

AS BUILT PLAN

STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION

PLAN OF PROPOSED IMPROVEMENT

PINE RIVER BRIDGE AND APPROACHES

STATE PROJECT	FEDERAL PROJECT	
	PROJECT	CONTRACT
9429-01-70		

INDEX OF SHEETS

Sheet No.	Title
1	
2 & 5	Typical Sections and Details
3 & 3.1	Estimate of Quantities
2 & 8.1	Miscellaneous Quantities
	Right of Way Plat
5	Plan and Profile
6-6.7	Standard Detail Drawings
	Sign Plates
8-8.12	Structure Plans
	Computer Earthwork Data
9	Cross Sections

TOTAL SHEETS = 27

Project Engineer: Donohue & Associates
Eugene Seidler, P.E.
Project Personnel: Indexed in Diary #

C.T.H. "W"
LINCOLN COUNTY

Contractor: Lunda Construction Co.
Subs: Traffic Signing & Marking, Inc.
Barricade Flasher Service, Inc.
Hi Boom Erecting, Inc.
Triune Steel Erectors, Inc.
Timme, Inc.
American Asphalt of Wis.
Merrill Gravel & Construction

STATE PROJECT NUMBER
9429-01-70

SUBSET: TRROADS
FILE NAME: 09232T5

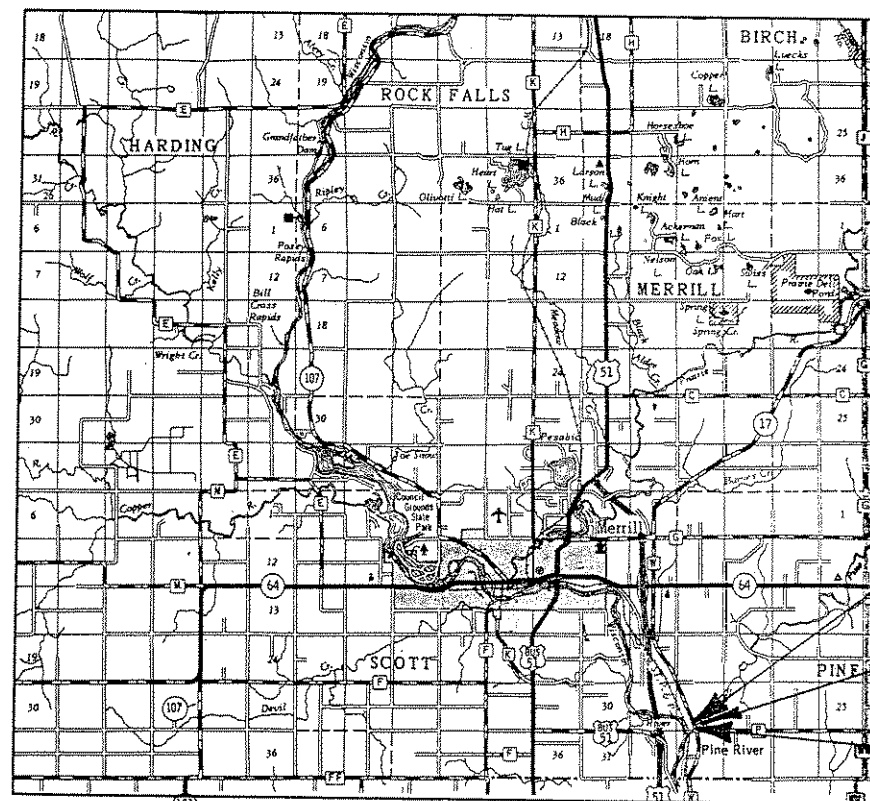


DESIGN DESIGNATION

A.D.T. (1988)	=	1220
A.D.T. (2010)	=	1800
D.H.V.	=	180
D.	=	50-50
T.	=	10 %

CONVENTIONAL SIGNS

COUNTY LINE		COMBUSTIBLE FLUIDS (UNDER PRESSURE)	
CORPORATE LIMITS		UNDERGROUND UTILITIES	
PROPERTY LINE		GAS	
LOT LINE		ELECTRIC	
LIMITED HIGHWAY EASEMENT		TELEPHONE	
EXISTING RIGHT OF WAY		SERVICE PEDESTAL	
NEW RIGHT OF WAY		CABLE MARKER	
REFERENCE LINE		POWER POLE	
SLOPE INTERCEPT		TELEPHONE POLE	
ORIGINAL GROUND		RAILROADS	
MARSH OR ROCK PROFILE		MARSH	
CULVERT IN PLACE		WOODED AREA	
CULVERT REQUIRED			
CULVERT REQUIRED (Profile)			



T-32-N

END PROJECT
STA. 13+25

STRUCTURE B-35-III

BEGIN PROJECT
STA. 7+25

Y = 474,800 (± 200)
X = 2,097,500 (± 200)

LAYOUT
SCALE 0 2 MI.

TOTAL NET LENGTH OF CENTERLINE = 0.114 MI.

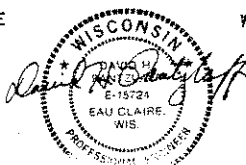
APPROVED
FOR
LINCOLN COUNTY

12/4/89
DATE

Michael S. Hap
COUNTY HIGHWAY COMMISSIONER

ORIGINAL PLANS PREPARED
BY
OWEN AYRES & ASSOCIATES INC.
CONSULTING ENGINEERS

EAU CLAIRE WISCONSIN



DATE 1/5/90

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

Surveyor O.A.B.A. INC. District Checker RGB
Designer O.A.B.A. INC. C.O. Checker NRA
District Supervisor RJS C.O. Coordinator LAS

APPROVED:
DATE: 2/5/90 *Jama D. Brumler*
DISTRICT DIRECTOR

APPROVED:
DATE: 2/20/90 *Robert W. Boy*
REGIONAL CHIEF ROAD DESIGN ENGINEER

U.S. DEPARTMENT OF TRANSPORTATION
FEDERAL HIGHWAY ADMINISTRATION
REGION 5 WISCONSIN DIVISION

APPROVED:
DATE: _____
DIVISION ADMINISTRATOR

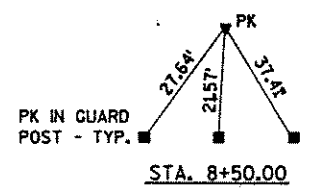
Lincoln

7421-1-70
9857-2-70

CHECKED BY: _____
DATE: _____
CORRECTED BY: _____
DATE: _____

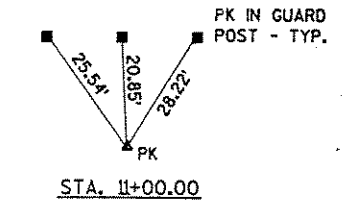
May

LEVELS ON 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36, 37, 38, 39, 40, 41, 42, 43, 44, 45, 46, 47, 48, 49, 50, 51, 52, 53, 54, 55, 56, 57, 58, 59, 60, 61, 62, 63



CURVE DATA
 P.I. 99+64.55
 $\Delta = 55^{\circ}00'$ LT
 D = 3⁰⁰'
 T = 994.20'
 L = 1833.30'
 E = 243.28'
 R = 1909.86'
 P.C. 8+03.65
 P.T. 89+70.35
 S.E. 0.050'/FT.
 L.R. 100'

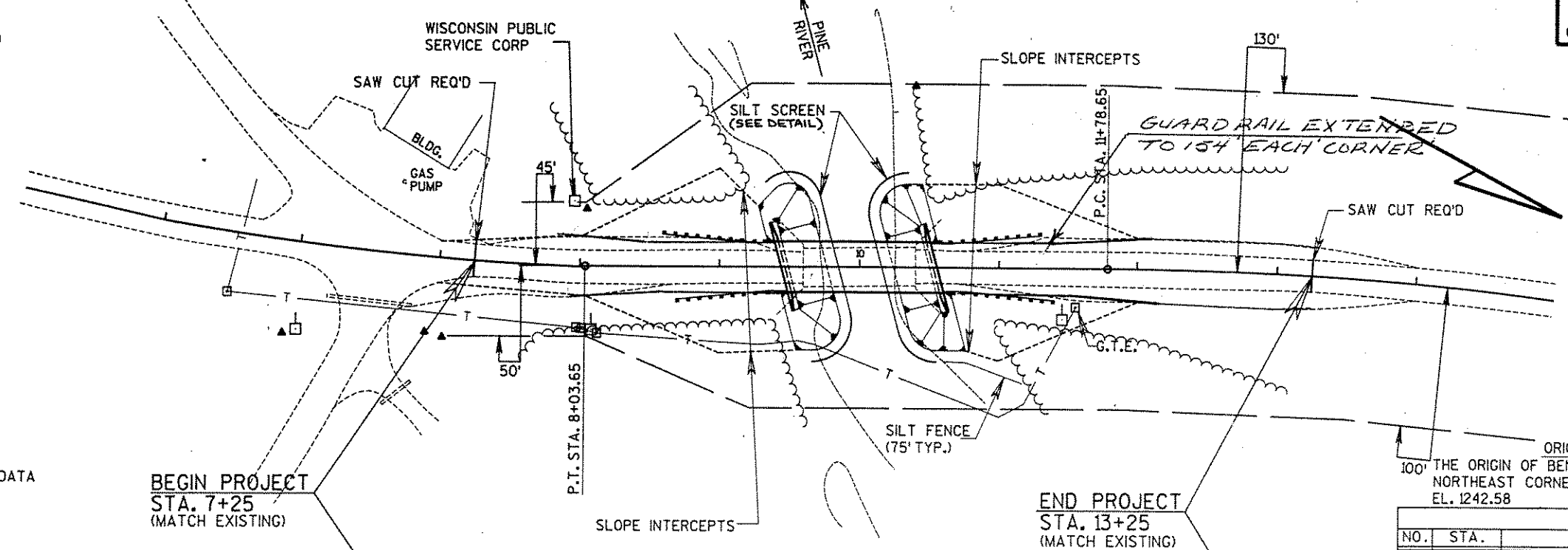
NOTE: HORIZONTAL CURVE DATA FROM 1964 PLANS EQ. 0+00 AH. = 100+00 BK.



CURVE DATA
 P.I. 16+15.15
 $\Delta = 21^{\circ}34'$ RT.
 D = 2³⁰'
 T = 436.5'
 L = 862.70'
 E = 41.20'
 R = 2291.83'
 P.C. 11+78.65
 P.T. 20+41.35
 S.E. 0.043'/FT.
 L.R. 100'

ORIGIN OF LEVELS
 100' THE ORIGIN OF BENCH MARKS A U.S.G.S. REFERENCE MARK AT THE NORTHEAST CORNER OF THE EXISTING BRIDGE AT THE TOP OF CURB. EL. 1242.58

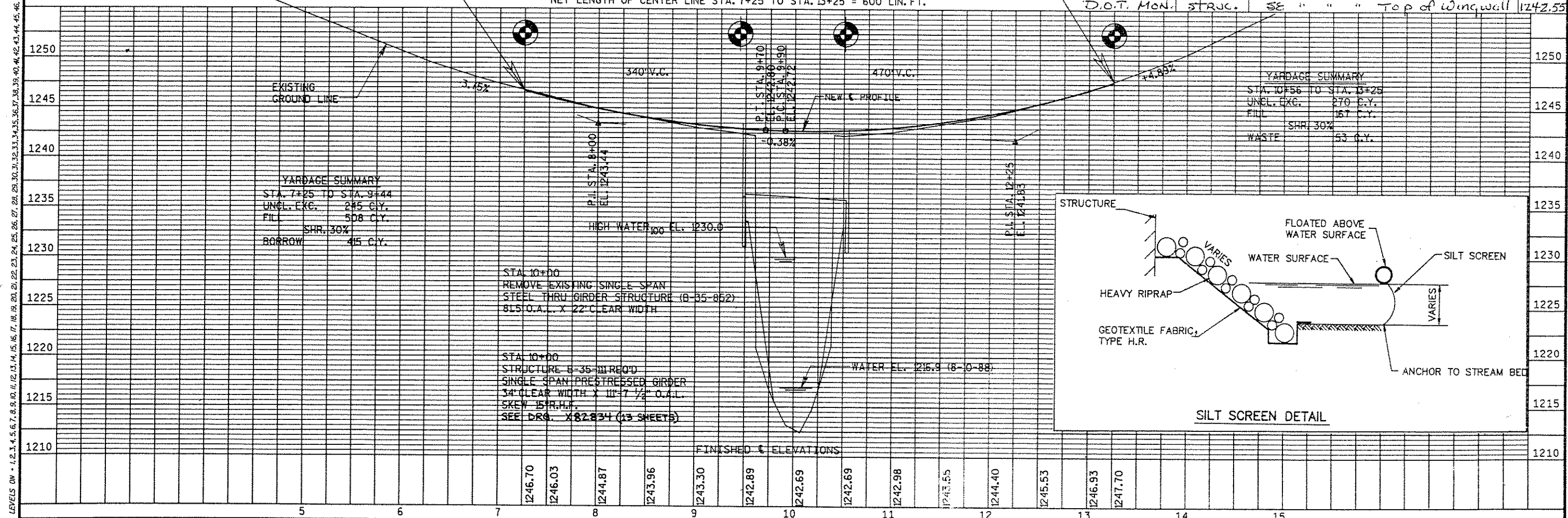
NO.	STA.	DESCRIPTION	ELEV.
1	6+77	€ CTH "P" & € CTH "W", P.K. NAIL	1248.05
2	10+40	NE COR. OF BRIDGE & TOP OF CURB	1242.58
		SE " " " " Top of Wingwall	1242.55



BEGIN PROJECT STA. 7+25 (MATCH EXISTING)

END PROJECT STA. 13+25 (MATCH EXISTING)

NET LENGTH OF CENTER LINE STA. 7+25 TO STA. 13+25 = 600 LIN. FT.

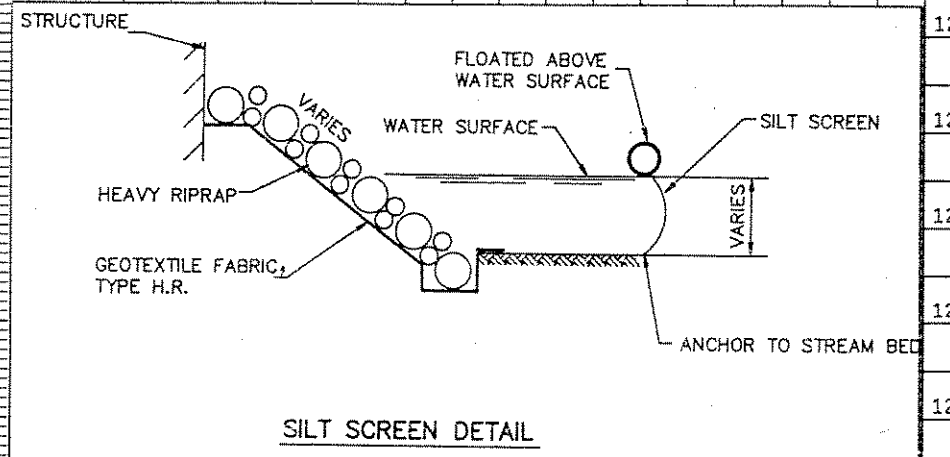


YARDAGE SUMMARY
 STA. 7+25 TO STA. 9+44
 UNCL. EXC. 245 C.Y.
 FILL 508 C.Y.
 SHR. 30%
 BORROW 415 C.Y.

YARDAGE SUMMARY
 STA. 10+56 TO STA. 13+25
 UNCL. EXC. 270 C.Y.
 FILL 167 C.Y.
 SHR. 30%
 WASTE 53 C.Y.

STA. 10+00
 REMOVE EXISTING SINGLE SPAN STEEL THRU GIRDER STRUCTURE (B-35-852)
 81.5' O.A.L. X 22' CLEAR WIDTH

STA. 10+00
 STRUCTURE B-35-III REQ'D
 SINGLE SPAN PRESTRESSED GIRDER
 34' CLEAR WIDTH X 11'-7 1/2" O.A.L.
 SKEW 15R.H.H.
 SEE DRG. X-82-834 (13 SHEETS)



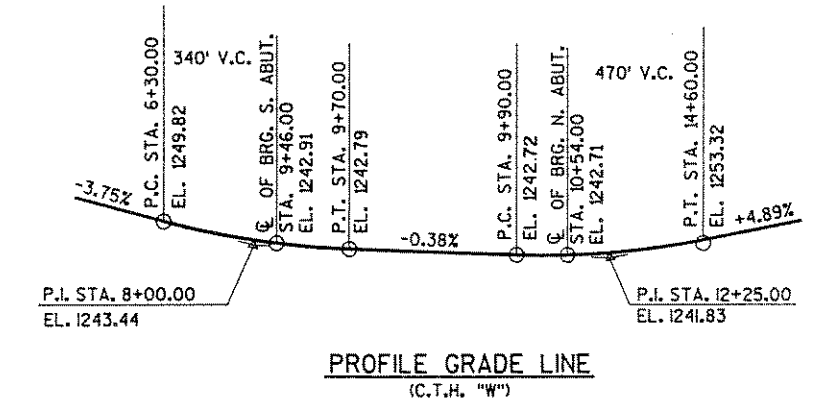
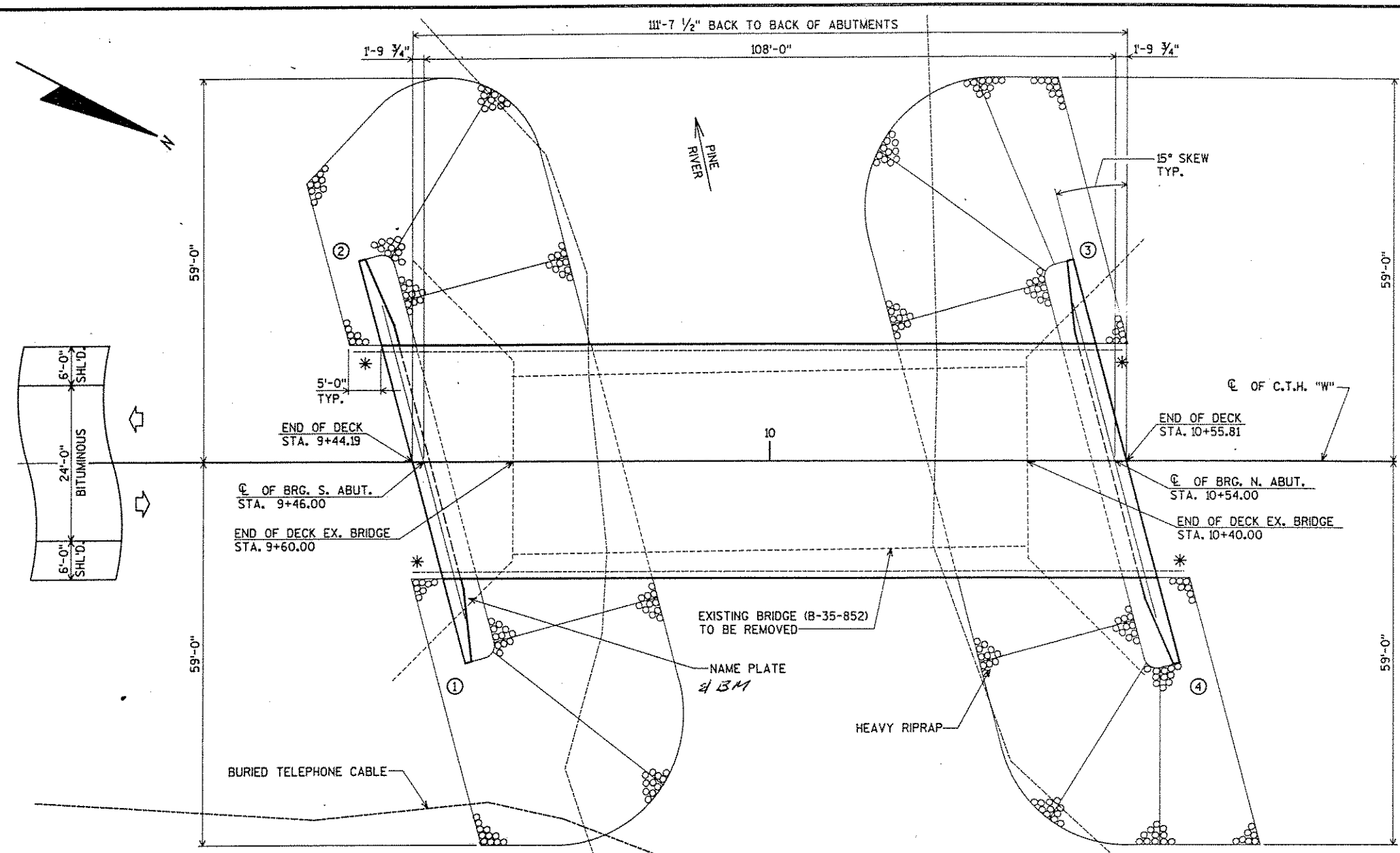
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 FILE NAME: HDGN09232PP

TRBRIDGE
 FILE NAME: 09232GP
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STATE PROJECT NUMBER	SHEET NO.
9429-01-70	8

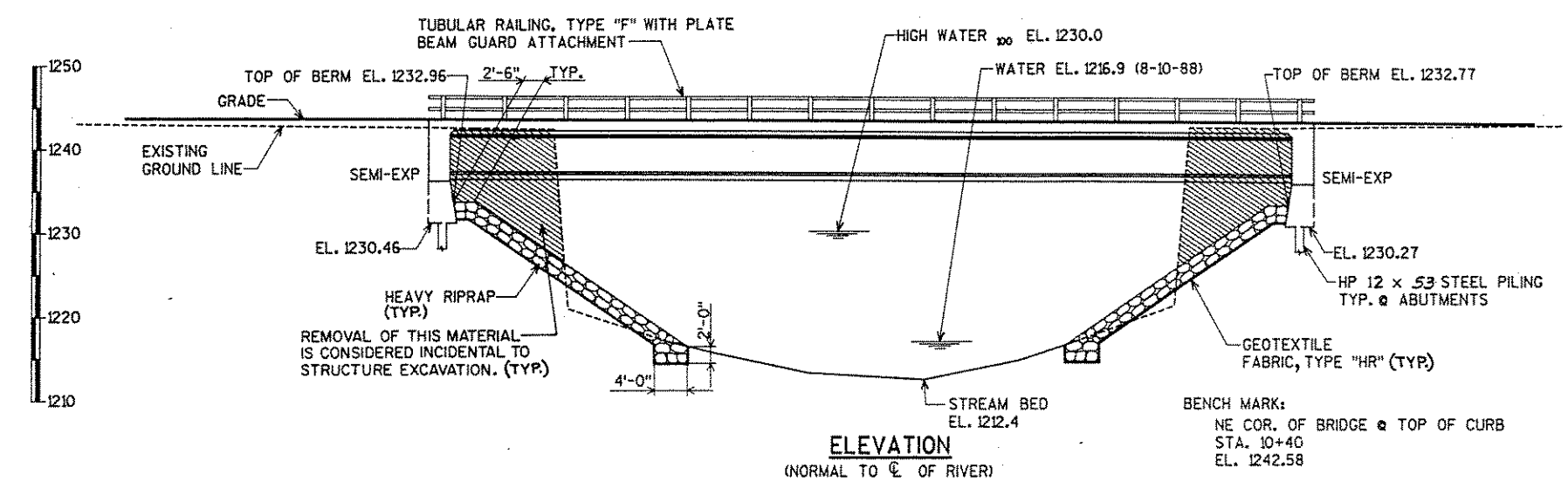
LIST OF DRAWINGS

1. GENERAL PLAN
2. QUANTITIES & NOTES
3. SUBSURFACE EXPLORATION
4. SOUTH ABUTMENT
5. NORTH ABUTMENT
6. ABUTMENT STEEL DETAILS AND BILL OF BARS
7. ALT. STEEL INTER. DIAPHRAGM DETAILS
8. 70" PRESTRESSED GIRDER DETAILS
9. 70" PRESTRESSED GIRDER DETAILS
10. SUPERSTRUCTURE
11. SUPERSTRUCTURE PLAN
12. SUPERSTRUCTURE DETAILS
13. TUBULAR RAILING TYPE "F"

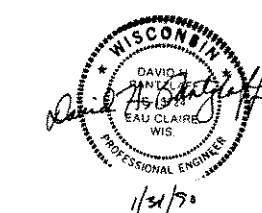


PLAN
SINGLE SPAN, 70" PRESTRESSED GIRDER BRIDGE

* ANCHOR ASSEMBLY FOR PLATE BEAM TYPE GUARDRAIL.
 ○ INDICATES WING NUMBER.

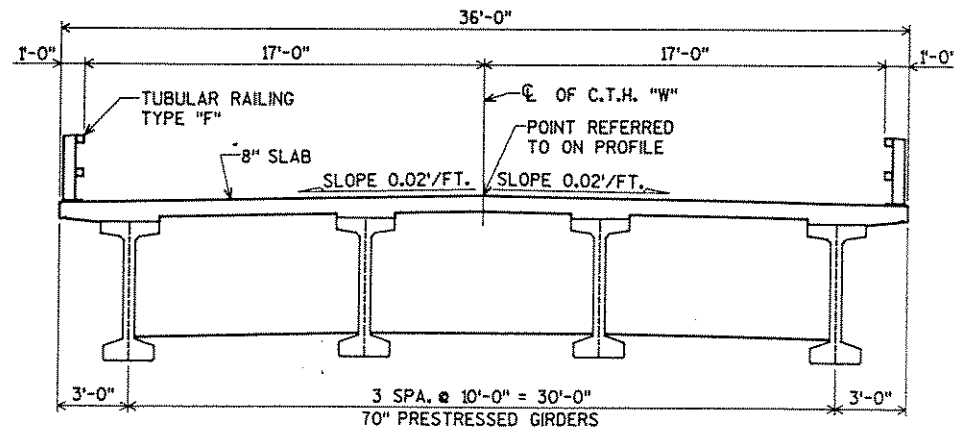


ELEVATION
(NORMAL TO C.E. OF RIVER)



BRIDGE OFFICE CONTACT:
 D. BABLER
 (608) 266-8486

No.	Date	Revision	By
PLANS PREPARED BY AYRES ASSOCIATES Engineers/Architects Planners/Surveyors Owen Ayres & Associates Inc. Eau Claire, Wisconsin			
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE B-35-III C.T.H. "W" OVER PINE RIVER			
County	LINCOLN	Town/Village/City	PINE RIVER
Design Spec.	A.A.S.H.T.O. '89	Load	HS-20
Design Spec.		Const. Spec.	1989
Designed By	MNL	Design Checked	CBM
Drawn By	C.L.P.	Plans Checked	DHP
Approved	<i>Stanley W. Wood</i> State Bridge Engineer		2/19/70 Date
GENERAL PLAN			SHEET 1 OF 13 X 82834



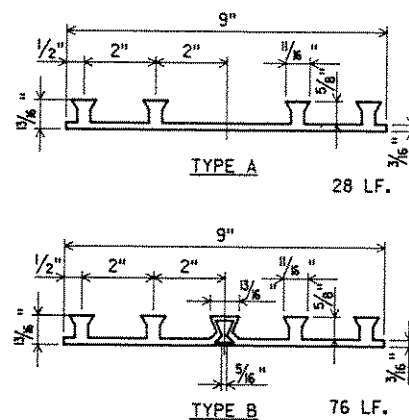
TYPICAL SECTION THRU ROADWAY

TOTAL ESTIMATED QUANTITIES

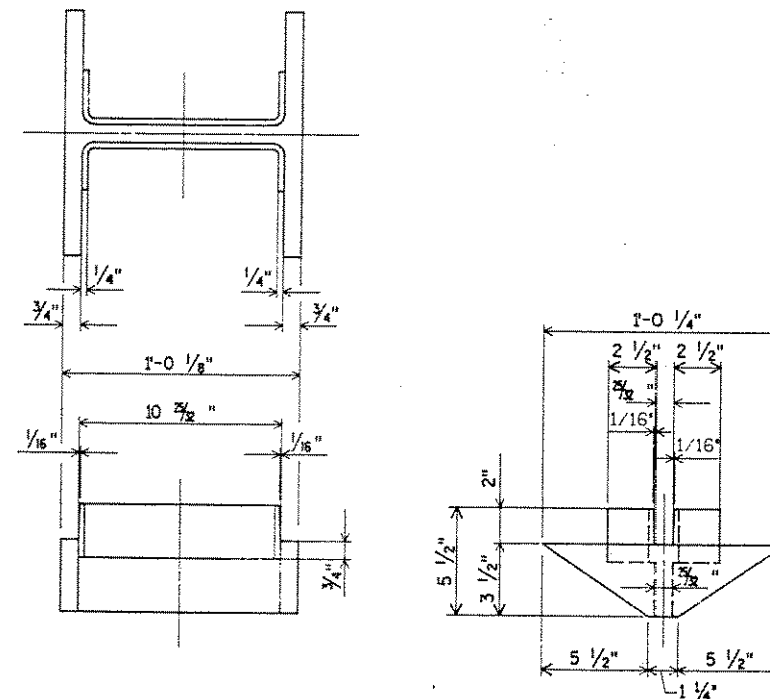
BID ITEMS	UNIT	S. ABUT.	N. ABUT.	SUPER.	TOTAL
REMOVING OLD BRIDGE, STA. 10+00	L.S.	----	----	----	1
EXCAVATION FOR STRUCTURES, BRIDGES B-35-III	L.S.	----	----	----	1
CONCRETE MASONRY, BRIDGES	C.Y.	42	42	160	244
PROTECTIVE SURFACE TREATMENT	GAL.	----	----	18	18
PRESTRESSED GIRDER, I-TYPE, 70-INCH	L.F.	----	----	436	436
HIGH-STRENGTH BAR STEEL REINFORCEMENT, BRIDGES	LB.	3,060	3,060	16,230	22,350
COATED HIGH-STRENGTH BAR STEEL REINFORCEMENT, BRIDGES	LB.	----	----	13,710	13,710
NON-LAMINATED ELASTOMERIC BEARING PADS	EACH	4	4	----	8
STEEL PILING, DELIVERED AND DRIVEN, HP 12-INCH 53 POUND	L.F.	280	315	----	595
TUBULAR RAILING, TYPE F, STRUCTURE B-35-III	L.S.	----	----	----	1
HEAVY RIPRAP	C.Y.	325	335	----	660
GEOTEXTILE FABRIC, TYPE HR	S.Y.	530	545	----	1075
PILE POINTS	EACH	7	7	----	14
NON-BID ITEMS					
FILLER	SIZE	----	----	----	1/2 & 3/4
POLYVINYL CHLORIDE WATERSTOP	L.F.	52	52	----	104

GENERAL NOTES

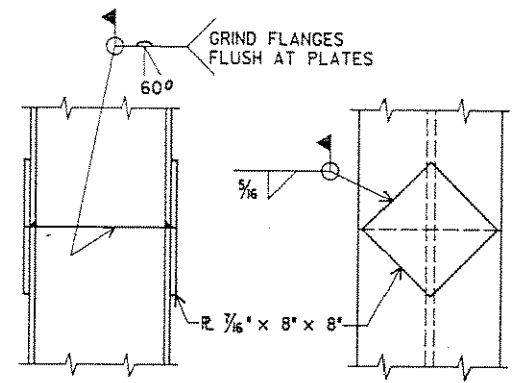
DRAWINGS SHALL NOT BE SCALED.
 BAR STEEL REINFORCEMENT SHALL BE EMBEDDED 2" CLEAR UNLESS SHOWN OR NOTED OTHERWISE.
 THE FIRST DIGIT OF A THREE DIGIT BAR NO. AND THE FIRST TWO DIGITS OF A FOUR DIGIT BAR NO. SIGNIFIES THE BAR SIZE.
 JOINT FILLER SHALL CONFORM TO THE REQUIREMENTS OF A.A.S.H.T.O. DESIGNATION M 153, TYPE I, II OR III OR A.A.S.H.T.O. DESIGNATION M 213.
 THE SLOPE OF THE FILL IN FRONT OF THE ABUTMENTS SHALL BE COVERED WITH HEAVY RIPRAP TO THE EXTENT SHOWN ON THE GENERAL PLAN SHEET AND IN THE ABUTMENT DETAILS.
 PROTECTIVE SURFACE TREATMENT IS TO BE APPLIED TO THE TOP OF DECK.
 ELASTOMERIC BEARING PADS NEED NOT BE INDIVIDUALLY MOLDED PROVIDED THE CUT EDGES ARE SMOOTH AND TRUE.
 THE EXISTING BRIDGE (B-35-852) IS A THREE SPAN CONCRETE DECK GIRDER TYPE BRIDGE, 121 FEET LONG AND HAS A CLEAR ROADWAY WIDTH OF 30 FEET AND TWO 8 FOOT SIDEWALKS.



POLYVINYL CHLORIDE WATERSTOP DETAIL (P.C.W.)



PILE POINT DETAIL



HP 12 x 53 SPLICE DETAIL

DESIGN DATA

LIVE LOAD: HS-20 (STRUCTURE IS DESIGNED FOR A FUTURE WEARING SURFACE OF 20"/S.F.)

RATINGS: INVENTORY = HS-22 OPERATING = HS-40

MAXIMUM STANDARD PERMIT VEHICLE LOAD = 190 KIPS

ALLOWABLE DESIGN STRESSES:

CONCRETE MASONRY (SLAB) $f'_c = 4,000$ p.s.i.
 (ALL OTHER) $f'_c = 3,500$ p.s.i.
 HIGH STRENGTH BAR STEEL REINFORCEMENT (GRADE 60) $f_y = 60,000$ p.s.i.
 PRESTRESSED GIRDER
 CONCRETE MASONRY $f'_c = 6,000$ p.s.i.
 STRANDS - 1/2" DIA. WITH ULTIMATE TENSILE STRENGTH OF 270,000 p.s.i.

HYDRAULIC DATA:

DRAINAGE AREA = 121 sq. mi.
 WATERWAY AREA = 887 sq. ft.
 $V = 7.9$ f.p.s.
 $Q_{100} = 7,000$ c.f.s.
 HIGH WATER $_{100}$ EL. 1230.0
 RDWY. OVERFLOW = N/A

FOUNDATION DATA:

PLACE S. ABUTMENT ON HP 12 x 53 STEEL PILING DRIVEN TO 65 TONS/PILE MINIMUM BEARING VALUE. ESTIMATED LENGTH 40'-0".
 PLACE N. ABUTMENT ON HP 12 x 53 STEEL PILING DRIVEN TO 65 TONS/PILE MINIMUM BEARING VALUE. ESTIMATED LENGTH 45'-0".

TRAFFIC DATA:

A.D.T. = 1220 (1988)
 A.D.T. = 1800 (2011)
 R.D.S. = 60 M.P.H.

No.	Date	Revision	By
PLANS PREPARED BY			
AYRES ASSOCIATES Engineers/Architects Planners/Surveyors Owen Ayres & Associates Inc. Eau Claire, Wisconsin			
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE B-35-III			
Const. Spec.	1989	Drawn By	G.L.D.
		Plans Checked	C.B.M.
QUANTITIES & NOTES			SHEET 2 OF 13
			X 82834

SUBSET: TRBRIDGE
 FILE NAME: 09232GP

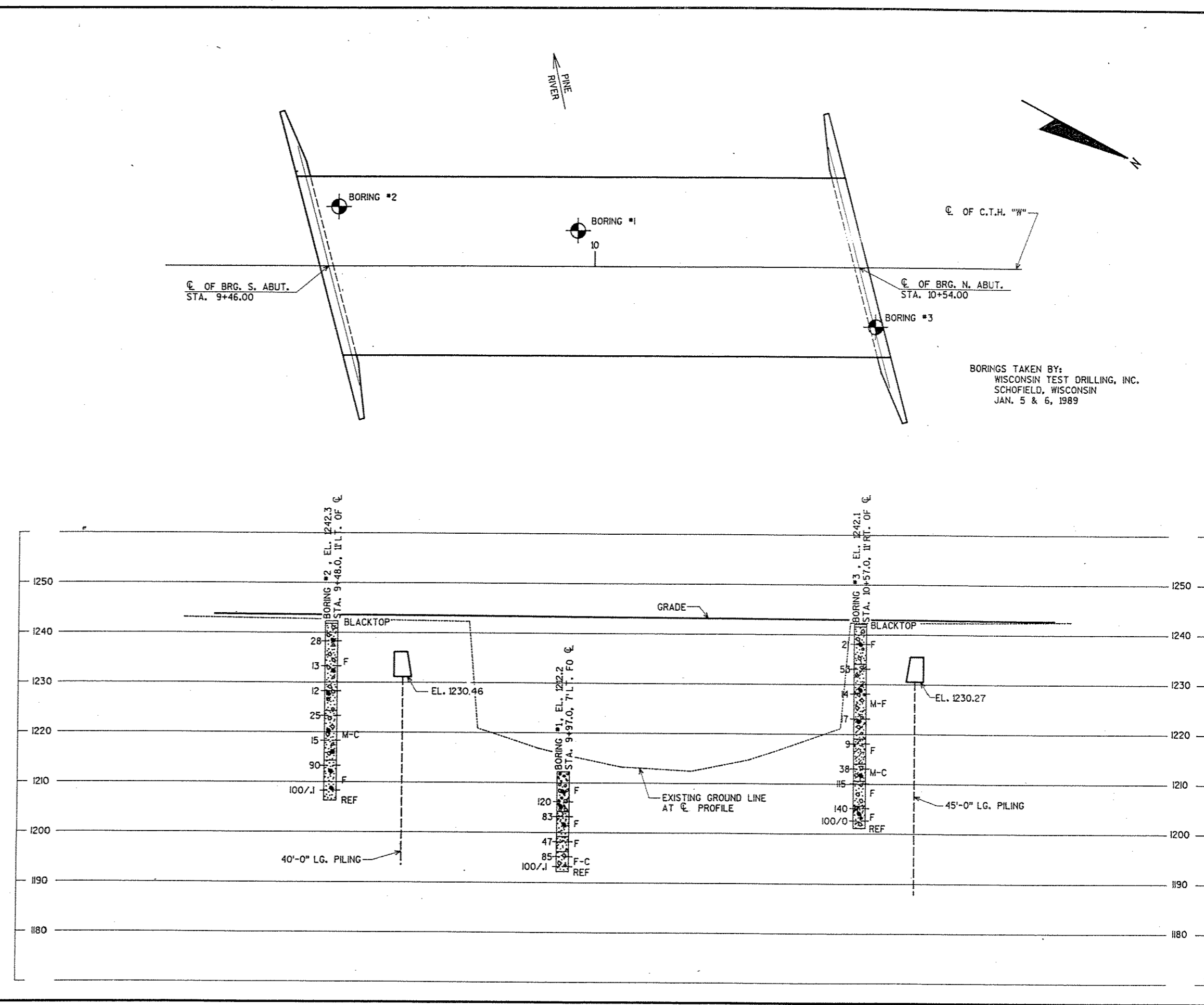
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CHECKED BY: DATE: BACK CHECKED: DATE: CORRECTED BY: DATE:

SUBSET: TRBRIDGE
FILE NAME: 09232GP

BACK CHECKED BY:
CORRECTED BY:

LEVELS ON 4,2,3,4,5,6,7,8,9,10,11,12,13,14,15,16,17,18,19,20,21,22,23,24,25,26,27,28,29,30,31,32,33,34,35,36,37,38,39,40,41,42,43,44,45,46,47,48,49,50,51,52,53,54,55,56,57,58,59,60,61,62,63



BORINGS TAKEN BY:
WISCONSIN TEST DRILLING, INC.
SCHOFIELD, WISCONSIN
JAN. 5 & 6, 1989

STATE PROJECT NUMBER	SHEET NO.
9429-01-70	B.2

ABBREVIATIONS
 F --- Fine M --- Medium C --- Coarse
 Ws --- Weathered So --- Sound

MATERIAL SYMBOLS

Topsoil	Silt	Sandstone
Sand	Peat	Limestone
Gravel	Clay	Igneous Rock

LEGEND OF PROBING

95/6 = 95 Blows for 6' Penetration
 Probing taken with a 350# wt. Falling 18" on a 2' O.D. Point.

7 Average Blows Per Foot
 Refusal 95/6

LEGEND OF BORING

Unconfined Strength
 Blows Per Foot Using 140# Wt. Falling 30"
 Wash Sample
 Shelby Tube - S.T.
 Ground Water Elevation
 No Ground Water Observed Above This Elevation

Boring No., Elev. Sta. & Offset

Sandy Gravel
 Boulders or Cobbles
 Sand
 Silty Clay
 So. Limestone

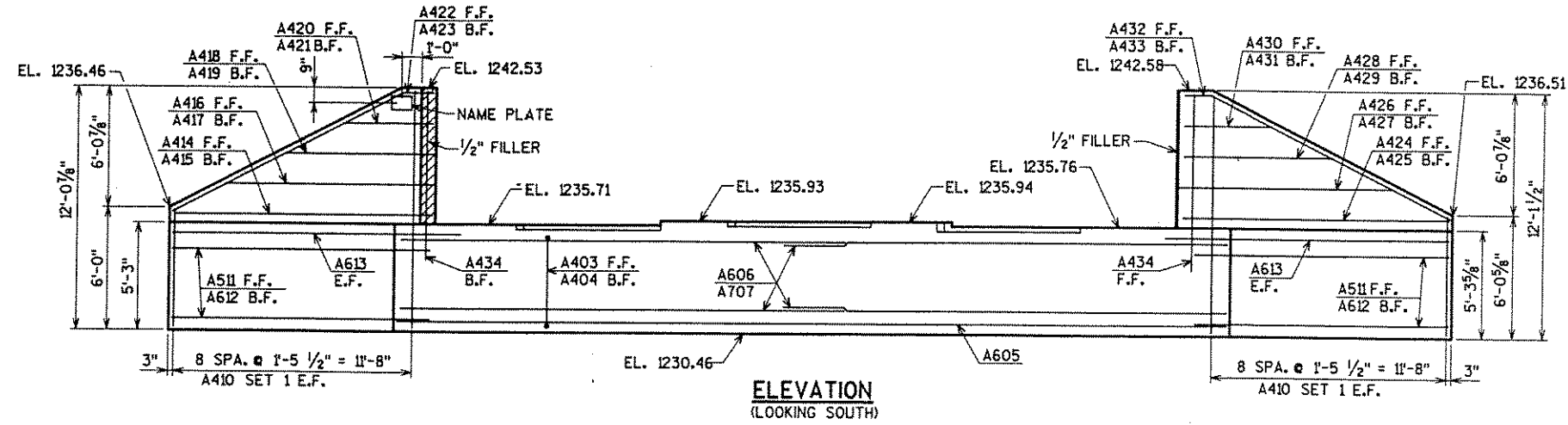
Unless otherwise specified, the blows per foot at the locations indicated are based on driving a 2' O.D. x 1.4" I.D. split spoon sampler with a 140# hammer having a free fall of 30". The blow count is taken in undisturbed soil immediately below a cased or open hole eliminating side friction on the drive pipe.

SUBSURFACE EXPLORATION FOR FOUNDATION DESIGN AND BIDDERS INFORMATION

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. The data presented herein represents the findings of the subsurface explorations made. However, because the depths investigated are limited and the area of the borings and/or soundings is very small in relation to the entire area, the DEPT. OF TRANSPORTATION does not warrant conditions below the depths investigated or that the classification of material encountered in these investigations is necessarily typical of the entire site.

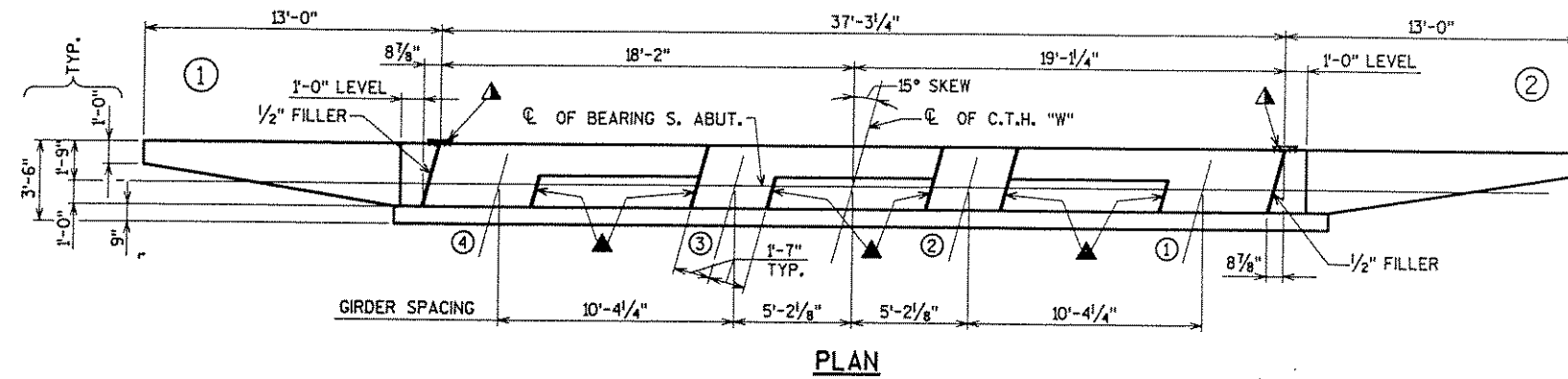
No.	Date	Revision	By
PLANS PREPARED BY AYRES ASSOCIATES Engineers/Architects Planners/Surveyors Owen Ayres & Associates Inc. Eau Claire, Wisconsin			
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE		B-35-III	
Const. Spec.	1989	Drawn By	G.L.D.
		Plans Checked	MNL
SUBSURFACE EXPLORATION			SHEET 3 OF 13 X 82834

NOTE: SEAL ALL EXPOSED HORIZONTAL AND VERTICAL SURFACES OF 1/2" FILLER WITH NON-STAINING GRAY NON-BITUMINOUS JOINT SEALER. (1" DEEP AND HOLD 1/8" BELOW SURFACE OF CONCRETE.)

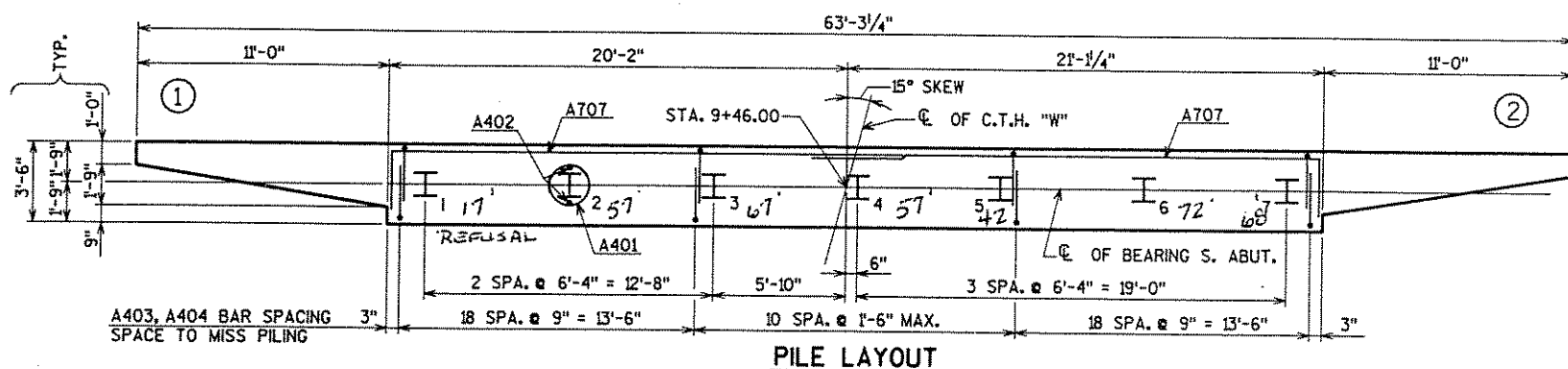


ELEVATION (LOOKING SOUTH)

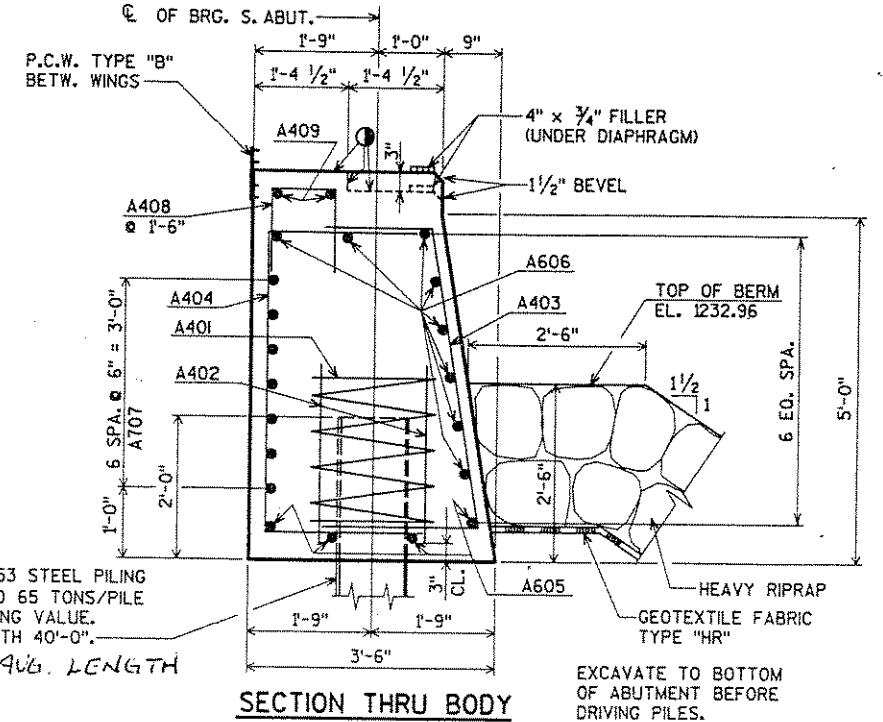
NOTE: TO ELIMINATE STEPPING & SPLICING OF THE WATERSTOP, THE TOP OF BODY MAY BE SLOPED BETWEEN THE LEVEL BEAM SEAT AREAS.



PLAN



PILE LAYOUT



SECTION THRU BODY

HP 12 x 53 STEEL PILING DRIVEN TO 65 TONS/PILE MIN. BEARING VALUE. EST. LENGTH 40'-0". 54.3 AVG. LENGTH

① STEEL TROWEL TOP SURFACE OF ABUTMENTS. PLACE MULTIPLE LAYERS OF POLYETHYLENE SHEETS OVER ENTIRE ABUTMENT TOP BEFORE PLACING BEARING PADS AND SUPERSTRUCTURE. TOTAL THICKNESS OF SHEETS SHALL BE AT LEAST 0.03".

▲ 3/4" CORK FILLER ON VERT. FACE ONLY.

▲ VERT. P.C.W. TYPE 'A' FROM BRIDGE SEAT TO TOP OF WING. SPLICE AT JUNCTION WITH HORIZ. WATERSTOP BY USING A HEATED SPLICING IRON. HOLD P.C.W. FLUSH WITH CONCRETE.

P.C.W. DENOTES POLYVINYL CHLORIDE WATERSTOP. SEE SHEET 2 FOR DETAILS.

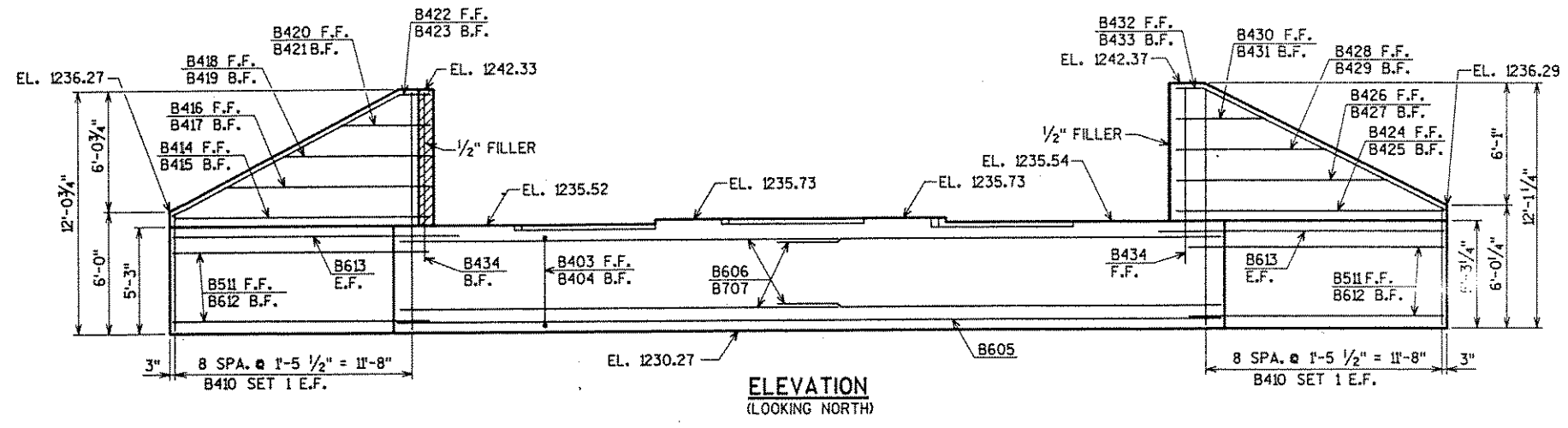
FOR PILE SPLICE DETAIL SEE SHEET 2.

SEAL ALL VERTICAL ENDS OF P.C.W. WITH NON-STAINING BITUMINOUS JOINT SEALER.

No.	Date	Revision	By
PLANS PREPARED BY			
AYRES ASSOCIATES Engineers/Architects Planners/Surveyors Owen Ayres & Associates Inc. Eau Claire, Wisconsin			
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE		B-35-III	
Const. Spec.	1989	Drawn By	G.L.D.
		Plans Checked	C.B.M.
SOUTH ABUTMENT			SHEET 4 OF 13
			X 82834

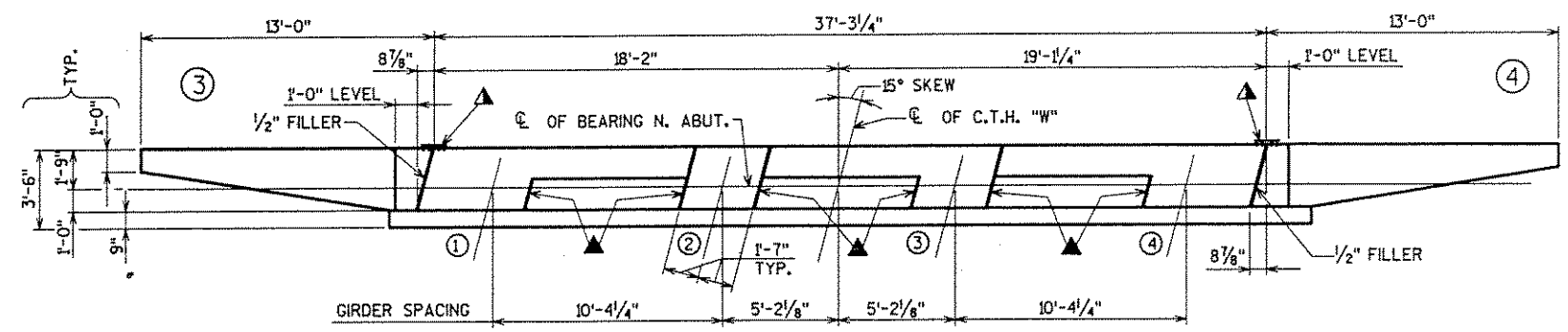
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 CHECKED BY: DATE: BACK CHECK BY: DATE: CORRECTED BY: DATE:

NOTE: SEAL ALL EXPOSED HORIZONTAL AND VERTICAL SURFACES OF 1/2" FILLER WITH NON-STAINING GRAY NON-BITUMINOUS JOINT SEALER. (1" DEEP AND HOLD 1/8" BELOW SURFACE OF CONCRETE.)

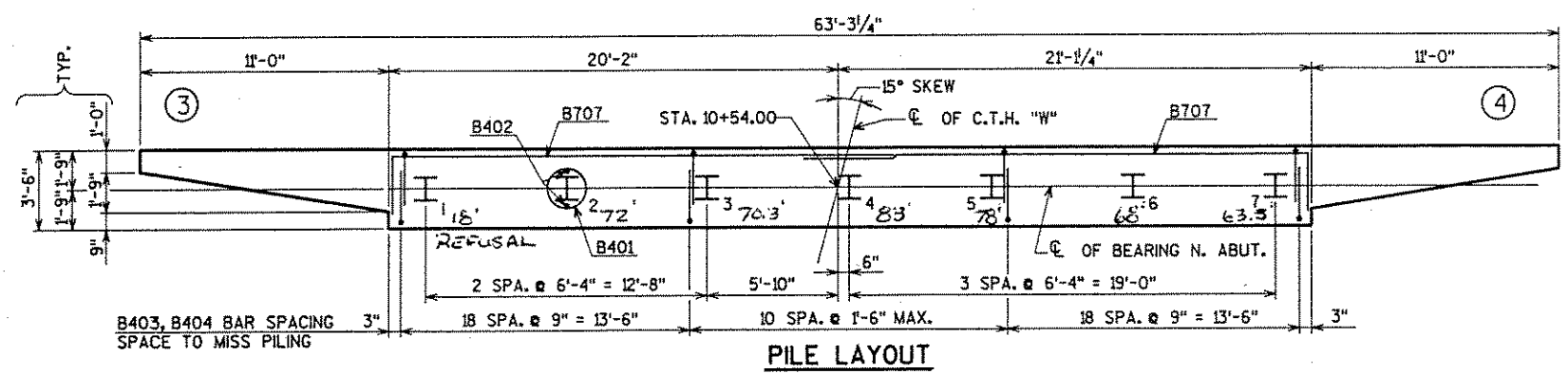


ELEVATION (LOOKING NORTH)

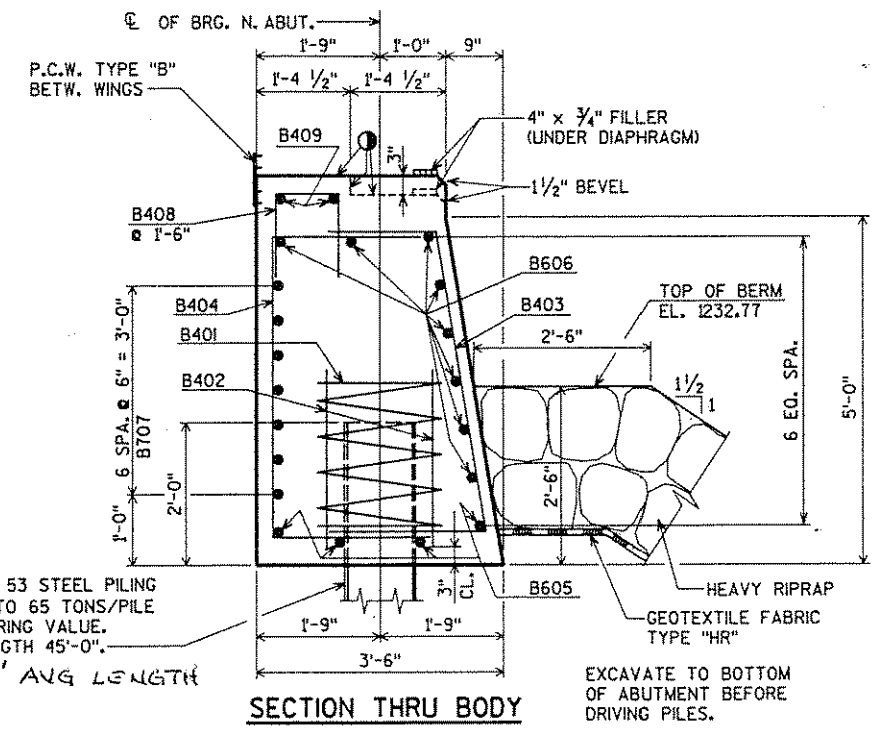
NOTE: TO ELIMINATE STEPPING & SPLICING OF THE WATERSTOP, THE TOP OF BODY MAY BE SLOPED BETWEEN THE LEVEL BEAM SEAT AREAS.



PLAN



PILE LAYOUT



SECTION THRU BODY

HP 12 x 53 STEEL PILING DRIVEN TO 65 TONS/PILE MIN. BEARING VALUE. EST. LENGTH 45'-0". 64.7' AVG LENGTH

● STEEL TROWEL TOP SURFACE OF ABUTMENTS. PLACE MULTIPLE LAYERS OF POLYETHYLENE SHEETS OVER ENTIRE ABUTMENT TOP BEFORE PLACING BEARING PADS AND SUPERSTRUCTURE. TOTAL THICKNESS OF SHEETS SHALL BE AT LEAST 0.03".

▲ 3/4" CORK FILLER ON VERT. FACE ONLY.

▲ VERT. P.C.W. TYPE "A" FROM BRIDGE SEAT TO TOP OF WING. SPLICE AT JUNCTION WITH HORIZ. WATERSTOP BY USING A HEATED SPLICING IRON. HOLD P.C.W. FLUSH WITH CONCRETE.

P.C.W. DENOTES POLYVINYL CHLORIDE WATERSTOP. SEE SHEET 2 FOR DETAILS. FOR PILE SPLICE DETAIL SEE SHEET 2.

SEAL ALL VERTICAL ENDS OF P.C.W. WITH NON-STAINING BITUMINOUS JOINT SEALER.

No.	Date	Revision	By
PLANS PREPARED BY			
AYRES ASSOCIATES Engineers/Architects Planners/Surveyors			
Owen Ayres & Associates Inc. Eau Claire, Wisconsin			
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE B-35-III			
Const. Spec.	1989	Drawn By G.L.D.	Plans Checked C.B.M.
NORTH ABUTMENT			SHEET 5 OF 13
			X 82834

SUBSET: TRBRIDGE FILE NAME: 09232ABUT

LEVELS ON 4,2,3,4,5,6,7,8,9,10,11,12,13,14,15,16,17,18,19,20,21,22,23,24,25,26,27,28,29,30,31,32,33,34,35,36,37,38,39,40,41,42,43,44,45,46,47,48,49,50,51,52,53,54,55,56,57,58,59,60,61,62,63

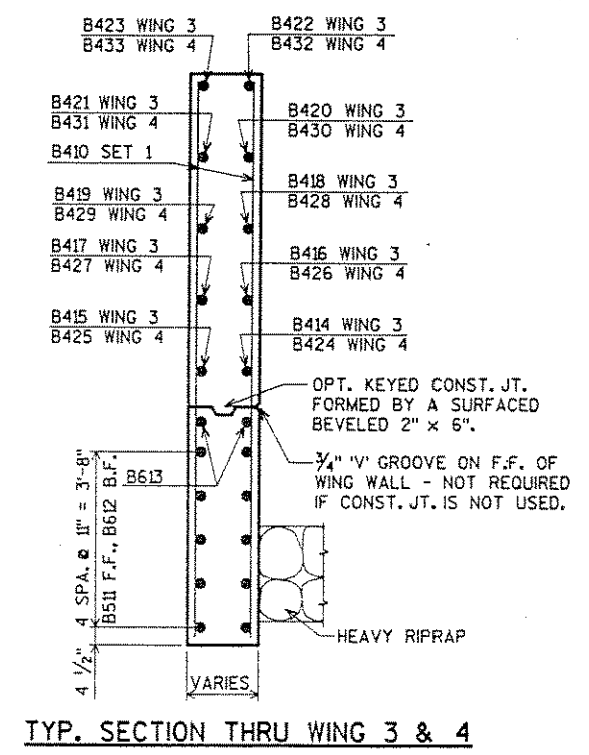
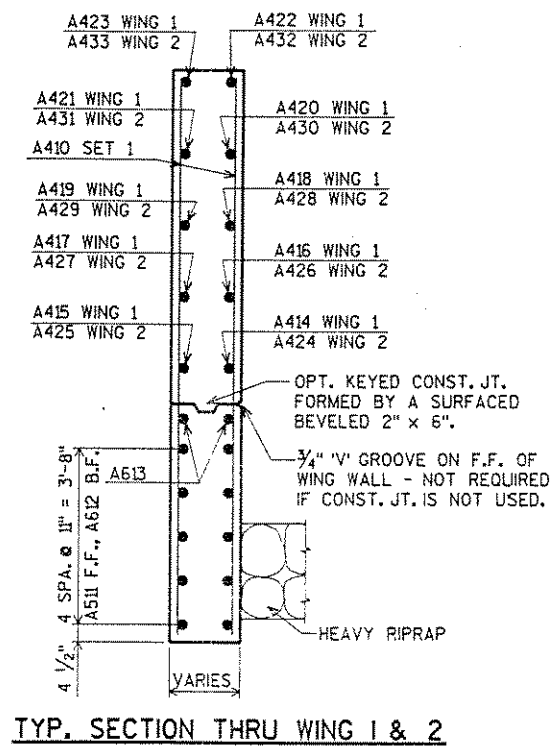
DATE: DATE: BACK CHECKED BY: CORRECTED BY:

BILL OF BARS - SOUTH ABUTMENT

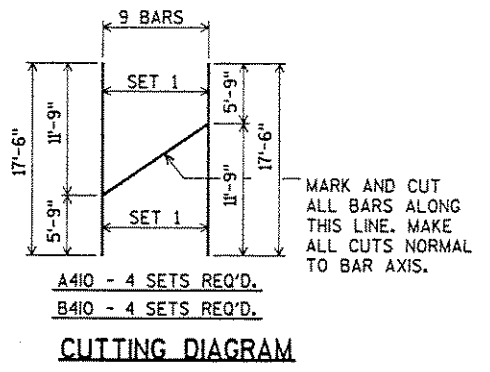
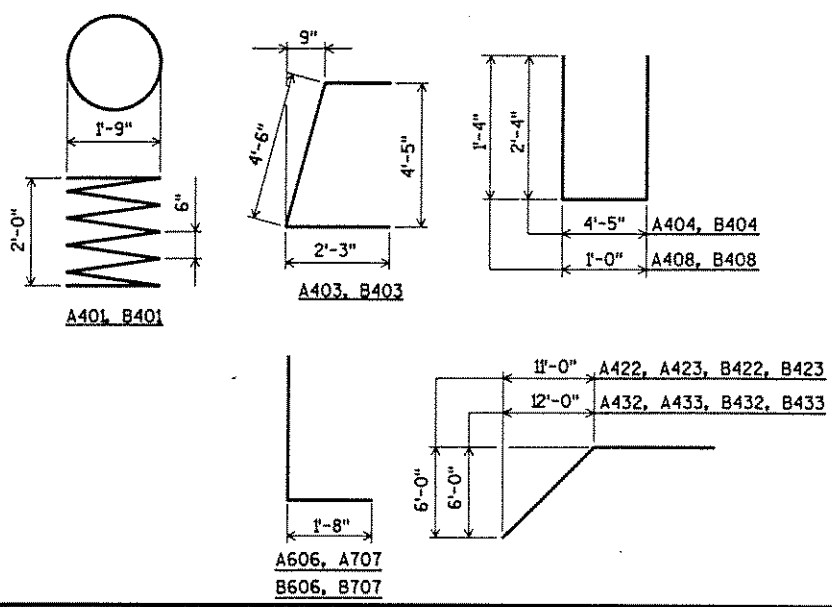
BAR NO.	NO. REQ'D.	LENGTH	BENT BAR COATED BAR CUT. DIAGR.	3,060* UNCOATED	LOCATION
A401	7	28-0	X		BODY @ PILES
A402	14	2-3			BODY @ PILES
A403	47	8-5	X		BODY VERT. F.F.
A404	47	8-11	X		BODY VERT. B.F.
A605	4	40-11			BODY HORIZ.
A606	16	23-6	X		BODY HORIZ.
A707	14	24-0	X		BODY HORIZ.
A408	28	3-6	X		BODY VERT.
A409	2	40-11			BODY HORIZ.
A410	18	17-6	X		WING 1 & 2 VERT. E.F. SET 1
A511	10	12-4			WING 1 & 2 HORIZ. F.F.
A612	10	12-7			WING 1 & 2 HORIZ. B.F.
A613	4	14-1			WING 1 & 2 HORIZ. E.F.
A414	1	11-11			WING 1 HORIZ. F.F.
A415	1	12-6			WING 1 HORIZ. B.F.
A416	1	9-5			WING 1 HORIZ. F.F.
A417	1	10-0			WING 1 HORIZ. B.F.
A418	1	6-7			WING 1 HORIZ. F.F.
A419	1	7-2			WING 1 HORIZ. B.F.
A420	1	3-9			WING 1 HORIZ. F.F.
A421	1	4-4			WING 1 HORIZ. B.F.
A422	1	13-3	X		WING 1 DIAG. F.F.
A423	1	13-10	X		WING 1 DIAG. B.F.
A424	1	13-2			WING 2 HORIZ. F.F.
A425	1	12-8			WING 2 HORIZ. B.F.
A426	1	10-5			WING 2 HORIZ. F.F.
A427	1	9-11			WING 2 HORIZ. B.F.
A428	1	7-7			WING 2 HORIZ. F.F.
A429	1	7-1			WING 2 HORIZ. B.F.
A430	1	4-9			WING 2 HORIZ. F.F.
A431	1	4-3			WING 2 HORIZ. B.F.
A432	1	14-7	X		WING 2 DIAG. F.F.
A433	1	14-1	X		WING 2 DIAG. B.F.
A434	2	7-7			WING 1 B.F., WING 2 F.F. VERT.

BILL OF BARS - NORTH ABUTMENT

BAR NO.	NO. REQ'D.	LENGTH	BENT BAR COATED BAR CUT. DIAGR.	3,060* UNCOATED	LOCATION
B401	7	28-0	X		BODY @ PILES
B402	14	2-3			BODY @ PILES
B403	47	8-5	X		BODY VERT. F.F.
B404	47	8-11	X		BODY VERT. B.F.
B605	4	40-11			BODY HORIZ.
B606	16	23-6	X		BODY HORIZ.
B707	14	24-0	X		BODY HORIZ.
B408	28	3-6	X		BODY VERT.
B409	2	40-11			BODY HORIZ.
B410	18	17-6	X		WING 3 & 4 VERT. E.F. SET 1
B511	10	12-4			WING 3 & 4 HORIZ. F.F.
B612	10	12-7			WING 3 & 4 HORIZ. B.F.
B613	4	14-1			WING 3 & 4 HORIZ. E.F.
B414	1	11-11			WING 3 HORIZ. F.F.
B415	1	12-6			WING 3 HORIZ. B.F.
B416	1	9-5			WING 3 HORIZ. F.F.
B417	1	10-0			WING 3 HORIZ. B.F.
B418	1	6-7			WING 3 HORIZ. F.F.
B419	1	7-2			WING 3 HORIZ. B.F.
B420	1	3-9			WING 3 HORIZ. F.F.
B421	1	4-4			WING 3 HORIZ. B.F.
B422	1	13-3	X		WING 3 DIAG. F.F.
B423	1	13-10	X		WING 3 DIAG. B.F.
B424	1	13-2			WING 4 HORIZ. F.F.
B425	1	12-8			WING 4 HORIZ. B.F.
B426	1	10-5			WING 4 HORIZ. F.F.
B427	1	9-11			WING 4 HORIZ. B.F.
B428	1	7-7			WING 4 HORIZ. F.F.
B429	1	7-1			WING 4 HORIZ. B.F.
B430	1	4-9			WING 4 HORIZ. F.F.
B431	1	4-3			WING 4 HORIZ. B.F.
B432	1	14-7	X		WING 4 DIAG. F.F.
B433	1	14-1	X		WING 4 DIAG. B.F.
B434	2	7-7			WING 3 B.F., WING 4 F.F. VERT.



BENDING DIMENSIONS ARE OUT TO OUT OF BARS.
 B.F. DENOTES BACK FACE.
 F.F. DENOTES FRONT FACE.
 E.F. DENOTES EACH FACE.



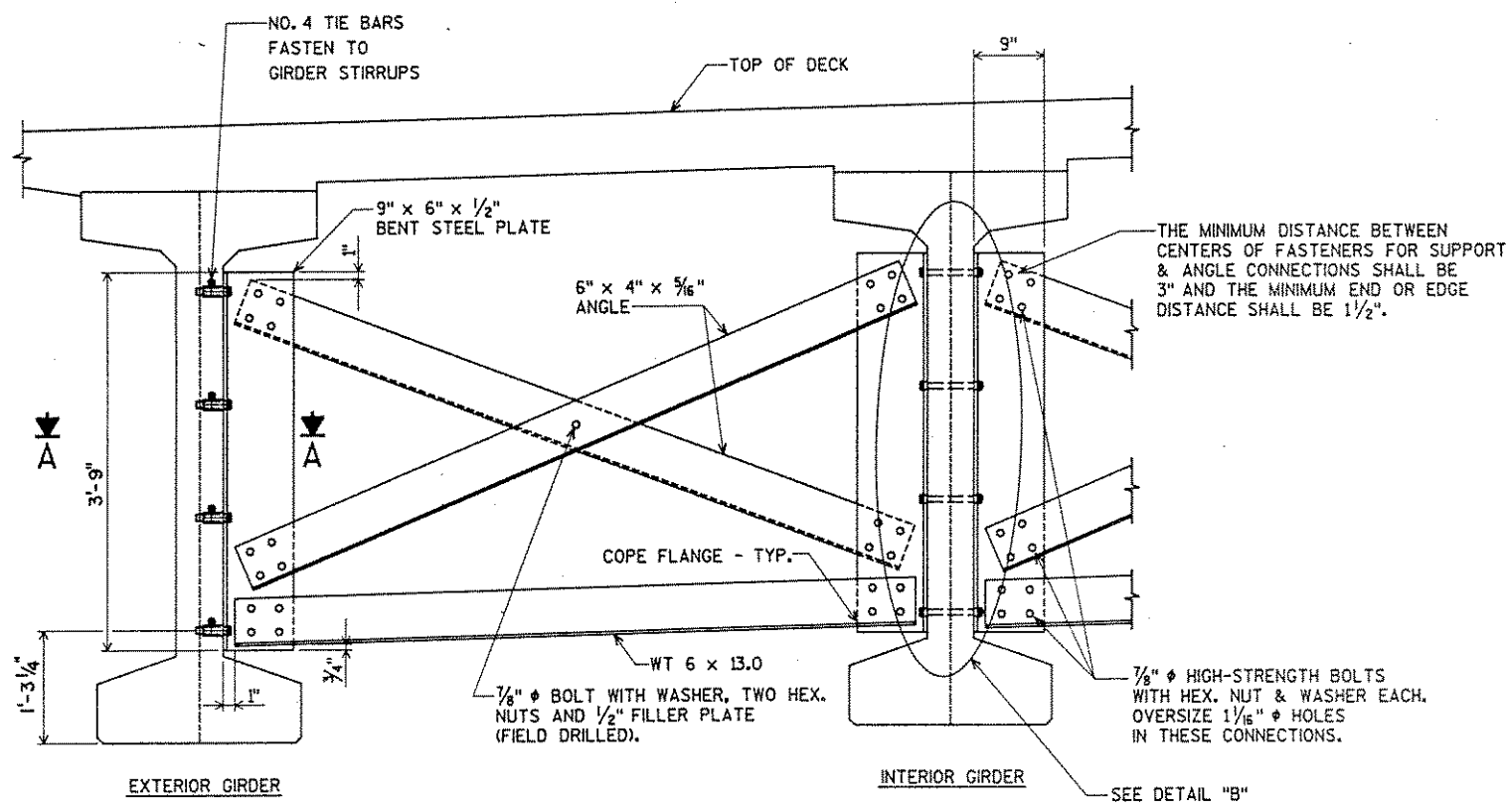
No.	Date	Revision	By
PLANS PREPARED BY AYRES Engineers/Architects Planners/Surveyors ASSOCIATES Owen Ayres & Associates Inc. Eau Claire, Wisconsin			
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE		B-35-III	
Const. Spec.	1989	Drawn By	G.L.D.
		Plane Checked	C.B.M.
ABUTMENT DETAILS AND BILL OF BARS			SHEET 6 OF 13
			X 82834

SUBSET: TRBRIDGE
FILE NAME: 09232ABUT

LEVELS ON 4.2, 3.4, 5.6, 7.8, 9.0, 11.2, 13.4, 15.6, 17.8, 19.9, 20.2, 21.2, 22.2, 23.4, 25.2, 26.2, 27.2, 28.2, 29.5, 30.3, 31.2, 33.3, 34.5, 35.3, 37.3, 39.4, 40.4, 42.4, 44.4, 45.4, 46.4, 47.4, 48.4, 49.5, 50.5, 51.2, 53.4, 55.5, 56.5, 57.5, 59.5, 60.6, 62.6, 63

CHECKED BY: J. BYI
DATE: _____
CORRECTED BY: _____
DATE: _____

SUBSET: TRBRIDGE
 FILE NAME: 09232SUP
 LEVELS ON 1,2,3,4,5,6,7,8,9,10,11,12,13,14,15,16,17,18,19,20,21,22,23,24,25,26,27,28,29,30,31,32,33,34,35,36,37,38,39,40,41,42,43,44,45,46,47,48,49,50,51,52,53,54,55,56,57,58,59,60,61,62,63
 DATE: _____
 BACK CHECKED BY: _____
 CORRECTED BY: _____



PART TRANSVERSE SECTION AT DIAPHRAGM

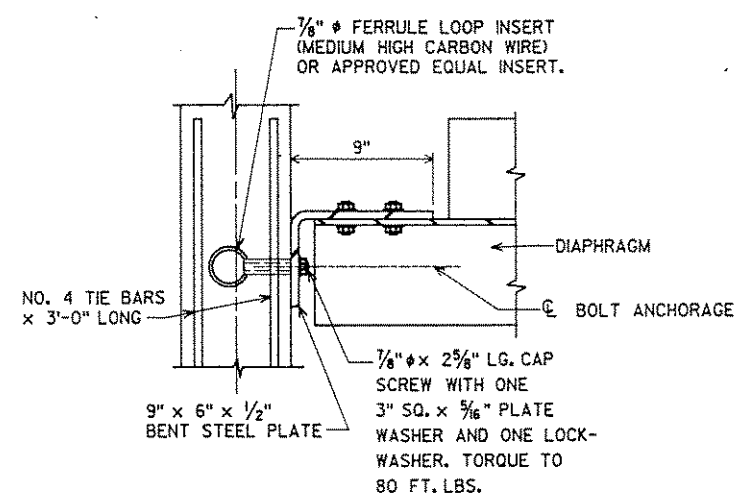
NOTES FOR ALTERNATE DIAPHRAGM

STEEL DIAPHRAGMS MAY BE USED IN LIEU OF CAST-IN-PLACE CONCRETE DIAPHRAGMS. NO ADDITIONAL PAYMENT WILL BE MADE IF STEEL DIAPHRAGMS ARE USED.

ALL DIAPHRAGM STRUCTURAL STEEL SHALL BE ASTM A36. ALL BOLTS, NUTS AND WASHERS SHALL BE ASTM A325 TYPE 1.

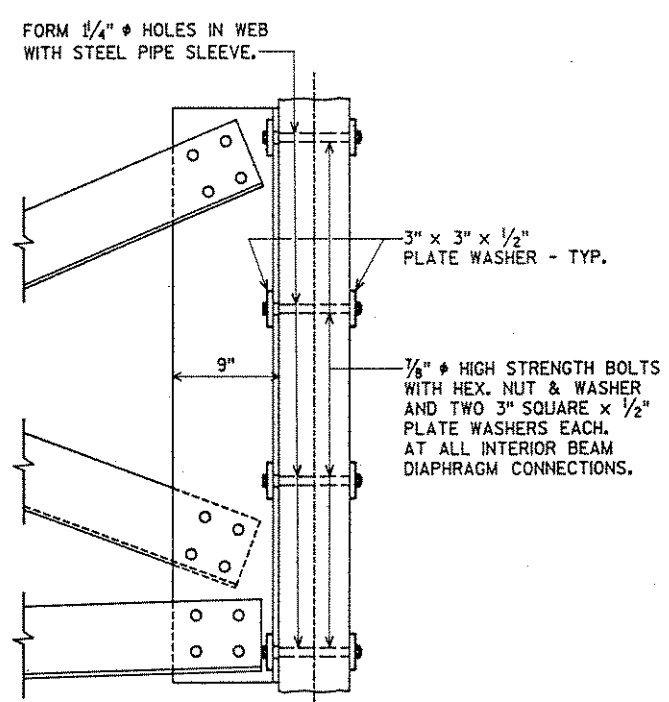
ALL DIAPHRAGM STRUCTURAL STEEL SHOWN SHALL BE HOT-DIPPED GALVANIZED. ALL BOLTS, NUTS AND WASHERS SHALL BE HOT-DIPPED GALVANIZED IN ACCORDANCE WITH ASTM A153 CLASS C. GALVANIZED NUTS SHALL BE TAPPED OVERSIZE IN ACCORDANCE WITH THE REQUIREMENTS OF ASTM A563 AND SHALL MEET THE REQUIREMENTS OF SUPPLEMENTARY REQUIREMENT S1 OF ASTM A563, LUBRICANT AND TEST FOR COATED NUTS.

COAT INSIDE SURFACES OF ALL FIELD DRILLED HOLES WITH ORGANIC ZINC PRIMER.

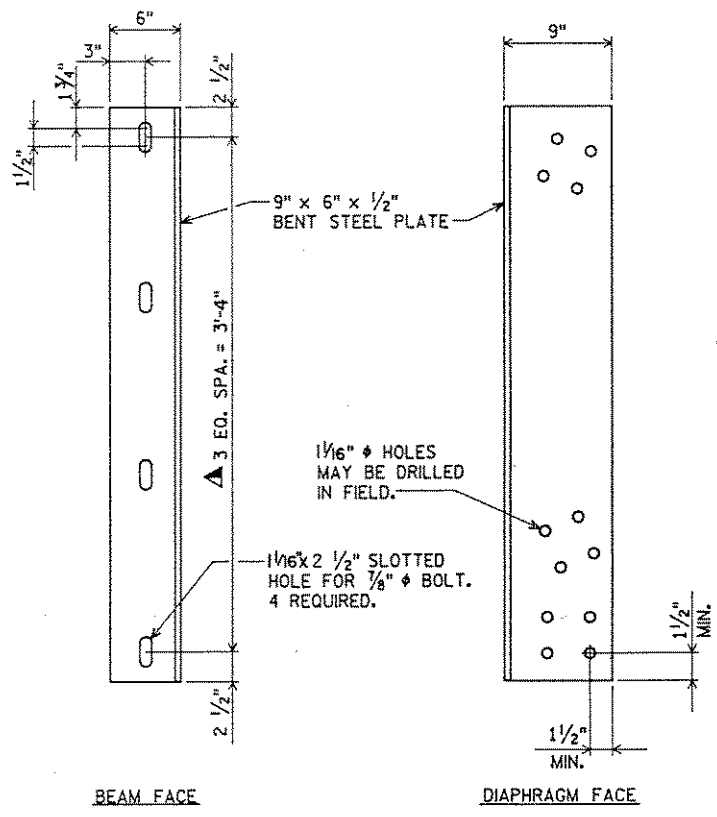


SECTION A
FOR EXTERIOR ATTACHMENT

▲ BOLT HOLES SHALL BE SPACED SO AS TO MISS PRESTRESSED STRANDS IN CONCRETE BEAMS.

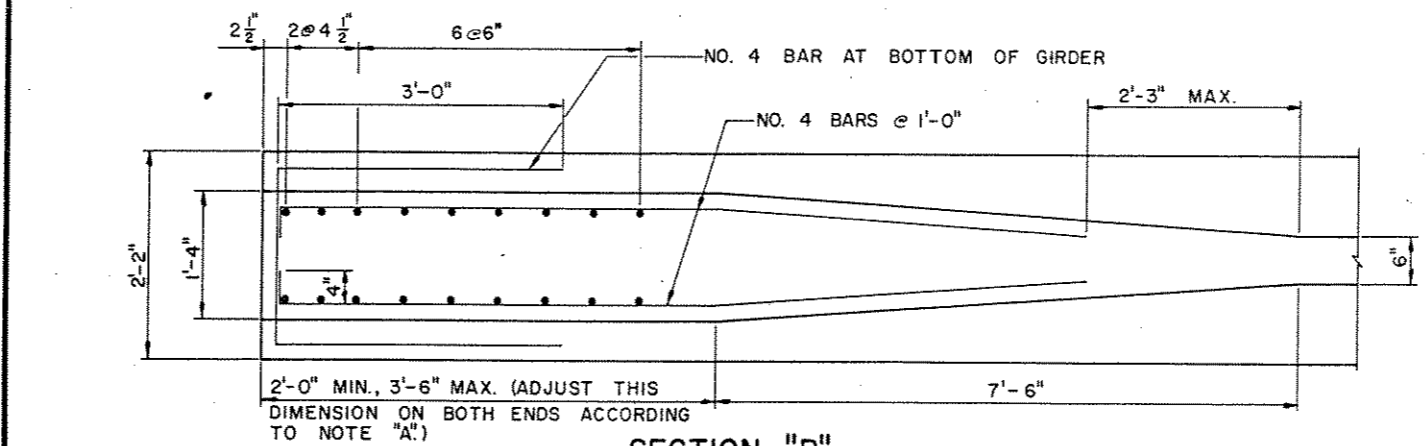
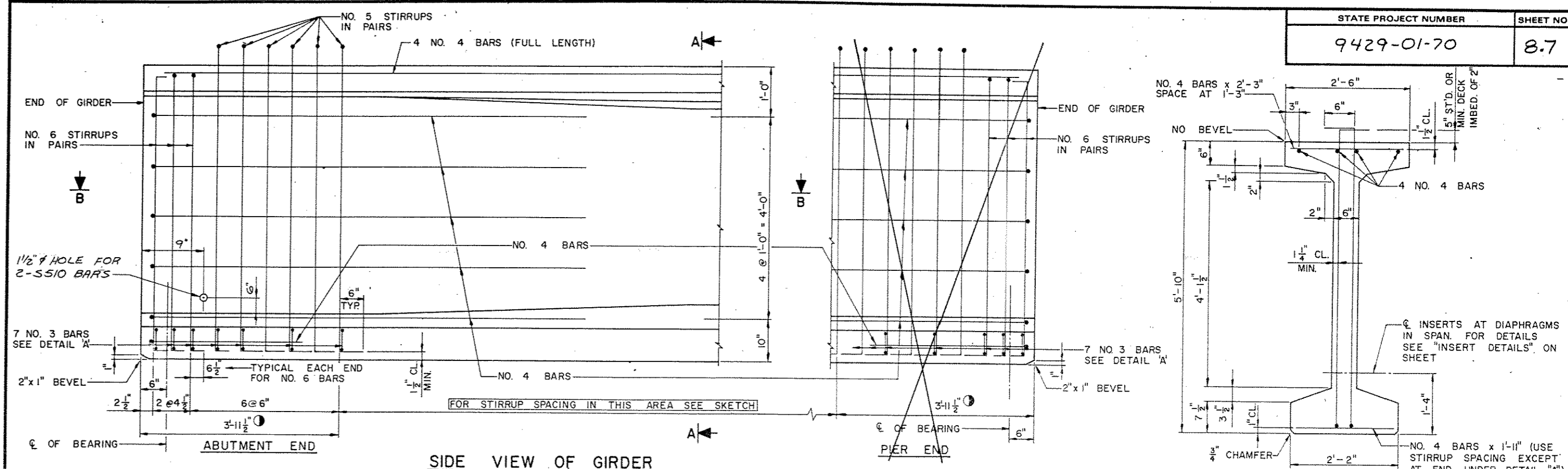


DETAIL B
FOR INTERIOR GIRDER

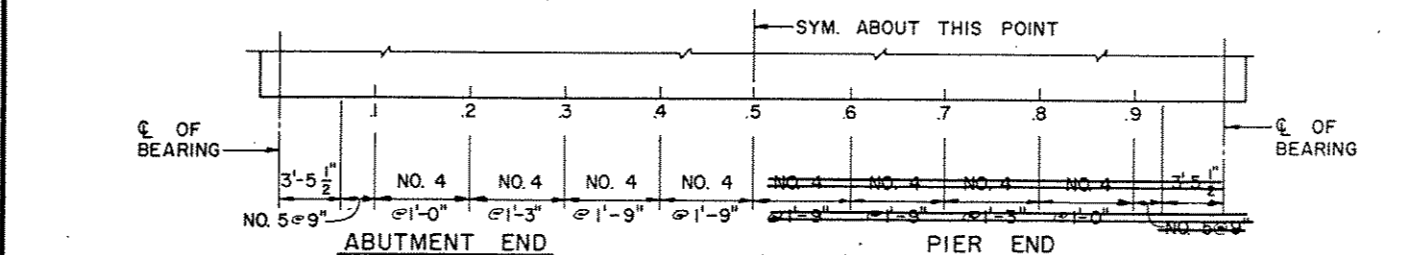


DIAPHRAGM SUPPORT

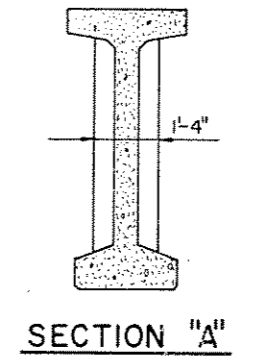
No.	Date	Revision	By
PLANS PREPARED BY AYRES ASSOCIATES Engineers/Architects Planners/Surveyors Owen Ayres & Associates Inc. Eau Claire, Wisconsin			
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE B-35-III			
Const. Spec.	1989	Drawn By	G.L.P.
		Plans Checked	C.B.M.
ALT. STEEL INTER. DIAPHRAGM DETAILS			SHEET 7 OF 13 X 82834



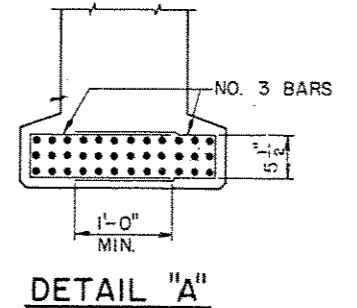
NOTE "A": ON MULTIPLE SPAN STRUCTURES SET THE END BLOCK LENGTHS OF GIRDERS RESTING ON THE SAME PIER TO $\pm 2"$. ON SIMPLE SPANS SET THE END BLOCK LENGTH ON BOTH GIRDER ENDS TO $\pm 1"$.



ALL STIRRUPS TO BE IN PAIRS AS SHOWN ABOVE.
THE LOCATION OF STIRRUPS SHALL BE SUBMITTED FOR APPROVAL ON THE SHOP DRAWINGS.
THE OVERALL LENGTH OF GIRDERS IS 109'-0".



SECTION "A"



DETAIL "A"

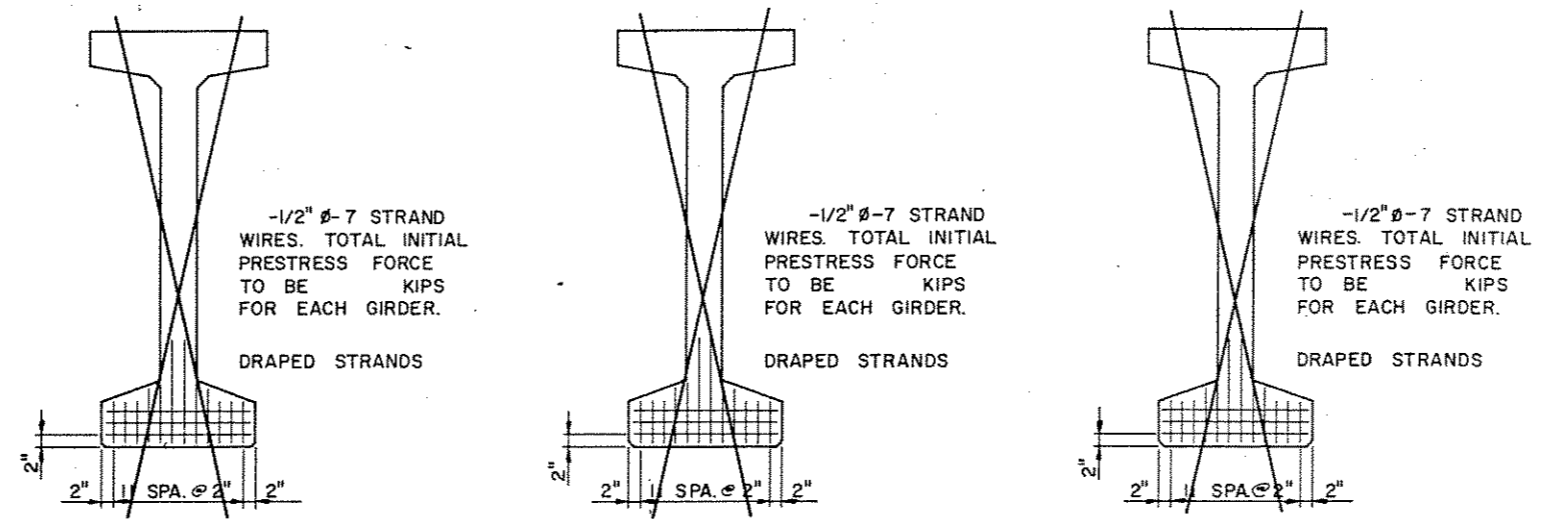
SECTION THRU GIRDER

GENERAL NOTES

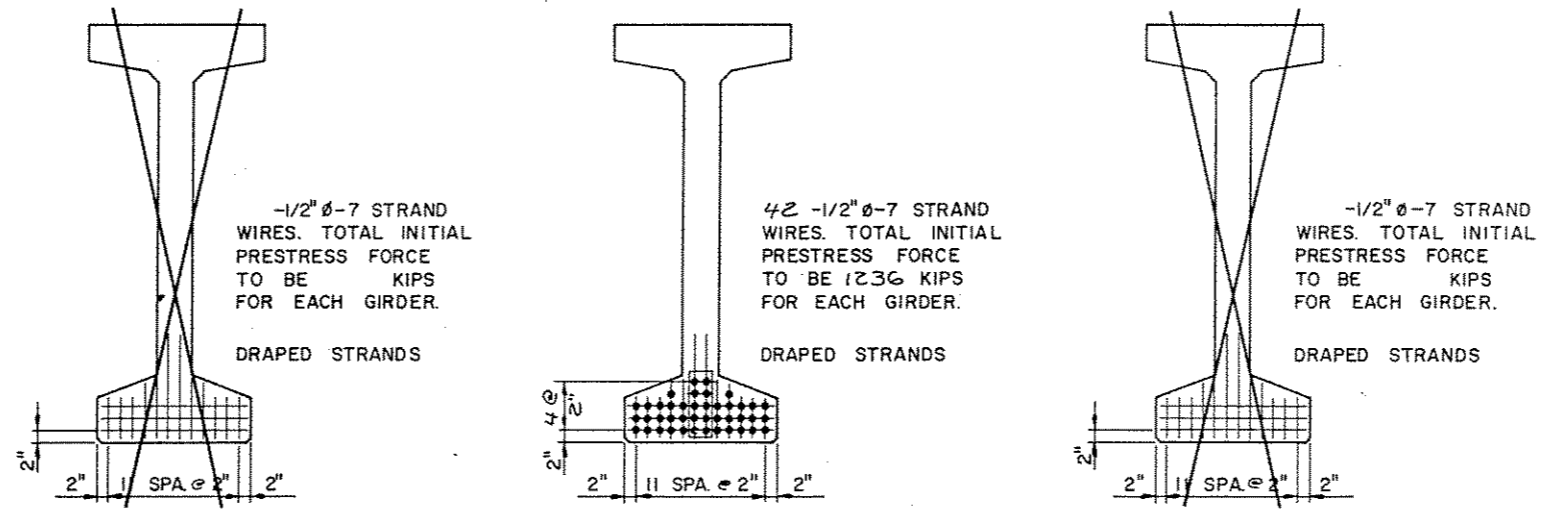
THE GIRDER MANUFACTURER SHALL PROVIDE A SUITABLE LIFTING DEVICE FOR HANDLING AND ERECTING THE GIRDERS.
ALL GIRDERS SHALL BE CAST FULL LENGTH AS SHOWN.
STRANDS SHALL BE FLUSH WITH END OF GIRDERS.
PRESTRESSING STRANDS SHALL HAVE AN ULTIMATE STRENGTH OF 270,000 p.s.i.
IF THE CONTRACTOR USES BOTTOM FLANGE TO SUPPORT CONSTRUCTION FORMS, THE CONTRACTOR SHALL SUBMIT FALSEWORK PLANS FOR APPROVAL OF THE ENGINEER.
ALL NON PRESTRESSED BAR STEEL REINFORCEMENT SHALL BE GRADE 60.
TOP OF GIRDERS TO BE ROUGH FLOATED AND BROOMED TRANSVERSELY FOR BONDING TO SLAB, EXCEPT OUTSIDE 2" OF GIRDERS WHICH SHALL BE TROWEL FINISHED.

WORK THIS SHEET WITH SHEET NO. 9.

No.	Date	Revision	By
PLANS PREPARED BY			
OWEN AYRES & ASSOCIATES			
ARCHITECTS / ENGINEERS			
EAU CLAIRE, WISCONSIN			
STATE OF WISCONSIN			
DEPARTMENT OF TRANSPORTATION			
DIVISION OF HIGHWAYS			
STRUCTURE B-35-III			
Const. Spec. 1989	Drawn By G.L.D.	Plans Checked C.B.M.	
70" PRESTRESSED GIRDER DETAILS			SHEET 8 OF 13
			X 82834



SECTION THRU GIRDER TAKEN AT \bar{C} OF SPAN
(STRESS RELEASED STRAND PATTERN)



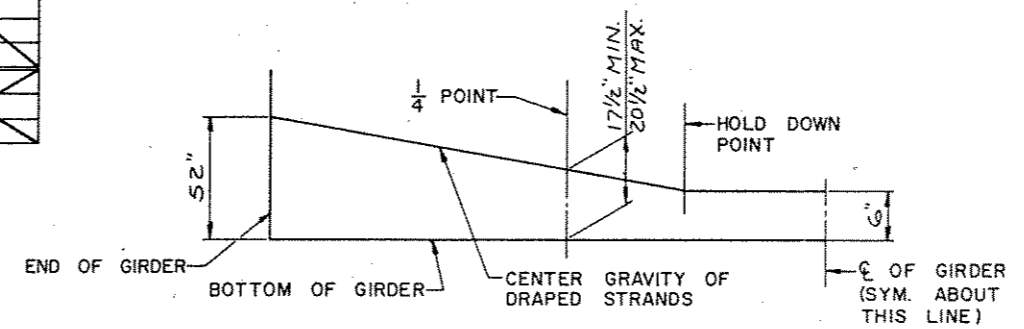
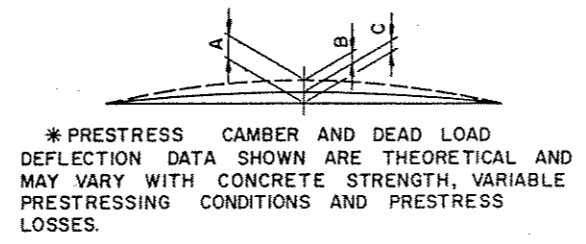
SECTION THRU GIRDER TAKEN AT \bar{C} OF SPAN
(LOW RELAXATION STRAND PATTERN)

MINIMUM CYLINDER STRENGTH OF CONCRETE AT TIME OF TRANSFER OF PRESTRESS FORCE f'_{ci} (p.s.i.)

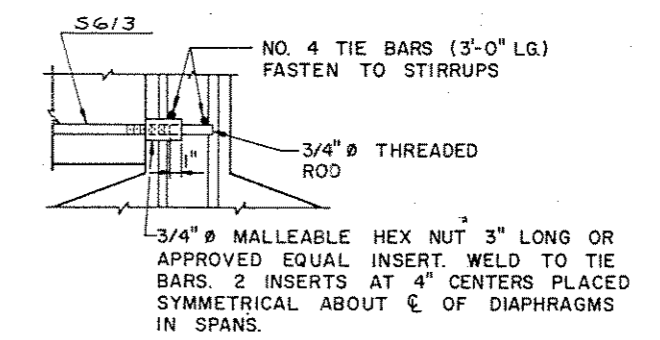
GIRDER TYPE	SPAN 1	SPAN	SPAN
DRAPED PATTERN \square			
DRAPED PATTERN \triangle	50	50	
SPREAD PATTERN			

DEFLECTION DATA

CAMBER	SPAN 1	SPAN	SPAN
* A = PRESTRESS CAMBER			
\square * B = DEAD LOAD DEFLECTION			
* C = RESIDUAL CAMBER			
* A = PRESTRESS CAMBER	2 3/8"		
* B = DEAD LOAD DEFLECTION	1 1/8"		
* C = RESIDUAL CAMBER	1 1/4"		



DRAPED STRAND PROFILE



ALL GIRDERS
INSERT DETAILS

\square DENOTES STRESS RELEASED GIRDER.
 \triangle DENOTES LOW RELAXATION GIRDER.

WORK THIS SHEET WITH SHEET NO. 8.

No.	Date	Revision	By

PLANS PREPARED BY
OWEN AYRES & ASSOCIATES
ARCHITECTS / ENGINEERS
EAU CLAIRE, WISCONSIN

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS

STRUCTURE B-35-III

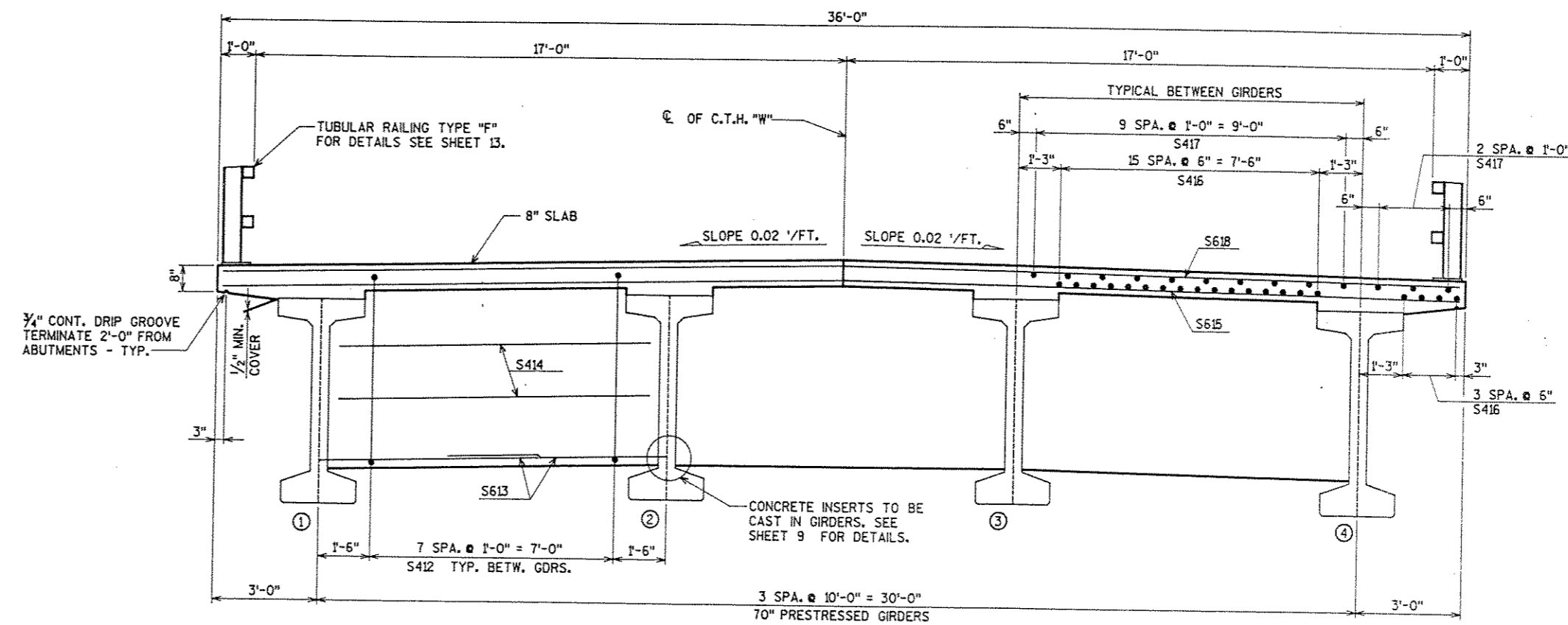
Const. Spec. 1989	Drawn By G.L.D.	Plans Checked C.B.M.
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70" PRESTRESSED GIRDER DETAILS

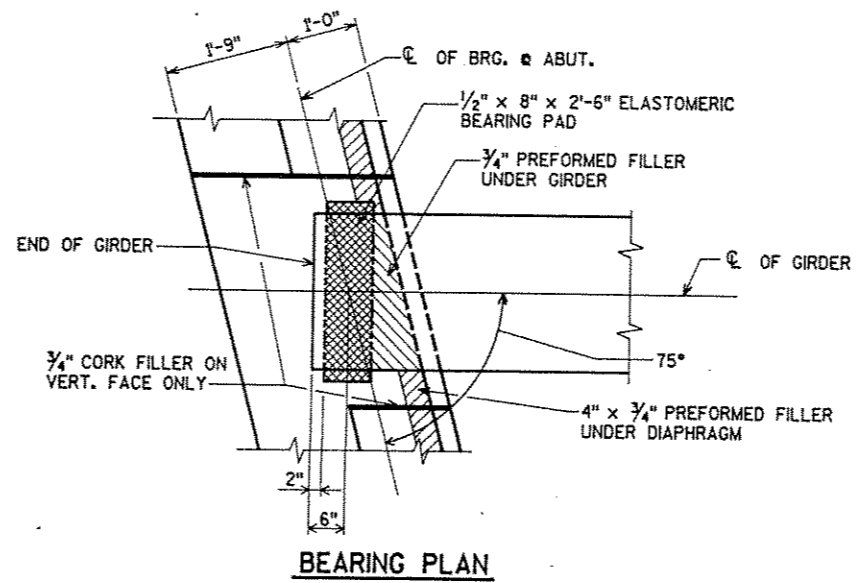
SHEET 9 OF 13
X 82834

SUBSET: TRBRIDGE
FILE NAME: 09232SUP

CHECKED ON 4,2,3,4,5,6,7,8,9,10,11,12,13,14,15,16,17,18,19,20,21,22,23,24,25,26,27,28,29,30,31,32,33,34,35,36,37,38,39,40,41,42,43,44,45,46,47,48,49,50,51,52,53,54,55,56,57,58,59,60,61,62,63
DATE: _____ BY: _____
DATE: _____ BY: _____
DATE: _____ BY: _____
CORRECTED BY: _____



TYPICAL CROSS SECTION THRU DECK
(LOOKING NORTH)

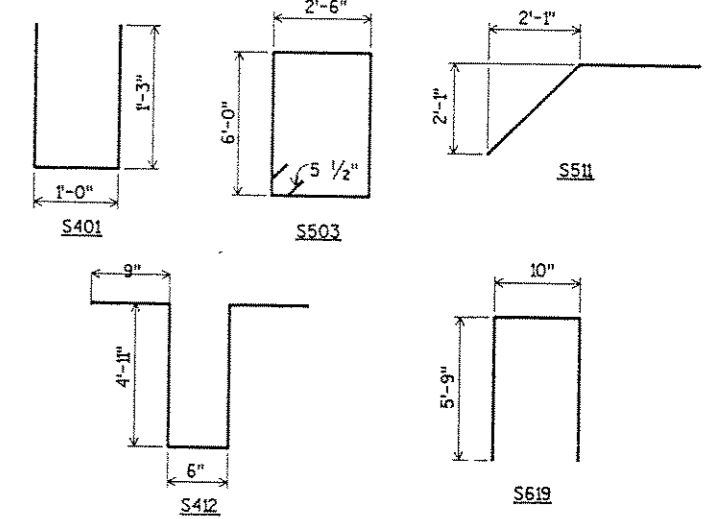


BEARING PLAN

BILL OF BARS

BAR NO.	NO. REOD.	LENGTH	BENT BAR COATED BAR CUT, DIAGR.	16,230# UNCOATED 13,710# COATED		LOCATION
S401	42	3-4	X			DIAPH. @ ABUT. @ NOTCH
S402	12	6-9				DIAPH. @ ABUT. @ NOTCH
S503	60	17-7	X			DIAPHRAGM @ ABUT. VERT.
S604	6	36-11				DIAPHRAGM @ ABUT. HORIZ.
S605	8	1-7				DIAPH. @ ABUT. HORIZ. @ EXT. GDRS.
S606	12	7-9				DIAPH. @ ABUT. HORIZ. @ EXT. GDRS.
S407	14	36-11				DIAPHRAGM @ ABUT. HORIZ.
S408	28	1-6				DIAPH. @ ABUT. HORIZ. @ EXT. GDRS.
S409	42	7-5				DIAPH. @ ABUT. HORIZ. @ EXT. GDRS.
S510	16	6-0				DIAPH. @ ABUT. THRU GDR.
S511	106	6-11	X	X		DIAPH. @ ABUT.
S412	48	11-6	X			DIAPHRAGM IN SPAN VERT.
S613	24	6-4				DIAPHRAGM IN SPAN HORIZ.
S414	24	9-2				DIAPHRAGM IN SPAN HORIZ.
S615	159	36-11				SLAB TRANSVERSE BOT.
S416	168	37-10				SLAB LONGITUDINAL BOT.
S417	108	37-10	X			SLAB LONGITUDINAL TOP
S618	168	36-11	X			SLAB TRANSVERSE TOP
S619	30	12-0	X	X		SLAB @ RAIL POSTS
S620	60	4-0	X	X		SLAB @ RAIL POSTS

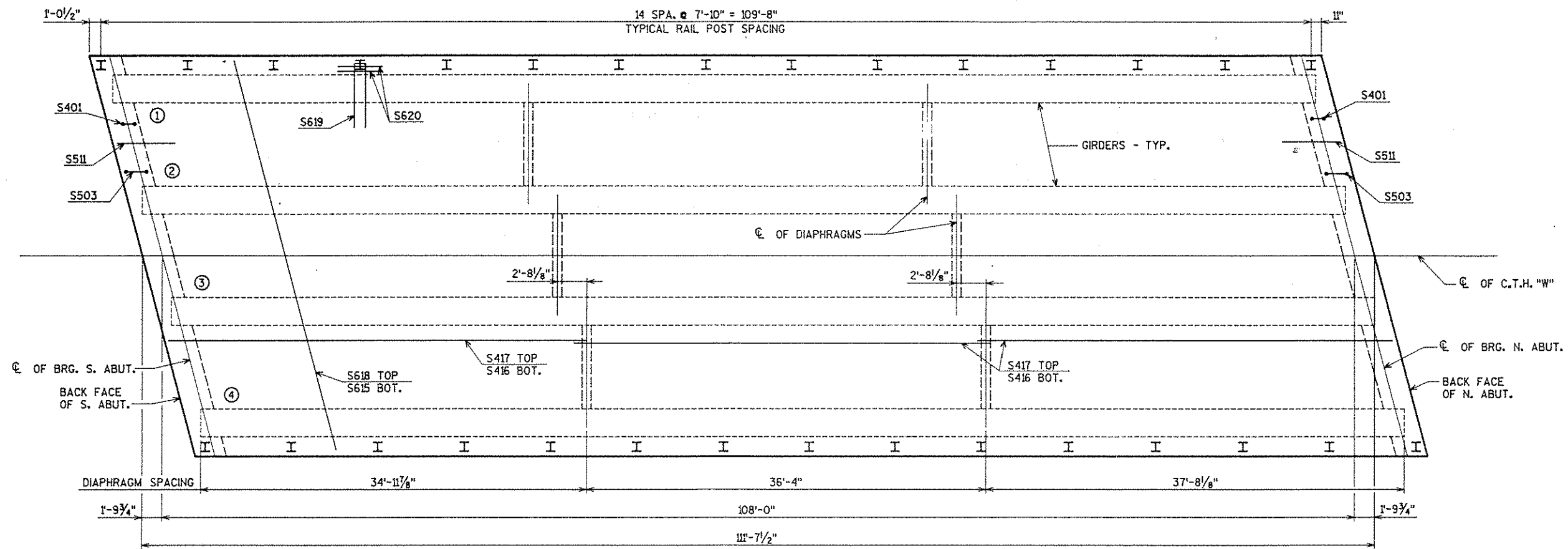
BENDING DIMENSIONS ARE OUT TO OUT OF BARS.
 [Symbol] THREAD ONE END 3".
 [Symbol] BEND IN FIELD.



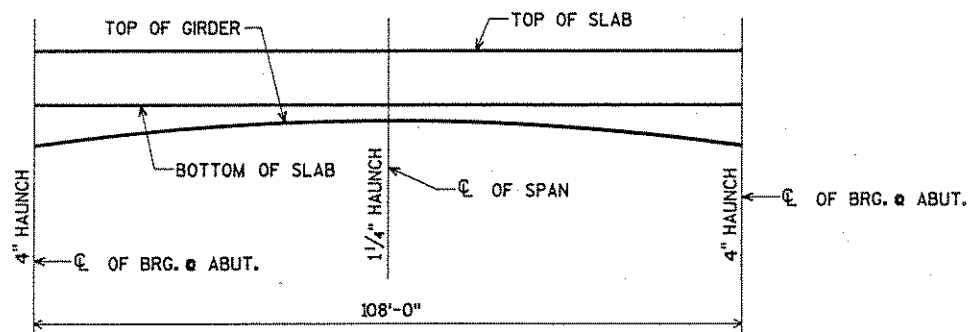
No.	Date	Revision	By
PLANS PREPARED BY AYRES ASSOCIATES Engineers/Architects Planners/Surveyors Owen Ayres & Associates Inc. Eau Claire, Wisconsin			
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION STRUCTURE B-35-III			
Const. Spec.	1989	Drawn By	G.L.D.
		Plane Checked	C.B.M.
SUPERSTRUCTURE			SHEET 10 OF 13
			X 82834

SUBSET: TRBRIDGE
FILE NAME: 09232SUP

LEVELS ON 42.3, 45.6, 7.8, 9.0, 11.2, 13.4, 15.6, 17.8, 19.9, 20.2, 21.22, 23.2, 24.25, 26.27, 28.29, 30.31, 32.33, 33.435, 36.37, 39.40, 41.42, 43.44, 45.46, 47.48, 49.50, 51.52, 53.54, 55.56, 57.58, 59.60, 61.62, 63



PLAN



SLAB FORMING DIAGRAM

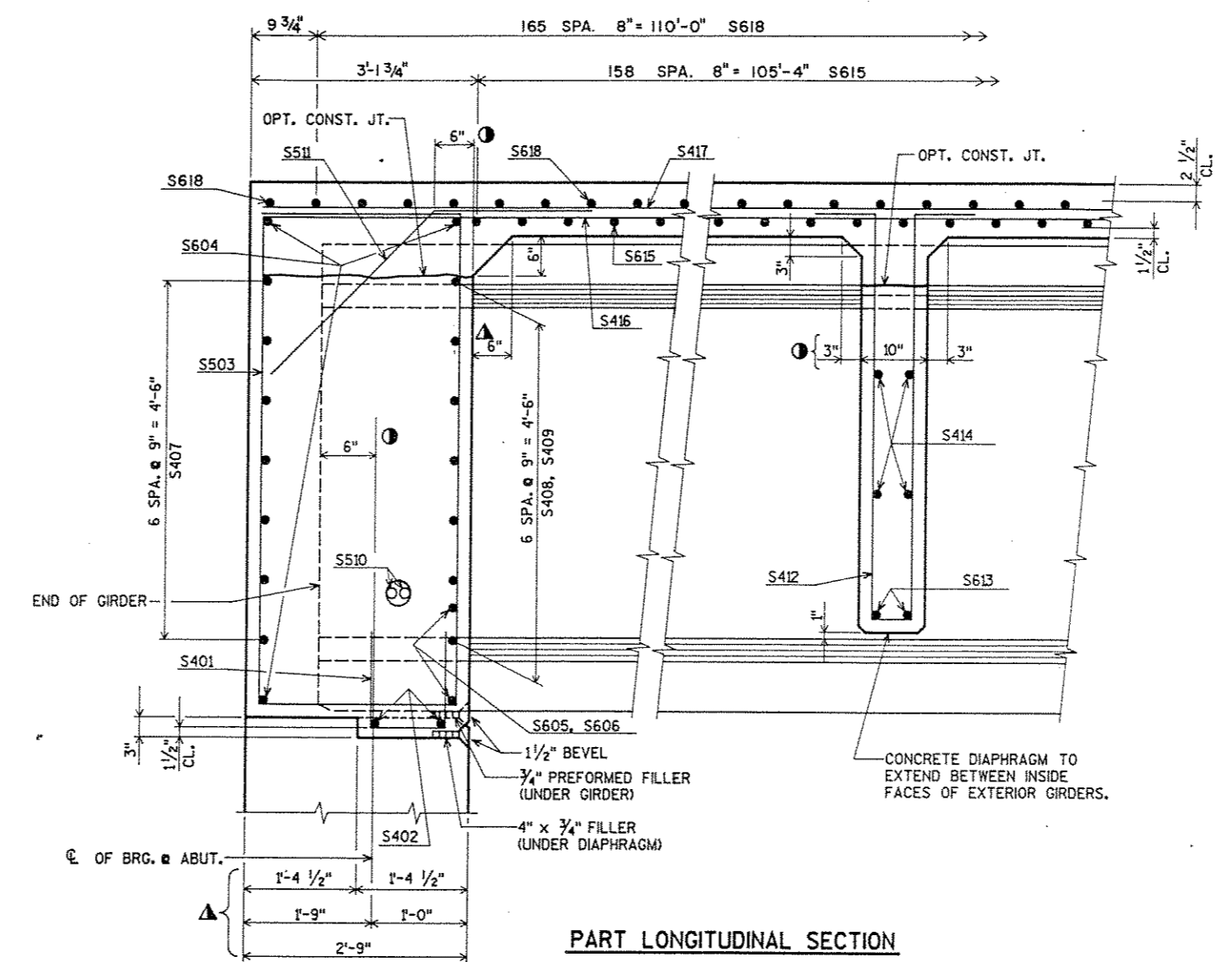
No.	Date	Revision	By
PLANS PREPARED BY			
AYRES ASSOCIATES Engineers/Architects Planners/Surveyors Owen Ayres & Associates Inc. Eau Claire, Wisconsin			
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE B-35-III			
Const. Spec.	1989	Drawn By	6.L.D.
		Plans Checked	C.B.M.
SUPERSTRUCTURE PLAN		SHEET 11 OF 13	
		X 82834	

BACK CHECKED BY: DATE:
CORRECTED BY: DATE:

SUBSET: TRBRIDGE
FILE NAME: 09232SUP

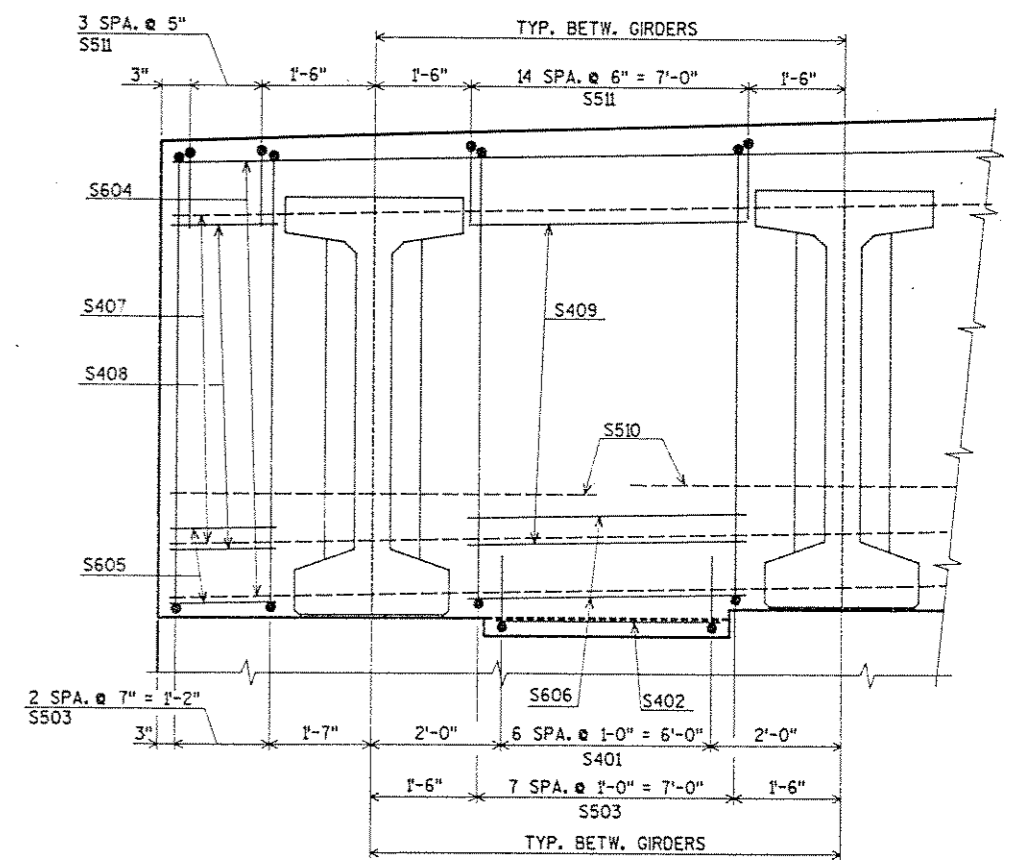
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CORRECTED BY: _____ DATE: _____

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PART LONGITUDINAL SECTION

- DIMENSIONS MEASURED ALONG \bar{C} OF GIRDER.
- ▲ DIMENSIONS MEASURED NORMAL TO \bar{C} OF SUBSTRUCTURE UNIT.



PART SECTION AT ABUTMENT

No.	Date	Revision	By
PLANS PREPARED BY AYRES ASSOCIATES Engineers/Architects Planners/Surveyors Owen Ayres & Associates Inc. Eau Claire, Wisconsin			
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE		B-35-III	
Const. Spec.	1989	Drawn By	G.L.D.
		Plane Checked	C.B.M.
SUPERSTRUCTURE DETAILS			SHEET 12 OF 13
			X 82834

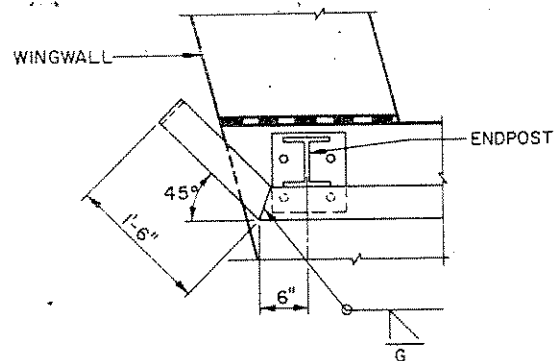
GENERAL NOTES

1. BID ITEM SHALL BE "TUBULAR RAILING, TYPE F"
2. POST BASE PLATE SHALL BE FLAT WITH ALL SURFACES SMOOTH & FREE FROM WARP & ALL EDGES SMOOTH, STRAIGHT & VERTICAL. ALL PLATE CUTS SHALL BE MACHINE OR MACHINE FLAME CUTS.
3. RAILING SHALL BE 4" x 4" x .25" STRUCTURAL TUBING CONFORMING TO A.S.T.M. DESIGNATION A36.
4. ANCHOR BOLTS SHALL BE $\frac{7}{8}$ " ϕ NOMINAL CONFORMING TO A.S.T.M. A449 WITH 3" THREAD AND A325 NUTS AND WASHERS.
5. CAULK EXPOSED OPENINGS BETWEEN SHIMS.
6. POST, BASE PLATES & SHIMS SHALL BE MADE FROM MATERIAL CONFORMING TO A.S.T.M. DESIGNATION A36. CUT BOTTOM OF POST TO MATCH CROSS SLOPE OF ROADWAY. PLACE POST NORMAL TO GRADE LINE.
7. PLACE ANCHOR BOLTS NORMAL TO BASE PLATE.
8. ALL MEMBERS, INCLUDING UPPER 4" OF ANCHOR BOLTS, SHALL BE GALVANIZED AFTER FABRICATION.
9. WELD WITH E70 ELECTRODES.
10. FILL BOLT SLOT OPENINGS IN POST SHIMS AND BASE PLATE WITH NON-STAINING GRAY NON-BITUMINOUS JOINT SEALER.
11. STEEL SHIMS SHALL BE USED UNDER POSTS WHERE REQUIRED FOR ALIGNMENT.
12. RAILING SHALL BE FABRICATED IN 2 AND 3 PANEL LENGTHS.
13. PRIOR TO GALVANIZING, ALL STEEL RAILING SHALL BE GIVEN A NO. 6 COMMERCIAL BLAST CLEANING BY S.S.P.C. SPECIFICATIONS. BLAST CLEANING IS NOT REQUIRED FOR COLD FORMED 4" x 4" x .25" STRUCTURAL TUBING, EXCEPT TO REMOVE WELDING SLAG AND IMPERVIOUS SUBSTANCES.

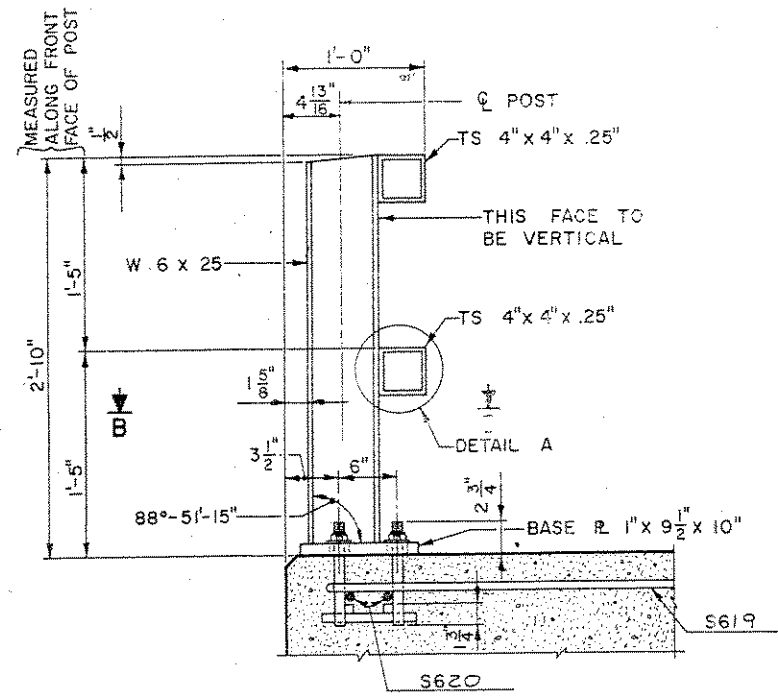
▲ MINIMUM $\frac{5}{8}$ " FLAT SURFACE DIAMETER PUNCHINGS OR STUDS MAY BE USED AS AN ALTERNATE.

● OR MATERIAL OF EQUIVALENT YIELD STRENGTH AND ELONGATION. (MIN. YIELD OF 92 K.S.I. AND ELONGATION OF 14%).

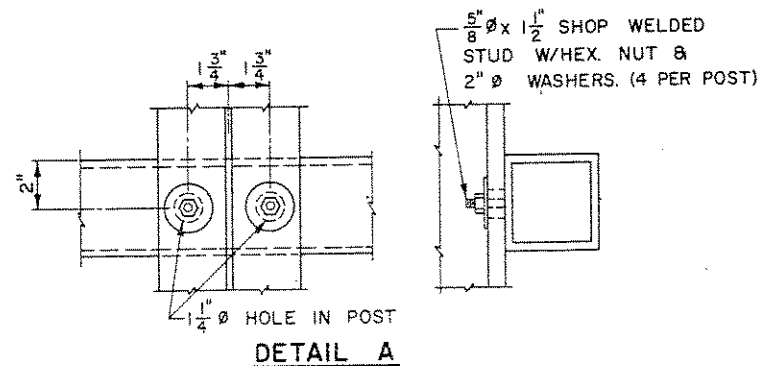
○ 1'-3" LG. ANCHOR BOLTS AT END POSTS.



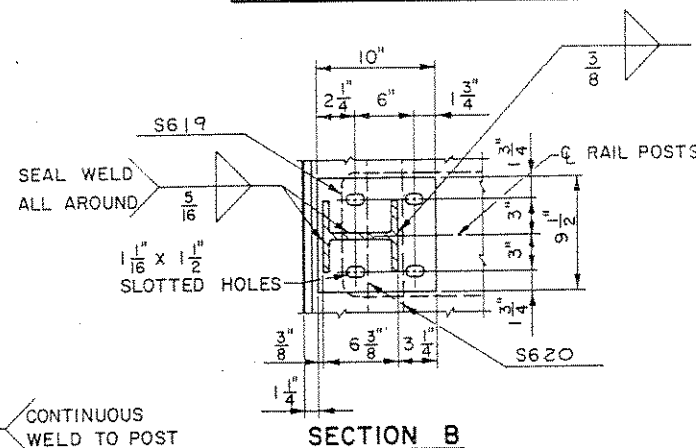
END DETAIL FOR WINGS



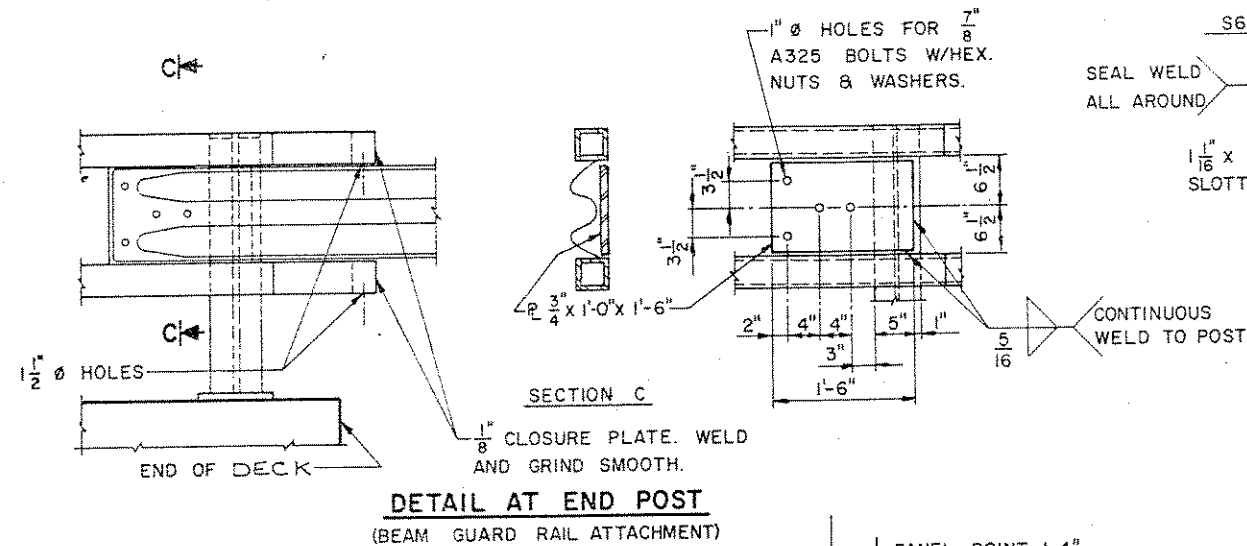
SECTION THRU RAILING



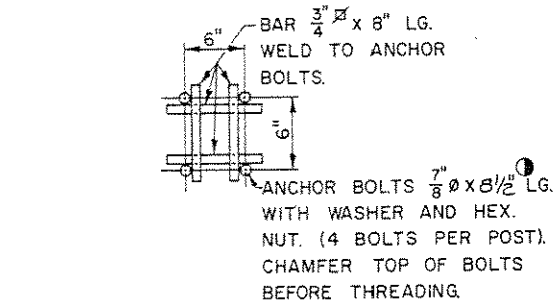
DETAIL A



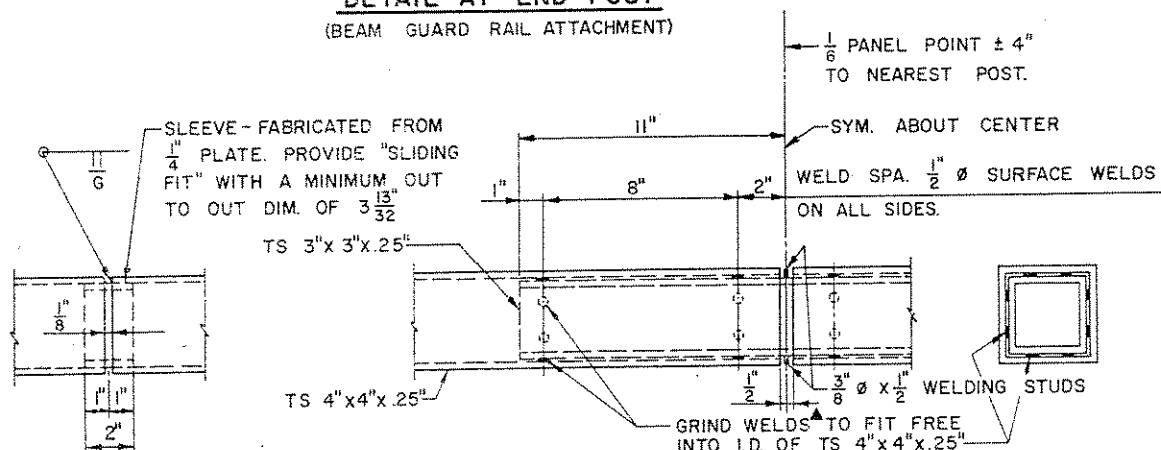
SECTION B



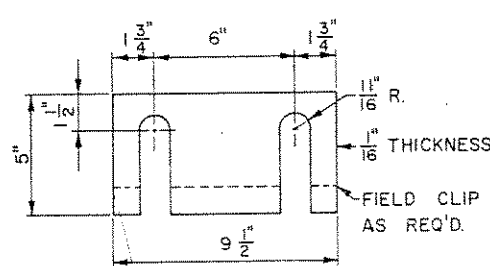
**DETAIL AT END POST
(BEAM GUARD RAIL ATTACHMENT)**



ANCHOR BOLT DETAIL



**FIELD ERECTION
JOINT DETAIL**



**POST SHIM DETAIL
(4 PER POST)**

**SHOP RAIL SPLICE DETAIL
(LOCATION MUST BE SHOWN ON THE SHOP DRAWINGS)**

No.	Date	Revision	By
AYRES ASSOCIATES Engineers / Architects Planners / Surveyors Owen Ayres & Associates Inc. Eau Claire, Wisconsin.			
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION DIVISION OF HIGHWAYS			
STRUCTURE B-35-III			
Const. Spec.	1989	Drawn By	G.L.D.
		Plans Checked	C.B.M.
TUBULAR RAILING TYPE "F"			SHEET 13 OF 13 X 82834