

DEPARTMENT OF TRANSPORTATION
 FEDERAL HIGHWAY ADMINISTRATION
 APPROVED: _____ DATE _____
 DIVISION ENGINEER

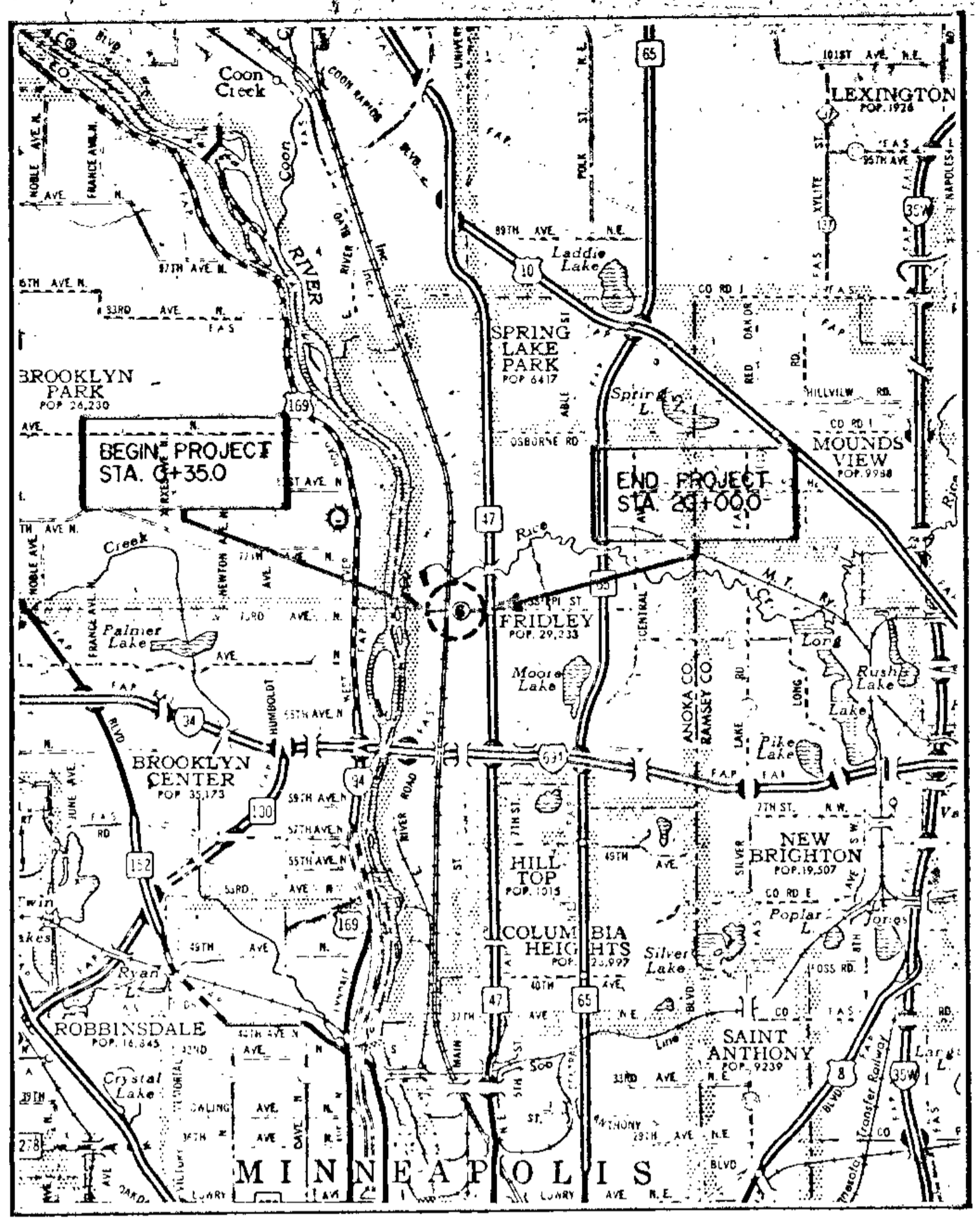
CONSTRUCTION PLANS FOR

MISSISSIPPI ST. (CSAH 6) IN FRIDLEY FROM EAST RIVER ROAD TO 2ND ST. STATE PROJECT No. 02-606-07 (CSAH 6)

PROJECT LENGTH = 1965.00 FT. = 0.372 MI.

STRUCTURES, GRADING, BASE, SURFACING & UTILITIES

PREPARED BY BARTON-ASCHMAN ASSOCIATES INC. JULY, 1974



INDEX MAP

DESIGN CRITERIA						
PROJECT NO.	MISSISSIPPI STREET	HENRY STREET	ASHTON AVE	MAIN ST.	SECOND ST.	BY-PASS
DESIGN SPEED	40	35	40	40	40	30
A.D.T. CURRENT YEAR	6650	—	—	—	—	6650
A.D.T. 10-YR. PROJ.	11500	—	—	—	—	—
SOIL TYPE SUBGRADE	A1	A1	A1	A1	A1	A1
STRUCTURAL DESIGN	9 TON	7 TON	7 TON	7 TON	7 TON	9 TON
LENGTH - FEET	1960	200	250	160	150	1200
LENGTH - MILES	.37	.04	.05	.03	.03	.23
H.C.A.D.T. 20-YR. PROJECT	600	—	—	—	—	—

LEGEND	
PROPERTY LINE	STREET LIGHT
EXISTING R.O.W.	MAN HOLE
ENERGY DISSIPATOR	CATCH BASIN
EXISTING	STORM SEWER
PROPOSED	WATER MAIN
CONSTRUCTION LIMITS	GAS MAIN
FENCE	ELEC. CABLE
RETAINING WALL	TELEPHONE CABLE
MASONRY STONE WALL	UTILITY POLE
INPLACE SURFACE TO REMAIN	SANITARY SEWER

— SPECIFICATIONS —
 MINNESOTA HIGHWAY DEPARTMENT
 STANDARD SPECIFICATIONS FOR HIGHWAY
 CONSTRUCTION DATED JANUARY 1, 1972
 AND SUPPLEMENTAL SPECIFICATIONS
 DATED JANUARY 1, 1974, SHALL GOVERN.

— SCALES —
 INDEX MAP — 1" = 1 MILE
 PLAN — 1" = 50'
 PROFILES — 1" = 50' HORIZ.
 — 1" = 5' VERT.
 CROSS SECTIONS — 1" = 10'
 TYPICAL SECTIONS — 1" = 5'
 RETAINING WALL — 1/4" = 1'

APPROVALS

ANOKA COUNTY
 APPROVED BY Evelyn J. Lundberg DATE 7-23-74
Reg. No. 2557
 RECOMMENDED FOR APPROVAL

BY C. C. Weickert DATE 11-1-74
DIST. STATE AID ENGINEER

BY Angus J. Sobon DATE 11-4-74

BY _____ DATE _____

APPROVED BY Robert M. J. J. DATE 11/2/74
STATE AID ENGINEER

I hereby certify that this plan, specification or report was prepared by me or under my direct supervision and that I am a duly Registered Professional Engineer under the laws of the State of Minnesota.
Robert M. J. J.
 Date 7/22/74 Reg. No. 10315

I hereby certify that this plan, specification or report was prepared by me or under my direct supervision and that I am a duly Registered Professional Engineer under the laws of the State of Minnesota.
Robert M. J. J.
 Date 7/23/74 Reg. No. 6452

INDEX OF SHEETS	
SHEET	DESCRIPTION
1 of 59	TITLE
2,3 "	QUANTITY & DETAIL
4 "	TYPICAL SECTIONS
5-8 "	PLAN & PROFILE
9-19 "	CROSS SECTIONS
20 "	LIFT STATION
22-39 "	RETAINING WALL
21,40-49 "	BRIDGE
50-59 of 59	SHOO-FLY
1,4-6,20	RECORD PRINTS

FORM MHD 21165 - 10 - 58

STATEMENT OF ESTIMATED QUANTITIES

ITEM NO.	ITEM	UNIT	ROADWAY		SHOO-FLY		TOTAL ESTIMATED QUANTITIES	TOTAL FINAL QUANTITIES
			S.P. 02-606-07 QUANTITIES		S.P. 02-606-07 QUANTITIES			
			EST.	FINAL	EST.	FINAL		
2101.502	Clearing	Tree	72		5		77	
2101.507	Grubbing	Tree	73		5		78	
2104.501	Remove Water Main	L.F.	1670				1670	
2104.501	Remove Pipe Sewers	L.F.	467				467	
2104.503	Remove Sidewalk	Sq. Ft.	252				252	
2104.505	Remove Bituminous Pavement	Sq. Yd.	10,800				10,800	
2104.509	Remove Manholes and Catch Basins	Ea.	7				7	
2104.523	Salvage Hydrant	Ea.	2				2	
2105.501	Common Excavation	Cu. Yd.	71,500		9,600		81,100	
2105.521	Granular Borrow, C. V.	Cu. Yd.	1,400		13,500		14,900	
2118.501	Aggregate Surfacing Class 2	Ton	10				10	
2207.503	Bituminous Material for Mixture	Gallon	37,650				37,650	
2207.512	Bituminous Stabilized Subgrade 6" Thick	Sq. Yd.	7,100				7,100	
2207.512	Bituminous Stabilized Subgrade 5" Thick	Sq. Yd.	4,100				4,100	
2211.501	Aggregate Base, Class 5	Ton	1,250				1,250	
2221.501	Aggregate Shouldering, Class 1	Ton	120				120	
2301.501	Concrete Pavement	Sq. Yd.	2,910				2,910	
2301.511	Structural Concrete	Cu. Yd.	605				605	
2301.529	Reinforcement Bars	Pound	1,470				1,470	
2301.536	Dowel Bar Assemblies	L.F.	1,269				1,269	
2331.504	Bituminous Material for Mixture	Ton	50				50	
2331.508	Wearing Course Mixture	Ton	590				590	
2331.510	Binder Course Mixture	Ton	330				330	
2331.514	Base Course Mixture	Ton	226				226	
2331.518	Bituminous Mixture for Driveways	Ton	24				24	
2341.504	Bituminous Material for Mixture	Ton	27				27	
2341.510	Binder Course Mixture	Ton	587				587	
2351.504	Asphalt Cement	Ton	39				39	
2351.509	Wearing Course Mixture	Ton	587				587	
2357.502	Bituminous Material for Tack Coat	Gallon	696				696	
2411.501	Concrete Mix No. 1A 43	Cu. Yd.	1,134				1,134	
2411.501	Concrete Mix No. 3Y43	Cu. Yd.	1,208				1,208	
2411.507	Concrete Energy Dissipator	Ea.	1				1	
2411.511	Structure Excavation Class U	Cu. Yd.	3,590 (P)				3,590 (P)	
2411.541	Reinforcement Bars	Pound	152,890				152,890	
2451.511	Coarse Filter Aggregate (CV)	Cu. Yd.	845				845	
2452.510	Steel H-Piling Driven	L.F.	1,000				1,000	
2452.511	Steel H-Piling Delivered	L.F.	1,000				1,000	
2452.526	Pile Load Tests	Ea.	6				6	
2481.501	Three-Ply-Joint Waterproofing	L.F.	762				762	
2501.511	24" C. S. Culvert (12 Gage)	L.F.			100		100	
2501.515	24" G. S. Pipe Aprons	Ea.			2		2	
2502.541	21" Perforated RC Pipe Drain	L.F.	91				91	
2503.511	12" RC Pipe Sewer	L.F.	1,112				1,112	
2503.511	12" RC Pipe Sewer CL III	L.F.	40				40	
2503.511	12" RC Pipe Sewer CL IV	L.F.	33				33	
2503.511	15" RC Pipe Sewer	L.F.	530				530	
2503.511	18" RC Pipe Sewer	L.F.	158				158	
2503.511	33" RC Pipe Sewer	L.F.	54				54	
2503.521	22" Span RC Pipe-Arch, Sewer CL IIA	L.F.	234				234	
2506.506	Construct Manhole Design A or F	L.F.	21.3				21.3	
2506.506	Construct Manhole Design C or G	L.F.	11.9				11.9	
2506.506	Construct Manhole Design 54-4019	L.F.	4.0				4.0	
2506.507	Construct Catch Basin Design A or F	L.F.	139.1				139.1	
2506.507	Construct Catch Basin Design C or G	L.F.	27.5				27.5	
2506.507	Construct Catch Basin Design I or J	L.F.	4.0				4.0	
2506.509	Construct Catch Basins Design Special 1	Ea.	2				2	
2506.511	Reconstruct Manhole	L.F.	4				4	
2506.516	Casting Assemblies	Ea.	36				36	
2506.522	Adjust Frame and Ring Castings	Ea.	15				15	
2511.501	Random Riprap CL A	Cu. Yd.	5				5	
2511.504	Filter Blanket, Type 1	Cu. Yd.	2.5				2.5	
2521.501	4" Concrete Walk	Sq. Ft.	20,791				20,791	
2521.501	8" Concrete Walk	Sq. Ft.	424				424	
2531.501	Concrete Curb & Gutter, Design B618	L.F.	3,525				3,525	
2531.501	Concrete Curb & Gutter, Design B918	L.F.	2,597				2,597	
2554.501	Traffic Barrier, Design 8330	L.F.	112.5				112.5	
2554.521	Anchorage Assemblies - Cable	Ea.	2				2	

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			EST.	FINAL	EST.	FINAL		
2557.501	Wire Fence Design - 60G-9322	L.F.	235				235	
2575.505	Sodding	Sq. Yd.	12,030				12,030	
0411.608	Stone Retaining Wall	Sq. Ft.	852.5				852.5	
0452.601	Steel Sheet Piling	Sq. Ft.	8,200 (P)				8,200 (P)	
0452.606	Pressurized Cast-In-Place Concrete Piling, Complete	L.F.	14,170				14,170	
0503.641	Construct Pumping Station	L.S.	1				1	
0504.601	10" Water Main C.I.	L.F.	1,400				1,400	
0504.601	10" Water Main D.I.	L.F.	100				100	
0504.601	8" Water Main C.I.	L.F.	40				40	
0504.601	6" Water Main C.I.	L.F.	170				170	
0504.614	Hydrant	Hydrant	3				3	
0504.620	Cast Iron Fittings	Pound	1,805				1,805	
0504.622	10" Water Gate Valve	Valve	2				2	
0504.622	8" Water Gate Valve	Valve	1				1	
0504.622	6" Water Gate Valve	Valve	4				4	
0504.677	Adjust Water Stop Boxes	Ea.	8				8	
0504.679	Adjust Valve Box	Box	6				6	
0557.603	Design Special Fence	L.F.	936				936	

CONSTRUCTION NOTES

CONTRACTOR SHALL ADJUST ALL CATCH BASINS AND MAN-HOLE CASTINGS, AND ALL WATER GATE VALVE HOUSING.

CONTRACTOR SHALL PROTECT ANY MANHOLE CASTINGS AND ALL WATER GATE VALVE HOUSING ON CONSTRUCTION SITE.

CONTRACTOR SHALL NOTIFY MPLS. GAS CO., NORTHERN STATES POWER CO., METROPOLITAN SEWER BOARD, BURLINGTON NORTHERN RAILROAD AND NORTHWESTERN BELL TELEPHONE CO., AT THE TIME OF CONSTRUCTION.

ALL RC PIPE IS CLASS II UNLESS OTHERWISE NOTED.

BRIDGE QUANTITIES ARE LISTED SEPARATELY ON SHEET 21 OF 59.

BASIS FOR ESTIMATED QUANTITIES

- Gravel Base
Compacted Density ----- 140 lbs. per cubic foot.
- Bituminous Treated Base (2207)
Bituminous material applied at 0.6 gallons per square yard per inch of depth.
- Plant-Mixed Bituminous Base (2331)
Bituminous material for mixture based on 4.5% bitumen by weight.
- Bituminous Binder (2331, 2341)
Bituminous material for mixture based on 5.0% bitumen by weight.
- Bituminous Wearing Course (2331, 2351)
Bituminous material for mixture based on 6.0% bitumen by weight; tack coat (if needed) - 0.05 gal./sq. yd.

FORM 21167 - 2-65

CLEARING AND GRUBBING

STATION (TO STATION)	LOC.	CLEARING		GRUBBING	
		TREE	ACRE	TREE	ACRE
1+60 - 2+20	38' LT.	2		2	
2+95	46' LT.	1		1	
4+05	35' RT.	1		1	
5+30 - 5+55	40' RT.	5		5	
6+55 - 7+35	40' RT.	2		2	
7+95 - 8+70	40' LT.	4		4	
8+40 - 9+05	40' RT.	3		3	
9+60 - 10+00	55' RT.	3		3	
10+00 - 10+50	35' LT.	3		3	
13+70 - 14+80	100' RT.	10		10	
15+15 - 15+85	100' LT.	12		13	
16+60 - 17+00	80' RT.	7		7	
17+00 - 17+10	35' LT.	2		2	
17+50 - 19+00	50' LT.	8		8	
18+50 - 18+75	60' RT.	14		14	

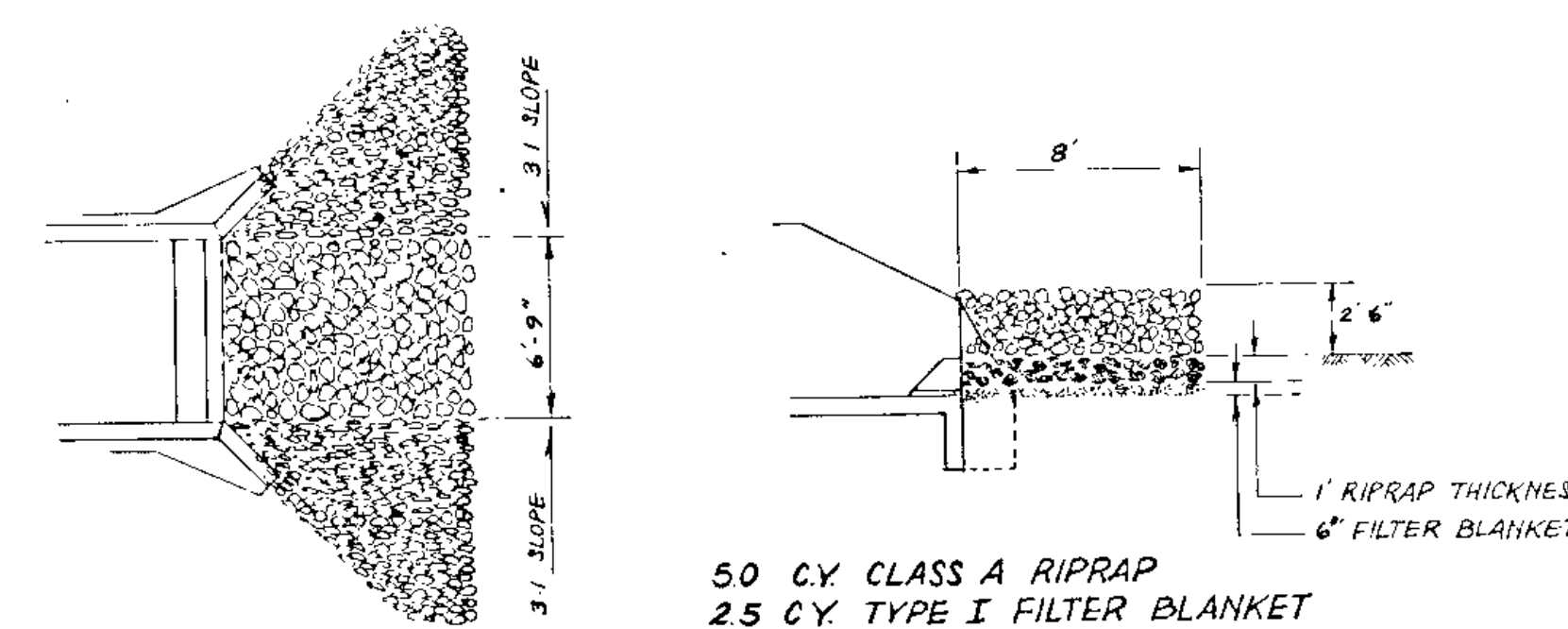
Form 21166 - 1 - 71

The following Standard Plates, approved by the Department of Transportation, Federal Highway Administration, shall apply on this project.

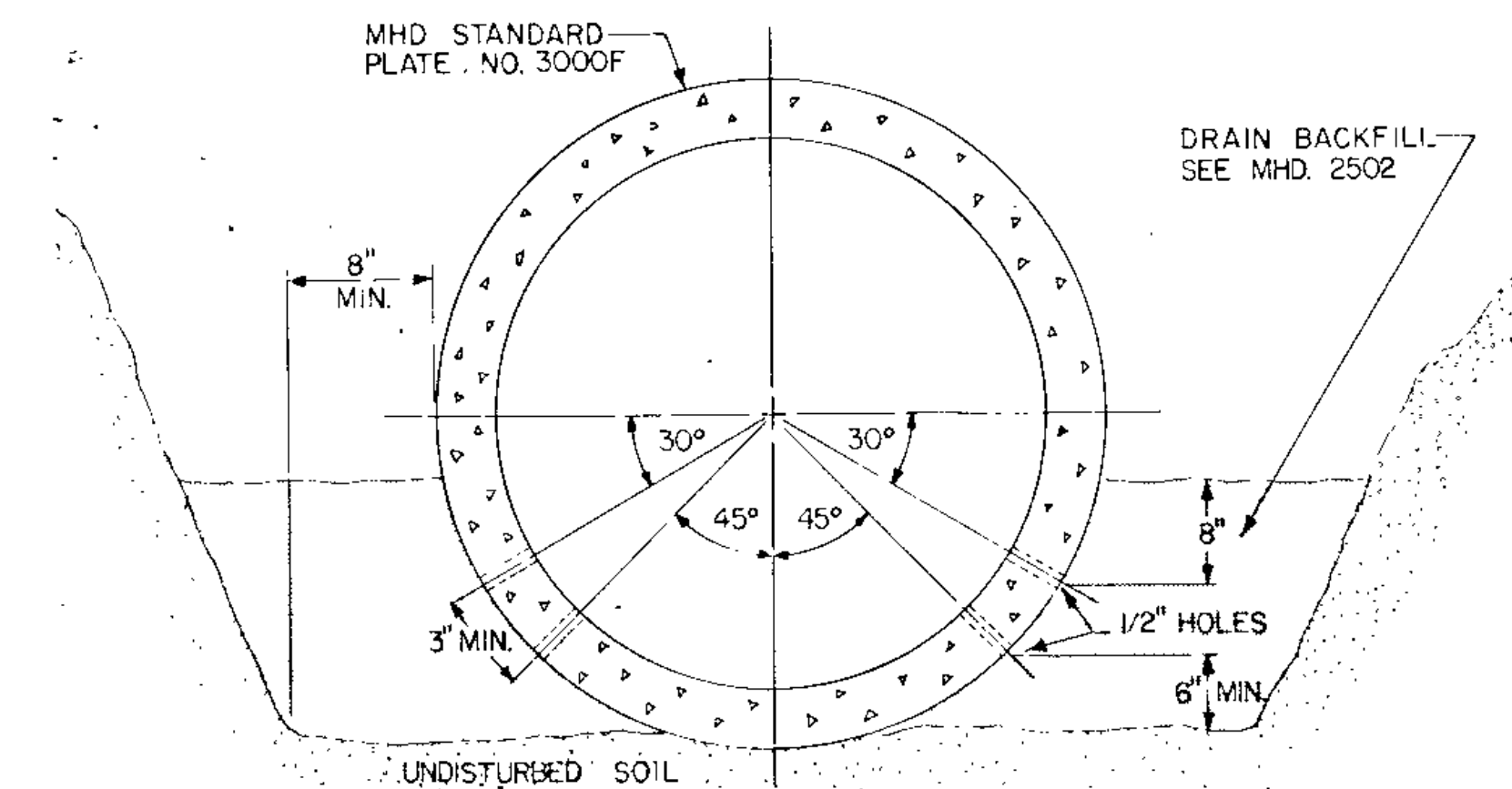
STANDARD PLATES

PLATE NO.	DESCRIPTION
0002A	Specification Reference to Standard Plates
1016E	Concrete Pavements - Non-Reinforced
1105D	Dowel Bar Assembly - Type A
1104D	Dowel Bar Assembly - Type B
1106C	Dowel Bar Assembly - Type D
1107F	Dowel Bar Assembly - Type E
1120N	Contraction Joint - Design C
1140N	Longitudinal Joint - Design L
1141B	Pavement Keyway for Keyed Joint Construction
3000F	Reinforced Concrete Pipe
3006A	Gasket Joint for P.C. Pipe
3014F	Reinforced Concrete Pipe Arch
3040D	Corrugated Metal Pipe
3123F	Metal Apron for C.M. Pipe
3124A	Metal Apron Connection
4000G	Manhole or Catch Basin - Design A
4002D	Manhole or Catch Basin - Design C
4005I	Manhole or Catch Basin - Design F
4005H	Manhole or Catch Basin - Design G & H
4002F	Manhole or Catch Basin - Design J
4015B	Manhole or Catch Basin
4025B	Prop Inlets or Catch Basins
4101B	Ring Casting for Manhole or Catch Basin
4110D	Cover Casting for Manhole
4126D	Catch Basin Frame Casting
4130C	Grate Casting for Catch Basin
4161E	Curb Box Casting for Catch Basin
4180F	Manhole Step Casting
5201B	Energy Dissipator
7035H	Concrete Walk & Curb Returns at Entrances
7036A	Pedestrian Curb Rwp
7065C	Bituminous Curb
7100D	Concrete Curb & Gutter
7110F	Curb & Gutter Construction at Catch Basin
7111D	Installation of Catch Basin Castings
8330C	3-Cable Guardrail
8322E	Chain Link Fence

LINE	STRUCTURE NO.	STATION	LOCATION	CONSTRUCTION			TOP OF CASTING OR INLET ELEV.	OUTLET ELEV.	F. S. I. CASTING ASSEMBLY TYPE	REMOVE	ADJUST	RECON-STRUCT LINE	APRONS		DRAINS TO			PIPE			
				DESIGN	PAY HEIGHT								S.G.	C.M.	NO.	GRADE%	INL. EL.	LENGTH	SIZE	CLASS	
					M.H.	C.B.															LIN. FT.
1	CB 1	6 + 63	31' RT	A or F	7.18		839.75	831.70	A			1			MH 1	1.0	831.30	43'	12"	2	
2	CB 2	6 + 75	24' LT	A or F	6.81		839.34	831.70	A			2			MH 1	1.0	831.30	44'	12"	2	
3	CB 3	7 + 15	31' RT	A or F	5.57		837.80	831.60	A			3			MH 1	1.0	831.30	26'	12"	2	
4	MH 1	7 + 01	10' RT	A or F	7.01		838.89	831.30	B			4			MH 2	3.3	823.07	219'	12"	2	
5	CB 4	9 + 00	24' LT	A or F	5.75		830.08	823.50	A			5			MH 2	1.0	823.10	40'	12"	2	
6	CB 5	9 + 00	24' RT	C or G	4.12		830.08	824.83	A			6			MH 2	1.0	824.60	23'	12"	2	
7	MH 2	9 + 20	10' RT	A or F	5.85		829.43	823.00	B			7			MH 3	0.8	821.74	158'	18"	2	
8	CB 6	10 + 75	24' LT	I or J	3.98		826.31	821.50	A			8			Station	0.3	821.44	20'	33"	2	
9	MH 3	10 + 77	10' RT	54" Design	4.00/1.59		826.77	821.60	B			9			CB 6	0.3	821.50	34'	33"	2	
10	CB 7	10 + 75	24' RT	C or G	3.64		826.31	821.84	A			10			MH 3	1.0	821.70	14'	12"	2	
11	CB 8	10 + 95	24' LT	C or G	2.59		826.22	822.80	A			11			CB 6	1.0	822.60	20'	12"	2	
12	CB 9	10 + 95	24' RT	C or G	3.29		826.22	822.10	A			12			CB 7	1.0	821.90	20'	12"	2	
13	MH 4	11 + 68	10' RT	C or G	3.55		827.13	823.00	B			13			MH 3	1.4	821.73	91'	21" Perf	2	
14	CB 10	11 + 78	24' LT	C or G	2.50		826.78	823.45	A			14			MH 4	1.0	823.10	35'	12"	2	
15	CB 11	11 + 78	24' RT	C or G	2.67		826.78	823.28	A			15			MH 4	1.0	823.10	18'	12"	2	
16	DI 12	11 + 82.59	36' LT	4025 B	17.80	17.80	843.00	---	D			16			CB 12	1.0	---	6'	12"	2	
17	CB 12	11 + 78	40.5' LT	A or F	17.80		844.13	825.50	C			17			CB 10	6.1	824.50	16.5'	12"	4	
18	CB 13	11 + 78	40.5' RT	A or F	17.62		843.95	825.50	C			18			CB 11	6.1	824.50	16.5'	12"	4	
19	DI 13	11 + 81	36' RT	4025 B	17.62	17.62	842.82	---	D			19			CB 13	1.0	---	6'	12"	2	
20	CB 14	13 + 00	93' LT	A or F	5.31		846.54	840.40	A			20			CB 15	1.0	840.10	30'	12"	2	
21	CB 15	13 + 00	63' LT	A or F	5.71		846.54	840.00	A			21			CB 12	1.0	838.76	124'	12"	2	
22	MH 5	14 + 00	10' RT	C or G	3.73		834.81	830.50	B			22			MH 4	3.2	823.08	232'	15"	2	
23	CB 16	14 + 10	24' LT	A or F	6.15		838.83	831.85	A			23			MH 5	1.0	831.50	35'	12"	2	
24	CB 17	14 + 10	24' RT	C or G	3.32		834.83	830.68	A			24			MH 5	1.0	830.50	18'	12"	2	
25	MH 6	16 + 34	10' RT	C or G	3.10		846.28	842.60	B			25			MH 5	5.0	851.50	234'	18" Arch	2	
26	CB 18	16 + 40	24' LT	C or G	2.62		846.10	843.05	A			26			MH 6	2.0	842.70	35'	12"	2	
27	CB 19	16 + 40	24' RT	C or G	2.42		846.10	842.85	A			27			MH 6	1.0	842.70	15'	12"	2	
28	CB 20	16 + 47	104' LT	A or F	8.29		854.69	845.57	A			28			CB 21	1.0	845.00	57'	12"	2	
29	CB 21	16 + 55	63' LT	A or F	10.07		855.20	844.30	A			29			CB 18	3.0	843.10	40'	12"	3	
30	CB 22	16 + 53	97' LT	A or F	8.93		855.15	845.39	A			30			CB 21	1.0	845.00	39'	12"	2	
31	MH 7	19 + 32	10' R	A or F	8.43		857.27	848.26	B			31			MH 6	2.0	842.70	298'	15"	2	
32	CB 23	19 + 44	23.78' RT	A or F	7.17		856.25	849.08	B			32			MH 7	1.0	848.40	18'	12"	2	
33	CB 24	19 + 22.5	34' LT	A or F	6.63		856.30	848.84	A			33			MH 7	1.0	848.40	44'	12"	2	
34	CB 25	19 + 10	93' LT	A or F	5.79		856.18	849.51	A			34			CB 24	1.0	848.90	61'	12"	2	
35	CB 26	19 + 32	144' LT	A or F	4.63		855.62	850.16	A			35			CB 25	1.0	849.60	56'	12"	2	
36	CB 27	19 + 81	53' LT	A or F	5.91		856.30	849.56	A			36			MH 7	1.0	848.40	66'	12"	2	
37																					
38																					

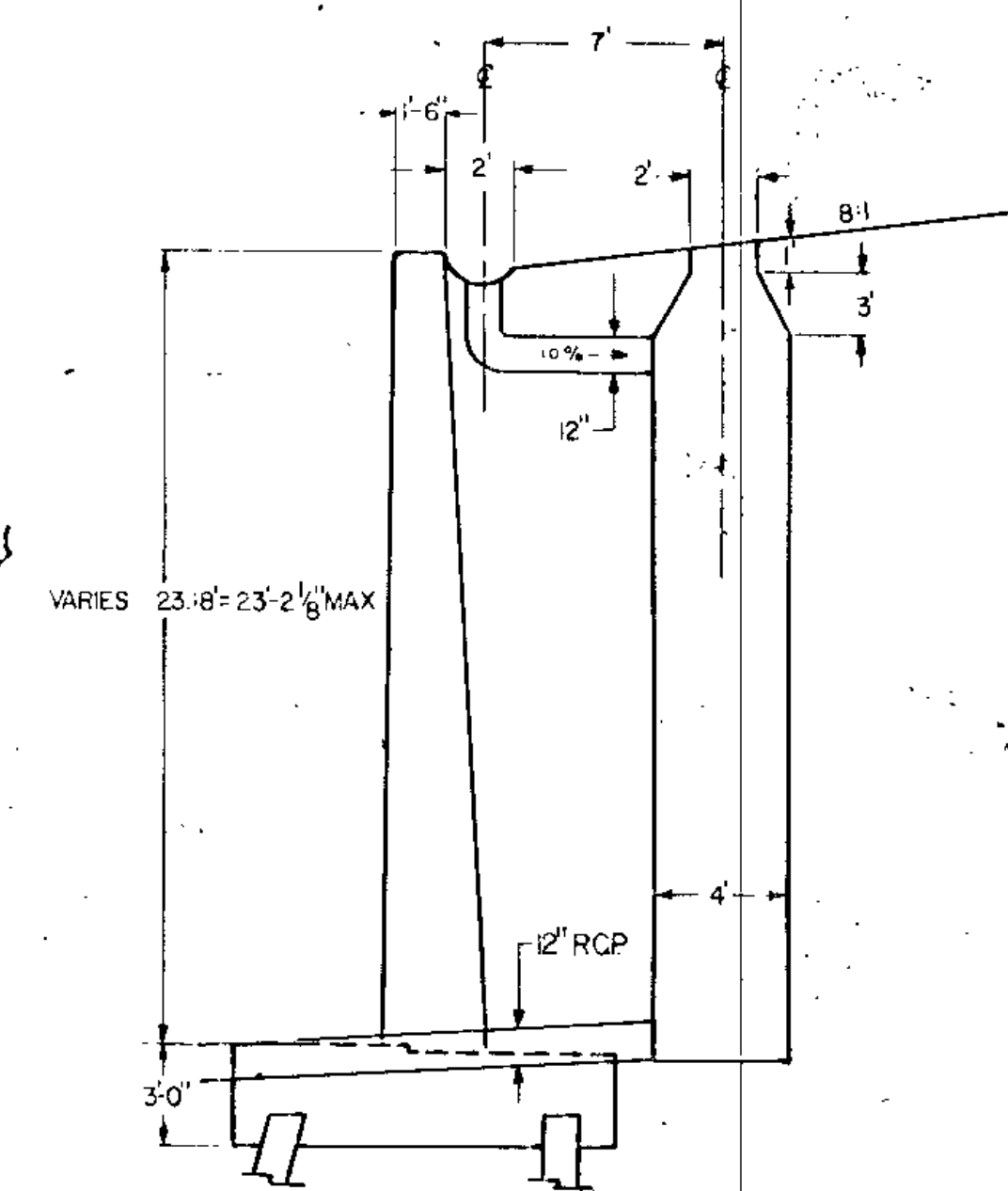
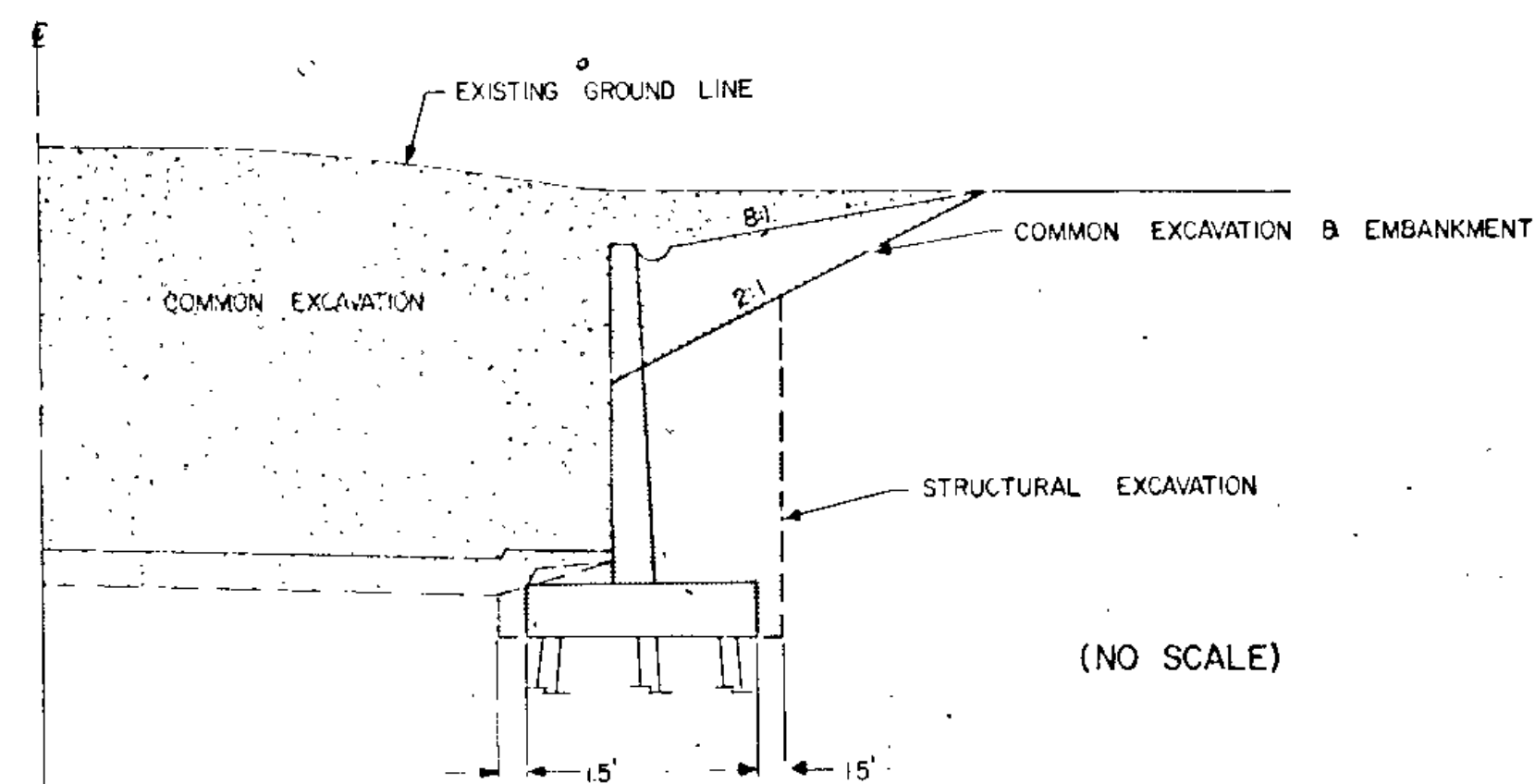


RIPRAP DETAIL FOR ENERGY DISSIPATOR

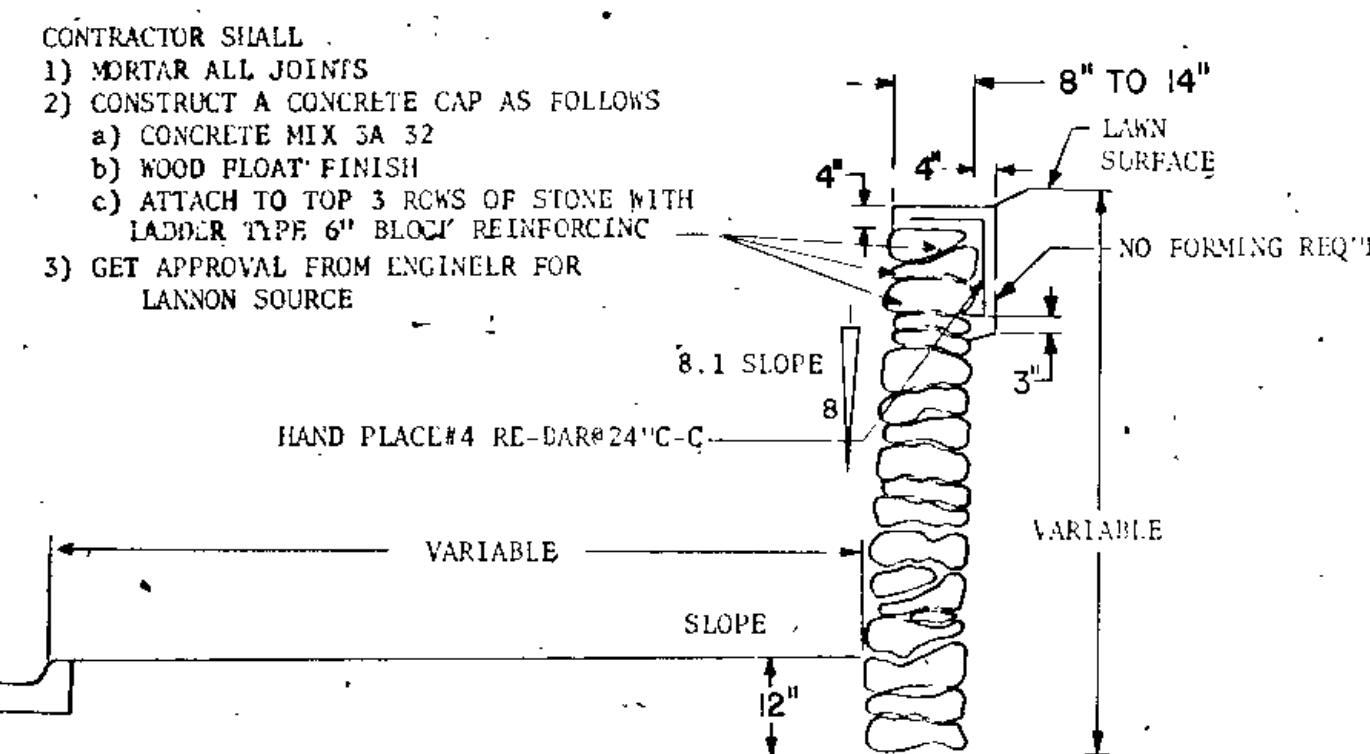


PERFORATED STORM SEWER PIPE

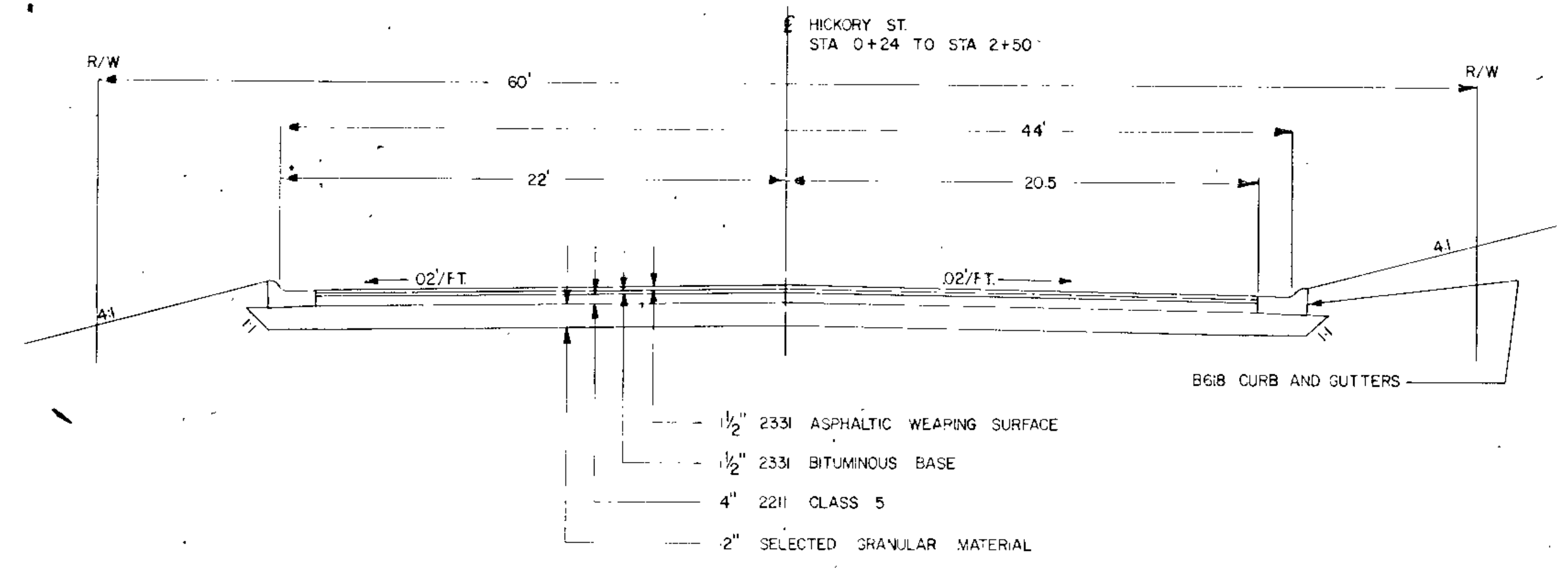
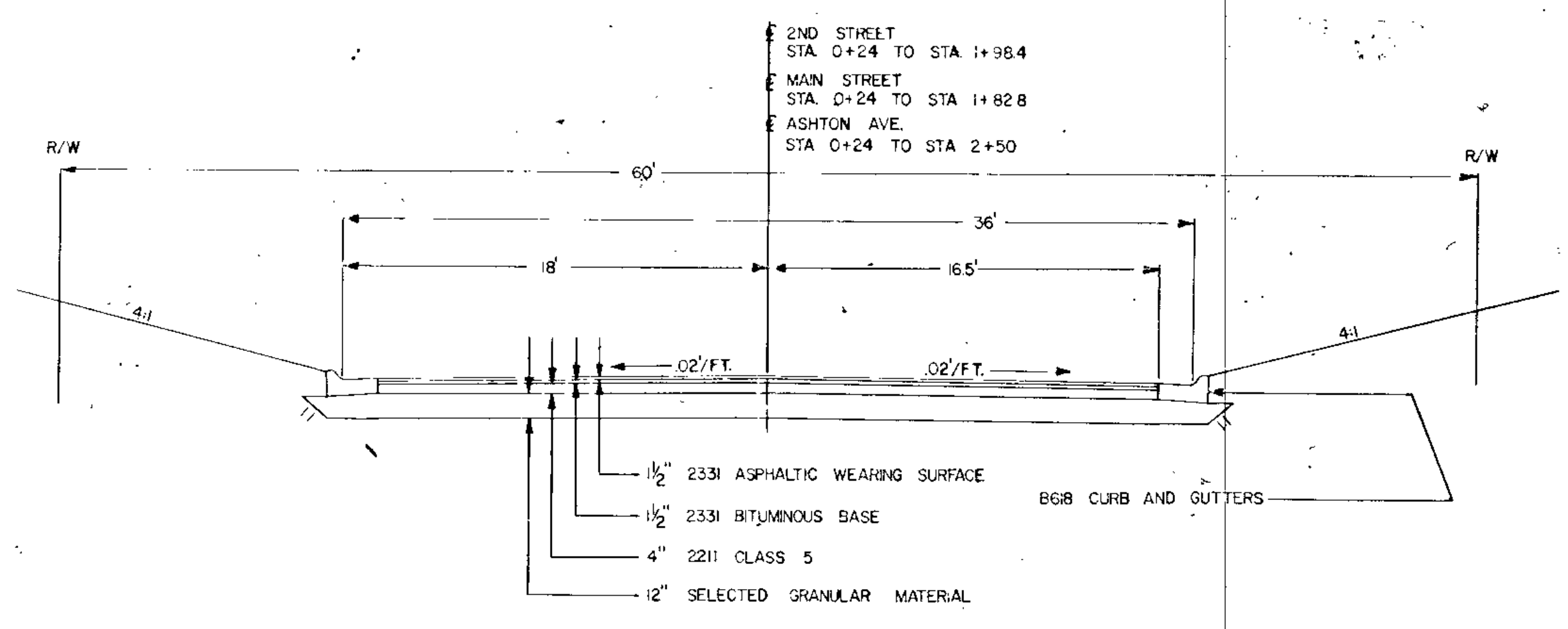
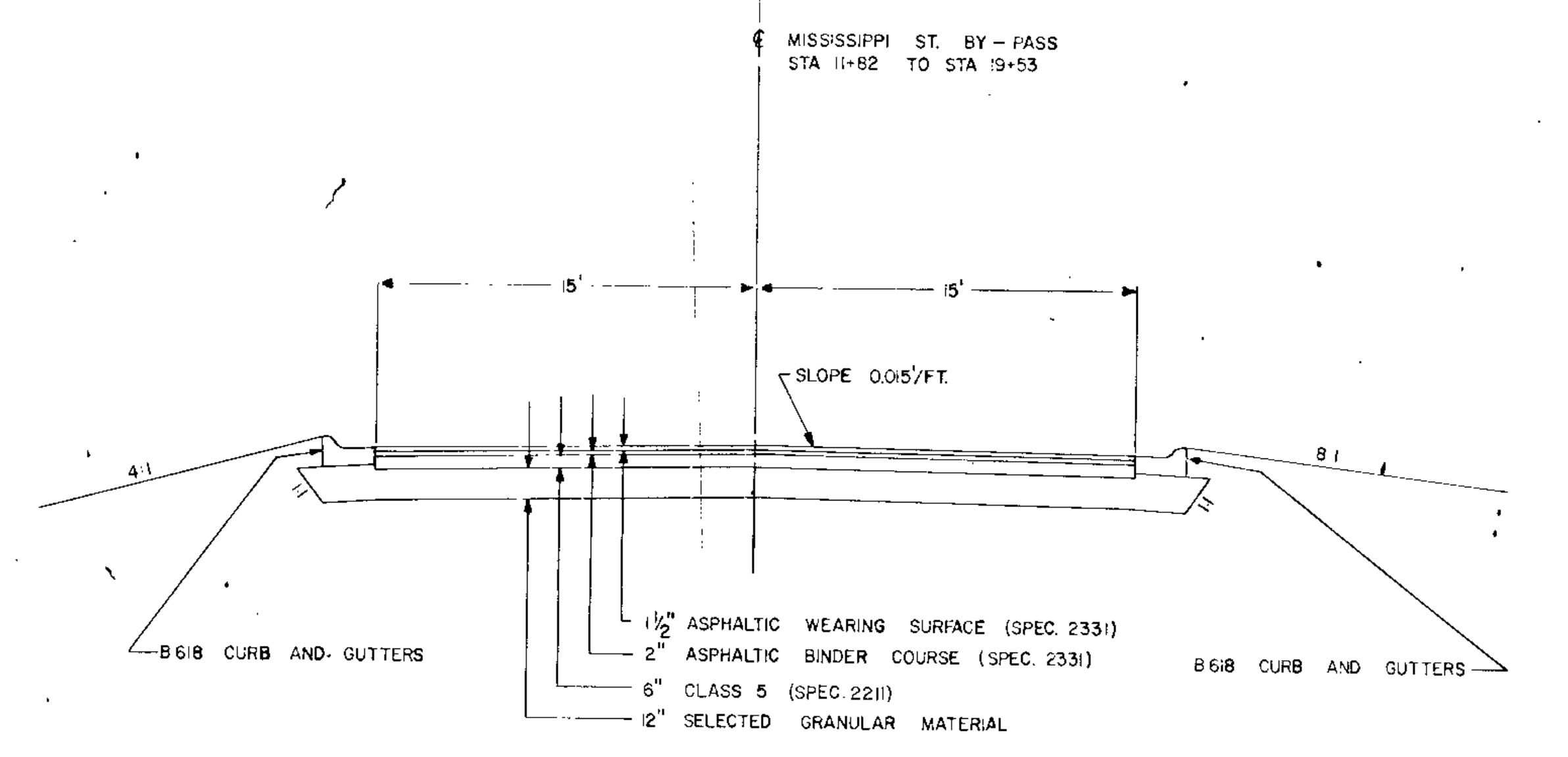
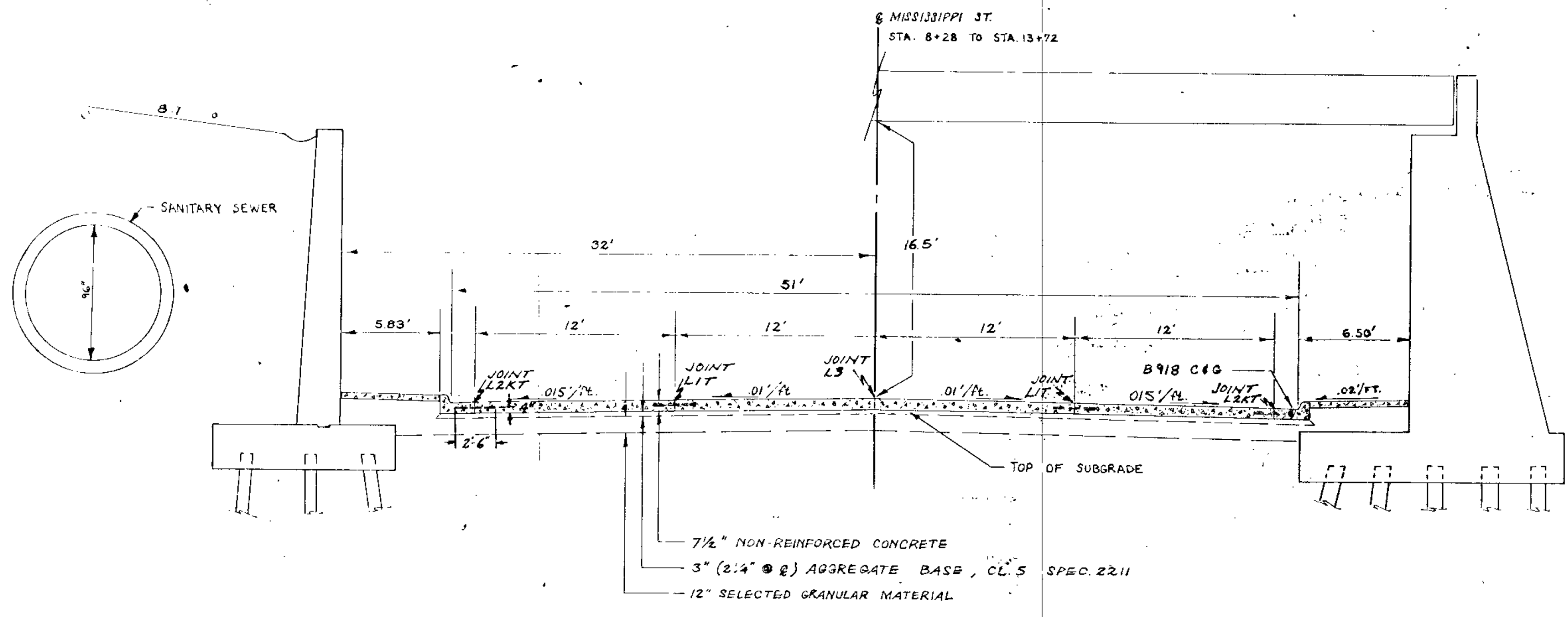
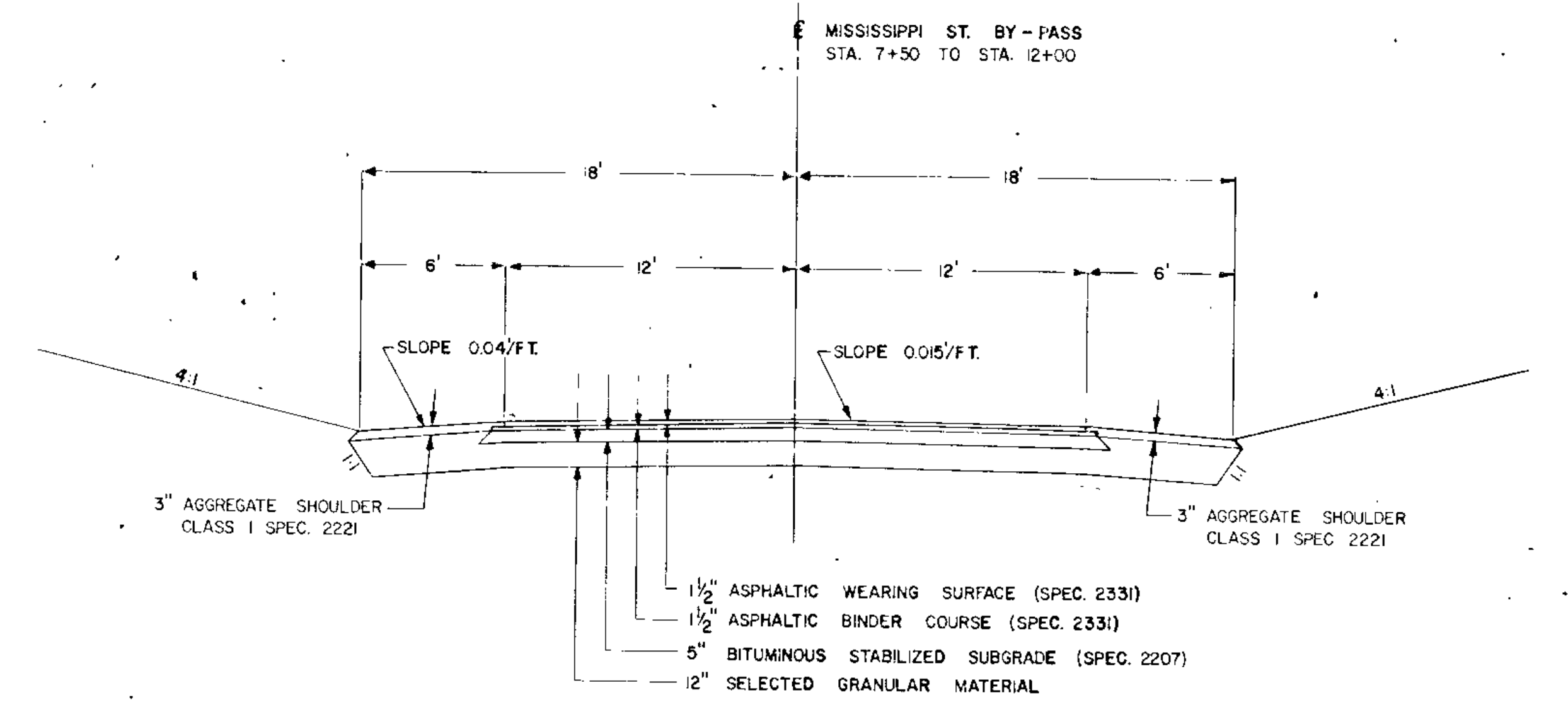
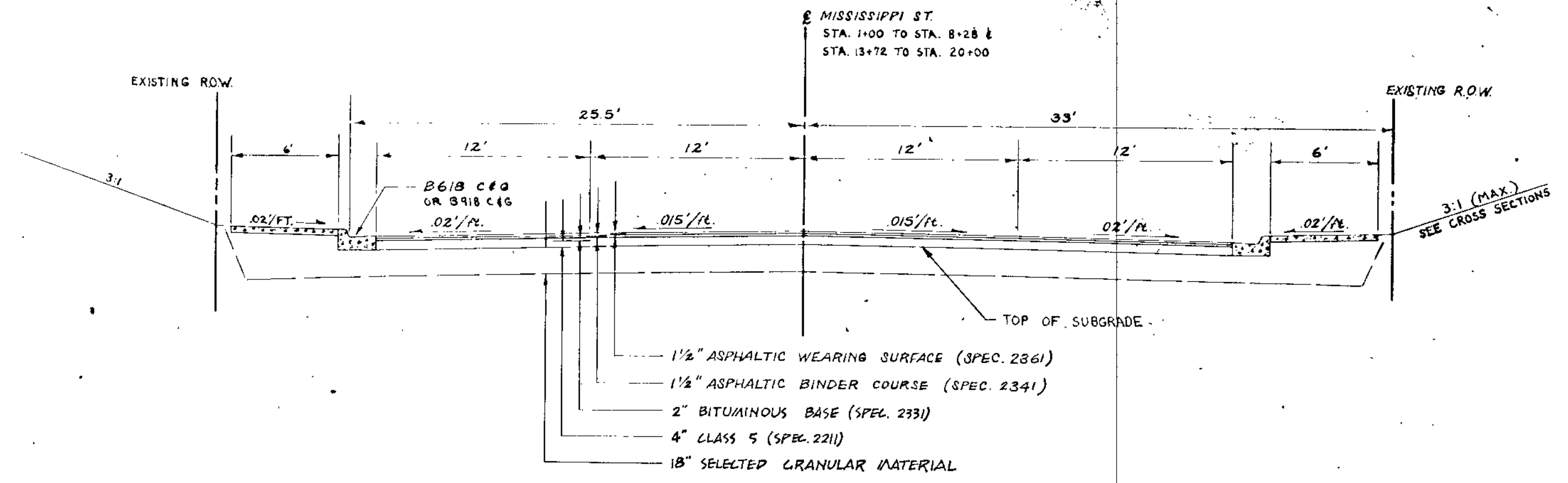
EARTHWORK DETAIL SECTION



ASSEMBLY	CASTING		ASSEMBLIES	
	ITEM	CASTING NO.	NO.	QUANTITIES
A	FRAME	801		24
	GRATE	010		24
	CURB BOX	C23		24
B	FRAME	700-7		8
	COVER	712		8
C	FRAME	700-7		2
	GRATE	700-9		2
D	GRATE	010-12		2



MASONRY STONE RETAINING WALL (LOCATED AS DIRECTED BY THE ENGINEER) (NO SCALE)



NOTE: SODDING TO CONSTRUCTION LIMITS AS SHOWN

1-10" X 6" TEE
 1-6" C.V. (STA 915 & 916.5)
 20'-0" WATER MAIN

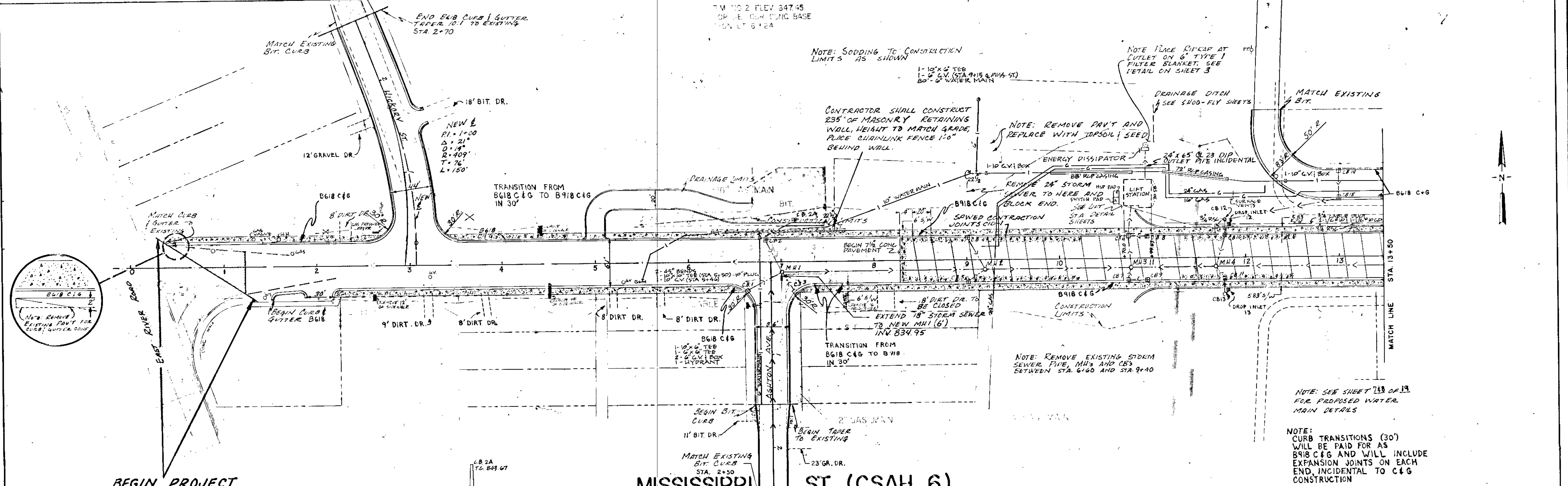
NOTE: PLACE SICKCAP AT OUTLET ON 6" TYPE 1 FILTER BLANKET. SEE DETAIL ON SHEET 3

CONTRACTOR SHALL CONSTRUCT 235' OF MASONRY RETAINING WALL, HEIGHT TO MATCH GRADE, PLACE CHAINLINK FENCE 1'-0" BEHIND WALL.

NOTE: REMOVE PAVT AND REPLACE WITH TOPSOIL & SEED

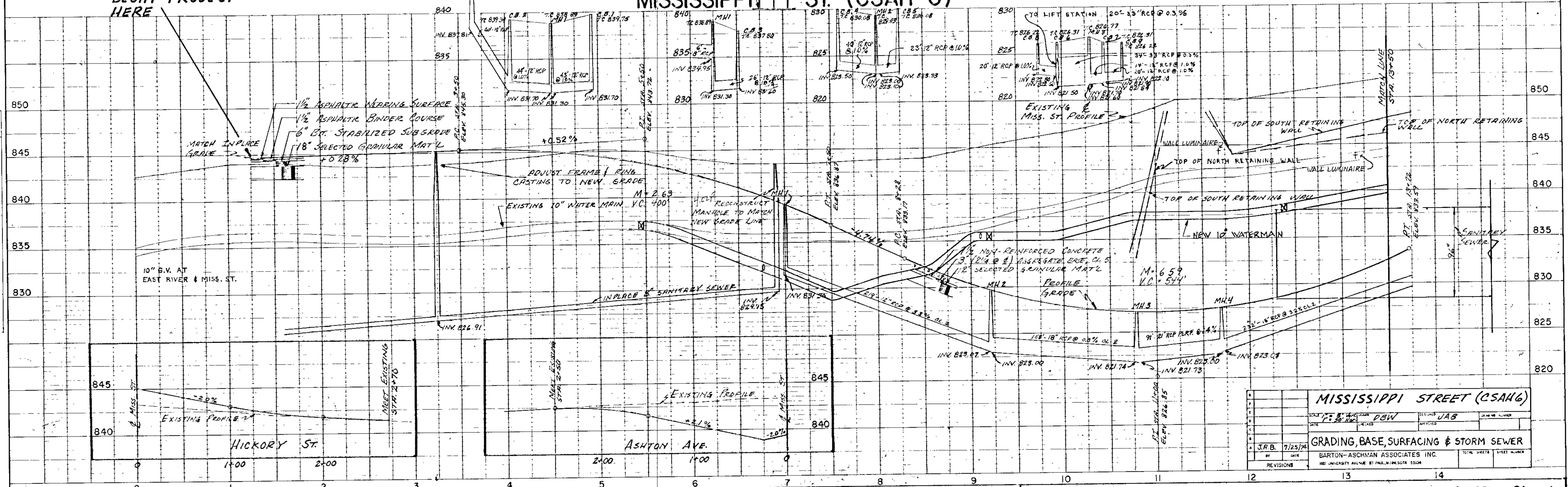
DRAINAGE DITCH SEE SHOD-FLY SHEETS

MATCH EXISTING BIT



BEGIN PROJECT HERE

MISSISSIPPI ST. (CSAH 6)

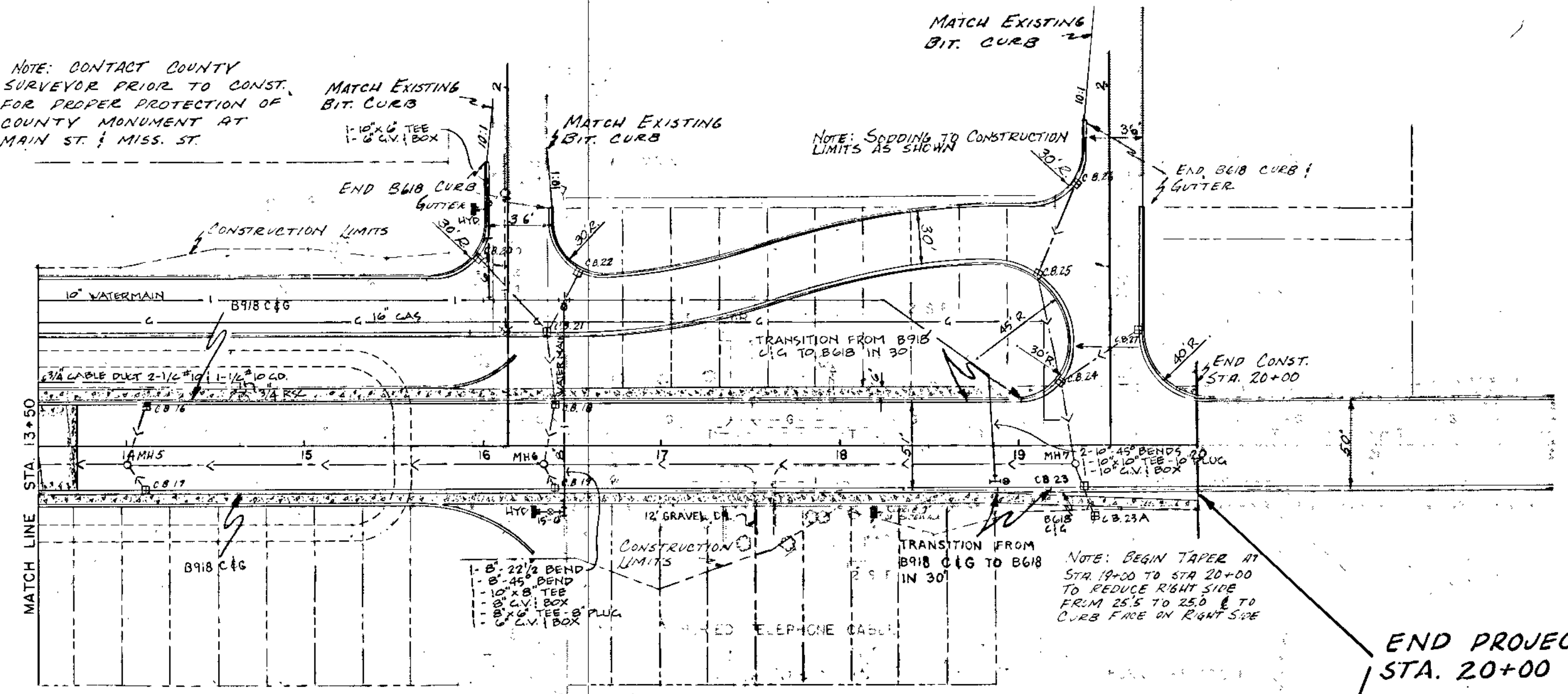


NOTE: SEE SHEET 13 OF 19 FOR PROPOSED WATER MAIN DETAILS

NOTE: CURB TRANSITIONS (30') WILL BE PAID FOR AS 8418 C&G AND WILL INCLUDE EXPANSION JOINTS ON EACH END, INCIDENTAL TO C&G CONSTRUCTION

MISSISSIPPI STREET (CSAH 6)			
PROJECT NO.	02-606-07	DESIGNED BY	JAB
DATE	7/25/74	CHECKED BY	
GRADING, BASE, SURFACING & STORM SEWER			
BARTON-ASCHMAN ASSOCIATES INC.			
200 UNIVERSITY AVENUE, SUITE 1500, WASHINGTON, D.C. 20004			
REVISIONS		TOTAL SHEETS	59
		SHEET NUMBER	5

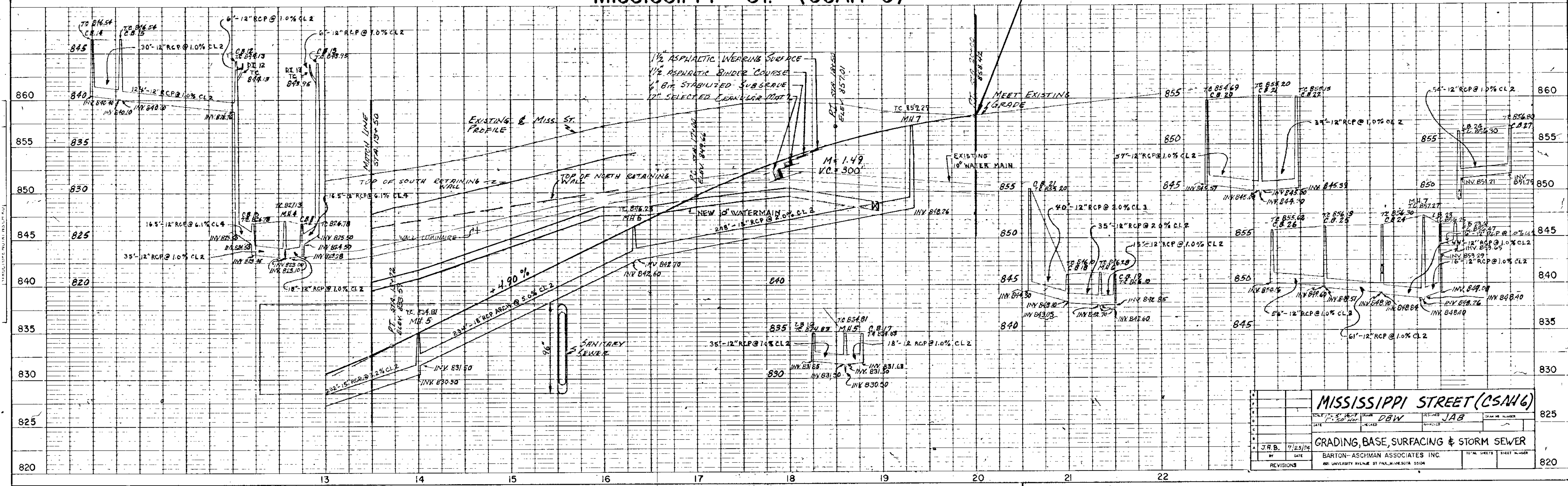
NOTE: CONTACT COUNTY SURVEYOR PRIOR TO CONST. FOR PROPER PROTECTION OF COUNTY MONUMENT AT MAIN ST. & MISS. ST.



END PROJECT STA. 20+00

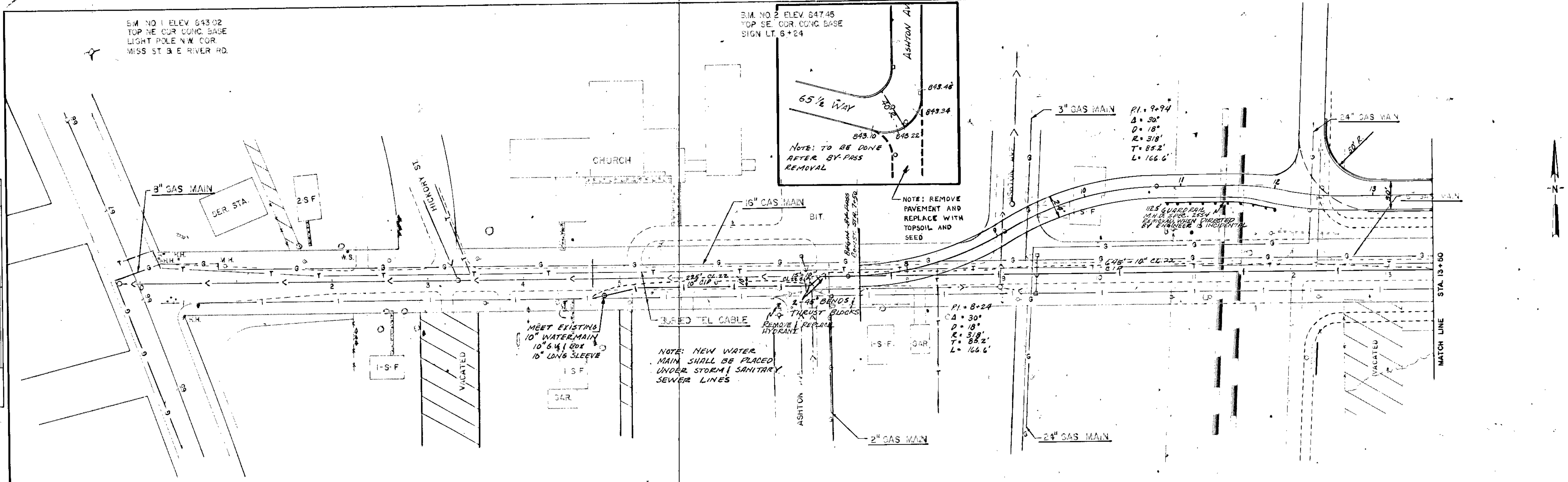
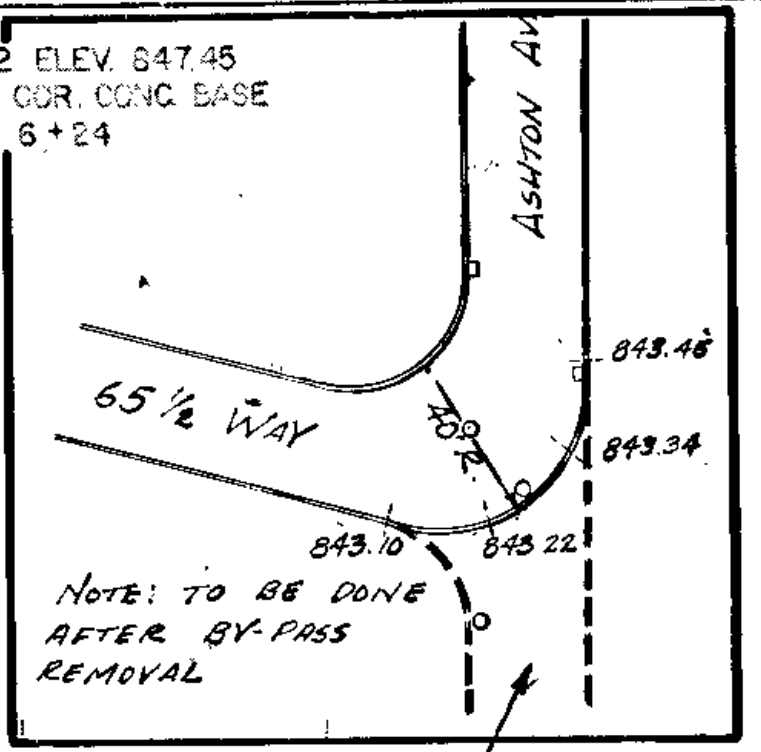
NOTE: CURB TRANSITIONS (30') WILL BE PAID FOR AS B7/B C&G AND WILL INCLUDE EXPANSION JOINTS ON EACH END, INCIDENTAL TO C&G CONSTRUCTION

MISSISSIPPI ST. (CSAH 6)

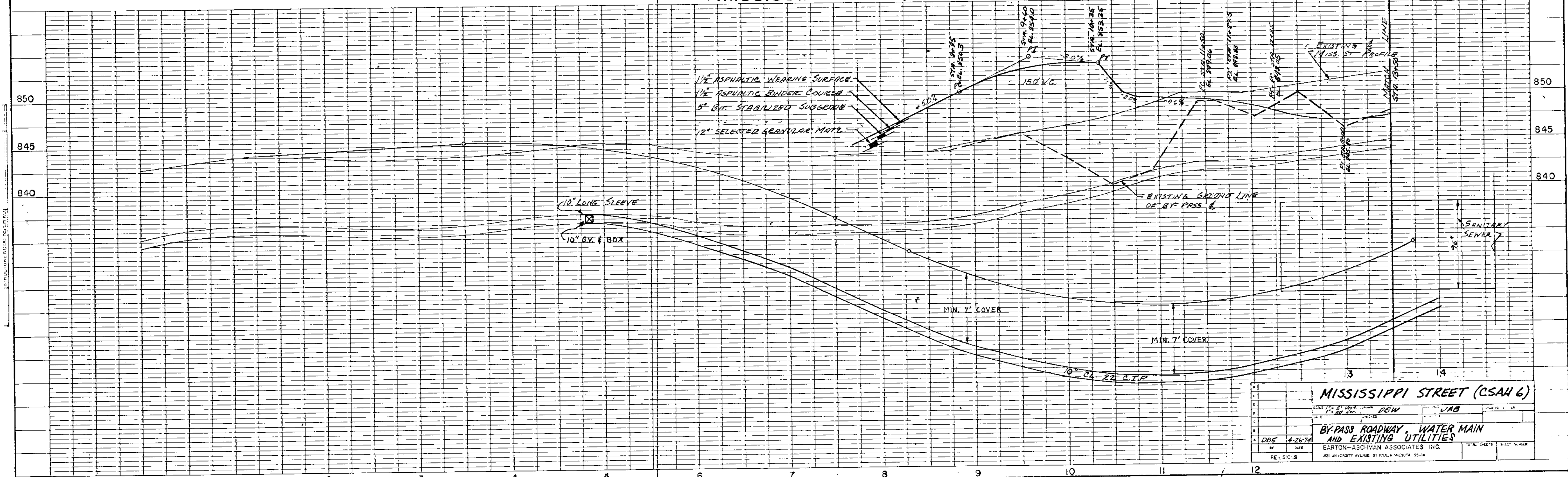


5M NO 1 ELEV. 843.02
TOP NE COR CONC. BASE
LIGHT POLE N.W. COR
MISS ST & E RIVER RD.

B.M. NO 2 ELEV. 847.45
TOP SE. COR. CONC. BASE
SIGN LT. 6+24

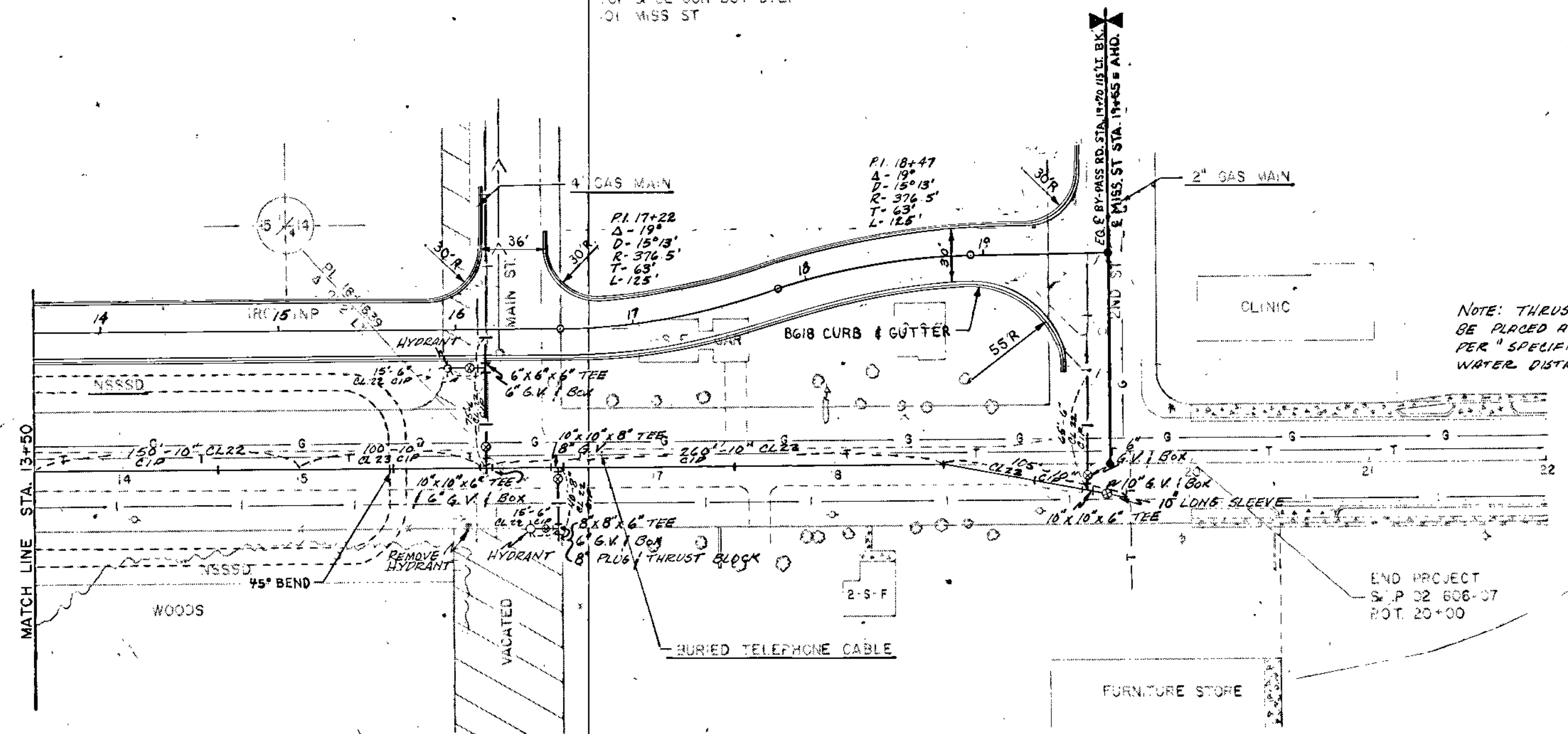


MISSISSIPPI ST. (BY-PASS)



MISSISSIPPI STREET (CSAH 6)			
DATE	BY	CHECKED	DESIGNED
4-26-74	DBE	JAB	DBW
BY-PASS ROADWAY, WATER MAIN AND EXISTING UTILITIES			
EARTON-ASCHMAN ASSOCIATES INC.			
100 UNIVERSITY AVENUE, ST. PAUL, MINNESOTA 55104			

BM NO 3 ELEV 86.50
TOP 3" BOLT BOT STEP
OF MISS ST



NOTE: THRUST BLOCKS TO BE PLACED AT ALL FITTINGS PER "SPECIFICATIONS FOR WATER DISTRIBUTION SYSTEM"

END PROJECT
S.P. 02 606-07
POT. 20+00

ADJUST WATER GATE HOUSINGS AT

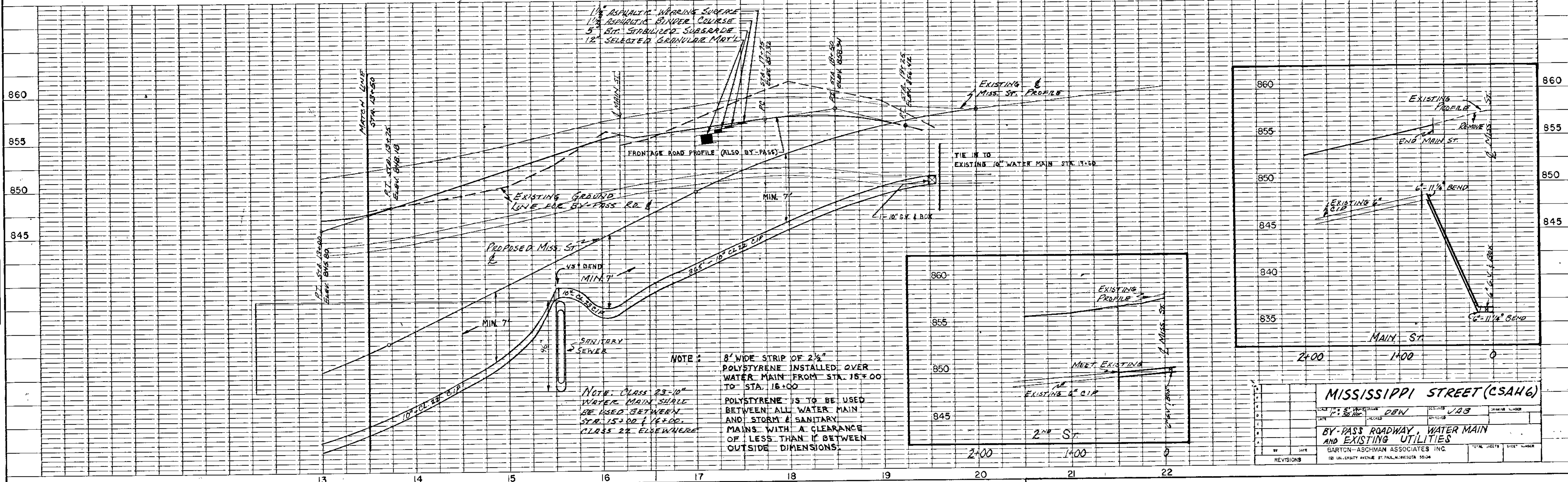
1	Sta 4+83	18 FT. RT.
2	Sta 6+65	25 FT. RT.
3	Sta 16+04	12 FT. LT.
4	Sta 16+44	7 FT. RT.
5	Sta 19+42	7 FT. RT.
6	Sta 19+44	17 FT. RT.

ADJUST WATER STOP BOXES

1	Sta 1+00	33 FT. LT.
2	Sta 1+80	33 FT. LT.
3	Sta 2+50	33 FT. RT.
4	Sta 4+55	33 FT. LT.
5	Sta 5+00	33 FT. LT.
6	Sta 6+20	33 FT. LT.
7	Sta 14+00	33 FT. LT.
8	Sta 18+34	33 FT. RT.

BM NO 4 ELEV 86.43
TOP NE BOLT LIGHT BASE
45" RT 24+30

MISSISSIPPI ST. (BY - PASS)



NOTE: 8" WIDE STRIP OF 2 1/2" POLYSTYRENE INSTALLED OVER WATER MAIN FROM STA. 15+00 TO STA. 16+00
POLYSTYRENE IS TO BE USED BETWEEN ALL WATER MAIN AND STORM & SANITARY MAINS WITH A CLEARANCE OF LESS THAN 1' BETWEEN OUTSIDE DIMENSIONS.

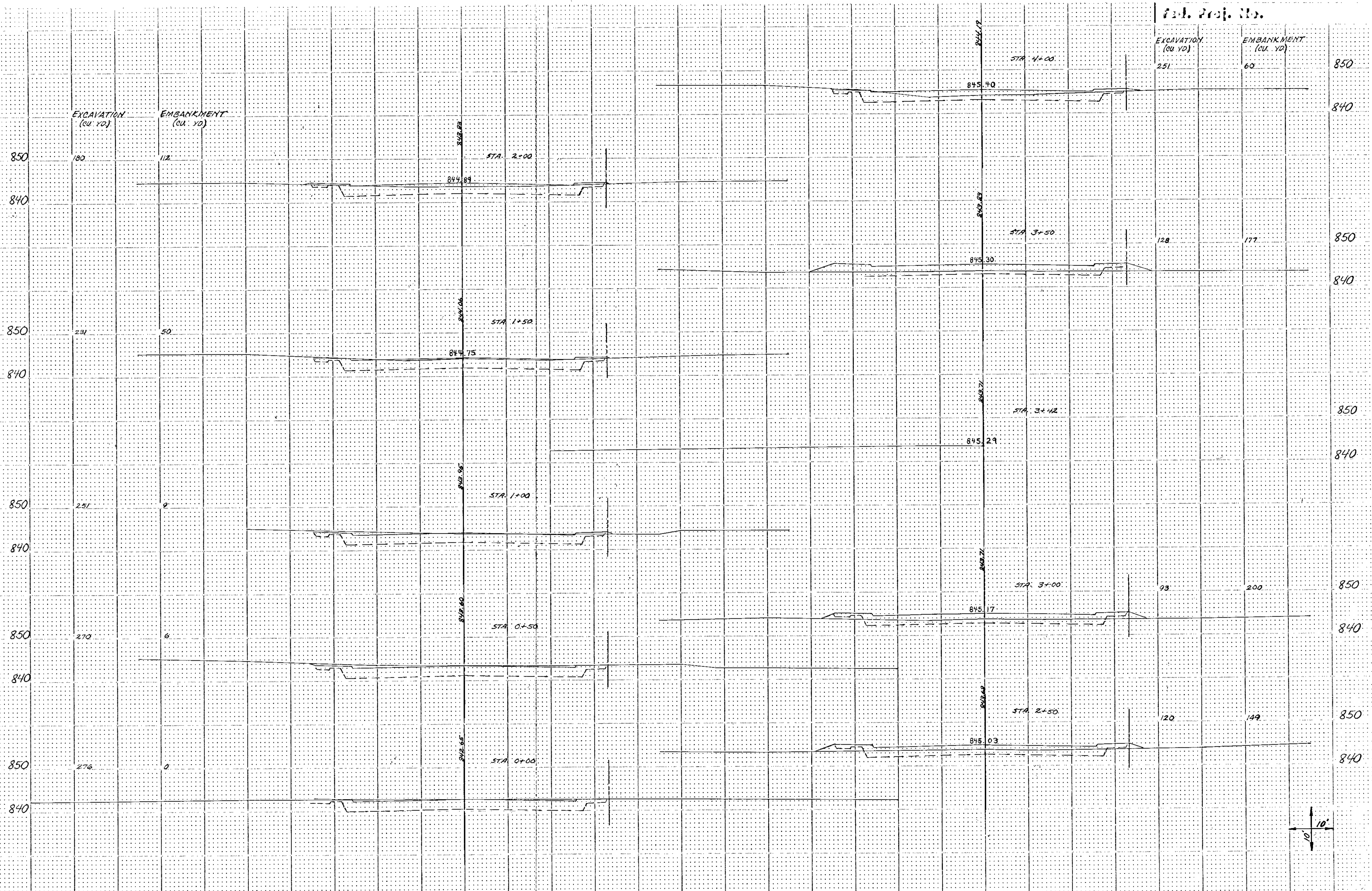
NOTE: CLASS 23-10" WATER MAIN SHALL BE USED BETWEEN STA. 15+00 & 16+00. CLASS 22 ELSEWHERE

MISSISSIPPI STREET (CSAH 6)

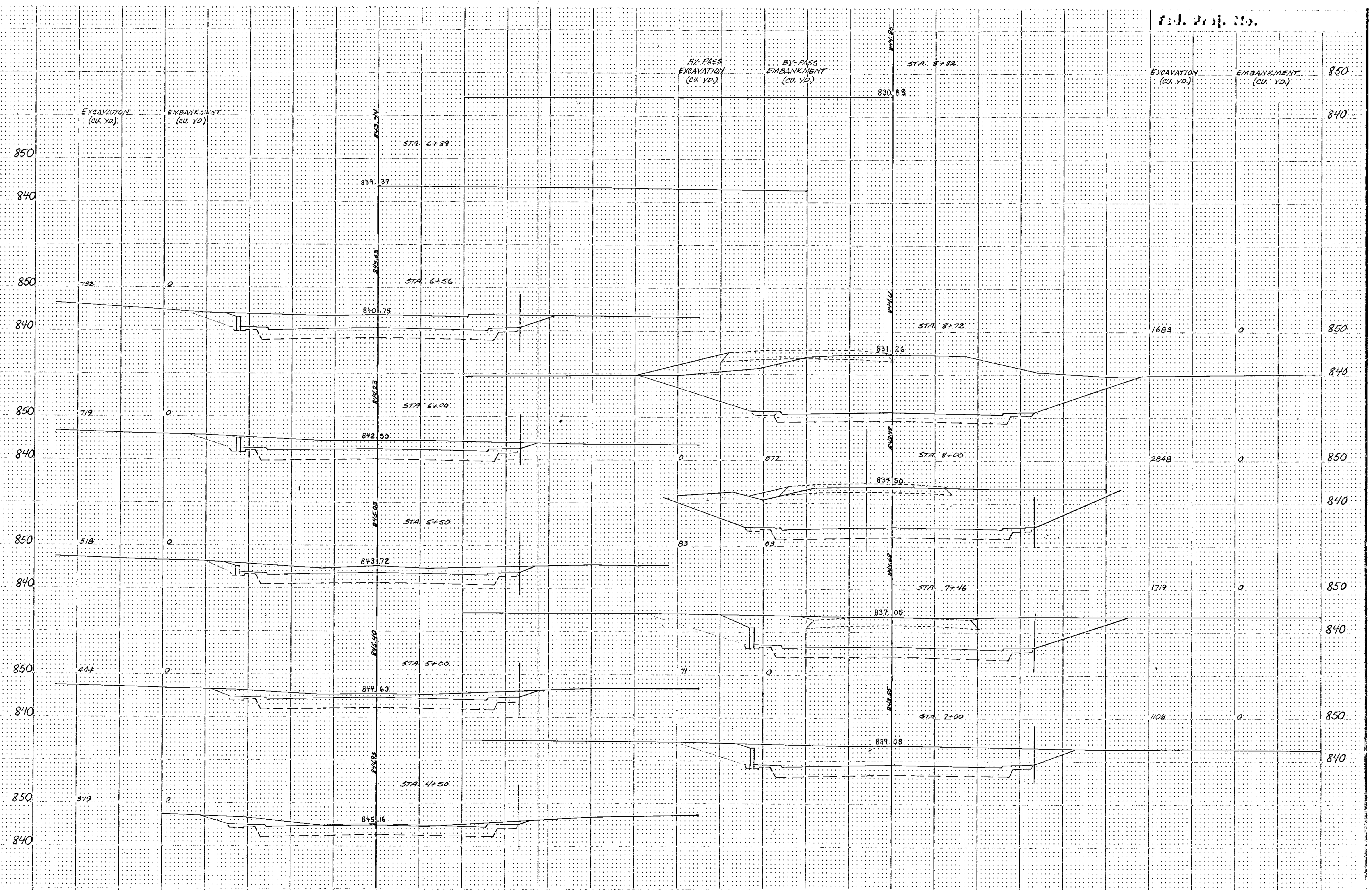
DATE: 8/1/00	DESIGNED: DBW	CHECKED: JCB	SCALE: AS SHOWN
BY-PASS ROADWAY, WATER MAIN AND EXISTING UTILITIES			
BARTON-ASCHMAN ASSOCIATES INC.			
100 UNIVERSITY AVENUE, SUITE 1000, FORT LAUDERDALE, FL 33304			

EXCAVATION (CU. YD.)	EMBANKMENT (CU. YD.)
251	60
128	177
93	200
120	149

EXCAVATION (CU. YD.)	EMBANKMENT (CU. YD.)
180	112
231	50
251	0
270	6
276	0



Vertical curve data - see notes on sheet 8



FUNCTIONAL CROSS SECTION - OVER WATER
H. A. ROBERT, INC. - MEMPHIS, TENN.

BY-PASS
EXCAVATION
(CU. YD.)

BY-PASS
EMBANKMENT
(CU. YD.)

EXCAVATION
(CU. YD.)

EMBANKMENT
(CU. YD.)

850
840
850
840
850
840
850
840
850
840

46
0
0
0
0
0
0
0
0
0

233
884
1167
857
517
138

826.85
827.02
827.63
828.69
829.97

STA. 10+94
STA. 10+50
STA. 10+00
STA. 9+50
STA. 9+07

5735
3532
3366
2535
1683

641
0
0
0
0

NOTE: ADDITIONAL SUB-CUT BACKFILLED WITH SELECTED GRANULAR (STA. 10+00 - 12+10)

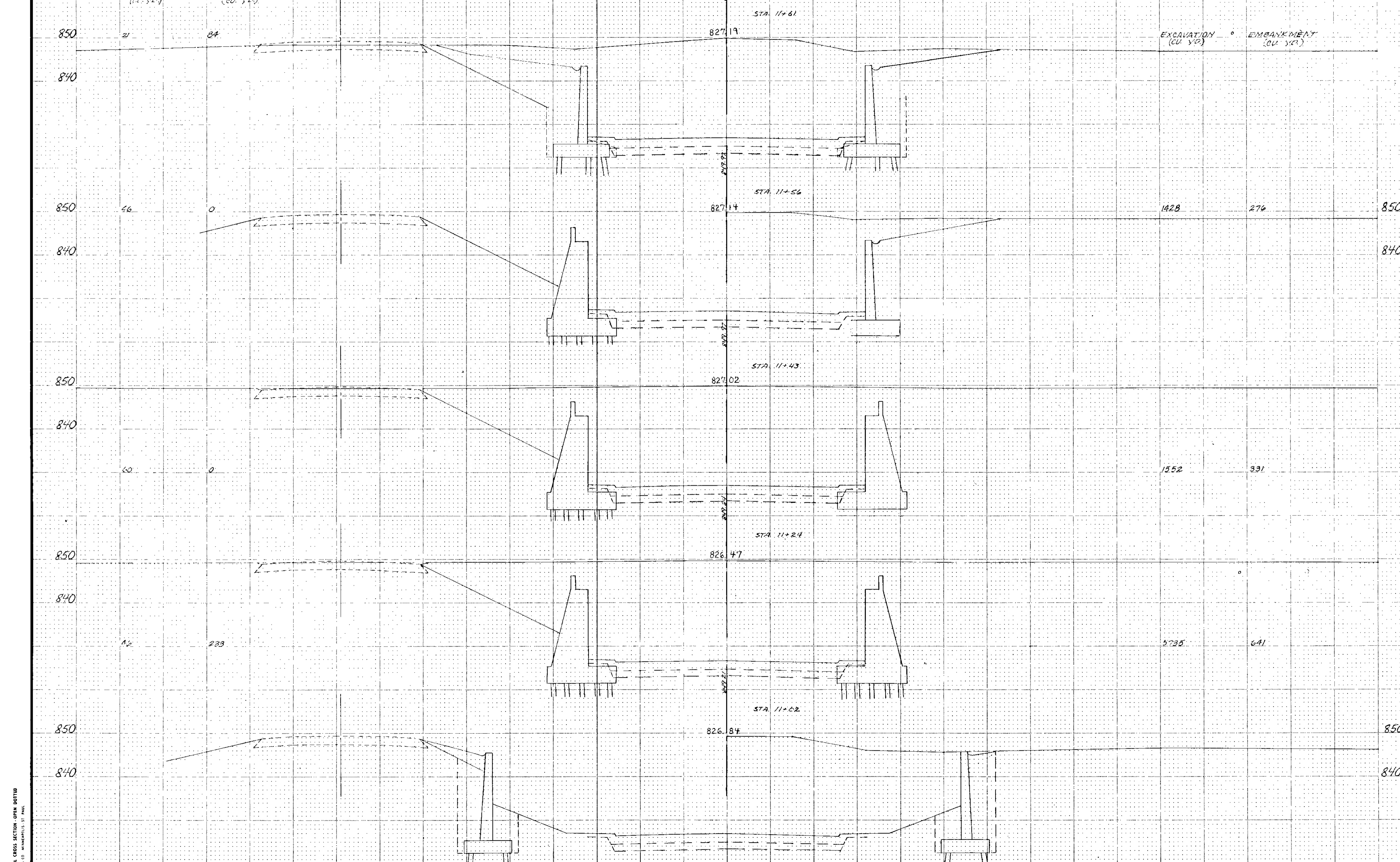
FUNCTIONAL CROSS SECTION - OPEN DOTTED

BY-PASS
EXCAVATION
(CU YD)

BY-PASS
EMBANKMENT
(CU YD)

EXCAVATION
(CU YD)

EMBANKMENT
(CU YD)



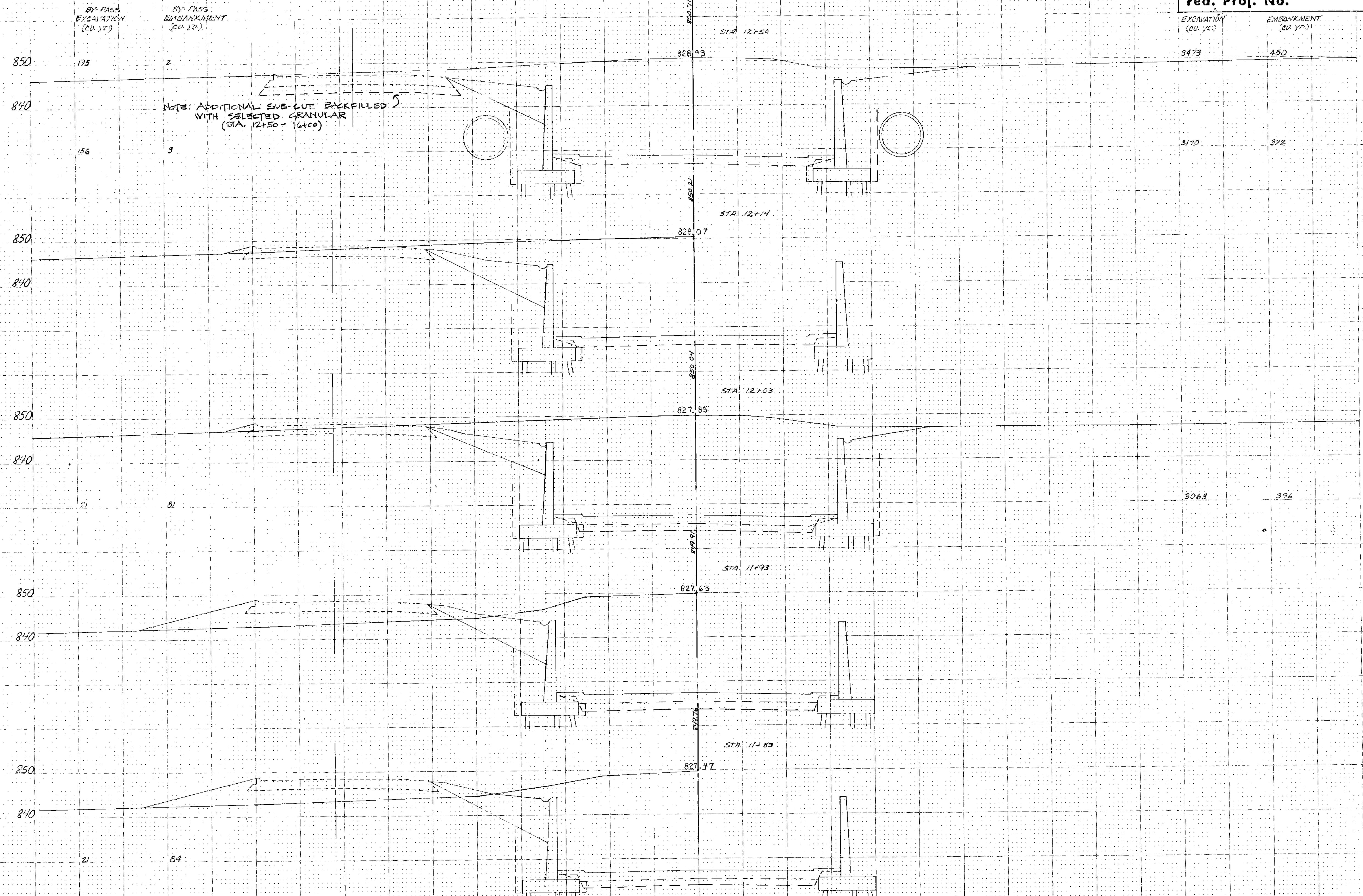
FUNCTIONAL CROSS SECTION, OPEN DOTTED
M. REGAN, C. MINNEAPOLIS, ST. PAUL

EXCAVATION (CU. YD.) EMBANKMENT (CU. YD.)

3473 450

3170 322

3063 396



BY-PASS EXCAVATION (CU. YD.) BY-PASS EMBANKMENT (CU. YD.)

175 2

156 3

21 81

21 84

NOTE: ADDITIONAL SUB-CUT BACKFILLED WITH SELECTED GRANULAR (STA. 12+50 - 16+00)

BY CLASS
EXCAVATION
(CU. YD.)

BY CLASS
EMBANKMENT
(CU. YD.)

91	19
91	37
142	25
185	4
181	4
195	2

839.86
STA. 15+00

837.41
STA. 14+50

834.96
STA. 14+00

832.55
STA. 13+50

830.52
STA. 13+00

EXCAVATION (CU. YD.)	EMBANKMENT (CU. YD.)
2877	426
3101	456
3302	469
3410	481
3473	480

FUNCTIONAL CROSS SECTION - OPEN DOTTED
H. A. ROBERTSON, MINNEAPOLIS, ST. PAUL

EXCAVATION (CU. YD.) EMBANKMENT (CU. YD.)

BY-PASS EXCAVATION (CU. YD.) BY-PASS EMBANKMENT (CU. YD.)

860

850

860

850

860

850

860

850

860

850

STA. 17+00

849.66

STA. 16+50

847.21

STA. 16+20

845.74

STA. 16+05

845.01

STA. 15+50

842.31

2377

0

1419

111

689

63

2371

34

2457

212

84

0

62

0

185

0

91

19

FUNCTIONAL CROSS SECTION - OPEN DOTTED
W. A. ROGERS CO. - MINNEAPOLIS, ST. PAUL

EXCAVATION
(cu. yd.)

EMBANKMENT
(cu. yd.)

891

0

627

44

654

34

2471

0

STA. 19+00

856.82

STA. 18+50

855.52

STA. 18+00

853.90

STA. 17+61

852.40

STA. 17+43

851.65

BY-PASS
EXCAVATION
(cu. yd.)
187

BY-PASS
EMBANKMENT
(cu. yd.)
0

1028

0

486

0

1068

0

860

850

870

860

870

860

850

860

850

860

850

860
850
860
850

BY-PASS
EXCAVATION
(CU YD)

BY-PASS
EMBANKMENT
(CU YD)

EXCAVATION
(CU YD)

EMBANKMENT
(CU YD)

STA. 20+00

STA. 19+56

858.42

857.88

227

8

187

0

498

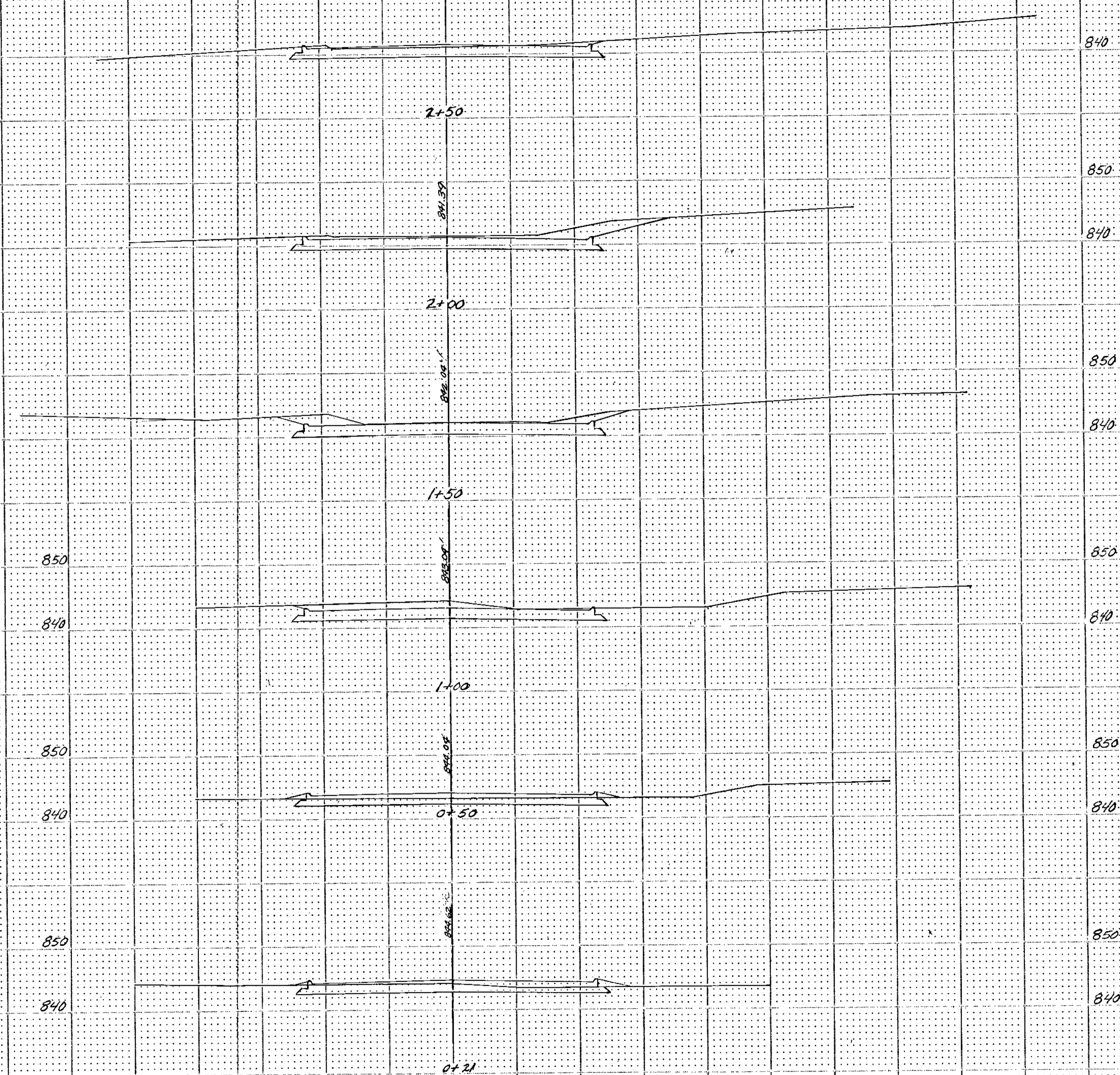
10

Vertical Curve Section with Utility
P. A. Smith, C.E. 11/10/07

Excavation
(cu. yd.)

Embankment
(cu. yd.)

		850	
		840	
208	0		
		850	
		840	
218	0		
		850	
		840	
210	0		
		850	
		840	
161	7		
		850	
		840	
47	7		
		850	
		840	



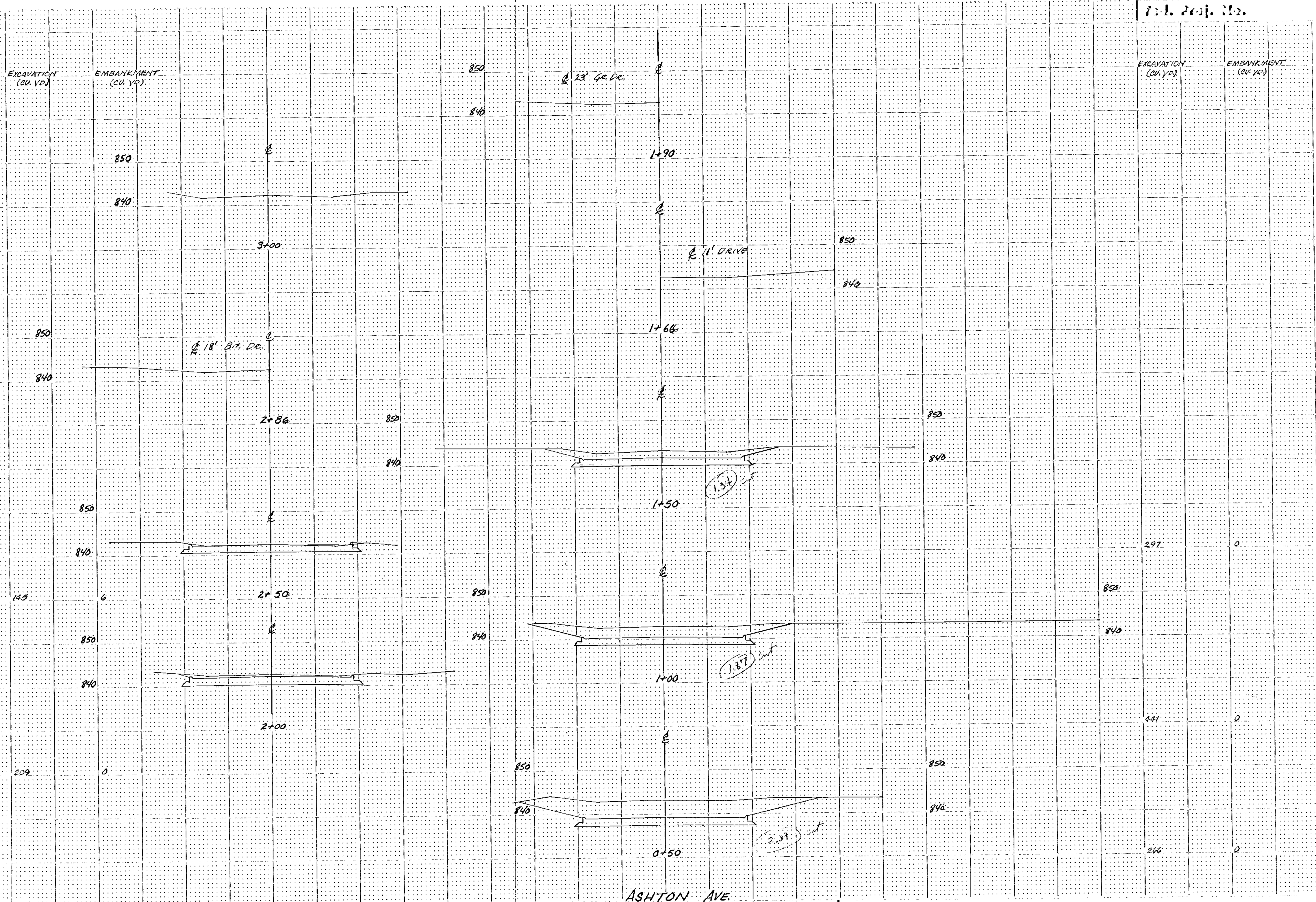
FUNCTIONAL CROSS SECTION - UPPER PORTION
H. A. TORRES CO., MINNEAPOLIS, ST. PAUL

EXCAVATION
(CU. YD.)

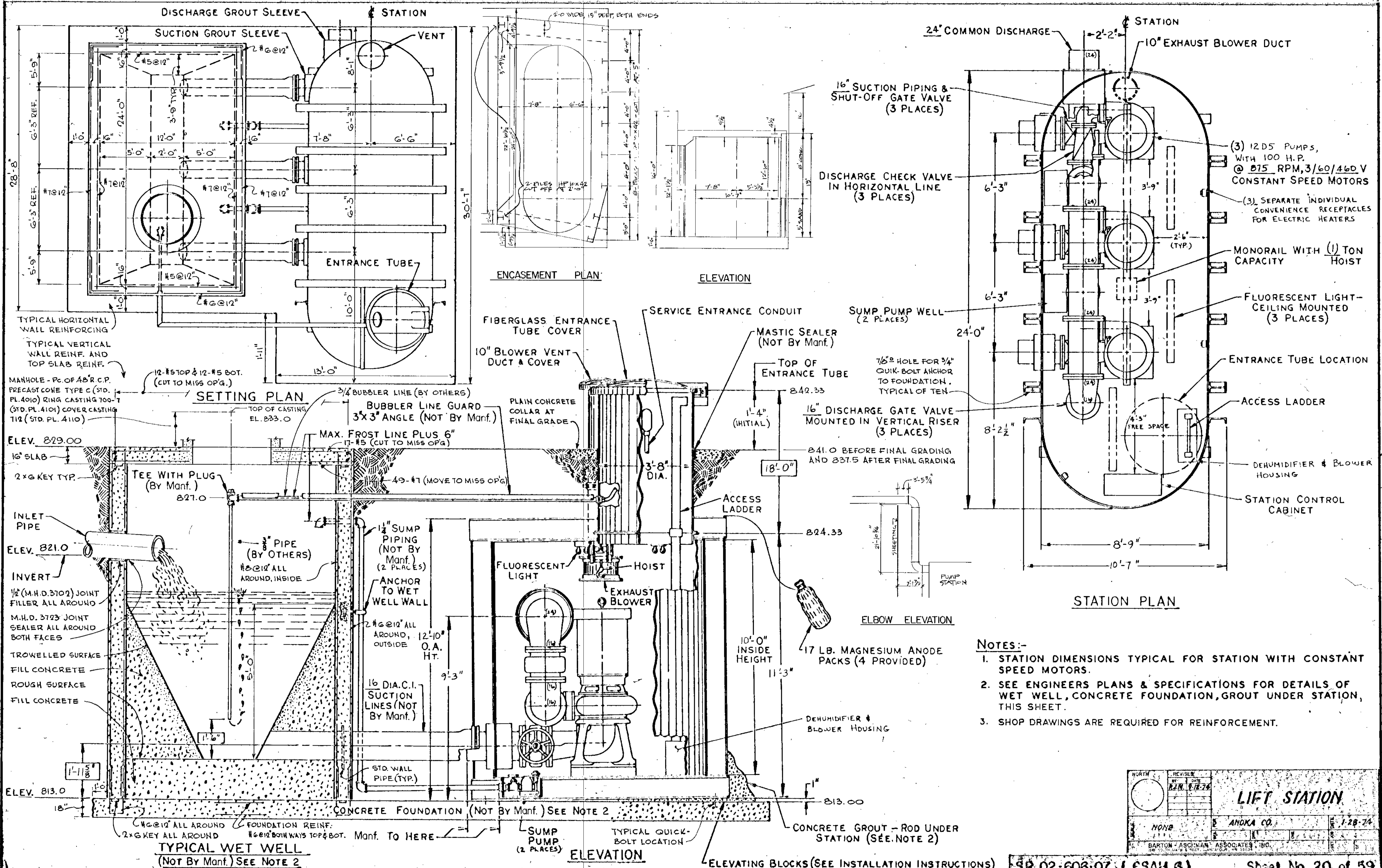
EMBANKMENT
(CU. YD.)

EXCAVATION
(CU. YD.)

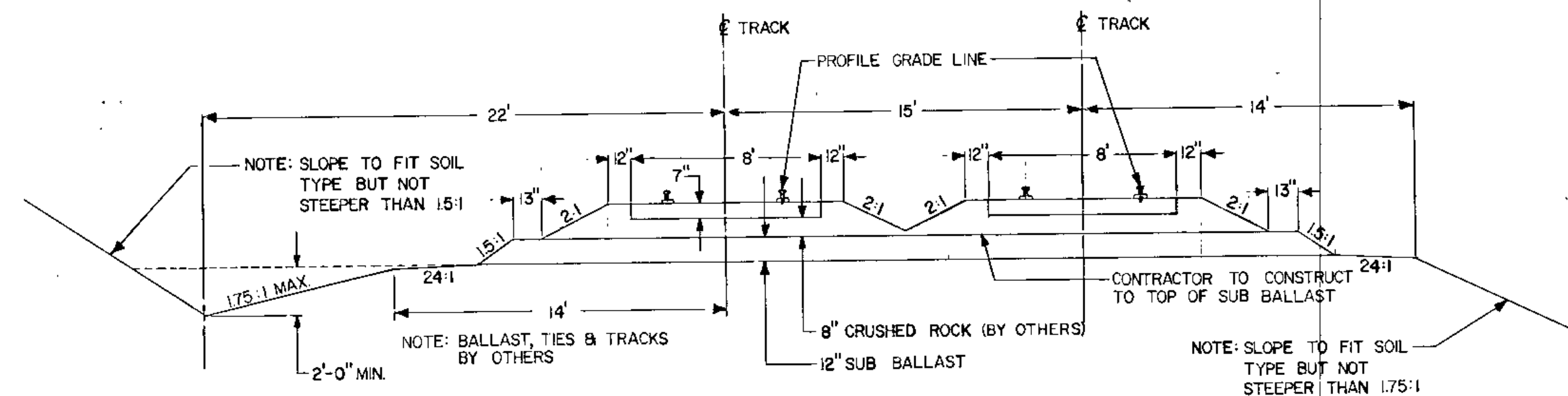
EMBANKMENT
(CU. YD.)



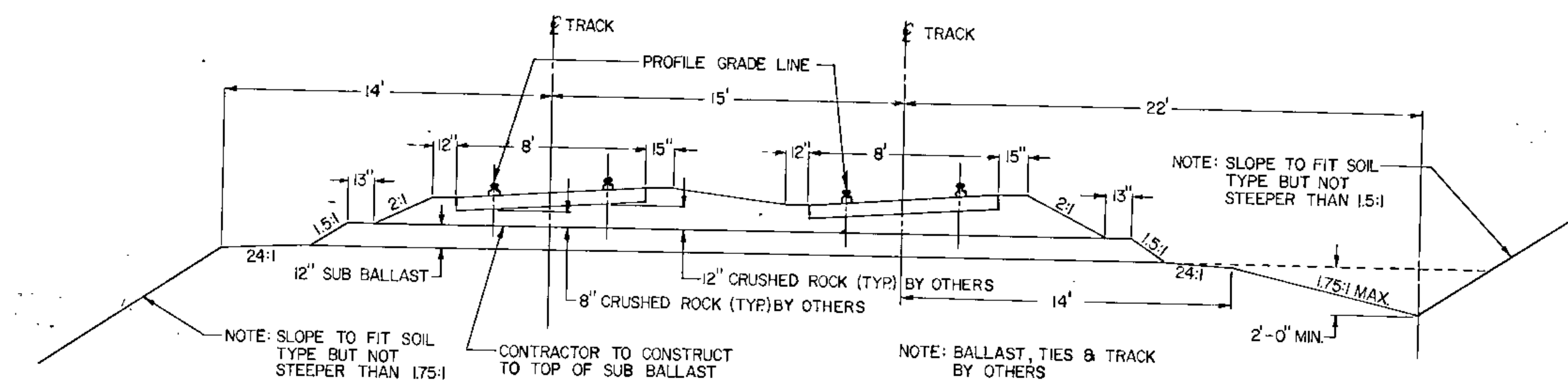
FUNCTIONAL CROSS SECTION - UPPER PORTION
N. A. BOARD CO. - MINNEAPOLIS, ST. PAUL



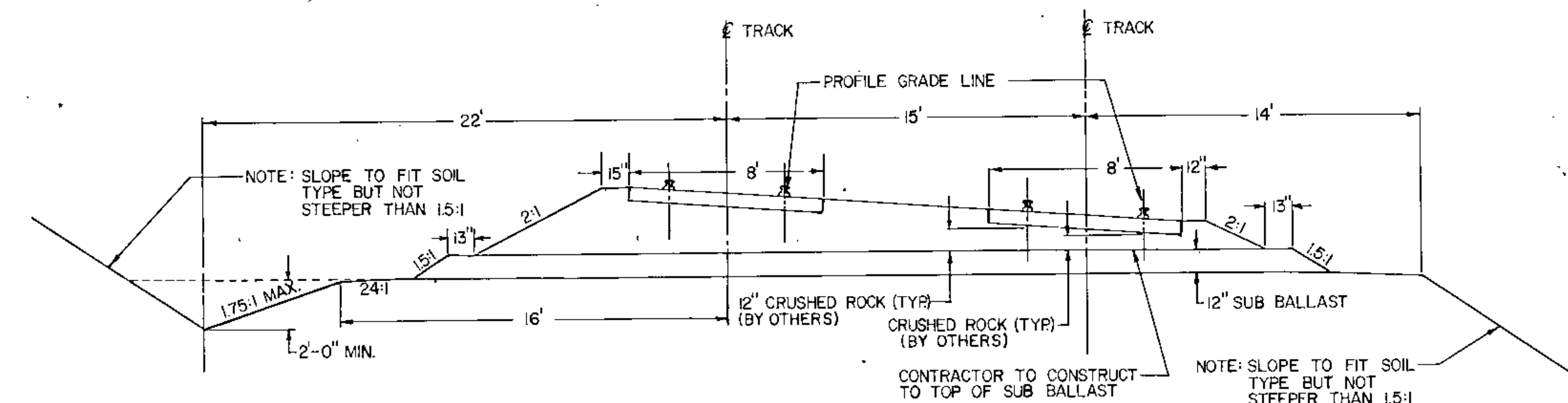
REVISION		DATE	
LIFT STATION			
NONE	ANDKA CO.	1-28-74	
BARTON-ASCHMAN ASSOCIATES, INC.			



DOUBLE TRACK TANGENT SHOO-FLY
(SCALE 1" = 5')



DOUBLE TRACK ON CURVES OF SHOO-FLY
(FOR TURNOUTS)
SCALE: 1" = 5'



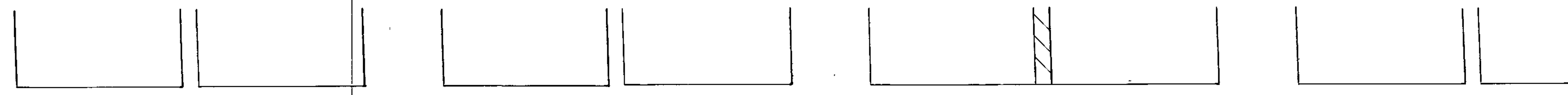
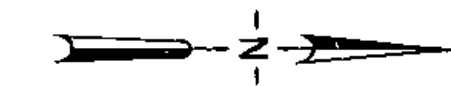
DOUBLE TRACK ON CURVES OF SHOO-FLY
(STA. 18+02 to 22+10)
SCALE: 1" = 5'

FORM MHD 21165-10-58

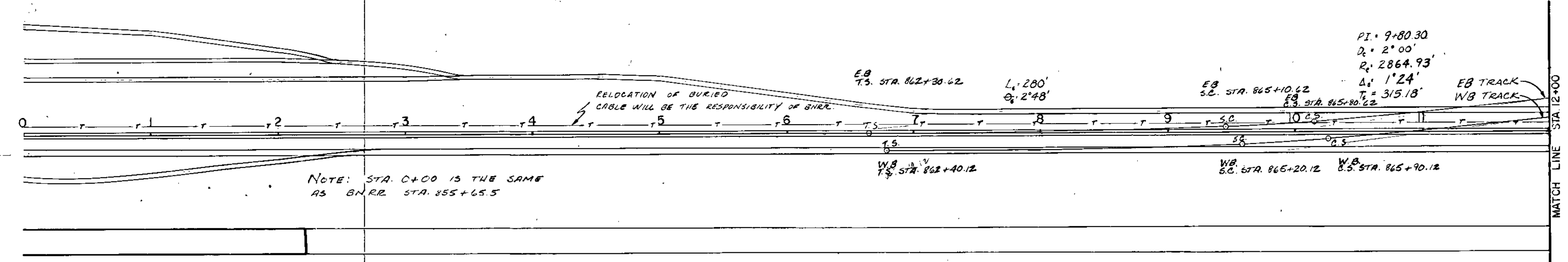
THESE QUANTITIES ARE ALSO SHOWN ON SHEET 2

STATEMENT OF ESTIMATED QUANTITIES								
ITEM NO.	ITEM	UNIT	S. P. QUANTITIES		S. P. QUANTITIES		TOTAL ESTIMATED QUANTITIES	TOTAL FINAL QUANTITIES
			EST.	FINAL	EST.	FINAL		
2101.502	Clearing	Tree	5					
2101.504	Grubbing	Tree	5					
2105.501	Common Excavation	Cubic Yard	9,600					
2105.521	Granular Borrow	Cubic Yard	13,500					
2501.511	24" Type A2 Pipe Culvert 12 ga.	Linear Foot	100					
2301.515	24" Type C2 Pipe Aprons	Each	2					

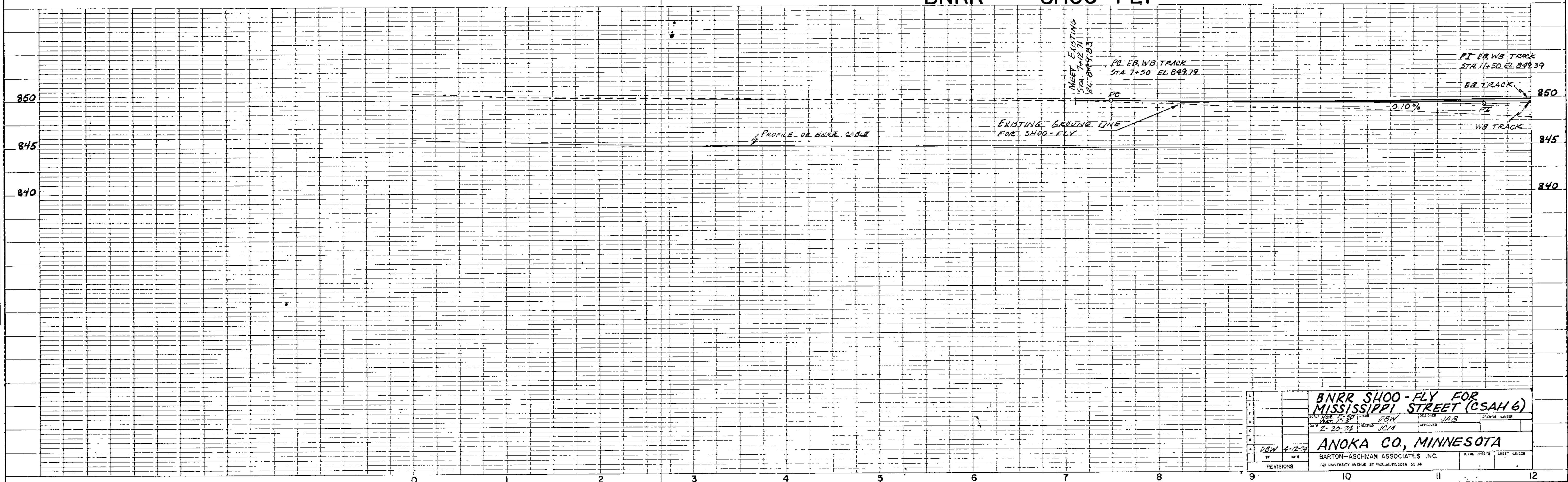
- CONSTRUCTION NOTES
- Contractor SHALL grade to top of sub-ballast, others will place ballast, track and ties.
 - Contractor shall regrade shoo-fly after it is taken out of service and the ballast, track and ties have been removed.
 - All material used for sub-ballast shall be so graded from coarse to fine that 100% shall pass a 2" sieve and not more than 8% by weight will pass the #200 sieve.
 - Quantity Item No. 2105.501, Common Excavation, includes 6,200 Cu. Yds. for Shoo-Fly Regrade



NORTHERN SUBURBAN SANITARY SEWER EASEMENT - 40'

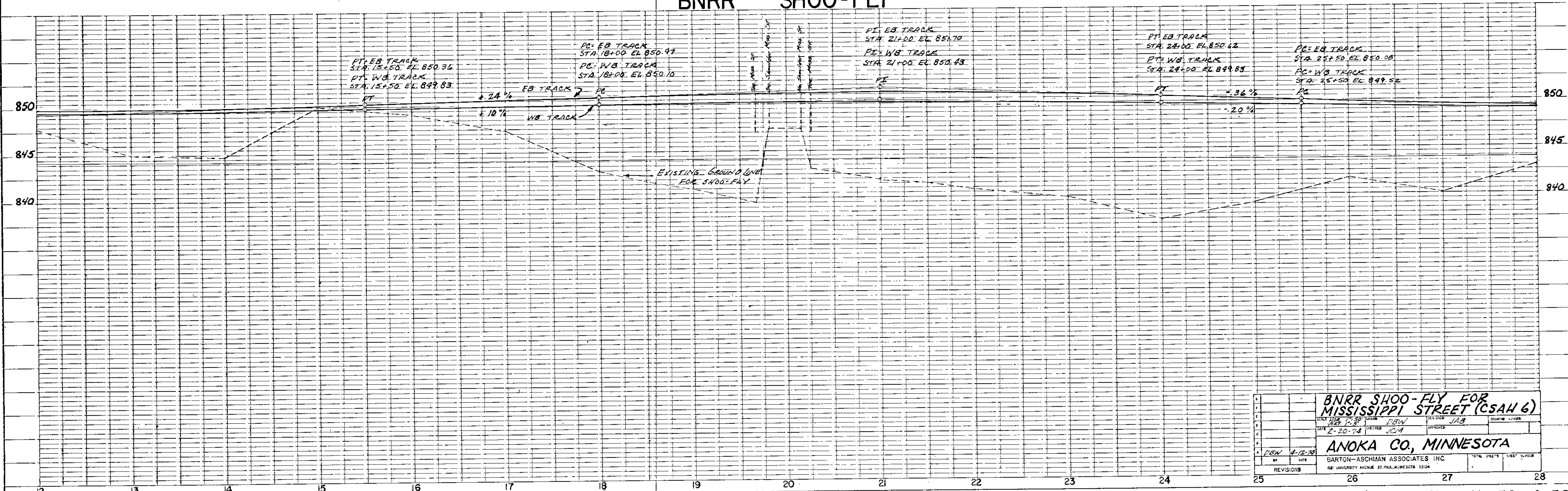
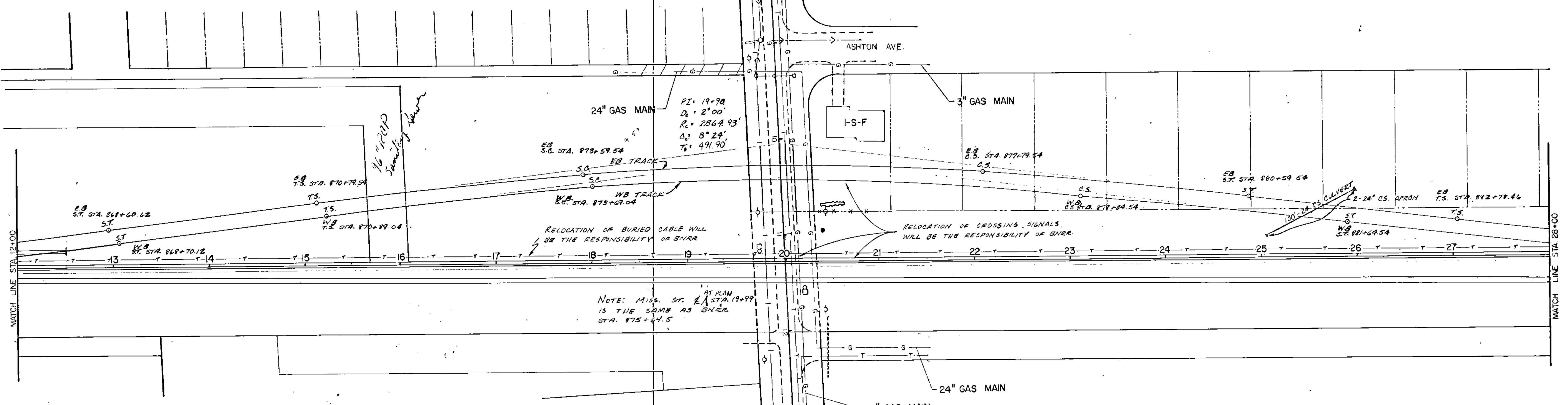
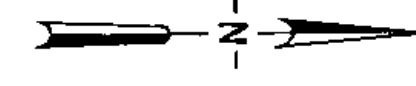


BNRR SHOO-FLY



BNRR SHOO-FLY FOR MISSISSIPPI STREET (CSAH 6)			
DATE	DESIGNED	CHECKED	APPROVED
2-20-77	DBW	JCM	JAB
ANOKA CO., MINNESOTA			
BY	DATE	TOTAL SHEETS	SHEET NUMBER
DBW	2-22-77	12	51
BARTON-ASCHMAN ASSOCIATES INC. 281 UNIVERSITY AVENUE ST. PAUL, MINNESOTA 55104			

B.M. NO 3 ELEV. 861.42
TOP 8" SE. COR. BOT. STEP
101 MISS. ST.



BNRR SHOO-FLY FOR MISSISSIPPI STREET (CSAH 6)

DATE: 11-20-78
BY: JAW
CHECKED: JCM
DATE: 2-20-78

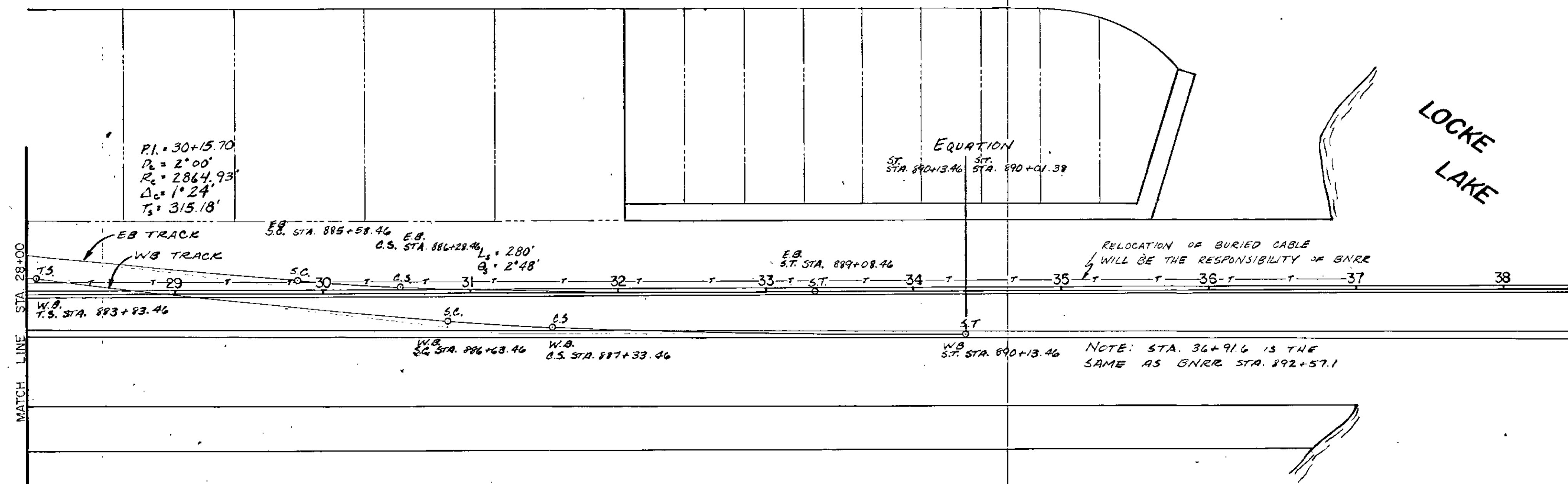
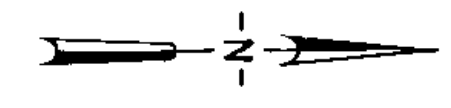
DESIGNED: JAW
APPROVED: JCM

ANOKA CO., MINNESOTA

BARTON-ASCHMAN ASSOCIATES INC.
825 UNIVERSITY AVENUE, ST. PAUL, MINNESOTA 55104

REVISIONS

TOTAL SHEETS: 52
SHEET NUMBER: 52

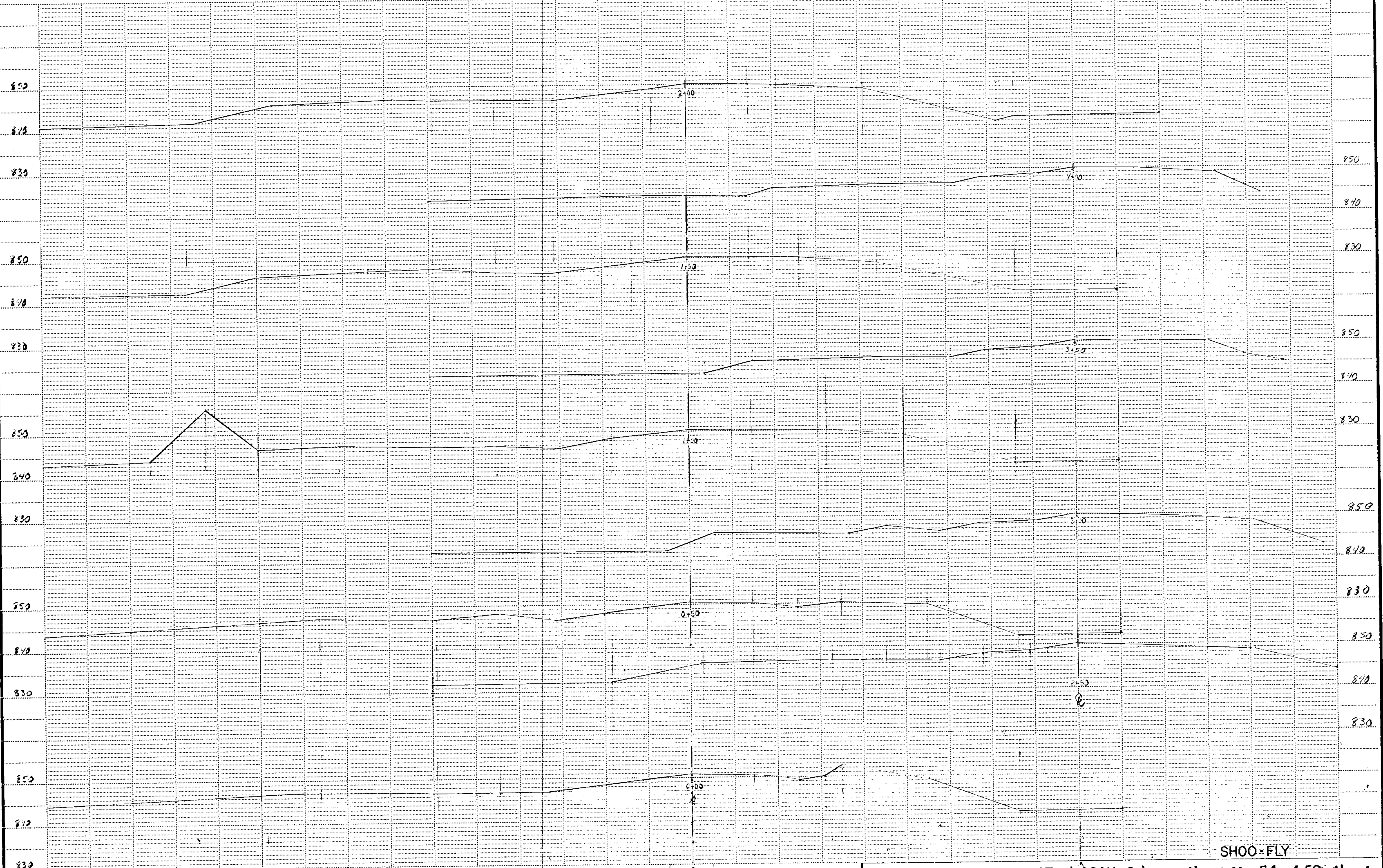


BNRR SHOO-FLY

TBM. NO 7 ELEV. 848.63
CHISELED IN NE COR.
SE. ABUT. RR. BRIDGE OF
2' R.R. STA 36+91 - 10' RT.

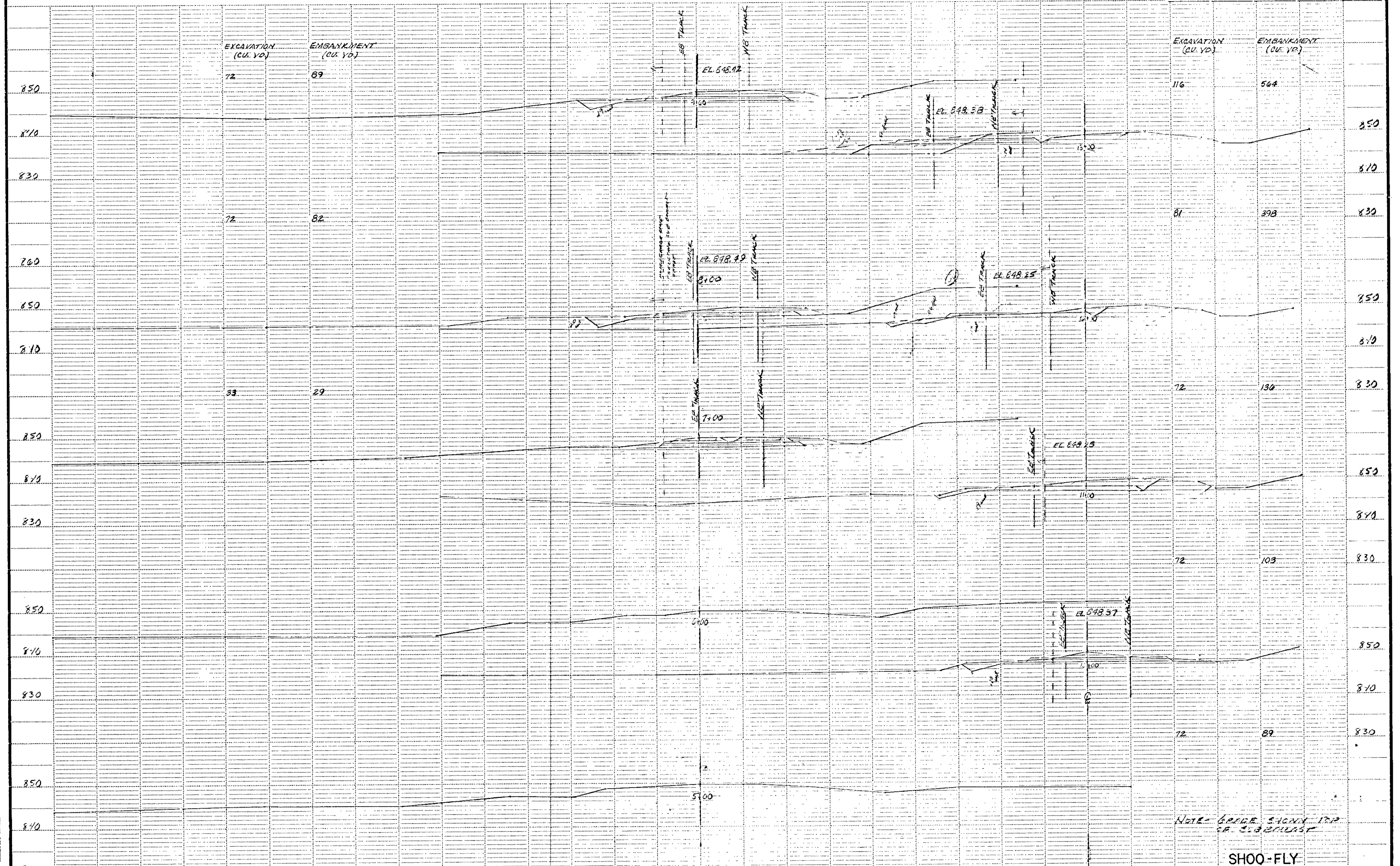


BNRR SHOO-FLY FOR MISSISSIPPI STREET (CSAH 6)			
DATE: 1-12-74	DESIGNED: DBW	CHECKED: JCM	APPROVED: JAB
ANOKA CO., MINNESOTA			
BARTON-ASCHMAN ASSOCIATES INC.			
208 UNIVERSITY AVENUE, ST. PAUL, MINNESOTA 55104			



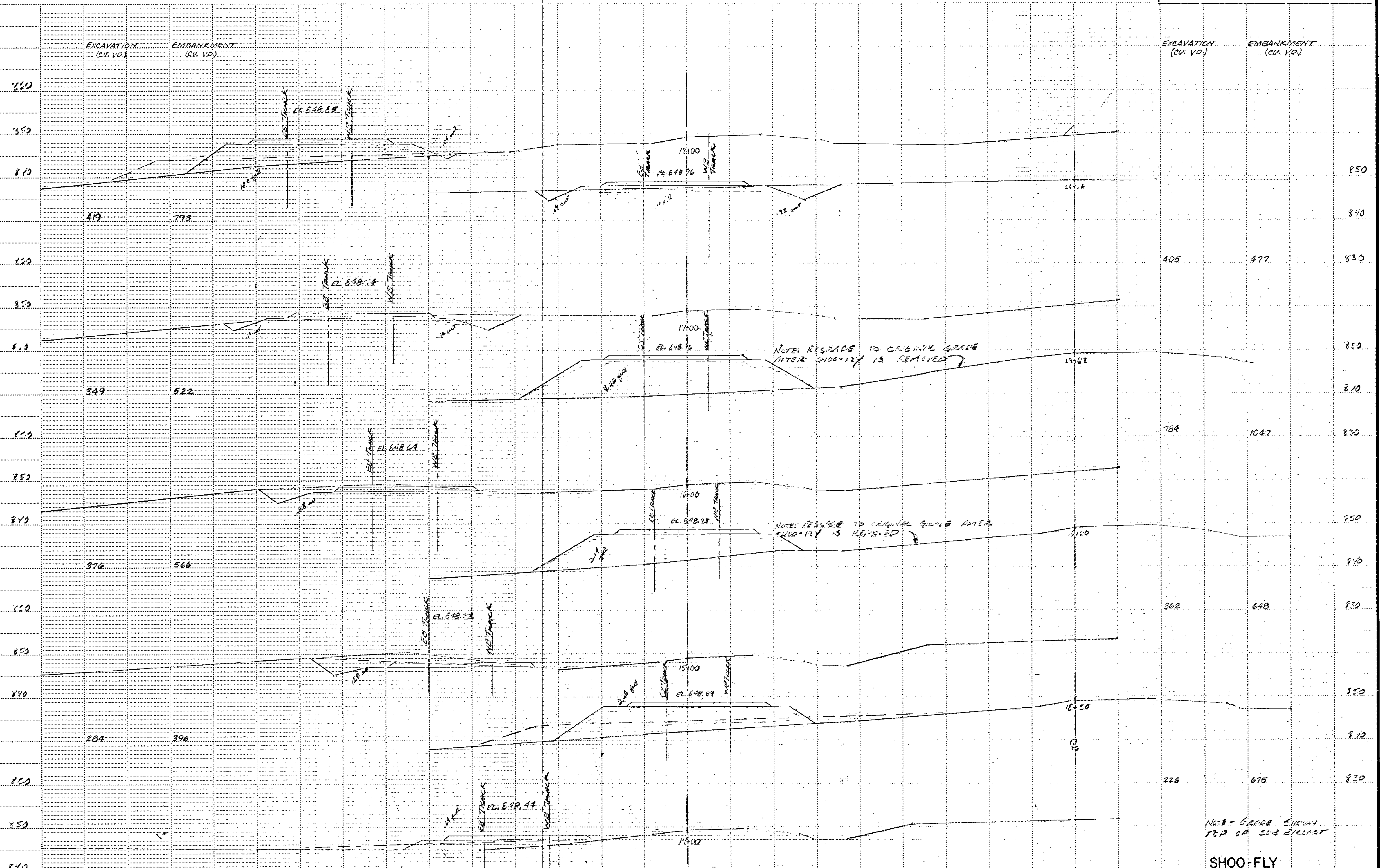
SHOO-FLY

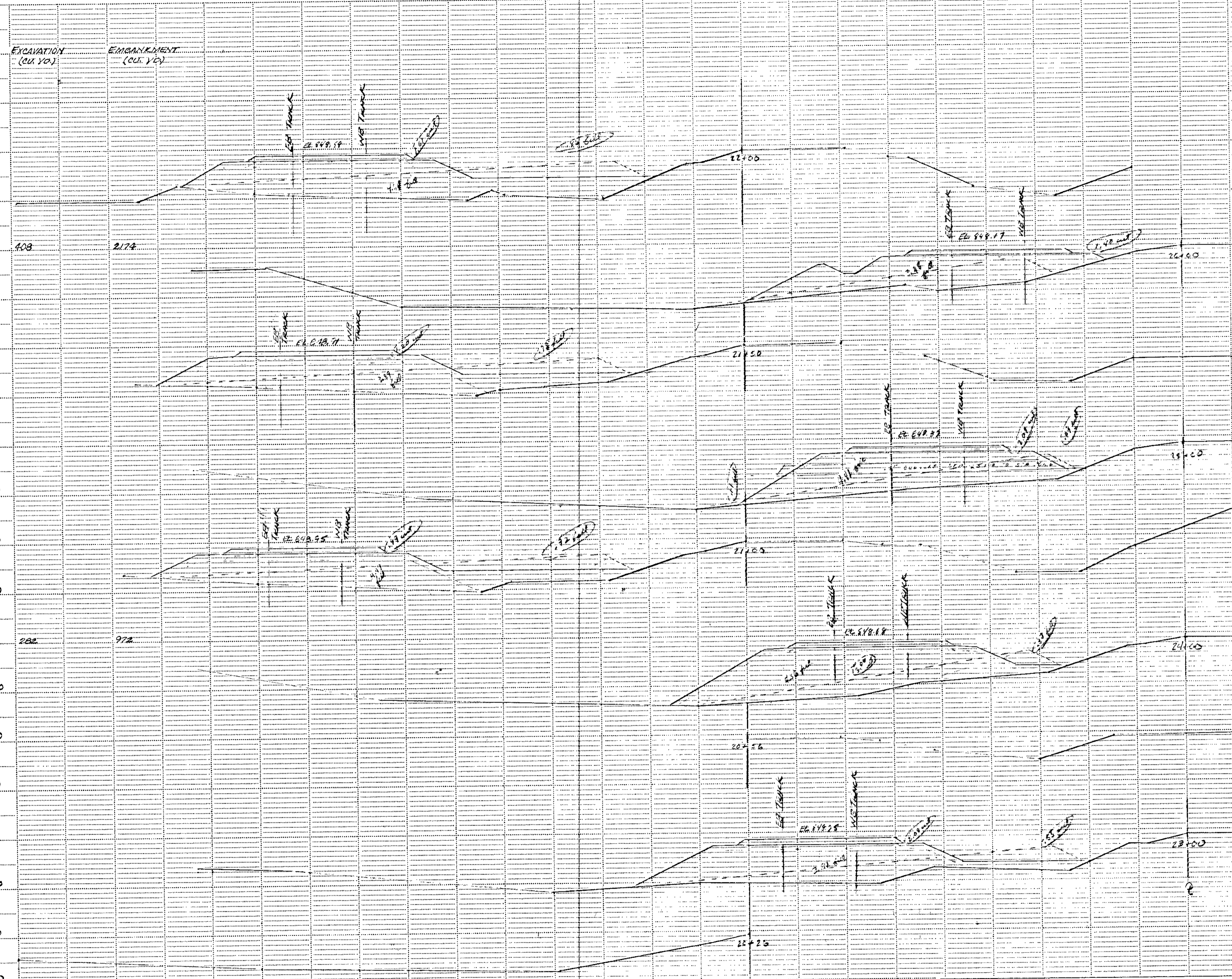
PAUL PETERSON, LIMITED
110 N. BROAD ST. PHOENIX, ARIZ.



SHOO-FLY

FULL SCALE PLATTED
 BY A. HOGAN CO. MINNEAPOLIS, ST. PAUL





EXCAVATION (CU YD)

EMBAKMENT (CU YD)

EXCAVATION (CU YD)

EMBAKMENT (CU YD)

650

840

644 1582 830

850

840

952 2029 830

850

840

952 2021 830

850

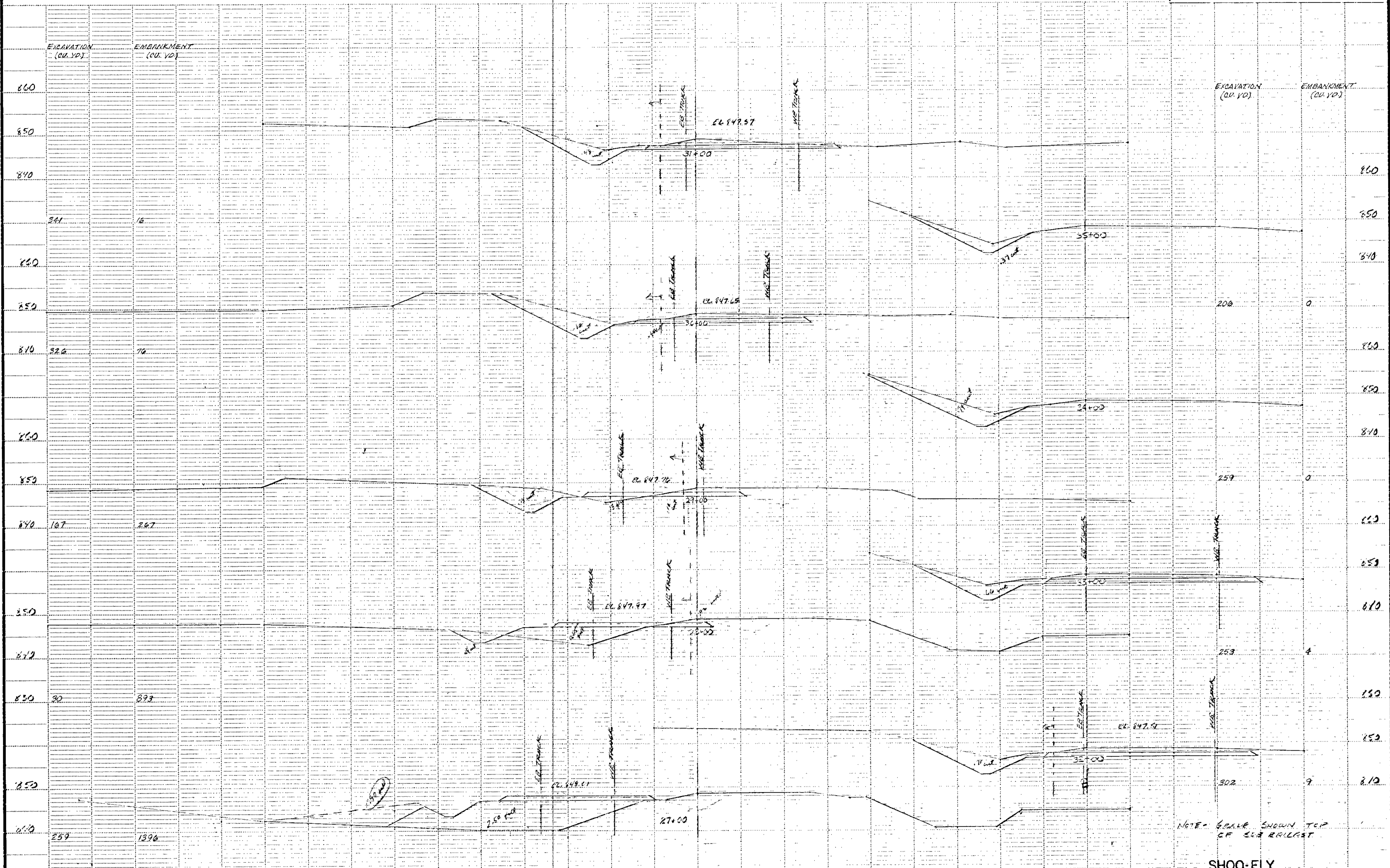
840

572 2022 830

SHOO-FLY

NOTE: LARGE SHEAR TOP OF SUB-BALLAST

FULL PROFILE - NOTED BY AS
 P. A. SMITH CO.



FULL THICKNESS - DOTTED LINE
 R. A. SMITH CO., MINNEAPOLIS, ST. PAUL

NOTE - GRADE SHOWN TOP OF 30\"/>

850
840
830
820
810
800
790
780
770
760
750
740
730
720
710
700
690
680
670
660
650
640
630
620
610
600
590
580
570
560
550
540
530
520
510
500
490
480
470
460
450
440
430
420
410
400
390
380
370
360
350
340
330
320
310
300
290
280
270
260
250
240
230
220
210
200
190
180
170
160
150
140
130
120
110
100
90
80
70
60
50
40
30
20
10
0
-10
-20
-30
-40
-50
-60
-70
-80
-90
-100
-110
-120
-130
-140
-150
-160
-170
-180
-190
-200
-210
-220
-230
-240
-250
-260
-270
-280
-290
-300
-310
-320
-330
-340
-350
-360
-370
-380
-390
-400
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-740
-750
-760
-770
-780
-790
-800
-810
-820
-830
-840
-850
-860
-870
-880
-890
-900
-910
-920
-930
-940
-950
-960
-970
-980
-990
-1000

EXCAVATION
(CU. YD.)

EMBANKMENT
(CU. YD.)

44

0

60

12

81

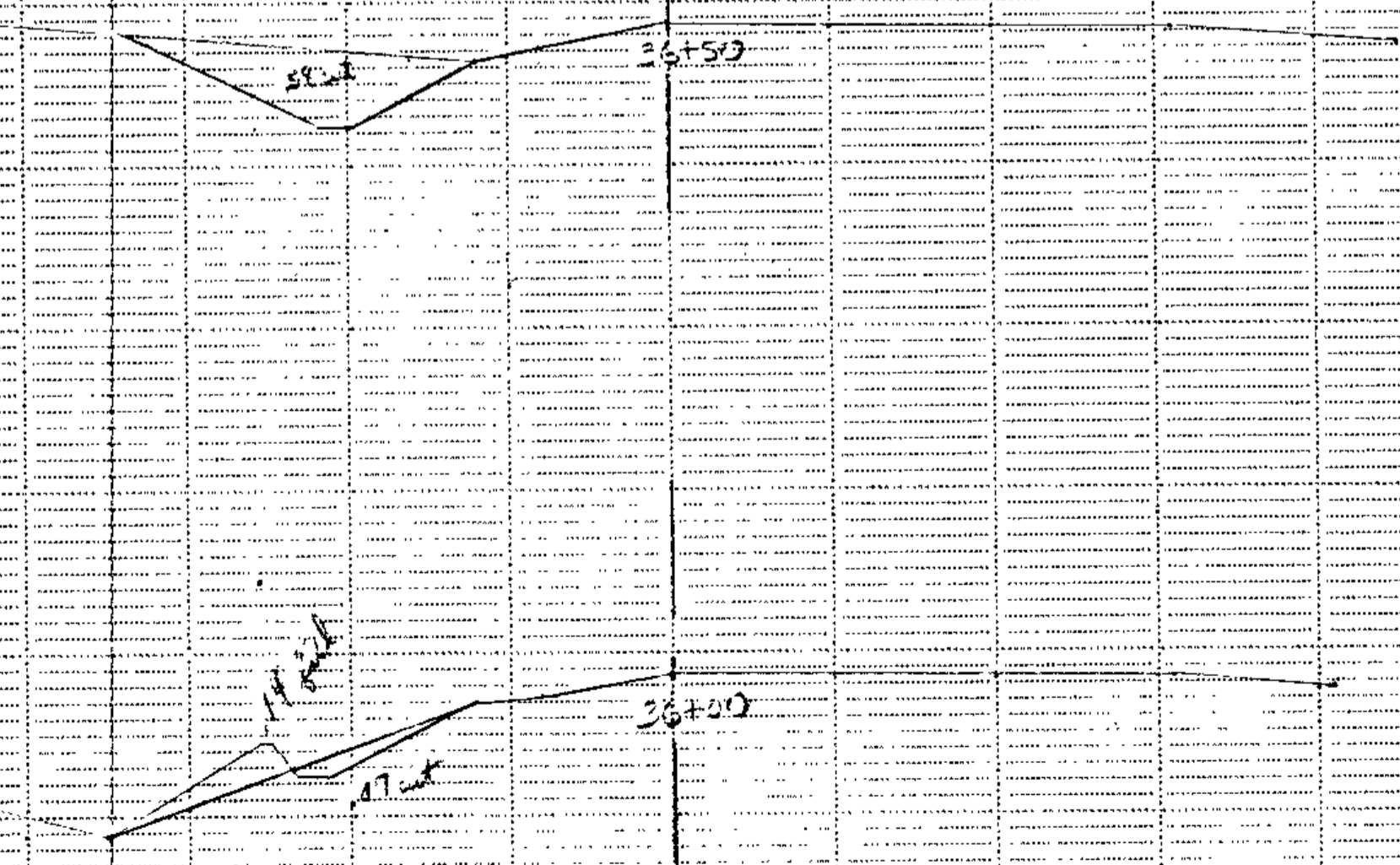
26

33+05.3

35+31.8

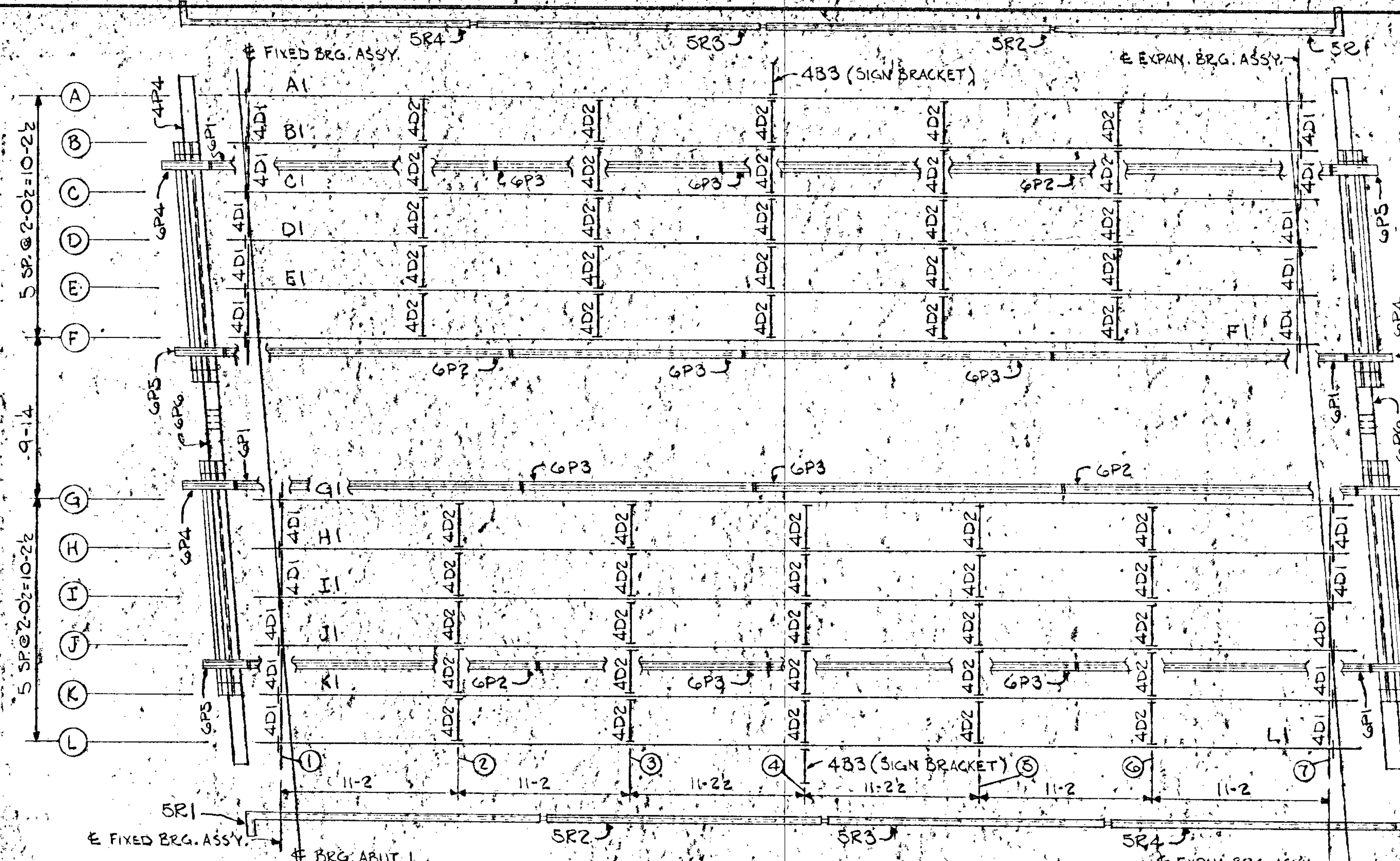
36+50

38+00



PAUL PROGRESS PLOTTER
P. O. BOX 100
MINNEAPOLIS, ST. PAUL

SHOO-FLY



FRAMING PLAN
(Bridge Level)

NOTES: +

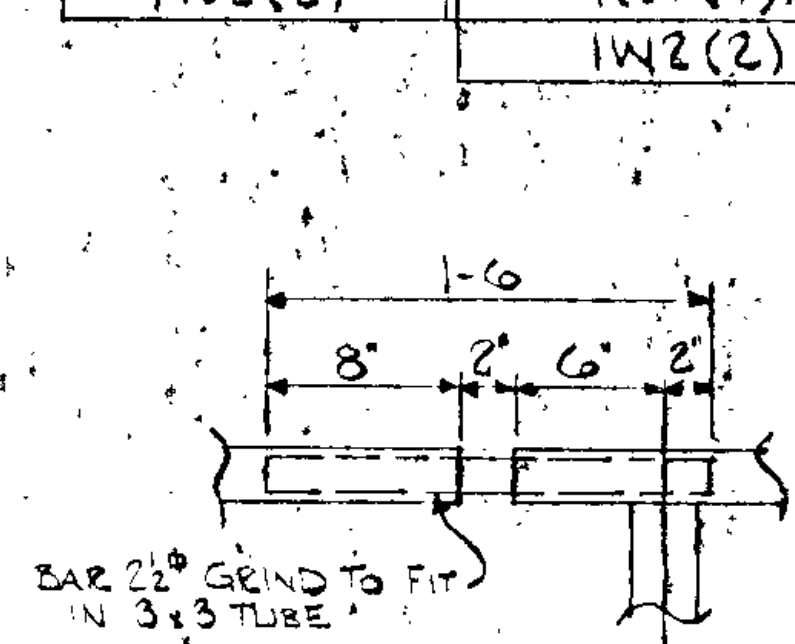
1. WORKMANSHIP AND MATERIALS TO BE IN ACCORDANCE WITH M.H.D. SPECIFICATIONS FOR HIGHWAY CONSTRUCTION DATED JAN. 1, 1972, SUPPLEMENTAL SPECS. DATED JAN. 1, 1974, & SPECIAL PROVISIONS.
2. ALL STEEL FOR STRUCTURAL ITEMS SHALL CONFORM TO M.H.D. 3309 (STRUCTURAL STEEL) UNLESS OTHERWISE NOTED.
3. ALL FIELD CONNECTIONS TO BE BOLTED USING HIGH STRENGTH STRUCTURAL BOLTS UNLESS OTHERWISE NOTED.
4. BOLTS 7/8". HOLES 1 1/2" UNLESS OTHERWISE NOTED.
5. FULL ASSEMBLY REMAINING WILL BE REQUIRED AS PER M.H.D. 2471.3 E.L.D. SLB PUNCH HOLES TO 5/8" REAM TO 1 1/4" AT ASSEMBLY OR DRILL 1 1/2" HOLES FROM THE SOLID AT ASSEMBLY.
6. SHOP INSPECTION BY M.H.D.
7. HOLES RT-1 TO BE DRILLED USING SAME TEMPLATE AS THAT USED FOR DRILLING BEARING ASSEMBLIES.

8. EDGE FINISH PER M.H.D. 2471.3C4 & 2471.3D4
9. SEE SPECIAL PROVISIONS SB-4.2, SHT. 5-SB FOR WELDED CONNECTION
10. SHEAR STUDS NEED NOT BE PAINTED.
11. SEE SPECIAL PROVISIONS SB-3, SHT. 4-SB FOR WEATHERING STEEL.
12. BOLTS SHALL MEET REQUIREMENTS OF ASTM A325, TYPE 3, HAVING COMPARABLE WEATHERING CHARACTERISTICS. BOLT HEADS SHALL HAVE THE ASTM DESIGNATION UNDERLINED & NUTS & WASHERS SHALL BE MARKED WITH THE NUMERAL "3".

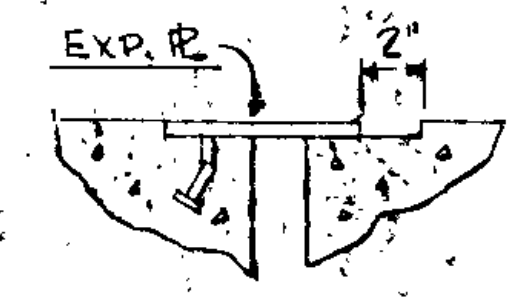
ASTM	GRIP	SIZE	LOCATION
136	1 1/2	5/8" x 3/4"	INTER. DIAPHS. (BOTH SIDES OF GIRDESS)
344	1 1/2	5/8" x 2 1/2"	INTER. DIAPHS. (ONE SIDE OF GIRDER)
280	1 1/2	5/8" x 2 1/2"	ABUT. DIAPHS.

ABUT. NO. 1	ABUT. NO. 2
FIXED TYPE (2)	EXP. TYPE 1 (2)
1FB1	1D1
1L1	1B1 (6)
1K1 (7)	1L2
1W1 (7)	1K1 (7)
1W2 (2)	1W1 (7)
	1W2 (2)

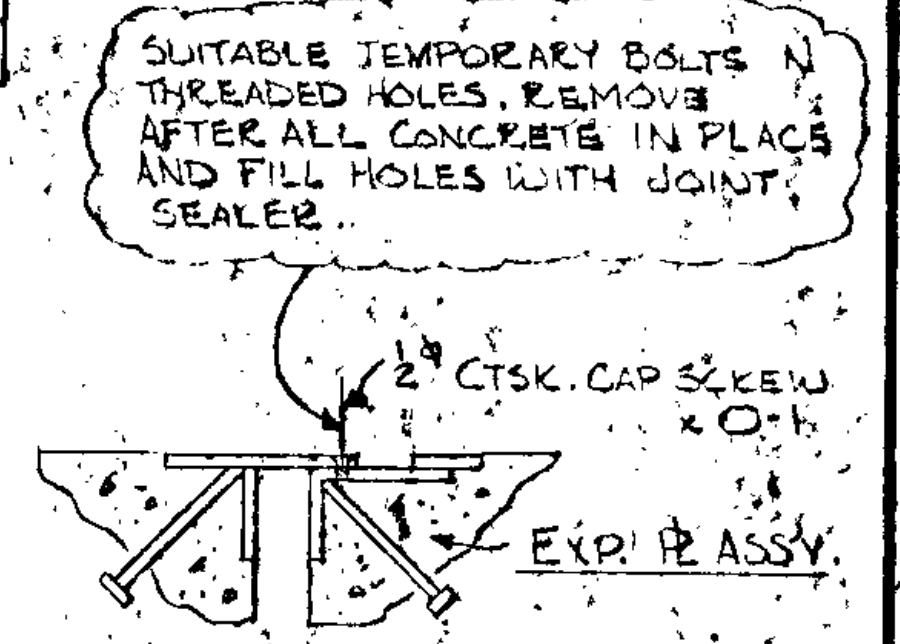
E1	ERECTION PLAN
1	BRG. ASSEMBLIES
2	GIRDERS A, F, G, H, I
3	GIRDERS B, C, D, E, J, K, L
4	DIAPHS. & EXP. B'S
5	HANDRAIL
6	FLASHING B'S & EXP. B'S
7	RAILING



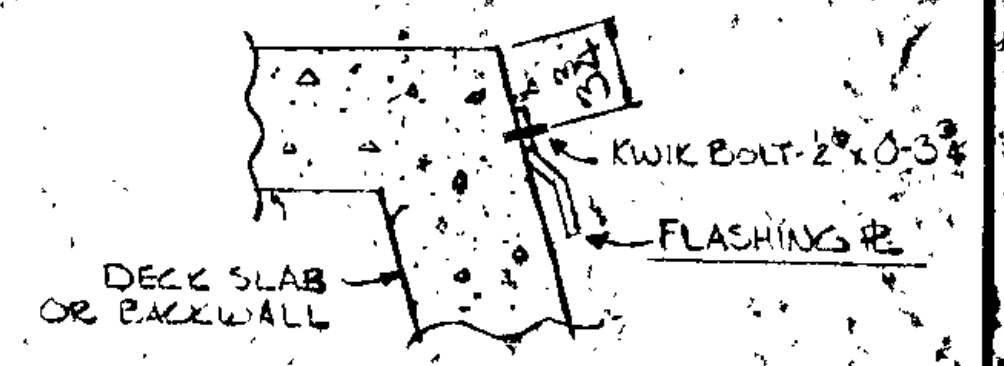
HANDRAIL EXPANSION JOINT



SECTION TYP. OF ALL SIDEWALKS AND MEDIANS



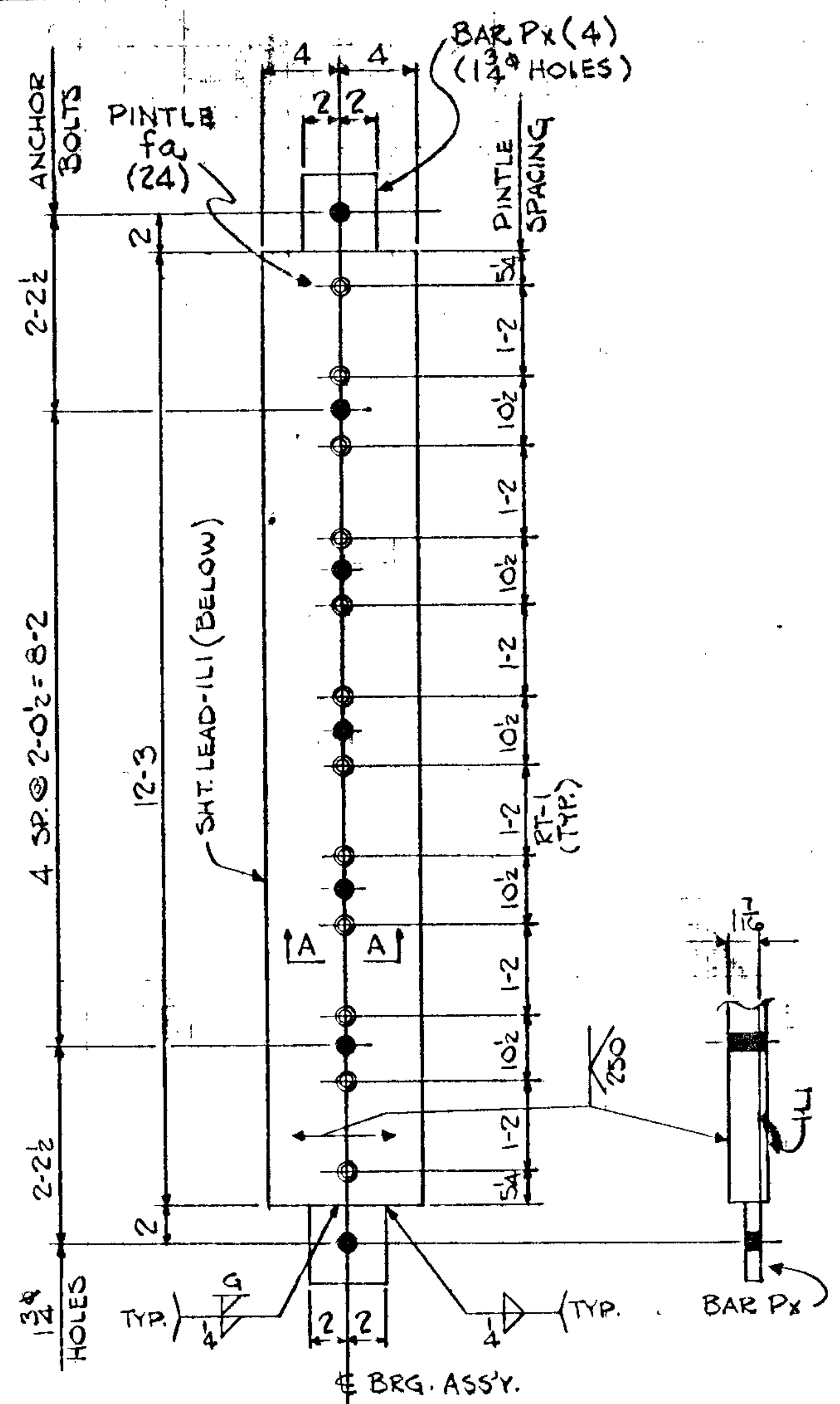
SECTION TYPICAL OF ALL DECK SLABS & SIDE SLOPES



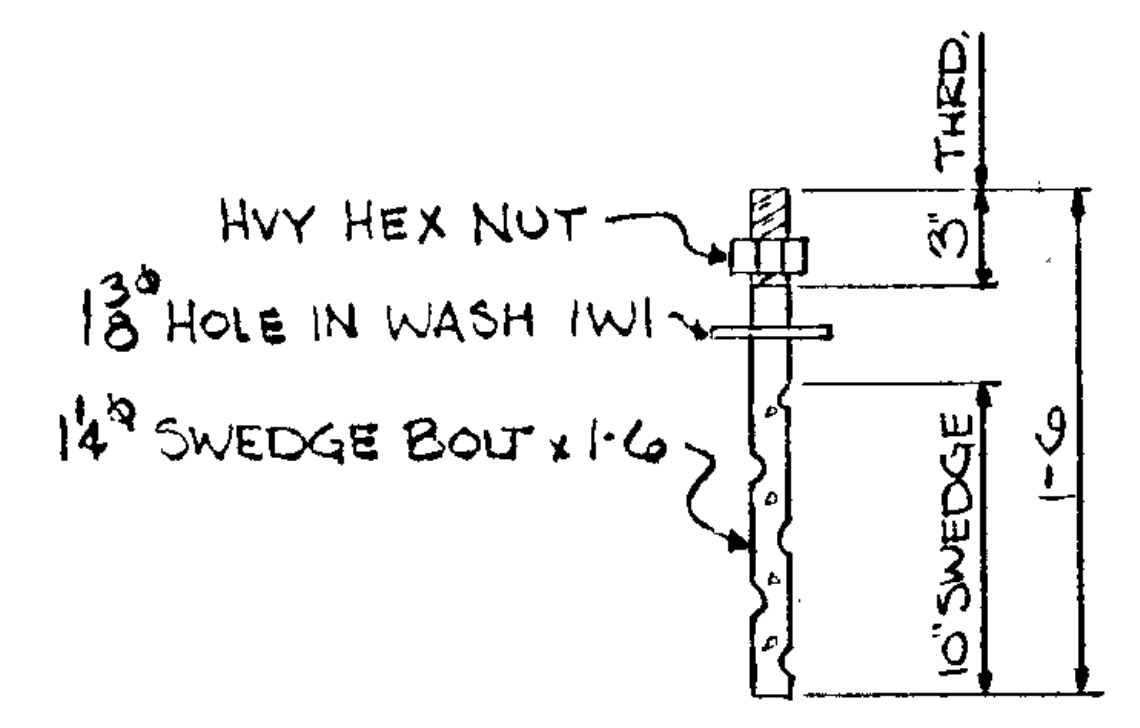
TYPICAL DECK WATERPROOFING



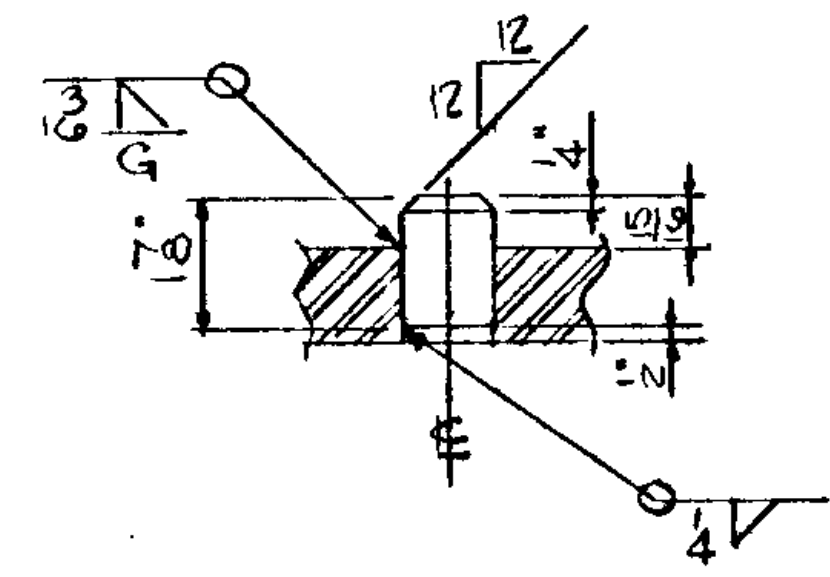
ST. PAUL STRUCTURAL STEEL CO. 162 YORK AVE. ST. PAUL, 17, MINN.	
DESCRIPTION BRIDGE No. 02524	
LOCATION FRIDLEY, MN.	
CUSTOMER LUNDA CONST. CO.	
ARCHITECT M.H.D.	
MADE BY DON	DATE 3-6-75
CHECKED BY RON	DATE 4-17-75
SHOP PAINT NONE	
OPEN HOLES UNLESS NOTED	
CONTRACT NO. 75-17	SHEET E1
STATE PROJ. No. Q2-606-07	
FED. PROJ. No. M-5115(1)	



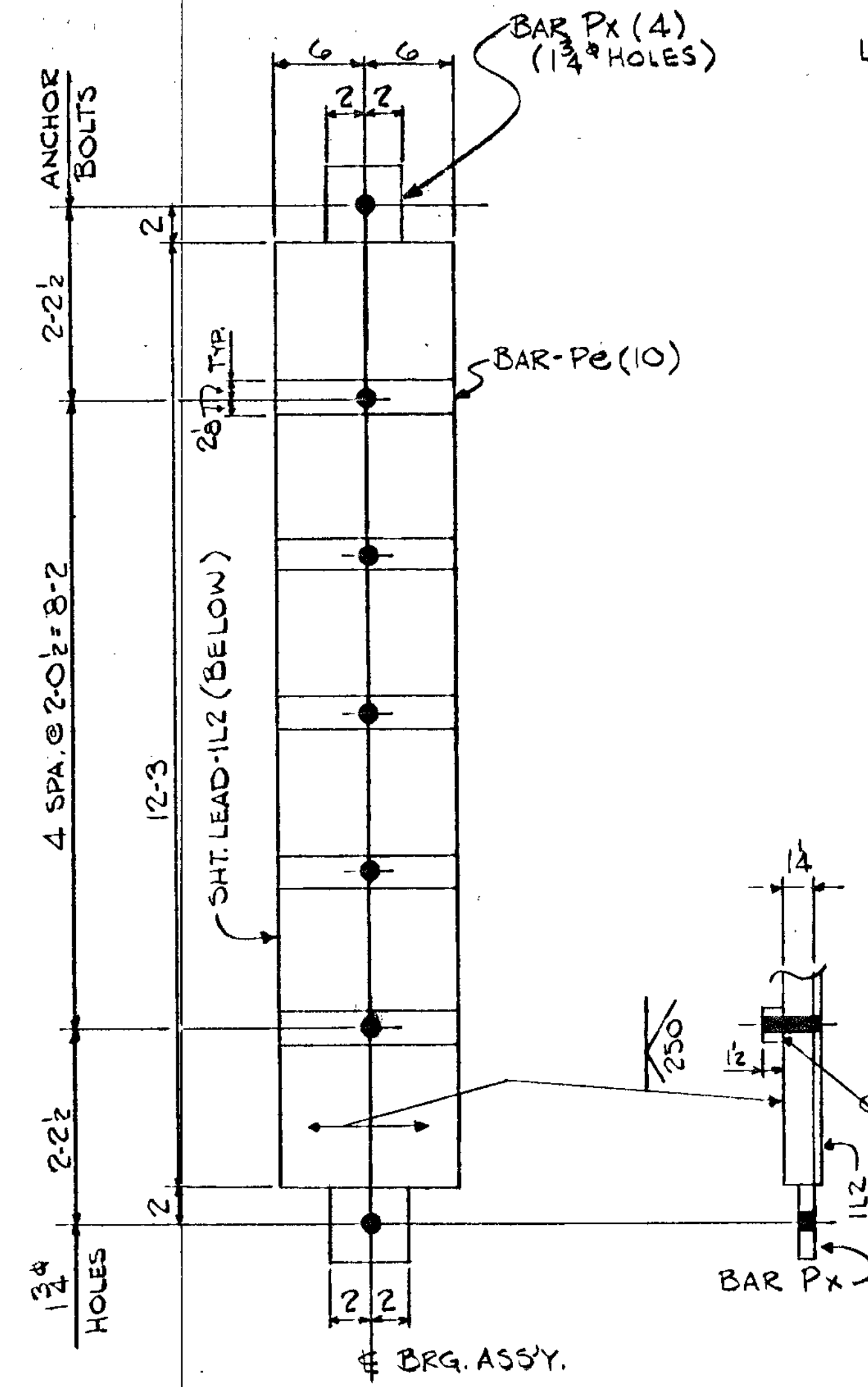
2- BASE P'S - IFB1 (FIXED TYPE I)
(GALV. - NO PAINT - EXCEPT SHT. LEAD)



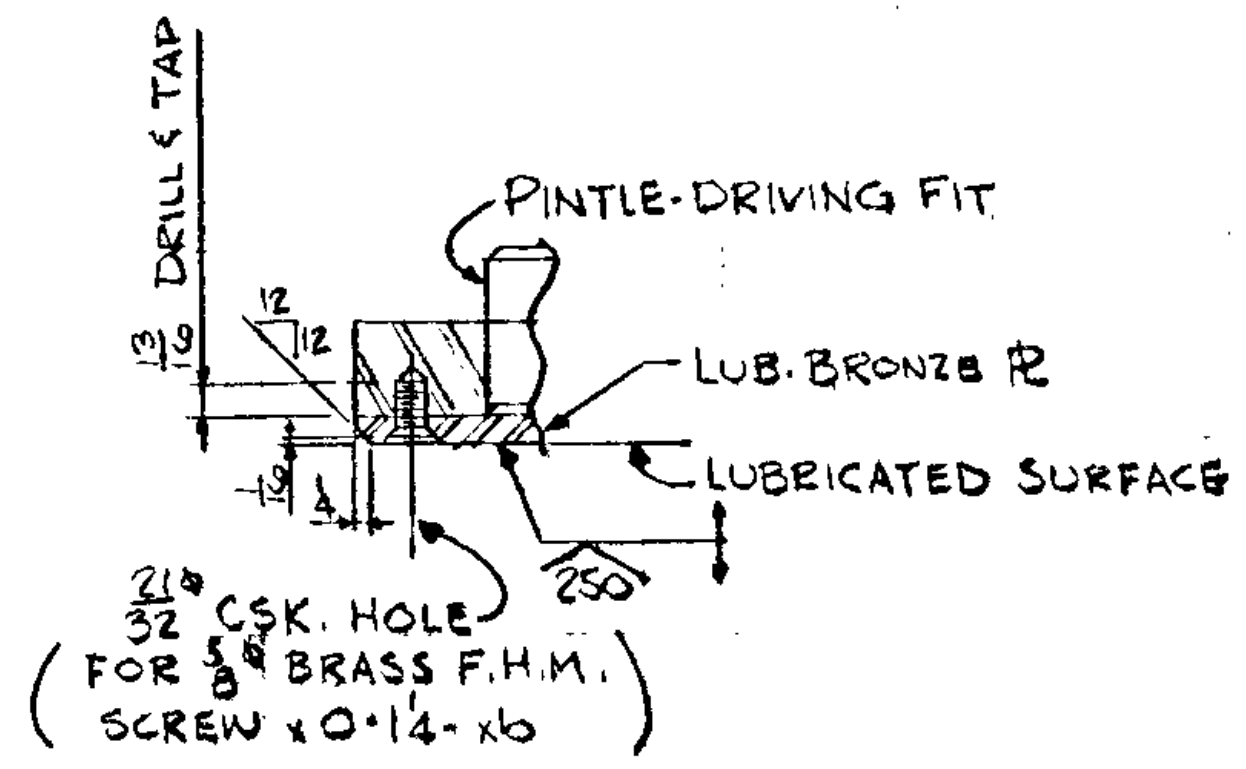
28- ANC. BOLTS - IK1
28- WASHER - IW1
(NO PAINT - GALV. PER M.H.D. 3392)



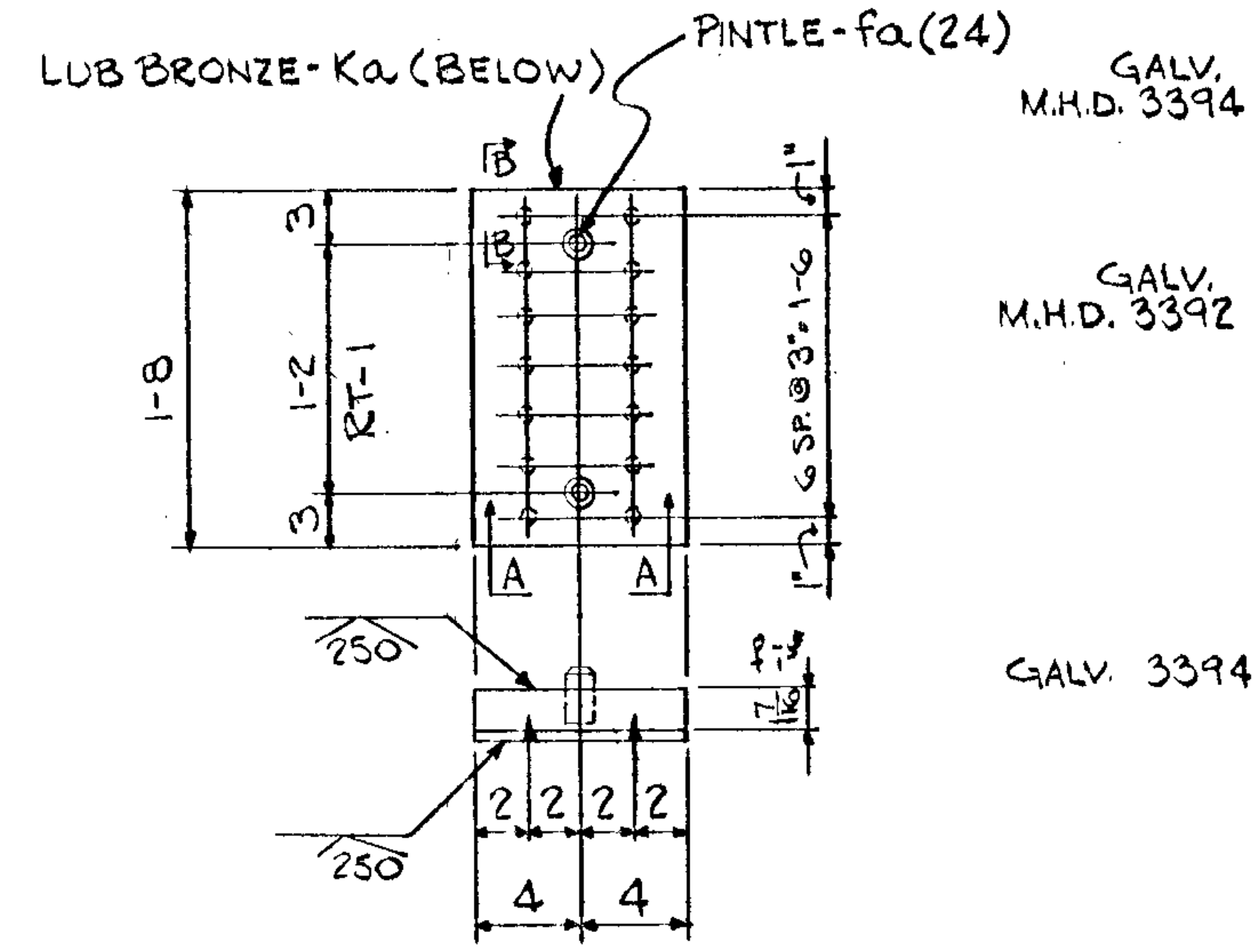
SECT. A-A
(ENLARGED)



2- BASE P'S - IDI (EXP. TYPE I)
(GALV. - NO PAINT - EXCEPT SHT. LEAD)



SECT. B-B



12- BASE P - 1B1 (FOR IDI)
(GALV. - NO PAINT - EXCEPT LUB. BRONZE)

NOTES:

1. PINTLES SHALL CONFORM TO M.H.D. 3314 TYPE II.
2. ALL OTHER STRUCTURAL STEEL AS PER M.H.D. 3306 U.N.
3. MATL. & WORKMANSHIP AS PER M.H.D. SPECS DATED JAN. 1, 1972, SUPP. SPECS DATED JAN. 1, 1974, & SPECIAL PROVISIONS.
4. TO BE SHOP INSPECTED BY M.H.D. BEFORE & AFTER GALV.
5. ALL P'S SHALL BE FLAT AFTER WELDING & FABRICATION.
6. ALL WELDED JOINTS TO BE COMPLETELY SEALED.
7. BRG. ASSEMBLIES TO BE GALV. AS NOTED AFTER FAB., AS PER M.H.D. 3394.
8. NO PAINT ON MATL. TO BE GALV., LUB BRONZE, OR LEAD P'S.
9. BRONZE & STEEL PORTIONS OF BASE P'S SHALL BE SHOP ASSEMBLED AFTER P'S ARE GALV., & BOXED FOR SHIPMENT PER M.H.D. 2471.3K.
10. BRONZE TO BE ROLLED ALUMINUM BRONZE R PER ASTM. B169, ALLOY G14, SOFT TEMPER, MILL FINISH OR CAST ALUMINUM BRONZE PER ASTM B148 ALLOY 954 OR 955.
11. FINISH P'S IN DIRECTION OF MOVEMENT AS SHOWN.
12. LUB BRONZE AS PER M.H.D. 3329 INSERTS IN BOTT. SURFACE.
13. EDGE FIN. SHALL CONFORM TO M.H.D. 2471.3C4 - 2471.3D4
14. SHEET LEAD SHALL CONFORM TO M.H.D. 3335. (PAY MHD 3306)
15. SEE SHT. B1 FOR MATCHMARK NUMBERS.
16. SEE SHT. B1 FOR ADDITIONAL NOTES.
17. PREFORMED FLEX. FILLER PER ASTM D1752-60T TYPE I

ITEM	QTY	MATERIAL
IFB1	2	R-1 1/2 x 8 x 12-3
IDI	2	R-1 1/2 x 12 x 12-3
1B1	12	R-1 1/2 x 8 x 1-8
IK1	28	SWEDGED ROD 1 1/4 x 1-6
IW1	28	HW. HEX NUTS FOR 1 1/4"
IW2	8	PREF. FLEX. FILLER 4 x 3 x 4
fa	48	PINTLE - 1/4" x 0-18
IL1	2	SHT. LEAD 8" x 12-3
IL2	2	SHT. LEAD 8" x 12 x 12-3
Ka	12	LUB BRONZE 2 x 8 x 1-8
xB	168	BRASS F.H.M. SCREW 8" x 0-14
Pe	10	1/2 x 44 x 1-0
Px	8	3/4 x 4 x 0-4

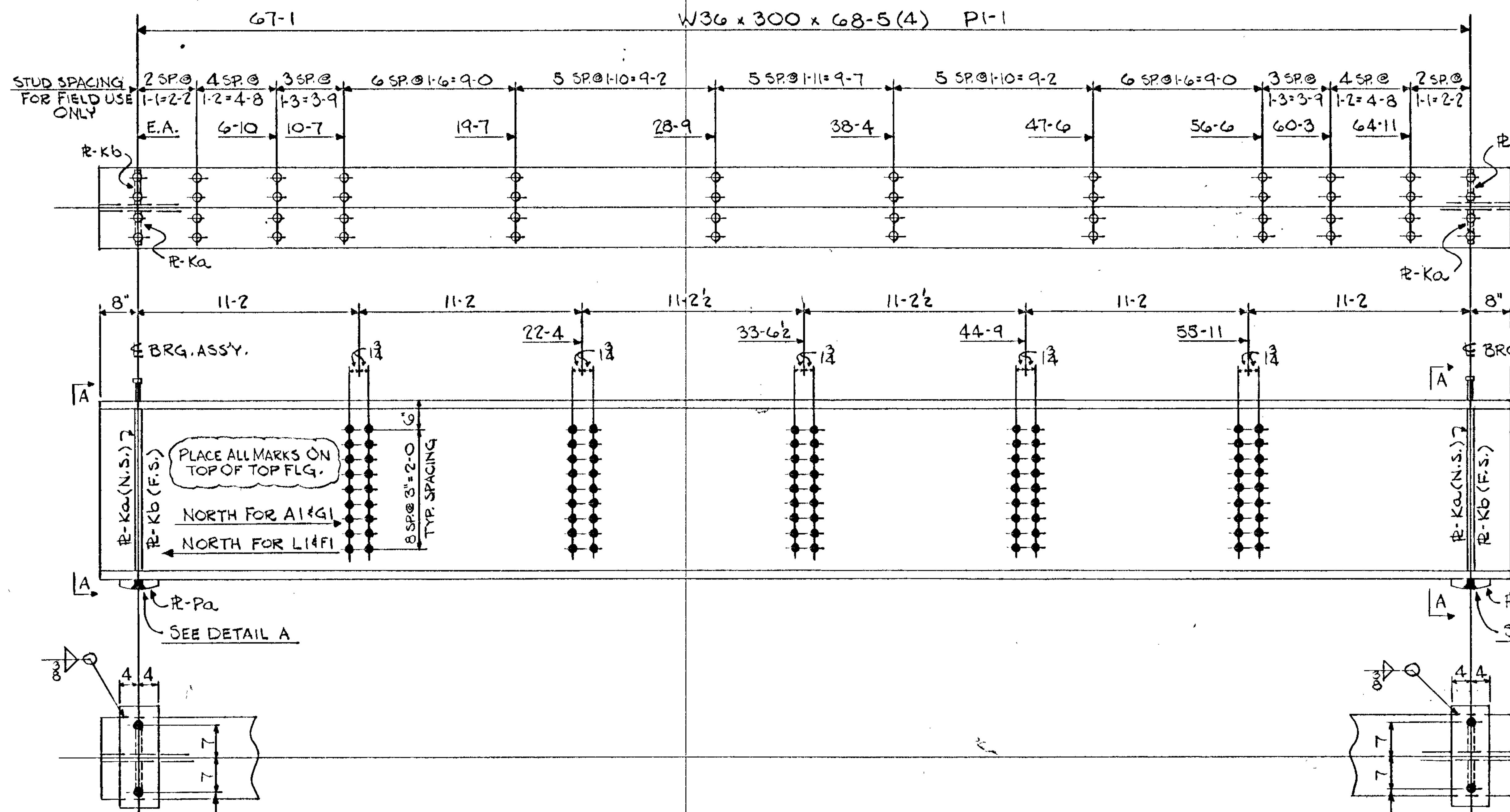
GALV. M.H.D. 3394
GALV. M.H.D. 3392
GALV. 3394



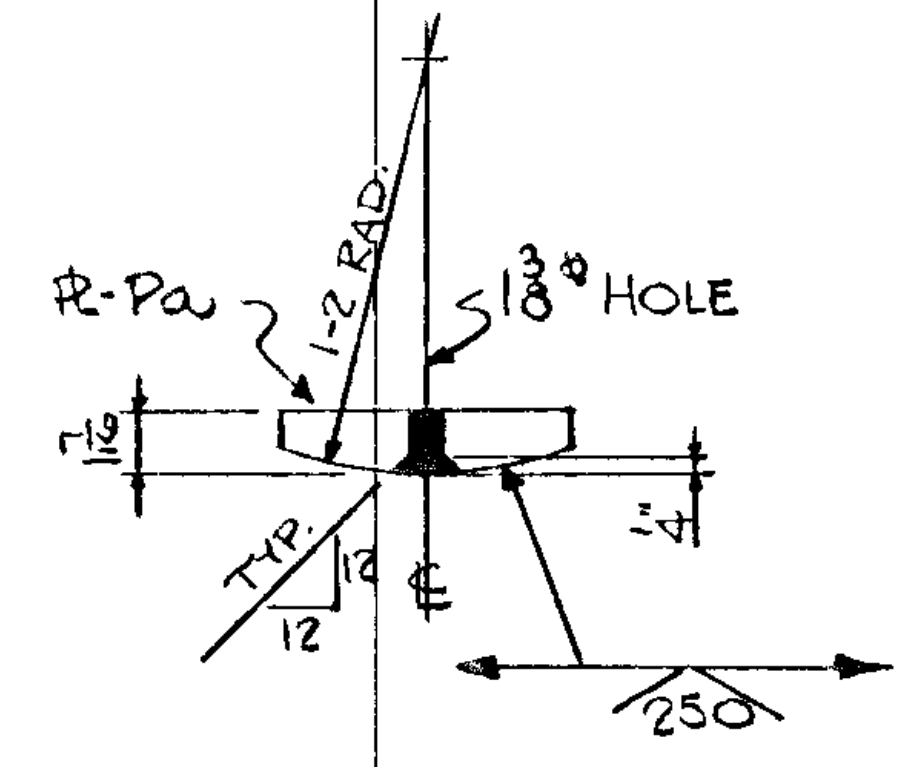
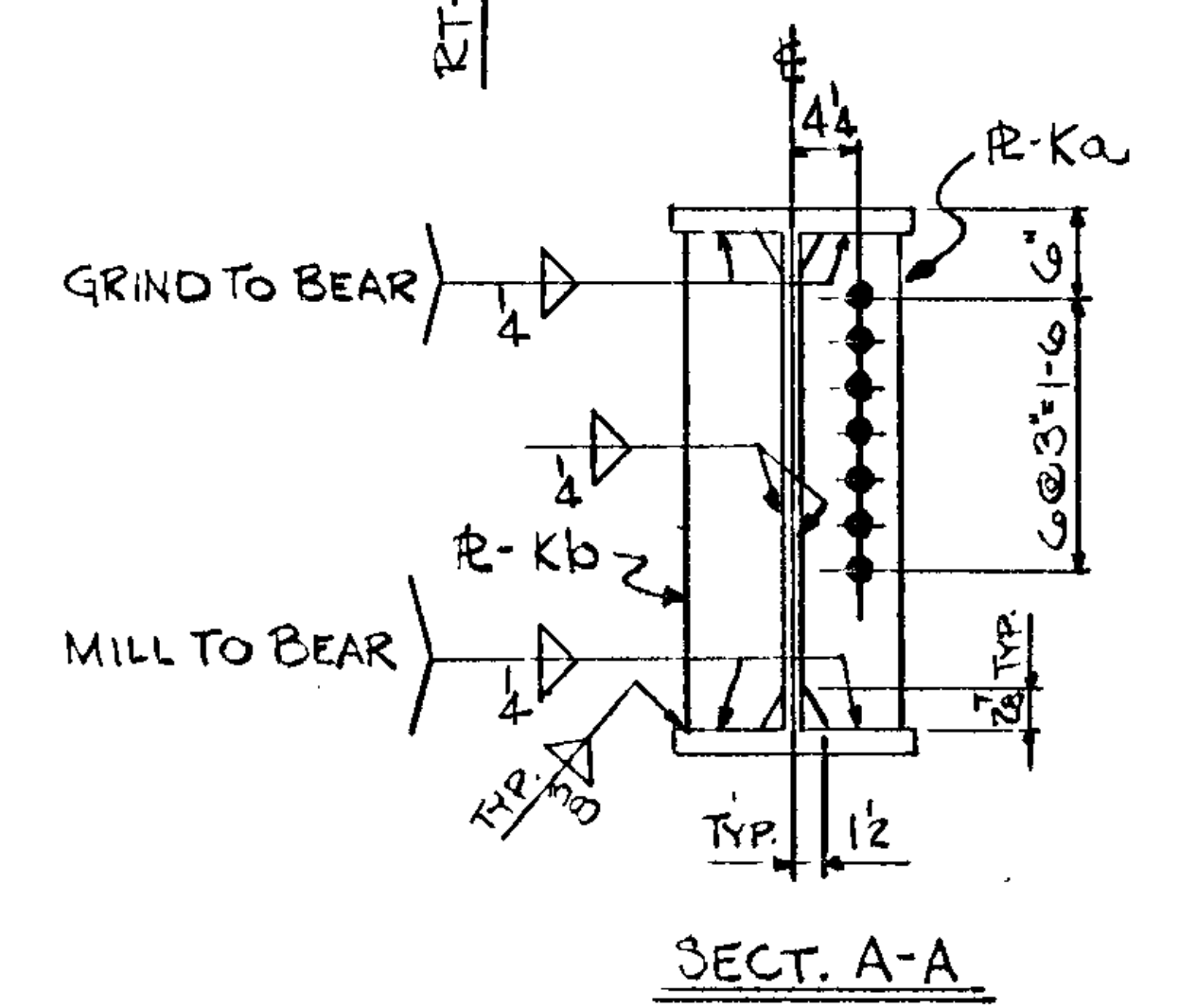
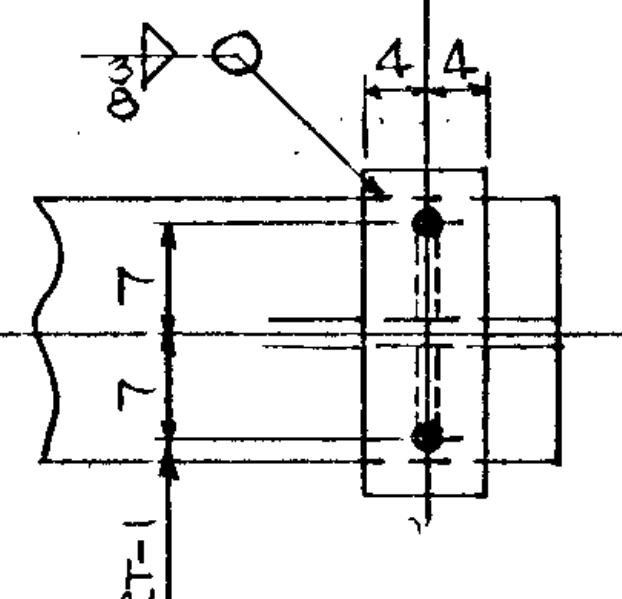
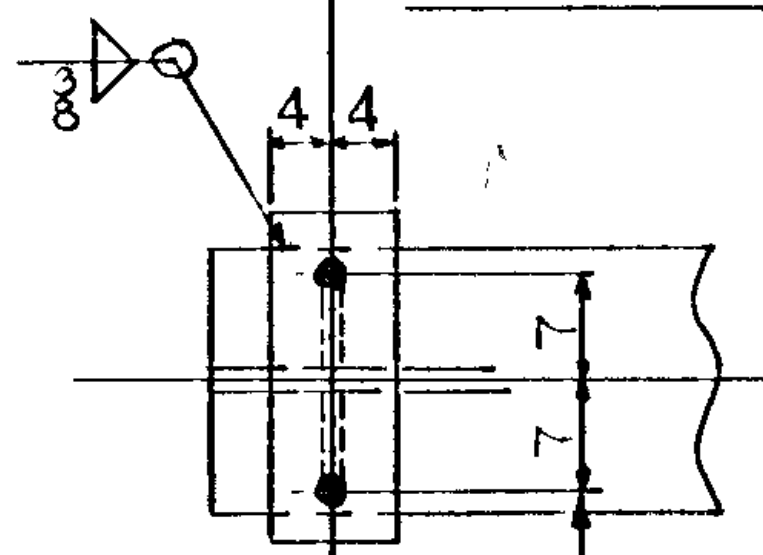
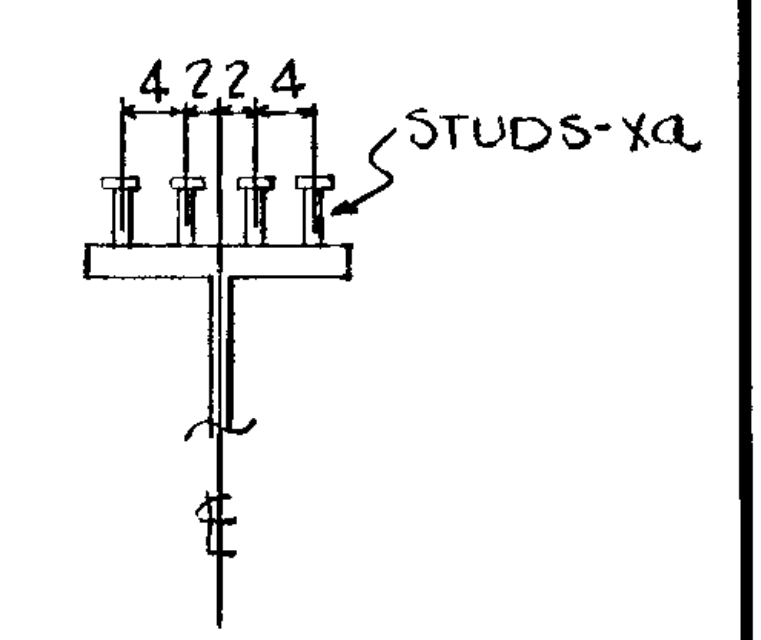
STATE PROJ. No. 02-606-07
FED. PROJ. No. M-5115(1)

ST. PAUL STRUCTURAL STEEL CO. 102 YORK AVE. ST. PAUL, MINN 55117	
BRIDGE NO. 02524	
MADE BY JON	DATE 2-26-75
CHECKED BY WISE	DATE 3-31-75
SHOP PAINT	
OPEN HOLES	NOTED
CONTRACT NO. 75-17	SHEET 1

DESCRIPTION BRG. ASSEMBLIES



ITEM	QTY	MATERIAL
PI-1	A1	1 W36x300x68-5
	L1	1 Do x68-5
PI-7	Ka	8 R-5x7x2-9/2
	Kb	8 Do x2-9/2
PI-8	Pa	8 R-7/16x8x1-8
SHIP LOOSE	Xa	736 STUDS-3/8"x0-3/2
PI-1	F1	1 W36x300x68-5
	G1	1 Do x68-5



1 - GIRDER - A1
 1 - DO - F1
 1 - DO - G1
 1 - DO - L1

GIRDERS IDENTICAL EXCEPT MARK & DIRECTION

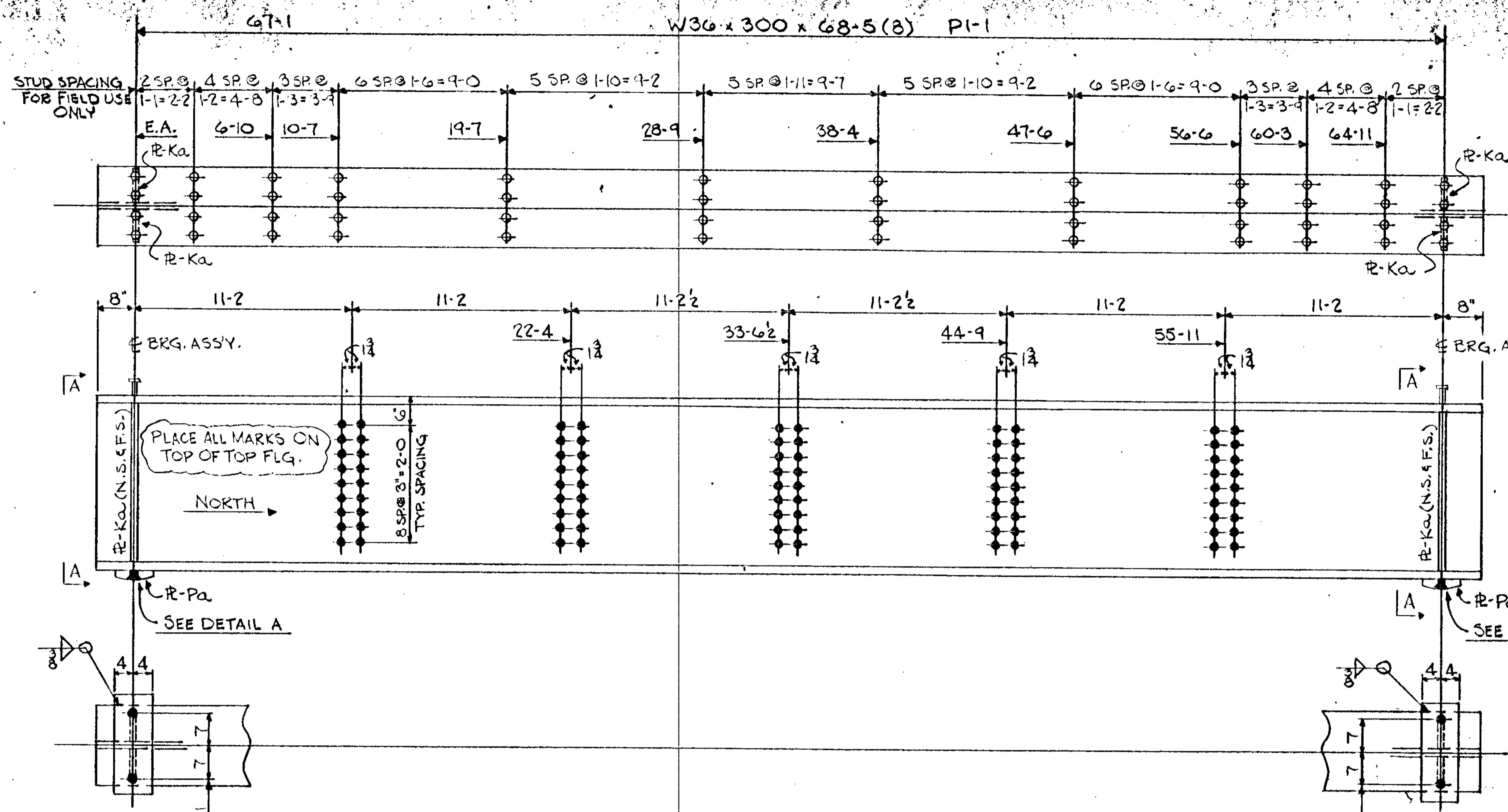
(APPROX. WT. PER GIRDER = 10 1/2 TONS)

NOTES:
 ALL STEEL M.H.D. 3309
 SEE SHT. E1 FOR ERECTION & NOTES
 NO BEAM CAMBER IS REQUIRED BUT BEAMS MUST BE PLACED SO THAT ANY EXISTING NATURAL CAMBER IS UPWARD.

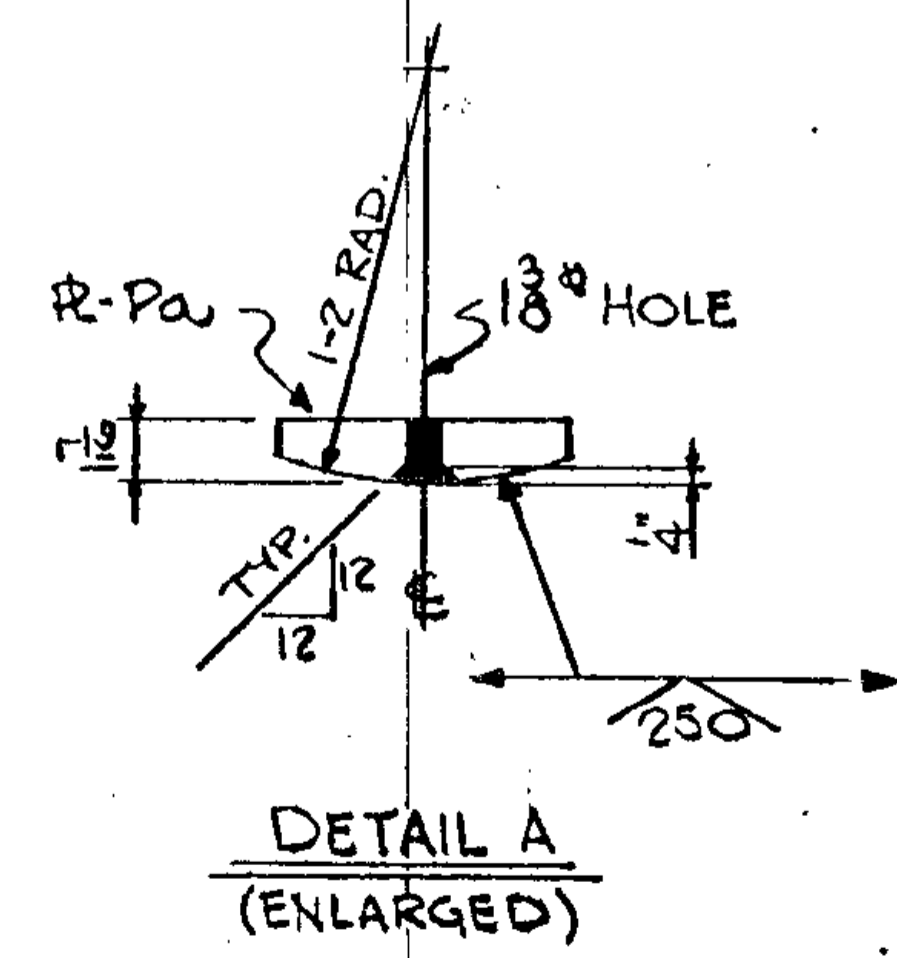
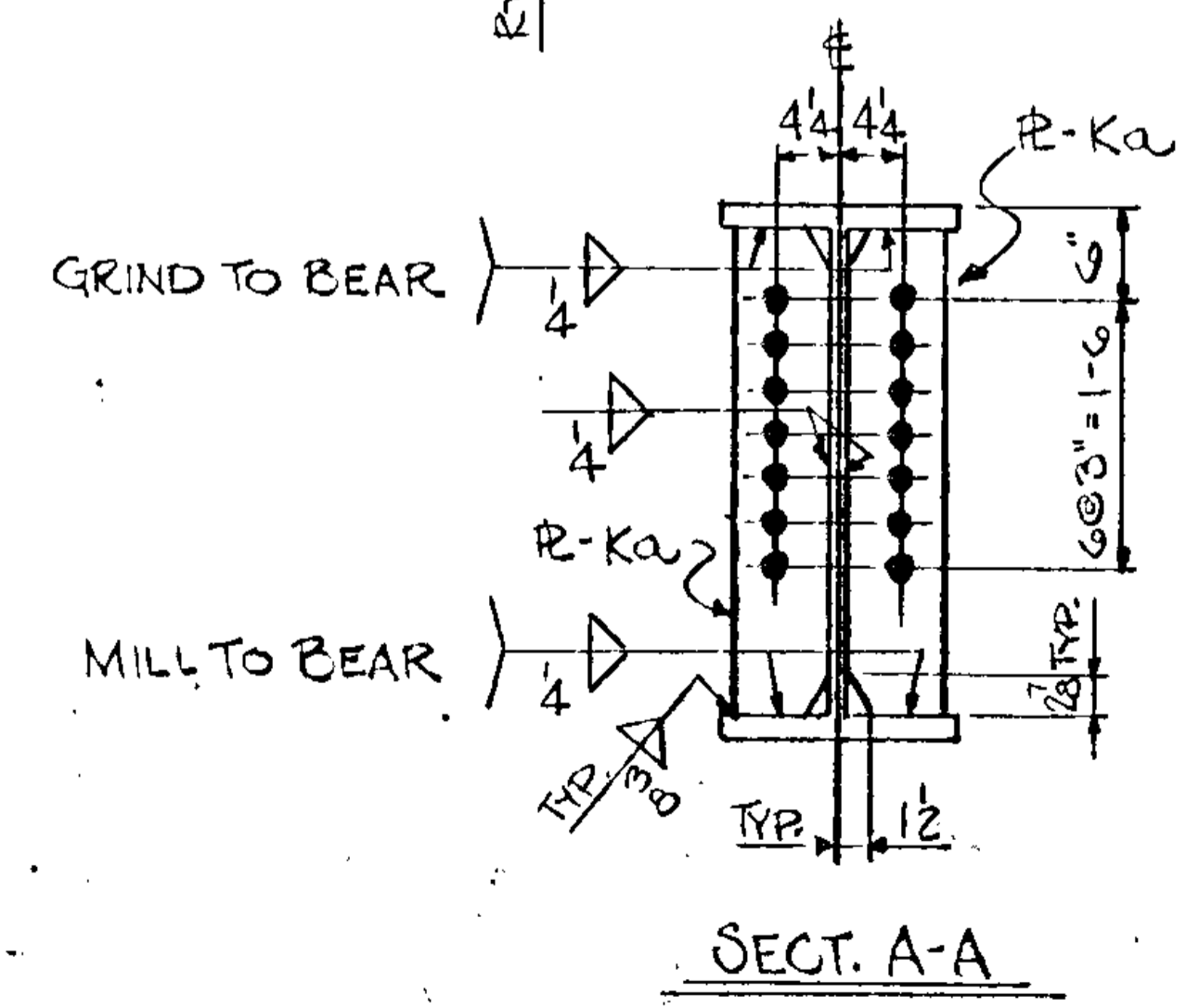
ST. PAUL STRUCTURAL STEEL CO.	
162 YORK AVE. ST. PAUL, MINN 55117	
BRIDGE NO. 02524	
MADE BY JON	DATE 2-26-75
CHECKED BY R.J	DATE 4-17-75
SHOP PAINT NONE	
STATE PROJ. No. 02-606-07	OPEN HOLES 1/16" UNLESS NOTED
FED. PROJ. No. M-5115(1)	CONTRACT NO. 75-17 SHEET 2



DESCRIPTION GIRDERS A1, F1, G1, L1



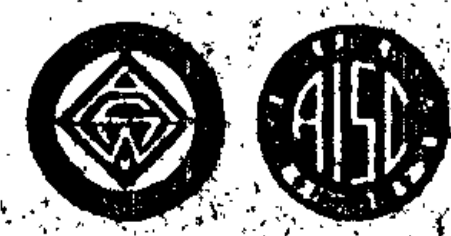
ITEM	QTY	MATERIAL
B1	1	W36 x 300 x 68.5
C1	1	D0 x 68.5
D1	1	D0 x 68.5
E1	1	D0 x 68.5
H1	1	D0 x 68.5
I1	1	D0 x 68.5
J1	1	D0 x 68.5
K1	1	D0 x 68.5
PI-7	Ka	32 R-5 x 7 x 2-9/2
PI-8	Pa	16 R-1 x 8 x 1-8
SHIP LOOSE	Xa	1472 STUDS-3/8 x 0-3/2



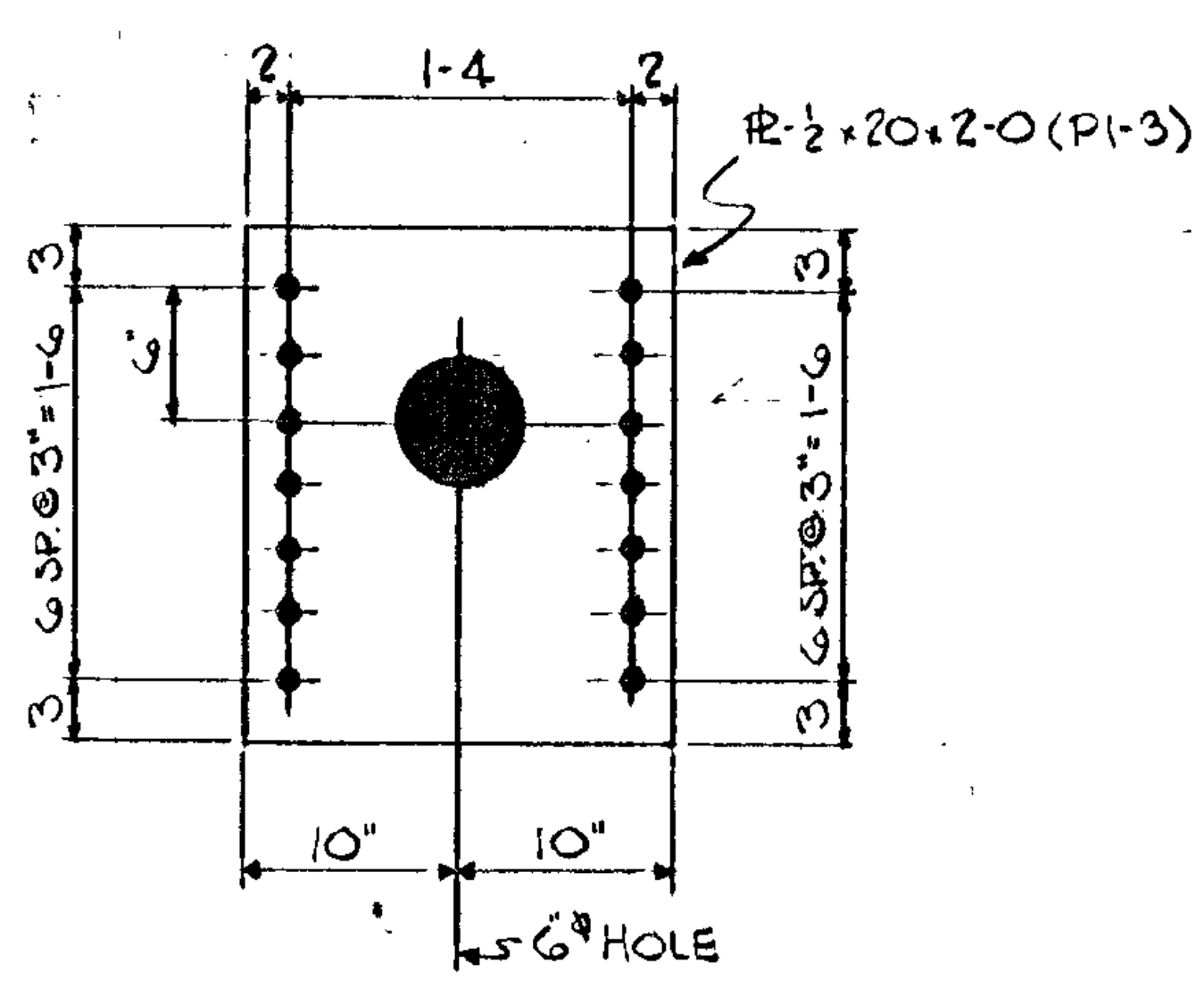
- 1- GIRDER - B1
 - 1- DO - C1
 - 1- DO - D1
 - 1- DO - E1
 - 1- GIRDER - H1
 - 1- DO - I1
 - 1- DO - J1
 - 1- DO - K1
- GIRDERS IDENTICAL EXCEPT MARK
- (APPROX. WT. PER GIRDER = 10 1/2 TONS)

NOTES:
 ALL STEEL M.H.D. 3309
 SEE SH. E1 FOR ERECTION & NOTES
 NO BEAM CAMBER IS REQUIRED BUT BEAMS MUST BE PLACED SO THAT ANY EXISTING NATURAL CAMBER IS UPWARD.

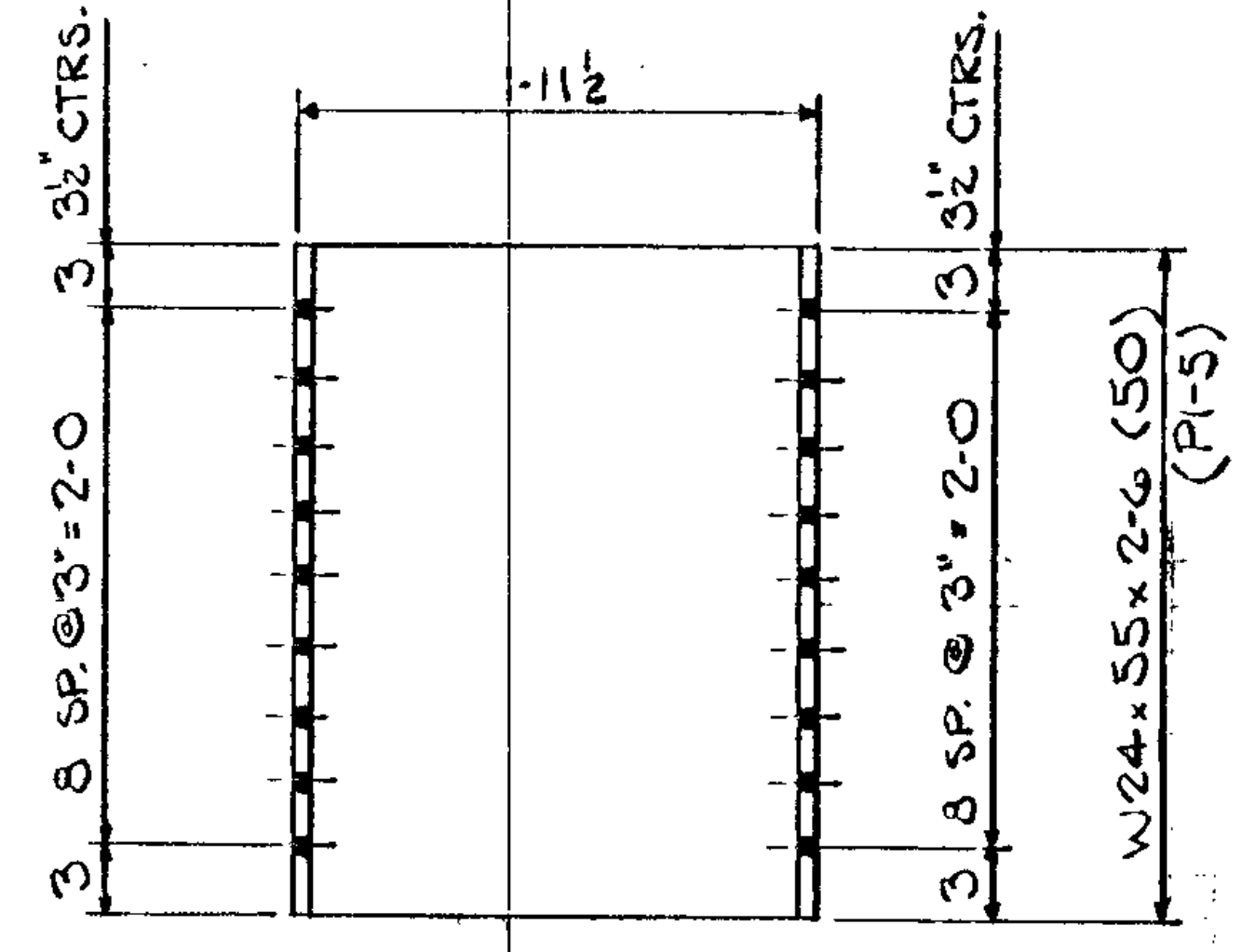
ST. PAUL STRUCTURAL STEEL CO.	
BRIDGE NO. 02524	DATE 7-26-75
MADE BY JON	CHECKED BY R. U
SHOP PAINT NONE	UNLESS NOTED
STATE PROJ. NO. 02-606-07	CONTRACT NO. 75-17
FED. PROJ. NO. M-5115(1)	SHEET 3



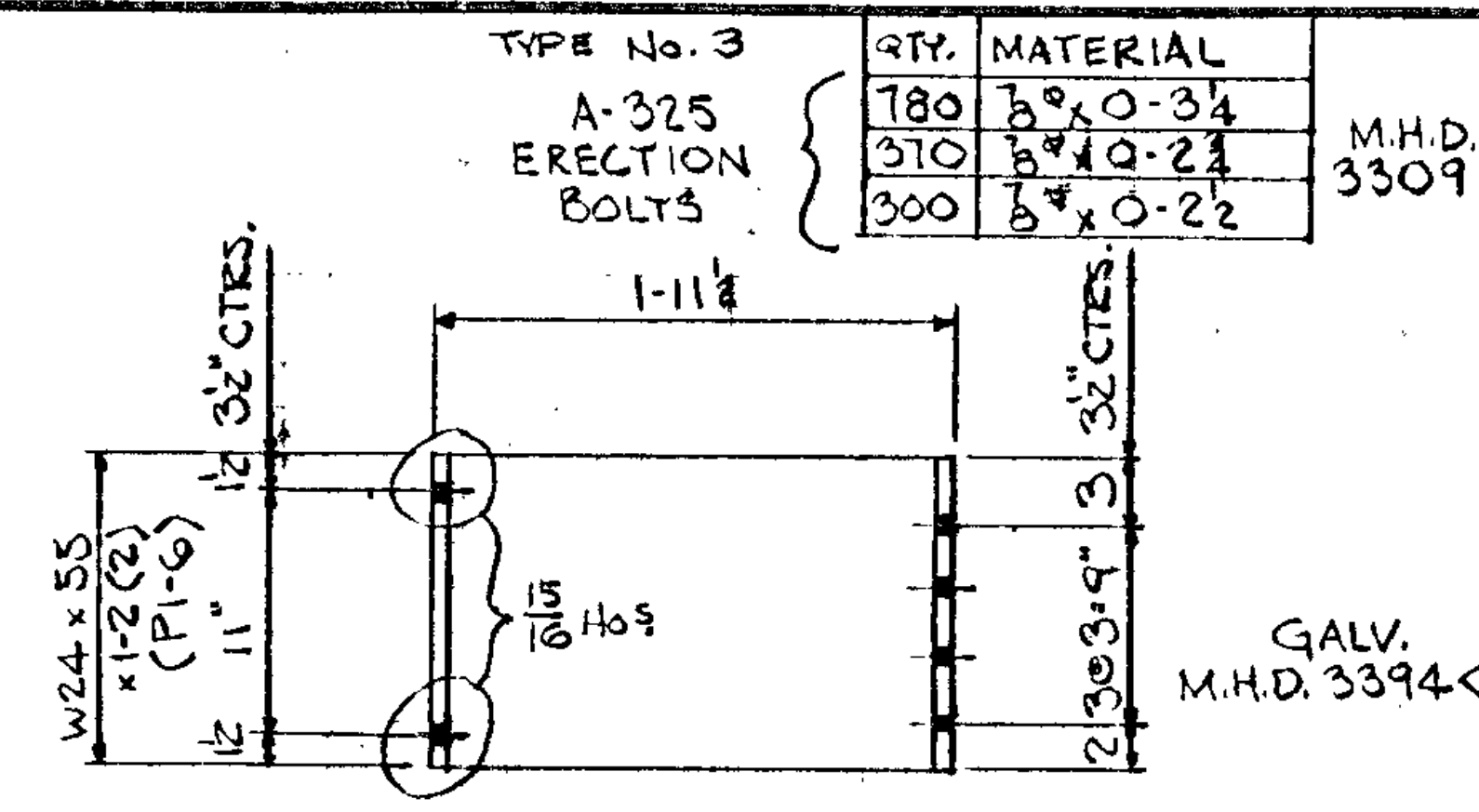
DESCRIPTION GIRDERS B1, C1, D1, E1, H1, J1, K1



20 - DIAPH'S - 4D1



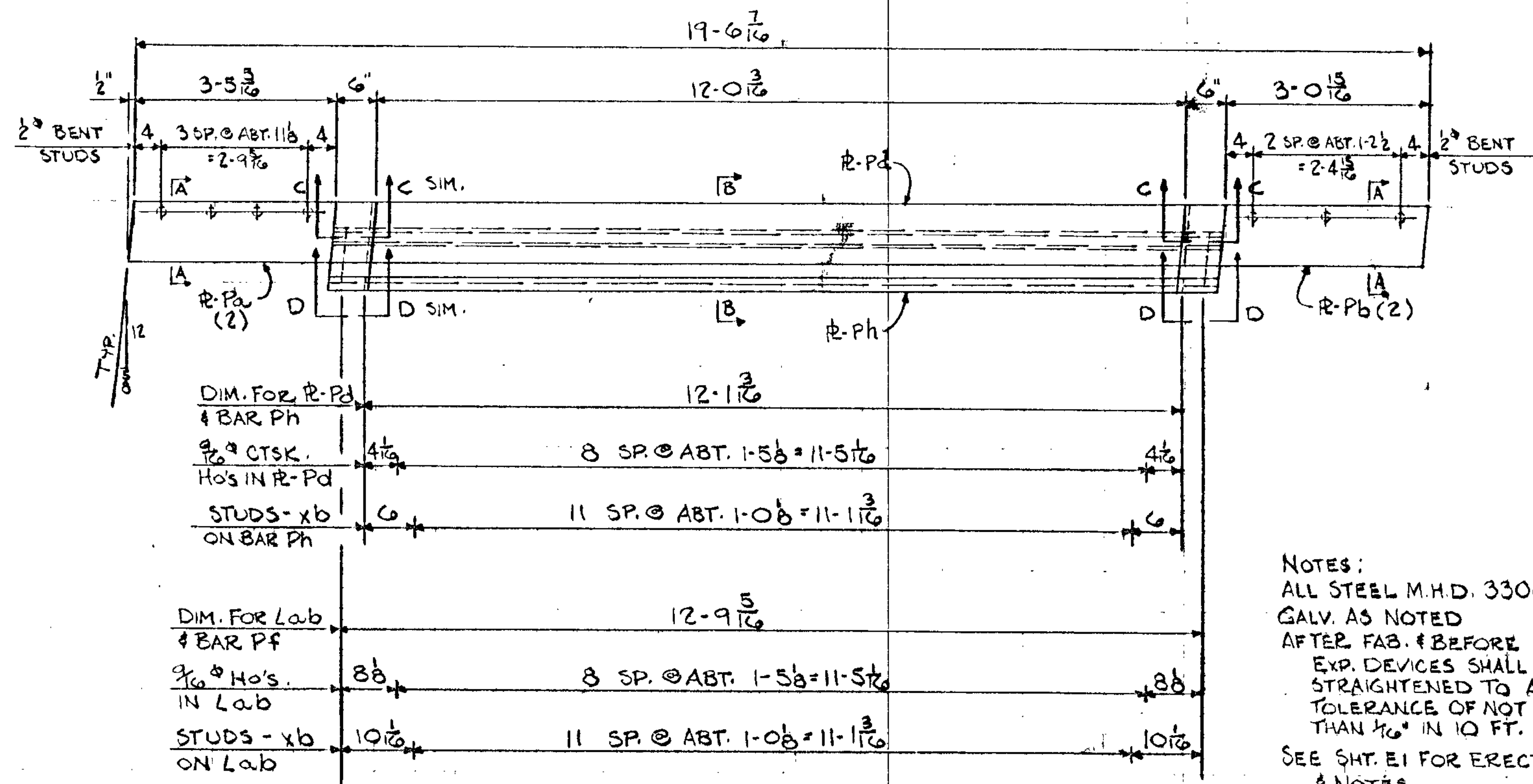
50 - DIAPH'S - 4D2



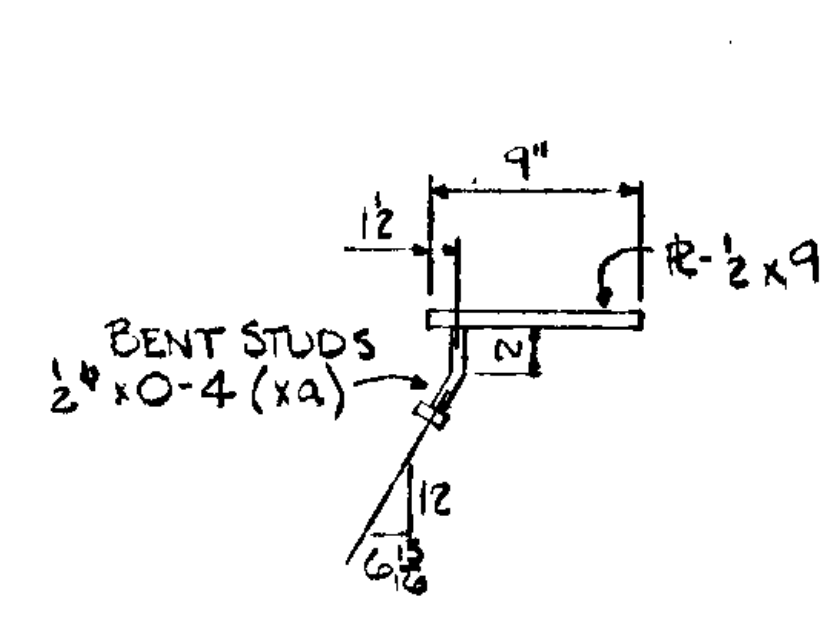
2 - SIGN BRACKETS - 4B3

QTY.	MATERIAL
180	3/8" x 0-34
370	3/4" x 0-21
300	7/8" x 0-22

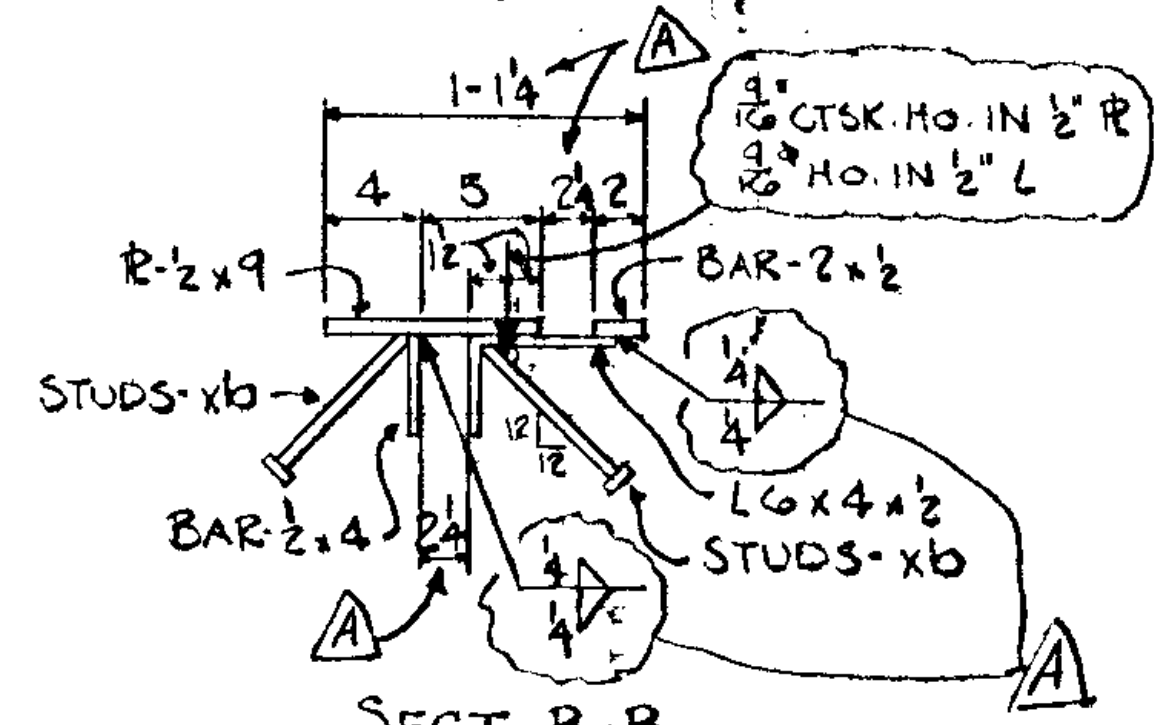
ITEM	QTY.	MATERIAL
4D1	20	R-2 x 20 x 2-0
4D2	50	W24 x 55 x 2-6
4B3	2	Do x 1-2
4P4	2	EXP. R. ASSY.
Pa	2	R-2 x 9 x 3-3 1/2
Pb	2	Do x 3-1 1/2
Pc	4	Do x 1-9 1/2
Pd	2	Do x 12-1 1/2
Pe	4	BAR-2 x 4 x 1-10 1/2
Pf	2	Do x 12-9 1/2
Pg	4	BAR-2 x 2 x 1-10
Ph	2	Do x 12-1 1/2
av	4	L-6 x 4 x 2 x 1-10 1/2
ab	2	Do x 12-9 1/2
xa	14	BENT STUDS-2" x 0-4
xb	64	STUDS-3/8" x 0-8
32	2" CTSK. C.S. x 0-1	



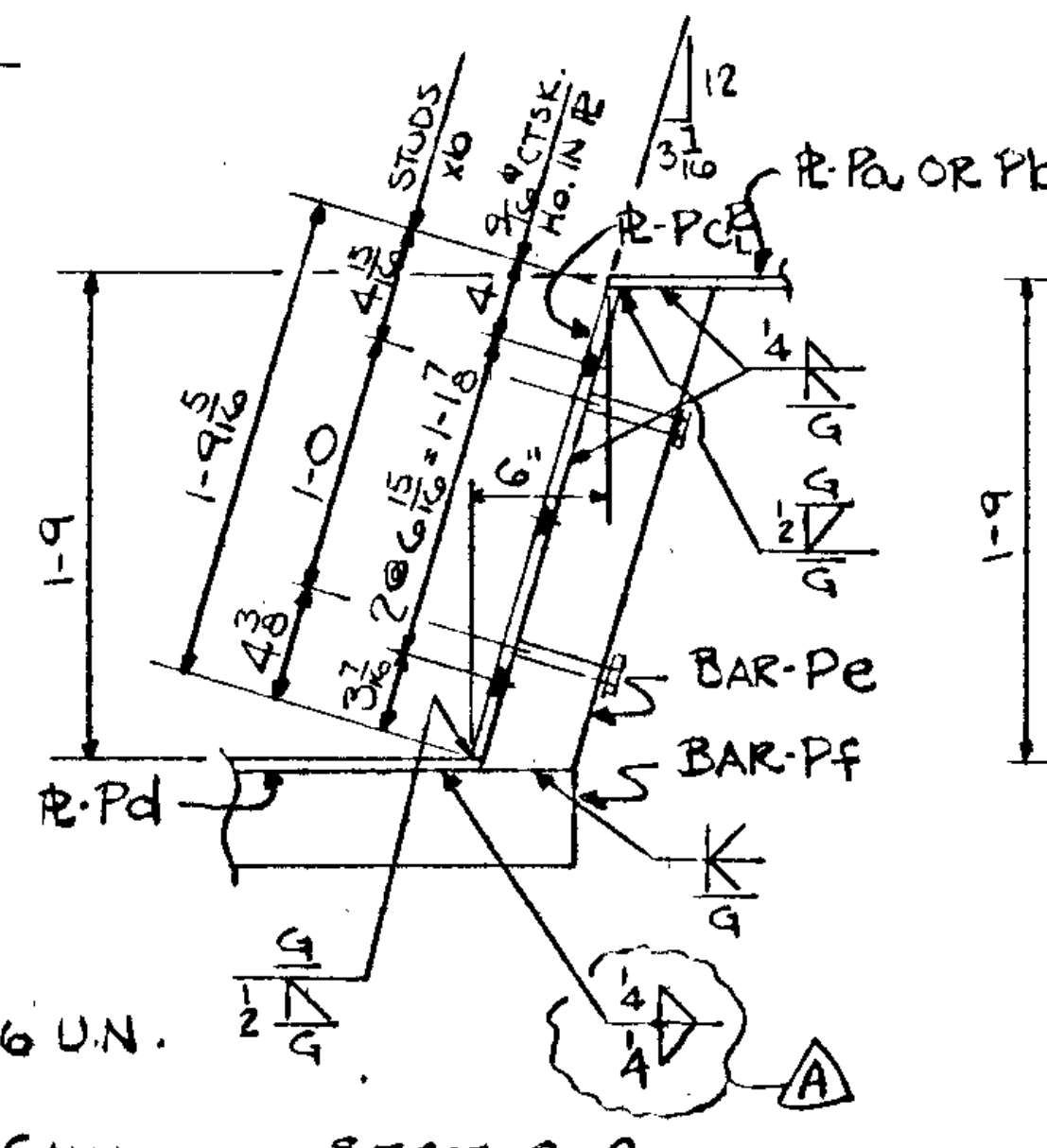
2 - EXP. R'S - 4P4
(GALV. - NO PAINT)



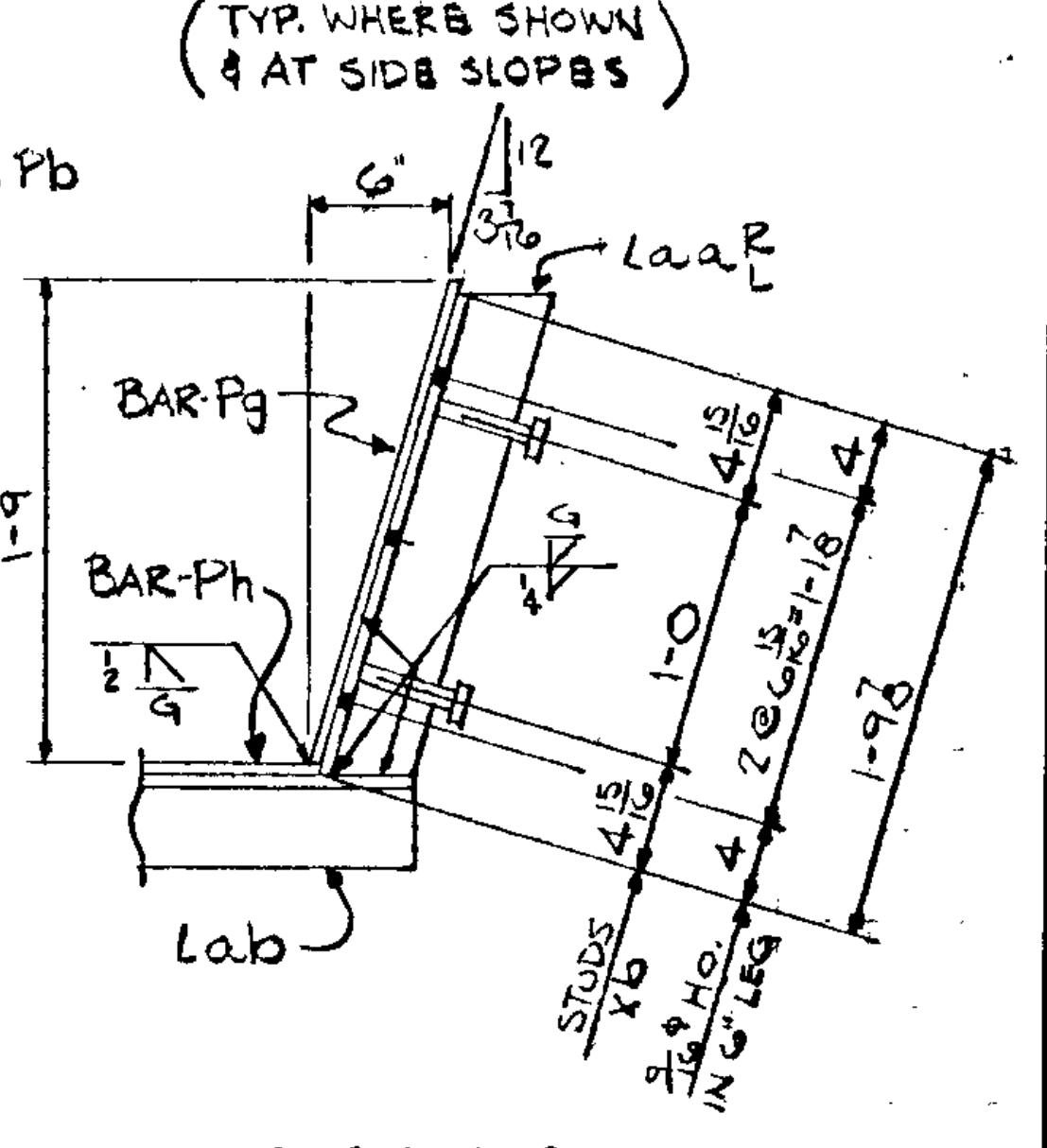
SECT. A-A



SECT. B-B



SECT. C-C



SECT. D-D

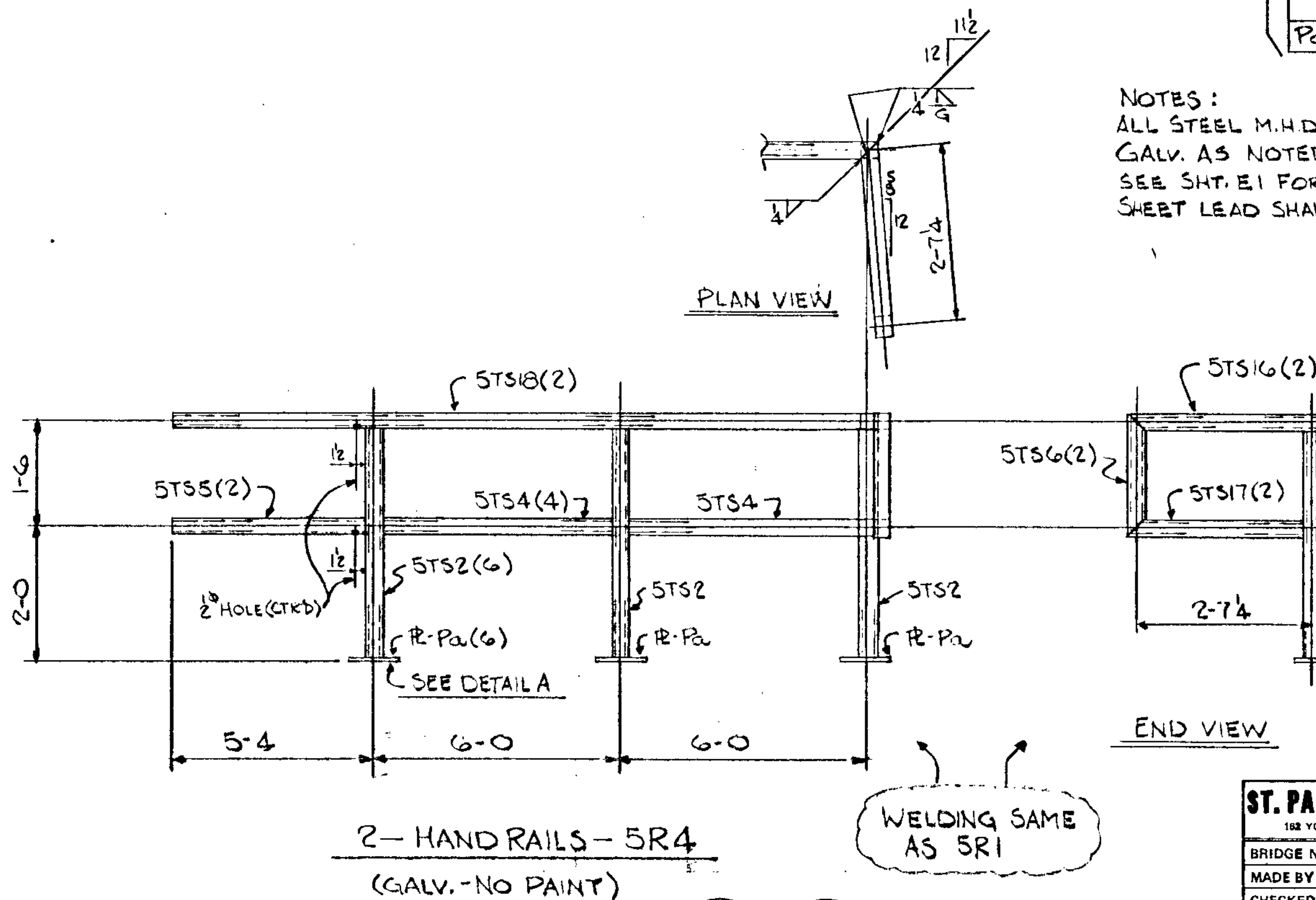
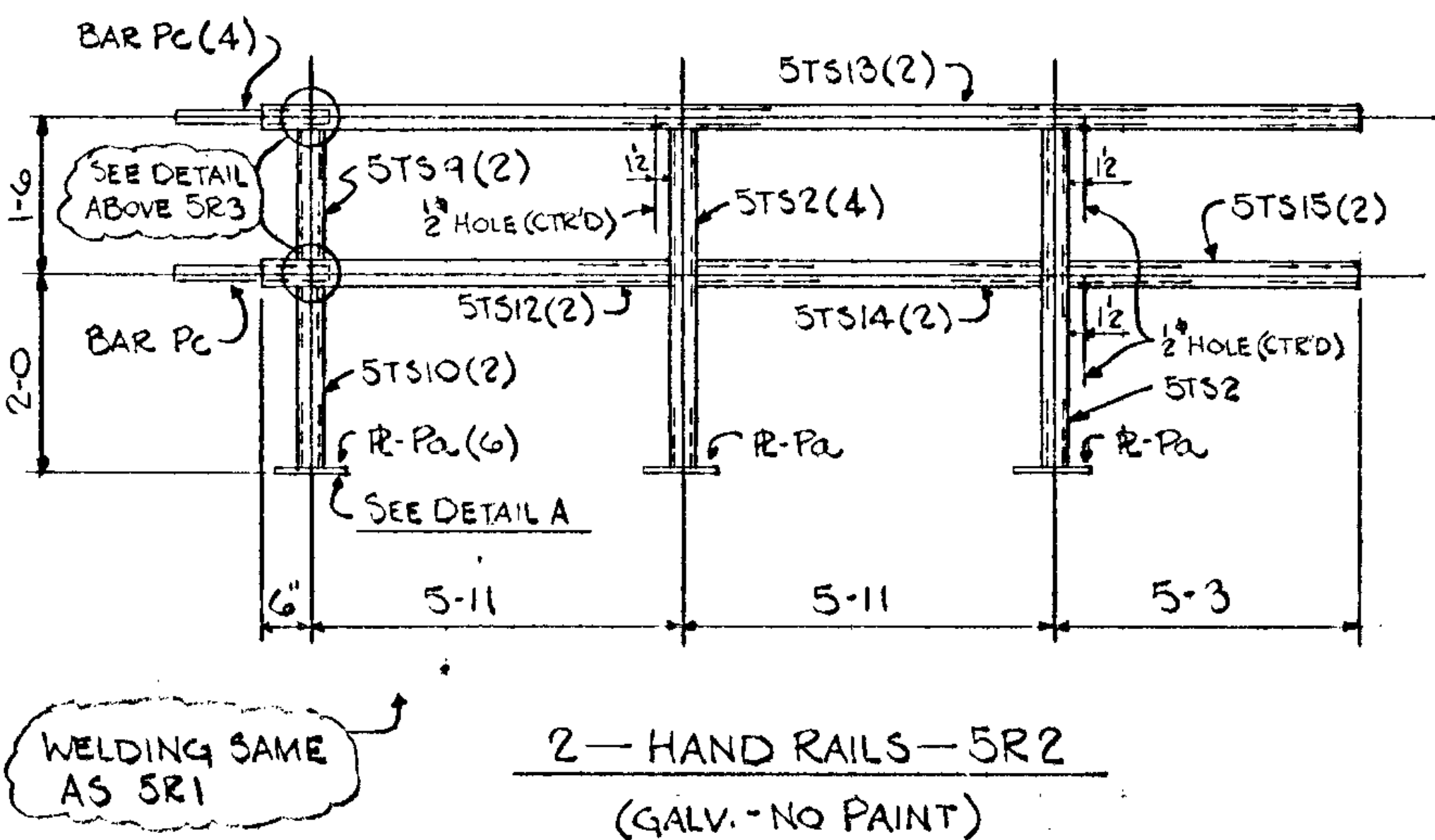
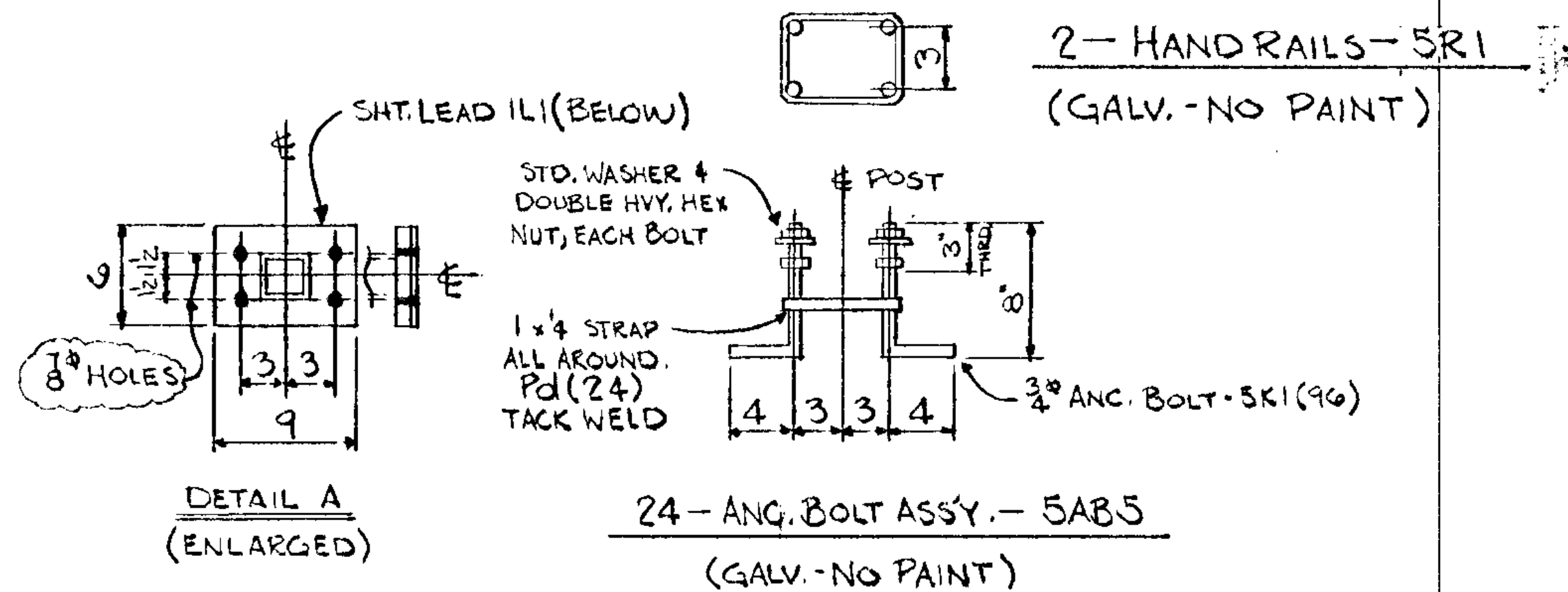
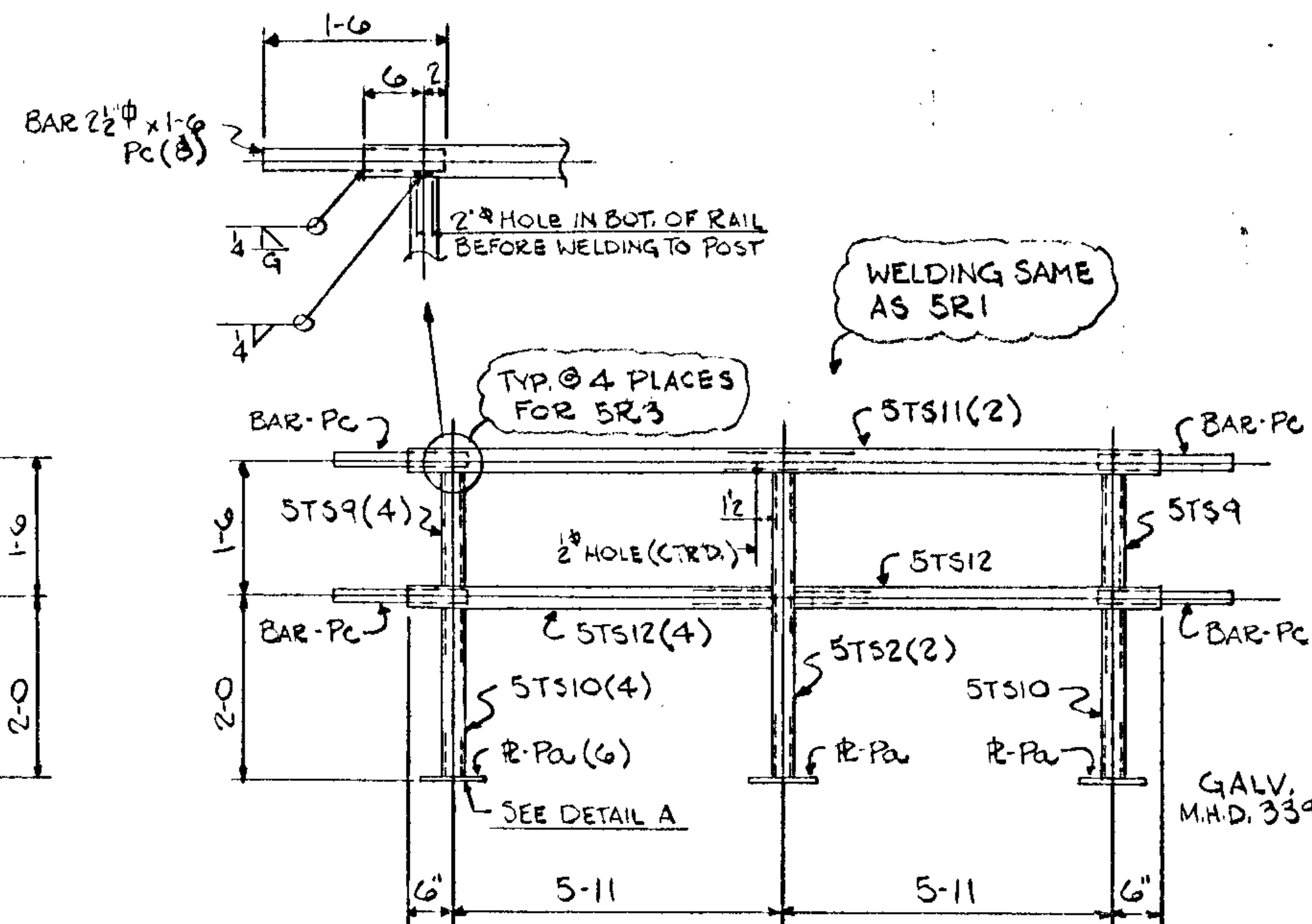
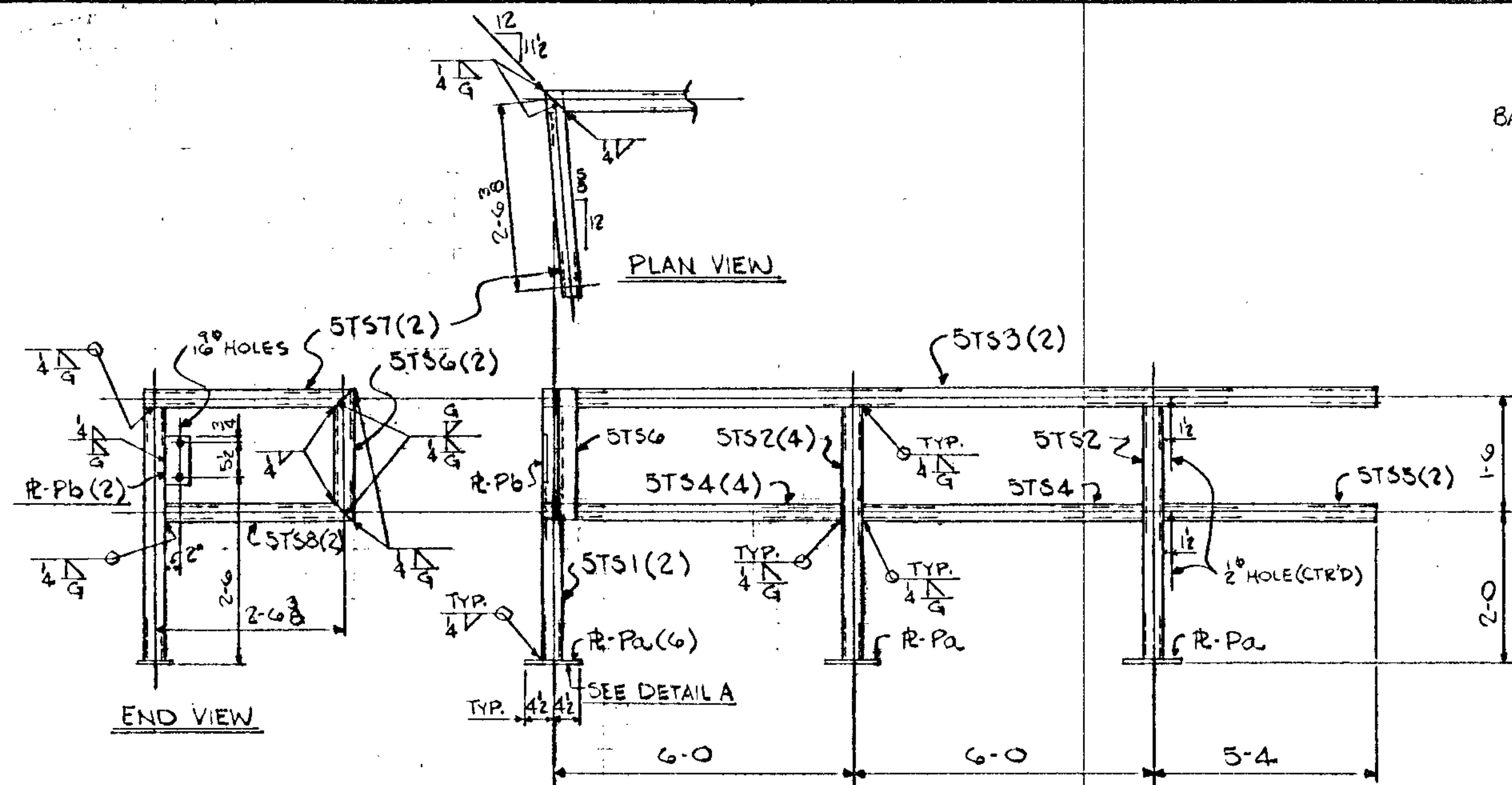
NOTES:
ALL STEEL M.H.D. 3306 U.N.
GALV. AS NOTED
AFTER FAB. & BEFORE GALV.
EXP. DEVICES SHALL BE
STRAIGHTENED TO A
TOLERANCE OF NOT MORE
THAN 1/16" IN 10 FT.
SEE SHT. E1 FOR ERECTION
& NOTES

(L-6 x 4 IN FOREGROUND
NOT SHOWN. SHOWN
IN SECT. D-D)



REV A CHANGED WELD. 5-22-75
STATE PROJ. No. 02-606-07
FED. PROJ. No. M-5115(1)

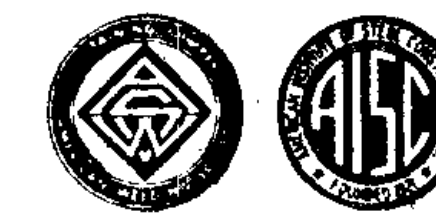
ST. PAUL STRUCTURAL STEEL CO.	
188 YORK AVE. ST. PAUL, MINN. 55117	
BRIDGE NO. 02524	
MADE BY JON	DATE 3-4-75
CHECKED BY R.O.J.	DATE 4-17-75
SHOP PAINT	
OPEN HOLES 1/2"	UNLESS NOTED
CONTRACT NO. 75-17	SHEET 4



ITEM	QTY	MATERIAL
SR1	2	HAND RAILS
SR2	2	Do
SR3	2	Do
SR4	2	Do
STS1	2	TS 3x3x4x17-5/16
STS2	16	Do x 3-3/4
STS3	2	Do x 17-5/16
STS4	8	Do x 5-9
STS5	4	Do x 5-2 1/2
STS6	4	Do x 1-9
STS7	2	Do x 2-9/16
STS8	2	Do x 2-6/8
STS9	6	Do x 1-3
STS10	6	Do x 1-9 1/4
STS11	2	Do x 12-10
STS12	6	Do x 6-3/2
STS13	2	Do x 17-7
STS14	2	Do x 5-8
STS15	2	Do x 3-1/2
STS16	2	Do x 7-10 1/4
STS17	2	Do x 2-7/4
Pa	24	R-3/4 x 6 x 0-9
Pb	2	R-4 x 3 x 0-7
Pc	12	BAR-2 1/2" x 1-6
IL1	24	SHEET LEAD-8" x 6 x 0-9
5AB5	24	ANG BOLT ASSY.
5K1	96	BENT BOLT-3/4" x 0-11 3/8
	96	STD. WASH. FOR 3/4"
	192	HVY. HEX NUT FOR 3/4"
Pd	24	BENT BAR-4 x 1 x 1-9

SEE DETAIL A - GALV. M.H.D. 3392

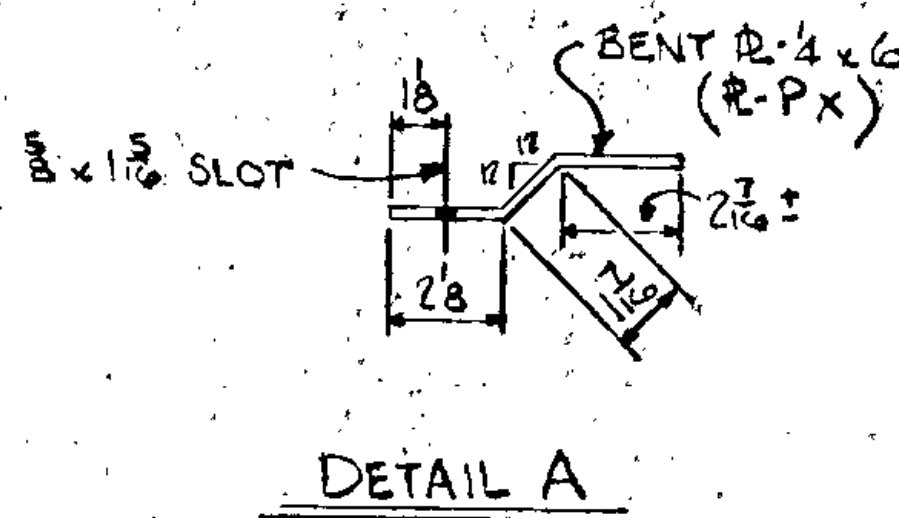
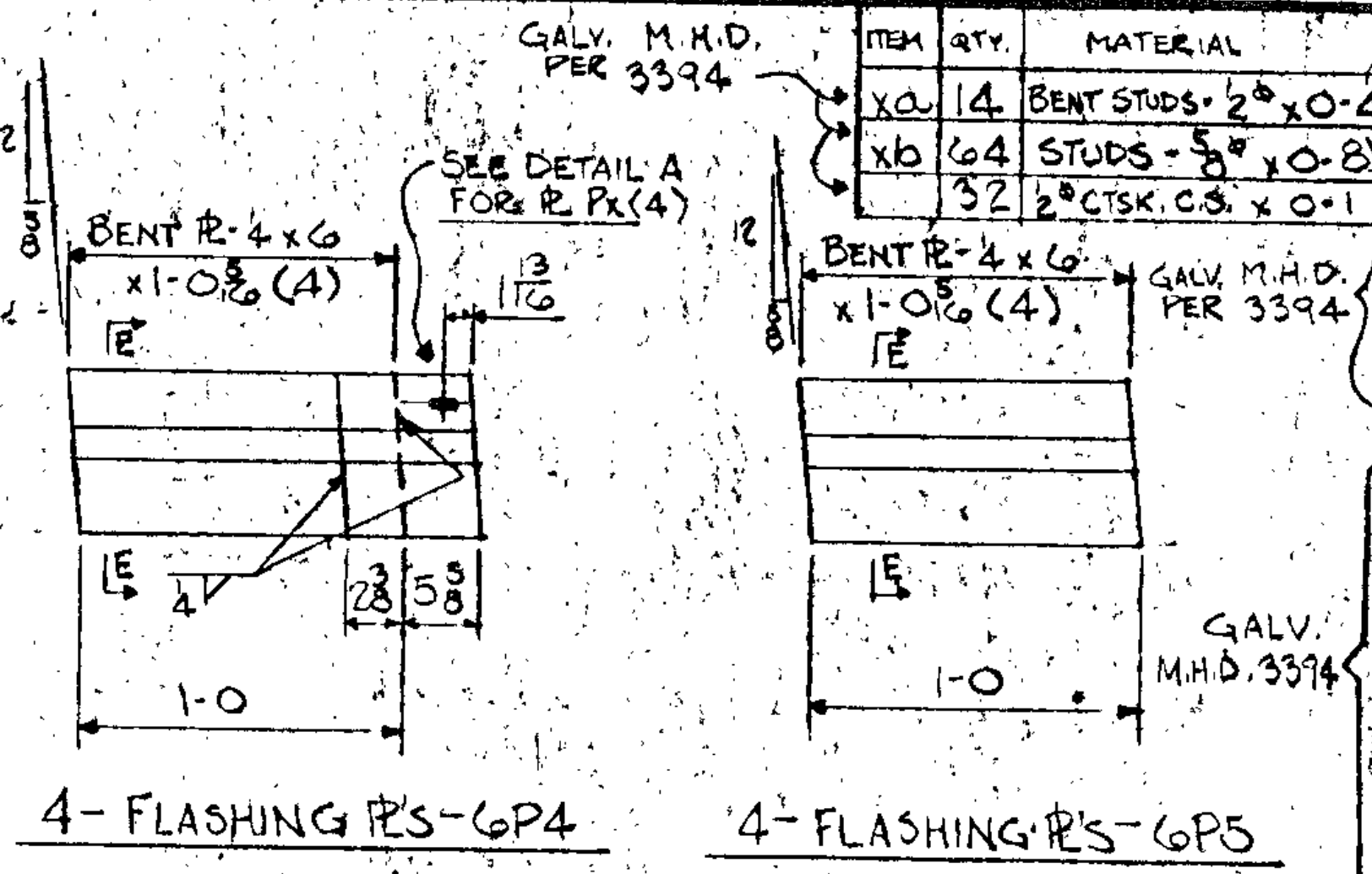
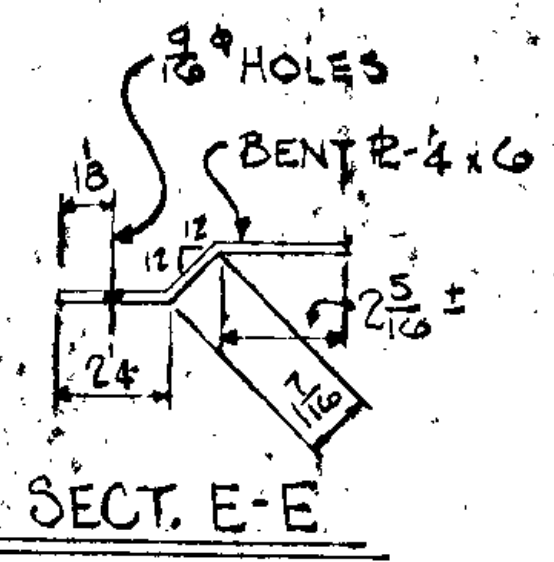
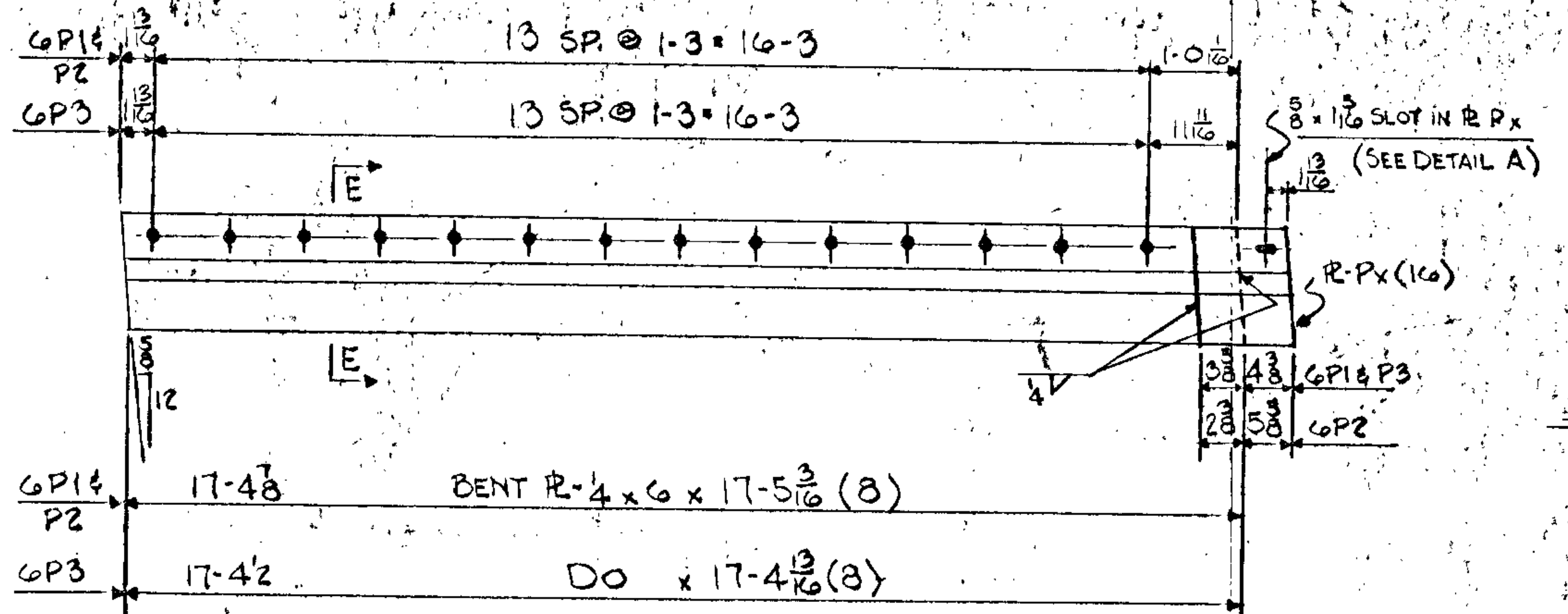
NOTES:
ALL STEEL M.H.D. 3306
GALV. AS NOTED.
SEE SHT. E1 FOR ERECTION & NOTES.
SHEET LEAD SHALL CONFORM TO M.H.D. 3335 (PAY M.H.D. 3306)



STATE PROJ. No. 02-606-07
F&D PROJ. No. M-5113(1)

ST. PAUL STRUCTURAL STEEL CO.	
BRIDGE NO. 02524	DATE 3-1-78
MADE BY JON	DATE
CHECKED BY WISE	DATE
SHOP PAINT	
OPEN HOLES	NOTED
CONTRACT NO. 75-17	SHEET 5

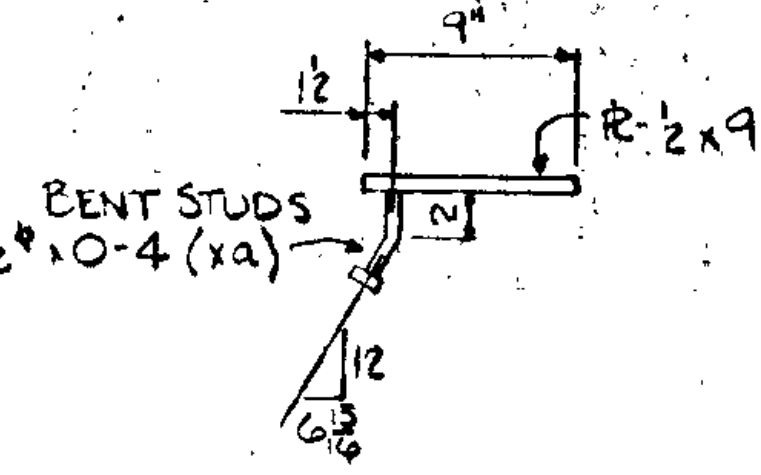
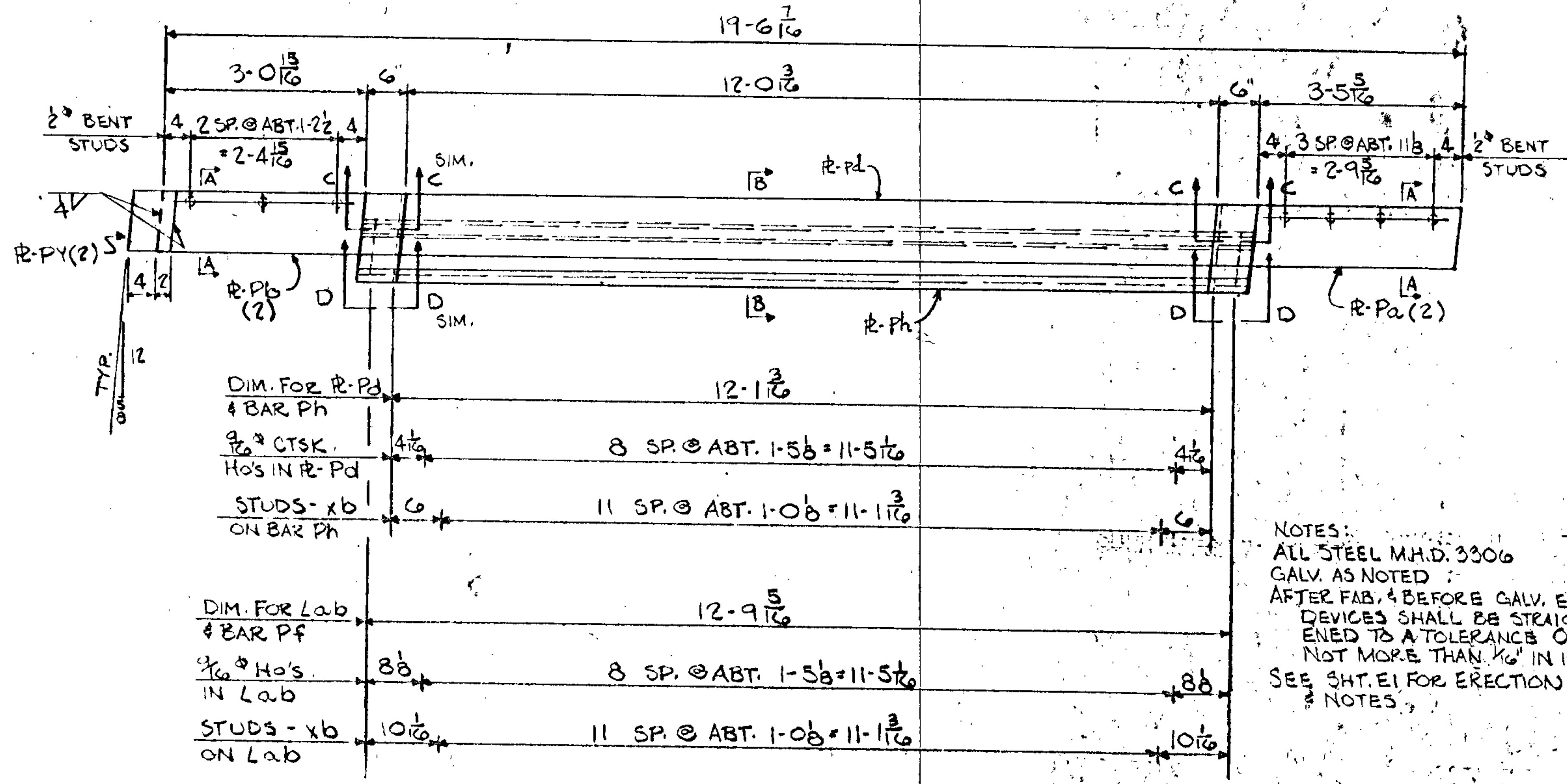
DESCRIPTION: HANDRAIL



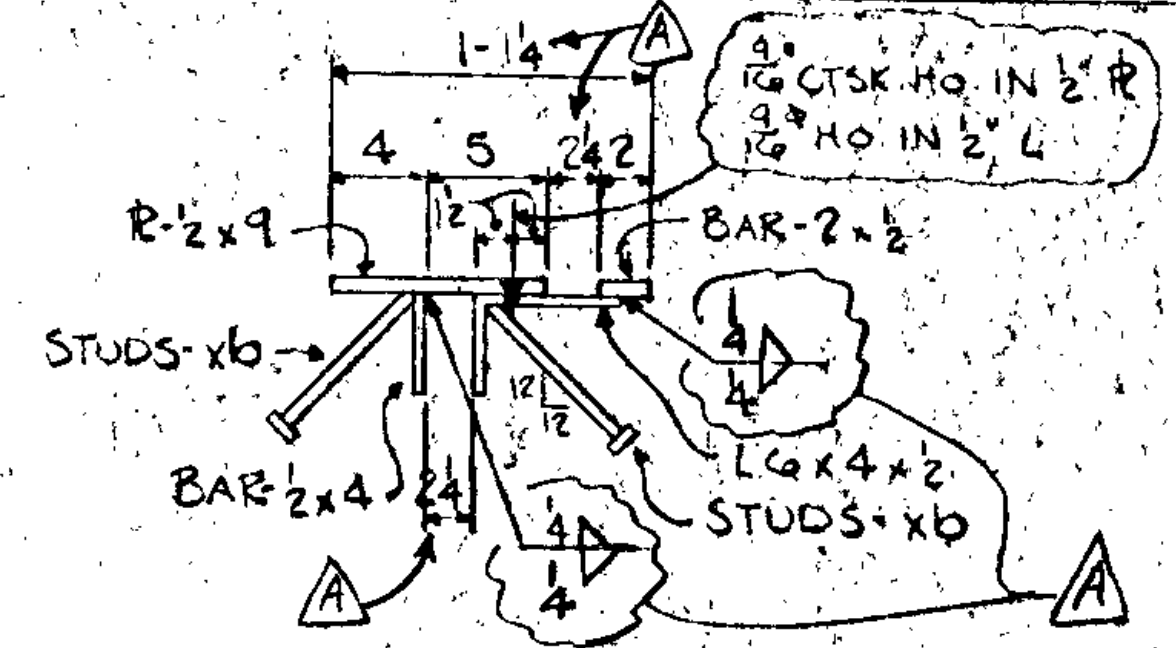
4- FLASHING R'S- GP1 4- FLASHING R'S- GP2
 8- FLASHING R'S- GP3
 (GALV.-NO PAINT)
 M.H.D. 3394

4- FLASHING R'S- GP4 4- FLASHING R'S- GP5

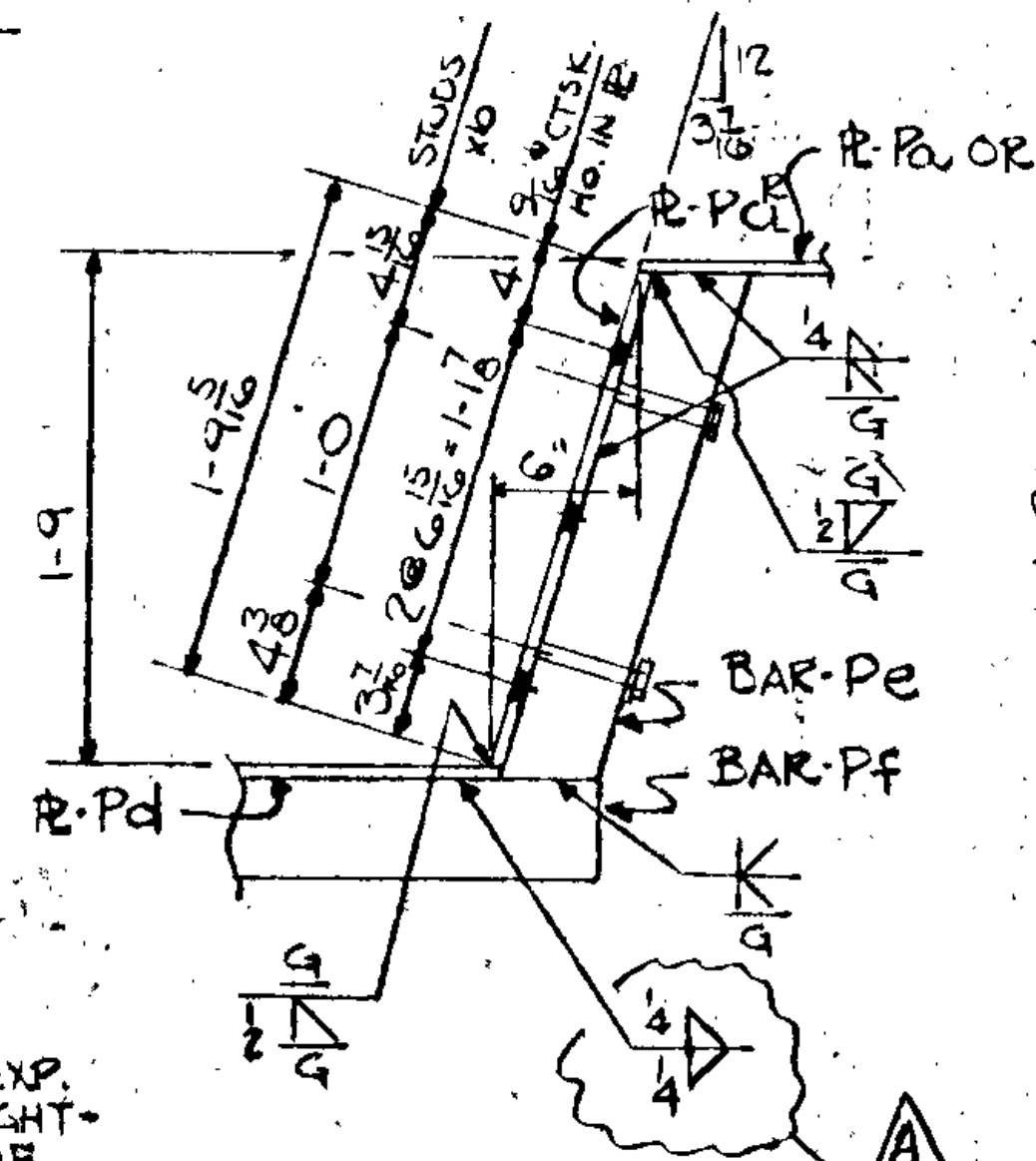
ITEM	QTY.	MATERIAL	ITEM	QTY.	MATERIAL
Xa	14	BENT STUDS - 2" x 0-4	GP1	4	BENT R-4x6x17-5 3/16
Xb	64	STUDS - 5/8" x 0-8	GP2	4	Do x 17-5 3/16
	32	2" CTSK. C.S. x 0-1	GP3	8	Do x 17-4 1/2
			GP4	4	Do x 17-4 3/8
			GP5	4	Do x 17-4 1/2
			Px	20	Do x 0-8 1/2
				240	KNICK BOLT - 2" x 0-3 3/4
			GP6	2	EXP. R' ASSY.
			Pa	2	R-2x9x3-5 1/2
			Pb	2	Do x 3-1 1/2
			Pc	4	Do x 1-9 1/8
			Pd	2	Do x 12-1 1/2
			Pe	4	BAR - 2x4x1-10 1/2
			Pf	2	Do x 2-9 1/2
			Pg	4	BAR - 2x2x1-10
			Ph	2	Do x 12-1 1/2
			aa	4	L6x4x2x1-10 1/2
			ab	2	Do x 12-9 1/2
			PY	2	R-4x6x2x0-9



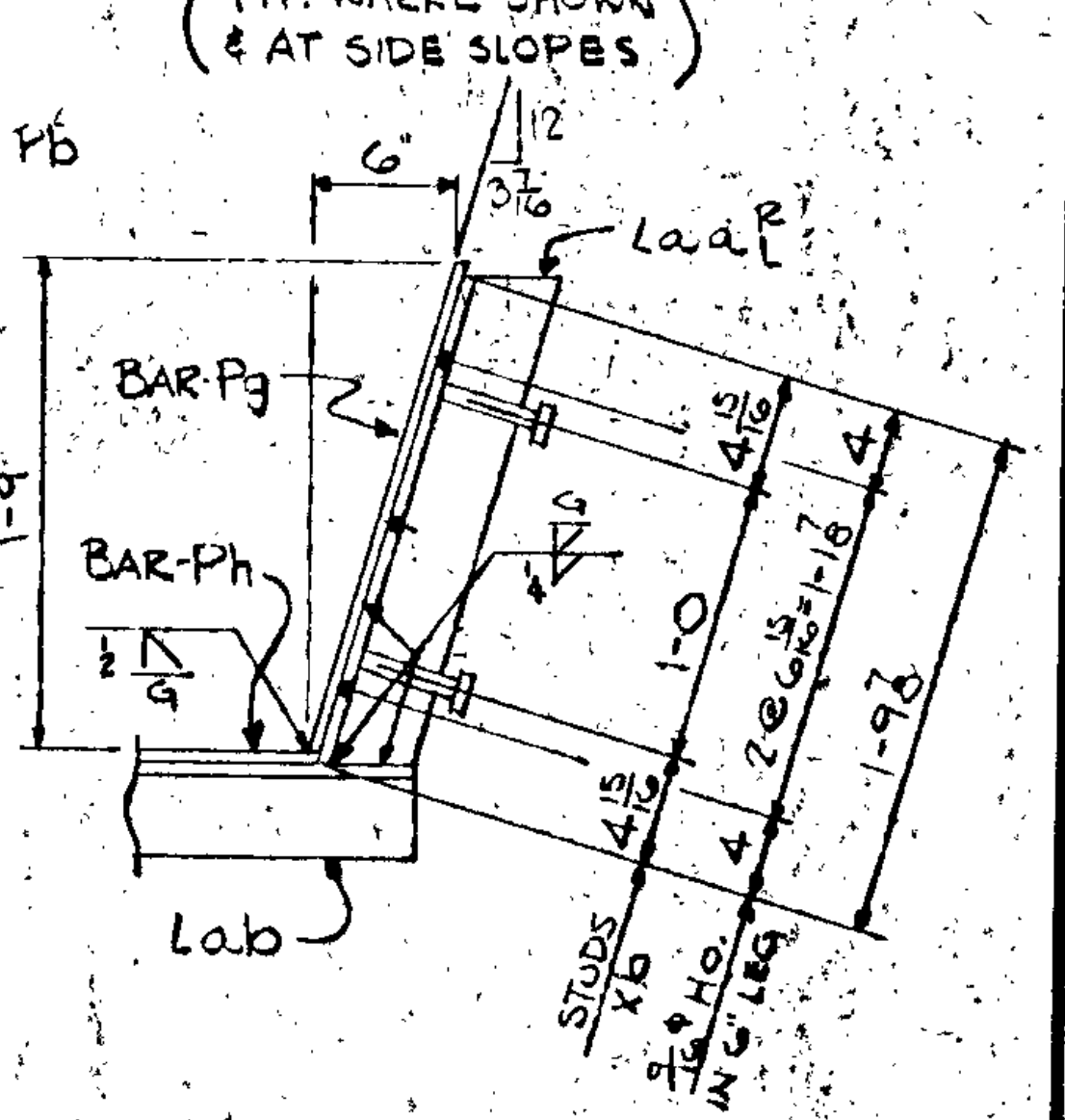
SECTION A-A



SECTION B-B
 (TYP. WHERE SHOWN & AT SIDE SLOPES)



SECTION C-C



SECTION D-D

NOTES:
 ALL STEEL M.H.D. 3306
 GALV. AS NOTED
 AFTER FAB. & BEFORE GALV. EXP. DEVICES SHALL BE STRAIGHTENED TO A TOLERANCE OF NOT MORE THAN 1/16" IN 10 FT.
 SEE SHT. E1 FOR ERECTION NOTES

2- EXP. R'S- GP6
 (GALV.-NO PAINT)

ST. PAUL STRUCTURAL STEEL CO.	
122 YORK AVE. ST. PAUL, MINN 55117	
BRIDGE NO. 02524	
MADE BY JON	DATE 3-5-75
CHECKED BY RON	DATE 4-17-75
SHOP PAINT	
OPEN HOLES	NOTED
CONTRACT NO. 75-17 SHEET 6	

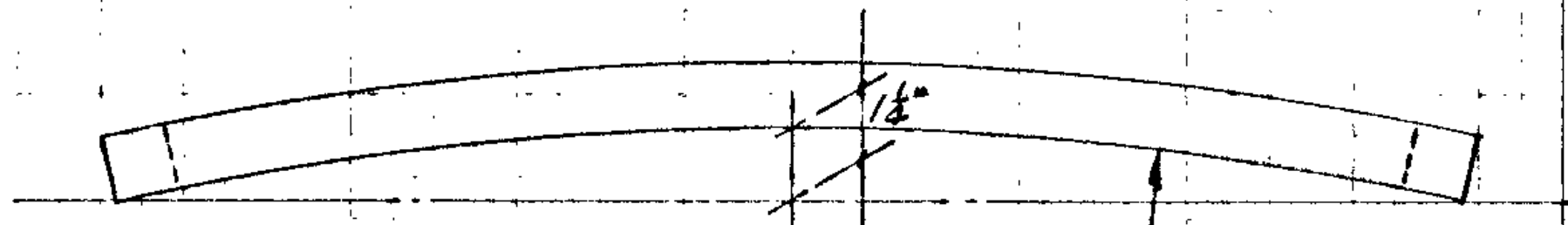


REV A CHANGED WELD 5-22-75

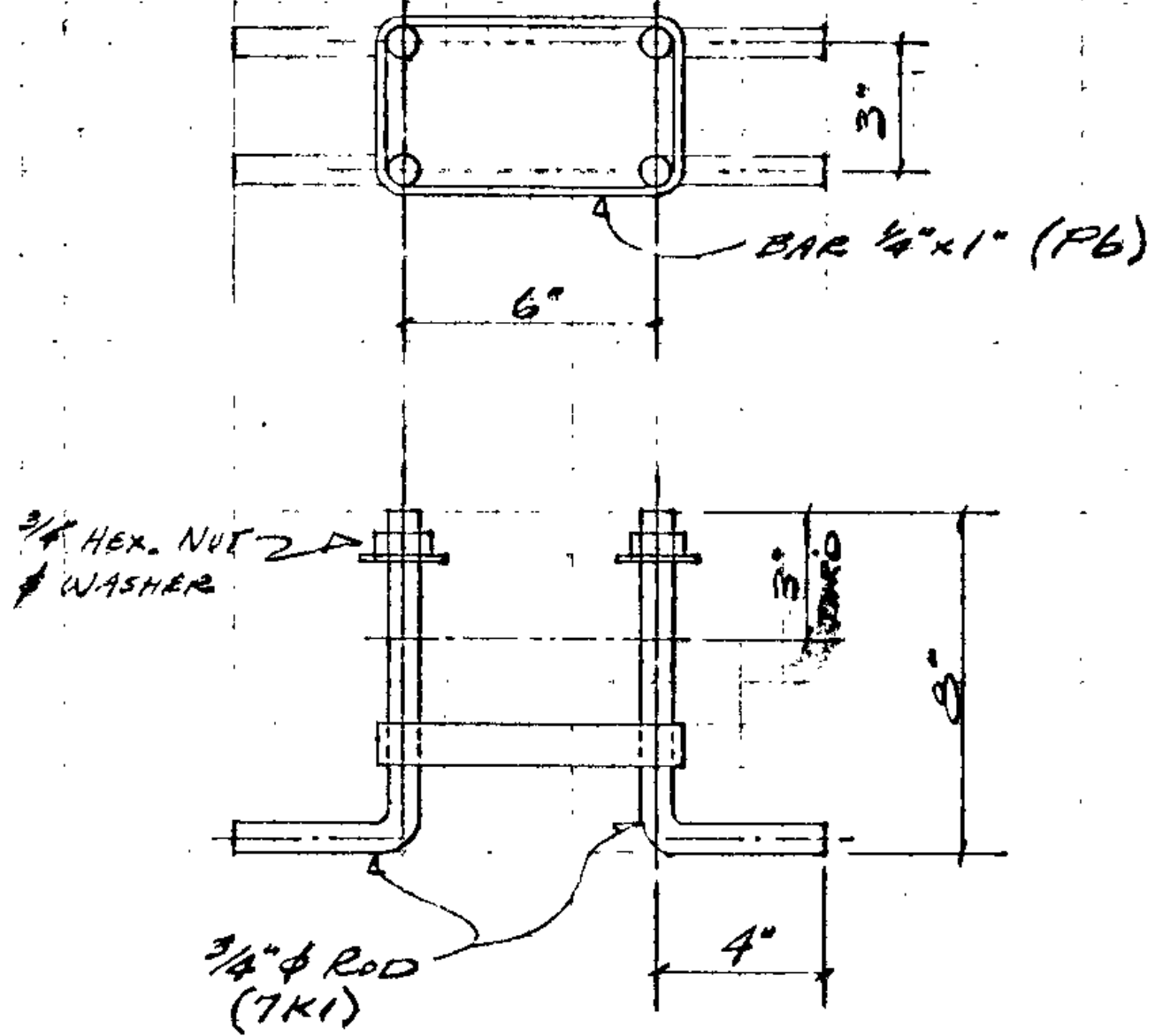
STATE PROJ. NO. 02-606-07
 FED. PROJ. NO. M-5115(1)

DESCRIPTION FLASHING R'S & EXPANSION R'S

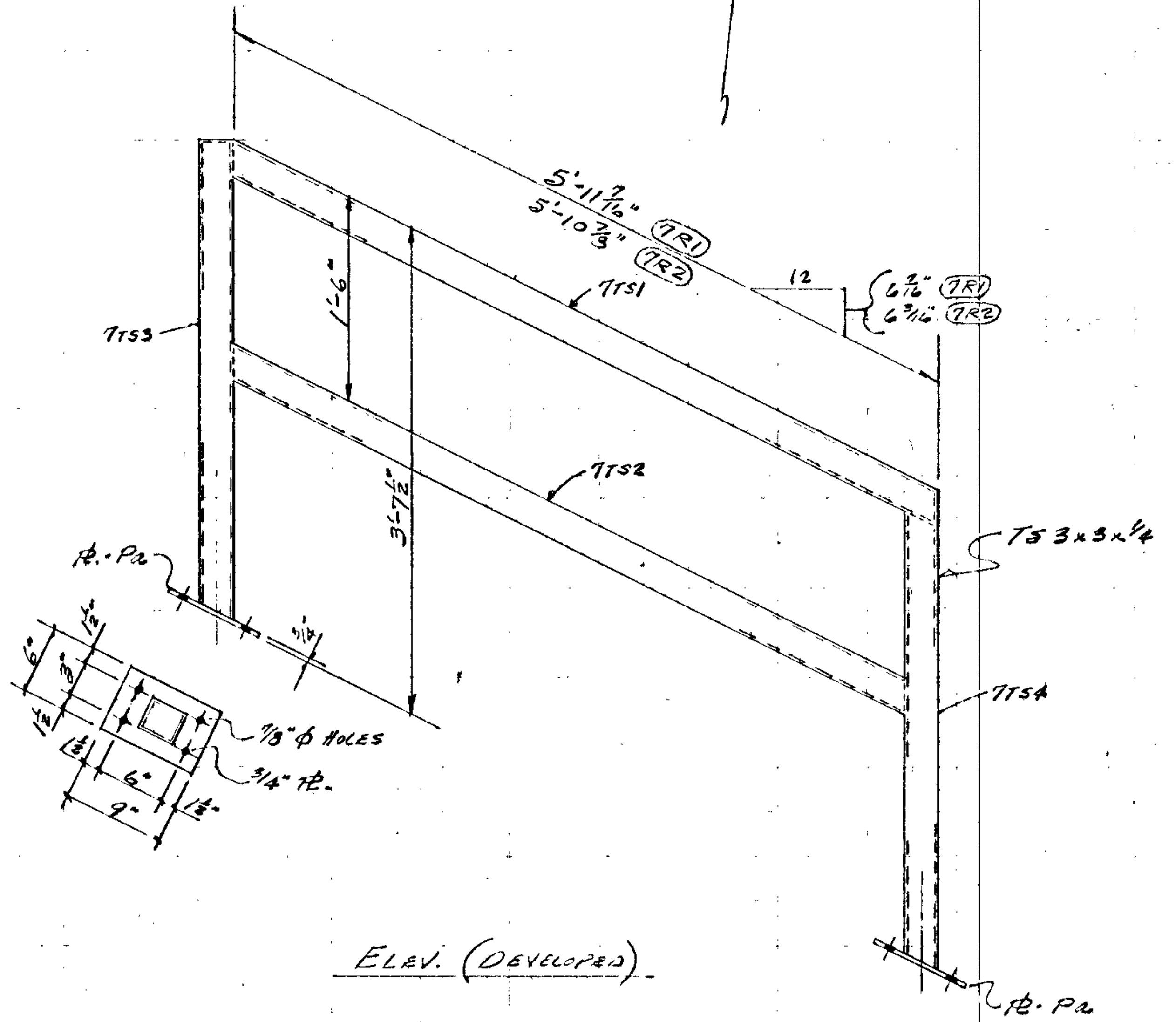
ITEM	QTY	MATERIAL
TR1	1	RAILING
TR2	1	RAILING
TT51	2	TS 3x3x1/4 x 6'-0"
TT52	2	Do x 5'-8 3/4"
TT53	2	Do x 3'-7"
TT54	2	Do x 3'-4"
Pa	4	PL. 3/4 x 6 x 0'-9"
TAB1	4	ANCH. BOLT ASSY
TK1	16	BENT BOLT 3/4 x 11 3/8
	16	STD WASH. FOR 3/4"
	32	HVY HEX. NUT FOR 3/4"
PB	4	BAR 1 x 1/4 x 1'-9"



PLAN VIEW



4- ANCH. BOLT ASSY - MK (TAB1)
(GALV.)



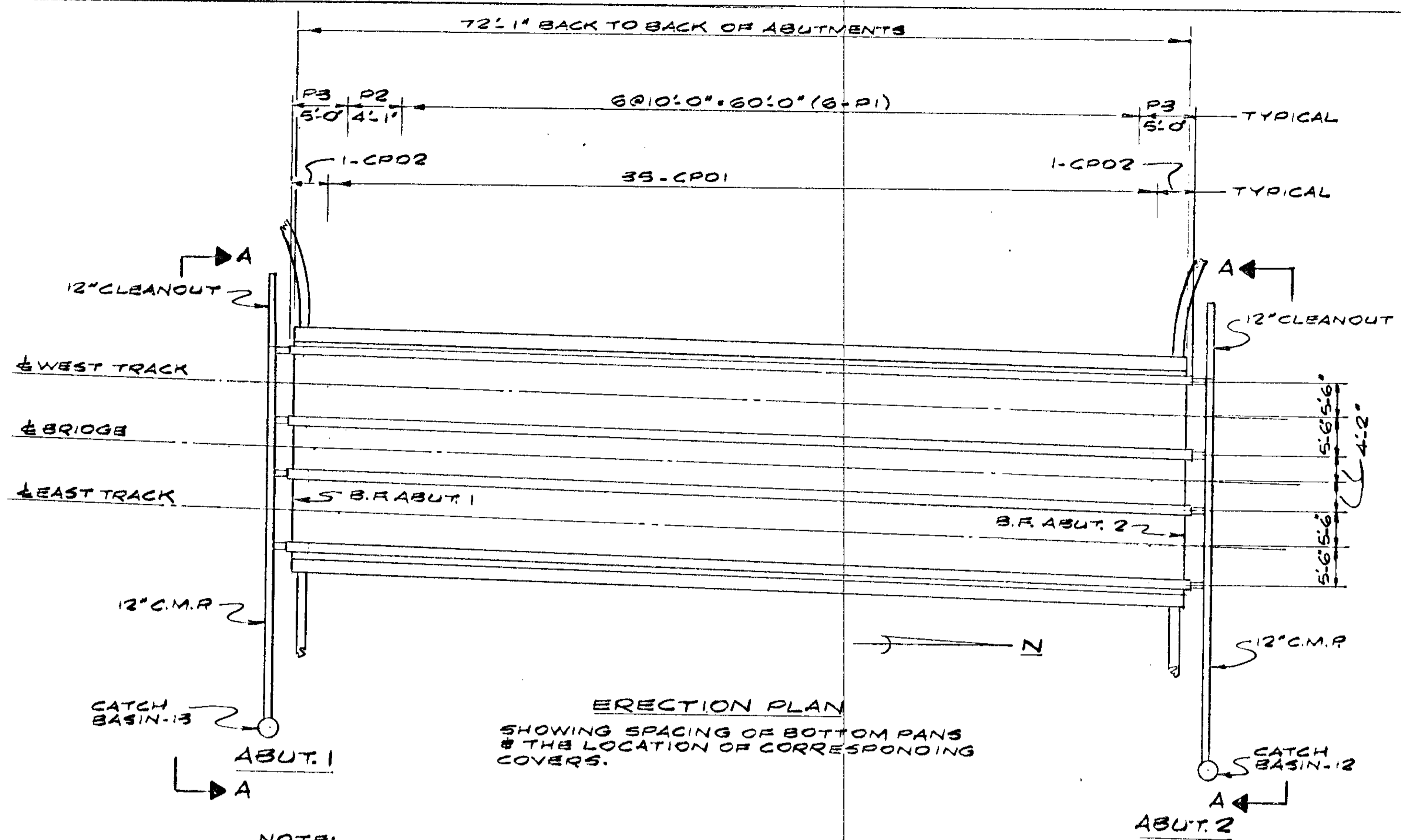
ELEV. (DEVELOPED)

- 1- RAILING TR1 - MK (TR1) (RET. WALL 2W)
 - 1- " TR2 - MK (TR2) (RET. WALL 1W)
- (GALV.)

ST. PAUL STRUCTURAL STEEL CO.	
188 YORK AVE.	ST. PAUL, MINN 55112
BRIDGE NO. 02524	
MADE BY DCO	DATE 8-11-75
CHECKED BY DRO	DATE 8-18-75
SHOP PAINT	
STATE PROJ. No. 02-606-07	OPEN HOLES UNLESS NOTED
FED. PROJ. No. M-5115(1)	CONTRACT NO. 75-17 SHEET 7



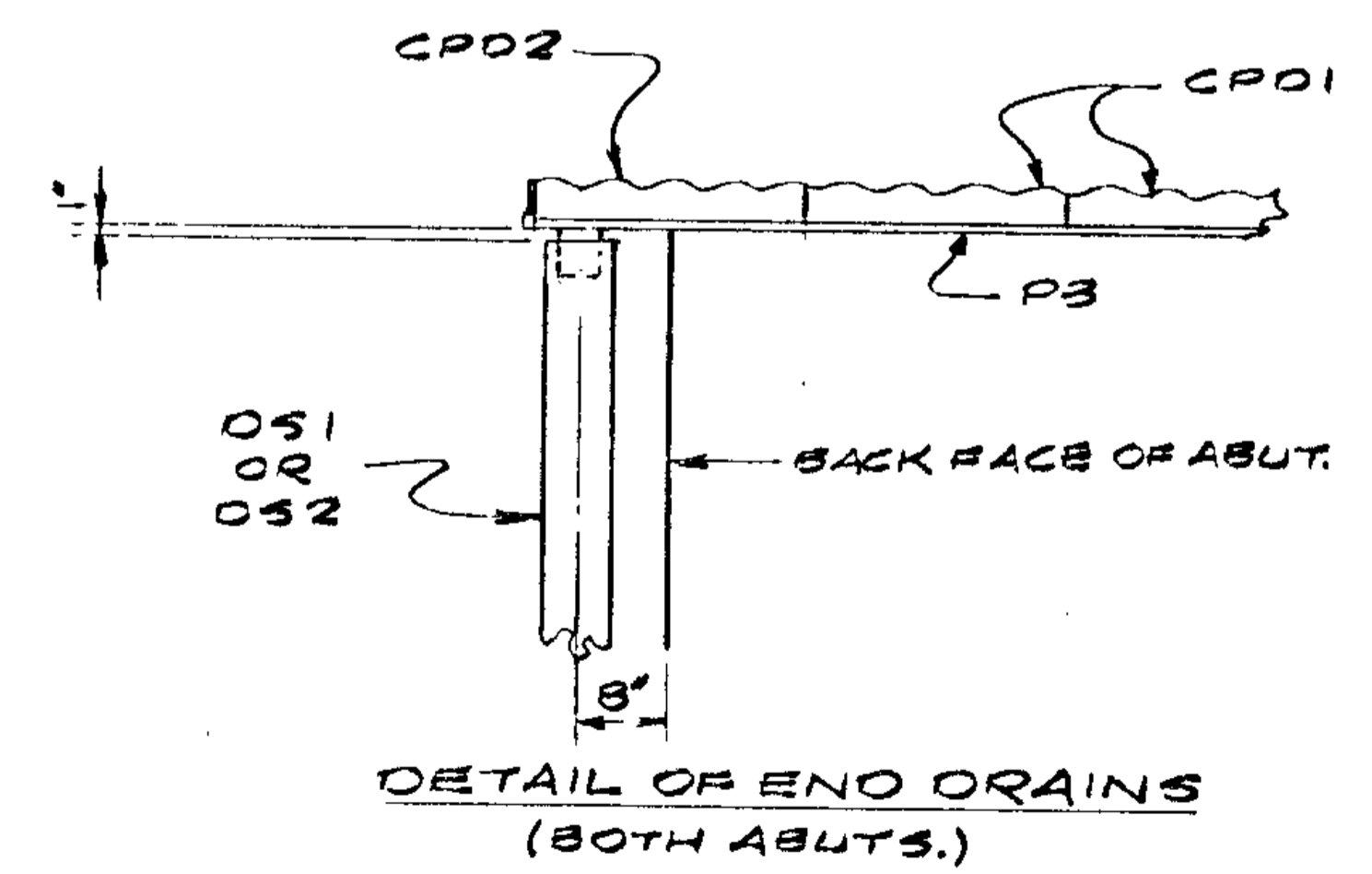
DESCRIPTION HAND RAIL ON RETAINING WALL 1W & 2W



ERECTION PLAN
 SHOWING SPACING OF BOTTOM PANS
 & THE LOCATION OF CORRESPONDING
 COVERS.

NOTE:
 SEE SHEET 2
 FOR VIEW A-A

NOTE:
 EACH MEMBER SHALL BE POSITIONED
 SO THE ATTACHED ERECTION MARK
 WILL CORRESPOND WITH PLAN.



DETAIL OF END DRAINS
 (BOTH ABUTS.)

GENERAL NOTES

CORRUGATED METAL PIPE:
 TO CONFORM TO M.H.O. 3226.
 TO BE 16 GA. GALV. HELICALLY CORRUGATED &
 SHALL CONFORM TO M.H.O. 3227.
 BITUMINOUS COATED PER M.H.O. 3227.1 TYPE A.
 GALV. PER M.H.O. 3231.
 SHOP INSPECTION BY M.H.O. BEFORE & AFTER
 BITUM. COATING & GALV.

DECK DRAINS:
 PANS & COVERS TO BE HOT DIPPED GALV. AFTER
 FABRICATION PER M.H.O. 3394.
 COVERS TO BE FABRICATED FROM GALV. C.M.R.
 PER M.H.O. 3226.
 COVERS & PANS TO BE BITUM. COATED PER
 M.H.O. 3227.
 SHOP INSPECTION BY M.H.O. BEFORE & AFTER
 BITUM. COATING & GALV.
 ANY GALV. DAMAGED DURING FABRICATION
 SHALL BE REGALV. PER M.H.O. 3394.
 ALL SLOTS SHALL BE OPEN & CLEAR AFTER BITUM.
 COATING.

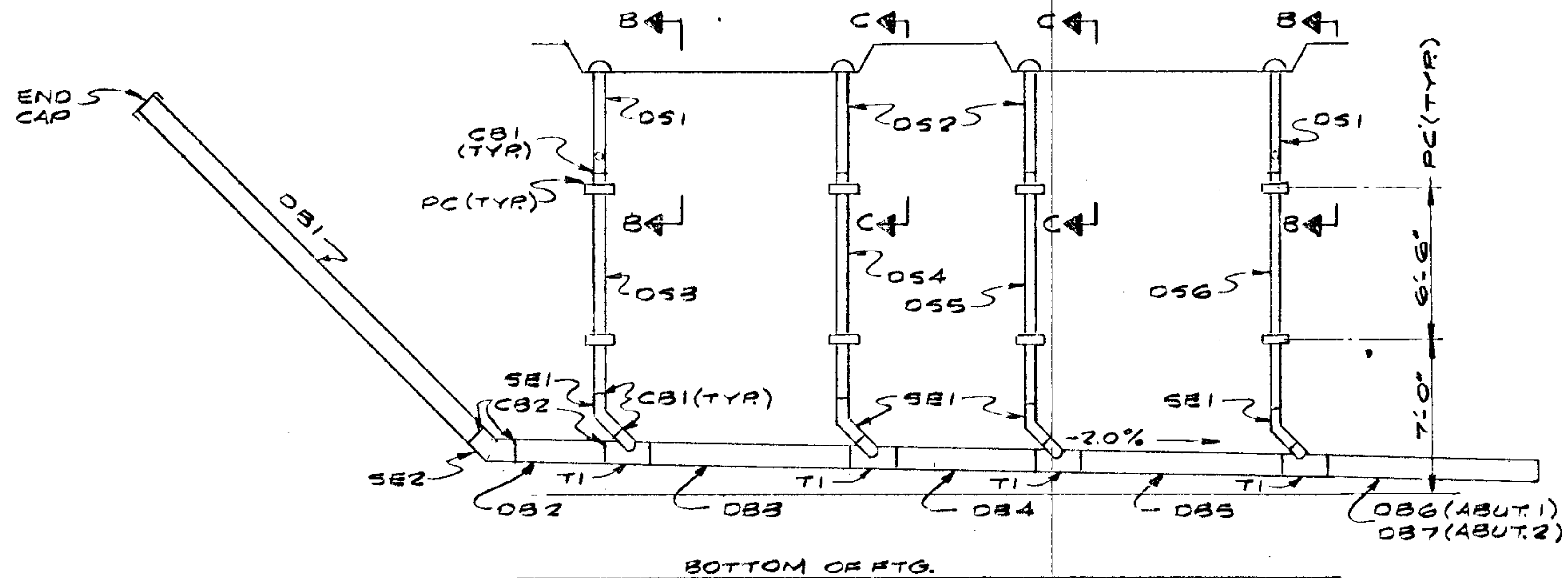
ANCHORAGES:
 BARS, ANCHOR ROOFS & ANCHOR BOLTS TO BE
 M.H.O. 3306.
 GALV. BARS PER M.H.O. 3394 AFTER FABRICATION.
 ANCHOR ROOFS & BOLTS TO BE GALV. PER M.H.O.
 3392 AFTER FABRICATION.
 ANCHOR TO BE PER M.H.O. 3387.
 SHOP INSPECTION BY M.H.O. BEFORE & AFTER
 GALV.

GENERAL:
 MATERIAL & WORKMANSHIP IN ACCORDANCE WITH
 M.H.O. SPECIFICATIONS FOR HIGHWAY CONSTRUCTION
 DATED JAN. 1, 1972 & SUPPLEMENTAL
 SPECIFICATIONS DATED JAN. 1, 1974 & SPECIAL
 PROVISIONS.
 ERECTION MARKS SHALL BE ATTACHED TO THE
 LEFT END OF PIPES & DRAINS.

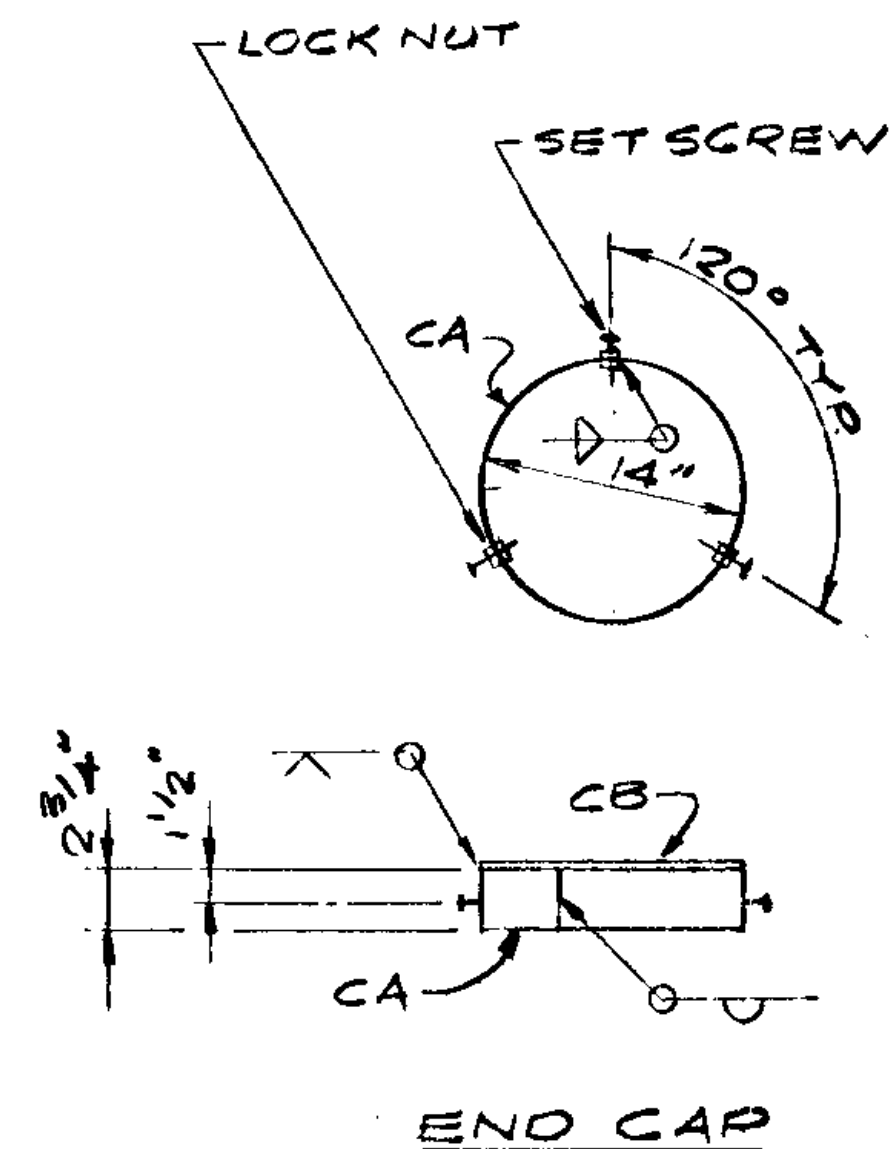
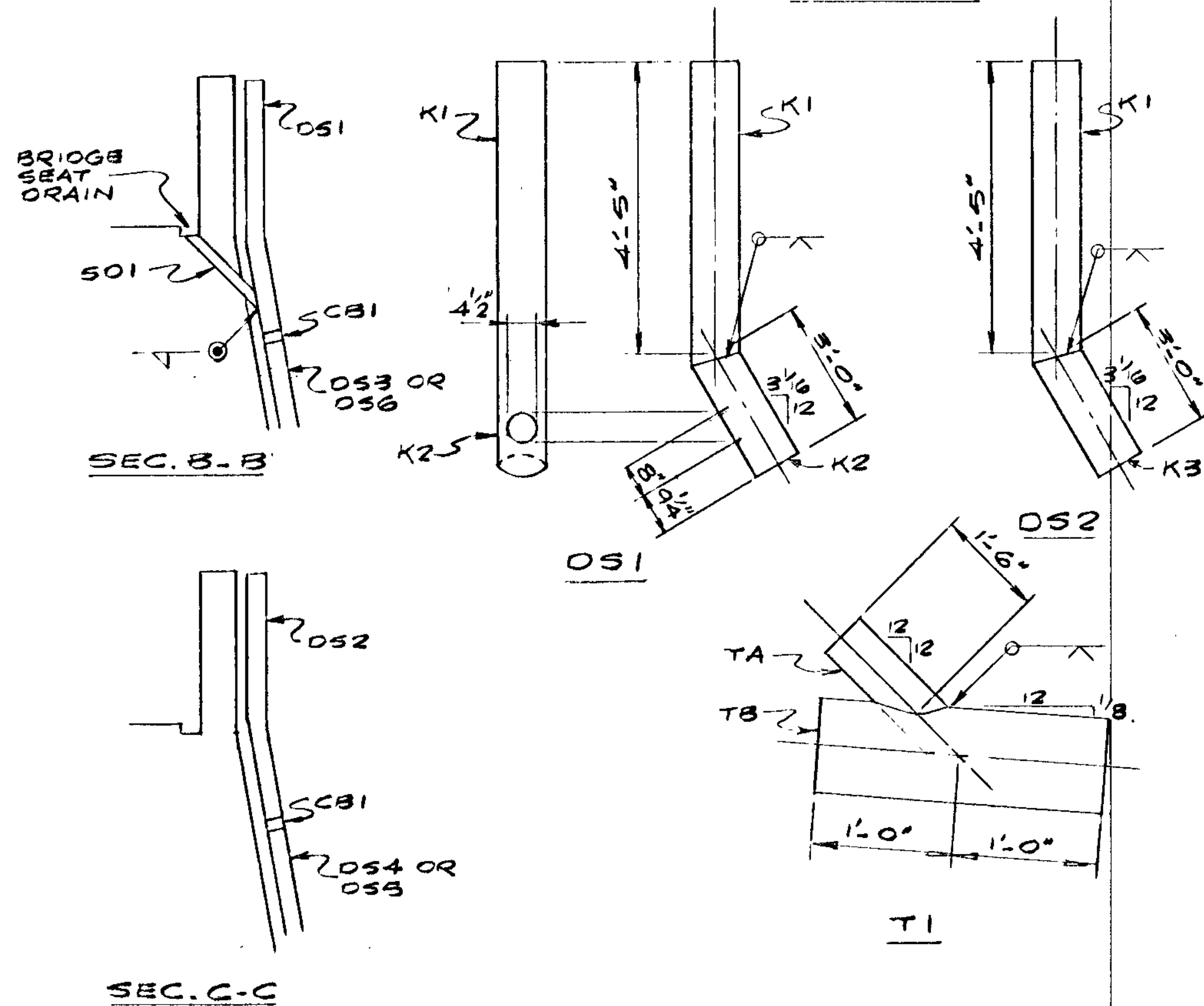
LIST OF SHEETS	
NO.	TITLE
1	ERECTION PLAN & GENERAL NOTES
2	DETAILS OF DOWNSPOUTS
3	DETAILS OF BOTTOM PANS, COVERS & PIPE CLAMPS

NORTHERN CULVERT OPERATIONS
 SHAKOPEE, MINNESOTA
 BRIDGE NO. 02524
 DESCRIPTION: DRAINAGE SYSTEM
 LOCATION: BURLINGTON NORTHERN RAILWAY OVER
 C.S.A.H. 6 (MISSISSIPPI WAY) 1.3 MI. N.W. OF
 JCT. (IN ERIOLEY) OF T.H. 47 & T.H. 694
 STATE PROJ. NO. 02-606-07
 FED. PROJ. NO. M-5115(1)

DRAWN: 4/75 REVISIONS: 6/8/75



VIEW A-A



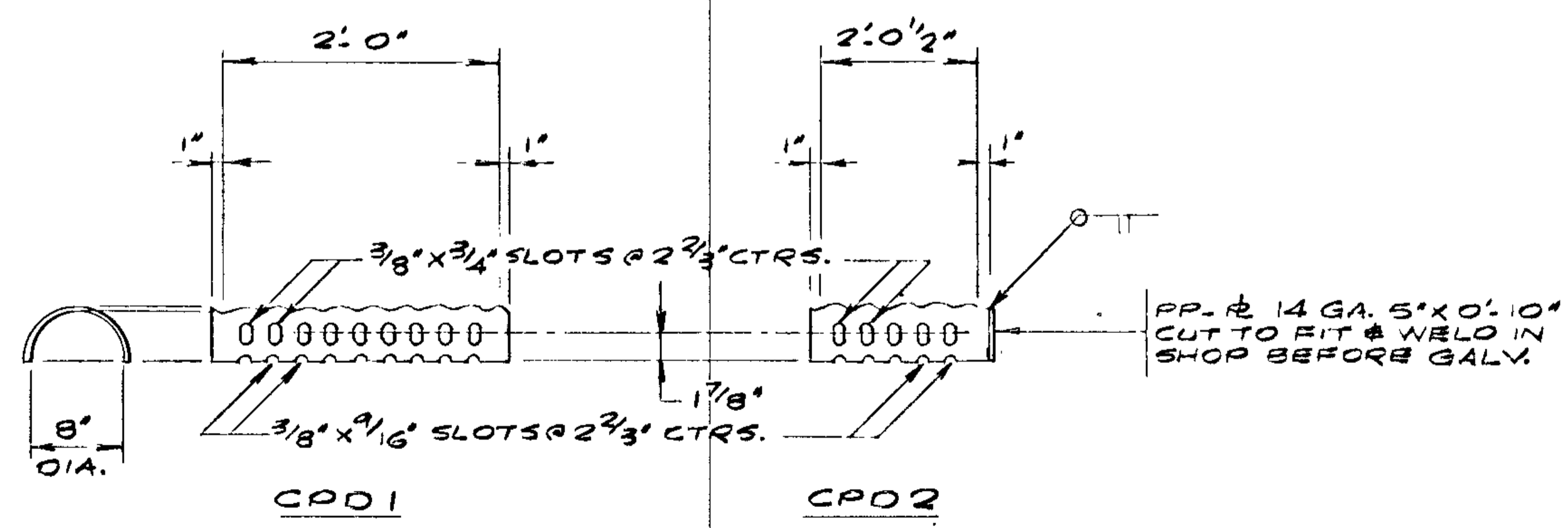
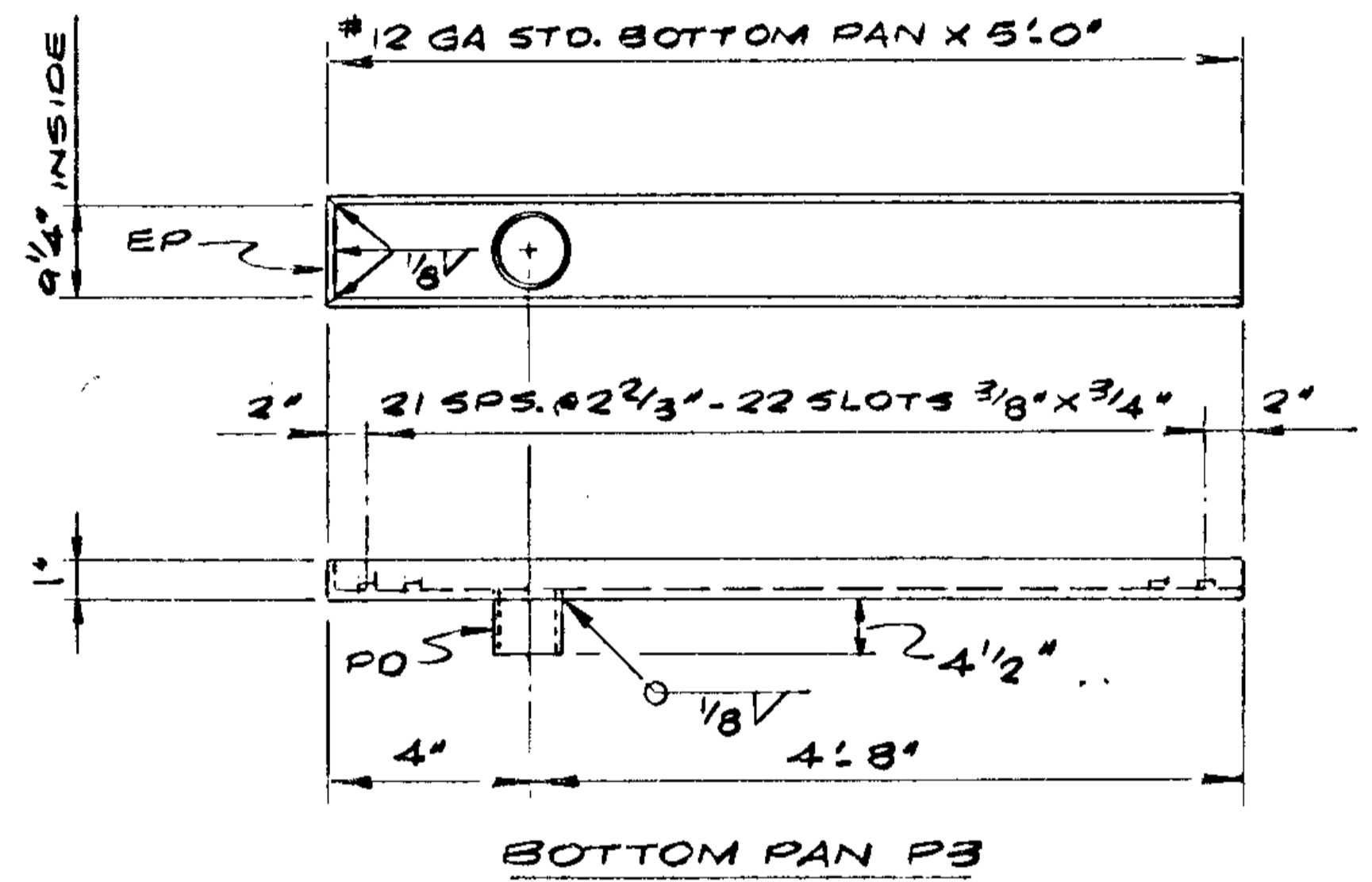
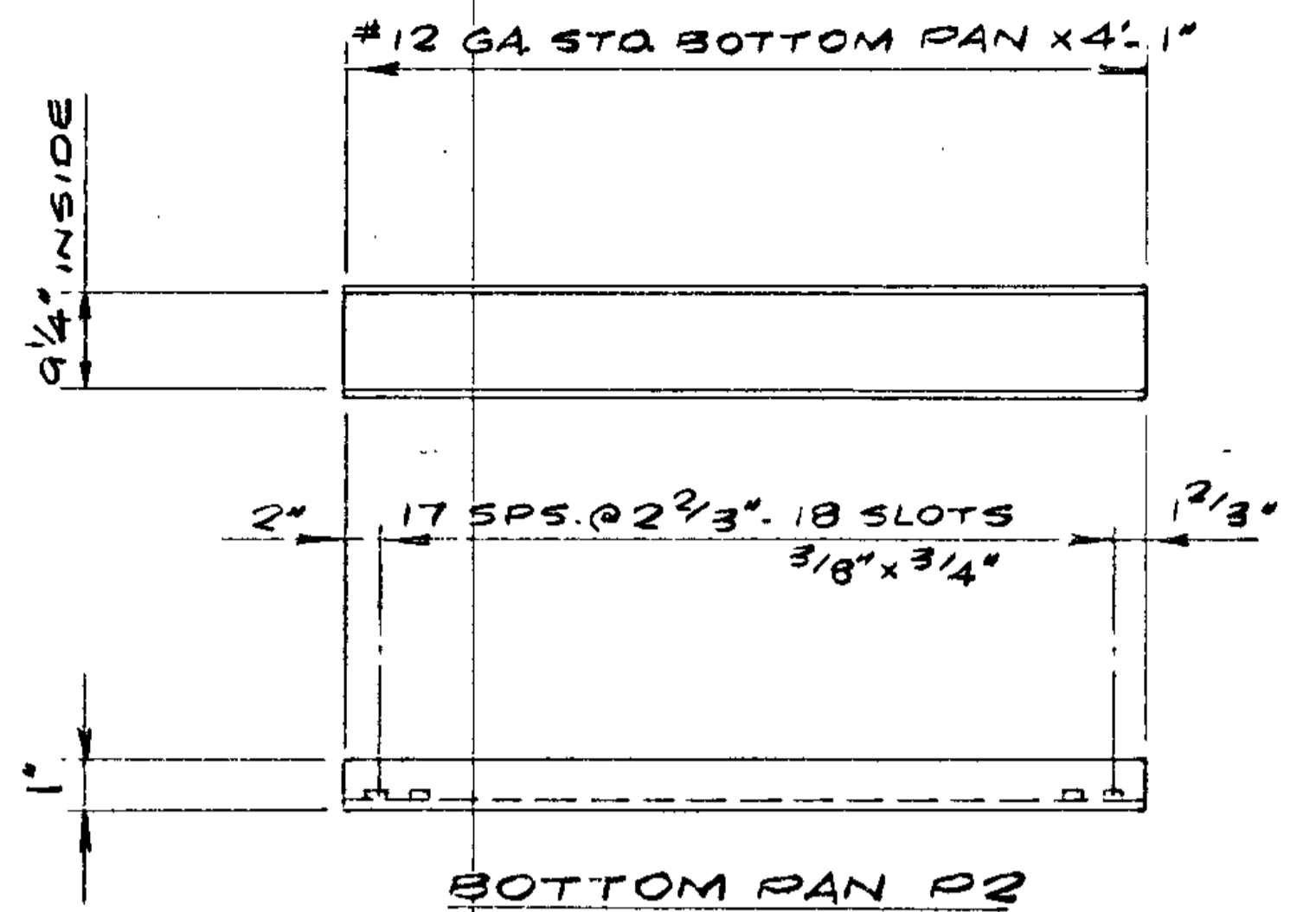
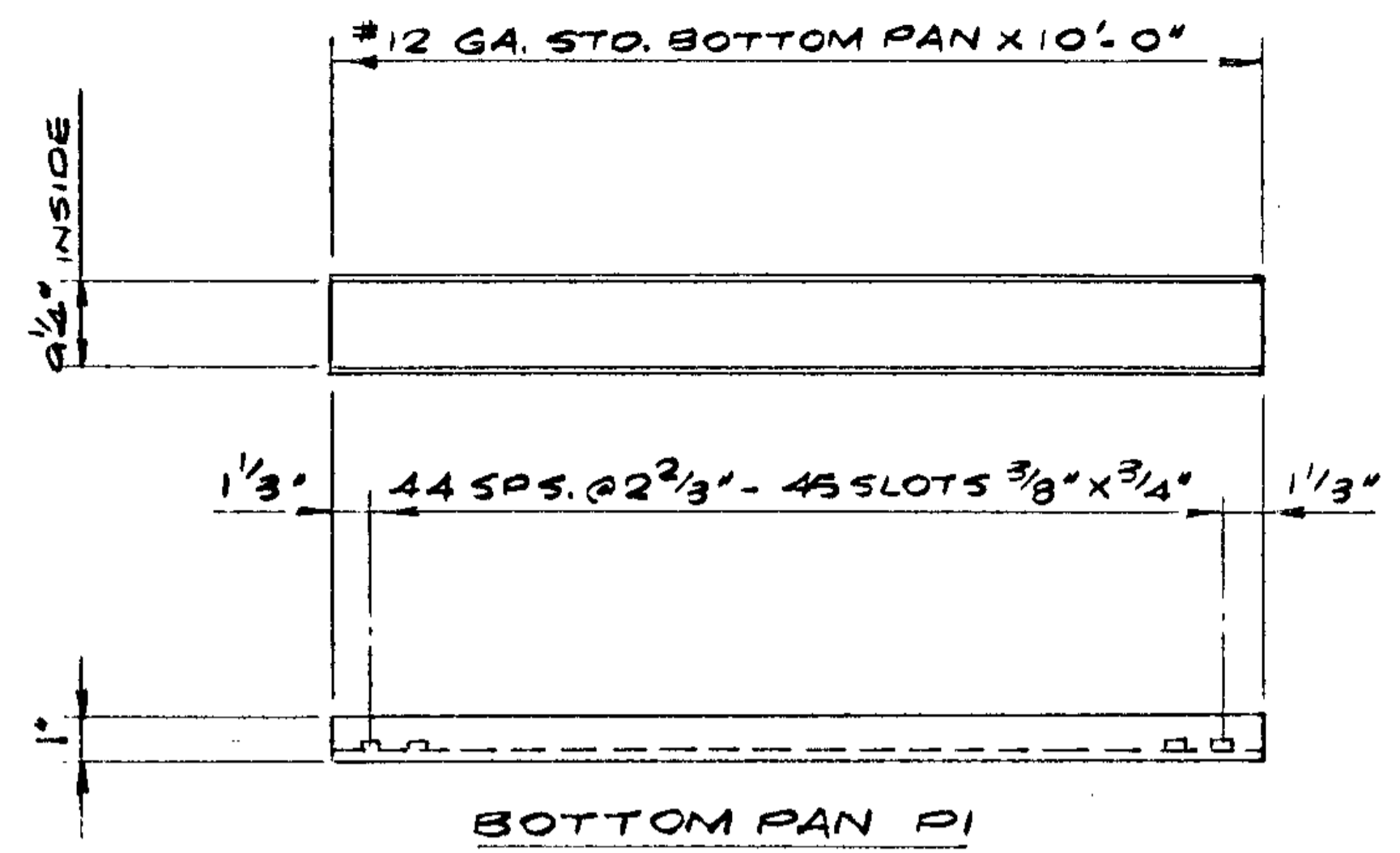
END CAP

BILL OF MATERIALS

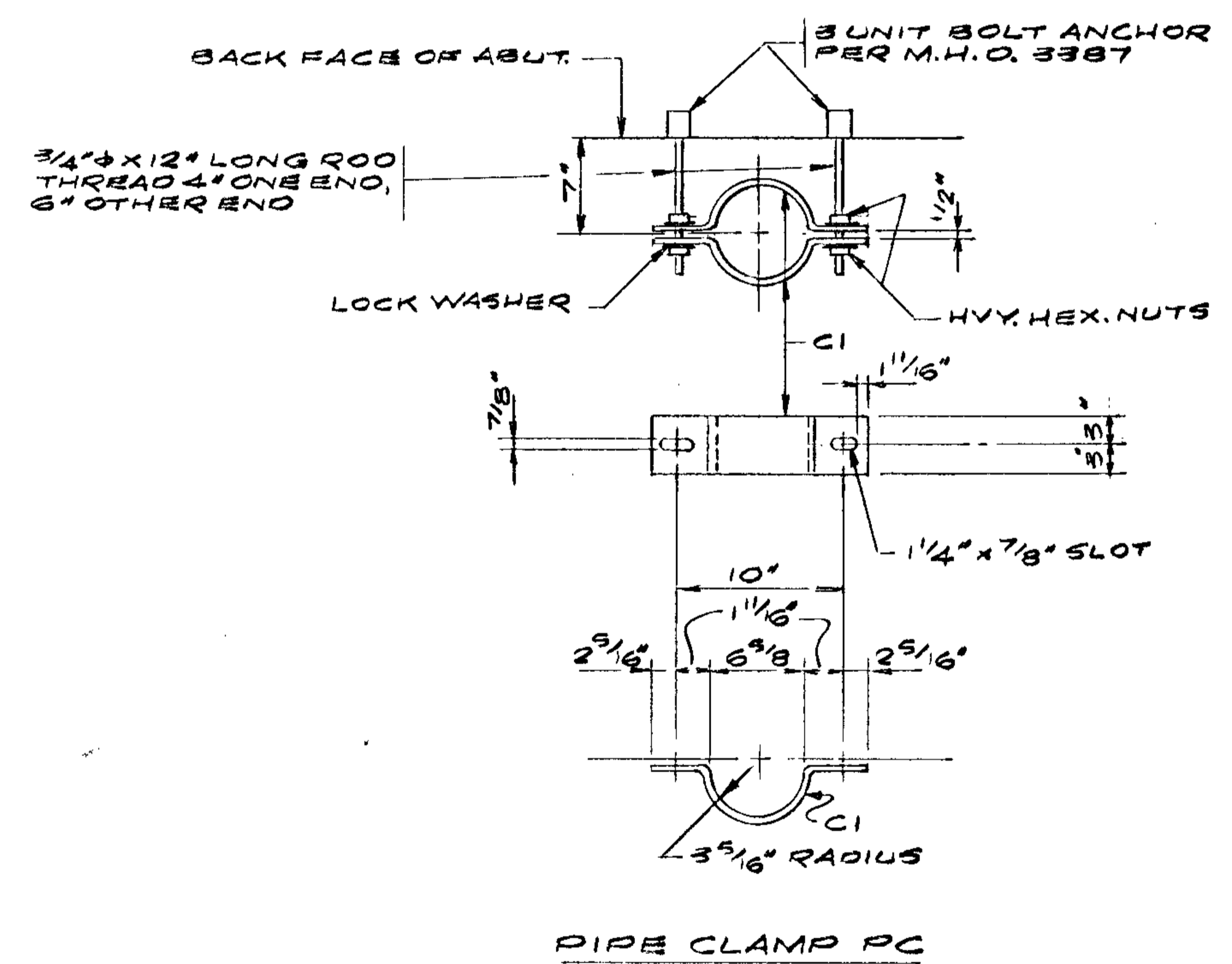
ITEM	NO.	MARK	LENGTH	DESCRIPTION
UNDER-DRAINS	2	OB1	20'-0"	12" φ C.M.R. NON-PERFORATED - 16 GA.
	2	OB2	5'-2 1/4"	" " " PERFORATED - 16 GA.
	2	OB3	9'-0 1/4"	" " " " " " "
	2	OB4	6'-4"	" " " " " " "
	2	OB5	9'-0 1/4"	" " " " " " "
	1	OB6	28'-3"	" " " " " " "
	1	OB7	24'-7"	" " " " " " "
DOWN-SPOUTS	4	SO1	3'-2 1/2"	4" φ STD. PIPE - STEEL - GALV.
	4	OS1	---	6" φ C.M.R. BIT. COATED 16 GA.
	4	OS2	---	" " " " " " "
	2	OS3	10'-4 1/4"	" " " " " " "
	2	OS4	10'-6 3/4"	" " " " " " "
	2	OS5	10'-8 3/4"	" " " " " " "
	2	OS6	10'-11 1/2"	" " " " " " "
	8	K1	4'-5 1/2"	" " " " " " "
END CAP	2	CA	3'-7"	12 GA. - GALV.
	2	CB	14" DIA.	" " " " " " "
	6	---	---	SET SCREWS 3/8" x 1 3/4"
CONN. BANDS	24	CB1	---	STD. CONN. BAND FOR 6" φ C.M.R. BIT. COATED
	20	CB2	---	" " " " " " " 12" " " "
TEES	8	TA	1'-6"	6" φ C.M.R. 16 GA.
	8	TB	2'-0"	12" " " " " " "
ELBOWS	8	SE1	---	6" φ C.M.R. 16 GA.
	2	SE2	---	12" " " " " " "
	16	SA	---	6" " " " " " "
	4	SB	---	12" " " " " " "

SEE SHEET 1 FOR NOTES
 NORTHERN CULVERT OPERATIONS
 SHAKOPEE, MINNESOTA
 BRIDGE NO. 02524
 DESCRIPTION: DRAINAGE SYSTEM
 LOCATION: BURLINGTON NORTHERN RAILWAY OVER
 C.S.A.H. 6 (MISSISSIPPI WAY) 1.3 MI. N.W. OF
 JCT. (IN FRIDLEY) OF T.H. 47 & T.H. 694
 STATE PROJ. NO. 02-606-07
 FED. PROJ. NO. M-5115(1)

DRAWN: 4/75 REVISIONS: 6/6/75



BILL OF MATERIALS				
ITEM	NO.	MARK	LENGTH	DESCRIPTION
INTERM. PAN	24	P1	10'-0"	12 GA. STD. BOTTOM PAN - BITUM. COATED - GALV.
	4	P2	4'-11"	" " " " " " " " " " " "
END PANS	8	P3	5'-0"	12 GA. STD. BOTTOM PAN - BITUM. COATED - GALV.
	8	EP	0'-9 1/4"	# 14 GA. 7/8" X 0'-9 1/4" " " " " " "
	8	PO	0'-4 1/2"	12 GA. 4" X 0'-4 1/2" " " " " " "
CORR. PIPE DRAINS	140	CPO1	2'-2"	14 GA. 8" X HALF CIRCLE PIPE - BITUM. COATED - GALV.
	8	CPO2	2'-2 1/2"	14 GA. 8" X HALF CIRCLE PIPE - BITUM. COATED - GALV.
CORR. END PIPE DRAINS	8	PP	-	14 GA. 5" X 0'-10" - CUT TO FIT. " " " " " "
PIPE CLAMPS	16	UNITS	PC	32 - CI 6" X 3/16" R BENT
				64 - HVY. HEX. NUTS
				32 - 3 UNIT BOLT ANCHORS
				32 - 3/4" X 13" LONG RODS - THREAD BOTH ENDS
				64 - LOCK WASHERS



SEE SHEET 1 FOR NOTES

NORTHERN CULVERT OPERATIONS
SHAKOPEE, MINNESOTA
BRIDGE NO. 02524
DESCRIPTION: DRAINAGE SYSTEM
LOCATION: BURLINGTON NORTHERN RAILWAY OVER
C.S.A.H. 6 (MISSISSIPPI WAY) 1.3 MI. N.W. OF
JCT. (IN FRIDLEY) OF TH. 47 & TH. 694
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