

PLAN #875

B-44-0100

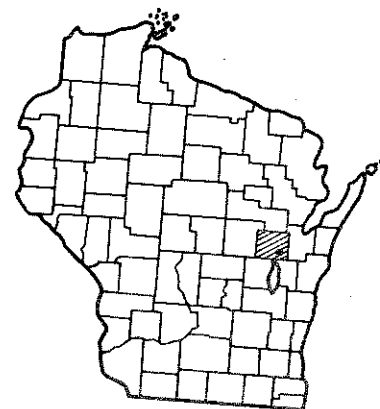
J APPLE CREEK

J - Field Office

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
PLAN OF PROPOSED IMPROVEMENT

STATE PROJECT	FEDERAL PROJECT
6016-1-71	BRZ 4499(7)

TOTAL SHEETS = 10



AS BUILT PLAN

NO. 875

SUPERVISOR R.L. BERG

RESIDENT G. KUSCHEL

CONTRACTOR BLEICK

COMPLETED 9-29-82

KAUKAUNA - C.T.H. "S" ROAD
(APPLE CREEK BRIDGE)
C.T.H. "J"
OUTAGAMIE COUNTY

STATE PROJECT NUMBER
6016-1-71

"As Built"
NO PLAN CHANGE

Design Designation

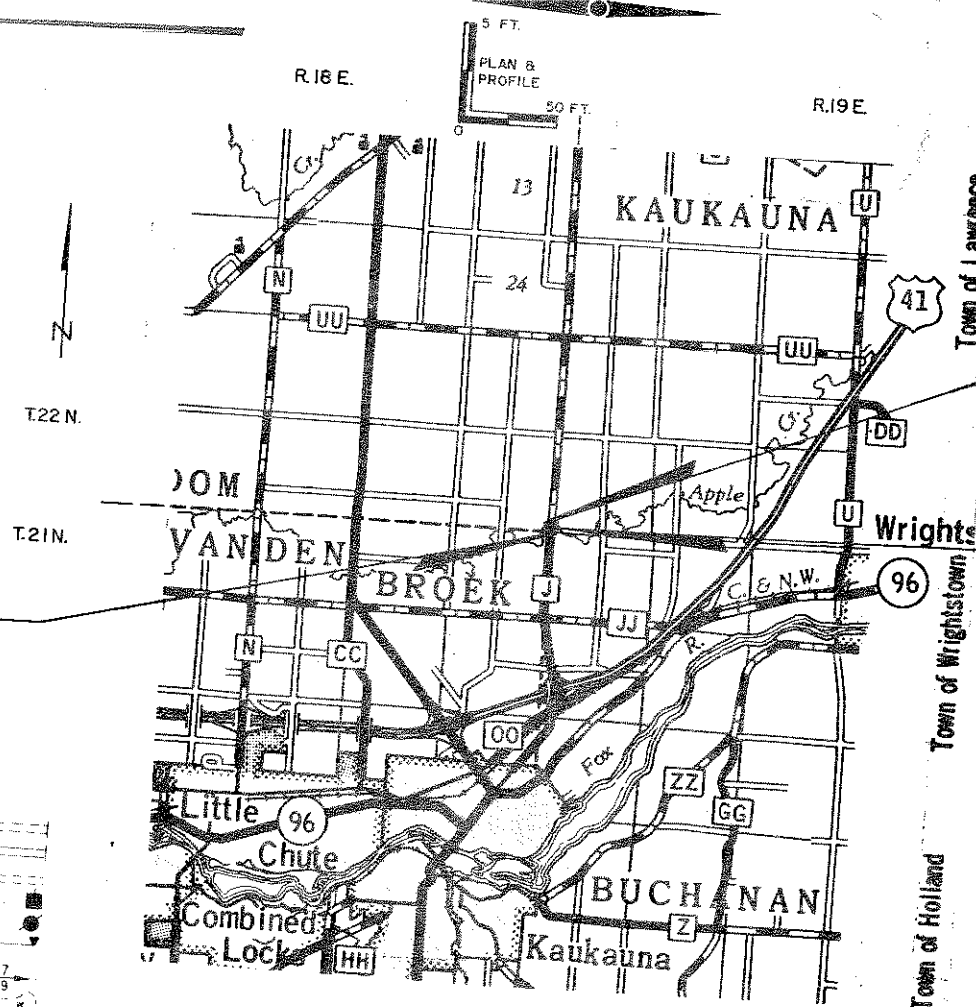
- A.D.T. (1982) 400
- A.D.T. (2002) 450
- D.H.V. 90
- D. (%) 60/40
- T. (% of ADT) 6
- V. 50MPH.

BEGIN PROJECT 6016-1-71
STA. 17+71

N = 185,700 (±200')
E = 2,457,100 (±200')

Conventional Signs

- County Line
- Township or Range Line
- Section Line
- New Right of Way Line
- Present Right of Way Line
- Wire Fence
- Corporate or City Limits
- Property Line
- Traveled Way or P.E.
- Railroads
- Base or Survey Line
- Culverts in Place
- Culverts Required
- Drop Inlet
- Power Pole
- Telephone or Telegraph Pole
- Right of Way Markers
- Reference Stake for Hubs Only
- Marsh
- Hedge
- Trees
- Ground Elevation
- Grade Elevation



Layout
Scale 0 .5 1 2 MILES

Total Net Length of Centerline = 0.017 Mi. (RURAL)

END PROJECT 6016-1-71
STA. 18+59

STRUCTURE B-44-100

APPROVED FOR
OUTAGAMIE
COUNTY BY

2-18-82 (Date)
[Signature] (Signature of Official)

ORIGINAL
PLANS PREPARED BY
BARRIENTOS & ASSOCIATE
CONSULTING ENGINEER
MADISON, WISCONSIN



STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

Surveyor B.A.I. District Checker R.G.
Designer B.A.I. C.O. Checker M.R.
District Supervisor J.E.E. C.O. Coordinator M.L.

Approved:
Date 3/2/82 [Signature] Chief Design Engineer

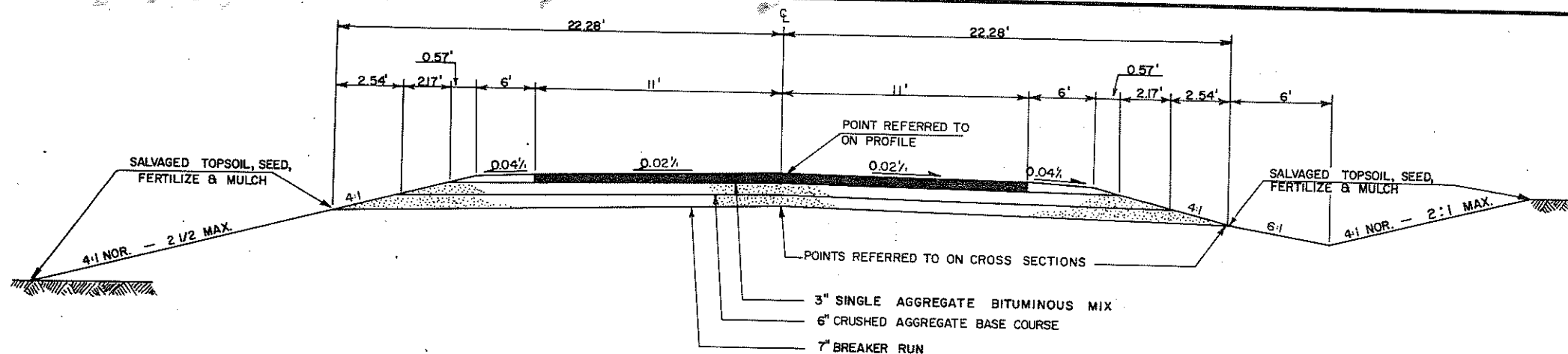
Approved:
Date 3-31-82 [Signature] Chief Design Engineer

Approved:
Date 3/31/82 [Signature] Director of Development

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

NOTE: All coordinates shown on this plan are referenced to the WISCONSIN COORDINATE SYSTEM, CENTRAL ZONE, and are scaled from the KAUKAUNA QUADRANGLE, for identification purposes only.

STATE PROJECT NUMBER	SHEET
6016-1-71	2
TYPICAL SECTIONS	



TYPICAL ROADWAY CROSS SECTION

FOR INFORMATION ONLY
NOT A PART OF THIS CONTRACT

GENERAL NOTES

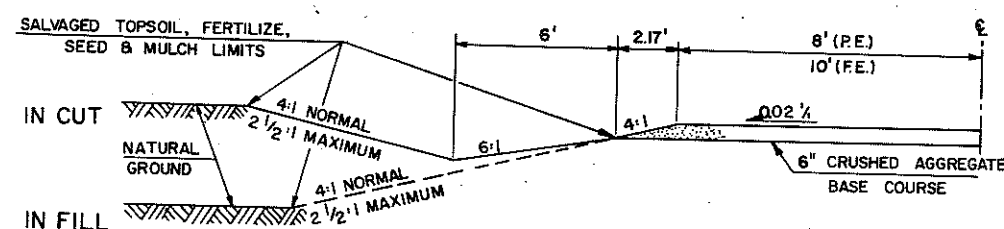
THE WISCONSIN DEPARTMENT OF TRANSPORTATION SHALL FURNISH THE CONTRACTOR A BRASS MONUMENT WHICH SHALL BE SET IN THE STRUCTURE AS DESIGNATED BY THE ENGINEER.

ALL PRIVATE UTILITIES ARE TO BE ADJUSTED BY THE UTILITIES CONCERNED.

THE LOCATIONS OF EXISTING AND PROPOSED UTILITY INSTALLATIONS AS SHOWN ON THE PLANS ARE APPROXIMATE. THERE MAY BE OTHER UTILITY INSTALLATIONS WITHIN THE PROJECT AREA THAT ARE NOT SHOWN.

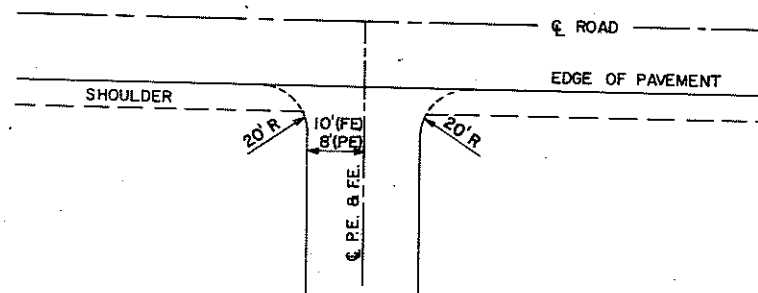
MARKER POSTS FOR RIGHT OF WAY AND STEEL PLATE BEAM GUARD INDICATED ON THE PLAN SHEET ARE TO BE FURNISHED AND INSTALLED BY OTHERS.

OUTAGAMIE COUNTY WILL CONSTRUCT ALL EMBANKMENT FILLS NECESSARY TO COMPLETE THIS PROJECT.



TYPICAL 1/2 SECTION FOR P.E. & F.E.

NOT A PART OF THIS CONTRACT



PLAN OF P.E. & F.E.

NOT A PART OF THIS CONTRACT

STANDARD DETAIL DRAWINGS

12A3-4 NAME PLATE - STRUCTURES

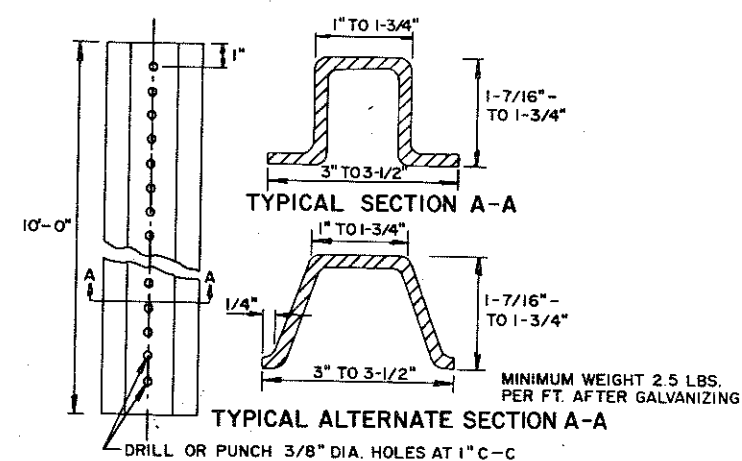
15CI-7 CONSTRUCTION BARRICADES AND STANDARD SIGNS

UTILITIES INVOLVED IN THIS PROJECT

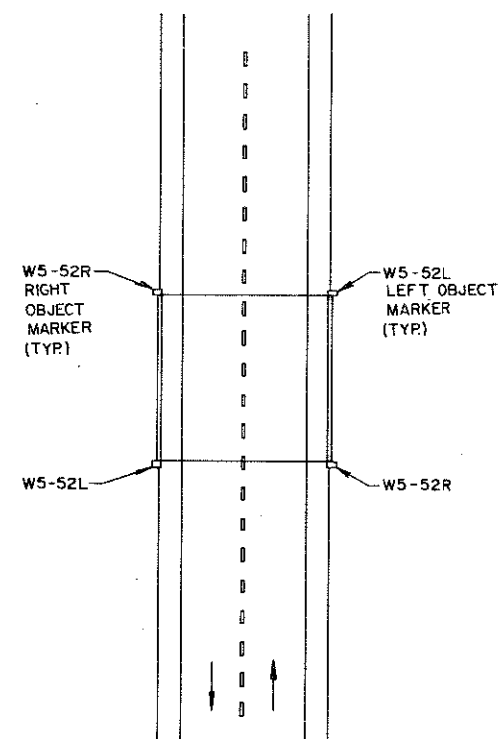
KAUKAUNA ELECTRIC CO.
777 ISLAND ST.
KAUKAUNA, WI. 54130
ATTN: DON JOHNSON
1-414-766-5721

WISCONSIN TELEPHONE CO.
221 WEST WASHINGTON ST.
P.O. BOX 2159
APPLETON, WI. 54911
ATTN: ROGER POST
1-414-735-3253

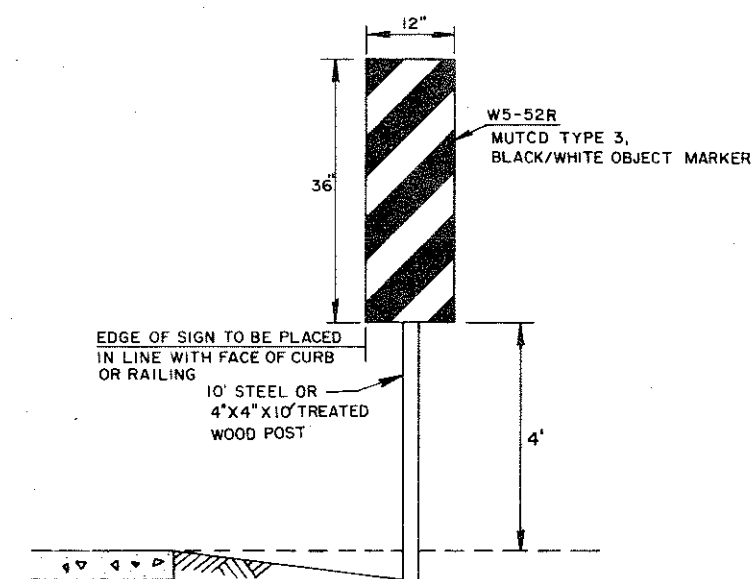
STATE PROJECT NUMBER	SHEET NO.
6016-01-71	2.1
DETAILS FOR BRIDGE CLEARANCE MARKERS	



10' STEEL POSTS



LOCATION OF BRIDGE
CLEARANCE MARKERS



WARNING SIGN PLACEMENT

ESTIMATE OF QUANTITIES

DATE 04/23/82

PROJECT ID: 6016-01-71
 OUTAGAMIE COUNTY
 KAUKAUNA - C.T.H. S ROAD
 /APPLE CREEK BRIDGE/
 C.T.H. J

ITEM	ITEM DESCRIPTION	UNIT	TOTAL	6016-01-71 QUANTITY
20351	REMOVING OLD BRIDGE, STATION 17+95	L.S.	1.00	1.00
20610	EXCAVATION FOR STRUCTURES, BRIDGES B-44-100	L.S.	1.00	1.00
50201	CONCRETE MASONRY, BRIDGES	C.Y.	162.00	162.00
50307	PRESTRESSED GIRDER, I TYPE, 54-INCH	L.F.	340.00	340.00
50504	HIGH-STRENGTH BAR STEEL REINFORCEMENT, BRIDGES	LB.	25,340.00	25,340.00
50625	BEARING PADS, ELASTOMERIC	S.F.	12.00	12.00
51121	STEEL PILING, DELIVERED AND DRIVEN, HP 10-INCH 42 POUND	L.F.	600.00	600.00
51340	TUBULAR RAILING, TYPE F, STRUCTURE B-44-100	L.S.	1.00	1.00
60602	HEAVY RIPRAP	C.Y.	410.00	410.00
61910	MOBILIZATION	L.S.	1.00	1.00
64201	FIELD OFFICE, TYPE A	L.S.	1.00	1.00
64301	TRAFFIC CONTROL	L.S.	1.00	1.00
90066	BRIDGE CLEARANCE MARKERS	L.S.	1.00	1.00

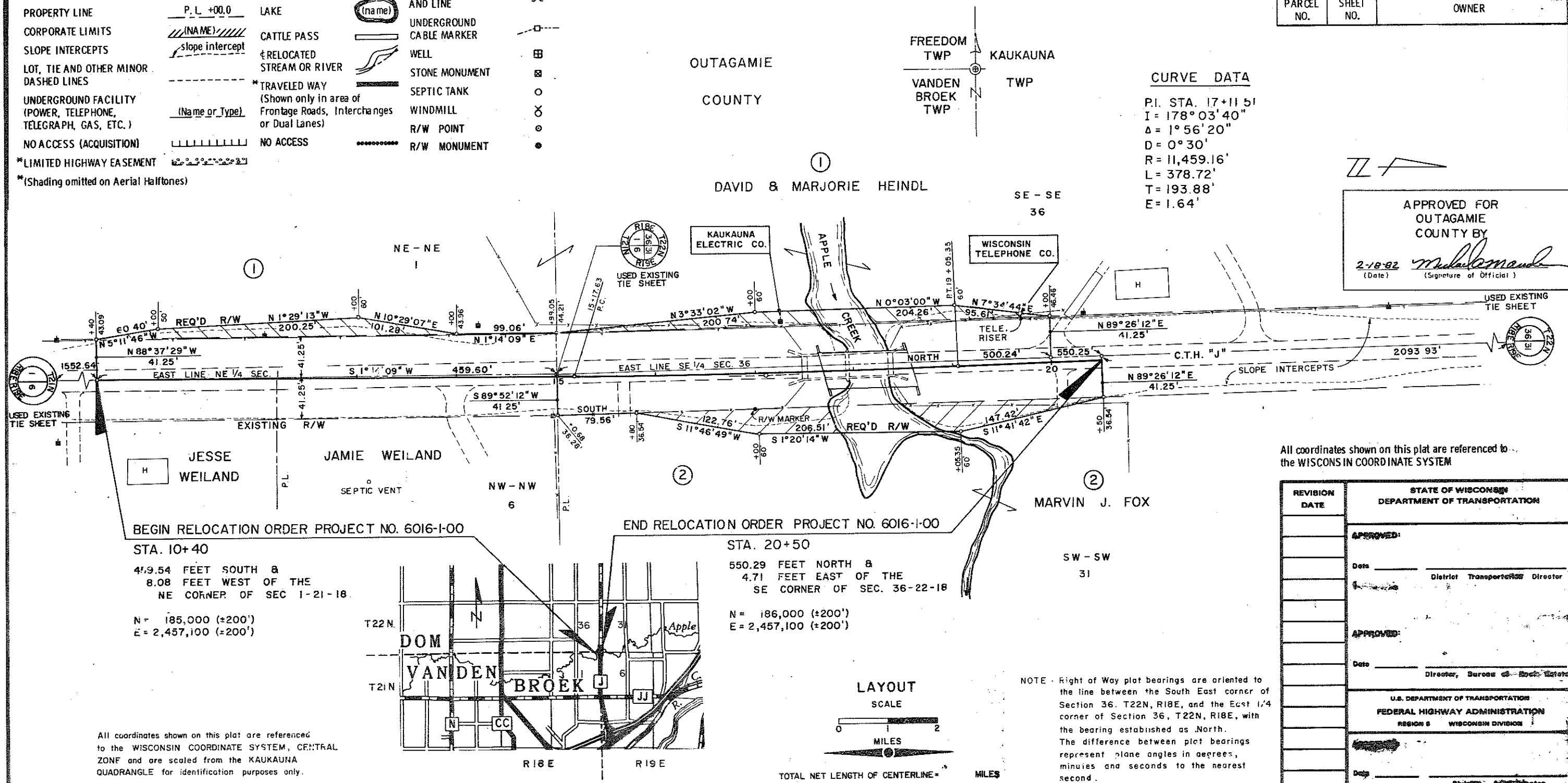
SHEET 3

CONVENTIONAL SIGNS			
STATE LINE	---+---+---	*HIGHWAY HIGHWAY SEPARATION	
COUNTY LINE	---+---	HIGHWAY OVERPASS	
TOWNSHIP AND RANGE LINES	---+---+---	*RAIL LINE OVERPASS	
SECTION LINE	---+---	ALL OTHER BRIDGES	
QUARTER LINE	---+---	STREAM OR RIVER	
SIXTEENTH LINE	---+---	LAKE	
NEW CENTERLINE	---+---	CATTLE PASS	
NEW R/W LINE	---+---	RELOCATED STREAM OR RIVER	
OLD R/W LINE	---+---	*TRAVELED WAY (Shown only in area of Frontage Roads, Interchanges or Dual Lanes)	
PROPERTY LINE	P.L. +00.0	NO ACCESS	
CORPORATE LIMITS	///(NAME)///		
SLOPE INTERCEPTS	---slope intercept---		
LOT, TIE AND OTHER MINOR DASHED LINES	-----		
UNDERGROUND FACILITY (POWER, TELEPHONE, TELEGRAPH, GAS, ETC.)	---(Name or Type)---		
NO ACCESS (ACQUISITION)	-----		
*LIMITED HIGHWAY EASEMENT	---+---+---		
*(Shading omitted on Aerial Halftones)			

SCHEDULE OF LANDS AND INTERESTS

PARCEL NO.	OWNER	INTEREST REQUIRED	NEW R/W	EXISTING R/W	TOTAL R/W	ACRES REMAINING
1	DAVID & MARJORIE HEINDL	FEE	0.13	0.89	1.02	162 ±
2	MARVIN J. FOX	FEE	0.16	0.47	0.63	84 ±
40	KAUKAUNA ELECTRIC CO.	RELEASE OF RIGHTS				
41	WISCONSIN TELEPHONE CO.	RELEASE OF RIGHTS				

R/W PROJECT NUMBER 6016-1-00	SHEET NUMBER 4.0	TOTAL SHEETS 1
FEDERAL PROJECT NUMBER		
PLAT OF RIGHT OF WAY REQUIRED FOR APPLE CREEK BRIDGE AND APPROACHES C.T.H. "J" OUTAGAMIE COUNTY, WI DATED 2/15/82		
CONSTRUCTION PROJECT NUMBER 6016-1-71/4		
PARCEL NO.	SHEET NO.	OWNER



RAYMOND HEINDL

STA. 17+25
REMOVE EXISTING STRUCTURE (P-44-46)
1-92'-0" CLEAR WIDTH, 2 SPAN
CONCRETE "T" BEAM BRIDGE

STATE PROJECT NUMBER

6016-1-71

SHEET NO.

5

CURVE DATA

PI STA. 17+11.51
I = 178° 03' 40"
Δ = 01° 56' 19"
D = 0° 30'
R = 11,459.16'
L = 387.72'
T = 193.88'
E = 1.64'

STA. 19+90 LT.
CONST. P.E.
1-18" C.P.
(BY OTHERS)

STA. 22+03 LT.
CONST. P.E.
1-18" C.P.
(BY OTHERS)

STA. 15+25 RT.
CONST. P.E.
1-18" C.P.
(BY OTHERS)

STA. 20+11 RT.
CONST. P.E.
1-18" C.P.
(BY OTHERS)

STA. 13+98 RT.
CONST. P.E.
1-18" C.P.
(BY OTHERS)

STA. 10+15 RT.
CONST. P.E.
1-18" C.P.
(BY OTHERS)

BENCH MARKS

NO.	STA.	DESCRIPTION	ELEV.
1	10+00	SPIKE IN PP 24C4-18/10 .5' UP E. SIDE	61.5' RT. 705.38'
2	17+27	SPIKE IN PP 24C4-15/17 4' UP E. SIDE	44' LT. 679.18'
3	23+41	SPIKE IN PP 24C4-15/23 .5' UP E. SIDE	40' LT. 704.49'

BEGIN PROJECT 6016-1-71
STA. 17+71

END PROJECT 6016-1-71
STA. 18+59

STA. 18+15
STRUCTURE B-44-100 REQ'D
SINGLE SPAN, SKEW 15° R.H.E., 34' CLEAR WIDTH
54" CONCRETE PRESTRESSED GIRDER BRIDGE
SEE DRAWINGS X67997-X68003

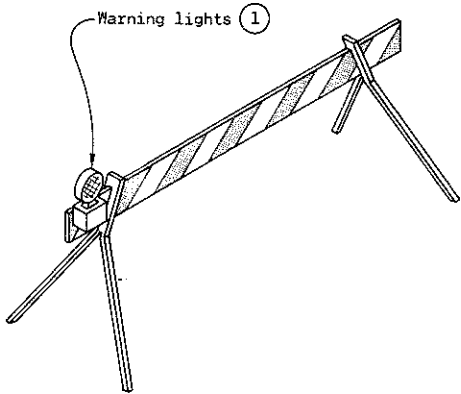
HIGH WATER 100
EL. 681.10

OBSERVED WATER EL. 677.02

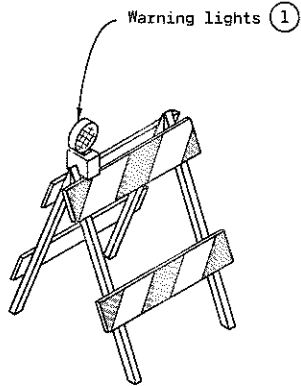
TABLE OF BARRICADE CHARACTERISTICS

BARRICADE TYPE	I	II	III
Height	3' Minimum		5' Minimum
*Rail Width	8" Minimum to 12" Maximum		
Rail Length	2' Minimum		4' Minimum
**Stripe Width	6" at 45° Angle		
Stripe Colors	Reflectorized Orange & White		

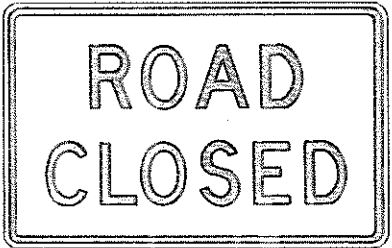
* Nominal dimensions when barricade is constructed of lumber.
** Shall be 4" for rail lengths less than 3'.



TYPICAL TYPE I BARRICADE



TYPICAL TYPE II BARRICADE



R11-2

48" x 30"

Black Lettering on Reflective
White Background
Letter Series "O"
Letter height 8"



W20-3

48" x 48"

Black Lettering on Reflective
Orange Background
Letter Series "D"
Letter height 7"

STANDARD SIGNS - TYPE II

GENERAL NOTES

The contractor shall furnish, erect and maintain barricades and signs. Details regarding location, spacing, dimensions, fabrication, material, sign lettering, lighting devices and color of barricades and signs shall conform to this drawing, the Manual On Uniform Traffic Control Devices, the Standard Specifications, Special Provisions and/or plans.

Type III Barricades and Signs shall be erected at the termini of projects and at other road or street locations where it is necessary to control or eliminate public access to the construction area.

Type I and II Barricades shall be used on projects when traffic is to be maintained through the construction area.

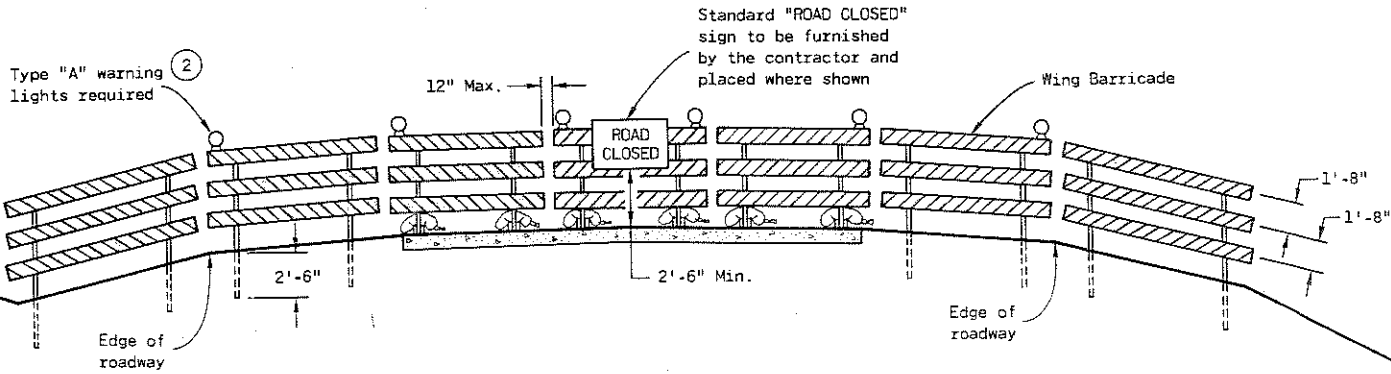
The actual field location of barricade installations and advance signs shall be as directed by the Engineer.

Each barricade shall have the name and telephone number of a person responsible for 24 hour emergency service printed in letters at least 3/4 inch in height on the barricade rails. Prior to May 1, 1983, such information may be shown on either front or back faces of the barricade rails. After May 1, 1983, all printed information or identification markings shall be shown only on the back side of barricade rails.

Type I Barricades may include other unstriped horizontal panels necessary to provide stability.

On high speed expressways or in other situations where barricades may be susceptible to overturning in the wind, sandbags should be used for ballasting. Sandbags may be placed on lower parts of the frame or stays to provide the required ballast but shall not be placed on top of any striped rail.

- ① Unless otherwise provided elsewhere in the contract, warning lights are required on all barricades which will be located near traffic operations during periods of inclement weather or hours of darkness. Barricades used to shield isolated hazards shall be equipped with Type "A" (low intensity - flashing) lights unless Type "B" (high intensity) - flashing lights are specified elsewhere in the contract documents. Barricades used for channelization or delineation of the travel path shall be equipped with Type "C" (steady burn) lights except for the initial barricade(s) in sequence, which shall be equipped with Type "A" or "B" lights as previously noted.
- ② Two warning lights shall be provided on the center barricade and at least one warning light shall be provided on each of the other barricades within the roadway limits. Spacing of the warning lights shall be uniform to the edge of roadway as shown.



TYPICAL INSTALLATION SHOWING TYPE III BARRICADE

CONSTRUCTION BARRICADES

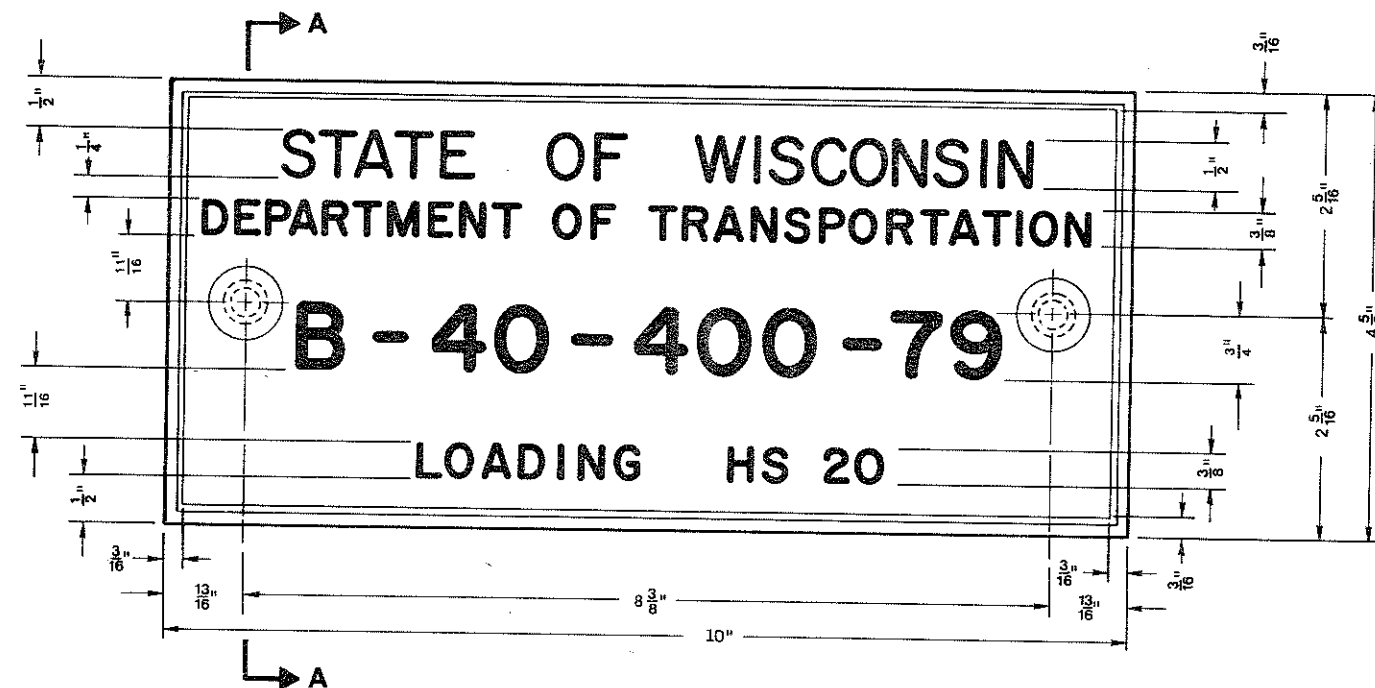
CONSTRUCTION BARRICADES
& STANDARD SIGNS

State of Wisconsin
Department of Transportation

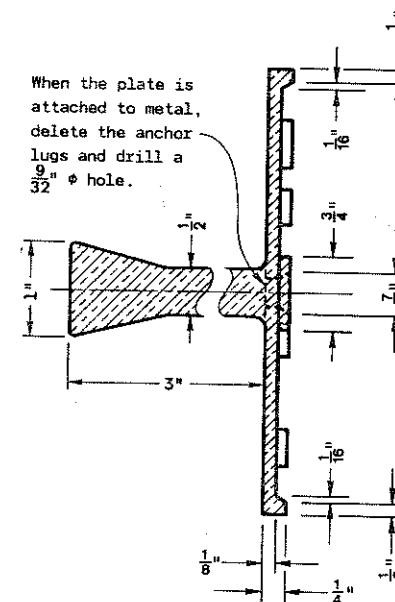
APPROVED
9-14-81
DATE

[Signature]
CHIEF DESIGN ENGINEER

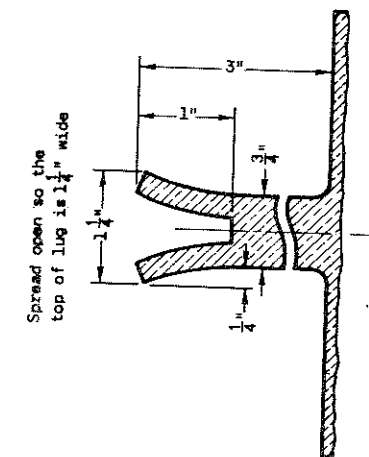
FHWA



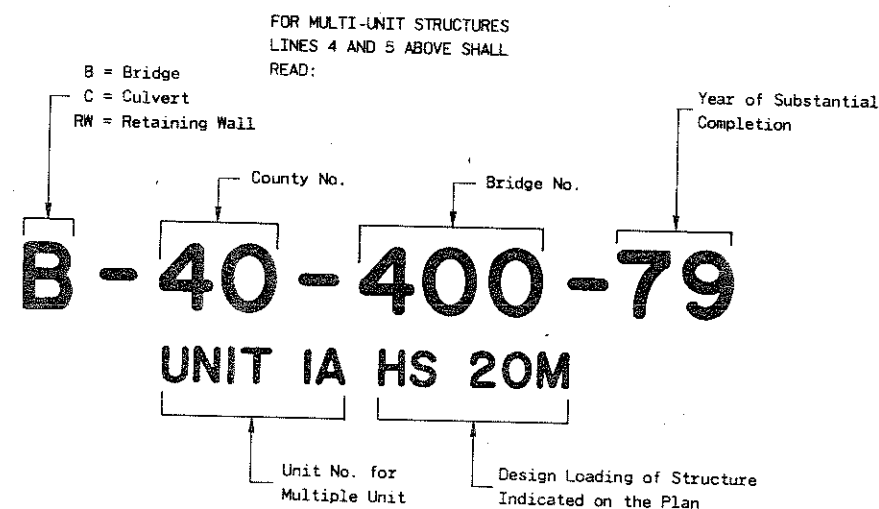
TYPICAL NAME PLATE
(BRIDGES, CULVERTS, AND RETAINING WALLS)



SECTION A-A



ALTERNATE LUG



NUMBERING AND LOADING DESIGNATION
MULTI-UNIT STRUCTURES

GENERAL NOTES

Name Plates to be installed on Bridges, Culverts, and Retaining Walls shall conform to the requirements of Section 506.2.4 of the Standard Specifications.

The Bridge Number and Design Loading shown on this drawing are examples only. See Construction Plans for individual numbering and design loading.

NAME PLATE
(STRUCTURES)

State of Wisconsin
Department of Transportation
Division of Transportation Facilities

APPROVED
9-27-79
DATE
CHIEF DESIGN ENGINEER
FHWA

6016-1-71

8

GENERAL NOTES

DRAWINGS SHALL NOT BE SCALED.
 BAR STEEL REINFORCEMENT SHALL BE EMBEDDED 2' CLEAR UNLESS OTHERWISE SHOWN OR NOTED.

THE SLOPE OF THE FILL IN FRONT OF THE ABUTMENTS SHALL BE COVERED W/ HEAVY RIPRAP TO THE EXTENT SHOWN ON THIS DWT.
 JOINT FILLER SHALL CONFORM TO A.A.S.H.T.O. DESIGNATION M 153 TYPE I, II, OR III OR M 213.

ELASTOMERIC BEARING PADS NEED NOT BE INDIVIDUALLY MOLDED PROVIDED THE CUT EDGES ARE SMOOTH AND TRUE.

DESIGN DATA

STRUCTURE IS DESIGNED FOR A FUTURE WEARING SURFACE OF 20 P.S.F.

RATINGS: DESIGN RATING _____ HS 20
 INVENTORY RATING _____ HS 23
 OPERATING RATING _____ HS 34

ALLOWABLE DESIGN STRESSES:

CONCRETE, MASONRY - SLAB $f_c = 4,000$ P.S.I.
 OTHER $f_c = 3,500$ P.S.I.

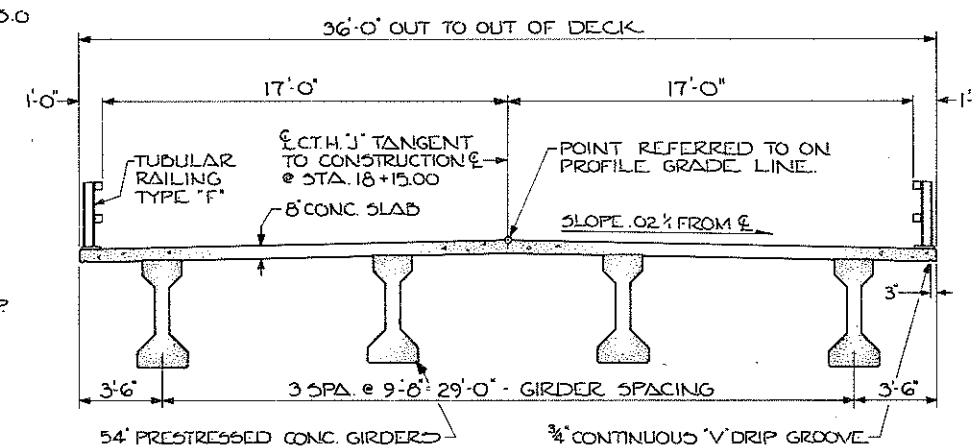
HIGH STRENGTH BAR STEEL REINFORCEMENT - GRADE 60 $f_y = 60,000$ P.S.I.

54" PRESTRESSED GIRDERS CONCRETE, MASONRY $f_c = 6,000$ P.S.I.

$\frac{1}{2}$ " STRANDS - ULTIMATE TENSILE STRENGTH $f_y = 270,000$ P.S.I.

FOUNDATION DATA:

ABUTMENTS TO BE SUPPORTED ON HP10x42 STEEL "H" PILES, EST. 50'-0" LG., AND DRIVEN TO A MIN. BRG. VALUE OF 55 TONS / PILE.



CROSS SECTION THRU ROADWAY

DESIGN DATA (CONT.)

HYDRAULIC DATA:

DRAINAGE AREA 24.0 SQ. MI.
 WATERWAY AREA 477 SQ. FT.
 Q_{100} 3,780 C.F.S.
 VELOCITY 7.9 F.P.S.
 HIGHWATER $_{100}$ EL. 680.70
 ROADWAY DESIGN FREQUENCY N/A

TRAFFIC DATA:

A.D.T. (1982) 400
 A.D.T. (2002) 450
 R.D.S. 50 M.P.H.

LIST OF DRAWINGS

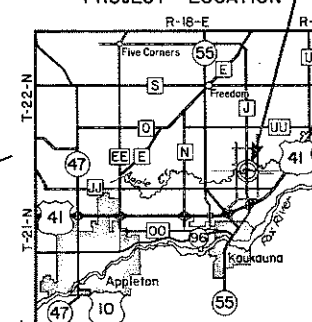
1. GENERAL PLAN - X 67997
2. SUBSURFACE EXPLORATION - X 67998
3. SOUTH ABUTMENT - X 67999
4. NORTH ABUTMENT - X 68000
5. 54" PRESTRESSED GIRDERS - X 68001
6. SUPERSTRUCTURE - X 68002
7. TUBULAR RAILING TYPE 'F' - X 68003

CURVE DATA

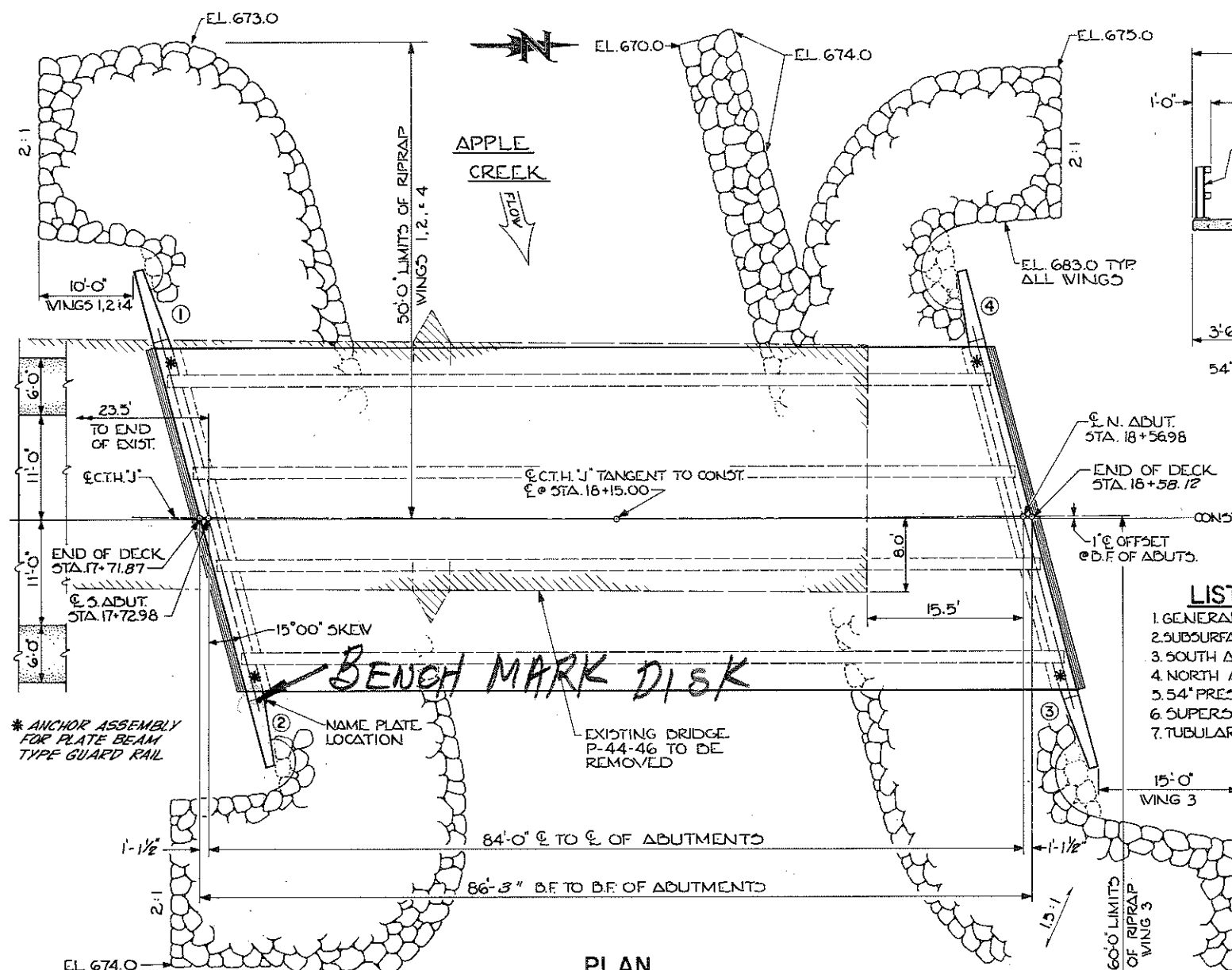
P.I. STA. 17+11.51
 $I = 178^\circ 03' 40''$
 $\Delta = 01^\circ 56' 19''$
 $D = 0^\circ 30'$
 $R = 11,459.16'$
 $L = 387.72'$
 $T = 193.88'$
 $E = 1.64'$

PLANS PREPARED BY:
 BARRIENTOS & ASSOCIATES, INC.
 CONSULTING ENGINEERS
 3822 MINERAL PT. RD. - MADISON, WIS. 53705
 PH. 608-238-6761

PROJECT LOCATION



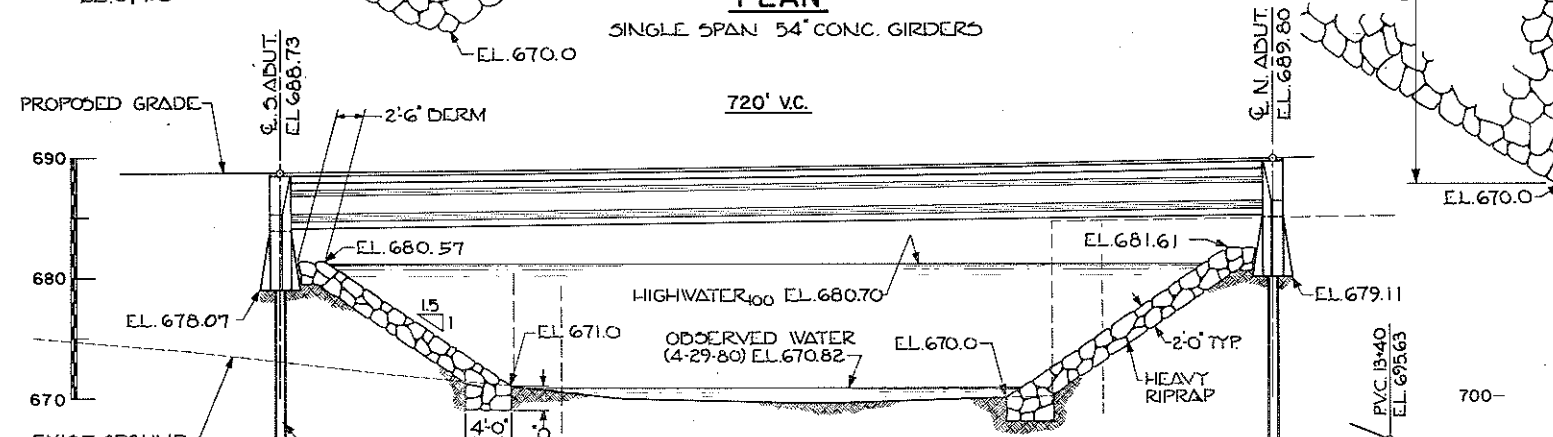
LAYOUT



PLAN

SINGLE SPAN 54" CONC. GIRDERS

720' V.C.



ELEVATION

RAILING NOT SHOWN

BENCH MARK LOCATION

NO.	STA.	DESCRIPTION	ELEV.
1	10+00	SPIKE-PP 24C4-18/10 .5' UP EAST SIDE	615 RT 705.38
2	17+27	SPIKE-PP 24C4-15/17 4' UP EAST SIDE	44' LT 679.18
3	23+41	SPIKE-PP 24C4-15/23 .5' UP EAST SIDE	40' LT 704.49

PROFILE GRADE LINE

Used Oil Field Pipe TOTAL ESTIMATED QUANTITIES

BID ITEMS	UNIT	S. ABUT.	N. ABUT.	SUPER	TOTAL
REMOVING OLD BRIDGE STA. 17+95	L.S.	---	---	---	1
EXCAVATION FOR STRUCTURES, BRIDGES - B-44-100	L.S.	---	---	---	1
CONCRETE, MASONRY, BRIDGES	C.Y.	28.6	28.7	104.7	162.0
HIGH-STRENGTH BAR STEEL REINFORCEMENT, BRIDGES	LBS.	1730	1730	21,880	25,340
PRESTRESSED GIRDERS I TYPE 54"	L.F.	---	---	340	340
ELASTOMERIC BEARING PADS	SQ.FT.	---	---	12.0	12.0
STEEL PILING, DELIVERED & DRIVEN, HP10x42	L.F.	300	300	---	600
TUBULAR RAILING, TYPE 'F', STRUCTURE B-44-100	L.S.	---	---	---	1
HEAVY RIPRAP	CY	190	220	---	410
NON BID ITEMS					
FILLER	SIZE	---	---	---	1/2 & 3/4"
POLYVINYL CHLORIDE WATERSTOP	L.F.	49	49	---	98

No.	Date	Revision	By

STATE OF WISCONSIN
 DEPARTMENT OF TRANSPORTATION
 DIVISION OF HIGHWAYS

STRUCTURE B-44-100
C.T.H. "J" OVER APPLE CREEK

County	OUTAGAMIE	Town	FREEDOM	KAUKAUNA
Design Spec.	A.A.S.H.T.O. '77	Load	HS 20	Const. Spec. WIS.
Designed By	L.M.D.	Design Checked	By	J.R.L.
Drawn By				

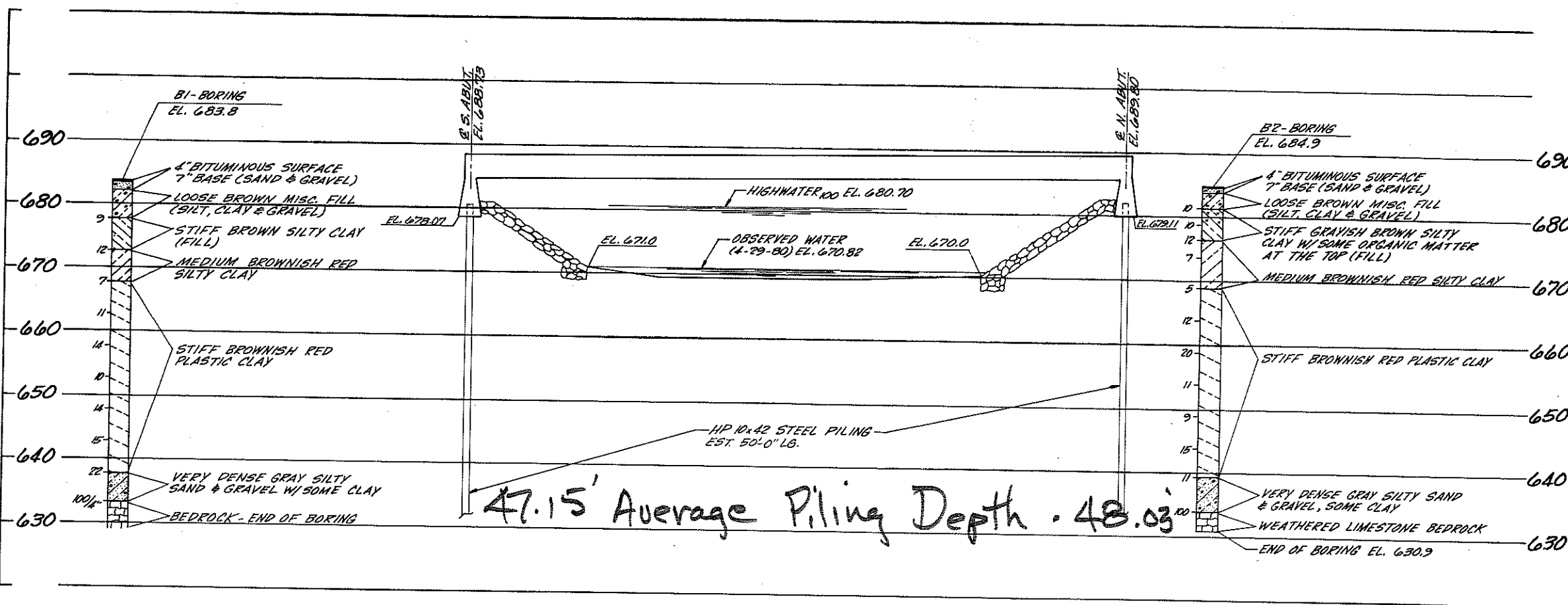
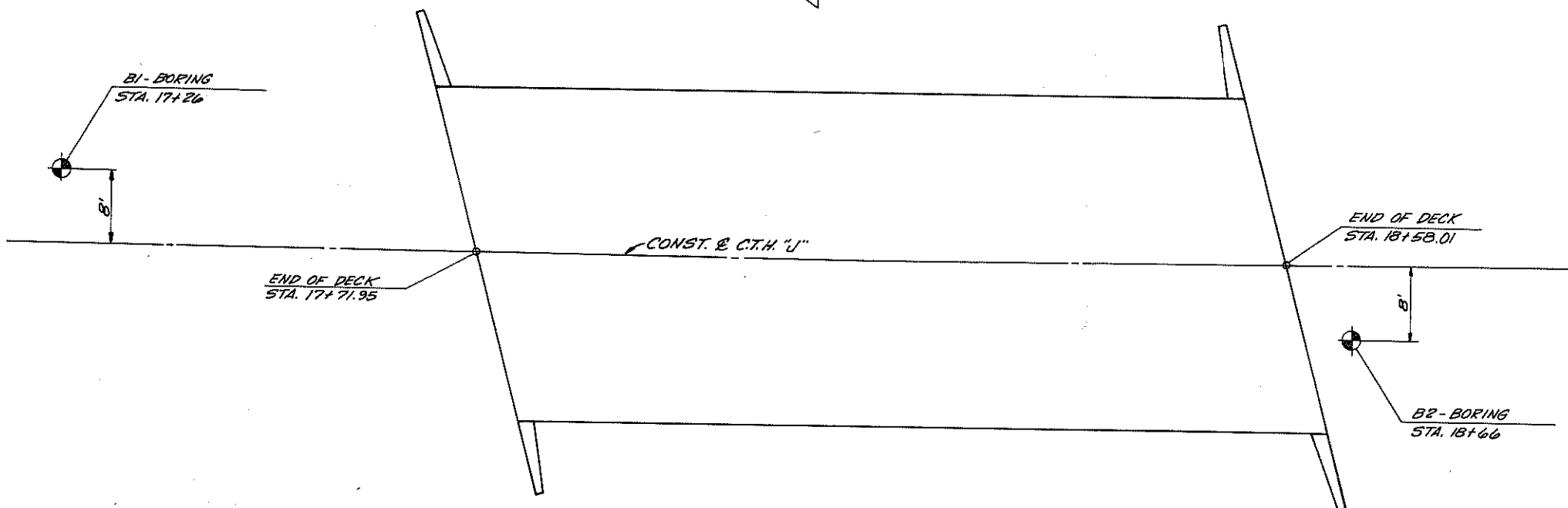
Approved: *Stanley W. Woods* Chief Bridge Engineer 3-11-82 Date

GENERAL PLAN

SHEET 1 OF 7
 X 67997

BORINGS PERFORMED BY:
BARRIENTOS & ASSOCIATES INC.
BORINGS PERFORMED ON APRIL 24, 1980

APPLE CREEK



STATE PROJECT NUMBER		SHEET NO.	
6016-1-71		B.1	

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	
Probing No.	Sta.
Elevation	
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	
Boring No.	Sta.
Elev.	
Unconfined Strength	
Blows Per Ft. Using 140# Wt. Falling 30"	
Wash Sample	
Shelby Tube	S. T.
Ground Water Elevation	
No Ground Water Observed Above This Elevation	
Sandy Gravel	
F.	
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 Division of Highways 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

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS

STRUCTURE B-44-100

Const. Spec.	WIS. '81	Drawn By	TL.	Plans Checked	S.R.L.
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SUBSURFACE EXPLORATION

SHEET 2 OF 7

X 67998

6016-1-71

8.2

BILL OF BARS 1730

MARK	NO. REQ'D	LENGTH	BEND	CUT DIAG.	LOCATION
A601	10	37'-5"			ABUT. BODY TOP BTH & B.F. HORIZ.
A402	58	8'-2"	X		" " STIRRUPS VERT.
A403	6	19'-5"			" " FF HORIZ.
A404	6	28'-0"	X		" " 5' WRAPS @ 21" @ EQ. PILE
A405	12	2'-3"			" " 2 @ EQ. PILE VERT.
A506	25	2'-0"			" " TOP DOWELS
A407	12	15'-1"		X	WINGS 1&2 FF & B.F.
A408	4	9'-9"			" " FF & B.F.
A609	10	11'-1"			" " B.F. HORIZ.
A510	10	10'-10"			" " FF
A611	4	12'-7"			" " FF & B.F.
A412	2	9'-2"			WING 1-B.F. & WING 2-FF
A413	2	10'-2"	X		" " " " " "
A414	2	6'-6"			" " " " " "
A415	2	3'-10"			" " " " " "
A416	2	9'-7"			WING 1-FF & WING 2-B.F.
A417	2	6'-11"			" " " " " "
A418	2	4'-3"			" " " " " "
A419	2	10'-7"			" " " " " "
A420	2	6'-0"	X		WINGS 1&2 FF & B.F. VERT.

THE FIRST DIGIT OF A THREE DIGIT BAR MARK SIGNIFIES THE BAR SIZE. DIMENSIONS IN BENDING DETAILS ARE OUT TO OUT OF BARS.

CONSTRUCTION JOINT WITH KEYWAY FORMED BY A SURFACE BEVELED 2"x6".

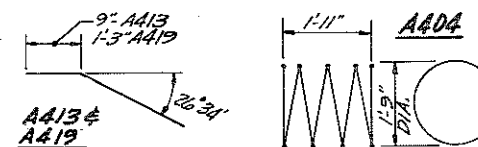
OPTIONAL CONST. JOINT WITH KEYWAY FORMED BY A SURFACE BEVELED 2"x6" WITH 3/4" "V" GROOVE IN THE FRONT FACE OF WINGWALL.

4"x3/4" PREFORMED FILLER SEE SHT. 6

PVC WATERSTOP TO EXTEND CONT. BETWEEN WINGS & FROM SEAT TO TOP OF WINGS. TO BE PLACED FLUSH WITH SURFACE OF CONC. EPOXY OR VULCANIZE JT. BETWEEN HORIZ. & VERT. RCW. 1/8", 12" BUTYL RUBBER SHEETING BONDED WITH APPROVED ADHESIVE MAY BE SUBSTITUTED FOR VERT. RCW. LAP 3" OVER HORIZ. RCW.

1/2" PREFORMED FILLER TO EXTEND FROM TOP OF ABUT. BODY TO TOP OF WING. SEAL ALL EXPOSED SURFACES OF FILLER WITH NON-STAINING, GRAY, NON-BITUMINOUS JOINT SEALER (1" DEEP & HOLD 1/8" BELOW SURFACE OF CONC.)

* A506 BARS MAY BE PLACED AFTER CONC. IS POURED BUT BEFORE INITIAL SET HAS TAKEN PLACE.



FILL & COMPACT TO EL. 678.07 BEFORE DRIVING PILE

No.	Date	Revision	By
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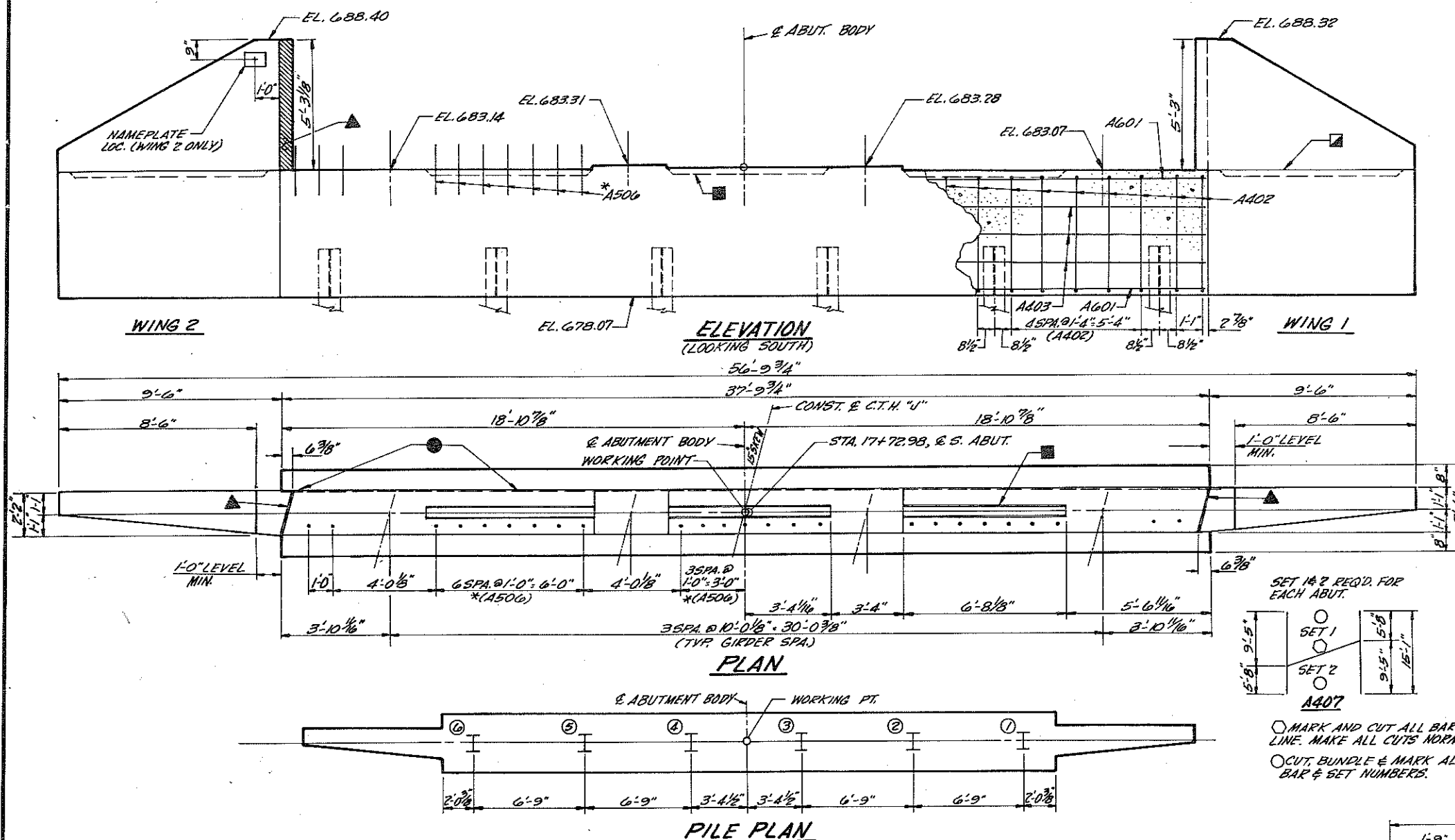
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS

STRUCTURE B-44-100

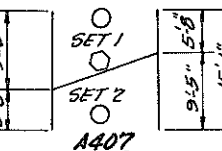
Const. WIS '81 Drawn By T.L. Plans Checked S.R.L.

SOUTH
ABUTMENT

SHEET 3 OF 7
X 67999

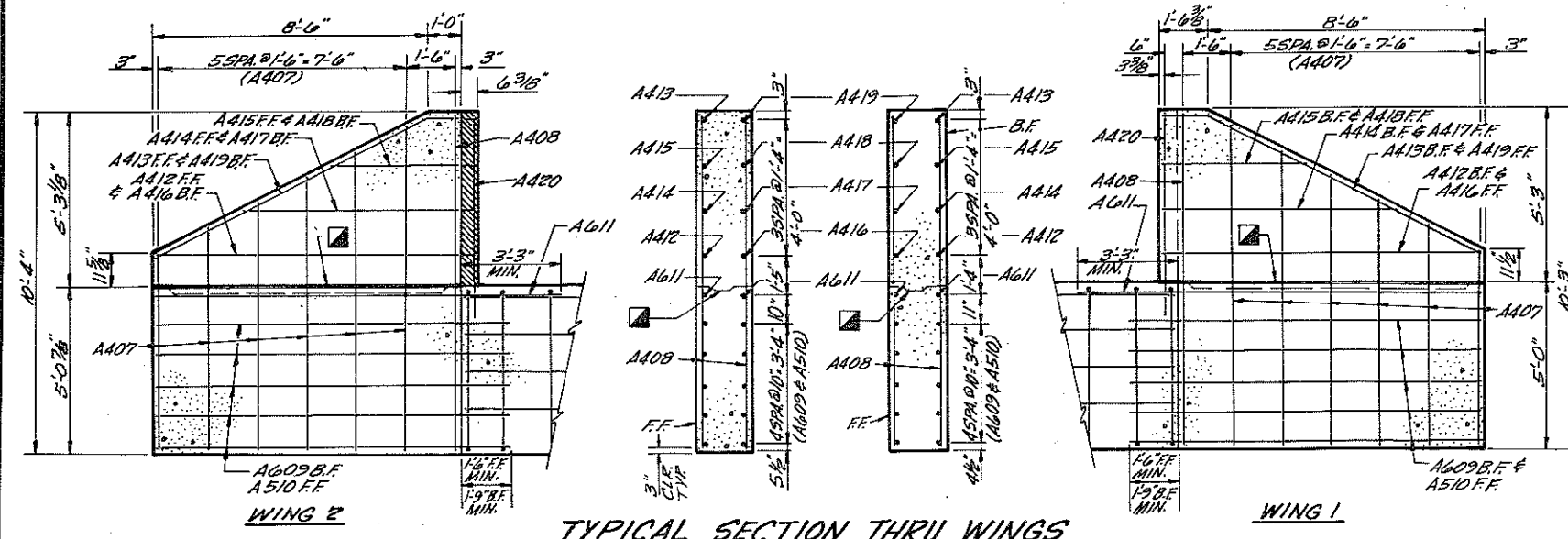


SET 1 & 2 REQ'D FOR EACH ABUT.



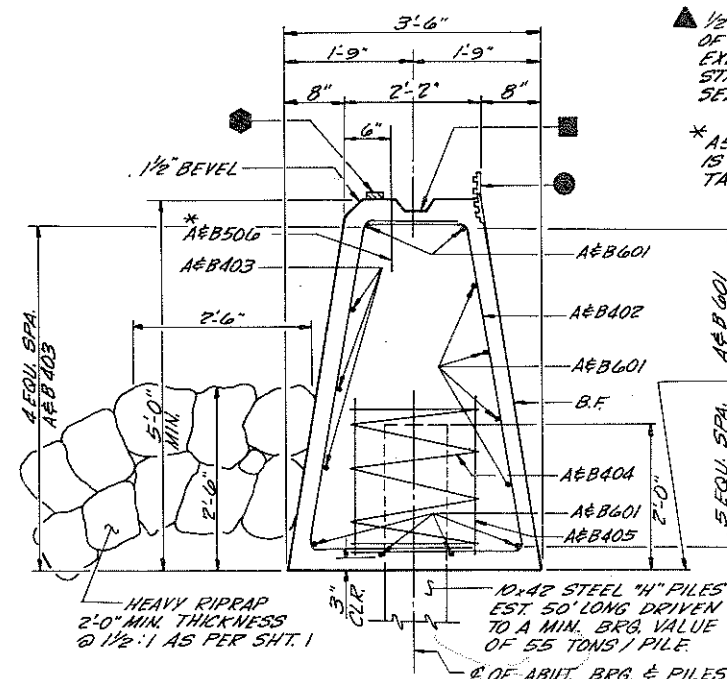
MARK AND CUT ALL BARS ALONG THIS LINE. MAKE ALL CUTS NORMAL TO BAR AXIS.

CUT BUNDLE & MARK ALL BARS WITH BAR & SET NUMBERS.

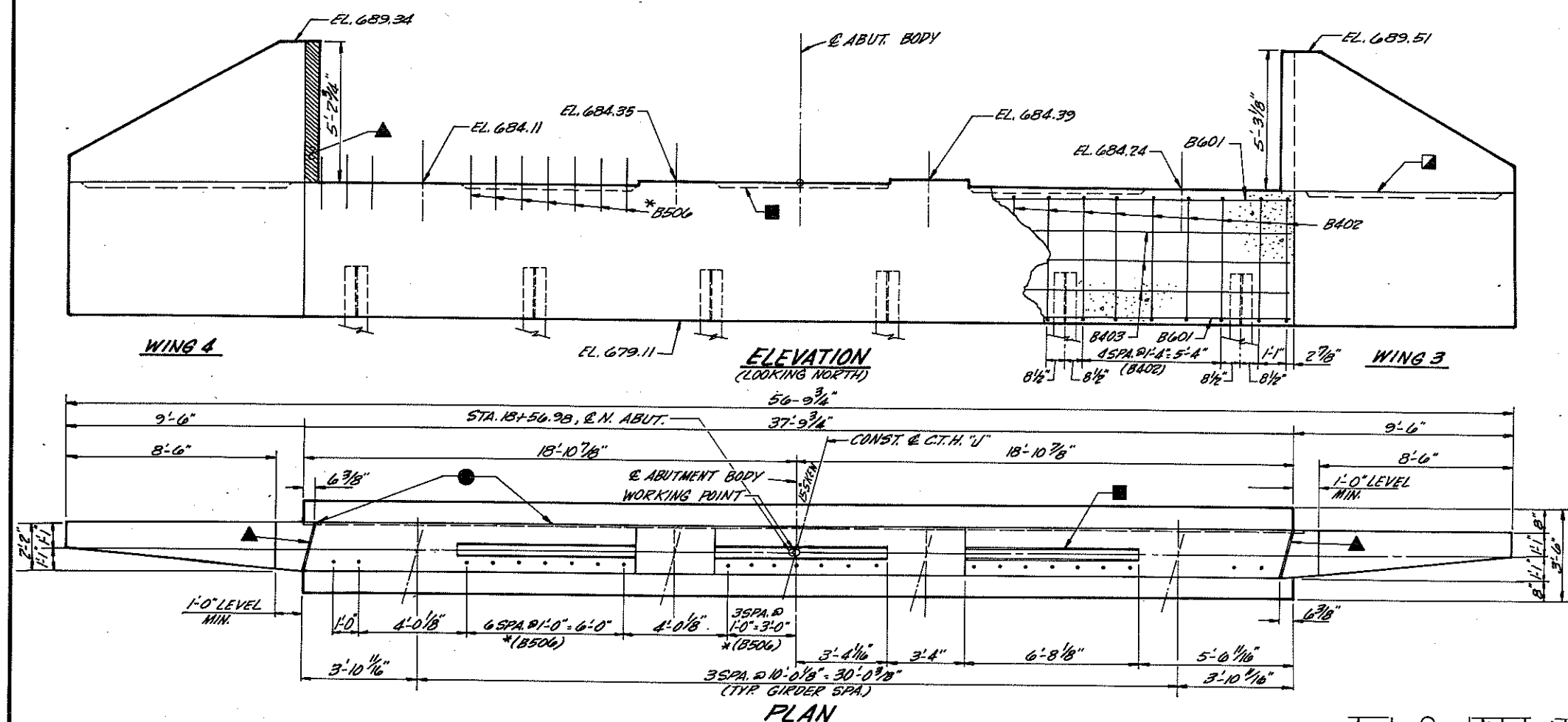


TYPICAL SECTION THRU WINGS

WING I



SECTION THRU ABUTMENT BODY



BILL OF BARS 1730'

MARK	NO. REQ'D	LENGTH	BEND	CUT DIA.	LOCATION
B401	10	37'-5"			ABUT. BODY TOP BTH. & B.F. HORIZ.
B402	58	8'-1"	X		" " STIRRUPS VERT.
B403	6	19'-5"			" " FF HORIZ.
B404	6	28'-0"	X		" " 5 WRAPS @ 21" @ 2 EQ. PILE HORIZ.
B405	12	2'-3"			" " 2 @ EQ. PILE VERT.
B506	25	2'-0"			" " TOP DOWELS "
B407	6	15'-1"		X	WING 4 FF & B.F. "
B408	2	9'-9"			" " FF & B.F. "
B609	10	11'-1"			WINGS 3 & 4 B.F. HORIZ.
B510	10	10'-10"			" " FF "
B611	4	12'-7"			" " FF & B.F. "
B412	2	9'-2"			WING 3 B.F. & WING 4-FF. "
B413	2	10'-2"	X		" " " " " " "
B414	2	6'-6"			" " " " " " "
B415	2	3'-10"			" " " " " " "
B416	2	9'-7"			WING 3 FF & WING 4-B.F. "
B417	2	6'-11"			" " " " " " "
B418	2	4'-3"			" " " " " " "
B419	2	10'-7"			" " " " " " "
B420	2	6'-0"	X		WINGS 3 & 4 FF & B.F. VERT.
B421	2	9'-11"			WING 3 FF & B.F. "
B422	6	15'-3"	X		WING 3 FF & B.F. "

THE FIRST DIGIT OF A THREE DIGIT BAR MARK SIGNIFIES THE BAR SIZE. DIMENSIONS IN BENDING DETAILS ARE OUT TO OUT OF BARS.

CONSTRUCTION JOINT WITH KEYWAY FORMED BY A SURFACE BEVELED 2"x6".

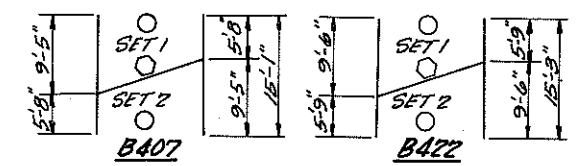
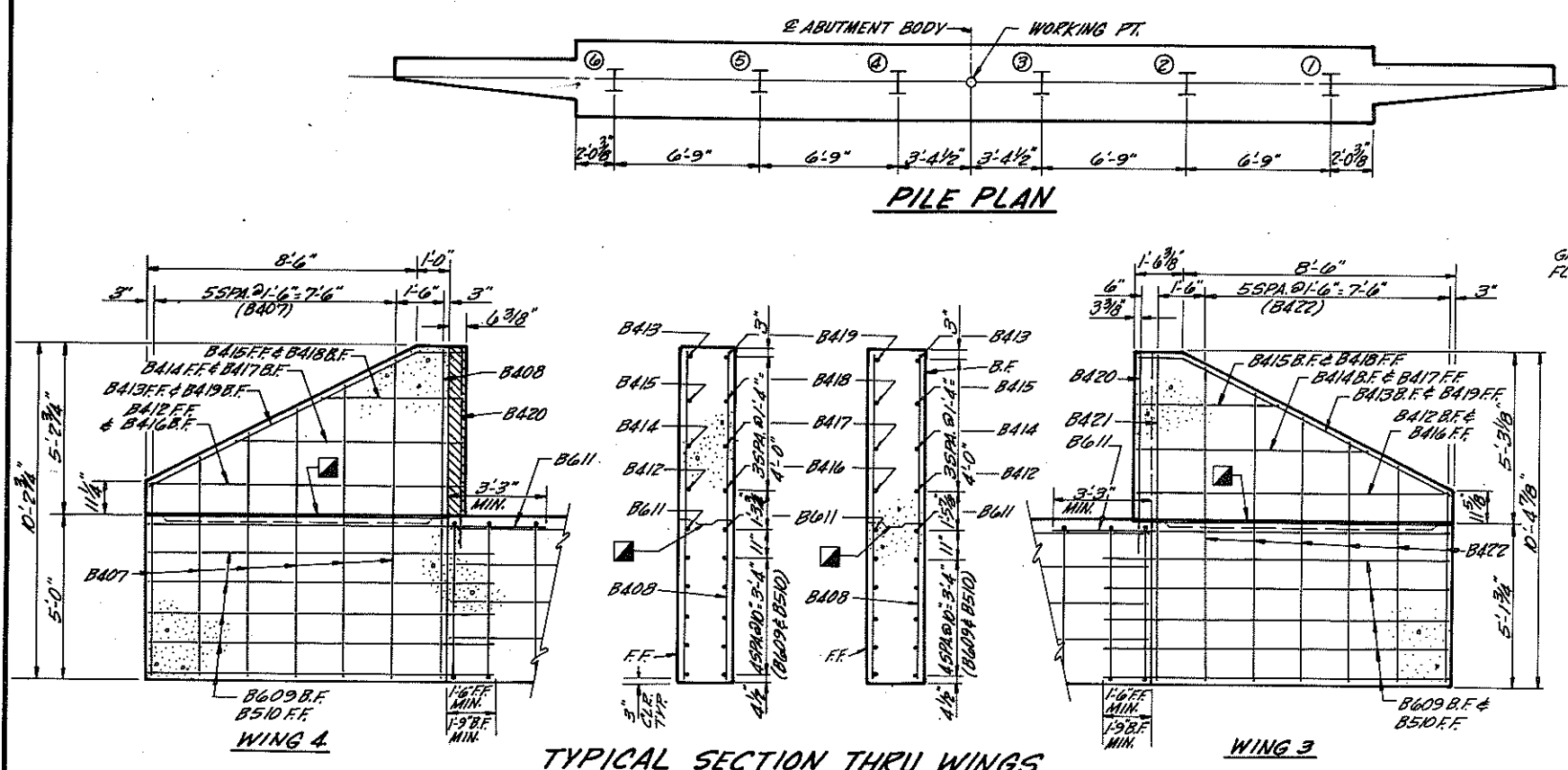
OPTIONAL CONST. JOINT WITH KEYWAY FORMED BY A SURFACE BEVELED 2"x6" WITH 3/4" V GROOVE IN THE FRONT FACE OF WINGWALL.

4"x3/4" PREFORMED FILLER SEE SHT. 6

PVC, WATERSTOP TO EXTEND CONT. BETWEEN WINGS & FROM SEAT TO TOP OF WINGS. TO BE PLACED FLUSH WITH SURFACE OF CONCRETE. EPOXY OR VULCANIZE JOINT BETWEEN HORIZ. & VERT. PCW. 1/8", 12" BUTYL RUBBER SHEETING BONDED WITH APPROVED ADHESIVE MAY BE SUBSTITUTED FOR VERT. PCW. LAP 3" OVER HORIZ. PCW.

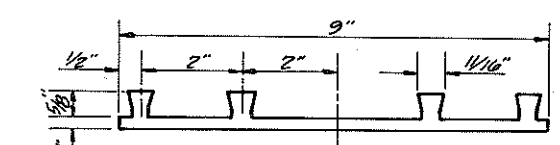
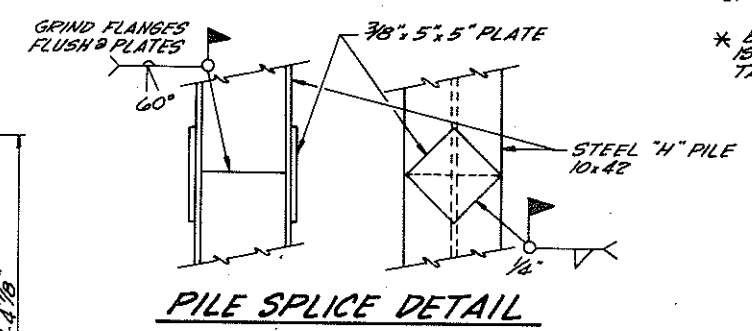
1/2" PREFORMED FILLER TO EXTEND FROM TOP OF ABUT. BODY TO TOP OF WING. SEAL ALL EXPOSED SURFACES OF FILLER WITH NON-STAINING, GRAY, NON-BITUMINOUS JOINT SEALER (1" DEEP & HOLD 1/8" BELOW SURFACE OF CONCRETE.)

* B506 BAR MAY BE PLACED AFTER CONCRETE IS POURED BUT BEFORE INITIAL SET HAS TAKEN PLACE.

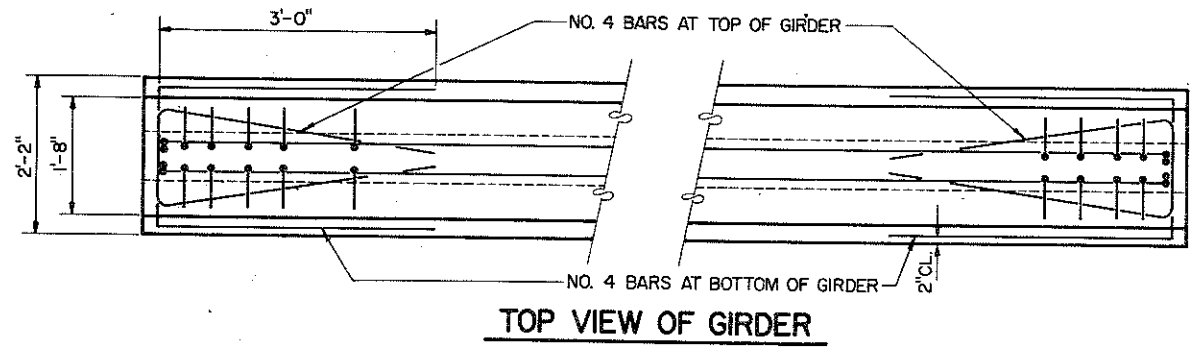
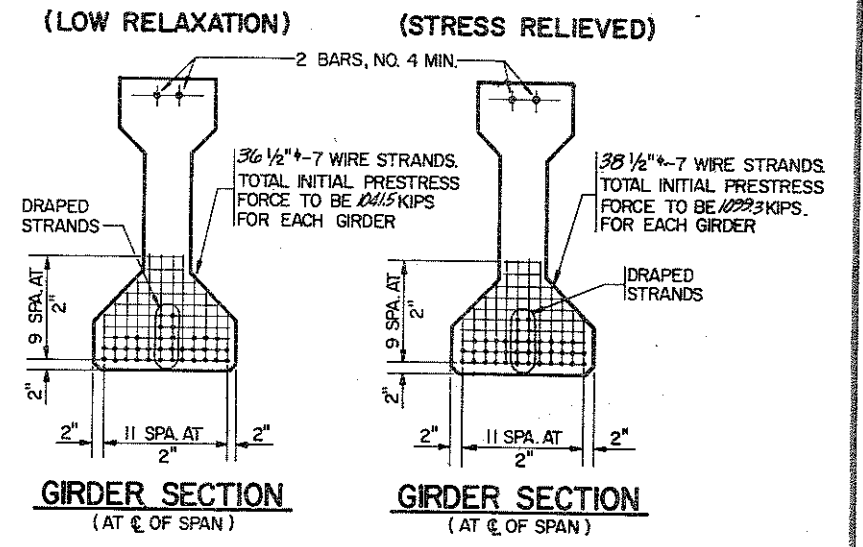
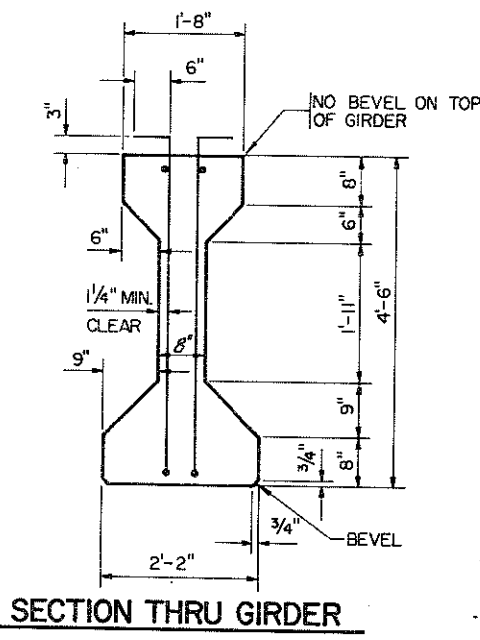
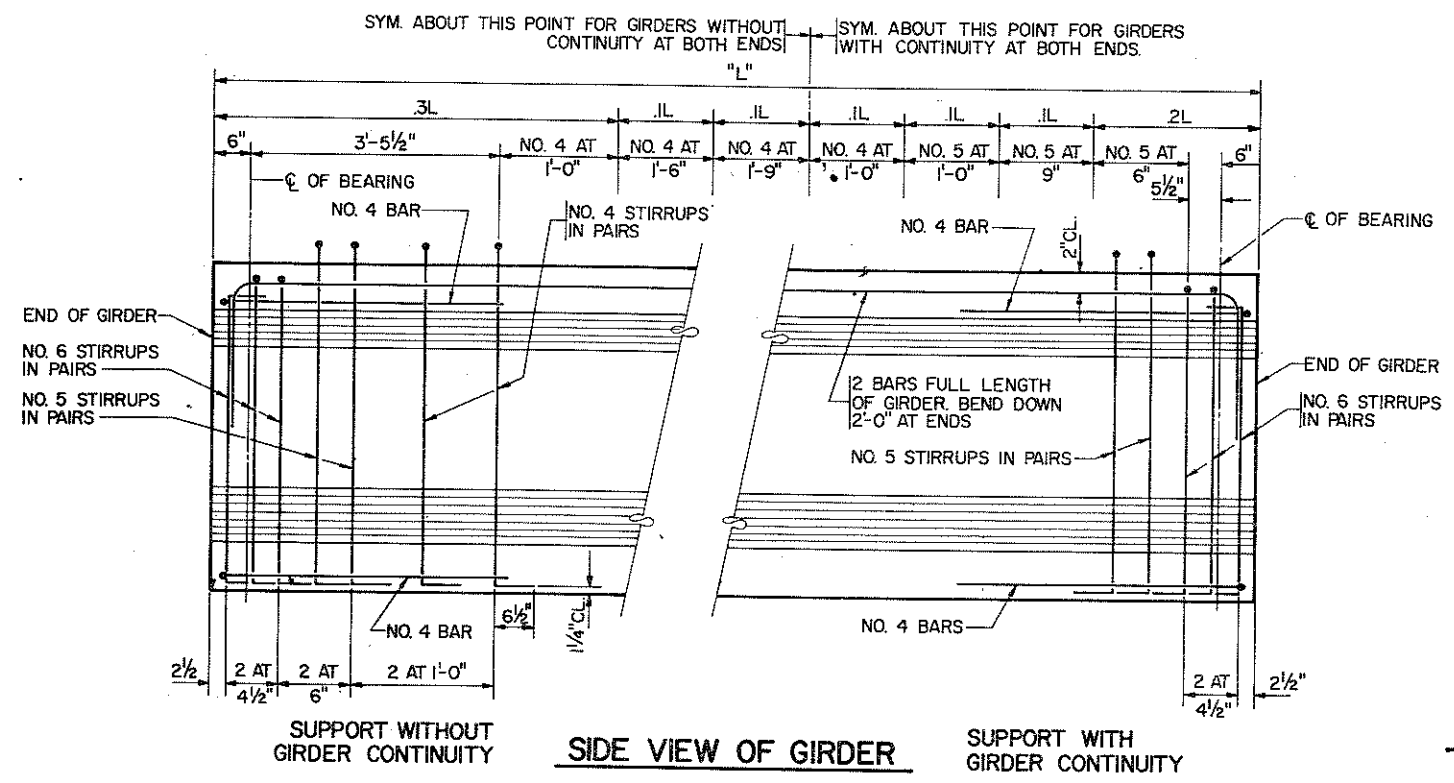


MARK AND CUT ALL BARS ALONG THIS LINE. MAKE ALL CUTS NORMAL TO BAR AXIS.

CUT, BUNDLE & MARK ALL BARS WITH BAR & SET NUMBERS.



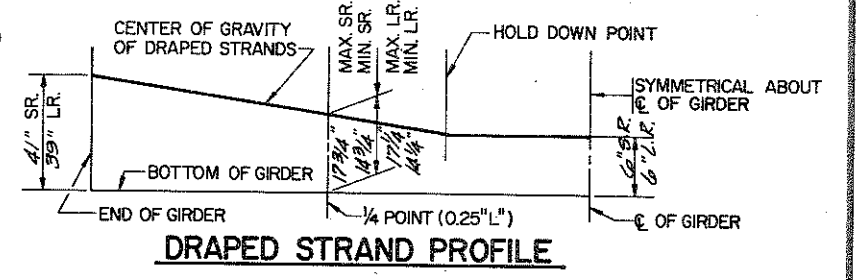
No.	Date	Revision	By
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION DIVISION OF HIGHWAYS			
STRUCTURE B-44-100			
Const. Spec. WIS 81	Drawn By T.L.	Plans Checked S.E.L.	
NORTH ABUTMENT		SHEET 4 OF 7	
X68000			



S.R. = STRESS RELIEVED
L.R. = LOW RELAXATION

GENERAL NOTES

- TOP OF GIRDERS TO BE ROUGH FLOATED AND BROOMED TRANSVERSELY FOR BONDING TO THE SLAB.
- THE GIRDERS SHALL BE PROVIDED WITH A SUITABLE LIFTING DEVICE FOR HANDLING AND ERECTING THE GIRDER
- ALL GIRDERS SHALL BE CAST FULL LENGTH AS SHOWN.
- PRESTRESSING STRANDS SHALL HAVE AN ULTIMATE STRENGTH OF 270,000 PSI AND SHALL BE FLUSH WITH THE ENDS OF THE GIRDER.
- END OF STRANDS SHALL BE PAINTED WITH NON-STAINING GRAY NON-BITUMINOUS JOINT SEALER. (APPLIES ONLY TO THOSE ENDS OF GIRDERS THAT ARE FINALLY EXPOSED.)
- TOP LONGITUDINAL BARS IN GIRDER MAY BE SPLICED BY USING 35 BAR DIAMETER LAPS. PLACE ONE LAP AT CENTER LINE OF GIRDER IF LENGTH IS LESS THEN 70'-0". PLACE LAPS AT THE THIRD POINTS OF GIRDER IF LENGTH IS MORE THEN 70'-0".

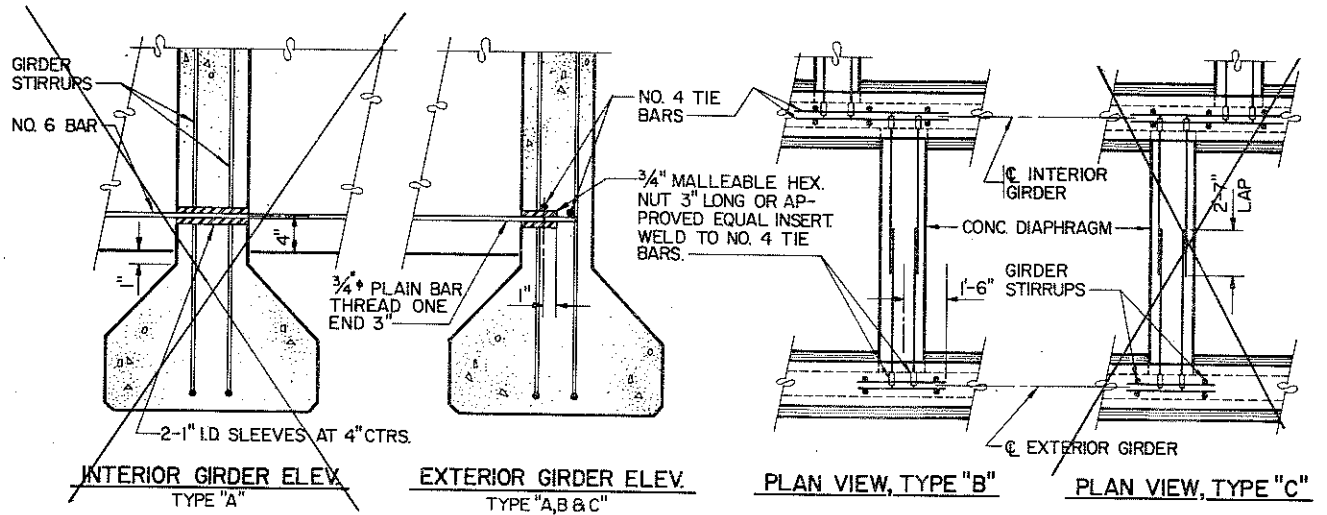


GIRDER DATA		
GIRDER SIZE REQUIRED 54"		
GIRDER LENGTH "L" REQUIRED	S.R.	L.R.
	85'-0"	85'-0"
f'cl (psi) *	DRAPED PATTERN	4800
	SPREAD PATTERN	4800
DEFLECTION DATA **	PRESTRESS CAMBER "D"	1 5/8"
	DEAD LOAD DEFLECTION "E"	3/4"
	RESIDUAL CAMBER "F"	3/4"
USE DIAPHRAGM INSERT DETAIL TYPE "B"		

* MINIMUM CYLINDER STRENGTH OF CONCRETE AT TIME OF TRANSFER OF PRESTRESS FORCE.

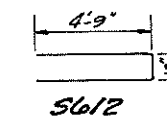
** DATA SHOWN IS THEORETICAL AND MAY VARY WITH CONCRETE STRENGTH, VARIABLE PRESTRESS CONDITIONS AND PRESTRESS LOSSES.

DEFLECTION DIAGRAM



DIAPHRAGM INSERT DETAILS

No.	Date	Revision	By
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION DIVISION OF HIGHWAYS			
STRUCTURE B-44-100			
Const. Spec.	WIS. '81	Drawn By	M.J.M.
		Plans Checked	S.R.L.
54" PRESTRESSED GIRDER DETAIL			SHEET 5 OF 7
			X 68001



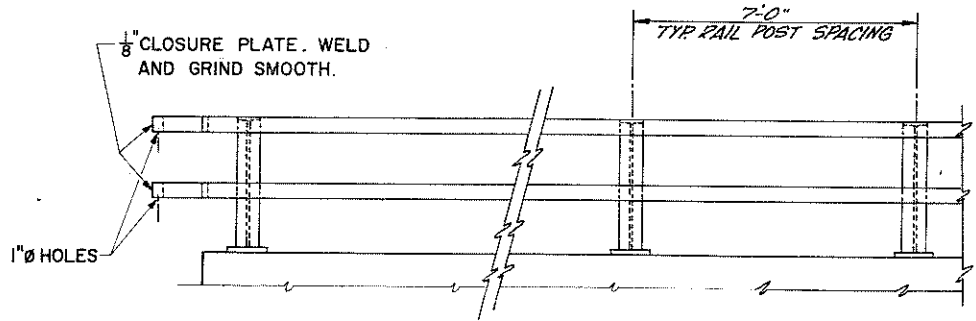
GENERAL NOTES

1. BID ITEM SHALL BE 'TUBULAR RAILING, TYPE F.'
2. POST BASE PLATES SHALL BE FLAT WITH ALL SURFACES SMOOTH AND FREE FROM WARP AND ALL EDGES SMOOTH, STRAIGHT AND VERTICAL. ALL PLATE CUTS SHALL BE MACHINE OR MACHINE FLAME CUTS.
3. RAILING SHALL BE 4x4x25 STRUCTURAL TUBING CONFORMING TO A.S.T.M. DESIGNATION A36.
4. ANCHOR BOLTS SHALL BE $\frac{7}{8}$ " NOMINAL CONFORMING TO A.S.T.M. A449 WITH 3" THREAD AND HIGH STRENGTH NUTS & WASHERS.
5. POSTS, BASE PLATES AND 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.
6. PLACE ANCHOR BOLTS NORMAL TO BASE PLATE.
7. ALL MEMBERS, INCLUDING UPPER 4" OF ANCHOR BOLTS, SHALL BE GALVANIZED AFTER FABRICATION.
8. RAILING SHALL BE FABRICATED IN 2 OR 3 PANEL LENGTHS.
9. BEAM GUARD ATTACHMENT MAY BE WELDED TO RAILS AND RAILS MAY BE WELDED TO POSTS.
10. FILL POST ANCHOR BOLT HOLES WITH NON-STAINING GRAY NON-BITUMINOUS JOINT SEALER.
11. CALK EXPOSED OPENINGS BETWEEN SHIMS.
12. STEEL SHIMS SHALL BE USED UNDER POSTS WHERE REQUIRED FOR ALIGNMENT.

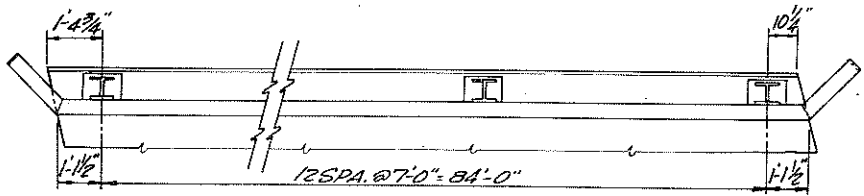
$\frac{1}{8}$ " SEAL WELD. TOP AND BOTTOM OF POST

1" HOLES FOR $\frac{7}{8}$ " A325 BOLTS W/ HEX NUTS & WASHERS.

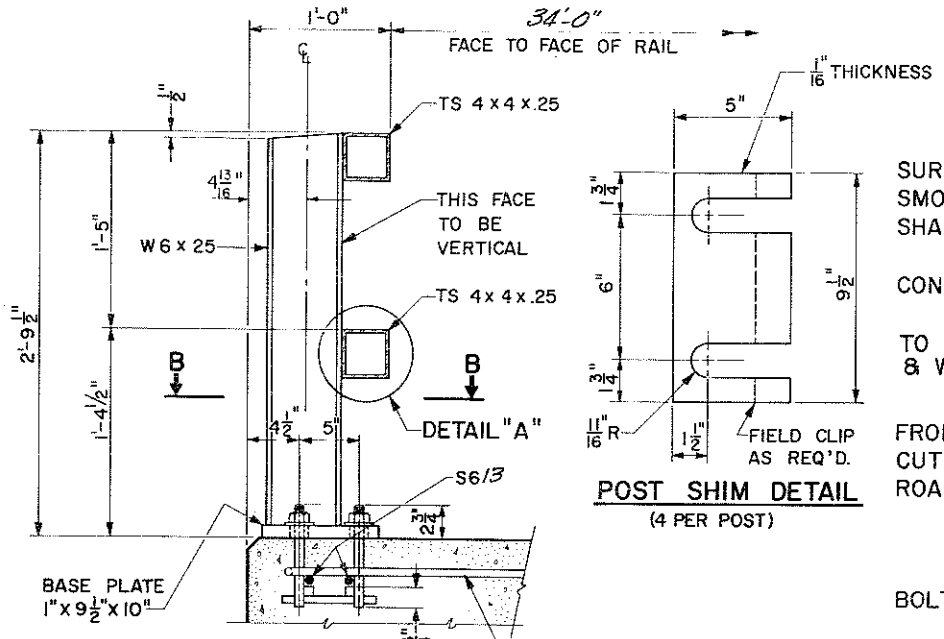
NOTE: BEAM GUARD RAIL ATTACHMENT TO BE INCLUDED IN BID ITEM FOR RAILINGS.



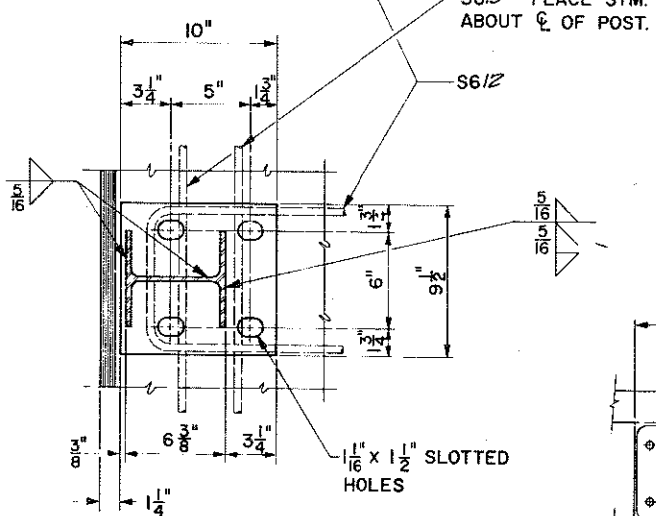
PARTIAL ELEVATION OF RAILING



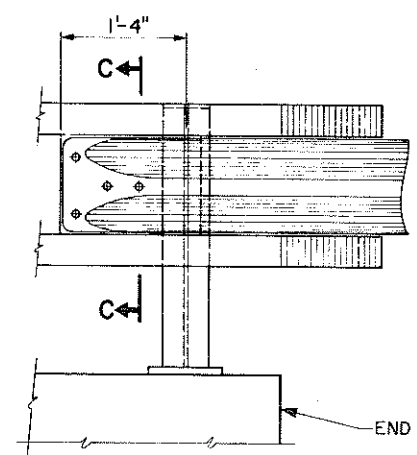
PARTIAL PLAN OF RAILING



SECTION A

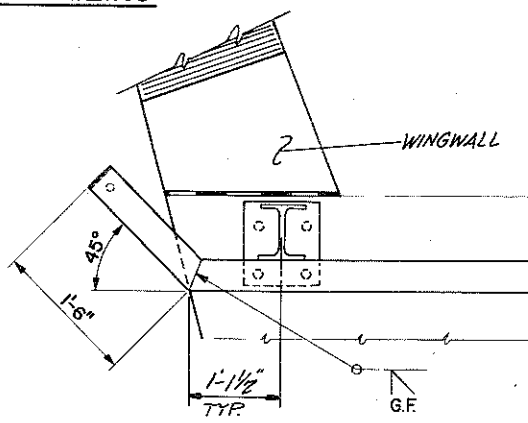


SECTION B



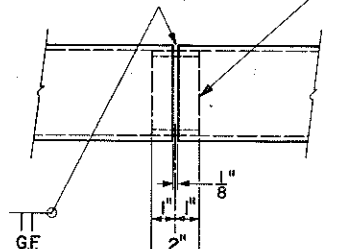
SECTION C

DETAIL AT END POST (BEAM GUARD RAIL ATTACHMENT)



END POST DETAIL

SLEEVE - FABRICATED FROM $\frac{1}{4}$ " PLATE PROVIDE "SLIDING FIT" WITH A MINIMUM OUT TO OUT DIM. OF $3\frac{13}{32}$ "



SHOP RAIL SPLICE DETAIL

LOCATION MUST BE SHOWN ON THE SHOP DRAWINGS

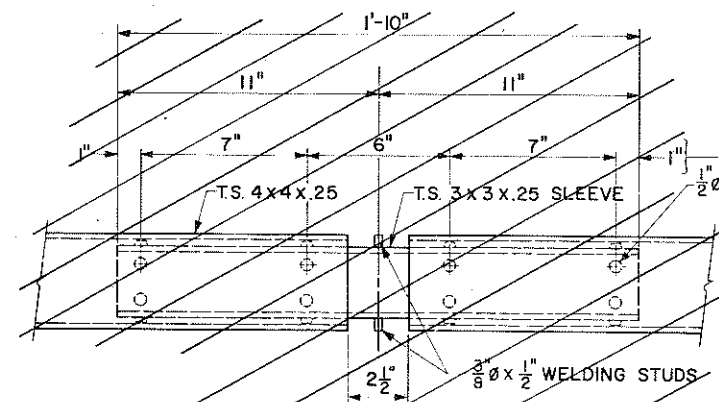
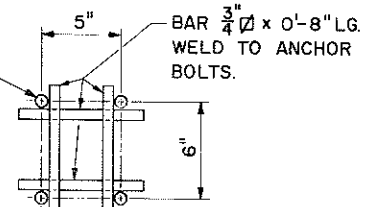
GRIND WELDS TS. 3x3x.25 TO FIT FREE INTO I.D. OF 4x4x.25

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

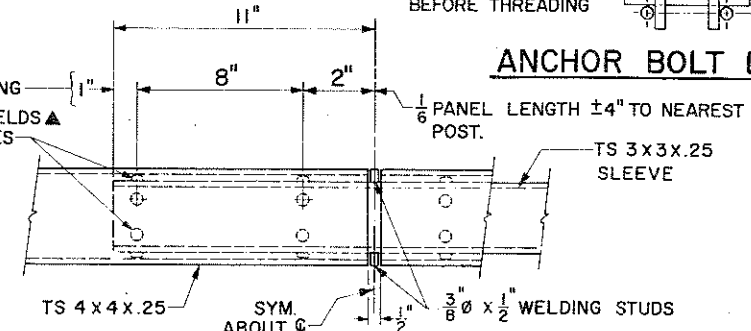
SECTION THRU SLEEVE

ANCHOR BOLTS $\frac{7}{8}$ " ϕ x 8 $\frac{1}{2}$ " LG. W/ WASHER & HEX NUT (4 BOLTS PER POST) CHAMFER TOP OF BOLTS BEFORE THREADING

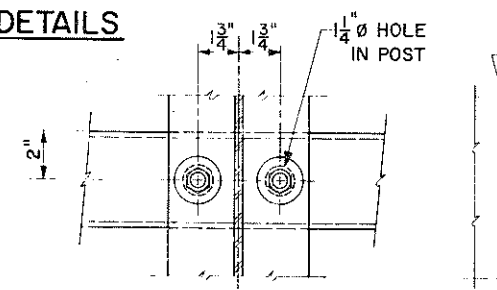
ANCHOR BOLT DETAILS



JOINT DETAIL AT ABUTMENTS



FIELD ERECTION JOINT DETAIL



DETAIL "A"

$\frac{5}{8}$ " ϕ x $\frac{1}{2}$ " SHOP WELDED STUD W/ HEX NUT & 2" WASHER.

No.	Date	Revision	By
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION DIVISION OF HIGHWAYS			
STRUCTURE B-44-100			
Const. Spec. WIS. '81	Drawn By TL	Plans Checked SRL	
TUBULAR RAILING TYPE "F"			SHEET 7 OF 7 X 68003