



September 11, 2018

Nicholas Pitsch
WI-DOT NW Region
718 W Clairemont Avenue
Eau Claire, WI 54701

Subject: DNR Initial Project Review
Project I.D. 1021-03-10/80
STH 93 Bridges B-18-0034, B-18-0119
Eau Claire County
T26N, R9W, Section 3

Dear Mr. Pitsch:

The Wisconsin Department of Natural Resources (DNR) has received the information you provided for the above-referenced project. According to your proposal, the purpose of this project is bridge rehabilitation on bridges B-18-0034 & B-18-0119. Proposed improvements for structure B-18-0034 include replacing the northeast wingwall, replacing the joints at both abutments with concrete diaphragms, fiber wrapping all three piers, and applying a polymer overlay. Proposed improvements for structure B-18-0119 include replacing the northwest wingwall and fiber wrapping all three piers. Replace pavement, curb and gutter, beam guard and pavement marking on approaches to both structures as necessary.

Preliminary information has been reviewed by DNR staff for the project under the DNR/DOT (Wisconsin Department of Transportation) Cooperative Agreement. Initial comments on the project as proposed are included below, and we assume that additional information will be provided that addresses all resource concerns identified. To ensure compliance with resource protections, we are recommending that Special Provisions be developed for specific resource protections described below. DNR expects that the full range of DOT roadway standards will be applied throughout the design and construction process.

A. Project-Specific Resource Concerns

Wetlands:

There are no wetland concerns with this project, based on the information provided.

Endangered Resources:

Based upon a review of the Natural Heritage Inventory (NHI) dated September 11, 2018, there are no known Endangered Resources or suitable habitat that could be impacted by this project. With this review the following has also been determined:

- There are no known Northern Long-eared Bat (NLEB) maternity roost trees within 150 feet of the project, or known hibernacula within 0.25 miles of the proposed project area.

- This project is located outside of any High Potential Zones (HPZ) for the Rusty Patched Bumblebee (RPBB), and therefore should have no impact on this federally endangered species.

This project is covered by the [Broad Incidental Take Permit/Authorization for No/Low Impact Activities](#). No further actions for endangered resources are required/recommended.

- ❖ *NHI Disclaimer: This review letter may contain NHI data, including specific locations of endangered resources, which are considered sensitive and are not subject to Wisconsin's Open Records Law. As a result, information contained in this review letter may be shared only with individuals or agencies that require this information in order to carry out specific roles in the permitting, planning and implementation of the proposed project. Specific locations of endangered resources may not be released or reproduced in any publicly disseminated documents.*

Invasive Species and Viral Hemorrhagic Septicemia (VHS):

All project equipment shall be decontaminated for removal of invasive species prior to and after each use on the project site by utilizing other best management practices to avoid the spread of invasive species as outlined in NR 40, Wis. Adm. Code. For more information, refer to <http://dnr.wi.gov/topic/Invasives/bmp.html>.

Storm Water Management & Erosion Control:

- For projects disturbing an acre or more of land, erosion control and storm water measures must adhere to the Wisconsin Pollutant Discharge Elimination System Transportation Construction General Permit (TCGP) for Storm Water Discharges. Coverage under TCGP is required prior to construction. DOT should apply for permit coverage just before the project goes to final PS&E. Permit coverage will be issued by the DNR after design is complete and documentation shows that the project will meet construction and post-construction performance standards. For more information regarding the TCGP you can go to the following link, and click on the "Transportation" tab: <https://dnr.wi.gov/topic/Sectors/Transportation.html>.
- All projects require an Erosion Control Plan (ECP) that describes best management practices that will be implemented before, during and after construction to minimize pollution from storm water discharges. Additionally, the plan should address how post-construction storm water performance standards will be met for the specific site. The project design and Erosion Control Implementation Plan (ECIP) must comply with the TCGP in order to receive "permit-coverage" from the DNR.
- Once the project contract has been awarded, the contractor will be required to outline their construction methods in the ECIP. An adequate ECIP for the project must be developed by the contractor and submitted to this office for review at least 14 days prior to the preconstruction conference. For projects regulated under the TCGP, submit the ECIP as an amendment to the ECP.

Selected Site & Commercial Non-Metallic Mines:

- The DOT Select Site process must be adhered to for clean fill or any other material that leaves the work site. The DNR liaison will review all proposed select sites and a site visit may be required. Filling of wetlands, waterways or floodplain is not allowed under the select site process, unless the site owner obtains required permits. No new impermeable surfaces can be left at a select site (including gravel roads or pads), unless the site owner obtains required

permits. Contaminated materials leaving the site need to adhere to the Hazardous Material Management Plan.

Asbestos:

A Notification of Demolition and/or Renovation and Application for Permit Exemption, DNR form 4500-113 (chapters NR 406, 410, and 447 Wis. Adm. Code) may be required. Please refer to DOT FDM 21-35-45 and the DNR's notification requirements web page: <http://dnr.wi.gov/topic/Demo/Asbestos.html> for further guidance on asbestos inspections and notifications. Contact Mark Davis, Air Management Specialist 262-574-2118, with questions on the form. The notification must be submitted 10 working days in advance of demolition projects.

Other Issues:

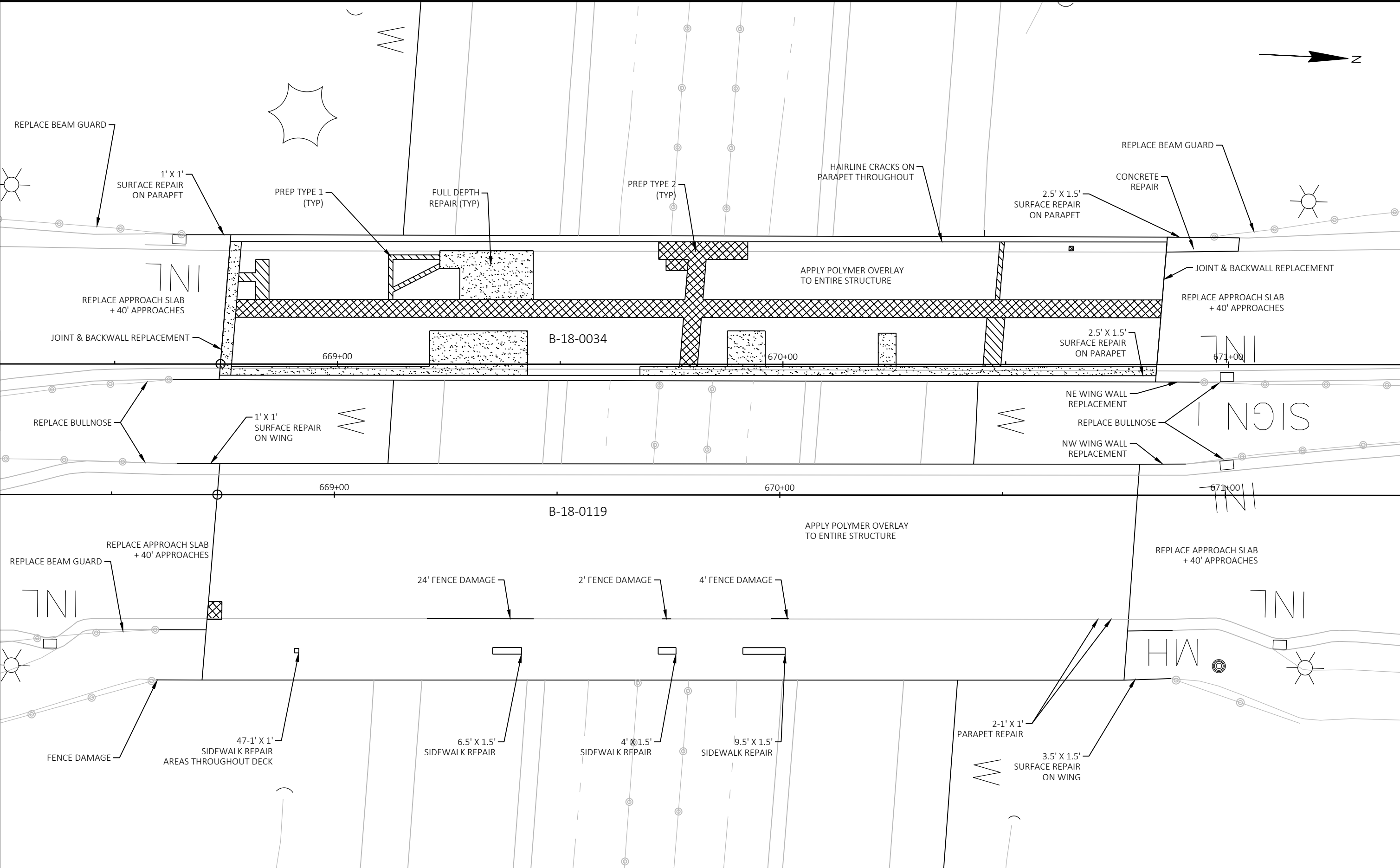
The above comments represent the DNR's initial concerns for the proposed project and do not constitute final concurrence. Final concurrence will be granted after further review of refined project plans, and additional consultation if necessary. If any of the concerns or information provided in this letter requires further clarification, please contact this office at (715) 934-9014, or email at Leah.Nicol@wisconsin.gov.

Sincerely,

A handwritten signature in black ink that reads "Leah Nicol". The signature is written in a cursive, flowing style.

Leah Nicol
Environmental Analysis & Review Specialist

cc: Nick Schaff, WisDOT Regional Environmental Coordinator



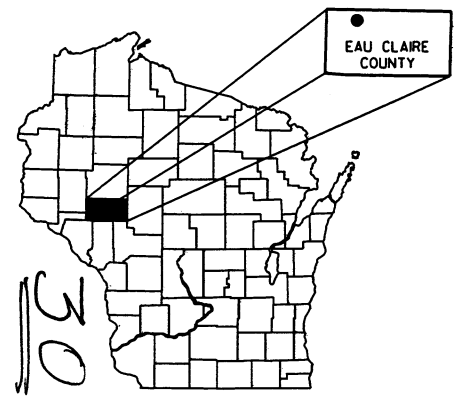
PROJECT NO: 1021-03-80	HWY: STH 93	COUNTY: EAU CLAIRE	PLAN	SHEET	E
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PROJECT ID: 7590-01-71 & 7590-09-70
DESIGN ID: 7590-01-71 & 7590-09-70
COUNTY: EAU CLAIRE

INDEX OF SHEETS

- Sheet No. 1 Title
Sheet No. 2.1-2.16 Typical Sections and Details
Sheet No. 3.1-3.8 Estimate of Quantities
Sheet No. 3A-3.0D Miscellaneous Quantities
Sheet No. 4.1-4.6 Right of Way Plat
Sheet No. 5.1-5.18 Plan and Profile
Sheet No. 6.1-6.54 Standard Detail Drawings
Sheet No. 7.1-7.14 Sign Plates
Sheet No. 8.1-8.30 Structure Plans
Sheet No. 9.1-9.2 Computer Earthwork Data
Sheet No. 9.3-9.67 Cross Sections

TOTAL SHEETS = 389



STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

PLAN OF PROPOSED IMPROVEMENT

ELEVA-EAU CLAIRE ROAD ELEVA-EAU CLAIRE ROAD
(I-94 - EAST HAMILTON AVENUE) (LORCH AVENUE - DAMON STREET)
STH 93 STH 93
EAU CLAIRE COUNTY EAU CLAIRE COUNTY

STATE PROJECT	FEDERAL PROJECT	
	PROJECT	CONTRACT
7590-01-71	MG 2002 (024)	1
7590-09-70	STP 2002 (025)	1

STATE PROJECT NUMBER
7590-01-71

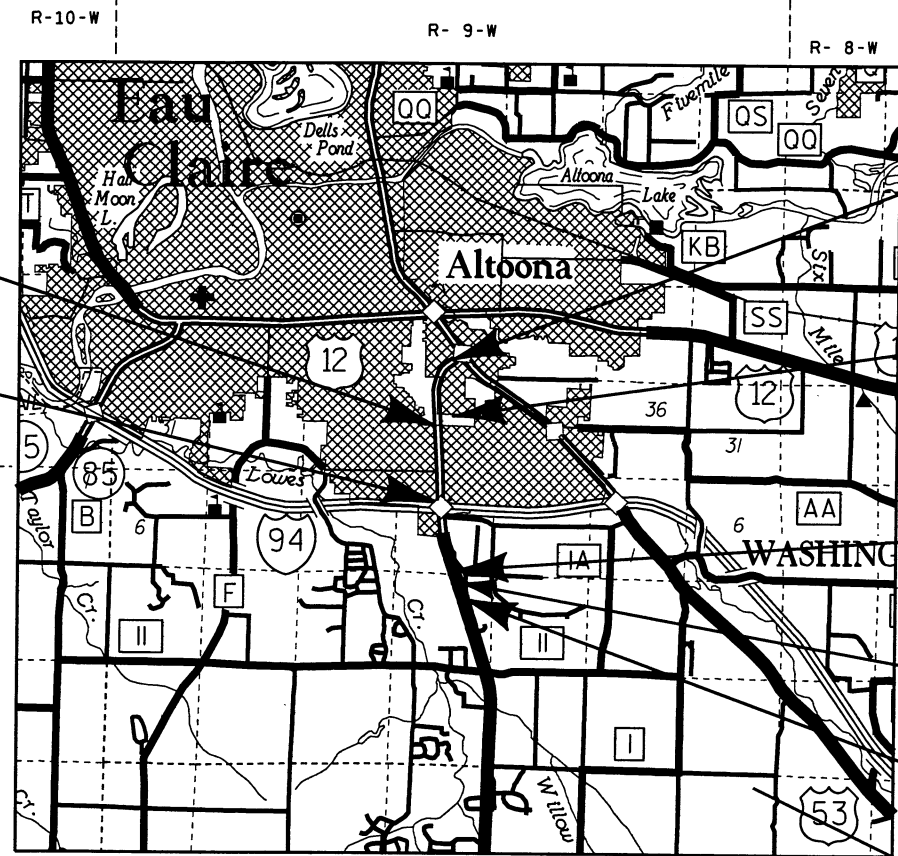
STATE PROJECT NUMBER
7590-09-70

DESIGN DESIGNATION

A.D.T. (2002)	=	19500
A.D.T. (2022)	=	29600
D.H.V. (2022)	=	2989
D.	=	58/42
T.	=	4.1%
DESIGN SPEED	=	45 MPH
ESALS	=	N/A

CONVENTIONAL SYMBOLS

COUNTY LINE	COMBUSTIBLE FLUIDS
CORPORATE LIMITS	UNDERGROUND UTILITIES
PROPERTY LINE	GAS
LOT LINE	ELECTRIC
LIMITED EASEMENT	TELEPHONE OR TELEGRAPH
EXISTING RIGHT OF WAY	COMMUNICATIONS LINE
PROPOSED OR NEW R/W LINE	SERVICE PEDESTAL
SURVEY LINE	POWER POLE
SLOPE INTERCEPT	TELEPHONE POLE
ORIGINAL GROUND	RAILROAD
MARSH OR ROCK PROFILE (To be noted as such)	SANITARY SEWER
MARSH AREA	STORM SEWER
WOODED OR SHRUB AREA	WATER
	EXISTING CULVERT
	PROPOSED CULVERT (Box or Pipe)
	CULVERT (Profile View)



LAYOUT
SCALE 0 1 MI.

TOTAL NET LENGTH OF CENTERLINE = 1.855 MI. (7590-01-71) URBAN
TOTAL NET LENGTH OF CENTERLINE = 1.084 MI. (7590-09-70) URBAN

Coordinates on this plan are referenced to the Wisconsin State Plane
Coordinate System (WSPCS), North/Central/South Zone.

END PROJECT 7590-01-71
STA. 197+07.28
N = 350280.13
E = 1589479.99

END PROJECT 7590-09-70
STA. 170+30.77

BEGIN PROJECT 7590-09-70
STA. 113+08.23

EQUATION PT 650+52.40 BACK
108+25.27 AHEAD

BEGIN PROJECT 7590-01-71
STA. 641+41.56
N = 340561.69
E = 1590255.95

ORIGINAL PLANS PREPARED BY
AYRES ASSOCIATES Engineers/Architects
Scientists/Surveyors
3433 Oakwood Hills Parkway
Eau Claire, WI 54701

WISCONSIN PROFESSIONAL ENGINEER
DAN R. HERZBERG
#28226
EAU CLAIRE, WIS.

DATE: 5-15-01

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

PREPARED BY
Surveyor O.A. & A.
Designer O.A. & A.
District Examiner M. BURKE
District Supervisor R. SHERMO
Proj. Dev. Engineer
C.O. Examiner C. BUJANOWSKI

APPROVED FOR DISTRICT OFFICE
DATE: 6/26/01 [Signature]
(Signature)

AUTHORIZED FOR BUREAU OF HIGHWAY OPERATIONS
DATE: [Signature]
(Signature)

AUTHORIZED FOR BUREAU OF HIGHWAY DEVELOPMENT
DATE: 8/27/01 [Signature]
(Signature)

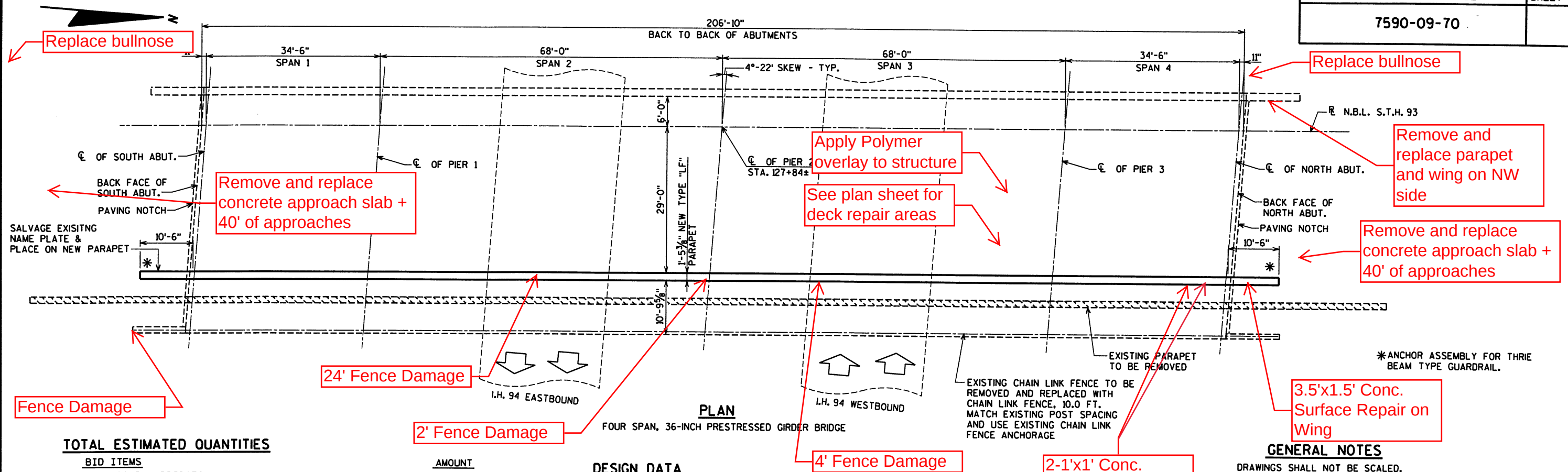
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REFERENCE FILES

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

STATE PROJECT NUMBER	SHEET NO.
7590-09-70	



TOTAL ESTIMATED QUANTITIES

BID ITEMS	AMOUNT
CONCRETE MASONRY, BRIDGES	25 C.Y.
COATED HIGH-STRENGTH BAR STEEL REINFORCEMENT, BRIDGES	4,320 LB.
CONCRETE MASONRY ANCHORS, TYPE S, 5/8-INCH	467 EACH
REMOVING OLD BRIDGE, STA. 12+84	1 L.S.
CHAIN LINK FENCE, 1.7 FT.	225 L.F.
CHAIN LINK FENCE, 10.0 FT.	226 L.F.
ANCHOR ASSEMBLY FOR BEAM GUARD	2 EACH
DEBRIS CONTAINMENT, STRUCTURE B-18-119	1 L.S.

NON-BID ITEMS

FILLER	1/2"	SIZE
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① ITEM INCLUDES REMOVING THE EXISTING EAST PARAPET AS SHOWN.

DESIGN DATA

ULTIMATE DESIGN STRESSES:

CONCRETE MASONRY	$f'_c =$	3,500 p.s.i.
HIGH STRENGTH BAR STEEL REINFORCEMENT (GRADE 60)	$f'_y =$	60,000 p.s.i.

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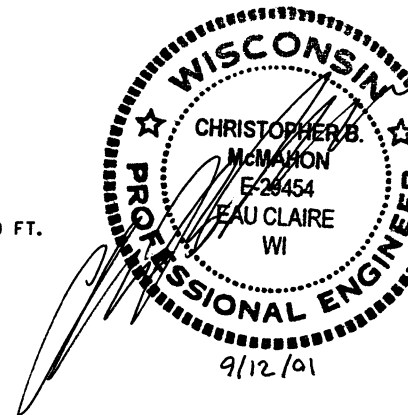
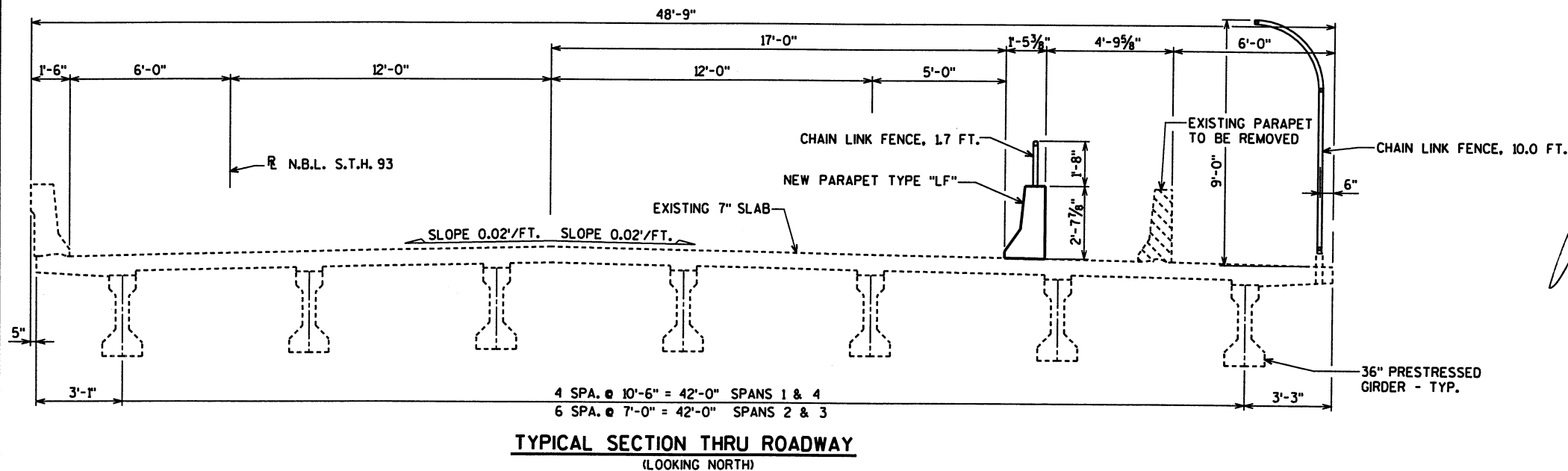
A.D.T. = 15,900 (2002)
A.D.T. = 24,200 (2022)
R.D.S. = 45 M.P.H.

GENERAL NOTES

DRAWINGS SHALL NOT BE SCALED.
DIMENSIONS ARE BASED ON ORIGINAL PLANS THEREFORE THE CONTRACTOR SHALL VERIFY THEM IN THE FIELD BEFORE ACCEPTANCE.
ANY EXCAVATION REQUIRED TO COMPLETE THE NEW PARAPET IS TO BE CONSIDERED INCIDENTAL TO THE BID ITEM "CONCRETE MASONRY, BRIDGES".

LIST OF DRAWINGS

1. GENERAL PLAN
2. SUPERSTRUCTURE
3. SLOPED FACE PARAPET "LF"
4. PARAPET CHAIN LINK FENCE DETAILS
5. SIDEWALK CHAIN LINK FENCE DETAILS



BRIDGE OFFICE CONTACT:
GERRY ANDERSON
(608)-266-8488

CONSULTANT CONTACT:
CHRIS McMAHON
(715)-834-3161

No.	Date	Revision	By
PLANS PREPARED BY AYRES ASSOCIATES Engineers/Architects Scientists/Surveyors 3433 Oakwood Hills Parkway Eau Claire, WI 54701			
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE B-18-119			
S.T.H. 93 N.B. OVER I.H. 94			
County	EAU CLAIRE	Town/City/Village	EAU CLAIRE
Design Spec.	A.A.S.H.T.O. '99	Load	Const. Spec. 1996
Designed By	CBM	Design Checked	Drawn By 6LD Plans Checked CBM
Approved	[Signature] 09-13-01 Senior Bridge Design Engineer Date		
GENERAL PLAN			SHEET 1 OF 5
			DATE:

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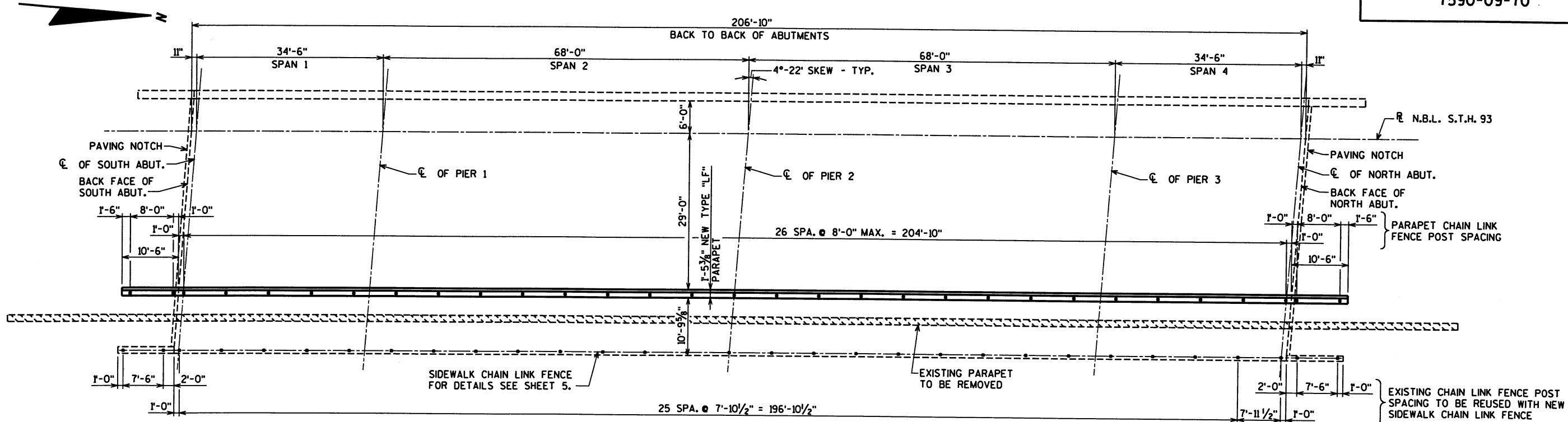
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DATE: 5/21/01

STATE PROJECT NUMBER	SHEET NO.
7590-09-70	8.2

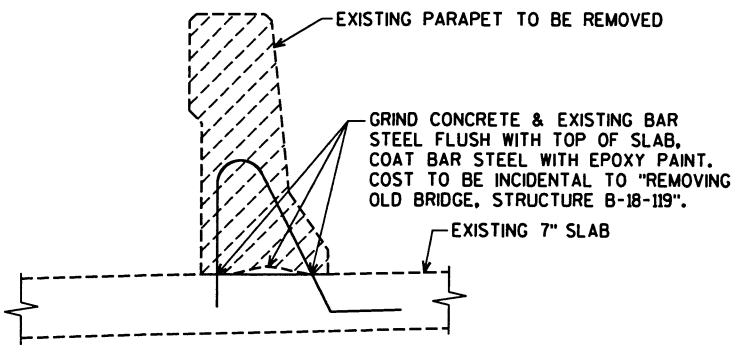


PLAN

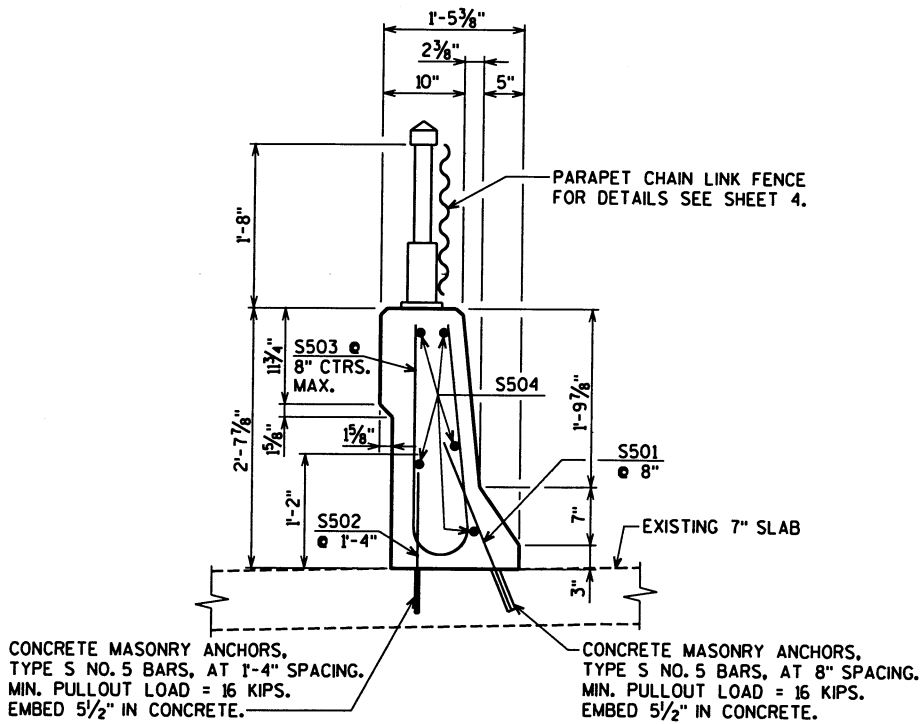
BILL OF BARS

BAR NO.	COATED BAR	NO. REQ'D.	LENGTH	BENT BAR	BUNDLED	BAR SERIES	3,550* COATED
							LOCATION
S501	X	311	1-10				PARAPET DOWELS
S502	X	156	1-7				PARAPET DOWELS
S503	X	311	4-10 X				PARAPET VERT.
S504	X	30	36-0				PARAPET HORIZ.

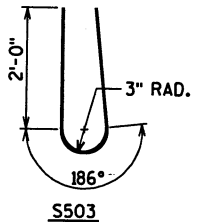
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SECTION THRU EXISTING PARAPET ON SUPER.



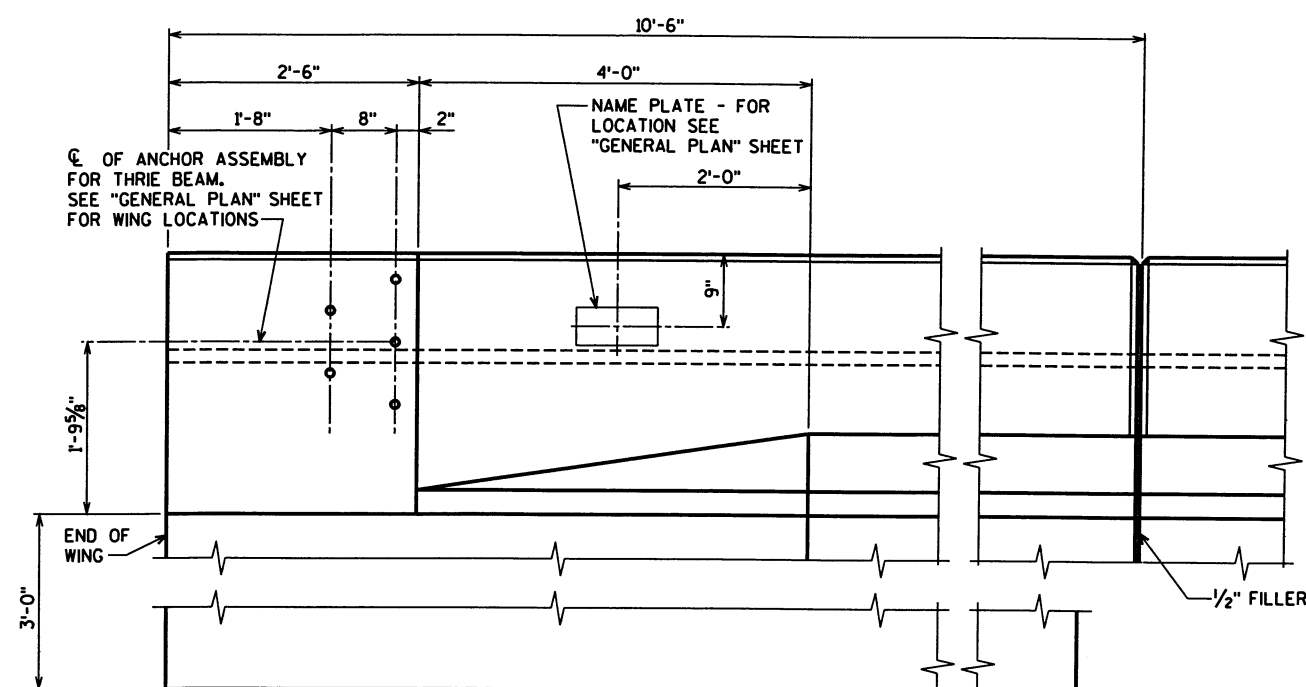
SECTION THRU NEW PARAPET 'LF' ON SUPER.



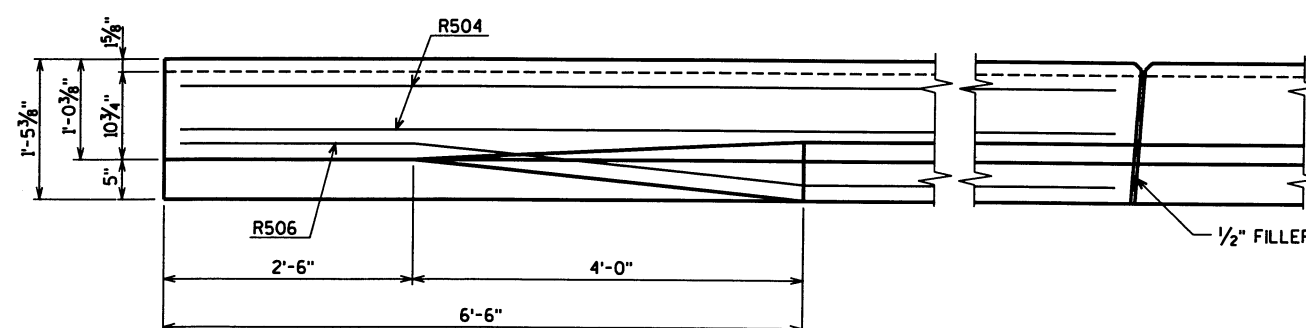
No.	Date	Revision	By
PLANS PREPARED BY			
AVRES ASSOCIATES Engineers/Architects Scientists/Surveyors 3433 Oakwood Hills Parkway Eau Claire, WI 54701			
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE B-18-119			
Const. Spec.	1996	Drawn By 6.L.O.	Plans Checked MPF
SUPERSTRUCTURE			SHEET 2 OF 5

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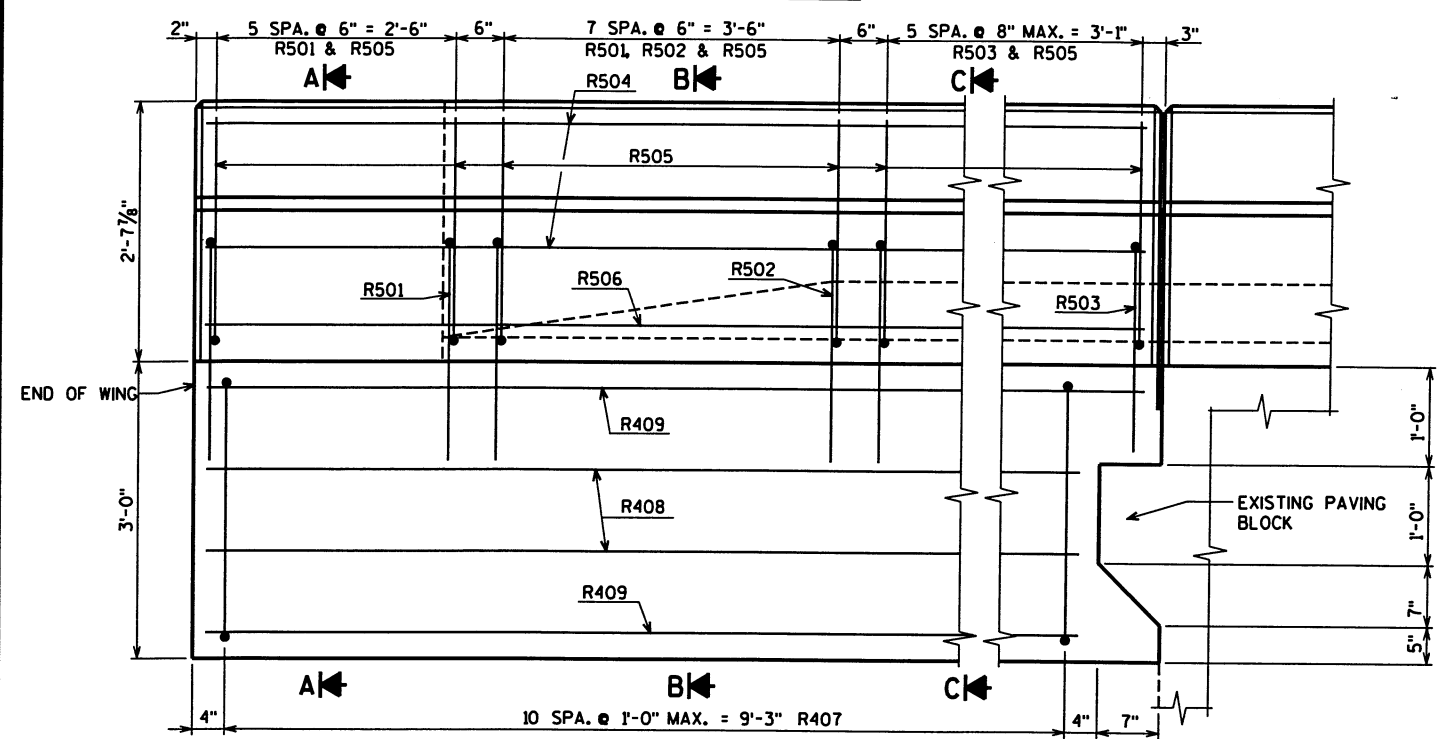
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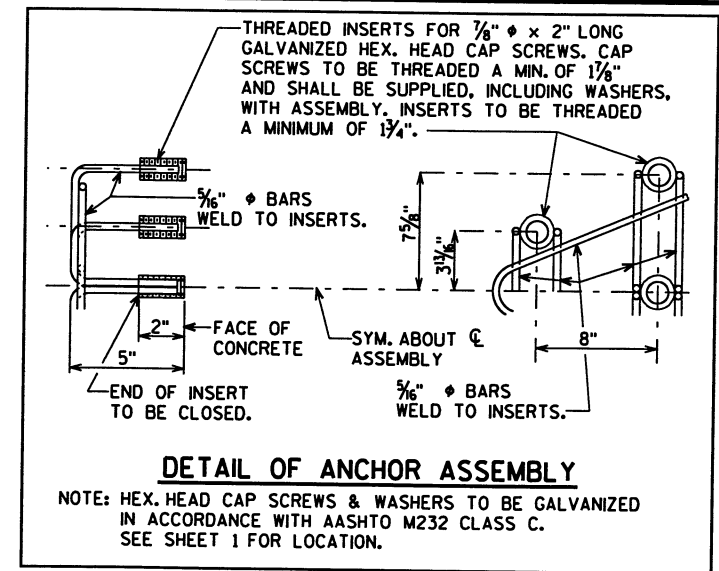
INSIDE ELEVATION



PLAN



OUTSIDE ELEVATION



DETAIL OF ANCHOR ASSEMBLY

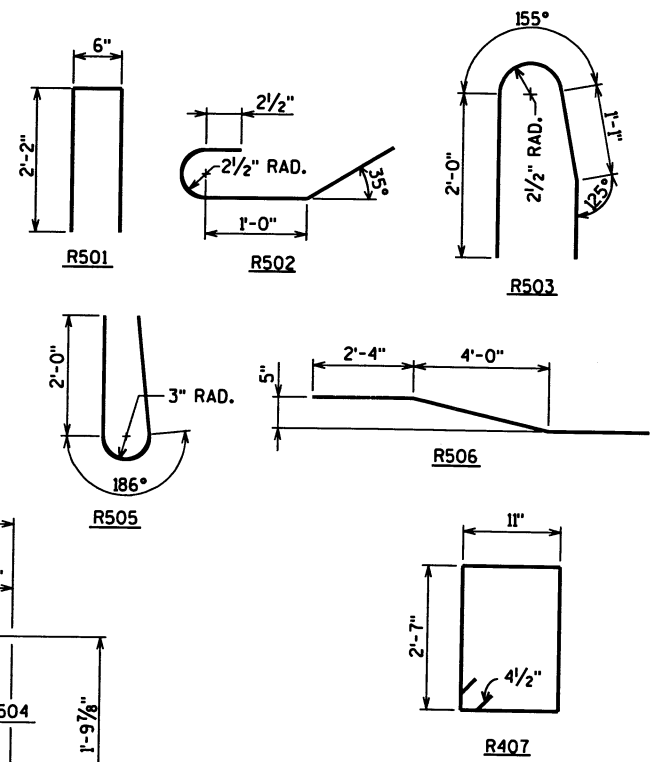
OPTIONAL CONSTRUCTION JOINTS IN THE PARAPETS MAY BE USED. RUN BAR REINF. THRU THE JOINT. LAP LONGIT. BARS A MIN. OF 1'-9" MIN. JOINT SPACING OF 80'-0". DEFINE CONST. JOINT WITH A 3/4" 'V' GROOVE.

STATE PROJECT NUMBER	SHEET NO.
7590-09-70	8.3

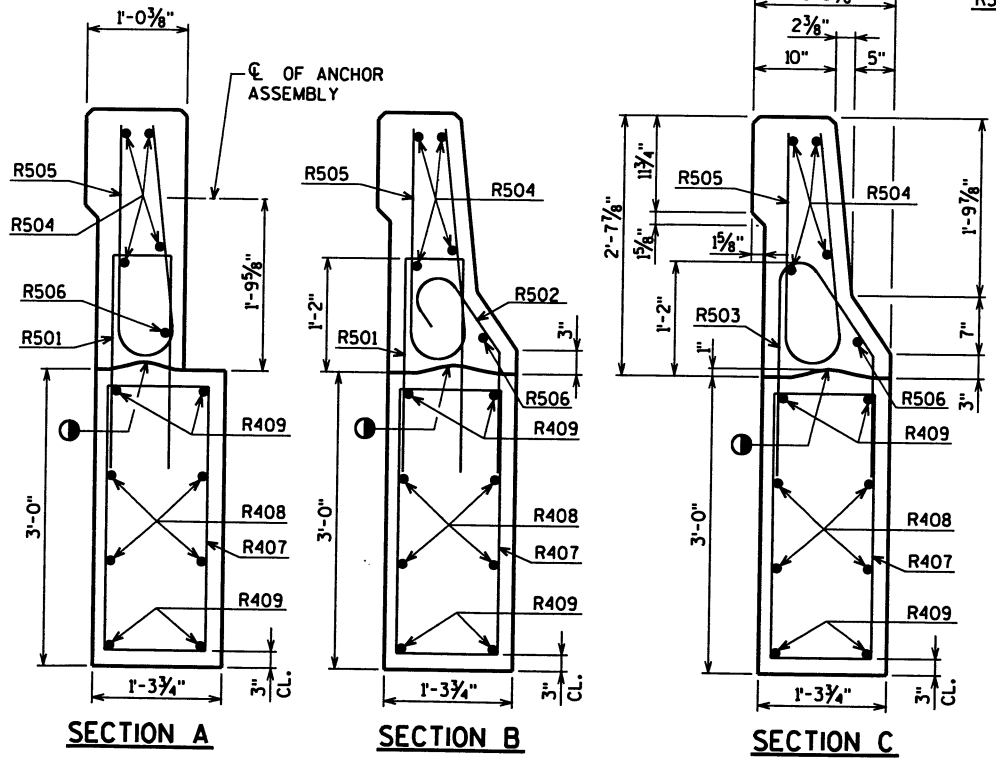
BILL OF BARS

BAR MARK	COATED	NO. REQ'D.		LENGTH	BENT BAR	770° COATED LOCATION
		SOUTH ABUT.	NORTH ABUT.			
R501	X	14	14	4-7	X	PARAPET VERT.
R502	X	8	8	3-2	X	PARAPET VERT.
R503	X	6	6	4-8	X	PARAPET VERT.
R504	X	4	4	10-1	X	PARAPET HORIZ.
R505	X	20	20	4-10	X	PARAPET VERT.
R506	X	1	1	10-1	X	PARAPET HORIZ.
R407	X	11	11	7-6	X	FOOTING VERT.
R408	X	4	4	9-6	X	FOOTING HORIZ.
R409	X	4	4	10-1	X	FOOTING HORIZ.

BENDING DIMENSIONS ARE OUT TO OUT OF BARS.



CONSTRUCTION JOINT STRIKE OFF AS SHOWN.



SECTION A

SECTION B

SECTION C

No.	Date	Revision	By
PLANS PREPARED BY AVRES ASSOCIATES Engineers/Architects Scientists/Surveyors 3433 Oakwood Hills Parkway Eau Claire, WI 54701			
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE B-18-119			
Const. Spec.	1996	Drawn By 6.L.D.	Plans Checked MPF
SLOPED FACE PARAPET 'LF'			SHEET 3 OF 5

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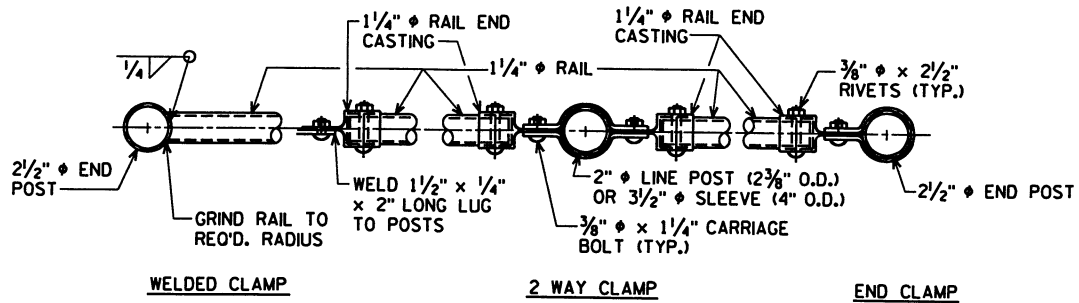
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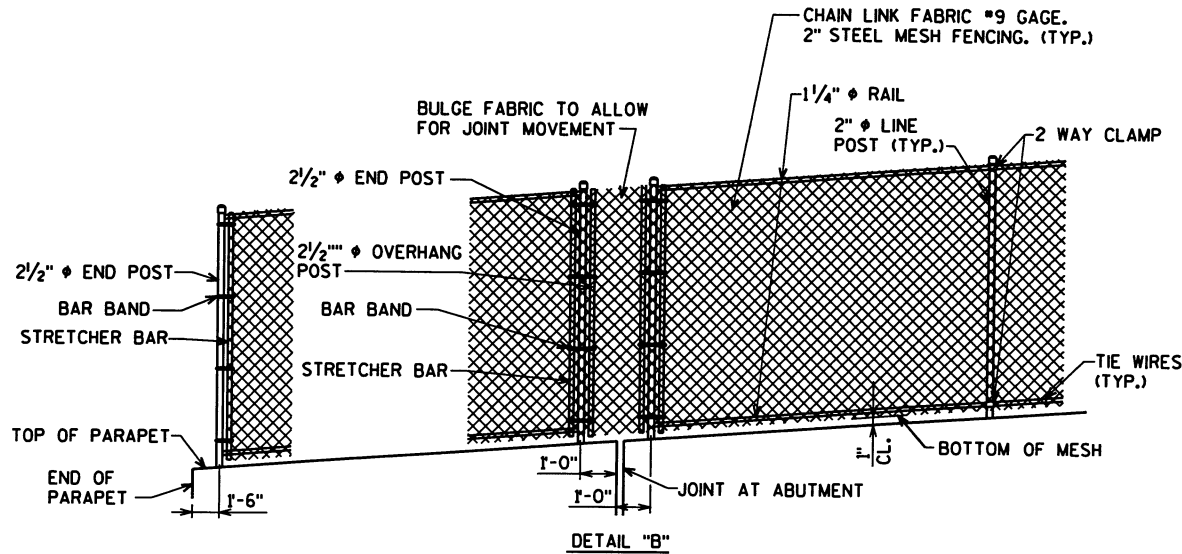
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7590-09-70	8.4

GENERAL NOTES

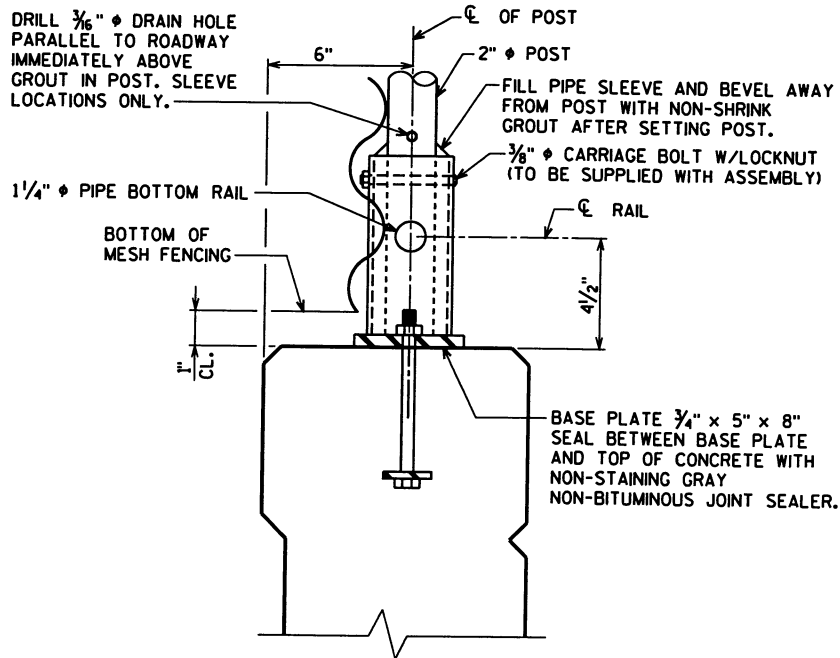
- ALL POSTS ARE TO BE SET VERTICAL.
KNUCKLE TOP AND BOTTOM OF ALL 2" MESH CHAIN LINK FENCING.
ALL FENCING COMPONENTS SHALL BE GALVANIZED STEEL OR APPROVED ALTERNATE LISTED BELOW.
ALL MATERIALS, LABOR AND INCIDENTALS ARE TO BE INCLUDED IN THE BID PRICE FOR "CHAIN LINK FENCE, 17 FT."
PLACE ALL NUTS ON OUTSIDE OF FENCE.
ALL RAILS, POSTS AND SLEEVES ARE STANDARD WEIGHT PIPE, SCHEDULE 40.
TOP RAIL SHALL BE CONTINUOUS OVER INTERIOR POSTS. MINIMUM LENGTH OF TOP RAIL BETWEEN SPLICES SHALL BE 20'-0". PLACE TOP RAIL SPLICES NEAR 1/4 POINTS OF POST SPACING. NO. 9 GAGE TIES AT 9" SPACING REQ'D. ON RAILS AND POSTS WITHOUT STRETCHER BARS.
ALTERNATE FENCING MATERIALS ARE ALUMINUM, ALUMINUM COATED STEEL AND APPROVED COLOR COATING SYSTEMS. IF ALTERNATE MATERIALS ARE USED FOR POSTS AND RAILS, THESE ELEMENTS SHOULD BE DESIGNED.
PEDESTRIAN RAILING MAY BE USED ON WINGWALL PARAPETS IF CHAIN LINK FENCE DOES NOT CONTINUE BEYOND BRIDGE.
⊗ 1/2" CONCRETE MASONRY ANCHOR, TYPE "S", 6" EMBEDMENT (EPOXY ANCHORED) MIN. PULLOUT OF 10 KIPS, THREADED LENGTH OF ANCHOR, WASHER, AND NUT SHALL BE GALVANIZED.



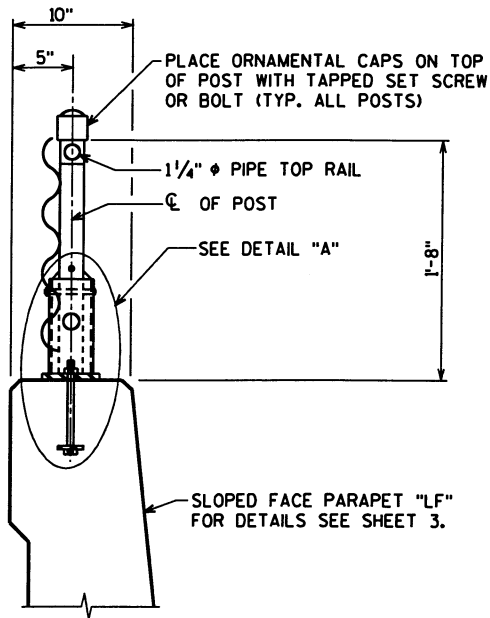
PLAN OF RAILING



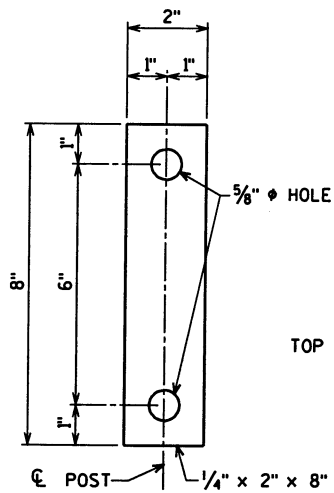
PART ELEVATION OF FENCE



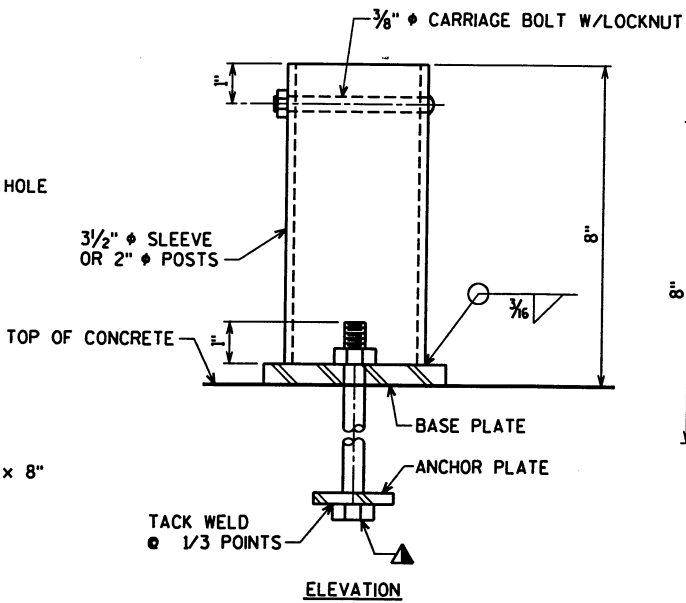
DETAIL 'A'



SECTION THRU PARAPET CHAIN LINK FENCE

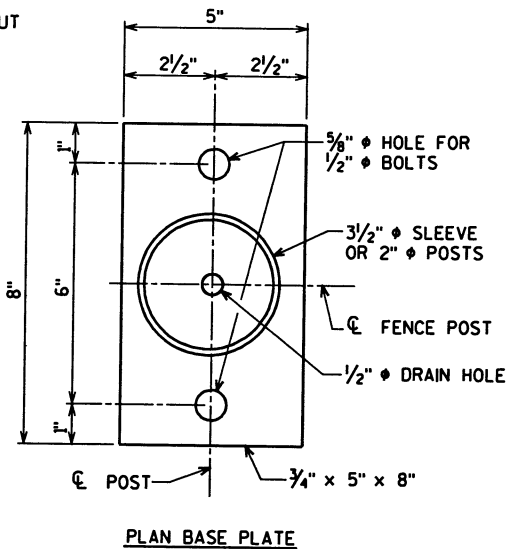


PLAN ANCHOR PLATE



POST ATTACHMENT

UNIT SHALL BE GALV. AFTER FABRICATION



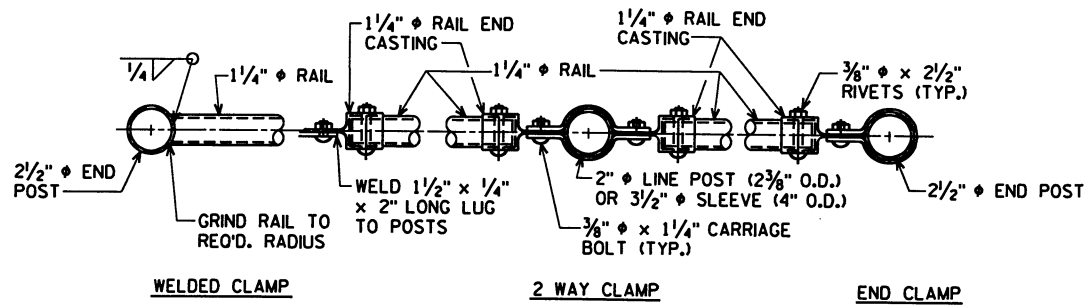
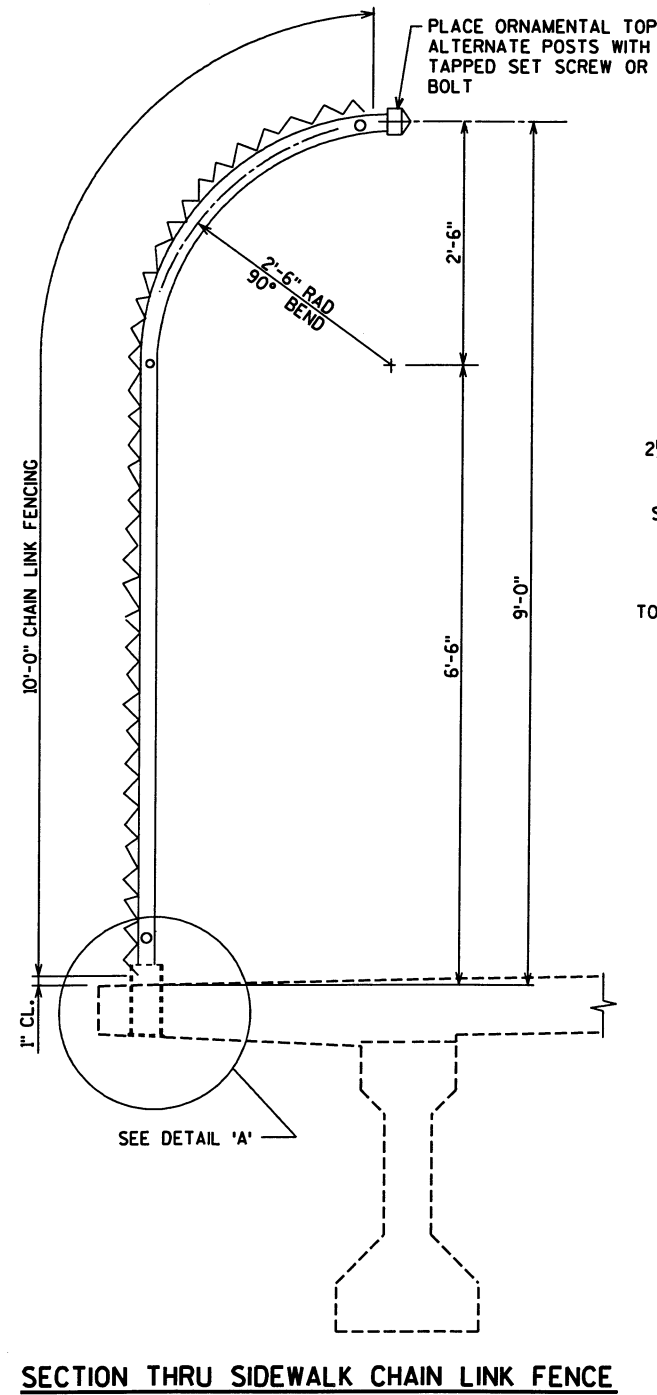
PLAN BASE PLATE

⚠ 1/2" x 6 7/8" LONG GALVANIZED HEX. BOLT WITH NUT AND WASHER. TYPE S, 1/2" CONCRETE MASONRY ANCHORS MAY BE SUBSTITUTED FOR 1/2" BOLTS. ANCHOR PLATE NOT REQUIRED WHEN TYPE S ANCHORS ARE USED. SEE ⊗ IN "GENERAL NOTES".

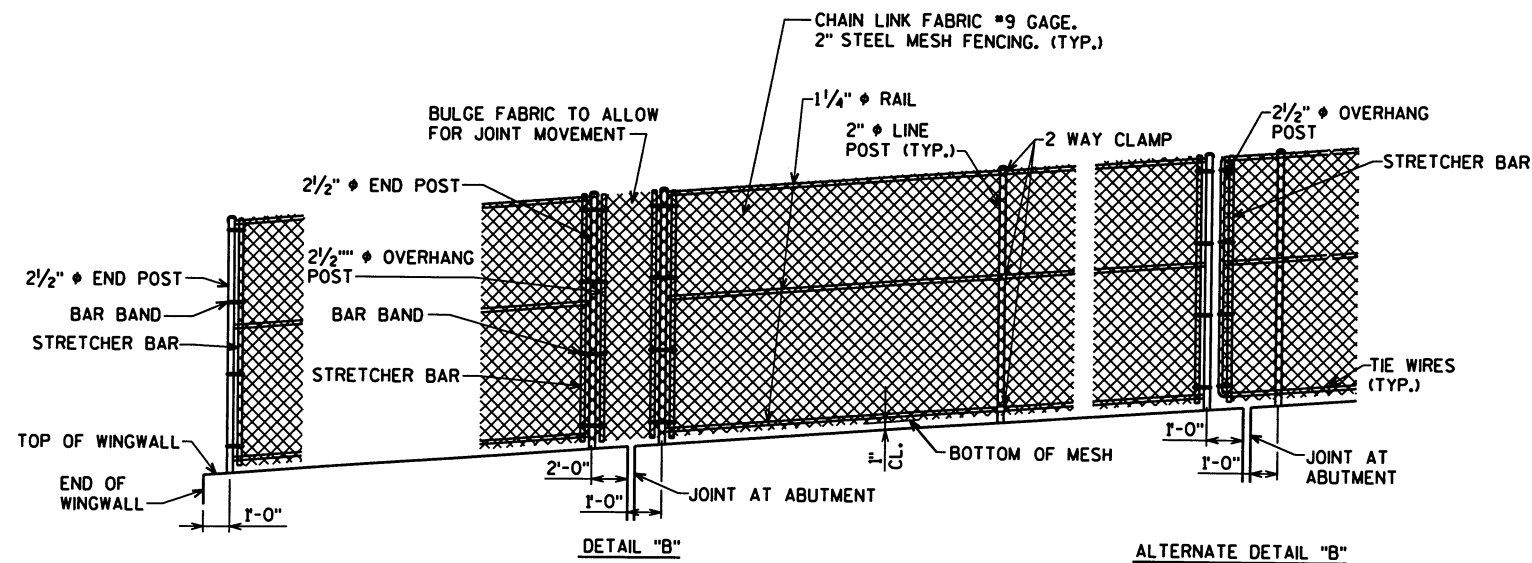
No.	Date	Revision	By
PLANS PREPARED BY			
AVRES ASSOCIATES Engineers/Architects Scientists/Surveyors 3433 Oakwood Hills Parkway Eau Claire, WI 54701			
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE B-18-119			
Const. Spec.	1996	Drawn By 6.L.D.	Plans Checked MPF
PARAPET CHAIN LINK FENCE DETAILS			SHEET 4 OF 5

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

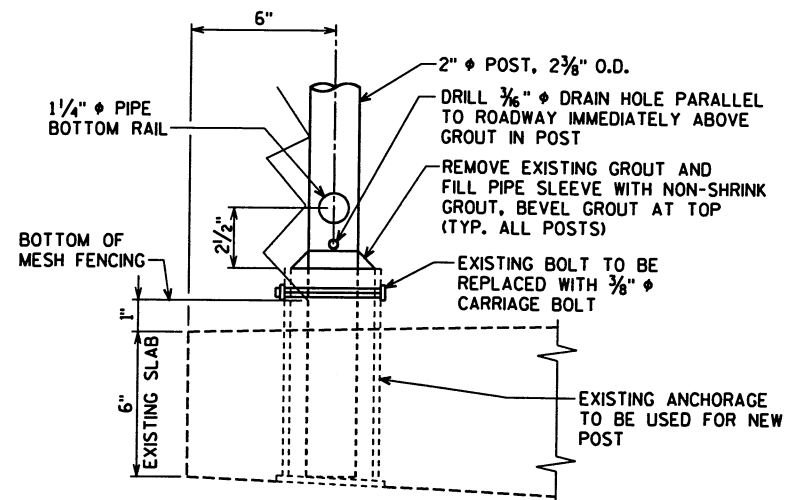
distrib@shaw.ang.don ON • 1-63



PLAN OF RAILING



PART ELEVATION OF FENCE



DETAIL "A"

GENERAL NOTES

ALL POSTS ARE TO BE SET VERTICAL.
KNUCKLE TOP AND BOTTOM OF ALL 2" MESH CHAIN LINK FENCING.
ALL FENCING COMPONENTS SHALL BE GALVANIZED STEEL OR APPROVED
ALTERNATE LISTED BELOW.
ALL MATERIALS, LABOR AND INCIDENTALS ARE TO BE INCLUDED IN THE BID
PRICE FOR "CHAIN LINK FENCE, 10.0 FT.".
PLACE ALL NUTS ON OUTSIDE OF FENCE.
ALL RAILS, POSTS AND SLEEVES ARE STANDARD WEIGHT PIPE, SCHEDULE 40.
TOP RAIL SHALL BE CONTINUOUS OVER INTERIOR POSTS. MINIMUM LENGTH
OF TOP RAIL BETWEEN SPLICES SHALL BE 20'-0". PLACE TOP RAIL SPLICES
NEAR 1/4 POINTS OF POST SPACING. NO. 9 GAGE TIES AT 9" SPACING REQ'D.
ON RAILS AND POSTS WITHOUT STRETCHER BARS.
ALTERNATE FENCING MATERIALS ARE ALUMINUM, ALUMINUM COATED STEEL
AND APPROVED COLOR COATING SYSTEMS. IF ALTERNATE MATERIALS ARE
USED FOR POSTS AND RAILS, THESE ELEMENTS SHOULD BE DESIGNED.
PEDESTRIAN RAILING MAY BE USED ON WINGWALL PARAPETS IF CHAIN LINK
FENCE DOES NOT CONTINUE BEYOND BRIDGE.

[illegible]

STATE PROJECT NUMBER	SHEET NO.
1020-3-71	8.0

DESIGN DATA

LIVE LOAD:

DESIGN RATING: HS20

INVENTORY RATING: HS22

OPERATIONAL RATING: HS37

STRUCTURE IS DESIGNED FOR A FUTURE WEARING SURFACE OF 20 POUNDS PER SQUARE FOOT.

ALLOWABLE DESIGN STRESSES:

CONCRETE MASONRY SLAB — $f'_c = 4,000$ P.S.I. ALL OTHER — $f'_c = 3,500$ P.S.I.BAR STEEL REINFORCEMENT, GRADE 60 — $f_y = 60,000$ P.S.I.

(PARAPET AND ALL SLAB STEEL SHALL BE EPOXY COATED.)

36" PRESTRESSED GIRDERS, CONCRETE MASONRY — $f'_c = 6,000$ P.S.I.

STRANDS 1/2" Ø WITH ULTIMATE TENSILE STRENGTH OF 270,000 P.S.I.

FOUNDATION DATA

PLACE SOUTH ABUTMENT ON HP 10x42 STEEL PILING DRIVEN TO 55 TONS/PILE MIN. BRG.

EST. LENGTH 25'-0".

THE MAXIMUM DESIGN FOOTING PRESSURE AT THE PIERS IS 2.5 TONS/S.F.

PLACE NORTH ABUTMENT ON HP 10x42 STEEL PILING DRIVEN TO 55 TONS/PILE MIN. BRG.

EST. LENGTH 35'-0".

TRAFFIC VOLUME

S.T.H. 93

A.D.T. = 10,000 (2010)

R.D.S. = 60 M.P.H.

INTERSTATE 94

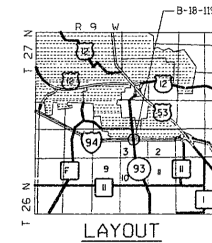
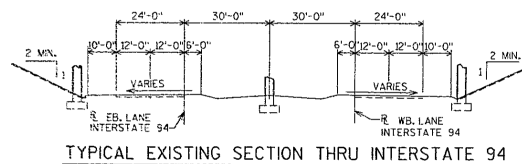
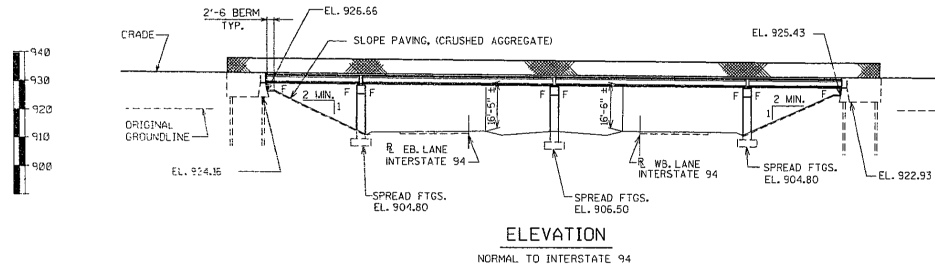
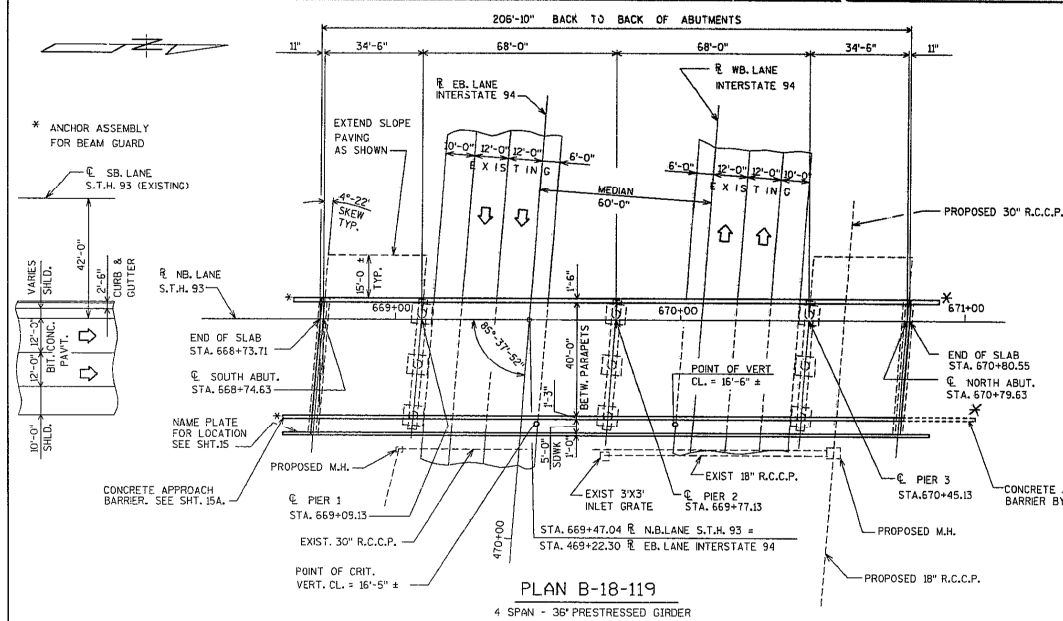
A.D.T. = 17,000 (2010)

R.D.S. = 70 M.P.H.

LIST OF DRAWINGS

1. GENERAL PLAN
2. NOTES AND QUANTITIES
3. SOUTH ABUTMENT
4. ABUTMENT DETAILS
5. NORTH ABUTMENT
6. ABUTMENT DETAILS
7. PIER 1
8. PIER 2
9. PIER 3
10. SUPERSTRUCTURE
11. SUPERSTRUCTURE
12. 36" PRESTRESSED GIRDER DETAILS
13. STEEL DIAPHRAGM ALTERNATE
14. FENCING DETAILS
15. SLOPED FACE PARAPET 'B'
- 15A. CONCRETE BARRIER

AS BUILT PLAN
DATE 5-20 BY W.L.K.



NO.	DATE	REVISION	BY
1			
2			
3			
4			
5			
6			
7			
8			
9			
10			
11			
12			
13			
14			
15			

STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION DIVISION OF HIGHWAYS			
STRUCTURE B-18-119			
S.T.H. 93 (N.B.LANES) OVER INTERSTATE 94			
COUNTY	EAU CLAIRE	TOWN	WASHINGTON
DESIGN SPEC.	WASHTO 1985	LOAD	HS-20 SPEC. 1981
DESIGNED BY	WCD/CKD	BY	DHB/CKD
APPROVED	STATE ENGINEER		
GENERAL PLAN		SHEET 1 OF 15	
		X82066	

1020-3-71

81

GENERAL NOTES

DRAWINGS SHALL NOT BE SCALED.

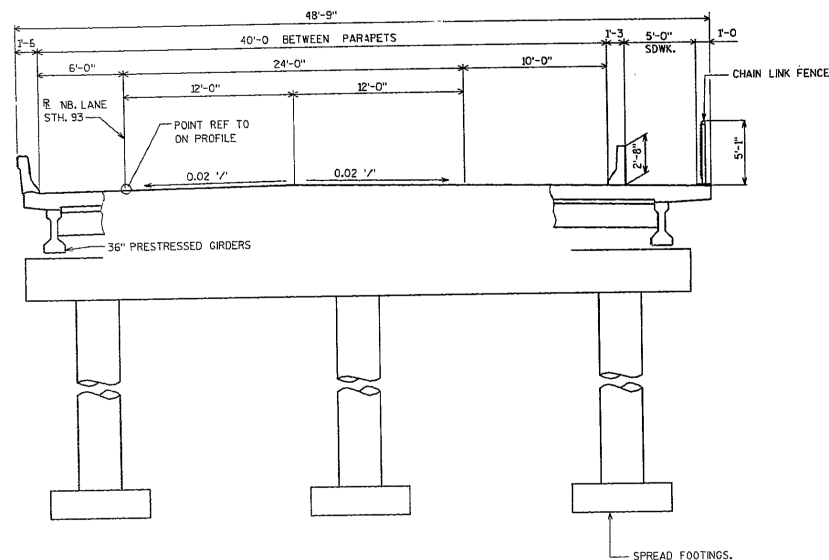
BAR STEEL REINFORCEMENT SHALL BE EMBEDDED 2" CLEAR UNLESS OTHERWISE SHOWN OR NOTED.

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

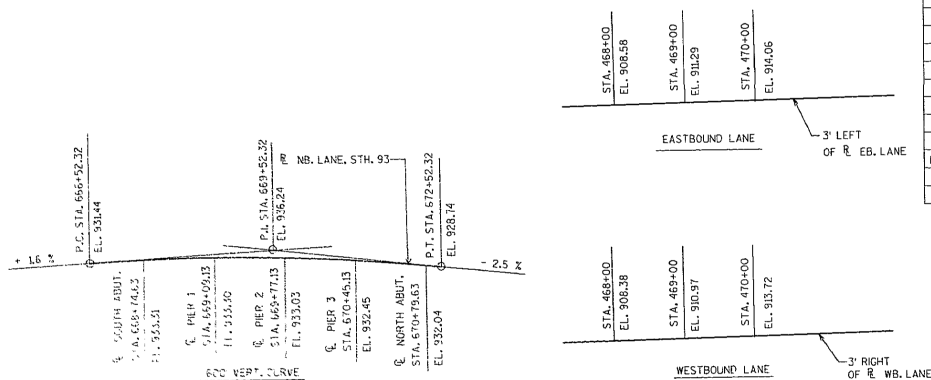
THE SLOPE OF FILL IN FRONT OF THE ABUTMENTS SHALL BE COVERED WITH CRUSHED AGGREGATE TO THE EXTENT SHOWN ON SHEET ONE AND IN THE ABUTMENT DETAILS.

THE FINISHED GRADED SECTION SHALL BE USED AS THE UPPER LIMITS OF EXCAVATION AT THE PIERS.

SUBSURFACE CONDITIONS SIMILAR TO THOSE FOR BRIDGE B-18-34 SHOWN ON SHEET X27946.



CROSS SECTION THRU ROADWAY LOOKING NORTH



PROFILE GRADE LINE, S.T.H. 93

EXISTING ELEVATIONS INTERSTATE 94

TOTAL ESTIMATED QUANTITIES

BID ITEMS	UNIT	SUPER.	SOUTH ABUT.	PIER 1	PIER 2	PIER 3	NORTH ABUT.	TOTALS
EXCAVATION FOR STRUCTURES, BRIDGES B-18-119	L.S.	---	---	---	---	---	---	1
CONCRETE MASONRY, BRIDGES	C.Y.	341	47	47	55	46	37	573
PROTECTIVE SURFACE TREATMENT	GAL.	43	---	---	---	---	---	43
HIGH STRENGTH BAR STEEL REINFORCEMENT, BRIDGES	LB.	35,220	2,800	6,140	7,860	6,060	2,800	60,880
COATED HIGH-STRENGTH BAR STEEL REINFORCEMENT	LB.	47,540	880	---	---	---	130	48,550
PRESTRESSED GIRDER, TYPE, 36"	L.F.	1,298	---	---	---	---	---	1,298
BEARING PADS, ELASTOMERIC	S.F.	60	---	---	---	---	---	60
ANCHOR ASSEMBLY FOR BEAM GUARD	EA.	---	2	---	---	---	2	4
SLOPE PAVING, CRUSHED AGGREGATE	S.Y.	---	260	---	---	---	250	510
STEEL PILING, DELIVERED & DRIVEN, HP 10 X 42	L.F.	---	175	---	---	---	245	420
CHAIN LINK FENCE, TYPE A, 5 FT.	L.F.	226	---	---	---	---	---	226
NON-BID ITEMS								
POLYVINYL CHLORIDE WATERSTOP	L.F.	---	54	---	---	---	54	108
1/8" ALUMINUM OR ZINC PLATE	S.F.	39	---	---	---	---	---	39
FILLER	SIZE	---	---	---	---	---	---	1/2" & 3/4"

NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION DIVISION OF HIGHWAYS			
STRUCTURE B-18-119			
CONC. SPEC.	1981	DRAWN BY	DHB
NOTES AND QUANTITIES		PLANT	PLS.
		SHEET	2 OF 15
		X82066	

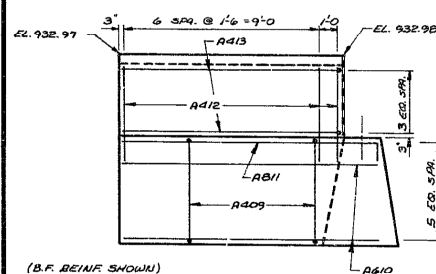
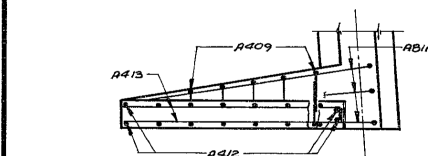
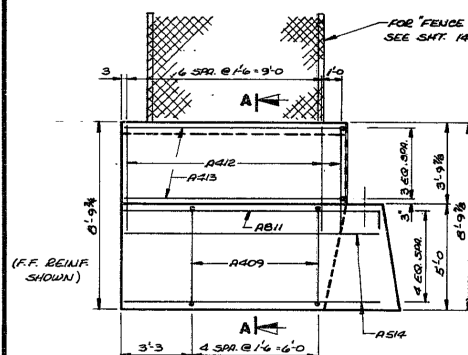
B-18-

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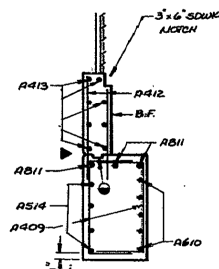
B-18-1

BILL OF BARS

MARK	1/8 REQ'D.	LENGTH	LOCATION
A401	106	8-3	X BODY - VERT.
A402	4	48-1	" - HORIZ.
A403	12	10-6	" - " - B.F.
A504	6	31-11	" - " - "
A405	7	49-1	X " - " - F.F.
A406	14	2-3	" - " - "
A407	7	28-0	X " - " - PILES
A508	34	2-0	" - " - TOP - VERT.
A409	10	7-7	X WING 1 - VERT - F.F. # B.F.
A410	5	11-9	" - " - HORIZ - B.F.
A411	3	13-9	X " - FILLET - HORIZ
A412	16	4-10	" - VERT - F.F. # B.F.
A413	8	10-9	X " - HORIZ - " - "
A414	4	11-9	" - " - " - F.F.
A415	10	7-9	X WING 2 - VERT - F.F. # B.F.
A516	5	11-10	" - " - HORIZ - B.F.
A417	3	13-9	X " - FILLET - HORIZ
A418	16	4-10	" - VERT - F.F. # B.F.
A419	4	10-9	X " - HORIZ - B.F.
A520	5	7-4	" - " - " - F.F.
A421	9	6-11	X " - " - " - "
A422	4	5-11	X " - " - " - "

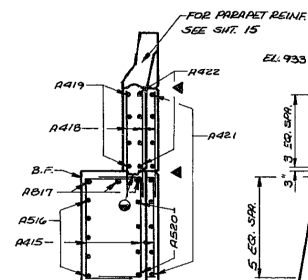


WING 1 (10'-6)

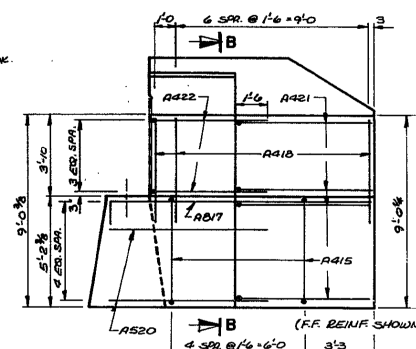


SECTION AA

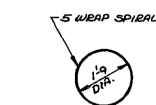
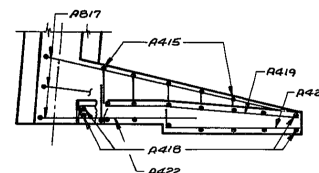
3" V-GROOVE IN F.F. OF WING WALL.
 OPT. CONST. JT. FORMED BY SURFACED BEVELED 2"x6"



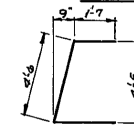
SECTION BB



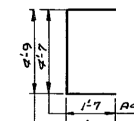
WING 2 (10'-6)



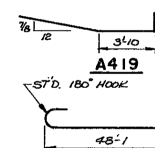
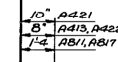
A407



A401



A409, A415



A419

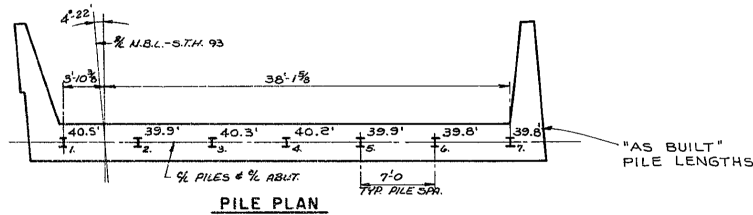
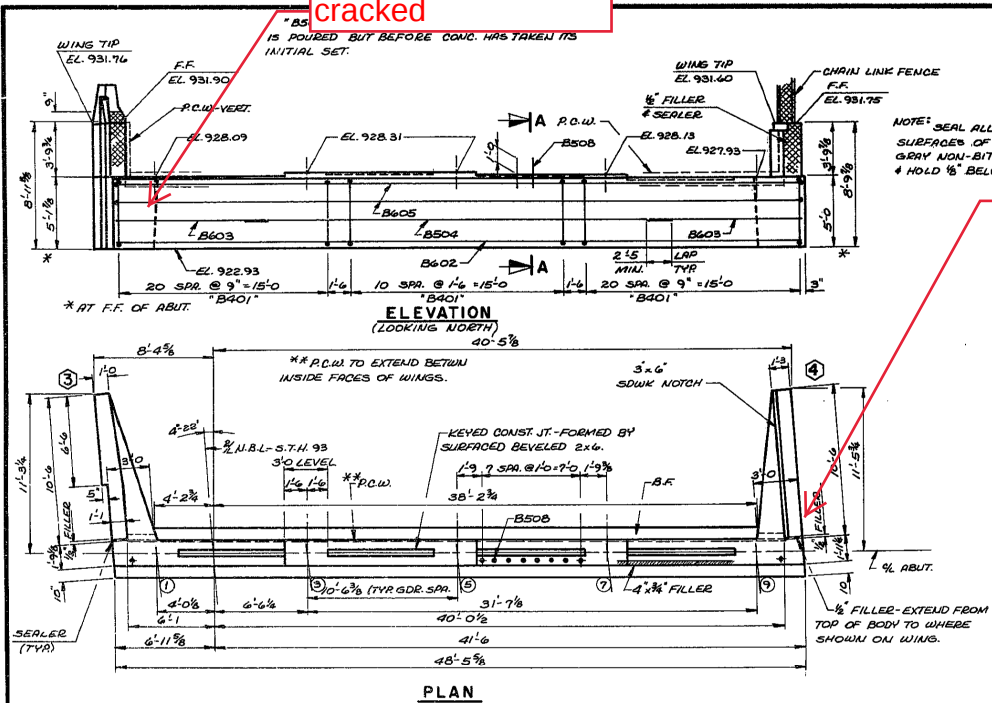
A605

NOTES: ALL DIMENSIONS ARE OUT TO OUT OF BAR.
 THE FIRST DIGIT OF A BAR MARK SIGNIFIES THE BAR SIZE.

No.	Date	Revised	By
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION DIVISION OF HIGHWAYS			
STRUCTURE B-18-119			
Const. No.	1981	Drawn By	R.J.B.
Spec.		Checked	MOK
ABUTMENT DETAILS			SHEET 4 OF 15
			X82066

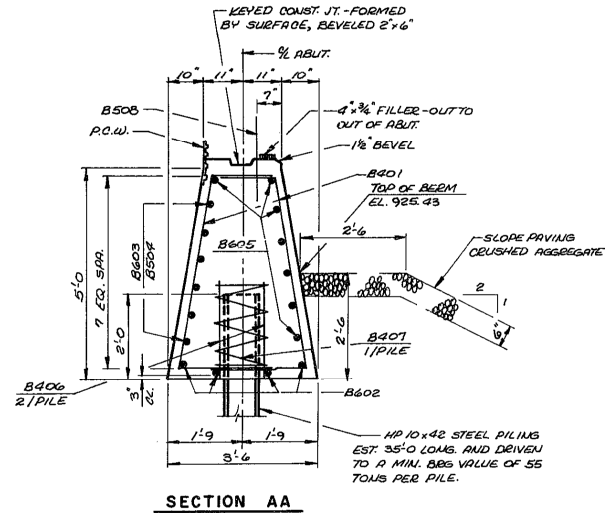
B-18-

Abutment Backwall
cracked



NOTE: SEAL ALL EXPOSED HORIZ & VERT SURFACES OF 1/2" FILLER WITH ASPHALT TROWEL GRAY NON-BITUM 3.5'x1.5' Col

3.5'x1.5' Conc.
Surface repair on
wing wall



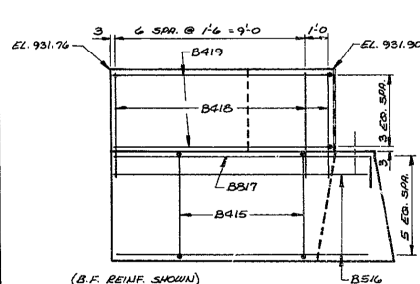
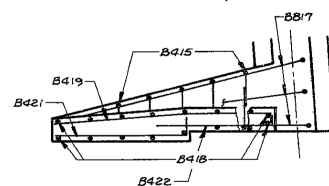
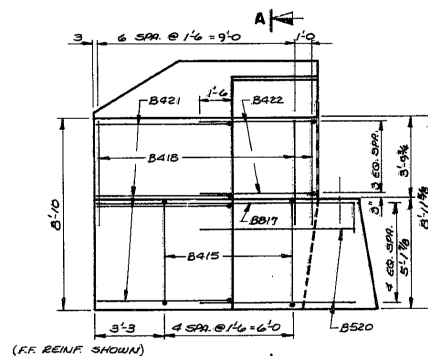
NOTE: FOR PILE SPLICE DETAILS & POLYVINYL CHLORIDE WATERSTOP DETAIL, SEE SHT 3.

No.	Date	Revision	By
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION DIVISION OF HIGHWAYS			
STRUCTURE B-18-119			
Const Spec	1981	Drawn By	Plans Checked
		R. J. G.	HOK
NORTH ABUTMENT		SHEET 5 OF 15 X82066	

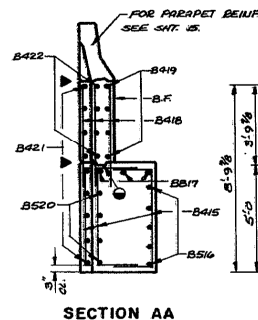
B-18-119

BILL OF BARS

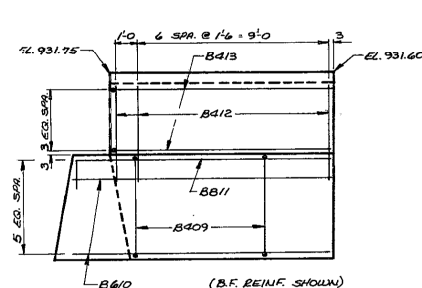
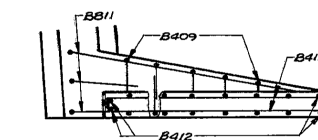
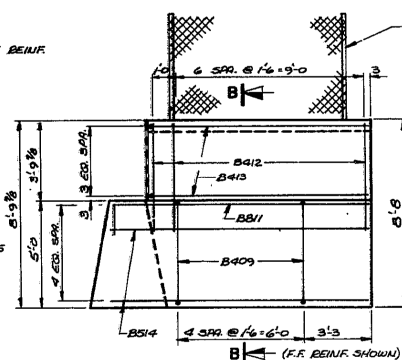
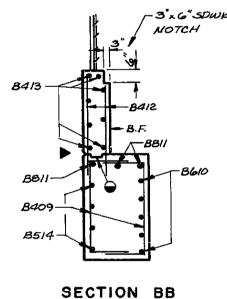
MARK	N ^o	REQ'D	LENGTH	BEUT	LOCATION
B401	106	8-3	X		BODY - VEET
B402	4	48-1	"		- HORIZ
B403	12	10-6	"		- B.F.
B404	6	31-11	"		- F.F.
B405	7	49-1	X		- F.F.
B406	14	2-3	"		@ PILES
B407	7	28-0	X		@
B408	34	2-0	"		- TOP - VEET
B409	10	7-7	X		WINGS 4 - VEET - F.F. & B.F.
B410	5	11-9	"		- HORIZ - B.F.
B411	3	13-9	X		- FILLET
B412	16	4-10	"		- VEET - F.F. & B.F.
B413	8	10-9	X		- HORIZ - F.F.
B414	4	11-9	"		- F.F.
B415	10	2-9	X		WINGS 3 - VEET - F.F. & B.F.
B416	5	11-10	"		- HORIZ - B.F.
B417	3	13-9	X		- FILLET
B418	16	4-10	"		- VEET - F.F. & B.F.
B419	4	10-9	X		- HORIZ - B.F.
B420	4	7-4	"		- F.F.
B421	9	6-11	X		- F.F.
B422	4	5-11	X		- F.F.



WING 3 (10'-6)



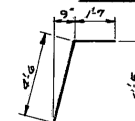
▶ 3/4" V-GROOVE IN F.F. OF WING WALL.
 ● OPT. CONST. JT. FORMED BY SURFACED BEVELED 2" x 6"



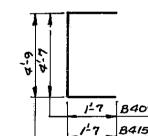
WING 4 (10'-6)

FOR FENCE DETAILS
SEE SHT. 14

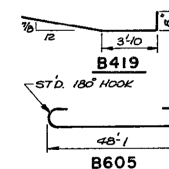
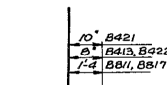
B407



B401



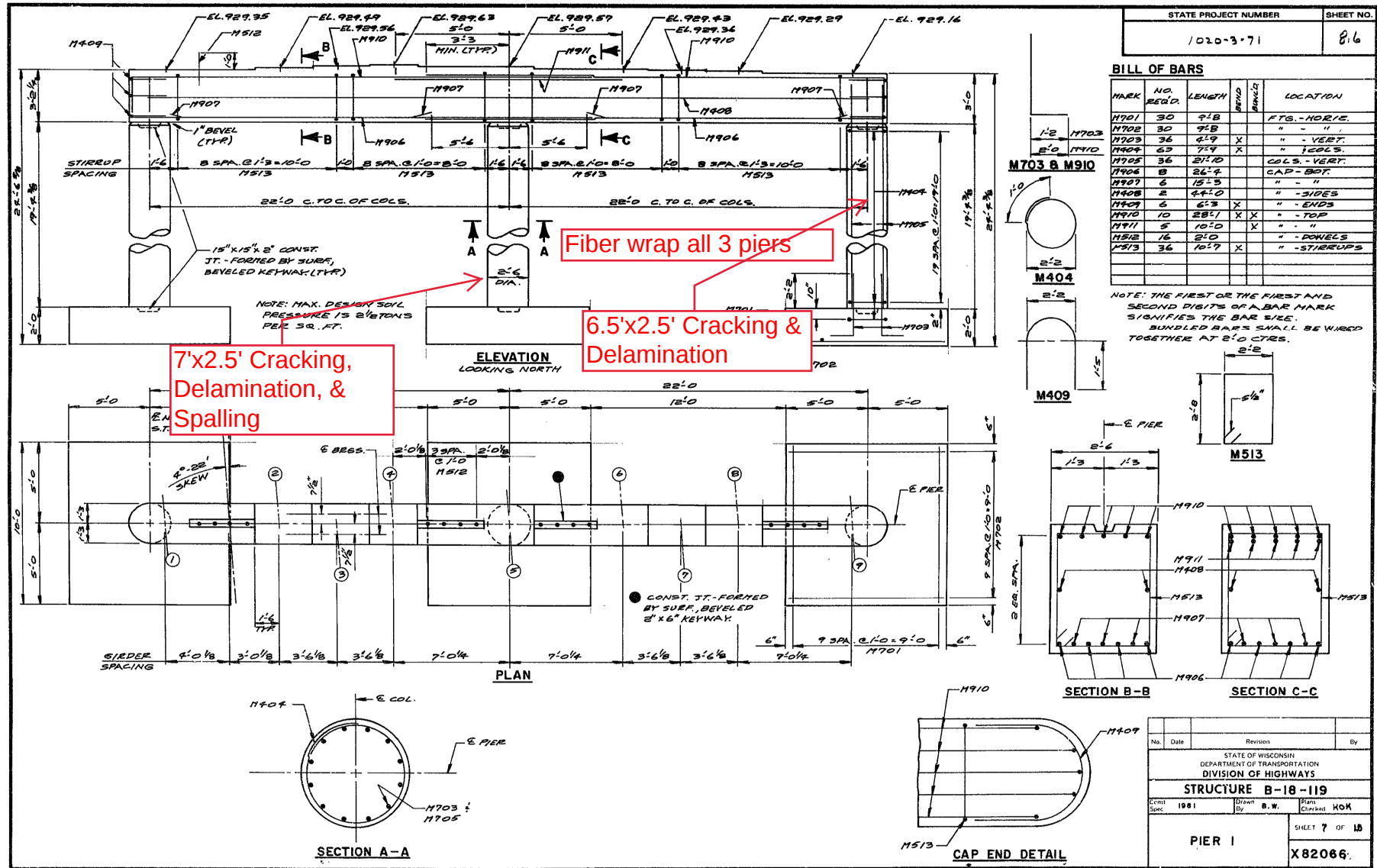
B409, B415



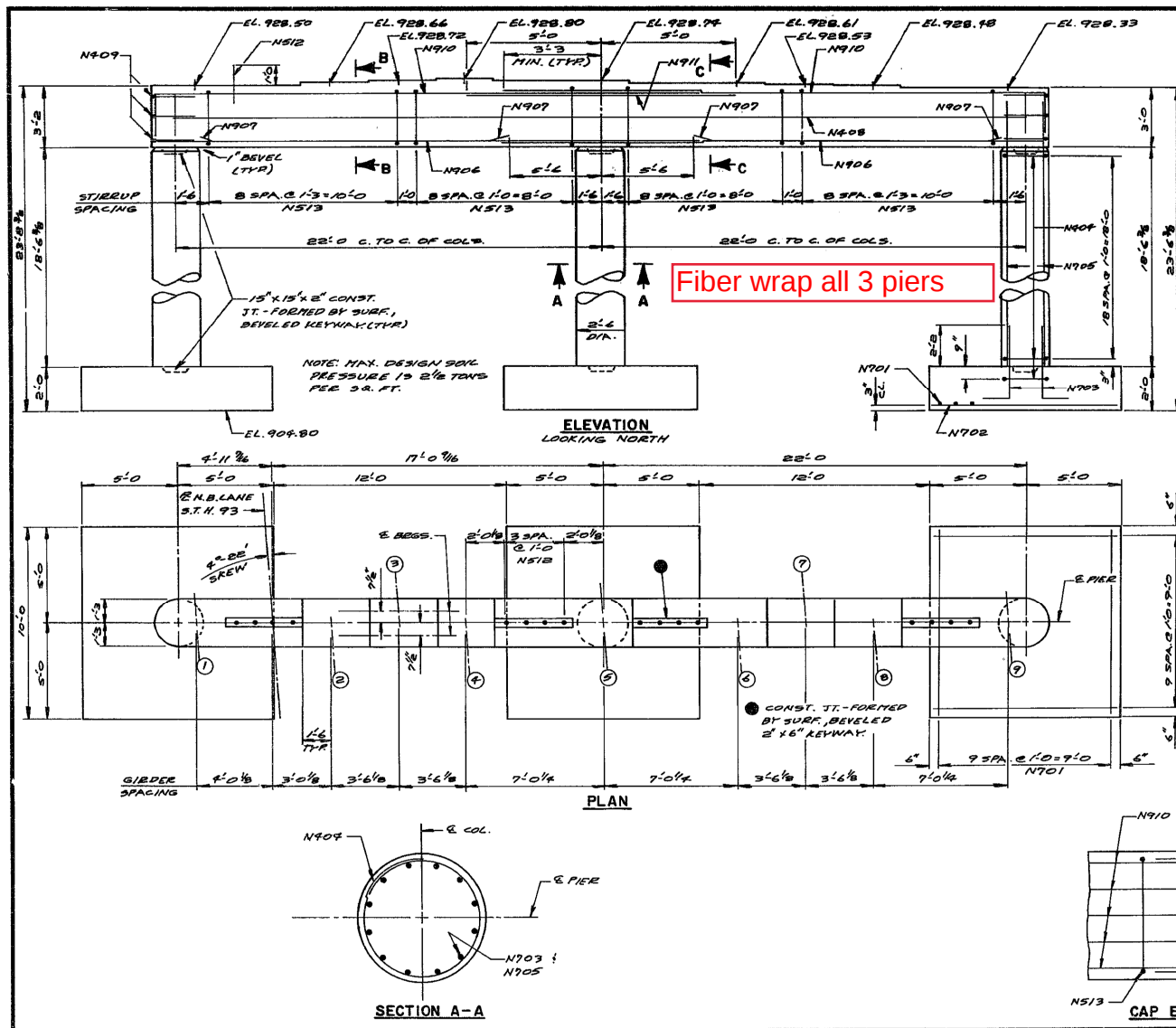
NOTES: ALL DIMENSIONS ARE OUT TO OUT OF BAR.
 THE FIRST DIGIT OF A BAR MARK SIGNIFIES THE BAR SIZE.

No.	Date	Revision	By
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION DIVISION OF HIGHWAYS			
STRUCTURE B-18-119			
Const. Sht.	1981	Drawn by	R.J.G.
Plans		Checked	HOK
ABUTMENT DETAILS			SHEET 6 OF 15
			X82066

B-18-1



B-18-1



Fiber wrap all 3 piers

STATE PROJECT NUMBER	SHEET NO.
1020-3-71	88

BILL OF BARS

MARK	NO. REQ'D	LENGTH	REINFORCING	LOCATION
N701	30	7'8"		FTS. - NDE/E.
N702	30	7'8"		" - "
N703	30	7'8"		" - VERT.
N704	30	7'8"		" - COLS.
N705	30	7'8"		COLS. - VERT.
N706	30	7'8"		CAP - BOT.
N707	30	7'8"		" - "
N708	30	7'8"		" - SIDES
N709	30	7'8"		" - SIDES
N710	30	7'8"		" - TOP
N711	30	7'8"		" - "
N712	30	7'8"		" - DOWNERS
N713	30	7'8"		" - STIRRUPS

NOTE: THE FIRST OR THE FIRST AND SECOND DIGITS OF A BAR MARK SIGNIFIES THE BAR SIZE. BUNDLED BARS SHALL BE WIRED TOGETHER AT 2'-0" CTR.

N703 & N910

N404

N409

N513

N910

N911

N912

N913

N914

N915

N916

N917

N918

N919

N920

N921

N922

N923

N924

N925

N926

N927

N928

N929

N930

N931

N932

N933

N934

N935

N936

N937

N938

N939

N940

N941

N942

N943

N944

N945

N946

N947

N948

N949

N950

N951

N952

N953

N954

N955

N956

N957

N958

N959

N960

N961

N962

N963

N964

N965

No.	Date	Revision	By
1	1981	1	B.W.
2	1981	2	KOH

STRUCTURE B-18-119

PIER 3

SHEET 9 OF 15

X82066

B-18-1

GIRDER NOTES

TOP OF GIRDER TO BE ROUGH FLOATED AND BROOMED TRANSVERSELY FOR BONDING TO THE SLAB, EXCEPT THE OUTSIDE 2" OF GIRDER, WHICH SHALL BE TROWEL FINISHED.

THE GIRDERS SHALL BE PROVIDED WITH A SUITABLE LIFTING DEVICE FOR HANDLING AND ERECTING THE GIRDERS.

ALL GIRDERS SHALL BE CAST FULL LENGTH AS SHOWN.

PRESTRESSING STRANDS SHALL BE 1/2" DIA. - 7 WIRE LOW RELAXATION STRANDS WITH AN ULTIMATE STRENGTH OF 270,000 psi. & SHALL BE FLUSH WITH THE ENDS OF THE GIR.

INSERTS SHALL BE PLACED ON 4" CTRS. SYMMETRICALLY ABOUT THE C/L OF DIAPHRAGMS IN SPAN.

ALL STIRRUPS SHALL BE IN PAIRS AND THE SPACING SHOWN IN 'SIDE VIEW' IS MAXIMUM. THE LOCATION SHALL BE SHOWN ON THE SHOP DRAWINGS.

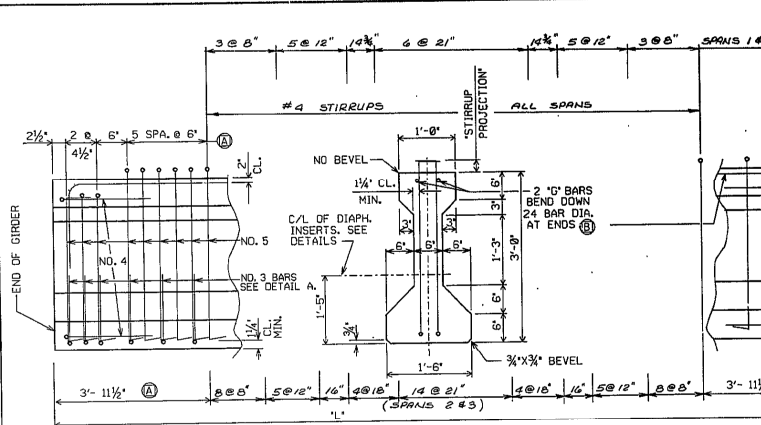
BEND EACH END OF No. 4 AND No. 5 STIRRUPS 5'

ENDS OF STRANDS SHALL BE PAINTED WITH NON-STAINING GRAY NON-BITUMINOUS JOINT SEALER. (THIS APPLIES ONLY TO THOSE ENDS OF GIRDERS THAT ARE FINALLY EXPOSED.)

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

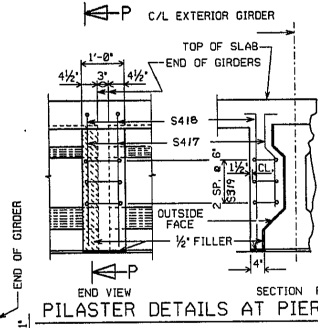
STRANDS MAY BE SPLICED AT THE 1/3 POINTS OF GIRDER. USE LAP LENGTH SHOWN IN 'GIRDER DATA'.

COAT ABUTMENT ENDS OF GIRDERS EMBEDDED IN CONCRETE WITH PARAFFIN WAX PRIOR TO SEATING GIRDERS.

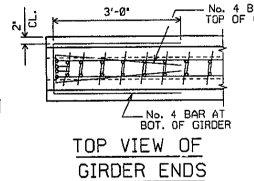


36" GIRDER - SIDE VIEW & TYP. SECTION IN SPAN

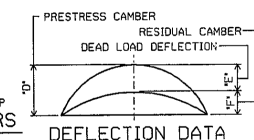
DETAIL TYP. AT EACH END



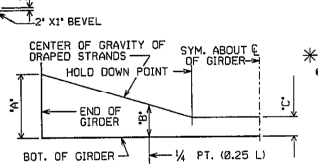
PILASTER DETAILS AT PIERS



TOP VIEW OF GIRDER ENDS

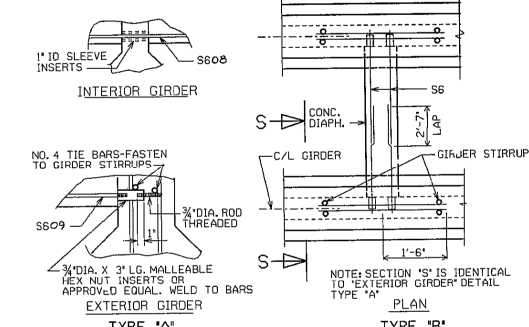
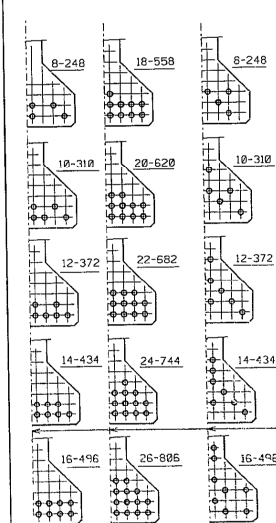


DEFLECTION DATA

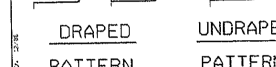


DRAPED STRAND PROFILE

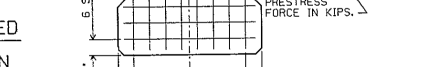
* MINIMUM CYLINDER STRENGTH OF CONCRETE
* TIME OF TRANSFER OF PRESTRESS FORCE



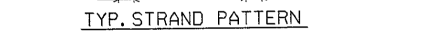
DIAPHRAGM INSERTS DETAILS



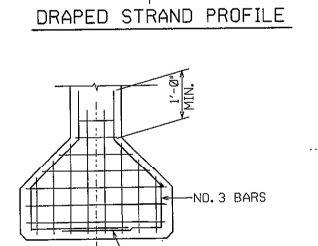
DRAPED PATTERN



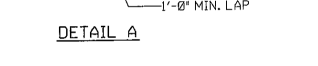
UNDRAPED PATTERN



TYP. STRAND PATTERN



DETAIL A



SLAB HAUNCH DETAIL

GIRDER DATA		USE DIAPH. INSERT DETAIL TYPE "A"									
SPAN	GIRDER LENGTH 'L'	DEFLECTION DATA (IN.)			TOTAL NO. OF STRANDS	DRAPED PATTERN				UNDRAINED PATTERN	
		'D'	'E'	'F'		'A'	'B'	'C'	'D'	TOTAL NO. OF STRANDS	'F' (p.u.)
1 & 4	34'-10 1/2"	3/8"	1/8"	1/4"	10	4800	18	6 3/4"	9 1/4"	3	*
2 & 3	67'-9"	2/8"	1/8"	1"	22	5275	24	9"	12"	4	*

TO DETERMINE 'E': ELEV. OF TOP OF GIR. AT 1/4 OF SUBSTRUCTURE UNITS & AT 1/4 POINTS OF EACH SPAN SHALL BE TAKEN. THEN FOLLOW THIS PROCESS:

TOP OF DECK ELEV. AT FINAL GRADE
- TOP OF GIRDER ELEVATION
- DEFLECTION 'E'
- SLAB THICKNESS
- HAUNCH THICKNESS 'C'

SPANS	'A'	'B'	'C'
1 & 4	1 1/8"	1 1/4"	1 1/2"
2 & 3	2 1/8"	2 1/4"	2 3/8"

SLAB FORMING DIAGRAM

NO.	DATE	REVISION	BY
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STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS

STRUCTURE B-18-119

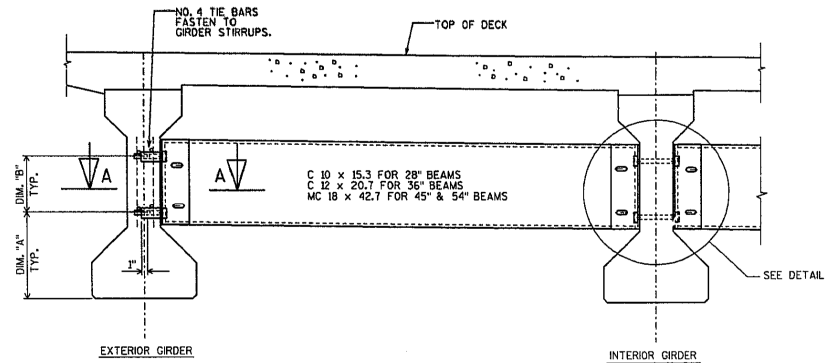
36" PRESTRESSED GIRDER DETAILS

SHEET 12 OF 15

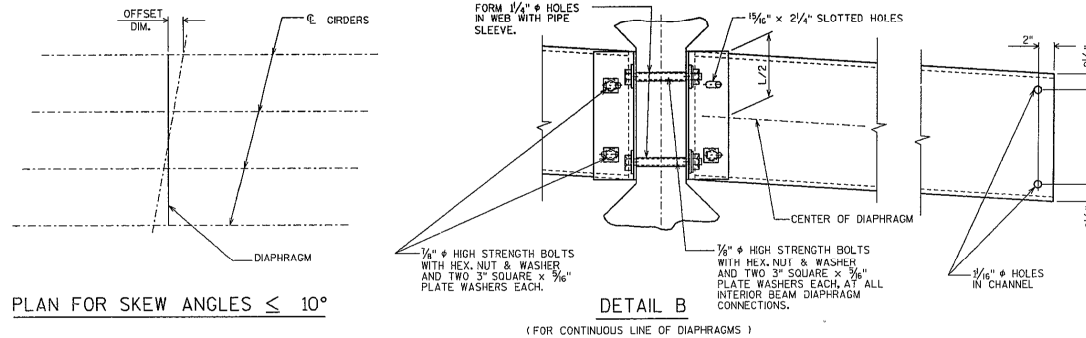
X82066

B-18-

TABLE				
GIRDER HEIGHT	DIM. "A"	DIM. "B"	DIM. "L"	DIM. "X"
28"	1'-0"	7"	10"	2 1/2"
36"	1'-2"	11"	1'-2"	3 1/2"
45"	1'-4 1/2"	1'-3"	1'-6"	2 1/2"
54"	1'-7"	1'-7"	1'-10"	4 1/2"

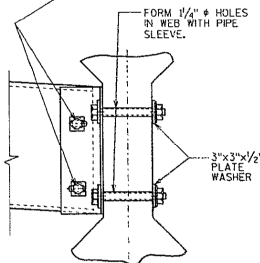


PART TRANSVERSE SECTION AT DIAPHRAGM

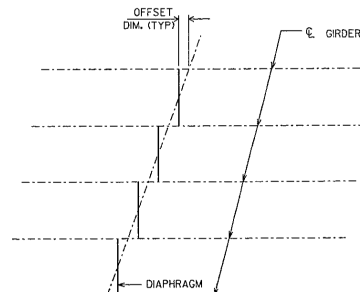


3/4" HIGH STRENGTH BOLTS WITH HEX. NUT & WASHER AND TWO 3" SQUARE x 3/16" PLATE WASHERS EACH.

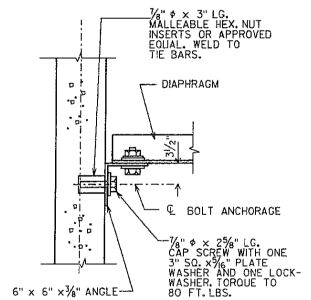
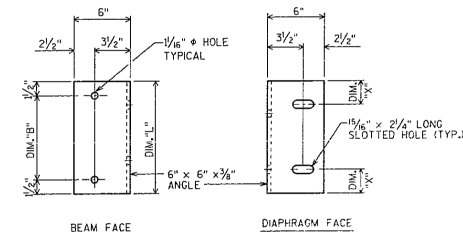
PLAN FOR SKEW ANGLES ≤ 10°



SECTION AT INTERIOR GIRDERS THRU DIAPHRAGM FOR SKEW ANGLES > 10°



PLAN FOR SKEW ANGLES > 10°



STATE PROJECT NUMBER	SHEET NO.
1020-3-71	8.12

NOTES

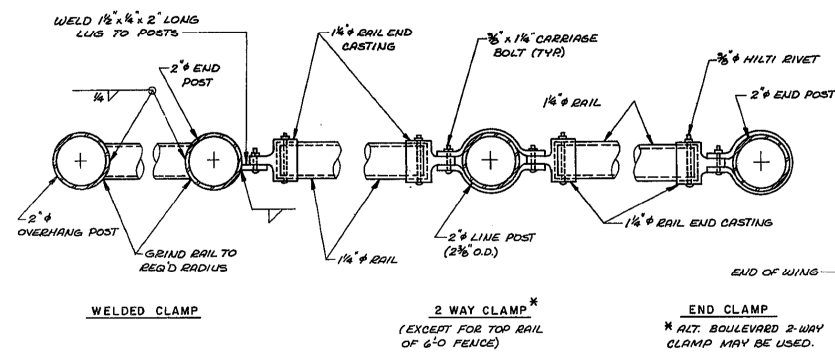
STEEL DIAPHRAGMS MAY BE USED IN LIEU OF CAST-IN-PLACE CONCRETE DIAPHRAGMS. NO ADDITIONAL PAYMENT WILL BE MADE IF STEEL DIAPHRAGMS ARE USED.

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

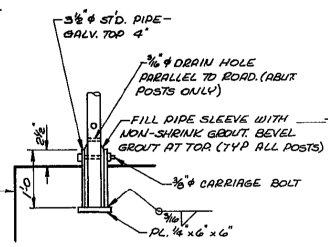
ALL DIAPHRAGM STRUCTURAL STEEL SHOWN SHALL BE HOT-DIPPED GALVANIZED. ALL BOLTS, NUTS AND WASHERS SHALL BE HOT-DIPPED GALVANIZED IN ACCORDANCE WITH ASTM A153 CLASS C. GALVANIZED NUTS SHALL BE TAPPED OVERSIZE IN ACCORDANCE WITH THE REQUIREMENTS OF ASTM A563 AND SHALL MEET THE REQUIREMENTS OF SUPPLEMENTARY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

NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION DIVISION OF HIGHWAYS			
STRUCTURE B-18-119			
DRAWN BY	CHKD.	DATE	BY
1991	1991	1991	1991
STEEL DIAPHRAGM ALTERNATE			SHEET 13 OF 15
			X82066

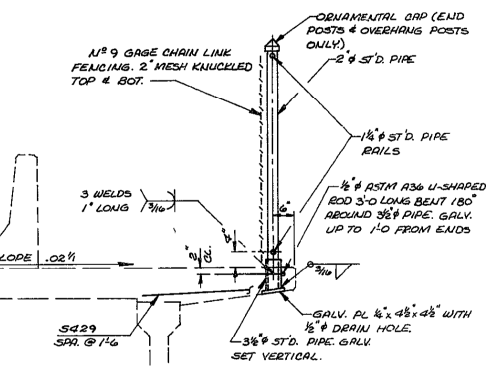
B-18-



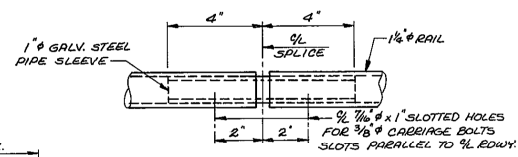
PLAN OF RAILING



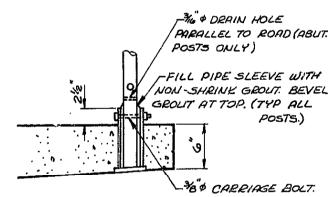
DETAIL 'A'



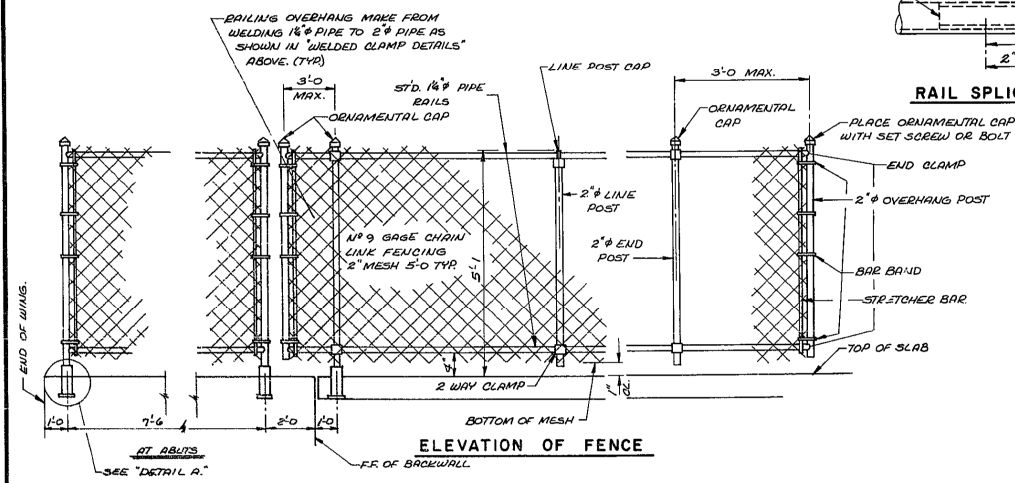
SECTION THRU SDKW



RAIL SPLICE DETAIL



BASE DETAILS



ELEVATION OF FENCE

NOTES

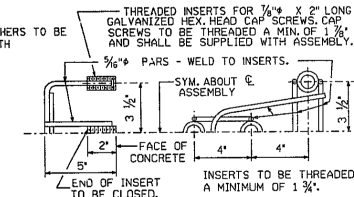
THE BID ITEM "CHAIN LINK FENCE, TYPE A" INCLUDES FURNISHING POST ANCHORS - 2" END POSTS - 2" LINE POSTS - 1 1/2" STD PIPE RAILS - AND ALL INCIDENTAL MATERIAL. FINISHED FENCE TO BE CONTINUOUS ACROSS STRUCTURE. ALL POSTS TO BE SET VERTICAL. KNUCKLE TOP & BOT. OF ALL 2" MESH CHAIN LINK FENCING. ALL FENCING COMPONENTS SHALL BE GALV. STEEL. PLACE ALL NUTS ON THE OUTSIDE OF THE FENCING. TOP RAIL TO BE CONT. OVER LINE POSTS. MIN. LENGTH OF TOP RAIL BETWEEN SPLICES SHALL BE 20'-0" LG. PLACE TOP RAIL SPLICES NEAR 1/4 POINTS OF POST SPACING. N\"/>

No.	Date	Revision	By
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION DIVISION OF HIGHWAYS			
STRUCTURE B-18-119			
Const. Snc.	1981	Drawn By	R.J.O.
		Plans Checked	KOM
FENCING DETAILS			SHEET 14 OF 15
			X82066

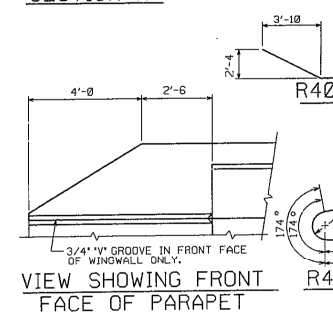
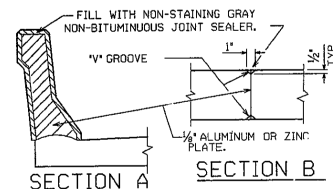
B-18-

① NAME PLATE - FOR LOCATION SEE SHT. 1.

NOTE:
HEX. HEAD CAP SCREWS & WASHERS TO BE GALVANIZED IN ACCORDANCE WITH AASHTO M232 CLASS C.



DETAIL OF ANCHOR ASSEMBLY
SEE SHEET 1 FOR LOCATION.

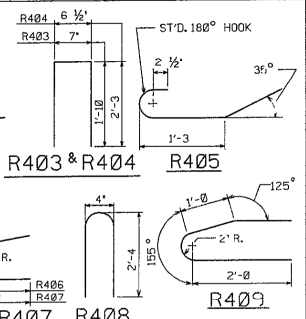


STATE PROJECT NUMBER
1020-3-71

SHEET NO.
8.14

PARAPET BILL OF BARS FOR ABUTMENTS

MARK	NO. REQ'D.	S. ABUT.	N. ABUT.	LENGTH	BENT	LOCATION
R401	2	2	2	4'-6"	x	WINGS
R402	2	2	2	6'-8"	x	WINGS
R403	2	2	2	4'-11"	x	WINGS
R404	6	6	6	4'-11"	x	WINGS
R405	4	4	4	3'-11"	x	WINGS
R406	1	1	1	4'-0"	x	WINGS
R407	3	3	3	5'-0"	x	WINGS
R408	6	6	6	4'-10"	x	WINGS
R409	6	6	6	4'-7"	x	WINGS
R510	5	5	5	6'-0"	x	WINGS



PARAPET NOTES

WHEN PARAPETS ARE POURED CONTINUOUSLY FROM END TO END, THEY SHALL BE SEPARATED AT THE DEFLECTION JOINTS BY A PIECE OF 1/2" ALUMINUM OR ZINC PLATE CUT AS SHOWN IN SECTION "A" BY THE SHADED AREA. IF CONSTRUCTION JOINTS IN THE PARAPETS ARE USED AT THE DEFLECTION JOINTS, ONE SIDE OF THE JOINT SHALL BE COATED WITH BITUMINOUS PAINT AND THE PLATE SEPARATORS MAY BE OMITTED.

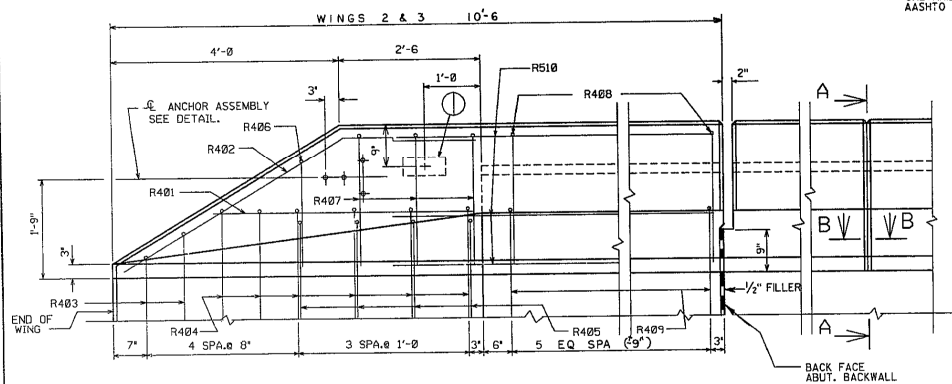
NO.	DATE	REVISION	BY
1	1981	REVISED	KOH

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS

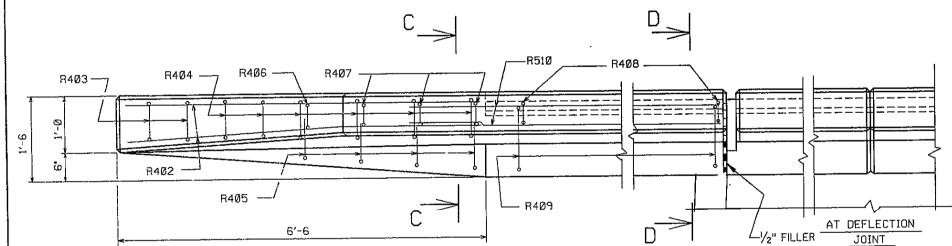
STRUCTURE B-18-119

SLOPED FACE
PARAPET "B"

SHEET 15 OF 15
X 82066

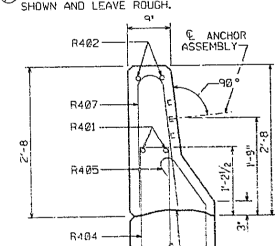


ELEVATION OF PARAPET

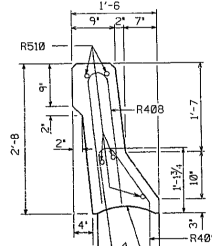


PLAN OF PARAPET

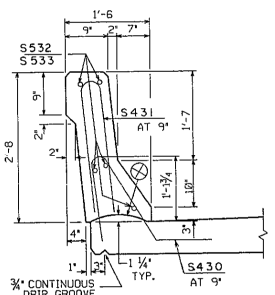
⊗ CONST. JOINT - STRIKE OFF AS SHOWN AND LEAVE ROUGH.



SECTION C

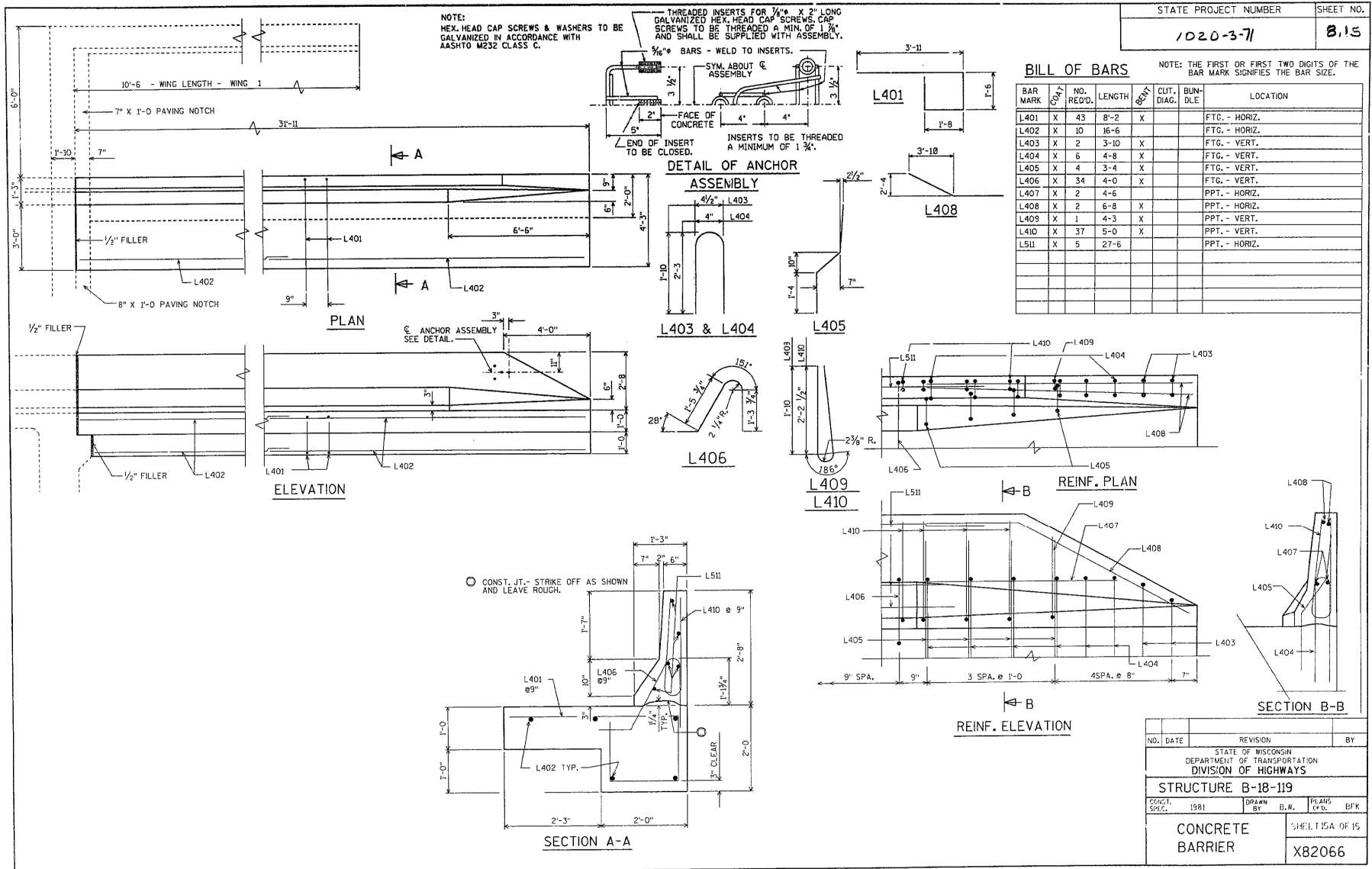


SECTION D



SECTION THRU
PARAPET ON BRIDGE

B-18



B-18-