CROSS SECTION OF ROADWAY
Scale, one inch = 6 Feet

CROSS SECTION AT AB ON LEAVITT STREET.
Scale, one inch = 6 Feet

PROFILE ON CENTRE LINE OF JUNCTION AVE.
Hor. scale, one inch = 50 Feet.
Ver. " " = 10 "

ANNEXATION

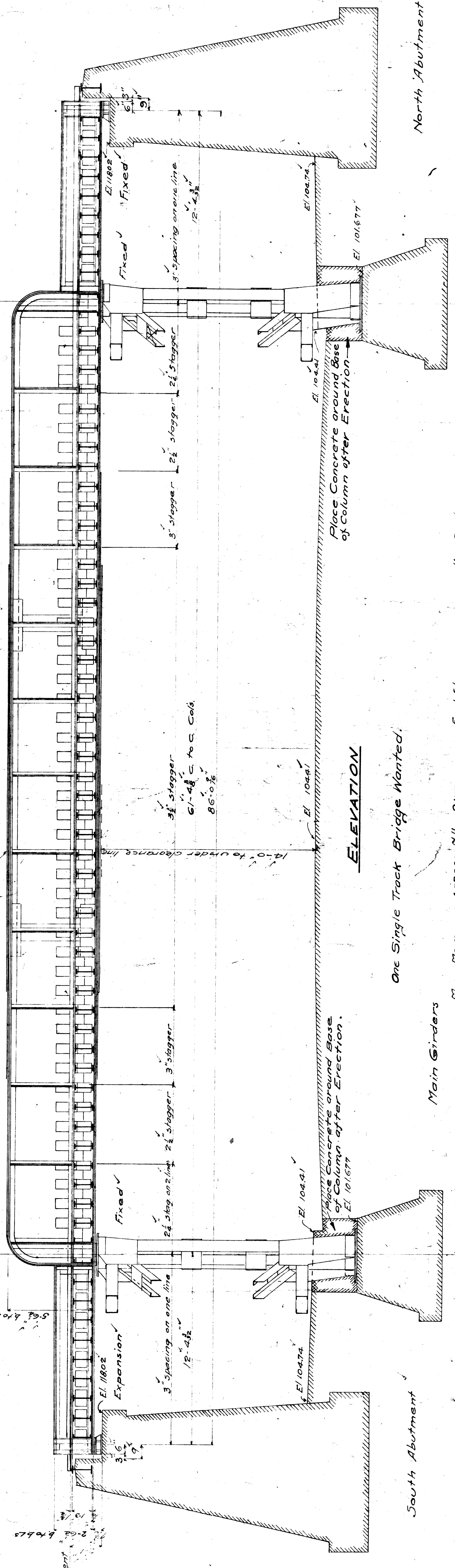
City Engineer's



General Notes

Loading Girders & Cols. Coopers E 40 ✓
 Floor Beams 5000 lbs axle load distributed over 3 beams ✓
 L.S. & M.S. Ry. Co's General Specifications for steel Railway Bridges for 1904 ✓

PLAN



ELEVATION

One Single Track Bridge Wanted.

Approach Girders

Max. Mom.	13500 Ft. lbs. DL.
	80000 LL.
	68500 Impact
	162000 Ft. lbs.

Top & Bottom Flanges 2 Ls 4x14 ✓
 1 pl. 9x3 full length ✓
 Rivets in outside leg of flange 4
 to stagger with rivets in vertical legs ✓

End Shear	4500 lbs. DL.
	30000 LL.
	30500 Impact
	70000 lbs.
Web	30" ✓

Main Girders

Max. Mom.	457000 Ft. lbs. DL.
	1322000 LL.
	1,070,000 Impact
	2,820,000 Ft. lbs.

Bottom Flange 2 Ls 6x6 ✓
 1 pl. 18x3 full length ✓
 1 15x3 + 38'5" ✓
 1 15x3 + 27'6" ✓

Top Flange	2 Ls 6x6 ✓
	1 pl. 18x3 full length ✓
	1 15x3 + 38'5" ✓
	1 15x3 + 27'6" ✓
Section 2 @ 15' x 45' ✓	
	1 I 15" x 45" ✓

Columns

34500 lbs. DL.	
145000 LL.	
79500 Impact	
219000 lbs.	

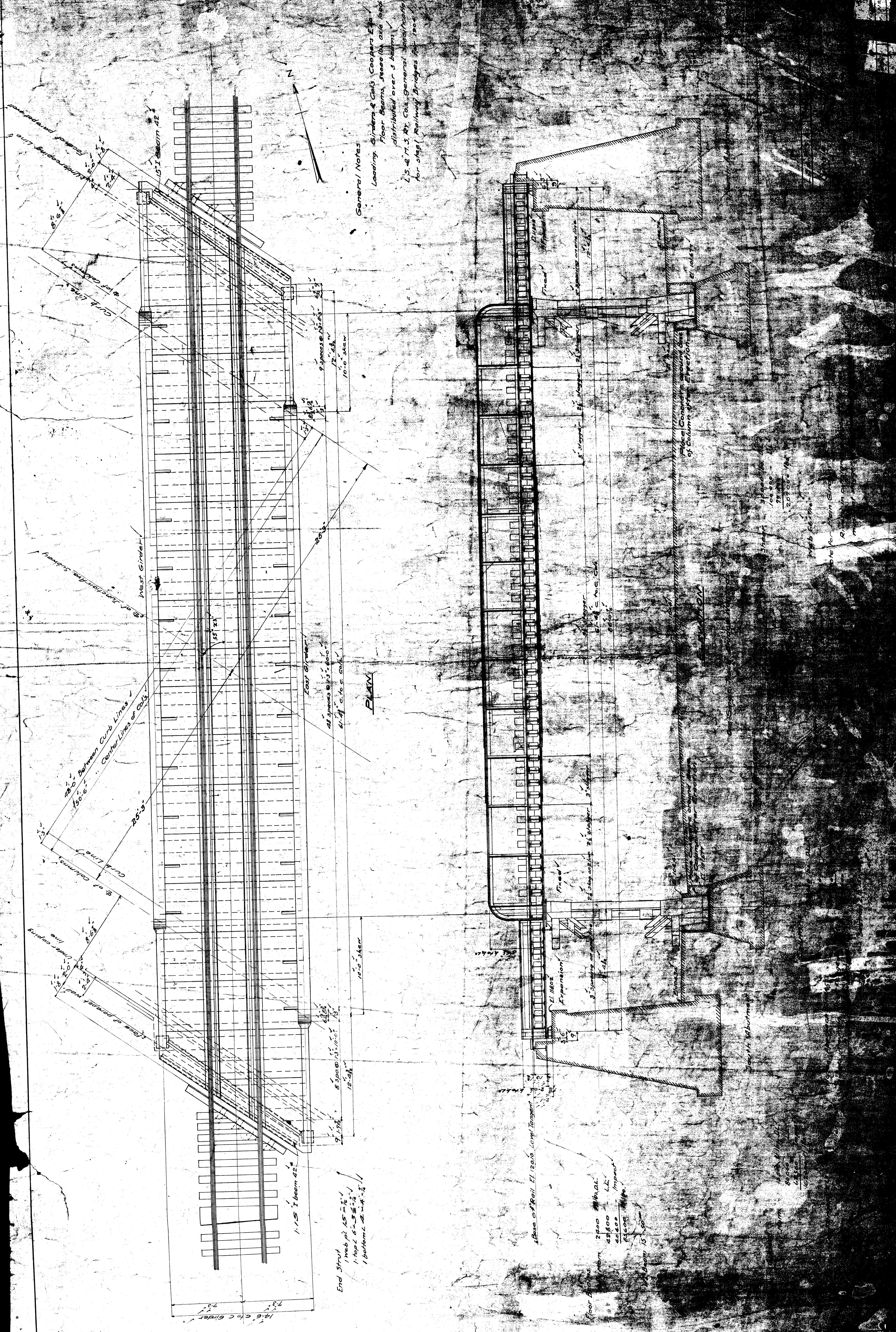
Note - Approach Girders
 Rivets in outside leg of flange 4
 to stagger with rivets in vertical legs ✓

End Shear	30000 lbs. DL.
	100000 LL.
	79000 Impact
	207000 lbs.

Web 66" ✓
 Note for Main Girders
 Rivets in outstanding legs of flanges
 must not stagger with rivets in vertical legs ✓

L.S. & M.S. Ry. Eng. Dept. S. Rockwell/C.E.
 Single Track Through Girder Span
 over
 Junction Are Subway
 Detroit Mich.
 Sheet 1 of 3
 Scale 1/4" = 1'-0"
 Draw No. 9122
 Bridge Dept.

File No. 90-3



General Notes

Loading: Siders & Gals. Coopers Etc.
 Floor Beams, Steels, and Deck
 distributed over 3 beams.
 L.S. & T.S. R. Co. General Specification
 for Steel Railway Bridges for 1900.

PLAN

End Strut
 1 web pl. 15" x 1/2"
 1 top L. 6" x 3" x 1/2"
 1 bottom L. 6" x 3" x 1/2"

Floor Beams
 2400 #14s. at
 42800 LL
 20400 Impact
 63000 #14s.
 24000 #14s.

10' x 10' 1/2"
 20' x 20' 1/2"
 20' x 20' 1/2"

Base of Rail El. 120.10

2-9" x 13-25"
Double lacing 2 1/2"
Butten pls. 8" x 1-3/4"

24-3/4" cap pl. 2-0 1/2"
2" Guard pl.
Mild steel
6" x 3 1/2" x 8"
2" Gussets

Columns 2x 15" x 15"
1-1-15 x 15"

Butten pls. 8" x 1-3/4"

2-5" x 8"
Double lacing 2 1/2"
Butten pls. 8" x 1-3/4"

27-3/8" x 3"
Lacing 2 1/2"
Butten pls. 8" x 1-3/4"

8" conn. pl.

Top of curb El. 124.41

Top of lacing El. 161.677

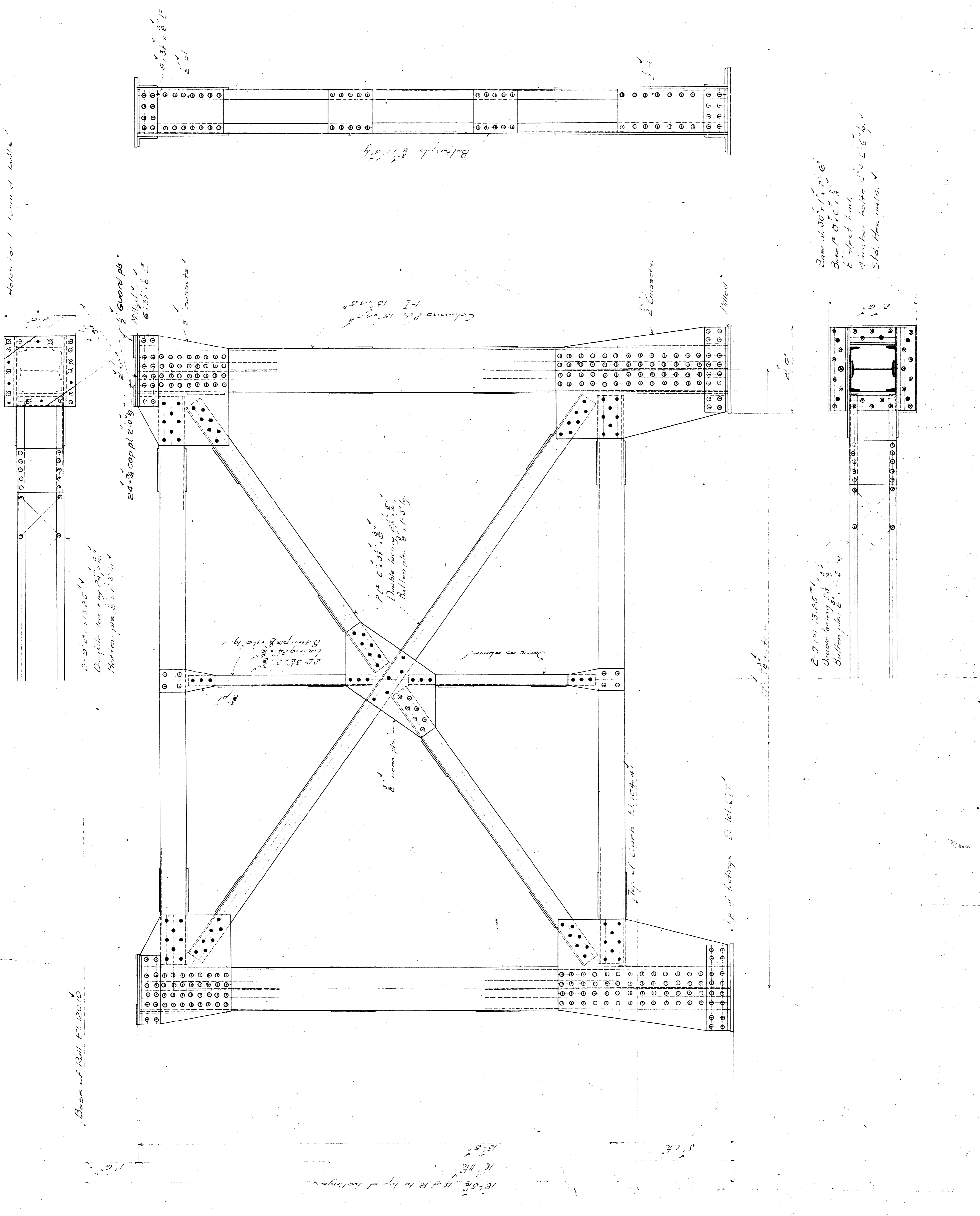
17'-7 1/2" = 4'-0"

2-9" x 13-25"
Double lacing 2 1/2"
Butten pls. 8" x 1-3/4"

Beam pl. 30" x 1" x 2"
Base 2" x 2" x 3/4"
2" sheet lead
Anchor bolts 4" x 2-6" lg.
Std. Hex nuts.

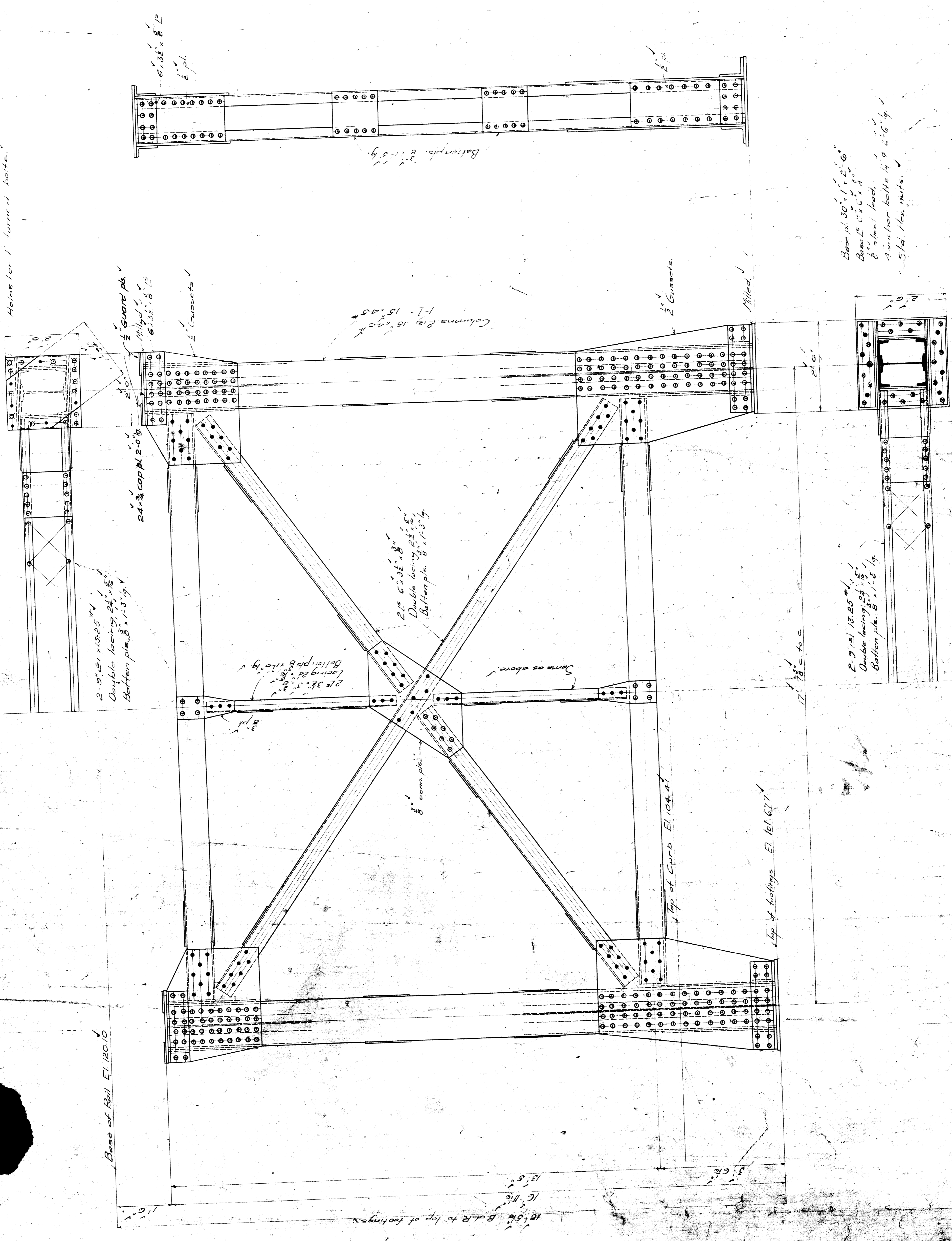
Holes for 1 turned bolts

Rocks 8" except for those thru bracing in elevation which are 8 1/4"



L. SIMS, Engr. Dept. B. & O. R. R. C. E.
 Single Track Through Girder Span
 Junction Ave. Subway
 Detroit Mich.
 Sheet 3 of 3
 Scale = 1" = 0'-8" - 0'-6" - 0'-4" - 0'-2"
 File No. 30-5
 Det. No. 45

Rivets $\frac{3}{4}$ " except for those thru bracing in elevation which are $\frac{5}{8}$ "



Holes for 1 turned bolts

24x3/8 cap pl. 2'-0"
 2'-0" x 13.25"
 Double lacing 2x5x3/8
 Bottom pl. 3x13.25
 2'-0" x 13.25"
 Double lacing 2x5x3/8
 Bottom pl. 3x13.25

Columns 2 C's 15x45
 1-1-15x45

2x5x3/8 x 13.25"
 Double lacing 2x5x3/8
 Bottom pl. 3x13.25

2'-0" x 13.25"
 Double lacing 2x5x3/8
 Bottom pl. 3x13.25

Beam pl. 30x1x2'-6"
 Beam L. 30x1x2'-6"
 4x2'-6" x 1/4"
 4x2'-6" x 1/4"
 Std. Hex. nuts

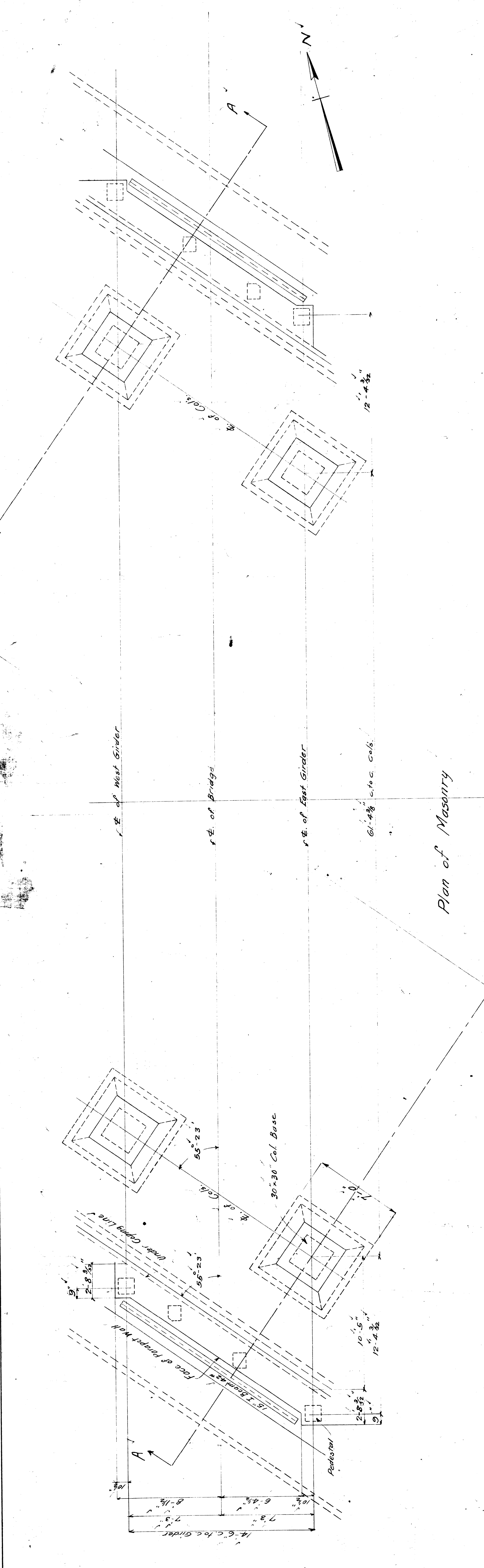
Base of Rail El. 120.10

Top of Curb El. 104.41

Top of lacing El. 101.677

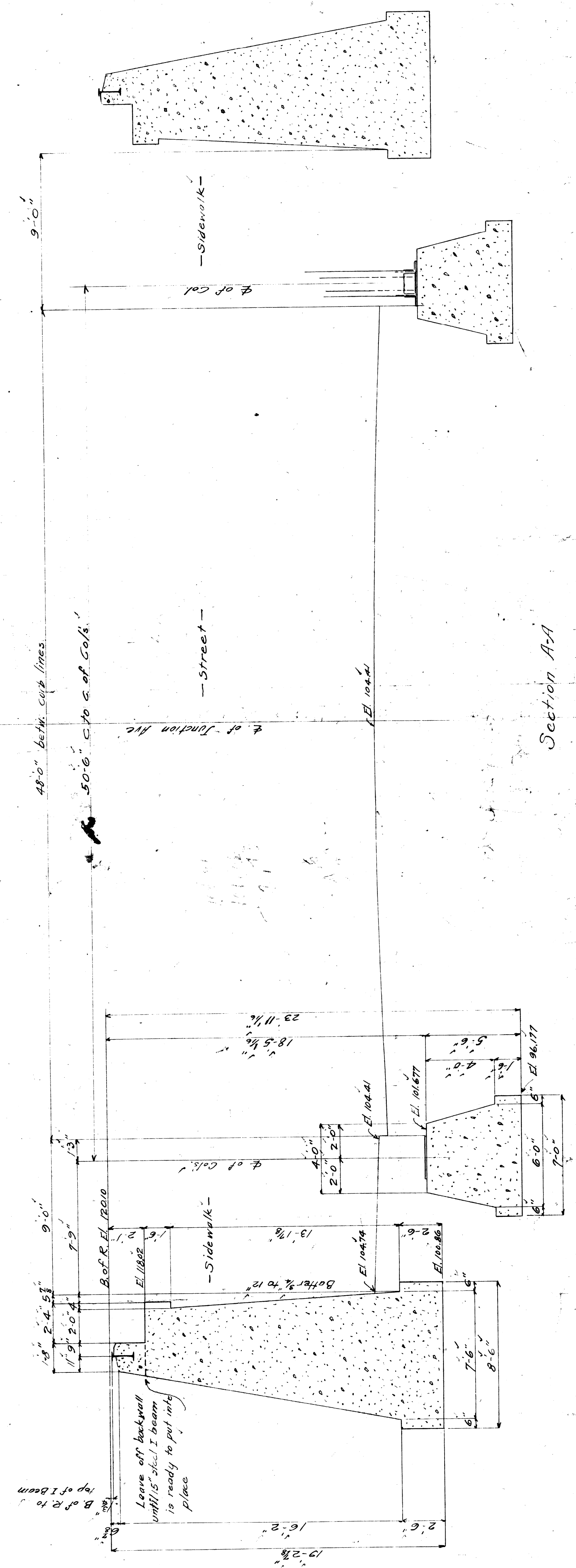
10'-5 1/2" Bol. R. to top of lacing
 16 1/2"
 13'-5"
 3' Gie

M.S.



Plan of Masonry

NOTE - Rest of Masonry to be designed by M.C.R.R.



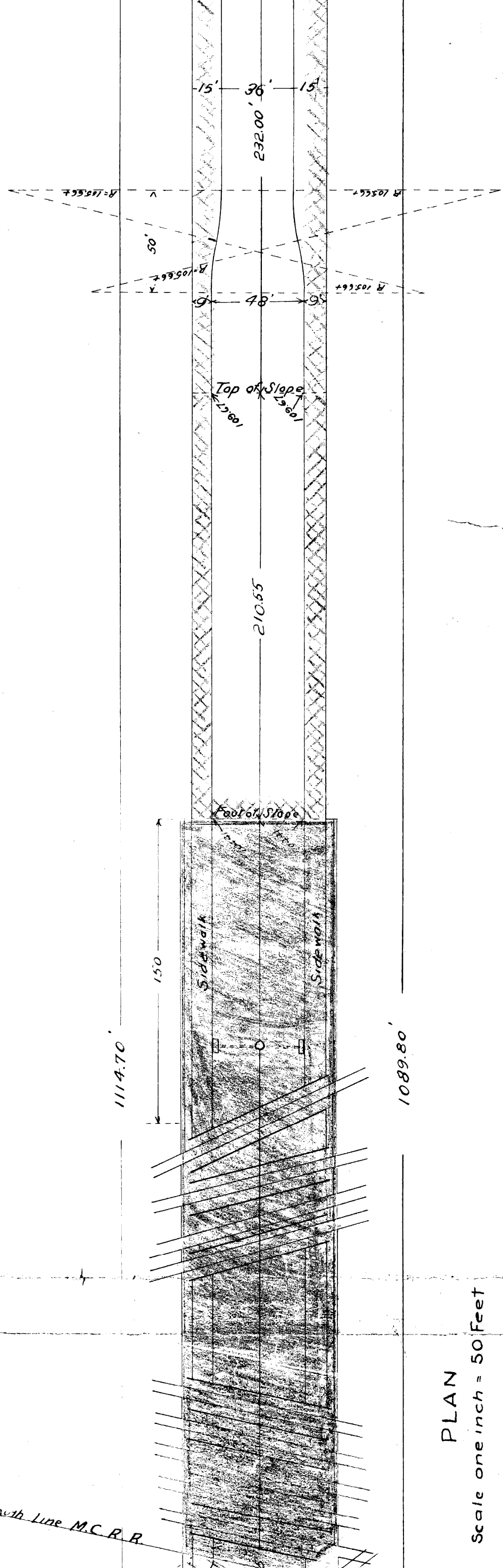
Section A-A

L.S. & M.S.R.Y. ENG. DEPT. J. ROCKWELL & CO.
 MASONRY PLAN
 FOR
 SINGLE TRACK THROUGH FLAT GIRDER SPAN
 AT
 JUNCTION AVE SUBWAY
 DETROIT, MICH.
 SHEET NO. 1
 SCALE 1/4" = 1'-0"
 AUG 6, 1906

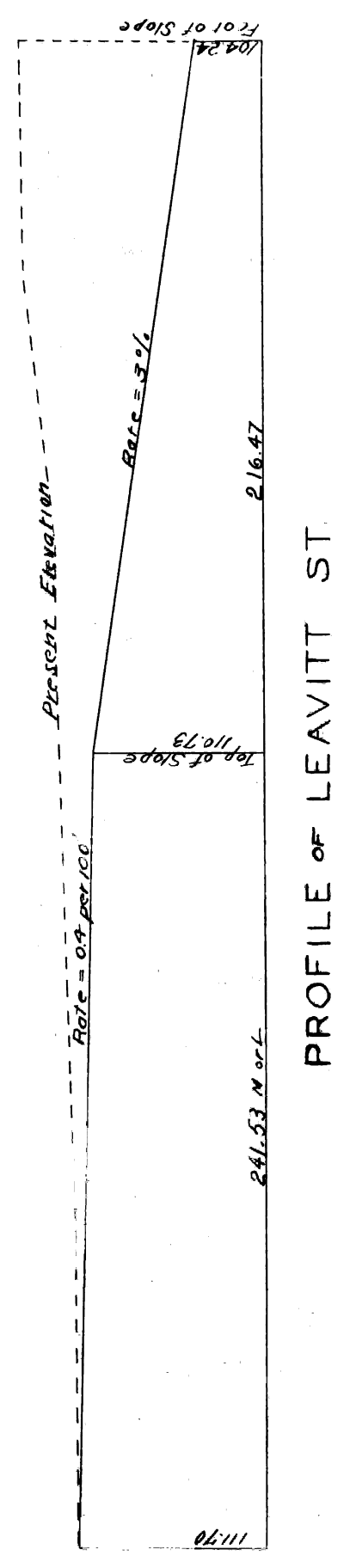
PLAN OF PROPOSED SUBWAY UNDER RAILROADS AT JUNCTION AVE.

Approved: *Abel C. Caplanek*
City Engineer -
Maxwell
Chief Engineer, Michigan Central.

ROLLIN		60 FT	
70	30	30	77
71			76
72	30	30	75
73			74

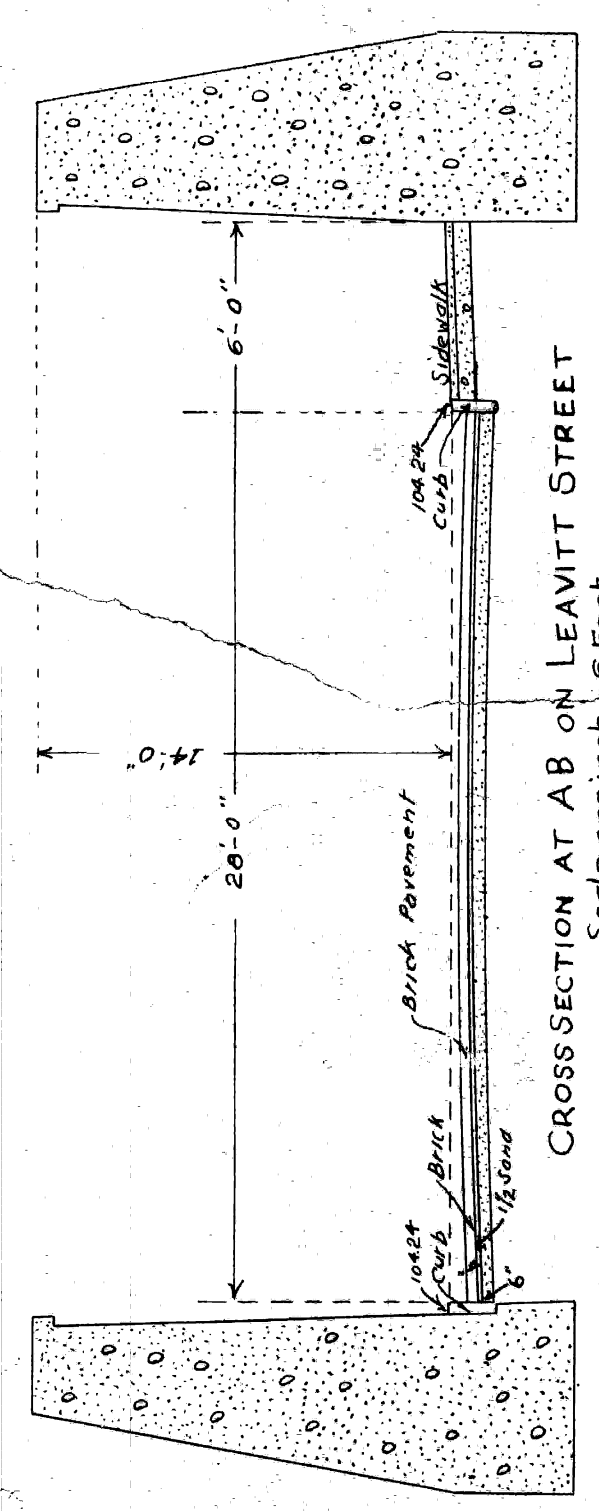


PLAN
Scale one inch = 50 Feet

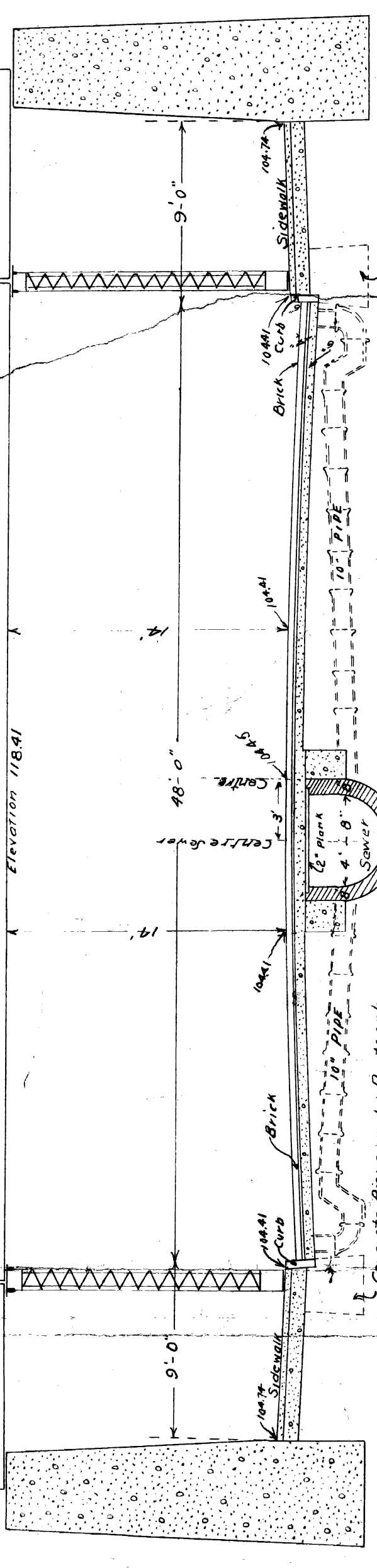


PROFILE OF LEAVITT ST.

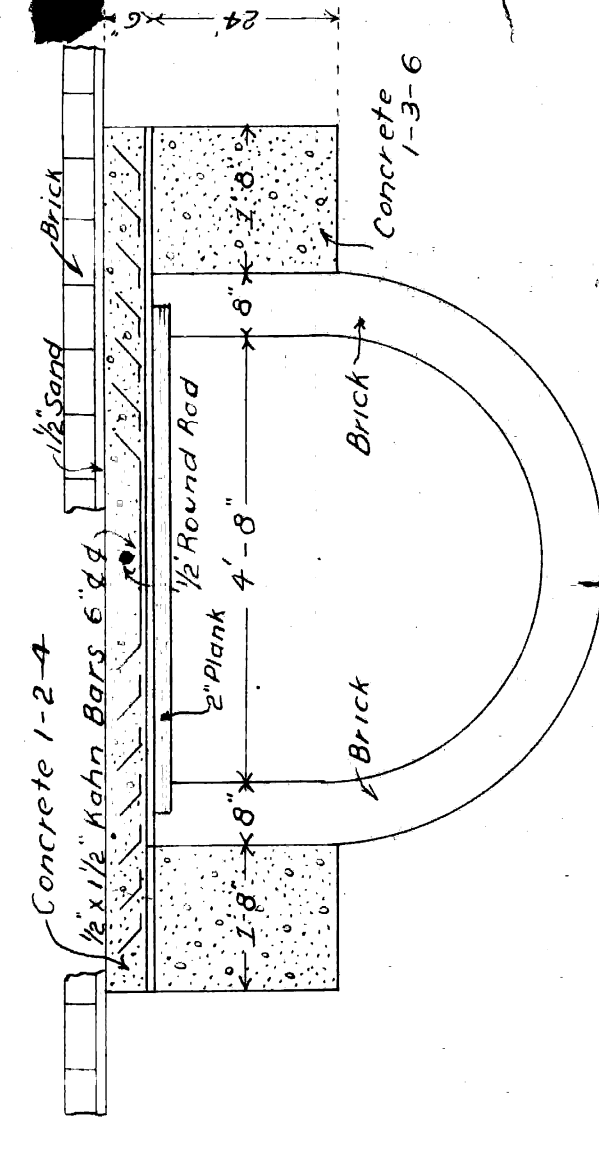
MCGREGOR		50 FT	
121	35	35	15
120	31	31	16
119			17
118			18
117			19
116	31	31	20
115	32	32	21



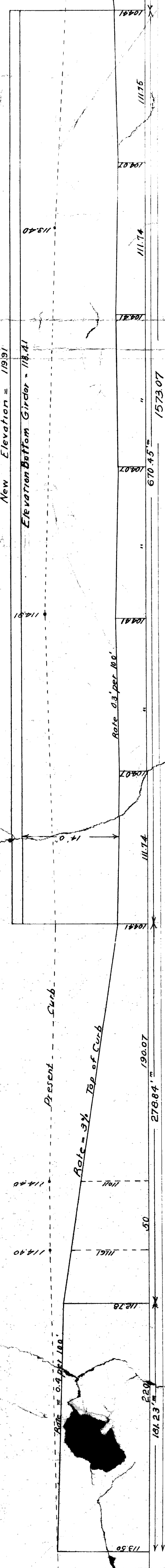
CROSS SECTION AT AB ON LEAVITT STREET
Scale one inch = 6 Feet



CROSS SECTION OF ROADWAY
Scale one inch = 6 Feet



DETAIL SHOWING REINFORCED SEWER.



PROFILE ON CENTRE LINE OF JUNCTION AVE.
Hor. Scale, one inch = 50 Feet.
Ver. " " " = 10 "

City Engineer's Office
May 1, 1906.

COPY

File X 30-7

SECTION A-A.

SECTION B-B.

SECTION C-C.

SECTION D-D.

SECTION E-E.

SECTION F-F.

SOUTH WALL
ELEVATION WALLS MCGREGOR ST.

SOUTH WALL
ELEVATION WALLS LEAVITT ST.

NORTH WALL

REAR ELEVATION EAST WALL JUNCTION AVE.

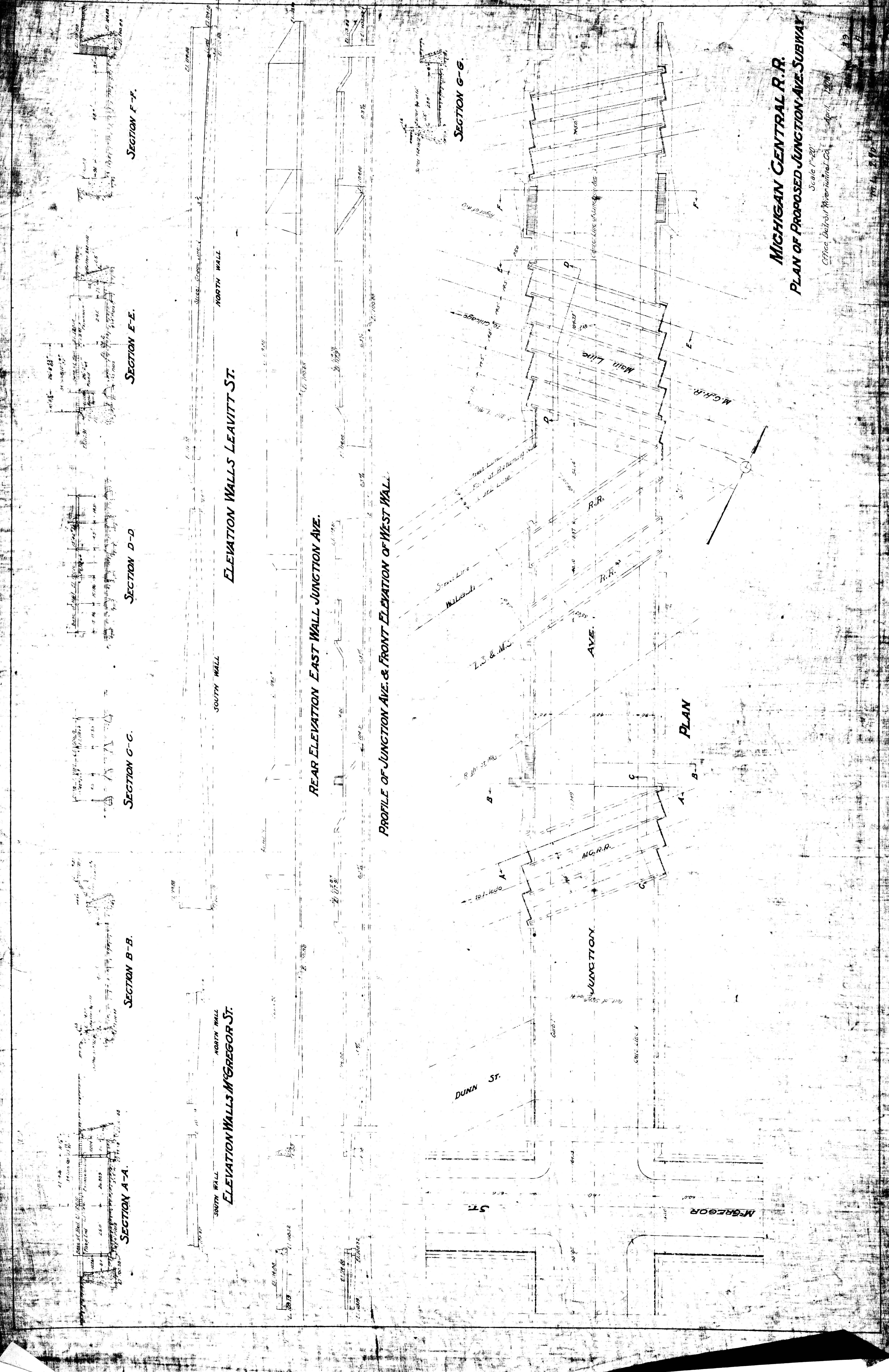
PROFILE OF JUNCTION AVE. & FRONT ELEVATION OF WEST WALL.

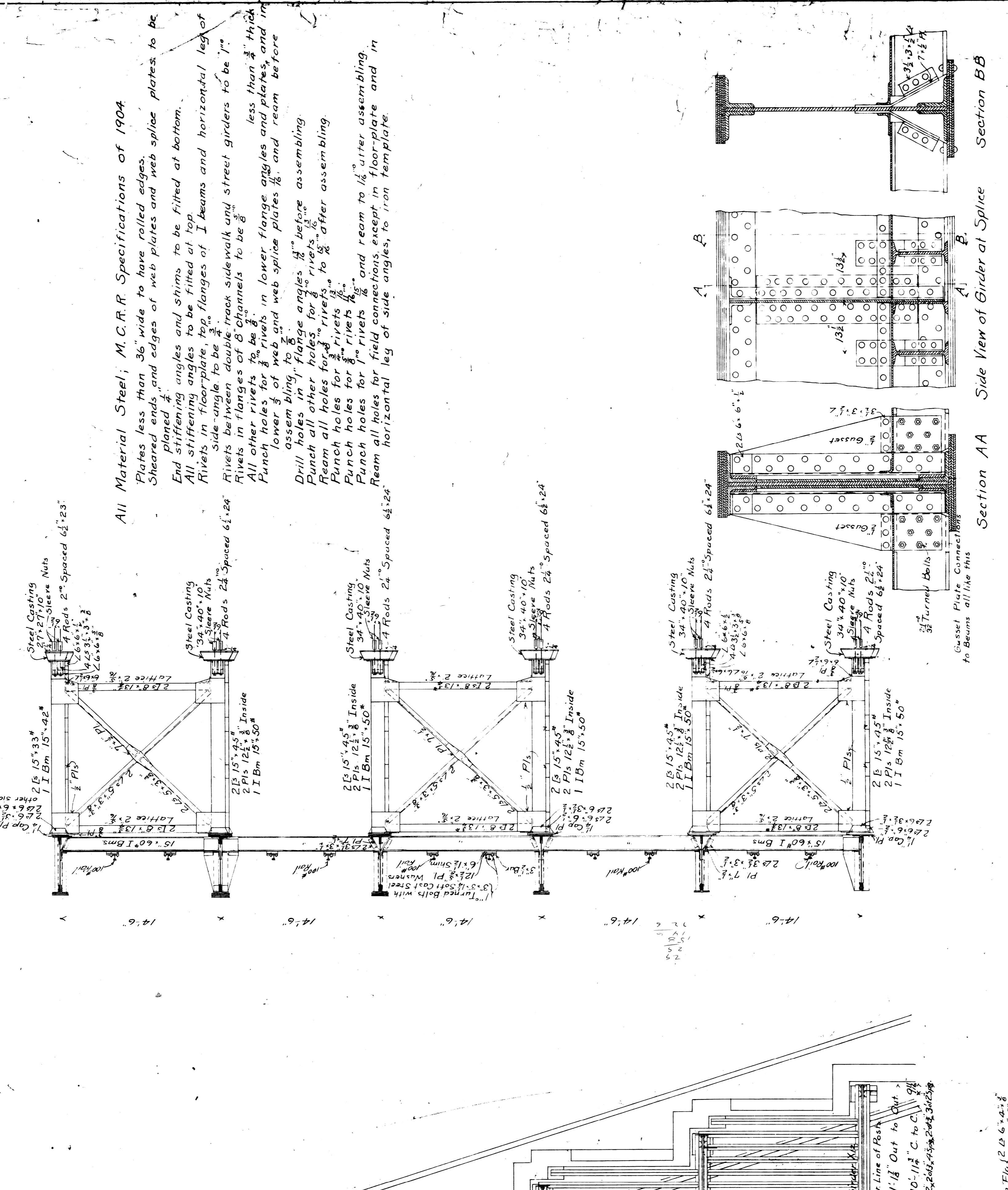
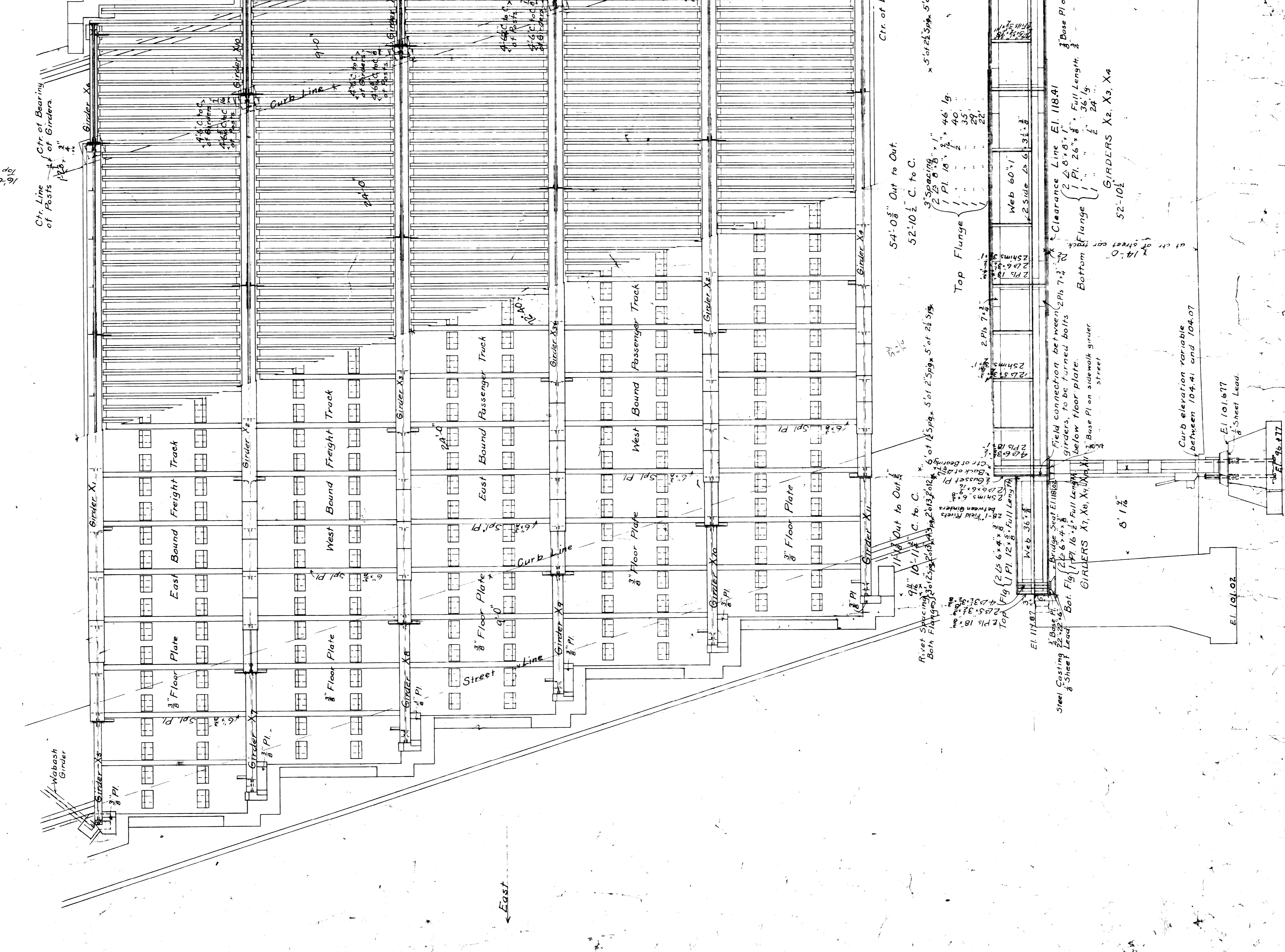
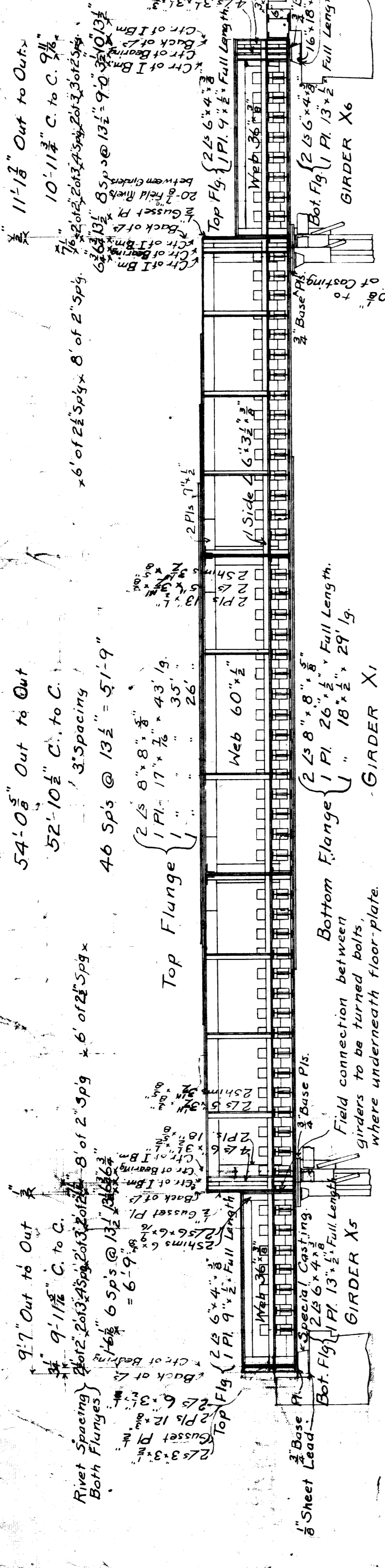
SECTION G-G.

PLAN

MICHIGAN CENTRAL R.R.
PLAN OF PROPOSED JUNCTION AVE SUBWAY

Scale 1"=20'
Office Detroit River Tunnel Co. April 1910

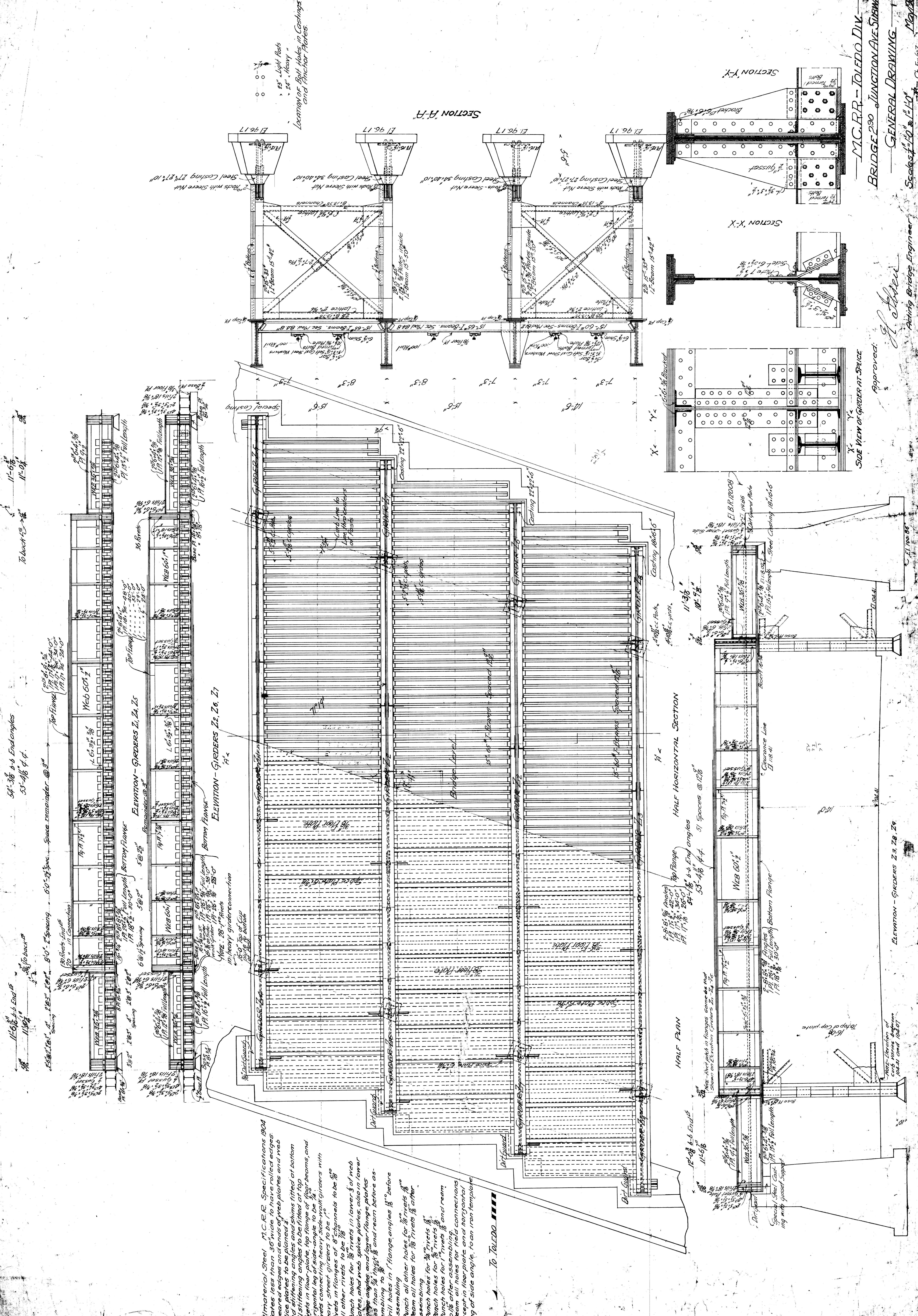




All Material Steel; M.C.R.R. Specifications of 1904
Plates less than 36" wide to have rolled edges.
Shear, ends and edges of web plates and web splice plates, to be stiffened.
End stiffening angles and shims, to be fitted at bottom.
All stiffening angles, top flanges of I Beams and horizontal leg of Rivets in floor plate, top flanges of I Beams and horizontal leg of side angle to be 3/8".
Rivets in flanges of 8" channels to be 7/8" less than 3/8" thick.
All other rivets to be 7/8".
Punch holes for 7/8" rivets in lower flange angles and plates, and in lower 3/4 of web and web splice plates 1/8", and ream before assembling to 3/8".
Drill holes in 1" flange angles 1/8" before assembling.
Ream all other holes for 7/8" rivets to 3/8" after assembling.
Punch holes for 7/8" rivets in 1/2" thick plates.
Punch holes for 7/8" rivets in 1/2" thick plates.
Ream all holes for field connections, except in floor plate and in horizontal leg of side angles, to iron template.

M.C.R.R. - MAIN LINE
BRIDGE 282 - JUNCTION AVE SUBWAY
GENERAL PLAN
Scale 1/4" = 1'-0"
M.B. May 1906
Approved
Acting Bridge Engineer

FILE XU30-290

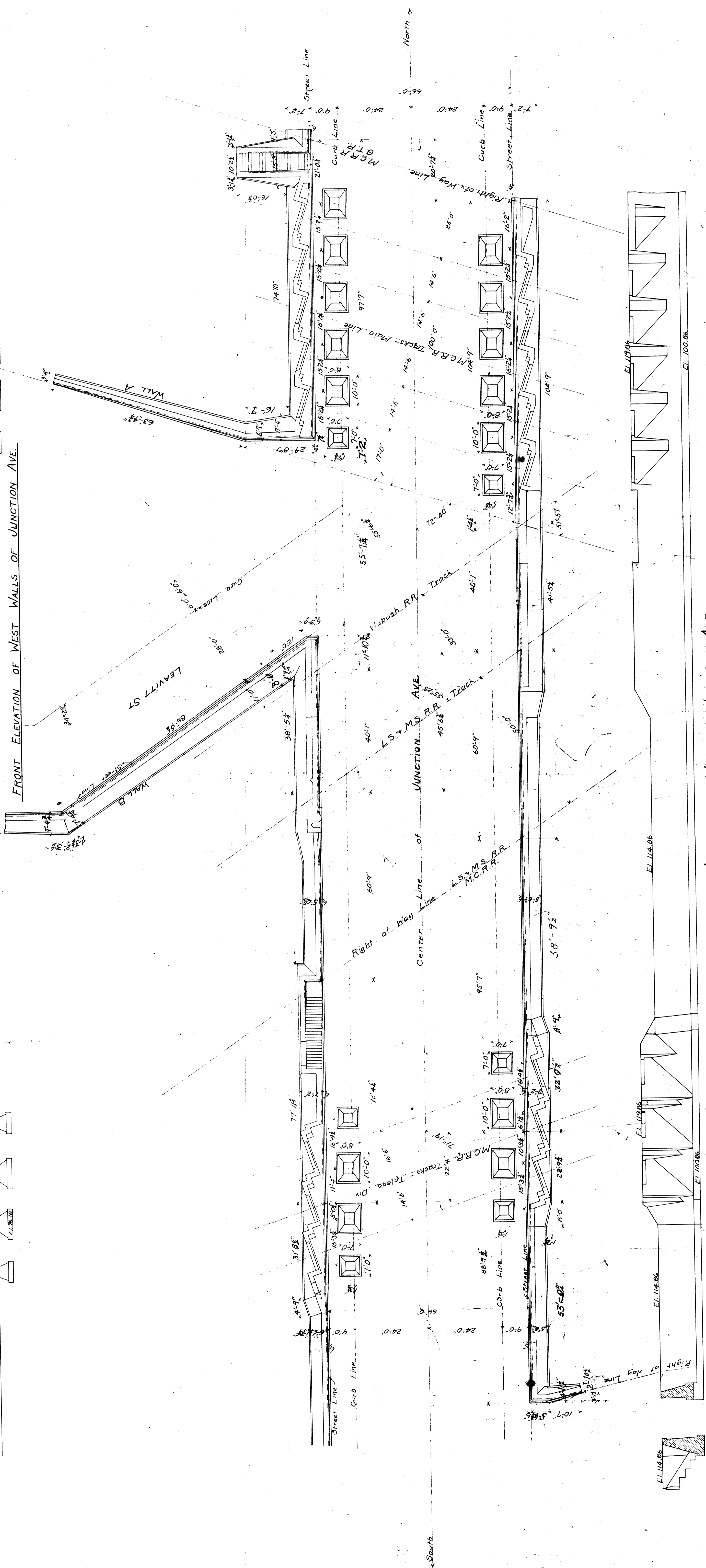
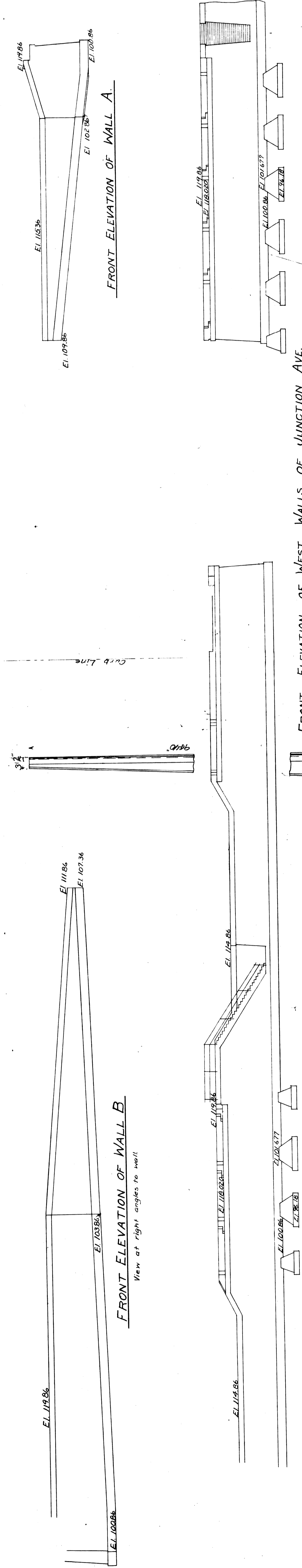


All material Steel, M.C.R.E. Specifications 100A plates less than 3/8" wide to have rolled edges. Sheared edges on all plates and webs. All stiffening angles and shims fitted at bottom. Rivets in floor-plate, top flange of floor beams, and horizontal leg of side-angle to be 3/4". Rivets connecting heavy side-wall girders with heavy sheet girders to be 1". Rivets in flanges of 8" channels to be 3/8". Punch holes for 1/2" rivets in lower 1/3 of web plates, and web splice plates, also in lower 1/3 of angles and lower flange plates less than 3/4" high 1/8" and rear before assembling. Drill holes in 1" flange angles 1/8" before assembling. Punch all other holes for 1/2" rivets 1/8" from all holes for 1/2" rivets 1/8" after assembling. Punch holes for 3/4" rivets 1/8" and rear from all holes for 3/4" rivets 1/8" after assembling. Rivet in floor-plate and horizontal leg of side-angle, to an iron template.

To TOLEDO

M.C.R.R. - TOLEDO DIV.
BRIDGE 290 JUNCTION AVE. SUBWAY
GENERAL DRAWING
Scale of 1/4" = 1'-0"
Ch. No. 67
May 1907
FIC XU 30-100

Approved: *J. G. Johnson*
Activity Bridge Engineer

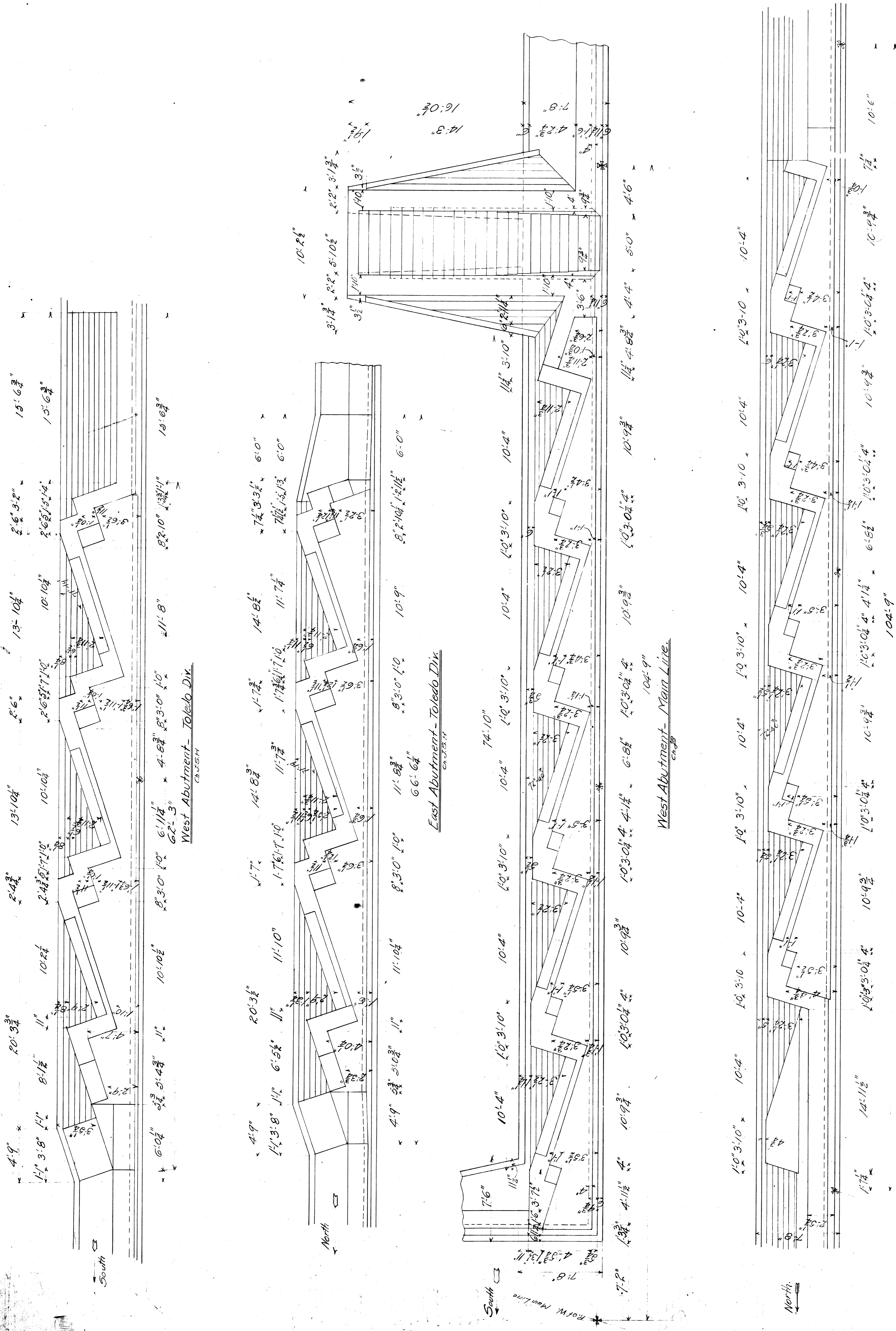


Make top 6" of Bridge Seats and Flare and top 3" of Steaks (except of Skins), 1 Part Portland Cement, 2 Parts Sand, 1 Part Broken Stone
At 2 1/2" Broken Stone
Face of exposed Surfaces with 1/4" Mortar

M.C.R.R. - MAIN LINE
BRIDGE 220 - JUNCTION AVE.
GENERAL DRAWING OF MASONRY
Scale 1/4" = 1'-0"
June 1906

Approved
[Signature]
Assistant Bridge Engineer

File XU 30-11
8

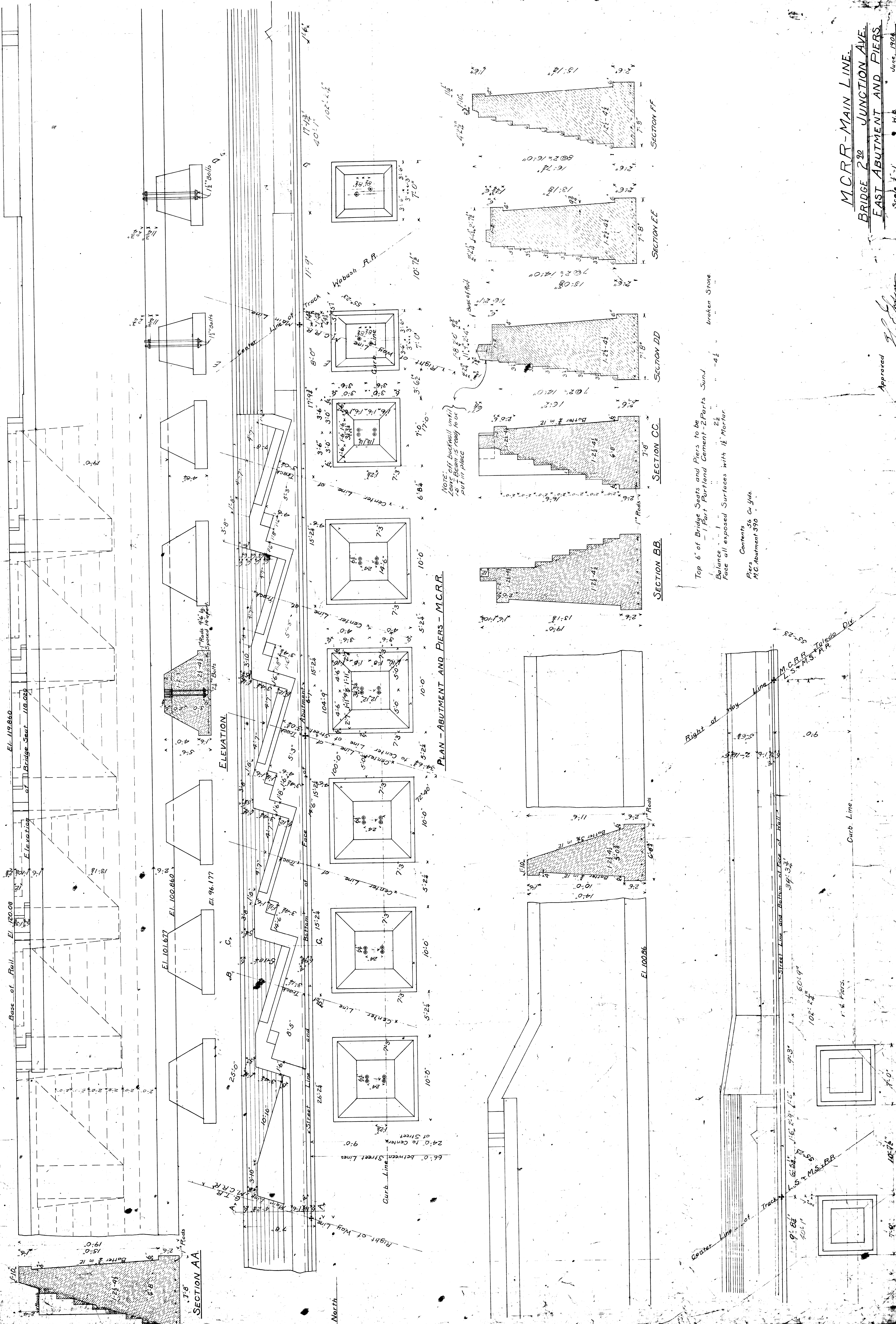


M. C. R. R. - TOLEDO & MAIN LINE DIVISIONS
 Bridge #20 Junction Ave.

TOP Plans of Abutments.

Scale 1" = 10' S.C. August 1906.

Approved: _____
 Bridge Engineer.



PLAN - ABUTMENT AND PIERS - M.C.R.R.

Top 6" of Bridge Seats and Piers to be 1 Part Portland Cement - 2 Parts Sand
 Balance 1 Part Portland Cement - 2 Parts Sand
 Face all exposed Surfaces with 1/2 Mortar.

Piers 36 Cu Yds.
 M.C. Abutment 370

M.C.R.R. - MAIN LINE.
 BRIDGE 230 JUNCTION AVE.
 EAST ABUTMENT AND PIERS

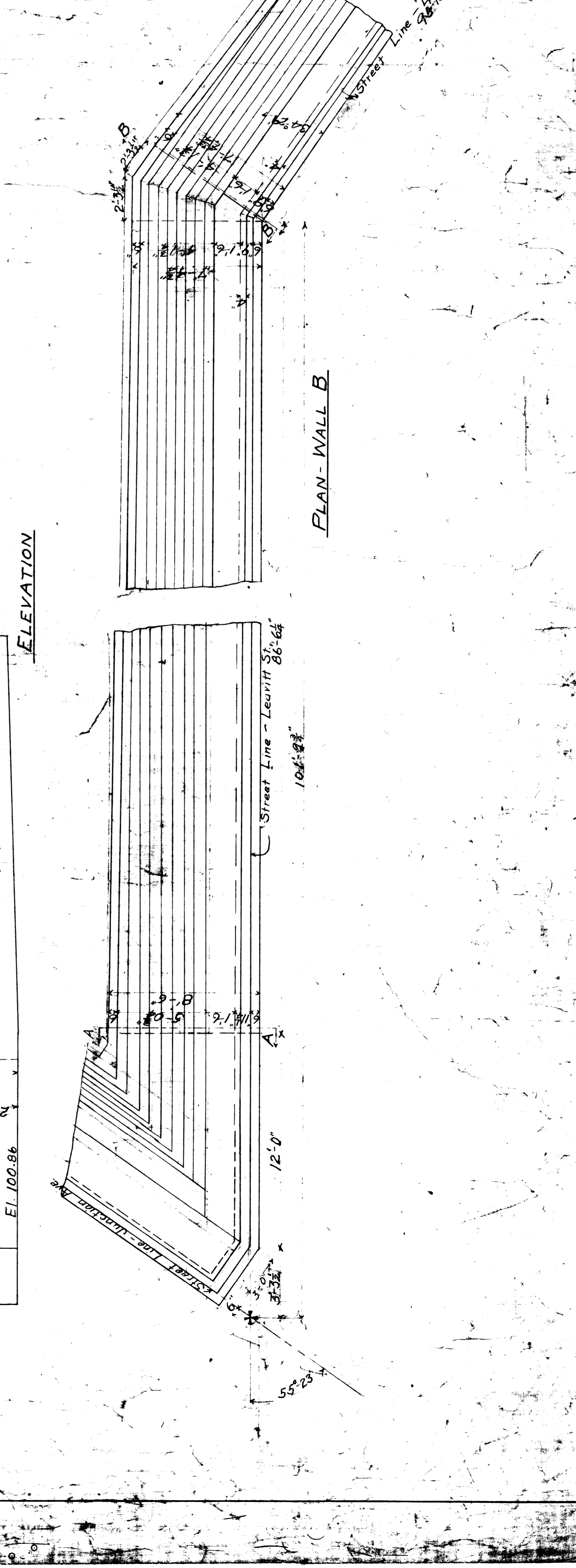
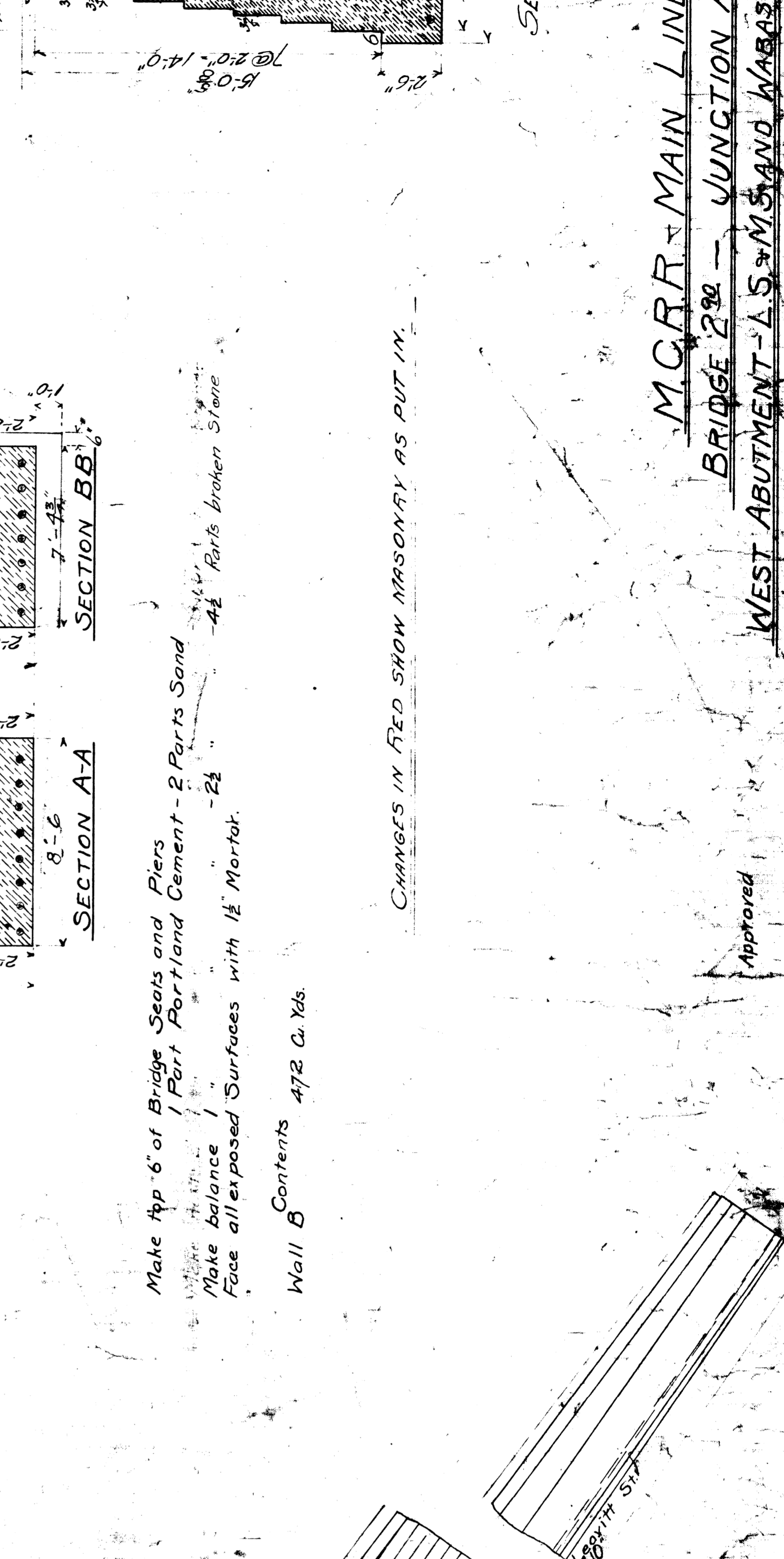
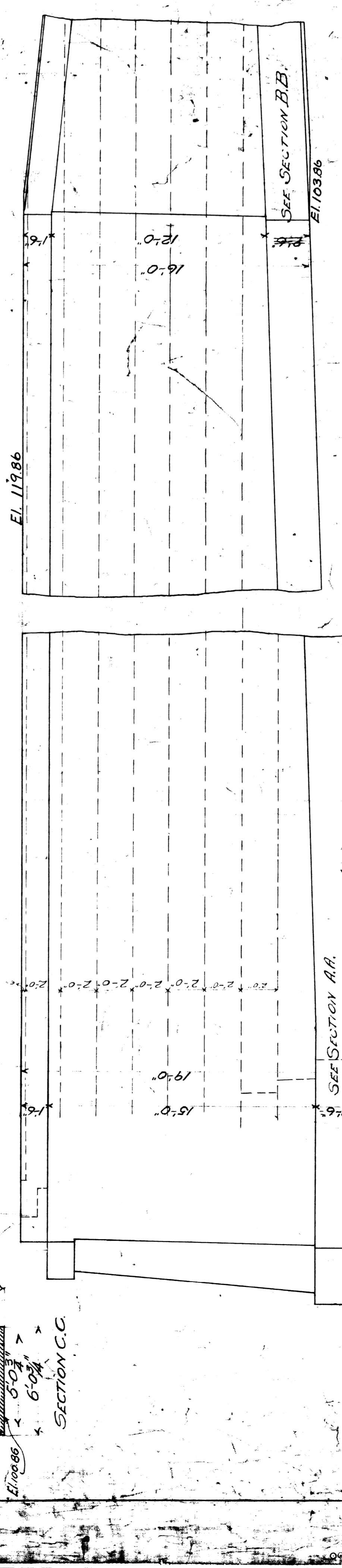
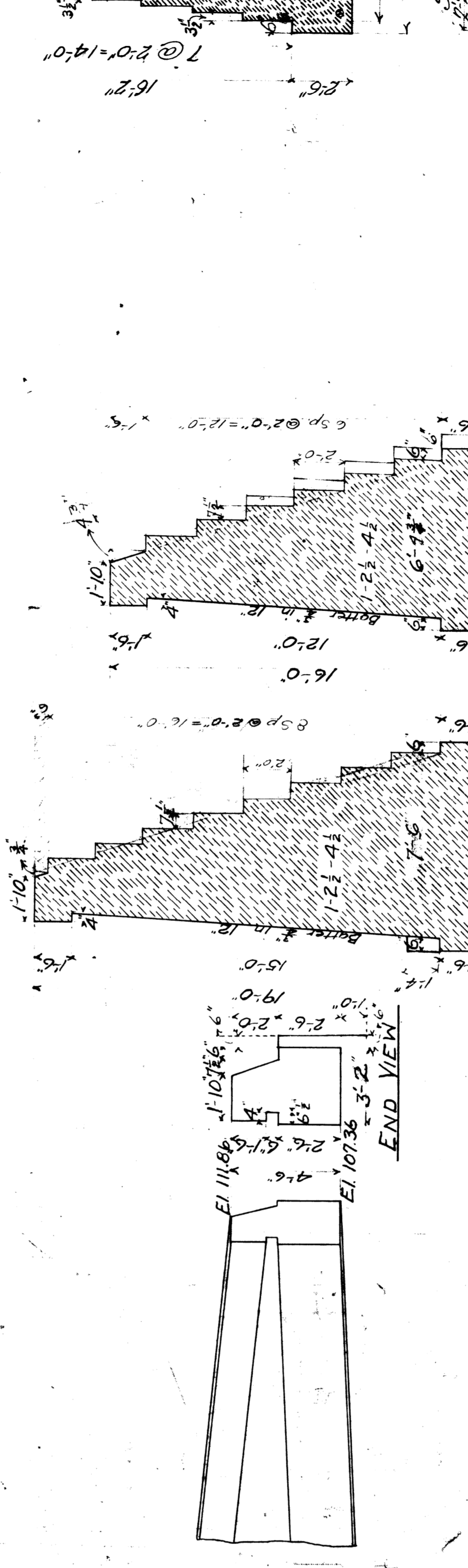
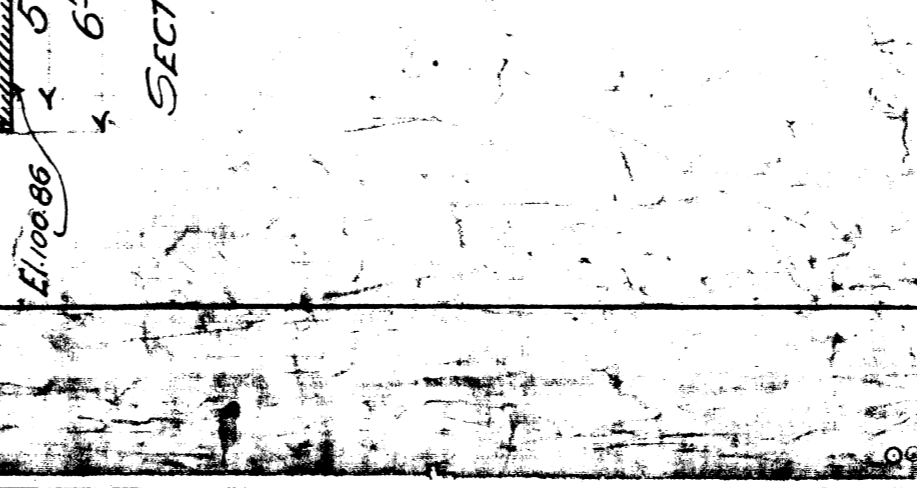
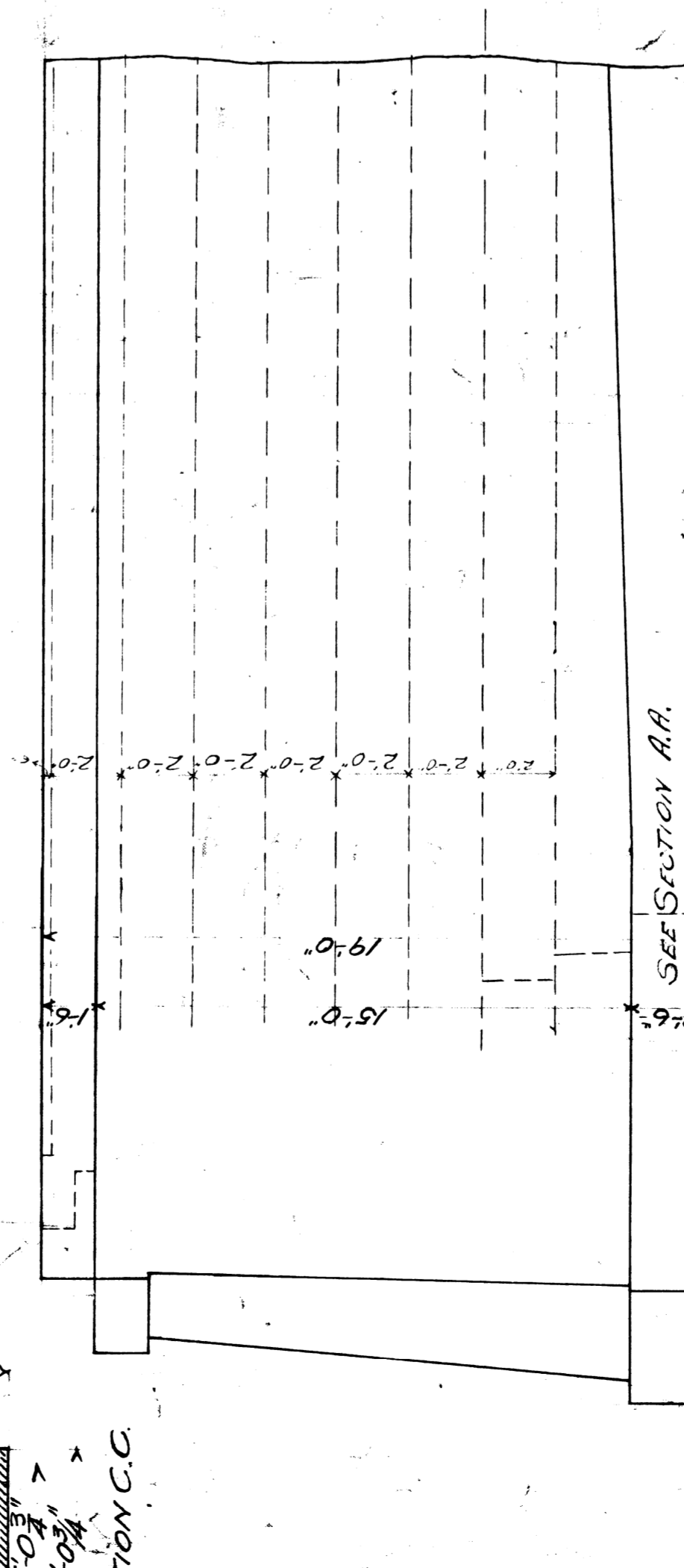
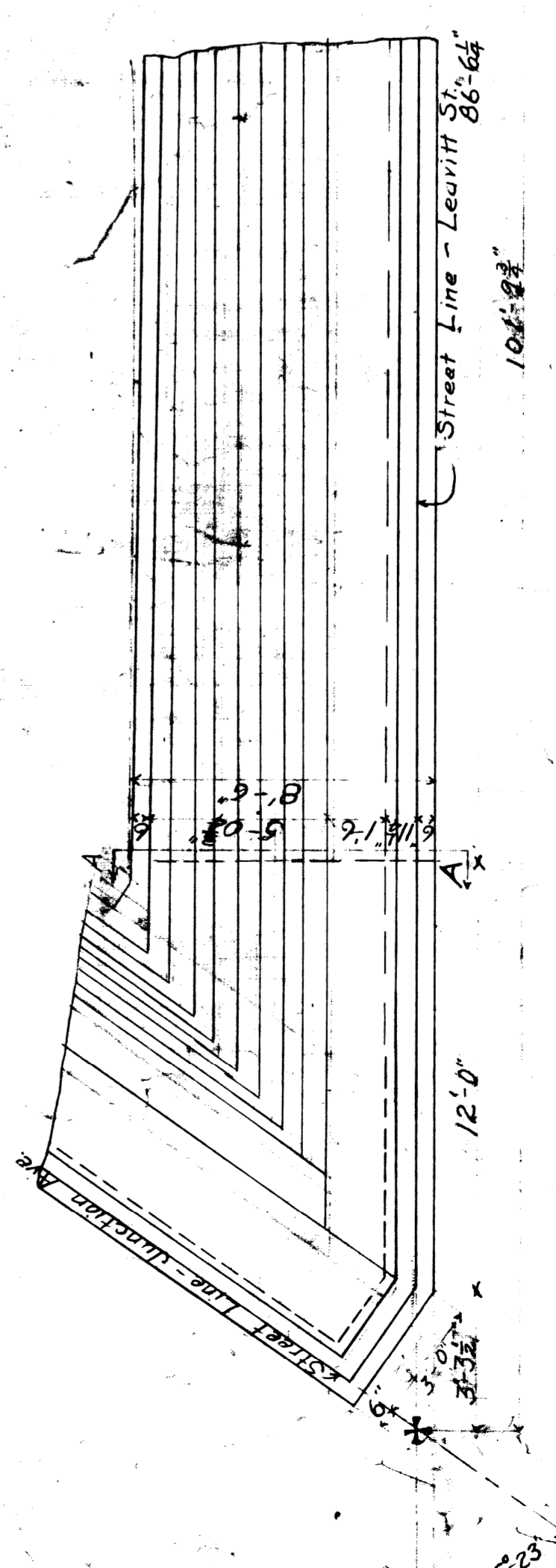
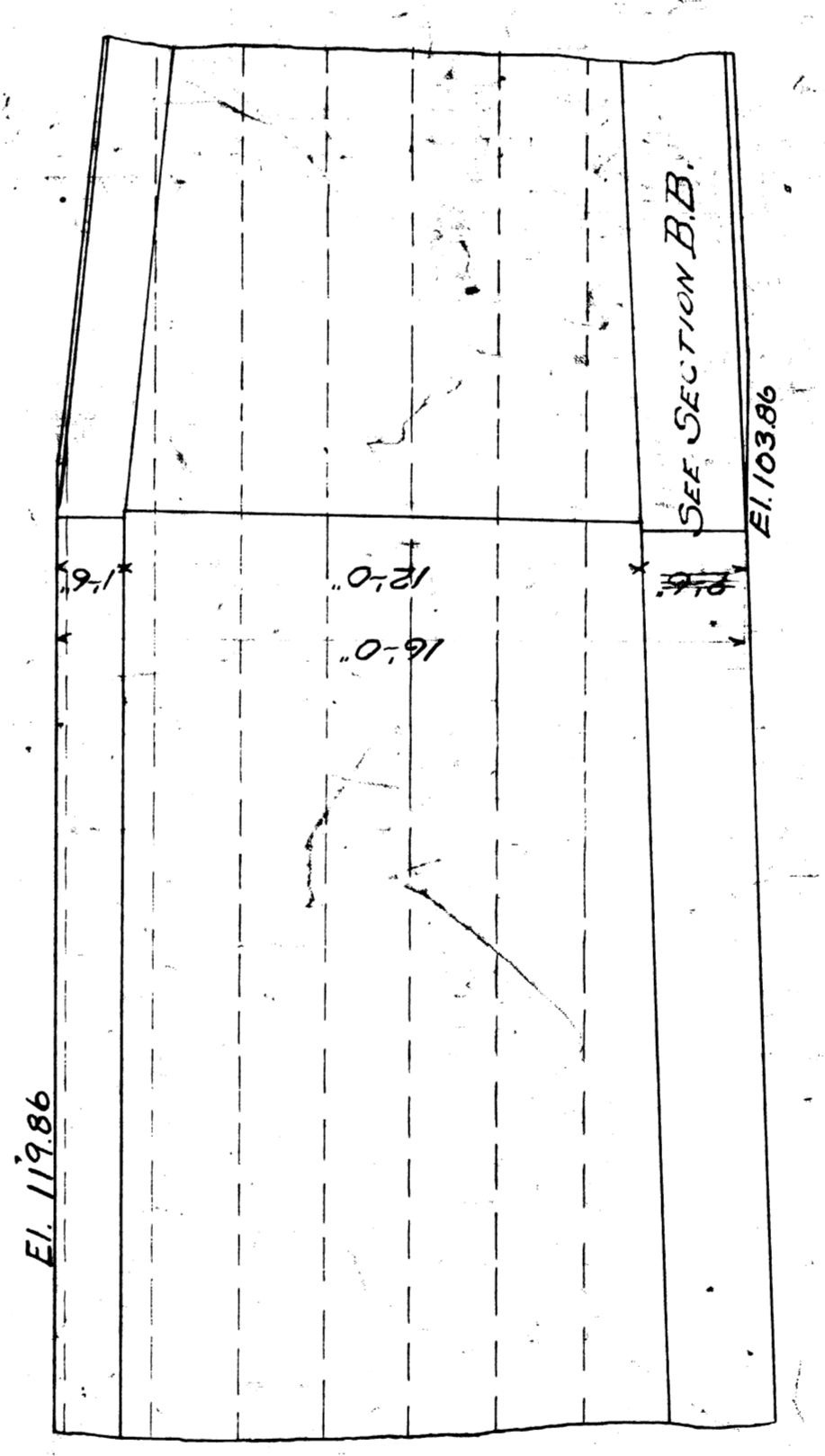
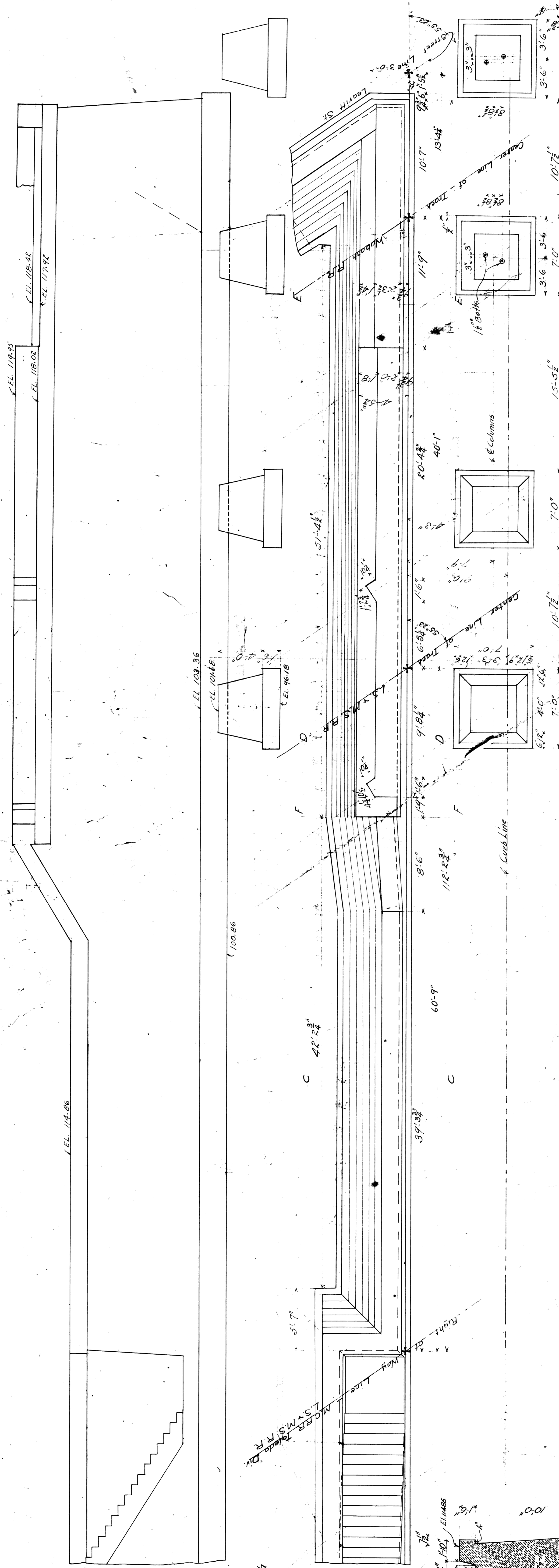
Approved
 H. C. Johnson
 Acting Bridge Engineer

Scale 1" = 1'

June 1908

File XU 30-13

290



Make up 6' of Bridge Seats and Piers
 1 Part Portland Cement - 2 Parts Sand
 Make balance 1
 Face all exposed Surfaces with 1/2 Mortar.

WALL B
 Contents 472 C.Yds

CHANGES IN FIELD SHOW MASONRY AS PUT IN.

M.C.R.R. MAIN LINE
 BRIDGE 200 - JUNCON AVENUE
 WEST ABUTMENT - L.S. & M.S. RR'S AND WALL E

Approved _____
 Acting Bridge Engineer

June 1906
 Scale 1/4" = 1'-0"

290 File YU 30-75

