MAD

FEB 2018

PROJECT ID: 5707-00-72

WITH: N/A

COUNTY: GREEN

04

ORDER OF SHEETS

TOTAL SHEETS = 40

STATE OF WISCONSIN

DEPARTMENT OF TRANSPORTATION

PLAN OF PROPOSED IMPROVEMENT

TOWN OF WASHINGTON, DISCH ROAD

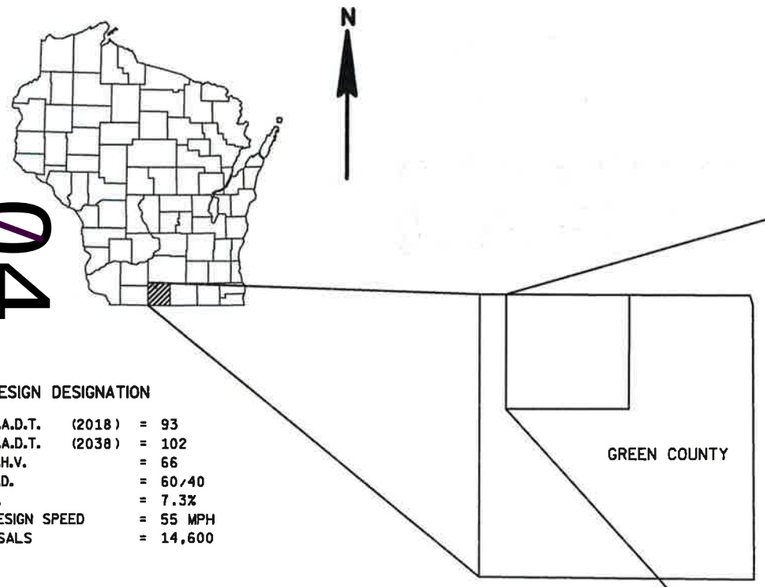
(HEFTY CREEK BRIDGE B-23-0177)

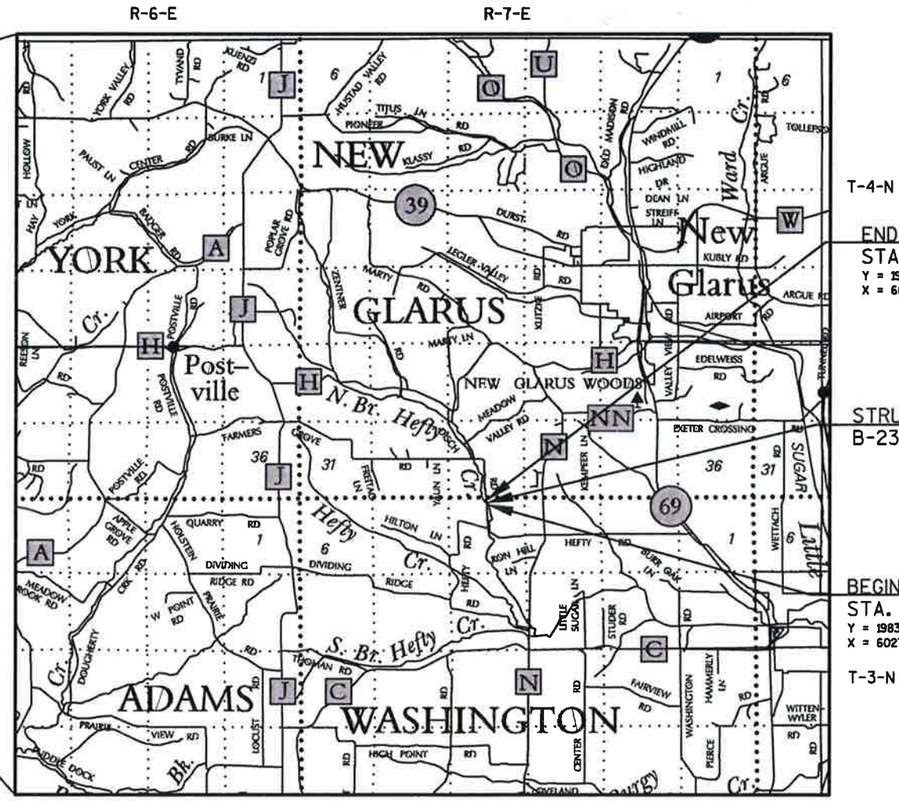
LOCAL STREET

GREEN COUNTY

STATE PROJECT	FEDERAL PROJECT	
	PROJECT	CONTRACT
5707-00-72	WISC 2018083	1

STATE PROJECT NUMBER
5707-00-72





LAYOUT
SCALE 0 2 MILES

TOTAL NET LENGTH OF CENTERLINE = 0.038 MI.

HORIZONTAL POSITIONS SHOWN ON THIS PLAN ARE WISCONSIN COUNTY COORDINATES, GREEN COUNTY, NAD83 (2011), IN U.S. SURVEY FEET. VALUES ARE GRID COORDINATES, GRID BEARINGS, AND GRID DISTANCES. GRID DISTANCES MAY BE USED AS GROUND DISTANCES.

DESIGN DESIGNATION

A.A.D.T.	(2018)	= 93
A.A.D.T.	(2038)	= 102
D.H.V.		= 66
D.D.		= 60/40
T.		= 7.3%
DESIGN SPEED		= 55 MPH
ESALS		= 14,600

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

ACCEPTED FOR
COUNTY of GREEN
7/20/17 (Date) (COUNTY HIGHWAY ENGINEER)

ACCEPTED FOR
TOWN of WASHINGTON
7-20-17 (Date) Richard Rufer (TOWN CHAIRMAN)

ORIGINAL PLANS PREPARED BY
FEHR GRAHAM
ENGINEERING & ENVIRONMENTAL

WISCONSIN
JESSE W. DUFF
43495-6
MONROE, WI
PROFESSIONAL ENGINEER

7/20/2017 (Date) (Signature)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

PREPARED BY
Surveyor: FEHR GRAHAM
Designer: FEHR GRAHAM

Management Consultant: KL ENGINEERING

APPROVED FOR THE DEPARTMENT
DATE: 7/27/17 (Management Consultant Signature)

E

FILE NAME : G:\C3D\15\15-850\5707-00-72\SHEETSPLAN\010101-TI.DWG
LAYOUT NAME - 010101-TI-01

PLOT DATE : 7/19/2017 12:06 PM PLOT BY : PERRI WILSON PLOT NAME :

WISDOT/CADDS SHEET 10

2

CONVENTIONAL ABBREVIATIONS

ACCESS POINT/DRIVEWAY CONNECTION	AP	PERMANENT LIMITED EASEMENT	PLE
ACCESS RIGHTS	AR	PROPERTY LINE	PL
ACRES	AC	RECORDED AS	(100')
AND OTHERS	ET AL	REFERENCE LINE	R/L
CENTERLINE	C/L	RELEASE OF RIGHTS	ROR
CERTIFIED SURVEY MAP	CSM	REMAINING	REM
CORNER	COR	RESTRICTED DEVELOP	RDE
DOCUMENT	DOC	EASEMENT	
EASEMENT	EASE	RIGHT-OF-WAY	R/W
HIGHWAY EASEMENT	HE	SECTION	SEC
LAND CONTRACT	LC	STATION	STA
MONUMENT	MON	TEMPORARY LIMITED EASEMENT	TLE
PAGE	P	VOLUME	V

GENERAL NOTES

EROSION CONTROL ITEMS TO BE PLACED AS SHOWN ON THE PLANS OR AS DIRECTED BY THE ENGINEER.

NO TREES ARE TO BE REMOVED WITHOUT THE APPROVAL OF THE ENGINEER.

SEED MIXTURES NO. 20 AND TEMPORARY SHALL BE USED IN THE PROJECT, AND SHALL BE PLACED AS SHOWN IN THE PLANS AND/OR AS DIRECTED BY THE ENGINEER.

SILT FENCE, TEMPORARY DITCH CHECKS, AND TURBIDITY BARRIER SHALL BE PLACED AS SHOWN ON THE PLAN OR AS DIRECTED BY THE ENGINEER IN THE FIELD. SILT FENCE AND TURBIDITY BARRIER SHALL BE PLACED PRIOR TO CONSTRUCTION AND IN PLACE PRIOR TO STRUCTURE REMOVAL.

THE LOCATION OF EXISTING AND PROPOSED UTILITY INSTALLATIONS AS SHOWN ON THE PLANS ARE APPROXIMATE. THERE MAY BE OTHER UTILITY INSTALLATIONS WITHIN THE PROJECT AREA THAT ARE NOT SHOWN. THE CONTRACTOR IS RESPONSIBLE FOR FIELD LOCATING ALL UTILITIES.

COORDINATES AND BEARINGS ON THIS PLAN ARE REFERENCED TO THE WISCONSIN COUNTY COORDINATE SYSTEM (WCCS), GREEN COUNTY, NAD83 (91) ADJUSTMENT.

ASPHALTIC SURFACE LAYERS:
- UPPER: 1 ¾" (12.5mm NOMINAL AGGREGATE SIZE)
- LOWER: 2 ¼" (19.0mm NOMINAL AGGREGATE SIZE)

WISCONSIN DEPARTMENT OF NATURAL RESOURCES CONTACT

LAURA BUB
SOUTHWEST REGIONAL HEADQUARTERS
3911 FISH HATCHERY ROAD
FITCHBURG, WI 53711
(608) 275-2485
LAURA.BUB@WISCONSIN.GOV

DESIGNER

FEHR GRAHAM
JESSE DUFF
1107 16TH AVENUE
MONROE, WI 53566
(608) 329-6400
JESSEDUFF@FEHR-GRAHAM.COM

TOWN OF WASHINGTON

RICHARD RUFER, CHAIRMAN
(608) 293-0121
RICHRUFER@GMAIL.COM

GREEN COUNTY HIGHWAY

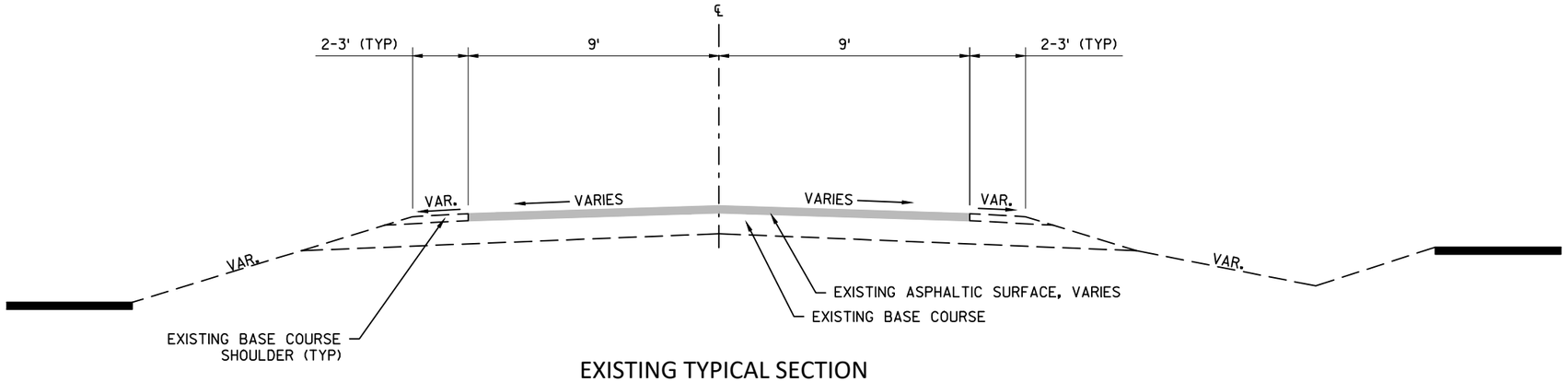
ALEX HEGEMAN,
COUNTY HIGHWAY ENGINEER
2813 6TH STREET
P.O. BOX 259
MONROE, WI 53566
(608) 328-9411
AHEGEMAN@GREENCOUNTYWI.ORG

UTILITIES

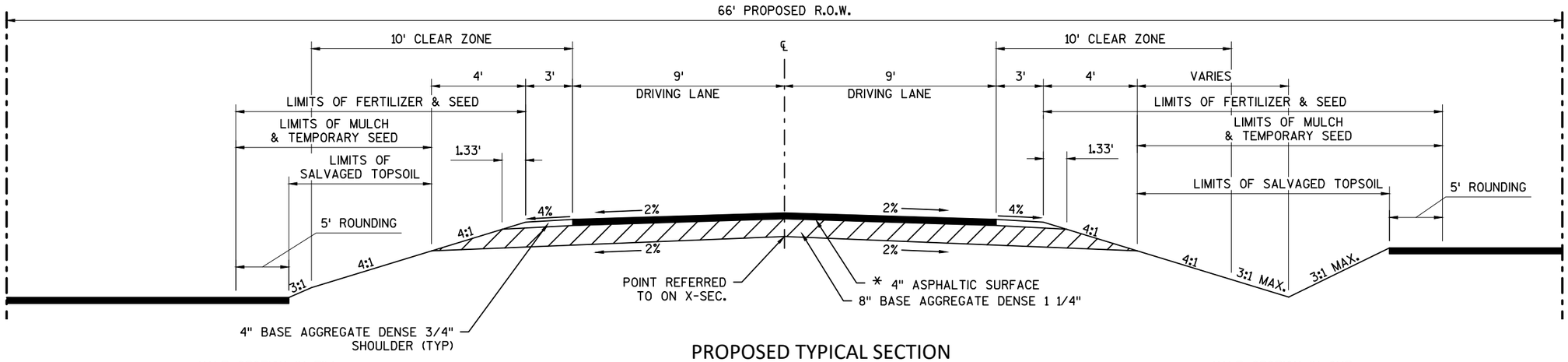
ALLIANT ENERGY
BETSI BASS
(608) 328-5323
BETSIBASS@ALLIANTENERGY.COM

TDS TELCOM
JERRY MYERS
(608) 664-4404
JERRY.MYERS@TDSTELECOM.COM

2



EXISTING TYPICAL SECTION

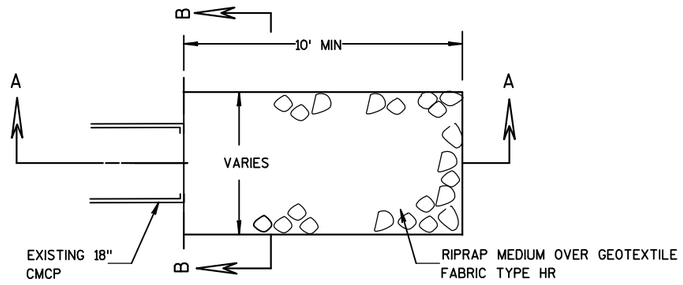


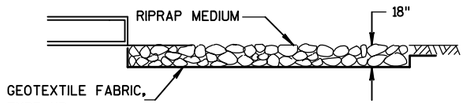
PROPOSED TYPICAL SECTION

HALF SECTION IN FILL

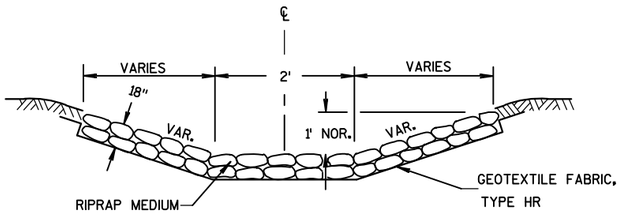
HALF SECTION IN CUT

* ASPHALT SHALL TAPER FROM THE BRIDGE WIDTH
AT THE BRIDGE TO 18' AT 40' FROM THE DRIDGE



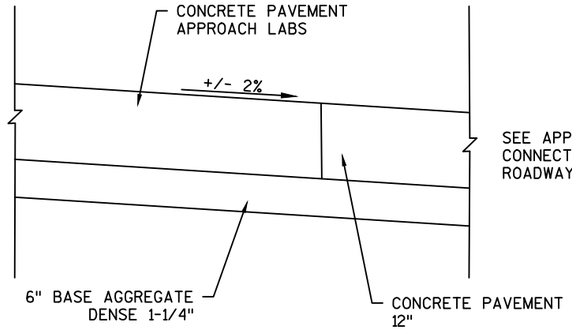


SECTION A-A



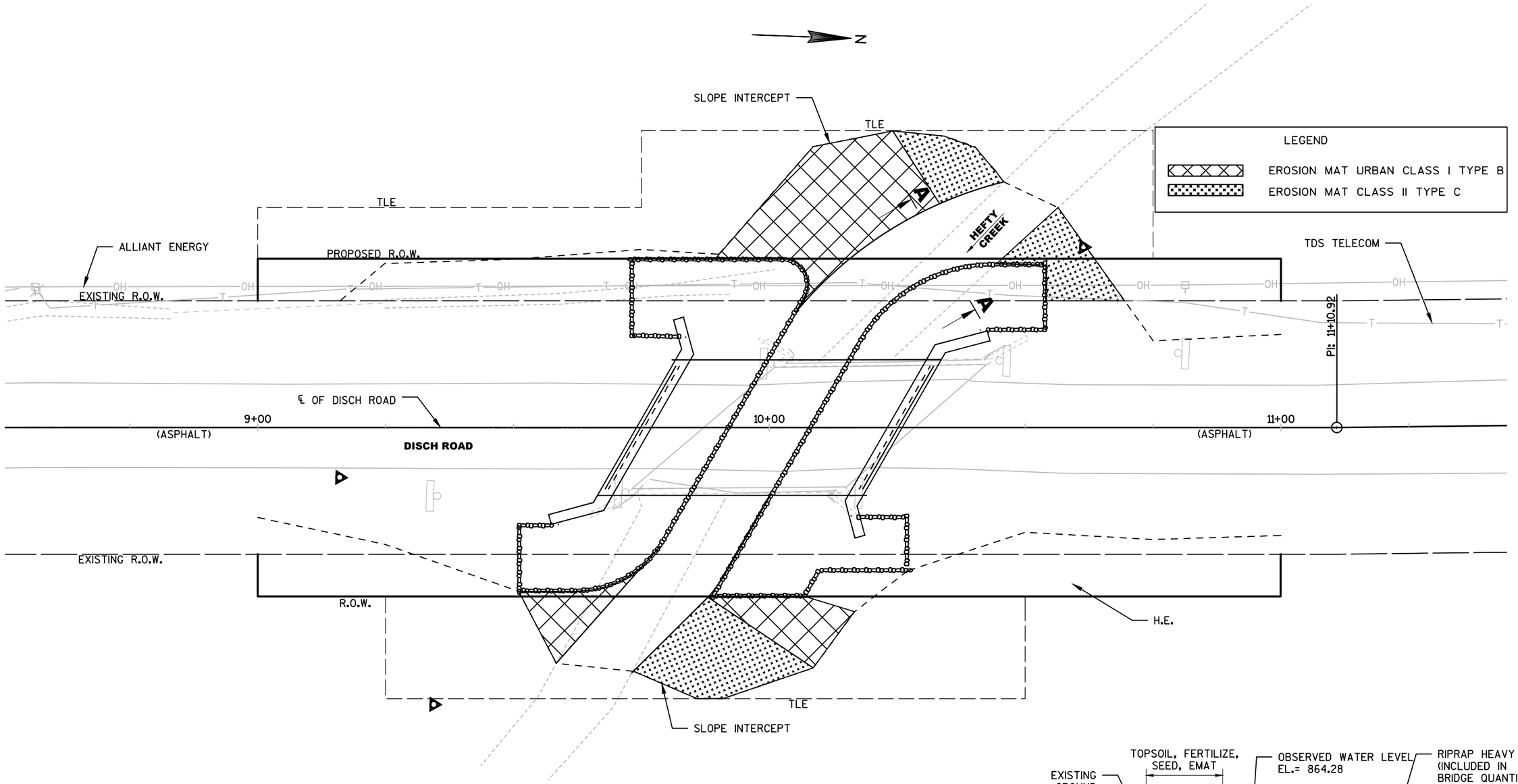
SECTION B-B

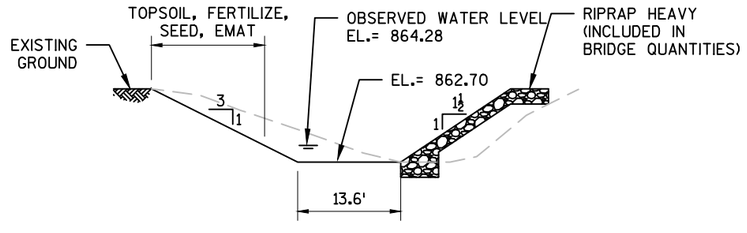
RIPRAP MEDIUM OVER GEOTEXTILE
FABRIC TYPE HR DETAIL
SCALE: NONE



SUBGRADE AT APPROACH SLABS
SCALE: NONE

2





SECTION A-A

PROJECT NO: 5707-00-72	HWY: DISCH ROAD	COUNTY: GREEN	CONSTRUCTION DETAIL - CHANNEL CHANGE: DISCH ROAD	SHEET 5	E

FILE NAME : G:\C3D\15\15-850\5707-00-72\SHEETSPLAN\080204-ST.DWG
LAYOUT NAME - 080204-ST - 01
PLOT DATE : 12/4/2017 12:46 PM PLOT BY : PERRI WILSON PLOT NAME : PLOT SCALE : 1 IN : 20 FT
WISDOT/CADDS SHEET 42

Estimate Of Quantities

5707-00-72

Line	Item	Item Description	Unit	Total	Qty
0002	203.0600.S	Removing Old Structure Over Waterway With Minimal Debris (station) 01. 10+08	LS	1.000	1.000
0004	204.0180	Removing Delineators and Markers	EACH	4.000	4.000
0006	205.0100	Excavation Common	CY	140.000	140.000
0008	206.1000	Excavation for Structures Bridges (structure) 01. B-23-0177	LS	1.000	1.000
0010	210.1500	Backfill Structure Type A	TON	272.000	272.000
0012	213.0100	Finishing Roadway (project) 01. 5707-00-72	EACH	1.000	1.000
0014	305.0110	Base Aggregate Dense 3/4-Inch	TON	38.000	38.000
0016	305.0120	Base Aggregate Dense 1 1/4-Inch	TON	195.000	195.000
0018	415.0120	Concrete Pavement 12-Inch	SY	26.000	26.000
0020	415.0410	Concrete Pavement Approach Slab	SY	80.000	80.000
0022	455.0605	Tack Coat	GAL	14.000	14.000
0024	465.0105	Asphaltic Surface	TON	49.000	49.000
0026	502.0100	Concrete Masonry Bridges	CY	168.000	168.000
0028	502.3200	Protective Surface Treatment	SY	184.000	184.000
0030	505.0400	Bar Steel Reinforcement HS Structures	LB	5,180.000	5,180.000
0032	505.0600	Bar Steel Reinforcement HS Coated Structures	LB	25,620.000	25,620.000
0034	513.4061	Railing Tubular Type M (structure) 01. B-23-0177	LF	105.000	105.000
0036	516.0500	Rubberized Membrane Waterproofing	SY	18.000	18.000
0038	550.0500	Pile Points	EACH	10.000	10.000
0040	550.1100	Piling Steel HP 10-Inch X 42 Lb	LF	275.000	275.000
0042	606.0200	Riprap Medium	CY	5.000	5.000
0044	606.0300	Riprap Heavy	CY	230.000	230.000
0046	612.0406	Pipe Underdrain Wrapped 6-Inch	LF	168.000	168.000
0048	619.1000	Mobilization	EACH	1.000	1.000
0050	624.0100	Water	MGAL	3.000	3.000
0052	625.0500	Salvaged Topsoil	SY	700.000	700.000
0054	627.0200	Mulching	SY	440.000	440.000
0056	628.1504	Silt Fence	LF	417.000	417.000
0058	628.1520	Silt Fence Maintenance	LF	834.000	834.000
0060	628.1905	Mobilizations Erosion Control	EACH	2.000	2.000
0062	628.1910	Mobilizations Emergency Erosion Control	EACH	2.000	2.000
0064	628.2008	Erosion Mat Urban Class I Type B	SY	110.000	110.000
0066	628.2027	Erosion Mat Class II Type C	SY	168.000	168.000
0068	628.6005	Turbidity Barriers	SY	287.000	287.000
0070	628.7504	Temporary Ditch Checks	LF	12.000	12.000
0072	629.0210	Fertilizer Type B	CWT	5.000	5.000
0074	630.0120	Seeding Mixture No. 20	LB	20.000	20.000
0076	630.0200	Seeding Temporary	LB	20.000	20.000

5707-00-72

Line	Item	Item Description	Unit	Total	Qty
0078	634.0612	Posts Wood 4x6-Inch X 12-FT	EACH	4.000	4.000
0080	637.2230	Signs Type II Reflective F	SF	12.000	12.000
0082	638.2602	Removing Signs Type II	EACH	2.000	2.000
0084	638.3000	Removing Small Sign Supports	EACH	2.000	2.000
0086	642.5001	Field Office Type B	EACH	1.000	1.000
0088	643.0420	Traffic Control Barricades Type III	DAY	700.000	700.000
0090	643.0705	Traffic Control Warning Lights Type A	DAY	1,120.000	1,120.000
0092	643.0900	Traffic Control Signs	DAY	700.000	700.000
0094	643.5000	Traffic Control	EACH	1.000	1.000
0096	645.0111	Geotextile Type DF Schedule A	SY	82.000	82.000
0098	645.0120	Geotextile Type HR	SY	360.000	360.000
0100	650.4500	Construction Staking Subgrade	LF	150.000	150.000
0102	650.5000	Construction Staking Base	LF	150.000	150.000
0104	650.6500	Construction Staking Structure Layout (structure) 01. B-23-0177	LS	1.000	1.000
0106	650.9910	Construction Staking Supplemental Control (project) 01. 5707-00-72	LS	1.000	1.000
0108	650.9920	Construction Staking Slope Stakes	LF	150.000	150.000
0110	690.0150	Sawing Asphalt	LF	36.000	36.000
0112	715.0502	Incentive Strength Concrete Structures	DOL	1,008.000	1,008.000

3

REMOVING DELINEATORS AND MARKERS

LOCATION	OFFSET	204.0180 EACH
NORTH ABUT	LT	1
NORTH ABUT	RT	1
SOUTH ABUT	LT	1
SOUTH ABUT	RT	1
TOTAL		4

FINISHING ROADWAY (5707-00-72)

LOCATION	213.0100 EACH
PROJECT 5707-00-72	1
TOTAL	1

OUTLET PROTECTION

LOCATION	MEDIUM RIPRAP 606.0200 CY	GEOTEXTILE FABRIC TYPE HR 645.0120 SY
9+30	5	10
TOTALS	5	10

EARTHWORK SUMMARY

STATION TO STATION	LOCATION	(1) 205.0100 EXCAVATION COMMON** CUT CY	AVAILABLE* MATERIAL (2) CY	UNEXPANDED* FILL CY	EXPANDED* FILL FACTOR 1.3 (3) CY	(4) MASS ORDINATE +/- CY
9+00 - 11+00	DISCH ROAD	140	140	90	120	20
TOTALS		140	140	90	120	20

* NON-BID ITEM

**PAY PLAN QUANTITY

NOTES

1) SALVAGED/UNUSABLE PAVEMENT MATERIAL IS INCLUDED IN CUT

2) AVAILABLE MATERIAL = CUT

3) EXPANDED FILL FACTOR 1.3; EXPANDED FILL = (UNEXPANDED FILL)*1.3

4) THE MASS ORDINATE + OR - QTY CALCULATED FOR THE DIVISION. PLUS QUANTITY INDICATES AN EXCESS OF MATERIAL WITHIN THE CATEGORY.

MINUS INDICATES A SHORTAGE OF MATERIAL IN THE CATEGORY.

PAVING AND BASE QUANTITIES

STA	TO	STA	BASE AGGREGATE DENSE 3/4-INCH 305.0110 TON	BASE AGGREGATE DENSE 1 1/4-INCH 305.0120 TON	CONCRETE PAVEMENT 12-INCH 415.0120 SY	TACK COAT 455.0605 GAL	ASPHALTIC SURFACE 465.0105 TON	WATER 624.0100 MGAL
9+00		9+82	19	103	13	7	24	1.5
10+17		11+00	19	92	13	7	24	1.5
TOTALS			38	195	26	14	49	3

MOBILIZATION

LOCATION	619.1000 EACH
PROJECT 5707-00-72	1
TOTAL	1

CONCRETE PAVEMENT APPROACH SLAB

STATION	TO	STATION	415.0410 SY
9+52		9+82	40
10+17		10+48	40
TOTALS			80

3

EROSION CONTROL ITEMS

STA	TO	STA	LOCATION	SALVAGED TOPSOIL 625.0500 SY	MULCHING 627.0200 SY	EROSION MAT CLASS I TYPE B URBAN 628.2008 SY	EROSION MAT CLASS II TYPE C 628.2027 SY	SEEDING MIXTURE NO. 20 630.0120 LB	SILT FENCE 628.1504 LF	SILT FENCE MAINTENANCE 628.1520 LF	FERTILIZER TYPE B 629.0210 CWT	SEEDING TEMPORARY 630.0200 LB
9+00		9+75	LT	220	101	62	58	6	--	--	1	6
9+00		9+75	RT	95	51	19	24	3	68	136	1	3
10+28		11+00	LT	80	45	--	34	2	111	222	1	2
10+28		11+00	RT	165	101	23	42	4	138	276	1	4
	UNDISTRIBUTED			140	140	10	10	4	100	200	1	4
TOTALS				700	440	110	168	20	417	834	5	20

3

EROSION CONTROL MOBILIZATION ITEMS

LOCATION	MOBILIZATIONS EROSION CONTROL 628.1905 EACH	MOBILIZATIONS EMERGENCY EROSION CONTROL 628.1910 EACH
PROJECT	2	2
TOTALS	2	2

TURBIDITY BARRIERS

LOCATION	628.6005 SY
NORTH ABUT	151
SOUTH ABUT	111
UNDISTRIBUTED	25
TOTAL	287

TEMPORARY DITCH CHECKS

LOCATION	OFFSET	628.7504 LF
SOUTH ABUT	LT	12
TOTAL		12

3

OBJECT MARKERS

STATION	LOCATION	POSTS WOOD 4X6-INCH X 12-FT 634.0612 EACH	SIGNS TYPE II REFLECTIVE F 637.2230 SF	SIGNAGE TYPE
9+67	RT	1	3	W5-52L
9+82	LT	1	3	W5-52R
10+17	RT	1	3	W5-52L
10+33	LT	1	3	W5-52R
TOTALS		4	12	

REMOVING SIGNS

STATION	LOCATION	REMOVING SIGNS TYPE II 638.2602 EACH	REMOVING SMALL SIGN SUPPORTS 638.3000 EACH	SIGNAGE TYPE
9+35	RT	1	1	R12-1
10+80	LT	1	1	R12-1
TOTALS		2	2	

FIELD OFFICE TYPE B

LOCATION	642.5001 EACH
PROJECT 5707-00-72	1
TOTAL	1

TRAFFIC CONTROL (5707-00-72)

LOCATION	643.5000 EACH
PROJECT 5707-00-72	1
TOTAL	1

TRAFFIC CONTROL ITEMS

LOCATION	TRAFFIC CONTROL BARRICADES TYPE III 643.0420 DAY	TRAFFIC CONTROL WARNING LIGHTS TYPE A 643.0705 DAY	TRAFFIC CONTROL SIGNS 643.0900 DAY
SOUTH OF STRUC	245	350	140
HEFTY RD INT	70	140	70
HEFTY RD	--	--	70
NORTH OF STRUC	245	350	140
FARMERS GROVE INT	70	140	70
FARMERS GROVE	--	--	35
CTH H INT	70	140	70
CTH H	--	--	70
DISCH RD NORTH	--	--	35
TOTALS	700	1120	700

STAKING ITEMS

CATEGORY	LOCATION	CONSTRUCTION STAKING SUBGRADE 650.4500 LF	CONSTRUCTION STAKING BASE 650.5000 LF	CONSTRUCTION STAKING STRUCTURE LAYOUT (B-23-0177) 650.6500 LS	CONSTRUCTION STAKING SUPPLEMENTAL CONTROL (5707-00-72) 650.9910 LS	CONSTRUCTION STAKING SLOPE STAKES 650.9920 LF
010	9+00 TO 11+00	150	150	--	1	150
020	B-23-0177	--	--	1	--	--
TOTALS		150	150	1	1	150

SAWING ASPHALT

LOCATION	690.0150 LF
9+00	18
11+00	18
TOTAL	36

CONVENTIONAL SYMBOLS

SECTION LINE
QUARTER LINE
SIXTEENTH LINE
NEW REFERENCE LINE
NEW R/W LINE
EXISTING R/W OR HE LINE
PROPERTY LINE
LOT, TIE & OTHER MINOR LINES
SLOPE INTERCEPT
CORPORATE LIMITS
UNDERGROUND FACILITY (COMMUNICATIONS, ELECTRIC, ETC)
NEW R/W (FEE OR HE) (HATCHING VARIES BY OWNER)
TEMPORARY LIMITED EASEMENT AREA
EASEMENT AREA (PERMANENT LIMITED OR RESTRICTED DEVELOPMENT)
TRANSMISSION STRUCTURES
BUILDING — TO BE REMOVED
BRIDGE

SECTION CORNER SYMBOL
SECTION CORNER MONUMENT
GEODETIC SURVEY MONUMENT
SIXTEENTH CORNER MONUMENT
SIGN
R/W MONUMENT (TO BE SET)
NON-MONUMENTED R/W POINT
FOUND IRON PIN (1-INCH UNLESS NOTED)
OFF-PREMISE SIGN

	COMPENSABLE	NON-COMPENSABLE
ELECTRIC POLE		
TELEPHONE POLE		
PEDESTAL (LABEL TYPE) (TV, TEL, ELEC, ETC.)		

ACCESS RESTRICTED BY ACQUISITION
NO ACCESS (BY STATUTORY AUTHORITY)
ACCESS RESTRICTED (BY PREVIOUS PROJECT OR CONTROL)
NO ACCESS (NEW HIGHWAY)
PARCEL NUMBER 25 — UTILITY NUMBER 40
PARALLEL OFFSETS

CONVENTIONAL ABBREVIATIONS

ACCESS RIGHTS	AR	POINT OF INTERSECTION	PI
ACRES	AC	PROPERTY LINE	PL
AHEAD	AH	RECORDED AS	(100')
ALUMINUM	ALUM	REEL / IMAGE	R/I
AND OTHERS	ET AL	REFERENCE LINE	R/L
BACK	BK	REMAINING	REM
BLOCK	BLK	RESTICTIVE DEVELOPMENT EASEMENT	RDE
CENTERLINE	C/L	RIGHT	RT
CERTIFIED SURVEY MAP	CSM	RIGHT OF WAY	R/W
CONCRETE	CONC	SECTION	SEC
COUNTY	CO	SEPTIC VENT	SEPV
COUNTY TRUNK HIGHWAY	CTH	SQUARE FEET	SF
DISTANCE	DIST	STATE TRUNK HIGHWAY	STH
CORNER	COR	STATION	STA
DOCUMENT NUMBER	DOC	TELEPHONE PEDESTAL	TP
EASEMENT	EASE	TEMPORARY LIMITED EASEMENT	TLE
EXISTING	EX	TRANSPORTATION PROJECT PLAT	TPP
GAS VALVE	GV	UNITED STATES HIGHWAY	USH
GRID NORTH	GN	VOLUME	V
HIGHWAY EASEMENT	HE		
IDENTIFICATION	ID		
LAND CONTRACT	LC		
LEFT	LT		
MONUMENT	MON		
NATIONAL GEODETIC SURVEY	NGS		
NUMBER	NO		
OUTLOT	OL		
PAGE	P		
POINT OF TANGENCY	PT		
PERMANENT LIMITED EASEMENT	PLE		
POINT OF BEGINNING	POB		
POINT OF CURVATURE	PC		
POINT OF COMPOUND CURVE	PCC		

CURVE DATA

LONG CHORD	LCH
LONG CHORD BEARING	LCB
RADIUS	R
DEGREE OF CURVE	D
CENTRAL ANGLE	Δ/DELTA
LENGTH OF CURVE	L
TANGENT	T
DIRECTION AHEAD	DA
DIRECTION BACK	DB

CONVENTIONAL UTILITY SYMBOLS

WATER	—W—
GAS	—G—
TELEPHONE	—T—
OVERHEAD TRANSMISSION LINES	—OH—
ELECTRIC	—E—
CABLE TELEVISION	—TV—
FIBER OPTIC	—FO—
SANITARY SEWER	—SAN—
STORM SEWER	—SS—

NOTES:

POSITIONS SHOWN ON THIS PLAT ARE WISCONSIN COORDINATE REFERENCE SYSTEM COORDINATES (WISCRS), GREEN COUNTY, NAD83 (2011) IN US SURVEY FEET. VALUES SHOWN ARE GRID COORDINATES, GRID BEARINGS, AND GRID DISTANCES. GRID DISTANCES MAY BE USED AS GROUND DISTANCES.

ALL NEW RIGHT-OF-WAY MONUMENTS WILL BE TYPE 2 (TYPICALLY 3/4"X24" IRON REBARS) UNLESS OTHERWISE NOTED, AND WILL BE PLACED PRIOR TO THE COMPLETION OF THE PROJECT.

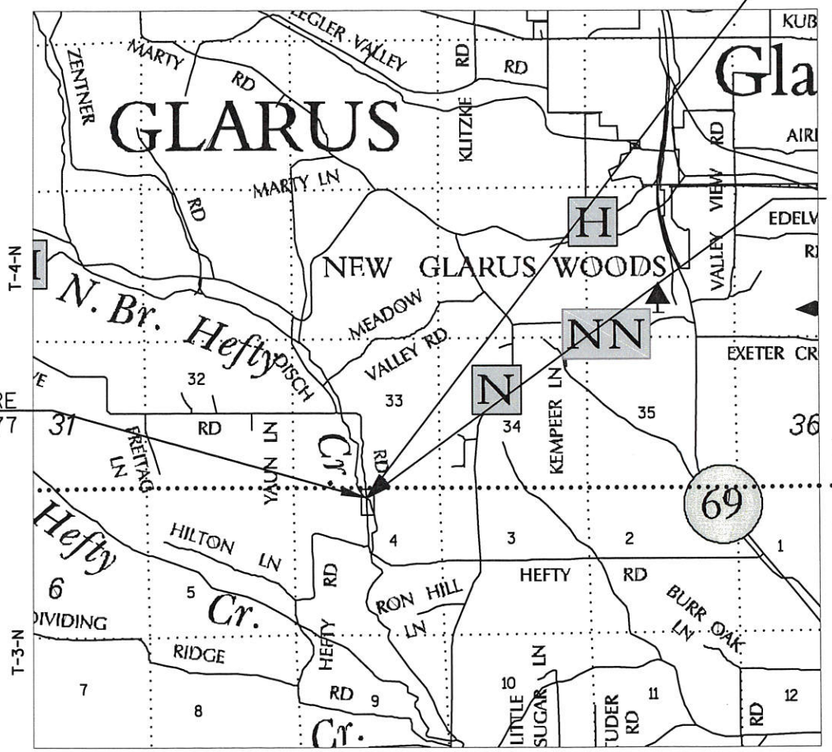
RIGHT-OF-WAY BOUNDARIES ARE DEFINED WITH COURSES OF THE PERIMETER OF THE HIGHWAY LANDS REFERENCED TO THE U.S. PUBLIC LAND SURVEY SYSTEM OR OTHER "SURVEYS" OF PUBLIC RECORD.

DIMENSIONING FOR THE NEW RIGHT-OF-WAY IS MEASURED ALONG AND PERPENDICULAR TO THE NEW REFERENCE LINES.

A TEMPORARY LIMITED EASEMENT (TLE) IS A RIGHT FOR CONSTRUCTION PURPOSES, AS DEFINED HEREIN, INCLUDING THE RIGHT TO OPERATE NECESSARY EQUIPMENT THEREON, THE RIGHT OF INGRESS AND EGRESS, AS LONG AS REQUIRED FOR SUCH PUBLIC PURPOSE, INCLUDING THE RIGHT TO PRESERVE, PROTECT, REMOVE, OR PLANT THEREON ANY VEGETATION THAT THE HIGHWAY AUTHORITIES MAY DEEM DESIRABLE. ALL (TLEs) ON THIS PLAT EXPIRE AT THE COMPLETION OF THE CONSTRUCTION PROJECT FOR WHICH THIS INSTRUMENT IS GIVEN.

PROPERTY LINES SHOWN ON THIS PLAT ARE DRAWN FROM DATA DERIVED FROM MAPS AND DOCUMENTS OF PUBLIC RECORD AND/OR EXISTING OCCUPATIONAL LINES. THIS PLAT MAY NOT BE A TRUE REPRESENTATION OF EXISTING PROPERTY LINES, EXCLUDING RIGHT-OF-WAY, AND SHOULD NOT BE USED AS A SUBSTITUTE FOR AN ACCURATE FIELD SURVEY.

EXISTING TOWN ROAD RIGHT-OF-WAY SHOWN HEREIN IS BASED ON THE FOLLOWING POINTS OF REFERENCE: THE EXISTING HIGHWAY R/W FOR DISCH ROAD IS BASED ON EXISTING CENTERLINE AND TOWN OF WASHINGTON ROAD RECORDS.



STRUCTURE B-23-0177

LAYOUT

SCALE 0 — 1 MILE

TOTAL NET LENGTH OF CENTERLINE = 0.038 MILES

N

END RELOCATION ORDER

STA 11+00

330.84' SOUTH, AND 2.52' EAST OF THE NORTH QUARTER CORNER OF SECTION 4, T.3N., R.7E., TOWN OF WASHINGTON, GREEN COUNTY, WI
Y = 198504.52
X = 602773.71

BEGIN RELOCATION ORDER

STA 9+00

4764.23' NORTH, 4.00' EAST OF THE SOUTH QUARTER CORNER OF SECTION 4, T.3N., R.7E., TOWN OF WASHINGTON, GREEN COUNTY, WI
Y = 198304.65
X = 602781.07

TOWN OF NEW GLARUS

TOWN OF WASHINGTON

R/W PROJECT NUMBER 5707-00-02	SHEET NUMBER	TOTAL SHEETS
CONSTRUCTION PROJECT NUMBER 5707-00-72	4.01	2

PLAT OF RIGHT OF WAY REQUIRED FOR

TOWN OF WASHINGTON, DISCH ROAD
HEFTY CREEK BRIDGE B-23-0177

TOWN ROAD — GREEN COUNTY

CAUTION
THIS PLAT IS FOR ILLUSTRATIVE PURPOSES ONLY. DEEDS MUST BE CHECKED TO DETERMINE PROPERTY BOUNDARIES.

WISCONSIN
NICHOLAS A. GRINDEY
S-2998
Lena, IL
LAND SURVEYOR
6/5/17

FEHR GRAHAM
ENGINEERING & ENVIRONMENTAL

TOWN OF WASHINGTON

I, NICHOLAS GRINDEY, PROFESSIONAL LAND SURVEYOR, HEREBY CERTIFY THAT IN FULL COMPLIANCE WITH THE PROVISIONS OF SECTION 60.50 AND 82.12 OF THE WISCONSIN STATUTES AND UNDER THE DIRECTION OF THE TOWN OF WASHINGTON, GREEN COUNTY, WISCONSIN AND SUCH PLAT CORRECTLY REPRESENTS ALL EXTERIOR BOUNDARIES OF THE SURVEYED LAND.

SIGNATURE: _____ DATE: 6/5/17
PRINT NAME: NICHOLAS GRINDEY
REGISTRATION NUMBER: S-2998

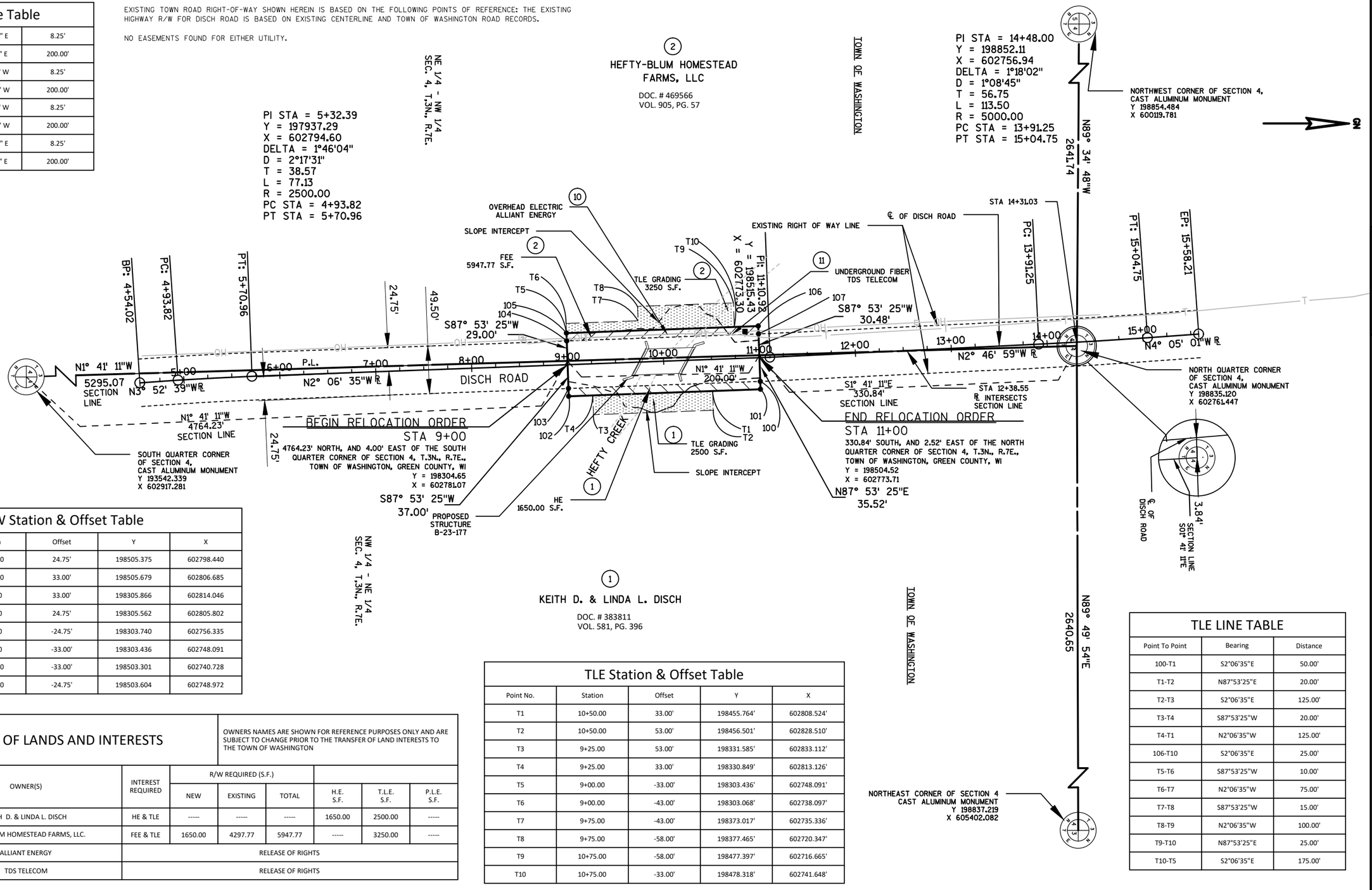
APPROVED FOR THE TOWN OF WASHINGTON
SIGNATURE: _____ DATE: 6/6/17
PRINT NAME: RICHARD RUFER, CHAIRPERSON

REVISION DATE
7/18/17 NC

R/W Course Table		
100-101	N 87° 53' 25" E	8.25'
101-102	S 02° 06' 35" E	200.00'
102-103	S 87° 53' 25" W	8.25'
103-100	N 02° 06' 35" W	200.00'
104-105	S 87° 53' 25" W	8.25'
105-106	N 02° 06' 35" W	200.00'
106-107	N 87° 53' 25" E	8.25'
107-104	S 02° 06' 35" E	200.00'

EXISTING TOWN ROAD RIGHT-OF-WAY SHOWN HEREIN IS BASED ON THE FOLLOWING POINTS OF REFERENCE: THE EXISTING HIGHWAY R/W FOR DISCH ROAD IS BASED ON EXISTING CENTERLINE AND TOWN OF WASHINGTON ROAD RECORDS.

NO EASEMENTS FOUND FOR EITHER UTILITY.



R/W Station & Offset Table				
Point No.	Station	Offset	Y	X
100	11+00.00	24.75'	198505.375	602798.440
101	11+00.00	33.00'	198505.679	602806.685
102	9+00.00	33.00'	198305.866	602814.046
103	9+00.00	24.75'	198305.562	602805.802
104	9+00.00	-24.75'	198303.740	602756.335
105	9+00.00	-33.00'	198303.436	602748.091
106	11+00.00	-33.00'	198503.301	602740.728
107	11+00.00	-24.75'	198503.604	602748.972

TLE Station & Offset Table				
Point No.	Station	Offset	Y	X
T1	10+50.00	33.00'	198455.764'	602808.524'
T2	10+50.00	53.00'	198456.501'	602828.510'
T3	9+25.00	53.00'	198331.585'	602833.112'
T4	9+25.00	33.00'	198330.849'	602813.126'
T5	9+00.00	-33.00'	198303.436'	602748.091'
T6	9+00.00	-43.00'	198303.068'	602738.097'
T7	9+75.00	-43.00'	198373.017'	602735.336'
T8	9+75.00	-58.00'	198377.465'	602720.347'
T9	10+75.00	-58.00'	198477.397'	602716.665'
T10	10+75.00	-33.00'	198478.318'	602741.648'

TLE LINE TABLE		
Point To Point	Bearing	Distance
100-T1	S2°06'35"E	50.00'
T1-T2	N87°53'25"E	20.00'
T2-T3	S2°06'35"E	125.00'
T3-T4	S87°53'25"W	20.00'
T4-T1	N2°06'35"W	125.00'
106-T10	S2°06'35"E	25.00'
T5-T6	S87°53'25"W	10.00'
T6-T7	N2°06'35"W	75.00'
T7-T8	S87°53'25"W	15.00'
T8-T9	N2°06'35"W	100.00'
T9-T10	N87°53'25"E	25.00'
T10-T5	S2°06'35"E	175.00'

SCHEDULE OF LANDS AND INTERESTS

OWNERS NAMES ARE SHOWN FOR REFERENCE PURPOSES ONLY AND ARE SUBJECT TO CHANGE PRIOR TO THE TRANSFER OF LAND INTERESTS TO THE TOWN OF WASHINGTON

PARCEL NUMBER	OWNER(S)	INTEREST REQUIRED	R/W REQUIRED (S.F.)					
			NEW	EXISTING	TOTAL	H.E. S.F.	T.L.E. S.F.	P.L.E. S.F.
1	KEITH D. & LINDA L. DISCH	HE & TLE	-----	-----	-----	1650.00	2500.00	-----
2	HEFTY-BLUM HOMESTEAD FARMS, LLC.	FEE & TLE	1650.00	4297.77	5947.77	-----	3250.00	-----
10	ALLIANT ENERGY	RELEASE OF RIGHTS						
11	TDS TELECOM	RELEASE OF RIGHTS						

4

4

REVISION DATE 07/18/2017	DATE 06/05/2017	SCALE, FEET 0 50 100	HWY: DISCH ROAD	STATE R/W PROJECT NUMBER 5707-00-02
	GRID FACTOR N/A		COUNTY: GREEN	CONSTRUCTION PROJECT NUMBER 5707-00-72

PLAT SHEET 4.02

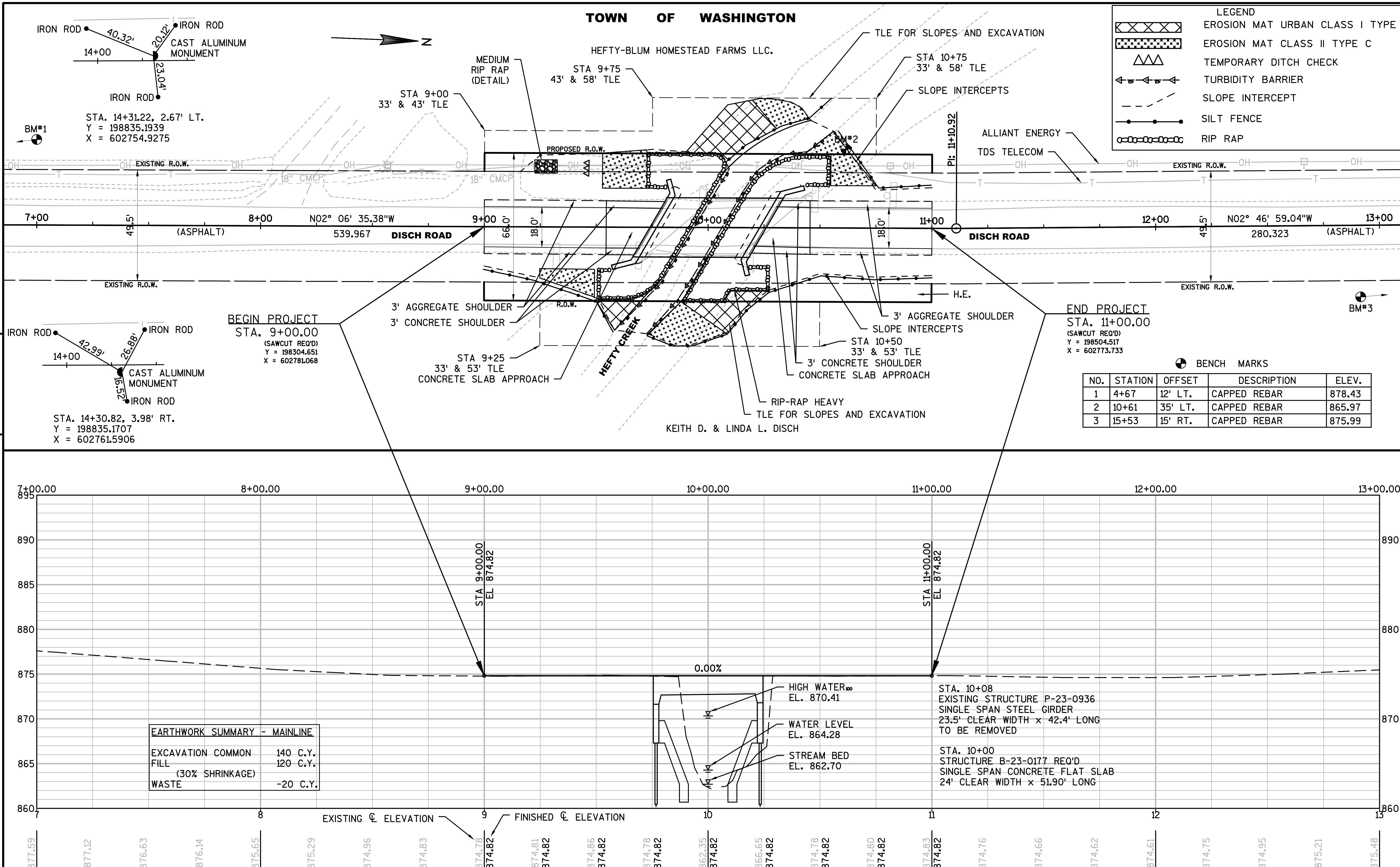
PS&E SHEET --12

E

FILE NAME : 040101-RP.DWG
LAYOUT NAME - ****

PLOT DATE : 7/18/2017 9:06 AM PLOT BY : PERRI WILSON PLOT NAME : PLOT SCALE : **********

WISDOT/CADDS SHEET 75



BENCH MARKS

NO.	STATION	OFFSET	DESCRIPTION	ELEV.
1	4+67	12' LT.	CAPPED REBAR	878.43
2	10+61	35' LT.	CAPPED REBAR	865.97
3	15+53	15' RT.	CAPPED REBAR	875.99

EARTHWORK SUMMARY - MAINLINE

EXCAVATION COMMON	140 C.Y.
FILL (30% SHRINKAGE)	120 C.Y.
WASTE	-20 C.Y.

5

5

PROJECT NO:5707-00-72 | HWY:DISCH ROAD | COUNTY:GREEN | PLAN AND PROFILE: DISCH ROAD | SHEET 13 | E

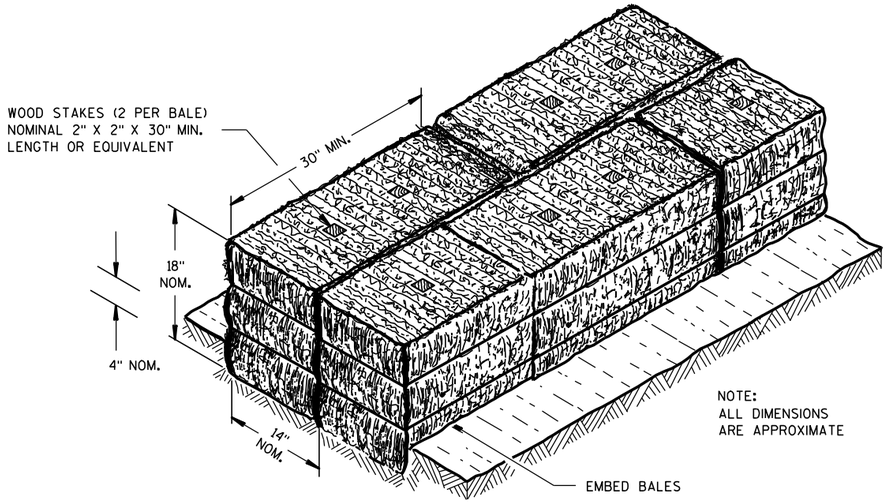
FILE NAME : G:\C3D\15\15-850\5707-00-72\SHEETSPLAN\050101-PP.DWG
LAYOUT NAME - 050101-PP-01
PLOT DATE : 12/4/2017 12:47 PM PLOT BY : PERRI WILSON PLOT NAME : PLOT SCALE : 1 IN:40 FT

Standard Detail Drawing List

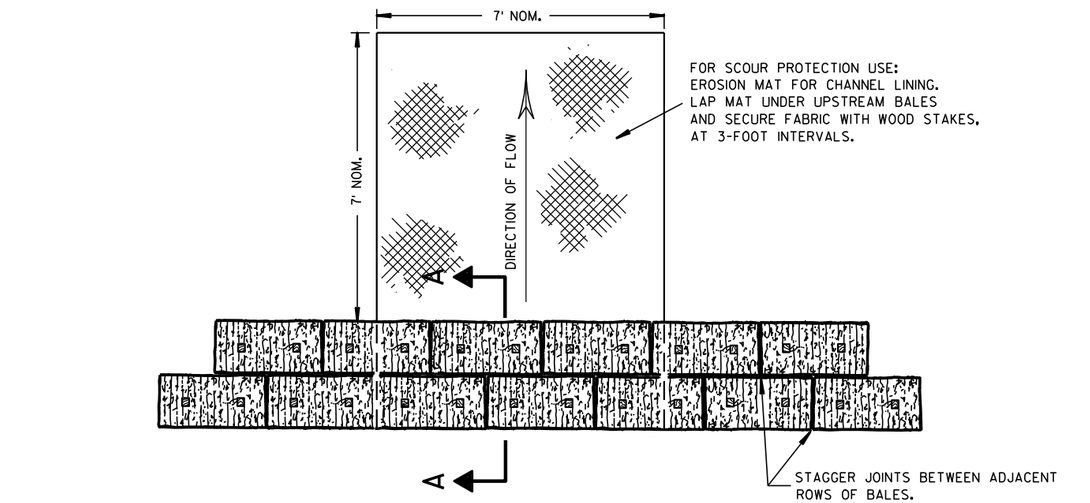
08E08-03	TYPICAL INSTALLATIONS OF EROSION BALES / TEMPORARY DITCH CHECKS
08E09-06	SILT FENCE
08E11-02	TURBIDITY BARRIER
12A03-10	NAME PLATE (STRUCTURES)
13B02-08A	CONCRETE PAVEMENT APPROACH SLAB
15C02-06A	BARRICADES AND SIGNS FOR MAINLINE CLOSURES
15C02-06B	BARRICADES AND SIGNS FOR MAINLINE CLOSURES
15C06-09	SIGNING & MARKING FOR TWO LANE BRIDGES

6

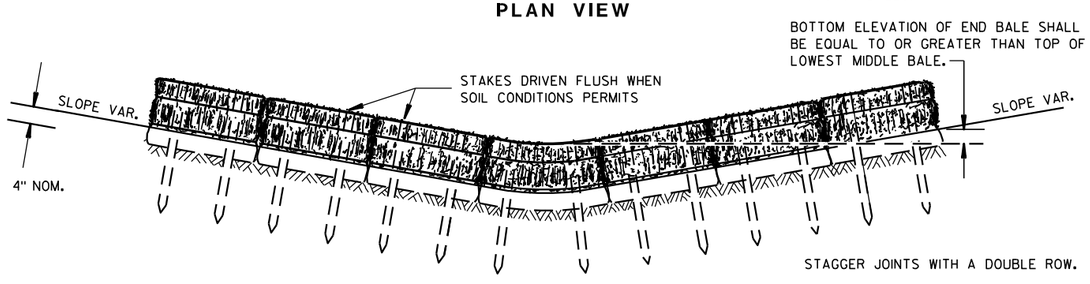
6



SECTION A-A



PLAN VIEW



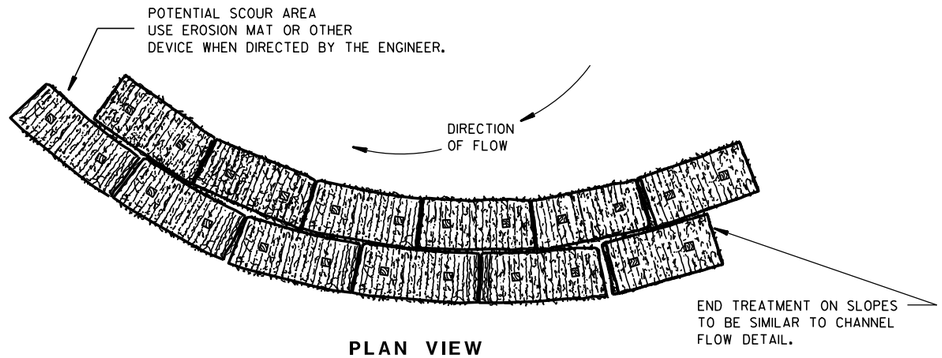
FRONT ELEVATION

TEMPORARY DITCH CHECK USING EROSION BALES (1)

GENERAL NOTES

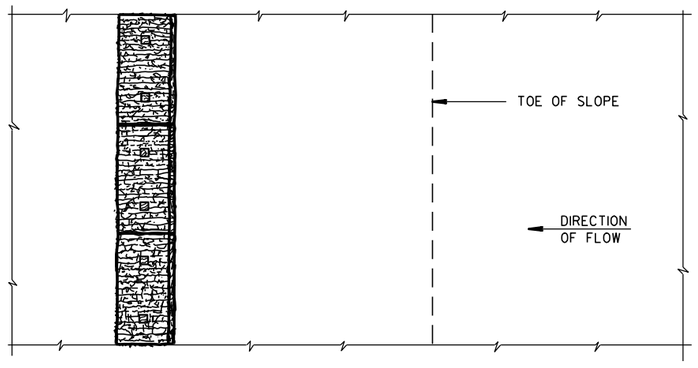
DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND THE APPLICABLE SPECIAL PROVISIONS.

(1) TEMPORARY DITCH CHECKS EITHER EROSION BALES OR MANUFACTURED SHALL BE PAID FOR UNDER THE BID ITEM OF TEMPORARY DITCH CHECK. THE DEPARTMENT WILL NOT PAY FOR TEMPORARY DITCH CHECKS CONSTRUCTED OF A SINGLE ROW OF EROSION BALES.

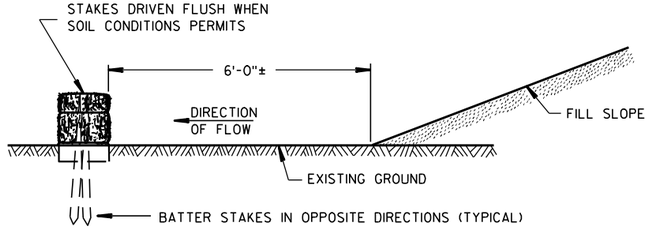


PLAN VIEW

WHEN ALTERING THE DIRECTION OF FLOW



PLAN VIEW



FRONT ELEVATION

WHEN EXISTING GROUND SLOPES AWAY FROM FILL SLOPE

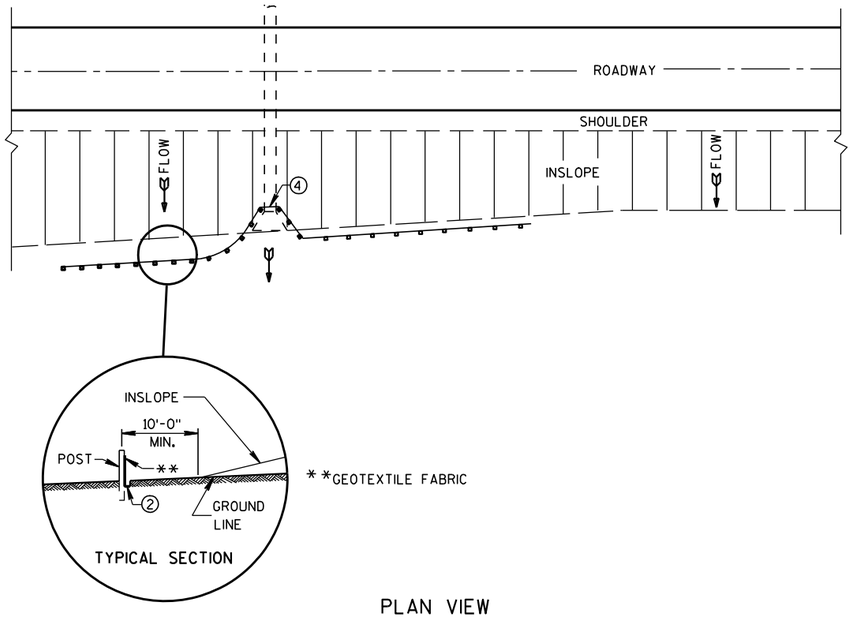
EROSION BALES FOR SHEET FLOW

TYPICAL INSTALLATIONS OF EROSION BALES / TEMPORARY DITCH CHECKS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

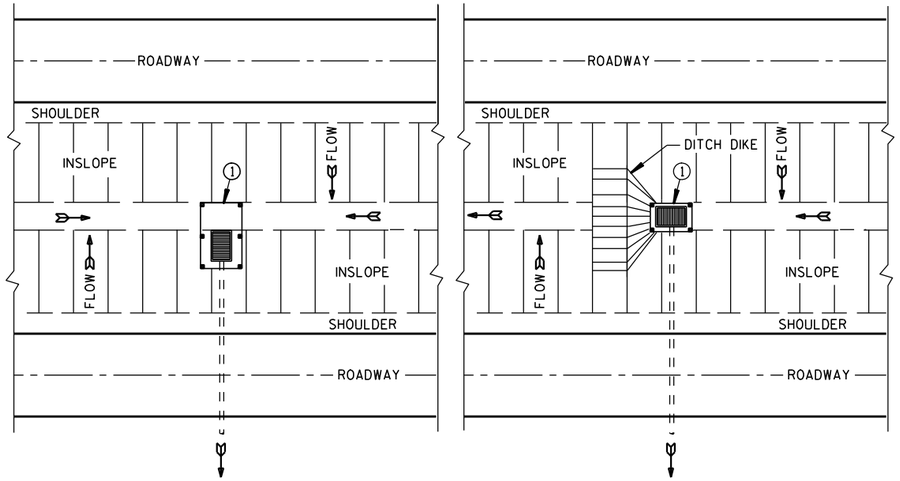
APPROVED
6/04/02 — DATE
/S/ Beth Cannestra — CHIEF ROADWAY DEVELOPMENT ENGINEER
FHWA

6
S.D.D. 8 E 8-3



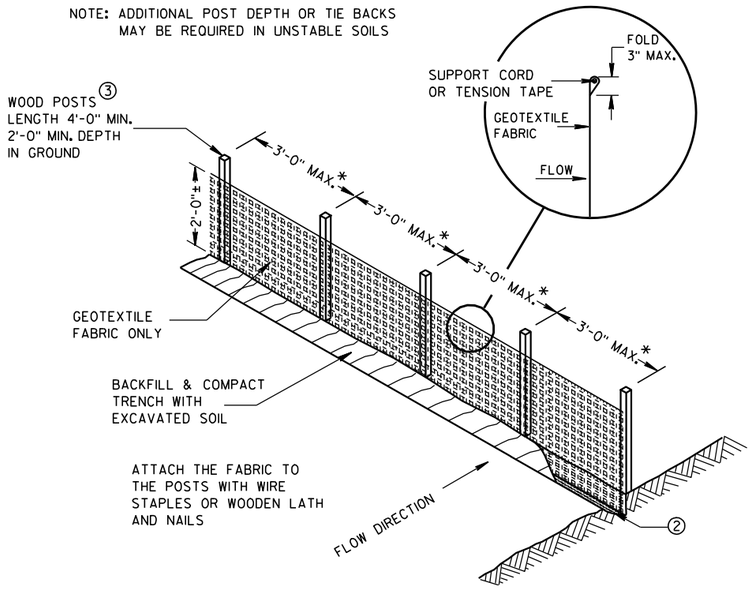
PLAN VIEW

TYPICAL APPLICATION OF SILT FENCE



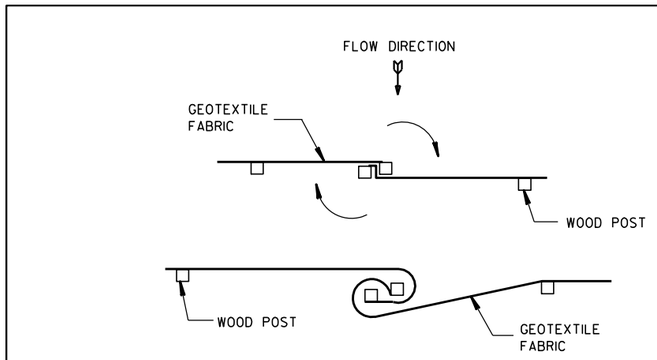
PLAN VIEW

SILT FENCE AT MEDIAN SURFACE DRAINS



*NOTE: 8'-0" POST SPACING ALLOWED IF A WOVEN GEOTEXTILE FABRIC IS USED.

SILT FENCE

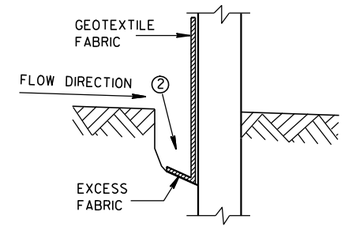


JOINING TWO LENGTHS OF SILT FENCE 5

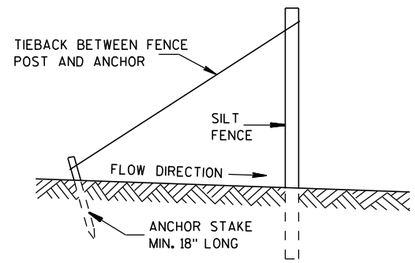
GENERAL NOTES

DETAILS OF CONSTRUCTION NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND APPLICABLE SPECIAL PROVISIONS.

1. HORIZONTAL BRACE REQUIRED WITH 2" X 4" WOODEN FRAME OR EQUIVALENT AT TOP OF POSTS.
2. FOR MANUAL INSTALLATIONS THE TRENCH SHALL BE A MINIMUM OF 4" WIDE & 6" DEEP TO BURY AND ANCHOR THE GEOTEXTILE FABRIC. FOLD MATERIAL TO FIT TRENCH AND BACKFILL & COMPACT TRENCH WITH EXCAVATED SOIL.
3. WOOD POSTS SHALL BE A MINIMUM SIZE OF 1⅛" X 1⅛" OF OAK OR HICKORY.
4. SILT FENCE TO EXTEND ACROSS THE TOP OF THE PIPE.
5. CONSTRUCT SILT FENCE FROM A CONTINUOUS ROLL IF POSSIBLE BY CUTTING LENGTHS TO AVOID JOINTS. IF A JOINT IS NECESSARY USE ONE OF THE FOLLOWING TWO METHODS; A) OVERLAP THE END POSTS AND TWIST, OR ROTATE, AT LEAST 180 DEGREES, B) HOOK THE END OF EACH SILT FENCE LENGTH.



TRENCH DETAIL



SILT FENCE TIE BACK

(WHEN REQUIRED BY THE ENGINEER)

SILT FENCE

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

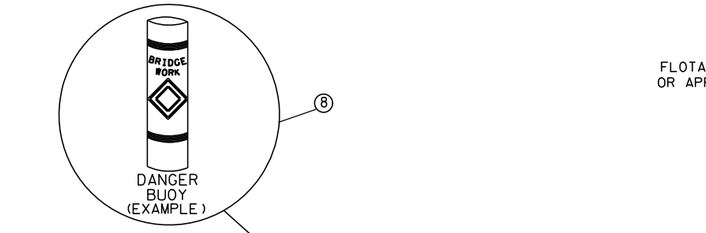
APPROVED
4-29-05 DATE
/S/ Beth Cannestra
CHIEF ROADWAY DEVELOPMENT ENGINEER
FHWA

6

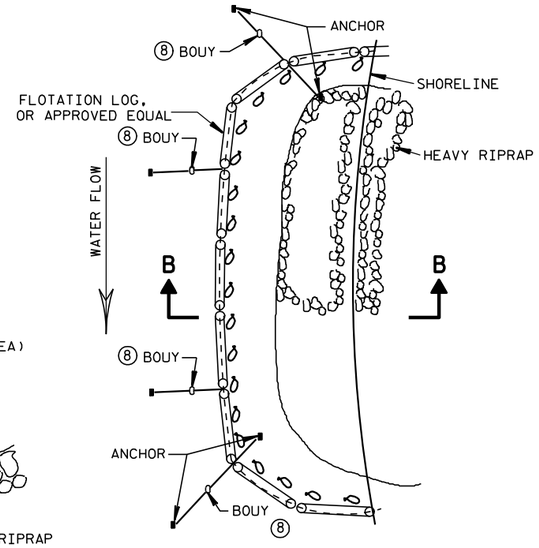
S.D.D. 8 E 9-6

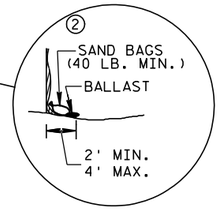
6

S.D.D. 8 E 9-6

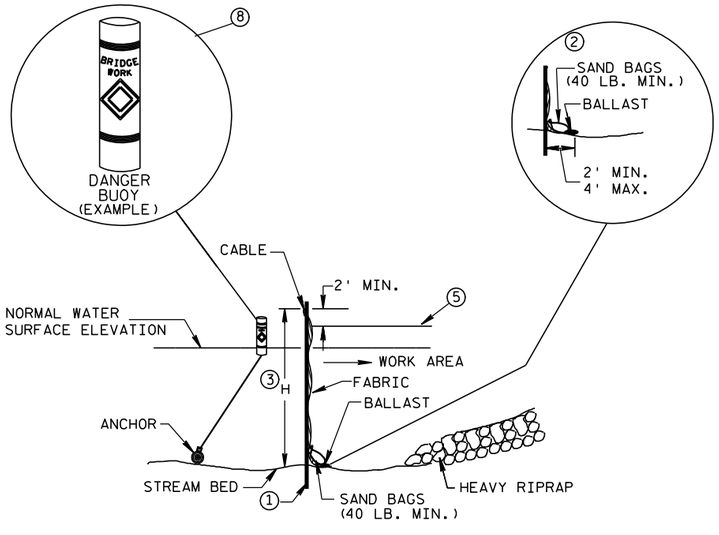


SECTION B-B

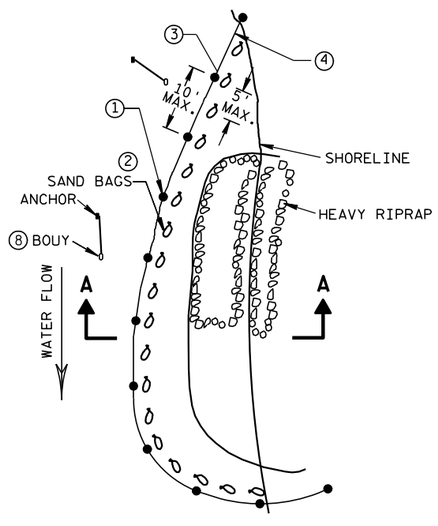




TURBIDITY BARRIER FLOAT ALTERNATIVE
CAUTION - SEE NOTE 6



SECTION A-A



PLAN VIEW

TURBIDITY BARRIER STANDARD POST INSTALLATION

TURBIDITY BARRIER PLACEMENT DETAILS

GENERAL NOTES

DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND THE APPLICABLE SPECIAL PROVISIONS.

TURBIDITY BARRIER MAY BE REMOVED AT THE ENGINEERS DISCRETION, WHEN PERMANENT EROSION CONTROL MEASURES HAVE BEEN ESTABLISHED.

① DRIVEN STEEL POSTS, PIPES, OR CHANNELS. LENGTH SHALL BE SUFFICIENT TO SECURELY SUPPORT BARRIER AT HIGH WATER ELEVATIONS.

② SANDBAGS TO BE USED AS ADDITIONAL BALLAST WHEN ORDERED BY THE ENGINEER TO MEET ADVERSE FIELD CONDITIONS. SPACE AS APPROPRIATE FOR SITE CONDITIONS.

③ WHEN BARRIER HEIGHT, H, EXCEEDS 8 FT., POST SPACING MAY NEED TO BE DECREASED.

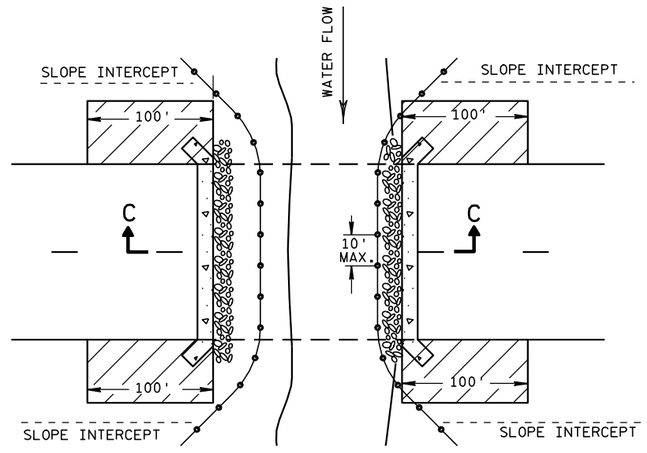
④ IN WATERWAYS SUBJECT TO FLUCTUATING WATER ELEVATIONS, PROVISIONS SHOULD BE MADE TO ALLOW THE WATER TO EQUALIZE ON EACH SIDE OF THE BARRIER. THIS MAY BE ACCOMPLISHED BY LEAVING A PORTION OF THE BARRIER OPEN ON THE UPSTREAM END.

⑤ ESTIMATED HIGH WATER ELEVATION DURING CONSTRUCTION PERIOD. MIMIMUM BARRIER HEIGHT SHALL BE 2'GREATER THAN EITHER THE O2 ELEVATION OR THE ESTIMATED HIGH WATER ELEVATION DURING CONSTRUCTION, WICHEVER IS GREATER.

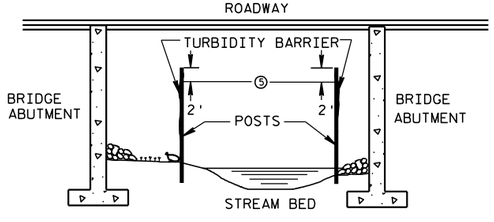
⑥ FLOAT ALTERNATIVE WILL ONLY BE ALLOWED WITH WRITTEN APPROVAL OF THE ENGINEER, AND IS MEANT FOR LOCATIONS WHERE BED ROCK PREVENTS THE INSTALLATION OF POSTS.

⑦ ALLOW SUFFICIENT SLACK VERTICALLY AND HORIZONTALLY SO THAT SEDIMENT BUILD UP WILL NOT SEPARATE OR LOWER THE TURBIDITY BARRIER.

⑧ USE AS DIRECTED BY COAST GUARD OR DNR PERMIT WHEN WORKING IN NAVIGABLE WATERWAYS.



PLAN VIEW



SECTION C-C

TURBIDITY BARRIER DETAIL SHOWING TYPICAL PLACEMENT AT STRUCTURES

TURBIDITY BARRIER

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

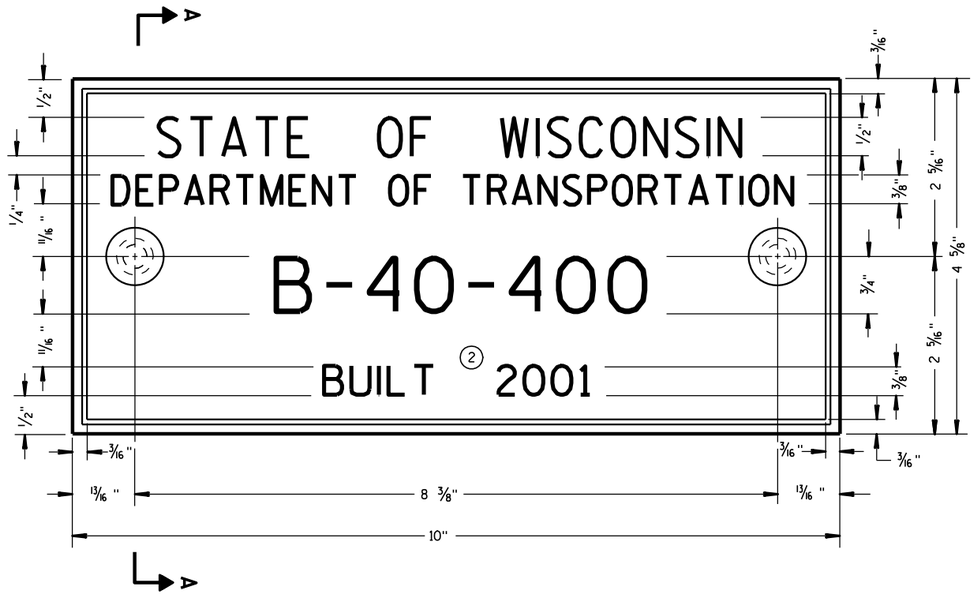
APPROVED
6/04/02 DATE
/S/ Beth Cannestra
CHIEF ROADWAY DEVELOPMENT ENGINEER
FHWA

6

S.D.D. 8 E 11-2

6

S.D.D. 8 E 11-2



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

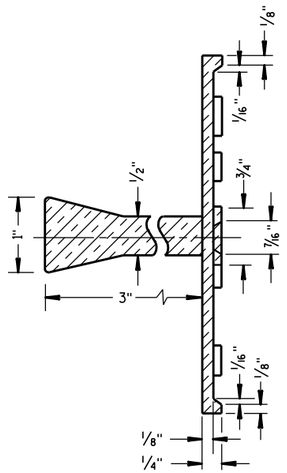
GENERAL NOTES

NAME PLATES TO BE INSTALLED ON BRIDGES, CULVERTS, AND RETAINING WALLS SHALL CONFORM TO THE REQUIREMENTS OF SECTION 502.3.11 OF THE STANDARD SPECIFICATIONS.

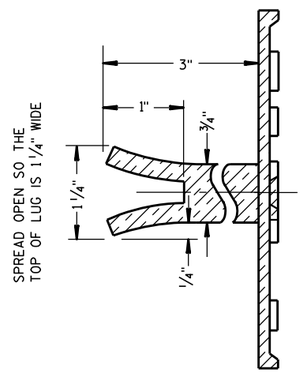
THE BRIDGE NUMBER AND YEAR BUILT SHOWN ON THIS DRAWING ARE EXAMPLES ONLY. SEE CONSTRUCTION PLANS FOR INDIVIDUAL NUMBERING AND YEAR BUILT.

(1) EPOXY RESIN SHALL BE FROM AN APPROVED MANUFACTURER AND USED IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS.

(2) REHABILITATION OF AN EXISTING STRUCTURE SHOULD USE THE DATE OF ORIGINAL STRUCTURE CONSTRUCTION.



SECTION A-A



ALTERNATE LUG

FOR MULTI-UNIT STRUCTURES
LINE 3 ABOVE SHALL READ

B = BRIDGE
C = CULVERT
R = RETAINING WALL

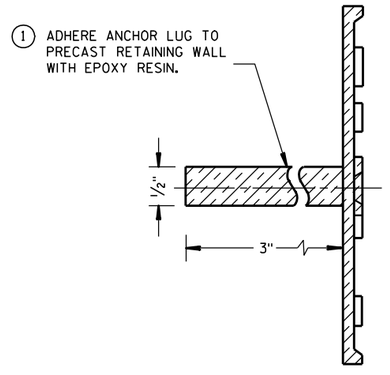
COUNTY NO.

BRIDGE NO.

UNIT NO. FOR MULTIPLE UNIT BRIDGE

B-40-400-1A

NUMBERING DESIGNATION
MULTI-UNIT STRUCTURES



ALTERNATE LUG
(FOR ATTACHMENT TO PRECAST STRUCTURES)

NAME PLATE (STRUCTURES)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

3/26/10 DATE

/S/ Scot Beck -- CHIEF STRUCTURAL DEVELOP ENGINEER

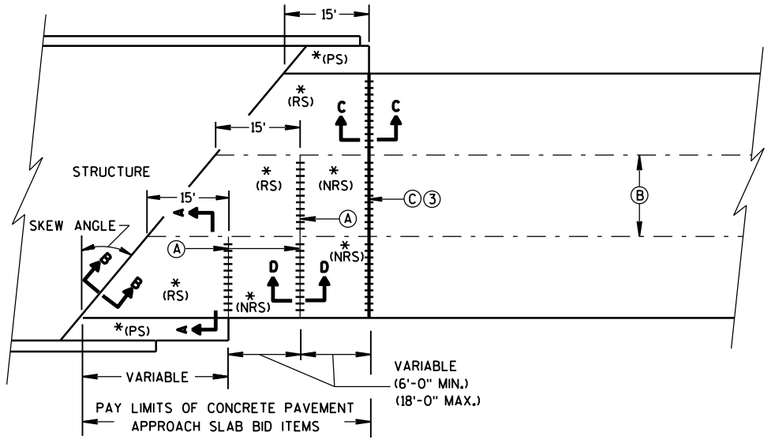
FHWA

6

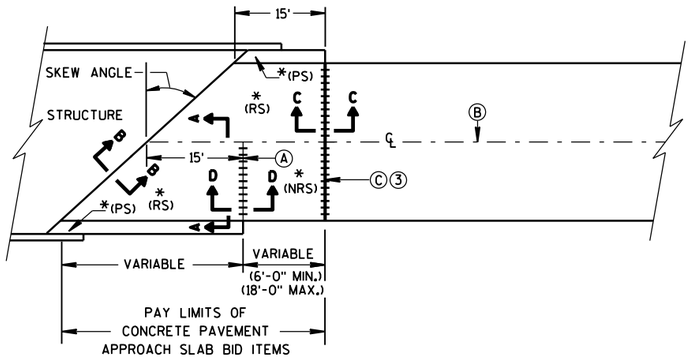
S.D.D. 12 A 3-10

6

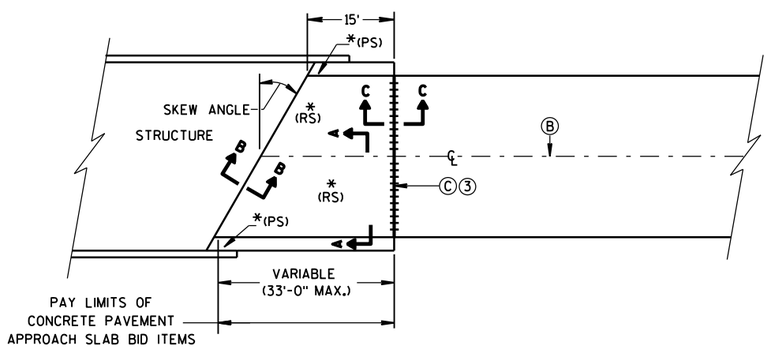
S.D.D. 12 A 3-10



SKEWED APPROACH
(PAVEMENT MORE THAN 2 LANES)



SKEWS >20°
(PAVEMENT WIDTH ≤30')



SKEWS ≤20°
(PAVEMENT WIDTH ≤30')

APPROACH SLAB AND ADJACENT PAVEMENT

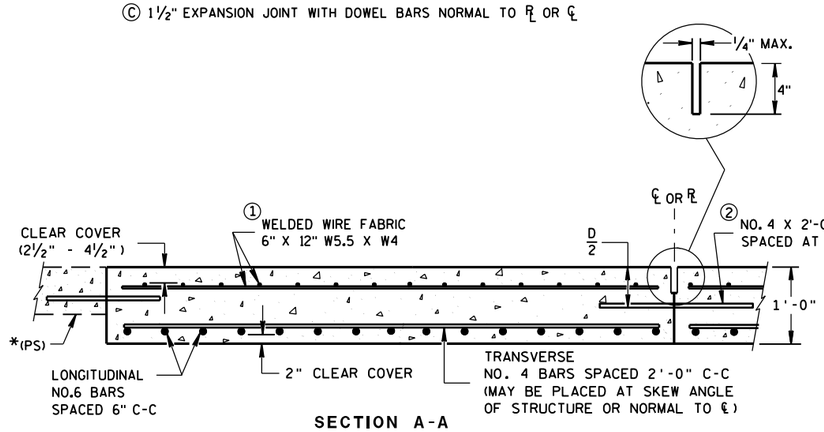
*(RS) = REINFORCED CONCRETE SLAB
*(PS) = PAVED CONCRETE SHOULDER OR CONCRETE DRAINAGE SLAB
(SEE DETAILS ELSEWHERE IN THE PLAN)
*(NRS) = NON-REINFORCED CONCRETE SLAB

***STANDARD DOWEL BAR DIAMETER
(SEE SDD 13C11, & SDD 13C13)

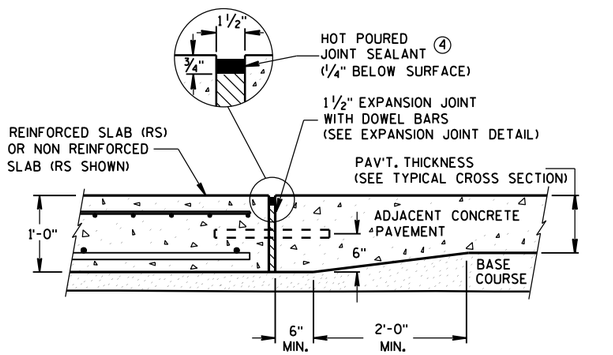
Ⓐ STANDARD CONTRACTION JOINT NORMAL TO ℄ OR ℄

Ⓑ STANDARD LONGITUDINAL JOINT WITH TIE BARS.

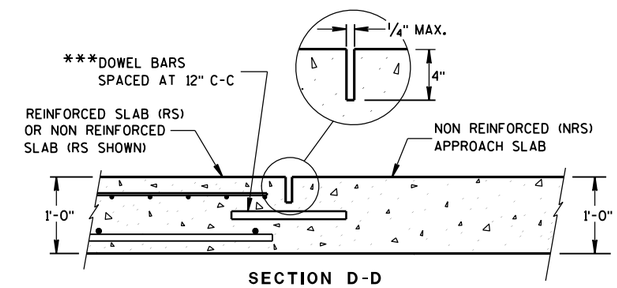
Ⓒ 1½" EXPANSION JOINT WITH DOWEL BARS NORMAL TO ℄ OR ℄



SECTION A-A
REINFORCEMENT POSITIONING DETAIL



SECTION C-C
TRANSITION DETAIL
APPROACH SLAB TO ADJACENT PAVEMENT



SECTION D-D
CONTRACTION JOINT

GENERAL NOTES

THE CONTRACTOR MAY SPLICE NO. 6 BARS IN THE APPROACH SLAB FOR SKEWED STRUCTURES ONLY. STAGGER SPLICES WITH A MAXIMUM OF ONE SPLICE PER BAR. THE LENGTH OF LAP IS 20 INCHES.

TACK WELD DOWEL BARS TO THE BASKETS ON ALTERNATE ENDS.

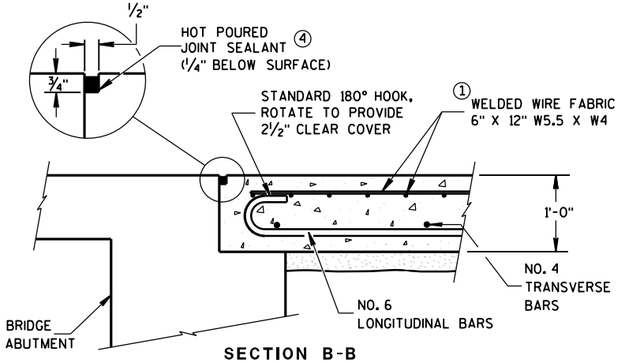
① THE CONTRACTOR MAY USE NO. 4 BARS SPACED AT 2'-0" C-C IN BOTH THE LONGITUDINAL AND TRANSVERSE DIRECTIONS FOR TOP REINFORCEMENT AS AN ALTERNATIVE TO THE WELDED WIRE FABRIC.

② THE CONTRACTOR MAY OMIT TIE BARS BETWEEN REINFORCED SLABS WHERE SLAB REINFORCEMENT BARS EXTEND ACROSS THE CENTERLINE OR REFERENCE LINE.

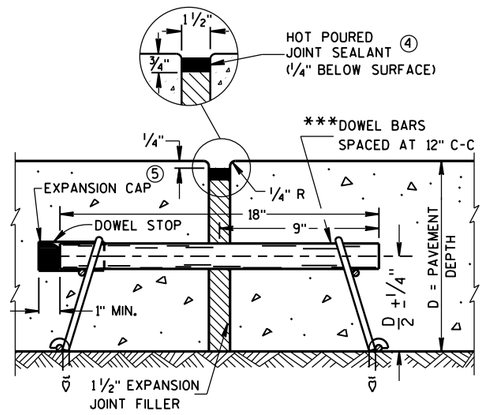
③ DO NOT CONSTRUCT AN EXPANSION JOINT OR INSTALL DOWEL BARS WHEN ABUTTING AN HMA PAVEMENT.

④ USE A JOINT SEALANT MEETING THE REQUIREMENTS OF ASTM D6690.

⑤ PLACE EXPANSION CAP ON THE END OF THE DOWEL THAT IS NOT TACK WELDED TO THE BASKET. DO NOT FORCE DOWEL BAR PAST THE DOWEL STOP.



SECTION B-B
BEND DETAIL
BOTTOM REINFORCEMENT



EXPANSION JOINT DETAIL

CONCRETE PAVEMENT APPROACH SLAB

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

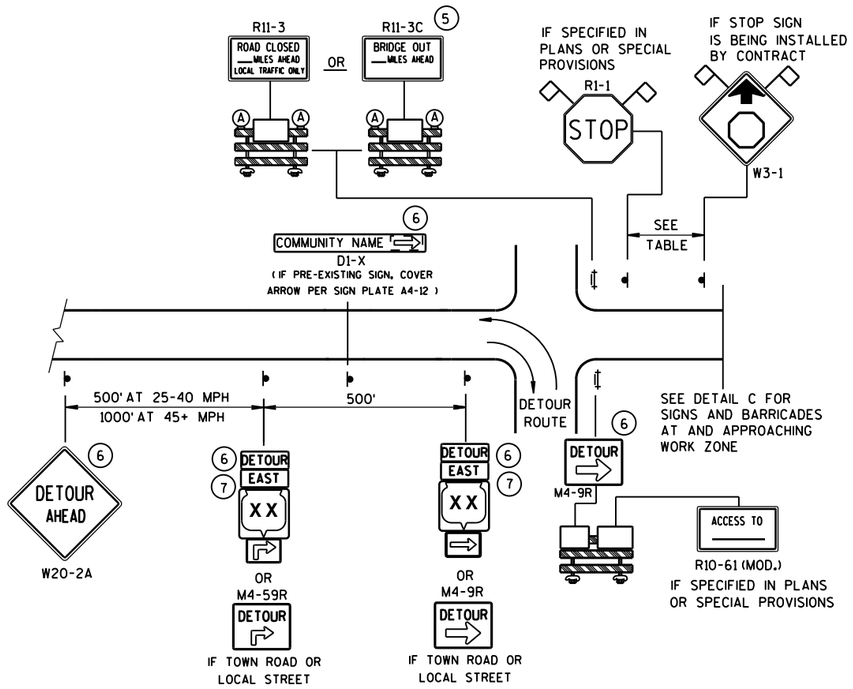
APPROVED
June, 2015
DATE
/S/ Peter Kemp, P.E.
PAVEMENT SUPER
FHWA

6

S.D.D. 13 B 2-8a

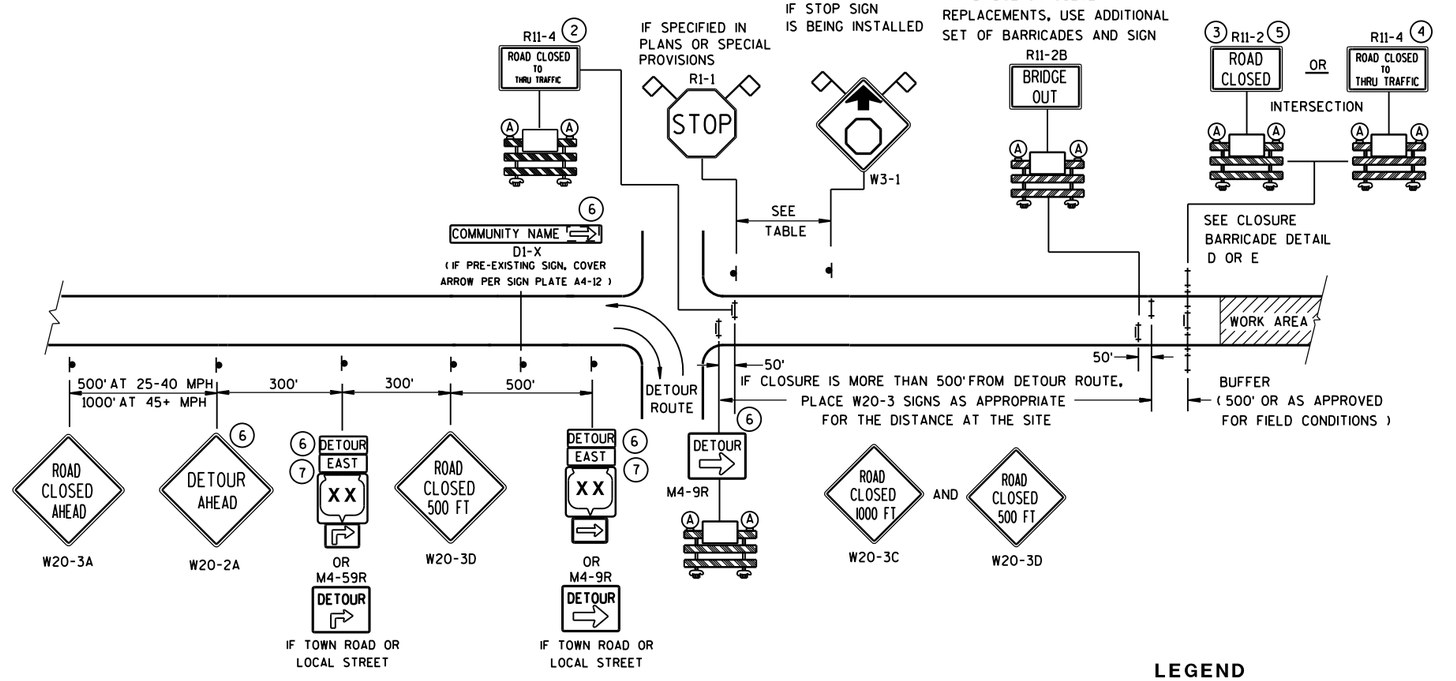
6

S.D.D. 13 B 2-8a



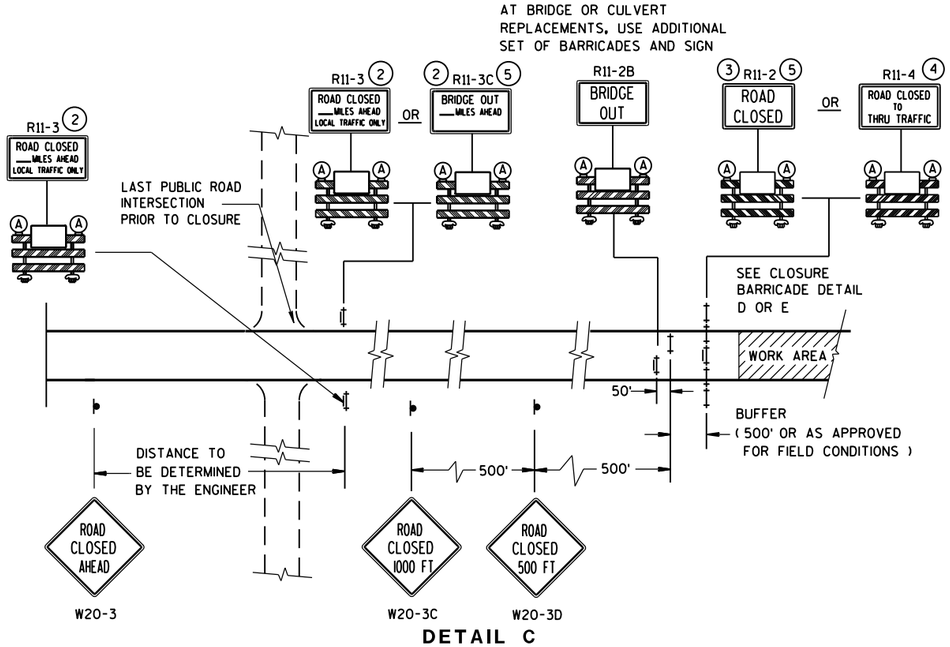
DETAIL A
MAINLINE CLOSURE WITH POSTED DETOUR

WORK ZONE GREATER THAN ½ MILE FROM DETOUR ROUTE (1000 FEET IF URBAN)



DETAIL B
MAINLINE CLOSURE WITH POSTED DETOUR

WORK ZONE LESS THAN ½ MILE FROM DETOUR ROUTE (1000 FEET IF URBAN)



DETAIL C
MAINLINE CLOSURE, NO POSTED DETOUR

SPEED LIMIT (MPH)	"STOP AHEAD" ADVANCE WARNING DISTANCE (FT)
25	200
30	200
35	350
40	350
45	500
50	550
55	750

SEE SDD 15C2-SHEET "**b**"
FOR GENERAL NOTES
AND FOOTNOTES (1) THROUGH (7)

LEGEND

- SIGN ON PERMANENT SUPPORT
- TYPE III BARRICADE
- TYPE III BARRICADE WITH ATTACHED SIGN
- (A) TYPE "A" WARNING LIGHT (FLASHING)
- WORK AREA
- DETOUR / EAST — M4-8 / M3-X
- XX — M1-4; COUNTY XX — M1-5A; XX — M1-6
- M05-1 OR M06-1
- FLAGS, 16" X 16" MIN., (ORANGE)

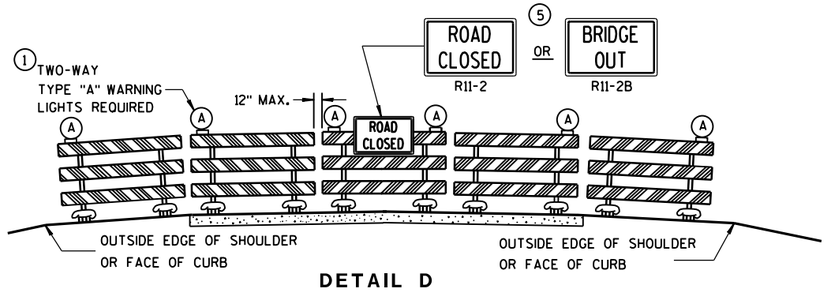
BARRICADES AND SIGNS FOR MAINLINE CLOSURES

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

Sept. 2015 — DATE
/S/ Peter Amakobe Atepe
STATEWIDE WORK ZONE TRAFFIC SAFETY ENGINEER
FHWA

6

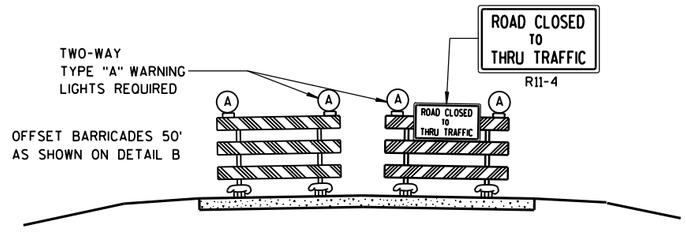
S.D.D. 15 C 2-6a



DETAIL D

ROAD CLOSURE BARRICADE DETAIL

APPROACH VIEW



DETAIL E

LANE CLOSURE BARRICADE DETAIL

APPROACH VIEW

SEE SDD 15C2-SHEET "**a**" FOR LEGEND

GENERAL NOTES

THE EXACT NUMBER, LOCATION, AND SPACING OF ALL SIGNS AND BARRICADES SHALL BE ADJUSTED TO FIT FIELD CONDITIONS AS APPROVED BY THE ENGINEER.

ANY SIGNS TEMPORARY OR EXISTING, WHICH CONFLICT WITH TRAFFIC CONTROL "IN USE" SHALL BE REMOVED OR COVERED AS NEEDED AND AS APPROVED BY THE ENGINEER.

THE SPACING BETWEEN TRAFFIC CONTROL SIGNS SHOULD BE ADJUSTED TO NOT CONFLICT WITH AND SHOULD PROVIDE A DESIRABLE MINIMUM OF 200 FEET CLEARANCE TO EXISTING SIGNS THAT WILL REMAIN IN PLACE.

BARRICADES THAT MUST BE MOVED FOR A WORK OPERATION SHALL BE IMMEDIATELY RE-ESTABLISHED UPON COMPLETION OF THE OPERATION OR, FOR CONTINUING OPERATIONS, AT THE END OF EACH WORKING DAY.

SIGNS THAT WILL BE IN PLACE LESS THAN 7 CONTINUOUS DAYS AND NIGHTS MAY BE MOUNTED ON PORTABLE SUPPORTS.

ALL TYPE III BARRICADES SHALL HAVE RAILS REFLECTORIZED ON BOTH FACES. STRIPES SHALL BE PROPERLY SLOPED DOWN TOWARD THE TRAFFIC SIDE OR AS SHOWN IN THE ROAD CLOSURE BARRICADE DETAIL D FOR FULL ROAD CLOSURES.

TYPE "A" LOW-INTENSITY FLASHING WARNING LIGHTS SHALL BE VISIBLE ON BOTH SIDES OF THE BARRICADE.

THE R11-2, R11-3, M4-9, R11-4 AND R10-61 SIGNS PLACED ON BARRICADES SHALL COVER NO MORE THAN THE TOP RAIL. THE SIGNS SHALL NOT COVER ANY PORTION OF THE MIDDLE OR BOTTOM RAILS.

"WO AND "MO" SIGNS ARE THE SAME AS "W" AND "M" SIGNS EXCEPT THE BACKGROUND IS ORANGE.

ALL SIGNS SHALL BE 48" X 48" UNLESS OTHERWISE NOTED BELOW:
- R11-2 SHALL BE 48" X 30".
- R11-3, R11-4 AND R10-61 SHALL BE 60" X 30".
- M4-9 SHALL BE 30" X 24".
- M3-X SHALL BE 24" X 12". (36" X 18" IF NEEDED TO MATCH EXISTING SIGNS.)
- M4-8 SHALL BE 24" X 12". (30" X 15" IF NEEDED TO MATCH EXISTING SIGNS.)
- M1-4, M1-5A, AND M1-6 SHALL BE 24" X 24". (36" X 36" IF NEEDED TO MATCH EXISTING SIGNS.)
- M05-1 AND M06-1 SHALL BE 21" X 21". (30" X 30" IF NEEDED TO MATCH EXISTING SIGNS.)
- D1-X SHALL BE AS SHOWN ON SPECIFIC PROJECT SIGNING DETAIL SHEETS.
- R1-1 SHALL BE 36" X 36".

(1) TWO WARNING LIGHTS SHALL BE PROVIDED ON THE CENTER BARRICADE AND A MINIMUM OF ONE WARNING LIGHT SHALL BE PROVIDED ON EACH OF THE OTHER BARRICADES WITHIN THE ROADWAY LIMITS. SPACING OF THE WARNING LIGHTS SHALL BE UNIFORM TO THE EDGE OF ROADWAY AS SHOWN (APPROX. 8-FOOT LIGHT SPACING).

(2) THESE SIGNS AND BARRICADES ARE NOT REQUIRED IF ROAD CLOSURE BEGINS AT INTERSECTION.

(3) FOR ROAD CLOSURE WITHOUT LOCAL ACCESS TO PROJECT, SEE ROAD CLOSURE BARRICADE DETAIL D.

(4) FOR ROAD CLOSURE WITH LOCAL ACCESS TO PROJECT, SEE LANE CLOSURE BARRICADE DETAIL E.

(5) FOR BRIDGE OR CULVERT REPLACEMENTS, SUBSTITUTE "BRIDGE OUT" INSTEAD OF "ROAD CLOSED" ON R11-2 AND R11-3 SIGNS.

(6) INSTALL DETOUR AND COMMUNITY GUIDE SIGNS AND ARROWS ONLY IF SPECIFIED IN THE CONTRACT. IF THERE ARE EXISTING ROUTE MARKER ASSEMBLIES THAT WILL REMAIN IN PLACE, ADJUST THE LOCATION OF THE DETOUR ROUTE SIGNS TO CORRESPOND WITH THE EXISTING ASSEMBLIES. MODIFY EXISTING SIGNS WHERE POSSIBLE. SEE SPECIFIC PROJECT DETOUR SIGNING DETAIL SHEETS. IF DETOUR SIGNS ARE BEING INSTALLED BY OTHERS, PLACE THE CONTRACTED TRAFFIC CONTROL SIGNS TO ALLOW FOR PLACEMENT OF ALL WARNING, DETOUR AND GUIDE SIGNS AS SHOWN.

(7) "EAST" CARDINAL DIRECTION MARKERS AND RIGHT TURN ARROWS ARE SHOWN. USE OTHER CARDINAL DIRECTIONS AND ARROWS AS APPROPRIATE.

BARRICADES AND SIGNS FOR MAINLINE CLOSURES

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

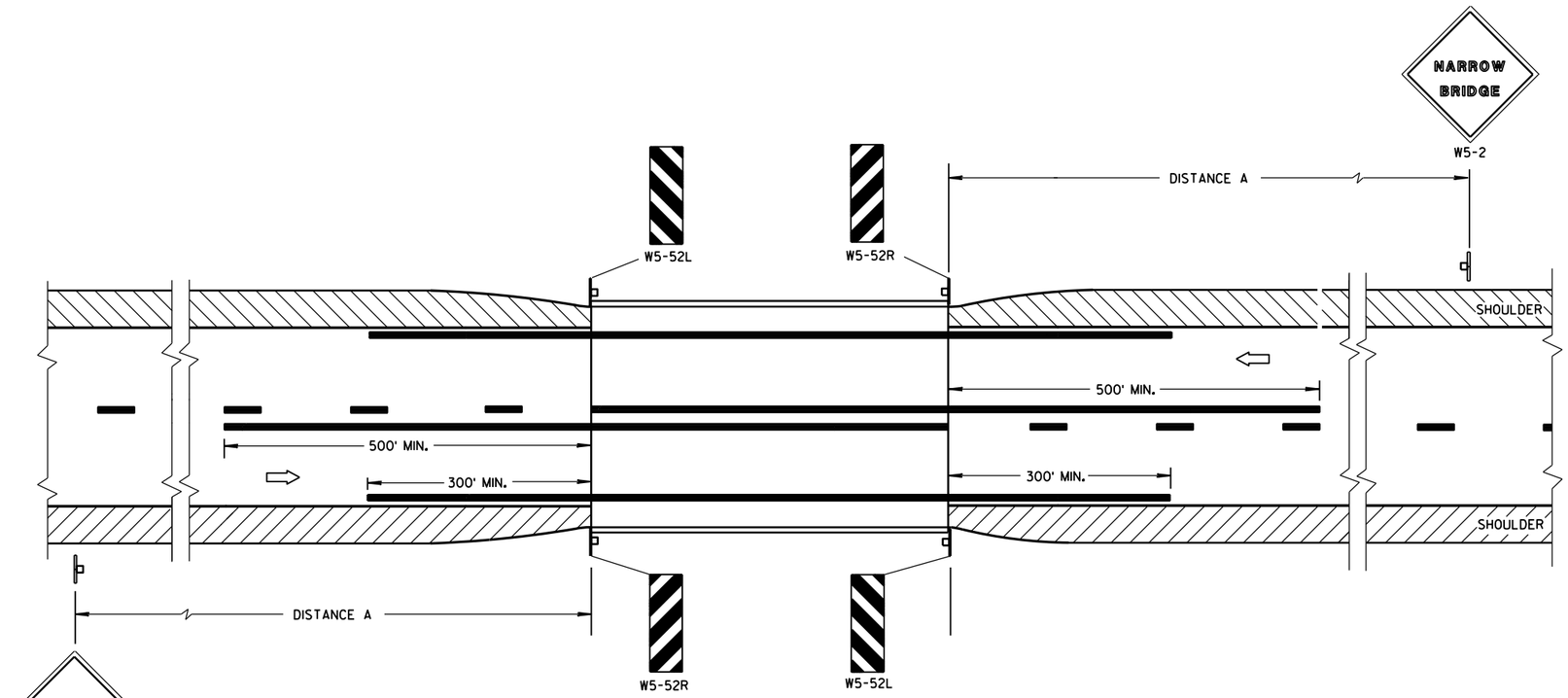
Sept. 2015 — DATE

/S/ Peter Amakobe Atepe
STATEWIDE WORK ZO SAFETY ENGI — FIC

FHWA

6

S.D.D. 15 C 2-6b



NARROW BRIDGE
W5-2

SITUATION 1

WARRANTING CRITERIA:
BRIDGE WIDTH IS AT LEAST 16 FEET BUT LESS THAN 24 FEET.

DISTANCE TABLE

POSTED OR 85th PERCENTILE SPEED	DISTANCE "A"
25	150'
30	200'
35	250'
40	300'
45	400'
50	550'
55	750'

GENERAL NOTES

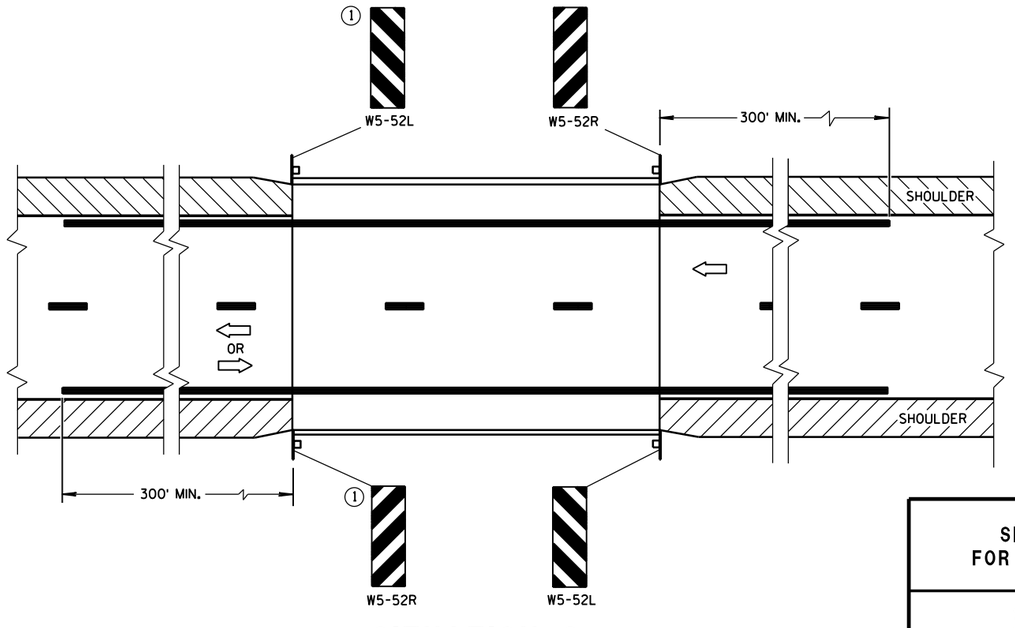
DETAILS OF TRAFFIC CONTROL DEVICES AND INSTALLATION NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS, THE SPECIAL PROVISIONS, AND THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES.

LOCATE W5-52 SIGN POST(S) BEHIND GUARDRAIL WHEN PRESENT.

PLACE THE EDGE OF THE W5-52 SIGN IN LINE WITH FACE OF CURB OR PARAPET.

(1) OMIT ON ONE-WAY TRAVELLED WAYS.

⇨ DIRECTION OF TRAFFIC



SITUATION 2

WARRANTING CRITERIA:

1. BRIDGE WIDTH IS AT LEAST 24 FEET AND
2. BRIDGE SHOULDER WIDTH IS LESS THAN 6 FEET.

SIGNING & MARKING FOR TWO LANE BRIDGES

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

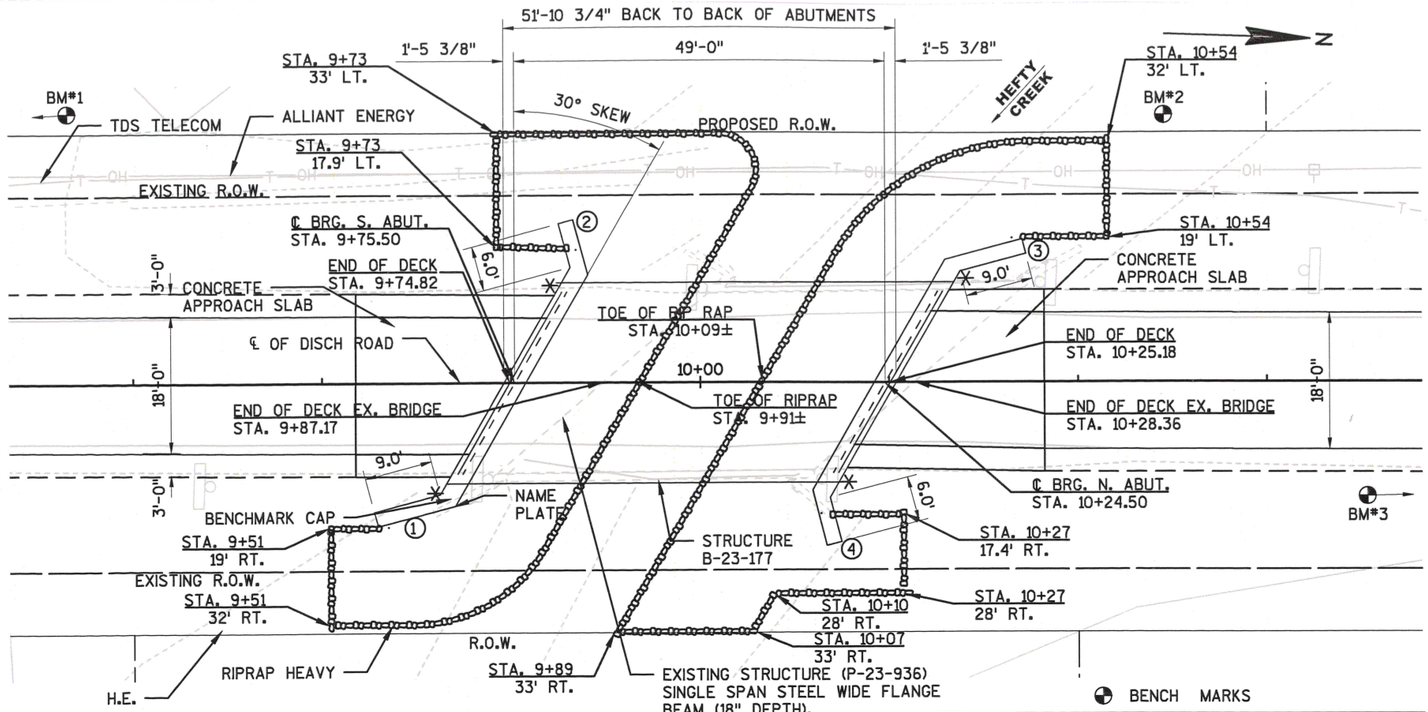
APPROVED
June 2017 — DATE
/S/ Matthew R. Rauch — STATE SIGNING AND MARKING ENGINEER
FHWA

6

S.D.D. 15 C 6-9

6

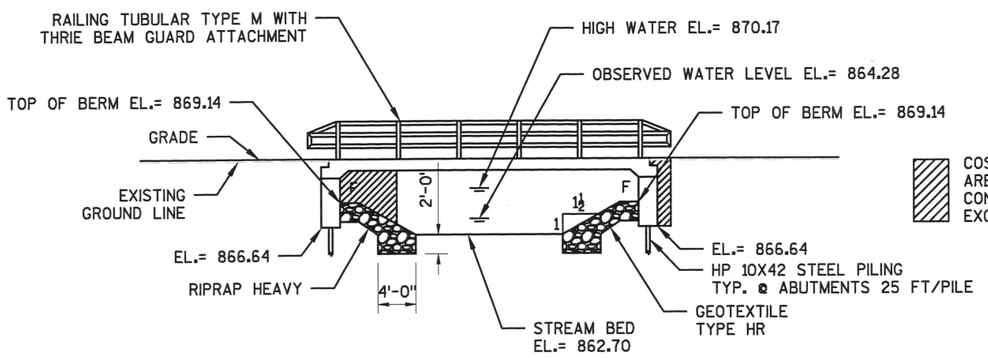
S.D.D. 15 C 6-9



PLAN
(SINGLE SPAN R.C. SLAB BRIDGE)

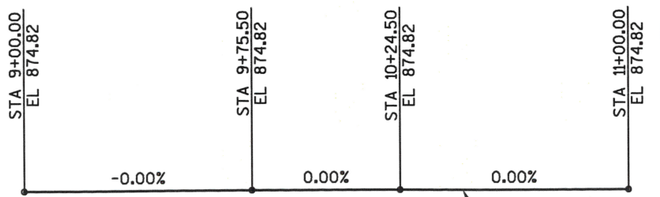
BENCH MARKS

NO.	STATION	OFFSET	DESCRIPTION	ELEV.
1	4+67	12' LT.	CAPPED REBAR	878.43
2	10+61	35' LT.	CAPPED REBAR	865.97
3	15+53	15' RT.	CAPPED REBAR	875.99



ELEVATION
(NORMAL TO CREEK)

COST OF EXCAVATION IN THE HATCHED AREAS SHALL BE INCLUDED IN THE CONTRACT LUMP SUM PRICE FOR EXCAVATION FOR STRUCTURES B-23-177



PROFILE GRADE LINE
(DISCH ROAD)

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

CONSULTANT CONTACT:
JESSE W. DUFF
(608) 329-6400

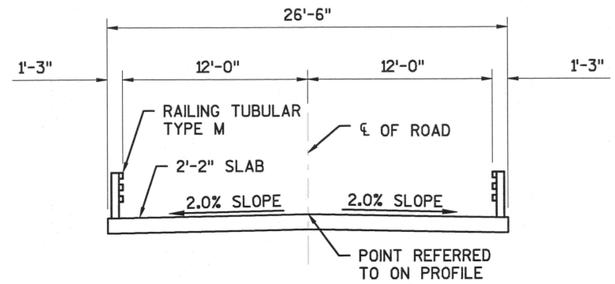
WISCONSIN
ADAM G. HOLDER
E-34951-006
FREEPORT, IL
PROFESSIONAL ENGINEER
EXPIRES 7/31/2018

AUGUST 8, 2017
SIGNATURE DATE

* ANCHOR ASSEMBLY FOR THRIE BEAM TYPE GUARDRAIL

◯ DENOTES WING NUMBER

STATE PROJECT NUMBER
5707-00-72



SECTION THRU STRUCTURE

DESIGN DATA

LIVE LOAD:
DESIGN LOADING: HL-93
INVENTORY RATING FACTOR: 1.37
OPERATING RATING FACTOR: 1.77
WISCONSIN STANDARD PERMIT VEHICLE (WIS-SPV) = 250 KIPS

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

MATERIAL PROPERTIES:

CONCRETE MASONRY (SLAB.....f'c = 4,000 p.s.i.
(ALL OTHER.....f'c = 3,500 p.s.i.

HIGH STRENGTH BAR STEEL REINFORCEMENT (GRADE 60).....f'c = 60,000 p.s.i.

HYDRAULIC DATA:
100 YEAR FLOOD

DRAINAGE AREA = 10.6 SQ. MI.
WATERWAY AREA = 193.96 SQ. FT.
V = 5.60 F.P.S.
Q_{100} = 1100 C.F.S.
HIGH $WATER_{100}$ EL. 870.17
RDWY. OVERFLOW = N/A
SCOUR CRITICAL CODE = 8
DATUM = NAVD88 (2011)
Q2 = 200 CFS
HW2 = 866.65
VEL2 = 2.5 FT/S

FOUNDATION DATA:

ABUTMENTS TO BE SUPPORTED ON 10 X 42 STEEL PILING DRIVEN TO A REQUIRED DRIVING RESISTANCE OF 180 TONS PER PILE AS DETERMINED BY THE MODIFIED GATES DYNAMIC FORMULA. ESTIMATED LENGTH 25'-0" SOUTH ABUTMENT, 30'-0" NORTH 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 THE MODIFIED GATES TO DETERMINE DRIVEN PILE CAPACITY.

TRAFFIC DATA:

A.D.T. = 93 (2018)
A.D.T. = 102 (2038)
R.D.S. = 55 M.P.H.

LIST OF DRAWINGS

NO.	DATE	REVISION	BY

FEHR GRAHAM
ENGINEERING & ENVIRONMENTAL

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
ACCEPTED William C. Dreher 08/09/17
CHIEF STRUCTURES DESIGN ENGINEER DATE

STRUCTURE B-23-177

DISCH ROAD OVER HEFTY CREEK

COUNTY	TOWN
GREEN	WASHINGTON

DESIGN SPEC.
AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS

DESIGNED BY	DESIGN CK'D.	DRAWN BY	PLANS CK'D.
A.R.K.	M.C.B.	M.S.	A.R.K.

GENERAL PLAN

SHEET 1 OF 12

23

I.D. 5707-00-72

DATE: MAY 2017

8

8

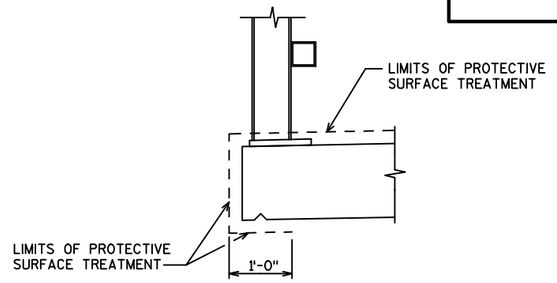
SCALE = 1 IN:20 FT

STATE PROJECT NUMBER

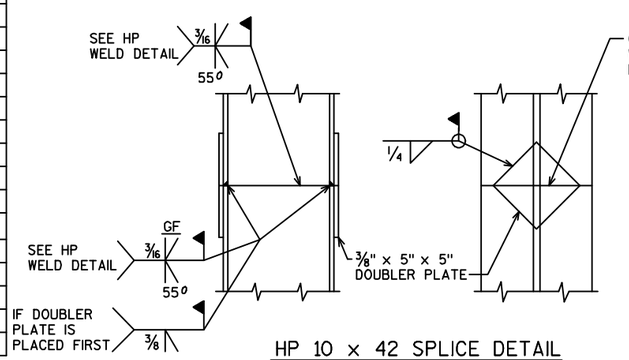
5707-00-72

TOTAL ESTIMATED QUANTITIES

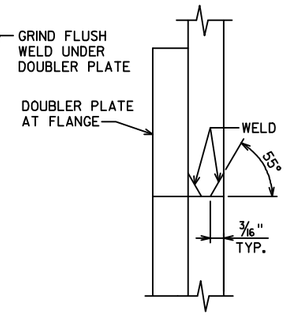
BID ITEM NUMBER	BID ITEMS	UNIT	S. ABUT	N. ABUT.	SUPER.	TOTAL
203.0600.S	REMOVING OLD STRUCTURE OVER WATERWAY WITH MINIMAL DEBRIS STATION 10+08	LS				1
206.1000	EXCAVATION FOR STRUCTURES BRIDGES B-23-177	LS				1
210.1500	BACKFILL STRUCTURE TYPE A	TON	136	136		272
502.0100	CONCRETE MASONRY BRIDGES	CY	27	27	114	168
502.3200	PROTECTIVE SURFACE TREATMENT	SY			184	184
505.0400	BAR STEEL REINFORCEMENT HS STRUCTURES	LB	2590	2590		5180
505.0600	BAR STEEL REINFORCEMENT HS COATED STRUCTURES	LB	1240	1240	23140	25620
513.4061	RAILING TUBULAR TYPE M B-23-177	LF			105	105
516.0500	RUBBERIZED MEMBRANE WATERPROOFING	SY	9	9		18
550.0500	PILE POINTS	EA	5	5		10
550.1100	PILING STEEL HP 10-INCH X 42 LB	LF	125	150		275
606.0300	RIPRAP HEAVY	CY	120	110		230
612.0406	PIPE UNDERDRAIN WRAPPED 6-INCH	LF	84	84		168
645.0111	GEOTEXTILE TYPE DF SCHEDULE A	SY	41	41		82
645.0120	GEOTEXTILE TYPE HR	SY	180	170		350
	NON-BID ITEMS					
	FILLER	SIZE	½" & ¾"	½" & ¾"		



PROTECTIVE SURFACE TREATMENT DETAIL



HP 10 x 42 SPLICE DETAIL



HP WELD DETAIL

FLANGE SHOWN, WEB SIMILAR

GENERAL NOTES

DRAWINGS SHALL NOT BE SCALED.

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

THE FIRST DIGIT OF A THREE DIGIT BAR NO. AND THE FIRST TWO DIGITS OF A FOUR DIGIT BAR NO. SIGNIFIES THE BAR SIZE.

JOINT FILLER SHALL CONFORM TO THE REQUIREMENTS OF A.A.S.H.T.O. DESIGNATION M 153, TYPE I, II, OR III OR A.A.S.H.T.O. DESIGNATION M 213.

THE SLOPE OF THE FILL IN FRONT OF THE ABUTMENTS SHALL BE COVERED WITH RIP-RAP HEAVY AND GEOTEXTILE TYPE HR TO THE EXTENT SHOWN ON THE GENERAL PLAN SHEET AND IN THE ABUTMENT DETAILS.

SLAB FALSEWORK SHALL BE SUPPORTED ON PILES OR THE SUBSTRUCTURE UNLESS OTHERWISE APPROVED BY THE ENGINEER.

THE EXISTING STRUCTURE, P-23-936, TO BE REMOVED, IS A SINGLE SPAN, NON-COMPOSITE, STEEL WIDE-FLANGE BEAM (18" DEPTH) BRIDGE ON CLOSED CONCRETE ABUTMENTS WITH A R. CONCRETE DECK AND BIT. SURFACE TREATMENT. 40.9' C.-C. BRGS, 25.7' O.-O. DECK, 23.5' F.F. STEEL RAIL, SKEW 50° LT.

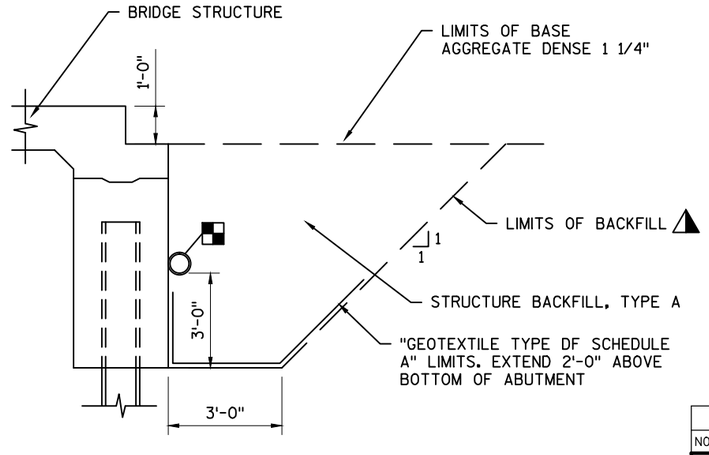
PROTECTIVE SURFACE TREATMENT IS TO BE APPLIED AS SHOWN IN DETAIL ON THIS SHEET.

⚠ THE UPPER LIMITS OF "EXCAVATION FOR STRUCTURES BRIDGES B-23-177" SHALL BE THE EXISTING GROUND LINE.

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

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

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



■ PIPE UNDERDRAIN WRAPPED (6-INCH). SLOPE 0.5% MIN. TO SUITABLE DRAINAGE. ATTACH RODENT SHIELD AT ENDS OF PIPE UNDERDRAIN.

TYPICAL SECTION
THRU ABUTMENT

NO.	DATE	REVISION	BY

FEHR GRAHAM
ENGINEERING & ENVIRONMENTAL

STRUCTURE B-23-177

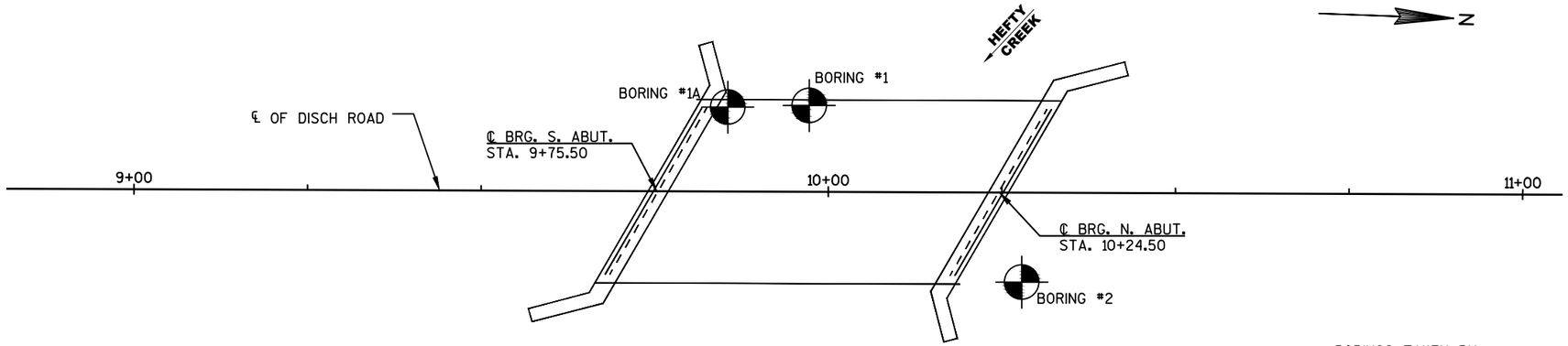
DRAWN BY M.S. | PLANS CK'D. A.R.K.

QUANTITIES AND NOTES

SHEET 2 OF 12

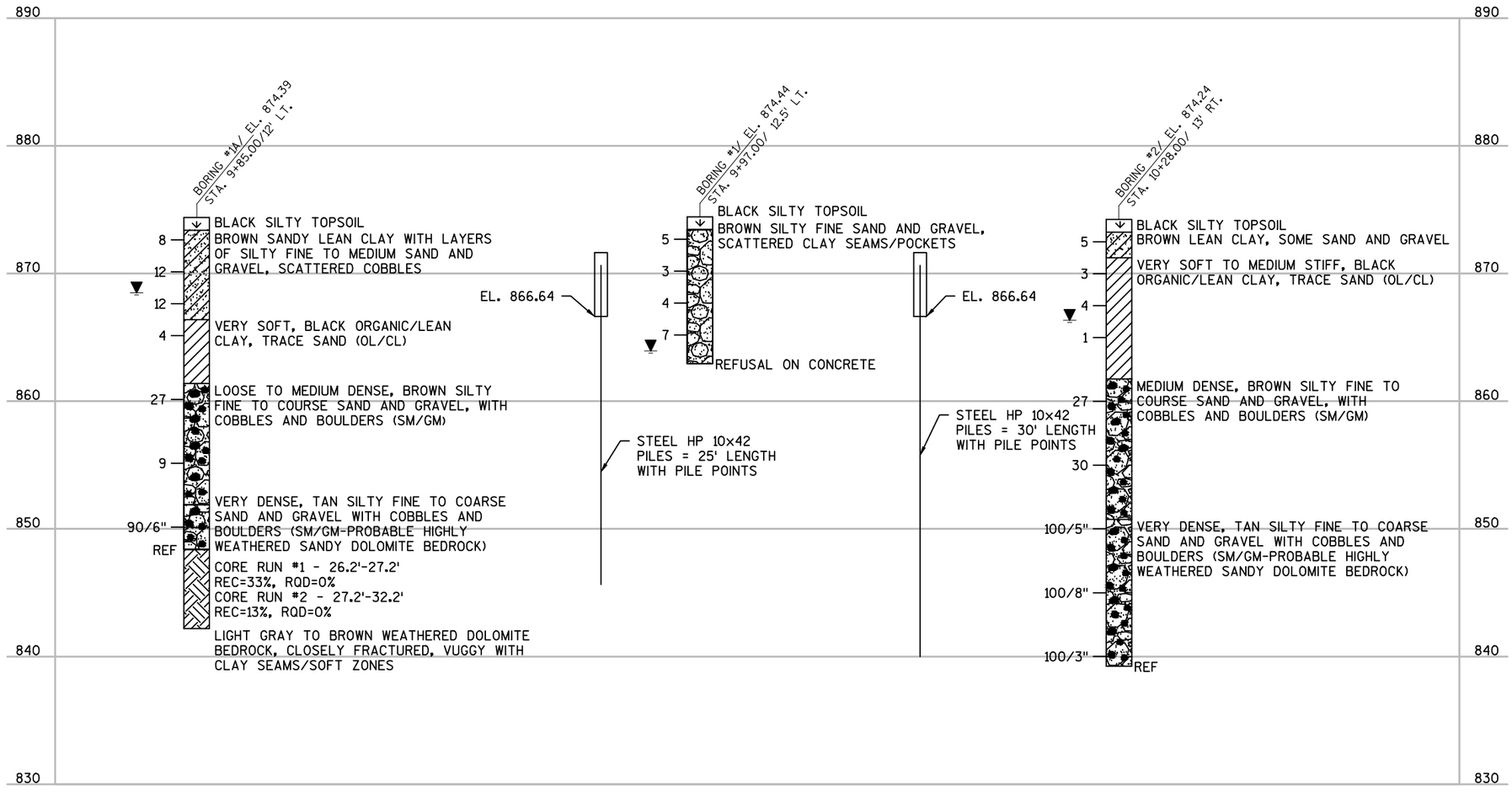
24

SCALE = ###



BORINGS TAKEN BY:
SOIL ESSENTIALS, LTD
NEW GLARUS, WI
NOVEMBER 23 & 24, 2015

GEOTECHNICAL REPORT BY:
CGC INC.
MADISON, WI
JANUARY 27, 2016



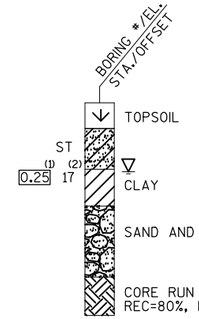
STATE PROJECT NUMBER

5707-00-72

MATERIAL SYMBOLS

ASPHALT	TOPSOIL	PEAT
CONCRETE	FILL	GRAVEL
SAND	CLAY	SILT
BOULDERS OR COBBLES	LIMESTONE	BEDROCK (UNKNOWN)
SHALE	SANDSTONE	IGNEOUS/ META

LEGEND OF BORING



(1) UNCONFINED STRENGTH, AS DETERMINED BY A POCKET PENETROMETER (TSF)

(2) UNLESS OTHERWISE, SPECIFIED THE SPT 'N' VALUE IS BASED ON AASHTO T-206, STANDARD PENETRATION TEST. THE SPT 'N' VALUE PRESENTED HAS NOT BEEN CORRECTED FOR OVERBURDEN PRESSURE OR HAMMER EFFICIENCY.

ground water elevation

- at time of drilling
- end of drilling
- after drilling

ABBREVIATIONS

F-Fine M-Medium C-Coarse st-shelby tube

SUBSURFACE EXPLORATION FOR FOUNDATION DESIGN AND BIDDERS INFORMATION

BORINGS WERE COMPLETED AT POINTS APPROXIMATELY AS INDICATED ON THIS DRAWING TO OBTAIN INFORMATION CONCERNING THE CHARACTER OF SUBSURFACE MATERIALS FOUND AT THE SITE. BECAUSE THE INVESTIGATED DEPTHS ARE LIMITED AND THE AREA OF THE BORINGS IS VERY SMALL IN RELATION TO THE ENTIRE SITE, THE WISCONSIN DEPARTMENT OF TRANSPORTATION DOES NOT WARRANT SIMILAR SUBSURFACE CONDITIONS BELOW, BETWEEN, OR BEYOND THESE BORINGS. VARIATIONS IN SOIL CONDITIONS SHOULD BE EXPECTED AND FLUCTUATIONS IN GROUNDWATER LEVELS MAY OCCUR.

NO.	DATE	REVISION	BY

FEHR GRAHAM
ENGINEERING & ENVIRONMENTAL

STRUCTURE B-23-177

DRAWN BY M.S. | PLANS CK'D. A.R.K.

SUBSURFACE EXPLORATION

SHEET 3 OF 12

25

SCALE = 1 IN:20 FT

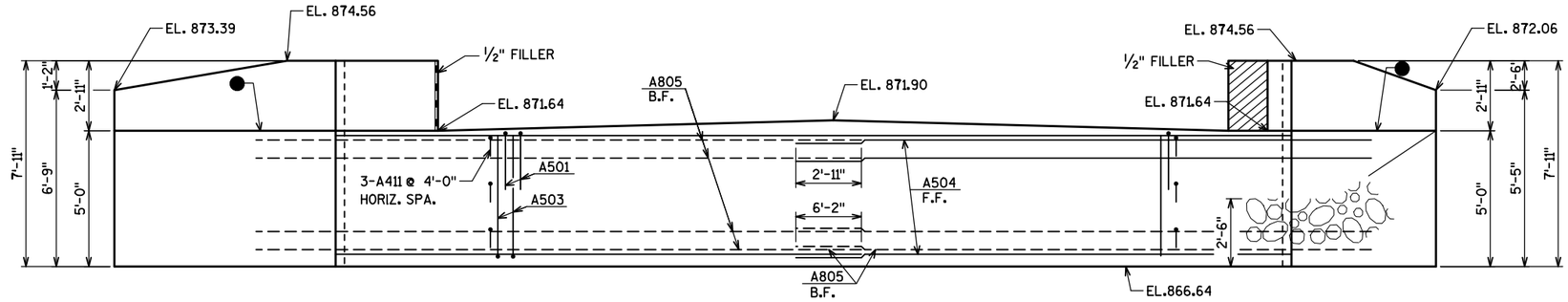
8

8

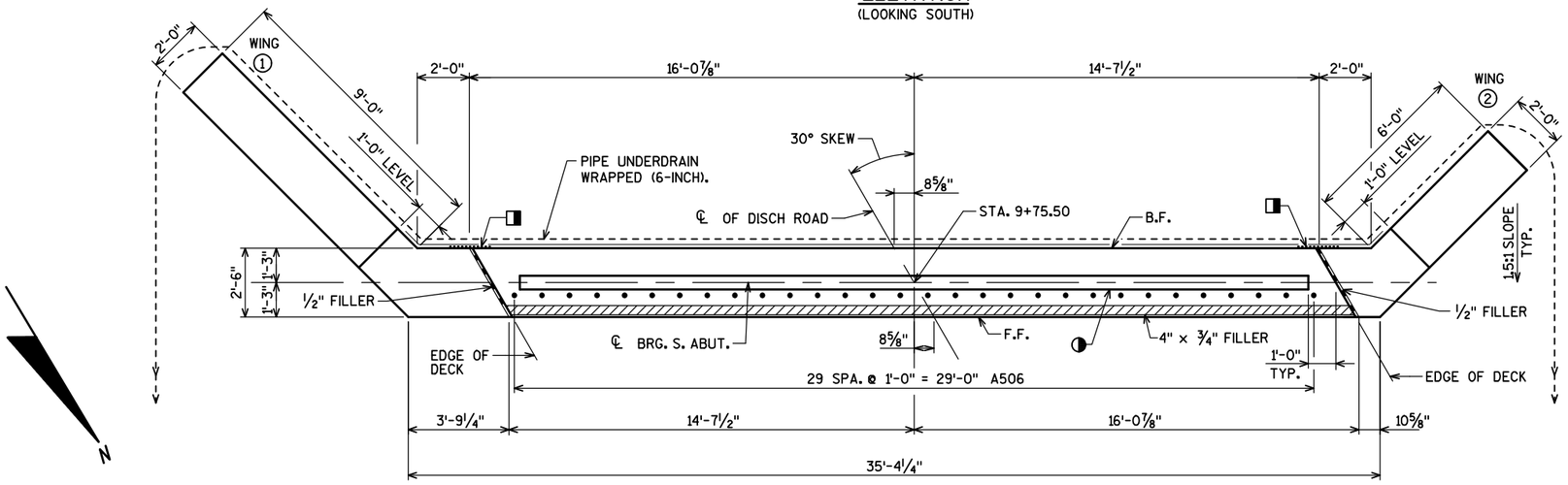
NOTE: SEAL ALL EXPOSED HORIZONTAL AND VERTICAL SURFACES OF ½" FILLER WITH NON-STAINING GRAY NON-BITUMINOUS JOINT SEALER. (1" DEEP AND HOLD ⅛" BELOW SURFACE OF CONCRETE.)

STATE PROJECT NUMBER

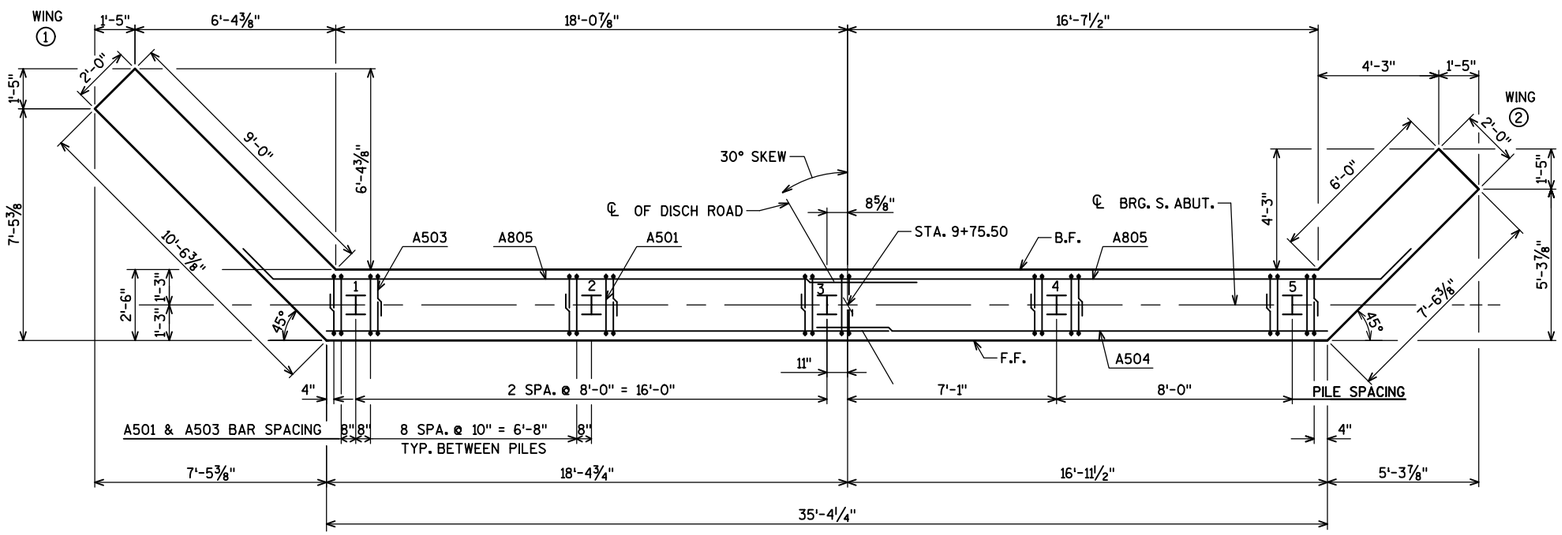
5707-00-72



ELEVATION
(LOOKING SOUTH)



PLAN



PILE LAYOUT

● OPT. KEYED CONST. JOINT - FORMED BY A BEVELED 2" × 6" WITH RUBBERIZED MEMBRANE WATERPROOFING ON B.F.

◑ KEYED CONST. JOINT - FORMED BY A BEVELED 2" × 6".

◨ VERTICAL 18" RUBBERIZED MEMBRANE WATERPROOFING.

FOR PILE SPLICE DETAIL SEE SHEET 2.

SEE SHEET 2 OF 12 FOR TYPICAL SECTION THRU ABUTMENTS FOR STRUCTURE BACKFILL & DRAINAGE DETAILS

B.F. DENOTES BACK FACE

F.F. DENOTES FRONT FACE

WORK THIS SHEET WITH SHEETS 2, 5 & 6

NO.	DATE	REVISION	BY

FEHR GRAHAM
ENGINEERING & ENVIRONMENTAL

STRUCTURE B-23-177

DRAWN BY	CFC	PLANS CK'D.	ARK MCB

SOUTH ABUTMENT

SHEET 26 OF 12

8

8

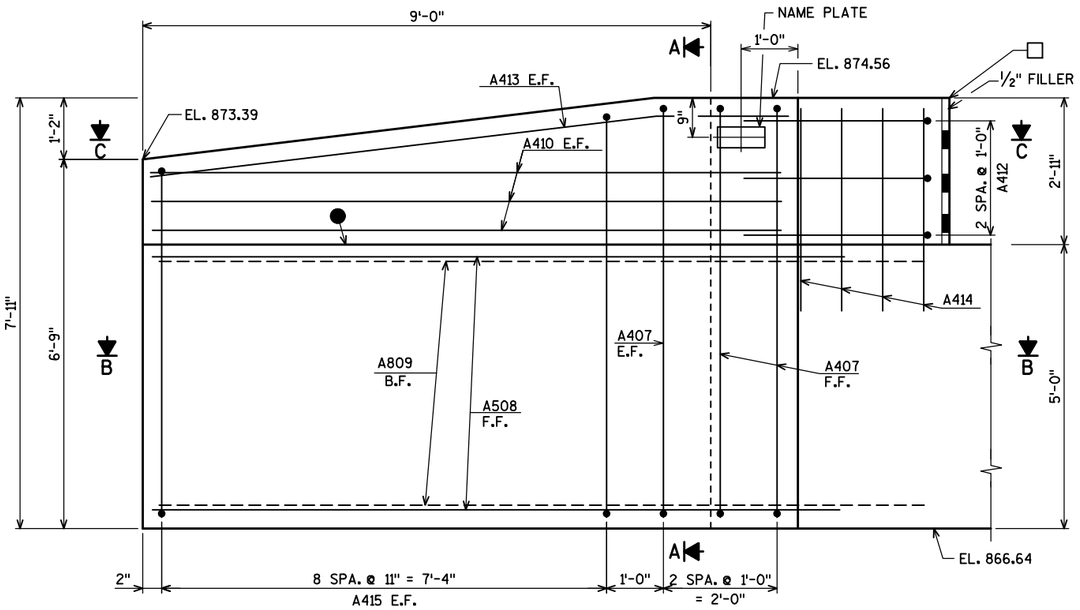
FILE NAME = ...\plans\bridge\004-abut-s.dgn

PLOT DATE = 8/8/2017

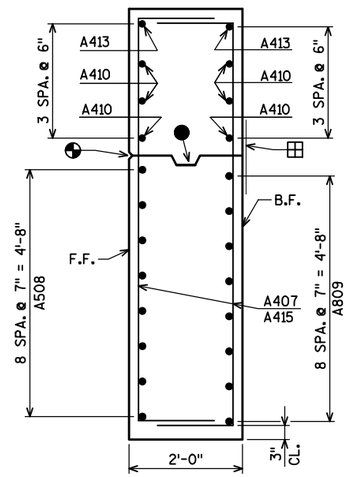
FEHR GRAHAM PROJECT NUMBER: 15-850

STATE PROJECT NUMBER

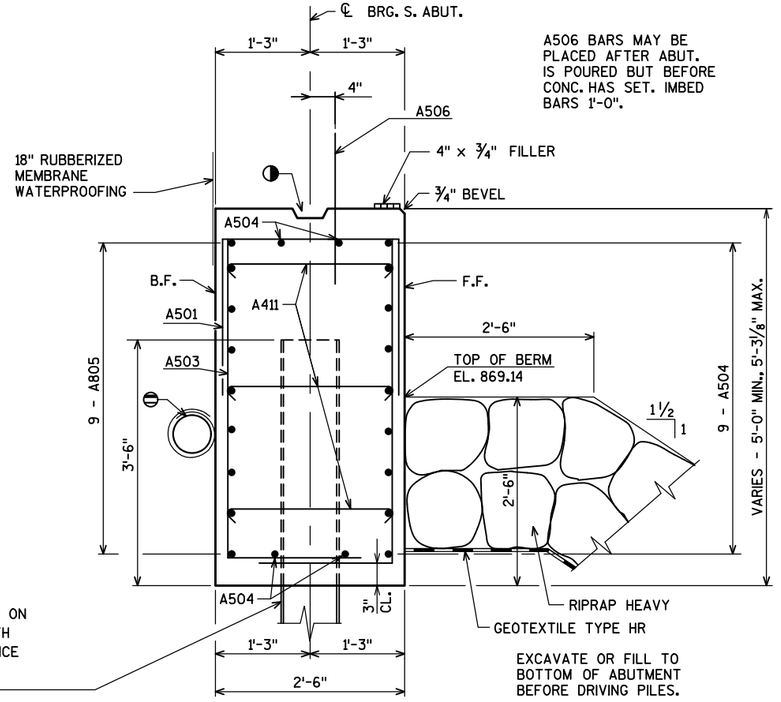
5707-00-72



ELEVATION - WING 1

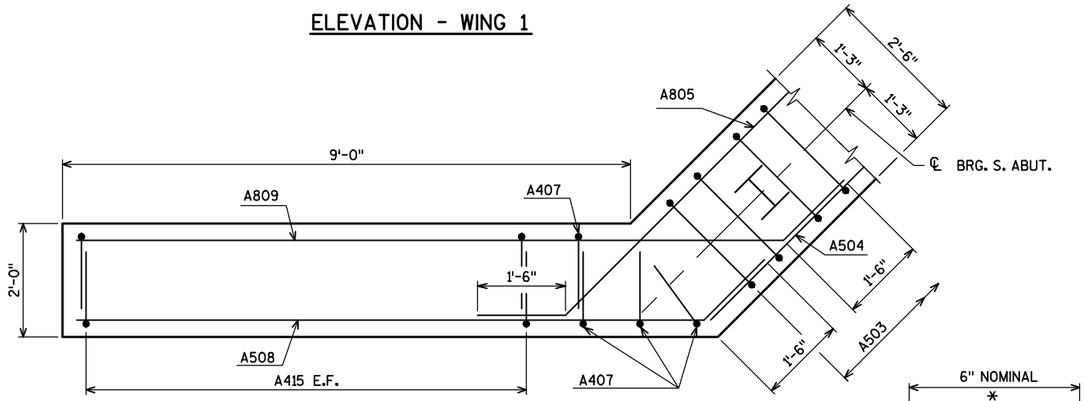


SECTION A-A

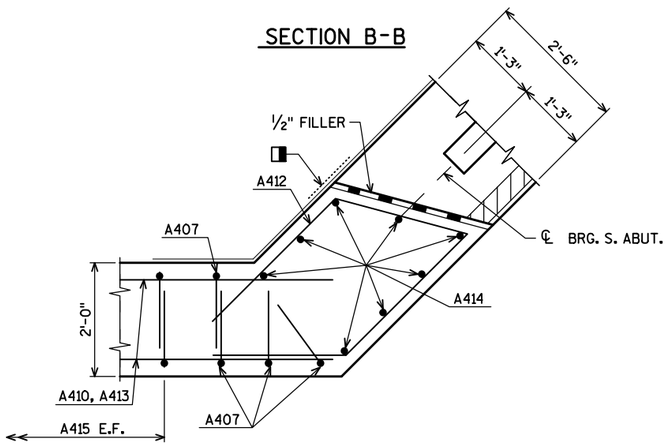


ABUTMENT TO BE SUPPORTED ON HP 10 x 42 STEEL PILING WITH A REQUIRED DRIVING RESISTANCE OF 180 TONS PER PILE. ESTIMATED LENGTH 25'-0"

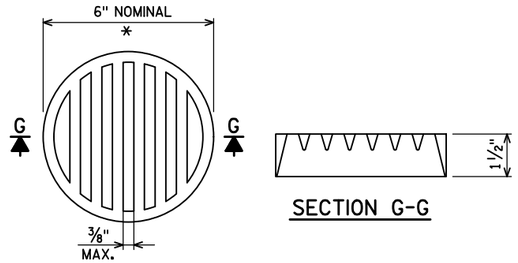
TYPICAL SECTION THRU BODY



SECTION B-B



SECTION C-C



SECTION G-G

* DIMENSIONS ARE APPROXIMATE. THE GRATE IS SIZED TO FIT INTO A PIPE COUPLING. ORIENT SO SLOTS ARE VERTICAL.

THE RODENT SHIELD, PIPE COUPLING AND SCREWS SHALL BE CONSIDERED INCIDENTAL TO THE BID ITEM "PIPE UNDERDRAIN WRAPPED 6-INCH".

THE RODENT SHIELD SHALL BE PVC GRATE SIMILAR TO THIS DETAIL. THE GRATE IS COMMERCIALLY AVAILABLE AS A FLOOR STRAINER. A PIPE COUPLING IS REQUIRED FOR THE ATTACHMENT 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 SHEET METAL SCREWS.

RODENT SHIELD DETAIL

⊖ PIPE UNDERDRAIN WRAPPED (6-INCH). SLOPE 0.5% MIN. TO SUITABLE DRAINAGE. ATTACH RODENT SHIELD AT ENDS OF PIPE UNDERDRAIN. RODENT SHIELD TO BE INCLUDED IN BID PRICE OF "PIPE UNDERDRAIN WRAPPED 6-INCH".

◑ KEYED CONST. JOINT - FORMED BY A BEVELED 2" x 6".

⊞ 18" RUBBERIZED MEMBRANE WATERPROOFING ON BACK FACE. NOT REQUIRED IF CONST. JT. IS NOT USED.

● OPT. KEYED CONST. JOINT - FORMED BY A BEVELED 2" x 6" WITH RUBBERIZED MEMBRANE WATERPROOFING ON B.F.

◔ ¾" 'V' GROOVE ON F.F. OF WING WALL NOT REQUIRED IF CONST. JT. IS NOT USED.

◨ VERTICAL 18" RUBBERIZED MEMBRANE WATERPROOFING TO EXTEND FROM BRIDGE SEAT TO TOP OF WING WALL.

□ SEAL ALL EXPOSED HORIZ. & VERT. SURFACES OF 1/2" FILLER WITH NON-STAINING GREY NON-BITUMINOUS JOINT SEALER

FOR PILE SPLICE DETAIL SEE SHEET 2.

B.F. DENOTES BACK FACE

E.F. DENOTES EACH FACE

F.F. DENOTES FRONT FACE

WORK THIS SHEET WITH SHEETS 4 & 6

NO.	DATE	REVISION	BY

FEHR GRAHAM
ENGINEERING & ENVIRONMENTAL

STRUCTURE B-23-177

DRAWN BY	CFC	PLANS CK'D.	ARK MCB

SOUTH ABUTMENT WING 1 DETAILS

SHEET 27 OF 12

8

8

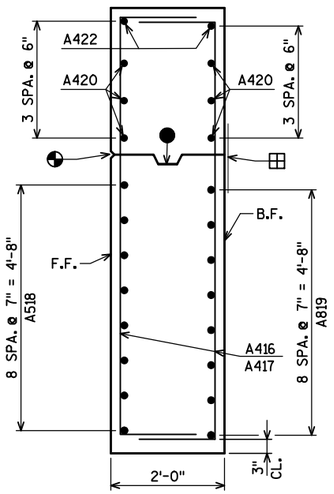
FILE NAME = ...\bridge\005-wing1-sabut.dgn

PLOT DATE = 8/8/2017

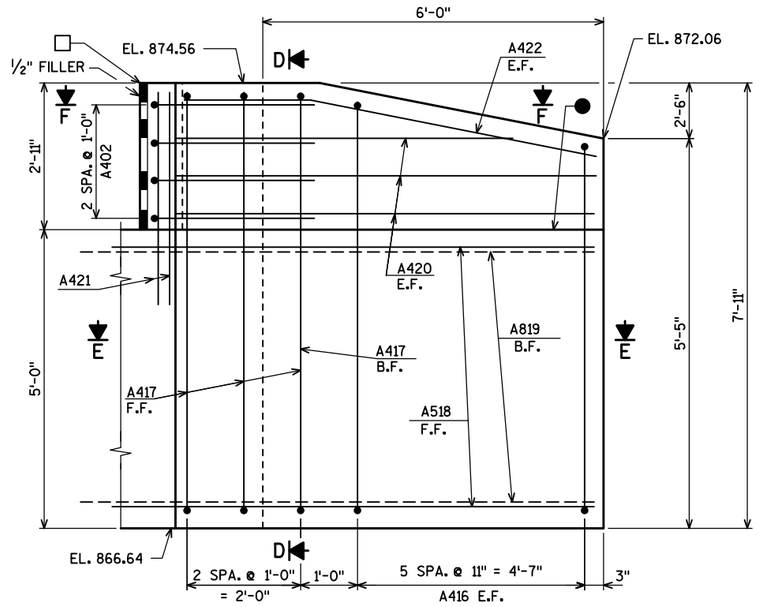
FEHR GRAHAM PROJECT NUMBER: 15-850

STATE PROJECT NUMBER

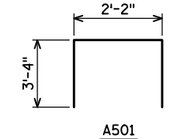
5707-00-72



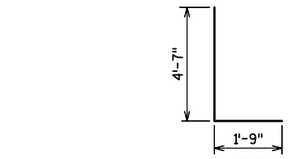
SECTION D-D



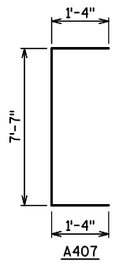
ELEVATION - WING 2



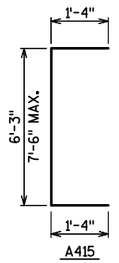
A501



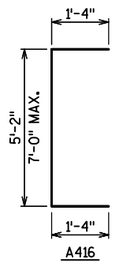
A503



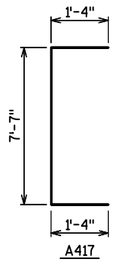
A407



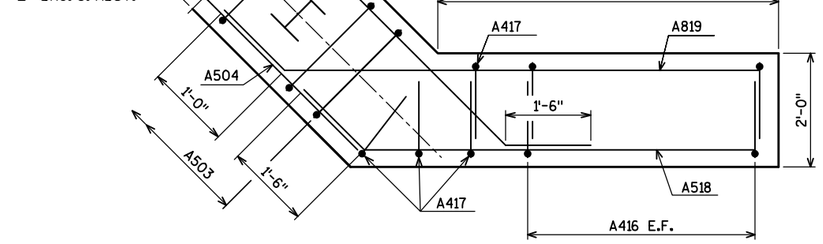
A415



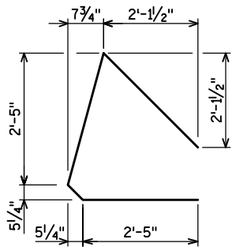
A416



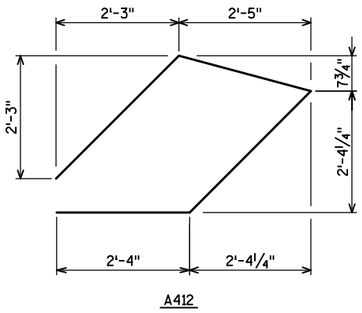
A417



SECTION E-E

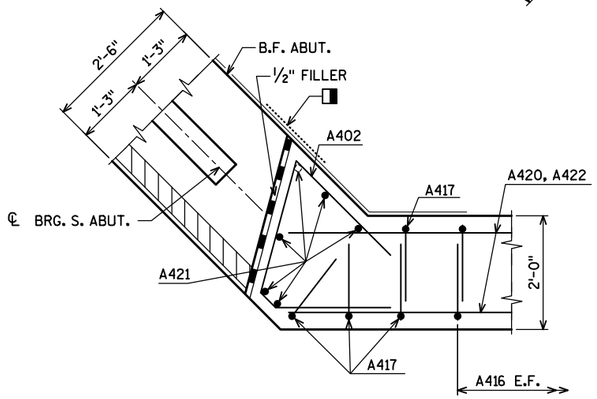


A402

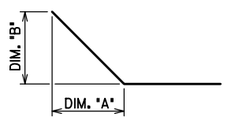


A412

A411



SECTION F-F



BAR NO.	DIM. "A"	DIM. "B"
A805	1'-0¾"	1'-0¾"
A508	1'-0¾"	1'-0¾"
A809	1'-0¾"	1'-0¾"
A413	2'-4¾"	0'-4"
A518	1'-0¾"	1'-0¾"
A819	1'-0¾"	1'-0¾"
A422	2'-2⅞"	1'-1⅜"

⊞ 18" RUBBERIZED MEMBRANE WATERPROOFING ON BACK FACE. NOT REQUIRED IF CONST. JT. IS NOT USED.

● OPT. KEYED CONST. JOINT - FORMED BY A BEVELED 2" x 6" WITH RUBBERIZED MEMBRANE WATERPROOFING ON B.F.

◔ ¾" 'V' GROOVE ON F.F. OF WING WALL NOT REQUIRED IF CONST. JT. IS NOT USED.

◨ VERTICAL 18" RUBBERIZED MEMBRANE WATERPROOFING TO EXTEND FROM BRIDGE SEAT TO TOP OF WING WALL.

☐ SEAL ALL EXPOSED HORIZ. & VERT. SURFACES OF 1/2" FILLER WITH NON-STAINING GREY NON-BITUMINOUS JOINT SEALER

B.F. DENOTES BACK FACE

E.F. DENOTES EACH FACE

F.F. DENOTES FRONT FACE

BILL OF BARS

BAR. NO.	COATED BAR	NO. REQ'D.	LENGTH	BENT BAR	BUNDLED BAR	SERIES	2590* - UNCOATED 1240* - COATED / LOCATION
A501		38	8-10	X			BODY TOP
A402	X	3	8-7	X			WING 2 - CORNER TOP
A503		76	6-4	X			BODY VERT.
A504		26	18-9				BODY HORIZ. F.F., TOP & BOTTOM
A805		18	24-5	X			BODY HORIZ. B.F.
A506	X	30	2-0				BODY DOWELS
A407	X	4	10-3	X			WING 1 VERT. E.F.
A508	X	9	11-9	X			WING 1 HORIZ. F.F.
A809	X	9	13-6	X			WING 1 HORIZ. B.F.
A410	X	6	10-2				WING 1 HORIZ. E.F.
A411		27	2-11	X			TIE
A412	X	3	11-4	X			WING 1 CORNER TOP
A413	X	2	9-5	X			WING 1 DIAG. E.F.
A414	X	8	4-9				WING 1 VERT. - CORNER
A415	X	18	9-7	X		⊗	WING 1 VERT. E.F.
A416	X	12	8-9	X		⊗	WING 2 VERT. E.F.
A417	X	4	10-3	X			WING 2 VERT. E.F.
A518	X	9	8-3	X			WING 2 HORIZ. F.F.
A819	X	9	10-5	X			WING 2 HORIZ. B.F.
A420	X	6	6-6				WING 2 HORIZ. E.F.
A421	X	6	4-9				WING 2 VERT. E.F. - CORNER
A422	X	2	7-6	X			WING 2 DIAG. E.F.

BENDING DIMENSIONS ARE OUT TO OUT OF BARS.

⊗ 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

BAR MARK	NO REQ'D.	LENGTH
A415	2 SERIES OF 9	8'-11" TO 10'-2"
A416	2 SERIES OF 6	7'-10" TO 9'-8"

BUNDLE AND TAG EACH SERIES SEPARATELY.

WORK THIS SHEET WITH SHEETS 4 & 5

NO.	DATE	REVISION	BY

FEHR GRAHAM
ENGINEERING & ENVIRONMENTAL

STRUCTURE B-23-177

DRAWN BY	CFC	PLANS CK'D.	ARK MCB

SOUTH ABUTMENT WING 2 DETAILS & BILL OF BARS

SHEET 28 OF 12

FILE NAME = ...\bridge\006-wing-2-s-abut.dgn

PLOT DATE = 8/8/2017

8

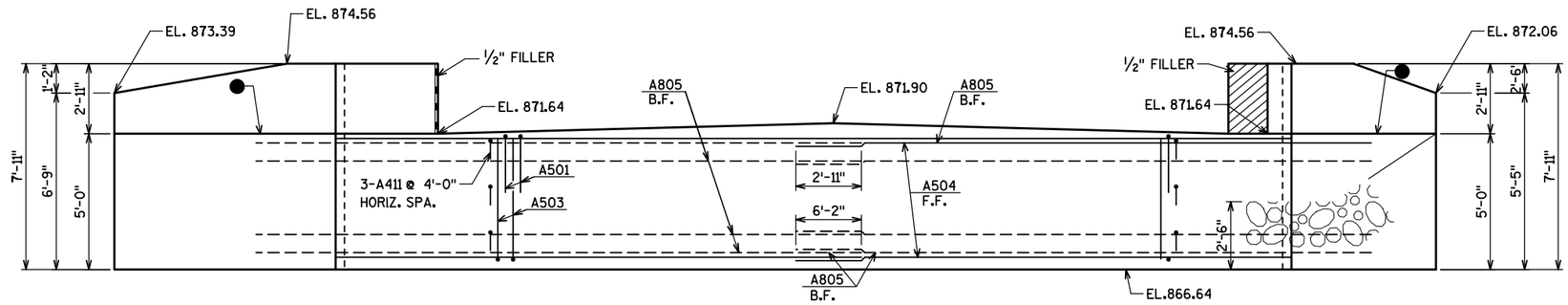
8

FEHR GRAHAM PROJECT NUMBER: 15-850

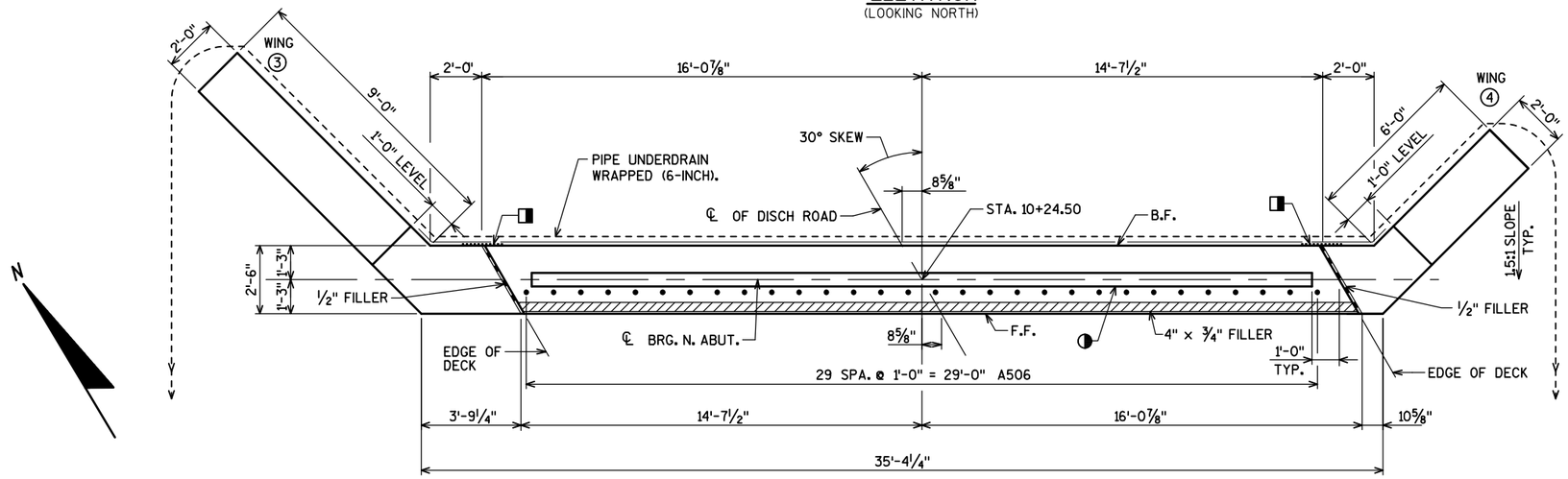
NOTE: SEAL ALL EXPOSED HORIZONTAL AND VERTICAL SURFACES OF ½" FILLER WITH NON-STAINING GRAY NON-BITUMINOUS JOINT SEALER. (1" DEEP AND HOLD ⅛" BELOW SURFACE OF CONCRETE.)

STATE PROJECT NUMBER

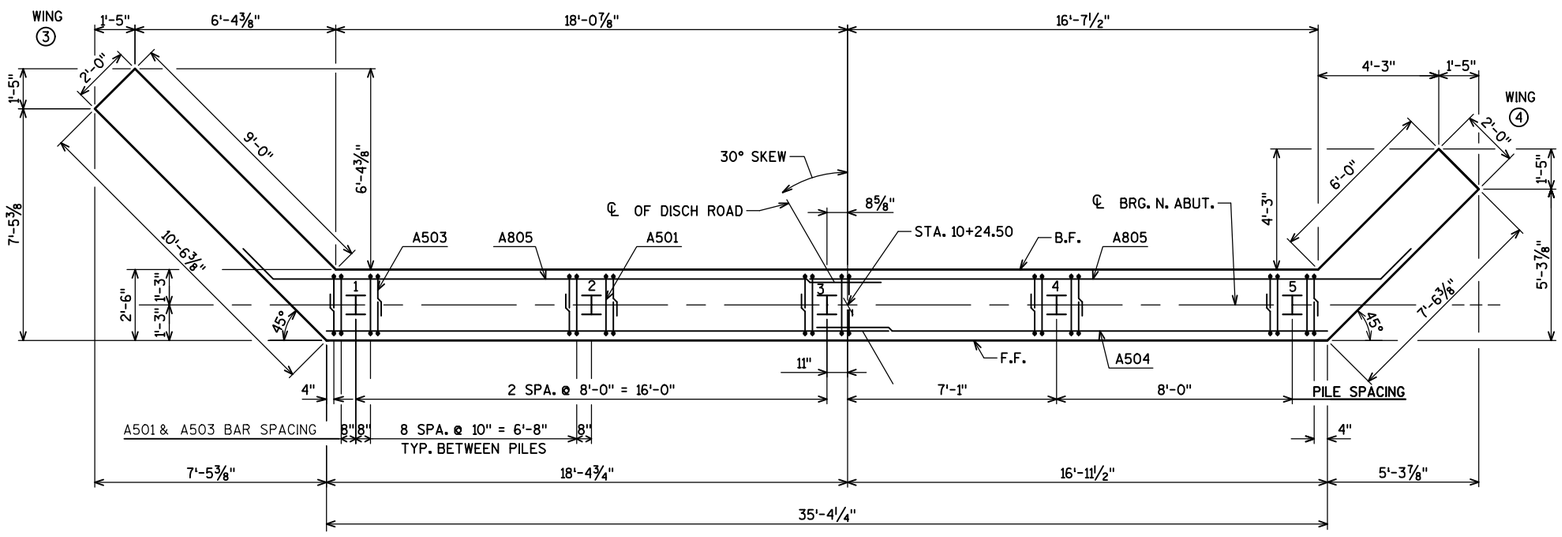
5707-00-72



ELEVATION
(LOOKING NORTH)



PLAN



PILE LAYOUT

● OPT. KEYED CONST. JOINT - FORMED BY A BEVELED 2" × 6" WITH RUBBERIZED MEMBRANE WATERPROOFING ON B.F.

◑ KEYED CONST. JOINT - FORMED BY A BEVELED 2" × 6".

◨ VERTICAL 18" RUBBERIZED MEMBRANE WATERPROOFING.

FOR PILE SPLICE DETAIL SEE SHEET 2.

SEE SHEET 2 OF 12 FOR TYPICAL SECTION THRU ABUTMENTS FOR STRUCTURE BACKFILL & DRAINAGE DETAILS

B.F. DENOTES BACK FACE

F.F. DENOTES FRONT FACE

WORK THIS SHEET WITH SHEETS 2, 8 & 9

NO.	DATE	REVISION	BY

FEHR GRAHAM
ENGINEERING & ENVIRONMENTAL

STRUCTURE B-23-177

DRAWN BY	CFC	PLANS CK'D.	ARK MCB

NORTH ABUTMENT

SHEET 29 OF 12

8

8

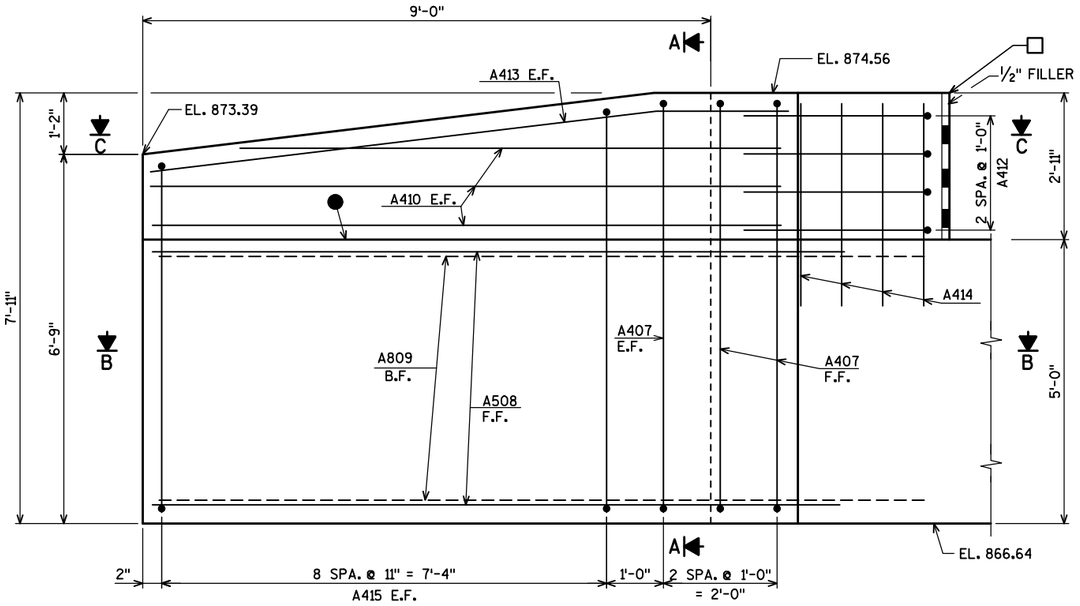
FILE NAME = ...\plans\bridge\007-abut-n.dgn

PLOT DATE = 8/8/2017

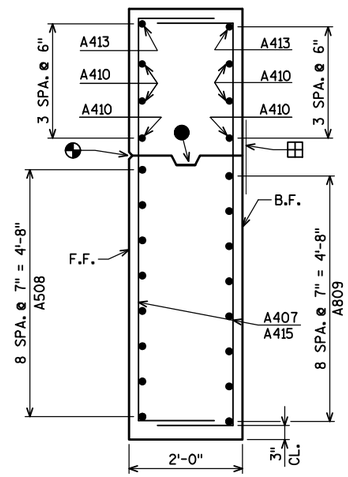
FEHR GRAHAM PROJECT NUMBER: 15-850

STATE PROJECT NUMBER

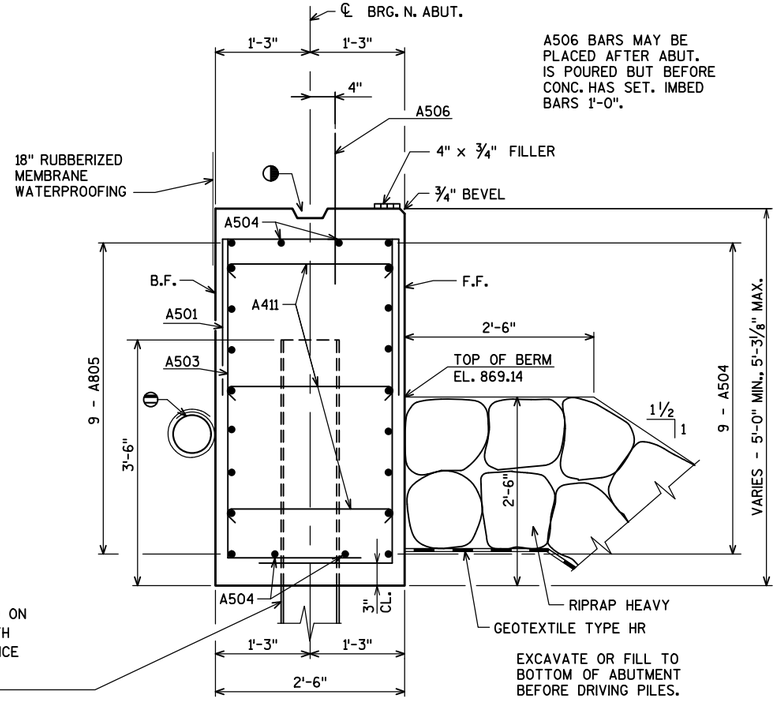
5707-00-72



ELEVATION - WING 3

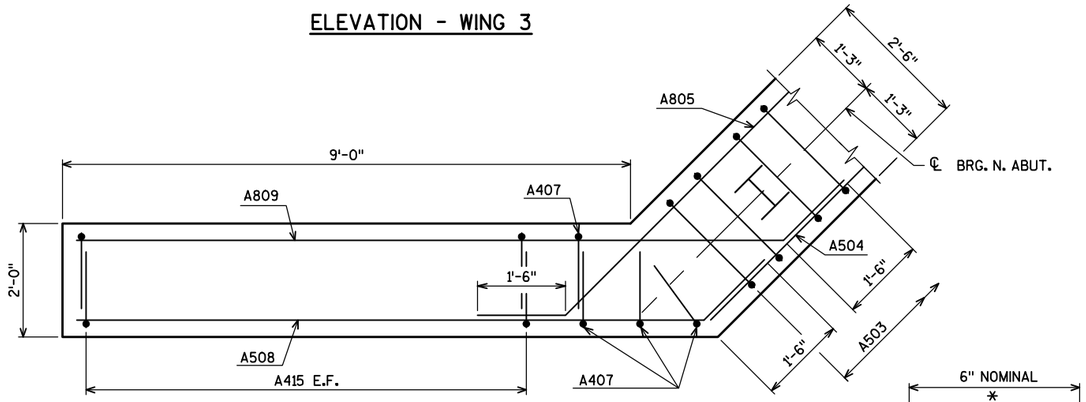


SECTION A-A

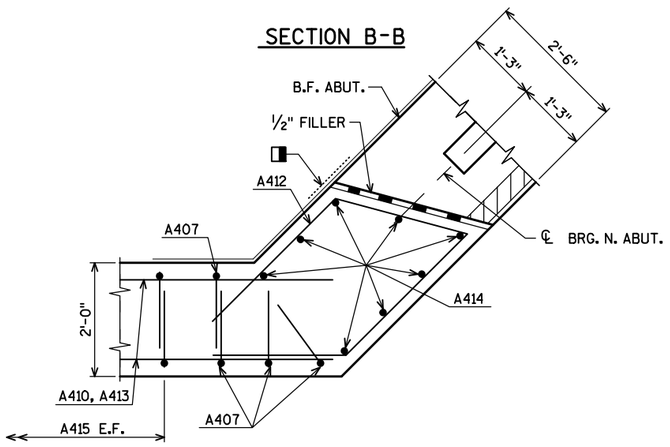


ABUTMENT TO BE SUPPORTED ON HP 10 x 42 STEEL PILING WITH A REQUIRED DRIVING RESISTANCE OF 180 TONS PER PILE. ESTIMATED LENGTH 30'-0"

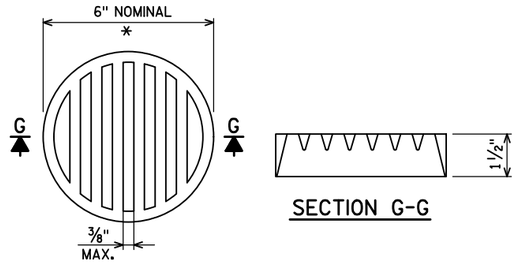
TYPICAL SECTION THRU BODY



SECTION B-B



SECTION C-C



SECTION G-G

* DIMENSIONS ARE APPROXIMATE. THE GRATE IS SIZED TO FIT INTO A PIPE COUPLING. ORIENT SO SLOTS ARE VERTICAL.

THE RODENT SHIELD, PIPE COUPLING AND SCREWS SHALL BE CONSIDERED INCIDENTAL TO THE BID ITEM "PIPE UNDERDRAIN WRAPPED 6-INCH".

THE RODENT SHIELD SHALL BE PVC GRATE SIMILAR TO THIS DETAIL. THE GRATE IS COMMERCIALLY AVAILABLE AS A FLOOR STRAINER. A PIPE COUPLING IS REQUIRED FOR THE ATTACHMENT 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 SHEET METAL SCREWS.

RODENT SHIELD DETAIL

⊖ PIPE UNDERDRAIN WRAPPED (6-INCH). SLOPE 0.5% MIN. TO SUITABLE DRAINAGE. ATTACH RODENT SHIELD AT ENDS OF PIPE UNDERDRAIN. RODENT SHIELD TO BE INCLUDED IN BID PRICE OF "PIPE UNDERDRAIN WRAPPED 6-INCH".

◑ KEYED CONST. JOINT - FORMED BY A BEVELED 2" x 6".

⊞ 18" RUBBERIZED MEMBRANE WATERPROOFING ON BACK FACE. NOT REQUIRED IF CONST. JT. IS NOT USED.

● OPT. KEYED CONST. JOINT - FORMED BY A BEVELED 2" x 6" WITH RUBBERIZED MEMBRANE WATERPROOFING ON B.F.

◔ ¾" 'V' GROOVE ON F.F. OF WING WALL NOT REQUIRED IF CONST. JT. IS NOT USED.

◨ 18" RUBBERIZED MEMBRANE WATERPROOFING.

☐ SEAL ALL EXPOSED HORIZ. & VERT. SURFACES OF 1/2" FILLER WITH NON-STAINING GREY NON-BITUMINOUS JOINT SEALER

FOR PILE SPLICE DETAIL SEE SHEET 2.

B.F. DENOTES BACK FACE

E.F. DENOTES EACH FACE

F.F. DENOTES FRONT FACE

WORK THIS SHEET WITH SHEETS 7 & 9

NO.	DATE	REVISION	BY

FEHR GRAHAM
ENGINEERING & ENVIRONMENTAL

STRUCTURE B-23-177

DRAWN BY	CFC	PLANS CK'D.	ARK MCB

NORTH ABUTMENT WING 3 DETAILS

SHEET 30 OF 12

8

8

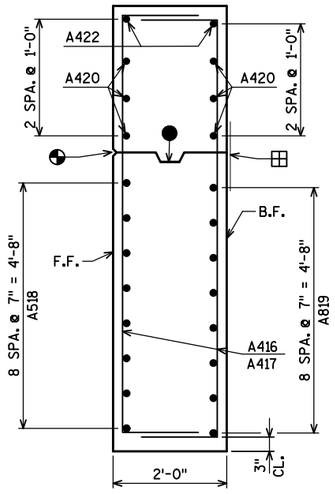
FILE NAME = ...\bridge\008-wing-3-n-abut.dgn

PLOT DATE = 8/8/2017

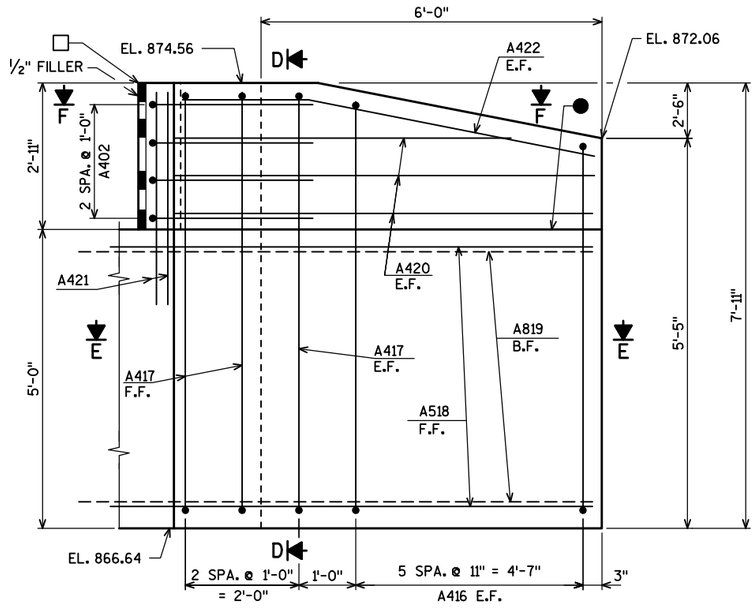
FEHR GRAHAM PROJECT NUMBER: 15-850

STATE PROJECT NUMBER

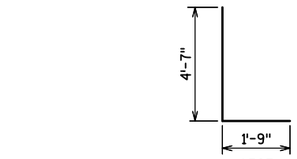
5707-00-72

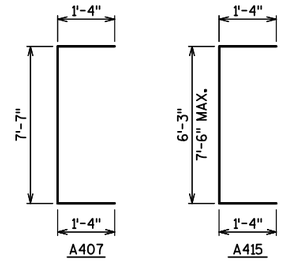


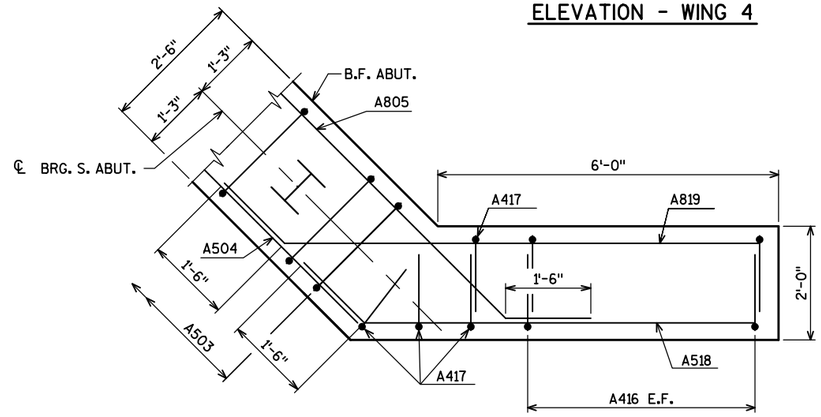
SECTION D-D



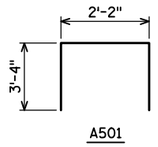
ELEVATION - WING 4



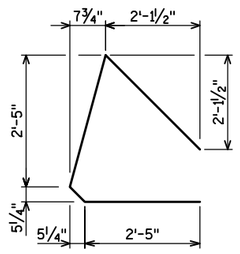




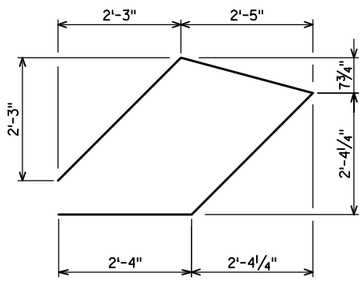
SECTION E-E



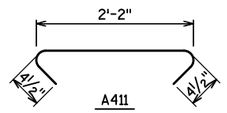
A501



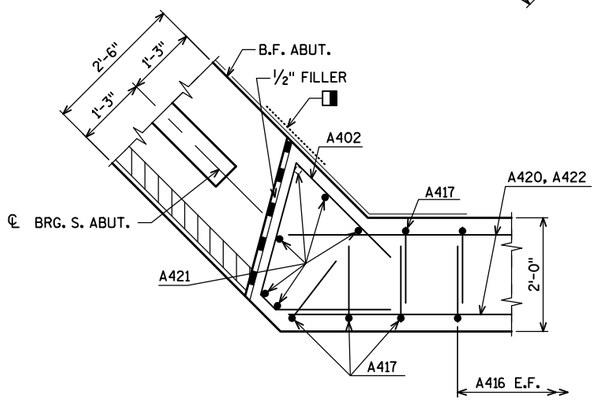
A402



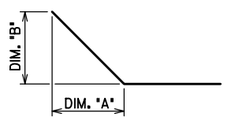
A412



A411



SECTION F-F



BAR NO.	DIM. "A"	DIM. "B"
A805	1'-0¾"	1'-0¾"
A508	1'-0¾"	1'-0¾"
A809	1'-0¾"	1'-0¾"
A413	2'-4¾"	0'-4"
A518	1'-0¾"	1'-0¾"
A819	1'-0¾"	1'-0¾"
A422	2'-2⅞"	1'-1⅜"

⊞ 18" RUBBERIZED MEMBRANE WATERPROOFING ON BACK FACE. NOT REQUIRED IF CONST. JT. IS NOT USED.

● OPT. KEYED CONST. JOINT - FORMED BY A BEVELED 2" x 6" WITH RUBBERIZED MEMBRANE WATERPROOFING ON B.F.

◔ ¾" 'V' GROOVE ON F.F. OF WING WALL NOT REQUIRED IF CONST. JT. IS NOT USED.

◨ VERTICAL 18" RUBBERIZED MEMBRANE WATERPROOFING TO EXTEND FROM BRIDGE SEAT TO TOP OF WING WALL.

☐ SEAL ALL EXPOSED HORIZ. & VERT. SURFACES OF 1/2" FILLER WITH NON-STAINING GREY NON-BITUMINOUS JOINT SEALER

B.F. DENOTES BACK FACE

E.F. DENOTES EACH FACE

F.F. DENOTES FRONT FACE

BILL OF BARS

BAR. NO.	COATED BAR	NO. REQ'D.	LENGTH	BENT BAR	BUNDLED BAR SERIES	2590* - UNCOATED 1240* - COATED / LOCATION
A501		38	8-10	X		BODY TOP
A402	X	3	8-7			WING 4 - CORNER
A503	X	76	6-4	X		BODY VERT.
A504		26	18-9			BODY HORIZ. F.F., TOP & BOTTOM
A805		18	24-5	X		BODY HORIZ. B.F.
A506	X	30	2-0			BODY DOWELS
A407	X	4	10-3	X		WING 3 VERT. E.F.
A508	X	9	11-9	X		WING 3 HORIZ. F.F.
A809	X	9	13-6	X		WING 3 HORIZ. B.F.
A410	X	6	10-2			WING 3 HORIZ. E.F.
A411		27	2-11	X		TIE
A412	X	3	11-4	X		WING 3 CORNER TOP
A413	X	2	9-5	X		WING 3 DIAG. E.F.
A414	X	8	4-9			WING 3 VERT. - CORNER
A415	X	18	9-7	X	⊗	WING 3 VERT. E.F.
A416	X	12	8-9	X	⊗	WING 4 VERT. E.F.
A417	X	4	10-3	X		WING 4 VERT. E.F.
A518	X	9	8-3	X		WING 4 HORIZ. F.F.
A819	X	9	10-5	X		WING 4 HORIZ. B.F.
A420	X	6	6-6			WING 4 HORIZ. E.F.
A421	X	6	4-9			WING 4 VERT. - CORNER
A422	X	2	7-6	X		WING 4 DIAG. E.F.

BENDING DIMENSIONS ARE OUT TO OUT OF BARS.

⊗ 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

BAR MARK	NO REQ'D.	LENGTH
A415	2 SERIES OF 9	8'-11" TO 10'-2"
A416	2 SERIES OF 6	7'-10" TO 9'-8"

BUNDLE AND TAG EACH SERIES SEPARATELY.

WORK THIS SHEET WITH SHEETS 7 & 8

NO.	DATE	REVISION	BY

FEHR GRAHAM
ENGINEERING & ENVIRONMENTAL

STRUCTURE B-23-177

DRAWN BY	CFC	PLANS CK'D.	ARK MCB

NORTH ABUTMENT WING 4 DETAILS & BILL OF BARS

SHEET 31 OF 12

8

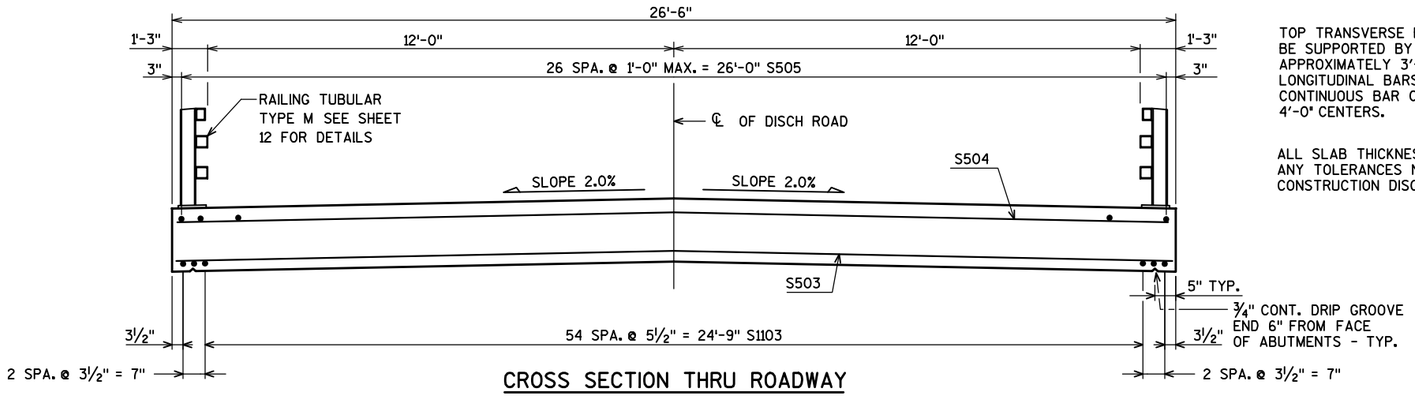
8

FILE NAME = ...\bridge\009-wing-4-n-abut.dgn

PLOT DATE = 8/8/2017

FEHR GRAHAM PROJECT NUMBER: 15-850

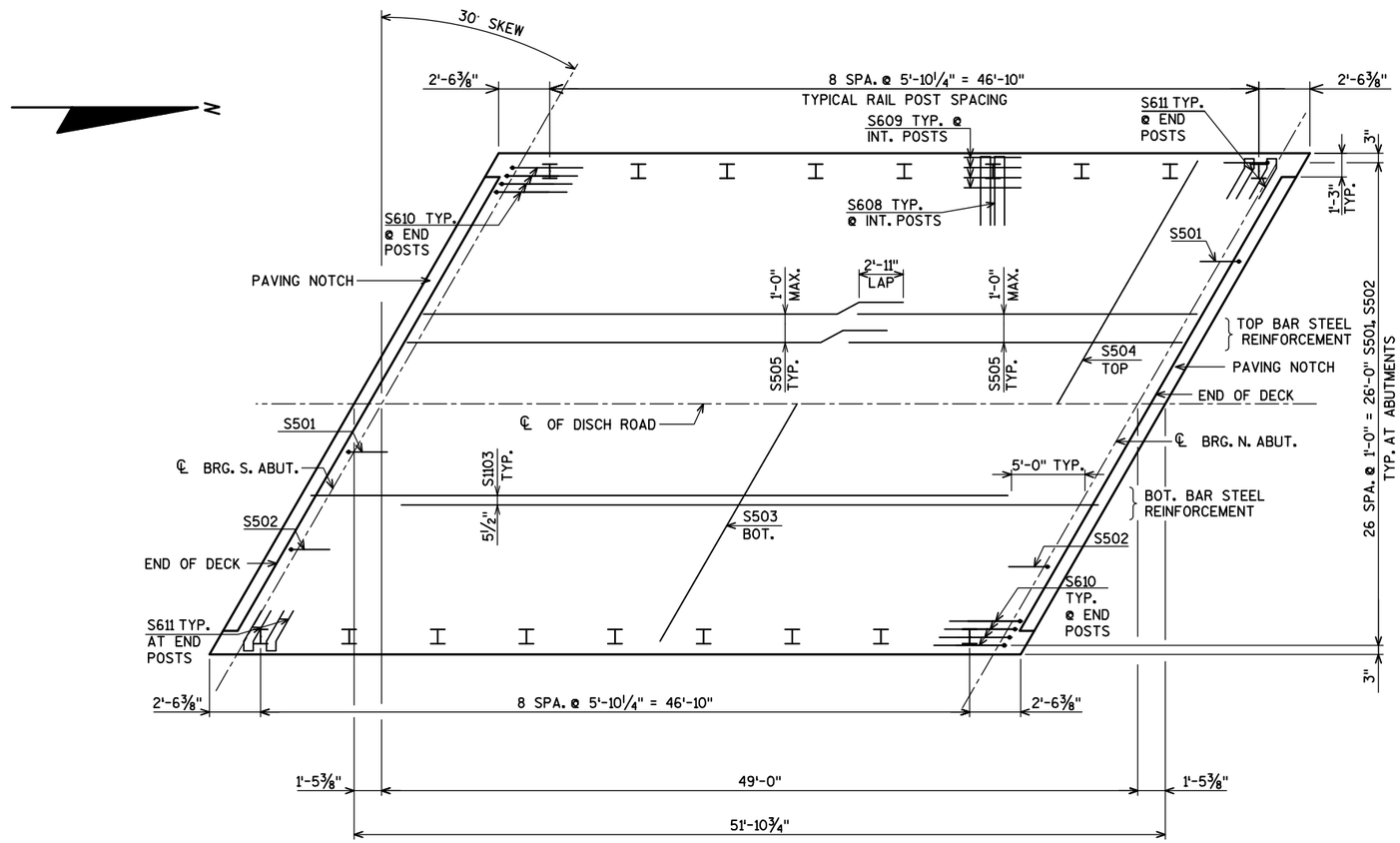
STATE PROJECT NUMBER
5707-00-72



CROSS SECTION THRU ROADWAY

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.

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



PLAN

NO.	DATE	REVISION	BY

FEHR GRAHAM
ENGINEERING & ENVIRONMENTAL

STRUCTURE B-23-177

DRAWN BY	CFC	PLANS CK'D.	ARK MCB

SUPERSTRUCTURE

SHEET 32 OF 12

FILE NAME = ...\bridge\010-superstructure.dgn

PLOT DATE = 8/8/2017

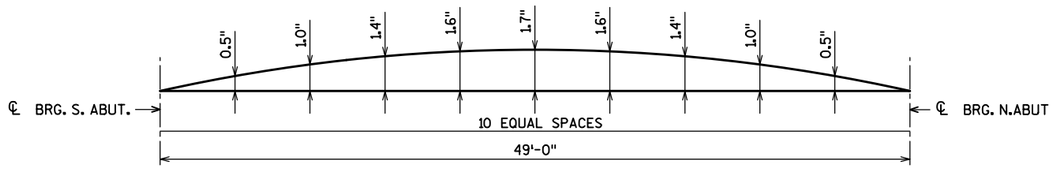
FEHR GRAHAM PROJECT NUMBER: 15-850

STATE PROJECT NUMBER
5707-00-72

TOP OF DECK ELEVATIONS

LOCATION	℄ OF S. ABUT.	0.1 PT.	0.2 PT.	0.3 PT.	0.4 PT.	0.5 PT.	0.6 PT.	0.7 PT.	0.8 PT.	0.9 PT.	℄ OF N. ABUT.
WEST END OF SLAB	874.56	874.56	874.56	874.56	874.56	874.56	874.56	874.56	874.56	874.56	874.56
℄ OF DISCH RD.	874.82	874.82	874.82	874.82	874.82	874.82	874.82	874.82	874.82	874.82	874.82
EAST EDGE OF SLAB	874.56	874.56	874.56	874.56	874.56	874.56	874.56	874.56	874.56	874.56	874.56

ELEVATIONS SHOWN ARE FINISHED DECK AND DO NOT INCLUDE ALLOWANCES OF DEAD LOAD DEFLECTION AND FUTURE CREEP.



CAMBER DIAGRAM

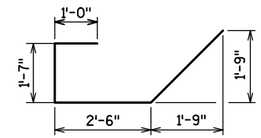
CAMBER SPAN AS SHOWN TO PROVIDE FOR DEAD LOAD DEFLECTION & FUTURE CREEP. CAMBER DOES NOT INCLUDE ALLOWANCE FOR FORM SETTLEMENT.

PRIOR TO RELEASING SLAB FALSEWORK, TAKE TOP OF SLAB ELEVATIONS AT THE CENTERLINE OF ABUTMENTS AND AT ½ POINT TO VERIFY CAMBER. TAKE ELEVATIONS AT EDGES OF SLAB AND AT CENTERLINE OF ROAD.

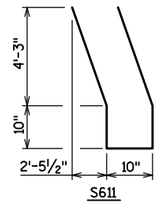
BILL OF BARS

BAR. NO.	COATED BAR	NO. REQ'D.	LENGTH	BENT BAR	BUNDLED BAR	SERIES	23140 COATED LOCATION
S501	X	54	7-7	X			SLAB @ ABUT.
S502	X	54	3-9	X			SLAB @ ABUT.
S503	X	108	30-2				SLAB TRANS. BOT.
S1103	X	59	45-3				SLAB LONG. BOT.
S405	X	8	30-2				SLAB TRANS. BOT.
S504	X	62	30-2				SLAB TRANS. TOP
S505	X	54	26-5				SLAB LONG. TOP
S608	X	28	12-4	X			SLAB @ INT. RAIL POSTS
S609	X	56	6-0				SLAB @ INT. RAIL POSTS
S610	X	16	6-0	X			SLAB @ END RAIL POSTS
S611	X	8	12-4	X			SLAB @ END RAIL POSTS

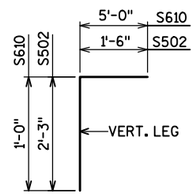
BENDING DIMENSIONS ARE OUT TO OUT OF BARS.

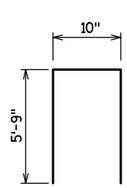


S501

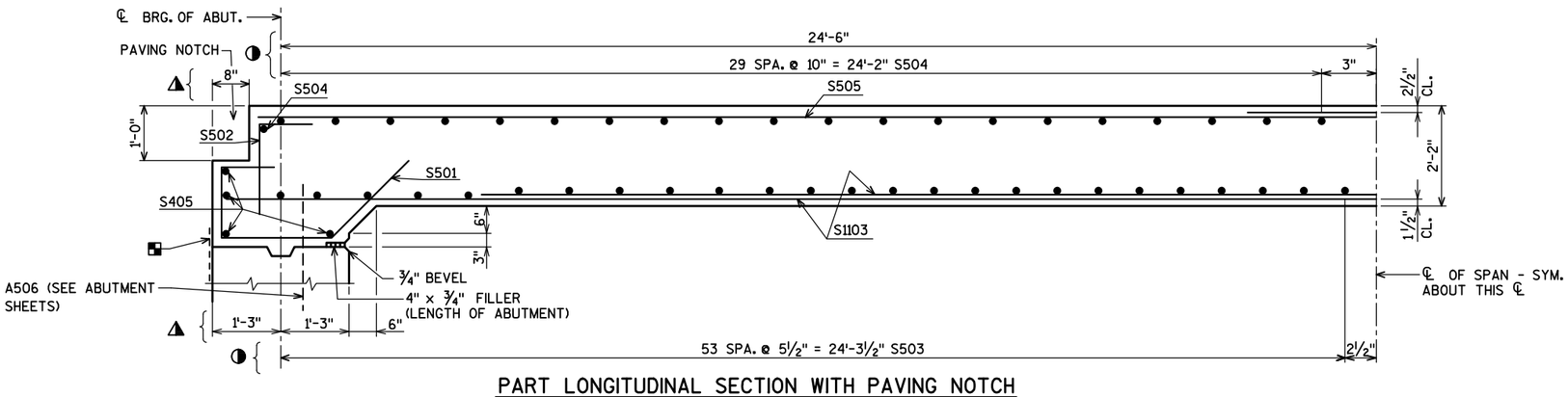


S611





S608



PART LONGITUDINAL SECTION WITH PAVING NOTCH

△ DIMENSIONS MEASURED NORMAL TO ℄ OF SUBSTRUCTURE.

◑ DIMENSIONS ARE MEASURED ALONG DISCH ROAD.

▪ 18" RUBBERIZED MEMBRANE WATERPROOFING

NO.	DATE	REVISION	BY

FEHR GRAHAM
ENGINEERING & ENVIRONMENTAL

STRUCTURE B-23-177

DRAWN BY CFC | PLANS CK'D. ARK MCB

SUPERSTRUCTURE DETAILS

SHEET 33 OF 12

FILE NAME = ...\bridge\011-super-details.dgn

PLOT DATE = 8/8/2017

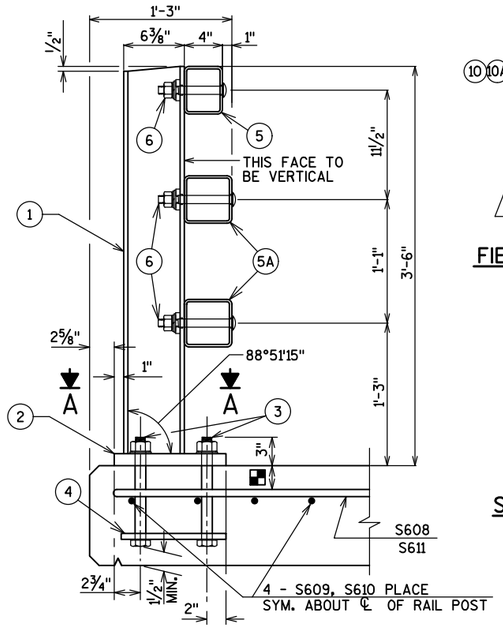
FEHR GRAHAM PROJECT NUMBER: 15-850

8

8

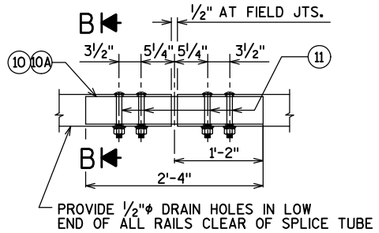
STATE PROJECT NUMBER

5707-00-72

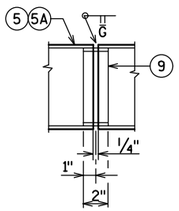


SECTION THRU RAILING ON DECK

■ PLACE BELOW TOP MAT SLAB REINFORCEMENT.

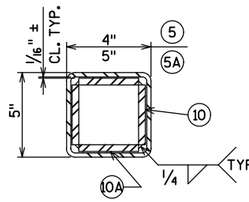


FIELD ERECTION JOINT DETAIL

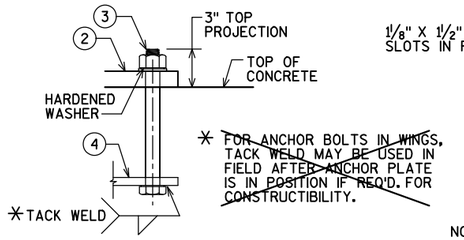


SHOP RAIL SPLICE DETAIL

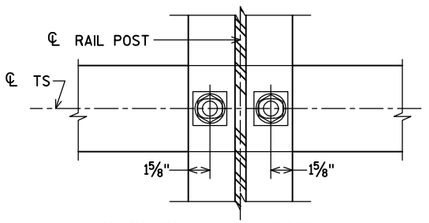
(LOCATION MUST BE SHOWN ON THE SHOP DRAWINGS)



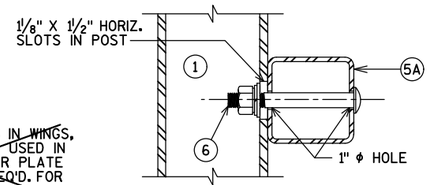
SECTION B



ANCHOR BOLTS



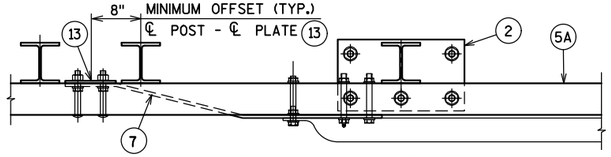
SECTION THRU POST WEB



SECTION THRU RAIL

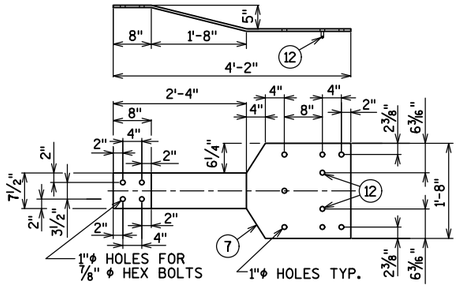
NOTE: CONNECTIONS AT LOWER RAILS SHOWN. CONNECTIONS AT TOP RAIL SIMILAR.

TYPICAL RAIL TO POST CONNECTIONS



TOP VIEW AT END POST

(THRIE BEAM RAIL ATTACHMENT)



BACK-UP PLATE DETAIL

(AT BEAM GUARD ATTACHMENT)

LEGEND

① W6 x 25 WITH 1⅛" X 1½" HORIZ. SLOTS ON EACH SIDE OF POST FOR BOLT NO. 6. CUT BOTTOM OF POST TO MATCH CROSS SLOPE OF ROADWAY. PLACE POST VERTICAL. PLACE POSTS NORMAL TO GRADE LINE.

② PLATE 1¼" × 11¾" × 1'-8" WITH 1⅝" X 1⅝" SLOTTED HOLES FOR ANCHOR BOLTS NO. 3. WELD TO NO. 1 AS SHOWN. SLOTS PARALLEL TO SHORT SIDE OF PLATE.

③ ASTM A449 - 1⅛" DIA. ANCHOR BOLTS WITH NUT AND HARDENED WASHER (ALL GALVANIZED). 5 REQ'D. PER POST. THREAD 3" AND PLACE NORMAL TO PLATE NO. 2. CHAMFER TOP OF BOLTS BEFORE THREADING. ~~USE 1'-9" LONG IN ABUTMENT WINGS.~~ AT POSTS ON CONCRETE SLAB SUPERSTRUCTURES WHERE THE SLAB THICKNESS IS > 16" USE 1'-3" LONG. ~~USE 10¾" LONG AT ALL OTHER LOCATIONS. (AN EQUIVALENT THREADED ROD WITH NUTS AND HARDENED WASHERS MAY BE SUBSTITUTED FOR ANCHOR BOLTS IN WINGS IF REQ'D. FOR CONSTRUCTIBILITY.)~~

④ ⅝" × 11" × 1'-8" ANCHOR PLATE (GALVANIZED) WITH 1⅜" DIA. HOLES FOR ANCHOR BOLTS NO. 3

⑤ TS 5 x 4 x 0.25 STRUCTURAL TUBING. ATTACH TO NO. 1 WITH NO. 6.

⑤A TS 5 x 5 x 0.25 STRUCTURAL TUBING. ATTACH TO NO. 1 WITH NO. 6.

⑥ ⅞" DIA. A325 SLOTTED ROUND HEAD BOLT WITH NUT, 3⁄16" X 1⅝" X 1⅝" WASHER, AND LOCK WASHER (2 REQ'D. AT EACH RAIL TO POST LOCATION.)

⑦ ½" THK. BACK-UP PLATE WITH 2 - ⅞" X 1½" THREADED SHOP WELDED STUDS (NO. 12). BOLT TO RAIL AS SHOWN IN DETAIL. REQUIRED AT THRIE BEAM GUARD RAIL ATTACHMENTS ONLY. PLACE SYMMETRICALLY ABOUT TUBES NO. 5A.

⑧ 1" DIA. HOLES IN PLATE NO. 7 & TUBES NO. 5A FOR ⅞" DIA. A325 BOLTS WITH HEX NUTS AND WASHERS. 6 HOLES IN TUBES AND PLATE NO. 7.

⑨ SPLICE SLEEVE FABRICATED FROM ¼" PLATE. PROVIDE "SLIDING FIT".

⑩ ⅜" X 3⅝" X 2'-4" PLATE. 2 PER RAIL. USED IN NO. 5 & 5A.

⑩A ⅜" X 2⅝" X 2'-4" PLATE USED IN NO. 5, ⅜" X 3⅝" X 2'-4" PLATE USED IN NO. 5A. 2 PER RAIL.

⑪ ⅞" ϕ A325 ROUND HEAD BOLT WITH NUT, WASHER, AND LOCK WASHER. USE 15⁄16" X 1¼" LONGIT. SLOTTED HOLES AT FIELD JOINTS ~~AND 15⁄16" X 2¼" MIN. LONGIT. SLOTTED HOLES AT EXP. JOINTS~~ IN PLATE NO. 10A.

⑫ ⅞" DIA. X 1½" LONG THREADED SHOP WELDED STUDS (2 REQ'D).

⑬ ⅜" X 8" X 1'-6" PLATE. BOLT TO RAIL AS SHOWN IN DETAIL. REQ'D. AT THRIE BEAM GUARD RAIL ATTACHMENTS ONLY. PLACE SYM. ABOUT TUBES NO. 5A.

⑭ ⅞" DIA. X 2" LONG A325 HEX BOLT WITH NUT AND WASHER (5 REQ'D.).

⑮ 1" ϕ HOLES IN TUBES NO. 5A FOR ⅞" DIA. A325 ROUND HEAD BOLT WITH NUT, WASHER AND LOCK WASHER (4 REQ'D.). 4 HOLES IN TUBES.

GENERAL NOTES

BID ITEM SHALL BE "RAILING TUBULAR TYPE M B-23-0177" WHICH INCLUDES ALL ITEMS SHOWN.

RAIL POST AND BASE PLATES SHALL CONFORM TO THE REQUIREMENTS OF ASTM A709 GRADE 50. HOLLOW RAILING STRUCTURAL TUBING SHALL CONFORM TO THE REQUIREMENTS OF ASTM A500 GRADE B OR C WITH A CERTIFIED FY = 50 KSI. ANCHOR PLATES, AND SPLICE TUBE PLATES SHALL CONFORM TO THE REQUIREMENTS OF ASTM A709 GRADE 36.

THE NUT SECURING THE POST BASE PLATE TO THE CONCRETE SHALL BE TIGHTENED TO A SNUG FIT AND GIVEN AN ADDITIONAL ⅛ TURN.

RAILS SHALL BE CONTINUOUS OVER A MINIMUM OF THREE (3) POSTS WITHOUT SPLICES WHERE POSSIBLE. ~~RAILS SHALL BE SPLICED IN A PANEL OVER EXPANSION JOINTS.~~

ENDS OF TUBE SECTIONS SHALL BE SAWED. GRIND SMOOTH EXPOSED EDGES. ALL CUT ENDS SHALL BE TRUE AND SMOOTH.

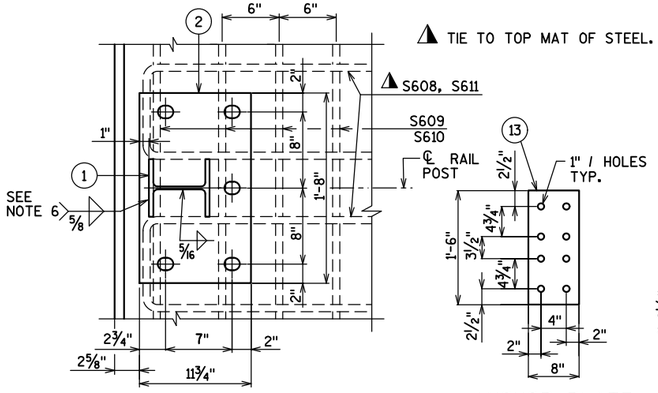
WELD IS THE SAME ON BOTH FLANGES. FLANGE WELD DOES NOT REQUIRE MAGNETIC PARTICLE TESTING.

FILL BOLT SLOT OPENINGS IN POST SHIMS AND PLATE NO. 2 AND CAULK AROUND PERIMETER OF PLATE NO. 2 WITH NON-STAINING GRAY NON-BITUMINOUS JOINT SEALER. STEEL POST SHIMS MAY BE USED UNDER POSTS WHERE REQ'D. FOR ALIGNMENT.

POST BASE PLATES SHALL BE FLAT WITH ALL SURFACES SMOOTH AND FREE FROM WARP AND ALL EDGES SMOOTH, STRAIGHT AND VERTICAL. ALL PLATE CUTS SHALL BE MACHINE OR MACHINE FLAME CUT.

ALL MATERIAL SHALL BE GALVANIZED AFTER FABRICATION. PRIOR TO GALVANIZING, ALL STEEL RAILING POSTS & STEEL TUBING SHALL BE GIVEN A NO. 6 BLAST CLEANING BY S.S.P.C. SPECIFICATIONS.

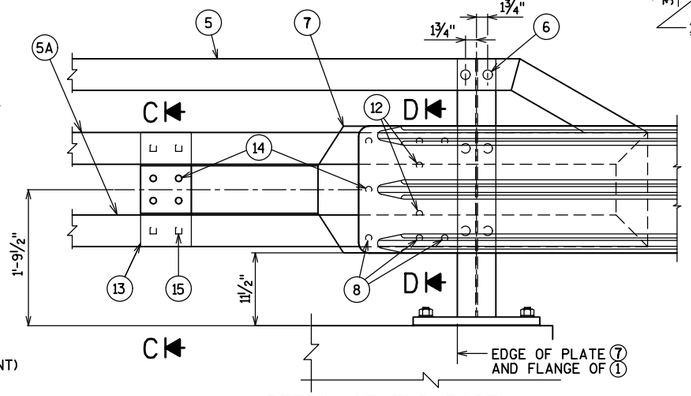
THIS RAILING MEETS NCHRP REPORT 350 EVALUATION CRITERIA FOR TEST LEVEL 4 (TL-4).



SECTION A

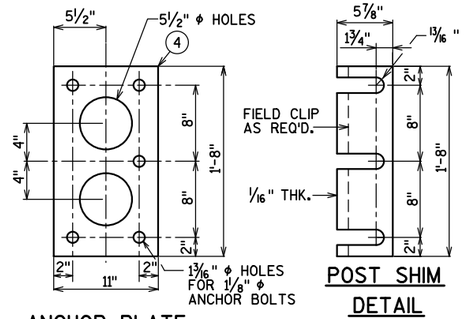
ANCHOR PLATE

(AT BEAM GUARD ATTACHMENT)



DETAIL AT END POST

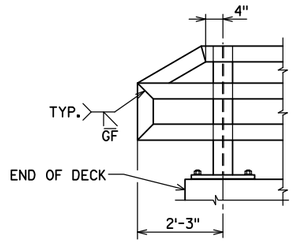
(THRIE BEAM RAIL ATTACHMENT)



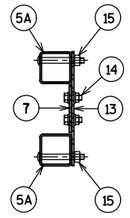
ANCHOR PLATE

(AT RAIL TO DECK CONNECTION)

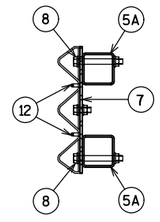
POST SHIM DETAIL



PART VIEW OF RAILING



SECTION C



SECTION D

NO.	DATE	REVISION	BY

FEHR GRAHAM
ENGINEERING & ENVIRONMENTAL

STRUCTURE B-23-177

DRAWN BY	CFC	PLANS CK'D.	ARK MCB

RAILING TUBULAR TYPE M

SHEET 34 OF 12

FILE NAME = ...\bridge\012-rail-type-m.dgn

PLOT DATE = 8/8/2017

FEHR GRAHAM PROJECT NUMBER: 15-850

8

8

AVERAGE END AREA VOLUME - DISCH ROAD

STATION	AREA CUT (SF)	AREA FILL (SF)	VOLUME CUT (CY)	VOLUME FILL (CY)	EXPANDED FILL (CY)	CUM VOL CUT (CY)	CUM VOL FILL (CY)
9+00	23.40	0.14					
			47.7	16.6	21.6	47.7	21.6
9+50	28.11	17.83					
			26.0	16.5	21.5	73.7	43.1
9+75	28.11	17.83					
B-23-0177							
10+25	24.42	30.20					
			22.6	28.0	36.4	96.3	79.4
10+50	24.42	30.20					
			45.4	28.2	36.7	141.8	116.1
11+00	24.66	0.25					
TOTALS			140	90	120		

9

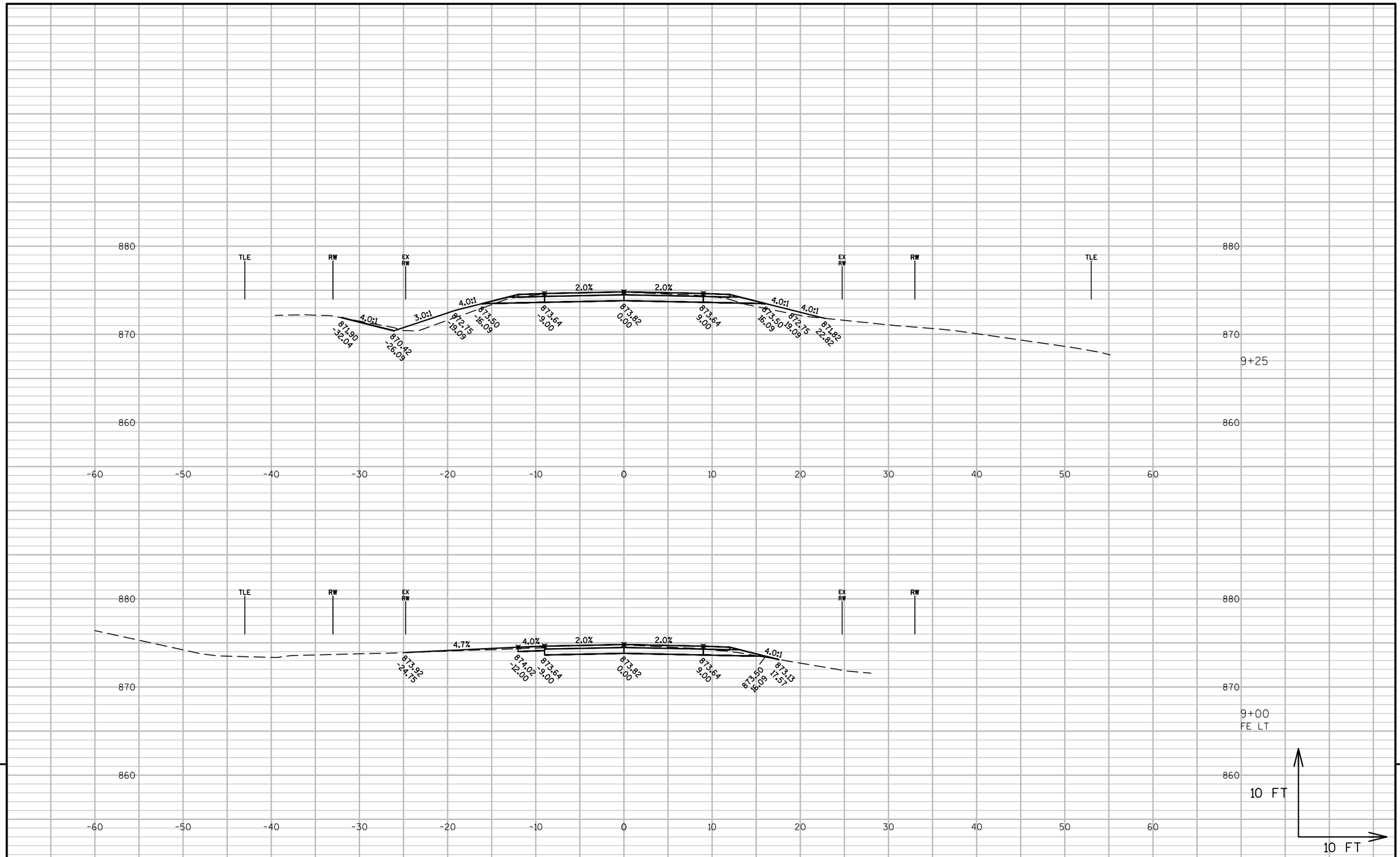
9

PROJECT NO:5707-00-72	HWY:DISCH ROAD	COUNTY:GREEN	EARTHWORK SUMMARY	SHEET 35	E

FILE NAME : G:\C3D\15\15-850\5707-00-72\SHEETSPLAN\090101-EW.DWG
LAYOUT NAME - 090101-EW

PLOT DATE : 12/4/2017 12:48 PM PLOT BY : PERRI WILSON PLOT NAME : PLOT SCALE : 1 IN:40 FT

WISDOT/CADDS SHEET 49



9

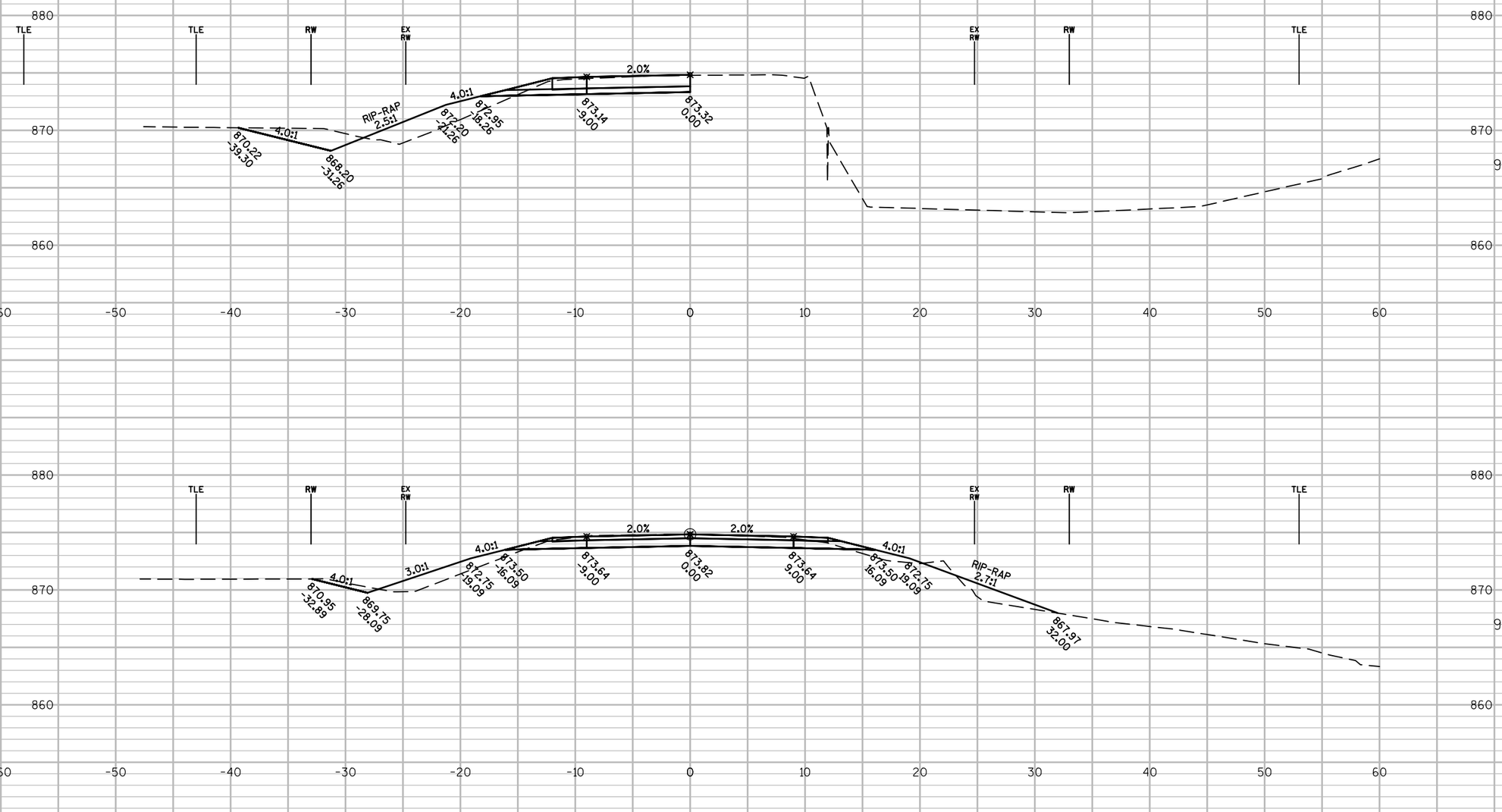
9

PROJECT NO: 5707-00-72	HWY: DISCH ROAD	COUNTY: GREEN	CROSS SECTIONS: DISCH ROAD	SHEET 36	E

FILE NAME : G:\C3D\15\15-850\5707-00-72\SHEETSPLAN\090201-XS.DWG
LAYOUT NAME - 090201-XS - 1

PLOT DATE : 12/4/2017 12:48 PM PLOT BY : PERRI WILSON PLOT NAME : PLOT SCALE : 1 IN:10 FT

WISDOT/CADDS SHEET 49

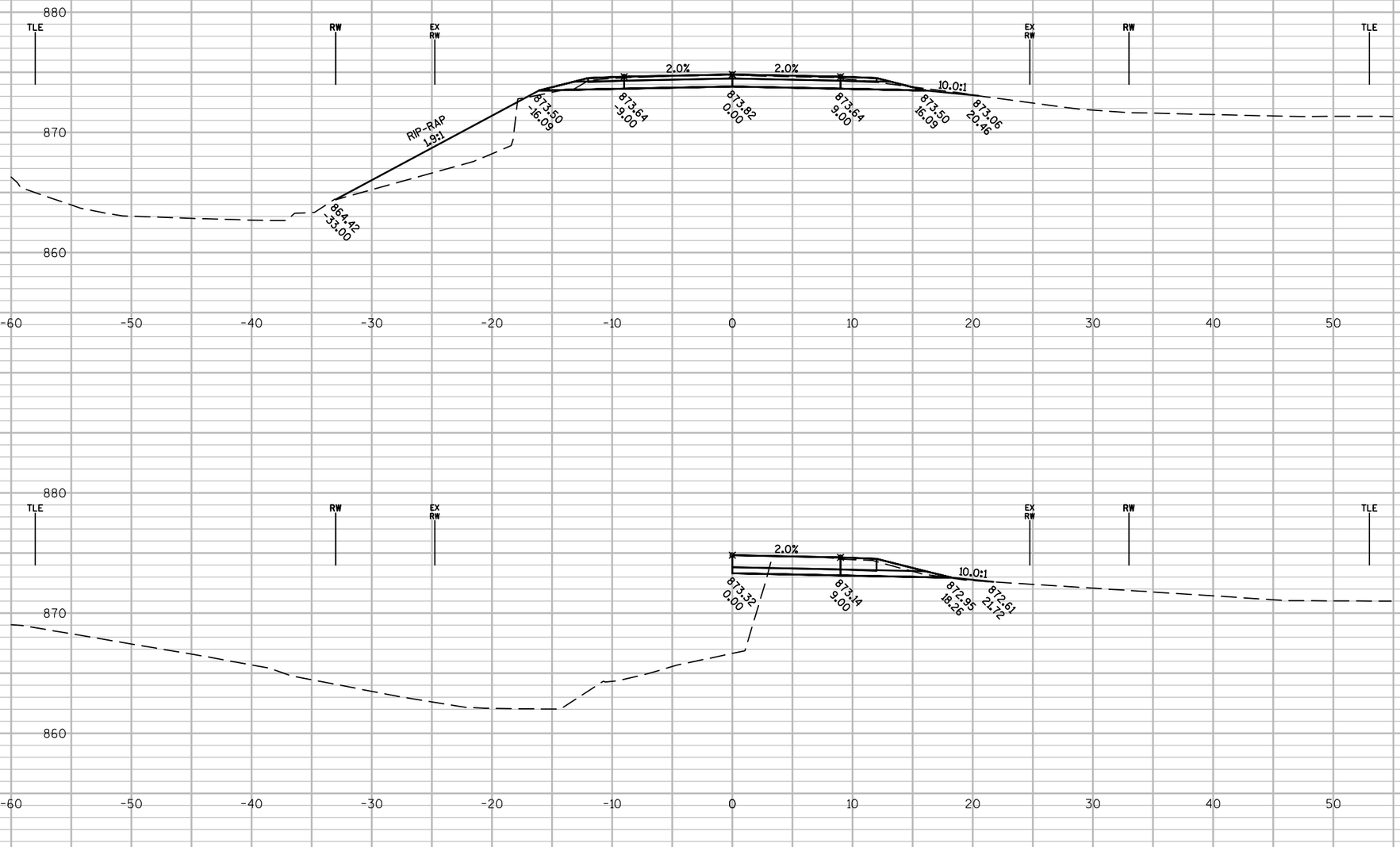


PROJECT NO: 5707-00-72	HWY: DISCH ROAD	COUNTY: GREEN	CROSS SECTIONS: DISCH ROAD	SHEET 37	E

FILE NAME : G:\C3D\15\15-850\5707-00-72\SHEETSPLAN\090201-XS.DWG
LAYOUT NAME - 090201-XS - 2

PLOT DATE : 12/4/2017 12:48 PM PLOT BY : PERRI WILSON PLOT NAME : PLOT SCALE : 1 IN:10 FT

WISDOT/CADDS SHEET 49

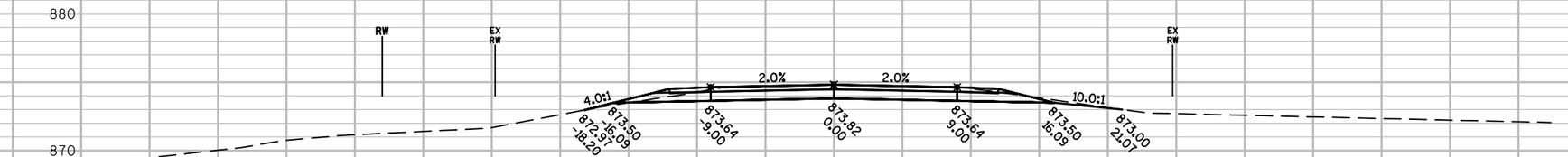


9	PROJECT NO: 5707-00-72	HWY: DISCH ROAD	COUNTY: GREEN	CROSS SECTIONS: DISCH ROAD	SHEET 38 E

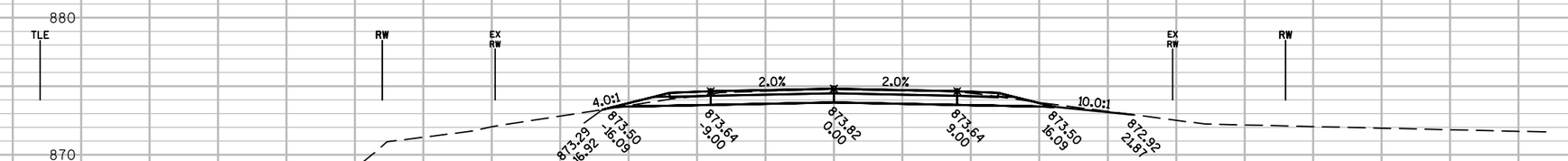
FILE NAME : G:\C3D\15\15-850\5707-00-72\SHEETSPLAN\090201-XS.DWG
LAYOUT NAME - 090201-XS - 3

PLOT DATE : 12/4/2017 12:49 PM PLOT BY : PERRI WILSON PLOT NAME : PLOT SCALE : 1 IN:10 FT

WISDOT/CADDS SHEET 49



11+00



10+75

10 FT

10 FT

9

9

PROJECT NO: 5707-00-72	HWY: DISCH ROAD	COUNTY: GREEN	CROSS SECTIONS: DISCH ROAD	SHEET 39	E

FILE NAME : G:\C3D\15\15-850\5707-00-72\SHEETSPLAN\090201-XS.DWG
LAYOUT NAME - 090201-XS - 4

PLOT DATE : 12/4/2017 12:49 PM PLOT BY : PERRI WILSON PLOT NAME : PLOT SCALE : Custom

WISDOT/CADDS SHEET 49

Wisconsin Department of Transportation

Dedicated people creating transportation solutions
through innovation and exceptional service.

http://www.dot.wisconsin.gov