

# BOARD OF WAYNE COUNTY ROAD COMMISSIONERS

DETROIT, MICHIGAN

PHILIP J. NEUDECK

AL BARBOUR

WILLIAM E. KREGER

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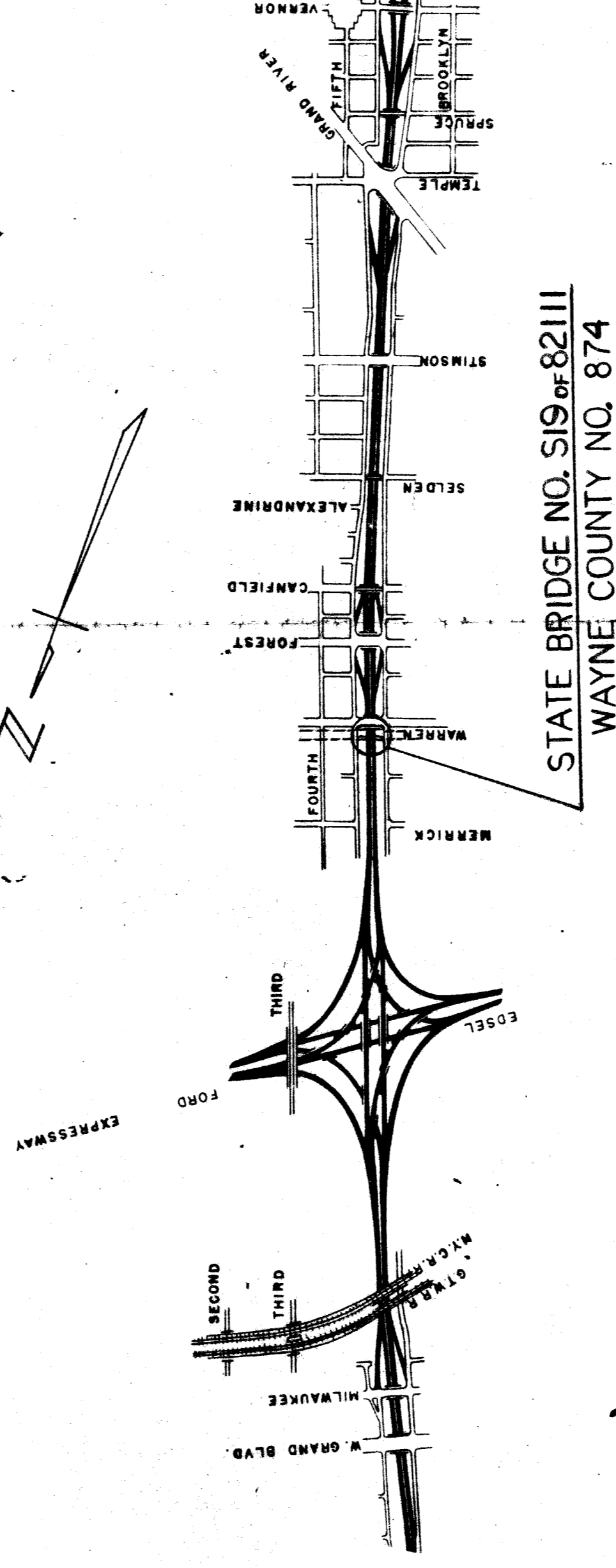
GENERAL NOTES

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, 1965 Edition. The design of this structure is based on the Michigan State Highway Department's Specifications for the design of Highway Bridges, 1958 Edition. E20-S16 Loading, Live load plus impact deflection =  $\frac{1}{1000}$  of span length.

The character of all materials and the extent thereof as shown by borings has been obtained by methods and from sources believed to be reliable. The exactness of this information is however in no case guaranteed. Boring reports are on file in the office of the Wayne County Road Commission, 7th Floor City-County Building, Detroit, Michigan, and are available for inspection.

The Contractor shall contact the Utility Companies regarding their facilities prior to starting work.

All exposed concrete corners shown square on the plans shall be beveled with  $\frac{1}{2}$  triangular moldings except as otherwise noted.



APPROVED  
*S. C. Lodge*  
COUNTY HIGHWAY ENGINEER

STANDARD PLANS NOT TO BE PRINTED  
E-4-a-278-3  
MANHOLES, CATCH BASINS AND INLETS

1966 WIDENING  
S19 of 82111

TITLE SHEET  
JOHN C. LODGE FREEWAY  
WARREN AVE. CROSSING

STATE BRIDGE NO.  
S19 of 82111  
COUNTY JOB  
874  
SHEET NO.  
101

E-2-1

ITEM	UNIT	DATE	DESCRIPTION	UNIT ESTIMATE	QUANTITY FINAL
COUNTY JOB NO. 874					
519 of 82111					
REMOVING AND RELOCATING TYPE B TRUSS	EACH				1
REMOVING AND REPLACING CHAIN LINK FENCE	LUMP SUM				
REMOVING AND REPLACING STEEL BEAM GUARD RAIL	LUMP SUM				
BANK EXCAVATION	CU. YDS.				430
POROUS MATERIAL, GRADE A (COMPACTED IN PLACE)	CU. YDS.				590
POROUS MATERIAL, GRADE B (COMPACTED IN PLACE)	CU. YDS.				16
6" EDGE DRAINS	LIN. FT.				110
48" BARRIER FRENCH 8.71' to 10' DEEP	LIN. FT.				48
84" BARRIER FRENCH A.10.1' to 16' DEEP	LIN. FT.				60
12" SLAB, 076 CLASS IV FRENCH B. 11.10' to 10' DEEP	LIN. FT.				198
MANHOLES, 14, 16.1' TO 25' DEEP	EACH				2
BITUMINOUS PRIME COAT	GALS.				20
CALCIUM CHLORIDE - APPLIED BITUMINOUS AGGREGATE SHOULDERS (CONCRETE PAVEMENT CLASS A SHOULDERS (COMPACTED IN PLACE))	TONS				0.2
WATER (1000-GALLON UNITS)	CU. YDS.				35
CLASS A SODDING	UNITS				0.8
PREPARED FENCE	SS. YDS.				117
MAINTAINING TRAFFIC	LIN. RDS.				15
CONCRETE BASE - TYPE B TRUSS	LUMP SUM				
HIGHWEIGHT FILL (COMPACTED IN PLACE)	EACH				
REMOVING PORTIONS OF EXISTING STRUCTURE	CU. YDS.				1,000
UNCLASSIFIED EXCAVATION	LUMP SUM				
STEEL SHEET PILING LEFT IN PLACE	CU. YDS.				746
GAST-IN-PLACE CONCRETE PILES + FURNISHED AND DRIVEN	SQ. FT.				2,232
PILE POINTS - CAST-IN-PLACE CONCRETE PILES	LIN. FT.				9,444
SPILERS - STEEL SHEETS	EACH				74
TEST PILES - CAST-IN-PLACE CONCRETE PILES	EACH				226
GRADE A (6A GRAVEL OR 6A SLAB) CONCRETE - SUBSTRUCTURE	EACH				3
GRADE A (6A GRAVEL OR 6A SLAB) CONCRETE - SUBSTRUCTURE	CU. YDS.				329.5
GRADE A (6A GRAVEL OR 6A SLAB) CONCRETE - SUBSTRUCTURE	CU. YDS.				339.4
GRADE A (6A GRAVEL OR 6A SLAB) CONCRETE - SUBSTRUCTURE	CU. YDS.				270.7
PROTECTIVE SEALANT COATING FOR STRUCTURAL CONCRETE	SQ. FT.				626

STATE FILE  
BRIDGE  
1966 WIDENING

STATE PROJECT  
COUNTY JOB  
874  
ISSUE NO. 1  
SHEET NO.  
102  
DATE 12/6/66

JOHN C. LODGE FREEWAY  
WARREN AVE. CROSSING  
BILL OF MATERIAL

WAYNE COUNTY COMMISSIONERS  
AL BARBOUR  
WILLIAM E. KREGER

APPROVED  
ENGINEER OF PRODURES AND EXPRESSWAYS

BRIDGE LEADER  
D. Compton  
CHECKED BY  
DATE 3-1-68  
CORRECTED BY  
M. J. J. J.

REVISIONS

E-2-1

ITEM	UNIT	DATE	DESCRIPTION	UNIT ESTIMATE	QUANTITY FINAL
COUNTY JOB NO. 874					
\$19 of BRILL (Cont'd)					
WATER-REDUCING RETARDING ADMIXTURE	GAIS.	28			
DECK WATERPROOFING	SQ. YDS.	1,124			
LOW TEMPERATURE PROTECTION SUBSTRUCTURE CONCRETE	CU. YDS.	100			
STEEL REINFORCEMENT	LSB.	90,265			
STRUCTURAL STEEL - FURNISHING AND FABRICATING	LSB.	175,500			
STRUCTURAL STEEL - ERECTION	LSB.	175,500			
STUD SHEAR DEVELOPERS	EACH	5,852			
EXPANSION ANCHORS WITH BOLTS	EACH	194			
FIELD PAINTING	LUMP SUM				
1/2" JOINT FILLER	SQ. FT.	122			
1" JOINT FILLER	SQ. FT.	573			
HOT-CURED RUBBER-ASPHALT JOINT FILLER	LIN. FT.	397			
JOINT WATERPROOFING	SQ. FT.	430			
DAMPPOOFING	SQ. FT.	3,530			
GALVANIZED BRIDGE RAILING	LIN. FT.	62.2			
RECONSTRUCTING EXISTING BRIDGE RAILING	LIN. FT.	124.8			
RUBBED SURFACE FINISH	SQ. FT.	4,000			
8" PERFORATED CLAY PIPE UNDER DRAIN	LIN. FT.	194			
8" CAST IRON PIPE	LIN. FT.	26			
18" CAST IRON PIPE	LIN. FT.	61			
REBUILDING ABUTMENT MANHOLES	EACH	2			
24" PIPE SLEEVES - PLACED	EACH	2			

**PLAN EXTRAS**

1966 WIDENING

JOHN C. LODGE FREEWAY  
WARREN AVE. CROSSING  
BILL OF MATERIAL

STATE BRIDGE FILE 519 of 82111

STATE PROJECT COUNTY JOB  
874

ISSUE NO. 103  
DATE 1-25-66

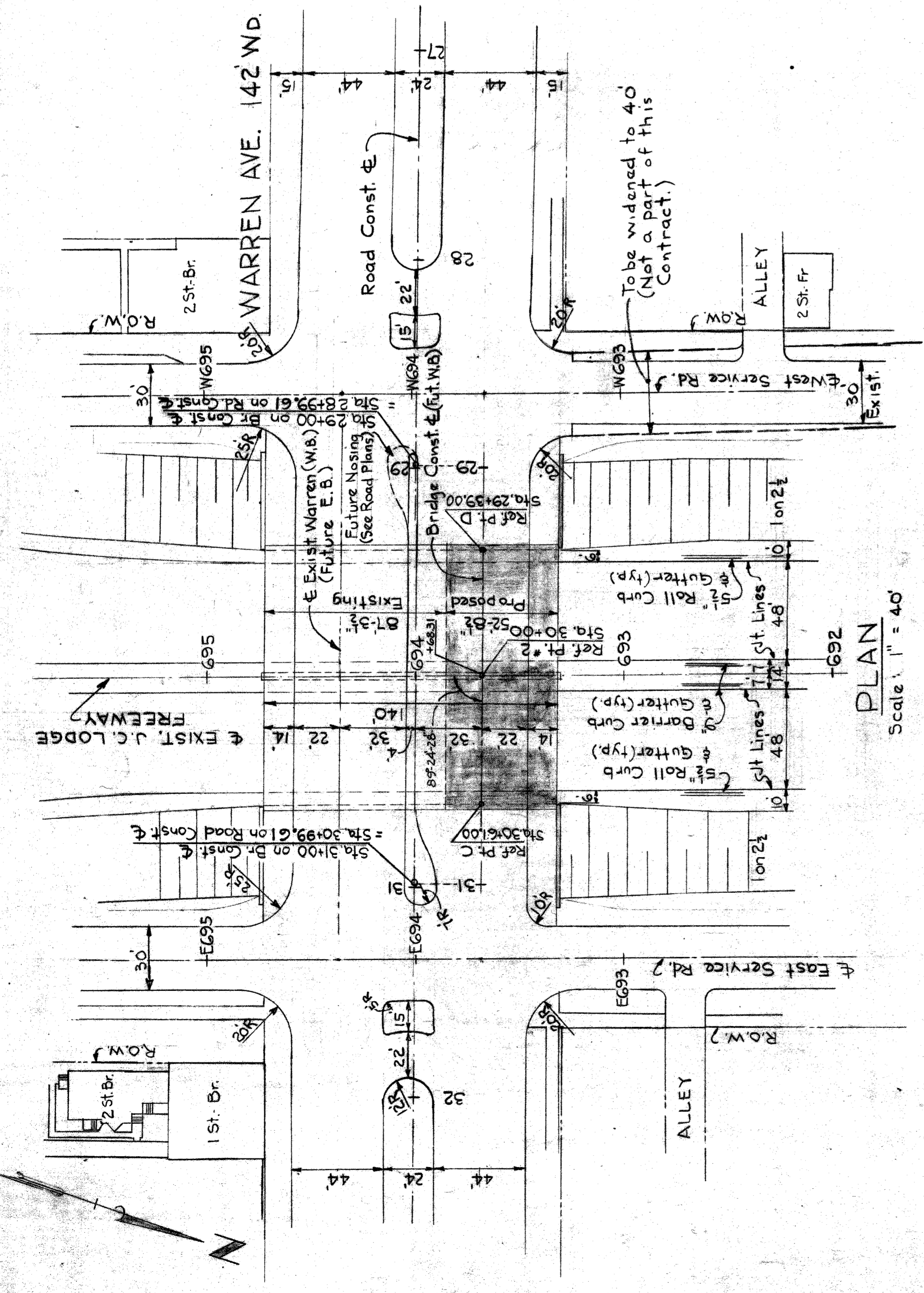
BOARD OF ROAD COMMISSIONERS  
DETROIT, MICHIGAN  
WILLIAM E. KREGER

PHILIP L. NEUDECK

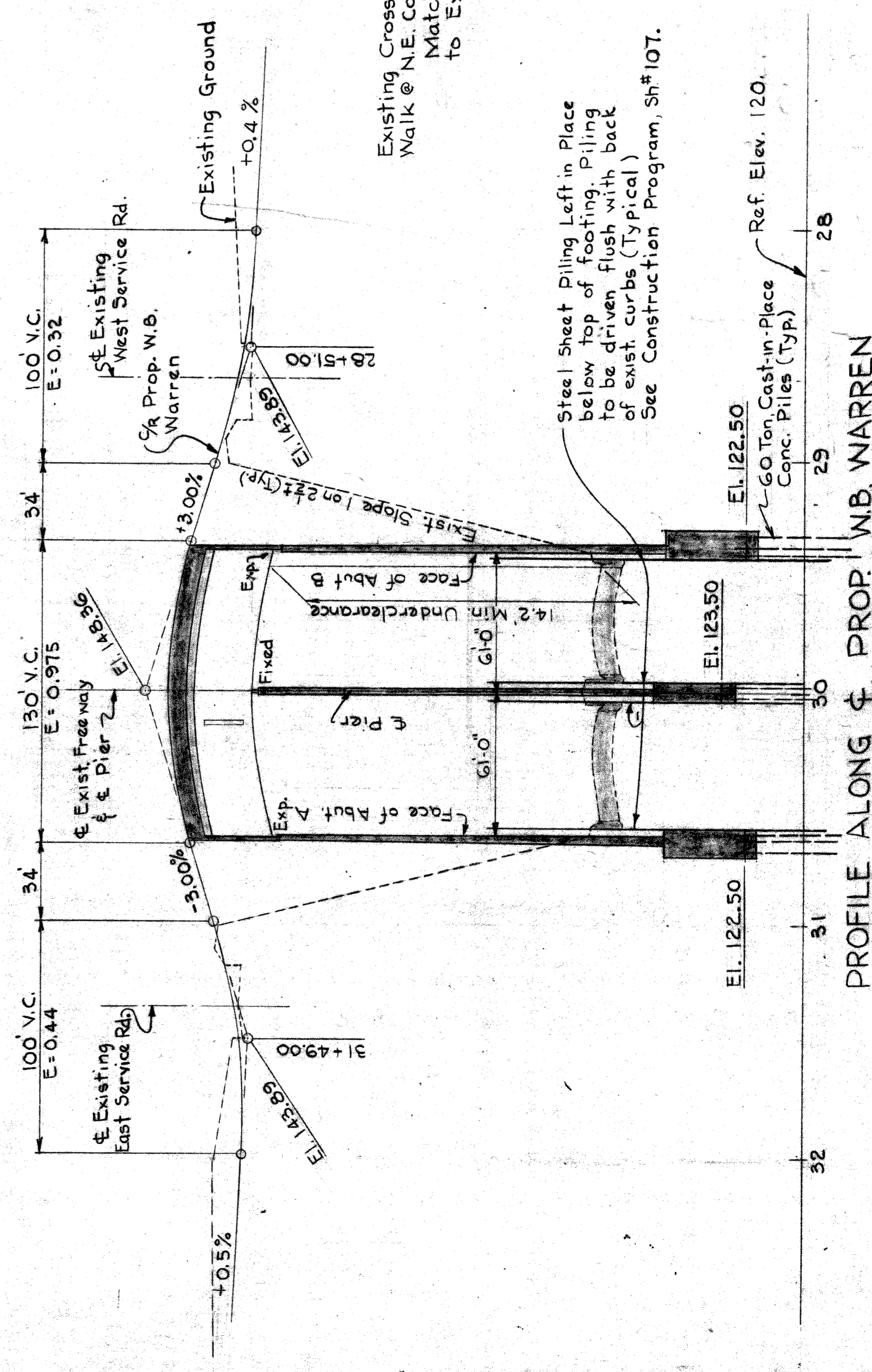
APPROVED  
D. Compton  
DATE 3-15-65  
CHECKED BY  
S. Kelly  
TRACED BY  
M. J. J. J.

ENGINEER OF STRUCTURES AND EXPRESSWAYS  
COUNTY HIGHWAY ENGINEER

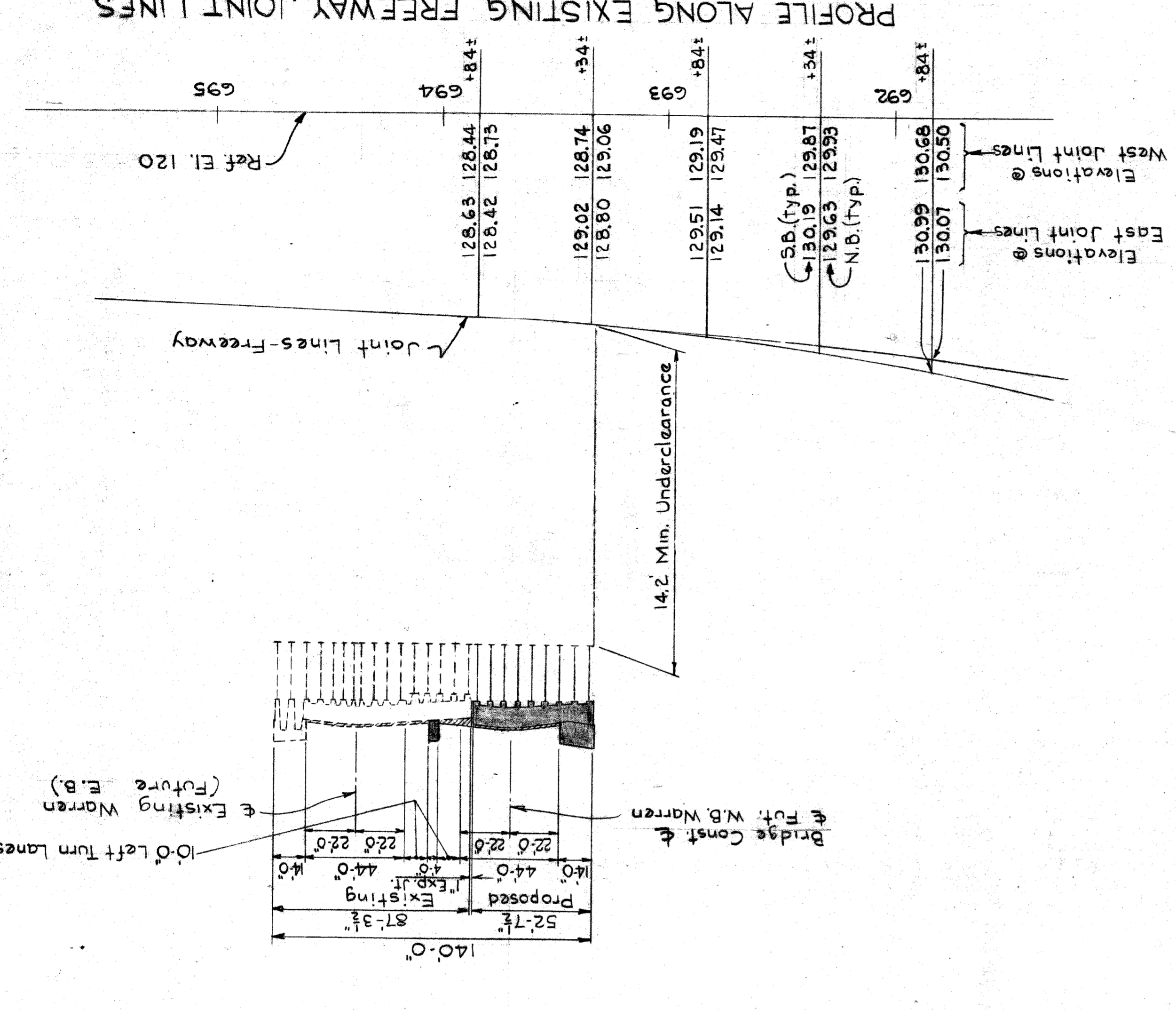
E-2-1



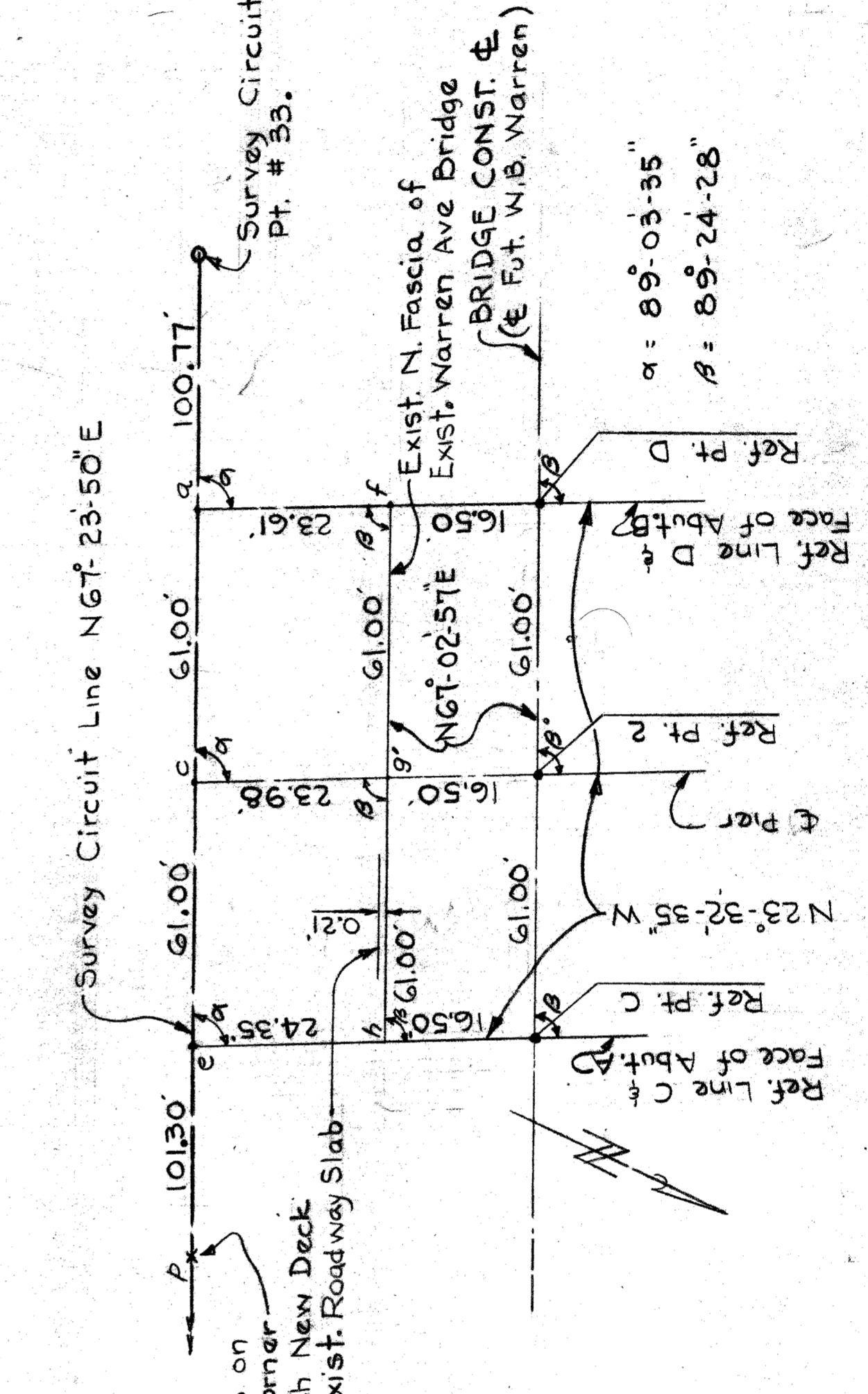
PLAN  
Scale: 1" = 40'



PROFILE ALONG & PROP. W.B. WARREN  
Scales: Horiz: 1" = 40'  
Vert: 1" = 4'



PROFILE ALONG EXISTING FREEWAY JOINT LINES  
Scales: Horiz: 1" = 40'  
Vert: 1" = 4'



ALIGNMENT DIAGRAM  
Not to Scale

GENERAL NOTES

Elevations shown are on City of Detroit Datum.  
See Survey Plan, Sh.# 105.  
See Construction Program for procedure. Contractor to note time restrictions for all work.  
The Work covered by these Plans includes the widening of the Bridge Structure.  
All of the Warren Rdwy alterations and Bridge Approaches are included with the Road Plans.

STATE FILE	BRIDGE ROAD	STATE PROJECT	COUNTY JOB
519 of 82111		JOHN C. LODGE FREEWAY	874
		WARREN AVE. CROSSING	SHEET NO. 104
		GENERAL DRAWING	DATE 1-16-66

1966 WIDENING

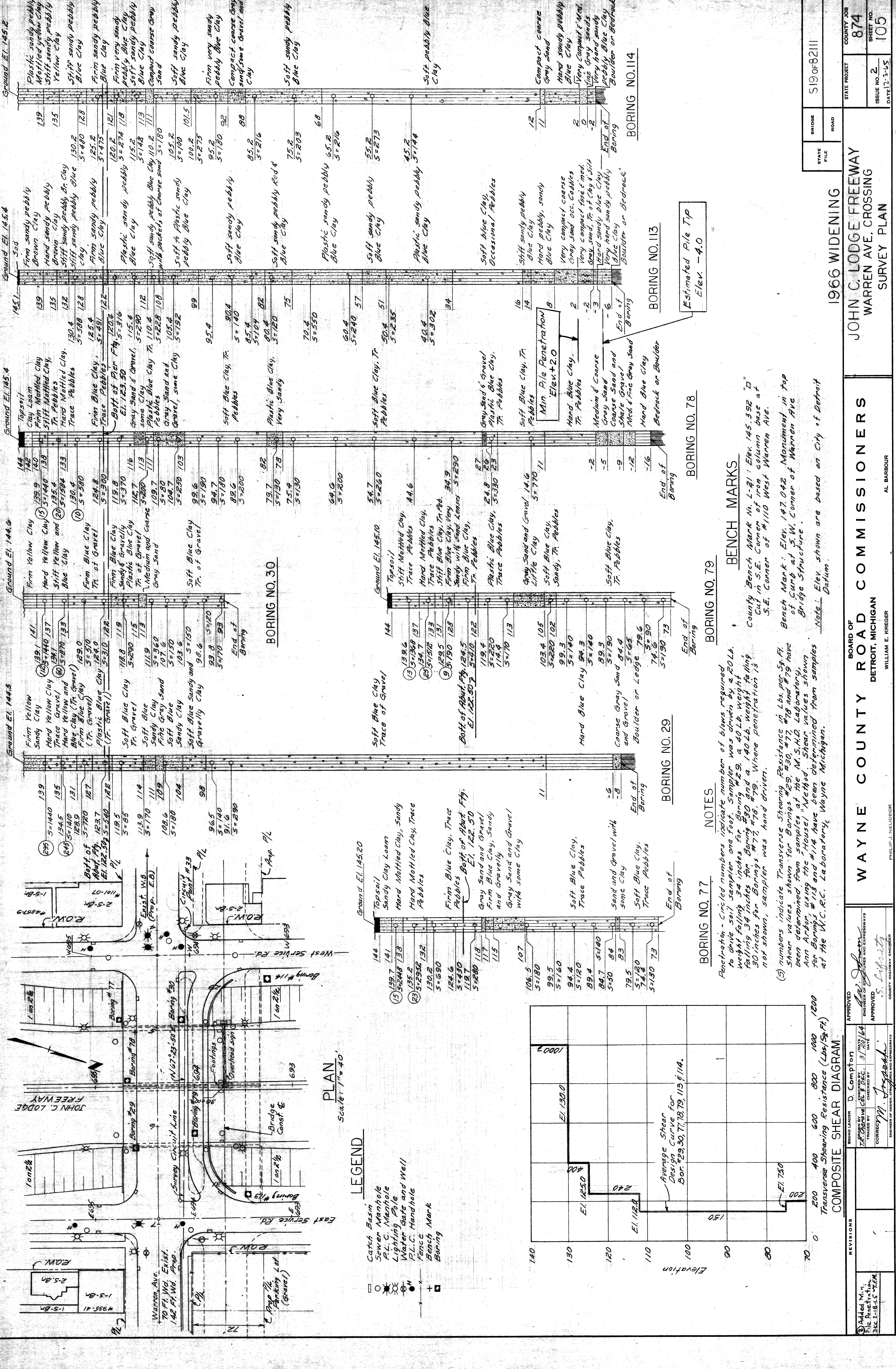
JOHN C. LODGE FREEWAY  
WARREN AVE. CROSSING  
GENERAL DRAWING

WAYNE COUNTY ROAD COMMISSIONERS  
DETROIT, MICHIGAN  
WILLIAM E. KREGER  
AL BARBOUR

APPROVED  
D. Compfon  
ENGINEER OF STRUCTURES AND EXPANSIVES  
DATE 3-9-64

REVISIONS  
1-12-65 DEC 28/65  
2-16-65 DEC 28/65  
3-16-65 DEC 28/65

E-2-1



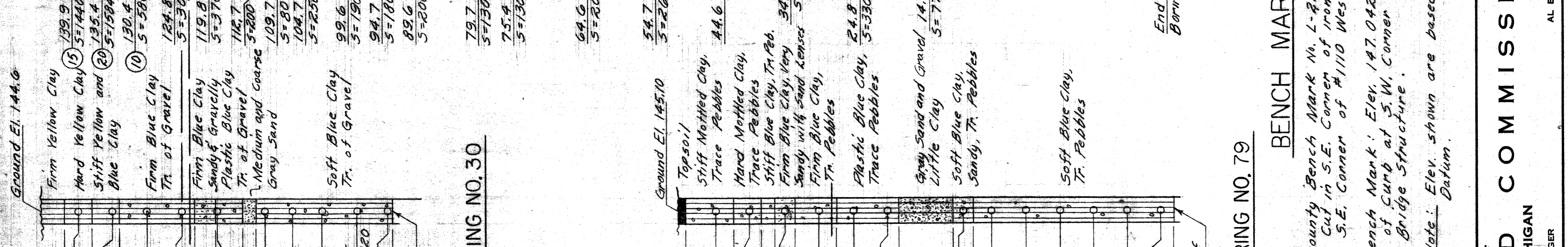
STATE PROJECT	BRIDGE	ROAD	FILE	DATE
1966 WIDENING	S19 of 82111			12-3-65

COUNTY PROJECT	COUNTY JOB
WAYNE COUNTY ROAD COMMISSIONERS	874
Detroit, Michigan	105

**PLAN**  
Scale: 1" = 40'

**LEGEND**

- Catch Basin
- Sewer Manhole
- P.L.C. Manhole
- Lighting Pole
- Water Gate and Well
- P.L.C. Manhole
- Fence
- Bench Mark
- Boring



**NOTES**

Penetration - Circled numbers indicate number of blows required to drive soil sampler one foot. Sampler was driven by a 20 lb. weight falling 34 inches for Boring #29 and a 40 lb. weight falling 30 inches for Borings #77, #78, #79. Where penetration is not shown, sampler was hand driven.

(5) numbers indicate Transverse Shearing Resistance in Lbs. per Sq. Ft. Shear values shown for Borings #29, #30, #77, #78 and #79 have been determined from samples at the M.S.H.D. Laboratory, Ann Arbor, using the House Method. Shear values shown for Borings #113 and #114 have been determined from samples at the W.C.R.C. Laboratory, Wayne Michigan.

**Notes:**

- County Bench Mark No. L-21: Elev. 145.392 "D" Cut in S.E. Corner of iron column base at S.E. Corner of #110 West Warren Ave.
- Bench Mark: Elev. 147.042 Monument in Top of Curb at S.W. Corner of Warren Ave Bridge Structure.
- Note: Elev. shown are based on City of Detroit Datum.

**Notes:**

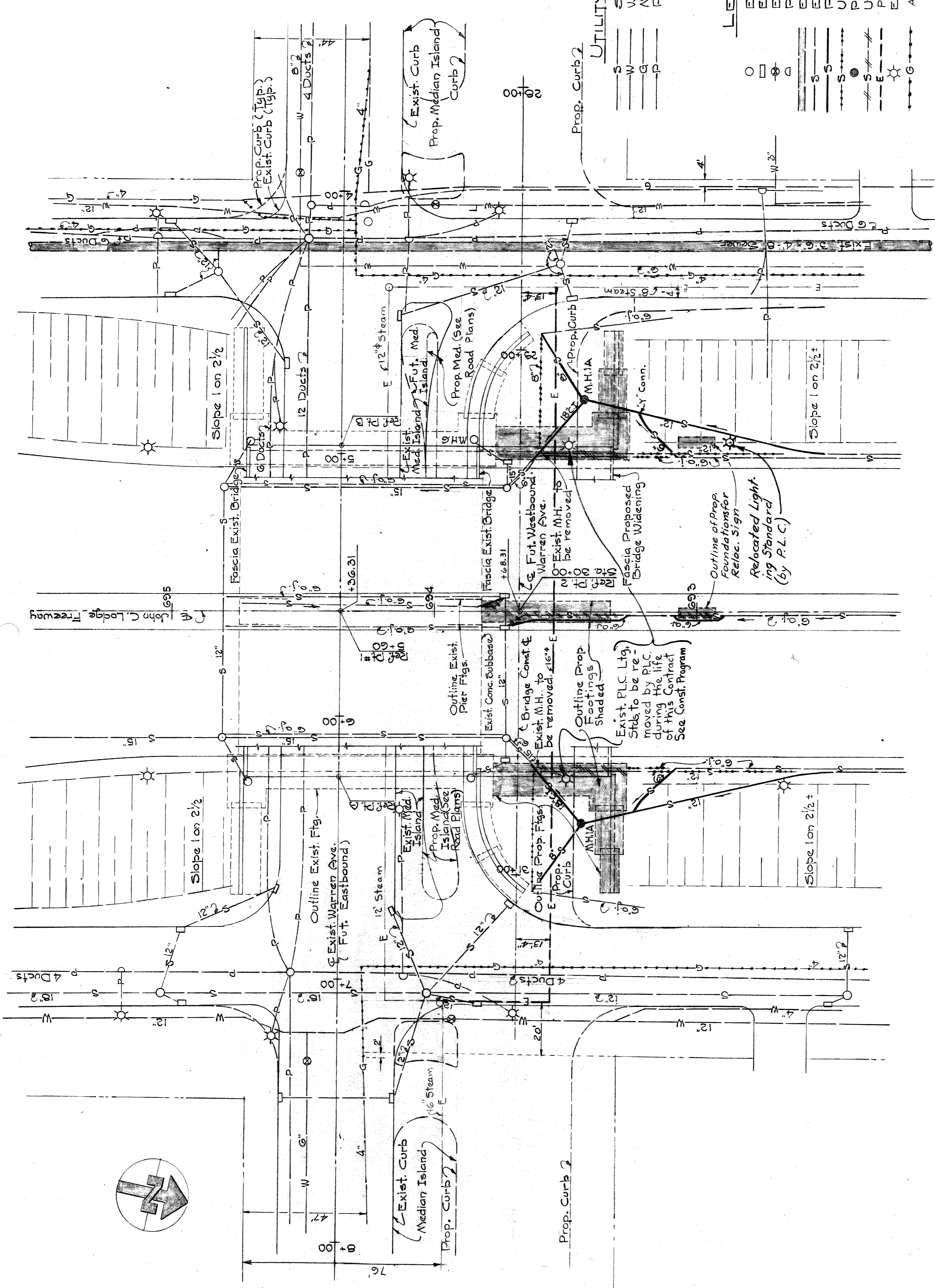
- Min. Pile Penetration Elev. +2.0
- Estimated Pile Top Elev. -4.0

**Notes:**

- End of Boring
- End of Boring
- End of Boring
- End of Boring
- End of Boring
- End of Boring

**Notes:**

- End of Boring
- End of Boring
- End of Boring
- End of Boring
- End of Boring
- End of Boring



**UTILITY DESIGNATION**

- S Sewer
- W Water
- G Michigan Consolidated Gas Co.
- P Public Lighting Commission

**LEGEND**

- Existing Manhole
- Existing Catch Basin
- Existing Water Gate & Well
- PLC. Handhole
- Existing Utility, 24" or more
- Existing Utility, Less than 24"
- Proposed Utility, Less than 24"
- Utility to be abandoned, Less than 24"
- Proposed Manhole
- Utility to be removed, Less than 24"
- Prop. Utility (By Others)
- Existing P.L.C. Light Pole
- Abandoned Utility

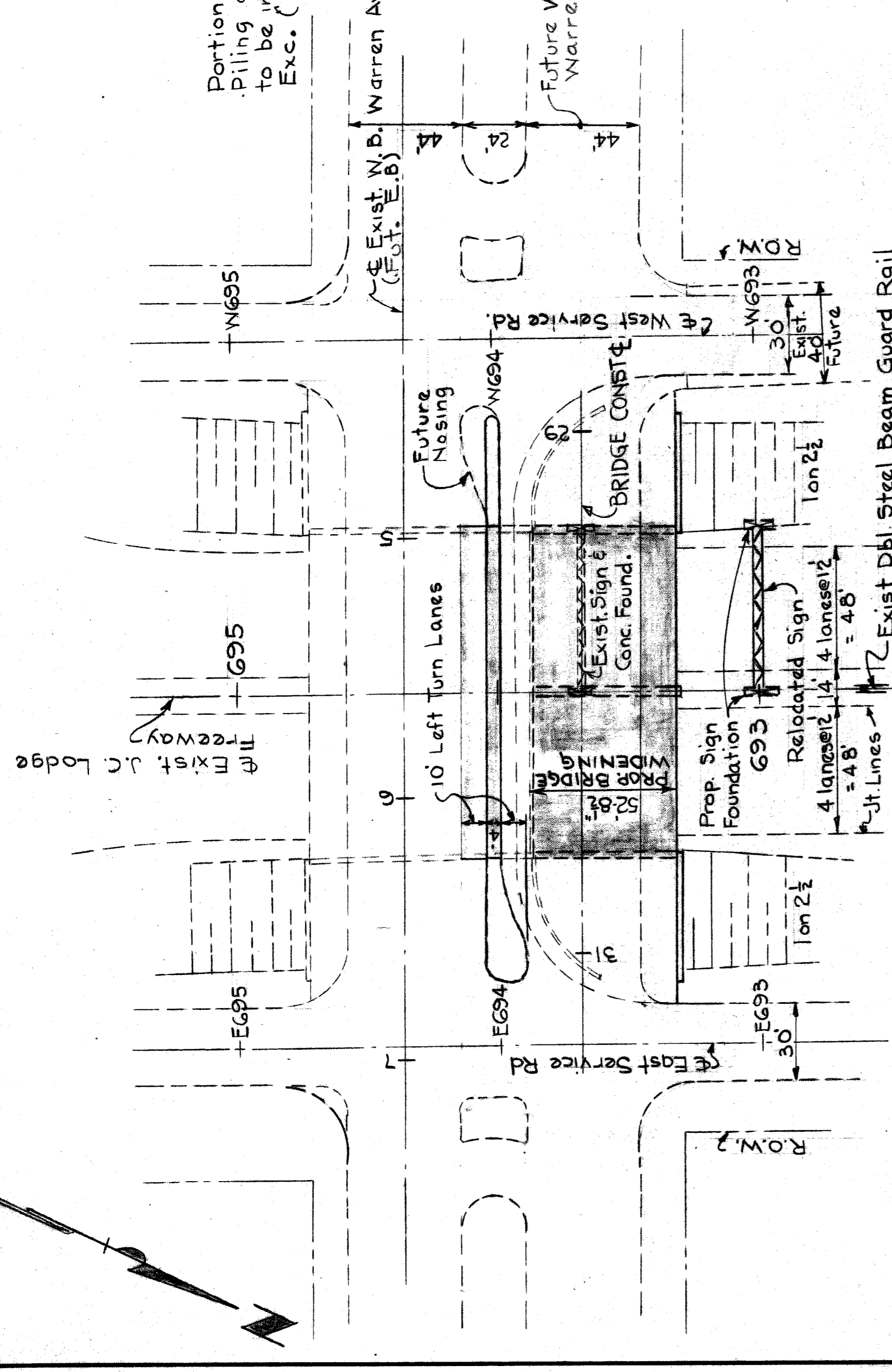
**NOTE**  
 Buried Parkway Lighting Cable exists in each of the outside Freeway shoulders. In the major areas of construction, this cable will be relocated under the Freeway Curb during the life of this Contract. See the Construction Program.

**PLAN**  
 Scale: 1" = 20'

	STATE FILE	BRIDGE ROAD	1966 WIDENING	S19 OF 82111	
			<b>JOHN C. LODGE FREEWAY WARREN AVE. CROSSING UTILITY PLAN</b>		
			<b>WAYNE COUNTY ROAD COMMISSIONERS</b>		
			AL BARBOUR WILLIAM E. KREGER		
			<b>BOARD OF WAYNE COUNTY ROAD COMMISSIONERS DETROIT, MICHIGAN</b>		
			PHILIP J. HARTDICK COUNTY HIGHWAY ENGINEER		
			APPROVED <i>[Signature]</i> ENGINEER OF STRUCTURES AND EXPRESSWAYS		
			APPROVED <i>[Signature]</i> ENGINEER OF SURVEYING AND EXPRESSESWAYS		
			SQUAD LEADER <b>D. Compton</b>		
			DESIGNED BY <b>D. Compton</b>		
			CHECKED BY <b>D. Compton</b>		
			DATE <b>2-2-64</b>		
			REVISIONS		
			① Misc. Rev. DEC 1-5-65		
			② Rev. All Serr. Rd Prop. Work. Dec. 2-17-65		
			COUNTY JOB <b>874</b>		
			ISSUE NO. 4		
			DATE 1-16-64		
			SHEET NO. <b>106</b>		

E-2-1

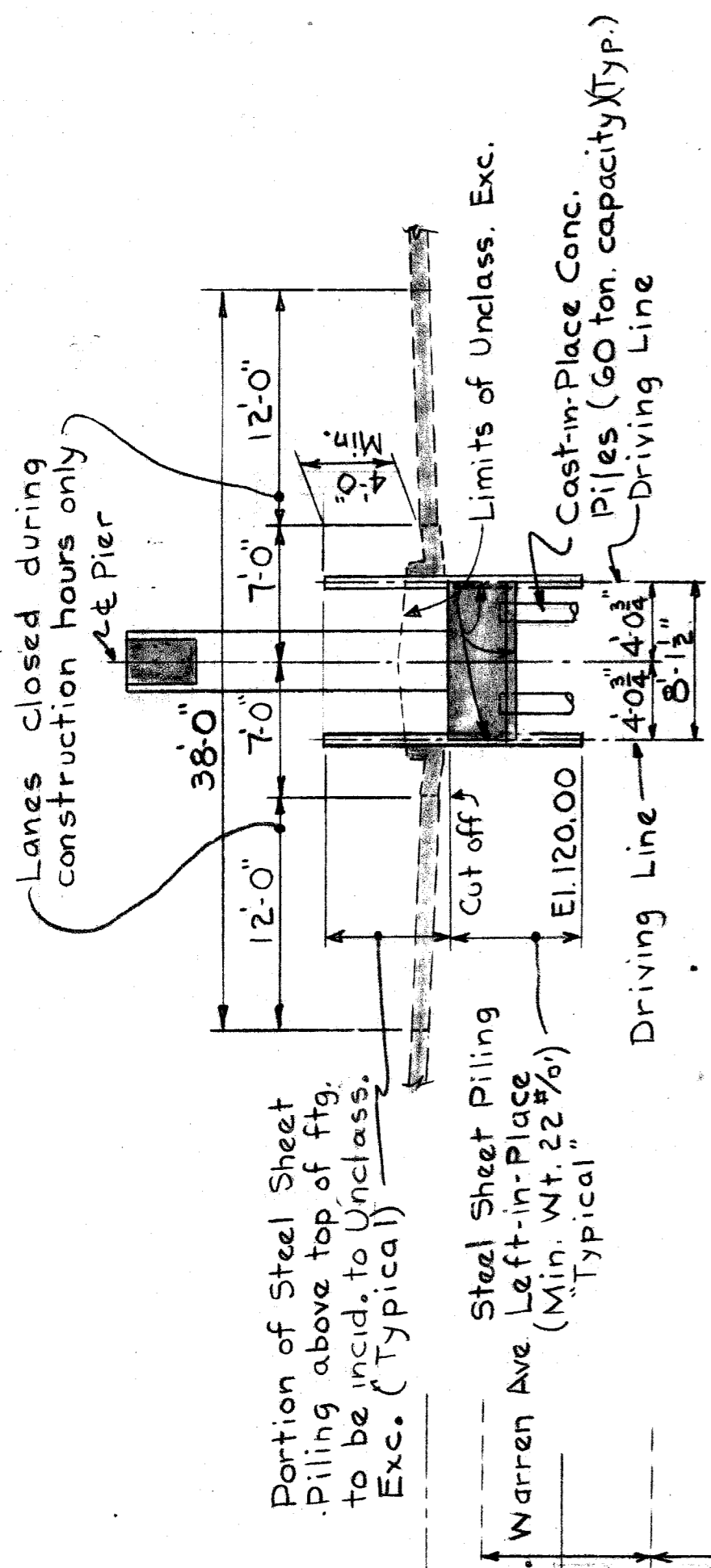
BRUNNEN INC.



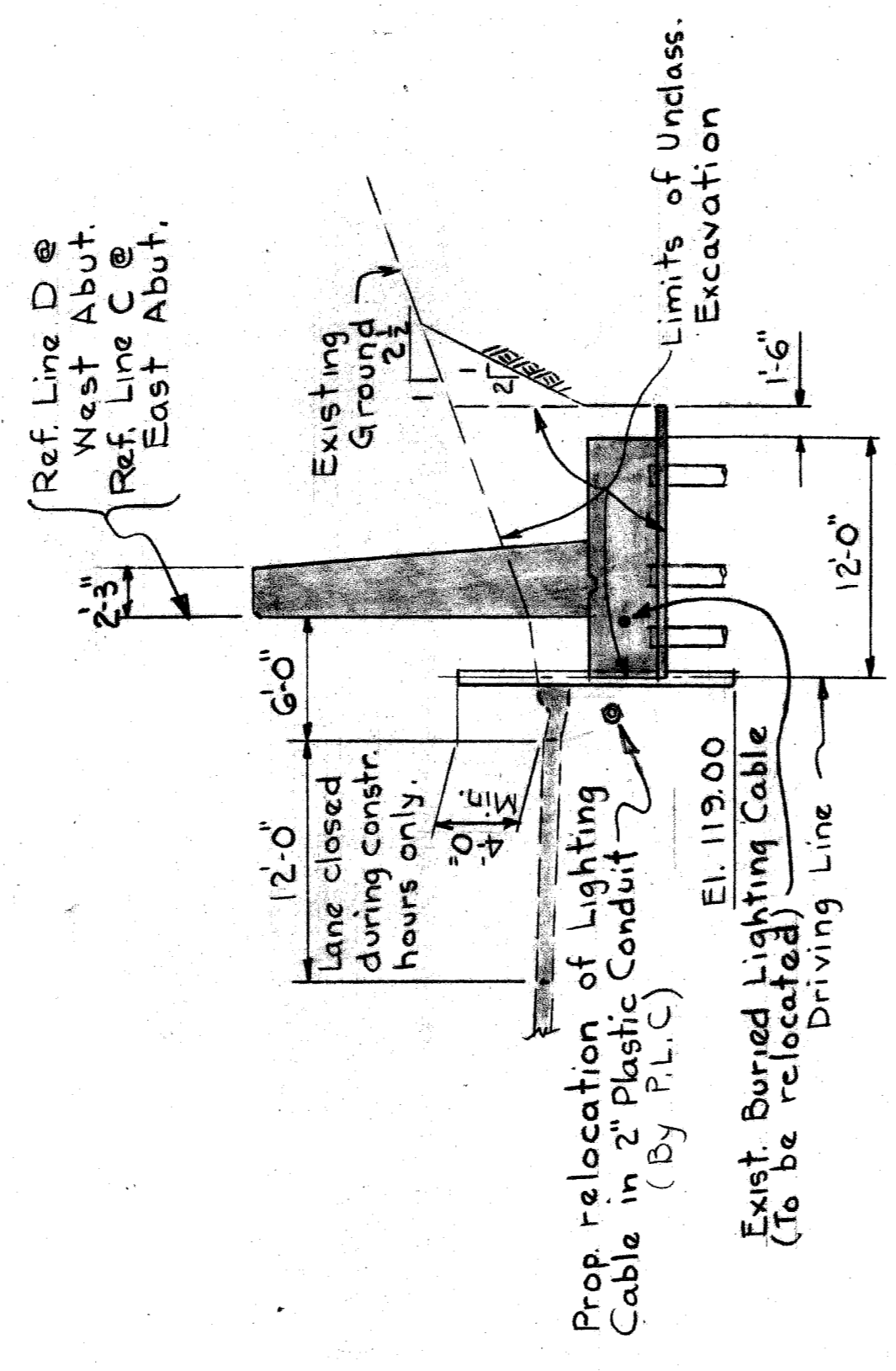
**PLAN**  
Scale: 1" = 40'

**GENERAL CONSTRUCTION PROCEDURES**

1. U-Turn Lane on existing bridge to be closed for use of Contractor.
2. Construct all substructure with major equipment on deck of existing bridge when possible.
3. Contractor to remove north Bridge Railing (Railing to be cleaned, galv. & reloc. on North Fascia of widened structure).
4. ALL SUBSTRUCTURE TO BE CONSTRUCTED AT NIGHT FROM 10:00 P.M. TO 5:00 A.M. Only one lane in each direction may be closed. Some Day time work will be permitted; see Supplemental Specifications.
5. STRUCTURAL STEEL TO BE ERECTED ON SUNDAYS FROM 5:00 A.M. TO 10:00 A.M. Freeway Traffic to be stopped temporarily for the erection of each beam. Only two lanes in each direction shall be closed while bolting the steel.
6. Structural Steel to be pre-painted and touched up after erection.
7. PLYWOOD SHEETING FOR THE DECK IS TO BE PLACED ON SUNDAYS FROM 5:00 AM TO 10:00 AM. Only two lanes in each direction shall be closed while placing the sheeting.
8. After the plywood sheeting is in place, the Remain-in-Place forms may be placed ANYTIME DURING THE DAY.
9. The Deck may be poured ANYTIME DURING THE DAY.



**PIER**



**ABUTMENTS**

- STAGE I: SPECIAL FREEWAY LIGHTING & MEDIAN SIGN FOUNDATION**
1. P.L.C. will alter the location of existing lighting standards at the construction area.
  2. P.L.C. will furnish and install special temporary Freeway lighting.
- NOTE:** Items 1 & 2 must be completed before Contractor can begin his work.
3. Close lanes adjacent to median.
  4. Construct proposed median Sign Foundation @ Sta. 693+00.

**STAGE II: CONSTRUCT ABUTMENTS**

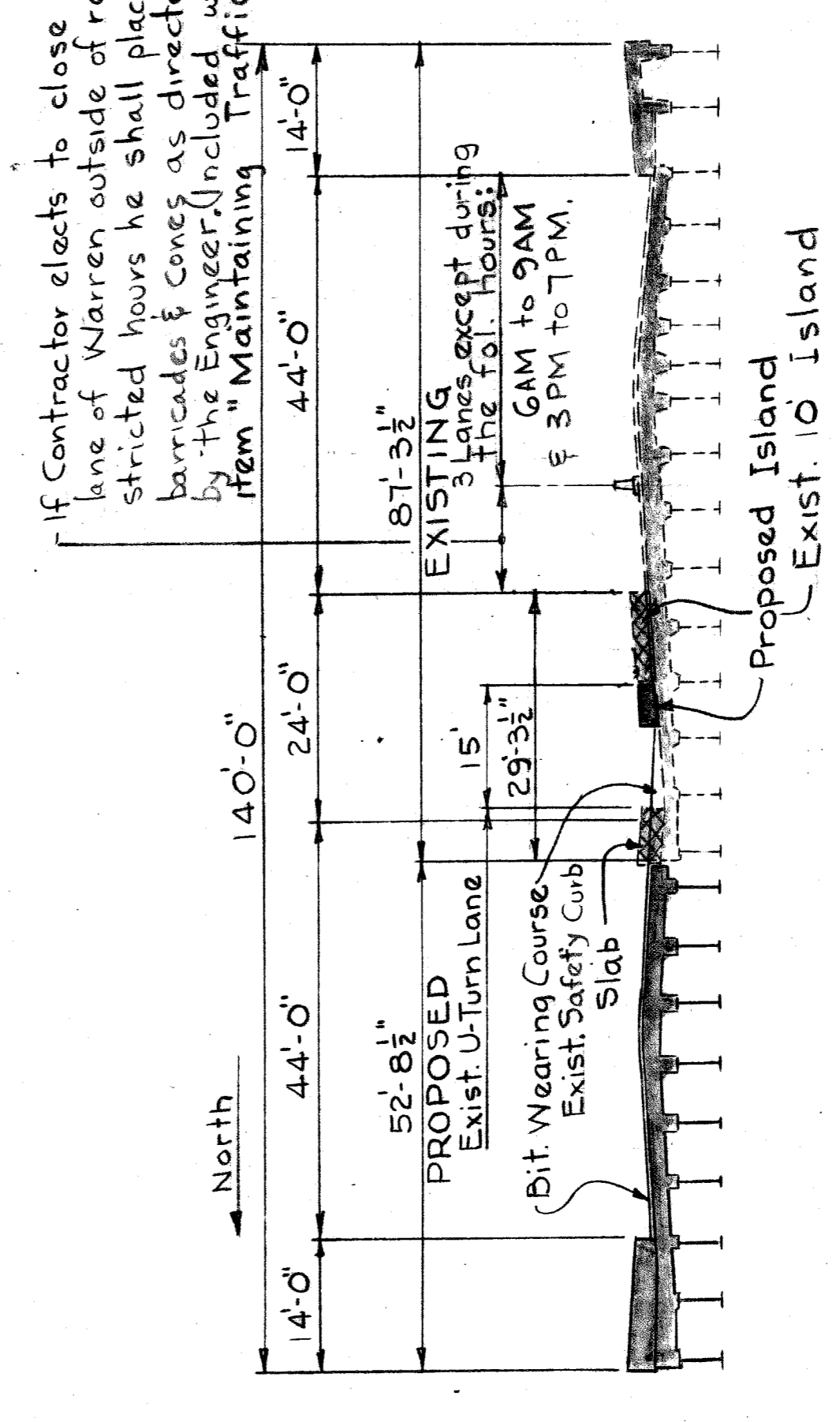
1. Close outside lanes to traffic.
2. Remove and Relocate the existing Buried Cable under the freeway curb. (By P.L.C.)
3. Construct proposed Sign Foundation @ Sta. 693+00.
4. Relocate Sign to Sta. 693+00.
5. Remove portions of existing wingwalls & old sign foundation.
6. Drive Steel Sheet Piling flush with back of Freeway curbs.
7. Excavate.
8. Drive Piles.
9. Construct Abutments and Wingwalls
10. Backfill behind Abutments.
11. Complete Shoulders and Slopes.

**STAGE III: CONSTRUCT PIER**

1. Close lanes adjacent to median.
2. Remove Median Guard Rail to limits of new construction.
3. Drive Steel Sheet Piling flush with back of Freeway curbs.
4. Excavate and remove old sign foundation.
5. Drive Piles.
6. Construct Pier.
7. Complete median and Guard Rail.

**STAGE IV - CONSTRUCT DECK**

1. Remove Safety Curb on north side of existing deck.
2. Erect Structural Steel (over S.B. Lodge first).
3. Place Plywood Sheeting.
4. Place Remain-in-Place Forms (No Time restriction)
5. Pour Deck (No Time Restriction.)
6. Remove existing island, construct new island and complete bridge deck.
7. Open Exist. W.B. Warren to normal traffic.

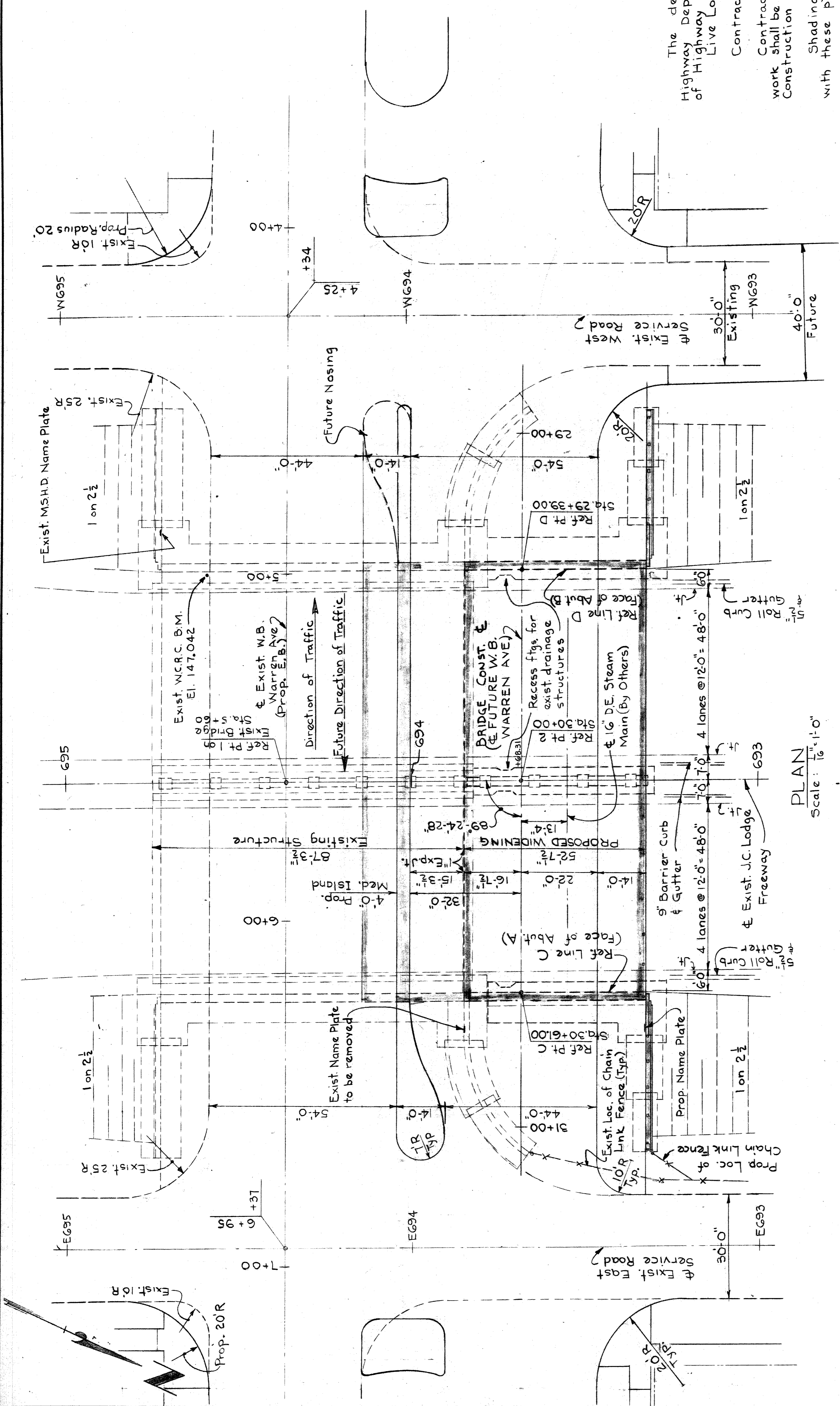


**DECK**

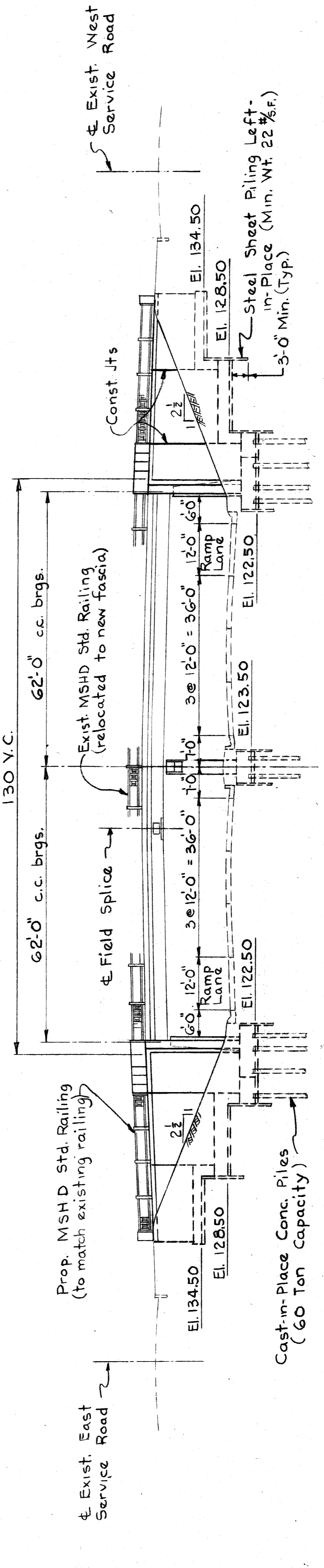
STATE FILE		BRIDGE ROAD	STATE PROJECT	S19 OF 82111
COUNTY JOB		COUNTY JOB		874
ISSUE NO. 3		ISSUE NO. 3		107
DATE 1-2-66		DATE 1-2-66		
1966 WIDENING				
JOHN C. LODGE FREEWAY WARREN AVE. CROSSING CONSTRUCTION PROGRAM				
WAYNE COUNTY ROAD COMMISSIONERS DETROIT, MICHIGAN				
AL BARBOUR WILLIAM E. KREGER				
APPROVED		APPROVED		
SOUND LEADER D. Compton		SOUND LEADER D. Compton		
DRAWN BY		DRAWN BY		
CHECKED BY		CHECKED BY		
DATE		DATE		
APPROVED		APPROVED		
DATE		DATE		
ENGINEER OF HIGHWAY CONSTRUCTION		ENGINEER OF HIGHWAY CONSTRUCTION		
COUNTY HIGHWAY ENGINEER		COUNTY HIGHWAY ENGINEER		

PE

E-2-1



PLAN  
Scale: 1/16" = 1'-0"



ELEVATION  
Scale: 1/16" = 1'-0"

**GENERAL NOTES**

The design of this structure is based on the Mich. State Highway Department's Standard Specifications for the Design of Highway Bridges - 1958 Edition (H20-S16-44).  
Live Load plus Impact deflection =  $\frac{1}{1000}$  of Span Length.

Contractor will be required to use Remain-in-Place Forms.

Contractor shall note that a major portion of the proposed work shall be performed with time restrictions as set forth on the Construction Program and in the Supplemental Specifications.

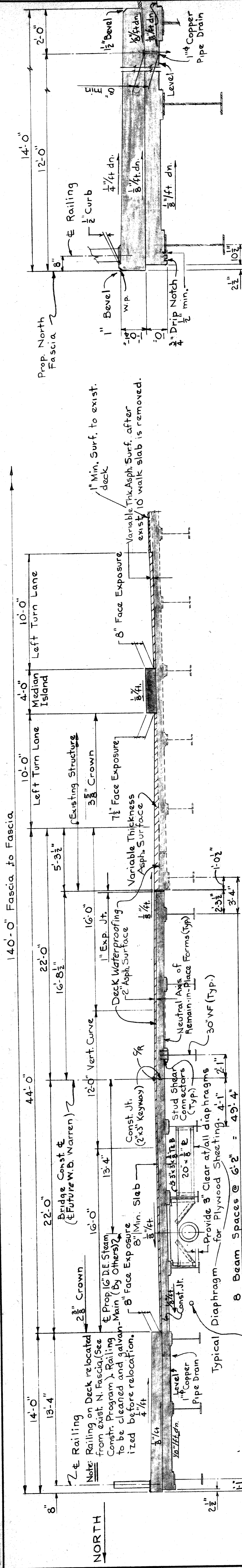
Shading on Plan indicates areas of proposed work included with these plans.

The east & west approaches for prop. W.B. Warren are included with the Road Plans.

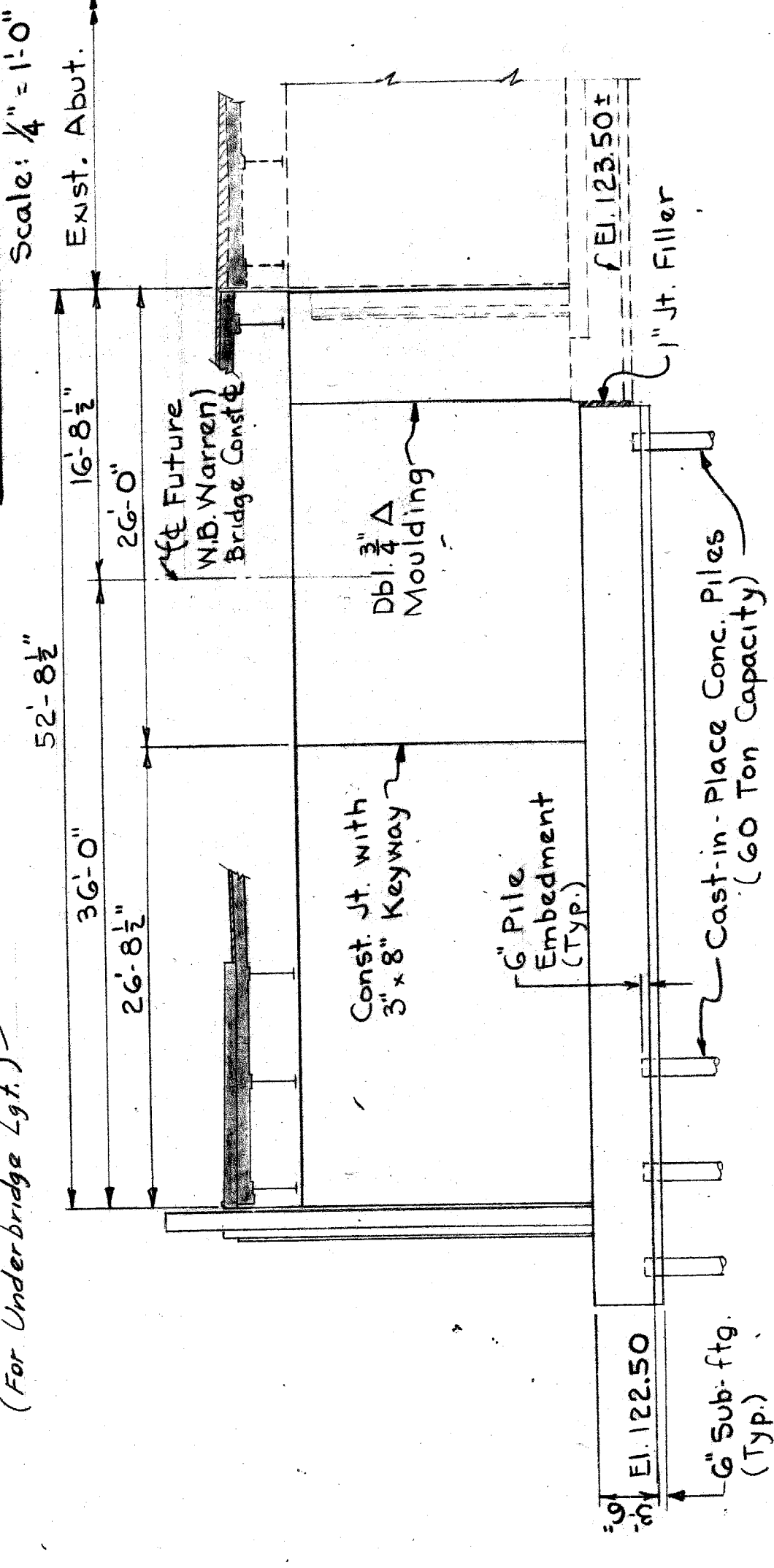
The Plywood Sheeting required for construction shall be incidental to Concrete. (See Sh#107).

REVISIONS 1) Rev. Approaches Deleted from Contract Date 2-18-65 V.T.H. 2) Wayne Bldg. 3) CC 1-6-66 G.E.L.		ROAD LEADER D. Compton CHECKED BY C. L. V. G. R. E. DATE 3-14-64	APPROVED [Signature] ENGINEER OF STRUCTURES AND EXPRESSWAYS APPROVED [Signature] COUNTY ENGINEER	BOARD OF <b>WAYNE COUNTY ROAD COMMISSIONERS</b> DETROIT, MICHIGAN PHILIP J. NEUDECK WILLIAM E. KREGER AL BARBOUR	STATE PROJECT <b>JOHN C. LODGE FREEWAY                  WARREN AVE. CROSSING                  GENERAL PLAN OF STRUCTURE</b>	COUNTY JOB 874 SHEET NO. 108 DATE 1-1-64	BRIDGE ROAD S19 OF 82111	Work this sheet with Sh. #109
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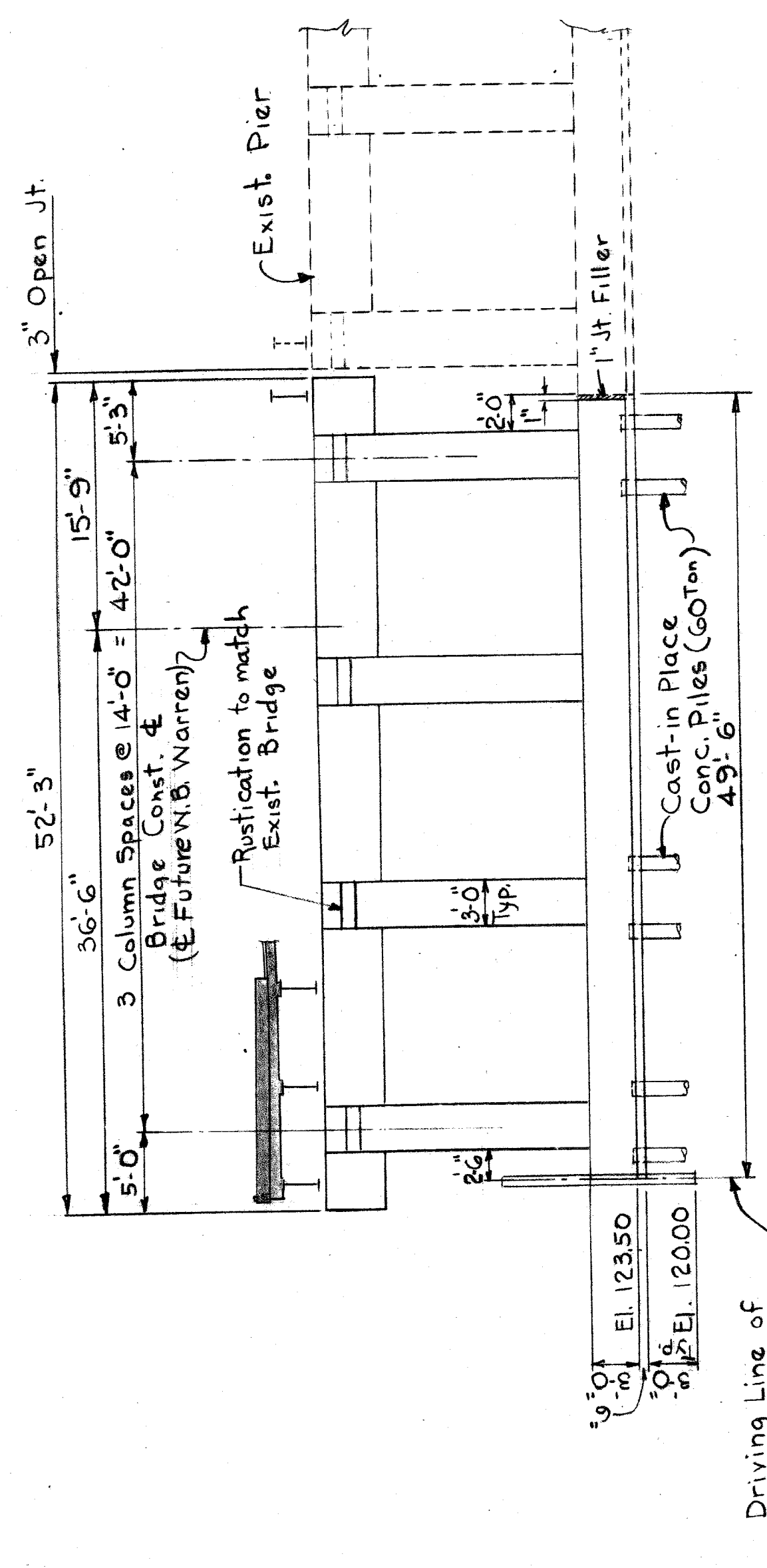




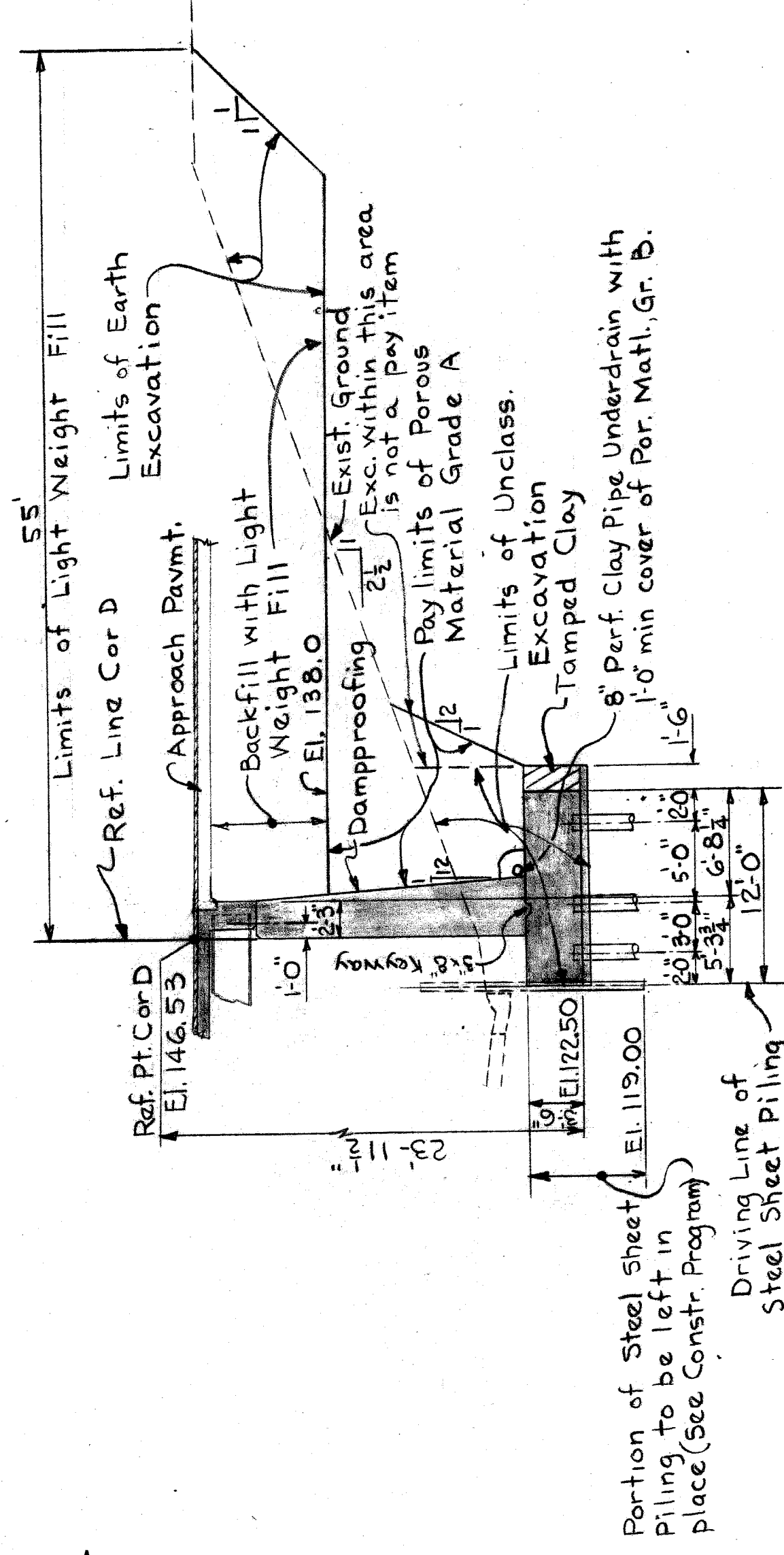
**TYPICAL SECTION OF DECK**  
Scale: 1/4" = 1'-0"



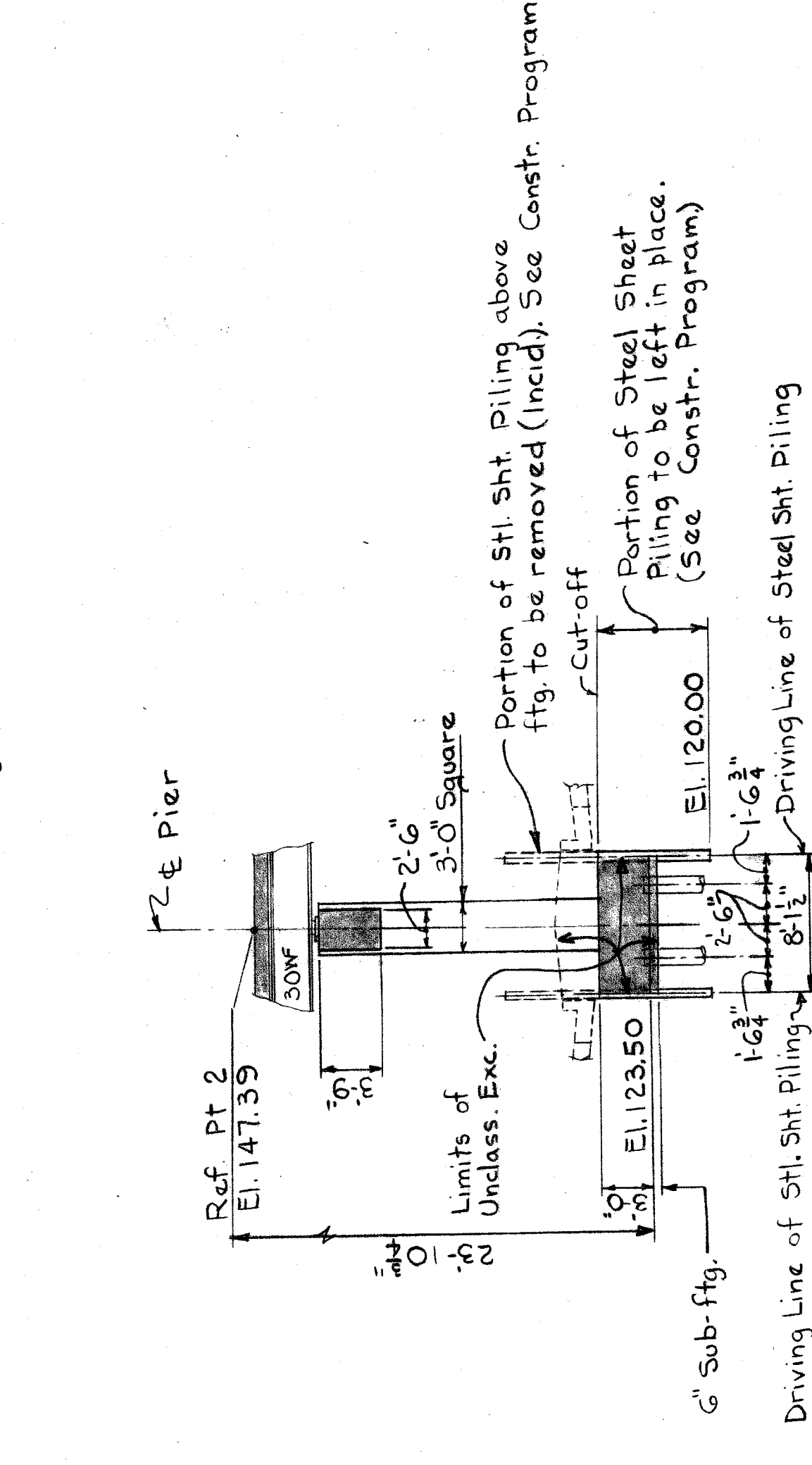
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Scale: 1/8" = 1'-0"



**ELEVATION OF PIER EXTENSION**  
Scale: 1/8" = 1'-0"

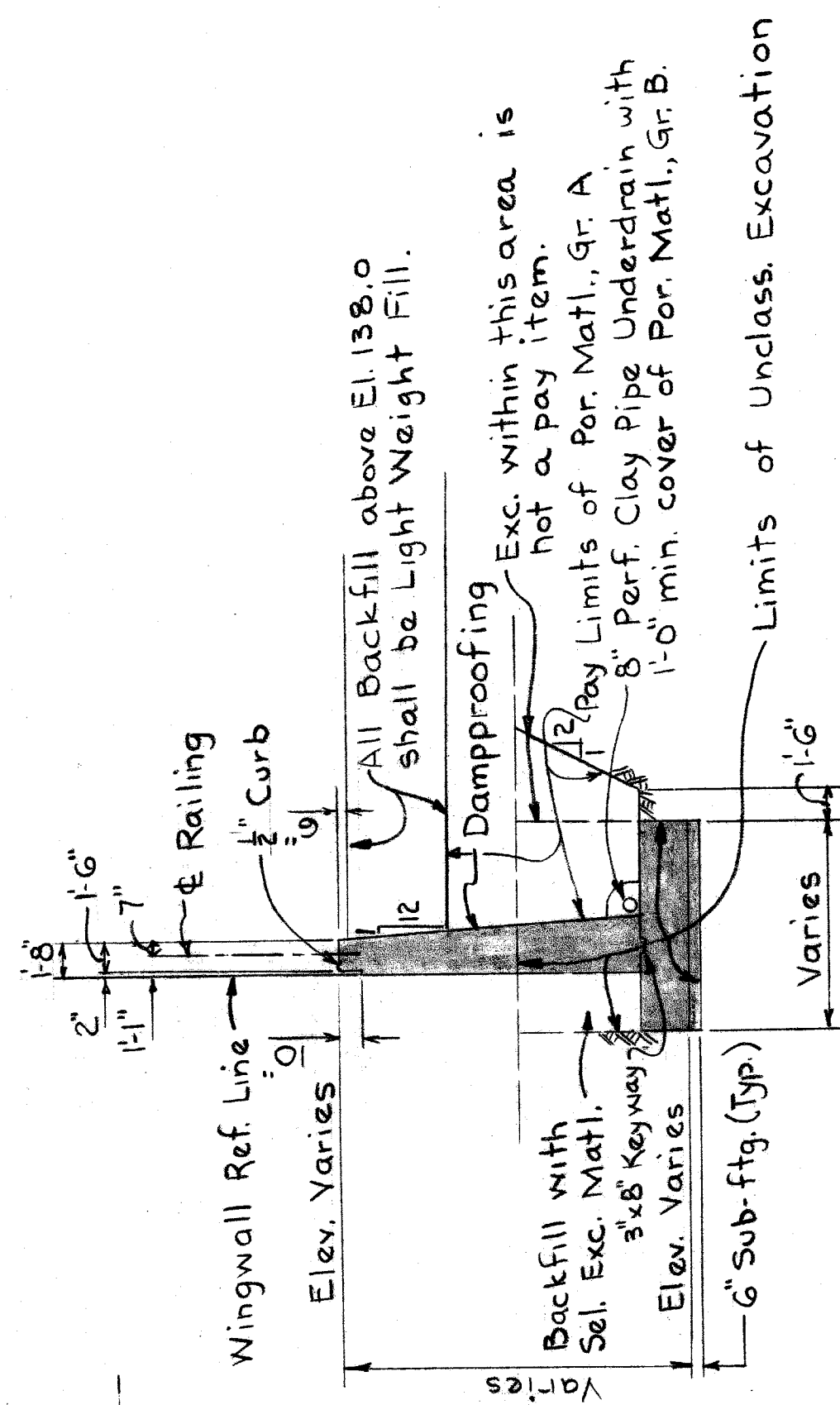


**TYPICAL ABUTMENT SECTION**  
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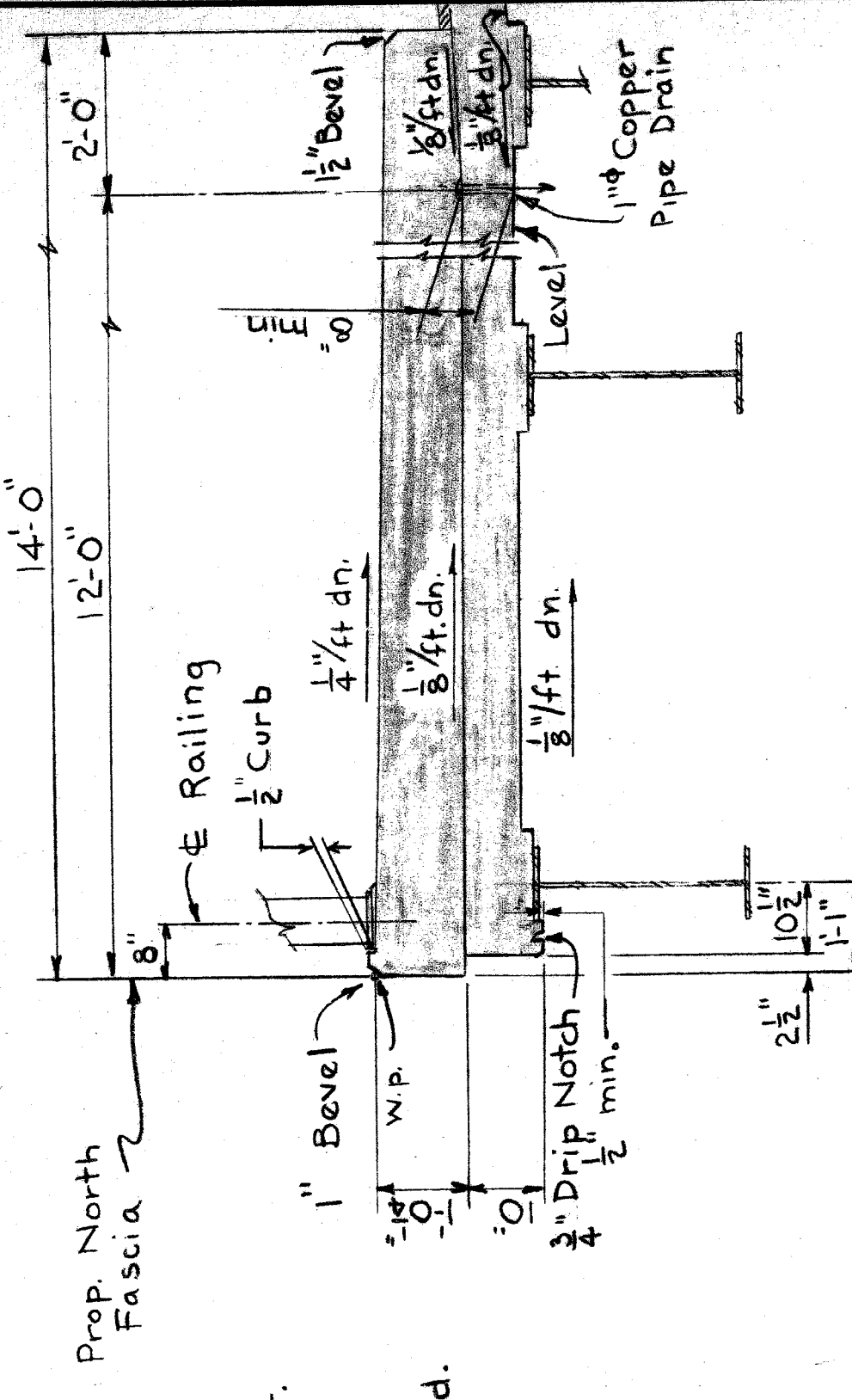


**TYPICAL PIER SECTION**  
Scale: 1/8" = 1'-0"

**TYPICAL WINGWALL SECTION**  
Scale: 1/8" = 1'-0"



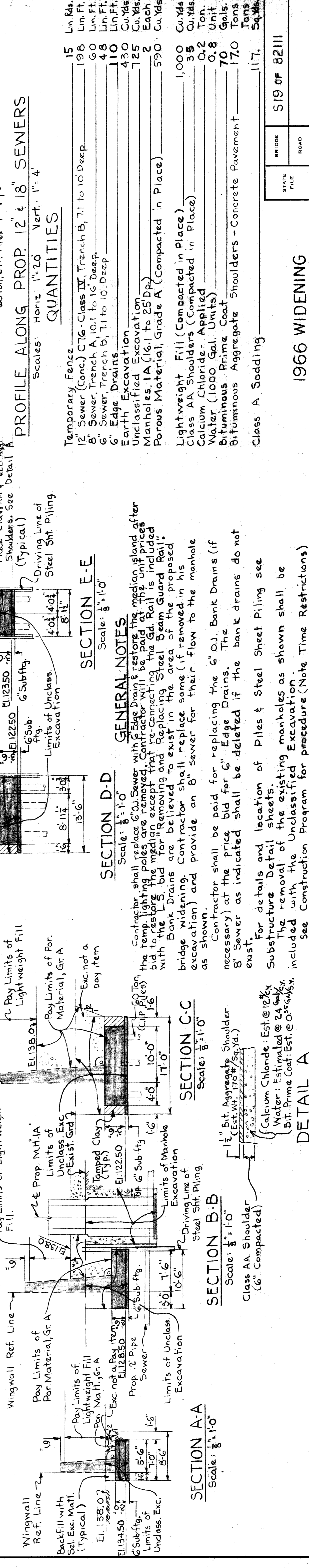
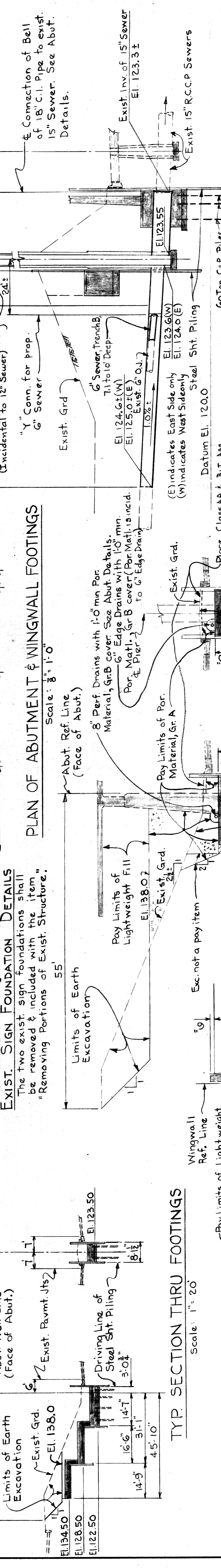
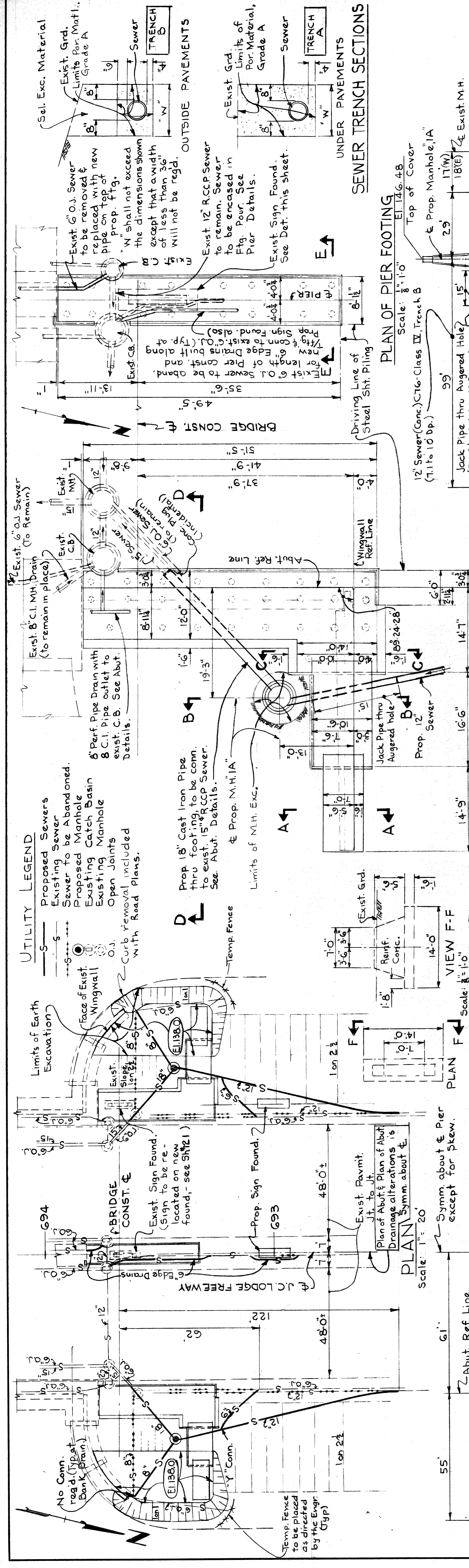
**FASCIA DETAILS**  
Scale: 1/2" = 1'-0"



<b>WAYNE COUNTY ROAD COMMISSIONERS</b> DETROIT, MICHIGAN AL BARBOUR WILLIAM E. KREGER		<b>1966 WIDENING</b> JOHN C. LODGE FREEWAY WARREN AVE. CROSSING GENERAL PLAN OF STRUCTURE CONT'D		COUNTY JOB <b>874</b>
BOARD OF <b>WAYNE COUNTY ROAD COMMISSIONERS</b> DETROIT, MICHIGAN WILLIAM E. KREGER		STATE PROJECT <b>S19 OF 8211</b>		COUNTY JOB <b>874</b>
APPROVED <i>[Signature]</i> ENGINEER OF STRUCTURES AND EXPRESSWAYS		BRIDGE <b>S19 OF 8211</b>		SHEET NO. <b>109</b>
CHECKED BY <b>C. LAYTON</b> DATE <b>3-24-64</b>		ROAD		ISSUE NO. <b>3</b> DATE <b>1-1-64</b>
CORRECTED BY <b>M. J. JAGGERS</b>		STATE FILE		DATE <b>1-1-64</b>
BOARD LEADER <b>D. Compton</b>		BRIDGE		COUNTY JOB <b>874</b>
DRAWN BY <b>D. Compton</b>		ROAD		SHEET NO. <b>109</b>
REVISIONS 1. Added 6" DE Steam Deck 2. 10-6" VTRM 3. Minor rev. DISC 1-6-64/CEL		STATE PROJECT <b>S19 OF 8211</b>		COUNTY JOB <b>874</b>
ENGINEER OF DESIGN, STRUCTURES AND EXPRESSWAYS <b>M. J. JAGGERS</b>		BRIDGE		SHEET NO. <b>109</b>
ENGINEER OF DESIGN, STRUCTURES AND EXPRESSWAYS <b>M. J. JAGGERS</b>		ROAD		ISSUE NO. <b>3</b> DATE <b>1-1-64</b>

Work this sheet with Sh. #108

E-2-1



**QUANTITIES**

Temporary Fence	15	Lin. Fds.
12" Sewer (Conc.) Class IV, Trench B, 7.1 to 10' Deep	198	Lin. Ft.
8" Sewer Trench A, 10.1 to 16' Deep	60	Lin. Ft.
6" Sewer Trench B, 7.1 to 10' Deep	48	Lin. Ft.
6" Edge Drains	110	Lin. Ft.
Earth Excavation	430	Cu. Yds.
Unclassified Excavation	725	Cu. Yds.
Manholes, 1A (16.1 to 25' Dp.)	2	Each
Porous Material, Grade A (Compacted in Place)	590	Cu. Yds.
Lightweight Fill (Compacted in Place)	1,000	Cu. Yds.
Class AA Shoulders (Compacted in Place)	35	Cu. Yds.
Calcium Chloride - Applied	0.2	Ton.
Water (1000 Gal. Units)	0.8	Unit
Bituminous Prime Coat	70	Gals.
Bituminous Aggregate Shoulders - Concrete Pavement	17.0	Tons
Class A Sodding	117.	Sq. Yds.

**UTILITY LEGEND**

- Proposed Sewers
- Existing Sewers
- Sewer to be Abandoned
- Proposed Manhole
- Existing Catch Basin
- Existing Manhole
- Open Joints
- Curb removal included with Road Plans.

**GENERAL NOTES**

Contractor shall replace 6" O.J. Sewer with 6" Edge Drain and restore the median island after the temp. lighting poles are removed. Contractor will be paid at the unit prices bid to restore the median except that re-connecting the Gd. Rail is included with the L.S. bid for "Removing and Replacing Steel Beam Guard Rail". Bank Drains are believed to exist in the area of the proposed bridge widening. Contractor shall replace same (if removed in his excavation) and provide an 8" Sewer for their flow to the manhole as shown.

Contractor shall be paid for replacing the 6" O.J. Bank Drains (if necessary) at the price bid for 6" Edge Drains. The 8" Sewer as indicated shall be deleted if the bank drains do not exist.

For details and location of Piles & Steel Sheet Piling see Substructure Detail sheets.

The removal of the existing manholes as shown shall be included with the Unclassified Excavation.

See Construction Program for procedure (Note Time Restrictions)

BRIDGE S19 OF 82111 ROAD

STATE PROJECT JOHN C. LODGE FREEWAY WARREN AVE. CROSSING

COUNTY JOB SHEET NO. 874 111

ISSUE NO. 2 DATE: 11/16/66

1966 WIDENING

WAYNE COUNTY ROAD COMMISSIONERS

BOARD OF DETROIT, MICHIGAN

AL BARBOUR

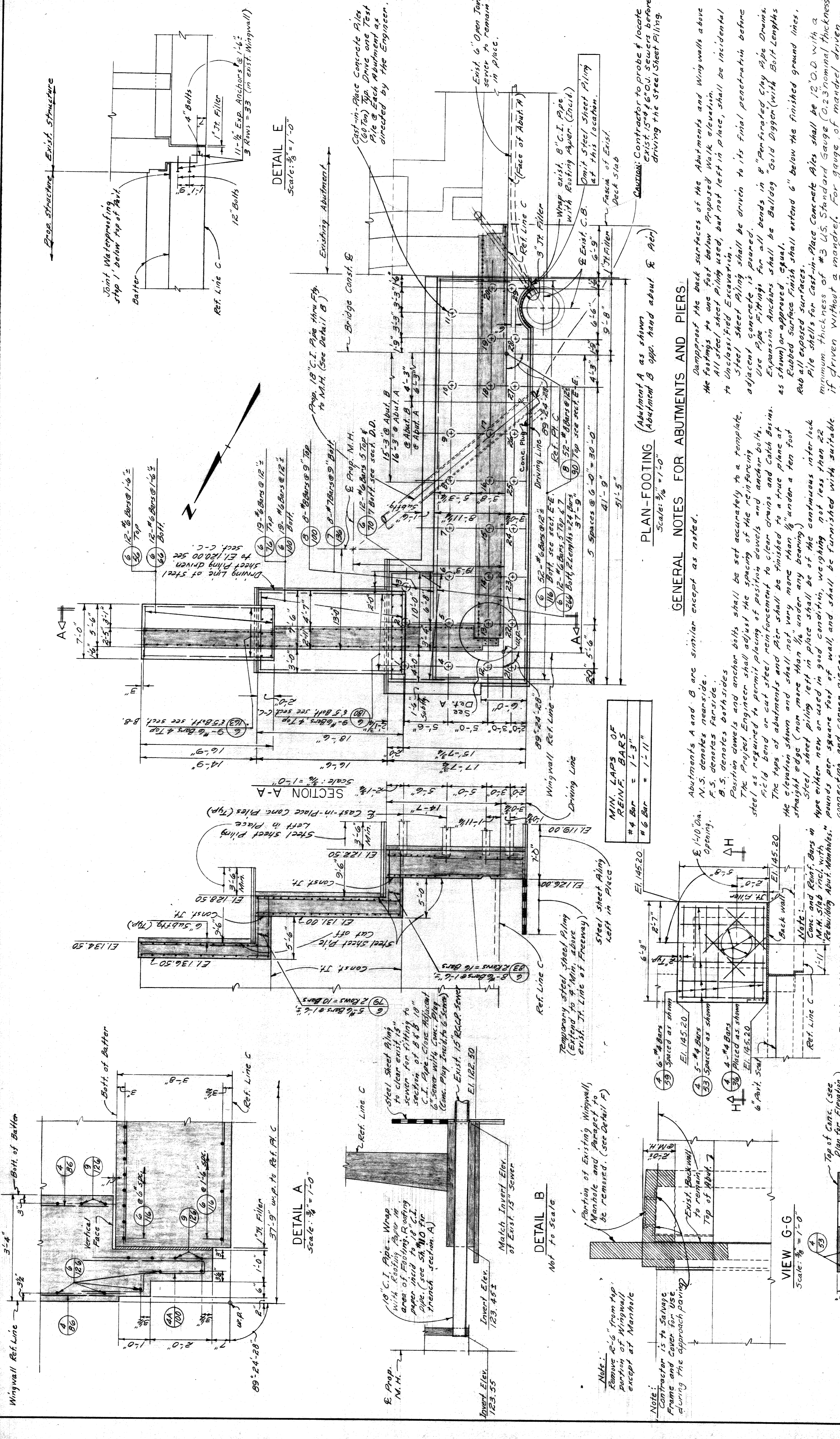
PHILIP J. NEUDECK

COUNTY HIGHWAY ENGINEER

DRAWN BY: M. J. NEUDECK CHECKED BY: M. J. NEUDECK DATE: 11/16/66

REVISIONS

PE



GENERAL NOTES FOR ABUTMENTS AND PIERS. Dampproof the back surfaces of the Abutments and Wing walls above the footings to one foot below Proposed Walk elevation. All steel sheet piling used, but not left in place, shall be incidental to Unclassified Excavation. Steel sheet piling shall be driven to its final penetration before adjacent concrete is poured. Use Pipe Fittings for all bends in 8" perforated Clay Pipe Drains. Expanding Anchors shall be Bulldog Gold Digger (with Bolt Lengths as shown) or approved equal. Rubbed Surface Finish shall extend 6" below the finished ground lines. Pile shells for Cast-in-Place Concrete Piles shall be 12" O.D. with a minimum thickness of #3 U.S. Standard Gauge (0.23 nominal thickness) if driven without a mandrel. For gauge of mandrel driven piles see STD. Specifications.

Abutments A and B are similar except as noted. N.S. denotes nearside. F.S. denotes farside. B.S. denotes bothsides. Position dowels and anchor bolts shall be set accurately to a template. The Project Engineer shall adjust the spacing of the reinforcing steel as required to permit placing of position dowels and anchor bolts. Field bend or cut steel reinforcement to clear drains and Catch Basins. The tops of abutments and Pier shall be finished to a true plane at the elevation shown and shall not vary more than 1/8" under a ten foot straight edge (nom more than 1/4" under any bearing). Steel sheet piling left in place shall be of the continuous interlock type either new or used in good condition, weighing not less than 22 pounds per square foot of wall, and shall be furnished with suitable connecting and corner pieces. Footing and subfooting concrete quantities and foundation excavation quantities are computed on the basis of an outline 3/4" outside of the footing outline, where the concrete is poured against steel sheet piling left in place at steps in wingwalls. No additional allowances in concrete quantities will be made regardless of the steel sheet piling used.

PLAN-FOOTING (Abutment A as shown) Scale: 3/8" = 1'-0". Note: Contractor to probe & locate existing 15" x 16" O.D. Sewers before driving the Steel Sheet Piling.

PLAN - MANHOLE SLAB Scale: 3/8" = 1'-0". Note: Concrete and Reinf. Bars in M.H. Slab incl. with Rebuilding Abut. Manholes.

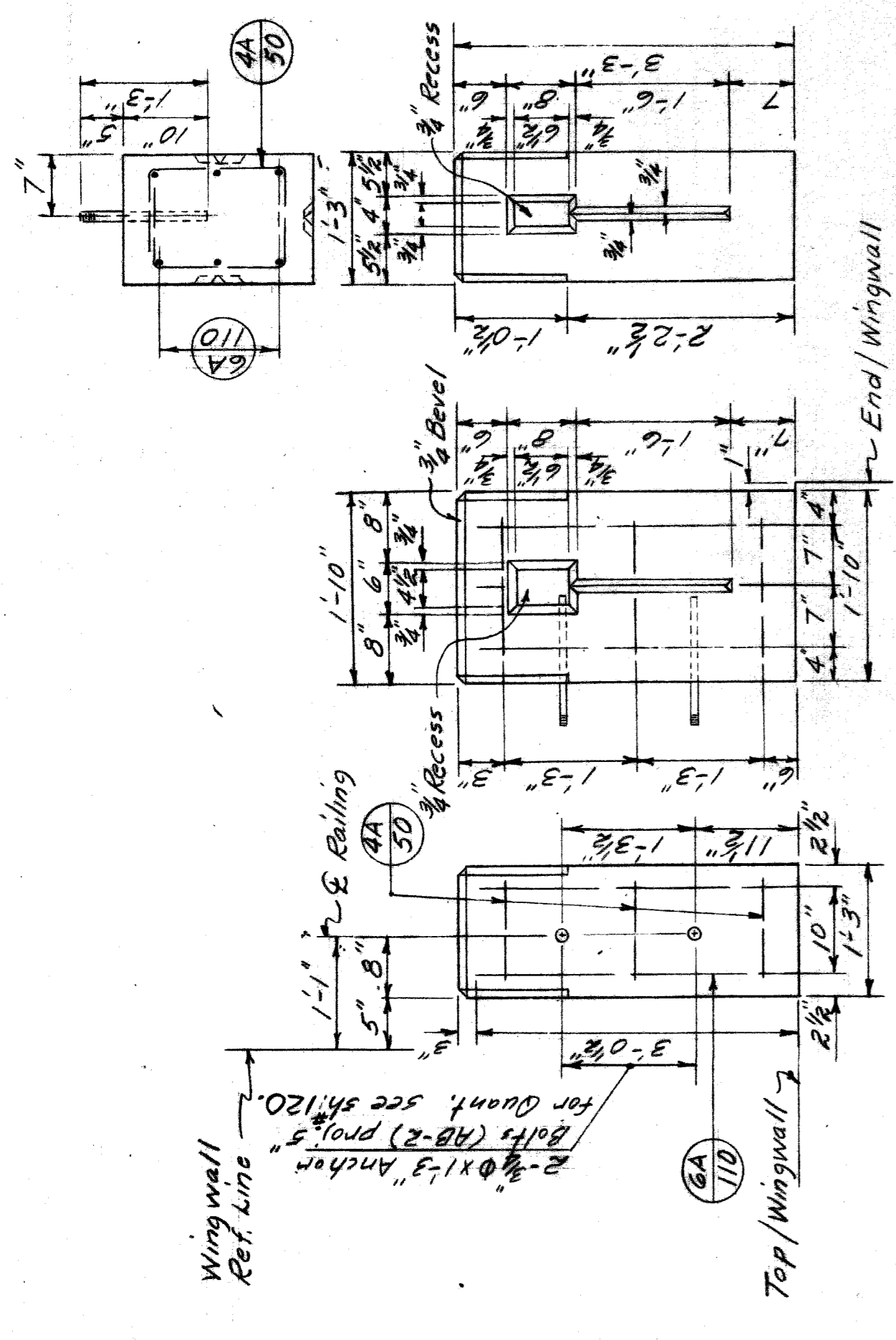
SECTION H-H Scale: 3/8" = 1'-0". Note: Band exist Reinforcing Bars to be used as Dowels in M.H. Slab.

DETAIL E Scale: 3/8" = 1'-0". Note: Cast-in-Place Concrete Piles (60 Top) Top Drive one Test Pile @ Each Abutment as directed by the Engineer.

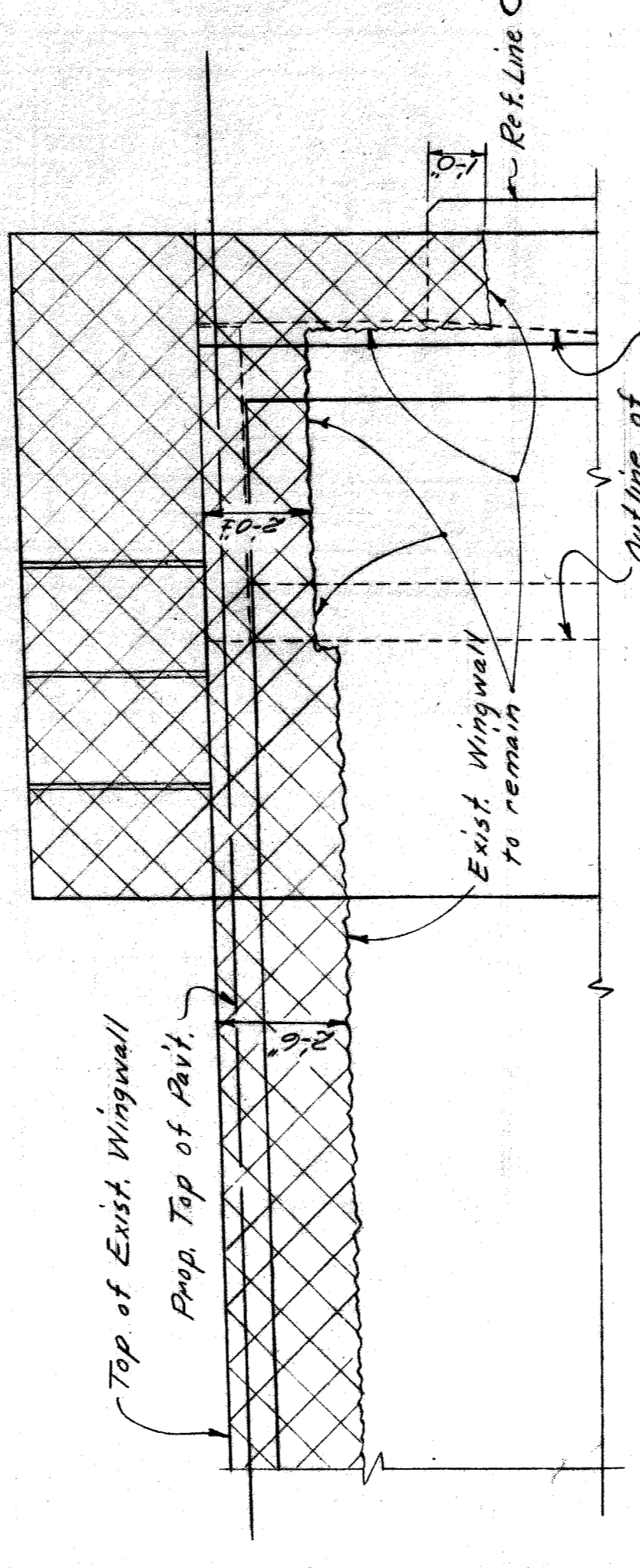
Work this sheet with sheets #121-#123

E-2-1

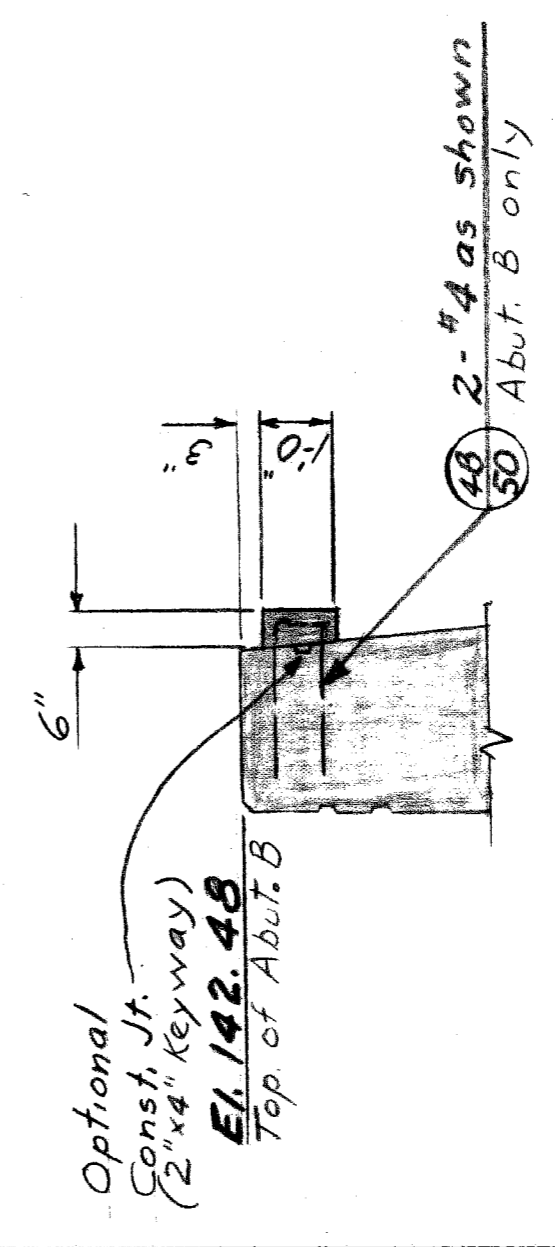




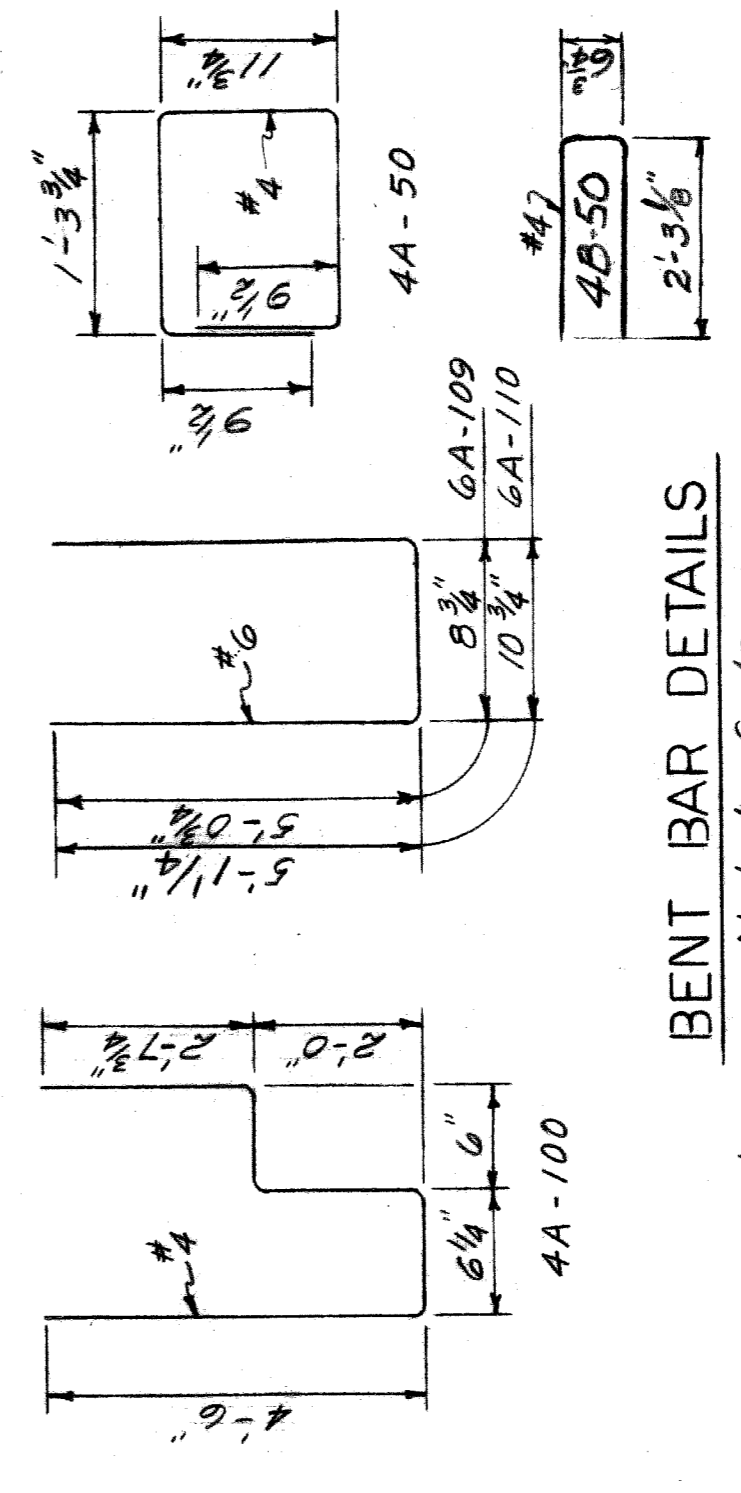
END POST DETAILS  
Scale: 3/8" = 1'-0"



DETAIL F  
Scale: 3/8" = 1'-0"



PLC DUCT SUPPORT  
Scale: 3/8" = 1'-0"



BENT BAR DETAILS  
Not to Scale

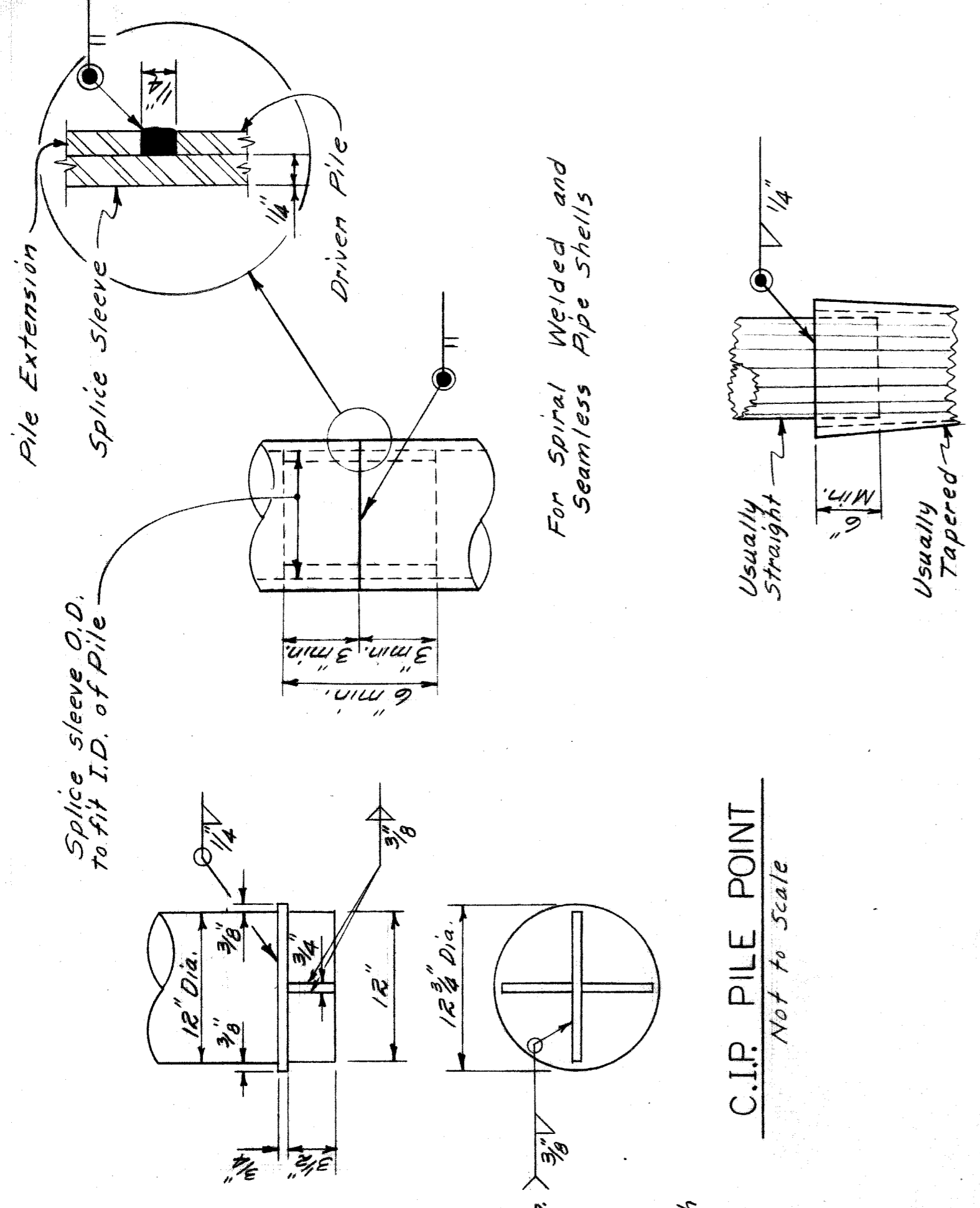
BILL OF REINFORCING BARS			
MARK	NUMBER		REMARKS
	ABUT. A	ABUT. B	
9-126	17	17	#9 12'-6" Straight
8-100	8	8	#8 10'-0" "
8-90	52	52	#9 9'-0" "
7-136	8	8	#7 13'-6" "
6-266	24	24	#6 26'-6" "
6-180	9	9	#6 18'-0" "
6-163	9	9	#6 16'-3" "
6-126	10	10	#6 12'-6" "
6-116	174	174	#6 11'-6" "
6-113	24	24	#6 11'-3" "
6-106	35	35	#6 10'-6" "
6-100	19	19	#6 10'-0" "
6-83	16	16	#6 8'-3" "
6-79	10	10	#6 7'-9" "
6-76	19	19	#6 7'-6" "
6-70	12	12	#6 7'-0" "
6-66	12	12	#6 6'-6" "
6-56	12	12	#6 5'-6" Straight
6-159	14	14	#6 15'-9" Straight
6-146	9	9	#6 14'-6" "
6-140	10	10	#6 14'-0" "
6-106	31	31	#6 10'-6" "
6-96	24	24	#6 9'-6" Straight
6A-110	3	3	#6 11'-0" Bent
6A-109	12	12	#6 10'-9" Bent
4-273	22	22	#4 27'-3" Straight
4-263	22	22	#4 26'-3" "
4-179	36	36	#4 17'-9" "
4-86	28	28	#4 8'-6" Straight
4B-100	14	14	#4 10'-0" Bent
4B-50	2	2	#4 5'-0" Bent
4-116	6	6	#4 11'-6" Straight
4A-50	3	3	#4 5'-0" Bent
4-59	6	6	#4 5'-9" Straight
4-53	5	5	#4 5'-3" "
4-36	4	4	#4 3'-6" Straight

\* Reinforcing Bars in Manhole Slabs are incidental to Rebuilding Abutment Manhole. (Total weight = 100 Lbs)

CONCRETE POURS			
POUR	LOCATION	GRADE	Cu. Yds.
A	Substr.	A(GA)	13.9
B	"	"	3.3
C	Substr.	"	1.9
D	Footings	"	88.4
E	"	"	20.8
F	Footings	A(GA)	10.8
G	Stem	A(GAA)	46.8
H	Stem	"	48.1
J	Wingwall	"	20.3
K	"	"	22.2
L	Wingwall	"	12.3
M	Parapet	"	1.5
N	Post	A(GAA)	0.3

Concrete in Manhole Slabs is included with the item "Rebuilding Abutment Manholes"

C.I.P. PILE POINT  
Not to Scale



For Fluted Pipe Shells  
PILE SPLICE DETAILS  
Not to Scale

60 TON PILES FOR ABUTMENTS AND PIER					
Type	Number Piles	Estimated Length - Lin. Ft.	Splices Each	Cut off Elevation	Unit
Abutment A	28	127.0	89	123.00	
Test	1	137.0	1	123.00	
Abutment B	28	127.0	89	123.00	
Test	1	137.0	1	123.00	
Pier	15	128.0	48	124.00	
Test	1	138.0	1	124.00	
Total	74	9444	226		

QUANTITIES

Item	Abut. A	Abut. B	Total	Unit
Steel Sheet Piling left in Place	797	797	1594	Sq. Ft.
Grade A(GA) Gravel or (GA Sleg) Conc. Substr.	139.1	139.1	278.2	Cu. Yds.
Grade A(GA) Gravel or (GA Sleg) Conc. Substr.	151.5	151.5	303.0	Cu. Yds.
Steel Reinforcement	12,466	12,473	24,939	Lbs.
1/2" Joint Filler	61	61	122	Sq. Ft.
1" Joint Filler	173	173	346	Sq. Ft.
Joint Waterproofing	115	115	230	Sq. Ft.
Dampproofing	1550	1550	3100	Sq. Ft.
8" Perforated Clay Pipe Underdrains	97	97	194	Lin. Ft.
8" Cast Iron Pipe (Trench A)	30	31	61	Lin. Ft.
8" Cast Iron Pipe	13	13	26	Lin. Ft.
Porous Mat'l. Gr. B (Compacted in Place)	8	8	16	Cu. Yds.
Expansion Anchors with Bolts	47	47	94	Each
Rebuilding Abutment Manholes	1	1	2	Each
Rubbed Surface Finish	1400	1400	2800	Sq. Ft.
Cast-in-Place Concrete Piles	3693	3693	7386	Lin. Ft.
Furnished and Driven				
Pile Points - Cast-in-Place	29	29	58	Each
Concrete Piles	89	89	178	Each
Splices - Steel Shells				
Test Piles - Cast-in-Place				
Concrete Piles	1	1	2	Each

1966 WIDENING

JOHN C. LODGE FREEWAY  
WARREN AVE. CROSSING  
ABUTMENT DETAILS (CONT'D)

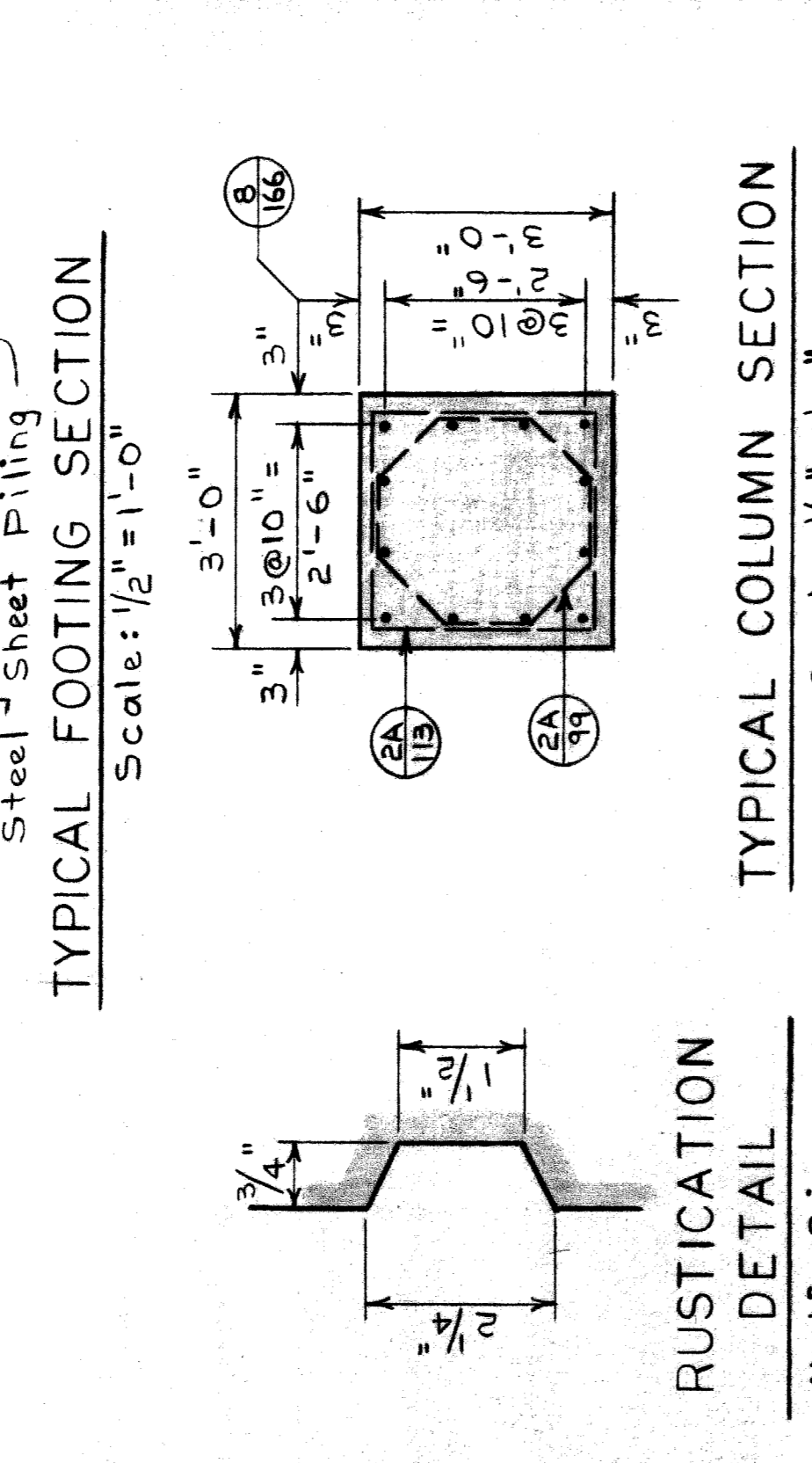
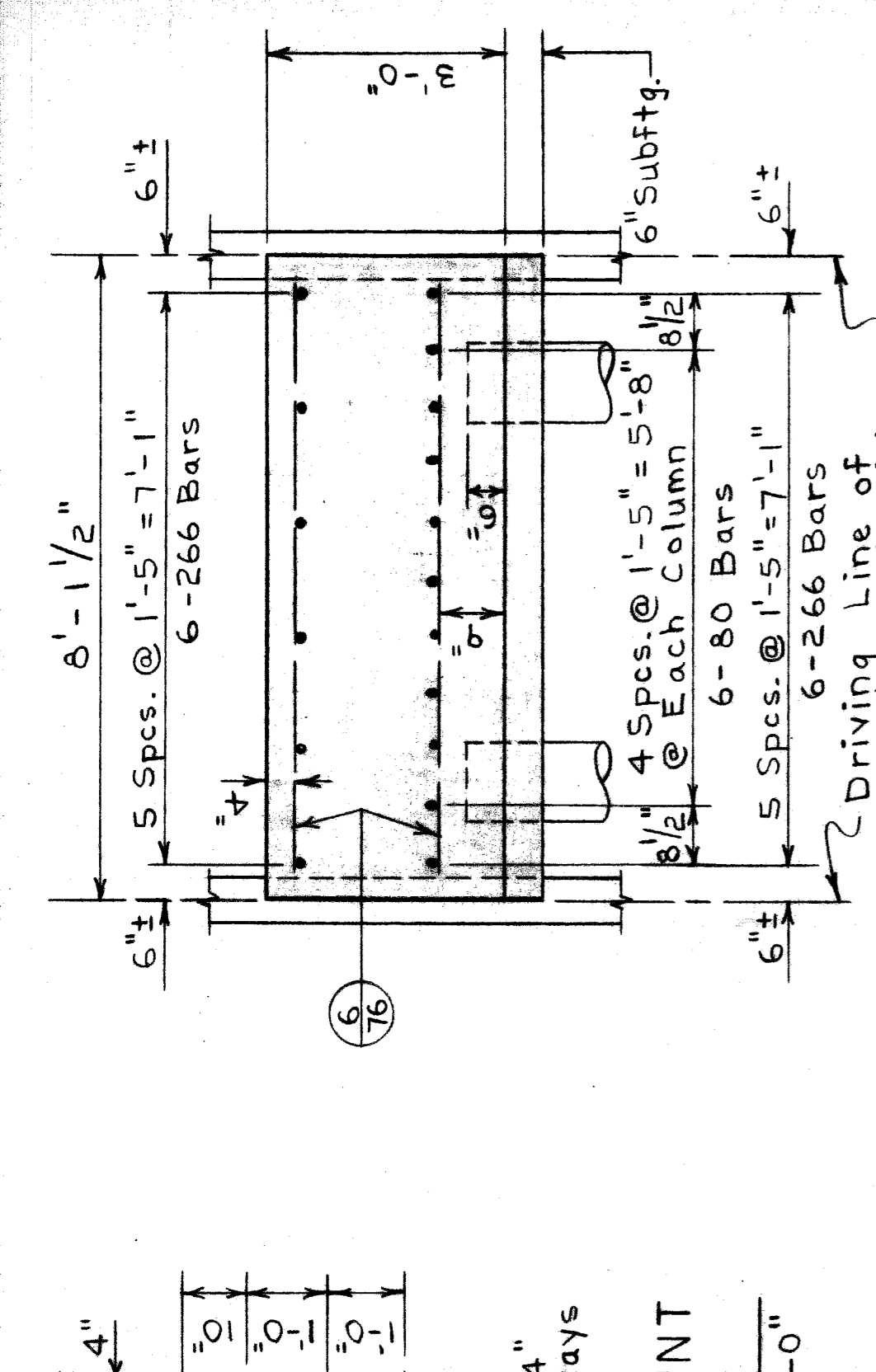
WAYNE COUNTY ROAD COMMISSIONERS

BOARD OF  
DETROIT, MICHIGAN  
WILLIAM E. KREGER

APPROVED  
D. Conpton  
ENGINEER OF STRUCTURES AND EXPRESSWAYS

APPROVED  
M. J. Neudeck  
ENGINEER OF STRUCTURES AND EXPRESSWAYS

REVISIONS  
DRAWN BY: C. LANTIERE  
CHECKED BY: M. J. Neudeck  
DATE: DEC 1-2-66  
CORRECTED BY: M. J. Neudeck  
DATE: 11.1.66  
COUNTY HIGHWAY ENGINEER



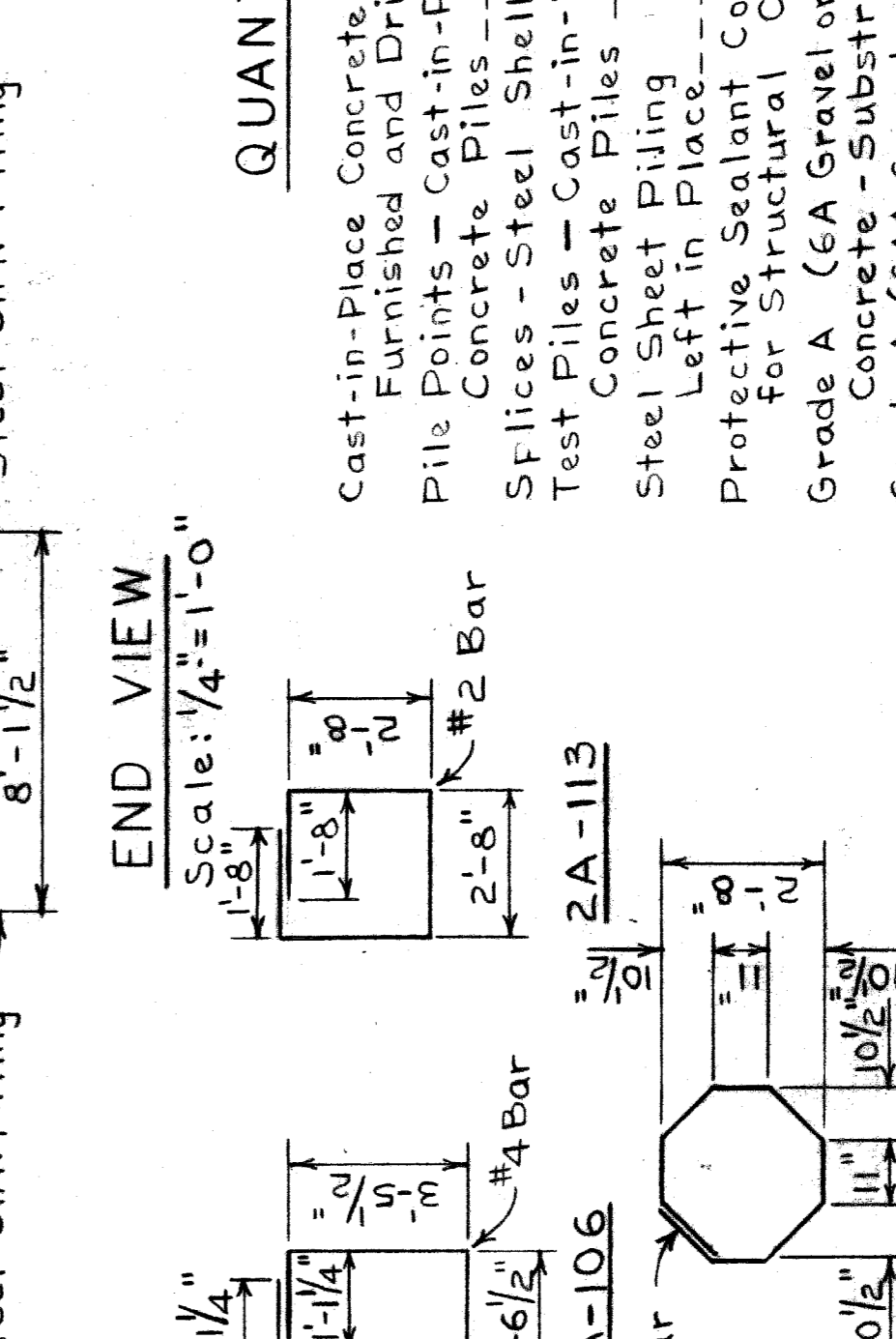
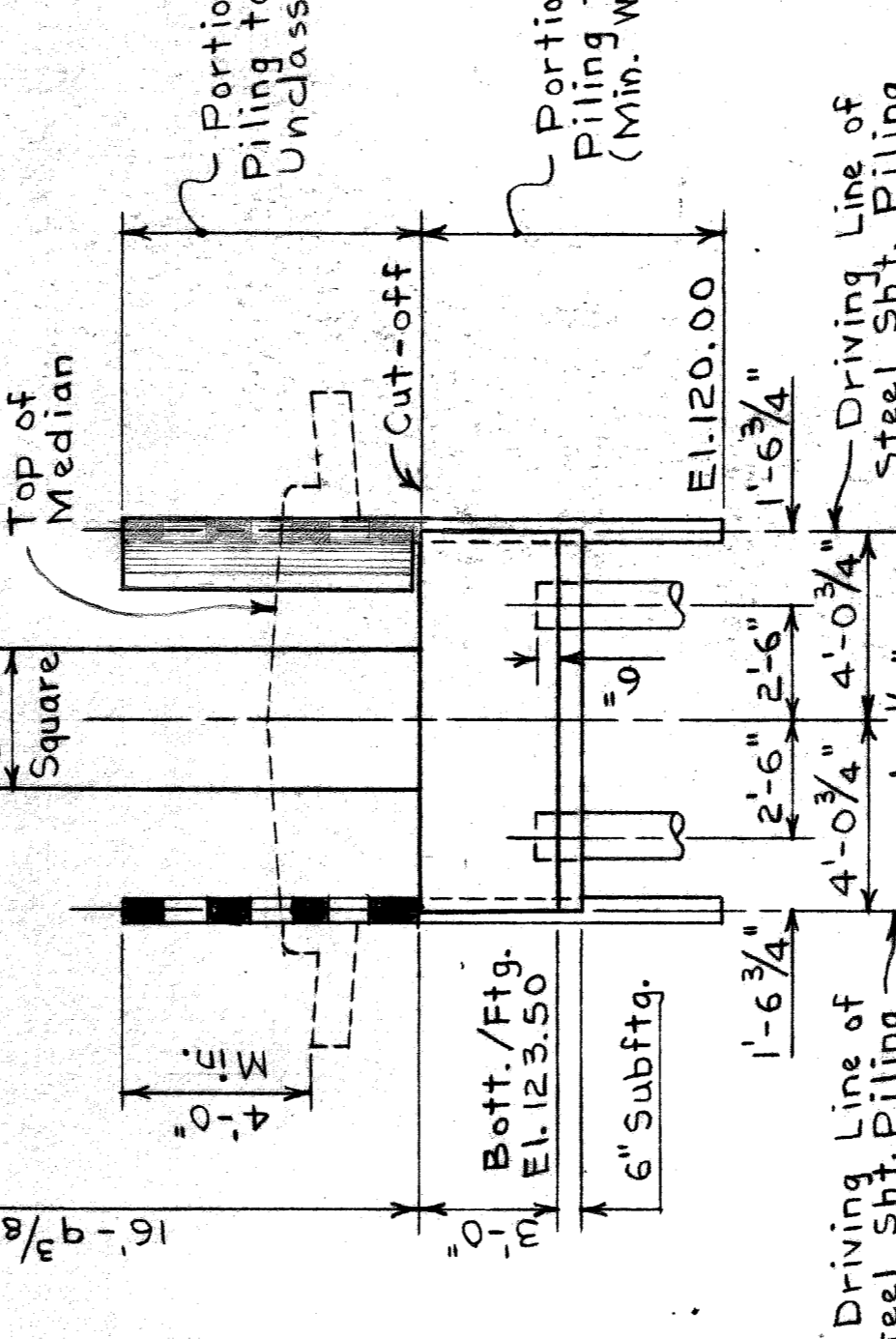
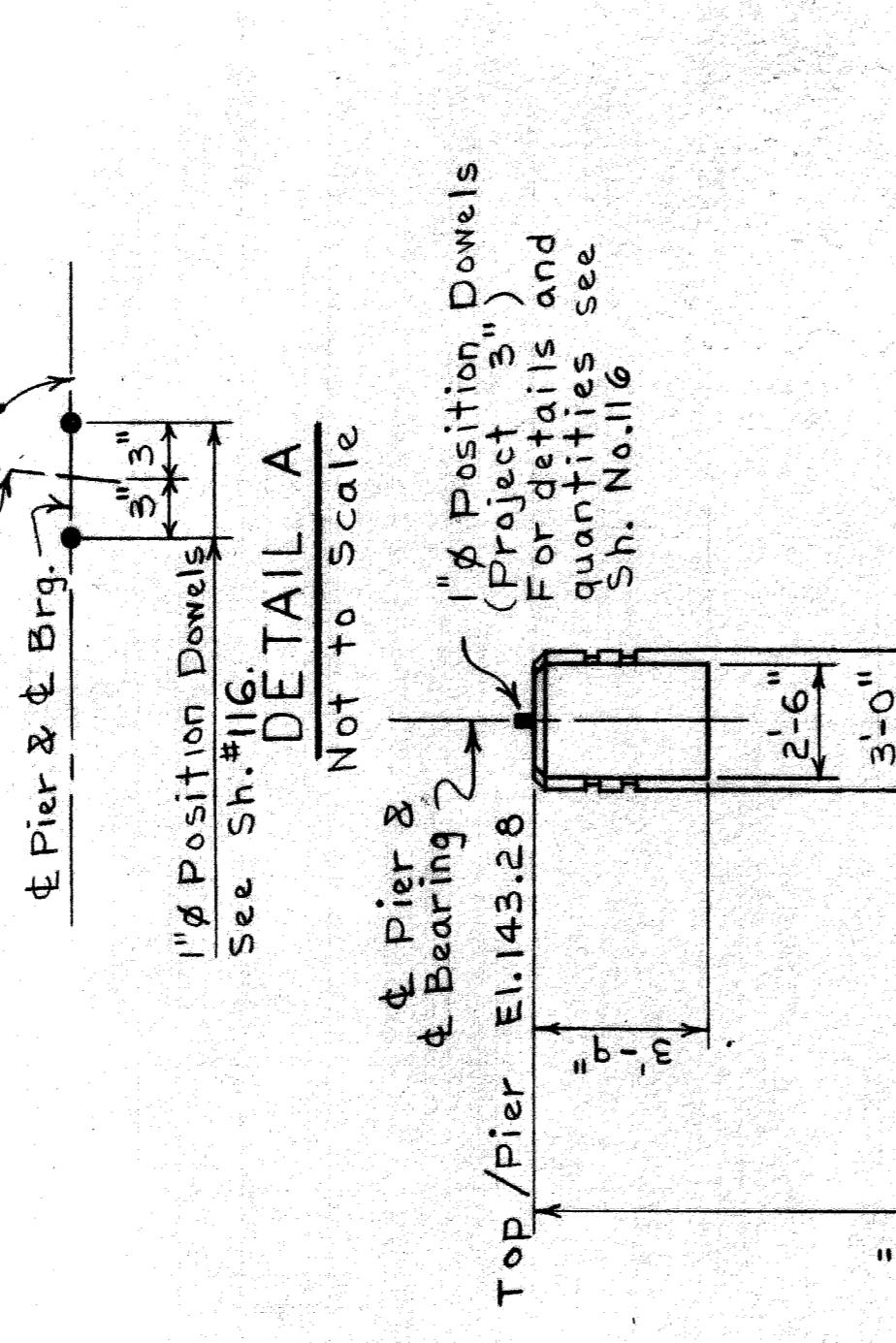
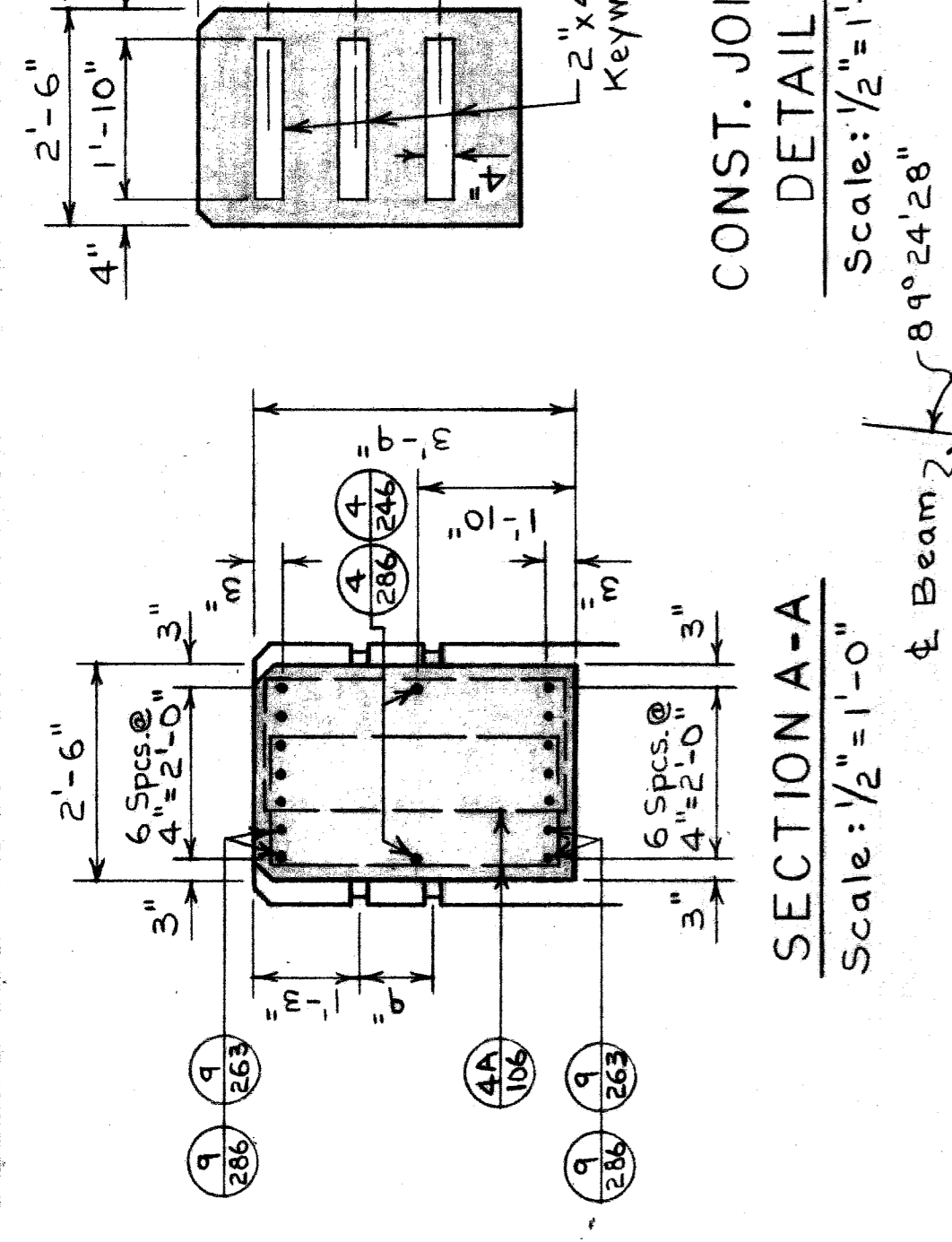
**BILL OF REINFORCING BARS**

MARK NO.	SIZE	LENGTH	REMARKS
8-56	#8	5'-6"	Straight
6-266	#6	26'-6"	Straight
6-80	#8	8'-0"	"
6-76	#6	7'-6"	Straight
9-286	#9	28'-6"	Straight
9-263	#9	26'-3"	"
8-166	#8	16'-6"	"
4-286	#4	28'-6"	"
4-246	#4	24'-6"	Straight
4A-106	#4	10'-6"	Bent
2A-113	#2	11'-3"	"
2A-99	#2	9'-9"	Bent

**CONCRETE POURS**

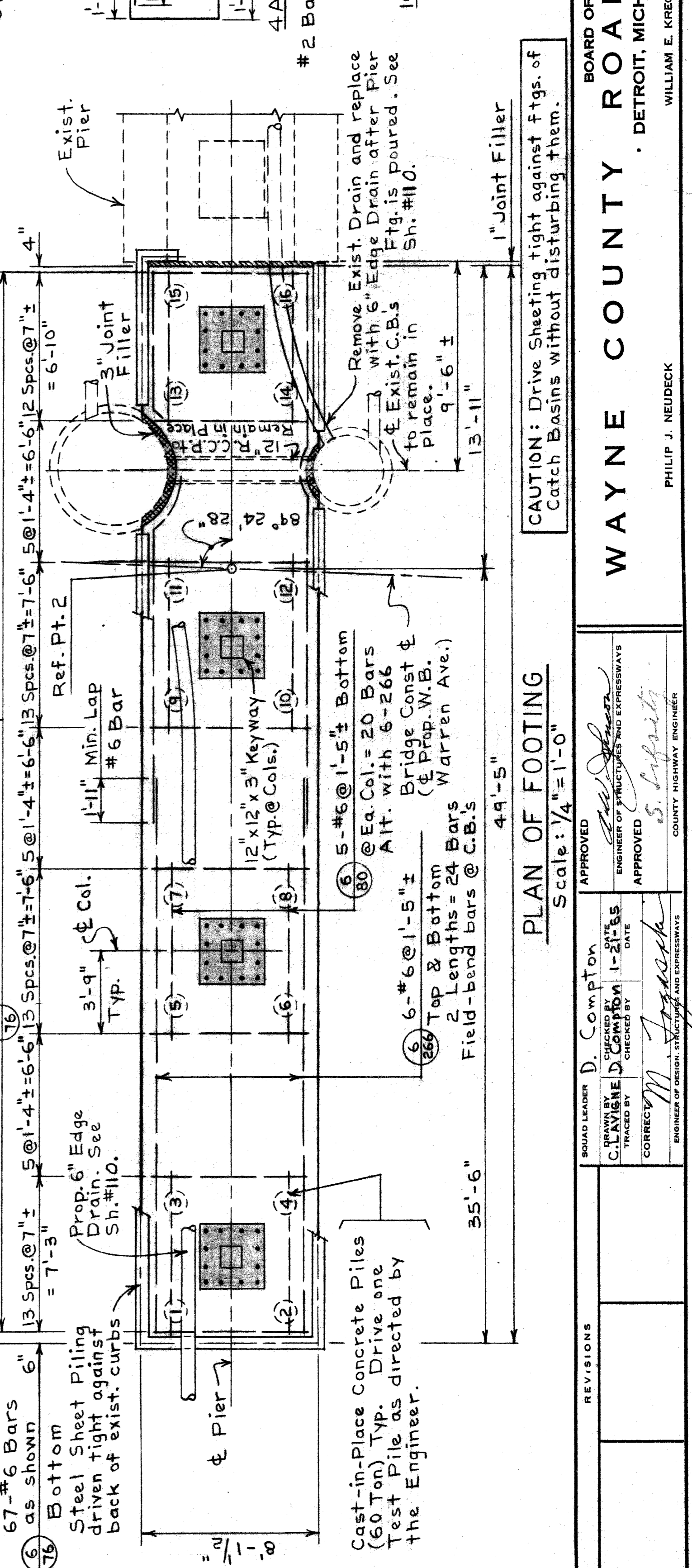
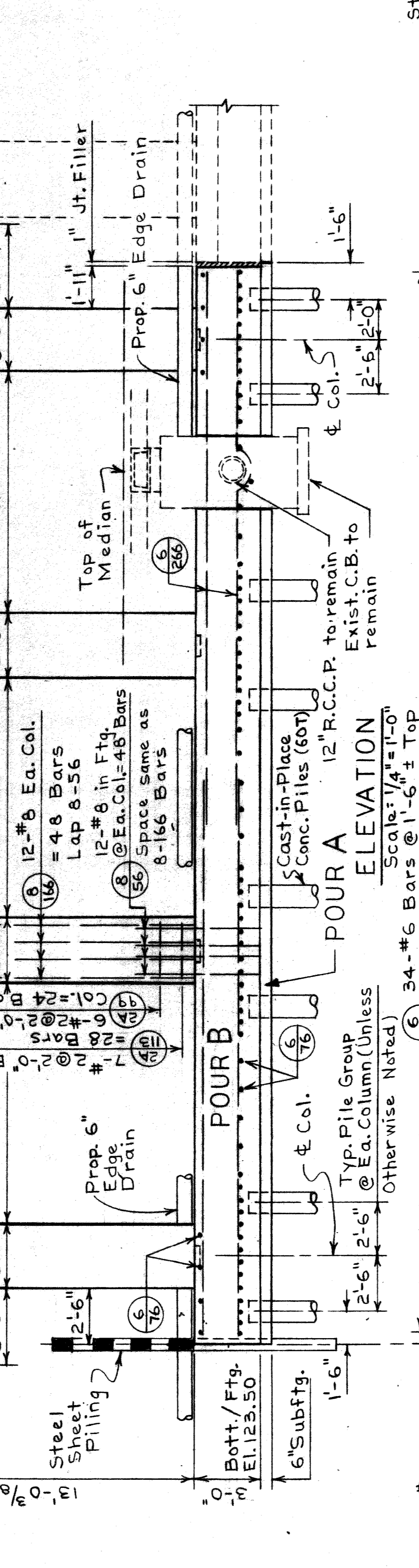
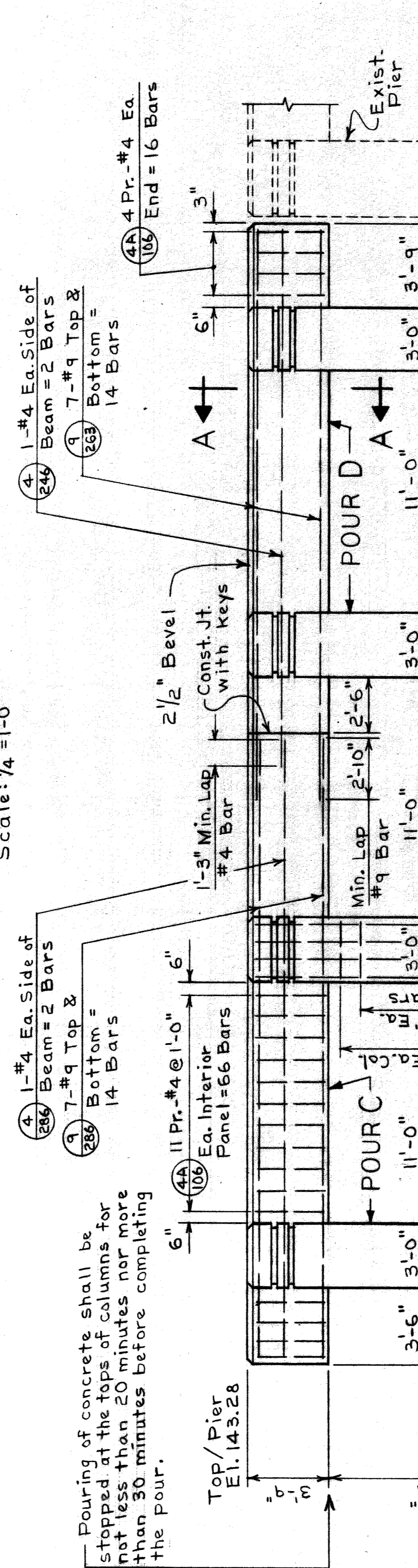
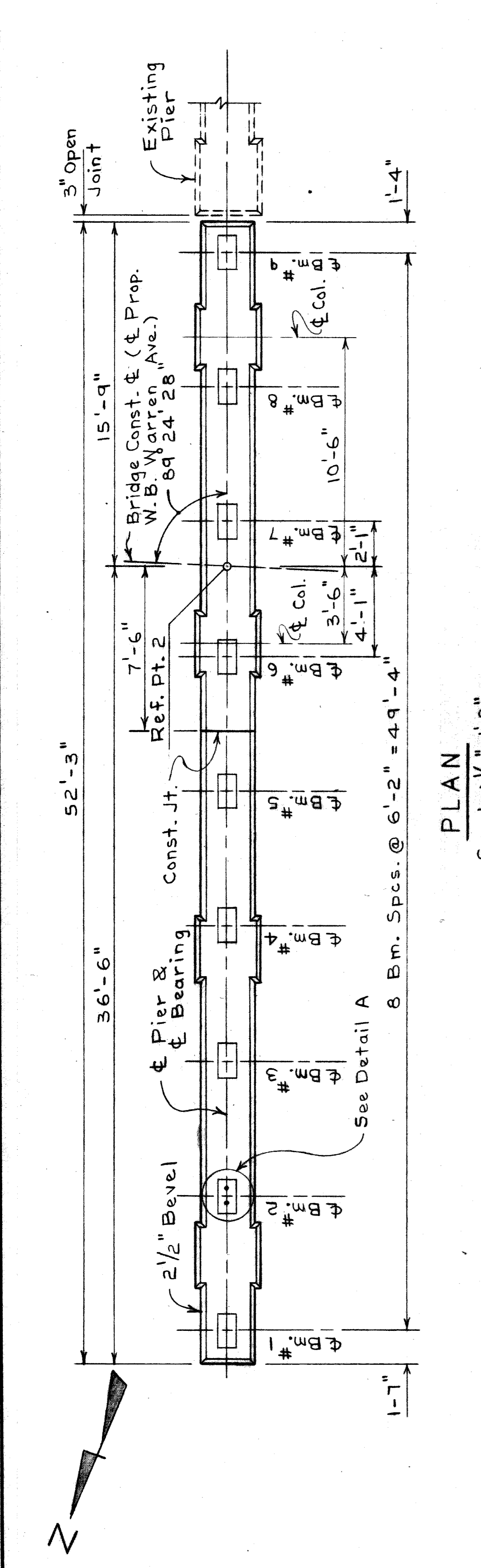
POUR	LOCATION	GRADE	CU. YDS.
A	Subfooting	A (6A)	7.4
B	Footing	A (6A)	43.9
C	Cols. & Beam	A (6AA)	19.2
D	Cols. & Beam	"	17.2

**NOTES**  
 See General Notes on Sheet No. 111.  
 For details of unclassified Excavation, Backfill and drainage, see Sheet No. 110.  
 Protective Sealant Coating shall be applied to columns from top of footing to bottom of pier beam.  
 Bottom of Beam not included with Rubbed Surface Finish.



**QUANTITIES**

Cast-in-Place Concrete Piles - 2058 Lin. Ft.  
 Furnished and Driven  
 Pile Points - Cast-in-Place  
 Concrete Piles - 16 Each  
 Splices - Steel Shells - 48 Each  
 Test Piles - Cast-in-Place  
 Concrete Piles - 1 Each  
 Steel Sheet Piling Left in Place - 638 Sq. Ft.  
 Protective Sealant Coating for Structural Concrete - 626 Sq. Ft.  
 Grade A (6A Gravel or 6A Slag) Concrete - Substructure - 51.3 Cu. Yds.  
 Grade A (6AA Gravel or 6AA Slag) Concrete - Substructure - 36.4 Cu. Yds.  
 Steel Reinforcement - 847 Lbs.  
 Rubbed Surface Finish - 940 Sq. Ft.  
 1" Joint Filler - 117 Sq. Ft.



**WAYNE COUNTY ROAD COMMISSIONERS**  
 BOARD OF  
 JOHN C. LODGE FREEWAY  
 WARREN AVE. CROSSING  
 PIER DETAILS

**REVISIONS**  
 APPROVED: D. Cowpton  
 CHECKED BY: C. Ravigne  
 DATE: 1-21-65

**NOTES**  
 Pouring of concrete shall be stopped at the tops of columns for not less than 20 minutes nor more than 30 minutes before completing the pour.

**CAUTION:** Drive Sheeting tight against ftgs. of Catch Basins without disturbing them.

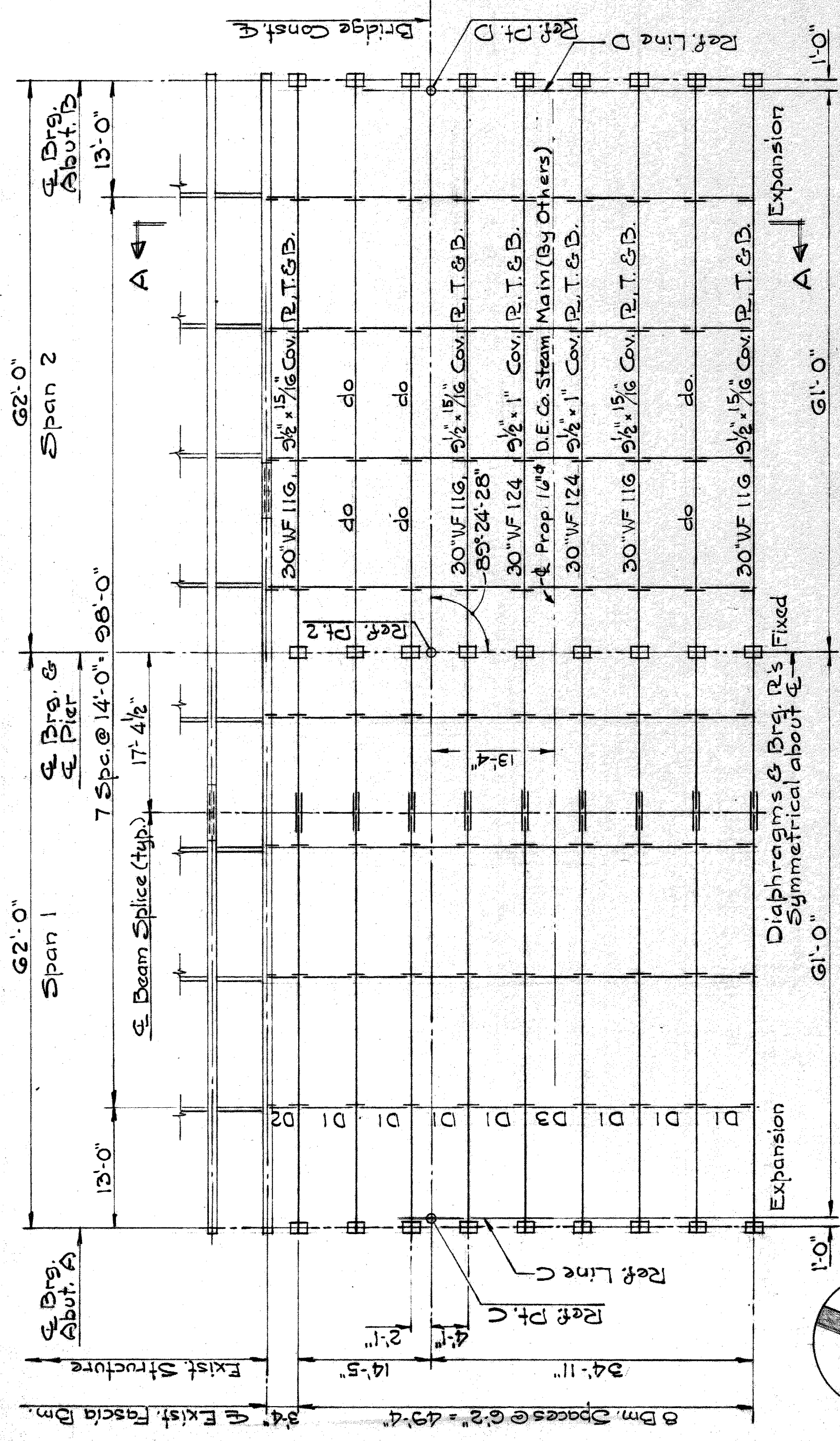
AL BARBOUR  
 WILLIAM E. KREGER  
 PHILIP J. NEUDECK

STATE PROJECT  
 COUNTY JOB  
 SHEET NO.  
 ISSUE NO.  
 DATE

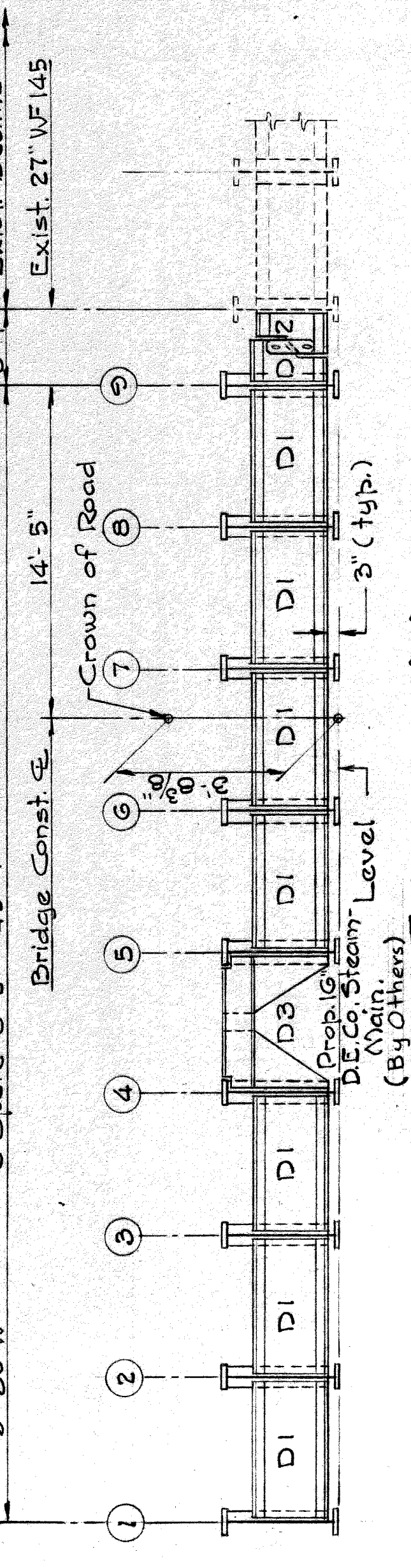
1966 WIDENING  
 S19 OF 82111

874  
 114  
 1-2-65

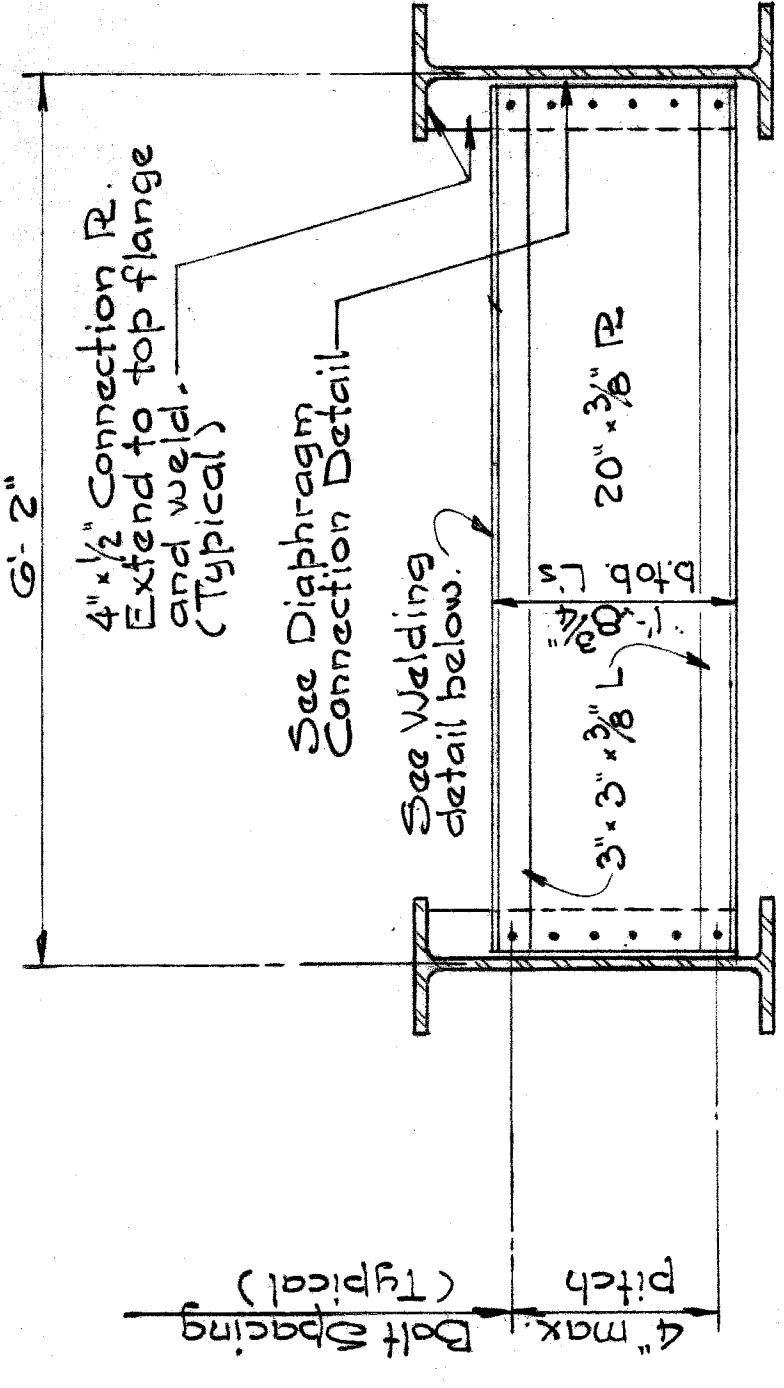
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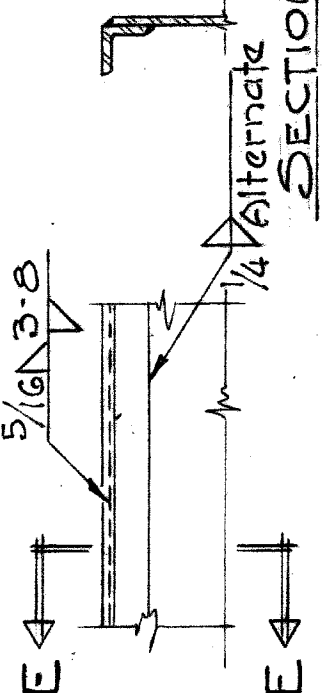
**PLAN**  
Not to Scale



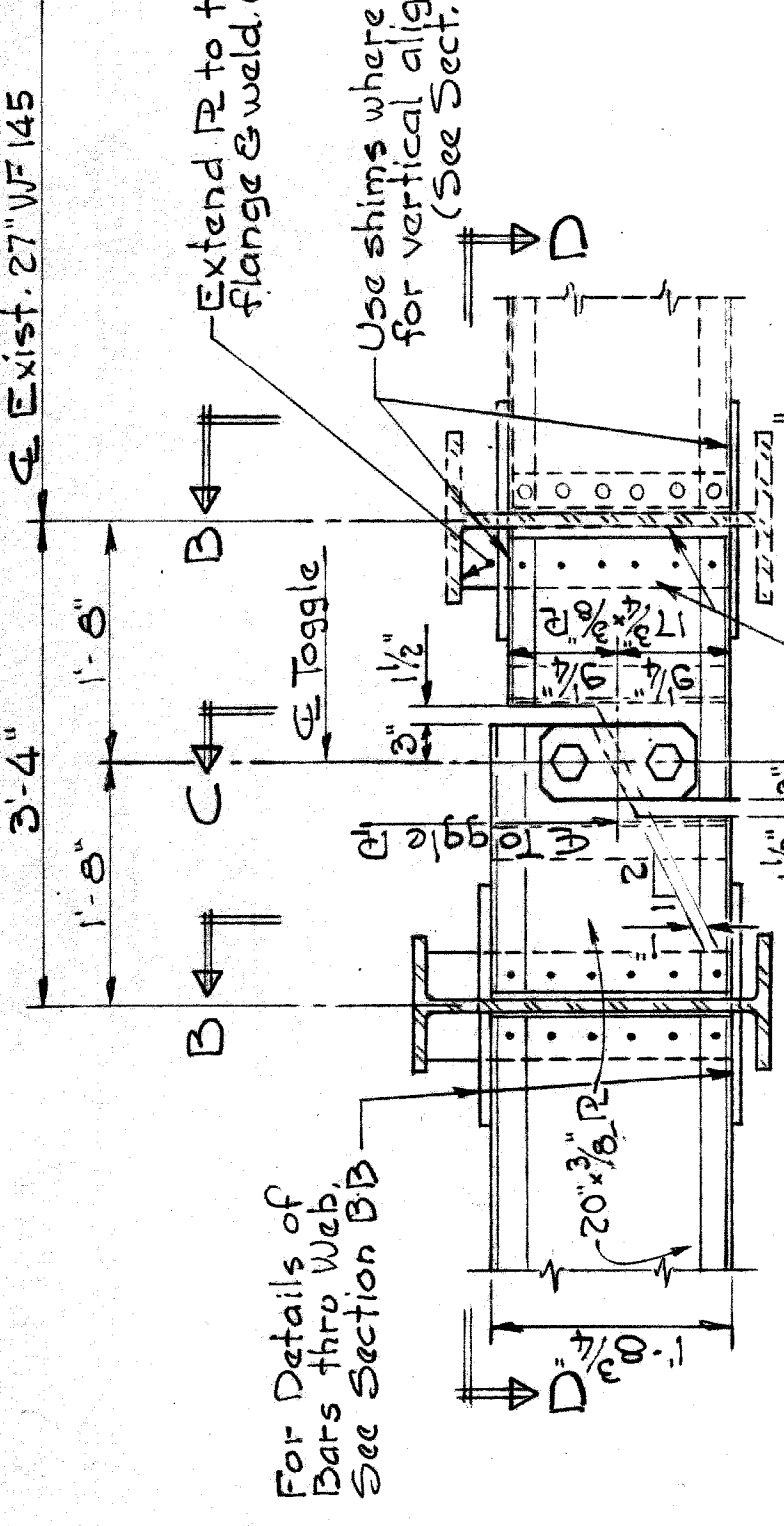
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**DIAPHRAGM D-1**

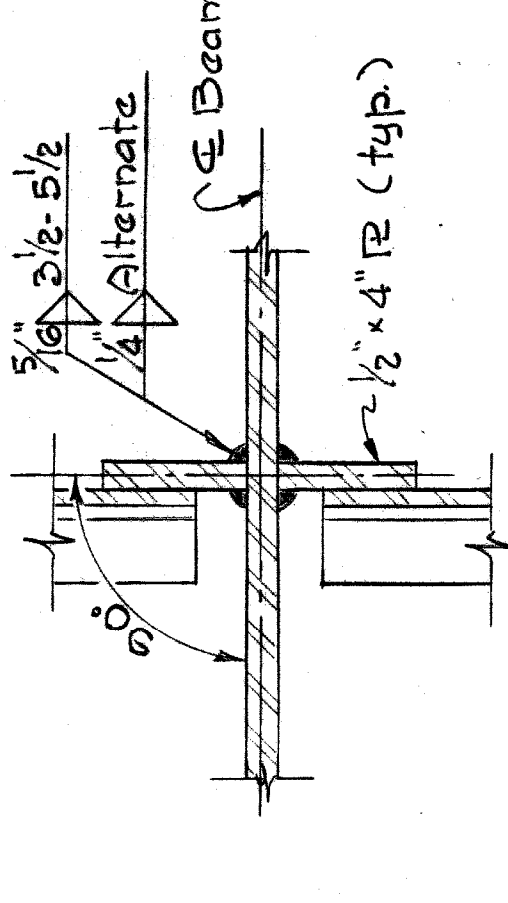


**WELDING DETAIL**  
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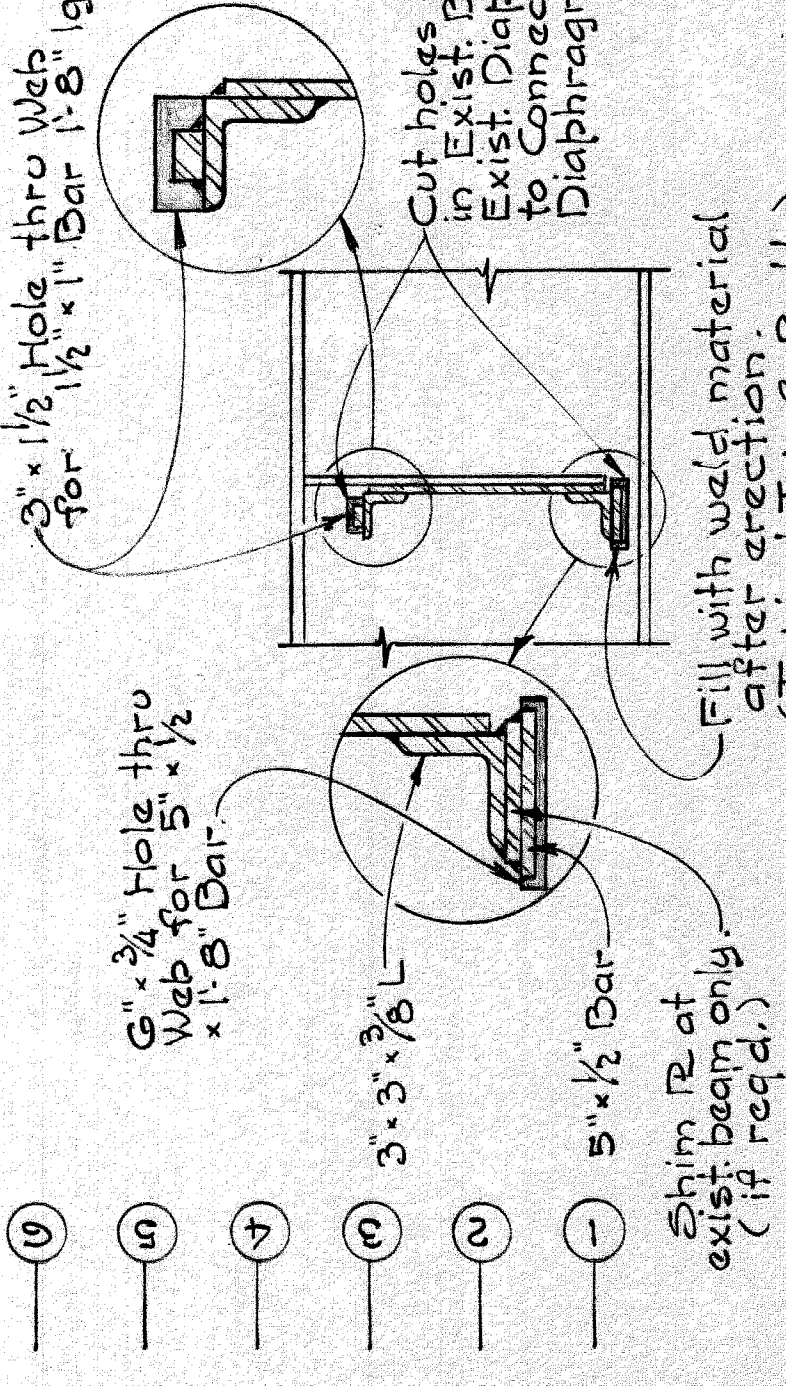


**DIAPHRAGM D-2**

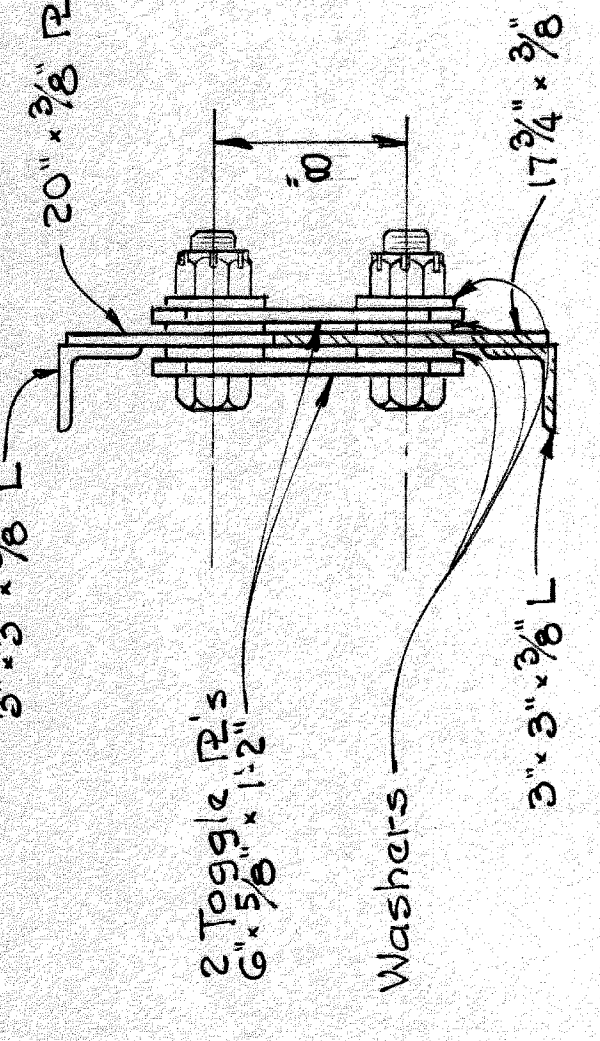
For Details of  
**DIAPHRAGM D-3**  
See Sh. Wallig



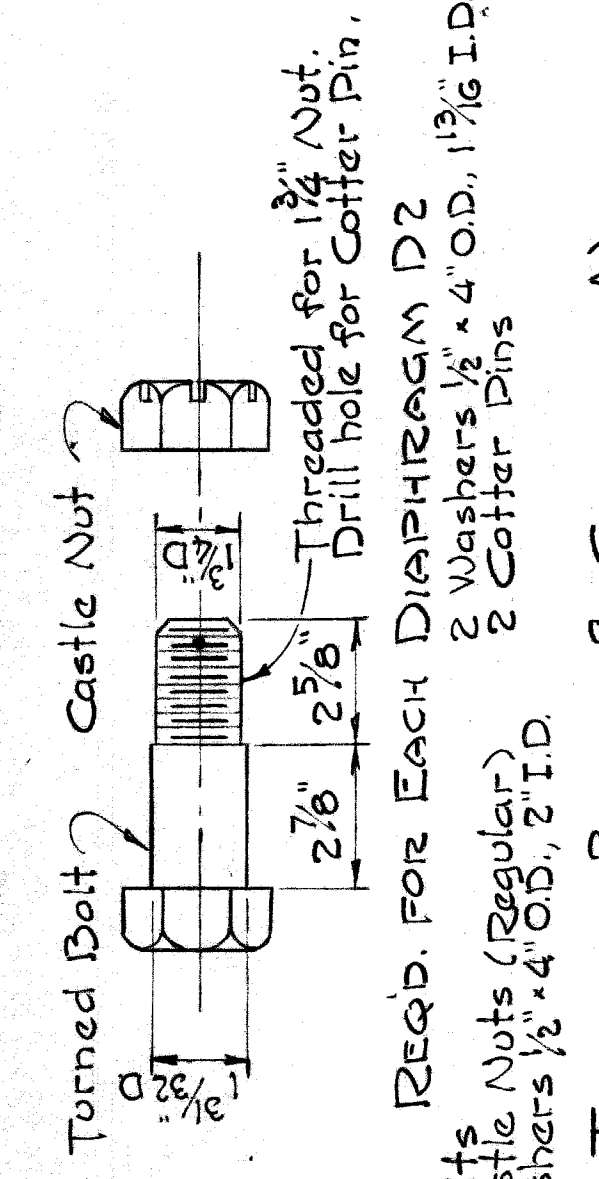
**DIAPHRAGM CONNECTION**  
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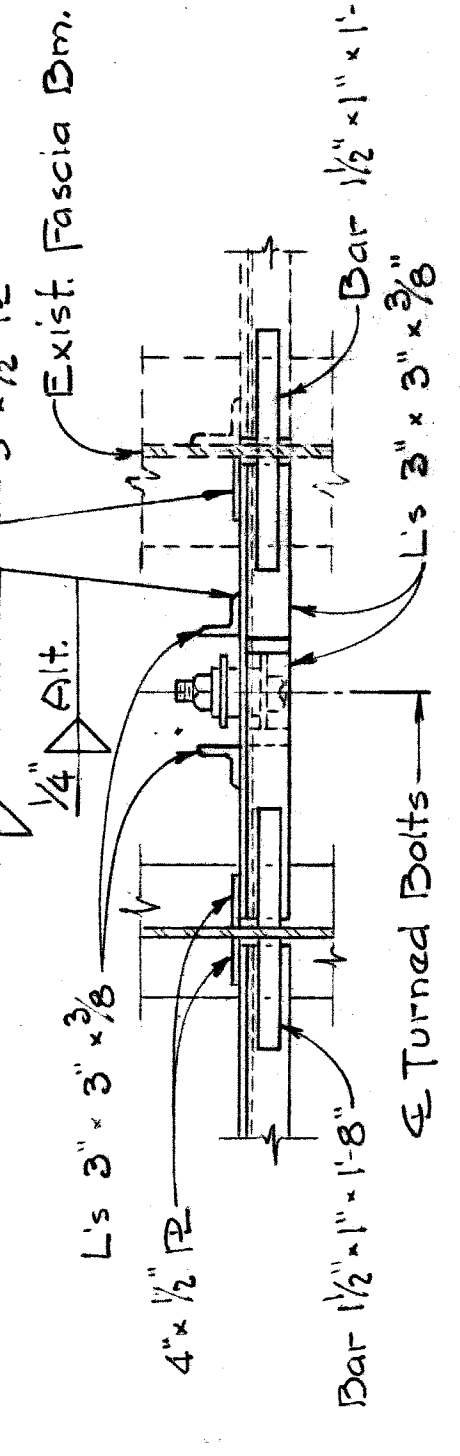
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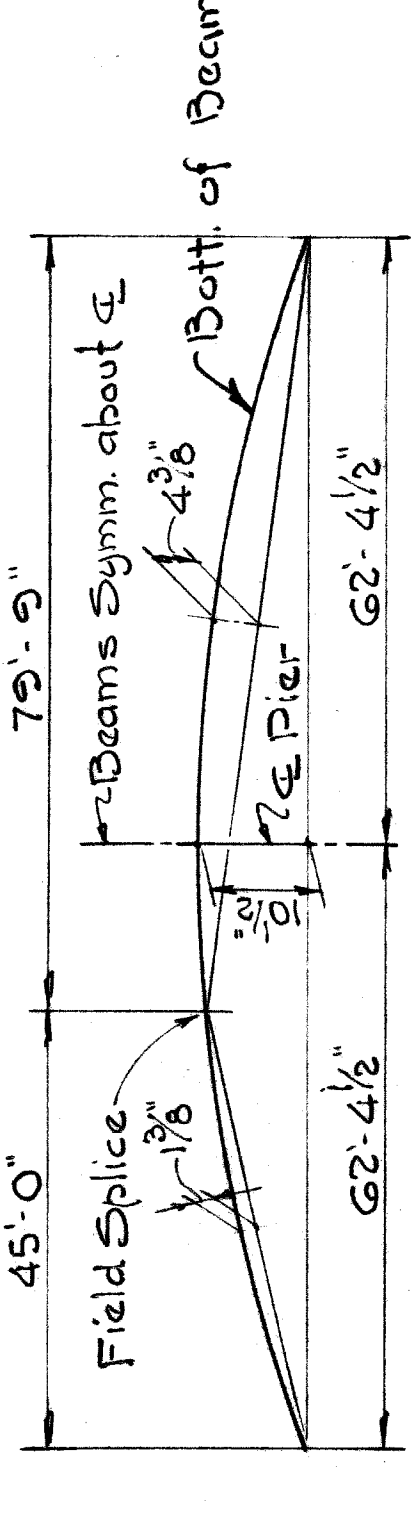
**SECTION CC**  
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**TURNED BOLT & CASTLE NUT**  
Not to Scale



**SECTION DD**



**CAMBER DIAGRAM FOR BEAMS**  
Not to Scale

**STRUCTURAL STEEL NOTES**

**DESIGN:** Michigan State Highway Department's Specifications for the Design of Highway Bridges - 1958 Edition (H20-S16-44 Loading)

**FABRICATION:** Michigan State Highway Department's Standard Specifications for Road & Bridge Construction - 1955 Edition.

**MATERIAL:** All Structural Steel Shall be ASTM-A36

**SHOP CONNECTIONS:** Shall be welded as shown on the plans.

**FIELD CONNECTIONS:** Shall be bolted with 3/4" High-strength bolts except as noted.

**OPEN HOLES:** for High-strength bolts shall be 1/16" +

**CAMBER:** See Camber Diagram. Camber is to be measured with the beams lying on its side. Allowable camber tolerance for rolled beams is 1/4". Heating is to be used, if necessary, to ensure camber permanency within the above tolerance.

**WELDING:** Shall be in accordance with the current American Welding Society Specifications.

**SOLE PLATES:** Sole Plates 3" or more in thickness may be built up by welding together plates not less than 1/2" in thickness. Edges must be beveled 1/4" and welded with a compound weld for the full perimeter. Welds shall be ground flush with faces of plates.

**SHOP PAINT:** In addition to the shop paint provisions of the Standard Specifications, the top surfaces of masonry plates shall be coated in accordance with the requirements for machine finished surfaces.

**SHEAR DEVELOPERS:** 3/4" x 6" Studs to be used.

**FIELD PAINTING:** To be done on site before erection. Touch up painting to be done after steel is in place and shall also include areas on existing bridge beams where work is called for or repairs are necessary due to accidental chipping during erection.

**QUANTITIES**

Structural Steel - Furnishing & Fabricating	175,500 Lbs.
Structural Steel - Erection	179,500 Lbs.
Field Painting	Lump Sum
Stud Shear Developers	5832 Each

<b>QUANTITIES CHARGEABLE TO DETROIT EDISON CO.</b>	
Structural Steel - Furnishing & Fabricating	2430 Lbs.
Structural Steel - Erection	2430 Lbs.
24" Pipe Sleeves - Placed	2 Each

Scale: 3/4" = 1'-0"  
(except as noted)

1966 WIDENING

Work this sh. with sh. #116  
BRIDGE STATE FILE ROAD

JOHN C. LODGE FREEWAY  
WARREN AVE. CROSSING  
STRUCTURAL STEEL DETAILS

WAYNE COUNTY ROAD COMMISSIONERS  
DETROIT, MICHIGAN  
AL BARBOUR  
WILLIAM E. KREGER

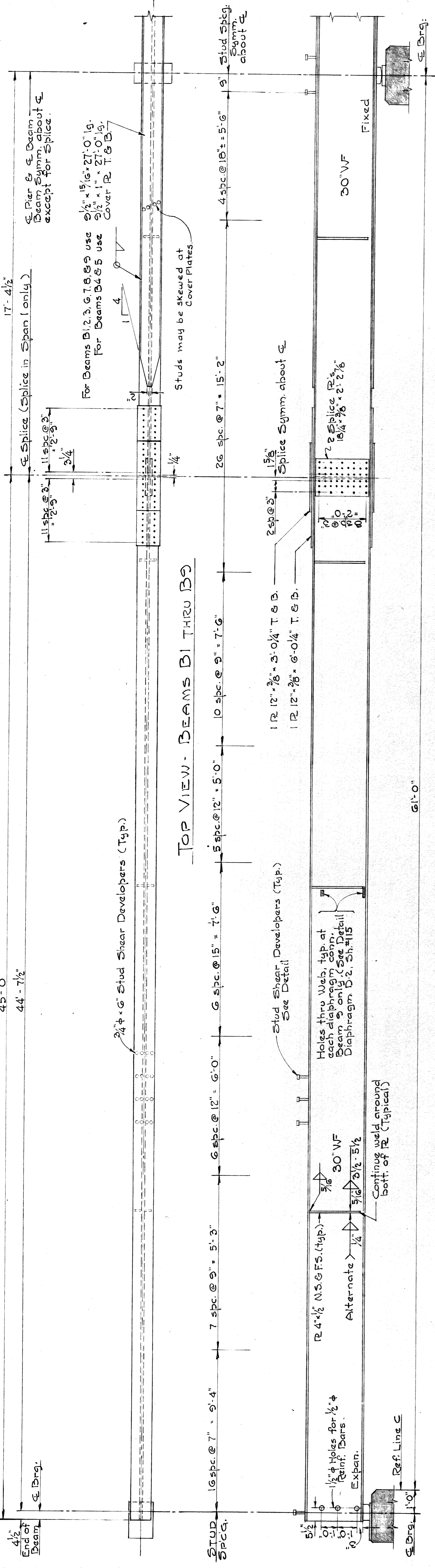
APPROVED  
D. Compton  
ENGINEER OF STRUCTURES AND EXPANSIONS

APPROVED  
M. J. Neudeck  
COUNTY HIGHWAY ENGINEER

REVISIONS

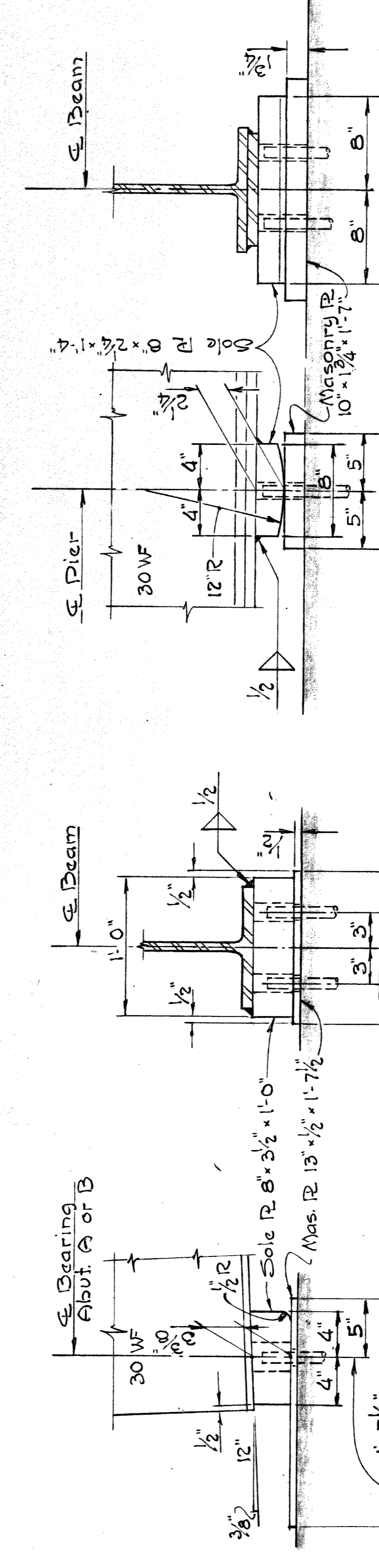
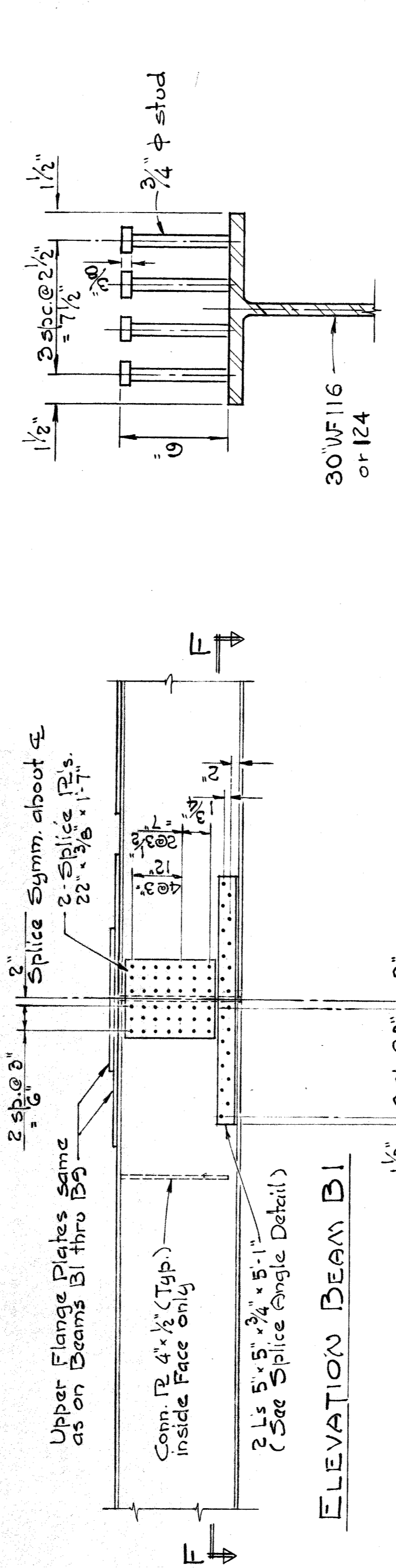
STATE PROJECT COUNTY JOB  
874  
ISSUE NO. 1 SHEET NO.  
DATE 12-3-55 115

45'-0"  
44'-7 1/2"



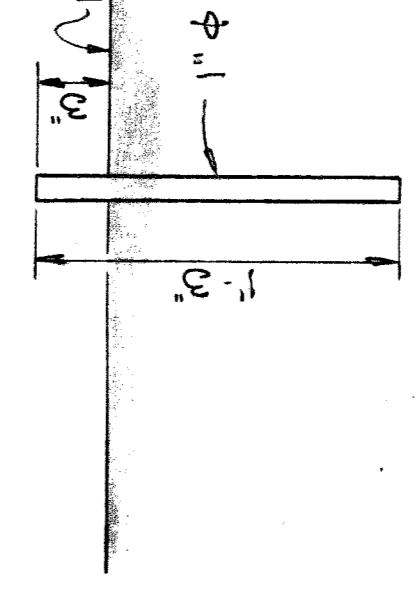
### TOP VIEW - BEAMS B1 THRU B9

### ELEVATION - BEAMS B2 THRU B9



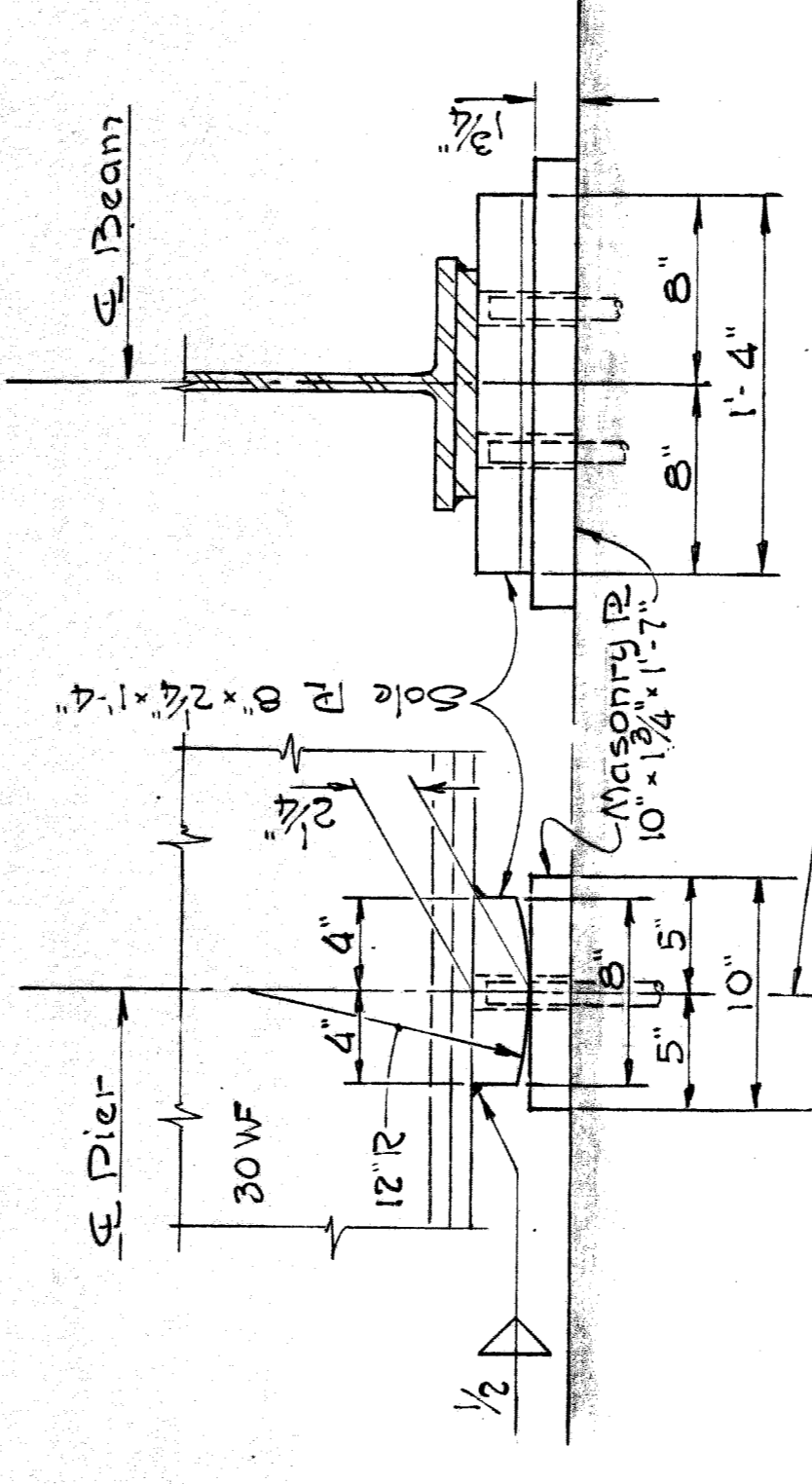
### BEARING DETAIL - EXPANSION

Scale: 1/2" = 1'-0"



### POSITION DOWEL

Not to Scale  
(54 Req'd.)



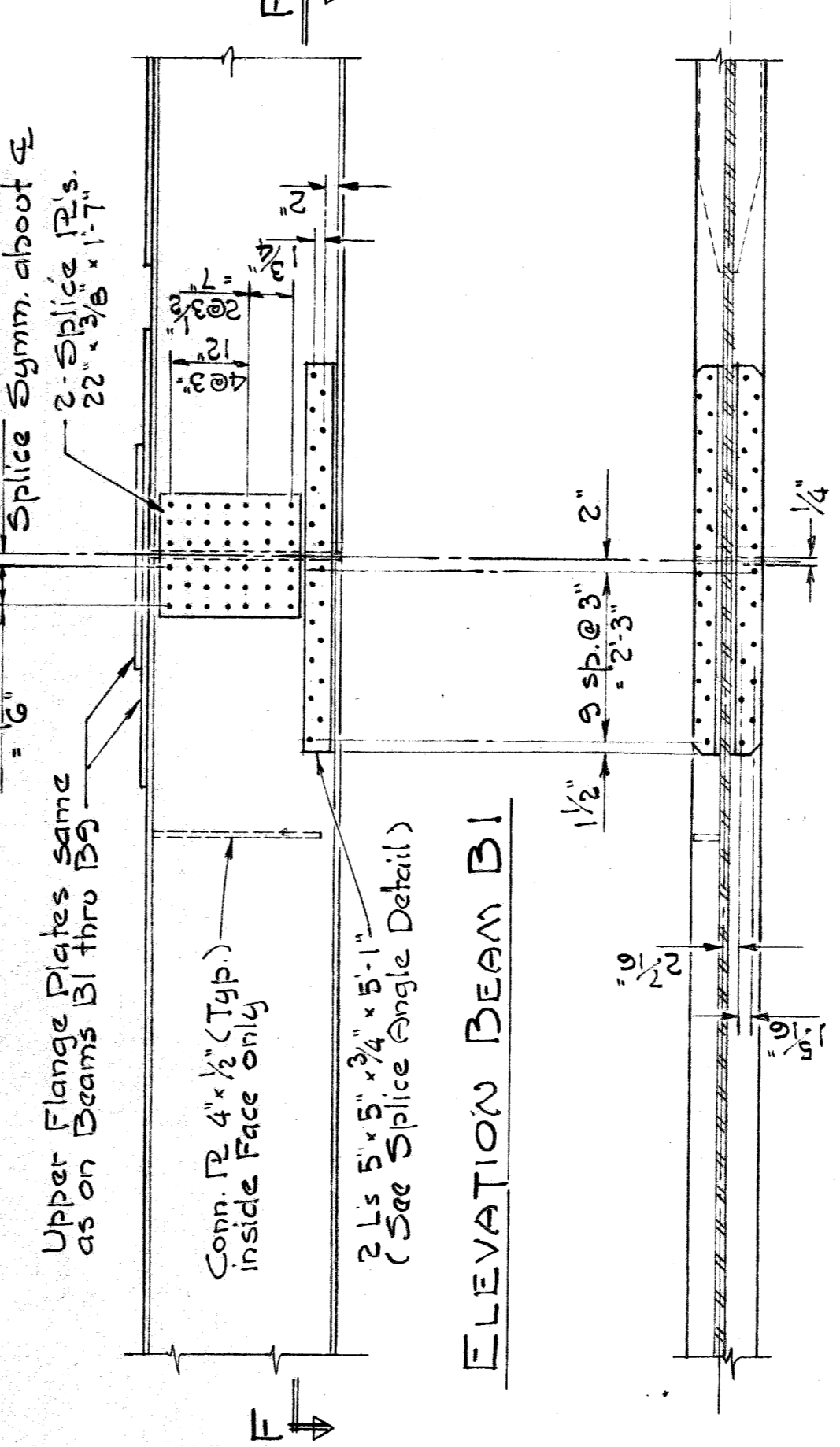
### BEARING DETAIL - FIXED

Scale: 1/2" = 1'-0"

L 5" x 5" x 3/4"  
Bend horiz. leg to fit slope of beam flange if both beams.

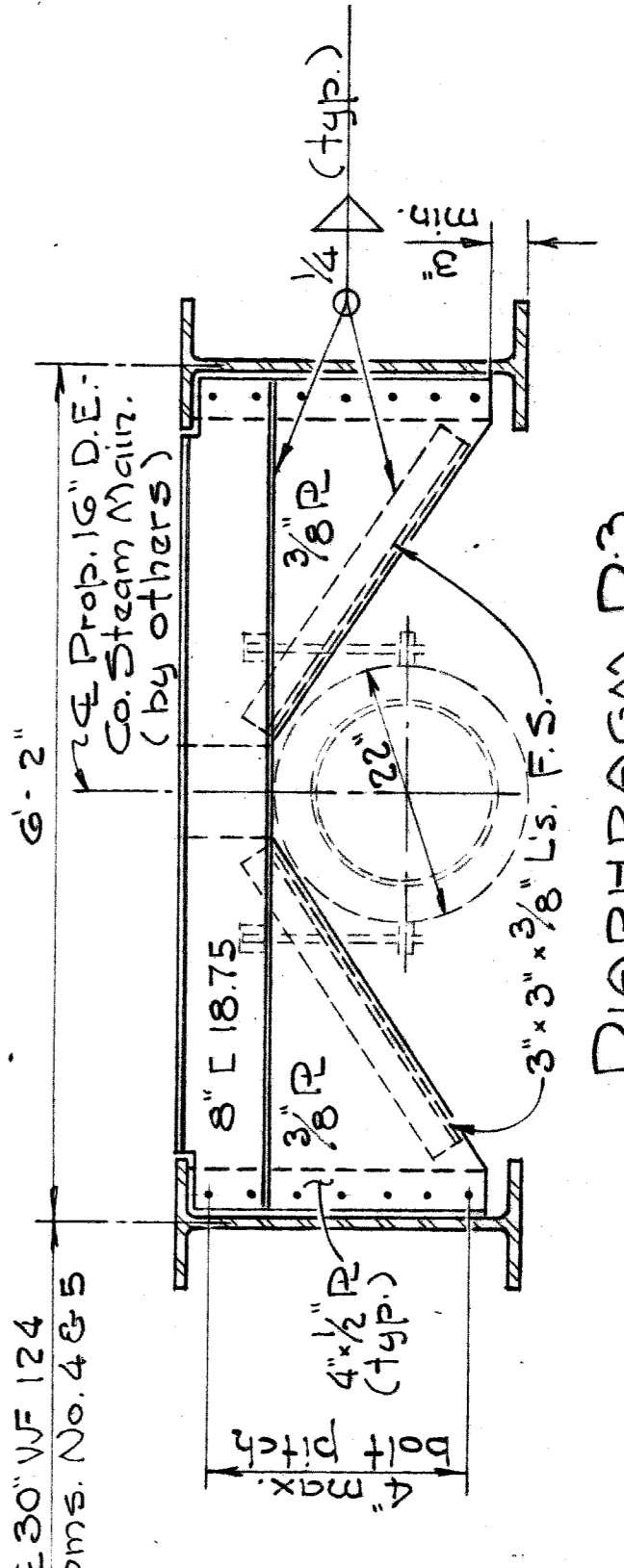
### SPLICE ANGLE DETAIL

Not to Scale



### SECTION F.F.

Note: Beam B1 details not shown, are same as for Beams B2 thru B9



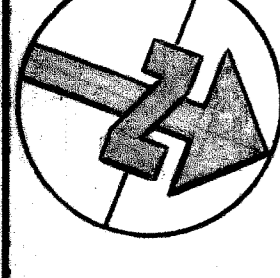
### DIAPHRAGM D3

Scale: 3/4" = 1'-0"

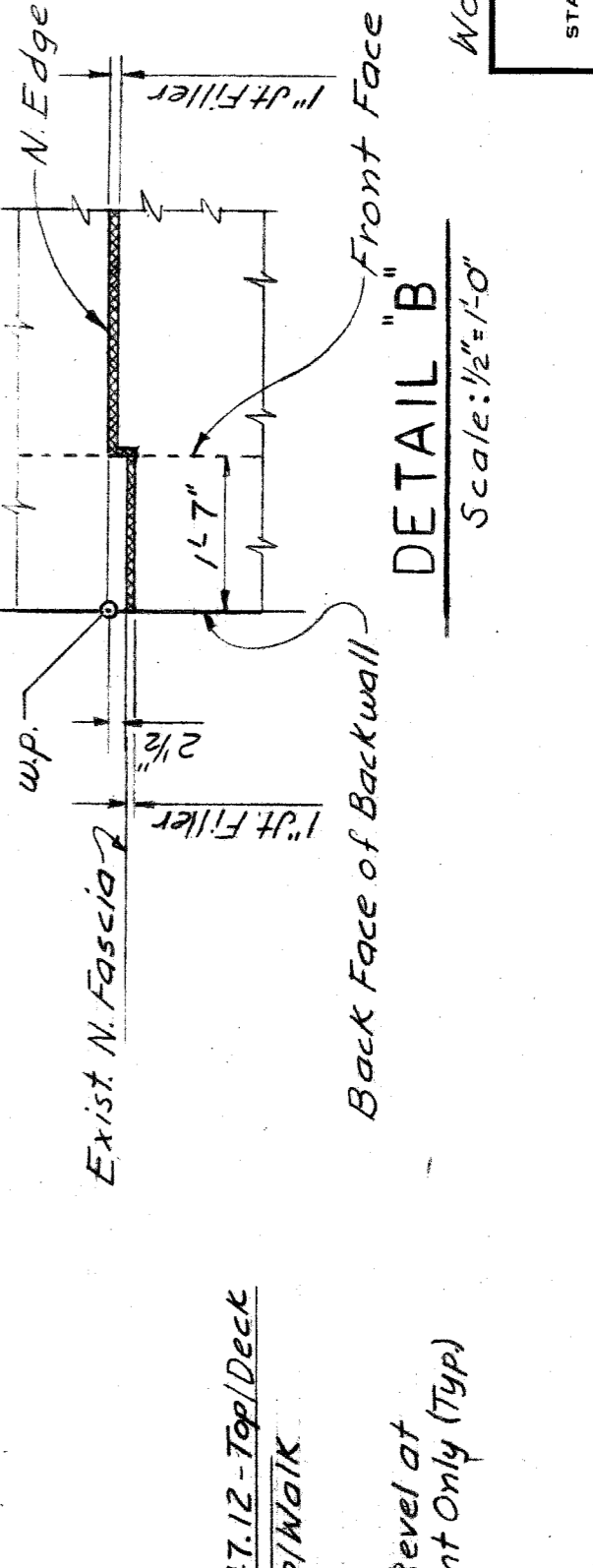
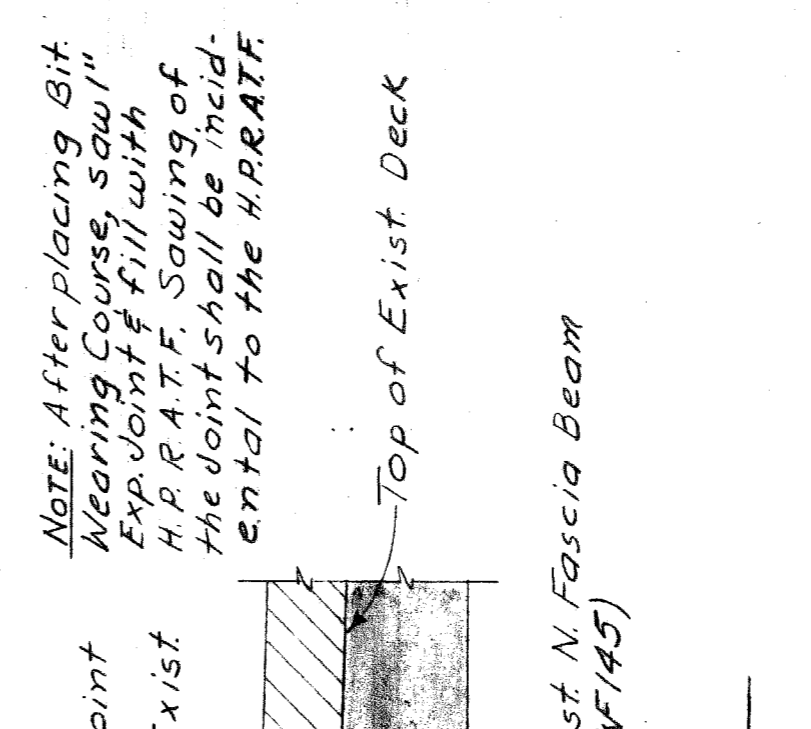
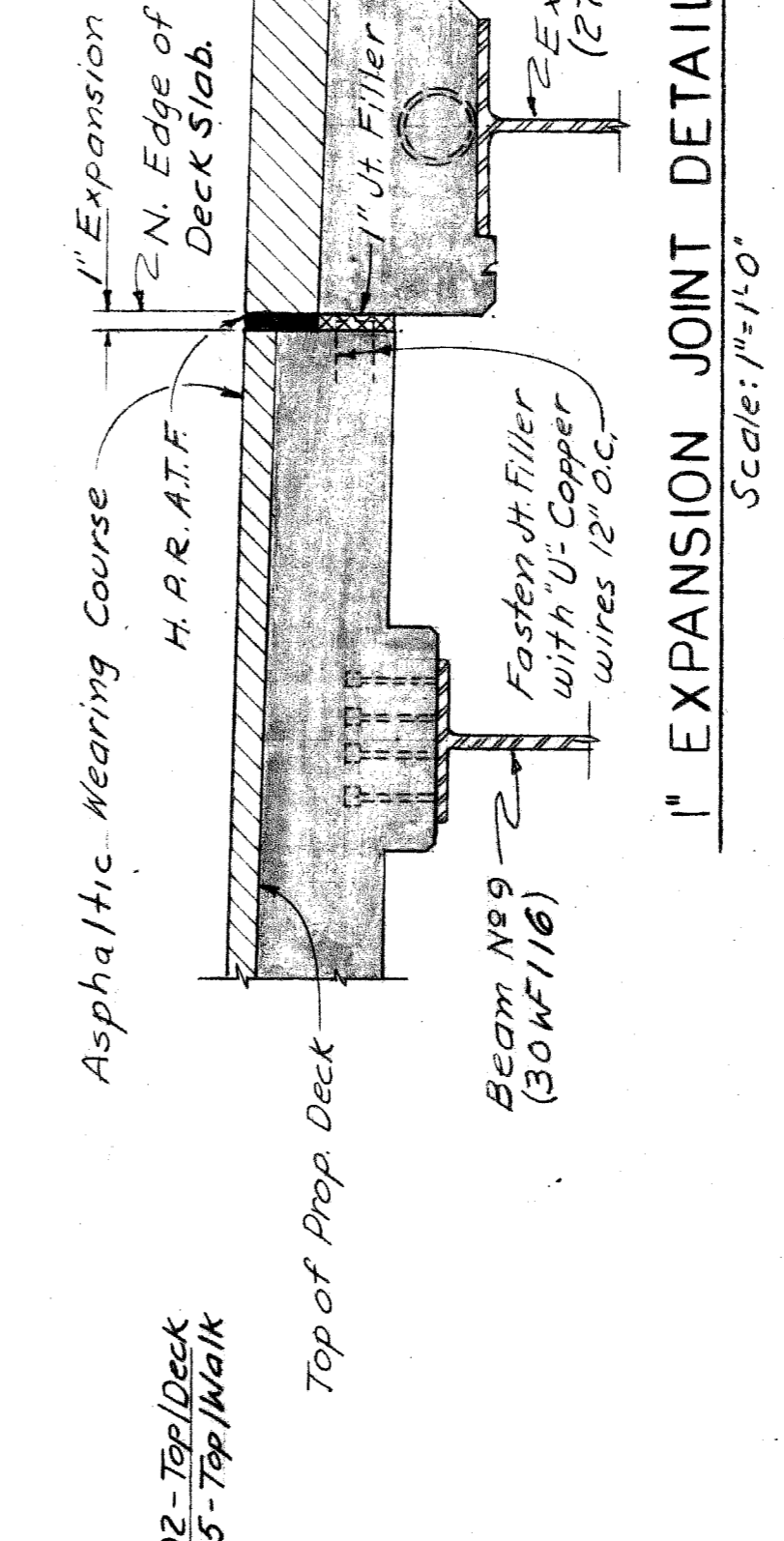
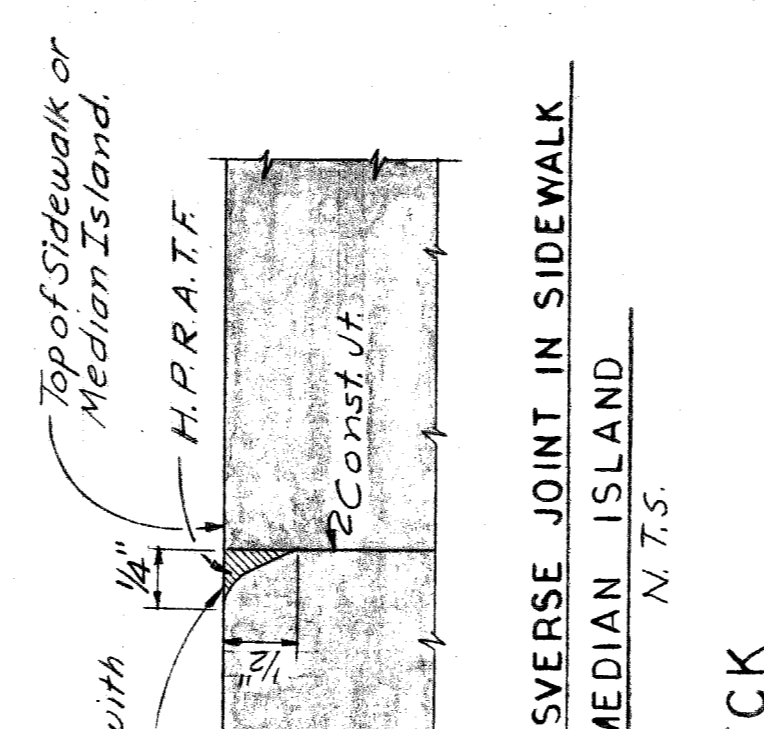
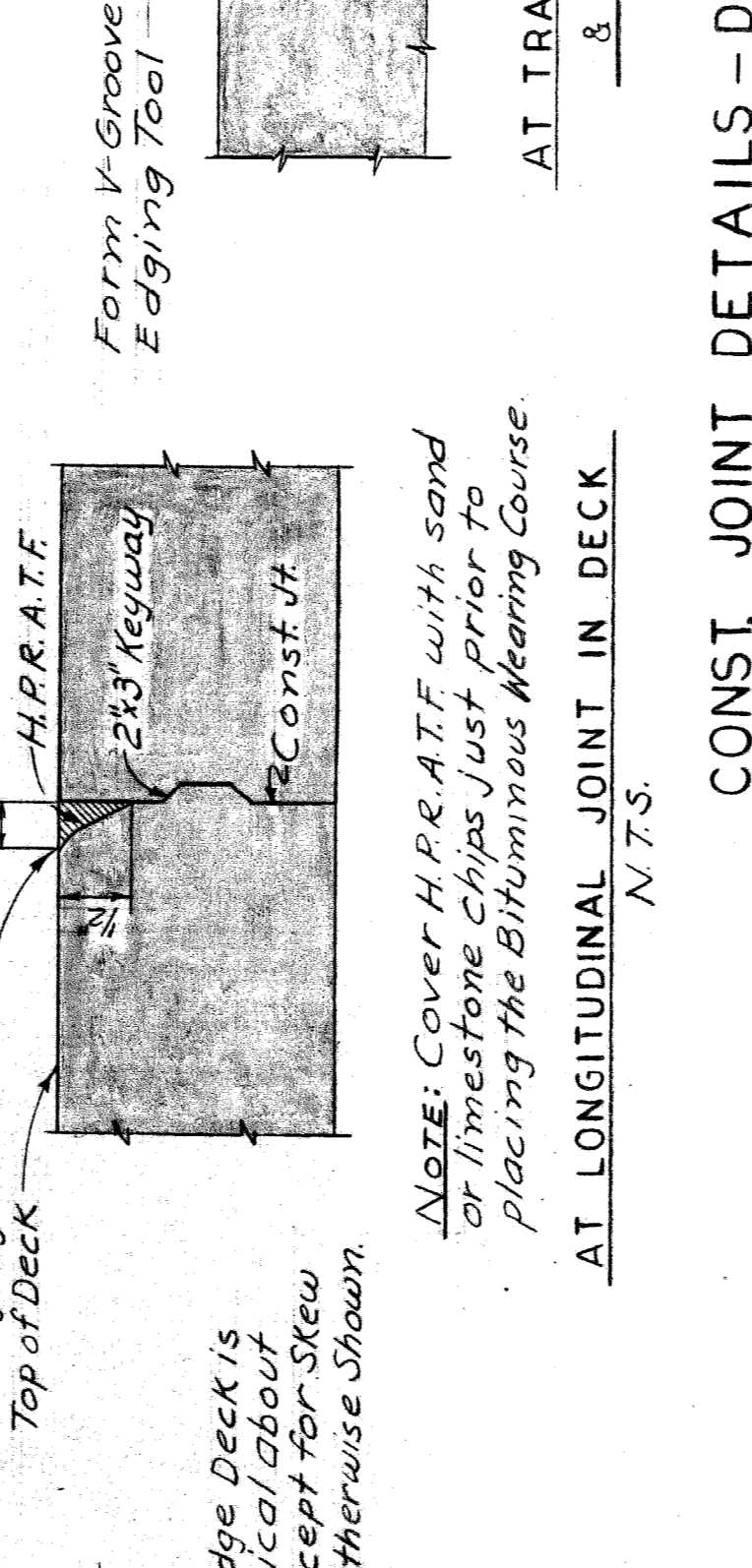
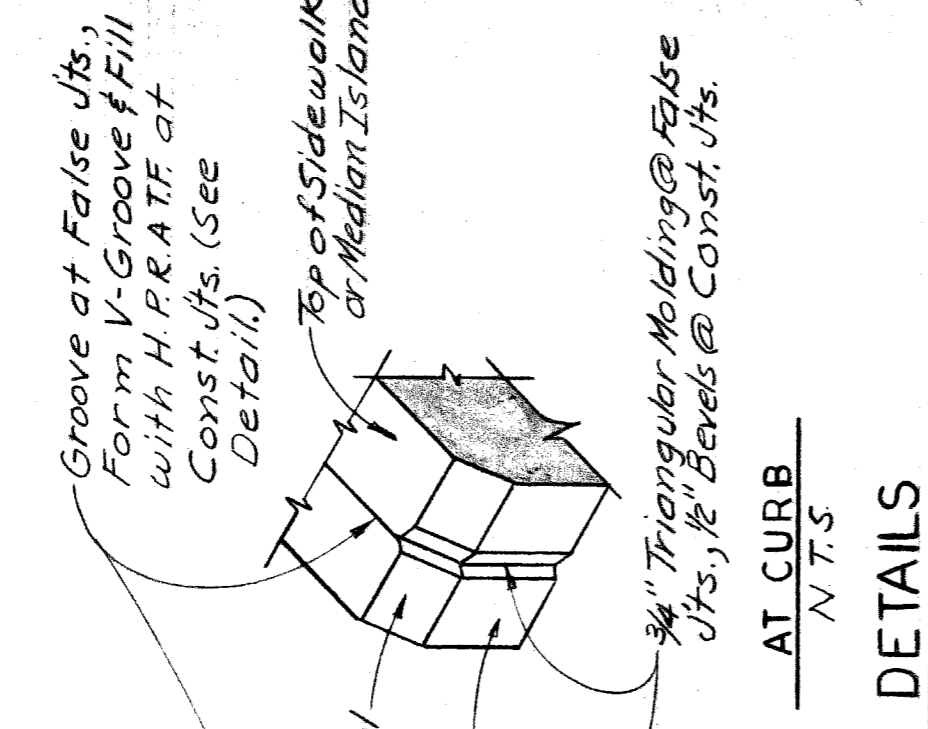
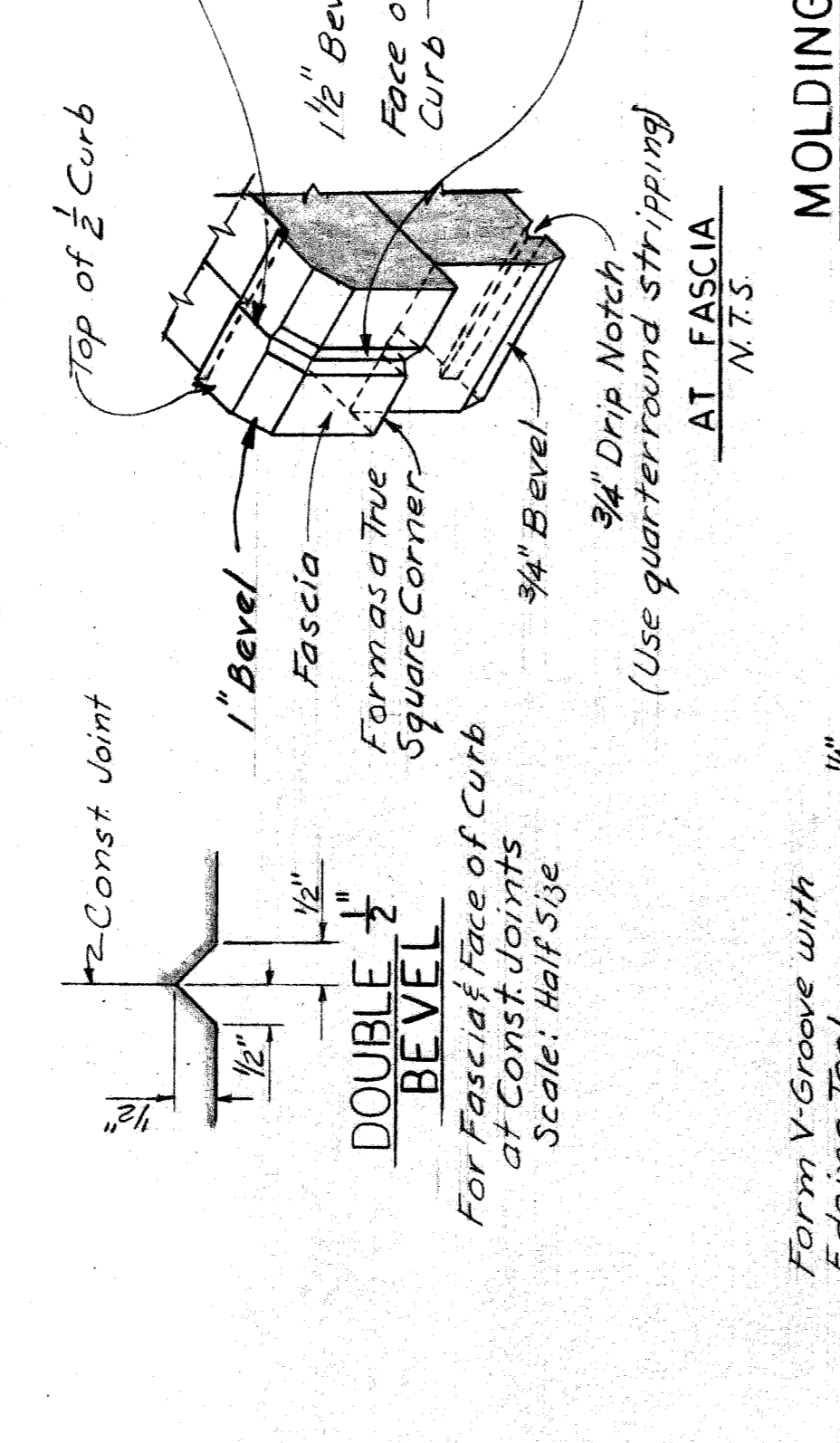
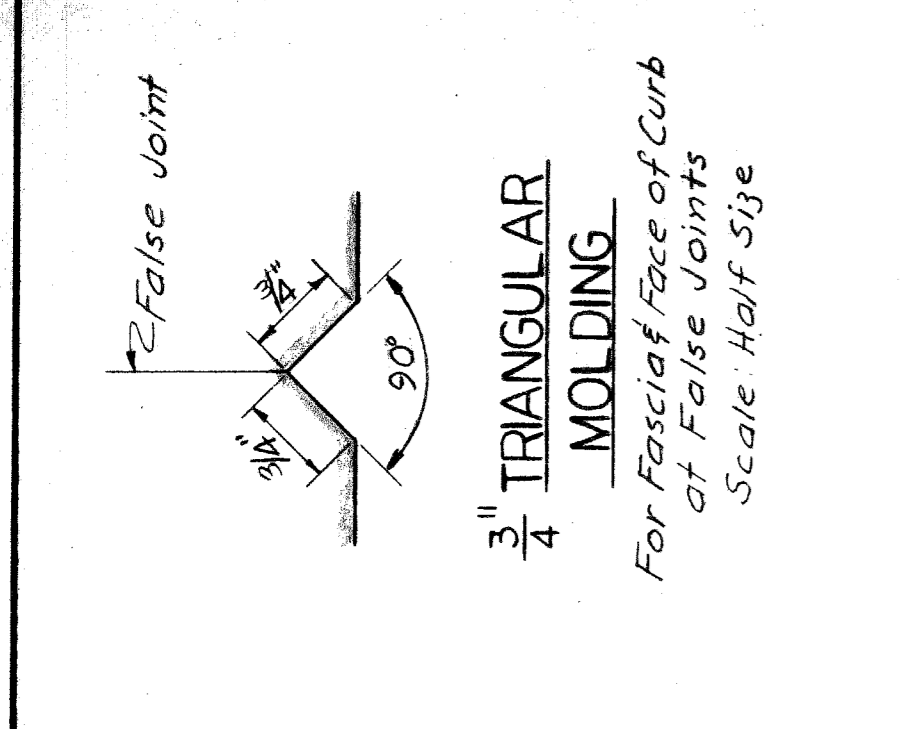
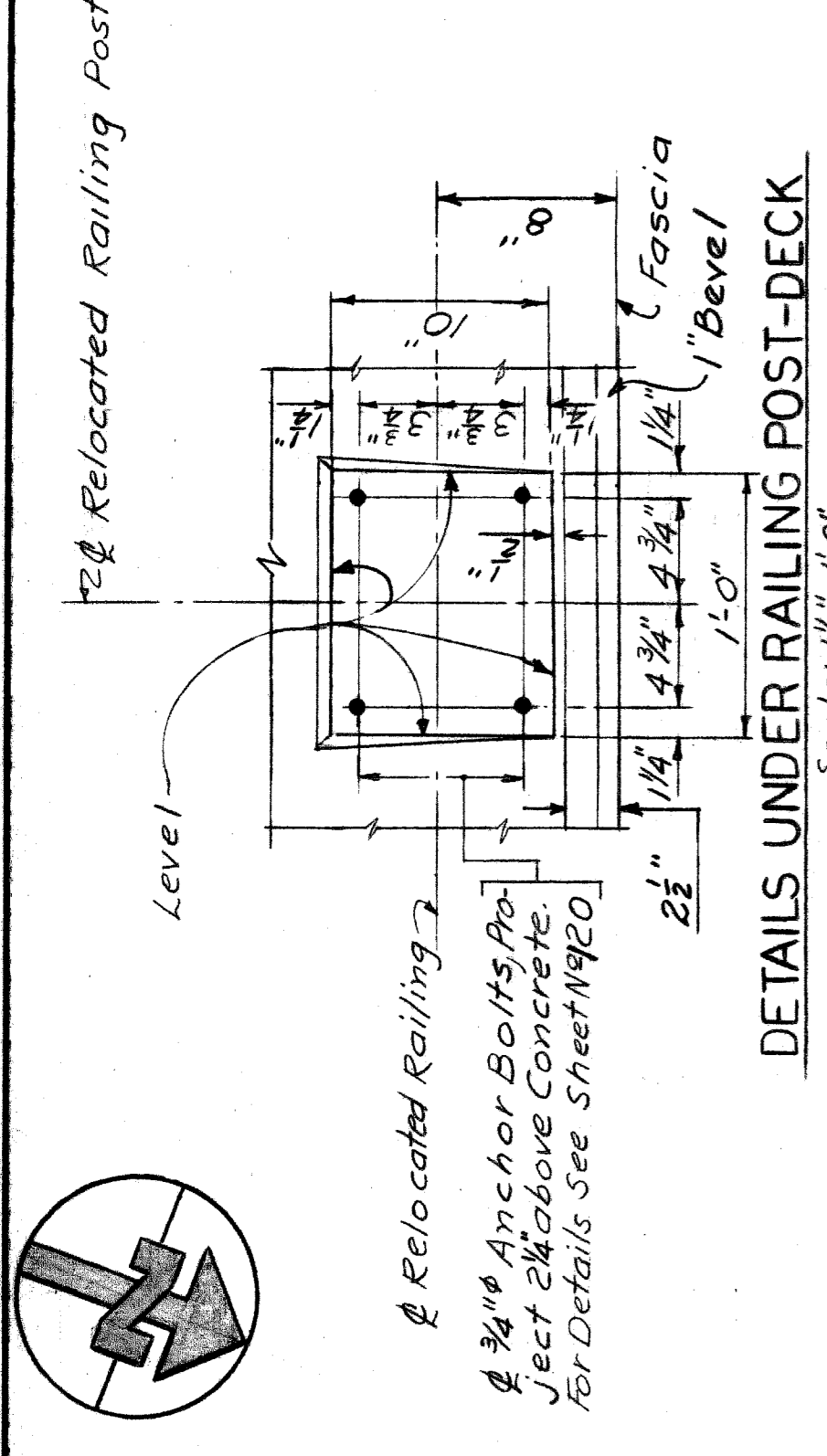
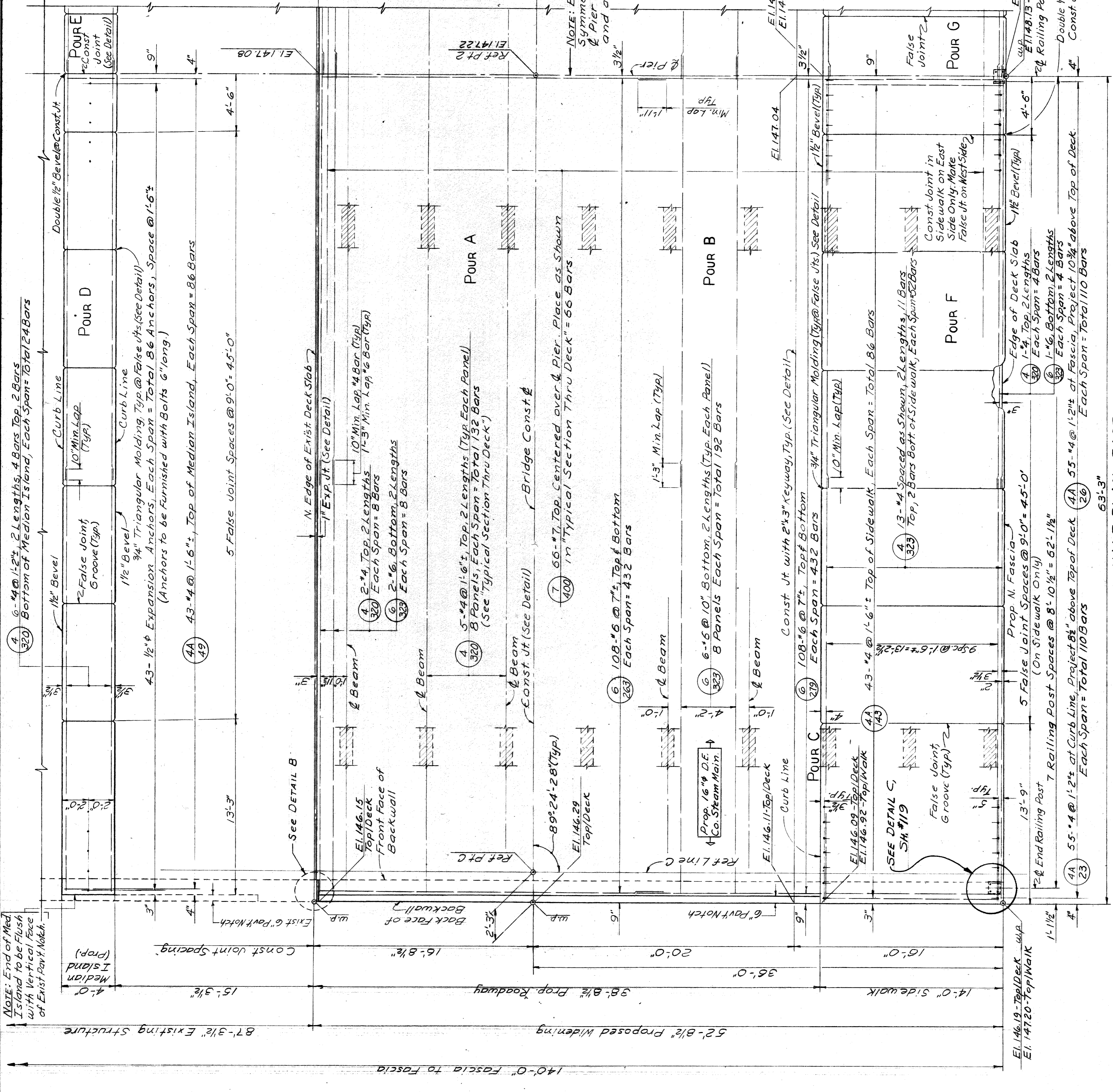
BOARD OF <b>WAYNE COUNTY ROAD COMMISSIONERS</b> DETROIT, MICHIGAN PHILIP J. NEUDECK COUNTY HIGHWAY ENGINEER	1966 WIDENING JOHN C. LODGE FREEWAY WARREN AVE. CROSSING STRUCTURAL STEEL DETAILS (CONT'D.)	STATE PROJECT COUNTY JOB 874
		BRIDGE ROAD S19 OF 8211
AL BARBOUR WILLIAM E. KREGER		SHEET NO. DATE 12-3-65 116

Scale: 1/2" = 1'-0"  
(except as noted)  
Work this sh. with sh. #115





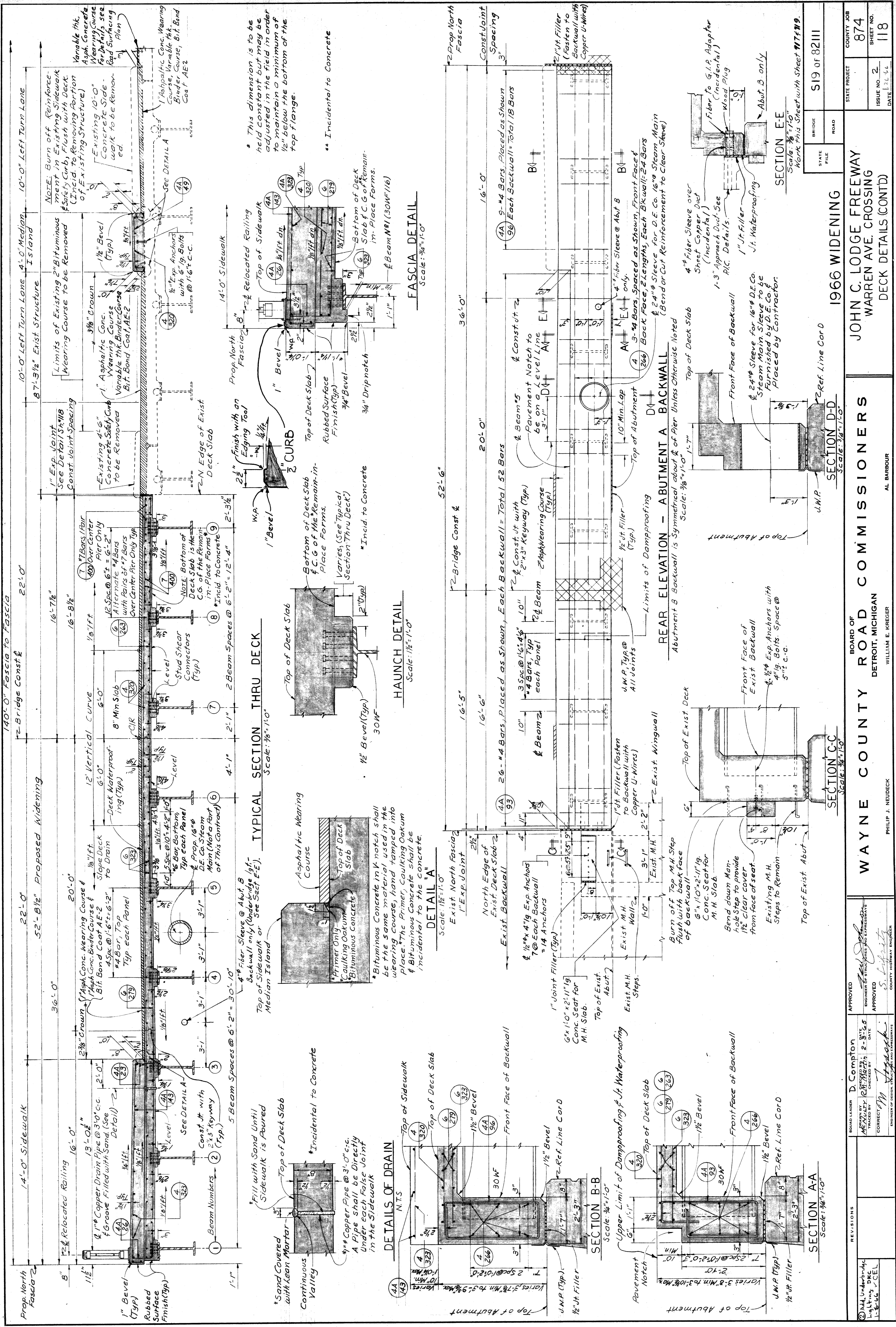
NOTE: End of Median Island to be Flush with Vertical Face of Existing Structure



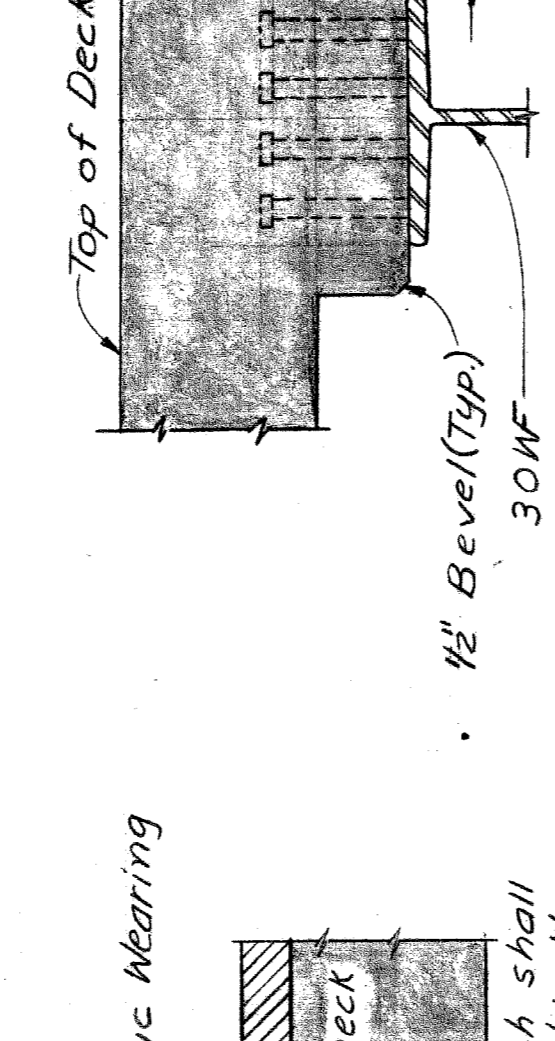
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BOARD OF		COMMISSIONERS		1966 WIDENING		5190f82111		STATE		FILE		BRIDGE		ROAD		STATE		FILE	
DETROIT, MICHIGAN		WARREN AVE. CROSSING		JOHN C. LODGE FREEWAY		DECK DETAILS		STATE		FILE		BRIDGE		ROAD		STATE		FILE	
WILLIAM E. KREGER		PHILIP J. NEUBECK		AL. BARBOUR		5190f82111		STATE		FILE		BRIDGE		ROAD		STATE		FILE	
COUNTY HIGHWAY ENGINEER		ENGINEER OF STRUCTURES AND EXPANSIONS		ENGINEER OF STRUCTURES AND EXPANSIONS		COUNTY HIGHWAY ENGINEER		STATE		FILE		BRIDGE		ROAD		STATE		FILE	
APPROVED		APPROVED		APPROVED		APPROVED		STATE		FILE		BRIDGE		ROAD		STATE		FILE	
DATE		DATE		DATE		DATE		STATE		FILE		BRIDGE		ROAD		STATE		FILE	
1-21-66		1-21-66		1-21-66		1-21-66		STATE		FILE		BRIDGE		ROAD		STATE		FILE	
COUNTY HIGHWAY ENGINEER		ENGINEER OF STRUCTURES AND EXPANSIONS		ENGINEER OF STRUCTURES AND EXPANSIONS		COUNTY HIGHWAY ENGINEER		STATE		FILE		BRIDGE		ROAD		STATE		FILE	
PHILIP J. NEUBECK		WILLIAM E. KREGER		AL. BARBOUR		5190f82111		STATE		FILE		BRIDGE		ROAD		STATE		FILE	
COUNTY HIGHWAY ENGINEER		ENGINEER OF STRUCTURES AND EXPANSIONS		ENGINEER OF STRUCTURES AND EXPANSIONS		COUNTY HIGHWAY ENGINEER		STATE		FILE		BRIDGE		ROAD		STATE		FILE	
DATE		DATE		DATE		DATE		STATE		FILE		BRIDGE		ROAD		STATE		FILE	
1-21-66		1-21-66		1-21-66		1-21-66		STATE		FILE		BRIDGE		ROAD		STATE		FILE	
COUNTY HIGHWAY ENGINEER		ENGINEER OF STRUCTURES AND EXPANSIONS		ENGINEER OF STRUCTURES AND EXPANSIONS		COUNTY HIGHWAY ENGINEER		STATE		FILE		BRIDGE		ROAD		STATE		FILE	
PHILIP J. NEUBECK		WILLIAM E. KREGER		AL. BARBOUR		5190f82111		STATE		FILE		BRIDGE		ROAD		STATE		FILE	
COUNTY HIGHWAY ENGINEER		ENGINEER OF STRUCTURES AND EXPANSIONS		ENGINEER OF STRUCTURES AND EXPANSIONS		COUNTY HIGHWAY ENGINEER		STATE		FILE		BRIDGE		ROAD		STATE		FILE	

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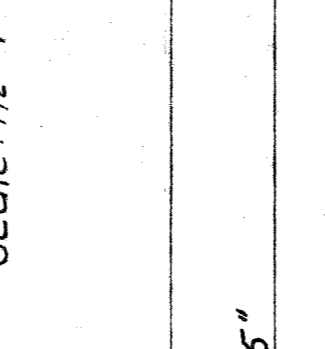
E-2-1



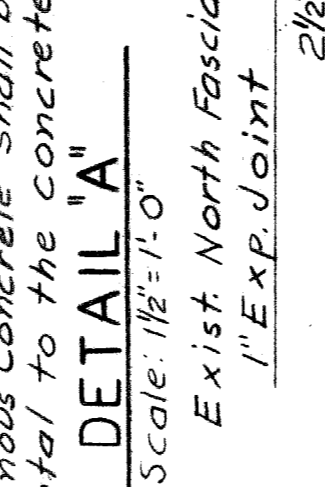
**TYPICAL SECTION THRU DECK**  
Scale: 3/8" = 1'-0"



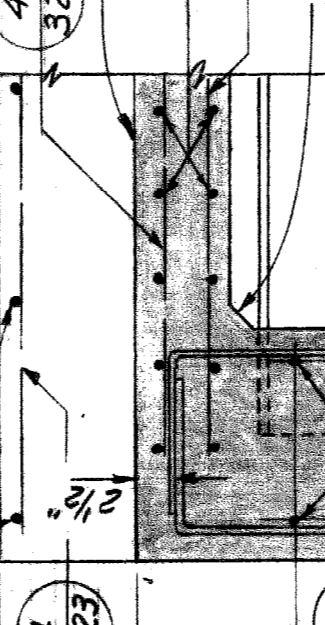
**HAUNCH DETAIL**  
Scale: 1/2" = 1'-0"



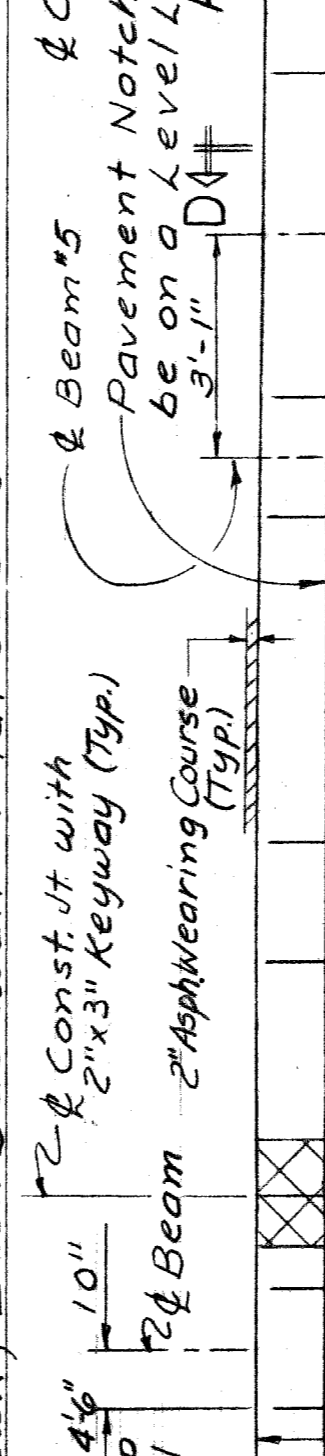
**DETAIL 'A'**  
Scale: 1/2" = 1'-0"



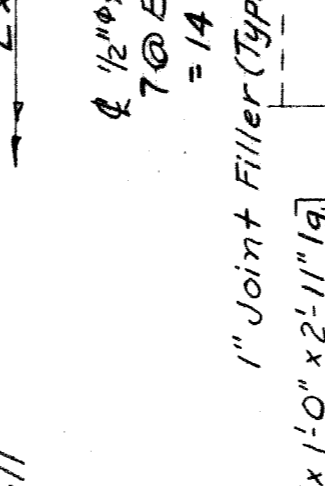
**DETAILS OF DRAIN**  
N.T.S.



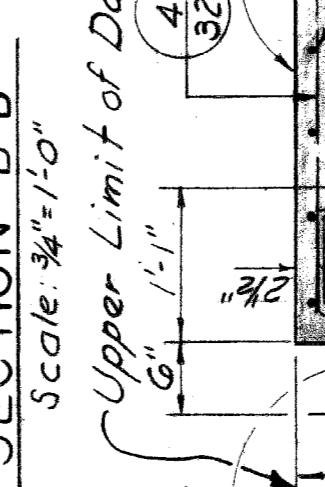
**FASCIA DETAIL**  
Scale: 3/8" = 1'-0"



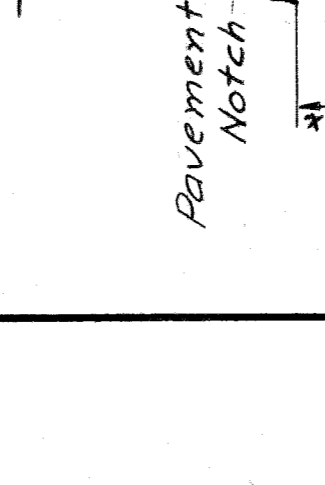
**REAR ELEVATION - ABUTMENT A BACKWALL**  
Abutment B Backwall is Symmetrical about C & of Pier Unless Otherwise Noted  
Scale: 3/8" = 1'-0"



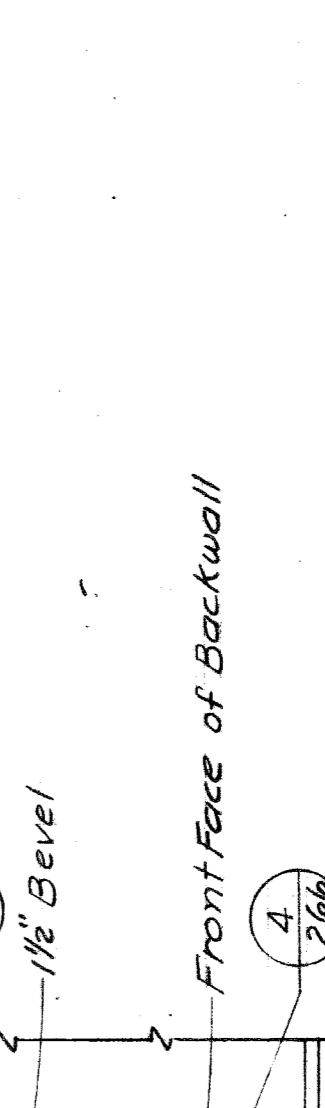
**SECTION B-B**  
Scale: 3/8" = 1'-0"



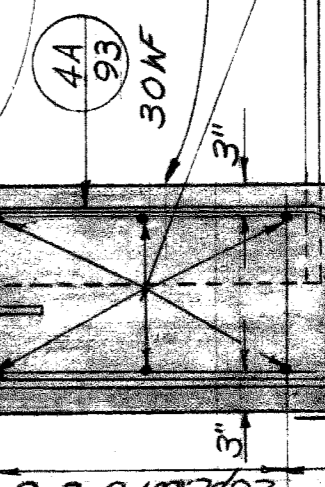
**SECTION A-A**  
Scale: 3/8" = 1'-0"



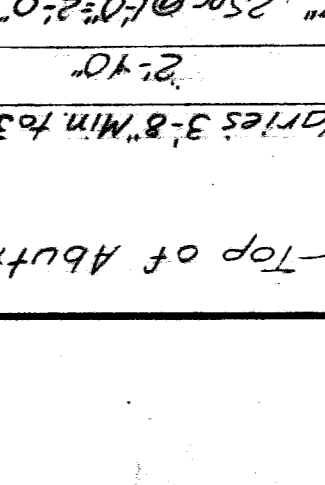
**SECTION C-C**  
Scale: 3/8" = 1'-0"



**SECTION D-D**  
Scale: 3/8" = 1'-0"



**SECTION E-E**  
Scale: 3/8" = 1'-0"



\* This dimension is to be held constant but may be adjusted in the field in order to maintain a minimum of 1/2" below the bottom of the top flange.

\*\* Incidental to Concrete

NOTE: Burn off Reinforcement in Existing Sidewalk Safety Curb, Flush with Deck (Incl. To Removing Portion of Existing Structure)

NOTE: Burn off Existing 2" Bituminous Wearing Course to be Removed

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14'-0" Sidewalk

22'-0"

52'-8 1/2"

22'-0"

36'-0"

20'-0"

16'-7 1/2"

16'-8 1/2"

22'-0"

22'-0"

10'-0" Left Turn Lane

14'-0" Median Island

87'-3 1/2" Exist Structure

10'-0" Left Turn Lane

14'-0" Sidewalk

14'-0" Sidewalk

16'-0"

20'-0"

36'-0"

52'-6"

16'-5"

16'-6"

20'-0"

36'-0"

52'-6"

16'-5"

16'-6"

20'-0"

36'-0"

52'-6"

16'-5"

16'-6"

20'-0"

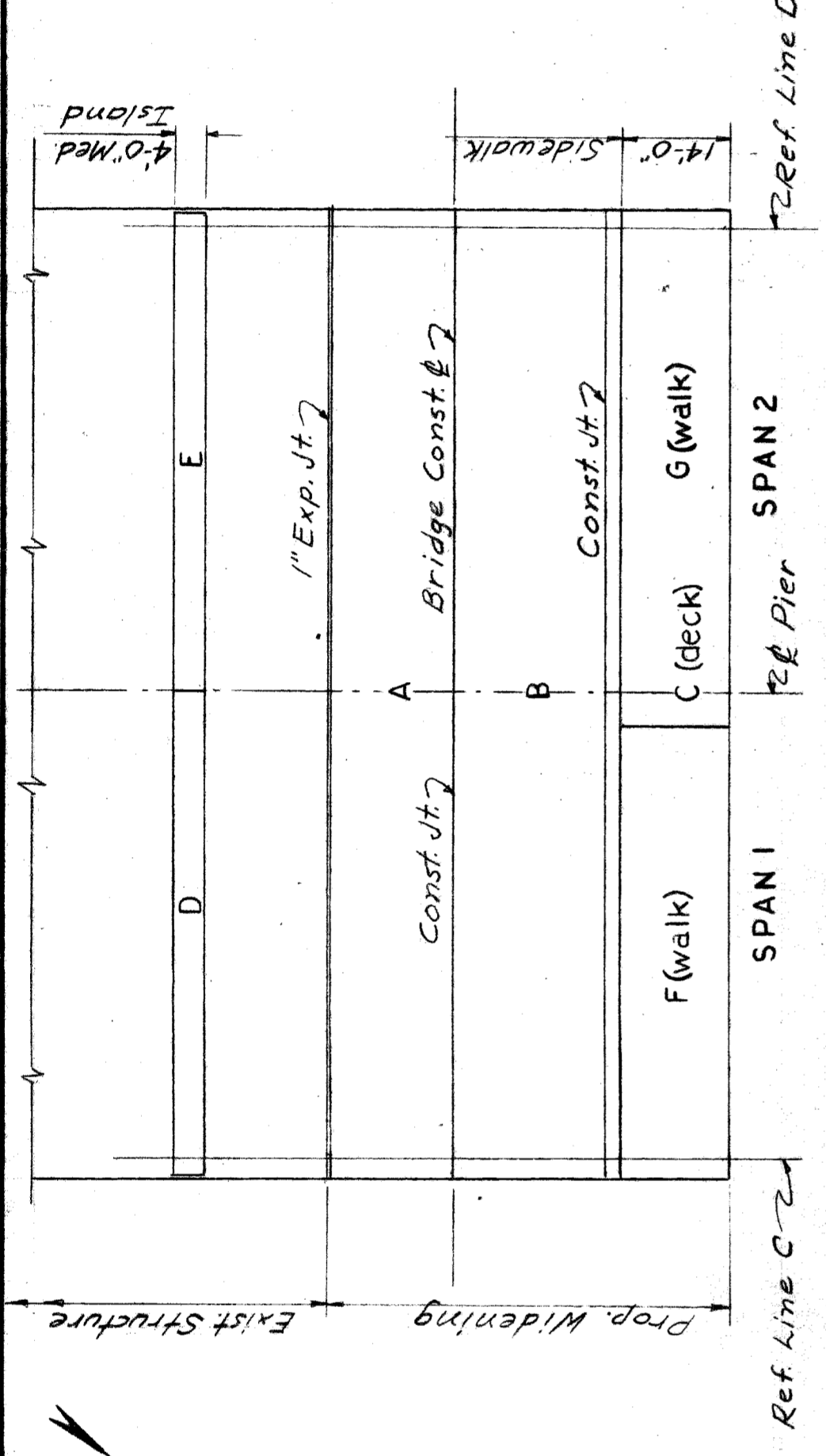
BOARD LEADER <b>D. Compton</b> APPROVED BY: [Signature] CHECKED BY: [Signature] DATE: 12/2/65 CORRECTED BY: [Signature] DATE: 12/2/65	APPROVED ENGINEER OF STRUCTURES AND EXPANSIVE APPROVED COUNTY HIGHWAY ENGINEER	BOARD OF <b>WAYNE COUNTY ROAD COMMISSIONERS</b> DETROIT, MICHIGAN WILLIAM E. KREGER	AL BARBOUR	STATE PROJECT <b>1966 WIDENING</b>	COUNTY JOB <b>874</b>
REVISIONS 1-3-65 V.C.E.L.	BRIDGE <b>S19 of 82111</b>	ROAD	STATE FILE	ISSUE NO. <b>2</b> DATE <b>12/2/65</b>	SHEET NO. <b>118</b>

E-2-1

NOTE: Sidewalk pours shall not be cast until deck slab concrete has obtained at least 50% of its design strength as determined by Table in Section 5.01.03 of the Standard Specifications.

NOTE: Concrete Pours, as shown in the Pour Location Plan, need not be placed in alphabetical order.

CONCRETE POURS	
GRADE (GAA)	CU. YDS.
A	63.1
B	74.0
C	58.4
D	7.7
E	7.7
F	27.8
G	32.0



- QUANTITIES**
- Bituminous Bond Coat, AE-2 270 GAL
  - Asphaltic Concrete Binder Course 25A 800 Tons
  - Asphaltic Concrete Wearing Course 3/A 100,000 Tons
  - Grade A (6M) Gravel or 6M (Slag) Concrete Superstructure - 270.7 Cu Yds
  - Water-Reducing Retarding Admixture 28 GAL
  - Rubber Surface Finish 260 Sq Ft
  - Deck Waterproofing 1124 Sq Yds
  - Steel Reinforcement 57,329 Lbs.
  - Joint Waterproofing 200 Sq Ft
  - Damp Proofing 4305 Sq Ft
  - Hot-Poured Rubber - Asphalt Type Filler 397 Lb/Ft
  - 1" Joint Filler 110 Sq Ft
  - Expansion Anchors with Bolts 100 Each
  - 2 1/2" Pipe Sleeves - Placed 2 Each

**GENERAL NOTES**

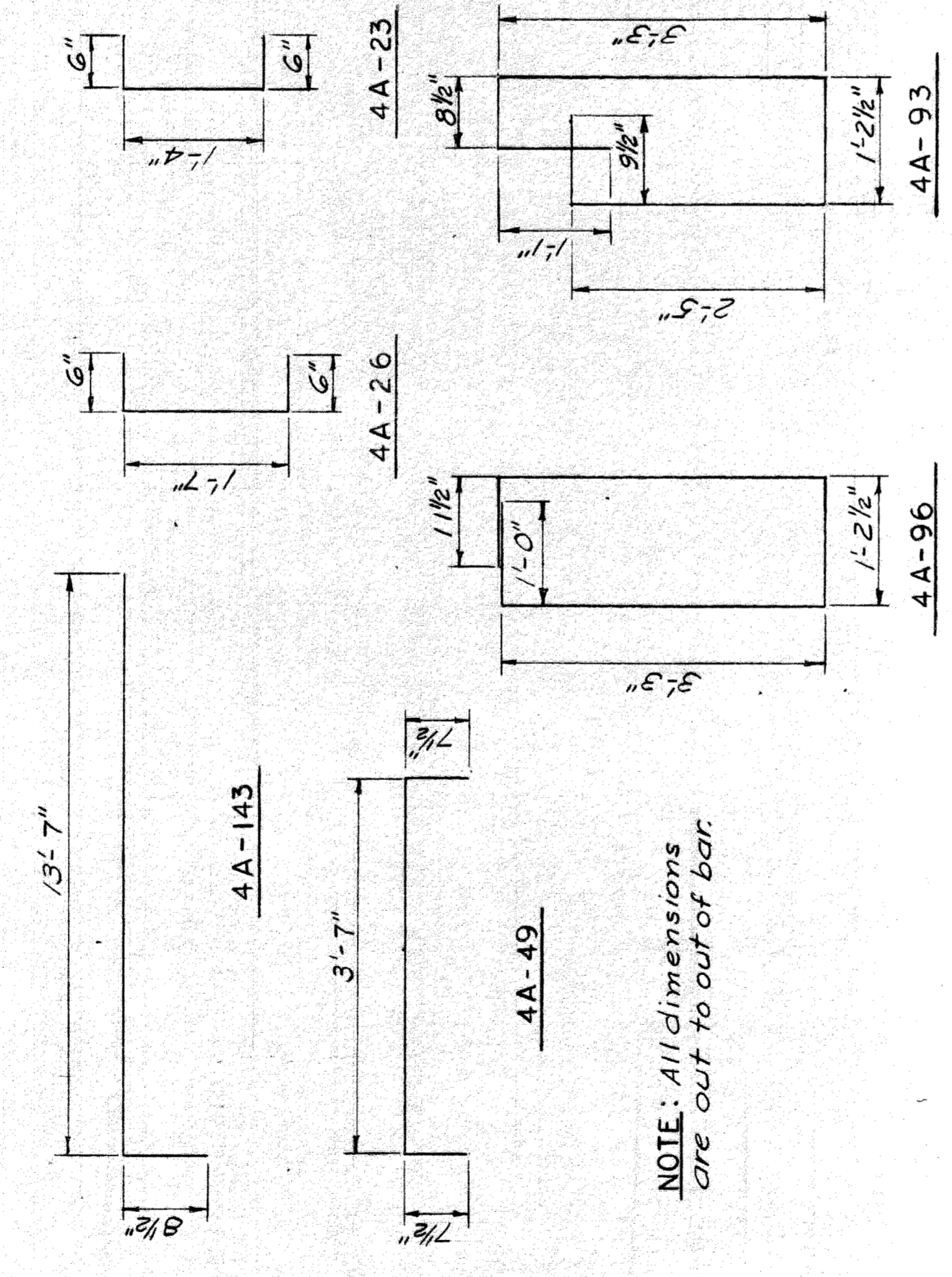
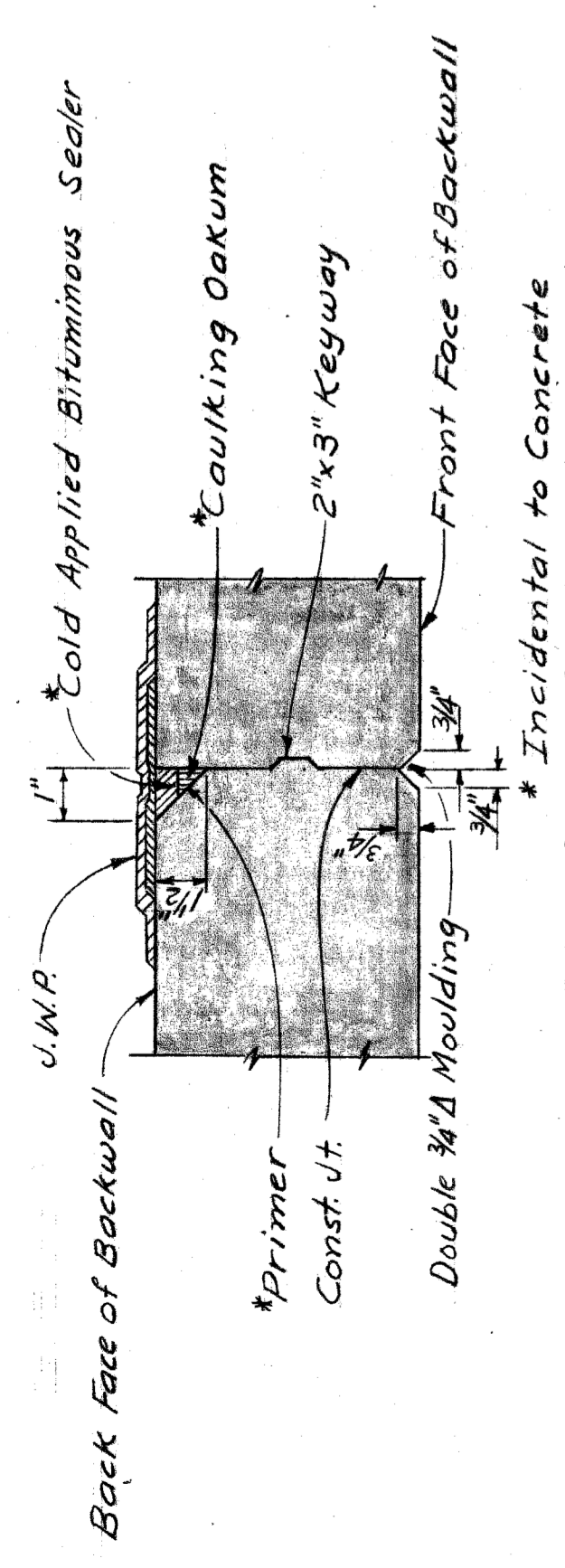
U.M.P. denotes Joint Waterproofing.  
H.P.R.A.T.F. denotes Hot-Poured Rubber-Asphalt Type Filler.

That portion of the deck that is to be covered with Wearing Surface shall be given a rough burlap finish. "Groove" denotes grooving with an approved tool. Elevations shown are for top of deck slab unless otherwise noted. Top of wearing surface is 0.17 above top of deck slab.

Water-Reducing Retarding Admixture to be used in deck slab pours only.

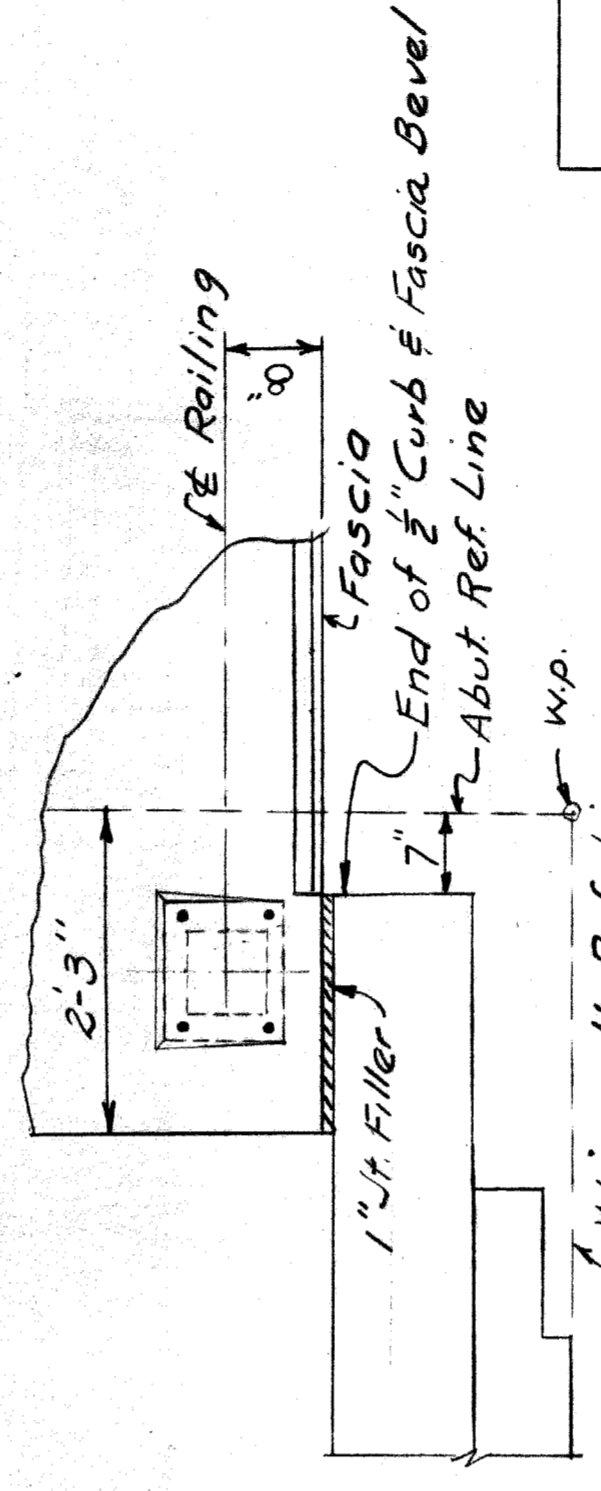
Expansion Anchors shall be Buldog "Gold-Digger" or an approved equal. Anchors shall be furnished with bolts of the size indicated on the drawings.

Reinforcing Place Forms shall be placed so that the center of gravity of their section corresponds with the bottom of the deck slab. The forms shall be incidental to the concrete. Granco Stay-in-Place Forms or Approved Equal may be used.

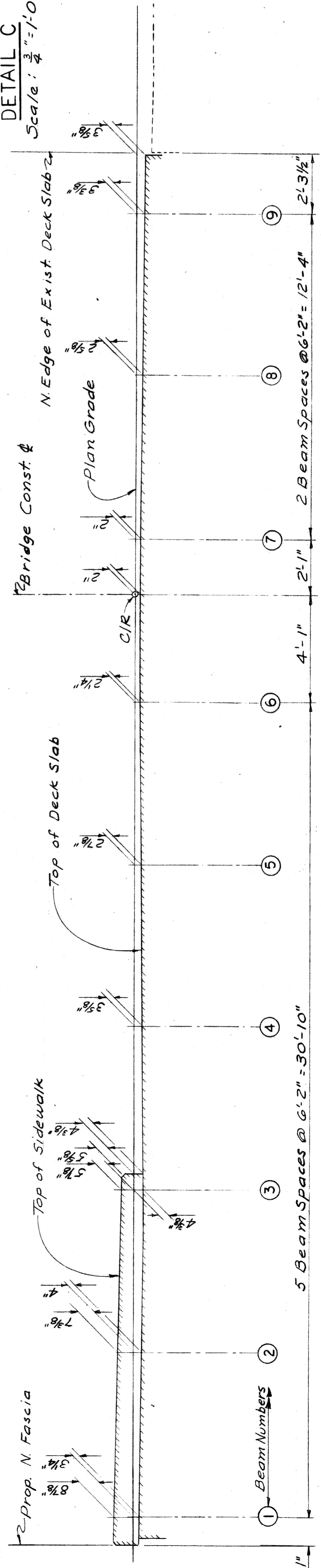


MARK	NO	SIZE	LENGTH	REMARKS
7-400	66	#7	40'-0"	Straight
6-323	204	#6	32'-3"	Straight
6-279	432	#6	27'-9"	"
6-263	432	#6	26'-3"	"
4-320	144	#4	32'-0"	Straight
4-266	24	#4	26'-6"	"
4A-96	18	#4	9'-6"	Bent
4A-93	32	#4	9'-3"	"
4A-26	110	#4	2'-6"	"
4A-23	110	#4	2'-3"	"
4-323	52	#4	32'-3"	Straight
4-320	24	#4	32'-0"	"
4A-143	86	#4	14'-3"	Bent
4A-49	86	#4	4'-9"	"

NOTE: All dimensions are out to out of bar.



DEAD LOAD DEFLECTIONS AT 37' FROM C/P PIER	
Δ"	CAUSE
1/8"	Weight of Structural Steel
—	Weight of Forms & Reinforcement
1/4"	Weight of Shear Connectors
1/2"	Weight of Deck Slab and Haunches
1/16"	Weight of Wearing Surface, Sidewalk & Rolling
1 1/16"	TOTAL



CROWN TEMPLATE  
Scale: 3/8"=1'-0"

Work this Sheet with Sheet #17, #18

BRIDGE STATE FILE ROAD S19 of 82111

1966 WIDENING

JOHN C. LODGE FREEWAY  
WARREN AVE. CROSSING  
MISC. DECK DETAILS

WAYNE COUNTY ROAD COMMISSIONERS  
DETROIT, MICHIGAN  
WILLIAM E. KREGER  
PHILIP J. NEUDECK

BOARD OF  
WAYNE COUNTY ROAD COMMISSIONERS  
DETROIT, MICHIGAN  
WILLIAM E. KREGER  
PHILIP J. NEUDECK

APPROVED  
D. Compton  
2-27-66  
DATE

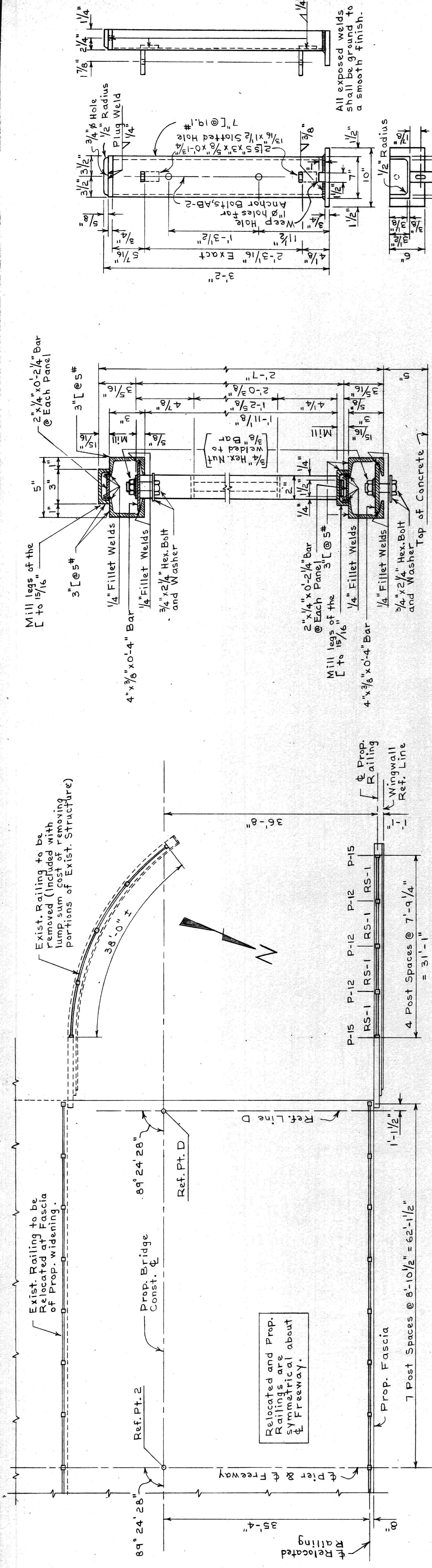
APPROVED  
M. J. Jozak  
2-27-66  
DATE

REVISIONS

STATE PROJECT COUNTY JOB  
S19 of 82111 874

ISSUE NO. SHEET NO.  
2 119

DATE 2-27-66



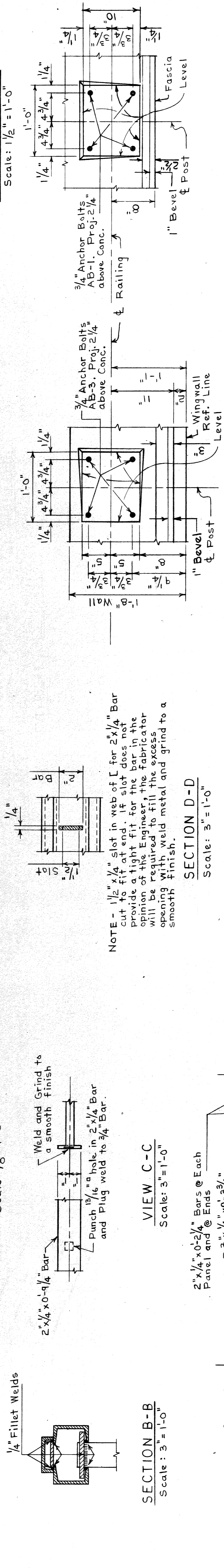
**LAYOUT OF RAILING**  
Scale: 1/8" = 1'-0"

**SECTION A-A**  
Scale: 3" = 1'-0"

**SECTION B-B**  
Scale: 3" = 1'-0"

**SECTION C-C**  
Scale: 3" = 1'-0"

**SECTION D-D**  
Scale: 3" = 1'-0"



**DETAILS UNDER RAILING POST - WINGWALL**  
Scale: 1 1/2" = 1'-0"

**DETAILS UNDER RAILING POST - DECK**  
Scale: 1 1/2" = 1'-0"

**QUANTITIES**

Galvanized Bridge Railing	62.2 Lin. Ft.
Relocating Existing Bridge Railing	124.8 Lin. Ft.

**RELOCATED RAILING**

Posts and Sections should be match-marked when being dismantled to insure correct installation at new location.

Posts and Sections shall be cleaned and then hot dipped galvanized in accordance with ASTM Designation A123. Railing Flanges shall be painted (See Supplemental Specs.)

**PROPOSED RAILING**

Material for Posts and sections shall be Structural Steel. Material for Flanges shall be in accordance with Standard sheet RS. When fabrication is completed, Posts and Sections shall be hot dipped galvanized in accordance with ASTM Designation A123.

**BILL OF MATERIAL**

MARK	DESCRIPTION	NO.
RS-1	Railing Section	8
P-12	Intermediate Posts	6
P-15	End Posts	4
RF-4	Railing Flanges	32
AB-1	3/4" x 10" Anchor Bolt (Hex Head & Nut, Washer)	60
AB-2	3/4" x 11-3/8" "	8
AB-3	3/4" x 1-0" "	24
	3/4" x 2 1/4" Hex. Bolt & Washer (No Nut)	32
	All Bolts, Nuts & Washers to be galvanized.	

**RELOCATED RAILING**

Posts and Sections should be match-marked when being dismantled to insure correct installation at new location.

Posts and Sections shall be cleaned and then hot dipped galvanized in accordance with ASTM Designation A123. Railing Flanges shall be painted (See Supplemental Specs.)

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Material for Posts and sections shall be Structural Steel. Material for Flanges shall be in accordance with Standard sheet RS. When fabrication is completed, Posts and Sections shall be hot dipped galvanized in accordance with ASTM Designation A123.

**WAYNE COUNTY ROAD COMMISSIONERS**  
DETROIT, MICHIGAN

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

**1966 WIDENING**  
JOHN C. LODGE FREEWAY  
WARREN AVE. CROSSING  
RAILING DETAILS

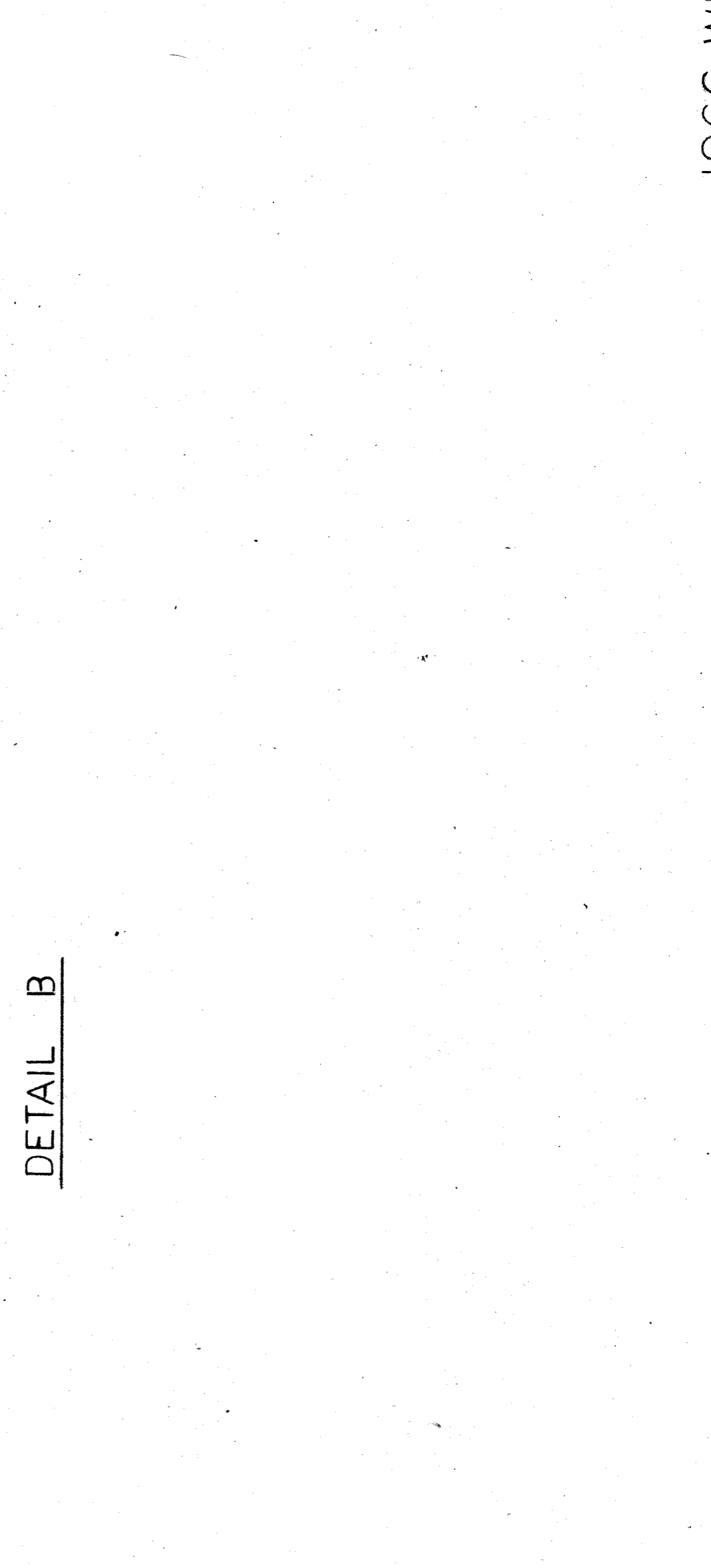
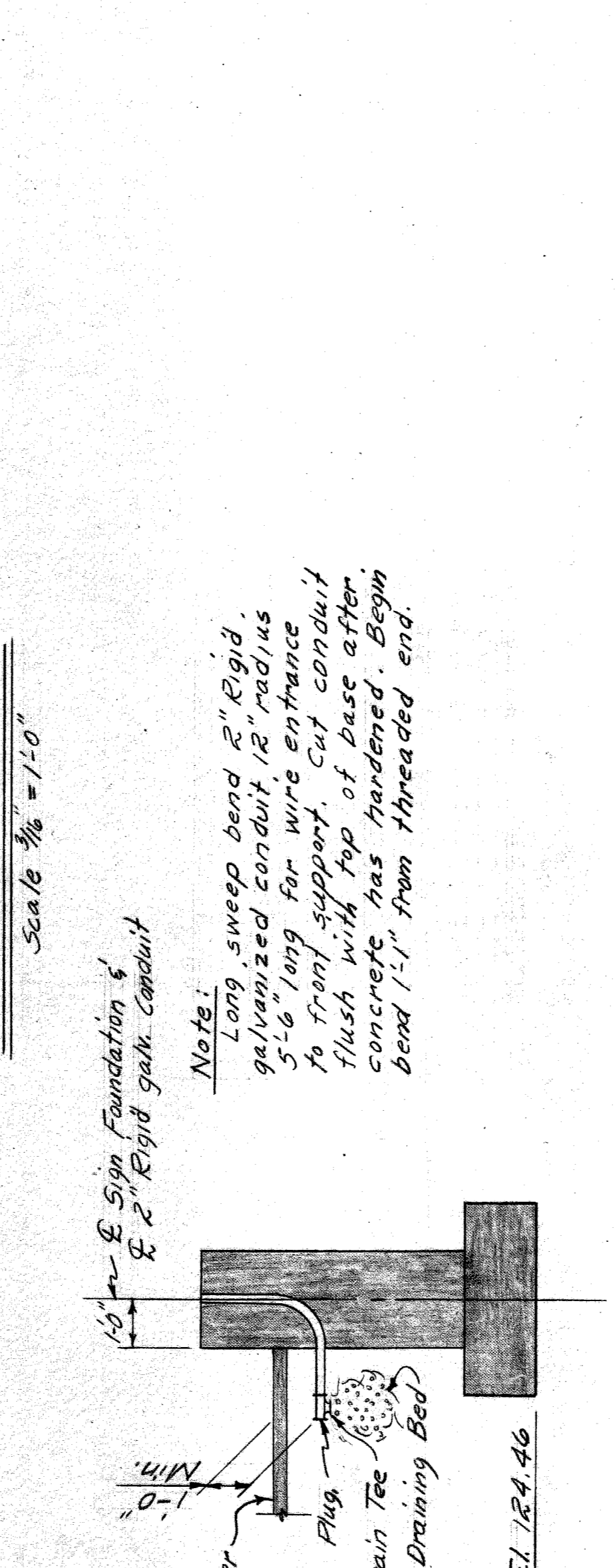
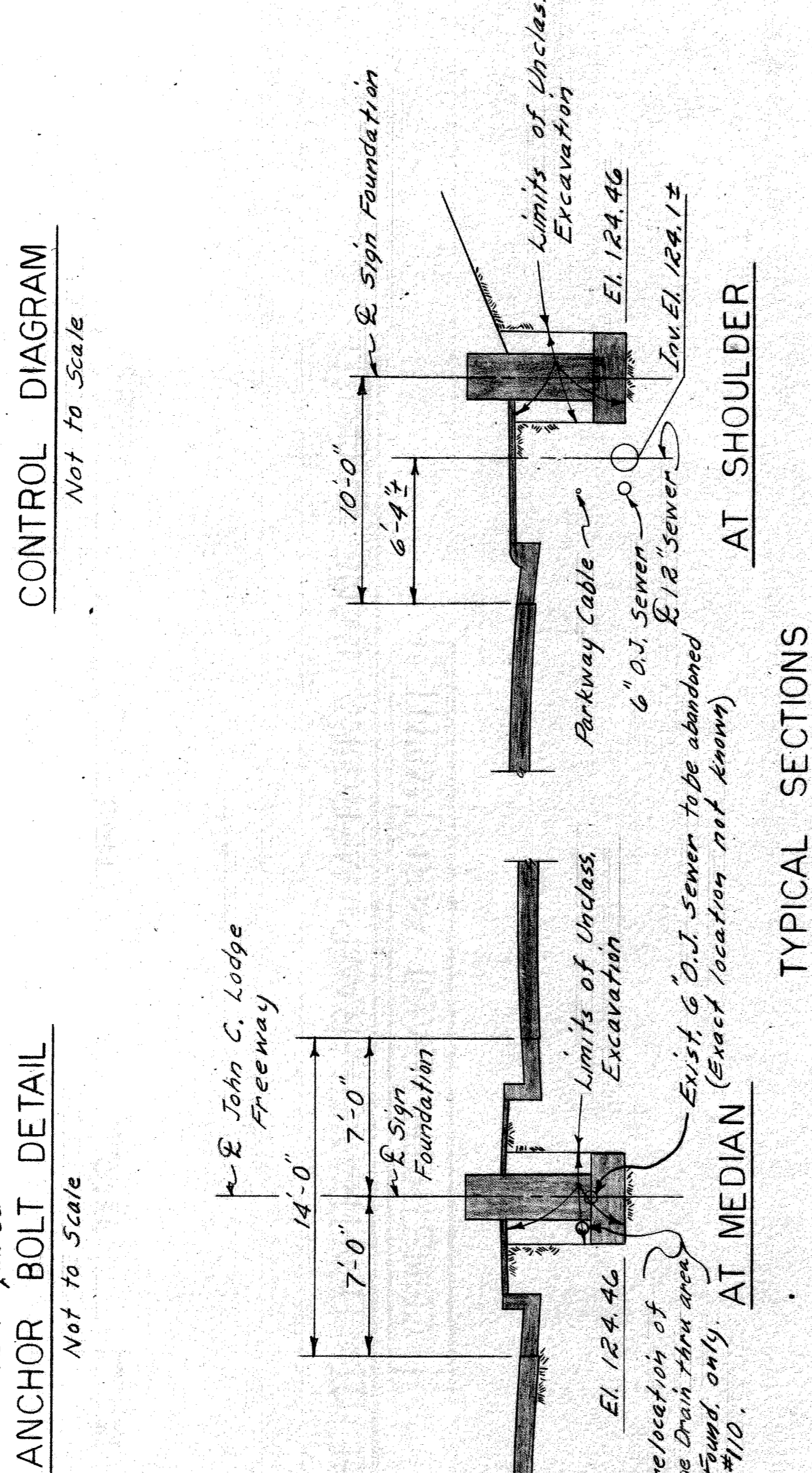
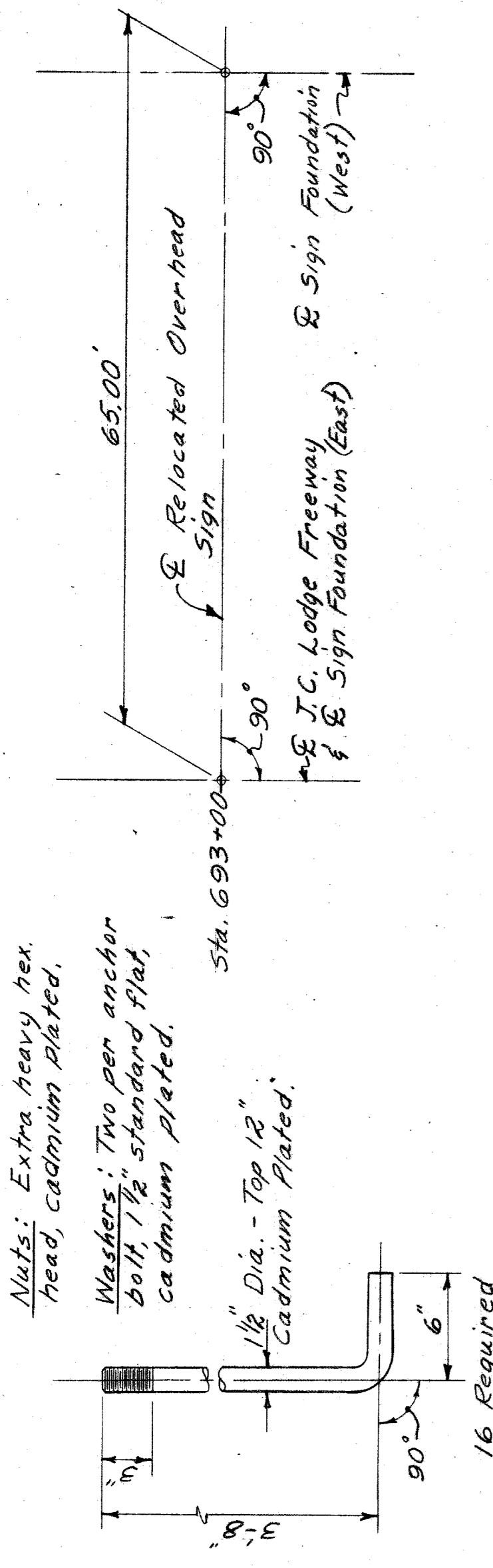
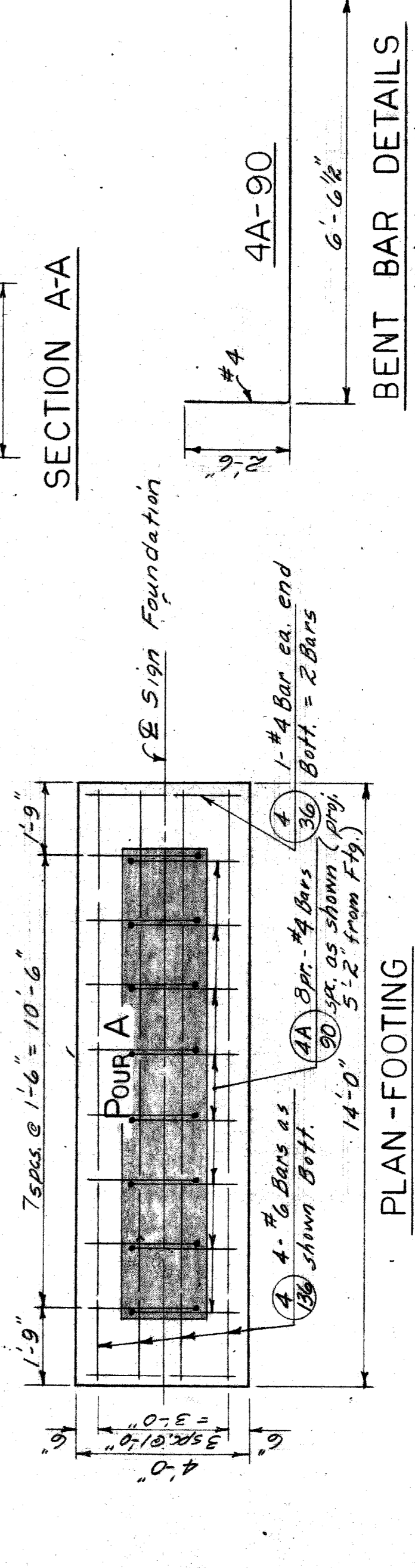
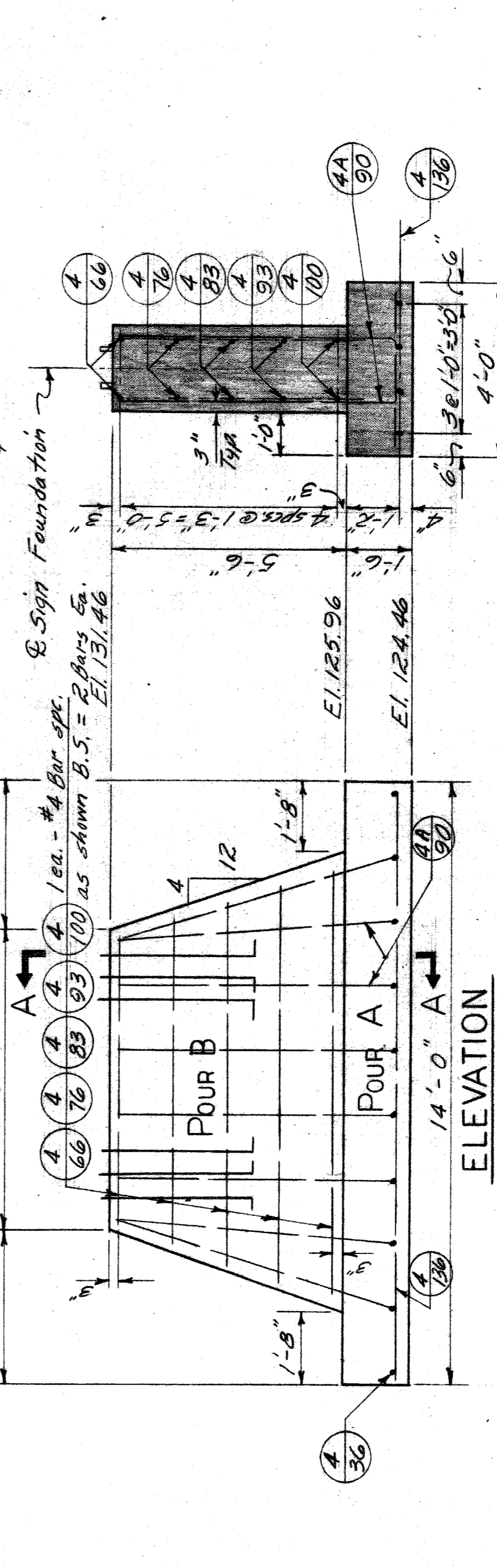
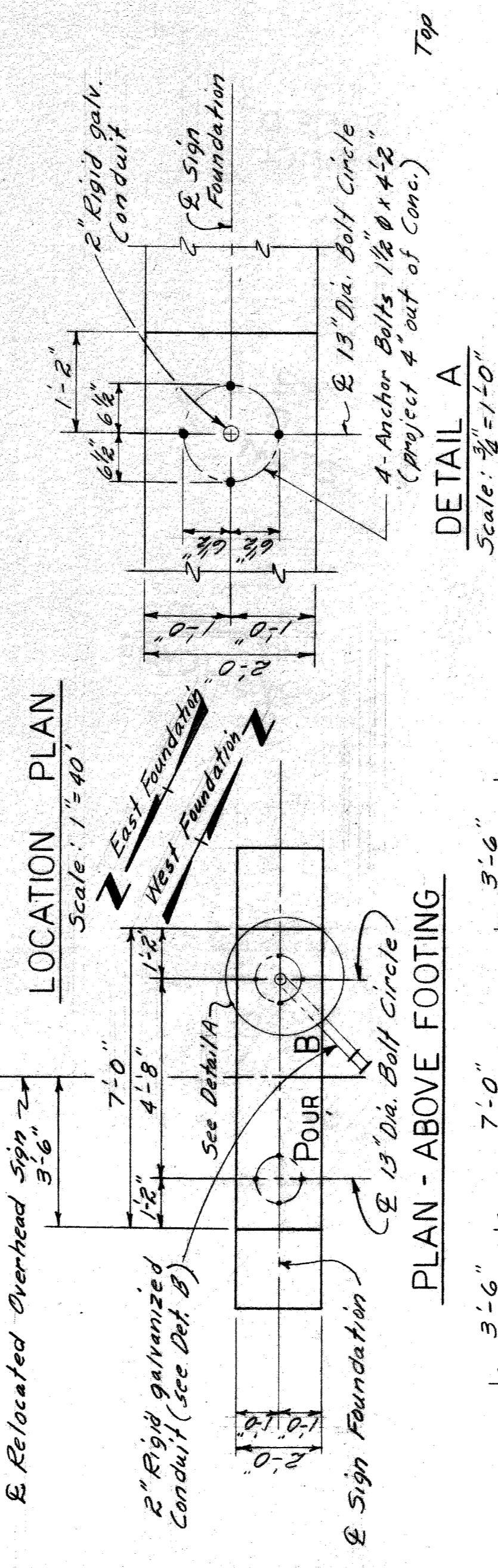
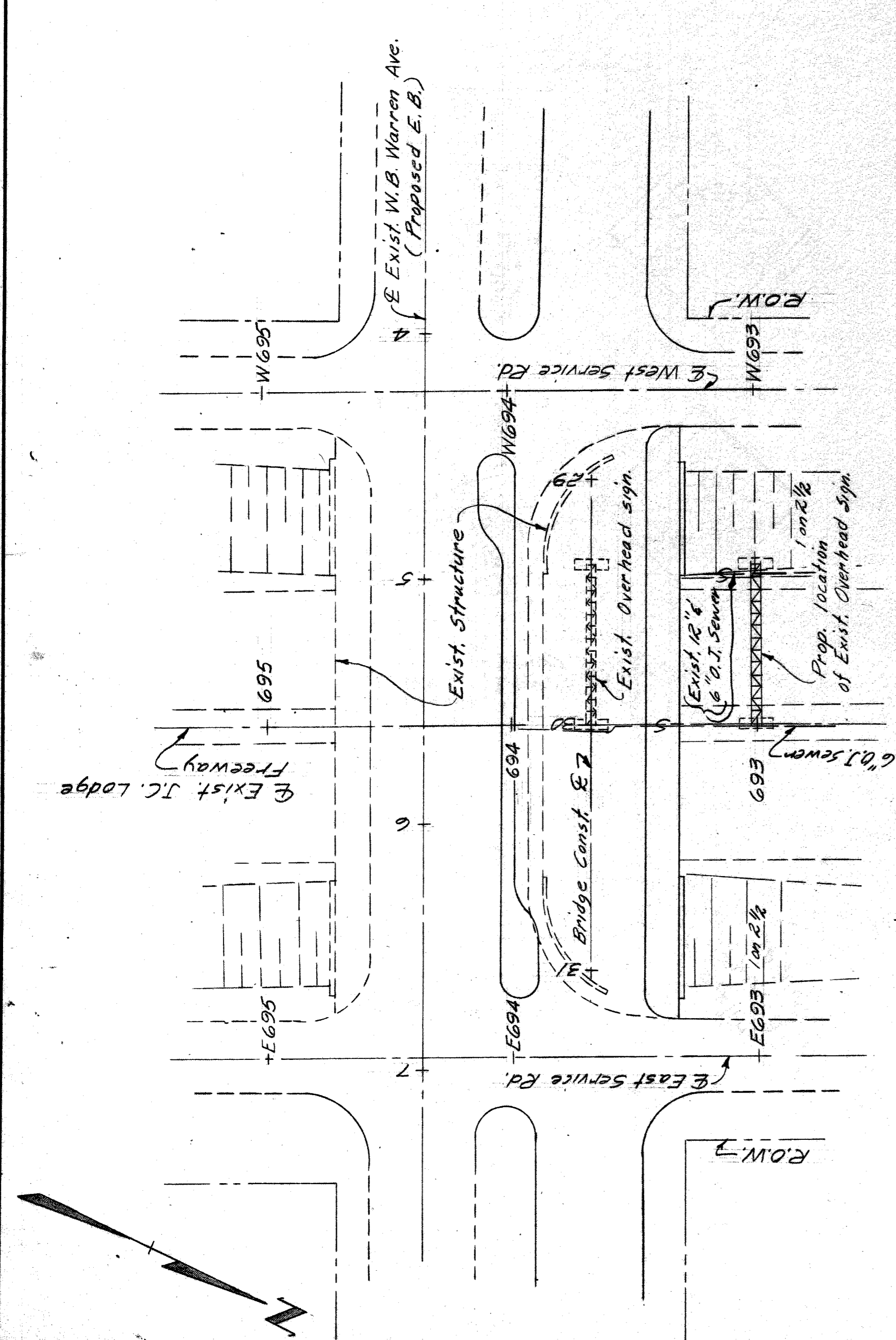
BRIDGE FILE ROAD  
S 19 OF 82111

APPROVED: *[Signature]* DATE: 1-26-65  
CHECKED BY: *[Signature]*  
CONTRACT NO. 1-26-65  
ENGINEER OF DESIGN: *[Signature]*  
ENGINEER OF CONSTRUCTION: *[Signature]*

STATE PROJECT: 874  
COUNTY JOB: 120  
ISSUE NO. 1  
DATE: 12-3-65

WILLIAM E. KREGER  
AL BARBOUR

PHILIP J. NEUBECK



BILL OF REINFORCING BARS			
MARK	SIZE	LENGTH	NUMBER
4-136	#4	13'-6"	4
4-100	"	10'-0"	2
4-93	"	9'-3"	2
4-83	"	8'-3"	2
4-76	"	7'-6"	2
4-66	"	6'-6"	2
4-36	#4	3'-6"	2
4A-90	#4	9'-0"	16
			16
			Bent

CONCRETE POURS			
POUR	LOCATION	GRADE	Cu. Yds.
A	Footing	A(6A)*	3.1
B	Above Ftg.	A(6AA)*	3.6

\* Gravel or Slag

**NOTES**

Certain portions of median Guard Rail shall be removed for construction. At completion of the construction work, Contractor shall relocate Median Guard Rail as directed by the Engineer (Included with the item "Removing and Replacing Steel Beam Guard Rail")

Contractor to probe to locate Utilities as shown before commencing with his excavation for the Sign Foundations.

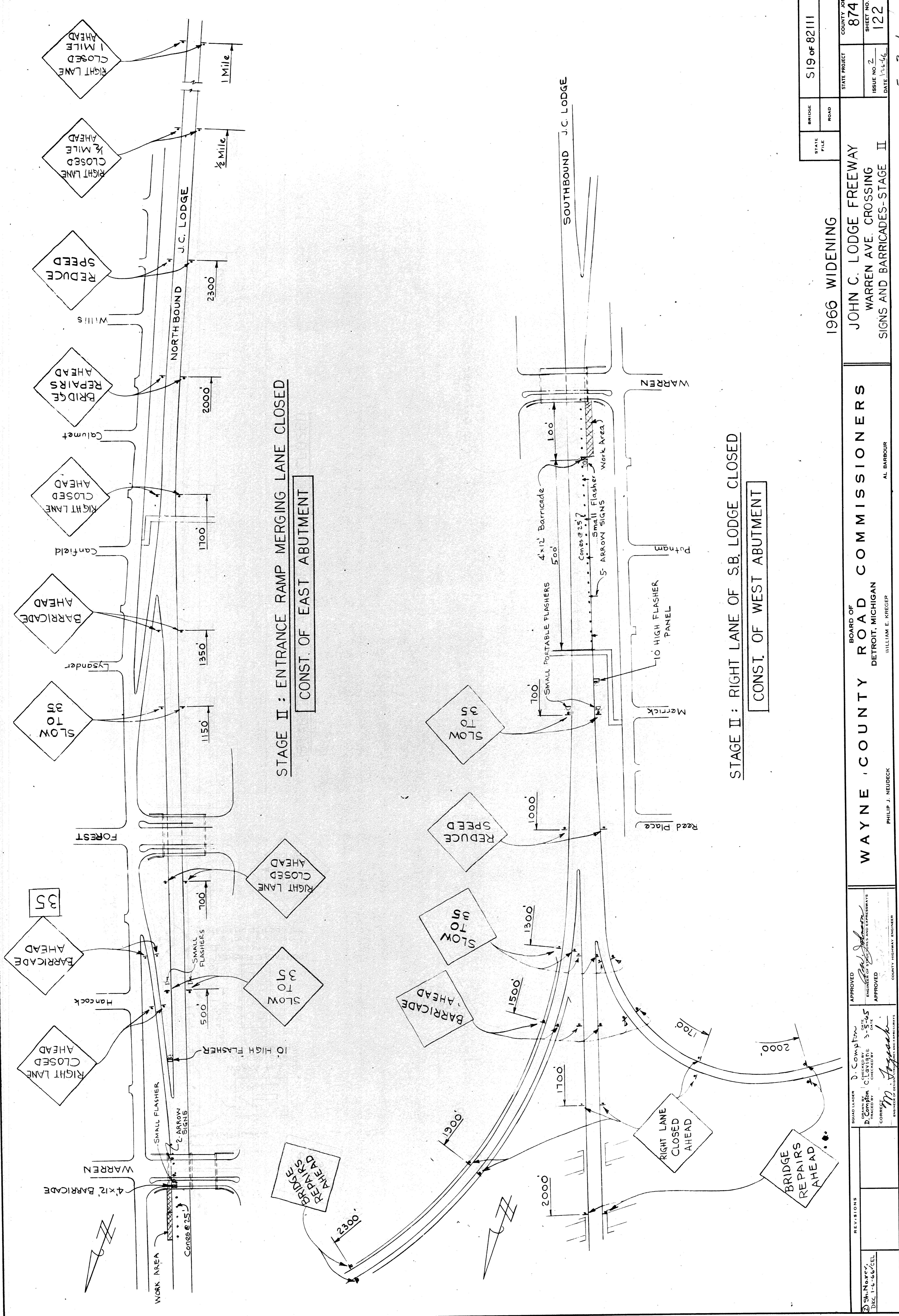
Refer to Constructing Program for proper procedure to construct these Foundations.

The Item "Concrete Base-Type B Truss" shall include a total of 385 pounds of Steel Reinforcement, 6.8 cubic yards of Grade A (6A) Concrete, 7.2 cubic yards of Grade A (6AA) Concrete.

**QUANTITIES**

Unclassified Excavation 21 Cu. Yds.  
 Concrete Base - Type B Truss 2 Each  
 Removing and Relocating Type B Truss 1 Each

STATE FILE	BRIDGE ROAD	1966 WIDENING
JOHN C. LODGE FREEWAY WARREN AVE. CROSSING		SI9 OF 82111
STATE PROJECT	COUNTY JOB	COUNTY JOB
ISSUE NO. 1	874	874
DATE 11-3-57	SHEET NO.	121



STAGE II : ENTRANCE RAMP MERGING LANE CLOSED  
CONST. OF EAST ABUTMENT

STAGE II : RIGHT LANE OF S.B. LODGE CLOSED  
CONST. OF WEST ABUTMENT

STATE FILE	BRIDGE	ROAD	STATE PROJECT	COUNTY JOB
			519 of 82111	874
				ISSUE NO. 2
				DATE 12-5-46
				SHEET NO. 122

1966 WIDENING

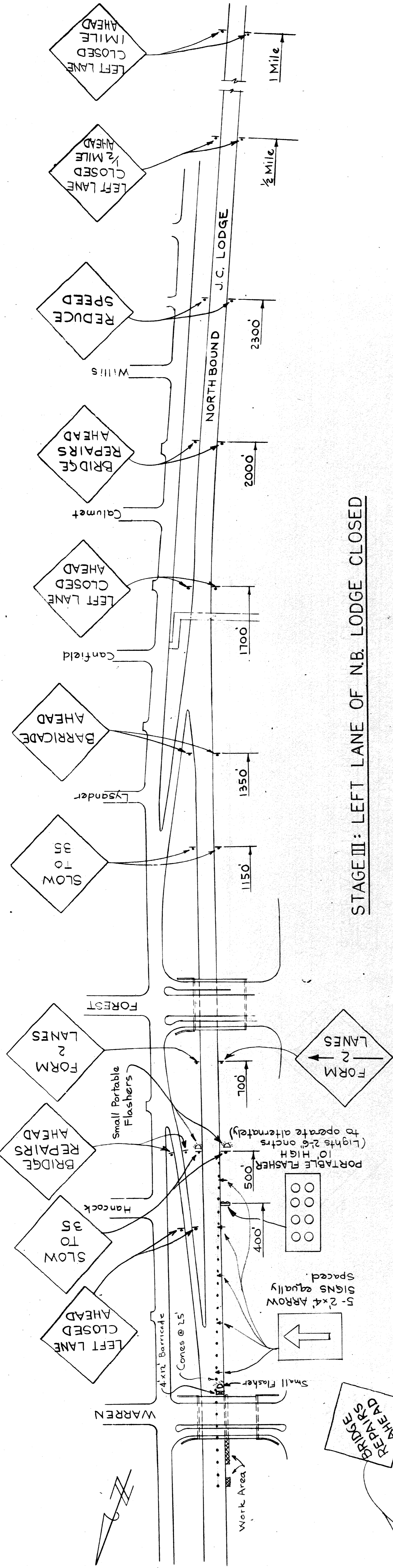
JOHN C. LODGE FREEWAY  
WARREN AVE. CROSSING  
SIGNS AND BARRICADES-STAGE II

WAYNE COUNTY ROAD COMMISSIONERS  
DETROIT, MICHIGAN

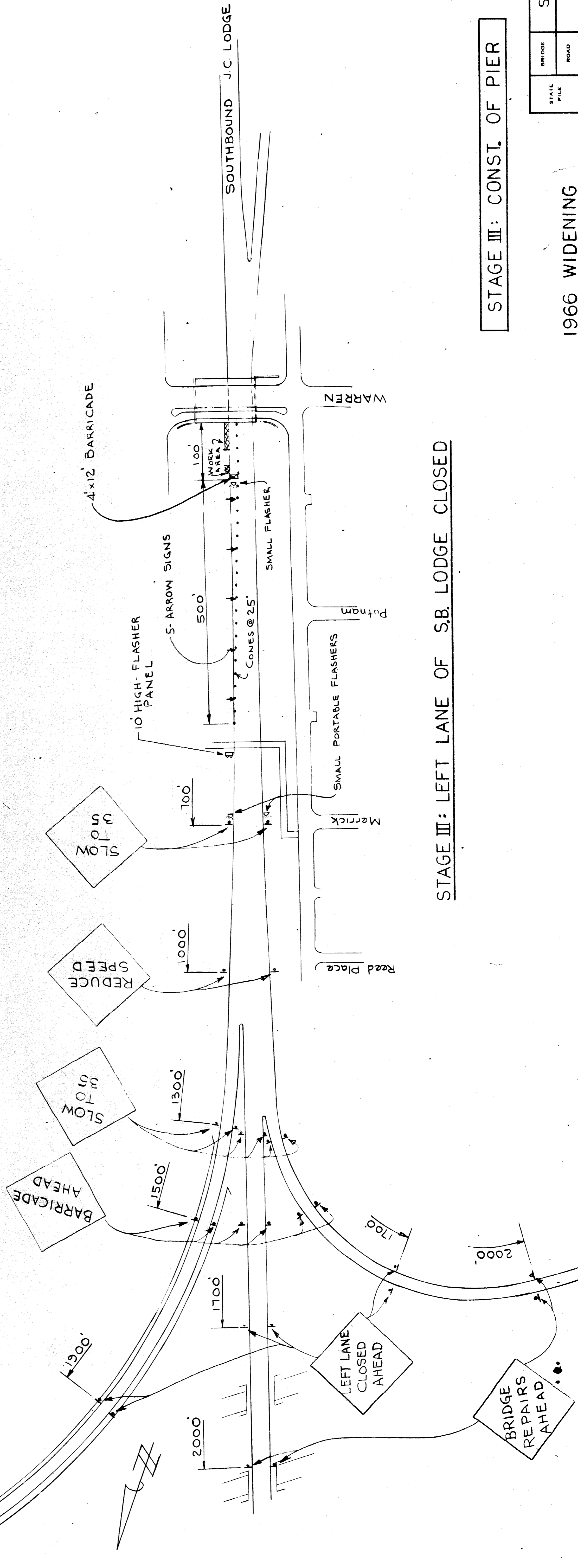
AL BARBOUR  
WILLIAM E. KREGER  
PHILIP J. NEUBECK

REVISIONS	APPROVED	ENGINEER OF SURVEYING AND EXPRESSWAYS
	APPROVED	ENGINEER OF SURVEYING AND EXPRESSWAYS
	APPROVED	ENGINEER OF SURVEYING AND EXPRESSWAYS
	APPROVED	ENGINEER OF SURVEYING AND EXPRESSWAYS
	APPROVED	ENGINEER OF SURVEYING AND EXPRESSWAYS

E-2-1



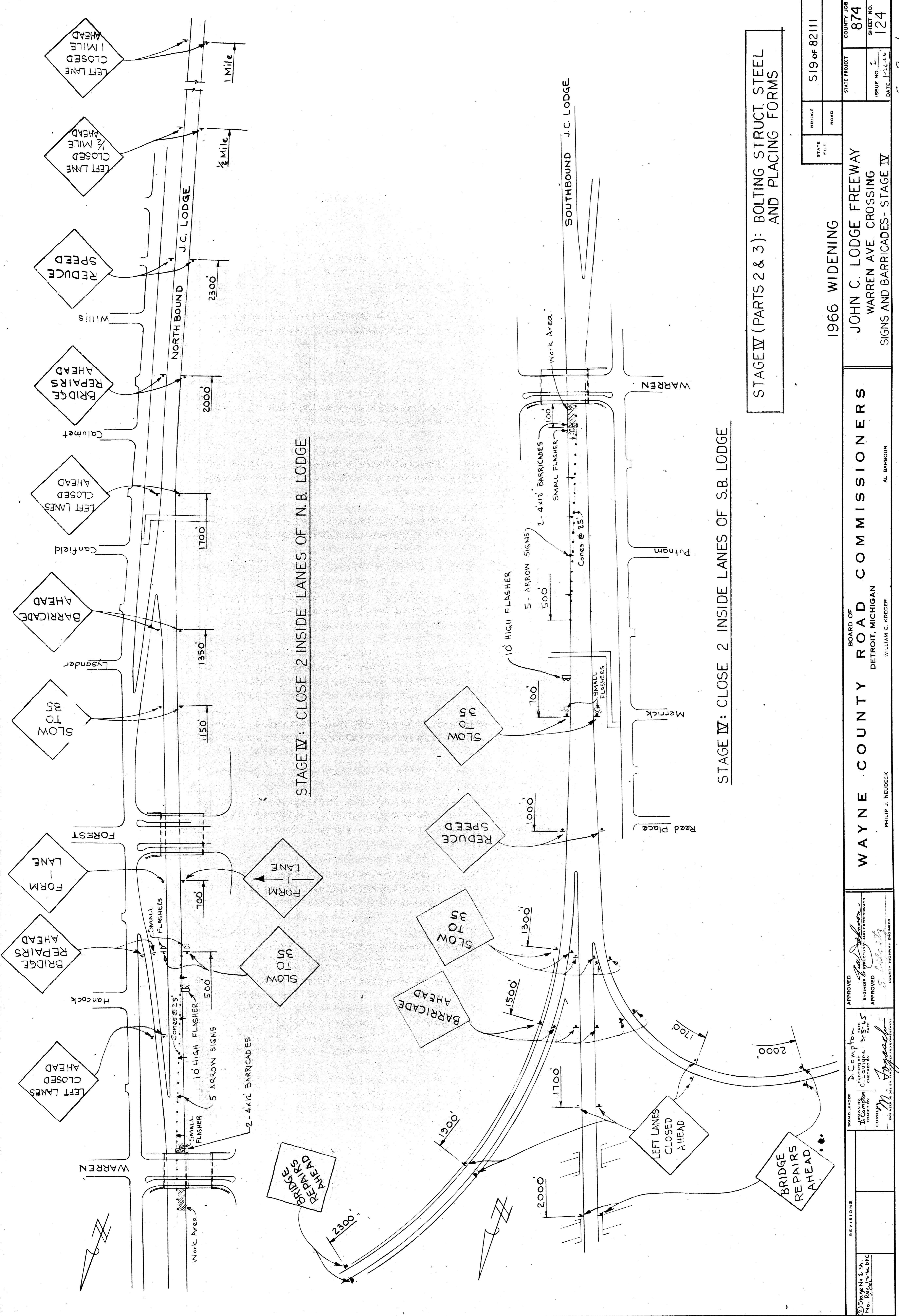
STAGE III: LEFT LANE OF NB. LODGE CLOSED



STAGE III: LEFT LANE OF S.B. LODGE CLOSED

STAGE III: CONST. OF PIER

STATE PROJECT		519 OF 82111	
BRIDGE		ROAD	
STATE FILE		ROAD	
1966 WIDENING			
JOHN C. LODGE FREEWAY			
WARREN AVE. CROSSING			
SIGNS AND BARRICADES - STAGE III			
BOARD OF		WAYNE COUNTY ROAD COMMISSIONERS	
DETROIT, MICHIGAN		AL BARBOUR	
WILLIAM E. KREGER		PHILIP J. NEUDECK	
COUNTY HIGHWAY ENGINEER		COUNTY HIGHWAY ENGINEER	
APPROVED		APPROVED	
D. Compton		D. Compton	
DATE 3-3-55		DATE 3-3-55	
CHECKED BY		CHECKED BY	
CORRECTED BY		CORRECTED BY	
M. J. J. J.		M. J. J. J.	
DEC 1-5-56/CEL		DEC 1-5-56/CEL	
REVISIONS		REVISIONS	
1. Misc. Rev		1. Misc. Rev	
8-19-55 DKC		8-19-55 DKC	
2. Stage No. Rev		2. Stage No. Rev	
DEC 1-5-56/CEL		DEC 1-5-56/CEL	
COUNTY JOB		COUNTY JOB	
874		874	
SHEET NO.		SHEET NO.	
123		123	
ISSUE NO. 3		ISSUE NO. 3	
DATE 1-2-54		DATE 1-2-54	



STAGE IV: CLOSE 2 INSIDE LANES OF N.B. LODGE

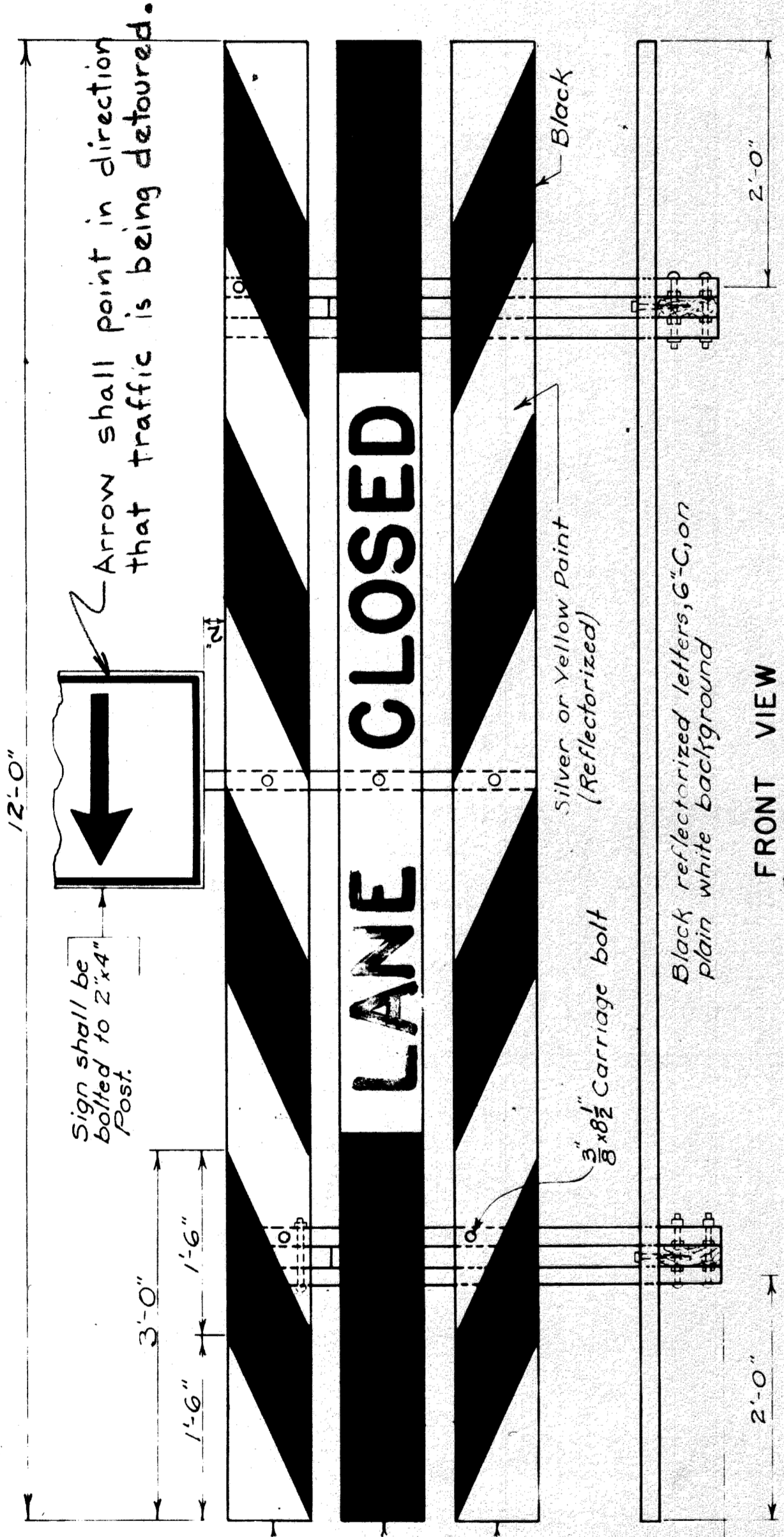
STAGE IV: CLOSE 2 INSIDE LANES OF S.B. LODGE

STAGE IV (PARTS 2 & 3): BOLTING STRUCT. STEEL AND PLACING FORMS

STATE PROJECT <b>519 OF 82111</b>	BRIDGE	COUNTY JOB <b>874</b>
	ROAD	
1966 WIDENING		
JOHN C. LODGE FREEWAY WARREN AVE. CROSSING		
SIGN AND BARRICADES - STAGE IV		
BOARD OF <b>WAYNE COUNTY ROAD COMMISSIONERS</b> DETROIT, MICHIGAN	AL BARBOUR	DATE <b>1-26-66</b>
PHILIP J. NEUDECK	WILLIAM E. KREGER	
APPROVED <i>[Signature]</i> ENGINEER OF STRUCTURE AND EXPRESSWAYS	APPROVED <i>[Signature]</i> COUNTY HIGHWAY ENGINEER	
REVISIONS	BY <i>[Signature]</i>	DATE
NO. 1		



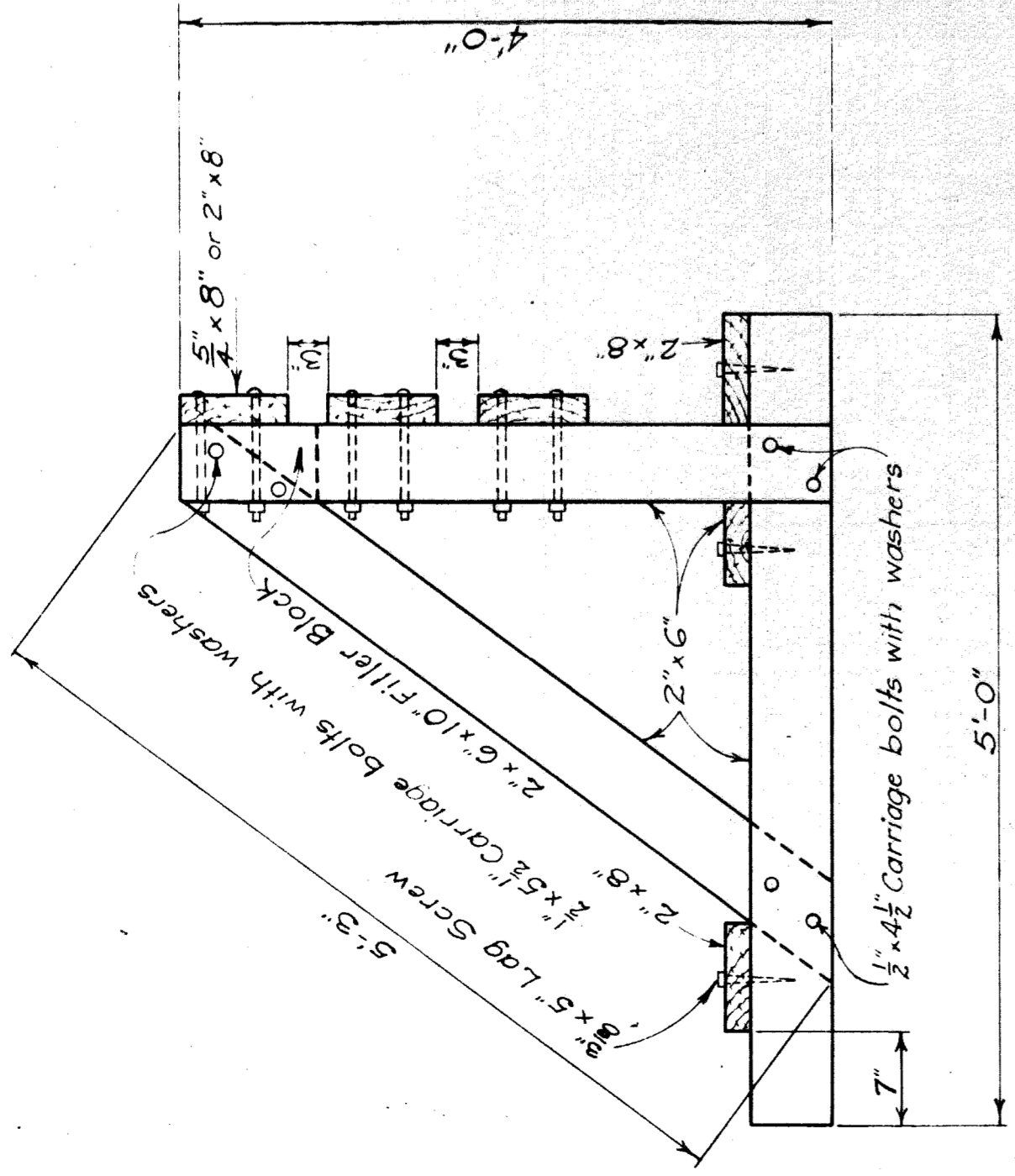




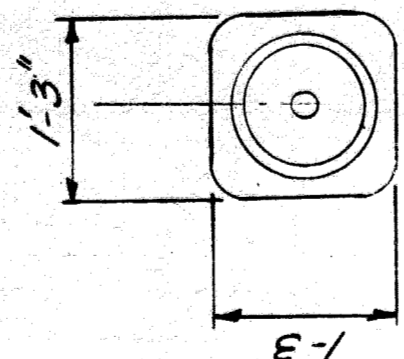
FRONT VIEW

Notes: All face boards to be Douglas Fir.  
All other boards and posts to be Fir.

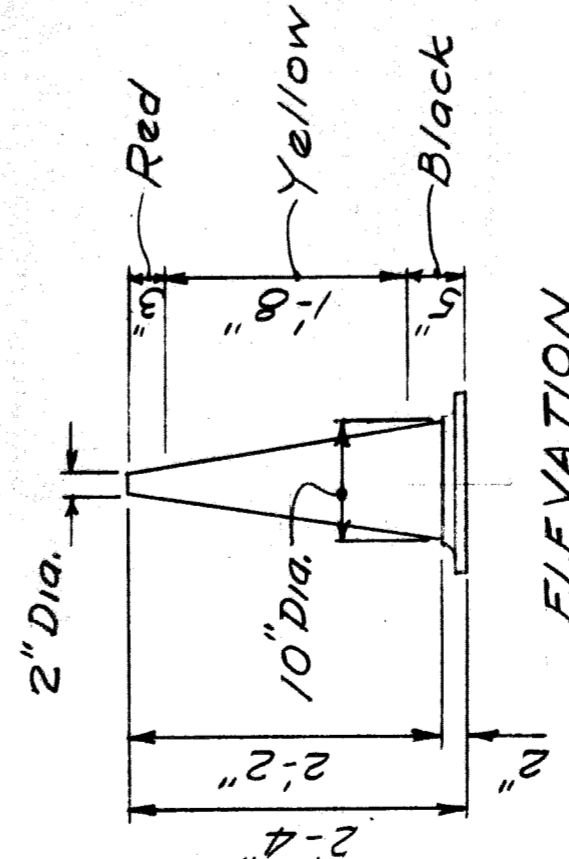
**4' x 12' BARRICADE**  
Scale: 1/4" = 1'-0"



END VIEW



PLAN



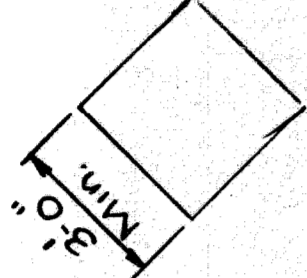
ELEVATION

**DETAILS OF TRAFFIC CONES**  
Scale: 3/8" = 1'-0"

- NOTES:
1. Cones shall be hollow, of 0.15" thick rubber, except that base portion shall be thickened as indicated.
  2. Surfaces shall be painted as indicated.
  3. Cones shall be provided with a small Red Flag protruding from the top of the cone.

THE FOLLOWING TRAFFIC CONTROL SIGNS SHALL BE FURNISHED, PLACED AND REMOVED BY THE WAYNE COUNTY ROAD COMMISSION.

SIZE	No.	MESSAGE
3'-0" x 3'-0"	2	LEFT LANE CLOSED 1 MILE AHEAD
	2	LEFT LANE CLOSED 1/2 MILE AHEAD
	2	RIGHT LANE CLOSED 1 MILE AHEAD
	2	RIGHT LANE CLOSED 1/2 MILE AHEAD
	4	REDUCE SPEED
	10	BRIDGE REPAIRS AHEAD
	10	LEFT LANE CLOSED AHEAD
	12	RIGHT LANE CLOSED AHEAD
	8	BARRICADE AHEAD
	1	FORM 2 LANE
2'-0" x 4'-0"	1	FORM 2 → LANE
	1	FORM ← 2 LANE
	12	SLOW TO 35
	1	FORM 1 LANE
	1	FORM → 1 LANE
	2	BARRICADE AHEAD (With 35 Attached Sign)
	10	LEFT LANE CLOSED AHEAD
	8	RIGHT LANE CLOSED AHEAD
	10	(Arrow Signs pointing to the right)
	10	(Arrow Signs pointing to the left)



**GENERAL NOTES FOR MAINTAINING TRAFFIC**

Flare Pots shall be required at all signs and at 50' intervals in coned areas for all night work.

All signs when not in use shall be covered.

The 10 Ft Portable Flasher shall have lights at 2.5' ctrs to operate alternately.

All distances as indicated on Plan Locations of Signs are measured from the Barricade Location.

STATE FILE	BRIDGE	S19 of 82111
ROAD		

COUNTY JOB	874
STATE PROJECT	JOHN C. LODGE FREEWAY
SHEET NO.	WARREN AVE. CROSSING
ISSUE NO.	1
DATE	7-16-66
SHEET NO.	126

**WAYNE COUNTY ROAD COMMISSIONERS**

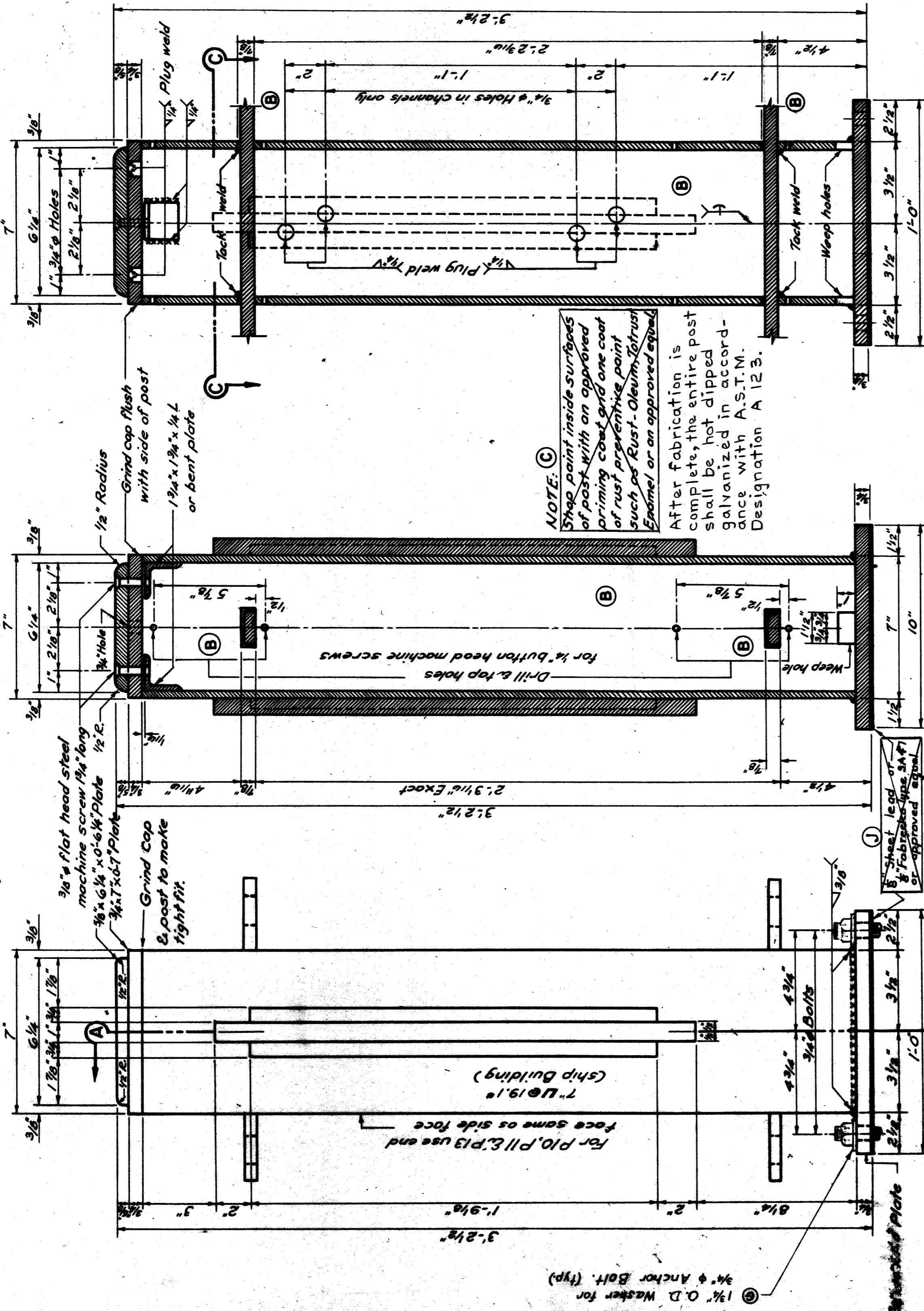
AL BARBOUR  
WILLIAM E. KREGFP

APPROVED  
D. Compton  
ENGINEER OF HIGHWAYS  
CORRECT  
M. Fogarty

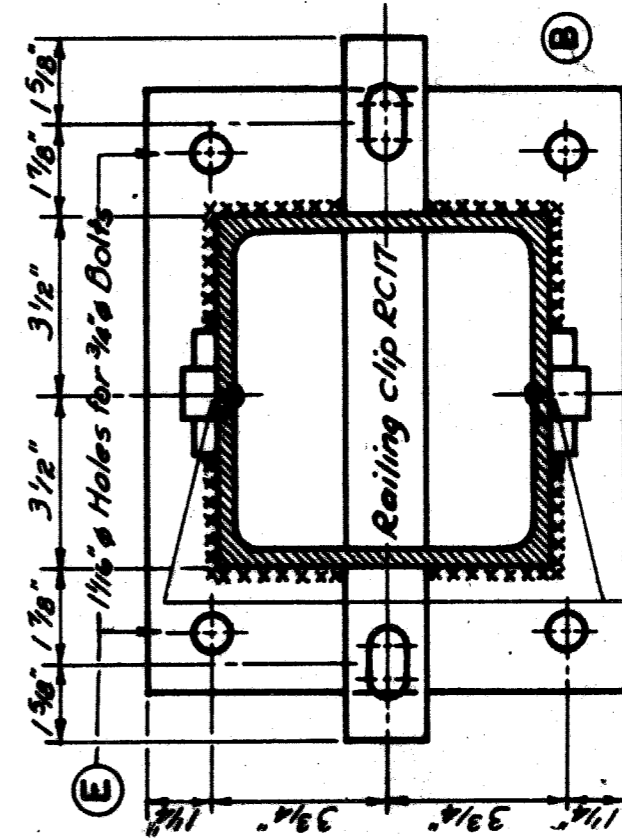
APPROVED  
D. Compton  
ENGINEER OF HIGHWAYS  
CORRECT  
M. Fogarty

REVISIONS

**STEEL RAILING POSTS**



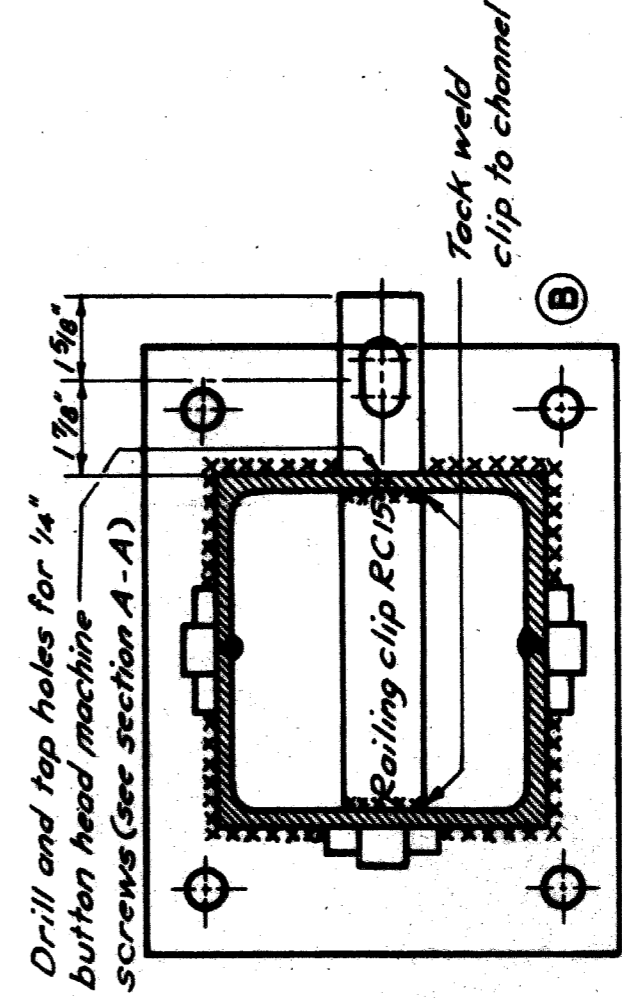
**SECTION A-A**



**SECTION C-C**

Grind if necessary to produce a smooth straight joint (typ)

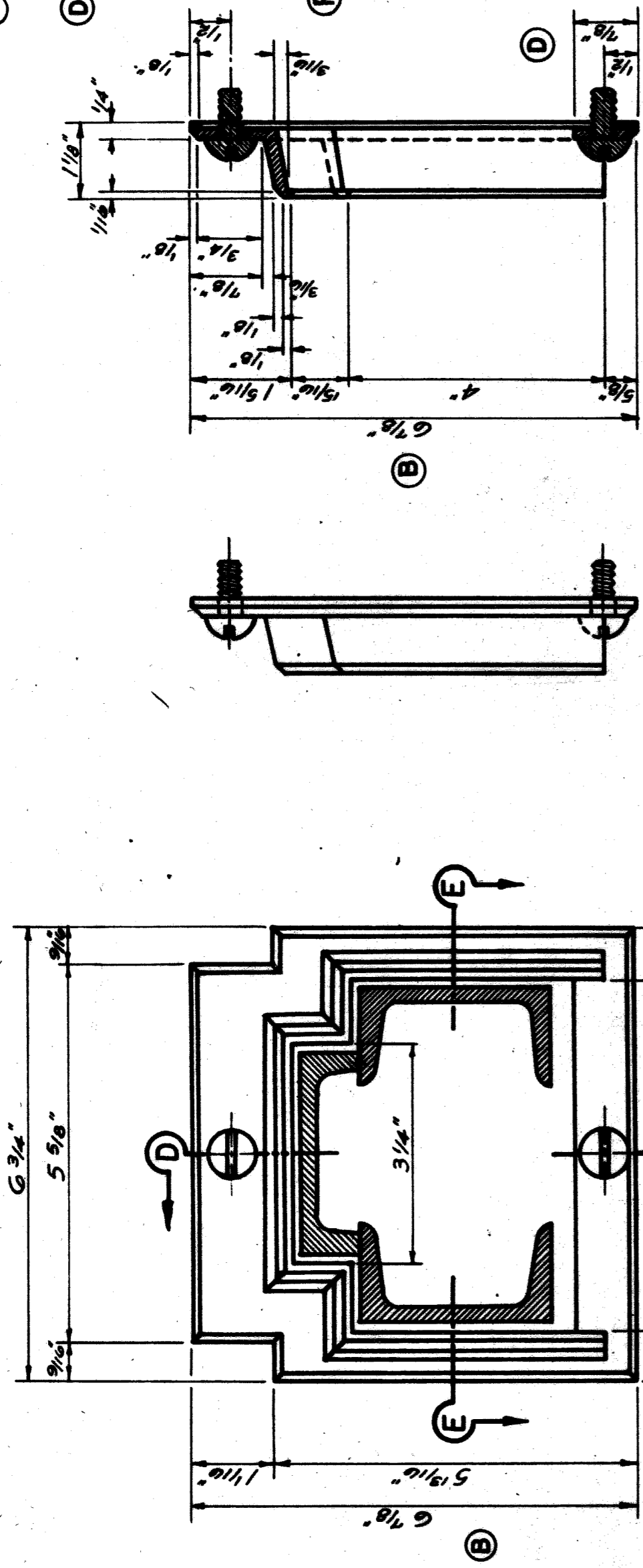
**SECTION B-B**



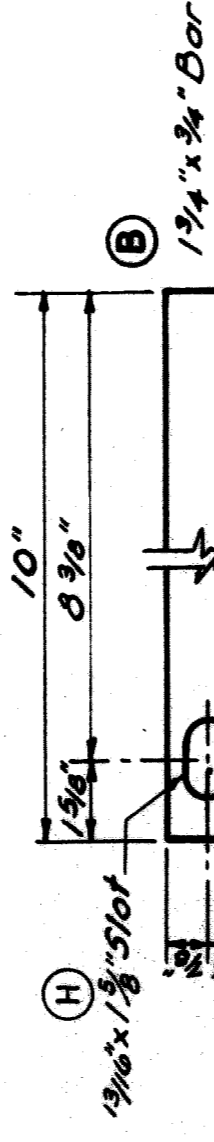
**SECTION THRU END POST P10**

Post P 11 same as P 10 except use RC 16 and omit holes for railing flange screws.  
Post P 13 same as P 10 except the holes for railing flange screws are omitted.

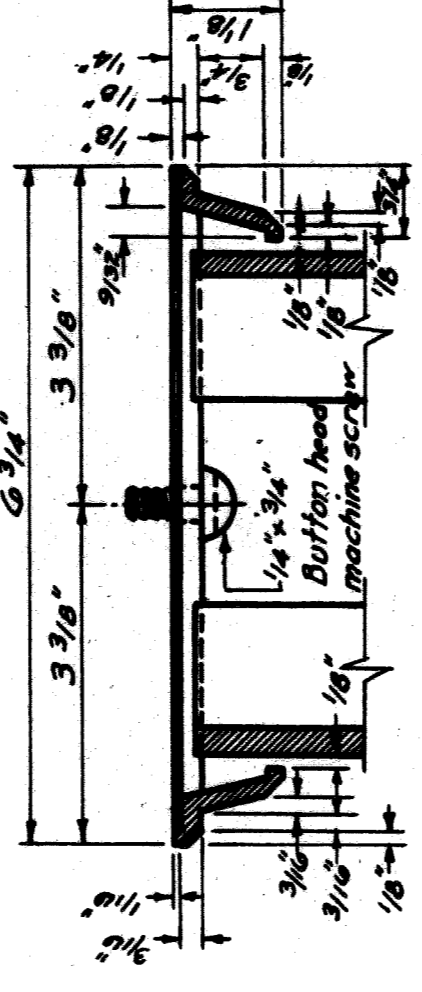
**RAILING FLANGES AND CLIPS**



**SECTION D-D**



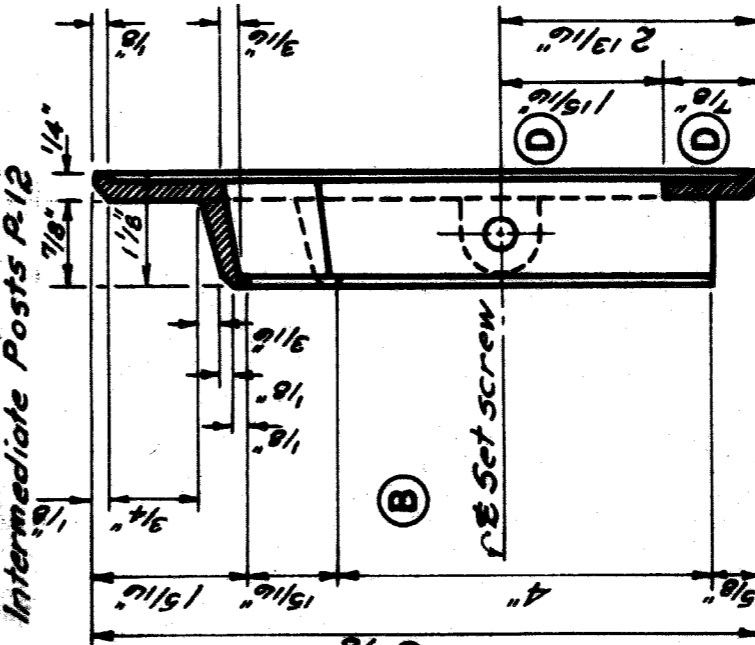
**SECTION E-E**



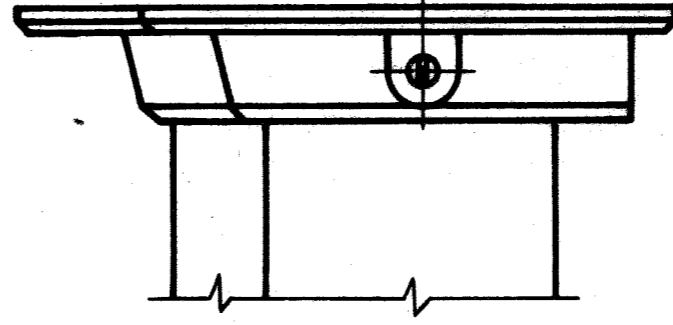
**MARK RF 3 (at expansion end)**

**MATERIAL:** Railing Flanges shall be made from copper base alloys conforming to the current specifications for copper base alloys in ingot form for sand castings, A.S.T.M. designation B 30. (See Note C)  
**PAINTING:** Railing Flanges shall be painted same as railing and to conform to the standard and supplement specifications.

**RAILING CLIP RC-17**



**SECTION G-G**



**NOTES:**  
All exposed welds are to be ground smooth.  
When railing is on a grade, the railing posts are to be placed in a true vertical position.  
Cast aluminum, A.S.T.M. B 179-15T may be substituted for copper-alloy at the option of the fabricator for casting railing flanges. Railing post caps may be made of cast aluminum A.S.T.M. B 179-15T instead of welded plates as called for on the details.  
Anchor Bolts are to be of the length called for on the detail plans and shall be minimum length.  
Railing: incidental to Bridge Railing.  
All Bolts, Nuts & Washers to be galvanized in accordance with A.S.T.M. Designation A 153.

J	Fabricate note revised	11-15-57	WDS
H	Revised 1/2" slot to 3/8"	3-9-59	WDS
G	Added Washers	9-24-59	WDS
F	Added note	6-3-58	J.P.W.
E	Revised notes for	6-3-58	J.P.W.
D	Revised flange details and material	4-2-54	WDS
C	Sheet lead added and shape paint note changed	2-4-54	J.P.W.

REVISIONS TO CONTRACT DRAWINGS

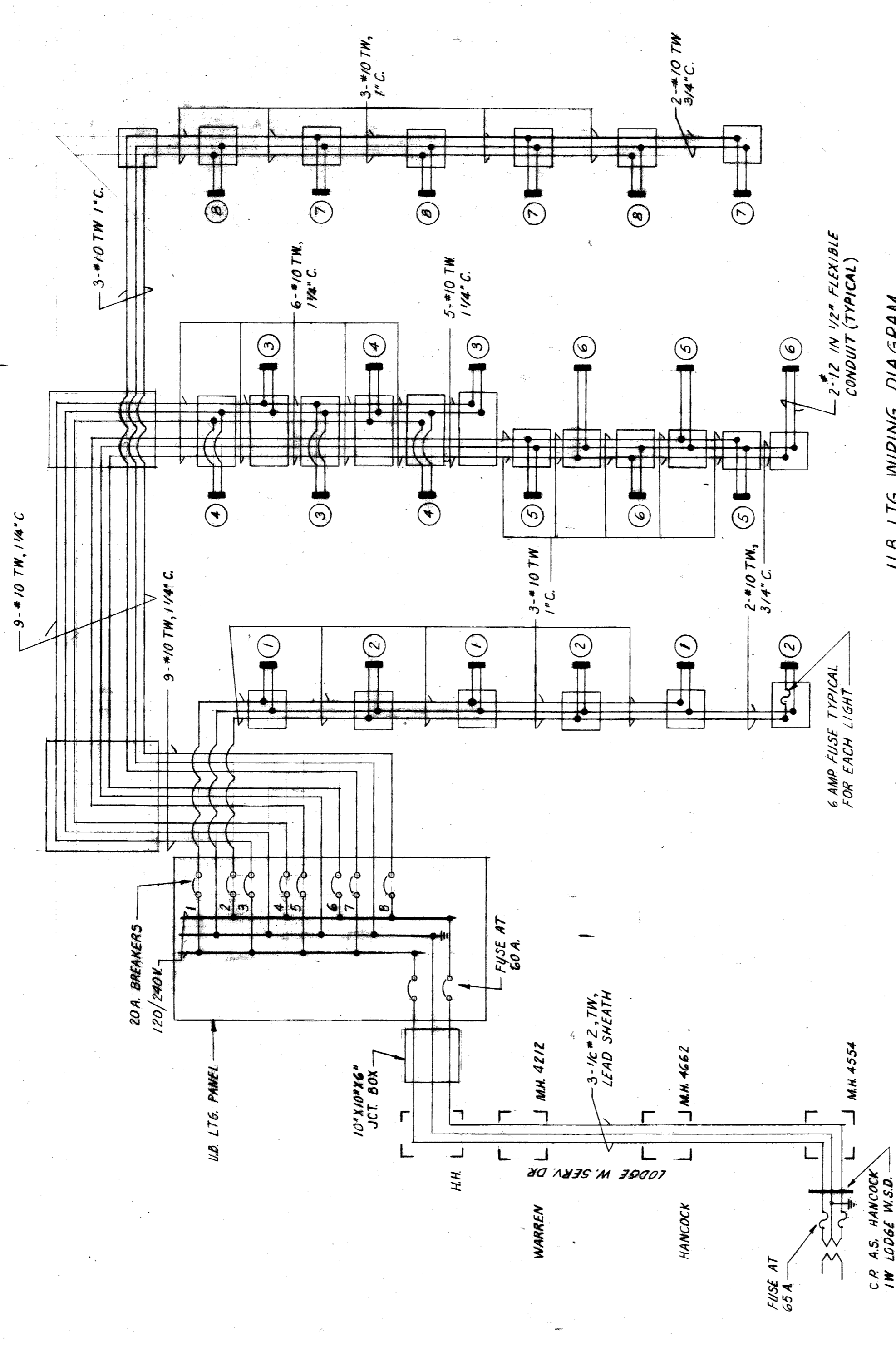
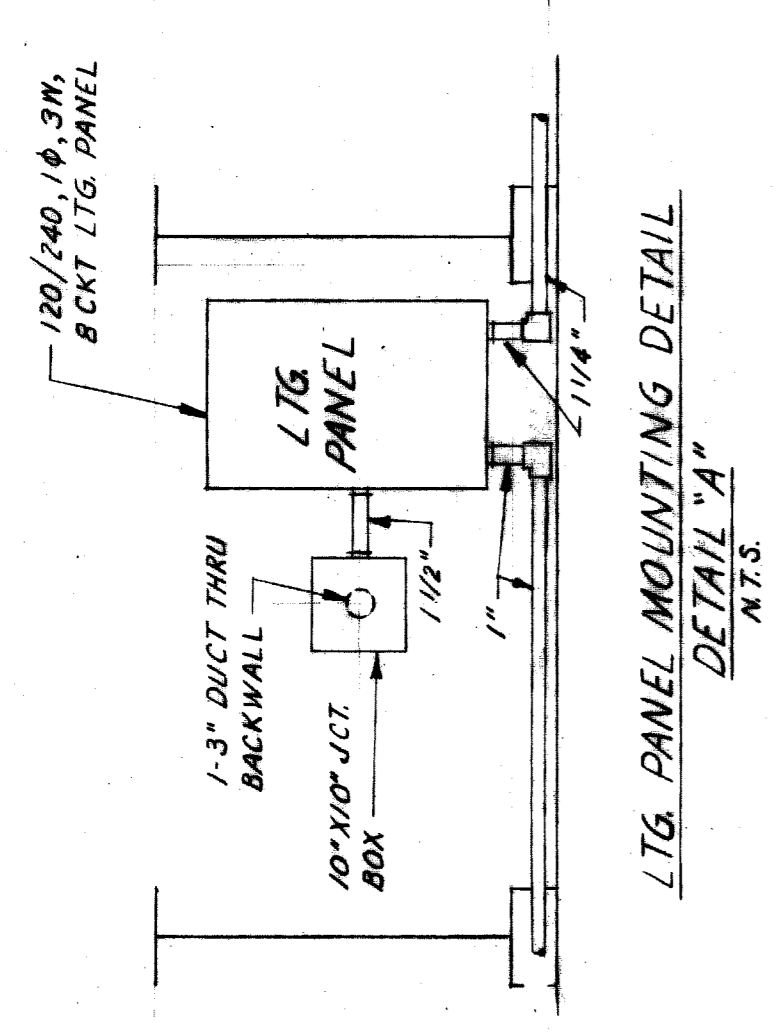
**MICHIGAN STATE HIGHWAY DEPARTMENT**  
CHARLES M. ZIEGLER  
STATE HIGHWAY COMMISSIONER

**STEEL RAILING POST DETAILS**

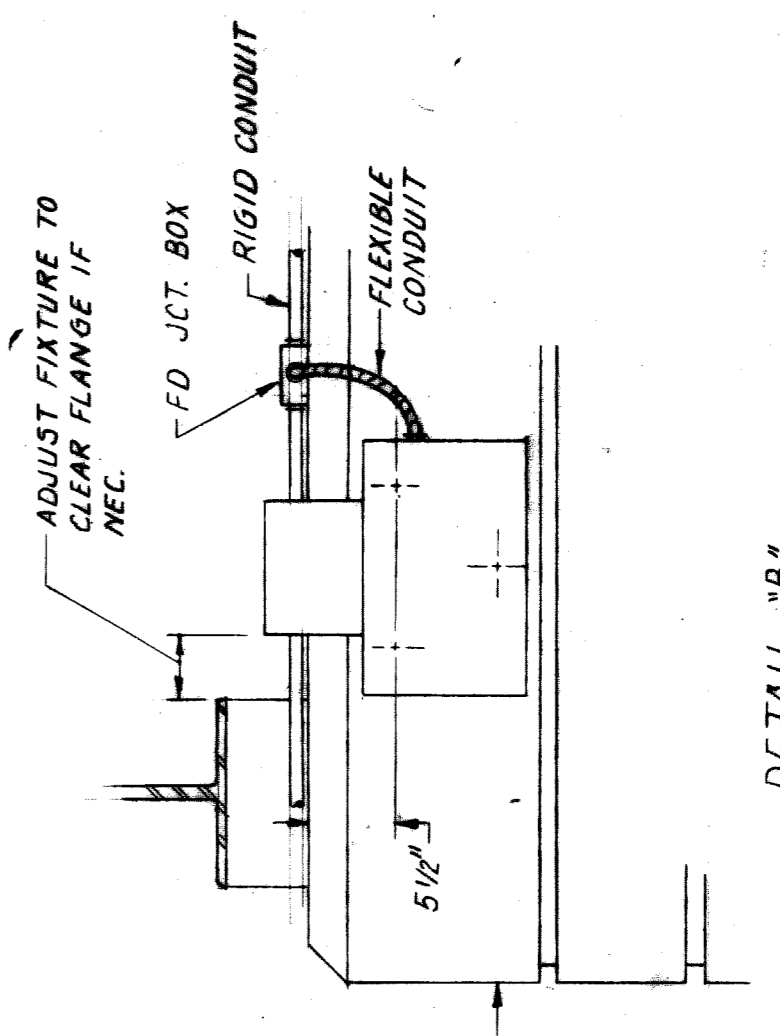
NO.	REVISION	DATE	BY
B	Changed position of channels changed thickness of railing clips and revised flanges	5-9-47	G.L.G.
A	Added note	3-7-47	M.E.T.

APPROVED: [Signature] 9/23/54  
BRIDGE DRAFTSMAN  
APPROVED: [Signature] 7-21-54  
ENGINEER OF BRIDGE DESIGN  
APPROVED: [Signature] 1-2-54  
PROJECT ENGINEER

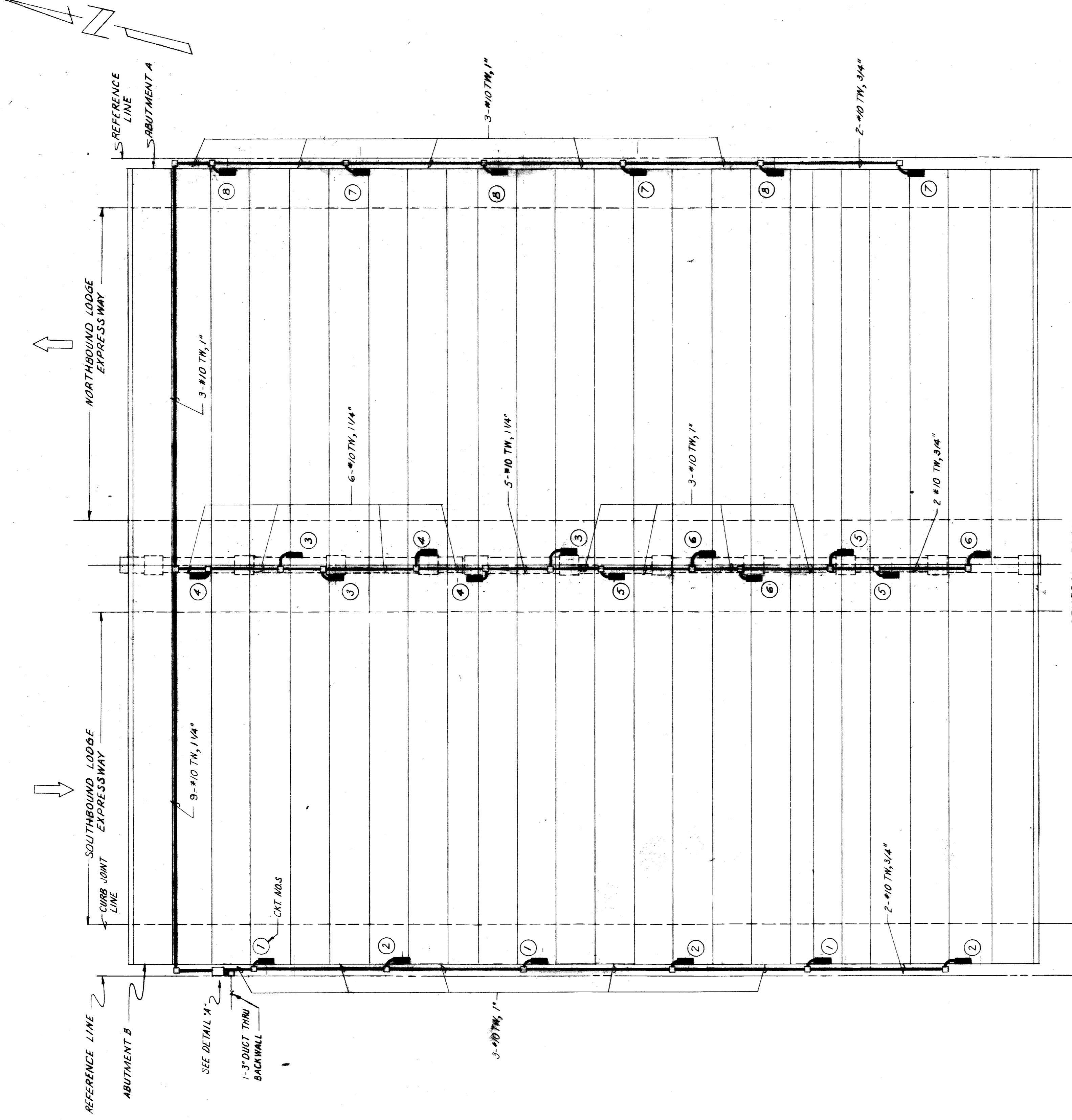
QUANTITIES THIS SHEET	ITEM	AMOUNT
	WARREN AVE. UNDERBRIDGE WIRING SYSTEM	LUMP SUM
	UNDERBRIDGE LTG UNIT MOUNTED ON BRIDGE PIER & ABUTMENT	24 EACH
	600 VOLT SECONDARY CABLE	729 L.F.



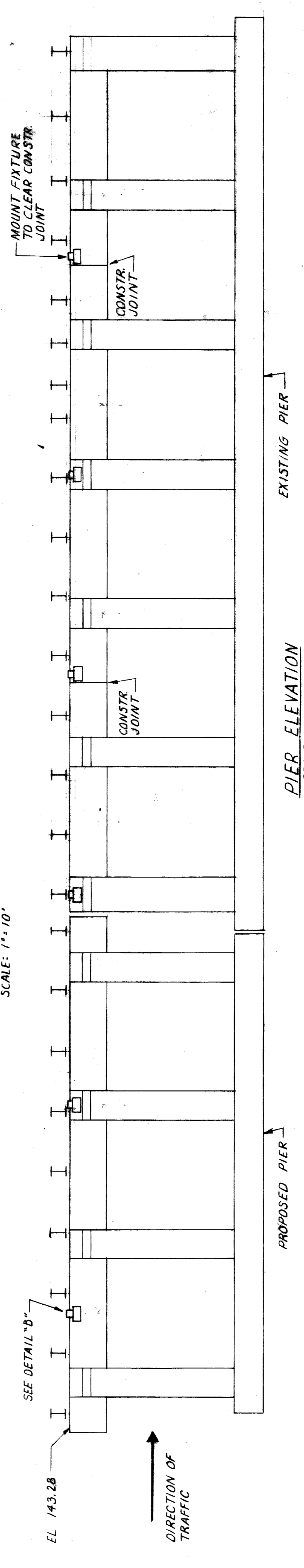
U.B. LTG. WIRING DIAGRAM



DETAIL "B"  
MOUNTING OF FIXTURES (TYPICAL)  
SCALE: 1" = 1'-0"



GENERAL PLAN  
SCALE: 1" = 10'



PIER ELEVATION  
SCALE: 1/8" = 1'-0"  
(LOOKING EAST)

DATE	DESCRIPTION	CHGD. BY

UNDERBRIDGE LIGHTING  
LODGE EXPRESSWAY & WARREN AVE. BRIDGE

DRAWN BY R.K.J.	FILE NO. 46-74
CHECKED BY R. ADDY	SHEET NO. 1 OF 1
APPROVED BY [Signature]	DATE 1-28-66

SHEET NO. 204  
E-2-1