

EAU

PROJECT ID:
WITH:

1630-00-70

COUNTY:

TREMPEALEAU

JULY 2018

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
Section No.	6	Standard Detail Drawings
Section No.	7	Sign Plans
Section No.	8	Structure Plans
Section No.	9	Computer Earthwork Data
Section No.	9	Cross Sections

TOTAL SHEETS = 24



DESIGN DESIGNATION

A.A.D.T.	2018	=	7,500
A.A.D.T.	2039	=	9,000
D.H.V.		=	17.7%
D.D.		=	60/40
T.		=	21.0%
DESIGN SPEED		=	60 MPH
ESALS		=	

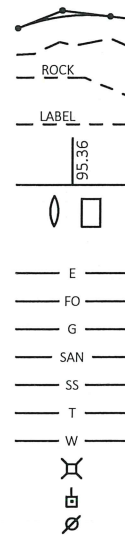
CONVENTIONAL SYMBOLS

PLAN

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

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	



STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

PLAN OF PROPOSED IMPROVEMENT

LA CROSSE - GALESVILLE

CULVERT C-61-0307

USH 53

TREMPEALEAU COUNTY

STATE PROJECT NUMBER

1630-00-70

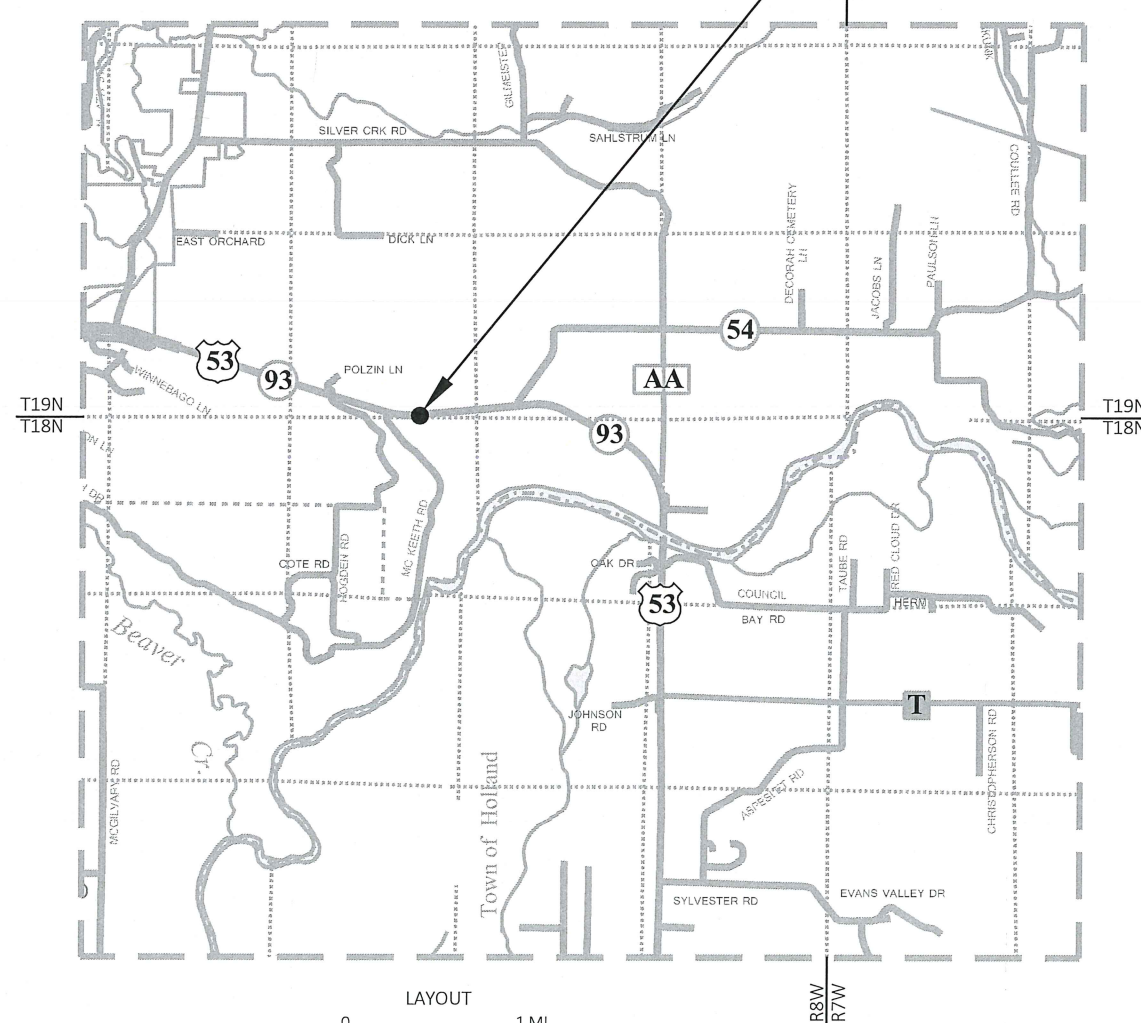
PROJECT LOCATION

EX STRUCTURE C-61-0307

STA 827+83

Y=331668.668

X=855854.276



LAYOUT
SCALE 0 1 MI
TOTAL NET LENGTH OF CENTERLINE = 0.0 MI

HORIZONTAL POSITIONS SHOWN ON THIS PLAN ARE WISCONSIN COUNTY COORDINATES, TREMPLEALEAU 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.

STATE PROJECT

1630-00-70

FEDERAL PROJECT

PROJECT

WISC 2018310

CONTRACT

1

ORIGINAL PLANS PREPARED BY

GREMMER & ASSOCIATES, INC.
CONSULTING ENGINEERS
Stevens Point • Fond du Lac

120 Wilshire Boulevard North • Stevens Point, WI 54481
(715) 341-4363 • fax (715) 341-1856



2/28/2018
(Date)

DAVID L. GLODOWSKI, PE

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

PREPARED BY

Surveyor	WISDOT / GREMMER
Designer	WISDOT / GREMMER
Project Manager	JESSE LARSON
Regional Examiner	TOU YANG
Regional Supervisor	TARA WEISS

APPROVED FOR THE DEPARTMENT

DATE: 2-28-18

E

GENERAL NOTES

ALL DISTANCES AND STATIONING SHOWN ON THIS PLAN ARE GROUND VALUES.

UTILITY FACILITIES SHOWN WITHIN THE PLANS ARE APPROXIMATE AND THERE MAY BE OTHER FACILITIES NOT SHOWN. PRIVATE UTILITIES AND OTHER UTILITIES NOT LOCATED BY DIGGERS HOTLINE LOCATE ARE NOT SHOWN. FIELD VERIFY AND LOCATE ALL UTILITIES FOR ACTUAL LOCATIONS, OTHER FACILITIES, SIZES, MATERIAL, AND DEPTHS.

CURVE DATA IS BASED ON ARC DEFINITION.

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

TOPSOIL (4" THICK MIN.), TEMP SEED, SEED, FERTILIZER, AND EROSION MAT CLASS I TYPE B SHALL PLACED ON ALL AREAS DISTURBED BY CONSTRUCTION. THESE ITEMS ARE INCIDENTAL THROUGH BID ITEMS "ACCESS ROAD - DOWNSTREAM" AND "ACCESS ROAD - UPSTREAM".

WISDOT PROVIDED THE FOLLOWING PROJECT SHEETS:
SECTION NO. 2 CONSTRUCTION DETAILS: RIPRAP
SECTION NO. 2 CONSTRUCTION DETAILS: INLET BEVEL
SECTION NO. 8 STRUCTURE C-61-307: ENERGY DISSIPATER

TRAFFIC CONTROL NOTES

ALL SIGNS ARE 48" X 48" UNLESS OTHERWISE NOTED:

PLACE TRAFFIC CONTROL SIGNS ACCORDING TO SDD TRAFFIC CONTROL, WORK ON SHOULDER OR PARKING LANE, UNDIVIDED ROADWAY.

THE EXACT NUMBER, LOCATION AND SPACING OF ALL SIGNS ARE APPROXIMATE AND SHALL BE ADJUSTED TO FIT FIELD CONDITIONS.

ALL SIGNS AND DEVICES SHALL BE IN CONFORMANCE WITH THE "WISCONSIN MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES" (WMUTCD), A SUPPLEMENT TO THE FEDERAL HIGHWAY ADMINISTRATION'S "MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES".

BENCHMARK DATA

BM	STATION	DESCRIPTION	ELEVATION
A	836+73; 53' LT	SW BOLT ON TRANSMISSION POLE 220 PAINTED WHITE. 3RD POLE WEST OF USH 53 / STH 54 INTERSECTION	773.97
B	844+05; 52' LT	SW BOLT ON TRANSMISSION POLE 221 PAINTED WHITE. 2ND POLE WEST OF USH 53 / STH 54 INTERSECTION	765.32

ORDER OF SECTION 2 SHEETS

GENERAL NOTES

TYPICAL SECTIONS

CONSTRUCTION DETAILS

DESIGN CONTACTS

WISCONSIN DEPARTMENT OF TRANSPORTATION
ATTN: JESSE LARSON
NW REGION REPRESENTATIVE
718 WEST CLAIREMONT AVENUE
EAU CLAIRE, WI 54701
OFFICE: 715.491.1470
EMAIL: jesse.larson@dot.wi.gov

GREMMER & ASSOCIATES, INC.
ATTN: DAVID GLODOWSKI
120 WILSHIRE BOULEVARD NORTH
STEVENS POINT, WI 54481
OFFICE: 715.341.4363
EMAIL: d.glodowski@gremmerassociates.com

AGENCY CONTACTS:

DEPARTMENT OF NATURAL RESOURCES
ATTN: AMY LESIK
WEST CENTRAL REGION HEADQUARTERS
1300 WEST CLAIREMONT AVENUE
EAU CLAIRE, WI 54702
OFFICE: 715.836.6571
EMAIL: AmyL.Lesik@wisconsin.gov

UTILITIES

CENTURYLINK
ATTN: KEVIN ZICKERT
224 INDUSTRIAL DRIVE
NORTH PRAIRIE, WI 53153
PHONE: 262.392.5200
EMAIL: Kevin.Zickert@centurylink.com

CHARTER COMMUNICATIONS
ATTN: JAMEY OLDEEN
2304 SOUTH MAIN STREET
RICE LAKE, WI 54868
PHONE: 715.719.0561
EMAIL: Jamey.Oldeen@charter.com

XCEL ENERGY
ATTN: CORISSA SEELY
1414 WEST HAMILTON AVENUE
P.O. BOX 8
EAU CLAIRE, WI 54702-0008
PHONE: 715.737.7097
EMAIL: corissa.e.seely@xcelenergy.com

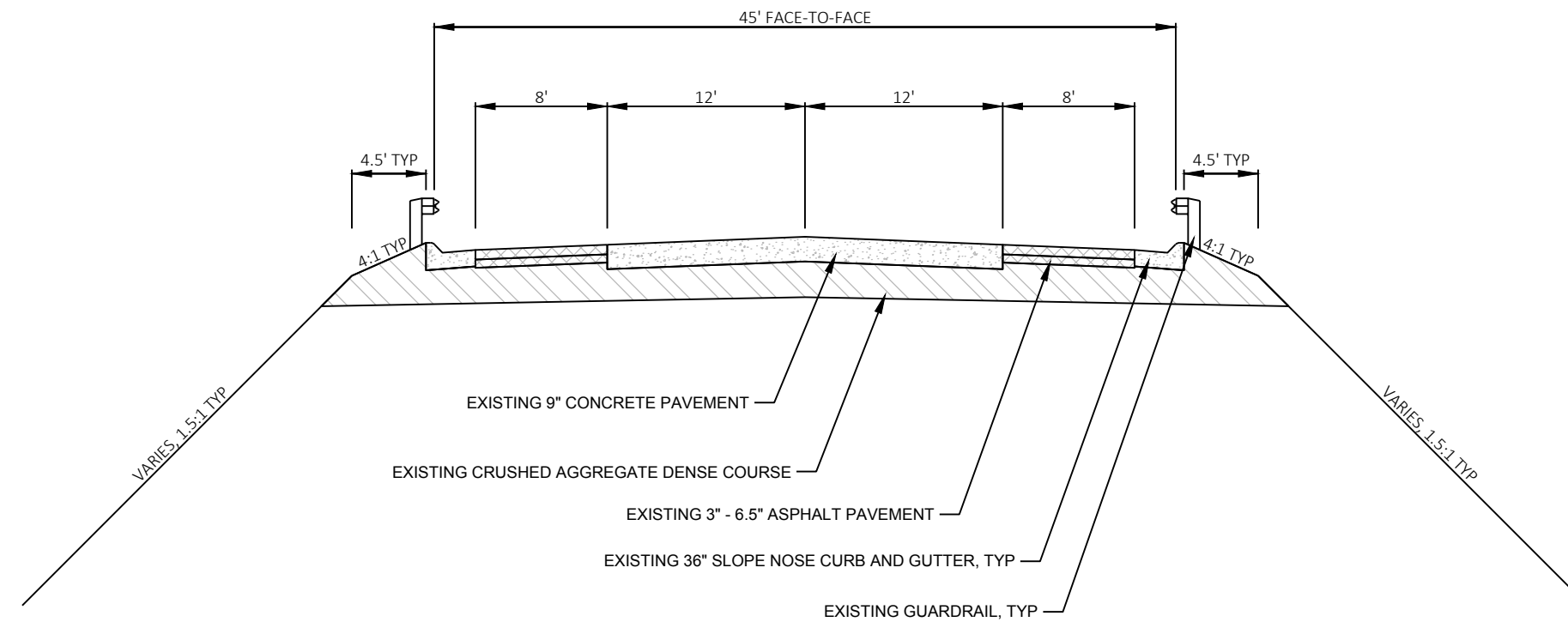
DIGGERSHOTLINE

Dial 811 or (800)242-8511

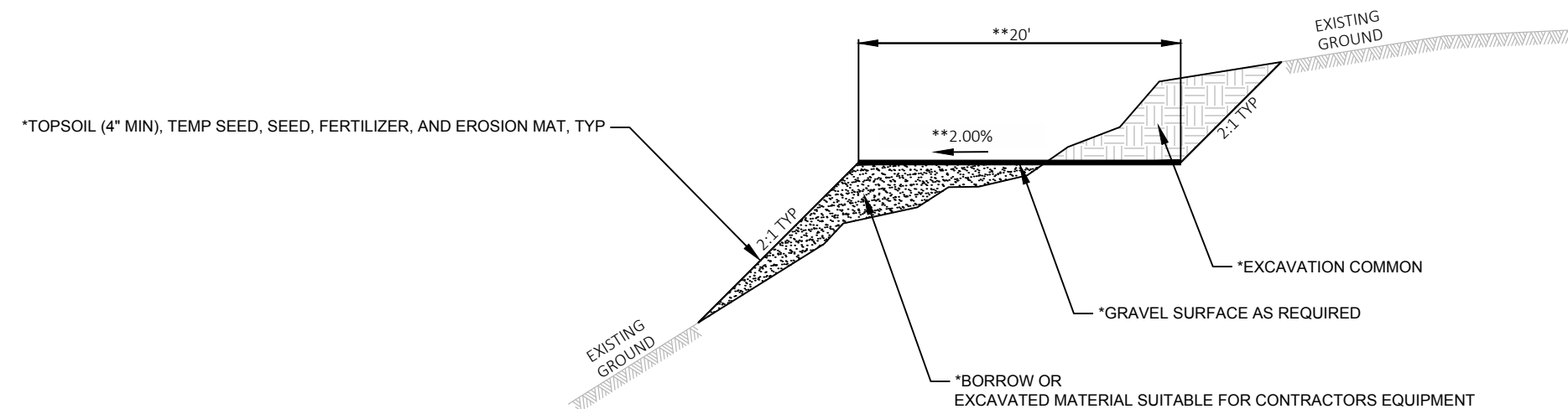
www.DiggersHotline.com

2

2 |



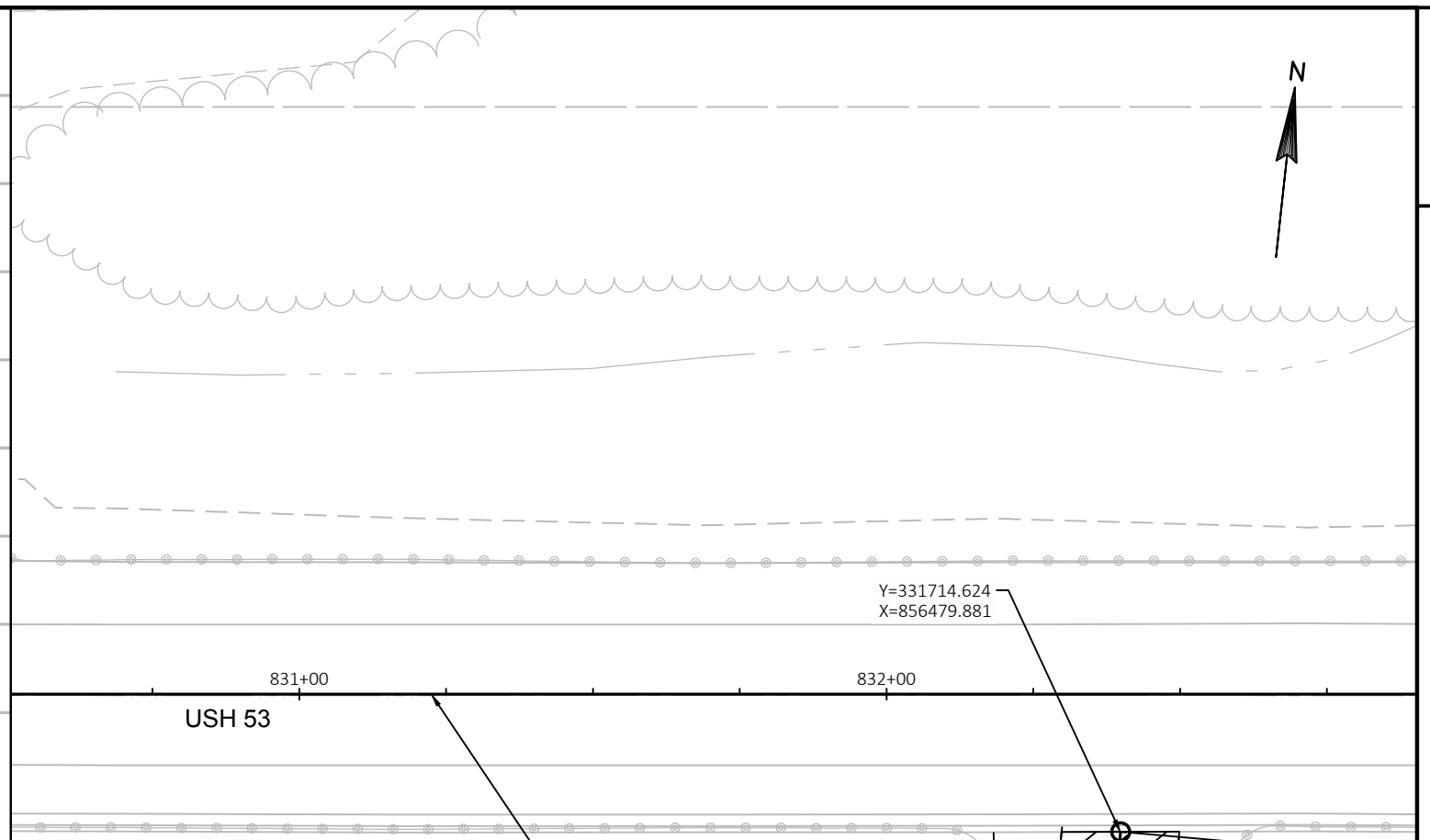
TYPICAL EXISTING SECTION
USH 53 (C-61-0307)



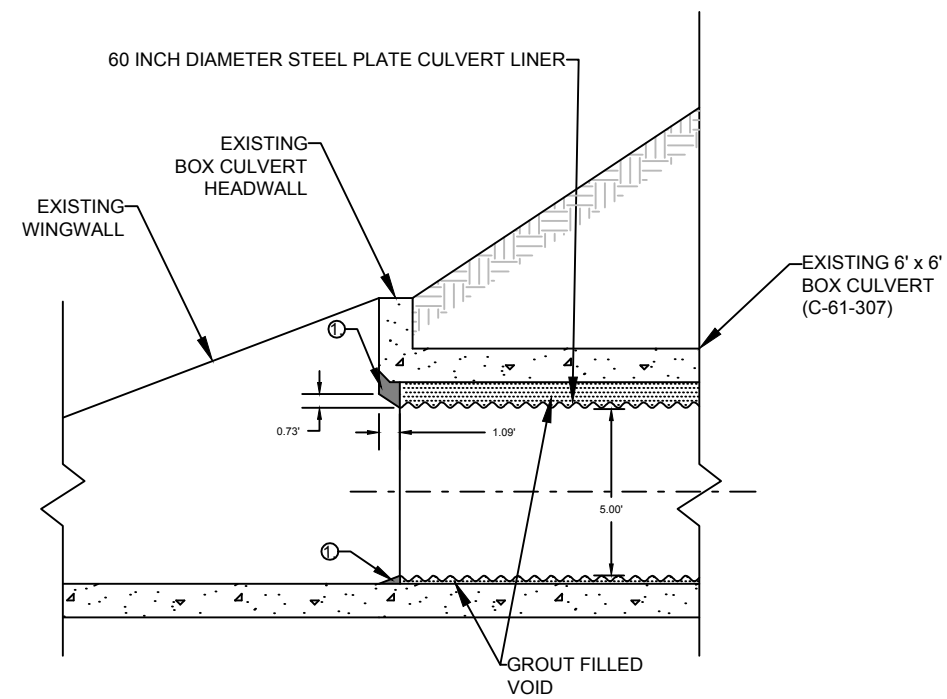
TYPICAL FINISHED SECTION
ACCESS ROAD DOWNSTREAM (STA 0+00 TO STA 4+16.56)
ACCESS ROAD UPSTREAM (STA 100+00 TO STA 102+98.26)

* INCIDENTAL TO "ACCESS ROAD DOWNSTREAM" AND
"ACCESS ROAD UPSTREAM"

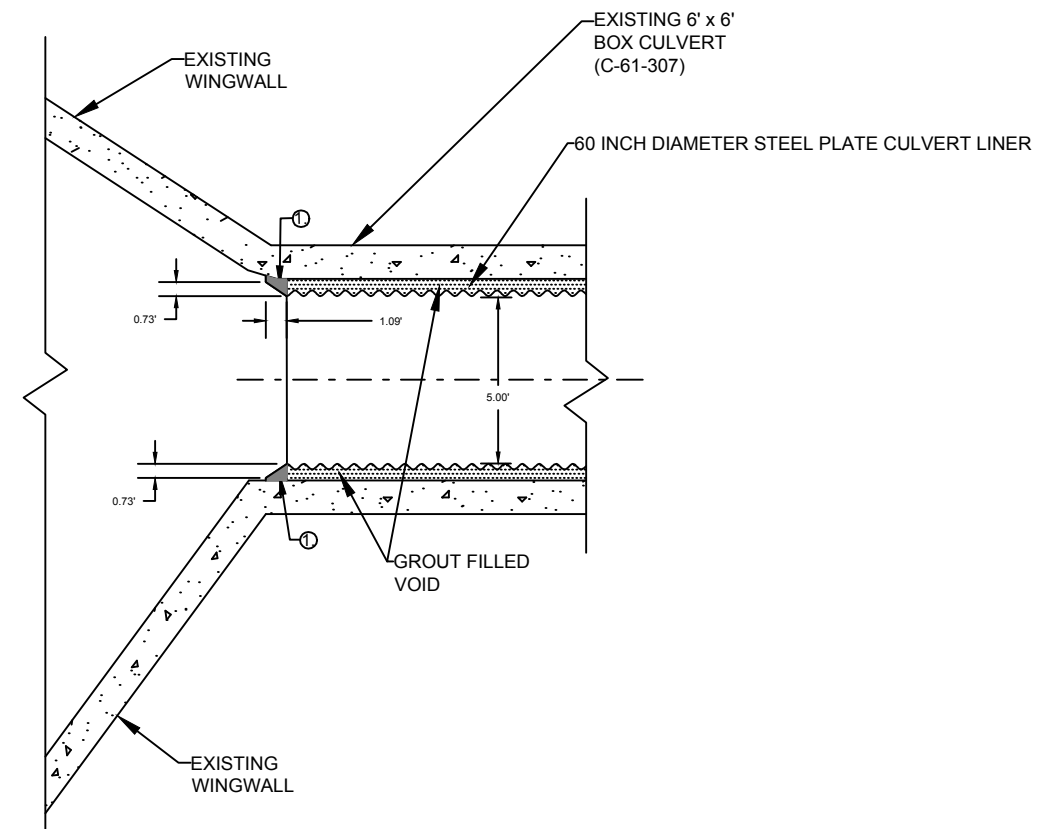
** ENGINEER IN FIELD MAY MODIFY REQUIRED WIDTHS AND
SLOPES OF ACCESS ROADS TO FIT FIELD CONDITIONS



1. OFFSET LINER 0.63' DOWNSTREAM FROM INLET SIDE OF CULVERT.
FORM BEVEL BETWEEN EXISTING HEADWALL AND CULVERT LINER
WITH MOTAR AT THE DIMENSIONS SHOWN.



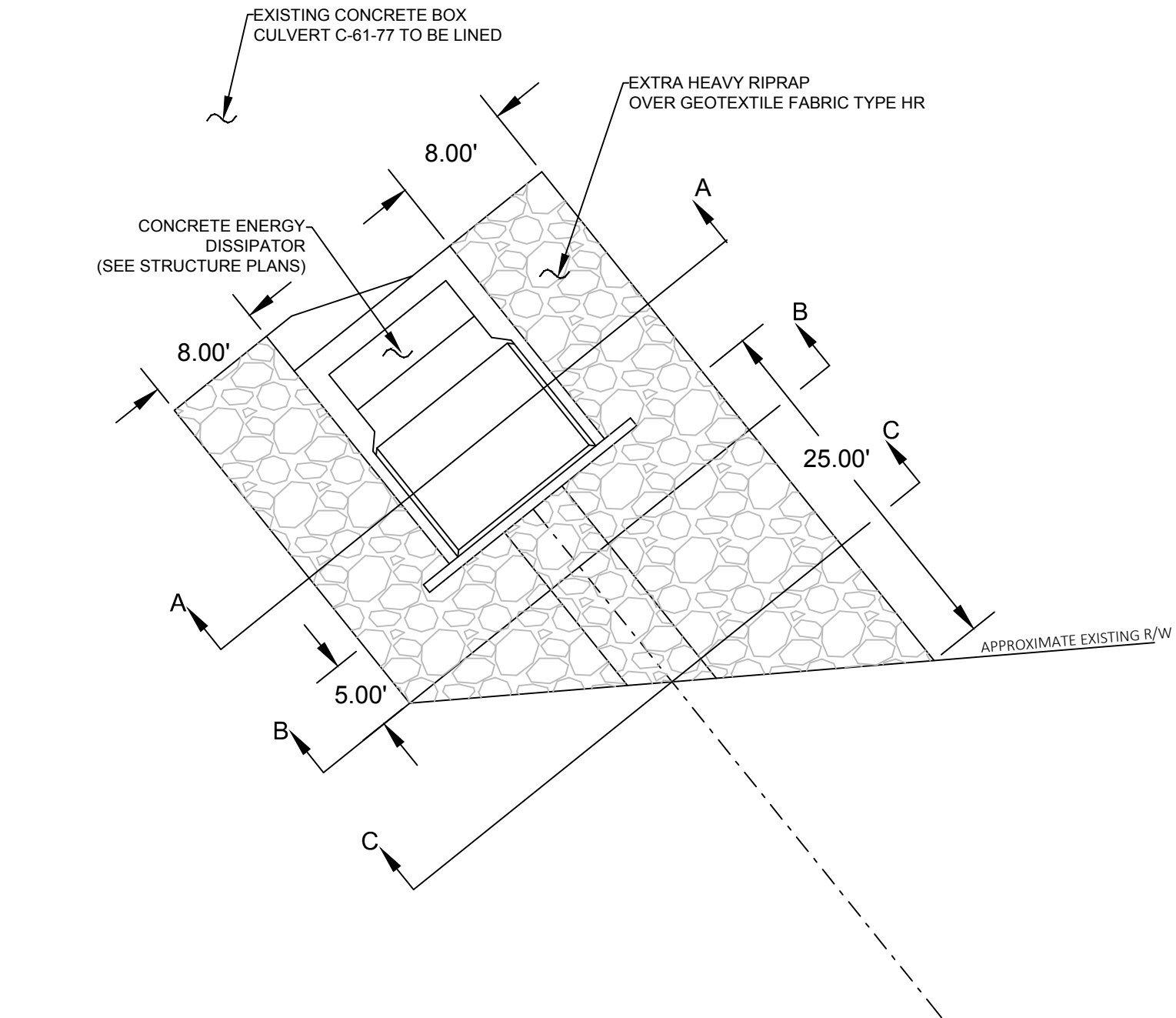
INLET BEVEL DETAIL SIDE VIEW



INLET BEVEL DETAIL TOP VIEW

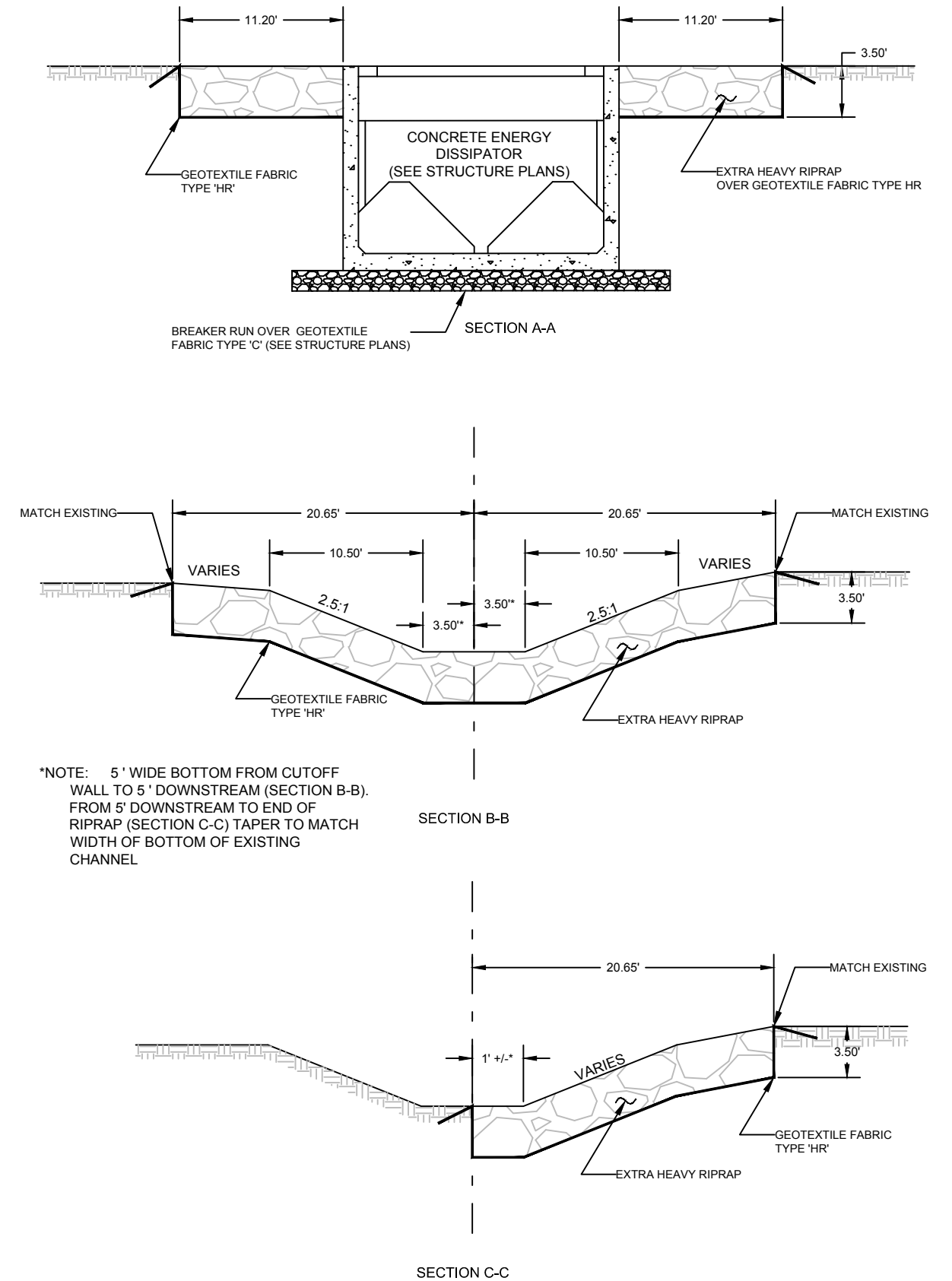
INLET BEVEL DETAIL

2



RIPRAP DETAIL

2



Estimate Of Quantities

1630-00-70					
Line	Item	Item Description	Unit	Total	Qty
0002	203.0200	Removing Old Structure (station) 01. 827+83	LS	1.000	1.000
0004	204.0170	Removing Fence	LF	230.000	230.000
0006	206.2000	Excavation for Structures Culverts (structure) 01. C-61-0307	LS	1.000	1.000
0008	210.2500	Backfill Structure Type B	TON	131.000	131.000
0010	213.0100	Finishing Roadway (project) 01. 1630-00-70	EACH	1.000	1.000
0012	311.0115	Breaker Run	CY	12.000	12.000
0014	504.0100	Concrete Masonry Culverts	CY	28.000	28.000
0016	505.0400	Bar Steel Reinforcement HS Structures	LB	940.000	940.000
0018	505.0600	Bar Steel Reinforcement HS Coated Structures	LB	1,820.000	1,820.000
0020	511.1200	Temporary Shoring (structure) 01. C-61-0307	SF	210.000	210.000
0022	606.0400	Riprap Extra-Heavy	CY	100.000	100.000
0024	618.0100	Maintenance And Repair of Haul Roads (project) 01. 1630-00-70	EACH	1.000	1.000
0026	619.1000	Mobilization	EACH	1.000	1.000
0028	628.1504	Silt Fence	LF	550.000	550.000
0030	628.1520	Silt Fence Maintenance	LF	275.000	275.000
0032	628.1905	Mobilizations Erosion Control	EACH	2.000	2.000
0034	628.1910	Mobilizations Emergency Erosion Control	EACH	1.000	1.000
0036	628.7570	Rock Bags	EACH	200.000	200.000
0038	642.5001	Field Office Type B	EACH	1.000	1.000
0040	643.0300	Traffic Control Drums	DAY	3,000.000	3,000.000
0042	643.0900	Traffic Control Signs	DAY	340.000	340.000
0044	643.5000	Traffic Control	EACH	1.000	1.000
0046	645.0105	Geotextile Type C	SY	45.000	45.000
0048	645.0120	Geotextile Type HR	SY	160.000	160.000
0050	715.0502	Incentive Strength Concrete Structures	DOL	500.000	500.000
0052	ASP.1T0A	On-the-Job Training Apprentice at \$5.00/HR	HRS	2,000.000	2,000.000
0054	ASP.1T0G	On-the-Job Training Graduate at \$5.00/HR	HRS	630.000	630.000
0056	SPV.0060	Special 01. Cleaning and Inspecting Culverts For Liner Verification and Installation	EACH	1.000	1.000
0058	SPV.0090	Special 01. Structural Plate Culvert Liner, 60-Inch	LF	253.000	253.000
0060	SPV.0105	Special 01. Access Road Downstream	LS	1.000	1.000
0062	SPV.0105	Special 02. Access Road Upstream	LS	1.000	1.000
0064	SPV.0105	Special 03. Culvert Lining Surface Preparation	LS	1.000	1.000

REMOVING FENCE <table><tr><th>STATION - STATION</th><th>LOCATION</th><th>204.0170 LF</th></tr><tr><td colspan="3">CATEGORY CODE 0010</td></tr><tr><td>ACCESS ROAD UPSTREAM</td><td>--</td><td>230</td></tr><tr><td colspan="2">TOTAL</td><td>230</td></tr></table>			STATION - STATION	LOCATION	204.0170 LF	CATEGORY CODE 0010			ACCESS ROAD UPSTREAM	--	230	TOTAL		230	RIPRAP AND GEOTEXTILE FABRIC <table><tr><th>STATION</th><th>LOCATION</th><th>606.0400 RIPRAP EXTRA HEAVY CY</th><th>645.0120 GEOTEXTILE FABRIC TYPE HR SY</th></tr><tr><td>828+60</td><td>RT</td><td>50</td><td>80</td></tr><tr><td>UNDISTRIBUTED</td><td>--</td><td>50</td><td>80</td></tr><tr><td colspan="2">TOTALS</td><td>100</td><td>160</td></tr></table>			STATION	LOCATION	606.0400 RIPRAP EXTRA HEAVY CY	645.0120 GEOTEXTILE FABRIC TYPE HR SY	828+60	RT	50	80	UNDISTRIBUTED	--	50	80	TOTALS		100	160	MAINTENANCE AND REPAIR OF HAUL ROAD <table><tr><th>STATION - STATION</th><th>618.0100 EACH</th></tr><tr><td colspan="2">CATEGORY CODE 0010</td></tr><tr><td>PROJECT 1630-00-70</td><td>1</td></tr><tr><td>TOTALS</td><td>1</td></tr></table>		STATION - STATION	618.0100 EACH	CATEGORY CODE 0010		PROJECT 1630-00-70	1	TOTALS	1	EROSION CONTROL MOBILIZATION <table><tr><th>LOCATION</th><th>628.1905 MOBILIZATIONS EROSION CONTROL EACH</th><th>628.1910 MOBILIZATIONS EMERGENCY EROSION CONTROL EACH</th></tr><tr><td colspan="3">CATEGORY CODE 0010</td></tr><tr><td>PROJECT 1630-00-70</td><td>2</td><td>1</td></tr><tr><td>TOTALS</td><td>2</td><td>1</td></tr></table>			LOCATION	628.1905 MOBILIZATIONS EROSION CONTROL EACH	628.1910 MOBILIZATIONS EMERGENCY EROSION CONTROL EACH	CATEGORY CODE 0010			PROJECT 1630-00-70	2	1	TOTALS	2	1
STATION - STATION	LOCATION	204.0170 LF																																																								
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PROJECT 1630-00-70	1																																																									
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CATEGORY CODE 0010																																																										
PROJECT 1630-00-70	2	1																																																								
TOTALS	2	1																																																								

<u>SILT FENCE</u>			
STATION - STATION	LOCATION	628.1504 LF	628.1520 MAINTENANCE LF
CATEGORY CODE 0010			
ACCESS ROAD UPSTREAM	--	200	100
ACCESS ROAD DOWNSTREAM	--	350	175
TOTAL		550	275

<u>DITCH CHECK ITEMS</u>		
STATION	LOCATION	628.7570 ROCK BAGS EACH
CATEGORY CODE 0010		
PROJECT 1630-00-70	LT/RT	200
TOTAL		200

<u>TRAFFIC CONTROL ITEMS</u>		
LOCATION	643.0300 DRUMS DAY	643.0900 SIGNS DAYS
CATEGORY CODE 0010		
Project 1630-00-70	3,000	340
TOTALS	3,000	340

ACCESS ROAD DOWNSTREAM

SPV.0105.01
ACCESS ROAD
DOWNSTREAM

STATION - STATION	LS	
CATEGORY CODE 0010		
ACCESS ROAD DOWNSTREAM	1	
TOTALS		1

APPROXIMATE QUANTITIES FOR ACCESS ROAD DOWNSTREAM, FOR INFORMATIONAL PURPOSES ONLY

ACCESS ROAD DOWNSTREAM	EXCAVATION COMMON CY	BORROW CY	CLEARING SY	GRUBBING SY	TOPSOIL SY	BASE AGGREGATE DENSE 1 1/4-INCH TONS
	2	193	75	75	2250	750
	TEMPORARY SEED LBS	SEED MIX 20 LBS	FERTILIZER TYPE B CWT	EROSION MAT CLASS I		
15.1	30.3	1.42	2250			

ACCESS ROAD UPSTREAM

SPV.0105.02
ACCESS ROAD
UPSTREAM

STATION - STATION	LS	
CATEGORY CODE 0010		
ACCESS ROAD UPSTREAM	1	
TOTALS		1

APPROXIMATE QUANTITIES FOR ACCESS ROAD UPSTREAM, FOR INFORMATIONAL PURPOSES ONLY

ACCESS ROAD UPSTREAM	EXCAVATION COMMON CY	BORROW CY	CLEARING SY	GRUBBING SY	TOPSOIL SY	BASE AGGREGATE DENSE 1 1/4-INCH TONS
	98	197	1020	1020	1640	550
	TEMPORARY SEED LBS	SEED MIX 20 LBS	FERTILIZER TYPE B CWT	EROSION MAT CLASS I		
11.1	22.2	1.03	1640			

MISC. SHEET 1

CLEANING AND INSPECTING CULVERTS FOR LINER
VERIFICATION AND INSTALLATION

SPV.0060.01

STATION - STATION	EACH
CATEGORY CODE 0020	
C-61-0307	1
TOTALS	
	1

STRUCTURAL PLATE CULVERT LINER, 60-INCH

SPV.0090.01

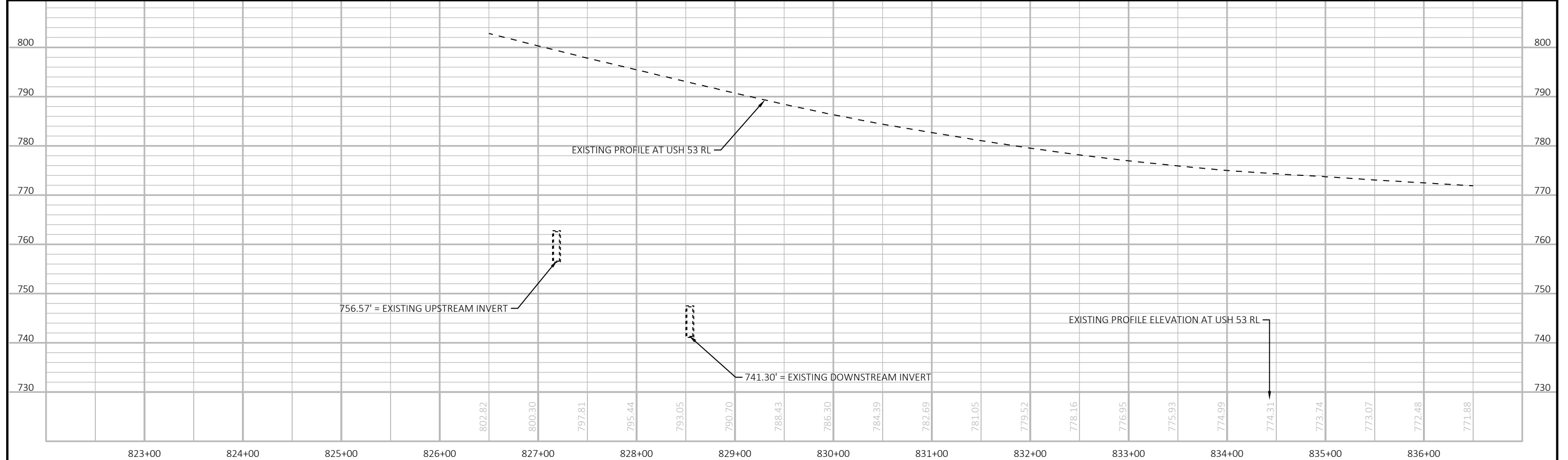
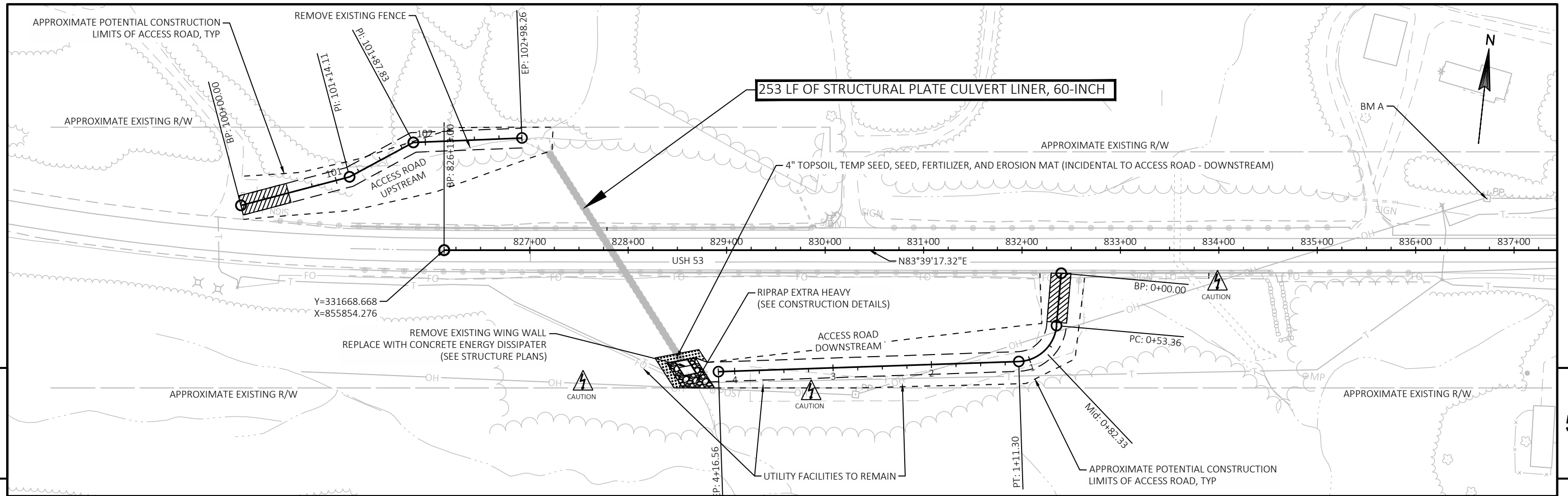
STATION - STATION	LF
CATEGORY CODE 0020	
C-61-0307	253
TOTALS	
	253

CULVERT LINING SURFACE PREPARATION

SPV.0105.03

STATION - STATION	LS
CATEGORY CODE 0020	
C-61-0307	1
TOTALS	
	1

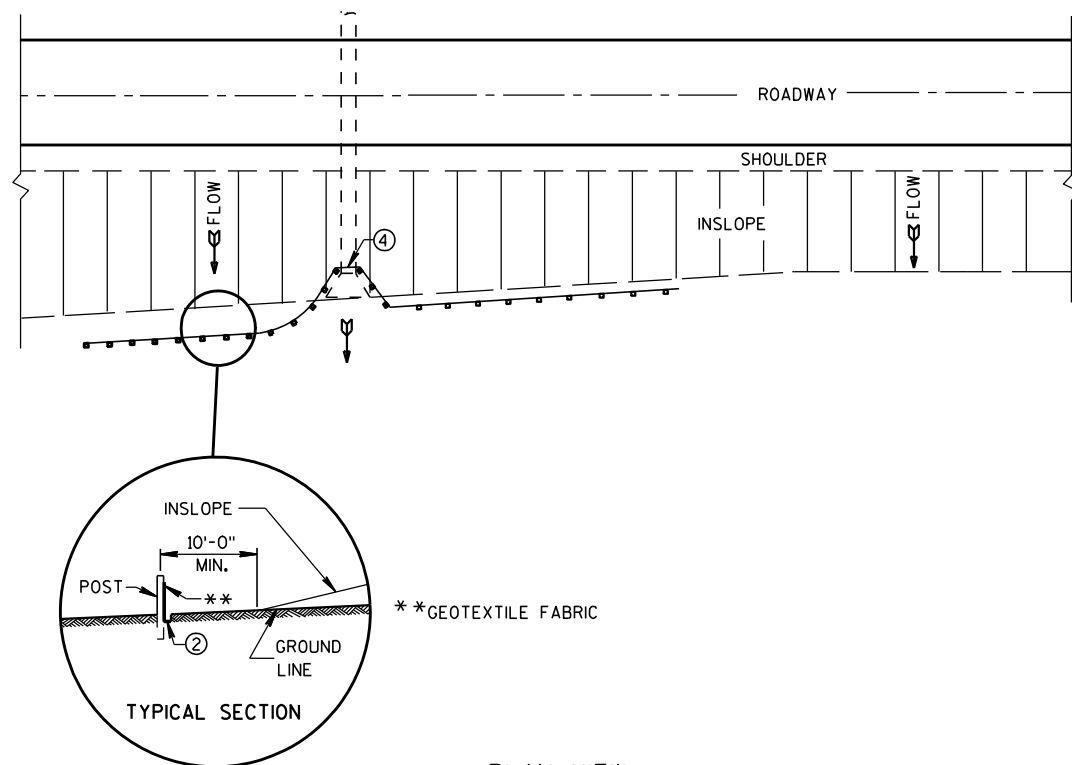
MISC. SHEET 2



PROJECT NO: 1630-00-70	HWY: USH 53	COUNTY: TREMPLEAU	PLAN AND PROFILE	SHEET	E
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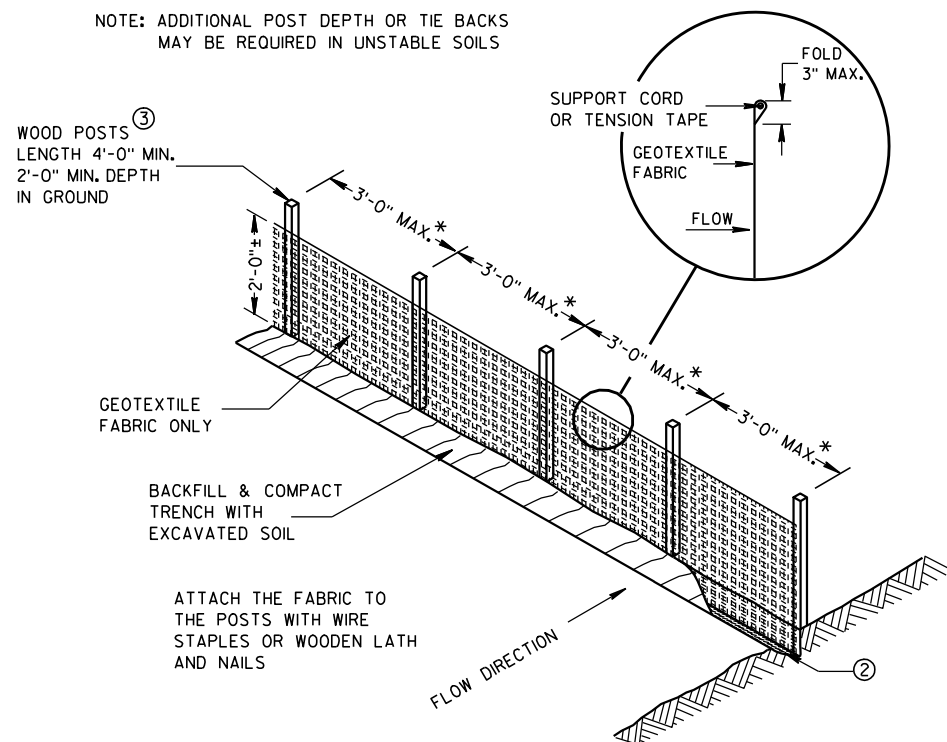
Standard Detail Drawing List

08E09-06	SILT FENCE
08E14-01	TRACKING PAD
15D27-03	TRAFFIC CONTROL, SHOULDER CLOSURE ON DIVIDED ROADWAY, SPEEDS GREATER THAN 40 MPH
15D38-02A	TEMPORARY TRAFFIC CONTROL SIGN MOUNTING
15D38-02B	ATTACHMENT OF SIGNS TO POSTS



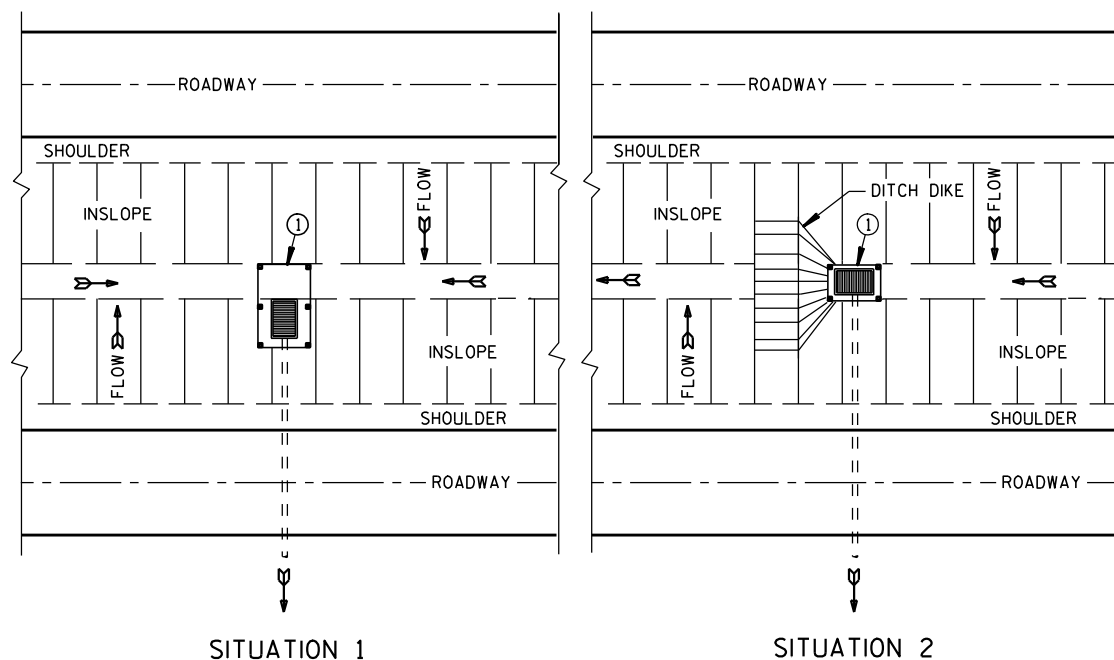
PLAN VIEW
TYPICAL APPLICATION OF SILT FENCE

NOTE: ADDITIONAL POST DEPTH OR TIE BACKS
MAY BE REQUIRED IN UNSTABLE SOILS

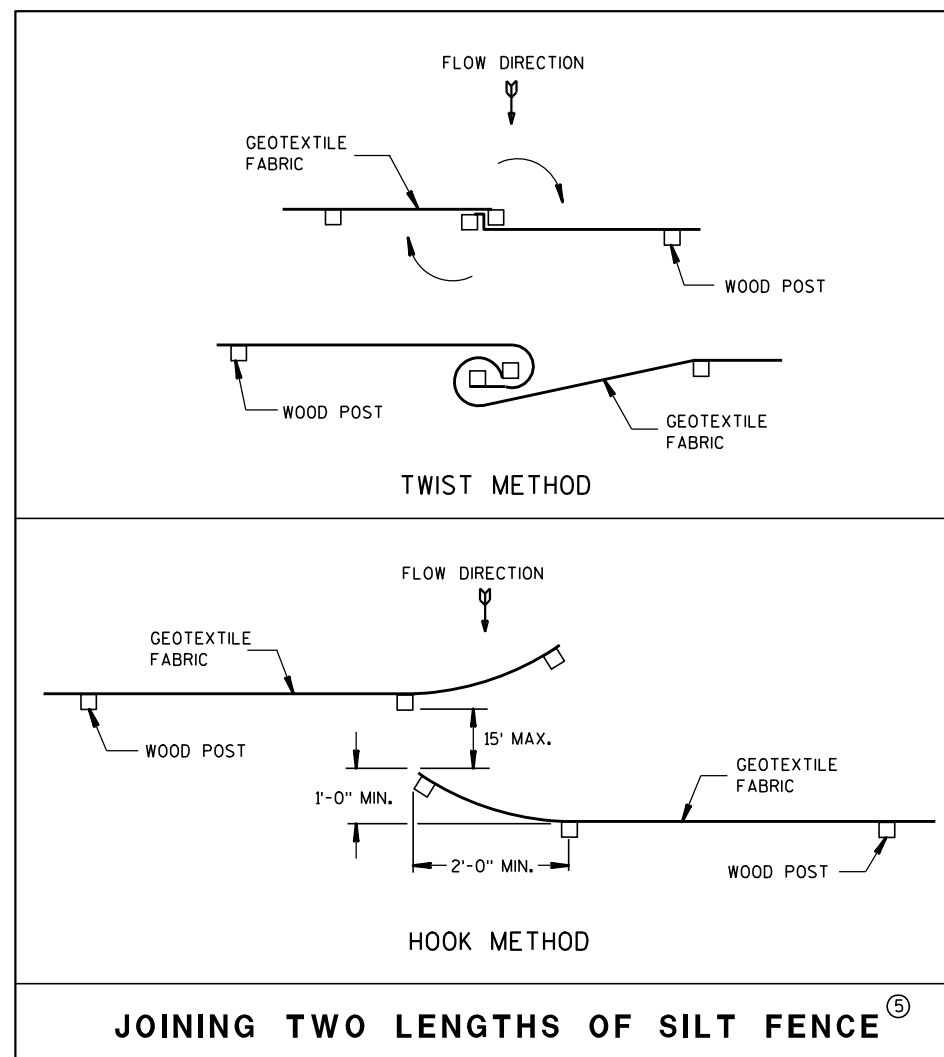


SILT FENCE

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



PLAN VIEW
SILT FENCE AT MEDIAN SURFACE DRAINS

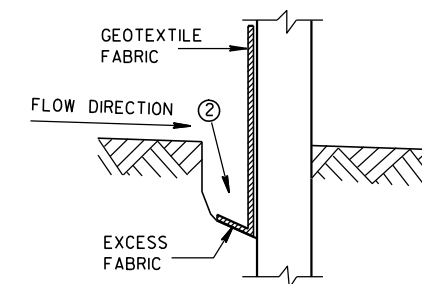


JOINING TWO LENGTHS OF SILT FENCE^⑤

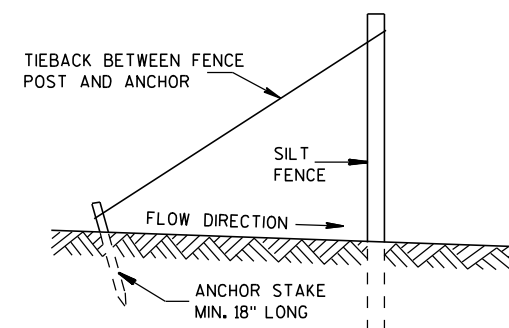
GENERAL NOTES

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 1 1/8" X 1 1/8" 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

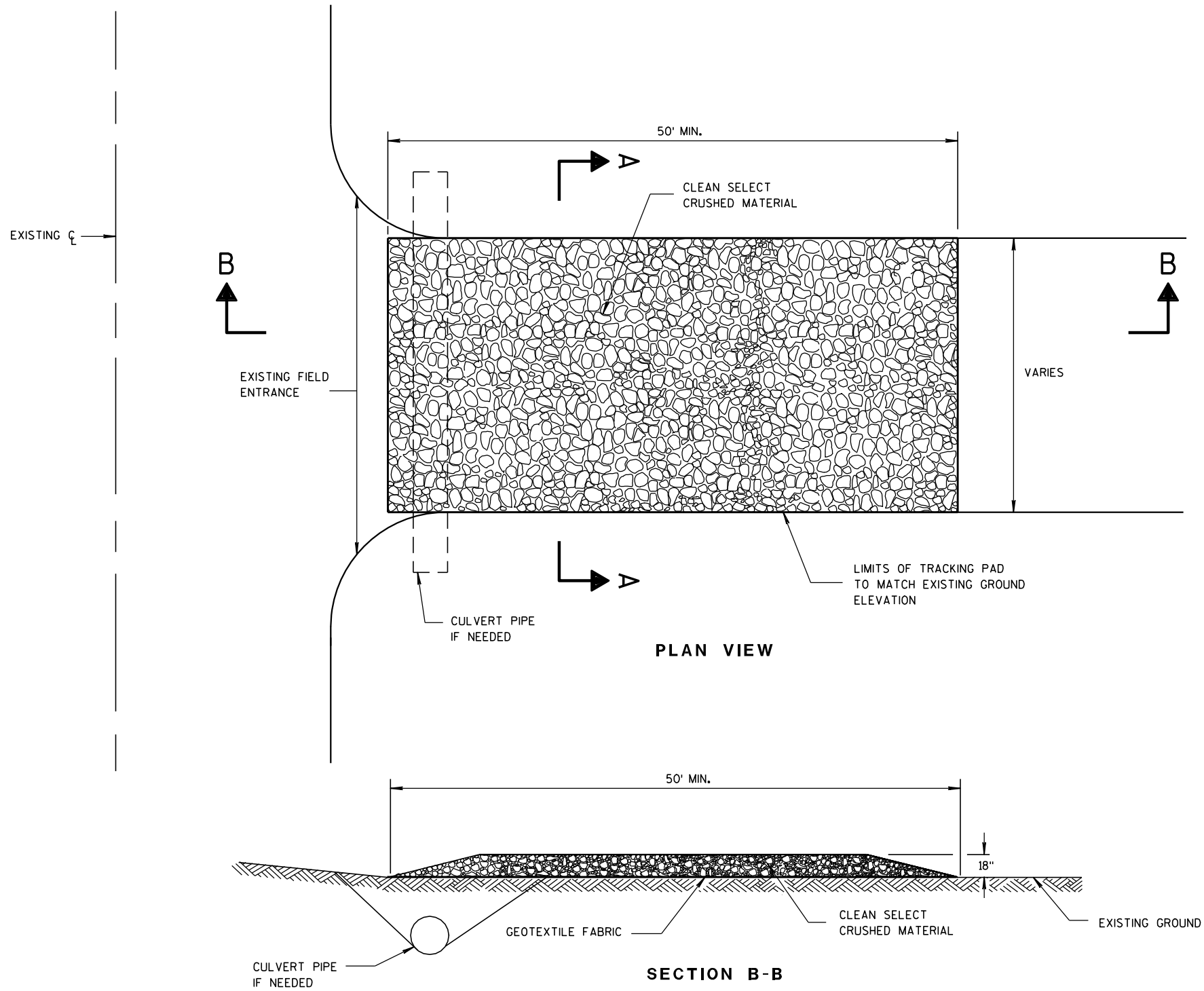
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

4-29-05
DATE

FHWA

/S/ Beth Canestra
CHIEF ROADWAY DEVELOPMENT ENGINEER



TRACKING PAD

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.

TRACKING PAD SHALL BE INSPECTED DAILY. DEFICIENT AREAS SHALL BE REPAIRED OR REPLACED IMMEDIATELY.

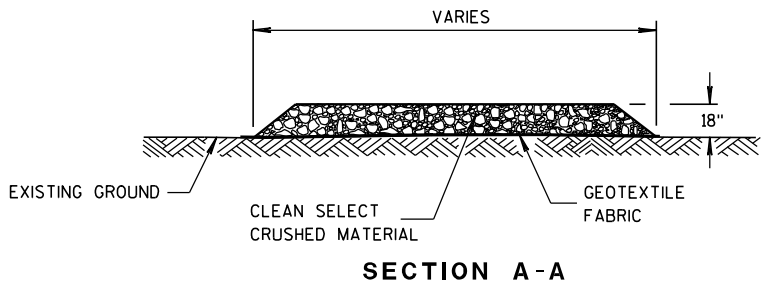
TRACKING PAD TO BE REMOVED AFTER CONSTRUCTION IS COMPLETED.

TRACKING PAD SHALL BE THE FULL WIDTH OF THE EGRESS POINT.

SURFACE WATER MUST BE PREVENTED FROM PASSING THROUGH THE TRACKING PAD. FLOWS SHALL BE DIVERTED AWAY, AROUND OR CONVEYED UNDER THE TRACKING PAD.

CULVERT PIPE OR OTHER BMP USED TO DIVERT WATER AWAY, AROUND OR UNDER THE TRACKING PAD SHALL BE DESIGNED TO CONVEY THE 2 YEAR - 24 HOUR EVENT.

THE COST OF ADDITIONAL BMP TO DIVERT WATER ARE INCIDENTAL TO THE TRACKING PAD BID ITEM.



TRACKING PAD

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
3/24/2011
DATE
/S/ Jerry H. Zogg
ROADWAY STANDARDS DEVELOPMENT
ENGINEER
FHWA

LEGEND

- TRAFFIC CONTROL DRUM
- ⦿ SIGN ON PERMANENT SUPPORT
- ➡ DIRECTION OF TRAFFIC
- ⚡➡ FLASHING ARROW BOARD
- ▨ WORK AREA

GENERAL NOTES

THIS DETAIL IS TYPICAL FOR CLOSING THE RIGHT SHOULDER. FOR CLOSING THE LEFT SHOULDER, REVERSE THE TRAFFIC CONTROL.

THIS DETAIL MAY BE USED FOR DIVIDED ROADWAYS WITH ANY NUMBER OF TRAVEL LANES.

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

ALL SIGNS ARE 48" X 48" UNLESS OTHERWISE NOTED.

SIGN LAYOUTS SHALL BE IN ACCORDANCE WITH THE FHWA'S MANUAL OF STANDARD HIGHWAY SIGNS OR THE WISCONSIN STANDARD SIGN PLATES.

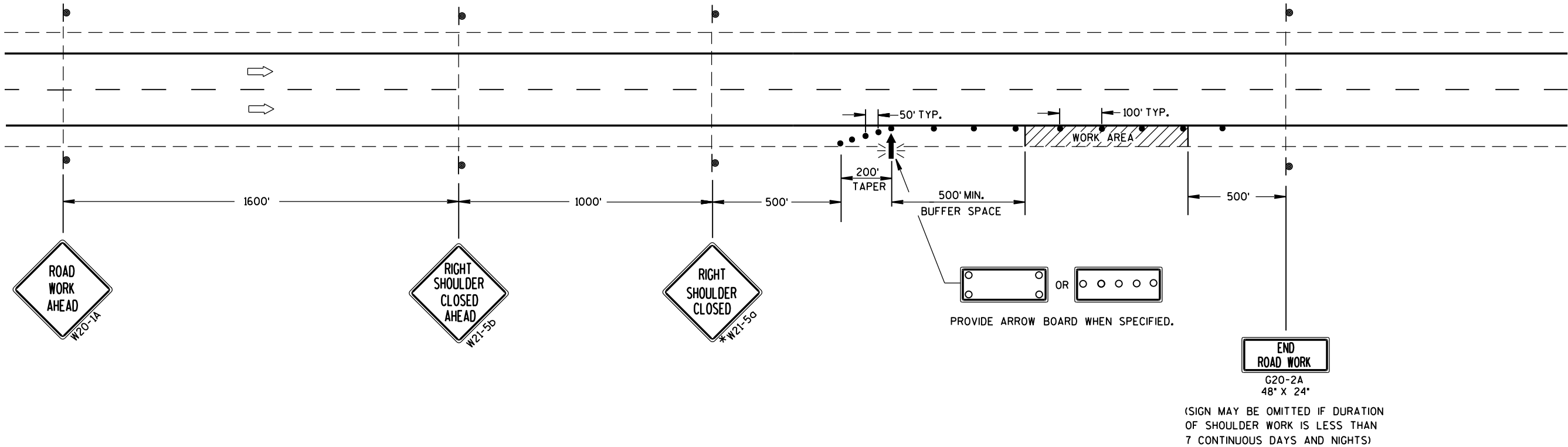
SIGNS THAT WILL BE IN PLACE LESS THAN 7 CONTINUOUS DAYS AND NIGHTS MAY BE MOUNTED ON PORTABLE SUPPORTS.

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.

CHANNELIZING DEVICES PLACED ADJACENT TO THE WORK AREA SHALL BE PULLED BACK FROM THE TRAVEL LANE WHEN WORK IS NOT IN PROGRESS.

WHEN A RAMP INTERSECTS THE FACILITY ON WHICH THE WORK IS BEING PERFORMED, ADDITIONAL TRAFFIC CONTROLS SHALL BE PROVIDED AS SPECIFIED IN THE PLANS AND/OR THE SPECIAL PROVISIONS OR AS APPROVED BY THE ENGINEER.

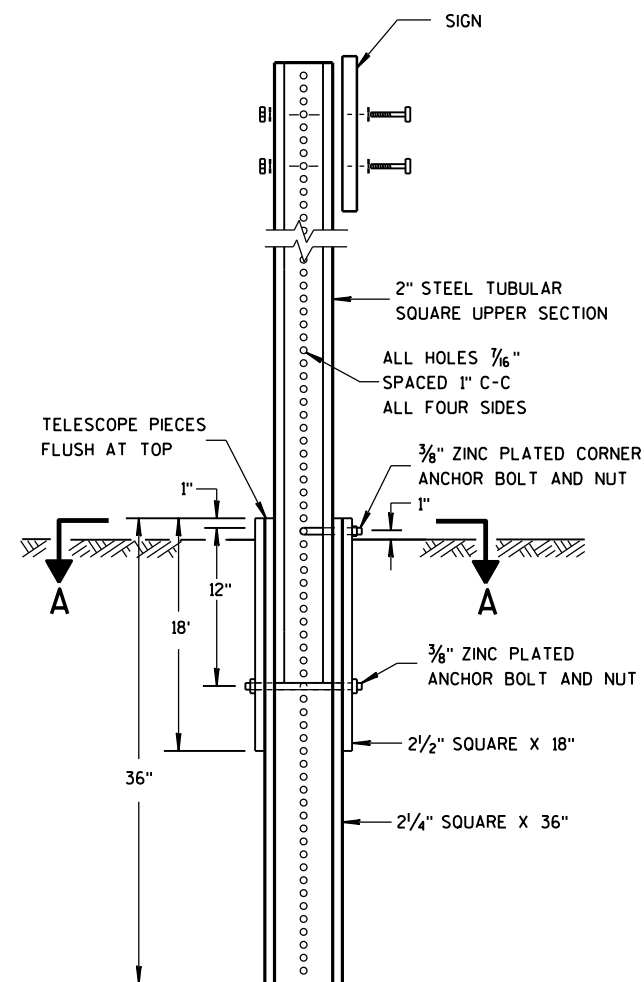
*FOR SHORT DURATION SHOULDER WORK OF LESS THAN ONE HOUR, THE W21-5a SIGN MAY BE OMITTED.



TRAFFIC CONTROL
SHOULDER CLOSURE ON DIVIDED
ROADWAY, SPEEDS GREATER
THAN 40 MPH

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
June 2016 /S/ Peter Amakobe Atepe
DATE STATEWIDE WORK ZONE TRAFFIC
FHWA SAFETY ENGINEER



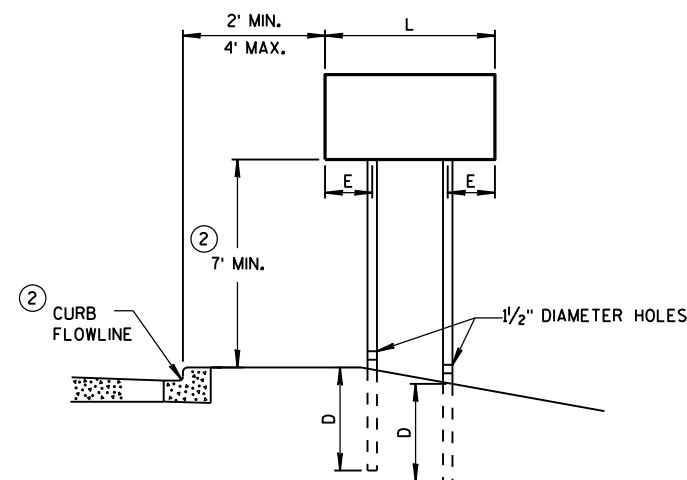
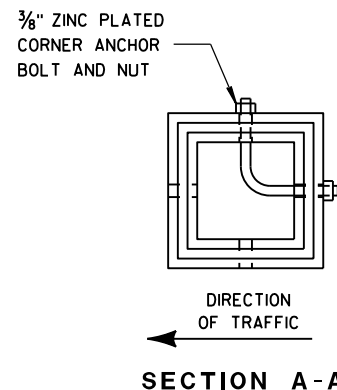
DETAIL OF TUBULAR
STEEL SIGN POST

TUBULAR STEEL POSTS

AREA OF SIGN INSTALLATION (SQ. FT.)	NUMBER OF REQUIRED TUBULAR STEEL POSTS
9 OR LESS	1
GREATER THAN 9 LESS THAN OR EQUAL TO 18	2
GREATER THAN 18 LESS THAN OR EQUAL TO 27	3

SIGNS WIDER THAN 3 FEET OR LARGER THAN 9 SQ. FT. SHALL
BE MOUNTED ON MULTIPLE POSTS (SEE ABOVE TABLE).

SIGNS LARGER THAN 27 SQ. FT. SHALL NOT BE MOUNTED
ON TUBULAR STEEL POSTS.

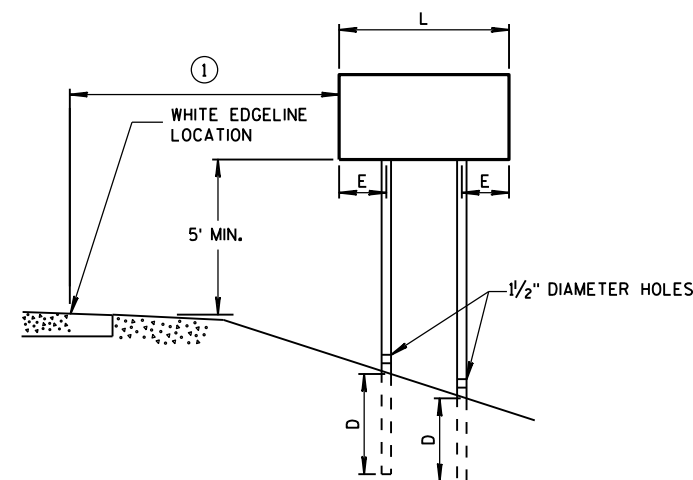
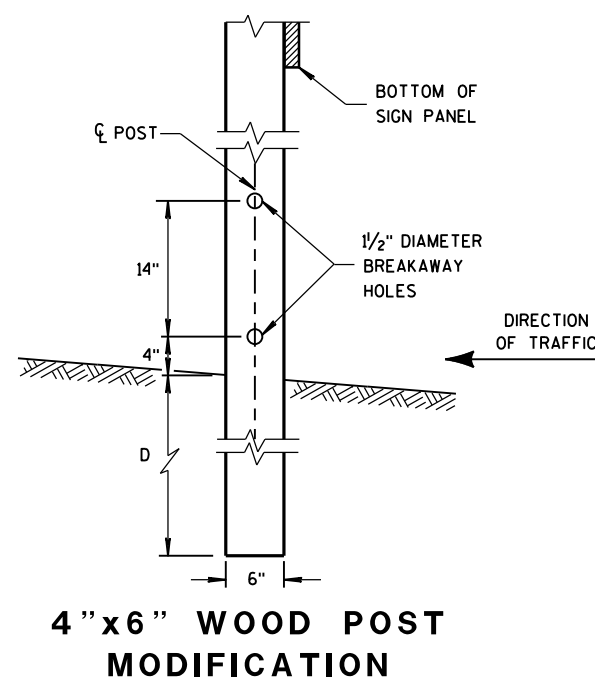


URBAN AREA

POST MOUNTING DETAIL FOR TEMPORARY TRAFFIC CONTROL FIXED MESSAGE SIGNS

WOOD POST
EMBEDMENT DEPTH

AREA OF SIGN INSTALLATION (SQ. FT.)	D (MIN)
20 OR LESS	4'
GREATER THAN 20	5'



RURAL AREA

4" X 6" WOOD POST

POST SPACING REQUIREMENTS		NUMBER OF WOOD POSTS REQUIRED
L	E	
48" OR LESS AND LESS THAN 20 SQ. FT.	-	1
LESS THAN 60"	12"	2
60" TO 120"	L/5	2
GREATER THAN 120" LESS THAN 168"	12"	3
168" AND GREATER	12"	4

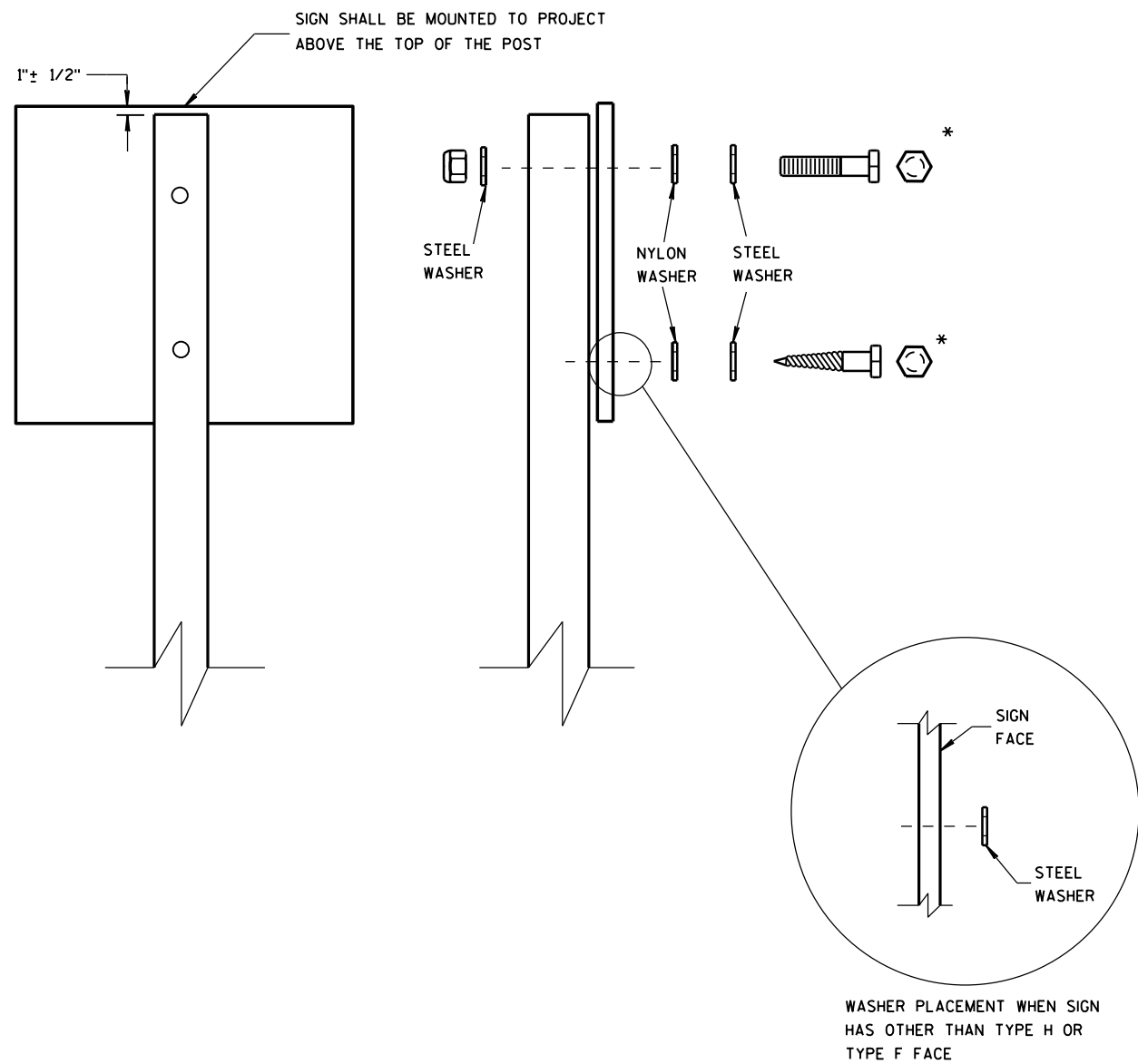
SEE NOTE ③

GENERAL NOTES

- ① 6 FEET FROM THE EDGE OF PAVEMENT (EDGE LINE LOCATION) UNLESS OTHERWISE DIRECTED BY THE PROJECT ENGINEER. LATERAL OFFSET SHOULD BE ADJUSTED TO AVOID THE DITCH FLOWLINE.
- ② THE EXISTENCE OF CURB AND GUTTER DOES NOT IN ITSELF MANDATE THE VERTICAL CLEARANCE ILLUSTRATED. THAT HEIGHT IS TYPICALLY MEASURED WHERE THERE IS SIDEWALK ADJACENT TO THE ROADWAY OR PARKING IS PERMITTED. IN THE ABSENCE OF SIDEWALK, VERTICAL CLEARANCE IS MEASURED FROM THE TOP OF THE CURB. IF NO SIDEWALK AND NO PARKING, VERTICAL CLEARANCE MAY BE REDUCED TO 5 FOOT MINIMUM. OFFSET OF SIGNS IS MEASURED FROM THE CURB FLOWLINE.
- ③ FOR SIGNS REQUIRING 4 POSTS, SPACE INTERMEDIATE POSTS EVENLY.

TEMPORARY TRAFFIC CONTROL
SIGN MOUNTING

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION



NUTS, BOLTS AND LAGS USED FOR MOUNTING SIGNS SHALL HAVE HEXAGONAL HEADS AND SHALL BE EITHER:

- A. HOT DIP GALVANIZED IN ACCORDANCE WITH ASTM DESIGNATION: A 153, CLASS D, OR SC 3
- B. ELECTRO-GALVANIZED IN ACCORDANCE WITH ASTM DESIGNATION: B 633, TYPE III, SC 3

THREADS ON BOLTS AND NUTS SHALL BE MANUFACTURED WITH SUFFICIENT ALLOWANCE FOR THE CADMIUM PLATE OR GALVANIZED COATING TO PERMIT THE NUTS TO RUN FREELY ON THE BOLTS.

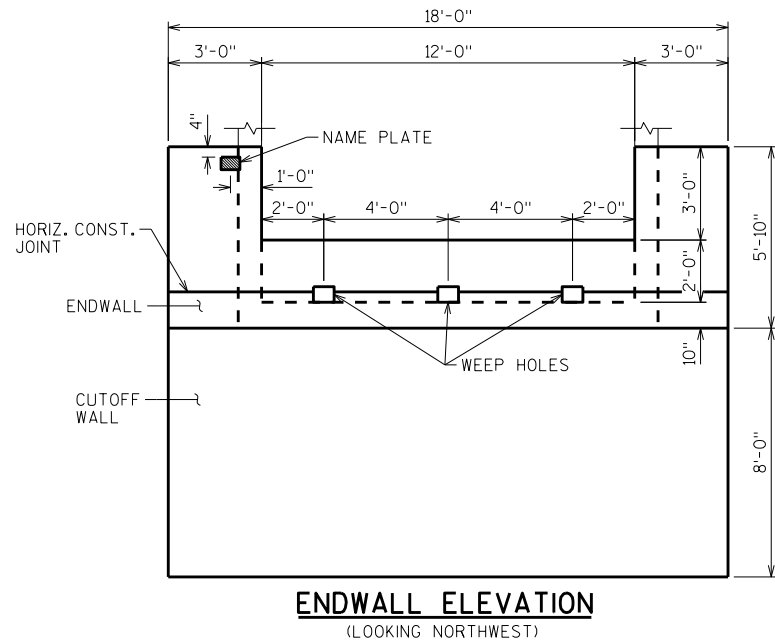
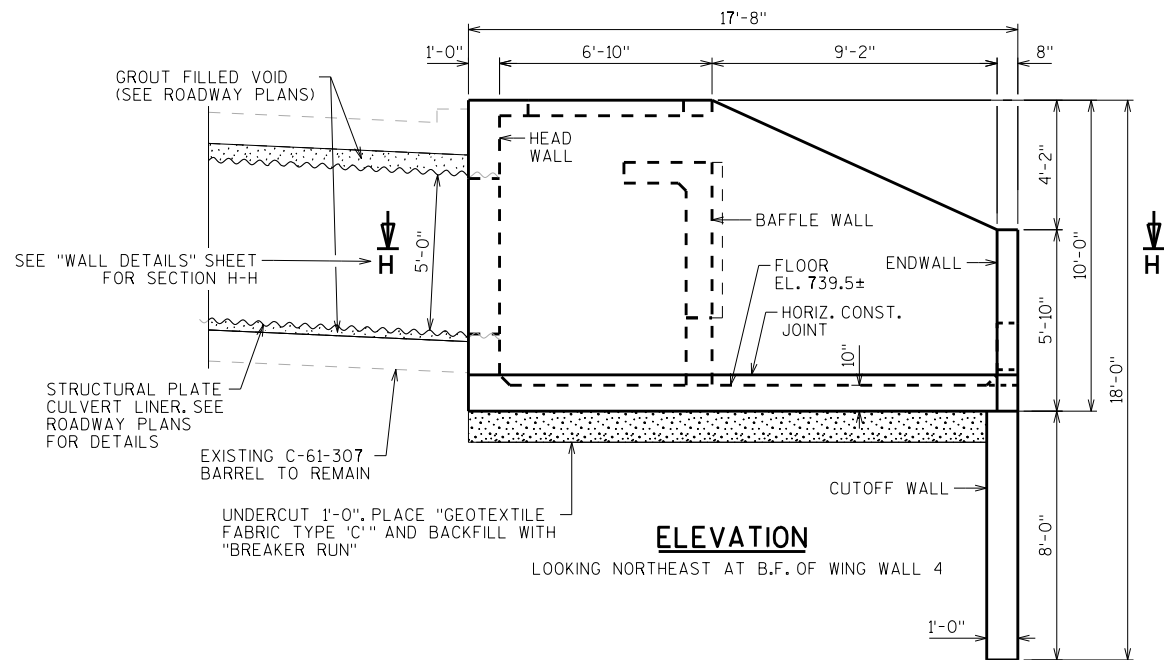
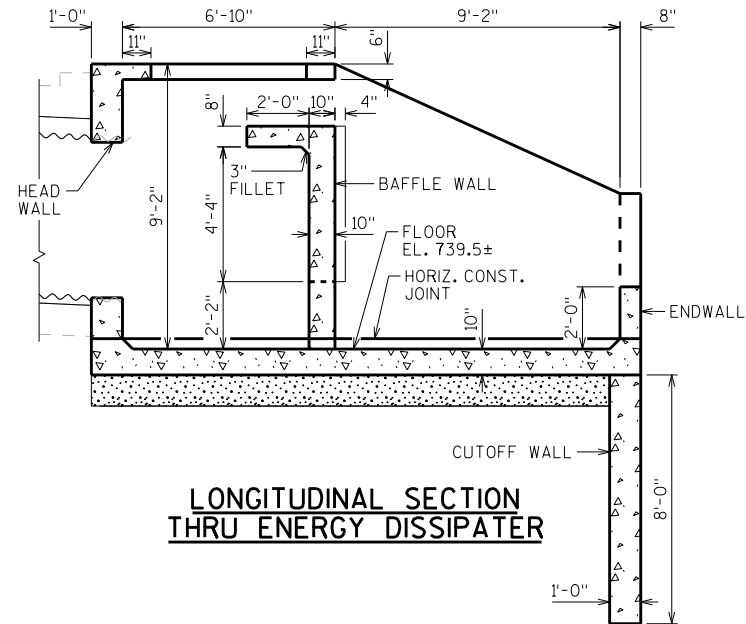
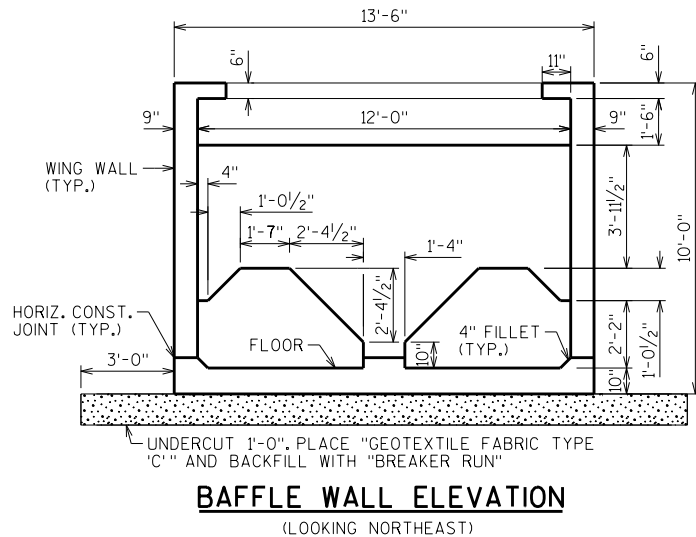
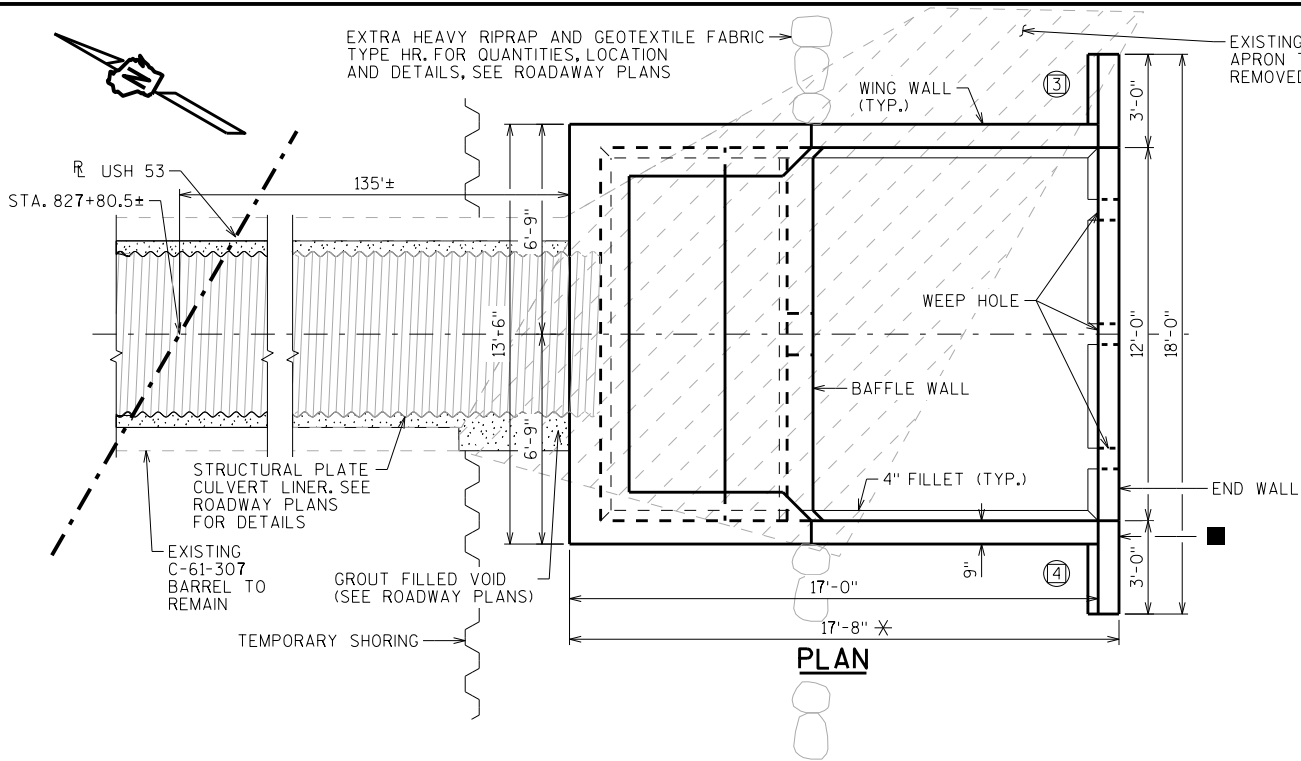
- WOOD POSTS (4" x 4" or 4" x 6")
- LAG SCREWS - 3/8" x 3"
 - MACHINE BOLTS - 5/16" x 6-1/2" OR 7" LENGTH W/ NUTS

- SQUARE STEEL POSTS (2" x 2")
- MACHINE BOLTS - 3/8" x 3-1/4" LENGTH W/ NUTS
 - RIVETS - 9/32" (6605-9-6) BULB-TITE, TRI-FOLD, ALUMINUM BODY/MANDREL O.D. FLANGE .720-.765 INCH, GRIP RANGE .042-.375 INCH

- WASHERS (ALL POSTS) -
- 1-1/4" O.D. x 3/8" I.D. x 1/16" STEEL
 - 1-1/4" O.D. x 3/8" I.D. x .080 NYLON FOR ALL TYPE H SIGNS

* TWO DIFFERENT FASTENING SYSTEMS ARE SHOWN FOR ILLUSTRATION PURPOSES. ON ANY INDIVIDUAL SIGN, EITHER ONE OR THE OTHER SYSTEM SHALL BE USED. ACTUAL NUMBER OF FASTENERS PER SIGN VARIES WITH THE SIGN AREA. FOR A SINGLE POST INSTALLATION, ALL SIGNS GREATER THAN 9 SQ. FT. REQUIRE THE USE OF 3 FASTENERS.

ATTACHMENT OF SIGNS TO POSTS	
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
APPROVED June 2017 DATE	/S/ Andrew Heidtke WORK ZONE ENGINEER
FHWA	



- NAME PLATE LOCATION
- ✱ BUILD ENERGY DISSIPATER LEVEL
- ⊙ INDICATES WING NUMBER

LIST OF DRAWINGS

1. ENERGY DISSIPATER
2. WING & FLOOR DETAILS
3. WALL DETAILS
4. ENERGY DISSIPATER DETAILS
5. SUBSURFACE EXPLORATION

STRUCTURE DESIGN CONTACTS:

MICHAEL LARSON (608) 267-4539
LAURA SHADEWALD (608) 267-9592

DESIGN DATA

MATERIAL PROPERTIES:

CONCRETE MASONRY: $f'_c = 3,500$ P.S.I.
BAR STEEL REINFORCEMENT: $f_y = 60,000$ P.S.I.

HYDRAULIC DATA

100 YEAR FREQUENCY

$Q_{100} = 150$ C.F.S.
 $VEL_{100} = 7.40$ F.P.S. (AFTER DISSIPATER)
 $VEL_{100} = 14.40$ F.P.S. (BEFORE DISSIPATER)
 $HW_{100} = EL. 762.14$
WATERWAY AREA = 19.6 SQ. FT.
DRAINAGE AREA = 0.11 SQ. MI.
ROADWAY OVERTOPPING = N/A
SCOUR CRITICAL CODE = 8

2 YEAR FREQUENCY

$Q_2 = 20$ C.F.S.
 $VEL_2 = 4.70$ F.P.S.
 $HW_2 = EL. 758.58$

TRAFFIC VOLUME

USH 53
ADT = 9,000 (2038)
R.D.S. = 60 M.P.H.

TOTAL ESTIMATED QUANTITIES

BID ITEM NUMBER	BID ITEMS	UNIT	TOTALS
203.0200	REMOVING OLD STRUCTURE STA. 827+83.00	LS	1
206.2000	EXCAVATION FOR STRUCTURES CULVERTS C-61-307	LS	1
210.2500	BACKFILL STRUCTURE TYPE B	TON	131
311.0115	BREAKER RUN	CY	12
504.0100	CONCRETE MASONRY CULVERTS	CY	28
505.0400	BAR STEEL REINFORCEMENT HS STRUCTURES	LB	940
505.0600	BAR STEEL REINFORCEMENT HS COATED STRUCTURES	LB	1,820
511.1200	TEMPORARY SHORING C-61-307	SF	210
645.0105	GEOTEXTILE TYPE C	SY	45

GENERAL NOTES

DRAWINGS SHALL NOT BE SCALED.

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

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

BEVEL EXPOSED EDGES OF CONCRETE $\frac{3}{4}$ " UNLESS OTHERWISE NOTED.

THE UPPER LIMITS OF "EXCAVATION FOR STRUCTURES CULVERTS C-61-307" SHALL BE THE EXISTING GROUNDLINE.

ALL VOLUME WHICH CANNOT BE PLACED BEFORE NEW CONSTRUCTION AND NOT OCCUPIED BY THE NEW STRUCTURE SHALL BE BACKFILLED WITH STRUCTURE BACKFILL WITHIN THE LENGTH OF THE ENERGY DISSIPATER.

THE QUANTITY FOR BACKFILL STRUCTURE IS CALCULATED BASED ON THE DETAIL SHOWN ON THE "ENERGY DISSIPATER DETAILS" SHEET.

THE CONCRETE IN THE CUTOFF WALLS MAY BE PLACED UNDERWATER IF THE EXCAVATION CANNOT BE DEWATERED.

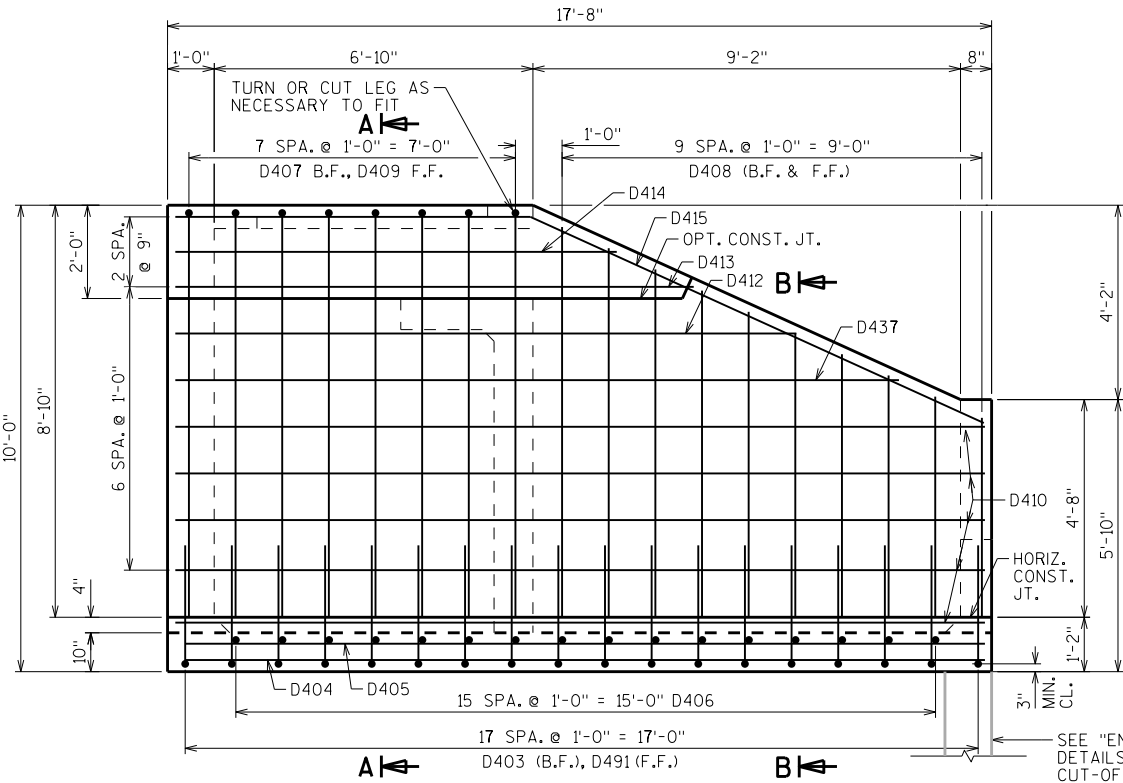
THE CONTRACTOR MAY ELECT TO SUBSTITUTE #10R #2 CONCRETE COARSE AGGREGATE, SELECT CRUSHED MATERIAL OR OTHER GRANULAR MATERIAL AS APPROVED BY THE FIELD ENGINEER, IN LIEU OF THE BREAKER RUN, TO BE UTILIZED AS A CONSTRUCTION PLATFORM FOR THE BOX. THE CONTRACTOR IS RESPONSIBLE FOR BASE STABILITY WITH ANY SUBSTITUTED MATERIAL.

NO.	DATE	REVISION	BY
 BUREAU OF STRUCTURES			
ACCEPTED <i>William C. Dreher</i> 4/5/18 CHIEF STRUCTURES DESIGN ENGINEER DATE			
STRUCTURE C-61-307			
USH 53 OVER DRAINAGE			
COUNTY	TREMPEALEAU	TOWN	GALE
DESIGN SPEC AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS			
DESIGNED BY	DESIGNED CK'D.	DRAWN BY	PLANS CK'D.
MJL	NAR	MJL	NAR
ENERGY DISSIPATER			SHEET 1 OF 5

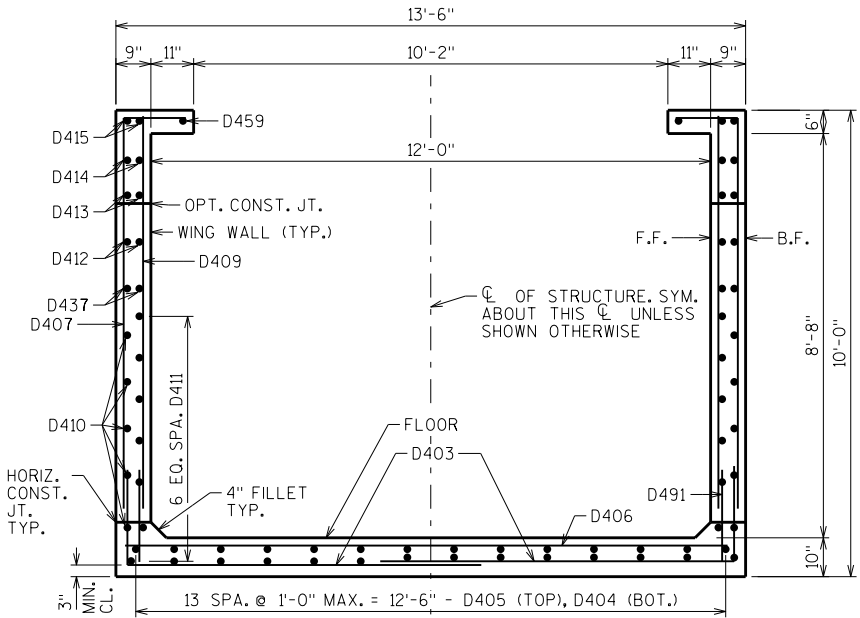
I.D. 1630-00-00A

DATE: MAR 2018

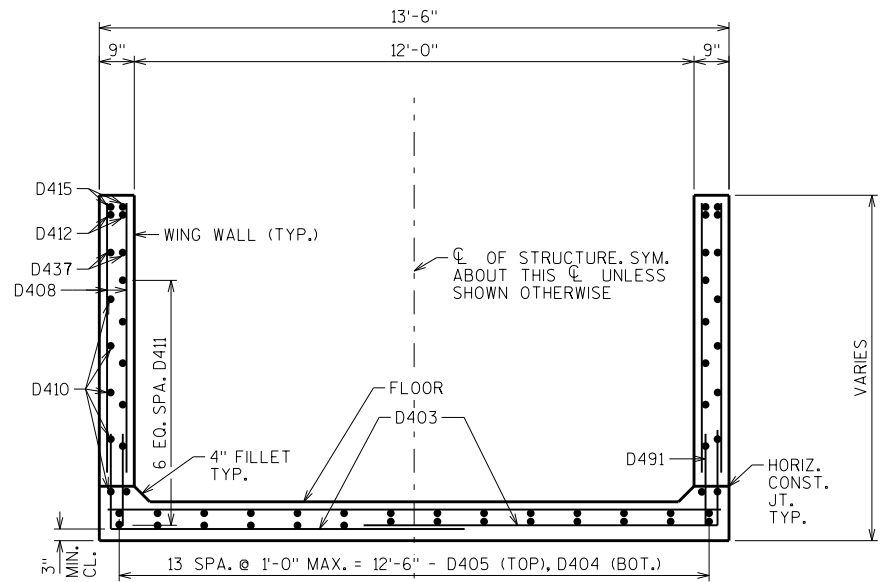
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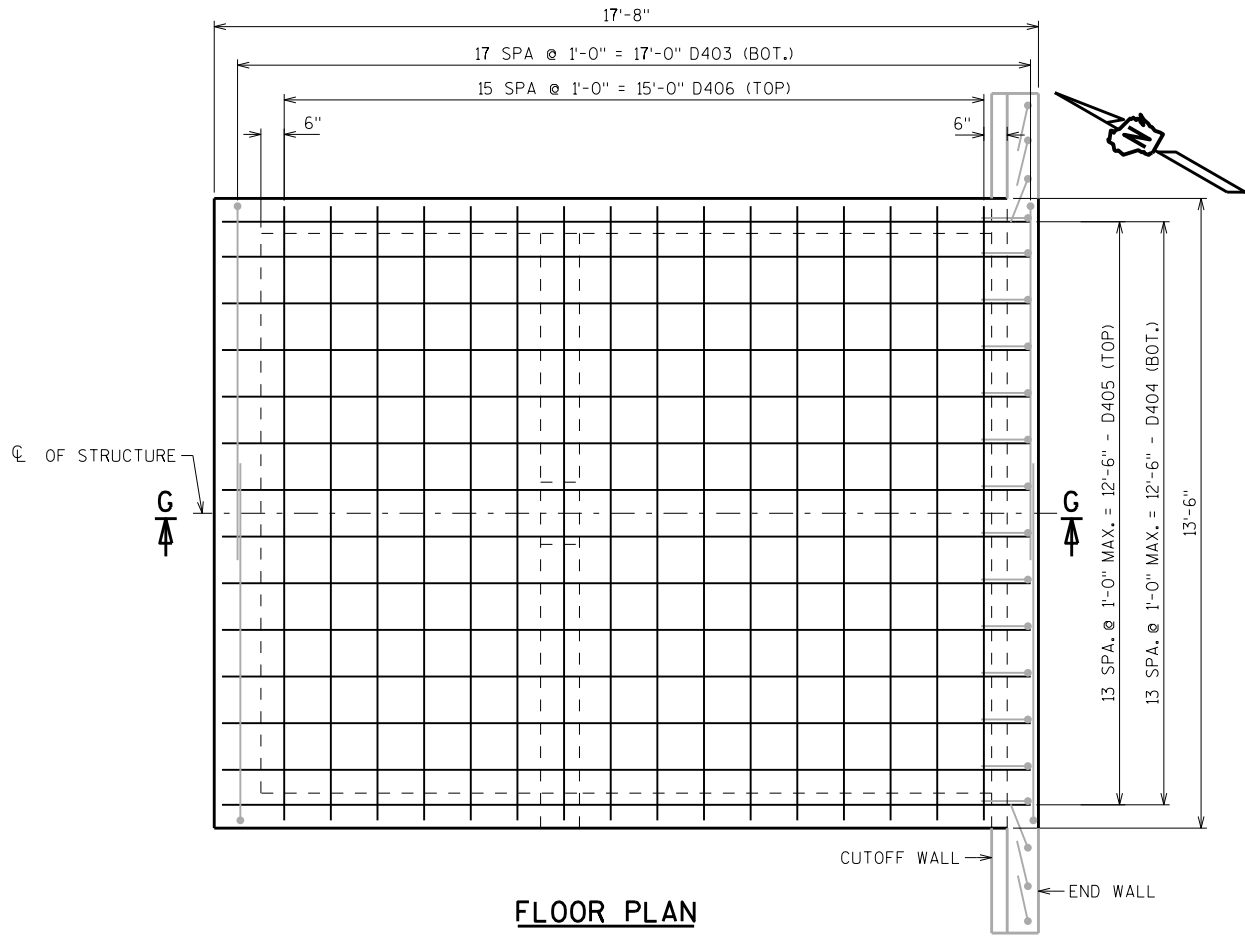
WING 3 & 4 ELEVATION
SHOWING B.F. REINFORCEMENT



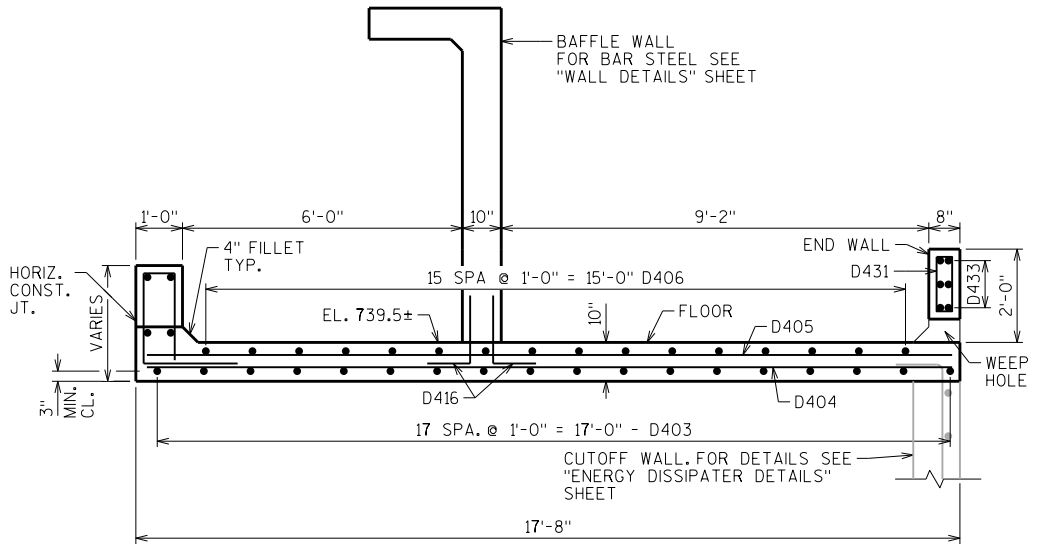
SECTION A-A
HEAD WALL NOT SHOWN FOR CLARITY



SECTION B-B
BAFFLE WALL NOT SHOWN FOR CLARITY

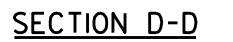
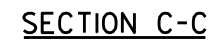


FLOOR PLAN



SECTION G-G

NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION STRUCTURES DESIGN SECTION			
STRUCTURE C-61-307			
DRAWN BY		MJL	PLANS CK'D. NAR
APRON & FLOOR DETAILS		SHEET 2	



SECTION E-E



BAFFLE WALL SECTION



NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION STRUCTURES DESIGN SECTION			
STRUCTURE C-61-307			
		DRAWN BY MJL	PLANS CK'D. NAR
WALL DETAILS		SHEET 3	

BILL OF BARS

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

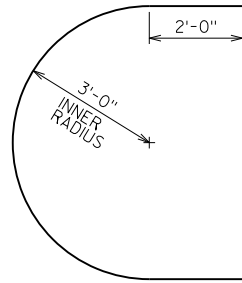
BAR MARK	COAT	NO. REQ'D.	LENGTH	BENT	BAR SERIES	LOCATION
D401		9	17'-6"			CUTOFF WALL - HORIZ.
D402		20	9'-4"	X		CUTOFF WALL - VERT.
D403		36	9'-11"	X		FLOOR/WING BOT. - TRANS.
D404		14	17'-4"			FLOOR BOT. - LONGIT.
D405		14	17'-4"			FLOOR TOP. - LONGIT.
D406		16	13'-2"			FLOOR TOP. - TRANS.
D407	X	16	9'-11"	X		WING - VERT. - B.F.
D408	X	40	6'-4"		▲	WING - VERT. - B.F. & F.F.
D409	X	16	8'-8"			WING - VERT. - F.F.
D410	X	10	18'-3"	X		WING/END WALL - HORIZ. - B.F.
D411	X	14	19'-10"	X		WING - HORIZ. - F.F.
D412	X	4	13'-3"			WING - HORIZ. - F.F. & B.F.
D413	X	4	11'-1"			WING - HORIZ. - F.F. & B.F.
D414	X	4	9'-5"			WING - HORIZ. - F.F. & B.F.
D415	X	4	18'-3"	X		WING - HORIZ. - F.F. & B.F.
D416	X	4	3'-6"	X		FLOOR/BAFFLE WALL DOWELS
D417	X	4	2'-3"	X		BAFFLE WALL - HORIZ.
D418	X	2	3'-0"			BAFFLE WALL - HORIZ.
D419	X	2	5'-0"			BAFFLE WALL - HORIZ.
D420	X	16	8'-4"	X		BAFFLE WALL - HORIZ.
D421	X	2	9'-1"	X		BAFFLE WALL - VERT. - F.F.
D422	X	2	6'-8"			BAFFLE WALL - VERT. - B.F.
D423	X	2	7'-6"	X		BAFFLE WALL - VERT. - F.F.
D424	X	2	5'-1"			BAFFLE WALL - VERT. - B.F.
D425	X	4	6'-6"	X		BAFFLE WALL - VERT. - F.F.
D426	X	4	4'-1"			BAFFLE WALL - VERT. - B.F.
D427	X	4	6'-0"	X		BAFFLE WALL - VERT. - F.F.
D428	X	4	3'-7"			BAFFLE WALL - VERT. - B.F.
D429	X	12	2'-6"			BAFFLE WALL - HORIZ.
D430	X	16	4'-6"	X		FLOOR/END WALL - VERT. - F.F.
D431	X	6	2'-6"	X		END WALL - VERT.
D432	X	16	2'-5"			END WALL - VERT. - B.F.
D433	X	6	15'-4"			END WALL - HORIZ.
D434	X	14	3'-6"	X		END WALL - HORIZ. - B.F.
D435	X	12	4'-6"			END WALL - VERT.
D436	X	2	6'-4"	X		HEAD WALL/FLOOR - VERT.
D437	X	4	15'-6"			WING - HORIZ. - F.F. & B.F.
D438	X	2	7'-1"	X		HEAD WALL/FLOOR - VERT.
D439						BAR NOT USED
D440	X	2	8'-11"	X		HEAD WALL/FLOOR - VERT.
D441	X	6	8'-8"			HEAD WALL - VERT. - F.F.
D442	X	6	10'-2"			HEAD WALL - VERT. - B.F.
D443	X	10	8'-4"	X		HEAD WALL - HORIZ. - B.F.
D444	X	10	7'-5"			HEAD WALL - HORIZ. - F.F.
D445	X	4	13'-6"	X		HEAD WALL - AROUND OPENING
D446	X	4	5'-3"	X		HEAD WALL - HORIZ. - B.F.
D447	X	4	4'-4"			HEAD WALL - HORIZ. - F.F.
D448	X	4	4'-7"	X		HEAD WALL - HORIZ. - B.F.
D449	X	4	3'-8"			HEAD WALL - HORIZ. - F.F.
D450	X	2	4'-5"	X		HEAD WALL - HORIZ. - B.F.
D451	X	2	3'-6"			HEAD WALL - HORIZ. - F.F.
D452	X	2	4'-11"	X		HEAD WALL - VERT.
D453						BAR NOT USED
D454	X	2	5'-8"	X		HEAD WALL - VERT.
D455	X	4	4'-1"	X		BAFFLE WALL - VERT.
D456	X	2	7'-8"	X		HEAD WALL - VERT.
D457	X	1	13'-0"			TOP SKIRT WALL - HORIZ.
D458	X	4	6'-11"	X		BAFFLE WALL - VERT.
D459	X	2	6'-9"			TOP SKIRT WALL - HORIZ.
D491	X	36	2'-7"			WING - VERT. - F.F.
D492	X	12	2'-7"			WING - VERT. - F.F.
D493	X	12	4'-6"	X		HEAD WALL - VERT. - B.F.
D494	X	12	2'-7"			HEAD WALL - VERT. - F.F.

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

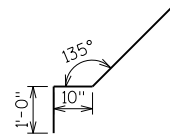
BAR SERIES TABLE

BAR MARK	NO. REQ'D.	LENGTH
D408	4 SERIES OF 10	4'-3" TO 8'-4"

BUNDLE AND TAG EACH SERIES SEPARATELY.



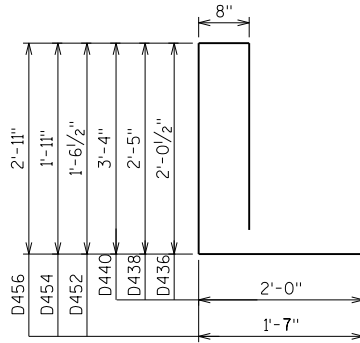
D445



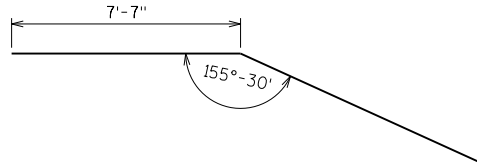
D455

2'-0"	D493
1'-0"	D450
1'-0"	D448
1'-0"	D446
1'-0"	D443
1'-0"	D434
2'-0"	D430
2'-6"	D427
2'-6"	D425
2'-6"	D423
2'-6"	D421
1'-0"	D420
1'-0"	D416
2'-7"	D411
1'-0"	D410
1'-4"	D407
2'-7"	D403
1'-0"	D402

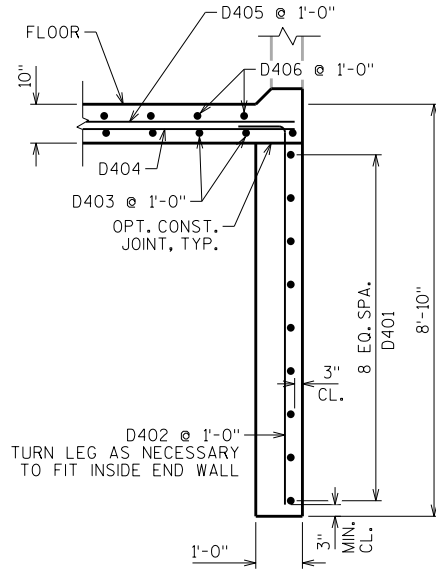
D417, D431



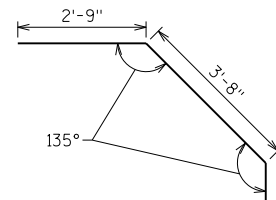
D436, D438, D440
D452, D454, D456



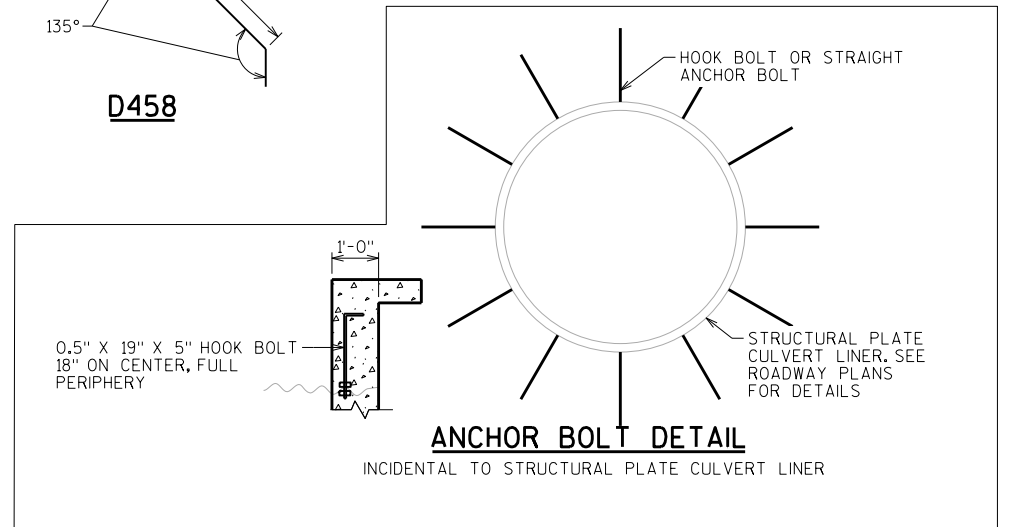
D415



CUTOFF WALL

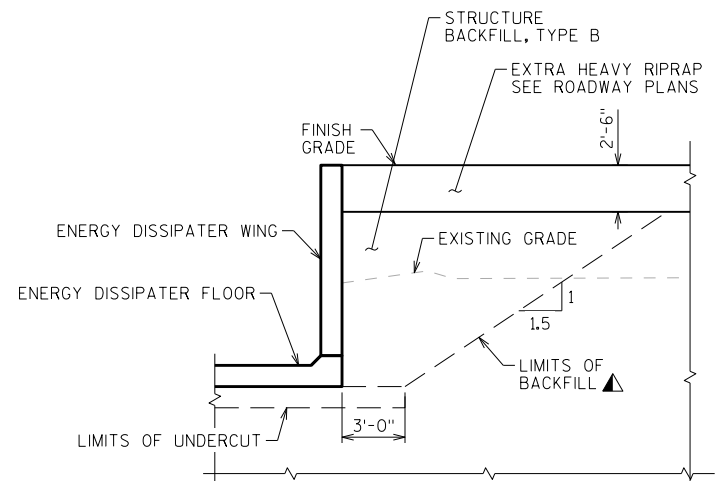


D458



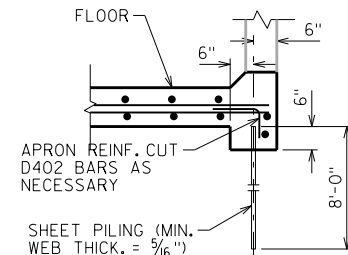
ANCHOR BOLT DETAIL

INCIDENTAL TO STRUCTURAL PLATE CULVERT LINER



TYPICAL SECTION
THRU BOX CULVERT WING

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



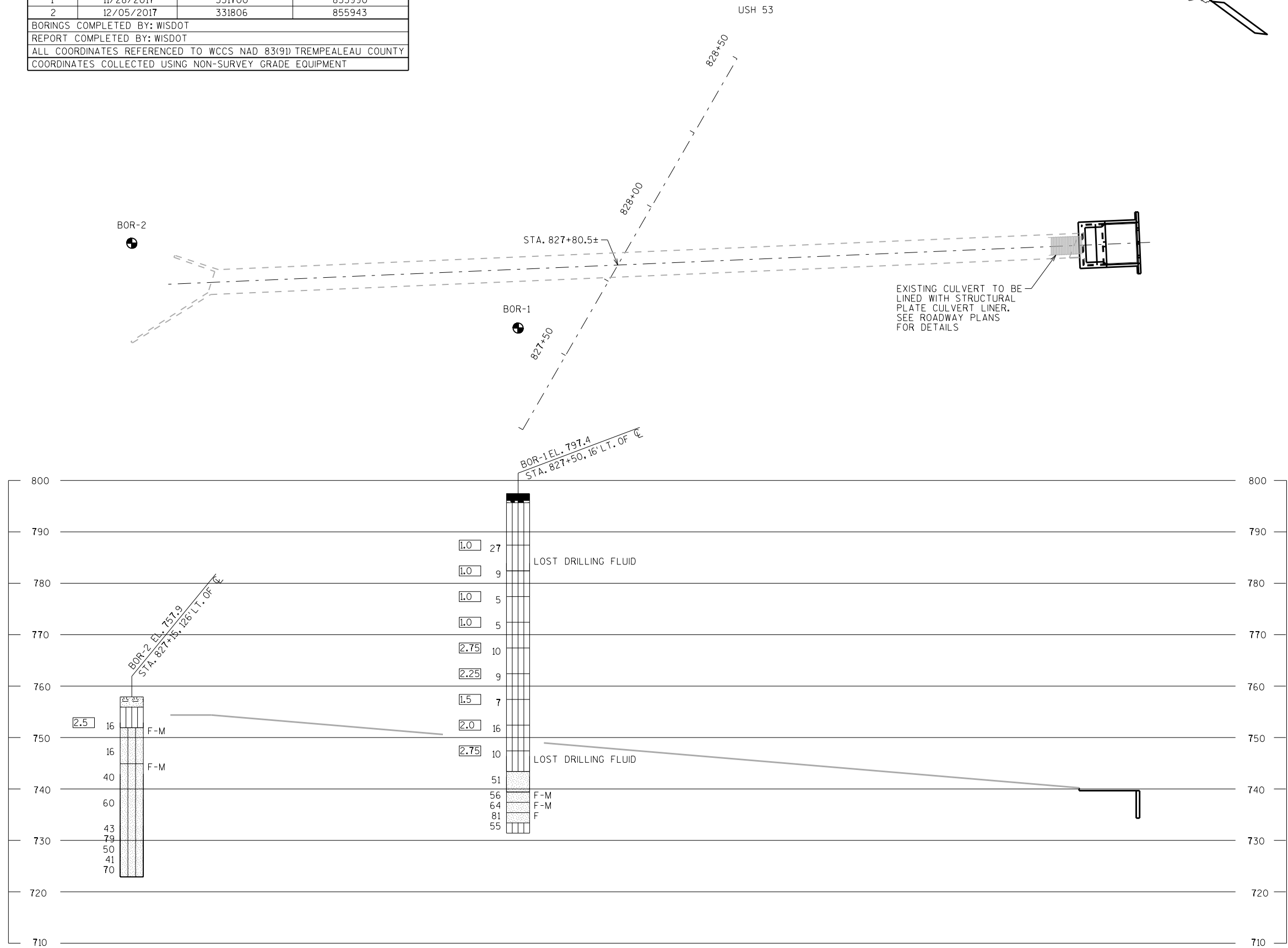
ALTERNATE CUT-OFF WALLS

THE ABOVE ALTERNATIVE MAY BE USED IN LIEU OF CAST-IN-PLACE CONCRETE CUT-OFF WALLS. PAYMENT WILL BE BASED ON THE CONCRETE CUT-OFF WALLS.

NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION STRUCTURES DESIGN SECTION			
STRUCTURE C-61-307			
		DRAWN BY	PLANS CK'D.
		MJL	NAR
ENERGY DISSIPATER DETAILS		SHEET 4	

SCALE = 2.00

BORING #	DATE COMPLETED	NORTHING (Y)	EASTING (X)
1	11/28/2017	331700	855990
2	12/05/2017	331806	855943
BORINGS COMPLETED BY: WISDOT			
REPORT COMPLETED BY: WISDOT			
ALL COORDINATES REFERENCED TO WCCS NAD 83(91) TREMPPEALEAU COUNTY			
COORDINATES COLLECTED USING NON-SURVEY GRADE EQUIPMENT			



STATE PROJECT NUMBER		
1630-00-00		
MATERIAL SYMBOLS		
ASPHALT	TOPSOIL	PEAT
CONCRETE	FILL	GRAVEL
SAND	CLAY	SILT
BOULDERS OR COBBLES	LIMESTONE	BEDROCK (UNKNOWN)
SHALE	SANDSTONE	IGNEOUS/META

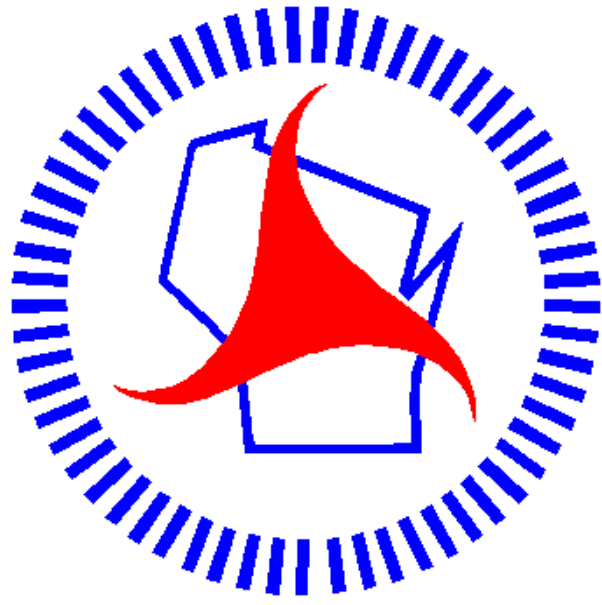
LEGEND OF BORING	
BORING #/EL. STA./OFFSET	
ST 17	
(1) 0.25	
(2) 17	
F-C	COBBLE OR BOULDER
	WEATHERED LIMESTONE
	CORE RUN #1 - 24'-29'
	REC=80%, ROD=72%
(1) UNCONFINED STRENGTH, AS DETERMINED BY A POCKET PENETROMETER (TSF)	
(2) UNLESS OTHERWISE, SPECIFIED THE SPT 'N' VALUE IS BASED ON AASHTO T-206, STANDARD 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
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION STRUCTURES DESIGN SECTION			
STRUCTURE C-61-307			
DRAWN BY TLP/MJL		PLANS CKD. NAR	
SUBSURFACE EXPLORATION		SHEET 5	

Notes



Wisconsin Department of Transportation

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through innovation and exceptional service.

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