

**PLAN (TYPE B')**  
 CATCH BASINS

**SECTION (TYPE B')**  
 CATCH BASINS

**SECTION OF MANHOLE FOR BRICK SEWER**

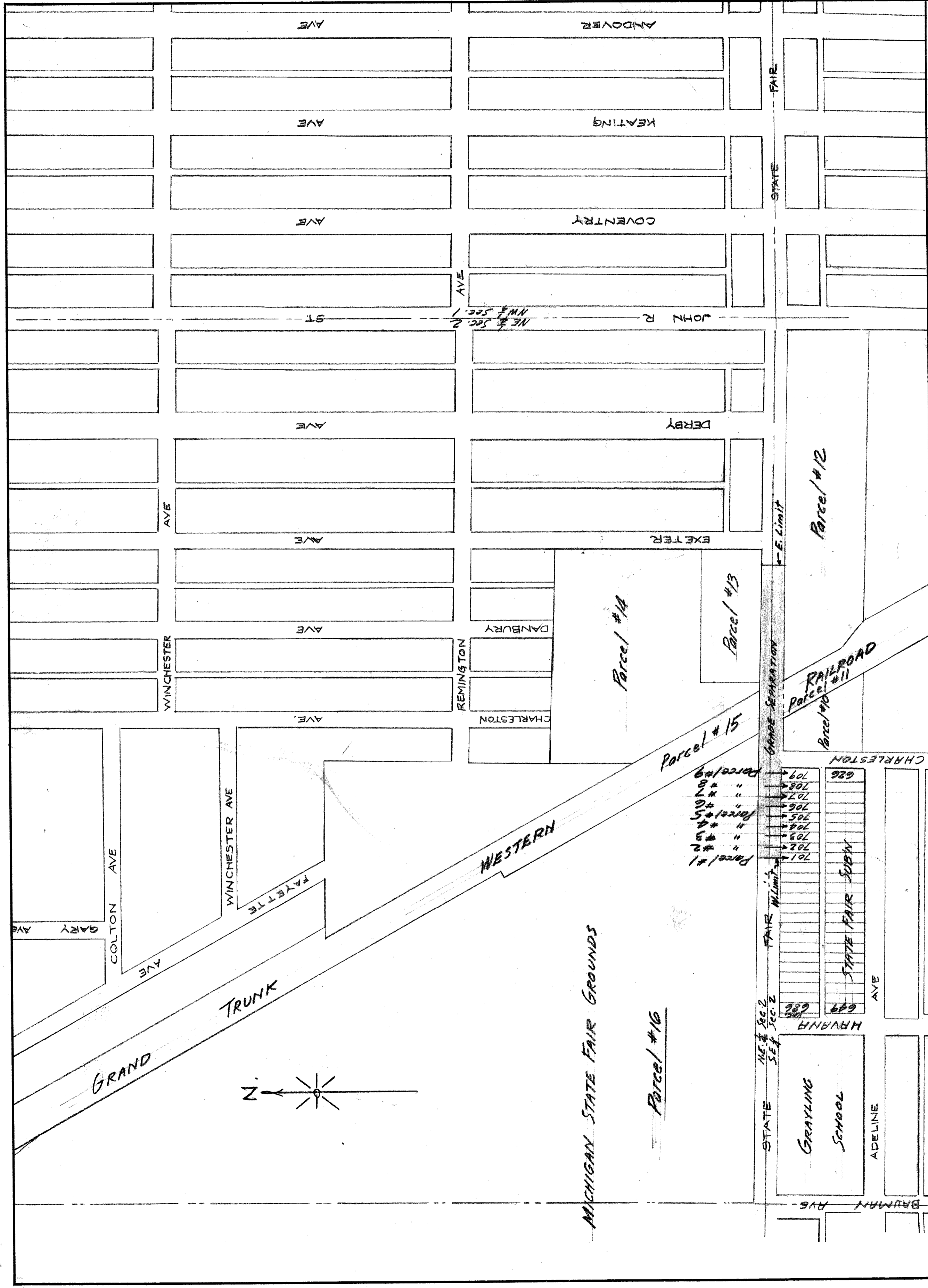
REVISED	DATE	BY	REVISIONS

DESIGNED BY: J. L. ...  
 DRAWN BY: NVAN.  
 TRACED BY: NVAN.  
 CHECKED BY: J. L. ...

APPROVED: *(Signature)*  
 M.H. 16+40 & SEWER IN 1/2 OF ST. 16+50-18+00 & SEWER IN 1/2 OF ST. 15' No. of 1/2 of ST.

**LIST OF MATERIALS**  
 TOTAL LENGTH OF SEWER = 2940 FT. IN O.C.  
 " 2-8" X 40' EGG BARS = 1026 FT.  
 " " " 1/3" PIPE = 424 FT.  
 " " " 1/3" PIPE = 450 FT.  
 " " " 1/3" PIPE = 440 FT.  
 MANHOLE STANDARDS INCLUDING 80 COVERS  
 10 CATCH BASINS, TYPES (A) & (B)  
 1- offset M.H. (M.H. 16)

68.143  
4/15/43



DRAWING NO. C-328-2

DATE 4-15-43

SCALE 1" = 200'

PG. NO.

BOOK NO.

**SKETCH MAP SHOWING  
PARCELS OF PROPERTY AFFECTED  
BY STATE FAIR GRADE SEPARATION**

**CITY OF DETROIT  
DEPARTMENT OF PUBLIC WORKS  
CITY ENGINEERS OFFICE  
BUREAU OF**

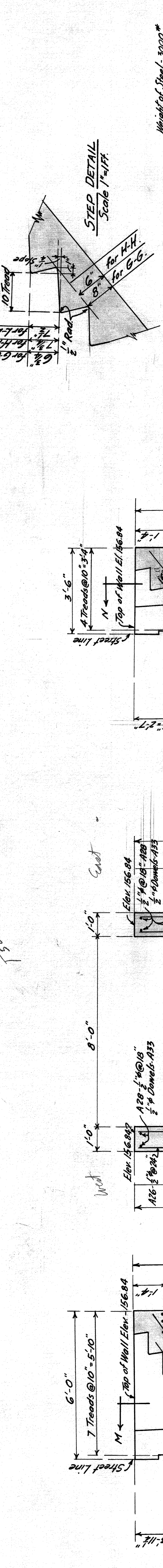
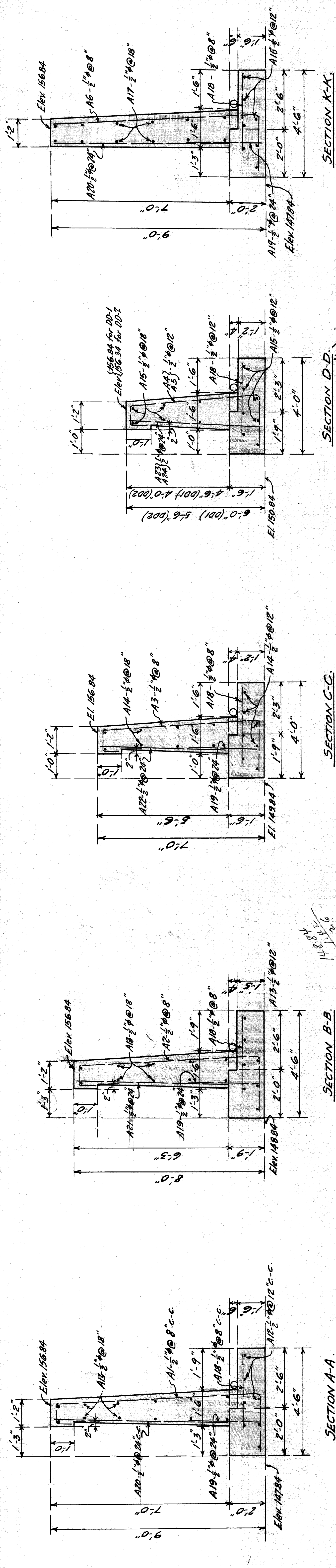
**CONTRACT NO.**

**APPROVED:**  
*J. B. Burt*  
**ASSISTANT CITY ENGINEER**

**DESIGNED BY**  
**DRAWN BY** G.S.  
**TRACED BY**  
**CHECKED BY** J.C.B.

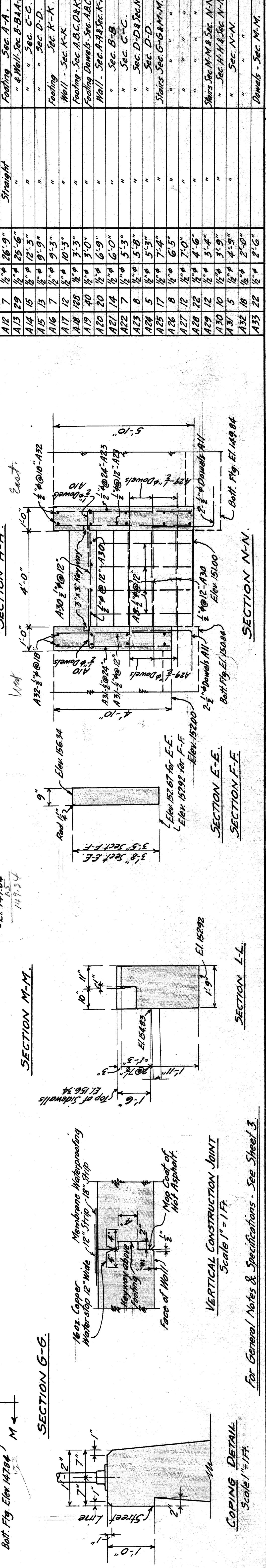
DESCRIPTION	REV.	CD.	APR.	DATE

File XU99-2



Weight of Steel - 3000\*

MARK	NO	SIZE	LENGTH	DESCRIPTION	LOCATION
A1	40	1/2"	12'-5"	2'-3"	Footing Sec. A-A
A2	40	1/2"	11'-5"	2'-3"	" " " " " "
A3	20	1/2"	10'-2"	2'-0"	" " " " " "
A4	1	1/2"	9'-3"	2'-0"	" " " " " "
A5	10	1/2"	8'-9"	2'-0"	" " " " " "
A6	14	1/2"	10'-1"	2'-3"	" " " " " "
A7	8	1/2"	4'-8"	3'-0"	Stairs Sec. G-G
A8	4	1/2"	4'-5"	2'-9"	" " " " " "
A9	8	3/4"	4'-0"	3'-1/2"	Stair Beam Downw. Sec. G-G
A10	18	1/2"	3'-3"	2'-4"	Stair Downw. Sec. M-M
A11	8	1/2"	4'-3"	2'-7"	Footing Sec. M-M
A12	7	1/2"	26'-9"		Footing Sec. A-A
A13	29	1/2"	25'-6"		" " " " " "
A14	15	1/2"	12'-3"		" " " " " "
A15	13	1/2"	9'-9"		" " " " " "
A16	7	1/2"	9'-3"		Footing Sec. K-K
A17	12	1/2"	10'-3"		" " " " " "
A18	128	1/2"	3'-0"		Footing Sec. A-B-C-D-E-K
A19	40	1/2"	3'-0"		Footing Downw. Sec. A-B-C-E-K
A20	20	1/2"	6'-9"		" " " " " "
A21	14	1/2"	6'-0"		" " " " " "
A22	7	1/2"	5'-3"		" " " " " "
A23	8	1/2"	5'-8"		" " " " " "
A24	5	1/2"	5'-3"		" " " " " "
A25	17	1/2"	7'-4"		Stairs Sec. G-G
A26	8	1/2"	6'-5"		" " " " " "
A27	12	1/2"	7'-0"		" " " " " "
A28	22	1/2"	4'-6"		" " " " " "
A29	12	1/2"	3'-4"		Stairs Sec. M-M
A30	10	1/2"	3'-9"		" " " " " "
A31	5	1/2"	4'-9"		" " " " " "
A32	18	1/2"	2'-0"		" " " " " "
A33	22	1/2"	2'-6"		Downw. Sec. M-M



STATE FAIR AVENUE G. T. W. R. GRADE SEPARATION  
RETAINING WALL - SOUTH SIDE - WEST APPROACH  
TYPICAL SECTIONS & DETAILS

SCALE 1/2" = 1'-0" UNLESS NOTED OTHERWISE

APPROVED: *S. J. Barton*  
ENGINEER OF PUBLIC STRUCTURES

DESIGNED BY: A.N. Berarobacci  
DRAWN BY: A.N. Berarobacci  
TRACED BY: J.L. Barton  
CHECKED BY: J.L. Barton

REVISIONS

NO. DESCRIPTION DATE

CITY ENGINEER

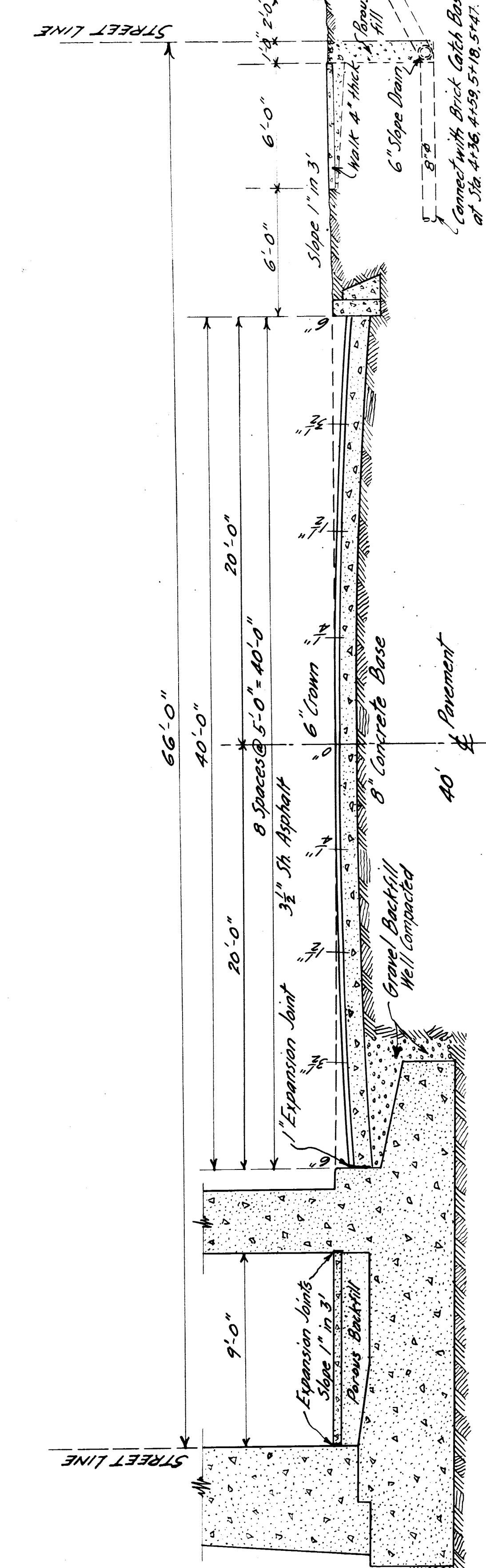
CITY OF DETROIT  
DEPARTMENT OF PUBLIC WORKS  
CITY ENGINEER OFFICE  
BUREAU OF PUBLIC STRUCTURES

SHEET 6 OF 6 SHEETS  
CONTRACT  
DRWG NO.

AUG. 8, 1940

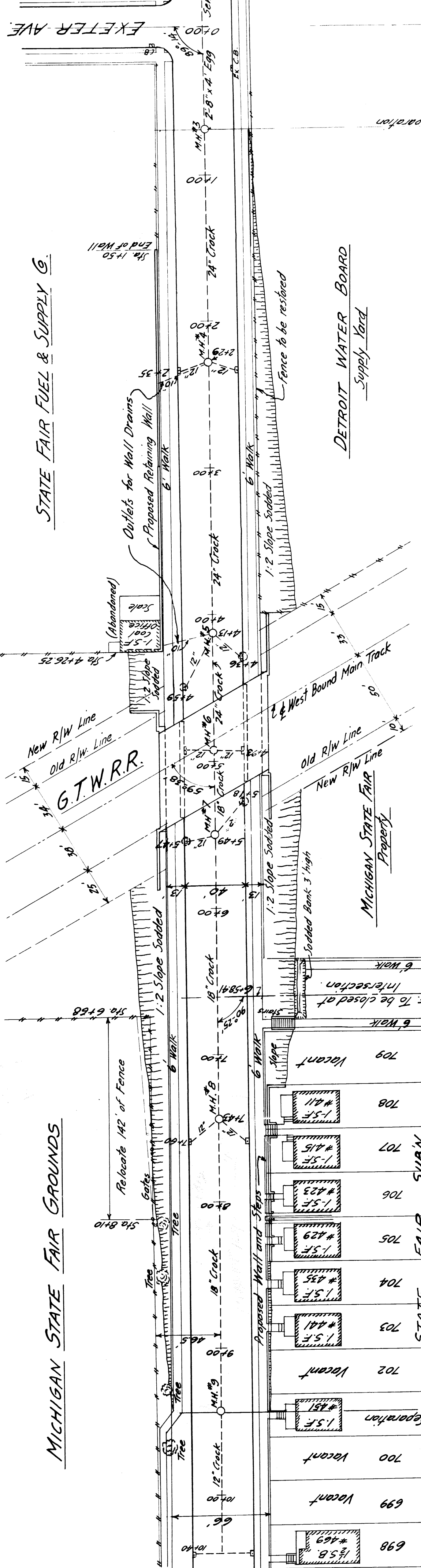
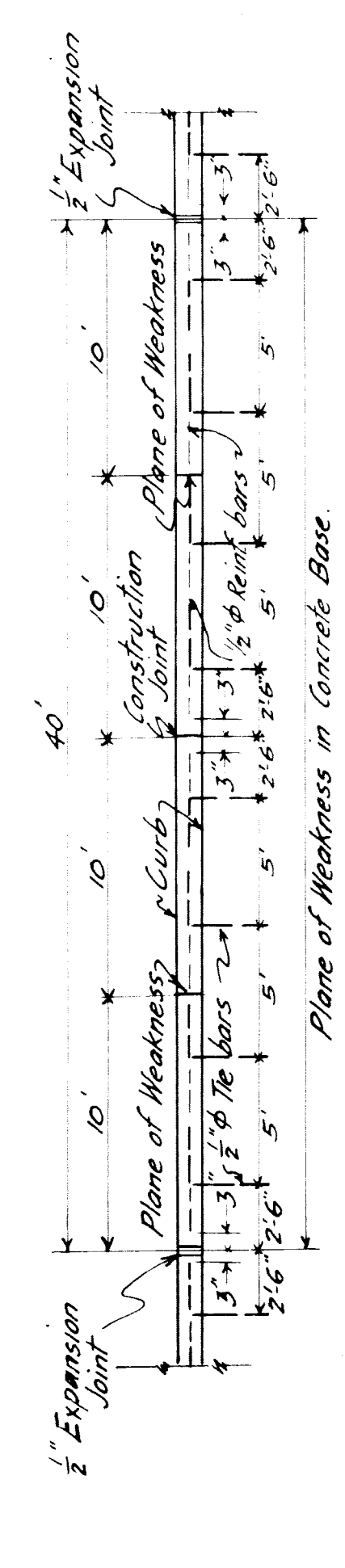
File XU99-3

**QUANTITIES FOR SLOPE DRAINS**  
1550 L.F. - 6" to V-Crack } To be laid in D.P.W.  
150 L.F. - 8" to 1" Crack } Near Div. Forces.  
600 C.Y. - Porous Fill.

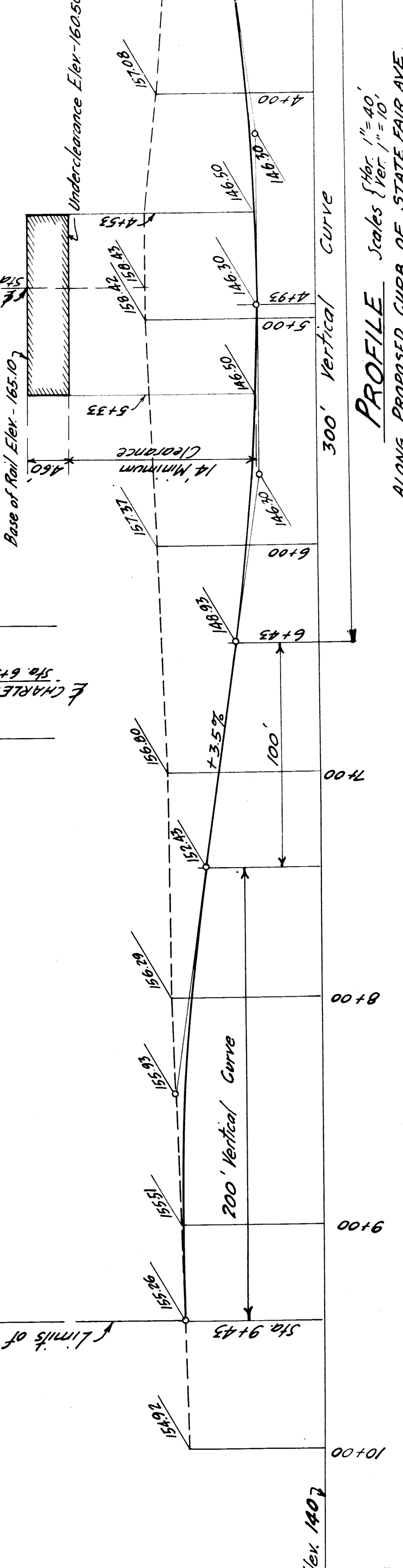


**TRANSVERSE PLANE OF WEAKNESS JOINT.**  
SCALE 1" = 1'-0"

These joints to be placed in concrete base only at approximately 40' equal intervals between. The transverse joint is to be formed immediately following the placing of concrete and shall be at right angles to the center line of the street. After the concrete has hardened sufficiently the form is to be removed and the edges are to be rounded to a 3/8" radius. No filler is to be placed in this joint.



PLAN Scale 1/4" = 40'



**DETAIL SHOWING CONCRETE CURB**  
Scale 1/2" = 1'-0"

Area behind curb to be back-filled with lean concrete after forms are removed.  
Concrete Mix { Curb 1:2:3  
Backing 1:3:6.

**ESTIMATE OF PAVING QUANTITIES.**

ITEM	QUANTITY
Earth Excavation	19,564 C.Y.
Removing Old Pavement	4,000 S.Y.
Regrading Old Conc. Sidewalk	8,744 Sq.Y.
New 8" Concrete Sidewalk	3,885 S.Y.
New 4" Concrete Sidewalk	11,500 S.Y.
6" Concrete Straight Curb	1,615 L.F.
3/4" Asphalt Top	3,885 S.Y.
Seeding on Embankments	1,500 S.Y.
Reinforcing Bars	40,320#

NOTE: For Sewers, Manholes and Catch Basins Quantities. See Drainage Structures Plan.

CITY OF DETROIT  
DEPARTMENT OF PUBLIC WORKS  
CITY ENGINEER OFFICE  
BUREAU OF PUBLIC STRUCTURES

STATE FAIR AVENUE - G.T.W.R.R.  
GRADE SEPARATION  
PAVEMENT PLAN

APPROVED: [Signature]  
DESIGNED BY: J.L. BARTON  
DRAWN BY: J.L. BARTON  
TRACED BY: J.L. BARTON  
CHECKED BY: R. Schullhof

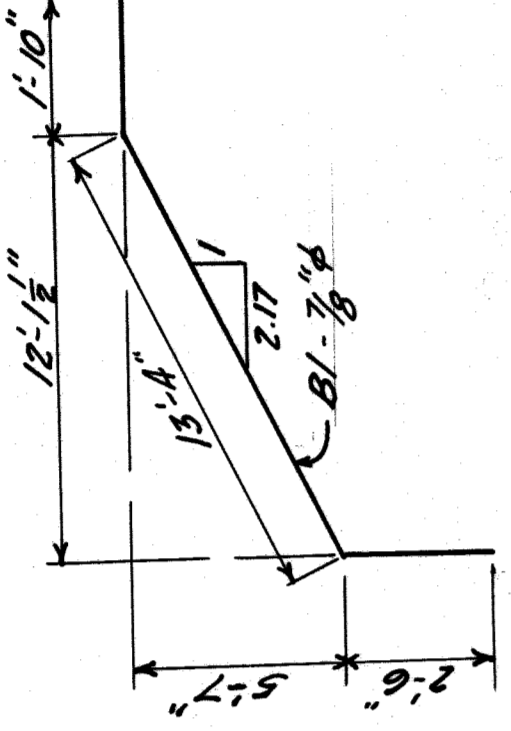
SCALE AS INDICATED  
APRIL 15, 1940

NO.	DESCRIPTION	DATE
A	REVISIONS	

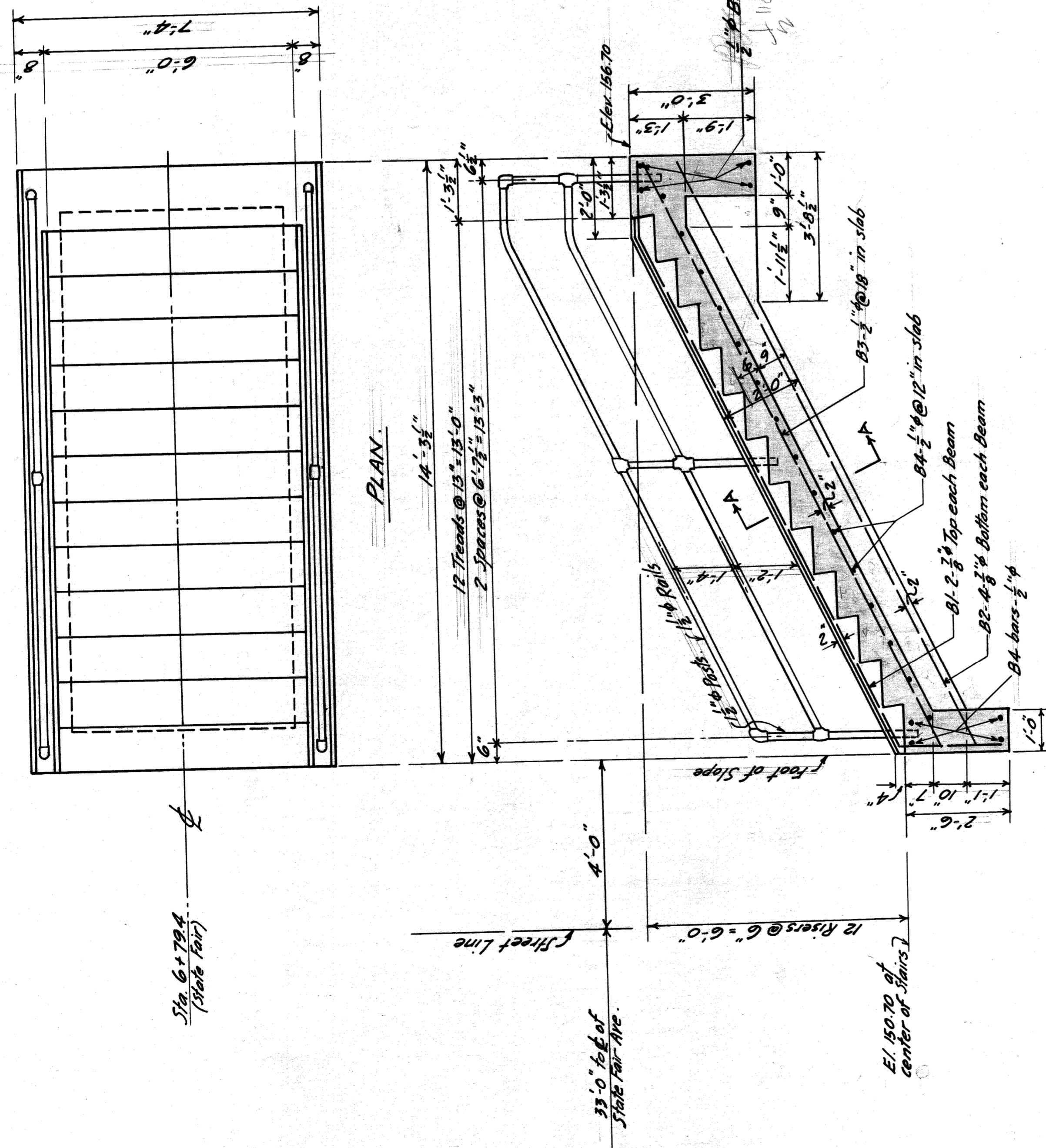
SHEET 1 OF 1 SHEETS  
CONTRACT  
DRWG NO.

300 14-20158 RAE 144

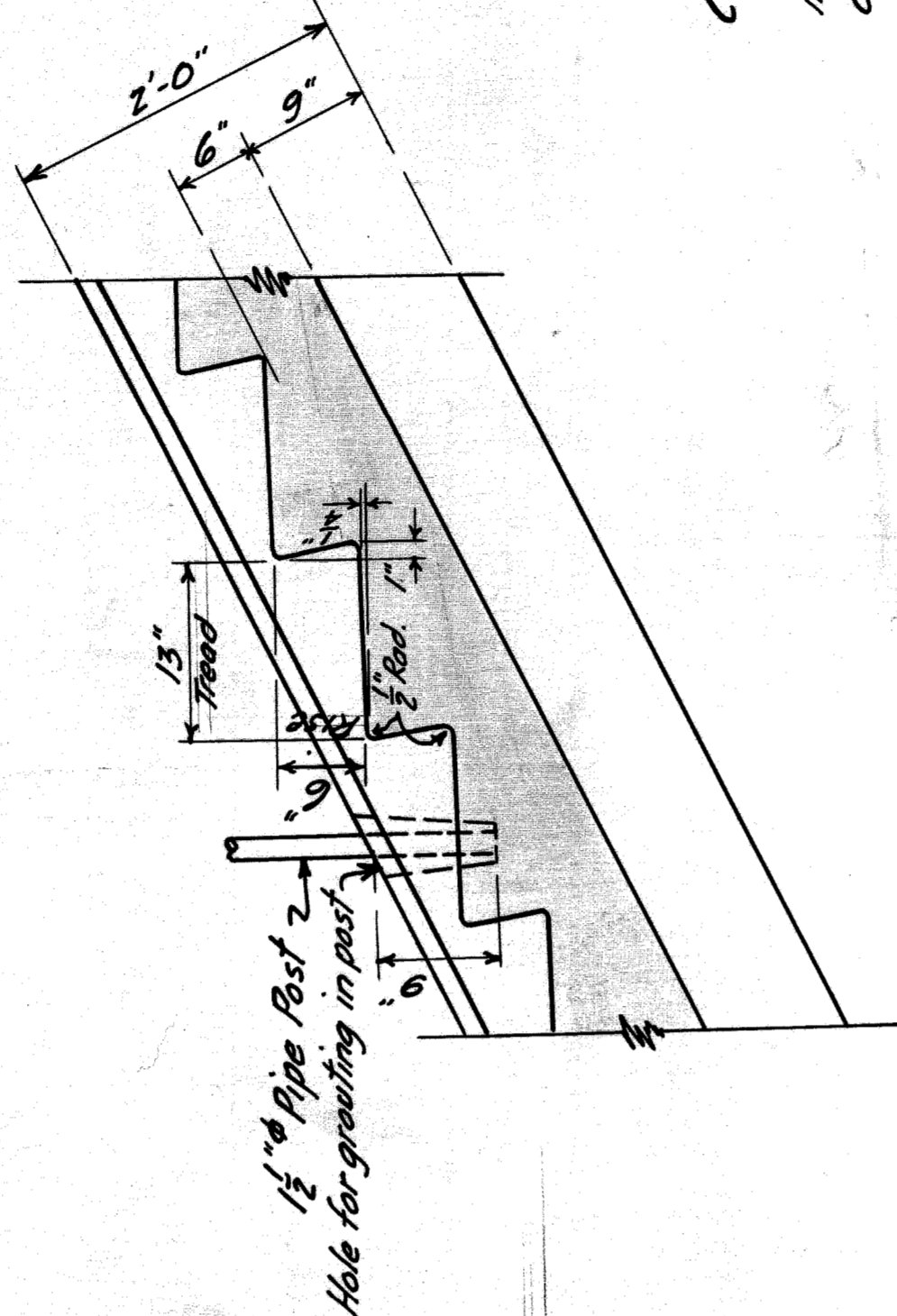
MARK	NO.	SIZE	LENGTH	REMARKS
B1	4	$\frac{3}{8}$ " $\phi$	17'-8"	Bent
B2	8	$\frac{3}{8}$ " $\phi$	15'-5"	Straight
B3	5	$\frac{1}{2}$ " $\phi$	15'-5"	Straight
B4	23	$\frac{1}{2}$ " $\phi$	7'-0"	Straight



BAR BENDING DETAIL  
No Scale



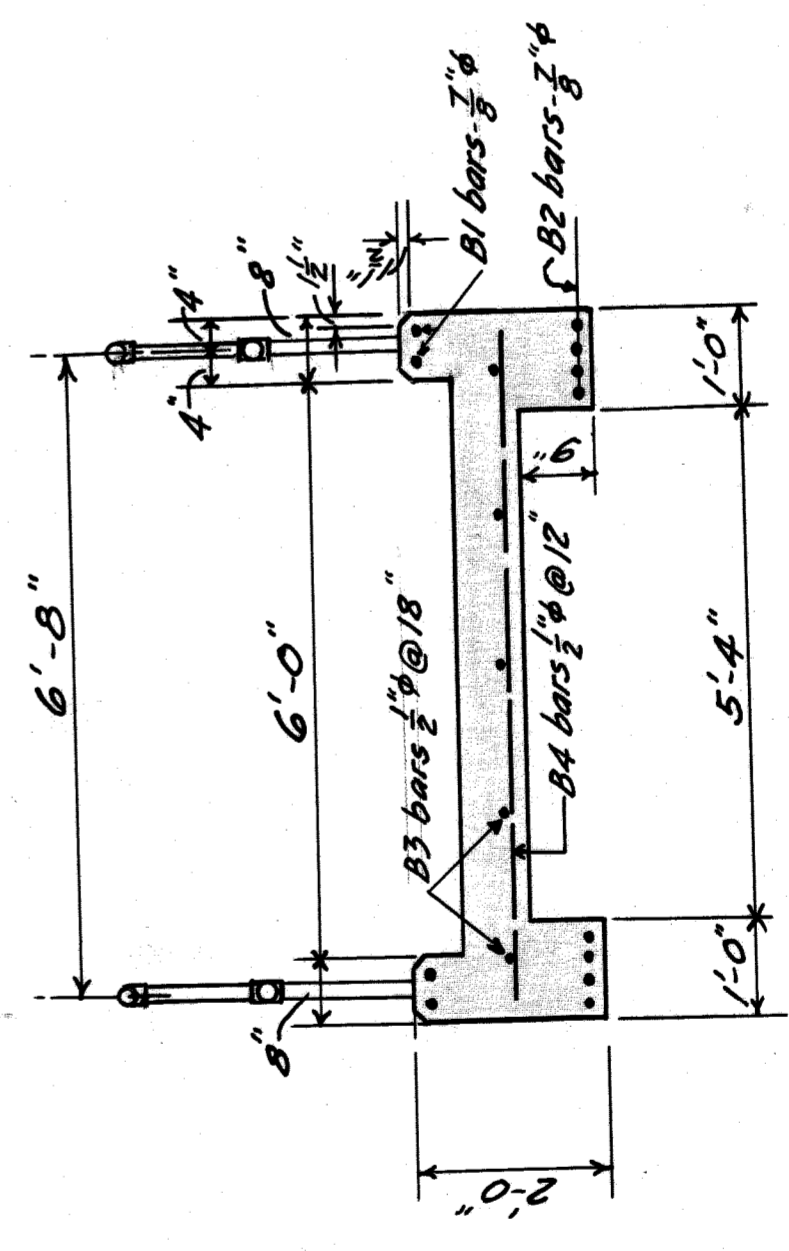
PLAN



TYPICAL STEP DETAIL  
Scale 1" = 1'-0"

QUANTITIES

Concrete	6.0 C.165.
Reinft. Steel	555 Lbs.
Pipe Railing	30 Lin. Ft.



SECTIONAL ELEVATION

SECTION A-A

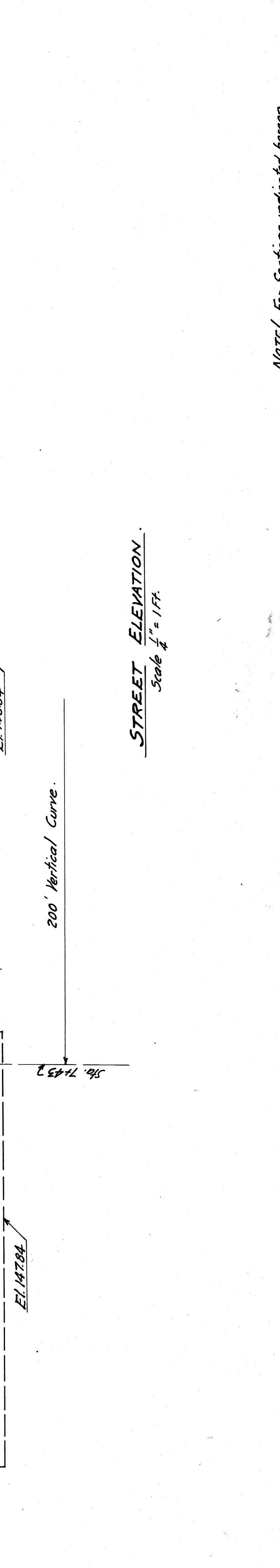
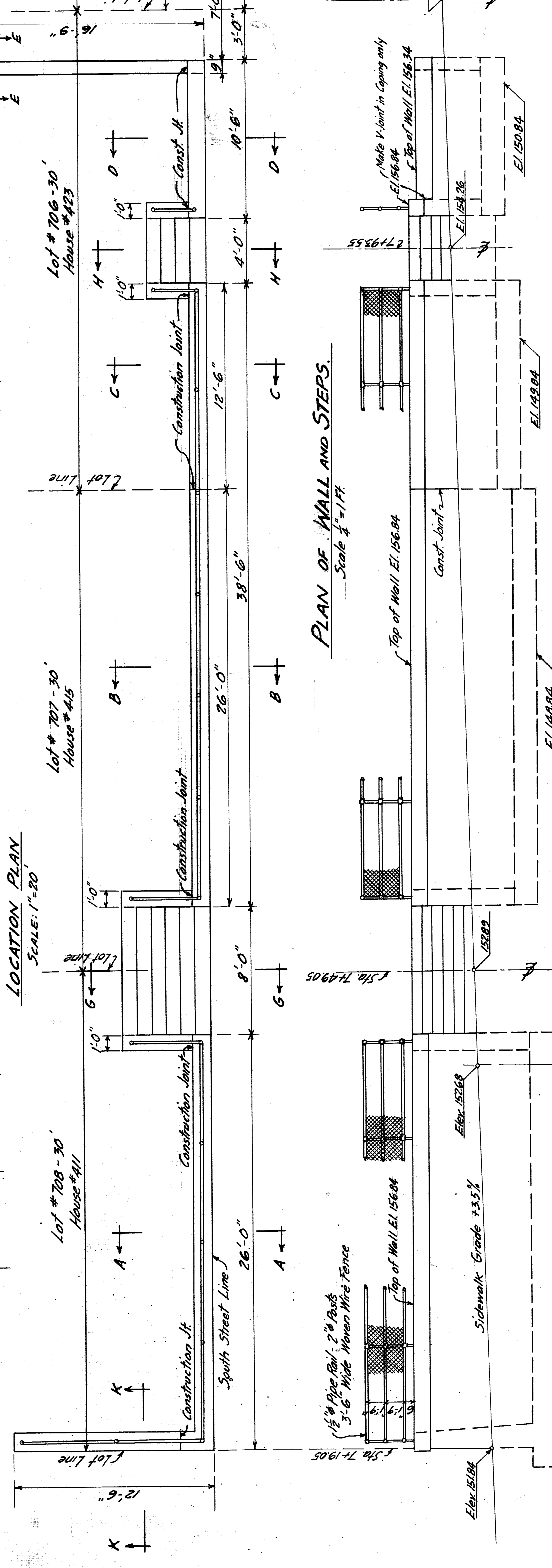
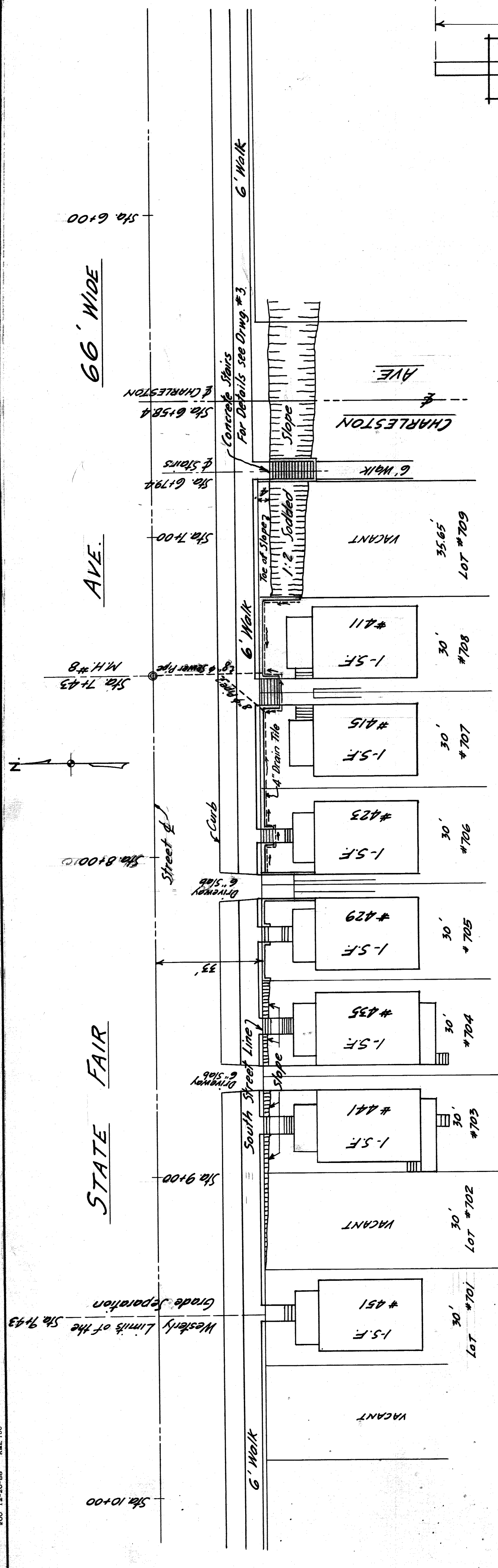
**GENERAL NOTES.**

Concrete - Grade A 1:2:3 for 3000\*lb.  
 Exposed surfaces of concrete shall be rubbed immediately after forms are removed. Exposed corners shall be beveled only as called for on plans.  
 The back of walls above footings shall be given two brush coats of asphalt waterproofing. Backs of construction joints shall be covered with 2 ply membrane waterproofing as indicated on Sheet 4.  
 4" Drain Tile joints to be covered with tar paper.  
 A blanket of gravel or crushed stone 12" thick shall be placed behind all walls to facilitate drainage.

CITY OF DETROIT		DEPARTMENT OF PUBLIC WORKS		SHEET 3 OF 6 SHEETS	
DEPARTMENT OF PUBLIC WORKS		CITY ENGINEERS OFFICE		CONTRACT	
BUREAU OF PUBLIC STRUCTURES		STATE FAIR AVENUE G. T. W. R. R.		DRWG NO. C-328-3	
GRADE SEPARATION		CONCRETE STAIRS AT CHARLESTON AVENUE WEST SIDE		JUNE 7 - 1940	
APPROVED: J.L. Barton		DESIGNED BY A.N. Berarducci		SCALE 1/2" = 1'-0" UNLESS NOTED OTHERWISE	
DRAWN BY A.N. Berarducci		CHECKED BY J.L. Barton		REVISED	
TRACED BY J.L. Barton		APPROVED BY J.L. Barton		DESCRIPTION	
ENGINEER OF PUBLIC STRUCTURES		CITY ENGINEER		DATE	
M.F. Maguire		G.L. Shumway		NO.	
COMPLETED 2/14		FILE XU 99-3			

**ESTIMATE OF QUANTITIES**

Excavation	350	C.Yds.
Concrete in Retaining Wall	49	C.Yds.
Concrete in Stairs	9	C.Yds.
Concrete in Curb Wall	5.5	C.Yds.
Reinforcing Steel	3000	Lbs.
Copper Waterstop (No. 2)	35	Lbs.
Membrane Waterproofing	84	Sq. Ft.
Dampproofing Back of Walls	590	Sq. Ft.
Porous Backfill	28	C.Yds.
Compacted Backfill	8	C.Yds.
Rubbed Surface	675	Sq. Ft.
4" Drain Tile (Open Joints)	110	Lin. Ft.
8" Sewer Pipe	50	Lin. Ft.
Pipe Railing	89	Lin. Ft.
Woven Wire Fence (3'-6" Wide)	89	Lin. Ft.



NOTE: For Sections indicated hereon see Drawing #6.

Completed 3/14/41

DESIGNED BY	A.M. Berarducci	APPROVED	J.L. Barton
DRAWN BY	A.N. Broducci	ENGINEER OF PUBLIC WORKS	M.F. Wagging
TRACED BY	J.L. Barton	CITY ENGINEER	G.P. Thompson
CHECKED BY	J.L. Barton		

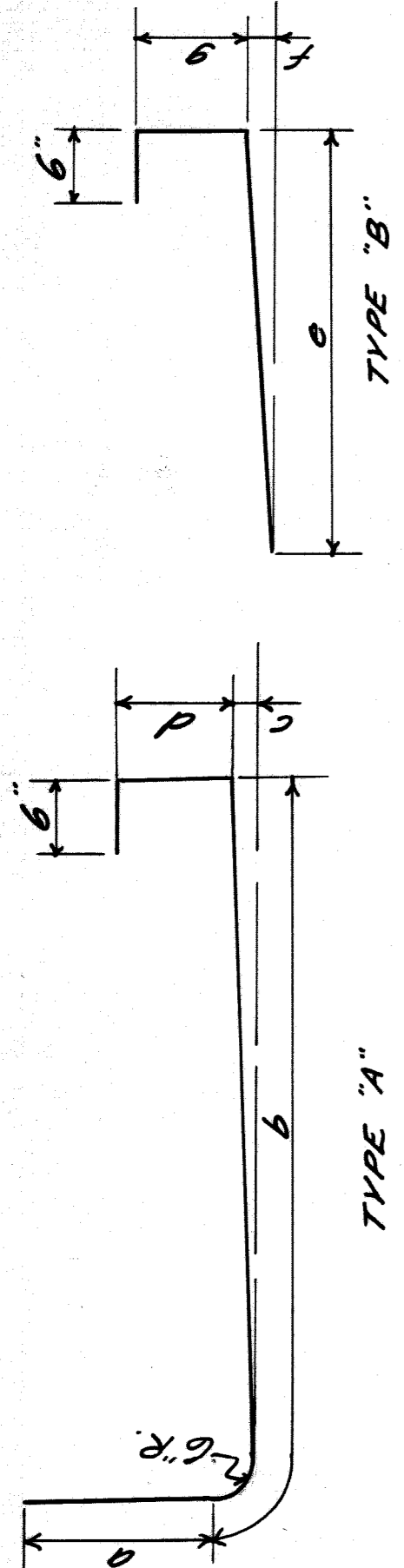
STATE FAIR AVENUE G.T.W.R.R. GRADE SEPARATION  
RETAINING WALL FOR SOUTH SIDE ON WEST APPROACH

CITY OF DETROIT  
DEPARTMENT OF PUBLIC WORKS  
CITY ENGINEER OFFICE  
BUREAU OF PUBLIC STRUCTURES

JULY 19, 1940

SCALE 1/4"=1'-0"

SHEET 5 OF 6 SHEETS  
CONTRACT  
DRWG NO. C-328-5



TYPE "A"  
BAR BENDING DIAGRAM.

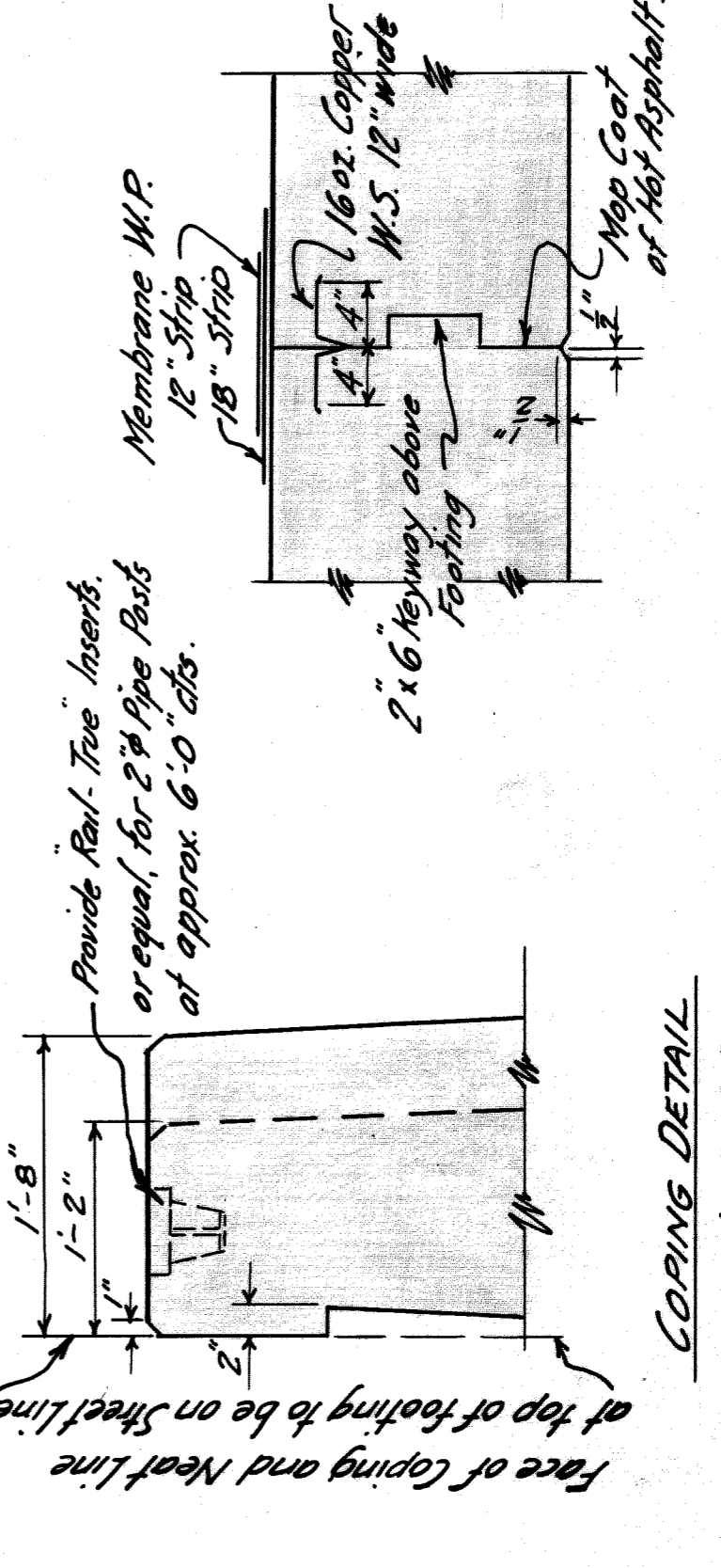
MARK NO.	SIZE	LENGTH	a	b	c	d	e	f	g	LOCATION
B1	1/4" x 3/4"	10'-9"	3'-6"	7'-3"	2"	0	0	0		Footing - Sec. A, B, C.
B2	5/8" x 3/4"	10'-9"	3'-6"	7'-3"	2"	0	0	0		" Sec. D.
B3	5/8" x 3/4"	10'-6"	3'-3"	7'-3"	2 1/2"	0	0	0		" Sec. E.
B4	5/8" x 3/4"	9'-9"	2'-6"	7'-3"	3"	0	0	0		" Sec. F.
B5	5/8" x 3/4"	11'-3"	2'-0"	8'-0"	3"	9"	0	0		" Sec. G.
B6	5/8" x 3/4"	10'-0"	1'-9"	7'-0"	3"	9"	0	0		" Sec. H.
B7	5/8" x 3/4"	8'-9"	1'-6"	6'-0"	3"	9"	0	0		" Sec. I.
B8	5/8" x 3/4"	7'-4"	1'-3"	4'-10"	4"	9"	0	0		" Sec. J.
B9	5/8" x 3/4"	11'-3"	11'-3"							Wall - Sec. B.
B10	3/4" x 3/4"	10'-0"	8'-3"	1'-3"	7'-0"	3"	1'-3"			" Sec. C.
B11	3/4" x 3/4"	8'-9"	7'-0"	1'-3"	5'-9"	3"	1'-3"			" E.
B12	3/4" x 3/4"	7'-6"	4'-6"	2"	4'-6"	2"	9"			Footing Sec. A, B, C.
B13	3/4" x 3/4"	5'-9"								" D.
B14	1/2" x 3/4"	7'-0"								" E.
B15	1/2" x 3/4"	6'-0"								" F.
B16	1/2" x 3/4"	5'-0"								" G, H.
B17	1/2" x 3/4"	4'-0"								" Sec. J, K.
B18	1/2" x 3/4"	3'-0"								" A.
B19	1/2" x 3/4"	2'-0"								" B.
B20	1/2" x 3/4"	27'-0"								Wall & Footings
B21	1/2" x 3/4"	30'-3"								"
B22	1/2" x 3/4"	29'-6"								Wall Sec. A.
B23	1/2" x 3/4"	27'-6"								"
B24	1/2" x 3/4"	35'-9"								"
B25	1/2" x 3/4"	11'-3"								" C, D.
B26	1/2" x 3/4"	10'-5"								" E.
B27	1/2" x 3/4"	9'-6"								" F.
B28	1/2" x 3/4"	8'-3"								" G.
B29	1/2" x 3/4"	7'-5"								" H.
B30	1/2" x 3/4"	8'-0"								" I.
B31	1/2" x 3/4"	7'-0"								" J.
B32	1/2" x 3/4"	6'-0"								" K.
B33	1/2" x 3/4"	4'-9"								"
B34	1/2" x 3/4"	3'-6"								"
B35	1/2" x 3/4"	9'-3"								Wall Sec. A.

BAR SCHEDULE

ESTIMATE OF QUANTITIES.

- Excavation - 1100 C.Yds.
- Concrete - 295 C.Yds.
- Reinforcing Steel - 16180 Lbs.
- Copper Waterstop - 70 Lbs.
- Membrane Waterproofing - 175 Sq.Ft.
- Damp proofing - 2325 Sq.Ft.
- Porous Backfill - 180 C.Yds.
- Compacted Backfill - 25 C.Yds.
- Rubbed Surface Finish - 2300 Sq.Ft.
- 4" Drain Tile (Open joints) - 300 Lin.Ft.
- 10" Sewer Pipe - 65 Lin.Ft.
- Rail Post Inserts - 51 Units.

VERTICAL CONSTRUCTION JOINT



SECTION E-E

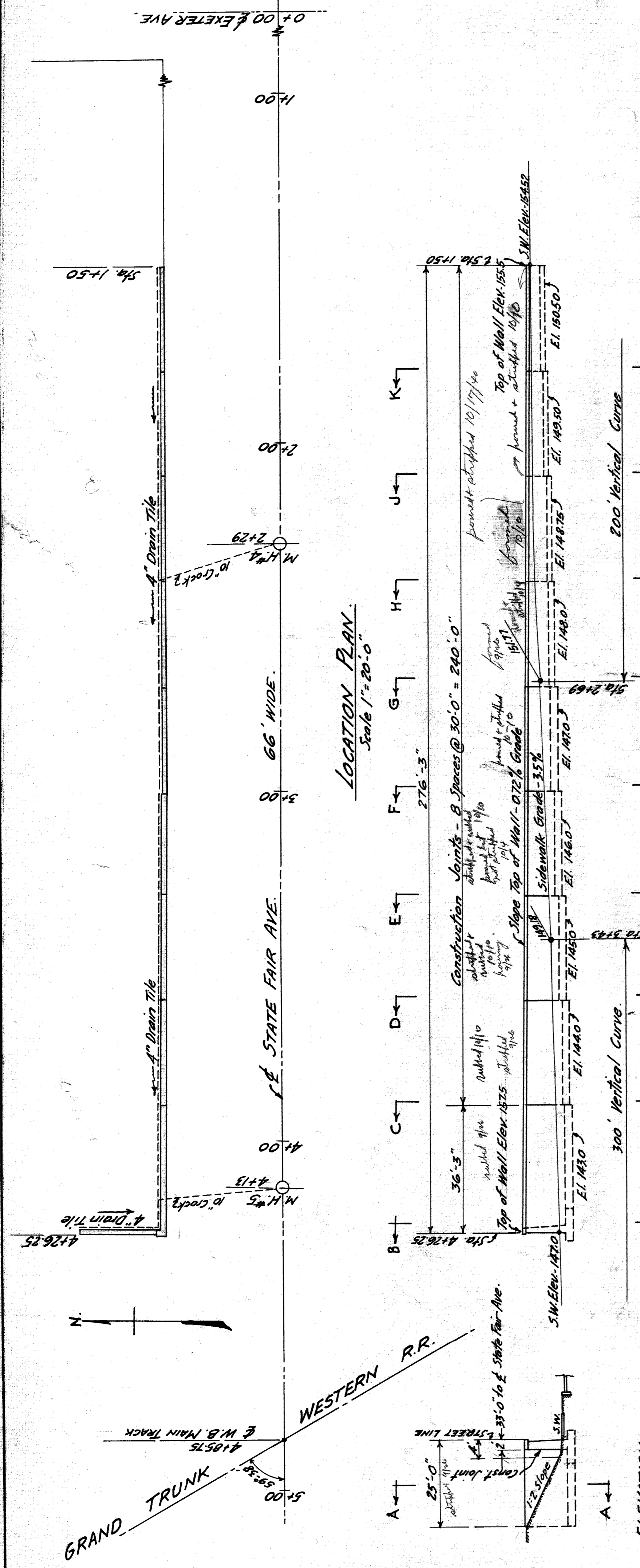
SECTION D-D

SECTION C-C

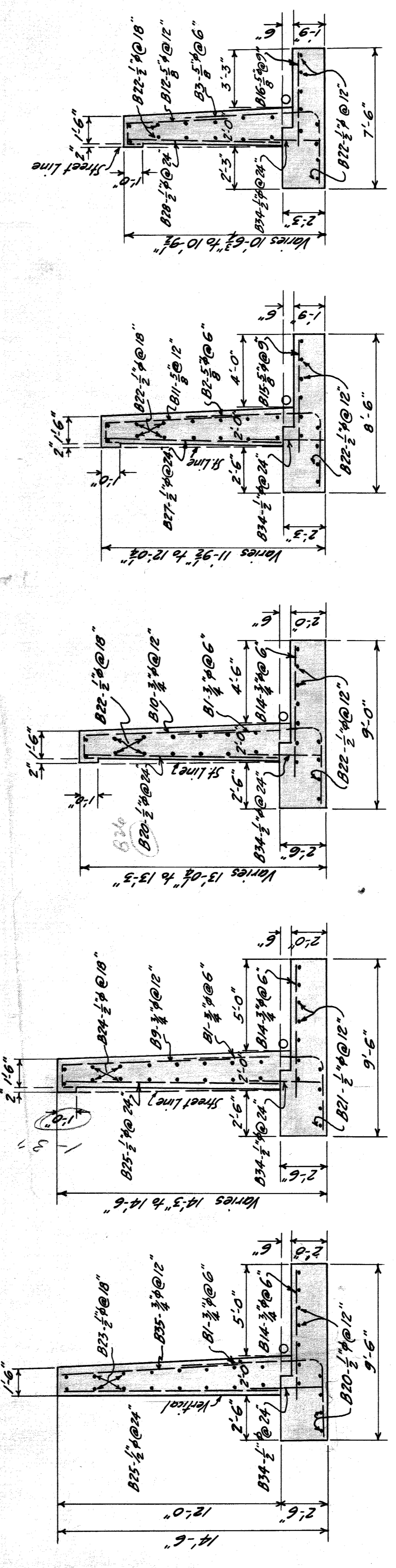
SECTION B-B

SECTION A-A

LOCATION PLAN  
Scale 1" = 20'-0"



STREET ELEVATION  
Scale 1" = 20'-0"



SECTION F-F

SECTION H-H

SECTION J-J

SECTION K-K

CITY OF DETROIT  
DEPARTMENT OF PUBLIC WORKS  
CITY ENGINEERS OFFICE  
BUREAU OF PUBLIC STRUCTURES

STATE FAIR AVENUE - G. T. W. R. R.  
GRADE SEPARATION  
RETAINING WALL FOR NORTH SIDE  
ON EAST APPROACH

SHEET 4 OF 6 SHEETS  
CONTRACT  
DRWG NO.

APPROVED: *A.M. Berarducci*  
DESIGNED BY: *A.M. Berarducci*  
DRAWN BY: *J.L. Barton*  
TRACED BY: *J.L. Barton*  
CHECKED BY: *J.L. Barton*

SCALE 1/4" = 1'-0" UNLESS NOTED OTHERWISE  
MAY 15, 1940  
For General Notes and Specifications see S. #3.

OFFICE COPY  
Final Review  
5/26/39

MICHIGAN  
STATE HIGHWAY DEPARTMENT  
MURRAY D. VAN WAGONER  
STATE HIGHWAY COMMISSIONER

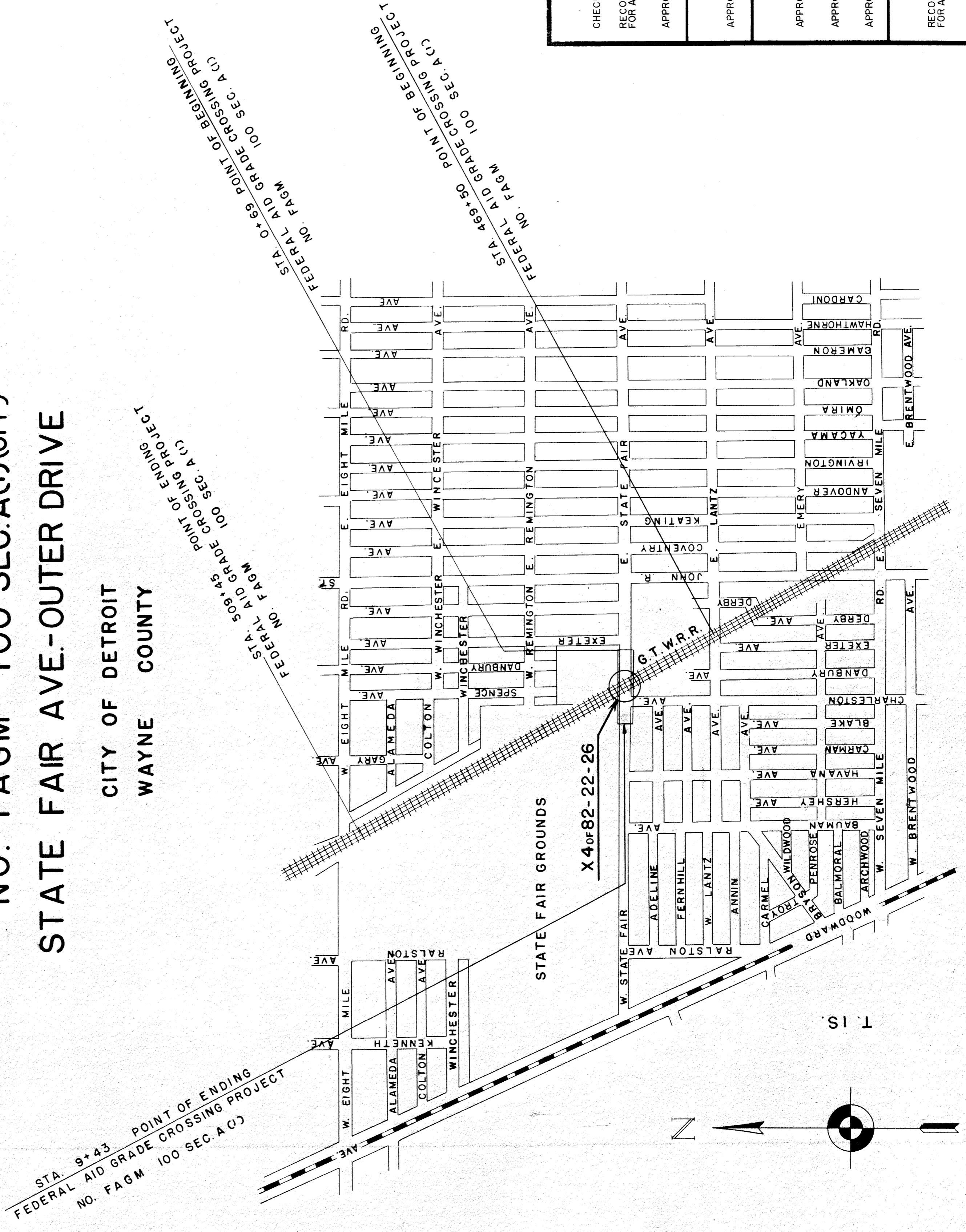
PLANS OF PROPOSED  
FEDERAL AID GRADE CROSSING PROJECT  
NO. FAGM 100 SEC. A(1)(OFF)  
STATE FAIR AVE.-OUTER DRIVE

CITY OF DETROIT  
WAYNE COUNTY

SHEET NO.	DESCRIPTION
1	TITLE SHEET
2	GENERAL PLAN OF PROJECT
3	GENERAL PLAN OF PROJECT
4	BILL OF MATERIAL
5	SCHEDULE OF OPERATIONS & LOADING PLATFORM
6	CONCRETE CRIB WALLS
7	GENERAL PLAN OF STRUCTURE
8	ABUTMENT DETAILS
9	ABUTMENT REINFORCING
10	WINGWALL DETAILS
11	DECK DETAILS
12	LIST OF REINFORCING BARS
13	STRUCTURAL STEEL ERECTION DIAGRAM
14	STRUCTURAL STEEL - GIRDERS & FLOOR BEAMS
15	STRUCTURAL STEEL - GIRDERS, FLOORBEAMS & BRACKET
16	STRUCTURAL STEEL - WALKWAYS & BEARINGS
17	STRUCTURAL STEEL - HANDRAIL & WALKWAYS

TITLE SHEET LEGEND

PROPOSED PROJECT	---
T.L. OR F.A. PAVED	----
T.L. OR F.A. IMPROVED NOT PAVED	----
T.L. OR F.A. UNIMPROVED	----
NON T.L. OR F.A. PAVED	----
NON T.L. OR F.A. IMPROVED NOT PAVED	----
NON T.L. OR F.A. UNIMPROVED	----
COUNTY LINE	----
CITY OR VILLAGE	----
TOWNSHIP LINE	----
SECTION LINE	----
RAILROADS	----



General Notes

Except where otherwise indicated on these plans or in the Proposal and Supplemental Specifications contained therein, all materials and workmanship shall be in accordance with the Michigan State Highway Department's Standard Specifications for Road and Bridge Construction, 1934 Edition as amended by Errata and Changes effective June 10, 1936.

The design of this structure is based on the American Railway Engineering Association's Specifications for Steel Railway Bridges, 1935 Edition (E72 Loading).

The Contractor shall assume complete responsibility for all scaled dimensions. Dimensions which are omitted or needed to complete the work will, when available, be furnished by the Engineer.

All concrete, except crib walls, shall be Grade "A" and all coarse aggregate shall be Class "6", except that for the Super-structure which shall be Class 17 1/2.

All Joint Filler shall be cork.

All copper shall be 16 ounce and all joints or laps in copper waterstop shall be soldered and left water tight.

All concrete corners shown square on the plans shall be beveled with a 1/2" triangular molding.

The stationing, as shown for the intersection of the centerline of street and center line of structure is believed to be correct. It shall, however, be checked at the time of starting construction and the structure shall be staked out using the actual centerline of street and centerline of structure if the plan stationing is found to be incorrect.

APPROVED BY: [Signature] DATE: 4-27-39  
 APPROVED BY: [Signature] DATE: 4-28-39

BRIDGE DIVISION APPROVAL

CHECKED: [Signature] DATE: 4/28/39  
 RECOMMENDED FOR APPROVAL: [Signature] DATE: 4-28-39  
 APPROVED: [Signature] DATE: 4/28/39

ROAD DIVISION APPROVAL

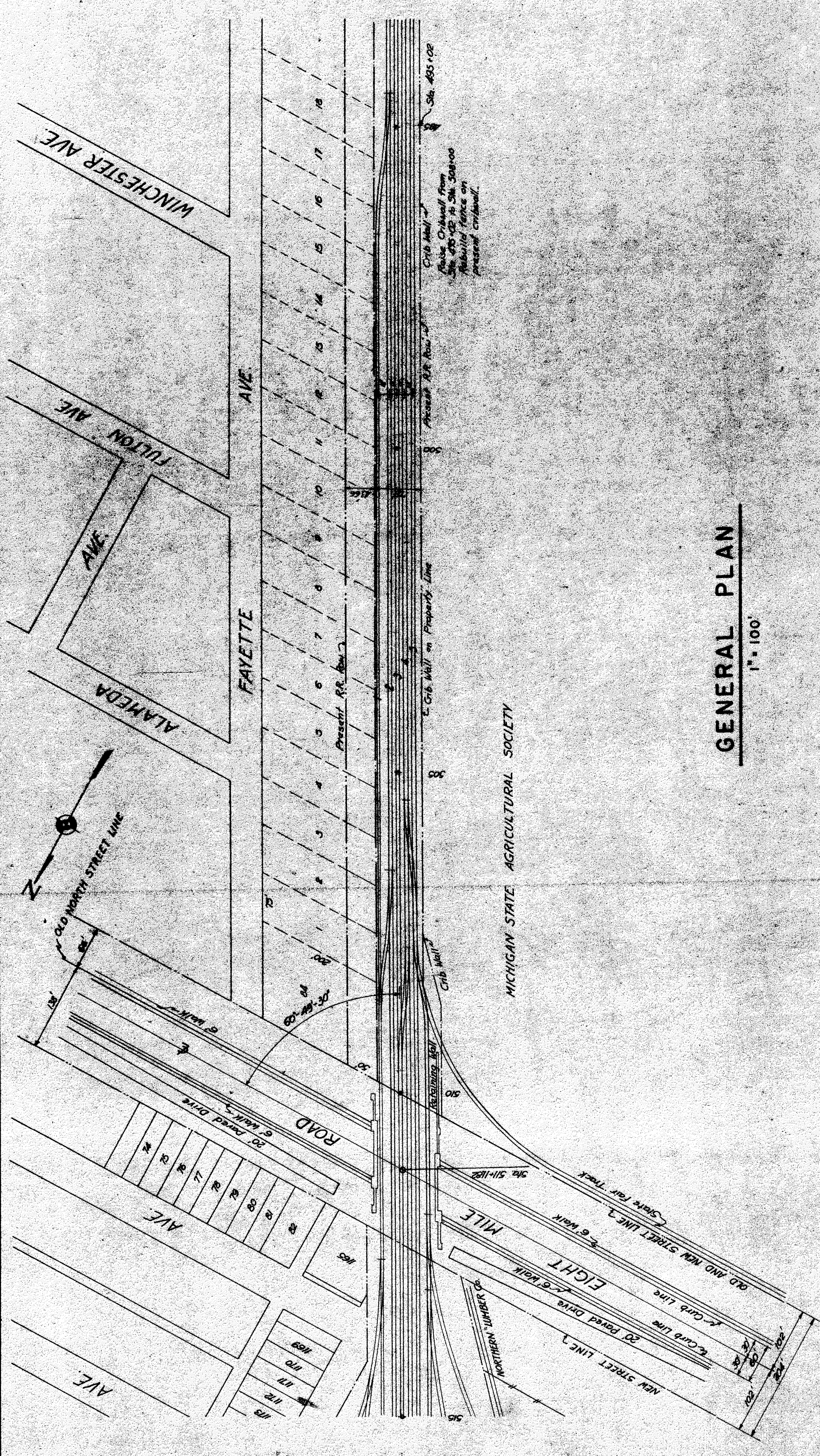
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STATE HIGHWAY DEPARTMENT APPROVAL

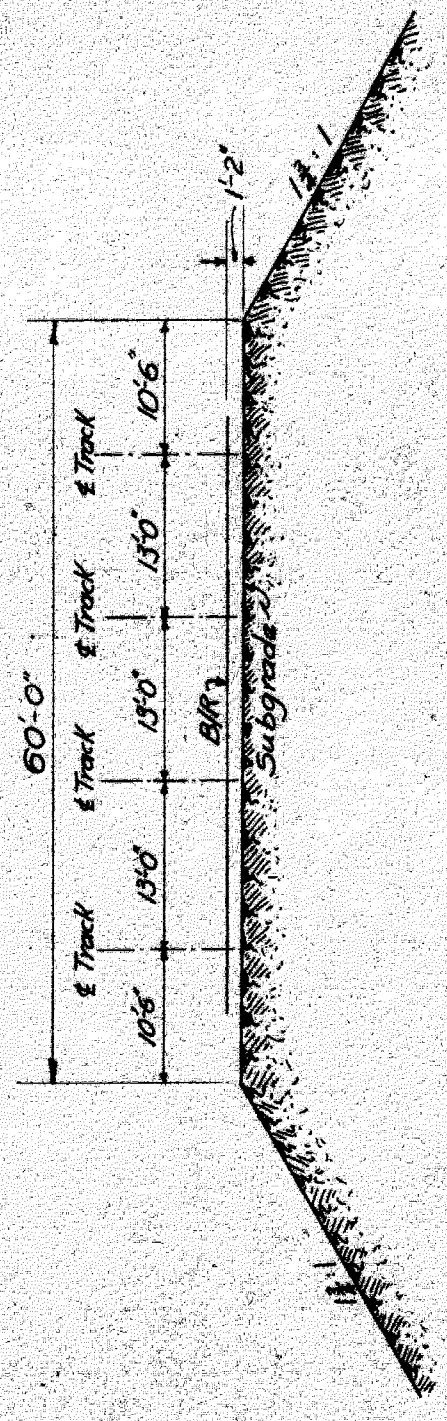
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 APPROVED: [Signature] DATE: 4/28/39

RECOMMENDED FOR APPROVAL: [Signature] BUREAU OF PUBLIC ROADS  
 RECOMMENDED FOR APPROVAL: [Signature] BUREAU OF PUBLIC ROADS  
 APPROVED: [Signature] BUREAU OF PUBLIC ROADS

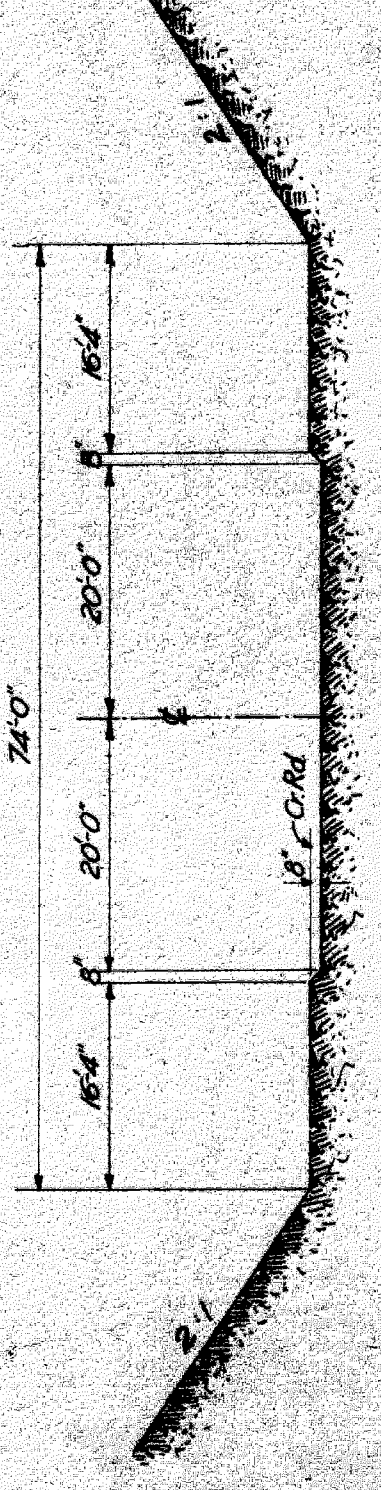




**GENERAL PLAN**  
1" = 100'

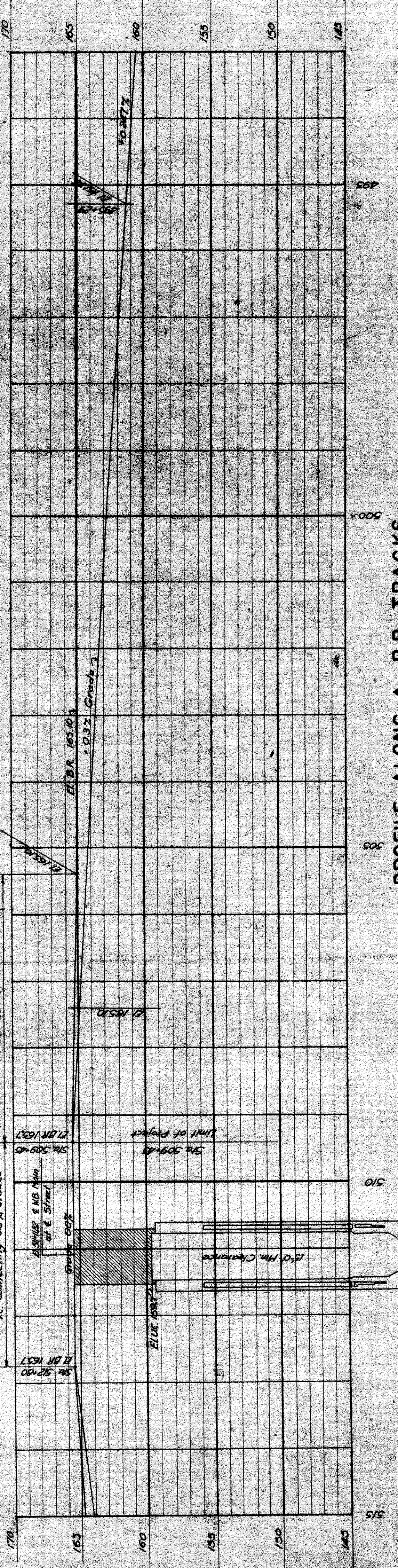


**TYPICAL SECTION THROUGH PROPOSED R.R. GRADE**  
1" = 15'



**TYPICAL GRADING SECTION FOR STATE FAIR AVE**  
1" = 15'

NOTE:-- If R.O.M. has not been cleared previously the contractor will be required to confine his grading within the existing street lines.



**PROFILE ALONG & R.R. TRACKS**  
VERT. SCALE - 1" = 5'  
HOR. SCALE - 1" = 100'

**MICHIGAN STATE HIGHWAY DEPARTMENT**  
MURRAY D. VAN WAGONER - COMMISSIONER  
TWP. WAYNE CO.  
SEC. 2 T. 15. R. 11 E.  
BRIDGE FILE NO. X4 OF 82-28-26 ROAD STATE FAIR AT STA. CROSSING G.T.W.R.R. IN CITY OF DETROIT

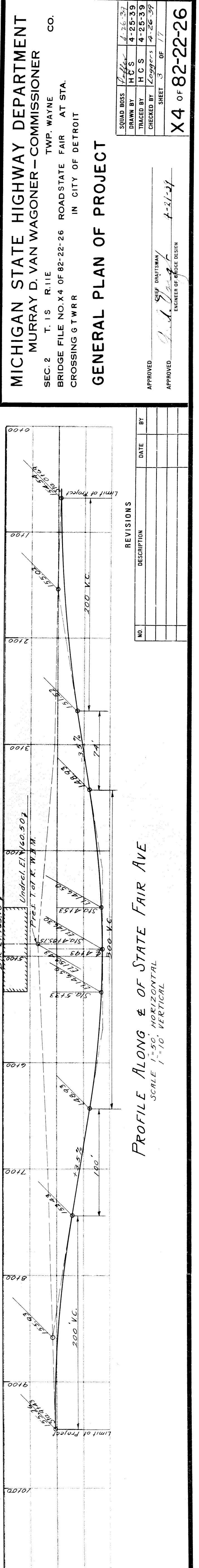
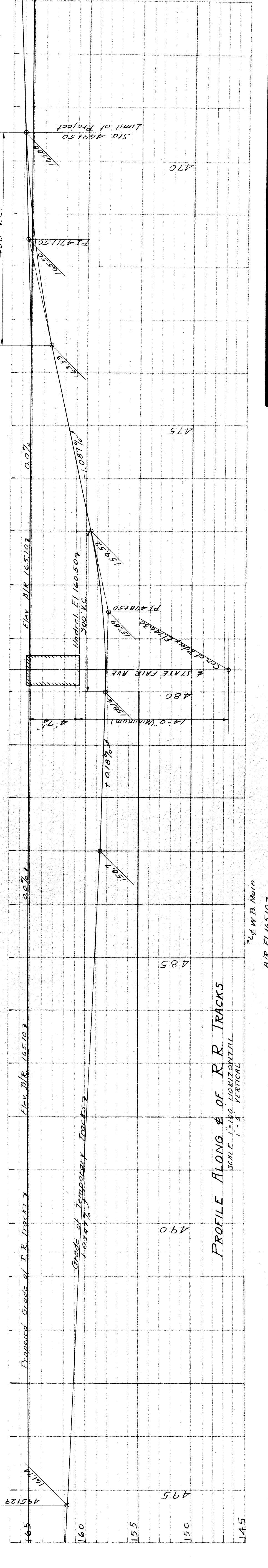
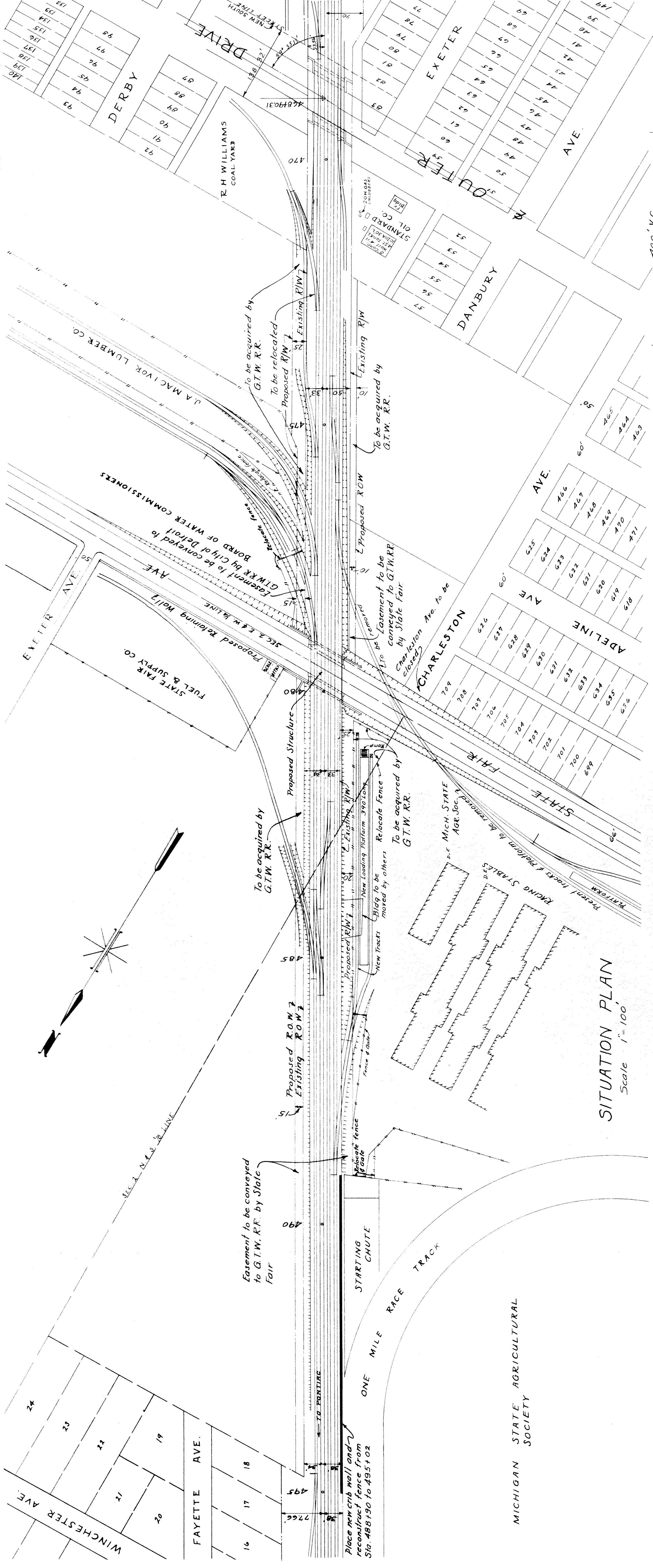
**GENERAL PLAN OF PROJECT**

SOUND BARS	4-24-37
DRAWN BY	10-20-35
TRACED BY	1-5-37
CHECKED BY	4-28-37
SHEET	2 OF 17

X4 OF 82-28-26

NO.	REVISIONS DESCRIPTION	DATE	BY

APPROVED: *[Signature]*  
PROJECT ENGINEER  
4-27-37



**MICHIGAN STATE HIGHWAY DEPARTMENT**  
**MURRAY D. VAN WAGONER - COMMISSIONER**  
 SEC. 2 T. 15 R. 11E TWP. WAYNE CO.  
 BRIDGE FILE NO. X4 OF 82-22-26 ROADSTATE FAIR AT STA.  
 CROSSING G.T.W.R.R. IN CITY OF DETROIT

**GENERAL PLAN OF PROJECT**

APPROVED: *[Signature]* CHIEF ENGINEER  
 APPROVED: *[Signature]* NUMBER OF SHEETS DESIGN: 4-21-37

REVISIONS

NO.	DESCRIPTION	DATE	BY

SQUAD BOSS	✓	4-26-37
DRAWN BY	H.C.S.	4-25-39
TRACED BY	H.C.S.	4-25-39
CHECKED BY	L.Cogges	4-26-39
SHEET	3	OF 17

X4 OF 82-22-26

DATE

PLAN EXTRAS.

ITEM	DESCRIPTION	UNIT	QUANTITY	
			ESTIMATE	FINAL
1	Foundation Excavation-Inclass. South Abutment & Pier	Cu. Yds.	2,515	
	Southwest Wingwall	"	309	
	Southwest Wingwall	"	48	
	North Abutment & Pier	"	309	
	Northwest Wingwall	"	50	
	Northeast Wingwall	"	1,735	
2	Concrete-Grade A-Substructure South Abutment & Pier	Cu. Yds.	1,373.0	
	Southwest Wingwall	"	599.0	
	Southwest Wingwall	"	38.2	
	Southwest Wingwall	"	78.0	
	North Abutment & Pier	"	578.2	
	Northwest Wingwall	"	44.4	
3	Concrete-Grade A-Supersubstructure	Cu. Yds.	200.0	
4	Concrete-Grade A-Crib Wall Footings	Cu. Yds.	61.0	
5	Cement South Abutment & Pier	Bbls.	2,452.0	
	Southwest Wingwall	"	953.2	
	Southwest Wingwall	"	51.2	
	North Abutment & Pier	"	857.2	
	Northwest Wingwall	"	117.5	
	Northeast Wingwall	"	67.0	
	Superstructure	"	300.0	
	Crib Wall Footing	"	91.5	
6	Steel Reinforcement North Abutment & Pier	Lbs.	154,642	
	Southwest Wingwall	"	54,413	
	Abutment Wingwalls	"	12,721	
	Superstructure	"	23,595	
	Crib Wall Footing	"	54,500	
7	Structural Steel-Fabrication & Erection	Lbs.	457,630	
8	Railing	Lin. Ft.	153	
9	Field Painting-Structural Steel	Lump Sum		
10	Brushed Surface Finish South Abutment & Pier	Sq. Ft.	3,935	
	Southwest Wingwall	"	395	
	Southwest Wingwall	"	300	
	North Abutment & Pier	"	3,180	
	Northwest Wingwall	"	370	
11	Cooper South Abutment & Wingwalls	Lbs.	435	
	North Abutment & Wingwalls	"	215	
	Superstructure	"	25	
12	1/2" Joint Filler-Gork	Sq. Ft.	60	
13	Waterproofing Backs of Walls & Abutments	Sq. Ft.	4,340	
	South Abutment	"	1,210	
	Southwest Wingwall	"	510	
	North Abutment	"	1,430	
	Northwest Wingwall	"	510	
	Northeast Wingwall	"	250	
14	Bridge Deck Waterproofing	Sq. Ft.	4,600	
15	Asphalt Mastic Protection Course	Sq. Ft.	2,700	
16	Mastic Composition Surfacing	Sq. Ft.	1,750	
17	Aluminum Castings-Along Rider Ranges	Lump Sum		
18	18" Corrugated Metal Pipe	Lin. Ft.	110	
19	18" Corrugated Metal Pipe- Perforated	Lin. Ft.	385	
20	Concrete Crib Walls	Sq. Ft.	8,025	
APPROACHES				
21	Earth Excavation	Cu. Yds.	16,000	
22	Sodding	Sq. Yds.	900	
23	Fencing	Lump Sum		

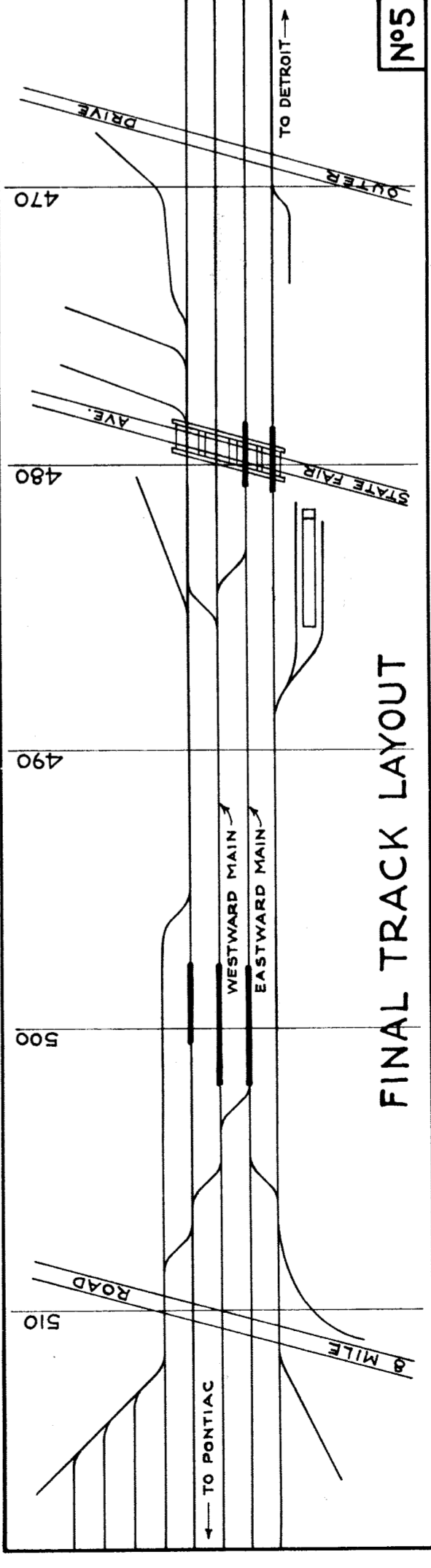
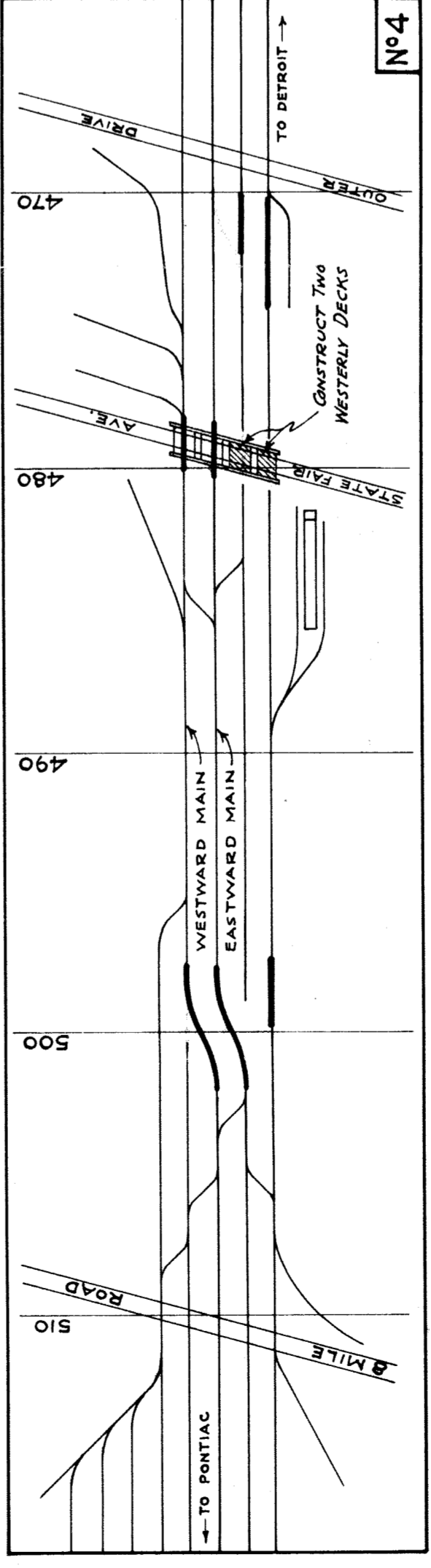
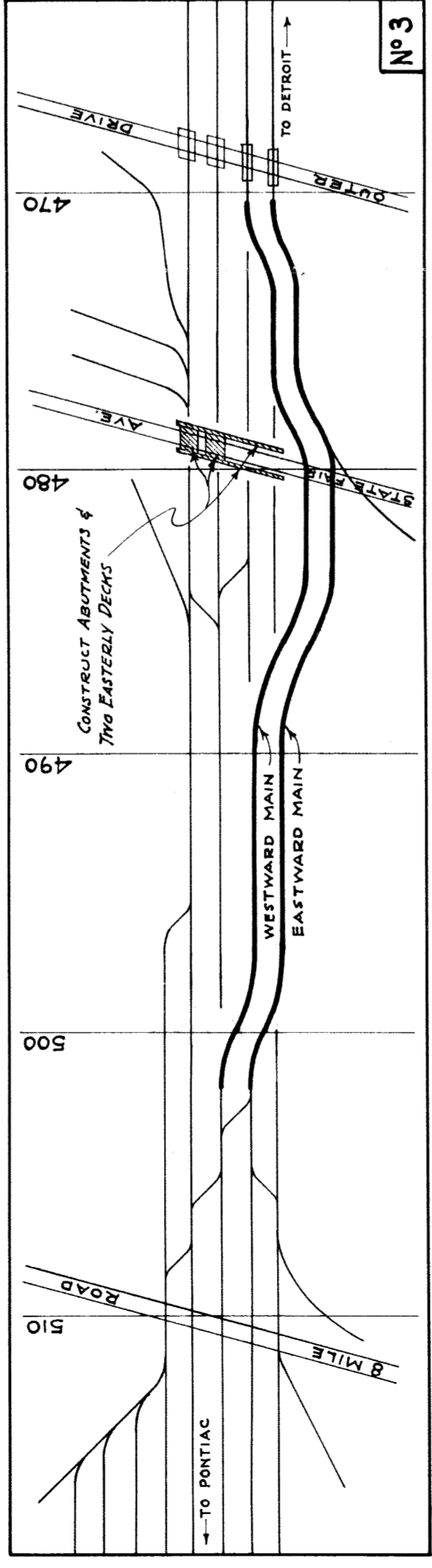
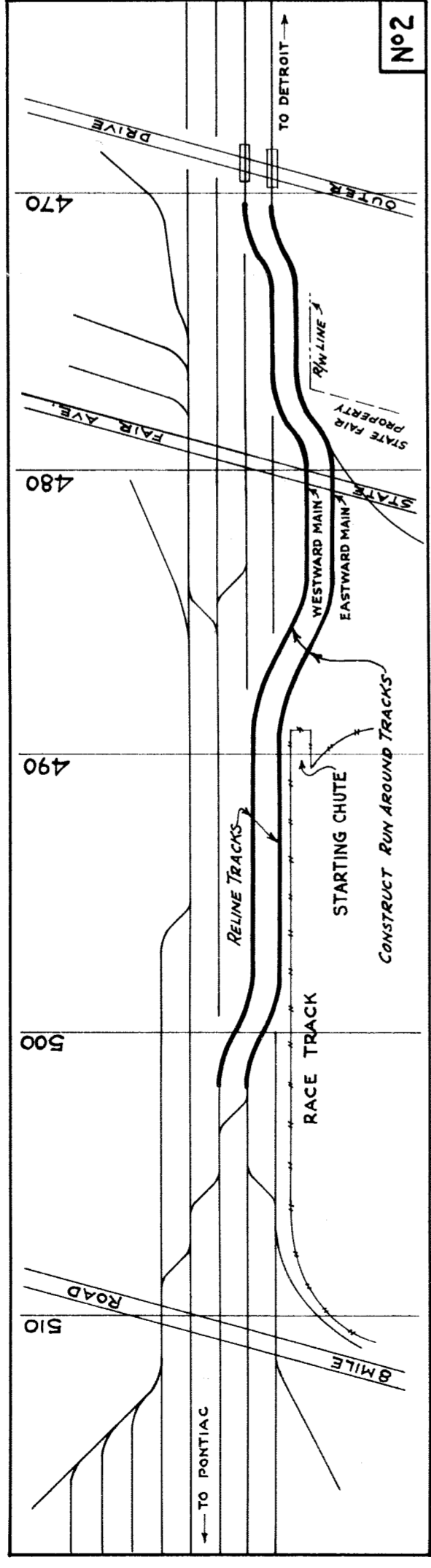
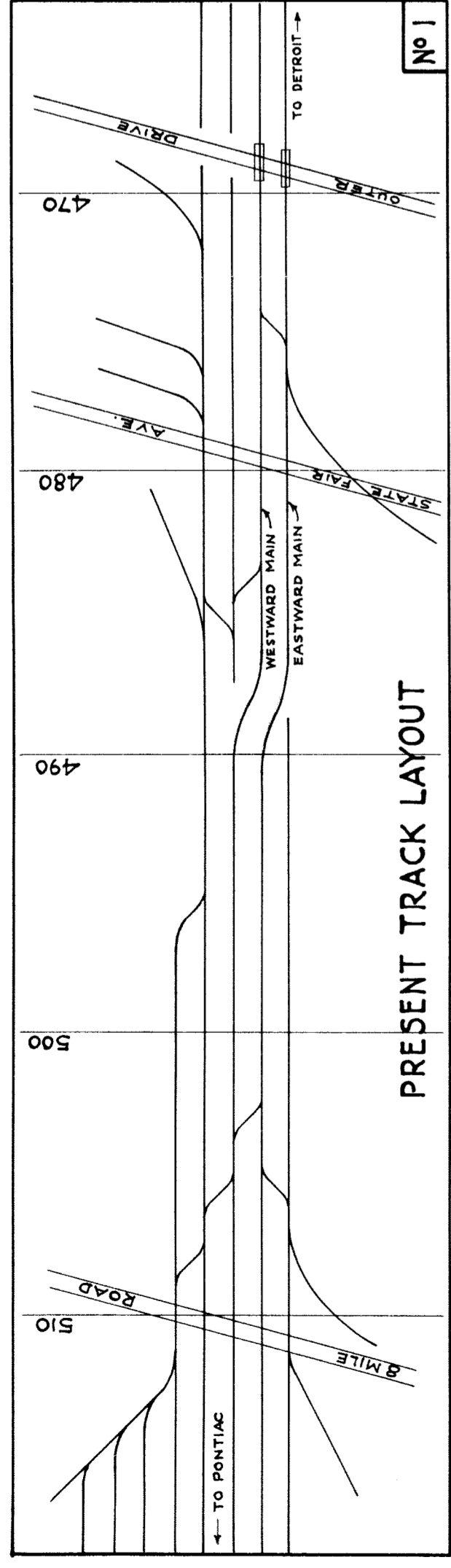
Note: Items marked with an asterisk (\*) are not included in total.

**MICHIGAN STATE HIGHWAY DEPARTMENT**  
 MURRAY D. VAN WAGONER - COMMISSIONER  
 SEC 2 T.15 R.11E TWP. WAYNE CO.  
 BRIDGE FILE NO. X 4 OF 82-22-26 ROAD STATE FAIR AVE  
 CROSSING GRAND TRUNK WESTERN R.R. IN CITY OF DETROIT

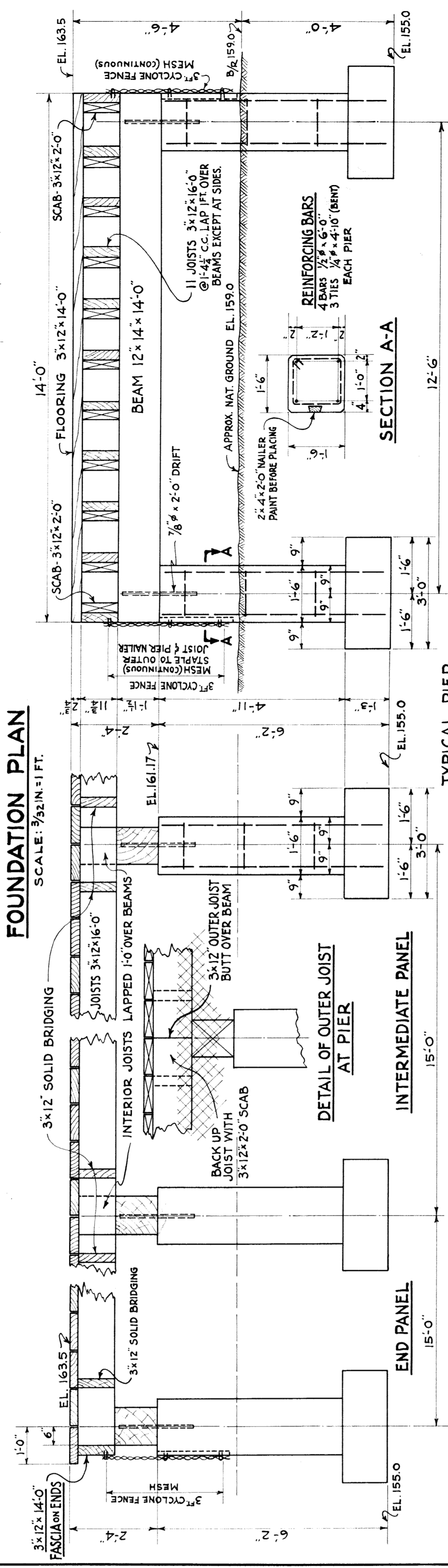
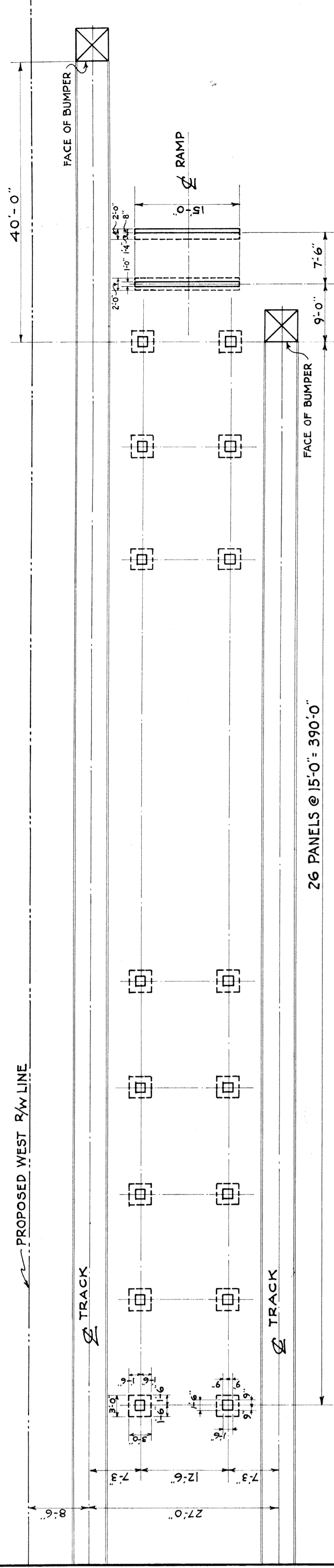
**BILL OF MATERIAL**

APPROVED *M. D. V. [Signature]* CHIEF ENGINEER 4-27-39  
 APPROVED [Signature] CHIEF DESIGNER 4-27-39  
 DRAWN BY [Signature] 4-26-39  
 CHECKED BY G. B. GOS 4-27-39  
 SHEET 4 OF 17

**X4 82-22-26**

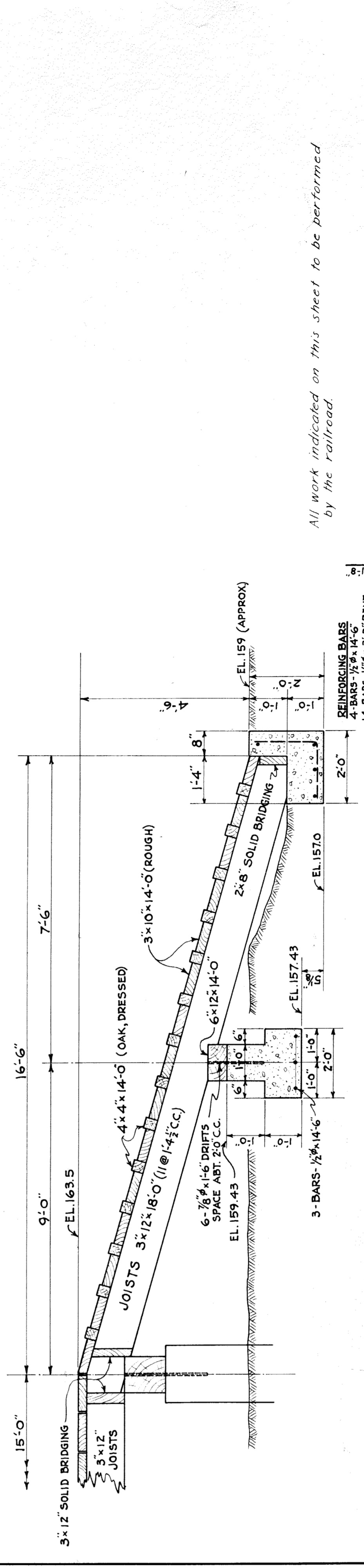


**DIAGRAMS SHOWING SCHEDULE OF OPERATION**  
NOT TO SCALE



**CROSS SECTION**  
SCALE: 1/2 IN. = 1 FT.

**LONGITUDINAL SECTION THRU PLATFORM**  
SCALE: 1/2 IN. = 1 FT.



**SECTION THRU RAMP**  
SCALE: 1/2 IN. = 1 FT.

All work indicated on this sheet to be performed by the railroad.

**MICHIGAN STATE HIGHWAY DEPARTMENT**  
MURRAY D. VAN WAGONER - COMMISSIONER  
WAYNE, CO.  
SEC. 2 T. 15 S. R. 11 E.  
BRIDGE FILE NO. X4 OF 82-22-26 ROAD STATE FAIR AVE.  
CROSSING GRAND TRUNK WESTERN R.R. IN CITY OF DETROIT.

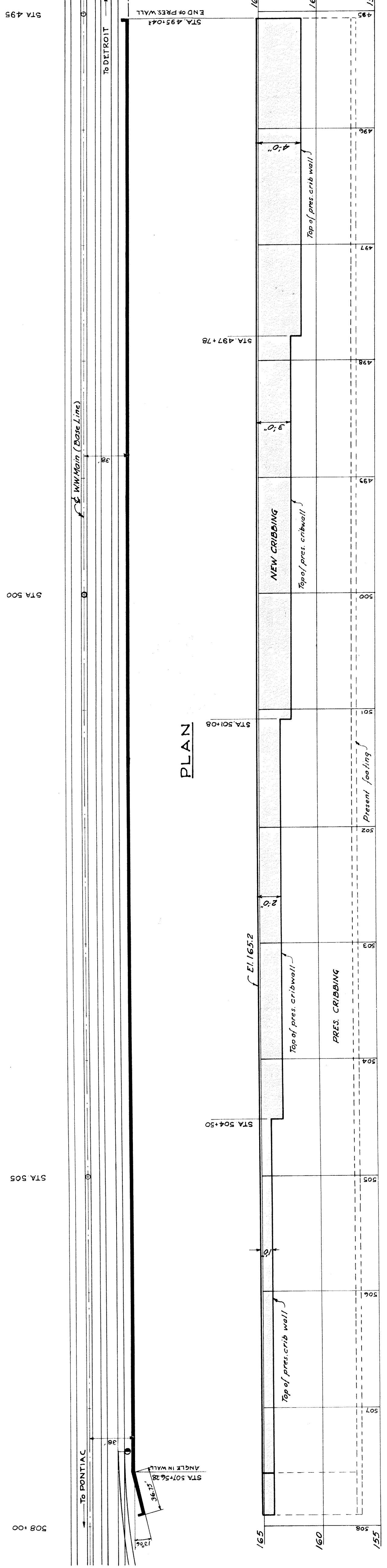
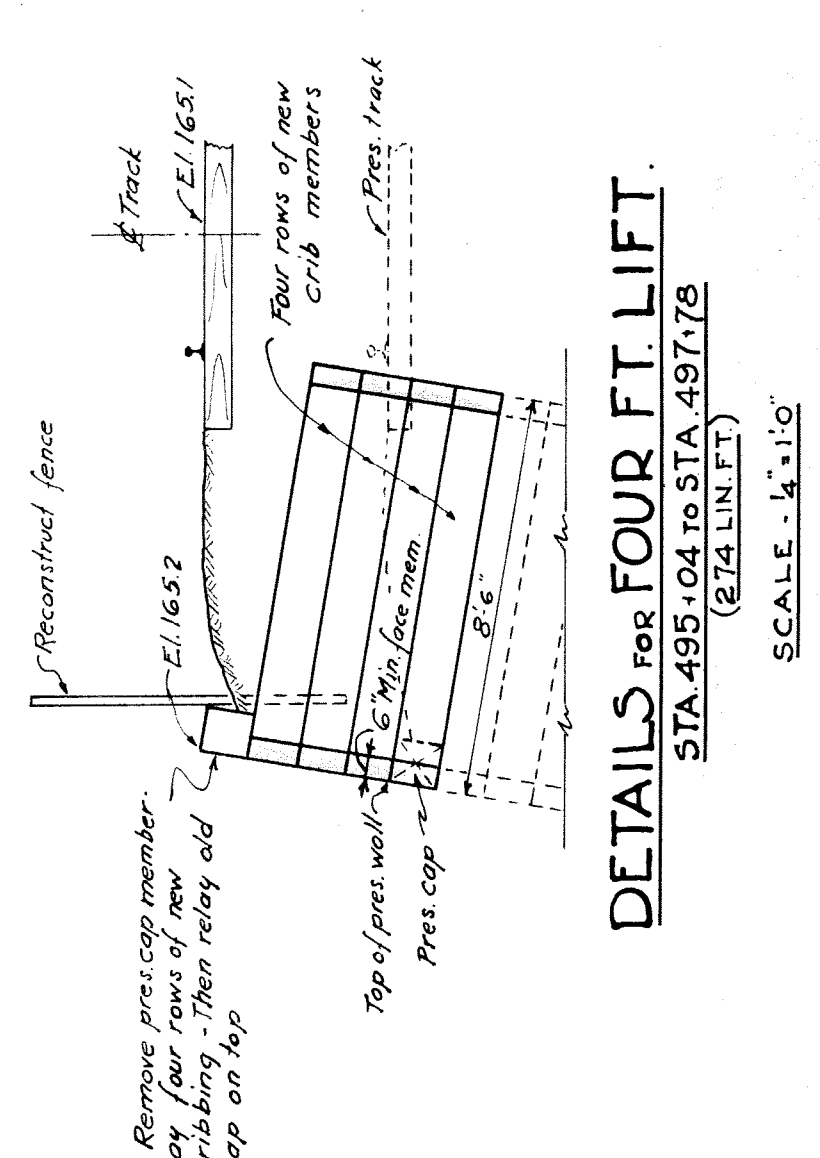
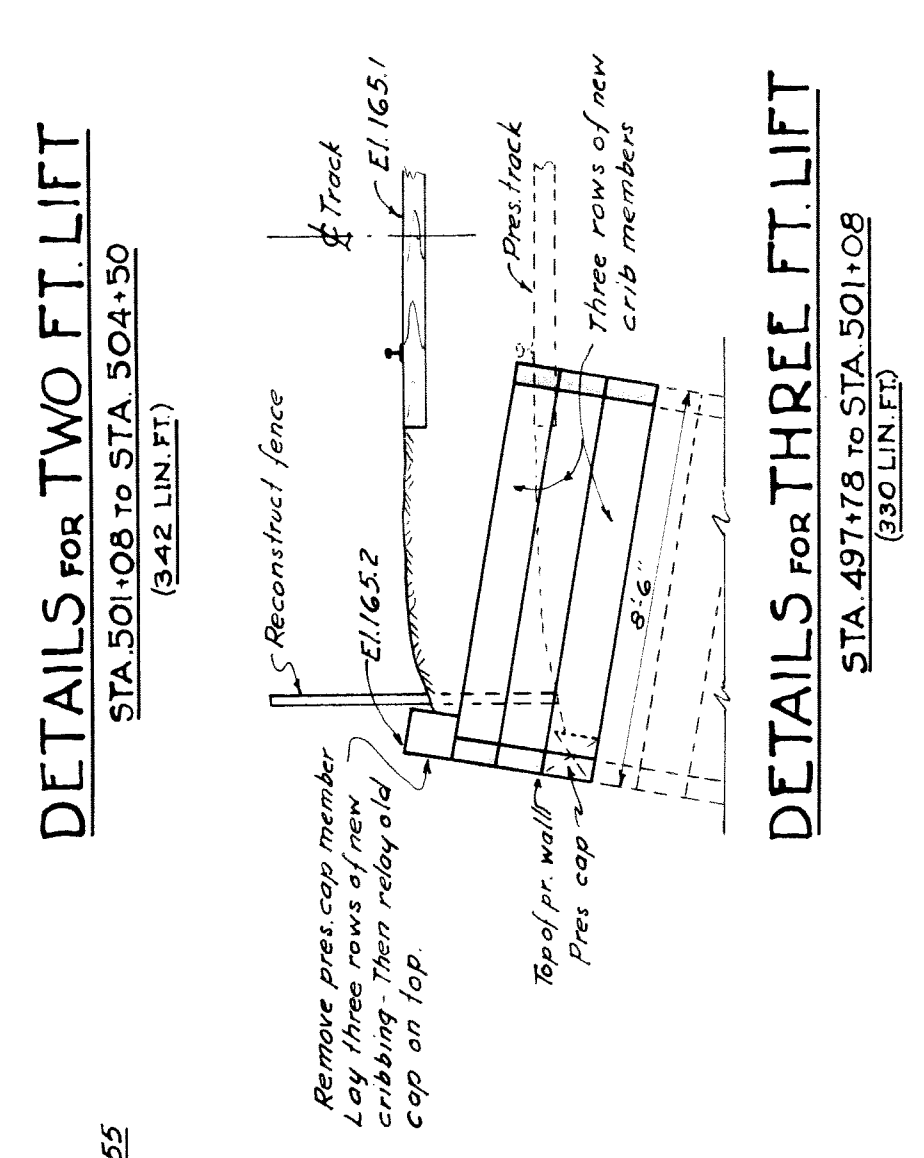
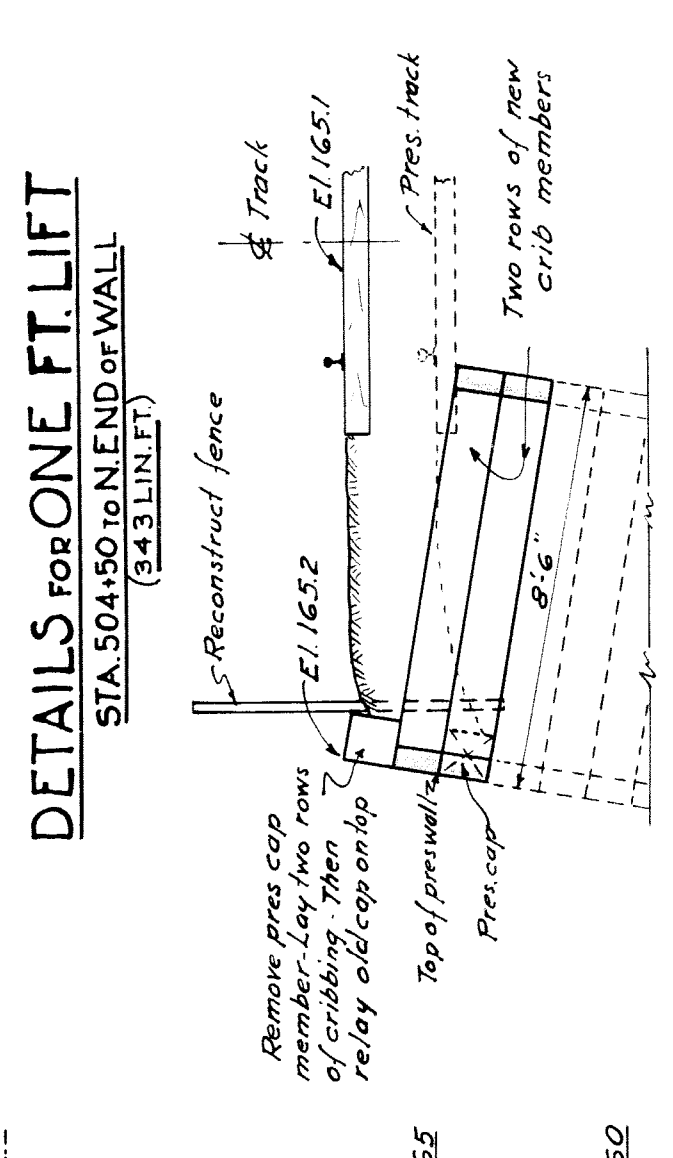
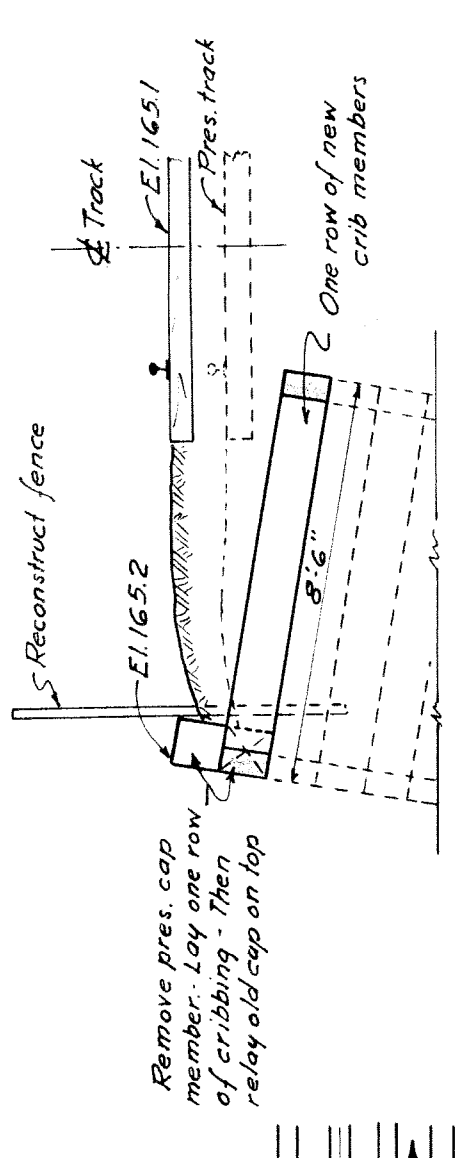
**SCHEDULE OF OPERATIONS**  
LOADING PLATFORM DETAILS  
SCALES AS NOTED

APPROVED: *H.A. Knight*  
CHIEF ENGINEER  
ENGINEER OF BRIDGE DESIGN  
4-21-37

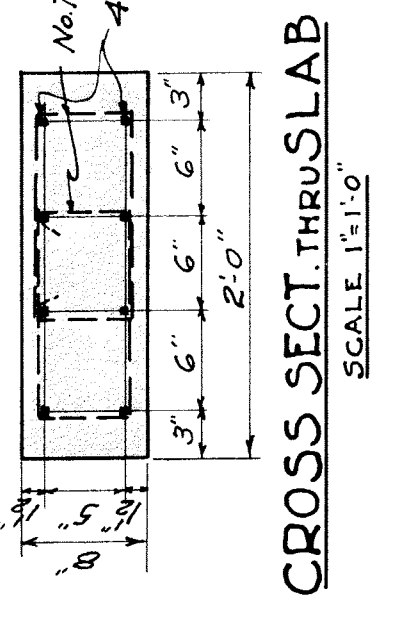
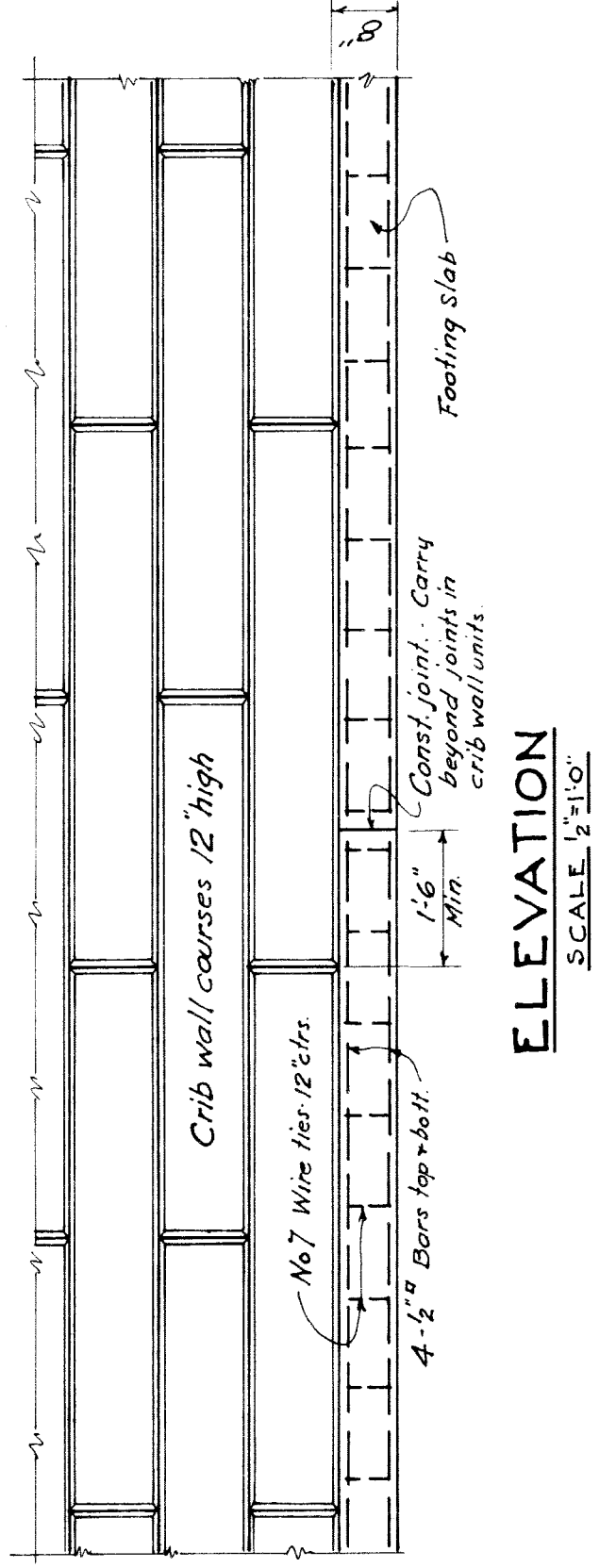
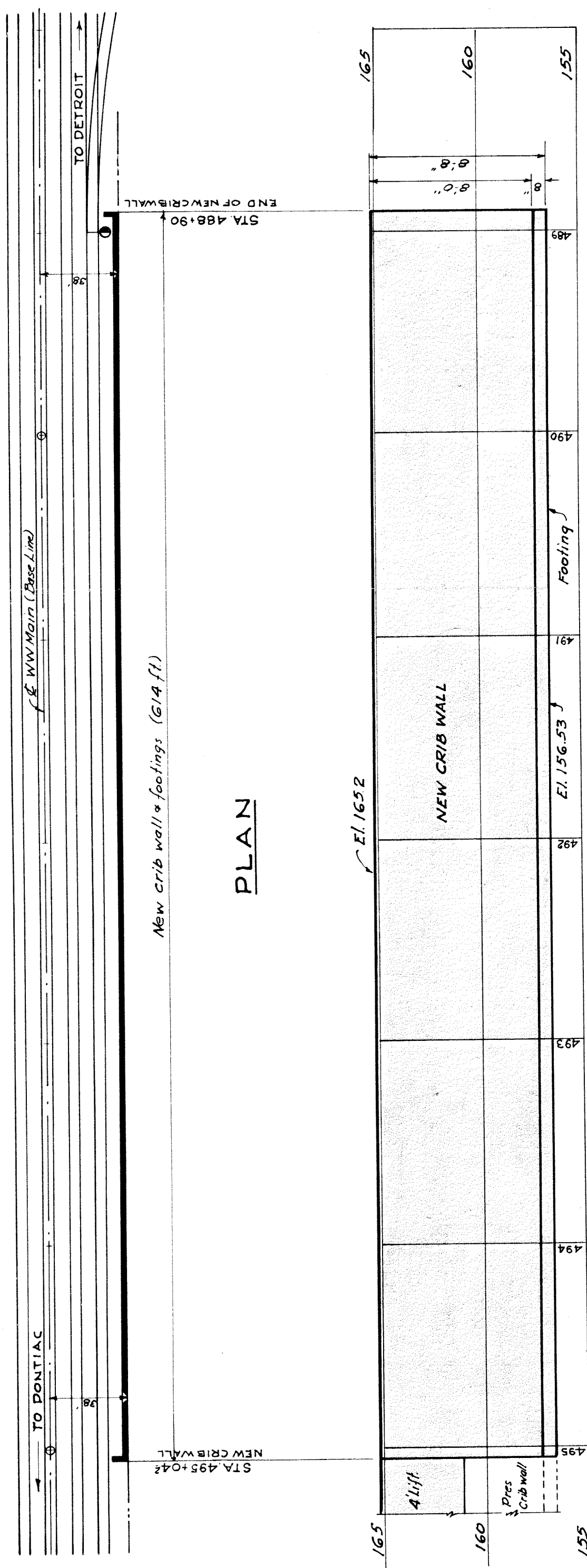
NO.	REVISIONS	DATE	BY

SQUAD BOSS	R. A. W.
DRAWN BY	M. J. B. T. H. J. MAR. 17, '39
TRACED BY	L. W. S. APR. 3, '39
CHECKED BY	R. A. W. APR. 3, '39
SHEET	5 OF 17

X4 of 8222-26



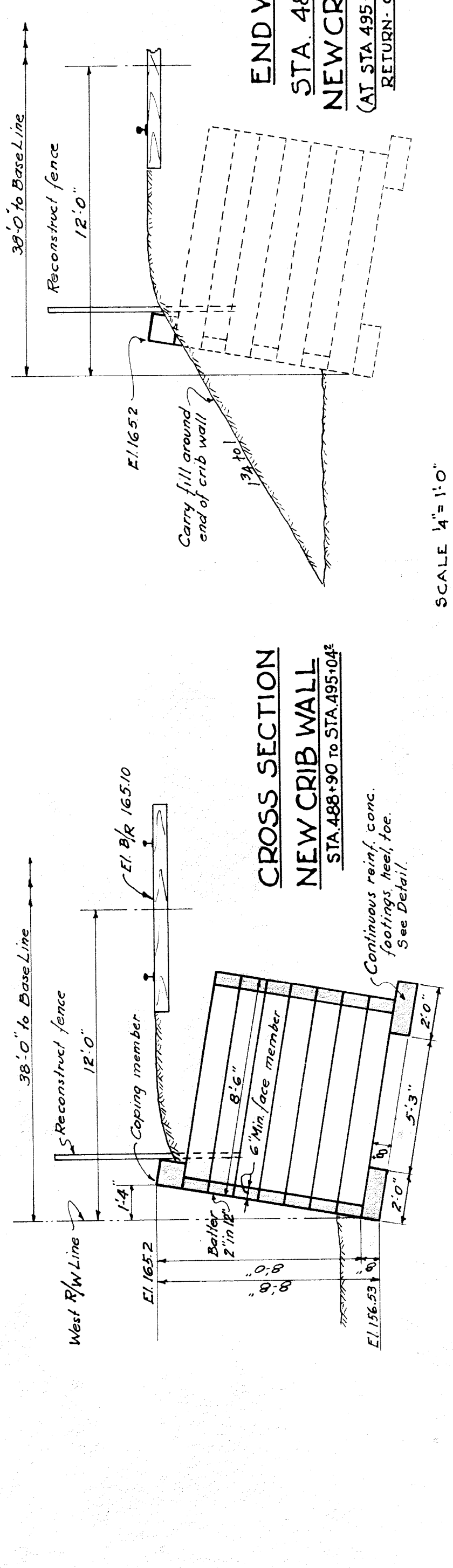
**ELEVATION**  
ADDITION TO PRES. CRIB WALL  
SCALE: HOR. 1" = 30' VERT. 1" = 3'



**DETAILS FOR FOOTING SLABS**

QUANTITIES	
EXCAVATION	1735 Cu Yd
CRIBBING	8025 Sq Ft.
CONCRETE	61.0 Cu Yd
REINFORCING	9500*

**ELEVATION**  
NEW CRIB WALL & FOOTINGS  
SCALE: HOR. 1" = 30' VERT. 1" = 3'



MICHIGAN STATE HIGHWAY DEPARTMENT  
MURRAY D. VAN WAGONER - COMMISSIONER  
SEC. 2 T. 15 R. 11 E TWP. WAYNE CO.  
BRIDGE FILE NO. X-4 OF 82-22-26 ROAD STATE FAIR AT STA. CROSSING G.T. W. R.R. IN CITY OF DETROIT

CONCRETE CRIB WALLS

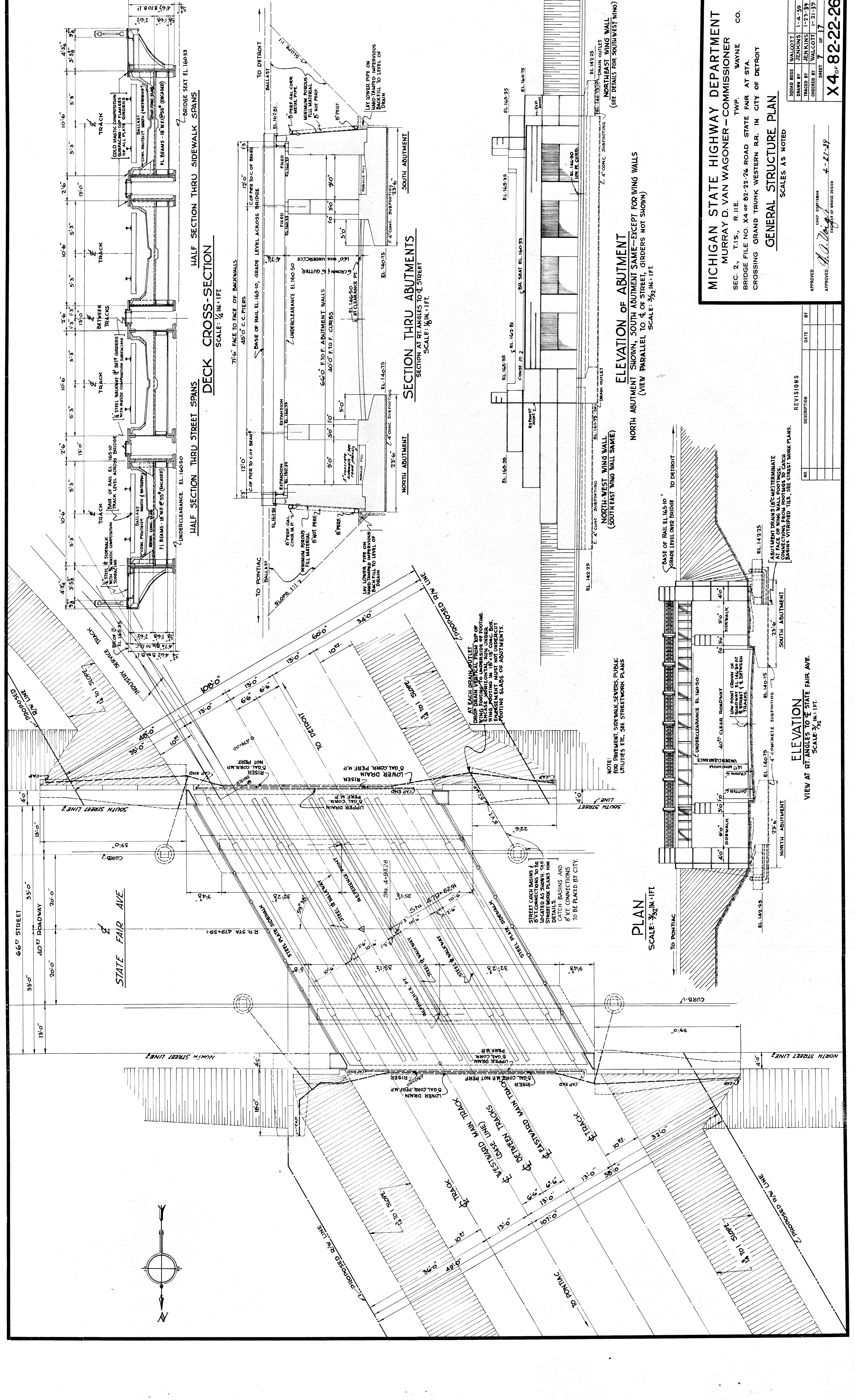
SCALE: AS NOTED

REVISIONS			
NO.	DESCRIPTION	DATE	BY

APPROVED: *A. A. [Signature]* ENGINEER OF BRIDGE DESIGN  
DATE: 4-11-37

APPROVED: *[Signature]* SQUAD BOSS  
DRAWN BY: M. J. B. JAN. 16, 39  
CHECKED BY: R. E. M. JAN. 18, 39  
SHEET 6 OF 17

X4 OF 82-22-26



**MICHIGAN STATE HIGHWAY DEPARTMENT**  
**MURRAY D. VAN WAGONER - COMMISSIONER**  
 SEC. 2, T. 15 S., R. 11 E.  
 BRIDGE FILE NO. X4 OF 82-22-26 ROAD STATE FAIR AT STA.  
 CROSSING GRAND TRUNK WESTERN R.R. IN CITY OF DETROIT

**GENERAL STRUCTURE PLAN**  
 SCALES AS NOTED

APPROVED: *A.A. [Signature]*  
 CHIEF ENGINEER

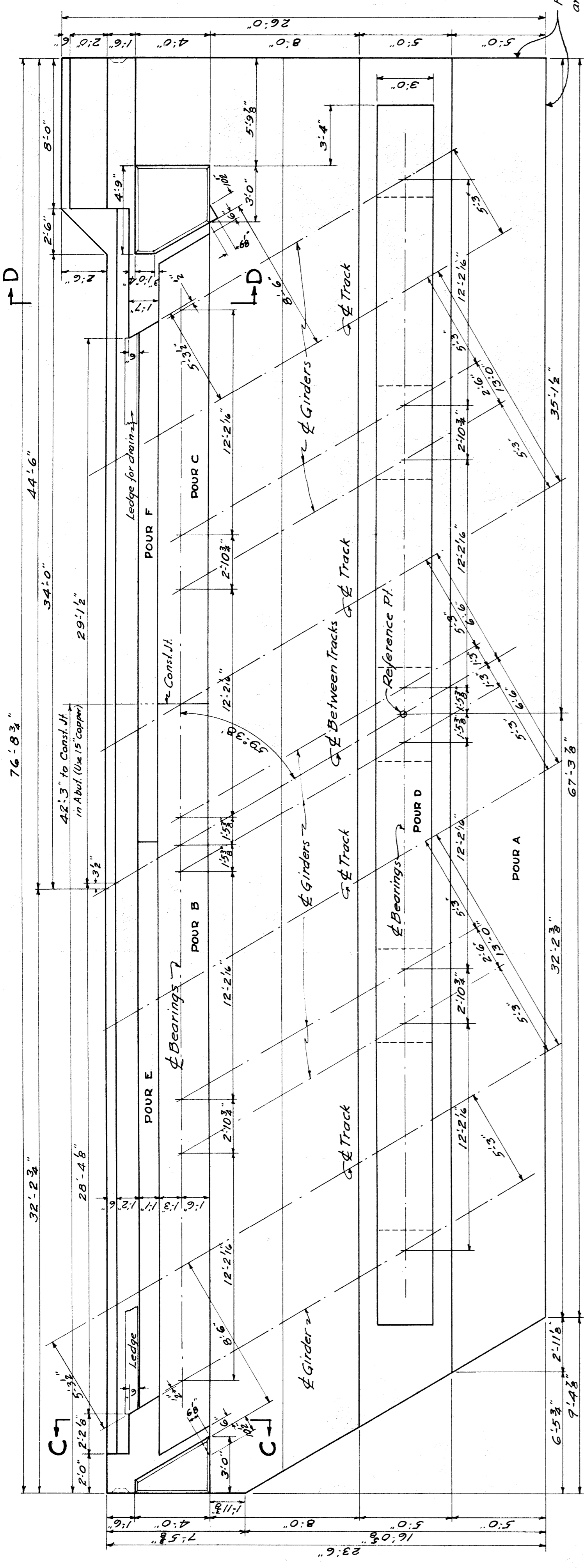
APPROVED: *[Signature]*  
 SUPERVISOR OF BRIDGE DESIGN

DATE: \_\_\_\_\_  
 REVISIONS:

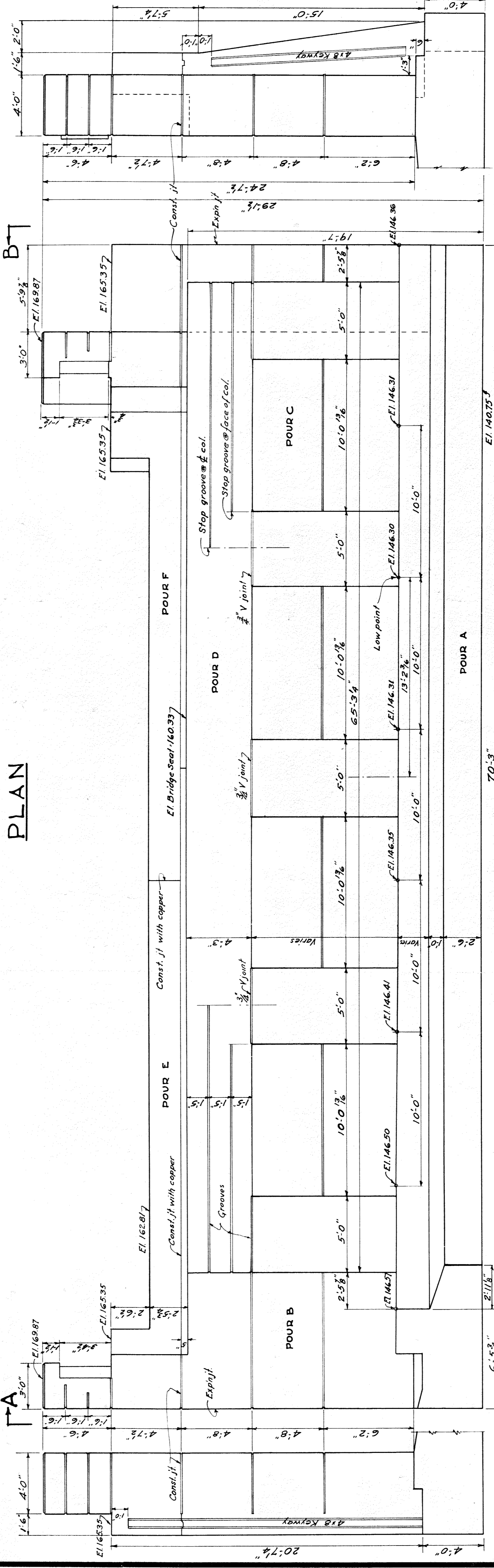
NO.	DESCRIPTION	DATE

SQUAD BOSS: WALCOTT  
 DRAWN BY: JENKINS  
 CHECKED BY: WALCOTT  
 SHEET 7 OF 17  
 1-4-59  
 1-23-59  
 1-21-59

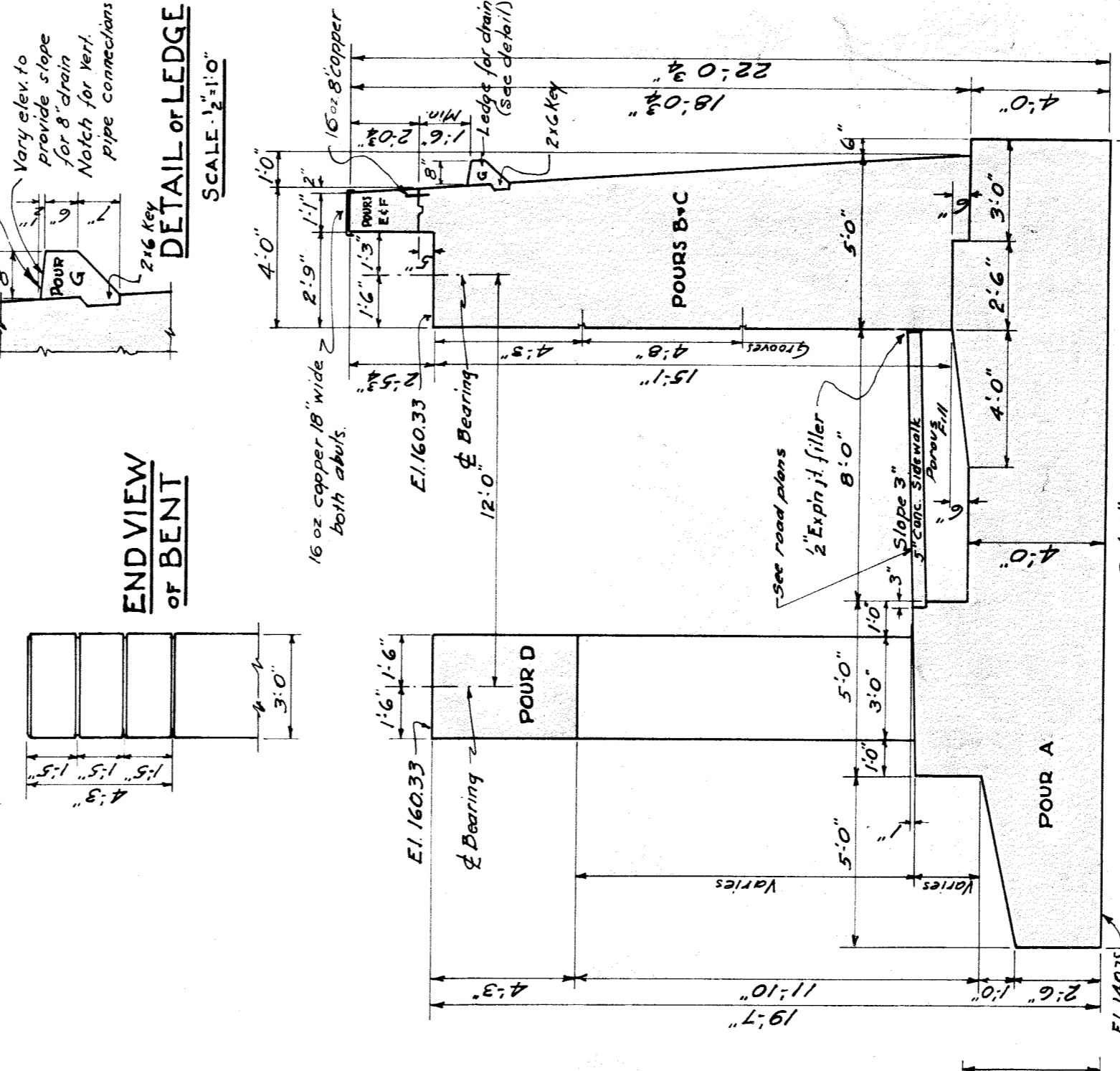
**X4 OF 82-22-26**



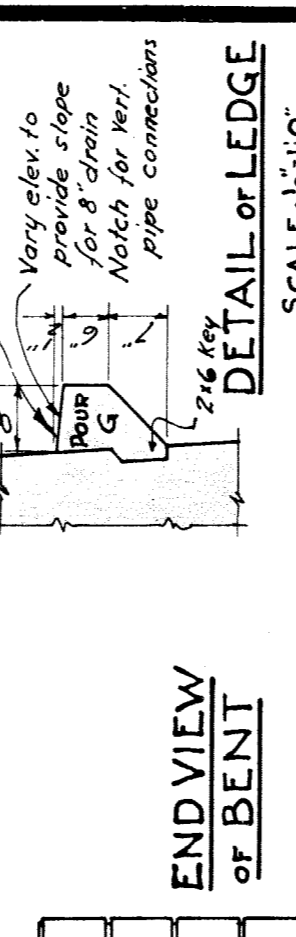
**PLAN**



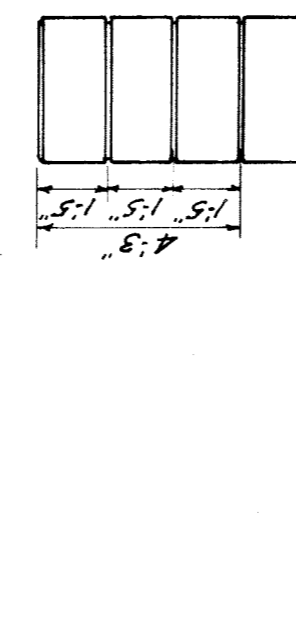
**ELEVATION**



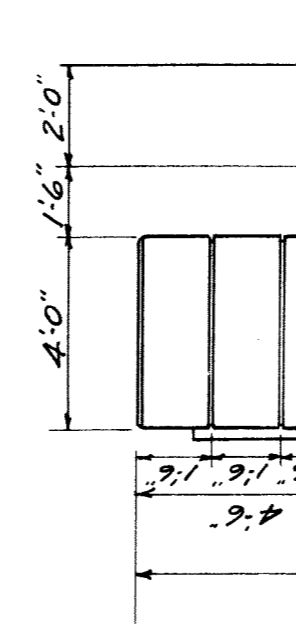
**TYPICAL SECTION**



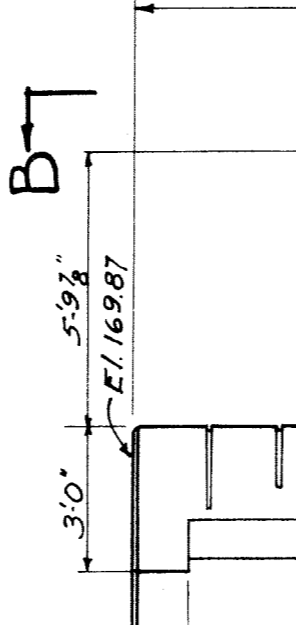
**DETAIL OF LEDGE**



**END VIEW OF BENT**



**DETAIL OF CHAMFER**



**DETAIL OF GROOVE**



**DETAIL OF VERT. JT.**

CONCRETE QUANTITIES NORTH AND SOUTH ABUTMENTS	
POUR	CU. YD.
A	275.1
B	110.0
C	84.9
D	57.8
E	6.8
F	11.5
G	1.3
SEAL COAT	21.6
TOTAL	569.0

NOTE: Ledge for drain (Pour G) may be poured integral with abut. in start sections bet. form studs. Le. leaving notches thru. of studs.

**SEC. CC**

**SEC. DD**

MICHIGAN STATE HIGHWAY DEPARTMENT  
 MURRAY D. VAN WAGONER - COMMISSIONER  
 SEC. 2 T. 15. R. 11E  
 BRIDGE FILE NO. X4 OF 82-22-26 ROAD STATE FAIR AT STA. CROSSING G.T.W.R.R. IN CITY OF DETROIT

NOTE: Provide 4" concrete subfooting under abutment footings.

NOTE: NORTH & SOUTH ABUTTS ARE EXACTLY ALIKE.

**DETAIL OF CHAMFER**

**DETAIL OF GROOVE**

**TYPICAL VERT. JT.**

USE FOR ALL EXPOSED EDGES EXCEPT AT GROOVES.

NO.	DESCRIPTION	DATE	BY

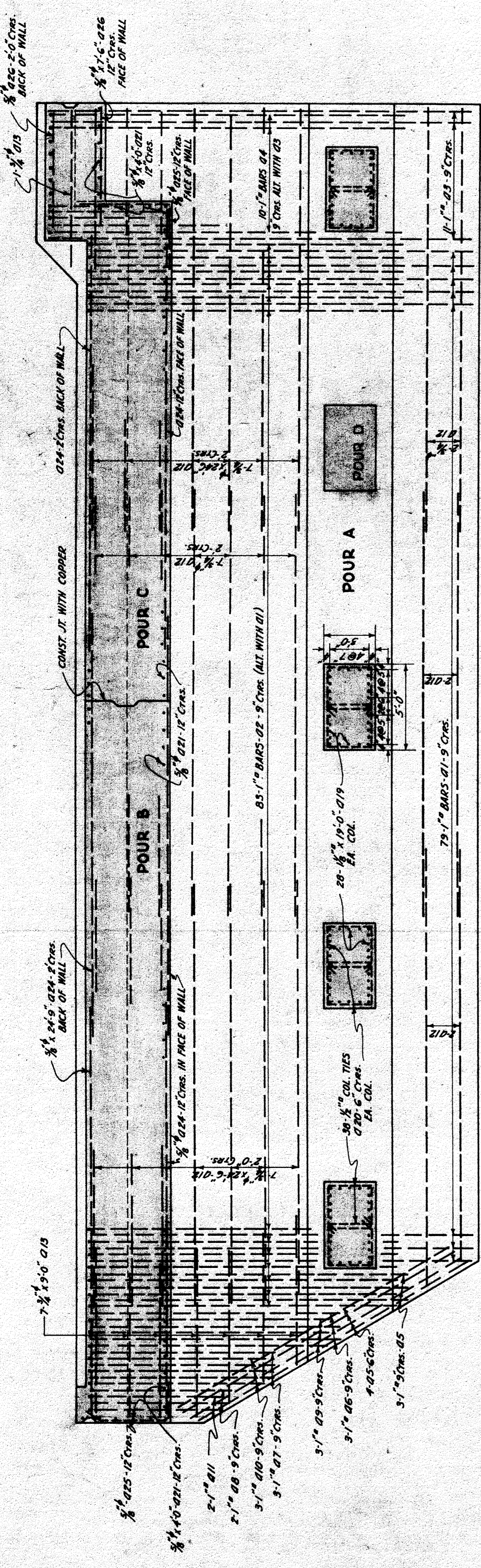
**REVISIONS**

APPROVED: *M. A. Doughty*  
 CHIEF ENGINEER  
 ENGINEER OF BRIDGE DESIGN

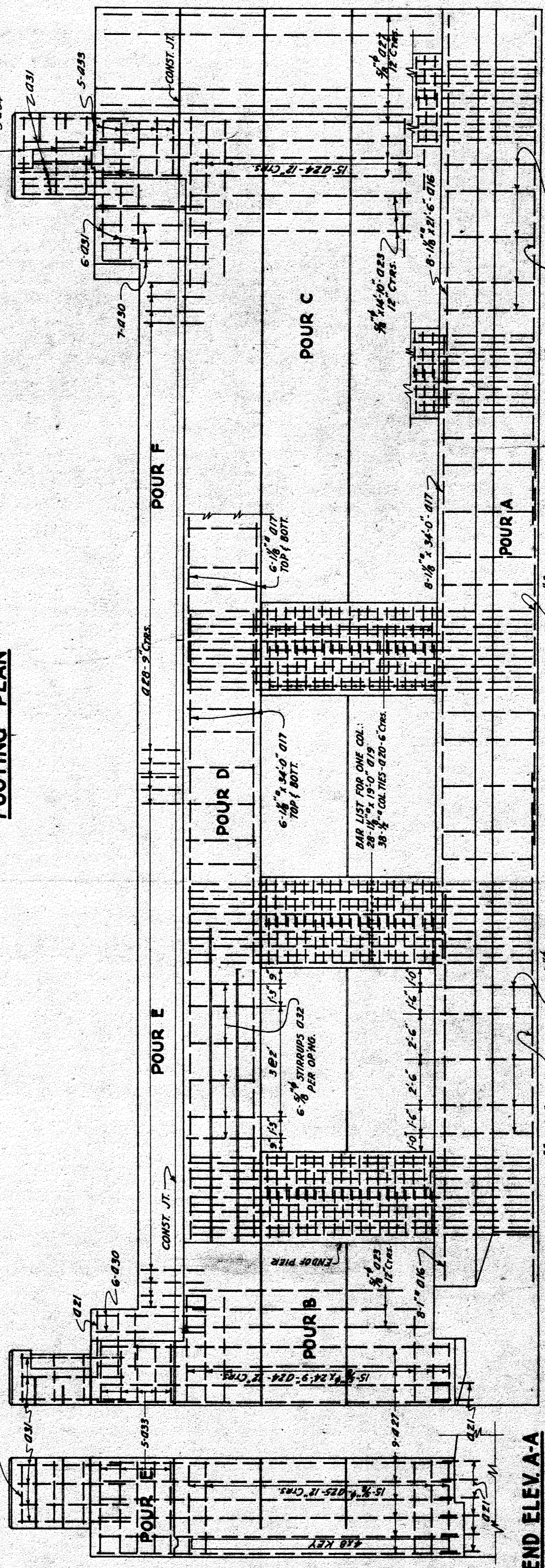
SQUAD BOSS: R. A. W.  
 DRAWN BY: M. J. B.  
 CHECKED BY: M. J. B.  
 SHEET: 8 OF 17

X4 OF 82-22-26

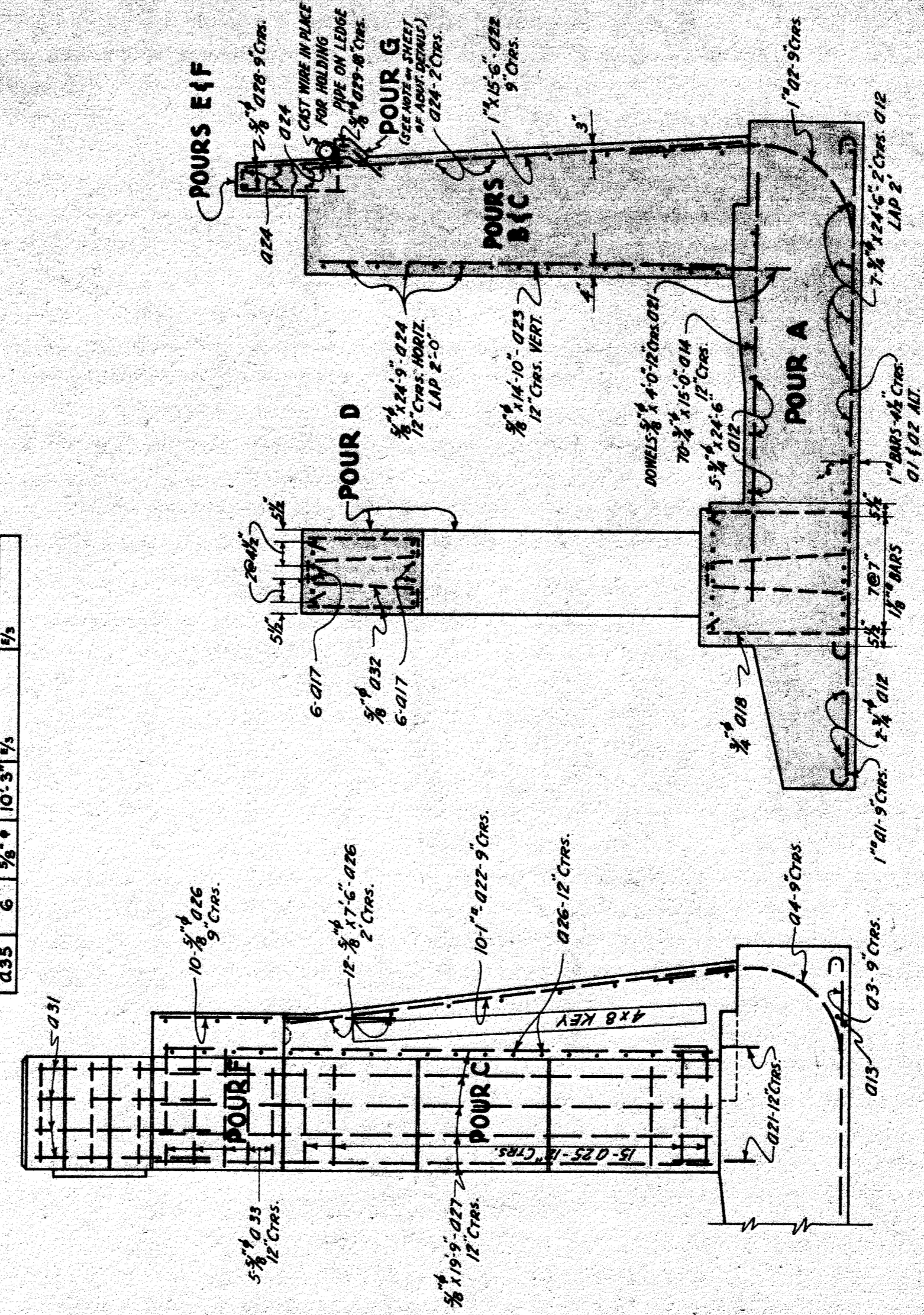
BAR LIST - ABUTMENTS		
BAR LIST	POUR AND NO OF BARS	POUR AND NO OF BARS
MARK NO/REF	SIZE	LENGTH NORTH/ABUT SOUTH ABUT.
G1	1/2"	25'-0"
G2	1/2"	25'-0"
G3	1/2"	27'-0"
G4	20	27'-0"
G5	1/4"	20'-0"
G6	1/2"	15'-0"
G7	1/2"	15'-0"
G8	1/2"	15'-0"
G9	1/2"	17'-0"
G10	1/2"	17'-0"
G11	1/2"	15'-0"
G12	1/2"	24'-0"
G13	1/2"	24'-0"
G14	1/2"	28'-0"
G15	1/2"	28'-0"
G16	1/2"	21'-0"
G17	1/2"	25'-0"
G18	1/2"	25'-0"
G19	1/2"	10'-0"
G20	1/2"	10'-0"
G21	1/2"	15'-0"
G22	1/2"	14'-0"
G23	1/2"	24'-0"
G24	1/2"	24'-0"
G25	1/2"	21'-0"
G26	1/2"	21'-0"
G27	1/2"	21'-0"
G28	1/2"	21'-0"
G29	1/2"	21'-0"
G30	1/2"	21'-0"
G31	1/2"	21'-0"
G32	1/2"	21'-0"
G33	1/2"	21'-0"
G34	1/2"	21'-0"
G35	1/2"	21'-0"



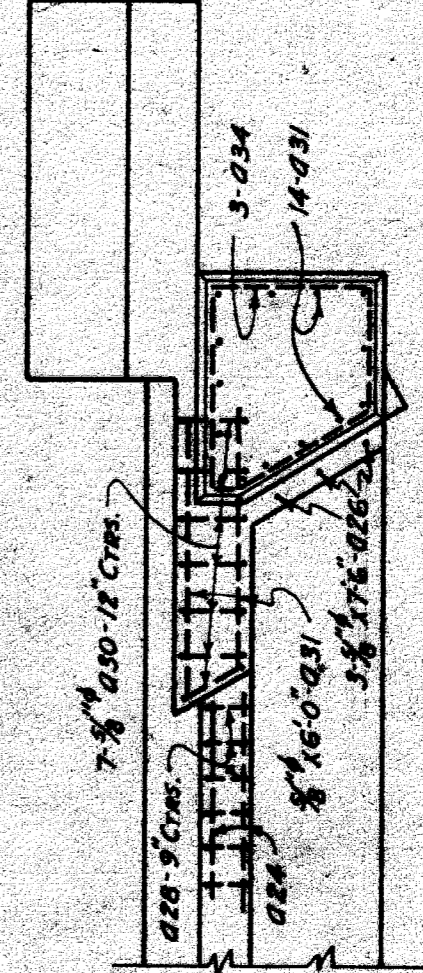
**FOOTING PLAN**



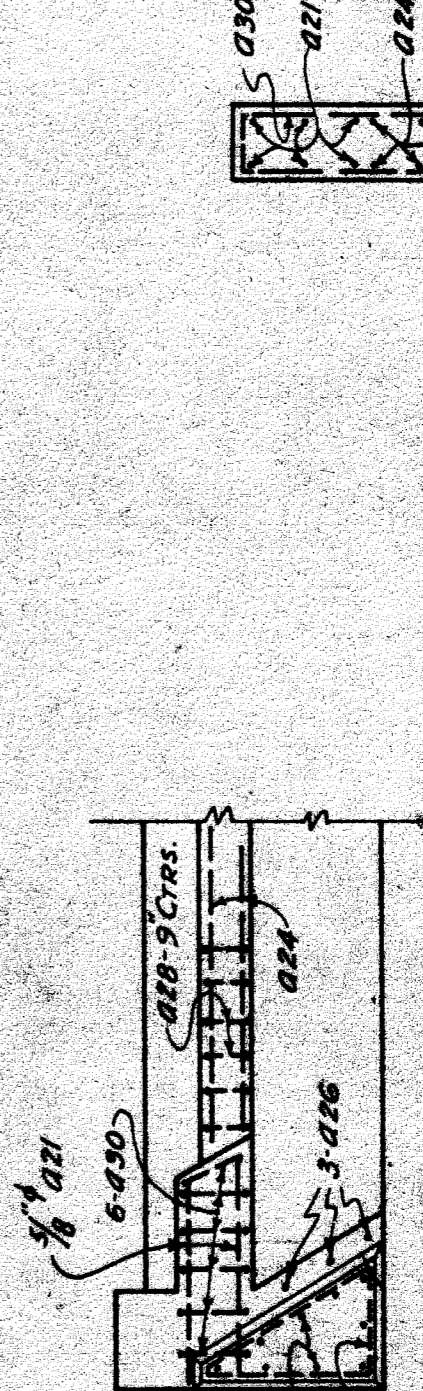
**ELEVATION**



**TYPICAL SECTION**



**PLAN AT ENDS**



**SEC. AT ENDS**

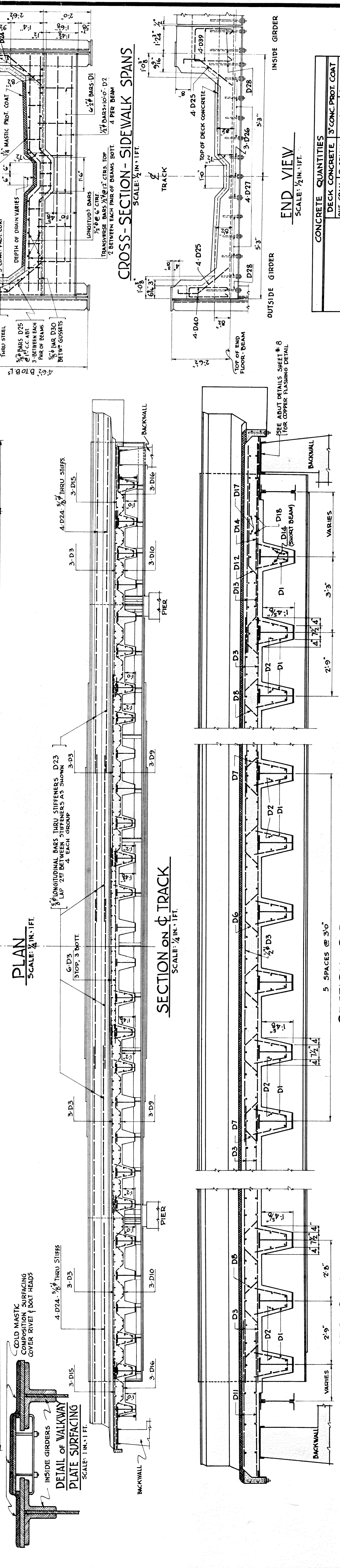
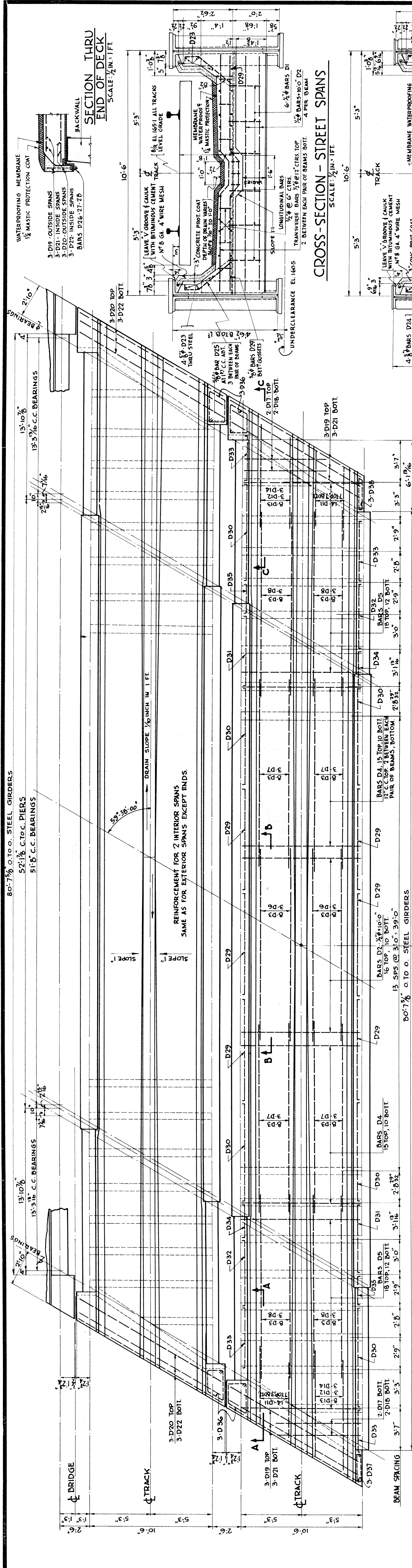
MICHIGAN STATE HIGHWAY DEPARTMENT  
MURRAY D. VAN WAGONER - COMMISSIONER  
WAYNE CO.  
TWP. IN CITY OF DETROIT  
BRIDGE FILE NO. X4 OF 82-22-26 ROAD STATE FAIR AT STA. CROSSING G.T.W. R.R.  
**ABUTMENT REINFORCING**

APPROVED: *[Signature]* 4-27-39  
ENGINEER: *[Signature]*  
DRAWN BY: E.L.S. JAN. 1939  
CHECKED BY: E.L.S. JAN. 1939  
SHEET 8 OF 17  
X4 OF 82-22-26

NO.	REVISIONS	DATE	BY







MICHIGAN STATE HIGHWAY DEPARTMENT  
MURRAY D. VAN WAGONER - COMMISSIONER  
SEC. 2., T. 1 S., R. 11 E.  
BRIDGE FILE NO. X4 OF 82-22-26 ROAD STATE FAIR AT STA.  
CROSSING GRAND TRUNK WESTERN R.R. IN CITY OF DETROIT.

APPROVED: *M.D. Van Wagoner*  
ENGINEER OF BRIDGE DESIGN

APPROVED: *H.A. Goff*  
CHIEF DRAFTSMAN

APPROVED: *J.W. Jenkins*  
DRAWN BY

APPROVED: *J.W. Jenkins*  
CHECKED BY

APPROVED: *W.C. Walcott*  
SQUAD BOSS

DATE: 12-8-38  
SHEET 11 OF 17  
X4 OF 82-22-26

CONCRETE QUANTITIES

DECK CONCRETE	3" CONC. PROT. COAT
ONE SPAN	2 SPANS
457 C.Y.	914 C.Y.
457 C.Y.	914 C.Y.
TOTALS	1820 C.Y.
	2000 C.Y.

REVISIONS

NO.	DESCRIPTION	DATE	BY

BAR LIST - ABUTMENTS			
MARK	NO	SIZE	WEIGHT
Q1	158	1" 25'0"	13430
Q2	166	1" 25'5"	14350
Q3	22	1" 27'6"	2057
Q4	20	1" 27'11"	1899
Q5	14	1" 20'6"	976
Q6	6	1" 17'0"	347
Q7	6	1" 13'6"	275
Q8	4	1" 11'0"	150
Q9	6	1" 21'11"	447
Q10	6	1" 17'11"	365
Q11	4	1" 15'5"	210
Q12	84	3/8" 24'6"	3087
Q13	16	3/8" 9'0"	216
Q14	140	3/8" 15'0"	3150
Q15	32	1/2" 28'0"	3850
Q16	48	1/2" 21'6"	4438
Q17	64	1/2" 34'0"	9857
Q18	40	3/8" 25'4"	1520
Q19	280	1/8" 19'0"	22876
Q20	380	1/2" 10'1"	3256
Q21	184	5/8" 4'0"	765
Q22	182	1" 15'6"	9591
Q23	128	1" 14'10"	1974
Q24	174	5/8" 24'9"	4479
Q25	60	5/8" 7'3"	452
Q26	96	5/8" 7'6"	749
Q27	46	5/8" 19'9"	945
Q28	152	5/8" 8'3"	1304
Q29	76	5/8" 3'9"	296
Q30	26	5/8" 16'3"	439

BAR LIST - ABUTMENTS-CONT'D			
MARK	NO	SIZE	WEIGHT
Q31	58	5/8" 6'0"	362
Q32	48	5/8" 17'10"	890
Q33	20	5/8" 8'2"	170
Q34	6	5/8" 14'6"	90
Q35	6	5/8" 10'3"	64
TOTAL			108826

BAR LIST - WING WALLS			
MARK	NO	SIZE	WEIGHT
W1	20	1" 27'6"	1122
W2	16	1" 27'0"	881
W3	12	3/4" 26'6"	477
W4	17	3/4" 24'0"	620
W5	17	3/4" 22'0"	561
W6	17	5/8" 17'6"	309
W7	17	5/8" 15'3"	270
W8	10	1" 9'3"	189
W9	6	3/4" 31'0"	279
W10	32	5/8" 6'0"	200
W11	48	5/8" 4'6"	225
W12	25	5/8" 21'6"	559
W13	43	5/8" 11'4"	507
W14	42	5/8" 9'0"	393
W15	125	5/8" 4'0"	520
W16	113	5/8" 8'0"	940
W17	22	5/8" 5'10"	133
W18	39	5/8" 10'6"	426
W19	41	5/8" 15'3"	650
W20	26	5/8" 19'10"	536
W21	34	5/8" 31'0"	1096
W22	16	5/8" 12'6"	208
W23	17	5/8" 14'6"	256
W24	10	5/8" 7'0"	73
W25	5	3/4" 25'4"	190
W26	11	3/4" 21'3"	351
W27	11	5/8" 18'10"	215
W28	16	5/8" 7'2"	119
W29	11	5/8" 17'6"	200
W30	7	5/8" 18'0"	131
W31	3	5/8" 10'0"	31
W32	9	5/8" 5'9"	54
TOTAL			12,721

BAR LIST - DECK			
MARK	NO	SIZE	WEIGHT
D1	648	1/2" 3'5"	1479
D2	520	1/2" 10'0"	3474
D3	392	1/2" 16'6"	4521
D4	200	1/2" 10'3"	1369
D5	240	1/2" 10'5"	1683
D6	24	1" 18'10"	302
D7	48	1" 18'7"	596
D8	48	1" 18'2"	582
D9	24	1" 17'4"	279
D10	24	1" 17'8"	283
D11	112	1/2" 6'6"	486
D12	24	1/2" 7'9"	124
D13	64	1/2" 9'0"	385
D14	56	1/2" 5'0"	187
D15	24	1/2" 7'0"	112
D16	24	1/2" 7'3"	116
D17	16	1/2" 7'4"	78
D18	16	1/2" 7'0"	75
D19	12	3/4" 13'4"	167
D20	12	5/8" 14'10"	186
D21	12	5/8" 13'0"	163
D22	12	5/8" 14'6"	181
D23	128	5/8" 14'6"	1936
D24	64	5/8" 16'0"	1068
D25	712	5/8" 2'4"	1732
D26	24	5/8" 0'6"	18
D27	64	5/8" 0'10"	48
D28	40	5/8" 1'6"	114
D29	24	5/8" 9'4"	234
D30	24	5/8" 9'0"	225
D31	8	5/8" 6'6"	54
D32	8	5/8" 6'1"	51
D33	16	5/8" 5'9"	96
D34	8	5/8" 3'6"	29
D35	8	5/8" 3'1"	26
D36	36	5/8" 6'10"	257
D37	6	5/8" 3'10"	24
D38	6	5/8" 4'4"	27
D39	48	5/8" 5'1"	255
D40	16	5/8" 4'0"	67
TOTAL			23,595

MICHIGAN STATE HIGHWAY DEPARTMENT  
MURRAY D. VAN WAGONER - COMMISSIONER  
SEC. 2 T. 15 R. 11 E  
BRIDGE FILE NO. X4 OF 82-22-26 ROAD STATE FAIR AT STA.  
CROSSING G.T.W. RR. IN CITY OF DETROIT.  
WAYNE CO.

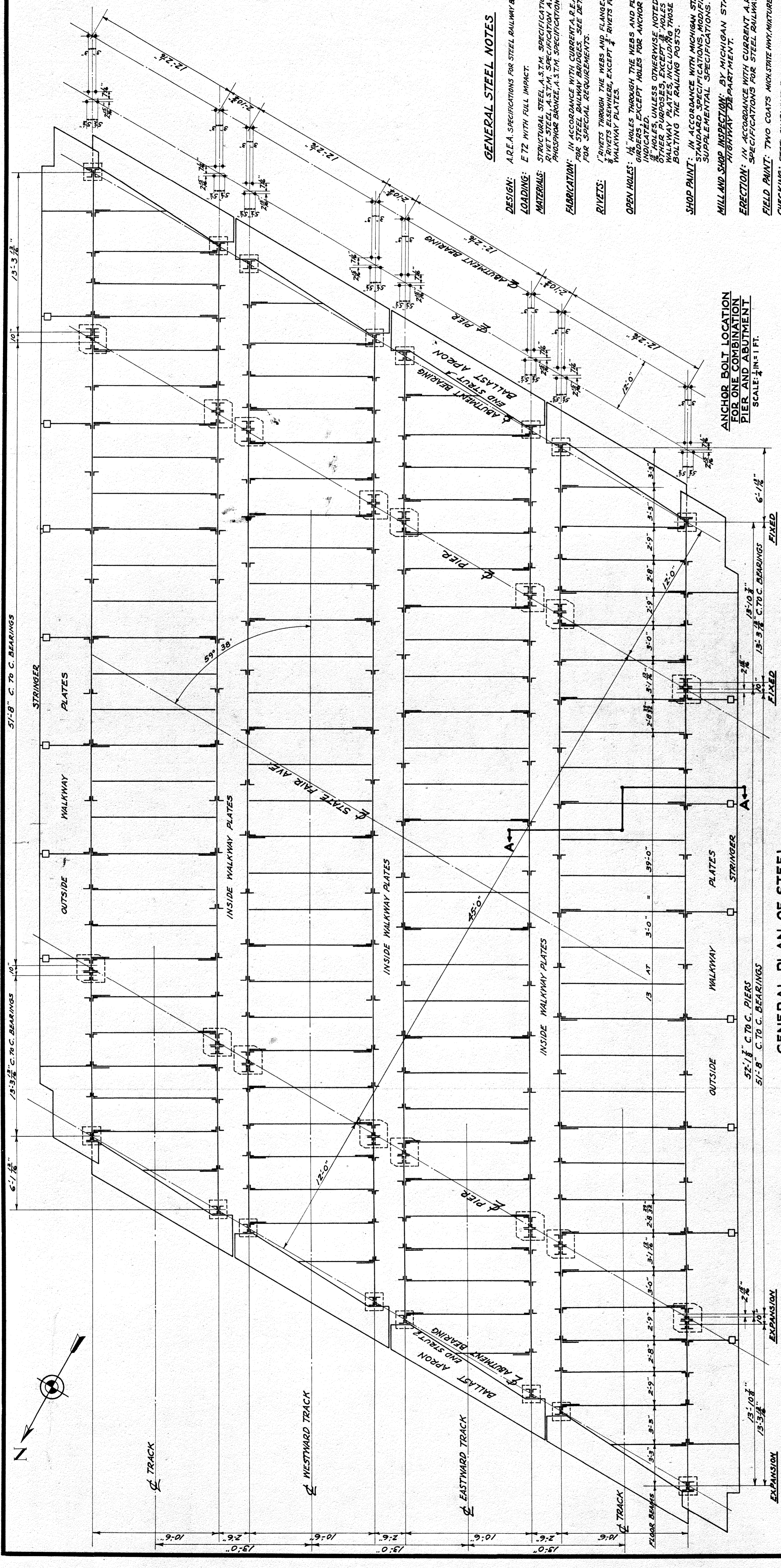
LIST OF REINFORCING BARS

SQUAD BOSS	E. A. V.	JAN 20 39
DRAWN BY	M. J. B.	JAN 23 39
CHECKED BY	R. A. W.	
APPROVED	H. A. [Signature]	4-21-37
ENGINNER	BRIDGE DESIGN	

NO	DESCRIPTION	DATE	BY

REVISIONS

X4 OF 82-22-26

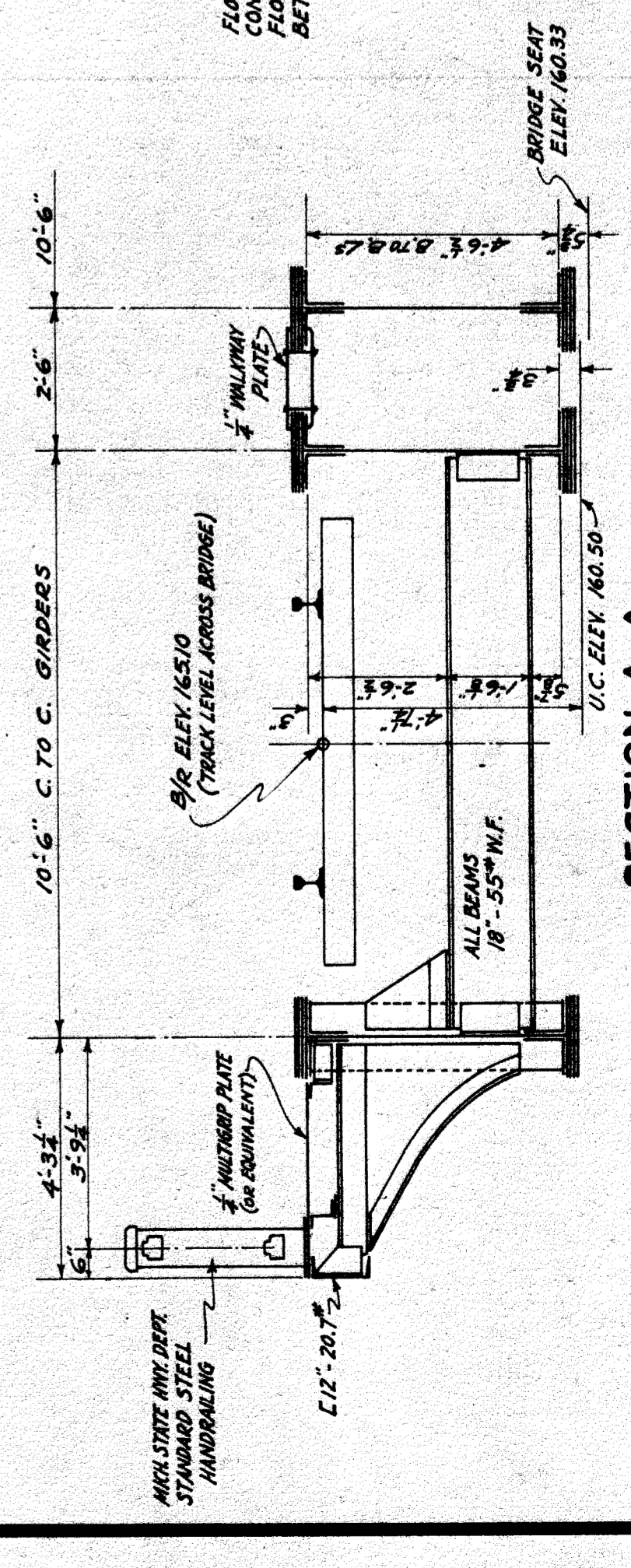


**GENERAL PLAN OF STEEL**  
SCALE: 1/4" = 1 FT.

DESCRIPTION OF STEEL  
THE STRUCTURAL STEEL COMPRISES FOUR SINGLE-TRACK BRIDGES OF SIX GIRDERS EACH, WITH FLOOR BEAMS, OUTSIDS, END STRUTS, BALLAST APRONS, RAILINGS, ANCHOR BOLTS, AND ALL WALKWAYS, FLOOR PLATES, RAILINGS, ANCHOR BOLTS, AND CONNECTIONS, BESIDES THREE INSIDE WALKWAYS BETWEEN ADJACENT GIRDERS.

**TABLE OF FUNCTIONS**

MEMBER	LOAD	MAX. MOM. IN FT. - LBS.	MAX. SHEAR IN LBS.	SECTION
LONG GIRDER	D.L.	1,183,000	91,000	WEB PLATE 54" x 1/2"
	L.L.	1,828,000	161,000	FLANGE ANGLES 8" x 8" x 1"
	TOTAL	4,442,000	378,000	COVER PLATES 4" - 10" x 1/2" (each flange)
SHORT GIRDER	D.L.	79,800	23,600	WEB PLATE 54" x 1/2"
	L.L.	184,500	67,900	FLANGE ANGLES 6" x 6" x 3/8"
	TOTAL	448,900	157,400	COVER PLATES 7" - 8" x 1/2" (each flange)
FLOOR BEAM	D.L.	16,600	7,900	18" - 55" W.F. FOR ALL
	L.L.	59,500	27,400	FLOOR BEAMS
	TOTAL	136,600	51,100	SECT. MID. ROUNDED 98.2 IN.



**SECTION A-A**  
SCALE: 3/8" = 1 FT.

**GENERAL STEEL NOTES**

- DESIGN:** A.R.E.A. SPECIFICATIONS FOR STEEL RAILWAY BRIDGES (CURRENT).
- LOADING:** E 72 WITH FULL IMPACT.
- MATERIALS:** STRUCTURAL STEEL, A.S.T.M. SPECIFICATION A7-36; RIVETS, STEEL, A.S.T.M. SPECIFICATION A14-36; PHOSPHOR BRONZE, A.S.T.M. SPECIFICATION E100-35 (QUAD).
- FABRICATION:** IN ACCORDANCE WITH CURRENT A.R.E.A. SPECIFICATIONS FOR STEEL RAILWAY BRIDGES. SEE DETAIL SHEETS FOR SPECIAL REQUIREMENTS.
- RIVETS:** 1" RIVETS THROUGH THE WEBS AND FLANGES OF GIRDERS; 3/4" RIVETS ELSEWHERE, EXCEPT 1/2" RIVETS FOR FASTENING WALKWAY PLATES.
- OPEN HOLES:** 1/2" HOLES THROUGH THE WEBS AND FLANGES OF GIRDERS, EXCEPT HOLES FOR ANCHOR BOLTS AS SPECIFIED. UNLESS OTHERWISE NOTED, FOR ALL OTHER PURPOSES, UNLESS OTHERWISE SPECIFIED, THE WALKWAY PLATES, INCLUDING THOSE USED FOR BOLTING THE RAILING POSTS.
- SHOP PAINT:** IN ACCORDANCE WITH MICHIGAN STATE HIGHWAY SUPPLEMENTAL SPECIFICATIONS, MODIFIED BY HIGHWAY DEPARTMENT.
- MILL AND SHOP INSPECTION:** BY MICHIGAN STATE HIGHWAY DEPARTMENT.
- ERECTION:** IN ACCORDANCE WITH CURRENT A.R.E.A. SPECIFICATIONS FOR STEEL RAILWAY BRIDGES.
- FIELD PAINT:** TWO COATS MICH. STATE HHT. MIXTURE. SEE SPEC.
- CHECKING:** STEEL COMPANY TO FURNISH DETAILS FOR CHECKING.
- TRACINGS:** STEEL COMPANY TO FURNISH DETAILS FOR CHECKING. TRACINGS OF ALL SHOP DRAWINGS.

**MICHIGAN STATE HIGHWAY DEPARTMENT**  
MURRAY D. VAN WAGONER - COMMISSIONER  
SEC. 2 T. 15. R. 11E. TWP. WAYNE CO.  
BRIDGE FILE NO. X-4 OF 82-22-26 ROAD STATE FAIR AVE.  
CROSSING GRAND TRUNK WESTERN R.R. IN CITY OF DETROIT.

**STRUCTURAL STEEL ERECTION DIAGRAM**  
SCALE: 1/4" = 3/8" IN. = 1 FT.

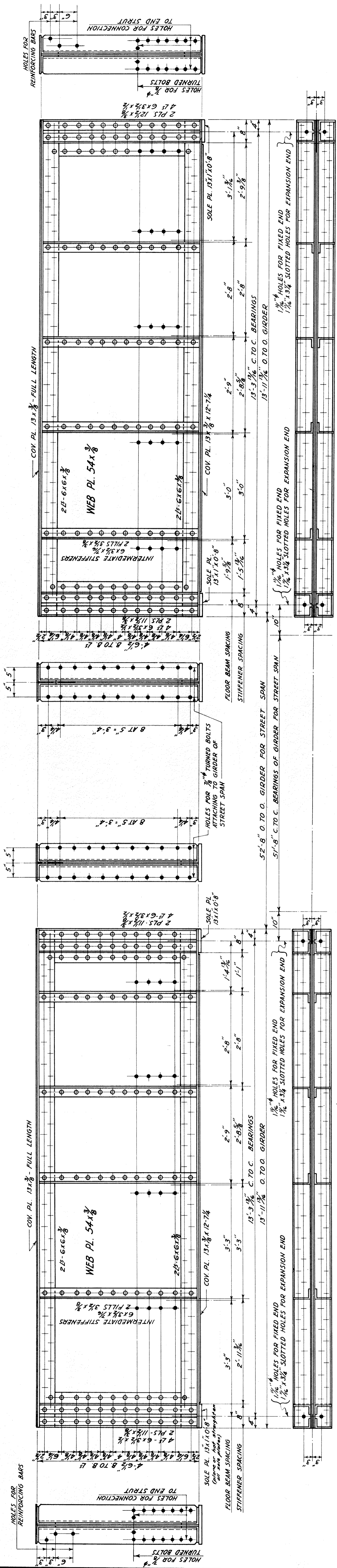
APPROVED: *H.A. [Signature]* ENGINEER IN CHARGE  
DATE: 4-22-39

REVISIONS

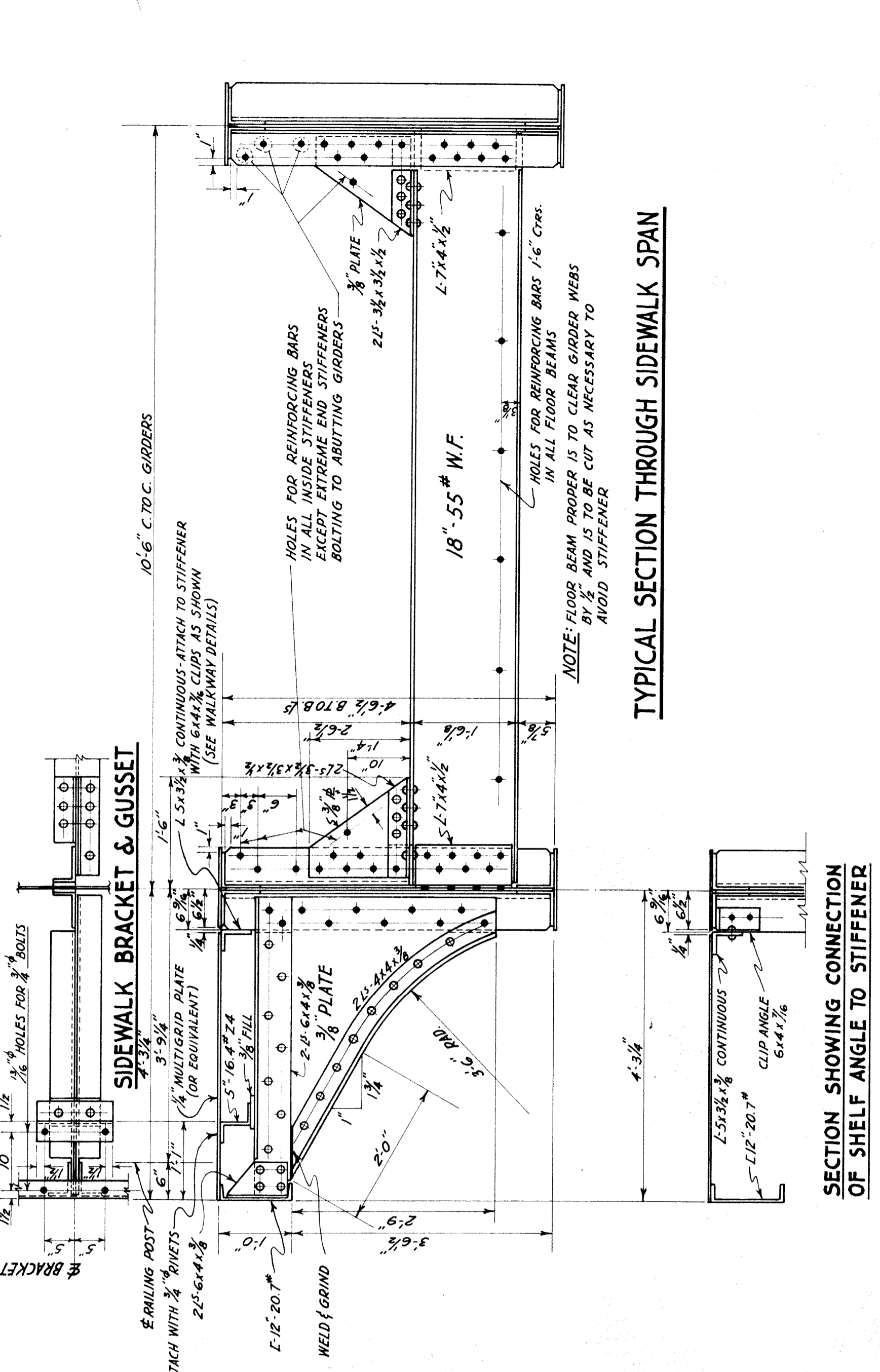
NO.	DESCRIPTION	DATE	BY

ESTIMATED WEIGHTS  
STRUCTURAL STEEL 228.70 TONS (EXCLUDING HAND RAILINGS)  
PHOSPHOR BRONZE 200 POUNDS



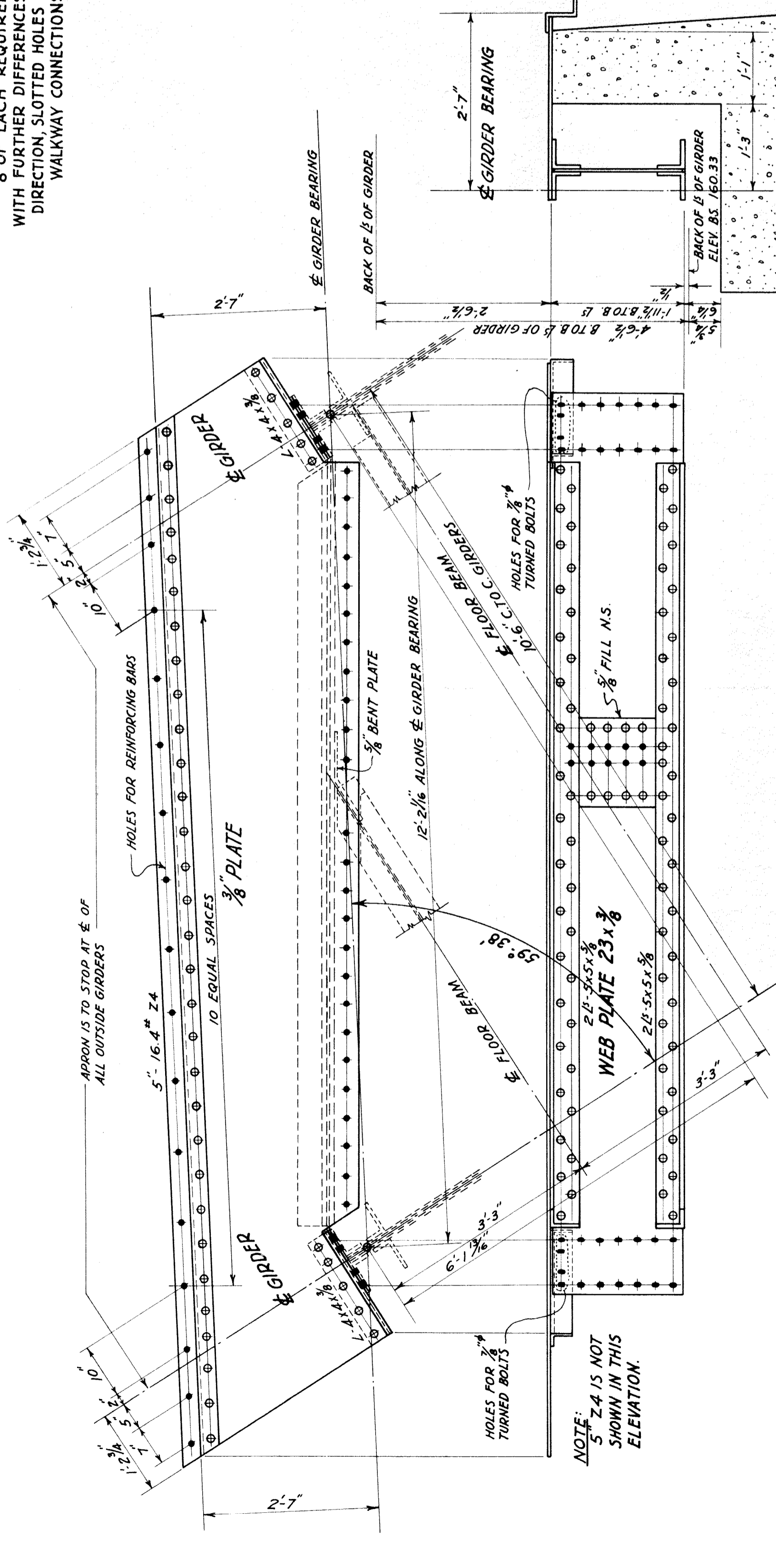


**GIRDERS FOR SIDEWALK SPANS**  
 8 OF EACH REQUIRED WITH FURTHER DIFFERENCES AS TO DIRECTION, SLOTTED HOLES AND WALKWAY CONNECTIONS.



**TYPICAL SECTION THROUGH SIDEWALK SPAN**

**TYPICAL DETAILS OF END STRUT AND BALLAST APRON WITH CONNECTION FOR SHORT FLOOR BEAM**



**NOTES**

RIVETS: 1/4" THROUGH WEB AND FLANGES OF GIRDERS; 3/8" ELSEWHERE, UNLESS NOTED OTHERWISE.  
 HOLES: 1/4" THROUGH WEB AND FLANGES OF GIRDERS AND 3/8" ELSEWHERE, UNLESS NOTED OTHERWISE.  
 FABRICATION: ALL HOLES FOR SHOP RIVETS TO BE SUB-PUNCHED 3/16" SMALL AND REAMED TO SIZE AFTER ASSEMBLY, EXCEPT AS OTHERWISE SPECIFIED. HOLES FOR FIELD CONNECTIONS OF FLOOR BEAMS AND END STRUTS TO BE SUB-PUNCHED 3/16" SMALL AND REAMED TO SIZE THROUGH A METAL TEMPLATE 1/8" THICK. HOLES FOR GUSSETS FOR SIDEWALK BRACKETS AND CLIP ANGLES, AND FOR REINFORCING BARS MAY BE PUNCHED FULL SIZE.

**NOTES**

8 OF EACH REQUIRED WITH DIFFERENCES AS NOTED

NO.	DESCRIPTION	DATE	BY

MICHIGAN STATE HIGHWAY DEPARTMENT  
 MURRAY D. VAN WAGONER - COMMISSIONER  
 SEC. 2 T. 15 R. 11 E  
 BRIDGE FILE NO. X4 OF 82-22-26 ROAD STATE FAIR AVE.  
 CROSSING GRAND TRUNK WESTERN RR. IN CITY OF DETROIT  
 TWP. WAYNE CO.  
**STRUCTURAL STEEL**  
 GIRDERS, FLOOR BEAMS AND BRACKETS FOR SIDEWALK SPANS  
 ALSO END STRUTS AND BALLAST APRONS.  
 SCALE: 3/4" = 1'-0"

APPROVED: *H. D. [Signature]*  
 ENGINEER OF HIGHWAY DESIGN  
 DRAWN BY: [Signature]  
 CHECKED BY: [Signature]  
 SHEET 15 OF 17  
 DATE: 4-22-39

X4-82-22-26