

STATE PROJECT	FEDERAL PROJECT	
	PROJECT	CONTRACT
5346-00-00		

**STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION**

PLAN OF PROPOSED IMPROVEMENT

**TOWN OF BARRE, DROGSETH ROAD
(BOSTWICK CREEK BRIDGE B-32-0231)
TOWN ROAD
LA CROSSE COUNTY**

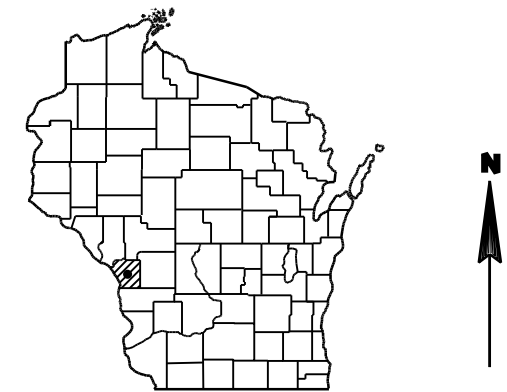
STATE PROJECT NUMBER
5346-00-00

ORDER OF SHEETS

Section No. 1	Title
Section No. 2	Typical Sections and Details
Section No. 3	Estimate of Quantities
Section No. 3	Miscellaneous Quantities
Section No. 4	Right of Way Plat
Section No. 5	Plan and Profile (Includes Erosion Control Plan)
Section No. 6	Standard Detail Drawings
Section No. 7	Sign Plates
Section No. 8	Structure Plans
Section No. 9	Computer Earthwork Data
Section No. 9	Cross Sections

TOTAL SHEETS =

PROJECT ID: 5346-00-00
WITH: N/A



DESIGN DESIGNATION

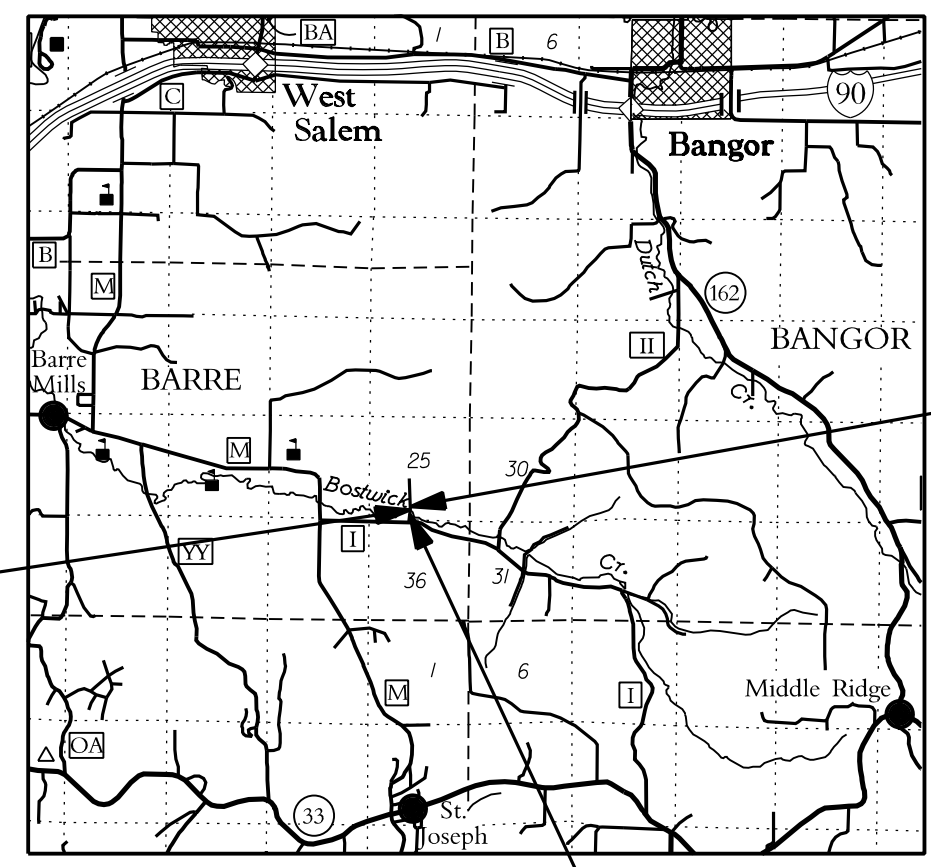
A.A.D.T. 2018	=	<100
A.A.D.T. 2038	=	<100
D.H.V. 2038	=	N/A
D.	=	50/50
T.	=	10%
DESIGN SPEED	=	50 mph
ESALS	=	N/A

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	
MARSH AREA	
WOODED OR SHRUB AREA	
EDGE OF STREAM	
RAILROAD	
FENCE	

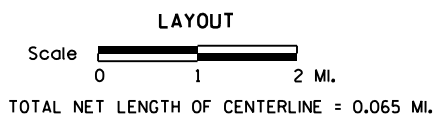
PROFILE

GRADE LINE	
ORIGINAL GROUND	
MARSH OR ROCK PROFILE (To be noted as such)	
SPECIAL DITCH	
GRADE ELEVATION	
CULVERT (Profile View)	
UTILITIES	
ELECTRIC	
FIBER OPTIC	
GAS	
SANITARY SEWER	
STORM SEWER	
TELEPHONE	
WATER	
UTILITY PEDESTAL	
POWER POLE	
TELEPHONE POLE	



END PROJECT
STA. 21+50
Y = 137,919.10
X = 500,109.84

BEGIN PROJECT
STA. 18+05
Y = 137,575.21
X = 500,082.21



Coordinates on this plan are referenced to the Wisconsin County Coordinate System (WCCS), La Crosse County.

ACCEPTED FOR TOWN OF BARRE

DATE _____ TOWN CHAIRPERSON _____

ACCEPTED FOR LA CROSSE COUNTY

DATE _____ HIGHWAY COMMISSIONER _____

ORIGINAL PLANS PREPARED BY:
MSA PROFESSIONAL SERVICES
TRANSPORTATION • MUNICIPAL DEVELOPMENT • ENVIRONMENTAL
1230 South Boulevard, Baraboo, WI 53913
608-356-2771 L-800-363-1915 Fax: 608-356-2770
© MSA PROFESSIONAL SERVICES

Date _____ Signature _____

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

PREPARED BY

Surveyor	MSA Professional Services, Inc.
Designer	MSA Professional Services, Inc.
Management Consultant	KL Engineering, Inc.

APPROVED FOR THE DEPARTMENT

DATE: _____ (Management Consultant Signature)

E

STANDARD ABBREVIATIONS

AC	ACRE	F/L	FLOW LINE	SALV	SALVAGED
AGG	AGGREGATE	FT	FOOT	SAN	SANITARY SEWER
<	ANGLE	GN	GRID NORTH	SECT	SECTION
ASPH	ASPHALTIC	HR	HANDICAP RAMP	SHLDR	SHOULDER
AC	ASPHALT CEMENT	HT	HEIGHT	SW	SIDEWALK
ADT	AVERAGE DAILY TRAFFIC	CWT	HUNDREDWEIGHT	S	SOUTH
B & B	BALLED AND BURLAPPED	HYD	HYDRANT	SB	SOUTHBOUND
BM	BENCH MARK	IN DIA	INCH DIAMETER	SPECS	SPECIFICATIONS
CB	CATCH BASIN	INL	INLET	SO	SQUARE
€ OR C/L	CENTER LINE	ID	INSIDE DIAMETER	SF OR SO FT	SQUARE FEET
C-C	CENTER TO CENTER	I	INTERSECTION ANGLE	SY	SQUARE YARD
CONC	CONCRETE	IE	INVERT ELEVATION	SSPRC	STORM SEWER
CO	COUNTY	IP	IRON PIPE OR PIN		PIPE REINFORCED CONCRETE
CTH	COUNTY TRUNK HIGHWAY	JCT	JUNCTION	STD	STANDARD
CY	CUBIC YARD	L	LENGTH OF CURVE	SDD	STANDARD DETAIL DRAWINGS
CULV	CULVERT	LF	LINEAR FOOT	STH	STATE TRUNK HIGHWAYS
CP	CULVERT PIPE	LC	LONG CHORD OF CURVE	STA	STATION
CPRC	CULVERT PIPE	LCB	LONG CHORD BEARING	SS	STORM SEWER
	REINFORCED CONCRETE	LS	LUMP SUM	T	TANGENT
C & G	CURB AND GUTTER	MH	MANHOLE	TEL	TELEPHONE
D	DEGREE OF CURVE	N	NORTH	TEMP	TEMPORARY
DHV	DESIGN HOUR VOLUME	Y	NORTH GRID COORDINATE	TLE	TEMPORARY LIMITED EASEMENT
DIA OR Ø	DIAMETER	OE	OUTLET ELEVATION	T	TON
DIST	DISTRICT	OL	OUT LOT	TC	TOP OF CURB
DWY	DRIVEWAY	OD	OUTSIDE DIAMETER	TN	TOWN
E	EAST	OH	OVERHEAD LINES	TRANS	TRANSITION
X	EAST GRID COORDINATE	PAVT	PAVEMENT	T	TRUCKS (percent of)
EB	EASTBOUND	PLE	PERMANENT LIMITED EASEMENT	TYP	TYPICAL
ELEC	ELECTRIC	PC	POINT OF CURVATURE	UNCL	UNCLASSIFIED
EL OR ELEV	ELEVATION	PI	POINT OF INTERSECTION	USH	UNITED STATES HIGHWAY
EMB	EMBANKMENT	PT	POINT OF TANGENCY	VAR	VARIABLE
EW	ENDWALL	PCC	PORTLAND CEMENT CONCRETE	VERT	VERTICAL
ESALS	EQUIVALENT SINGLE	LB	POUND	VC	VERTICAL CURVE
	AXLE LOADS	PE	PRIVATE ENTRANCE	VOL	VOLUME
EXC	EXCAVATION	R OR RAD	RADIUS	WM	WATER MAIN
EBS	EXCAVATION BELOW	RR	RAILROAD	WV	WATER VALVE
	SUBGRADE	R	RANGE	W	WEST
EXIST	EXISTING	R OR R/L	REFERENCE LINE	WB	WESTBOUND
EXP	EXPANSION	REOD	REQUIRED	YD	YARD
F-F	FACE TO FACE	RT	RIGHT		
FERT	FERTILIZER	R/W	RIGHT-OF-WAY		
FE	FIELD ENTRANCE	RD	ROAD		

DESIGN CONTACT

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DNR LIAISON

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Jaymie.l.holte@xcelenergy.com

* - NOT A MEMBER
OF DIGGERS HOTLINE.



RUNOFF COEFFICIENT TABLE

	HYDROLOGIC SOIL GROUP											
	A			B			C			D		
	SLOPE RANGE (PERCENT)			SLOPE RANGE (PERCENT)			SLOPE RANGE (PERCENT)			SLOPE RANGE (PERCENT)		
LAND USE:	0-2	2-6	6 & OVER	0-2	2-6	6 & OVER	0-2	2-6	6 & OVER	0-2	2-6	6 & OVER
ROW CROPS	.08	.16	.22	.12	.20	.27	.15	.24	.33	.19	.28	.38
	.22	.30	.38	.26	.34	.44	.30	.37	.50	.34	.41	.56
MEDIAN STRIP-TURF	.19	.20	.24	.19	.22	.26	.20	.23	.30	.20	.25	.30
	.24	.26	.30	.25	.28	.33	.26	.30	.37	.27	.32	.40
SIDE SLOPE-TURF			.25			.27			.28			.30
			.32			.34			.36			.38
PAVEMENT:												
ASPHALT	.70 - .95											
CONCRETE	.80 - .95											
BRICK	.70 - .80											
DRIVES, WALKS	.75 - .85											
ROOFS	.75 - .95											
GRAVEL ROADS, SHOULDERS	.40 - .60											

TOTAL PROJECT AREA = 0.89 ACRES
TOTAL AREA EXPECTED TO BE DISTURBED BY CONSTRUCTION ACTIVITIES = 0.56 ACRES

GENERAL NOTES

DISTURBED AREAS WITHIN THE RIGHT-OF-WAY, EXCEPT THE AREAS WITHIN THE FINISHED SHOULDER POINTS SHALL BE FERTILIZED, SEEDED AND MULCHED AS DIRECTED BY THE ENGINEER.

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

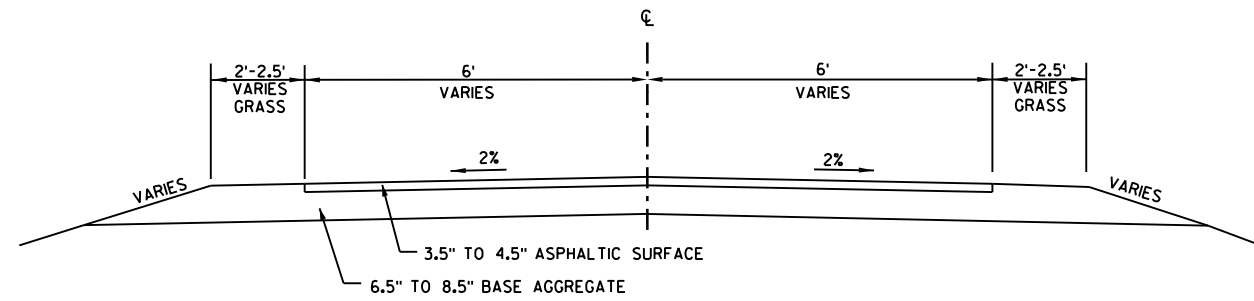
NO TREES OR SHRUBS ARE TO BE REMOVED WITHOUT APPROVAL OF THE ENGINEER.

ELEVATIONS SHOWN ON THIS PLAN ARE REFERENCED TO USGS NAVD 88 (96 ADJUSTED) SYSTEM, UTILIZING BENCHMARK REFERENCES AT THE PROJECT SITE SET BY THE CONSULTANT USING GPS METHODS.

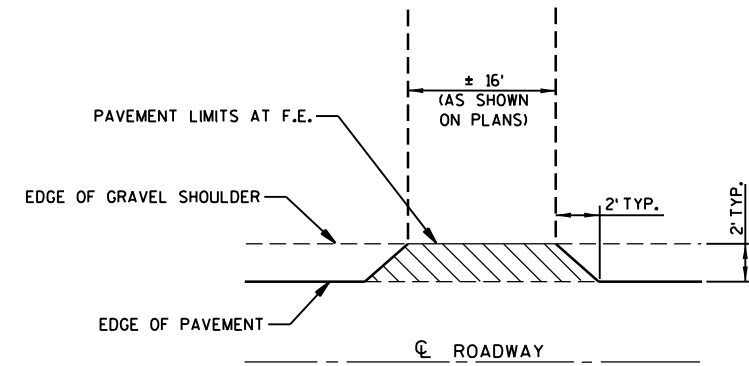
THE 4" ASPHALTIC SURFACE SHALL CONSIST OF A 1 3/4" UPPER LAYER WITH 12.5 MM NOMINAL SIZE AGGREGATE AND A 2 1/4" LOWER LAYER WITH A 19.0 MM NOMINAL SIZE AGGREGATE.

SILT FENCE AND TURBIDITY BARRIER TO BE PLACED AS SHOWN ON THE PLAN OR AS DIRECTED BY THE ENGINEER AND IN PLACE PRIOR TO CONSTRUCTION OR BRIDGE REMOVAL.

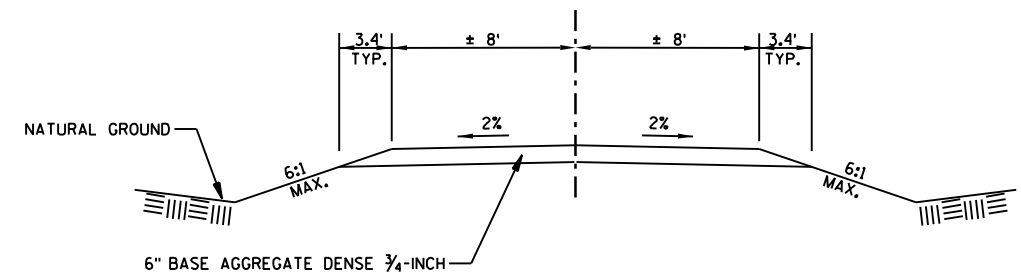
WETLANDS ARE PRESENT ON THE CREEK BANKS. AREAS OUTSIDE THE SLOPE INTERCEPTS SHALL NOT BE DISTURBED IN THIS AREA.



TYPICAL EXISTING SECTION



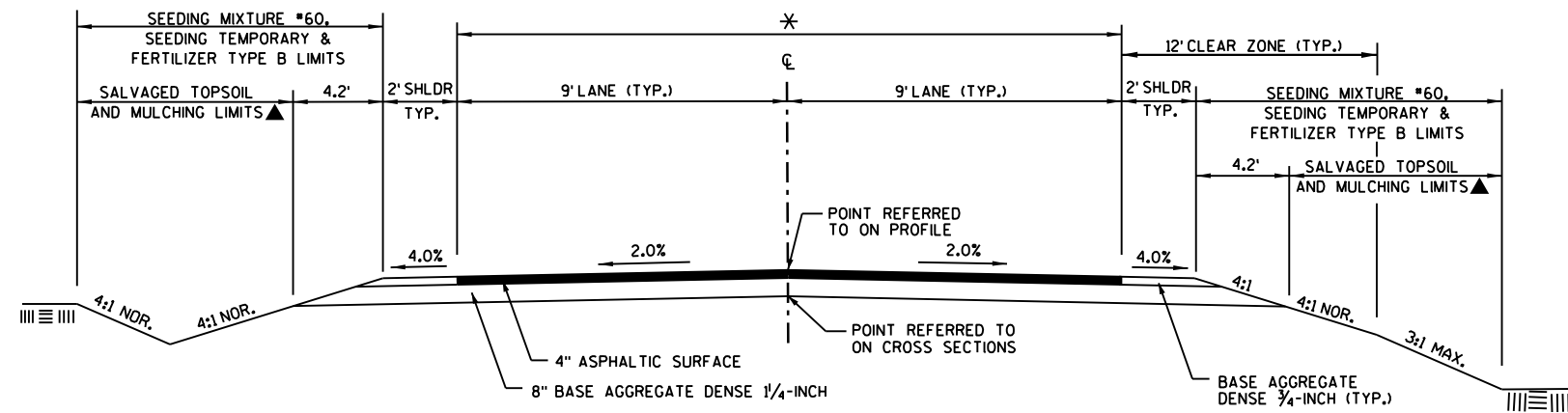
FIELD ENTRANCE PLAN



FIELD ENTRANCE TYPICAL SECTION

FIELD ENTRANCE DETAIL

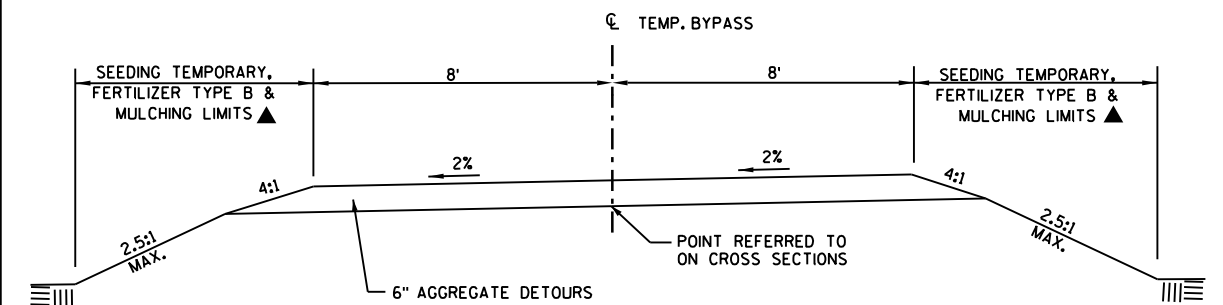
STA. 21+20, L.T.



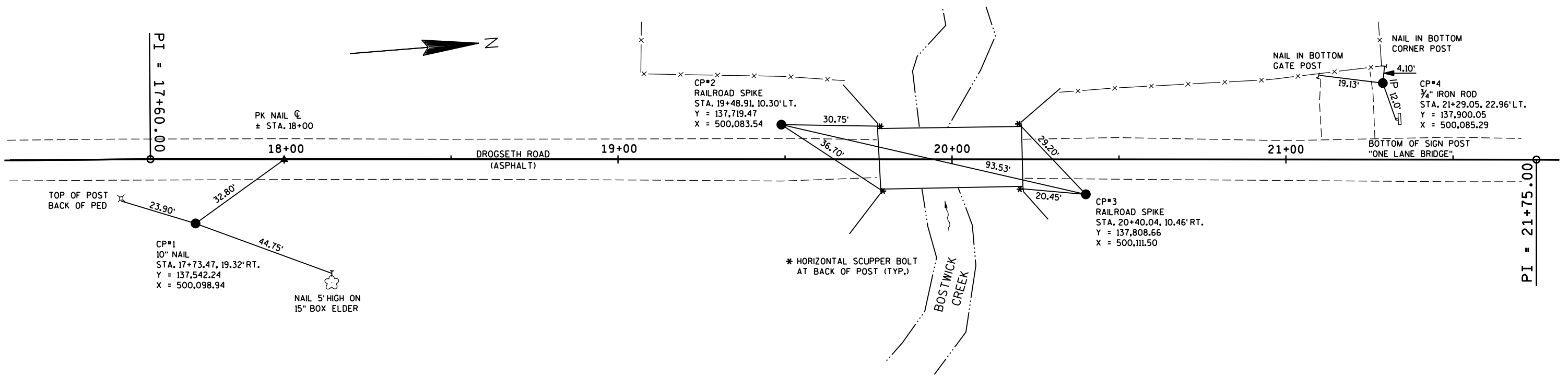
TYPICAL FINISHED SECTION

* THE ASPHALTIC SURFACE WIDTH SHALL TAPER FROM 24.0' AT THE ENDS OF THE BRIDGE TO 18.0' AT STATION 19+25 AND STATION 20+75. THE ASPHALTIC SURFACE WIDTH SHALL TAPER FROM 18.0' AT STATION 18+50 AND STATION 21+00 TO MATCH EXISTING CONDITIONS AT THE ENDS OF THE PROJECT.

▲ SEE PLAN AND PROFILE SHEETS FOR EROSION MAT URBAN CLASS I TYPE B LOCATIONS. DO NOT PLACE MULCH AT THOSE LOCATIONS.



TYPICAL SECTION TEMPORARY BYPASS



PROJECT TIES

ALL MEASUREMENTS ARE SLOPE DISTANCES.

201.0105 CLEARING
201.0205 GRUBBING

STATION	STATION	LOCATION	CLEARING STA	GRUBBING STA
9+00	- 11+00	RT & LT	2	2
TOTALS:			2	2

205.0100 EXCAVATION COMMON
208.0100 BORROW

STAGE 1: PLACING TEMPORARY BYPASS AND APPROACHES

LOCATION	EXC. COMMON CY	FILL CY (1)	EXPANDED FILL CY (2)	WASTE CY (1)	BORROW CY
STA 7+50.03 - STA 9+85	3	294	382	-379	379
STA 10+15 - STA 12+09.96	0	86	112	-112	112
TOTALS STAGE 1:	3	380	494	-491	491

STAGE 2: DROGSETH ROAD BRIDGE APPROACHES

LOCATION	EXC. COMMON CY (3)	FILL CY (1)	EXPANDED FILL CY (2)	WASTE CY (1)
STA 18+05 - STA. 19+75.75	332	48	63	269
STA 20+24.25 - STA 21+50	252	30	40	212
TOTALS STAGE 2:	584	78	103	481

STAGE 3: REMOVING TEMPORARY BYPASS & APPROACHES

LOCATION	EXC. COMMON CY (4)	FILL CY (1)	EXPANDED FILL CY (2)	WASTE CY (1)
STA 7+50.03 - STA 9+85	337	30	40	297
STA 10+15 - STA 12+09.96	104	2	3	101
TOTALS STAGE 3:	441	32	43	398

- (1) - NOT A BID ITEM - FOR INFORMATIONAL PURPOSES ONLY.
- (2) - FILL EXPANSION 30%
- (3) - EXISTING ASPHALTIC PAVEMENT IS INCLUDED IN COMMON EXCAVATION TOTALS. SEE EARTHWORK TABLE.
- (4) - AGGREGATE DETOURS REMOVAL IS INCLUDED IN COMMON EXCAVATION TOTALS.

305.0110 BASE AGGREGATE DENSE 3/4-INCH
305.0120 BASE AGGREGATE DENSE 1 1/4-INCH
305.0410 AGGREGATE DETOURS
624.0100 WATER

STATION	STATION	BASE AGGREGATE DENSE 3/4-INCH TON	BASE AGGREGATE DENSE 1 1/4-INCH TON	AGGREGATE DETOURS TON	WATER* MGAL
18+05.00	- 19+75.75	22	230	0	5
20+24.25	- 21+50	16	170	0	4
21+20, LT	- F.E.	13	0	0	0
7+50.03	- 9+85	0	0	138	3
10+15.00	- 12+09.96	0	0	109	2
TOTALS:		51	400	247	14

*ADDITIONAL QUANTITY INCLUDED WITH EROSION CONTROL ITEMS

455.0605 TACK COAT
465.0105 ASPHALTIC SURFACE

STATION	STATION	TACK COAT GAL	ASPHALTIC SURFACE TON
18+05.00	- 19+75.75	17	76
20+24.25	- 21+50.00	13	56
TOTALS:		30	132

526.0100.01 TEMPORARY STRUCTURE STATION 10+00

	LS
TEMPORARY STRUCTURE STATION 10+00	1
TOTAL:	1

625.0500 SALVAGED TOPSOIL
627.0200 MULCHING
629.0210 FERTILIZER TYPE B
630.0160 SEEDING MIXTURE NO. 60
630.0200 SEEDING TEMPORARY
624.0100 WATER

STATION	STATION	LOCATION	SALVAGED TOPSOIL SY	MULCHING SY	FERTILIZER CWT	SEEDING #60 LB	SEEDING TEMPORARY LB	WATER* MGAL
7+50	- 10+00	LT	---	100	0.10	---	5	4
8+50	- 10+00	RT	---	50	0.05	---	1	1
10+00	- 12+10	LT	---	85	0.05	---	3	3
10+00	- 11+00	RT	---	40	0.05	---	1	1
17+60	- 20+00	LT	615	485	0.45	10	19	16
18+05	- 20+00	RT	140	115	0.15	3	6	5
20+00	- 22+00	LT	405	340	0.30	6	13	11
20+00	- 21+50	RT	115	10	0.10	2	5	4
UNDISTRIBUTED			325	275	0.40	4	7	5
TOTALS:			1600	1500	1.65	25	60	50

*ADDITIONAL QUANTITY INCLUDED WITH BASE AGGREGATE ITEMS.

628.1504 SILT FENCE
628.1520 SILT FENCE MAINTENANCE

STATION	STATION	LOCATION	FENCE LF	MAINT. LF
18+00	- 21+50	LT	285	285
18+00	- 21+50	RT	280	280
UNDISTRIBUTED			85	85
TOTALS:			650	650

NOTE:
ALL ITEMS AND QUANTITIES ON THIS SHEET ARE
FOR ENGINEER ESTIMATE CATEGORY 0010.

NOTE:
ALL ITEMS AND QUANTITIES ON THIS SHEET ARE
FOR ENGINEER ESTIMATE CATEGORY 0010.

628.6005 TURBIDITY BARRIERS

LOCATION	SY
SOUTH ABUT	206
NORTH ABUT	206
UNDISTRIBUTED	88
TOTAL:	500

628.2008 EROSION MAT URBAN CLASS I TYPE B

STATION	STATION	LOCATION	URBAN CLASS I TYPE B SY
18+00	20+00	LT	265
19+50	19+75	RT	34
20+10	21+10	LT	163
20+25	21+00	RT	133
		UNDISTRIBUTED	105
		TOTAL:	700

628.7504 TEMPORARY DITCH CHECKS

STATION	LOCATION	TEMPORARY DITCH CHECKS LF
19+50	LT	11
20+25	LT	11
20+35	RT	11
	UNDISTRIBUTED	7
	TOTAL:	40

633.5100 MARKERS ROW

STATION	OFFSET	LOCATION	EACH
18+05	21.63	LT	1
18+05	27.87	RT	1
18+50	21.81	LT	1
18+50	27.69	RT	1
19+00	40.00	LT	1
19+00	40.00	RT	1
20+75	40.00	LT	1
20+75	40.00	RT	1
21+50	23.02	LT	1
21+50	26.48	RT	1
	TOTAL:		10

- 634.0612 POSTS WOOD 4x6-INCH x 12-FT
- 637.2230 SIGNS TYPE II REFLECTIVE F
- 638.2602 REMOVING SIGNS TYPE II
- 638.3000 REMOVING SMALL SIGN SUPPORTS

STATION	LOCATION	SIGN CODE	SIZE	SIGNS TYPE II REFLECTIVE F SF	WOOD POSTS EACH	REMOVING SIGNS TYPE II EACH	REMOVING SMALL SIGN SUPPORTS EACH	COMMENTS
17+15	RT	-	-	-	-	1	1	EXISTING ONE LANE BRIDGE SIGN
19+73	LT	W5-52L	12"x36"	3	1	-	-	OBJECT MARKER
19+73	RT	W5-52R	12"x36"	3	1	-	-	OBJECT MARKER
19+87	LT	-	-	-	-	1	1	EXISTING OBJECT MARKER
19+87	RT	-	-	-	-	1	1	EXISTING OBJECT MARKER
20+23	LT	-	-	-	-	1	1	EXISTING OBJECT MARKER
20+23	RT	-	-	-	-	1	1	EXISTING OBJECT MARKER
20+27	LT	W5-52R	12"x36"	3	1	-	-	OBJECT MARKER
20+27	RT	W5-52L	12"x36"	3	1	-	-	OBJECT MARKER
21+34	LT	-	-	-	-	1	1	EXISTING ONE LANE BRIDGE SIGN
TOTALS:				12	4	6	6	

- 633.1100 DELINEATORS TEMPORARY
- 643.0300 TRAFFIC CONTROL DRUMS
- 643.0420 TRAFFIC CONTROL BARRICADES TYPE III
- 643.0705 TRAFFIC CONTROL WARNING LIGHTS TYPE A
- 643.0715 TRAFFIC CONTROL WARNING LIGHTS TYPE C
- 643.0900 TRAFFIC CONTROL SIGNS

DESCRIPTION	DAYS	DELINEATORS TEMPORARY EACH	TRAFFIC CONTROL DRUMS EACH	TRAFFIC CONTROL DRUMS DAYS	TRAFFIC CONTROL BARRICADES EACH	TRAFFIC CONTROL BARRICADES DAYS	WARNING LIGHTS TYPE A EACH	WARNING LIGHTS TYPE A DAYS	WARNING LIGHTS TYPE C EACH	WARNING LIGHTS TYPE C DAYS	TRAFFIC CONTROL SIGNS EACH	TRAFFIC CONTROL SIGNS DAYS
PROJECT 5346-00-00	80	32	24	1920	10	800	4	320	10	800	28	2240
TOTALS		32		1920		800		320		800		2240

- 650.4500 CONSTRUCTION STAKING SUBGRADE
- 650.5000 CONSTRUCTION STAKING BASE
- 650.9920 CONSTRUCTION STAKING SLOPE STAKES
- 650.9910 CONSTRUCTION STAKING SUPPLEMENTAL CONTROL 5346-00-00

STATION	STATION	SUBGRADE LF	BASE LF	SLOPE STAKES LF	SUPPLEMENTAL CONTROL LS
7+50.03	9+85	235	235	235	-
10+15	12+09.96	195	195	195	-
18+05	19+75.75	171	171	171	-
20+24.25	21+50	126	126	126	-
TOTALS:		727	727	727	1

690.0150 SAWING ASPHALT

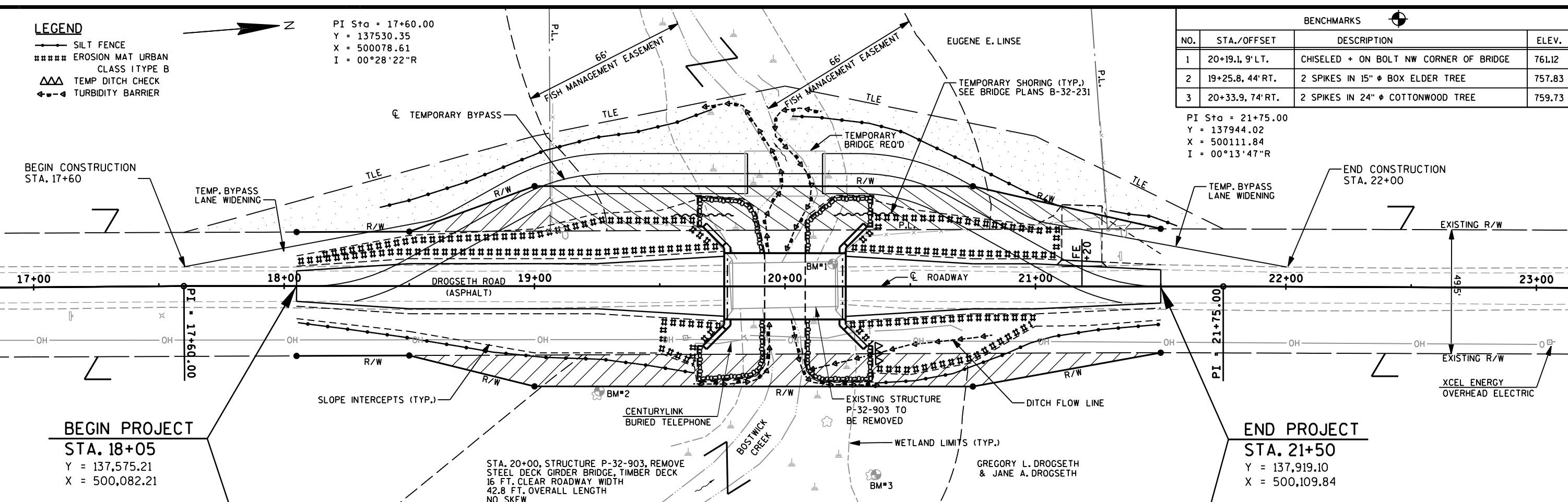
STATION	LF
18+05	12
21+50	13
TOTAL:	25

- LEGEND**
- SILT FENCE
 - ##### EROSION MAT URBAN CLASS I TYPE B
 - △△△ TEMP DITCH CHECK
 - ←←←←← TURBIDITY BARRIER

PI Sta = 17+60.00
 Y = 137530.35
 X = 500078.61
 I = 00°28'22"R

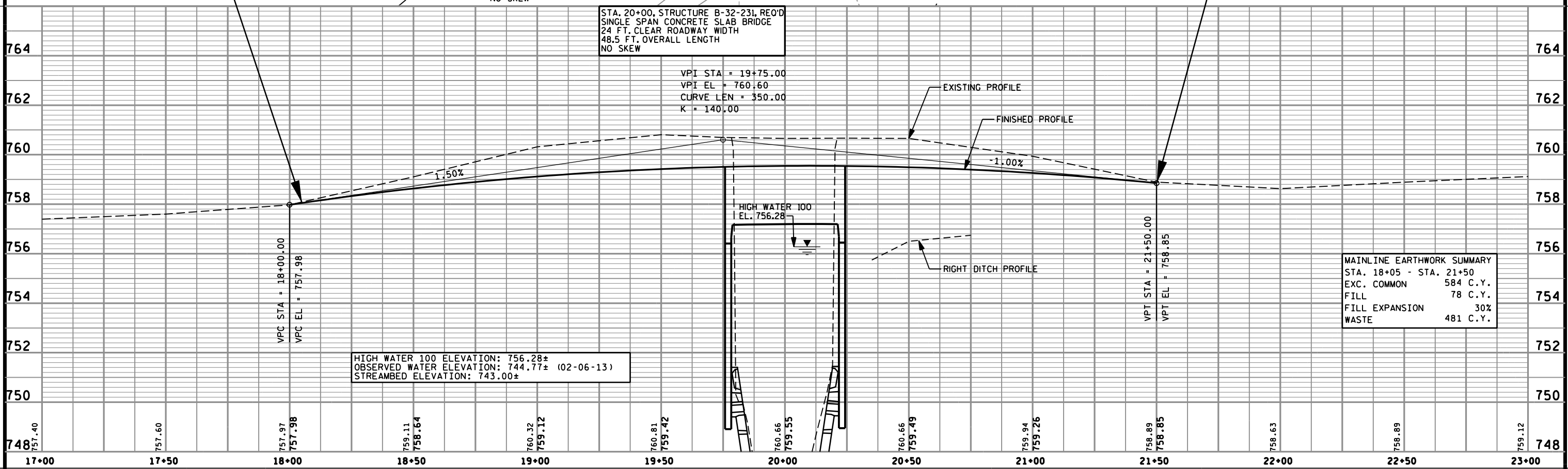
BENCHMARKS			
NO.	STA./OFFSET	DESCRIPTION	ELEV.
1	20+19.1, 9'LT.	CHISELED + ON BOLT NW CORNER OF BRIDGE	761.12
2	19+25.8, 44'RT.	2 SPIKES IN 15" φ BOX ELDER TREE	757.83
3	20+33.9, 74'RT.	2 SPIKES IN 24" φ COTTONWOOD TREE	759.73

PI Sta = 21+75.00
 Y = 137944.02
 X = 500111.84
 I = 00°13'47"R



5

5



PROJECT NO: 5346-00-00 HWY: TOWN ROAD COUNTY: LA CROSSE PLAN & PROFILE - DROGSETH ROAD SHEET E

PI Sta = 8+19.46 D = 29°00'13"
 Y = 137599.56 CD = N 09°54'33" W
 X = 500084.17 T = 19.40
 I = 29°00'13"L R = 75.00
 L = 37.97
 C = 37.56

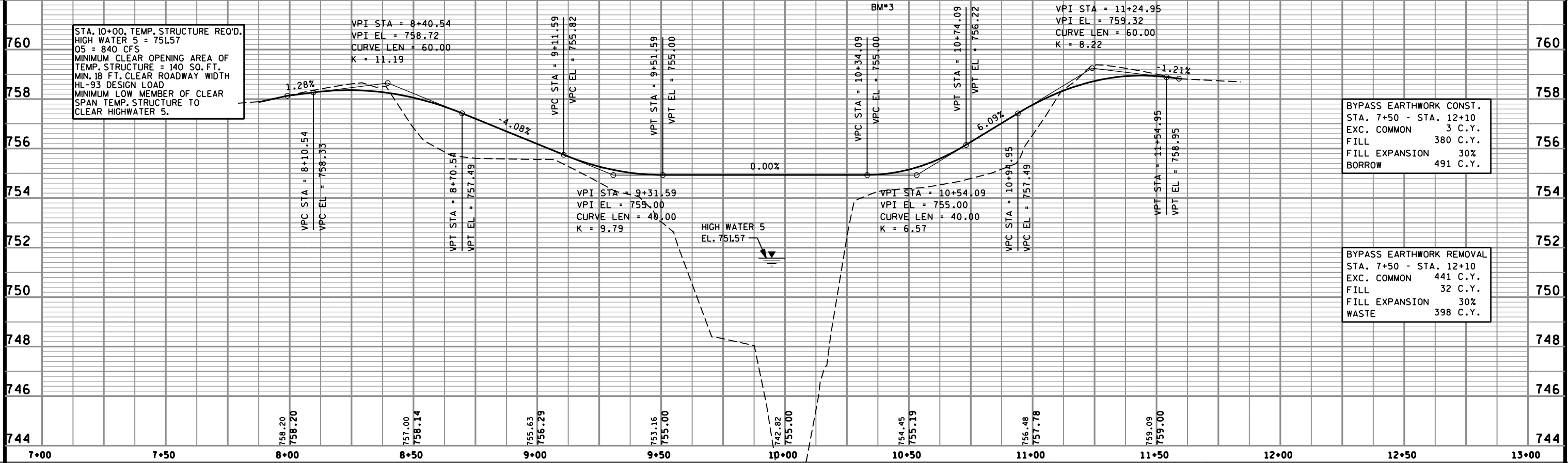
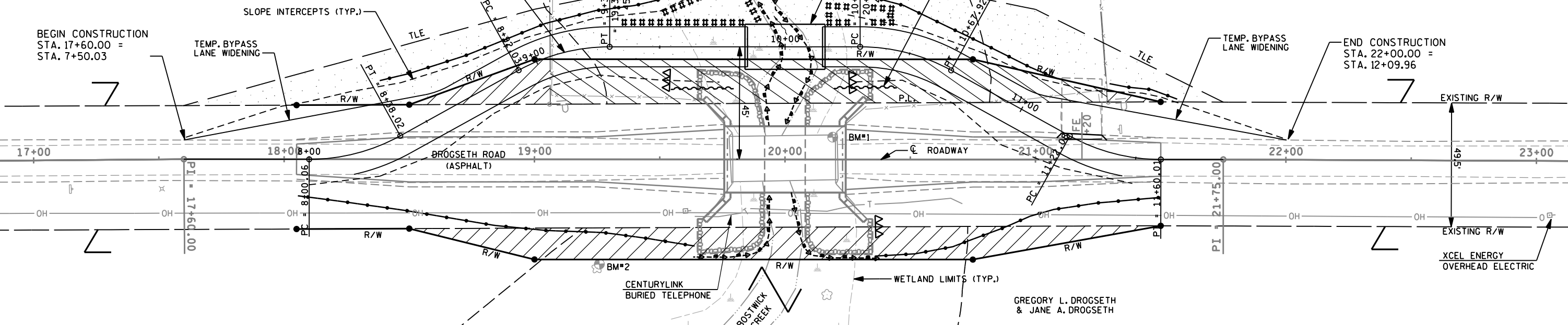
PI Sta = 9+11.43 D = 29°00'13"
 Y = 137684.07 CD = N 09°54'33" W
 X = 500045.81 T = 19.40
 I = 29°00'13"R R = 75.00
 L = 37.97
 C = 37.56

PI Sta = 10+49.38 D = 28°58'14"
 Y = 137822.40 CD = N 19°04'41" E
 X = 500056.93 T = 19.38
 I = 28°58'14"R R = 75.00
 L = 37.92
 C = 37.52

PI Sta = 11+41.46 D = 28°58'38"
 Y = 137899.83 CD = N 19°04'29" E
 X = 500108.30 T = 19.38
 I = 28°58'38"L R = 75.00
 L = 37.93
 C = 37.53

BENCHMARKS			
NO.	STA./OFFSET	DESCRIPTION	ELEV.
1	20+19.1, 9'LT.	CHISELED + ON BOLT NW CORNER OF BRIDGE	761.12
2	19+25.8, 44'RT.	2 SPIKES IN 15" φ BOX ELDER TREE	757.83
3	20+33.9, 74'RT.	2 SPIKES IN 24" φ COTTONWOOD TREE	759.73

- LEGEND**
- SILT FENCE
 - #### EROSION MAT URBAN CLASS I TYPE B
 - △△ TEMP DITCH CHECK
 - ←←←← TURBIDITY BARRIER



BENCHMARKS			
NO.	STA./OFFSET	DESCRIPTION	ELEV.
1	20+19.1, 9' LT.	CHISELED + ON BOLT NW CORNER OF BRIDGE	761.12
2	19+25.8, 44' RT.	2 SPIKES IN 15" ϕ BOX ELDER TREE	757.83
3	20+33.9, 74' RT.	2 SPIKES IN 24" ϕ COTTONWOOD TREE	759.73

DESIGN DATA

LIVE LOAD: DESIGN LOADING : HL-93
 INVENTORY RATING FACTOR : 1.08
 OPERATIONAL RATING FACTOR : 1.40
 WISCONSIN STANDARD PERMIT VEHICLE (WIS-SPV) = 250 KIPS.
 STRUCTURE IS DESIGNED FOR A FUTURE WEARING SURFACE OF 20 POUNDS PER SQUARE FOOT.

TRAFFIC DATA: A.A.D.T. (2018) = <100
 A.A.D.T. (2038) = <100
 R.D.S. = 50 MPH

ULTIMATE DESIGN STRESSES:
 CONCRETE MASONRY, SUPERSTRUCTURE $f'_c = 4,000$ P.S.I.
 ALL OTHER $f'_c = 3,500$ P.S.I.
 HIGH-STRENGTH BAR STEEL REINFORCEMENT, GRADE 60 $f_y = 60,000$ P.S.I.

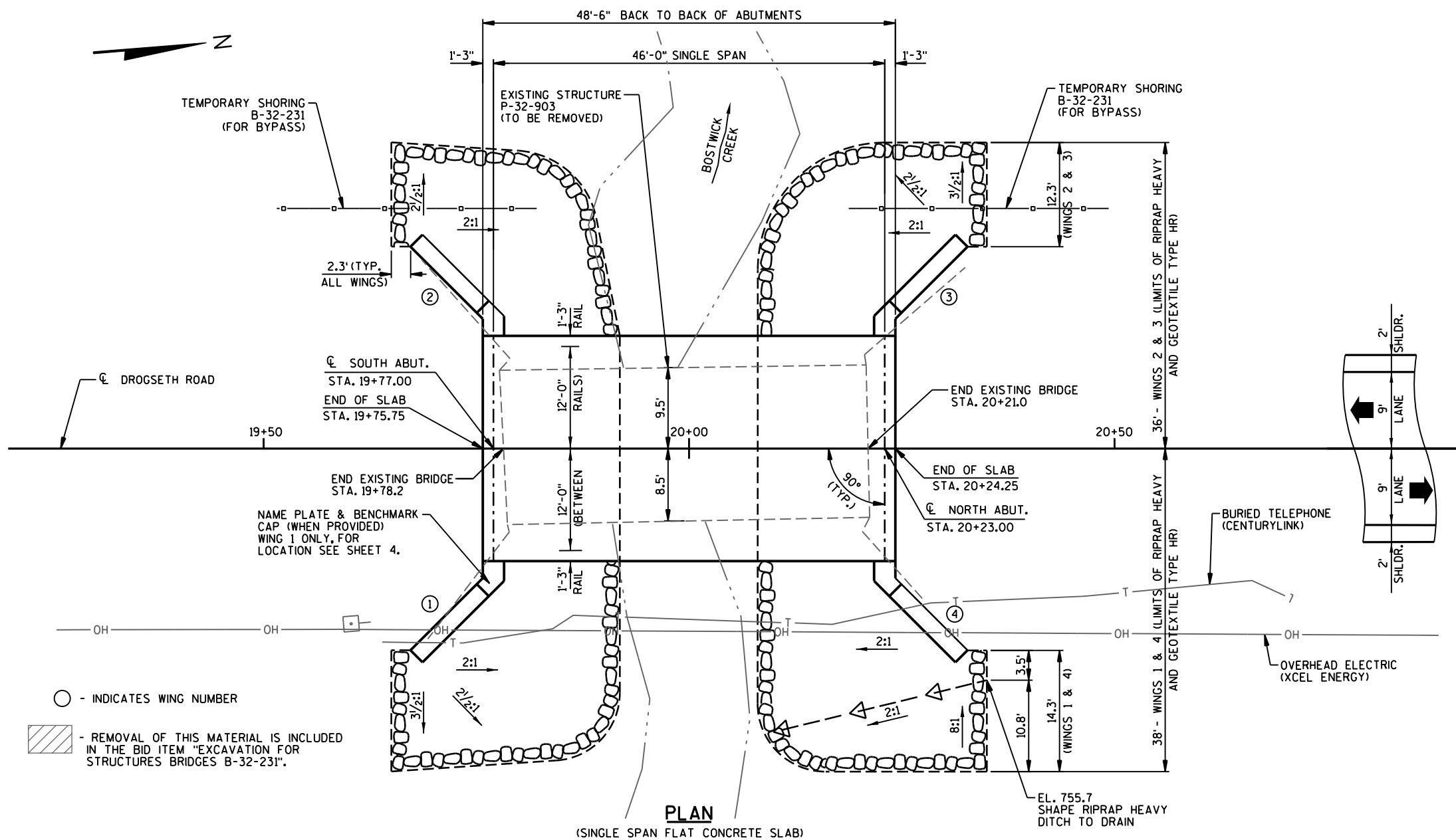
FOUNDATION DATA:
 ABUTMENTS TO BE SUPPORTED ON PILING STEEL HP 10-INCH X 42 LB. DRIVEN TO A REQUIRED DRIVING RESISTANCE OF 160 TONS * PER PILE AS DETERMINED BY THE MODIFIED GATES DYNAMIC FORMULA. ESTIMATED ABUT. BODY PILE LENGTHS ARE 50'-0". ESTIMATED WING PILE LENGTHS 45'-0".

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

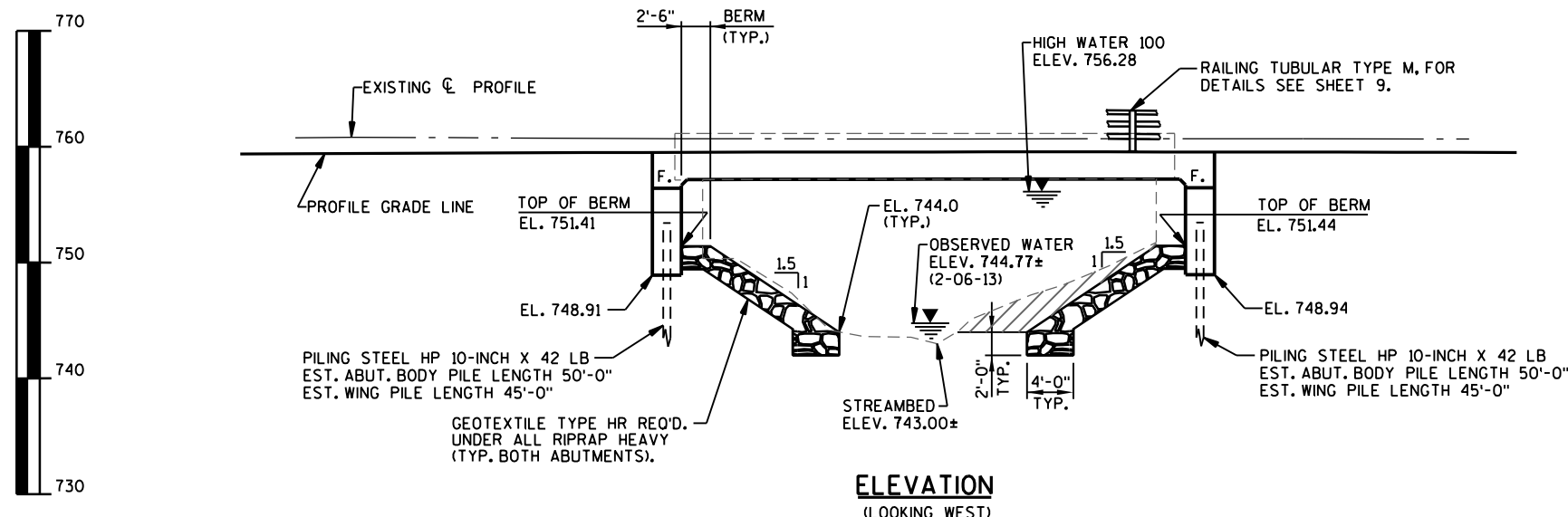
HYDRAULIC DATA:
100 YEAR FREQUENCY
 DRAINAGE AREA 12.6 SQ. MI.
 Q_{100} 3,180 C.F.S.
 VELOCITY 9.2 FT./SEC.
 WATERWAY AREA 346 SQ. FT.
 SCOUR CRITICAL CODE 8
 HIGH WATER 100 ELEVATION 756.28
 Q_2 ELEVATION (440 C.F.S.) 749.59
ROADWAY OVERFLOW DESIGN FREQUENCY
 OVERTOPPING FREQUENCY > 100 YEARS

LIST OF DRAWINGS

1. GENERAL PLAN
 2. CROSS SECTION, QUANTITIES & NOTES
 3. SUBSURFACE EXPLORATION
 4. SOUTH ABUTMENT
 5. SOUTH ABUTMENT DETAILS
 6. NORTH ABUTMENT
 7. NORTH ABUTMENT DETAILS
 8. SUPERSTRUCTURE
 9. RAILING TUBULAR TYPE M
- CONSULTANT DESIGN CONTACT:
 DANIEL WAGNER
 (608) 355-8952
- BRIDGE OFFICE CONTACT:
 WILLIAM DREHER
 (608) 266-8489



○ - INDICATES WING NUMBER
 ▨ - REMOVAL OF THIS MATERIAL IS INCLUDED IN THE BID ITEM "EXCAVATION FOR STRUCTURES BRIDGES B-32-231".



8

8

NO.	DATE	REVISION	BY

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

STATE OF WISCONSIN
 DEPARTMENT OF TRANSPORTATION

ACCEPTED _____ DATE _____
 CHIEF STRUCTURES DESIGN ENGINEER

STRUCTURE B-32-231
 DROGSETH ROAD OVER BOSTWICK CREEK

COUNTY LACROSSE TOWN/CITY/VILLAGE BARRE

DESIGN SPEC. AASHTO LRFD BRIDGE DESIGN SPEC.
 DESIGNED BY DHW DESIGN CK'D. JRS DRAWN BY RLR PLANS CK'D. DHW

GENERAL PLAN SHEET 1 OF 9

GENERAL NOTES

DRAWINGS SHALL NOT BE SCALED.

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

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

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

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

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

THIS STRUCTURE WILL REPLACE EXISTING STRUCTURE P-32-903, AN 18' WIDE BY 42.8 FT. LONG STEEL DECK GIRDER BRIDGE WITH TIMBER DECK SUPPORTED ON TIMBER BACKED TIMBER ABUTMENTS.

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

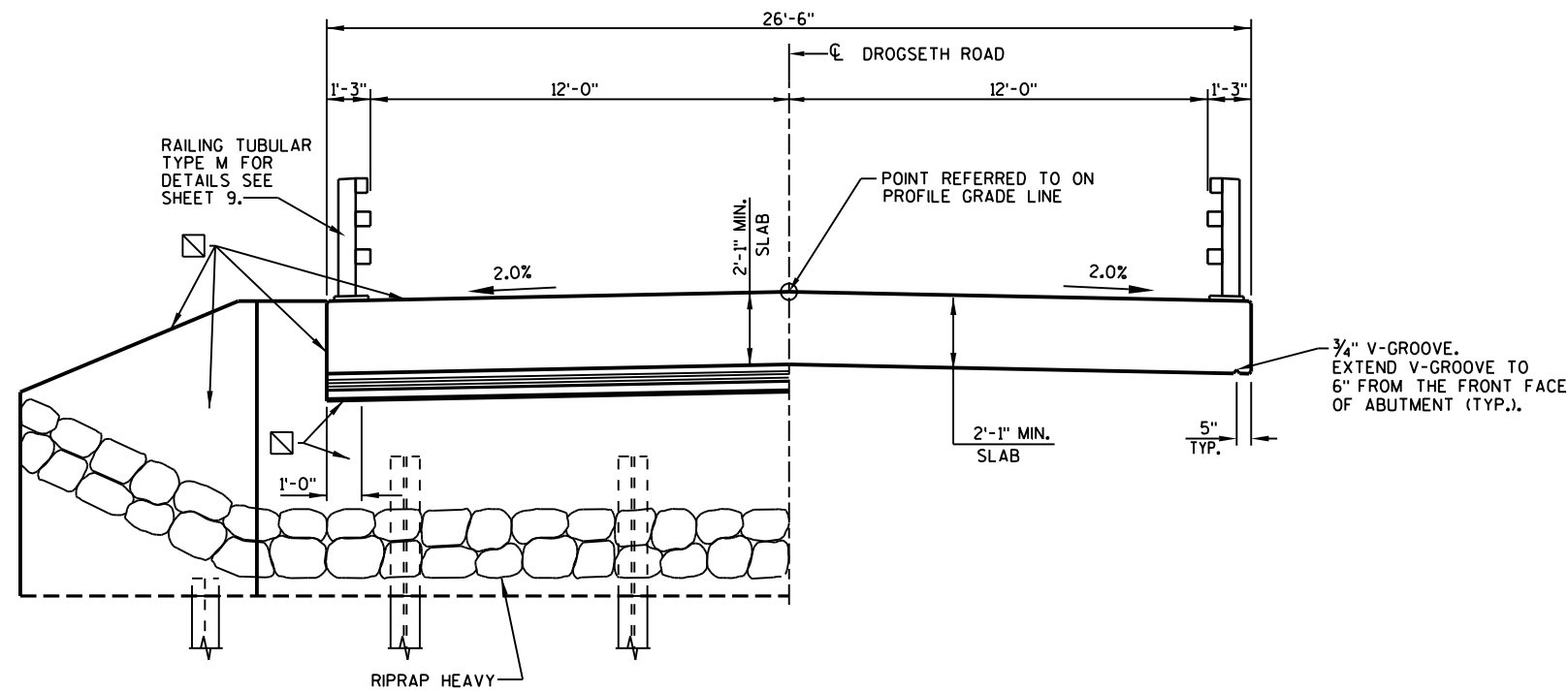
AT THE BACKFACE OF ABUTMENT ALL VOLUME WHICH CAN NOT BE PLACED BEFORE ABUTMENT CONSTRUCTION AND IS NOT OCCUPIED BY THE NEW STRUCTURE SHALL BE BACKFILLED WITH BACKFILL STRUCTURE TYPE A.

DO NOT PLACE FILL ABOVE 3'-0" FROM THE BOTTOM OF ABUTMENT UNTIL THE SUPERSTRUCTURE IS IN PLACE.

☒ - PROTECTIVE SURFACE TREATMENT SHALL BE APPLIED TO THE TOP AND EDGES OF SLAB, TO THE OUTSIDE 1'-0" OF THE UNDERSIDE OF SLAB, TO THE TOPS OF WINGS, AND TO THE EXPOSED FRONT FACES OF WINGS AND ABUTMENTS TO 1'-0" IN FROM THE EDGE OF SLAB.

ELEVATIONS SHOWN ON THIS PLAN ARE REFERENCED TO USGS NAVD 88 (96 ADJUSTED). BENCHMARK REFERENCES AT THE PROJECT SITE WERE SET BY THE CONSULTANT USING GPS TECHNOLOGY.

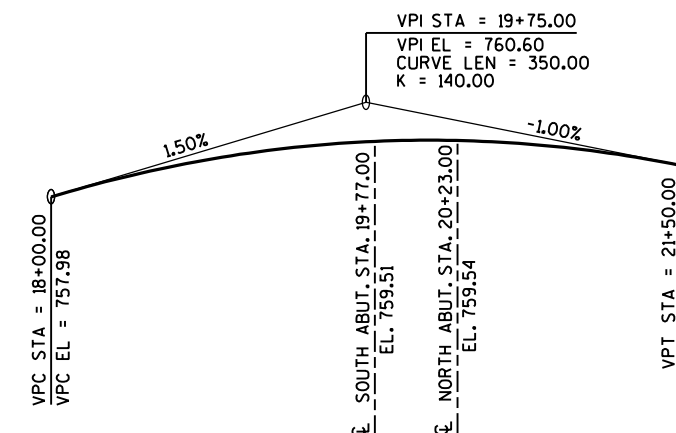
FOR DETAILS OF TEMPORARY BYPASS AND TEMPORARY BRIDGE, SEE ROAD PLANS.



AT ABUTMENTS **IN SPAN**

CROSS SECTION THRU BRIDGE

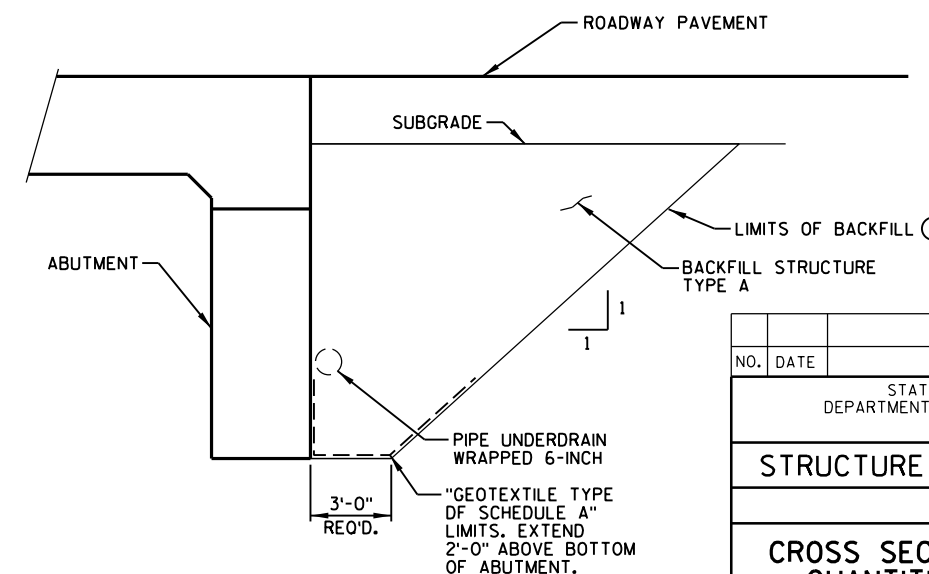
(LOOKING NORTH)



PROFILE GRADE LINE - DROGSETH ROAD

TOTAL ESTIMATED QUANTITIES

ITEM NUMBER	BID ITEM	UNIT	SOUTH ABUT.	NORTH ABUT.	SUPER	TOTAL
203.0600.S.01	REMOVING OLD STRUCTURE OVER WATERWAY WITH MINIMAL DEBRIS STATION 20+00 STRUCTURE B-32-231	LS	-	-	-	1
206.1000.01	EXCAVATION FOR STRUCTURES BRIDGES B-32-231	LS	-	-	-	1
210.1500	BACKFILL STRUCTURE TYPE A	TON	250	250	-	500
502.0100	CONCRETE MASONRY BRIDGES	CY	40	40	103	183
502.3200	PROTECTIVE SURFACE TREATMENT	SY	26	26	173	225
505.0400	BAR STEEL REINFORCEMENT HS STRUCTURES	LB	2270	2270	-	4540
505.0600	BAR STEEL REINFORCEMENT HS COATED STRUCTURES	LB	1920	1920	17350	21190
511.1200	TEMPORARY SHORING B-32-231	SF	210	210	-	420
513.4061.01	RAILING TUBULAR TYPE M B-32-231	LF	-	-	102	102
516.0500	RUBBERIZED MEMBRANE WATERPROOFING	SY	6	6	-	12
550.1100	PILING STEEL HP 10-INCH X 42 LB	LF	290	290	-	580
606.0300	RIPRAP HEAVY	CY	120	125	-	245
612.0406	PIPE UNDERDRAIN WRAPPED 6-INCH	LF	85	85	-	170
645.0111	GEOTEXTILE TYPE DF SCHEDULE A	SY	110	110	-	220
645.0120	GEOTEXTILE TYPE HR	SY	230	240	-	470
NON-BID ITEMS						
	PREFORMED FILLER	SIZE	-	-	-	1/2" & 3/4"



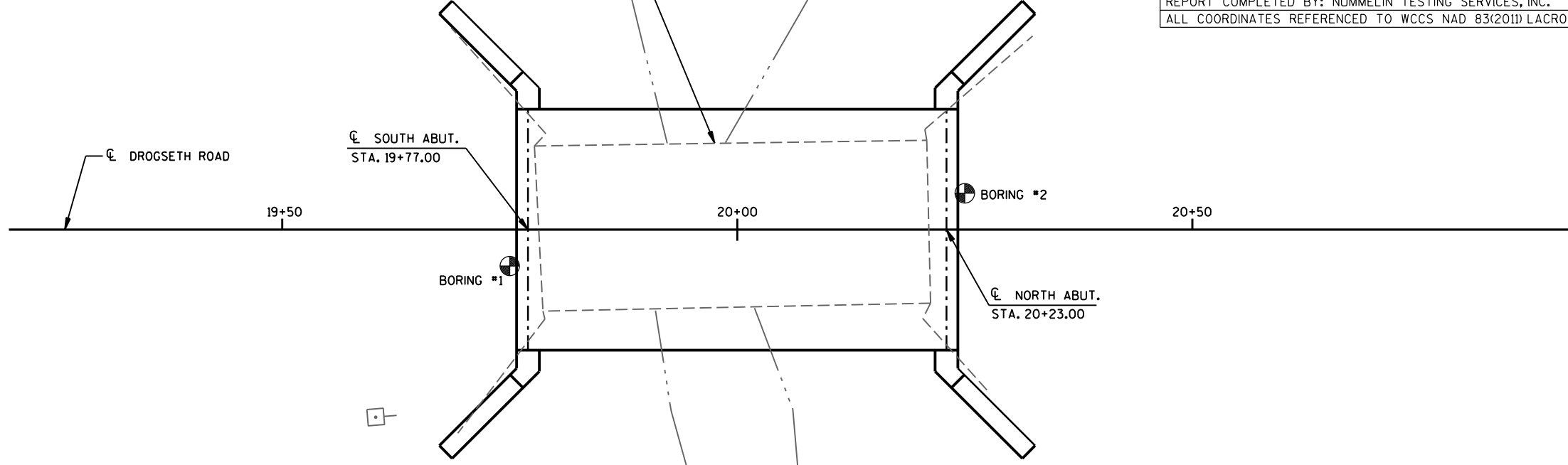
STRUCTURE BACKFILL DETAIL

NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE B-32-231			
DRAWN BY RLR		PLANS CK'D. DHW	
CROSS SECTION, QUANTITIES & NOTES			SHEET 2 OF 9



BOSTWICK CREEK

EXISTING STRUCTURE P-32-903 (TO BE REMOVED)



BORING #	DATE COMPLETED	NORTHING (Y)	EASTING (X)
1	1-27-2016	137744.3	500099.8
2	1-27-2016	137794.8	500095.8

BORINGS COMPLETED BY: NUMMELIN TESTING SERVICES, INC.
 REPORT COMPLETED BY: NUMMELIN TESTING SERVICES, INC.
 ALL COORDINATES REFERENCED TO WCCS NAD 83(2011) LACROSSE COUNTY

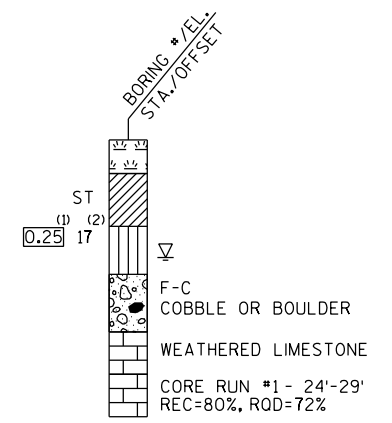
STATE PROJECT NUMBER

5346-00-00

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

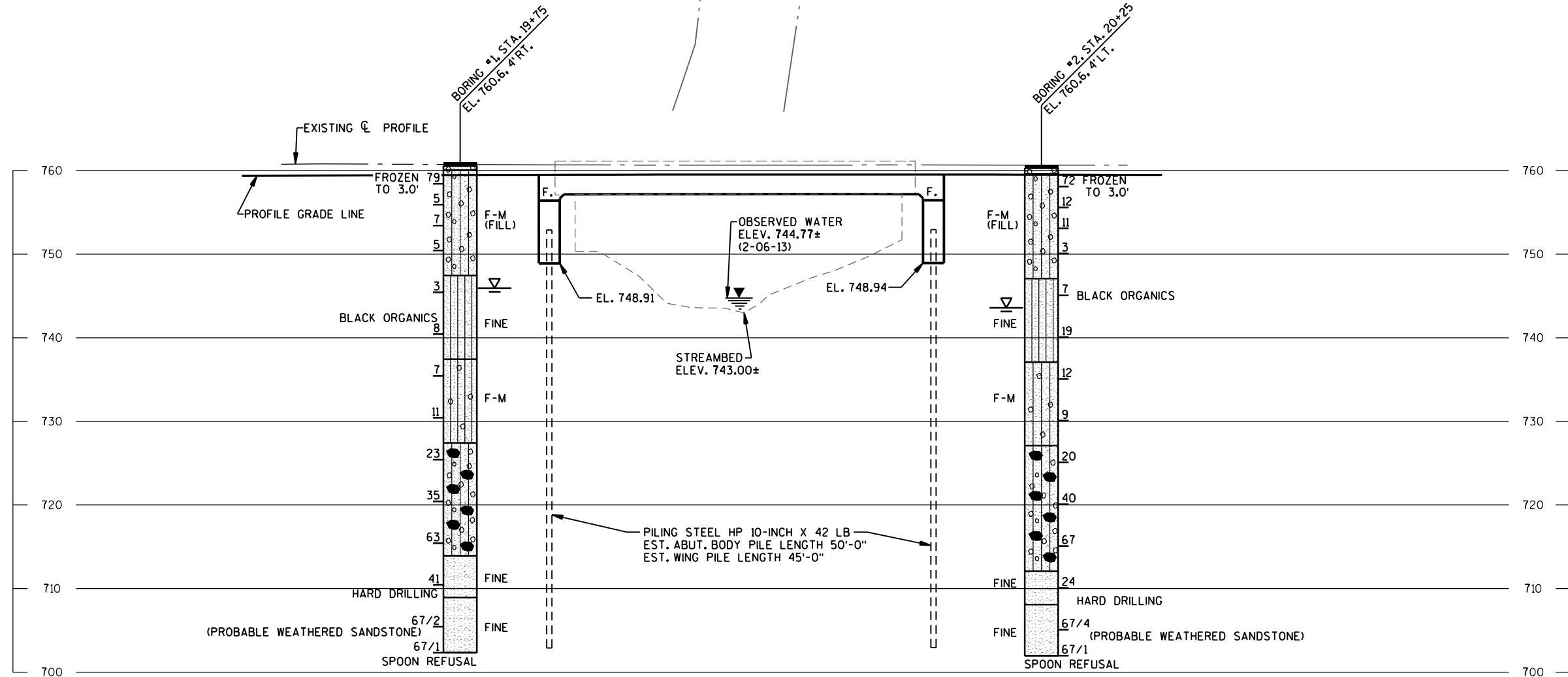
- AT TIME OF DRILLING
- END OF DRILLING
- AFTER DRILLING

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.

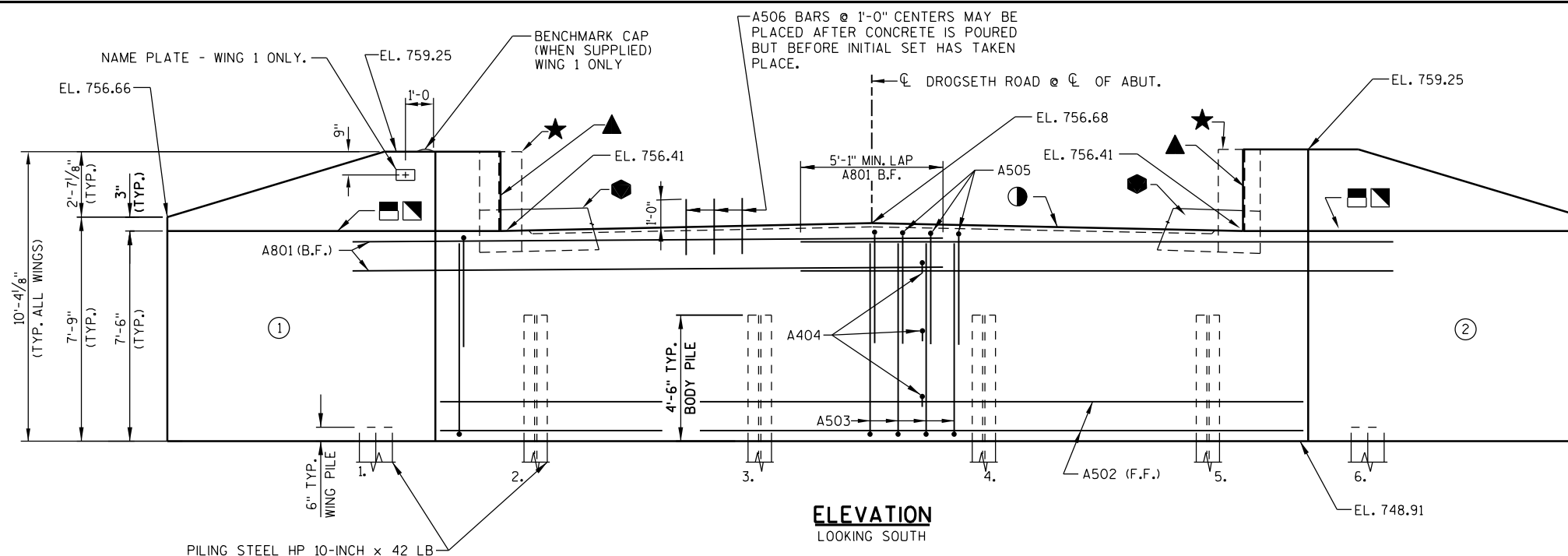


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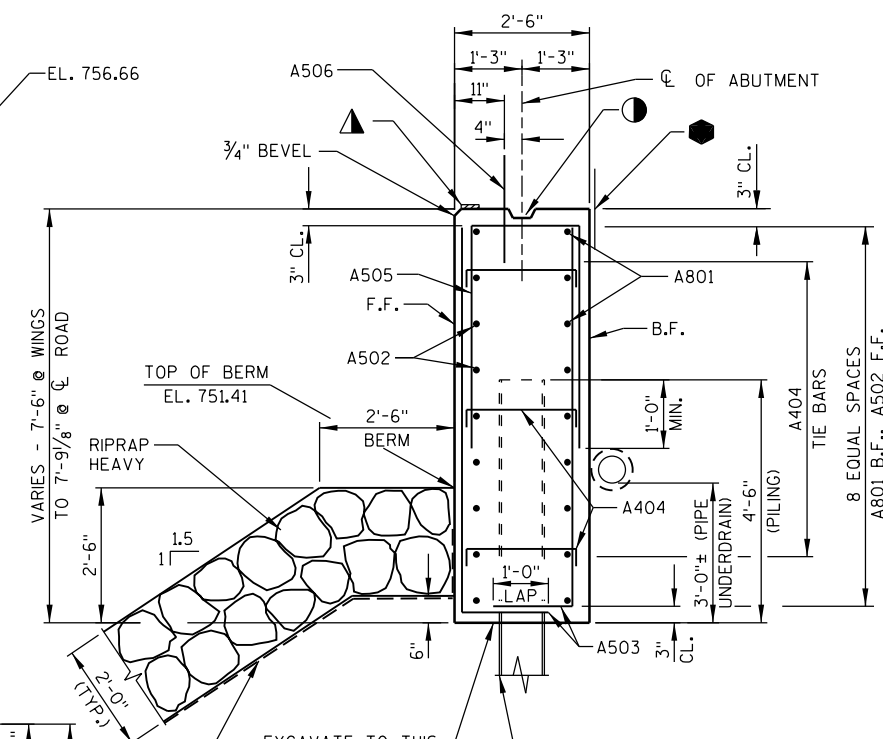
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NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE		B-32-231	
SUBSURFACE EXPLORATION		SHEET 3 OF 9	

FOR WING DETAILS SEE SHEET 5.



ELEVATION
LOOKING SOUTH



EXCAVATE TO THIS LINE BEFORE DRIVING PILING
GEOTEXTILE TYPE HR (TYP.)

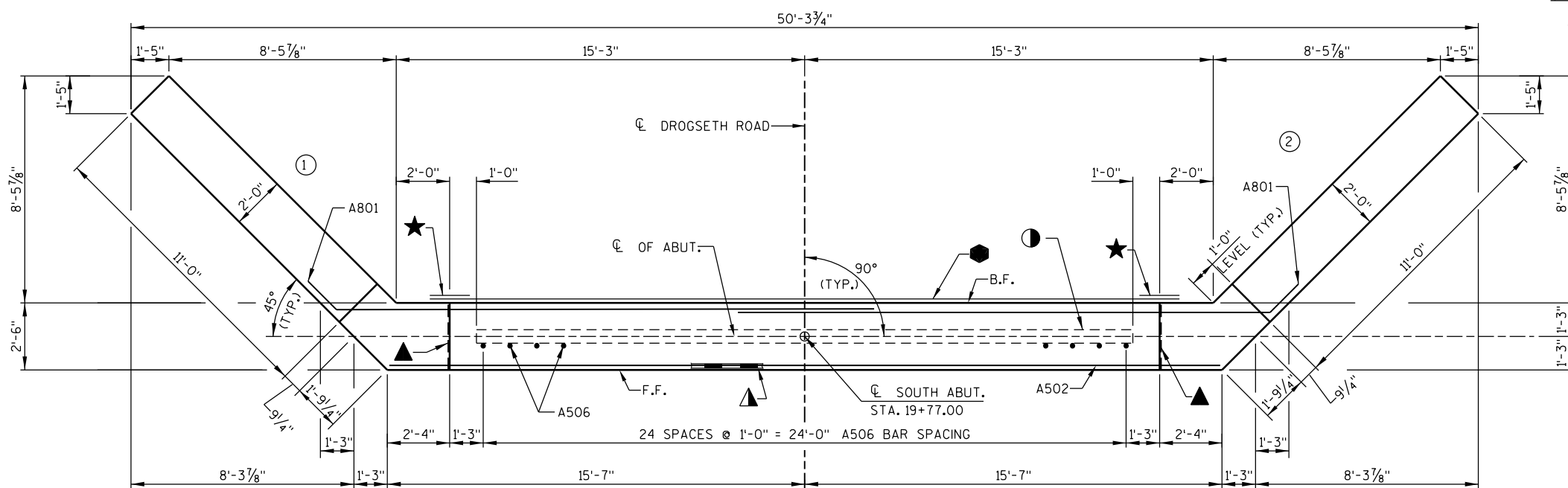
ABUTMENT TO BE SUPPORTED ON PILING STEEL HP 10-INCH X 42 LB. DRIVEN TO A REQUIRED DRIVING RESISTANCE OF 160 TONS PER PILE AS DETERMINED BY THE MODIFIED GATES DYNAMIC FORMULA. ESTIMATED ABUT. BODY PILE LENGTHS ARE 50'-0". ESTIMATED WING PILE LENGTHS ARE 45'-0". SEE SHEET 7 FOR PILE SPLICE DETAILS.

TYPICAL SECTION THRU ABUTMENT

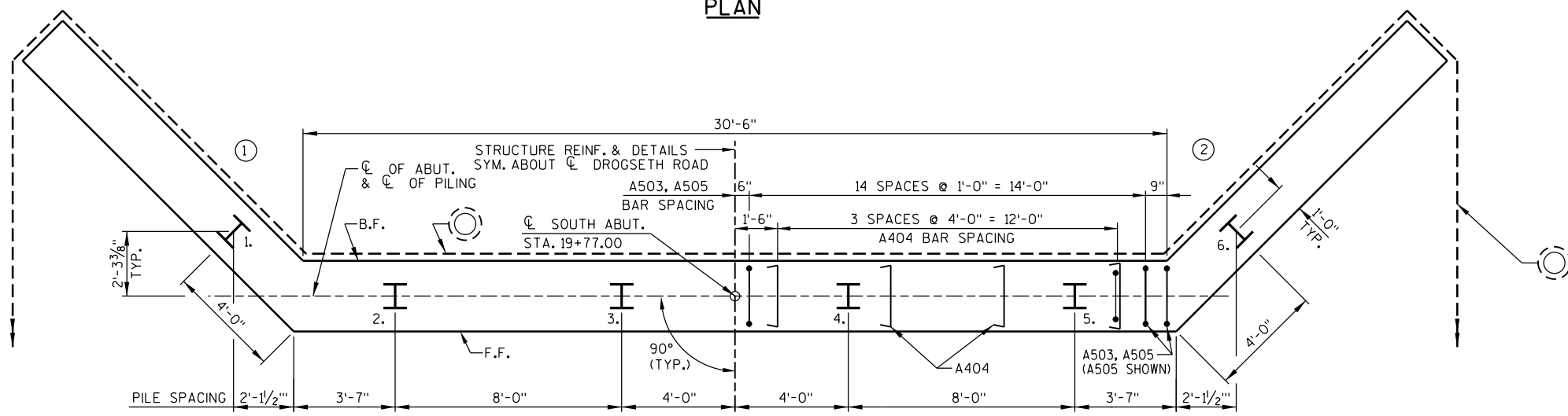
LEGEND

- INDICATES WING NUMBER
- KEYED CONSTRUCTION JOINT FORMED BY BEVELED 2x6.
- ▲ 1/2" FILLER EXTEND AS SHOWN. SEAL ALL EXPOSED HORIZ. & VERT. SURFACES OF FILLER WITH NON-STAINING GRAY, NON-BITUMINOUS JOINT SEALER. (1" DEEP & HOLD 1/8" BELOW SURFACE OF CONCRETE).
- ▲ 4"x 3/4" FILLER, EXTEND FULL LENGTH OF ABUTMENT BETWEEN EDGES OF SLAB.
- ★ VERTICAL 18" WIDE RUBBERIZED MEMBRANE WATERPROOFING. EXTEND FROM 9" BELOW BRIDGE SEAT TO TOP OF WINGS.
- HORIZONTAL 18" WIDE RUBBERIZED MEMBRANE WATERPROOFING. EXTEND BETWEEN WINGS.
- OPTIONAL KEYED CONST. JOINT ON WING FORMED BY BEVELED 2 X 6. IF JOINT IS USED, PLACE ● ON B.F. OF WING. COST OF ● INCLUDED IN BID ITEM "CONCRETE MASONRY BRIDGES".
- ▣ 3/4" "V" GROOVE ON FRONT FACE OF WING WALL, REQUIRED ONLY WHERE CONSTRUCTION JOINT IS USED.
- PIPE UNDERDRAIN WRAPPED 6-INCH. EXTEND THRU GEOTEXTILE TYPE HR AT FACE OF RIPRAP HEAVY. SLOPE 0.5% MIN. TO SUITABLE DRAINAGE. PROVIDE RODENT PROTECTION AT ENDS OF PIPE. FOR RODENT SHIELD DETAILS, SEE SHEET 5.

F.F.— FRONT FACE B.F.— BACK FACE CL.— CLEAR



PLAN



PILE PLAN

NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE		B-32-231	
DRAWN BY RLR		PLANS CK'D. DHW	
SOUTH ABUTMENT			SHEET 4 OF 9

UNCOATED 2270 LBS.
COATED 1920 LBS.

BILL OF BARS (SOUTH ABUT.)

MARK	NUMBER COATED	NUMBER UNCOATED	LENGTH	BENT	BAR SERIES	LOCATION
A801	-	18	21'-6"	X		ABUTMENT BODY - B.F. - HORIZ.
A502	-	9	31'-0"			ABUTMENT BODY - F.F. - HORIZ.
A503	-	64	8'-6"	X		ABUTMENT BODY - F.F. & B.F. - VERT.
A404	-	24	2'-9"	X		ABUTMENT BODY - TIES - HORIZ.
A505	-	32	9'-11"	X		ABUTMENT BODY - TOP - VERT.
A506	25	-	2'-0"			ABUTMENT BODY - TOP - DOWEL - VERT.
A807	18	-	16'-2"	X		WINGS - B.F. - HORIZ.
A408	8	-	8'-0"	X	⊠	WINGS - B.F. - HORIZ.
A409	4	-	13'-6"	X		WINGS - F.F. & B.F. - TOP - HORIZ.
A410	72	-	13'-2"	X		WINGS - TOP & BOTTOM - VERT.
A411	6	-	12'-4"	X		WINGS - TOP - VERT.
A512	18	-	14'-8"	X		WINGS - F.F. - HORIZ.
A413	8	-	9'-6"	X	⊠	WINGS - F.F. - HORIZ.

DIMENSIONS IN BENDING DETAILS ARE OUT TO OUT OF BAR.

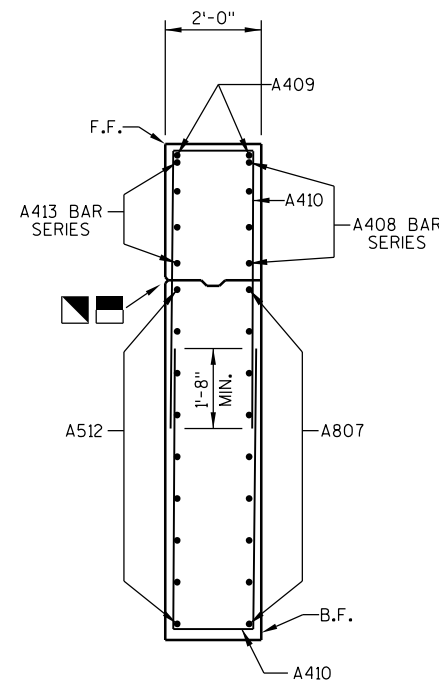
⊠ - LENGTH SHOWN FOR BAR IS AN AVERAGE AND SHOULD ONLY BE USED FOR BAR WEIGHT CALCULATIONS. SEE BAR SERIES TABLE FOR ACTUAL LENGTHS.

BENT BARS IF USED IN BAR SERIES TABLE SHALL BE BENT AFTER CUTTING.

BAR MARK	NO. REQ'D.	LENGTH
A408	2 SERIES OF 4	3'-3" TO 12'-9"
A413	2 SERIES OF 4	4'-9" TO 14'-3"

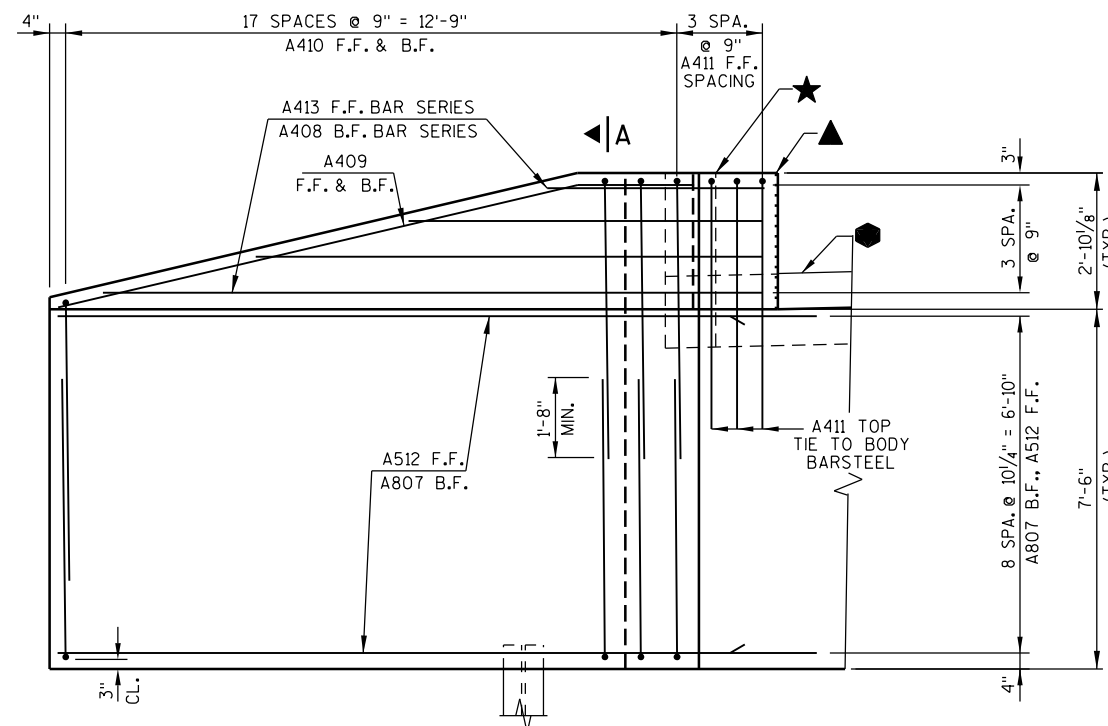
BAR SERIES TABLE

MARK	A	B	MARK	C	D
A801			A404	4 1/2"	2'-2"
A807	1'-6"	45°	A505	4'-0"	2'-2"
A512			A410	5'-10"	1'-8"
A408	1'-10"	45°	A411	5'-2"	2'-2"
A409	2'-5"	14°			
A413	2'-0"	45°			

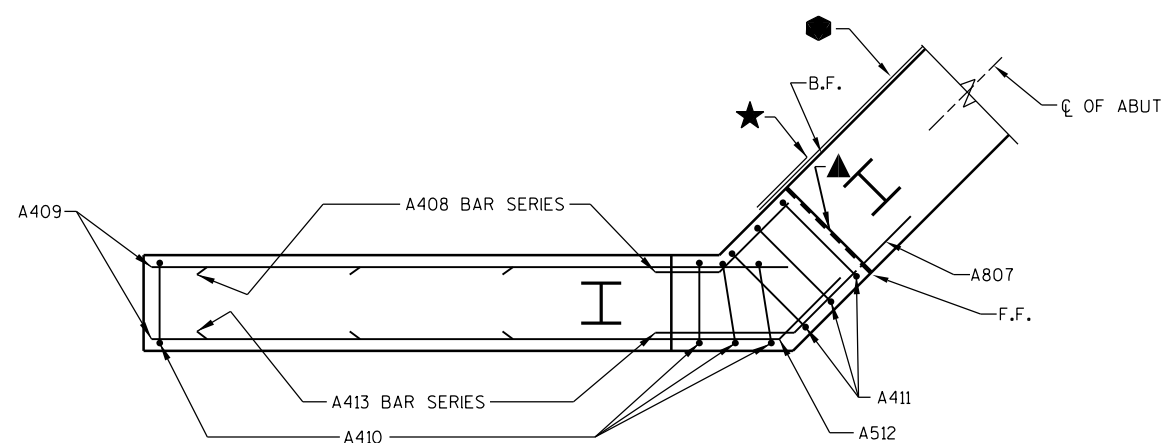


SECTION A-A THRU WING

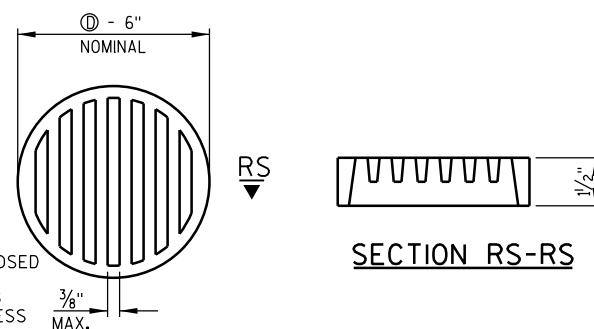
NOTE:
WING 1 SHOWN,
WING 2 SIMILAR.



ELEVATION
(LOOKING AT F.F. OF WINGS)



PLAN



RODENT SHIELD

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

RODENT SHIELD NOTES:

ORIENT SHIELD SO SLOTS ARE VERTICAL.

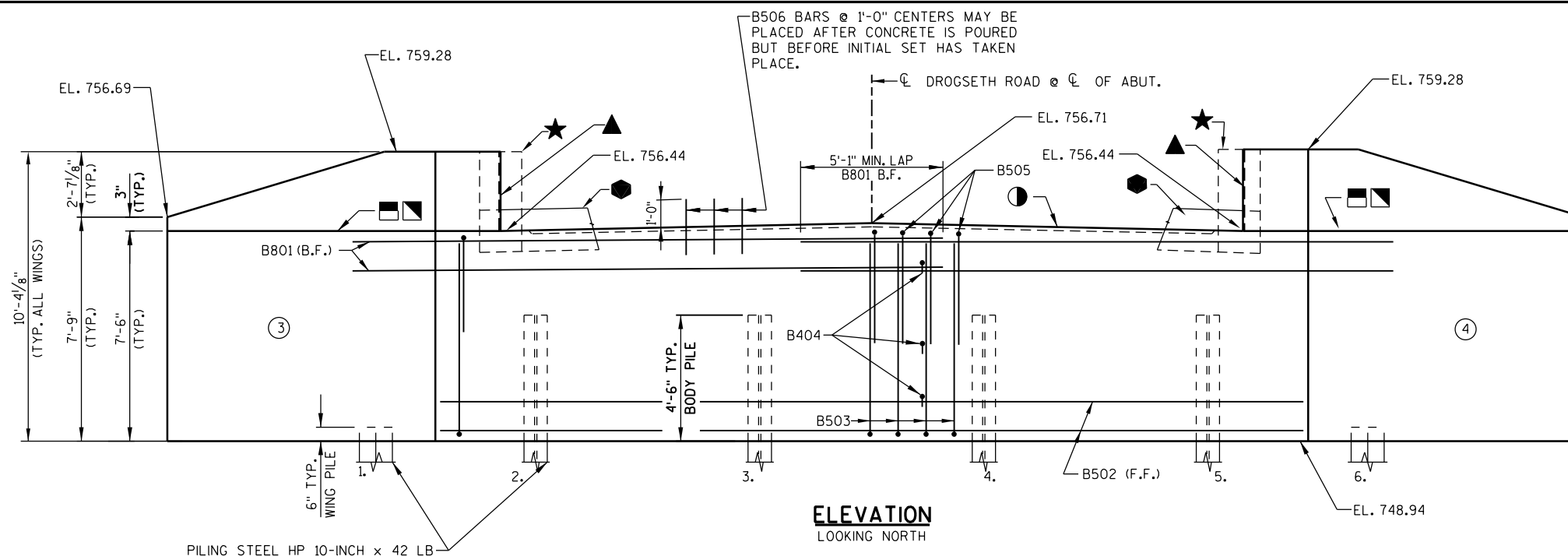
THE RODENT SHIELD SHALL BE A PVC GRATE SIMILAR TO THIS DETAIL. THE GRATE IS COMMERCIALY AVAILABLE AS A FLOOR STRAINER.

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 STAINLESS STEEL SHEET METAL SCREWS. THE RODENT SHIELD, PIPE COUPLING AND SCREWS, SHALL BE INCLUDED IN THE BID ITEM "PIPE UNDERDRAIN WRAPPED 6-INCH".

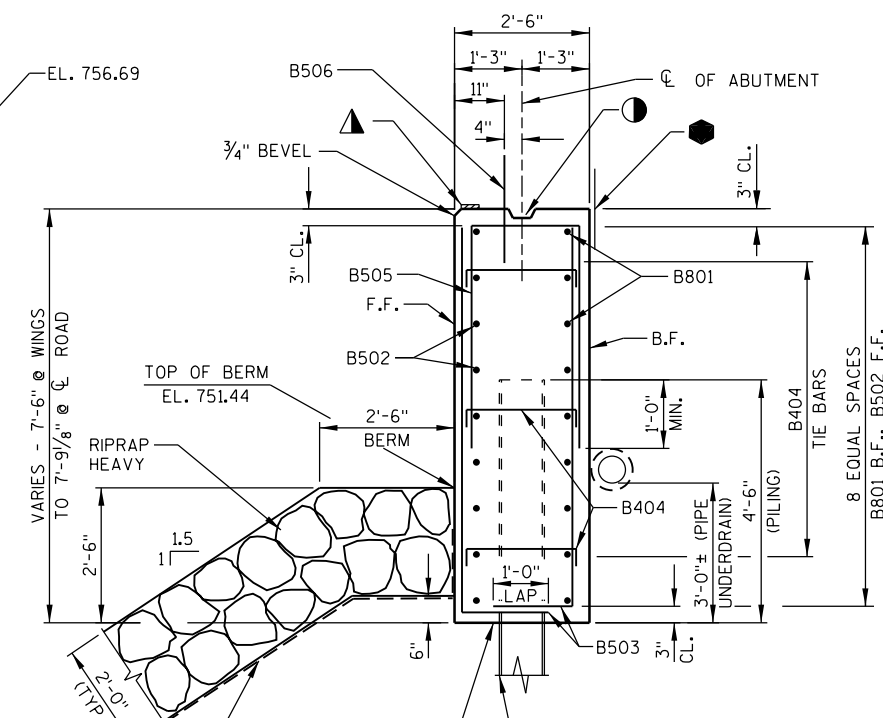
SEE LEGEND ON SHEET 4 FOR DESCRIPTION OF
▲ ★ ● ◻ ◻ ▲

NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE		B-32-231	
DRAWN BY RLR		PLANS CK'D. DHW	
SOUTH ABUTMENT DETAILS		SHEET 5 OF 9	

FOR WING DETAILS SEE SHEET 7.



ELEVATION
LOOKING NORTH

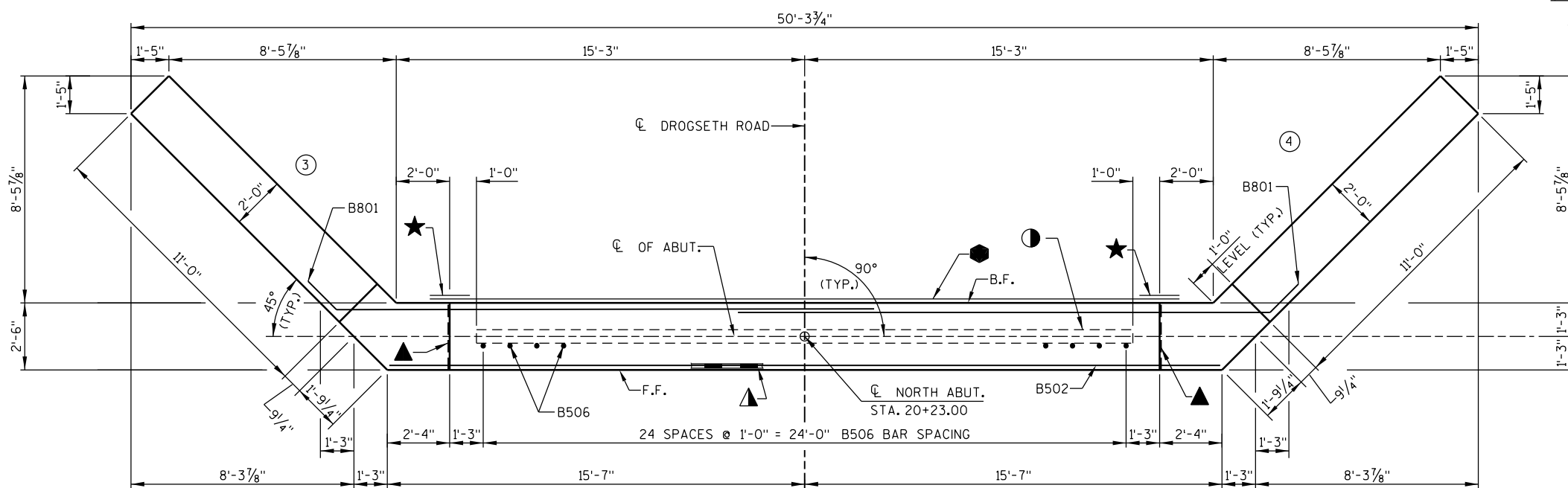


TYPICAL SECTION THRU ABUTMENT

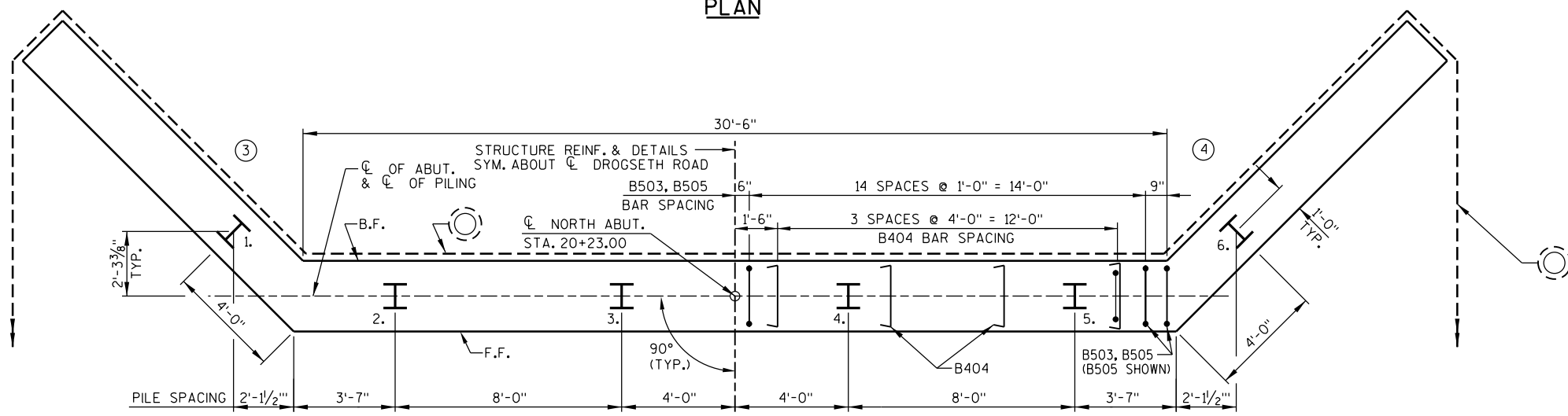
LEGEND

- INDICATES WING NUMBER
- KEYED CONSTRUCTION JOINT FORMED BY BEVELED 2x6.
- ▲ 1/2" FILLER EXTEND AS SHOWN. SEAL ALL EXPOSED HORIZ. & VERT. SURFACES OF FILLER WITH NON-STAINING GRAY, NON-BITUMINOUS JOINT SEALER. (1" DEEP & HOLD 1/8" BELOW SURFACE OF CONCRETE).
- ▲ 4"x 3/4" FILLER, EXTEND FULL LENGTH OF ABUTMENT BETWEEN EDGES OF SLAB.
- ★ VERTICAL 18" WIDE RUBBERIZED MEMBRANE WATERPROOFING. EXTEND FROM 9" BELOW BRIDGE SEAT TO TOP OF WINGS.
- HORIZONTAL 18" WIDE RUBBERIZED MEMBRANE WATERPROOFING. EXTEND BETWEEN WINGS.
- OPTIONAL KEYED CONST. JOINT ON WING FORMED BY BEVELED 2 X 6. IF JOINT IS USED, PLACE ● ON B.F. OF WING. COST OF ● INCLUDED IN BID ITEM "CONCRETE MASONRY BRIDGES".
- ▣ 3/4" "V" GROOVE ON FRONT FACE OF WING WALL, REQUIRED ONLY WHERE CONSTRUCTION JOINT IS USED.
- PIPE UNDERDRAIN WRAPPED 6-INCH. EXTEND THRU GEOTEXTILE TYPE HR AT FACE OF RIPRAP HEAVY. SLOPE 0.5% MIN. TO SUITABLE DRAINAGE. PROVIDE RODENT PROTECTION AT ENDS OF PIPE. FOR RODENT SHIELD DETAILS, SEE SHEET 5.

F.F.— FRONT FACE B.F.— BACK FACE CL.— CLEAR



PLAN



PILE PLAN

NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE		B-32-231	
DRAWN BY		PLANS CK'D.	
RLR		DHW	
NORTH ABUTMENT			SHEET 6 OF 9

UNCOATED 2270 LBS.
COATED 1920 LBS.

BILL OF BARS (NORTH ABUT.)

MARK	NUMBER COATED	NUMBER UNCOATED	LENGTH	BENT	BAR SERIES	LOCATION
B801	-	18	21'-6"	X		ABUTMENT BODY - B.F. - HORIZ.
B502	-	9	31'-0"			ABUTMENT BODY - F.F. - HORIZ.
B503	-	64	8'-6"	X		ABUTMENT BODY - F.F. & B.F. - VERT.
B404	-	24	2'-9"	X		ABUTMENT BODY - TIES - HORIZ.
B505	-	32	9'-11"	X		ABUTMENT BODY - TOP - VERT.
B506	25	-	2'-0"			ABUTMENT BODY - TOP - DOWEL - VERT.
B807	18	-	16'-2"	X		WINGS - B.F. - HORIZ.
B408	8	-	8'-0"	X	◇	WINGS - B.F. - HORIZ.
B409	4	-	13'-6"	X		WINGS - F.F. & B.F. - TOP - HORIZ.
B410	72	-	13'-2"	X		WINGS - TOP & BOTTOM - VERT.
B411	6	-	12'-4"	X		WINGS - TOP - VERT.
B512	18	-	14'-8"	X		WINGS - F.F. - HORIZ.
B413	8	-	9'-6"	X	◇	WINGS - F.F. - HORIZ.

DIMENSIONS IN BENDING DETAILS ARE OUT TO OUT OF BAR.

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

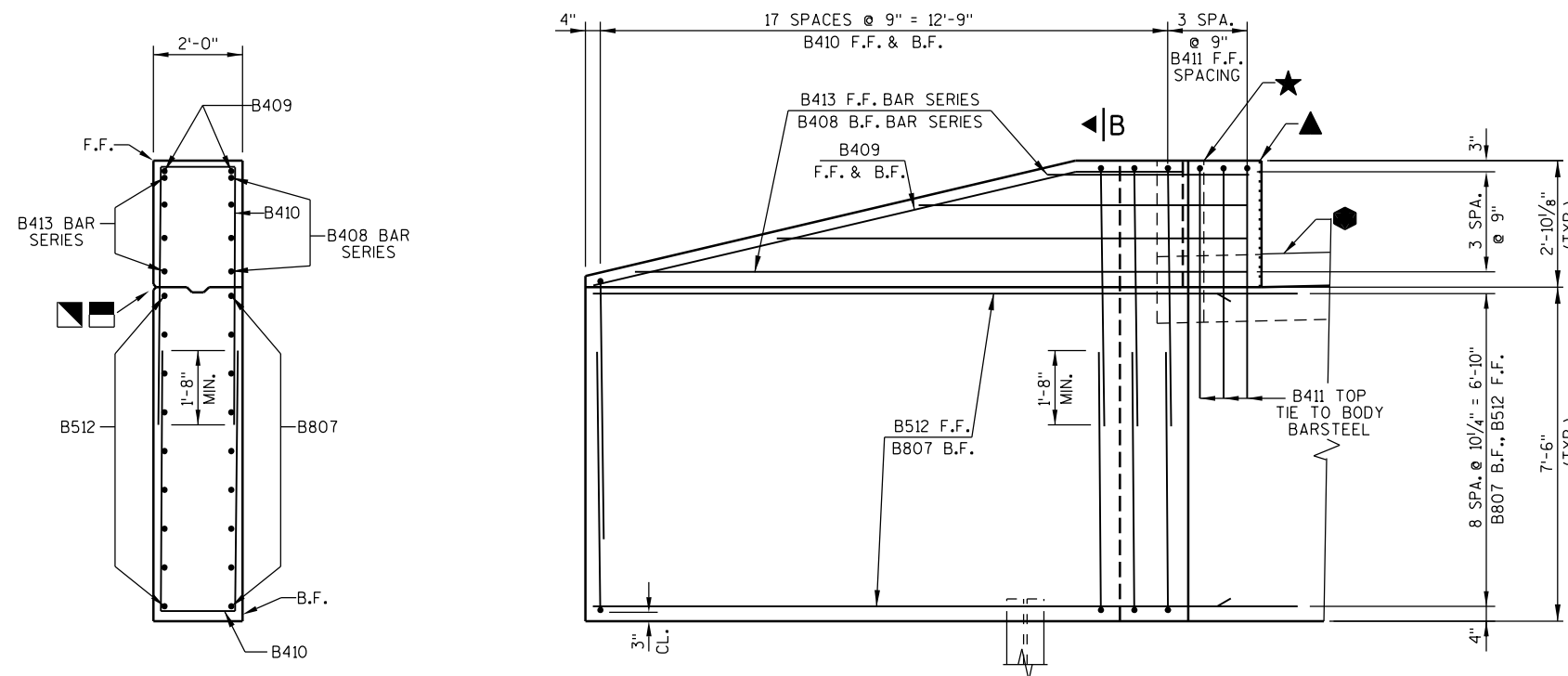
BENT BARS IF USED IN BAR SERIES TABLE SHALL BE BENT AFTER CUTTING.

BAR MARK	NO. REQ'D.	LENGTH
B408	2 SERIES OF 4	3'-3" TO 12'-9"
B413	2 SERIES OF 4	4'-9" TO 14'-3"

BAR SERIES TABLE

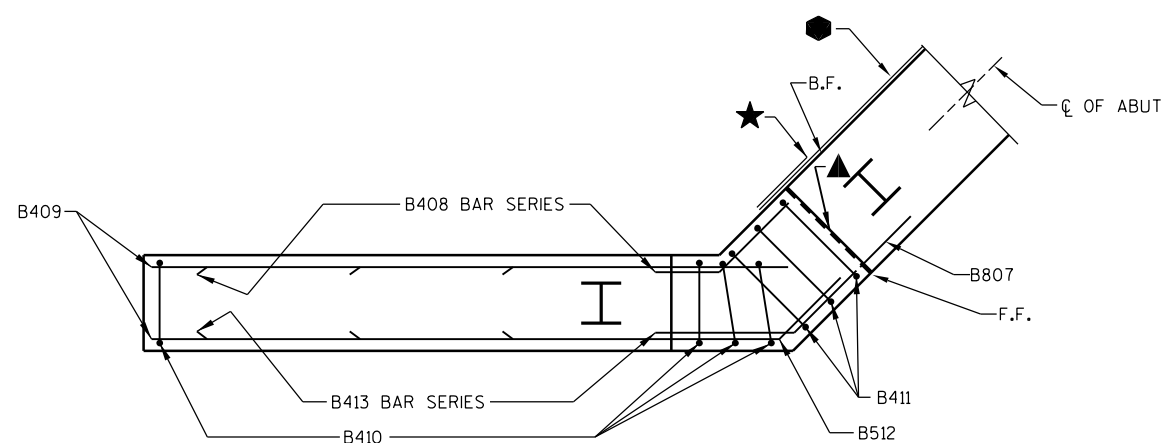
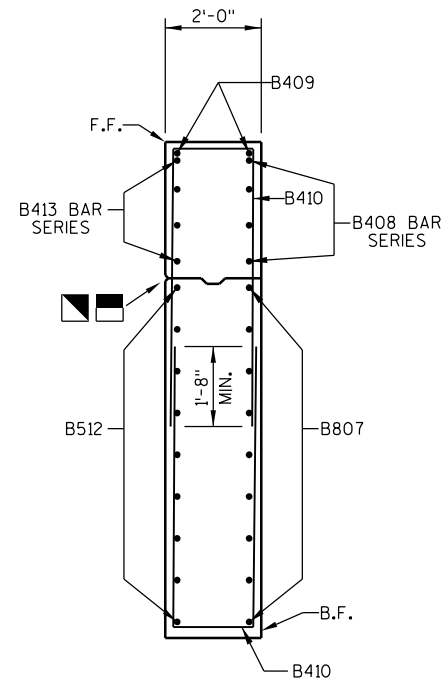
MARK	A	B
B801 B807 B512	1'-6"	45°
B408	1'-10"	45°
B409	2'-5"	14°
B413	2'-0"	45°

MARK	C	D
B404	4/2"	2'-2"
B505	4'-0"	2'-2"
B410	5'-10"	1'-8"
B411	5'-2"	2'-2"



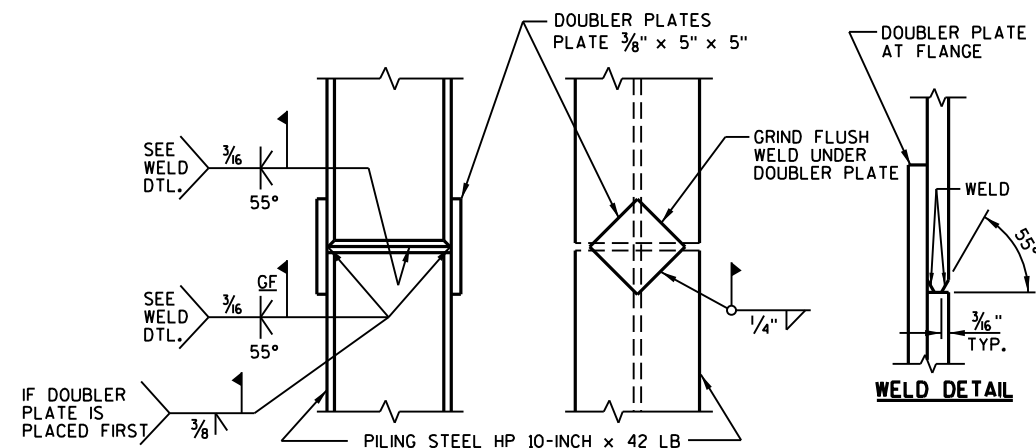
ELEVATION
(LOOKING AT F.F. OF WINGS)

SECTION B-B THRU WING



PLAN

NOTE:
WING 3 SHOWN,
WING 4 SIMILAR.



PILE SPLICE DETAILS

SEE LEGEND ON SHEET 6 FOR DESCRIPTION OF
▲ ★ ● ◻ ◻ ▲

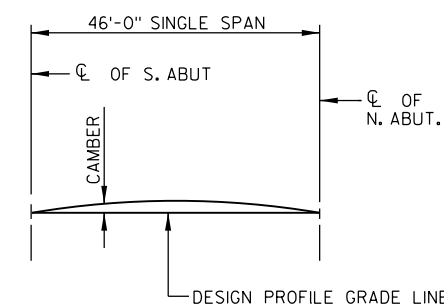
1'-7"
B503

NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE		B-32-231	
DRAWN BY RLR		PLANS CK'D. DHW	
NORTH ABUTMENT DETAILS		SHEET 7 OF 9	

BILL OF BARS (COATED) 17,350 LBS.

MARK	NO. REQ'D.	LENGTH	BENT	LOCATION
S501	54	7'-9"	X	DIAPHRAGM @ ABUTS. - LONGIT.
S1002	28	48'-2"		SLAB BOTTOM - LONGIT.
S1103	27	38'-6"		SLAB BOTTOM - LONGIT.
S504	118	26'-2"		SLAB TOP & BOTTOM - TRANS.
S405	72	25'-3"		SLAB TOP - LONGIT.
S606	32	12'-0"	X	SLAB TOP @ RAIL POST, 2 PER POST
S607	48	6'-0"		SLAB TOP @ RAIL POST, 4 PER POST
S608	16	6'-0"	X	SLAB TOP @ RAIL END POST AS NOTED

DIMENSIONS IN BENDING DETAILS ARE OUT TO OUT OF BAR.
EPOXY COAT ALL SUPERSTRUCTURE BAR STEEL REINFORCEMENT.



CAMBER DIAGRAM

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

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

- TOP OF SLAB ELEVATION AT FINAL GRADE
- SLAB THICKNESS
- + CAMBER
- + FORM SETTLEMENT/DEFLECTION DUE TO PLACEMENT OF SLAB CONCRETE (TO BE COMPUTED BY THE CONTRACTOR)
- = TOP OF SLAB FALSEWORK ELEVATION

GENERAL NOTES

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

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

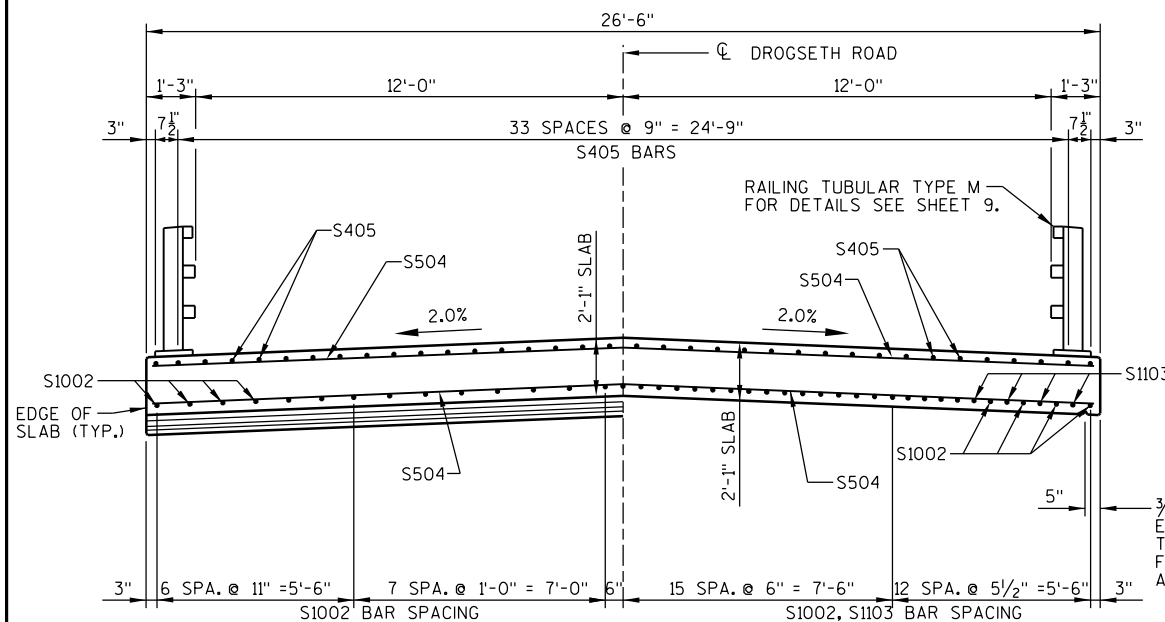
SURVEY TOP OF SLAB ELEVATIONS

LOCATION	SPAN POINT	EAST SLAB EDGE	C/L DROGSETH ROAD	WEST SLAB EDGE
SOUTH ABUT.	1.0			
	1.5			
NORTH ABUT.	2.0			

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

TOP OF SLAB ELEVATIONS AND CAMBER VALUES

LOCATION	SPAN POINT	EAST SLAB EDGE	C/L DROGSETH ROAD	WEST SLAB EDGE	CAMBER VALUE (INCHES)
SOUTH ABUT.	1.0	759.25	759.51	759.25	0.0
	1.1	759.26	759.52	759.26	0.5
	1.2	759.26	759.53	759.26	1.0
	1.3	759.27	759.54	759.27	1.3
	1.4	759.28	759.54	759.28	1.5
	1.5	759.28	759.55	759.28	1.6
	1.6	759.28	759.55	759.28	1.5
	1.7	759.28	759.55	759.28	1.3
	1.8	759.28	759.55	759.28	1.0
	1.9	759.28	759.55	759.28	0.5
NORTH ABUT.	2.0	759.28	759.54	759.28	0.0

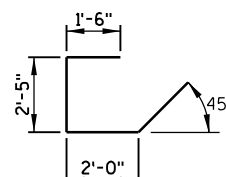


AT ABUTMENTS

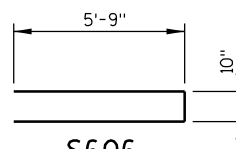
IN SPAN

CROSS SECTION THRU BRIDGE

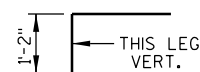
(LOOKING NORTH)



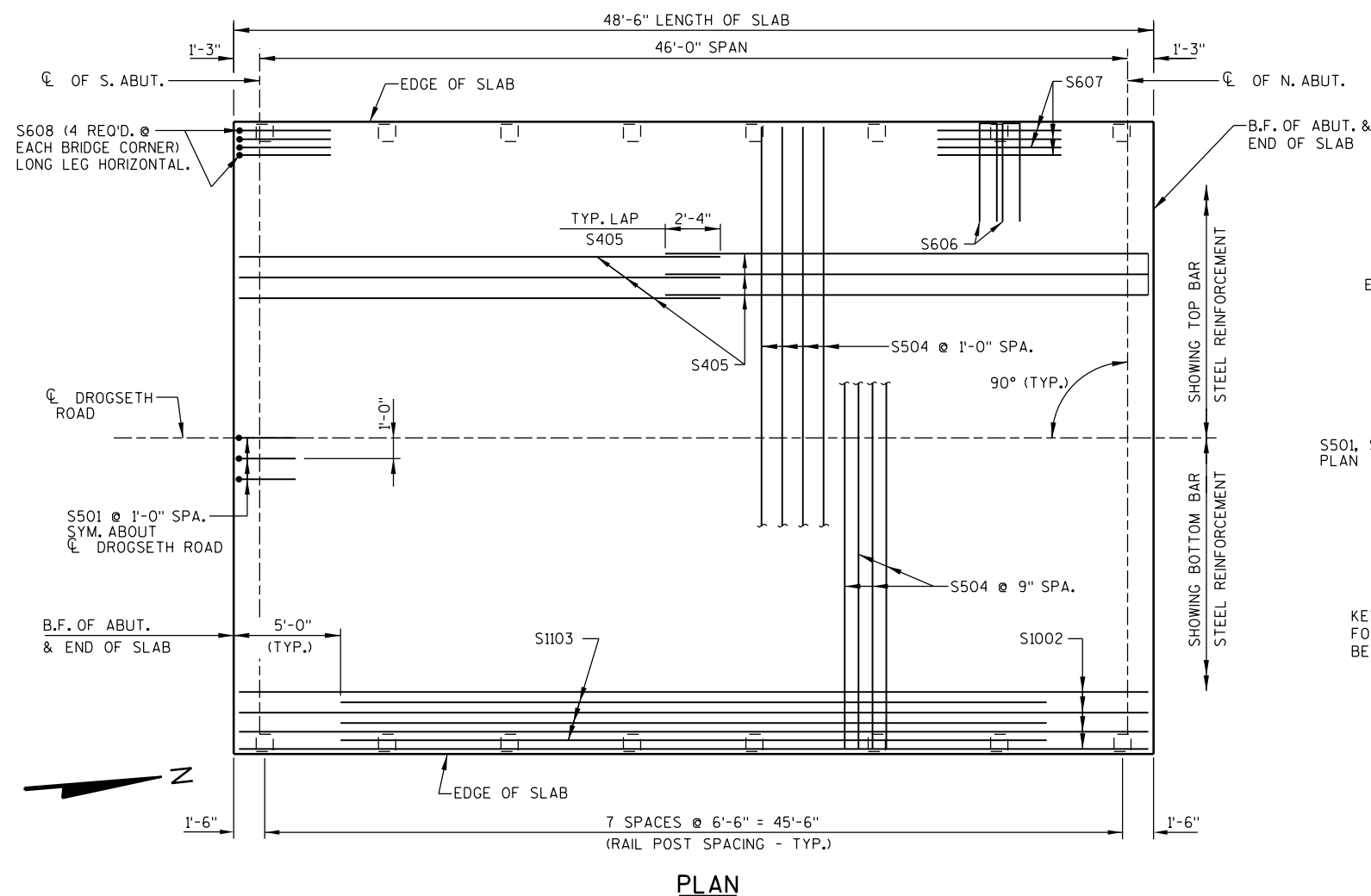
S501



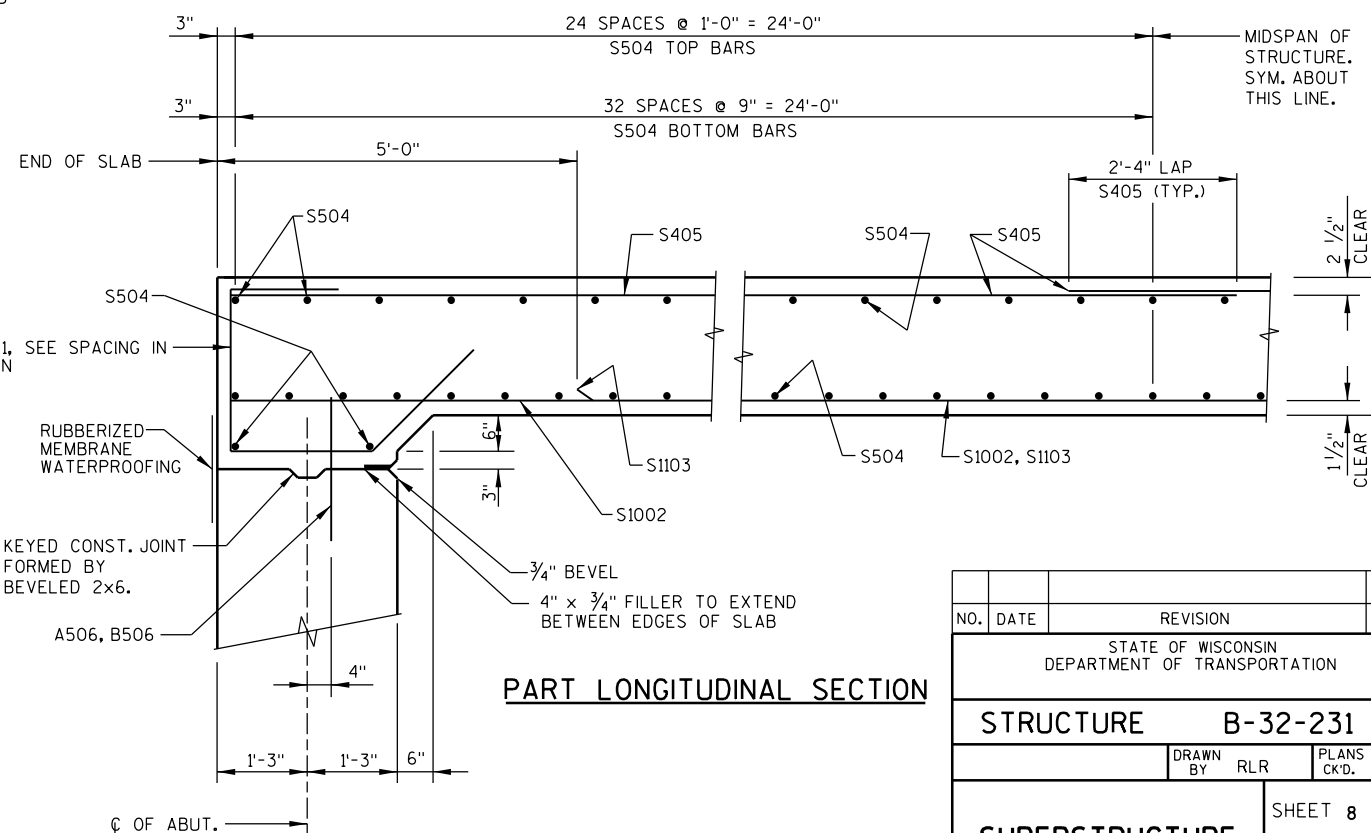
S606



S608

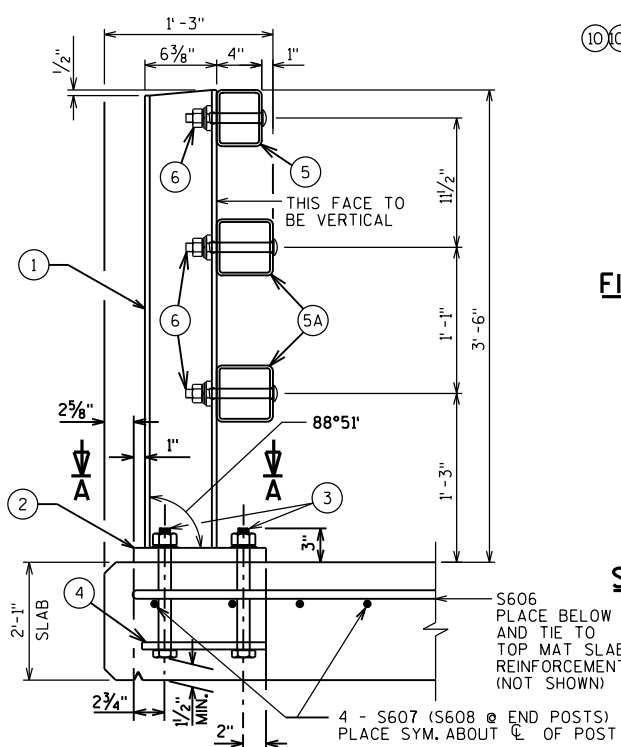


PLAN

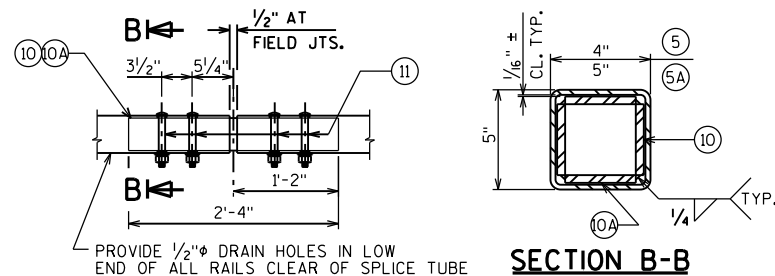


PART LONGITUDINAL SECTION

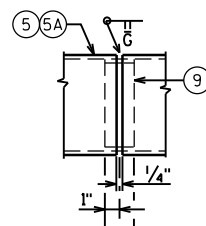
NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE		B-32-231	
DRAWN BY RLR		PLANS CK'D. DHW	
SUPERSTRUCTURE		SHEET 8 OF 9	



SECTION THRU RAILING ON SLAB

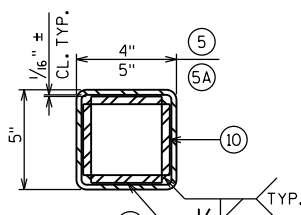


FIELD ERECTION JOINT DETAIL

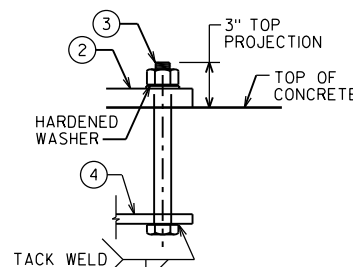


SHOP RAIL SPLICE DETAIL

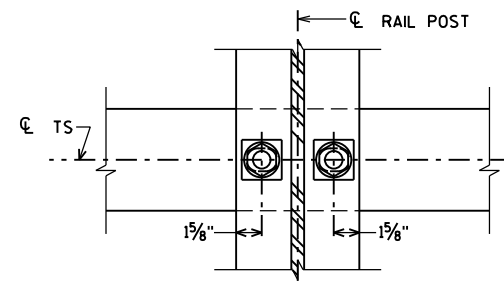
(LOCATION MUST BE SHOWN ON SHOP DRAWINGS)



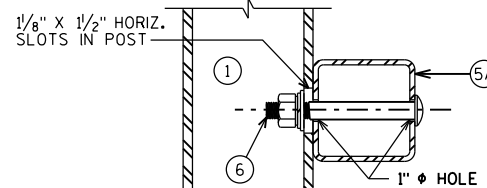
SECTION B-B



ANCHOR BOLTS



SECTION THRU POST WEB



SECTION THRU RAIL

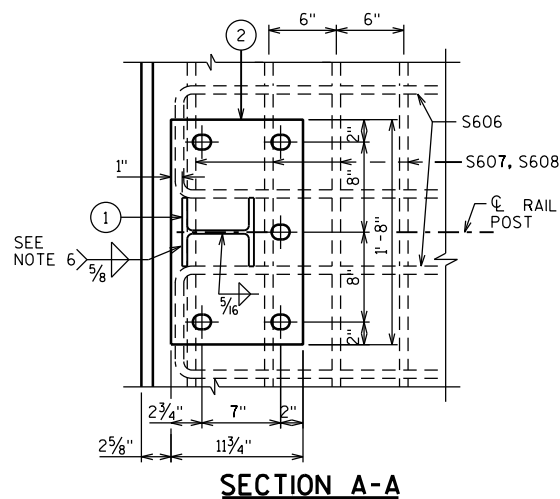
NOTE: CONNECTIONS AT LOWER RAILS SHOWN. CONNECTIONS AT TOP RAIL SIMILAR.

LEGEND

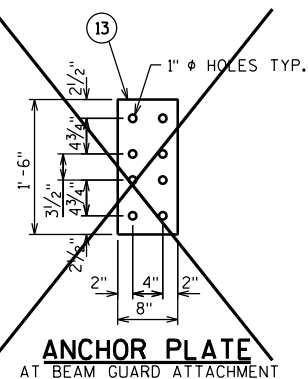
- ① W6 x 25 WITH 1/8" X 1/2" HORIZ. SLOTS ON EACH SIDE OF POST FOR BOLT NO. 6. CUT BOTTOM OF POST TO MATCH CROSS SLOPE OF ROADWAY. PLACE POST VERTICAL. PLACE POSTS NORMAL TO GRADE LINE.
- ② PLATE 1/4" x 11 3/4" x 1'-8" WITH 1 5/8" x 1 5/8" SLOTTED HOLES FOR ANCHOR BOLTS NO. 3. WELD TO NO. 1 AS SHOWN. SLOTS PARALLEL TO SHORT SIDE OF PLATE.
- ③ ASTM A449 - 1/8" DIA. ANCHOR BOLTS WITH NUT AND HARDENED WASHER (ALL GALVANIZED). 5 REQ'D. PER POST. THREAD 3" AND PLACE NORMAL TO SLICE TUBE NO. 2. CHAMFER TOP OF BOLTS BEFORE THREADING. USE 1'-3" LONG.
- ④ 5/8" x 11" x 1'-8" ANCHOR PLATE (GALVANIZED) WITH 1 5/8" 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 7/8" DIA. A325 SLOTTED ROUND HEAD BOLT WITH NUT, 3/8" x 1 5/8" x 1 5/8" WASHER, AND LOCK WASHER (2 REQ'D. AT EACH RAIL TO POST LOCATION).
- * ⑦ 1/2" THK. BACK-UP PLATE WITH 2 - 7/8" x 1 1/2" 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 7/8" DIA. A325 BOLTS WITH HEX NUTS AND WASHERS. 6 HOLES IN TUBES AND PLATE NO. 7.
- ⑨ SPLICE SLEEVE FABRICATED FROM 1/4" PLATE. PROVIDE "SLIDING FIT".
- ⑩ 3/8" x 3 5/8" x 2'-4" PLATE. 2 PER RAIL. USED IN NO. 5 & 5A.
- ⑩A 3/8" x 2 5/8" x 2'-4" PLATE USED IN NO. 5. 3/8" x 3 5/8" x 2'-4" PLATE USED IN NO. 5A. 2 PER RAIL.
- ⑪ 7/8" φ A325 ROUND HEAD BOLT WITH NUT, WASHER, AND LOCK WASHER. USE 1 5/8" x 1 1/4" LONGIT. SLOTTED HOLES AT FIELD JOINTS IN PLATE NO. 10A.
- * ⑫ 7/8" DIA. x 1/2" LONG THREADED SHOP WELDED STUDS (2 REQ'D).
- * ⑬ 3/8" x 8" x 1'-6" ANCHOR PLATE. BOLT TO RAIL AS SHOWN IN DETAIL. REQ'D. AT THRIE BEAM GUARD RAIL ATTACHMENTS ONLY. PLACE SYM. ABOUT TUBES NO. 5A.
- * ⑭ 7/8" DIA. x 2" LONG A325 HEX BOLT WITH NUT AND WASHER (5 REQUIRED).
- * ⑮ 1" φ HOLES IN TUBES NO. 5A FOR 7/8" DIA. A325 ROUND HEAD BOLT WITH NUT, WASHER, AND LOCK WASHER (4 REQ'D.). 4 HOLES IN TUBES.

GENERAL NOTES

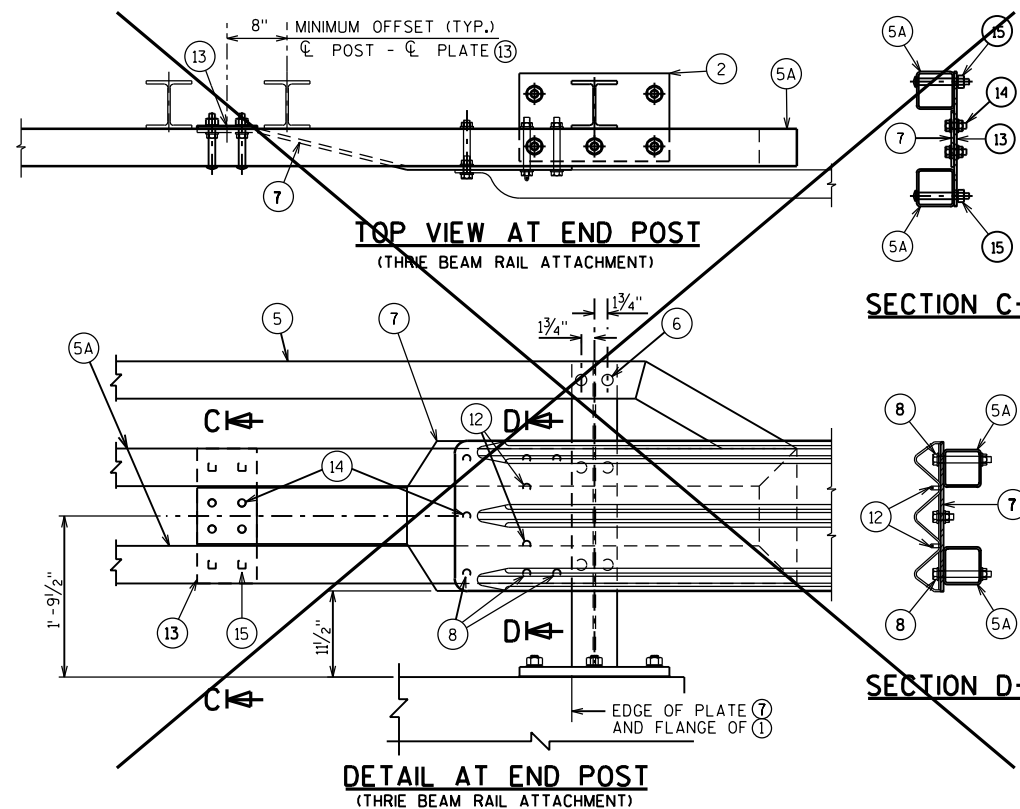
1. BID ITEM SHALL BE "RAILING TUBULAR TYPE M B-32-231" WHICH INCLUDES ALL ITEMS SHOWN.
2. RAIL POST AND BASE PLATES SHALL CONFORM TO THE REQUIREMENTS OF ASTM A709 GRADE 50. HOLLOW RAILING STRUCTURAL TUBING SHALL CONFORM TO THE REQUIREMENTS OF ASTM A500 GRADE B OR C WITH A CERTIFIED FY = 50 KSI. ANCHOR PLATES, AND SPLICE TUBE PLATES SHALL CONFORM TO THE REQUIREMENTS OF ASTM A709 GRADE 36.
3. THE NUT SECURING THE POST BASE PLATE TO THE CONCRETE SHALL BE TIGHTENED TO A SNUG FIT AND GIVEN AN ADDITIONAL 1/8 TURN.
4. RAILS SHALL BE CONTINUOUS OVER A MINIMUM OF THREE (3) POSTS WITHOUT SPLICES WHERE POSSIBLE.
5. ENDS OF TUBE SECTIONS SHALL BE SAWED. GRIND SMOOTH EXPOSED EDGES. ALL CUT ENDS SHALL BE TRUE AND SMOOTH.
6. WELD IS THE SAME ON BOTH FLANGES. FLANGE WELD DOES NOT REQUIRE MAGNETIC PARTICLE TESTING.
7. 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.
8. 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.
9. 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.
10. PAINTING IS NOT REQUIRED.
11. THIS RAILING MEETS NCHRP REPORT 350 EVALUATION CRITERIA FOR TEST LEVEL 4 (TL-4).
- * 12. DO NOT FURNISH ITEMS 7, 8, 12, 13, 14 AND 15. THRIE BEAM RAIL ATTACHMENT IS NOT INCLUDED.



SECTION A-A



ANCHOR PLATE AT BEAM GUARD ATTACHMENT

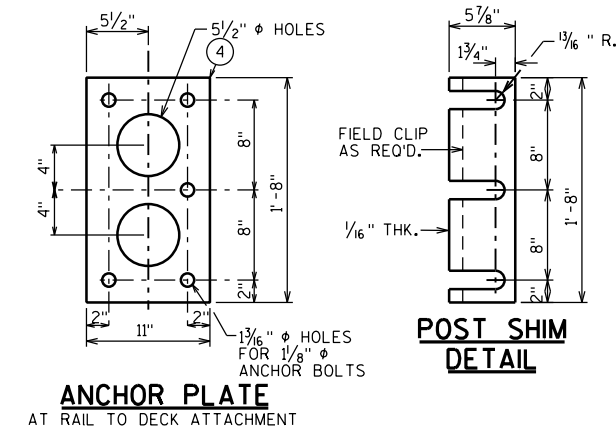


TOP VIEW AT END POST (THRIE BEAM RAIL ATTACHMENT)

SECTION C-C

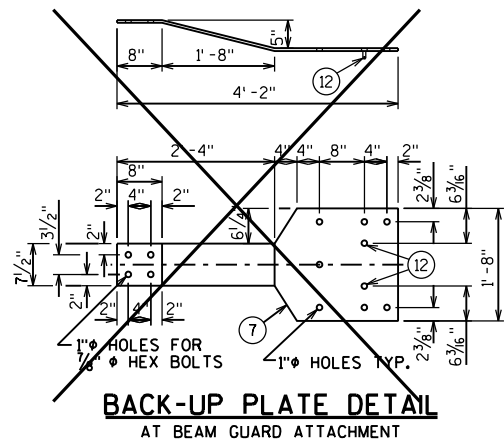
SECTION D-D

DETAIL AT END POST (THRIE BEAM RAIL ATTACHMENT)

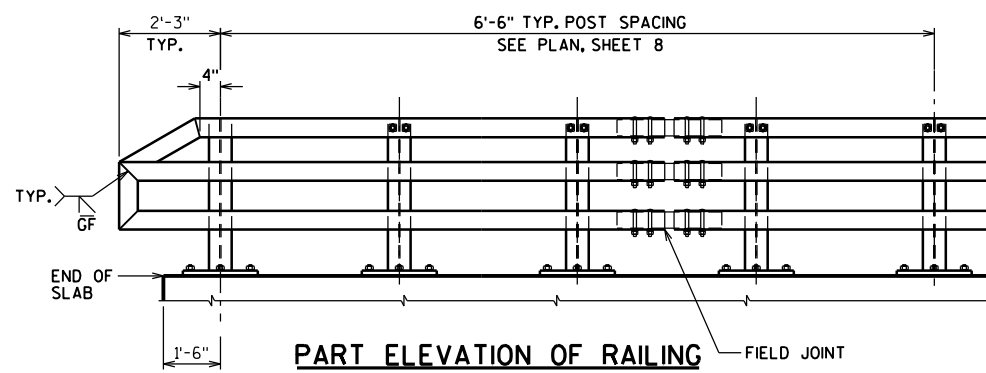


ANCHOR PLATE AT RAIL TO DECK ATTACHMENT

POST SHIM DETAIL



BACK-UP PLATE DETAIL AT BEAM GUARD ATTACHMENT



PART ELEVATION OF RAILING

NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE		B-32-231	
DRAWN BY RLR		PLANS CK'D. DHW	
RAILING TUBULAR TYPE M		SHEET 9 OF 9	

PROJECT I.D. 5346-00-00 EARTHWORK SUMMARY

STAGE 1: PLACING TEMPORARY BYPASS AND APPROACHES						
STA	EXCAVATION COMMON CY	EXCAVATION ROCK CY	FILL (1) CY	EXPANDED FILL (2) CY	WASTE (1) CY	BORROW CY
17+60.00	0	0	8	10	-10	10
18+05.00	0	0	28	36	-36	36
18+50.00	0	0	27	35	-35	35
19+00.00	1	0	4	5	-4	4
19+25.00	2	0	115	150	-148	148
19+65.00	0	0	112	146	-146	146
19+85.00						
TEMPORARY BYPASS						
20+15.00	0	0	17	22	-22	22
20+35.00	0	0	8	10	-10	10
20+50.00	0	0	13	17	-17	17
20+75.00	0	0	25	33	-33	33
21+20.00	0	0	11	14	-14	14
21+50.00	0	0	12	16	-16	16
22+00.00						
SUBTOTALS						
BYPASS SOUTH APPROACH	3	0	294	382	-379	379
BYPASS NORTH APPROACH	0	0	86	112	-112	112
TOTALS STAGE 1	3	0	380	494	-491	491

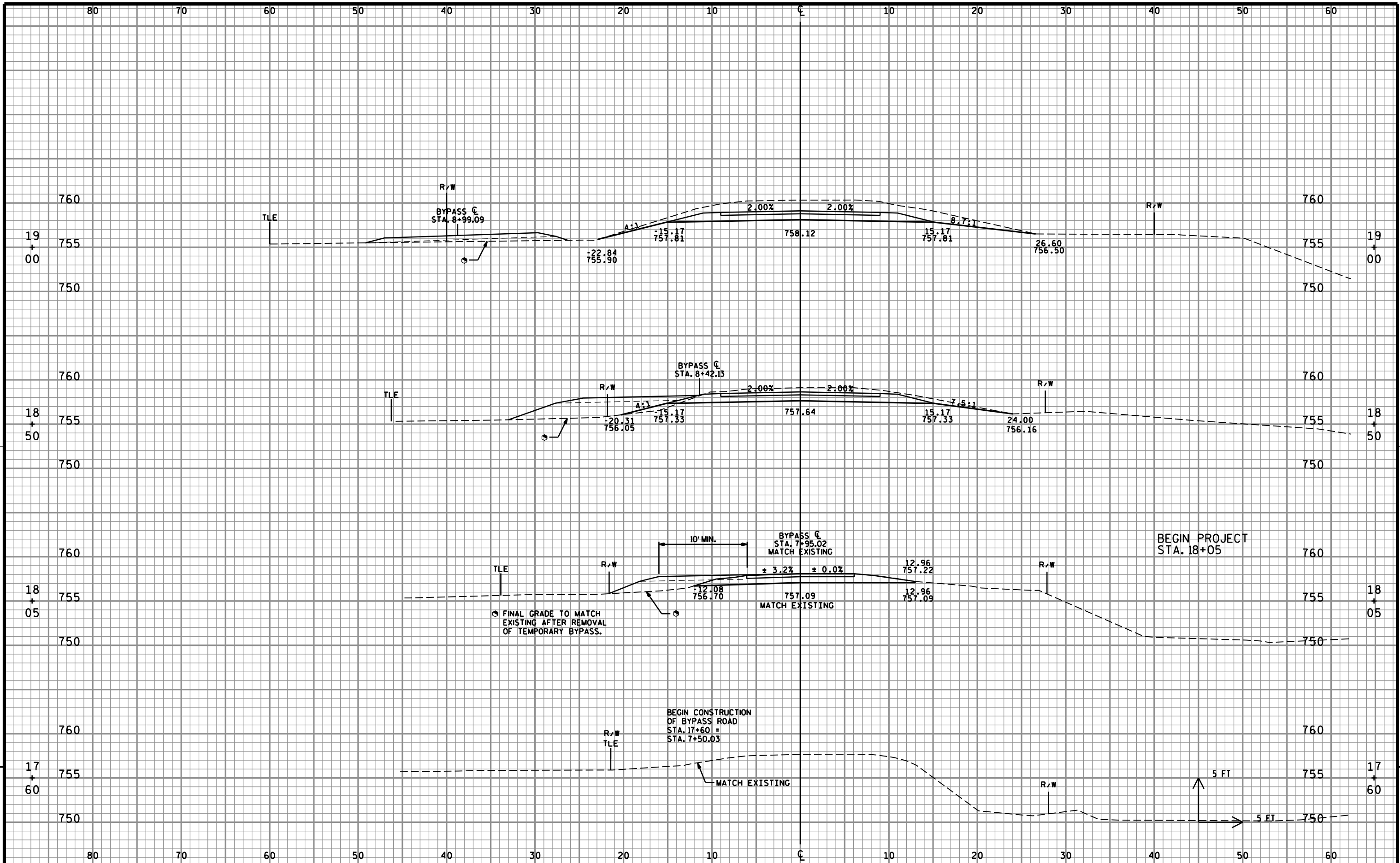
STAGE 2: DROGSETH ROAD BRIDGE APPROACHES						
STA	EXCAVATION COMMON CY	EXCAVATION ROCK CY	FILL (1) CY	EXPANDED FILL (2) CY	WASTE CY	BORROW CY
18+05.00	48	0	0	0	48	-48
18+50.00	98	0	0	0	98	-98
19+00.00	63	0	2	3	60	-60
19+25.00	98	0	31	40	58	-58
19+65.00	25	0	15	20	5	-5
19+75.75						
STRUCTURE B-32-0231						
20+24.25	21	0	12	16	5	-5
20+35.00	39	0	12	16	23	-23
20+50.00	74	0	6	8	66	-66
20+75.00	87	0	0	0	87	-87
21+20.00	31	0	0	0	31	-31
21+50.00						
SUBTOTALS						
SOUTH APPROACH	332	0	48	63	269	-269
NORTH APPROACH	252	0	30	40	212	-212
UNUSABLE PAVEMENT (3)						47
TOTALS STAGE 2	584	0	78	103	481	-434

(1) - NOT A BID ITEM - FOR INFORMATIONAL PURPOSES ONLY.
 (2) - FILL EXPANSION 30%
 (3) - EXISTING PAVEMENT BASED ON AVE THICKNESS OF 4" OF ASPHALT PER BORING LOG.

PROJECT I.D. 5346-00-00 EARTHWORK SUMMARY

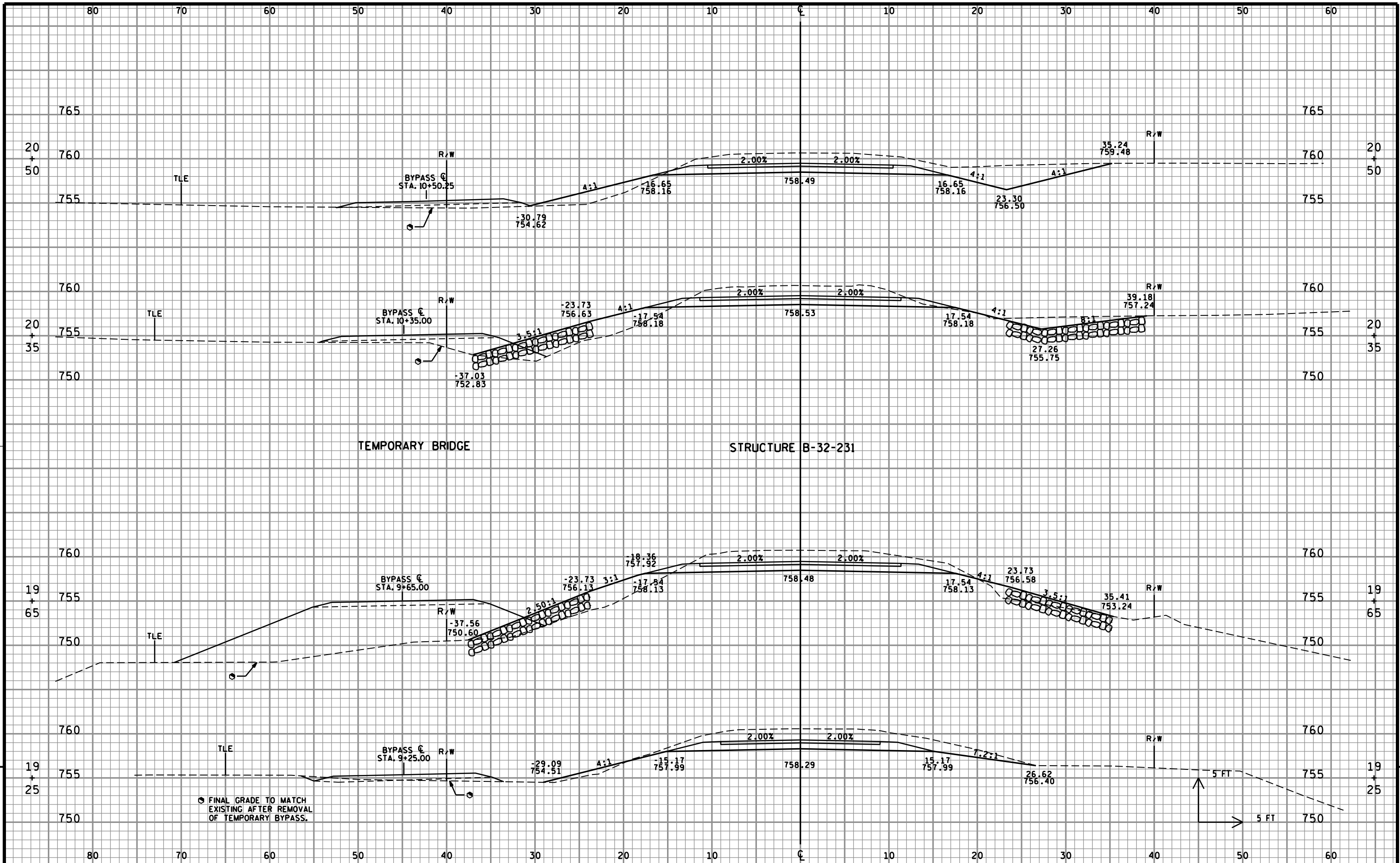
STA	STAGE 3: REMOVING TEMPORARY BYPASS & APPROACHES					BORROW CY
	EXCAVATION COMMON CY	EXCAVATION ROCK CY	FILL (1) CY	EXPANDED FILL (2) CY	WASTE (1) CY	
17+60.00	12	0	5	7	5	-5
18+05.00	36	0	8	10	26	-26
18+50.00	40	0	6	8	32	-32
19+00.00	13	0	2	3	10	-10
19+25.00	123	0	7	9	114	-114
19+65.00	113	0	2	3	110	-110
19+85.00	TEMPORARY BYPASS					
20+15.00	17	0	0	0	17	-17
20+35.00	11	0	0	0	11	-11
20+50.00	19	0	0	0	19	-19
20+75.00	28	0	0	0	28	-28
21+20.00	13	0	0	0	13	-13
21+50.00	16	0	2	3	13	-13
22+00.00						
SUBTOTALS						
BYPASS SOUTH APPROACH	337	0	30	40	297	-297
BYPASS NORTH APPROACH	104	0	2	3	101	-101
TOTALS STAGE 3	441	0	32	43	398	-398

(1) - NOT A BID ITEM - FOR INFORMATIONAL PURPOSES ONLY.
 (2) - FILL EXPANSION 30%



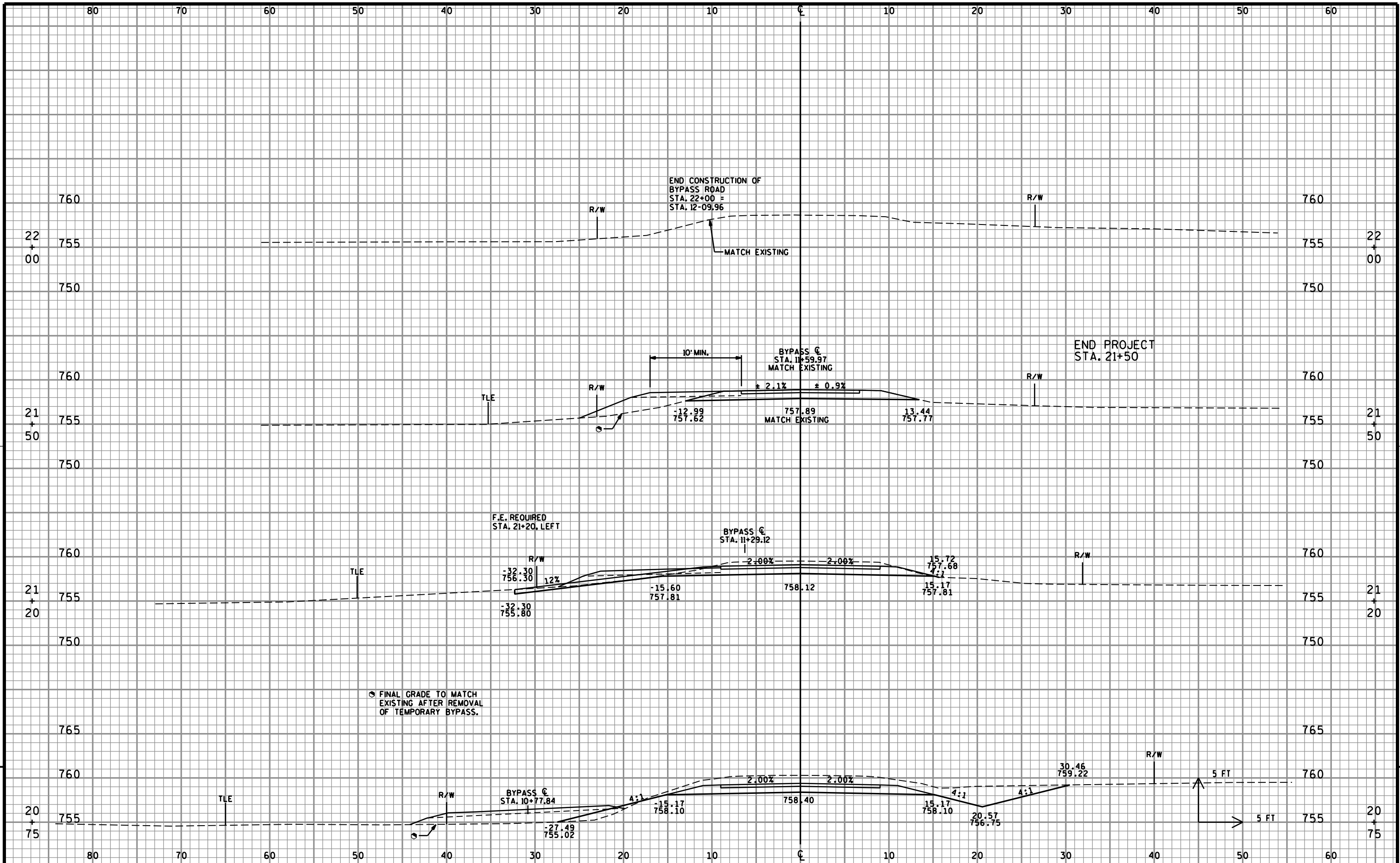
PROJECT NO: 5346-00-00 HWY: TOWN ROAD COUNTY: LA CROSSE CROSS SECTIONS: DROGSETH ROAD SHEET E

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PROJECT NO: 5346-00-00 HWY: TOWN ROAD COUNTY: LA CROSSE CROSS SECTIONS: DROGSETH ROAD SHEET E

xsec02.dgn 4/6/2016 8:47:12 AM bhalley



PROJECT NO: 5346-00-00 HWY: TOWN ROAD COUNTY: LA CROSSE CROSS SECTIONS: DROGSETH ROAD SHEET E