LAX

PROJECT ID: 7016-00-05

WITH: N/A

COUNTY: MONROE

AUGUST 2018

ORDER OF SHEETS

TOTAL SHEETS = 42

Sheets Revised: 10, 27, 28, 34

STATE OF WISCONSIN

DEPARTMENT OF TRANSPORTATION

PLAN OF PROPOSED IMPROVEMENT

CITY OF SPARTA, MILWAUKEE AVENUE

(FARMERS VALLEY CREEK BRIDGE B-41-0299)

LOCAL STREET

MONROE COUNTY

STATE PROJECT NUMBER
7016-00-05

STATE PROJECT	FEDERAL PROJECT	
	PROJECT	CONTRACT
7016-00-05		

Structure

AS-BUILT PLAN

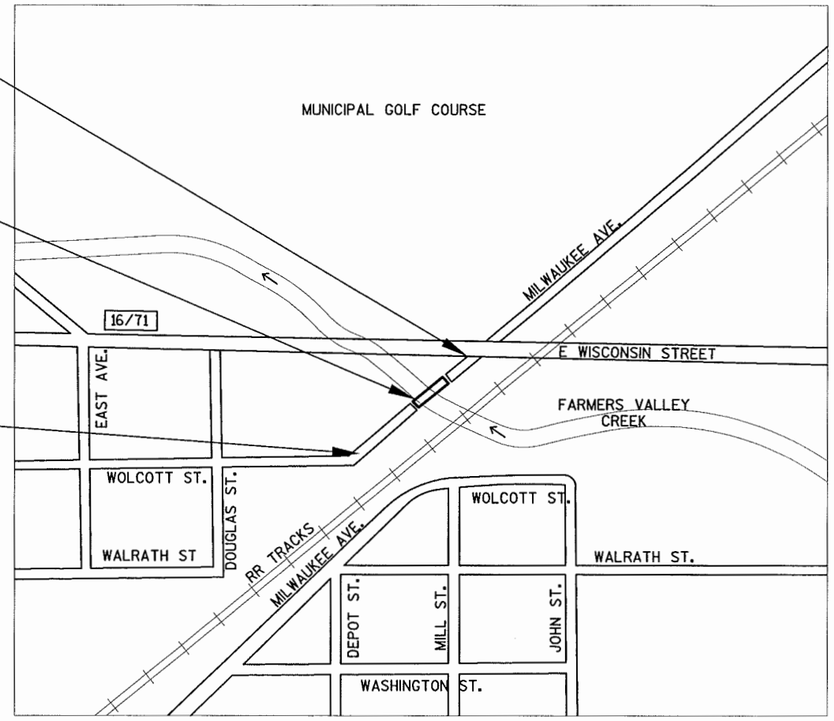
SUPERVISOR: Jim Savoldelli
PROJECT MANAGER: Brian Meyer
PROJECT LEADER: Matt Palkowski
CONTRACTOR: Larson Construction Co., Inc.
CONSTRUCTION STARTED: 04/15/2019
SUBSTANTIALLY COMPLETE: 08/16/2019

PROJECT LOCATION

END PROJECT
STA 12+00
Y = 378,267.54
X = 630,072.63

STRUCTURE
B-41-299

BEGIN PROJECT
STA 7+50
Y = 377,979.56
X = 629,727.23



T-17-N

R-4-W

LAYOUT
SCALE 0 0.05 0.1 MILES

TOTAL NET LENGTH OF CENTERLINE = 0.085 MILES

COORDINATES ON THIS PLAN ARE REFERENCED TO THE WISCONSIN COUNTY COORDINATE SYSTEM (WCCS), MONROE COUNTY

Subcontractor List

Central State Signing Inc.
Chippewa Concrete Services, Inc.
Hard Rock Sawing & Drilling Specialist Co.
Hi-Boom Erecting, Inc.
Mathy Construction Company
SJK Engineering LLC
St. Joseph Construction Co., Inc.

DESIGN DESIGNATION

A.A.D.T.	2017	=	200
A.A.D.T.	2037	=	250
D.H.V.		=	2.6
D.D.		=	57/43
T.		=	3.3%
DESIGN SPEED		=	30
ESALS		=	7,300

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
- 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

ACCEPTED FOR
CITY OF SPARTA

DATE: 4/5/18 (SIGNATURE)

DIRECTOR PUBLIC WORKS
TITLE OF OFFICIAL

ORIGINAL PLANS PREPARED BY

MSA PROFESSIONAL SERVICES
TRANSPORTATION • MUNICIPAL DEVELOPMENT • ENVIRONMENTAL
1230 South Boulevard Baraboo, WI 53913
608-356-2771 1-800-362-4505 Fax: 608-356-2770

WISCONSIN
JOSHUA R. SWENO
E-44384
WAUNAKEE WI
PROFESSIONAL ENGINEER

DATE: 4/9/18 Joshua R. Sweno (PROFESSIONAL ENGINEER)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

PREPARED BY
Surveyor: MSA PROFESSIONAL SERVICES, INC.
Designer: MSA PROFESSIONAL SERVICES, INC.

Management Consultant: KL ENGINEERING, INC.

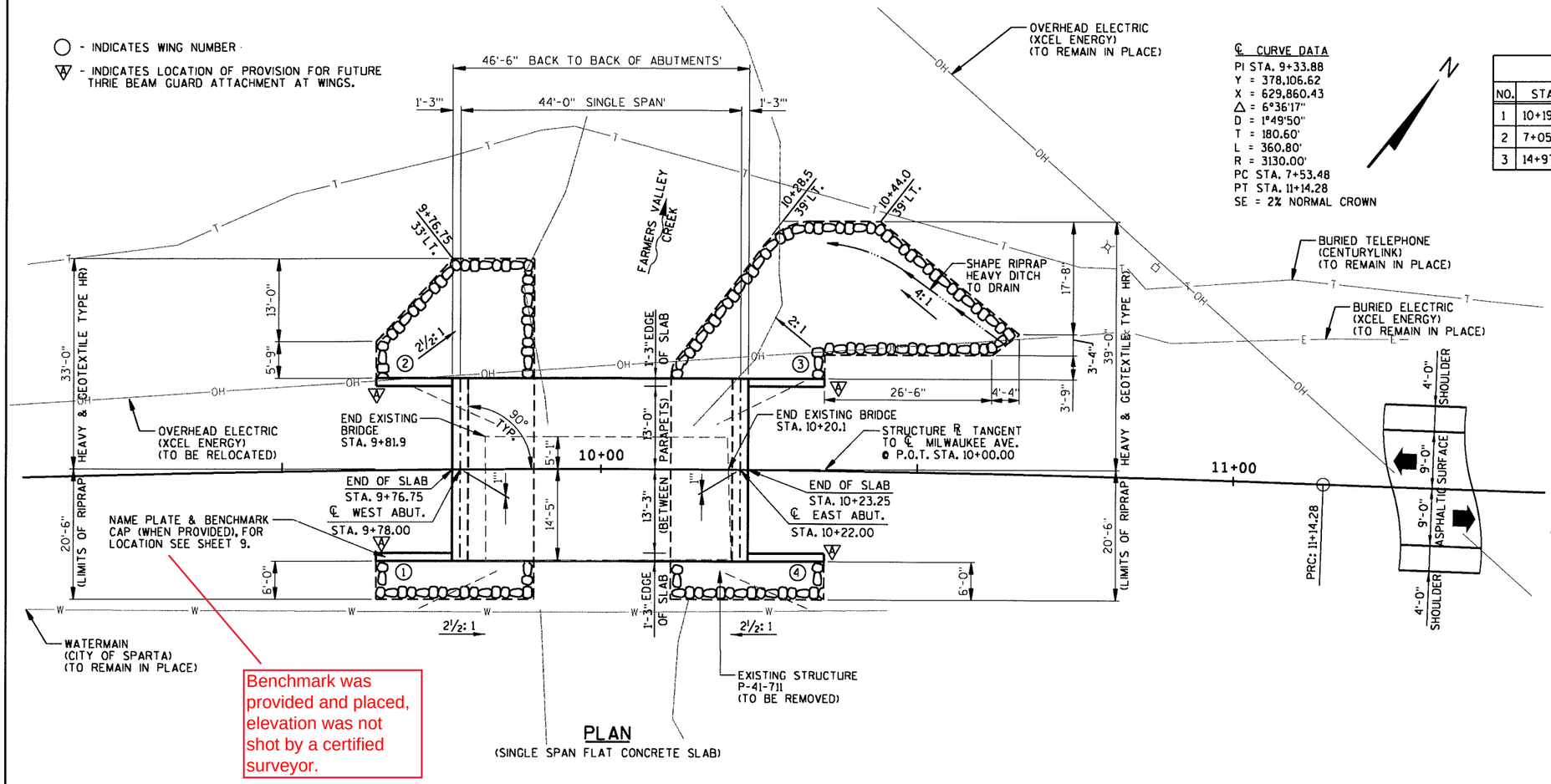
APPROVED FOR THE DEPARTMENT
DATE: 4/12/2016 Mark Westervelt
Region Signature

E

STATE PROJECT NUMBER
7016-00-05

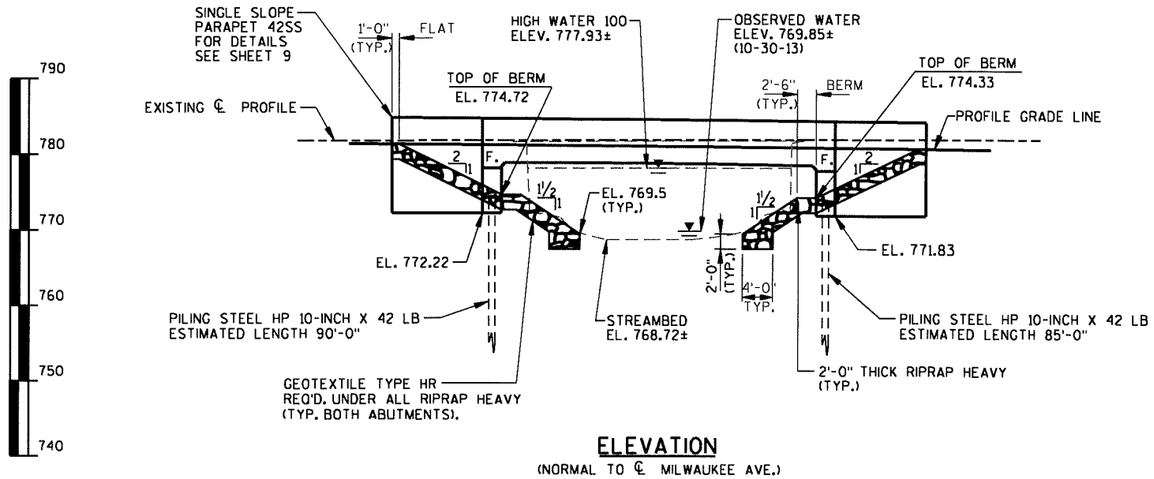
BENCHMARKS

NO.	STA./OFFSET	DESCRIPTION	ELEV.
1	10+19.66, 7.44' LT.	CHISELED SQUARE ON NW CORNER BRIDGE WING	781.61
2	7+05.76, 17.74' LT.	CHISELED + ON TAG BOLT FIRE HYDRANT	791.51
3	14+97.60, 34.5' LT.	RR SPIKE IN POWER POLE	790.03



Benchmark was provided and placed, elevation was not shot by a certified surveyor.

PLAN
(SINGLE SPAN FLAT CONCRETE SLAB)



ELEVATION
(NORMAL TO ℄ MILWAUKEE AVE.)

DESIGN DATA

LIVE LOAD:
- DESIGN LOADING : HL-93
- INVENTORY RATING FACTOR : 1.09
- OPERATIONAL RATING FACTOR : 1.41

TRAFFIC DATA:
- A.A.D.T. (2017) = 200
- A.A.D.T. (2037) = 250
- R.D.S. = 30 MPH

WISCONSIN STANDARD PERMIT VEHICLE (WIS-SPV) = 250 KIPS.

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

MATERIAL PROPERTIES:
- CONCRETE MASONRY, SLAB & PARAPETS —— $f'c$ = 4,000 P.S.I.
- ALL OTHER —— $f'c$ = 3,500 P.S.I.
- HIGH-STRENGTH BAR STEEL REINFORCEMENT, GRADE 60 —— fy = 60,000 P.S.I.
- PILING STEEL HP —— fy = 50,000 P.S.I.

FOUNDATION DATA:

ABUTMENTS TO BE SUPPORTED ON PILING STEEL HP 10-INCH X 42 LB. DRIVE PILES TO A REQUIRED DRIVING RESISTANCE OF 180 TONS * PER PILE AS DETERMINED BY THE MODIFIED GATES DYNAMIC FORMULA. ESTIMATED PILE LENGTHS ARE 90'-0" AT THE WEST ABUTMENT AND 85'-0" AT THE EAST ABUTMENT.

* THE FACTORED AXIAL RESISTANCE OF PILES IN COMPRESSION USED FOR DESIGN IS THE REQUIRED DRIVING RESISTANCE MULTIPLIED BY A RESISTANCE FACTOR OF 0.5 USING MODIFIED GATES TO DETERMINE DRIVEN PILE CAPACITY.

HYDRAULIC DATA:

100 YEAR FREQUENCY

DRAINAGE AREA	23.4 SQ. MI.
Q100	2600 C.F.S.
VELOCITY	10.30 FT./SEC.
WATERWAY AREA	252 SQ. FT.
HIGH WATER 100 ELEVATION	777.93 ±.
ROADWAY OVERFLOW DESIGN FREQUENCY	N/A
SCOUR CRITICAL CODE	8
Q^2 ELEVATION (530 C.F.S.)	773.08 ±
$VELOCITY_2$	6.41 FPS

LIST OF DRAWINGS

WISCONSIN
JOSHUA R. SWENO
E-44384
WAUNAKEE
WI
PROFESSIONAL ENGINEER
2/23/18

NO.	DATE	REVISION	BY

MSA PROFESSIONAL SERVICES
TRANSPORTATION • MUNICIPAL DEVELOPMENT • ENVIRONMENTAL
1230 South Boulevard Baraboo, WI 53913
608-356-2771 1-800-362-4505 Fax: 608-356-2770

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
ACCEPTED William C. Dreher SDR 05/04/18
CHIEF STRUCTURES DESIGN ENGINEER — DATE

STRUCTURE B-41-299

MILWAUKEE AVE. OVER FARMERS VALLEY CREEK

COUNTY	TOWN/CITY/VILLAGE
MONROE	SPARTA

DESIGN SPEC. AASHTO LRFD BRIDGE DESIGN SPECIFICATION

DESIGNED BY	DESIGN CK'D.	DRAWN BY	PLANS CK'D.
JAS	JRS	RLR	JRS

GENERAL PLAN

SHEET 27 9

CONSULTANT DESIGN CONTACT:
JOSHUA SWENO
(608) 355-8852

BRIDGE OFFICE CONTACT:
WILLIAM DREHER
(608) 266-8489

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DATE= 1/25/2018

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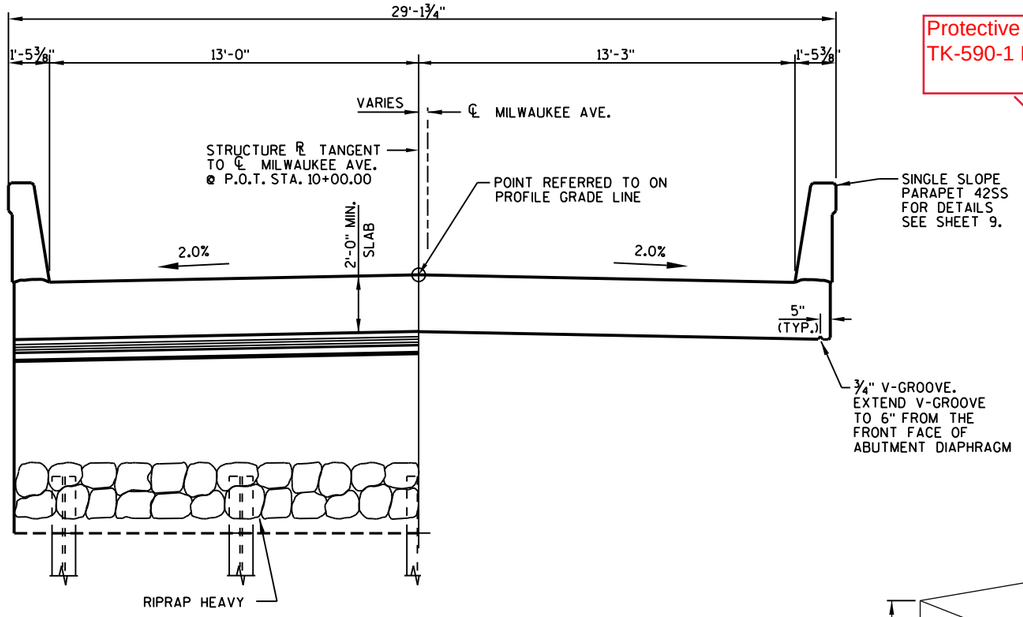
STATE PROJECT NUMBER

7016-00-05



AT ABUTMENTS IN SPAN

CROSS SECTION THRU BRIDGE

(LOOKING EAST)

Protective Surface Treatment:
TK-590-1 MS, from TK Products

GENERAL NOTES

DRAWINGS SHALL NOT BE SCALED.

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

THE FIRST DIGIT OF A THREE DIGIT BAR MARK AND THE FIRST TWO DIGITS OF A FOUR DIGIT BAR MARK SIGNIFIES THE BAR SIZE.

THE SLOPE OF THE FILL IN FRONT OF THE ABUTMENTS SHALL BE COVERED WITH RIPRAP HEAVY AND GEOTEXTILE TYPE HR TO THE LIMITS SHOWN ON SHEET 1 AND ON THE ABUTMENT SHEETS OR AS DIRECTED BY THE ENGINEER.

THE EXISTING GROUNDLINE SHALL BE THE UPPER LIMITS OF "EXCAVATION FOR STRUCTURES" AT THE ABUTMENTS.

SLAB FALSEWORK SHALL BE SUPPORTED ON PILES OR THE SUBSTRUCTURE, UNLESS AN ALTERNATE METHOD IS APPROVED BY THE ENGINEER.

THIS STRUCTURE WILL REPLACE EXISTING BRIDGE, P-41-711, A 38.2 FT. LONG, SINGLE SPAN, CONCRETE DECK GIRDER BRIDGE ON FULL RETAINING CONCRETE ABUTMENTS.

Ⓑ - BACKFILL PAY LIMITS, BACKFILL BEYOND BACKFILL PAY LIMITS SHALL BE INCIDENTAL TO EXCAVATION FOR STRUCTURES. LIMITS OF EXCAVATION SHALL BE DETERMINED BY THE CONTRACTOR.

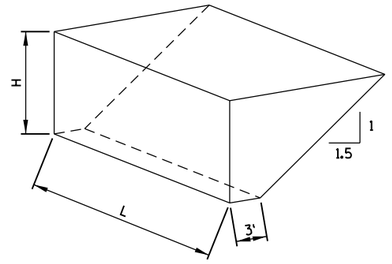
THE BACKFILL QUANTITIES ARE BASED ON THE PAY LIMITS SHOWN ON THE PLANS AND MAY NOT REFLECT ACTUAL PLACED QUANTITIES. "BACKFILL STRUCTURE TYPE A" REQUIRED DIRECTLY BEHIND ABUTMENTS AND ABUTMENT WINGS FOR 3 FEET. BACKFILL PLACED BEYOND PAY LIMITS OR EXCEEDING PLAN QUANTITIES SHALL BE INCIDENTAL TO EXCAVATION FOR STRUCTURES.

PROTECTIVE SURFACE TREATMENT SHALL BE APPLIED TO THE TOP OF SLAB.

PIGMENTED SURFACE SEALER SHALL BE APPLIED TO THE INSIDE FACES, THE TOP FACES, AND THE VERTICAL ENDS OF THE PARAPETS.

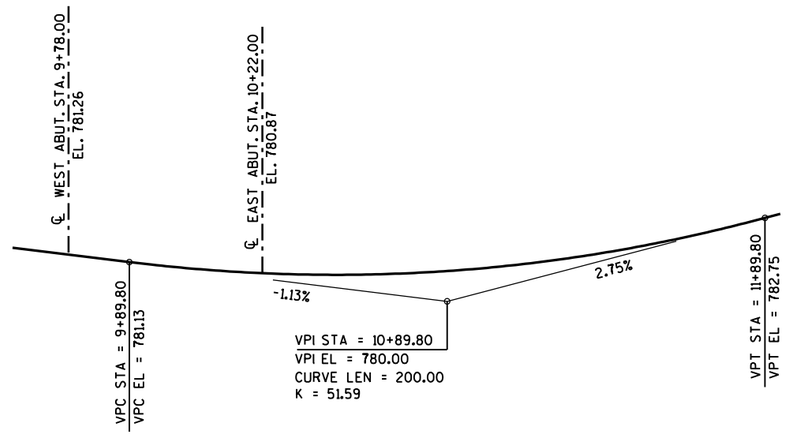
ELEVATIONS SHOWN ON THIS PLAN ARE REFERENCED TO NAVD 88 DATUM, AND WERE ESTABLISHED AT THE SITE USING GPS TECHNOLOGY.

EXCAVATION BELOW THE ABUTMENT AND ABUTMENT BEDDING MATERIALS REQUIRES ENGINEER APPROVAL. GEOTEXTILE SHALL BE SET AT THE BOTTOM OF EXCAVATION AND EXTEND 2'-0" ABOVE THE BOTTOM OF ABUTMENT.



ABUTMENT BACKFILL DIAGRAM

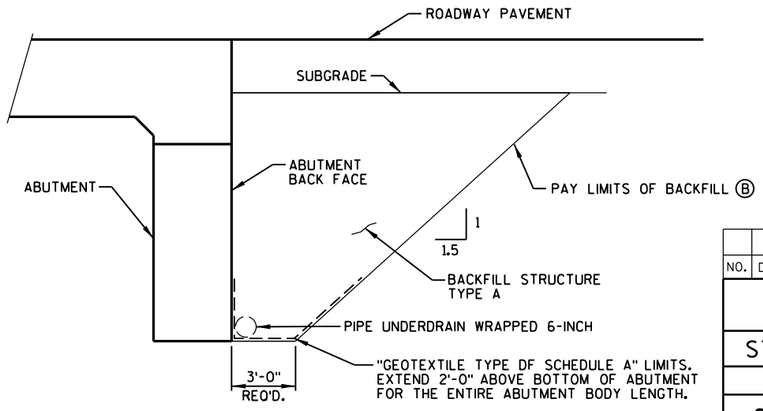
L = OUT-TO-OUT OF ABUTMENT, INCLUDING WINGS
H = AVERAGE ABUTMENT FILL HEIGHT



PROFILE GRADE LINE - MILWAUKEE AVE.

TOTAL ESTIMATED QUANTITIES

ITEM NUMBER	BID ITEM	UNIT	WEST ABUT.	EAST ABUT.	SUPER	TOTAL
203.0600.S.01	REMOVING OLD STRUCTURE OVER WATERWAY WITH MINIMAL DEBRIS STATION 10+00	LS	-	-	-	1
206.1000.01	EXCAVATION FOR STRUCTURES BRIDGES B-41-299	LS	-	-	-	1
210.1500	BACKFILL STRUCTURE TYPE A	TON	150	150	-	300
502.0100	CONCRETE MASONRY BRIDGES	CY	37	37	123	197
502.3200	PROTECTIVE SURFACE TREATMENT	SY	-	-	136	136
502.3210	PIGMENTED SURFACE SEALER	SY	-	-	71	71
505.0400	BAR STEEL REINFORCEMENT HS STRUCTURES	LB	1760	1760	-	3520
505.0600	BAR STEEL REINFORCEMENT HS COATED STRUCTURES	LB	1950	1950	21050	24950
516.0500	RUBBERIZED MEMBRANE WATERPROOFING	SY	10	10	-	20
550.1100	PILING STEEL HP 10-INCH x 42 LB	LF	450	425	-	875
606.0300	RIPRAP HEAVY	CY	80	110	-	190
612.0406	PIPE UNDERDRAIN WRAPPED 6-INCH	LF	95	95	-	190
614.0150	ANCHOR ASSEMBLIES FOR STEEL PLATE BEAM GUARD	EACH	-	-	4	4
645.0111	GEOTEXTILE TYPE DF SCHEDULE A	SY	30	30	-	60
645.0120	GEOTEXTILE TYPE HR	SY	150	215	-	365
	NON-BID ITEMS					
	PREFORMED FILLER	SIZE				½" & ¾"



STRUCTURE BACKFILL DETAIL

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-41-299

DRAWN BY RLR | PLANS CK'D. JRS

CROSS SECTION, QUANTITIES & NOTES

SHEET 2 OF 9
28

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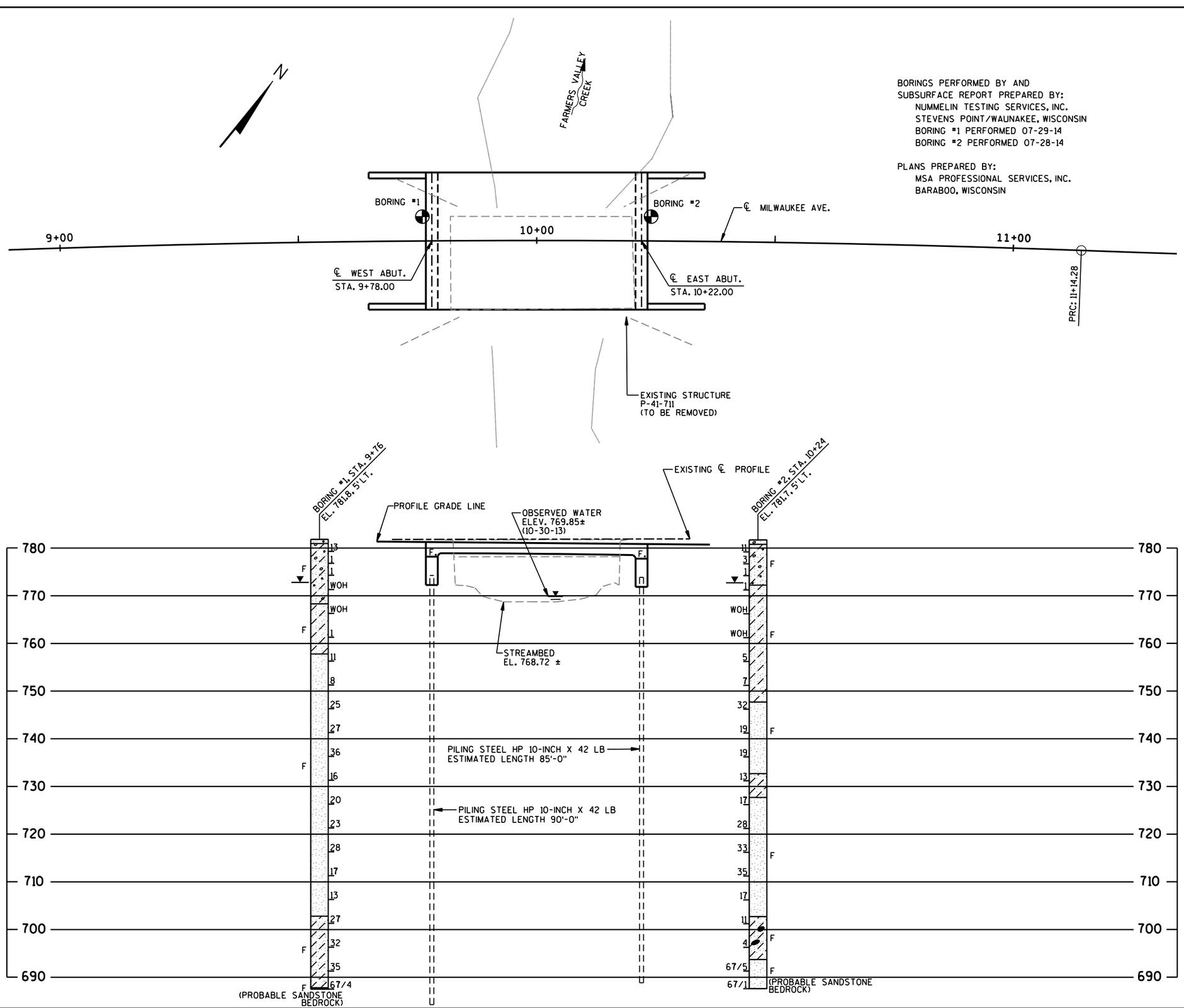


BORINGS PERFORMED BY AND
SUBSURFACE REPORT PREPARED BY:
NUMMELIN TESTING SERVICES, INC.
STEVENS POINT/WAUNAKEE, WISCONSIN
BORING #1 PERFORMED 07-29-14
BORING #2 PERFORMED 07-28-14

PLANS PREPARED BY:
MSA PROFESSIONAL SERVICES, INC.
BARABOO, WISCONSIN

STATE PROJECT NUMBER

7016-00-05

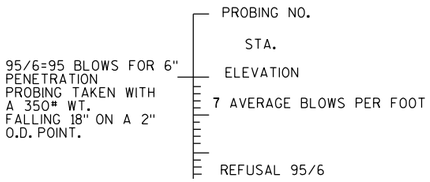
ABBREVIATIONS

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

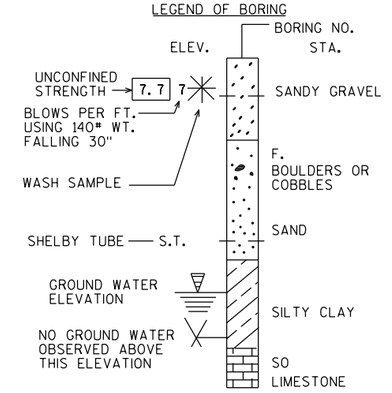
MATERIAL SYMBOLS

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

STRUCTURE B-41-299

DRAWN BY RLR PLANS CK'D. JRS

SUBSURFACE EXPLORATION

SHEET 3 OF 9
29

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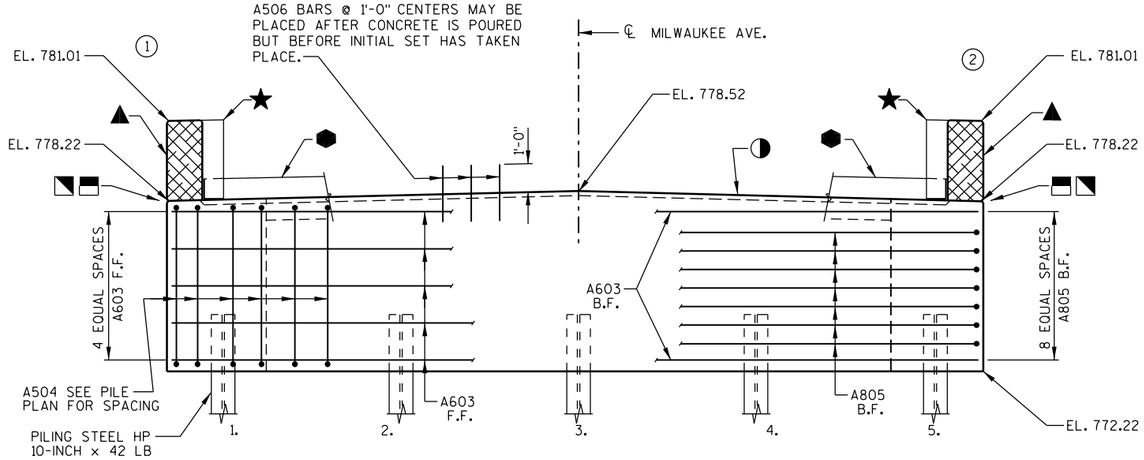
DATE=2/12/2018

STATE PROJECT NUMBER

7016-00-05

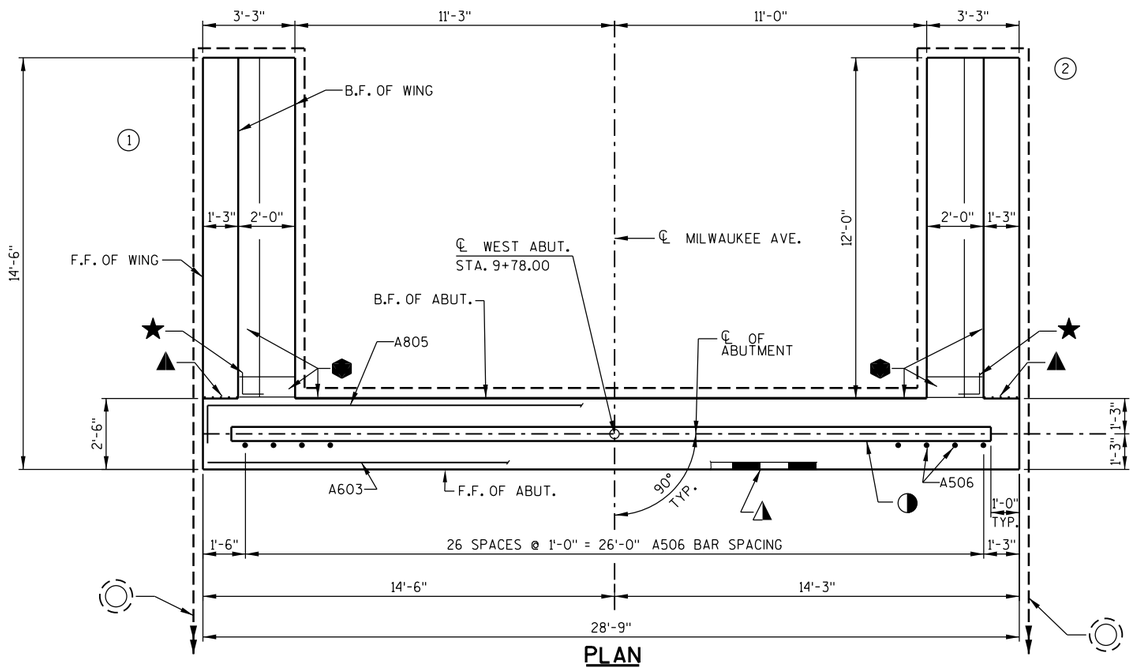


FRONT FACE BAR STEEL REINF.

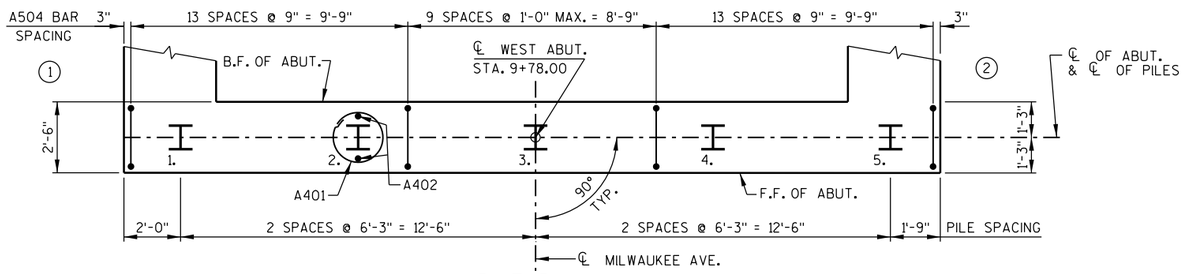
ELEVATION

(LOOKING WEST)

BACK FACE BAR STEEL REINF.

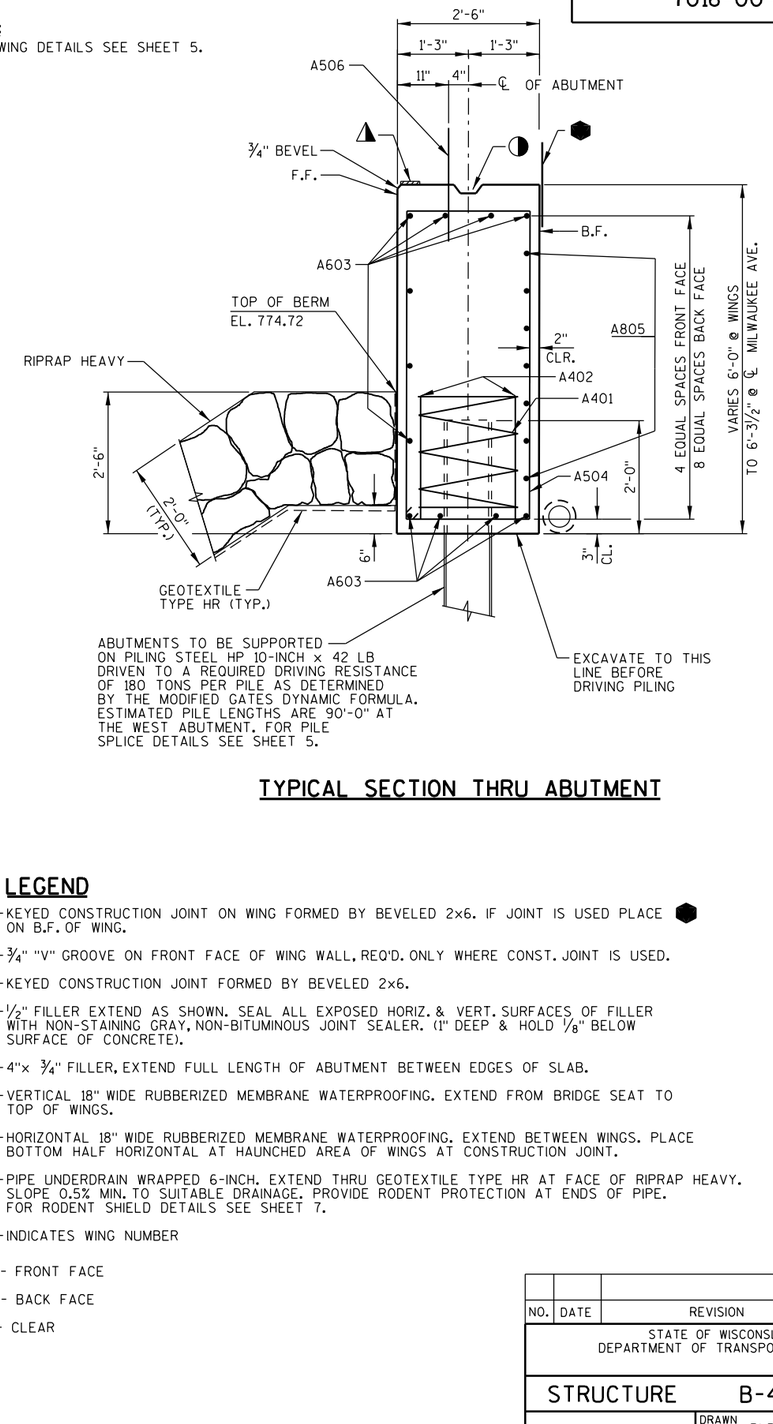


PLAN



PILE PLAN

NOTE:
FOR WING DETAILS SEE SHEET 5.



TYPICAL SECTION THRU ABUTMENT

LEGEND

- KEYED CONSTRUCTION JOINT ON WING FORMED BY BEVELED 2x6. IF JOINT IS USED PLACE ⬢ ON B.F. OF WING.
- ¾" "V" GROOVE ON FRONT FACE OF WING WALL, REQ'D. ONLY WHERE CONST. JOINT IS USED.
- KEYED CONSTRUCTION JOINT FORMED BY BEVELED 2x6.
- ½" FILLER EXTEND AS SHOWN. SEAL ALL EXPOSED HORIZ. & VERT. SURFACES OF FILLER WITH NON-STAINING GRAY, NON-BITUMINOUS JOINT SEALER. (1" DEEP & HOLD ⅛" BELOW SURFACE OF CONCRETE).
- 4"× ¾" FILLER, EXTEND FULL LENGTH OF ABUTMENT BETWEEN EDGES OF SLAB.
- ★ VERTICAL 18" WIDE RUBBERIZED MEMBRANE WATERPROOFING. EXTEND FROM BRIDGE SEAT TO TOP OF WINGS.
- ⬢ HORIZONTAL 18" WIDE RUBBERIZED MEMBRANE WATERPROOFING. EXTEND BETWEEN WINGS. PLACE BOTTOM HALF HORIZONTAL AT HAUNCHED AREA OF WINGS AT CONSTRUCTION JOINT.
- ◎ PIPE UNDERDRAIN WRAPPED 6-INCH. EXTEND THRU GEOTEXTILE TYPE HR AT FACE OF RIPRAP HEAVY. SLOPE 0.5% MIN. TO SUITABLE DRAINAGE. PROVIDE RODENT PROTECTION AT ENDS OF PIPE. FOR RODENT SHIELD DETAILS SEE SHEET 7.
- ◯ INDICATES WING NUMBER

F.F. - FRONT FACE

B.F. - BACK FACE

CL. - CLEAR

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-41-299

DRAWN BY RLR | PLANS CK'D. JRS

WEST ABUTMENT

SHEET 4 OF 9
30

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DATE=1/19/2018

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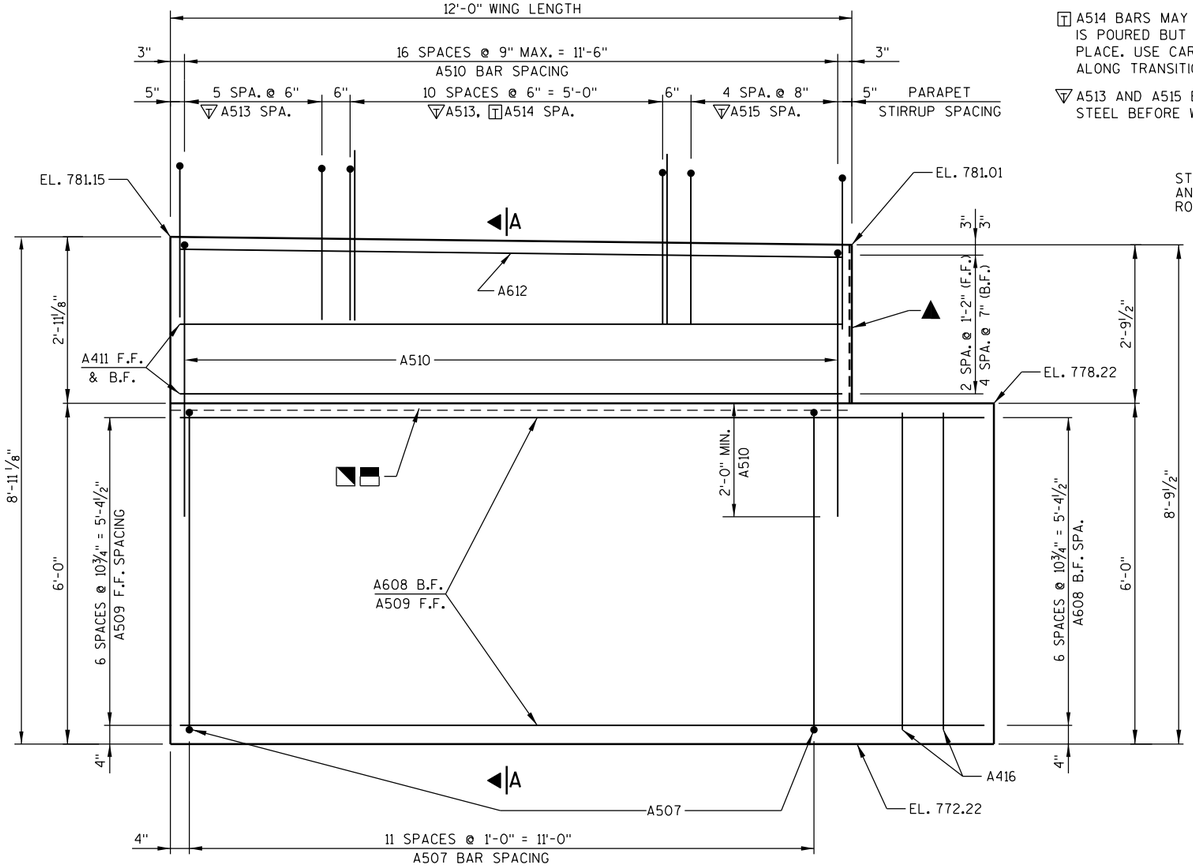
STATE PROJECT NUMBER

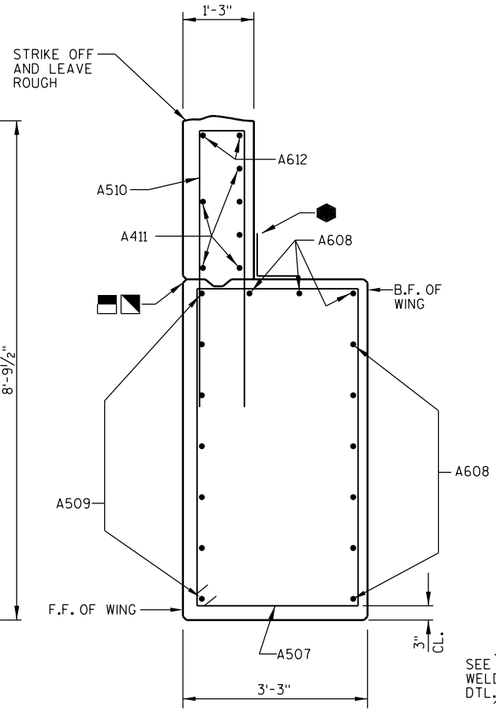
7016-00-05

T A514 BARS MAY BE PLACED AFTER CONCRETE IS POURED BUT BEFORE INITIAL SET HAS TAKEN PLACE. USE CARE TO PLACE A514 BARS CORRECTLY ALONG TRANSITION OF PARAPET.

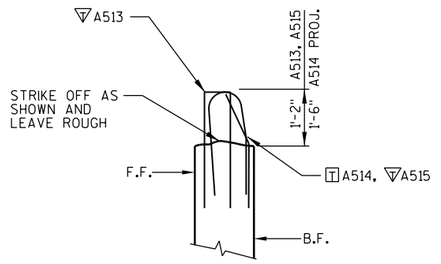
▽ A513 AND A515 BARS TO BE TIED TO WING STEEL BEFORE WING IS POURED.



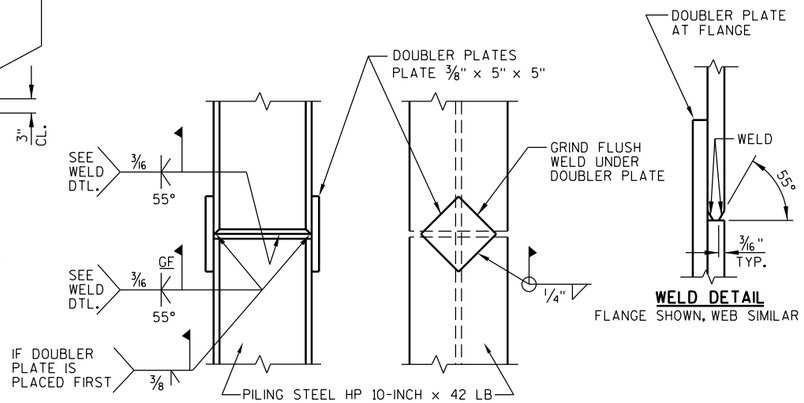
ELEVATION - WING



SECTION A-A THRU WING

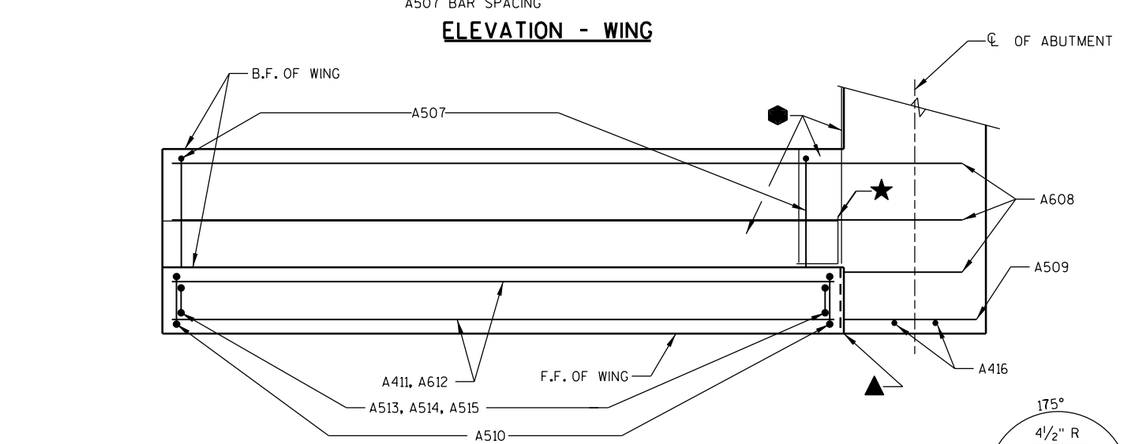


PARAPET STIRRUP PROJECTION DETAIL



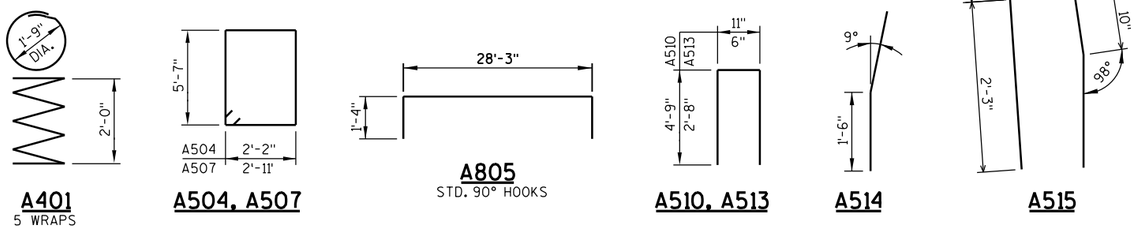
WELD DETAIL
FLANGE SHOWN, WEB SIMILAR

PILE SPLICE DETAILS



PLAN - WING

WING 1 SHOWN
WING 2 SIMILAR



BILL OF BARS (WEST ABUT.)

(COATED) 1950 LBS.
(UNCOATED) 1760 LBS.

MARK	NUMBER REQUIRED COATED	NUMBER REQUIRED UNCOATED	LENGTH	BENT	LOCATION
A401	-	5	28'-0"	X	ABUTMENT BODY - 1 SPIRAL WRAP @ EACH PILE
A402	-	10	2'-3"		ABUTMENT BODY - 2 @ EACH PILE - VERT.
A603	-	11	28'-5"		ABUTMENT BODY - F.F., TOP & BOTTOM - HORIZ.
A504	-	36	16'-2"	X	ABUTMENT BODY - STIRRUP - VERT.
A805	-	7	30'-6"	X	ABUTMENT BODY - B.F. @ WINGS - HORIZ.
A506	27	-	2'-0"		ABUTMENT BODY - TOP - DOWELS - VERT.
A507	24	-	17'-8"	X	WINGS 1 & 2 - BASE - STIRRUP - VERT.
A608	18	-	13'-11"		WINGS 1 & 2 - BASE - B.F. & TOP - HORIZ.
A509	14	-	14'-2"		WINGS 1 & 2 - BASE - F.F. - HORIZ.
A510	34	-	10'-2"	X	WINGS 1 & 2 - TOP - STIRRUP - VERT.
A411	12	-	11'-7"		WINGS 1 & 2 - TOP - F.F. & B.F. - HORIZ.
A612	4	-	11'-7"		WINGS 1 & 2 - TOP - F.F. & B.F. - HORIZ.
A513	34	-	5'-7"	X	WINGS 1 & 2 - TOP - PARAPET STIRRUP - VERT.
A514	22	-	3'-0"	X	WINGS 1 & 2 - TOP - PARAPET STIRRUP - VERT.
A515	10	-	5'-10"	X	WINGS 1 & 2 - TOP - PARAPET STIRRUP - VERT.
A416	4	-	5'-7"		ABUTMENT BODY - WINGS 1 & 2 - END - VERT.

DIMENSIONS IN BENDING DETAILS ARE OUT TO OUT OF BAR.

SEE SHEET 4 LEGEND FOR DESCRIPTION OF ⬢ ▬ ◥ ★ ▲

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STRUCTURE B-41-299

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WEST ABUTMENT DETAILS

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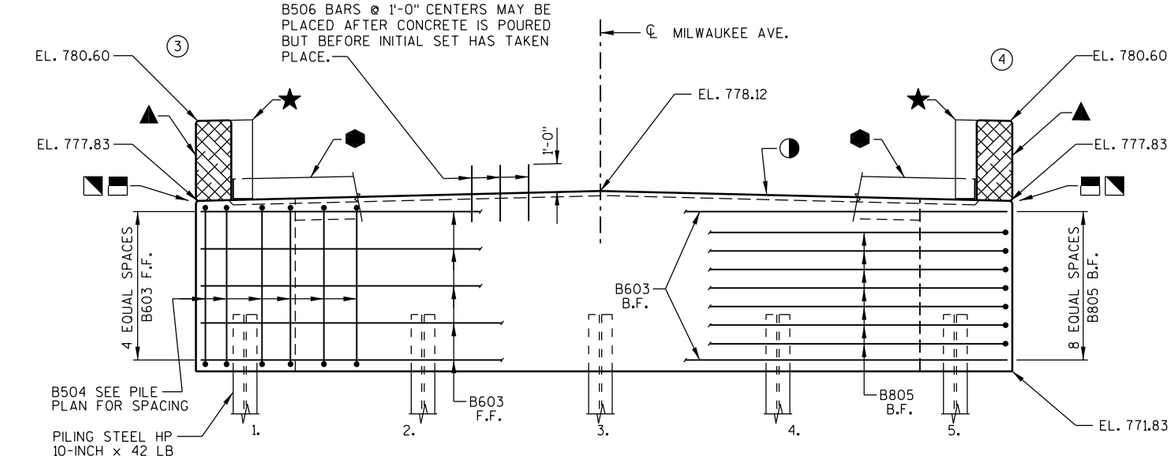
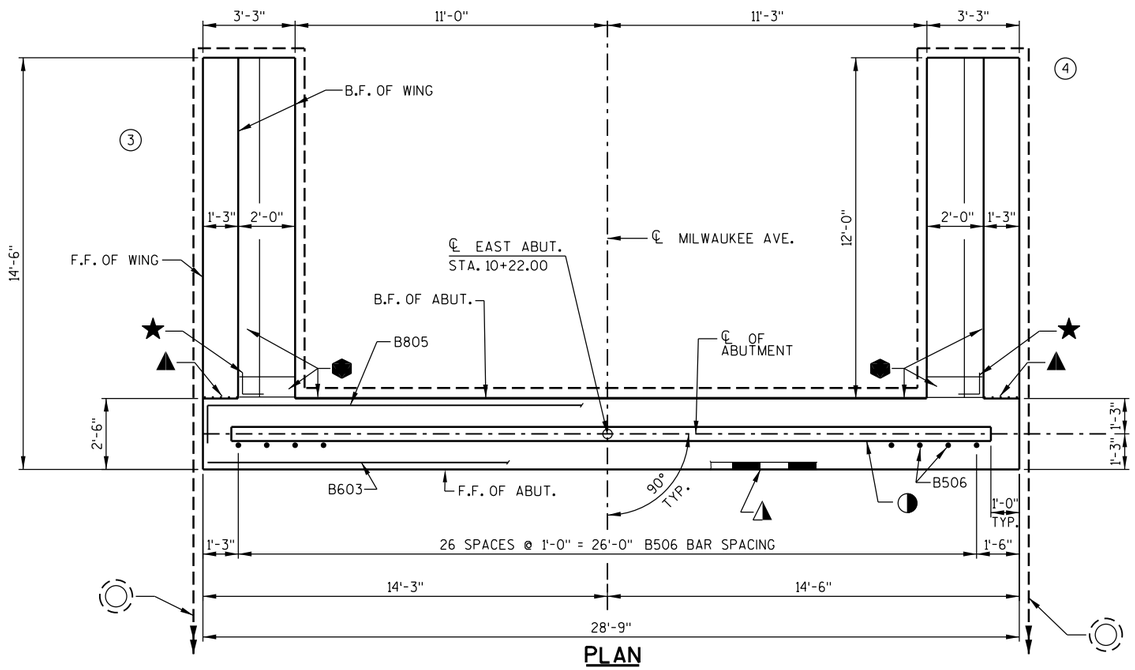


FRONT FACE BAR STEEL REINF.

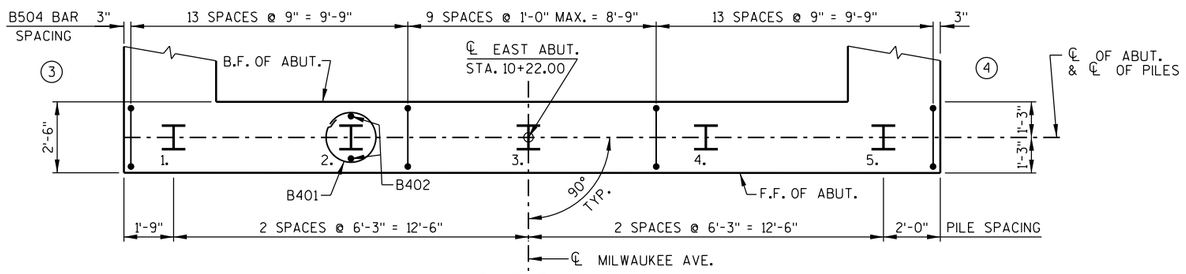
ELEVATION

(LOOKING EAST)

BACK FACE BAR STEEL REINF.

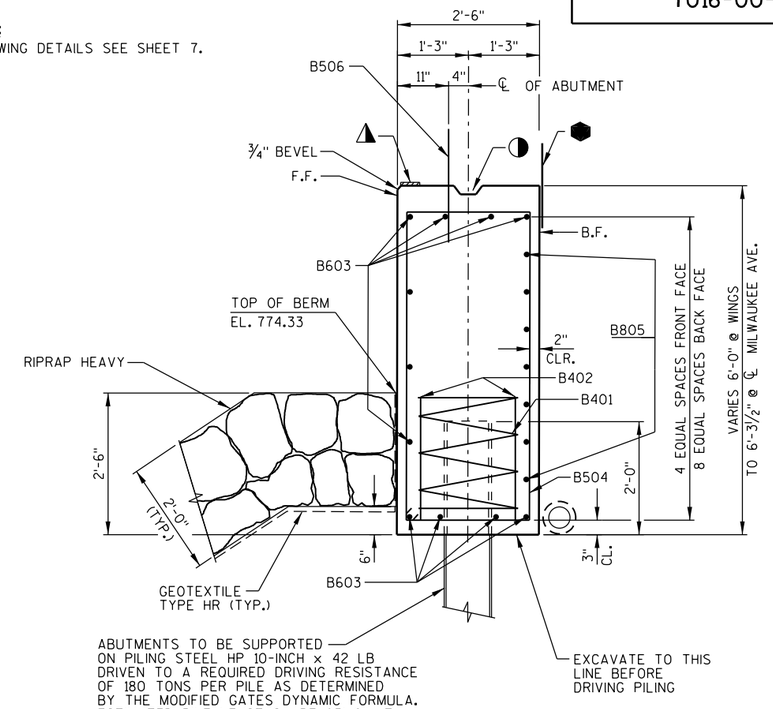


PLAN



PILE PLAN

NOTE:
FOR WING DETAILS SEE SHEET 7.



TYPICAL SECTION THRU ABUTMENT

LEGEND

- KEYED CONSTRUCTION JOINT ON WING FORMED BY BEVELED 2x6. IF JOINT IS USED PLACE ⬢ ON B.F. OF WING.
- ¾" "V" GROOVE ON FRONT FACE OF WING WALL, REQ'D. ONLY WHERE CONST. JOINT IS USED.
- KEYED CONSTRUCTION JOINT FORMED BY BEVELED 2x6.
- ½" FILLER EXTEND AS SHOWN. SEAL ALL EXPOSED HORIZ. & VERT. SURFACES OF FILLER WITH NON-STAINING GRAY, NON-BITUMINOUS JOINT SEALER. (1" DEEP & HOLD ⅛" BELOW SURFACE OF CONCRETE).
- 4"× ¾" FILLER, EXTEND FULL LENGTH OF ABUTMENT BETWEEN EDGES OF SLAB.
- ★ VERTICAL 18" WIDE RUBBERIZED MEMBRANE WATERPROOFING. EXTEND FROM BRIDGE SEAT TO TOP OF WINGS.
- ⬢ HORIZONTAL 18" WIDE RUBBERIZED MEMBRANE WATERPROOFING. EXTEND BETWEEN WINGS. PLACE BOTTOM HALF HORIZONTAL AT HAUNCHED AREA OF WINGS AT CONSTRUCTION JOINT.
- ◎ PIPE UNDERDRAIN WRAPPED 6-INCH. EXTEND THRU GEOTEXTILE TYPE HR AT FACE OF RIPRAP HEAVY. SLOPE 0.5% MIN. TO SUITABLE DRAINAGE. PROVIDE RODENT PROTECTION AT ENDS OF PIPE. FOR RODENT SHIELD DETAILS SEE SHEET 7.
- ◯ INDICATES WING NUMBER

F.F. - FRONT FACE

B.F. - BACK FACE

CL. - CLEAR

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EAST ABUTMENT

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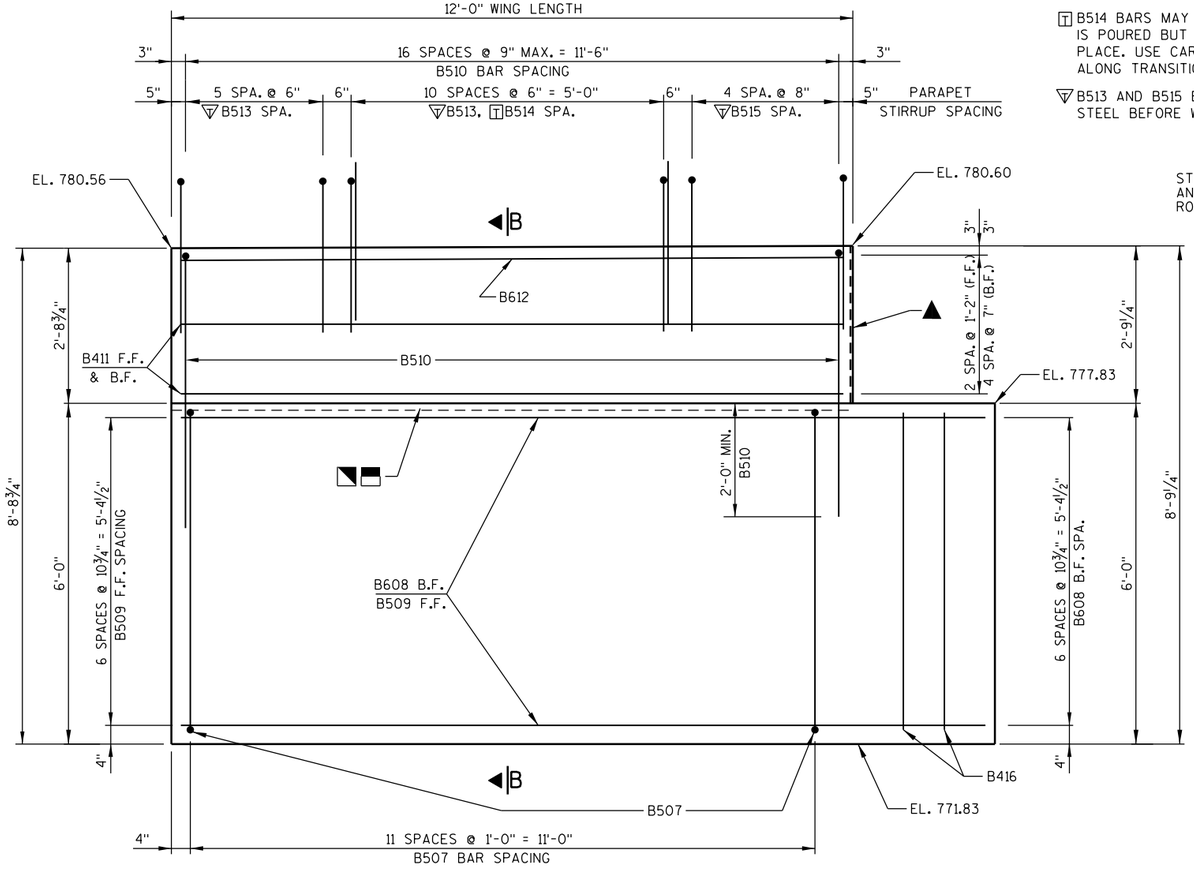
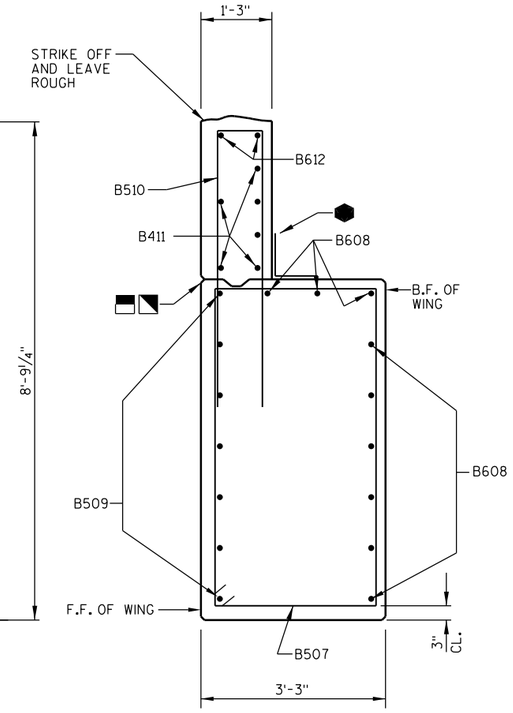
T B514 BARS MAY BE PLACED AFTER CONCRETE IS POURED BUT BEFORE INITIAL SET HAS TAKEN PLACE. USE CARE TO PLACE B514 BARS CORRECTLY ALONG TRANSITION OF PARAPET.

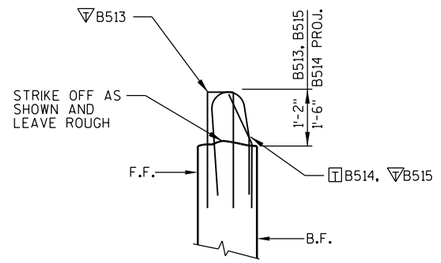
▽ B513 AND B515 BARS TO BE TIED TO WING STEEL BEFORE WING IS POURED.



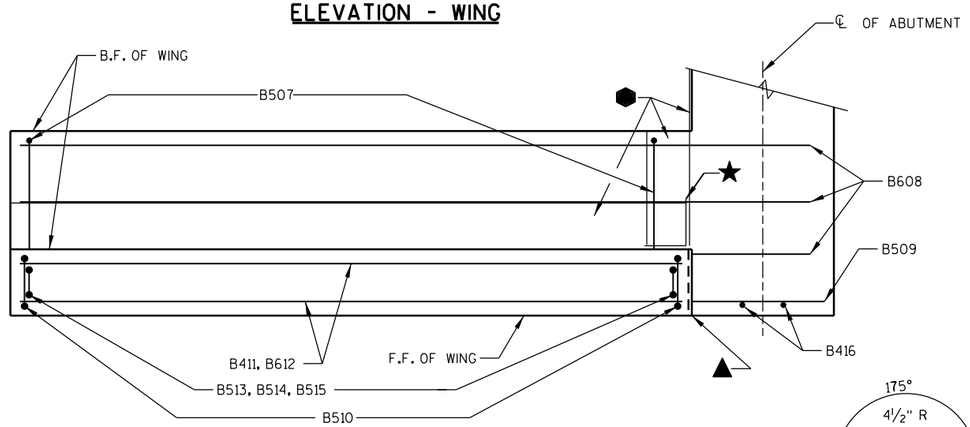
ELEVATION - WING



SECTION B-B THRU WING



PARAPET STIRRUP PROJECTION DETAIL



PLAN - WING

WING 3 SHOWN
WING 4 SIMILAR

ROUNDED TO NEAREST 10 LBS.

(COATED) 1950 LBS.
(UNCOATED) 1760 LBS.

BILL OF BARS (EAST ABUT.)

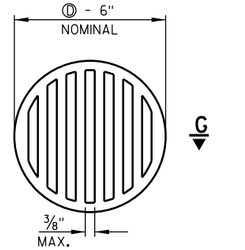
MARK	NUMBER REQUIRED COATED	NUMBER REQUIRED UNCOATED	LENGTH	BENT	LOCATION
B401	-	5	28'-0"	X	ABUTMENT BODY - 1 SPIRAL WRAP @ EACH PILE
B402	-	10	2'-3"		ABUTMENT BODY - 2 @ EACH PILE - VERT.
B603	-	11	28'-5"		ABUTMENT BODY - F.F., TOP & BOTTOM - HORIZ.
B504	-	36	16'-2"	X	ABUTMENT BODY - STIRRUP - VERT.
B805	-	7	30'-6"	X	ABUTMENT BODY - B.F. @ WINGS - HORIZ.
B506	27	-	2'-0"		ABUTMENT BODY - TOP - DOWELS - VERT.
B507	24	-	17'-8"	X	WINGS 3 & 4 - BASE - STIRRUP - VERT.
B608	18	-	13'-11"		WINGS 3 & 4 - BASE - B.F. & TOP - HORIZ.
B509	14	-	14'-2"		WINGS 3 & 4 - BASE - F.F. - HORIZ.
B510	34	-	10'-2"	X	WINGS 3 & 4 - TOP - STIRRUP - VERT.
B411	12	-	11'-7"		WINGS 3 & 4 - TOP - F.F. & B.F. - HORIZ.
B612	4	-	11'-7"		WINGS 3 & 4 - TOP - F.F. & B.F. - HORIZ.
B513	34	-	5'-7"	X	WINGS 3 & 4 - TOP - PARAPET STIRRUP - VERT.
B514	22	-	3'-0"	X	WINGS 3 & 4 - TOP - PARAPET STIRRUP - VERT.
B515	10	-	5'-10"	X	WINGS 3 & 4 - TOP - PARAPET STIRRUP - VERT.
B416	4	-	5'-7"		ABUTMENT BODY - WINGS 3 & 4 - END - VERT.

DIMENSIONS IN BENDING DETAILS ARE OUT TO OUT OF BAR.

RODENT SHIELD NOTES:

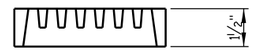
ORIENT SHIELD SO SLOTS ARE VERTICAL.

THE RODENT SHIELD SHALL BE A PVC GRATE SIMILAR TO THIS DETAIL. THE GRATE IS COMMERCIALLY AVAILABLE AS A FLOOR STRAINER. A PIPE COUPLING IS REQUIRED FOR THE ATTACHEMENT OF THIS SHIELD TO THE EXPOSED END OF THE PIPE UNDERDRAIN. THE SHIELD SHALL BE FASTENED TO THE PIPE COUPLING WITH TWO OR MORE NO. 10 x 1-INCH STAINLESS STEEL SHEET METAL SCREWS. THE RODENT SHIELD, PIPE COUPLING AND SCREWS, SHALL BE INCLUDED IN THE BID ITEM "PIPE UNDERDRAIN WRAPPED 6-INCH".

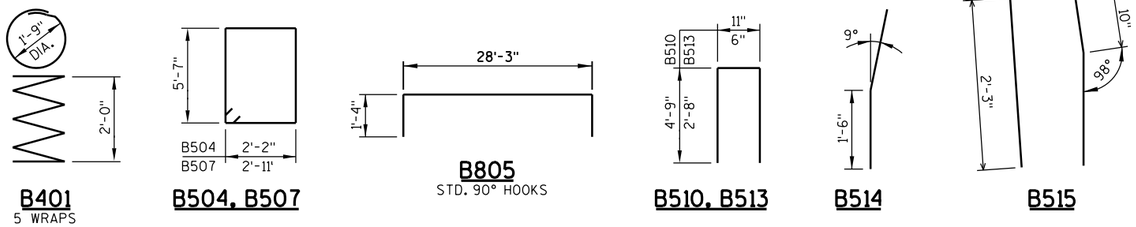


RODENT SHIELD

Ⓓ - DIMENSIONS ARE APPROXIMATE. THE GRATE IS SIZED TO FIT INTO A PIPE COUPLING.



SECTION G-G



SEE SHEET 6 LEGEND FOR DESCRIPTION OF ⬢ ▬ ◥ ★ ▲

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EAST ABUTMENT DETAILS

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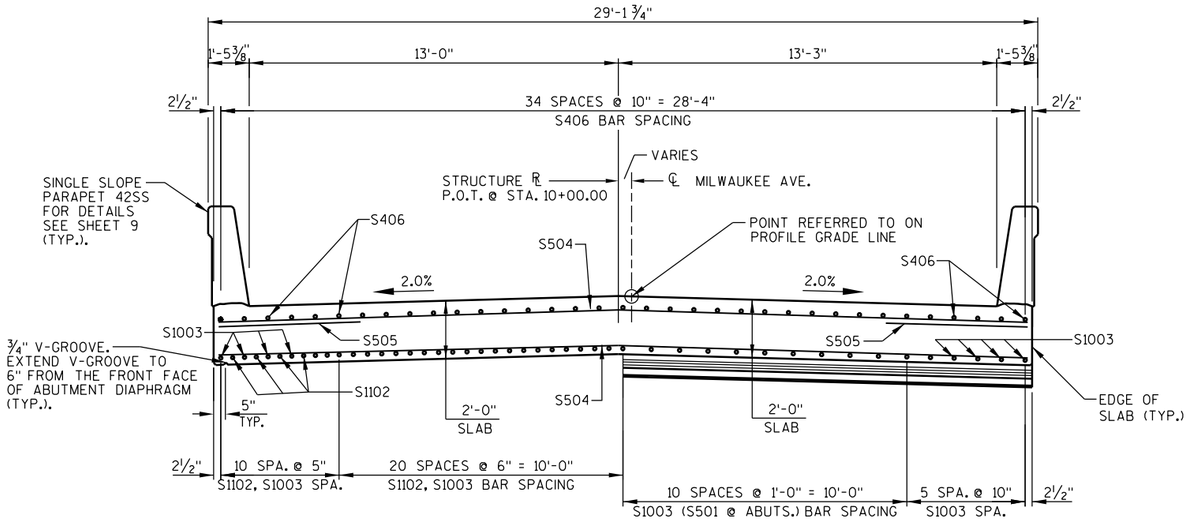
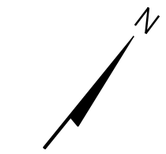
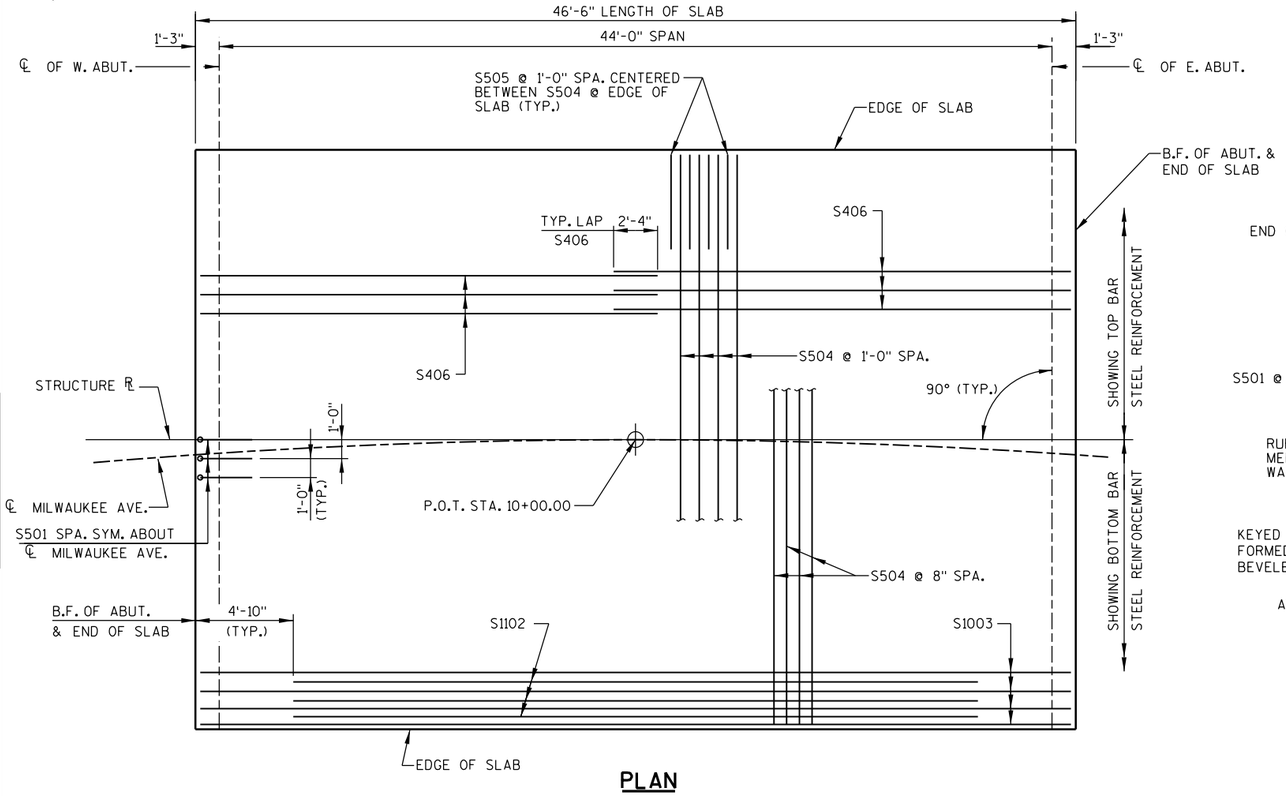


IN SPAN AT ABUTMENTS

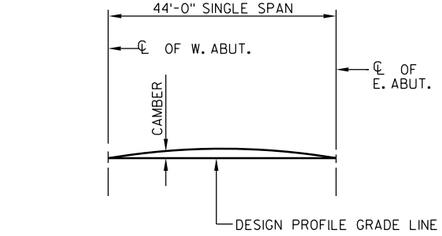
CROSS SECTION THRU BRIDGE

(LOOKING EAST)





PLAN



CAMBER DIAGRAM

CAMBER SPANS AS SHOWN ABOVE AND IN THE TABLE OF VALUES TO PROVIDE FOR DEAD LOAD DEFLECTION AND FUTURE CREEP. CAMBER DOES NOT INCLUDE ALLOWANCE FOR FORM SETTLEMENT. DEAD LOAD DEFLECTION APPROXIMATES 1/3 OF CAMBER VALUES SHOWN.

TO DETERMINE FALSEWORK ELEVATION AT EDGE OF SLAB, CROWN OR REFERENCE LINE, FOLLOW THIS PROCEDURE:

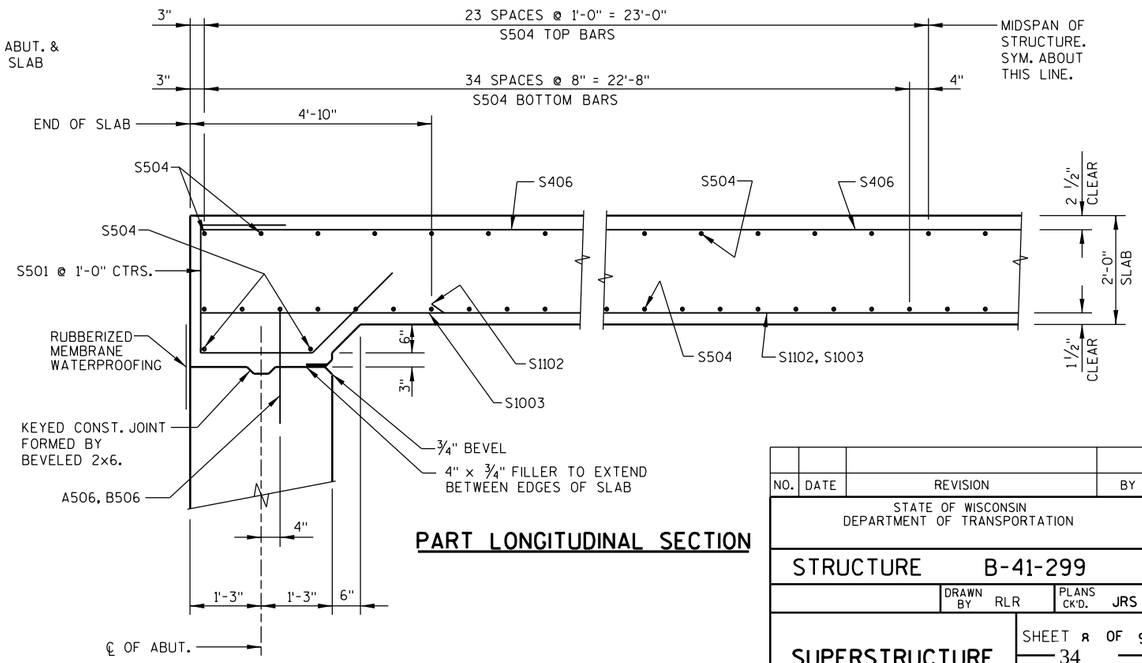
TOP OF SLAB ELEVATION AT FINAL GRADE

\- SLAB THICKNESS

\+ CAMBER

\+ FORM SETTLEMENT/DEFLECTION DUE TO PLACEMENT OF SLAB CONCRETE (TO BE COMPUTED BY THE CONTRACTOR)

= TOP OF SLAB FALSEWORK ELEVATION



PART LONGITUDINAL SECTION

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GENERAL NOTES

ALL SLAB THICKNESS DIMENSIONS ARE MINIMUM. ANY TOLERANCES NECESSARY TO CORRECT CONSTRUCTION DISCREPANCIES ARE TO BE PLUS (+).

TOP TRANSVERSE BARS IN SLAB SHALL BE SUPPORTED BY INDIVIDUAL BAR CHAIRS AT APPROXIMATELY 3'-0" CENTERS EACH WAY. BOTTOM LONGITUDINAL BARS SHALL BE SUPPORTED BY CONTINUOUS BAR CHAIRS AT APPROXIMATELY 4'-0" CENTERS.

SURVEY TOP OF SLAB ELEVATIONS

LOCATION	SPAN POINT	NORTH SLAB EDGE	C/L MILWAUKEE AVENUE	SOUTH SLAB EDGE
WEST ABUT.	1.0	780.985	781.28	781.095
	1.5	780.83	781.14	780.915
EAST ABUT.	2.0	780.59	780.85	780.6

PRIOR TO RELEASING SLAB FALSEWORK, TAKE TOP OF SLAB ELEVATIONS AT THE ℄ OF ABUTMENTS AND AT THE 0.5 PTS. TO VERIFY CAMBER. TAKE ELEVATIONS ALONG EDGE OF SLAB AND CROWN OR ℄. RECORD THE ELEVATIONS IN THE ABOVE TABLE FOR THE "AS BUILT" PLANS.

TOP OF SLAB ELEVATIONS AND CAMBER VALUES

LOCATION	SPAN POINT	SOUTH SLAB EDGE	C/L MILWAUKEE AVENUE	NORTH SLAB EDGE	CAMBER VALUE (INCHES)
WEST ABUT.	1.0	781.00	781.26	781.00	0.0
	1.1	780.95	781.21	780.95	0.5
	1.2	780.90	781.16	780.90	1.0
	1.3	780.85	781.11	780.85	1.4
	1.4	780.80	781.07	780.81	1.6
	1.5	780.76	781.02	780.76	1.7
	1.6	780.72	780.99	780.73	1.6
	1.7	780.69	780.95	780.69	1.4
	1.8	780.65	780.92	780.66	1.0
	1.9	780.63	780.89	780.63	0.5
EAST ABUT.	2.0	780.60	780.87	780.61	0.0

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SUPERSTRUCTURE

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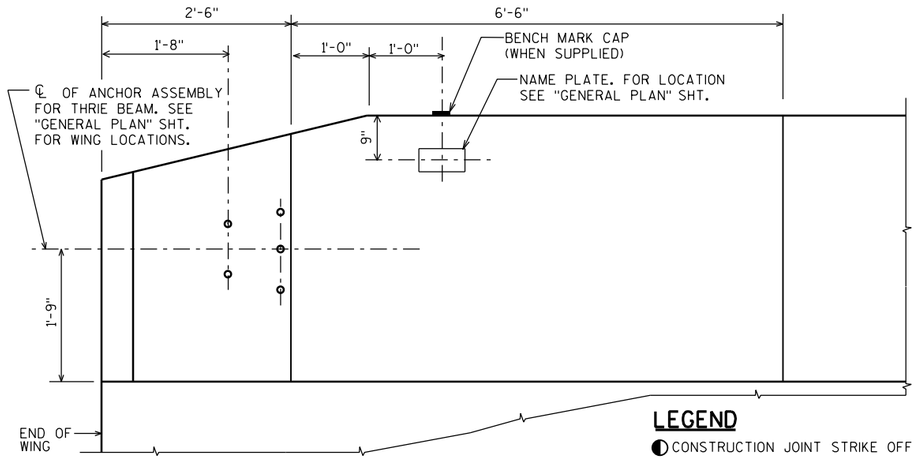


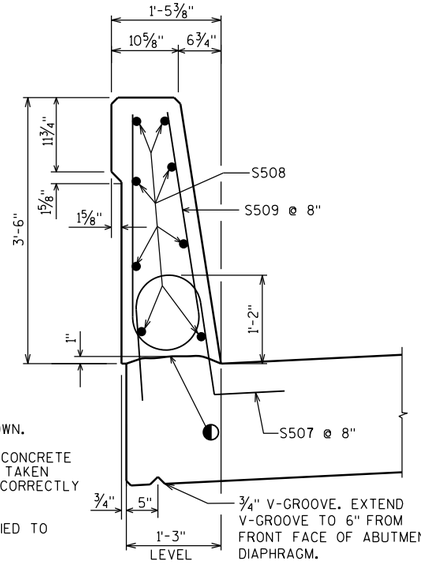
INSIDE ELEVATION

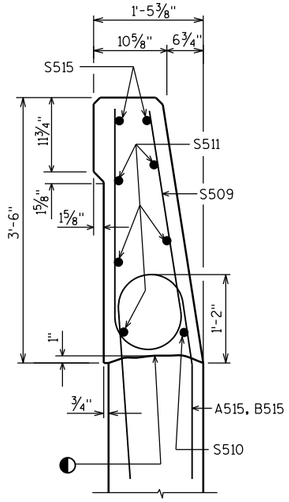
LEGEND

◐ CONSTRUCTION JOINT STRIKE OFF AS SHOWN.

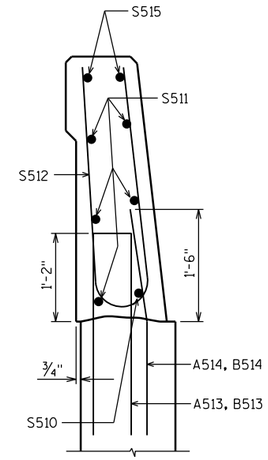
Ⓣ A514, B514 BARS MAY BE PLACED AFTER CONCRETE IS POURED BUT BEFORE INITIAL SET HAS TAKEN PLACE. USE CARE TO PLACE A514 BARS CORRECTLY ALONG TRANSITION OF PARAPET.

▽ A513, B513 AND A515, B515 BARS TO BE TIED TO WING STEEL BEFORE WING IS POURED.

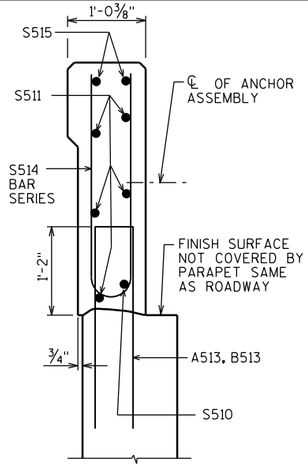




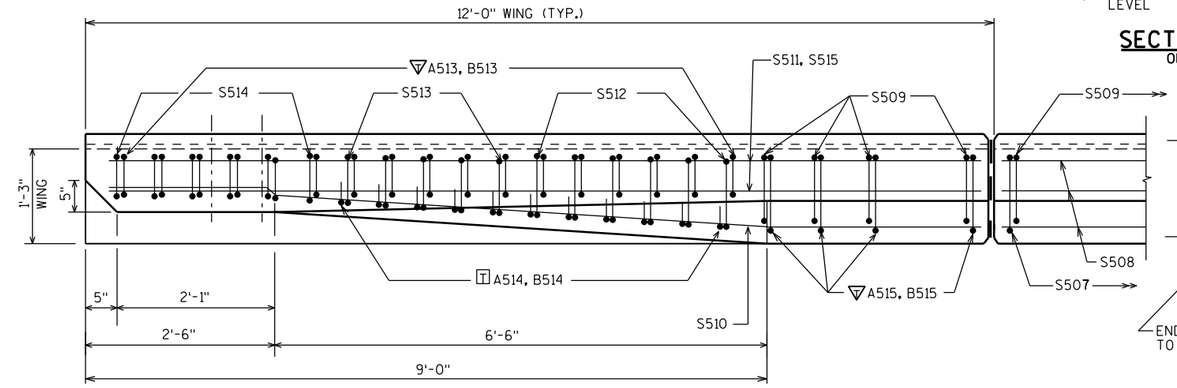
SECTION C-C
ON WING



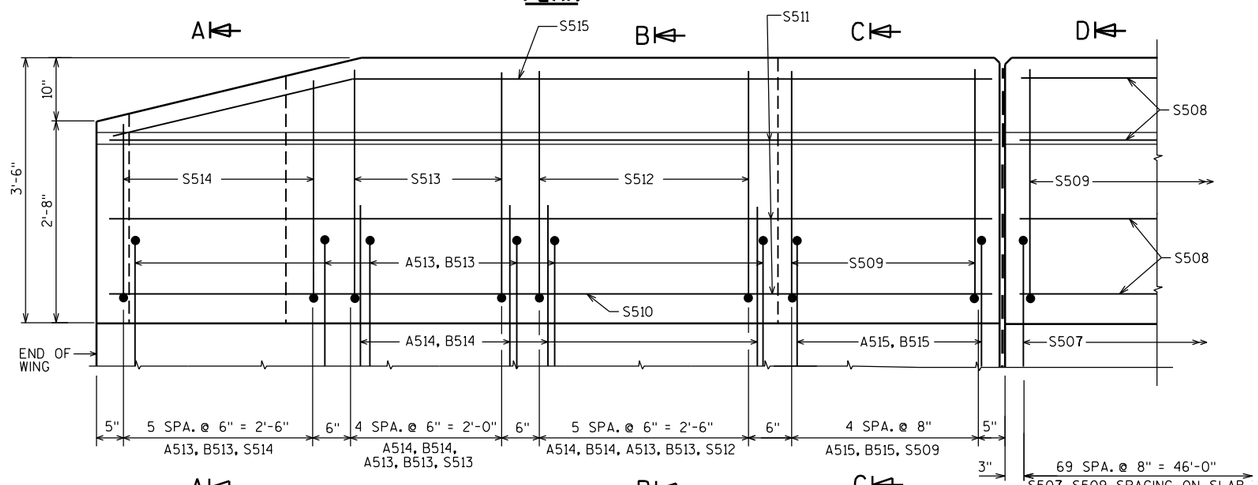
SECTION B-B
ON WING



SECTION A-A
AT END OF WING

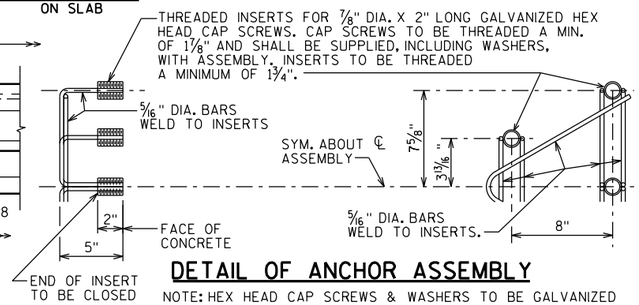


PLAN



OUTSIDE ELEVATION

SECTION D-D
ON SLAB



DETAIL OF ANCHOR ASSEMBLY

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

ASSEMBLY BID ITEM SHALL BE "ANCHOR ASSEMBLIES FOR STEEL PLATE BEAM GUARD", EACH.

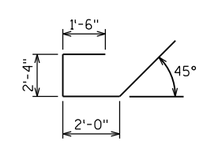
BILL OF BARS (COATED) 21,050 LBS.

MARK	NO. REQ'D.	LENGTH	BENT	BAR SERIES	LOCATION
S501	60	7'-6"	X		DIAPHRAGM @ ABUTS. - LONGIT.
S1102	30	36'-10"			SLAB BOTTOM - LONGIT.
S1003	31	46'-2"			SLAB BOTTOM - LONGIT.
S504	121	28'-5"			SLAB TOP & BOTTOM - TRANS.
S505	92	5'-0"			SLAB TOP @ EDGE OF SLAB - TRANS.
S406	70	24'-3"			SLAB TOP - LONGIT.
S507	140	4'-5"	X		PARAPET ON SLAB - STIRRUP - VERT.
S508	16	46'-2"			PARAPET ON SLAB - LONGIT.
S509	160	6'-8"	X		PARAPET - STIRRUP - VERT.
S510	4	11'-7"	X		PARAPET ON WING - BOTTOM - LONGIT.
S511	20	11'-7"			PARAPET ON WING - LONGIT.
S512	24	6'-6"	X		PARAPET ON WING - STIRRUP - VERT.
S513	20	6'-5"	X		PARAPET ON WING - STIRRUP - VERT.
S514	24	5'-5"	X	Ⓢ	PARAPET ON WING - END - STIRRUP - VERT.
S515	8	11'-8"	X		PARAPET PARAPET ON WING - TOP - LONGIT.

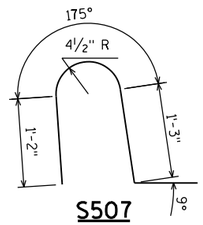
DIMENSIONS IN BENDING DETAILS ARE OUT TO OUT OF BAR.

EPOXY COAT ALL SUPERSTRUCTURE BAR STEEL REINFORCEMENT.

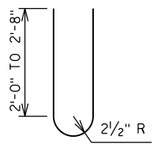
Ⓢ LENGTH SHOWN FOR BAR IS AN AVERAGE LENGTH AND SHOULD ONLY BE USED FOR BAR WEIGHT CALCULATIONS. SEE BAR SERIES TABLE FOR ACTUAL LENGTHS. BEND BAR AFTER CUTTING.



S501



S507

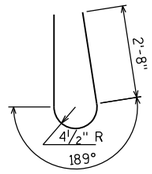


S514

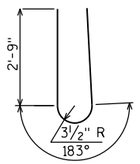
BAR SERIES TABLE

MARK	NO. REQD.	LENGTH
S514	4 SERIES OF 6	4'-9" TO 6'-1"

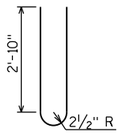
BUNDLE AND TAG EACH SERIES SEPARATELY.



S509



S512



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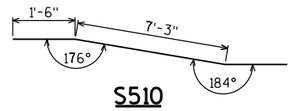

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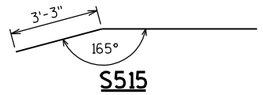

S515

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-41-299

DRAWN BY RLR | PLANS CK'D. JRS

SINGLE SLOPE PARAPET 42SS

SHEET 9 OF 9
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FILE= S1014_09.DGN
DATE= 1/19/2018

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