

ORDER OF SHEETS

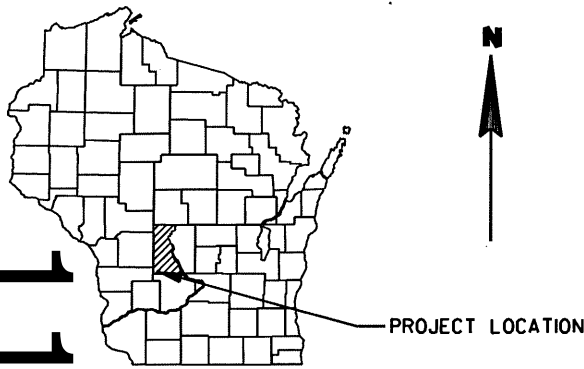
- Section No. 1 Title
- Section No. 2 Typical Sections and Details
- Section No. 3 Estimate of Quantities
- Section No. 3 Miscellaneous Quantities
- ~~Section No. 4 Right of Way Plot~~
- Section No. 5 Plan and Profile (includes erosion control plan)
- Section No. 6 Standard Detail Drawings
- ~~Section No. 7 Sign Plates~~
- Section No. 8 Structure Plans
- ~~Section No. 9 Computer Earthwork Data~~
- Section No. 9 Cross Sections

TOTAL SHEETS = 34

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
PLAN OF PROPOSED IMPROVEMENT
HILLSBORO - REEDSBURG
BOX CULVERT C-29-11
STH 33
JUNEAU COUNTY

STATE PROJECT NUMBER
5032-00-71

STATE PROJECT	FEDERAL PROJECT	
	PROJECT	CONTRACT
5032-00-71		



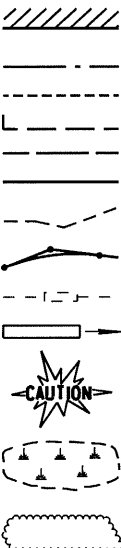
DESIGN DESIGNATION

- A.A.D.T. (2013) = 3,200
- A.A.D.T. (2033) = 3,900
- D.H.V. = 300
- D.D. = 60/40
- T. = 7.5%
- DESIGN SPEED = 30 mph
- ESALS = 642,400

CONVENTIONAL SYMBOLS

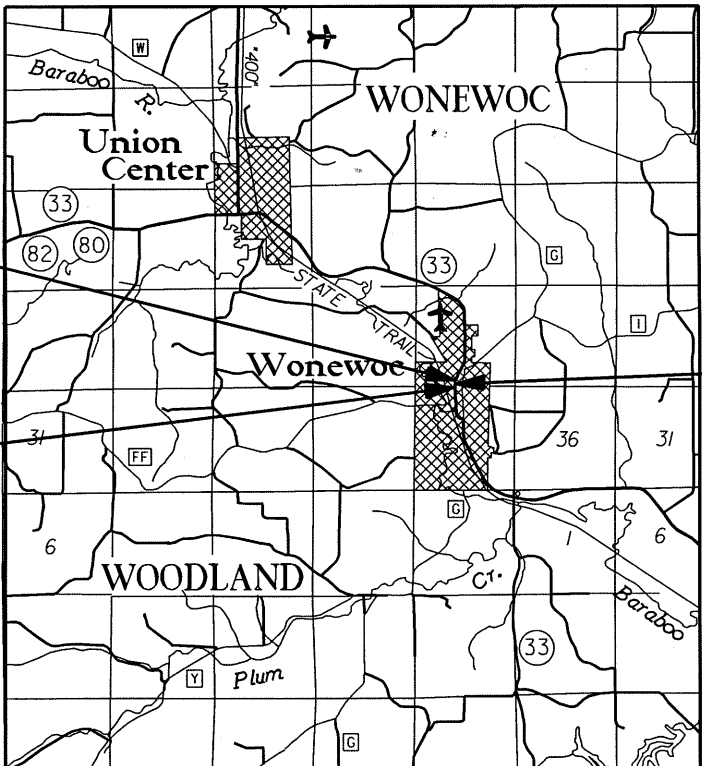
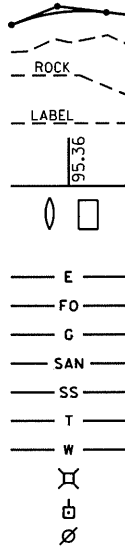
PLAN

- 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



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. 10+50
Y = 106,166.14
X = 423,924.02

BEGIN PROJECT
STA. 9+50
Y = 106,071.03
X = 423,893.14

STRUCTURE C-29-11 (REHAB)
STA 10+00.00

LAYOUT
SCALE 0 MI.
TOTAL NET LENGTH OF CENTERLINE = 0.02 MI.

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

ORIGINAL PLANS PREPARED BY:

MSA
PROFESSIONAL SERVICES

TRANSPORTATION • MUNICIPAL
DEVELOPMENT • ENVIRONMENTAL
1230 South Boulevard Baraboo, WI 53913
608-356-2771 1-800-362-4905 Fax: 608-356-2770
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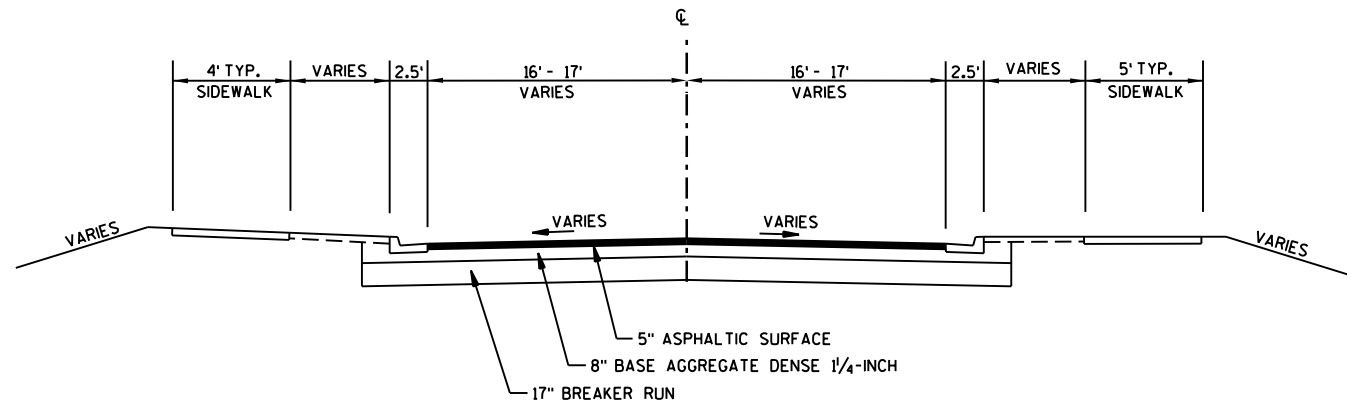
1/29/13 Date *Leah J. Rhodes* Signature

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

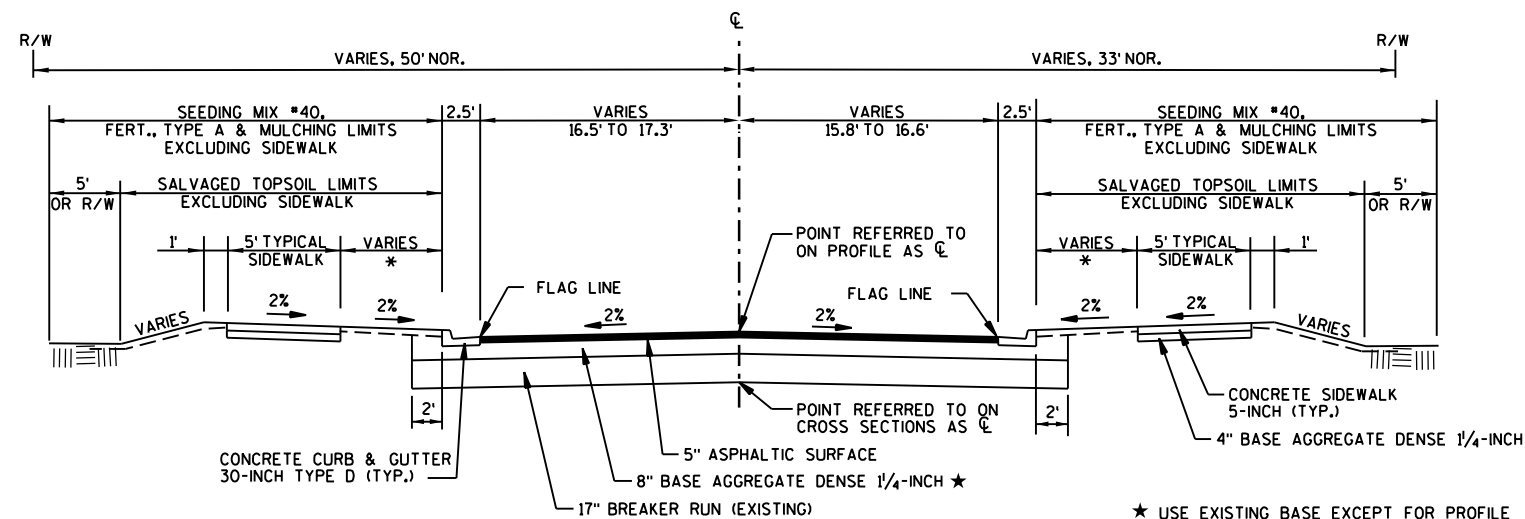
PREPARED BY
Surveyor MSA Professional Services, Inc.
Designer MSA Professional Services, Inc.
Project Manager Robert Winterton
Regional Examiner
Regional Supervisor Oscar Ian Winger
C.O. Examiner

APPROVED FOR THE DEPARTMENT
DATE: 1-24-13 *Oscar Ian Winger* (Signature)

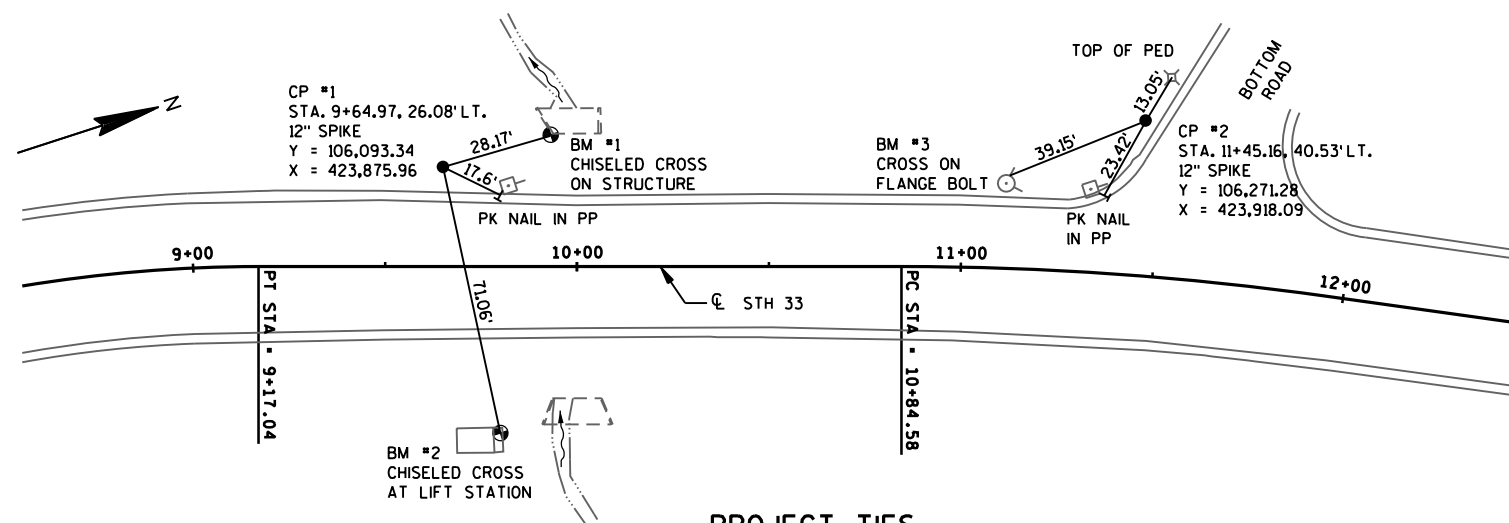
E



TYPICAL EXISTING SECTION



TYPICAL FINISHED SECTION



PROJECT TIES

ALL MEASUREMENTS ARE SLOPE DISTANCES.

DESIGN CONTACT

MSA PROFESSIONAL SERVICES, INC.
ATTN.: LEAH J. RHODES P.E.
1230 SOUTH BOULEVARD
BARABOO, WI 53913
608-355-8945

DNR LIAISON

DEPARTMENT OF NATURAL RESOURCES
ATTN.: MARC HERSHFIELD
DNR SERVICE CENTER
473 GRIFFITH DRIVE
WISCONSIN RAPIDS, WI 54494
PHONE: (715) 421-7867



Toll Free (800) 242-8511
Milwaukee Area (414) 259-1181
Hearing Impaired TDD (800) 542-2289
www.DiggersHotline.com

UTILITIES

GAS/PETROLEUM:
WISCONSIN POWER AND LIGHT CO.
ATTN: JASON HOGAN
SUITE 1000
4902 N BILTMORE LANE
MADISON, WI 53718
PHONE: (608) 458-4871
JASONHOGAN@ALLIANTENERGY.COM

WATER, SEWER & ELECTRIC:
VILLAGE OF WONEWOC
ATTN: LEE KUCHER
P.O. BOX 37
WONEWOC, WI 53968-0037
PHONE: (608) 464-3114
WONEWOC@BUGNET.COM

* - NOT A MEMBER
OF DIGGERS HOTLINE.

GENERAL NOTES

DISTURBED AREAS WITHIN THE RIGHT-OF-WAY 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 GPS DATUM, NAVD 88 (96 ADJUSTED).

THE 5" ASPHALTIC SURFACE SHALL CONSIST OF A 2 1/4" UPPER LAYER AND A 2 3/4" LOWER LAYER.

ASPHALTIC SURFACE WEIGHT QUANTITIES ARE BASED ON 112 LB / SY / IN.

THE CONTRACTOR'S PAVING OPERATIONS SHALL BE CONSISTENT WITH THE PLAN TYPICAL SECTIONS AND CONSTRUCTED TO PREVENT HMA LONGITUDINAL JOINTS FROM BEING LOCATED WITHIN A DRIVING, TURNING, PASSING OR PARKING LANE.

EXCAVATION BELOW SUBGRADE (EBS) WHICH IS NOT INDICATED ON THE CROSS SECTIONS AND WHICH IS REQUIRED BY THE ENGINEER SHALL BE MEASURED AND PAID FOR AS COMMON EXCAVATION. EBS IS NOT USED TO BALANCE YARDAGE.

THE EROSION CONTROL ITEMS SHOWN ON THE PLANS ARE AT SUGGESTED LOCATIONS. THE ENGINEER SHALL DETERMINE THE EXACT LOCATION OF EROSION CONTROL ITEMS. ALL EROSION CONTROL MEASURES SHALL BE MAINTAINED UNTIL SUCH TIME AS THE ENGINEER DETERMINES THE MEASUREMENT IS NO LONGER NECESSARY. THE CONTRACTOR WILL REMOVE ITEMS AT ENGINEER'S DIRECTION.

SILT FENCE TO BE PLACED AS SHOWN ON THE PLANS OR AS DIRECTED BY THE ENGINEER AND IN PLACE PRIOR TO BEGINNING CONSTRUCTION.

INLET OFFSETS GIVEN TO THE CENTER OF STRUCTURE.

GRATE ELEVATIONS SHOWN ON PLANS ARE TO THE FLOWLINE.

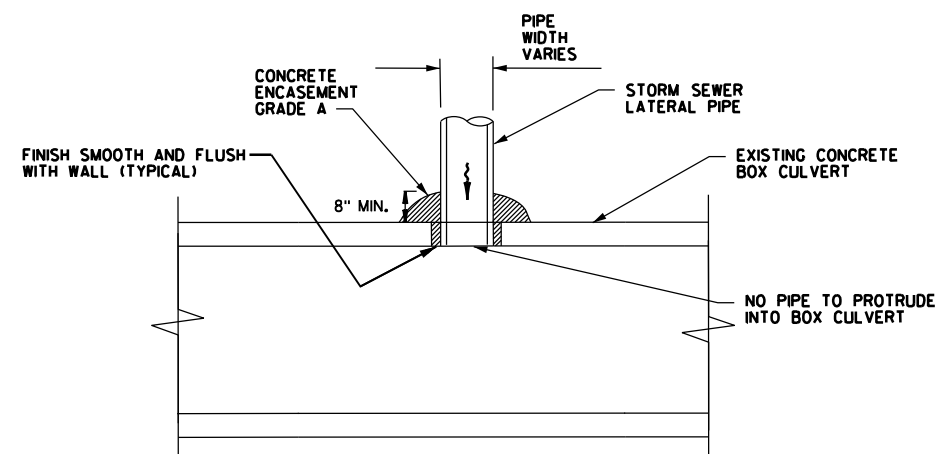
WHERE TYING INTO EXISTING STRUCTURES OR PIPES, VERIFY EXISTING ELEVATIONS AND DIMENSIONS PRIOR TO ORDERING MATERIALS.

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											

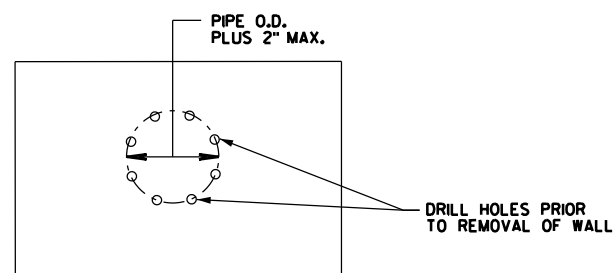
TOTAL PROJECT AREA = 0.26 ACRES
TOTAL AREA EXPECTED TO BE DISTURBED BY CONSTRUCTION ACTIVITIES = 0.17 ACRES

2



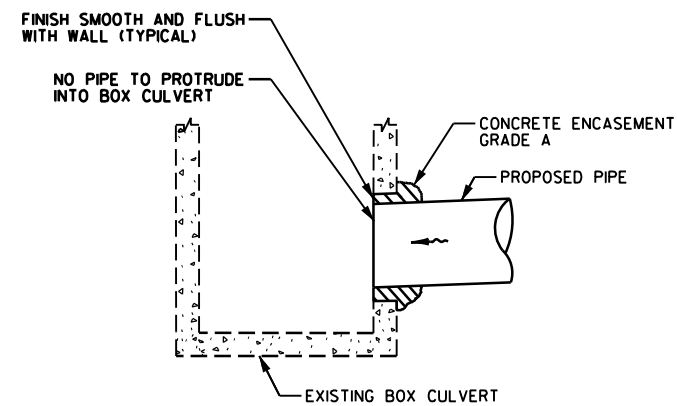
PLAN VIEW

NOTE:
ADJUST PIPE PENETRATION LOCATION FROM PLAN STATIONING AS NECESSARY TO CONFORM TO DETAIL. INVERT ELEVATION OF LATERAL PIPE MAY BE ADJUSTED $\pm 0.15'$ AS REQ'D.

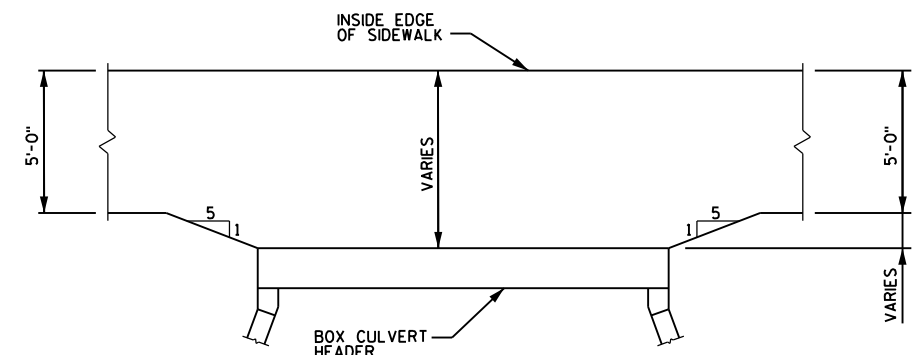


ELEVATION VIEW

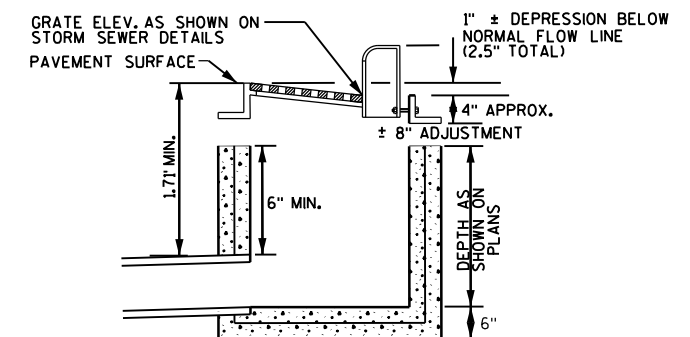
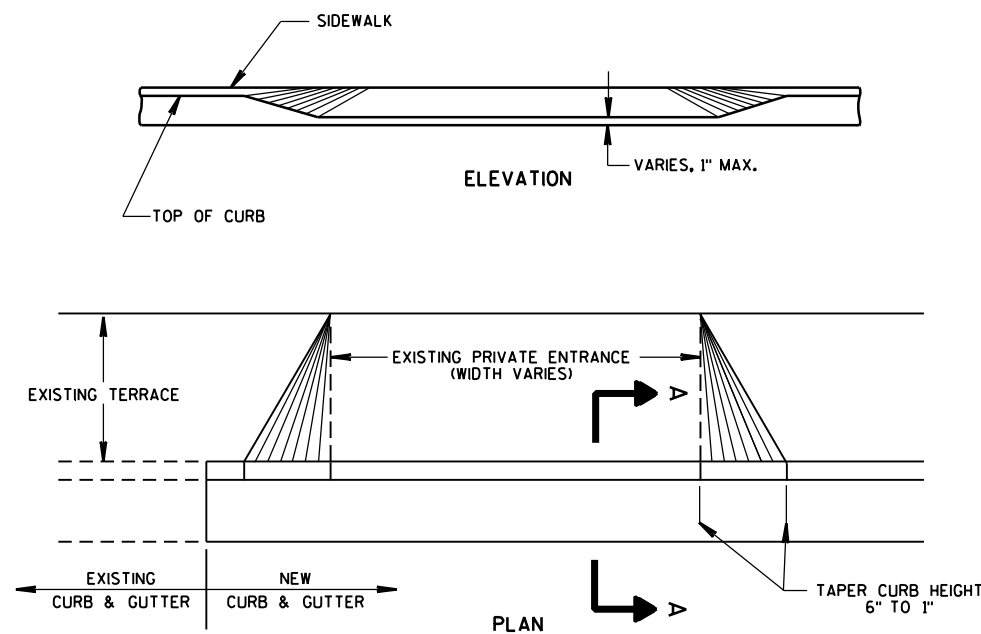
STORM SEWER PENETRATION DETAIL



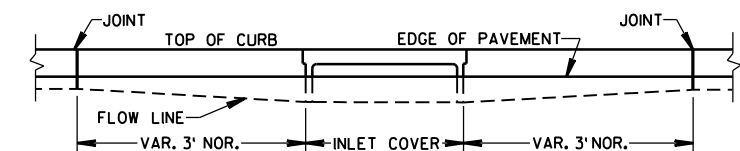
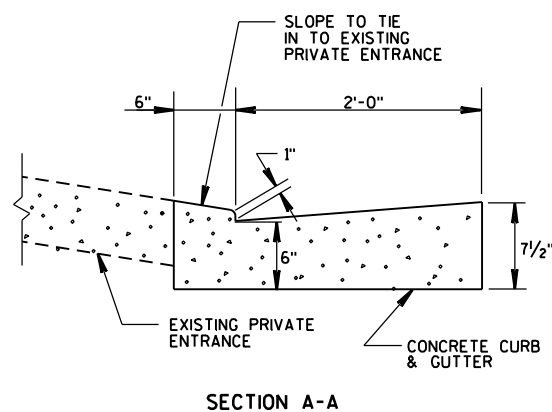
2



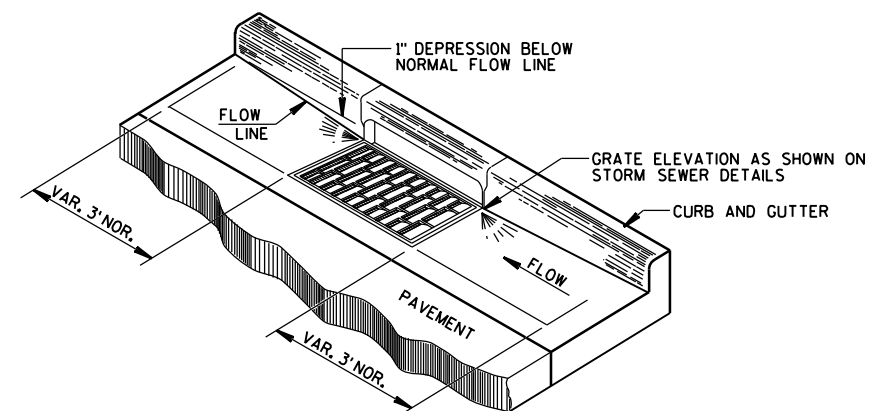
PLAN - SIDEWALK TAPER AT BOX CULVERT HEADERS

DETAIL FOR COMPUTING INLET ELEVATIONS
INLET COVERS - H & HM

PRIVATE ENTRANCE DETAILS

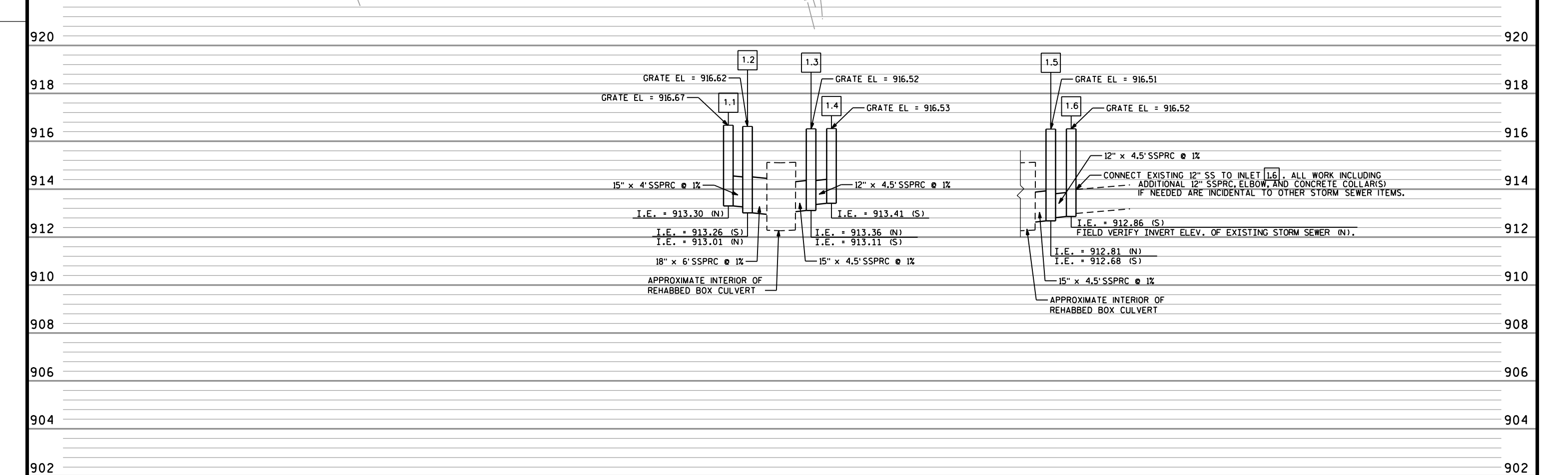


ELEVATION

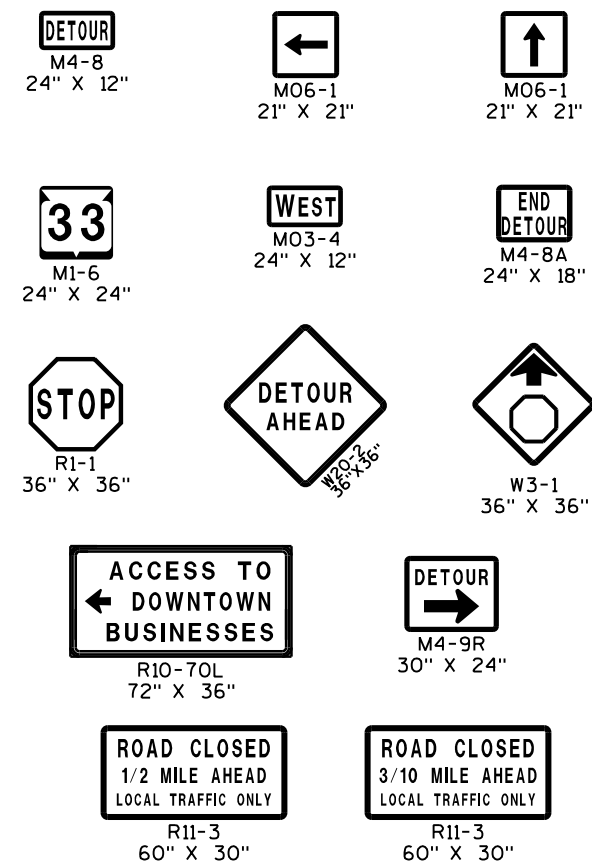


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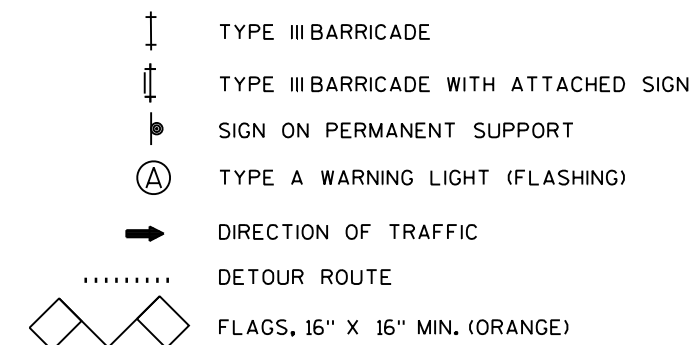
1.5 STA. 10+12.50, 18.33' LT.
1-INLETS 4-FT DIAMETER-H



TRAFFIC CONTROL SIGNS

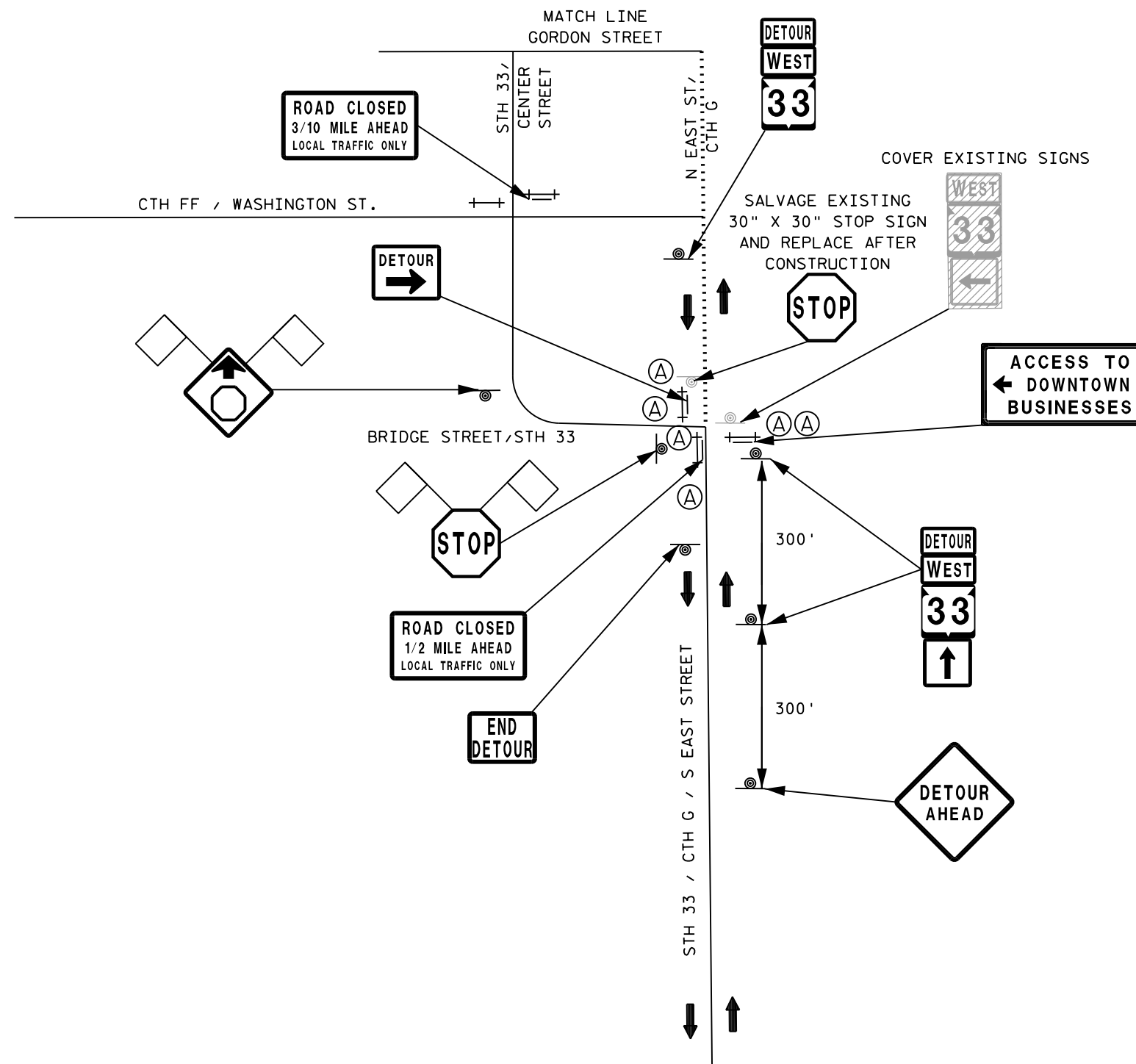


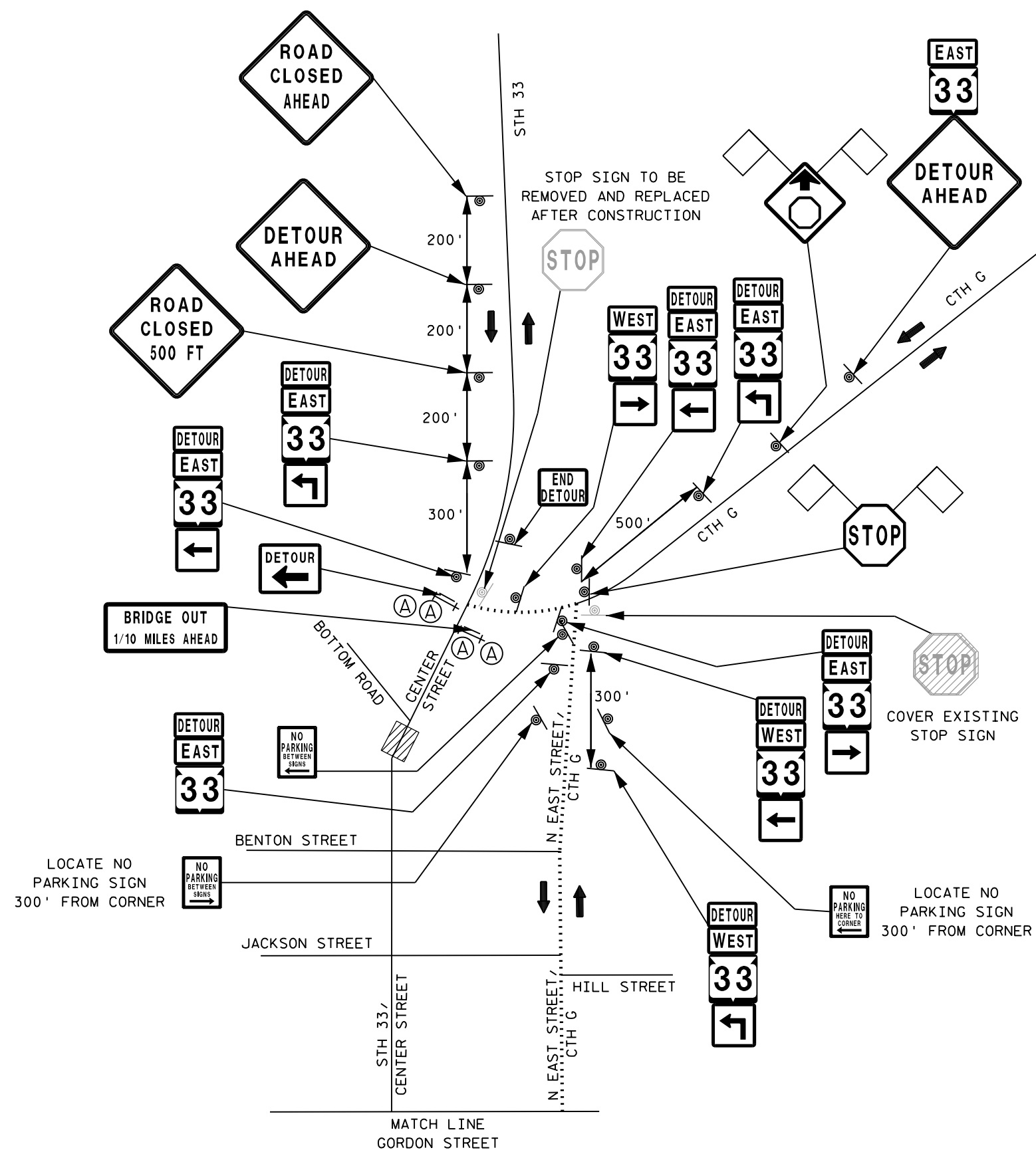
LEGEND



SEE SDDS "BARRICADES AND SIGNS FOR MAINLINE CLOSURES" AND "TRAFFIC CONTROL, SIDEWALK CLOSURE" FOR OTHER TRAFFIC CONTROL, DIMENSIONS, AND NOTES.

PLACE SOLID YELLOW STRIPING ON N EAST STREET FROM STH 33 TO NORTH ROAD. LOCATE CENTER OF STRIPING 18 FEET FROM THE EAST CURB FACE.





TRAFFIC CONTROL SIGNS

DETOUR
M4-8
24" X 12"

←
M06-1
21" X 21"

↑
M06-1
21" X 21"

↑
W3-1
36" X 36"

33
M1-6
24" X 24"

WEST
M03-4
24" X 12"

EAST
M03-2
24" X 12"

STOP
R1-1
36" X 36"

END
DETOUR
M4-8A
24" X 18"

←
M4-9L
30" X 24"

↙
M05-1L
21" X 21"

BRIDGE OUT
1/10 MILES AHEAD
R11-3C
60" X 24"

NO PARKING
HERE TO CORNER
R7-51L
18" X 24"

NO PARKING
BETWEEN SIGNS
R7-52R
18" X 24"

NO PARKING
BETWEEN SIGNS
R7-52L
18" X 24"

ROAD CLOSED
500 FT
W20-3
36" X 36"

ROAD CLOSED
AHEAD
W20-3
36" X 36"

DETOUR
AHEAD
W20-2
36" X 36"

LEGEND

- TYPE III BARRICADE WITH ATTACHED SIGN
- SIGN ON PERMANENT SUPPORT
- TYPE A WARNING LIGHT (FLASHING)
- WORK AREA
- DIRECTION OF TRAFFIC
- DETOUR ROUTE
- FLAGS, 16" X 16" MIN. (ORANGE)

SEE SDDS "BARRICADES AND SIGNS FOR MAINLINE CLOSURES" AND "TRAFFIC CONTROL, SIDEWALK CLOSURE" FOR OTHER TRAFFIC CONTROL, DIMENSIONS, AND NOTES.

PLACE SOLID YELLOW STRIPING ON N EAST STREET FROM STH 33 TO NORTH ROAD. LOCATE CENTER OF STRIPING 18 FEET FROM THE EAST CURB FACE.

DATE 13MAR13		E S T I M A T E O F Q U A N T I T I E S			
LINE					5032-00-71
NUMBER	ITEM	ITEM DESCRIPTION	UNIT	TOTAL	QUANTITY
0010	201.0105	CLEARING	STA	1.000	1.000
0020	201.0205	GRUBBING	STA	1.000	1.000
0030	203.0500.S	REMOVING OLD STRUCTURE OVER WATERWAY (STATION) 01. STATION 10+00	LS	1.000	1.000
0040	204.0110	REMOVING ASPHALTIC SURFACE	SY	260.000	260.000
0050	204.0150	REMOVING CURB & GUTTER	LF	200.000	200.000
0060	204.0155	REMOVING CONCRETE SIDEWALK	SY	115.000	115.000
0070	204.0245	REMOVING STORM SEWER (SIZE) 01. 12-INCH	LF	15.000	15.000
0080	205.0100	EXCAVATION COMMON	CY	39.000	39.000
0090	206.2000	EXCAVATION FOR STRUCTURES CULVERTS (STRUCTURE) 01. C-29-11 REHAB	LS	1.000	1.000
0100	210.0100	BACKFILL STRUCTURE	CY	65.000	65.000
0110	211.0100	PREPARE FOUNDATION FOR ASPHALTIC PAVING (PROJECT) 01. 5032-00-71	LS	1.000	1.000
0120	213.0100	FINISHING ROADWAY (PROJECT) 01. 5032-00-71	EACH	1.000	1.000
0130	305.0125	BASE AGGREGATE DENSE 1 1/4-INCH	CY	100.000	100.000
0140	310.0115	BASE AGGREGATE OPEN GRADED	CY	6.000	6.000
0150	465.0105	ASPHALTIC SURFACE	TON	100.000	100.000
0160	502.5002	MASONRY ANCHORS TYPE L NO. 4 BARS	EACH	24.000	24.000
0170	502.5005	MASONRY ANCHORS TYPE L NO. 5 BARS	EACH	80.000	80.000
0180	502.5010	MASONRY ANCHORS TYPE L NO. 6 BARS	EACH	4.000	4.000
0190	504.0100	CONCRETE MASONRY CULVERTS	CY	38.000	38.000
0200	505.0610	BAR STEEL REINFORCEMENT HS COATED CULVERTS	LB	9,110.000	9,110.000
0210	509.1500	CONCRETE SURFACE REPAIR	SF	20.000	20.000
0220	516.0500	RUBBERIZED MEMBRANE WATERPROOFING	SY	130.000	130.000
0230	601.0411	CONCRETE CURB & GUTTER 30-INCH TYPE D	LF	200.000	200.000
0240	602.0410	CONCRETE SIDEWALK 5-INCH	SF	1,200.000	1,200.000
0250	606.0300	RIPRAP HEAVY	CY	17.000	17.000
0260	608.0412	STORM SEWER PIPE REINFORCED CONCRETE CLASS IV 12-INCH	LF	9.000	9.000
0270	608.0415	STORM SEWER PIPE REINFORCED CONCRETE CLASS IV 15-INCH	LF	13.000	13.000
0280	608.0418	STORM SEWER PIPE REINFORCED CONCRETE CLASS IV 18-INCH	LF	6.000	6.000
0290	611.0624	INLET COVERS TYPE H	EACH	6.000	6.000
0300	611.3004	INLETS 4-FT DIAMETER	EACH	6.000	6.000
0310	611.8110	ADJUSTING MANHOLE COVERS	EACH	1.000	1.000
0320	619.1000	MOBILIZATION	EACH	1.000	1.000
0330	625.0500	SALVAGED TOPSOIL	SY	230.000	230.000
0340	627.0200	MULCHING	SY	310.000	310.000
0350	628.1504	SILT FENCE	LF	115.000	115.000
0360	628.1520	SILT FENCE MAINTENANCE	LF	115.000	115.000
0370	628.1905	MOBILIZATIONS EROSION CONTROL	EACH	2.000	2.000
0380	628.1910	MOBILIZATIONS EMERGENCY EROSION CONTROL	EACH	2.000	2.000
0390	628.2008	EROSION MAT URBAN CLASS I TYPE B	SY	160.000	160.000
0400	628.7015	INLET PROTECTION TYPE C	EACH	6.000	6.000
0410	628.7504	TEMPORARY DITCH CHECKS	LF	16.000	16.000
0420	629.0205	FERTILIZER TYPE A	CWT	0.200	0.200
0430	630.0140	SEEDING MIXTURE NO. 40	LB	6.000	6.000
0440	630.0200	SEEDING TEMPORARY	LB	2.000	2.000
0450	632.0101	TREES (SPECIES, ROOT, SIZE) 01. JAPANESE LILAC, B & B, 2.5" CAL.	EACH	2.000	2.000
0460	634.0614	POSTS WOOD 4X6-INCH X 14-FT	EACH	1.000	1.000

DATE 13MAR13		E S T I M A T E O F Q U A N T I T I E S			
LINE				5032-00-71	
NUMBER	ITEM	ITEM DESCRIPTION	UNIT	TOTAL	QUANTITY
0470	634.0616	POSTS WOOD 4X6-INCH X 16-FT	EACH	1.000	1.000
0480	638.2102	MOVING SIGNS TYPE II	EACH	4.000	4.000
0490	638.3000	REMOVING SMALL SIGN SUPPORTS	EACH	2.000	2.000
0500	642.5001	FIELD OFFICE TYPE B	EACH	1.000	1.000
0510	643.0100	TRAFFIC CONTROL (PROJECT) 01. 5032-00-71	EACH	1.000	1.000
0520	643.0410	TRAFFIC CONTROL BARRICADES TYPE II	DAY	384.000	384.000
0530	643.0420	TRAFFIC CONTROL BARRICADES TYPE III	DAY	736.000	736.000
0540	643.0705	TRAFFIC CONTROL WARNING LIGHTS TYPE A	DAY	1,600.000	1,600.000
0550	643.0900	TRAFFIC CONTROL SIGNS	DAY	608.000	608.000
0560	643.0920	TRAFFIC CONTROL COVERING SIGNS TYPE II	EACH	4.000	4.000
0570	643.2000	TRAFFIC CONTROL DETOUR (PROJECT) 01. 5032-00-71	EACH	1.000	1.000
0580	643.3000	TRAFFIC CONTROL DETOUR SIGNS	DAY	1,856.000	1,856.000
0590	645.0111	GEOTEXTILE FABRIC TYPE DF SCHEDULE A	SY	85.000	85.000
0600	645.0120	GEOTEXTILE FABRIC TYPE HR	SY	50.000	50.000
0610	646.0106	PAVEMENT MARKING EPOXY 4-INCH	LF	5,700.000	5,700.000
0620	647.0456	PAVEMENT MARKING CURB EPOXY	LF	100.000	100.000
0630	650.4000	CONSTRUCTION STAKING STORM SEWER	EACH	6.000	6.000
0640	650.5000	CONSTRUCTION STAKING BASE	LF	100.000	100.000
0650	650.5500	CONSTRUCTION STAKING CURB GUTTER AND CURB & GUTTER	LF	200.000	200.000
0660	650.9910	CONSTRUCTION STAKING SUPPLEMENTAL CONTROL (PROJECT) 01. 5032-00-71	LS	1.000	1.000
0670	690.0150	SAWING ASPHALT	LF	66.000	66.000
0680	690.0250	SAWING CONCRETE	LF	30.000	30.000
0690	715.0502	INCENTIVE STRENGTH CONCRETE STRUCTURES	DOL	500.000	500.000
0700	SPV.0060	SPECIAL 01. STORM SEWER PENETRATION	EACH	3.000	3.000
0710	SPV.0105	SPECIAL 01. RAILING TUBULAR TYPE F-4 MODIFIED C-29-11 REHAB.	LS	1.000	1.000

3

CLEARING AND GRUBBING				
CATEGORY	STATION	LOCATION	201.0105 CLEARING STA	201.0205 GRUBBING STA
0010	10+00 - 10+50	LT & RT	1	1
TOTAL			1	1

REMOVING PAVEMENT				
CATEGORY	STATION	LOCATION	204.0110 REMOVING ASPHALTIC SURFACE SY	
0010	9+50 - 9+85	LT & RT	130	
	10+15 - 10+50	LT & RT	130	
TOTAL			260	

REMOVING CURB & GUTTER				
CATEGORY	STATION	LOCATION	204.0150 REMOVING CURB & GUTTER LF	
0010	9+50 - 10+50	LT	100	
	9+50 - 10+50	RT	100	
TOTAL			200	

REMOVING SIDEWALK				
CATEGORY	STATION	LOCATION	204.0155 REMOVING CONCRETE SIDEWALK SY	
0010	9+18 - 10+64	LT	67	
	9+50 - 10+37	RT	48	
TOTAL			115	

REMOVING STORM SEWER				
CATEGORY	STATION	LOCATION	204.0245.01 REMOVING STORM SEWER 12-INCH LF	
0010	10+06 - 10+21	LT	15	
TOTAL			15	

PREPARE FOUNDATION		
CATEGORY	PROJECT	211.0100.01 PREPARE FOUNDATION FOR ASPHALTIC PAVING LS
0010	5032-00-71	1
TOTAL		1

FINISHING ROADWAY		
CATEGORY	PROJECT	213.0100.01 FINISHING ROADWAY EACH
0010	5032-00-71	1
TOTAL		1

BASE AGGREGATE ITEMS				
CATEGORY	STATION	LOCATION	305.0125 BASE AGGREGATE DENSE 1 1/4-INCH CY	
0010	9+50 - 10+50		85	
	9+18 - 10+64	LT - SIDEWALK	10	
	9+50 - 10+37	RT - SIDEWALK	5	
TOTAL			100	

ASPHALTIC SURFACE		
CATEGORY	STATION	465.0105 ASPHALTIC SURFACE TON
0010	9+50 - 10+50	100
TOTAL		100

CURB AND GUTTER					
CATEGORY	STATION - STATION	LOCATION	601.0411 CONCRETE CURB & GUTTER 30-INCH TYPE D LF	650.5500 CONSTRUCTION STAKING CURB GUTTER AND CURB & GUTTER LF	
0010	9+50 - 10+50	LT	100	100	
	9+50 - 10+50	RT	100	100	
TOTAL			200	200	

CONCRETE SIDEWALK			
CATEGORY	STATION	LOCATION	602.0410 CONCRETE SIDEWALK 5-INCH SF
0010	9+18 - 10+64	LT	750
	9+50 - 10+37	RT	450
TOTAL			1,200

STORM SEWER PIPES				
CATEGORY	STRUCTURE TO STRUCTURE	608.0412 STORM SEWER PIPE REINFORCED CONCRETE CLASS IV 12-INCH LF	608.0415 STORM SEWER PIPE REINFORCED CONCRETE CLASS IV 15-INCH LF	608.0418 STORM SEWER PIPE REINFORCED CONCRETE CLASS IV 18-INCH LF
0010	1.1 - 1.2	---	4	---
	1.2 - C-29-11	---	---	6
	C-29-11 - 1.3	---	4.5	---
	1.3-1.4	4.5	---	---
	C-29-11 - 1.5	---	4.5	---
TOTAL		9	13	6

STATION	EXCAVATION COMMON CY	FILL (1) CY	EXPANDED FILL (2) CY	BORROW CY
9+18	6	0	0	-6
9+50	7	2	3	-4
9+75	5	2	3	-2
9+93				
STRUCTURE C-29-0011				
10+07	9	0	0	-9
10+25	6	0	0	-6
10+37	4	0	0	-4
10+50	2	0	0	-2
10+64				
TOTALS	39	4	6	-33
(1) - NOT A BID ITEM - FOR INFORMATIONAL PURPOSES ONLY. (2) - FILL EXPANSION 30%				

3

STORM SEWER STRUCTURES										
CATEGORY	STRUCTURE		LOCATION	GRATE ELEV.	TOP OF STRUCTURE ELEV.	INVERT ELEV.	STRUCTURE DEPTH	611.3004	611.0624	650.4000
	NO.	STATION						INLETS 4-FT DIAMETER	INLET COVERS TYPE H	CONSTRUCTION STAKING STORM SEWER EACH
0010	1.1	9+78.00	17.88' RT	916.67	915.67	913.30	2.37	1	1	1
	1.2	9+86.00	17.82' RT	916.62	915.62	913.01	2.61	1	1	1
	1.3	10+12.50	17.62' RT	916.52	915.52	913.11	2.41	1	1	1
	1.4	10+21.00	17.56' RT	916.53	915.53	913.41	2.12	1	1	1
	1.5	10+12.50	18.33' LT	916.51	915.51	912.68	2.83	1	1	1
	1.6	10+21.00	18.26' LT	916.52	915.52	912.86	2.66	1	1	1
PROJECT TOTAL								6	6	6

RESTORATION ITEMS								
CATEGORY	STATION - STATION	LOCATION	625.0500	627.0200	629.0205	630.0140	630.0200	REMARKS
			SALVAGED TOPSOIL SY	MULCHING SY	FERTILIZER TYPE A CWT	SEEDING MIXTURE #40 LB	SEEDING TEMPORARY LB	
0010	9+18 - 10+64	LT	120	190	0.12	4	---	
	9+50 - 10+37	RT	110	120	0.08	2	---	
	9+85 - 9+93	LT	---	---	---	---	1	BEHIND WING
	10+07 - 10+15	LT	---	---	---	---	1	BEHIND WING
	TOTAL		230	310	0.20	6	2	

EROSION CONTROL ITEMS							
CATEGORY	STATION - STATION	LOCATION	628.1504	628.1520	628.2008	628.7504	REMARKS
			SILT FENCE LF	SILT FENCE MAINTENANCE LF	EROSION MAT URBAN CLASS I TYPE B SY	TEMPORARY DITCH CHECKS LF	
0010	9+18 - 9+82	LT	65	65	---	---	
	10+14 - 10+64	LT	50	50	---	---	
	9+50 - 10+50	LT	---	---	75	---	
	9+50 - 10+50	RT	---	---	75	---	
	9+85 - 9+93	LT	---	---	5	---	BEHIND WING
	10+07 - 10+15	LT	---	---	5	---	BEHIND WING
	9+86	LT	---	---	---	8	BTWN. WING TIP AND SILT FENCE
	10+10	LT	---	---	---	8	BTWN. WING TIP AND SILT FENCE
TOTAL			115	115	160	16	

ADJUSTING MANHOLES			
CATEGORY	STATION	LOCATION	611.8110 ADJUSTING MANHOLE COVERS EACH
0010	9+84.56	3.5' LT	1
TOTAL			1

INLET PROTECTION			
CATEGORY	STATION - STATION	LOCATION	628.7015 INLET PROTECTION TYPE C EACH
0010	9+78.00	17.88' RT	1
	9+86.00	17.82' RT	1
	10+12.50	17.62' RT	1
	10+21.00	17.56' RT	1
	10+12.50	18.33' LT	1
	10+21.00	18.26' LT	1
TOTAL			6

MOBILIZATION EROSION CONTROL			
CATEGORY	LOCATION	628.1905 MOBILIZATION EROSION CONTROL EACH	628.1910 MOBILIZATION EMERGENCY EROSION CONTROL EACH
0010	PROJECT LIMITS	2	2
TOTAL		2	2

TREE SUMMARY		
CATEGORY	LOCATION	632.0101.01 TREES (JAPANESE LILAC, B&B, 2.5" CAL) EACH
0010	COORDINATE WITH VILLAGE	2
TOTAL		2

3

MOVING SIGNS											
CATEGORY	SIGN NO.	FROM STATION	FROM OFFSET	TO STATION	TO OFFSET	638.2102	638.3000	634.0614	634.0616	MESSAGE	REMARKS
						MOVING SIGNS TYPE II EACH	REMOVING SMALL SIGN SUPPORTS EACH	POSTS WOOD 4X6-INCH X 14-FT EACH	POSTS WOOD 4X6-INCH X 16-FT EACH		
0010	M1-5A	10+09	20.2' RT	10+12	21.5' RT	1	1	---	1	CTH G	REPLACE WOOD POST
	M5-1R	10+09	20.2' RT	10+12	21.5' RT	1	---	---	---	RIGHT ARROW	
	R1-1	NORTH END OF DETOUR ROUTE				1	1	1	---	STOP	SALVAGE, STORE, & REPLACE EXISTING SIGN ON NEW POST
	R1-1	SOUTH END OF DETOUR ROUTE				1	---	---	---	STOP	SALVAGE, STORE, & REPLACE EXISTING SIGN ON EXISTING POST
TOTAL						4	2	1	1		

3

TRAFFIC CONTROL ITEMS								
CATEGORY	LOCATION	DAYS	TRAFFIC CONTROL BARRICADES TYPE II EACH	643.0410 TRAFFIC CONTROL BARRICADES TYPE II DAYS	TRAFFIC CONTROL BARRICADES TYPE III EACH	643.0420 TRAFFIC CONTROL BARRICADES TYPE III DAYS	TRAFFIC CONTROL WARNING LIGHTS TYPE A EACH	643.0705 TRAFFIC CONTROL WARNING LIGHTS TYPE A DAYS
0010	DETOUR ROUTE & MAINLINE	32	12	384	23	736	50	1600
TOTAL				384			736	1,600

CONSTRUCTION STAKING			
CATEGORY	STATION	650.5000 CONSTRUCTION STAKING BASE LF	650.9910 CONSTRUCTION STAKING SUPPLEMENTAL CONTROL LS
0010	9+50 - 10+50	100	1
TOTAL		100	1

TRAFFIC CONTROL SIGNS							
CATEGORY	LOCATION	DAYS	TRAFFIC CONTROL SIGNS EACH	643.0900 TRAFFIC CONTROL SIGNS DAYS	TRAFFIC CONTROL DETOUR SIGNS EACH	643.3000 TRAFFIC CONTROL DETOUR SIGNS DAYS	643.0920 TRAFFIC CONTROL COVERING SIGNS TYPE II EACH
0010	DETOUR ROUTE & MAINLINE	32	19	608	58	1,856	4
TOTAL				608			1,856

SAWING				
CATEGORY	STATION	LOCATION	690.0150 SAWING ASPHALT LF	690.0250 SAWING CONCRETE LF
0010	9+18	LT - SIDEWALK	---	5
	9+50	LT & RT	34	10
	10+37	RT - SIDEWALK	---	5
	10+50	LT & RT	32	5
	10+64	LT - SIDEWALK	---	5
TOTAL			66	30

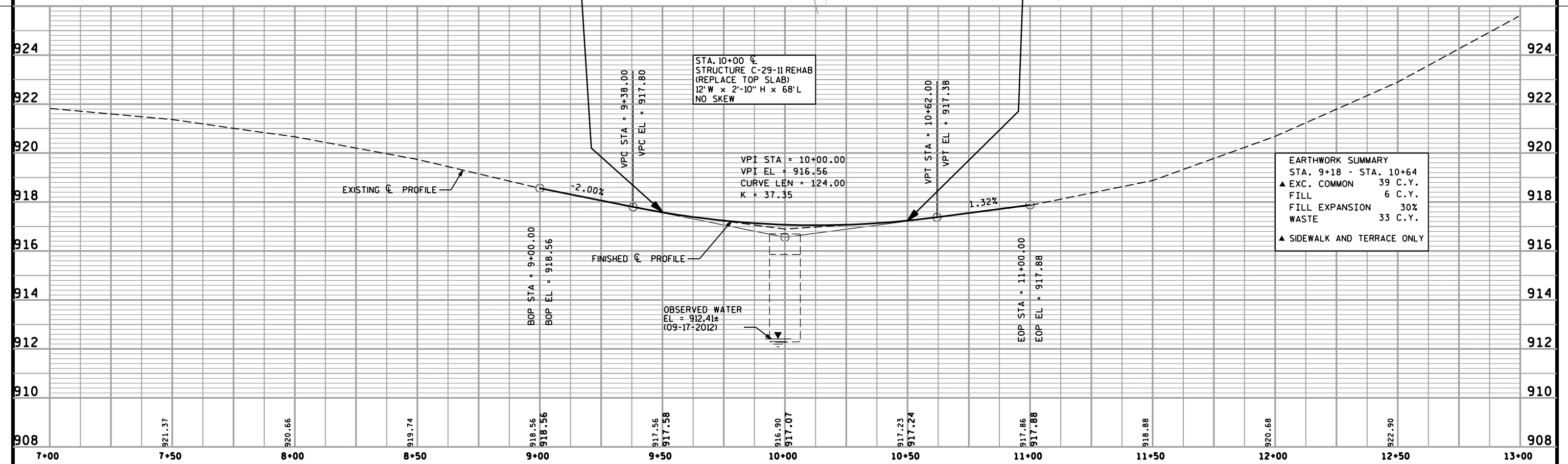
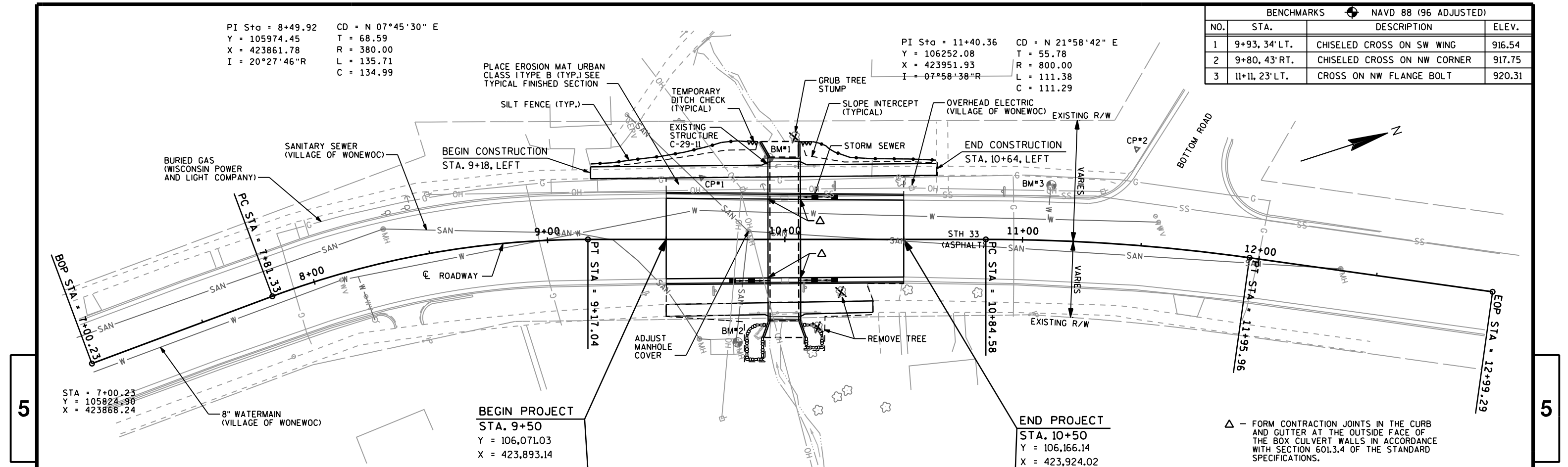
PAVEMENT MARKING				
CATEGORY	STATION - STATION	LOCATION	646.0106 PAVEMENT MARKING EPOXY 4-INCH YELLOW LF	647.0456 PAVEMENT MARKING CURB EPOXY YELLOW LF
0010	9+50 - 10+50	CENTERLINE - DOUBLE	200	---
	9+50 - 10+50	LT	---	100
	DETOUR ROUTE	CENTERLINE - DOUBLE	5500	---
TOTAL			5,700	100

STORM SEWER PENETRATION			
CATEGORY	STATION	LOCATION	SPV.0060.01 STORM SEWER PENETRATION EACH
0010	9+93	17' RT	1
	10+07	19' LT	1
	10+07	17' RT	1
TOTAL			3

PI Sta = 8+49.92 CD = N 07°45'30" E
Y = 105974.45 T = 68.59
X = 423861.78 R = 380.00
I = 20°27'46"R L = 135.71
C = 134.99

PI Sta = 11+40.36 CD = N 21°58'42" E
Y = 106252.08 T = 55.78
X = 423951.93 R = 800.00
I = 07°58'38"R L = 111.38
C = 111.29

BENCHMARKS NAVD 88 (96 ADJUSTED)			
NO.	STA.	DESCRIPTION	ELEV.
1	9+93, 34' LT.	CHISELED CROSS ON SW WING	916.54
2	9+80, 43' RT.	CHISELED CROSS ON NW CORNER	917.75
3	11+11, 23' LT.	CROSS ON NW FLANGE BOLT	920.31



PROJECT NO: 5032-00-71

HWY: STH 33

COUNTY: JUNEAU

PLAN & PROFILE - STH 33 BOX CULVERT C-29-11

SHEET

E

FILE NAME : P:\90s\93\00093171\cadd\DOT\Plans\sts\PANP01.dgn

PLOT DATE : 1/29/2013

PLOT BY : Lrhodes

PLOT NAME :

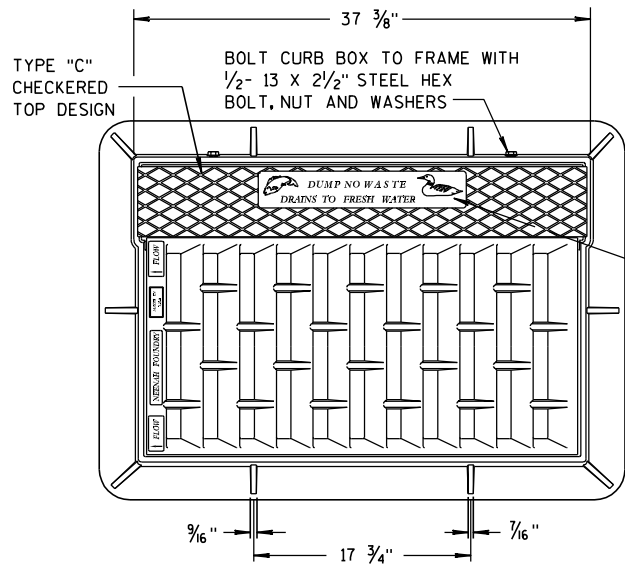
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WISDOT/CADDs SHEET 30

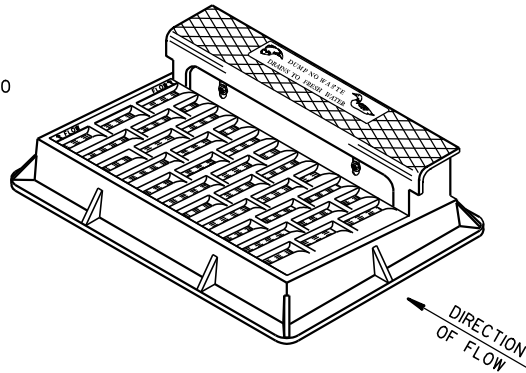
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Standard Detail Drawing List

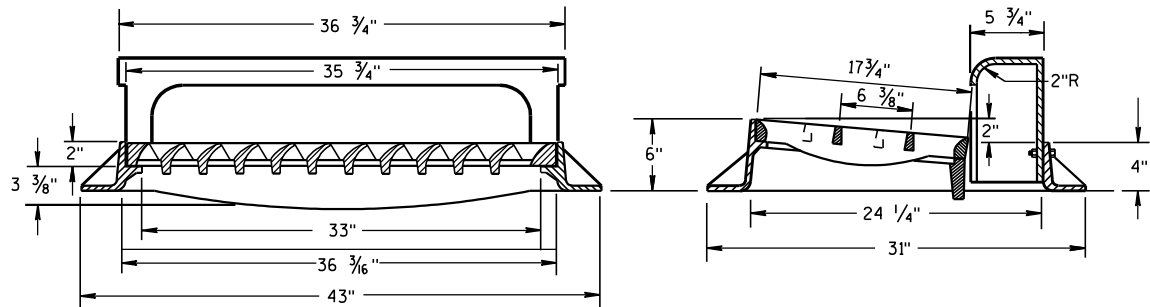
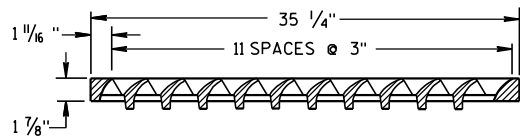
08A05-18A	INLET COVERS TYPE A, H, A-S, & H-S
08C06-01	INLETS 3-FT AND 4-FT DIAMETER
08D01-17	CONCRETE CURB, CONCRETE CURB AND GUTTER AND TIES
08E08-03	TYPICAL INSTALLATIONS OF EROSION BALES / TEMPORARY DITCH CHECKS
08E09-06	SILT FENCE
08E10-02	INLET PROTECTION TYPE A, B, C AND D
12A03-10	NAME PLATE (STRUCTURES)
14A02-01	TREE PLANTING DETAIL
15C02-04A	BARRICADES AND SIGNS FOR MAINLINE CLOSURES
15C02-04B	BARRICADES AND SIGNS FOR MAINLINE CLOSURES
15C02-04C	DETOUR SIGNING FOR MAINLINE CLOSURES
15C08-15A	PAVEMENT MARKING (MAINLINE)
15D30-01	TRAFFIC CONTROL, SIDEWALK CLOSURE



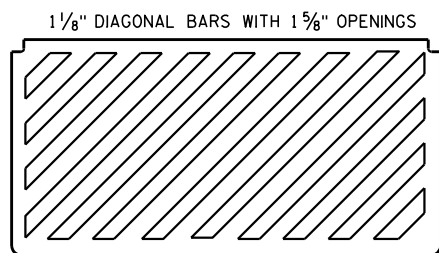
NOTE:
GRATE IS REVERSIBLE.



NOTE: CURB BOX HEIGHT ADJUSTABLE 6" TO 9"

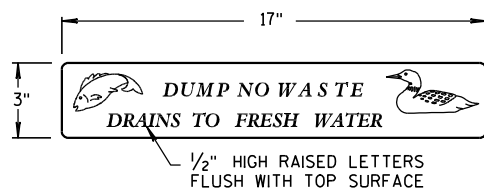


TYPE "H"
(APPROXIMATE WEIGHT 441 LBS.)
FRAME..... 181 LBS.
GRATE..... 146 LBS.
CURB BOX..... 114 LBS.

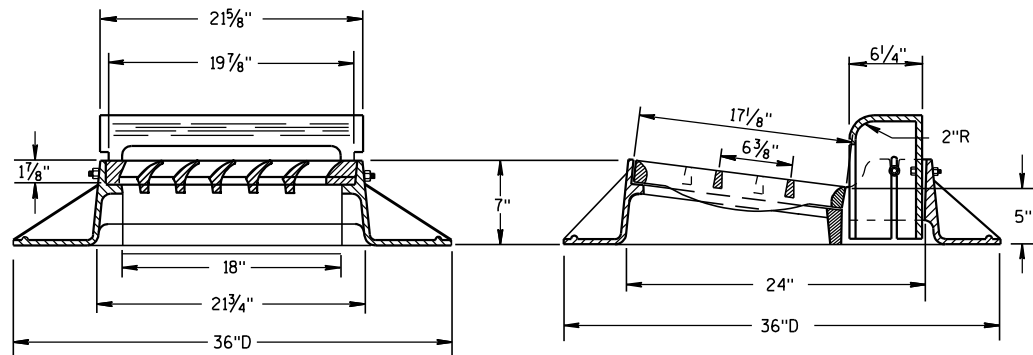
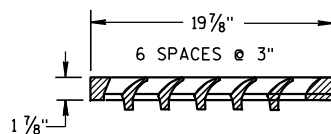
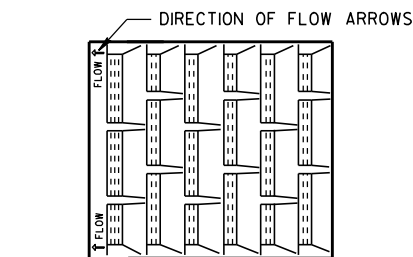


**SPECIAL GRATE FOR
TYPE "H" COVER**

(MEASURES 35 1/4" X 17 3/4" X 2")
(APPROXIMATE WEIGHT 159 LBS.)
GRATE..... 159 LBS.
(NOTED AS TYPE H-S ON DRAINAGE TABLE)



LOGO DETAIL



TYPE "A"

(APPROXIMATE WEIGHT 340 LBS.)
FRAME..... 185 LBS.
GRATE..... 71 LBS.
CURB BOX..... 84 LBS.

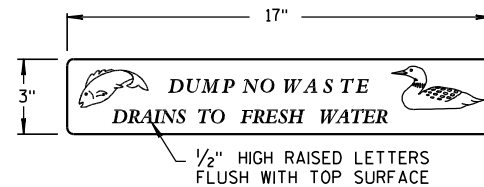
GENERAL NOTES

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.

DETAIL DRAWINGS FOR PROPOSED ALTERNATE DESIGNS FOR CATCH BASIN, MANHOLE AND INLET COVERS SHALL BE SUBMITTED TO THE ENGINEER FOR APPROVAL PROVIDING THAT SUCH ALTERNATE DESIGNS MAKE PROVISION FOR EQUIVALENT CAPACITY AND STRENGTH.

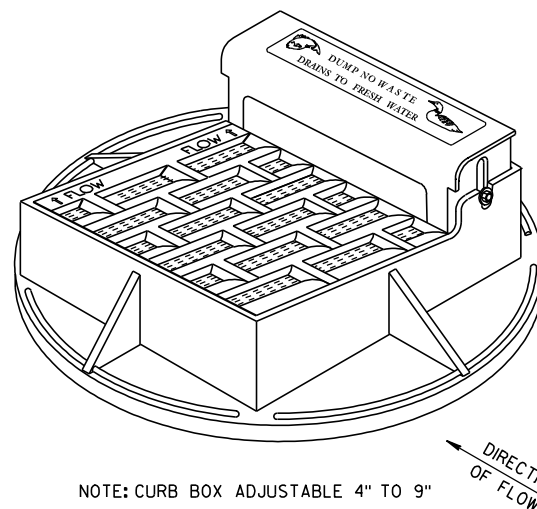
ROUND FRAMES AND COVERS SHALL HAVE CONTINUOUSLY MACHINED BEARING SURFACES TO PREVENT ROCKING AND RATTLING.

THE ACTUAL WEIGHT OF COVERS MAY VARY WITHIN 5 PERCENT, PLUS OR MINUS, OF THE APPROXIMATE WEIGHT.

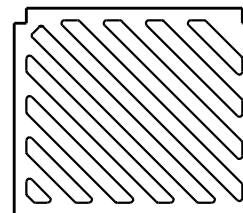


LOGO DETAIL

NOTE:
GRATE IS REVERSIBLE.



1" DIAGONAL BARS
WITH 1 1/2" OPENINGS



**SPECIAL GRATE FOR
TYPE "A" COVER**

(MEASURES 19 3/4" X 17" X 1 7/8")
GRATE..... 84 LBS.
(NOTED AS TYPE A-S ON DRAINAGE TABLE)

**INLET COVERS
TYPE A, H, A-S, & H-S**

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

6/5/2012

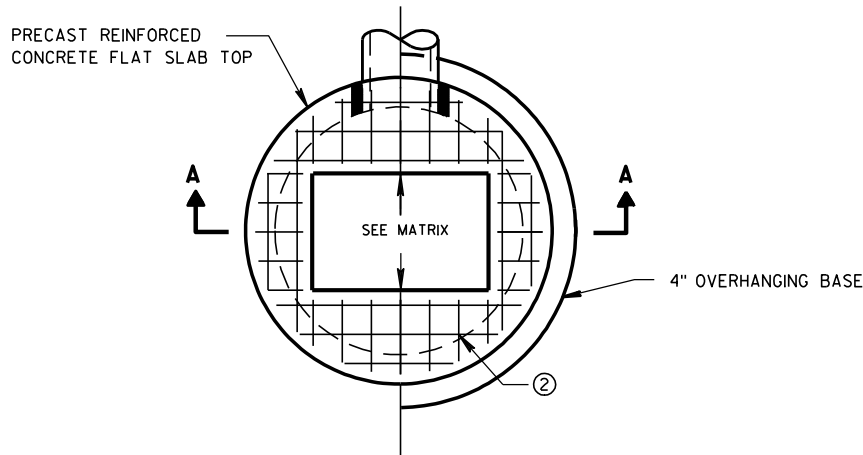
DATE

FHWA

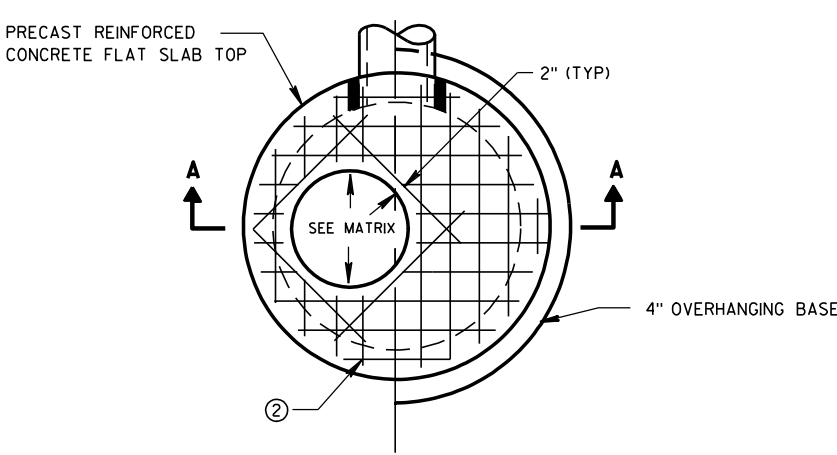
/S/ Jerry H. Zogg

ROADWAY STANDARDS DEVELOPMENT

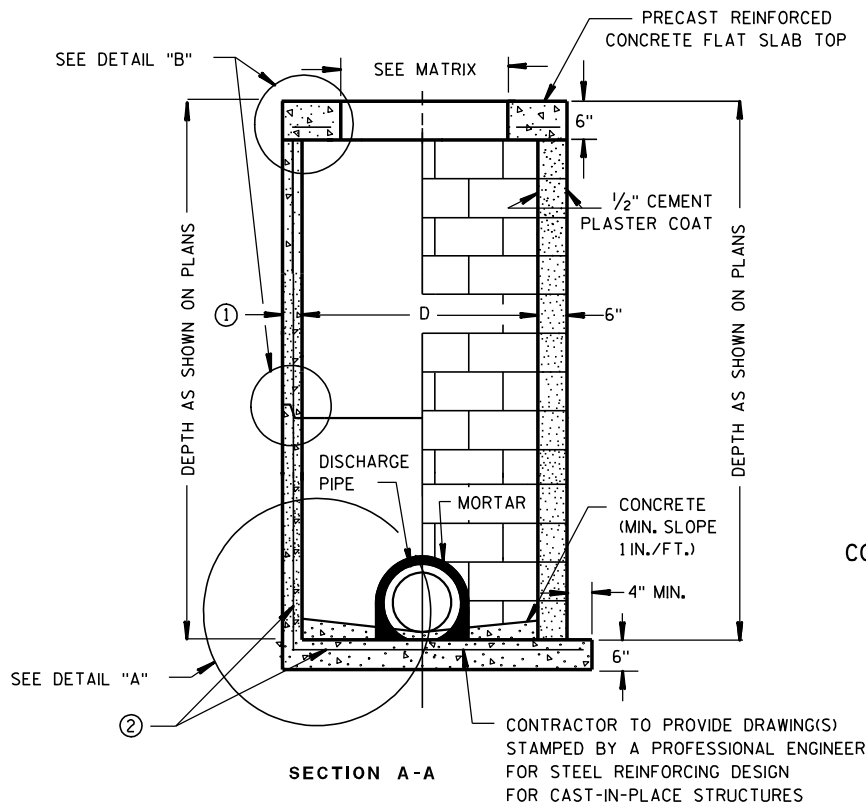
ENGINEER



PLAN VIEW RECTANGULAR OPENING

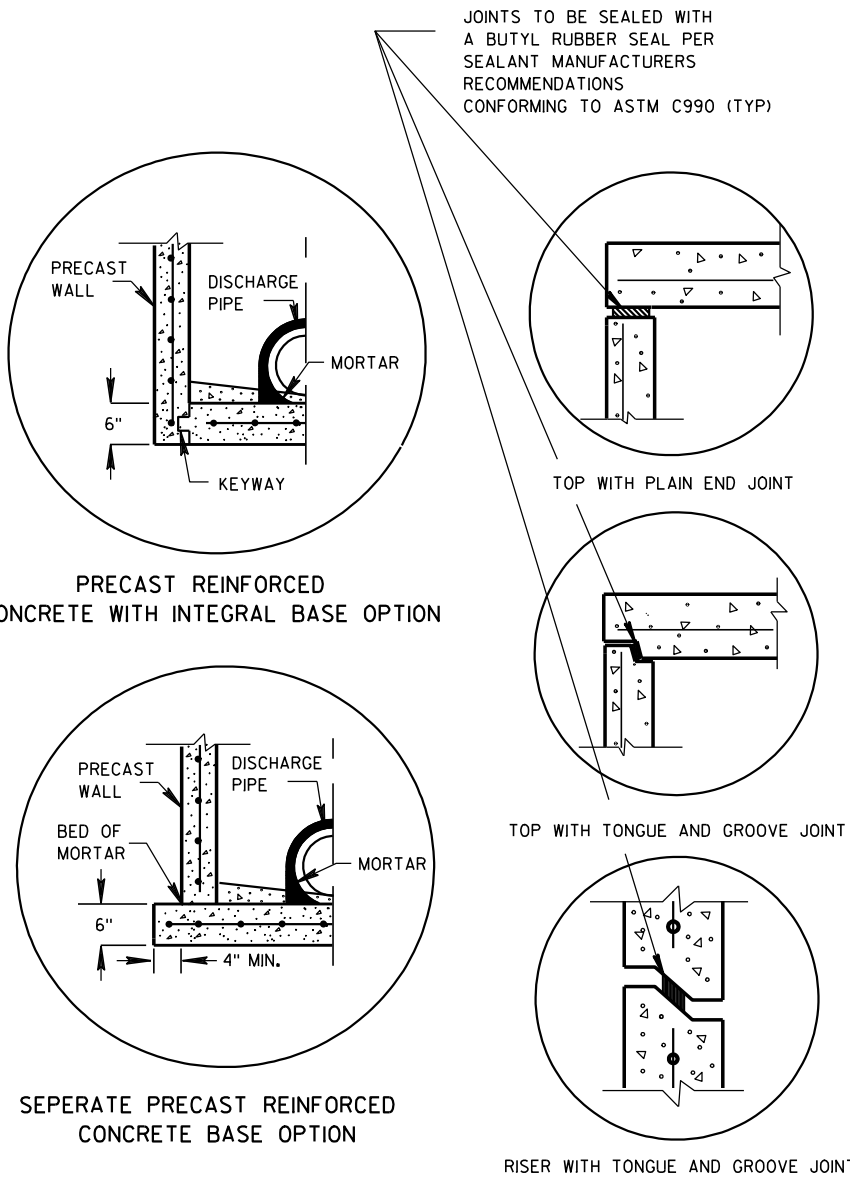


PLAN VIEW CIRCULAR OPENING



PRECAST REINFORCED CONCRETE WITH MONOLITHIC BASE
CONCRETE BLOCK WITH CAST-IN-PLACE OR PRECAST REINFORCED CONCRETE BASE ②

CIRCULAR INLETS W/ FLAT TOP



DETAIL "A"

DETAIL "B"

INLETS 3-FT AND 4-FT DIAMETER

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.

UNLESS OTHERWISE AUTHORIZED IN WRITING BY THE ENGINEER, THE CONTRACTOR SHALL NOT ORDER AND DELIVER PRECAST INLET UNITS REQUIRED FOR THE PROJECT UNTIL A LIST OF SIZES IS FURNISHED BY THE ENGINEER.

DETAILED DRAWINGS FOR PROPOSED ALTERNATE DESIGNS FOR UNDERGROUND DRAINAGE STRUCTURES SHALL BE SUBMITTED TO THE ENGINEER FOR APPROVAL PROVIDING THAT SUCH ALTERNATE DESIGNS MAKE PROVISION FOR EQUIVALENT CAPACITY AND STRENGTH.

ALL DRAINAGE STRUCTURES ARE DESIGNATED ON THE PLANS AS "MANHOLES 3X3-L", "CATCH BASINS 4-B", "INLETS 2X3-H", ETC. THE FIRST NUMBERS DESIGNATE THE SIZE OF THE STRUCTURE, AND THE FOLLOWING LETTER DESIGNATES THE TYPE OF COVER TO BE USED TO COMPRISE THE COMPLETE UNIT.

BASES SHALL BE PLACED ON A BED OF MATERIAL AT LEAST 6 INCHES IN DEPTH, WHICH MEETS THE REQUIREMENTS OF GRANULAR BACKFILL. THIS BEDDING SHALL BE COMPACTED AND PROVIDE UNIFORM SUPPORT FOR THE ENTIRE AREA OF THE BASE.

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

ALL PRECAST INLET UNITS SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF AASHTO DESIGNATION M199.

PRECAST REINFORCED RISERS SHALL HAVE A TONGUE AND GROOVE JOINT WITH TONGUE UP OR DOWN.

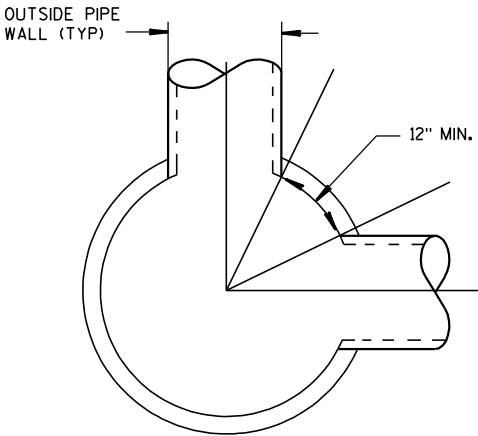
4" OVERHANGING BASES ARE REQUIRED FOR ALL CONCRETE BLOCK INSTALLATIONS. 4" OVERHANG IS REQUIRED WHEN SEPERATE PRECAST BASE IS PROVIDED. OVERHANG IS NOT REQUIRED ON PRECAST STRUCTURES WITH AN INTEGRAL OR MONOLITHIC BASE.

FOR ADDITIONAL CONFIGURATIONS, MAINTAIN A MINIMUM OF 12 INCHES AS MEASURED FROM THE INSIDE OF THE STRUCTURE WALL BETWEEN THE OUTSIDE PIPE WALLS OF ADJACENT PIPES. SEE DETAIL "C".

- ① MINIMUM WALL THICKNESS SHALL BE 4-IN FOR 3-FT DIAMETER AND 5-IN FOR 4-FT DIAMETER PRECAST INLETS.
- ② FOR PRECAST CATCH BASINS PROVIDE REINFORCING STEEL IN ACCORDANCE TO AASHTO M199.

INLET COVER OPENING MATRIX

	INLET COVER TYPE	ALL A'S	ALL B'S	BW	C	F	ALL H'S	S	T	V	WM	Z
INLET SIZE	OPENING SIZE (FT)											
3-FT	2 DIA.				X							X
	2X2	X	X					X		X		
4-FT	2 DIA.				X							X
	2X2	X	X					X		X		
	2X2.5			X				X	X	X	X	
	2X3						X					
	2.5X3					X						



DETAIL "C"

PIPE MATRIX

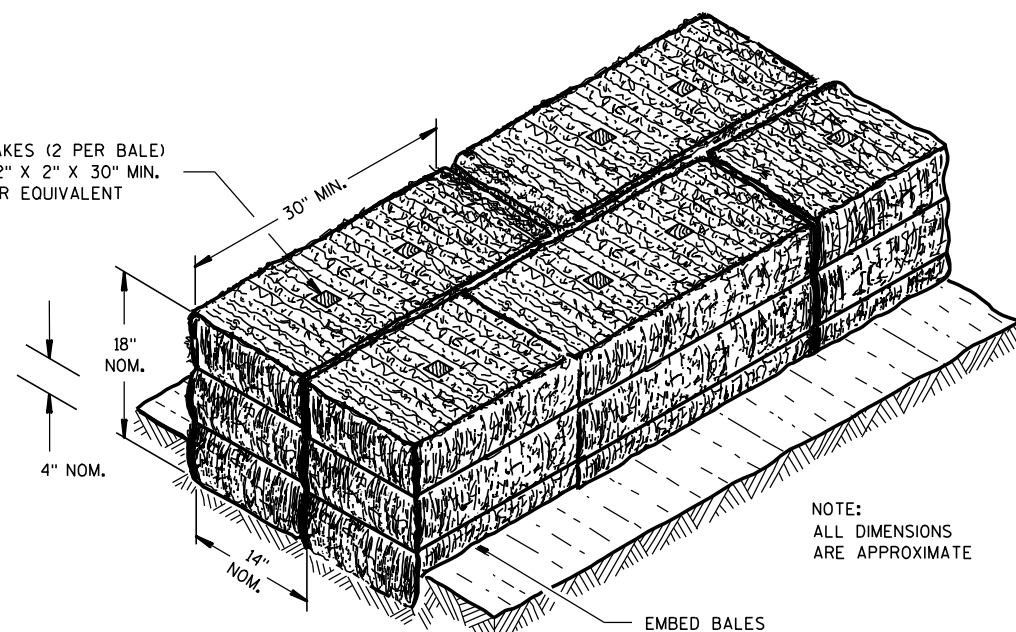
INLET SIZE	MAXIMUM INSIDE PIPE DIAMETER FOR TWO PIPES	
	180° SEPARATION (IN)	90° SEPARATION (IN)
3-FT	15	12
4-FT	24	18

INLETS 3-FT AND 4-FT DIAMETER

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
6/5/2012
DATE
/S/ Jerry H. Zogg
ROADWAY STANDARDS DEVELOPMENT
ENGINEER
FHWA

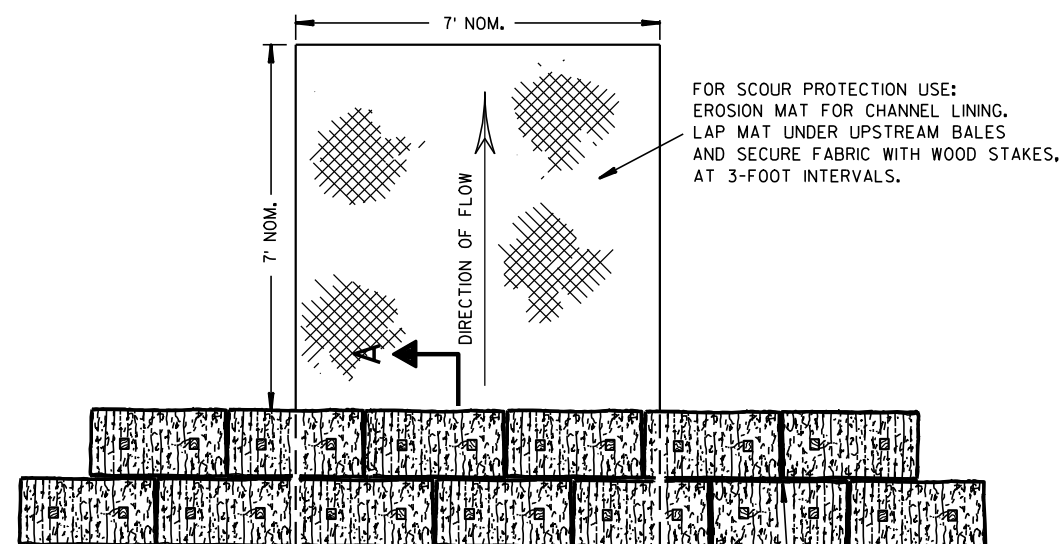
WOOD STAKES (2 PER BALE)
NOMINAL 2" X 2" X 30" MIN.
LENGTH OR EQUIVALENT



NOTE:
ALL DIMENSIONS
ARE APPROXIMATE

EMBED BALES

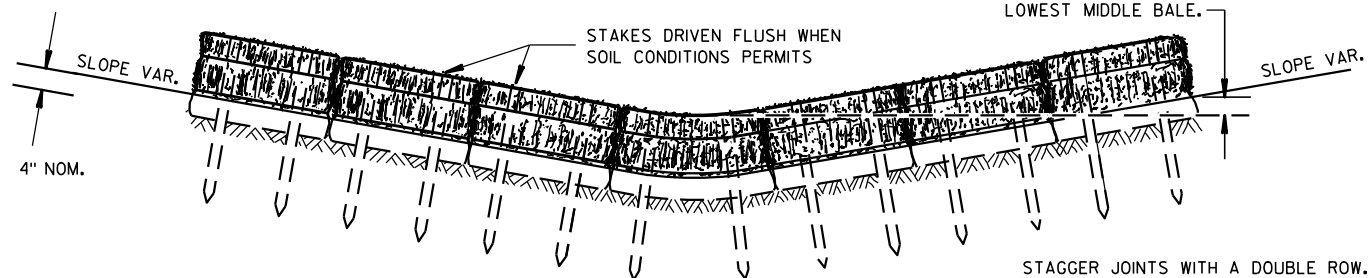
SECTION A-A



PLAN VIEW

STAGGER JOINTS BETWEEN ADJACENT
ROWS OF BALES.

BOTTOM ELEVATION OF END BALE SHALL
BE EQUAL TO OR GREATER THAN TOP OF
LOWEST MIDDLE BALE.



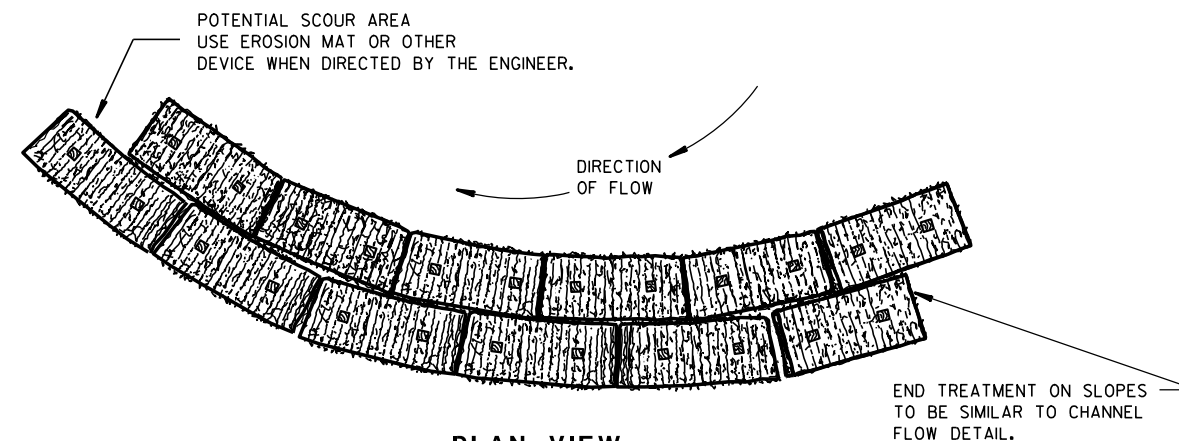
FRONT ELEVATION

TEMPORARY DITCH CHECK USING EROSION BALES ①

GENERAL NOTES

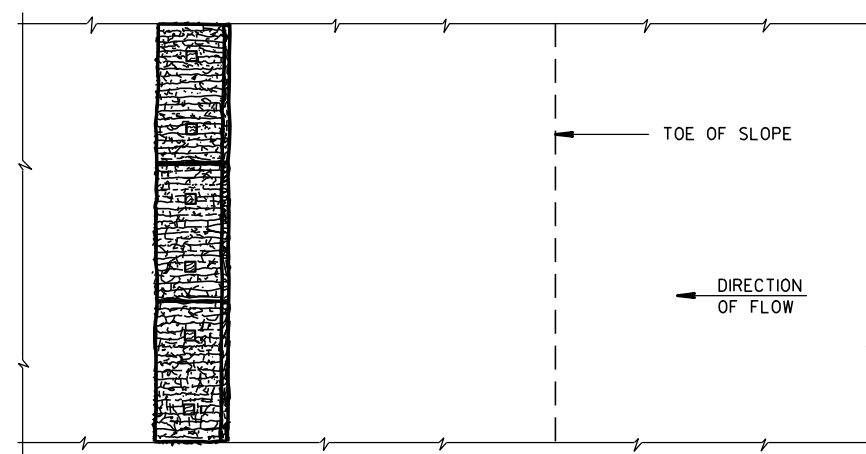
DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND THE APPLICABLE SPECIAL PROVISIONS.

- 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.

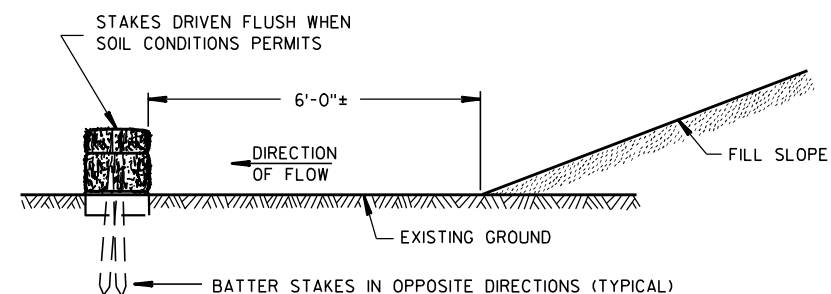


PLAN VIEW

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 Canestra
CHIEF ROADWAY DEVELOPMENT ENGINEER

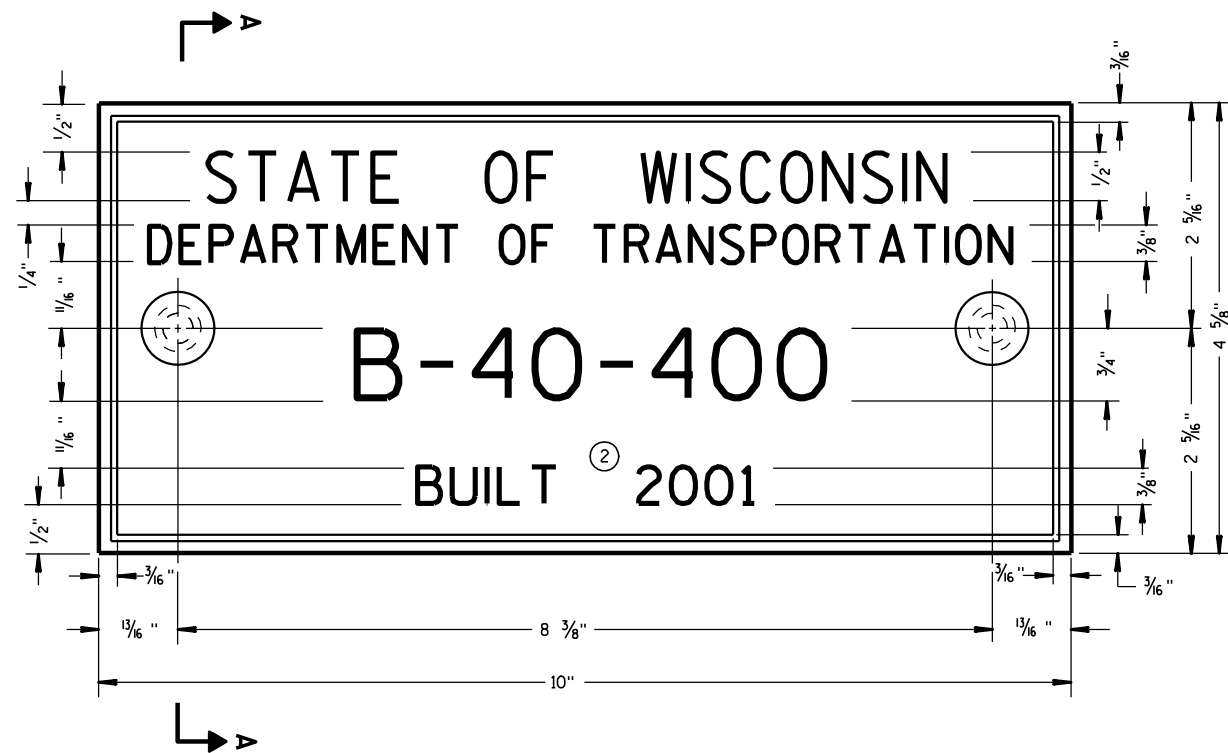
FHWA



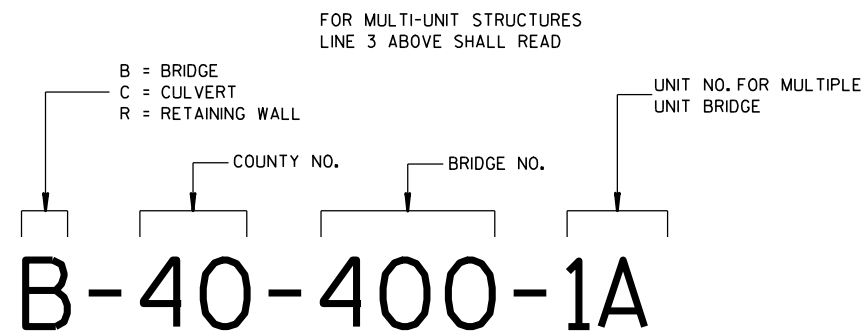
- ① HORIZONTAL BRACE REQUIRED WITH 2" X 4" WOODEN FRAME OR EQUIVALENT AT TOP OF POSTS.
- ② FOR MANUAL INSTALLATIONS THE TRENCH SHALL BE A MINIMUM OF 4" WIDE & 6" DEEP TO BURY AND ANCHOR THE GEOTEXTILE FABRIC. FOLD MATERIAL TO FIT TRENCH AND BACKFILL & COMPACT TRENCH WITH EXCAVATED SOIL.
- ③ WOOD POSTS SHALL BE A MINIMUM SIZE OF 1½" X 1½" 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.



SILT FENCE	
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
APPROVED <u>4-29-05</u> DATE	<u>/S/ Beth Cannestra</u> CHIEF ROADWAY DEVELOPMENT ENGINEER



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



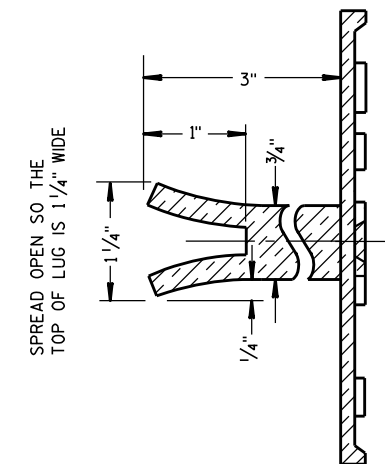
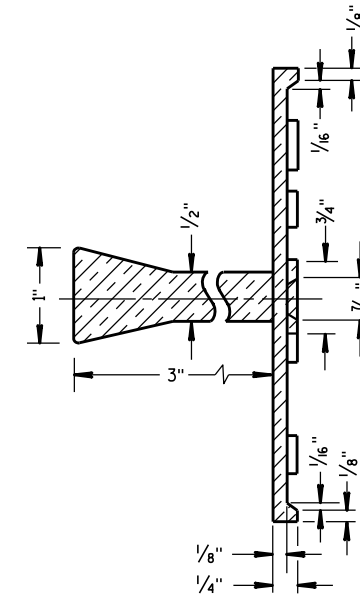
**NUMBERING DESIGNATION
MULTI-UNIT STRUCTURES**

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.

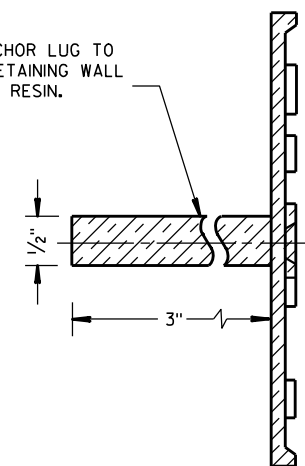
THE BRIDGE NUMBER AND YEAR BUILT SHOWN ON THIS DRAWING ARE EXAMPLES ONLY. SEE CONSTRUCTION PLANS FOR INDIVIDUAL NUMBERING AND YEAR BUILT.

- 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.



ALTERNATE LUG

- ① ADHERE ANCHOR LUG TO PRECAST RETAINING WALL WITH EPOXY RESIN.



**NAME PLATE
(STRUCTURES)**

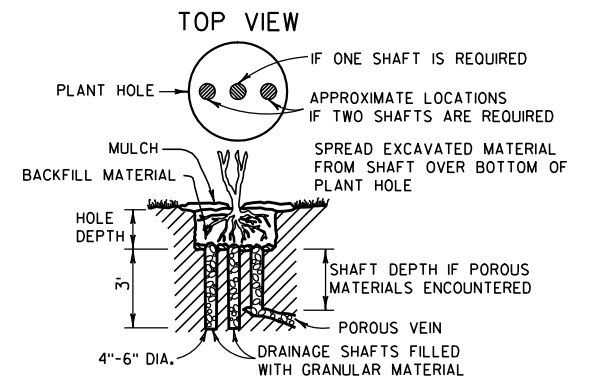
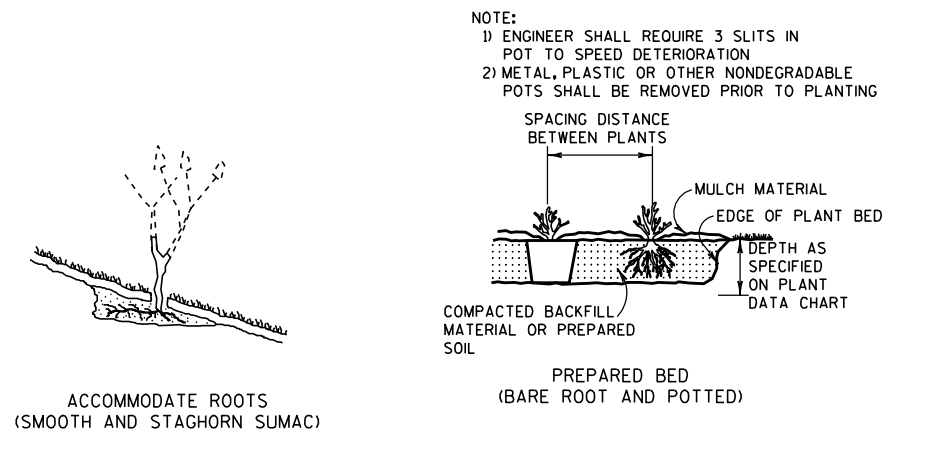
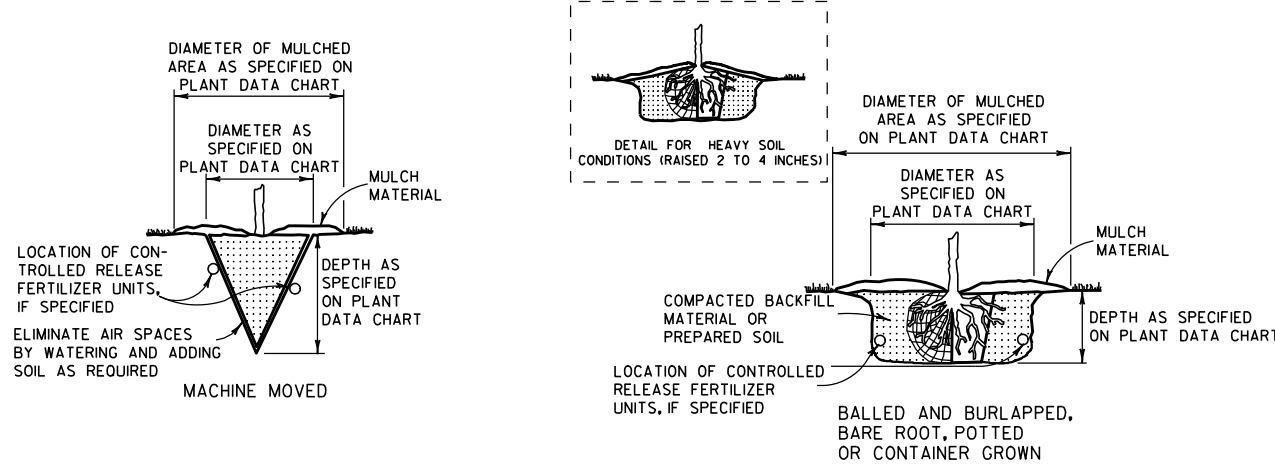
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

3/26/10
DATE

FHWA

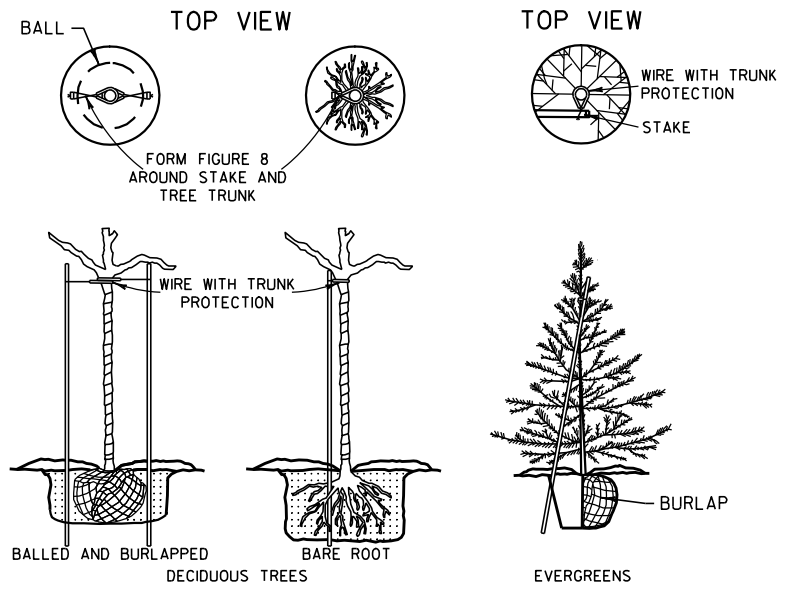
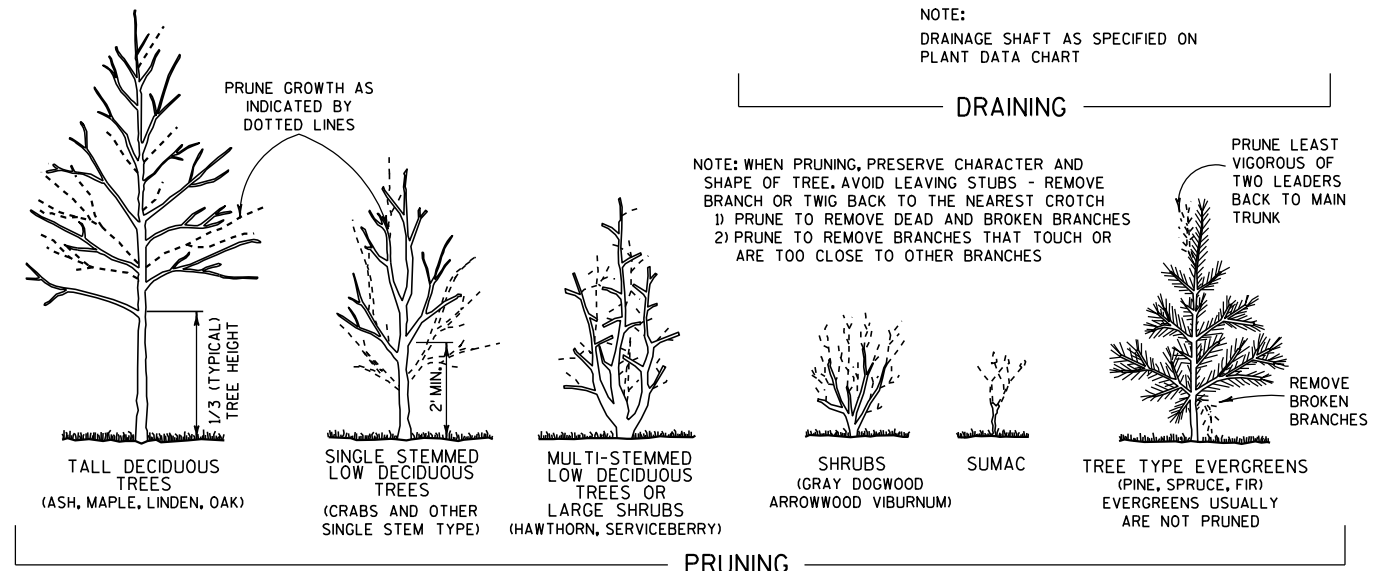
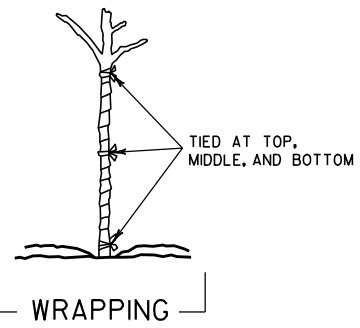
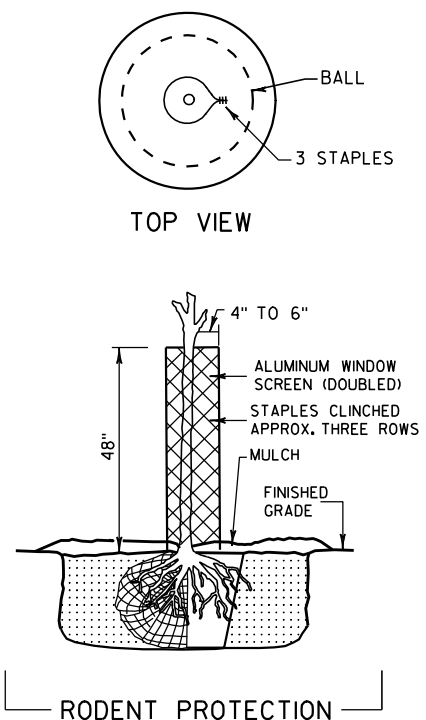
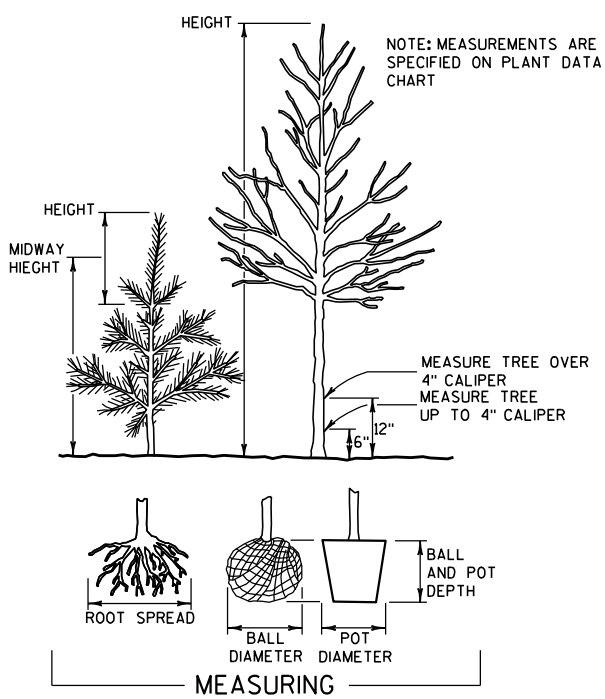
/S/ Scot Becker
CHIEF STRUCTURAL DEVELOPMENT ENGINEER



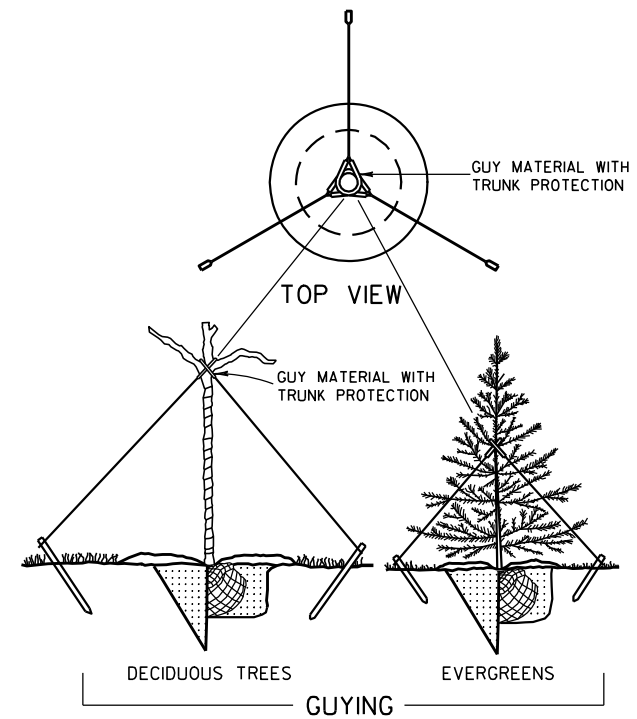
PLANTING

NOTE:
DRAINAGE SHAFT AS SPECIFIED ON PLANT DATA CHART

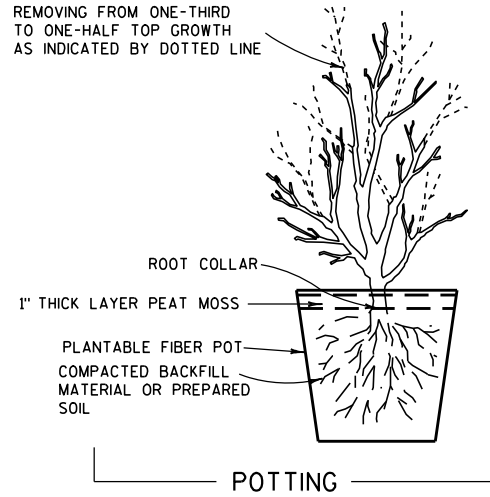
DRAINING



NOTE: BRACING STAKE
1) SHALL BE DRIVEN INTO THE GROUND AS CLOSE TO THE TREE AS POSSIBLE WITHOUT DAMAGING THE BRANCHES.
2) MAY BE DRIVEN AT SUCH AN ANGLE THAT IT DOES NOT PENETRATE THE BALL OR POT.
3) SHALL NOT PROTRUDE ABOVE THE TOP OF THE TREE; AND
4) SHALL HAVE A HOLE NEAR THE TOP TO HOLD THE WIRE IN PLACE.



PRUNE LARGER SHRUBS BY REMOVING FROM ONE-THIRD TO ONE-HALF TOP GROWTH AS INDICATED BY DOTTED LINE



NOTES

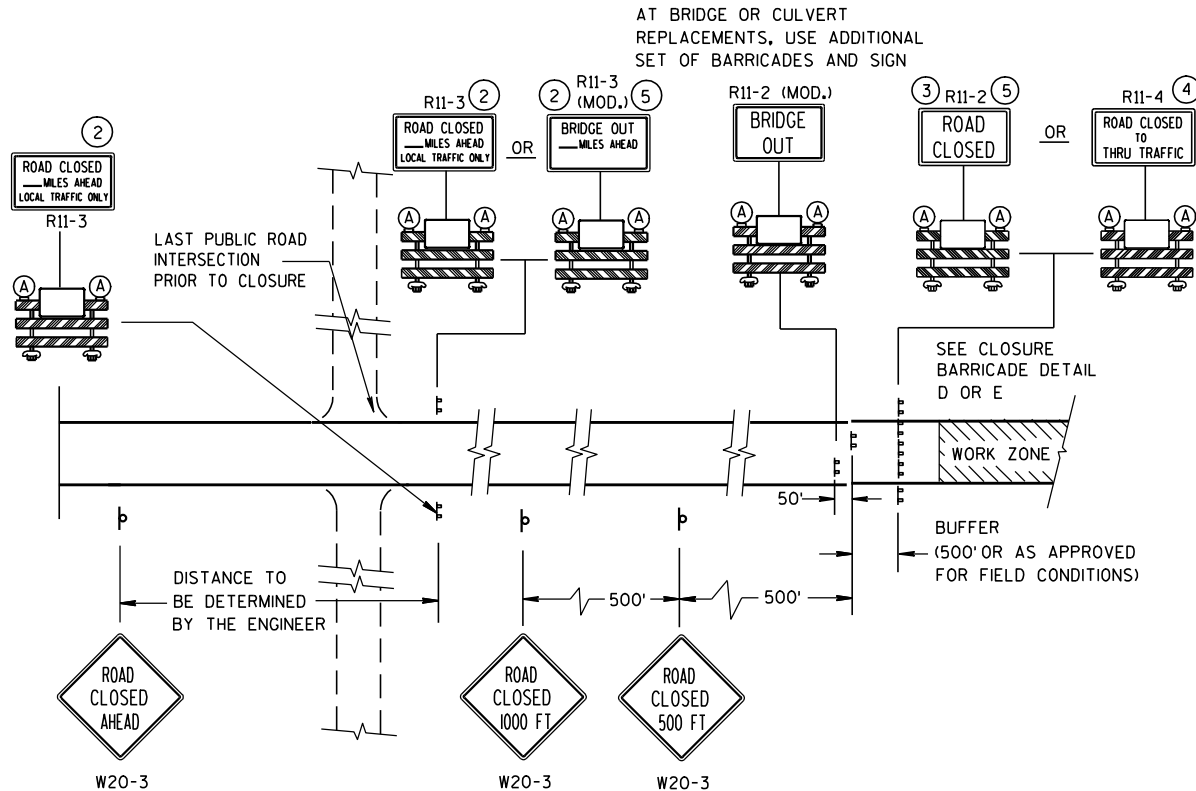
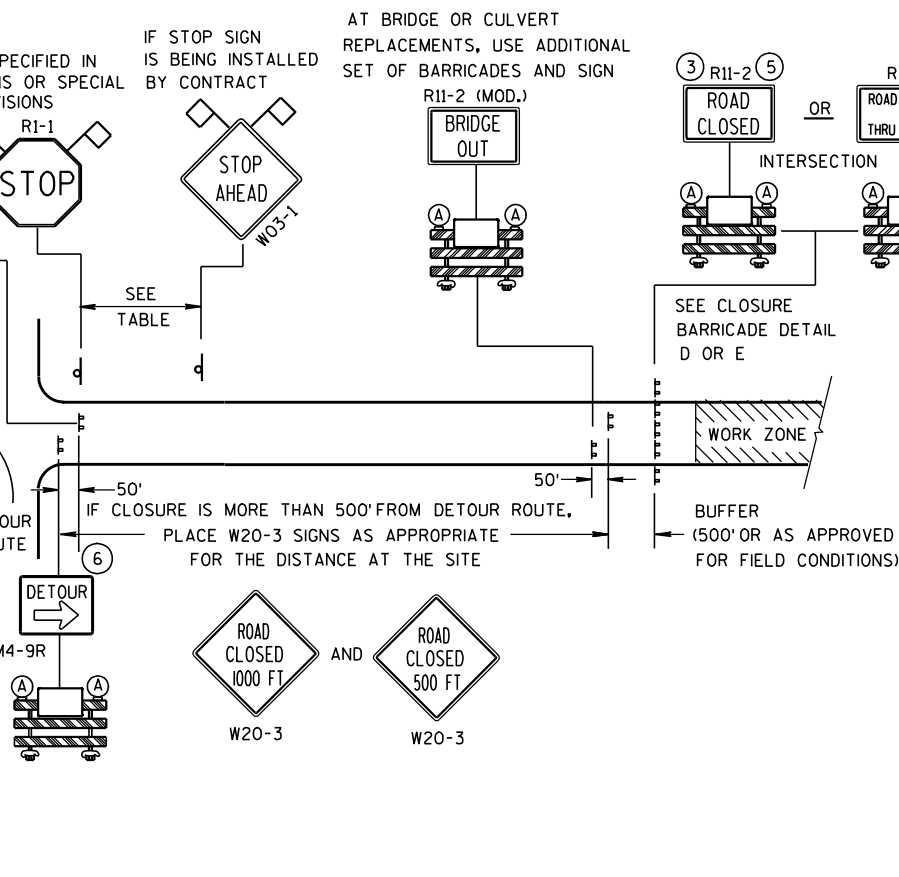
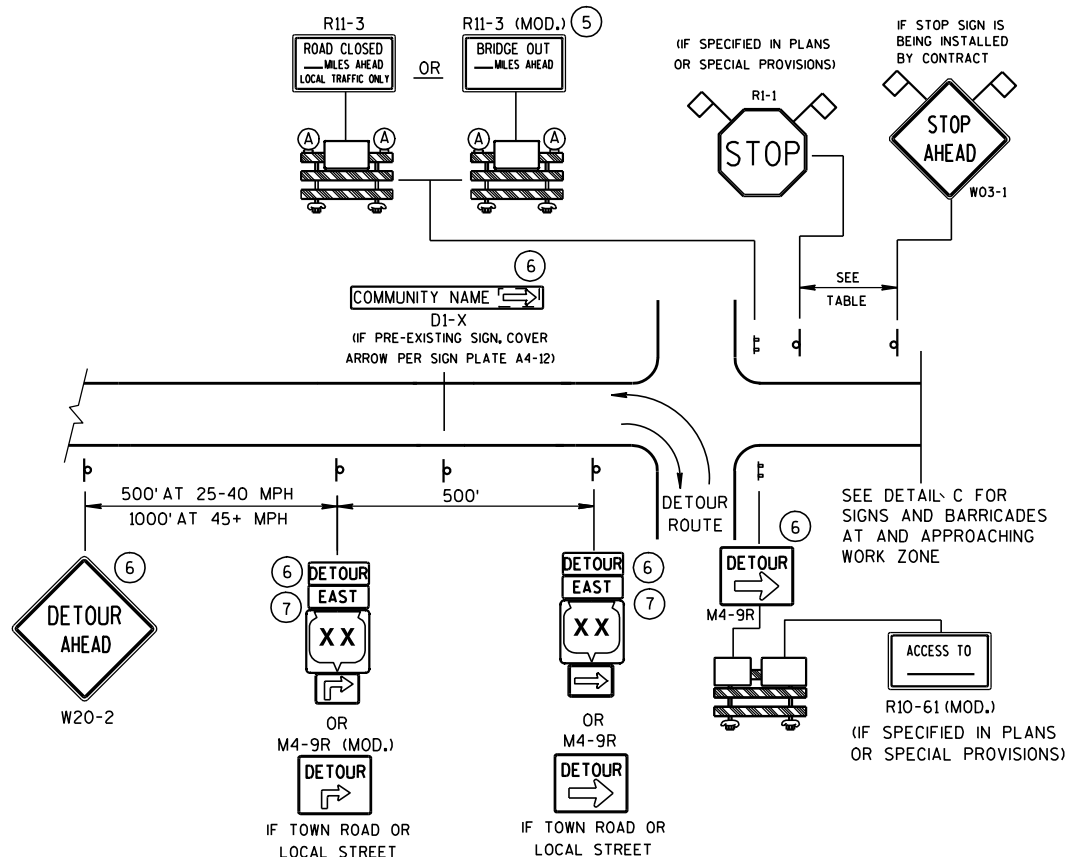
DETAILS OF CONSTRUCTION NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND THE APPLICABLE SPECIAL PROVISIONS.

BRACING, WRAPPING, GUYING, RODENT PROTECTION, FERTILIZER AND MULCH SHALL BE USED ONLY WHEN SPECIFIED ON THE PLANT DATA CHART (PART OF PLAN) OR SPECIAL PROVISIONS.

TREE PLANTING DETAIL

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
4/11/94 /S/ Rory L. Rhinesmith
DATE CHIEF METHODS DEVELOPMENT ENGINEER
FHWA



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

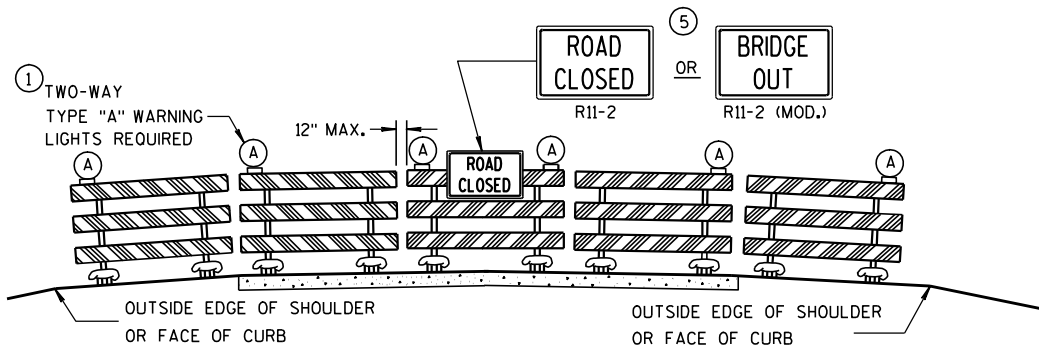
SEE SDD 15C2-4b
FOR GENERAL NOTES
AND FOOTNOTES ① THROUGH ⑦

LEGEND

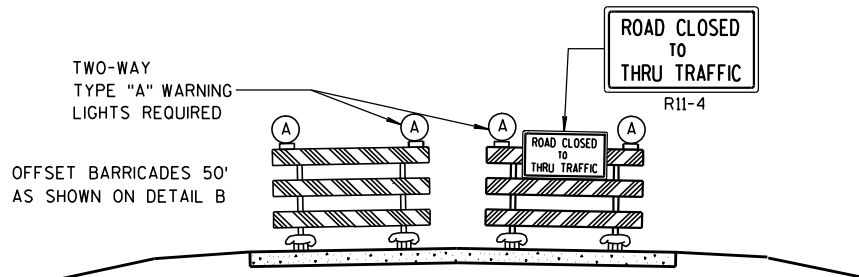
- POST MOUNTED SIGN
- TYPE III BARRICADES
- TYPE "A" LOW INTENSITY FLASHING WARNING LIGHT (FOR NIGHT USE)
- WORK ZONE
- DETOUR EAST M4-8 M3-X
- MI-4 OR MI-5A OR MI-6
- MO5-1 OR MO6-1
- FLAGS, 16" X 16" MIN., (ORANGE)

BARRICADES AND SIGNS
FOR
MAINLINE CLOSURES

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION



DETAIL D
ROAD CLOSURE BARRICADE DETAIL
APPROACH VIEW



DETAIL E
LANE CLOSURE BARRICADE DETAIL
APPROACH VIEW

SEE SDD 15C2-4a 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.

THE REFLECTIVE SHEETING USED ON R11-2, R11-3, R11-4, R10-61 AND R1-1 SIGNS SHALL COMPLY WITH SUBSECTION 637.2.2.2 OF THE STANDARD SPECIFICATIONS.

"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 AND 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

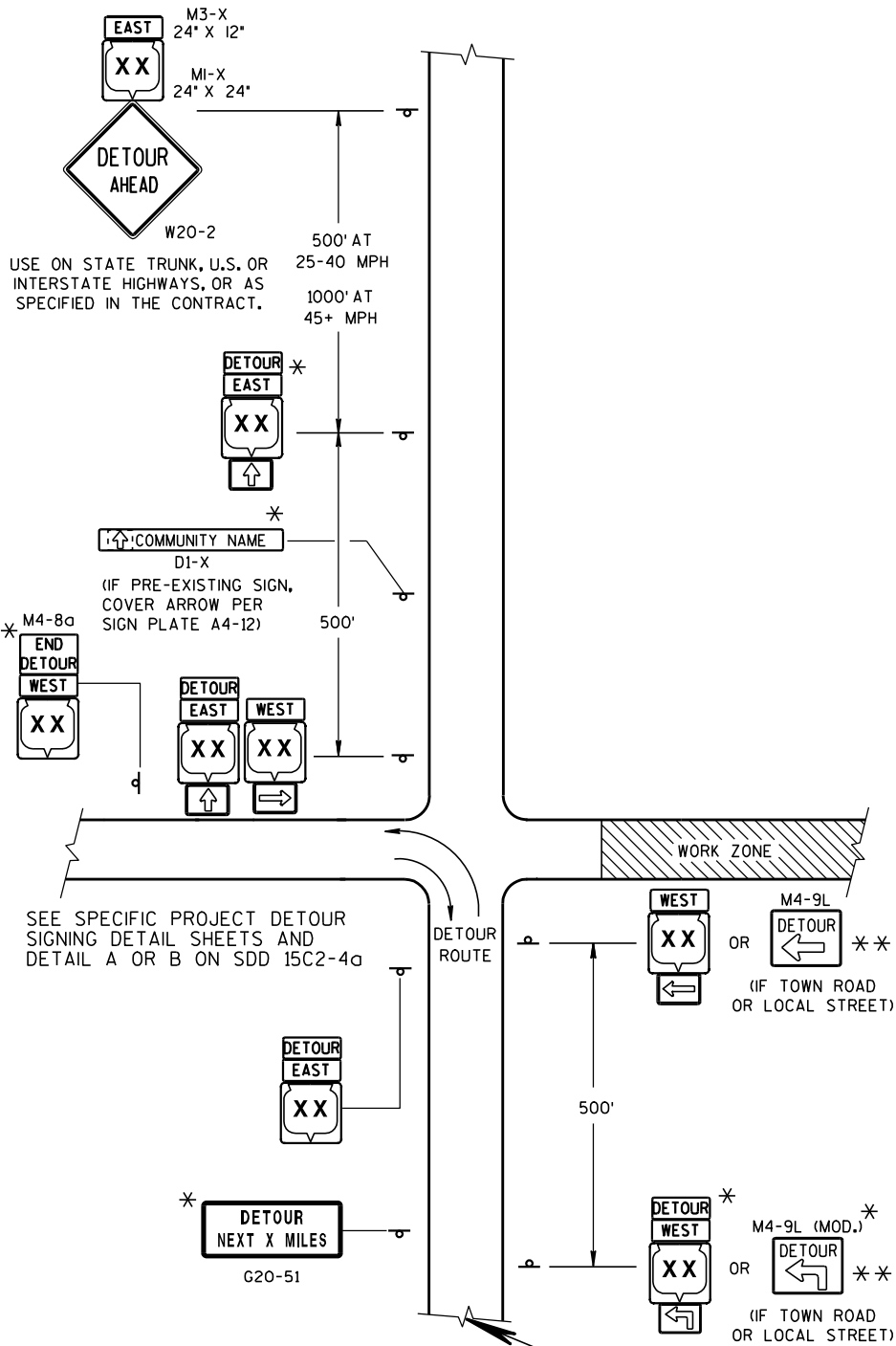
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

9/16/03
DATE

/S/ Thomas N. Notbohm
CHIEF SIGNS AND MARKING ENGINEER

FHWA



SEE SPECIFIC PROJECT DETOUR SIGNING DETAIL SHEETS AND DETAIL A OR B ON SDD 15C2-4a

LEGEND

POST MOUNTED SIGN

WORK ZONE

DETOUR EAST M4-8 M3-X

M1-4 OR COUNTY M1-5A OR M1-6

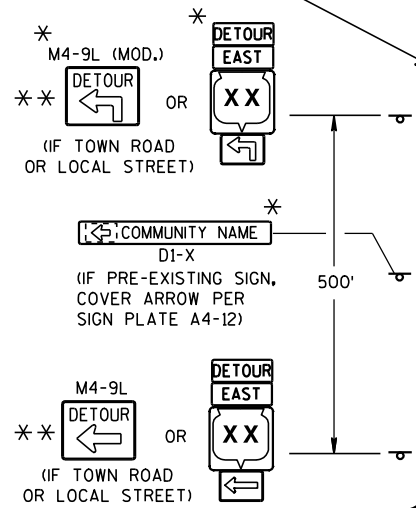
M05-1 OR M06-1 OR M06-1

THIS DRAWING PROVIDES GENERAL GUIDANCE ON TYPICAL DETOUR SIGN LAYOUT AND SPACING. SEE PROJECT DETOUR SIGNING SHEETS FOR SPECIFIC DETAILS FOR EACH PROJECT.

MATCH POINT

**DETAIL F
DETOUR SIGNING**

USE ON STATE TRUNK, U.S. OR INTERSTATE HIGHWAYS, OR AS SPECIFIED IN THE CONTRACT.



GENERAL NOTES

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

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. SEE SPECIFIC PROJECT DETOUR SIGNING DETAIL SHEETS. MODIFY EXISTING SIGNS WHERE POSSIBLE.

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

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.

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

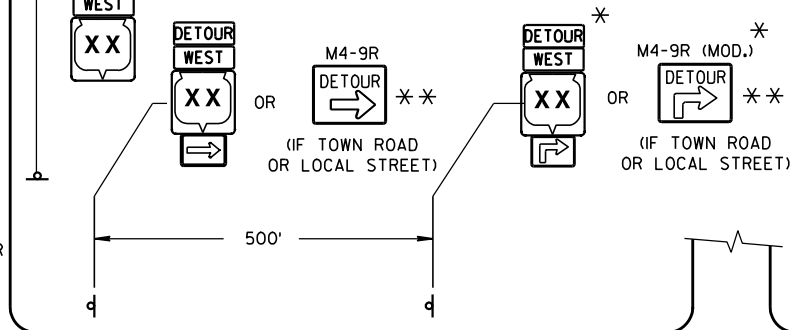
"MO" SIGNS ARE THE SAME AS "M" SIGNS EXCEPT THE BACKGROUND IS ORANGE.

SIGN SIZES SHALL BE AS FOLLOWS:

- M3-X AND 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.)
- M4-9 SHALL BE 30" X 24".
- M4-8a SHALL BE 24" X 18".
- G20-51 SHALL BE 60" X 24".
- W20-2 SHALL BE 48" X 48".
- D1-X SHALL BE AS SHOWN ON SPECIFIC PROJECT SIGNING DETAIL SHEETS.

* OPTIONAL SIGNS. SEE SPECIFIC PROJECT DETOUR SIGNING DETAIL SHEETS.

** FOR A TOWN ROAD OR LOCAL STREET DETOURED ONTO A STATE TRUNK HIGHWAY, PLACE A ROAD NAME PLAQUE ABOVE THE M4-9 SIGN AS SPECIFIED IN THE CONTRACT.

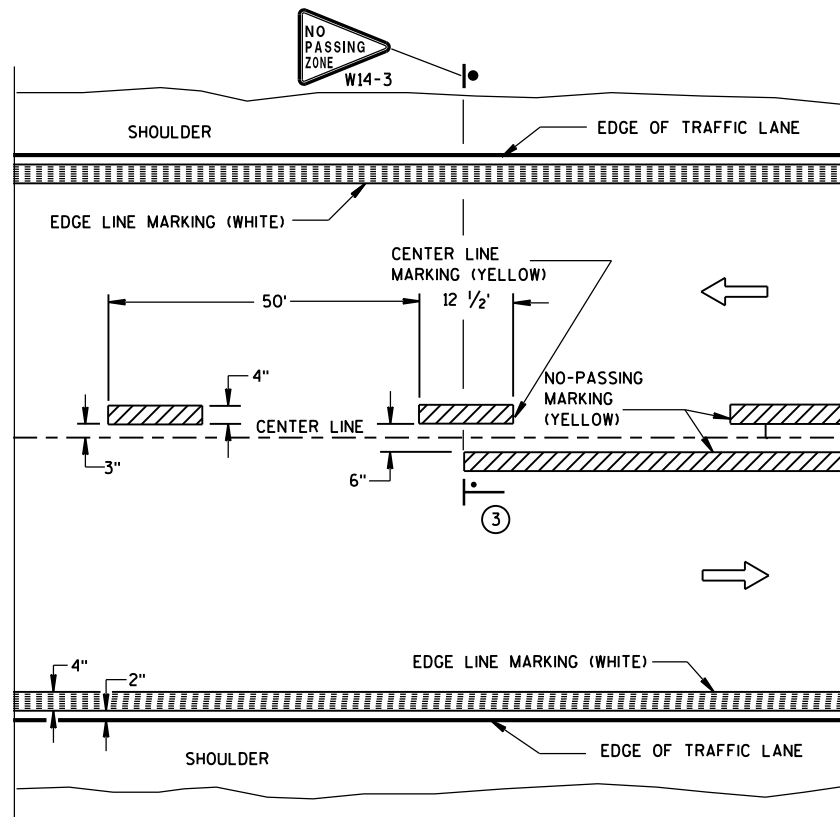


PLACE SIGNS BEYOND INTERSECTIONS WITH STATE OR COUNTY TRUNK HIGHWAYS OR AT 4 MILE MAXIMUM SPACING (4 BLOCKS IF URBAN AREA.)

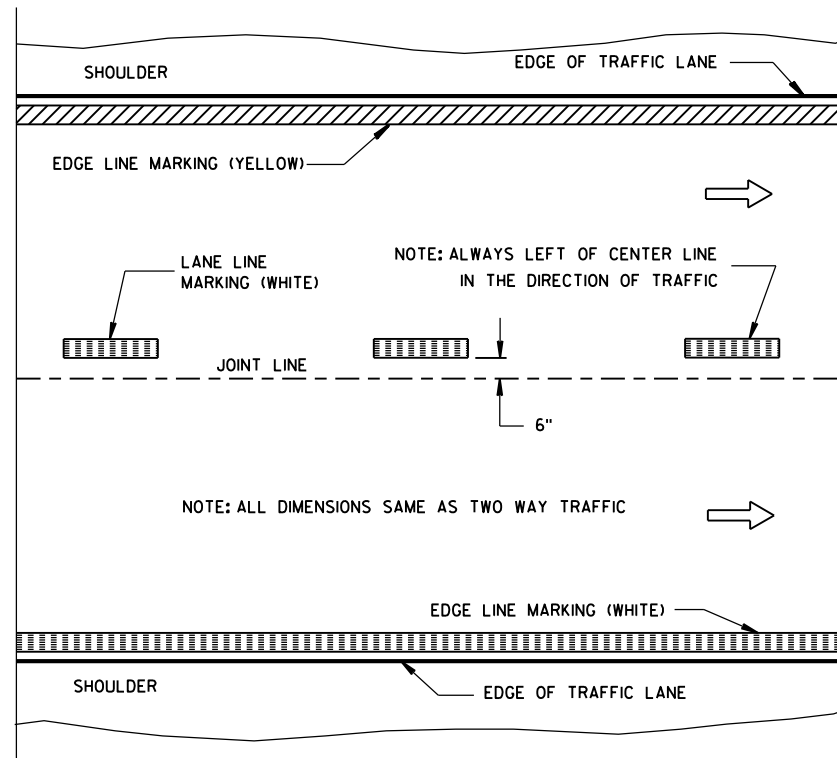
**DETOUR SIGNING FOR
MAINLINE CLOSURES**

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
9-16-03 DATE /S/ Thomas N. Notbohm
CHIEF SIGNS AND MARKING ENGINEER
FHWA

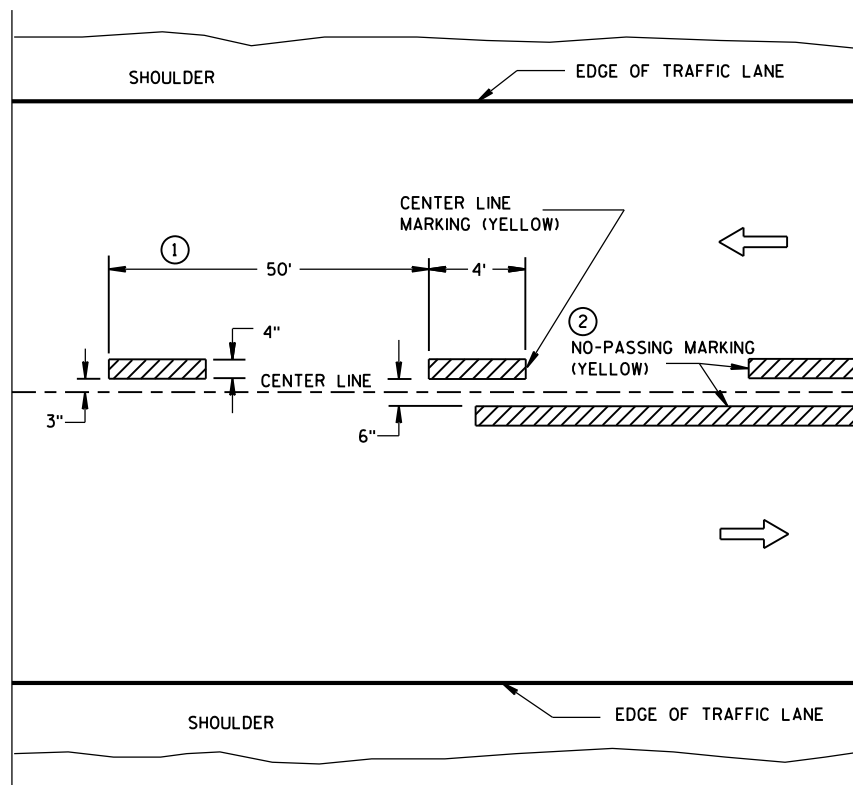


TWO WAY TRAFFIC

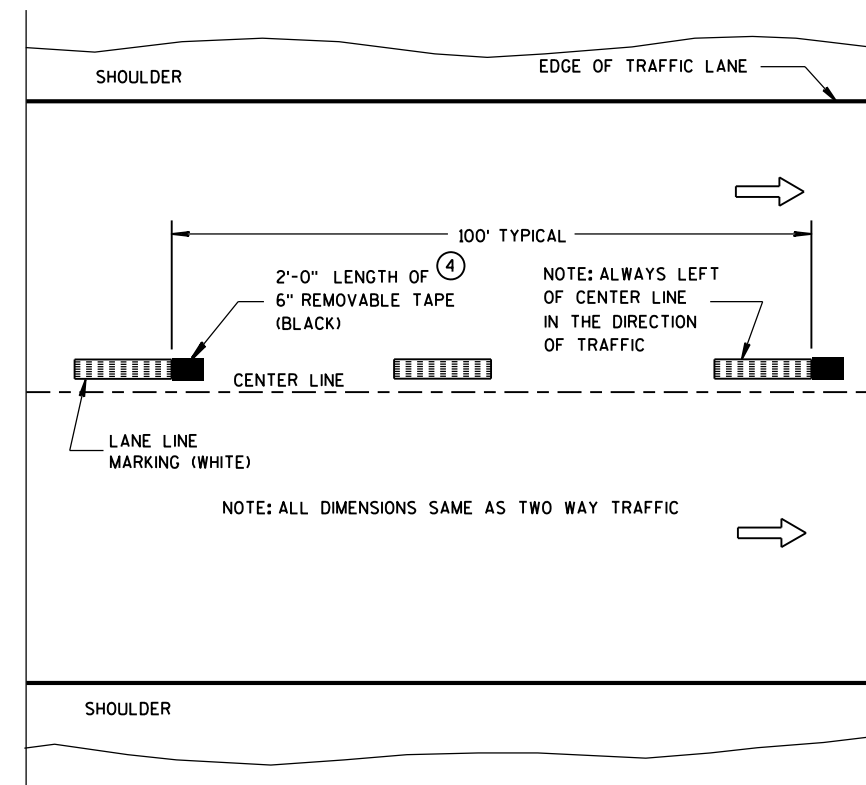


ONE WAY TRAFFIC

PERMANENT PAVEMENT MARKING



TWO WAY TRAFFIC



ONE WAY TRAFFIC

TEMPORARY (INTERMEDIATE) PAVEMENT MARKING
(SHOWS CYCLE FOR TEMPORARY CENTER LINE OR TEMPORARY LANE LINE MARKING)

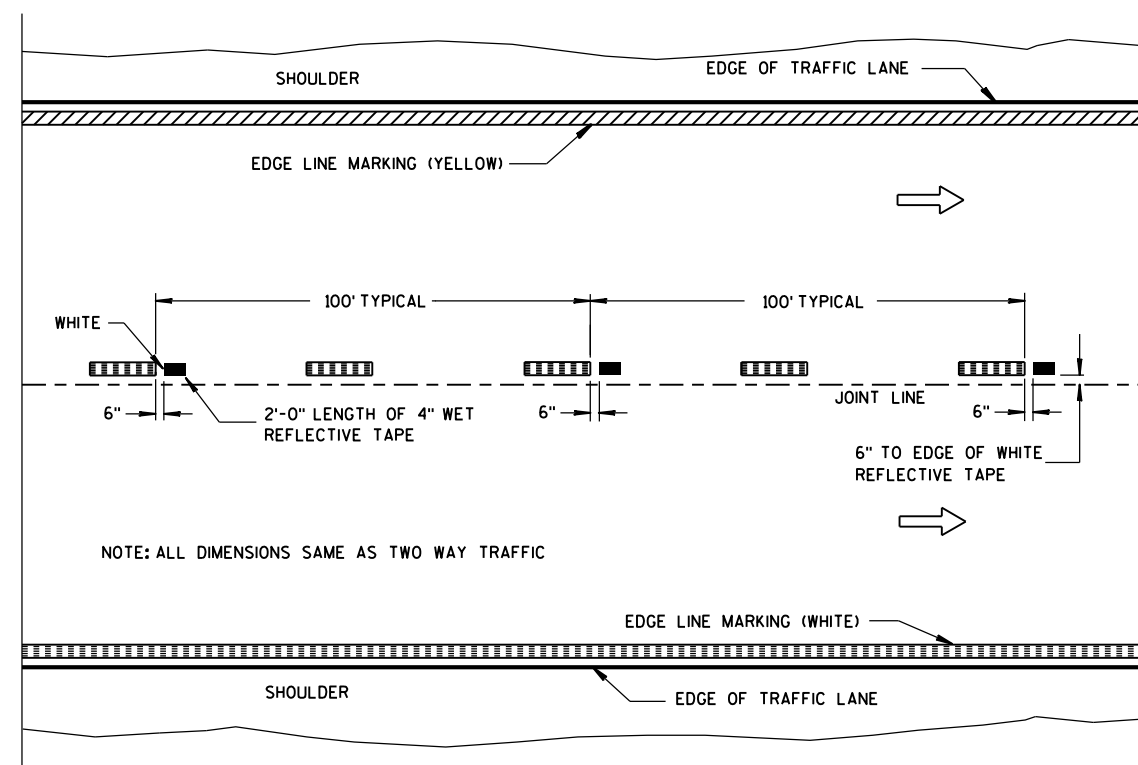
GENERAL NOTES

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

- ① HALF CYCLE LENGTHS (25'±) WITH 2' MINIMUM STRIPE LENGTHS SHALL BE PROVIDED ON ROADWAYS (INCLUDING TEMPORARY TRAVELED WAYS) WITH REVERSE CURVATURE, CURVATURE OF OVER 5 DEGREES OR WHEN DIRECTED BY THE ENGINEER TO MARK UNUSUAL ALIGNMENT OF THE TRAVELED WAY.
- ② NO PASSING ZONE TEMPORARY PAVEMENT MARKING IS REQUIRED TO BE PLACED, WHERE APPROPRIATE, ALONG WITH CENTERLINE TEMPORARY PAVEMENT MARKING WHEN A SAME DAY PERMANENT PAVEMENT MARKING ITEM IS INCLUDED IN THE CONTRACT.
- ③ NO PASSING ZONE MARKINGS ARE PLACED ACCORDING TO "T" MARKINGS. IF EXISTING NO PASSING ZONE W14-3 SIGNS ARE BEYOND 50 FEET IN EITHER DIRECTION, THE SIGNS SHALL BE MOVED TO THE "T" MARKINGS.
- ④ CONCRETE ONLY.

NOTE

ARROW SYMBOL (→) SHOWS DIRECTION OF TRAVEL



WET REFLECTIVE TAPE SUPPLEMENT TO
SPRAYED OR NON WET REFLECTIVE TAPE LANE LINE

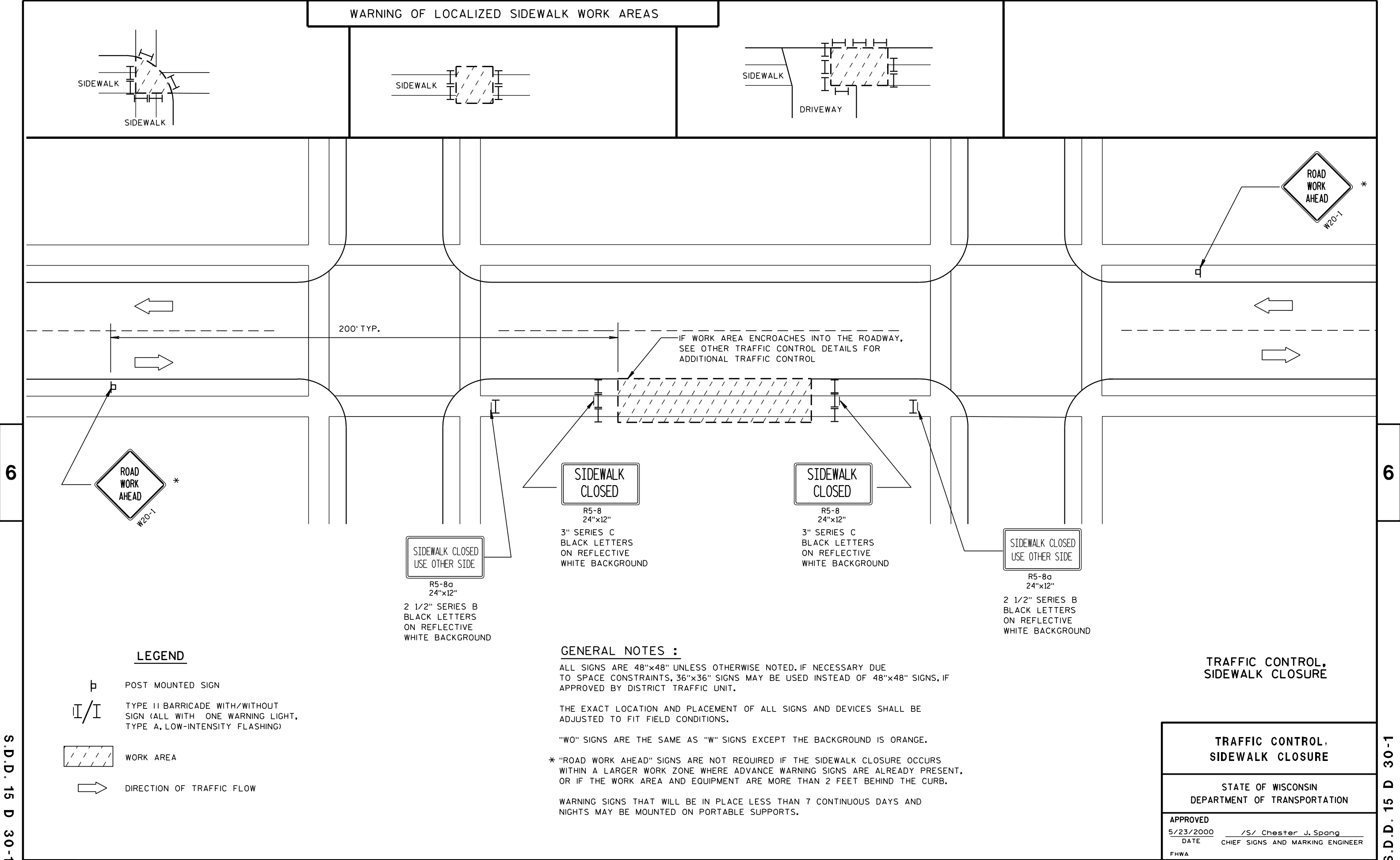
LEGEND

- "T" MARKING
- POST MOUNTED SIGN

PAVEMENT MARKING
(MAINLINE)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
10-1-2012 /S/ Travis Fettes
DATE STATE TRAFFIC ENGINEER OF DESIGN
FHWA



S.D.D. 15 D 30-1

S.D.D. 15 D 30-1

LEGEND

- POST MOUNTED SIGN
- TYPE II BARRICADE WITH/WITHOUT SIGN (ALL WITH ONE WARNING LIGHT, TYPE A, LOW-INTENSITY FLASHING)
- WORK AREA
- DIRECTION OF TRAFFIC FLOW

GENERAL NOTES :

ALL SIGNS ARE 48"x48" UNLESS OTHERWISE NOTED. IF NECESSARY DUE TO SPACE CONSTRAINTS, 36"x36" SIGNS MAY BE USED INSTEAD OF 48"x48" SIGNS, IF APPROVED BY DISTRICT TRAFFIC UNIT.

THE EXACT LOCATION AND PLACEMENT OF ALL SIGNS AND DEVICES SHALL BE ADJUSTED TO FIT FIELD CONDITIONS.

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

* "ROAD WORK AHEAD" SIGNS ARE NOT REQUIRED IF THE SIDEWALK CLOSURE OCCURS WITHIN A LARGER WORK ZONE WHERE ADVANCE WARNING SIGNS ARE ALREADY PRESENT, OR IF THE WORK AREA AND EQUIPMENT ARE MORE THAN 2 FEET BEHIND THE CURB.

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

**TRAFFIC CONTROL,
SIDEWALK CLOSURE**

**TRAFFIC CONTROL,
SIDEWALK CLOSURE**

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
5/23/2000 /S/ Chester J. Spang
DATE CHIEF SIGNS AND MARKING ENGINEER
FHWA

5032-00-71

BENCHMARKS		NAVD 88 (96 ADJUSTED)	
NO.	STA.	DESCRIPTION	ELEV.
1	9+93, 34' LT.	CHISELED CROSS ON SW WING	916.54
2	9+80, 43' RT.	CHISELED CROSS ON NW CORNER	917.75
3	11+11, 23' LT.	CROSS ON NW FLANGE BOLT	920.31

LEGEND

○ — INDICATES WING NUMBER

DESIGN DATA (TOP SLAB ONLY)**LIVE LOAD:**

DESIGN RATING : HL-93
 INVENTORY RATING FACTOR : 1.05
 OPERATIONAL RATING FACTOR : 1.35
 WISCONSIN STANDARD PERMIT VEHICLE (WIS-SPV) : 255 KIPS

TRAFFIC DATA:

A.D.T. (2012) = 3070
 A.D.T. (2032) = 3760
 R.D.S. = 30 MPH

EARTH LOAD:

DESIGNED FOR 1'-0" OF FILL

ALLOWABLE DESIGN STRESSES:

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

GENERAL NOTES

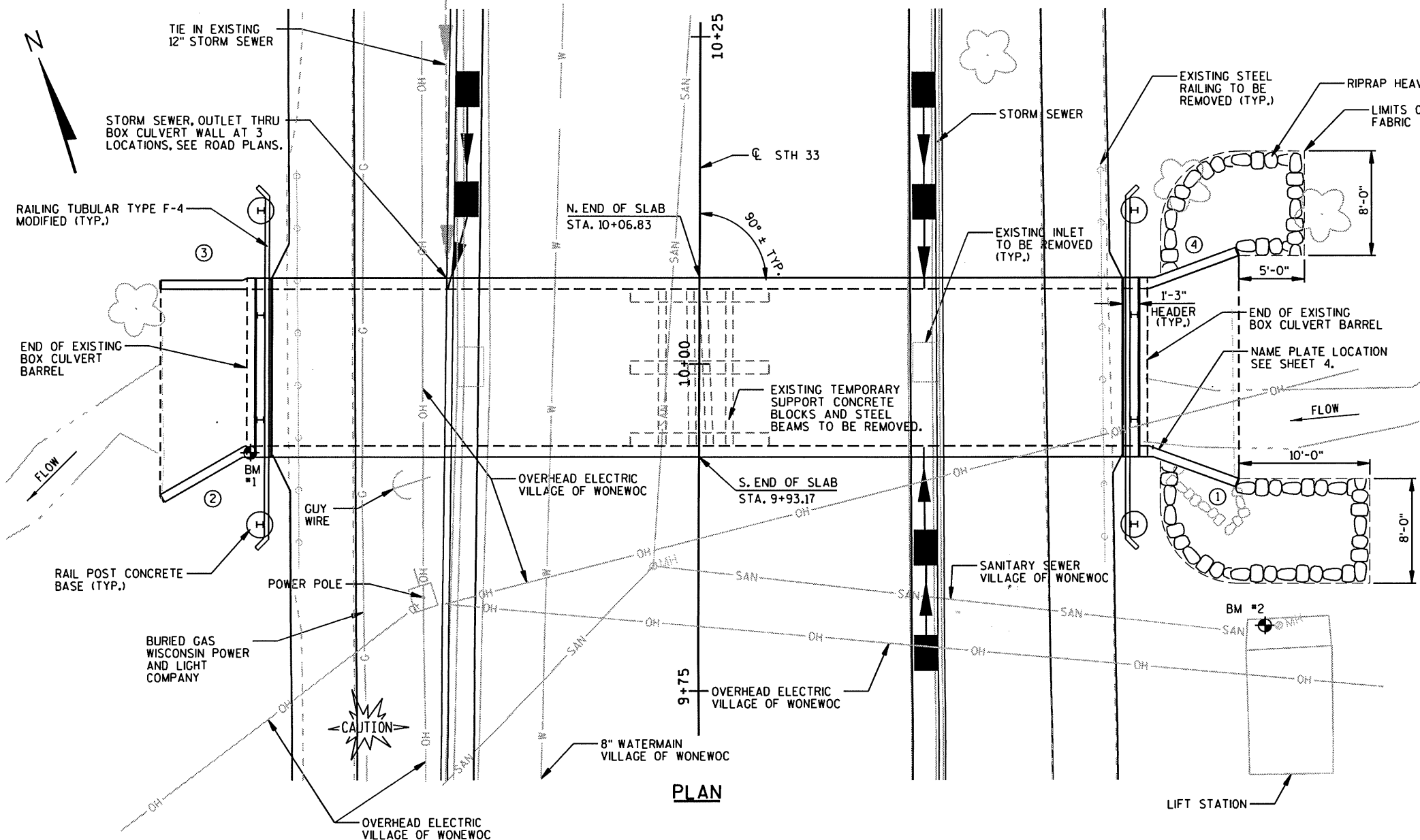
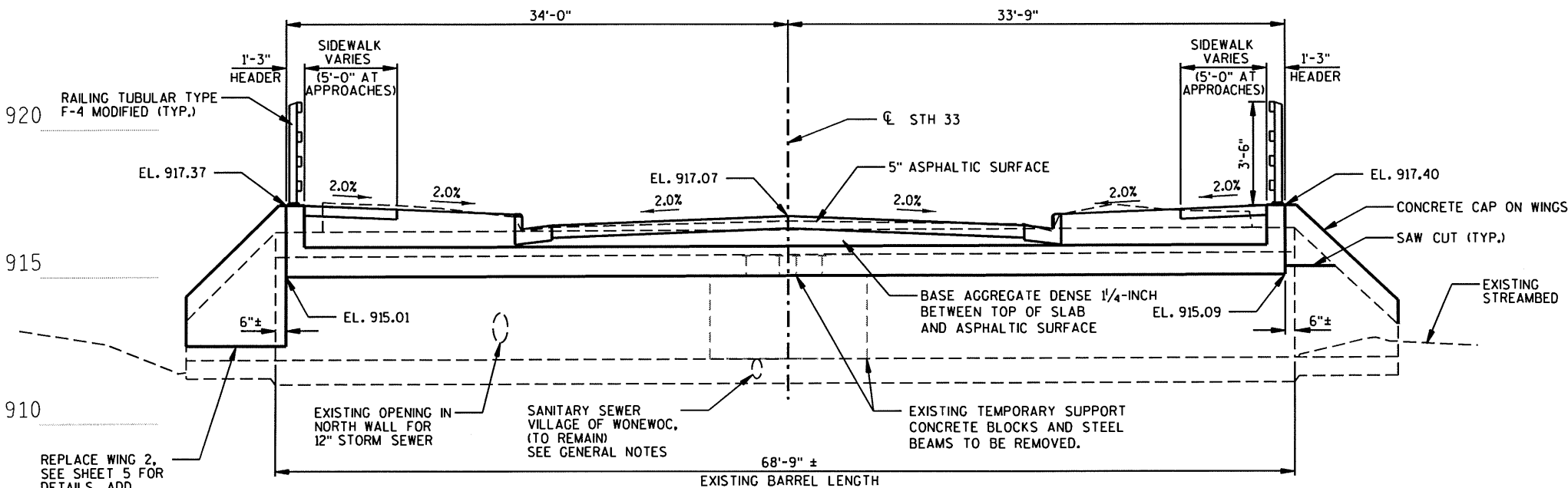
DRAWINGS SHALL NOT BE SCALED.
 BAR STEEL REINFORCEMENT SHALL BE EMBEDDED 2" CLEAR UNLESS SHOWN OR NOTED OTHERWISE.
 THE FIRST DIGIT OF A THREE DIGIT BAR MARK SIGNIFIES THE BAR SIZE.
 ALL SPACES EXCAVATED AND NOT OCCUPIED BY THE NEW STRUCTURE OR BASE AGGREGATE DENSE 1/4-INCH SHALL BE BACKFILLED WITH BACKFILL STRUCTURE TO THE ELEVATION OF THE SIDEWALK SUBGRADE. THE BACKFILL STRUCTURE ESTIMATED QUANTITIES ASSUMED A 1/2:1 EXCAVATION SLOPE. SEE ADDITIONAL WEEP HOLE AREA WORK.
 THE CONTRACTOR SHALL SUPPLY A NEW NAME PLATE IN ACCORDANCE WITH SECTION 502.3.11 OF THE STANDARD SPECIFICATIONS AND THE STANDARD DETAIL DRAWINGS. NAME PLATE SHALL SHOW ORIGINAL CONSTRUCTION YEAR OF 1948.
 THIS STRUCTURE WILL REHABILITATE THE EXISTING STRUCTURE, C-29-11, A 69 FT. LONG, SINGLE CELL CONCRETE BOX CULVERT, 12'-0" WIDE x 3'-6" HIGH. THE UPPER LIMITS OF "EXCAVATION FOR STRUCTURES C-29-11 REHAB" SHALL BE THE EXISTING GROUND LINE AND SHALL INCLUDE REMOVAL OF EXISTING GROUTED RIPRAP AT WING 1.
 THE LOCATIONS OF EXISTING UTILITIES AS SHOWN ON THE PLANS ARE APPROXIMATE. PREVENT DAMAGE TO THE EMBEDDED SANITARY SEWER. USE SAW CUTS AS SHOWN ON SHEET 2 TO MINIMIZE REMOVAL IMPACT LOADING ON THE EXISTING STRUCTURE. ADDITIONAL SAW CUTS NOT SHOWN MAY BE REQUIRED.
 BRACE THE EXISTING WALLS AS NECESSARY TO PREVENT DAMAGE OR FAILURE DURING CONSTRUCTION.

LIST OF DRAWINGS

1. GENERAL PLAN
2. BOX CULVERT SECTIONS & DETAILS
3. TOP SLAB DETAILS
4. EXISTING WING REHAB DETAILS
5. WING 2 DETAILS
6. RAILING TUBULAR TYPE F-4 MODIFIED

DESIGN CONTACT:
 LEAH RHODES
 (608) 355-8945

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

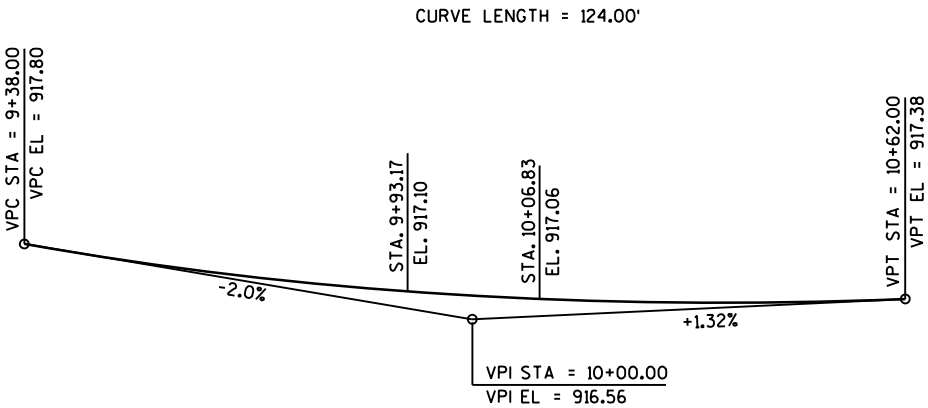
**PLAN****ELEVATION**
(LOOKING NORTH - STA. 10+00)

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 <i>William C. Dreher</i> 02/07/13 CHIEF STRUCTURES DESIGN ENGINEER DATE			
STRUCTURE C-29-11 REHAB			
STH 33 OVER UNNAMED WATERWAY			
COUNTY	JUNEAU	TOWN/CITY/VILLAGE	WONEWOC
DESIGN SPEC. AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS (TOP SLAB)			
DESIGNED BY	LJR	DESIGN CK'D.	DHW
DRAWN BY	RLR	PLANS CK'D.	LJR
GENERAL PLAN			SHEET 1 OF 6

TOTAL ESTIMATED QUANTITIES

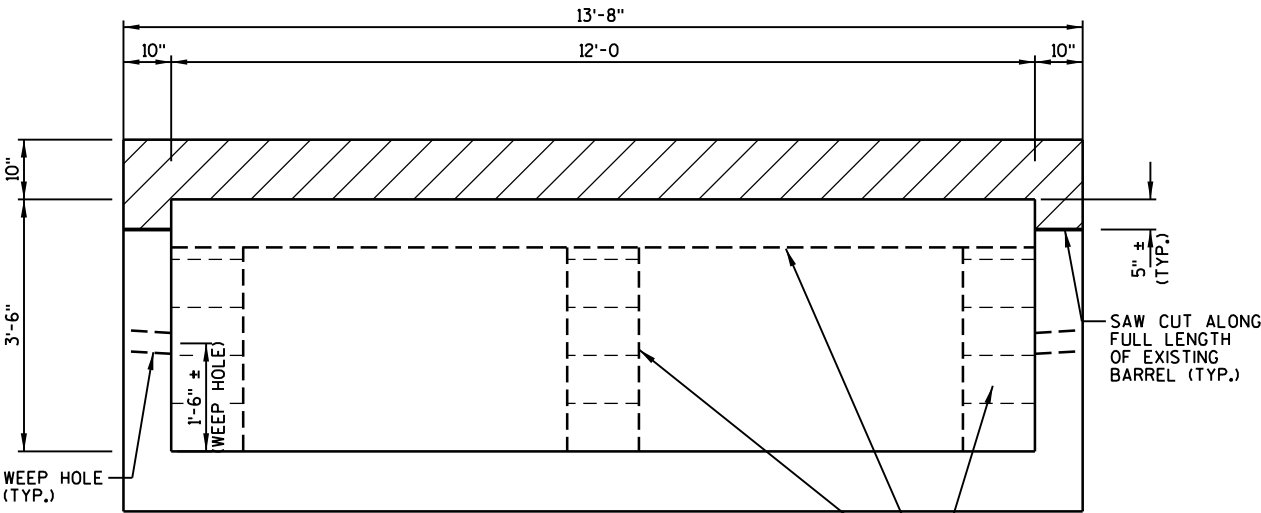
ITEM NUMBER	BID ITEM	UNIT	TOTAL
203.0500.S.01	REMOVING OLD STRUCTURE OVER WATERWAY STATION 10+00	LS	1
206.2000.01	EXCAVATION FOR STRUCTURES CULVERTS C-29-11 REHAB	LS	1
210.0100	BACKFILL STRUCTURE	CY	65
310.0115	BASE AGGREGATE OPEN GRADED	CY	6
502.5002	MASONRY ANCHORS TYPE L NO. 4 BARS	EACH	24
502.5005	MASONRY ANCHORS TYPE L NO. 5 BARS	EACH	80
502.5010	MASONRY ANCHORS TYPE L NO. 6 BARS	EACH	4
504.0100	CONCRETE MASONRY CULVERTS	CY	38
505.0610	BAR STEEL REINFORCEMENT HS COATED CUVERTS	LB	9110
* 509.1500	CONCRETE SURFACE REPAIR	SF	20
516.0500	RUBBERIZED MEMBRANE WATERPROOFING	SY	130
606.0300	RIPRAP HEAVY	CY	17
645.0111	GEOTEXTILE FABRIC TYPE DF SCHEDULE A	SY	85
645.0120	GEOTEXTILE FABRIC TYPE HR	SY	50
SPV.0105.01	RAILING TUBULAR TYPE F-4 MODIFIED C-29-11 REHAB	LS	1
NON-BID ITEMS			
	PREFORMED FILLER	SIZE	1/2"

* - AS DIRECTED BY THE ENGINEER IN THE FIELD.



PROFILE GRADE LINE - STH 33

NOTE:
SEE ROAD PLANS FOR DETAIL
OF STORM SEWER PENETRATIONS.
REQUIRED AT 3 LOCATIONS.



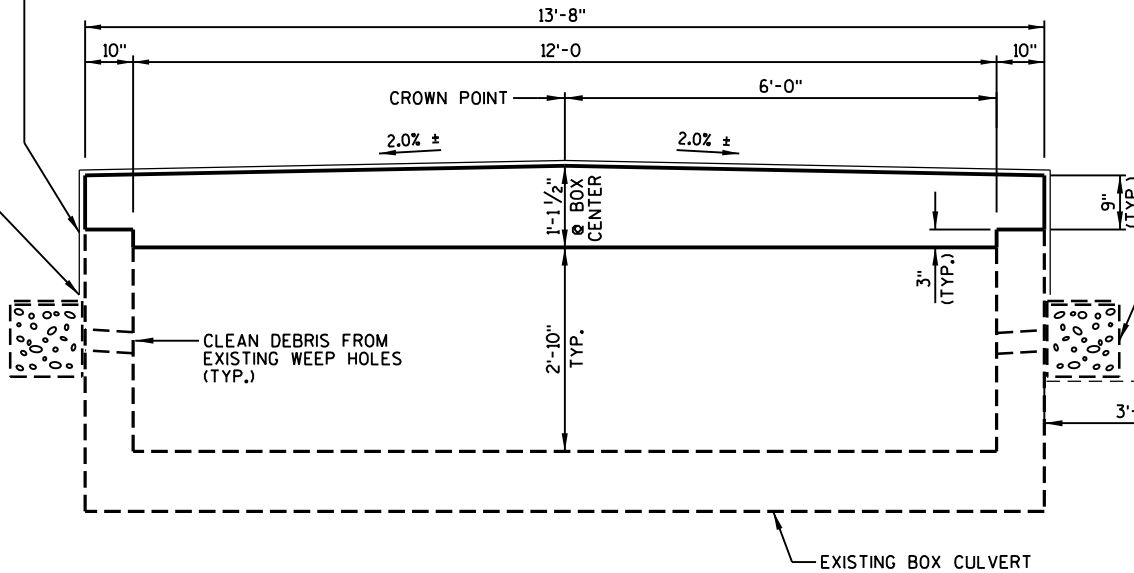
TYPICAL SECTION THRU EXISTING BOX

LEGEND

— REMOVE EXISTING TOP SLAB AND TOP OF WALLS.

EXTEND 18" WIDE RUBBERIZED MEMBRANE WATERPROOFING
ALONG EXISTING VERTICAL CONSTRUCTION JOINT AT CENTER
OF BARREL DOWN TO BOTTOM OF DRAINAGE TRENCH.

PLACE RUBBERIZED MEMBRANE WATERPROOFING OVER THE ENTIRE TOP OF THE BOX
CULVERT AND EXTEND 1'-6" MINIMUM DOWN THE EXTERIOR SIDES OF THE BOX AS SHOWN.

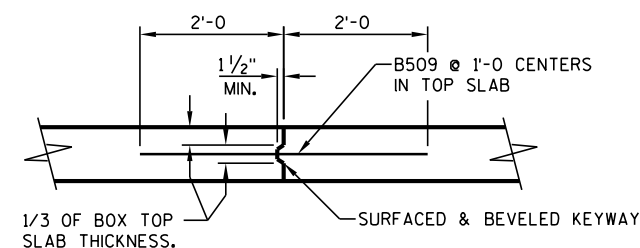


TYPICAL SECTION THRU PROPOSED WORK

DRAINAGE TRENCH, BASE AGGREGATE
OPEN GRADED (1'-0" x 1'-0") CENTERED
ON EXISTING WEEP HOLES. PLACE
ALONG BARREL AND WINGS BETWEEN
WING WEEP HOLES. WRAP STONE IN
GEOTEXTILE FABRIC TYPE OF SCHEDULE
A. AT STORM SEWER CONFLICTS WHERE
DRAINAGE TRENCH IS DISCONTINUOUS, THE
BASE AGGREGATE SHALL HAVE AN END
WRAP OF FABRIC. (TYP.)

LIMITS OF EXCAVATION FOR
STRUCTURES CULVERTS (TYP.)
FILL WITH BASE AGGREGATE
DENSE 1/4-INCH UP TO BOTTOM
OF ASPHALTIC SURFACE WITHIN
LIMITS OF ROADWAY SUBGRADE.
USE BACKFILL STRUCTURE IN
REMAINING OUTER LIMITS.

NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE C-29-11 REHAB			
DRAWN BY RLR		PLANS CK'D. LJR	
BOX CULVERT SECTIONS & DETAILS		SHEET 2 OF 6	



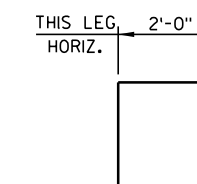
VERTICAL CONSTRUCTION JOINT

COATED 8830 LBS.

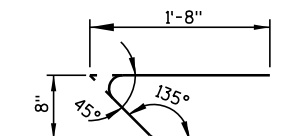
MARK	NO. REQ'D.	LENGTH	BENT	LOCATION
B501	72	3-3	X	WALL - TOP - TYPE L ANCHOR - VERT.
B702	136	11-8		BOTTOM OF SLAB - TRANS
B403	272	3-10	X	SLAB/WALL CORNER - TRANS
B504	272	5-1	X	SLAB/WALL CORNER - TRANS
B405	76	13-4		TOP OF SLAB & HEADER - TRANS
B506	60	33-6		TOP & BOTTOM OF SLAB - LONGIT
B607	18	5-9	X	INLET HEADER STIRRUP - VERT.
B608	18	6-2	X	OUTLET HEADER STIRRUP - VERT.
B509	14	4-0		VERT. CONST. JT. TIE BARS - HORIZ.
B610	8	4-0		HEADER AT RAIL POSTS - HORIZ.

EPOXY COAT ALL BAR STEEL REINFORCEMENT.

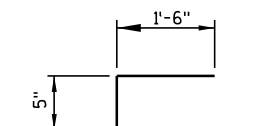
* - MASONRY ANCHORS TYPE L NO. 5 BARS. MIN. PULLOUT CAPACITY OF 19 KIPS. EMBED 1'-0" IN EXISTING CONCRETE.



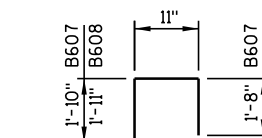
B501



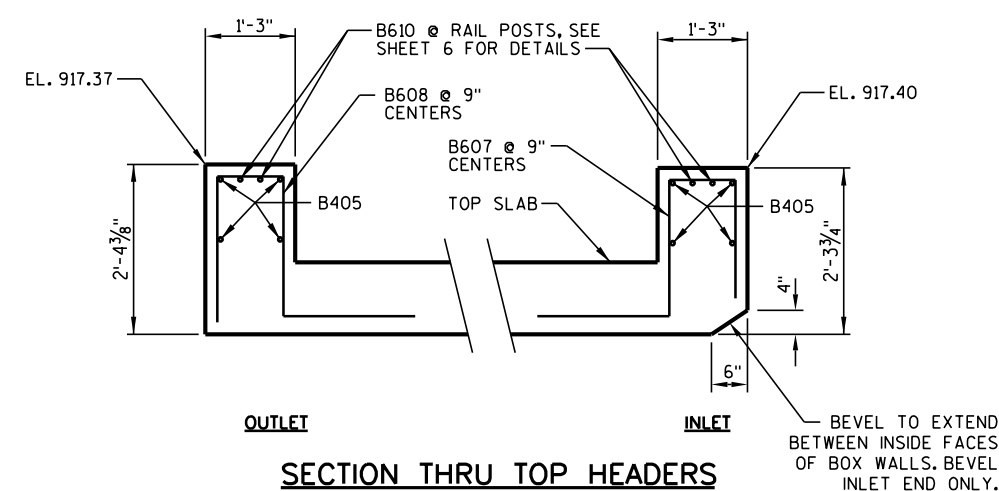
B403



B504

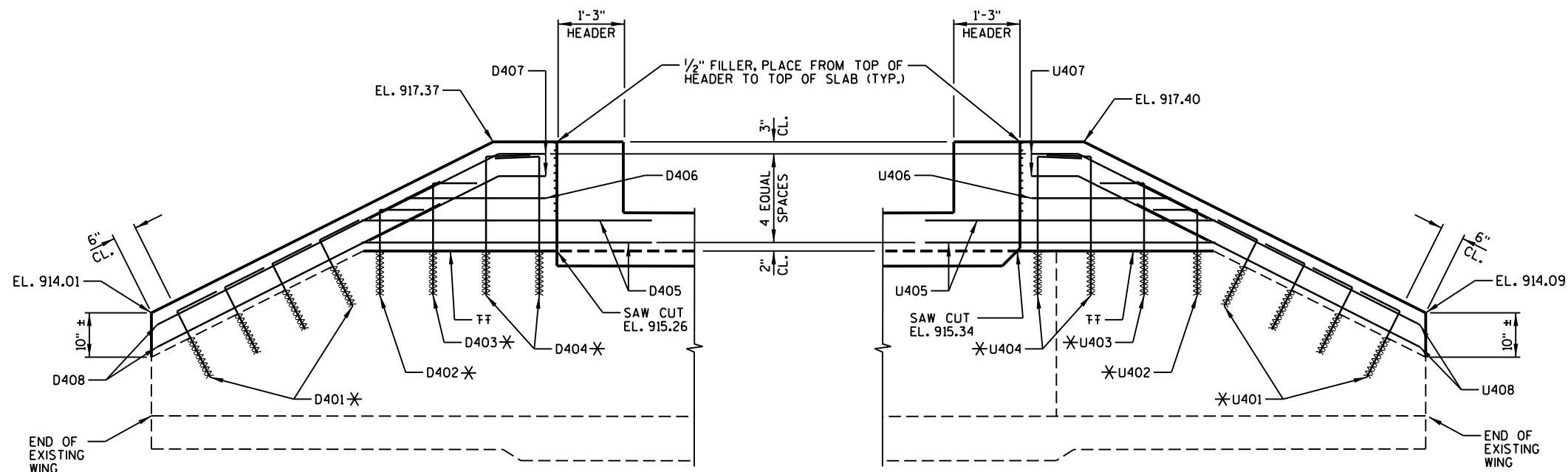


B607, B608



SECTION THRU TOP HEADERS

NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE		C-29-11 REHAB	
DRAWN BY RLR		PLANS CKD.	LJR
TOP SLAB DETAILS		SHEET 3 OF 6	

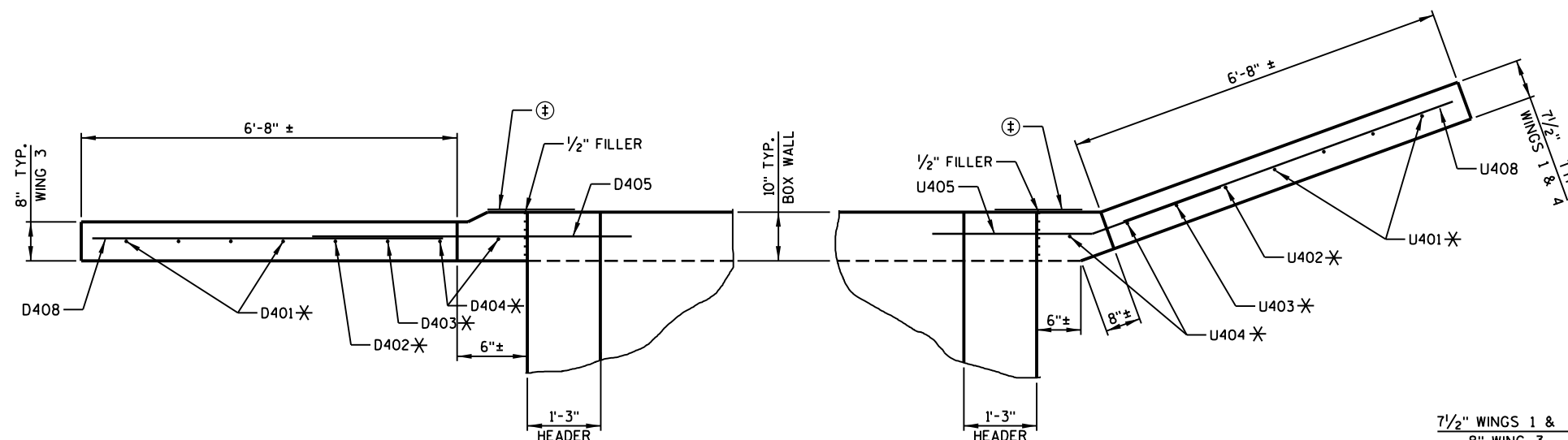


ELEVATION - WING 3

ELEVATION - WINGS 1 & 4

(WING 1 SIMILAR)

FF — EXTEND WALL SAWCUTS HORIZONTALLY
ON WINGS 1, 3 & 4 TO SLOPED TOP
OF EXISTING EXPOSED WING.



PLAN - WING 3

PLAN - WING 4

(WING 1 SIMILAR)

NOTE:

HORIZONTAL LEG OF TYPE L ANCHOR
BARS NOT SHOWN FOR CLARITY.

⊕ - 18" WIDE RUBBERIZED MEMBRANE WATERPROOFING.
PLACE ON B.F. OF WING AT CONSTRUCTION JOINTS.

LEGEND

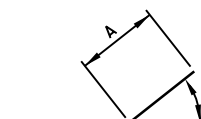
* MASONRY ANCHORS TYPE L NO. 4 BARS AT 1'-0" SPACING
SHALL DEVELOP A MINIMUM PULLOUT CAPACITY OF 15 KIPS.
EMBED BAR 10" IN EXISTING CONCRETE. ANCHOR HOLES SHALL
BE 3" CLEAR MIN. TO FACE OF EXISTING CONCRETE.
TURN 10" HORIZONTAL LEG AS NECESSARY TO FIT.

BILL OF BARS**COATED 110 LBS.**

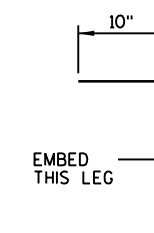
MARK	NO. REQ'D.	LENGTH	BENT	LOCATION
* U401	8	2'-2"	X	INLET WING TIP - TYPE L ANCHOR - VERT.
* U402	2	2'-5"	X	INLET WING TOP - TYPE L ANCHOR - VERT.
* U403	2	2'-11"	X	INLET WING TOP - TYPE L ANCHOR - VERT.
* U404	4	3'-5"	X	INLET WING TOP - TYPE L ANCHOR - VERT.
U405	4	5'-6"	X	INLET WING TOP & INTO BOX - HORIZ.
U406	2	2'-11"	X	INLET WING TOP - HORIZ.
U407	4	3'-7"	X	INLET WING TOP - TOP - HORIZ.
U408	4	6'-0"		INLET WING - TOP - HORIZ.
* D401	4	2'-2"	X	OUTLET WING TIP - TYPE L ANCHOR - VERT.
* D402	1	2'-5"	X	OUTLET WING TOP - TYPE L ANCHOR - VERT.
* D403	1	2'-11"	X	OUTLET WING TOP - TYPE L ANCHOR - VERT.
* D404	2	3'-5"	X	OUTLET WING TOP - TYPE L ANCHOR - VERT.
D405	2	5'-6"		OUTLET WING TOP & INTO BOX - HORIZ.
D406	1	2'-11"		OUTLET WING TOP - HORIZ.
D407	2	3'-7"	X	OUTLET WING TOP - TOP - HORIZ.
D408	2	6'-0"		OUTLET WING - TOP - HORIZ.

DIMENSIONS IN BENDING DETAILS ARE OUT TO OUT OF BAR.

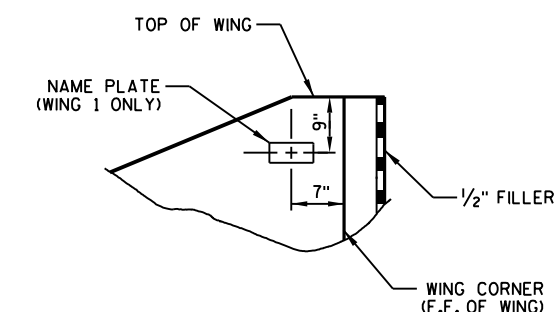
EPOXY COAT ALL BAR STEEL REINFORCEMENT.



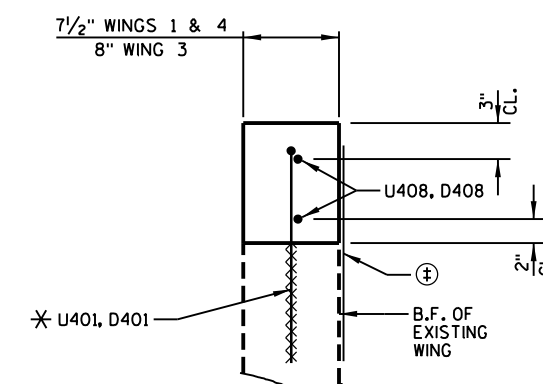
BAR MARK	A	B
U405	2'-9"	20°
U406	10"	20°
U407	11"	27°
D407	11"	27°



U401 THRU U404
D401 THRU D404

**NAME PLATE LOCATION**

(LOOKING AT F.F. OF WING)



SECTION THRU WING EXTENSION

NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE C-29-11 REHAB			
DRAWN BY RLR		PLANS CK'D. LJR	
EXISTING WING REHAB DETAILS		SHEET 4 OF 6	

BILL OF BARS

COATED 170 LBS.

MARK	NO. REQ'D.	LENGTH	BAR SERIES	BENT	LOCATION
N501	8	2-4			NEW OUTLET WING - TYPE L ANCHOR - VERT.
N602	4	4-10		X	NEW OUTLET WING & INTO BOX - TYPE L ANCHOR - HORIZ.
N403	2	7-8			NEW OUTLET WING - F.F. - HORIZ.
N404	3	3-3	⊗		NEW OUTLET WING - F.F. - HORIZ.
N505	2	8-4		X	NEW OUTLET WING - F.F. & B.F. - TOP - HORIZ.
N406	9	2-10	⊗		NEW OUTLET WING - F.F. - VERT.
N507	2	7-8			NEW OUTLET WING - B.F. - HORIZ.
N508	5	4-0	⊗		NEW OUTLET WING - B.F. - HORIZ.
N509	9	2-10	⊗		NEW OUTLET WING - B.F. - VERT.
N610	1	4-10		X	NEW OUTLET WING & INTO BOX - HORIZ.

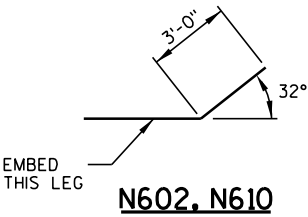
DIMENSIONS IN BENDING DETAILS ARE OUT TO OUT OF BAR.

EPOXY COAT ALL BAR STEEL REINFORCEMENT.

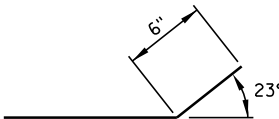
⊗ - LENGTH SHOWN FOR BAR IS AN AVERAGE AND SHOULD ONLY BE USED FOR BAR WEIGHT CALCULATIONS. SEE BAR SERIES TABLE FOR ACTUAL LENGTHS.

BAR MARK	NO. REQ'D.	LENGTH
N404	1 SERIES OF 3	10" TO 5'-8"
N406	1 SERIES OF 9	1'-4" TO 4'-4"
N508	1 SERIES OF 5	10" TO 7'-2"
N509	1 SERIES OF 9	1'-4" TO 4'-4"

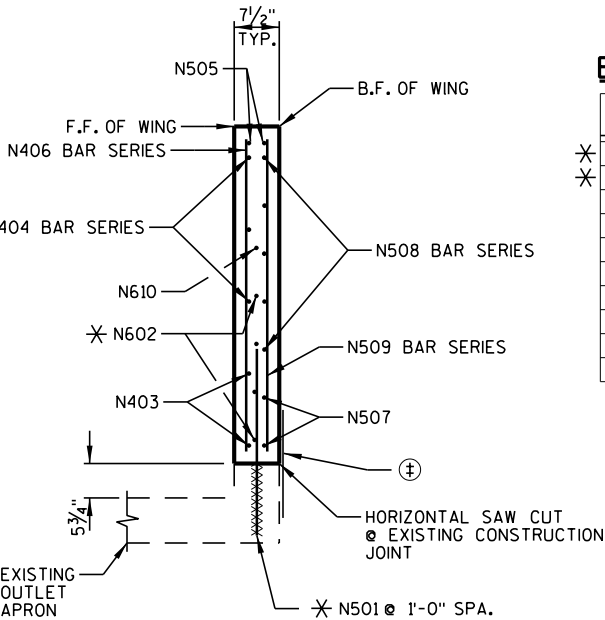
BAR SERIES TABLE



N505



SECTION THRU WING 2



LEGEND

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

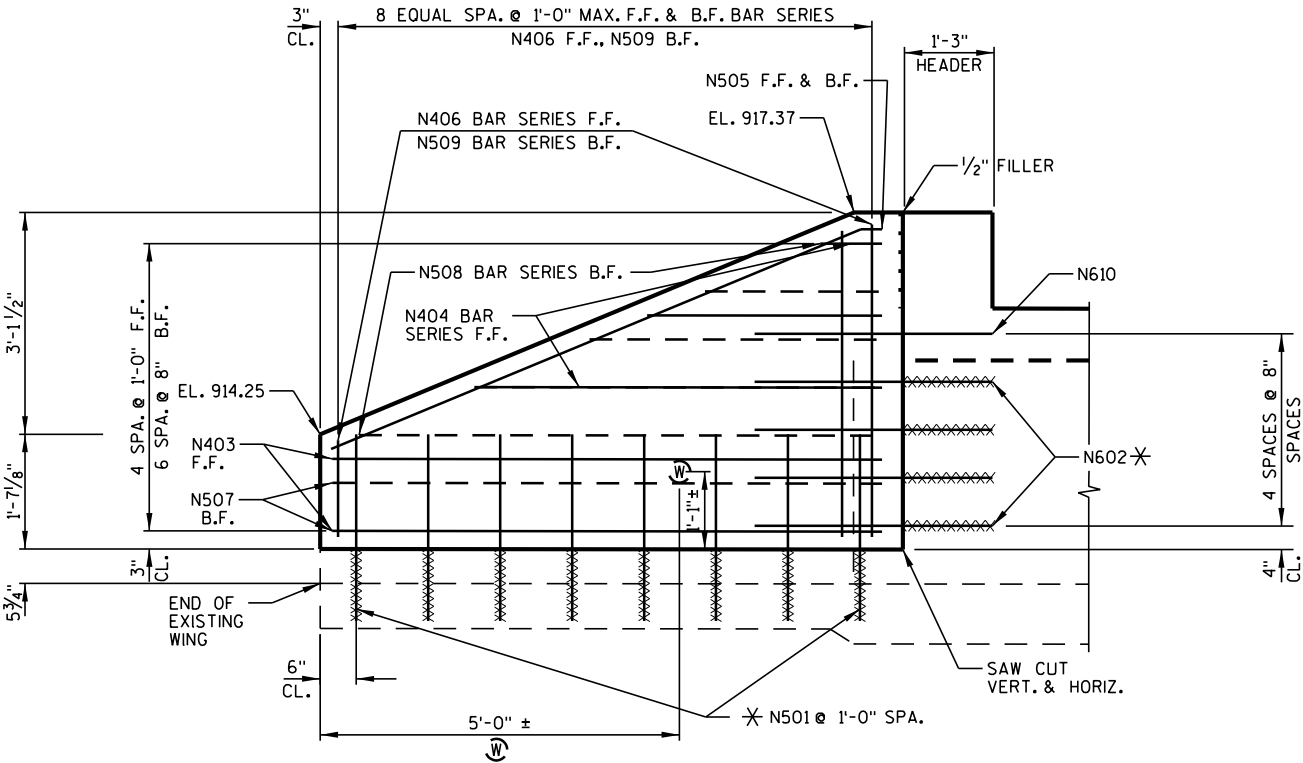
* - MASONRY ANCHORS TYPE L NO.5 BARS AT 1'-0" SPACING SHALL DEVELOP A MINIMUM PULLOUT CAPACITY OF 19 KIPS. EMBED BAR 9" IN EXISTING CONCRETE. ANCHOR HOLES FOR NO. 5 BARS SHALL BE 3 3/4" MIN. TO FACE OF EXISTING CONCRETE. MASONRY ANCHORS TYPE L NO.6 BARS AT 8" SPACING SHALL DEVELOP A MINIMUM PULLOUT CAPACITY OF 26 KIPS. EMBED BAR 1'-3" IN EXISTING CONCRETE. ANCHOR HOLES FOR NO. 6 BARS SHALL BE 4 1/2" MIN. TO FACE OF EXISTING CONCRETE.

W - LOCATE 4" Ø WEEP HOLE TO AVOID BAR STEEL REINFORCEMENT. BAR STEEL POSITION MAY BE ADJUSTED BY 2" MAX.

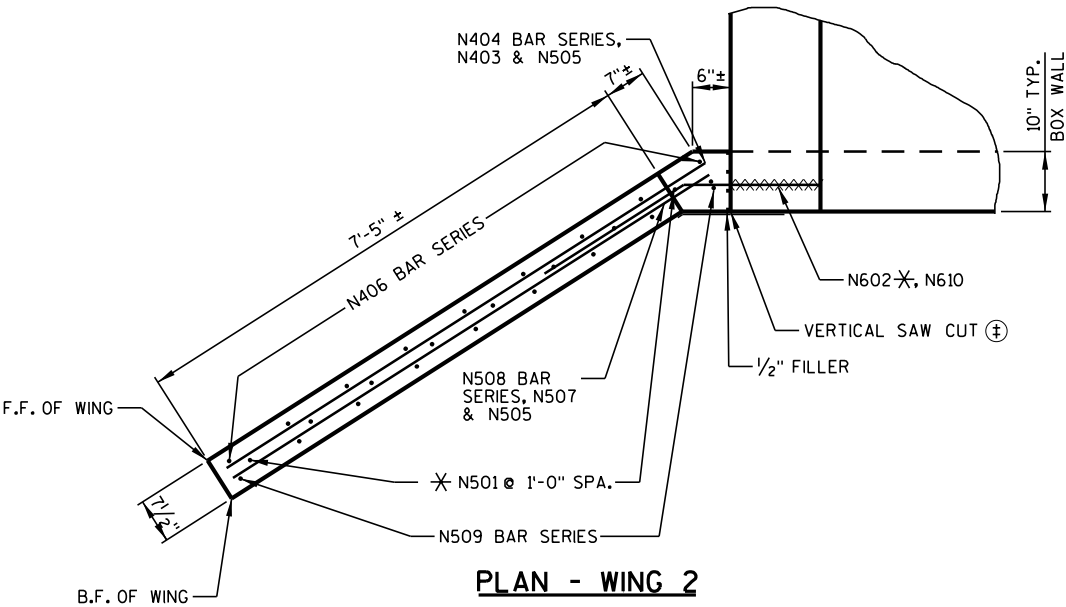
⊕ - 18" WIDE RUBBERIZED MEMBRANE WATERPROOFING. PLACE ON B.F. OF WING AT CONSTRUCTION JOINTS.

ELEVATION - WING 2

(LOOKING AT B.F. OF WING)



PLAN - WING 2



NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE C-29-11 REHAB			
DRAWN BY RLR		PLANS CK'D. LJR	
WING 2 DETAILS		SHEET 5 OF 6	

LEGEND

- ① W 6 x 25 WITH 1 1/4" DIA. HOLES ON EACH SIDE OF POST FLANGE FOR STUD ⑥. PLACE POST VERTICAL. PLACE POST NORMAL TO GRADE LINE.
- ② PLATE 1" x 9 1/2" x 10" WITH 1 1/8" x 1 1/2" SLOTTED HOLES FOR ANCHOR BOLTS ③. WELD TO ① AS SHOWN.
- ③ A325 - 7/8" DIA. HEX BOLT (GALVANIZED) WITH A325 NUT AND WASHER. 14" LONG. 4 REQUIRED PER POST. THREAD 3" AND PLACE NORMAL TO PLATE ②. CHAMFER TOP OF BOLTS BEFORE THREADING.
- ④ 1/4" x 8" x 8" FLAT BAR, WITH 1 5/8" DIA. HOLES FOR ANCHOR BOLTS ③.
- ⑤ TS 4 x 4 x .25 STRUCTURAL TUBING, CONFORMING TO A.S.T.M. DESIGNATION A501 OR A500 GRADE B. ATTACH TO ① WITH STUDS ⑥.
- ⑥ 5/8" DIA. x 1 1/2" LG. SHOP WELDED STUDS WITH HEX. NUT AND 2" WASHERS. (2 REQ'D AT EACH RAIL TO POST LOCATION.)
- ⑦ SQUARE SLEEVE FABRICATED FROM 1/4" PLATE. PROVIDE 'SLIDING FIT' WITH A MINIMUM OUT TO OUT DIMENSION OF 3 1/2" .

GENERAL NOTES

BID ITEM SHALL BE "RAILING TUBULAR TYPE F-4 MODIFIED C-29-11 REHAB", WHICH INCLUDES ALL ITEMS SHOWN, INCLUDING CONCRETE BASES AND CONCRETE BASE BAR STEEL REINFORCEMENT.

RAILING SHALL BE FABRICATED IN ONE PANEL LENGTH.

POSTS BASE PLATES ② 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, EXCEPT ANCHORAGE DETAIL NO. ④ SHALL BE GALVANIZED AFTER FABRICATION. PRIOR TO GALVANIZING, ALL STEEL RAILING POSTS AND STEEL TUBING SHALL BE GIVEN A NO. 6 BLAST CLEANING BY S.S.P.C. SPECIFICATIONS.

FILL BOLT SLOT OPENINGS IN POST BASE PLATE SHIMS AND PLATE ② WITH NON-STAINING GRAY NON-BITUMINOUS JOINT SEALER. SEAL BOTTOM EDGES OF PLATE ② TO HEADER AND CONCRETE BASE.

ALL MATERIALS USED IN FABRICATION SHALL BE MADE FROM MATERIALS CONFORMING TO A.S.T.M. DESIGNATION A709 GRADE 36 UNLESS NOTED OTHERWISE.

STEEL POST SHIMS MAY BE USED UNDER POSTS WHERE REQ'D. FOR ALIGNMENT.

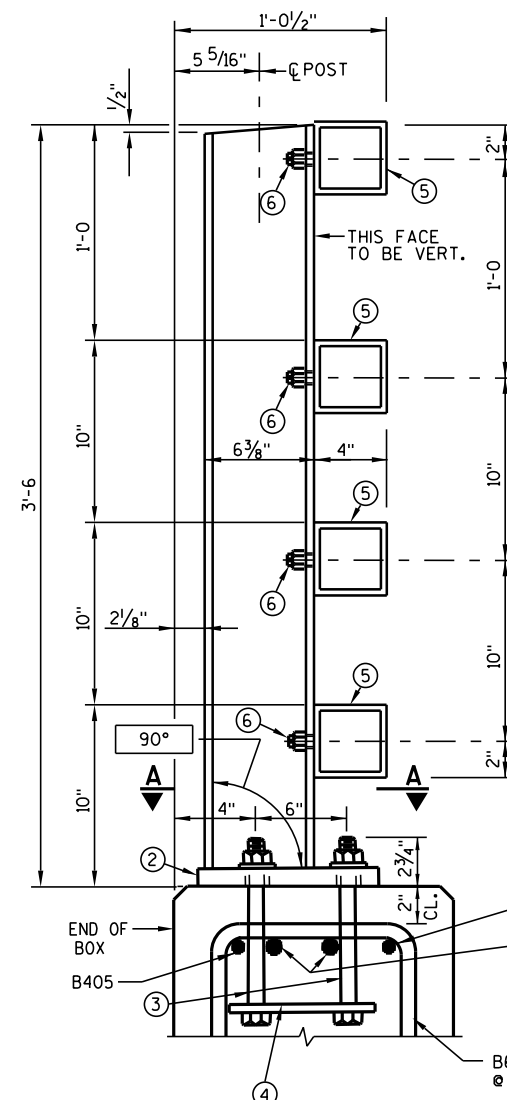
ALL POST SPACINGS ARE MEASURED HORIZONTALLY ALONG CENTERLINE OF POST BASE.

DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE CONTRACT.

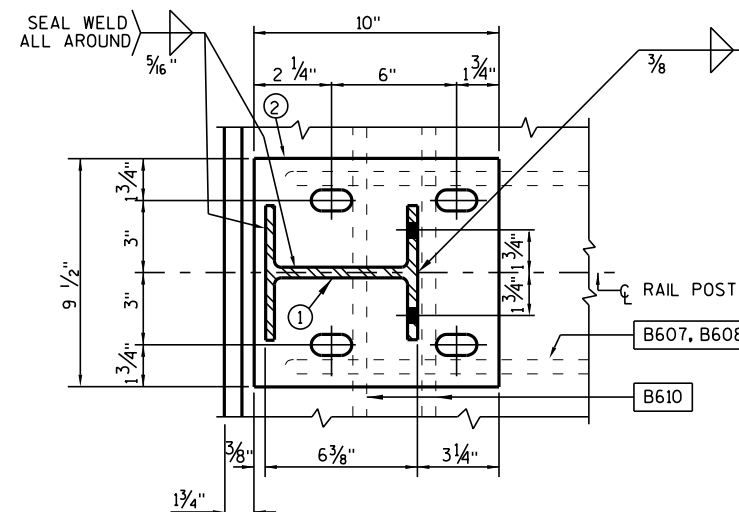
BASES SHALL BE EXCAVATED BY USE OF A CIRCULAR AUGER.

IF A BASE REQUIRES A DEEP FORM BECAUSE OF LOOSE DIRT OR FILL, THE FORM SHALL BE REMOVED TO 1'-0" BELOW THE FINISHED GRADE BEFORE BACKFILLING AROUND THE BASE. BACKFILL SHALL BE TAMPED TIGHT AGAINST THE BARE CONCRETE BASE IN LAYERS OF 1'-0" OR LESS.

BAR STEEL REINFORCEMENT SHALL BE COATED WITH POWDERED EPOXY RESIN IN ACCORDANCE WITH SECTION 505 OF THE STANDARD SPECIFICATIONS.

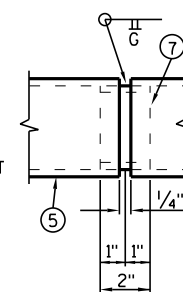


SECTION C-C THRU RAILING
ON BOX HEADER



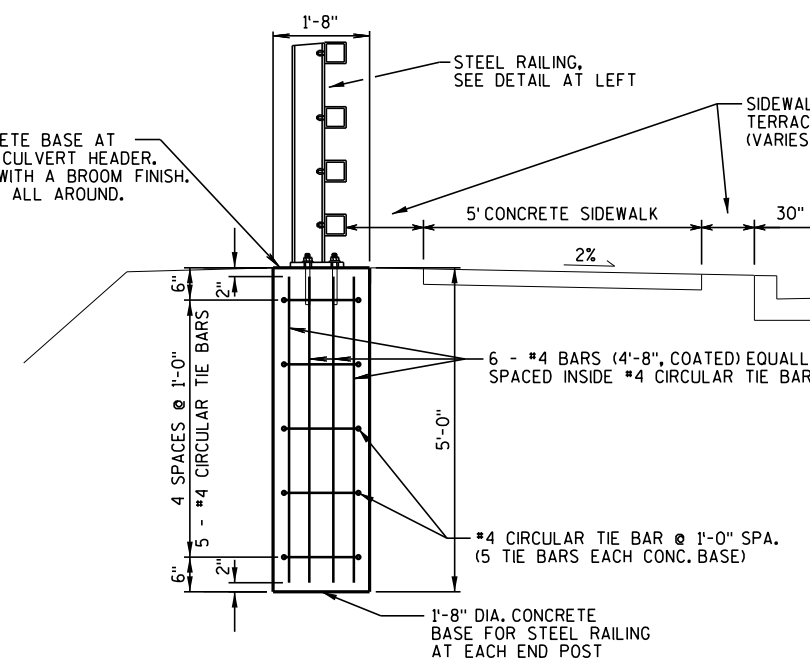
SECTION A-A

SET TOP OF CONCRETE BASE AT ELEVATION OF BOX CULVERT HEADER. TOP TO BE LEVEL WITH A BROOM FINISH. PROVIDE 1" CHAMFER ALL AROUND.

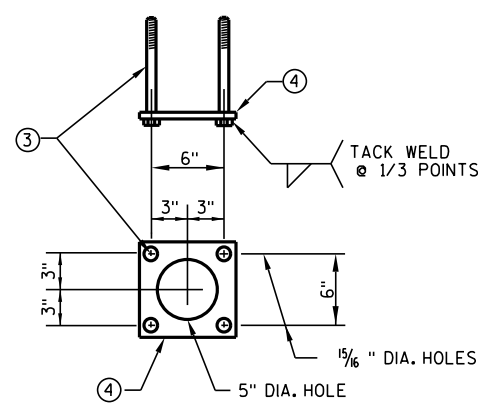


SHOP RAIL SPLICE DETAIL

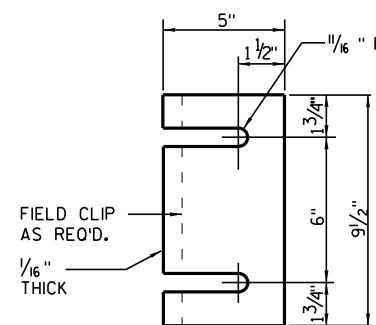
(LOCATION MUST BE SHOWN ON SHOP DRAWINGS)



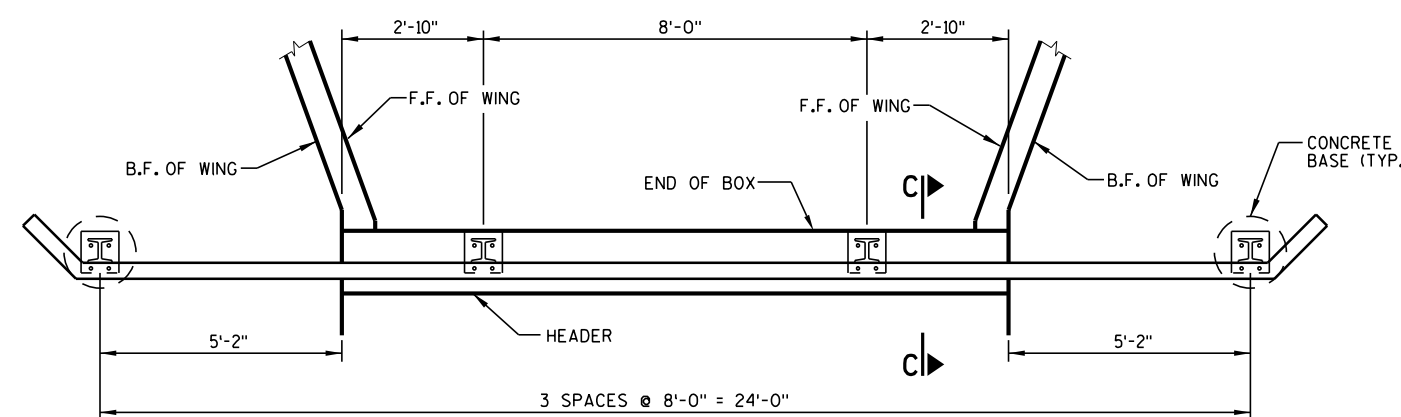
DETAIL FOR MOUNTING END POST ON CONCRETE BASE



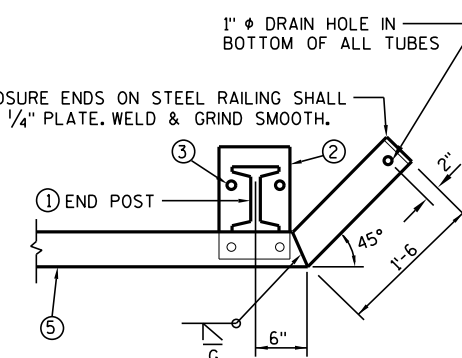
ANCHOR BOLT DETAIL



POST SHIM DETAIL
(4 PER POST)

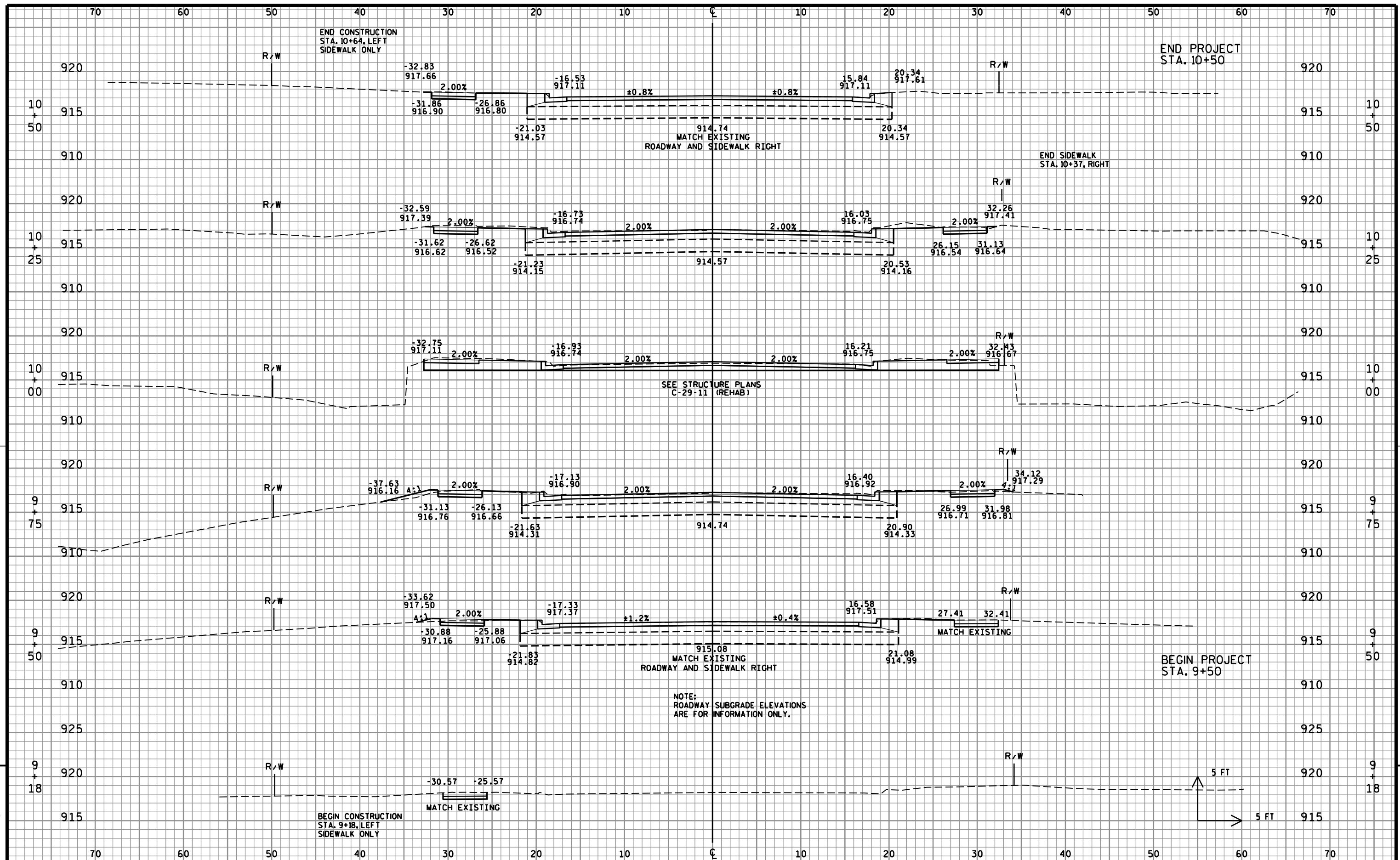


PLAN OF RAILING



RAIL END DETAIL

NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE C-29-11 REHAB			
DRAWN BY RLR		PLANS CK'D. LJR	
RAILING TUBULAR TYPE F-4 MODIFIED		SHEET 6 OF 6	



PROJECT NO: 5032-00-71

HWY: STH 33

COUNTY: JUNEAU

CROSS SECTIONS: STH 33

SHEET

E



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