

REVISED  
SEE SHEET M1B  
PART A

ELEVATION OF FRONT OF NORTH ABUTMENT

REVISED  
SEE SHEET M1A  
PART A

REVISED  
SEE SHEET M1A  
PART B

REVISED  
SEE SHEET M1A  
PART C

PLAN OF SUBSTRUCTURE.

REVISIONS  
5-22-30  
Wings of abutment  
see sheet M1A  
J.E.K.

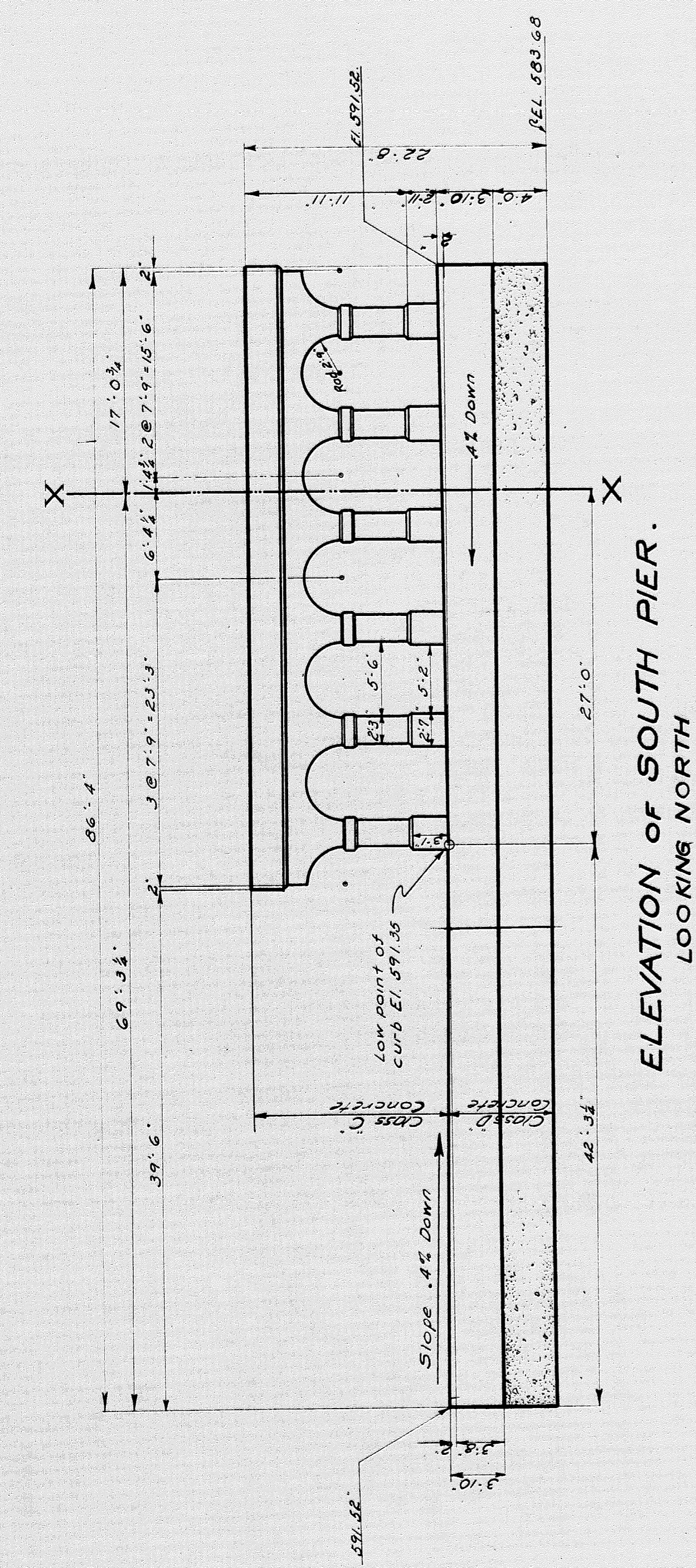
DETROIT TERMINAL R. R.  
BRIDGE WARREN ROAD SUBWAY.  
ABUTMENTS AND  
SUBSTRUCTURE PLAN.

Note: Section A-A, B-B apply to  
both ends of North Abutment.

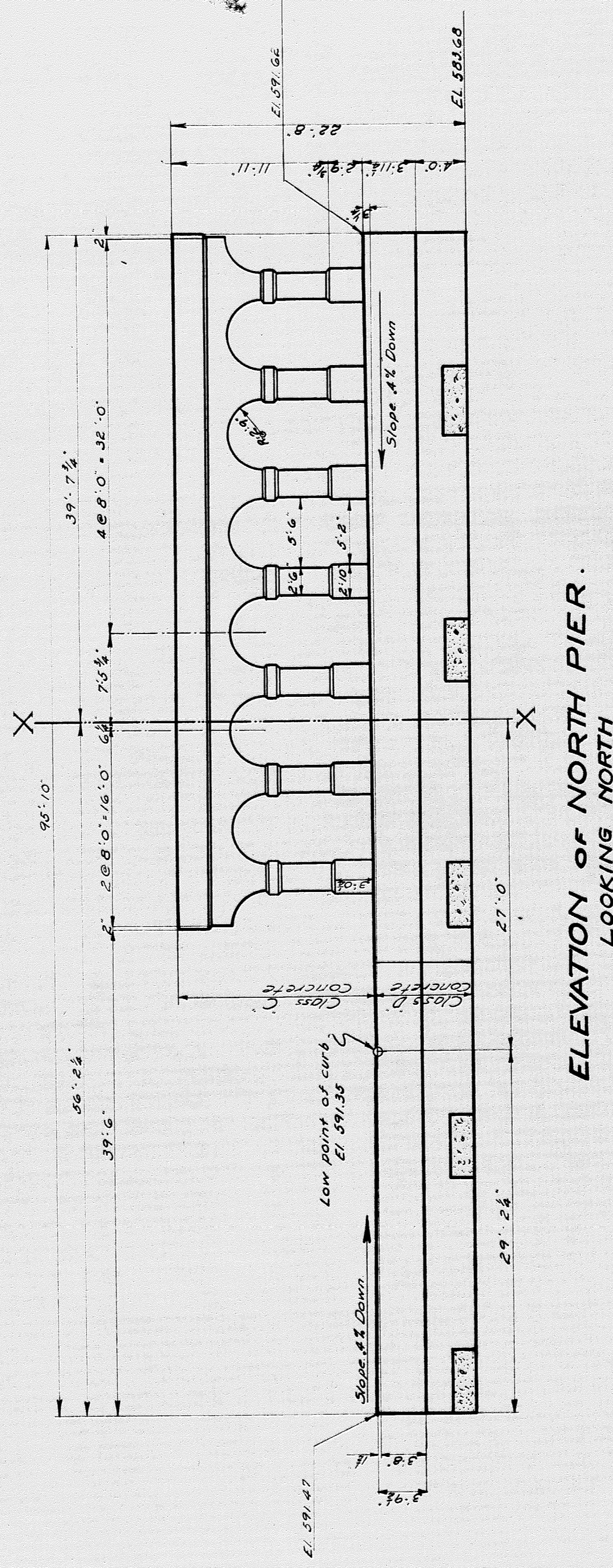
For Sections see sheets M2 & M3  
For Specifications see sheet M4  
Elevations shown refer to Detroit Water Board Datum.

SCALE 1/8" = 1 FOOT  
DRAWN BY J.M.S. Mar. 1930  
CHECKED BY J.E.K. 3.21.30  
APPROVED  
CHIEF ENGINEER  
SHEET M1 OF 2

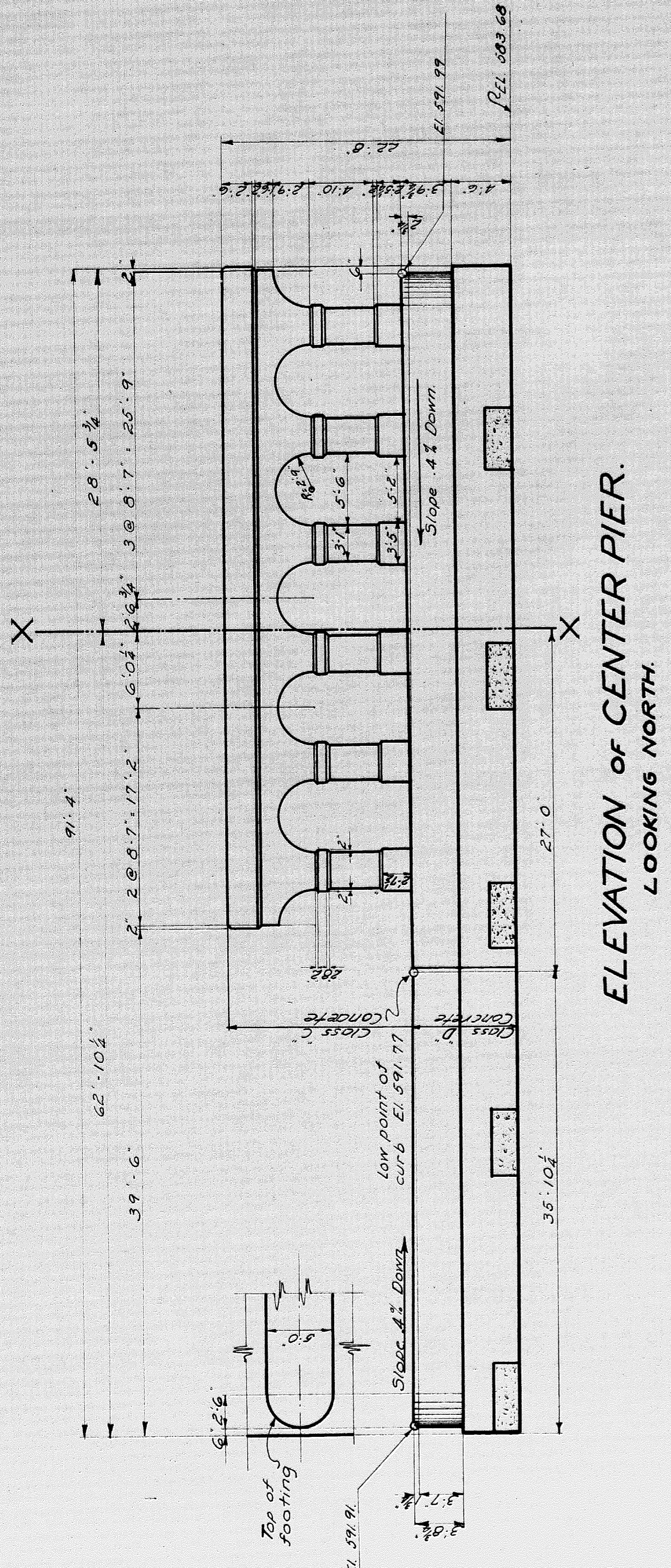




ELEVATION OF SOUTH PIER.  
LOOKING NORTH



ELEVATION OF NORTH PIER.  
LOOKING NORTH



ELEVATION OF CENTER PIER.  
LOOKING NORTH

CONCRETE QUANTITIES.	
	FOOTING ABOVE FOOTING.
North Abutment	517.0 cu yds.
North Pier	485.0 cu yds.
Center Pier	39.0
South Abutment	45.0
South Pier	441.0
10 Struts	32.0
Totals	1410.0 cu yds.
Total Class C Concrete	116 cu yds.
Total Class D Concrete	2336 cu yds.

SUBSTRUCTURE QUANTITIES.	
Class C Concrete	116 cu yds.
Class D Concrete	2336 cu yds.
Reinforcing Steel	110,150 #
10'-0" x 10'-0" bolts with nuts	32
3/4" x 1/2" pipe separators	320 x 7/8" x 19.7 lin. ft.
8 Cor. Iron Pipe 2 1/2" dia	8 Perforator C.I. Pipe 780 lin. ft.
Teer-Drain Pipe	23
Crosses	4
Shear (rod 3/8" x 18")	160 lin. ft.
Waterproofing	4800 sq. ft.
New 100# Rails	148'0" lin. ft. - 4 933 #

GENERAL NOTES:-

Concrete Materials and Workmanship shall be in accordance with the Grand Trunk Western R.R. Specifications, serial designations W-50W-6.1-A and W-50W-7.1-A. Coarse Aggregate - Class B, washed and screened gravel. Concrete in piers shall be Class C. Nominal proportions - 1 part cement - 2 parts sand - 4 parts pebbles. - Max. amount of water 6.25 gals. per bag of cement. Concrete in walls, abutments, footings and footing struts shall be Class D. Nominal proportions - 1 part cement, 2 1/2 parts sand, 3 parts pebbles. - Max. amount of water - 7.0 gals. per bag of cement. All exposed surfaces to be given a rubbed finish.

Elevations shown refer to Detroit Water Board Datum. For location of lighting conduits - see Wayne Co. Lighting Plan.

MARK NO.	SIZE	LENGTH	LOCATION
M260	1 1/2"	26'-0"	Horizontal Footing - Abut.
M236	1 1/2"	23'-6"	Horizontal struts.
M46	1 1/2"	4'-6"	Dowels in top of Abut.
A176	1"	17'-6"	Long. in footing - center pier.
A90	1"	9'-0"	Horizontal abut. footings. Dowels in str. pier.
A40	1"	4'-0"	Reinforcement Dowels.
B76	1"	7'-6"	Dowels for struts.
C246	3/8"	24'-6"	Horizontal top of 5. streetwork pier.
C296	26	29'-6"	"
C270	28	27'-0"	Center pier.
C120	78	12'-0"	Col. vert. N. 5. streetwork pier.
C116	36	11'-6"	center pier.
C110	114	11'-0"	vert. in wall col. footings.
C76	24	7'-6"	Diag. in top of center pier.
C70	449	7'-0"	Vert. in side pier footings. Diag. in column.
C60	80	6'-0"	Vert. in back wall.
C40	162	4'-0"	Dowels in top of pier - vert. in back wall.
D320	10'	32'-0"	Long. in N. Abut. footing.
D300	8E	30'-0"	Long. in center pier footing.
D370	7	37'-0"	Long. in 5. abut. footing wing.
D276	94	27'-6"	Subabutment.
D270	7	27'-0"	Long. in N. wing of North abutment footing.
D259	7	25'-9"	Long. in E. wing of S. abutment footing.
D196	270	19'-6"	Long. in center pier - N. 5. abut. footing.
D176	46	17'-6"	Trans. Top of center pier footing.
D160	8	16'-0"	Long. in E. wing of North abutment wing pier - abut.
D150	99	15'-0"	Trans. wing of North abutment pier - abut.
D120	30	12'-0"	Trans. in wings of abut. pier.
D100	19	10'-0"	Trans. in wings of N. 5. abut. footing.
D80	23	8'-0"	Trans. in wings of abut. footing.
G46	480	4'-6"	Horizontal struts.
G8100	78	10'-0"	Struts in top of center pier.
G880	32	8'-10"	"
G876	35	9'-6"	N. 5. streetwork pier.
G864	104	8'-4"	"
K81	102	8'-1"	Steps in 5. streetwork pier - col.
K87	154	8'-7"	"
K108	126	10'-8"	Steps in center pier column.

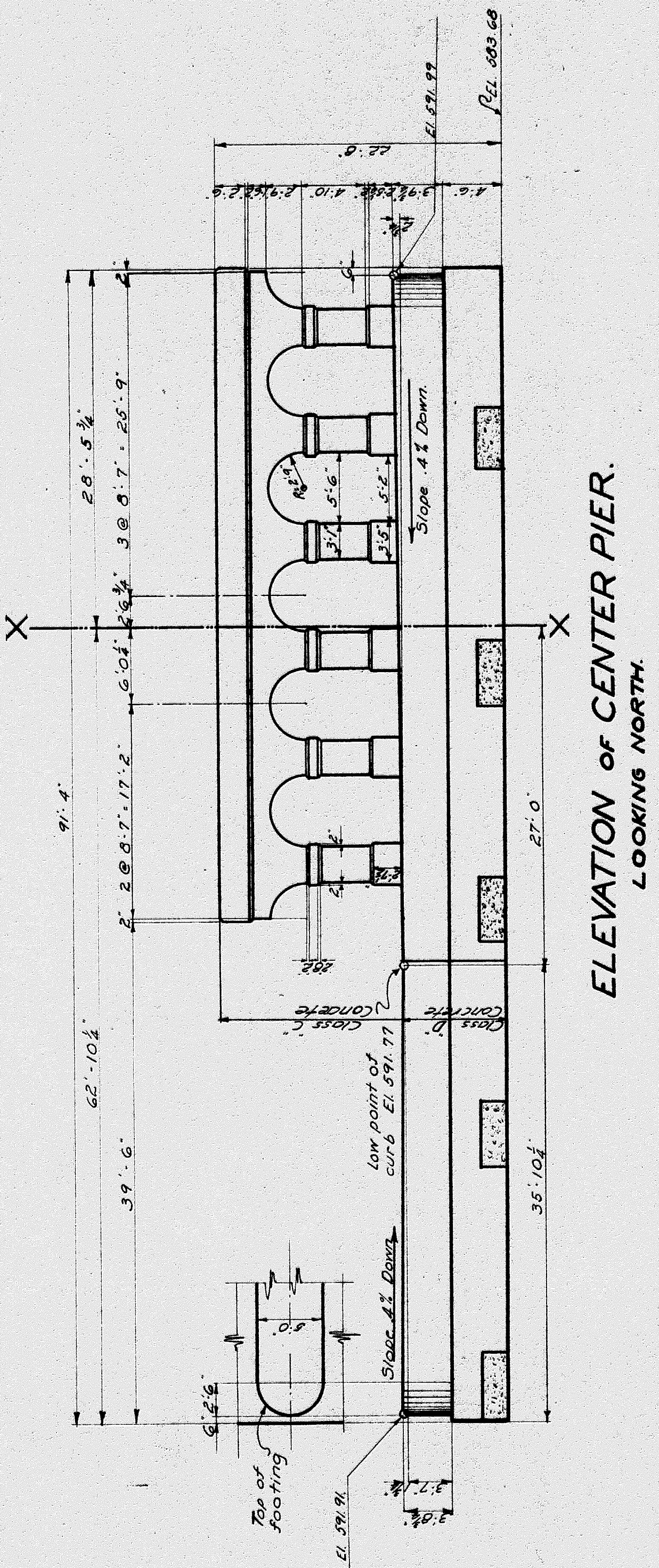
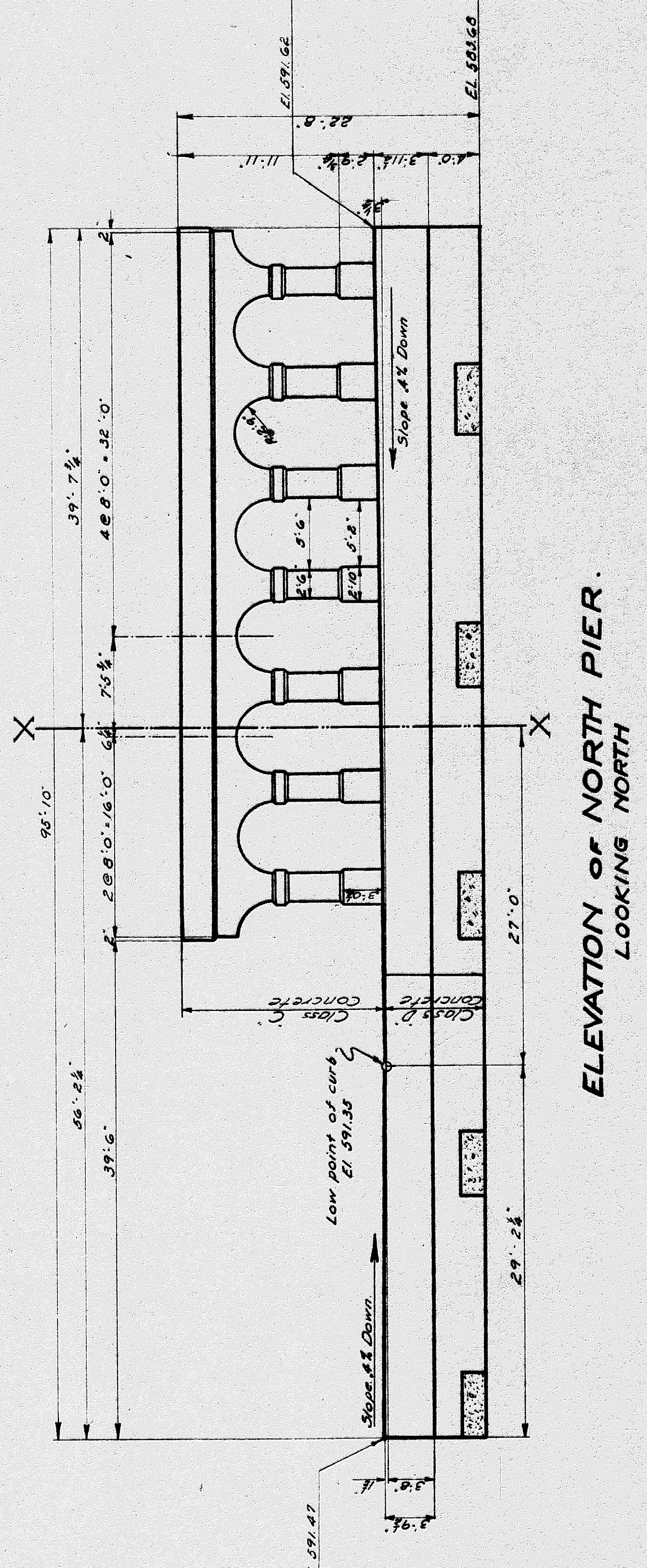
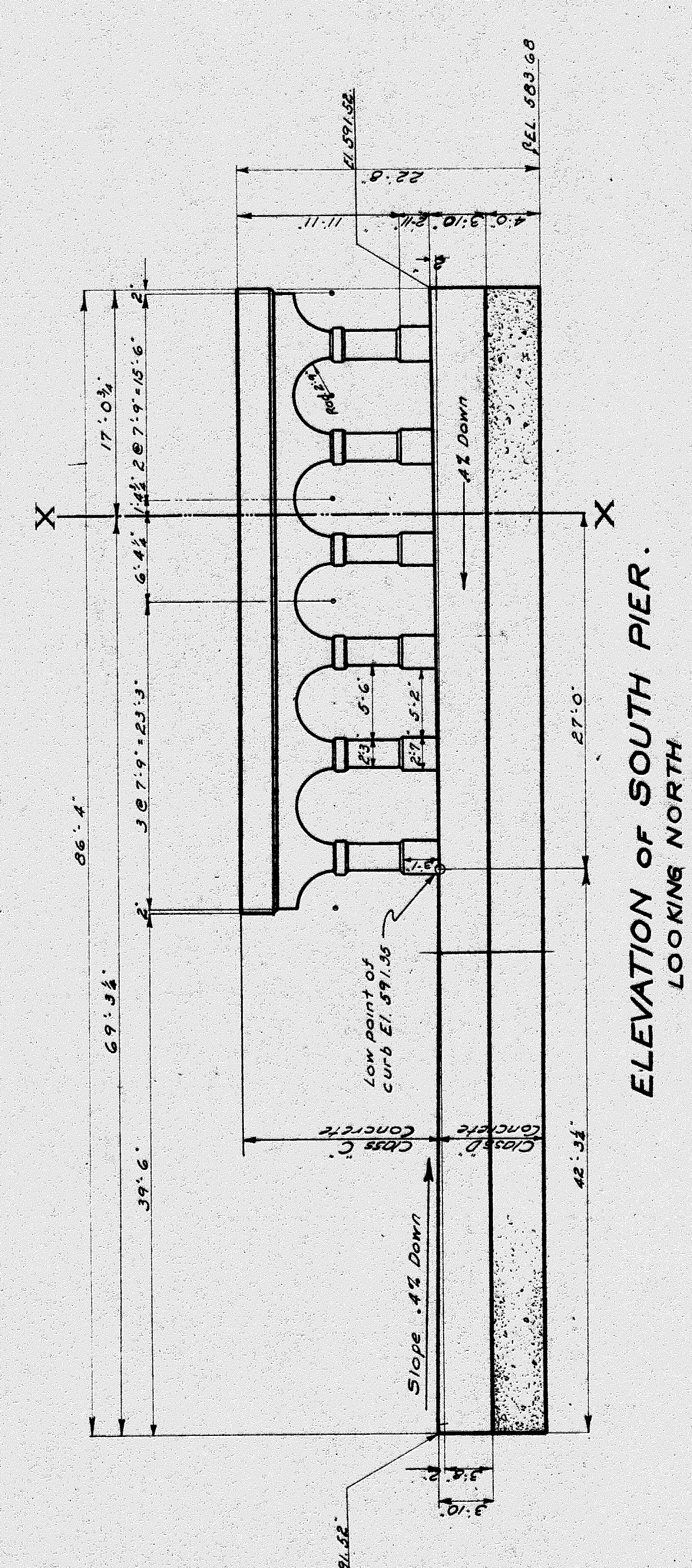
REVISIONS

DETROIT TERMINAL R.R.  
BRIDGE - WARREN ROAD SUBWAY  
ELEVATIONS OF PIERS

SCALE - 1/8" = 1 FOOT  
DRAWN BY - L.M.S. 1-2-1922  
CHECKED BY - J.E.K. 4-3-1922  
APPROVED - J.A.K. 1-12-1922

ISSUE NO. 1-19  
DATE





CONCRETE QUANTITIES.	
FOOTING	ABOVE FOOTING
North Abutment	517.0 cu yds
Center Pier	39.0
South Abutment	46.0
10 Struts	44.0
Totals	646.0
Total Class C Concrete	1042.0 cu yds.
Total Class D Concrete	233.6 cu yds.

SUBSTRUCTURE QUANTITIES.	
Class C Concrete	11.6 cu yds.
Class D Concrete	833.6 cu yds.
Reinforcing Steel	110,150 #
10" x 8" Bolts with Nut	32
8" x 1 1/2" Pipe separators	32 @ 7 1/2' = 240 ft.
8" Cor. Iron Pipe	232 lin ft.
Reinforced C.I. Pipe	100 lin ft.
Keys - Drain Pipe	23
Crosses	4
Sheet Lead 1/2" x 15'	160 sq. ft.
Water-proofing	4800 sq. ft.
New 100# Rails	148'-0" lin ft. = 4.933 #

SUBSTRUCTURE BARS.			
MARK NO.	SIZE	LENGTH	LOCATION
M260	1 1/2"	26'-0"	Horizontal footing - Abut.
M236	1 1/2"	23'-6"	Horizontal footing - Abut.
M46	1 1/2"	4'-0"	Horizontal footing - Abut.
A176	1"	17'-6"	Long. in footing - center pier.
A90	1"	9'-0"	Horizontal footing - center pier.
A40	1"	4'-0"	Horizontal footing - center pier.
B76	200	7'-6"	Downs for struts
C246	2 1/2"	24'-6"	Horizontal top of steelwork - Abut.
C296	2 1/2"	29'-6"	Horizontal top of steelwork - Abut.
C270	2 1/2"	27'-0"	Horizontal top of steelwork - Abut.
C120	2 1/2"	12'-0"	Horizontal top of steelwork - Abut.
C116	3/4"	11'-6"	Center pier
C110	1 1/2"	11'-0"	Center pier
C76	2 1/2"	7'-6"	Downs for struts
C70	2 1/2"	7'-0"	Downs for struts
C60	2 1/2"	6'-0"	Downs for struts
C40	2 1/2"	4'-0"	Downs for struts
D320	10	32'-0"	Long. in N. Abut. footing
D300	8	30'-0"	Long. in center pier footing
D310	7	31'-0"	Long. in S. Abut. footing wing
D276	9	27'-6"	Substructure
D270	7	27'-0"	Substructure
D259	7	25'-9"	Long. in N. wing of Abutment footing
D196	270	19'-6"	Long. in center pier + N.S. Abut. footings
D176	46	17'-6"	Trans. top of center pier footing
D160	8	16'-0"	Long. in E. wing of North + Wings of S. Abut.
D180	99	18'-0"	Horizontal footing - base of steelwork
D120	30	12'-0"	Horizontal footing - base of steelwork
D100	19	10'-0"	Horizontal footing - base of steelwork
D80	23	8'-0"	Horizontal footing - base of steelwork
G46	480	4'-6"	Horizontal struts in top of center pier
G100	18	10'-0"	Horizontal struts in top of center pier
G280	32	8'-0"	Horizontal struts in top of center pier
G376	33	9'-6"	Horizontal struts in top of center pier
G284	104	8'-4"	Horizontal struts in top of center pier
K31	32	8'-1"	Height 5. steelwork pier cut
K37	124	8'-7"	Height 5. steelwork pier cut
K108	126	10'-8"	Height 5. steelwork pier cut

**GENERAL NOTES.**

Concrete Materials and Workmanship shall be in accordance with the Grand Trunk Western RR Specifications, serial designations, W-50W - G.1-A and W-50W - 7.1-A. Coarse Aggregates - Class B, washed and screened gravel. Concrete in piers shall be Class C. Nominal proportions - 1 part cement - 2 parts sand - 4 parts pebbles. Max amount of water 6.25 gals per bag of cement. Concrete in walls, abutments, footings and footing struts shall be Class D. Nominal proportions - 1 part cement, 2 1/2 parts sand, 5 parts pebbles. Max amount of water - 7.0 gals per bag of cement. All exposed surfaces to be given a rubbed finish.

Elevations shown refer to Detroit Water Board Datum. For location of lighting conduits - see Wayne Co. Lighting Plan.

REVISIONS

**DETROIT TERMINAL R.R.**

BRIDGE WARREN ROAD SUBWAY

**ELEVATIONS OF PIERS.**

SCALE: 1" = 10'-0"

APPROVED: [Signature]

DESIGNED BY: J.E.K. 4-23-1930

CHECKED BY: J.E.K. 4-23-1930

TRACED BY: J.E.K. 4-23-1930

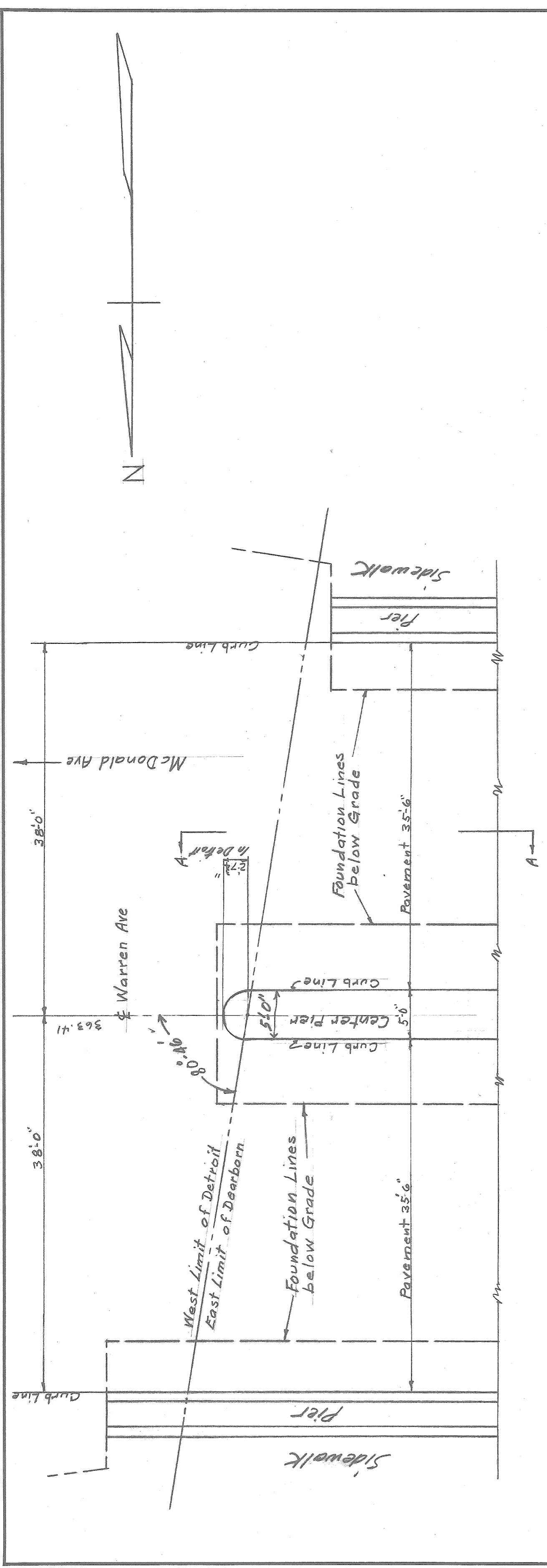
ISSUE NO. 119

DATE

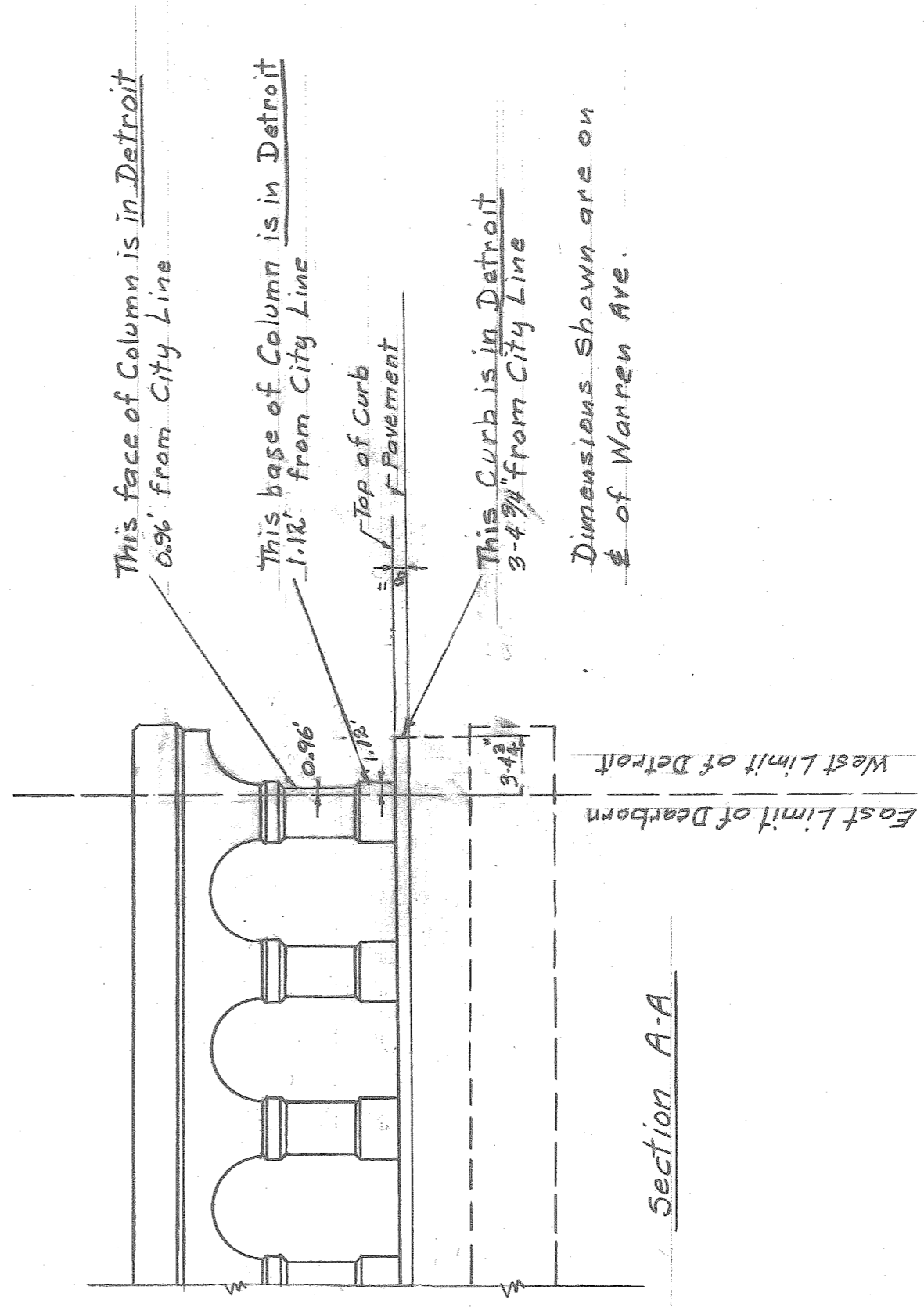
File No. 67-3



2-WP



Part Plan-East Portion of Sub-Structure



Section A-A

This face of Column is in Detroit  
0.96' from City Line

This base of Column is in Detroit  
1.12' from City Line

This Curb is in Detroit  
3-4 3/4' from City Line

Dimensions Shown are on  
E of Warren Ave.

Revised 1/10/65 W. Williams Eng. of Surveys

CITY OF DETROIT DEPARTMENT OF PUBLIC WORKS CITY ENGINEERS OFFICE		East End Warren Ave & Detroit Terminal R.R. Grade Separation Structure.		SHEET 1 OF 1 SHTS.
APPROVED <i>J. L. Stanton</i> CITY ENGINEER		DESIGNED BY <i>J. L. Stanton</i>		JOB NO.
DESIGNED BY <i>J. L. Stanton</i>		DRAWN BY <i>R. H. Speck</i>		DRWG. NO. C-1618
TRACED BY <i>R. H. Speck</i>		CHECKED BY <i>J. L. Stanton</i>		DATE 12-18-50
DESCRIPTION REVISIONS		BOOK NO.	PG. NO.	SCALE 1" = 1'-0"

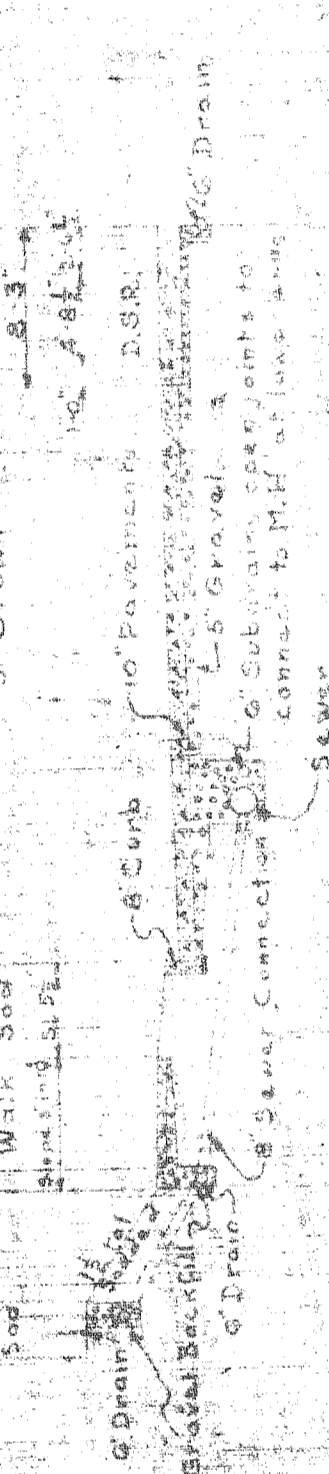
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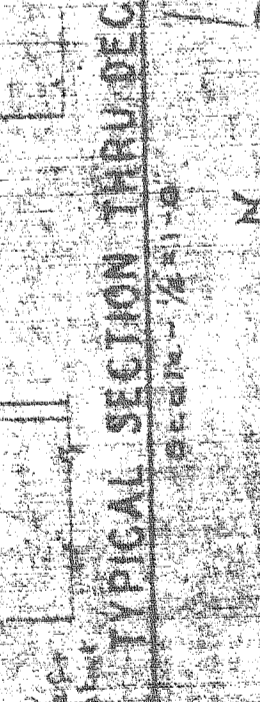
# EXHIBIT A

Approved: **Engl. Manager** for Board of Wayne Co. Rd. Com.  
 Approved: **City Engineer** for City of Detroit  
 Approved: **City Engineer** for City of Dearborn  
 Approved: **Chief Engineer** for the Detroit Terminal Bldg.  
 Approved: **General Manager** of the Board of Street Railway Commissioners for the City of Detroit

## HALF SECTION OF WARREN ROAD ON APPROACHES



## TYPICAL SECTION THROUGH DECK



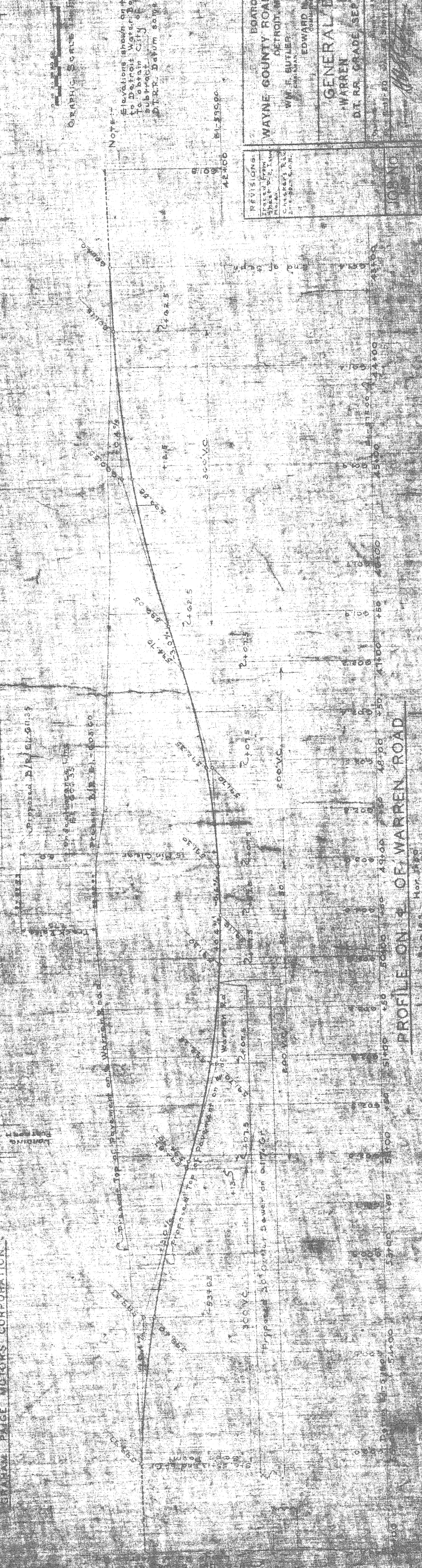
## HALF SECTION OF WARREN ROAD AT BRIDGE



## TYPICAL ELEVATION OF PIER



## PROFILE OF MC DONALD AVE



NOTE: Elevations shown on this sheet are to Detroit Water & Sewerage Dept. datum. To obtain City of Detroit datum subtract 0.12 feet from above elevations.

NO.	DATE	REVISIONS
1	1915	Initial design
2	1916	Revised design
3	1917	Final design

BOARD OF  
**WAYNE COUNTY ROAD COMMISSIONERS**  
 DETROIT, MICHIGAN  
 W. J. BUTLER, Chairman  
 JOHN S. JENNINGS, Secretary  
 EDWARD J. HAYES, Treasurer

**GENERAL DRAWING**  
 WARREN ROAD BRIDGE  
 D.T.R. GRADE SEPA 23 OF 1-23

THE AUGUST



CITY OF DEARBORN

WATER BOARD PROPERTY

CITY OF DETROIT

D.T.R.R. PROPERTY

NOTE:-- See Line East of Sta. 400 is Line of Stationing of the E. of Warren Ave. West of Sta. 49+00

Duro Oil Corporation

WARREN

100'

GRAHAM MOTORS PLANT

PAIGE CORPORATION NO. 1.

MOTOR BUILDING

CAR ASSEMBLY BUILDING NO. 4.

BODY TUNNEL NO. 4.

CLOSED CANOPY

EMPLOYEES PARKING GROUND

DETROIT TERMINAL

HOLMES

DOTY'S

HOLMES' AND VERNOR'S

Mc DONALD AVE

Mc DONALD AVE

AVE 60'

- LEGEND--**
- Iron or Monument Found
  - Iron or Monument Set
  - Stake Replaced with Iron
  - Cross-cut in Concrete
  - Crossfound in Concrete
  - Stake Found
  - Stake set.
  - Concrete
  - Asphalt on Concrete
  - Tar and Stone
  - Brick on Concrete
  - Detroit Edison Co. Pole
  - Mich. Bell Tel. Co. Pole
  - A. T. & T. Co. Pole
  - Manhole
  - Hydrant
  - All Other Catch Basins
  - Water Meter
  - Water Valve
  - Gas Valve
  - Lamp
  - Ford High Ten Tower.

REVISIONS

NO.	DATE	DESCRIPTION
1	12-11-29	AS SHOWN BY F.S.M.
2	1-15-30	CONTRACT
3	1-15-30	CONTRACT
4	1-15-30	CONTRACT
5	1-15-30	CONTRACT

BOARD OF WAYNE COUNTY ROAD COMMISSIONERS

EDWARD N. JONES, CHAIRMAN

JOHN S. HAGGERTY, COMMISSIONER

WILLIAM F. BUTLER, COMMISSIONER

SURVEY PLAN

WARREN ROAD-MILE: D.T.R.R. GRADE SEP N X2 OF 82-22-36.

DESIGNED BY: C.O. N. ...

APPROVED: ...

JOB NO. 169

DATE: 6-15-30

File XL167-6

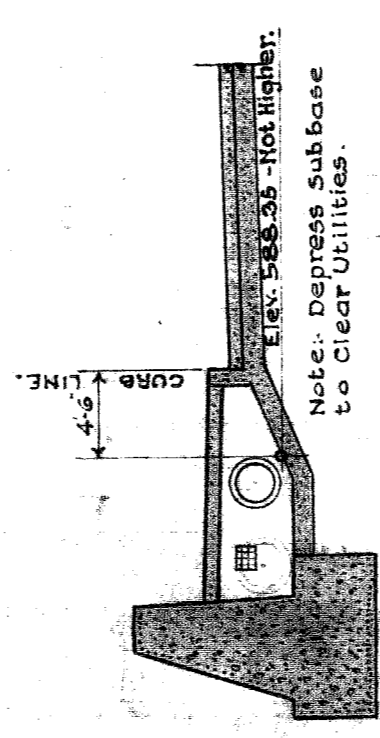


- LEGEND.**
- Detroit Edison Co. Pole.
  - Mich. Bell Tel. Co. Pole.
  - Am. Tel. & Tel. Co. Pole.
  - Manhole.
  - Fire Hydrant.
  - All Other Catch Basins.
  - Water Meter.
  - Gas Valve.
  - Lamp.
  - Ford Motor Co. High Ten Tower.
  - Iron or Monument Found.
  - Stake Replaced with Iron.
  - Cross - Cut in Concrete.
  - Stake Found.
  - Stake Set.

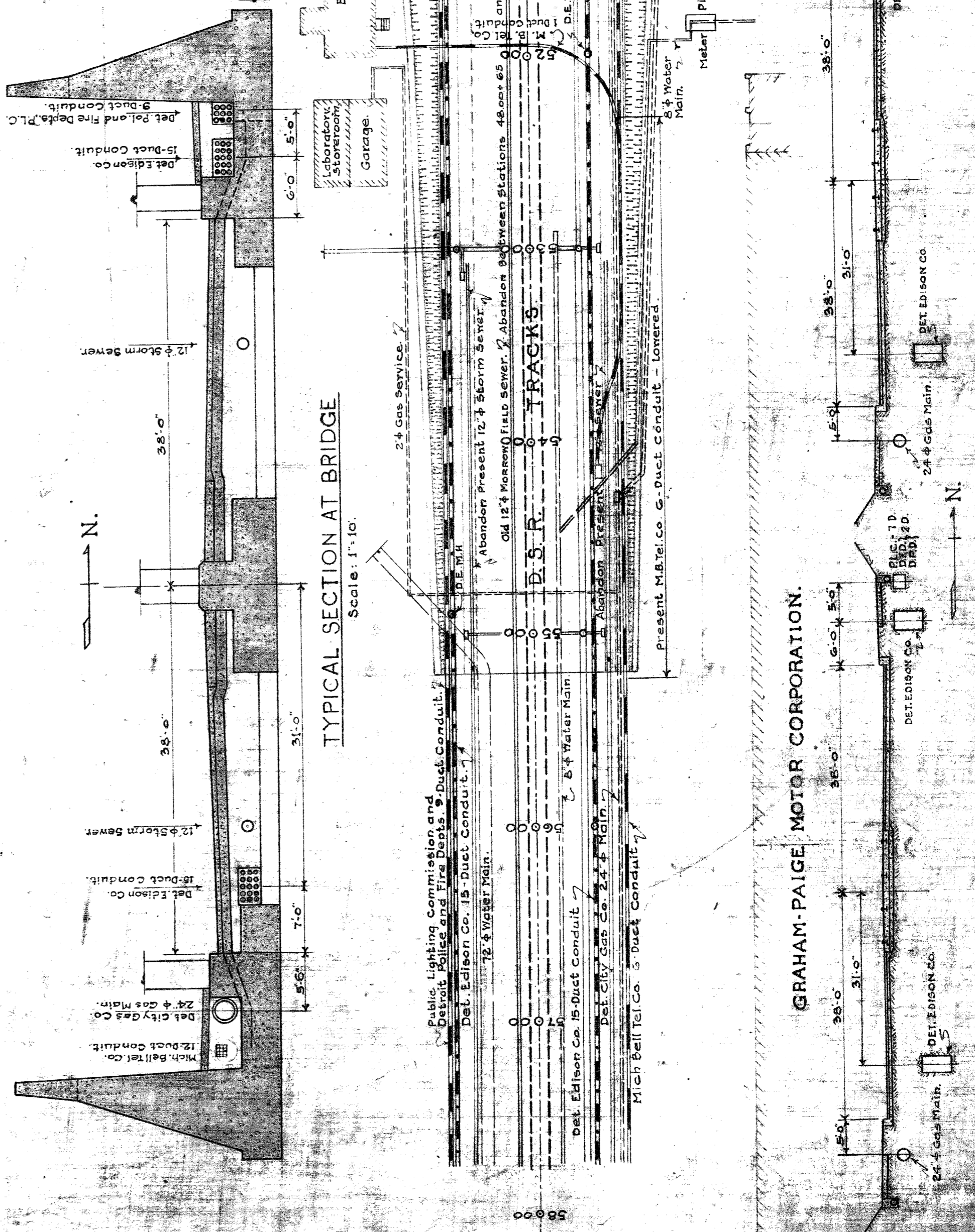
- Concrete Pavement.
- Asphalt on Concrete.
- Tar and Stone.
- Brick on Concrete.
- Detroit Edison Co. Conduit.
- Mich. Bell Tel. Co. Conduit.
- Sewers.
- Water Mains.
- Ford Motor Co. High Ten Line.
- Gas Conduit.
- Ford Motor Co. Underground Tel. Cable.
- Brazed Plug in Concrete Monument.
- Water Board Monument.
- Water Board Monument.

**GRAHAM-PAIGE MOTOR CORPORATION.**

**SECTION AT ABUTMENT YING WALL.**



**TYPICAL SECTION AT BRIDGE.**



**GRAHAM-PAIGE MOTOR CORPORATION.**

**SECTION AT STATION 54.00**

**SECTION AT STATION 51.00**

**UTILITIES SUBSEQUENT TO SEPARATION.**

Scale: 1" = 50'

**CITY OF DEARBORN**

**CITY OF DETROIT**

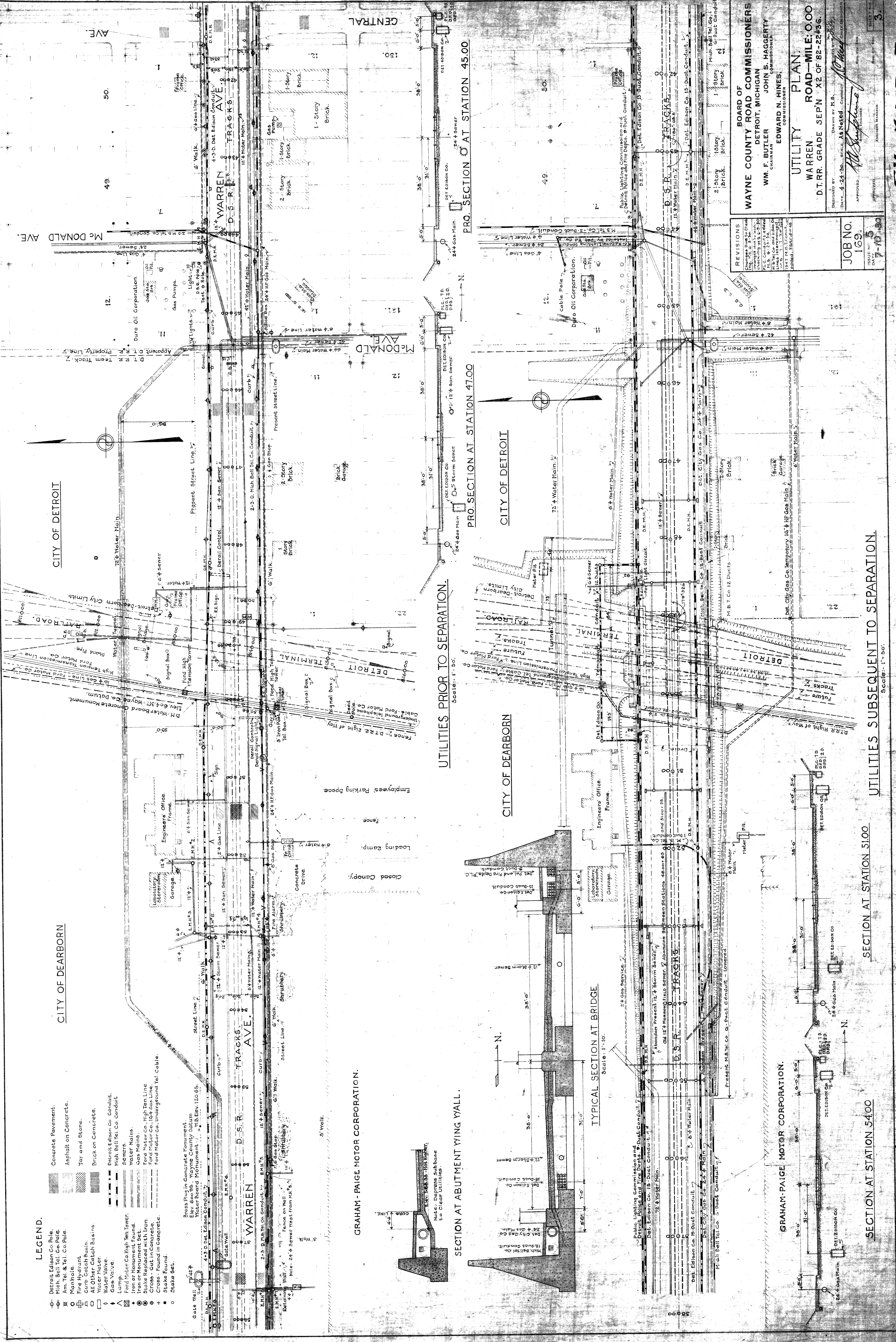
**CITY OF DEARBORN**

**CITY OF DETROIT**

**UTILITIES PRIOR TO SEPARATION.**

**PRO. SECTION AT STATION 47.00**

**PRO. SECTION AT STATION 45.00**



**BOARD OF WAYNE COUNTY ROAD COMMISSIONERS**  
**DETROIT, MICHIGAN**  
 WM. F. BUTLER, CHAIRMAN  
 JOHN S. HAGGERTY, COMMISSIONER  
 EDWARD N. HINES, COMMISSIONER

**UTILITY PLAN**  
 WARREN ROAD—MILE: 0.00  
 D.T.R.R. GRADE SEP. X2 OF 82-22436

DESIGNED BY: [Signature]  
 DRAWN BY: M.S.  
 SCALE: AS NOTED. CONTACT [Signature]  
 DATE: 4-24-36. SHEET NO. 169

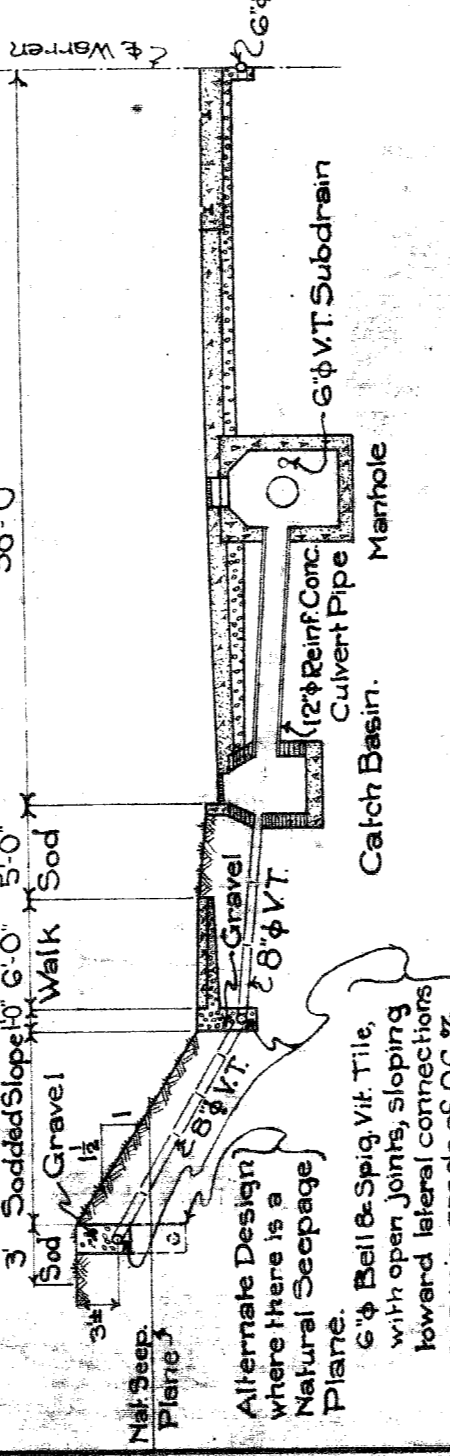
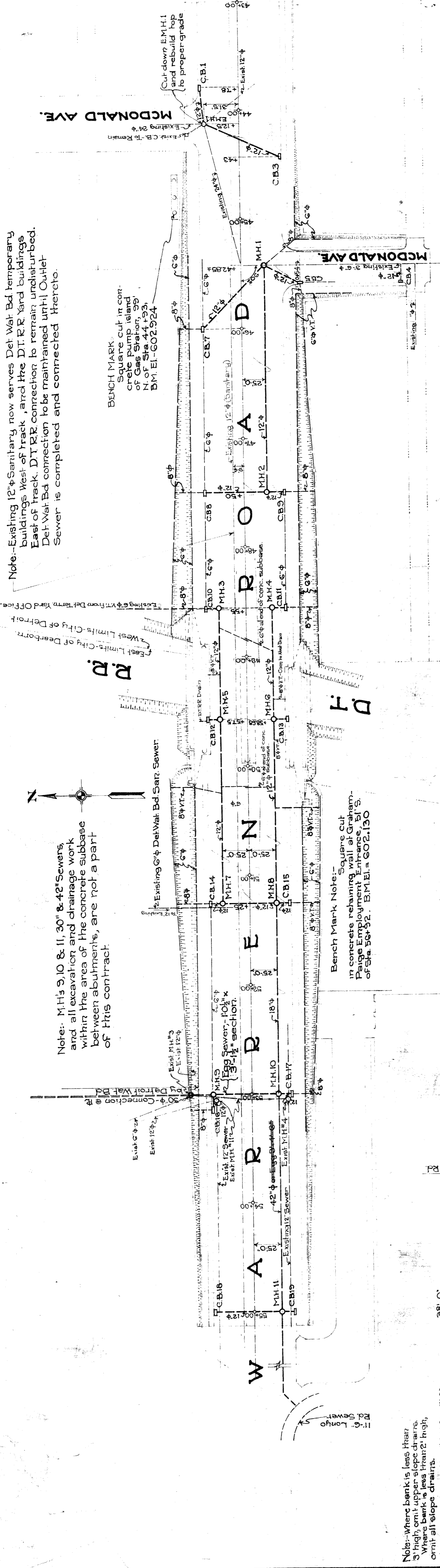
APPROVED: [Signature]  
 ENGINEER IN CHARGE

REVISIONS:  
 1. [Signature] 4-24-36  
 2. [Signature] 4-24-36  
 3. [Signature] 4-24-36  
 4. [Signature] 4-24-36  
 5. [Signature] 4-24-36  
 6. [Signature] 4-24-36  
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 10. [Signature] 4-24-36

**JOB NO. 169**  
**ISSUE NO. 5**  
**DATE 7-10-36**

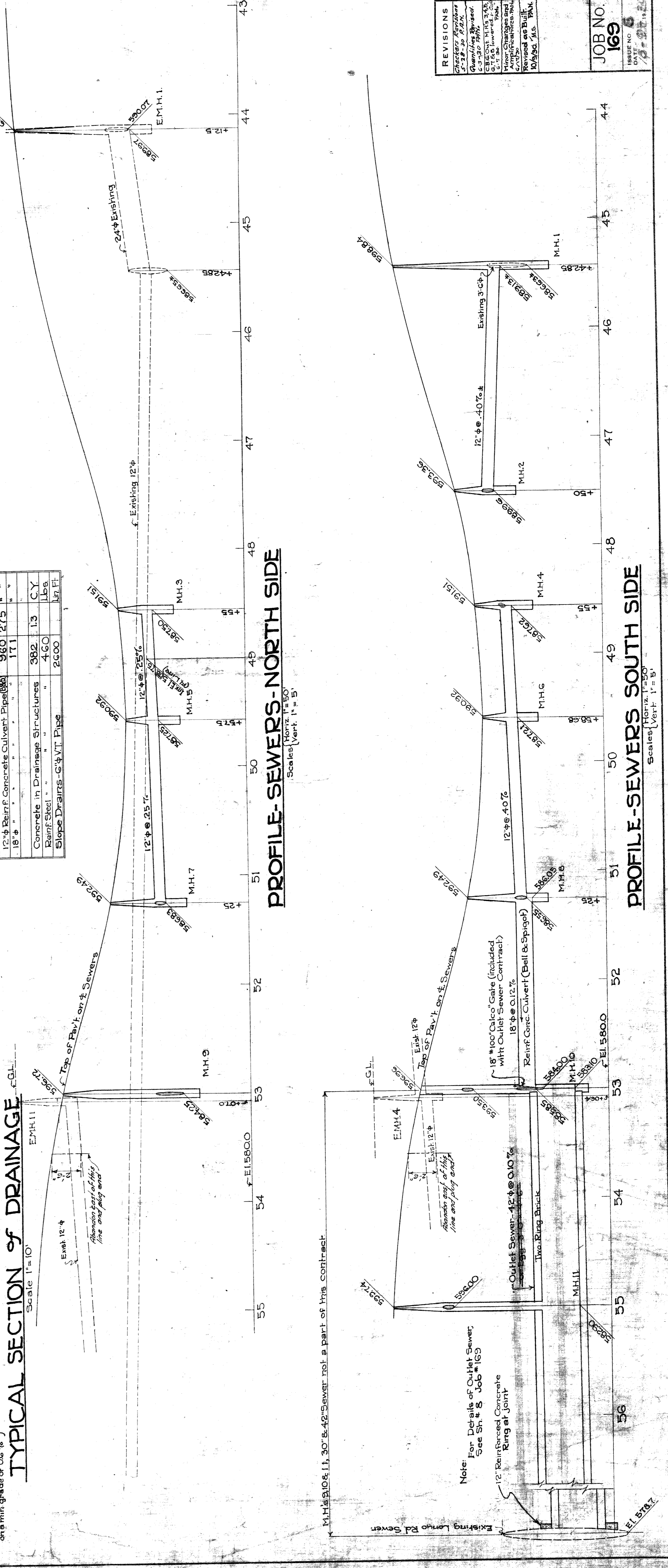
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**PLAN**  
Scale 1"=50'

DESCRIPTION	Amount	Unit
GENERAL DRAINAGE	400	LF
6" V.T. (Connections to Abut Drains)	1350	LF
6" V.T. (Connections to Slope Drains)	920	LF
12" Reinforced Concrete Culvert Pipe (18" dia.)	111	LF
Concrete in Drainage Structures	382	CY
Reinf. Steel	460	lbs.
Slope Drains - 6" V.T. Pipe	2000	LF



**-NOTES-**

All pipe 12" and over shall be reinforced concrete culvert pipe. All pipes less than 12" shall be bell and spigot vitrified tile. All concrete shall be proportioned by water-cement ratio for 3000 lbs. per cubic foot. For all concrete, use 4000 lbs. per cubic foot. For all concrete, use 4000 lbs. per cubic foot. For all concrete, use 4000 lbs. per cubic foot.

The tops of drainage structures shall be set to conform with grades and elevations of the surrounding pavement. The alignment of catch basin tops shall conform with the alignment of the curb.

All sewers under sidewalk, curb or pavement shall be backfilled with sand or gravel.

All slope drain trenches shall be backfilled with sand or gravel.

The depth of slope drains shall be determined by the Engineer after the general cut is made.

Slope drains are only those drains in the locations running approximately parallel to the main sewer.

Connections to abutment drains are considered a part of this contract.

Subdrains shall be laid in the trenches of main sewers where the sewer is to be used, and shall be laid along curbs as shown on plan. Subdrains in sewer trenches shall be straight in alignment and profile conforming to the invert elevations of the corresponding sewer, and shall be backfilled with gravel.

For Details of Drainage Structures, See Sh. # 5  
For Details of Outlet Sewer, See Sh. # 8

WAYNE COUNTY BOARD OF ROAD COMMISSIONERS  
DETROIT, MICHIGAN  
WM. F. BUTLER, CHAIRMAN  
JOHN S. HIGGERTY, COMMISSIONER  
EDWARD N. HINES, COMMISSIONER

**DRAINAGE PLAN**  
WARDEN ROAD-MILE  
D.T.R.R. GRADE SEPT. 12, 1922-26

DESIGNED BY: PAN. DRAWN BY: PAN.  
DATE: 4-2-30

APPROVED: *[Signature]*  
EDWARD N. HINES, COMMISSIONER

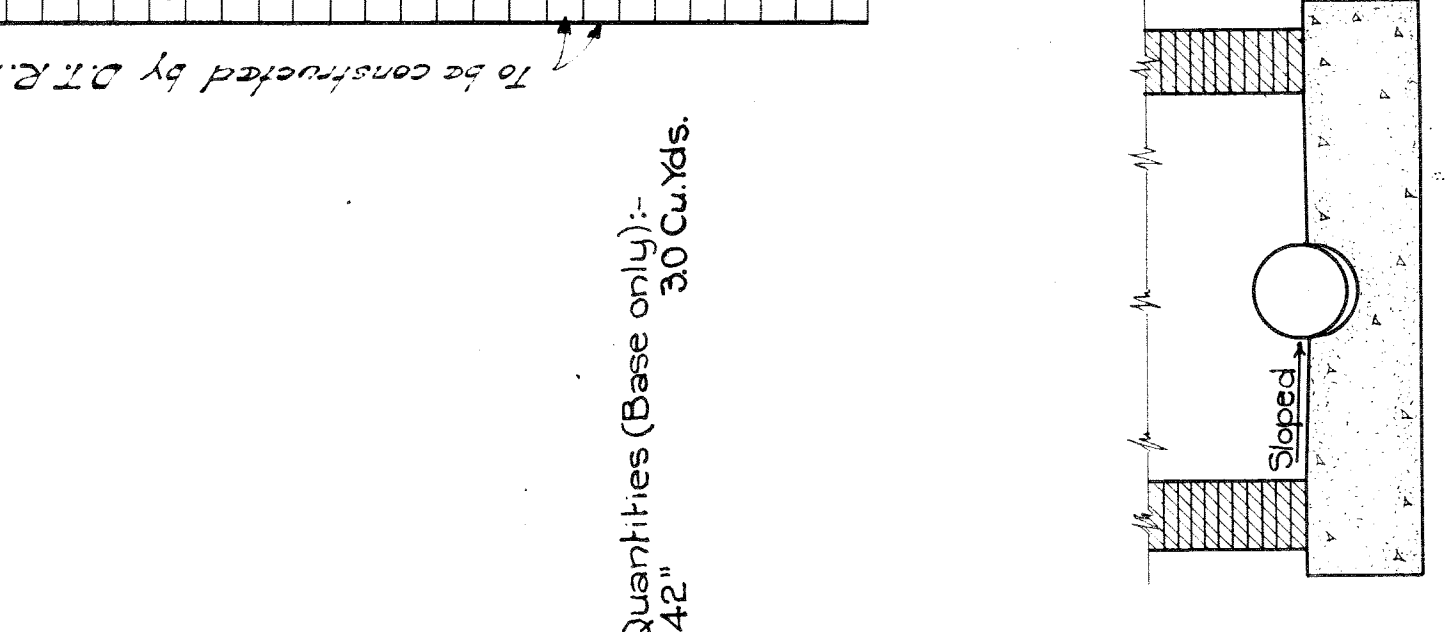
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Checked by: PAN. 10-12-30  
Checked by: PAN. 11-12-30  
Checked by: PAN. 12-12-30

JOB NO. 169  
DATE: 4-2-30



Drainage Structure	Station	Elev. of Top of Pipe	Elev. of Invert of Detail	"a"	"b"	Remarks
M.H. 1	44+125	589.97	589.97	10.58		Warren Rd.
" 2	45+42.85	593.84	586.63 ±	12.21	3.00	Warren Rd.
" 3	47+50	593.36	589.96	3.40	3.76	"
" 4	48+55	591.51	587.50	4.01	4.03	"
" 5	48+55	591.51	587.52	3.89	3.97	"
" 6	49+58.68	590.92	587.25	3.67	3.85	"
" 7	51+25	592.49	586.83	5.66	4.90	"
" 8	51+25	592.49	586.05	6.44	5.32	"
C.B. 1	43+78	600.66	597.66	A	3.00	Warren Rd.
" 3	44+43	600.13	597.13	"	3.00	"
" 4	1+50 ±	601.70 ±	596.70 ±	3.00	3.7	McDonald Ave.
" 5	0+54	598.60 ±	595.47	3.13	3.7	"
" 7	46+00	597.34	594.34	3.00	3.7	Warren Ave.
" 8	47+50	593.13	590.13	3.00	3.7	"
" 9	47+50	593.13	590.13	3.00	3.7	"
" 10	48+55	591.27	588.27	3.00	3.7	"
" 11	48+55	591.27	588.27	3.00	3.7	"
" 12	49+57.5	590.68	588.10	F 2.58	6.3	"
" 13	49+57.5	590.68	588.10	A 3.00	6.3	"
" 14	51+25	592.25	589.25	3.00	3.7	"
" 15	51+25	592.25	589.25	3.00	3.7	"
" 16	53+14	597.04	594.04	3.00	3.7	"
" 17	53+00	596.72	593.72	3.00	3.7	"
" 18	55+00	599.50	596.50	3.00	3.7	"
" 19	55+00	599.50	596.50	3.00	3.7	"

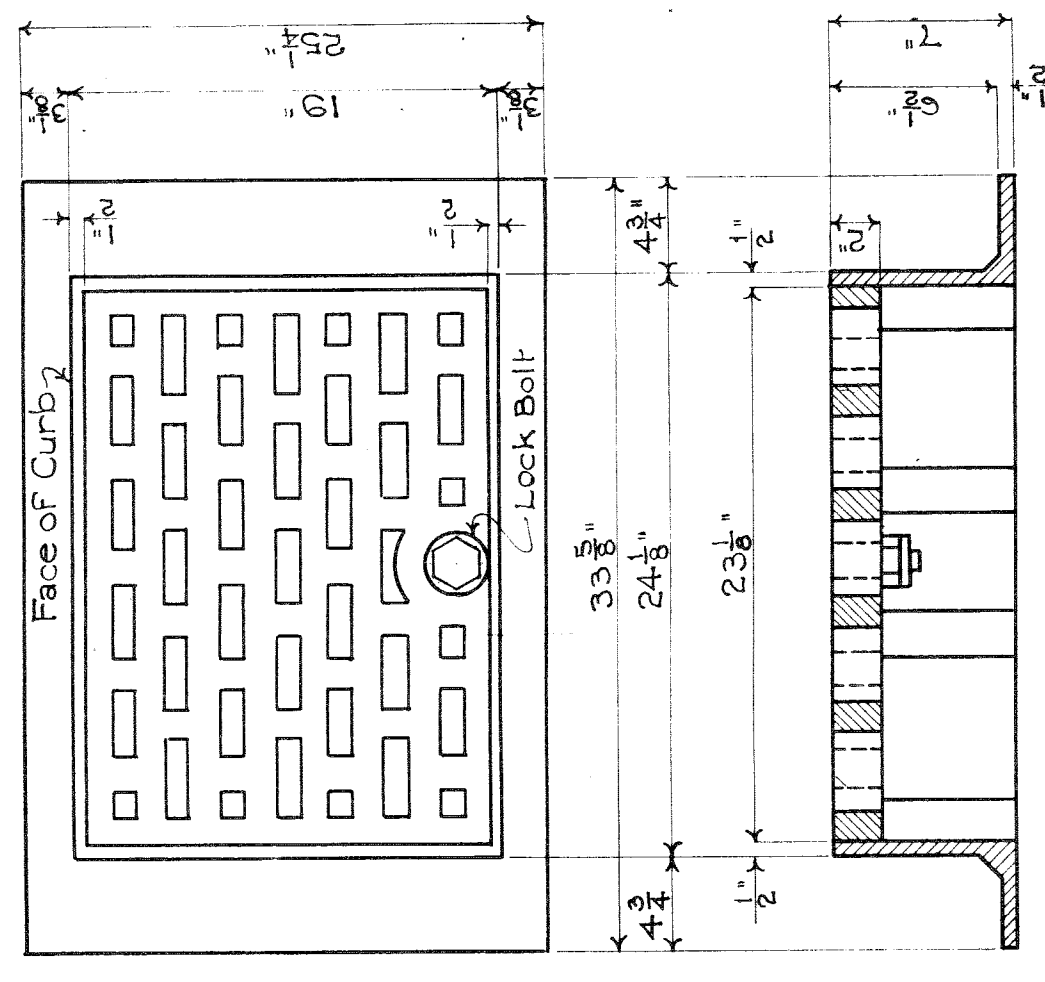
To be constructed by D.T.C.R.



Concrete Quantities (Base only) -  
For "d" = 42" -  
30 Cu. Yds.

**SECTION B-B  
STANDARD DEEP MANHOLE**  
DETAIL (B)  
Scale 1/2" = 1'-0"

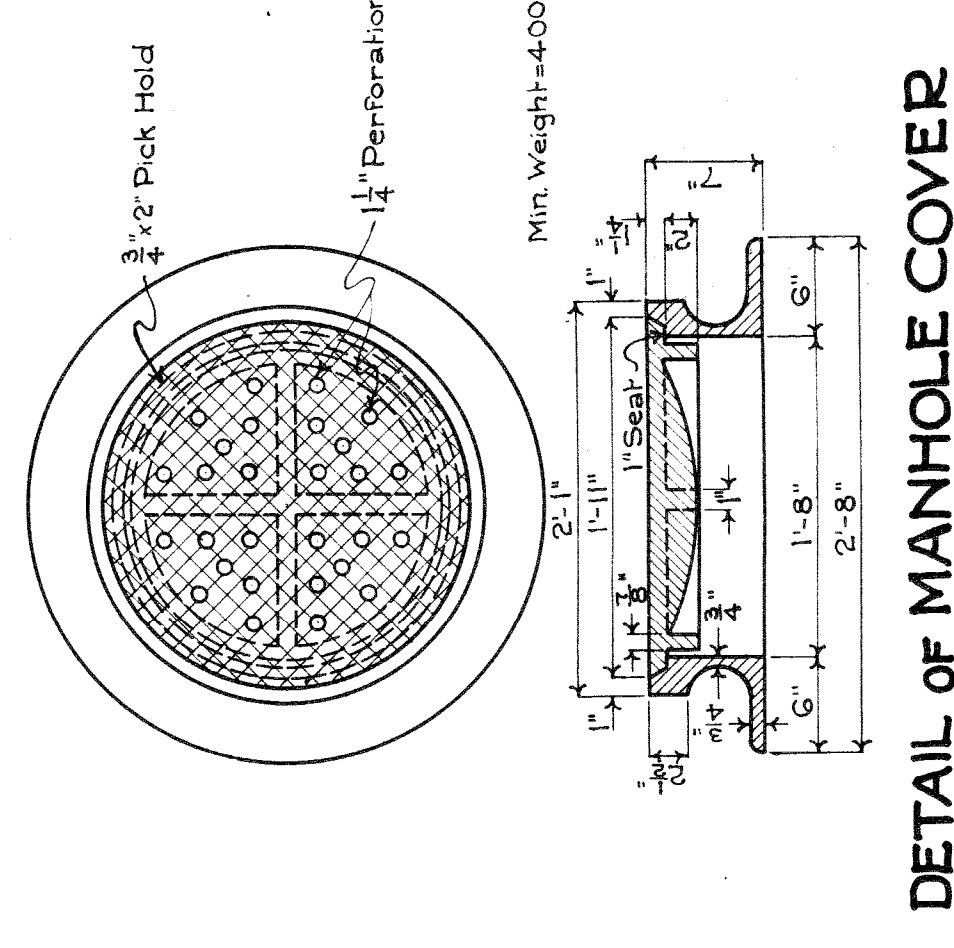
**SECTION A-A  
STANDARD DEEP MANHOLE**  
DETAIL (A)  
Scale 1/2" = 1'-0"



**DETAIL OF STANDARD POOL GRATE  
FOR CIRCULAR CATCH BASIN**  
Scale 1 1/2" = 1'-0"

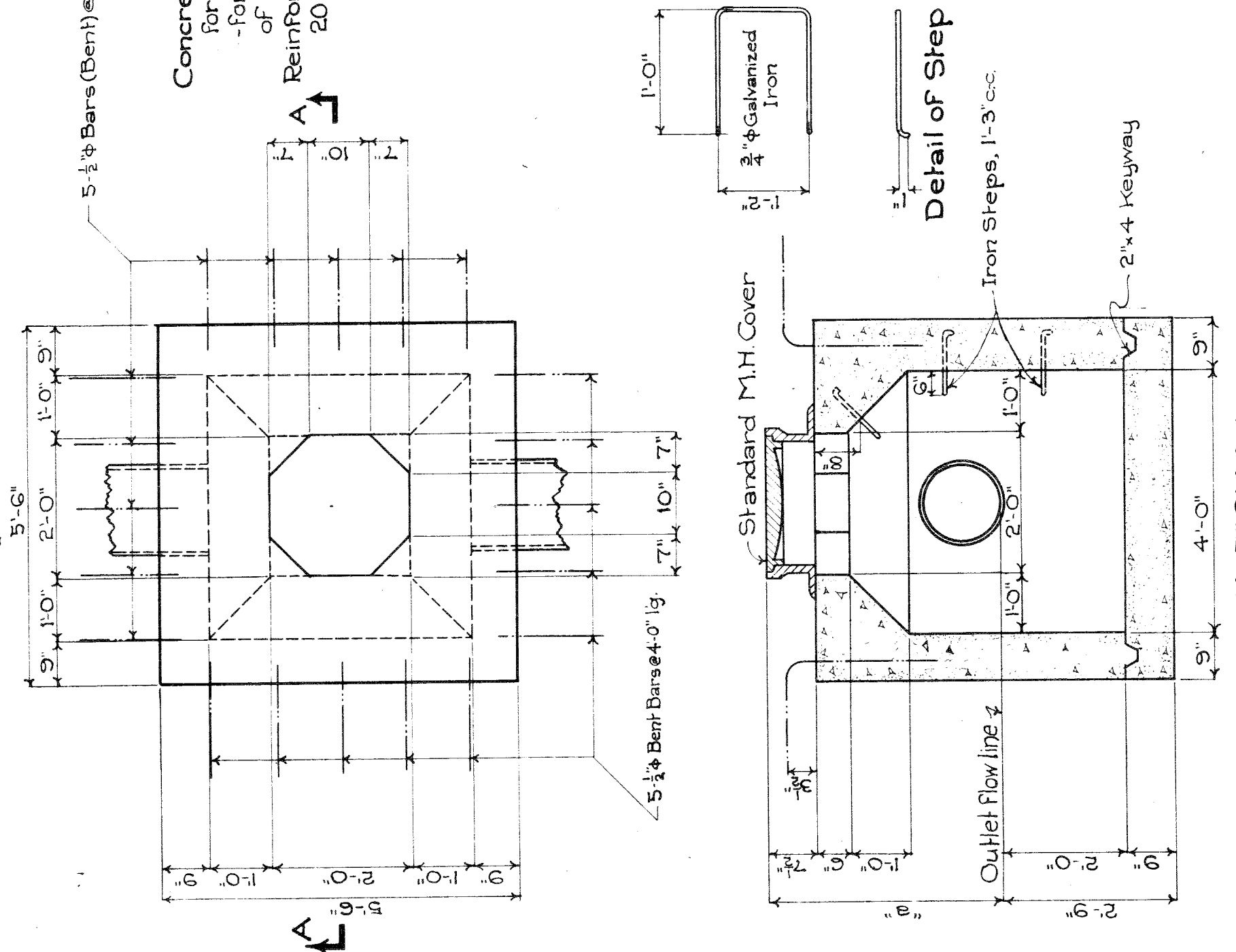
Note: C.B. to be plastered on the outside with mortar of a 1:3 mix, 1/2" thick.

**STANDARD SHALLOW CATCH BASIN**  
DETAIL (A)  
Scale 1/2" = 1'-0"

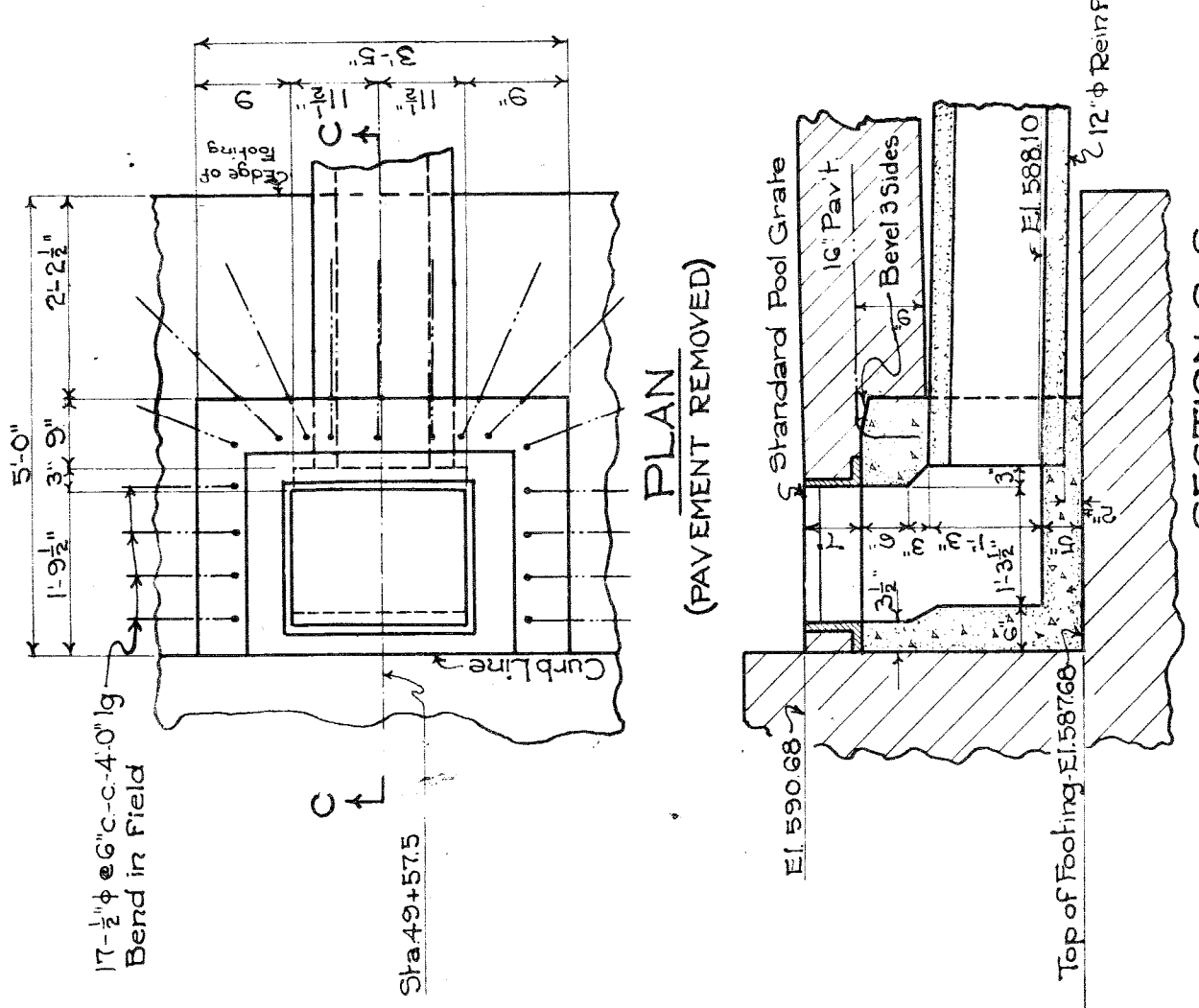


**DETAIL OF MANHOLE COVER**  
Scale 1" = 1'-0"

**NOTES**  
Concrete Quantities (Pipe not omitted):  
for "a" = 3'-0", Vol. = 3.50 Cu. Yds.  
for each additional foot of depth, add 0.528 Cu. Yds.  
Reinforcing Steel: -  
20-# Bars, 4'-0" lg. - 53 Lbs.



**SECTION A-A  
STANDARD SHALLOW MANHOLE**  
DETAIL (A)  
Scale 1/2" = 1'-0"



**SECTION C-C  
DETAIL (C)  
Scale 1/2" = 1'-0"**

REVISIONS	JOB NO.	DATE
	169 <td>6-11-30 </td>	6-11-30

BOARD OF  
**WAYNE COUNTY ROAD COMMISSIONERS**  
EDWARDS N. HINES,  
CHAIRMAN  
JOHN S. HARGERTY,  
COMMISSIONER  
WILLIAM F. BUTLER,  
COMMISSIONER

**DRAINAGE STRUCTURES**  
WARREN ROAD - MILE:  
D.T.R.R. GRADE SEPN. X2 OF 82-22-36.

DESIGNED BY: *J. M. G.*  
DATE: 5-29-30  
SCALE: AS SHOWN, CORRECT

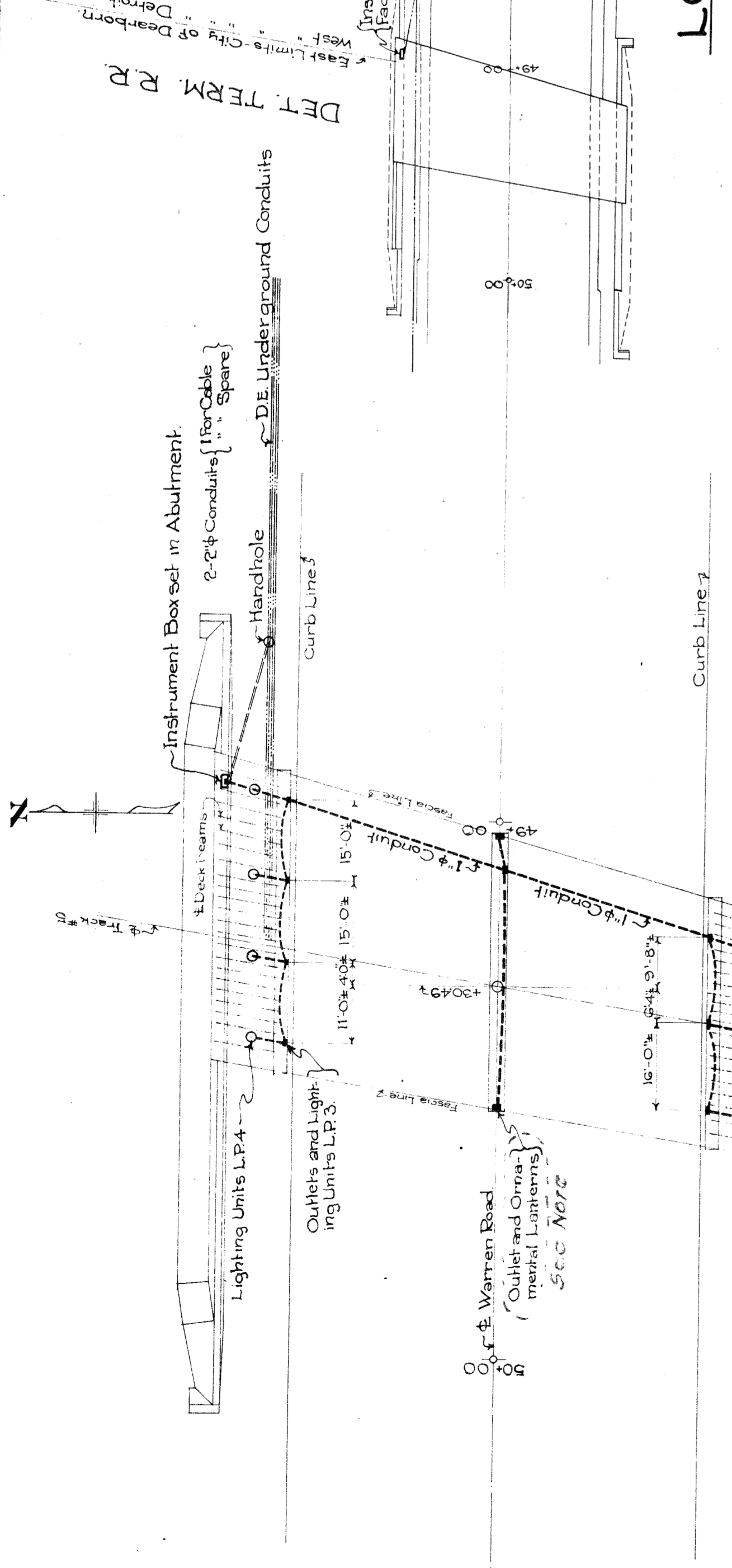
APPROVED: *W. F. Butler*  
ENGINEER

REG. CIV. ENG. 1530

FOR GENERAL NOTES SEE SHEET 4

File XU67-2



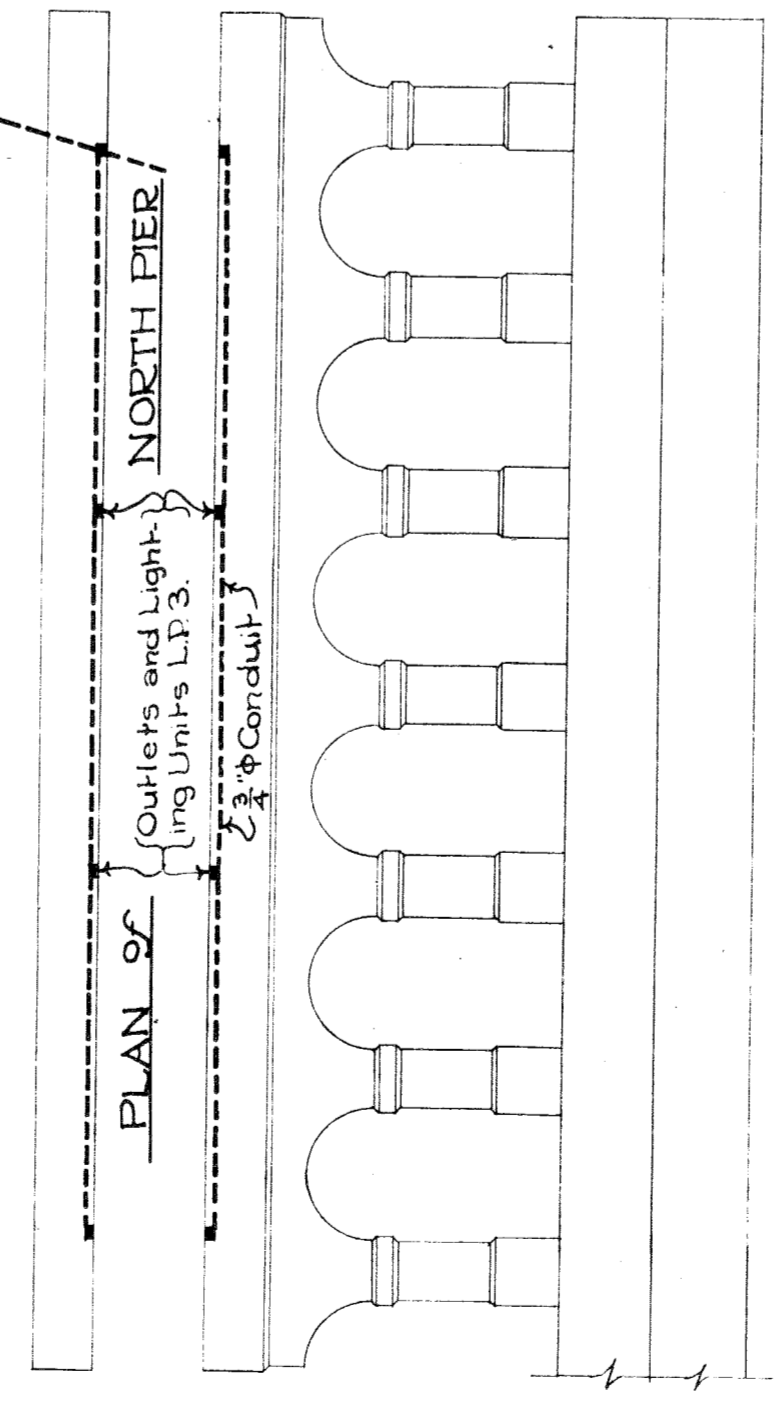


**LIGHT SCHEDULE**

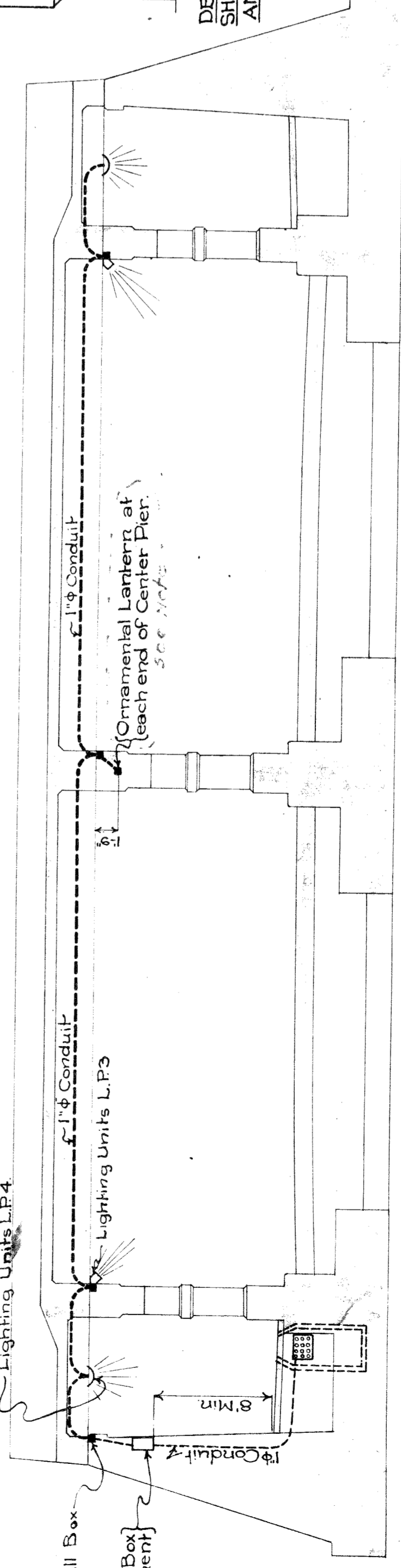
MARK	NO.	DESCRIPTION	LOCATION	WATTAGE
LP 4	7	See Str. L-2	In deck on Walk	7 @ 150 = 1050
LP 3	7	See Str. L-1	In Side Piers	7 @ 200 = 1400
Lanterns	2	See Str. L-1	Ends of Center Pier	2 @ 500 = 1000
			Total Wattage	= 3450

See Note

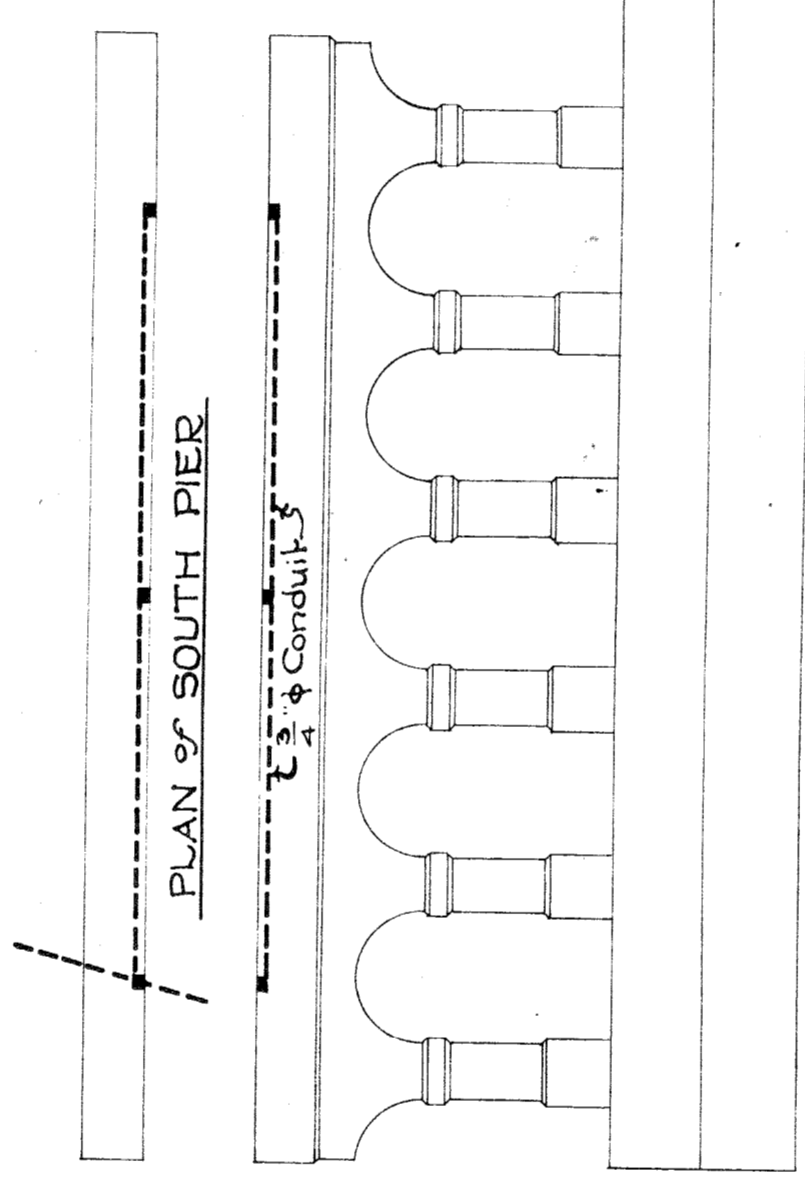
**PLAN OF BRIDGE (WITH DECK REMOVED)**  
Scale 1/8" = 1'-0"



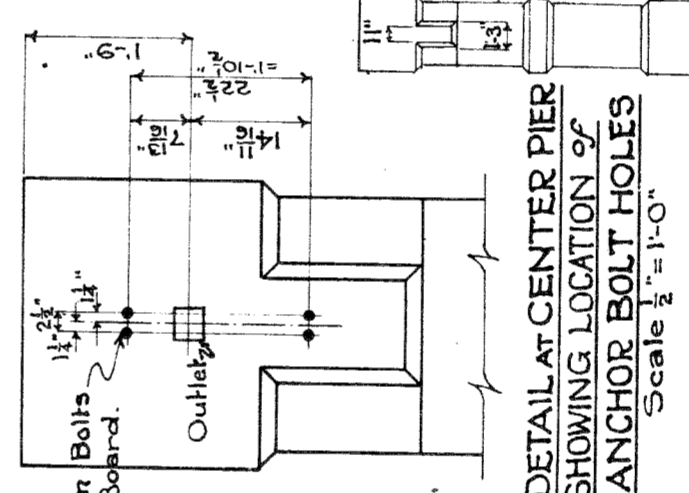
**ELEVATION OF NORTH PIER**  
LOOKING NORTH  
Scale 1/8" = 1'-0"



**CROSS SECTION (@ RIGHT ANGLES TO WARREN ROAD)**  
Scale 1/8" = 1'-0"

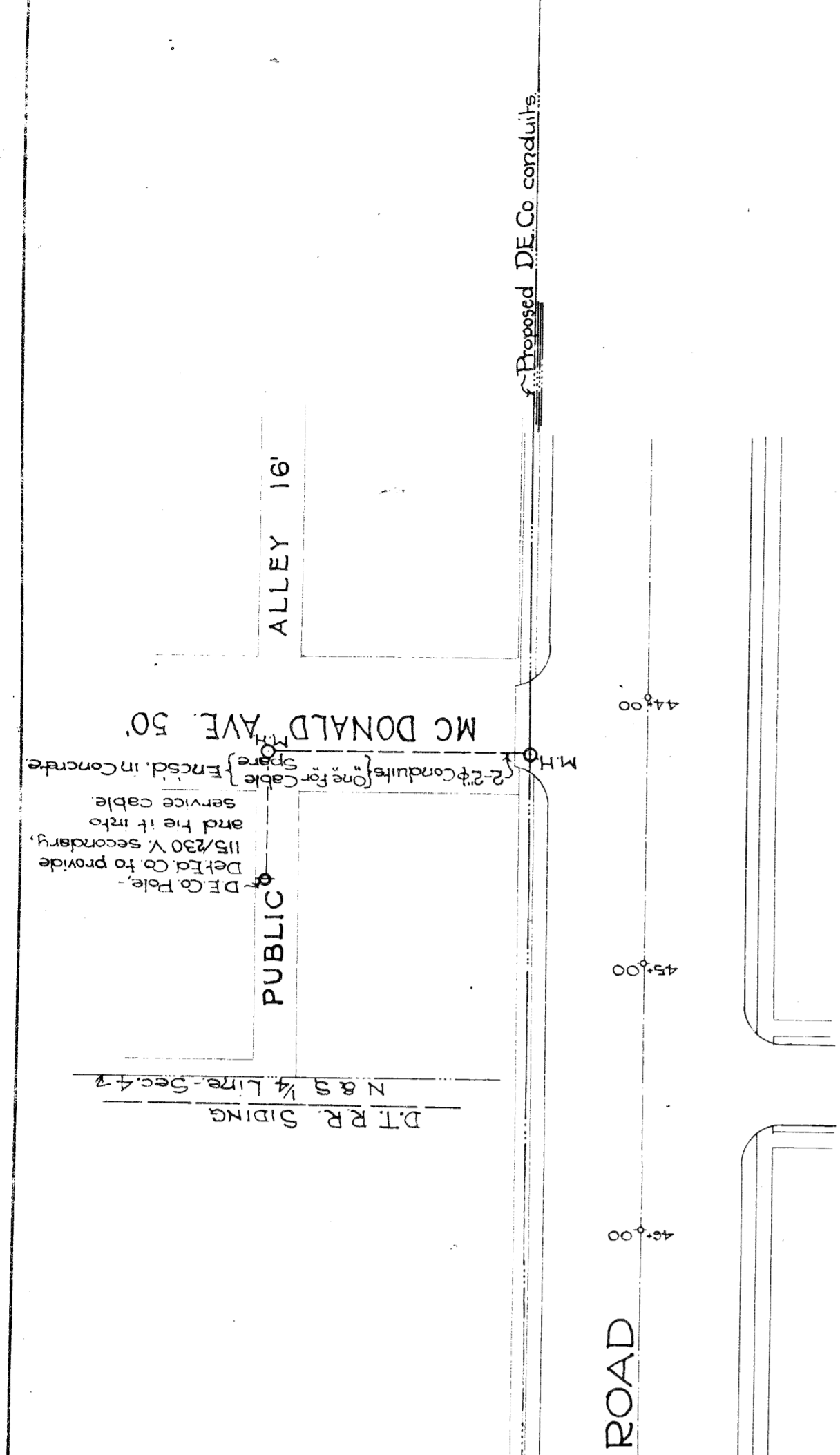


**ELEVATION OF SOUTH PIER**  
LOOKING SOUTH  
Scale 1/8" = 1'-0"



**END ELEVATION CENTER PIER**  
Scale 1/8" = 1'-0"

**SIDE ELEVATION CENTER PIER**  
Scale 1/8" = 1'-0"



**LOCATION PLAN**  
Scale 1/8" = 50'

**CONDUITS AND PULL BOXES FURNISHED BY BRIDGE CONTRACTOR UNITS**

Pull Boxes & Outlets  
11  
200 Lin. Ft.  
130 Lin. Ft.  
Instrument Box  
1

**DIVISION OF WORK**

Supply and install all conduits from Mainline to abutment at Board's expense. Furnish and place conduits from abutment to secondary arm on cable pole mainline at McDaniels Ave, and alley at Board's expense. Boards including a N furnish and place cable at Board's expense, from cable pole located in alley North/Abutment, and connect service and control wires to switch at Board's expense.

Detail Terminal Railroad Co Bridge Contractor:  
Supply and install all conduits, conduits, pull boxes and outlet boxes and install in bridge structure to accommodate the wiring and electrical appliances on the bridge structure. All work to be done in accordance with this plan. All work to be done in all conduit so installed.

Board of Wayne County Road Commissioners:  
Furnish Lighting Units LP 3 and LP 4, ornamental lanterns and Instrument Box as shown. Furnish and install cable, and do all wiring from instrument box to bridge light and install time clock & circuit cutout and magnetic switch, in instrument box in North Abutment.

**GENERAL NOTES**

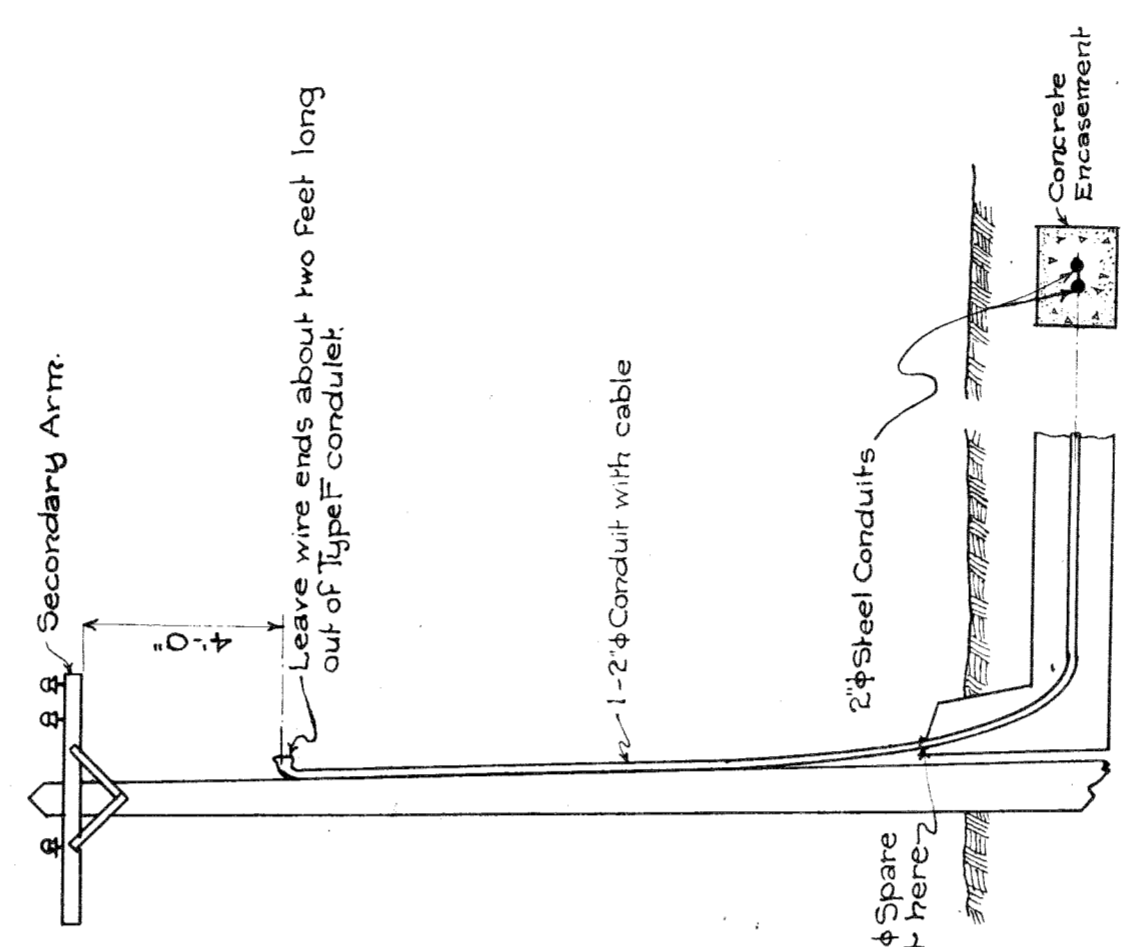
The lighting circuit shall be turned on and off by means of a clock. The clock shall be electrically controlled and operated time clock.

Conduits and Wiring:  
To be in accordance with the National Board of Fire Underwriters' Specifications. See also Note below.  
All underground wiring to be rubber-insulated, lead-covered cable, in concrete encased conduits. Minimum thickness of encasement to be 1 1/2" in concrete. When conduit is encased in concrete, leaving a minimum radius of 12 inches shall be used at all angles. Leaving a minimum radius of 12 inches shall be required to remove any obstructions, in concrete placing the conduit will be required to remove any obstructions, in concrete placed that can be removed before the job is accepted. Conduits shall be so placed that they will be protected from damage.

Lanterns:  
Lanterns shall be octagonal, ornamental, hanging on an aluminum colonial bracket, with natural lantern finish. Three back panels of sheet metal shall be attached to the lantern. All lanterns shall be equipped with 1-500 Watt bulbs. The lanterns shall be of dense, special yellow, smooth, stained glass, about 1/2 inch thick, to be furnished by the Board.

Instrument Box:  
Instrument box shall be of minimum dimensions 24" x 24" x 24", with hinged door and lock. It shall be set on the West side of the abutment face. Box is to contain one Time Clock, one 6-Circuit Magnetic Switch.

Wiring:  
Magnetic Switch operated by time clock shall be GE. Type 7002 or equal.  
Voltage drop between cable pole and center of each circuit to be not greater than 4.5%.



Detail of Pole

**REVISIONS**

NO.	DATE	DESCRIPTION
1	4-7-30	As Shown
2	4-7-30	As Shown
3	4-7-30	As Shown
4	4-7-30	As Shown
5	4-7-30	As Shown
6	4-7-30	As Shown

**JOB NO.**  
169

**ISSUE NO.**  
6-2

**DATE**  
4-7-30

**SCALE**  
AS SHOWN

**APPROVED**  
[Signature]

**ENGINEER**  
W. H. HARRIS

**BOARD OF WAYNE COUNTY ROAD COMMISSIONERS**  
DETROIT, MICHIGAN

**EDWARD N. HINES**, Chairman  
**JOHN S. HAGGERTY**, Commissioner  
**WILLIAM F. BUTLER**, Commissioner

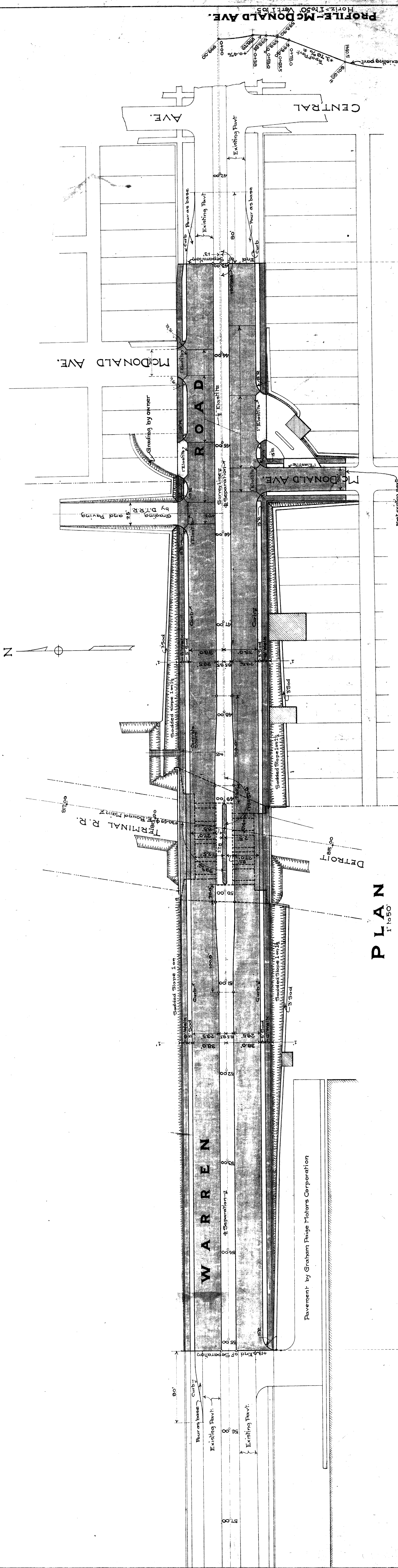
**LIGHTING PLAN**  
**WARREN ROAD - MILE**  
**D.T. R.R. GRADE SEP'N. X-2-9782-22-36**

DESIGNED BY: PAN  
CHECKED BY: F.H.C.  
DATE: 4-7-30  
SCALE: AS SHOWN  
CORRECT: [Signature]  
APPROVED: [Signature]  
DATE: 4-7-30  
SCALE: AS SHOWN  
CORRECT: [Signature]  
APPROVED: [Signature]  
DATE: 4-7-30  
SCALE: AS SHOWN  
CORRECT: [Signature]

**FILE NO.**  
6-2

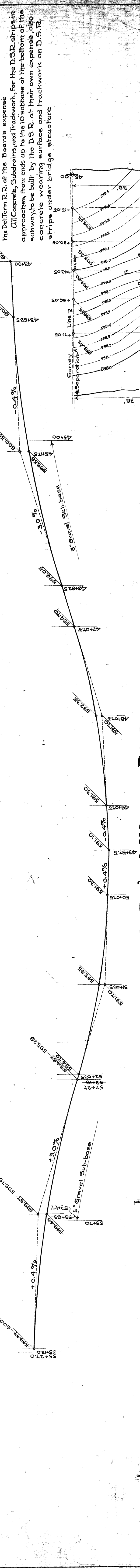
**SHEET NO.**  
6



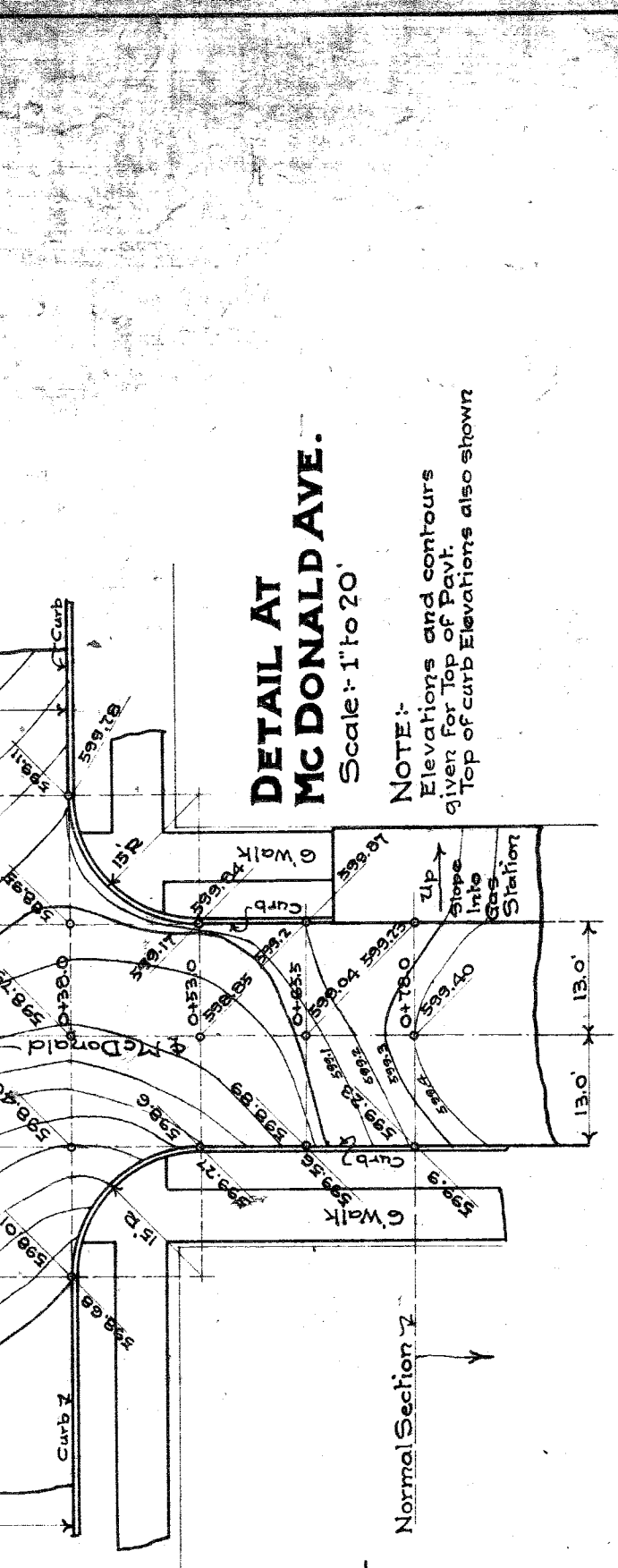


PLAN  
1:1000

**PROFILE: TOP OF PAVT. & WARREN ROAD**  
Vertical: 1 to 50  
Horizontal: 1 to 50

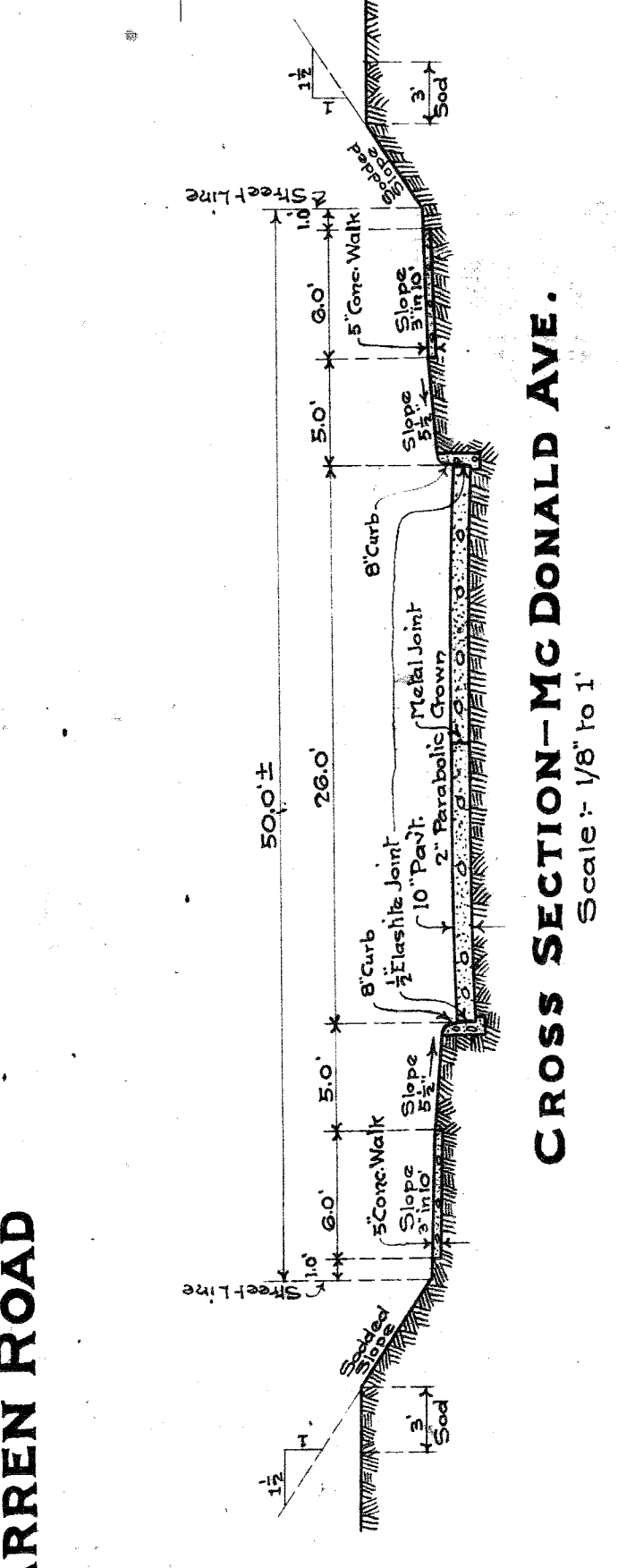


PROFILE: TOP OF PAVT. & WARREN ROAD  
Vertical: 1 to 50  
Horizontal: 1 to 50

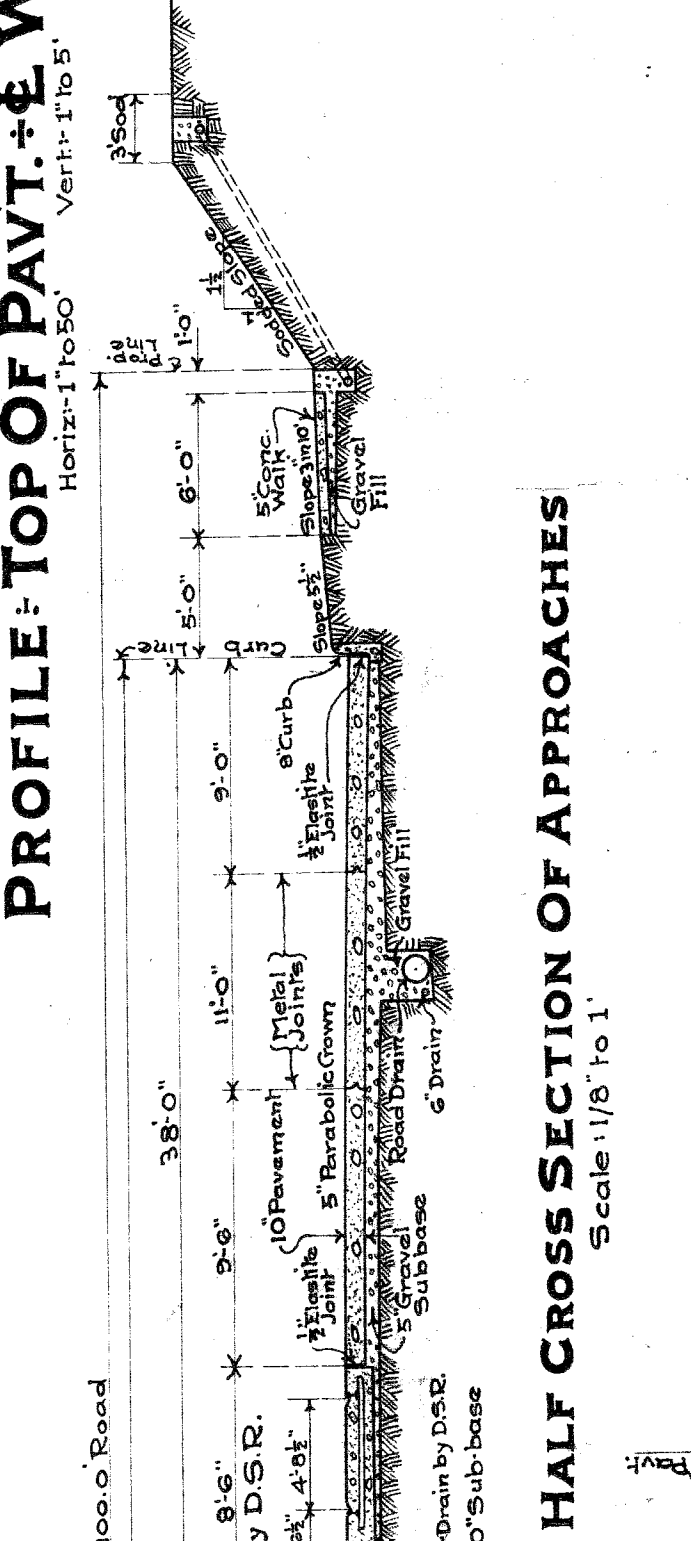


DETAIL AT  
MC DONALD AVE.  
Scale: 1 to 20

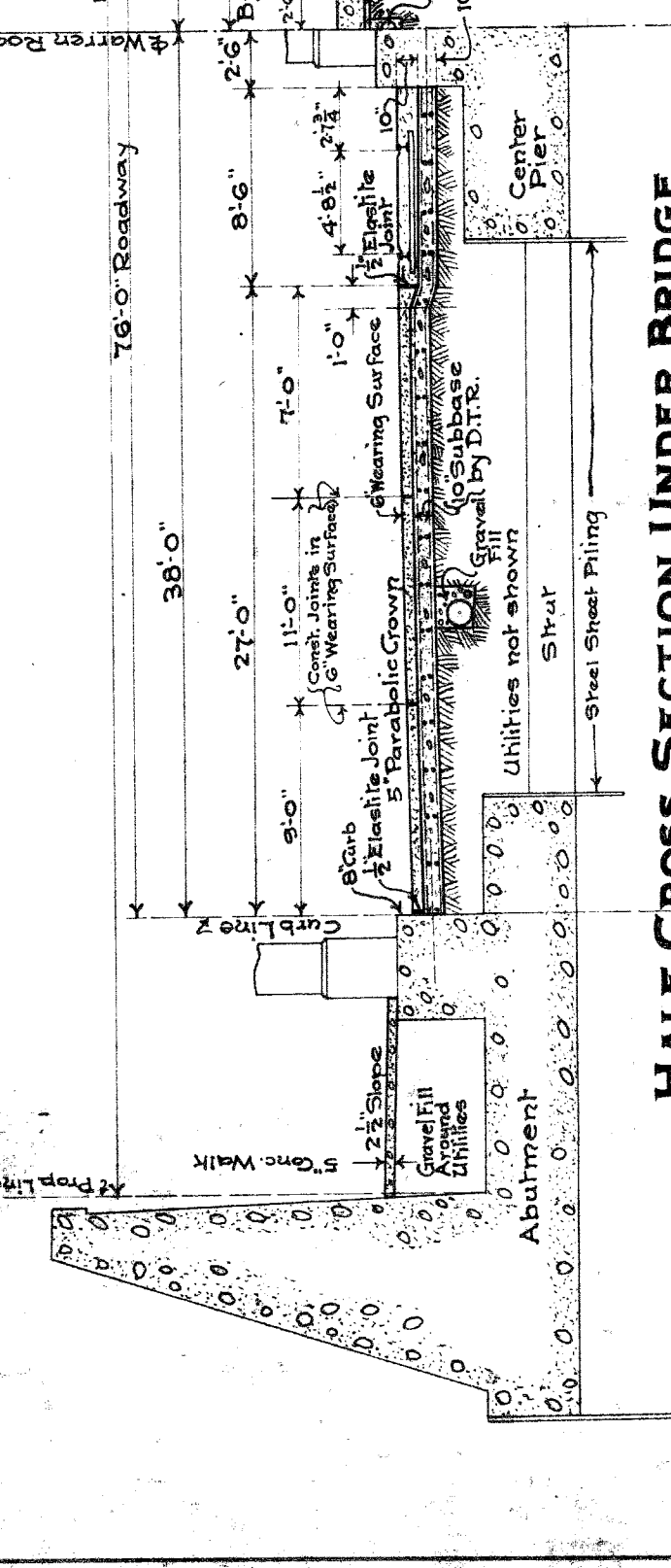
**NOTE:**  
Elevations and contours  
of curb elevations also shown



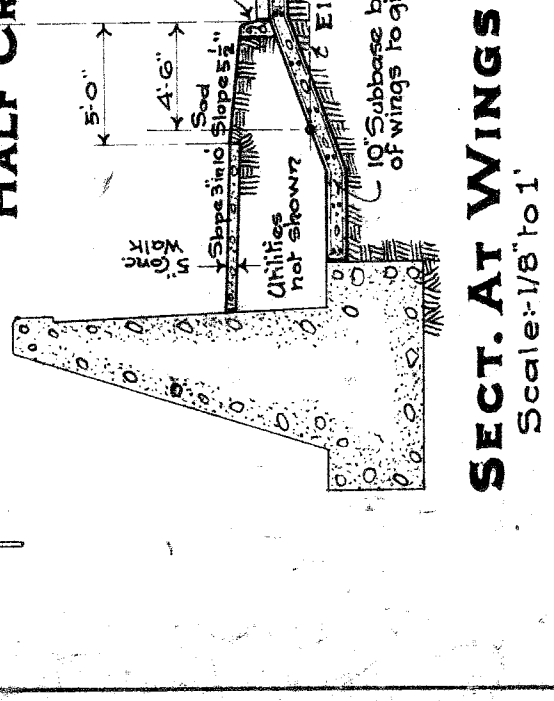
CROSS SECTION - MC DONALD AVE.  
Scale: 1/8 to 1



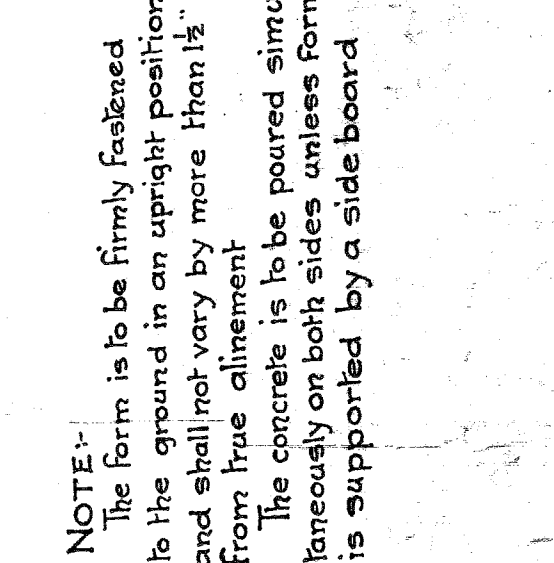
HALF CROSS SECTION OF APPROACHES  
Scale: 1/8 to 1



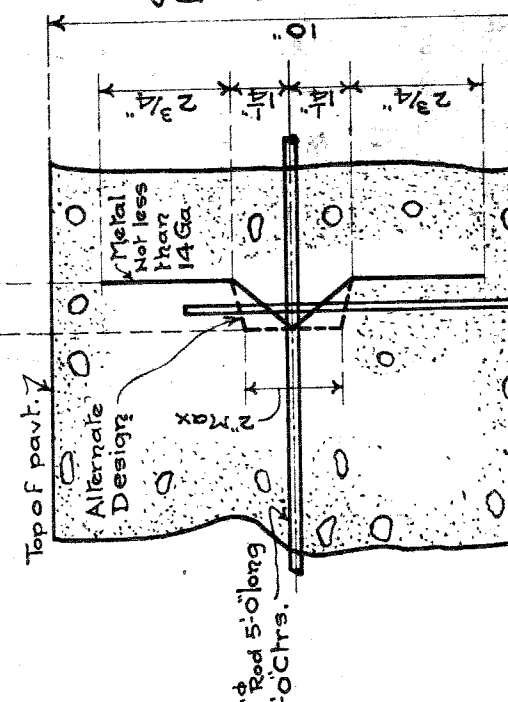
HALF CROSS SECTION UNDER BRIDGE  
Scale: 1/8 to 1



CURB DETAIL  
Scale: 1/4 to 1



SECT. AT WINGS  
Scale: 1/8 to 1



STD. METAL JOINT  
Scale: 5 to 1

**GENERAL NOTES**  
Transverse expansion joints shall be placed across entire width of road and shall be placed at intervals of 100 feet. A proper joint, 1 inch thick, shall be placed where sidewalk curb abut. Backfill behind curbs shall be compacted. Gravel subbase to be compressed to 40% of voids to 60 parts of pebbles. Elevations refer to Detroit Water Board Datum.

**QUANTITIES**

	McDonald	Warren	Total
Paving	106	125	231
Curbing	132	1112	1244
Walks	822	15318	16140
Sodding			2568
			34443

**REVISIONS**

NO.	DATE	DESCRIPTION
1	10-15-30	As Noted
2	11-15-30	As Noted
3	12-15-30	As Noted
4	1-15-31	As Noted

**BOARD OF WAYNE COUNTY ROAD COMMISSIONERS**  
DETROIT, MICHIGAN

EDWARD M. HINES, CHAIRMAN  
JOHN S. HAGERTY, COMMISSIONER  
WILLIAM F. BUTLER, COMMISSIONER

**PAVING PLAN**  
**WARREN ROAD - MILE: 0.00**  
D.T.R.R. GRADE SEP. 22 OF 82-22-36

DESIGNED BY W. S. S. DRAWN BY M. S. S.  
DATE: JUNE 10, 1930 SCALE: AS NOTED

APPROVED: [Signature]  
ENGINEER

APPROVED: [Signature]  
SUPERVISOR

APPROVED: [Signature]  
CHIEF DESIGNER

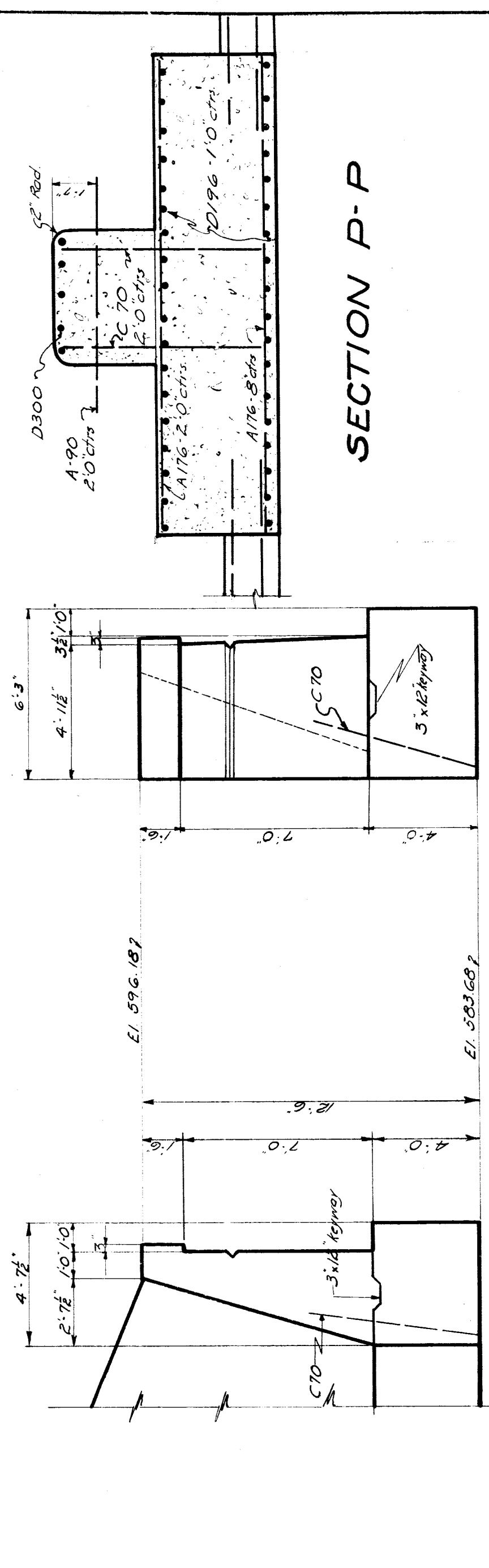
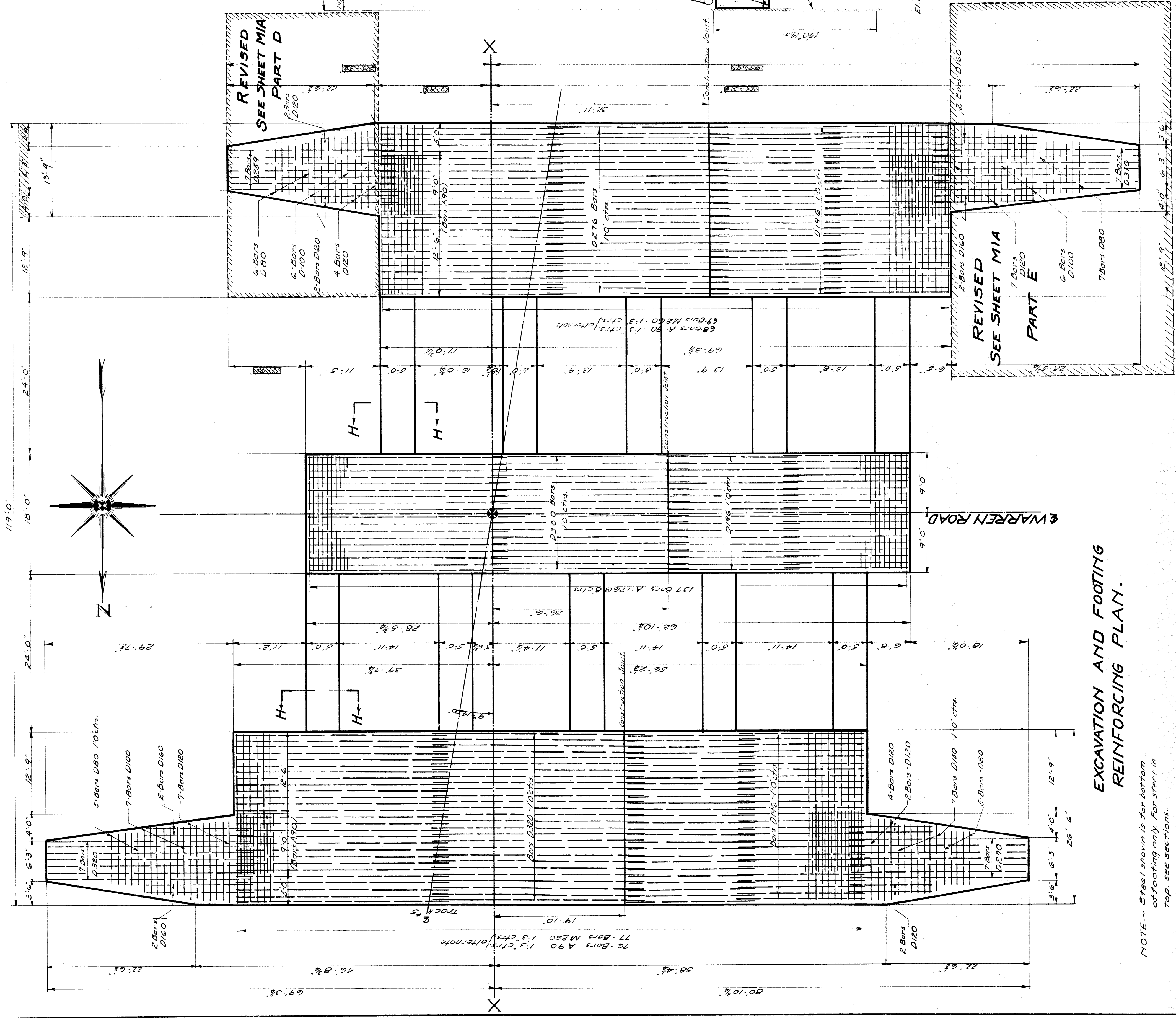
REG. CIV. ENR. REG. CIV. ENR. REG. CIV. ENR.

**JOB 169**

SHEET NO. 7

File XUG 7-16

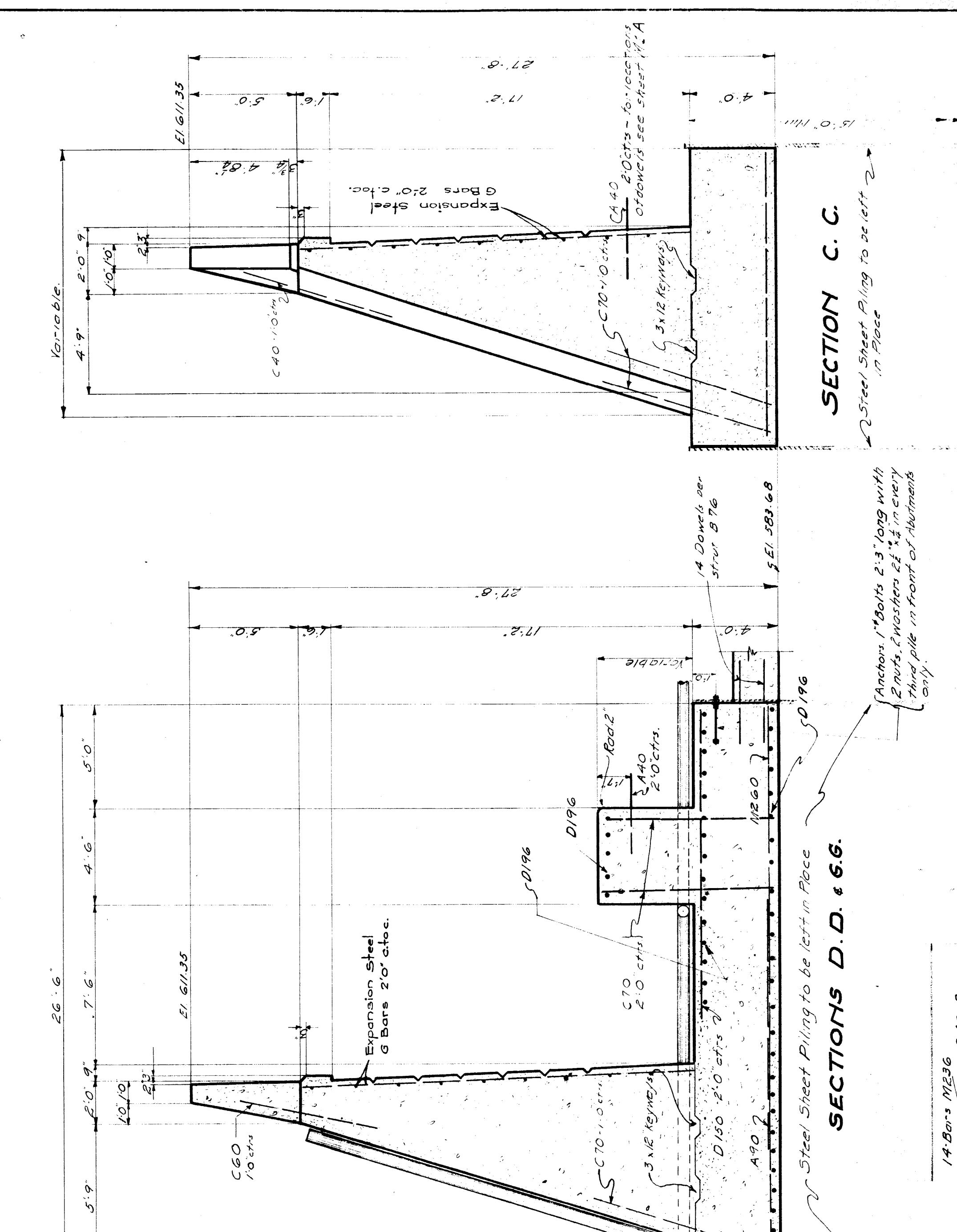




SECTION P-P

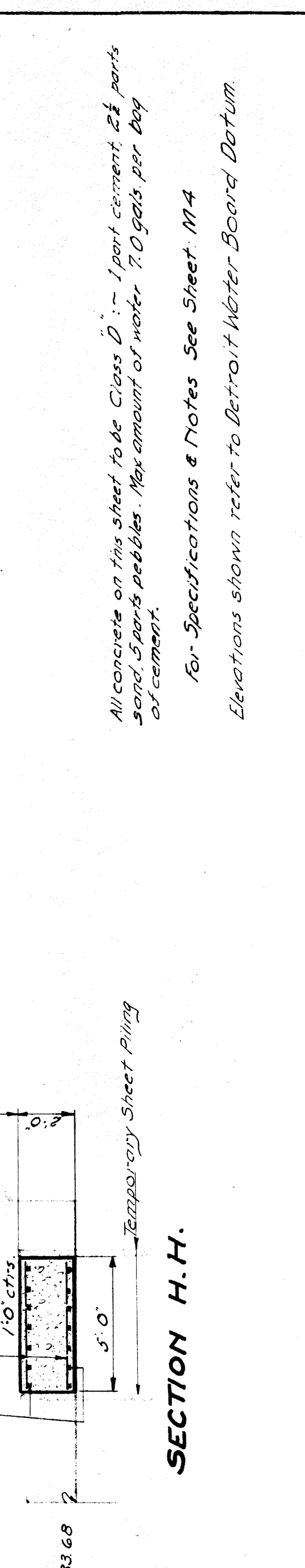
END VIEW A.A.

END VIEW B.B.

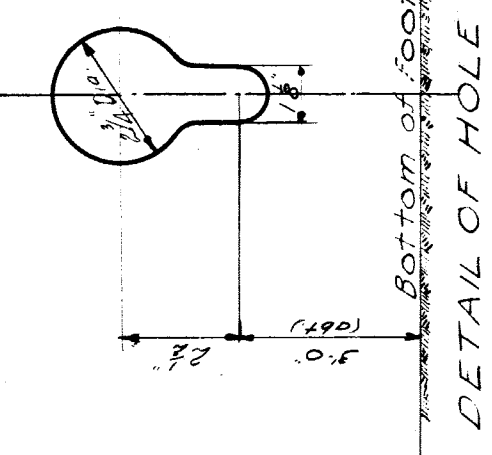


SECTION C.C.

SECTIONS D.D. & E.E.



SECTION H.H.



DETAIL OF HOLE THROUGH SHEET PILING FOR ANCHOR BOLT

All concrete on this sheet to be Class D - 1 part cement, 2 1/2 parts sand, 3 parts pebbles. Net amount of water 7.0 gals per bag of cement.

10. Specifications & Notes See Sheet M-4

Elevations shown refer to Detroit Water Board Datum.

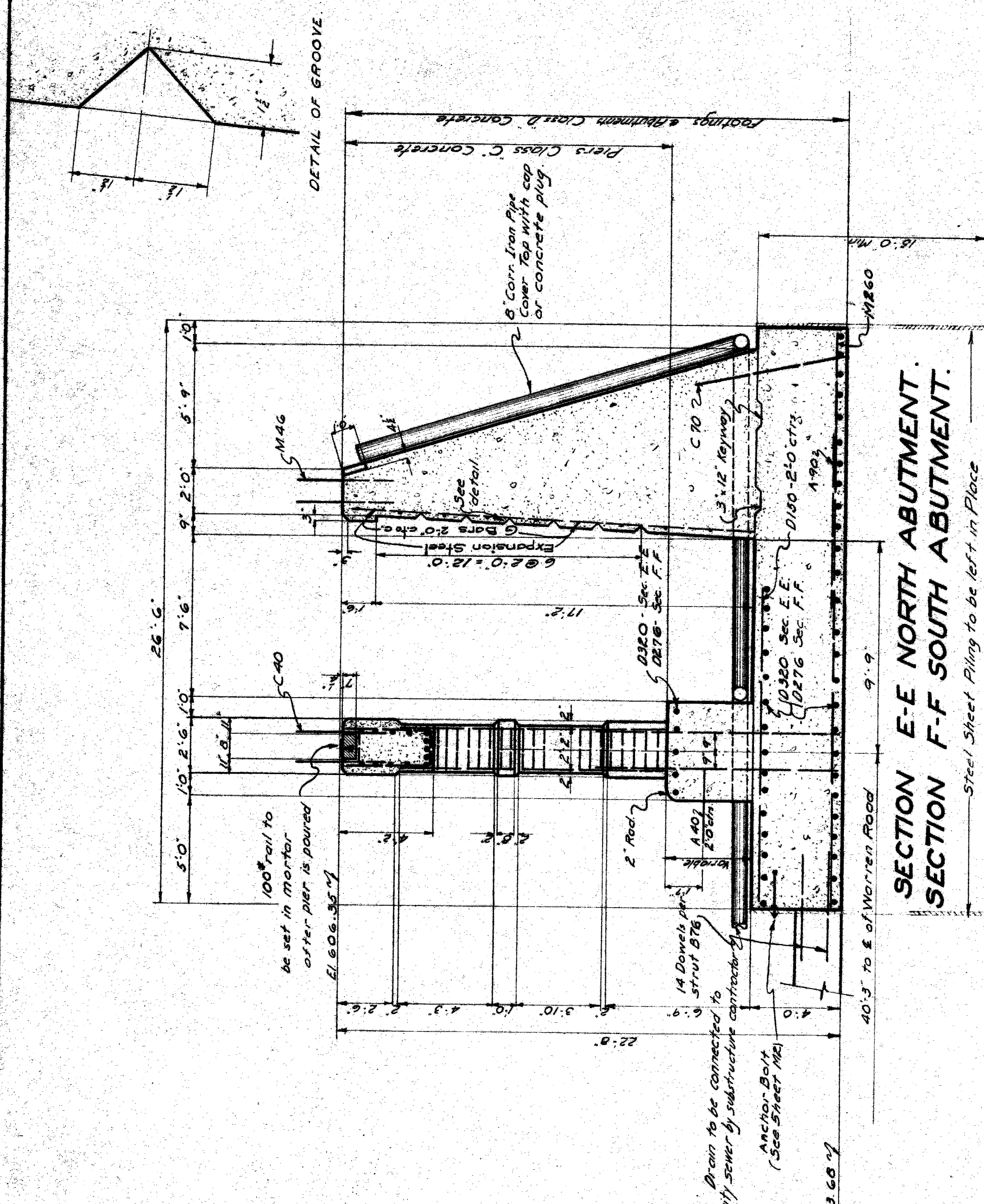
REVISIONS	
1	As per sheet M-4
2	As per sheet M-4
3	As per sheet M-4
4	As per sheet M-4
5	As per sheet M-4
6	As per sheet M-4
7	As per sheet M-4
8	As per sheet M-4
9	As per sheet M-4
10	As per sheet M-4

DETROIT TERMINAL R.R.  
 BRIDGE WARREN ROAD SUBWAY  
 FOOTING PLAN AND  
 ABUTMENT SECTIONS.  
 SCALE: 1/4" = 1'-0"  
 DRAWN BY: J.M.S. 5-4-13  
 CHECKED BY: J.E.K. 5-21-13  
 TRACED BY: J.A.R. 5-21-13  
 APPROVED: [Signature]  
 CHIEF ENGINEER  
 SHEET M-2 OF 5

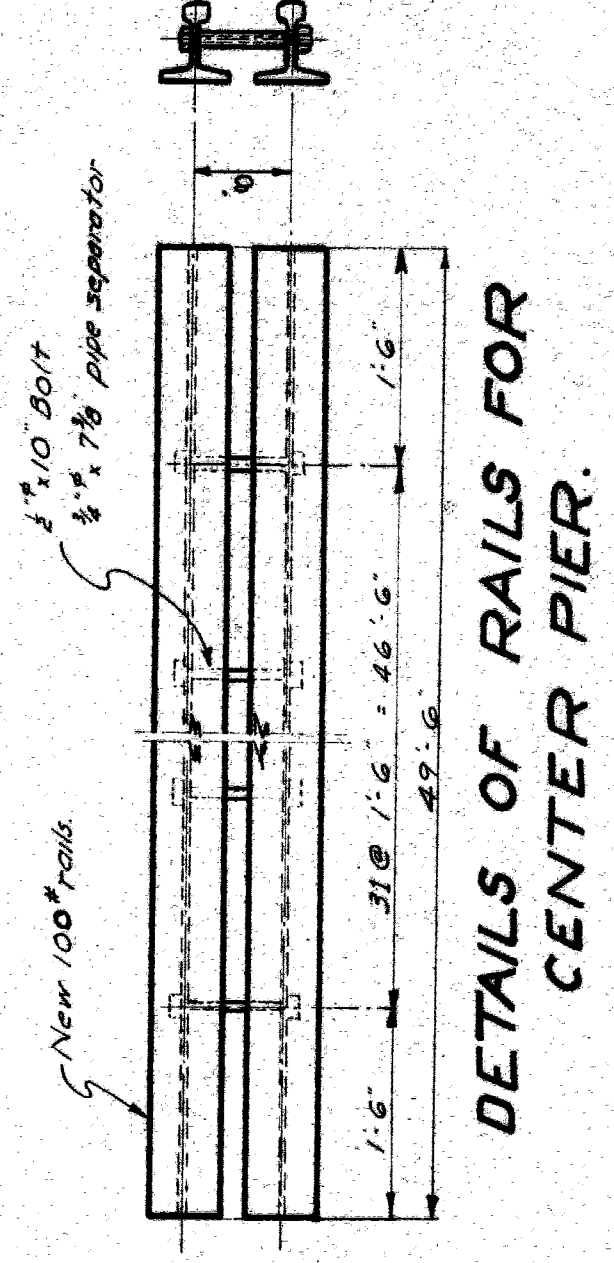
EXCAVATION AND FOOTING REINFORCING PLAN.

NOTE: Steel shown is for bottom of footing only for steel in top see sections.

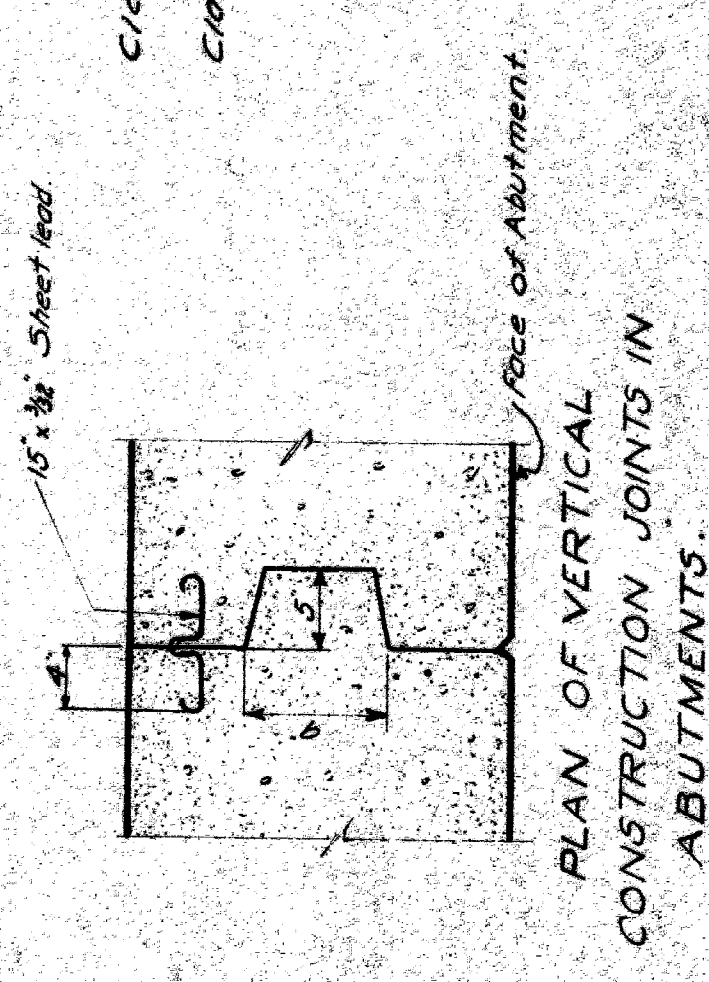




SECTION E-E NORTH ABUTMENT.  
SECTION F-F SOUTH ABUTMENT.



DETAILS OF RAILS FOR  
CENTER PIER.

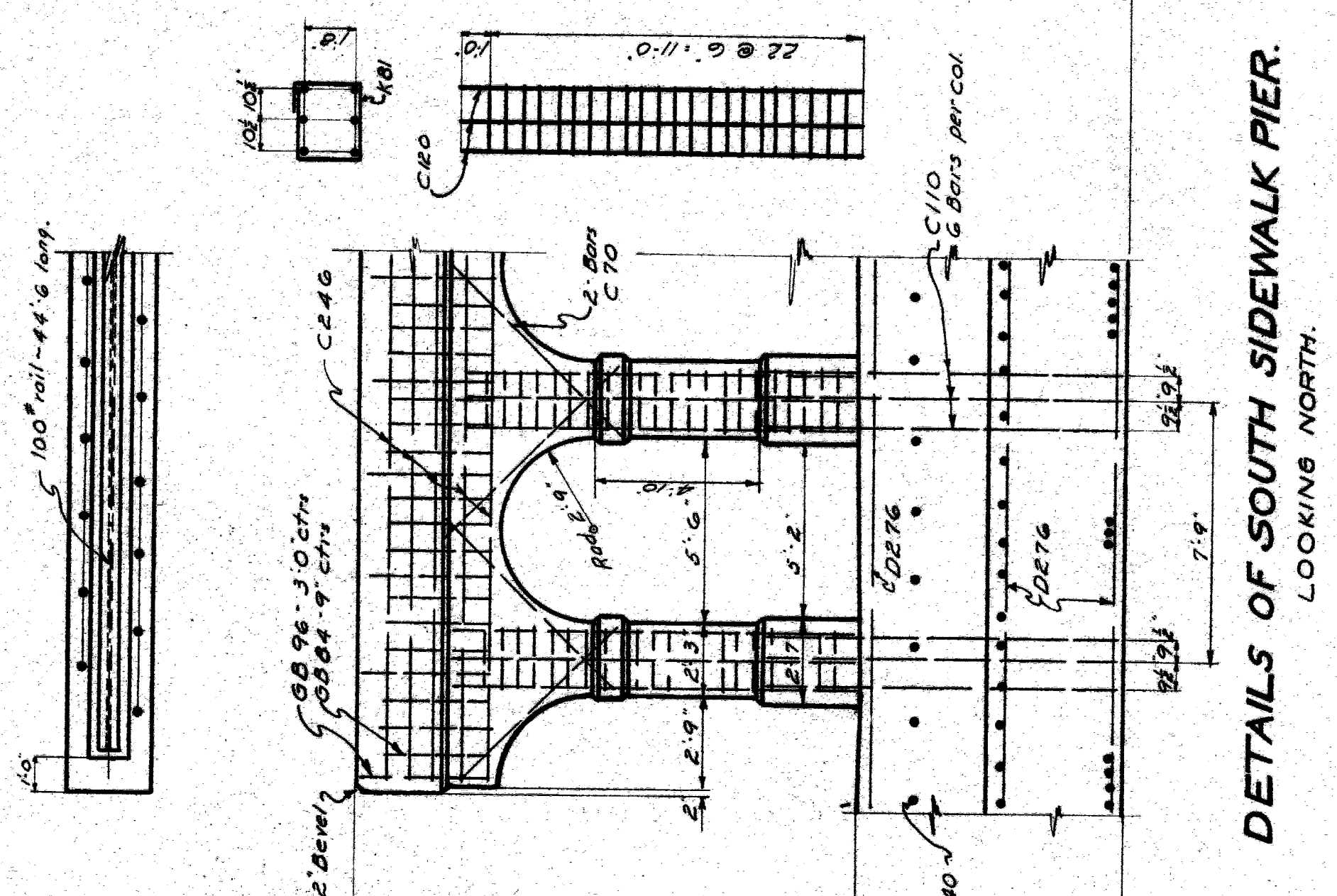


PLAN OF VERTICAL  
CONSTRUCTION JOINTS IN  
ABUTMENTS.

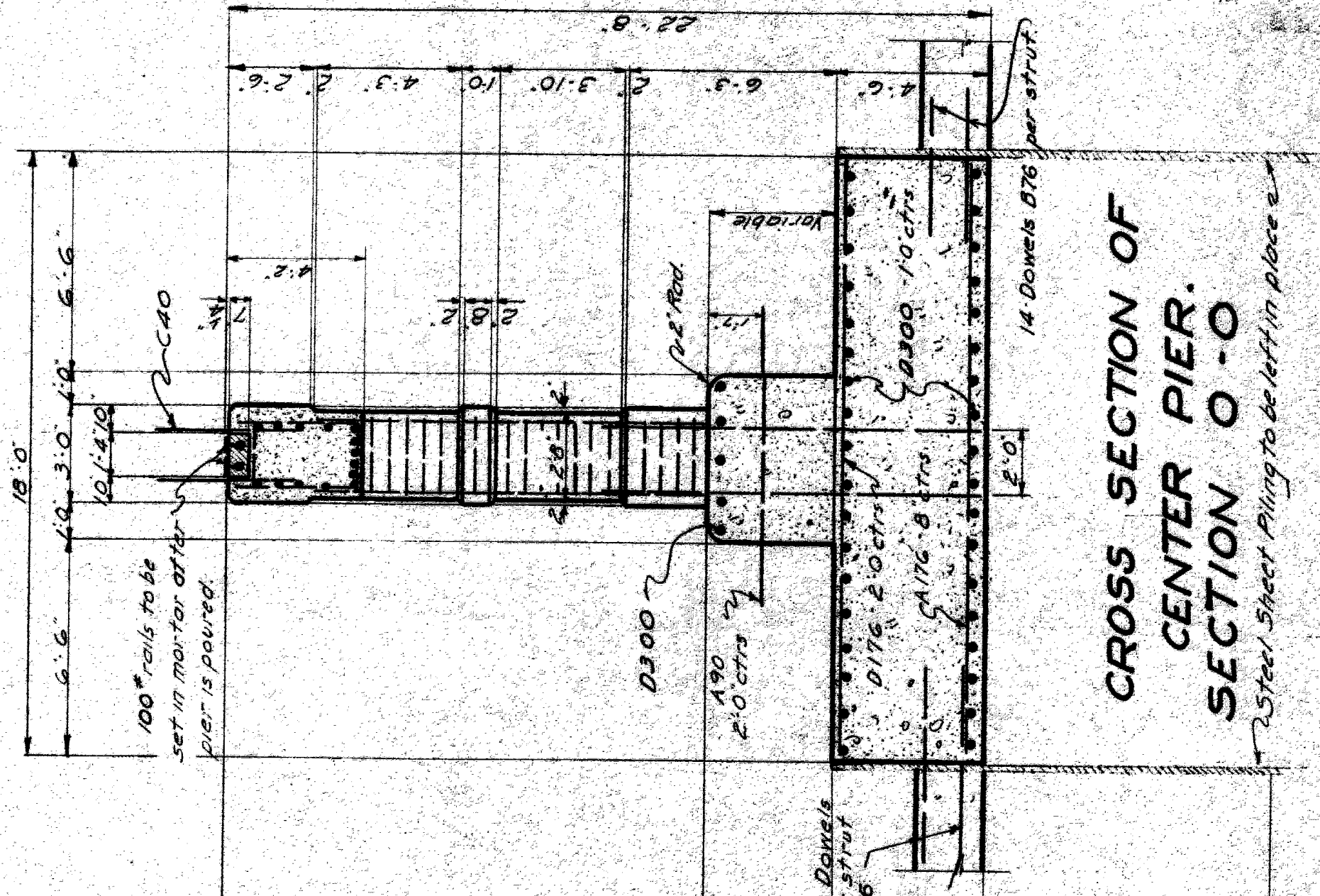
Class C concrete - 1 part cement, 2 parts sand, 4 parts rubble. Max. amount of water 6.25 gals. per bag of cement.  
Class D concrete - 1 part cement, 2 1/2 parts sand, 5 parts rubble. Max. amount of water 7.0 gals. per bag of cement.

Elevations shown refer to Detroit Water Board Datum  
For Notes & Specifications see Sheet No. 14

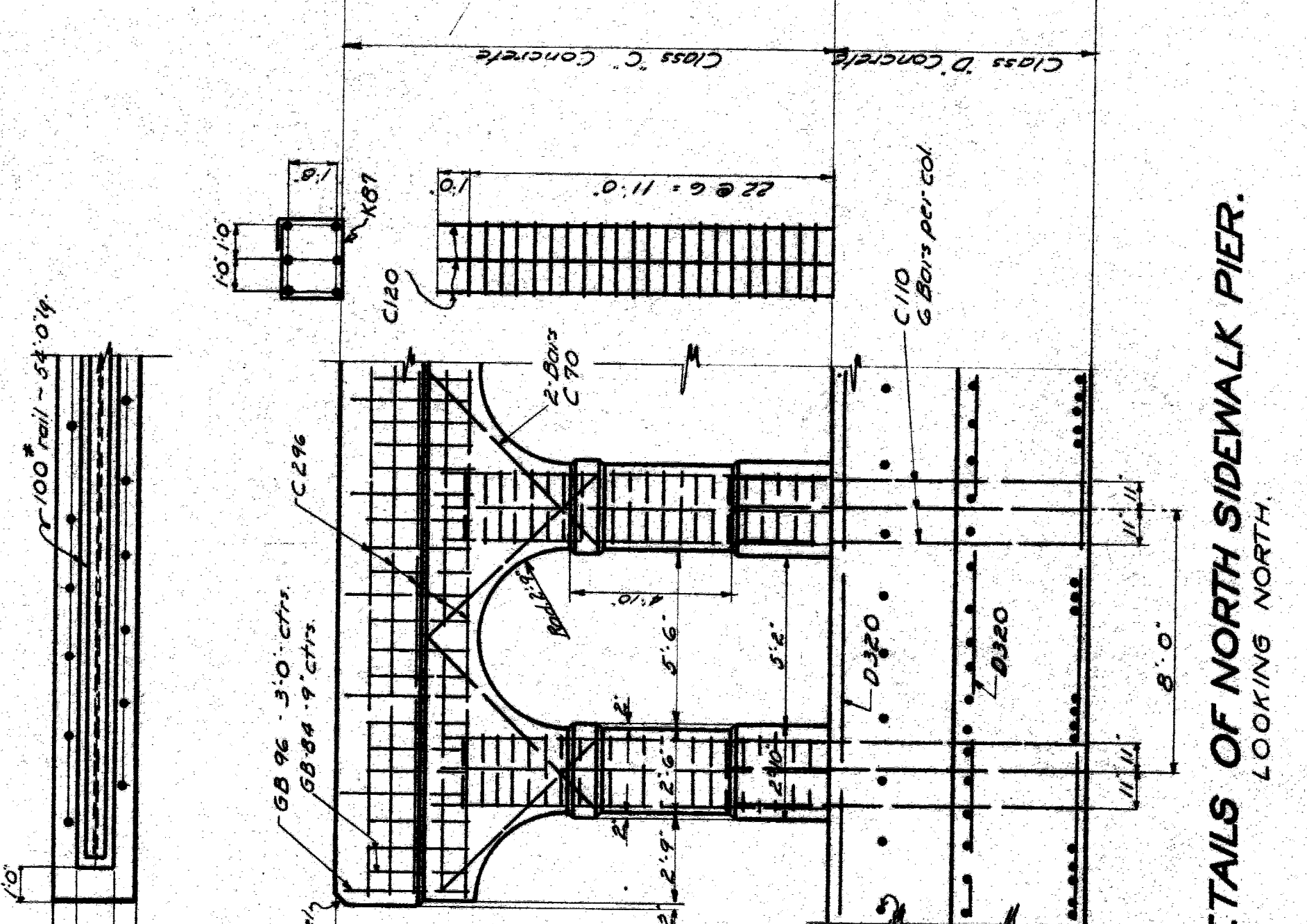
REVISIONS	DETROIT TERMINAL RR
Expanding Sheet added.	BRIDGE WARREN ROAD SUBWAY
	PIER DETAILS.
SCALE: 1" = 1'-0"	11 FOOT
APPROVED	Checked by J.E.S. 11-1-14
	Drawn by A.T. 11-1-14
	Sheet No. 14



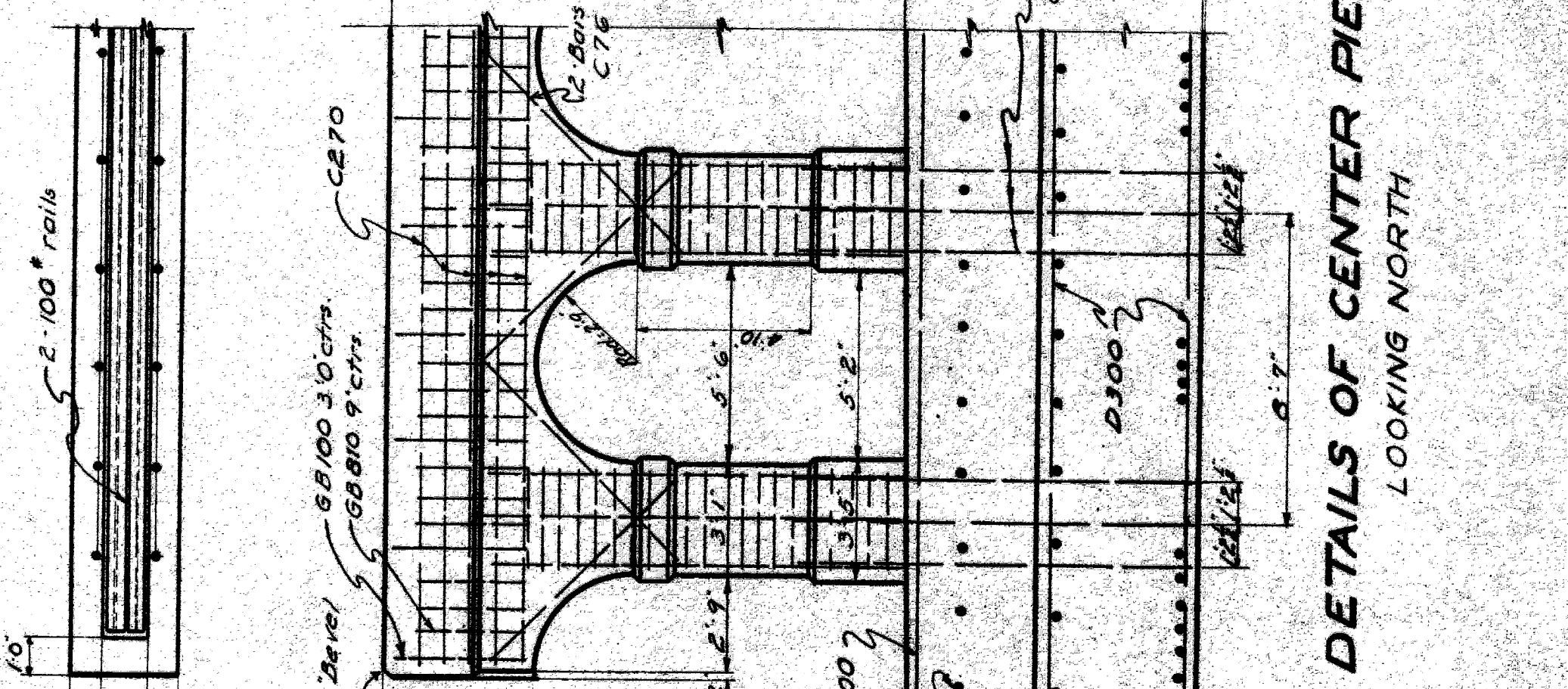
DETAILS OF NORTH SIDEWALK PIER.  
LOOKING NORTH.



CROSS SECTION OF  
CENTER PIER.  
SECTION O-O

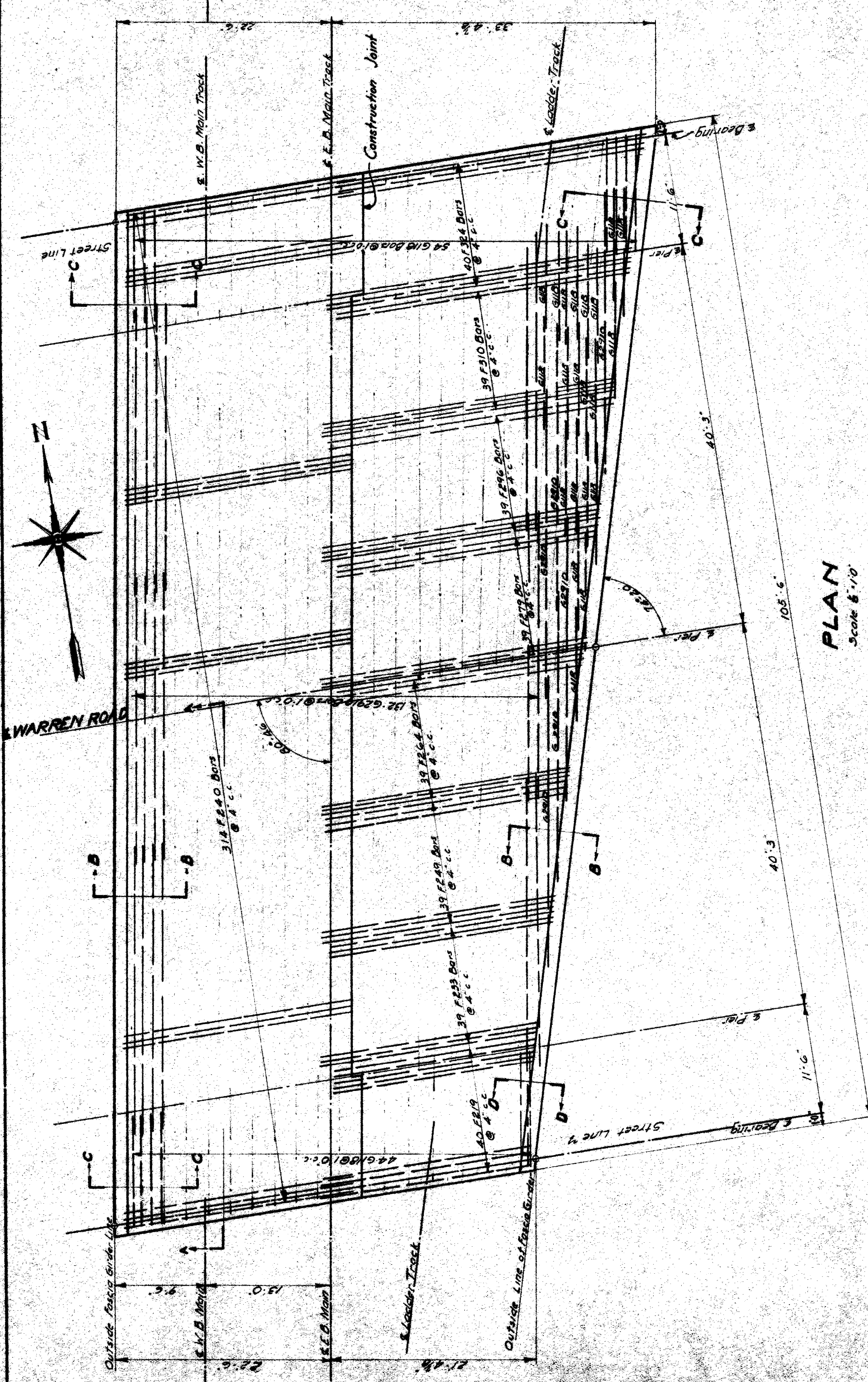


DETAILS OF SOUTH SIDEWALK PIER.  
LOOKING NORTH.

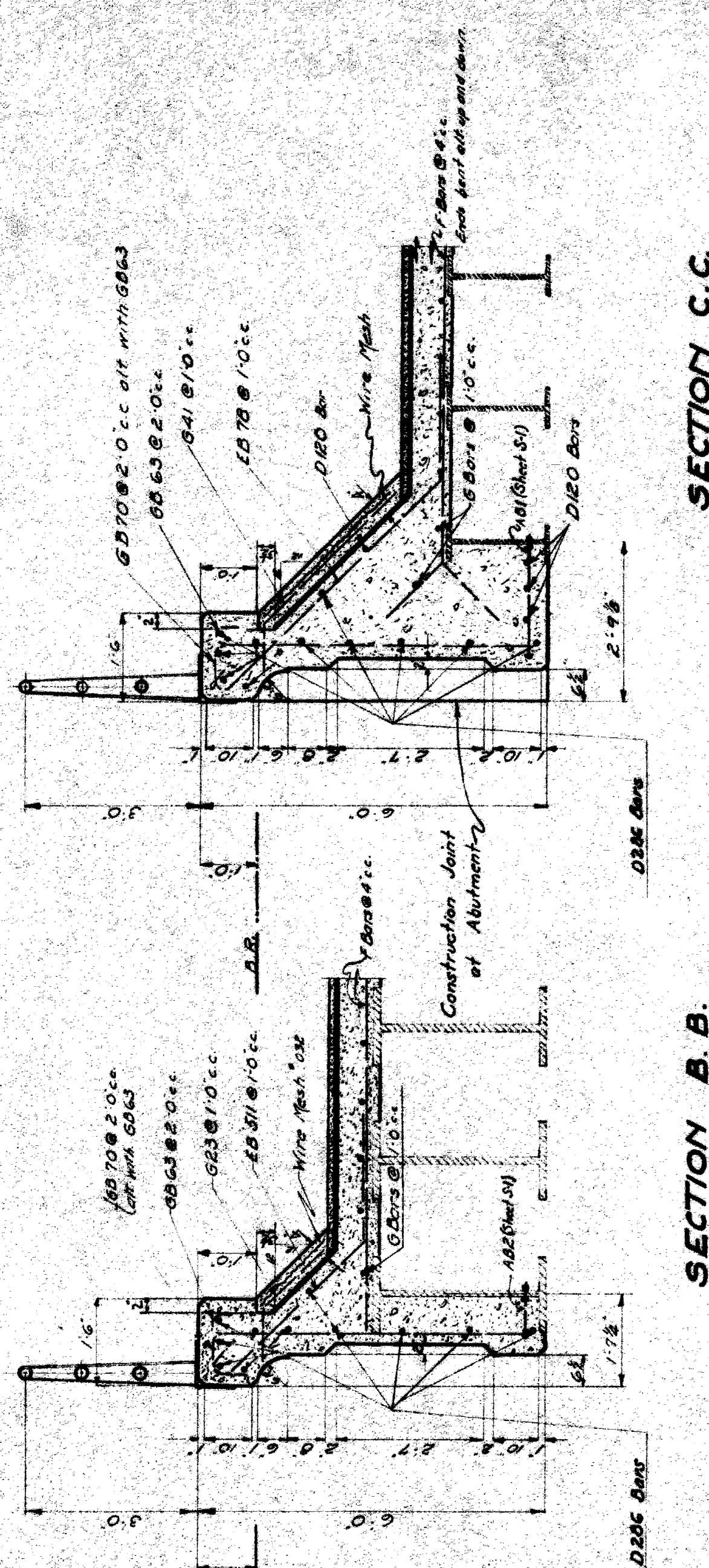


DETAILS OF ENDS OF  
CENTER PIER.  
LOOKING NORTH

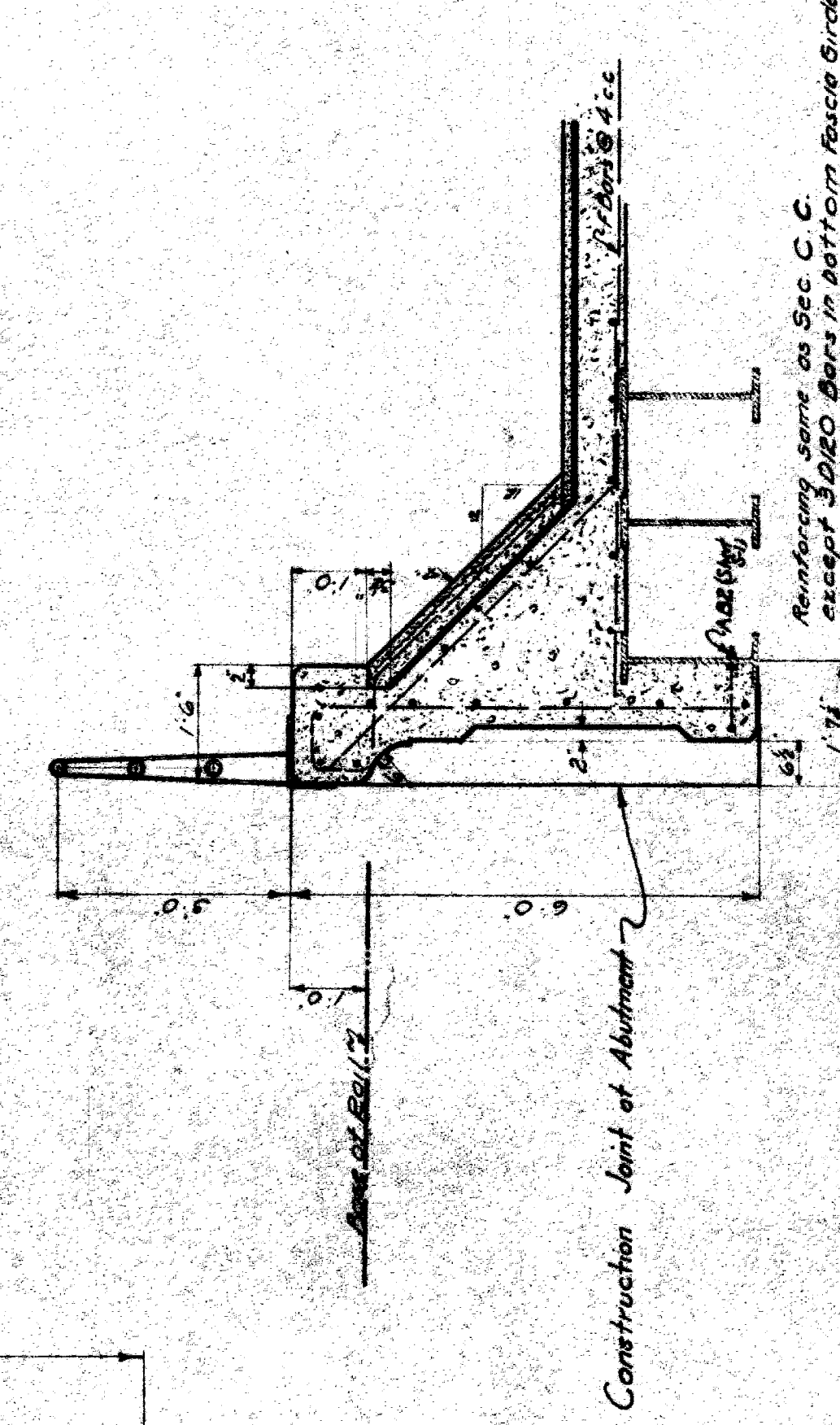




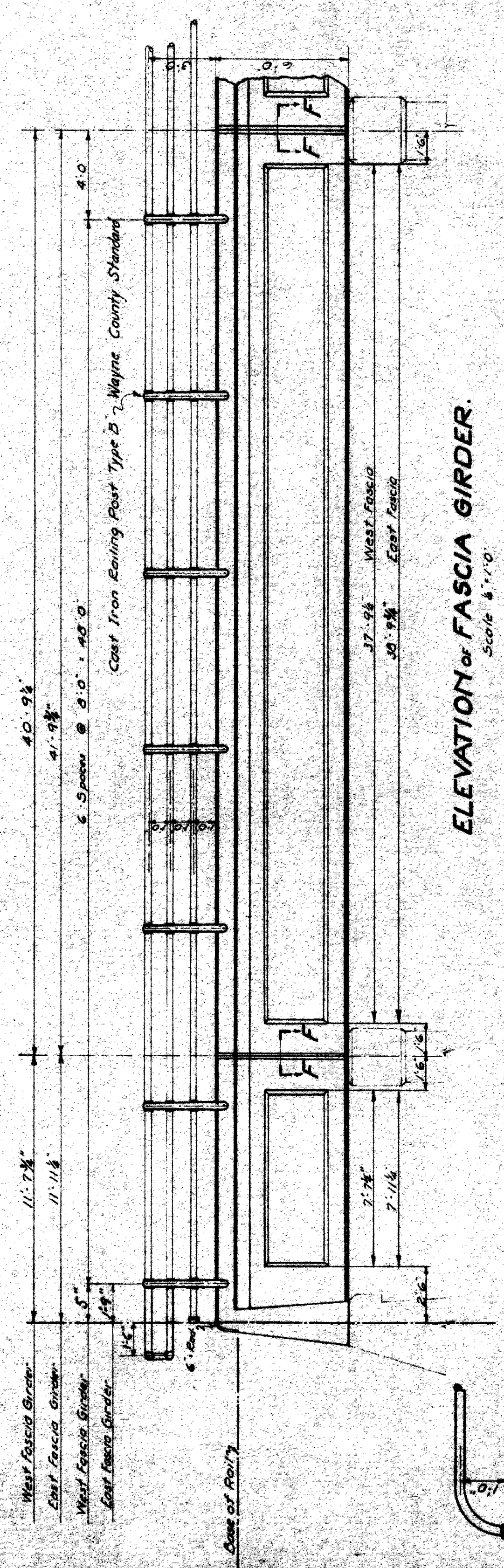
**PLAN**  
Scale 1/10



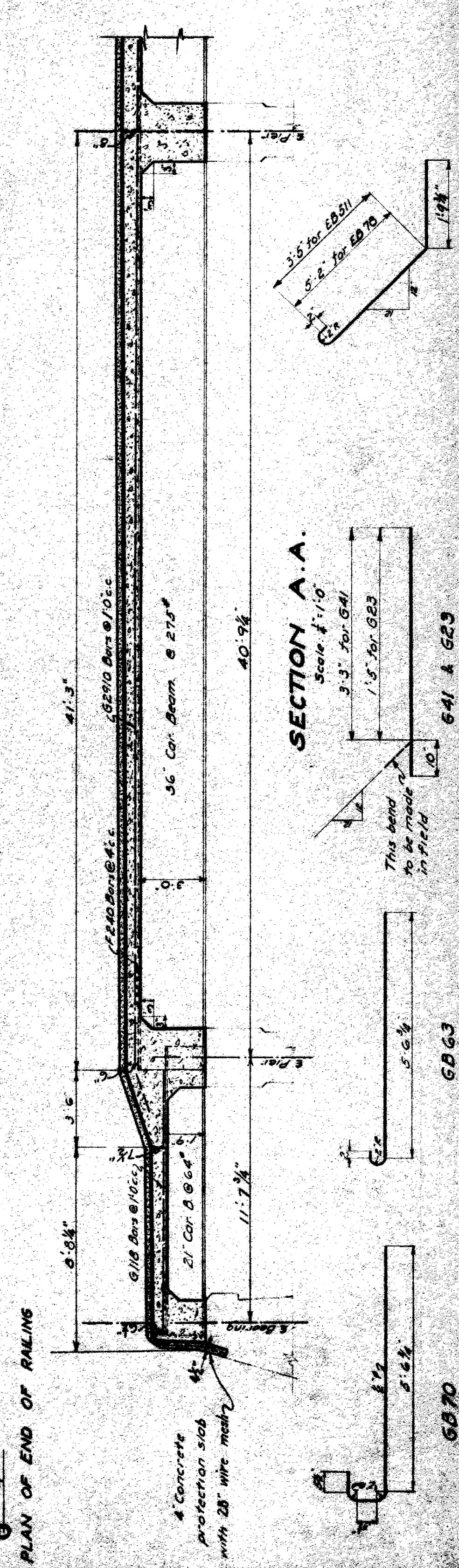
**SECTION B.B.**  
Scale 1/10



**SECTION D.D.**  
Scale 1/10



**ELEVATION OF FASCIA GIRDER.**  
Scale 1/10



**SECTION A.A.**  
Scale 1/10

Note: Bottom of floor slab to be erect with underside of top flange.

**QUANTITIES.**

CONCRETE	Class C	235
REINFORCING STEEL		2400
WATERPROOFING		5,600
WIRE MESH		150
HAND RAILING		220
C.I. Post		26
1/2" Pipe		600
End Caps		4
Elbows		8

**BILL OF REINFORCING BARS.**

MARK	NO	SIZE	LENGTH	LOCATION
60 70	106	1"	7'0"	Vertical in fascia girder
60 63	106	1/2"	6'3"	Diag.
60 57	173	3/4"	5'11"	Diag.
60 10	39	1/2"	7'0"	Transverse in floor-slab
64	31	1/2"	4'1"	Transverse in floor-slab
623	181	1/2"	2'3"	Longitudinal
6240	314	1/2"	24'0"	Longitudinal in fascia girder
6219	40	1/2"	21'9"	Longitudinal in fascia girder
6233	39	1/2"	23'3"	Longitudinal in fascia girder
6289	39	1/2"	24'9"	Longitudinal in fascia girder
6264	37	1/2"	26'4"	Longitudinal in fascia girder
6279	39	1/2"	27'4"	Longitudinal in fascia girder
6276	39	1/2"	29'5"	Longitudinal in fascia girder
6300	39	1/2"	31'0"	Longitudinal in fascia girder
6354	40	1/2"	32'4"	Longitudinal in fascia girder
6370	40	1/2"	29'10"	Longitudinal in fascia girder
6418	119	1/2"	11'9"	Longitudinal in fascia girder
6120	18	1/2"	12'0"	Longitudinal in fascia girder
6286	88	3/4"	28'6"	Longitudinal in fascia girder
				160 Linear Ft. (28' x 6") Mesh
				320 Linear Ft. (16' x 6") Mesh

Class C Concrete - 1 part cement, 2 parts sand, 4 parts of 3/4" to 1" Max. amount of water, 6.25 gal. per bag of cement.

For General Notes see Sheet M4

**REVISIONS**

NO.	DATE	DESCRIPTION

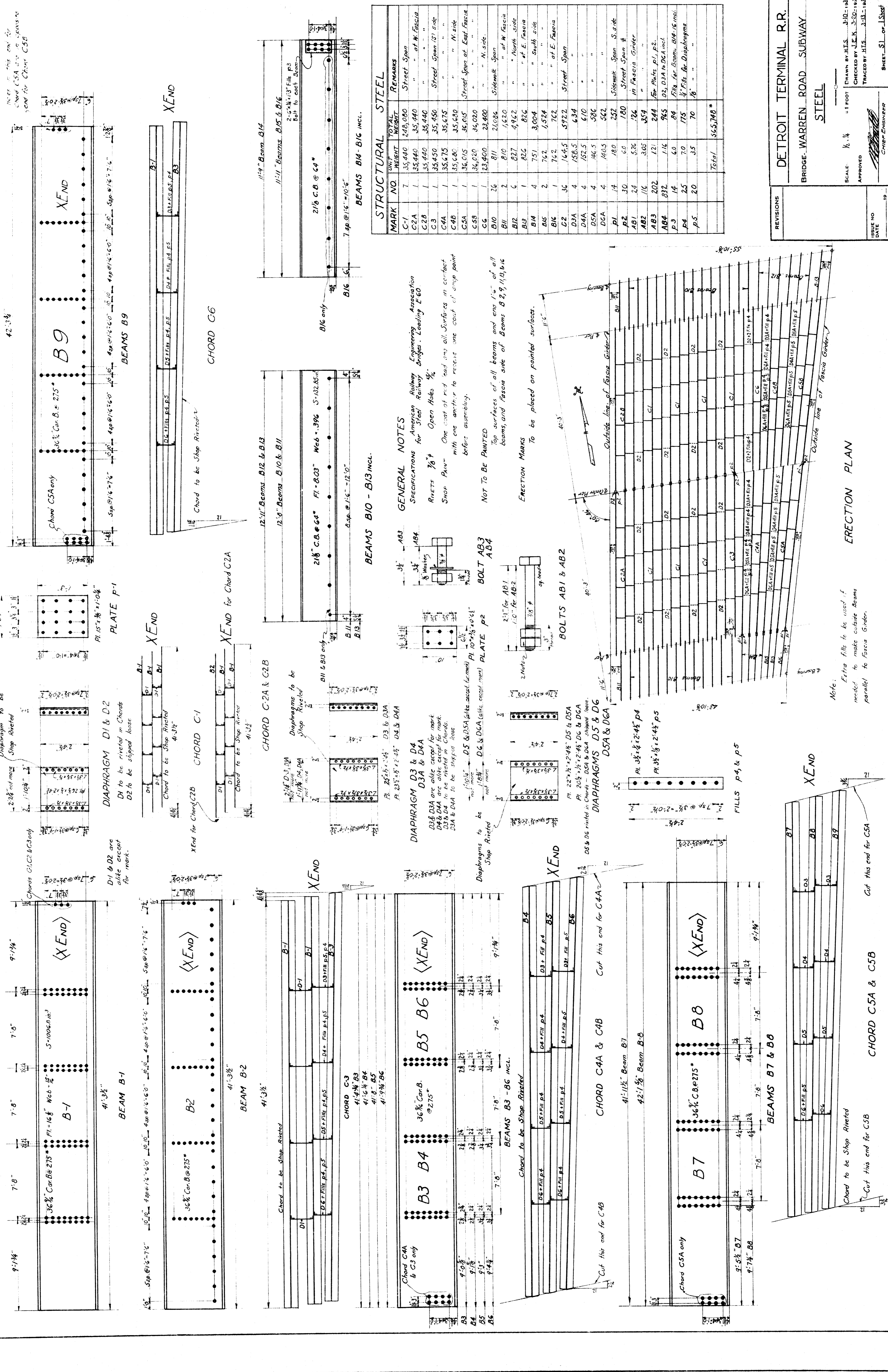
**DETROIT TERMINAL R.R.**  
**BRIDGE WARREN ROAD SUBWAY**  
**FLOOR.**

SCALE - As shown 1" = 1' - 0"  
DRAWN BY H.S. 3-1-1910.  
CHECKED BY J.E.K. 3-23-1910.  
TRACED BY J.T. 4-1-1910.  
APPROVED  
CHIEF ENGINEER

**SECTION F.F.**

EXHIBIT 14





MARK	NO.	WEIGHT	TOTAL WEIGHT	REMARKS
C-1	7	35,440	248,080	Street Span
C-2A	1	35,440	35,440	" " of W. Fascia
C-3	1	35,440	35,440	Street Span (S) side
C-4A	1	35,430	35,430	" " N. side
C-4B	1	35,675	35,675	Street Span of East Fascia
C-5A	1	36,015	36,015	" " N. side
C-5B	1	36,020	36,020	" " N. side
C-6	1	23,400	23,400	Sidewalk Span
B-10	2	811	1,622	" " of W. Fascia
B-11	2	810	1,620	" " North side
B-12	2	827	1,654	" " South side
B-13	1	826	826	" " of E. Fascia
B-14	4	751	3,004	" " South side
B-15	2	742	1,484	" " of E. Fascia
B-16	1	742	742	Street Span
D-2	36	1645	59,220	" " of E. Fascia
D-3A	4	158.5	634	" " "
D-4A	4	152.5	610	" " "
D-5A	4	146.5	586	" " "
D-6A	4	140.5	562	" " "
B-1	14	180	2,520	Sidewalk Span S. side
B-2	30	60	1,800	Street Span #
A-1	16	526	8,416	in Fascia Grader
A-2	16	305	4,880	" " "
A-3	202	121	24,442	For Plots p. 1, p. 2.
A-4	14	60	840	D2, D3A to DCA incl.
A-5	14	60	840	7/16 dia. Beams B14-16 incl.
A-6	25	70	1,750	1/2" Fillet for Diaphragms
A-7	20	35	700	" " "
	Total		565,748*	

**GENERAL NOTES**

Specifications American Railway Engineering Association for Steel Railway Bridges, Loading E 60.

RIVETS 7/8" Open Holes 9/16"

Shop Paint - One coat of red lead and any oil surfaces in contact with one another to receive one coat of shop paint before assembly.

**NOT TO BE PAINTED** - Top surfaces of all beams and end 1/2" of all beams, and fascia side of Beams B 2, 9, 11, 13, 16

**ERECTOR MARKS** - To be placed on painted surfaces.

**Outside line of Fascia Girders**

REVISIONS	DATE	BY	DESCRIPTION
1			
2			
3			
4			
5			
6			
7			
8			
9			
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11			
12			
13			
14			
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16			
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19			

**DETROIT TERMINAL R.R.**

**BRIDGE WARREN ROAD SUBWAY**

**STEEL**

SCALE: 1/4" = 1 FOOT

DRAWN BY H.J.S. 3-10-1930

CHECKED BY J.E.N. 3-10-1930

TRACED BY H.J.S. 3-13-1930

APPROVED: [Signature]

ISSUE NO. 19

DATE

SHEET 51 of 158

**ERECTOR PLAN**

Note: Extra fills to be used if needed to make cube beams parallel to fascia girders.

Cut this end for C5A

Cut this end for C5B

Cut this end for C5A

Cut this end for C5B