REHABILITATION STRUCTURE SURVEY REPORT

Wisconsin Department of Transportation

DT1696 6/2012

☐ **Grade Separation** ☒ **Stream Crossing** ☐ **Culvert**

☐ **Railroad** ☐ **Retaining Wall** ☐ **Noise Barrier**

☐ **Sign Structure** ☐ **Other:** _____

For guidance see: **http://dotnet/dtid_bos/extranet/structures/reports-checklists.htm**

Design Project ID 1190-02-34	Construction Project ID 1190-02-64	Highway (Project Name) EAU CLAIRE - CHIPPEWA FALLS			
Final Plan Due Date 05/01/2018	Preliminary Plan Due Date 05/01/2018	☐ Town ☐ Village ☒ City ALTOONA			
PS&E Date 08/01/2018	Letting Date 02/12/2019	County EAU CLAIRE			
Structure Number B-18-168		Section 15	Town 27N	Range 09W	
Station 367+00.68 - 376+99.32	Latitude: 444929.4 Longitude: 912715.1	☒ YES ☐ NO Structure Located on National Highway System			
For Survey and CADD Files Horizontal Coordinate System: Vertical Datum:		**Traffic Forecast Data**			
		Design Year	Average Daily Traffic (ADT)	Roadway Design Speed	Functional Class
Feature On USH 53 SB		Feature On 2014	41300	70 MPH	Principal Arterial
Feature Under EAU CLAIRE RIVER		Feature Under 2014	No Traffic (River)	No Traffic (River)	No Traffic (River)
Region Contact: Adam Hetrick (Area Code) Telephone Number(s): 715-836-2855 Email: adam.hetrick@dot.wi.gov		Consultant Contact: (Area Code) Telephone Number(s): Email:			

Work To Be Performed

Field Information Required
Item Number *(see Pages 2–4)*

- ☐ A. Structural Repair 1–3, 22
- ☒ B. Overlay 1–3, 10–22, 26–28, 32, 34
  - ☐ Concrete Overlay ☐ Asphalt Overlay
  - ☐ Polymer Modified Asphalt Overlay ☒ Thin Bonded Polymer Overlay
  - ☐ Other: _____
- ☐ C. New Bearings 3, 8, 9, 22
- ☐ D. New Railings 15–17, 20–23
- ☐ E. Curb and Sidewalk Repair 2, 3, 16, 22, 23
- ☐ F. Abutment Repair 2, 3, 12, 16
- ☐ G. Pier Repair 2, 3, 12, 16
- ☐ H. New Deck 1–6, 9, 10, 13–28, 32–34
- ☐ I. Widening 1–28, 30, 32–35
- ☐ J. Joint Repair 2, 3, 8, 16, 19, 22
- ☐ K. Surface Repair 2, 3, 22
- ☐ L. Raising Bridge 3, 6, 9, 16, 20–24
- ☐ M. Slope Stabilization 1–3, 30
- ☐ N. Scour Repair ..... 1, 2 or 3, 16, 19, 21, 27, 29, 31–35
- ☐ O. Painting 16, 22, 24
- ☐ P. Other: _____

Field Information Required

If no structure number exists provide the following: Small County Map on which the location of proposed structure is shown in red and any highway relocation in green. In addition, provide Location Map of scale not less than 1" = 2000' showing the structure location and number.

☒ 1. Most recent inspection report, brief history of bridge construction date, and description of repairs with dates.

☒ 2. Outline deficient areas on existing structure plan or drawing.

☒ 3. Photographs of details requiring repairs or modifications, such as: bearings, x-frames, joints, etc. Photograph all deficient areas. Clearly label all photographs.

☐ 4. Provide proposed typical section for roadway and structure showing dimensions and cross slopes.

☐ 5. Survey beam seat or girder elevations at both sides of bridge at all substructure units.

☐ 6. Provide cross-section elevations at 10 foot intervals extending across the structure and a minimum of 100 feet beyond each end. Sections should be normal to centerline and show elevations at centerline roadway and gutter line. Take elevations along joints and at floor drains.

☐ 7. Show and identify starting stationing on bridge.

☐ 8. Record measurement, temperature of the structure, and date taken for each of the following:
(a) Joint opening measured normal to joint at centerline of roadway and both curb lines.
(b) Clearance between girder ends at piers.
(c) Distance from front face of abutment backwall to closest point of girder end measured parallel to girder.
(d) Temperature of structure determined by averaging top and under deck (if accessible) readings.

☐ 9. Fixed and expansion bearings - condition and orientation.

☒10. Number and width of proposed pours including construction staging sequence.

☒11. Location of existing construction joints in the deck.

☒12. Estimated Quantities:

Preparation, Decks, Type 1	Sq. Yd. 0	
Preparation, Decks, Type 2	Sq. Yd. 0	
Full Depth Deck Repair	Sq. Yd. 0	Galvanic Anodes? NO
Concrete Surface Repair Superstructure	Sq. Ft. 0	Galvanic Anodes? NO
Concrete Surface Repair Substructure	Sq. Ft. 0	Galvanic Anodes? NO
Curb Repair	LF. 0	Galvanic Anodes? NO

☒13. Sufficiency number: 100.0 (obtain from HSI Bridge Inventory System)

☒14. Appraisal and Condition Rating

	Deck Condition	Superstructure Condition	Substructure Condition	Load Capacity Appraisal	Structural EVAL Appraisal
Current	7	8	8	5	8

☒ 15. Load Ratings

	Inventory	Operational
Current Calculated Date: 8/4/2014	HS29	HS48
After Completed by Bridge Designer		

☒ 16. Utilities on/near Structure. (WisDOT policy is to avoid placing utilities on the structure.)
☐ Yes ☒ No

Type	Owner and Contact Information	Size	Opening at Abutment	Weight	Pressure

☒ 17. Is existing bridge railing deficient?
☐ Yes ☒ No If Yes – Replacement Rail Type:

☒ 18. Drains to be:
☐ Raised ☐ Closed ☐ Downspouted ☐ New

☒ 19. Traffic maintained on bridge during work?
☒ Yes ☐ No If Yes – Include sketches

☒ 20. Will guard rail be attached?
☐ Yes ☒ No If Yes – Which corners? Existing guardrail to remain at all corners.

☒ 21. Will work to be performed eliminate all deficiencies?
☒ Yes ☐ No If No – Explain:

☒ 22. Hazardous waste (asbestos) to be removed?
☐ Yes ☒ No If Yes – Explain:

☒ 23. Wing location(s) for surface drain anchors: SW

☒ 24. Painting?
☐ Yes ☒ No If Yes – Explain on Page 4
(all, part, railing, color system, containment, bid items)

☐ 25. Desired roadway width: *(new deck / widening)* _____ Ft.
Desired sidewalk clear width: Left: _____ Ft. Right: _____ Ft.

☒ 26. Maximum increase in grade line elevation 3/8 In.

☒ 27. Benchmark description to be shown

☒ 28. Desired final cross slopes on bridge 0.02 Ft./Ft.

☐ 29. Underwater Inspection Report including:
- Streambed Cross Section With Pier, Footing and Seal Elevations
- Pier Elevation Drawings
- Pier Layout
- Hydrographic Survey

☐ 30. Slope stabilization, provide:
Type: _____ Quantity: _____ CY.
Slope: _____ Ft./Ft. Fill: _____ CY.

☐ 31. Preliminary layout of grout bags or proposed scour repair.
C.I.P. Articulated Mats (for Scour) _____ CY.
Grout Bags (for Scour) _____ CY.
Heavy Riprap _____ CY.
Extra Heavy Riprap _____ CY.

☒ 32. Report submitted with Preliminary Plan requires **no** CADD file submittal *(See ESubmittal instructions)*.

☐ 33. Report submitted for development of Preliminary Plan to structure design engineer requires CADD file (if available) submittal and Report submittal to Soils Engineer if project involves foundation modifications.

☐ 34. Coordinate with structure design engineer **before** going into the field if existing structure has no available plans, if staged construction is planned, or if there are adjoining/adjacent structures that will remain in place.

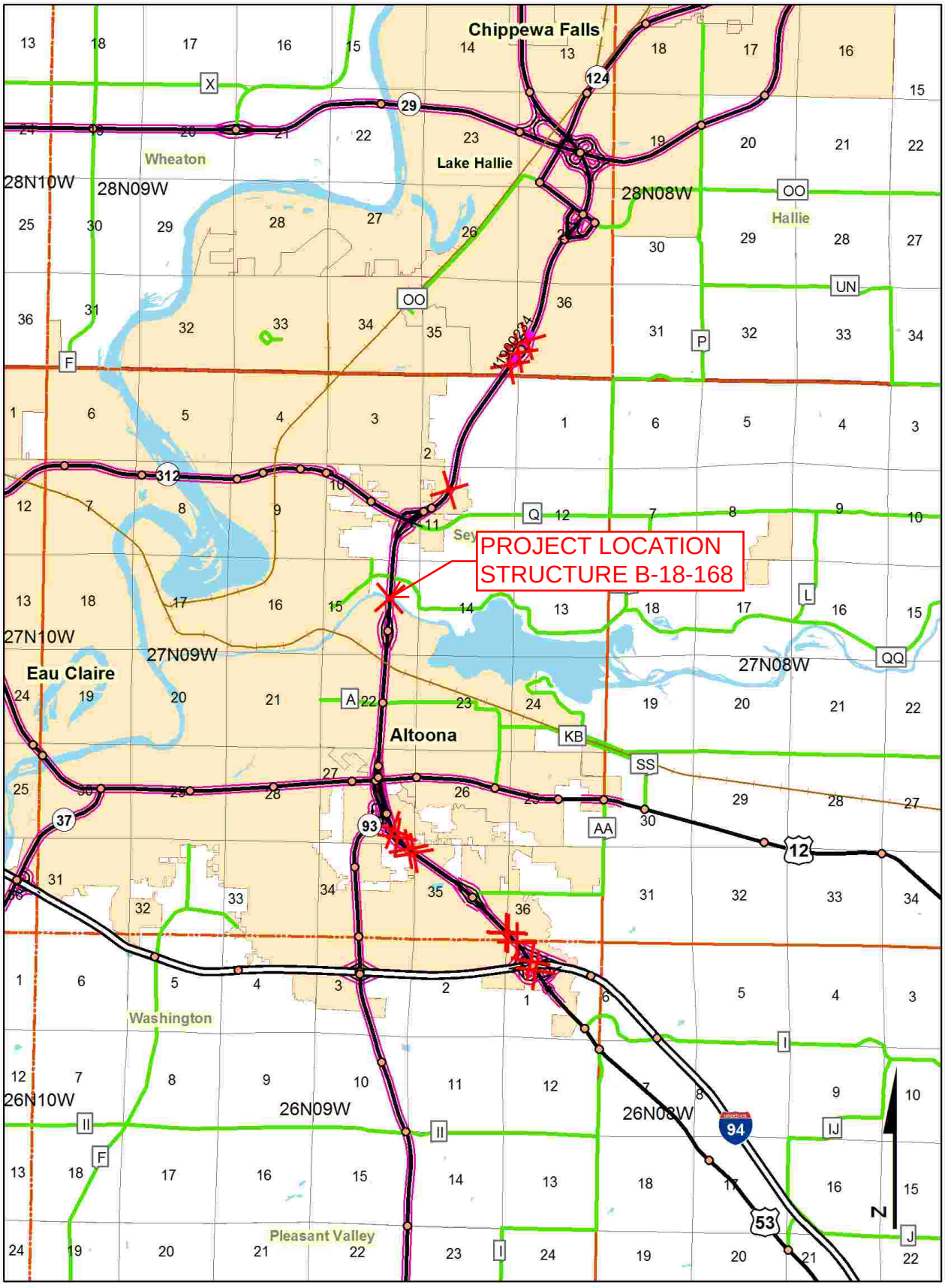
☐ 35. If project involves substructure widening coordinate with structure and/or hydraulic design engineer to determine if information on the separation and/or stream crossing SSR will be required.

Additional Information

Elaborate on other concerns such as: DNR, Local, Utility Conflicts, Aesthetics, Railing Type and Staged Construction.
Please be as detailed and specific as possible.

1.) Structure built in 2006. No repairs since construction. See attached Bridge Inspection Report.
2.) Deficient areas to be determined in the field by the engineer. See attached Bridge Inspection Report. A Polymer Overlay is proposed because of deficiency over the entire structure due to poor bridge deck surface. Cracks are more prevalent in the south two deck pours. Construction joint located between pier 3 and the north abutment. The deck has cracks at midspan with efflorescence.
3.) See attached photographs.
10.) This work will be constructed half at a time under traffic using single lane closures during non-peak hours with night work. Nighttime ramp closures are anticipated at some structures. All lanes and ramps will be opened to traffic daily.
11.) See asbuilt plans.
16.) No utilities on or near structure. No conflicts anticipated.
18.) Existing drains on the bridge deck to remain.
19.) This work will be constructed half at a time under traffic using single lane closures during non-peak hours with night work. Nighttime ramp closures are anticipated at some structures. All lanes and ramps will be opened to traffic daily.
22.) See attached Asbestos Inspection Report. No asbestos-containing material was found.
27.) To be determined.
32.) See preliminary plans.

CDR Map


Chippewa Falls
Wheaton
Lake Hallie
Hallie
Eau Claire
Altoona
Washington
Pleasant Valley
28N10W
28N09W
28N08W
27N10W
27N09W
27N08W
26N10W
26N09W
26N08W
PROJECT LOCATION
STRUCTURE B-18-168
N

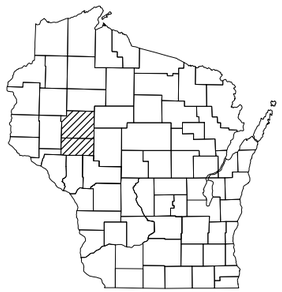
PROJECT ID: 1190-02-64

WITH:

COUNTY: EAU CLAIRE / CHIPPEWA

ORDER OF SHEETS

TOTAL SHEETS =



N

DESIGN DESIGNATION

A.A.D.T.	=
A.A.D.T.	=
D.H.V.	=
D.D.	=
T.	=
DESIGN SPEED	=
ESALS	=

CONVENTIONAL SYMBOLS

PLAN

- CORPORATE LIMITS
- PROPERTY LINE
- LOT LINE
- LIMITED HIGHWAY EASEMENT
- EXISTING RIGHT OF WAY
- PROPOSED OR NEW R/W LINE
- SLOPE INTERCEPT
- REFERENCE LINE (300'EB')
- EXISTING CULVERT
- PROPOSED CULVERT (Box or Pipe)
- COMBUSTIBLE FLUIDS (CAUTION)
- MARSH AREA
- WOODED OR SHRUB AREA

PROFILE

- GRADE LINE
- ORIGINAL GROUND
- MARSH OR ROCK PROFILE (To be noted as such) (ROCK)
- SPECIAL DITCH (LABEL)
- GRADE ELEVATION (95.36)
- CULVERT (Profile View)

UTILITIES

- ELECTRIC (E)
- FIBER OPTIC (FO)
- GAS (G)
- SANITARY SEWER (SAN)
- STORM SEWER (SS)
- TELEPHONE (T)
- WATER (W)
- UTILITY PEDESTAL
- POWER POLE
- TELEPHONE POLE

STATE OF WISCONSIN

DEPARTMENT OF TRANSPORTATION

PLAN OF PROPOSED IMPROVEMENT

EAU CLAIRE - CHIPPEWA FALLS

IH 94 TO 40TH AVENUE (11 BRIDGES)

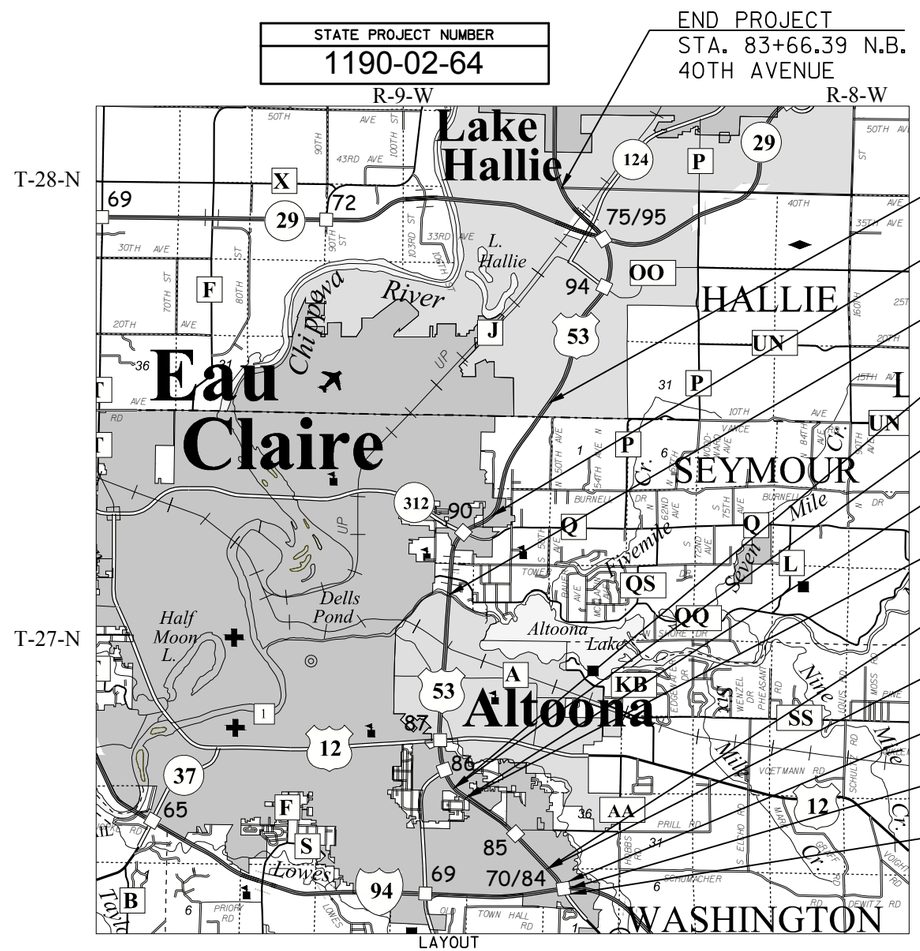
USH 53

EAU CLAIRE AND CHIPPEWA COUNTIES

STATE PROJECT	FEDERAL PROJECT	
	PROJECT	CONTRACT
1190-02-64		

STATE PROJECT NUMBER
1190-02-64

END PROJECT
STA. 83+66.39 N.B.
40TH AVENUE



LAYOUT

SCALE 0 2 MILES

TOTAL NET LENGTH OF CENTERLINE = 11.26 MILES

STRUCTURE B-09-262
STRUCTURE B-18-190
STRUCTURE B-18-168
STRUCTURE B-18-178
STRUCTURE B-18-182
STRUCTURE B-18-183
STRUCTURE B-18-184
STRUCTURE B-18-37
STRUCTURE B-18-38
STRUCTURE B-18-35
STRUCTURE B-18-36

BEGIN PROJECT
STA. 38+66.40 N.B.
IH 94
X = 359529.44
Y = 262430.72

HORIZONTAL POSITIONS SHOWN ON THIS PLAN ARE WISCONSIN COUNTY COORDINATES, EAU CLAIRE COUNTY, NAD83 (1991), IN U.S. SURVEY FEET. VALUES ARE GRID COORDINATES, GRID BEARINGS, AND GRID DISTANCES. GRID DISTANCES MAY BE USED AS GROUND DISTANCES.

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

PREPARED BY

Surveyor	WISDOT
Designer	ADAM HETRICK
Project Manager	DAVID KOEPP
Regional Examiner	REGIONAL EXAMINER
Regional Supervisor	TMOTHY MASON

APPROVED FOR THE DEPARTMENT

DATE: _____ _____ (Signature)

E

FILE NAME : N:\PDS\C3D\11900264\SHEETSPLAN\010101_TI.DWG
LAYOUT NAME - ****

PLOT DATE : 6/17/2015 3:44 PM

PLOT BY : HETRICK, ADAM M PLOT NAME :


HOSPITAL
EXIT 89
Eau Claire River

route: 053S county: EAU CLAIRE date: 08/14/2013 plm: 135.823

Lat: 44.82520905 Long: -91.45409372 Elev: 729.04 ft.

\\doteauplog1p\photolog\Rg5\053S_R5_2013\\Front\Dir_138\F_13810.jpg

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route: 053S county: EAU CLAIRE date: 08/14/2013 plm: 135.833

Lat: 44.82506379 Long: -91.4541048 Elev: 727.46 ft.

\\doteauplog1p\photolog\Rg5\053S_R5_2013\\Front\Dir_138\F_13811.jpg

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route: 053S county: EAU CLAIRE date: 08/14/2013 plm: 135.843

Lat: 44.82491882 Long: -91.45411639 Elev: 725.99 ft.

\\doteauplog1p\photolog\Rg5\053S_R5_2013\\Front\Dir_138\F_13812.jpg

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route: 053S county: EAU CLAIRE date: 08/14/2013 plm: 135.853

Lat: 44.82477424 Long: -91.45412853 Elev: 724.69 ft.

\\doteauplog1p\photolog\Rg5\053S_R5_2013\\Front\Dir_138\F_13813.jpg

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route: 053S county: EAU CLAIRE date: 08/14/2013 plm: 135.863

Lat: 44.82462873 Long: -91.45414081 Elev: 723.34 ft.

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route: 053S county: EAU CLAIRE date: 08/14/2013 plm: 135.923

Lat: 44.82376398 Long: -91.45421055 Elev: 718.98 ft.

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route: 053S county: EAU CLAIRE date: 08/14/2013 plm: 135.993

Lat: 44.8227519 Long: -91.45428389 Elev: 717.52 ft.

\\doteauplog1p\photolog\Rg5\053S_R5_2013\\Front\Dir_138\F_13827.jpg

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route: 053S county: EAU CLAIRE date: 08/14/2013 plm: 136.023

Lat: 44.82231669 Long: -91.45431643 Elev: 717.18 ft.

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STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

Inspection Report for B-18-168

53 SB over EAU CLAIRE R

Jul 15,2015

Type	Prior	Frequency (mos)	Performed
Routine	07-15-15	24	X
SI&A	07-18-13	48	

Latitude	44°49'29.40"N	Owner	STATE HIGHWAY DEPT
Longitude	91°27'15.10"W	Maintainer	STATE HIGHWAY DEPT

Time Log

Hours	Minutes
0	55

Team members

	Name	Number	Signature	Date
Inspector	Frueh, Rick J	1003	Completed by HSI System Account(HSI)	
Reviewer				

BRIDGE INSPECTION REPORT
Wisconsin Department of Transportation
DT2007 2003 s.84.17 Wis. Stats.

Identification & Location

Feature On: 53 SB	Section Town Range: S15 T27N R09W	Structure Number: **B-18-168**
Feature Under: EAU CLAIRE R	County: EAU CLAIRE(18)	
Location .3M S CTH QQ	Municipality: CITY-ALTOONA(18201)	Structure Name:

Geometry

measurements in feet, except where noted

Approach Roadway Width: 41	Bridge Roadway Width: 41.5	Total Length: 998.6
Approach Pavement Width: 24	Deck Width: 44.0	Deck Area (sq ft): 43938

Traffic

	Lanes	ADT	ADT year	Traffic Pattern
On	2	12200	2004	ONE WAY TRAFFIC
Under	0			NO TRAFFIC

Capacity

Load Rating

Inventory rating: HS29	Overburden depth (in): 0.0	Last rating date:	Controlling: INTERIOR DECK GIRDER Moment
Operating rating: HS48	Deck surface material: CONCRETE	Re-rate for capacity (Y/N):	Control location: 1.0 SPAN 3, 270.0
Posting:	Re-rate notes:		

Hydraulic

Classification

Scour Critical Code(113): (4) STABLE-CORRECTIVE ACTION REQUIRED	Q100 (ft3/sec): 33000	
High water elevation (ft): 793.3	Velocity (ft/sec): 2.9	Sufficieny #: 100.0

Span(s)

Span #	Material	Configuration	Depth (in)	Length (ft)	Main
1	CONT STEEL	DECK GIRDER		220.0	
2	CONT STEEL	DECK GIRDER		270.0	Y
3	CONT STEEL	DECK GIRDER		270.0	
4	CONT STEEL	DECK GIRDER		230.0	

Expansion joint(s)

Temperature:

File:	New:

Vertical Clearance

	Measurement file (ft)	File Date	Measurement new (ft)
Highway Minimum Under Cardinal			
Highway Minimum Under Non-Cardinal			
Highway Minimum On			
Railroad Minimum Under			

Elements

Chk	Element	Defect	Description	UOM	Total	Quantity in Condition State 1	2	3	4
X	**12**		**Reinforced Concrete Deck**	SF	43,938	0	43,938	0	0
		1130	Cracking (RC) Cracks are more prevalent in the south two deck pours. Construction joint located between pier 3 and north abutment. Cracks at midspan with efflorescence.	SF		0	43,938	0	0
	8000		Wearing Surface (Bare)	SF	43,938	0	43,938	0	0
		3220	Crack (Wearing Surface) Cracks are more prevalent in the south two deck pours. Construction joint located between pier 3 and north abutment.	SF		0	43,938	0	0
	8522		Coated Reinforcing	SF	43,938	0	0	0	0
X	**107**		**Steel Open Girder** 4 Girders.	LF	3,968	3,944	24	0	0
		1000	Corrosion At construction joint in mid span of span 4 construction joint is leaking onto girders causing minor section loss.	LF		0	24	0	0
	8516		Painted Steel Painted at girder ends and bearings.	SF	4,800	4,320	480	0	0
		3440	Effectiveness (Steel Protective Coatings) Paint is flaking off at girder ends on bottom flange and bearings.	SF		0	480	0	0
	8517		Weathering Steel	SF	101,707	96,907	0	4,800	0
		3430	Oxide Film Degradation - Weathering Steel At construction joint in mid span of span 4 construction joint is leaking onto girders causing minor section loss.	SF		0	0	4,800	0
X	**210**		**Reinforced Concrete Pier Wall**	LF	63	63	0	0	0
X	**215**		**Reinforced Concrete Abutment**	LF	137	137	0	0	0
X	**234**		**Reinforced Concrete Cap**	LF	189	127	62	0	0
		1130	Cracking (RC) Vertical cracks every 3' in all caps	LF		0	62	0	0
X	**303**		**Modular Joint** Dirty.	LF	92	92	0	0	0
X	**311**		**Moveable Bearing** At both abutments and Piers 1-3. Teflon coming out on girder 4 at south abutment.	EA	16	8	8	0	0
		1000	Corrosion Light rust on all exterior bearings.	EA		0	8	0	0
X	**313**		**Fixed Bearing** At pier 2.	EA	4	2	2	0	0
		1000	Corrosion Light rust on all exterior bearings.	EA		0	2	0	0

BRIDGE INSPECTION REPORT
Wisconsin Department of Transportation
DT2007 2003 s.84.17 Wis. Stats.

Structure No.: **B-18-168**

X	**331**		**Reinforced Concrete Bridge Rail** Few vertical cracks (approx 10FT spacing).	LF	2,037	1,800	237	0	0
		1080	Delamination - Spall - Patched Area Northeast corner 2 small spalls.	LF		0	2	0	0
		1130	Cracking (RC) Few vertical cracks (approx 10FT spacing).	LF		0	235	0	0
X	**8400**		**Integral Wingwall**	EA	4	4	0	0	0

Assessments

Chk	Element	Defect	Description	UOM	Total	Quantity in Condition State 1	2	3	4
X	**9004**		**Drainage - Deck** Need to clean out deck inlets.	EA	4	4	0	0	0
X	**9010**		**Aesthetic Treatments** Rustication at abutments. Form liner at piers.	EA	1	1	0	0	0
X	**9045**		**Slope Protection- Riprap**	EA	2	2	0	0	0
X	**9167**		**Steel Diaphragm**	EA	135	135	0	0	0
X	**9322**		**Approach Roadway - Concrete (non-structural)**	EA	2	2	0	0	0

NBI Ratings

	File	New
Deck	7	7
Superstructure	8	8
Substructure	8	8
Culvert	N	N
Channel	8	8
Waterway	8	8

Structure Specific Notes

Inspection Specific Notes

** 8/4/14 was performed with UB 60.

****7/18/2013 Routine inspection was done from North and South Abutment. Boat or Snooper Routine inspection will be done later. (RF)

****7/15/2015 Routine inspection was done from north and south abutment banks so not all element comments could not be verified. (RF)**

**5/27/2010 Routine Inspection was done with 50 ft Snooper (RF)

Inspector Site-Specific Safety Considerations

Structure Inspection Procedures

Special Requirements

	Chk	Comments
Traffic Control		
Access Equipment		
Other		

Construction History

Year	Work Performed	FOS id
2006	NEW STRUCTURE	1190-00-75

Maintenance Items History

Item	Recommended by	Status	Status change	Year completed

Maintenance Items

Item	Priority	Recommended by	Status	Status change
Deck - Seal Surface Cracks	MEDIUM	Harris, Kyle (6009)	IDENTIFIED	08/14/14
Seal construction joint in span 4				

Underwater Probe Form
B-18-168

General Site Conditions - Scour

General Site Conditions - Embankment Erosion/Conditions

Substructure Notes

Unit	Max Water Depth(ft)	Mode	Notes
Cardinal Abutment			
Pier 1			
Pier 2			
Pier 3			
Non Cardinal Abutment			

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

Inspection Report for B-18-168

53 SB over EAU CLAIRE R

Aug 04,2014

Type	Prior	Frequency (mos)	Performed
Initial / Inventory	08-09-06		
Routine	08-04-14	24	X
Underwater V Probe	07-18-13	24	
Uw-Profile	07-18-13	24	
SI&A	07-18-13	48	

Latitude	44°49'29.40"N
Longitude	91°27'15.10"W

Owner	STATE HIGHWAY DEPT
Maintainer	STATE HIGHWAY DEPT

Time Log

Hours	Minutes
1	5

Team members

Craig Hampton

	Name	Number	Signature	Date
Inspector	Harris, Kyle	6009		
Reviewer				

BRIDGE INSPECTION REPORT
Wisconsin Department of Transportation
DT2007 2003 s.84.17 Wis. Stats.

Identification & Location

Feature On: 53 SB	Section Town Range: S15 T27N R09W	Structure Number: **B-18-168**
Feature Under: EAU CLAIRE R	County: EAU CLAIRE(18)	
Location .3M S CTH QQ	Municipality: CITY-ALTOONA(18201)	Structure Name:

Geometry

measurements in feet, except where noted

Approach Roadway Width: 41	Bridge Roadway Width: 41.5	Total Length: 998.6
Approach Pavement Width: 24	Deck Width: 44.0	Deck Area (sq ft): 43938

Traffic

	Lanes	ADT	ADT year	Traffic Pattern
On	2	12200	2004	ONE WAY TRAFFIC
Under	0			NO TRAFFIC

Capacity

Load Rating

Inventory rating: HS29	Overburden depth (in): 0.0		Controlling: DECK GIRDER Moment
Operating rating: HS49	Deck surface material: CONCRETE	Re-rate for capacity (Y/N):	Control location: 1.0 SPAN 3, 270.0
Posting:	Re-rate notes:		
Last rating date:			

Hydraulic

Classification

Scour Critical Code(113): (4) STABLE-CORRECTIVE ACTION REQUIRED		Q100 (ft3/sec): 33000	
Scour POA on file:	POA date:	Velocity (ft/sec): 2.9	Sufficieny #: 98.0

Span(s)

Span #	Material	Configuration	Depth (in)	Length (ft)	Main
1	CONT STEEL	DECK GIRDER		220.0	
2	CONT STEEL	DECK GIRDER		270.0	Y
3	CONT STEEL	DECK GIRDER		270.0	
4	CONT STEEL	DECK GIRDER		230.0	

Expansion joint(s)

Temperature: File: | New:

Vertical Clearance

	Measurement file (ft)	File Date	Measurement new (ft)
Highway Minimum Under Cardinal			
Highway Minimum Under Non-Cardinal			
Highway Minimum On			
Railroad Minimum Under			

Elements

Chk	Element	Protect System	Defect	Description	UOM	Total	Quantity in Condition State 1	2	3	4
X	12			Reinforced Concrete Deck	SF	43,938	0	43,938	0	0
			1130	Cracking (RC)	SF		0	43,938	0	0
				Cracks are more prevalent in the south two deck pours. Construction joint located between pier 3 and north abutment. Cracks at midspan with efflorescence.						
		8000		Wearing Surface (Bare)	SF	43,938	0	43,938	0	0
			3220	Crack (Wearing Surface)	SF		0	43,938	0	0
				Cracks are more prevalent in the south two deck pours. Construction joint located between pier 3 and north abutment.						
		8522		Coated Reinforcing	SF	43,938	0	0	0	0
X	107			Steel Open Girder	LF	3,968	3,944	24	0	0
				4 Girders.						
			1000	Corrosion	LF		0	24	0	0
				At construction joint in mid span of span 4 construction joint is leaking onto girders causing minor section loss.						
		8516		Painted Steel	SF	4,800	4,320	480	0	0
				Painted at girder ends and bearings.						
			3440	Effectiveness (Steel Protective Coatings)	SF		0	480	0	0
				Paint is flaking off at girder ends on bottom flange and bearings.						
		8517		Weathering Steel	SF	101,707	96,907	0	4,800	0
			3430	Oxide Film Degradation - Weathering Steel	SF		0	0	4,800	0
				At construction joint in mid span of span 4 construction joint is leaking onto girders causing minor section loss.						
X	210			Reinforced Concrete Pier Wall	LF	63	63	0	0	0
X	215			Reinforced Concrete Abutment	LF	137	137	0	0	0
X	234			Reinforced Concrete Pier Cap	LF	189	127	62	0	0
			1130	Cracking (RC)	LF		0	62	0	0
				Vertical cracks every 3' in all caps						
X	303			Modular Joint	LF	92	92	0	0	0
				Dirty.						
X	311			Movable Bearing	EA	16	8	8	0	0
				At both abutments and Piers 1-3. Teflon coming out on girder 4 at south abutment.						
			1000	Corrosion	EA		0	8	0	0
				Light rust on all exterior bearings.						
X	313			Fixed Bearing	EA	4	2	2	0	0
				At pier 2.						
			1000	Corrosion	EA		0	2	0	0
				Light rust on all exterior bearings.						
X	331			Reinforced Concrete Bridge Rail	LF	2,037	1,800	237	0	0
				Few vertical cracks (approx 10FT spacing).						
			1080	Delamination - Spall - Patched Area	LF		0	2	0	0
				Northeast corner 2 small spalls.						
			1130	Cracking (RC)	LF		0	235	0	0

			Few vertical cracks (approx 10FT spacing).						
X	8400		Integral Wingwall	EA	4	4	0	0	0

Assessments

Chk	Element	Description	UOM	Total	Quantity in Condition State 1	2	3	4
X	9004	Drainage - Deck	EA	4	4	0	0	0
		Need to clean out deck inlets.						
X	9010	Aesthetic Treatments	EA	1	1	0	0	0
		Rustication at abutments. Form liner at piers.						
X	9045	Slope Protection- Riprap	EA	2	2	0	0	0
X	9167	Steel Diaphragm	EA	135	135	0	0	0
X	9322	Approach Roadway - Concrete (non-structural)	EA	2	2	0	0	0

NBI Ratings

	File	New
Deck	7	7
Superstructure	8	8
Substructure	8	8
Culvert	N	N
Channel	8	8
Waterway	8	8

Structure Specific Notes

Inspection Specific Notes

**** 8/4/14 was performed with UB 60.**

****7/18/2013 Routine inspection was done from North and South Abutment. Boat or Snooper Routine inspection will be done later. (RF)

**5/27/2010 Routine Inspection was done with 50 ft Snooper (RF)

Inspector Site-Specific Safety Considerations

Structure Inspection Procedures

Special Requirements

	Chk	Comments
Traffic Control		
Access Equipment		
Other		

Construction History

Year	Work Performed	FOS id
2006	NEW STRUCTURE	1190-00-75

Maintenance Items

Item	Priority	Recommended by	Status	Status change
Deck - Seal Surface Cracks	MEDIUM	Harris, Kyle (6009)	IDENTIFIED	08/14/14
Seal construction joint in span 4				

BRIDGE INSPECTION REPORT
Wisconsin Dept. of Transportation
DT2007 2003 s.84.17 Wis. Stats. Type = UNDERWATER V PROBE INSPECTION

Inventory Data

Feature On: 53 SB		**Maintainer:** STATE HIGHWAY DEPT		**Structure No: B-18-168**
Feature Under: EAU CLAIRE R		**Sect/Twn/Rng:** S15 T27N R09W		
Location: .3M S CTH QQ		**County:** EAU CLAI	**Municipality:** CITY-ALTOONA(18201)	
Inv Rating: HS29	**Rdwy Width (ft):** 41.5	**Deck Width (ft):** 44.0	**Existing Posting:**	
Oper Rating: HS49	**Total Length (ft):** 998.6	**Deck Area(ft2):** 43938	**ADT On:** 12200 **Yr:** 2004	**ADT Under:** **Yr:**

Inspection Type (* = Supplemental Form Required)

	Routine Visual	Fracture Critical*	In-Depth*	UW-Dive*	UW-Surv*	UW-Probe/Visual*	Movable*
Last Insp.	07-18-13				07-18-13	07-18-13	
Frequency	24				24	24	
Recom. Freq.							
	Initial*	**Damage**	**Interim**	**Load Posted**	**SIA Review***		
Last Insp.	08-09-06				07-21-11		
Frequency	N/A				48		
Recom. Freq.	N/A				**Item No. Needing Change**		

Load Rating Information

Overburden	**Measurement (in):** 0.0	**Date:**	**Deck Surface Type:** CONCRETE	
Section Loss	**File Meas. (%):**	**File Insp. Date:** 07-18-13	**Insp. Measurement (%):**	**Describe:**
Re-rate for load capacity?		**Reason:**		**Date Last Rated:**

Expansion Joints

Location	Type	Temp: File Insp. Date	File Insp. (in)	New Insp. (in)
S ABUT	MODULAR			
N ABUT	MODULAR			

Signing Condition

Type of Marker	File	Y/N	Comments
Bridge Markers	N	N	
Narrow Bridge	N	N	
One Lane Road	N	N	
Vertical Clearance	N	N	
Weight Limit Post	N	N	
Other(Addl. Sign)	N	N	

Clearances(Cardinal = N or E)	File Meas. (ft.)	File Date	New Meas. (ft.)
Min. Vertical Clearance Under (Cardinal)			
Min. Veritcal Clearance Under (non-Cardinal)			
Min. Vertical Clearance On			

Structure Type

Material	Configuration	# of Spans	Overall Length (ft)
CONT STEEL	DECK GIRDER		220.0
CONT STEEL	DECK GIRDER		270.0
CONT STEEL	DECK GIRDER		270.0
CONT STEEL	DECK GIRDER		230.0

Construction/Rehabilitation History

Year	Work Performed	Plan	Shop
2006	NEW STRUCTURE	PLAN	

Inspection Information

Special Requirements	Y/N	Comments
Traffic Control		
Access Equipment		
Other		

Inspector Information

Team Leader Name and No. Printed: Frueh, Rick J (1003)	**Team Member(s) Name(s) Printed:**	
Team Leader Signature:	**Inspection Date:** 07-18-13	**Inspection Agency:** STATE HIGHWAY DEPARTMENT (1)
District/Local Manager and No. Printed:	**District/Local Manager Signature:**	**Review Date:**

Element Inspection (X) Check Elements Inspected					Quantity in Condition States				
Ck	Elem./Env.	Description	Unit	Total QTY.	1	2	3	4	5
X	26 / 2	Conc Deck/Coatd Bars	SF	43938		43938			
	Cracks are more prevalent in the south two deck pours. Construction joint located between pier 3 and north abutment.								
X	107 / 2	Paint Stl Opn Girder	LF	3968	3968				
	4 Girders.								
X	172 / 2	Painted Steel Diaphr	EA	135	135				
X	210 / 2	R/Conc Pier Wall	LF	63	63				
X	215 / 2	R/Conc Abutment	LF	137	137				
X	234 / 2	R/Conc Cap	LF	189	188	1			
	Crack in west wing of P1.								
X	303 / 4	Modular Joint	LF	92	92				
	Dirty.								
X	311 / 2	Moveable Bearing	EA	16	16				
	At both abutments and Piers 1-3. Teflon coming out on girder 4 at south abutment.								
X	313 / 2	Fixed Bearing	EA	4	4				
	At pier 2.								
X	321 / 2	R/Conc Approach Slab	EA	2	2				
X	331 / 2	Conc Bridge Railing	LF	2037	1800	237			
	Few vertical cracks (approx 10FT spacing). Northeast corner 2 small spalls.								
X	342 / 2	RipRap Slope Protect	EA	2	2				
X	358 / 4	Deck Cracking SmFlag	EA	1		1			
	Couple longitudinal cracks at deck ends. Diagonal crack at SE corner. Few transverse cracks at piers.								
X	359 / 4	Und Dk Surf Sm Flag	EA	1	1				
	Couple transverse cracks with leaching at mid-spans.								

Element Inspection (X) Check Elements Inspected

Ck	Elem./Env.	Description	Unit	Total QTY.	Quantity in Condition States 1	2	3	4	5
X	400 / 2	Concrete Wingwall	EA	4	4				
X	405 / 2	Drainage	EA	4	4				
	Need to clean out deck inlets.								

General Inspection/Maintenance Notes

****7/18/2013 Routine inspection was done from North and South Abutment. Boat or Snooper Routine inspection will be done later. (RF)

**5/27/2010 Routine Inspection was done with 50 ft Snooper (RF)

Maintenance Recommendations (See standard code items & numbers)

Maintenance Item:
Amount: **Date(YYYY-MM-DD):**
Maintenance item comment:

Maintenance Item:
Amount: **Date(MM-DD-YY):**
Maintenance item comment:

Maintenance Item:
Amount: **Date(MM-DD-YY):**
Maintenance item comment:

NBI Ratings

NBI	File	New	NBI	File	New
Deck	7	7	Culvert	N	N
Superstructure	8	8	Channel	8	8
Substructure	8	8	Waterway	8	8

BRIDGE INSPECTION REPORT
Wisconsin Dept. of Transportation
DT2007 2003 s.84.17 Wis. Stats. Type = UW-PROFILE INSPECTION

Inventory Data

Feature On: 53 SB		**Maintainer:** STATE HIGHWAY DEPT		**Structure No: B-18-168**
Feature Under: EAU CLAIRE R		**Sect/Twn/Rng:** S15 T27N R09W		
Location: .3M S CTH QQ		**County:** EAU CLAI	**Municipality:** CITY-ALTOONA(18201)	
Inv Rating: HS29	**Rdwy Width (ft):** 41.5	**Deck Width (ft):** 44.0	**Existing Posting:**	
Oper Rating: HS49	**Total Length (ft):** 998.6	**Deck Area(ft2):** 43938	**ADT On:** 12200 **Yr:** 2004	**ADT Under:** **Yr:**

Inspection Type (* = Supplemental Form Required)

	Routine Visual	Fracture Critical*	In-Depth*	UW-Dive*	UW-Surv*	UW-Probe/Visual*	Movable*
Last Insp.	07-18-13				07-18-13	07-21-11	
Frequency	24				24	24	
Recom. Freq.							
	Initial*	**Damage**	**Interim**	**Load Posted**	**SIA Review***		
Last Insp.	08-09-06				07-21-11		
Frequency	N/A				48		
Recom. Freq.	N/A				**Item No. Needing Change**		

Load Rating Information

Overburden	**Measurement (in):** 0.0	**Date:**	**Deck Surface Type:** CONCRETE	
Section Loss	**File Meas. (%):**	**File Insp. Date:** 07-18-13	**Insp. Measurement (%):**	**Describe:**
Re-rate for load capacity?		**Reason:**		**Date Last Rated:**

Expansion Joints

Location	Type	Temp: File Insp. Date	File Insp. (in)	New Insp. (in)
S ABUT	MODULAR			
N ABUT	MODULAR			

Signing Condition

Type of Marker	File	Y/N	Comments
Bridge Markers	N	N	
Narrow Bridge	N	N	
One Lane Road	N	N	
Vertical Clearance	N	N	
Weight Limit Post	N	N	
Other(Addl. Sign)	N	N	

Clearances(Cardinal = N or E)	File Meas. (ft.)	File Date	New Meas. (ft.)
Min. Vertical Clearance Under (Cardinal)			
Min. Veritcal Clearance Under (non-Cardinal)			
Min. Vertical Clearance On			

Structure Type

Material	Configuration	# of Spans	Overall Length (ft)
CONT STEEL	DECK GIRDER		220.0
CONT STEEL	DECK GIRDER		270.0
CONT STEEL	DECK GIRDER		270.0
CONT STEEL	DECK GIRDER		230.0

Construction/Rehabilitation History

Year	Work Performed	Plan	Shop
2006	NEW STRUCTURE	PLAN	

Inspection Information

Special Requirements	Y/N	Comments
Traffic Control		
Access Equipment		
Other		

Inspector Information

Team Leader Name and No. Printed: Frueh, Rick J (1003)	**Team Member(s) Name(s) Printed:**	
Team Leader Signature:	**Inspection Date:** 07-18-13	**Inspection Agency:** STATE HIGHWAY DEPARTMENT (1)
District/Local Manager and No. Printed:	**District/Local Manager Signature:**	**Review Date:**

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	Cracks are more prevalent in the south two deck pours. Construction joint located between pier 3 and north abutment.								
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	4 Girders.								
X	172 / 2	Painted Steel Diaphr	EA	135	135				
X	210 / 2	R/Conc Pier Wall	LF	63	63				
X	215 / 2	R/Conc Abutment	LF	137	137				
X	234 / 2	R/Conc Cap	LF	189	188	1			
	Crack in west wing of P1.								
X	303 / 4	Modular Joint	LF	92	92				
	Dirty.								
X	311 / 2	Moveable Bearing	EA	16	16				
	At both abutments and Piers 1-3. Teflon coming out on girder 4 at south abutment.								
X	313 / 2	Fixed Bearing	EA	4	4				
	At pier 2.								
X	321 / 2	R/Conc Approach Slab	EA	2	2				
X	331 / 2	Conc Bridge Railing	LF	2037	1800	237			
	Few vertical cracks (approx 10FT spacing). Northeast corner 2 small spalls.								
X	342 / 2	RipRap Slope Protect	EA	2	2				
X	358 / 4	Deck Cracking SmFlag	EA	1		1			
	Couple longitudinal cracks at deck ends. Diagonal crack at SE corner. Few transverse cracks at piers.								
X	359 / 4	Und Dk Surf Sm Flag	EA	1	1				
	Couple transverse cracks with leaching at mid-spans.								

Element Inspection (X) Check Elements Inspected

Ck	Elem./Env.	Description	Unit	Total QTY.	Quantity in Condition States 1	2	3	4	5
X	400 / 2	Concrete Wingwall	EA	4	4				
X	405 / 2	Drainage	EA	4	4				
	Need to clean out deck inlets.								

General Inspection/Maintenance Notes

****7/18/2013 Routine inspection was done from North and South Abutment. Boat or Snooper Routine inspection will be done later. (RF)

**5/27/2010 Routine Inspection was done with 50 ft Snooper (RF)

Maintenance Recommendations (See standard code items & numbers)

Maintenance Item:
Amount: **Date(YYYY-MM-DD):**
Maintenance item comment:

Maintenance Item:
Amount: **Date(MM-DD-YY):**
Maintenance item comment:

Maintenance Item:
Amount: **Date(MM-DD-YY):**
Maintenance item comment:

NBI Ratings

NBI	File	New	NBI	File	New
Deck	7	7	Culvert	N	N
Superstructure	8	8	Channel	8	8
Substructure	8	8	Waterway	8	8

Wisconsin Dept. of Transportation
Supplemental Bridge Inspection Report
Emxx - 01xx Section 84.17 Wis. Statues

Report Name: Streambed Profile

Condition, Location, Description and Structure Notes

See Electronic File: N:\SPO\Operations\Bridge\Stream Inspection Profiles\Eau Claire B-18 Streambed

Condition Pictures and/or Sketches

Wisconsin Dept. of Transportation
Structure Inventory Data

Bridge B180168

Structure No.:	Municipality:	Section:	Town:	Range:	Maintenance Agency:	Owner:
B180168	CITY-ALTOONA(18201)				STATE HIGHWAY DEPT	STATE HIGHWAY DEPT
Replaced Structure No.:	**Historical Sig.:** 5	**Latitude:** 444929.4	**Longitude:** 912715.1		**County:** EAU CLAIRE(18)	**District:** 6

ABUTMENT DATA (CARDINAL)

1. Abutment Type: SILL FLEXIBLE/RECT
2. Pile Type: CAST IN PL
3. Pile Size: 254 OR 273 MM (10 OR 10-3/4")
4. Slope Protection Type: RIPRAP
5. Rdwy. Width: 41.5 **ft**
6. Deck Width: 44.0 **ft**
7. Wing Type: PARALLEL TO ROADWAY

ABUTMENT DATA (NON-CARDINAL)

1. Abutment Type: SILL FLEXIBLE/RECT
2. Pile Type: CAST IN PL
3. Pile Size: 254 OR 273 MM (10 OR 10-3/4")
4. Slope Protection Type: RIPRAP
5. Rdwy. Width: 41.5 **ft**
6. Deck Width: 44.0 **ft**
7. Wing Type: PARALLEL TO ROADWAY

GEOMETRIC DATA

1. Structure Length: 998.6 **ft (Back to Back Abuts. Along Rdwy. Centerline)**
2. No. Lanes On: 2
3. L. Sdk. Width On: 0.0 **ft**
4. R. Sdk. Width On: 0.0 **ft**
5. Median Type:
6. Median Width: 0.0 **ft**
7. Skew Angle: 25 **Deg.**
8. Direction Skew Angle: LEFT
9. Horizontal Curve: 0.0 **Radius, ft**
10. Dir.-Hor. Curve:
11. Girder Spacing: 12.5 **ft**
12. Height: ft (Top Pier Footing to Top Deck or Streambed Elev. to Top Deck)
13. NBI Bridge Length Met: true

APPROACH DATA

1. Appr. Pavement Width: 24 **ft**
2. Rt. Shoulder Width: 10 **ft**
3. Lt. Shoulder Width: 6 **ft**
4. Total Width (Sum Above): 41 **ft**
5. Guardrail Termination: 1
6. Guardrail Adequacy: 1
7. Railing Attachment Type: 5 - 22 MM (7/8") BOLTS
8. Railing Design Year: 1965 AASHO
9. Left Outer Railing Type: SLOPED FACE PARAPET LF(91)
10. Right Outer Railing Type: SLOPED FACE PARAPET LF(91)
11. Left Inner Railing Type:
12. Right Inner Railing Type:

HYDRAULIC DATA

1. Design Flood Frequency: 100 **yrs**
2. Design Discharge: 33000 **cu-ft/s**
3. Max. Velocity: 2.9 **ft/s**
4. Drainage Area: 815.5 **sq. ft**
5. High Water Elev.: 793.3 **ft**
6. Scour Critical Code: 4
7. Scour Calculated?: false

CAPACITY DATA

1. Design MS: HS20
2. Inventory MS: HS29
3. Operating MS: HS49
4. Max. Veh. Wt.: 250 **kips**
5. Load Rating Basis.: LFR
6. Load Governing Member: DECK GIRDER
7. Deck Composition:
8a. Deck Membrane:
8b. Deck Surface: CONCRETE

STRUCTURE SERVICE DATA

1. Hwy. On Detour Length: 0 **ft**
2. Type Service On: HIGHWAY
3. Type Service Under: WATERWAY

APPRAISAL UPDATE

1. Load Capacity: 5-LEGAL LOAD STRESS NOT EXCEEDED
2. Geom. On: 7-COND BETTER THAN MIN CRITERIA
3. Geom. Under: N-NO UNDERCLEARANCE RECORD EXISTS
4. Appr. Align: 8-COND EQUAL DESIRABLE CRITERIA
5. Horiz. Align:
6. Vert. Align:

PLANNING DATA

1. Functional Classification: OTH PRIN ART-RURAL(02)
2. ADT: 12200
3. ADT-Year: 2004
4. Truck ADT %: 0
5. Future ADT: 14125
6. Future ADT-Year: 2024

CONDITION DATA

Deck: 7	**SuperStructure:** 8	**SubStructure:** 8	**Channel:** 8
Culvert: N	**Waterway:** 8		

Bridge B180168

CONSTRUCTION DATE

Project ID	Construction Contractor	Construction Designer	Construction Year	Plans Reel Number	Letting Date	Survey Received	Work Performed
1190-00-75	ZENITH TECH, INC.	BRIDGE SECTION DESIGN UNIT 2	2006	PLAN	09-Nov-2004	12-Aug-1997	NEW STRUCTURE

CLEARANCE DATE

Clearance Lane Number	Minimum Vertical	Minimum Vertical Date	Minumum Horizontal Distance	Right Minimum Lateral

Left Minimum Lateral	Railroad Right Minimum Lateral	Railroad Left Minimum Lateral	Railroad Vertical Distance	Railroad Horizontal Distance

ROUTE DATE

Number	Direction	Type	Structure Route On / Under	Structure Route Cardinal / NonCardinal
053	S		O	N
			U	C

Number	Structure Route Location	Highway Feature Name	Structure Route Local System	Highway Feature Designation
053	.3M S CTH QQ	53 SB	USH	MAINLINE
		EAU CLAIRE R		WATER / LAND / OTHER

Number	Structure Route Primary Flag	Designed National Network Flag	Structure Defense Highway Designation	Highway On Inventory Route
053	Y	N	0	NHS
	Y	N		

PIER DATE

Number	Pier Type	Piling Type	Piling Size	Pier Skew Angle	Direction of Skew
1	HAMMERHEAD	STEEL	356 MM (14")		
2	HAMMERHEAD	STEEL	356 MM (14")		
3	HAMMERHEAD	STEEL	356 MM (14")		

SPAN DATE

Number	Type	Length	Configuration	Material	Girder or Truss Height	Girder or Truss Spacing
1		220.0	DECK GIRDER	CONT STEEL		12.5
2		270.0	DECK GIRDER	CONT STEEL		12.5
3		270.0	DECK GIRDER	CONT STEEL		12.5
4		230.0	DECK GIRDER	CONT STEEL		12.5

EXPANSIONJOINT DATE

Number	Location	Type	Inactive Date
1	S ABUT	MODULAR JOINT	
2	N ABUT	MODULAR JOINT	

708 Heartland Trail, Suite 3000
Madison, WI 53717

608.826.3600 PHONE
608.826.3941 FAX

www.TRCsolutions.com

Bridge Asbestos Inspection Report

WisDOT Project ID: 1190-02-34
Structure Number: B-18-0168, B-18-0190
Structure Name: USH 53 SB over Eau Claire River, La Salle Street over USH 53
City/County: City of Altoona, Town of Seymour, Eau Claire County
Lat/Long Coordinates: 444929.4/ 912715.1, 445023.83/ 912631.51
TRC Project Number: 235777.0000.0000
Date Inspected: October 14, 2015
Inspected By/License Number: John Roelke, AII-119523

Findings:

The inspection to identify and collect samples of potential asbestos-containing material (ACM) was completed following WisDOT standard sampling procedure for bridge inspections found in FDM 21-35-45.

None of the materials that were identified as potentially ACM and sampled tested positive for asbestos. The overlay on the bridges can proceed as planned. Standard Special Provision (STSP) 107-125 should be included in the specifications.

Sample Number	Sample Description	Sample Location	Analytical Results and Method	Friable/ Non-friable or No ACM	Quantity of ACM Material
B-18-0168					
1	Caulk	Abutment joint	PLM, non-detect	No ACM	0
2	Caulk	Abutment joint	PLM, non-detect	No ACM	
3	Caulk	Abutment joint	PLM, non-detect	No ACM	
4	Brown paint	Girder	PLM, non-detect	No ACM	0
5	Brown paint	Girder	PLM, non-detect	No ACM	
6	Brown paint	Girder	PLM, non-detect	No ACM	
7	White paint	Girder	PLM, non-detect	No ACM	0
8	White paint	Girder	PLM, non-detect	No ACM	
9	White paint	Girder	PLM, non-detect	No ACM	

Sample Number	Sample Description	Sample Location	Analytical Results and Method	Friable/ Non-friable or No ACM	Quantity of ACM Material
B-18-0190					
1	Paint	Pedestrian fence	PLM, non-detect	No ACM	0
2	Paint	Pedestrian fence	PLM, non-detect	No ACM	
3	Paint	Pedestrian fence	PLM, non-detect	No ACM	
4	Caulk	Around fence attachment plate	PLM, non-detect	No ACM	0
5	Caulk	Around fence attachment plate	PLM, non-detect	No ACM	
6	Caulk	Around fence attachment plate	PLM, non-detect	No ACM	
7	Caulk	Around bolts in fence attachment plate	PLM, non-detect	No ACM	0
8	Caulk	Around bolts in fence attachment plate	PLM, non-detect	No ACM	
9	Caulk	Around bolts in fence attachment plate	PLM, non-detect	No ACM	
10	Caulk	Abutment joint	PLM, non-detect	No ACM	0
11	Caulk	Abutment joint	PLM, non-detect	No ACM	
12	Caulk	Abutment joint	PLM, non-detect	No ACM	
13	Caulk	Parapet expansion joint	PLM, non-detect	No ACM	0
14	Caulk	Parapet expansion joint	PLM, non-detect	No ACM	
15	Caulk	Parapet expansion joint	PLM, non-detect	No ACM	

If you have any questions, please contact me, at (608) 826-3628.

TRC Environmental Corporation

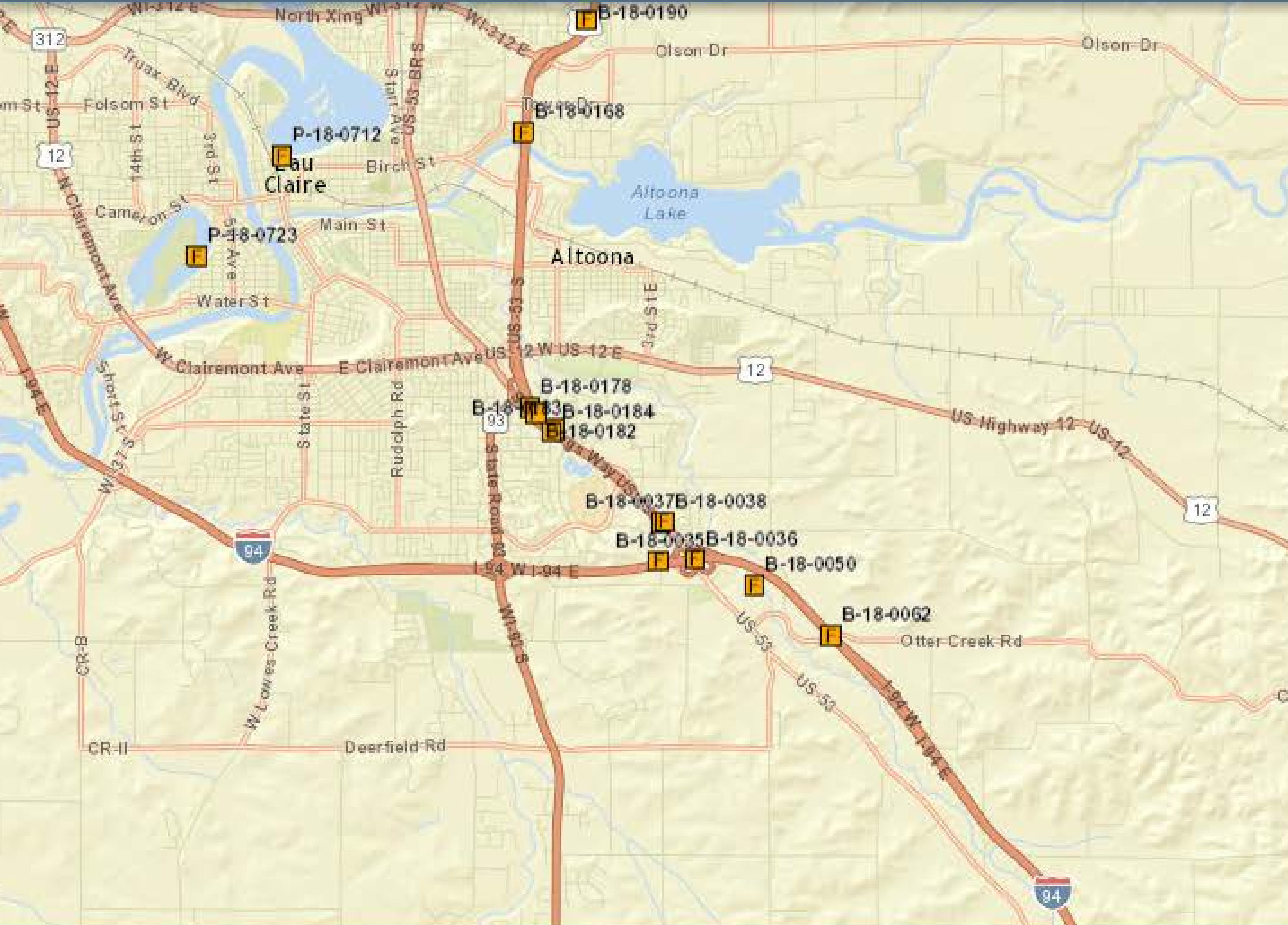
Daniel Haak
Project Manager

John Roelke
Asbestos Inspector

Attachments: Location Map, Photos, and Laboratory Reports

Report Distribution:

Recipient	Electronic (PDF) Copy	Paper Copy
BTS-ESS sharlene.tebeest@dot.wi.gov	X (via email)	X
REC amy.adrihan@dot.wi.gov; nicholasA.schaff@dot.wi.gov	X (via email)	
Project Manager david.koepp@dot.wi.gov	X (via email)	
Other		



B-18-0190
North Xing
Olson Dr
Olson Dr
Truax Blvd
Folsom St
B-18-0168
P-18-0712
Eau
Claire
Birch St
Altoona
Lake
Cameron St
Main St
P-18-0723
Altoona
Water St
3rd St E
W Clairemont Ave
E Clairemont Ave
US-12 W
US-12 E
12
B-18-0178
B-18-0184
18-0182
US Highway 12
US-12
State St
Rudolph Rd
State Road 93
B-18-0037
B-18-0038
B-18-0035
B-18-0036
B-18-0050
B-18-0062
94
I-94 W
I-94 E
Otter Creek Rd
US-53
CR-B
CR-II
Deerfield Rd
W Lowes Creek Rd
WI-93 S
94

B-18-0168

Caulk in abutment joint

White graffiti paint on girder

Brown graffiti paint on girder

B-18-0190

Paint on fence

Caulk around fence attachment plate

Caulk around bolts in attachment plate

Caulk in abutment joint

Caulk in parapet expansion joint

Industrial Hygiene Laboratory
21 Griffin Road North
Windsor, CT 06095
(860) 298-6308

TRC
Results you can rely on

BULK ASBESTOS ANALYSIS REPORT

CLIENT: Wisconsin Department of Transportation

Lab Log #: 0047027
Project #: 235777.0000.0000
Date Received: 10/16/2015
Date Analyzed: 10/19/2015

Site: DOT Bridge Inspection, B-18-168

POLARIZED LIGHT MICROSCOPY by EPA 600/R-93/116

Sample No.	Color	Homogenous	Multi-Layered	Layer No.	Other Matrix Materials	Asbestos %	Asbestos Type
B-18-168 (1)	Grey	Yes	No	- -	- - -	ND	None
B-18-168 (2)	Grey	Yes	No	- -	- - -	ND	None
B-18-168 (3)	Grey	Yes	No	- -	- - -	ND	None
B-18-168 (4)	Brown	Yes	No	- -	- - -	ND	None
B-18-168 (5)	Brown	Yes	No	- -	- - -	ND	None
B-18-168 (6)	Brown	Yes	No	- -	- - -	ND	None
B-18-168 (7)	White	Yes	No	- -	- - -	ND	None
B-18-168 (8)	White	Yes	No	- -	- - -	ND	None
B-18-168 (9)	White	Yes	No	- -	- - -	ND	None

Industrial Hygiene Laboratory
21 Griffin Road North
Windsor, CT 06095
(860) 298-6308

TRC
Results you can rely on

POLARIZED LIGHT MICROSCOPY by EPA 600/R-93/116

Sample No.	Color	Homogenous	Multi-Layered	Layer No.	Other Matrix Materials	Asbestos %	Asbestos Type

Reporting limit- asbestos present at 1%
ND - asbestos was not detected
Trace - asbestos was observed at level of less than 1%
NA/PS - Not Analyzed / Positive Stop
SNA- Sample Not Analyzed- See Chain of Custody for details

Note: Polarized-light microscopy is not consistently reliable in detecting asbestos in floor coverings and similar non-friable organically bound materials. In those cases, EPA recommends, and certain states (e.g. NY) require, that negative results be confirmed by quantitative transmission electron microscopy.

The Laboratory at TRC follows the EPA's Interim Method for the Determination of Asbestos in Bulk Insulation (1982), and the EPA recommended Method for the Determination of Asbestos in Bulk Building Materials (EPA/600/R-93/116), July 1993, R.L. Perkins and B.W. Harvey which utilizes polarized light microscopy (PLM). Our analysts have completed an accredited course in asbestos identification. TRC's Laboratory is accredited under the National Voluntary Laboratory Accreditation Program (NVLAP), for Bulk Asbestos Fiber Analysis, NVLAP Code 18/A01, effective through June 30, 2016. TRC is an American Industrial Hygiene Association (AIHA) accredited lab for PLM effective through October 1, 2016. Asbestos content is determined by visual estimate unless otherwise indicated. Quality Control is performed in-house on at least 10% of samples and the QC data related to the samples is available upon written request from the client.

This report shall not be reproduced, except in full, without the written approval of TRC. This report must not be used by the client to claim product endorsement by NVLAP or any agency of the U.S. Government. This report relates only to the items tested.

Analyzed by: K. Williamson — Kathleen Williamson, Laboratory Manager

Reviewed by: Amanda Parkins — Amanda Parkins, Approved Signatory

Date Issued 10/19/2015

Industrial Hygiene Laboratory
21 Griffin Road North
Windsor, CT 06095
(860) 298-6308

TRC
Results you can rely on

BULK ASBESTOS ANALYSIS REPORT

CLIENT: Wisconsin Department of Transportation

Lab Log #:	0047038
Project #:	235777.0000.0000
Date Received:	10/16/2015
Date Analyzed:	10/20/2015

Site: DOT Bridge Inspection, B-18-190

POLARIZED LIGHT MICROSCOPY by EPA 600/R-93/116

Sample No.	Color	Homogenous	Multi-Layered	Layer No.	Other Matrix Materials	Asbestos %	Asbestos Type
B-18-190 (1)	Black	Yes	No	- -	- - -	ND	None
B-18-190 (2)	Black	Yes	No	- -	- - -	ND	None
B-18-190 (3)	Black	Yes	No	- -	- - -	ND	None
B-18-190 (4)	Grey	Yes	No	- -	- - -	ND	None
B-18-190 (5)	Grey	Yes	No	- -	- - -	ND	None
B-18-190 (6)	Grey	Yes	No	- -	- - -	ND	None
B-18-190 (7)	Grey	Yes	No	- -	- - -	ND	None
B-18-190 (8)	Grey	Yes	No	- -	- - -	ND	None
B-18-190 (9)	Grey	Yes	No	- -	- - -	ND	None
B-18-190 (10)	Grey	Yes	No	- -	- - -	ND	None
B-18-190 (11)	Grey	Yes	No	- -	- - -	ND	None
B-18-190 (12)	Grey	Yes	No	- -	- - -	ND	None
B-18-190 (13)	Grey	Yes	No	- -	- - -	ND	None
B-18-190 (14)	Grey	Yes	No	- -	- - -	ND	None
B-18-190 (15)	Grey	Yes	No	- -	- - -	ND	None

Industrial Hygiene Laboratory
21 Griffin Road North
Windsor, CT 06095
(860) 298-6308

TRC
Results you can rely on

POLARIZED LIGHT MICROSCOPY by EPA 600/R-93/116

Sample No.	Color	Homogenous	Multi-Layered	Layer No.	Other Matrix Materials	Asbestos %	Asbestos Type

Reporting limit- asbestos present at 1%
ND - asbestos was not detected
Trace - asbestos was observed at level of less than 1%
NA/PS - Not Analyzed / Positive Stop
SNA- Sample Not Analyzed- See Chain of Custody for details

Note: Polarized-light microscopy is not consistently reliable in detecting asbestos in floor coverings and similar non-friable organically bound materials. In those cases, EPA recommends, and certain states (e.g. NY) require, that negative results be confirmed by quantitative transmission electron microscopy.

The Laboratory at TRC follows the EPA's Interim Method for the Determination of Asbestos in Bulk Insulation (1982), and the EPA recommended Method for the Determination of Asbestos in Bulk Building Materials (EPA/600/R-93/116), July 1993, R.L. Perkins and B.W. Harvey which utilizes polarized light microscopy (PLM). Our analysts have completed an accredited course in asbestos identification. TRC's Laboratory is accredited under the National Voluntary Laboratory Accreditation Program (NVLAP), for Bulk Asbestos Fiber Analysis, NVLAP Code 18/A01, effective through June 30, 2016. TRC is an American Industrial Hygiene Association (AIHA) accredited lab for PLM effective through October 1, 2016. Asbestos content is determined by visual estimate unless otherwise indicated. Quality Control is performed in-house on at least 10% of samples and the QC data related to the samples is available upon written request from the client.

This report shall not be reproduced, except in full, without the written approval of TRC. This report must not be used by the client to claim product endorsement by NVLAP or any agency of the U.S. Government. This report relates only to the items tested.

Analyzed by: K. Williamson — Kathleen Williamson, Laboratory Manager

Reviewed by: Amanda Parkins — Amanda Parkins, Approved Signatory

Date Issued 10/21/2015

Nov 04
ORDER OF SHEETS

Title
Typical Sections and Details (includes erosion control plans)
Estimate of Quantities
Miscellaneous Quantities
Right of Way Plat
Plan and Profile
Standard Detail Drawings
~~Sign Plates~~
Structure Plans
~~Computer Earthwork Data~~
~~Cross Sections~~

TOTAL SHEETS = 104

PROJECT ID: 1190-00-75

COUNTY: EAU CLAIRE

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

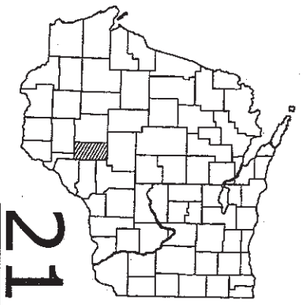
PLAN OF PROPOSED IMPROVEMENT

EAU CLAIRE - CHIPPEWA FALLS ROAD

EAU CLAIRE RIVER BRIDGE: B-18-0167 & B-18-0168
U.S.H. 53
EAU CLAIRE COUNTY

STATE PROJECT	FEDERAL PROJECT	
	PROJECT	CONTRACT
1190-00-75		

STATE PROJECT NUMBER
1190-00-75



21

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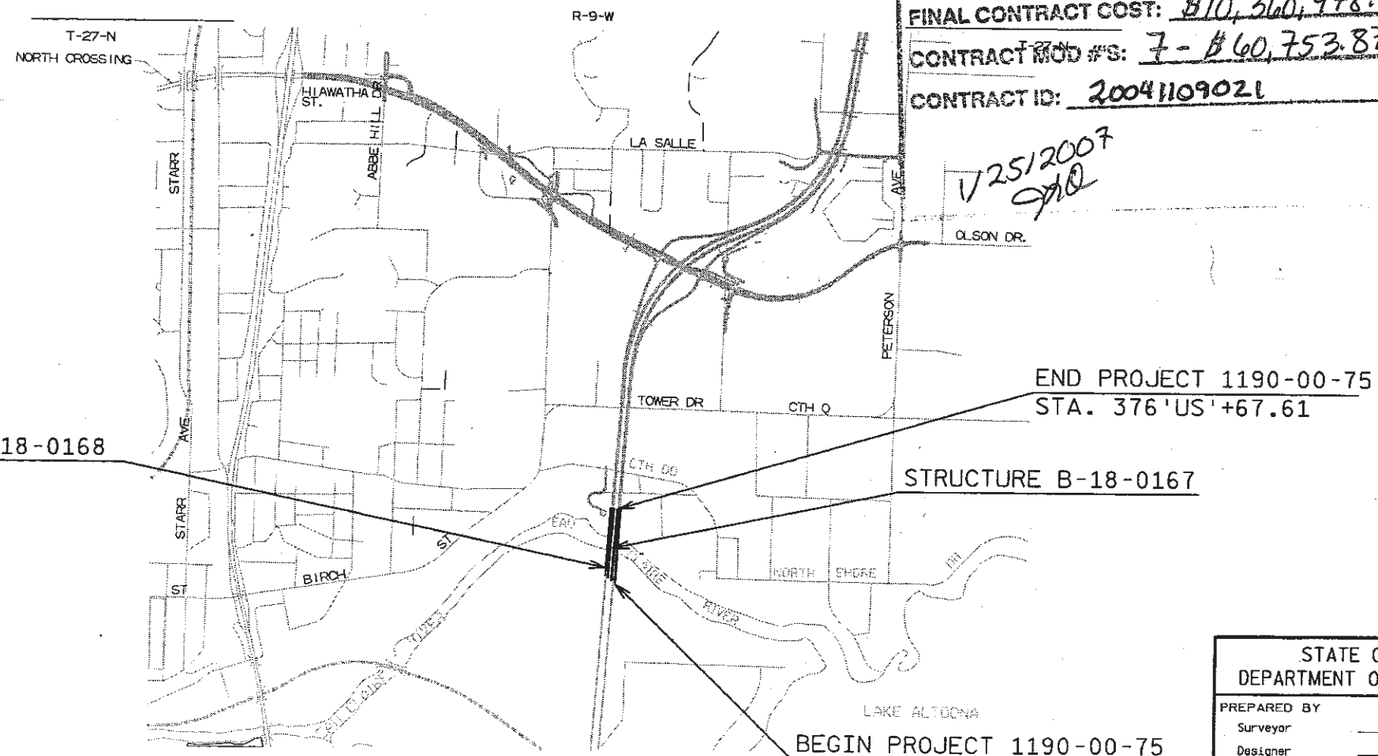


STRUCTURE B-18-0168

END PROJECT 1190-00-75
STA. 376'US'+67.61

STRUCTURE B-18-0167

BEGIN PROJECT 1190-00-75
STA. 366'US'+68.97
X = 1591247.34
Y = 363756.92

LAYOUT
SCALE 0 MI.

TOTAL NET LENGTH OF CENTERLINE = 0.00 MI. (1190-00-75)

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

AS-BUILT PLAN

PROJECT ENGINEER: CHAD HINES
WisDOT
PRIME CONTRACTOR: ZENITH TECH, INC.
BEGIN CONSTRUCTION: 3-9-2005
END CONSTRUCTION: 5-31-2006
FINAL CONTRACT COST: $10,360,978.85
CONTRACT MOD #'S: 7 - $60,753.87
CONTRACT ID: 20041109021

V 25/2007 JLO

RECEIVED
SEP 16 2004
DIST. 6

DESIGN DESIGNATION

A.D.T.	(2004)	= 23,200
A.D.T.	(2024)	= 31,100
D.H.V.	(2024)	= 3,565
D.		= 50/60
T.		= 7.7
DESIGN SPEED		= 70 MPH
ESALS		= 6,321,800

CONVENTIONAL SYMBOLS

COUNTY LINE
CORPORATE LIMITS
PROPERTY LINE (P.L. + 58.)
LOT LINE
LIMITED EASEMENT
EXISTING RIGHT OF WAY
PROPOSED OR NEW R/W LINE
SURVEY LINE
SLOPE INTERCEPT
ORIGINAL GROUND (104)
MARSH OR ROCK PROFILE (To be noted as such) (ROCK)
MARSH AREA
WOODED OR SHRUB AREA

COMBUSTIBLE FLUIDS (CAUTION)
UNDERGROUND UTILITIES
GAS (G)
ELECTRIC (E)
TELEPHONE OR TELEGRAPH (T)
COMMUNICATIONS LINE (C)
SERVICE PEDESTAL
POWER POLE
TELEPHONE POLE
RAILROAD
SANITARY SEWER (SAN)
STORM SEWER (SS)
WATER (W)
EXISTING CULVERT
PROPOSED CULVERT (Box or Pipe)
CULVERT (Profile View)

21

STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
PREPARED BY	
Surveyor	DTO DIST. 6
Designer	ADAM SARAUER
District Examiner	
District Supervisor	RICK SHERMO
Proj. Dev. Engineer	LARRY JONES
C.O. Examiner	

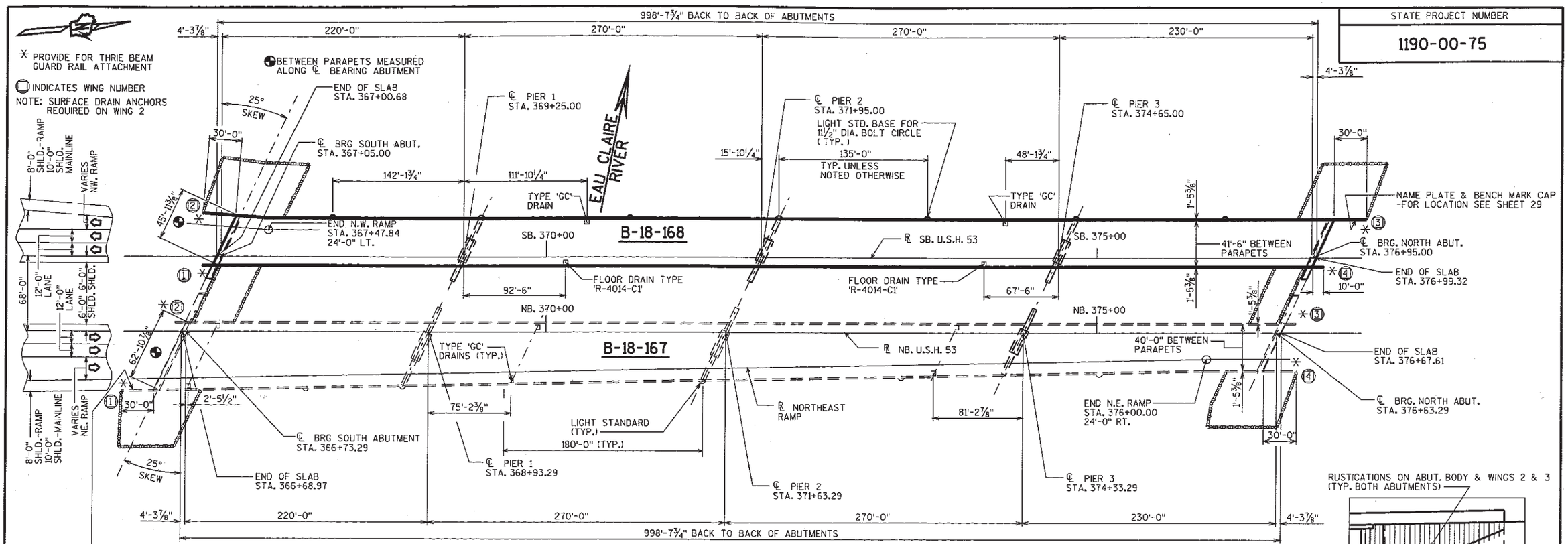
APPROVED FOR DISTRICT OFFICE
DATE: 7/27/04 (Signature)

E

NOV 04

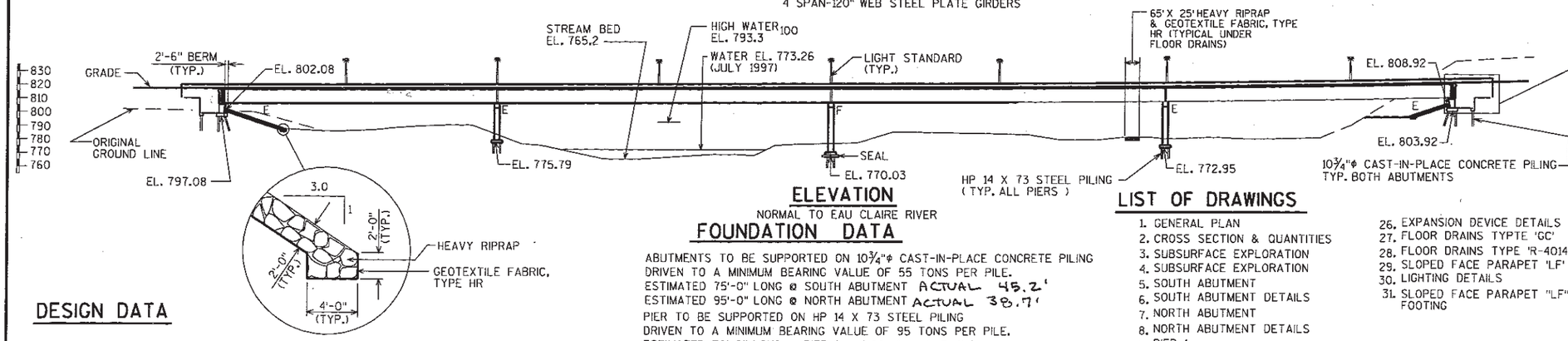
STATE PROJECT NUMBER

1190-00-75



PLAN

4 SPAN-120" WEB STEEL PLATE GIRDERS



ELEVATION

NORMAL TO EAU CLAIRE RIVER

RUSTICATIONS ON ABUT. BODY & WINGS 2 & 3 (TYP. BOTH ABUTMENTS)

DESIGN DATA

LIVE LOAD:

DESIGN RATING; HS-20
INVENTORY RATING; HS-29
OPERATIONAL RATING; HS-49
MAXIMUM STANDARD PERMIT VEHICLE LOAD = 250 KIPS.

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

ULTIMATE 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 — fy = 60,000 P.S.I.
HIGH STRENGTH STRUCTURAL STEEL (ASTM A709 , GRADE 50W) — fy = 50,000 P.S.I.

TRAFFIC VOLUME

S.B. U.S.H. 53
A.D.T.=14,125 (2024)
R.D.S.=70 M.P.H.

FOUNDATION DATA

ABUTMENTS TO BE SUPPORTED ON 10¾"ϕ CAST-IN-PLACE CONCRETE PILING DRIVEN TO A MINIMUM BEARING VALUE OF 55 TONS PER PILE.
ESTIMATED 75'-0" LONG @ SOUTH ABUTMENT ACTUAL 45.2'
ESTIMATED 95'-0" LONG @ NORTH ABUTMENT ACTUAL 38.7'
PIER TO BE SUPPORTED ON HP 14 X 73 STEEL PILING DRIVEN TO A MINIMUM BEARING VALUE OF 95 TONS PER PILE.
ESTIMATED 70'-0" LONG @ PIER 1 ACTUAL 63.8'
ESTIMATED 65'-0" LONG @ PIER 2 ACTUAL 68.3'
ESTIMATED 90'-0" LONG @ PIER 3 ACTUAL 94.3'

HYDRAULIC DATA

100 YEAR FREQUENCY

Q_{100} =33000 C.F.S.
VEL. = 2.9 F.P.S.
HW.= EL. 793.3
WATERWAY AREA= 11500 SQ. FT.
DRAINAGE AREA= 815.5 SQ. MI.
ROAD OVERTOPPING = NA
SCOUR CRITICAL CODE = 5

2 YEAR FREQUENCY

Q_2 =8600 C.F.S.
$HW._2$ = EL. 781.3

LIST OF DRAWINGS

STRUCTURES DESIGN CONTACTS:
KENT BAHLER (608) 266-8490
VU THAO (608) 267-2869

NO.	DATE	REVISION	BY

Plans Prepared By WISDOT
BUREAU OF STRUCTURES

APPROVED: SDR 8-2-04
CHIEF STRUCTURAL DESIGN ENGINEER DATE

STRUCTURE B-18-168

SB U.S.H. 53 OVER EAU CLAIRE RIVER

COUNTY EAU CLAIRE		TOWN/CITY/~~VILLAGE~~ TOWN: SEYMOUR CITY: ALTOONA	
DESIGN SPEC. AASHTO STD. SPEC. 2003		LOAD HS-20	CONST. SPEC. 2003
DESIGNED BY MGW	DESIGN CK'D. SDR	DRAWN BY CRJ	PLANS CK'D VT

GENERAL PLAN

SHEET 1 OF 31

73 73

I.D. 1190-00-05C

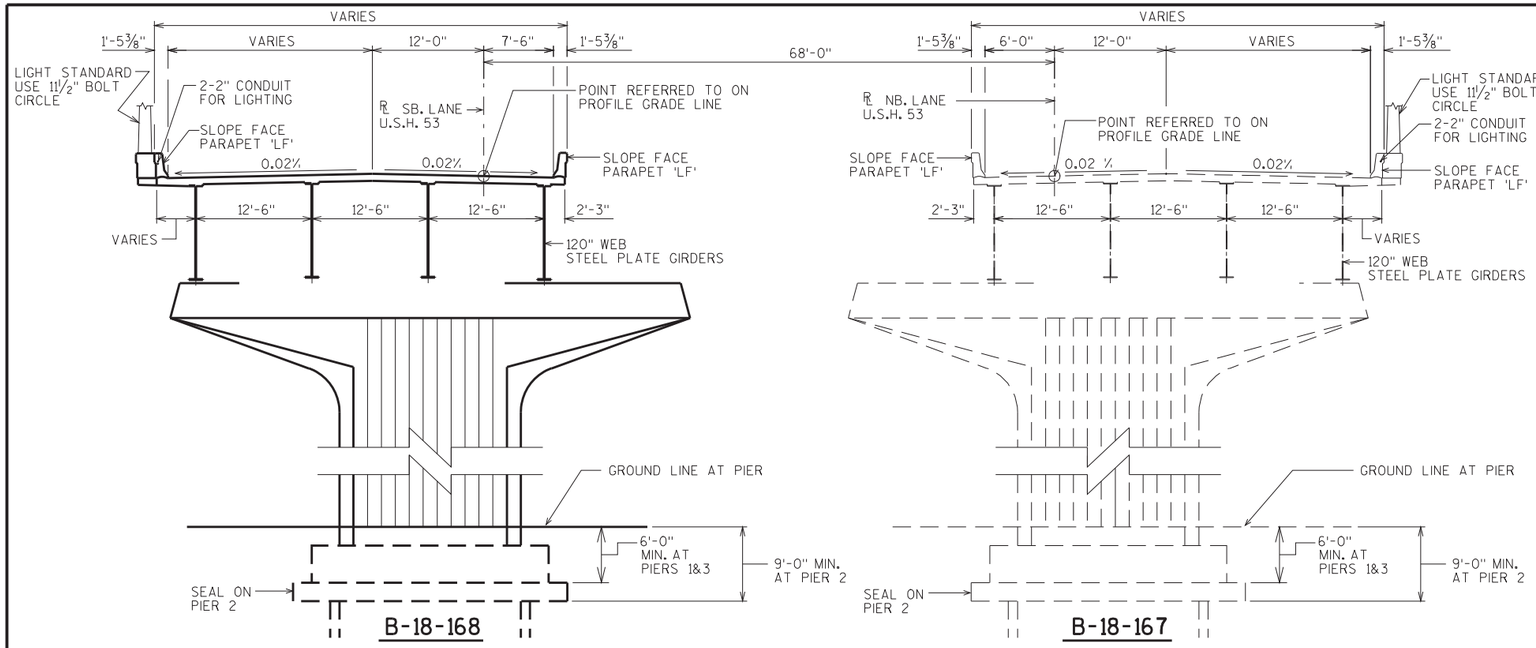
DATE: JUNE '04

FILE = 01-168GEN1.DGN
SCALE = 45

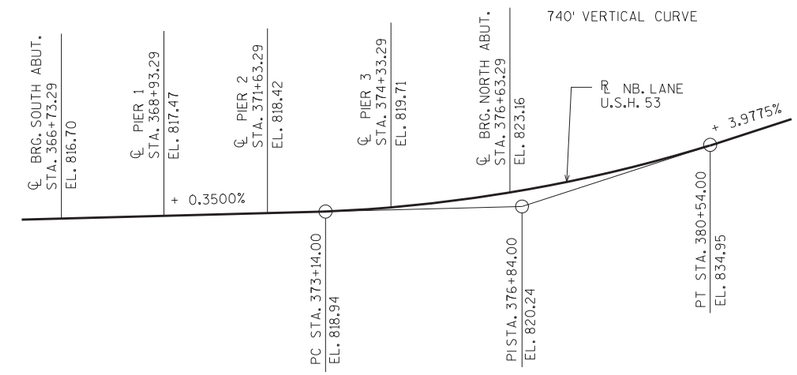
8

8

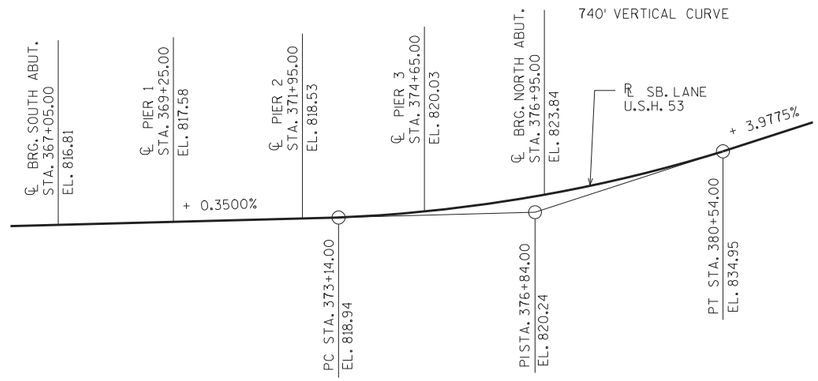
STATE PROJECT NUMBER
1190-00-75



CROSS SECTION THRU ROADWAY LOOKING NORTH



NB. PROFILE GRADE LINE U.S.H. 53



SB. PROFILE GRADE LINE U.S.H. 53

TOTAL ESTIMATED QUANTITIES

	BID ITEMS	UNIT	SUPER.	SOUTH ABUT.	NORTH ABUT.	PIER 1	PIER 2	PIER 3	TOTALS
	EXCAVATION FOR STRUCTURES BRIDGES B-18-168	LS	———	———	———	———	———	———	1
	BACKFILL STRUCTURE	CY	———	930	960	———	———	———	1890
	CONCRETE MASONRY BRIDGES	CY	1630	250	254	270	273	287	2964
	CONCRETE MASONRY SEAL	CY	———	———	———	———	80	———	80
	EXPANSION DEVICE MODULAR B-18-168	LS	———	———	———	———	———	———	1
	PROTECTIVE SURFACE TREATMENT	SY	5690	———	———	———	———	———	5690
	BAR STEEL REINFORCEMENT HS BRIDGES	LB	———	9110	9205	50650	54355	60460	183780
	BAR STEEL REINFORCEMENT HS COATED BRIDGES	LB	350955	10320	10540	———	———	———	371815
	STRUCTURAL STEEL HS	LB	2,287,285	———	———	———	———	———	2,287,285
	FLOOR DRAINS TYPE GC	EACH	2	———	———	———	———	———	2
	FLOOR DRAINS TYPE 'R-4014-CI'	EACH	2	———	———	———	———	———	2
	RUBBERIZED MEMBRANE WATERPROOFING	SY	———	22	22	———	———	———	44
*	RIPRAP HEAVY	CY	———	500	415	———	———	120	1035
	PIPE UNDERDRAIN 6-INCH	LF	———	94	94	———	———	———	188
	PIPE UNDERDRAIN UNPERFORATED 6-INCH	LF	———	10	10	———	———	———	20
	ANCHOR ASSEMBLIES FOR STEEL PLATE BEAM GUARD	EACH	4	———	———	———	———	———	4
	ANCHOR ASSEMBLIES LIGHT POLES	EACH	7	———	———	———	———	———	7
	GEOTEXTILE FABRIC TYPE DF (SCHEDULE A)	SY	———	79	79	———	———	———	158
*	GEOTEXTILE FABRIC TYPE HR	SY	———	790	650	———	———	180	1620
	CONDUIT RIGID NONMETALLIC SCHEDULE 40 2-INCH	LF	2020	———	———	———	———	———	2020
	OMP CONCRETE STRUCTURES 5-CYLINDER	CY	1630	250	254	270	273	287	2964
	INCENTIVE STRENGTH CONCRETE STRUCTURES	DOL	———	———	———	———	———	———	29640
	PILING STEEL DELIVERED AND DRIVEN HP 14-INCH X 73LB.	LF	———	———	———	3220	2730	4140	10090
	CONDUIT RIGID METALLIC 2-INCH	LF	20	70	70	———	———	———	160
	JUNCTION BOXES 18X12X6-INCH	EACH	7	———	———	———	———	———	7
	WELDED STUD SHEAR CONNECTORS 7/8X6-INCH	EACH	8004	———	———	———	———	———	8004
	BEARING ASSEMBLIES FIXED B-18-168	EACH	———	———	———	———	4	———	4
	BEARING ASSEMBLIES EXPANSION B-18-168	EACH	———	4	4	4	———	4	16
	COFFERDAMS B-18-168	LS	———	———	———	———	———	———	1
	MASONRY ANCHORS TYPE S 5/8-INCH	EACH	———	130	130	———	———	———	260
	PILING CIP CONCRETE DELIVERED AND DRIVEN 10 3/4-INCH	LF	———	3375	4275	———	———	———	7650
	PROTECTIVE COATING CLEAR	GAL	———	5	5	10	12	12	44
	NON-BID ITEMS								
	BRIDGE SEAT PROTECTION	L.S.	———	———	———	———	———	———	1
	FILLER	SIZE	———	———	———	———	———	———	1/2" & 3/4"

GENERAL NOTES

DRAWINGS SHALL NOT BE SCALED.

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

AT THE BACKFACE OF ABUTMENT ALL VOLUME WHICH CANNOT BE PLACED BEFORE ABUTMENT CONSTRUCTION AND IS NOT OCCUPIED BY THE NEW STRUCTURE SHALL BE BACKFILLED WITH STRUCTURE BACKFILL.

THE EXISTING GROUND LINE SHALL BE USED AS THE UPPER LIMITS OF EXCAVATION AT THE PIERS.

THE FIRST OR FIRST TWO DIGITS OF THE BAR MARK SIGNIFIES THE BAR SIZE.

THE GRADATION OF THE STRUCTURE BACKFILL SHALL MEET THE REQUIREMENTS OF SECTION 209.2.2 OF THE STANDARD SPECIFICATIONS FOR GRADE 1 MATERIAL.

THE COST OF FORMING RECESSES (RUSTICATION) AT ABUTMENTS AND PIERS SHALL BE INCIDENTAL TO BID ITEM "CONCRETE MASONRY BRIDGES".

*PIER 3 QUANTITY LOCATES BELOW FLOOR DRAIN

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-18-168

DRAWN BY CRJ | PLANS CK'D. VT

CROSS SECTION & QUANTITIES

SHEET 2

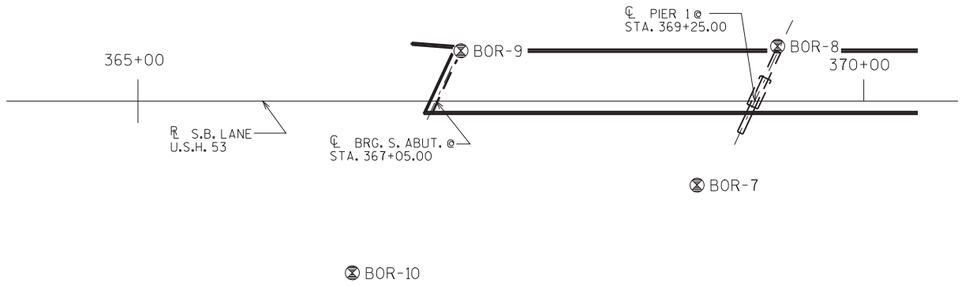
74

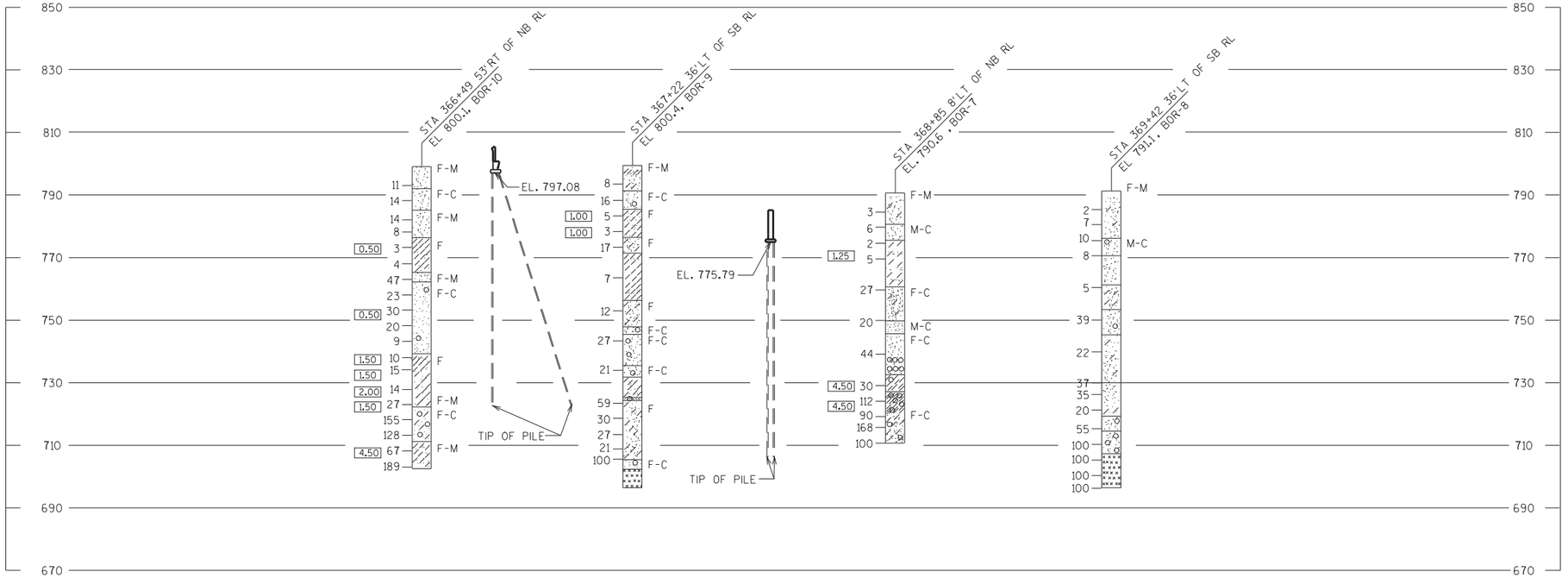
8

8

FILE= 02-168GEN2.DGN
SCALE = 8

USH 53 OVER EAU CLAIRE RIVER
EAU CLAIRE BYPASS





STATE PROJECT NUMBER

1190-00-75

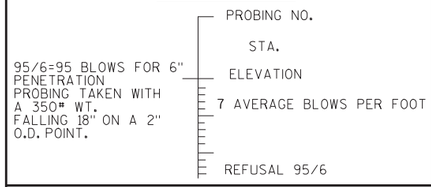
ABBREVIATIONS

F — FINE M — MEDIUM C — COARSE
WS — WEATHERED SO — SOUND

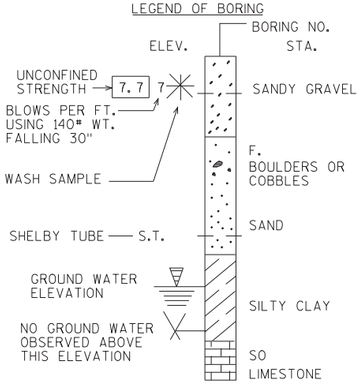
MATERIAL SYMBOLS

TOPSOIL, SILT, SANDSTONE
SAND, PEAT, LIMESTONE
GRAVEL, CLAY, IGNEOUS ROCK

LEGEND OF PROBING



LEGEND OF BORING



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 WISCONSIN DEPARTMENT 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

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-18-168

DRAWN BY CRJ | PLANS CK'D. VT

SUBSURFACE EXPLORATION

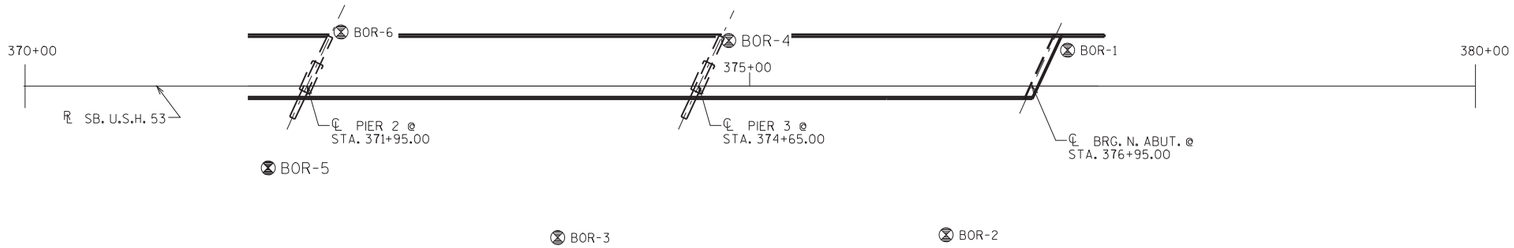
SHEET 3
75

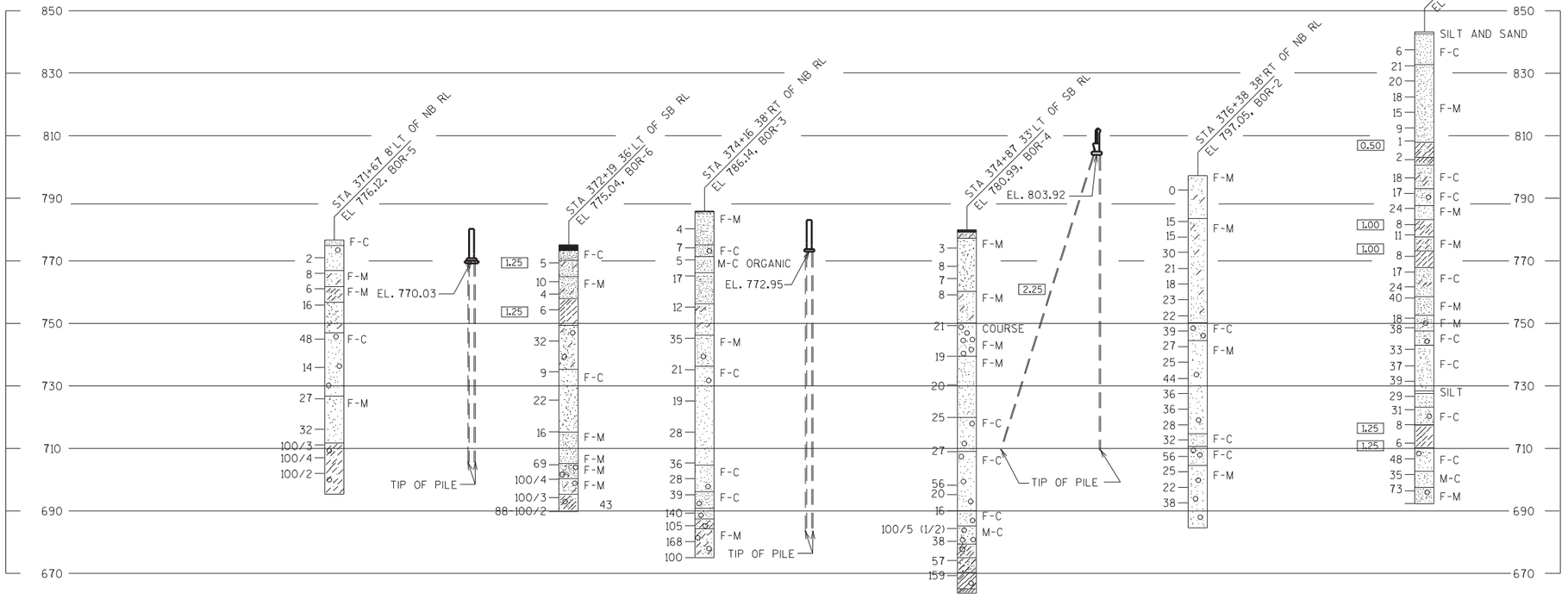
8

8

FILE= 03-168SOILS.DGN
SCALE = 19.2

USH 53 OVER EAU CLAIRE RIVER
EAU CLAIRE BYPASS





STATE PROJECT NUMBER

1190-00-75

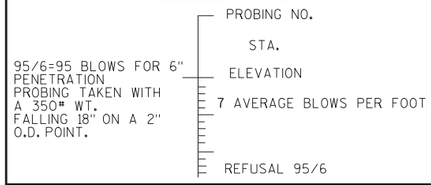
ABBREVIATIONS

F — FINE M — MEDIUM C — COARSE
WS — WEATHERED SO — SOUND

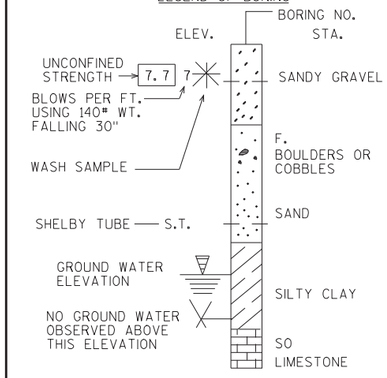
MATERIAL SYMBOLS

TOPSOIL, SILT, SANDSTONE, SAND, PEAT, LIMESTONE, GRAVEL, CLAY, IGNEOUS ROCK

LEGEND OF PROBING



LEGEND OF BORING



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 WISCONSIN DEPARTMENT 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.

8

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-18-168

DRAWN BY CRJ | PLANS CK'D. VT

SUBSURFACE EXPLORATION

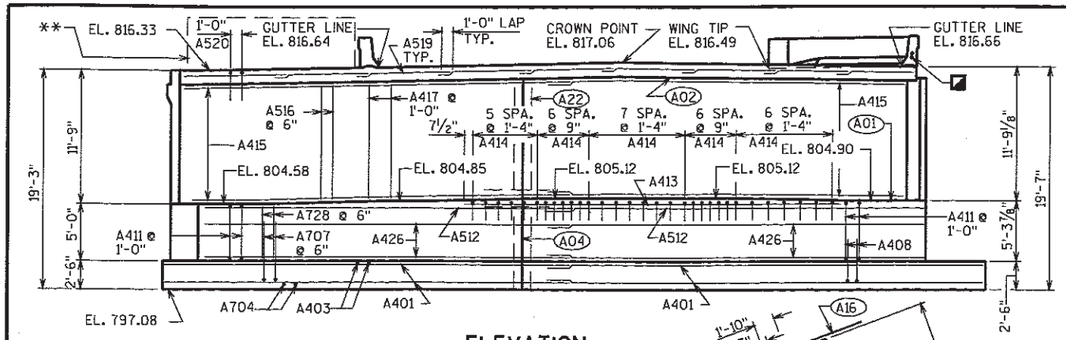
SHEET 4
76

8

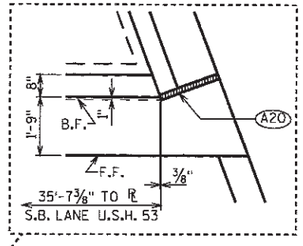
FILE= 04-168SOILS.DGN
SCALE = 19.2

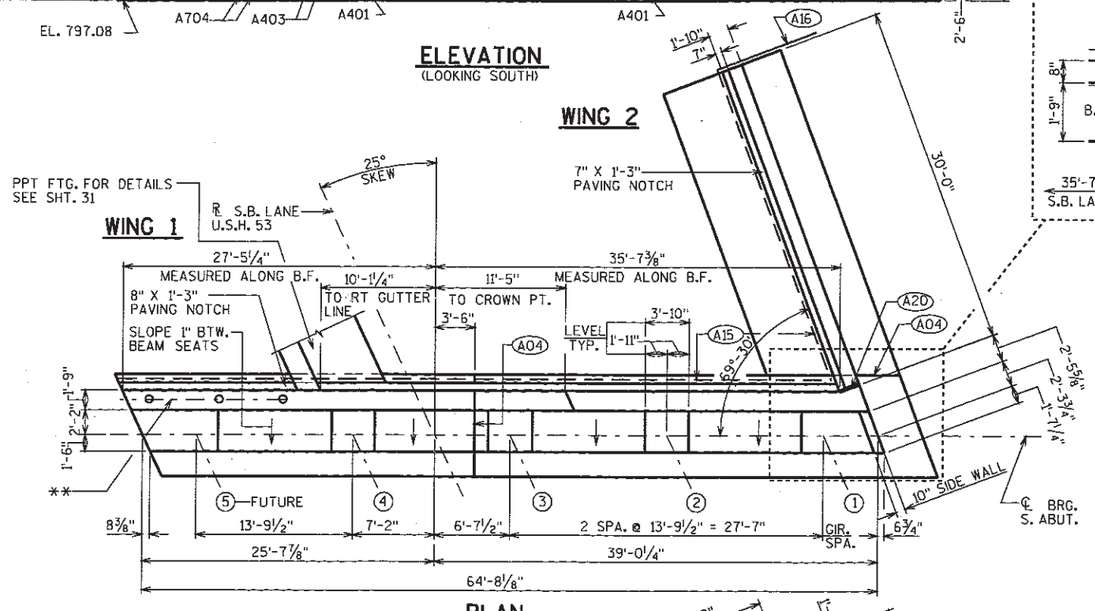
STATE PROJECT NUMBER

1190-00-75



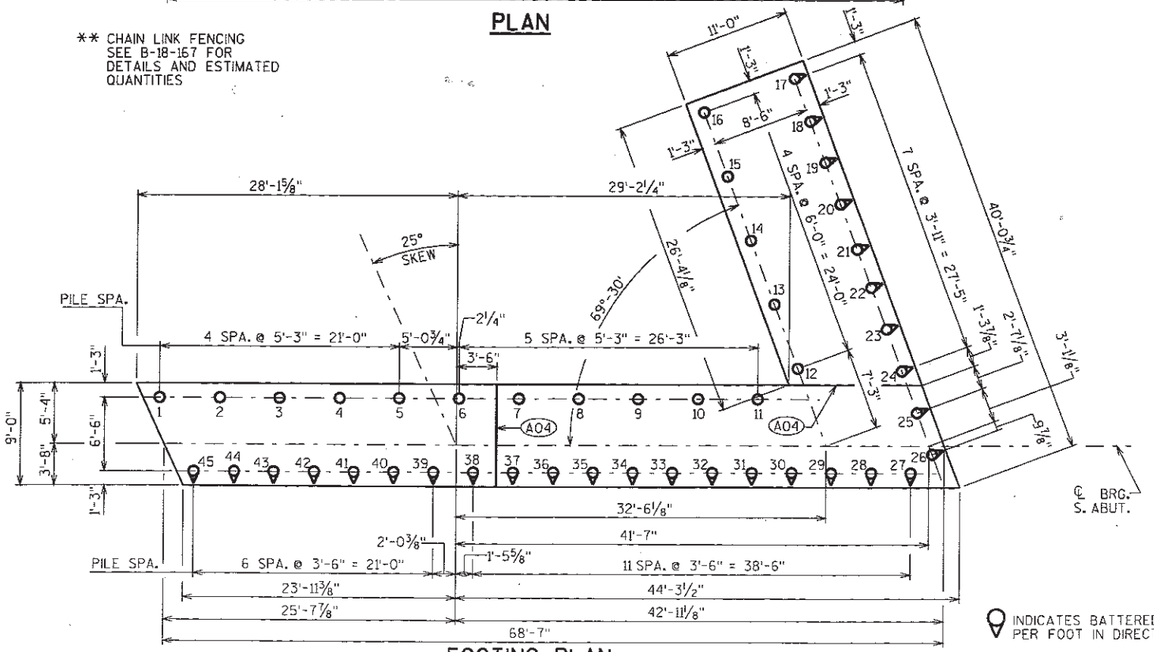
ELEVATION
(LOOKING SOUTH)





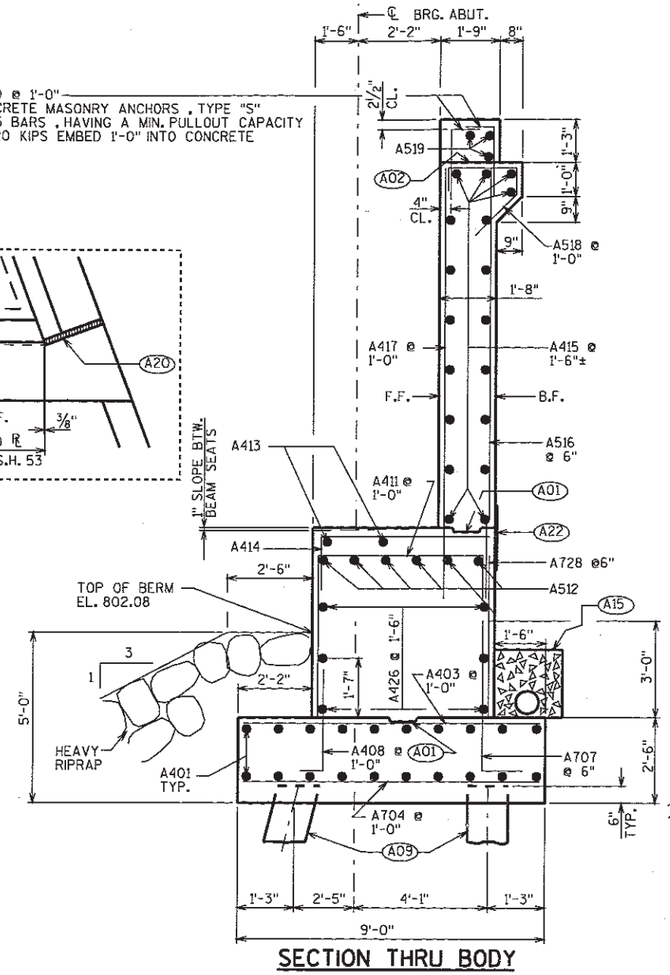
PLAN

** CHAIN LINK FENCING SEE B-18-167 FOR DETAILS AND ESTIMATED QUANTITIES

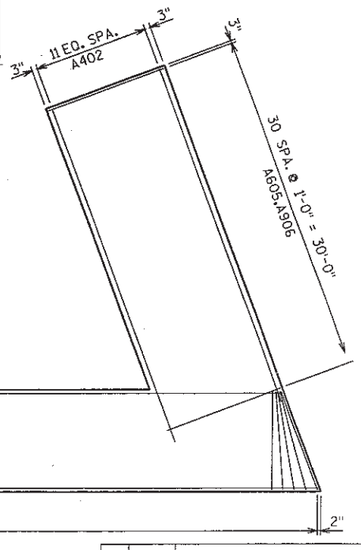


FOOTING PLAN

INDICATES BATTERED PILE. BATTER 3" PER FOOT IN DIRECTION OF ARROW.



SECTION THRU BODY



FOOTING PLAN
SHOWING FOOTING REINF.

(A01) CONSTRUCTION JOINT: KEYWAY FORMED BY A BEVELED 2" x 6".

(A02) CONSTRUCTION JOINT: POUR CONCRETE ABOVE THIS JOINT AFTER SUPERSTRUCTURE CONCRETE IS IN PLACE. STRIKE OFF AND LEAVE ROUGH.

(A04) OPT. VERT. CONSTRUCTION JOINT: KEYWAY FORMED BY A BEVELED 2" x 8". ¾" "V" GROOVE @ THE FRONT FACE AND 18" R.M.W. @ BACKFACE.

(A09) SUPPORT ABUTMENT ON 10¾" DIA. CAST-IN-PLACE CONCRETE PILING, ~~ESTIMATED 75'-0"~~ ACTUAL 45.2' LONG, AND DRIVEN TO A MIN. BRG. VALUE OF 55 TONS PER PILE.

(A15) PIPE UNDERDRAINS, 6 INCH, SLOPE 0.5% MIN. TO DRAIN. ENCLOSED IN 1'-6" X 1'-6" AREA OF SIZE 1 COARSE AGGREGATE (INCLUDED IN UNDERDRAIN BID ITEM) WRAPPED IN GEOTEXTILE FABRIC, TYPE DF (SCHEDULE A), WITH 1'-6" OVERLAP.

(A16) PIPE UNDERDRAIN, 6 INCH, UNPERFORATED. TO SUITABLE DRAINAGE.

(A20) ½" FILLER FROM TOP OF FOOTING TO TOP OF PARAPET (INCLUDED IN WING LENGTH); SEAL ALL EXPOSED HORIZ. & VERT. SURFACES OF ½" FILLER WITH NON-STAINING GRAY NON-BITUMINOUS JOINT SEALER, (1" DEEP AND HOLD ⅛" BELOW SURFACE OF CONCRETE). EXTEND SEALER 3" BELOW GUTTER LINE AT INSIDE FACE.

(A22) 18" (RMW) RUBBERIZED MEMBRANE WATERPROOFING SEAL ALL HORIZ. & VERT. JOINTS AT BACKFACE.

◪ 2-2" DIA. NON-METALLIC CONDUIT FOR LIGHTING. PROVIDE JUNCTION BOXES AS DETAILED ON SHT. 30.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-18-168

DRAWN BY CRJ | PLANS CK'D VT

SOUTH ABUTMENT

SHEET 5

77 77

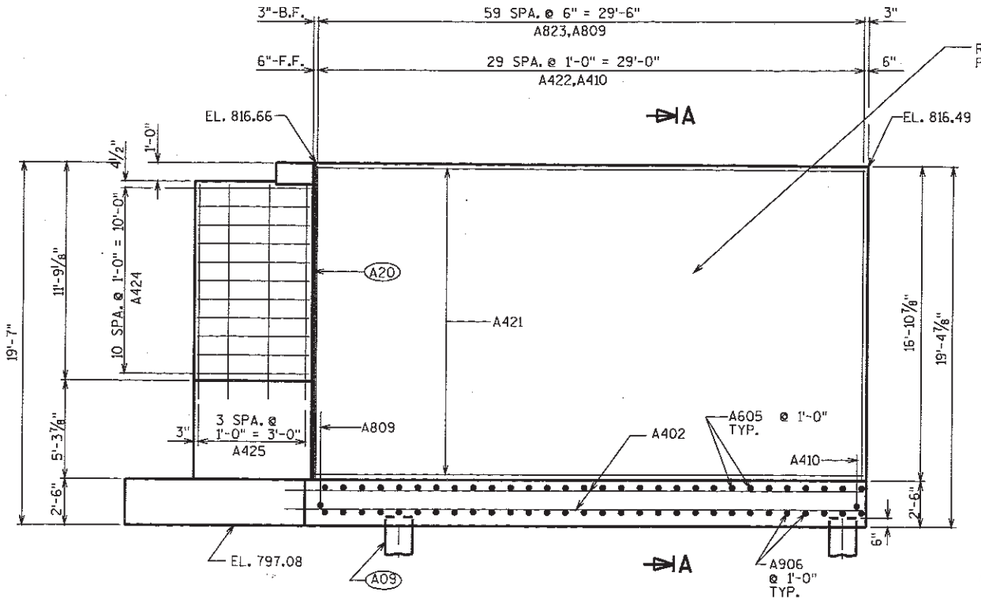
FILE= 05-168SABUT.DGN
SCALE = 6.5

8

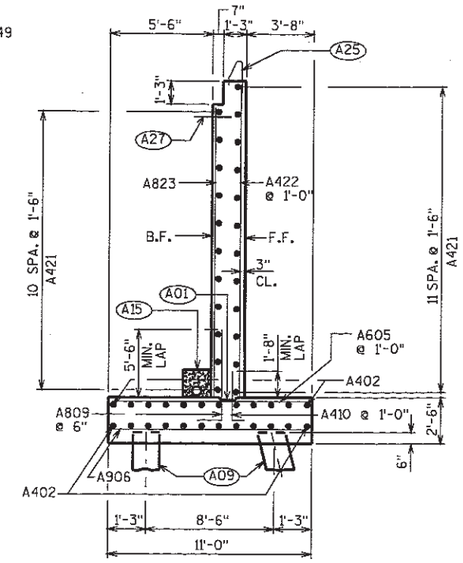
8

STATE PROJECT NUMBER

1190-00-75



WING 2 ELEVATION

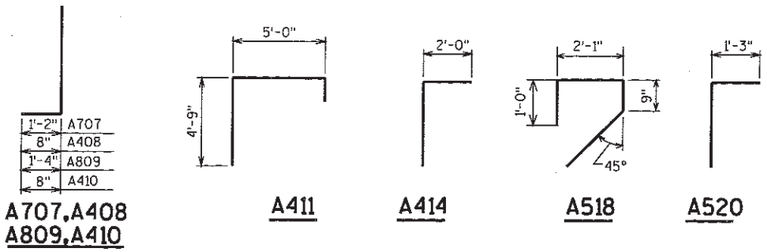


SECTION A-A - WING 2

BILL OF BARS

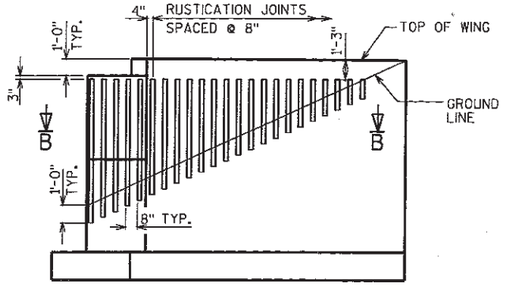
NOTE: THE FIRST OR FIRST TWO DIGITS OF THE BAR MARK SIGNIFIES THE BAR SIZE.

BAR MARK	COAT	NO. REQ'D.	LENGTH	BENT	BAR SERIES	LOCATION
A401		40	35'-4"			FOOTING TOP & BTM. HORIZ.
A402		24	31'-6"			FOOTING TOP & BTM. HORIZ.-WING
A403		73	8'-8"			FOOTING TOP HORIZ.
A704		73	8'-8"			FOOTING BTM. HORIZ.
A605		31	10'-8"			FOOTING TOP HORIZ.-WING
A906		31	10'-8"			FOOTING BTM. HORIZ.-WING
A707		130	5'-11"	X		FOOTING VERT.-BODY-B.F.
A408		65	4'-1"	X		FOOTING VERT.-BODY-F.F.
A809	X	60	8'-6"	X		FOOTING VERT.-WING-B.F.
A410	X	30	4'-2"	X		FOOTING VERT.-WING-F.F.
A411		65	10'-10	X		BODY VERT.
A512		12	33'-4"			BODY HORIZ.-TOP
A413		2	34'-6"			BODY HORIZ.-TOP
A414		31	6'-11"	X		BODY VERT.-TOP
A415	X	36	33'-4"			BACKWALL HORIZ.
A516	X	130	12'-1"			BACKWALL VERT.-B.F.
A417	X	65	12'-1"			BACKWALL VERT.-F.F.
A518	X	62	6'-0"	X		BACKWALL PAVING CORBEL
A519	X	27	8'-2"			PAVING BLOCK-HORIZ.
A520	X	130	3'-5"	X		PAVING BLOCK-VERT.
A421	X	23	29'-8"			WING 2 HORIZ.
A422	X	30	16'-9"			WING 2 VERT.-F.F.
A823	X	60	15'-6"			WING 2 VERT.-B.F.
A424	X	11	5'-0"			SIDE WALL-HORIZ.
A425	X	4	11'-10"			SIDE WALL-VERT.
A426		12	33'-4"			BODY HORIZ.-F.F.-B.F.
A427	X	30	2'-0"			SURFACE DRAIN ANCHORS
A728		129	4'-8"			BODY-VERT.-B.F.

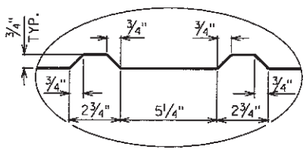


A707,A408
A809,A410

A411 A414 A518 A520

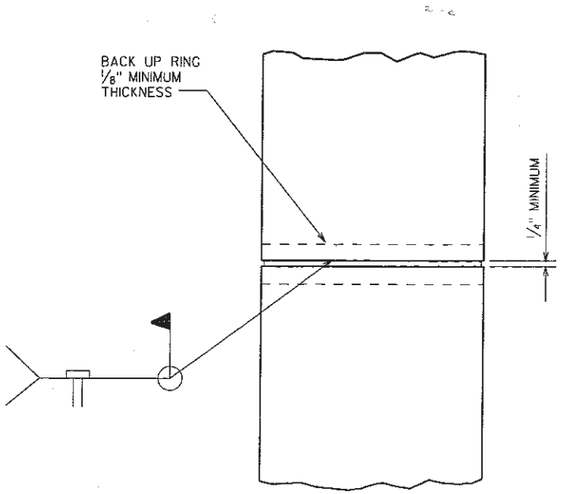


RUSTICATION DETAIL

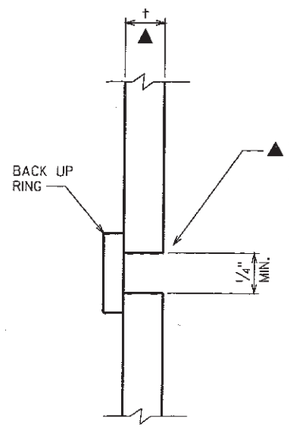


SECTION B-B

NOTE: VERTICAL JOINTS ONLY, INCIDENTAL TO "CONCRETE MASONRY BRIDGES"



CAST-IN-PLACE 'PIPE PILE'



C.I.P. PILE WELD DETAIL

(A01) CONSTRUCTION JOINT: KEYWAY FORMED BY A BEVELED 2" x 6".

(A09) SUPPORT WING WALL ON 10¾" DIA. CAST-IN-PLACE CONCRETE PILING, ~~ESTIMATED 75' OF~~ LONG, AND DRIVEN TO A MIN. BRG. VALUE OF 55 TONS PER PILE. ACTUAL 45.2'

(A15) PIPE UNDERDRAINS, 6 INCH. SLOPE 0.5% MIN. TO DRAIN. ENCLOSED IN 1'-6" X 1'-6" AREA OF SIZE 1 COARSE AGGREGATE (INCLUDED IN UNDERDRAIN BID ITEM) WRAPPED IN GEOTEXTILE FABRIC, TYPE DF (SCHEDULE A), WITH 1'-6" OVERLAP.

(A20) ½" FILLER FROM TOP OF FOOTING TO TOP OF PARAPET (INCLUDED IN WING LENGTH); SEAL ALL EXPOSED HORIZ. & VERT. SURFACES OF ½" FILLER WITH NON-STAINING GRAY NON-BITUMINOUS JOINT SEALER. (1" DEEP AND HOLD ⅛" BELOW SURFACE OF CONCRETE). EXTEND SEALER 3" BELOW GUTTER LINE AT INSIDE FACE.

(A25) FOR PPT. BARS & DIMENSION SEE PARAPET SHT. 29

(A27) A427 BARS SPACED @ 1'-0" CTRS. EMBED 1'-0" INTO WING CONC. LOCATE 3" DOWN FROM TOP OF WING @ BACKFACE TO 6" DOWN @ WING TIP. (DRILLED IN EPOXY ANCHORED #4 BARS 2'-0" LONG MAY BE USED.) COST INCIDENTAL TO BID ITEM "BAR STEEL REINFORCEMENT HS COATED BRIDGES".

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-18-168

DRAWN BY CRJ | PLANS CK'D VT VT

SOUTH ABUTMENT DETAILS

SHEET 6

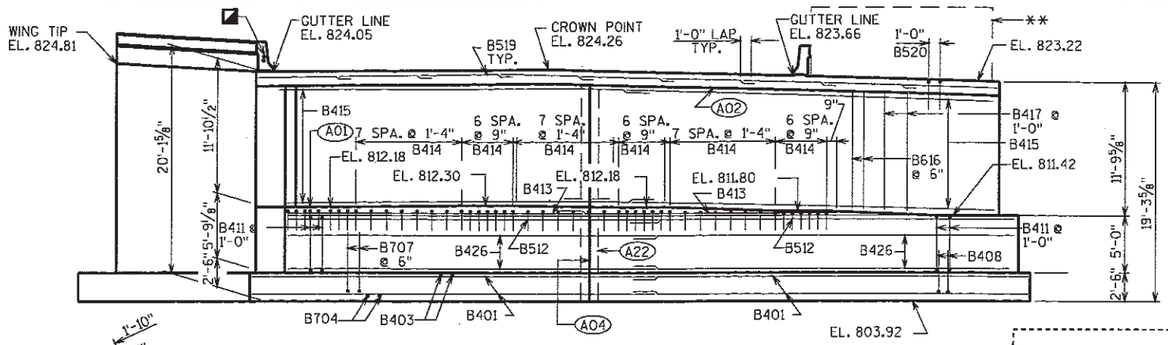
78 78

8

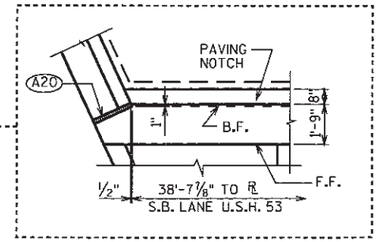
8

FILE= 06-168SABUTDETAILS.DG
SCALE = 4

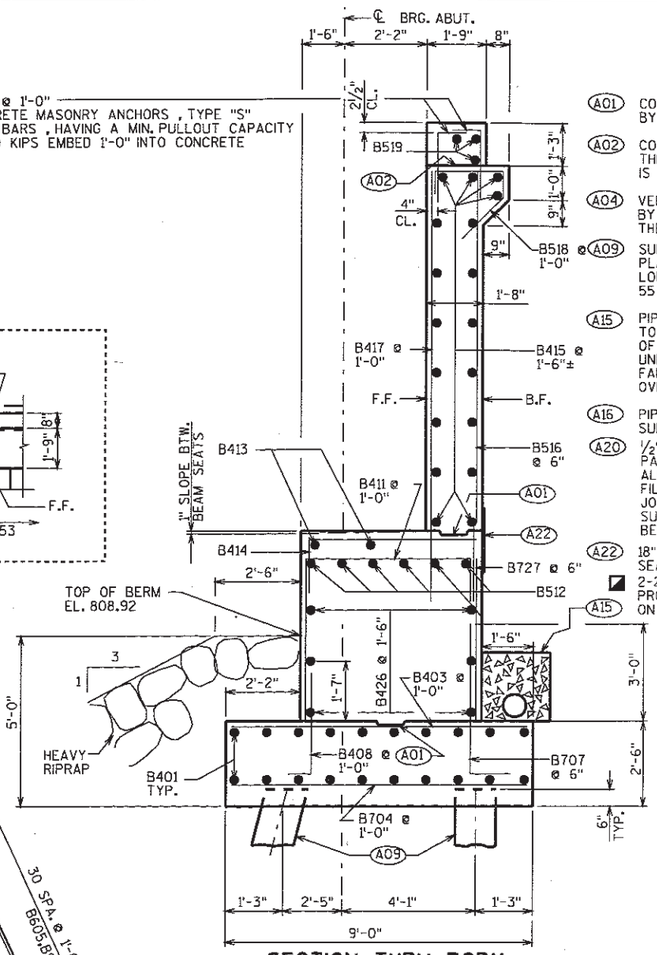
STATE PROJECT NUMBER
1190-00-75



ELEVATION
(LOOKING NORTH)



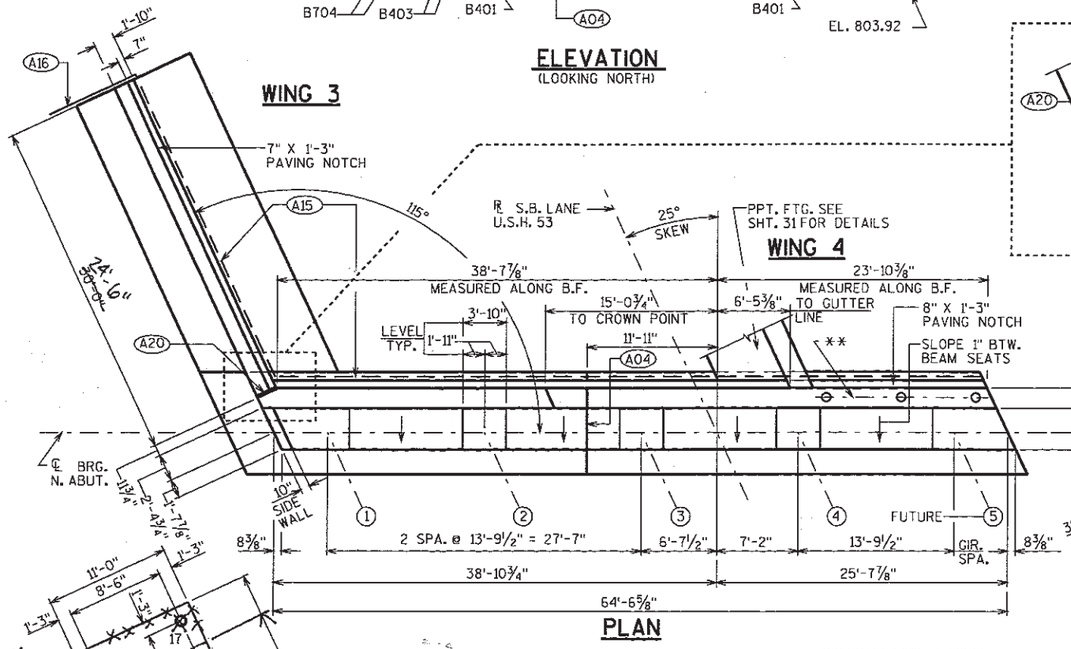
B520 @ 1'-0"
CONCRETE MASONRY ANCHORS, TYPE "S"
NO. 5 BARS, HAVING A MIN. PULLOUT CAPACITY OF 20 KIPS EMBED 1'-0" INTO CONCRETE



SECTION THRU BODY

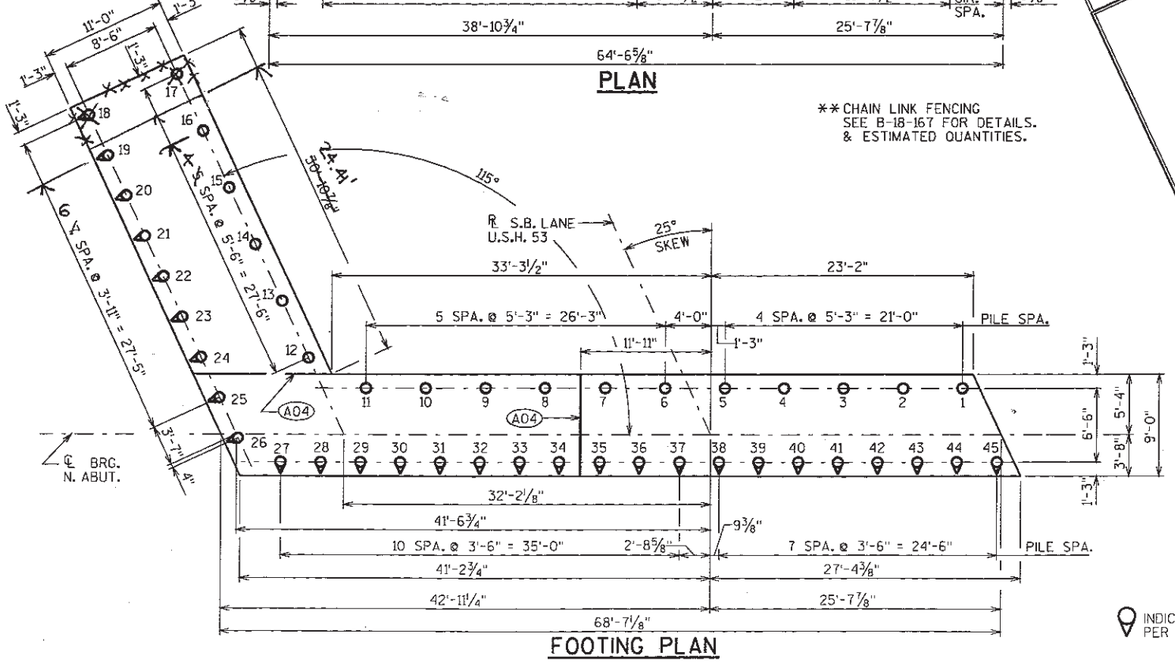
A01	CONSTRUCTION JOINT: KEYWAY FORMED BY A BEVELED 2" x 6".
A02	CONSTRUCTION JOINT: POUR CONCRETE ABOVE THIS JOINT AFTER SUPERSTRUCTURE CONCRETE IS IN PLACE. STRIKE OFF AND LEAVE ROUGH.
A04	VERT. CONSTRUCTION JOINT: KEYWAY FORMED BY A BEVELED 2" x 8". ¾" "V" GROOVE @ THE FRONT FACE AND 18" R.M.W. @ BACKFACE.
A09	SUPPORT ABUTMENT ON 10¾" DIA. CAST-IN-PLACE CONCRETE PILING, ~~ESTIMATED 95'-0"~~ ACTUAL 38.7' LONG, AND DRIVEN TO A MIN. BRG. VALUE OF 55 TONS PER PILE.
A15	PIPE UNDERDRAINS, 6 INCH. SLOPE 0.5% MIN. TO DRAIN. ENCLOSED IN 1'-6" X 1'-6" AREA OF SIZE 1 COARSE AGGREGATE (INCLUDED IN UNDERDRAIN BID ITEM) WRAPPED IN GEOTEXTILE FABRIC, TYPE DF (SCHEDULE A), WITH 1'-6" OVERLAP.
A16	PIPE UNDERDRAIN, 6 INCH, UNPERFORATED. TO SUITABLE DRAINAGE.
A20	½" FILLER FROM TOP OF FOOTING TO TOP OF PARAPET (INCLUDED IN WING LENGTH): SEAL ALL EXPOSED HORIZ. & VERT. SURFACES OF ½" FILLER WITH NON-STAINING GRAY NON-BITUMINOUS JOINT SEALER. (1" DEEP AND HOLD ⅛" BELOW SURFACE OF CONCRETE). EXTEND SEALER 3" BELOW GUTTER LINE AT INSIDE FACE.
A22	18" (RMW) RUBBERIZED MEMBRANE WATERPROOFING SEAL ALL HORIZ. & VERT. JOINTS AT BACKFACE.
◪	2-2" DIA. NON-METALLIC CONDUIT FOR LIGHTING. PROVIDE JUNCTION BOXES AS DETAILED ON SHT. 30.

WING 3



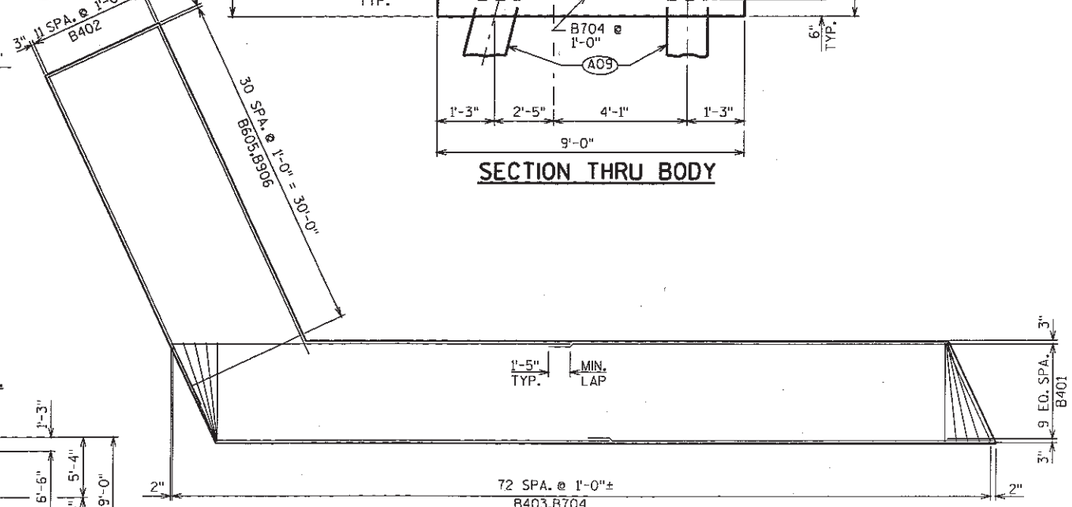
PLAN

** CHAIN LINK FENCING SEE B-18-167 FOR DETAILS & ESTIMATED QUANTITIES.



FOOTING PLAN

INDICATES BATTERED PILE. BATTER 3" PER FOOT IN DIRECTION OF ARROW.



FOOTING PLAN
SHOWING FOOTING REINF.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-18-168

DRAWN BY CRJ | PLANS CK'D. VT VT

NORTH ABUTMENT

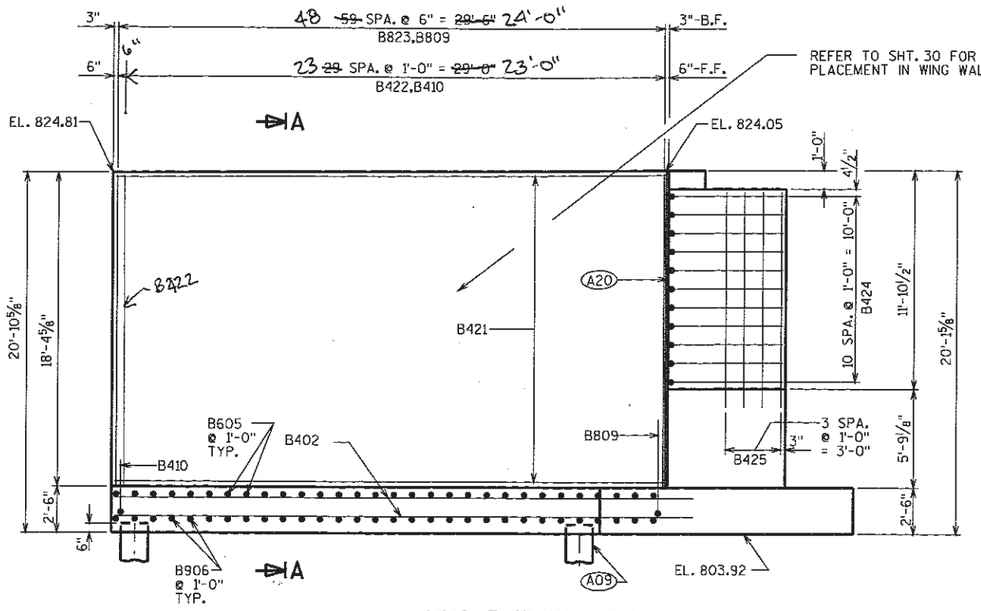
SHEET 7

79
79

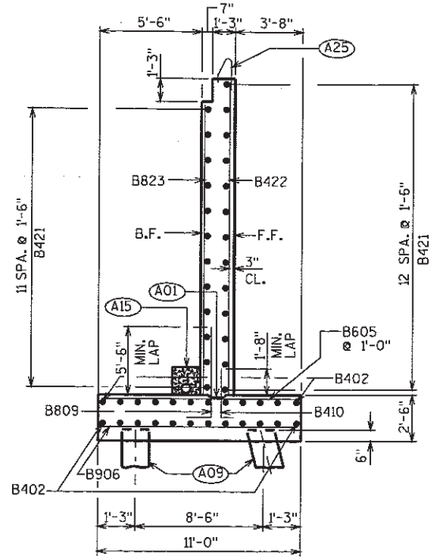
FILE= 07-168NABUT.DGN
SCALE = 6.5

8

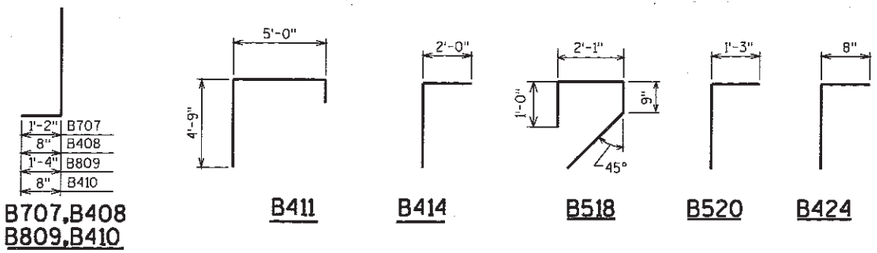
8



WING 3 ELEVATION



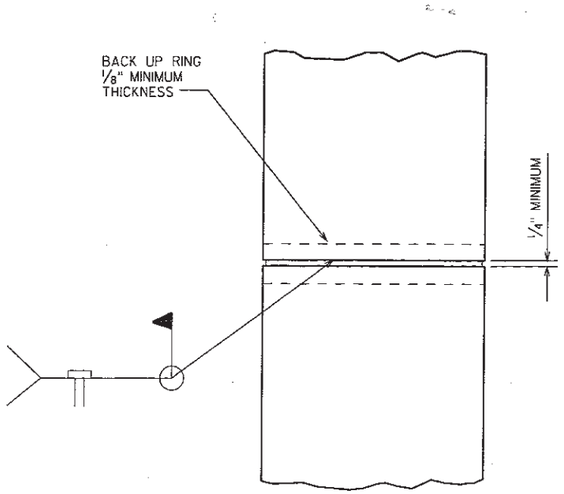
SECTION A-A - WING 3



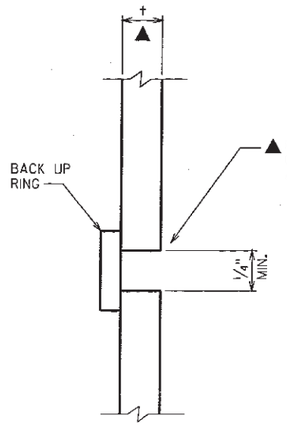
BILL OF BARS

NOTE: THE FIRST OR FIRST TWO DIGITS OF THE BAR MARK SIGNIFIES THE BAR SIZE.

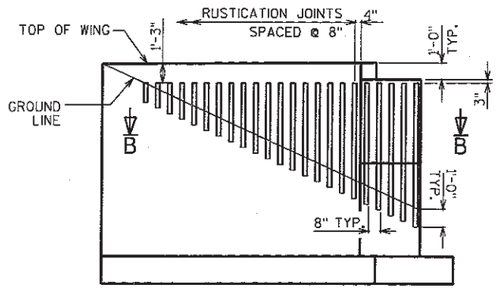
BAR MARK	COAT	NO. REQ'D.	LENGTH	BENT	BAR SERIES	LOCATION
B401		40	34'-11"			FOOTING TOP & BTM. HORIZ.
B402		24	31'-10"			FOOTING TOP & BTM. HORIZ.-WING
B403		73	8'-8"			FOOTING TOP HORIZ.
B704		73	8'-8"			FOOTING BTM. HORIZ.
B605		31	10'-8"			FOOTING TOP HORIZ.-WING
B906		31	10'-8"			FOOTING BTM. HORIZ.-WING
B707		130	5'-11"	X		FOOTING VERT.-BODY-B.F.
B408		65	4'-1"	X		FOOTING VERT.-BODY-F.F.
B809	X	60	9'-3"	X		FOOTING VERT.-WING-B.F.
B410	X	30	4'-11"	X		FOOTING VERT.-WING-F.F.
B411		65	10'-10"	X		BODY VERT.
B512		12	33'-4"			BODY HORIZ.-TOP
B413		4	26'-0"			BODY HORIZ.-TOP
B414		48	6'-11"	X		BODY VERT.-TOP
B415	X	36	33'-4"			BACKWALL HORIZ.
B516	X	130	12'-1"			BACKWALL VERT.-B.F.
B417	X	65	12'-1"			BACKWALL VERT.-F.F.
B518	X	62	6'-0"	X		BACKWALL PAVING CORBEL
B519	X	27	8'-2"			PAVING BLOCK-HORIZ.
B520	X	130	3'-5"	X		PAVING BLOCK-VERT.
B421	X	25	29'-8"			WING 3 HORIZ.
B422	X	30	17'-5"			WING 3 VERT.-F.F.
B823	X	60	16'-3"			WING 3 VERT.-B.F.
B424	X	11	5'-3"	X		SIDE WALL-HORIZ.
B425	X	4	12'-0"			SIDE WALL-VERT.
B426		12	33'-4"			BODY HORIZ.-F.F.-B.F.
B727		129	4'-8"			BODY-VERT.-B.F.



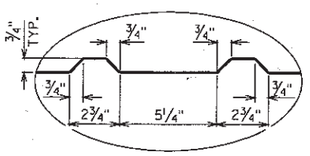
CAST-IN-PLACE 'PIPE PILE'



C.I.P. PILE WELD DETAIL



RUSTICATION DETAIL



SECTION B-B

NOTE: VERTICAL JOINTS ONLY, INCIDENTAL TO "CONCRETE MASONRY BRIDGES"

(A01) CONSTRUCTION JOINT: KEYWAY FORMED BY A BEVELED 2" x 6".

(A09) SUPPORT WING WALL ON 10¾" DIA. CAST-IN-PLACE CONCRETE PILING, ~~ESTIMATED 95'-0"~~ ACTUAL 38.7' LONG, AND DRIVEN TO A MIN. BRG. VALUE OF 55 TONS PER PILE.

(A15) PIPE UNDERDRAINS, 6 INCH. SLOPE 0.5% MIN. TO DRAIN. ENCLOSED IN 1'-6" X 1'-6" AREA OF SIZE I COARSE AGGREGATE (INCLUDED IN UNDERDRAIN BID ITEM) WRAPPED IN GEOTEXTILE FABRIC, TYPE DF (SCHEDULE A), WITH 1'-6" OVERLAP.

(A20) ½" FILLER FROM TOP OF FOOTING TO TOP OF PARAPET (INCLUDED IN WING LENGTH); SEAL ALL EXPOSED HORIZ. & VERT. SURFACES OF ½" FILLER WITH NON-STAINING GRAY NON-BITUMINOUS JOINT SEALER. (1" DEEP AND HOLD ⅛" BELOW SURFACE OF CONCRETE). EXTEND SEALER 3" BELOW GUTTER LINE AT INSIDE FACE.

(A25) FOR PPT. BARS & DIMENSION SEE PARAPET SHT. 29

STATE PROJECT NUMBER

1190-00-75

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-18-168

DRAWN BY CRJ | PLANS CK'D VT

NORTH ABUTMENT DETAILS

SHEET 8

80 80

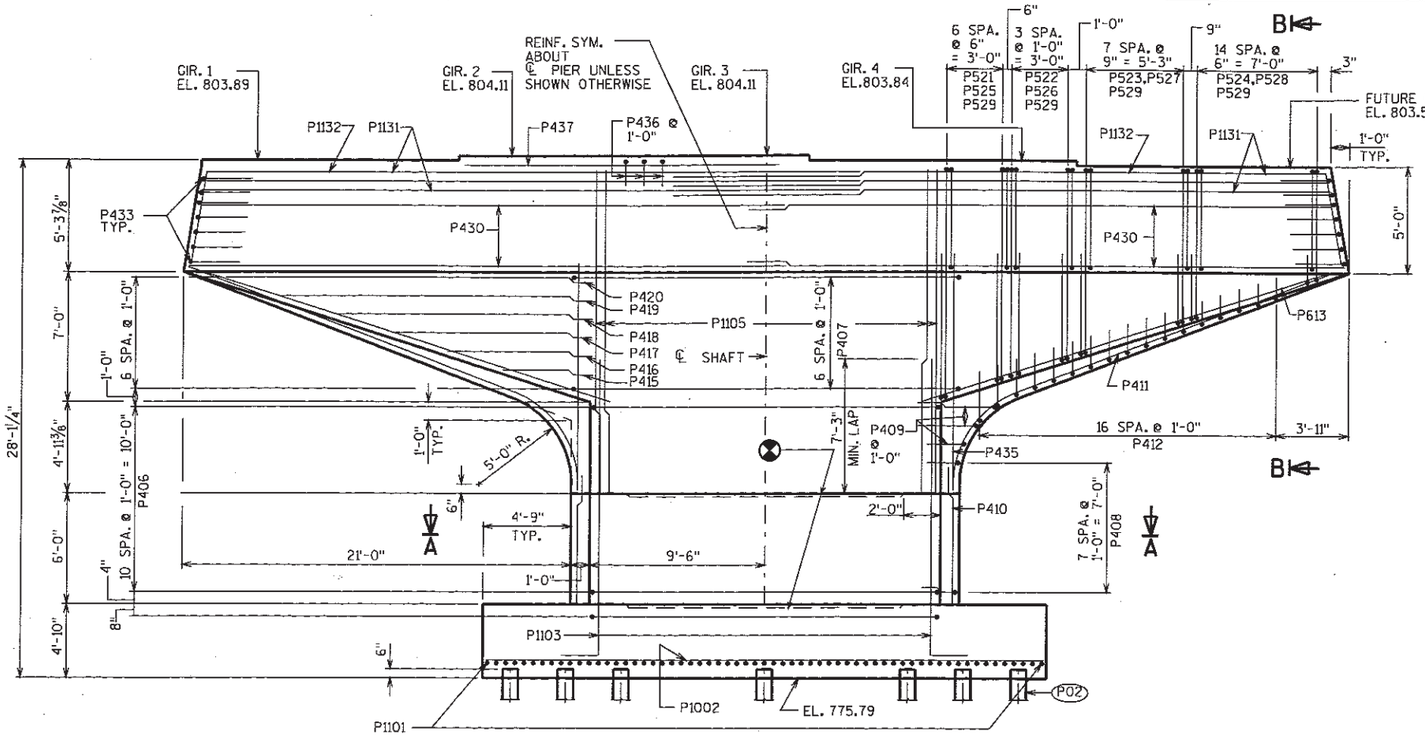
FILE: 08-168NABUTDETAILS.DG
SCALE = 4

8

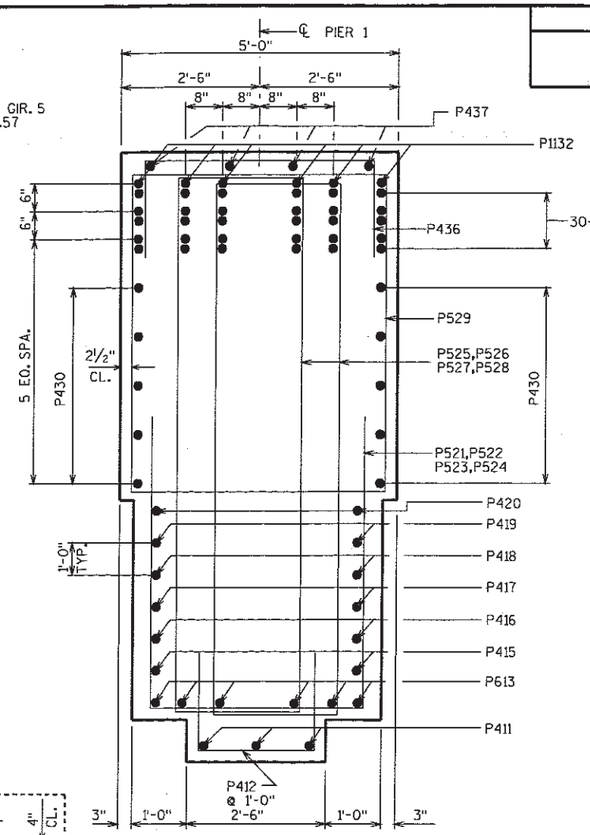
8

STATE PROJECT NUMBER

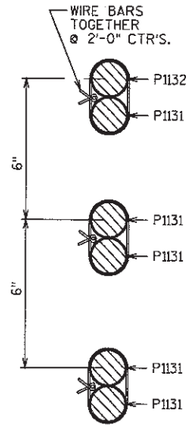
1190-00-75



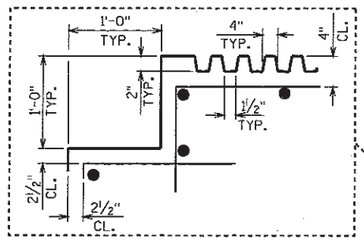
ELEVATION LOOKING NORTH

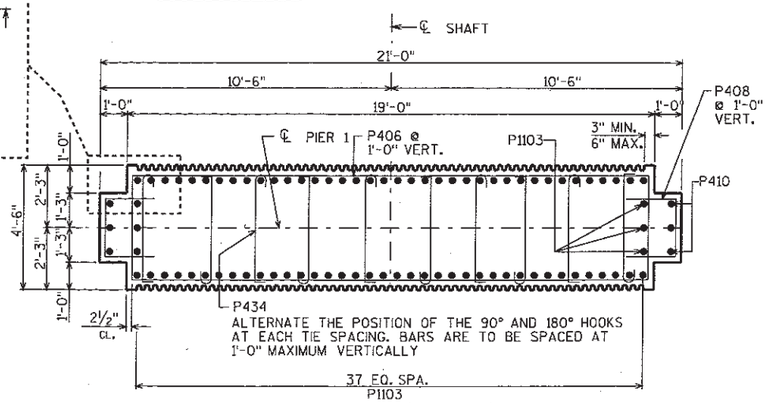


SECTION B-B

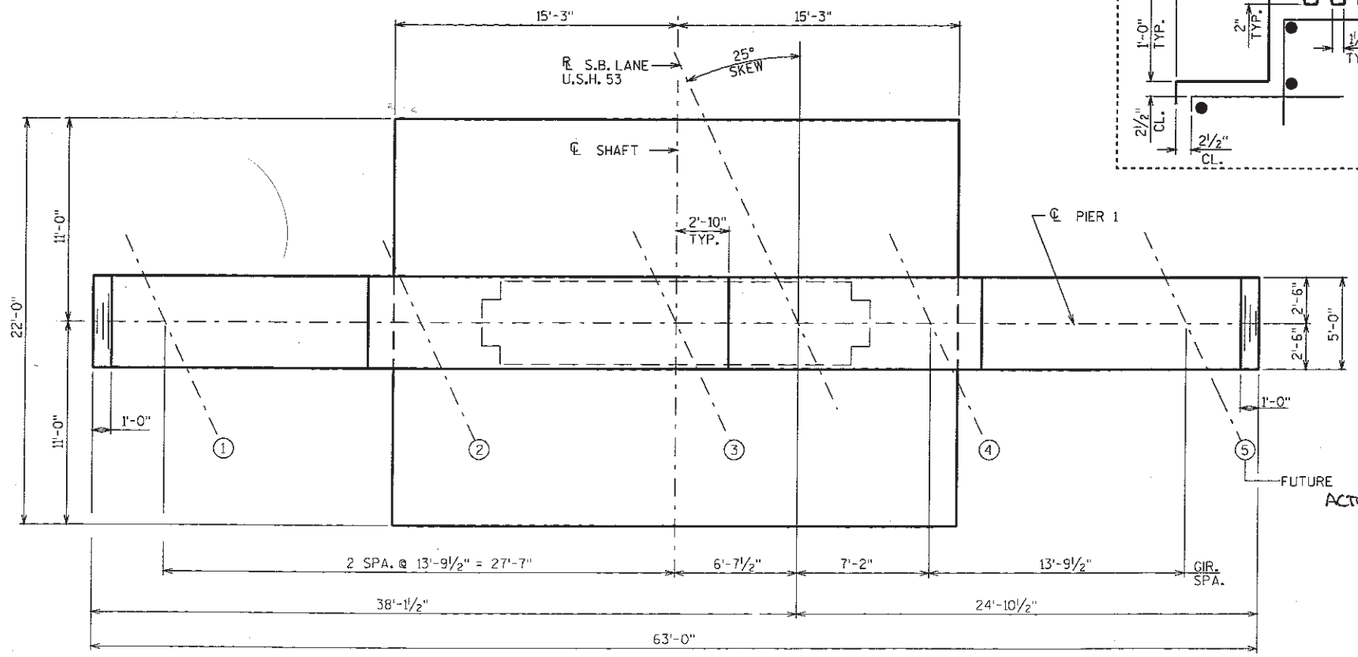


BUNDLING DETAIL





SECTION A-A



PLAN

(P02) SUPPORT PIER ON HP 14 x 73 STEEL PILING. ~~ESTIMATED 70'-0" L~~ ONG. & DRIVEN TO A MIN. BRG. VALUE OF 95 TONS PER PILE.

OPT. KEYED CONST. JT. - FORMED BY SURFACED, BEVELED 4" DEEP X 1'-2" WIDE X 15'-0" LONG

NOTE:
FOR PILE PLAN & FTG. REINF. DETAILS SEE SHT. 10

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-18-168

DRAWN BY	CRJ	PLANS CK'T	VT

PIER 1

SHEET 9

81 81

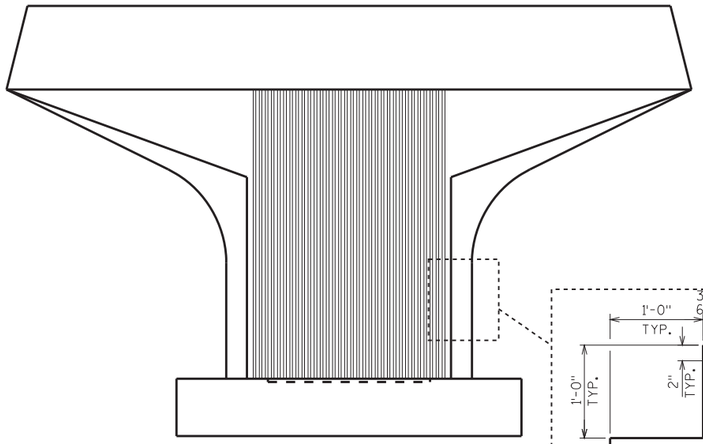
FILE = 09-168PIER1.DGN
SCALE = 4

8

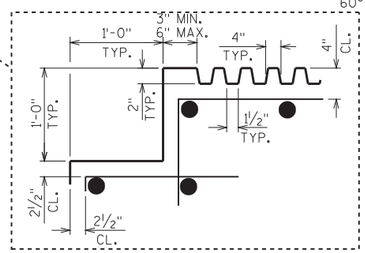
8

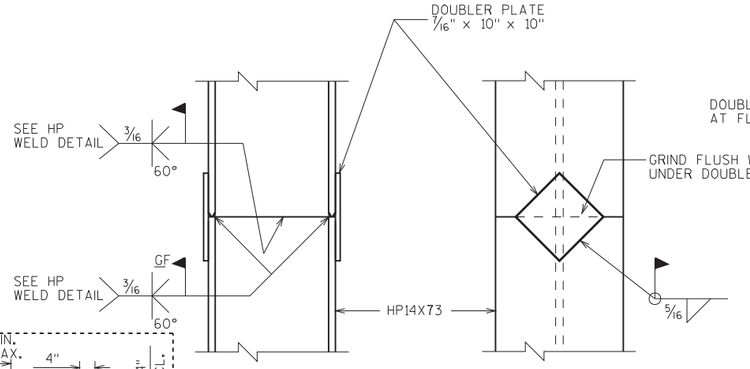
STATE PROJECT NUMBER

1190-00-75

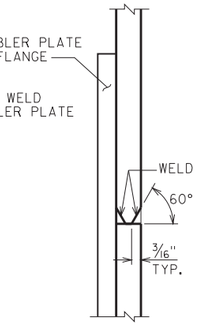


ELEVATION SHOWING TEXTURING LIMITATIONS (EACH FACE)





STEEL 'HP' SHAPES



HP WELD DETAIL

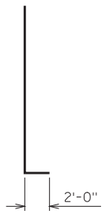
FLANGE SHOWN, WEB SIMILAR

BILL OF BARS

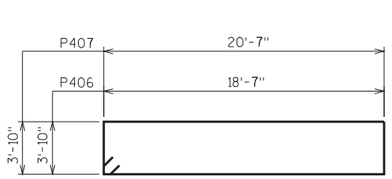
NOTE: THE FIRST OR FIRST TWO DIGITS OF THE BAR MARK SIGNIFIES THE BAR SIZE.

BAR MARK	COAT	NO. REQ'D.	LENGTH	BENT	BUNDLED	LOCATION
P1101		61	21'-8"			FOOTING
P1002		44	30'-2"			FOOTING
P1103		82	19'-3"	X		FOOTING DOWELS
P1104		NOT	USED			———
P1105		82	17'-0"			SHAFT - VERT.
P406		12	45'-4"	X		SHAFT-HORIZ.-STIRRUPS
P407		7	49'-4"	X		SHAFT-HORIZ.-STIRRUPS
P408		16	5'-11"	X		SHAFT - HORIZ.
P409		6	8'-11"	X		SHAFT - HORIZ.
P410		6	7'-7"			SHAFT - VERT.
P411		6	25'-8"	X		CAP - HORIZ.-BTM.
P412		34	7'-9"	X		CAP - VERT.-BTM.
P613		12	24'-2"			CAP - HORIZ.-BTM.
P414		NOT	USED			———
P415		4	4'-8"			CAP - HORIZ.
P416		4	7'-10"			CAP - HORIZ.
P417		4	11'-0"			CAP - HORIZ.
P418		4	14'-1"			CAP - HORIZ.
P419		4	17'-3"			CAP - HORIZ.
P420		4	20'-5"			CAP - HORIZ.
⚠ P521		14	18'-4"	X		CAP VERT.
⚠ P522		8	16'-2"	X		CAP VERT.
⚠ P523		16	12'-10"	X		CAP VERT.
⚠ P524		30	8'-7"	X		CAP VERT.
⚠ P525		28	27'-0"	X		CAP STIRRUPS
⚠ P526		16	24'-10	X		CAP STIRRUPS
⚠ P527		32	21'-6"	X		CAP STIRRUPS
⚠ P528		60	17'-2"	X		CAP STIRRUPS
P529		68	19'-0"	X		CAP STIRRUPS
P430		20	32'-3"			CAP HORIZ.
P1131		60	35'-11		X	CAP HORIZ.
P1132		12	39'-9"	X	X	CAP HORIZ.
P433		14	8'-1"	X		CAP ENDS
P434		180	4'-8"	X		SHAFT TIES
P435		6	12'-10			SHAFT - VERT.
P436		20	7'-7"	X		CAP-VERT. OVER GIRS. 2 & 3
P437		4	19'-1"			CAP-HORIZ. OVER GIRS. 2 & 3

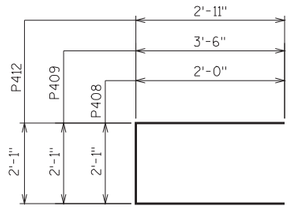
⚠ LENGTH SHOWN FOR BAR IS AN AVERAGE LENGTH AND SHOULD ONLY BE USED FOR BAR WEIGHT CALCULATIONS. SEE BAR SERIES TABLE FOR ACTUAL LENGTHS.



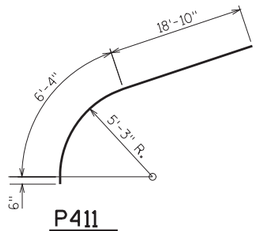
P1103



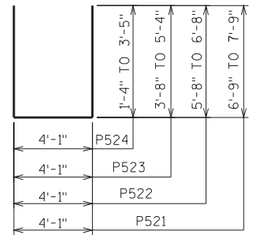
P406,P407



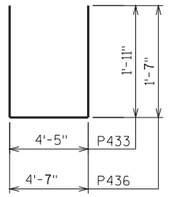
P408,P409,P412



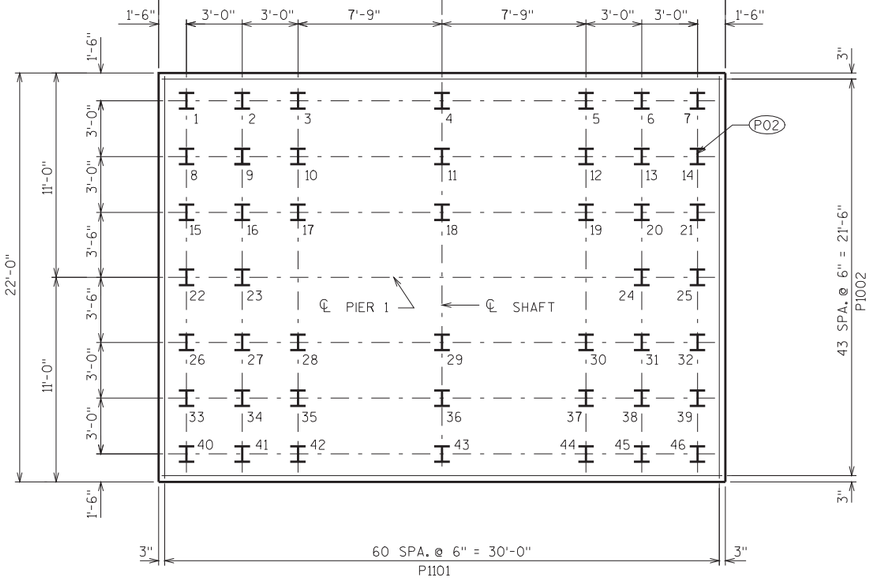
P411



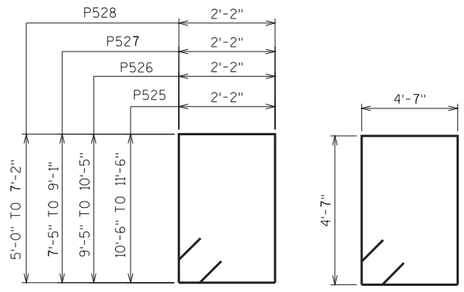
P521,P522,P523,P524



P433,P436

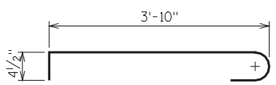


FOOTING PLAN



P525,P526,P527,P528 P529

P1132



P434

(P02) SUPPORT PIER ON HP 14 x 73 STEEL PILING, ESTIMATED 70'-0" LONG, & DRIVEN TO A MIN. BRG. VALUE OF 95 TONS PER PILE.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-18-168

DRAWN BY CRJ | PLANS CK'D. VT

PIER 1 DETAILS

SHEET 10

82

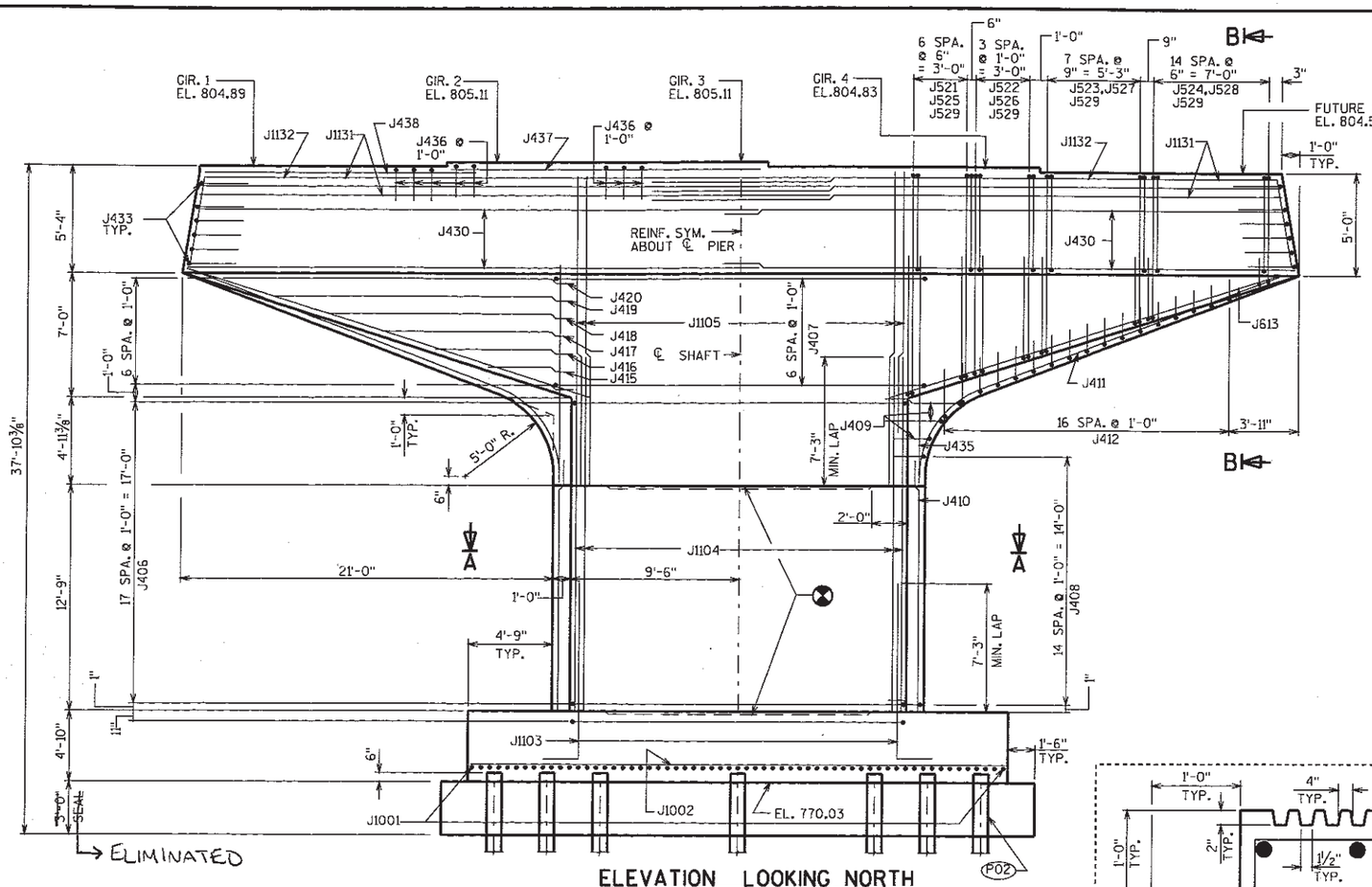
FILE= 10-168PIERDETAILS.DG
SCALE = 4

8

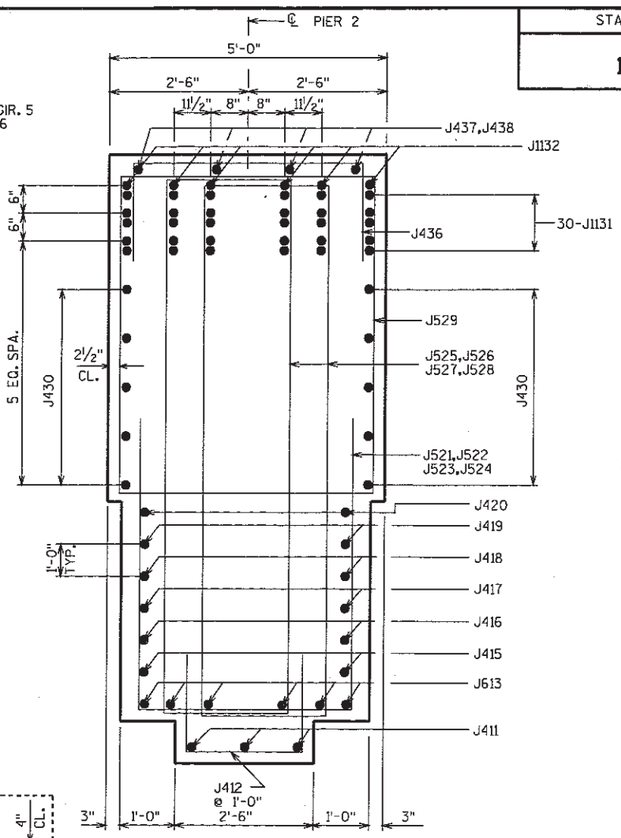
8

STATE PROJECT NUMBER

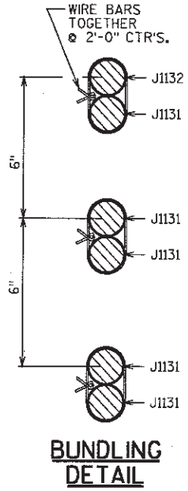
1190-00-75



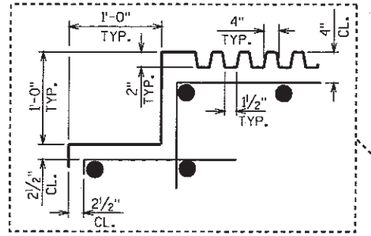
ELEVATION LOOKING NORTH

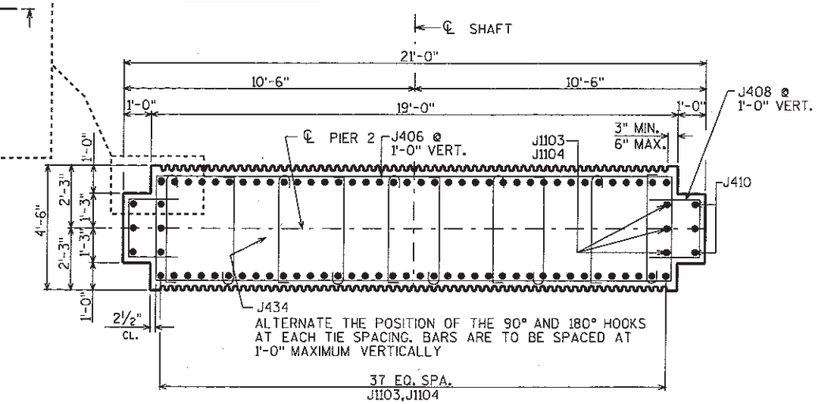


SECTION B-B

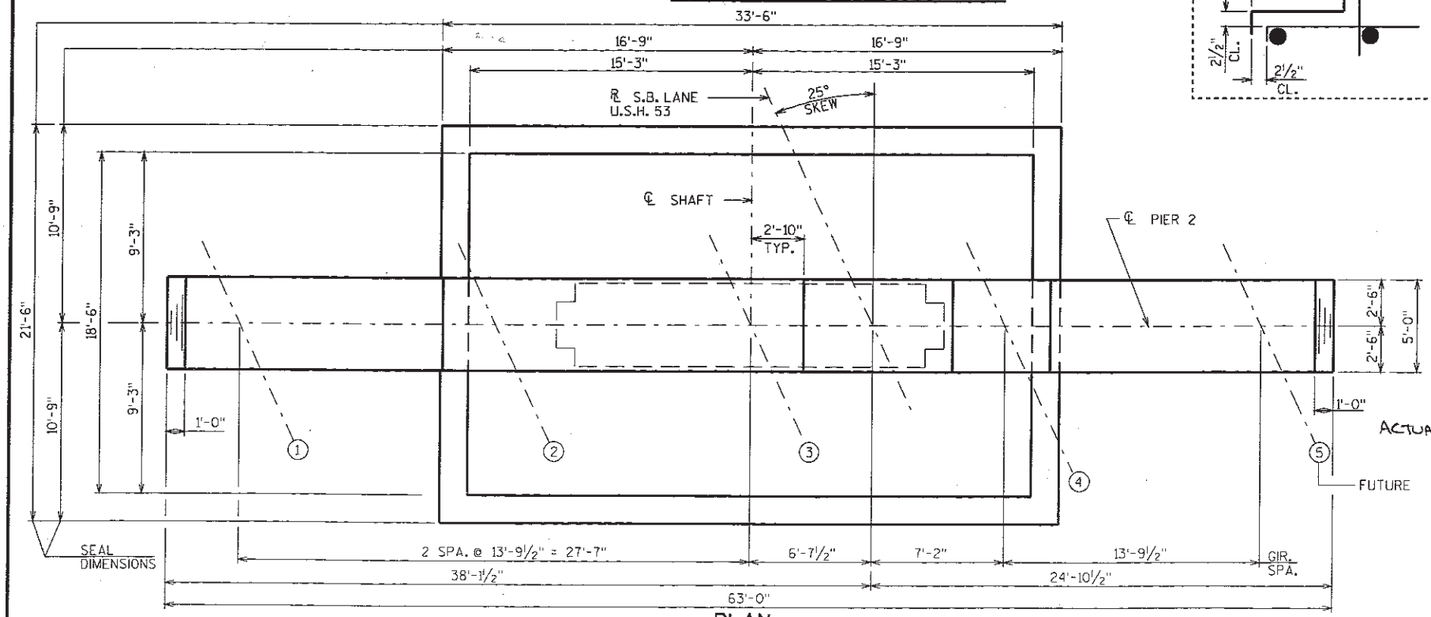


BUNDLING DETAIL





SECTION A-A



PLAN

ACTUAL 68.3'

P02 SUPPORT PIER ON HP 14 x 73 STEEL PILING, ~~ESTIMATED 65'-0"~~ LONG. & DRIVEN TO A MIN. BRG. VALUE OF 95 TONS PER PILE.

OPT. KEYED CONST. JT. - FORMED BY SURFACED, BEVELED 4" DEEP X 1'-2" WIDE X 15'-0" LONG

NOTE:
FOR PILE PLAN & ETC. REINF. DETAILS SEE SHT. 12

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-18-168

DRAWN BY CRJ | PLANS CK'D VT

PIER 2

SHEET 11

83 83

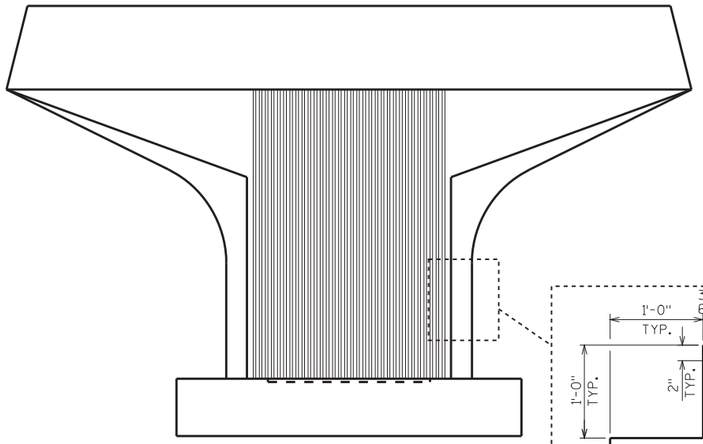
FILE= 11-168PIER2.DGN
SCALE = 4

8

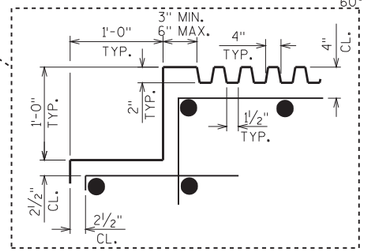
8

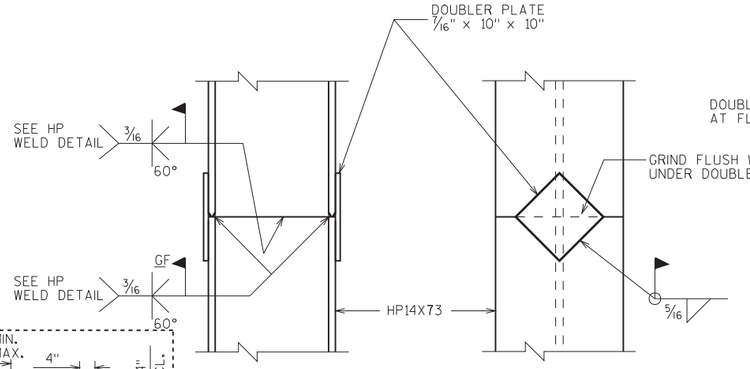
STATE PROJECT NUMBER

1190-00-75

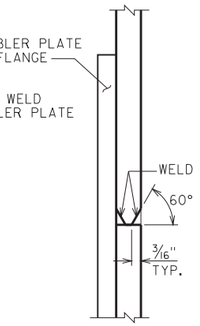


ELEVATION SHOWING TEXTURING LIMITATIONS (EACH FACE)





STEEL 'HP' SHAPES



HP WELD DETAIL

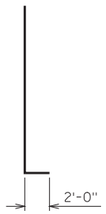
FLANGE SHOWN, WEB SIMILAR

BILL OF BARS

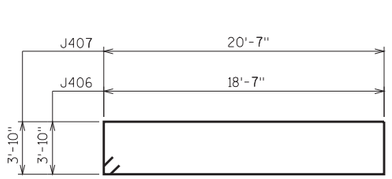
NOTE: THE FIRST OR FIRST TWO DIGITS OF THE BAR MARK SIGNIFIES THE BAR SIZE.

BAR MARK	COAT	NO. REQ'D.	LENGTH	BENT	BUN-DLED	LOCATION
J1001		61	18'-2"			FOOTING
J1002		37	30'-2"			FOOTING
J1103		82	13'-3"	X		FOOTING DOWELS
J1104		82	20'-2"			SHAFT - VERT.
J1105		82	17'-0"			SHAFT - VERT.
J406		19	45'-4"	X		SHAFT-HORIZ.-STIRRUPS
J407		7	49'-4"	X		SHAFT-HORIZ.-STIRRUPS
J408		30	5'-11"	X		SHAFT - HORIZ.
J409		6	8'-11"	X		SHAFT - HORIZ.
J410		6	14'-4"			SHAFT - VERT.
J411		6	25'-8"	X		CAP - HORIZ. BTM.
J412		34	7'-9"	X		CAP - VERT. BTM.
J613		12	24'-2"			CAP - HORIZ. BTM.
J414		NOT	USED			———
J415		4	4'-8"			CAP - HORIZ.
J416		4	7'-10"			CAP - HORIZ.
J417		4	11'-0"			CAP - HORIZ.
J418		4	14'-1"			CAP - HORIZ.
J419		4	17'-3"			CAP - HORIZ.
J420		4	20'-5"			CAP - HORIZ.
⚠ J521		14	18'-4"	X		CAP VERT.
⚠ J522		8	16'-2"	X		CAP VERT.
⚠ J523		16	12'-10"	X		CAP VERT.
⚠ J524		30	8'-7"	X		CAP VERT.
⚠ J525		28	27'-6"	X		CAP STIRRUPS
⚠ J526		16	25'-4"	X		CAP STIRRUPS
⚠ J527		32	22'-0"	X		CAP STIRRUPS
⚠ J528		60	17'-8"	X		CAP STIRRUPS
J529		68	19'-0"	X		CAP STIRRUPS
J430		20	32'-3"			CAP HORIZ.
J1131		60	35'-11		X	CAP HORIZ.
J1132		12	39'-9"	X	X	CAP HORIZ.
J433		14	8'-1"	X		CAP ENDS
J434		250	4'-8"	X		SHAFT TIES
J435		6	12'-10			SHAFT - VERT.
J436		34	7'-7"	X		CAP-VERT. OVER GIR. 1 THRU 3
J437		4	19'-1"			CAP-HORIZ. OVER GIRS. 2 & 3
J438		4	15'-7"			CAP-HORIZ. OVER GIR. 1

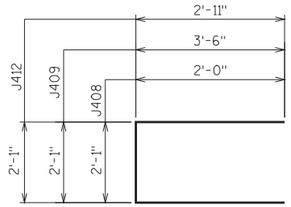
⚠ LENGTH SHOWN FOR BAR IS AN AVERAGE LENGTH AND SHOULD ONLY BE USED FOR BAR WEIGHT CALCULATIONS. SEE BAR SERIES TABLE FOR ACTUAL LENGTHS.



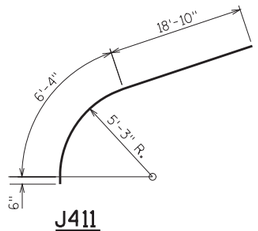
J1103



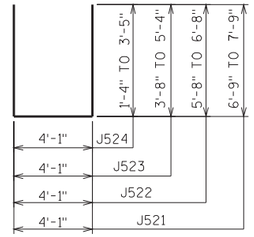
J406,J407



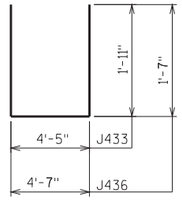
J408,J409,J412



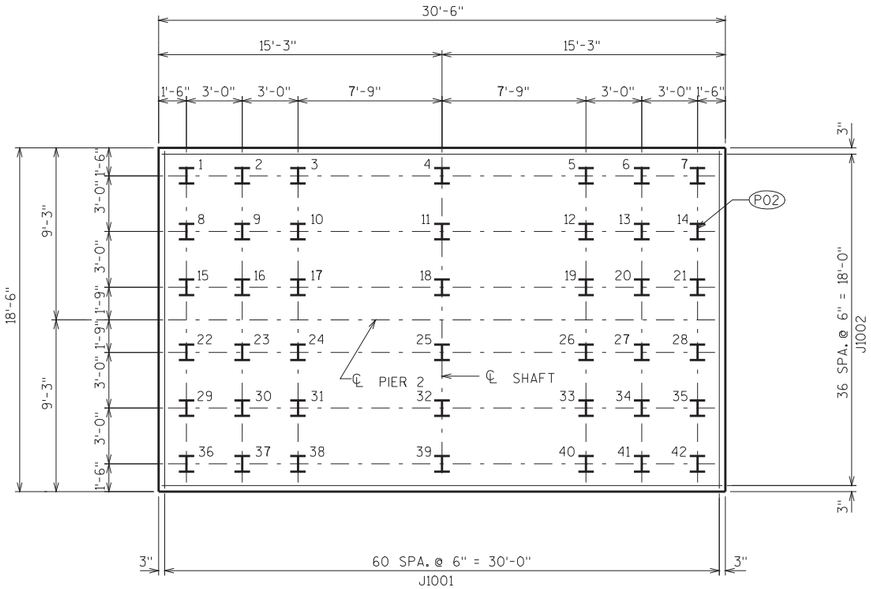
J411



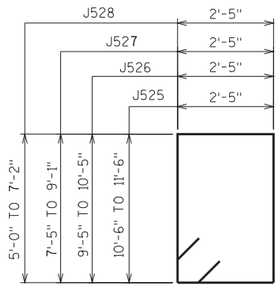
J521,J522,J523,J524



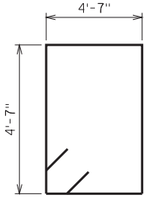
J433,J436



FOOTING PLAN

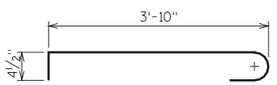


J525,J526,J527,J528



J529

J1132



J434

BAR SERIES TABLE

MARK	NO. REQD.	LENGTH
J521	2 SERIES OF 7	17'-4" TO 19'-4"
J522	2 SERIES OF 4	15'-2" TO 17'-2"
J523	2 SERIES OF 8	11'-2" TO 14'-6"
J524	2 SERIES OF 15	6'-6" TO 10'-8"

BUNDLE AND TAG EACH SERIES SEPARATELY.

BAR SERIES TABLE

MARK	NO. REQD.	LENGTH
J525	4 SERIES OF 7	26'-6" TO 28'-6"
J526	4 SERIES OF 4	24'-4" TO 26'-4"
J527	4 SERIES OF 8	20'-4" TO 23'-8"
J528	4 SERIES OF 14	15'-6" TO 19'-10"

BUNDLE AND TAG EACH SERIES SEPARATELY.

(P02) SUPPORT PIER ON HP 14 x 73 STEEL PILING, ESTIMATED 65'-0" LONG. & DRIVEN TO A MIN. BRG. VALUE OF 95 TONS PER PILE.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-18-168

DRAWN BY CRJ | PLANS CK'D. VT

PIER 2 DETAILS

SHEET 12

84

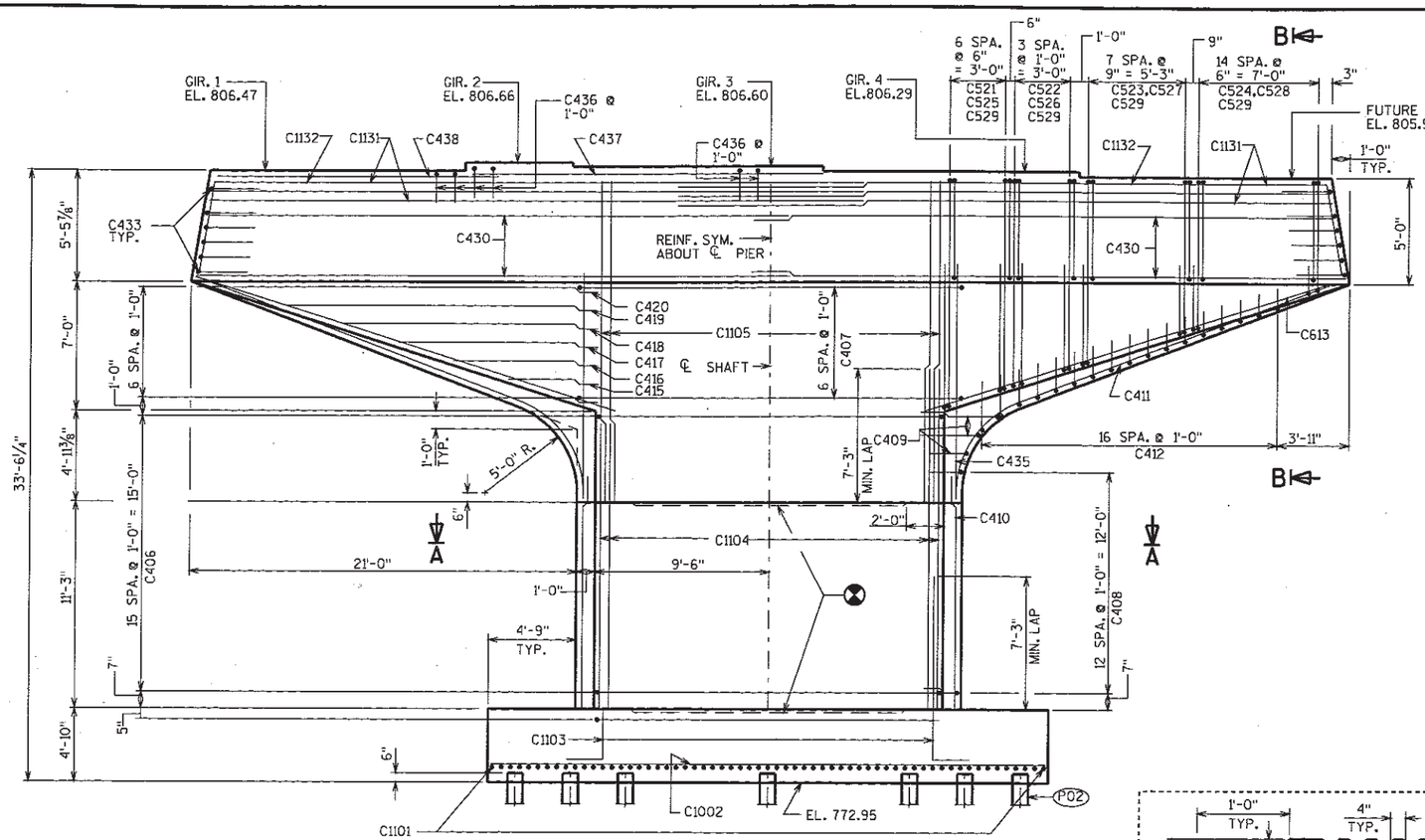
FILE= 12-168PIER2DETAILS.DG
SCALE = 4

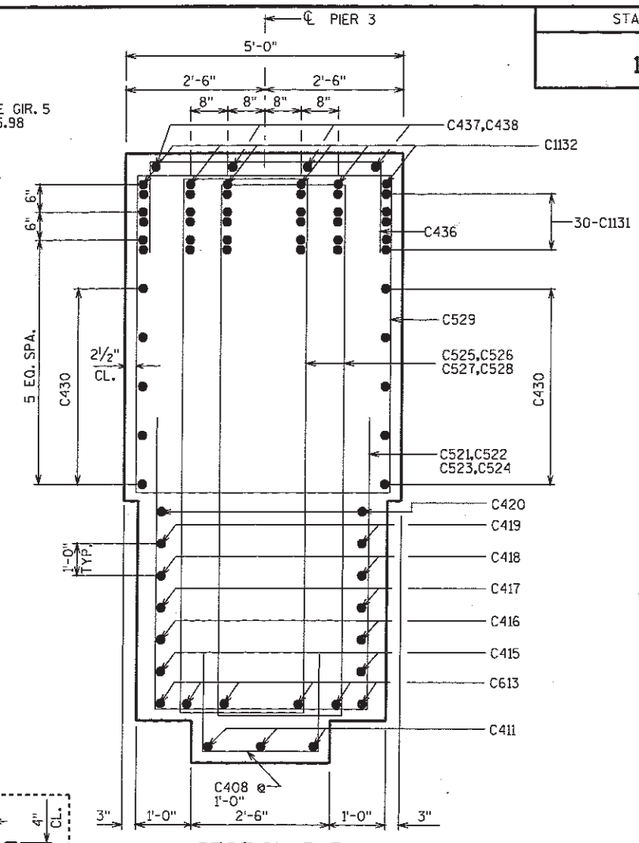
8

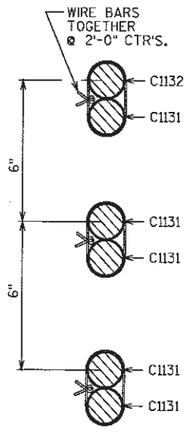
8

STATE PROJECT NUMBER

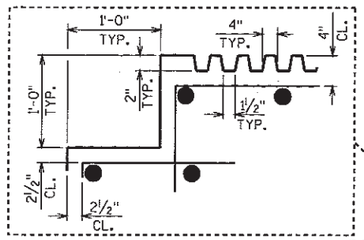
1190-00-75

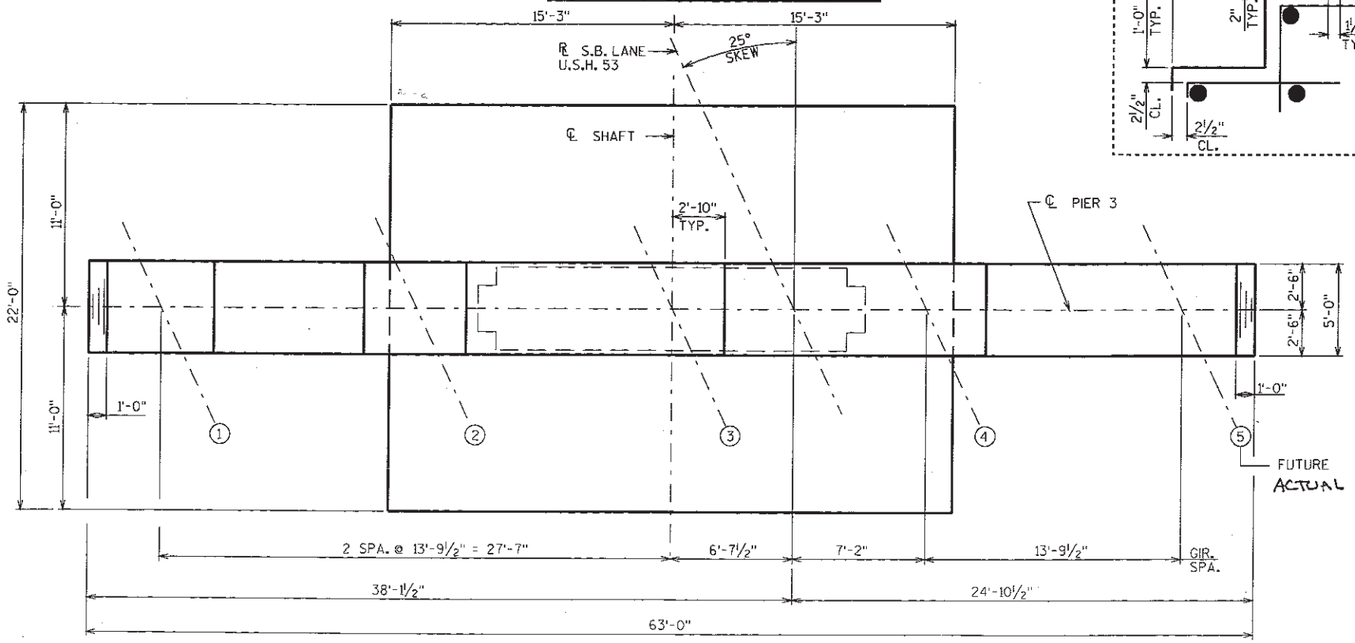


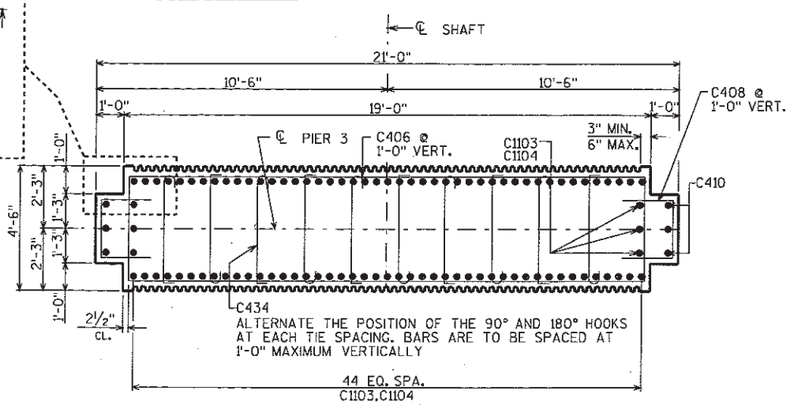




BUNDLING DETAIL







SECTION A-A

(P02) SUPPORT PIER ON HP 14 x 73 STEEL PILING. ~~ESTIMATED 90'-0"~~ LONG. & DRIVEN TO A MIN. BRG. VALUE OF 95 TONS PER PILE.

⊠ OPT. KEYED CONST. JT. - FORMED BY SURFACED, BEVELED 4" DEEP X 1'-2" WIDE X 15'-0" LONG

NOTE:
FOR PILE PLAN & FTG. REINF. DETAILS SEE SHT. 14

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-18-168

DRAWN BY CRJ | PLANS CK'D. VT

PIER 3

SHEET 13

85 85

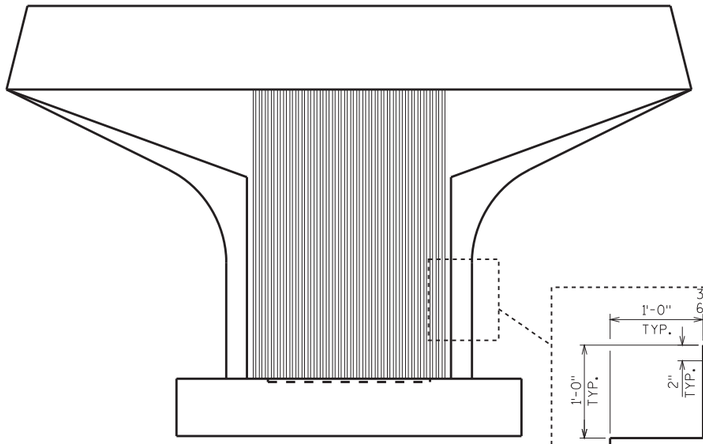
8

8

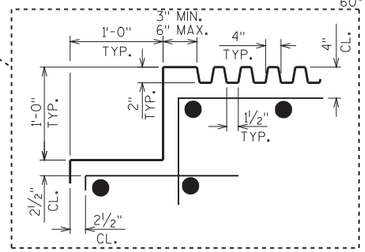
FILE= 13-168PIER3.DGN3
SCALE = 4

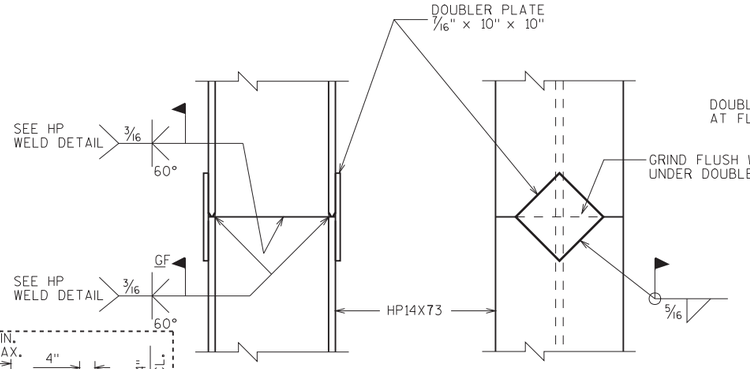
STATE PROJECT NUMBER

1190-00-75

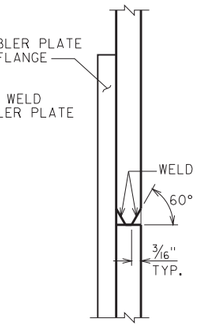


ELEVATION SHOWING TEXTURING LIMITATIONS (EACH FACE)





STEEL 'HP' SHAPES



HP WELD DETAIL

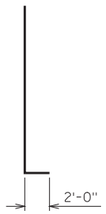
FLANGE SHOWN, WEB SIMILAR

BILL OF BARS

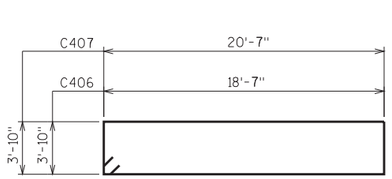
NOTE: THE FIRST OR FIRST TWO DIGITS OF THE BAR MARK SIGNIFIES THE BAR SIZE.

BAR MARK	COAT	NO. REQ'D.	LENGTH	BENT	BUN-DLED	LOCATION
C1101		61	21'-8"			FOOTING
C1002		44	30'-2"			FOOTING
C1103		96	13'-3"	X		FOOTING DOWELS
C1104		96	18'-8"			SHAFT - VERT.
C1105		96	17'-4"			SHAFT - VERT.
C406		17	45'-4"	X		SHAFT-HORIZ.-STIRRUPS
C407		7	49'-4"	X		SHAFT-HORIZ.-STIRRUPS
C408		26	5'-11"	X		SHAFT - HORIZ.
C409		6	8'-11"	X		SHAFT - HORIZ.
C410		6	12'-10			SHAFT - VERT.
C411		6	25'-8"	X		CAP - HORIZ.-BTM.
C412		34	7'-9"	X		CAP - VERT.-BTM.
C613		12	24'-2"			CAP - HORIZ.-BTM.
C414		NOT	USED			———
C415		4	4'-8"			CAP - HORIZ.
C416		4	7'-10"			CAP - HORIZ.
C417		4	11'-0"			CAP - HORIZ.
C418		4	14'-1"			CAP - HORIZ.
C419		4	17'-3"			CAP - HORIZ.
C420		4	20'-5"			CAP - HORIZ.
⚠ C521		14	18'-4"	X		CAP VERT.
⚠ C522		8	16'-2"	X		CAP VERT.
⚠ C523		16	12'-10"	X		CAP VERT.
⚠ C524		30	8'-7"	X		CAP VERT.
⚠ C525		28	27'-0"	X		CAP STIRRUPS
⚠ C526		16	24'-10	X		CAP STIRRUPS
⚠ C527		32	21'-6"	X		CAP STIRRUPS
⚠ C528		60	17'-2"	X		CAP STIRRUPS
C529		68	19'-0"	X		CAP STIRRUPS
C430		20	32'-3"			CAP HORIZ.
C1131		60	35'-11		X	CAP HORIZ.
C1132		12	39'-9"	X	X	CAP HORIZ.
C433		14	8'-1"	X		CAP ENDS
C434		230	4'-8"	X		SHAFT TIES
C435		6	12'-10			SHAFT - VERT.
C436		34	7'-9"	X		CAP-VERT. OVER GIR. 1 THRU 3
C437		4	19'-1"			CAP-HORIZ. OVER GIRS. 2 & 3
C438		4	15'-7"			CAP-HORIZ. OVER GIR. 1

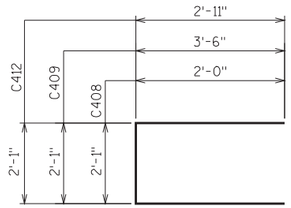
⚠ LENGTH SHOWN FOR BAR IS AN AVERAGE LENGTH AND SHOULD ONLY BE USED FOR BAR WEIGHT CALCULATIONS. SEE BAR SERIES TABLE FOR ACTUAL LENGTHS.



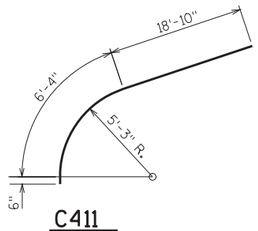
C1103



C406,C407



C408,C409,C412



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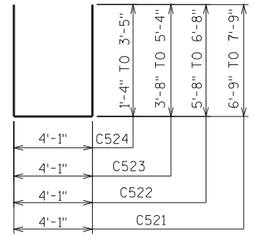
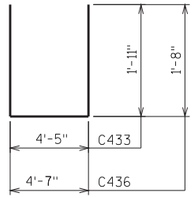


C521,C522,C523,C524



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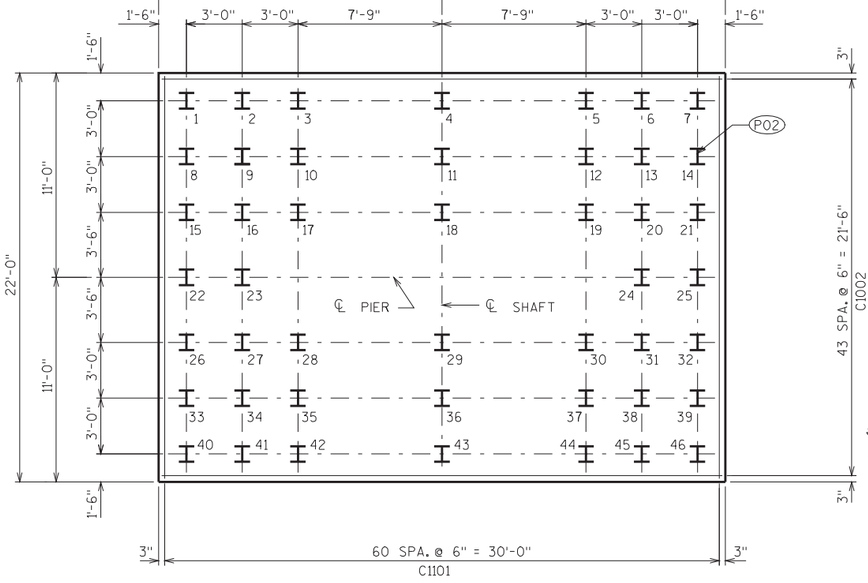
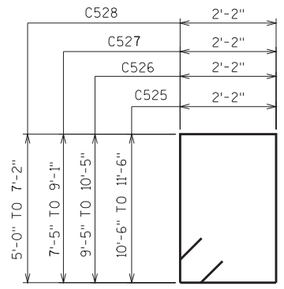
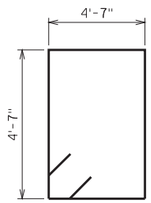


FOOTING PLAN

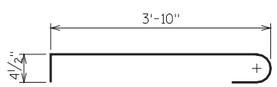


C525,C526,C527,C528



C529

C1132



C434

BAR SERIES TABLE

MARK	NO. REQD.	LENGTH
C521	2 SERIES OF 7	17'-4" TO 19'-4"
C522	2 SERIES OF 4	15'-2" TO 17'-2"
C523	2 SERIES OF 8	11'-2" TO 14'-6"
C524	2 SERIES OF 15	6'-6" TO 10'-8"

BUNDLE AND TAG EACH SERIES SEPARATELY.

BAR SERIES TABLE

MARK	NO. REQD.	LENGTH
C525	4 SERIES OF 7	26'-0" TO 28'-0"
C526	4 SERIES OF 4	23'-10" TO 25'-10"
C527	4 SERIES OF 8	19'-10" TO 23'-2"
C528	4 SERIES OF 15	15'-0" TO 19'-4"

BUNDLE AND TAG EACH SERIES SEPARATELY.

P02 SUPPORT PIER ON HP 14 x 73 STEEL PILING, ESTIMATED 90'-0" LONG, & DRIVEN TO A MIN. BRG. VALUE OF 95 TONS PER PILE.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-18-168

DRAWN BY CRJ | PLANS CK'D. VT

PIER 3 DETAILS

SHEET 14

86

FILE= 14-168PIER3DETAILS.DG
SCALE = 4

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8

STATE PROJECT NUMBER

1190-00-75

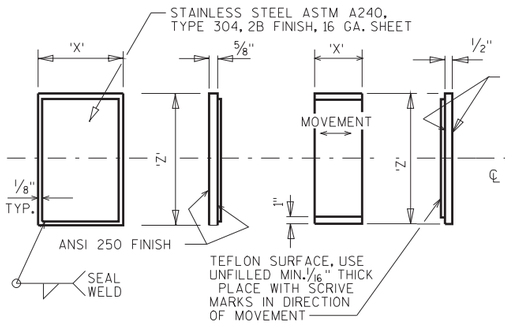


PLATE "A"

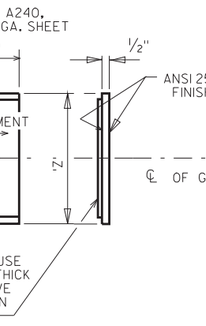


PLATE "B"

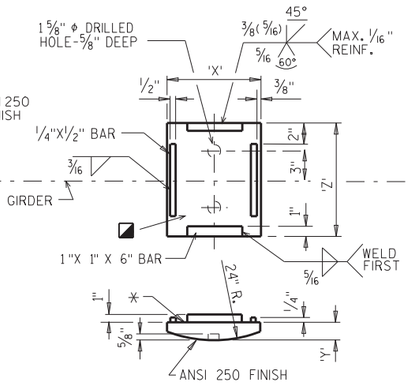
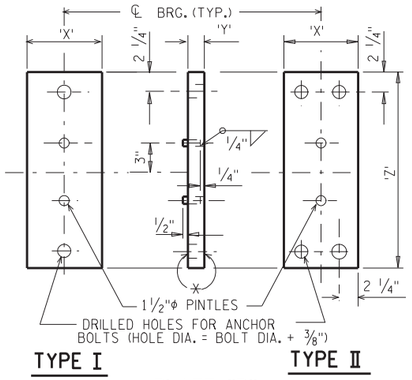


PLATE "C"

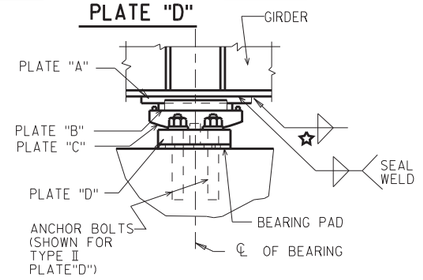


TYPE I TYPE II

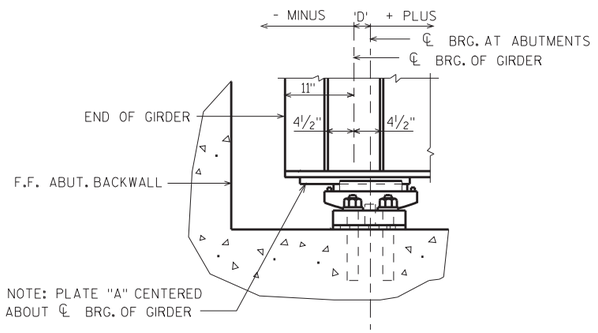
EXPANSION BEARING

	PLATE "A"		PLATE "B"		PLATE "C"			PLATE "D"			PLATE "D" TYPE	ANCHOR BOLT SIZE	NO. OF BRG'S REQ'D.	LOCATION
	'X'	'Z'	'X'	'Z'	'X'	'Y'	'Z'	'X'	'Y'	'Z'				
EXPANSION BEARING	1'-9"	1'-6"	1'-3"	1'-6"	1'-5"	3 7/8"	1'-8 1/4"	1'-5"	2 7/8"	2'-5"	II	1 1/2"ϕ	4	SOUTH ABUT.
	1'-9"	1'-6"	1'-3"	1'-6"	1'-5"	3 7/8"	1'-8 1/4"	1'-5"	2 7/8"	2'-5"	II	1 1/2"ϕ	4	NORTH ABUT.
FIXED BEARING														

PLATE "D"



ABUTMENT EXPANSION BEARING ASSEMBLY



BEARING NOTES

ALL BEARINGS ARE SYMMETRICAL ABOUT ℄ OF GIRDER AND ℄ OF BEARING.

ALL STRUCTURAL STEEL BEARING PLATES SHALL BE FLAT ROLLED STEEL PLATES 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.

ALL FINISHED SURFACES SHALL BE MACHINE FINISHED BY AN AUTOMATIC PROCESS.

CHAMFER ANCHOR BOLTS PRIOR TO THREADING. ANCHOR BOLTS SHALL BE THREADED 3". PROVIDE ONE STANDARD WROUGHT WASHER AND ONE HEX NUT PER BOLT. BOLT LENGTH TO BE 1'-5 FOR 1 1/4" ϕ AND 1'-10 FOR 1 1/2" ϕ BOLTS. PROJECT ANCHOR BOLTS "D"PLATE THICKNESS +2 1/4" ABOVE TOP OF CONCRETE.

CHAMFER TOP OF PINTLES 1/8". DRILL HOLES FOR PINTLES IN ALL "D" PLATES FOR DRIVING FIT.

ALL MATERIAL INCLUDING SHIMS BUT EXCLUDING ANCHOR BOLTS, STAINLESS STEEL, TEFLON SURFACE , PINTLES, NUTS AND WASHERS SHALL BE MADE OF ASTM A709 GRADE 50W. STEEL PINTLES SHALL BE MADE OF ASTM A449 STEEL OR MATERIAL OF EQUAL YIELD STRENGTH & ELONGATION.

ANCHOR BOLTS, NUTS & WASHERS SHALL CONFORM TO ASTM A709 GRADE 36 OR MATERIAL OF EQUIV. STRENGTH & ELONGATION.

PROVIDE 1/8" THICK BEARING PAD SAME SIZE AS PLATE "D" FOR EACH BEARING.

ALL MATERIAL IN BEARINGS, INCLUDING BEARING PADS & SHIM PLATES SHALL BE PAID FOR AT THE UNIT PRICE BID FOR "EXPANSION BEARING ASSEMBLIES" OR "FIXED BEARING ASSEMBLIES", RESPECTIVELY.

ANCHOR BOLTS, NUTS & WASHERS SHALL BE GALVANIZED IN ACCORDANCE WITH ASTM A153 CLASS C.

ALL SURFACES OF BEARING PLATES, EXCEPT STAINLESS STEEL & TEFLON SURFACES, SHALL BE PAINTED AFTER GALVANIZING WITH A TIE COAT, INTERMEDIATE COAT & TOP COAT. FOR UNPAINTED STRUCTURES, BEARING PLATES WELDED TO THE GIRDER NEED NOT BE PAINTED.

✳ FINISH THESE SURFACES ANSI 250 FINISH IF 'Y' DIM. IS GREATER THAN 2".

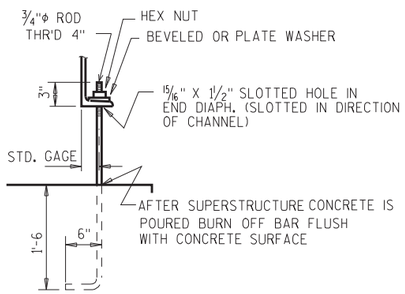
◪ PROVIDE A METHOD FOR HANDLING PLATE "C" DURING GALVANIZING.

☆ TABLE OF FILLET WELD SIZES

MATERIAL THICKNESS OF THICKER PART JOINED.	∔ MIN. SIZE OF FILLET WELD
TO 1/2" INCLUSIVE	3/16"
OVER 1/2" TO 3/4"	1/4"
OVER 3/4" TO 1 1/2"	△ 5/16"
OVER 1 1/2" TO 2 1/4"	△ 3/8"
OVER 2 1/4" TO 6"	△ 1/2"

∔ EXCEPT THAT THE WELD SIZE SHALL NOT EXCEED THE THICKNESS OF THE THINNER PART JOINED.

△ MIN. PASS SIZE IS 5/16"



TEMPORARY HOLD DOWN

PLACE ONE PER GIRDER AT ABUTMENT WHERE SLAB POUR TERMINATES. LOCATE 1'-6 (NORMAL) OFF ℄ OF GIRDER. TO BE PAID FOR AS "STRUCTURAL STEEL HS."

TABLE OF OFFSET SETTING DATA @ ABUTMENT

MINUS SHOWN

TEMP. °F.	DIM. 'D'
120°	- 2 15/16"
110°	- 2 1/2"
100°	- 2 1/8"
90°	- 1 3/4"
80°	- 1 3/8"
70°	- 1"
60°	- 9/16"
50°	- 3/16"

TEMP. °F.	DIM. 'D'
40°	+ 3/16"
30°	+ 9/16"
20°	+ 1"
10°	+ 1 3/8"
0°	+ 1 3/4"
-10°	+ 2 1/8"
-20°	+ 2 1/2"

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-18-168

DRAWN BY CRJ | PLANS CK'D. VT

BEARING DETAILS @ ABUTMENTS

SHEET 15

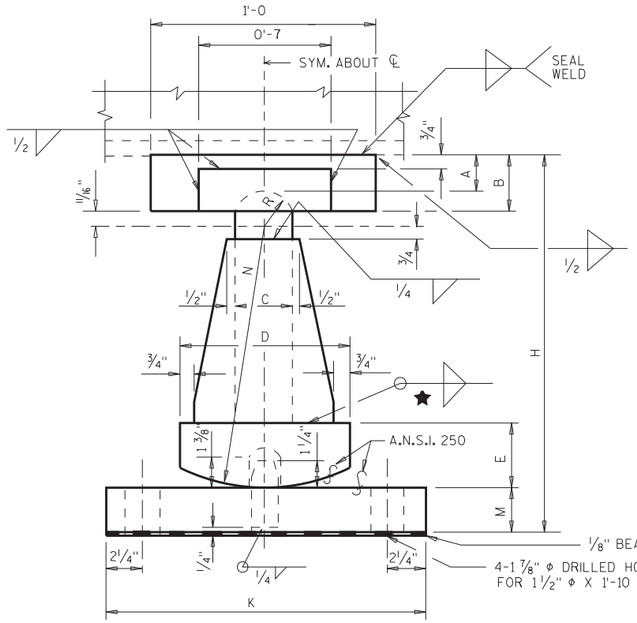
87

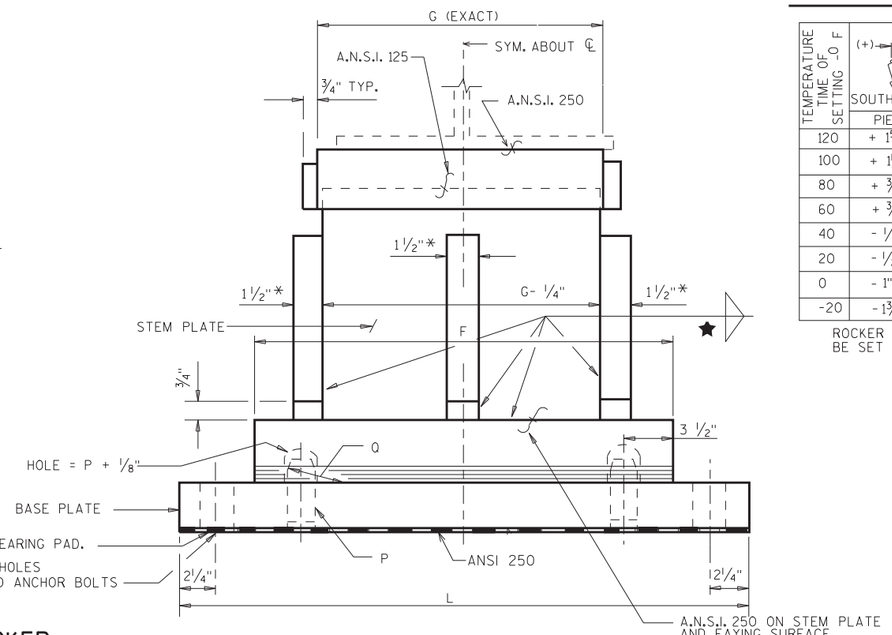
8

8

LEVELS 1 2 3 4

FILE= 15-BRGABUT.DGN
SCALE = .08





ROCKER

PIERS 1& 3

ROCKER SETTING DATA

TEMPERATURE TIME OF SETTING °F	(+) SOUTH	VERTICAL	(-) NORTH
	PIER 1	PIER 3	
120	+ 1 5/8"	- 1 5/8"	
100	+ 1 1/8"	- 1 1/8"	
80	+ 3/4"	- 3/4"	
60	+ 3/8"	- 3/8"	
40	- 1/8"	+ 1/8"	
20	- 1/2"	+ 1/2"	
0	- 1"	+ 1"	
-20	- 1 3/8"	+ 1 3/8"	

ROCKER BEARING SHALL BE SET VERTICAL @ 45° F.

STATE PROJECT NUMBER

1190-00-75

GENERAL NOTES

ALL STRUCTURAL STEEL BEARING PLATES SHALL BE FLAT ROLLED STEEL PLATES 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. ON WELDED BEARINGS, FINAL MACHINING CAN BE PERFORMED BEFORE WELDING IS COMPLETED.

ALL MATERIAL IN TYPE "B" ROCKER BEARINGS, INCLUDING SHIMS, SHALL BE PAID FOR AT THE UNIT PRICE BID FOR "EXPANSION BEARING ASSEMBLIES". EXPANSION B-18-168

ALL MATERIALS IN TYPE "B" FIXED SHOE BEARINGS, INCLUDING SHIMS, SHALL BE PAID FOR AT THE UNIT PRICE BID FOR "BEARING ASSEMBLIES FIXED B-18-168".

ALL MATERIALS FOR BEARINGS INCLUDING SHIMS BUT EXCLUDING PINTLES, ANCHOR BOLTS, NUTS AND WASHERS SHALL CONFORM TO A.S.T.M. SPECIFICATION TYPE A709 GRADE 50W STEEL.

PINTLES SHALL CONFORM TO A.S.T.M. SPECIFICATION TYPE A449 ⬢ STEEL. PINTLES SHALL BE MACHINED TO A DRIVING FIT.

ALL ANCHOR BOLTS, NUTS, AND WASHERS SHALL CONFORM TO A.S.T.M. SPECIFICATION TYPE A709 GRADE 36 ⬢ STEEL. ANCHOR BOLTS SHALL BE THREADED 3". PROVIDE ONE STANDARD WROUGHT WASHER AND ONE HEX NUT PER BOLT. PROJECT ANCHOR BOLTS "M" OR S" PLATE THICKNESS + 2 1/4" ABOVE TOP OF CONCRETE MASONRY. CHAMFER ANCHOR BOLTS PRIOR TO THREADING.

RADIAL SURFACES ON ROCKER SHALL BE MACHINE FINISHED AFTER WELDING.

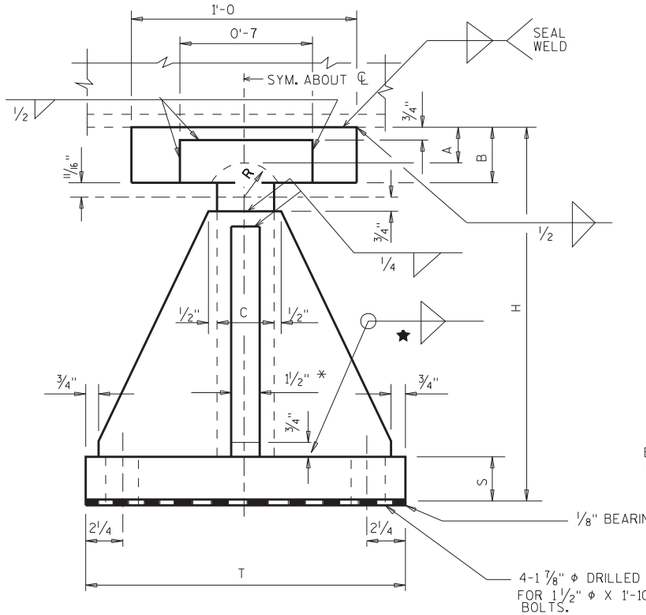
AFTER WELDING SHOE ASSEMBLY, FINISH BOTTOM OF BASE PLATE TO A FLAT SURFACE.

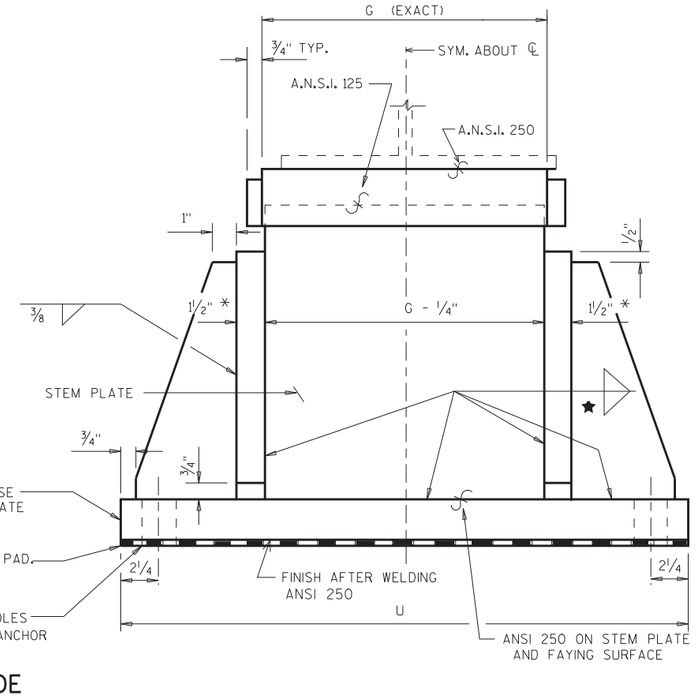
ALL SURFACES MARKED "℈" SHALL BE MACHINE FINISHED BY AN AUTOMATIC PROCESS. THE CONTACT AREA OF BOTTOM SURFACE OF THE GIRDER FLANGE SHALL BE MACHINE FINISHED.

ANCHOR BOLT EDGE DISTANCE ALONG "L" MAY BE INCREASED FROM MINIMUM SHOWN WHEN A COMMON GRID DETAIL IS DESIRED FOR SEVERAL BEARINGS.

FOR UNPAINTED STRUCTURES THE UPPER 6" OF ANCHOR BOLTS, NUTS AND WASHERS SHALL BE GALVANIZED AS REQUIRED BY ASTM DESIGNATION A153, CLASS C OR B633.

⬢ OR MATERIAL OF EQUIVALENT YIELD STRENGTH AND ELONGATION.





FIXED SHOE

PIER 2

EXPANSION BEARING TABLE OF DIMENSIONS

LOCATION	NO. REQ'D	REACTION (KIPS)	A	B	C	D	E	G VALUES G = 2'-1 F	G VALUES G = 2'-1 L	H	K	M	N	R STEM	R PLATE	PINTLE P	PINTLE Q
PIER 1	4	900-999	2 3/16"	3 7/16"	3 1/2"	1'-4"	3 3/8"	2'-11"	4'-0"	2'-1 1/2"	2'-2"	3 3/8"	1'-6"	1 15/16"	1 61/64"	2"ϕ	3 1/2"
PIER 3	4	900-999	2 3/16"	3 7/16"	3 1/2"	1'-4"	3 3/8"	2'-11"	4'-0"	2'-1 1/2"	2'-2"	3 3/8"	1'-6"	1 15/16"	1 61/64"	2"ϕ	3 1/2"

FIXED BEARING TABLE OF DIMENSIONS

LOCATION	NO. REQ'D	REACTION (KIPS)	A	B	C	G VALUES G=2'-1" U	H	R STEM	R PLATE	S	T
PIER 2	4	900-999	2 3/16"	3 7/16"	3 1/2"	3'-10"	2'-1"	1 15/16"	1 61/64"	2 7/8"	1'-10"

* FOR REACTIONS GREATER THAN 1000 KIPS USE 2" STIFFENERS.

★ 400 K < REACTION ≤ 1000 K, USE 5/8" WELD.
1000 K < REACTION ≤ 1500 K, USE 3/4" WELD.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-18-168

DRAWN BY CRJ | PLANS CK'D. VT

BEARING DETAILS @ PIERS

SHEET 16

88

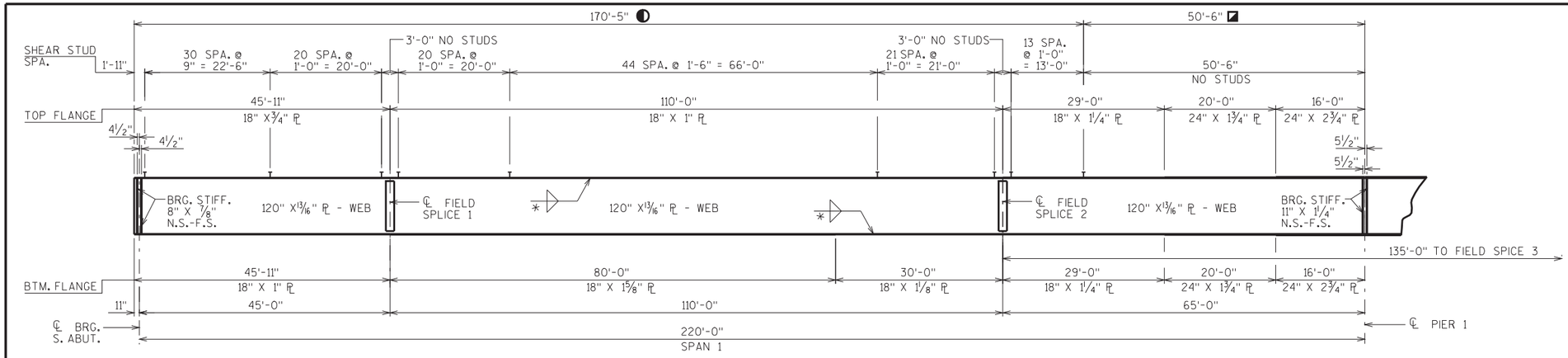
8

8

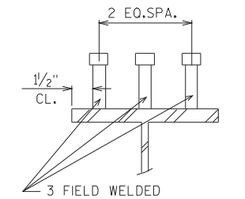
FILE= 16-168BRGPIERS.DGN
SCALE = .0666

STATE PROJECT NUMBER

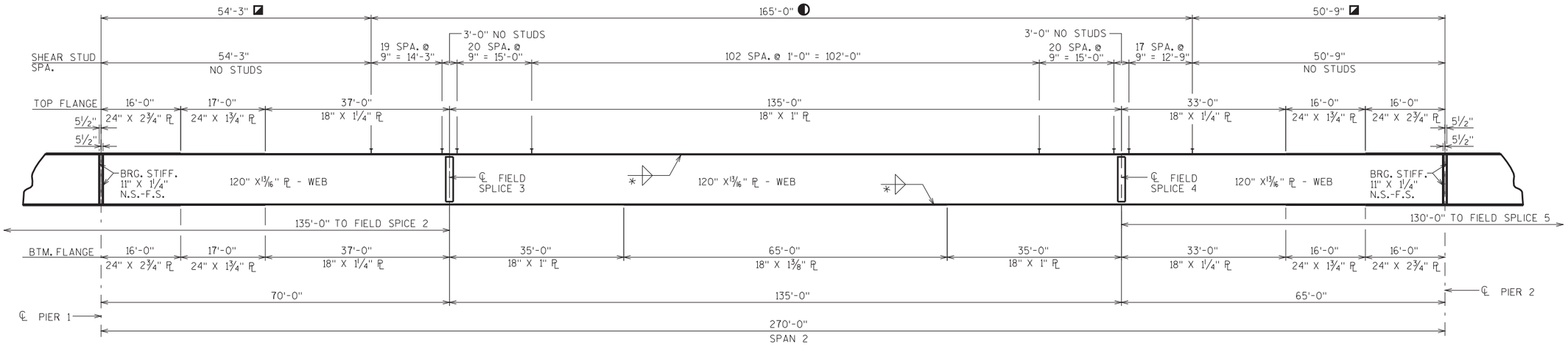
1190-00-75



GIRDER ELEVATON SPAN 1



SHEAR CONN. DETAIL



GIRDER ELEVATON SPAN 2

◐ NO FIELD WELDING TO BOTTOM FLANGE PERMITTED IN THIS AREA. WELD INTERMEDIATE STIFFENER & DIAPH. CONN. PLATES TO TOP (COMPRESSION) FLANGE. SEE "CROSS FRAMING DETAILS" SHEET FOR CONN. DETAILS AT BOTTOM (TENSION) FLANGE.

◪ NO FIELD WELDING TO TOP FLANGE PERMITTED IN THIS AREA. WELD INTERMEDIATE STIFFENER & DIAPH. CONN. PLATES TO BOTTOM (COMPRESSION) FLANGE. SEE "CROSS FRAMING DETAILS" SHEET FOR CONN. DETAILS AT TOP (TENSION) FLANGE.

NOTE: ALL STRUCTURAL STEEL USED IN SUPERSTRUCTURE IS TO BE ASTM A709, GRADE 50W, UNLESS NOTED OTHERWISE.

OPTIONAL WELDED SHOP SPLICES MAY BE USED FOR ALL FLANGE AND WEB PLATES OVER 60'-0" LONG. IF USED, THE LOCATION OF THE SPLICE SHALL BE SHOWN ON SHOP DRAWINGS AND WILL BE SUBJECT TO THE APPROVAL OF THE STRUCTURES DESIGN SECTION.

ALL CONNECTION BOLTS IN FIELD SPLICES SHALL BE FRICTION TYPE USING 7/8" Φ HIGH STRENGTH BOLTS (A.S.T.M. A325).

* TABLE OF FILLET WELD SIZES

MATERIAL THICKNESS OF THICKER PART JOINED.	‡ MIN. SIZE OF FILLET WELD
TO 1/2" INCLUSIVE	3/16"
OVER 1/2" TO 3/4"	1/4"
OVER 3/4" TO 1 1/2"	△ 5/16"
OVER 1 1/2" TO 2 1/4"	△ 3/8"
OVER 2 1/4" TO 6"	△ 1/2"

‡ EXCEPT THAT THE WELD SIZE SHALL NOT EXCEED THE THICKNESS OF THE THINNER PART JOINED.

△ MIN. PASS SIZE IS 5/16"

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-18-168

DRAWN BY CRJ | PLANS CK'D. VT

GIRDER DETAILS @ SPANS 1 & 2

SHEET 17

89

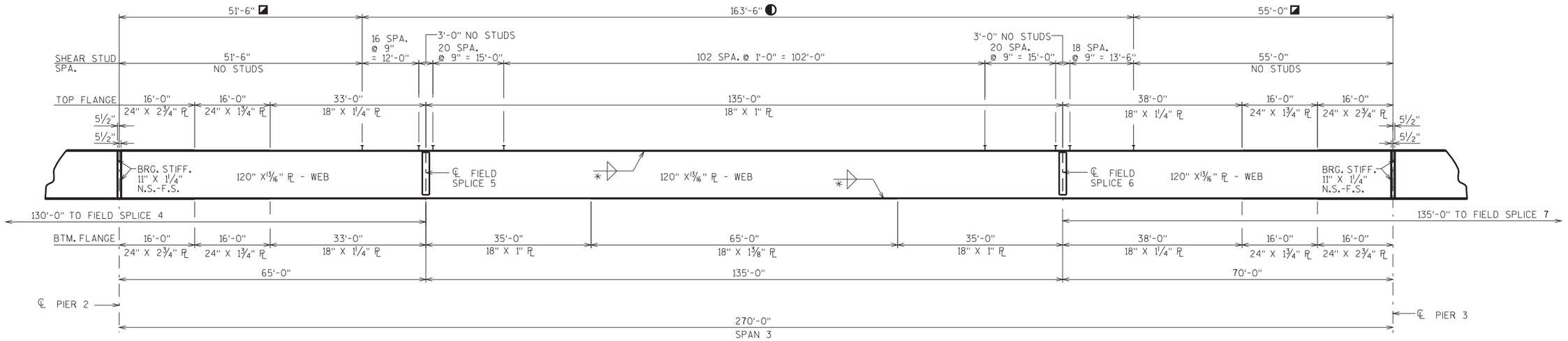
FILE= 17-168GIRDETAILS1.DGN
SCALE = 11

8

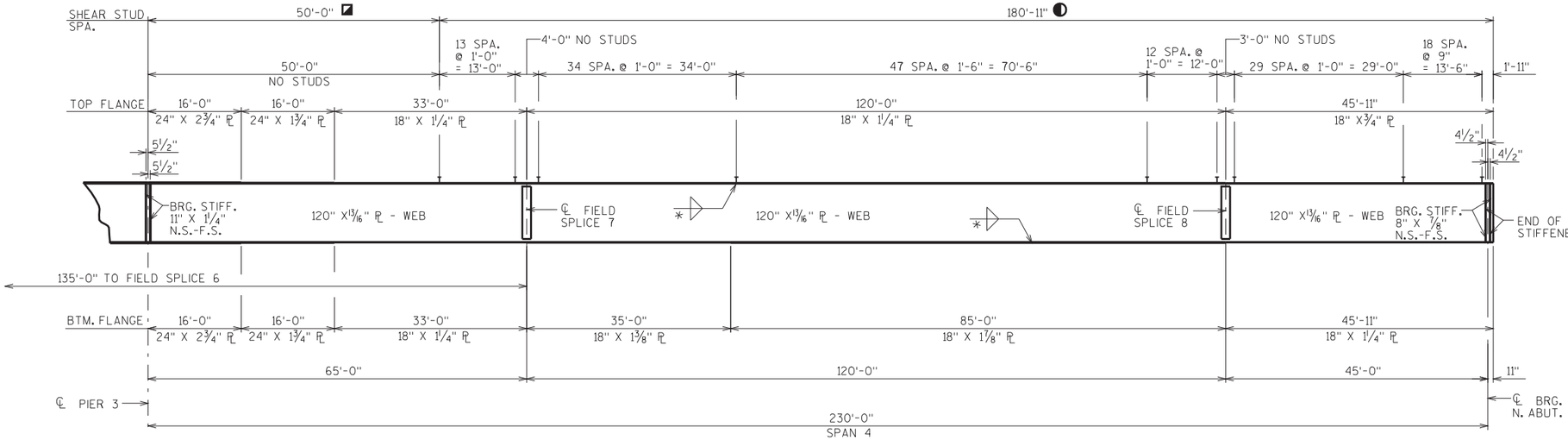
8

STATE PROJECT NUMBER

1190-00-75



GIRDER ELEVATON SPAN 3



GIRDER ELEVATON SPAN 4

* TABLE OF FILLET WELD SIZES

MATERIAL THICKNESS OF THICKER PART JOINED.	‡ MIN. SIZE OF FILLET WELD
TO ½" INCLUSIVE	3/16"
OVER ½" TO ¾"	¼"
OVER ¾" TO 1½"	△ 5/16"
OVER 1½" TO 2¼"	△ 3/8"
OVER 2¼" TO 6"	△ ½"

‡ EXCEPT THAT THE WELD SIZE SHALL NOT EXCEED THE THICKNESS OF THE THINNER PART JOINED.

△ MIN. PASS SIZE IS 5/16"

◐ NO FIELD WELDING TO BOTTOM FLANGE PERMITTED IN THIS AREA. WELD INTERMEDIATE STIFFENER & DIAPH. CONN. PLATES TO TOP (COMPRESSION) FLANGE. SEE "CROSS FRAMING DETAILS" SHEET FOR CONN. DETAILS AT BOTTOM (TENSION) FLANGE.

◪ NO FIELD WELDING TO TOP FLANGE PERMITTED IN THIS AREA. WELD INTERMEDIATE STIFFENER & DIAPH. CONN. PLATES TO BOTTOM (COMPRESSION) FLANGE. SEE "CROSS FRAMING DETAILS" SHEET FOR CONN. DETAILS AT TOP (TENSION) FLANGE.

NOTE: ALL STRUCTURAL STEEL USED IN SUPERSTRUCTURE IS TO BE ASTM A709, GRADE 50W, UNLESS NOTED OTHERWISE.

OPTIONAL WELDED SHOP SPLICES MAY BE USED FOR ALL FLANGE AND WEB PLATES OVER 60'-0" LONG. IF USED, THE LOCATION OF THE SPLICE SHALL BE SHOWN ON SHOP DRAWINGS AND WILL BE SUBJECT TO THE APPROVAL OF THE STRUCTURES DESIGN SECTION.

ALL CONNECTION BOLTS IN FIELD SPLICES SHALL BE FRICTION TYPE USING ⅞" Φ HIGH STRENGTH BOLTS (A.S.T.M. A325).

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-18-168

DRAWN BY CRJ | PLANS CK'D. VT

GIRDER DETAILS @ SPANS 3 & 4

SHEET 18

90

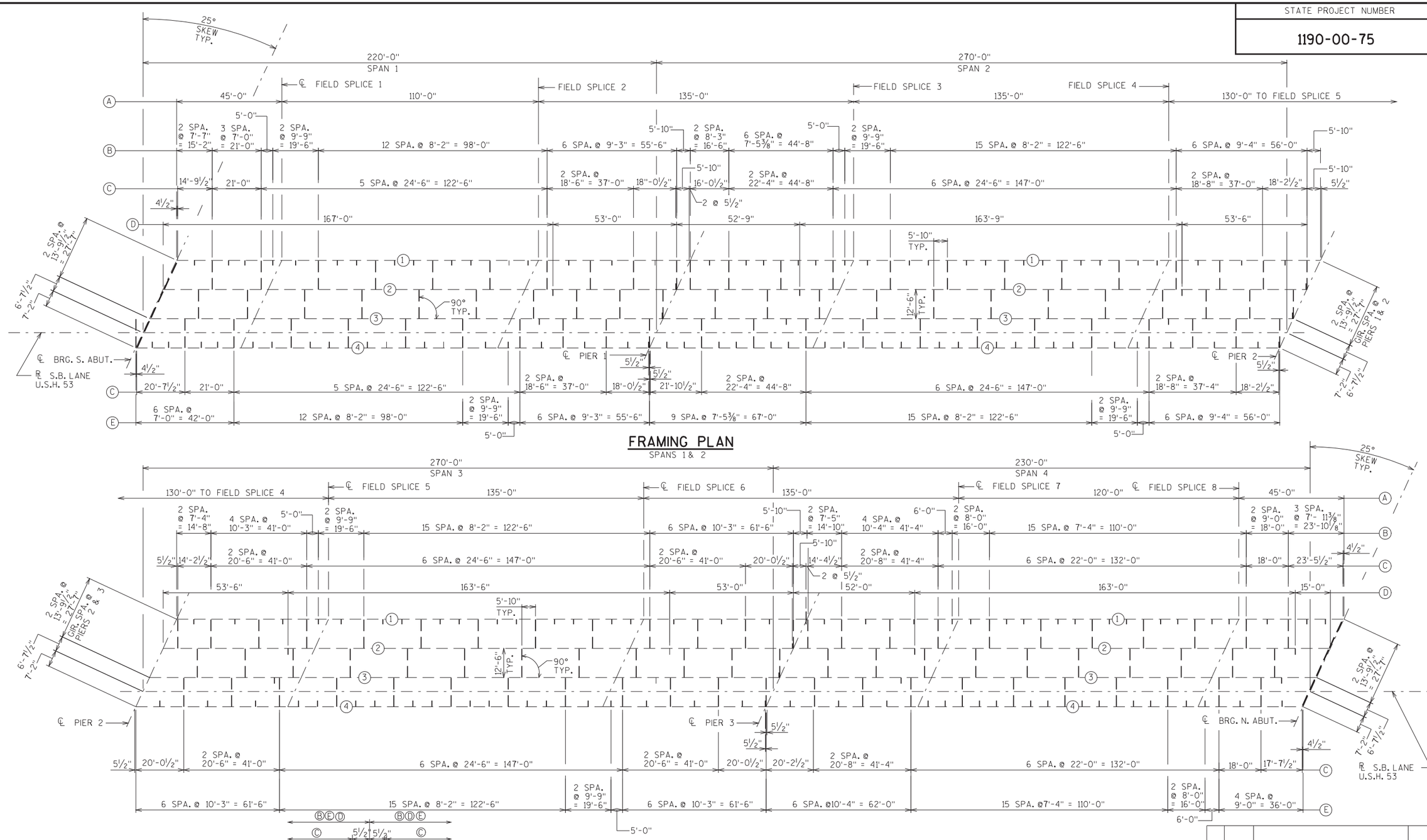
FILE= 18-168GIRDETAILS2.DGN
SCALE = 11

8

8

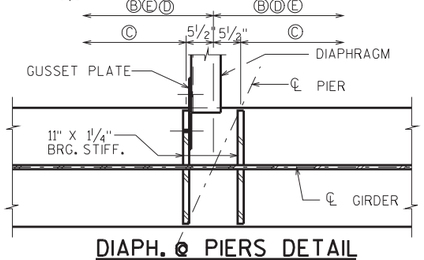
STATE PROJECT NUMBER

1190-00-75



FRAMING PLAN
SPANS 1 & 2

FRAMING PLAN
SPANS 3 & 4



DIAPH. @ PIERS DETAIL

Ⓐ FIELD SPLICE SPACING
Ⓑ INTERMEDIATE STIFFENER SPACING @ GIRDER 1
Ⓒ CROSS FRAMING SPACING
Ⓓ INTERMEDIATE STIFFENER SPACING @ GIRDERS 2 & 3
Ⓔ INTERMEDIATE STIFFENER SPACING @ GIRDER 4

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-18-168

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FRAMING PLAN

SHEET 19

91

8

8

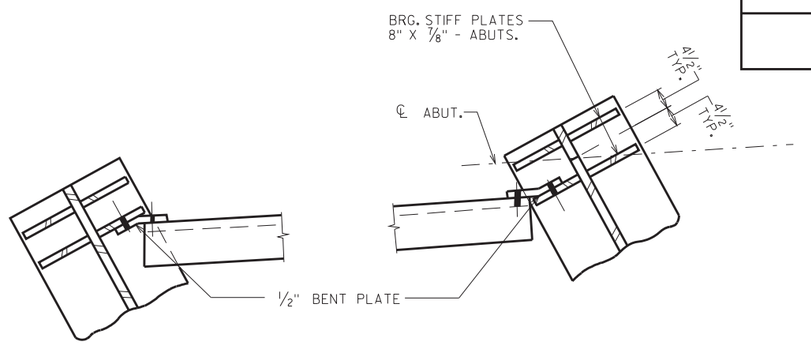
FILE= 119-168FRAMINGDETAILS
SCALE = 20

FIELD SPLICE	PLATE 'A'	PLATE 'B'	PLATE 'C'	PLATE 'D'	'E' A325 BOLTS	'F' A325 BOLTS	'G' A325 BOLTS		TOTAL BOLTS PER SPLICE
1	18" X 1/2" X 2'-0 1/2"	2 @ 7 1/2" X 1/2" X 2'-0 1/2"	2 @ 7 1/2" X 3/4" X 2'-6 1/2"	18" X 5/8" X 2'-6 1/2"	3 SPA. @ 3"	4 SPA. @ 3"	36 EQ. SPA.	3 LINES/SIDE	294
2	18" X 1/2" X 2'-0 1/2"	2 @ 7 1/2" X 5/8" X 2'-0 1/2"	2 @ 7 1/2" X 5/8" X 2'-6 1/2"	18" X 1/2" X 2'-6 1/2"	3 SPA. @ 3"	4 SPA. @ 3"	33 EQ. SPA.	3 LINES/SIDE	276
3	18" X 1/2" X 2'-0 1/2"	2 @ 7 1/2" X 5/8" X 2'-0 1/2"	2 @ 7 1/2" X 5/8" X 2'-0 1/2"	18" X 1/2" X 2'-0 1/2"	3 SPA. @ 3"	3 SPA. @ 3"	33 EQ. SPA.	3 LINES/SIDE	268
4	18" X 1/2" X 2'-0 1/2"	2 @ 7 1/2" X 5/8" X 2'-0 1/2"	2 @ 7 1/2" X 5/8" X 2'-0 1/2"	18" X 1/2" X 2'-0 1/2"	3 SPA. @ 3"	3 SPA. @ 3"	33 EQ. SPA.	3 LINES/SIDE	268
5	18" X 1/2" X 2'-0 1/2"	2 @ 7 1/2" X 5/8" X 2'-0 1/2"	2 @ 7 1/2" X 5/8" X 2'-0 1/2"	18" X 1/2" X 2'-0 1/2"	3 SPA. @ 3"	3 SPA. @ 3"	33 EQ. SPA.	3 LINES/SIDE	268
6	18" X 1/2" X 2'-0 1/2"	2 @ 7 1/2" X 5/8" X 2'-0 1/2"	2 @ 7 1/2" X 5/8" X 2'-0 1/2"	18" X 1/2" X 2'-0 1/2"	3 SPA. @ 3"	3 SPA. @ 3"	33 EQ. SPA.	3 LINES/SIDE	268
7	18" X 5/8" X 2'-6 1/2"	2 @ 7 1/2" X 3/4" X 2'-6 1/2"	2 @ 7 1/2" X 3/4" X 2'-6 1/2"	18" X 5/8 X 2'-6 1/2"	4 SPA. @ 3"	4 SPA. @ 3"	33 EQ. SPA.	3 LINES/SIDE	284
8	18" X 1/2" X 2'-0 1/2"	2 @ 7 1/2" X 1/2" X 2'-0 1/2"	2 @ 7 1/2" X 1" X 3'-6 1/2"	18" X 3/4" X 3'-6 1/2"	3 SPA. @ 3"	6 SPA. @ 3"	35 EQ. SPA.	3 LINES/SIDE	304

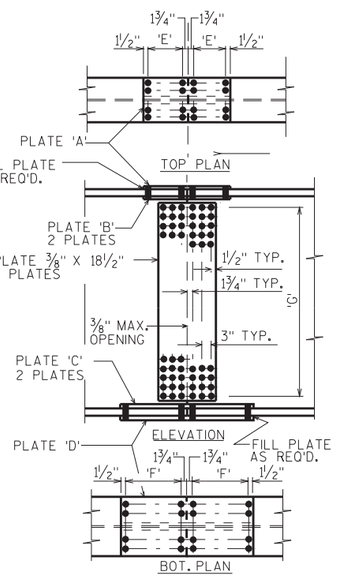
NOTES: ALL CONNECTION BOLTS IN FIELD SPLICES SHALL BE FRICTION TYPE USING 7/8" Φ HIGH STRENGTH BOLTS (A.S.T.M. A325).

ALL STRUCTURAL STEEL TO BE A.S.T.M. A709 - GRADE 50W UNLESS OTHERWISE SHOWN OR NOTED.

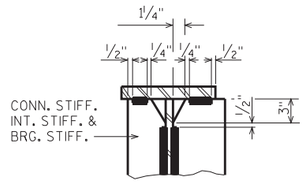
ALL BOLTED CONNECTIONS FOR DIAPHS. & CROSS FRAMES SHALL BE FRICTION TYPE USING 3/4" HIGH STRENGTH BOLTS (A.S.T.M. A325) WITH DOUBLE WASHERS.



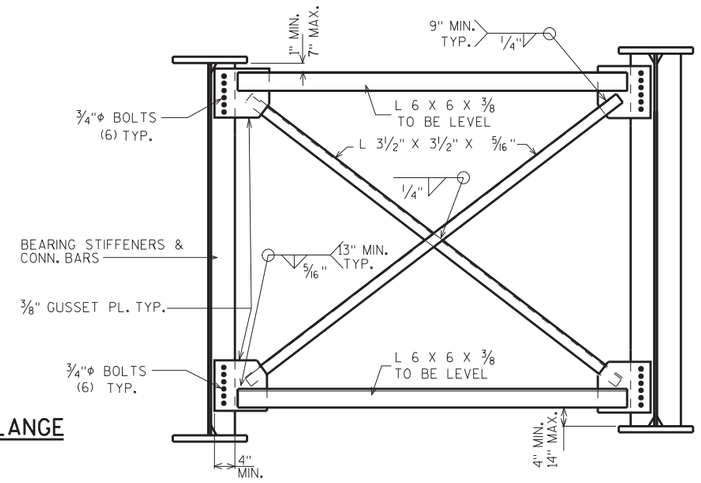
END DIAPH. CONNECTIONS



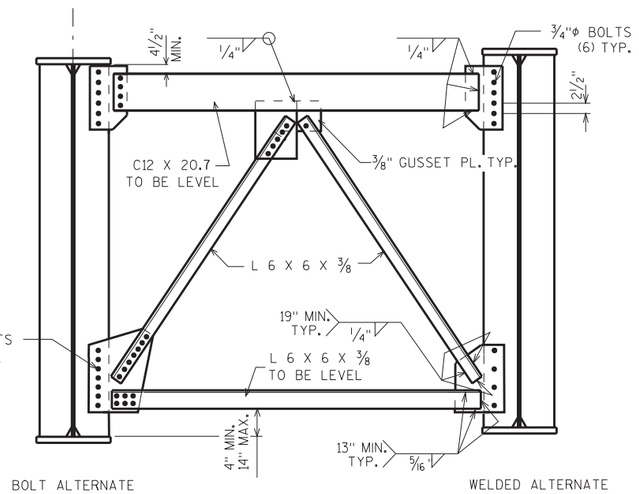
FIELD SPLICE DETAIL



STIFF. & CONN. STIFF. TO WEB/FLANGE CONN. WELDS

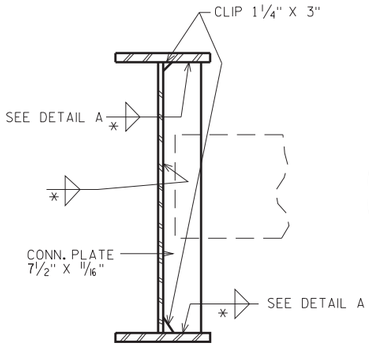


IN-SPAN & PIER CROSS FRAMING DETAILS

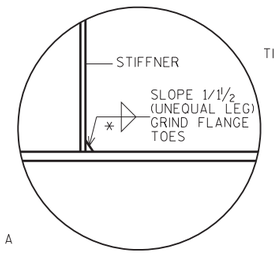


END DIAPH. DETAILS

ABUTMENTS

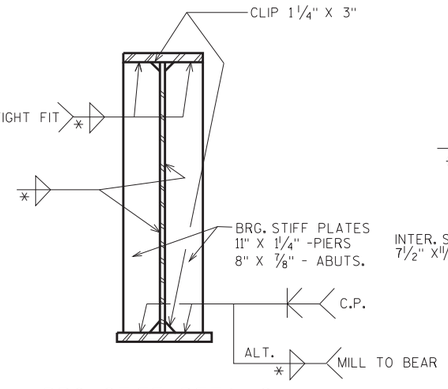


CONNECTION STIFF. DETAILS

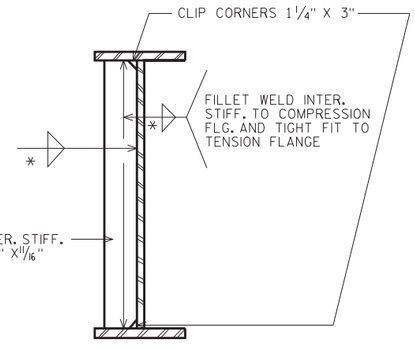


DETAIL A

CONNECTION STIFFNER DETAIL @ TENSION FLANGE



BRG. STIFF. DETAILS TYP. AT ABUT. & PIER



INTERMEDIATE STIFF. DETAILS

(ALL GIRDERS)

* TABLE OF FILLET WELD SIZES

MATERIAL THICKNESS OF THICKER PART JOINED.	‡ MIN. SIZE OF FILLET WELD
TO 1/2" INCLUSIVE	3/16"
OVER 1/2" TO 3/4"	1/4"
OVER 3/4" TO 1 1/2"	△ 5/16"
OVER 1 1/2" TO 2 1/4"	△ 3/8"
OVER 2 1/4" TO 6"	△ 1/2"

‡ EXCEPT THAT THE WELD SIZE SHALL NOT EXCEED THE THICKNESS OF THE THINNER PART JOINED.

△ MIN. PASS SIZE IS 5/16"

STATE PROJECT NUMBER

1190-00-75

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-18-168

DRAWN BY CRJ | PLANS CK'D. VT

CROSS FRAMING DETAILS

SHEET 20

92

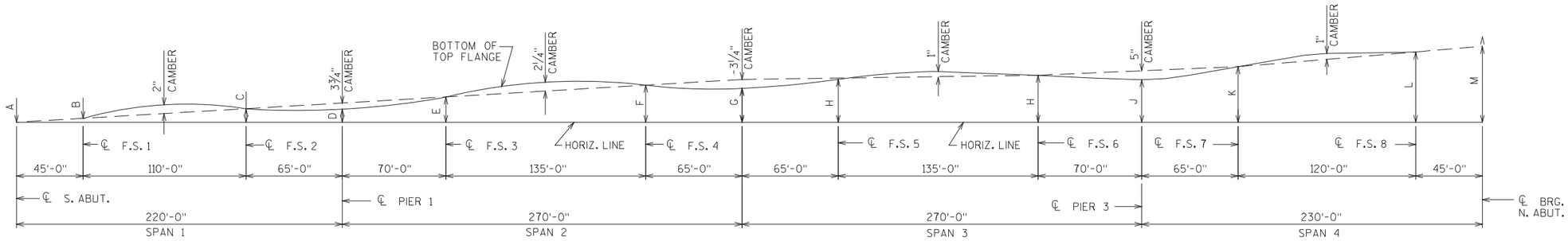
FILE= 20-168STEELDETAILS.DG
SCALE = 11

8

8

STATE PROJECT NUMBER

1190-00-75



BLOCKING AND CAMBER DIAGRAM

LOCATION	℄ BRG. S. ABUT	℄ F.S. 1	℄ F.S. 2	℄ PIER 1	℄ F.S. 3	℄ F.S. 4	℄ PIER 2	℄ F.S. 5	℄ F.S. 6	℄ PIER 3	℄ F.S. 7	℄ F.S. 8	℄ BRG. S. ABUT
DIMENSION	A	B	C	D	E	F	G	H	I	J	K	L	M
GIRDER 1	0"	5 1/8"	8 3/8"	7 1/8"	1'-1 1/2"	1'-7 1/4"	1'-6 5/8"	2'-0 1/2"	2'-8 3/4"	3'-2 1/8"	4'-4 5/8"	6'-7 1/4"	7'-3 5/8"
GIRDER 2	0"	5 1/8"	8 3/8"	7 1/8"	1'-1 1/2"	1'-7 1/4"	1'-6 5/8"	2'-0 1/2"	2'-8 3/8"	3'-1 1/2"	4'-3 3/4"	6'-6"	7'-2 1/4"
GIRDER 3	0"	5 1/8"	8 3/8"	7 1/8"	1'-1 1/2"	1'-7 1/4"	1'-6 5/8"	2'-0 1/2"	2'-8 1/8"	3'-1"	4'-3 1/8"	6'-4 7/8"	7'-1"
GIRDER 4	0"	5 1/8"	8 3/8"	7 1/8"	1'-1 1/2"	1'-7 1/4"	1'-6 5/8"	2'-0 1/2"	2'-7 7/8"	3'-0 1/2"	4'-2 3/8"	6'-3 3/4"	6'-11 5/8"

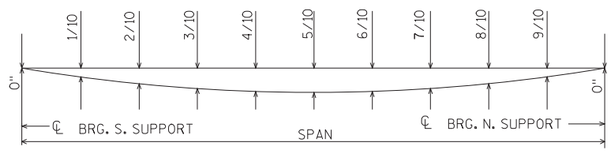
BLOCKING DIMENSION TABLE

GIRDER DEFECTION TABLE

SPAN	DEFLECTION	1/10 PT.	2/10 PT.	3/10 PT.	4/10 PT.	5/10 PT.	6/10 PT.	7/10 PT.	8/10 PT.	9/10 PT.
1	CONC. ONLY	1 1/2"	2 3/4"	3 3/8"	3 5/8"	3 3/8"	2 7/8"	1 7/8"	1"	1/4"
	TOTAL DEFL.	2"	3 1/2"	4 1/2"	4 7/8"	4 1/2"	3 3/4"	2 1/2"	1 3/8"	3/8"
2	CONC. ONLY	1/8"	1"	2"	2 7/8"	3 1/4"	2 7/8"	2"	1 1/8"	1/4"
	TOTAL DEFL.	1/4"	1 1/4"	2 5/8"	3 3/4"	4 1/8"	3 3/4"	2 7/8"	1 1/2"	3/8"
3	CONC. ONLY	1/4"	1"	2"	2 3/4"	3"	2 5/8"	1 7/8"	3/4"	1/8"
	TOTAL DEFL.	3/8"	1 3/8"	2 5/8"	3 1/2"	3 7/8"	3 3/8"	2 3/8"	1"	1/8"
4	CONC. ONLY	3/8"	1 1/4"	2 3/8"	3 3/8"	4 1/8"	4 1/4"	3 7/8"	3"	1 3/4"
	TOTAL DEFL.	1/2"	1 3/4"	3 1/4"	4 1/2"	5 1/2"	5 3/4"	5 1/4"	4"	2 1/4"

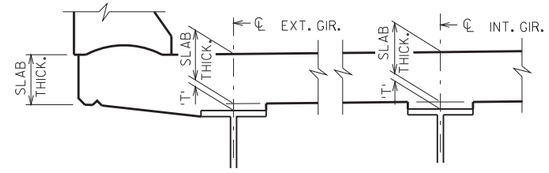
SHOWING DEADLOAD DEFLECTION ONLY

DEFLECTIONS GIVEN IN INCHES



DEFLECTION DIAGRAM

(TYP. ALL SPANS)



CONCRETE HAUNCH DETAILS

TO DETERMINE 'T': AFTER ALL STRUCTURAL STEEL HAS BEEN ERECTED. ELEVATIONS OF THE TOP FLANGES, TOP OF SPLICE PLATES, OR TOP OF COVER PLATES, WHICHEVER APPLIES, SHALL BE TAKEN AT CENTERLINE OF BEARINGS, CENTERLINE OF FIELD SPLICES, AND AT 1/10 POINTS.

TOP OF DECK ELEV. AT FINAL GRADE.
- TOP OF STEEL ELEV. AFTER PLACEMENT.
+ DEFLECTION (CONCRETE ONLY)
- SLAB THICKNESS (10")
= 'T' VALUE FOR SETTING HAUNCH.

TOP OF DECK ELEVATIONS

	℄ BRG. S. ABUT.	1/10 PT.	2/10 PT.	3/10 PT.	4/10 PT.	5/10 PT.	6/10 PT.	7/10 PT.	8/10 PT.	9/10 PT.	℄ PIER 1	1/10 PT.	2/10 PT.	3/10 PT.	4/10 PT.	5/10 PT.	6/10 PT.	7/10 PT.	8/10 PT.	9/10 PT.	℄ PIER 2
GIRDER 1	816.72	816.80	816.88	816.96	817.03	817.11	817.19	817.26	817.34	817.42	817.49	817.59	817.68	817.78	817.87	817.97	818.06	818.16	818.25	818.35	818.44
GIRDER 2	816.95	817.03	817.11	817.19	817.26	817.34	817.42	817.49	817.57	817.65	817.72	817.82	817.91	818.01	818.10	818.20	818.29	818.39	818.48	818.57	818.67
GIRDER 3	816.94	817.02	817.10	817.17	817.25	817.33	817.41	817.48	817.56	817.64	817.71	817.81	817.90	818.00	818.09	818.19	818.28	818.38	818.47	818.56	818.66
GIRDER 4	816.67	816.75	816.83	816.90	816.98	817.06	817.14	817.21	817.29	817.37	817.44	817.54	817.63	817.73	817.82	817.92	818.01	818.10	818.20	818.29	818.39

TOP OF DECK ELEVATIONS

	℄ PIER 2	1/10 PT.	2/10 PT.	3/10 PT.	4/10 PT.	5/10 PT.	6/10 PT.	7/10 PT.	8/10 PT.	9/10 PT.	℄ PIER 3	1/10 PT.	2/10 PT.	3/10 PT.	4/10 PT.	5/10 PT.	6/10 PT.	7/10 PT.	8/10 PT.	9/10 PT.	℄ BRG. N. ABUT.
GIRDER 1	818.44	818.53	818.63	818.72	818.82	818.93	819.09	819.28	819.50	819.76	820.06	820.34	820.64	820.97	821.33	821.71	822.12	822.56	823.02	823.51	824.02
GIRDER 2	818.67	818.76	818.86	818.95	819.05	819.16	819.30	819.48	819.70	819.95	820.24	820.51	820.81	821.14	821.49	821.87	822.27	822.70	823.15	823.63	824.14
GIRDER 3	818.66	818.75	818.85	818.84	819.04	819.14	819.28	819.45	819.66	819.90	820.18	820.45	820.74	821.06	821.41	821.78	822.17	722.60	823.04	823.52	824.02
GIRDER 4	818.39	818.48	818.58	818.67	818.77	818.87	818.99	819.16	819.36	819.60	819.87	820.13	820.42	820.73	821.07	821.43	821.82	822.24	822.68	823.15	823.64

TOP OF STEEL ELEVATIONS

	℄ BRG. S. ABUT.	℄ F.S. # 1	℄ F.S. # 2	℄ PIER 1	℄ F.S. # 3	℄ F.S. # 4	℄ PIER 2	℄ F.S. # 5	℄ F.S. # 6	℄ PIER 3	℄ F.S. # 7	℄ F.S. # 8	℄ BRG. N. ABUT.
GIRDER 1	815.72	816.14	816.46	816.49	816.90	817.37	817.44	817.81	818.51	819.06	820.14	822.33	823.02
GIRDER 2	815.95	816.37	816.69	816.72	817.13	817.60	817.67	818.04	818.71	819.25	820.31	822.46	823.14
GIRDER 3	815.94	816.36	816.68	816.71	817.12	817.59	817.66	818.03	818.67	819.19	820.23	822.35	823.02
GIRDER 4	815.67	816.09	816.41	816.43	816.85	817.32	817.39	817.76	818.38	818.88	819.90	821.98	822.64

TOP OF STEEL ELEVATIONS ARE GIVEN TO TOP OF STEEL, (SPLICE & COVER PLATE THICKNESS, IF APPLICABLE, ARE ACCOUNTED FOR) & THEY ARE FOR THE MATERIAL AS ERECTED. THE ELEVATION OF THE TOP OF STEEL AT THE FIELD SPLICE POINTS SHALL BE CHECKED, & CORRECTED, IF POSSIBLE AFTER ERECTION & BEFORE PERMANENTLY BOLTING THE CROSS FRAMING IN PLACE.

8

8

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-18-168

DRAWN BY CRJ | PLANS CK'D. VT

SUPERSTUCTURE DETAILS

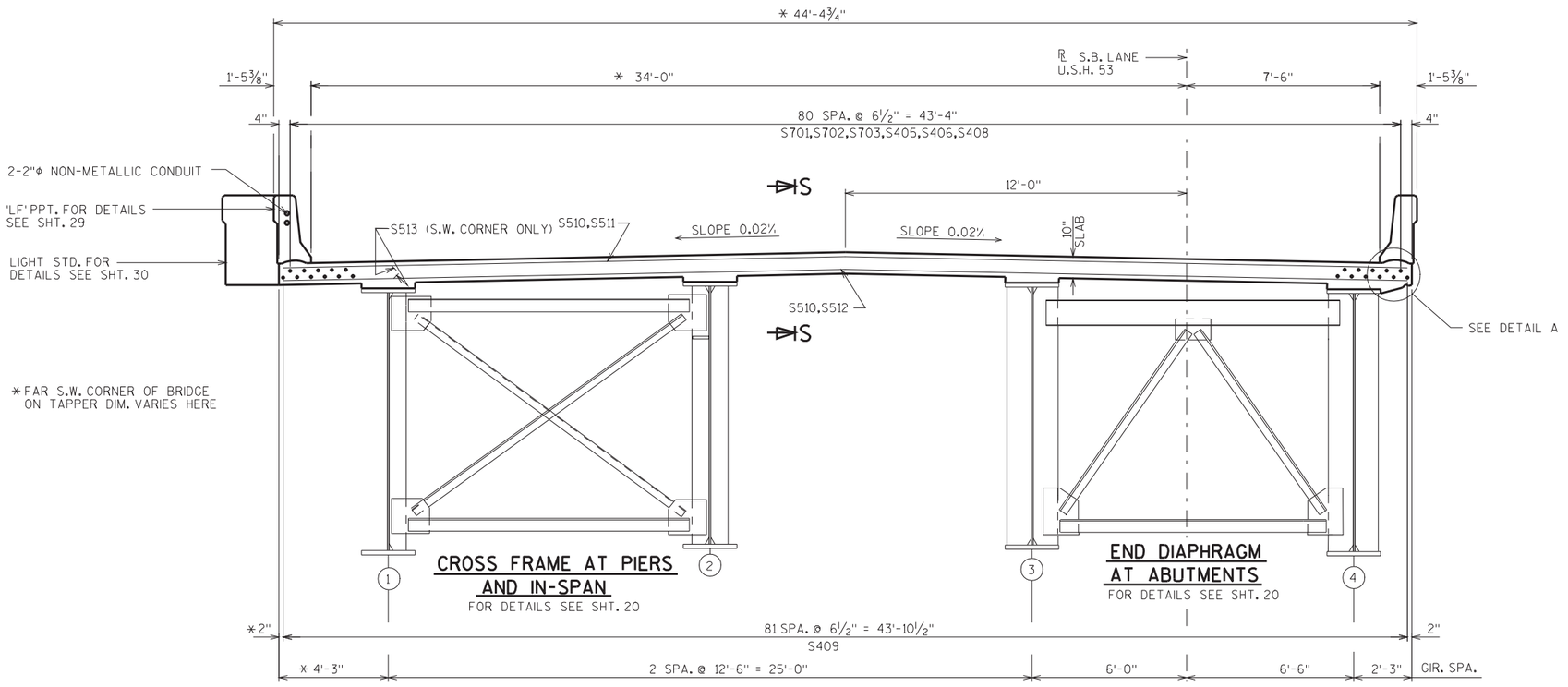
SHEET 21

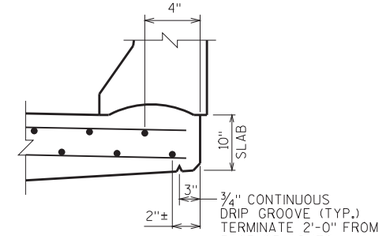
93

FILE= 21-168SUPDETAILS.DGN
SCALE = 20

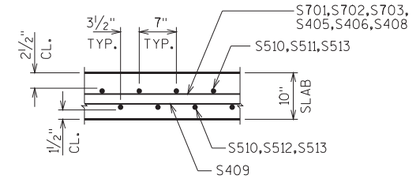
STATE PROJECT NUMBER

1190-00-75





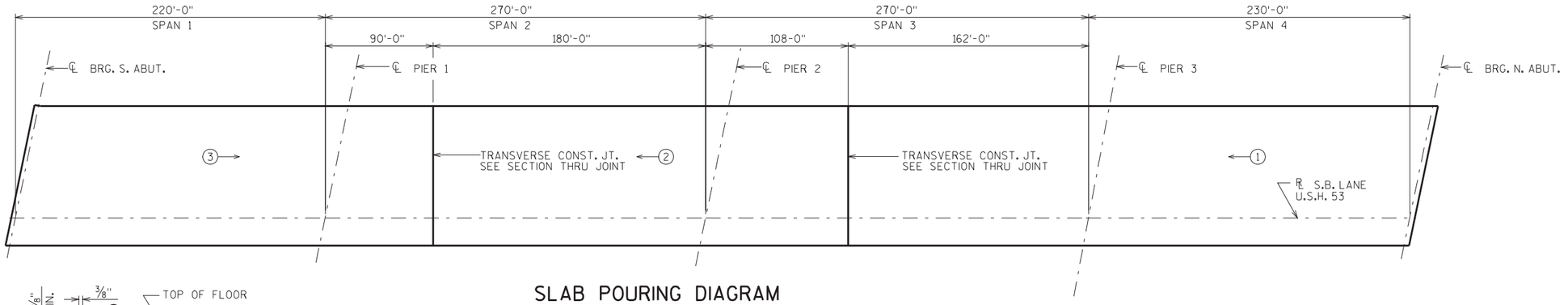
DETAIL A



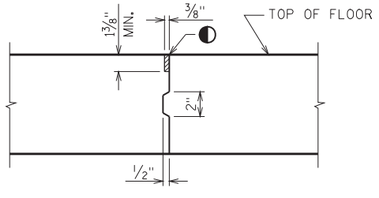
SECTION S

CROSS SECTION THRU ROADWAY

(LOOKING NORTH)



SLAB POURING DIAGRAM



SECTION THRU JOINT

◐ PREFORMED ELASTOMERIC JOINT SEAL (COMPRESSED) EXTEND SEAL 4" BEYOND GUTTERLINE AND SEAL ENDS. USE UNCOMPRESSED SEAL DIMENSIONS OF 9/16" WIDTH X 11/16" HEIGHT WITH A TOLERANCE OF PLUS 1/16" ONLY.

NOTES

THE RATE OF PLACING CONCRETE SHALL EXCEED 80 CU. YDS. PER HOUR

TRANSVERSE CONSTRUCTION JOINTS, EXCEPT THOSE ADJACENT TO IN SPAN HINGES, MAY BE OMITTED WITH THE APPROVAL OF THE STRUCTURES DESIGN SECTION.

TWO OR MORE ALTERNATE POURS MAY BE PLACED ON THE SAME DAY.

THE CONTRACTOR MAY SUBMIT AN ALTERNATE POURING SEQUENCE SUBJECT TO THE APPROVAL OF THE STRUCTURES DESIGN SECTION.

LEGEND

←○ INDICATES POUR NUMBER AND REQUIRED DIRECTION OF POUR

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-18-168

DRAWN BY CRJ | PLANS CK'D. VT

SUPERSTRUCTURE CROSS SECTION

SHEET 22

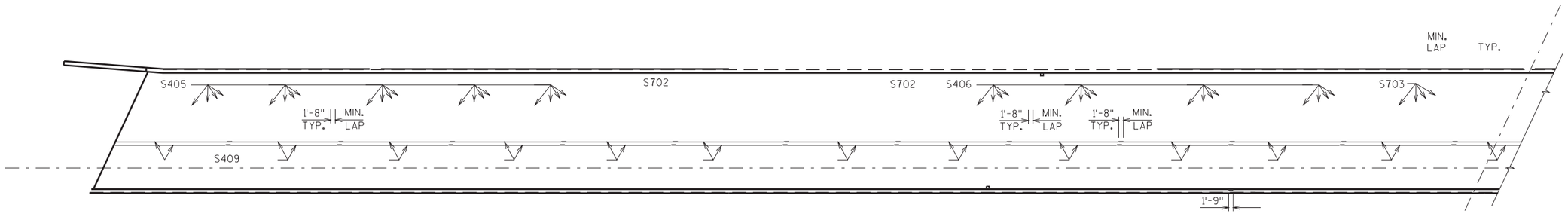
94

8

8

FILE= 22-168SUPXSECTION.DGN
SCALE = 2.666

STATE PROJECT NUMBER
1190-00-75



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NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-18-168

DRAWN BY CRJ | PLANS CK'D. VT

SUPERSTRUCTURE PLAN

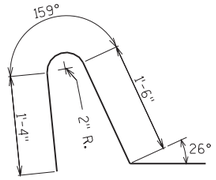
SHEET 23

95

FILE= 23-168SUPERSTRUCTURE.
SCALE = 20

STATE PROJECT NUMBER

1190-00-75



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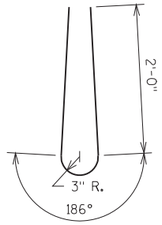

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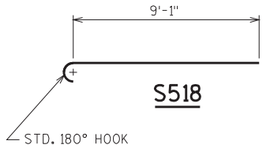

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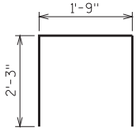

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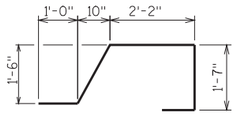

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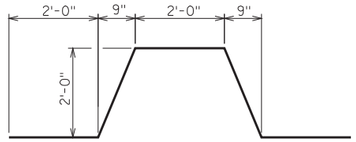

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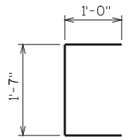

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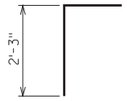

S523

BILL OF BARS

NOTE: THE FIRST OR FIRST TWO DIGITS OF THE BAR MARK SIGNIFIES THE BAR SIZE.

BAR MARK	COAT	NO. REQ'D.	LENGTH	BENT	BAR SERIES	LOCATION
S701	X	243	45'-0"			SLAB-LONGIT.-TOP-OVER PIERS
S702	X	324	38'-3"			SLAB-LONGIT.-NEAR PIERS 1 & 3
S703	X	162	36'-9"			SLAB-LONGIT.-TOP-NEAR PIER 2
S704	X	NOT	USED			———
S405	X	405	35'-6"			SLAB-LONGIT.-TOP-SPAN 1
S406	X	648	41'-1"			SLAB-LONGIT.-TOP-SPAN 2 & 3
S407	X	NOT	USED			———
S408	X	405	37'-6"			SLAB-LONGIT.-TOP-SPAN 4
S409	X	2050	41'-6"			SLAB-LONGIT.-BOT.
S510	X	3333	43'-8"			SLAB-TRANS.-TOP & BOT.
⚠ S511	X	68	22'-3"		X	SLAB-TRANS.-TOP
⚠ S512	X	68	22'-10		X	SLAB-TRANS.-BOT.
S513	X	14	3'-2"			SLAB-TRANS.-TOP & BOT.-S.W. CORNER
S514	X	2978	4'-2"	X		"LF"-PPT-VERT.
S515	X	2978	4'-10"	X		"LF"-PPT.-VERT.
S516	X	250	41'-5"			"LF"-PPT.- HORIZ.
S517	X	84	9'-1"			LIGHT STD.-HORIZ.
S518	X	84	9'-9"	X		LIGHT STD.-HORIZ.
S519	X	28	6'-0"	X		LIGHT STD.-VERT.
S520	X	28	7'-0"	X		LIGHT STD.-VERT.
S621	X	49	10'-0"	X		LIGHT STD.-HORIZ.
S522	X	14	3'-5"	X		LIGHT STD.-VERT.
S523	X	14	3'-2"	X		LIGHT STD.-VERT.
S524	X	16	5'-0"			SLAB-FOOR DRAINS

⚠ LENGTH SHOWN FOR BAR IS AN AVERAGE LENGTH AND SHOULD ONLY BE USED FOR BAR WEIGHT CALCULATIONS. SEE BAR SERIES TABLE FOR ACTUAL LENGTHS.

BAR SERIES TABLE

MARK	NO. REQD.	LENGTH
S511	2 SERIES OF 34	1'-7" TO 42'-10"
S512	2 SERIES OF 34	2'-2" TO 43'-5"

BUNDLE AND TAG EACH SERIES SEPARATELY.

8

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NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-18-168

DRAWN BY CRJ | PLANS CK'D. VT

SUPERSTRUCTURE BAR DETAILS

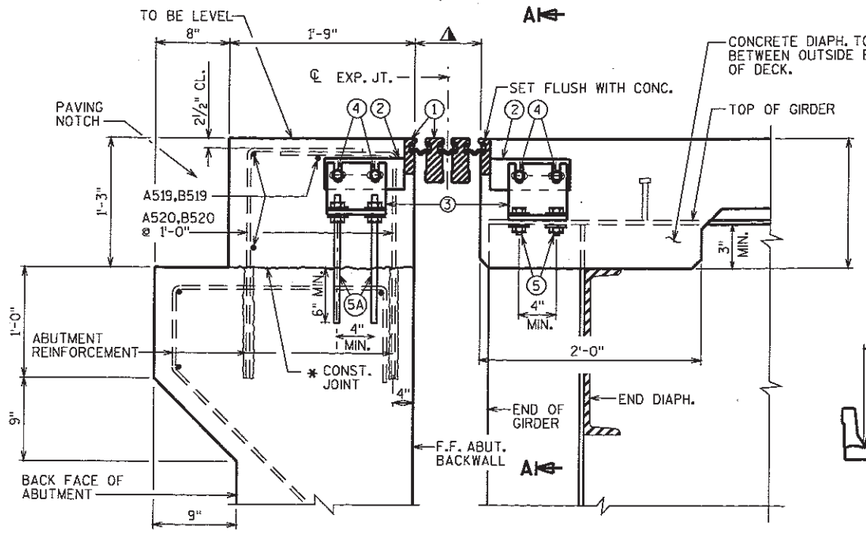
SHEET 24

96

FILE= 24-168SUPBARS.DGN
SCALE = 2

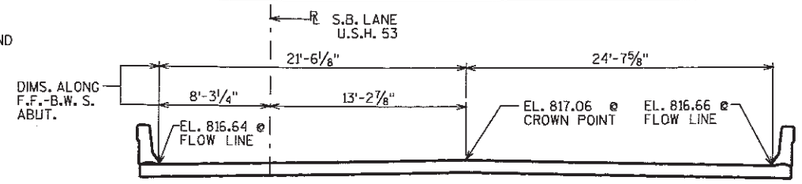
STATE PROJECT NUMBER

1190-00-75



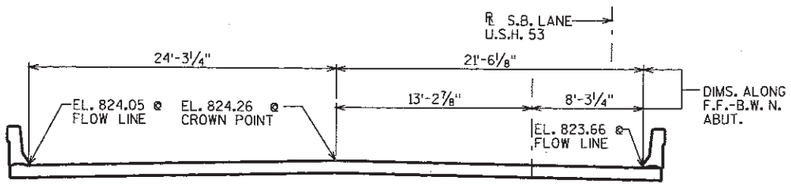
SECTION THRU JOINT @ ABUTMENT

NORMAL TO ℄ SUBSTRUCTURE



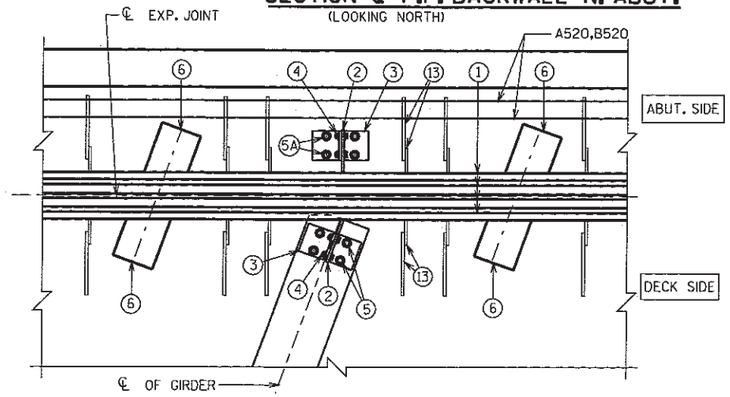
SECTION @ F.F. BACKWALL S. ABUT.

(LOOKING SOUTH)



SECTION @ F.F. BACKWALL N. ABUT.

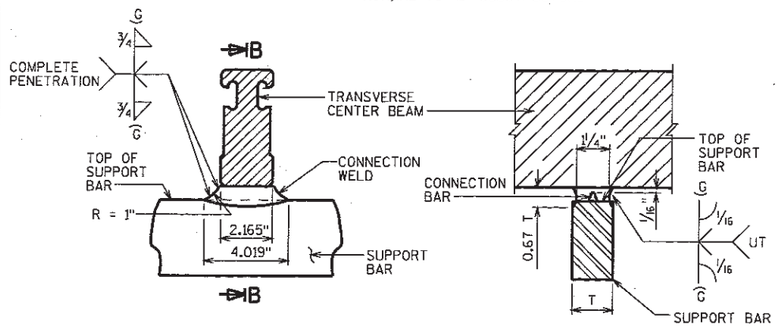
(LOOKING NORTH)



PART PLAN

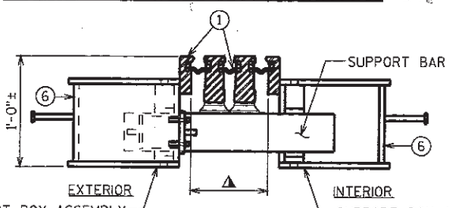
NOTE:
FABRICATOR WILL DESIGN EACH JOINT DEPENDING ON THE CONDITIONS AND THE DESIGN CRITERIA USED BY THE SUPPLIER. FABRICATION DRAWING IS SUBJECT TO THE APPROVAL OF THE BUREAU OF STRUCTURES.

SUPPORT BOXES ARE SHOWN FOR GENERAL INFORMATION AND LOCATION MAY VARY ACCORDING TO FABRICATOR DESIGN.



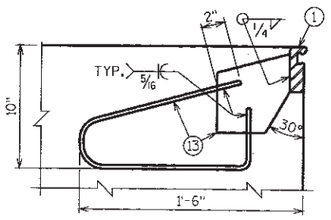
MODULAR EXPANSION JOINT CONNECTION DETAIL AND WELD SPECIFICATION

SECTION B-B



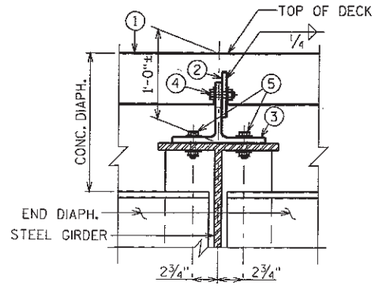
JOINT DETAIL

AT SUPPORT BAR & SUPPORT BOX ASSEMBLY



ANCHORAGE DETAIL

PLACE ADJACENT TO SUPPORT BOXES IN PAVING BLOCK @ ABUT. & IN DECK @ CONC. DIAPH.



SECTION A-A

LEGEND

1. MODULAR EXPANSION JOINT DEVICE.
2. ½" PLATE, ONE PER GIRDER MIN. PROVIDE 2 - 1" X 2" MIN. SLOTTED HOLES PLACED HORIZONTALLY FOR NO. 4.
3. WT 6 X 29 (OR EQUIVALENT BUILT UP T-SECTION). ONE PER GIRDER. PROVIDE 2 - 1" X 3" MIN. SLOTTED HOLES PLACED VERTICALLY IN WEB OF WT FOR BOLTS NO. 4.
4. ¾" ϕ HIGH STRENGTH BOLTS WITH NUTS & WASHERS. (A325 GALV.)
5. ¾" ϕ HIGH STRENGTH BOLTS WITH NUTS & WASHERS. FIELD DRILL HOLES IN GIRDER TOP FLANGE. (A325 GALV.)
5A. ¾" ϕ THREADED ROD WITH 2 NUTS & WASHERS. GROUT THREADED ROD INTO FIELD DRILLED HOLES. (GALV.)
6. SUPPORT BOX ASSEMBLY FOR SUPPORT BAR (SPA. PER MANUFACTURER). SPACE TO MISS GIRDERS. FABRICATE BOX FROM ½" PLATES.
7. ⅜" BULKHEAD PLATE. WELD TO NO. 1, NO. 8 AND NO.14.
8. INSIDE PLATE. FABRICATE FROM ⅜" PLATE.
9. OUTSIDE PLATE. FABRICATE FROM ⅝" PLATE.
10. ⅞" SQUARE BAR. WELD TO NO. 8 AS SHOWN.
11. ¾" ϕ X 4" LONG STUDS. WELD TO NO. 8 , NO. 7 & NO. 14 AS SHOWN.
12. ¾" ϕ X 2" STAINLESS STEEL FLAT CTSK. SLOTTED HEAD CAP SCREWS. RECESS 1/16" BELOW PLATE SURFACE.
13. ½" PLATE WITH ⅝" ϕ LOOP ANCHOR FABRICATED AS SHOWN. SPACED AT MANUFACTURER'S SPEC.
14. INSIDE PLATE. FABRICATE FROM ⅝" PLATE
15. ADIPRENE BUTTON. SEE DETAIL. SET IN OUTSIDE PLATE.

* POUR CONC. ABOVE THIS JOINT AFTER SUPERSTRUCTURE CONC. IS IN PLACE. STRIKE OFF & LEAVE ROUGH.

▲ MANUFACTURER'S RECOMMENDED JOINT OPENING BASED ON THE TEMPERATURE ON THE DAY OF PLACEMENT PER TEMPERATURE TABLE.

MFR BY: D. S. BROWN, CHASKA MN
MODEL D-240 3-CELL MODULAR EXPANSION JOINT

GENERAL NOTES

ONE FIELD SPLICE PERMITTED IN STEEL EXTRUSIONS. DETAILS SHALL BE SUBMITTED FOR APPROVAL. NO SPLICING PERMITTED IN NEOPRENE GLAND.

AFTER FABRICATION, BUT BEFORE SHIPMENT, STRAIGHTEN STEEL EXTRUSIONS SUCH THAT THEY SHALL BE FREE FROM WARP, TWIST & SWEEP.

NO EXPANSION JOINT PROTRUSIONS PERMITTED ABOVE ROADWAY SURFACE, ON PARAPET ROADWAY FACE OR ABOVE SIDEWALK SURFACE (FOR RAISED SIDEWALK).

THE EXPANSION JOINT SEALS SHALL BE PLACED, BONDED & SEALED AS RECOMMENDED BY THE MANUFACTURER. FORM WORK SHALL BE PLACED BETWEEN THE SUPPORT BOXES TO PREVENT CONCRETE INTRUSION INTO THE SUPPORT BOX. A TECHNICAL REPRESENTATIVE OF THE MANUFACTURER SHALL BE PRESENT DURING INSTALLATION. PRIOR TO SETTING THE JOINT ASSEMBLY INTO POSITION, THE PROJECT ENGINEER SHALL DETERMINE THE PROPER JOINT OPENING.

EXPANSION JOINT EXTRUSIONS SHALL BE FABRICATED TO CONFORM TO ROADWAY CROWN & GRADE. FABRICATOR SHALL PROVIDE MEANS OF KEEPING GALVANIZED EXTRUSIONS CLEAN & SMOOTH DURING SHIPMENT AND PRIOR TO APPLYING LUBRICANT ADHESIVE FOR NEOPRENE GLAND INSTALLATION.

SANDBLAST BARS, PLATES, WT-SECTION, ANCHORAGE LOOP, & EXTRUSIONS AFTER FABRICATION IN ACCORDANCE WITH SSPC SP. #6 "COMMERCIAL BLAST CLEANING". AFTER BLAST CLEANING, THIS ASSEMBLY SHALL BE HOT DIPPED GALVANIZED.

COST OF FURNISHING & PLACING OF THE EXPANSION JOINTS COMPLETE WITH PARAPET PLATES & SIDEWALK PLATES SHALL BE PAID FOR UNDER THE PRICE BID FOR "EXPANSION DEVICE MODULAR B-18-168".

BAR STEEL REINF. IN DECK AND CONC. DIAPHRAGM SHALL BE RESPACED AS NECESSARY TO ALLOW PLACEMENT OF JOINT ASSEMBLY.

TEMP. TABLE

TEMPERATURE TABLE FOR SETTING JOINT OPENINGS TO BE DETERMINED BY JOINT MANUFACTURER WITH THE FOLLOWING DESIGN DATA:

1. ¾IN. OF MOVEMENT PER 10° F
2. MEDIAN TEMPERATURE OF 45° F
3. TEMP. RANGE IN TABLE FROM (- 5° F) TO (+ 95°F)

A TABLE OF JOINT OPENINGS BASED ON ABOVE DATA SHALL BE SUBMITTED TO THE ENGINEER FOR APPROVAL.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-18-168

DRAWN BY CRJ | PLANS CK'D. VT

EXPANSION DEVICE

SHEET 25

97/97

8

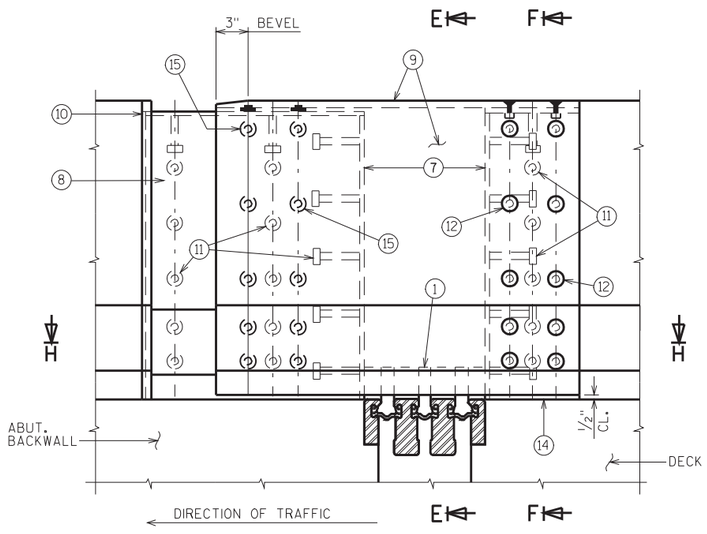
1 2 3 5

8

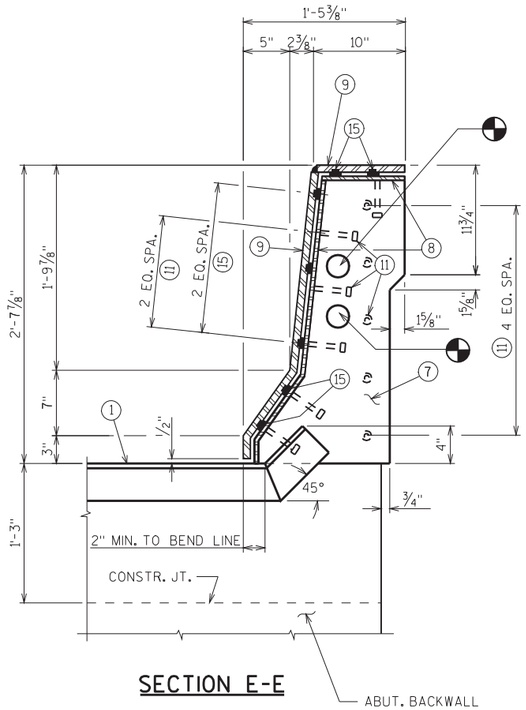
FILE= 25-16MODJT.DGN
SCALE = 1

STATE PROJECT NUMBER

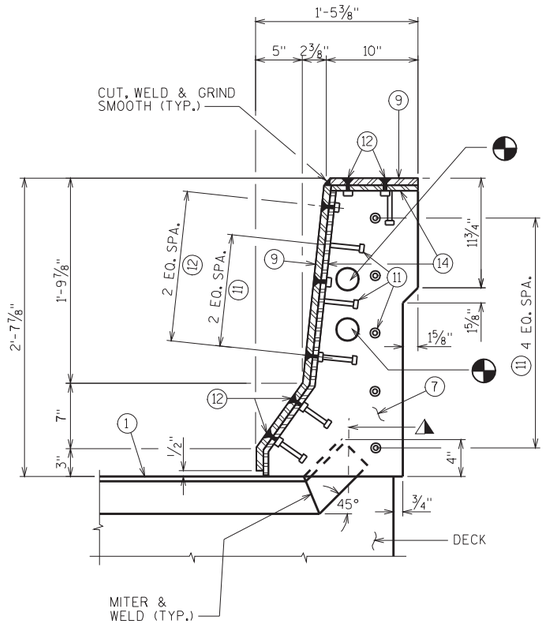
1190-00-75



ELEVATION OF PARAPET

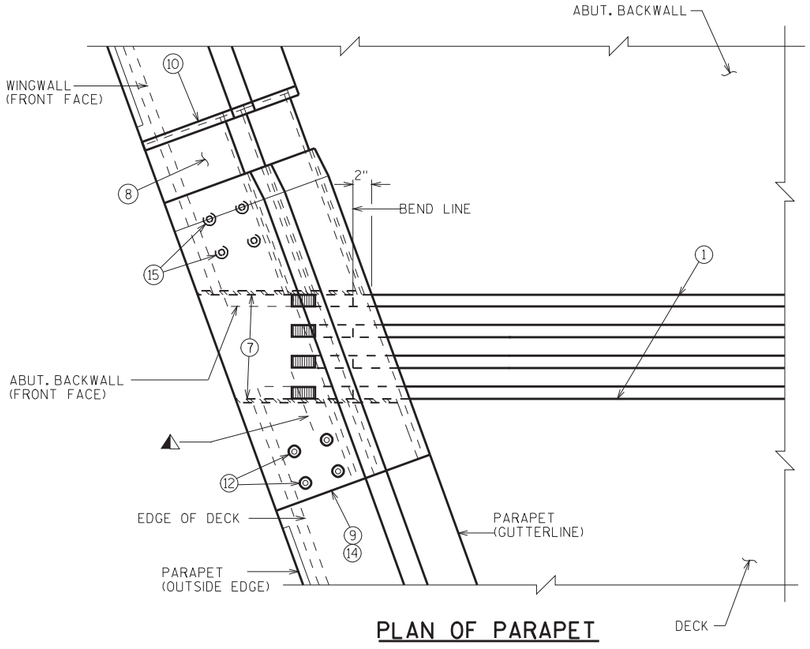


SECTION E-E

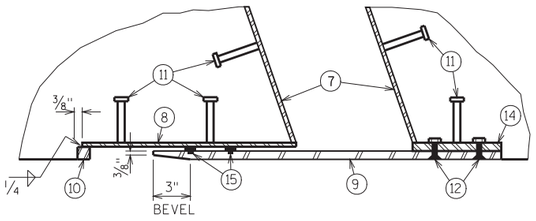


SECTION F-F

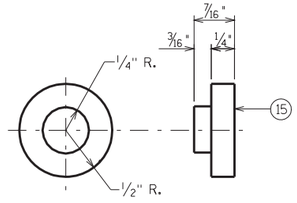
AT WINGS 2 & 3 , PROVIDE HOLES IN BULKHEAD PLATES FOR CONDUITS. AS DETAILED ON LIGHTING SHTS



PLAN OF PARAPET



SECTION H-H



ADIPRENE BUTTON DETAIL

MITER EXTRUSION ENDS AS REQ'D TO PROVIDE CLEARANCE

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-18-168

DRAWN BY CRJ | PLANS CK'D. VT

EXPANSION DEVICE DETAILS

SHEET 26

98

8

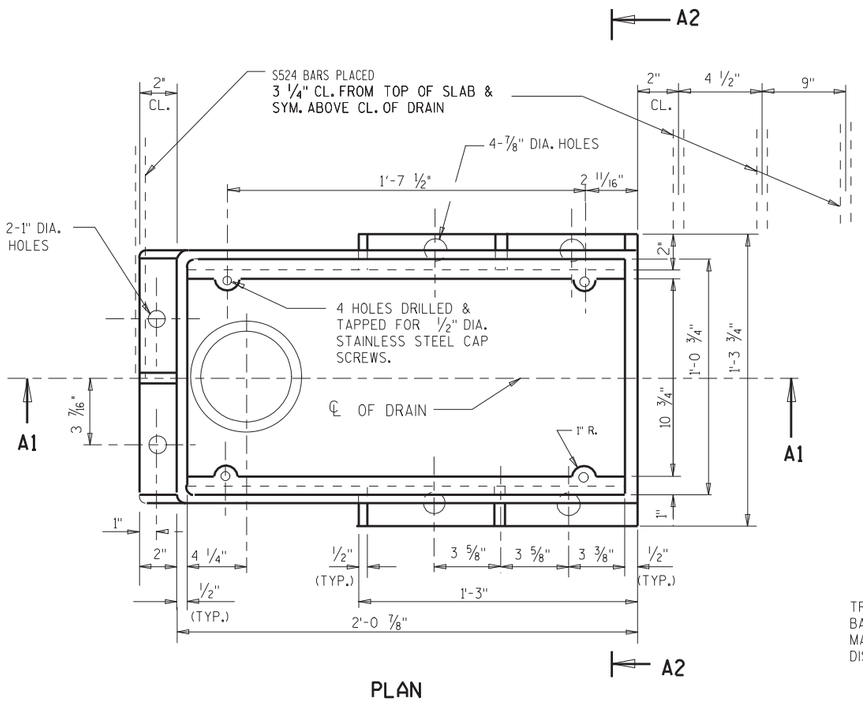
12345

8

FILE= 26-168MODDETAILS.DGN
SCALE = 1

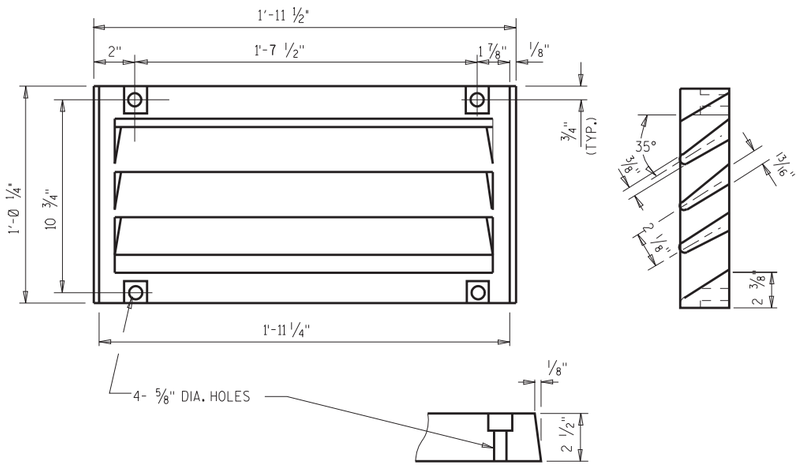
STATE PROJECT NUMBER

1190-00-75



PLAN

TRANS. AND LONGIT. SLAB BAR REINF. TO BE CUT A MAX. 1" CL. FROM DRAIN DISPLACE BARS WHERE POSSIBLE



GRATE CASTING DETAIL

ATTACH GRATE TO FRAME FOR SHIPMENT

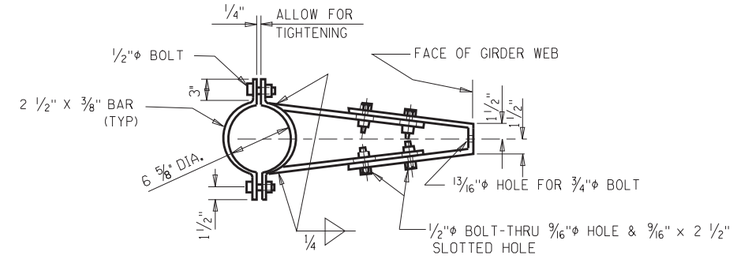
GENERAL NOTES

ALL MATERIAL FOR TYPE "GC" CASTING, EXCLUDING GRATE HOLD DOWN SCREWS, SHALL BE GRAY IRON CONFORMING TO A.S.T.M. A48, CLASS 30. (APPROX. WEIGHT = 225#)

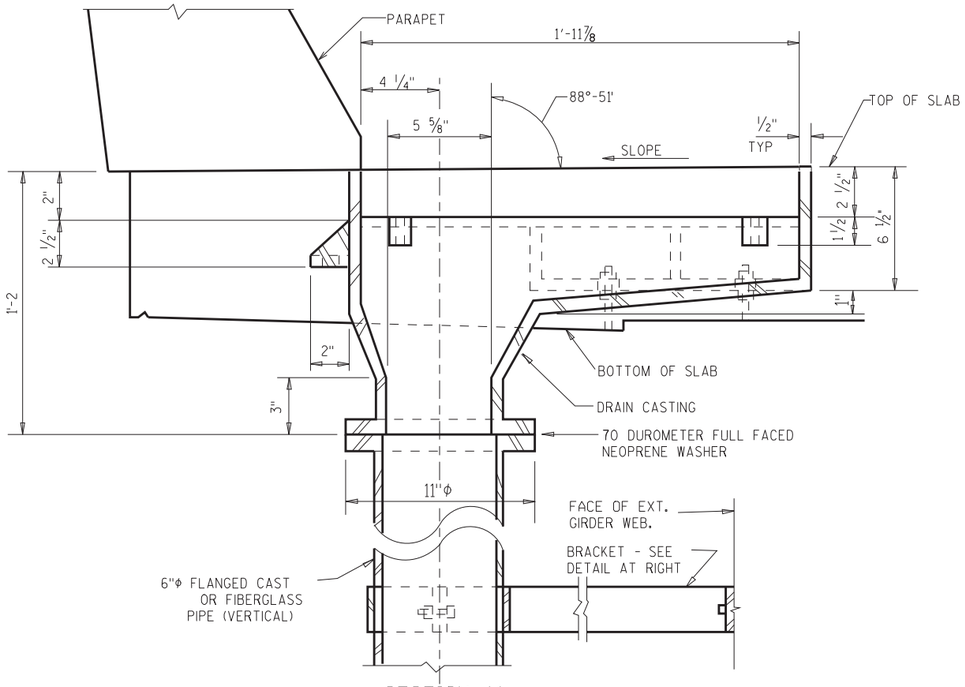
MATERIAL FOR BRACKETS SHALL CONFORM TO A.S.T.M. A36.

THE CONTRACTOR MAY PROPOSE AN ALTERNATE TYPE OF BRACKET. THE PROPOSED ALTERNATE DETAILS SHALL BE SUBMITTED AND SUBJECT TO THE APPROVAL OF THE ENGINEER.

FLANGED 6" DIA. DOWNSPOUTS SHALL BE EITHER CAST MATERIAL OR FIBERGLASS CONFORMING TO A.S.T.M. D2996, GRADE I, CLASS A.

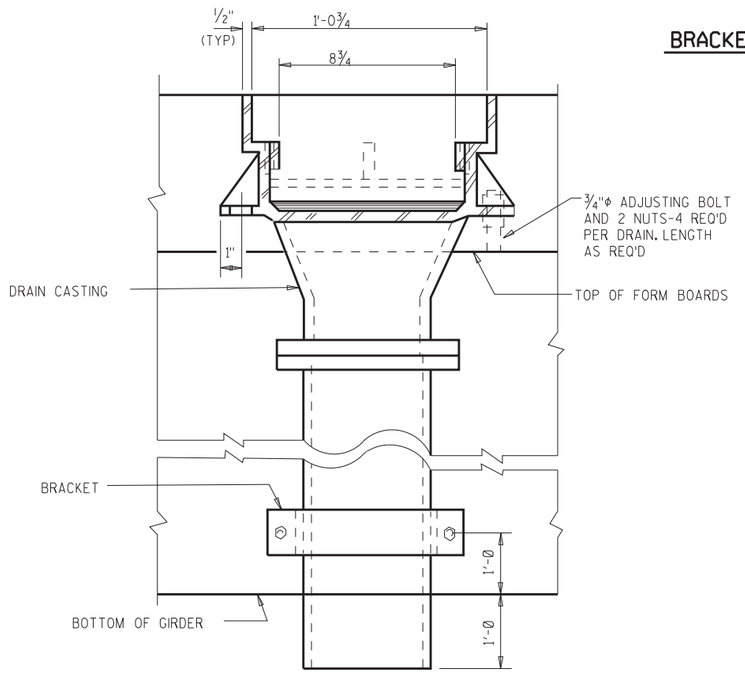


BRACKET DETAIL



SECTION A1

MOVE DRAINS TO MISS STIFFENERS AND CROSS FRAMING IF NECESSARY



SECTION A2

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-18-168

DRAWN BY CRJ | PLANS CK'D. VT

FLOOR DRAIN TYPE ' GC '

SHEET 27

99

8

8

FILE= 27-168GCDRAIN.DGN
SCALE = .084

STATE PROJECT NUMBER

1190-00-75

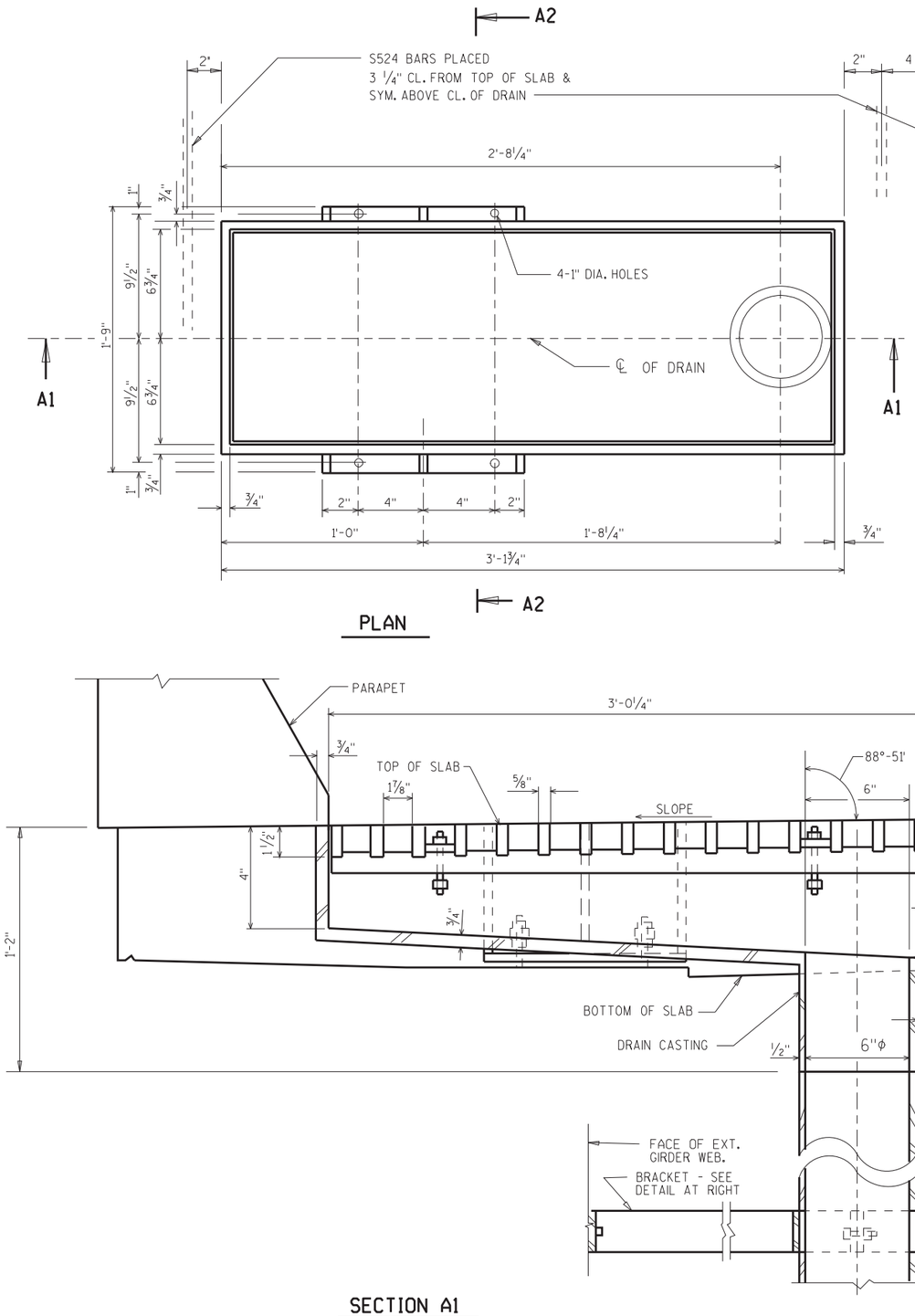
GENERAL NOTES

ALL MATERIAL FOR TYPE "R-4014-C" CASTING, EXCLUDING GRATE HOLD DOWN SCREWS, SHALL BE GRAY IRON CONFORMING TO A.S.T.M. A48, CLASS 35B OR BETTER. (APPROX. WEIGHT = 380#) NO PAINT.

MATERIAL FOR BRACKETS SHALL CONFORM TO A.S.T.M. A36.

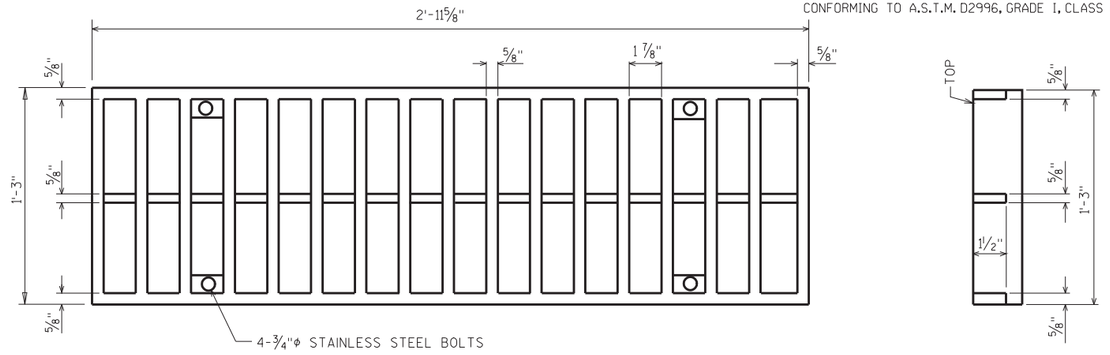
THE CONTRACTOR MAY PROPOSE AN ALTERNATE TYPE OF BRACKET. THE PROPOSED ALTERNATE DETAILS SHALL BE SUBMITTED AND SUBJECT TO THE APPROVAL OF THE ENGINEER.

FLANGED 6" DIA. DOWNSPOUTS SHALL BE EITHER CAST MATERIAL OR FIBERGLASS CONFORMING TO A.S.T.M. D2996, GRADE I, CLASS A.



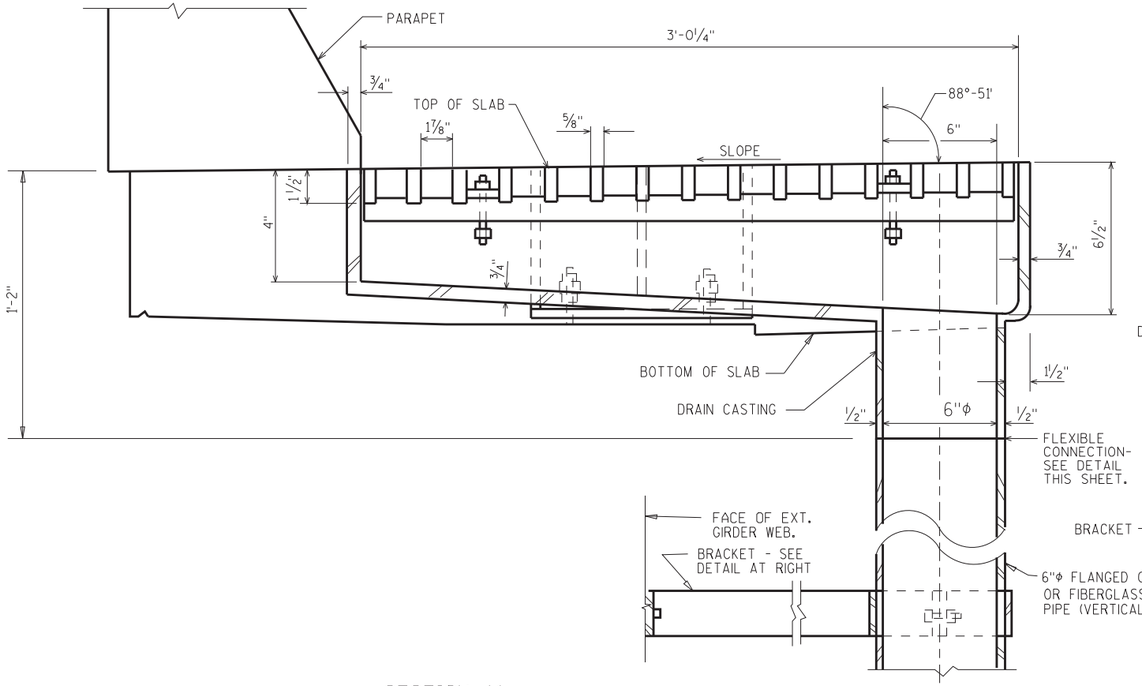
PLAN

TRANS. AND LONGIT. SLAB BAR REINF. TO BE CUT A MAX. 1" CL. FROM DRAIN DISPLACE BARS WHERE POSSIBLE



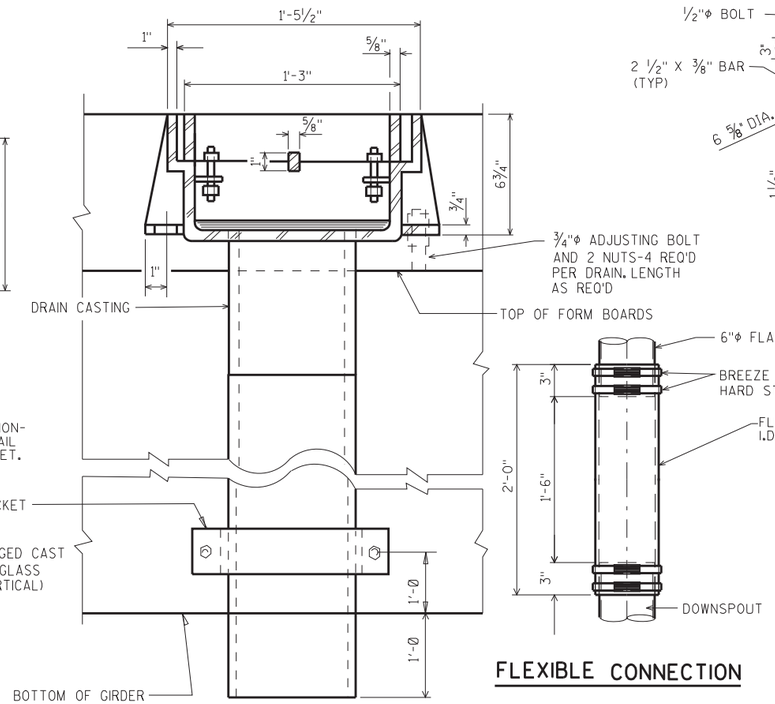
GRATE CASTING DETAIL

ATTACH GRATE TO FRAME FOR SHIPMENT

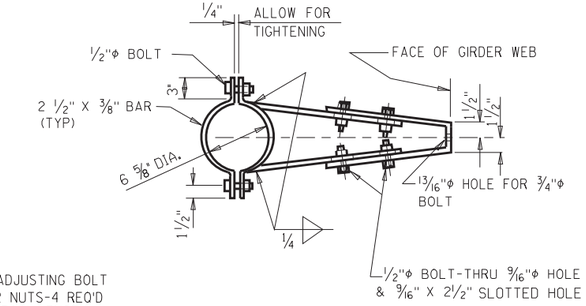


SECTION A1

MOVE DRAINS TO MISS STIFFENERS AND CROSS FRAMING IF NECESSARY



SECTION A2



BRACKET DETAIL

FLEXIBLE CONNECTION

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-18-168

DRAWN BY CRJ | PLANS CK'D. VT

FLOOR DRAIN
TYPE 'R-4014-C1'

SHEET 28

100

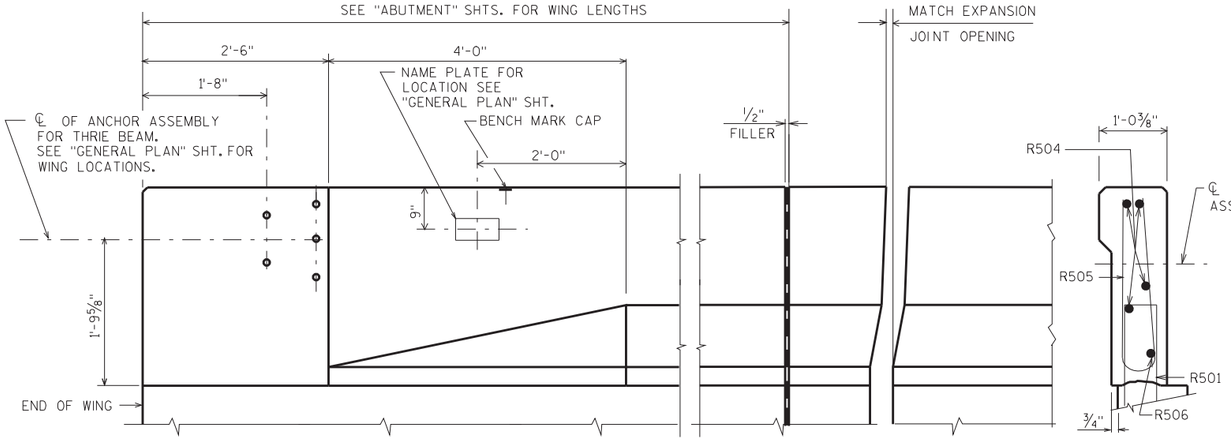
8

8

FILE= 28-1684014C1DRAIN.DGN
SCALE = .084

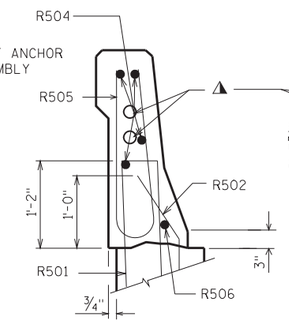
STATE PROJECT NUMBER

1190-00-75

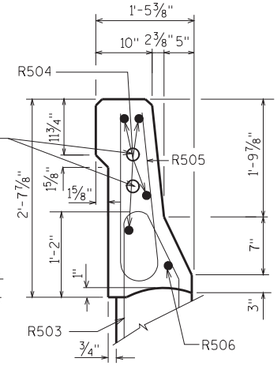


INSIDE ELEVATION

SECTION A



SECTION B

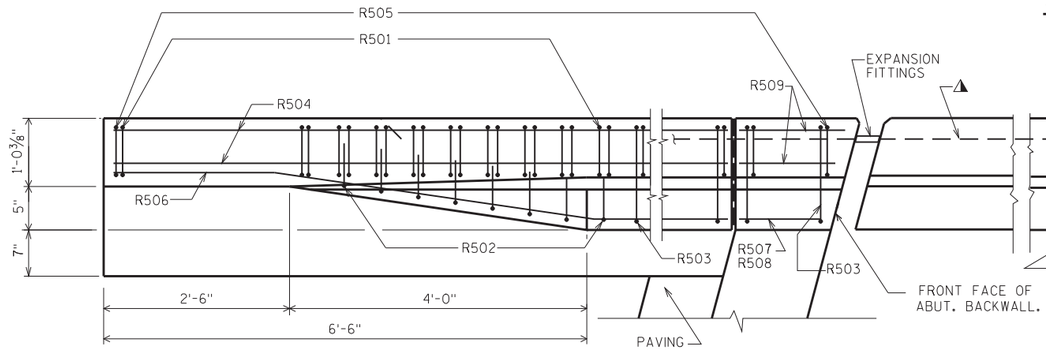


SECTION C

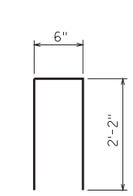
BILL OF BARS

FOR ABUTMENT PARAPETS

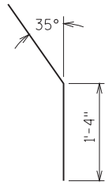
BAR MARK	COAT	S. ABUT.	N. ABUT.	LENGTH	BENT	BAR SERIES	LOCATION
R501	X	14	14	4'-7"	X		PARAPET VERT.
R502	X	8	8	2'-4"	X		PARAPET VERT.
R503	X	40	39	4'-7"	X		PARAPET VERT.
R504	X	4	4	29'-8"			PARAPET HORIZ.
R505	X	54	53	4'-10"	X		PARAPET VERT.
R506	X	1	1	29'-8"	X		PARAPET HORIZ.
R507	X	1	—	1'-8"			PARAPET HORIZ
R508	X	—	5	1'-2"			PARAPET HORIZ
R509	X	4	—	2'-0"			PARAPET HORIZ



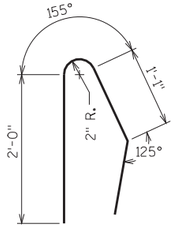
PLAN



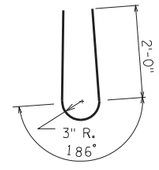
R501



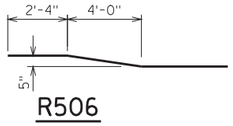
R502



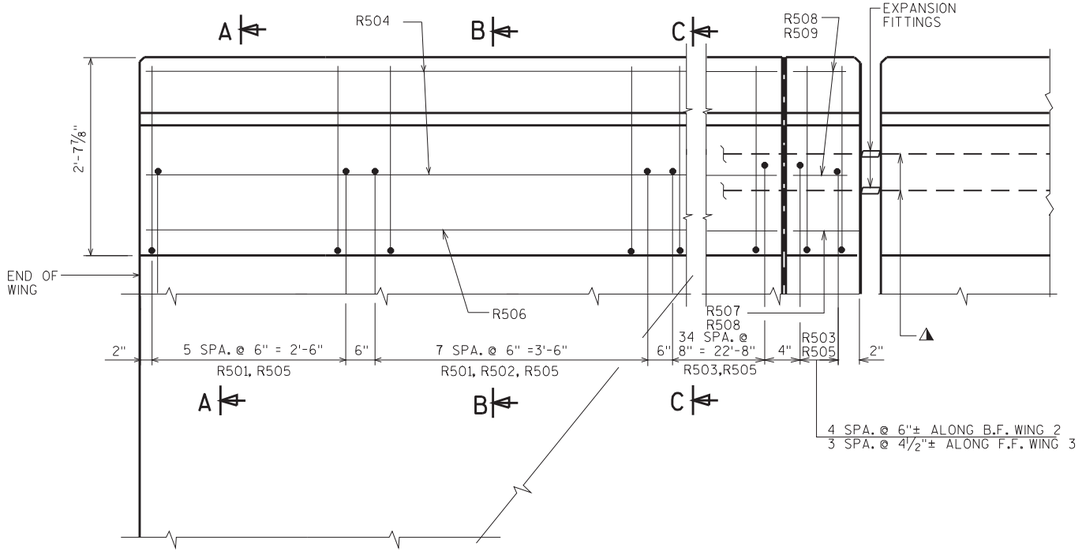
R503



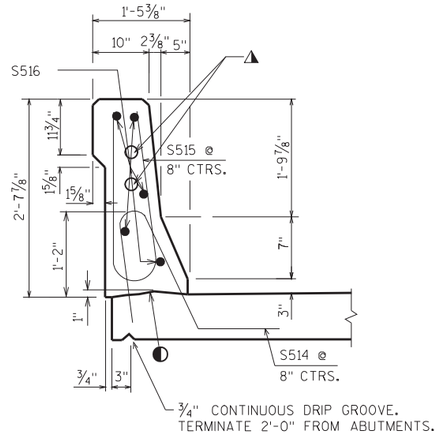
R505



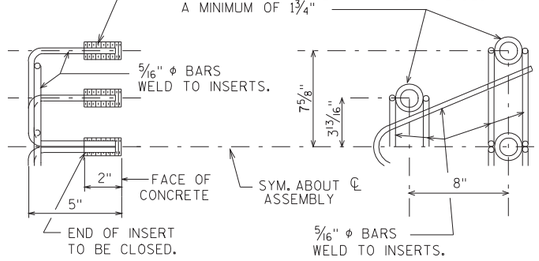
R506



OUTSIDE ELEVATION



SECTION THRU PARAPET ON BRIDGE



DETAIL OF ANCHOR ASSEMBLY

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

◐ CONST. JOINT - STRIKE OFF AS SHOWN.

◭ 2" Φ CONDUIT SEE LIGHTING DETAIL SHT.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
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STRUCTURES DESIGN SECTION

STRUCTURE B-18-168

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SLOPED FACE PARAPET LF

SHEET 29

101

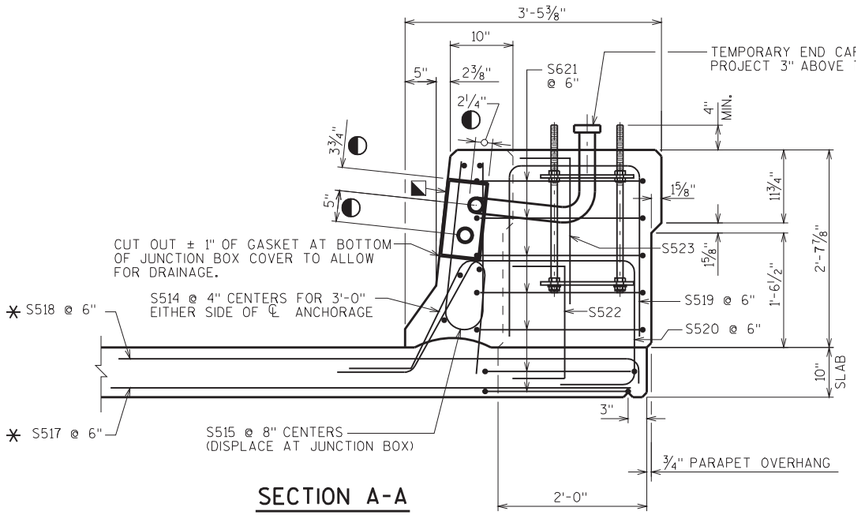
FILE= 29-168LFPPT.DGN
SCALE = 1

8

15 7 12

8

STATE PROJECT NUMBER
1190-00-75



SECTION A-A

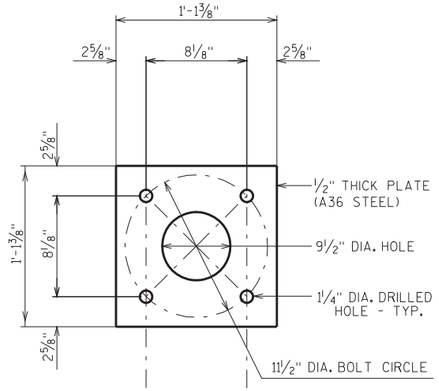
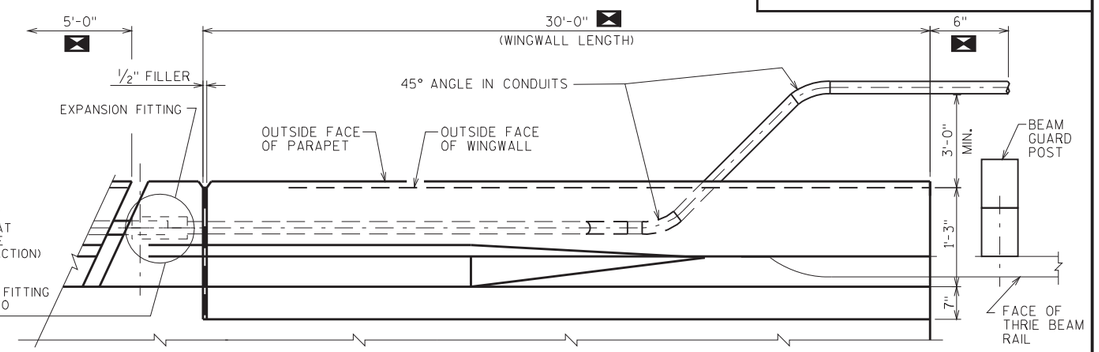
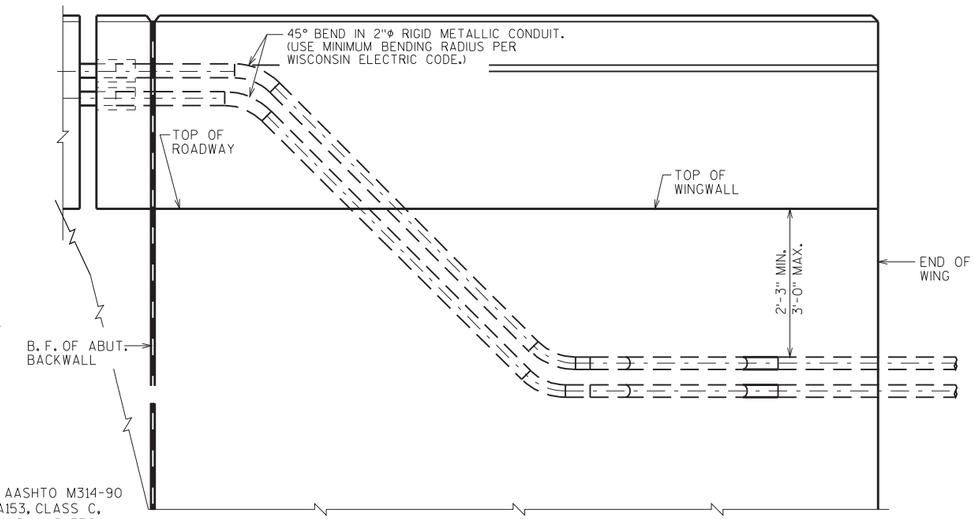


PLATE DETAIL

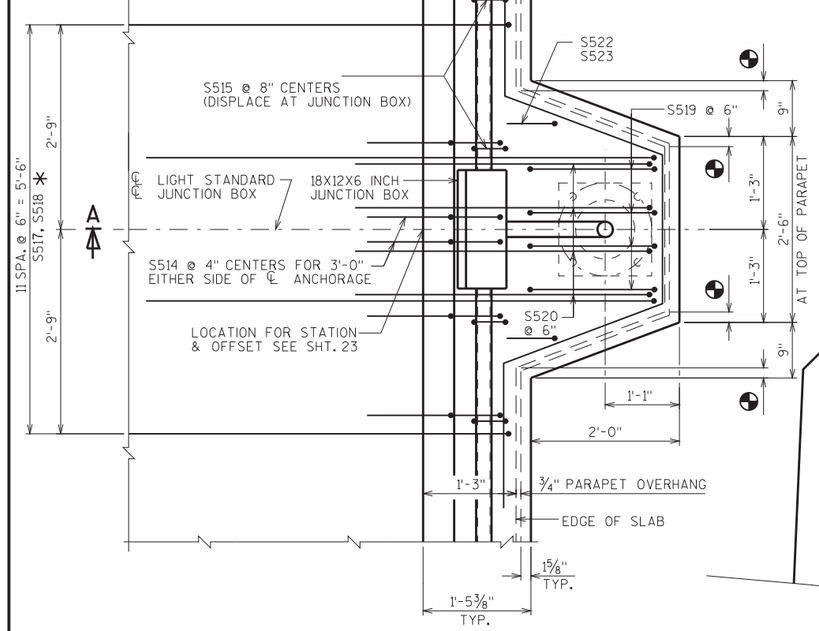


POSITION MOVABLE END OF CONDUIT INSIDE EXPANSION FITTING, SUCH THAT IT WILL HAVE THE SAME ALLOWANCE FOR MOVEMENT (EXPANSION/CONTRACTION) AS THE EXPANSION DEVICE SET IN PLACE IN THE DECK BELOW IT. TAKE CARE TO INSTALL EXPANSION FITTING AND CONDUIT EXACTLY PARALLEL TO BRIDGE MOVEMENT.

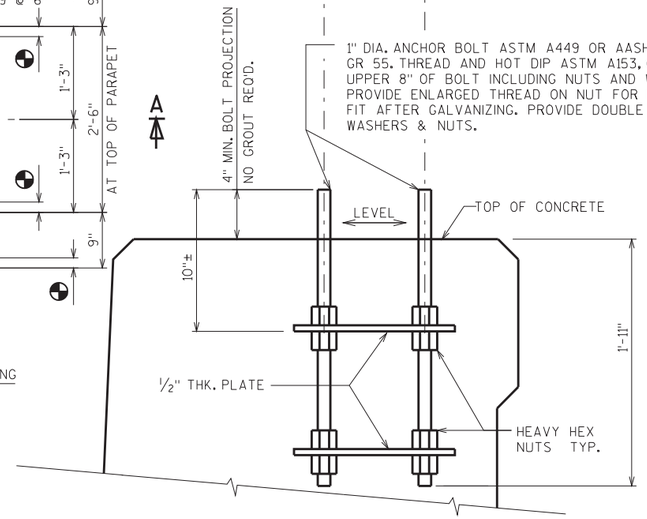
PLAN OF PARAPET AT WINGWALL



OUTSIDE ELEVATION OF PARAPET AT WINGWALL



PLAN AT LIGHT STANDARD



ANCHORAGE DETAIL

TO BE PAID FOR AS "ANCHOR ASSSEMBLIES LIGHT POLES" (7 REQ'D.)

USE 2-2"ϕ RIGID NONMETALLIC CONDUIT EXCEPT AT EXPANSION FITTING AT 5'-0" FROM THE EXPANSION JOINT AND WING WALL.

2-2"ϕ RIGID METALLIC CONDUIT WITH TEMPORARY END CAPS.

NOTES

BID ITEMS SHALL BE:
"JUNCTION BOXES 18X12X6-INCH", EACH.
"CONDUIT RIGID NONMETALLIC SCHEDULE 40 2-INCH"
"CONDUIT RIGID METALLIC 2-INCH".
EXPANSION FITTINGS, ANGLES AND ADAPTER FITTINGS TO BE INCIDENTAL TO "CONDUIT RIGID METALLIC 2-INCH".

WHEN CONNECTING NONMETALLIC CONDUIT TO METALLIC CONDUIT, ONLY ADAPTER FITTINGS U.L. LISTED FOR ELECTRICAL USE SHALL BE USED.

EXPANSION FITTING SHALL BE O-Z/GENDNEY TYPE EX-200 WITH PBS-200-12S AND BONDING JUMPER , OR EQUIVALENT.

* THESE BARS ARE IN ADDITION TO STANDARD TRANSVERSE BARS IN DECK.

JUNCTION BOX - O-Z GEDNEY - MODEL YR-181206 OR APPROVED EQUIVILANT, (CAST IRON CONSTRUCTION, HOT DIPPED GALVANIZED, NEOPRENE GASKET, STAINLESS STEEL COVER SCREWS.)

1 5/8"-DISTANCE TO EDGE OF SLAB AT BOTTOM OF PARAPET

MEASURED FROM OUTSIDE OF JUNCTION BOX

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-18-168

DRAWN BY	CRJ	PLANS CK'D.	VT

LIGHTING DETAILS

SHEET 30

102

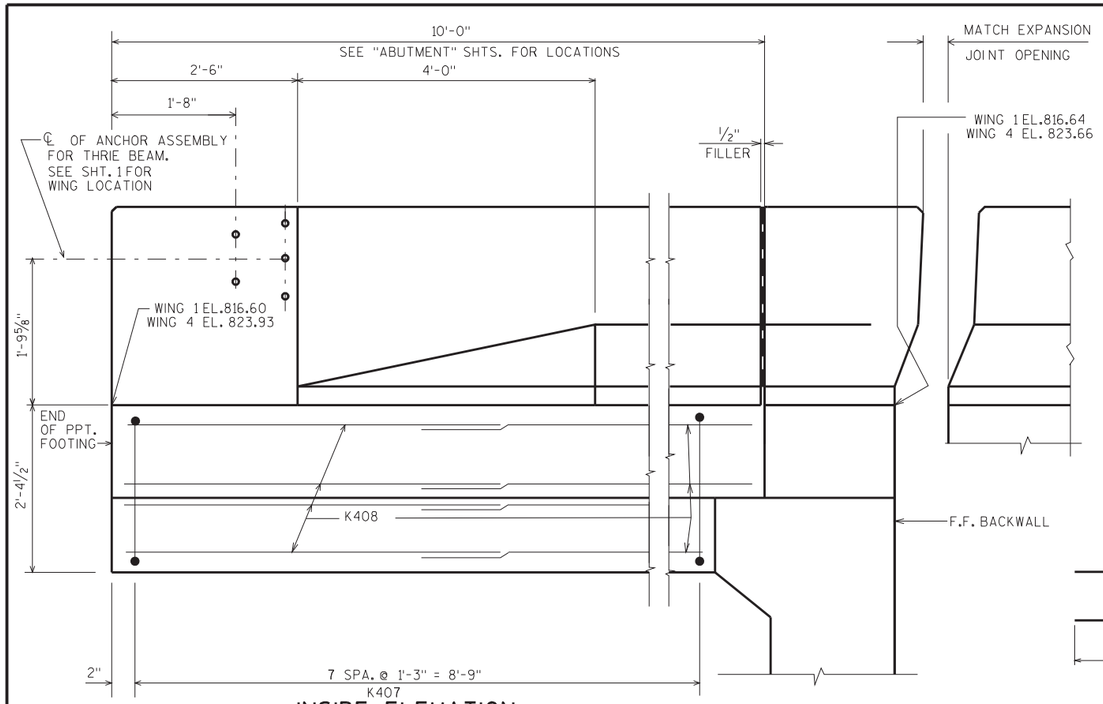
8

8

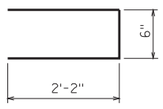
FILE= 30-168LIGHTINGDETAILS.D
SCALE = 1

STATE PROJECT NUMBER

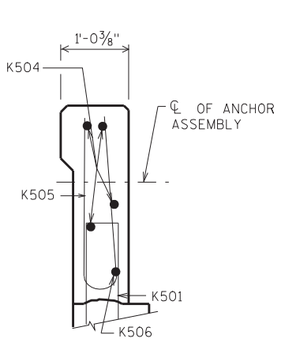
1190-00-75



INSIDE ELEVATION

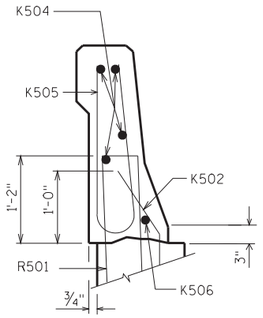


K501



SECTION A

(SEE SECTION C FOR FOOTING DETAILS)

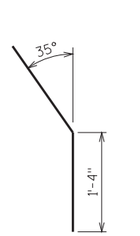


SECTION B

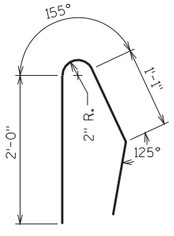
(SEE SECTION C FOR FOOTING DETAILS)

BILL OF BARS

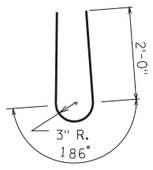
BAR MARK	COAT	S. ABUT.	N. ABUT.	LENGTH	BENT	LOCATION
K501	X	14	14	4'-7"	X	PARAPET VERT.
K502	X	8	8	2'-4"	X	PARAPET VERT.
K503	X	9	9	4'-7"	X	PARAPET VERT.
K504	X	8	8	6'-1"		PARAPET HORIZ.
K505	X	23	23	4'-10"	X	PARAPET VERT.
K506	X	1	1	9'-8"	X	PARAPET HORIZ.
K407	X	8	8	5'-9"	X	PARAPET FTG.-VERT.
K408	X	14	14	6'-11"		PARAPET FTG.-HORIZ.
K509	X	19	15	8'-1"	X	PARAPET FTG.-HORIZ.
K410	X	9	9	7'-5"		PARAPET FTG.-HORIZ.
K411	X	20	20	6'-10"		PARAPET FTG.-HORIZ.
K512	X	5	5	1'-7"		PARAPET HORIZ.



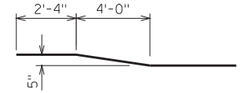
K502



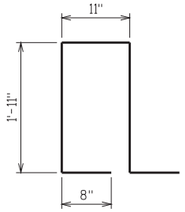
K503



K505

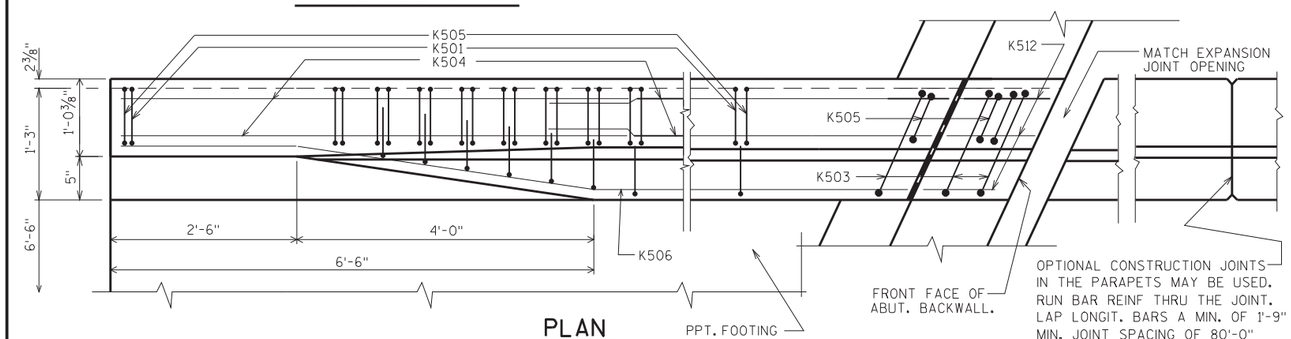


K506

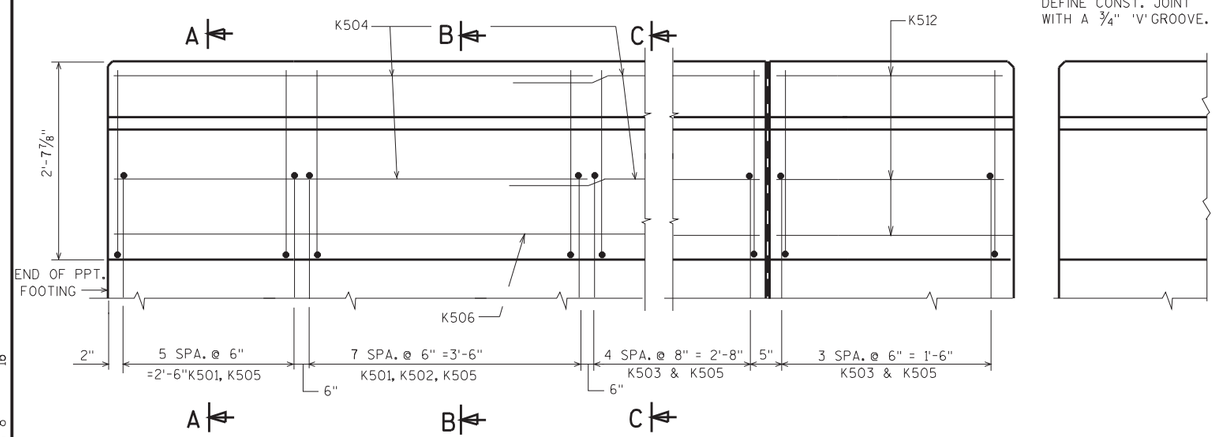


K407

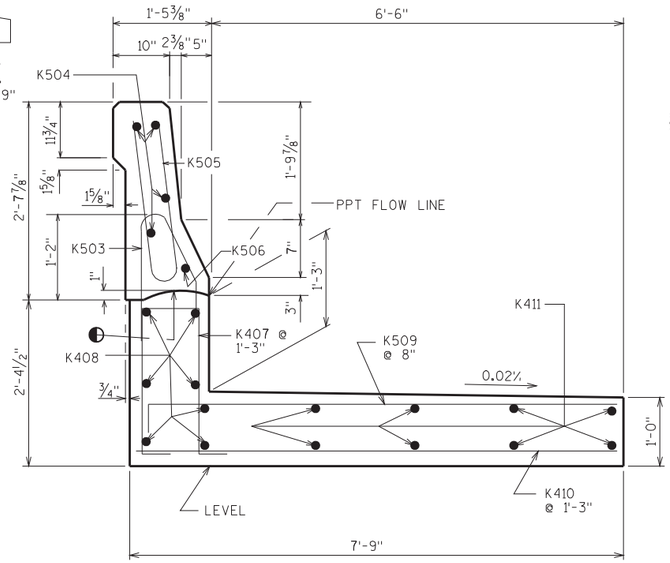
K509



PLAN



OUTSIDE ELEVATION



SECTION C

◐ CONST. JOINT - STRIKE OFF AS SHOWN.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-18-168

DRAWN BY CRJ | PLANS CK'D. VT

SLOPED FACE PARAPET 'LF' & FOOTING

SHEET 31

103

8

8

123 6 8 18

FILE= 31-168WINGFTG.DGN
SCALE = 1