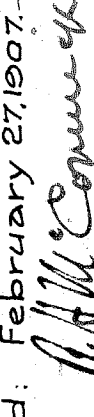



**PLAN OF PROPOSED BRIDGE  
OVER THE MICHIGAN CENTRAL RAILROAD  
AT FOURTEENTH AVENUE**

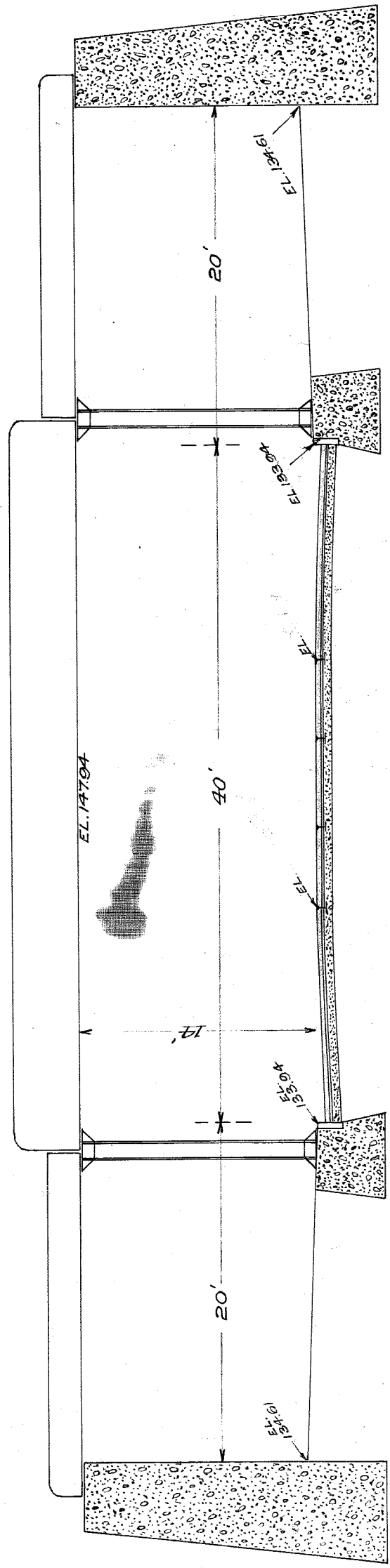
CITY ENGINEER'S OFFICE  
DETROIT, MICHIGAN  
DEC. 30TH 1908



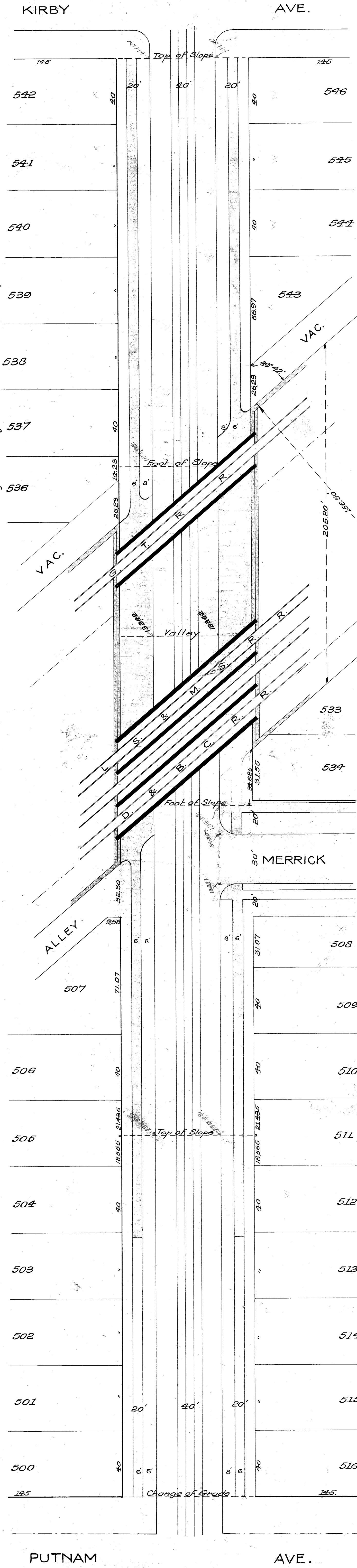
# PLAN OF PROPOSED SUBWAY IN 14<sup>TH</sup> ST., UNDER D. & B. C., L. S. & M. S. & G. T. RWYS.

Approved: February 27, 1907.  
 City Engineer.  
 Chief Engineer, M.C.R.R.

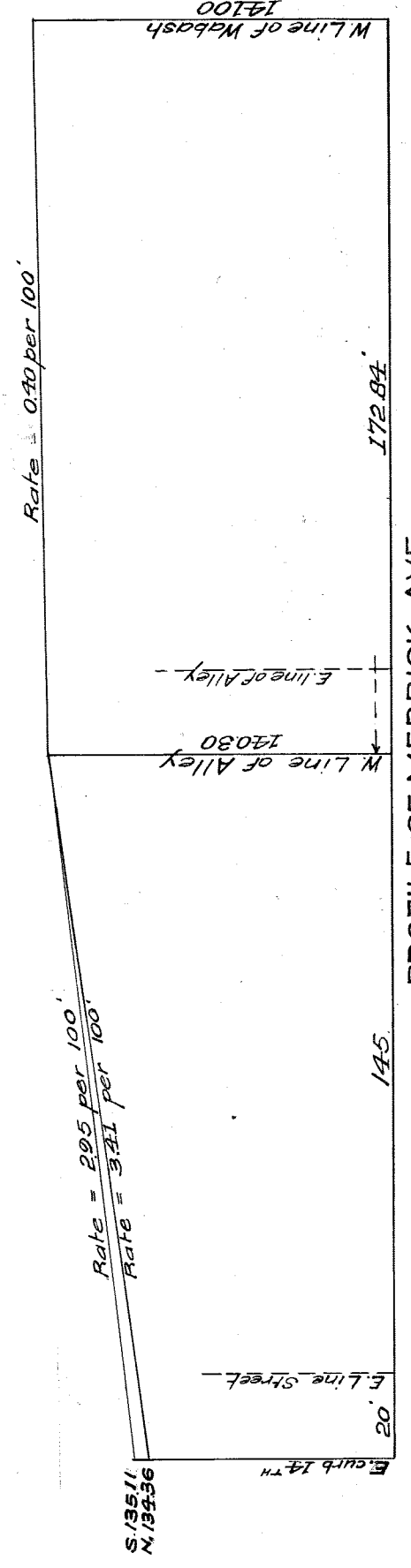
Note: See agreement of the Peoples Savings Bank, on file in City Clerk's Office, regarding all damages in the event of Grade Separation.



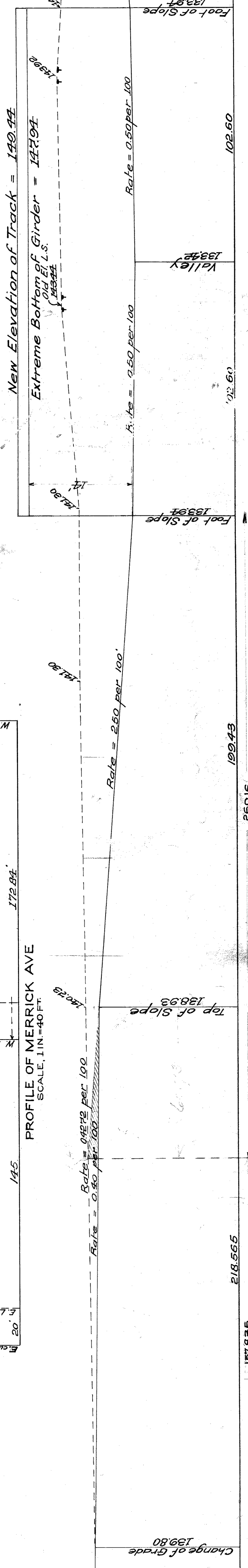
CROSS SECTION  
SCALE, ONE INCH = 8 FEET.



PLAN  
SCALE, ONE INCH = 30 FEET.



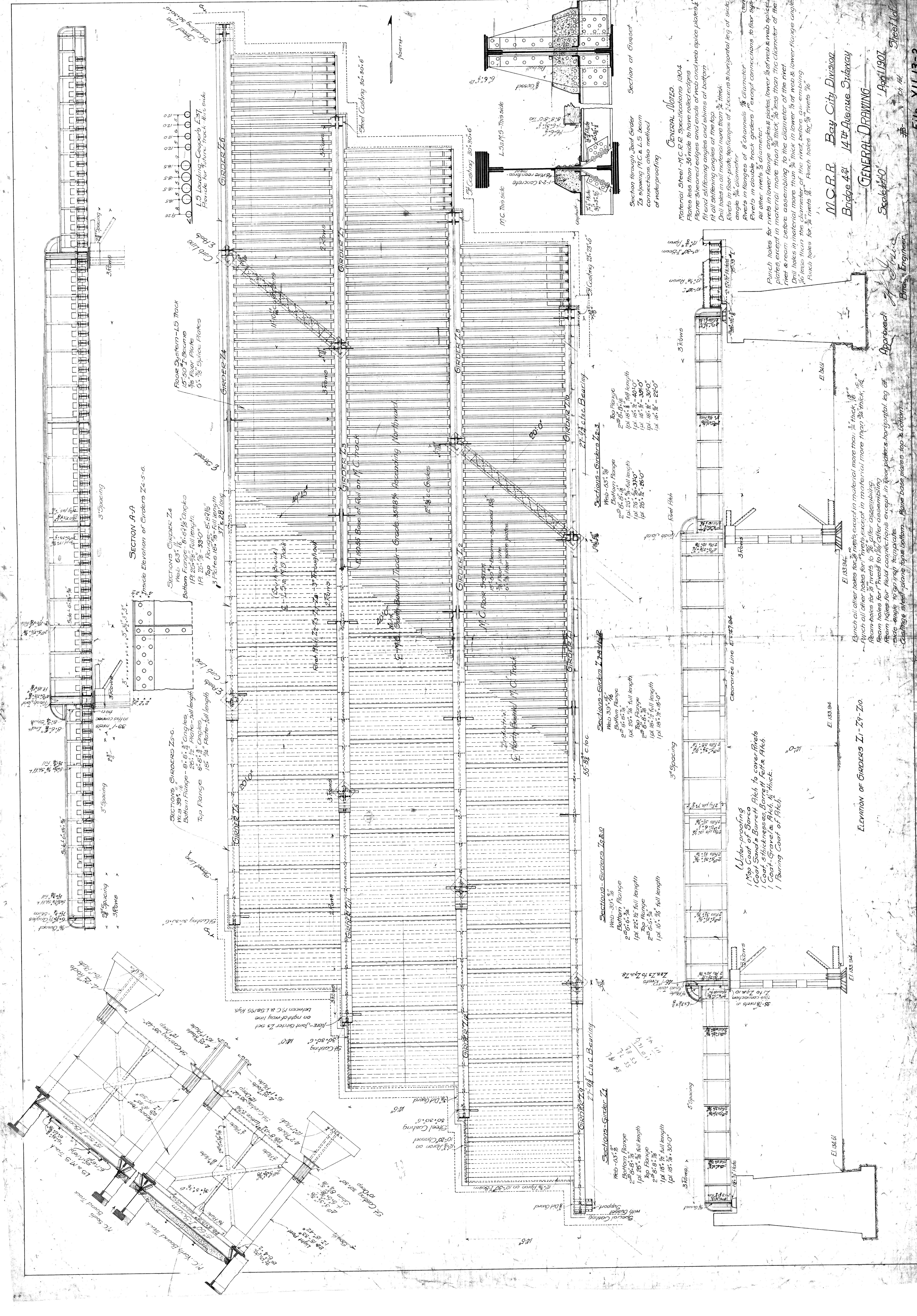
PROFILE OF MERRICK AVE  
SCALE, 1 IN = 40 FEET.



LONGITUDINAL SECTION  
HOR. SCALE, ONE INCH = 30 FEET.  
VER. " " " " 10 "

14<sup>TH</sup> ST.  
 A-5  
 CITY ENGINEERS OFFICE  
 169 N. W. 1<sup>ST</sup> ST.  
 OMAHA, IOWA.  
 City Engineer's Office  
 A. J. O'Donnell  
 A-I No. 12





**SECTION A-A**  
Inside Elevation of Girders I4-5-6

Floor System - L5 Track  
 5-50 I-beams  
 3/8" Floor Plate  
 6-3/8" Splice Plates

SECTIONS GIRDERS I4  
 Web - 63 1/2"  
 Bottom Flange - 8-6 1/2" Angles  
 1 1/2" x 20-9 1/2" full length  
 1 1/2" x 20-9 1/2" - 33'-0"  
 Top Flange - 8-6 1/2" Angles  
 3 Plates 18 1/2" x 54"  
 37'-2 1/2" long

SECTIONS GIRDERS I5  
 Web - 39 1/2"  
 Bottom Flange - 8-6 1/2" Angles  
 2 1/2" x 20-9 1/2" full length  
 2 1/2" x 20-9 1/2" - 33'-0"  
 Top Flange - 8-6 1/2" Angles  
 1 1/2" x 20-9 1/2" full length

SECTIONS - GIRDERS I2  
 Web - 30 1/2"  
 Bottom Flange  
 2-6 1/2" x 20-9 1/2" full length  
 1 pl 22 1/2" x 34-0"  
 Top Flange  
 2-6 1/2" x 20-9 1/2" full length  
 1 pl 18 1/2" x 30-0"

SECTIONS - GIRDERS I3  
 Web - 33 1/2"  
 Bottom Flange  
 2-6 1/2" x 20-9 1/2" full length  
 1 pl 20 1/2" x 34-0"  
 Top Flange  
 2-6 1/2" x 20-9 1/2" full length  
 1 pl 18 1/2" x 30-0"

SECTIONS - GIRDERS I4  
 Web - 63 1/2"  
 Bottom Flange  
 2-6 1/2" x 20-9 1/2" full length  
 1 pl 20 1/2" x 34-0"  
 Top Flange  
 2-6 1/2" x 20-9 1/2" full length  
 1 pl 18 1/2" x 30-0"

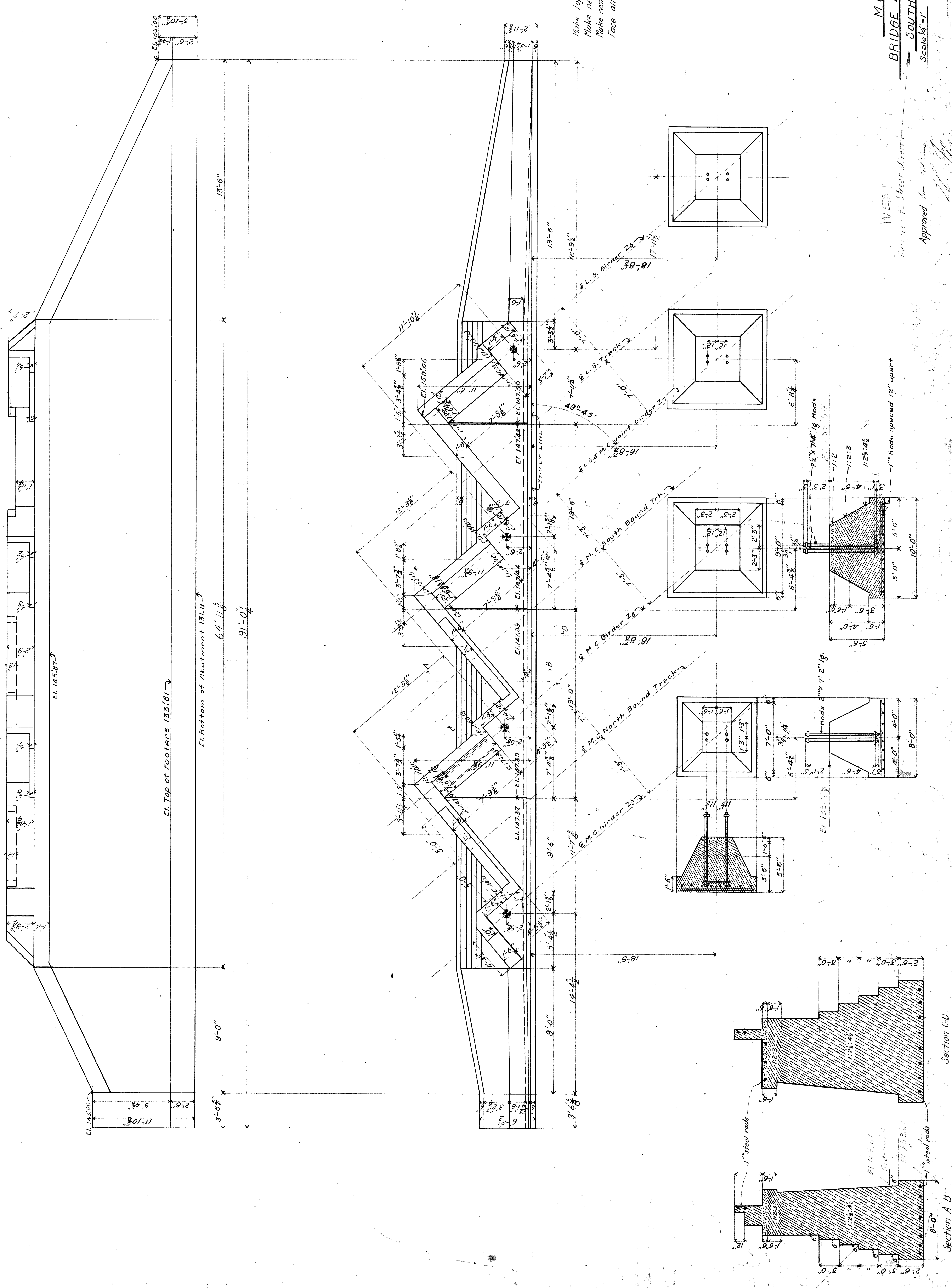
SECTIONS - GIRDERS I5  
 Web - 39 1/2"  
 Bottom Flange  
 2-6 1/2" x 20-9 1/2" full length  
 1 pl 20 1/2" x 34-0"  
 Top Flange  
 2-6 1/2" x 20-9 1/2" full length  
 1 pl 18 1/2" x 30-0"

**Water-proofing**  
 1 Top Coat of Barco  
 1 Coat Sand & Barroch Pitch to cover Rivets  
 1 Coat 50 lbs. Barroch Pitch & Pitch  
 1 Coat Gravel & Pitch 1/2" thick  
 1 Buring Coat of Pitch

**GENERAL NOTES**  
 Material Steel - M.C.R.R. Specifications 1904  
 Flange less than 36 wide to have rivet edges  
 Flange sheared edges and ends of web and web splice plates  
 Fit and stiffening angles and shims at bottom  
 Fit all stiffening angles of the top  
 Drill holes in all material more than 1/2" thick  
 Rivets in floor plate, top flanges of I-beams & horizontal leg of angle  
 angle 3/4" diameter  
 Rivets in flanges of I-beams 3/4" diameter  
 Rivets in double track girders 1" except connections to floor girders  
 All other rivets 3/4" diameter  
 Rivets in lower flange angles, plates, lower flange web & web splice  
 rivet & room before assembling to the diameter of the rivet.  
 Drill holes in material more than 1/2" thick in lower 1/2" of web & lower flange angle  
 1/2" less than the diameter of the rivet, before assembling  
 Punch holes for 3/4" rivets 1/2". Punch holes for 1" rivets 3/4"

M.C.R.R. Bay City Division  
 Bridge 4th 14th Avenue Subway  
**GENERAL DRAWING**  
 Scale 1/4" = 1'-0"  
 April 1907  
 Approved: *[Signature]*  
 Chief Engineer





Make top 6" of Bridge Seat 1 cement 2 sand  
 Make next 1'-6" 1 cement 2 sand 3 broken stone  
 Make rest of masonry 1" 2 1/2 " 4 1/2 " "  
 Face all exposed surfaces with 1 1/2" of mortar

Contents Abutment M.C. 175 cu yds  
 L.S. 116 " " "  
 Piers M.C. 251 " "  
 L.S. 171 " "

M.C.R.R.-Bay City Div  
 BRIDGE 421 - 14TH AVE. SUBWAY  
 SOUTH ABUTMENT & PIERS  
 Scale 1/4" = 1'  
 July 1907

Approved for delivery  
 Bridge Engineer  
 Ch. L.W. 1/1/08

Section CD

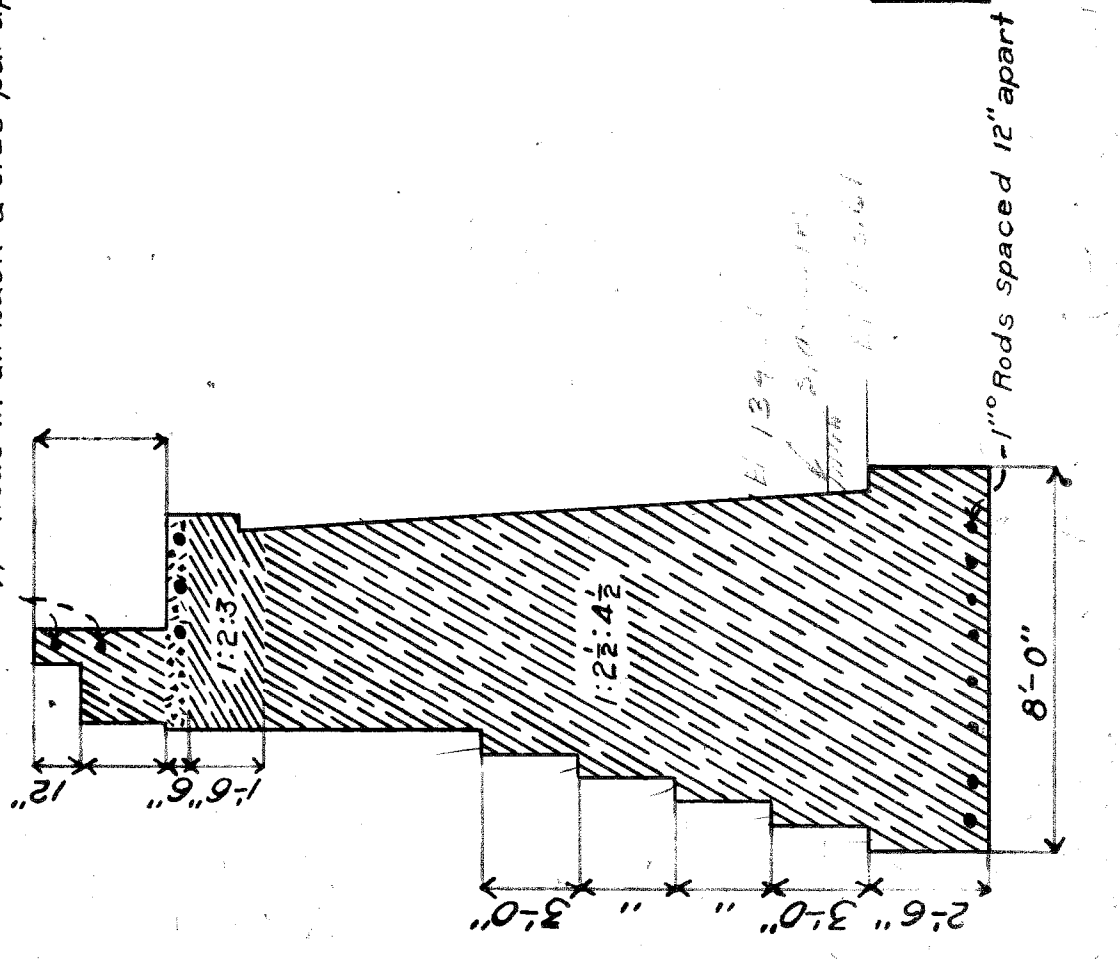
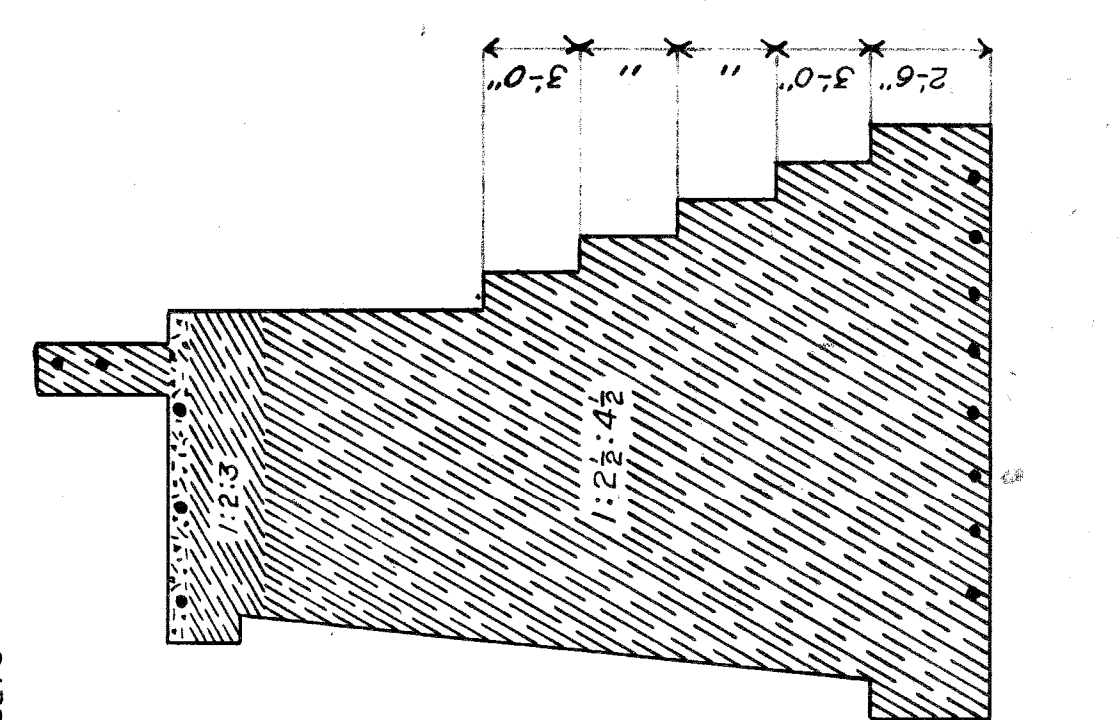
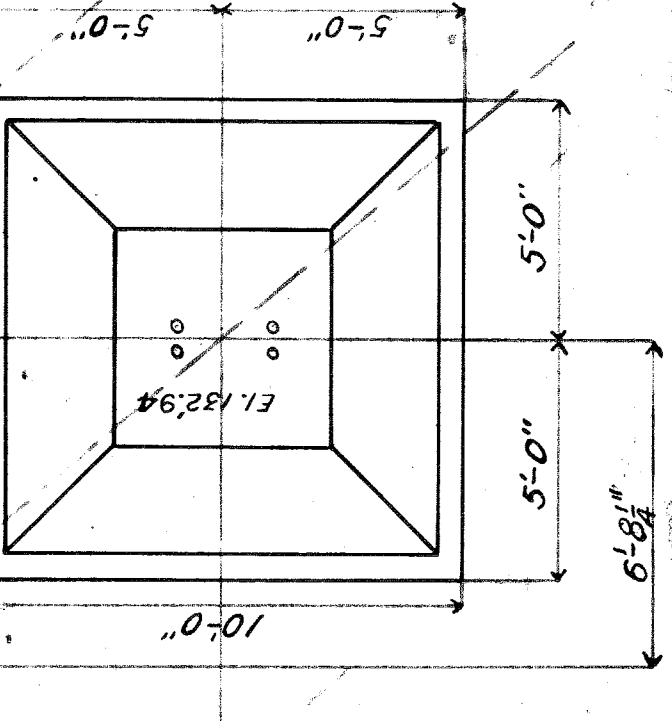
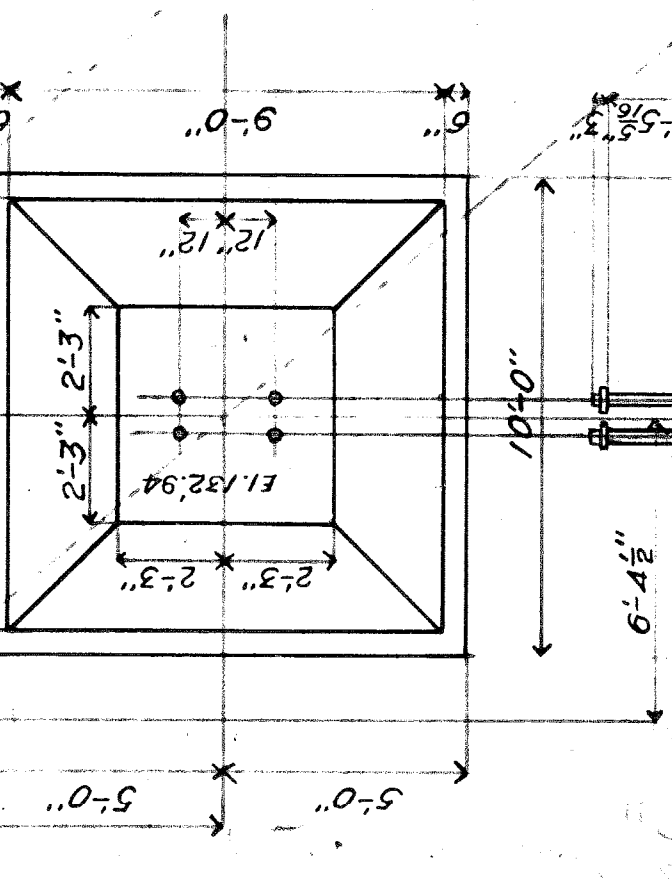
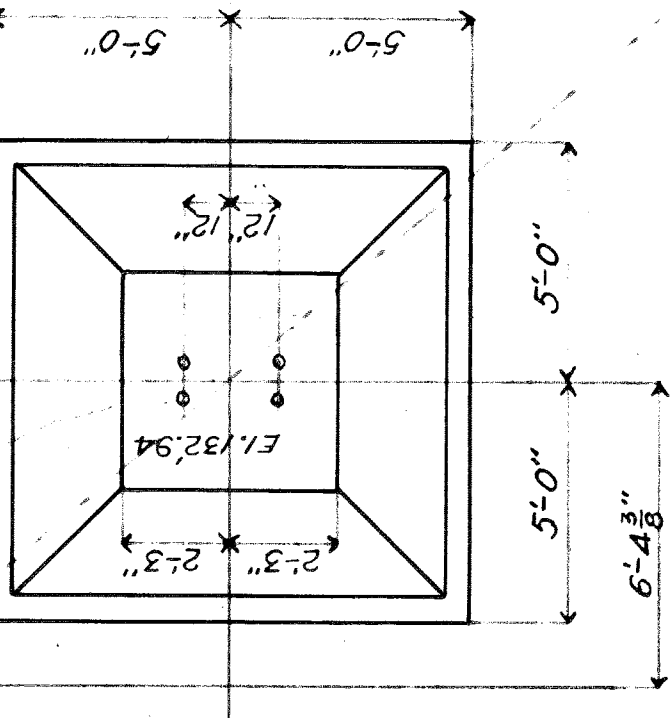
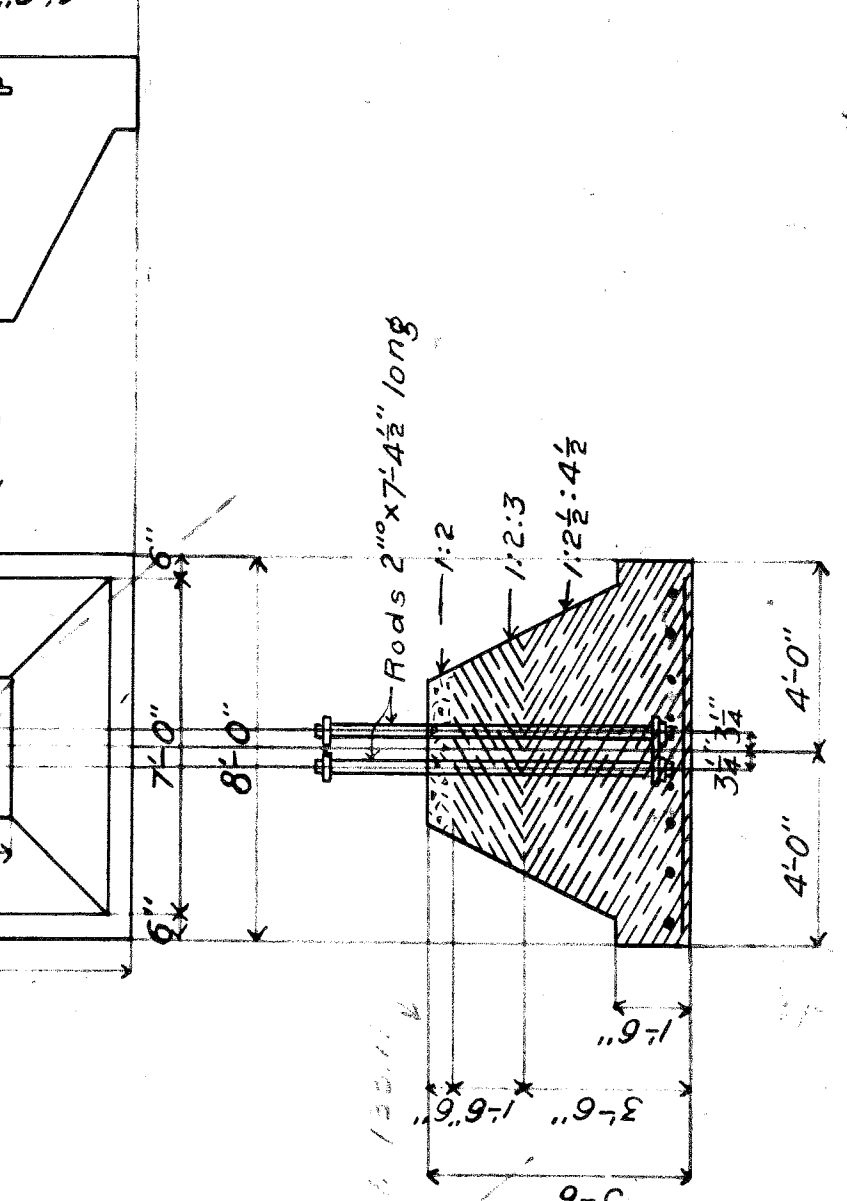
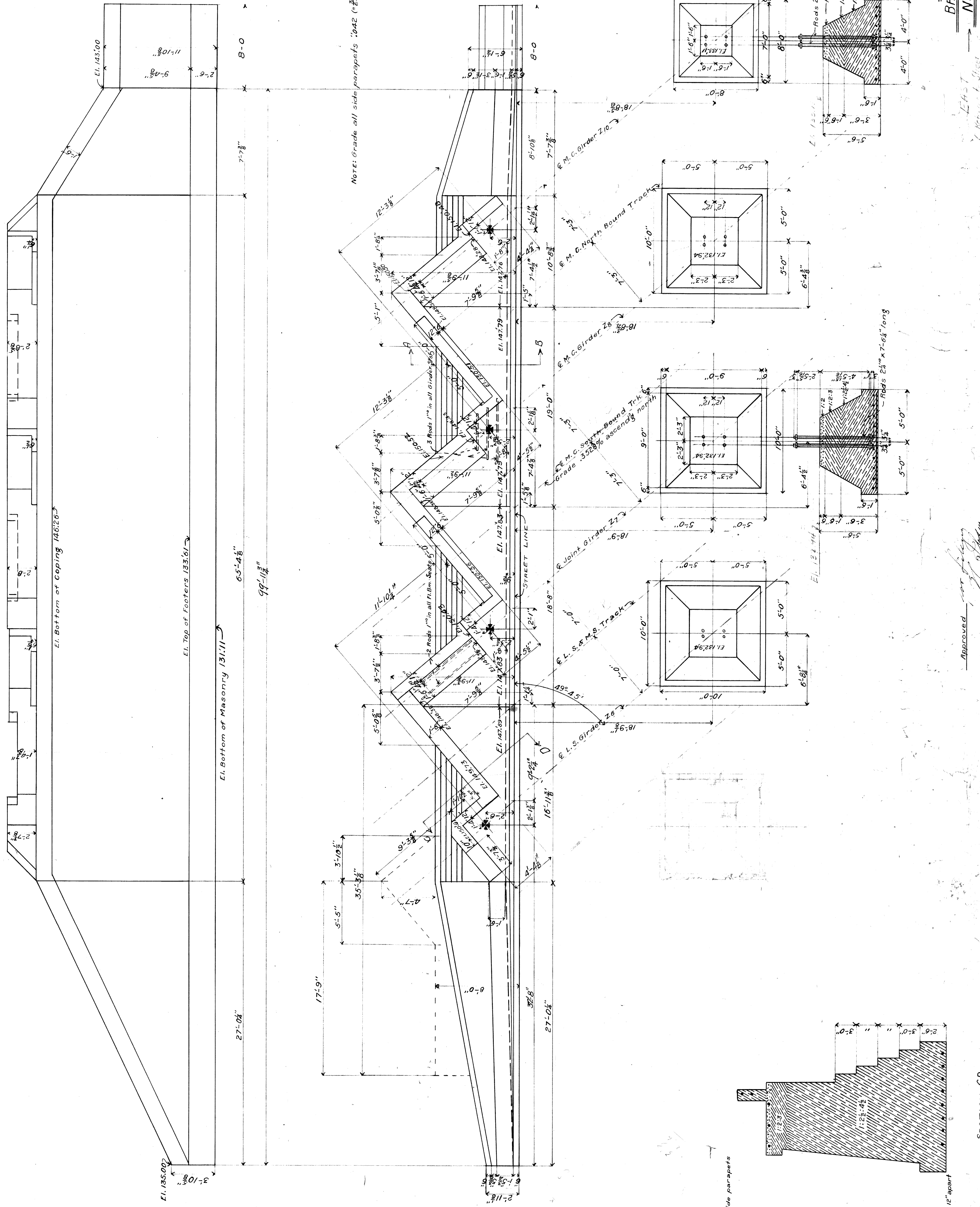
Section A-B



Make top 6" of Bridge Seats Cement: 2 sand  
 Make next 16" Cement: 2 sand: 3 broken Stone  
 Make rest of Masonry 1" : 2 1/2" : 4 1/2"  
 Face all exposed surfaces with 1 1/2" of Mortar

Note: Grade all side parapets .042 (2 1/2") per ft ascending north.

Contents Abutments MC 197  
 L.S. 147  
 344 cu yds total  
 Piers MC 251  
 L.S. 171

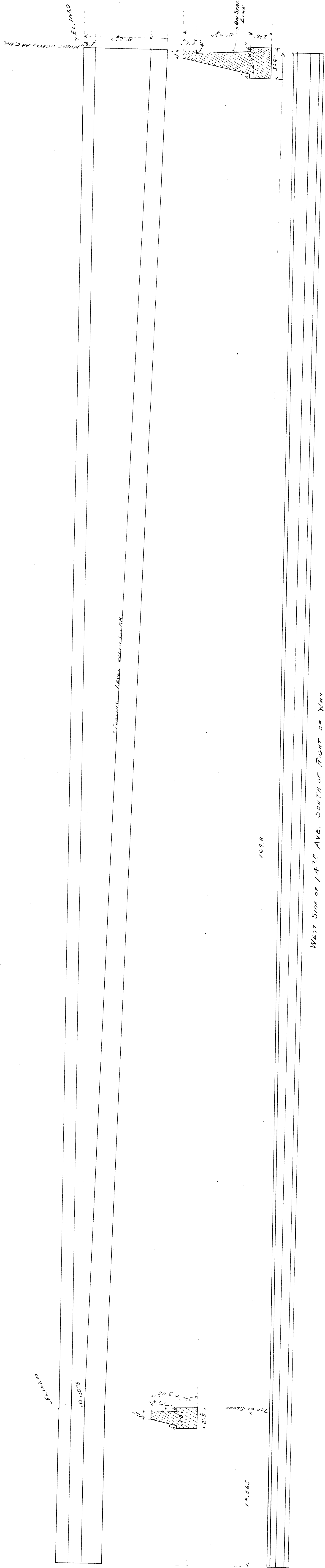


M. C. R. R. - Bau City Div  
 BRIDGE 424 - 14 1/2 AV. SUBWAY  
 NORTH ABUTMENT & PIERS  
 Scale 1/4\"/>

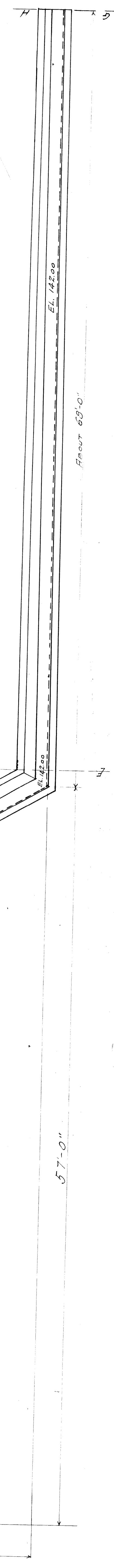
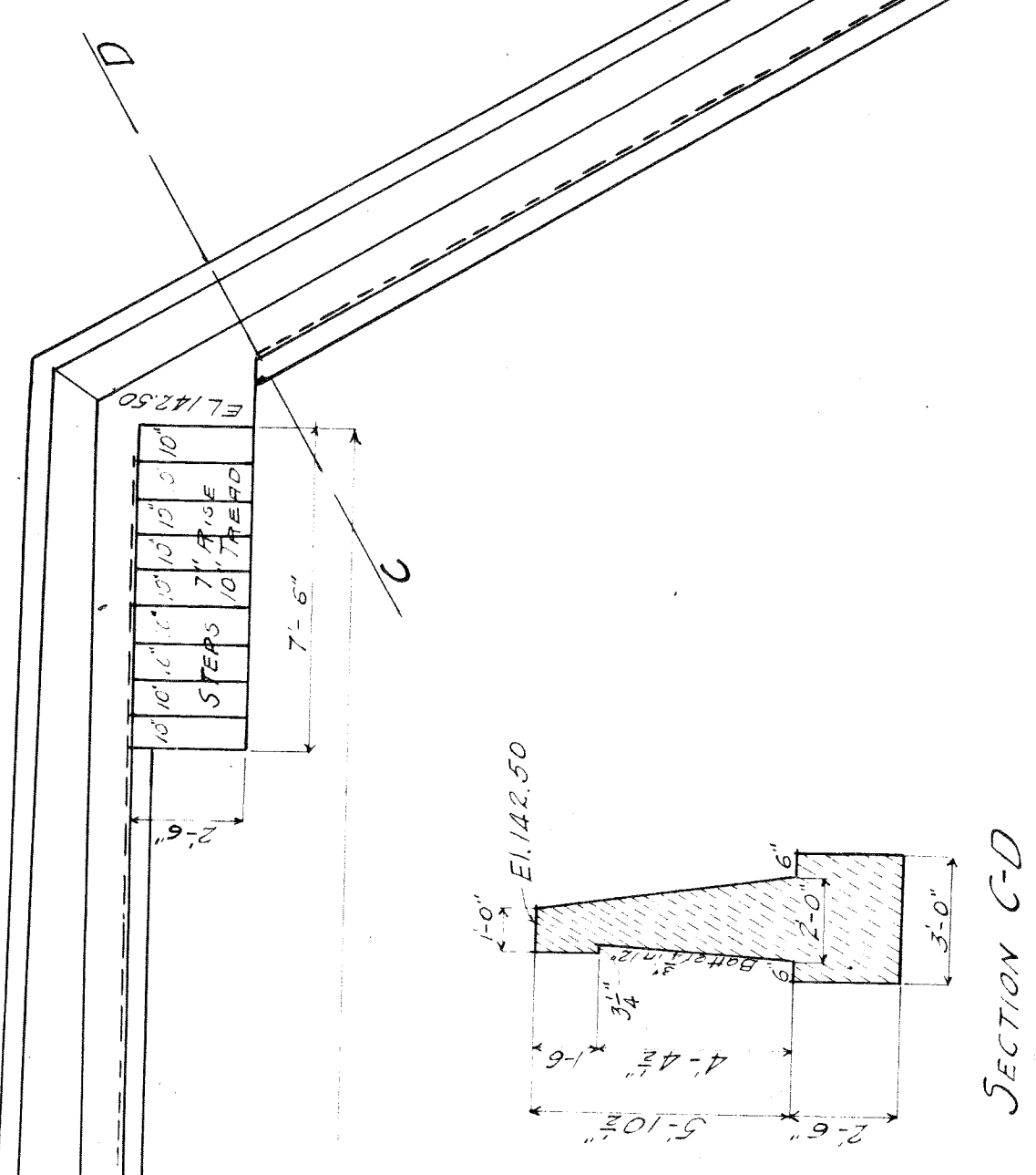
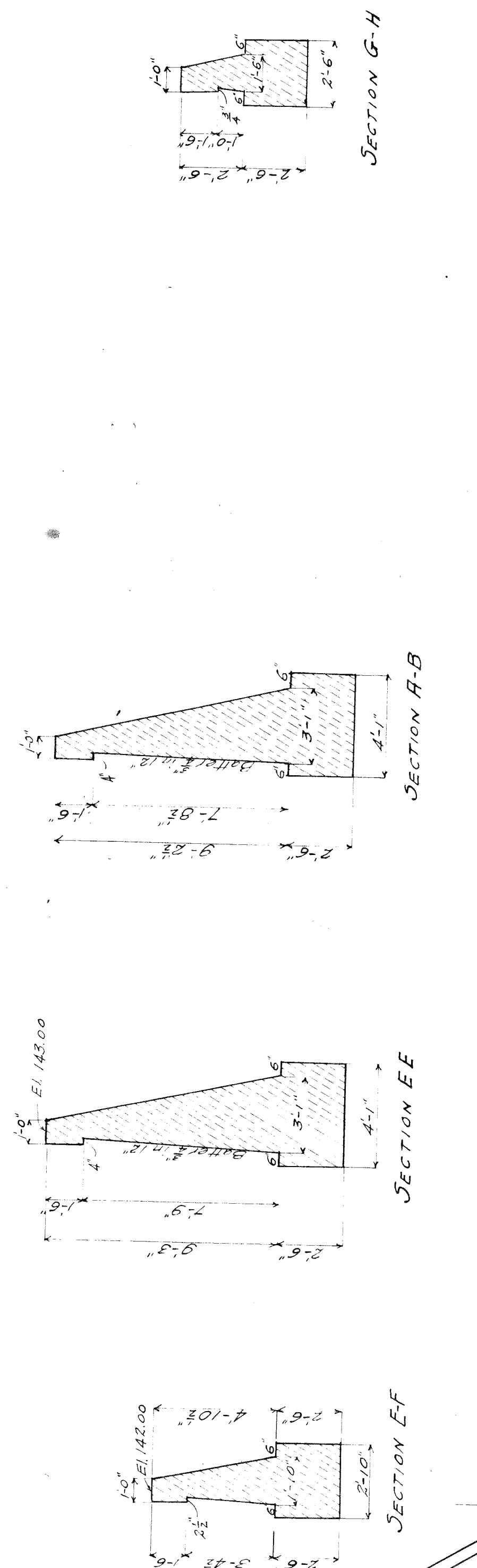
Approved: [Signature]  
 BRIDGE ENGINEER

SECTION CD

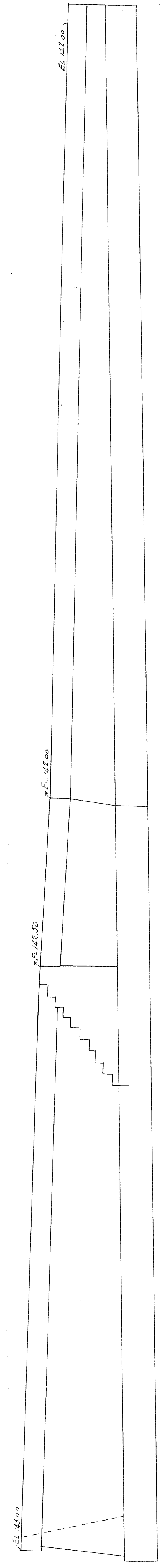
SECTION AB



WEST SIDE OF 14<sup>TH</sup> AVE. SOUTH OF RIGHT OF WAY  
CONTENTS 115 CUBIC YDS.



RETAINING WALLS EAST SIDE OF 14<sup>TH</sup> AVE. AND NORTH SIDE OF MERRICK AVE. SOUTH OF FOOT W  
CONTENTS 83.2 CUBIC YDS.



M. C. R. R. BAY CITY DIV  
BRIDGE #4<sup>EL</sup> 14<sup>TH</sup> AVE.  
RETAINING WALLS.

SCALE 1/4"=1'-0"  
DEC. 07  
FILE XU 13-5  
A. E. H.



