INDEX OF SHEETS

STATE OF WISCONSIN

STATE HIGHWAY COMMISSION OF WISCONSIN

STATE OF MINNESOTA

MINNESOTA DEPARTMENT OF HIGHWAYS

PLAN AND PROFILE OF PROPOSED

MISSISSIPPI RIVER INTERSTATE BRIDGES

(BLACK RIVER CHANNEL CROSSING)

I. H. 90

LA CROSSE COUNTY

PROJECT I-90-8(2)275

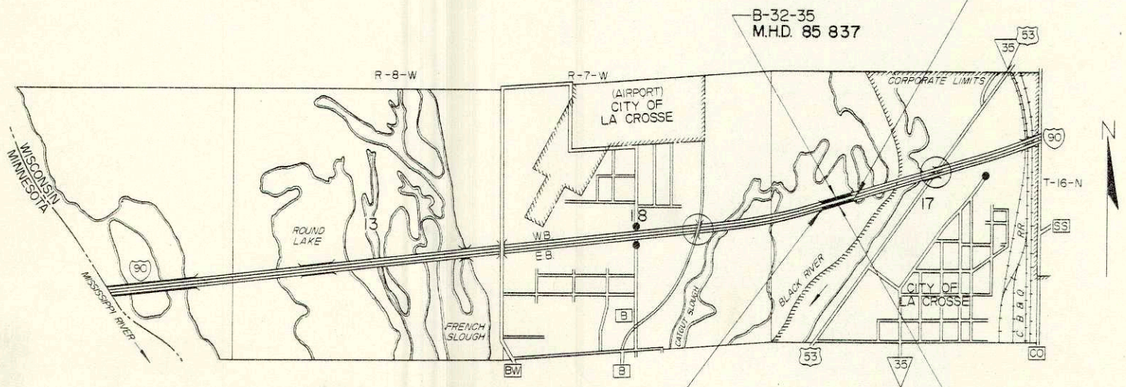
COUNTY AND HIGHWAY	ROUTE AND SECTION	CLASS AND AGREEMENT: STATE	CLASS AND AGREEMENT: FEDERAL	F.H.W. REGION DIVISION	SHEET NUMBER	TOTAL SHEETS
32.3	90.8		11.2	4 WIS.	1	36

CONTROL OF ACCESS

WITHIN THE LIMITS OF THE PROJECT, WHERE CONTROL OF ACCESS LINE IS SHOWN THUS ——— ——— ——— NO ACCESS IS PERMITTED TO THE INTERSTATE HIGHWAY TRAFFIC LANES EXCEPT BY RAMPS AT INTERCHANGES.

SCALES
PLAN 1 IN. 100 FT.
PROFILE HOR. 1 IN. = 100 FT. VERT. 1 IN. = 10 FT.
CROSS SECTIONS HOR. 1 IN. = 10 FT. VERT. 1 IN. = 10 FT.

END OF PROJECT I-90-8(2)275
STA. 174+32.10
2470' S. & 1500' E. OF THE S.E. COR. SEC. 7, T16N, R7W



BEGINNING OF PROJECT I-90-8(2)275
STA. 168+67.90
2580' S. & 960' E. OF THE S.E. COR. SEC. 7, T16N, R7W

CONVENTIONAL SIGNS

STATE LINE
COUNTY LINE
TOWNSHIP OR RANGE LINE
SECTION LINE
NEW RIGHT OF WAY LINE
PRESENT RIGHT OF WAY LINE
WIRE FENCE { WOVEN, BARBED
LOT LINE
CORPORATE OR CITY LIMITS
PROPERTY LINE — P.L. + 32.6
TRAVELED WAY OR P.E.
RAILROADS
BASE OR SURVEY LINE — 30

CULVERTS IN PLACE
CULVERTS REQUIRED
DROP INLET
POWER POLE
TELEPHONE OR TELEGRAPH POLE
RIGHT OF WAY MARKERS
REFERENCE STAKE FOR HUBS ONLY — 161.7 / 25.3
MARSH
HEDGE
TREES
GROUND ELEVATION — DATUM LINE — 739
GRADE ELEVATION — DATUM LINE — 756

APPROVED INTERSTATE LOCATION
INTERCHANGE
HWY. GRADE SEPARATION (MAIN LINE UNDER)
BRIDGES (MAIN LINE OVER)
TERMINATED CROSS ROAD

LAYOUT

SCALE — 1 MILE

TOTAL NET LENGTH OF CENTERLINE = 0.107 MI.

STATE OF MINNESOTA
DEPARTMENT OF HIGHWAYS
ST. PAUL, MINN.

APPROVED:
DATE 3-11-63 — BRIDGE ENGINEER

APPROVED:
DATE 3-11-63 — DEPUTY CHIEF ENGINEER

STATE HIGHWAY
COMMISSION OF WISCONSIN
MADISON, WIS.

SURVEYOR D.E.K. NOTE BOOK
DIVISION COMPUTER N.B. H. O. CHECKER W.H.B.
DISTRICT CHECKER R.C.V. CORRECT

CORRECT:
DATE 3-6-63 — DISTRICT ENGINEER

RECOMMENDED FOR APPROVAL:
DATE 3-18-63 — ENGINEER OF DESIGN

APPROVED:
DATE 3/18/63 — STATE HIGHWAY ENGINEER

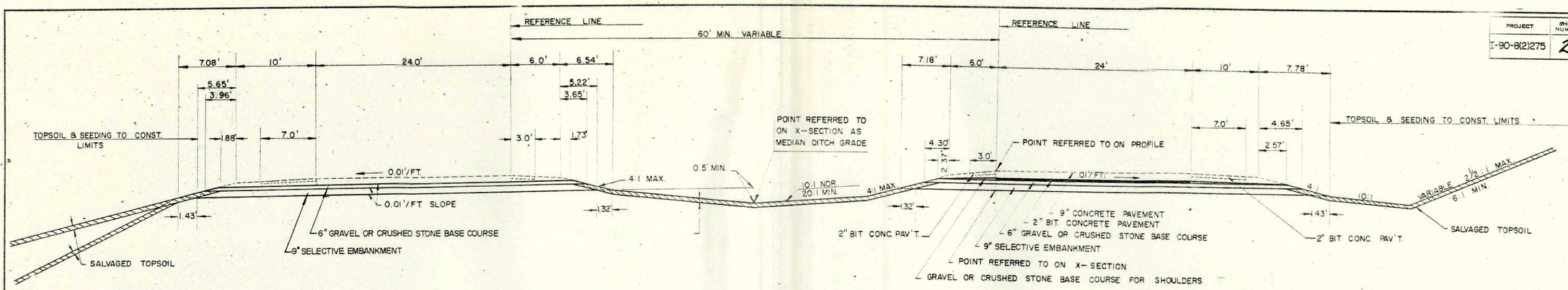
DEPARTMENT OF COMMERCE
BUREAU OF PUBLIC ROADS

APPROVED:
DATE

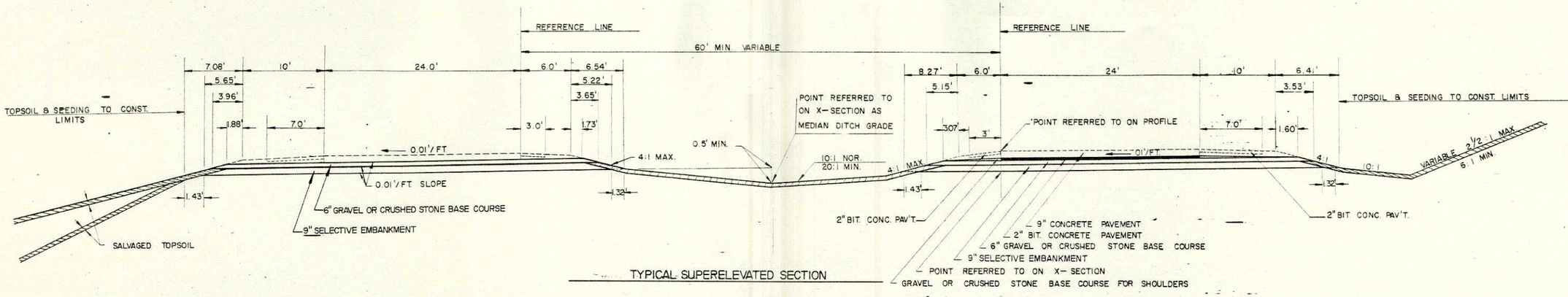
DIVISION ENGINEER

I-90-8(2)275

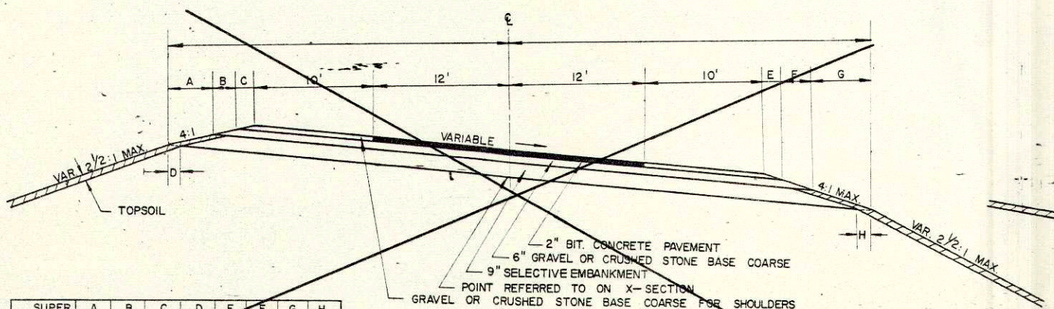
PROJECT	SHEET NUMBER	TOTAL SHEETS
I-90-8(2)275	2	36



TYPICAL SECTION

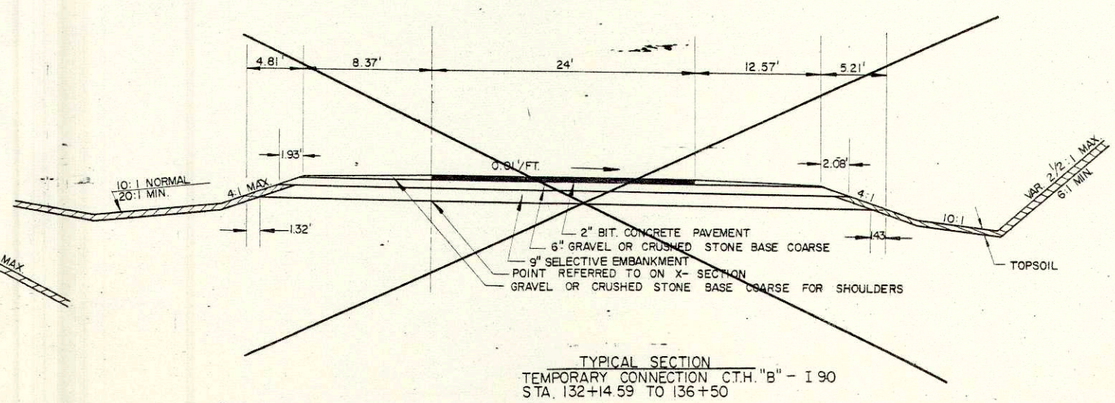


TYPICAL SUPERELEVATED SECTION



	SUPER	A	B	C	D	E	F	G	H
RIGHT CURVE	.01	0.65	1.92	2.88	1.32	0.71	2.08	3.12	1.43
	.02	0.63	1.85	2.78	1.27	0.74	2.17	3.26	1.49
	.03	0.61	1.78	2.68	1.23	0.77	2.27	3.41	1.56
	.04	0.59	1.72	2.59	1.18	0.81	2.38	3.57	1.64
	.05	0.57	1.67	2.50	1.14	0.85	2.50	3.75	1.72
	.06	0.55	1.61	2.42	1.11	0.89	2.63	3.95	1.81

TYPICAL SECTION
TEMPORARY CONNECTION I90-U.S.H. 53
STA. 8+53.83 TO 15+78.90



TYPICAL SECTION
TEMPORARY CONNECTION CT.H. "B" - I 90
STA. 132+14.59 TO 136+50

ESTIMATE OF QUANTITIES

CONTRACT NO. 1

B. P. R. DIVISION	PROJECT	SHEET NO.	TOTAL SHEETS
WIS. 5N	I-90-8(21)275	3	36

THIS PROJECT IS TO BE EXECUTED UNDER THE STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION OF THE STATE HIGHWAY COMMISSION OF WISCONSIN — EDITION OF 1963, SUBMITTED FOR APPROVAL JAN. 25, 1963. FEDERAL AID REQUIRED CONTRACT PROVISIONS APPROVED MAR. 6, 1963, AND SPECIAL PROVISIONS AS ATTACHED TO PROPOSALS.

CONTRACT NO.	STATION TO STATION	NET LENGTH OF CENTER LINE	CLEARING	GRUBBING	REMOVING OLD CULVERT		REMOVING OLD BRIDGE		EXCAVATION				SAND GRAVEL FILL	FINE GRADING	SHOULDER EMBANKMENT	FINISHING ROADWAY	OBLITERATING OLD ROAD	CONCRETE BASE COURSE		BASE COURSE	CONCRETE PAVEMENT		CONCRETE HEADERS	CONCRETE SURFACE DRAINS	CONCRETE PAVEMENT REINF.	PREP. ROADBED FOR BITUM. SURF.	BITUM. MAT. FOR PRIME COAT	BITUM. ROAD MIX SURFACE	AGGREGATES FOR BITUM. ROAD MIX SURFACE	BITUM. MAT. FOR SURFACE COURSE	
					STA.		STA.													IN STOCK PILES												
	ITEM NO.		2101-2	2101-3	2101-5	2101-6	2104-1		2104-21				2106-	2106-2	2106-4	2109-1	2110-1	2112-1	2113-1	2114-1	2116-1	2201-1		220	220	2301-1	2301-	2301-5	2301-6	2301-7	2310-1	2311-1	2313-1	2313-2	23	
	UNIT	LIN. FT.	IN. DIA.	ACRE	IN. DIA.	ACRE	L.S.		L.S.				C.Y.	C.Y.	C.Y.	C.Y.	C.Y.	C.Y.	C.Y.	STA.	STA.	SQ.YD.				SQ.YD.	SQ.YD.	SQ.YD.	C.Y.	SQ.YD.	STA.		SQ.YD.	C.Y.		
1	168+67.90-174+32.10	564.20																																	

BRIDGES (STRUCTURES OVER 20FT. SPAN)

CONTRACT NO.			EXCAVATION FOR STRUCTURES	CONCRETE MASONRY	CONCRETE MASONRY SEAL	BAR STEEL REINF.	STRUCTURAL CARBON STEEL	STRUCTURAL LOW ALLOY STEEL	CARBON STEEL FORGINGS	LUBRICATED BRONZE PLATES	BEARING PADS			CAST-IN-PLACE CONCRETE PILING			TUBULAR RAILING TYPE "A"	FLOOR DRAINS TYPE "A"	HEAVY RIP-RAP	PILE TEST LOAD
														DELIVERED	DRIVEN					
			20601	50201	50211	50501	50601	50605	50611	50614	50621			51010	51015		90002	51401	60602	90001
	L.S.	C.Y.	C.Y.	C.Y.	C.Y.	LB.	LB.	LB.	LB.	LB.	SQ.FT.	M.B.M.	L.S.	LIN.FT.	LIN.FT.	LIN.FT.	LIN.FT.	EACH	C.Y.	L.S.
1			1420	2093.6	567	444,060	1,110,200	33,400	1020	890	90			15,360	14,160		2326	32	2140	1

CULVERTS (STRUCTURES 20FT. SPAN & UNDER)

REMOVE OLD CULV'T STA.	COMMON EXC.	EXCAVATION FOR STRUCTURES	SAND GRAVEL FILL	CONCRETE MASONRY	BAR STEEL REINF.	STRUCTURAL STEEL	STEEL CASTINGS	CARBON STEEL FORGINGS	SHEET LEAD	SHEET ZINC	TR'T'D LUMBER AND TIMBER	UNTR'D TIMBER PILING	TREATED TIMBER PILING		FLOOR DRAINS	RIP-RAP
													DELIVERED	DRIVEN		
2104-1	2106-1	2107-2	2110-1	2404-1	2406-3	2407-	2407-3	2407-4	2407-9	2407-11	2408-2	2501-1	2501-4	2501-5	2507-1	2512-1
L.S.	C.Y.	C.Y.	C.Y.	C.Y.	LB.	LB.	LB.	LB.	LB.	LB.	M.B.M.	L.S.	LIN.FT.	LIN.FT.	EACH	C.Y.

SEC. NO.	RUBBLE MASONRY		CULVERT PIPE											RIP-RAP	HEAVY RIPRAP	RUBBLE PAVING		DITCH CHECKS		PIPE UNDER DRAIN	STORM SEWER				CATCH BASINS		MANHOLES		INLETS		CONCRETE			GUARD FENCE			MARKER POSTS	MARKER POSTS FOR R-O-W	CALCIUM CHLORIDE SURFACE TREATMENT	TOPSOIL	SALVAGED TOPSOIL	FERTILIZER	SEEDING	SODDING
	MORTAR	DRY														PLAIN	GRO'T'D														CURB	CURB AND GUTTER	SIDE WALK	CABLE	TIMBER RAIL	ANCHORAGES FOR CABLE								
	2409-2	2409-3	2411-	2411-	2411-	2411-	2411-	2411-	2411-	2411-	2411-	2411-	2411-	2512-1	2512-2	2515-1	2515-2	2516-	2516-	2517-1	2519-	2519-	2519-	2519-	2520-	2520-	2520-	2520-	2520-	2520-	2521-1	2521-3	2522-11	2523-1	2523-2	2523-5	2523-3	2523-4	2525-1	2528-1	2528-2	2531-1	2532-1	2533-1
	C.Y.	C.Y.	LIN.FT.	LIN.FT.	LIN.FT.	LIN.FT.	LIN.FT.	LIN.FT.	LIN.FT.	LIN.FT.	LIN.FT.	LIN.FT.	LIN.FT.	C.Y.	C.Y.	SQ.YD.	SQ.YD.		C.Y.	LIN.FT.	LIN.FT.	LIN.FT.	LIN.FT.	LIN.FT.	EACH	EACH	EACH	EACH	EACH	EACH	LIN.FT.	LIN.FT.	SQ.FT.	LIN.FT.	LIN.FT.	EACH	EACH	EACH	TON		SQ.YD.	CWT.	SQ.YD.	SQ.YD.

LEGEND

NOTE: NO DIRECT ACCESS PERMITTED BETWEEN THE MAIN ROADWAYS OR RAMPS OF THE INTERSTATE HIGHWAY, AND ABUTTING PROPERTIES.

SYMBOL TO INDICATE NO ACCESS IS SHOWN THUS

OPENINGS WHERE ACCESS TO HIGHWAY IS PERMITTED

I EXISTING PRIVATE DRIVEWAY ALLOWED BY R/W PROJ. T5701(1)

I PROPOSED PRIVATE DRIVEWAY ALLOWED BY R/W PROJ. T5701(1)

WHERE EXISTING OR PROPOSED PRIVATE DRIVEWAY RIGHTS ARE TO BE REVOKED THE SYMBOL "X" IS USED TO INDICATE

E.B. ℄ = MEDIAN EDGE OF PAVEMENT E.B. LANE

AUX. RANGE ℄ = OUTER EDGE OF PAVEMENT

BEARINGS SHOWN ON THIS PLAT ARE THE TRUE BEARINGS OF EACH TANGENT TO THE NEAREST MINUTE.

GENERAL REFERENCE

SEE RELOC. ORDER U 08-3(32) FOR PREVIOUS R/W ACQ. IN ON U.S.H. 53.

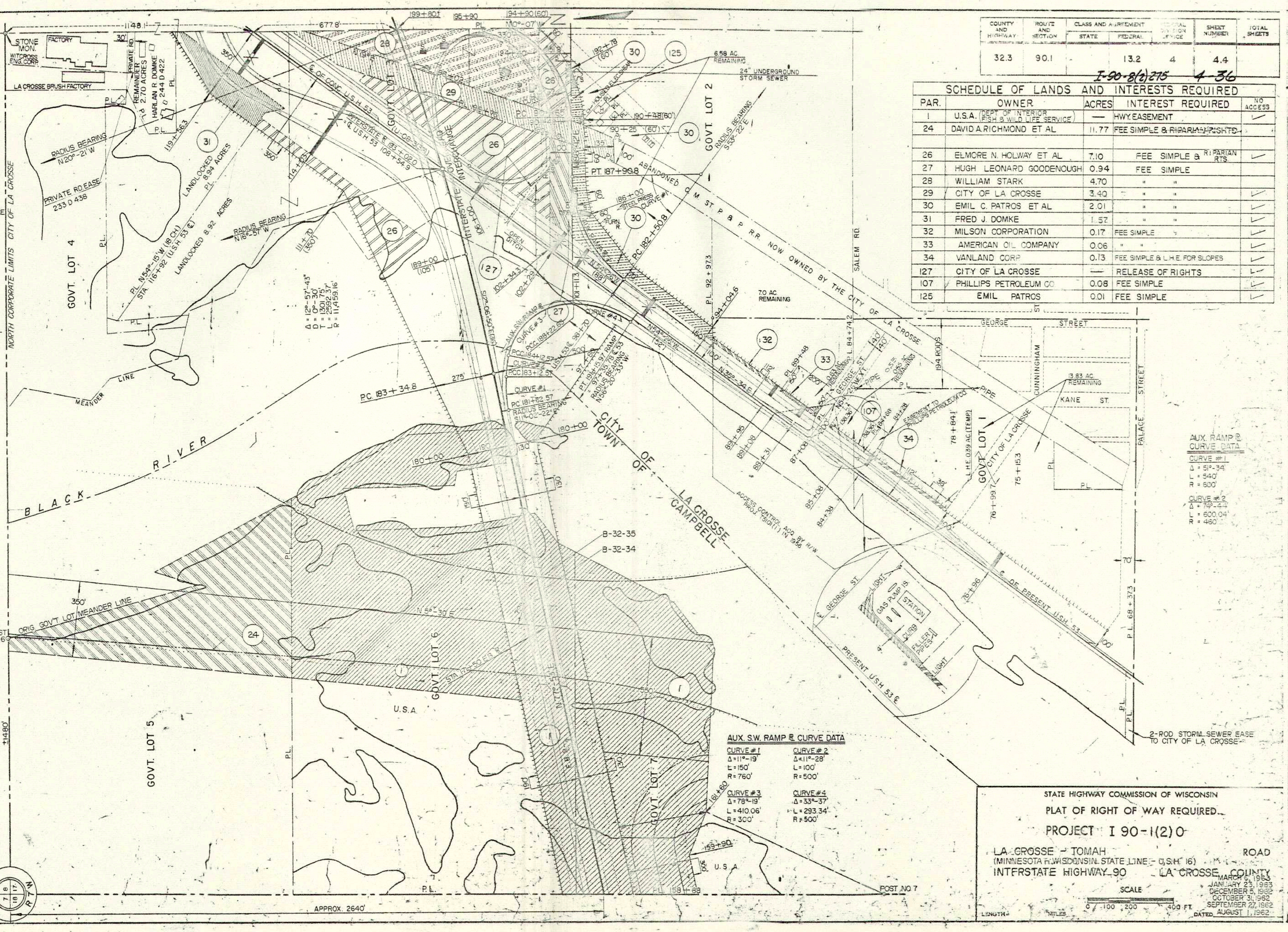
SEE RELOC. ORDER T 5101(1) ACCESS CONTROL ACQ. IN 1956 ON U.S.H. 53.

COUNTY AND HIGHWAY	ROUTE AND SECTION	CLASS AND AGREEMENT STATE	FEDERAL	FEDERAL DIVISION OFFICE	SHEET NUMBER	TOTAL SHEETS
32.3	90.1	-	13.2	4	4.4	

I-90-8(2)275 4-36

SCHEDULE OF LANDS AND INTERESTS REQUIRED

PAR.	OWNER	ACRES	INTEREST REQUIRED	NO ACCESS
1	U.S.A. (DEPT. OF INTERIOR FISH & WILD LIFE SERVICE)	—	HWY. EASEMENT	✓
24	DAVID A. RICHMOND ET AL	11.77	FEE SIMPLE & ~~RIPARIAN RIGHTS~~	
26	ELMORE N. HOLWAY ET AL	7.10	FEE SIMPLE & RIPARIAN RTS.	✓
27	HUGH LEONARD GOODENOUGH	0.94	FEE SIMPLE	
28	WILLIAM STARK	4.70	" "	
29	CITY OF LA CROSSE	3.40	" "	✓
30	EMIL C. PATROS ET AL	2.01	" "	✓
31	FRED J. DOMKE	1.57	" "	✓
32	MILSON CORPORATION	0.17	FEE SIMPLE	✓
33	AMERICAN OIL COMPANY	0.06	" "	✓
34	VANLAND CORP	0.13	FEE SIMPLE & L.H.E. FOR SLOPES	✓
127	CITY OF LA CROSSE	—	RELEASE OF RIGHTS	✓
107	PHILLIPS PETROLEUM CO.	0.08	FEE SIMPLE	✓
125	EMIL PATROS	0.01	FEE SIMPLE	✓



STATE HIGHWAY COMMISSION OF WISCONSIN

PLAT OF RIGHT OF WAY REQUIRED

PROJECT I 90-1(2)0

LA CROSSE - TOMAH ROAD
(MINNESOTA - WISCONSIN STATE LINE - U.S.H. 16)
INTERSTATE HIGHWAY 90 LA CROSSE COUNTY

SCALE 0 100 200 400 FT.

DATED AUGUST 1, 1962
SEPTEMBER 27, 1962
OCTOBER 31, 1962
DECEMBER 5, 1962
JANUARY 23, 1963
MARCH 6, 1963

B.P.R. DIVISION	PROJECT	SHEET NUMBER	TOTAL SHEETS
4	I-190-8(2)275	5	36

STA 150± 30 – 161±00 RT.
CONSTRUCT BERM

P.O.T. 158+31.37 E.B. R
2"X2" STK.
4.16
13.26 Q
8" MAPLE
TWIN BIRCH

SOPHIE RICHMOND
TRAIL
TRAIL
SUBMERGED TREES
WATER
WATER
P.I. 158+88
19.0'
R/W
160'
P.T. 154+29.43 BK. =
154+35.45 AH
152+50 EB
154+32.20
PT. 154+32.60
110'
110'
47'
P.C.
47'
155
160
DRAIN
0° 30'
150
ACCESS CONTROL LINE
20' EDGE OF BERM
180'
130'
VARIABLE CH. BOTTOM
200' CH. BOTTOM
℄ CATGUT SLOUGH CH. CH.
153+75
155A
160A
SOPHIE RICHMOND
SUBMERGED TREES
D=14°
D=14°
D=14°
150A
152+00 EB
500'
PC 100+00
100'
100'
159+60
100'
100'
R/W
400'R
152+25
410'
N59°24'W
200'R
100'
100'
100'
100'
430'
U.S.A.
WATER
EDGE OF CH CH BOTTOM
U.S.A.
U.S.A.
6" BIRCH
3.24
P.O.T. 161+08.55 E.B. R
3077 Q
6" MAPLE
TWIN BIRCH
SUBMERGED TREES
TREES
SUBMERGED TREES
350'
R/W
P.O.T. 175+50.07 E.B. R
24.89
15" BIRCH
13" BIRCH
SUBMERGED TREES
TREES
~25
17° 46'
BEGIN TAPER 21+00
229
P.C. 22+00
228
TREES
TREES
180+00
N.77° 53' E
165
170
BEG. OF PROJ. I90-8(2)275
STA. 168+67.90
B-32-33
B-32-34
171+50 EB R
20+00 CH CH
PT.
20+02
288
END OF PROJ. I90-8(2)275
STA. 174+32.10
180
ACCESS CONTROL LINE
PT. 18+00
229
N5° 39' E
℄ CH CH BLACK RIVER
550'
BLACK RIVER
TREES
TREES
15

BENCH MARKS
STA 151+02 SPIKE IN STUMP 31' LT EB R ELEV. 636.16
STA 158+88 PK NAIL IN 12" BIRCH 19' LT EB R ELEV. 633.29
STA 161+38 PK NAIL IN STUMP 41' LT EB R ELEV. 633.71
STA 175+25 PK NAIL IN 10" BIRCH 38' LT EB R ELEV. 635.21
STA 180+25 PK NAIL IN STUMP 31' LT EB R ELEV. 634.21

NET LENGTH OF CENTERLINE STA. 168+67.90 – 174+32.10 = 564.20 LIN. FT.

WESTBOUND
+0.0%
640
630
620
NORMAL WATER 631
CATGUT SLOUGH
+29.13 B
+35.45 A
94.98
EASTBOUND
+0.0%
640
630
620
NORMAL WATER 631.1
CATGUT SLOUGH
32.23 B
32.56 A
99.65

P.C.V.C. +30
650.01
800' V.C.
W.B.
P.I.V.C. +30
652.01
+0.5%
P.C.V.C. +00
653.36
800' V.C.
+0.15%
B-32-35
HIGH WATER 644.5
STA 171+69.23 B-32-35
80'–100'–100'–100'–80' SPANS
30' ROADWAY I-BEAM BRIDGE
SEE DRAWINGS X-26636 - X-26651A
NORMAL WATER 631.1
W.B.
CH. CH. REQD. BLACK RIVER
P.I.V.C. +00
655.95
P.C.V.C. 175.25
656.52
P.C.V.C. +30
650.01
800' V.C.
E.B.
P.I.V.C. +30
652.01
+0.5%
P.C.V.C. +00
653.36
800' V.C.
+0.15%
B-32-34
HIGH WATER 644.5
STA 171+50 B-32-34
80'–100'–100'–100'–80' SPANS
30' ROADWAY I-BEAM BRIDGE
SEE DRAWINGS X-26623 - X-26637A
NORMAL WATER 631.1
E.B.
CH. CH. REQD. BLACK RIVER
P.I.V.C. +00
655.95
P.C.V.C. 175.25
656.52

9	150	1	2	3	4	155	6	7	8	9	160	1	2	3	4	165	6	7	8	9	170	1	2	3	4	175	6	7	8	9	180	1
	50.00		50.00		50.00		50.00		50.00		50.00		50.00		50.00		50.00		50.01		50.09		50.22		50.42		50.69		51.02		51.40		51.85		52.35		52.85		53.35		53.82		54.26		54.65		55.00		55.30		55.56		55.77		55.95		56.10		56.25		56.40		56.55

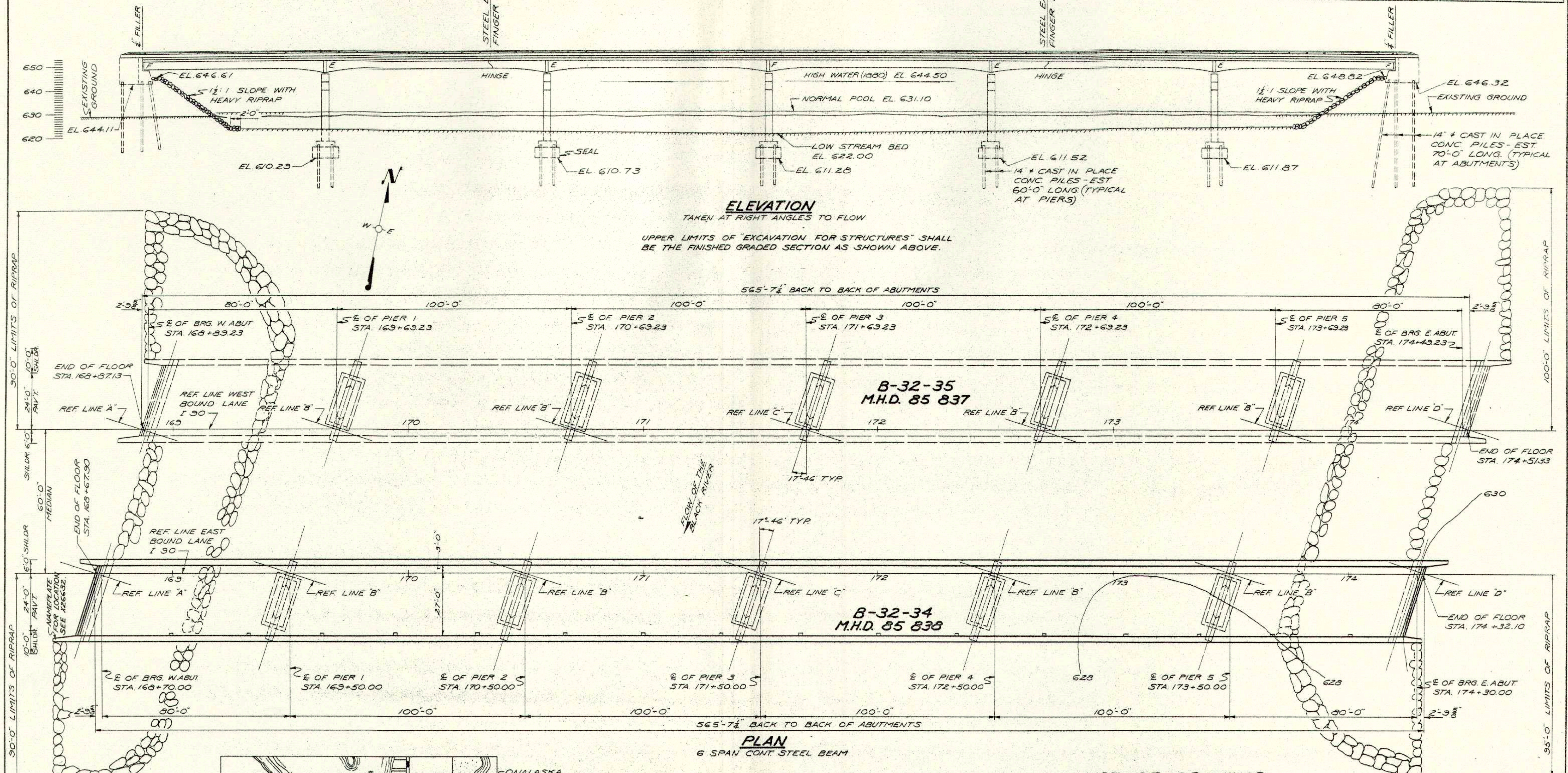
PLATE 1 - PLAN-PROFILE B.P.R. STANDARD
SIGLER PRODUCTS CO., Wayne

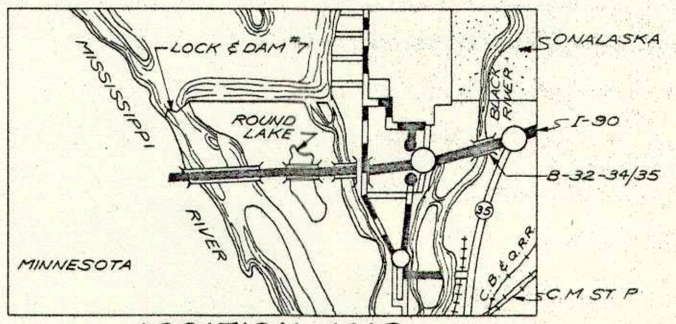
PLAN
SURVEYED
PLOTTED
ALIGNMENT CHECKED
R/T OF WAY CHECKED
NOTE BOOK
NO.
BY
DATE

PROFILE
SURVEYED
PLOTTED
GRADES CHECKED
R/T OF WAY CHECKED
NO. E BOOK
NO.
STRUCTURE NOTATIONS CHKD.
BY
DATE

FORM E-B-11-62

COUNTY & HIGHWAY	ROUTE & SECTION	CLASS & AGREEMENT STATE	CLASS & AGREEMENT FEDERAL	B.P.R. DIVISION	PROJECT	SHEET NO.	TOTAL SHEETS
32.3	90.8		12.1	4	I-90-8(2) 275	6	36





LOCATION MAP

LIST OF DRAWINGS

1. GENERAL PLAN — X26623
2. TOTAL ESTIMATED QUANTITIES — X26624
3. SUPERSTRUCTURE — X26625
4. GIRDER DETAILS — X26626
5. GIRDER DETAILS — X26627
6. POURING, FORMING & BLOCKING DIAGRAMS — X26628
7. LONG. SECTION & BEARINGS — X26629
8. EXPANSION JOINTS — X26630
9. FLOOR DRAIN DETAILS — X26631
10. TUBULAR STEEL RAILING - TYPE A — X26632
11. WEST ABUTMENT — X26633
12. PIERS 1, 2, 4 & 5 — X26634
13. PIER 3 — X26635
14. EAST ABUTMENT — X26636
15. SUBSURFACE EXPLORATION — X26637
16. TUBULAR ALUMINUM RAILING - TYPE A — X26637A

STATE HIGHWAY COMMISSION OF WISCONSIN

GENERAL PLAN

CO. LA CROSSE	CITY/VIL./TN. CAMPBELL		STA. 171+50.00
SECTION 17	TOWN 16 N		RANGE 7 W
DESIGN SPEC. AASHO '61	LOADING H20-S16 MOD.		CONST. SPEC. 1963
DATE 1-17-63	DESIGN B.M.	DRAWN BW	CKD. Dz

REVISED

RECOMMENDED H. B. Schultz — WISCONSIN ENGINEER OF BRIDGES; A. E. La Bonte — MINNESOTA BRIDGE ENGINEER

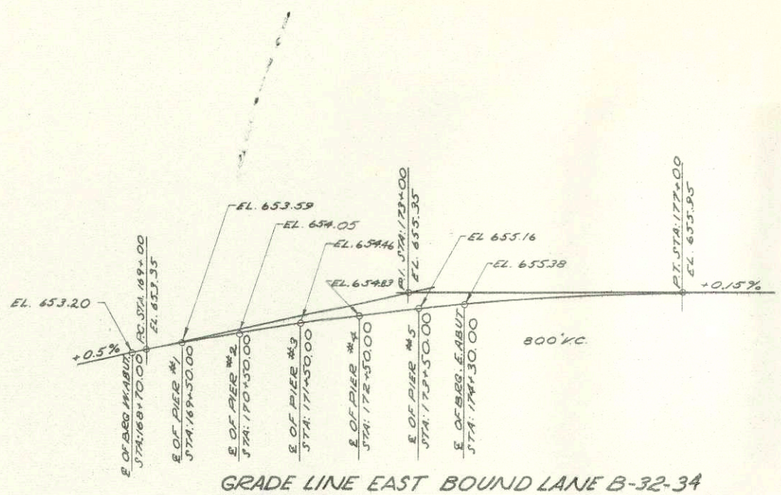
APPROVED C. C. Rottmyer — WISCONSIN HIGHWAY ENGINEER; [signature] — MINNESOTA DEPUTY CHIEF ENGINEER

WISCONSIN STRUCTURE B-32-34 | SHEET 1 OF 16

MINNESOTA STRUCTURE 85 838 | X26623

FORM E-B-12-62

S. H. C. DIVISION	PROJECT	SHEET NO.	TOTAL SHEETS
4	I-90-8(2) 275	7	36



GRADE LINE EAST BOUND LANE B-32-34

INTERSTATE I 90 ALONG
REF LINE EAST BOUND LANE

GENERAL NOTES

DRAWINGS SHALL NOT BE SCALED.

BEVEL EXPOSED EDGES OF CONCRETE 1" UNLESS OTHERWISE SPECIFIED.

BAR STEEL REINFORCEMENT SHALL BE IMBEDDED 2" CLEAR UNLESS OTHERWISE SHOWN OR NOTED.

ALL CONCRETE MASONRY SHALL BE GRADE "A" (f'c 1400 P.S.I.) EXCEPT FOR PIER FOOTING SEALS.

ALL PILING SHALL BE 14" ϕ CAST-IN-PLACE CONCRETE PILING DRIVEN TO A MINIMUM BEARING VALUE OF 40 TONS PER PILE. ESTIMATED LENGTH OF ABUTMENT PILES IS 70'-0", MINIMUM PENETRATION OF 50'-0" BELOW STREAMBED. ESTIMATED LENGTH OF PIER PILES IS 60'-0", MINIMUM PENETRATION OF 40'-0" BELOW BOTTOM OF SEAL.

ALL FIELD CONNECTIONS SHALL BE MADE WITH 3/4" ϕ RIVETS OR HIGH TENSILE STRENGTH BOLTS UNLESS NOTED

THE TOP AND SLOPE OF THE FILL IN FRONT OF THE ABUTMENTS SHALL BE COVERED WITH HEAVY RIP RAP AS SHOWN ON SHEETS X 26623, X 26633 AND X26636

THE SUPERSTRUCTURE SHALL BE TREATED WITH WATER SOLUBLE SILICONE IN ACCORDANCE WITH SECTION 502.3.13 OF THE STANDARD SPECIFICATIONS.

TOTAL ESTIMATED QUANTITIES

BID ITEMS	UNIT	SUPER.	W.ABUT	PIER 1	PIER 2	PIER 3	PIER 4	PIER 5	E.ABUT	TOTAL
EXCAVATION FOR STRUCTURES	C.Y.	—	10	160	140	120	130	140	10	710
CONCRETE MASONRY GRADE	C.Y.	540.0	56.0	79.5	79.5	76.7	79.5	79.5	56.1	1,046.8
BAR STEEL REINFORCEMENT	C.Y.	177,350	1,690	8,360	8,360	7,860	8,360	8,360	1,690	222,030
STRUCTURAL CARBON STEEL	LB.	555,100	—	—	—	—	—	—	—	555,100
STRUCTURAL LOW ALLOY STEEL	LB.	16,700	—	—	—	—	—	—	—	16,700
CARBON STEEL FORGINGS	LB.	510	—	—	—	—	—	—	—	510
* LUBRICATED BRONZE PLATES	LB	445	—	—	—	—	—	—	—	445
BEARING PADS	S.F.	45	—	—	—	—	—	—	—	45
CAST-IN-PLACE CONCRETE PILING; DELIVERED	L.F.	—	840	1,200	1,200	1,200	1,200	1,200	840	7,680
CAST-IN-PLACE CONCRETE PILING; DRIVEN	L.F.	—	840	1,080	1,080	1,080	1,080	1,080	840	7,080
TUBULAR RAILING TYPE "A"	L.F.	1,163	—	—	—	—	—	—	—	1,163
FLOOR DRAINS, TYPE-A	EACH	16	—	—	—	—	—	—	—	16
HEAVY RIPRAP	C.Y.	—	480	—	—	—	—	—	580	1,060
PILE TEST LOAD	EACH	—	—	—	—	—	—	—	—	1
CONCRETE MASONRY SEAL	C.Y.	—	—	58.0	58.0	51.5	58.0	58.0	—	283.5
NON BID ITEMS										
ALUMINUM OR ZINC PLATE	S.F.	84	—	—	—	—	—	—	—	84
FILLER	SIZE	—	—	—	—	—	—	—	—	1/4

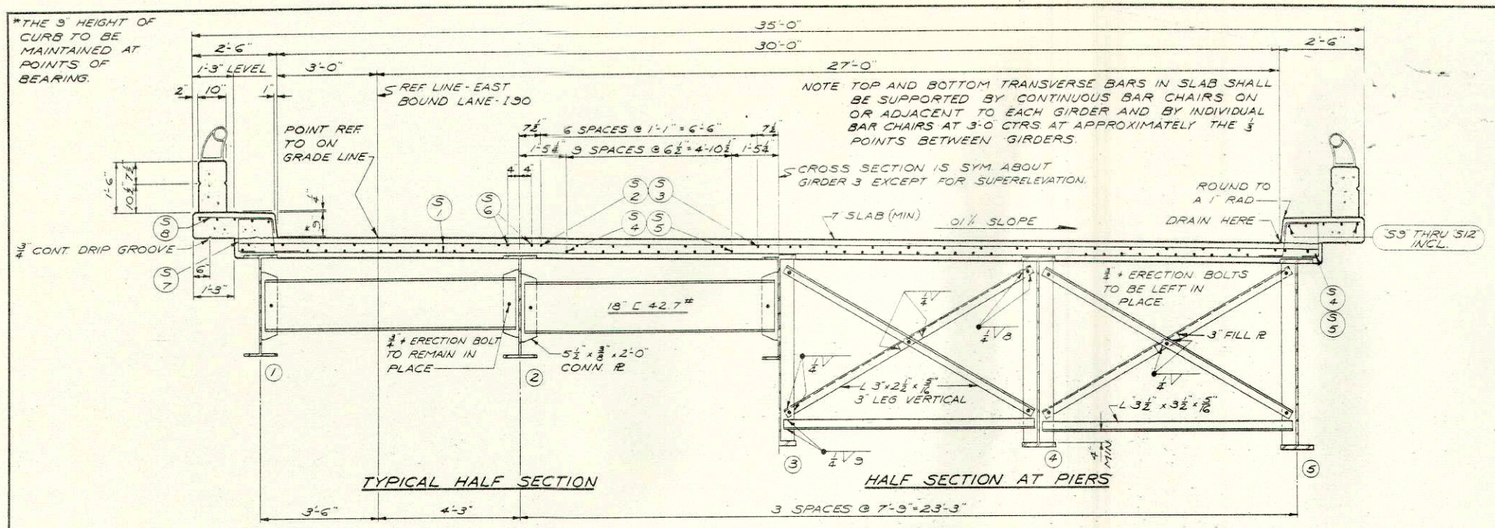
*INCLUDES WEIGHT OF BRONZE WASHERS.

REVISED	STATE HIGHWAY COMMISSION OF WISCONSIN
	TOTAL ESTIMATED QUANTITIES
	DESIGN SPEC. A.A.S.H.O.-61 LOADING H20-S16 MOD. CONST. SPEC. 1963
	DATE 11/1763 DESIGN B.H.M. DRAWN G.T.R. CKD. D.F.
STRUCTURE B-32-34	SHEET 2 OF 16

X26624

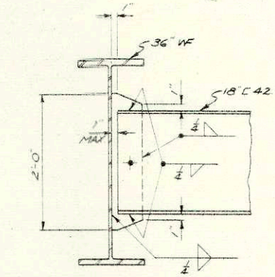
FORM E-8-12-62

B.P.R. DIVISION	PROJECT	SHEET NO.	TOTAL SHEETS
4	I-90-8(2) 275	8	36

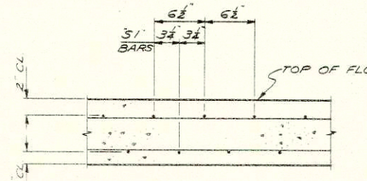


CROSS SECTION THRU ROADWAY

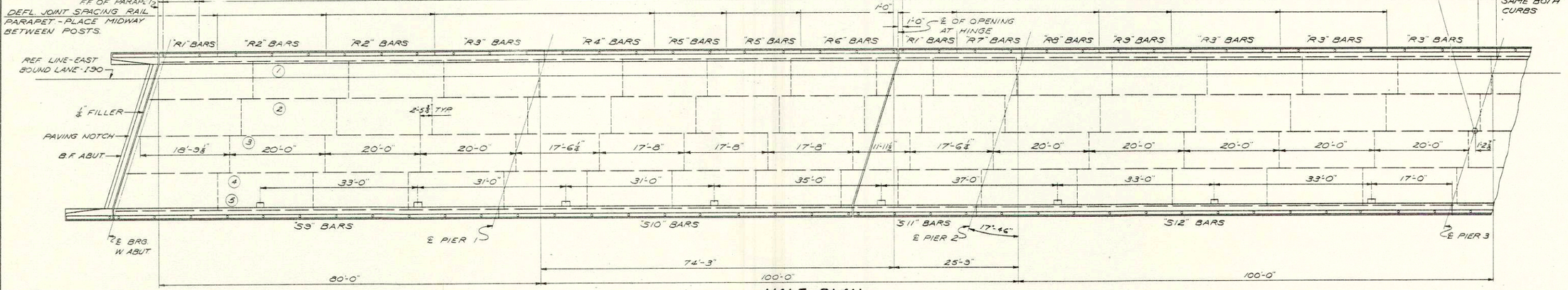
LOOKING EAST



CONNECTION DETAILS



LONG. SECTION THRU FLOOR



HALF PLAN

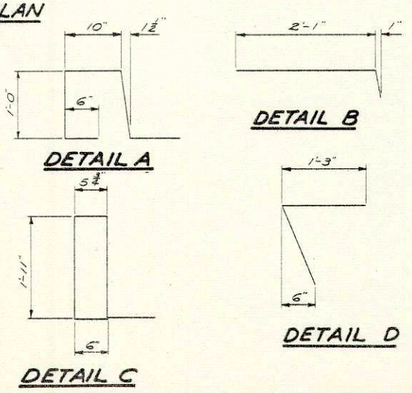
BILL OF BARS

177,350 #'S

DIMENSIONS IN BENDING DETAILS ARE OUT TO OUT

POUR	MARK	NO	SIZE	LENGTH	SPACING	LOCATION	DET
SUPERSTRUCTURE	S1	2069	6	33-9	6½	SLAB - TRANS - TOP & BOTTOM	
	S2	280	5	32-3	SHOWN	" - LONG - TOP - END SECTION	
	S3	196	5	37-3	"	" " " - MIDDLE SECTION	
	S4	420	5	32-3	"	" " - BOTTOM - END SECTION	
	S5	294	5	37-3	"	" " " - MIDDLE SECTION	
	S6	50	5	15-0	"	" " - TOP - SYM. ABOUT PIERS	
	S7	1122	5	4-3	1-0	CURB - TRANS.	A
	S8	1122	6	2-6	1-0	" "	B
	S9	60	6	28-3	6	" - LONG - LOCATION SHOWN ON "HALF PLAN"	
	S10	60	6	26-0	6	" " " " " " "	
	S11	20	6	25-3	6	" " " " " " "	
	S12	60	6	34-3	6	" " " " " " "	
	S13	1122	5	5-6	1-0	" ℄ RAIL PARAPET	C
	S14	8	4	6-9	SHOWN	DIAPHRAGM @ ABUT.	
	S15	40	5	2-9	1-6	" " "	D

POUR	MARK	NO	SIZE	LENGTH	SPACING	LOCATION
RAILING PARAPET	R1	32	5	12-0	SHOWN	RAILING PARAPET
	R2	32	5	22-9	"	" "
	R3	64	5	22-3	"	" "
	R4	16	5	23-0	"	" "
	R5	32	5	15-0	"	" "
	R6	16	5	19-3	"	" "
	R7	16	5	13-0	"	" "
	R8	16	5	16-6	"	" "
	R9	16	5	14-3	"	" "



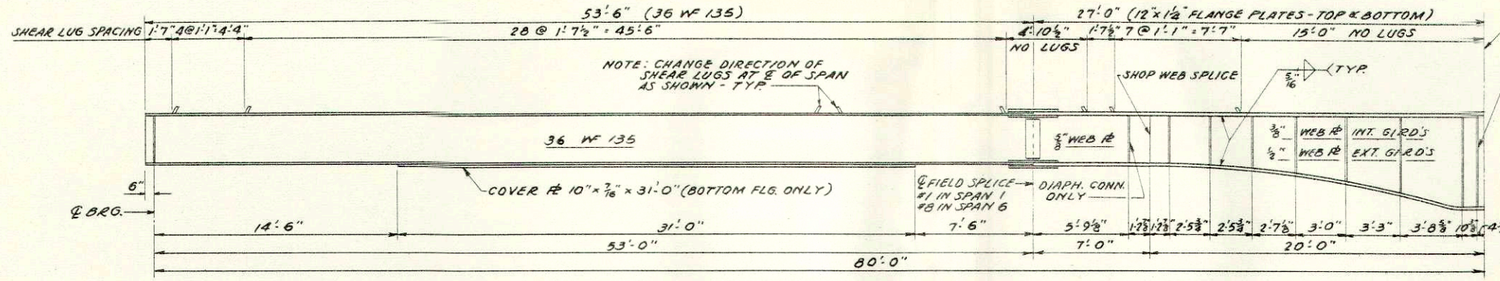
NOTE: FLOOR DRAIN SPACING FOR SPANS 4, 5 & 6 IS THE SAME AS SHOWN ABOVE SOUTH CURB ONLY. DRAIN SPACING MAY BE ALTERED TO MISS STIFFENER PL'S IF NECESSARY.

REVISED	STATE HIGHWAY COMMISSION OF WISCONSIN
	SUPERSTRUCTURE
	DESIGN SPEC. A.A.S.H.O. '61 LOADING H20-S16 MOD. CONST. SPEC. 1963
	DATE 1-17-63 DESIGN BHM DRAWN BJV CKD. RB
	STRUCTURE B-32-34 SHEET 3 OF 16

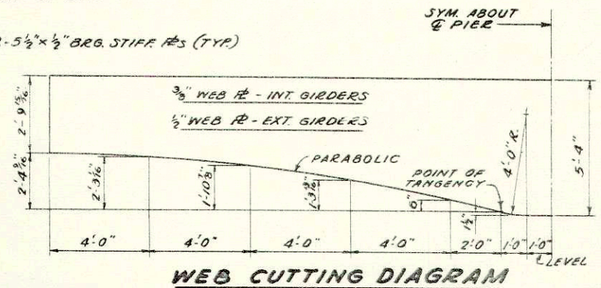
X26625

FORM E-B-12-62

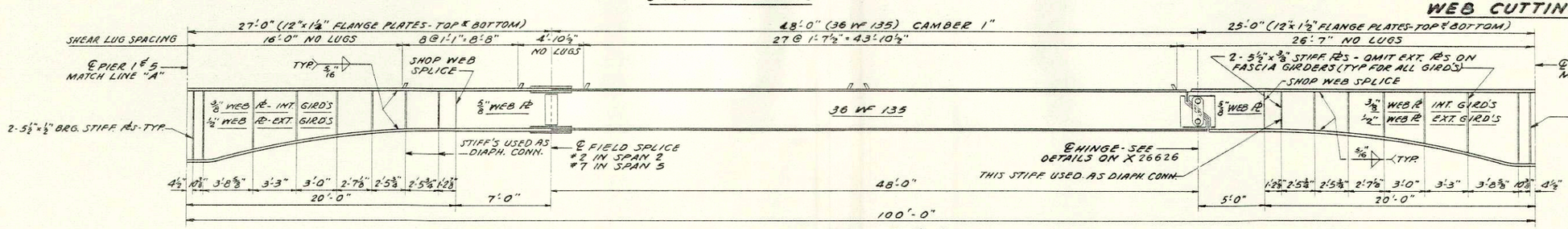
B.P.R. DIVISION	PROJECT	SHEET NO.	TOTAL SHEETS
4	I-90-8(2) 275	9	36



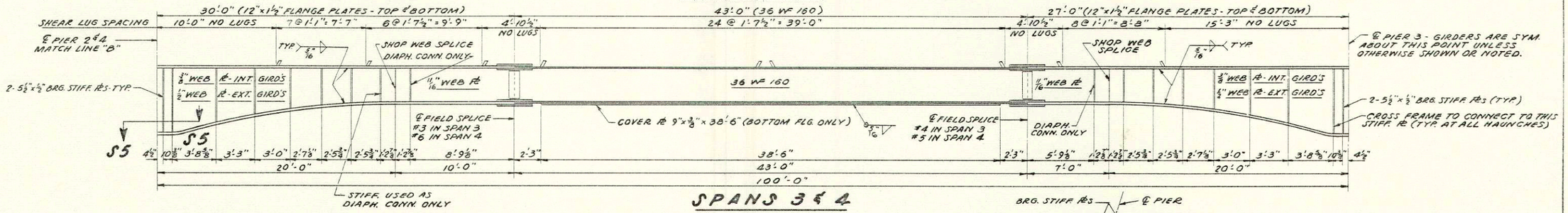
SPANS 1 & 6



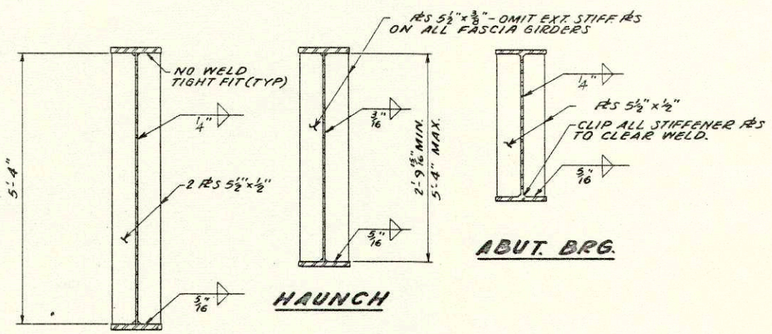
WEB CUTTING DIAGRAM



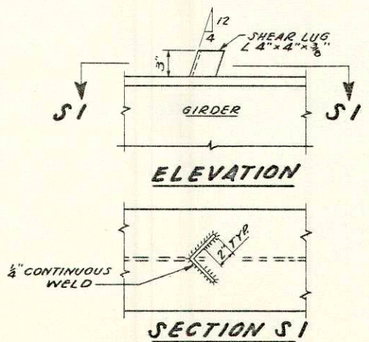
SPANS 2 & 5



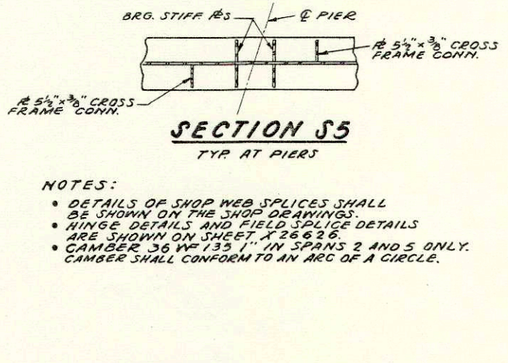
SPANS 3 & 4



STIFFENER DETAILS

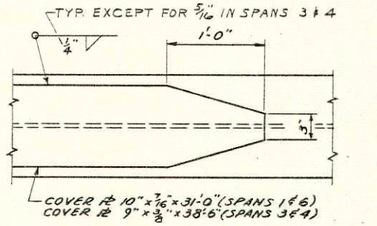


SHEAR LUG DETAILS



NOTES:

- DETAILS OF SHOP WEB SPLICES SHALL BE SHOWN ON THE SHOP DRAWINGS.
- HINGE DETAILS AND FIELD SPLICE DETAILS ARE SHOWN ON SHEET X 26626.
- CAMBER 36 WF 135 1" IN SPANS 2 AND 5 ONLY. CAMBER SHALL CONFORM TO AN ARC OF A CIRCLE.



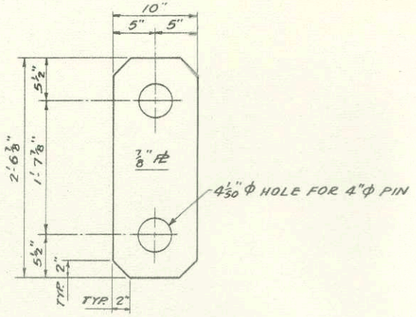
COVER PLATE DETAILS

REVISED	STATE HIGHWAY COMMISSION OF WISCONSIN
	GIRDER DETAILS
DESIGN SPEC. A.A.S.H.O. '61	LOADING H20 S16 MOD.
CONST. SPEC. 1963	
DATE 1-17-63	DESIGN B.M.
DRAWN T.T.M.	CKD.
STRUCTURE B-32-34	SHEET 4 OF 16

X 26626

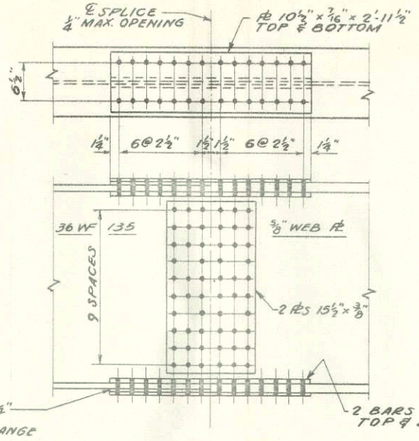
FORM E-B-12-62

B.P.R. DIVISION	PROJECT	SHEET NO.	TOTAL SHEETS
4	I-90-8(2) 275	10	36

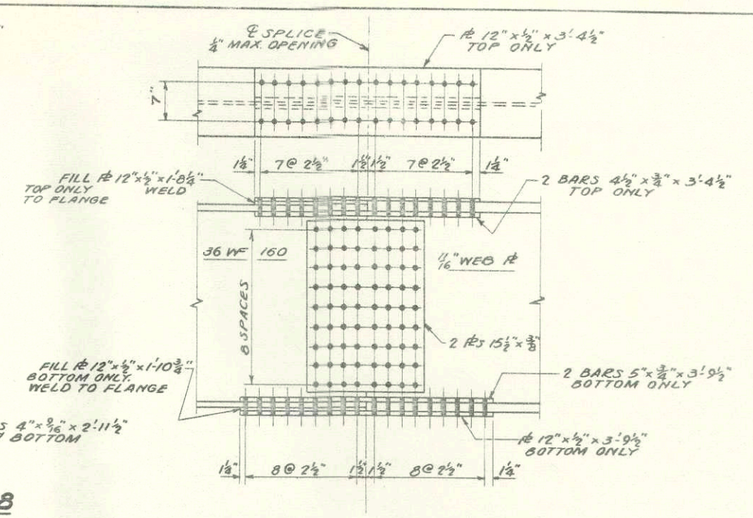


HANGER PLATE

2 REQ'D PER HINGE

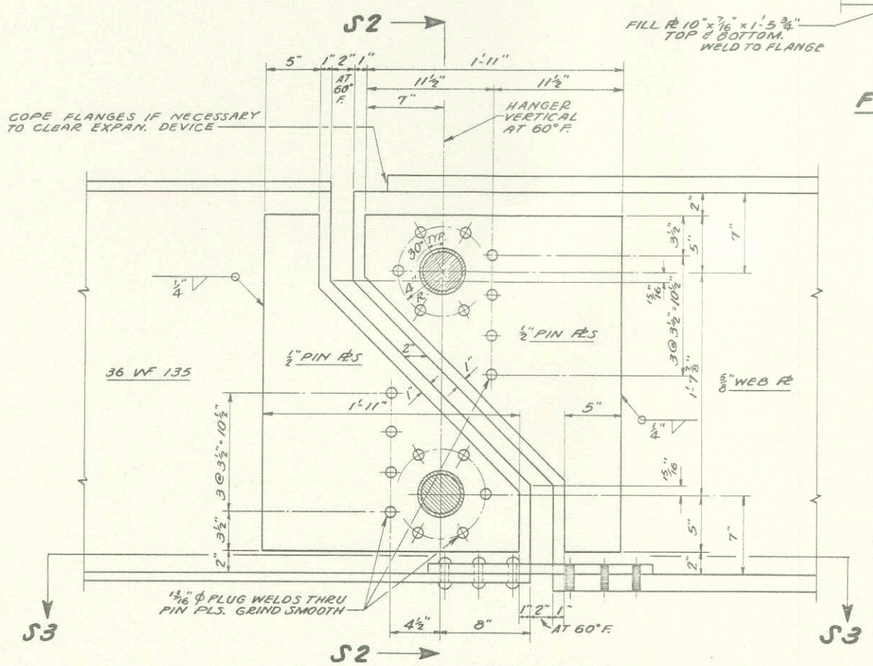


FIELD SPLICE 1, 2, 7 & 8



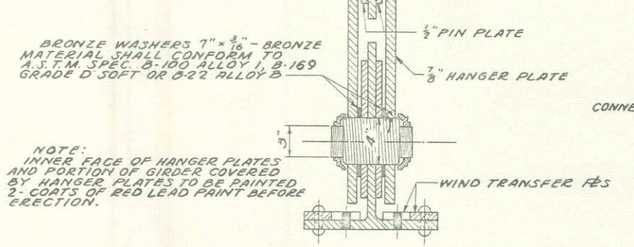
FIELD SPLICE 3, 4, 5 & 6

NOTE:
ALL FIELD SPLICE CONNECTIONS SHALL BE MADE WITH ⅞" ϕ HIGH TENSILE STRENGTH BOLTS.

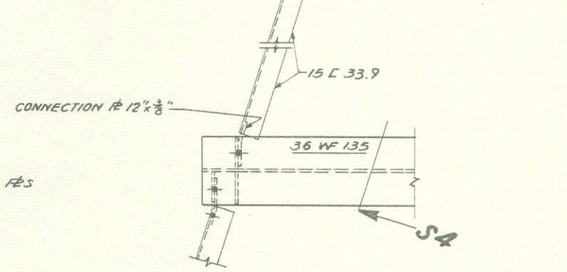


HINGE DETAIL

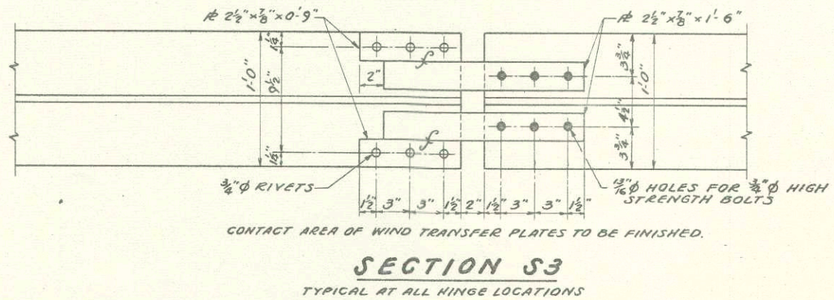
HANGER PLATES NOT SHOWN



SECTION S2



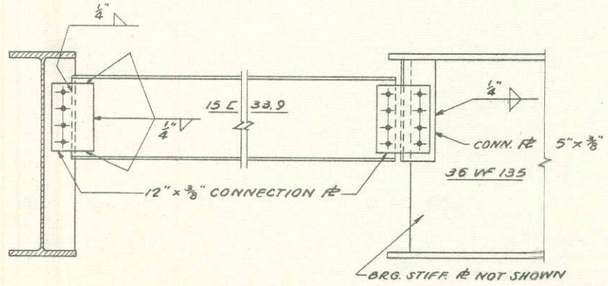
PLAN OF CHANNEL CONNECTION AT ABUTMENTS



CONTACT AREA OF WIND TRANSFER PLATES TO BE FINISHED.

SECTION S3

TYPICAL AT ALL HINGE LOCATIONS



SECTION S4

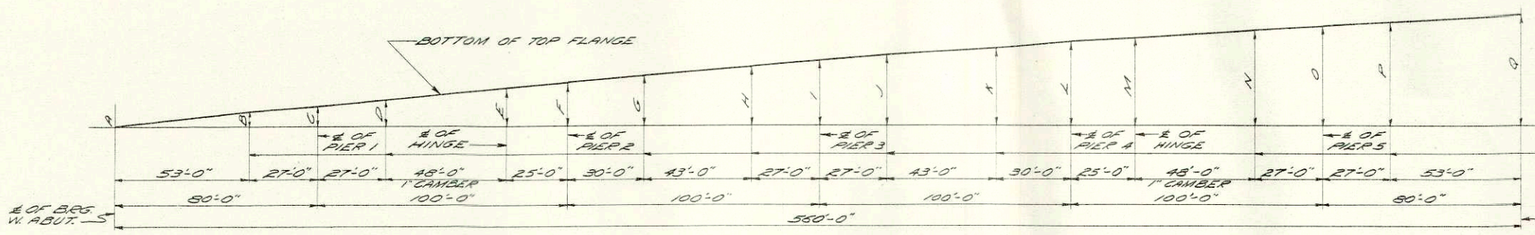
REVISED	STATE HIGHWAY COMMISSION OF WISCONSIN
	GIRDER DETAILS
	DESIGN SPEC. A.A.S.H.O. '61 LOADING H20 S16 MOD CONST. SPEC. 1963
	DATE 1-17-63 DESIGN B.M. DRAWN T.T.M. CKD.
	STRUCTURE B-32-34 SHEET 5 OF 16

X 26627

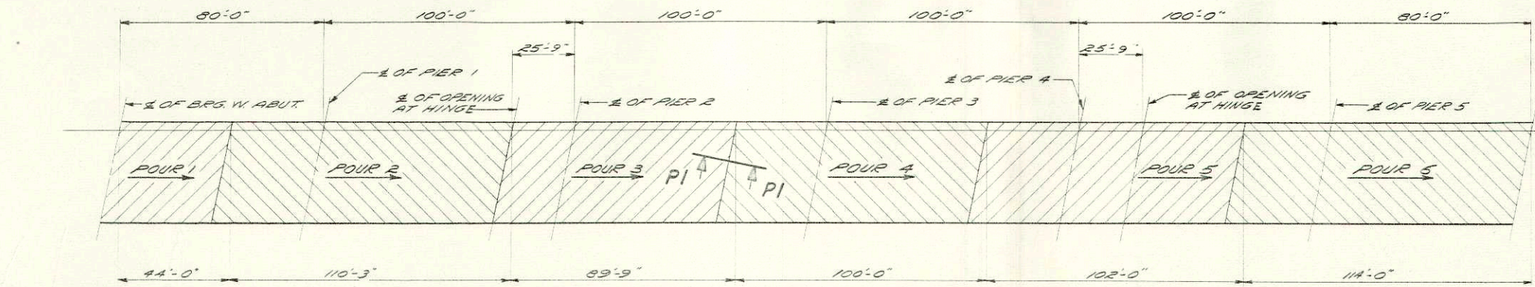
FORM E-8-12-62

B.P.R. DIVISION	PROJECT	SHEET NO.	TOTAL SHEETS
4	I-90-8(2) 275	11	36

LOCATION	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q
GIRDER 1	0	0'-3 3/16"	0'-4 3/4"	0'-6 1/4"	0'-8 3/8"	0'-10 3/16"	0'-11 7/8"	1'-1 7/16"	1'-3 1/16"	1'-4 7/16"	1'-6 5/16"	1'-7 3/8"	1'-8 5/16"	1'-10 1/4"	1'-11 7/16"	2'-0 7/16"	2'-2 3/16"
GIRDER 2	0	0'-3 3/16"	0'-4 3/4"	0'-6 5/16"	0'-8 1/16"	0'-10 1/4"	0'-11 7/8"	1'-1 7/16"	1'-3 1/16"	1'-4 7/16"	1'-6 3/16"	1'-7 5/16"	1'-8 5/16"	1'-10 3/16"	1'-11 1/4"	2'-0 1/4"	2'-2 1/4"
GIRDER 3	0	0'-3 3/16"	0'-4 3/4"	0'-6 5/16"	0'-8 1/16"	0'-10 1/4"	0'-11 7/8"	1'-1 5/8"	1'-3 1/16"	1'-4 1/4"	1'-6 3/16"	1'-7 5/16"	1'-8 1/4"	1'-10 3/16"	1'-11 3/16"	2'-0 3/16"	2'-2 3/16"
GIRDER 4	0	0'-3 3/16"	0'-4 3/4"	0'-6 5/16"	0'-8 3/16"	0'-10 1/4"	0'-11 7/8"	1'-1 7/8"	1'-3 1/4"	1'-4 1/4"	1'-6 1/16"	1'-7 1/16"	1'-8 1/4"	1'-10 5/16"	1'-11 5/16"	2'-0 5/16"	2'-2 5/16"
GIRDER 5	0	0'-3 3/16"	0'-4 3/4"	0'-6 5/16"	0'-8 1/16"	0'-10 1/4"	0'-11 5/8"	1'-2"	1'-3 1/4"	1'-4 3/16"	1'-6 1/16"	1'-7 1/8"	1'-8 1/16"	1'-10 1/16"	1'-11 1/16"	2'-0 1/16"	2'-2 1/16"



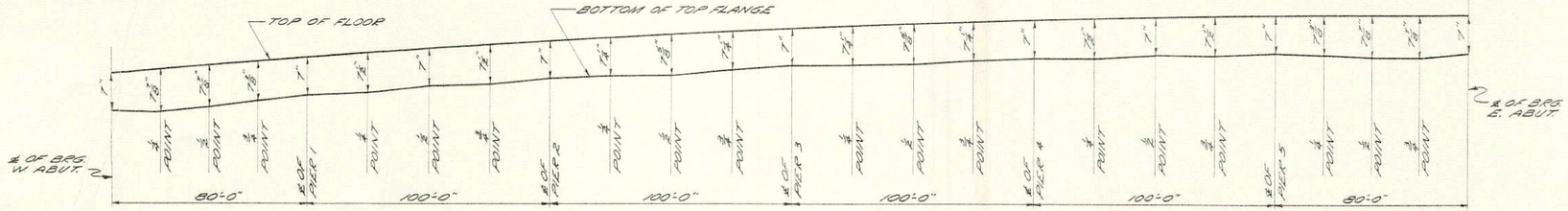
BLOCKING DIAGRAM



NOTE: TWO OR MORE POURS MAY BE COMBINED AND TRANS. CONST. JOINTS OMITTED IF THE ENTIRE POUR IS MADE IN A CONTINUOUS 10 HR. PERIOD.

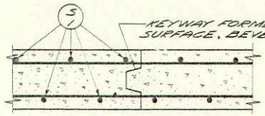
POURING DIAGRAM

IF REQUIRED THE POURS MAY BE REVERSED.

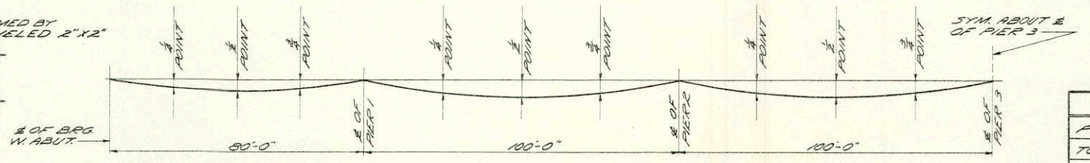


FORMING DIAGRAM

SLAB THICKNESS FIGURES SHOWN ARE THEORETICAL AND ARE SUBJECT TO CORRECTION TO MEET VARIABLE FIELD CONDITIONS.



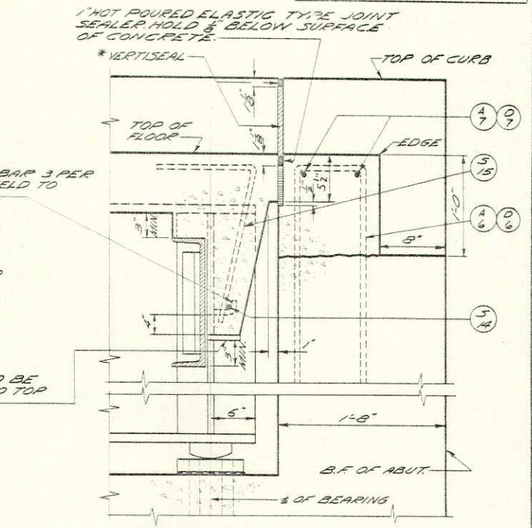
SECTION "P1"



DEFLECTION DIAGRAM

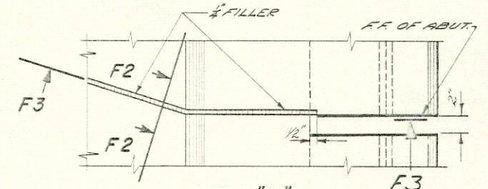
DEAD LOAD DEFLECTIONS

	SPAN 1			SPAN 2			SPAN 3		
POINT	1/4	1/2	3/4	1/4	1/2	3/4	1/4	1/2	3/4
TOTAL D.L.	5/8	7/8	5/8	1/2	1	1/2	1/2	5/8	1/2
CONC. ONLY	1/2	3/4	1/2	5/8	7/8	1/2	1/2	3/4	1/2

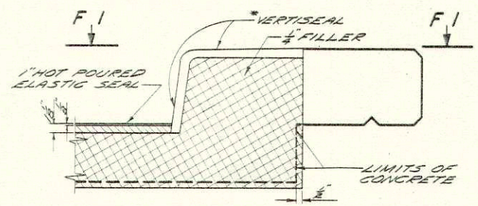


SECTION "F2" AT ABUTS.

*SEAL CURB JOINT WITH BLACK GOLD APPLIED JOINT SEALER VERTISEAL AS MANUFACTURED BY THE SERVICISED PRODUCTS CORP. OF CHICAGO, ILL. OR AN APPROVED EQUAL.



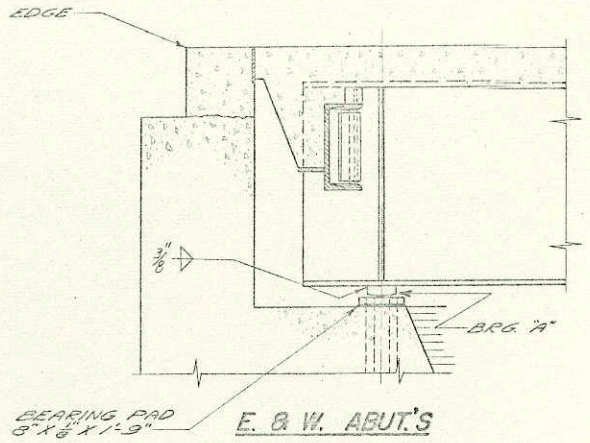
VIEW "F1"



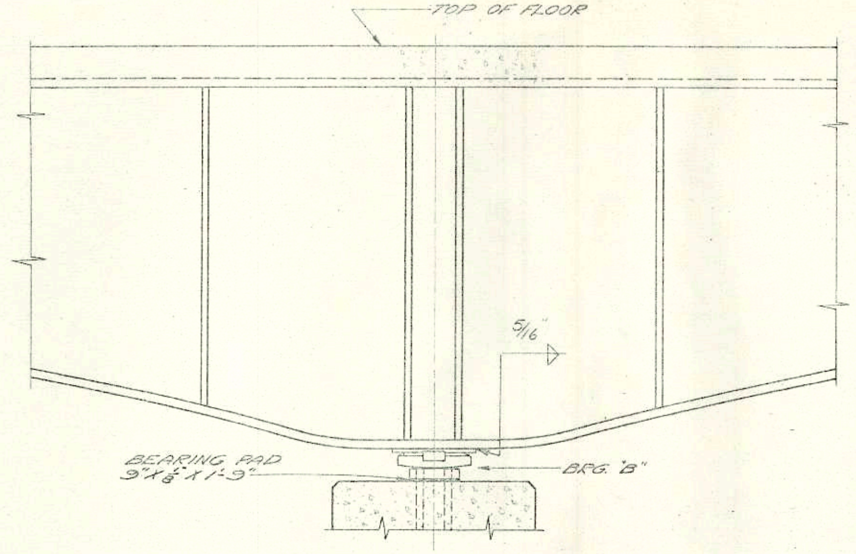
SECTION "F3" THRU CURB AT FILLER

REVISED	STATE HIGHWAY COMMISSION OF WISCONSIN
	POURING, FORMING & BLOCKING DIAGRAMS
	DESIGN SPEC. A.A.S.H.O. 61 LOADING "H" 20-S16 MOD. CONST. SPEC. 1953
	DATE 1-17-63 DESIGN BM DRAWN PRN CKD. EJ
	STRUCTURE 8-32-34 SHEET 6 OF 16

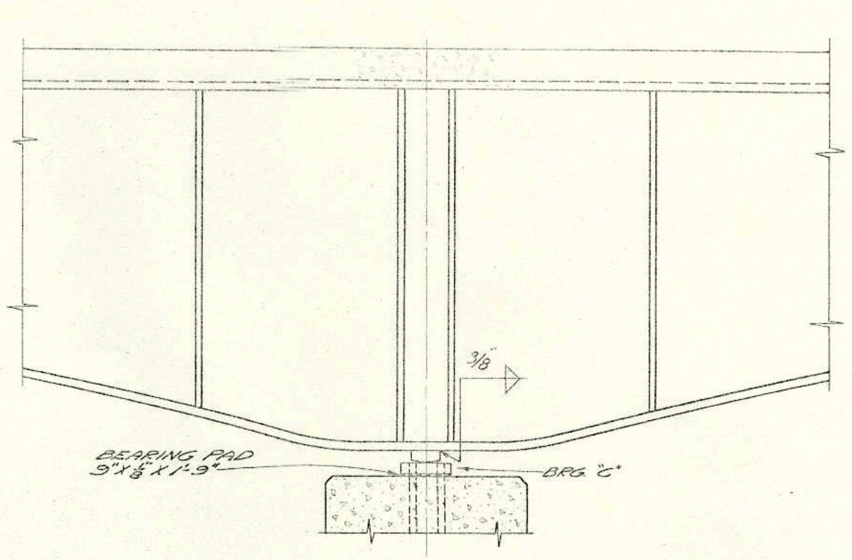
X 26628



E. & W. ABUT'S

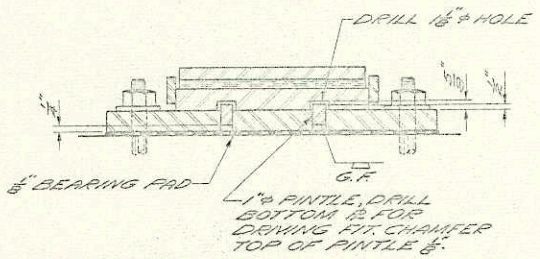


PIERS 1,2,4 & 5

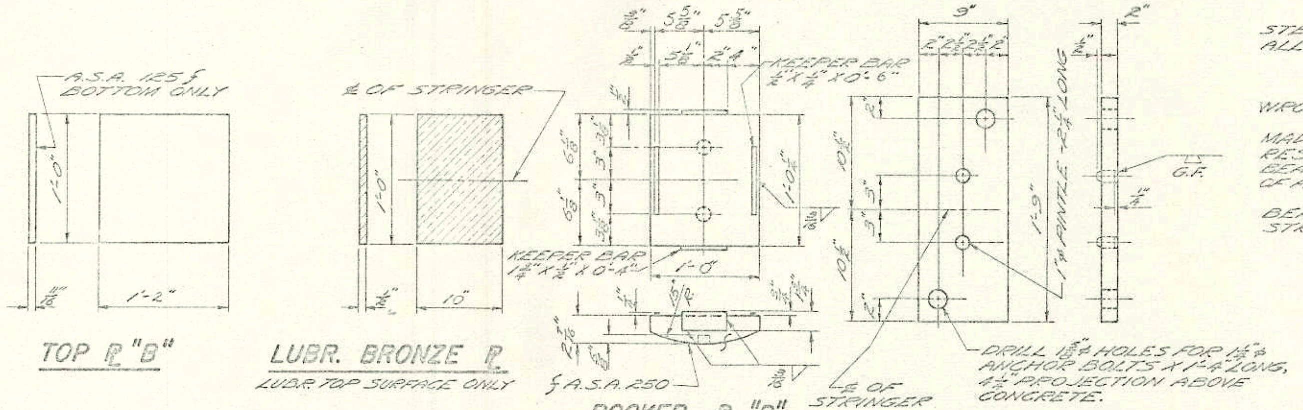


PIER 3

LONGITUDINAL SECTION



TYPICAL PINTLE DETAIL - ALL BRG'S



TOP ℙ "B"

LUBR. BRONZE ℙ

LUBR. TOP SURFACE ONLY

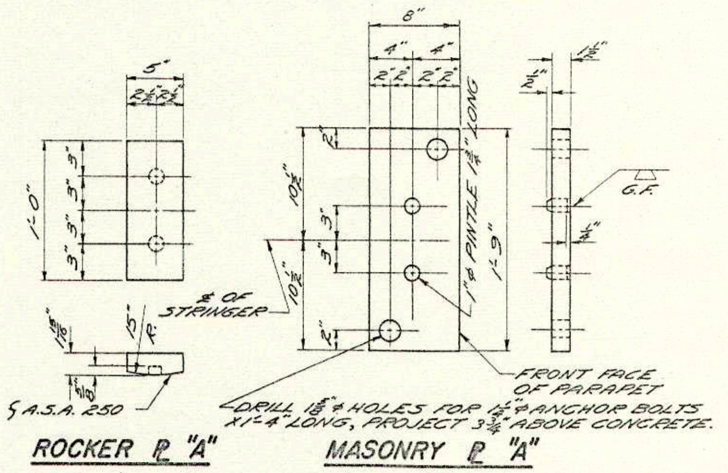
ROCKER ℙ "B"

MASONRY ℙ "B"

BEARING TYPE "B"

20 REQ'D.

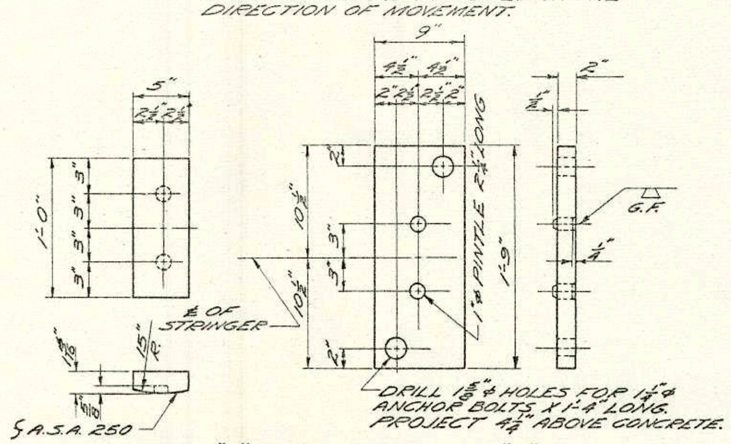
NOTE: TOP PLATE OF EXPANSION BEARING TO BE FINISHED IN THE DIRECTION OF MOVEMENT.



ROCKER ℙ "A" MASONRY ℙ "A"

BEARING TYPE "A"

10 REQ'D.



ROCKER ℙ "C" MASONRY ℙ "C"

BEARING TYPE "C"

5 REQ'D.

GENERAL NOTES

ALL STRUCTURAL STEEL BEARING PLATES SHALL BE FLAT ROLLED STEEL PLATES WITH ALL SURFACES SMOOTH & FREE FROM WARP & ALL EDGES SMOOTH, STRAIGHT & VERTICAL.

ALL PLATE CUTS SHALL BE MACHINE OR MACHINE FLAME CUTS.

ALL SURFACES MARKED ∫ SHALL BE MACHINE FINISHED.

ANCHOR BOLTS SHALL BE THREADED 3", PROVIDE ONE 1¼" STANDARD WROUGHT WASHER & ONE HEX. NUT PER BOLT.

ALL MATERIAL EXCEPT ANCHOR BOLTS, NUTS & WASHERS SHALL BE MADE OF COR-TEN, MAYARI R OR OTHER STEEL OF EQUAL CORROSIVE RESISTANCE. THE KEEPER BARS & PINTLES MAY BE MADE OF COPPER BEARING STEEL OR STEEL CONFORMING TO A.S.T.M. A441. THE TOP 4½" OF ANCHOR BOLTS, WASHERS & NUTS SHALL BE GALVANIZED.

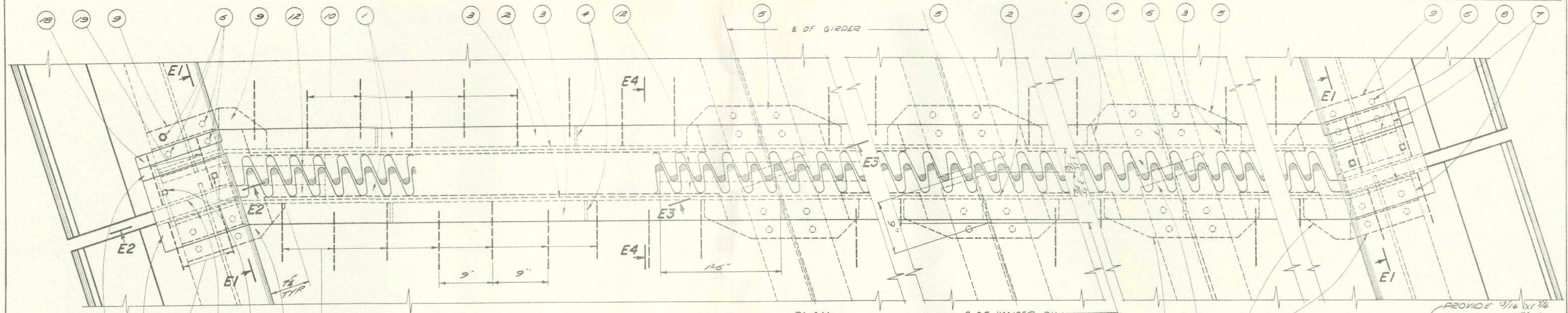
ALL MATERIAL IN BEARINGS, EXCEPTING BRONZE PLATES & BEARING PADS SHALL BE PAID FOR AT THE UNIT PRICE BID FOR STRUCTURAL LOW ALLOY STEEL.

REVISED	STATE HIGHWAY COMMISSION OF WISCONSIN			
	LONG. SECTION & BEARINGS			
	DESIGN SPEC. A.A.S.H.O. 61	LOADING H20-S16 MOD.	CONST. SPEC. 1963	
	DATE 1-17-63	DESIGN J.M.	DRAWN PRN	CKD. DZ
STRUCTURE B -32 -34		SHEET 7 OF 16		

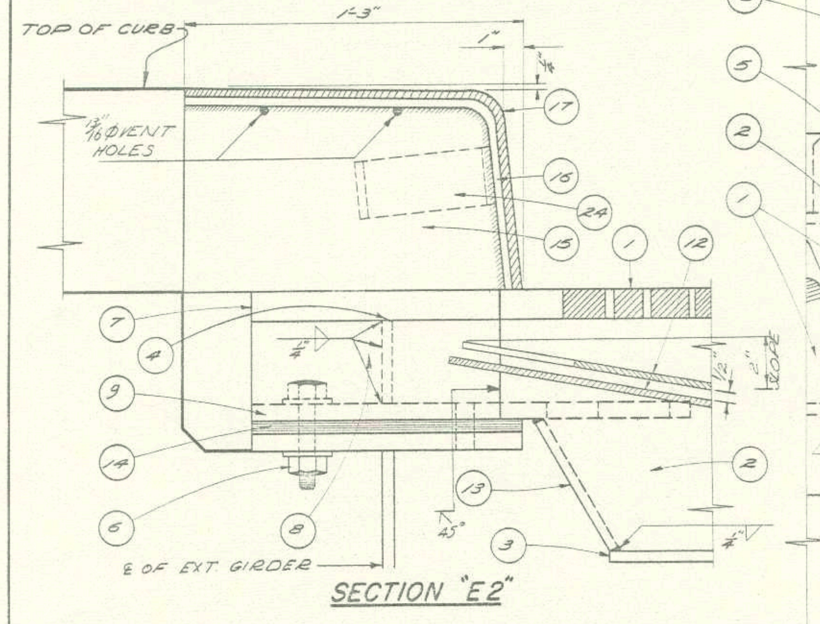
X 26629

FORM E-B-12-62

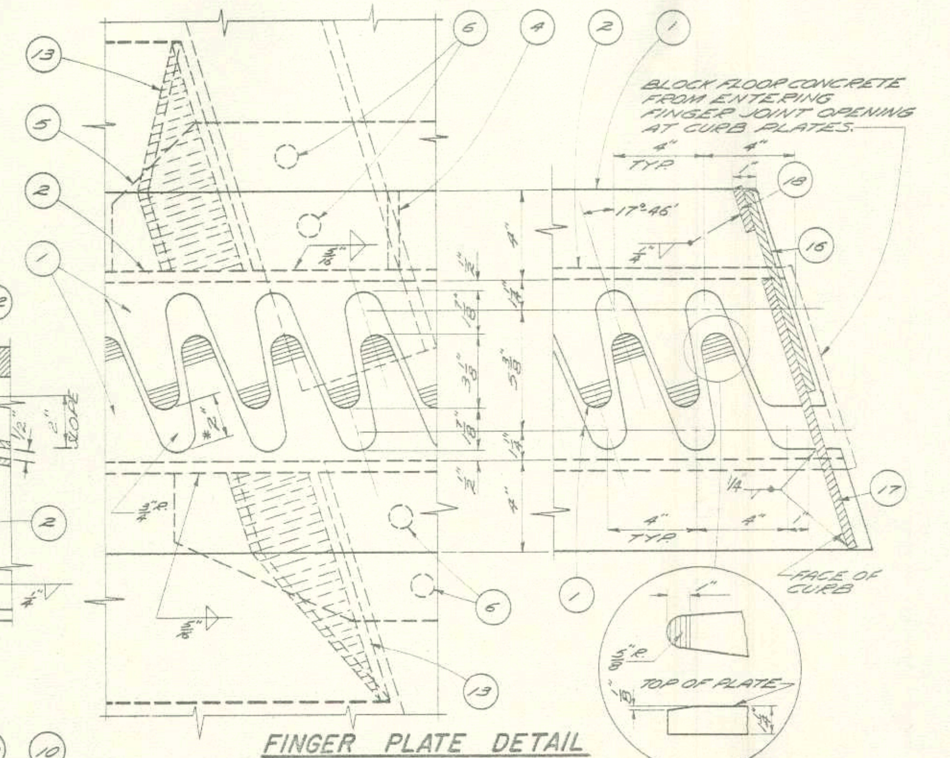
S.P.T. DIVISION	PROJECT	SHEET NO.	TOTAL SHEETS
4	I-90-B(2) 275	13	36



PLAN



SECTION "E2"



FINGER PLATE DETAIL

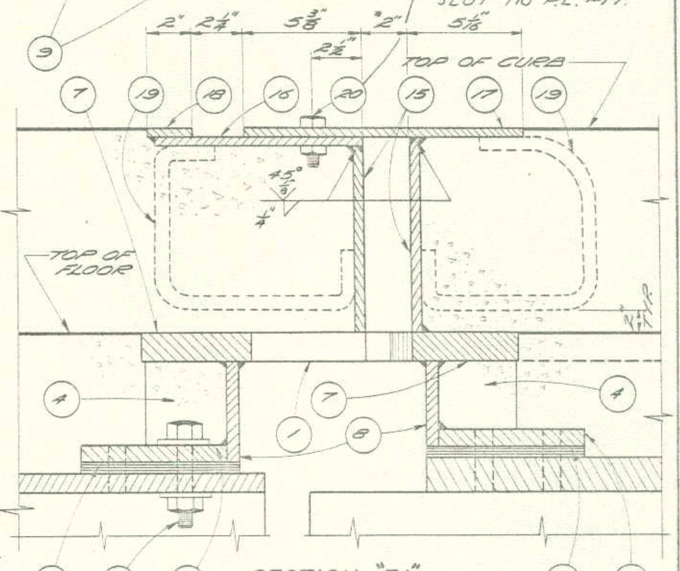
*2" OPENING AT 60°F.

LEGEND

** 1) FINGER PLATE 14" X 1¼".
** 2) WEB PLATE 10¼" X ½" – 5/16" FILLET WELD NEAR & FAR SIDES TO FLANGE PLATE (#3) & FINGER PLATE (#1).
** 3) FLANGE PLATE 4½" X ½".
4) DIAPHRAGM PLATE 3½" X 3/8" @ ℄ OF GIRDERS AND ⅓ POINTS BETWEEN GIRDERS, ¼" FILLET WELD ALL AROUND. SNIP CORNERS IN WAY OF WELDS.
5) SHAPED PLATE 2'-1" X 6½" X ¾" – 5/16" FILLET WELD TO WEB PLATE (#2) AS SHOWN.
6) ¾" Ø BOLTS, FOR 13/16" Ø HOLES IN PLATE (#5) & SHIM PLATES (#14).
** 7) PLATE 11" X 4¾" X 1¼" – DOUBLE VEE WELD TO FINGER PLATE (#1).
** 8) 3/8" WEB PLATE – FILLET WELD NEAR & FAR SIDES TO PLATE (#7) AS SHOWN.
9) ¾" SHAPED PLATE ———— CUT TO FIT – 5/16" FILLET WELD TO WEB PLATES (#2) & (#8) AS SHOWN.
10) ANCHOR BAR 5/8" □ EXTENDED INTO FLOOR 1'-0" @ ± 0'-9" ALTERNATE CENTERS.
11) ¾" Ø VENT HOLES @ ± 2'-0" CENTERS.
** 12) MUD PLATES 5½" X ¼" – ¼" FILLET WELD TO NEAR & FAR SIDES OF WEB PLATE (#2).
13) 3/8" SHAPED PLATE.
14) LAMINATED SHIMS (½" MIN.).
15) 3/8" PLATE CUT TO CURB LIMITS AS SHOWN.
** 16) PLATE 9⅜" X 3/8" BENT DOWN FLUSH WITH FACE OF CURB AS SHOWN. WELD TO PLATE (#18)
** 17) PLATE 12 7/16" X 3/8" BENT DOWN FLUSH WITH FACE OF CURB AS SHOWN, FIELD WELD TO FINGER PLATE (#1).
** 18) PLATE 2" X 3/8" BENT DOWN FLUSH WITH FACE OF CURB AS SHOWN, WELD TO PLATE (#16) & FIELD WELD TO FINGER PLATE (#1).
19) 5/8" □ BENT BARS 1'-6" LONG WELD TO PLATES (#15), (#16) & (#15), (#17).
20) TEMPORARY BOLTS ½" Ø REMOVE AFTER CONCRETE IS IN PLACE AND FILL HOLES WITH HOT POURED ELASTIC TYPE JOINT SEALER.
21) BLOCK & BOLT FOR SHIPMENT WITH PIPE SLEEVE & ¾" Ø BOLT. PROVIDE 13/16" Ø HOLES IN ½" WEB @ ± 5'-0" CENTERS FOR ¾" Ø BOLTS.
22) ∠ 3" X 3" X 3/8" X 16" – SLOT ONE END OF ∠ 13/16 X 2 1/16", AS SHOWN, PARALLEL TO SKEW, TWO ¾" Ø BOLTS REQUIRED PER ∠. TACK WELD NUT TO UNDERSIDE OF FINGER PLATE. USE 6 PER JOINT.
23) ∠ 3½" X 3½" X ½" – SLOT ONE END OF ∠ 13/16 X 2 1/16", AS SHOWN, PARALLEL TO SKEW, TWO ¾" Ø BOLTS REQUIRED PER ∠. PROVIDE 13/16 Ø HOLES IN FLG. PLATE (#3). SIX ∠'S REQUIRED PER JOINT.
24) ANCHOR BAR 2½" X 3/8" X 1'-0" – WELD TO PLATES (#16) & (#17).

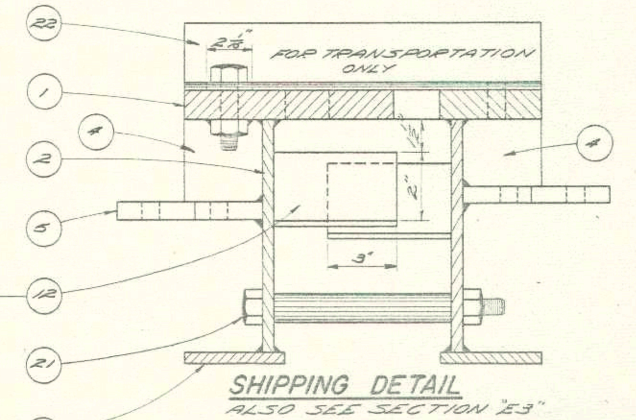
PLACE SYM. ABOUT ℄ OF INTER. GIRDRS – SLOPE BOTHWAYS

NOTE:
ITEMS MARKED ** SHALL BE MADE OF CORTEN, MAYARI R OR OTHER STEEL OF EQUAL CORROSIVE RESISTANCE.
ALL MATERIAL IN EXPANSION JOINT SHALL BE PAID FOR AS STRUCTURAL LOW ALLOY STEEL.
EXPANSION JOINT SHALL BE BUILT TO CONFORM TO RDWY. CROWN AND GRADE.



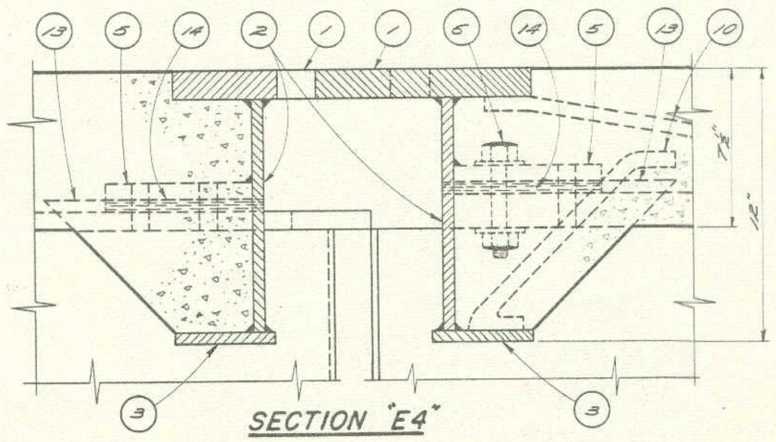
SECTION "E1"

*2" OPENING @ 60°F.

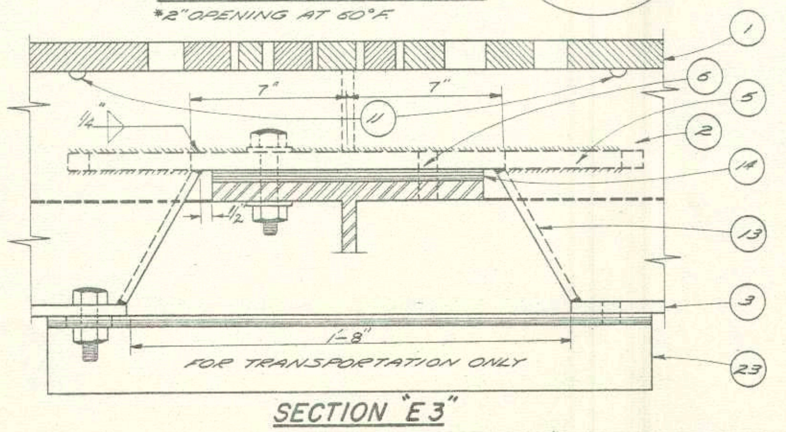


SHIPPING DETAIL

ALSO SEE SECTION "E3"



SECTION "E4"

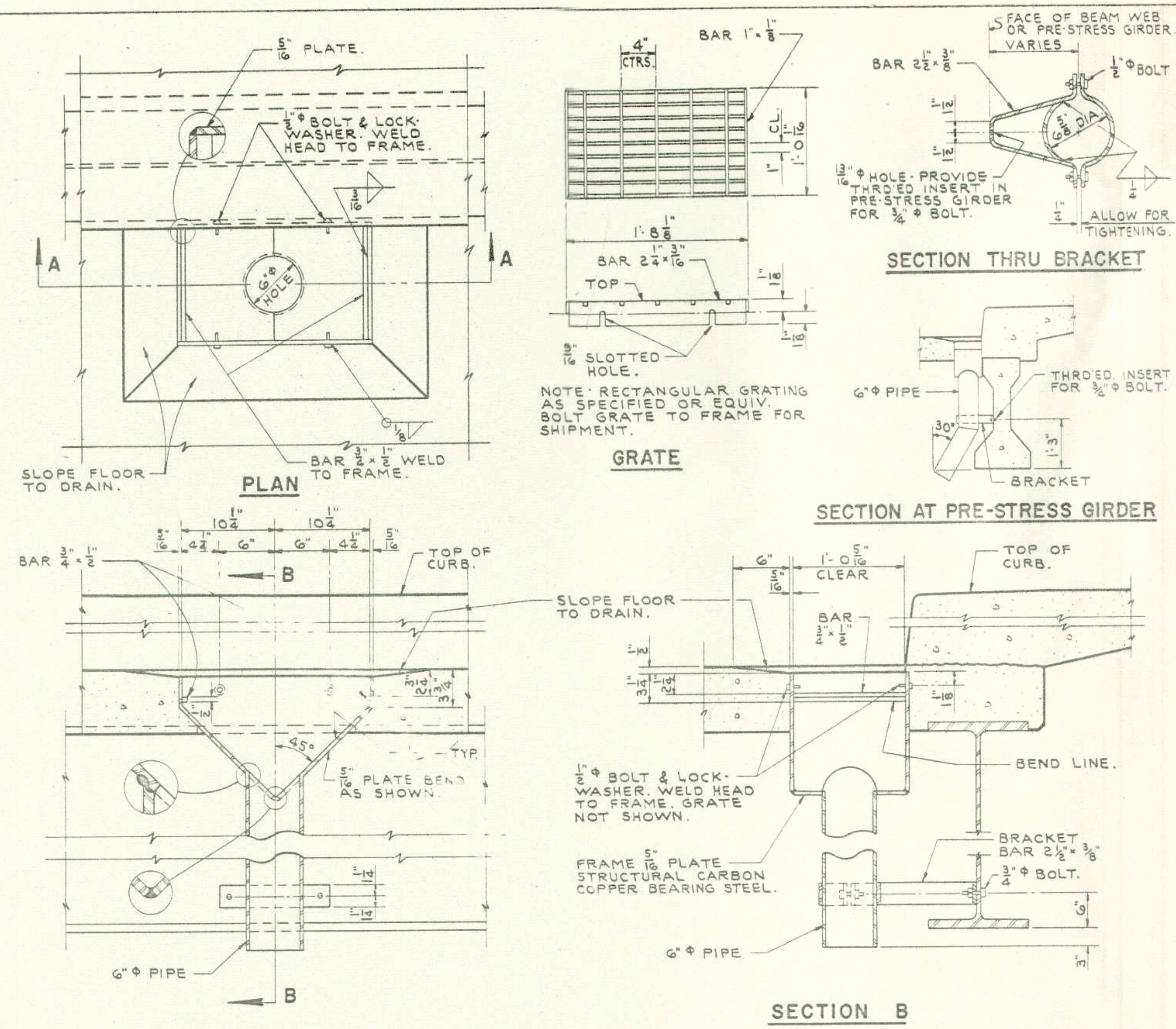


SECTION "E3"

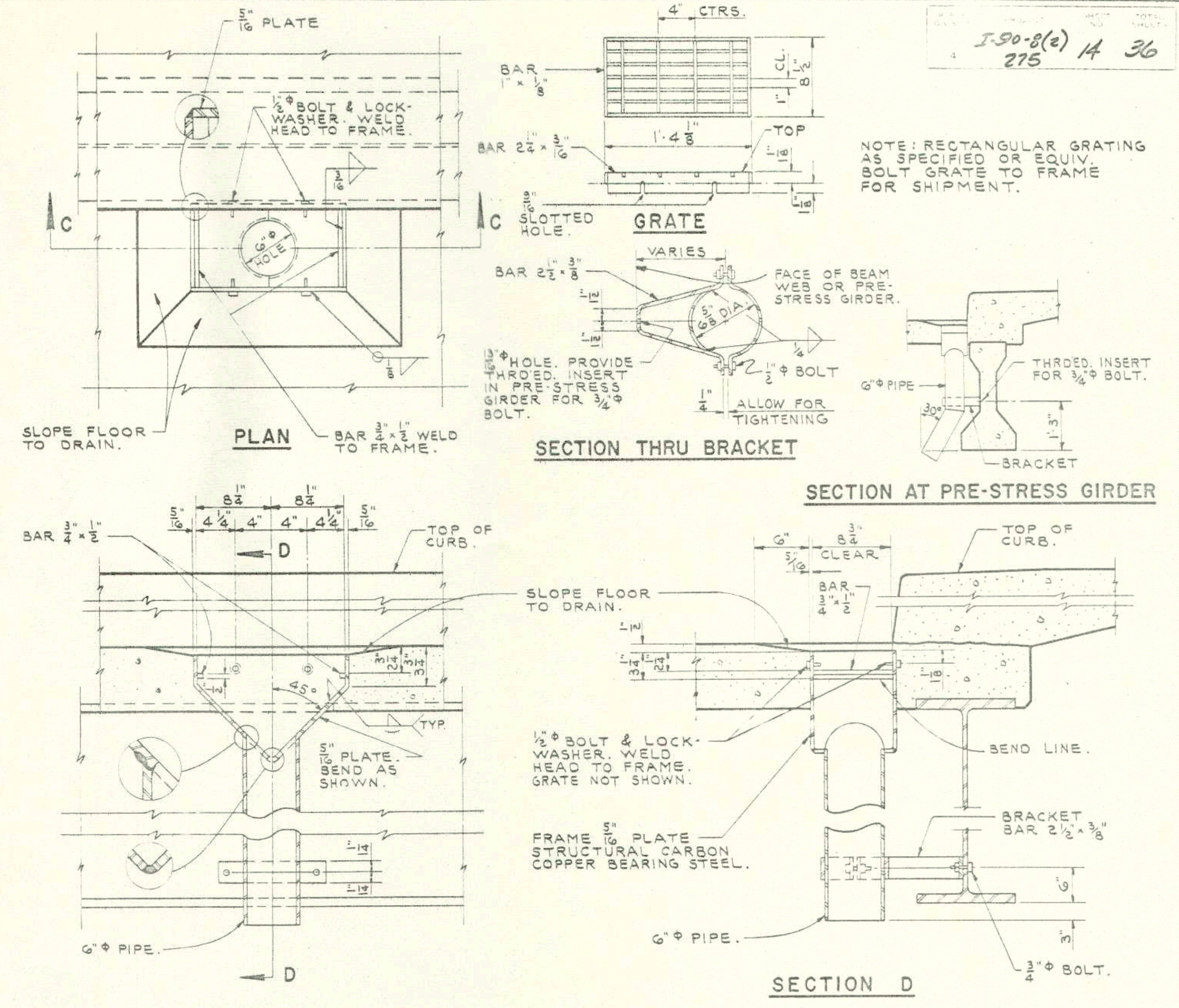
REVISED	STATE HIGHWAY COMMISSION OF WISCONSIN		
	EXPANSION JOINTS		
	DESIGN SPEC. A.A.S.H.O. 61	LOADING H20-S16 MOD.	CONST. SPEC. 1963
	DATE 1-17-63 DESIGN JM	DRAWN PRN	CKD.
STRUCTURE B-32-34		SHEET 8 OF 16	

X 26630

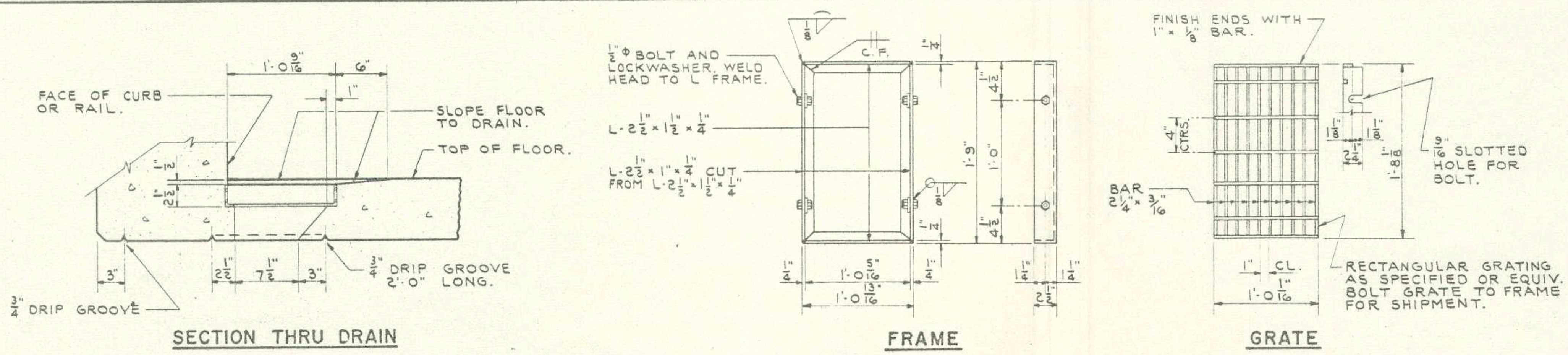
I-90-8(2) 275	14	36	


5/16" PLATE.
1/2"Φ BOLT & LOCK-WASHER. WELD HEAD TO FRAME.
SLOPE FLOOR TO DRAIN.
6"Φ HOLE
BAR 3/4" × 1/2" WELD TO FRAME.
PLAN
BAR 1" × 1/8"
4" CTRS.
CL.
1'-0 1/16"
1'-8 1/8"
BAR 2 1/4" × 3/16"
TOP
3/8" SLOTTED HOLE.
NOTE: RECTANGULAR GRATING AS SPECIFIED OR EQUIV. BOLT GRATE TO FRAME FOR SHIPMENT.
GRATE
FACE OF BEAM WEB OR PRE-STRESS GIRDER.
BAR 2 1/2" × 3/8"
VARIES
1/2"Φ BOLT
6 3/8" DIA.
13/16"Φ HOLE. PROVIDE THRD'ED INSERT IN PRE-STRESS GIRDER FOR 3/4"Φ BOLT.
ALLOW FOR TIGHTENING.
SECTION THRU BRACKET
6"Φ PIPE
THRD'ED. INSERT FOR 3/4"Φ BOLT.
BRACKET
SECTION AT PRE-STRESS GIRDER
BAR 3/4" × 1/2"
10 1/4"
6"
4 1/4"
TOP OF CURB.
45°
TYP.
5/16" PLATE BEND AS SHOWN.
6"Φ PIPE
SECTION A
1'-0 5/16" CLEAR
SLOPE FLOOR TO DRAIN.
BAR 3/4" × 1/2"
BEND LINE.
1/2"Φ BOLT & LOCK-WASHER. WELD HEAD TO FRAME. GRATE NOT SHOWN.
FRAME 5/16" PLATE STRUCTURAL CARBON COPPER BEARING STEEL.
BRACKET BAR 2 1/2" × 3/8"
3/4"Φ BOLT.
6"Φ PIPE
SECTION B

FLOOR DRAIN · TYPE "A"


5/16" PLATE
1/2"Φ BOLT & LOCK-WASHER. WELD HEAD TO FRAME.
SLOPE FLOOR TO DRAIN.
6"Φ HOLE
BAR 3/4" × 1/2" WELD TO FRAME.
PLAN
4" CTRS.
BAR 1" × 1/8"
BAR 2 1/4" × 3/16"
1'-4 1/8"
TOP
3/8" SLOTTED HOLE.
GRATE
NOTE: RECTANGULAR GRATING AS SPECIFIED OR EQUIV. BOLT GRATE TO FRAME FOR SHIPMENT.
BAR 2 1/2" × 3/8"
VARIES
FACE OF BEAM WEB OR PRE-STRESS GIRDER.
5 3/8" DIA.
13/16"Φ HOLE. PROVIDE THRD'ED. INSERT IN PRE-STRESS GIRDER FOR 3/4"Φ BOLT.
1/2"Φ BOLT
ALLOW FOR TIGHTENING
SECTION THRU BRACKET
6"Φ PIPE
THRDED. INSERT FOR 3/4"Φ BOLT.
BRACKET
SECTION AT PRE-STRESS GIRDER
BAR 3/4" × 1/2"
8 1/4"
4 1/4"
4"
TOP OF CURB.
45°
TYP.
5/16" PLATE. BEND AS SHOWN.
6"Φ PIPE.
SECTION C
8 3/4" CLEAR
SLOPE FLOOR TO DRAIN.
BAR 3/4" × 1/2"
1/2"Φ BOLT & LOCK-WASHER. WELD HEAD TO FRAME. GRATE NOT SHOWN.
BEND LINE.
FRAME 5/16" PLATE STRUCTURAL CARBON COPPER BEARING STEEL.
BRACKET BAR 2 1/2" × 3/8"
6"Φ PIPE.
3/4"Φ BOLT.
SECTION D

FLOOR DRAIN · TYPE "C"


FACE OF CURB OR RAIL.
1'-0 9/16"
6"
1"
SLOPE FLOOR TO DRAIN.
TOP OF FLOOR.
3"
2 1/2"
7 1/2"
3/4" DRIP GROOVE 2'-0" LONG.
3/4" DRIP GROOVE
SECTION THRU DRAIN
1/2"Φ BOLT AND LOCKWASHER. WELD HEAD TO L FRAME.
C.F.
L-2 1/2" × 1 1/2" × 1/4"
L-2 1/2" × 1" × 1/4" CUT FROM L-2 1/2" × 1 1/2" × 1/4"
1'-9"
1'-0"
1'-0 5/16"
1'-0 13/16"
FRAME
FINISH ENDS WITH 1" × 1/8" BAR.
4" CTRS.
BAR 2 1/4" × 3/16"
9/16" SLOTTED HOLE FOR BOLT.
1'-8 1/8"
CL.
1'-0 1/16"
RECTANGULAR GRATING AS SPECIFIED OR EQUIV. BOLT GRATE TO FRAME FOR SHIPMENT.
GRATE

FLOOR DRAIN · TYPE "B"

NOTE: WELDS ON COPPER BEARING STEEL SHALL BE MADE WITH LOW HYDROGEN ELECTRODES.

FLOOR DRAIN · TYPE	A
FLOOR DRAINS REQ'D.	16

STATE HIGHWAY COMMISSION OF WISCONSIN

FLOOR DRAIN DETAILS

A.A.S.H.O. 1961 H20-S16 MOD. 1963

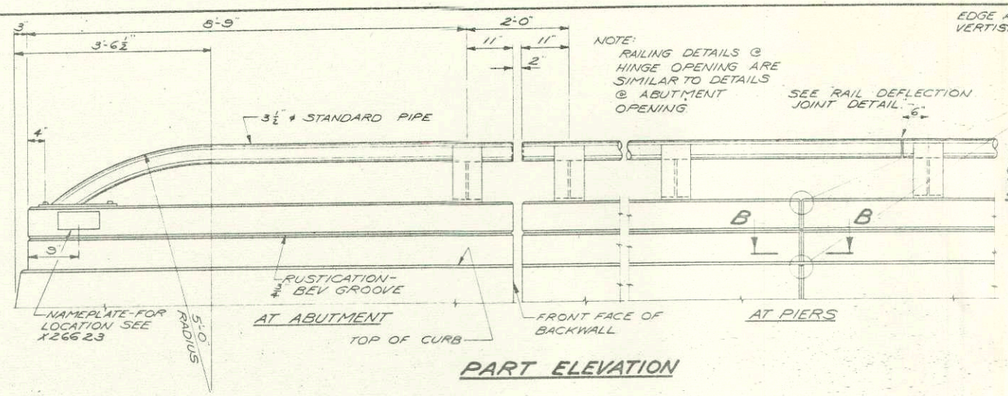
1-17-63 B.M. B.W.

STRUCTURE B-32-34 SHEET 9 OF 16

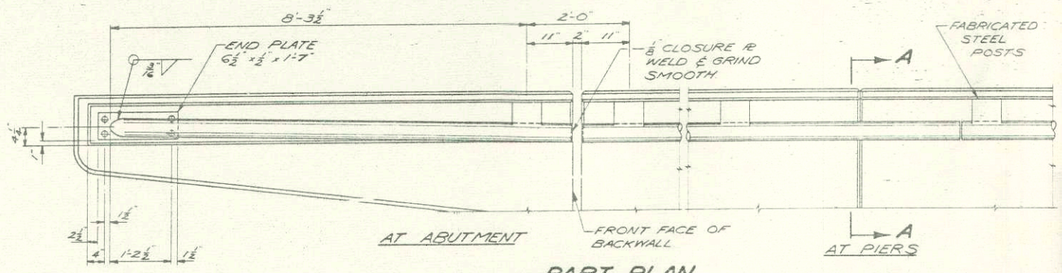
X26631

FORM E-B-12-62

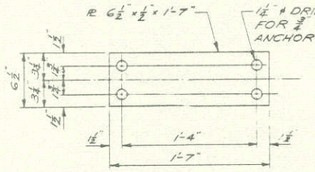
B.F.D. DIVISION	PROJECT	SHEET NO.	TOTAL SHEETS
4	I-90-8(12) 275	15	36



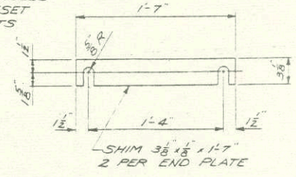
PART ELEVATION

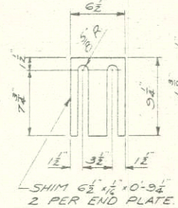


PART PLAN

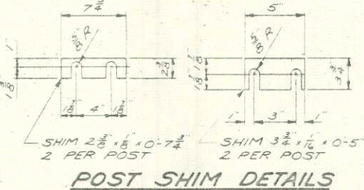


END PLATE





END PLATE SHIM DETAILS

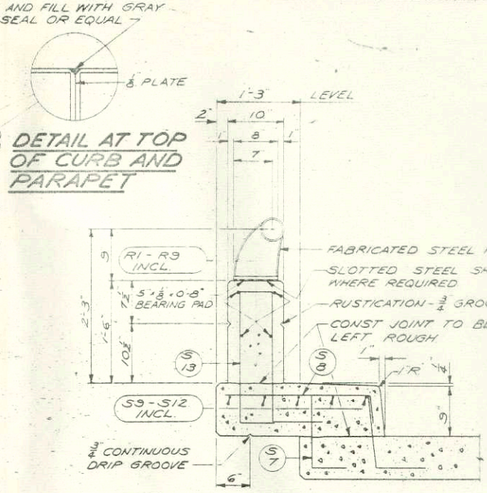


POST SHIM DETAILS

AT END PLATE

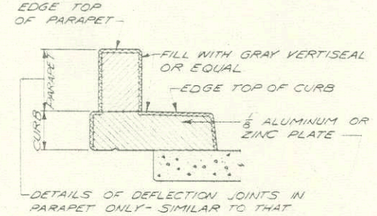
AT POSTS

ANCHOR BOLT SETTING DETAILS

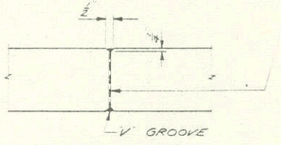


DETAIL AT TOP OF CURB AND PARAPET

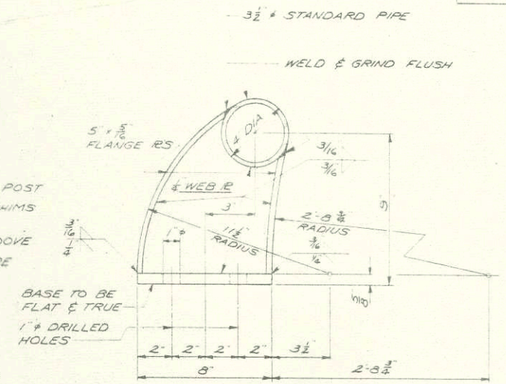
SECTION THRU CURB

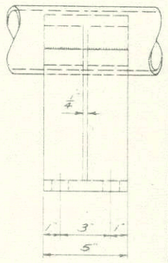


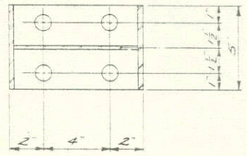
SECTION A



SECTION B



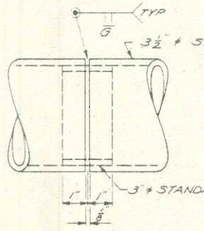




POST DETAILS

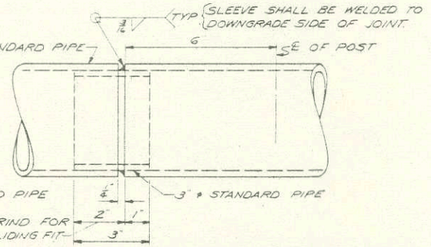
NOTES

1. STEEL RAIL POSTS SHALL BE SET NORMAL TO GRADE.
2. RAILING SHALL BE FABRICATED IN LENGTHS AS SHOWN.
3. STEEL SHIMS SHALL BE USED UNDER POSTS AND UNDER END PLATES WHERE REQUIRED FOR ALIGNMENT.
4. WHEN PARAPETS AND CURBS ARE POURED CONTINUOUSLY FROM END TO END THEY SHALL BE SEPARATED AT THE DEFLECTION JOINTS BY A PIECE OF ⅛ ZINC OR ALUMINUM PLATE CUT AS SHOWN IN SECTION "A" BY SHADED AREA. IF CONSTRUCTION JOINTS IN PARAPETS AND CURBS ARE USED AT THE DEFLECTION JOINTS ONE SIDE OF JOINT SHALL BE COATED WITH BITUMINOUS PAINT AND PLATE SEPARATORS MAY BE OMITTED.
5. THE FOLLOWING MATERIALS SHALL BE USED:
   RAILING SHALL BE 3½" ø STANDARD PIPE ASTM DESIGNATION A53.
   POST SHALL BE FABRICATED FROM MATERIAL CONFORMING TO ASTM DESIGNATION A36.
   ANCHOR BOLTS TO BE MADE FROM MATERIAL CONFORMING TO ASTM DESIGNATION A307.
   SLEEVES SHALL BE 3" ø STANDARD PIPE A.S.T.M. DESIGNATION A53.
6. CAULK EXPOSED OPENINGS BETWEEN SHIMS WITH LEAD WOOL.



RAIL SPLICE DETAIL

RAILING SHALL BE FABRICATED IN 2 & 3 PANEL LENGTHS.



RAIL DEFLECTION JOINT DETAIL

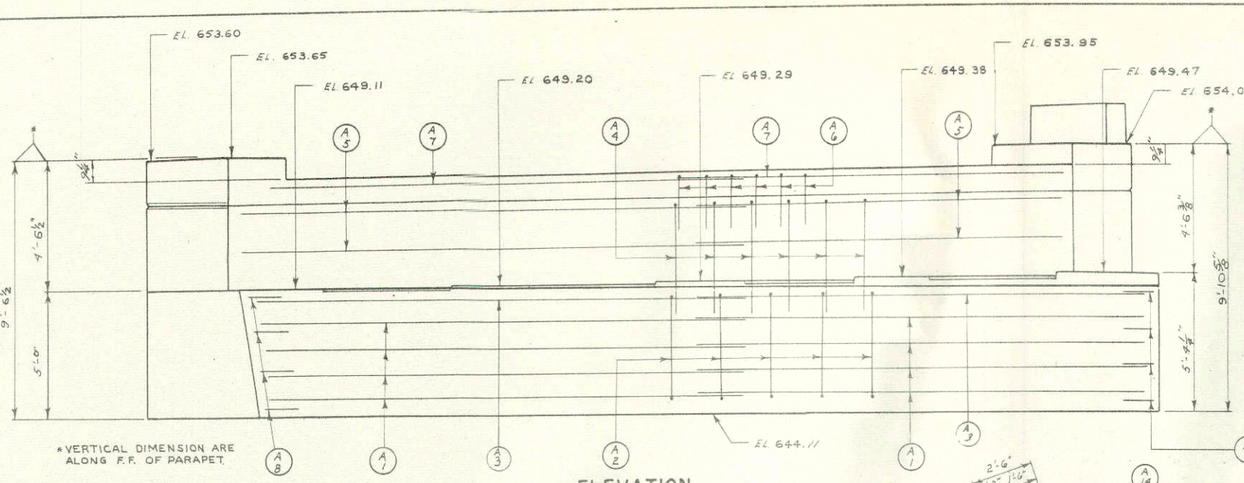
TUBULAR

REVISED	STATE HIGHWAY COMMISSION OF WISCONSIN
	STEEL RAILING TYPE "A"
DESIGN SPEC. AASHO 61	LOADING H20-S16 MOD. GUIDE SPEC. 1963
DATE 1-17-63 DIVISION STO	DRAWN BW CKD
STRUCTURE B-32-34	SHEET 10 OF 16

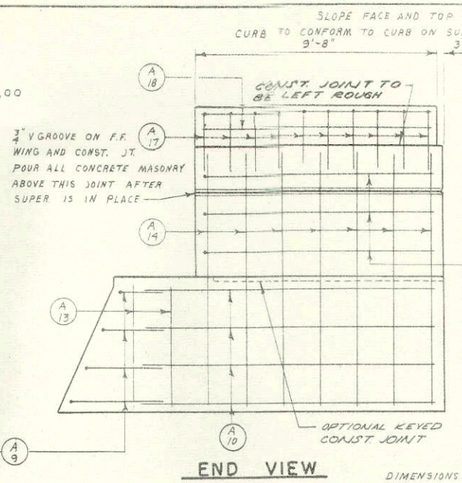
X26632

FORM E-B-12-62

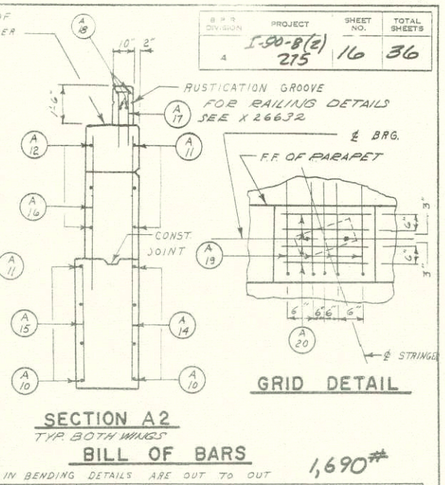
DIVISION	PROJECT	SHEET NO.	TOTAL SHEETS
4	I-90-8(2) 275	16	36



ELEVATION
LOOKING WEST

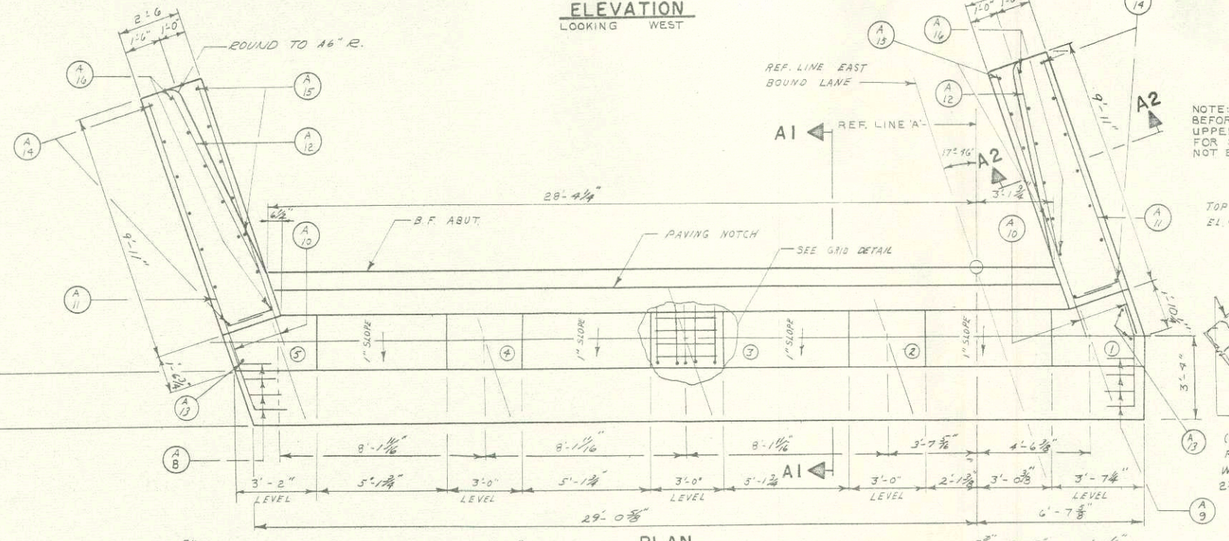


END VIEW

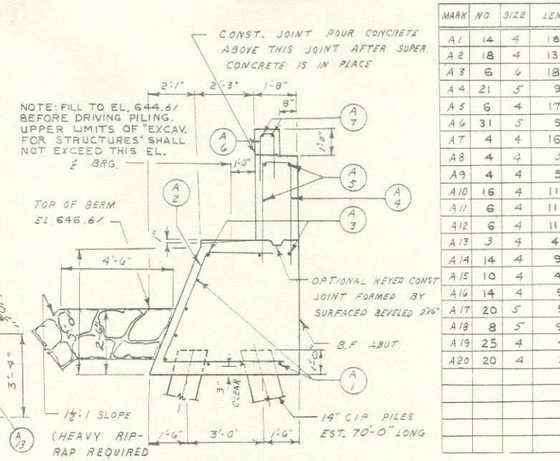


SECTION A2
TYP BOTH WINGS

GRID DETAIL



PLAN



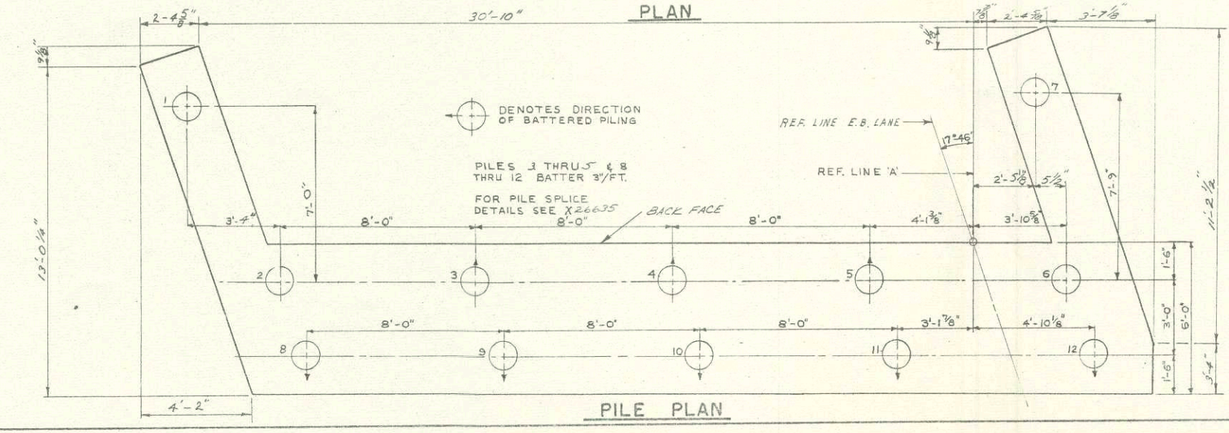
SECTION A1

BILL OF BARS
1,690#

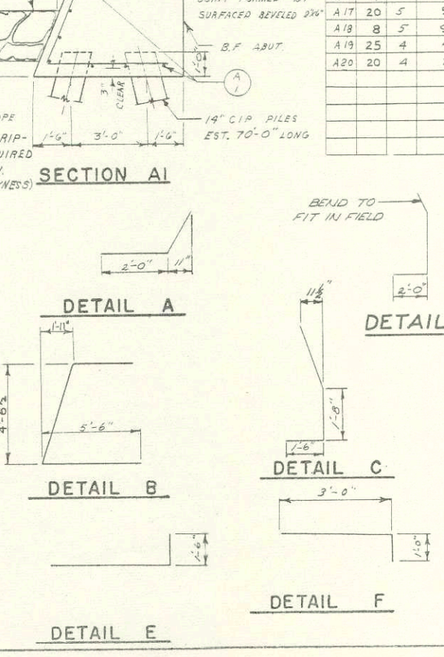
DIMENSIONS IN BENDING DETAILS ARE OUT TO OUT

MARK	NO	SIZE	LENGTH	SPACING	LOCATION	DET
A1	14	4	18-6	SHOWN	BODY - LONG. (SIDES AND BOTTOM)	
A2	18	4	13-0	2-0	BODY - STIRRUPS	B
A3	6	4	18-9	SHOWN	BODY - LONG. (TOP)	
A4	21	5	9-3	1-6	PARAPET - STIRRUPS	D
A5	6	4	17-0	SHOWN	" - LONG.	
A6	31	5	5-0	1-0	PAVING BLOCK - STIRRUPS	D
A7	4	4	16-3	SHOWN	" " - LONG.	
A8	4	4	5-0	1-6	BODY - CORNER	A
A9	4	4	5-9	1-6	" "	G
A10	16	4	11-3	1-6	WINGS (INSIDE AND OUTSIDE FACE)	
A11	6	4	11-0	1-6	" (OUTSIDE FACE)	E
A12	6	4	11-3	1-6	" (INSIDE FACE)	C
A13	3	4	4-6	SHOWN	BODY (OUTSIDE FACE)	
A14	14	4	9-3	1-6	WINGS " "	
A15	10	4	4-9	1-6	" (INSIDE FACE)	
A16	14	4	5-6	1-6	" " "	
A17	20	5	5-6	1-0	WING PARAPET (STIRRUPS)	D
A18	8	5	9-3	SHOWN	" " - LONG.	
A19	25	4	4-0	"	GRID BARS	F
A20	20	4	2-9	"	" "	

NOTE: THE 2'-0" SPA. SHOWN FOR "A2" BARS MAY BE ALTERED TO CLEAR PILING.



PILE PLAN



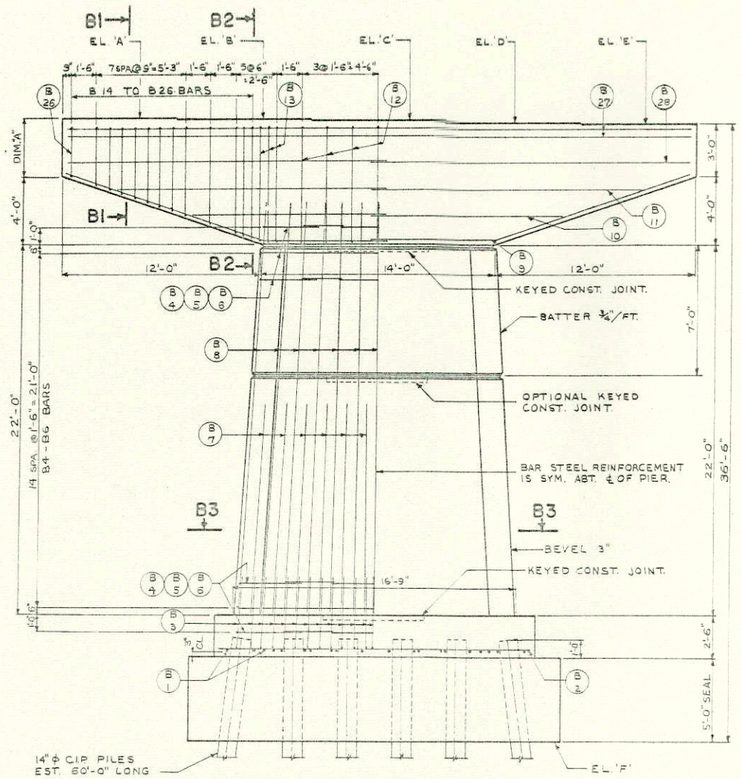
REVISED	STATE HIGHWAY COMMISSION OF WISCONSIN
	WEST ABUTMENT
	DESIGN SPEC. AASHO '61 LOADING H20-S16 MOD. CONST. SPEC. 1963
	DATE 1-17-63 DESIGN BHM DRAWN MHH CKD. BK
	STRUCTURE B-32-34 SHEET 11 OF 16

X26633

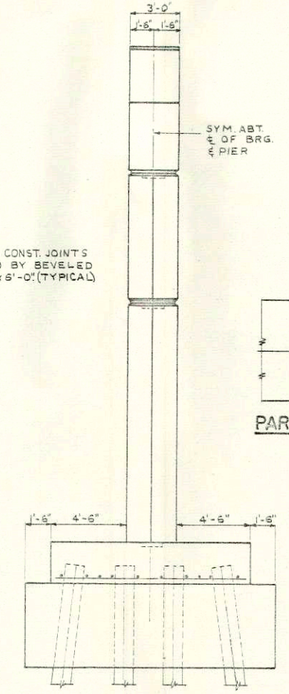
FORM E-8-12-62

B.F. DIVIS.	PROJECT	SHEET NO.	TOTAL SHEETS
4	I-90-8(2) 275	17	36

	EL 'A'	EL 'B'	EL 'C'	EL 'D'	EL 'E'	EL 'F'	DIM 'A'
PIER 1	647.14	647.06	646.37	645.38	645.79	610.29	3'-4¾"
PIER 2	647.58	647.49	647.40	647.32	647.23	610.73	3'-4¾"
PIER 4	648.36	648.27	648.19	648.10	648.02	611.52	3'-4⅝"
PIER 5	648.71	648.62	648.54	648.45	648.37	611.87	3'-4½"

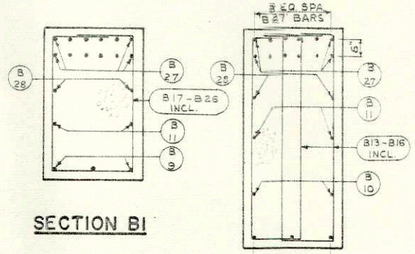


ELEVATION
(LOOKING EAST)



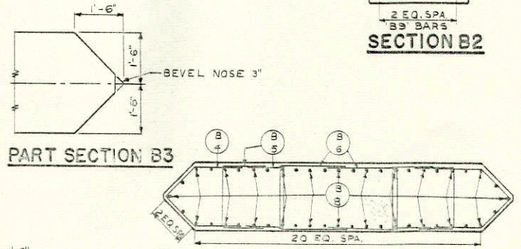
END VIEW

KEYED CONST. JOINTS FORMED BY BEVELED 16" x 3" x 6'-0" (TYPICAL)



SECTION B1

SECTION B2



PART SECTION B3

VERTICAL BARS NOT LABELED ARE "B7"

SECTION B3

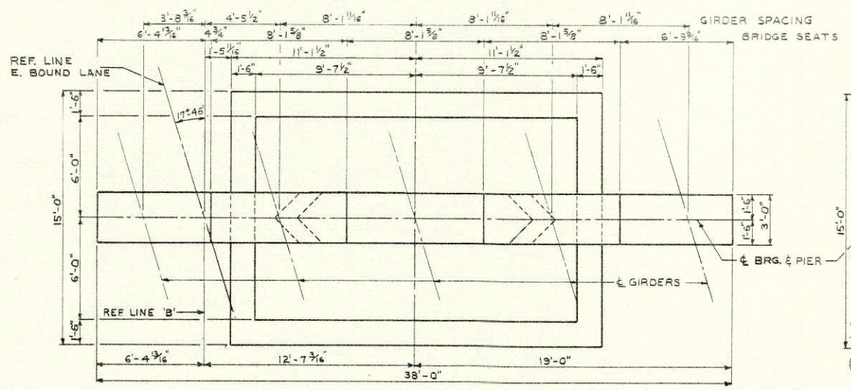
NOTE: UNLESS OTHERWISE SHOWN, ALL BAR STEEL REINF. SHALL BE IMBEDDED 3½" CL.

BILL OF BARS

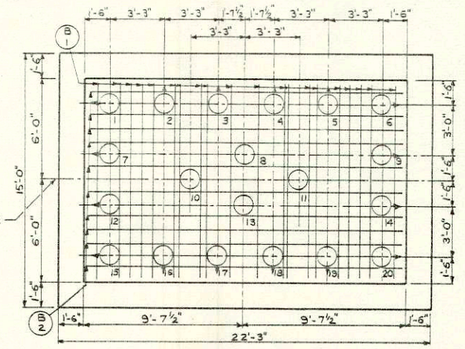
33,440#

DIMENSIONS IN BENDING DETAILS ARE OUT TO OUT.

POUR	MARK	NO.	SIZE	LENGTH	SPACING	LOCATION	DET.
FOOTING	B1	80	10	11-6	SHOWN	FOOTING	
	B2	40	9	18-9	"	"	
	B3	192	8	4-0	"	FOOTING, DOWELS	A
	B4	8	4	8-3	"	FOOTING, TIES	B
	B5	16	4	6-6	"	" "	C
	B6	8	4	9-3	"	" "	C
STEM	B4	120	4	8-3	SHOWN	STEM, TIES	B
	B5	240	4	6-6	"	" "	C
	B6	120	4	9-3	"	" "	C
	B7	96	8	13-0	"	STEM, VERTICAL	
	B8	96	8	24-0	"	" "	
CAP BEAM	B4	8	4	8-3	SHOWN	CAP, TIES	B
	B5	16	4	6-6	"	" "	C
	B6	8	4	9-3	"	" "	C
	B9	24	4	20-6	"	CAP, BOTTOM	D
	B10	16	4	12-0	1-6	CAP, SIDES	
	B11	16	4	16-5	1-6	" "	
	B12	28	4	19-3	1-6	CAP, STIRRUPS	E
	B13	48	4	17-6	6	" "	E
	B14	16	4	17-0	SHOWN	" "	E
	B15	16	4	16-9	"	" "	E
	B16	16	4	16-6	"	" "	E
	B17	8	4	17-3	"	" "	E
	B18	8	4	16-3	"	" "	E
	B19	8	4	15-3	"	" "	E
	B20	8	4	15-3	"	" "	E
	B21	8	4	14-3	"	" "	E
	B22	8	4	14-3	"	" "	E
	B23	8	4	13-3	"	" "	E
	B24	8	4	13-3	"	" "	E
	B25	8	4	12-3	"	" "	E
	B26	8	4	11-3	"	" "	E
	B27	48	11	37-6	"	CAP, TOP	
	B28	16	4	18-3	1-6	CAP, SIDES	



PLAN



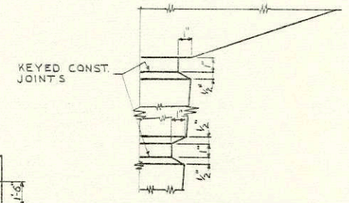
FOOTING PLAN

⊕ DENOTES DIRECTION OF BATTERED PILING.

FOR PILE SPLICE DETAILS SEE X 26635

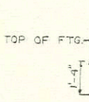
PILE SPA. SHOWN ABOVE IS TAKEN AT TOP OF SEAL.

NOTE: PILES 1 THRU 6, 7, 9, 12, 14, & 15 THRU 20 BATTER 1½" / FT.

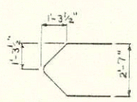


RUSTICATION DETAIL

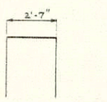
BAR STEEL REINF. IN FOOTINGS SHALL BE SPACED EQUALLY BETWEEN PILES.



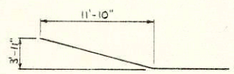
DETAIL A



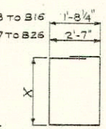
DETAIL B



DETAIL C



DETAIL D



DETAIL E

MARK	X
B12	9'-7"
B13	6'-6½"
B14	6'-4"
B15	6'-2½"
B16	6'-0½"
B17	5'-9½"
B18	5'-0½"
B19	4'-9½"

MARK	X
B20	4'-6½"
B21	4'-3½"
B22	4'-0"
B23	3'-9½"
B24	3'-6½"
B25	3'-3½"
B26	2'-10½"

ESTIMATED CONCRETE MASONRY
(TYPICAL)

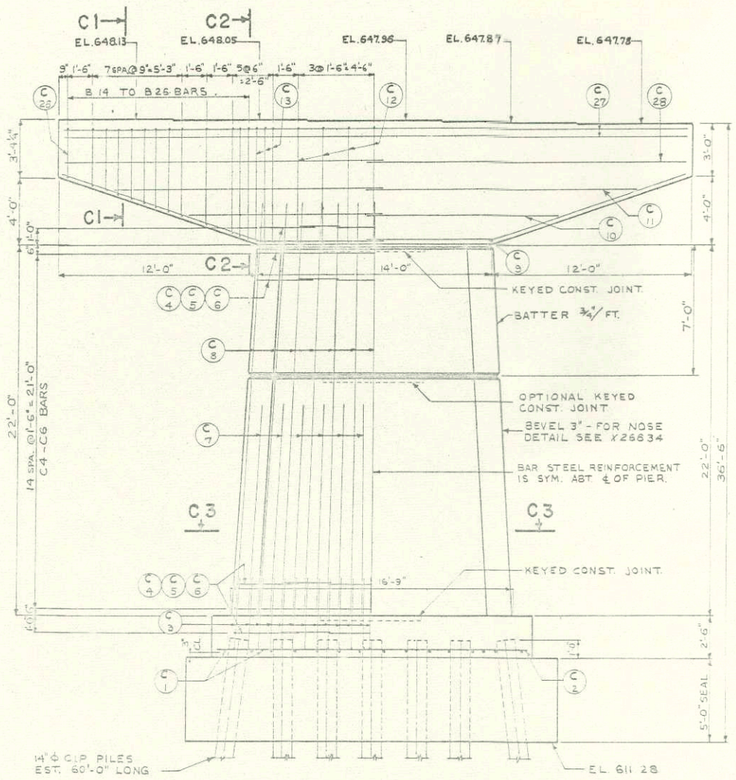
POUR		
SEAL	C.Y.	58.0
FOOTING	C.Y.	20.5
STEM	C.Y.	34.0
CAP	C.Y.	25.0

REVISED	STATE HIGHWAY COMMISSION OF WISCONSIN
	PIERS 1,2,4 & 5
	DESIGN SPEC: AASHO '61 LOADING H20-S16M CONST. SPEC: 1963
	DATE 1-17-63 DESIGN B.H.M. DRAWN B.H.M. CKD.
STRUCTURE B -32 - 34	SHEET 12 OF 16

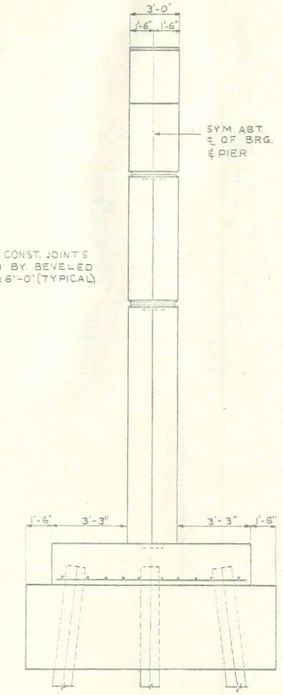
X26634

FORM E-B-12-62

STATE DIVISION	PROJECT	SHEET NO.	TOTAL SHEETS
4	I-90-8(2) 275	18	36



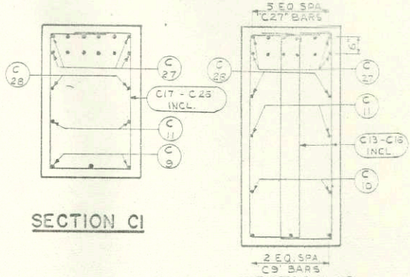
ELEVATION
LOOKING EAST



END VIEW

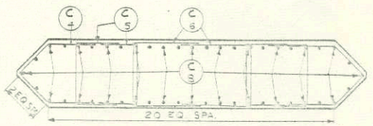
KEYED CONST. JOINTS FORMED BY BEVELED 16" x 3" x 6'-0" (TYPICAL)

NOTE: UNLESS OTHERWISE SHOWN, ALL BAR STEEL REINF. SHALL BE IMBEDDED 2½" CL.



SECTION C1

SECTION C2



VERTICAL BARS NOT LABELED ARE "C7"

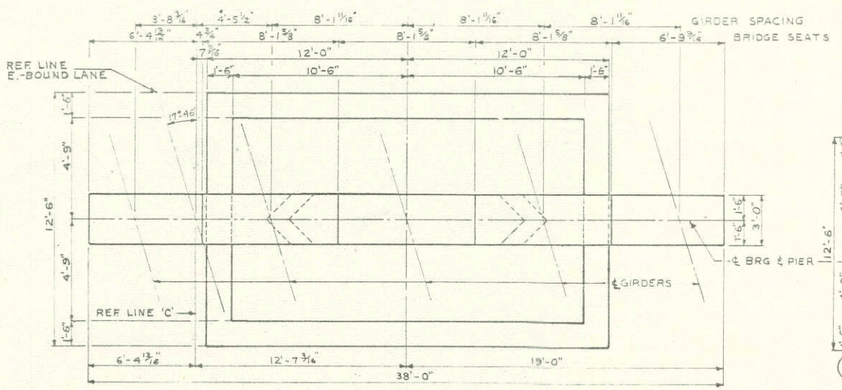
SECTION C3

BILL OF BARS

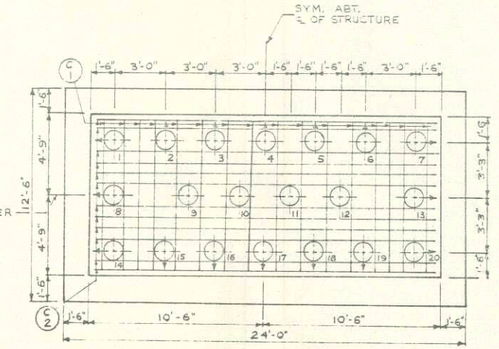
7,860#

DIMENSIONS IN BENDING DETAILS ARE OUT-TO OUT.

POUR	MARK	NO.	SIZE	LENGTH	SPACING	LOCATION	DET
FOOTING	C1	16	10	9-0	SHOWN	FOOTING	
	C2	12	7	20-6	"	"	
	C3	48	8	4-0	"	FOOTING, DOWELS	A
	C4	2	4	8-3	"	FOOTING, TIES	B
	C5	4	4	6-6	"	" "	C
	C6	2	4	9-3	"	" "	C
STEM	C4	30	4	8-3	1-6	STEM, TIES	B
	C5	60	4	6-6	1-6	" "	C
	C6	30	4	9-3	1-6	" "	C
	C7	24	8	13-0	SHOWN	STEM, VERTICAL	
	C8	24	8	24-0	"	" "	
CAP BEAM	C4	2	4	8-3	SHOWN	CAP, TIES	B
	C5	4	4	6-6	"	" "	C
	C6	2	4	9-3	"	" "	C
	C9	6	4	20-6	"	CAP, BOTTOM	D
	C10	4	4	12-0	1-6	CAP, SIDES	
	C11	4	4	16-6	1-6	" "	
	C12	7	4	19-3	1-6	CAP, STIRRUPS	E
	C13	12	4	17-6	6	" "	E
	C14	4	4	17-0	SHOWN	" "	E
	C15	4	4	15-3	"	" "	E
	C16	4	4	15-6	"	" "	E
	C17	2	4	17-3	"	" "	E
	C18	2	4	18-3	"	" "	E
	C19	2	4	15-9	"	" "	E
	C20	2	4	13-3	"	" "	E
	C21	2	4	14-9	"	" "	E
	C22	2	4	14-3	"	" "	E
	C23	2	4	13-9	"	" "	E
	C24	2	4	13-3	"	" "	E
	C25	2	4	12-9	"	" "	E
	C26	2	4	11-9	"	" "	E
	C27	12	11	37-6	"	CAP, TOP	
	C28	4	4	13-3	1-6	CAP, SIDES	



PLAN

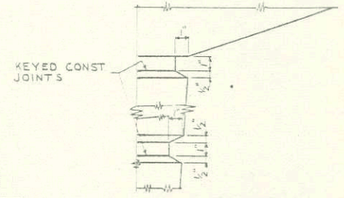


FOOTING PLAN

⊕ DENOTES DIRECTION OF BATTERED PILING

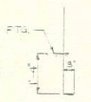
PILE SPA. SHOWN ABOVE IS TAKEN AT TOP OF SEAL.

NOTE: BATTER PILES 2 THRU 6 & 15 THRU 19, 1½"/FT. BATTER PILES 1, 7, 8, 13, 14 & 20 2"/FT.

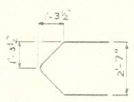


RUSTICATION DETAIL

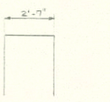
BAR STEEL REINF. IN FOOTINGS SHALL BE SPACED EQUALLY BETWEEN PILES.



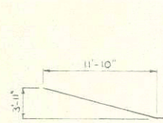
DETAIL A



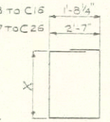
DETAIL B



DETAIL C

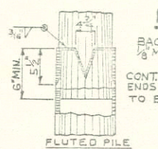


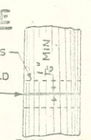
DETAIL D



MARK	X
C12	9'-7"
C13	8'-8½"
C14	8'-4"
C15	8'-2½"
C16	8'-0½"
C17	7'-9½"
C18	7'-0½"
C19	4'-3½"

MARK	X
C20	4'-8½"
C21	4'-3½"
C22	4'-0½"
C23	3'-5½"
C24	3'-2½"
C25	2'-11½"
C26	2'-3½"





DETAIL E

PILE SPLICE

ESTIMATED CONCRETE MASONRY

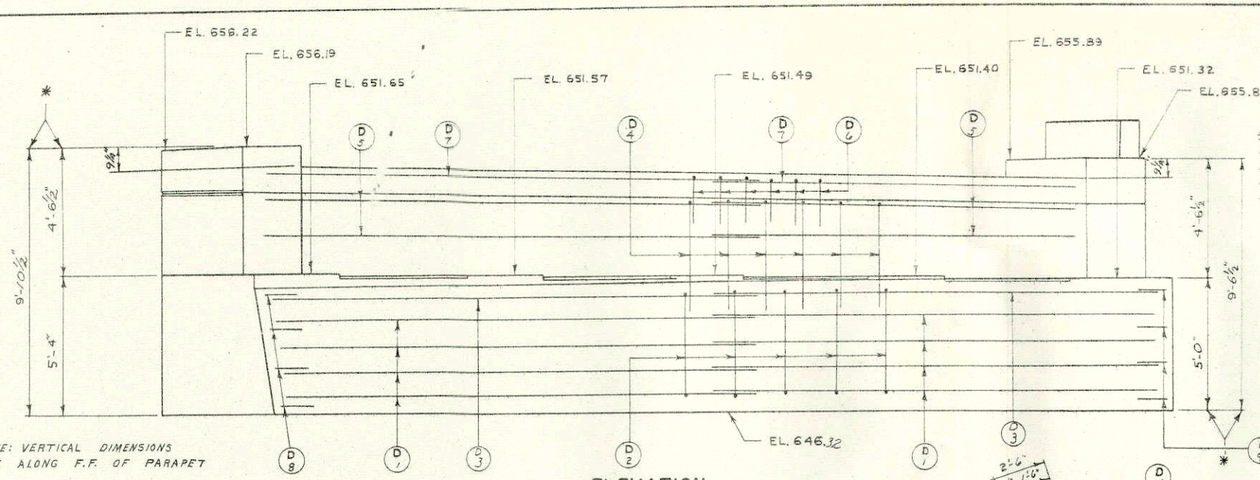
POUR		
SEAL	C.Y.	51.5
FOOTING	C.Y.	17.7
STEM	C.Y.	34.0
CAP	C.Y.	25.0

REVISED	STATE HIGHWAY COMMISSION OF WISCONSIN
	PIER 3
	DESIGN SPEC AASHO '61 LOADING H20-S16M CORRECT. 1963
	DATE 1-17-63 DESIGN B.H.M. DRAWN B.H.M. CKD.
	STRUCTURE B -32-34 SHEET 13 OF 16

X26635

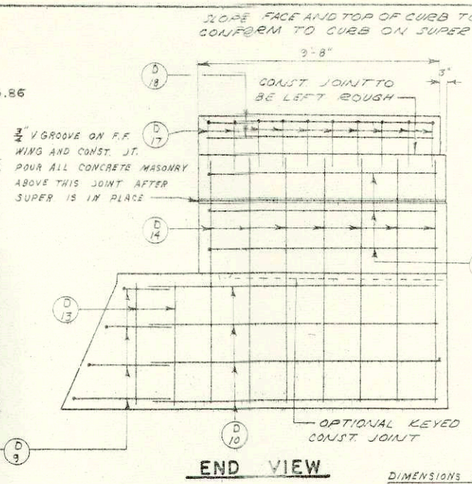
FORM E-B-12-62

STATE DIVISION	PROJECT	SHEET NO.	TOTAL SHEETS
4	I-90-8(2) 275	19	36

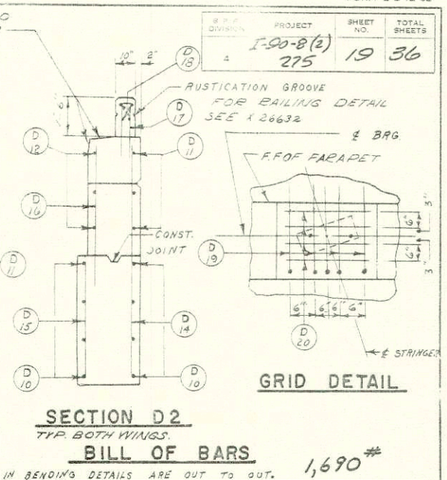


* NOTE: VERTICAL DIMENSIONS ARE ALONG F.F. OF PARAPET

ELEVATION
LOOKING EAST.

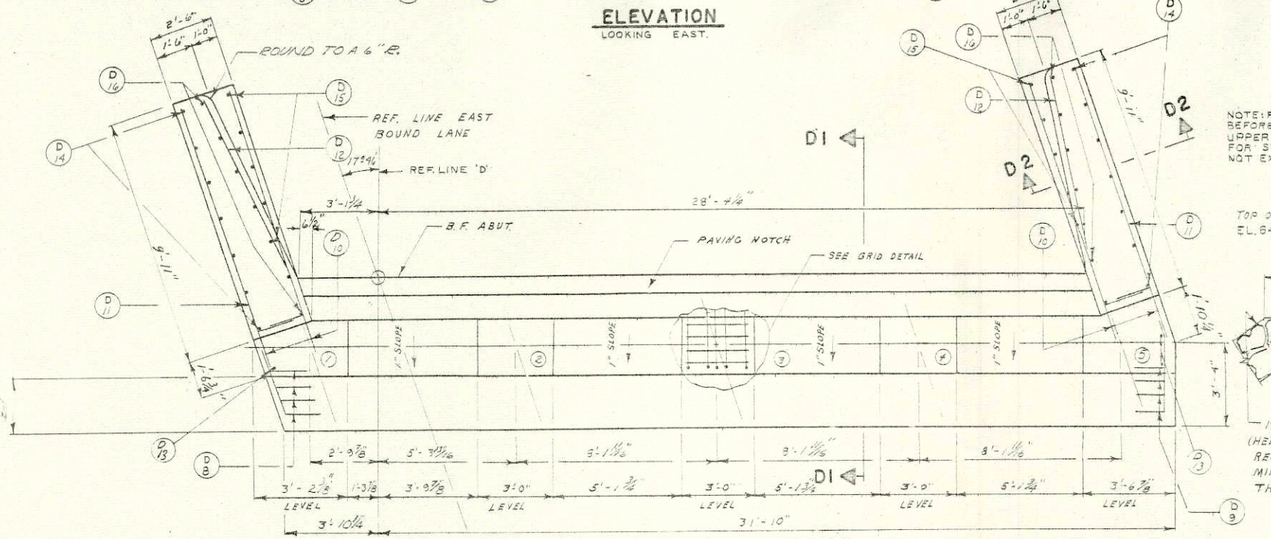


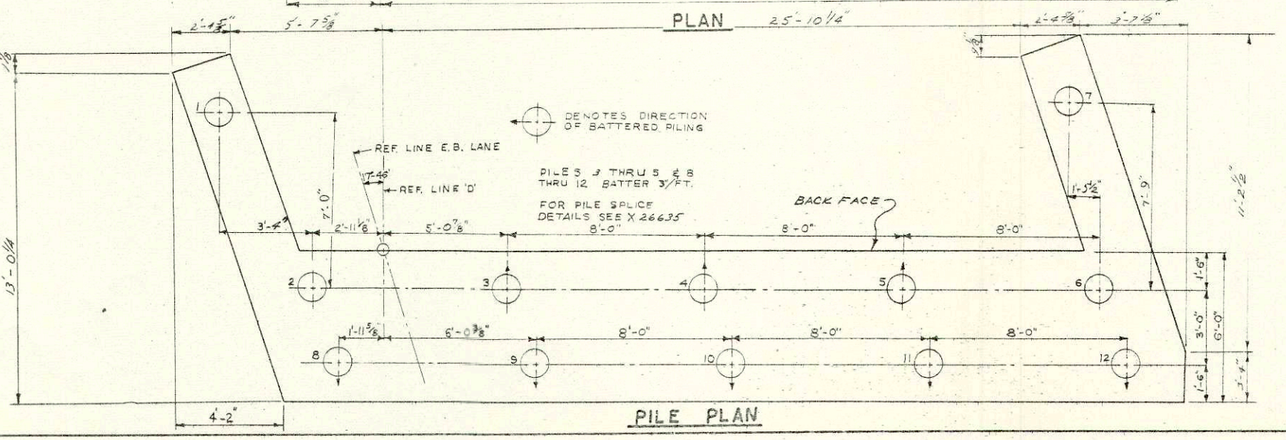
END VIEW



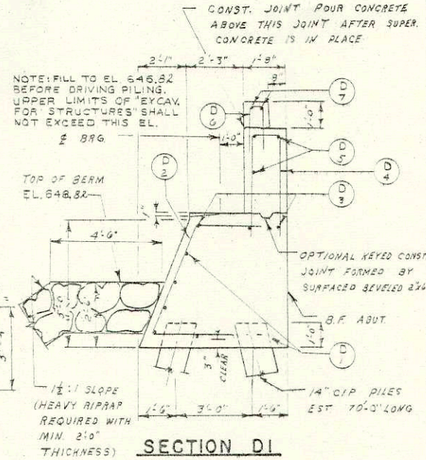
SECTION D2
TYP. BOTH WINGS.

GRID DETAIL

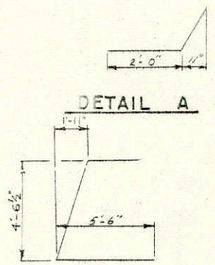




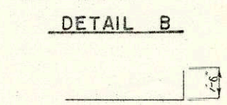
PILE PLAN



SECTION D1



DETAIL A

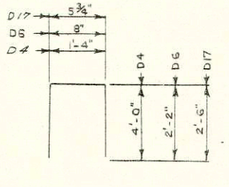


DETAIL B

DETAIL G

DETAIL C

DETAIL F



DETAIL D

DETAIL E

BILL OF BARS
DIMENSIONS IN BENDING DETAILS ARE OUT TO OUT. 1,690#

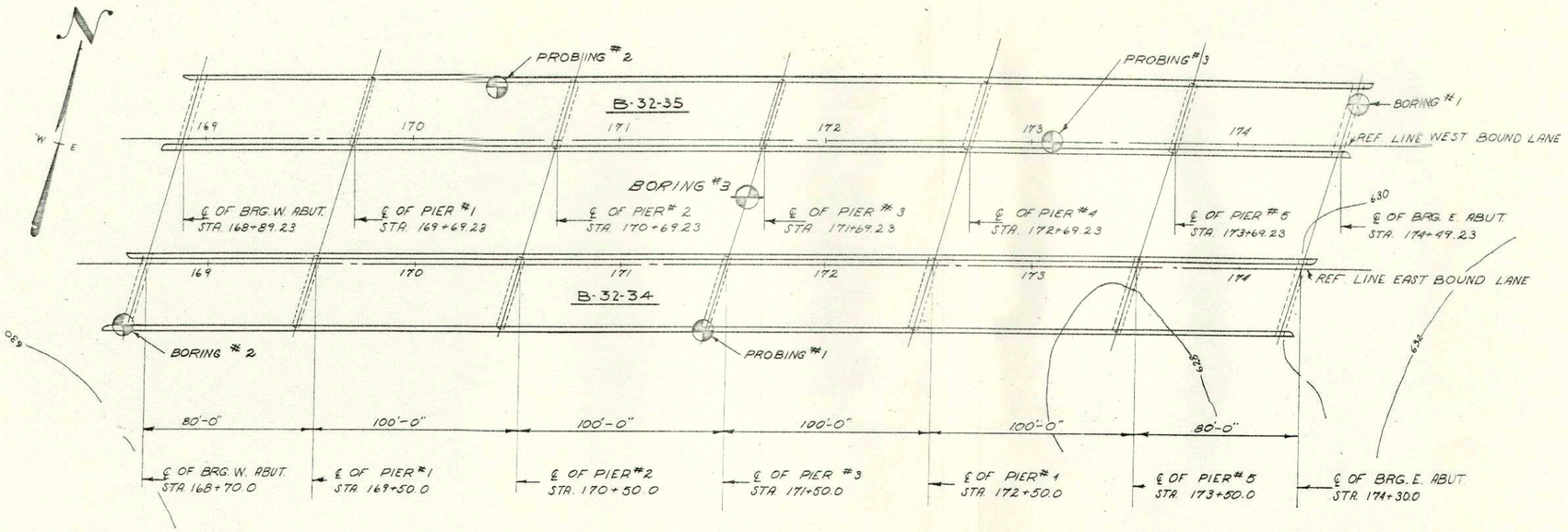
MARK	NO	SIZE	LENGTH	SPACING	LOCATION	DET.
D1	14	4	18-6	SHOWN	BODY - LONG. (SIDES AND BOTTOM)	
D2	18	4	13-0	2-0	BODY - STIRRUPS	B
D3	6	6	18-9	SHOWN	BODY - LONG. (TOP)	
D4	21	5	9-3	1-6	PARAPET - STIRRUPS	D
D5	6	4	17-0	SHOWN	" - LONG.	
D6	31	5	5-0	1-0	PAVING BLOCK - STIRRUPS	D
D7	4	4	16-3	SHOWN	" " - LONG.	
D8	4	4	5-0	1-6	BODY - CORNER	A
D9	4	4	5-9	1-6	" "	G
D10	16	4	11-3	1-6	WINGS (INSIDE AND OUTSIDE FACE)	
D11	6	4	11-0	1-6	" (OUTSIDE FACE)	E
D12	6	4	11-3	1-6	" (INSIDE FACE)	C
D13	3	4	4-6	SHOWN	BODY (OUTSIDE FACE)	
D14	14	4	9-3	1-6	WINGS " "	
D15	10	4	4-9	1-6	" (INSIDE FACE)	
D16	14	4	5-6	1-6	" " "	
D17	20	5	5-6	1-0	WING PARAPET (STIRRUPS)	D
D18	8	5	9-3	SHOWN	" " - LONG.	
D19	25	4	4-0	"	GRID BARS	F
D20	20	4	2-9	"	" "	

NOTE: THE 2'-0 SPA. SHOWN FOR "D2" BARS MAY BE ALTERED TO CLEAR PILLING.

REVISED	STATE HIGHWAY COMMISSION OF WISCONSIN
	EAST ABUTMENT
DESIGN SPEC. AASHO '61	LOADING H20-S16 MS18 CONST. SPEC. 1963
DATE 1-17-63 DESIGN BHM	DRAWN MHH CKD. BK
STRUCTURE B-32-34	SHEET 14 OF 16

X 26636

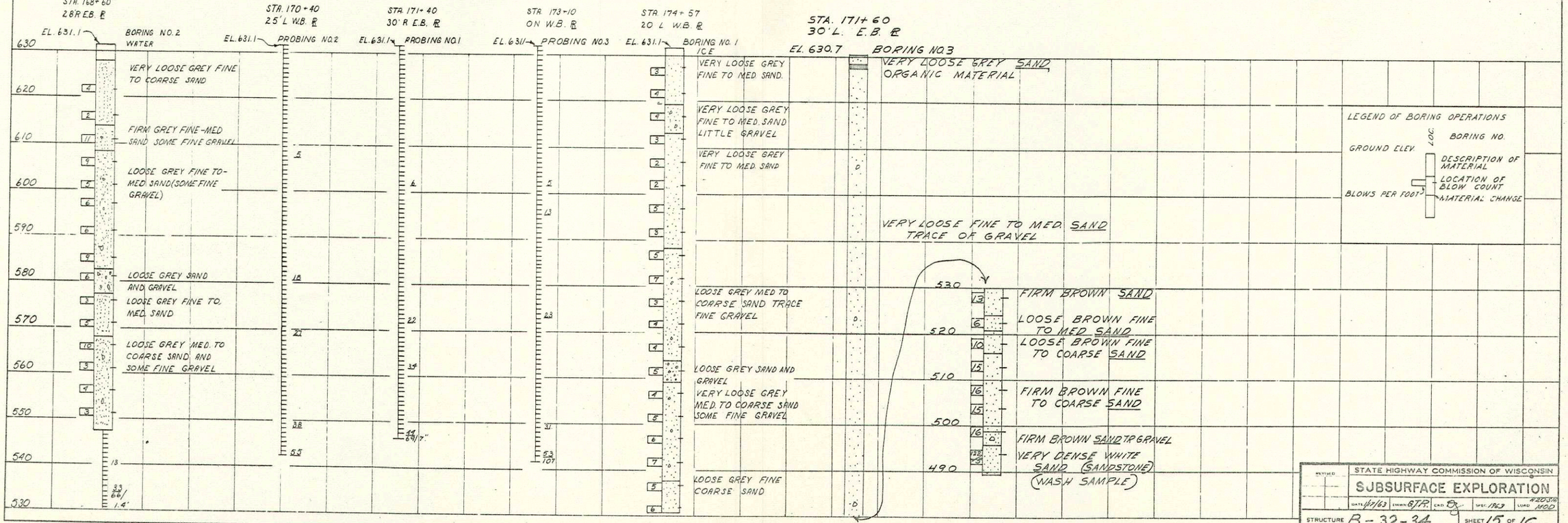
B.P.R. DIVISION	PROJECT	SHEET NO.	TOTAL SHEETS
4	I-90-8(2) 275	20	36



SUBSURFACE EXPLORATION FOR FOUNDATION DESIGN

FOR THE DESIGN OF THE STRUCTURE FOUNDATION, TO OBTAIN RELATIVE DATA CONCERNING THE CHARACTER OF MATERIAL IN AND UPON WHICH THE FOUNDATION MIGHT BE BUILT, BORINGS AND/OR SOUNDINGS WERE MADE AT POINTS APPROXIMATELY AS INDICATED ON THIS DRAWING WITH THE LOG OF SUCH EXPLORATION DATA AS INTERPRETED FOR SUCH DESIGN PURPOSE AS SHOWN. THE EXPLORATIONS WERE MADE BY ORDINARY AND CONVENTIONAL METHODS. AND CARE DEEMED ADEQUATE FOR SUCH PURPOSE. HOWEVER, SINCE IT IS A MATTER OF COMMON KNOWLEDGE THAT THE EXACT CHARACTER OF ANY MATERIAL AND ITS REACTION IS DIFFICULT TO DETERMINE FROM SUCH SUBSURFACE EXPLORATION AND THAT THE KIND AND CHARACTER OF MATERIAL AT THE SITE WHERE THE FOUNDATIONS ARE BUILT MAY VARY SUBSTANTIALLY FROM THAT INDICATED BY THE LOG THEY ARE MADE AVAILABLE TO THE BIDDERS SIMPLY FOR WHAT THEY ARE WORTH, WITHOUT ANY WARRANTY, EXPRESSED OR IMPLIED THAT THE MATERIAL TO BE ENCOUNTERED IN BUILDING THE FOUNDATION WILL CONFORM THEREWITH. IF THE LOG IS USED BY THE CONTRACTOR IN MAKING HIS BID, IT IS HEREBY EXPRESSLY STIPULATED THAT THE COMMISSION ACCEPTS NO RESPONSIBILITY FOR SAID USE.

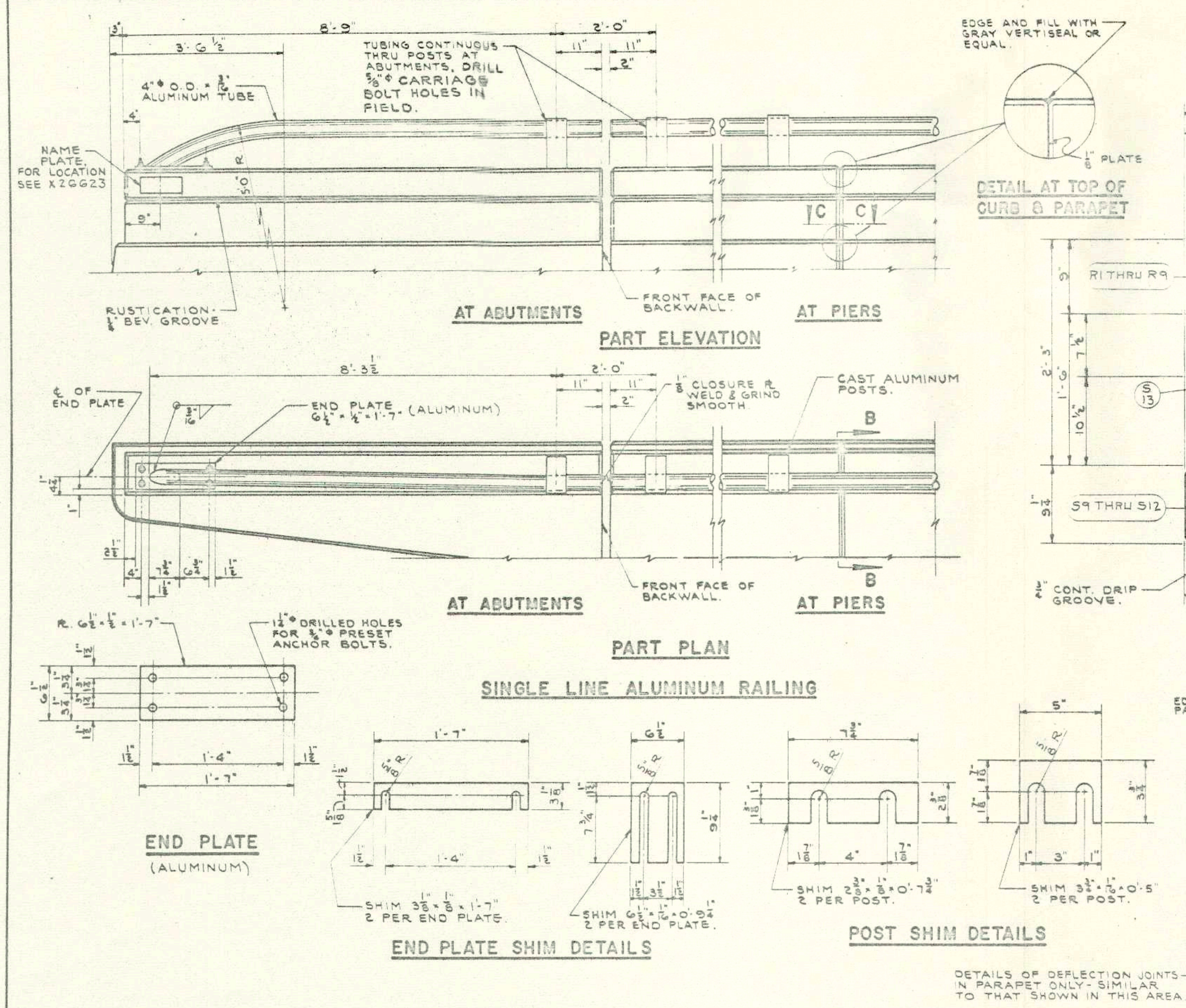
UNLESS OTHERWISE SPECIFIED THE BLOWS PER FOOT AT THE LOCATIONS INDICATED ARE BASED ON DRIVING A 2" OD x 1.4" ID SPLIT SPOON SAMPLER WITH A 140 LB. HAMMER HAVING A FREE FALL OF 30 INCHES. THE BLOW COUNT IS TAKEN IN UNDISTURBED SOIL IMMEDIATELY BELOW A CASED OR OPEN HOLE ELIMINATING SIDE FRICTION ON THE DRIVE PIPE.



STATE HIGHWAY COMMISSION OF WISCONSIN
SUBSURFACE EXPLORATION
DATE 1/7/63 DRAWN G.T.P. CKD. SPEC. 1963 LOAD H20S16 MOD.
STRUCTURE B-32-34 SHEET 15 OF 16

X26637

F.A.P. DIVISION	PROJECT	SHEET NO.	TOTAL SHEETS
4	I-50-0(2) 275	21	36



PART ELEVATION

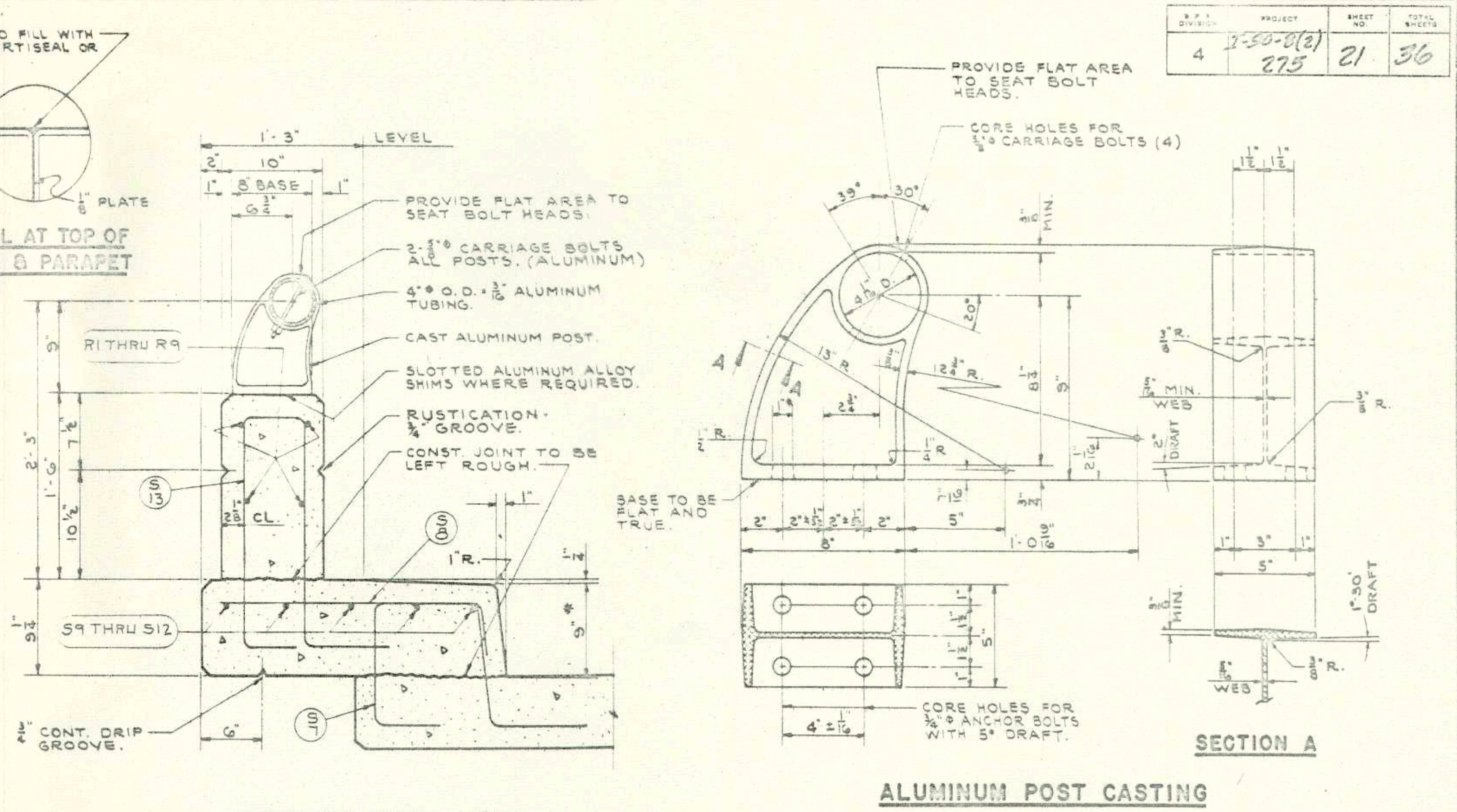
PART PLAN

SINGLE LINE ALUMINUM RAILING

END PLATE (ALUMINUM)

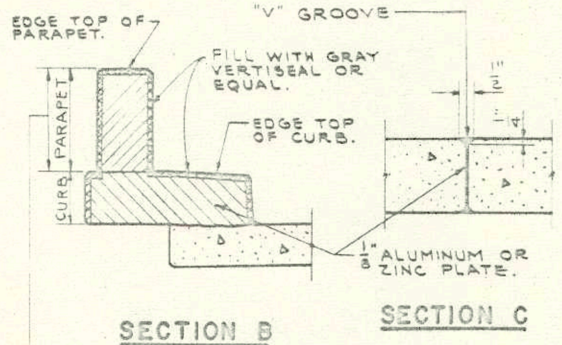
END PLATE SHIM DETAILS

POST SHIM DETAILS



SECTION THRU CURB

ALUMINUM POST CASTING



SECTION B

SHOWING DEFLECTION JOINT IN CURB AND PARAPET AT PIERS.

SECTION C

DETAILS OF DEFLECTION JOINTS IN PARAPET ONLY - SIMILAR TO THAT SHOWN IN THIS AREA.

NOTES

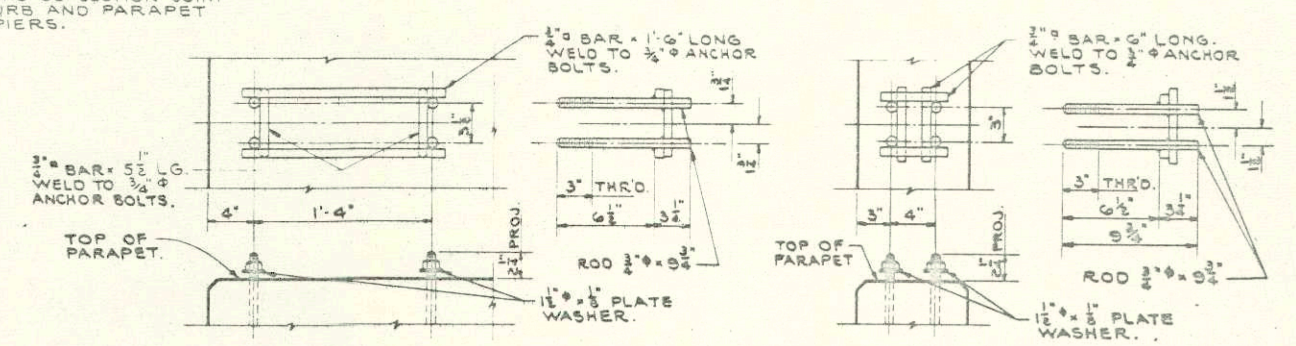
1. ALUMINUM RAILING POSTS TO BE SET NORMAL TO GRADE.

2. THE HEX. NUTS, WASHERS AND THE UPPER 3" OF ¾"Φ × 9¾" LONG ANCHOR BOLTS SHALL BE GALVANIZED OR CADMIUM PLATED. THE ANCHOR BOLT HOLES, BASE OF RAILING POSTS AND ANCHOR BOLTS, NUTS AND WASHERS SHALL BE COATED WITH AN ALUMINUM IMPREGNATED CAULKING COMPOUND.
ANCHOR BOLTS, HEX. NUTS AND WASHERS TO BE STRUCTURAL CARBON STEEL.

3. ALUMINUM TUBING SHALL BE FABRICATED IN 2 OR 3 PANEL LENGTHS.

4. ALUMINUM ALLOY SHIMS SHALL BE USED UNDER POSTS AND UNDER END PLATES WHERE REQUIRED FOR ALIGNMENT.

5. WHEN PARAPETS AND CURBS ARE POURED CONTINUOUSLY FROM END TO END THEY SHALL BE SEPARATED AT THE DEFLECTION JOINTS BY A PIECE OF ⅛" ZINC OR ALUMINUM PLATE CUT AS SHOWN IN SECTION "B" BY SHADED AREA. IF CONSTRUCTION JOINTS IN PARAPETS AND CURBS ARE USED AT THE DEFLECTION JOINTS ONE SIDE OF JOINT SHALL BE COATED WITH BITUMINUOUS PAINT AND PLATE SEPARATORS MAY BE OMITTED.



AT END PLATE

AT POSTS

ANCHOR BOLT SETTING DETAILS

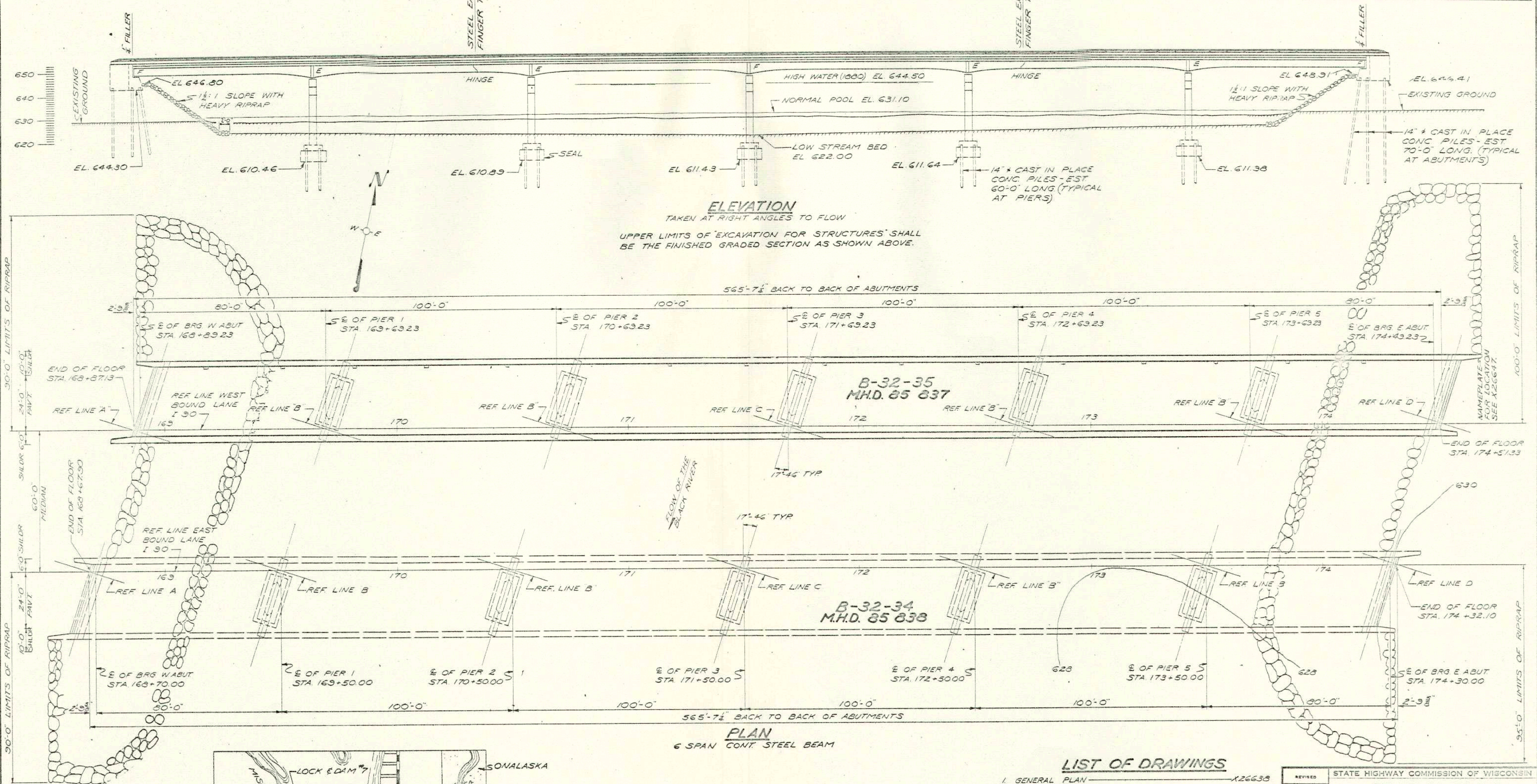
TYPE A

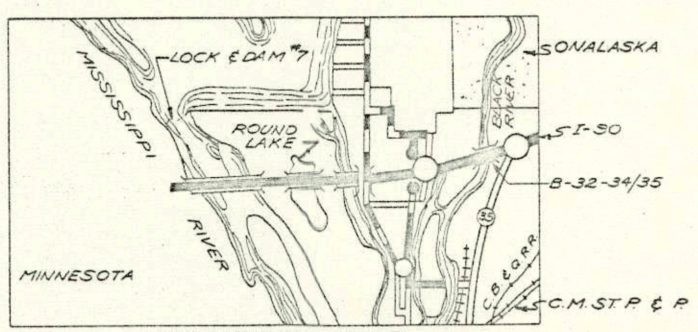
REVISED	STATE HIGHWAY COMMISSION OF WISCONSIN			
	TUBULAR ALUMINUM RAILING			
	DESIGN SPEC. A.A.S.H.O. 61	LOADING H20-S16	CONST. SPEC. 1963	
	DATE 1-17-63	DESIGN ST'D.	DRAWN B.W.	CKD
	STRUCTURE B-32-34		SHEET 16 OF 16	

X26637A

FORM 3-B-11-62

COUNTY & HIGHWAY	ROUTE & SECTION	CLASS & AGREEMENT STATE	CLASS & AGREEMENT FEDERAL	S. P. P. DIVISION	PROJECT	SHEET NO.	TOTAL SHEETS
32.3	90.8		12.1	4	I-90-8(2) 275	22	36





LOCATION MAP

LIST OF DRAWINGS

1. GENERAL PLAN	X26638
2. TOTAL ESTIMATED QUANTITIES	X26639
3. SUPERSTRUCTURE	X26640
4. GIRDER DETAILS	X26641
5. GIRDER DETAILS	X26642
6. POURING, FORMING & BLOCKING DIAGRAMS	X26643
7. LONG SECTION & BEARINGS	X26644
8. EXPANSION JOINTS	X26645
9. FLOOR DRAIN DETAILS	X26646
10. TUBULAR STEEL RAILING-TYPE A	X26647
11. WEST ABUTMENT	X26648
12. PIERS 1, 2, 4 & 5	X26649
13. PIER 3	X26650
14. EAST ABUTMENT	X26651
15. TUBULAR ALUMINUM RAILING-TYPE A	X26651 A

FOR "SUB SURFACE EXPLORATIONS" SEE B-32-34

REVISED	STATE HIGHWAY COMMISSION OF WISCONSIN		
	GENERAL PLAN		
	CO. LA CROSSE	CITY VIL. TN. CAMPBELL	STA. 171+69.23
	SECTION 17	TOWN 16 N	RANGE 7 W
	DESIGN SPEC. AASHO '61	LOADING H20-S16 MOD.	CONST. SPEC. 1963
	DATE 1-17-63 DESIGN B.M.	DRAWN BW.	CKD.

RECOMMENDED H. B. Schultz, WISCONSIN ENGINEER OF BRIDGES — A. C. La Ponte, MINNESOTA BRIDGE ENGINEER

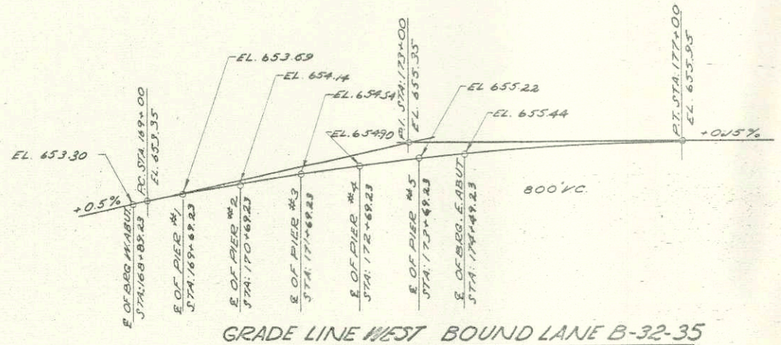
APPROVED E. C. Ruttger, WISCONSIN HIGHWAY ENGINEER — MINNESOTA DEPUTY CHIEF ENGINEER

WISCONSIN STRUCTURE B-32-35 — SHEET 1 OF 15

MINNESOTA STRUCTURE 85 837 — X26638

FORM E-8-12-62

B.P.R. DIVISION	PROJECT	SHEET NO.	TOTAL SHEETS
4	I-90-8(2) 275	23	36



GRADE LINE WEST BOUND LANE B-32-35

INTERSTATE I 90 ALONG
REF LINE WEST BOUND LANE

GENERAL NOTES

DRAWINGS SHALL NOT BE SCALED.

BEVEL EXPOSED EDGES OF CONCRETE 1" UNLESS OTHERWISE SPECIFIED.

BAR STEEL REINFORCEMENT SHALL BE IMBEDDED 2" CLEAR UNLESS OTHERWISE SHOWN OR NOTED.

ALL CONCRETE MASONY SHALL BE GRADE "A" f'_c = 1400 P.S.I. UNLESS OTHERWISE NOTED.

ALL PILING SHALL BE 14" Ø CAST-IN-PLACE CONCRETE PILING DRIVEN TO A MINIMUM BEARING VALUE OF 40 TONS PER PILE. ESTIMATED LENGTH OF ABUTMENT PILES IS 70'-0"; MINIMUM PENETRATION OF 50'-0" BELOW STREAMBED. ESTIMATED LENGTH OF PIER PILES IS 60'-0"; MINIMUM PENETRATION OF 40'-0" BELOW BOTTOM OF SEAL.

ALL FIELD CONNECTIONS SHALL BE MADE WITH 3/4" Ø RIVETS OR HIGH TENSILE STRENGTH BOLTS UNLESS NOTED

THE TOP AND SLOPE OF THE FILL IN FRONT OF THE ABUTMENTS SHALL BE COVERED WITH HEAVY R.I.P. RAP AS SHOWN ON SHEETS X26638, X26648 AND X26651.

THE SUPERSTRUCTURE SHALL BE TREATED WITH WATER SOLUBLE SILICONE IN ACCORDANCE WITH SECTION 502.3.13 OF THE STANDARD SPECIFICATIONS.

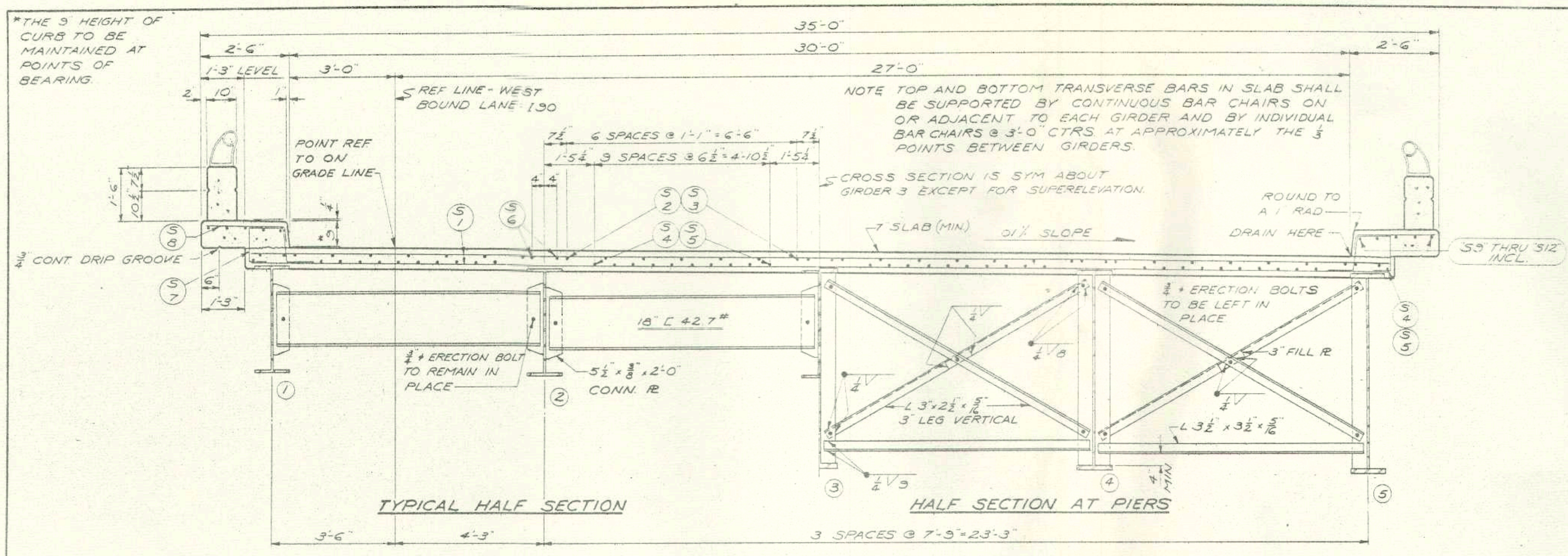
TOTAL ESTIMATED QUANTITIES

	BID ITEMS	UNIT	SUPER.	W.ABUT	PIER 1	PIER 2	PIER 3	PIER 4	PIER 5	E.ABUT.	TOTAL
	EXCAVATION FOR STRUCTURES	C.Y.	—	10	160	140	120	130	140	10	710
	CONCRETE MASONRY GRADE	C.Y.	540.0	56.0	72.5	72.5	76.7	72.5	72.5	56.1	1046.8
	BAR STEEL REINFORCEMENT	C.Y.	171,350	1,670	8,360	8,360	7960	8,360	8,360	1,670	222,090
	STRUCTURAL CARBON STEEL	LB.	355,100	—	—	—	—	—	—	—	355,100
	STRUCTURAL LOW ALLOY STEEL	LB.	16,700	—	—	—	—	—	—	—	16,700
	CARBON STEEL FORGINGS	LB.	510	—	—	—	—	—	—	—	510
*	LUBRICATED BRONZE PLATES	LB	445	—	—	—	—	—	—	—	445
	BEARING PADS	S.F.	45	—	—	—	—	—	—	—	45
	CAST-IN-PLACE CONCRETE PILING, DELIVERED	L.F.	—	840	1,200	1,200	1,200	1,200	1,200	840	7,680
	CAST-IN-PLACE CONCRETE PILING, DRIVEN	L.F.	—	840	1,080	1,080	1,080	1,080	1,080	840	7,080
	TUBULAR RAILING TYPE "A"	L.F.	1,163	—	—	—	—	—	—	—	1,163
	FLOOR DRAINS, TYPE A	EACH	16	—	—	—	—	—	—	—	16
	HEAVY RIPRAP	C.Y.	—	430	—	—	—	—	—	600	1,030
	CONCRETE MASONRY SEAL	C.Y.	—	—	58.0	58.0	51.5	58.0	58.0	—	283.5
	NON BID ITEMS										
	ALUMINUM OR ZINC PLATE	S.F.	34	—	—	—	—	—	—	—	34
	FILLER	SIZE	—	—	—	—	—	—	—	—	1/4

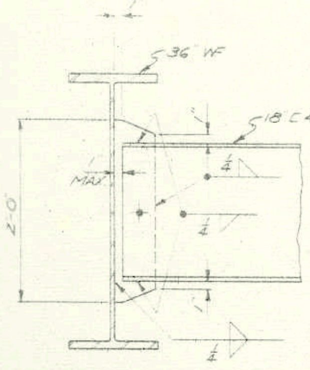
*INCLUDES WEIGHT OF BRONZE WASHERS.

REVISED	STATE HIGHWAY COMMISSION OF WISCONSIN
	TOTAL ESTIMATED QUANTITIES
	DESIGN SPEC. A.A.S.H.O. LI LOADING H20-S16 MOD CONST. SPEC. 1963
	DATE 11/7/63 DESIGN B.H.M. DRAWN G.T.B. CKD.
STRUCTURE B-32-35	SHEET 2 OF 15

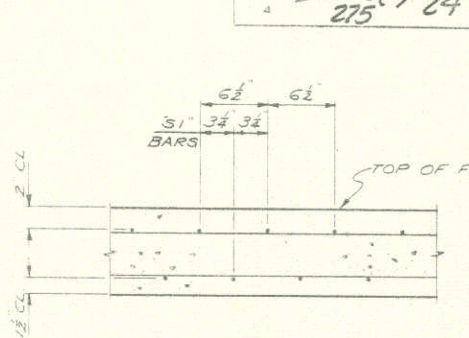
X26639



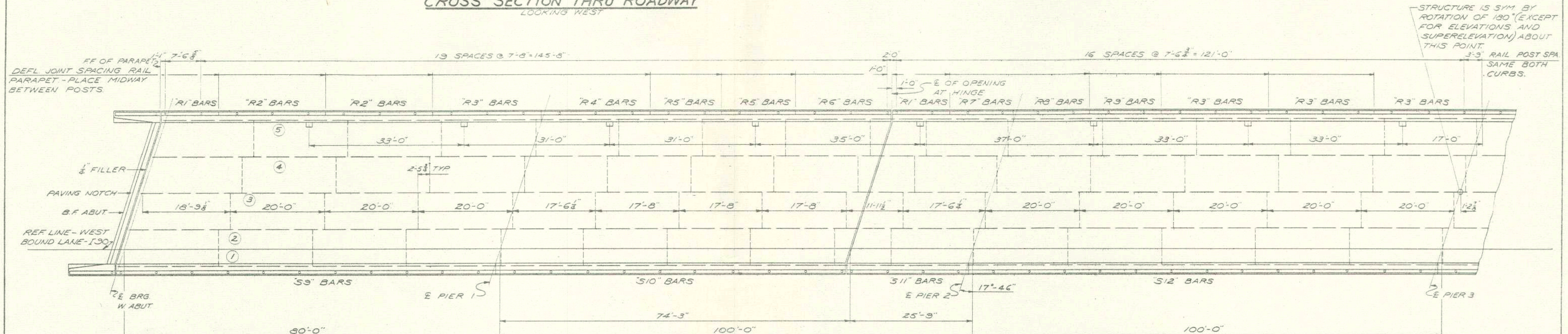
CROSS SECTION THRU ROADWAY
LOOKING WEST



CONNECTION DETAILS



LONG. SECTION THRU FLOOR



HALF PLAN

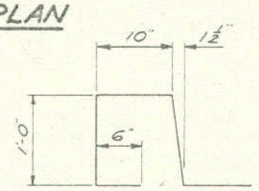
FLOOR DRAIN SPACING FOR SPANS 4, 5 & 6 THE SAME AS SHOWN ABOVE. NORTH CURB ONLY. DRAIN SPACING MAY BE ALTERED TO MISS STIFFENER PL'S IF NECESSARY.

BILL OF BARS 177,350 #'S

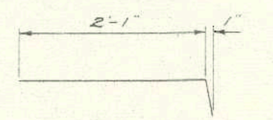
DIMENSIONS IN BENDING DETAILS ARE OUT TO OUT.

POUR	MARK	NO.	SIZE	LENGTH	SPACING	LOCATION	DET
SUPERSTRUCTURE	S1	2069	6	33-9	6 1/2	SLAB-TRANS.-TOP & BOTTOM	
	S2	280	5	32-3	SHOWN	" -LONG.-TOP-END SECTION	
	S3	196	5	37-3	"	" " " -MIDDLE SECTION	
	S4	420	5	32-3	"	" " -BOTTOM-END SECTION	
	S5	294	5	37-3	"	" " " -MIDDLE SECTION	
	S6	50	5	15-0	"	" " -TOP-SYM ABOUT PIERS	
	S7	1122	5	4-3	1-0	CURB-TRANS.	A
	S8	1122	6	2-6	1-0	" "	B
	S9	60	6	28-3	6	" -LONG.-LOCATION SHOWN ON "HALF PLAN"	
	S10	60	6	26-0	6	" " " " " " "	
	S11	20	6	25-3	6	" " " " " " "	
	S12	60	6	34-3	6	" " " " " " "	
	S13	1122	5	5-6	1-0	" & RAIL PARAPET	C
	S14	8	4	6-9	SHOWN	DIAPHRAGM @ ABUT.	
	S15	40	5	2-9	1-6	" "	D

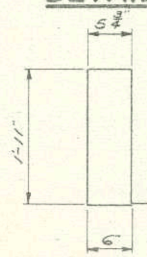
POUR	MARK	NO.	SIZE	LENGTH	SPACING	LOCATION
RAILING PARAPET	R1	32	5	12-0	SHOWN	RAILING PARAPET
	R2	32	5	22-9	"	" "
	R3	64	5	22-3	"	" "
	R4	16	5	23-0	"	" "
	R5	32	5	15-0	"	" "
	R6	16	5	19-9	"	" "
	R7	16	5	13-0	"	" "
	R8	16	5	16-6	"	" "
	R9	16	5	14-9	"	" "



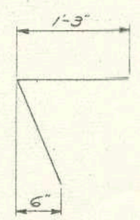
DETAIL A



DETAIL B



DETAIL C



DETAIL D

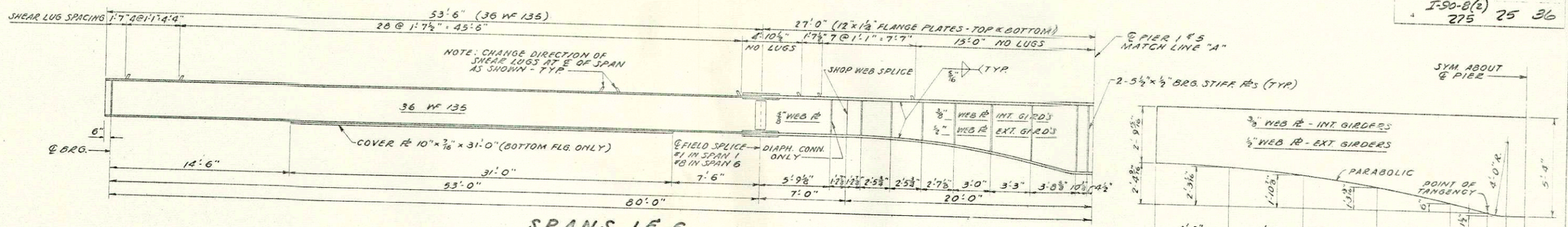
REVISED	STATE HIGHWAY COMMISSION OF WISCONSIN
	SUPERSTRUCTURE
	DESIGN SPEC. A.A.S.H.O. '61 LOADING H20-S16 MOD. CONST. SPEC. 1963
	DATE 1-17-63 DESIGN B.M. DRAWN BW CK'D [illegible]

STRUCTURE B-32-35 SHEET 3 OF 15

X26640

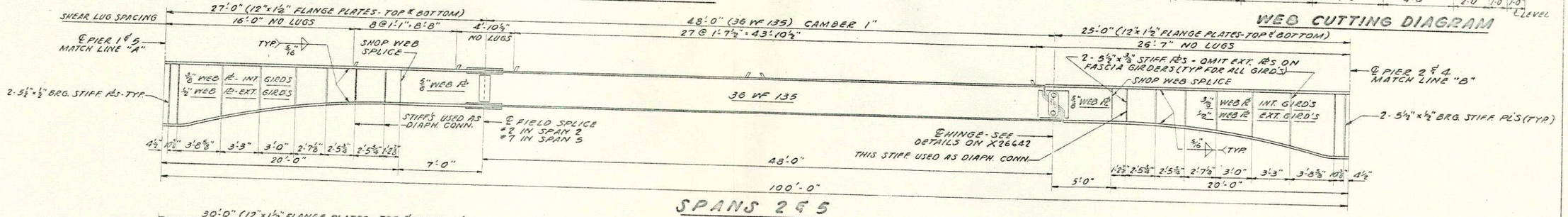
FORM E-B-12-62

S.H.C. DIVISION	PROJECT	SHEET NO.	TOTAL SHEETS
4	I-90-8(2) 275	25	36

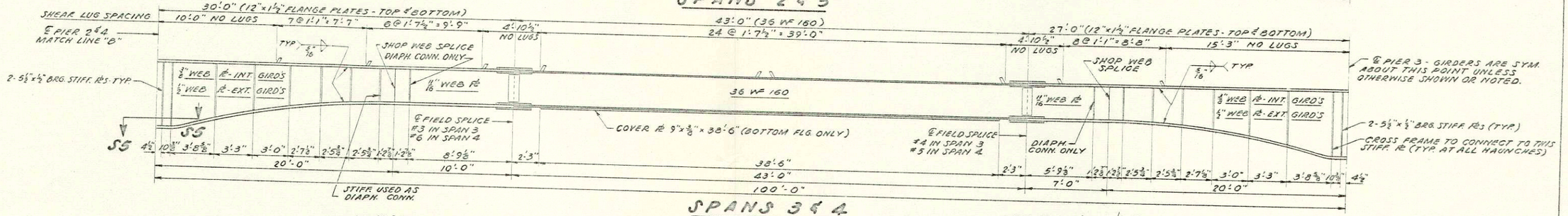


SPANS 1 & 6

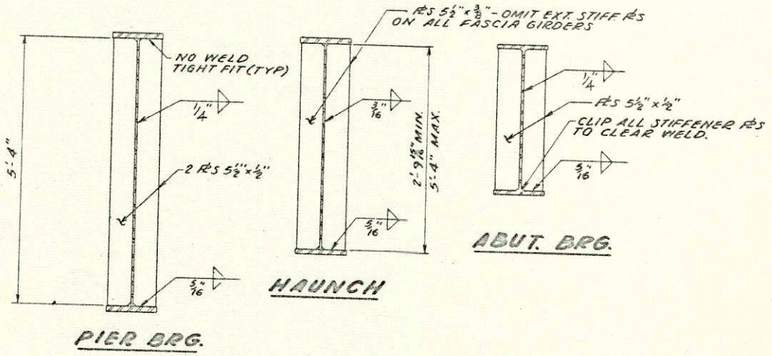
WEB CUTTING DIAGRAM



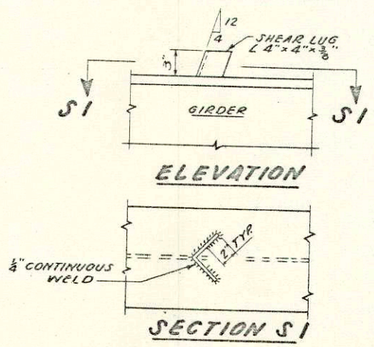
SPANS 2 & 5



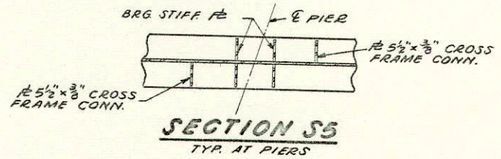
SPANS 3 & 4



STIFFENER DETAILS

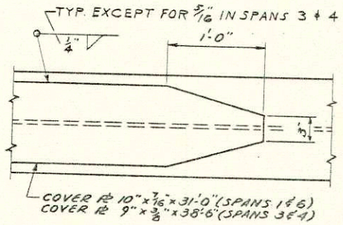


SHEAR LUG DETAILS



NOTES:

- DETAILS OF SHOP WEB SPLICES SHALL BE SHOWN ON THE SHOP DRAWINGS.
- HINGE DETAILS AND FIELD SPLICE DETAILS ARE SHOWN ON SHEET X 26642.
- CAMBER 36 WF 135 1" IN SPANS 2 AND 5 ONLY. CAMBER SHALL CONFORM TO AN ARC OF A CIRCLE.



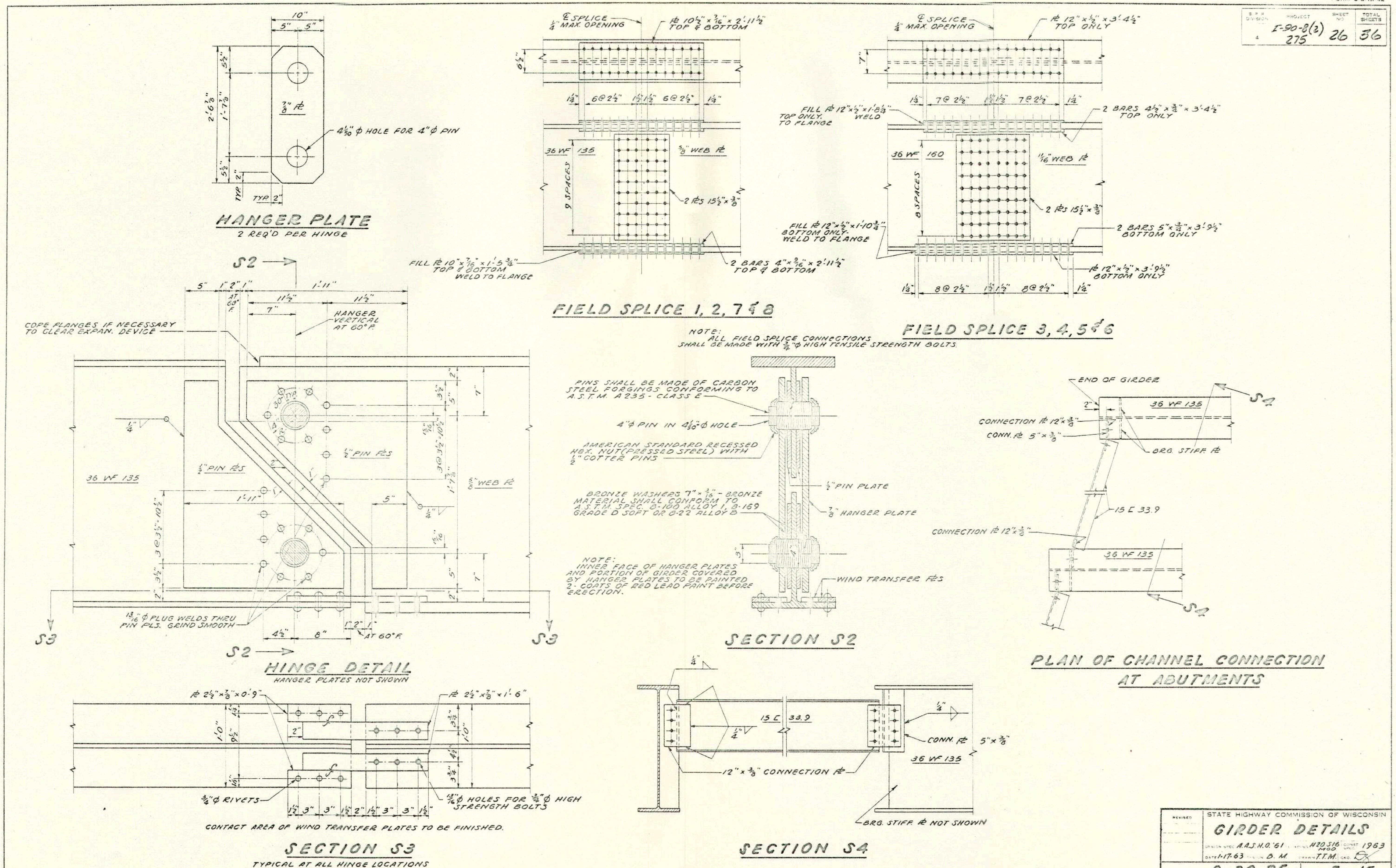
COVER PLATE DETAILS

REVISED	STATE HIGHWAY COMMISSION OF WISCONSIN
	GIRDER DETAILS
	DESIGN SPEC A.A.S.H.O. '61 LOADING H20-S16 CONST. 1963
	DATE 1-17-63 DESIGN B.M. DRAWN T.T.M. CKD.
	STRUCTURE B-32-35 SHEET 4 OF 15

X 26641

FORM E-B-12-62

S.P.R. DIVISION	PROJECT	SHEET NO.	TOTAL SHEETS
4	I-90-8(2) 275	26	36


HANGER PLATE
2 REQ'D PER HINGE
10"
5" 5"
2'-6⅞"
1'-7⅞"
5½"
7/8" PL
4 1/10" ϕ HOLE FOR 4" ϕ PIN
TYP 2"
FIELD SPLICE 1, 2, 7 & 8
℄ SPLICE
¼" MAX. OPENING
PL 10½" x 7/16" x 2'-11½" TOP & BOTTOM
6@2½"
36 WF 135
3/8" WEB PL
9 SPACES
2 PLS 15½" x 3/8"
FILL PL 10" x 7/16" x 1'-5¾" TOP & BOTTOM WELD TO FLANGE
2 BARS 4" x 9/16" x 2'-11½" TOP & BOTTOM
FIELD SPLICE 3, 4, 5 & 6
PL 12" x ½" x 3'-4½" TOP ONLY
7@2½"
FILL PL 12" x ½" x 1'-8¾" TOP ONLY. WELD TO FLANGE
2 BARS 4½" x 3/8" x 3'-4½" TOP ONLY
36 WF 160
11/16" WEB PL
8 SPACES
2 PLS 15½" x 3/8"
FILL PL 12" x ½" x 1'-10¾" BOTTOM ONLY- WELD TO FLANGE
2 BARS 5" x 3/8" x 3'-9½" BOTTOM ONLY
PL 12" x ½" x 3'-9½" BOTTOM ONLY
8@2½"
NOTE:
ALL FIELD SPLICE CONNECTIONS SHALL BE MADE WITH ¾" ϕ HIGH TENSILE STRENGTH BOLTS.
S2
COPE FLANGES IF NECESSARY TO CLEAR EXPAN. DEVICE
HANGER VERTICAL AT 60° F.
AT 60° F.
½" PIN PLS
36 WF 135
8/16" WEB PL
1'-11"
13/16" ϕ PLUG WELDS THRU PIN PLS. GRIND SMOOTH
AT 60° F.
S3
HINGE DETAIL
HANGER PLATES NOT SHOWN
PINS SHALL BE MADE OF CARBON STEEL FORGINGS CONFORMING TO A.S.T.M. A235 - CLASS E
4" ϕ PIN IN 4 1/10" ϕ HOLE
AMERICAN STANDARD RECESSED HEX. NUT (PRESSED STEEL) WITH ½" COTTER PINS
½" PIN PLATE
BRONZE WASHERS 7" x 3/16" - BRONZE MATERIAL SHALL CONFORM TO A.S.T.M. SPEC. B-100 ALLOY 1, B-169 GRADE D SOFT OR B-22 ALLOY B
7/8" HANGER PLATE
NOTE:
INNER FACE OF HANGER PLATES AND PORTION OF GIRDER COVERED BY HANGER PLATES TO BE PAINTED 2 COATS OF RED LEAD PAINT BEFORE ERECTION.
WIND TRANSFER PLS
SECTION S2
END OF GIRDER
36 WF 135
CONNECTION PL 12" x 3/8"
CONN. PL 5" x 3/8"
BRG. STIFF. PL
15 [33.9
CONNECTION PL 12" x 3/8"
S4
PLAN OF CHANNEL CONNECTION AT ABUTMENTS
PL 2½" x 7/8" x 0'-9"
PL 2½" x 7/8" x 1'-6"
¾" ϕ RIVETS
13/16" ϕ HOLES FOR ¾" ϕ HIGH STRENGTH BOLTS
CONTACT AREA OF WIND TRANSFER PLATES TO BE FINISHED.
SECTION S3
TYPICAL AT ALL HINGE LOCATIONS
15 [33.9
CONN. PL 5" x 3/8"
36 WF 135
12" x 3/8" CONNECTION PL
BRG. STIFF. PL NOT SHOWN
SECTION S4

STATE HIGHWAY COMMISSION OF WISCONSIN

GIRDER DETAILS

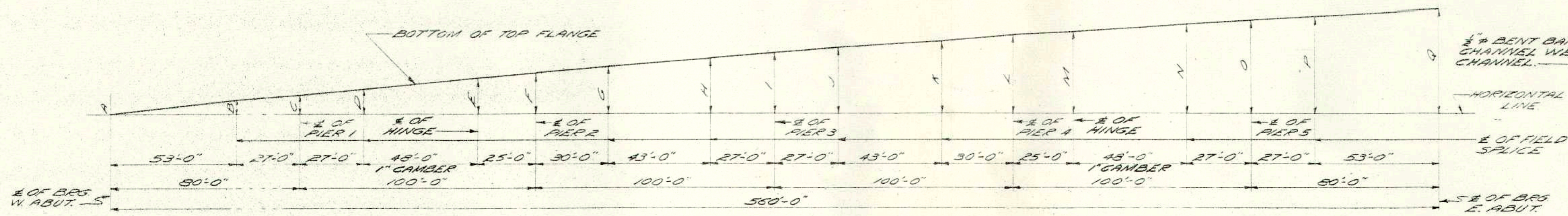
DESIGN SPEC. A.A.S.H.O. '61 LOADING H20 S16 MOD CONST. SPEC. 1963
DATE 1-17-63 DESIGN D. M. DRAWN T.T.M. CKD. [illegible]

STRUCTURE B-32-35 SHEET 5 OF 15

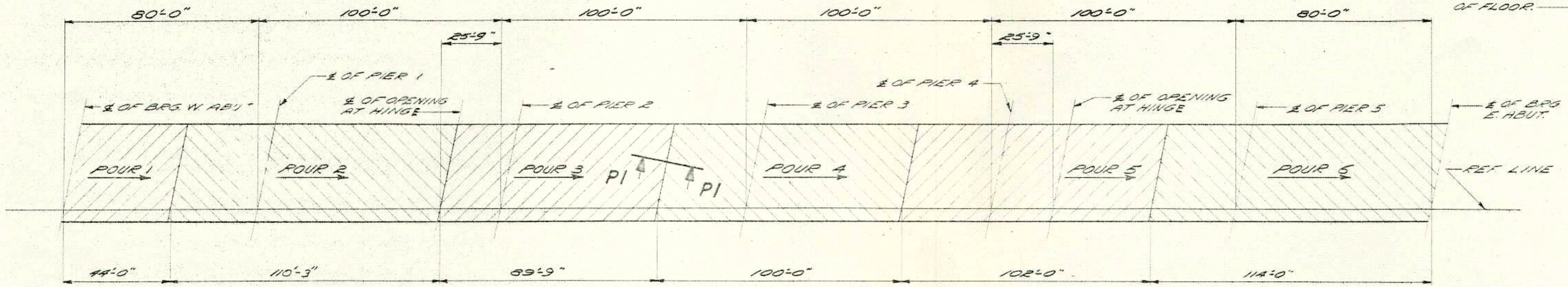
X26642

E-50-8(2) 275 27 36

LOCATION	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q
GIRDER 5	0	0'-3 1/8"	0'-4 5/8"	0'-6 1/8"	0'-8 11/16"	0'-10"	0'-11 1/2"	1'-1 9/16"	1'-2 3/4"	1'-4"	1'-5 13/16"	1'-7 1/16"	1'-8 1/16"	1'-9 7/8"	1'-10 13/16"	1'-11 3/4"	2'-1 7/16"
GIRDER 4	0	0'-3 1/8"	0'-4 5/8"	0'-6 3/16"	0'-8 3/4"	0'-10"	0'-11 1/2"	1'-1 9/16"	1'-2 13/16"	1'-4 1/16"	1'-5 7/8"	1'-7 1/8"	1'-8 1/8"	1'-9 15/16"	1'-10 7/8"	1'-11 13/16"	2'-1 1/2"
GIRDER 3	0	0'-3 1/8"	0'-4 11/16"	0'-6 3/16"	0'-8 3/4"	0'-10"	0'-11 9/16"	1'-1 5/8"	1'-2 13/16"	1'-4 1/16"	1'-5 15/16"	1'-7 1/8"	1'-8 3/16"	1'-10"	1'-10 15/16"	1'-11 7/8"	2'-1 9/16"
GIRDER 2	0	0'-3 1/8"	0'-4 11/16"	0'-6 3/16"	0'-8 3/4"	0'-10 1/16"	0'-11 9/16"	1'-1 5/8"	1'-2 7/8"	1'-4 1/8"	1'-6"	1'-7 3/16"	1'-8 3/16"	1'-10 1/16"	1'-11"	1'-11 15/16"	2'-1 5/8"
GIRDER 1	0	0'-3 1/8"	0'-4 11/16"	0'-6 3/16"	0'-8 13/16"	0'-10 1/16"	0'-11 9/16"	1'-1 11/16"	1'-2 15/16"	1'-4 1/8"	1'-6"	1'-7 1/4"	1'-8 1/4"	1'-10 1/16"	1'-11 1/16"	2'-0"	2'-1 3/4"



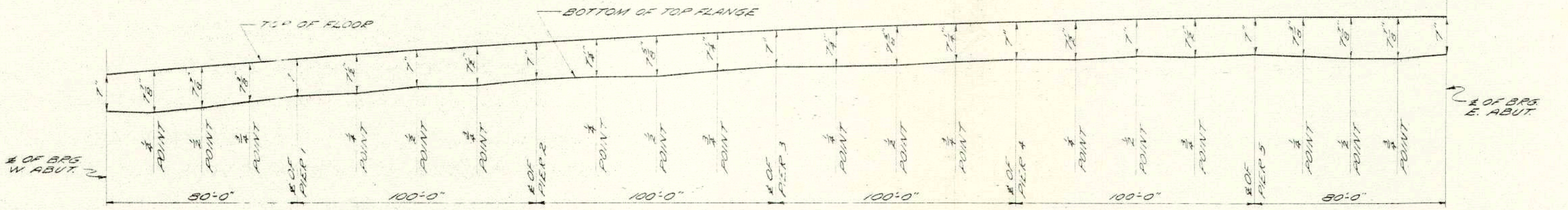
BLOCKING DIAGRAM



NOTE: TWO OR MORE POURS MAY BE COMBINED AND TRANS. CONST. JOINTS OMITTED IF THE ENTIRE POUR IS MADE IN A CONTINUOUS 10 HR. PERIOD.

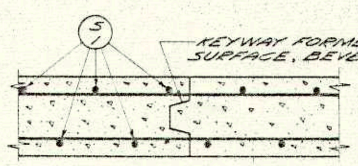
POURING DIAGRAM

IF REQUIRED THE POURS MAY BE REVERSED.

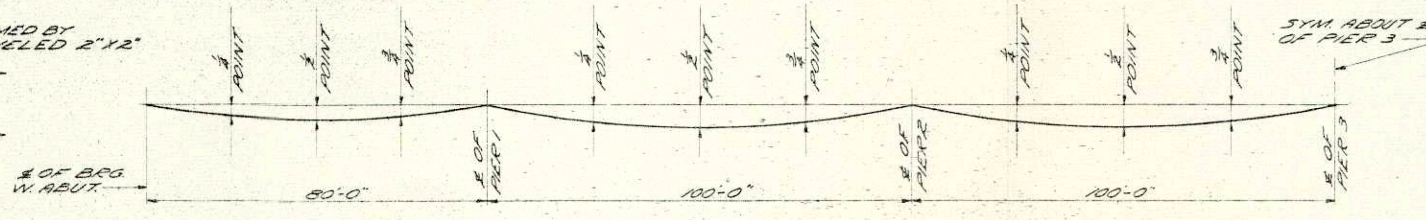


FORMING DIAGRAM

SLAB THICKNESS FIGURES SHOWN ARE THEORETICAL AND ARE SUBJECT TO CORRECTION TO MEET VARIABLE FIELD CONDITIONS.



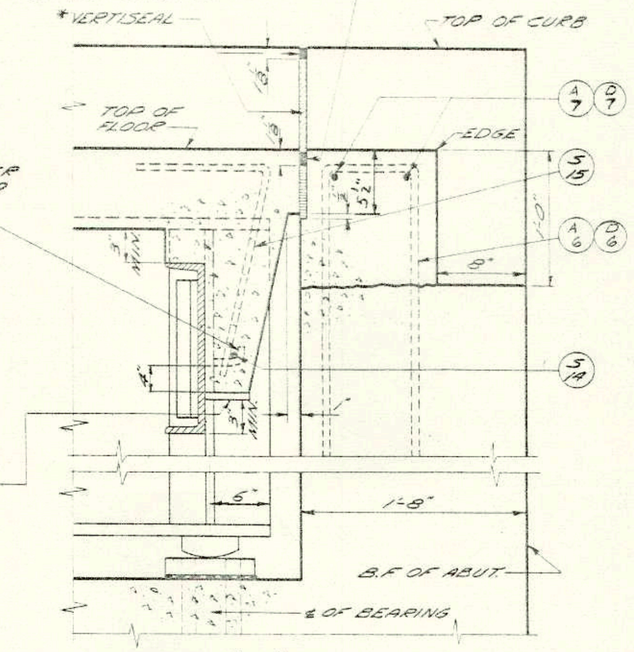
SECTION "P1"



DEFLECTION DIAGRAM

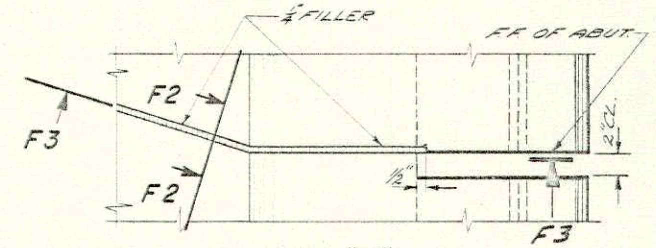
DEAD LOAD DEFLECTIONS

	SPAN 1			SPAN 2			SPAN 3		
POINT	1/4	1/2	3/4	1/4	1/2	3/4	1/4	1/2	3/4
TOTAL D.L.	7/8	7/8	3/8	1/2	1	1/2	1/4	5/8	1/4
CONC. ONLY	5/8	3/4	1/4	3/8	7/8	1/2	1/4	1/2	1/8

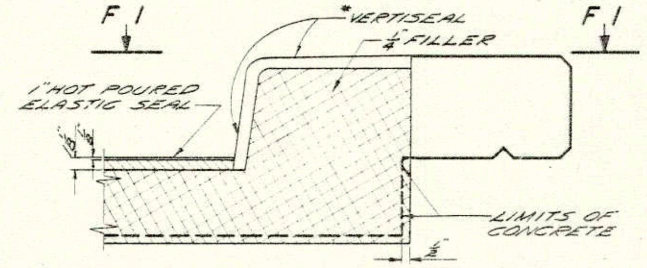


SECTION "F2" AT ABUTMENTS

*SEAL CURB JOINT WITH BLACK COLD APPLIED JOINT SEALER "VERTISEAL" AS MANUFACTURED BY THE SERVICISED PRODUCTS CORP. OF CHICAGO, ILL. OR AN APPROVED EQUAL.



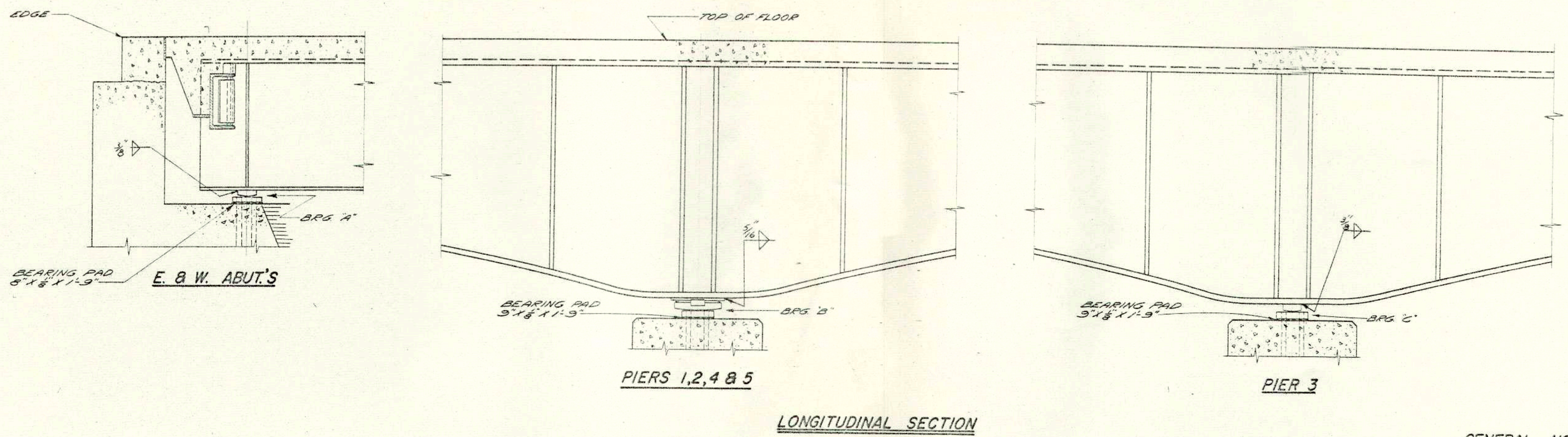
VIEW "F1"

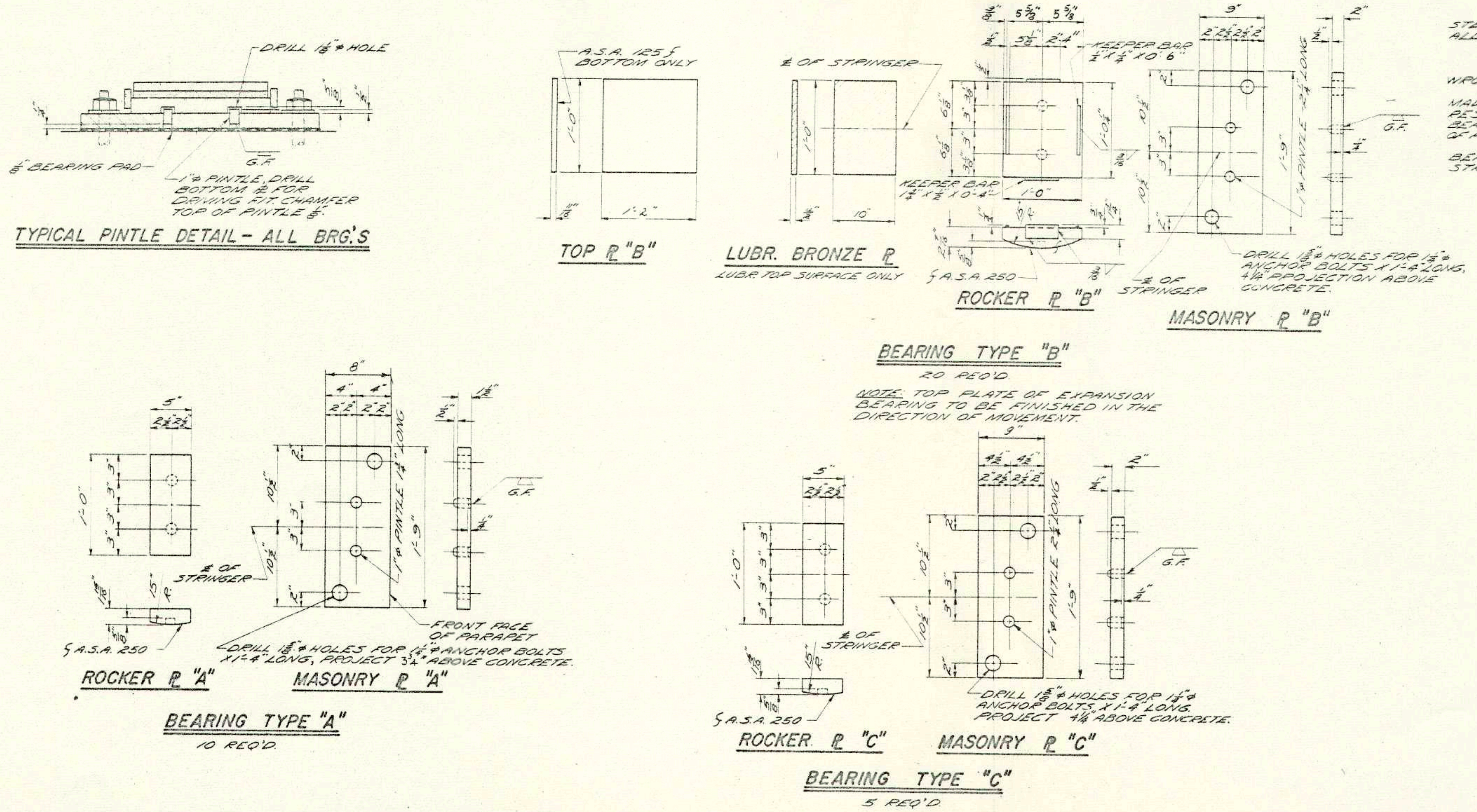


SECTION "F3" THRU CURB AT FILLER

REVISED	STATE HIGHWAY COMMISSION OF WISCONSIN
	POURING, FORMING & BLOCKING DIAGRAMS
	A.A.S.H.O. 61 · H20-S16 MOD. · 1963
	4-17-63 · BM · PRN · DZ
STRUCTURE B-32-35	SHEET 6 OF 15

X 26643





GENERAL NOTES

ALL STRUCTURAL STEEL BEARING PLATES SHALL BE FLAT ROLLED STEEL PLATES WITH ALL SURFACES SMOOTH & FREE FROM WARP & ALL EDGES SMOOTH, STRAIGHT & VERTICAL.

ALL PLATE CUTS SHALL BE MACHINE OR MACHINE FLAME CUTS.

ALL SURFACES MARKED ƒ SHALL BE MACHINE FINISHED.

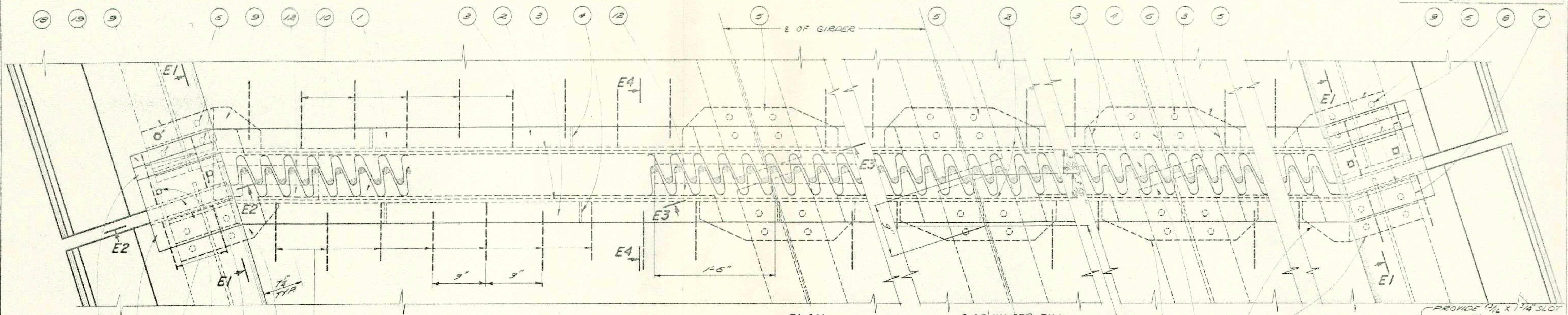
ANCHOR BOLTS SHALL BE THREADED 3", PROVIDE ONE 1¼" STANDARD WROUGHT WASHER & ONE HEX. NUT PER BOLT.

ALL MATERIAL EXCEPT ANCHOR BOLTS, NUTS & WASHERS SHALL BE MADE OF COR-TEN, MAYARI R OR OTHER STEEL OF EQUAL CORROSIVE RESISTANCE. THE KEEPER BARS & PINTLES MAY BE MADE OF COPPER BEARING STEEL OR STEEL CONFORMING TO A.S.T.M. A441. THE TOP 4½" OF ANCHOR BOLTS, WASHERS & NUTS SHALL BE GALVANIZED.

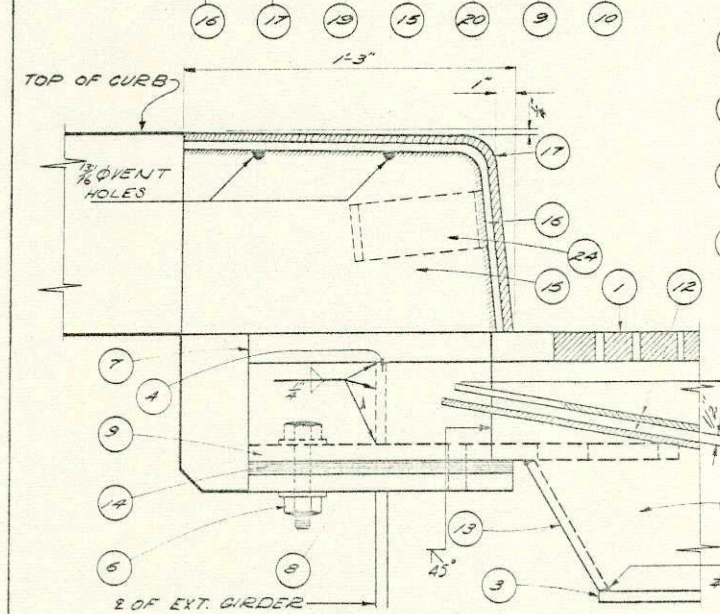
ALL MATERIAL IN BEARINGS, EXCEPTING BRONZE PLATES & BEARING PADS SHALL BE PAID FOR AT THE UNIT PRICE BID FOR STRUCTURAL LOW ALLOY STEEL.

REVISED	STATE HIGHWAY COMMISSION OF WISCONSIN
	LONG. SECTION & BEARINGS
	DESIGN SPEC. A.A.S.H.O. 61 — LOADING H20-S16 MOD. — CONST. SPEC. 1963
	DATE 1-17-63 — DESIGN J.M. — DRAWN PRN — CK. DZ
STRUCTURE B-32-35	SHEET 7 OF 15

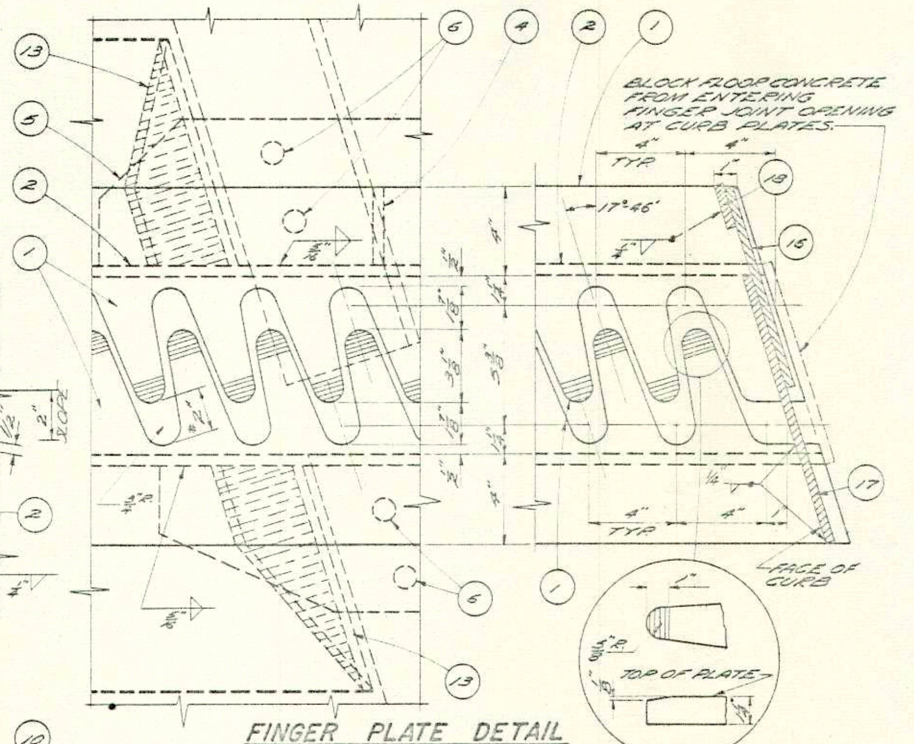
X26644



PLAN



SECTION "E2"



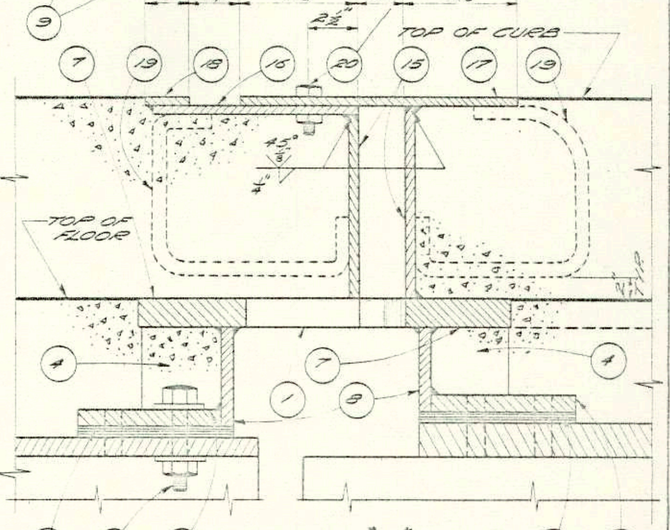
FINGER PLATE DETAIL

*2" OPENING AT 60°F

LEGEND

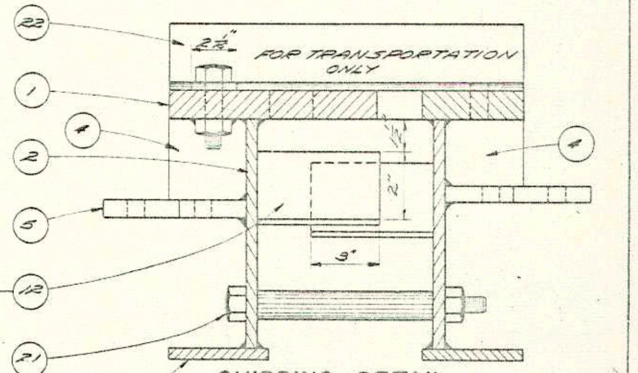
** 1) FINGER PLATE 14" X 1 1/4".
** 2) WEB PLATE 10 1/4" X 1/2" - 5/16" FILLET WELD NEAR & FAR SIDES TO FLANGE PLATE (#3) & FINGER PLATE (#1).
** 3) FLANGE PLATE 4 1/2" X 1/2".
4) DIAPHRAGM PLATE 3 1/2" X 3/8" @ ℄ OF GIRDERS AND 1/3 POINTS BETWEEN GIRDERS, 1/4" FILLET WELD ALL AROUND. SNIP CORNERS IN WAY OF WELDS.
5) SHAPED PLATE 2-1" X 6 1/2" X 1/2" - 5/16" FILLET WELD TO WEB PLATE (#2) AS SHOWN.
6) 3/4" ⌀ BOLTS, FOR 13/16" ⌀ HOLES IN PLATE (#5) & SHIM PLATES (#14).
** 7) PLATE 11" X 4 3/4" X 1 1/4" - DOUBLE VEE WELD TO FINGER PLATE (#1).
** 8) 3/8" WEB PLATE - FILLET WELD NEAR & FAR SIDES TO PLATE (#7) AS SHOWN.
9) 3/4" SHAPED PLATE —— CUT TO FIT - 5/16" FILLET WELD TO WEB PLATES (#2) & (#8) AS SHOWN.
10) ANCHOR BAR 5/8" ▫ EXTENDED INTO FLOOR 1'-0" @ ± 0'-9" ALTERNATE CENTERS.
11) 3/4" ⌀ VENT HOLES @ ± 2'-0" CENTERS.
** 12) MUD PLATES 5 1/2" X 1/2" - 1/4" FILLET WELD TO NEAR & FAR SIDES OF WEB PLATE (#2).
13) 3/8" SHAPED PLATE.
14) LAMINATED SHIMS (1/2" MIN).
15) 3/8" PLATE CUT TO CURB LIMITS AS SHOWN.
** 16) PLATE 9 3/8" X 3/8" BENT DOWN FLUSH WITH FACE OF CURB AS SHOWN, WELD TO PLATE (#18)
** 17) PLATE 12 7/16" X 3/8" BENT DOWN FLUSH WITH FACE OF CURB AS SHOWN, FIELD WELD TO FINGER PLATE (#1).
** 18) PLATE 2" X 3/8" BENT DOWN FLUSH WITH FACE OF CURB AS SHOWN, WELD TO PLATE (#16) & FIELD WELD TO FINGER PLATE (#1).
19) 5/8" ▫ BENT BARS 1'-6" LONG WELD TO PLATES (#15), (#16) & (#15), (#17).
20) TEMPORARY BOLTS 3/4" ⌀ REMOVE AFTER CONCRETE IS IN PLACE AND FILL HOLES WITH HOT POURED ELASTIC TYPE JOINT SEALER.
21) BLOCK & BOLT FOR SHIPMENT WITH PIPE SLEEVE & 3/4" ⌀ BOLT. PROVIDE 13/16" ⌀ HOLES IN 1/2" WEB @ ± 5'-0" CENTERS FOR 3/4" ⌀ BOLTS.
22) ∠ 3" X 3" X 3/8" X 16" - SLOT ONE END OF ∠ 13/16" X 2 7/16", AS SHOWN, PARALLEL TO SKEW, TWO 3/4" ⌀ BOLTS REQUIRED PER ∠. TACK WELD NUT TO UNDERSIDE OF FINGER PLATE. USE 6 PER JOINT.
23) ∠ 3 1/2" X 3 1/2" X 1/2" - SLOT ONE END OF ∠ 13/16" X 2 7/16", AS SHOWN, PARALLEL TO SKEW, TWO 3/4" ⌀ BOLTS REQUIRED PER ∠. PROVIDE 13/16" ⌀ HOLES IN FLG. PLATE (#3). SIX ∠'S REQUIRED PER JOINT.
24) ANCHOR BAR 2 1/2" X 3/8" X 1'-0" - WELD TO PLATES (#16) & (#17).

PLACE SYM. ABOUT ℄ OF INTER. GIRDES - SLOPE BOTHWAYS.



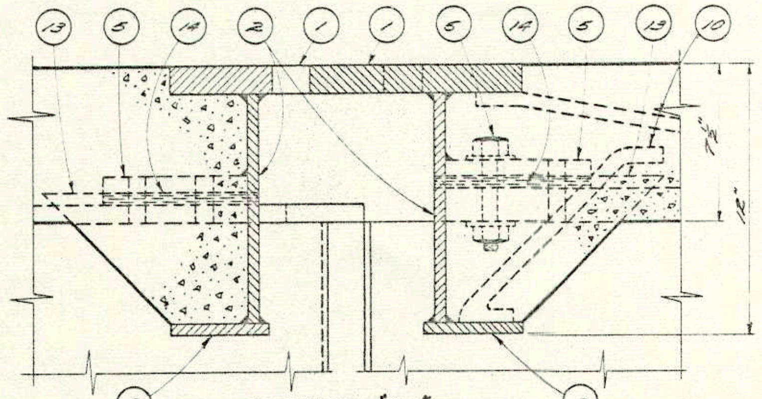
SECTION "E1"

*2" OPENING @ 60°F

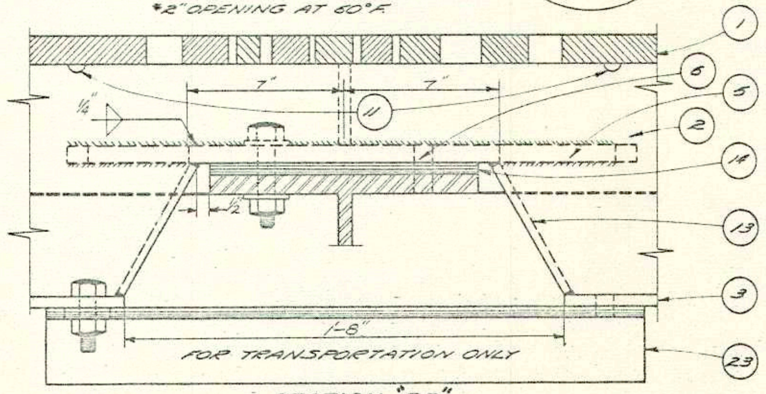


SHIPPING DETAIL

ALSO SEE SECTION "E3"



SECTION "E4"



SECTION "E3"

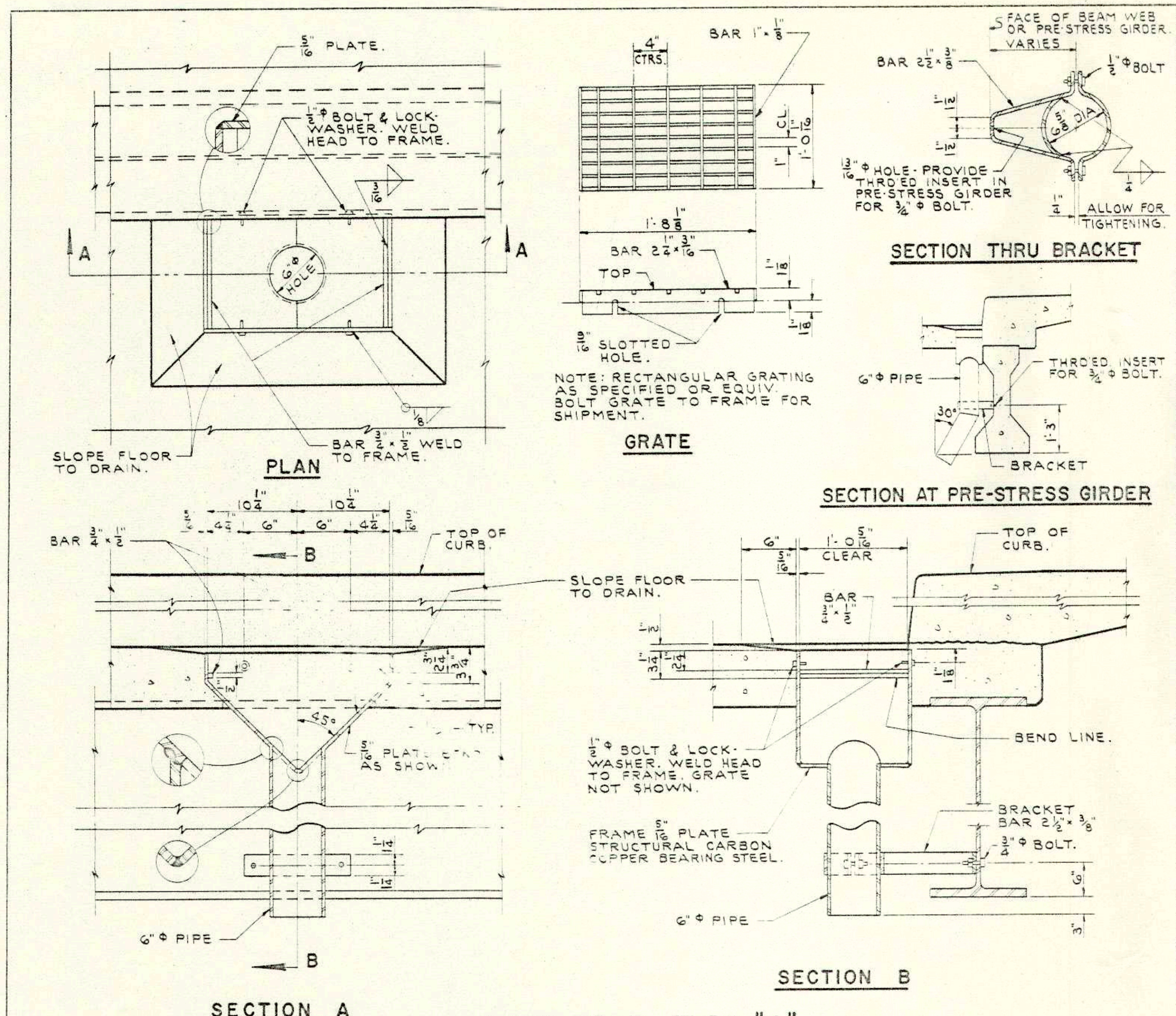
NOTE:
ITEMS MARKED ** SHALL BE MADE OF CORTEN, MAYARI R OR OTHER STEEL OF EQUAL CORROSIVE RESISTANCE.
ALL MATERIAL IN EXPANSION JOINT SHALL BE PAID FOR AS STRUCTURAL LOW ALLOY STEEL.
EXPANSION JOINT SHALL BE BUILT TO CONFORM TO RDWY. CROWN AND GRADE.

REVISED	STATE HIGHWAY COMMISSION OF WISCONSIN
	EXPANSION JOINTS
	DESIGN SPEC A.A.S.H.O. 61 LOADING H20-S16 MOD. CONST. SPEC 1963
	DATE 1-17-63 DESIGN JM DRAWN PRN CKD.
STRUCTURE B-32-35	SHEET 8 OF 15

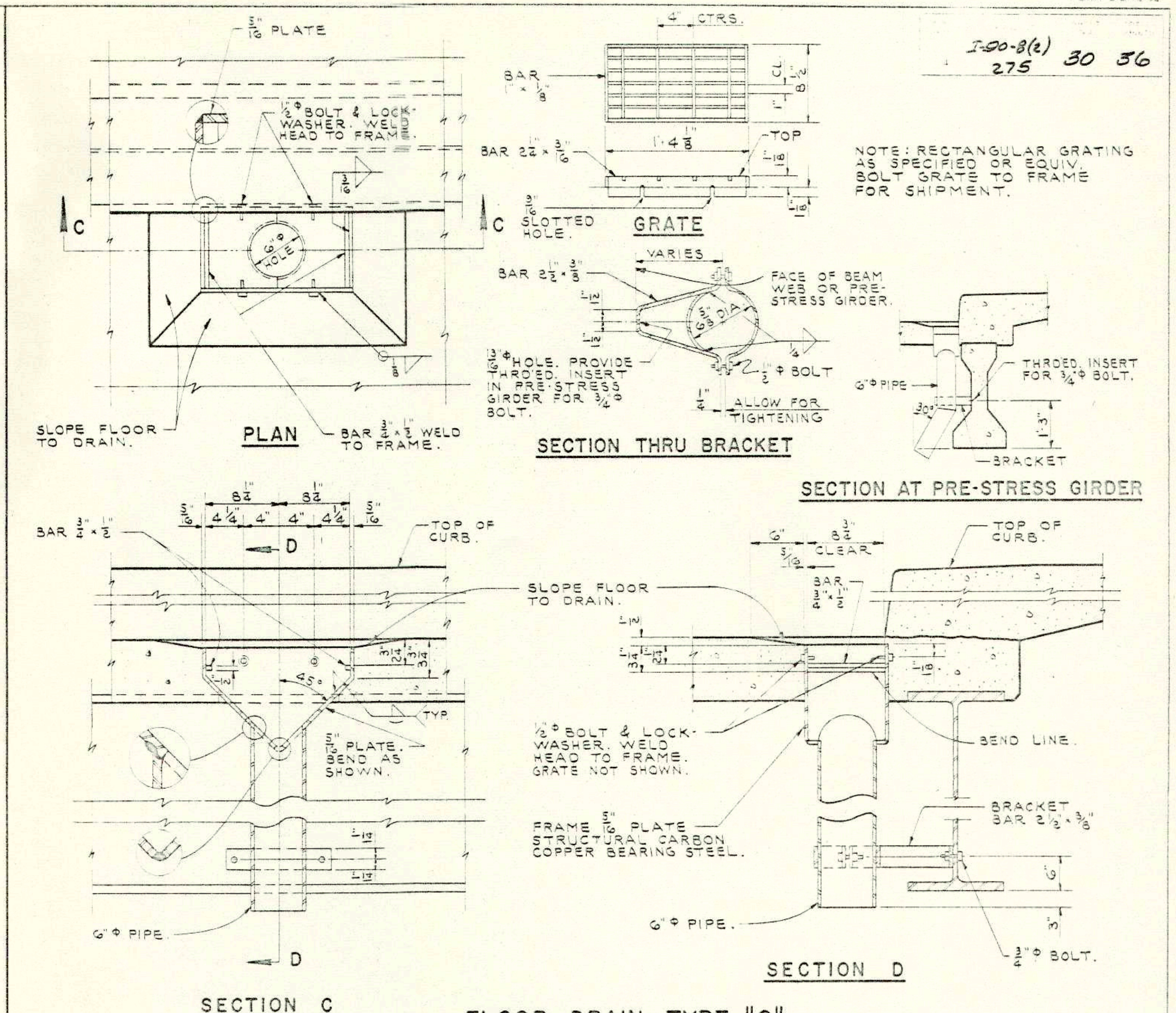
X26645

FORM E-B-13-62

I-90-8(2) 275 30 36

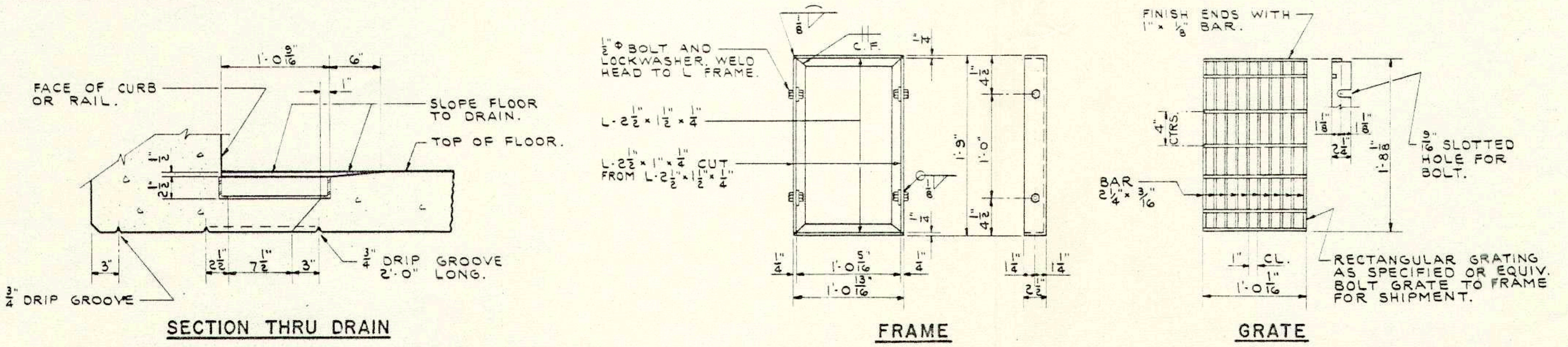


FLOOR DRAIN · TYPE "A"



NOTE: RECTANGULAR GRATING AS SPECIFIED OR EQUIV. BOLT GRATE TO FRAME FOR SHIPMENT.

FLOOR DRAIN · TYPE "C"



FLOOR DRAIN · TYPE "B"

NOTE: WELDS ON COPPER BEARING STEEL SHALL BE MADE WITH LOW HYDROGEN ELECTRODES.

FLOOR DRAIN · TYPE	A
FLOOR DRAINS REQ'D.	16

STATE HIGHWAY COMMISSION OF WISCONSIN

FLOOR DRAIN DETAILS

A.A.S.H.O. 1961 H20-S16 MOD. 1963

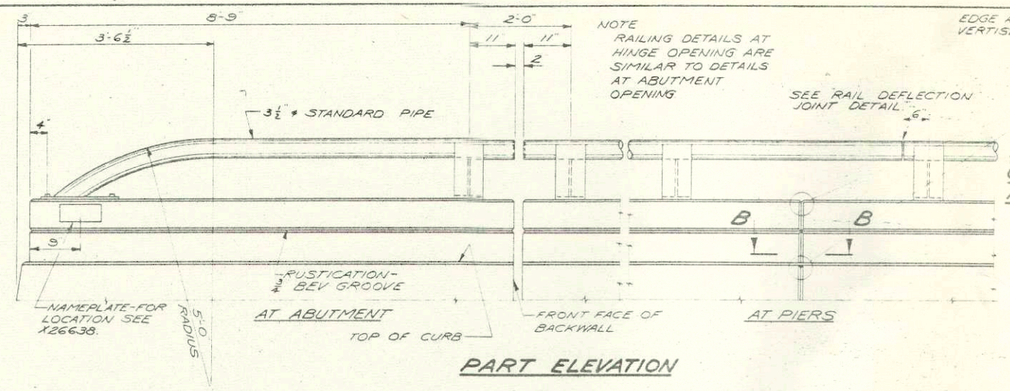
11763 BM BW

STRUCTURE B-32-35 SHEET 9 OF 15

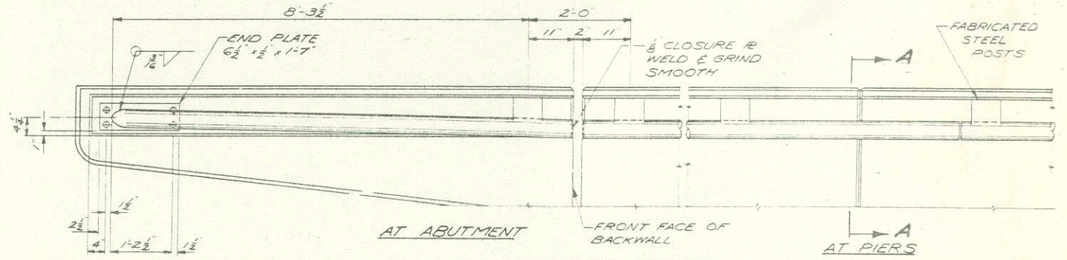
X 26646

FORM E-B-12-62

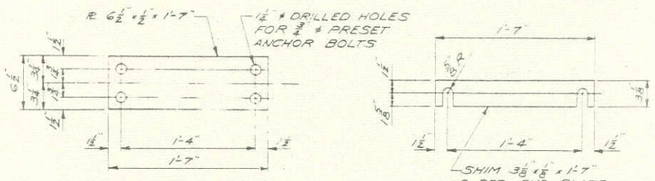
U.S. DIVISION	PROJECT	SHEET NO.	TOTAL SHEETS
4	I-90-8(2) 275	31	36



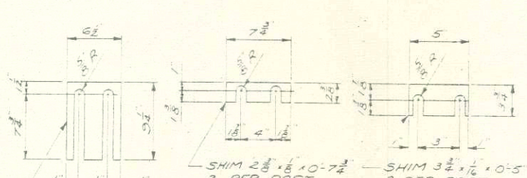
PART ELEVATION



PART PLAN

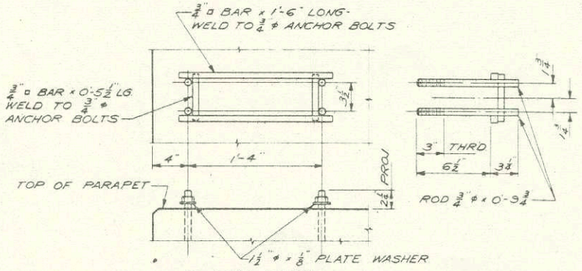


END PLATE

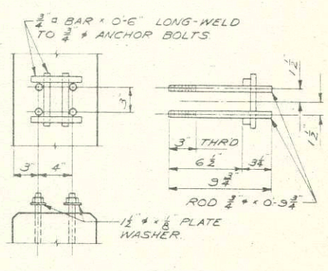


END PLATE SHIM DETAILS

POST SHIM DETAILS

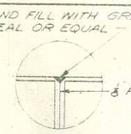


AT END PLATE

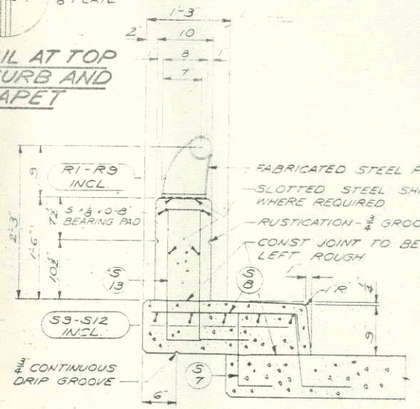


AT POSTS

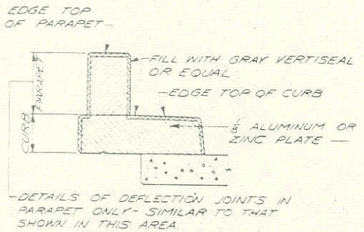
ANCHOR BOLT SETTING DETAILS



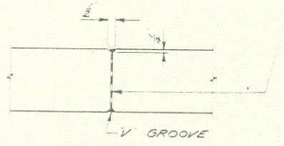
DETAIL AT TOP OF CURB AND PARAPET



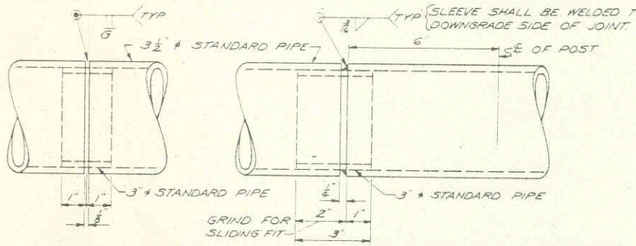
SECTION THRU CURB



SECTION A



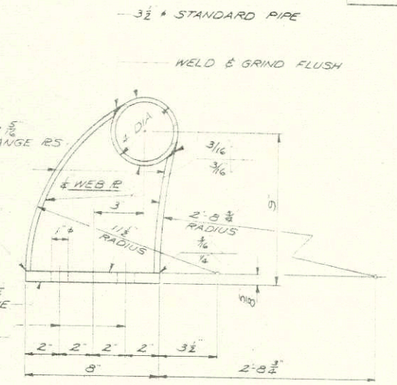
SECTION B

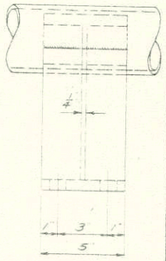


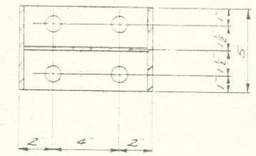
RAIL SPLICE DETAIL

RAILINGS SHALL BE FABRICATED IN 2 & 3 PANEL LENGTHS.

RAIL DEFLECTION JOINT DETAIL







POST DETAILS

NOTES

1. STEEL RAIL POSTS SHALL BE SET NORMAL TO GRADE.
2. RAILING SHALL BE FABRICATED IN LENGTHS AS SHOWN.
3. STEEL SHIMS SHALL BE USED UNDER POSTS AND UNDER END PLATES WHERE REQUIRED FOR ALIGNMENT.
4. WHEN PARAPETS AND CURBS ARE POURED CONTINUOUSLY FROM END TO END THEY SHALL BE SEPARATED AT THE DEFLECTION JOINTS BY A PIECE OF ⅛ ZINC OR ALUMINUM PLATE CUT AS SHOWN IN SECTION 'A' BY SHADED AREA. IF CONSTRUCTION JOINTS IN PARAPETS AND CURBS ARE USED AT THE DEFLECTION JOINTS ONE SIDE OF JOINT SHALL BE COATED WITH BITUMINOUS PAINT AND PLATE SEPARATORS MAY BE OMITTED.
5. THE FOLLOWING MATERIALS SHALL BE USED:
   RAILING SHALL BE 3½" ø STANDARD PIPE ASTM DESIGNATION A53.
   POST SHALL BE FABRICATED FROM MATERIAL CONFORMING TO ASTM DESIGNATION A36.
   ANCHOR BOLTS TO BE MADE FROM MATERIAL CONFORMING TO ASTM DESIGNATION A307.
   SLEEVES SHALL BE 3" ø STANDARD PIPE ASTM DESIGNATION A53.
6. CAULK EXPOSED OPENINGS BETWEEN SHIMS WITH LEAD WOOL.

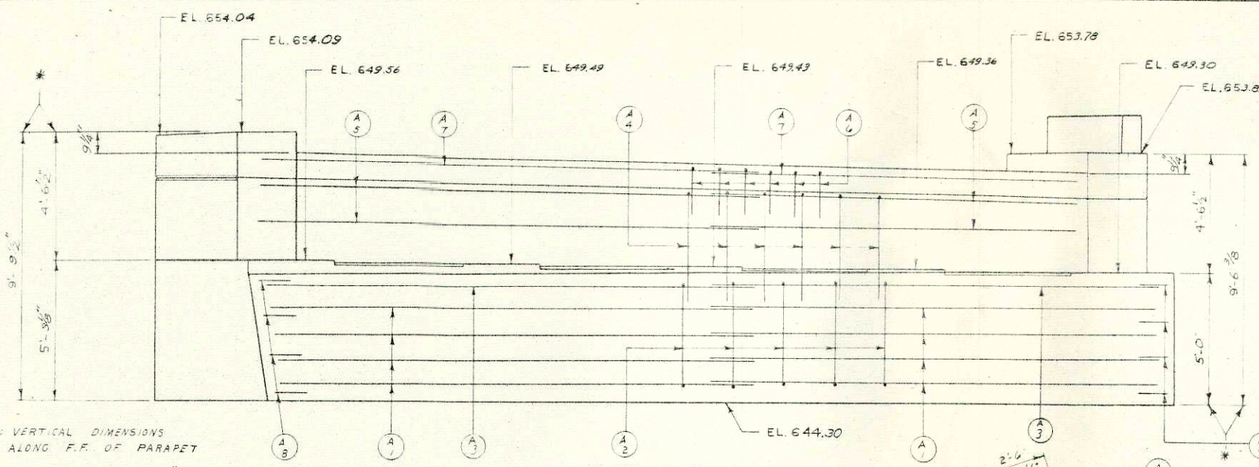
TUBULAR

REVISED	STATE HIGHWAY COMMISSION OF WISCONSIN		
	STEEL RAILING TYPE "A"		
	DESIGN SPEC AASHO 61	LOADING H20-S16 M08	CONST. STD. 1963
	DATE 1-17-63	DIVISION STD.	DRAWN BW CKD DR
STRUCTURE B-32-35		SHEET 10 OF 15	

N 26647

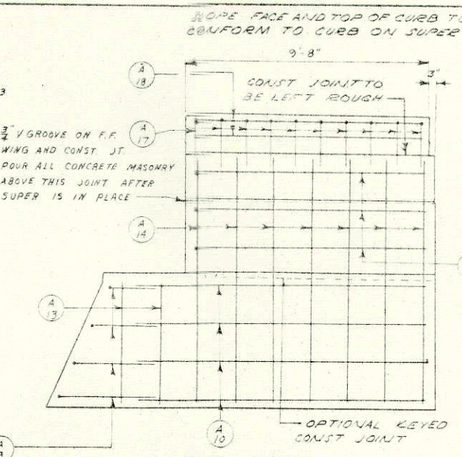
FORM E-8-12-62

PROJECT	SHEET NO	TOTAL SHEETS
I-90-8(e) 275	32	36

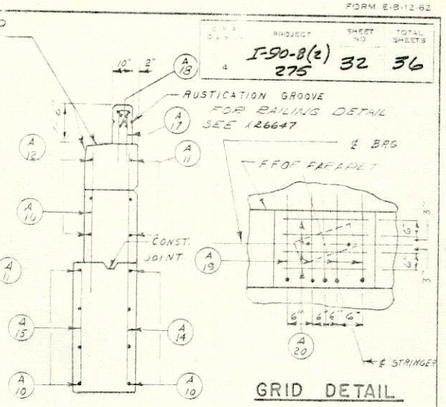


* NOTE: VERTICAL DIMENSIONS ARE ALONG F.F. OF PARAPET

ELEVATION
LOOKING WEST

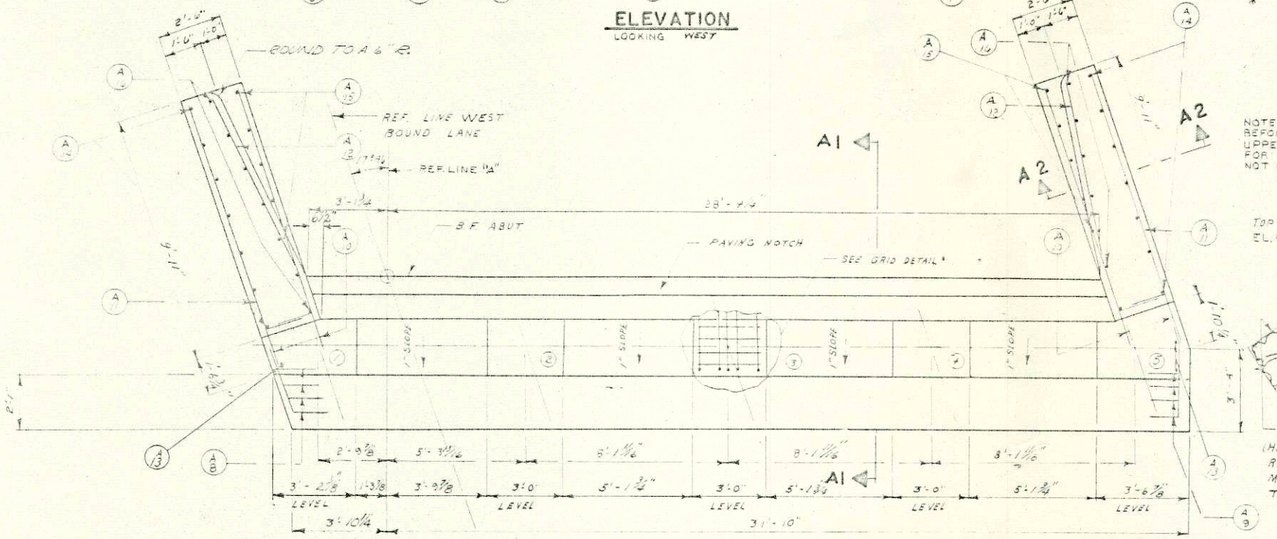


END VIEW

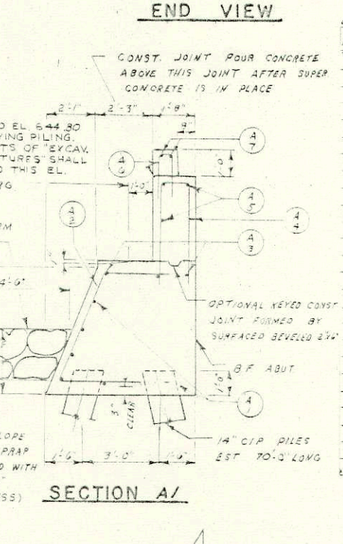


SECTION A2
TYP BOTH WINGS

GRID DETAIL



PLAN
25'-10¼"



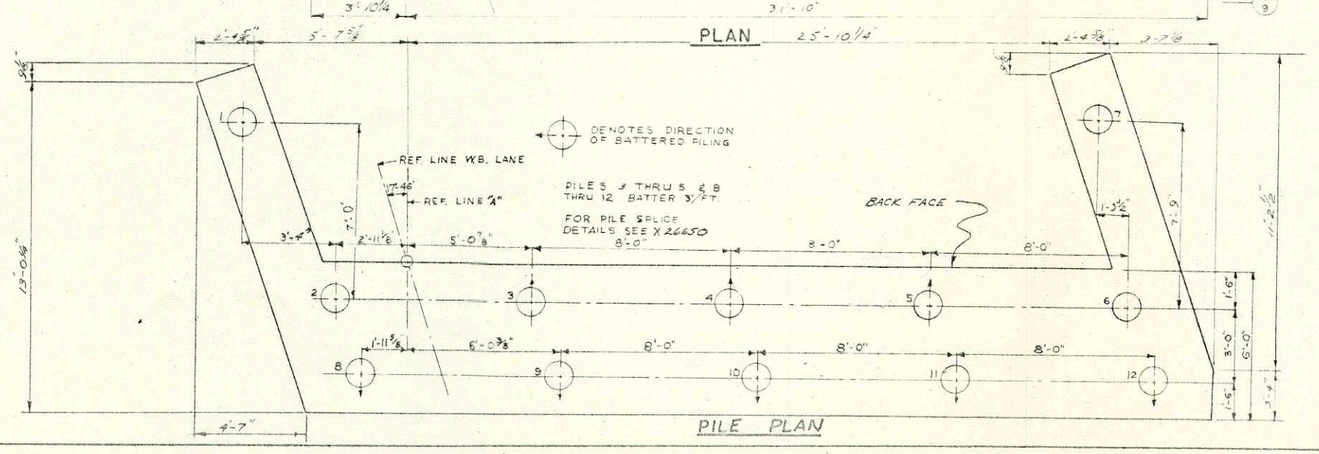
SECTION A1

BILL OF BARS

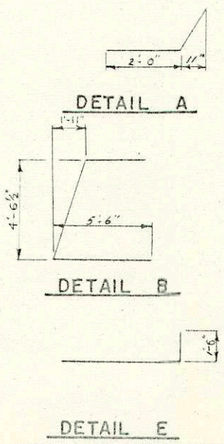
DIMENSIONS IN BENDING DETAILS ARE OUT TO OUT. 1,690#

MARK	NO	SIZE	LENGTH	SPACING	LOCATION	DET
A1	14	4	18-6	SHOWN	BODY - LONG (SIDES AND BOTTOM)	
A2	12	4	18-0	2-0	BODY - STIRRUPS	B
A3	6	4	18-9	SHOWN	BODY - LONG (TOP)	
A4	21	5	9-3	1-6	PARAPET - STIRRUPS	D
A5	6	4	17-0	SHOWN	" - LONG	
A6	31	5	5-0	1-0	PAVING BLOCK - STIRRUPS	D
A7	4	4	18-3	SHOWN	" " - LONG.	
A8	4	4	5'-0	1-6	BODY - CORNER	A
A9	4	4	5-9	1-6	" " "	G
A10	16	4	11-3	1-6	WINGS (INSIDE AND OUTSIDE FACE)	
A11	6	4	11-0	1-6	" (OUTSIDE FACE)	E
A12	6	4	11-3	1-6	" (INSIDE FACE)	C
A13	4	4	4-9	SHOWN	BODY (OUTSIDE FACE)	
A14	14	4	9-3	1-6	WINGS " "	
A15	10	4	4-9	1-6	" (INSIDE FACE)	
A16	14	4	5-6	1-6	" " "	
A17	20	5	5-6	1-0	WING PARAPET (STIRRUPS)	D
A18	8	5	5-3	SHOWN	" " - LONG	
A19	25	4	4-0	"	GRID BARS	F
A20	20	4	2-3	"	" "	

NOTE: THE 2'-0 SPA. SHOWN FOR "A2" BARS MAYBE ALTERED TO CLEAR PILING.



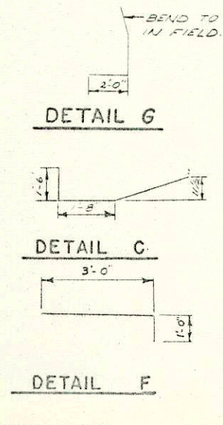
PILE PLAN



DETAIL A

DETAIL B

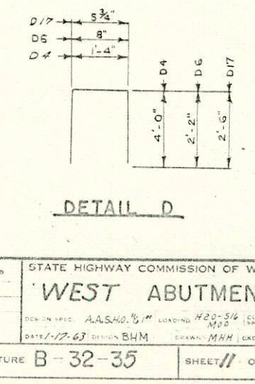
DETAIL E



DETAIL G

DETAIL C

DETAIL F

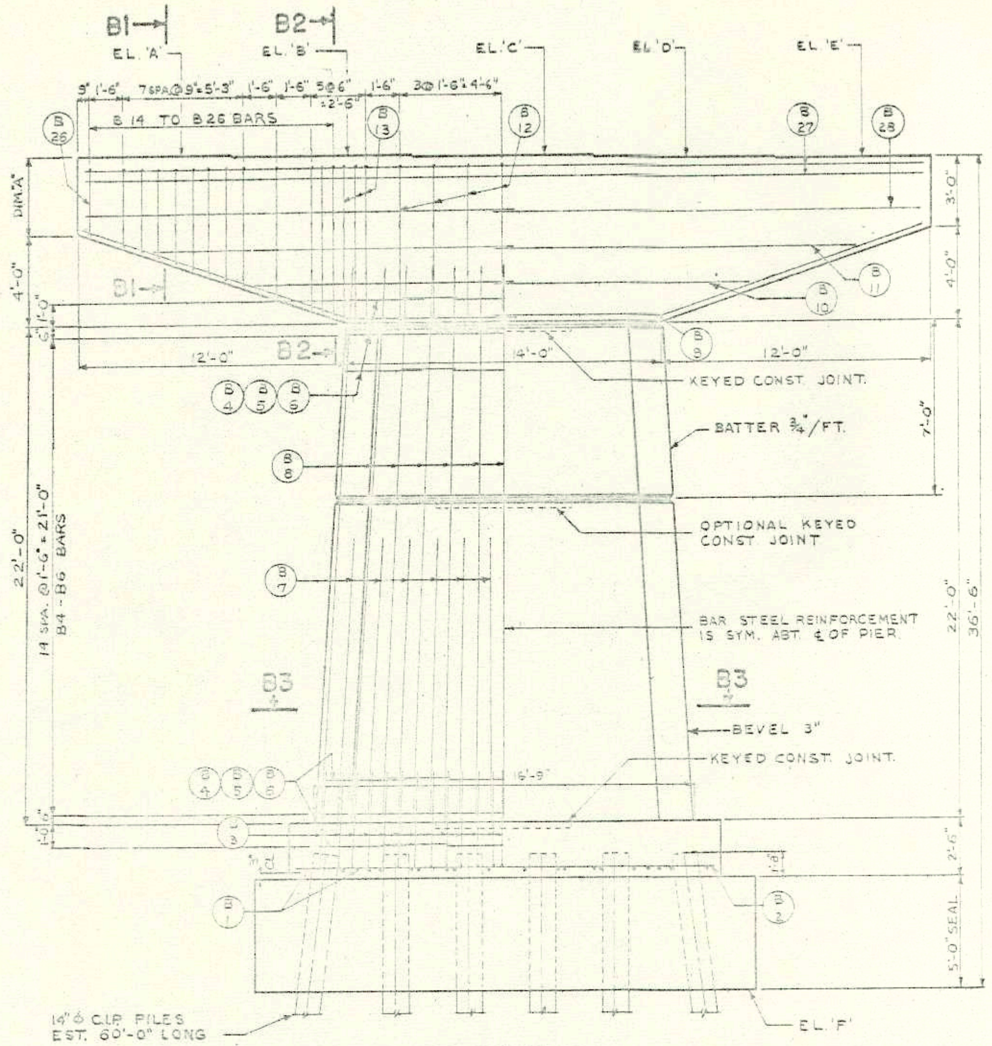


DETAIL D

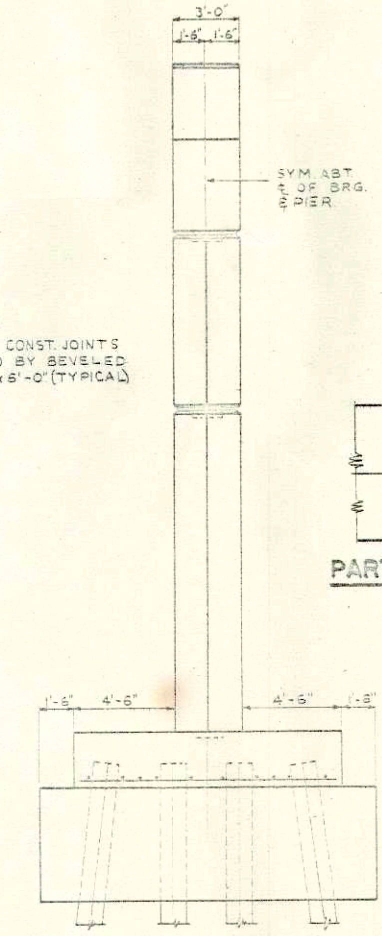
REVISED	STATE HIGHWAY COMMISSION OF WISCONSIN
	WEST ABUTMENT
	DESIGN SPEC. A.A.S.H.O. '61 INT. LOADING H20-S16 MOD. CONST. 1963
	DATE 1-17-63 DESIGN BHM DRAWN MHH CKD.
STRUCTURE B-32-35	SHEET 11 OF 15

X26648

	EL.'A'	EL.'B'	EL.'C'	EL.'D'	EL.'E'	EL.'F'	DIM.'A'
PIER 1	647.23	647.16	647.09	647.03	646.96	610.46	3'-3¼"
PIER 2	647.65	647.59	647.52	647.45	647.39	610.89	3'-3⅛"
PIER 4	648.42	648.35	648.28	648.21	648.14	611.64	3'-3⅜"
PIER 5	648.76	648.69	648.62	648.56	648.48	611.98	3'-3⅜"

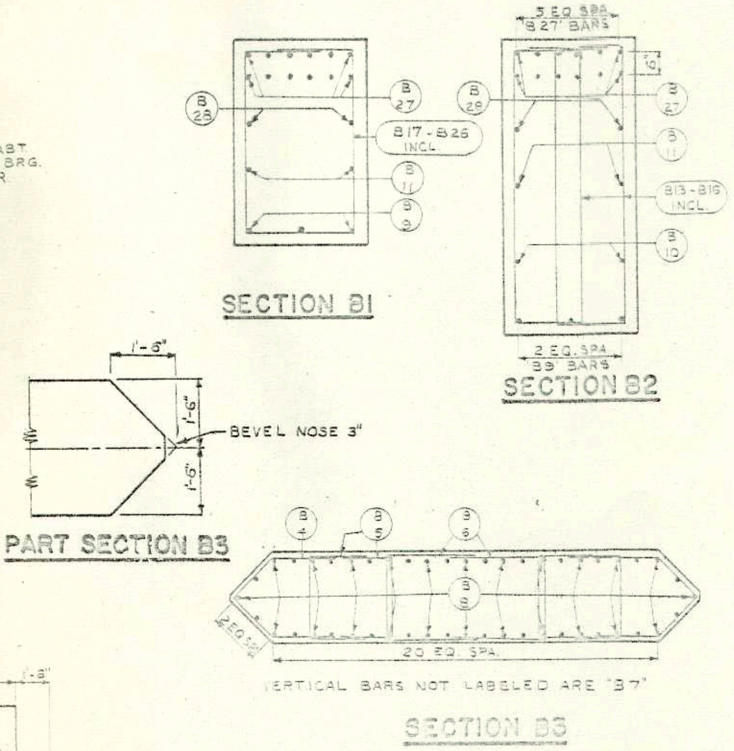


ELEVATION
(LOOKING WEST)



KEYED CONST. JOINTS FORMED BY BEVELED 16" x 3" x 6'-0" (TYPICAL)

END VIEW



SECTION B1

SECTION B2

PART SECTION B3

VERTICAL BARS NOT LABELED ARE "B7"

SECTION B3

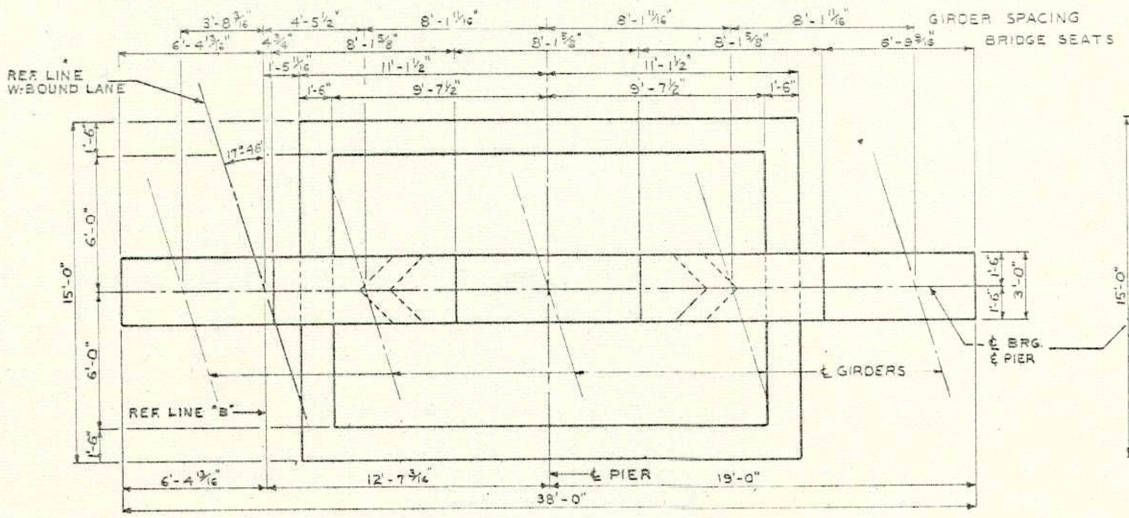
NOTE: UNLESS OTHERWISE SHOWN, ALL BAR STEEL REINF. SHALL BE IMBEDDED 2½" CL.

BILL OF BARS

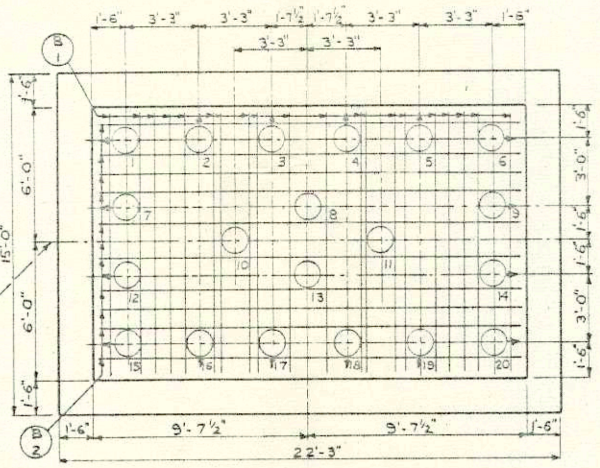
33 440#

DIMENSIONS IN BENDING DETAILS ARE OUT TO OUT.

POUR	MARK	NO.	SIZE	LENGTH	SPACING	LOCATION	DET.
FOOTING	B1	80	10	11-6	SHOWN	FOOTING	
	B2	40	9	18-9	"	"	
	B3	192	8	4-0	"	FOOTING, DOWELS	A
	B4	8	4	8-3	"	FOOTING, TIES	B
	B5	16	4	6-6	"	" "	C
	B6	8	4	9-3	"	" "	C
STEM	B4	120	4	8-3	SHOWN	STEM, TIES	B
	B5	240	4	6-6	"	" "	C
	B6	120	4	9-3	"	" "	C
	B7	96	8	13-0	"	STEM, VERTICAL	
	B8	96	8	24-0	"	" "	
CAP BEAM	B4	8	4	8-3	SHOWN	CAP, TIES	B
	B5	16	4	6-6	"	" "	C
	B6	8	4	9-3	"	" "	C
	B9	24	4	20-6	"	CAP, BOTTOM	D
	B10	16	4	12-0	1-6	CAP, SIDES	
	B11	16	4	16-6	1-6	" "	
	B12	28	4	19-3	1-6	CAP, STIRRUPS	E
	B13	48	4	17-6	6	" "	E
	B14	16	4	17-0	SHOWN	" "	E
	B15	16	4	16-9	"	" "	E
	B16	16	4	16-6	"	" "	E
	B17	8	4	17-3	"	" "	E
	B18	8	4	16-3	"	" "	E
	B19	8	4	15-9	"	" "	E
	B20	8	4	15-3	"	" "	E
	B21	8	4	14-9	"	" "	E
	B22	8	4	14-3	"	" "	E
	B23	8	4	13-9	"	" "	E
	B24	8	4	13-3	"	" "	E
	B25	8	4	12-9	"	" "	E
	B26	8	4	11-9	"	" "	E
	B27	48	11	37-6	"	CAP, TOP	
	B28	16	4	19-3	1-6	CAP, SIDES	



PLAN



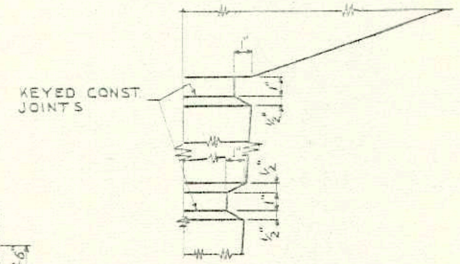
FOOTING PLAN

DENOTES DIRECTION OF BATTERED PILING

FOR PILE SPLICE DETAILS SEE X 26650.

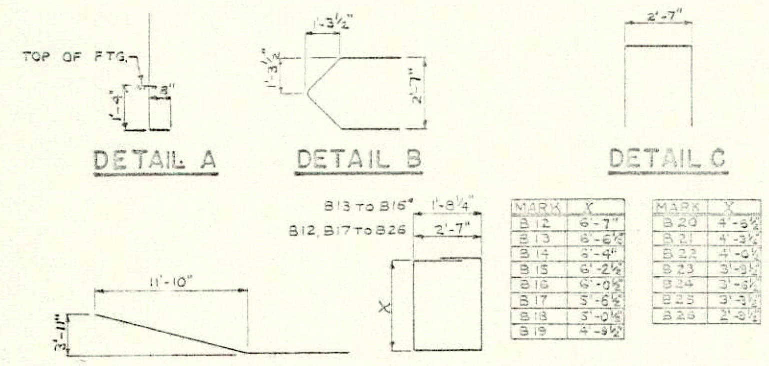
PILE SPA. SHOWN ABOVE IS TAKEN AT TOP OF SEAL.

NOTE: PILES 1 THRU 6, 7, 9, 12, 14 & 15 THRU 20 BATTER 1½"/FT.



RUSTICATION DETAIL

BAR STEEL REINF. IN FOOTINGS SHALL BE SPACED EQUALLY BETWEEN PILES.



DETAIL A

DETAIL B

DETAIL C

DETAIL D

B13 TO B16 1'-8¼"
B12, B17 TO B26 2'-7"

MARK	X
B12	6'-7"
B13	6'-6½"
B14	6'-4"
B15	6'-2½"
B16	6'-0½"
B17	5'-6½"
B18	5'-0½"
B19	4'-9½"

MARK	X
B20	4'-6½"
B21	4'-3½"
B22	4'-0½"
B23	3'-9½"
B24	3'-6½"
B25	3'-3½"
B26	2'-9½"

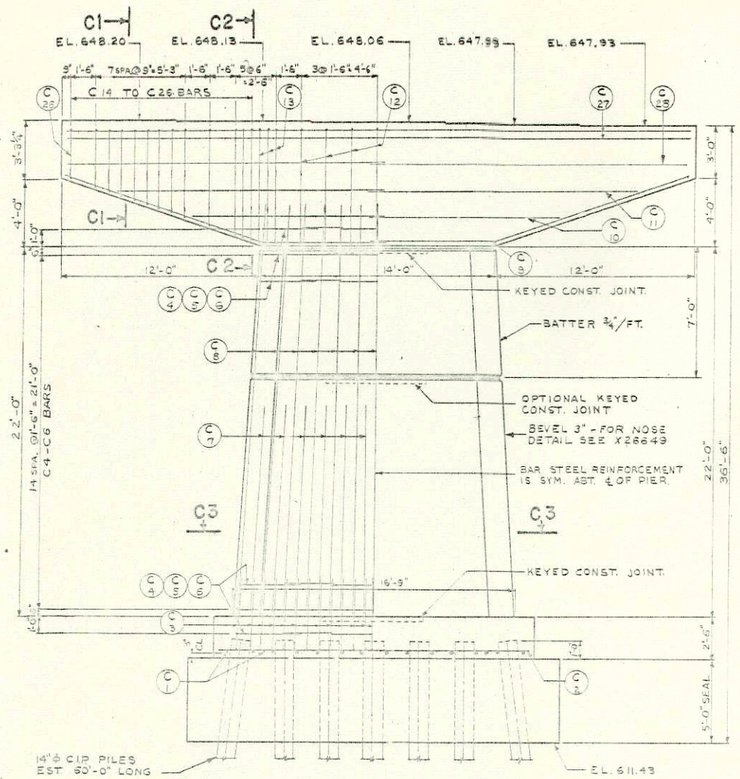
DETAIL E

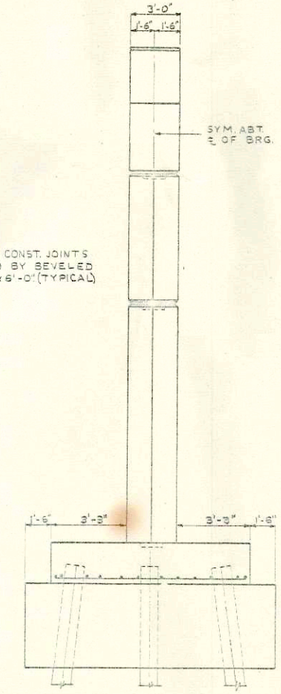
ESTIMATED CONCRETE MASONRY
(TYPICAL)

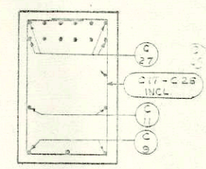
POUR		
SEAL	C.Y.	58.0
FOOTING	C.Y.	20.5
STEM	C.Y.	34.0
CAP	C.Y.	25.0

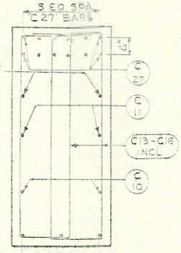
REVISED	STATE HIGHWAY COMMISSION OF WISCONSIN
	PIERS 1,2,4 & 5
	DESIGN SPEC. AASHO '61 · LOADING H20-S16M · CONST. SPEC. 1963
	DATE 1-17-63 · DESIGN B.H.M. · DRAWN B.H.M. · CKD. [illegible]
STRUCTURE B-32-35	SHEET 12 OF 15

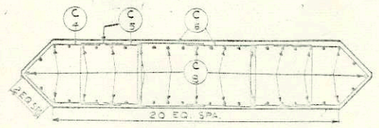
X26649

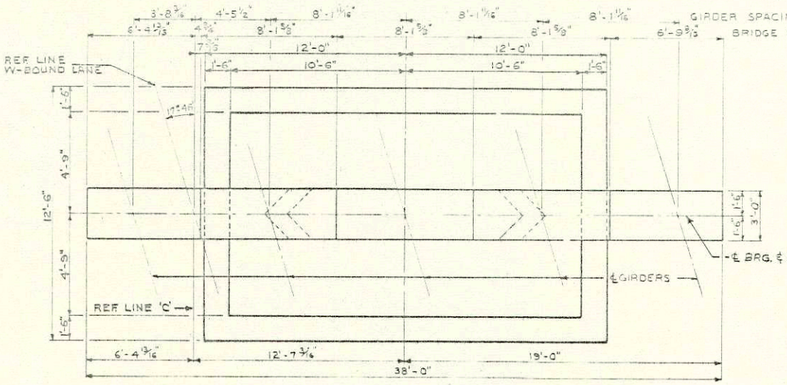


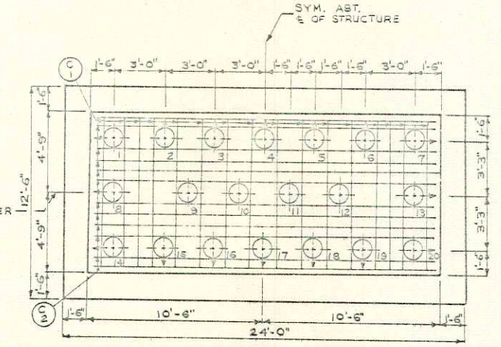


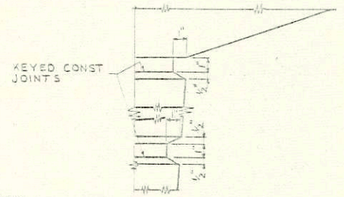












FORM E-8-12-62

B.P.R. DIVISION	PROJECT	SHEET NO.	TOTAL SHEETS
4	I-90-8(2) 275	34	36

ELEVATION
LOOKING WEST

END VIEW

SECTION C1

SECTION C2

VERTICAL BARS NOT LABELED ARE "C7"

SECTION C3

NOTE: UNLESS OTHERWISE SHOWN, ALL BAR STEEL REINF. SHALL BE IMBEDDED 2½" CL.

BILL OF BARS

7,860#

DIMENSIONS IN BENDING DETAILS ARE OUT TO OUT.

POUR	MARK	NO.	SIZE	LENGTH	SPACING	LOCATION	DET.
FOOTING	C1	16	10	9-0	SHOWN	FOOTING	
	C2	12	7	20-6	"	"	
	C3	48	8	4-0	"	FOOTING, DOWELS	A
	C4	2	4	8-3	"	FOOTING, TIES	B
	C5	4	4	6-6	"	" "	C
	C6	2	4	9-3	"	" "	C
STEM	C4	30	4	8-3	1-6	STEM, TIES	B
	C5	60	4	6-6	1-6	" "	C
	C6	30	4	9-3	1-6	" "	C
	C7	24	8	13-0	SHOWN	STEM, VERTICAL	
	C8	24	8	24-0	"	" "	
CAP BEAM	C4	2	4	8-3	SHOWN	CAP, TIES	B
	C5	4	4	6-6	"	" "	C
	C6	2	4	9-3	"	" "	C
	C9	6	4	20-6	"	CAP, BOTTOM	D
	C10	4	4	12-0	1-6	CAP, SIDES	
	C11	4	4	16-6	1-6	" "	
	C12	7	4	19-3	1-6	CAP, STIRRUPS	E
	C13	12	4	17-6	6	" "	E
	C14	4	4	17-0	SHOWN	" "	E
	C15	4	4	16-9	"	" "	E
	C16	4	4	16-6	"	" "	E
	C17	2	4	17-3	"	" "	E
	C18	2	4	16-3	"	" "	E
	C19	2	4	15-9	"	" "	E
	C20	2	4	15-3	"	" "	E
	C21	2	4	14-9	"	" "	E
	C22	2	4	14-3	"	" "	E
	C23	2	4	13-9	"	" "	E
	C24	2	4	13-3	"	" "	E
	C25	2	4	12-9	"	" "	E
	C26	2	4	11-9	"	" "	E
	C27	12	11	37-6	"	CAP, TOP	
	C28	4	4	19-3	1-6	CAP, SIDES	

PLAN

FOOTING PLAN

⊕ DENOTES DIRECTION OF BATTERED PILING.

PILE SPA. SHOWN ABOVE IS TAKEN AT TOP OF SEAL.

NOTE: BATTER PILES 2 THRU 6 & 15 THRU 19, 1½"/FT.
BATTER PILES 1, 7, 8, 13, 14 & 20 2"/FT.

RUSTICATION DETAIL

BAR STEEL REINF. IN FOOTINGS SHALL BE SPACED EQUALLY BETWEEN PILES.

DETAIL A

DETAIL B

DETAIL C

DETAIL D

MARK	X
C12	6'-7"
C13	6'-6½"
C14	6'-4"
C15	6'-2½"
C16	6'-0½"
C17	5'-6½"
C18	5'-0½"
C19	4'-3½"

MARK	X
C20	4'-5½"
C21	4'-3½"
C22	4'-0½"
C23	3'-9½"
C24	3'-6½"
C25	3'-3½"
C26	2'-9½"

DETAIL E

PILE SPLICE

ESTIMATED CONCRETE MASONRY

POUR		
SEAL	C.Y.	51.6
FOOTING	C.Y.	17.7
STEM	C.Y.	34.0
CAP	C.Y.	25.0

REVISED

STATE HIGHWAY COMMISSION OF WISCONSIN

PIER 3

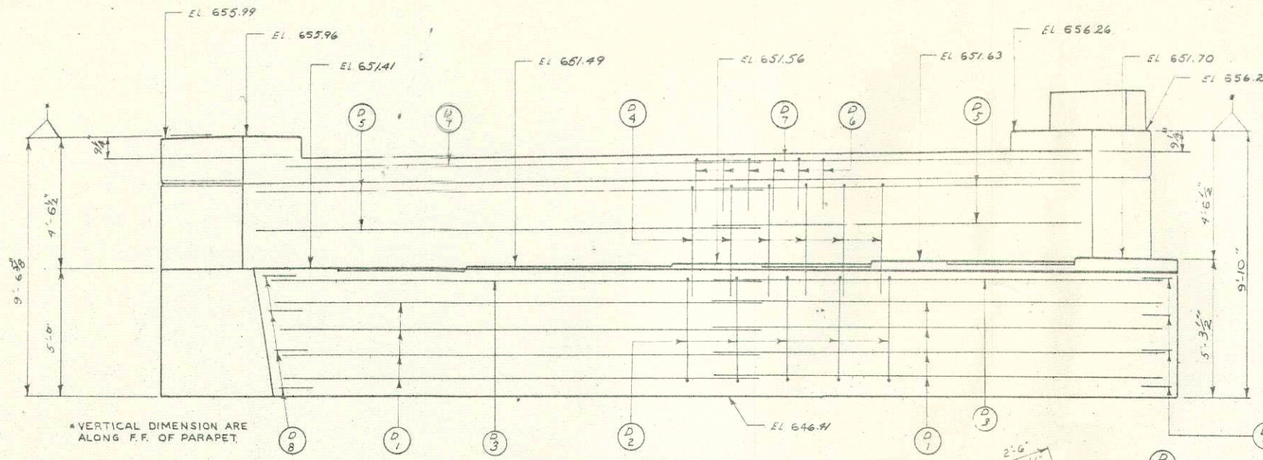
DESIGN SPEC. AASHO '61 | LOADING H20-S16M | CONST. SPEC. 1963
DATE 1/17/1963 | DESIGN BHM | DRAWN BHM | CKD.

STRUCTURE B-32-35 | SHEET 13 OF 15

X 26650

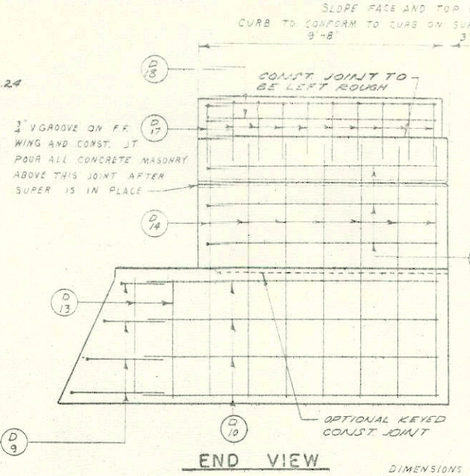
FORM E-8-12-62

F.A.P. NO.	PROJECT	SHEET NO.	TOTAL SHEETS
A	I-90-8(2) 275	35	36

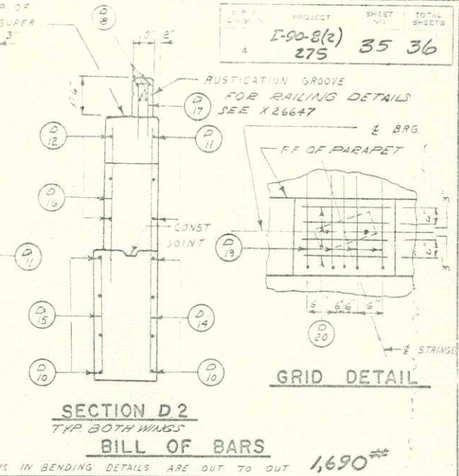


* VERTICAL DIMENSION ARE ALONG F.F. OF PARAPET.

ELEVATION
LOOKING EAST

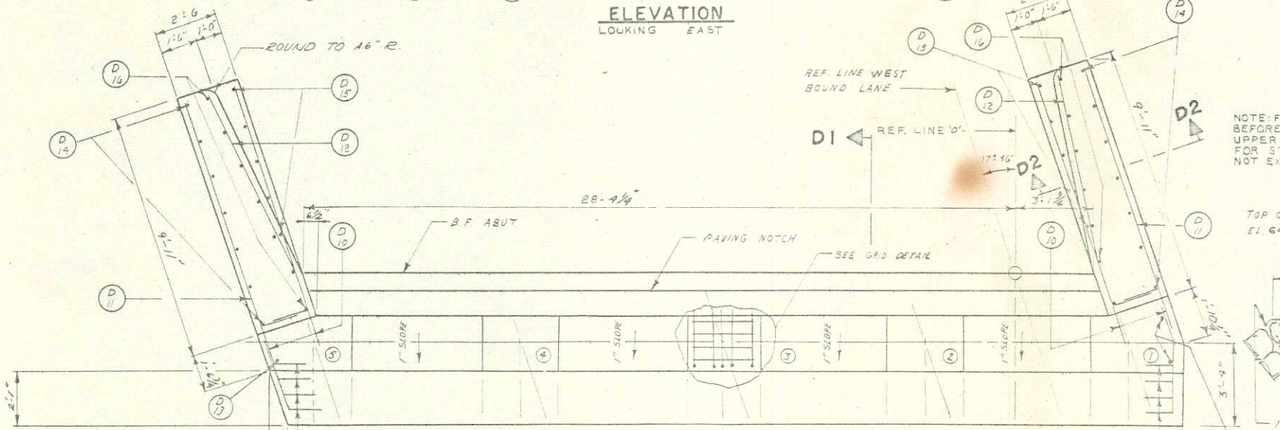


END VIEW

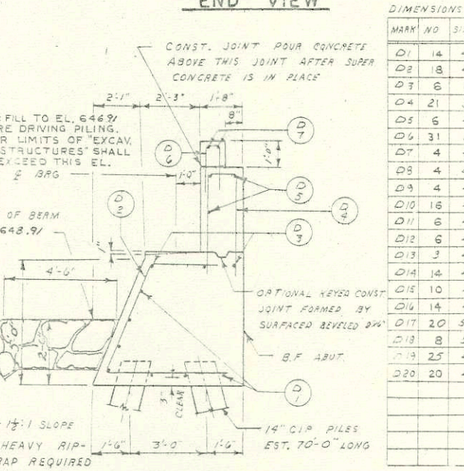


SECTION D2
TYP. BOTH WINGS

GRID DETAIL



PLAN



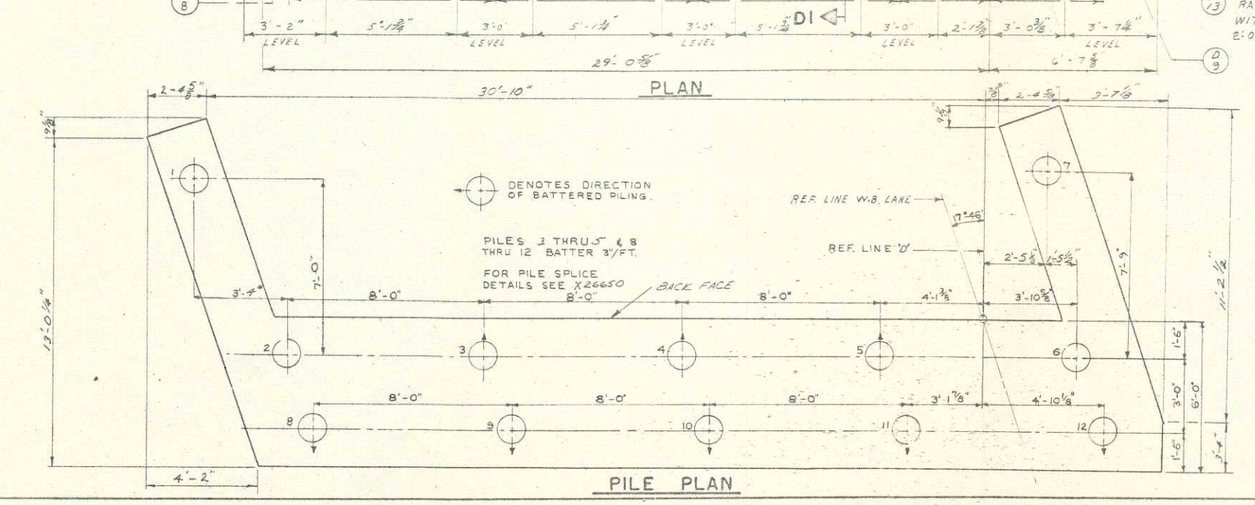
SECTION D1

BILL OF BARS

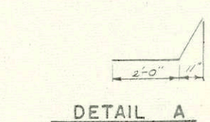
DIMENSIONS IN BENDING DETAILS ARE OUT TO OUT. 1,690#

MARK	NO	SIZE	LENGTH	SPACING	LOCATION	DET.
D1	14	4	16'-6"	SHOWN	BODY - LONG (SIDES AND BOTTOM)	
D2	18	4	13'-0"	2-0	BODY - STIRRUPS	B
D3	6	6	18-9	SHOWN	BODY - LONG (TOP)	
D4	21	5	9-3	1-6	PARAPET - STIRRUPS	D
D5	6	4	17-0	SHOWN	" - LONG.	
D6	31	5	5-0	1-0	PAVING BLOCK - STIRRUPS	D
D7	4	4	16-3	SHOWN	" - LONG.	
D8	4	4	5-0	1-6	BODY - CORNER	A
D9	4	4	5-9	1-6	" "	G
D10	16	4	11-3	1-6	WINGS (INSIDE AND OUTSIDE FACE)	
D11	6	4	11-0	1-6	" (OUTSIDE FACE)	E
D12	6	4	11-3	1-6	" (INSIDE FACE)	C
D13	3	4	4-6	SHOWN	BODY (OUTSIDE FACE)	
D14	14	4	9-3	1-6	WINGS " "	
D15	10	4	4-9	1-6	" (INSIDE FACE)	
D16	14	4	5-6	1-6	" " "	
D17	20	5	5-6	1-0	WING PARAPET (STIRRUPS)	D
D18	8	5	9-3	SHOWN	" " - LONG	
D19	25	4	4-0	"	GRID BARS	F
D20	20	4	2-9	"	" "	

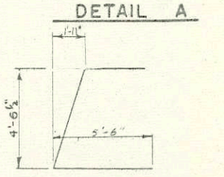
NOTE: THE 2'-0" SPA. SHOWN FOR "D2" BARS MAY BE ALTERED TO CLEAR PILING.



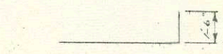
PILE PLAN



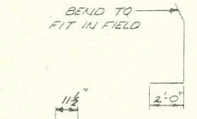
DETAIL A



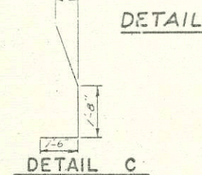
DETAIL B



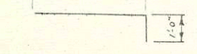
DETAIL E



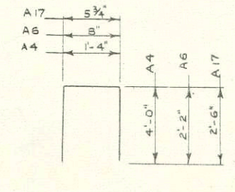
DETAIL G



DETAIL C



DETAIL F

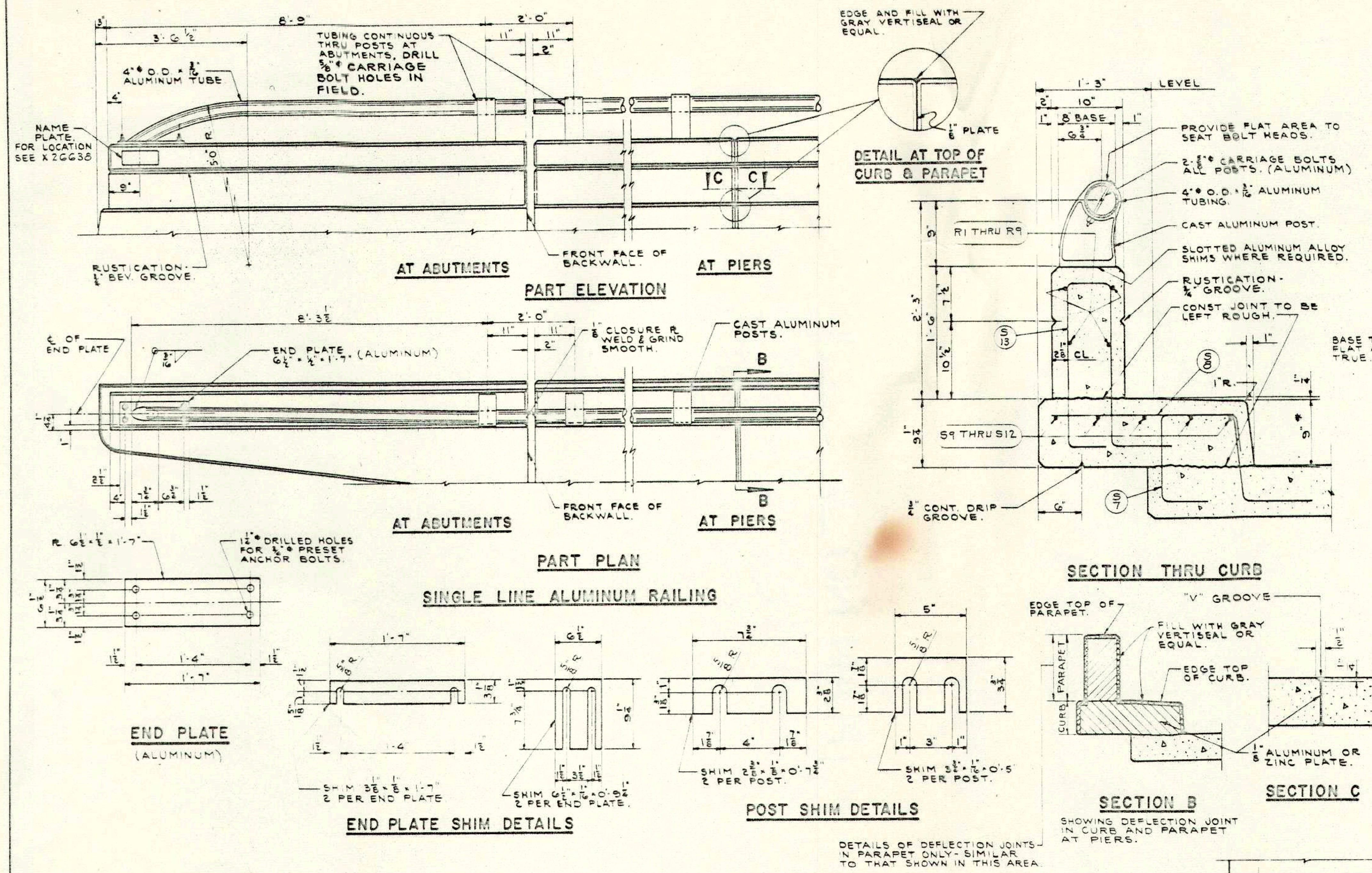


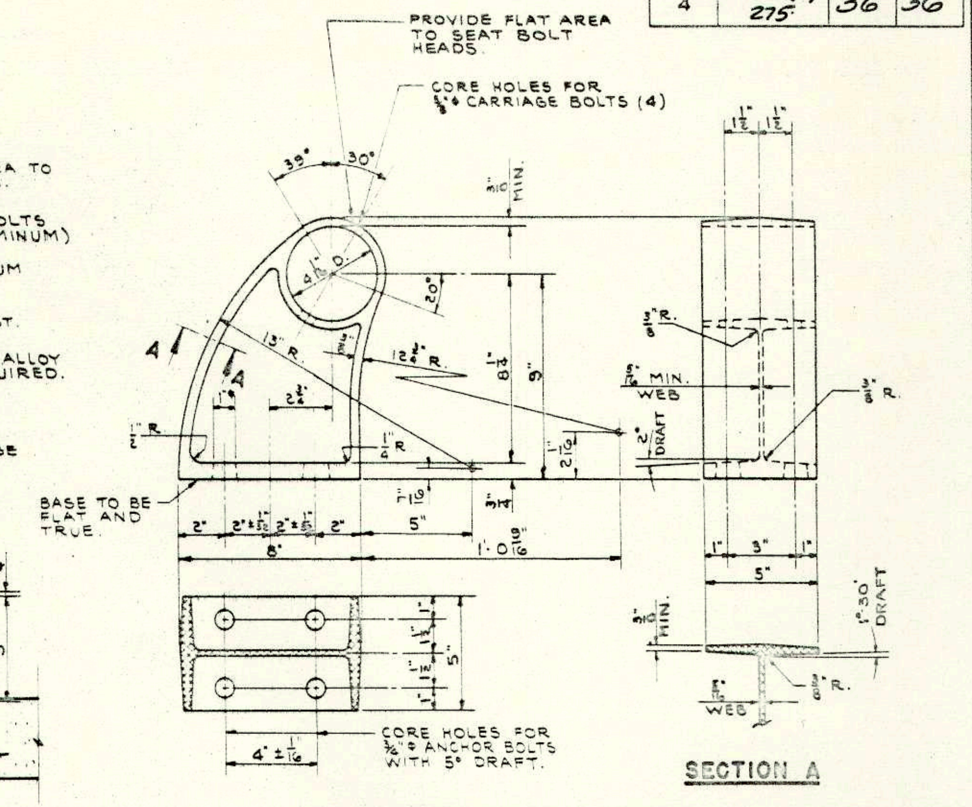
DETAIL D

REVISED	STATE HIGHWAY COMMISSION OF WISCONSIN
	EAST ABUTMENT
	DESIGN SPEC. A.A.S.H.O. '61 LOADING H20-S16 M18 CONST SPEC. 1963
	DATE 1-17-63 DESIGN BHM DRAWN MHH CKD.
	STRUCTURE B-32-35 SHEET 14 OF 15

X26651

S.P.R. DIVISION	PROJECT	SHEET NO.	TOTAL SHEETS
4	I-90-8(2) 275	36	36





ALUMINUM POST CASTING

NOTES

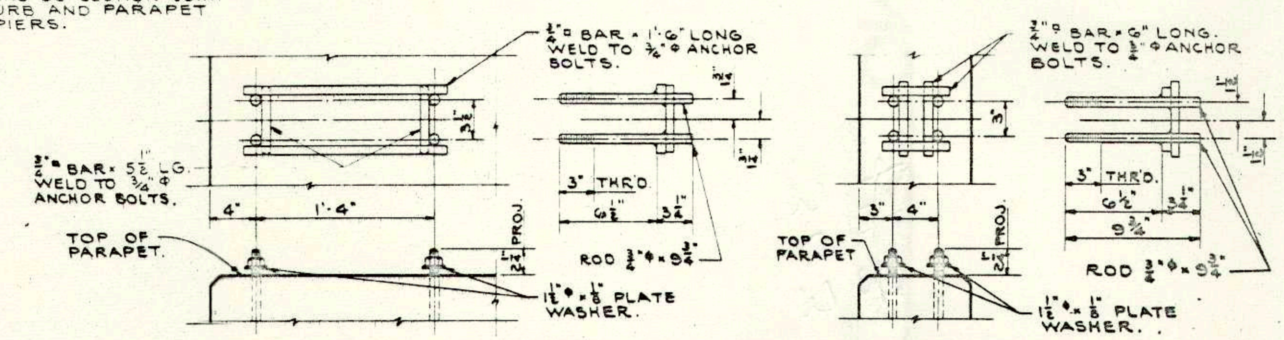
1. ALUMINUM RAILING POSTS TO BE SET NORMAL TO GRADE.

2. THE HEX. NUTS, WASHERS AND THE UPPER 3" OF 3/4"Φ × 9 3/4" LONG ANCHOR BOLTS SHALL BE GALVANIZED OR CADMIUM PLATED. THE ANCHOR BOLT HOLES, BASE OF RAILING POSTS AND ANCHOR BOLTS, NUTS AND WASHERS SHALL BE COATED WITH AN ALUMINUM IMPREGNATED CAULKING COMPOUND.
ANCHOR BOLTS, HEX. NUTS AND WASHERS TO BE STRUCTURAL CARBON STEEL.

3 ALUMINUM TUBING SHALL BE FABRICATED IN 2 OR 3 PANEL LENGTHS.

4. ALUMINUM ALLOY SHIMS SHALL BE USED UNDER POSTS AND UNDER END PLATES WHERE REQUIRED FOR ALIGNMENT.

5. WHEN PARAPETS AND CURBS ARE POURED CONTINUOUSLY FROM END TO END THEY SHALL BE SEPARATED AT THE DEFLECTION JOINTS BY A PIECE OF 1/8" ZINC OR ALUMINUM PLATE CUT AS SHOWN IN SECTION "B" BY SHADED AREA. IF CONSTRUCTION JOINTS IN PARAPETS AND CURBS ARE USED AT THE DEFLECTION JOINTS ONE SIDE OF JOINT SHALL BE COATED WITH BITUMINUOUS PAINT AND PLATE SEPARATORS MAY BE OMITTED.



ANCHOR BOLT SETTING DETAILS

TYPE A

REVISED	STATE HIGHWAY COMMISSION OF WISCONSIN		
	TUBULAR ALUMINUM RAILING		
	DESIGN SPEC. A.A.S.H.O. 61	LOADING H20-S16	CONST. SPEC. 1963
	DATE 1-17-63	DESIGN ST'D.	DRAWN D.W. / CKD [illegible]
STRUCTURE B-32-35		SHEET 15 OF 15	

X26651A