MAD DECEMBER 2022

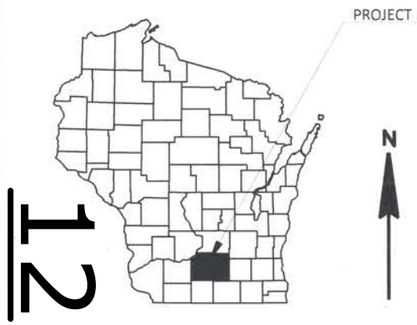
PROJECT ID: 5992-10-04

WITH: N/A

COUNTY: DANE

ORDER OF SHEETS

TOTAL SHEETS = 110



12

DESIGN DESIGNATION BRIDGE REPLACEMENT

A.A.D.T.	(2023)	=	1,650
A.A.D.T.	(2043)	=	1,650
D.H.V.		=	N/A
D.D.		=	60/40
T.		=	2.3%
DESIGN SPEED		=	20 MPH
ESALS		=	N/A

CONVENTIONAL SYMBOLS

PLAN

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

PROFILE

- GRADE LINE
- ORIGINAL GROUND
- MARSH OR ROCK PROFILE (To be noted as such) (ROCK)
- SPECIAL DITCH (LABEL)
- GRADE ELEVATION (95.36)
- CULVERT (Profile View)

UTILITIES

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

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

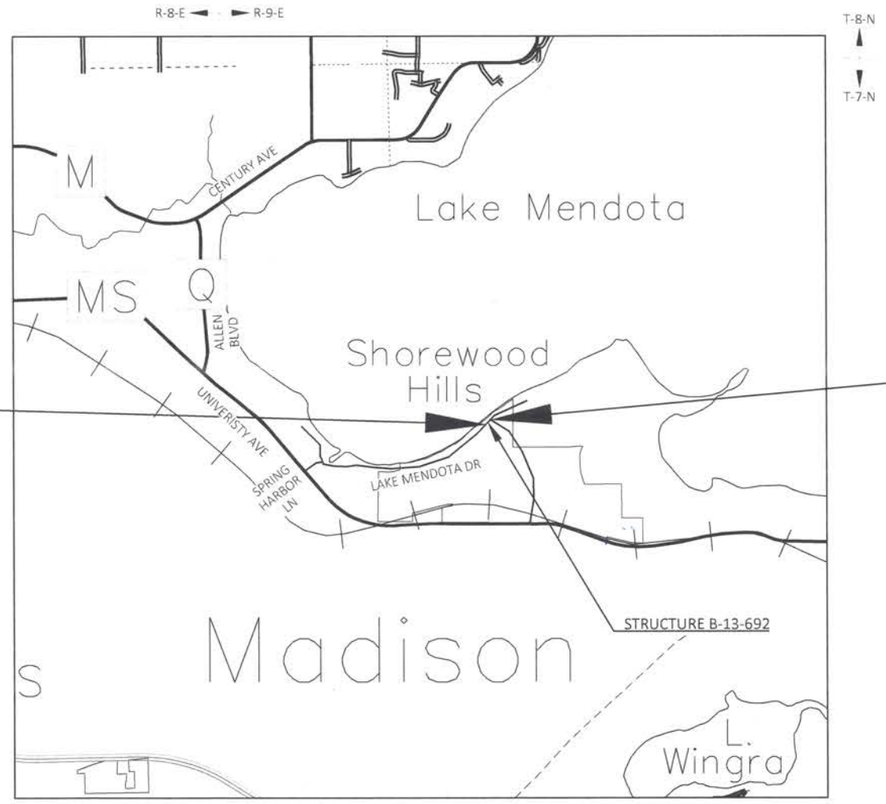
PLAN OF PROPOSED IMPROVEMENT

V SHOREWOOD HILLS, LAKE MENDOTA DR

(MULTI-USE TRAIL, B-13-0692)

LOCAL STREET
DANE COUNTY

STATE PROJECT NUMBER
5992-10-04



LAYOUT

SCALE 0 1.0 MI

TOTAL NET LENGTH OF CENTERLINE = 0.037 MILES

HORIZONTAL POSITIONS SHOWN ON THIS PLAN ARE WISCONSIN COUNTY COORDINATE SYSTEM (WCCS), DANE COUNTY NAD83 (2011), IN U.S. SURVEY FEET. POSITIONS SHOWN ARE GRID COORDINATES, GRID BEARINGS, AND GRID DISTANCES. GRID DISTANCES ARE THE SAME AS GROUND DISTANCES. ELEVATIONS ARE REFERENCED TO NAVD 88 (2012). GPS DERIVED ELEVATIONS ARE BASED ON GEOID 12A.

STATE PROJECT	FEDERAL PROJECT	
	PROJECT	CONTRACT
5992-10-04	—	—

ACCEPTED FOR:
VILLAGE OF SHOREWOOD HILLS

DATE: 7/19/22 (Accepting Authority Signature)

ORIGINAL PLANS PREPARED BY

KL Engineering
[A] Better Experience

WISCONSIN
WILLIAM N. BIESMANN
E-34145
MADISON
WI
PROFESSIONAL ENGINEER

DATE: 07/07/2022 (Professional Engineer Signature)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

PREPARED BY

Surveyor	KL ENGINEERING
Designer	KL ENGINEERING
Regional Examiner	
Regional Supervisor	

APPROVED FOR THE DEPARTMENT

DATE: 07/26/22 (Signature)

E

FILE NAME : G:\WDOT LP\SHOREWOOD HILLS\20014 LMD BRIDGE\CIVIL 3D\SHEETSPLAN\010101-TI.DWG

PLOT DATE : 7/1/2020 10:42 AM

PLOT BY : KL ENGINEERING

PLOT NAME :

STANDARD ABBREVIATIONS

ASPH	ASPHALT
AVG	AVERAGE
BAD	BASE AGGREGATE DENSE
BG	BEAMGUARD
BLDG	BUILDING
BM	BENCH MARK
CMCP	CULVERT METAL CULVERT PIPE
CONC	CONCRETE
CP	CONTROL PIPE
CPCS	CULVERT PIPE CORRUGATED STEEL
D	DEGREE OF CURVE
DISCH	DISCHARGE
EP	EDGE OF PAVEMENT
EXIST	EXISTING
ELEC	ELECTRIC
FO	FIBER OPTIC
HMA	HOT MIX ASPHALT
IV	INVERT
L	LENGTH OF CURVE
LHF	LEFT HAND FORWARD
LT	LEFT
MAX	MAXIMUM
MIN	MINIMUM
NC	NORMAL CROWN
NOR	NORMAL
PAVT	PAVEMENT
PC	POINT OF CURVE
PI	POINT OF INTERSECTION
PLE	PERMANENT LIMITED EASEMENT
PNT	POINT
PT	POINT OF TANGENT
R	RADIUS OF CURVE
R/L	REFERENCE LINE
R/W	RIGHT OF WAY
RC	REVERSE CROWN
REQ'D	REQUIRED
RHF	RIGHT HAND FORWARD
RO	RUN OFF LENGTH
RT	RIGHT
SALV	SALVAGED
SDD	STANDARD DETAIL DRAWINGS
SE	SUPER ELEVATION
SHLD	SHOULDER
STA	STATION
T	TANGENT LENGTH
TEL	TELEPHONE
TLE	TEMPORARY LIMITED EASEMENT
TYP	TYPICAL
VCL	VERTICAL CURVE LENGTH
VCP	POINT OF VERTICAL CURVE
VPI	POINT OF VERTICAL INTERSECTION
VPT	POINT OF VERTICAL TANGENT
WB	WESTBOUND

DIGGERS HOTLINE
Dial 811 or (800)242-8511
www.DiggersHotline.com

UTILITY CONTACTS

COMMUNICATIONS

RYAN DENEWELLIS
AT&T WISCONSIN
316 W WASHINGTON AVENUE
MADISON, WI 53703
RD1238@ATT.COM
(608) 358-6285 (OFFICE)

COMMUNICATIONS

JON MARSCHKE
SPECTRUM
2701 DANIELS ST
MADISON, WI 53718
JON.MARSCHKE@CHARTER.COM
(608) 225-2479

ELECTRICITY

MARK BOHM
MADISON GAS & ELECTRIC COMPANY
P.O. BOX 1231
MADISON, WI 53701
MBOHM@MGE.COM
(608) 252-4730

WATER & SEWER

BRIAN R. BERQUIST P.E.
TOWN & COUNTRY ENGINEERING, INC.
6264 NESBITT ROAD
MADISON, WI 53719
BRIAN@TCENGINEERS.NET
(608) 273-3350
(608) 219-6768

GAS

SHAUN ENDRES
MADISON GAS & ELECTRIC COMPANY
P.O. BOX 1231
MADISON, WI 53701
SENDRES@MGE.COM
(608) 252-7224

** INDICATES UTILITY IS NOT A MEMBER OF DIGGERS HOTLINE

GENERAL NOTES

NO TREES OR SHRUBS SHALL BE REMOVED WITHOUT APPROVAL OF 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 PROJECT AREA THAT ARE NOT SHOWN.

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

4-INCH ASPHALTIC SURFACE IS RECOMMENDED TO BE CONSTRUCTED WITH 1.75-INCH UPPER LAYER AND 2.25-INCH LOWER LAYER

PRIOR TO ORDERING DRAINAGE PIPES AND STRUCTURES, THE CONTRACTOR SHALL VERIFY RELATED DRAINAGE INFORMATION IN THE PLAN AND PROVIDE DOCUMENTATION TO THE ENGINEER IN ACCORDANCE WITH THE SPECIFICATIONS. THIS ALSO INCLUDES VERIFICATIONS OF INVERT ELEVATIONS AT ALL PROPOSED CONNECTION POINTS TO EXISTING SYSTEMS.

WETLANDS, WATERWAYS, AND OTHER ENVIRONMENTALLY SENSITIVE AREAS SHALL BE PROTECTED AT ALL TIMES. DO NOT STORE EQUIPMENT OR MATERIALS NEAR THESE SITES UNLESS APPROVED BY THE ENGINEER.

SILT FENCE SHALL BE PLACED AS SHOWN ON THE PLANS OR AS DIRECTED BY THE ENGINEER AND IN PLACE PRIOR TO BRIDGE REMOVAL.

THE CONTRACTOR WILL BE RESPONSIBLE FOR RESHAPING AND SEEDING ANY PREVIOUSLY GRASSED AREAS WHICH ARE DISTURBED BY THE OPERATION OUTSIDE OF THE NORMAL CONSTRUCTION LIMITS.

PLACE SALVAGED TOPSOIL IN ALL GRADED AREAS AS DESIGNATED BY THE ENGINEER. SEED AND FERTILIZE ALL AREAS WITHIN 5 DAYS OF PLACEMENT OF SALVAGED TOPSOIL.

TEMPORARY STORAGE OF ANY EXCAVATED MATERIAL OR EQUIPMENT WILL NOT BE PERMITTED IN WETLANDS, FLOODWAY, OR FLOODPLAIN OF ANY WATERWAY.

THE EROSION CONTROL FEATURES AS SHOWN ON THE PLANS ARE AT SUGGESTED LOCATIONS. EXACT LOCATIONS WILL BE DETERMINED BY THE ENGINEER.

EROSION CONTROL DEVICES SHALL BE PLACED IN SEQUENCE WITH CONSTRUCTION OPERATIONS OR AS DETERMINED BY THE ENGINEER.

THE LOCATION OF ALL PERMANENT SIGNING SHALL BE VERIFIED BY THE ENGINEER IN THE FIELD PRIOR TO PLACEMENT.

TRAFFIC CONTROL DEVICES SHALL BE ADJUSTED TO FIT FIELD CONDITIONS AS DIRECTED BY THE ENGINEER.

ADJUST DITCH GRADING AS NECESSARY TO FIT FIELD CONDITIONS AND AS DIRECTED BY THE ENGINEER.

THE GRADES SHOWN ON THE STORM SEWER PLANS AT THE TOP OF THE STRUCTURES ARE THE CASTING ELEVATIONS.

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 .22	.16 .30	.22 .38	.12 .26	.20 .34	.27 .44	.15 .30	.24 .37	.33 .50	.19 .34	.28 .41	.38 .56
MEDIAN STRIP-TURF	.19 .24	.20 .26	.24 .30	.19 .25	.22 .28	.26 .33	.20 .26	.23 .30	.30 .37	.20 .27	.25 .32	.30 .40
SIDE SLOPE-TURF			.25 .32			.27 .34			.28 .36			.30 .38
PAVEMENT:												
ASPHALT	0.70 - 0.95											
CONCRETE	0.80 - 0.95											
BRICK	0.70 - 0.80											
DRIVES, WALKS	0.75 - 0.85											
ROOFS	0.75 - 0.95											
GRAVEL ROADS, SHOULDERS	0.40 - 0.60											

TOTAL PROJECT AREA = 0.24 ACRES
TOTAL AREA EXPECTED TO BE DISTURBED BY CONSTRUCTION ACTIVITIES = 0.19 ACRES

WISDOT

WISDOT SOUTHWEST REGION OFFICE
ZACH PEARSON
2101 WRIGHT ST,
MADISON, WI 53704
(608) 246-5319
zachary.pearson@dot.wi.gov

CONSULTANT

KL ENGINEERING, INC.
CHAD HALVERSON, P.E.
5400 KING JAMES WAY, SUITE 200
MADISON, WI 53719
(608) 663-1218
chalverson@klengineering.com

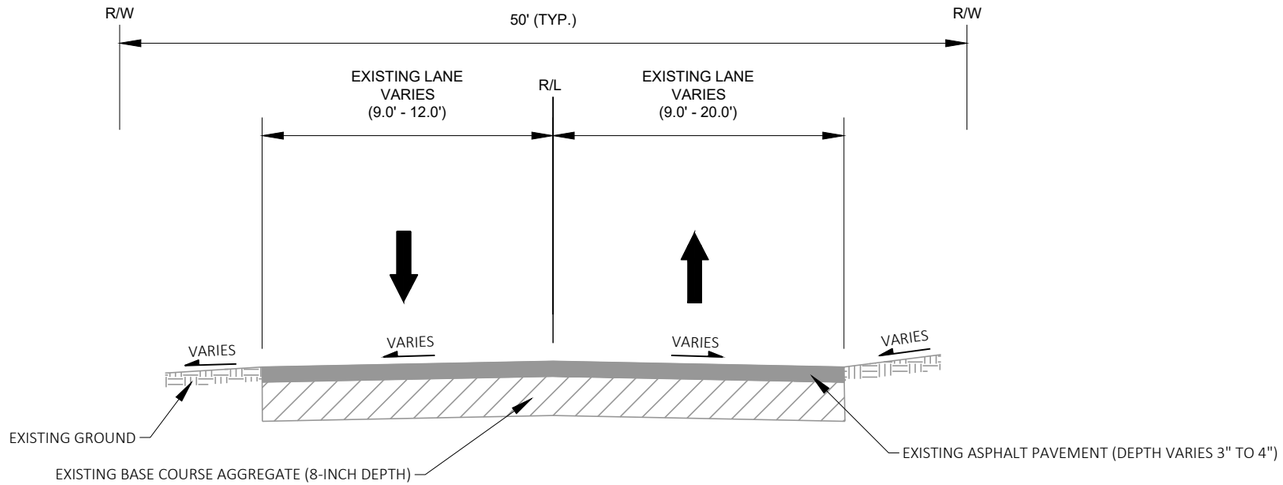
VILLAGE OF SHOREWOOD HILLS

VILLAGE ADMINISTRATOR
SHARON EVELAND
810 SHOREWOOD BOULEVARD
MADISON, WI 53705
(608) 267-2683
seveland@shorewood-hills.org

WISC. DEPT OF NATURAL RESOURCES

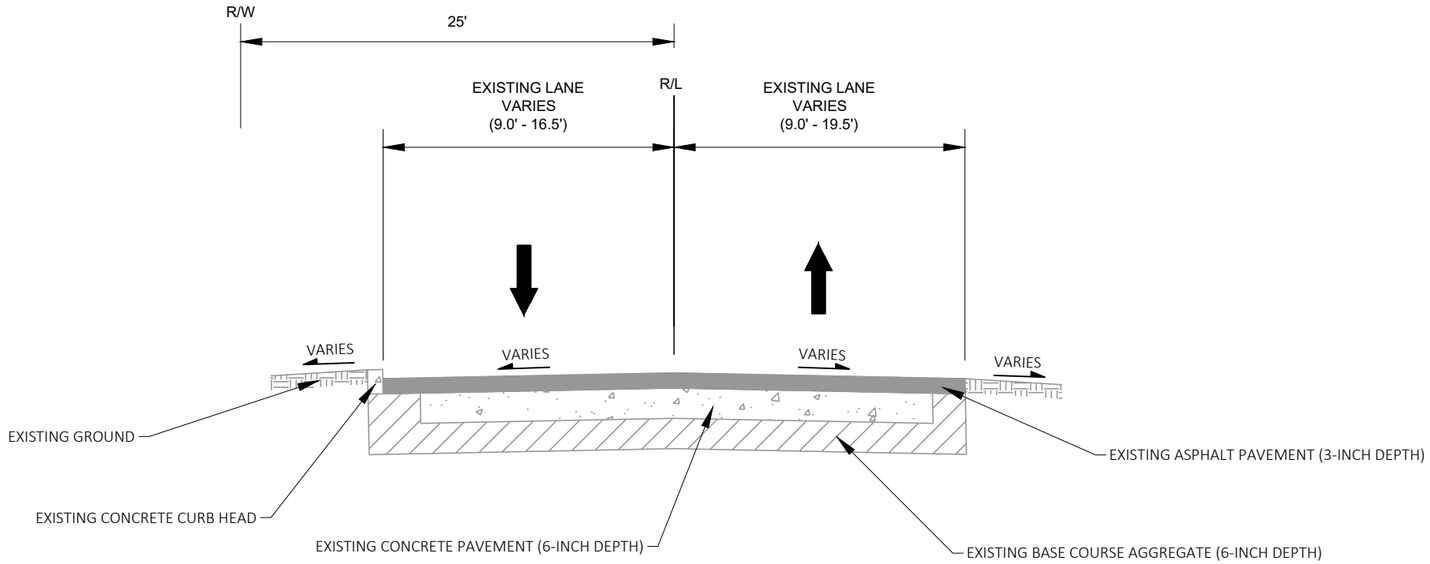
SOUTH CENTRAL REGION
ERIC HEGGELUND
3911 FISH HATCHERY ROAD
FITCHBURG, WI 53711
(608) 275-3301
eric.heggelund@wisconsin.gov

2



EXISTING TYPICAL SECTION

STA 1+25.52 - STA 1+80.18

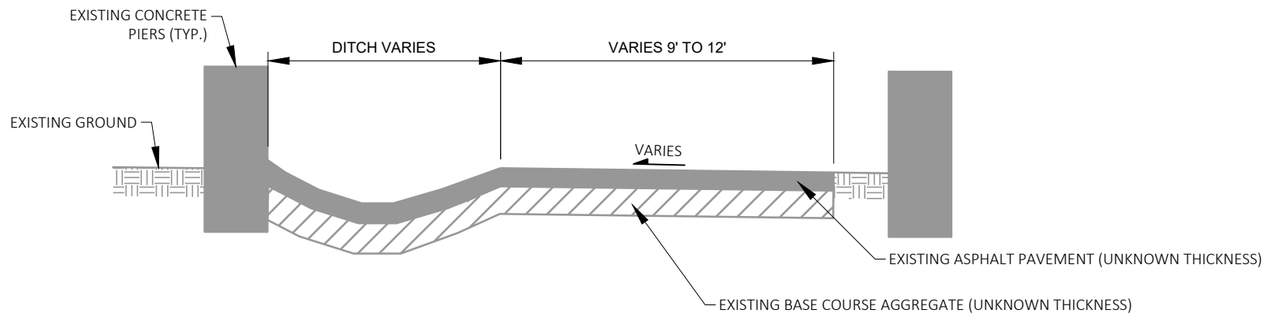


EXISTING TYPICAL SECTION

STA 2+65.32 - STA 3+22.87

PROJECT NO: 5992-10-04	HWY: LAKE MENDOTA DRIVE	COUNTY: DANE	TYPICAL SECTIONS	SHEET 3	E

2



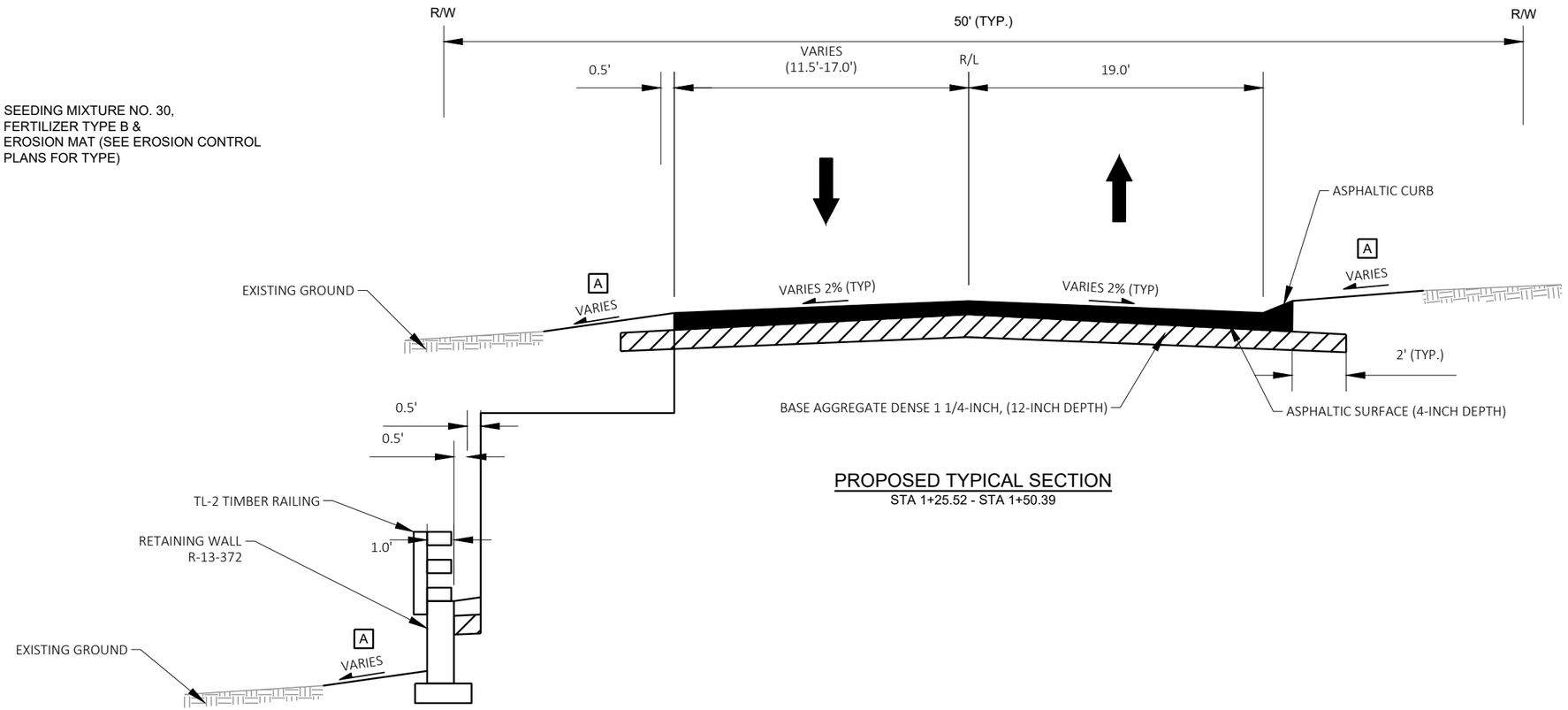
EXISTING TYPICAL SECTION -
SHOREWOOD BOATHOUSE ACCESS
STA 5+11.00'SBA' - STA 5+44.50'SBA'

PROJECT NO: 5992-10-04	HWY: LAKE MENDOTA DRIVE	COUNTY: DANE	TYPICAL SECTIONS	SHEET 4	E

FILE NAME : G:\WDOT LP\SHOREWOOD HILLS\20014 LMD BRIDGE\CIVIL 3D\SHEETSPLAN\020301-TS.DWG
LAYOUT NAME - Exist 2
PLOT DATE : 7/6/2022 10:34 AM
PLOT BY : KL ENGINEERING
PLOT NAME :
PLOT SCALE : 1 IN:5 FT
WISDOT/CADDS SHEET 42

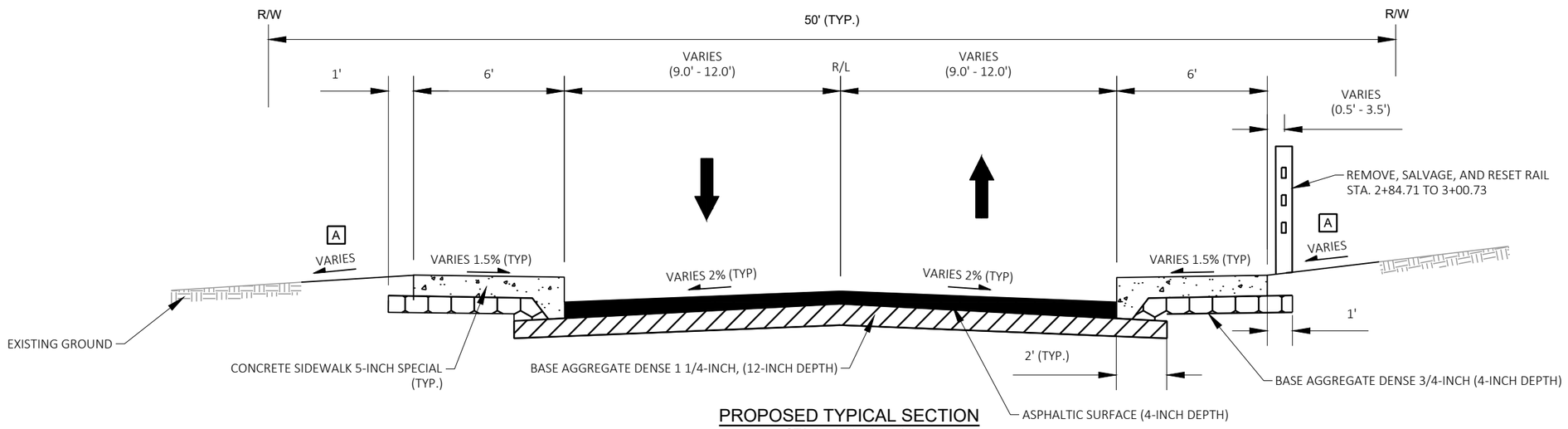
2

[A] SEEDING MIXTURE NO. 30,
FERTILIZER TYPE B &
EROSION MAT (SEE EROSION CONTROL
PLANS FOR TYPE)



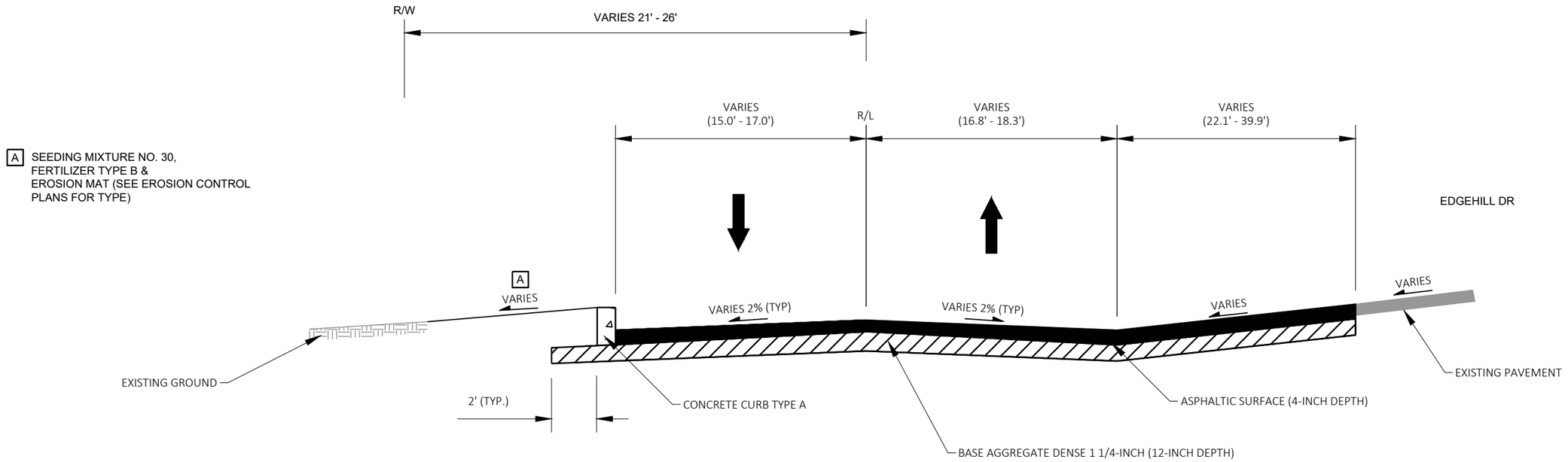
PROPOSED TYPICAL SECTION
STA 1+25.52 - STA 1+50.39

PARTIAL PROPOSED TYPICAL SECTION
STA 1+42.00 - STA 1+57.56

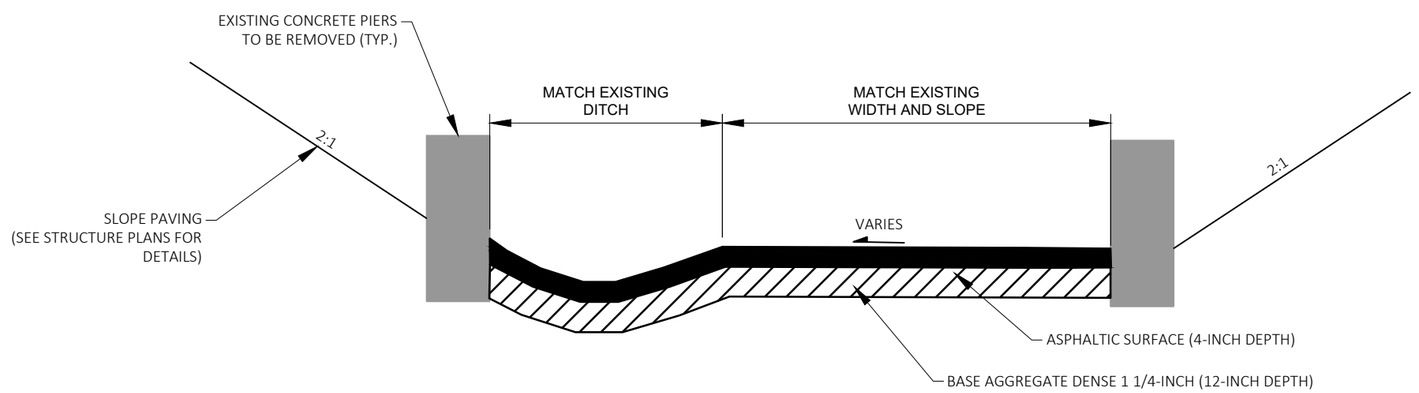


PROPOSED TYPICAL SECTION
STA 1+50.39 - 1+77.26
STA 2+69.76 - 3+00.73

PROJECT NO: 5992-10-04	HWY: LAKE MENDOTA DRIVE	COUNTY: DANE	TYPICAL SECTIONS	SHEET 5	E



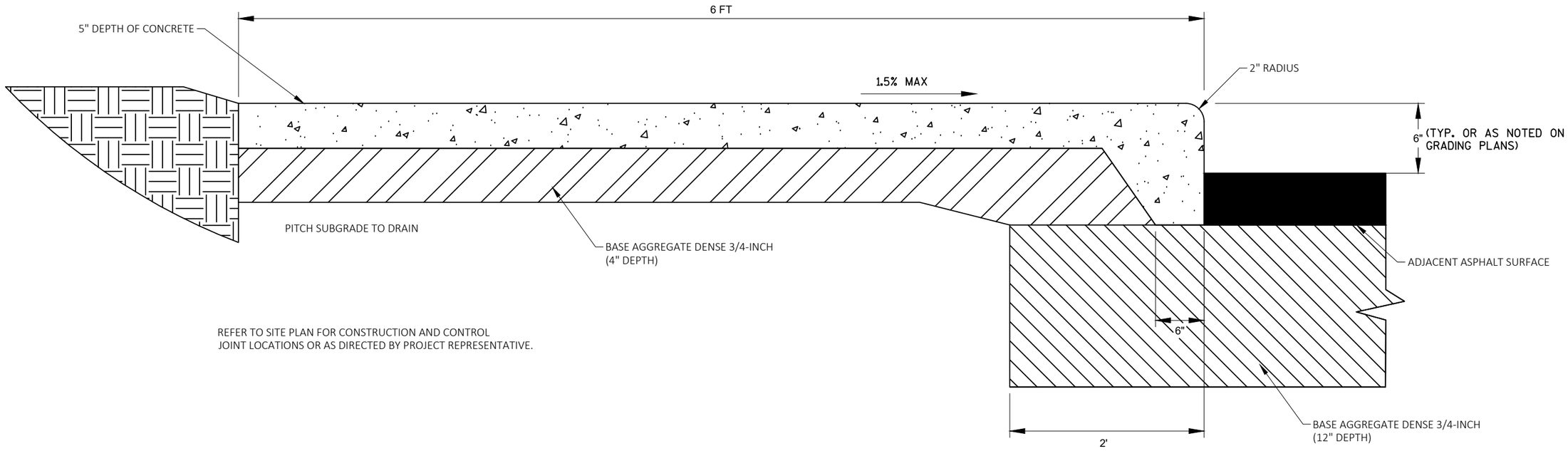
PROPOSED TYPICAL SECTION
STA 3+00.73 - STA 3+22.87



PROPOSED TYPICAL SECTION -
SHOREWOOD BOATHOUSE ACCESS
STA 5+11.00'SBA' - STA 5+44.50'SBA'

PROJECT NO: 5992-10-04	HWY: LAKE MENDOTA DRIVE	COUNTY: DANE	TYPICAL SECTIONS	SHEET 6	E

2

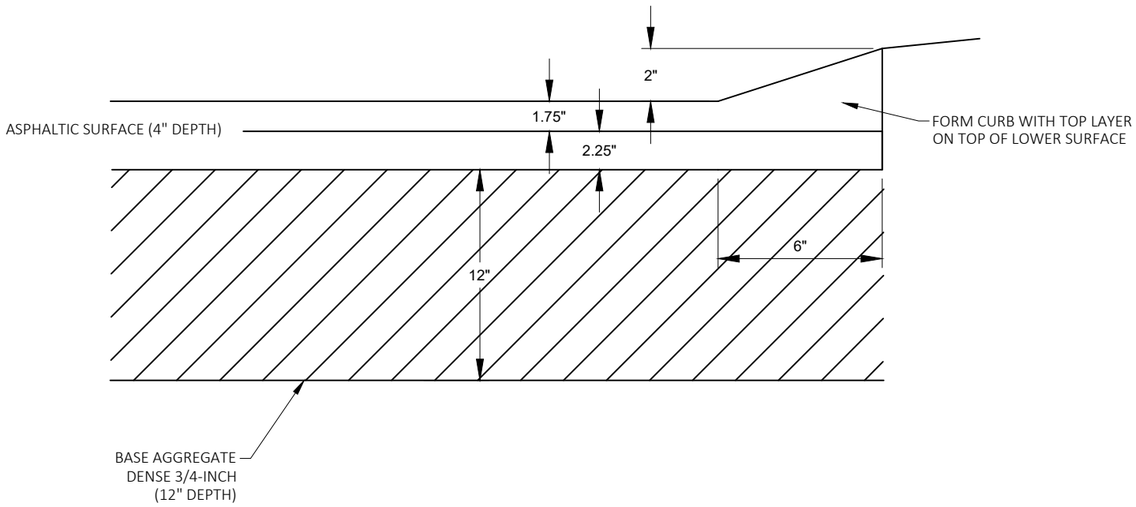


REFER TO SITE PLAN FOR CONSTRUCTION AND CONTROL JOINT LOCATIONS OR AS DIRECTED BY PROJECT REPRESENTATIVE.

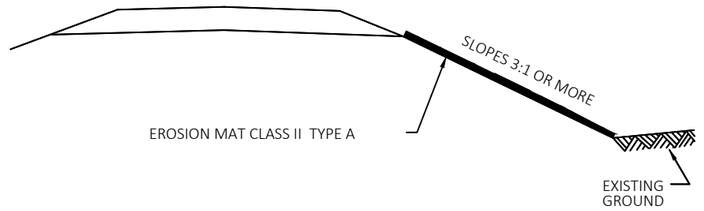
SIDEWALK CROSS SECTION

CONCRETE SIDEWALK 5-INCH SPECIAL

SEE CURB RAMP & SIDEWALK DETAIL SHEETS FOR LOCATIONS

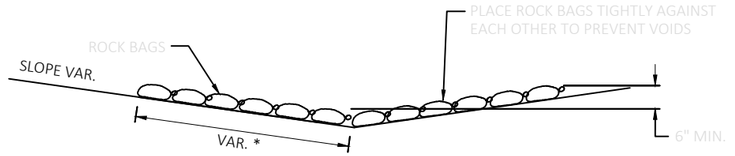


ASPHALTIC CURB DETAIL



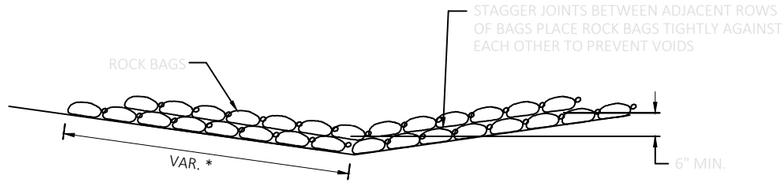
EROSION MAT FOR SLOPES DETAIL

SEE EROSION CONTROL PLAN FOR LOCATIONS
NOT TO SCALE



SIDE VIEW (SINGLE LAYER)

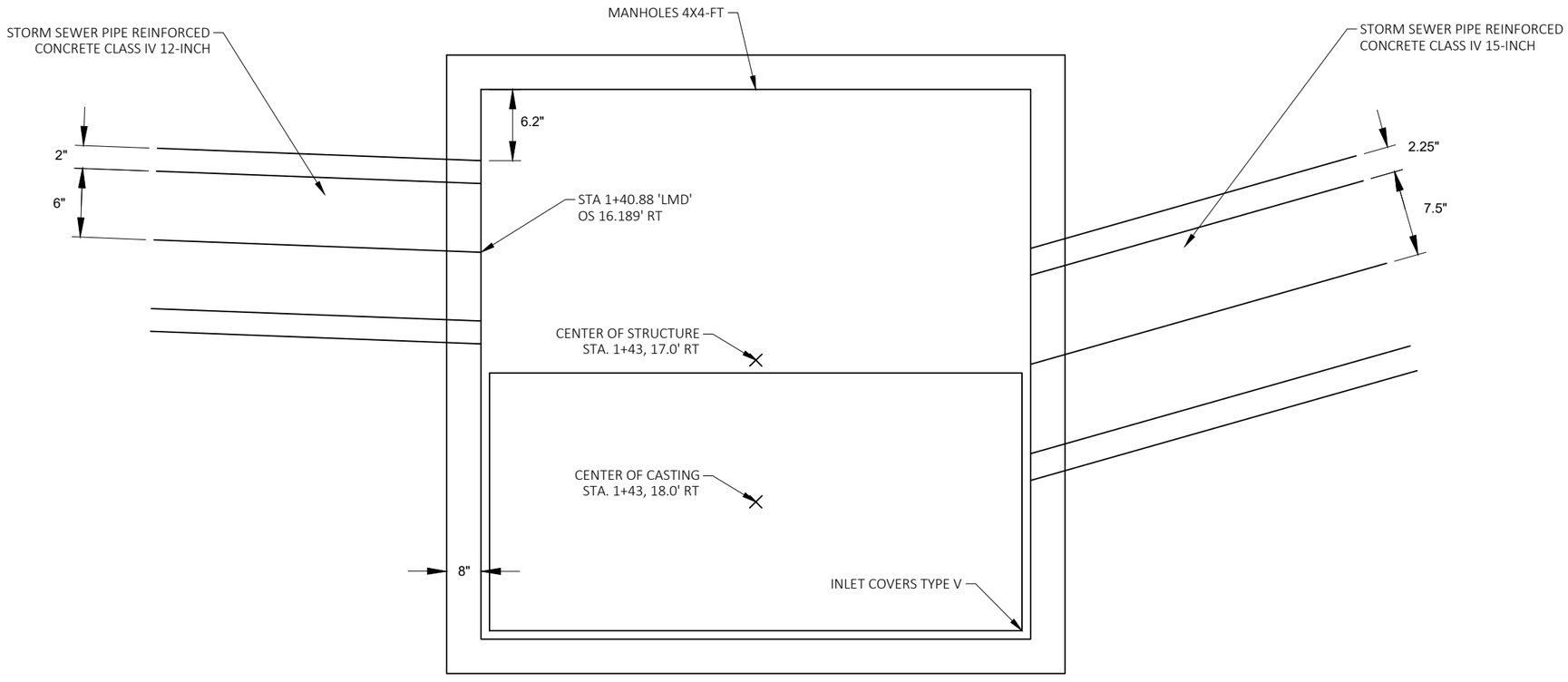
* LENGTH AND NUMBER OF BAGS MAY VARY DEPENDING ON DESIRED DEPTH OF WATER POOL.



SIDE VIEW (MULTIPLE LAYER)

TEMPORARY DITCH CHECKS

2



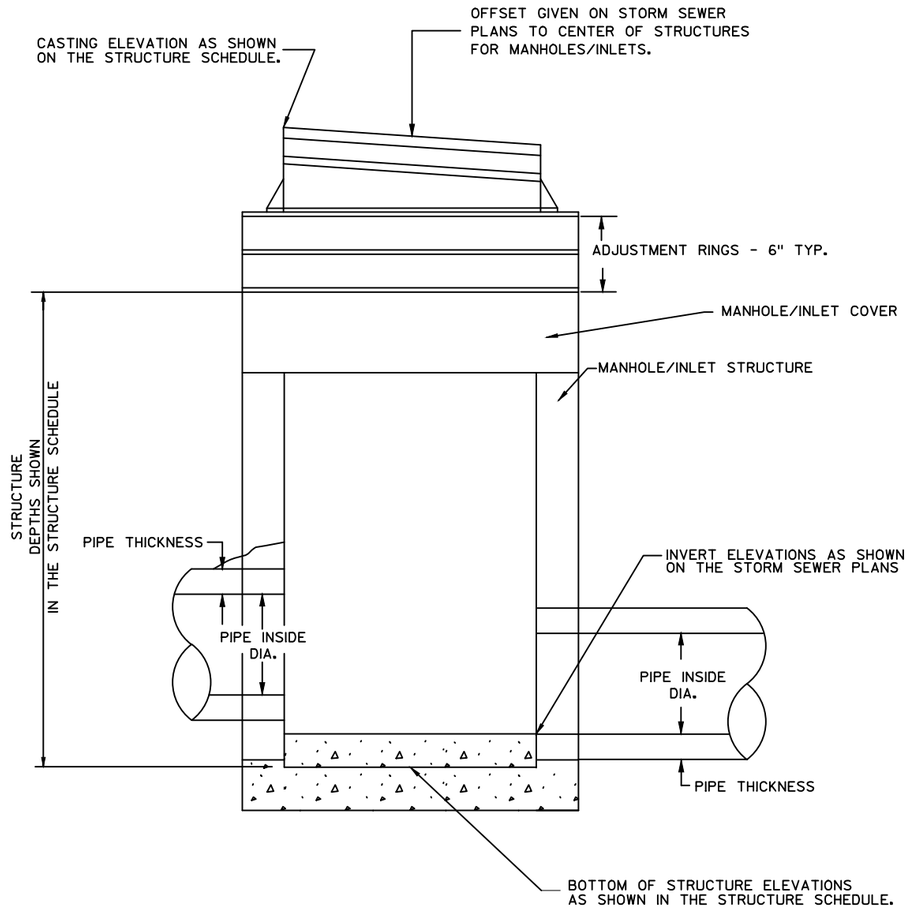
STRUCTURE NUMBER 1.2

SEE STORM SEWER PLANS FOR MORE DETAILS
STA 1+43, 17.0' RT (CENTER OF MH)
STA 1+43, 18.0' RT (CENTER OF CASTING)

GENERAL NOTES:

GRANULAR BACKFILL REQUIRED AROUND MANHOLE
(INCIDENTAL TO CONSTRUCTION OF MANHOLE)

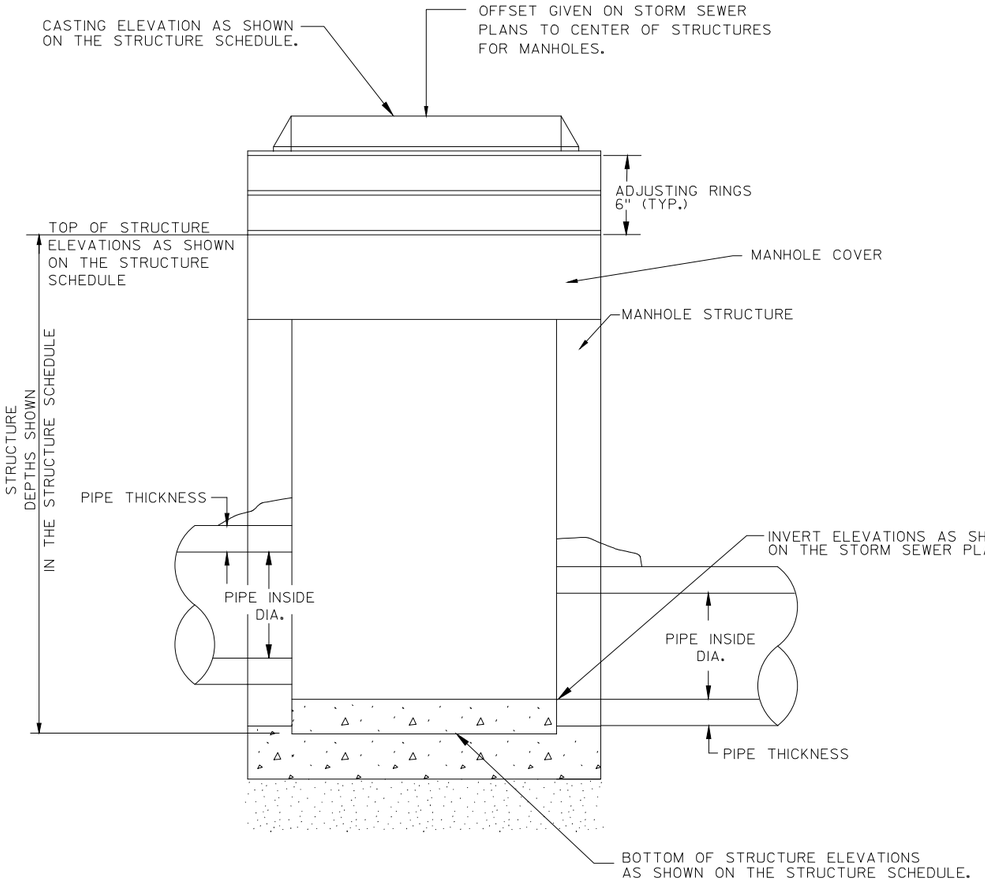
DETAILS OF CONSTRUCTION, MATERIALS, AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS, APPLICABLE SPECIAL PROVISIONS, AND S.D.D. FOR INLETS 3-FT & 4-FT DIAMETER, MANHOLES 4X4-FT, AND PIPE UNDERDRAIN DETAIL.



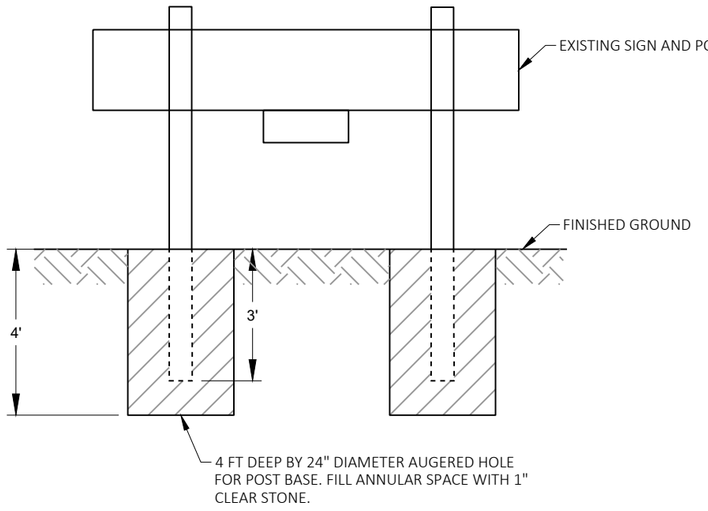
STORM SEWER MANHOLE/INLET WITH CASTING DETAIL

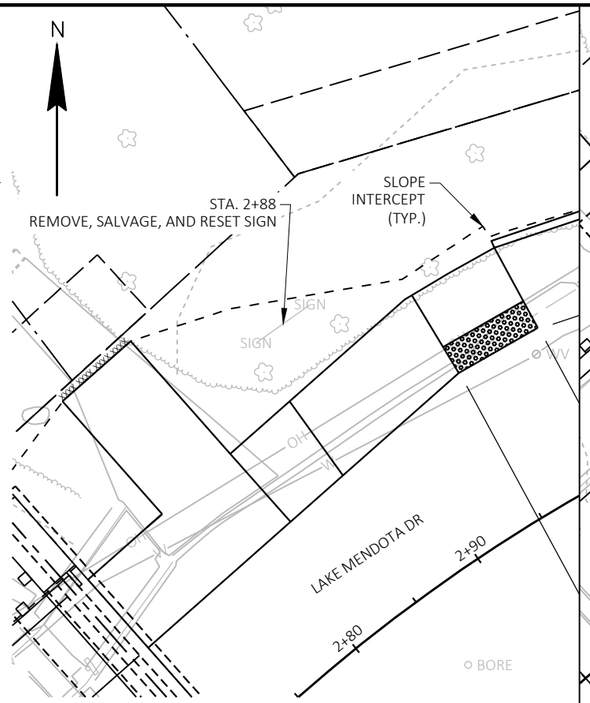
GENERAL NOTES:

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

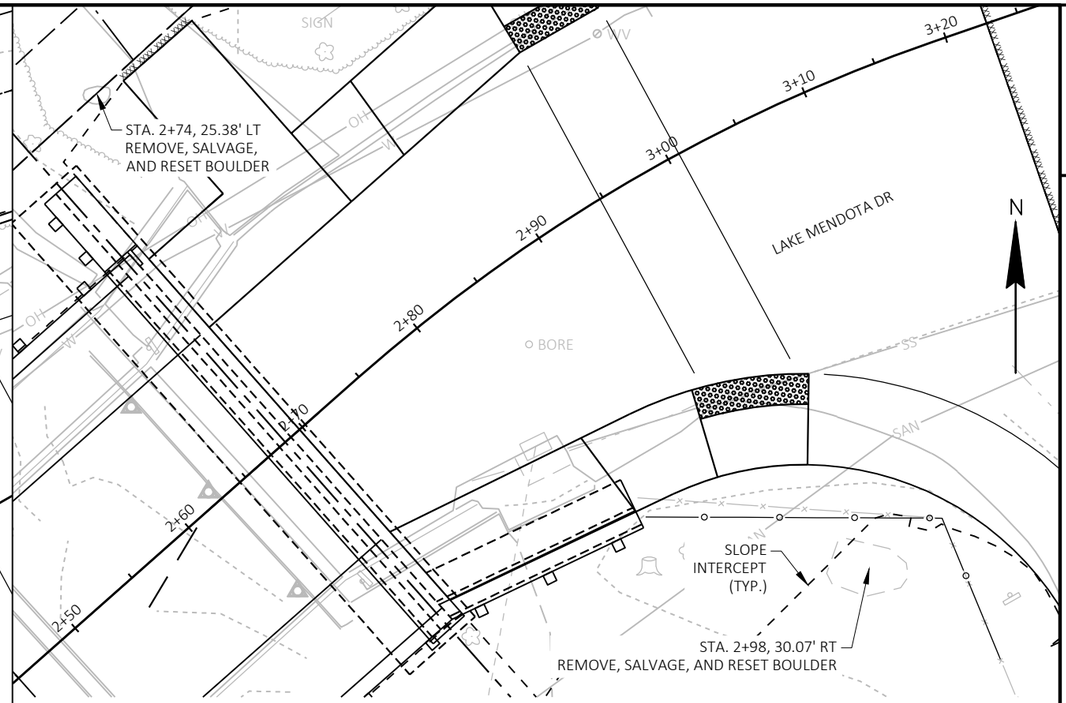


STORM SEWER MANHOLE W/CASTING DETAIL

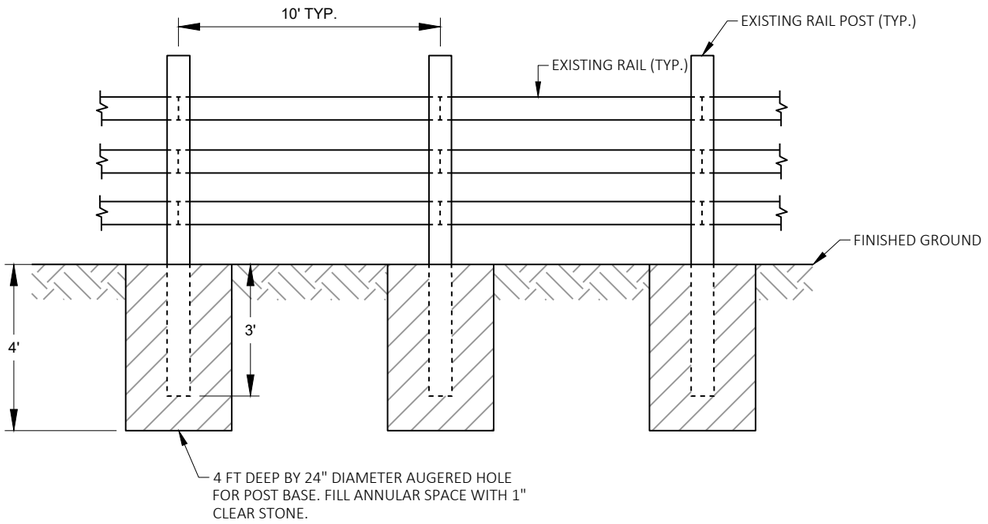


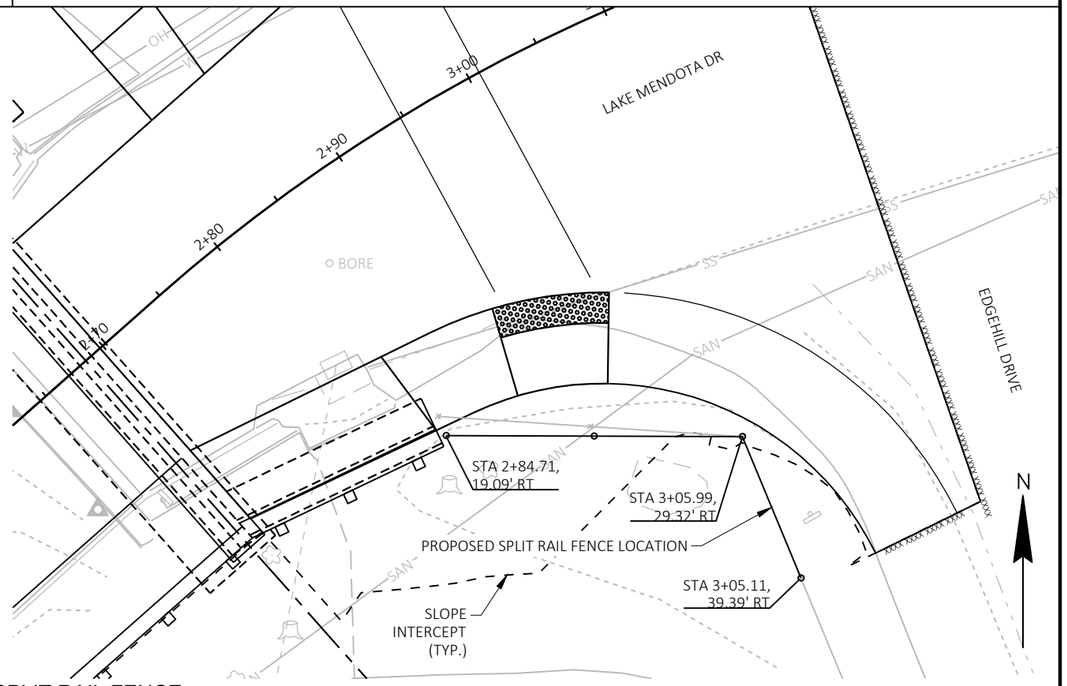


REMOVE, SALVAGE, AND RESET SIGN



REMOVE, SALVAGE, AND RESET BOULDER

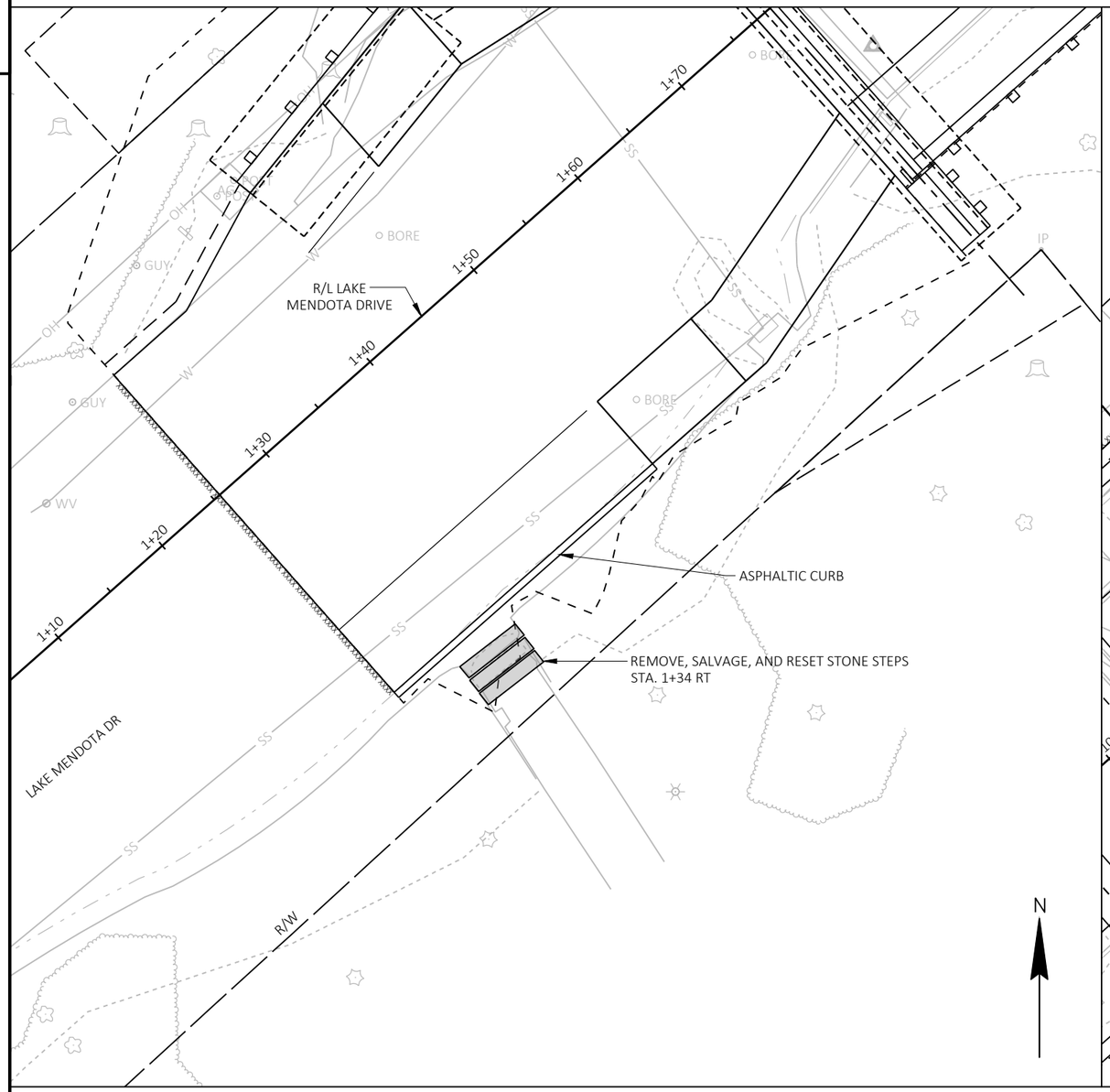


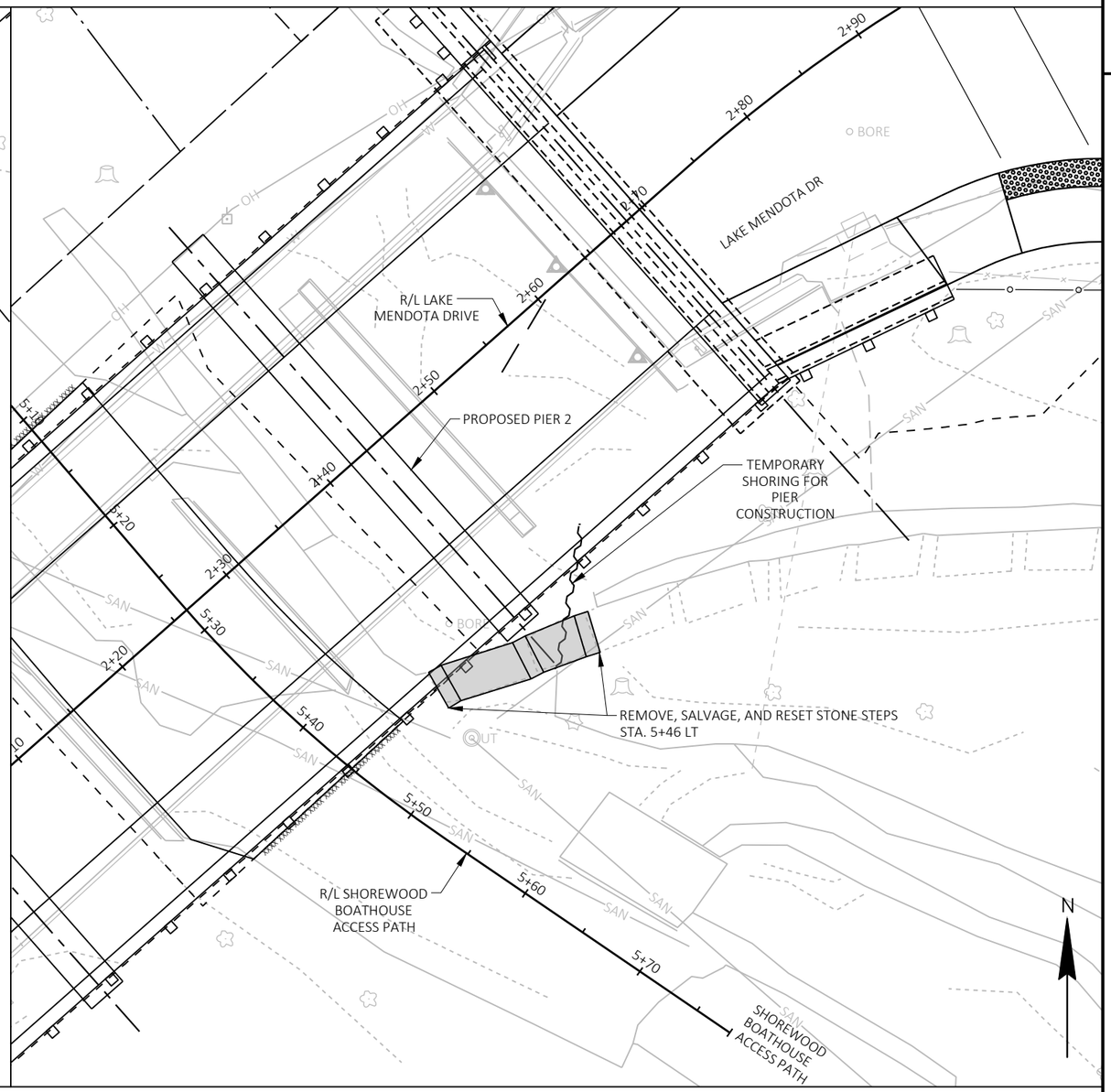


REMOVE, SALVAGE, AND RESET SPLIT RAIL FENCE

PROJECT NO: 5992-10-04	HWY: LAKE MENDOTA DRIVE	COUNTY: DANE	CONSTRUCTION DETAILS	SHEET 11	E

2

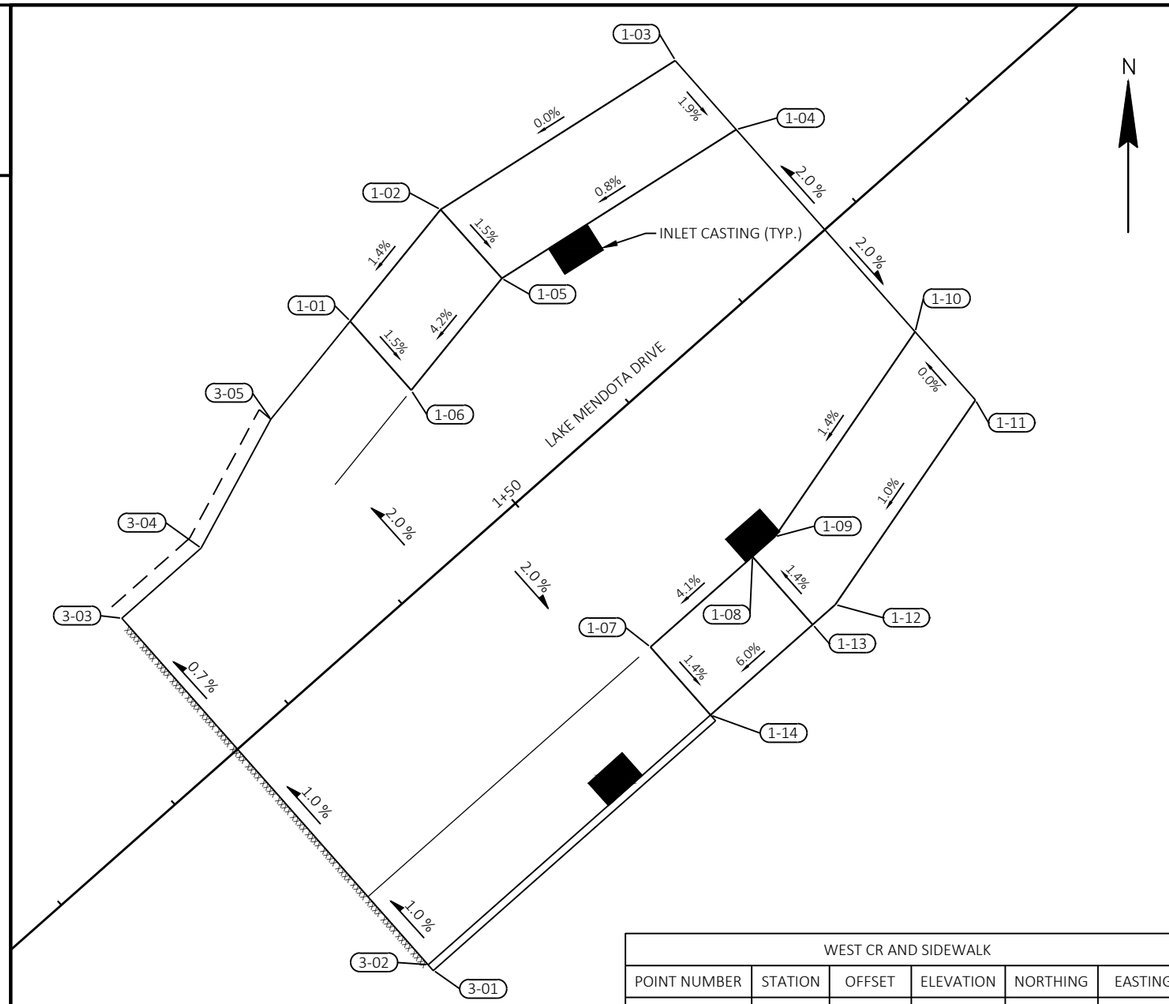


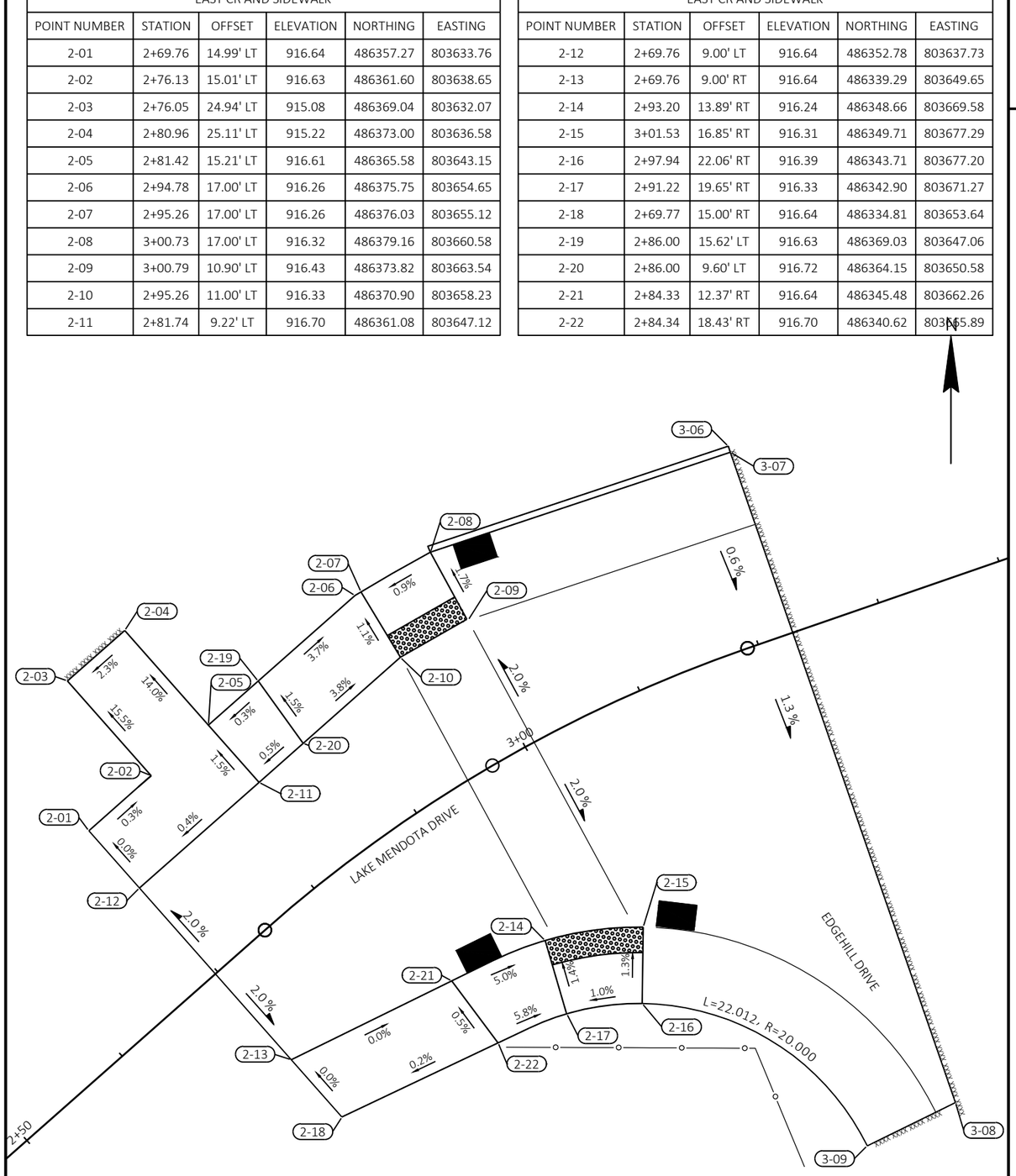


REMOVE, SALVAGE, AND RESET STONE STEPS

PROJECT NO: 5992-10-04	HWY: LAKE MENDOTA DRIVE	COUNTY: DANE	CONSTRUCTION DETAILS	SHEET 12	E

FILE NAME : G:\WDOT LP\SHOREWOOD HILLS\20014 LMD BRIDGE\CIVIL 3D\SHEETSPLAN\021002-CD...DWG
LAYOUT NAME - 01 (2)
PLOT DATE : 7/6/2022 11:08 AM
PLOT BY : KL ENGINEERING
PLOT NAME :
PLOT SCALE : 1 IN:10 FT
WISDOT/CADDS SHEET 42





EAST CR AND SIDEWALK					
POINT NUMBER	STATION	OFFSET	ELEVATION	NORTHING	EASTING
2-01	2+69.76	14.99' LT	916.64	486357.27	803633.76
2-02	2+76.13	15.01' LT	916.63	486361.60	803638.65
2-03	2+76.05	24.94' LT	915.08	486369.04	803632.07
2-04	2+80.96	25.11' LT	915.22	486373.00	803636.58
2-05	2+81.42	15.21' LT	916.61	486365.58	803643.15
2-06	2+94.78	17.00' LT	916.26	486375.75	803654.65
2-07	2+95.26	17.00' LT	916.26	486376.03	803655.12
2-08	3+00.73	17.00' LT	916.32	486379.16	803660.58
2-09	3+00.79	10.90' LT	916.43	486373.82	803663.54
2-10	2+95.26	11.00' LT	916.33	486370.90	803658.23
2-11	2+81.74	9.22' LT	916.70	486361.08	803647.12

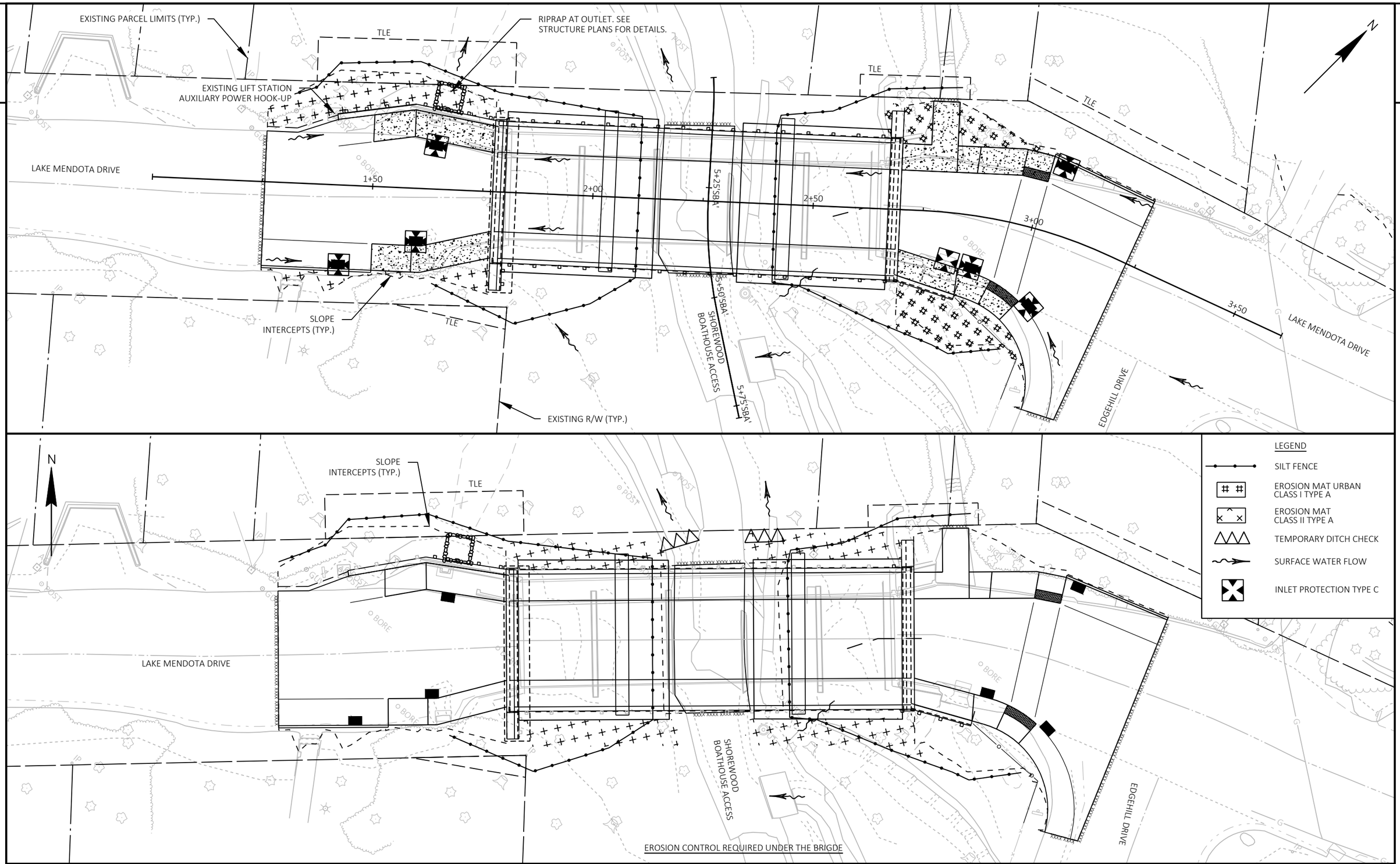
EAST CR AND SIDEWALK					
POINT NUMBER	STATION	OFFSET	ELEVATION	NORTHING	EASTING
2-12	2+69.76	9.00' LT	916.64	486352.78	803637.73
2-13	2+69.76	9.00' RT	916.64	486339.29	803649.65
2-14	2+93.20	13.89' RT	916.24	486348.66	803669.58
2-15	3+01.53	16.85' RT	916.31	486349.71	803677.29
2-16	2+97.94	22.06' RT	916.39	486343.71	803677.20
2-17	2+91.22	19.65' RT	916.33	486342.90	803671.27
2-18	2+69.77	15.00' RT	916.64	486334.81	803653.64
2-19	2+86.00	15.62' LT	916.63	486369.03	803647.06
2-20	2+86.00	9.60' LT	916.72	486364.15	803650.58
2-21	2+84.33	12.37' RT	916.64	486345.48	803662.26
2-22	2+84.34	18.43' RT	916.70	486340.62	803665.89

DEFLECTION POINTS					
POINT NUMBER	STATION	OFFSET	ELEVATION	NORTHING	EASTING
3-01	1+25.53	19.50' RT	916.29	486235.89	803548.56
3-02	1+25.53	19.00' RT	915.96	486236.27	803548.23
3-03	1+25.53	11.52' LT	915.69	486259.13	803528.02
3-04	1+32.51	11.52' LT	915.63	486263.75	803533.24
3-05	1+41.59	14.84' LT	915.56	486272.26	803537.85
3-06	3+22.87	15.50' LT	917.40	486387.48	803683.96
3-07	3+22.87	15.00' LT	917.07	486387.01	803684.12
3-08	3+22.87	39.04' RT	918.56	486335.93	803701.79
3-09	3+13.09	39.89' RT	918.67	486332.53	803694.87

WEST CR AND SIDEWALK					
POINT NUMBER	STATION	OFFSET	ELEVATION	NORTHING	EASTING
1-01	1+49.80	16.22' LT	915.61	486278.73	803543.08
1-02	1+59.14	17.79' LT	916.12	486286.09	803549.04
1-03	1+77.26	14.89' LT	916.18	486295.92	803564.53
1-04	1+77.26	8.82' LT	916.18	486291.37	803568.56
1-05	1+59.16	11.71' LT	916.03	486281.55	803553.08
1-06	1+49.79	10.14' LT	915.52	486274.16	803547.10
1-07	1+50.39	13.00' RT	915.49	486257.23	803562.88
1-08	1+59.39	13.00' RT	915.86	486263.19	803569.62
1-09	1+61.39	13.00' RT	915.94	486264.52	803571.12
1-10	1+77.26	9.00' RT	916.18	486278.02	803580.36
1-11	1+77.25	15.00' RT	916.18	486273.52	803584.33
1-12	1+61.39	19.00' RT	916.02	486260.02	803575.10
1-13	1+59.39	19.00' RT	915.95	486258.70	803573.60
1-14	1+50.39	19.00' RT	915.41	486252.73	803566.86

PROJECT NO: 5992-10-04	HWY: LAKE MENDOTA DRIVE	COUNTY: DANE	CURB RAMP & SIDEWALK DETAILS	SHEET 13	E

FILE NAME : G:\WDOT LP\SHOREWOOD HILLS\20014 LMD BRIDGE\CIVIL 3D\SHEETSPLAN\021301-CR.DWG
LAYOUT NAME - 01
PLOT DATE : 7/6/2022 11:10 AM
PLOT BY : KAYLEE SIMON
PLOT NAME :
PLOT SCALE : 1 IN:10 FT
WISDOT/CADDS SHEET 44



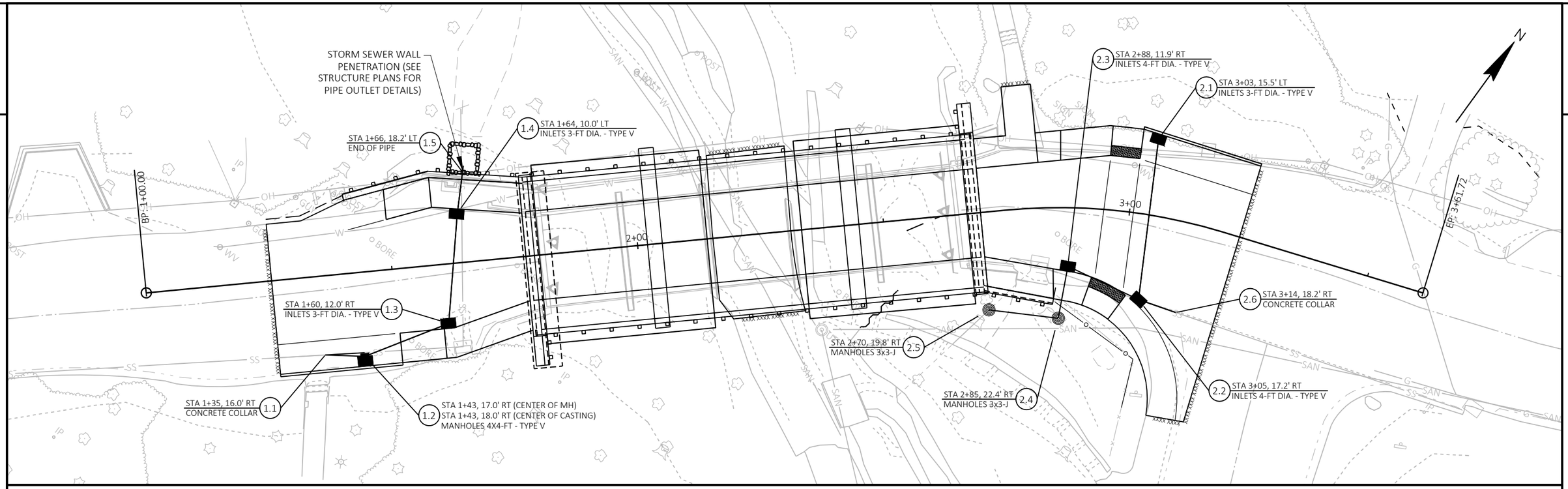
PROJECT NO: 5992-10-04	HWY: LAKE MENDOTA DRIVE	COUNTY: DANE	EROSION CONTROL	SHEET 14	E

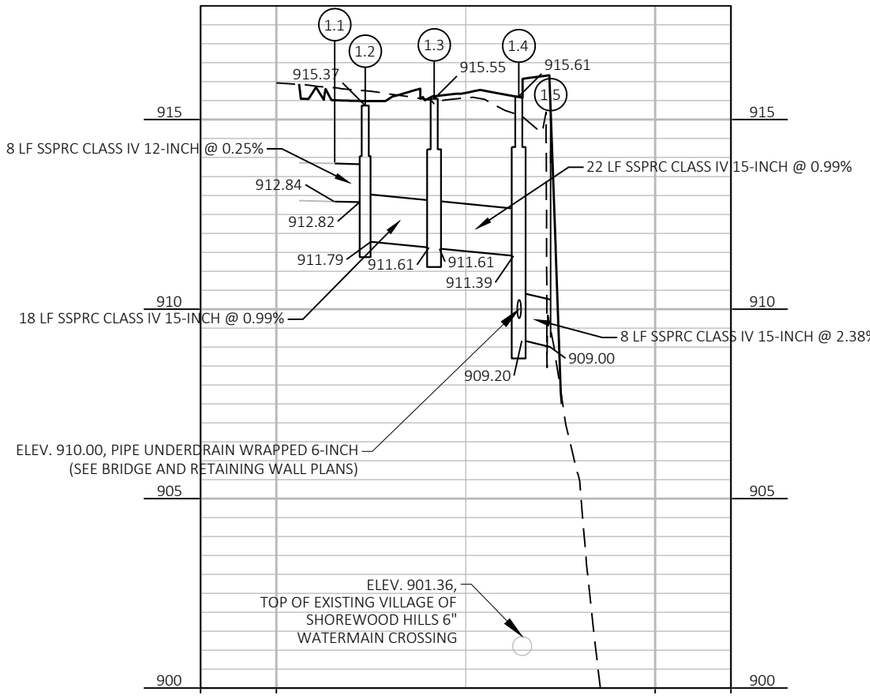
FILE NAME : G:\WDOT LP\SHOREWOOD HILLS\20014 LMD BRIDGE\CIVIL 3D\SHEETSPLAN\022001-EC.DWG
LAYOUT NAME - 01

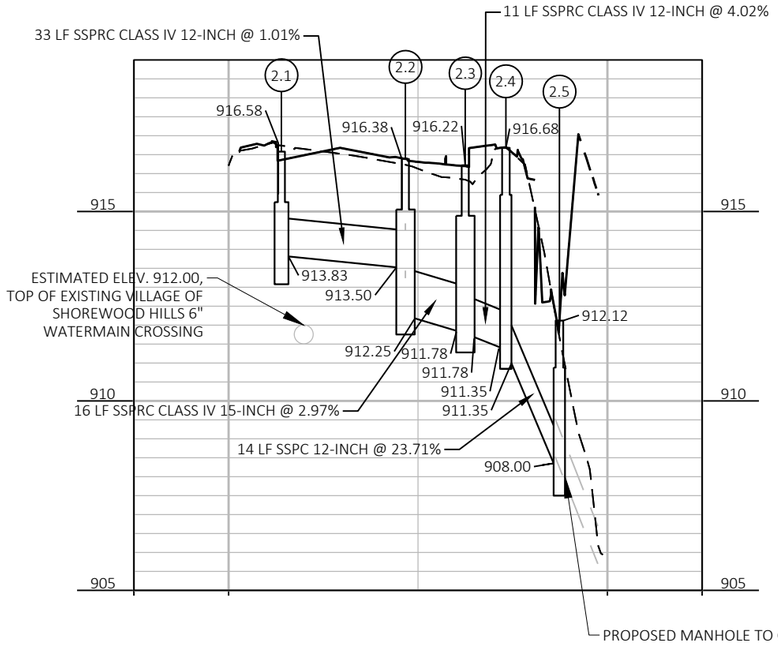
PLOT DATE : 7/6/2022 11:11 AM PLOT BY : KAYLEE SIMON PLOT NAME : PLOT SCALE : 1 IN:20 FT

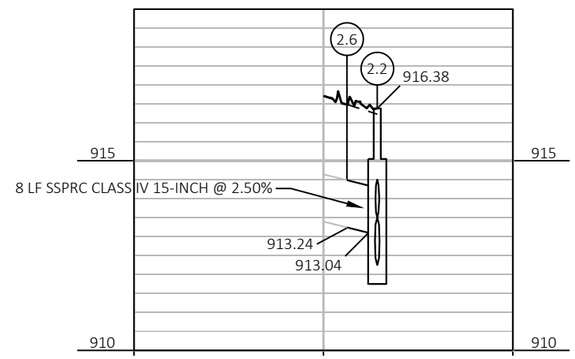
WISDOT/CADDS SHEET 44

2









PROJECT NO: 5992-10-04	HWY: LAKE SHORE DRIVE	COUNTY: DANE	STORM SEWER PLANS	SHEET 15	E

FILE NAME : G:\WDOT LP\SHOREWOOD HILLS\20014 LMD BRIDGE\CIVIL 3D\SHEETSPLAN\022501-SS.DWG
LAYOUT NAME - 01
PLOT DATE : 7/6/2022 10:32 AM
PLOT BY : KL ENGINEERING
PLOT NAME :
PLOT SCALE : 1 IN:40 FT
WISDOT/CADDS SHEET 44

2

LEGEND

- (1) MARKING LINE EPOXY 4-INCH
- (2) MARKING SYMBOLS EPOXY (BIKE LANE SYMBOL FOR SHARED LANE)
- EXISTING SIGN MOUNTED ON POST
- NEW SIGN MOUNTED ON POST
- (X-XXR) SIGN TO BE REMOVED
- (X-XX) PROPOSED SIGN
- (ESTR) EXISTING SIGN TO REMAIN

N

SHOREWOOD BOATHOUSE ACCESS PATH

"JOHN C MCKENNA PARK" AND "PARK HOURS' SIGNS TO BE SALVAGED AND RELOCATED (SEE DETAIL)

ATTACH SIGN TO RAIL POST

PLACE 150' FROM THE EAST APPROACH W5-52R.

NARROW BRIDGE W5-2 36"X36" 1-09

W11-2 30"X30" 1-10

R7-1L 18"X24" 1-07

1-07R

R7-1R 18"X24" 1-01

NO PARKING ANY TIME 1-01R

W5-52L 12"X36" 1-02

1-02R

1-06R

W5-52R 12"X36" 1-06

LAKE MENDOTA DRIVE

1+50

2+00

2+50

3+00

3+50

1

2

ESTR NARROW BRIDGE

1-03R 1-03

W5-52R 12"X36"

ATTACH SIGN TO RAIL POST

1-04 1-04R

W11-2 24"X24"

1-05R 1-05

W5;52L 12"X36"

1-08 STOP R1-1 30"X30"

1-08R STOP

SHOREWOOD BOATHOUSE ACCESS PATH

EDGEHILL DRIVE

ESTR STOP

PROJECT NO: 5992-10-04	HWY: LAKE MENDOTA DRIVE	COUNTY: DANE	PERMANENT SIGNING AND PAVEMENT MARKING	SHEET 16	E

2

TRAFFIC CONTROL LEGEND

- TRAFFIC CONTROL BARRICADE TYPE III
- TRAFFIC CONTROL BARRICADE TYPE III (WITH ATTACHED SIGN)
- WORK AREA

TRAFFIC CONTROL - LAKE MENDOTA DRIVE

CONSTRUCTION OPERATIONS:

- CONSTRUCT B-13-692
- CONSTRUCT R-13-0372
- CONSTRUCT ROADWAY AND ALL INCIDENTAL ITEMS

TRAFFIC OPERATIONS:

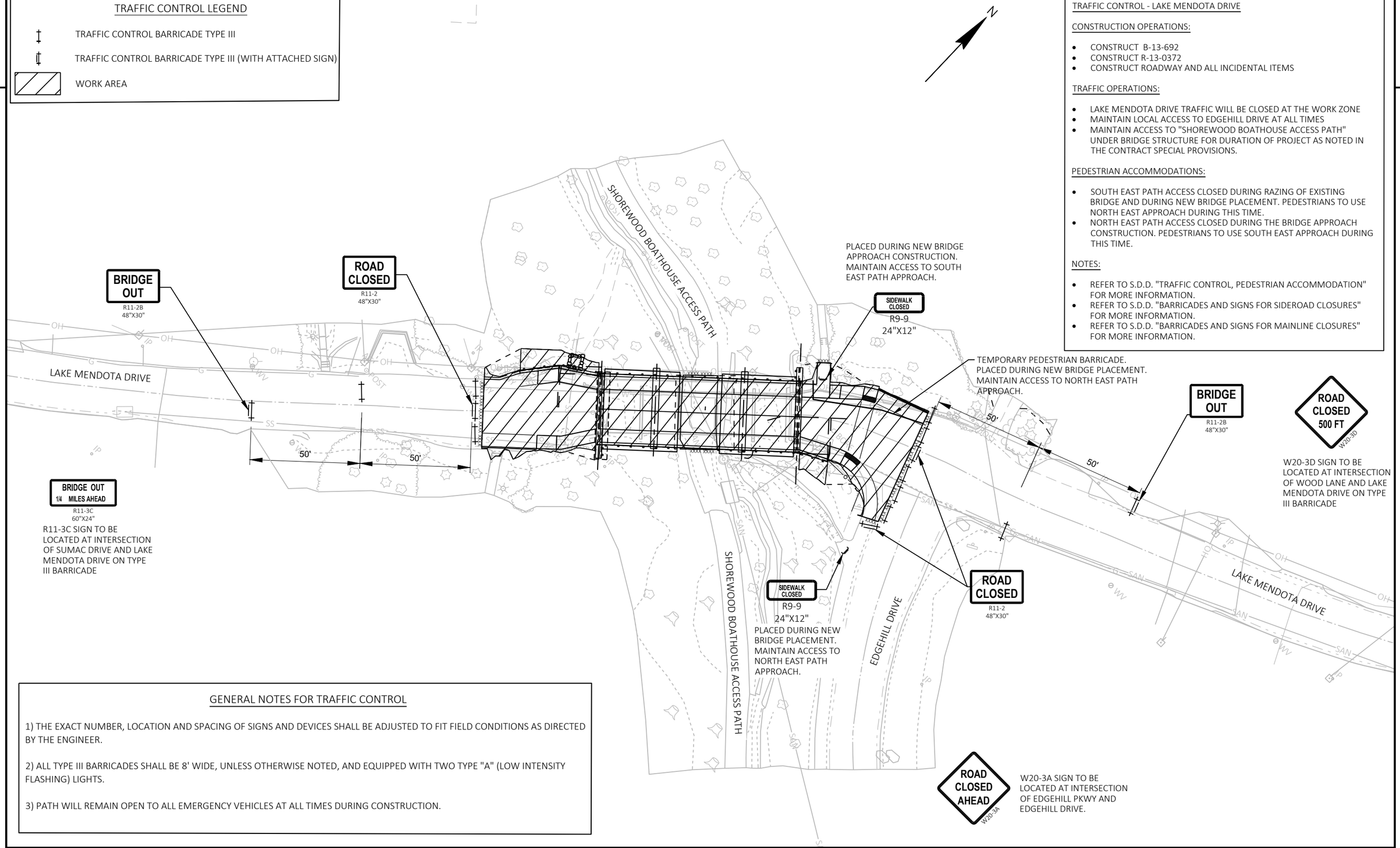
- LAKE MENDOTA DRIVE TRAFFIC WILL BE CLOSED AT THE WORK ZONE
- MAINTAIN LOCAL ACCESS TO EDGEHILL DRIVE AT ALL TIMES
- MAINTAIN ACCESS TO "SHOREWOOD BOATHOUSE ACCESS PATH" UNDER BRIDGE STRUCTURE FOR DURATION OF PROJECT AS NOTED IN THE CONTRACT SPECIAL PROVISIONS.

PEDESTRIAN ACCOMMODATIONS:

- SOUTH EAST PATH ACCESS CLOSED DURING RAZING OF EXISTING BRIDGE AND DURING NEW BRIDGE PLACEMENT. PEDESTRIANS TO USE NORTH EAST APPROACH DURING THIS TIME.
- NORTH EAST PATH ACCESS CLOSED DURING THE BRIDGE APPROACH CONSTRUCTION. PEDESTRIANS TO USE SOUTH EAST APPROACH DURING THIS TIME.

NOTES:

- REFER TO S.D.D. "TRAFFIC CONTROL, PEDESTRIAN ACCOMMODATION" FOR MORE INFORMATION.
- REFER TO S.D.D. "BARRICADES AND SIGNS FOR SIDEROAD CLOSURES" FOR MORE INFORMATION.
- REFER TO S.D.D. "BARRICADES AND SIGNS FOR MAINLINE CLOSURES" FOR MORE INFORMATION.



GENERAL NOTES FOR TRAFFIC CONTROL

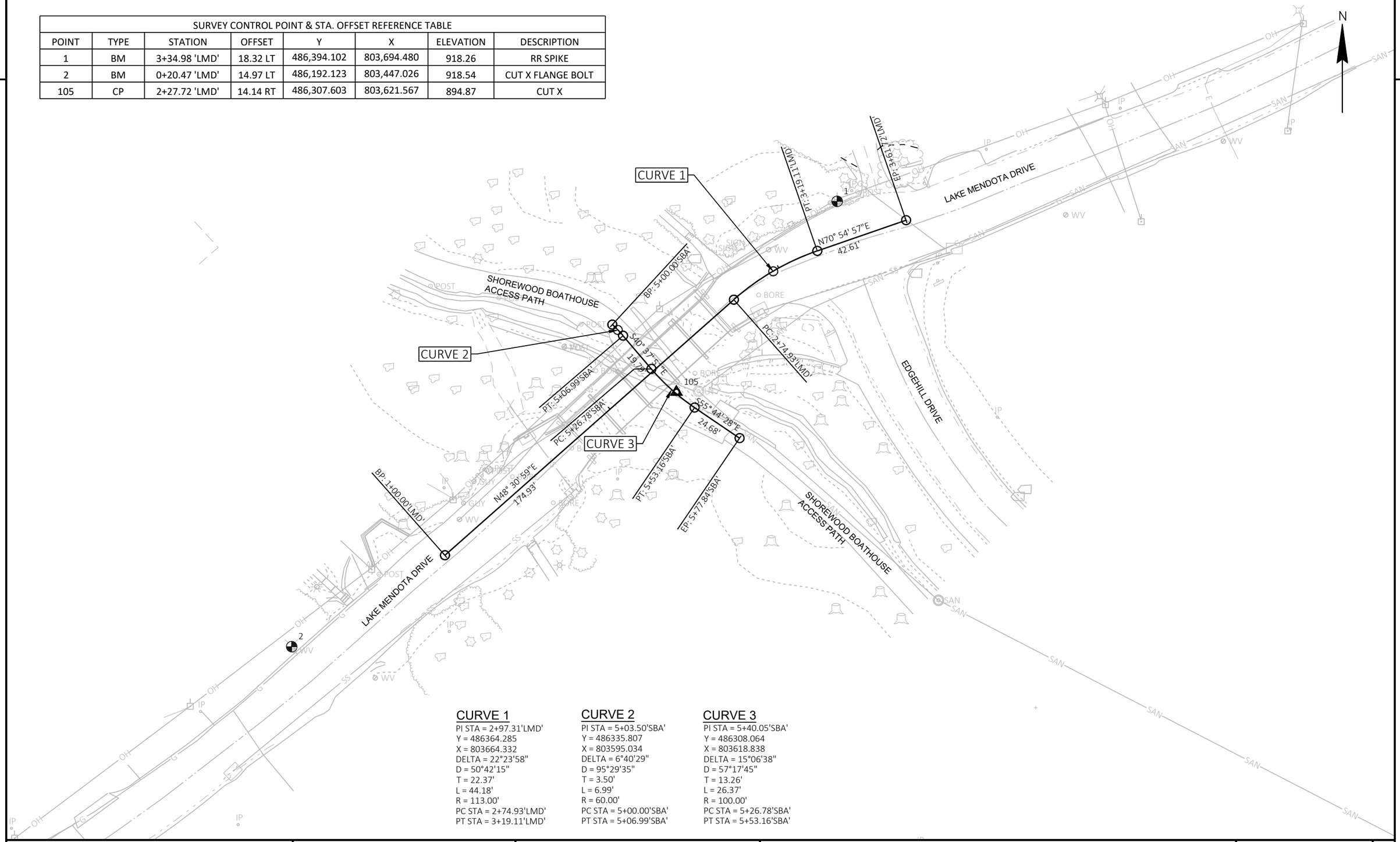
1) THE EXACT NUMBER, LOCATION AND SPACING OF SIGNS AND DEVICES SHALL BE ADJUSTED TO FIT FIELD CONDITIONS AS DIRECTED BY THE ENGINEER.

2) ALL TYPE III BARRICADES SHALL BE 8' WIDE, UNLESS OTHERWISE NOTED, AND EQUIPPED WITH TWO TYPE "A" (LOW INTENSITY FLASHING) LIGHTS.

3) PATH WILL REMAIN OPEN TO ALL EMERGENCY VEHICLES AT ALL TIMES DURING CONSTRUCTION.

PROJECT NO: 5992-10-04	HWY: LAKE MENDOTA DRIVE	COUNTY: DANE	TRAFFIC CONTROL	SHEET 17	E

SURVEY CONTROL POINT & STA. OFFSET REFERENCE TABLE							
POINT	TYPE	STATION	OFFSET	Y	X	ELEVATION	DESCRIPTION
1	BM	3+34.98 'LMD'	18.32 LT	486,394.102	803,694.480	918.26	RR SPIKE
2	BM	0+20.47 'LMD'	14.97 LT	486,192.123	803,447.026	918.54	CUT X FLANGE BOLT
105	CP	2+27.72 'LMD'	14.14 RT	486,307.603	803,621.567	894.87	CUT X



CURVE 1
PI STA = 2+97.31'LMD'
Y = 486364.285
X = 803664.332
DELTA = 22°23'58"
D = 50°42'15"
T = 22.37'
L = 44.18'
R = 113.00'
PC STA = 2+74.93'LMD'
PT STA = 3+19.11'LMD'

CURVE 2
PI STA = 5+03.50'SBA'
Y = 486335.807
X = 803595.034
DELTA = 6°40'29"
D = 95°29'35"
T = 3.50'
L = 6.99'
R = 60.00'
PC STA = 5+00.00'SBA'
PT STA = 5+06.99'SBA'

CURVE 3
PI STA = 5+40.05'SBA'
Y = 486308.064
X = 803618.838
DELTA = 15°06'38"
D = 57°17'45"
T = 13.26'
L = 26.37'
R = 100.00'
PC STA = 5+26.78'SBA'
PT STA = 5+53.16'SBA'

PROJECT NO: 5992-10-04	HWY: LAKE MENDOTA DRIVE	COUNTY: DANE	ALIGNMENT DIAGRAM & CONTROL POINT / BENCHMARK INFORMATION	SHEET 18	E

Estimate Of Quantities

5992-10-04

Line	Item	Item Description	Unit	Total	Qty
0002	201.0120	Clearing	ID	46.000	46.000
0004	201.0220	Grubbing	ID	46.000	46.000
0006	203.0220	Removing Structure (structure) 01. P-13-715	EACH	1.000	1.000
0008	204.0100	Removing Concrete Pavement	SY	115.000	115.000
0010	204.0110	Removing Asphaltic Surface	SY	59.000	59.000
0012	204.0130	Removing Curb	LF	55.000	55.000
0014	204.0155	Removing Concrete Sidewalk	SY	10.000	10.000
0016	204.0220	Removing Inlets	EACH	3.000	3.000
0018	204.0245	Removing Storm Sewer (size) 01. 12-Inch	LF	88.000	88.000
0020	204.0245	Removing Storm Sewer (size) 02. 15-Inch	LF	28.000	28.000
0022	205.0100	Excavation Common	CY	193.000	193.000
0024	206.1001	Excavation for Structures Bridges (structure) 01. B-13-692	EACH	1.000	1.000
0026	206.3001	Excavation for Structures Retaining Walls (structure) 01. R-13-372	EACH	1.000	1.000
0028	210.1500	Backfill Structure Type A	TON	1,087.000	1,087.000
0030	211.0101	Prepare Foundation for Asphaltic Paving (project) 01. 5992-10-04	EACH	1.000	1.000
0032	213.0100	Finishing Roadway (project) 01. 5992-10-04	EACH	1.000	1.000
0034	305.0110	Base Aggregate Dense 3/4-Inch	TON	25.000	25.000
0036	305.0120	Base Aggregate Dense 1 1/4-Inch	TON	315.000	315.000
0038	455.0605	Tack Coat	GAL	11.000	11.000
0040	465.0105	Asphaltic Surface	TON	124.000	124.000
0042	465.0310	Asphaltic Curb	LF	25.000	25.000
0044	502.0100	Concrete Masonry Bridges	CY	187.000	187.000
0046	502.3200	Protective Surface Treatment	SY	8.300	8.300
0048	504.0500	Concrete Masonry Retaining Walls	CY	21.000	21.000
0050	505.0400	Bar Steel Reinforcement HS Structures	LB	12,120.000	12,120.000
0052	505.0600	Bar Steel Reinforcement HS Coated Structures	LB	6,850.000	6,850.000
0054	507.0200	Treated Lumber and Timber	MBM	1.800	1.800
0056	511.1200	Temporary Shoring (structure) 01. B-13-692	SF	86.000	86.000
0058	516.0500	Rubberized Membrane Waterproofing	SY	21.000	21.000
0060	517.1010.S	Concrete Staining (structure) 01. B-13-692	SF	640.000	640.000
0062	517.1010.S	Concrete Staining (structure) 02. R-13-372	SF	27.000	27.000
0064	517.1015.S	Concrete Staining Multi-Color (structure) 01. B-13-692	SF	446.000	446.000
0066	517.1015.S	Concrete Staining Multi-Color (structure) 02. R-13-372	SF	48.000	48.000
0068	517.1050.S	Architectural Surface Treatment (structure) 01. B-13-692	SF	446.000	446.000
0070	517.1050.S	Architectural Surface Treatment (structure) 02. R-13-372	SF	48.000	48.000
0072	520.8000	Concrete Collars for Pipe	EACH	2.000	2.000
0074	550.0020	Pre-Boring Rock or Consolidated Materials	LF	86.000	86.000
0076	550.1100	Piling Steel HP 10-Inch X 42 Lb	LF	143.000	143.000
0078	601.0105	Concrete Curb Type A	LF	25.000	25.000
0080	602.0515	Curb Ramp Detectable Warning Field Natural Patina	SF	12.000	12.000
0082	602.0615	Curb Ramp Detectable Warning Field Radial Natural Patina	SF	15.000	15.000
0084	604.0600	Slope Paving Select Crushed Material	SY	280.000	280.000
0086	606.0300	Riprap Heavy	CY	3.000	3.000
0088	608.0412	Storm Sewer Pipe Reinforced Concrete Class IV 12-Inch	LF	66.000	66.000
0090	608.0415	Storm Sewer Pipe Reinforced Concrete Class IV 15-Inch	LF	72.000	72.000
0092	611.0530	Manhole Covers Type J	EACH	2.000	2.000
0094	611.0654	Inlet Covers Type V	EACH	6.000	6.000
0096	611.2033	Manholes 3x3-FT	EACH	2.000	2.000
0098	611.2044	Manholes 4x4-FT	EACH	1.000	1.000

5992-10-04

Line	Item	Item Description	Unit	Total	Qty
0100	611.3003	Inlets 3-FT Diameter	EACH	3.000	3.000
0102	611.3004	Inlets 4-FT Diameter	EACH	2.000	2.000
0104	612.0406	Pipe Underdrain Wrapped 6-Inch	LF	154.000	154.000
0106	618.0100	Maintenance And Repair of Haul Roads (project) 01. 5992-10-04	EACH	1.000	1.000
0108	619.1000	Mobilization	EACH	1.000	1.000
0110	624.0100	Water	MGAL	13.000	13.000
0112	625.0500	Salvaged Topsoil	SY	134.000	134.000
0114	628.1504	Silt Fence	LF	395.000	395.000
0116	628.1520	Silt Fence Maintenance	LF	1,175.000	1,175.000
0118	628.1905	Mobilizations Erosion Control	EACH	4.000	4.000
0120	628.1910	Mobilizations Emergency Erosion Control	EACH	2.000	2.000
0122	628.2006	Erosion Mat Urban Class I Type A	SY	595.000	595.000
0124	628.2021	Erosion Mat Class II Type A	SY	1,770.000	1,770.000
0126	628.7015	Inlet Protection Type C	EACH	9.000	9.000
0128	628.7504	Temporary Ditch Checks	LF	30.000	30.000
0130	629.0210	Fertilizer Type B	CWT	1.000	1.000
0132	630.0130	Seeding Mixture No. 30	LB	3.000	3.000
0134	630.0500	Seed Water	MGAL	9.000	9.000
0136	634.0612	Posts Wood 4x6-Inch X 12-FT	EACH	8.000	8.000
0138	637.2210	Signs Type II Reflective H	SF	11.180	11.180
0140	637.2230	Signs Type II Reflective F	SF	31.250	31.250
0142	638.2602	Removing Signs Type II	EACH	8.000	8.000
0144	638.3000	Removing Small Sign Supports	EACH	7.000	7.000
0146	642.5001	Field Office Type B	EACH	1.000	1.000
0148	643.0410	Traffic Control Barricades Type II	DAY	90.000	90.000
0150	643.0420	Traffic Control Barricades Type III	DAY	1,260.000	1,260.000
0152	643.0705	Traffic Control Warning Lights Type A	DAY	2,610.000	2,610.000
0154	643.0900	Traffic Control Signs	DAY	810.000	810.000
0156	643.5000	Traffic Control	EACH	1.000	1.000
0158	644.1410	Temporary Pedestrian Surface Asphalt	SF	300.000	300.000
0160	644.1601	Temporary Pedestrian Curb Ramp	DAY	15.000	15.000
0162	644.1810	Temporary Pedestrian Barricade	LF	60.000	60.000
0164	645.0111	Geotextile Type DF Schedule A	SY	90.000	90.000
0166	645.0120	Geotextile Type HR	SY	10.000	10.000
0168	646.1020	Marking Line Epoxy 4-Inch	LF	131.000	131.000
0170	646.5220	Marking Symbol Epoxy	EACH	2.000	2.000
0172	650.4000	Construction Staking Storm Sewer	EACH	8.000	8.000
0174	650.4500	Construction Staking Subgrade	LF	139.000	139.000
0176	650.5000	Construction Staking Base	LF	139.000	139.000
0178	650.5500	Construction Staking Curb Gutter and Curb & Gutter	LF	50.000	50.000
0180	650.6501	Construction Staking Structure Layout (structure) 01. B-13-692	EACH	1.000	1.000
0182	650.6501	Construction Staking Structure Layout (structure) 02. R-13-372	EACH	1.000	1.000
0184	650.9000	Construction Staking Curb Ramps	EACH	2.000	2.000
0186	650.9911	Construction Staking Supplemental Control (project) 01. 5992-10-04	EACH	1.000	1.000
0188	650.9920	Construction Staking Slope Stakes	LF	139.000	139.000
0190	690.0150	Sawing Asphalt	LF	113.000	113.000
0192	690.0250	Sawing Concrete	LF	18.000	18.000
0194	715.0502	Incentive Strength Concrete Structures	DOL	1,508.000	1,508.000
0196	999.2000.S	Installing and Maintaining Bird Deterrent System (station) 01. 2+23	EACH	1.000	1.000

5992-10-04

Line	Item	Item Description	Unit	Total	Qty
0198	SPV.0060	Special 01. Timber Bridge B-13-692	EACH	1.000	1.000
0200	SPV.0060	Special 02. Remove, Salvage, and Reset Boulder	EACH	2.000	2.000
0202	SPV.0060	Special 03. Remove, Salvage, and Reset Sign	EACH	1.000	1.000
0204	SPV.0060	Special 04. Remove, Salvage, and Reset Split Rail Fence	EACH	1.000	1.000
0206	SPV.0060	Special 05. Remove, Salvage, and Reset Stone Steps	EACH	2.000	2.000
0208	SPV.0060	Special 06. Utility Line Opening (ULO)	EACH	5.000	5.000
0210	SPV.0060	Special 07. Reset Property Corners	EACH	1.000	1.000
0212	SPV.0060	Special 08. Adjusting Water Valve Boxes	EACH	1.000	1.000
0214	SPV.0165	Special 01. Concrete Sidewalk 5-Inch Special	SF	760.000	760.000

CLEARING AND GRUBBING

CATEGORY	STATION	OFFSET	201.0120 CLEARING (ID)	201.0220 GRUBBING (ID)
0010				
	1+71	RT	13	13
	1+89	RT	11	11
	2+13	RT	13	13
	2+69	RT	3	3
	2+69	RT	3	3
	2+86	LT	3	3
	PROJECT TOTAL		**46**	**46**

REMOVING CONCRETE PAVEMENT

CATEGORY	LOCATION	STA. - STA.	204.0100 (SY)
0010			
	WEST APPROACH	1+25.52 - 1+77.26	-
	EAST APPROACH	2+69.76 - 3+22.87	115
	SHOREWOOD BOATHOUSE ACCESS PATH	1+11.00'SBA' - 1+44.50'SBA'	-
	PROJECT TOTAL		**115**

3

REMOVING ASPHALTIC SURFACE

CATEGORY	LOCATION	STA. - STA.	204.0100 (SY)
0010			
	SHOREWOOD BOATHOUSE ACCESS PATH	1+11.00'SBA' - 1+44.50'SBA'	59
	PROJECT TOTAL		**59**

REMOVING CONCRETE SIDEWALK

CATEGORY	LOCATION	STA. - STA.	204.0155 (SY)
0010			
	WEST APPROACH	1+25.52 - 1+77.26	-
	EAST APPROACH	2+69.76 - 3+22.87	10
	SHOREWOOD BOATHOUSE ACCESS PATH	1+11.00'SBA' - 1+44.50'SBA'	-
	PROJECT TOTAL		**10**

REMOVING STORM SEWER

CATEGORY	LOCATION	STA. - STA.	204.0220 REMOVING INLETS (EACH)	204.0245.01 (12-INCH) (LF)	204.0245.02 (15-INCH) (LF)
0010					
	WEST APPROACH	1+25.52 - 1+77.26	2	76	--
	EAST APPROACH	2+69.76 - 3+22.87	1	12	28
	SHOREWOOD BOATHOUSE ACCESS PATH	1+11.00'SBA' - 1+44.50'SBA'	--	--	--
	PROJECT TOTAL		**3**	**88**	**28**

REMOVING CURB

CATEGORY	LOCATION	STA. - STA.	204.0130 (LF)
0010			
	WEST APPROACH	1+25.52 - 1+77.26	--
	EAST APPROACH	2+69.76 - 3+22.87	55
	SHOREWOOD BOATHOUSE ACCESS PATH	1+11.00'SBA' - 1+44.50'SBA'	--
	PROJECT TOTAL		**55**

BASE AGGREGATE DENSE

CATEGORY	LOCATION	305.0110 3/4-INCH (TON)	305.0120 1 1/4-INCH (TON)
0010			
	1+25.52 - 1+77.26	10	120
	2+69.76 - 3+22.87	13	144
	1+11.00'SBA' - 1+44.50'SBA'	--	40
	UNDISTRIBUTED	2	11
PROJECT TOTAL		**25**	**315**

EARTHWORK

CATEGORY	LOCATION	205.0100 Excavation Common (1) Cut (2) (CY)	205.0100 Excavation Common (1) EBS Excavation (3) (CY)	Salvaged/ Unusable Pavement Material (4) (CY)	Available Material (5) (CY)	Reduced EBS in Fill (8) Factor 0.80 (CY)	Unexpanded Fill (CY)	Expanded Fill (10) Factor 1.30 (CY)	Mass Ordinate +/- (11) (CY)	Waste (CY)	208.0100 Borrow (CY)
0010	LAKE MENDOTA DRIVE	184	9	71	113	7	60	69	44	44	
		184	9	71	113	7	60	69	44	44	---
Total Excavation Common		**193**									

1) Common Excavation is the sum of the Cut and EBS Excavation columns
2) Salvaged/Unsuable Pavement Material is included in Cut
3) EBS Excavation to be backfilled with Select Crushed Material
4) Salvaged/Unusable Pavement Material
5) Available Material = Cut - Salvaged/Unusable Pavement Material
6) Reduced EBS in Fill - Excavated EBS material is usuable in Fills outside the 1:1 slope. EBS in Fill Reduction factor = 0.8
7) Expanded Fill. Factor = 1.3
8) The Mass Ordinate + or - Qty calculated for the Division. Plus quantity indicates an excess of material within the Division. Minus indicates a shortage of material within the Division.

CONCRETE SIDEWALK

CATEGORY	LOCATION	STA. - STA.	465.0310 ASPHALTIC CURB (LF)	601.0105 CONCRETE CURB TYPE A (LF)	602.0515 CURB RAMP DETECTABLE WARNING FIELD NATURAL PATINA (SF)	602.0615 CURB RAMP DETECTABLE WARNING FIELD RADIAL NATURAL PATINA (SF)	SPV.0165.01 5-INCH SPECIAL (SF)
0010							
	WEST APPROACH	1+25.52 - 1+77.26	25	-	-	-	330
	EAST APPROACH	2+69.76 - 3+22.87	-	25	12	15	430
	PROJECT TOTAL		**25**	**25**	**12**	**15**	**760**

HMA PAVEMENT ITEMS

CATEGORY	LOCATION	STA. - STA.	455.0605 TACK COAT (GAL)	465.0105 ASPHALTIC SURFACE (TON)
0010				
	WEST APPROACH	1+25.52 - 1+77.26	4	35
	BRIDGE	1+77.26 - 2+69.76	1	33
	EAST APPROACH	2+69.76 - 3+22.87	5	43
	SHOREWOOD BOATHOUSE ACCESS PATH	1+11.00'SBA' - 1+44.50'SBA'	2	13
	PROJECT TOTAL		**11**	**124**

LANDSCAPING

CATEGORY	LOCATION	STA. - STA.	625.0500 SALVAGED TOPSOIL (SY)	629.0210 FERTILIZER TYPE B (CWT)	630.0130 SEEDING MIXTURE NO. 30 (LB)	630.0500 SEED WATER (MGAL)
0010						
	WEST APPROACH	1+25.52 - 1+77.26	60	0.5	1	4
	EAST APPROACH	2+69.76 - 3+22.87	47	0.5	1	3
		UNDISTRIBUTED	27	0.3	1	2
		PROJECT TOTAL	**134**	**1**	**3**	**9**

WATER

CATEGORY	LOCATION	TASK	624.0100 (MGAL)
0010	PROJECT 5992-10-04	DUST CONTROL	6
		COMPACTION	6
	PROJECT TOTAL		**13**

EROSION CONTROL MOBILZATIONS

CATEGORY	LOCATION	628.1905 MOBILIZATION EROSION CONTROL (EACH)	628.1910 MOBILIZATION EMERGENCY EROSION CONTROL (EACH)
0010			
	PROJECT 5992-10-04	4	2
	PROJECT TOTAL	**4**	**2**

EROSION CONTROL

CATEGORY	LOCATION	STATION - STATION	628.1504 SILT FENCE (LF)	628.1520 SILT FENCE MAINTENANCE (LF)	628.2006 EROSION MAT URBAN CLASS I TYPE A (SY)	628.2021 EROSION MAT CLASS II TYPE A (SY)	628.7015 INLET PROTECTION TYPE C (EA)	628.7504 TEMPORARY DITCH CHECKS (LF)
0010								
	WEST APPROACH	1+25.52 - 1+77.26	177	531	--	514	3	--
	EAST APPROACH	2+69.76 - 3+22.87	136	408	475	--	4	--
	SHOREWOOD BOATHOUSE ACCESS PATH	1+11.00'SBA' - 1+44.50'SBA'	--	--	--	902	--	20
		UNDISTRIBUTED	82	236	120	354	2	10
	PROJECT TOTAL		**395**	**1,175**	**595**	**1,770**	**9**	**30**

PERMANENT SIGNING AND SIGN REMOVALS

CATEGORY	SIGN #	SIGN CODE	SIGN DESCRIPTION	SIGN SIZE	638.2602 REMOVING SIGNS TYPE II (EACH)	638.3000 REMOVING SMALL SIGN SUPPORTS (EACH)	634.0612 POSTS WOOD 4X6-INCH X 12-FT (EACH)	637.2210 SIGNS TYPE II REFLECTIVE H (SF)	637.2230 SIGNS TYPE II REFLECTIVE F (SF)	SIGN MOUNTED ON SAME POST AS
0010										
	1-01	R7-1R	NO PARKING ANY TIME (ARROW)	18X24	--	--	1	3.00	--	--
	1-01R	R7-1R	NO PARKING ANY TIME (ARROW)	--	1	1	--	--	--	--
	1-02	W5-52L	HAZARD PANEL (LEFT)	12X36	--	--	1	--	3.00	--
	1-02R	W5-52L	HAZARD PANEL (LEFT)	--	1	1	--	--	--	--
	1-03	W5-52R	HAZARD PANEL (RIGHT)	12X36	--	--	--	--	3.00	MOUNT ON RAIL POST
	1-03R	W5-52R	HAZARD PANEL (RIGHT)	--	1	1	--	--	--	--
	1-04	W11-2	PEDESTRIAN CROSSING	24X24	--	--	1	--	4.00	--
	1-04R	W11-2	PEDESTRIAN CROSSING	--	1	1	--	--	--	--
	1-05	W5-52L	HAZARD PANEL (LEFT)	12X36	--	--	1	--	3.00	--
	1-05R	W5-52L	HAZARD PANEL (LEFT)	--	1	--	--	--	--	--
	1-06	W5-52R	HAZARD PANEL (RIGHT)	12X36	--	--	--	--	3.00	MOUNT ON RAIL POST
	1-06R	W5-52R	HAZARD PANEL (RIGHT)	--	1	1	--	--	--	--
	1-07	R7-1L	NO PARKING ANY TIME (ARROW)	18X24	--	--	1	3.00	--	--
	1-07R	R8-3	NO PARKING (SYMBOL)	--	1	1	--	--	--	--
	1-08	R1-1	STOP SIGN	30X30	--	--	1	5.18	--	--
	1-08R	R1-1	STOP SIGN	--	1	1	--	--	--	--
	1-09	W5-2	NARROW BRIDGE	36X36	--	--	1	--	9.00	--
	1-10	W11-2	PEDESTRIAN CROSSING	30X30	--	--	1	--	6.25	--
	PROJECT TOTAL				**8.00**	**7.00**	**8.00**	**11.18**	**31.25**	

TRAFFIC CONTROL

CATEGORY	STAGE	*NO OF CALENDAR DAYS	643.0410 BARRICADES TYPE II (DAY)	643.0420 BARRICADES TYPE III (DAY)	643.0705 WARNING LIGHTS TYPE A (DAY)	643.0900 SIGNS (DAY)	644.1410 TEMPORARY PEDESTRIAN SURFACE ASPHALT (SF)	644.1601 TEMPORARY PEDESTRIAN CURB RAMP (DAY)	644.1810 TEMPORARY PEDESTRIAN BARRICADE (LF)
0010	BRIDGE CONSTRUCTION	57	57	798	1653	513	---	---	60
	APPROACH CONSTRUCTION	18	18	252	522	162	---	---	---
	UNDISTRIBUTED	15	15	210	435	135	300	15	---
	PROJECT TOTAL		**90**	**1,260**	**2,610**	**810**	**300**	**15**	**60**

*FOR INFORMATIONAL PURPOSES ONLY

PAVEMENT MARKING

CATEGORY	LOCATION	STA. - STA.	646.1020 MARKING LINE EPOXY 4-INCH WHITE (LF)	646.5220 MARKING SYMBOL EPOXY (EACH)
0010				
	WEST APPROACH	1+25.52 - 1+77.26	32	1
	EAST APPROACH	2+69.76 - 3+22.87	99	1
		PROJECT TOTAL	**131**	**2**

CONSTRUCTION STAKING

CATEGORY	LOCATION	STATION - STATION	650.4000 STORM SEWER (EACH)	650.4500 SUBGRADE (LF)	650.5000 BASE (LF)	650.5500 CURB GUTTER AND CURB & GUTTER (LF)	650.9000 CURB RAMPS (EACH)	650.9911 SUPPLEMENTAL CONTROL (5992-10-04) (EACH)	650.9920 SLOPE STAKES (LF)
0010									
	WEST APPROACH	1+25.52 - 1+77.26	3	52	52	25	--	--	52
	EAST APPROACH	2+69.76 - 3+22.87	5	53	53	25	2	--	53
	SHOREWOOD BOATHOUSE ACCESS PATH	1+11.00'SBA' - 1+44.50'SBA'	--	34	34	--	--	--	34
	PROJECT 5992-10-04		--	--	--	--	--	1	--
	PROJECT TOTAL		**8**	**139**	**139**	**50**	**2**	**1**	**139**

STORM SEWER STRUCTURE SCHEDULE - INLETS & MANHOLES

CATEGORY	STRUCT. NO.	STA	OFFSET	TOP STRUCT. ELEV	LOW STRUC. INV.	FLANGE ELEV	BOTTOM STRUCT. ELEV	DEPTH (FT)	ADJUST. RING HEIGHT (INCHES)	520.8000 CONCRETE COLLARS FOR PIPE (EACH)	611.0530 MANHOLE COVERS TYPE J (EACH)	611.0654 INLET COVERS TYPE V (EACH)	611.2033 MANHOLES 3X3-FT (EACH)	611.2044 MANHOLES 4X4-FT (EACH)	611.3003 INLETS 3-FT DIA. (EACH)	611.3004 INLETS 4-FT DIA. (EACH)	REMARKS
0010																	
	1.1	1+35	16.0' RT	-	-	-	-	-	-	1	-	-	-	-	-	-	-
	1.2	1+43	17.0' RT	914.23	911.79	915.37	911.37	2.86	6.0	-	-	1	-	1	-	-	-
	1.3	1+60	12.0' RT	914.22	911.61	915.55	911.11	3.11	6.0	-	-	1	-	-	1	-	-
	1.4	1+64	10.0' LT	914.28	909.20	915.61	908.70	5.58	6.0	-	-	1	-	-	1	-	-
	1.5	1+66	19.5' LT	-	-	-	-	-	-	-	-	-	-	-	-	-	END OF PIPE
	2.1	3+03	15.5' LT	915.09	912.83	916.42	912.33	2.76	6.0	-	-	1	-	-	1	-	-
	2.2	3+05	17.2' RT	915.05	912.25	916.38	911.75	3.30	6.0	-	-	1	-	-	-	1	-
	2.3	2+88	11.9' RT	914.86	911.78	916.22	911.28	3.58	6.0	-	-	1	-	-	-	1	-
	2.4	2+85	22.4' RT	915.44	911.35	916.68	910.85	4.59	6.0	-	1	-	1	-	-	-	-
	2.5	2+70	19.8' RT	910.87	908.00	912.12	907.50	3.37	6.0	-	1	-	1	-	-	-	-
	2.6	3+14	18.2' RT	-	-	-	-	-	-	1	-	-	-	-	-	-	-
							PROJECT TOTAL			**2**	**2**	**6**	**2**	**1**	**3**	**2**	

3

STORM SEWER PIPE SCHEDULE

CATEGORY	FROM STRUCT.	TO STRUCT.	INLET ELEV	OUTLET ELEV	SLOPE %	608.0412 STORM SEWER PIPE REINFORCED CONCRETE CLASS IV 12-INCH (LF)	608.0415 STORM SEWER PIPE REINFORCED CONCRETE CLASS IV 15-INCH (LF)
0010							
	1.1	1.2	912.84	912.82	0.25%	8	-
	1.2	1.3	911.79	911.61	0.99%	-	18
	1.3	1.4	911.61	911.39	0.99%	-	22
	1.4	1.5	909.20	909.00	2.38%	-	8
	2.1	2.2	912.83	912.50	1.01%	33	-
	2.2	2.3	912.25	911.78	2.97%	-	16
	2.3	2.4	911.78	911.35	4.02%	11	-
	2.4	2.5	911.35	908.00	23.71%	14	-
	2.5	2.2	913.24	913.04	2.50%	-	8
	PROJECT TOTAL					**66**	**72**

SAWING

CATEGORY	LOCATION	STA. - STA.	690.0150 ASPHALT (LF)	690.0250 CONCRETE (LF)
0010				
	WEST APPROACH	1+25.52 - 1+77.26	31	--
	EAST APPROACH	2+69.76 - 3+22.87	51	18
	SHOREWOOD BOATHOUSE ACCESS PATH	.+11.00'SBA' - 1+44.50'SBA	31	--
	PROJECT TOTAL		**113**	**18**

REMOVE, SALVAGE, AND RESET BOULDER

SPV.0060.02

CATEGORY	LOCATION	STA. - STA.	OFFSET	(EACH)
0010				
	EAST APPROACH	2+74	25.38' LT	1
	EAST APPROACH	2+98	30.07' RT	1
	PROJECT TOTAL			**2**

3

REMOVE, SALVAGE, AND RESET SIGN

SPV.0060.03

CATEGORY	LOCATION	STA. - STA.	OFFSET	(EACH)
0010				
	EAST APPROACH	2+88	LT	1
	PROJECT TOTAL			**1**

REMOVE, SALVAGE, AND RESET SPLIT RAIL FENCE

SPV.0060.04

CATEGORY	LOCATION	STA. - STA.	OFFSET	(EACH)
0010				
	EAST APPROACH	2+84.71 - 3+05.11	RT	1
	PROJECT TOTAL			**1**

REMOVE, SALVAGE, AND RESET STONE STEPS

SPV.0060.05

CATEGORY	LOCATION	STA. - STA.	OFFSET	(EACH)
0010				
	WEST APPROACH	1+33	RT	1
	SHOREWOOD BOATHOUSE ACCESS PATH	5+46	LT	1
	PROJECT TOTAL			**2**

UTILITY LINE OPENING (ULO)

SPV.0060.06

CATEGORY	LOCATION	STA. - STA.	(EACH)
0010			
	C/L BRIDGE WEST ABUTMENT	1+78.50	1
	C/L PIER 1	2+03.50	1
	C/L PIER 2	2+43.50	1
	C/L BRIDGE EAST ABUTMENT	2+68.50	1
	LAKE MENDOTA DRIVE LT	3+03.67	1
	PROJECT TOTAL		**5**

RESET PROPERTY CORNERS

SPV.0060.07

CATEGORY	LOCATION	STA. - STA.	OFFSET	(EACH)
0010				
	EAST APPROACH	1+82	RT	1
	PROJECT TOTAL			**1**

ADJUSTING WATER VALVE BOXES

SPV.0060.08

CATEGORY	LOCATION	STA. - STA.	OFFSET	(EACH)
0040				
	EAST APPROACH	3+00	LT	1
	PROJECT TOTAL			**1**

CONVENTIONAL SYMBOLS

SECTION LINE
QUARTER LINE
SIXTEENTH LINE
TAX I.D.
NEW REFERENCE LINE
NEW R/W LINE
EXISTING R/W LINE
PROPERTY LINE
LOT, TIE, AND OTHER MINOR LINES
SLOPE INTERCEPT
CORPORATE LIMITS
UNDERGROUND FACILITY (COMMUNICATIONS, ELECTRIC, ETC)
FEE ACQUISITION AREA (HATCHING VARIES BY OWNER)
TEMP. LIMITED EASEMENT AREA
EASEMENT AREA (HIGHWAY, PERMANENT LIMITED, OR RESTRICTED DEVELOPMENT)
TRANSMISSION STRUCTURES
BUILDING
BUILDING (TO BE REMOVED)
BRIDGE

PARCEL NUMBER
SECTION CORNER
NOTATION FOR COMBUSTIBLE FLUIDS
NOTATION FOR HIGH VOLTAGE TRANSMISSION LINES
UTILITY NUMBER
R/W MONUMENT
NON-MONUMENTED R/W POINT
FOUND IRON PIN (1-INCH UNLESS NOTED)
VALVE (GAS, WATER, ETC.)
SIGN
OFF-PREMISE SIGN

ACCESS CONTROLLED BY ACQUISITION
NO ACCESS (BY STATUTORY AUTHORITY)
ACCESS RESTRICTED (BY PREVIOUS PROJECT OR CONTROL)
NO ACCESS (NEW HIGHWAY)
NATIONAL GEODETIC SURVEY MONUMENT
SIXTEENTH CORNER MONUMENT
PARALLEL OFFSETS

CONVENTIONAL UTILITY SYMBOLS

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

	NON-COMPENSABLE	COMPENSABLE
POWER POLE		
TELEPHONE POLE		
TELEPHONE PEDESTAL		

CURVE DATA ABBREVIATIONS

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

CONVENTIONAL ABBREVIATIONS

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

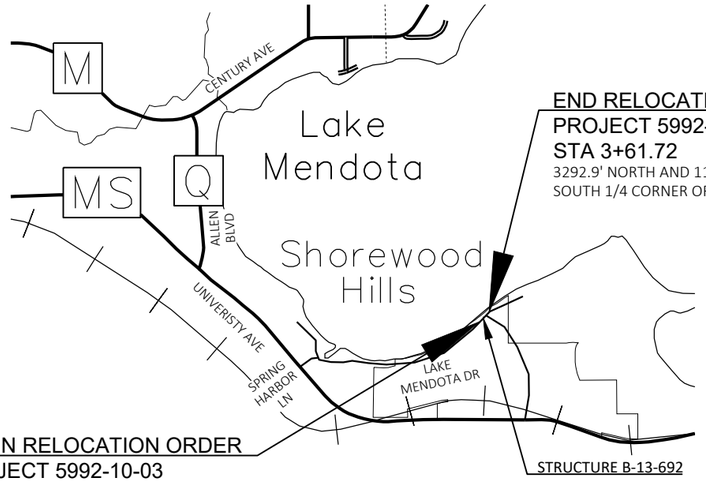
SCHEDULE OF LANDS & INTERESTS REQUIRED

OWNERS NAMES ARE SHOWN FOR REFERENCE PURPOSES ONLY, AND ARE SUBJECT TO CHANGE PRIOR TO TRANSFER OF LAND INTEREST TO THE VILLAGE OF SHOREWOOD HILLS

PARCEL NUMBER	SHEET NUMBER	OWNER(S)	INTEREST REQUIRED	R/W S.F. REQUIRED			TLE S.F.
				NEW	EXISTING	TOTAL	
1	4.01	VILLAGE OF SHOREWOOD HILLS	TLE	----	----	----	853
2	4.01	RAYLA G. TEMIN REVOCABLE TRUST	TLE	----	----	----	65

HIGHWAY	BASIS OF EXISTING R/W
LAKE MENDOTA DRIVE	PLAT OF SHOREWOOD HILLS, SECOND ADDITION TO SHOREWOOD HILLS, POS 2020-00736

BASIS OF BEARINGS
BEARINGS ARE BASED ON THE SOUTH LINE OF THE SE 1/4 OF SECTION 17

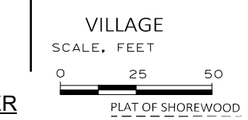


TOTAL NET LENGTH OF CENTERLINE = 0.050 MILES

BEGIN RELOCATION ORDER
PROJECT 5992-10-03
STA 1+00.00
3140.9' NORTH AND 918.7' EAST OF THE THE SOUTH 1/4 CORNER OF SECTION 17, T7N, R9E

END RELOCATION ORDER
PROJECT 5992-10-03
STA 3+61.72
3292.9' NORTH AND 1127.9' EAST OF THE THE SOUTH 1/4 CORNER OF SECTION 17, T7N, R9E

PI = 2+97.31
Y = 486364.285
X = 803664.332
DELTA = 22°23'58" RT
D = 50°42'15"
T = 22.37'
L = 44.18'
R = 113.00'
PC = 2+74.93
PT = 3+19.11



BEGIN RELOCATION ORDER
STA. 1+00.00
Y = 486233.588
X = 803516.520

BRASS CAP MON. FOUND
Y = 483092.640
X = 802597.810

N01°02'03"E, 3157.02'
TRAV PT TO R/L
N88°57'57"W, 1791.27'
SEC COR TO TRAV PT
S88°57'57"E, 861.87'
SEC COR TO TRAV PT
S88°57'57"E, 2653.14'
SEC COR TO SEC COR

ALUM. CAP MON. FOUND
Y = 483044.756
X = 805250.521

THIS PLAT IS A GRAPHIC REPRESENTATION AND IS FOR REFERENCE PURPOSES ONLY. DEEDS MUST BE CHECKED TO DETERMINE PROPERTY BOUNDARIES AND ACCESS RIGHTS.

NOTES:

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

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

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

FOR CURRENT ACCESS/DRIVEWAY INFORMATION, CONTACT THE VILLAGE OF SHOREWOOD HILLS.

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

R/W PROJECT NUMBER	SHEET NUMBER	TOTAL SHEETS
5992-10-03		
FEDERAL PROJECT NUMBER	4.01	1

PLAT OF RIGHT OF WAY REQUIRED FOR

V SHOREWOOD HILLS, LAKE MENDOTA DR (MULTI-USE TRAIL, B-13-0692)

LOCAL STREET	DANE COUNTY

KL Engineering
[A] Better Experience

I HEREBY CERTIFY THAT THIS PLAT WAS CREATED FOR VILLAGE OF SHOREWOOD HILLS, WISCONSIN AND IS CORRECT TO THE BEST OF MY KNOWLEDGE AND BELIEF.

WISCONSIN
TIMOTHY J. HELD
S-2591
MADISON, WI
DATE SIGNED: 12/01/2021
LAND SURVEYOR

APPROVED FOR VILLAGE OF SHOREWOOD HILLS
DATE 1/19/22

FILE NAME : G:\WDOT LP\SHOREWOOD HILLS\20014 LMD BRIDGE\CIVIL 3D\SHEETSPLAN\040101-RP.DWG
PLOT DATE : 12/1/2021 12:18 PM
PLOT BY : JENNIFER LAUER
PLOT NAME :

KALIL REVOCABLE TRUST

VILLAGE OF SHOREWOOD HILLS

VILLAGE OF SHOREWOOD HILLS

EXISTING PARCEL LIMITS (TYP.)

AT&T (OH)

STRUCTURE R-13-0372 REQ'D (SEE STRUCTURE PLANS)

VILLAGE OF SHOREWOOD HILLS (WATER)

CHARTER (COAX-OH, FO-OH)

SHOREWOOD BOATHOUSE ACCESS

REMOVE AND RESET BLOCK WALL

VILLAGE OF SHOREWOOD HILLS

VILLAGE OF SHOREWOOD HILLS

VILLAGE OF SHOREWOOD HILLS

REMOVE, SALVAGE, AND RESET BOULDER (SEE DETAIL)

REMOVE, SALVAGE, AND RESET SIGN (SEE DETAIL)

EXISTING LIFT STATION AUXILIARY POWER HOOK-UP WILL BE RELOCATED TO OUTSIDE THE PROJECT LIMITS BY THE VILLAGE PRIOR TO CONSTRUCTION.

LAKE MENDOTA DRIVE

11.5'

12'

19'

13'

1+50

2+00

9'

9'

6'

2+50

6'

6'

3+00

ADJUSTING WATER VALVE BOXES

AT&T (OH)

SIDEWALK RAMPS

END PROJECT
STA 3+22.87
MATCH EXISTING

3+50

BEGIN PROJECT
STA 1+25.52
MATCH EXISTING

REMOVE, SALVAGE AND RESET STONE STEPS (SEE DETAIL)

SIDEWALK RAMPS

SLOPE INTERCEPTS (TYP.)

RESET PROPERTY CORNERS

STRUCTURE B-13-692 REQ'D (SEE STRUCTURE PLANS)

CLEARING AND GRUBBING (TYP.)

VILLAGE OF SHOREWOOD HILLS (SANITARY)

SHOREWOOD BOATHOUSE ACCESS

STA 2+84.71
OFF. 19.091 RT

REMOVE, SALVAGE, AND RESET SPLIT RAIL FENCE (SEE DETAIL)

REMOVE, SALVAGE, AND RESET STONE STEPS (SEE DETAIL)

STA 3+05.11
OFF. 39.388 RT

LAKE MENDOTA DRIVE

EDGEHILL DRIVE

MG&E (GAS)

REMOVE, SALVAGE, AND RESET BOULDER (SEE DETAIL)

TEMIN REVOCABLE TRUST

EXISTING R/W (TYP.)

TLE

5

5

925
920
915
910
905
900
895
892

EXISTING TERRAIN PROFILE ALONG R/L

STA 1+25.52
EL 915.77

STA 1+42.86
EL 915.69

STA 2+85.57
EL 916.40

STA 3+22.87
EL 916.97

-0.50%

0.50%

1.53%

PROPOSED PROFILE ALONG R/L

EXISTING

PROPOSED

915.94

915.62
915.72

899.69
915.97

903.98
916.22

916.46
916.62

917.92

STA 2+22
REMOVE STRUCTURE P-13-715
5-SPAN TIMBER
85' OVERALL LENGTH
25' OVERALL WIDTH

STA 2+23.50
STRUCTURE B-13-692 REQ'D
3-SPAN TIMBER DECK PANEL
18' CLEAR ROADWAY
6' SIDEWALK EACH SIDE
STRUCTURE LENGTH 92'-6"
SKEW 0°

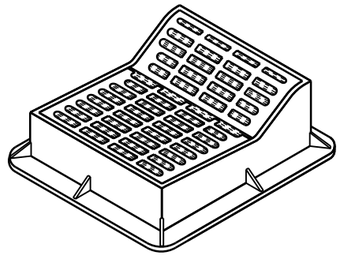
PROJECT NO: 5992-10-04	HWY: LAKE MENDOTA DRIVE	COUNTY: DANE	PLAN AND PROFILE: LAKE MENDOTA DRIVE	SHEET 28	E

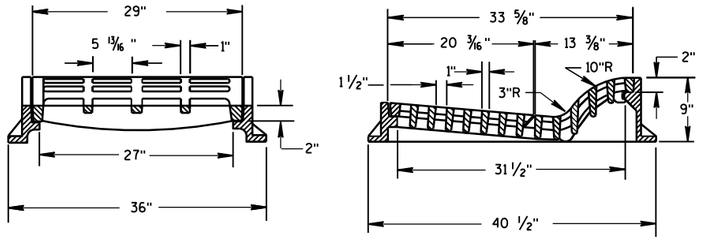
FILE NAME : G:\WDOT LP\SHOREWOOD HILLS\20014 LMD BRIDGE\CIVIL 3D\SHEETSPLAN\050101_PP.DWG
LAYOUT NAME - 01

PLOT DATE : 7/6/2022 11:16 AM PLOT BY : KAYLEE SIMON PLOT NAME : PLOT SCALE : 1 IN:20 FT

Standard Detail Drawing List

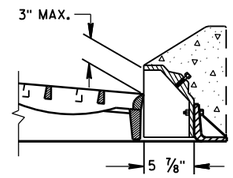
08A05-19C	INLET COVERS TYPE F, HM, HM-S, S, T, V, HM-GJ, & HM-GJ-S
08A05-19D	INLET COVER TYPE BW, MANHOLE COVERS, TYPE K, J, J-S, L & M
08B10-02	MANHOLES 3X3-FT, 4X4-FT, 5X5-FT AND 6X6-FT
08C06-02	INLETS 3-FT AND 4-FT DIAMETER
08D01-22B	CONCRETE CURB, TIES AND CURB AND GUTTER APPLICATIONS
08D05-20E	CURB RAMPS TYPES 5, 6, 7A, 7B & 8
08D05-20F	CURB RAMPS RADIAL DETECTABLE WARNING FIELD APPLICATIONS
08D05-20G	CURB RAMPS RECTANGULAR AND RADIAL DETECTABLE WARNING PLATES
08D17-06	MANHOLES, MANHOLE & INLET COVERS
08E08-03	TYPICAL INSTALLATIONS OF EROSION BALES / TEMPORARY DITCH CHECKS
08E09-06	SILT FENCE
08E10-02	INLET PROTECTION TYPE A, B, C AND D
08E14-01	TRACKING PAD
08F04-08	JOINT TIES FOR CONCRETE PIPE AND CONCRETE COLLAR DETAIL
12A03-10	NAME PLATE (STRUCTURES)
15C02-08A	BARRICADES AND SIGNS FOR MAINLINE CLOSURES
15C02-08B	BARRICADES AND SIGNS FOR VARIOUS CLOSURES
15C02-08C	DETOUR SIGNING FOR MAINLINE CLOSURES
15C05-05	TRAFFIC CONTROL, ADVANCE WARNING SIGNS 40 M.P.H. OR LESS
15C06-10	SIGNING & MARKING FOR TWO LANE BRIDGES
15C07-15E	PAVEMENT MARKING FOR BIKE LANES
15C08-21A	LONGITUDINAL MARKING (MAINLINE)
15D30-07A	TRAFFIC CONTROL, PEDESTRIAN ACCOMMODATION
15D30-07B	TRAFFIC CONTROL, TEMPORARY ADA COMPLIANT PEDESTRIAN ACCOMMODATION
15D30-07C	TRAFFIC CONTROL, PEDESTRIAN ACCOMMODATION
15D30-07D	TRAFFIC CONTROL, PEDESTRIAN ACCOMMODATION
15D30-07E	TRAFFIC CONTROL, PEDESTRIAN ACCOMMODATION
15D30-07F	TRAFFIC CONTROL, PEDESTRIAN ACCOMMODATION
15D30-07G	TRAFFIC CONTROL, PEDESTRIAN ACCOMMODATION
15D30-07H	TRAFFIC CONTROL, PEDESTRIAN ACCOMMODATION
15D30-07I	TRAFFIC CONTROL, PEDESTRIAN ACCOMMODATION
15D30-07J	TRAFFIC CONTROL, PEDESTRIAN ACCOMMODATION





TYPE "F"

USE WITH TYPES A & D CONCRETE CURB & GUTTER, 36 INCH.



ALTERNATIVE CURB BOX FOR TYPE "HM" COVER

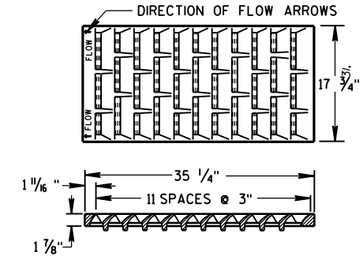
USE WITH TYPES G & J CONCRETE CURB & GUTTER, 30 INCH
NOTED AS TYPE HM-GJ ON DRAINAGE TABLE

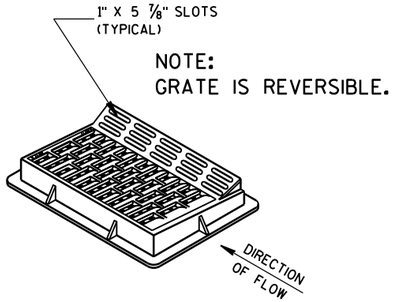
NOTE:
SPECIAL GRATE FOR THE
TYPE "H" COVER MAY ALSO BE
USED FOR THE TYPE "HM-GJ" COVER
NOTED AS TYPE HM-GJ-S ON DRAINAGE TABLE

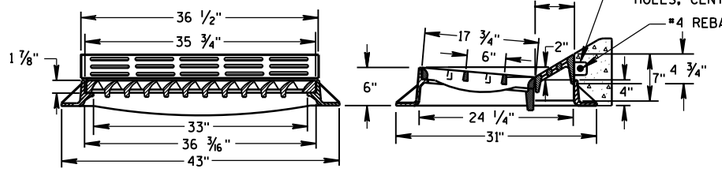
GENERAL NOTES

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 INLET COVERS SHALL BE SUBMITTED TO THE ENGINEER FOR APPROVAL PROVIDING THAT SUCH ALTERNATE DESIGNS MAKE PROVISION FOR EQUIVALENT CAPACITY AND STRENGTH.



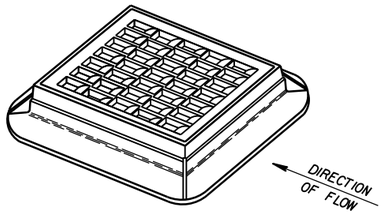


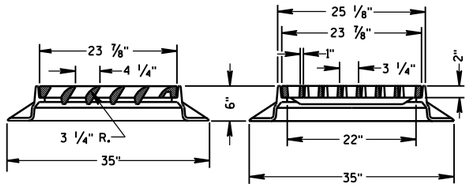


TYPE "HM"

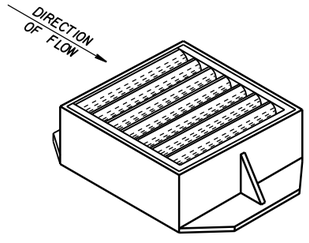
USE WITH TYPES A & D CONCRETE CURB & GUTTER, 36 INCH.

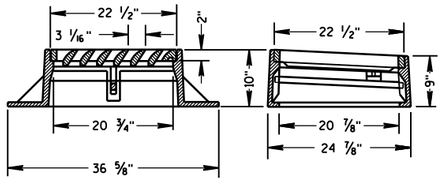
NOTE:
SPECIAL GRATE FOR THE
TYPE "H" COVER MAY ALSO BE
USED FOR THE TYPE "HM" COVER
NOTED AS TYPE HM-S ON DRAINAGE TABLE



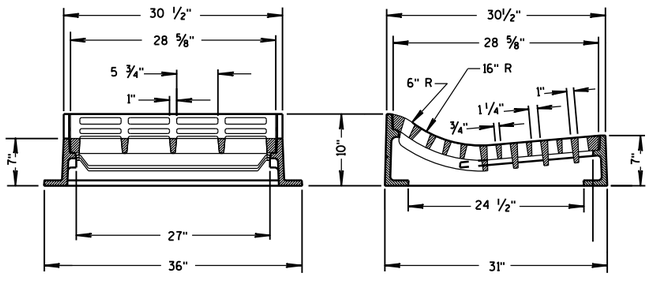


TYPE "S"



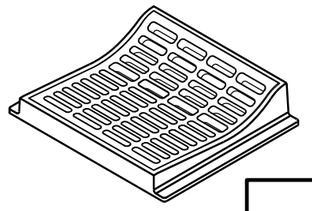


TYPE "V"



TYPE "T"

USE WITH TYPES R & T CONCRETE CURB & GUTTER, 36 INCH.



INLET COVERS
TYPE F, HM, HM-S, S, T, V, HM-GJ, & HM-GJ-S

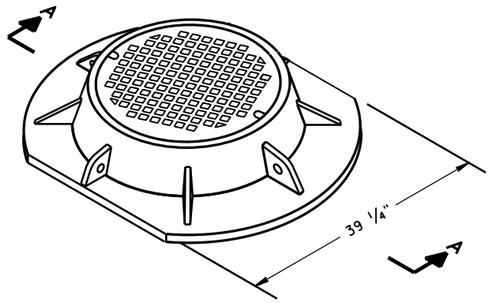
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

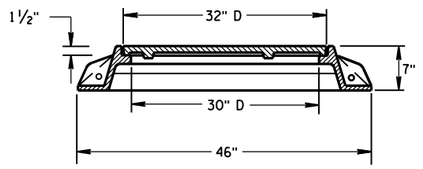
APPROVED
11/27/2013
DATE

/S/ Jerry H. Zogg
ROADWAY STANDARDS ENGINEER

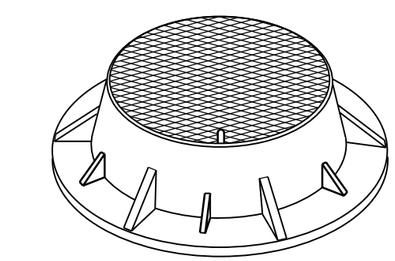
FHWA

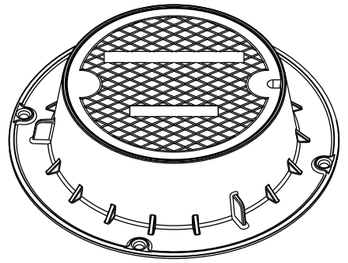
6
S.D.D. 8 A 5-19c

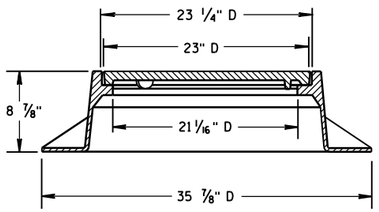


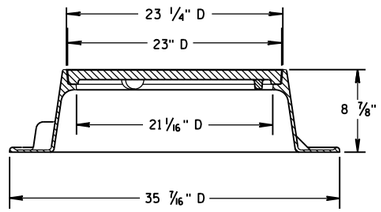


SECTION A-A
TYPE "K"









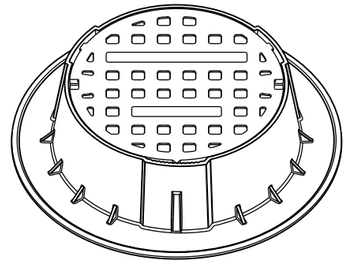
TYPE "J"
NOTE: EITHER CASTING IS ACCEPTABLE

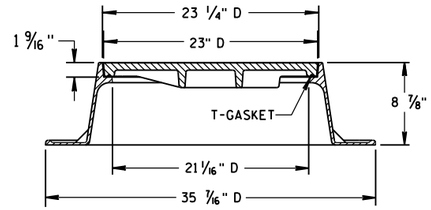
GENERAL NOTES

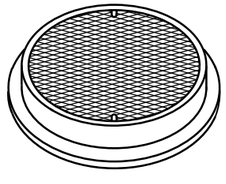
DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND THE APPLICABLE SPECIAL PROVISIONS.

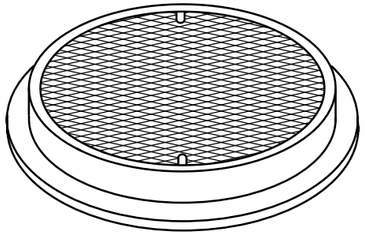
DETAIL DRAWINGS FOR PROPOSED ALTERNATE DESIGNS FOR MANHOLE COVERS SHALL BE SUBMITTED TO THE ENGINEER FOR APPROVAL PROVIDING THAT SUCH ALTERNATE DESIGNS MAKE PROVISION FOR EQUIVALENT CAPACITY AND STRENGTH.

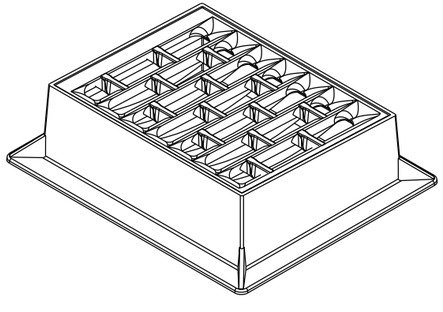
ROUND FRAMES AND COVERS SHALL HAVE CONTINUOUSLY MACHINED BEARING SURFACES TO PREVENT ROCKING AND RATTLING.

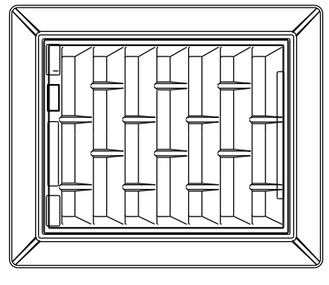


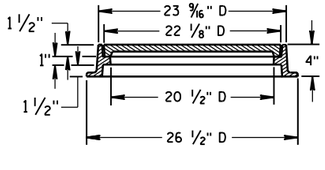




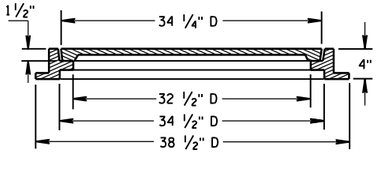




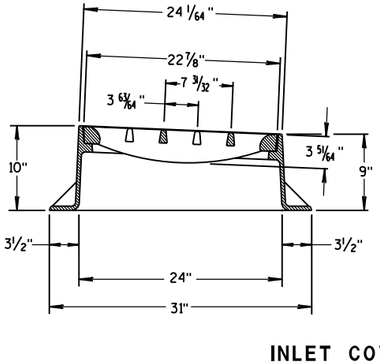


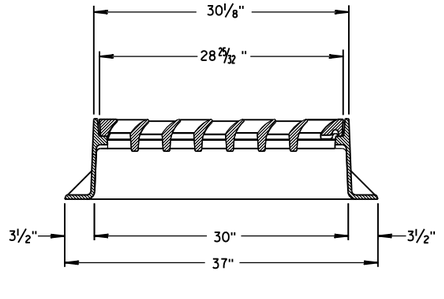


TYPE "L"

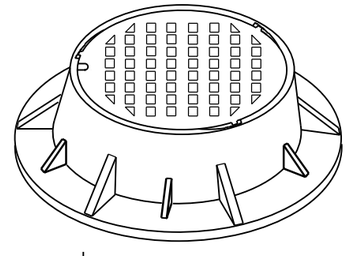


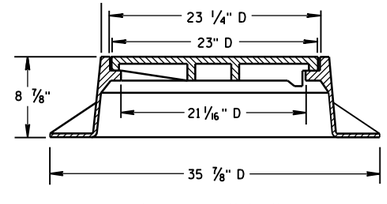
TYPE "M"





INLET COVER TYPE "BW"





TYPE "J" SPECIAL
TYPE "B" NON-ROCKING SELF-SEAL LID
(NOTED AS TYPE J-S ON THE DRAINAGE TABLE)
NOTE: EITHER CASTING IS ACCEPTABLE

INLET COVER TYPE BW
MANHOLE COVERS, TYPE K, J, J-S, L & M

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
11/27/2013
DATE
FHWA

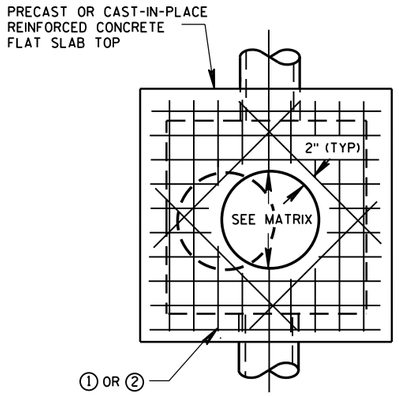
/S/ Jerry H. Zogg
ROADWAY STANDARDS DEVELOPMENT ENGINEER

6

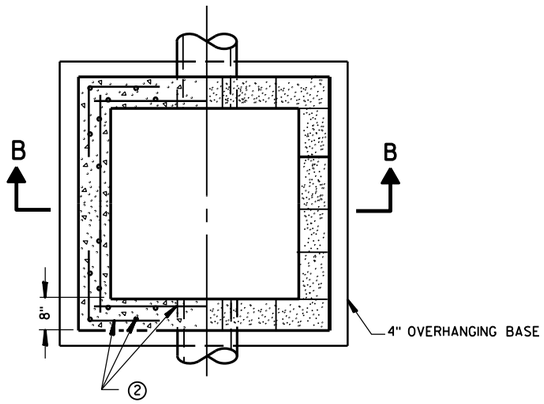
S.D.D. 8 A 5-19d

6

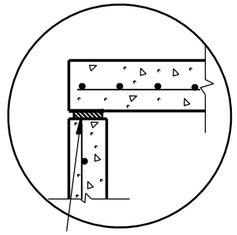
S.D.D. 8 A 5-19d



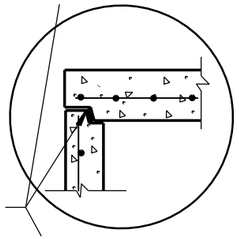
PLAN VIEW
CIRCULAR OPENING



SECTION A-A
PLAN VIEW

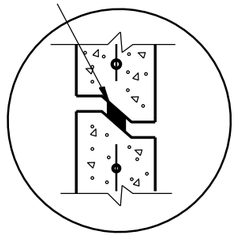


TOP WITH PLAIN END JOINT



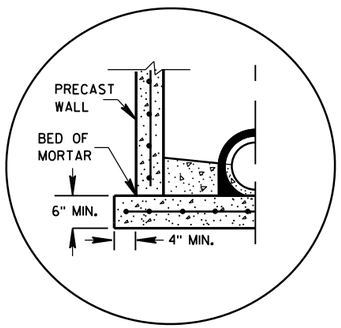
JOINTS TO BE SEALED WITH A BUTYL RUBBER SEAL PER SEALANT MANUFACTURERS RECOMMENDATIONS CONFORMING TO ASTM C 990 (TYP)

TOP WITH TONGUE AND GROOVE JOINT



RISER WITH TONGUE AND GROOVE JOINT

DETAIL "B"



SEPARATE PRECAST REINFORCED CONCRETE BASE OPTION

DETAIL "A"

PRECAST REINFORCED CONCRETE WITH MONOLITHIC BASE

SECTION B-B

PRECAST REINFORCED CONCRETE WITH INTEGRAL BASE

CAST-IN-PLACE REINFORCED CONCRETE

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

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 MANHOLE 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 FOUNDATION BACKFILL. THIS BEDDING SHALL BE COMPACTED AND PROVIDE UNIFORM SUPPORT FOR THE ENTIRE AREA OF THE BASE.

PRECAST REINFORCED FLAT SLAB TOPS MAY BE USED ON CONCRETE BLOCK STRUCTURES.

STEPS MEETING AASHTO M199 AND THE FOLLOWING REQUIREMENTS SHALL BE INSTALLED IN ALL STRUCTURES OVER 5 FEET IN DEPTH: 16 INCH C-C MAXIMUM SPACING; PROJECT A MINIMUM CLEAR DISTANCE OF 4 INCHES FROM THE WALL AT THE POINT OF EMBEDMENT; MINIMUM LENGTH OF 10 INCHES; MINIMUM WALL EMBEDMENT OF 3 INCHES. FERROUS METAL STEPS NOT PAINTED OR TREATED TO RESIST CORROSION SHALL HAVE A MINIMUM CROSS SECTIONAL DIMENSION OF 1 INCH.

STEPS OF APPROVED POLYPROPYLENE PLASTIC COATED REINFORCEMENT BAR ARE ACCEPTABLE. REINFORCING BAR MUST BE A MINIMUM OF ½ INCH AND MEET THE REQUIREMENTS OF ASTM A615.

CERTIFICATION SHALL BE PROVIDED THAT INSTALLED STEPS WHEN TESTED IN ACCORDANCE WITH SECTION 10 OF AASHTO T280 CAN WITHSTAND A VERTICAL LOAD OF 800 LBS. AND A HORIZONTAL LOAD OF 400 LBS.

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

CONCRETE BLOCK WILL NOT BE PERMITED FOR STRUCTURES GREATER THAN 4 FEET IN WIDTH.

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

ALL PRECAST MANHOLE UNITS SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF ASTM C 913.

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

MAXIMUM PIPE DIAMETER DETERMINED BY 3 INCH CLEARANCE ON EACH SIDE OF THE OUTSIDE WALL OF THE PIPE. SEE DETAIL "C". ASSUMES PIPE ENTERS PERPENDICULAR TO THE STRUCTURE.

① FOR PRECAST MANHOLES PROVIDE REINFORCING STEEL IN ACCORDANCE TO ASTM C 913.

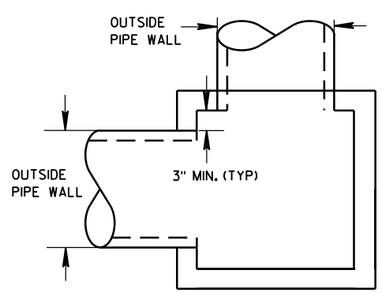
② CONTRACTOR TO PROVIDE DRAWING(S) STAMPED BY A PROFESSIONAL ENGINEER FOR STEEL REINFORCING DESIGN FOR CAST-IN-PLACE STRUCTURES.

MANHOLE COVER OPENING MATRIX

MANHOLE COVER TYPE	C	ALL J'S	K	L	M
OPENING SIZE (FT)					
2 DIA.	X	X		X	
3 DIA.			X		X

PIPE MATRIX

MANHOLE SIZE	MAXIMUM INSIDE PIPE DIAMETER	
	WIDTH (W) (IN)	LENGTH (L) (IN)
3X3-FT	24	24
4X4-FT	30	30
5X5-FT	42	42
6X6-FT	54	54



DETAIL "C"

SQUARE MANHOLES W/ FLAT TOP

MANHOLES 3X3-FT, 4X4-FT, 5X5-FT AND 6X6-FT

MANHOLES 3X3-FT, 4X4-FT 5X5-FT AND 6X6-FT

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
Sept., 2016
DATE
FHWA

/S/ Rodney Taylor
ROADWAY STANDARDS
UNIT SUPERV

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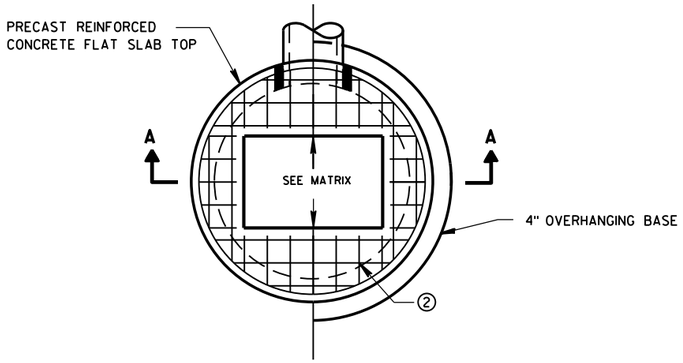
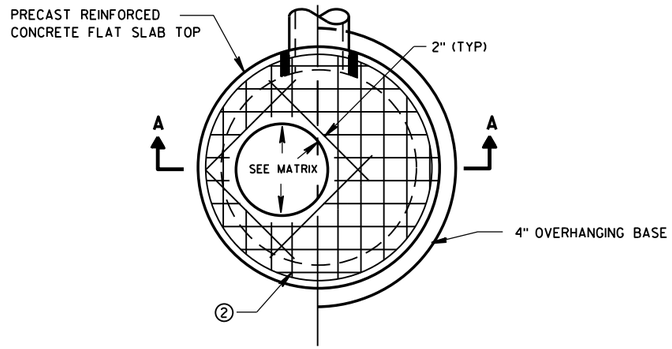
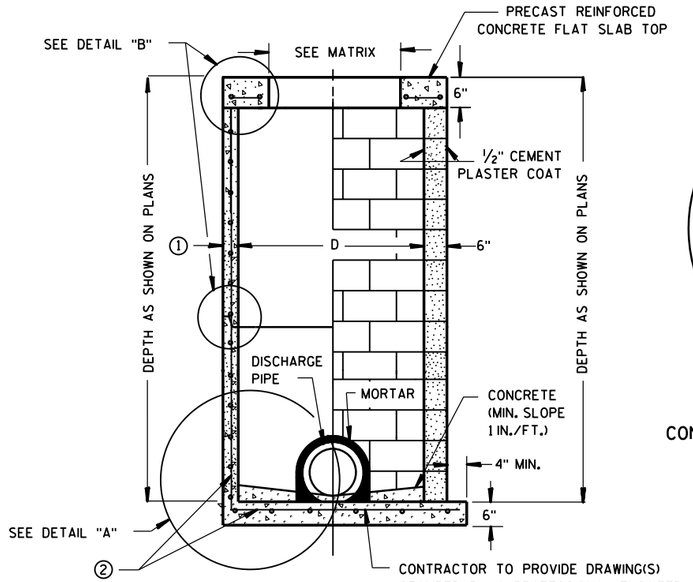


PLAN VIEW RECTANGULAR OPENING



PLAN VIEW CIRCULAR OPENING

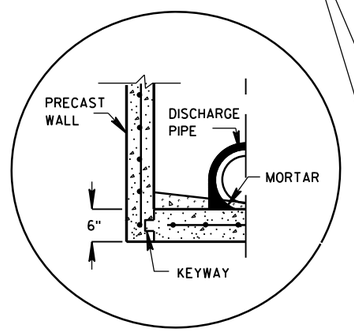


SECTION A-A

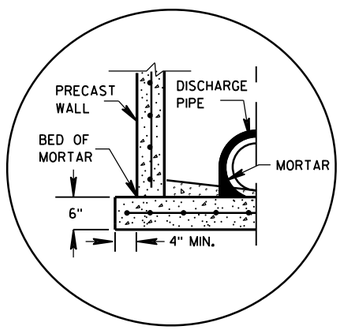
PRECAST REINFORCED CONCRETE WITH MONOLITHIC BASE

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

CIRCULAR INLETS W/ FLAT TOP

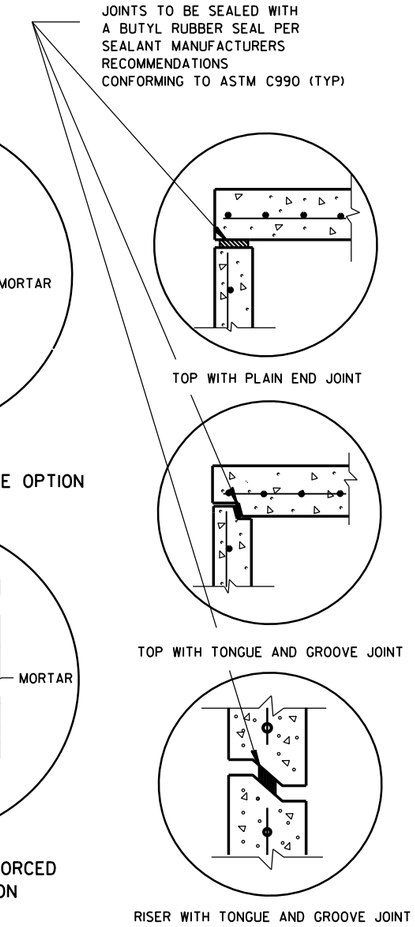


PRECAST REINFORCED CONCRETE WITH INTEGRAL BASE OPTION



SEPARATE PRECAST REINFORCED CONCRETE BASE OPTION

DETAIL "A"



DETAIL "B"

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 FOUNDATION 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 SEPARATE PRECAST BASE IS PROVIDED. OVERHANG IS NOT REQUIRED ON PRECAST STRUCTURES WITH AN INTEGRAL OR MONOLITHIC BASE.

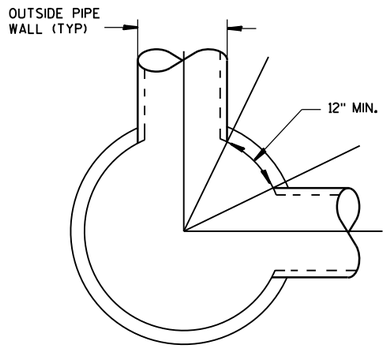
FOR ADDITIONAL CONFIGURATIONS, MAINTAIN A MINIMUM OF 12 INCHES AS MEASURED FROM THE INSIDE OF THE STRUCTURE WALL BETWEEN THE OUTSIDE PIPE WALLS OF ADJACENT PIPES. SEE DETAIL "C".

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
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DATE — ROADWAY STANDARDS | UNIT SUPERVI ENT
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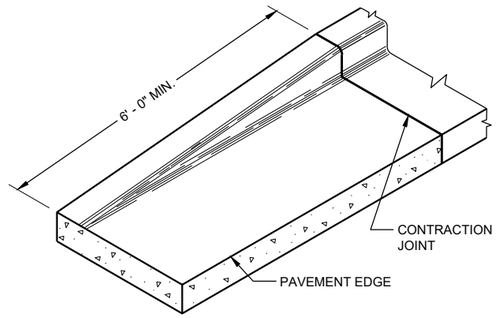
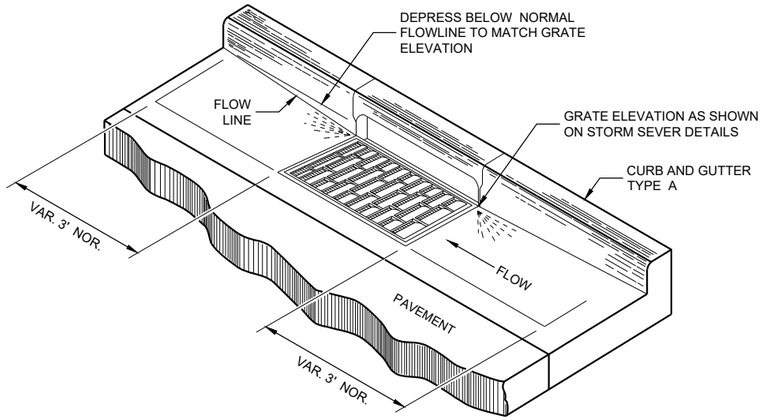
S.D.D. 8 C 6-2



END SECTIONCURB AND GUTTER



DETAIL OF CURB AND GUTTER AT INLETS

(TYPICAL H INLET COVER SHOWN)

GENERAL NOTES

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

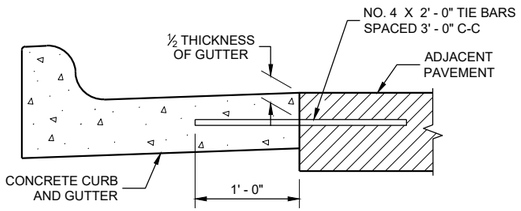
PAVEMENT TIES AND TIE BARS SHALL BE EPOXY COATED IN CONFORMANCE WITH SUBSECTION 505.2.6.2 OF THE STANDARD SPECIFICATIONS.

UNLESS OTHERWISE SHOWN ON THE TYPICAL CROSS SECTIONS, THE BASE AGGREGATE AND COMMON EXCAVATION LIMITS ARE 2' - 0" BEHIND THE BACK OF CURBS.

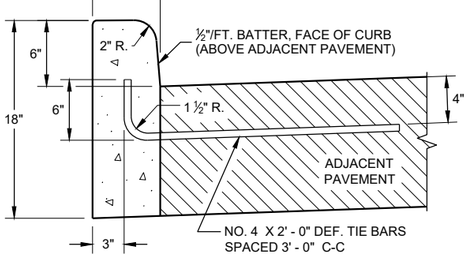
(1) TIE BARS ARE REQUIRED FOR CURB AND GUTTERS TYPES A, G, K, R, AND TBTT.

(2) THE BOTTOM OF CURB AND GUTTER MAY BE CONSTRUCTED EITHER LEVEL OR PARALLEL TO THE SLOPE OF THE SUBGRADE OR BASE AGGREGATE PROVIDED A 6" MINIMUM GUTTER THICKNESS IS MAINTAINED.

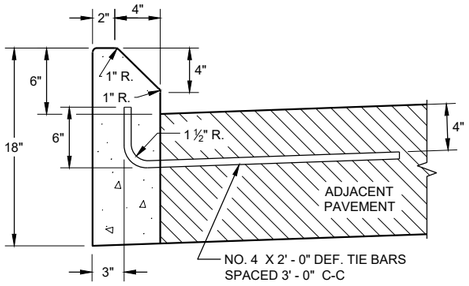
(9) REFER TO SDD 08D18 AND 08D19 FOR ADDITIONAL DRIVEWAY ENTRANCE CURB DETAILS.



TYPICAL TIE BAR LOCATION (1)

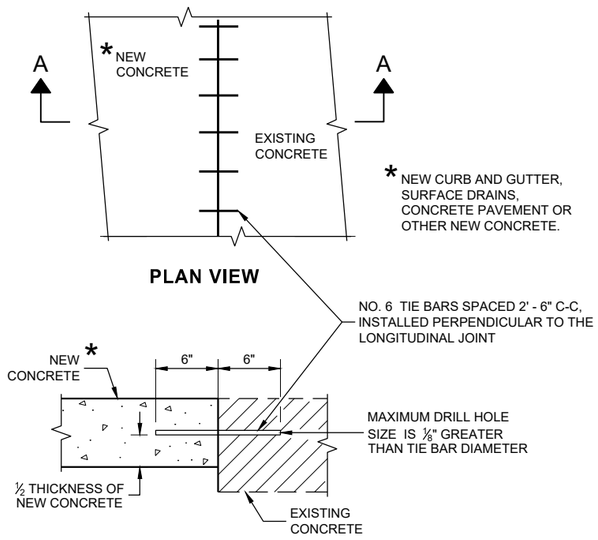


TYPES A (1) & D

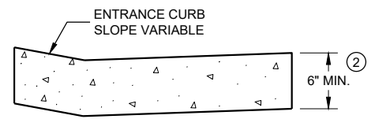


TYPES G (1) & J

CONCRETE CURB



TIE BARS DRILLED INTO EXISTING PAVEMENT



DRIVEWAY ENTRANCE CURB (9)

(WHEN DIRECTED BY THE ENGINEER)

CONCRETE CURB, TIES AND CURB AND GUTTER APPLICATIONS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
February 2021 — DATE
/S/ Rodnery Taylor — ROADWAY STANDARDS DEVE ENGINEER
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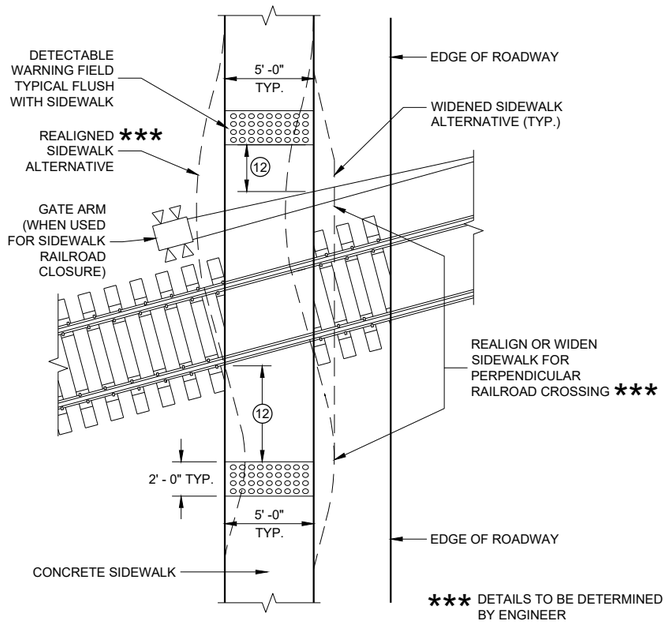
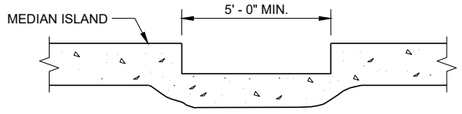
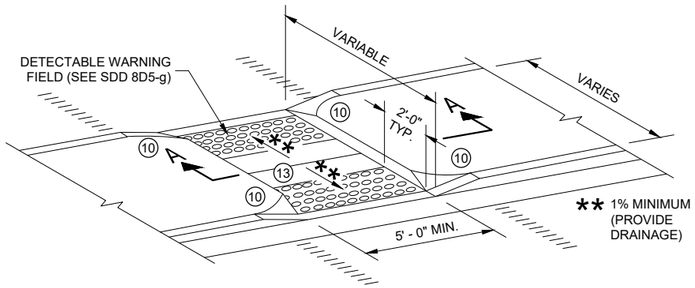


CURB RAMP TYPE 8

DETECTABLE WARNINGS AT RAILROAD CROSSING



SECTION A - A FOR TYPE 5



CURB RAMP TYPE 5

MEDIAN ISLAND NON-ELEVATED PEDESTRIAN CROSSING

GENERAL NOTES

AVOID PLACING DRAINAGE STRUCTURES, JUNCTION BOXES OR OTHER OBSTRUCTIONS IN FRONT OF RAMP ACCESS AREAS.

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.

SIDEWALK CROSS SLOPE SHALL NOT EXCEED 2%.

DETECTABLE WARNING FIELDS THAT ARE INSTALLED AS A GROUP OR SIDE BY SIDE, SHALL BE FROM THE SAME MANUFACTURER.

(2) GRADE CHANGE BETWEEN GUTTER FLAG SLOPE AND THE CURB RAMP SLOPE SHALL NOT EXCEED 11%. MAXIMUM GUTTER FLAG SLOPE IS 4%. PROVIDE LONGITUDINAL DRAINAGE AROUND CURB AND AWAY FROM CURB RAMP. NO VERTICAL LIPS OR DISCONTINUITIES GREATER THAN ½ - INCH ARE ALLOWED. SLOPE OF CURB HEAD OPENING SHALL MATCH THE RAMP SLOPE, MINIMALLY 1.5% AND NOT TO EXCEED 7%. WHEN ADJACENT TO 1.5% LANDING, CONSTRUCT CURB HEAD OPENING AT 1.5% IN THE DIRECTION OF PEDESTRIAN TRAVEL.

(3) AN 8.33% CURB RAMP SLOPE IS ALLOWABLE WITH FLATTENED GUTTER FLAG SLOPE AND NOT TO EXCEED 11% GRADE CHANGE.

(4) ±0.5% CONSTRUCTION TOLERANCE IN SIDEWALK CROSS SLOPE. THE SIDEWALK CROSS SLOPE SHALL NOT EXCEED 2% WITHOUT PRIOR APPROVAL FROM THE ENGINEER.

(6) PROVIDE A LEVEL LANDING (MAXIMUM 2% SLOPE) IN ANY DIRECTION OF PEDESTRIAN TRAVEL. STANDARD LEVEL LANDING SIZE IS 5 FEET BY 5 FEET.

(10) INSTALL TRANSITION NOSE (INCIDENTAL TO OTHER PAY ITEMS). DO NOT MARK TRANSITION NOSE.

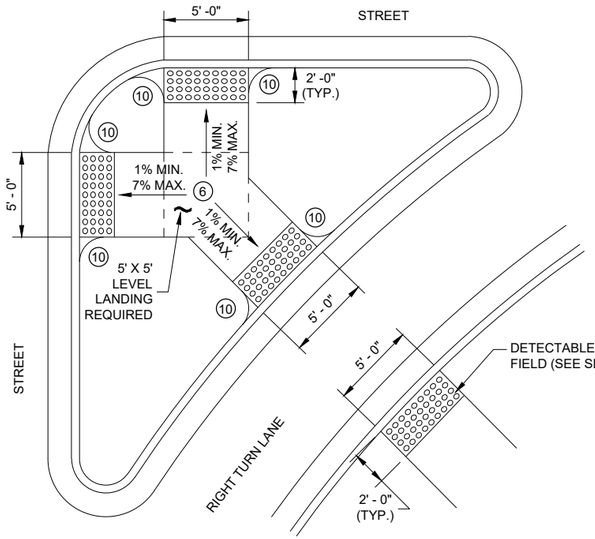
(11) SLOPE SIDEWALK TOWARD LANDING AS SHOWN WHERE THERE IS NO TERRACE OR WHERE THE TERRACE WIDTH IS LESS THAN 6 FEET WIDE.

(12) THE EDGE OF THE DETECTABLE WARNING FIELD NEAREST TO A RAILROAD CROSSING SHALL BE 1.5 FEET ±0.1' FROM THE FACE OF THE GATE ARM IF THE GATE ARM EXTENDS ACROSS THE SIDEWALK. WHERE THERE IS NO PEDESTRIAN GATE, THE EDGE OF THE DETECTABLE WARNING FIELD NEAREST TO THE RAILROAD CROSSING SHALL BE 15 FEET FROM THE NEAREST RAIL.

(13) DO NOT INSTALL DETECTABLE WARNING FIELDS AT THE EDGES OF STEET-LEVEL PEDESTRIAN REFUGE ISLANDS IF A MINIMUM 2 FOOT CONCRETE SURFACE WITHOUT DETECTABLE WARNINGS (MEASURED IN THE DIRECTION OF PEDESTRIAN TRAVEL) CANNOT BE ACHIEVED.

LEGEND

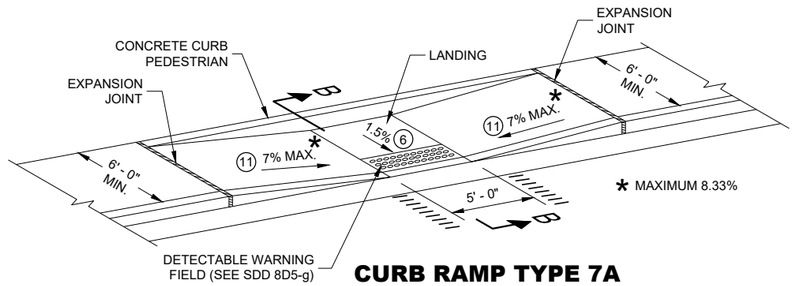
- ½" EXPANSION JOINT SIDEWALK
- CONTRACTION JOINT FIELD LOCATED
- PAVEMENT MARKING CROSSWALK (WHITE)



CURB RAMP TYPE 6

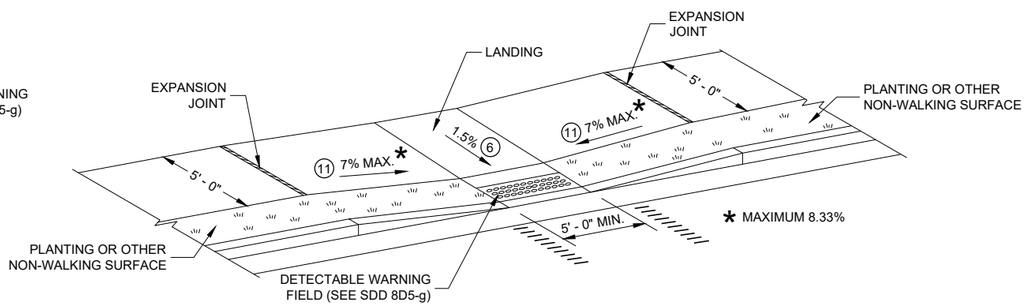
DETECTABLE WARNING AT ISLANDS

REFER TO GENERAL NOTES (2) AND (3) FOR ALL ISLAND CURB RAMPS



CURB RAMP TYPE 7A

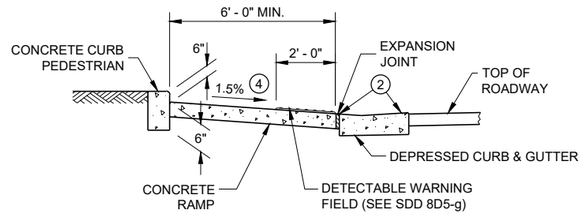
MID BLOCK CROSSING



CURB RAMP TYPE 7B

MID BLOCK CROSSING

NOTE: THESE PARALLEL AND PARALLEL/PERPENDICULAR CURB RAMPS MAY BE USED AT INTERSECTIONS AND MID BLOCK LOCATIONS.



SECTION B - B FOR TYPE 7A

CURB RAMPS TYPE 5, 6, 7A, 7B & 8

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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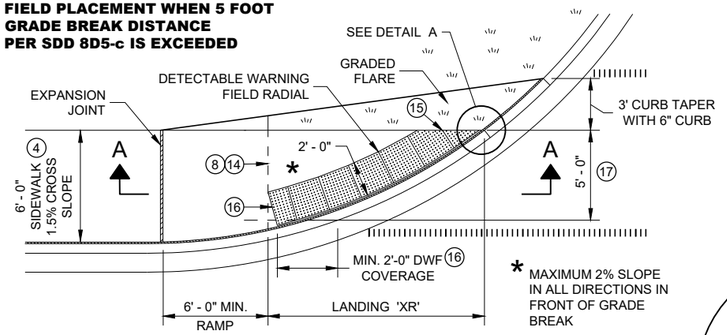
SDD 08D05 - 20e

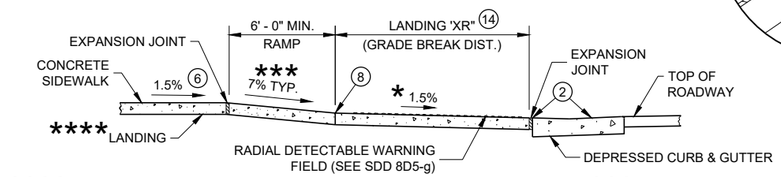
RADIAL DETECTABLE WARNING FIELD PLACEMENT WHEN 5 FOOT GRADE BREAK DISTANCE PER SDD 8D5-c IS EXCEEDED



PLAN VIEW

CURB RAMP TYPE 4A1

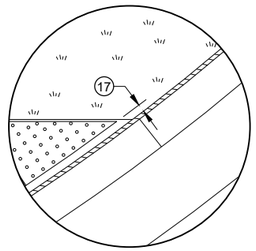
(GRADE BREAK DISTANCE GREATER THAN 5 FEET)



**** IF RAMP SLOPE IS LESS THAN 5.0%, THEN NO ADJACENT UPHILL LANDING IS REQUIRED

*** MAXIMUM 8.33%

SECTION A - A FOR TYPE 4A1



DETAIL A

LEGEND

- ½" EXPANSION JOINT SIDEWALK
- CONTRACTION JOINT SIDEWALK
- PAVEMENT MARKING CROSSWALK (WHITE)

GENERAL NOTES

AVOID PLACING DRAINAGE STRUCTURES, JUNCTION BOXES OR OTHER OBSTRUCTIONS IN FRONT OF RAMP ACCESS AREAS.

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.

DETECTABLE WARNING FIELDS THAT ARE INSTALLED AS A GROUP OR SIDE BY SIDE, SHALL BE FROM THE SAME MANUFACTURER.

APPLY RADIAL DETECTABLE WARNING PLACEMENT SIMILARLY FOR TYPE 4A AND 4A1 CURB RAMPS AND SIMILARLY FOR TYPE 4B AND 4B1 CURB RAMPS. TYPE 4A AND 4B CURB RAMPS ARE NOT SHOWN.

REFER TO SDD 8D5-g FOR ADDITIONAL RADIAL PLATE REQUIREMENTS.

FIELD CUTS AT INTERMEDIATE JOINTS WITHIN THE RADIAL DETECTABLE WARNING FILED ARE PROHIBITED.

DETERMINE FINAL RADIAL WARNING FIELD CONFIGURATION AD ITS INDIVIDUAL PLATE LOCATIONS. PERFORM PRE-LAYOUT PRIOR TO PLACEMENT IN PLASTIC CONCRETE. FOLLOW MANUFACTURER'S PRODUCT LIST AND INSTALLATION RECOMMENDATIONS.

(2) GRADE CHANGE BETWEEN GUTTER FLAG SLOPE AND THE CURB RAMP SLOPE SHALL NOT EXCEED 11%. MAXIMUM GUTTER FLAG SLOPE IS 4%. PROVIDE LONGITUDINAL DRAINAGE AROUND CURB AND AWAY FROM CURB RAMP. NO VERTICAL LIPS OR DISCONTINUITIES GREATER THAN ¼ - INCH ARE ALLOWED. SLOPE OF CURB HEAD OPENING SHALL MATCH THE RAMP SLOPE, MINIMALLY 1.5% AND NOT TO EXCEED 7%. WHEN ADJACENT TO 1.5% LANDING, CONSTRUCT CURB HEAD OPENING AT 1.5% IN THE DIRECTION OF PEDESTRIAN TRAVEL.

(3) AN 8.33% CURB RAMP SLOPE IS ALLOWABLE WITH FLATTENED GUTTER FLAG SLOPE AND NOT TO EXCEED 11% GRADE CHANGE.

(4) ±0.5% CONSTRUCTION TOLERANCE IN SIDEWALK CROSS SLOPE. THE SIDEWALK CROSS SLOPE SHALL NOT EXCEED 2% WITHOUT PRIOR APPROVAL FROM THE ENGINEER.

(6) PROVIDE A LEVEL LANDING (MAXIMUM 2% SLOPE) IN ANY DIRECTION OF PEDESTRIAN TRAVEL. STANDARD LANDING SIZE IS 5 FEET BY 5 FEET.

(8) PROVIDE GRADE BREAK PERPENDICULAR TO DIRECTION OF WHEELCHAIR TRAVEL.

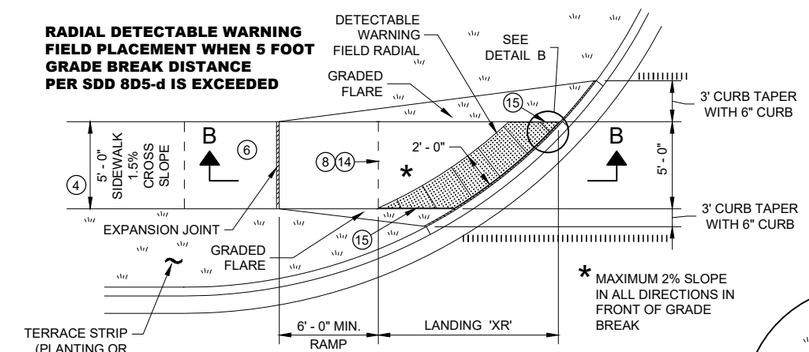
(14) CONSULT ENGINEER IF GRADE BREAK LOCATION (END OF LANDING DIMENSION "XR") REQUIRES FIELD ADJUSTMENT WHEN ESTABLISHING FINAL RADIAL DETECTABLE WARNING FIELD LOCATION.

(15) FIELD SAW CUTS ALONG RADIAL DETECTABLE WARNING PLATES WILL BE NECESSARY TO MATCH EACH CURB RAMP EDGE. AVOID CUTTING THROUGH DOMES WHENEVER POSSIBLE. MAKE FIELD CUTS TRUE TO LINE AND WITHIN ⅛" DEVIATION. SMOOTH EDGES OF FIELD CUT PLATES.

(16) USE 1' X 2" RECTANGULAR END PLATE AT END OF TYPE 4A1 RAMP AND PROVIDE MINIMUM 2' - 0" DETECTABLE WARNING FIELD COVERAGE (IN DIRECTION OF PEDESTRIAN TRAVEL) ALONG THE ENTIRE CURB RAMP WIDTH.

(17) A MAXIMUM 3 INCH CONCRETE BORDER WITH IS ALLOWABLE IN FROM OF RADIAL DETECTABLE WARNING FIELD FOR CONSTRUCTABILITY PURPOSES. CONCRETE BORDER WIDTH MAY VARY UP TO 1 INCH.

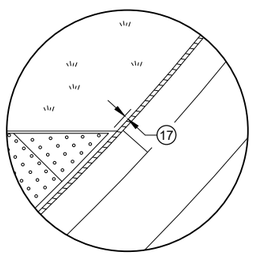
RADIAL DETECTABLE WARNING FIELD PLACEMENT WHEN 5 FOOT GRADE BREAK DISTANCE PER SDD 8D5-d IS EXCEEDED



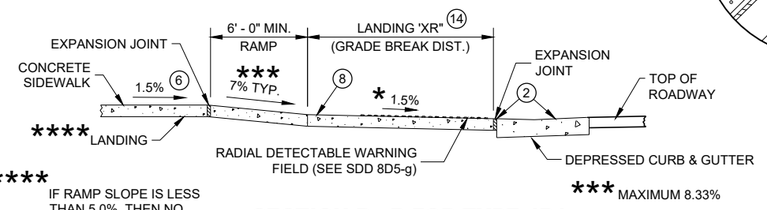
PLAN VIEW

CURB RAMP TYPE 4B1

(GRADE BREAK DISTANCE GREATER THAN 5 FEET)



DETAIL B

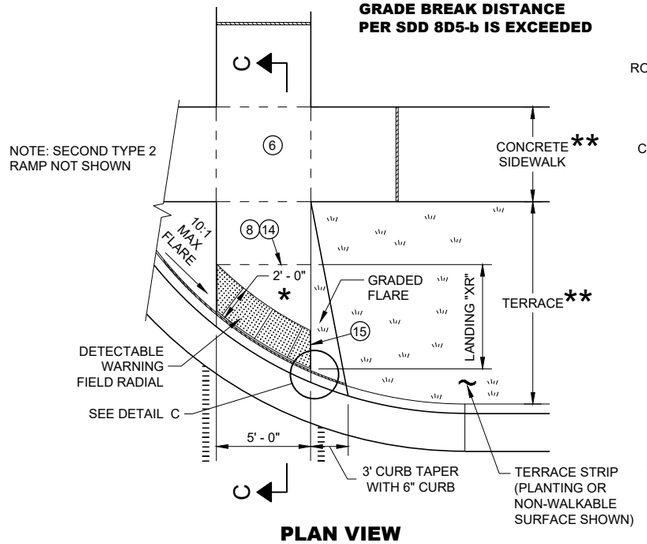


**** IF RAMP SLOPE IS LESS THAN 5.0%, THEN NO ADJACENT UPHILL LANDING IS REQUIRED

*** MAXIMUM 8.33%

SECTION B - B FOR TYPE 4B1

RADIAL DETECTABLE WARNING FIELD PLACEMENT WHEN 5 FOOT GRADE BREAK DISTANCE PER SDD 8D5-b IS EXCEEDED

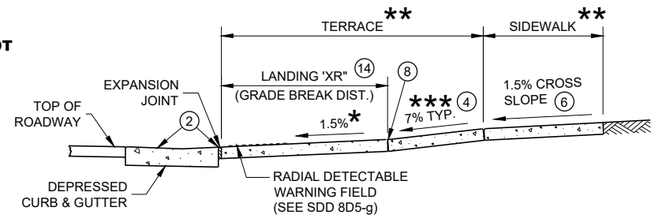


PLAN VIEW

CURB RAMP TYPE 2

(GRADE BREAK DISTANCE GREATER THAN 5 FEET)

(ON LINE WITH SIDEWALK)

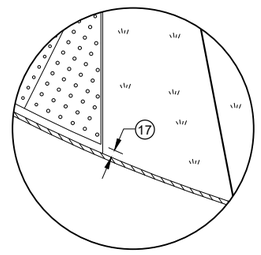


SECTION C - C FOR TYPE 2

* MAXIMUM 2% SLOPE IN ALL DIRECTIONS IN FRONT OF GRADE BREAK

** WIDTH SHOWN ELSEWHERE IN THE PLANS

*** MAXIMUM 8.33%



DETAIL C

CURB RAMPS RADIAL DETECTABLE WARNING FIELD APPLICATIONS

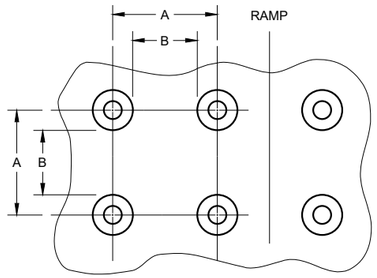
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

6

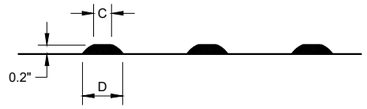
SDD 08D05 - 20f

	MIN.	MAX.
A	1.6"	2.4"
B	0.65"	1.5"
C	*	*
D	0.9"	1.4"

* THE C DIMENSION IS 50% TO 65% OF THE D DIMENSION.

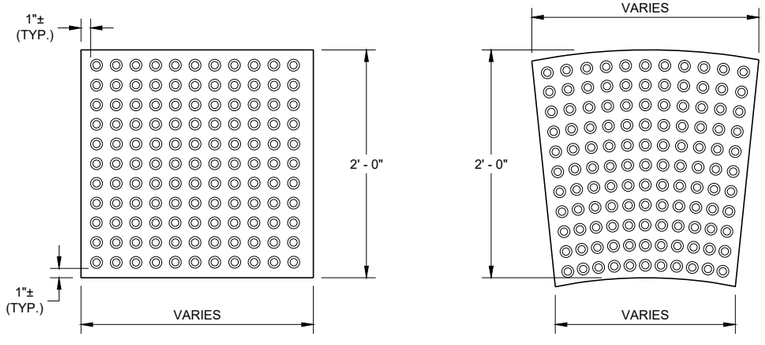


PLAN VIEW



ELEVATION VIEW

TRUNCATED DOMES
DETECTABLE WARNING PATTERN DETAIL



RECTANGULAR PLATES

RADIAL PLATES

PLAN VIEW
DETECTABLE WARNING FIELDS (TYPICAL)

GENERAL NOTES

DETECTABLE WARNING FIELDS THAT ARE INSTALLED AT A CURB RAMP SHALL BE FROM THE SAME MANUFACTURER.

PLACE ALL DETECTABLE WARNING FIELD SYSTEMS IN ACCORDANCE TO THE MANUFACTURER'S RECOMMENDATION.

FIELD CUTS AT INTERMEDIATE JOINTS WITHIN THE RADIAL DETECTABLE WARNING FILED ARE PROHIBITED.

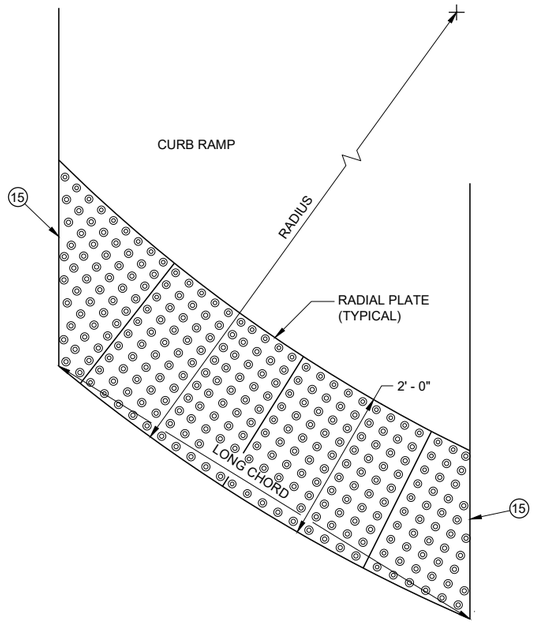
DETERMINE FINAL RADIAL WARNING FIELD CONFIGURATION AND ITS INDIVIDUAL PLATE LOCATIONS. PERFORM PRE-LAYOUT PRIOR TO PLACEMENT IN PLASTIC CONCRETE. FOLLOW MANUFACTURER'S PRODUCT LIST AND INSTALLATION RECOMMENDATIONS.

FOR RADIAL DETECTABLE WARNING FIELD APPLICATIONS WHERE STANDARD RADIAL PLATES ARE NOT AVAILABLE AT AN INTERSECTION CURB RADIUS, A COMBINATION OF SQUARE OR RECTANGULAR PLATES AND RADIAL PLATES MAY BE USED TO FORM RADIAL CONFIGURATION. RADIAL WEDGE PLATES IN COMBINATION WITH SQUARE PLATES ARE ALSO ACCEPTABLE. FOLLOW MANUFACTURER'S RECOMMENDATIONS.

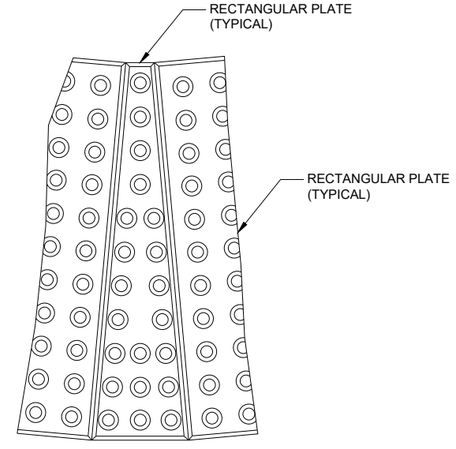
REFER TO CONTRACT AND STANDARD SPECIFICATIONS FOR FIELD CUTTING REQUIREMENTS.

DO NOT EMBED IN CONCRETE ANY FIELD-CUT PLATES WITH CUT EDGES SHORTER THAN 6 INCHES. CONSULT WITH MANUFACTURER FOR RE-DRILLING AND ANCHORING REQUIREMENTS OF FIELD-CUT PLATES.

(15) FIELD SAW CUTS ALONG RADIAL DETECTABLE WARNING PLATES WILL BE NECESSARY TO MATCH EACH CURB RAMP EDGE. AVOID CUTTING THROUGH DOMES WHENEVER POSSIBLE. MAKE FIELD CUTS TRUE TO LINE AND WITHIN ⅛" DEVIATION. SMOOTH EDGES OF FIELD CUT PLATES.



PLAN VIEW
RADIAL DETECTABLE WARNING FIELD ATTRIBUTES



PLAN VIEW
RADIAL WEDGE PLATE CONNECTION DETAIL

CURB RAMPS
RECTANGULAR AND RADIAL
DETECTABLE WARNING PLATES

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
May 2019
DATE
/S/ Rodney Taylor
ROADWAY STANDARDS DEVE UNIT SUPERVISOR

FHWA

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SDD 08D05 - 20g

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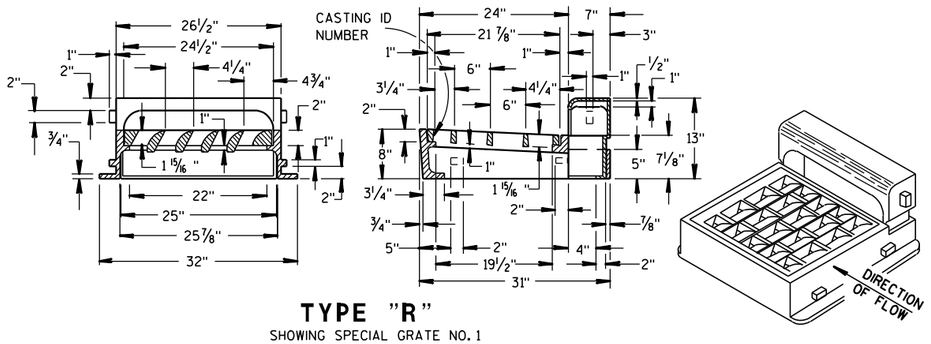
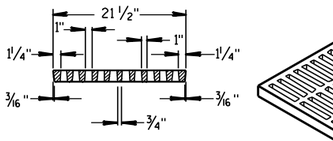
SDD 08D05 - 20g

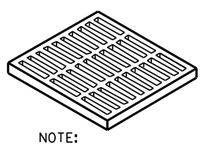
INLET COVERS



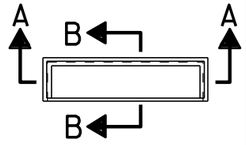
TYPE "R"

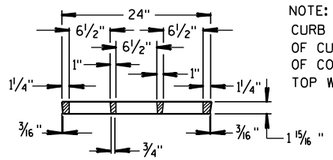
SHOWING SPECIAL GRATE NO. 1
(TO BE NOTED AS R-1 IN DRAINAGE TABLE)



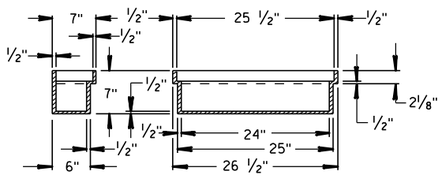


(APPROX. WEIGHT - 510 LBS.)
FRAME..... 245 LBS.
CURB..... 120 LBS.
GRATE..... 145 LBS.





NOTE:
CURB PLUG USED IN PLACE OF CURB BOX IN ABSENCE OF CONC. CURB. FILL TO TOP WITH CONCRETE.



SECTION B-B SECTION A-A

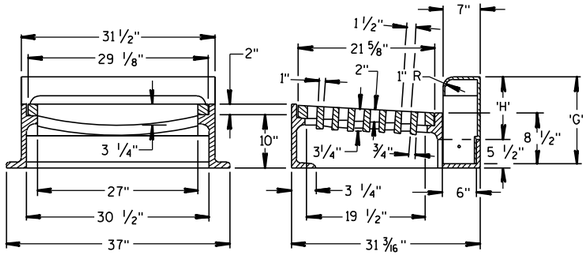
GRATE FOR TYPE "R" INLET COVER

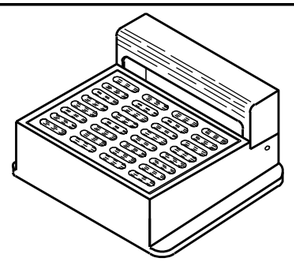
(GRATE..... 150 LBS.)
(TO BE USED UNLESS OTHERWISE NOTED IN DRAINAGE TABLE)

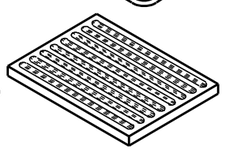
SPECIAL CURB PLUG "P"

(CURB PLUG..... 85 LBS.)
(TO BE NOTED AS R-P IN DRAINAGE TABLE)

'H' = 9" FOR 6" CURB
'H' = 11" FOR 8" CURB
'G' = 13 3/4" FOR 6" CURB
'G' = 15 3/4" FOR 8" CURB

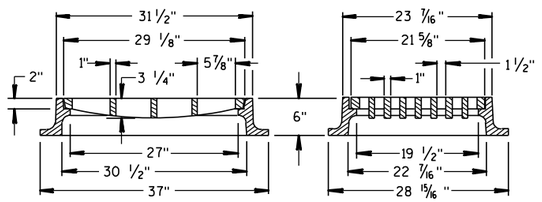






(APPROX. WEIGHT - 670 LBS.)
FRAME..... 350 LBS.
CURB BOX..... 135 LBS.
GRATE..... 185 LBS.

TYPE "W"

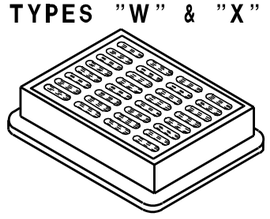


TYPE "X"

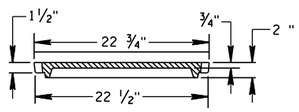
(APPROX. WEIGHT - 470 LBS.)

ALTERNATE GRATE
(FOR EXPRESSWAY RAMPS)

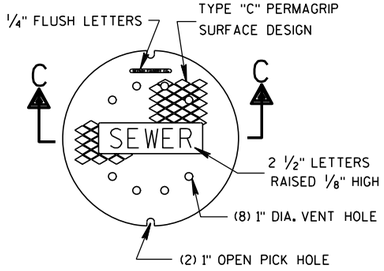
TYPES "W" & "X"

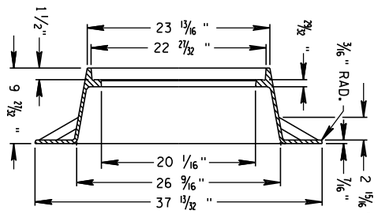


MANHOLE COVER



SECTION C-C





TYPE "Q"

(APPROX. WEIGHT - 290 LBS.)

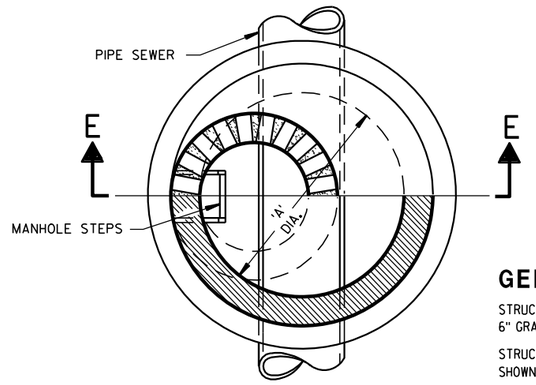
TABLE OF DIMENSIONS

TYPE	'A'	'B'	'C'
11	3'-6"	2'-8"	12" - 36"*
12	4'-0"	3'-8"	12" - 42"**
13	5'-0"	5'-8"	42" - 48"
14	6'-0"	7'-8"	54" - 60"

* 12" - 21" FOR PRECAST MANHOLES
** 12" - 24" FOR PRECAST MANHOLES

THE FIRST STEP SHALL BE PLACED 16" ABOVE THE BENCH.

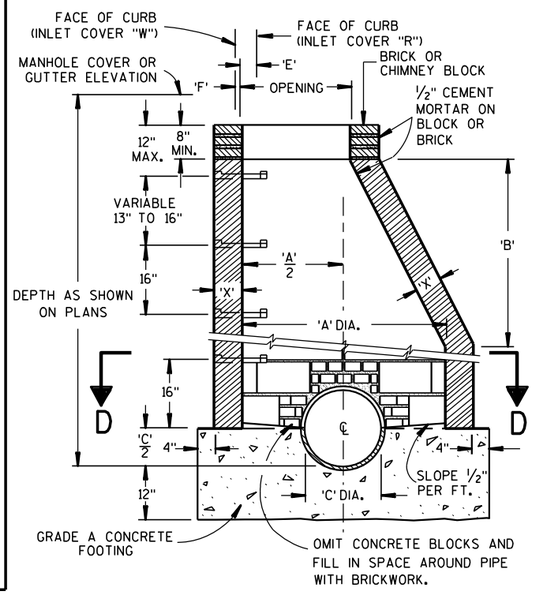
MANHOLE



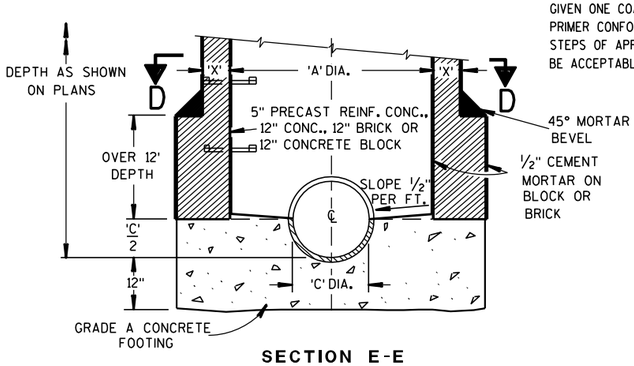
HALF SECTION D-D

TABLE OF OPENING DIMENSIONS

COVER TYPE	COVER DESCRIPTION	OPENING	'E'	'F'
"O"	ROUND	2'-2" DIA.	—	—
"W"	CURB BOX	1'-8" X 2'-6"	—	1"
"X"	INLET	1'-10" X 2'-6"	—	—
"R"	CURB BOX	2'-0" X 2'-1"	4"	—



SECTION E-E



SECTION E-E

TYPES 11, 12, 13 & 14

GENERAL NOTES

STRUCTURE WALL THICKNESS 'X' TO BE 8" BRICK, 6" CONCRETE BLOCK, 6" GRADE A CONCRETE OR 5" PRECAST REINFORCED CONCRETE.

STRUCTURE FOOTINGS ARE TO BE GRADE A CONCRETE OF THE THICKNESS SHOWN IN THE DETAIL OR 5" PRECAST REINFORCED CONCRETE.

REINFORCEMENT FOR 5" PRECAST REINFORCED CONCRETE SHALL BE 6" X 6" W16 X W16 WELDED SREEL WIRE FABRIC AND SHALL BE EMBEDDED 2" CLEAR.

PRECAST INLET UNITS AND BASES SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF AASHTO DESIGNATION M 199.

PRECAST CONCRETE FLAT SLAB TOPS MAY BE USED ON THE STRUCTURES. THE TOPS SHALL BE INSTALLED ON A BED OF MORTAR.

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

SET FRAME ELEVATION 0.03 FT. LOWER THAN ELEVATION INDICATED ON THE PLANS.

THE CONTRACTOR MAY FORM AND POUR MONOLITHIC CONCRETE INVERT PROVIDED THE PIPE ENDS ARE EXTENDED INTO THE M.H. AND NOT TERMINATED WITHIN THE M.H. WALLS.

MANHOLE STEPS

STEPS MEETING THE FOLLOWING REQUIREMENTS SHALL BE INSTALLED IN ALL STRUCTURES OVER 5 FEET IN DEPTH; 16 INCH C-C MAX. SPACING; PROJECT A MINIMUM CLEAR DISTANCE OF 4 INCHES FROM THE WALL AT THE POINT OF EMBEDMENT; MINIMUM WALL EMBEDMENT OF 3 INCHES IN PRECAST MANHOLE AND 6 INCHES IN 8 INCH BRICK OR 6 INCH BLOCK MANHOLE; TREAD OF STEP SHALL HAVE A NON-SKID SURFACE AND BE FLANKED BY CLEATS, WITH A MINIMUM OF 10 INCHES CLEAR BETWEEN CLEATS, TO PREVENT FOOT SLIPPING OFF THE EDGE CLEATS SHALL BE A MINIMUM OF 3/4 INCH HIGH BY 3/4 INCH WIDE HAVING A MINIMUM THICKNESS OF 3/8 INCH. STEPS SHALL BE CAPABLE OF SUPPORTING A CONCENTRATED LOAD OF 300 LBS. FERROUS METAL STEPS NOT PAINTED OR TREATED TO RESIST CORROSION SHALL HAVE A MINIMUM CROSS SECTIONAL DIMENSION OF 1 INCH.

SOLID ALUMINUM STEPS SHALL HAVE A MINIMUM CROSS SECTIONAL DIMENSION OF 0.75 INCH. ALUMINUM SURFACES TO BE EMBEDDED IN CONCRETE SHALL BE GIVEN ONE COAT OF SUITABLE QUALITY PAINT, SUCH AS ZINC CHROMATE PRIMER CONFORMING TO FEDERAL SPECIFICATION TT-P-645 OR EQUIVALENT. STEPS OF APPROVED POLYPROPYLENE PLASTIC COATED REINFORCING BAR WILL BE ACCEPTABLE.

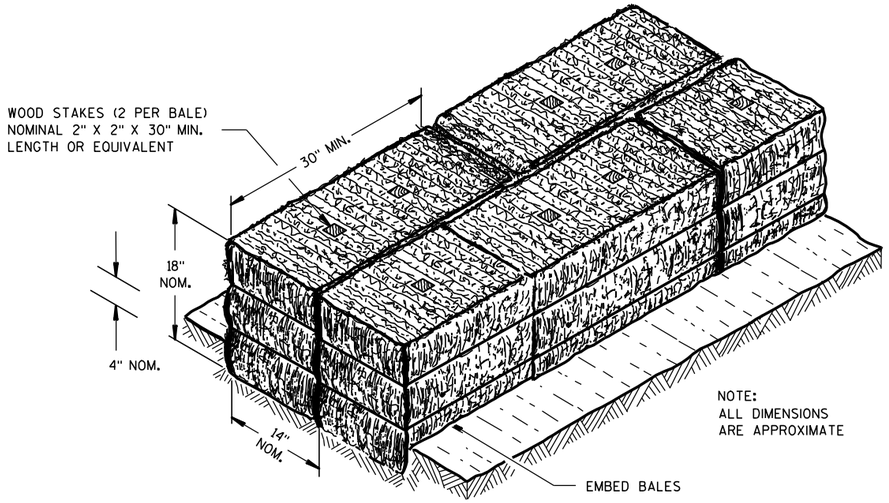
MANHOLES, MANHOLE & INLET COVERS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

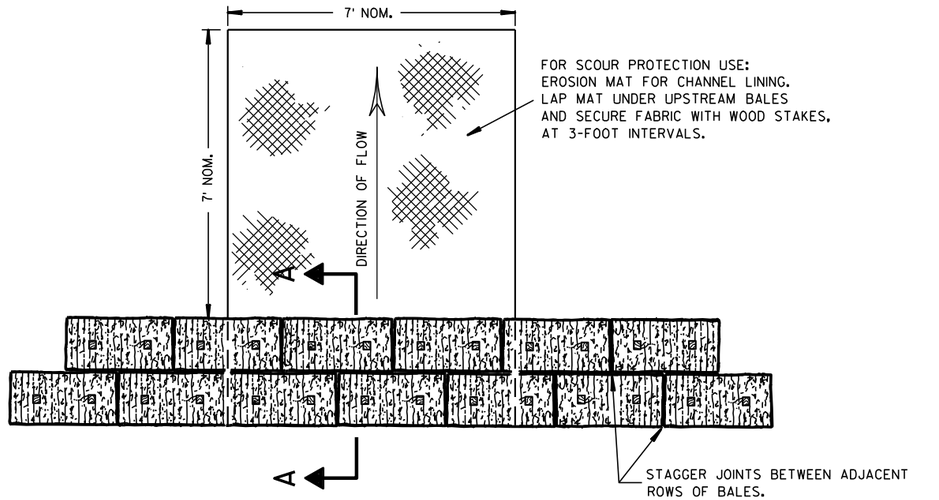
APPROVED
4/12/2011 — DATE
/S/ Jerry H. Zogg — ROADSIDE STANDARDS ENGINEER
FHWA

S.D.D. 8 D 17-6

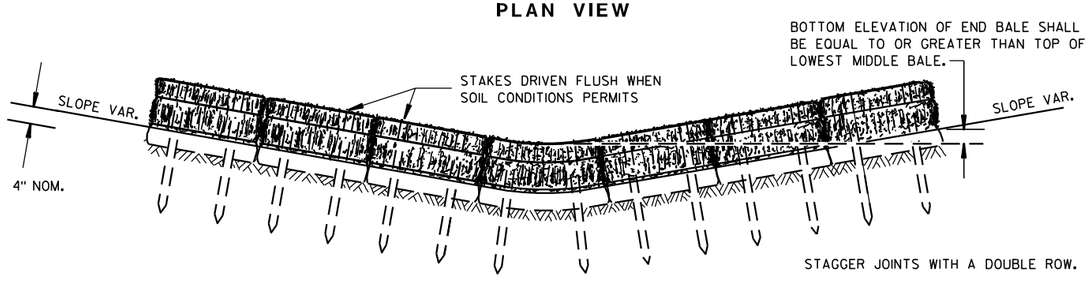
S.D.D. 8 D 17-6



SECTION A-A



PLAN VIEW



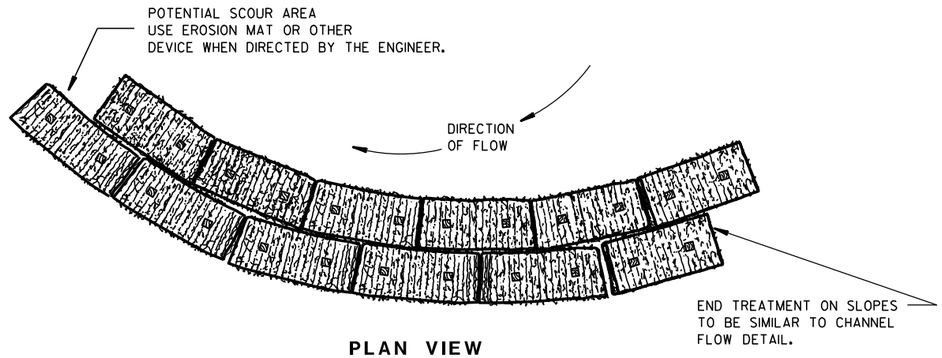
FRONT ELEVATION

TEMPORARY DITCH CHECK USING EROSION BALES (1)

GENERAL NOTES

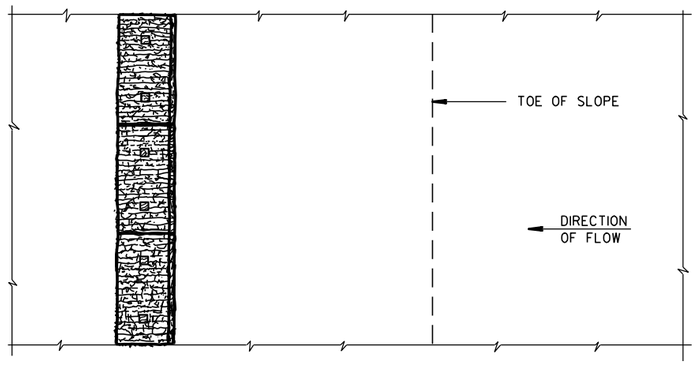
DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND THE APPLICABLE SPECIAL PROVISIONS.

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

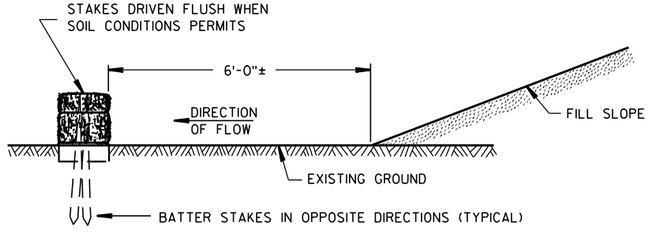


PLAN VIEW

WHEN ALTERING THE DIRECTION OF FLOW



PLAN VIEW



FRONT ELEVATION

WHEN EXISTING GROUND SLOPES AWAY FROM FILL SLOPE

EROSION BALES FOR SHEET FLOW

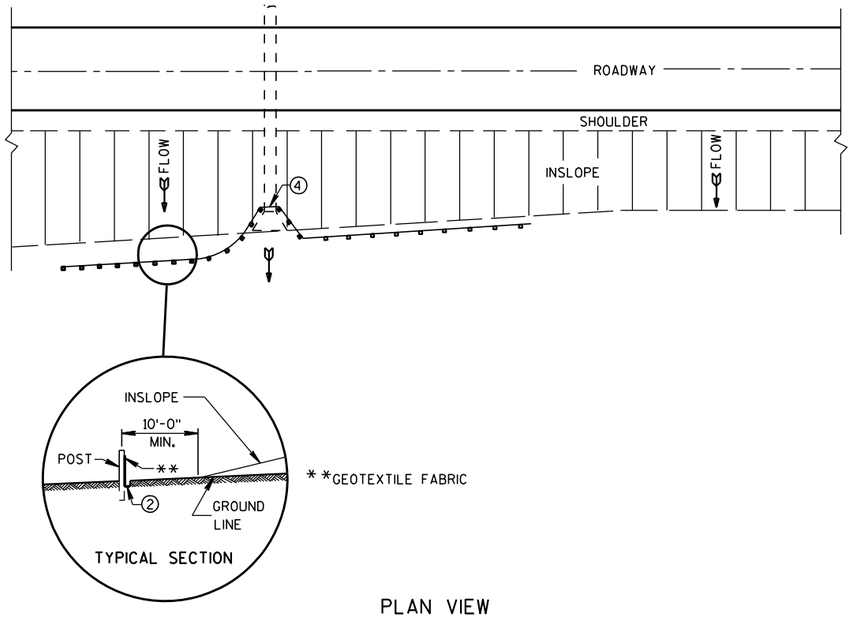
TYPICAL INSTALLATIONS OF EROSION BALES / TEMPORARY DITCH CHECKS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

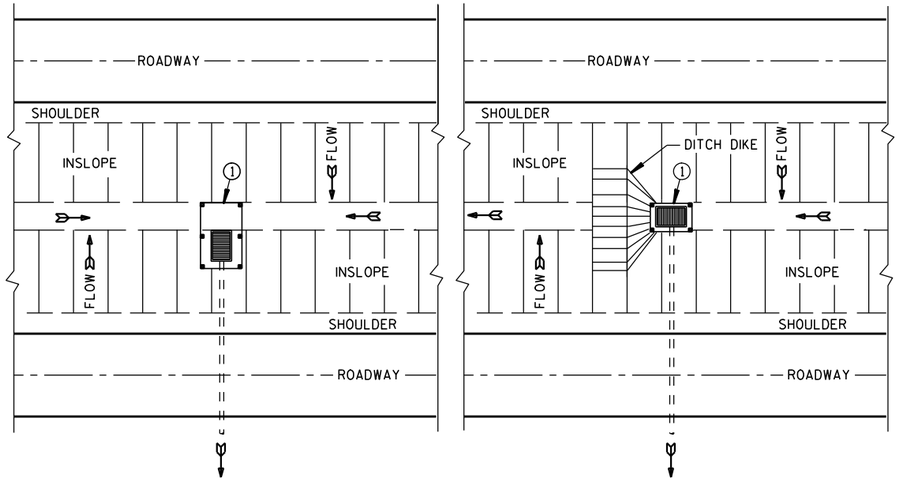
6/04/02 DATE — /S/ Beth Cannestra — CHIEF ROADWAY DEVELOPMENT ENGINEER

FHWA



PLAN VIEW

TYPICAL APPLICATION OF SILT FENCE



PLAN VIEW

SILT FENCE AT MEDIAN SURFACE DRAINS

GENERAL NOTES

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

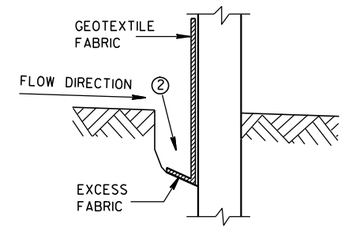
① HORIZONTAL BRACE REQUIRED WITH 2" X 4" WOODEN FRAME OR EQUIVALENT AT TOP OF POSTS.

② FOR MANUAL INSTALLATIONS THE TRENCH SHALL BE A MINIMUM OF 4" WIDE & 6" DEEP TO BURY AND ANCHOR THE GEOTEXTILE FABRIC. FOLD MATERIAL TO FIT TRENCH AND BACKFILL & COMPACT TRENCH WITH EXCAVATED SOIL.

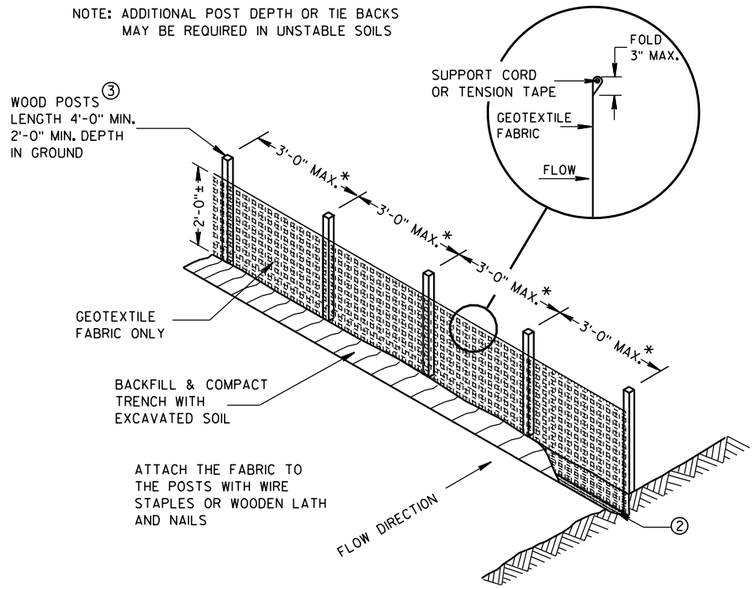
③ WOOD POSTS SHALL BE A MINIMUM SIZE OF 1⅛" X 1⅛" OF OAK OR HICKORY.

④ SILT FENCE TO EXTEND ACROSS THE TOP OF THE PIPE.

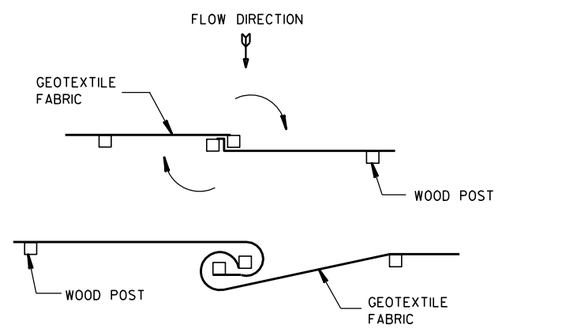
⑤ CONSTRUCT SILT FENCE FROM A CONTINUOUS ROLL IF POSSIBLE BY CUTTING LENGTHS TO AVOID JOINTS. IF A JOINT IS NECESSARY USE ONE OF THE FOLLOWING TWO METHODS; A) OVERLAP THE END POSTS AND TWIST, OR ROTATE, AT LEAST 180 DEGREES, B) HOOK THE END OF EACH SILT FENCE LENGTH.



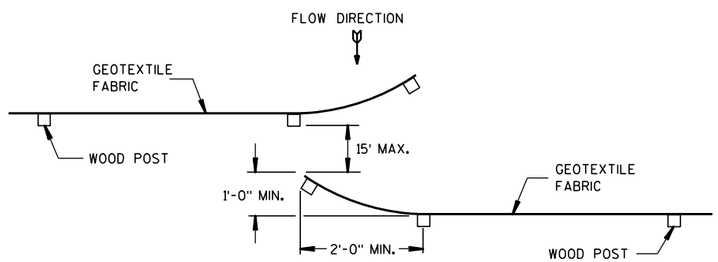
TRENCH DETAIL



SILT FENCE

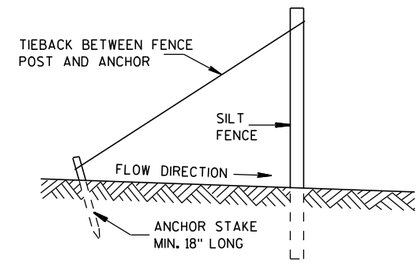


TWIST METHOD



HOOK METHOD

JOINING TWO LENGTHS OF SILT FENCE ⑤



SILT FENCE TIE BACK

(WHEN REQUIRED BY THE ENGINEER)

SILT FENCE

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

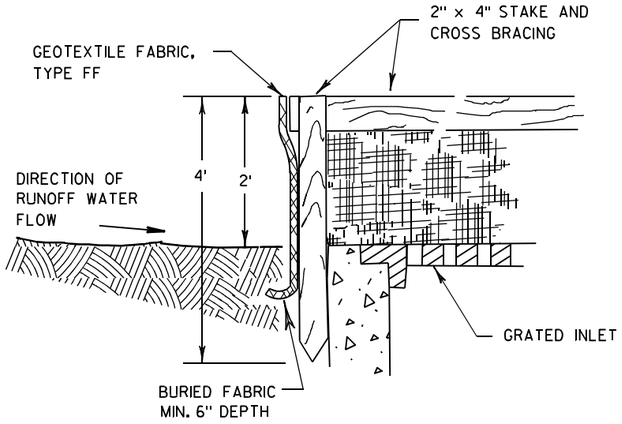
APPROVED
4-29-05 DATE
/S/ Beth Cannestra
CHIEF ROADWAY DEVELOPMENT ENGINEER
FHWA

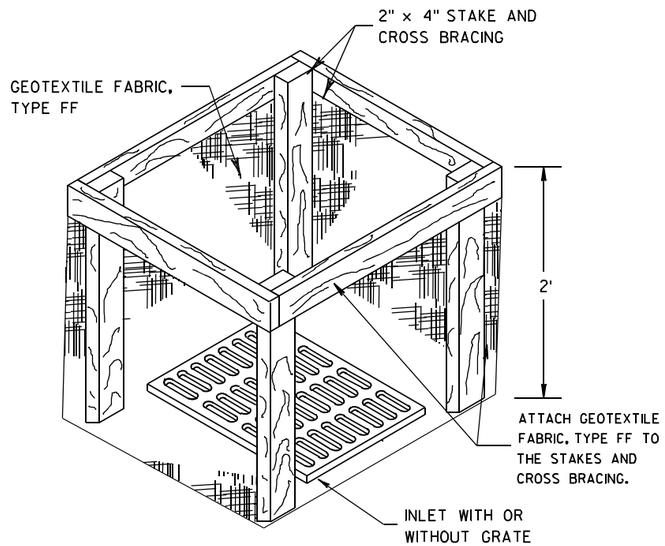
6

S.D.D. 8 E 9-6

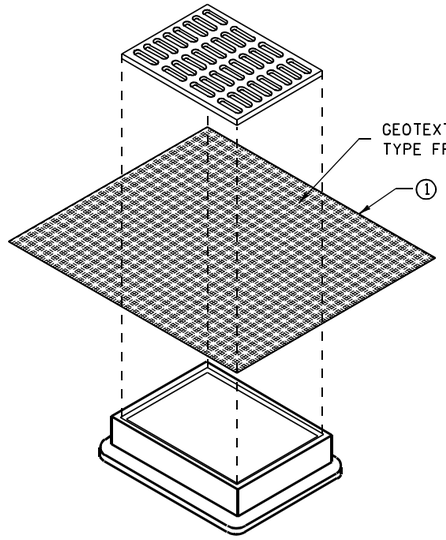
6

S.D.D. 8 E 9-6



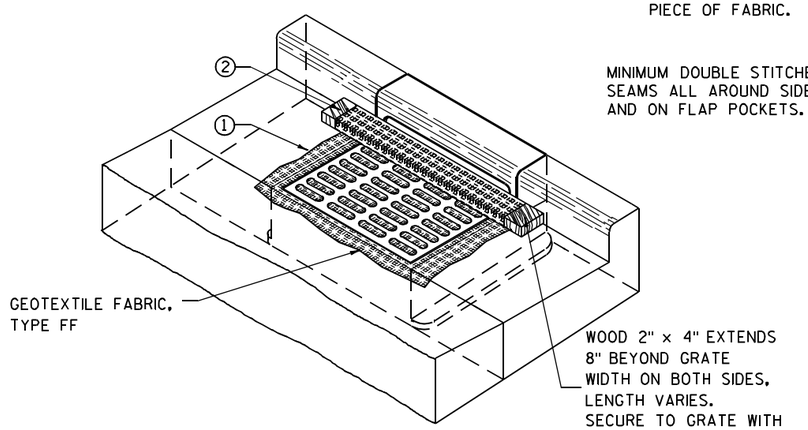


INLET PROTECTION, TYPE A

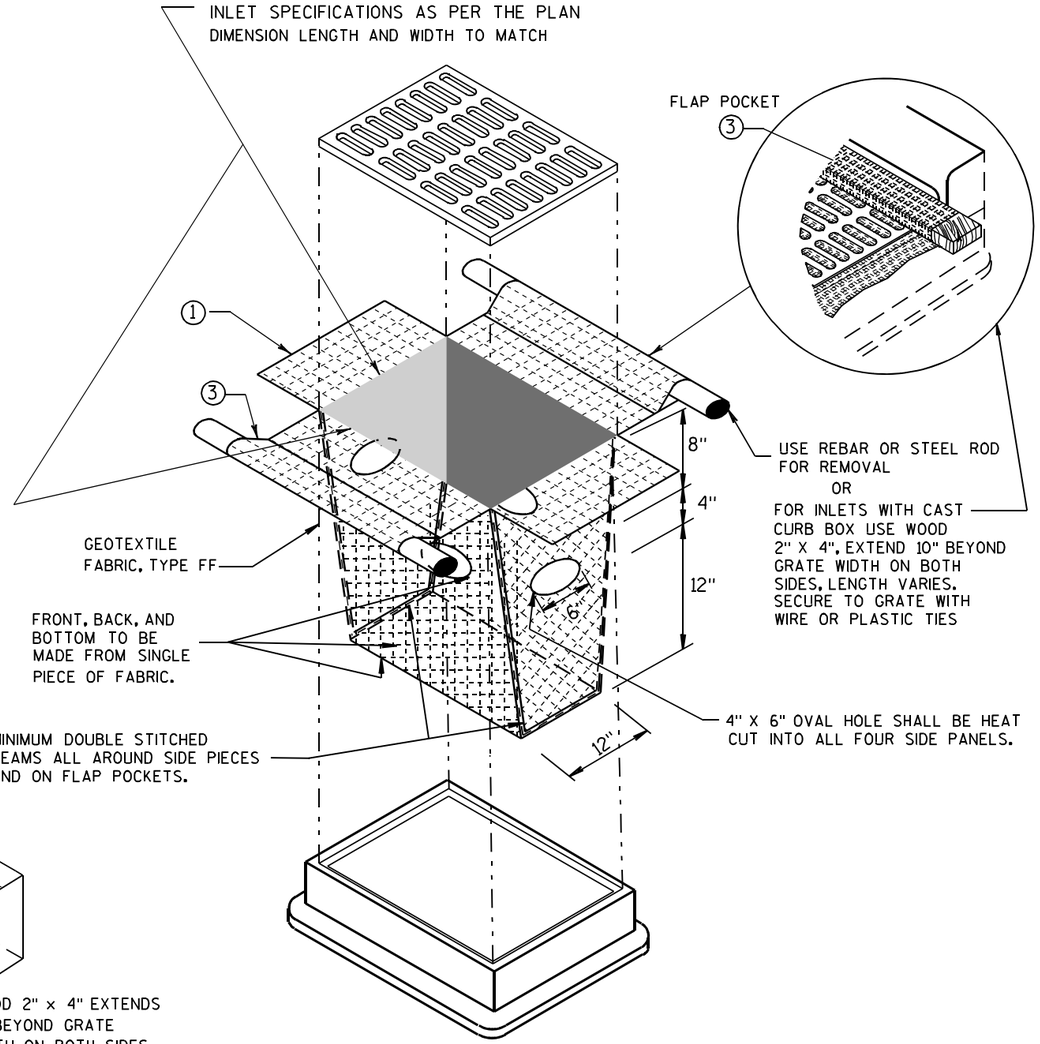


INLET PROTECTION, TYPE B
(WITHOUT CURB BOX)

(CAN BE INSTALLED IN ANY INLET WITHOUT A CURB BOX)



INLET PROTECTION, TYPE C (WITH CURB BOX)



INLET PROTECTION, TYPE D

(CAN BE INSTALLED IN ANY INLET TYPE WITH
OR WITHOUT A CURB BOX AS PER NOTE ②)

GENERAL NOTES

INLET PROTECTION DEVICES SHALL BE MAINTAINED OR REPLACED AT THE DIRECTION OF THE ENGINEER.

MANUFACTURED ALTERNATIVES APPROVED AND LISTED ON THE DEPARTMENT'S EROSION CONTROL PRODUCT ACCEPTABILITY LIST MAY BE SUBSTITUTED.

WHEN REMOVING OR MAINTAINING INLET PROTECTION, CARE SHALL BE TAKEN SO THAT THE SEDIMENT TRAPPED ON THE GEOTEXTILE FABRIC DOES NOT FALL INTO THE INLET. ANY MATERIAL FALLING INTO THE INLET SHALL BE REMOVED IMMEDIATELY.

① FINISHED SIZE, INCLUDING FLAP POCKETS WHERE REQUIRED, SHALL EXTEND A MINIMUM OF 10" AROUND THE PERIMETER TO FACILITATE MAINTENANCE OR REMOVAL.

② FOR INLET PROTECTION, TYPE C (WITH CURB BOX), AN ADDITIONAL 18" OF FABRIC IS WRAPPED AROUND THE WOOD AND SECURED WITH STAPLES. THE WOOD SHALL NOT BLOCK THE ENTIRE HEIGHT OF THE CURB BOX OPENING.

③ FLAP POCKETS SHALL BE LARGE ENOUGH TO ACCEPT WOOD 2X4.

INSTALLATION NOTES

TYPE B & C

TRIM EXCESS FABRIC IN THE FLOW LINE TO WITHIN 3" OF THE GRATE.

THE CONTRACTOR SHALL DEMONSTRATE A METHOD OF MAINTENANCE, USING A SEWN FLAP, HAND HOLDS OR OTHER METHOD TO PREVENT ACCUMULATED SEDIMENT FROM ENTERING THE INLET.

TYPE D

DO NOT INSTALL INLET PROTECTION TYPE D IN INLETS SHALLOWER THAN 30", MEASURED FROM THE BOTTOM OF THE INLET TO THE TOP OF THE GRATE.

TRIM EXCESS FABRIC IN THE FLOW LINE TO WITHIN 3" OF THE GRATE.

THE INSTALLED BAG SHALL HAVE A MINIMUM SIDE CLEARANCE, BETWEEN THE INLET WALLS AND THE BAG, MEASURED AT THE BOTTOM OF THE OVERFLOW HOLES, OF 3". WHERE NECESSARY THE CONTRACTOR SHALL CINCH THE BAG, USING PLASTIC ZIP TIES, TO ACHIEVE THE 3" CLEARANCE. THE TIES SHALL BE PLACED AT A MAXIMUM OF 4" FROM THE BOTTOM OF THE BAG.

INLET PROTECTION
TYPE A, B, C, AND D

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

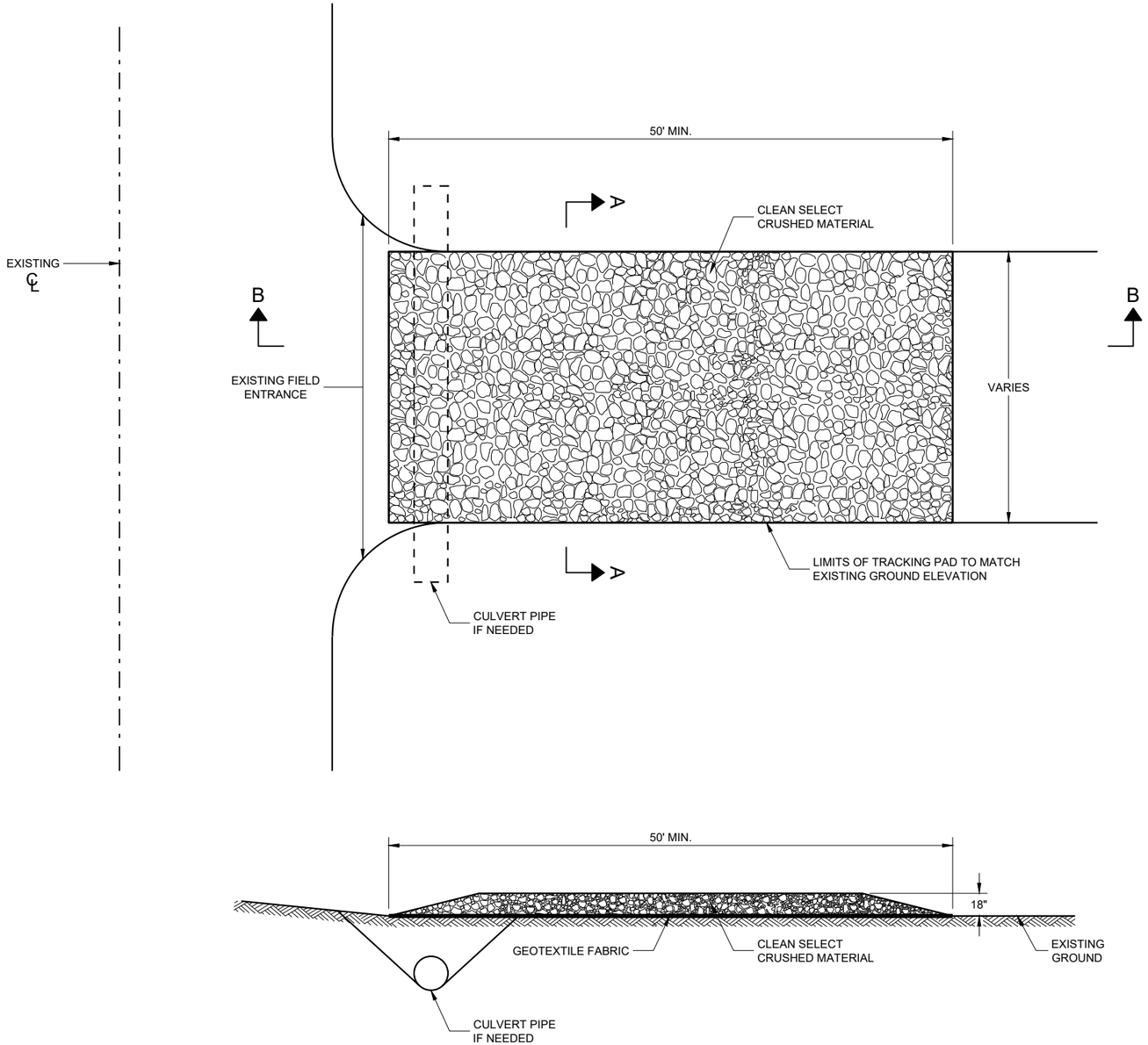
APPROVED

10/16/02
DATE

/S/ Beth Cannestra
CHIEF ROADWAY DEVELOPMENT ENGINEER

FHWA

6
S.D.D. 8 E 10-2



SECTION B - B

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.

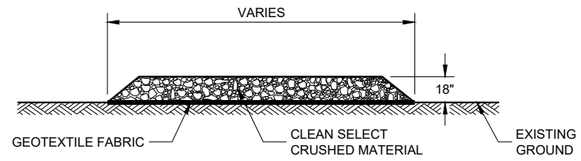
TRACKING PAD TO BE REMOVED AFTER CONSTRUCTION IS COMPLETED.

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.



SECTION A - A

6

SDD 08E14 - 01

TRACKING PAD

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

3/24/2011
DATE

/S/ Jerry H. Zogg
ROADWAY STANDARDS DEVE ENGINEER

FHWA

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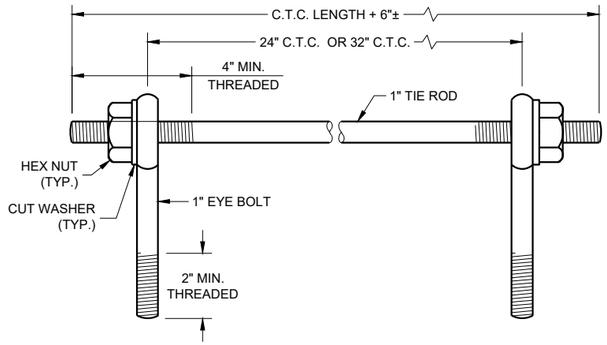
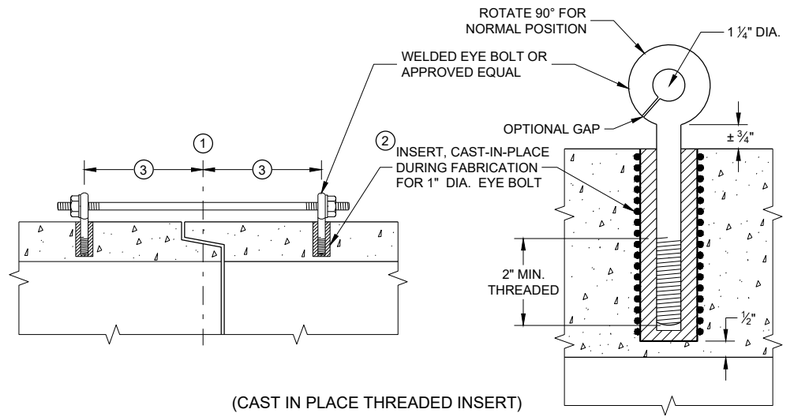
SDD 08E14 - 01



EYE BOLTS AND TIE ROD



(CAST IN PLACE THREADED INSERT)

LONGITUDINAL SECTIONS

EYE BOLT AND TIE ROD ASSEMBLY (ALTERNATE NO. 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 APPLICABLE SPECIAL PROVISIONS.

CONCRETE CULVERT AND STORM SEWER PIPE SHALL BE TIED TOGETHER IN THE MANNER ILLUSTRATED BY THIS DETAIL AT LOCATIONS DESIGNATED IN THE STANDARD SPECIFICATIONS AND THE PLAN. THE CONTRACTOR MAY USE EITHER ALTERNATE 1, 2 OR 3 FOR DRAINAGE STRUCTURES. ONLY ALTERNATE 1 AND 3 MAY BE USED FOR CATTLE PASSES, UNLESS OTHERWISE STATED IN THE CONTRACT. THE MATERIALS, FABRICATION AND WORK NECESSARY TO TIE THE PIPE BY THIS DETAIL WILL BE CONSIDERED INCIDENTAL TO THE PIPE AND APRON ENDWALLS IF REQUIRED.

DETAILED DRAWINGS FOR PROPOSED ALTERNATE DESIGNS FOR JOINT TIES SHALL BE SUBMITTED TO THE ENGINEER FOR APPROVAL.

JOINT TIES TO BE HOT-DIP GALVANIZED PER ASTM A 153.

(1) CENTER LINE OF TONGUE AND GROOVE OR BELL AND SPIGOT JOINTS.

(2) THE INSIDE OF THE THREADED INSERTS SHALL BE CLEAN TO ALLOW THE INSERTION OF THREADED EYE BOLTS.

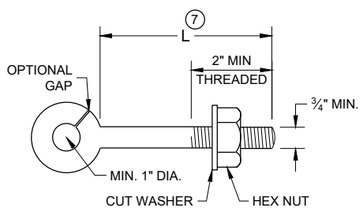
(3) HOLES SHALL BE CAST-IN-PLACE OR DRILLED PER THE APPLICABLE DETAIL, AND EQUAL DISTANCE FROM THE CENTERLINE OF THE JOINT.

(4) BOLT PROJECTION INSIDE OF PIPE SHALL NOT EXCEED 2 INCHES.

(5) OPENING TO BE ROD DIAMETER PLUS 1 INCH.

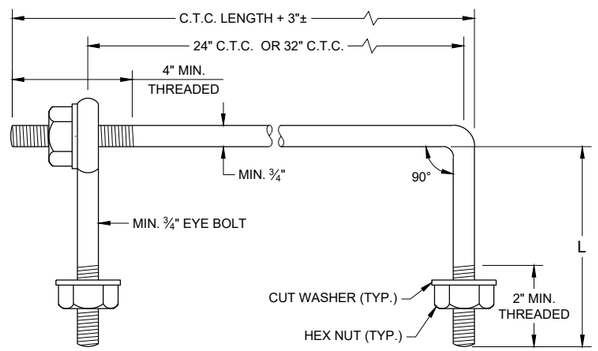
(6) LENGTH ADEQUATE TO EXTEND TO WITHIN ½ INCH OF THE INNER SURFACE OF THE PIPE.

(7) EYE BOLT LENGTH DETERMINED BY WALL THICKNESS, BELL THICKNESS AND BOLT PROJECTION INSIDE PIPE.

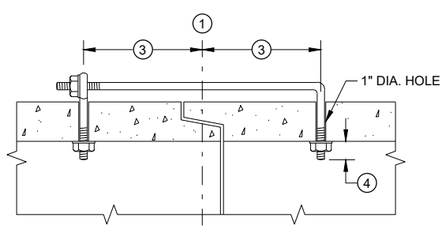


EYE BOLT (7)

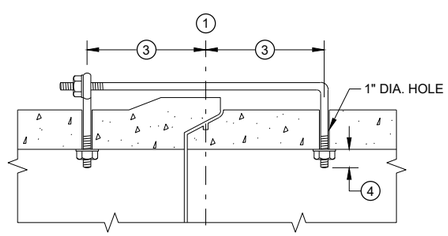
NOTE: TWO EYE BOLTS MAY BE USED WITH A 30" OR 38" LONG THREADED ROD IN LIEU OF THE 90° BENT TIE ROD.



EYE BOLT AND TIE ROD



(TONGUE AND GROOVE PIPE)



(MODIFIED BELL PIPE)

LONGITUDINAL SECTION

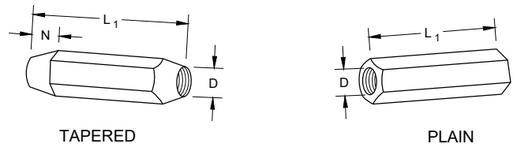
(JOINT TIES FOR 18" TO 66" DIA. CONCRETE PIPE)

EYE BOLT AND TIE ROD ASSEMBLY (ALTERNATE NO. 2)

ADJUSTABLE TIE ROD TABLE

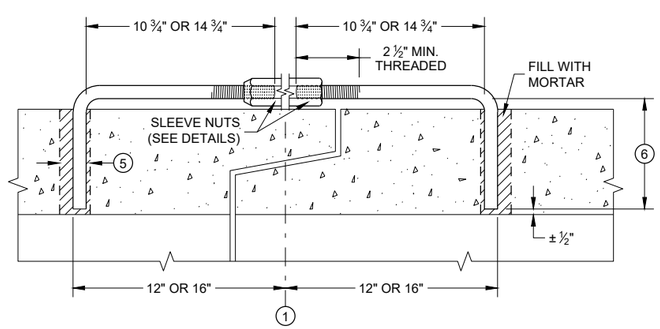
PIPE DIAMETER	TIE ROD DIAMETER	D	L_1	N
12 - 60	⅝	⅝	5	½
66 - 84	¾	¾	5	½
90 - 144	1	1	7	1 7/16

DIMENSIONS SHOWN ARE IN INCHES



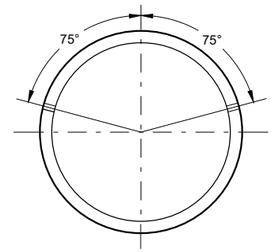
RIGHT AND LEFT THREADS

SLEEVE NUTS



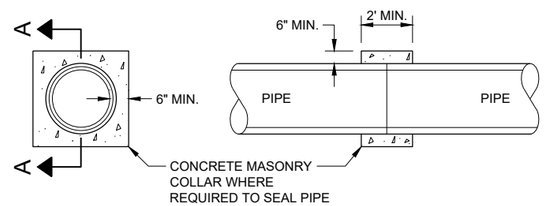
LONGITUDINAL SECTION

ADJUSTABLE TIE ROD (ALTERNATE NO. 3)



PLACEMENT OF (2) CAST-IN-PLACE INSERTS OR HOLES DURING FABRICATION FOR PIPE SECTIONS REQUIRING TIE RODS

TRANSVERSE SECTION



SECTION A - A

CONCRETE COLLAR DETAIL

JOINT TIES FOR CONCRETE PIPE AND CONCRETE COLLAR DETAIL

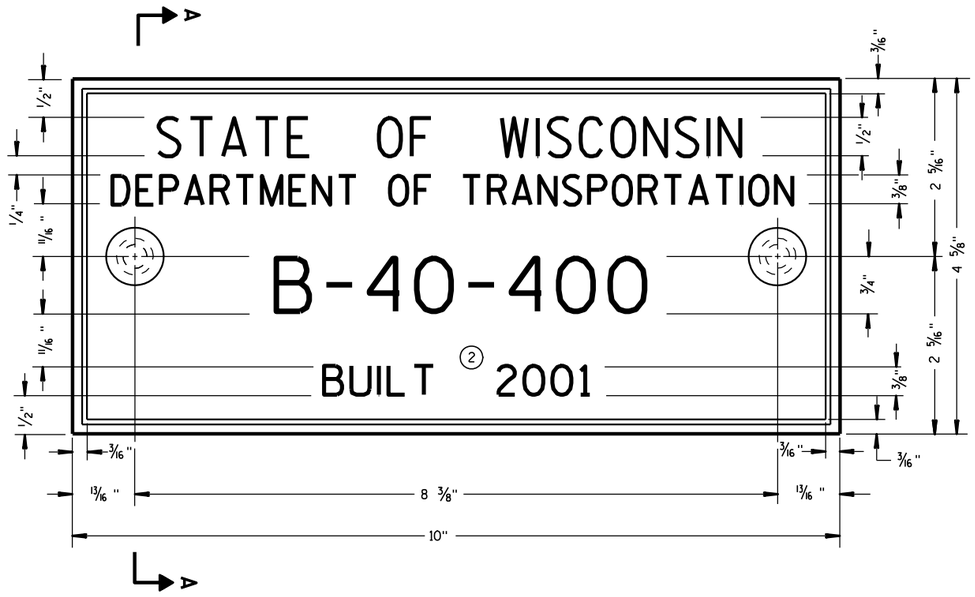
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
November 2021 — DATE
/S/ Rodney Taylor — ROADWAY STANDARDS DEVE ENGINEER

FHWA

SDD 08F04 - 08

SDD 08F04 - 08



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

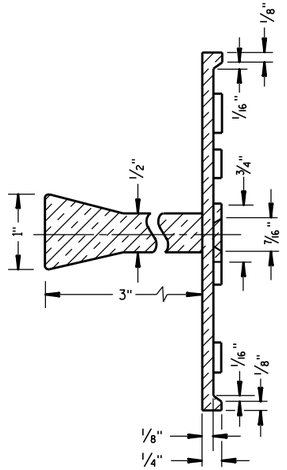
GENERAL NOTES

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

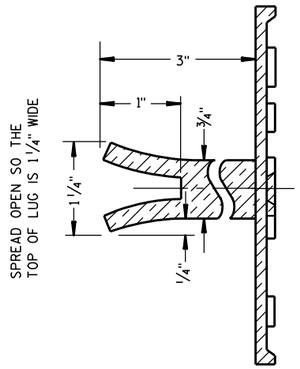
THE BRIDGE NUMBER AND YEAR BUILT SHOWN ON THIS DRAWING ARE EXAMPLES ONLY. SEE CONSTRUCTION PLANS FOR INDIVIDUAL NUMBERING AND YEAR BUILT.

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

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



SECTION A-A



ALTERNATE LUG

FOR MULTI-UNIT STRUCTURES
LINE 3 ABOVE SHALL READ

B = BRIDGE
C = CULVERT
R = RETAINING WALL

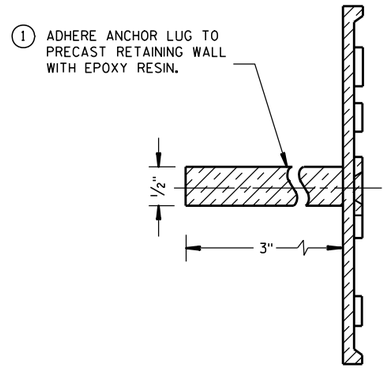
COUNTY NO.

BRIDGE NO.

UNIT NO. FOR MULTIPLE UNIT BRIDGE

B-40-400-1A

NUMBERING DESIGNATION
MULTI-UNIT STRUCTURES



ALTERNATE LUG
(FOR ATTACHMENT TO PRECAST STRUCTURES)

NAME PLATE (STRUCTURES)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

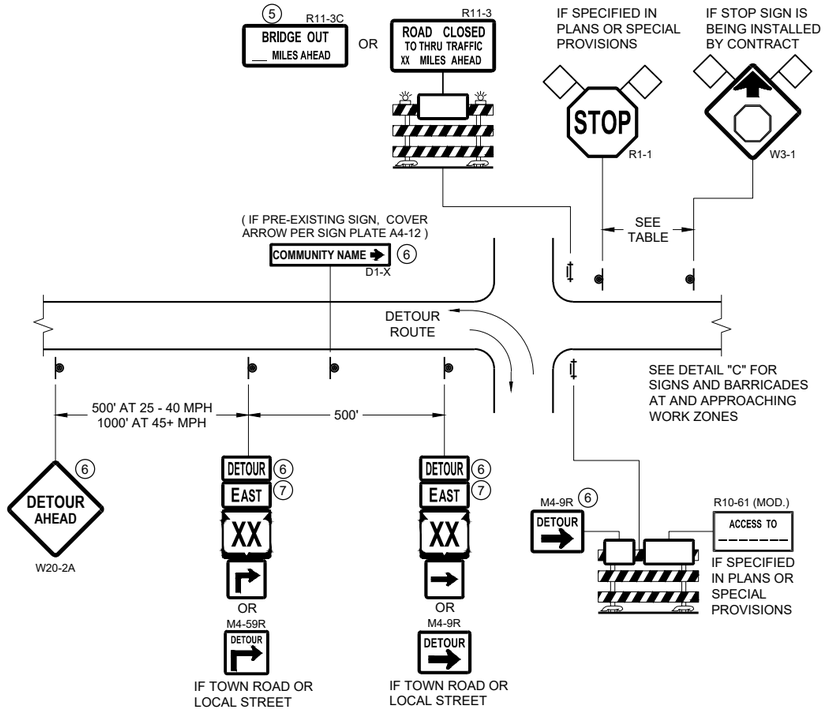
3/26/10 DATE

/S/ Scot Beck CHIEF STRUCTURAL DEVELOPMENT ENGINEER

FHWA

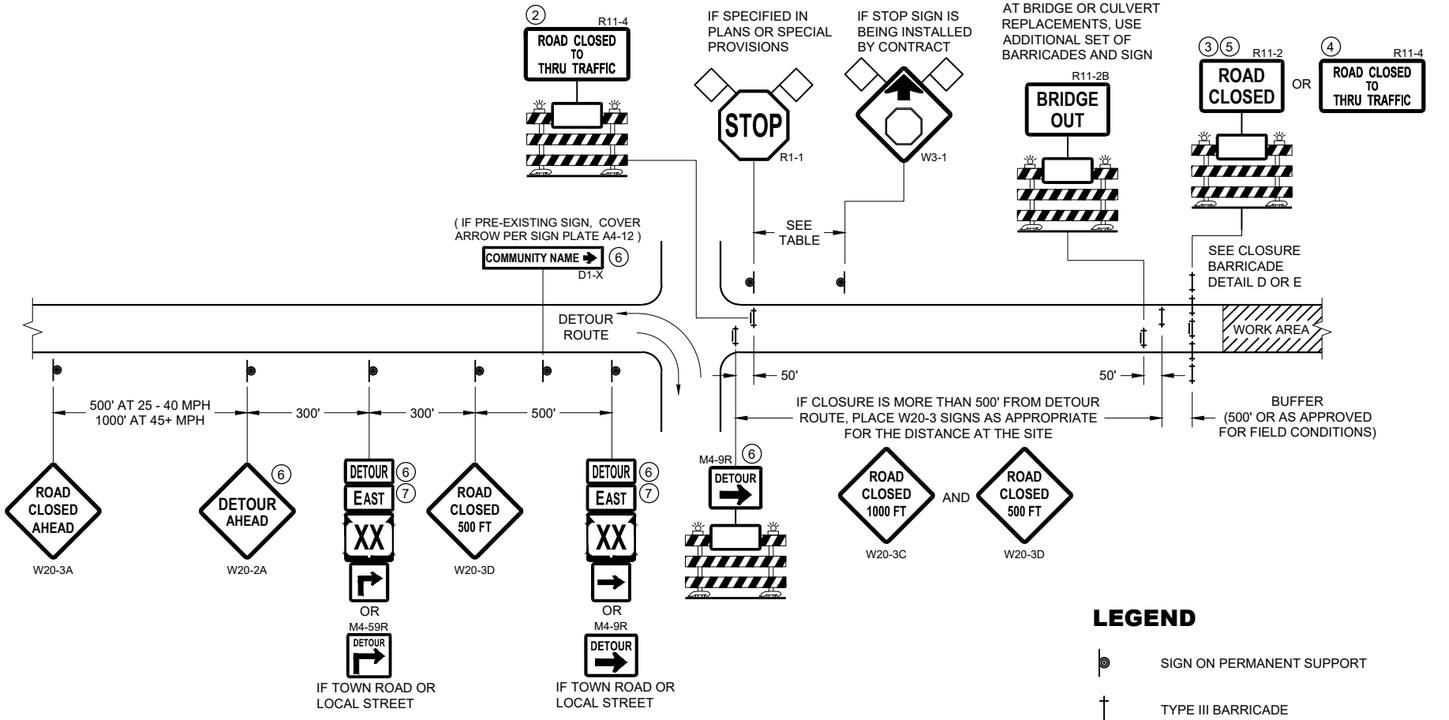
6

S.D.D. 12 A 3-10



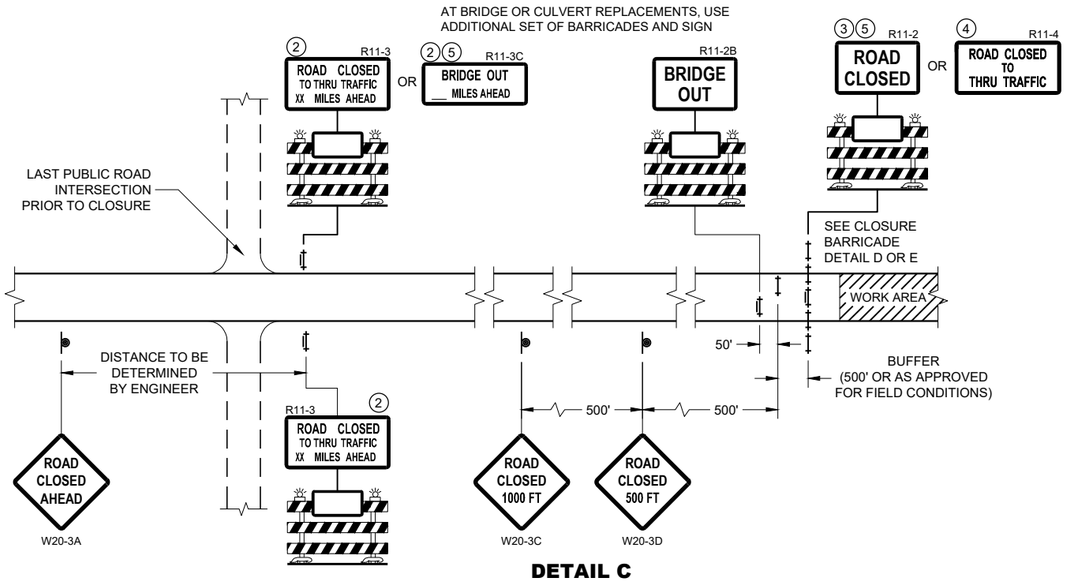
DETAIL A
MAINLINE CLOSURE WITH POSTED DETOUR

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



DETAIL B
MAINLINE CLOSURE WITH POSTED DETOUR

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



DETAIL C
MAINLINE CLOSURE, NO POSTED DETOUR

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

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

LEGEND

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

DETOUR M4 - 8
EAST M3 - X
XX M1 - 4 OR XX M1 - 6 OR COUNTY X M1 - 5A
M05 - 1 OR M06 - 1

BARRICADES AND SIGNS FOR MAINLINE CLOSURES

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

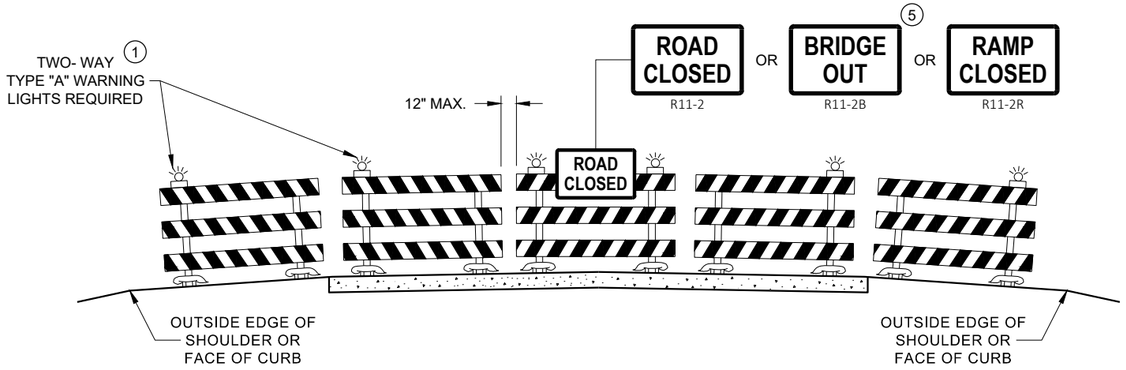
APPROVED
February 2020
DATE
/S/ Andrew Heidtke
WORK ZONE ENGINEER

FHWA

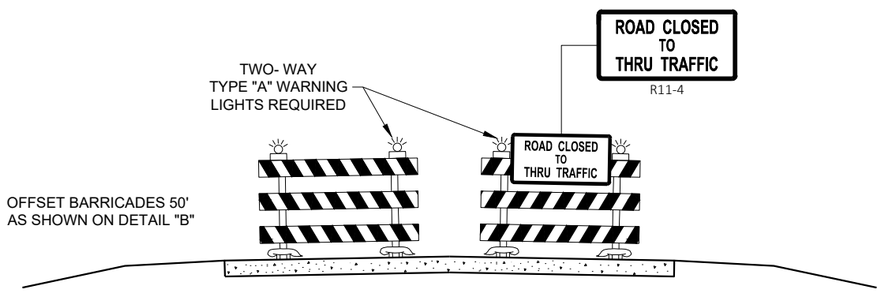
6

SDD 15C02 - 08a

SDD 15C02 - 08a



DETAIL D
ROAD CLOSURE BARRICADE DETAIL
APPROACH VIEW



DETAIL E
LANE CLOSURE BARRICADE DETAIL
APPROACH VIEW

SEE SDD 15C2 - SHEET "a" FOR LEGEND

GENERAL NOTES

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

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

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

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

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

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

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

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

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

ALL SIGNS SHALL BE 48" X 48" UNLESS OTHERWISE NOTED BELOW:
- R11 - 2 SHALL BE 48" X 30"
- R11 - 3 SHALL, R11 - 4 AND R10 - 61 SHALL BE 60 " X 30"
- M4 - 9 SHALL BE 30" X 24"
- M3 - X SHALL BE 24" X 12" (36" X 18" IF NEEDED TO MATCH EXISTING SIGNS)
- M4 - 8 SHALL BE 24" X 12" (36" X 18" 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)
- MO5 - 1 AND MO6 - 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 AN 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 ROAD 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 VARIOUS CLOSURES

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
February 2020
DATE
/S/ Andrew Heidtke
WORK ZONE ENGINEE
FHWA

6

SDD 15C02 - 08b

6

SDD 15C02 - 08b

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

LEGEND

- SIGN ON PERMANENT SUPPORT
- WORK AREA
- DETOUR — M4 - 8
- EAST — M3 - X
- XX — M1 - 4 OR XX — M1 - 6 OR COUNTY X — M1 - 5A
- M05 - 1 OR M06 - 1 OR M06 - 1

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.

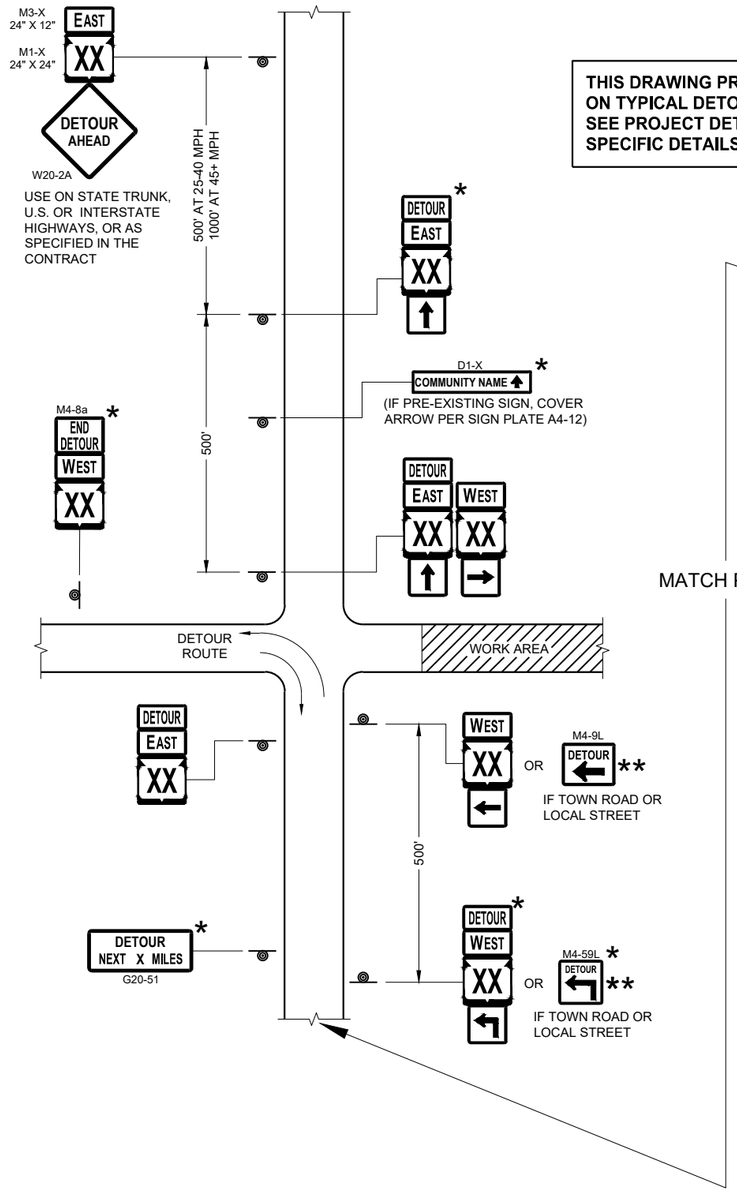
"MO" SIGNS ARE THE SAME AS "M" SIGNS EXCEPT THE BACKGROUND IS ORANGE.

SIGN SIZES SHALL BE AS FOLLOWS:

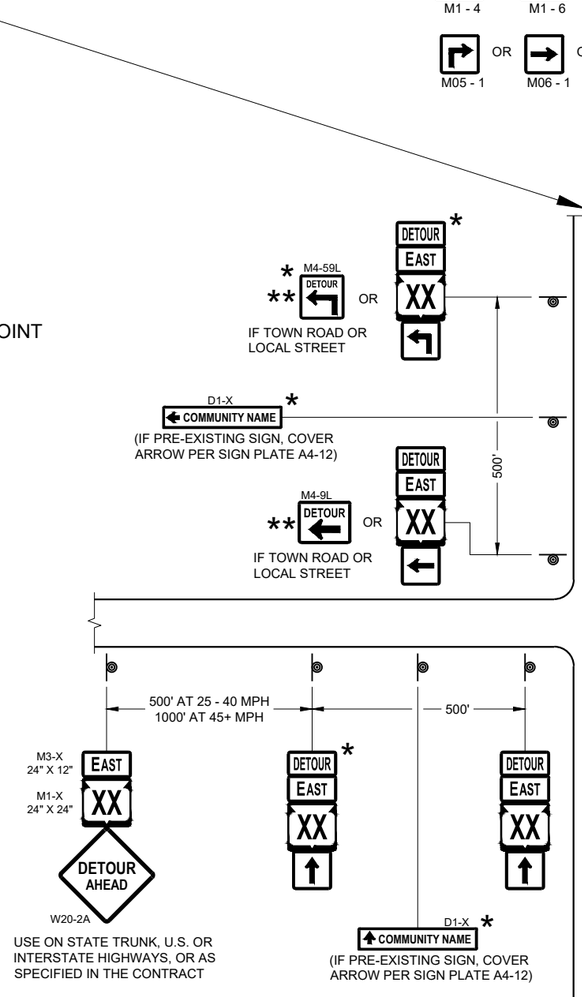
- M3-X SHALL BE 24" X 12" (36" X 18" IF NEEDED TO MATCH EXISTING SIGNS)
- M4-8 SHALL BE 24" X 12" (36" X 18" IF NEEDED TO MATCH EXISTING SIGNS)
- M1-4, M1-5A AND M1-6 SHALL BE 24" X 24" (36" X 36" IF NEEDED TO MATCH EXISTING SIGNS)
- M05-1 AND M06-1 SHALL BE 21" X 21" (30" X 30" IF NEEDED TO MATCH EXISTING SIGNS)
- M4-9 AND M4-59 SHALL BE 30" X 24"
- M4-8a SHALL BE 24" X 18"
- G20-51 SHALL BE 60" X 24"
- W20-2A SHALL BE 48" X 48"
- D1-X SHALL BE AS SHOWN ON SPECIFIC PROJECT SIGNING DETAIL SHEETS.

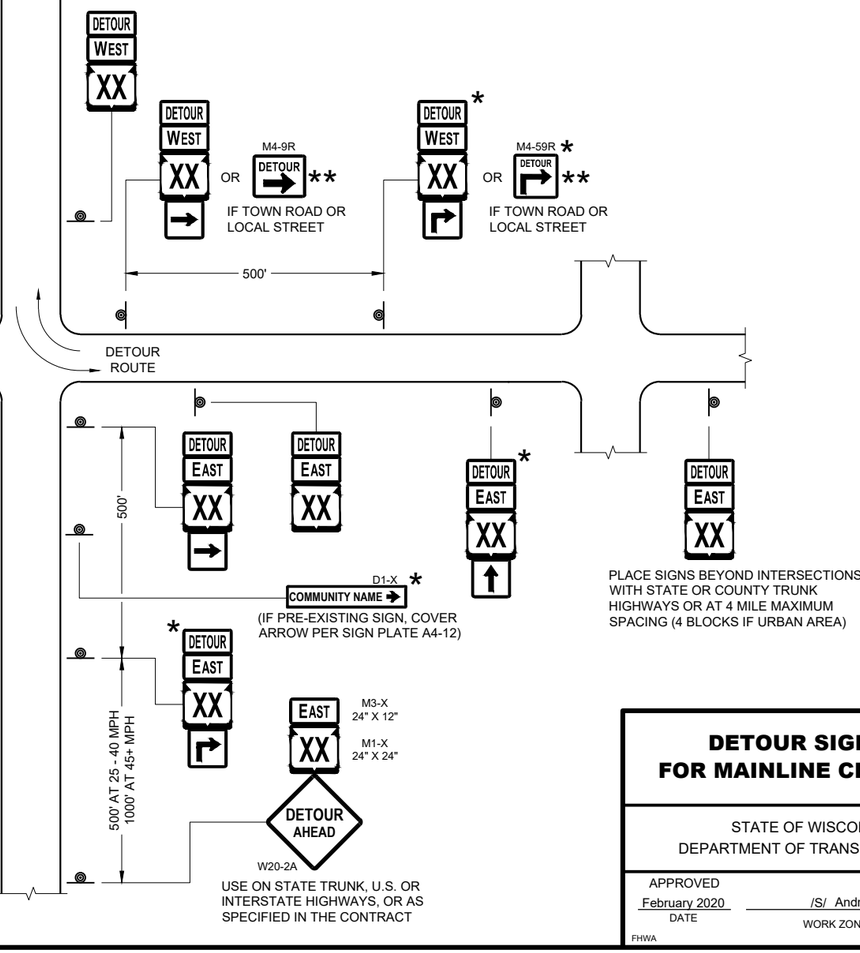
* OPTIONAL SIGNS. SEE SPECIFIC PROJECT DETOUR SIGNING DETAIL SHEETS.

** 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.



MATCH POINT





SEE SPECIFIC PROJECT DETOUR SIGNING DETAIL SHEETS AND DETAIL A OR B ON SDD SHEET 15C02 - SHEET "a"

DETAIL F
DETOUR SIGNING

DETOUR SIGNING FOR MAINLINE CLOSURES

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
February 2020
DATE

/S/ Andrew Heidtke
WORK ZONE ENGINEER

FHWA

SDD 15C02 - 08c

6

SDD 15C02 - 08c

GENERAL NOTES

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

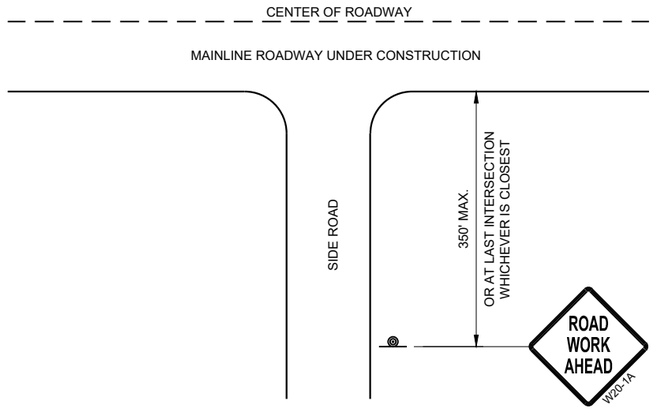
THE SPACING BETWEEN TRAFFIC CONTROL SIGNS SHOULD BE ADJUSTED TO NOT CONFLICT WITH AND SHOULD PROVIDE A MINIMUM OF 200 FEET (500 FEET DESIRABLE) CLEARANCE TO EXISTING SIGNS THAT WILL REMAIN IN PLACE.

ALL SIGNS ARE 48" X 48" UNLESS OTHERWISE NOTED. IF NECESSARY DUE TO SPACE CONSTRAINTS, 36"X36" SIGNS MAY BE USED INSTEAD OF 48" X 48" SIGNS.

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

IF A "STOP" SIGN MUST BE REMOVED FOR A WORK OPERATION, A TEMPORARY "STOP" SIGN SHALL BE PLACED PRIOR TO THE SIGN REMOVAL, OR A FLAGGER SHALL BE PROVIDED UNTIL THE SIGN IS REESTABLISHED.

* THE THIRD W20-1 SIGN IS REQUIRED ONLY IF THERE IS AN INTERSECTION BETWEEN THE "ROAD WORK 500 FEET" SIGN AND THE WORK ZONE. ADJUST THE PLACEMENT OF THIS SIGN BASED ON INTERSECTION LOCATION AND OTHER FIELD CONDITIONS.



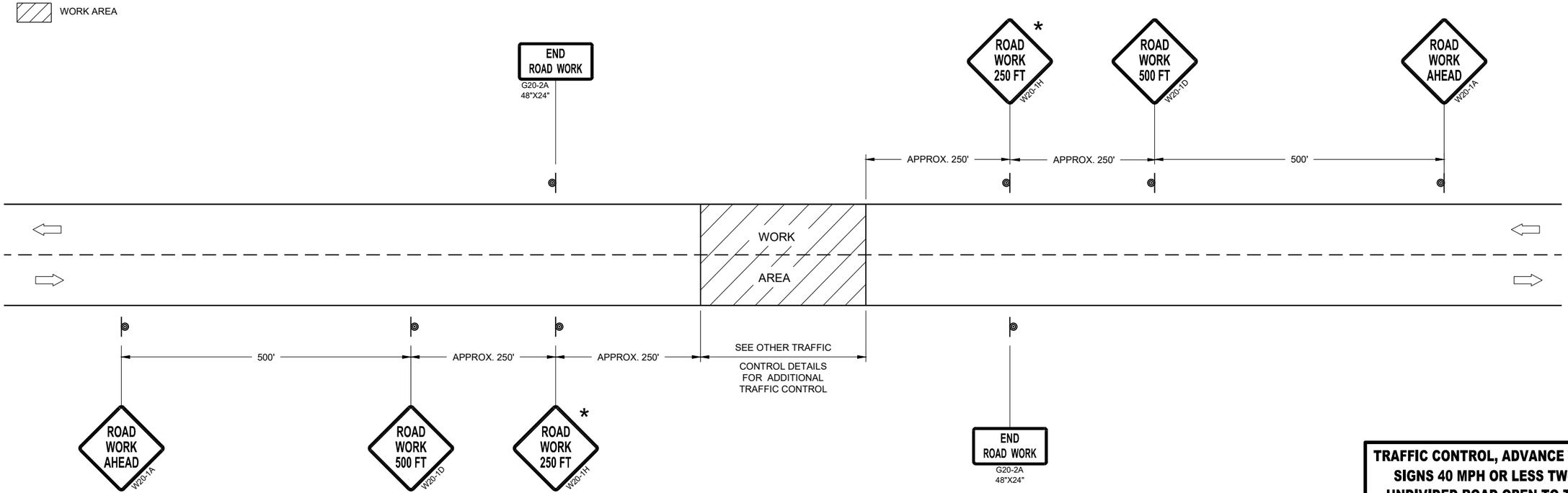
TYPICAL SIDE ROAD APPROACH WARNING SIGN DETAIL

LEGEND

SIGN ON PERMANENT SUPPORT

DIRECTION OF TRAFFIC

WORK AREA



TRAFFIC CONTROL, ADVANCE WARNING SIGNS 40MPH OR LESS

TRAFFIC CONTROL, ADVANCE WARNING SIGNS 40 MPH OR LESS TWO-WAY UNDIVIDED ROAD OPEN TO TRAFFIC

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
July 2018
DATE

/S/ Andrew Heidtke
WORK ZONE ENGINEE

FHWA

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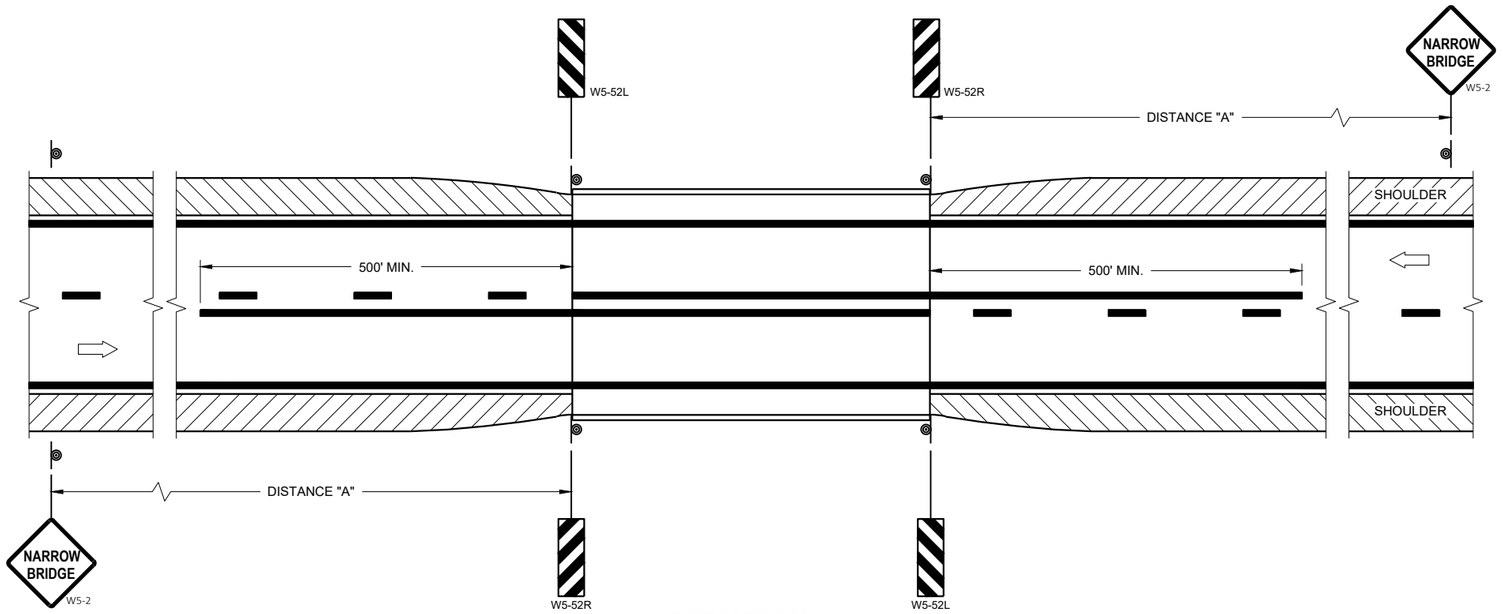
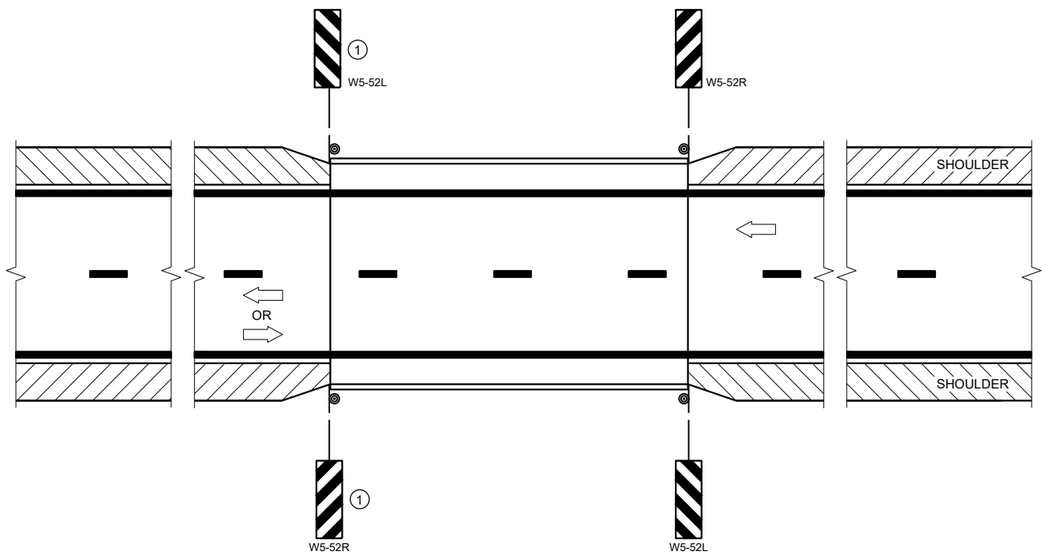
SDD 15C05 - 05



SITUATION 1

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



SITUATION 2

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

GENERAL NOTES

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

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

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

ON BRIDGE ONLY PROJECTS, PLACE 300 FEET OF EDGELINE.

OMIT EDGELINES ON ROADWAYS WITHOUT EXISTING EDGELINES.

(1) OMIT ON ONE-WAY TRAVELED WAYS.

LEGEND

SIGN ON PERMANENT SUPPORT

DIRECTION OF TRAFFIC

DISTANCE TABLE

POSTED OR 85TH PERCENTILE SPEED	DISTANCE "A"
25	150'
30	200'
35	250'
40	300'
45	400'
50	550'
55	700'

SIGNING AND MARKING FOR TWO LANE BRIDGES

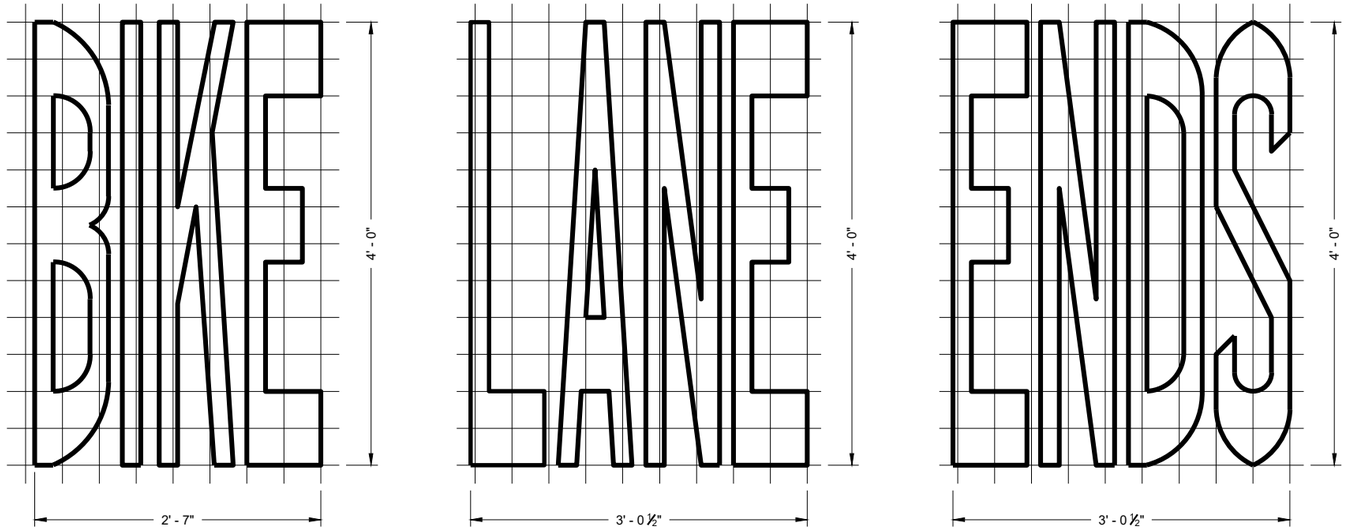
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
May 2022 — DATE
/S/ Jeannie Silver — STATE SIGNING AND MARKING ENGINEER
FHWA

6

SDD 15C06 - 10

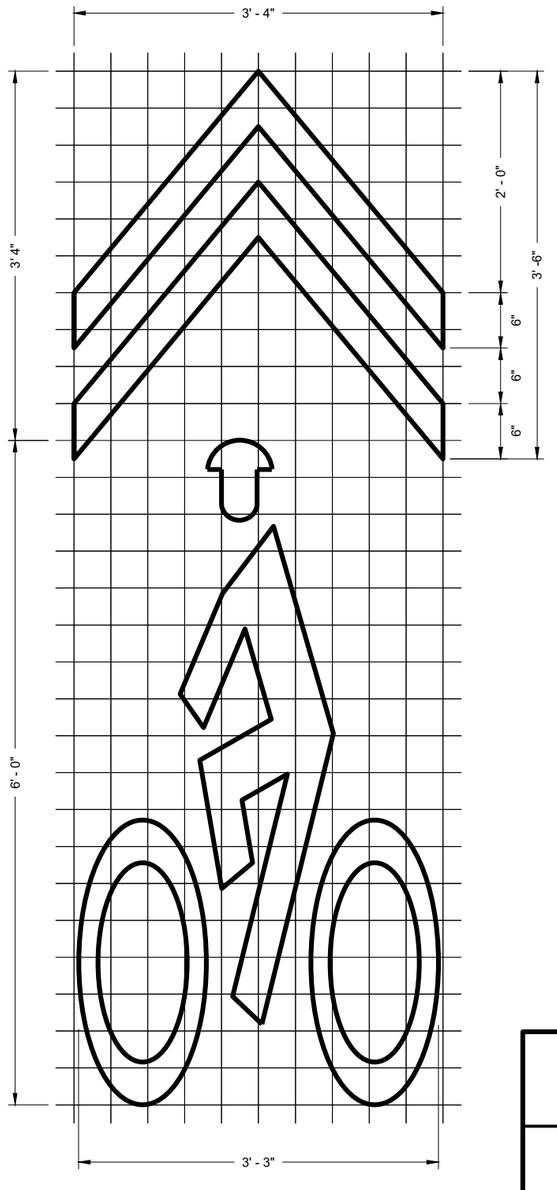
SDD 15C7-e Pavement Marking For Bike Lanes

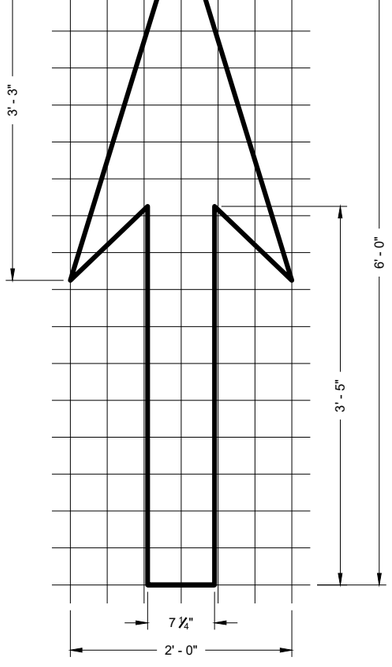


BIKE LANE WORDS

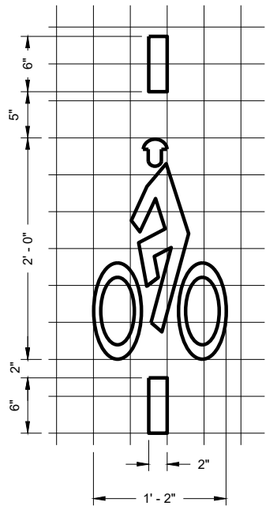
GENERAL NOTES

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

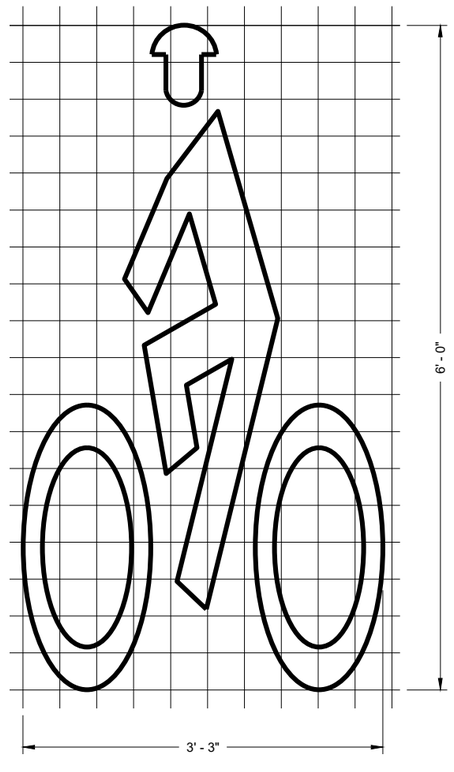




BIKE LANE ARROW



BICYCLE DETECTOR PAVEMENT MARKING



BIKE LANE SYMBOL

BIKE LANE SYMBOL FOR SHARED LANE

PAVEMENT MARKING FOR BIKE LANES

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
November 2019 — DATE
/S/ Matthew Rauch — STATE SIGNING AND MAF ENGINEER

FHWA

6

SDD 15C07 - 15e

GENERAL NOTES

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

(1) LOCATE THE NO PASSING ZONE W14-3 SIGN WITHIN 50 FEET OF THE "T" MARKING

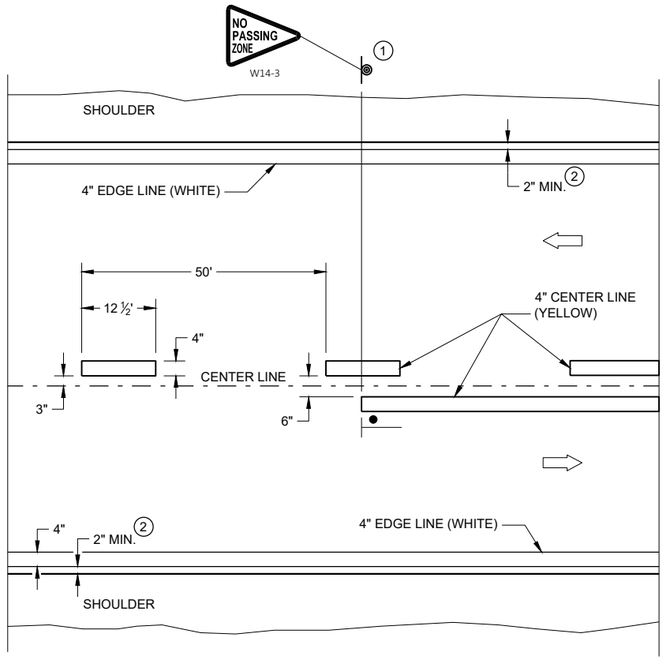
(2) MEASURE FROM EDGE OF MARKING TO JOINT LINE. THIS DOES NOT INCLUDE SPACE NEEDED FOR GROOVING OPERATIONS.

LEGEND

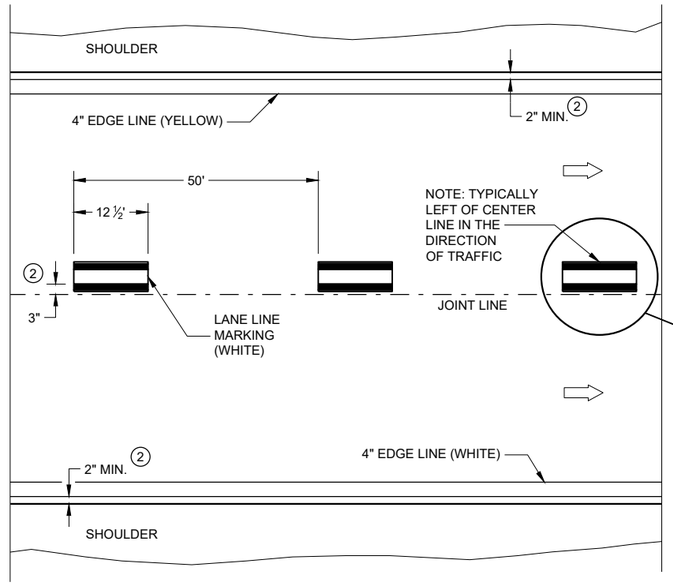
"T" MARKING

SIGN ON PERMANENT SUPPORT

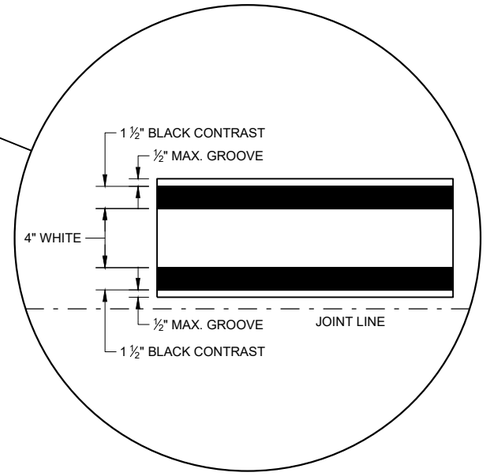
DIRECTION OF TRAFFIC



TWO WAY TRAFFIC



ONE WAY TRAFFIC



PERMANENT PAVEMENT MARKING

PERMANENT LONGITUDINAL PAVEMENT MARKINGS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
May 2022 — DATE
/S/ Jeannie Silver — STATEWIDE SIGNING AND M ENGINEER

FHWA

SDD 15C08 - 21a

SDD 15C08 - 21a

GENERAL NOTES

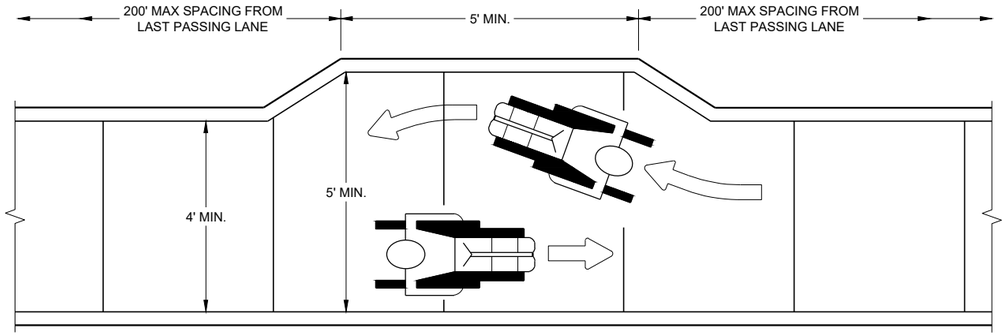
BARRICADE DEVICE SELECTED FROM APPROVED PRODUCT LIST

(1) REFLECTIVE SHEETING SHALL FOLLOW THE REQUIREMENTS IN THE APPROVED PRODUCTS LISTING FOR SIGN SHEETING.

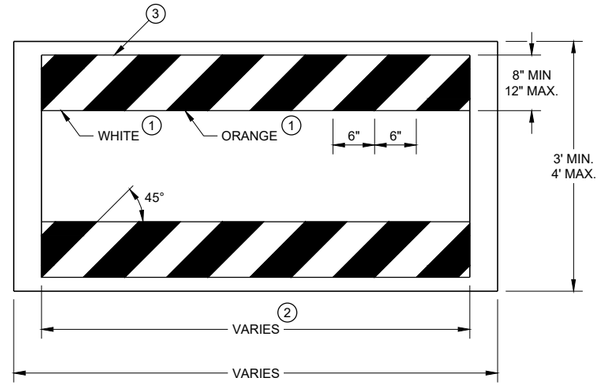
(2) SHEETING REQUIRED ON MORE THAN 50% OF BARRICADE WIDTH.

(3) PLACE SHEETING ON BOTH SIDES OF THE BARRICADE.

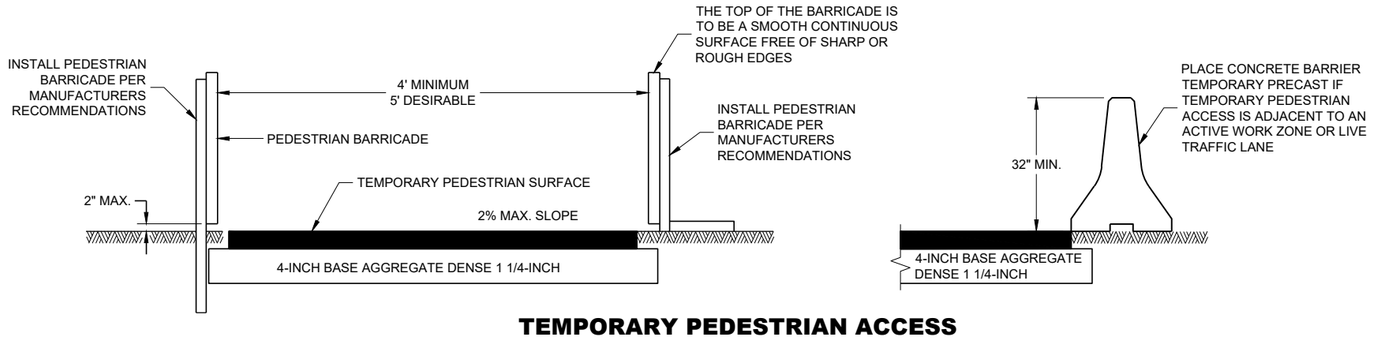
* USE THIS DETAIL FOR SHEETING PLACEMENT REFERENCE.



NARROW SIDEWALK PASSING DETAIL



TEMPORARY PEDESTRIAN BARRICADE*



TEMPORARY PEDESTRIAN ACCESS

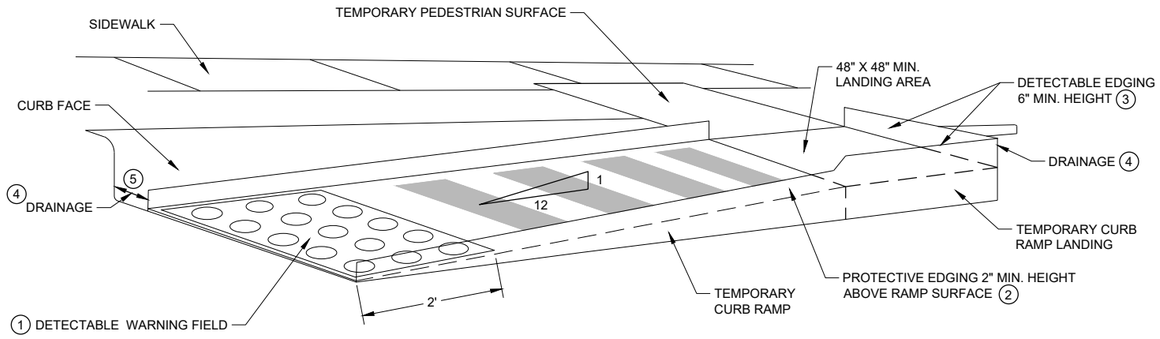
6

6

SDD 15D30 - 07a

SDD 15D30 - 07a

TRAFFIC CONTROL, PEDESTRIAN ACCOMMODATION



PERSPECTIVE VIEW

GENERAL NOTES

CURB RAMPS SHALL BE 48" MIN. WIDTH WITH A FIRM, STABLE AND SLIP RESISTANT SURFACE.

CURB RAMPS AND LANDINGS SHALL HAVE A 1:50 (2%) MAX. CROSS-SLOPE.

CLEAR SPACE OF 48" X 48" SHALL BE PROVIDED ABOVE AND BELOW THE CURB RAMP.
LATERAL JOINTS OR GAPS BETWEEN SURFACES SHALL BE LESS THAN ½" WIDTH.

CHANGES BETWEEN SURFACE HEIGHTS SHALL NOT EXCEED ½". LATERAL EDGES MAY BE VERTICAL UP TO ¼" HIGH AND SHALL BE BEVELED AT 1:2 BETWEEN ¼" AND ½".

(1) INSTALL CONTRASTING TEMPORARY DETECTABLE WARNING FIELD AT PEDESTRIAN STREET CROSSINGS, AS SHOWN IN THE PLANS.

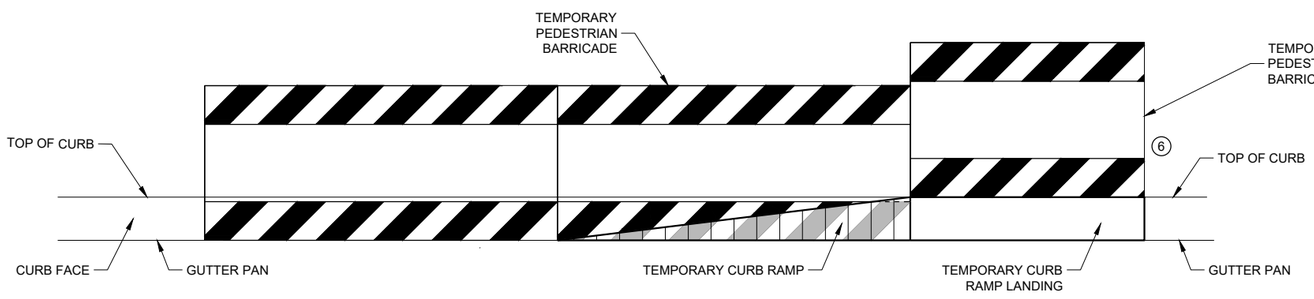
(2) PROTECTIVE EDGING WITH A 2" MIN. HEIGHT SHALL BE INSTALLED WHEN A CURB RAMP OR LANDING PLATFORM HAS A VERTICAL DROP OF 6" OR GREATER OR HAS A SIDE APRON SLOPE STEEPER THAN 1:3 (33%). PROTECTIVE EDGING SHOULD BE CONSIDERED WHEN CURB RAMPS OR LANDING PLATFORMS HAVE A VERTICAL DROP OF 3" OR MORE.

(3) DETECTABLE EDGING WITH 6" MIN. HEIGHT AND CONTRASTING COLOR SHALL BE INSTALLED ON ALL CURB RAMP LANDINGS WHERE THE WALKWAY CHANGES DIRECTION (TURNS).

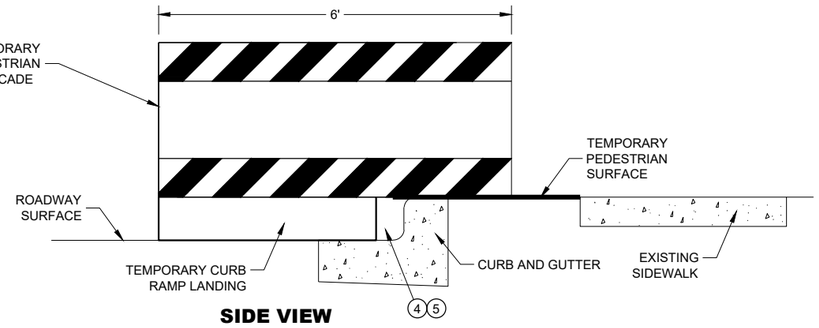
(4) DO NOT RESTRICT WATER FLOW IN THE GUTTER SYSTEM.

(5) 6" MINIMUM BETWEEN CURB FACE AND EDGE OF RAMP

(6) IF ONLY PART OF THE END PANEL OF TEMPORARY PEDESTRIAN BARRICADE PANEL IS NEEDED, EXTEND EXCESS PORTION OF TEMPORARY PEDESTRIAN BARRICADE PANEL HERE.



FRONT VIEW



SIDE VIEW

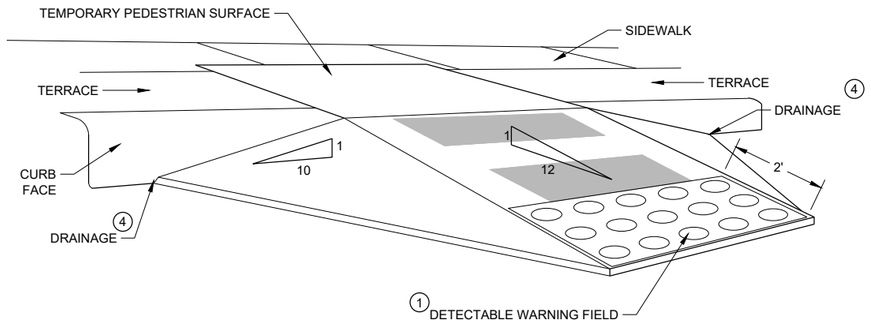
TEMPORARY CURB RAMP PARALLEL TO CURB

TRAFFIC CONTROL, PEDESTRIAN ACCOMMODATION

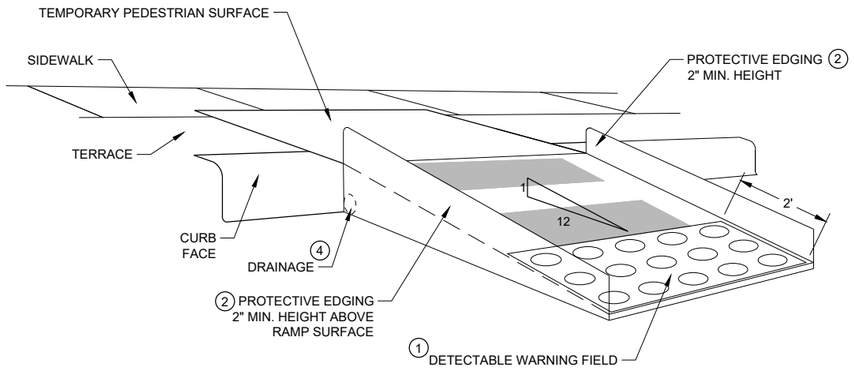
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

6

SDD 15D30 - 07b
SDD 15D30 - 07b



WITH SIDE APRON (5)



WITH PROTECTIVE EDGE

TEMPORARY CURB RAMP PERPENDICULAR TO CURB

GENERAL NOTES

CURB RAMPS SHALL BE 48" MINIMUM WIDTH WITH A FIRM, STABLE AND SLIP RESISTANT SURFACE.

ALTERNATE SIDEWALK WORK BETWEEN LEFT AND RIGHT SIDE OF ROADWAY TO MAINTAIN PEDESTRIAN ACCESS.

CURB RAMPS AND LANDINGS SHALL HAVE A 1:50 (2%) MAX. CROSS-SLOPE.

CLEAR SPACE OF 48" X 48" SHALL BE PROVIDED ABOVE AND BELOW THE CURB RAMP.

LATERAL JOINTS OR GAPS BETWEEN SURFACES SHALL BE LESS THAN ½" WIDTH.

CHANGES BETWEEN SURFACE HEIGHTS SHALL NOT EXCEED ½". LATERAL EDGES MAY BE VERTICAL UP TO ¼" HIGH AND SHALL BE BEVELED AT 1:2 BETWEEN ¼" AND ½".

(1) INSTALL CONTRASTING TEMPORARY DETECTABLE WARNING FIELD AT PEDESTRIAN STREET CROSSINGS, AS SHOWN IN THE PLANS

(2) PROTECTIVE EDGING WITH A 2" MIN. HEIGHT SHALL BE INSTALLED WHEN A CURB RAMP OR LANDING PLATFORM HAS A VERTICAL DROP OF 6" OR GREATER OR HAS A SIDE APRON SLOPE STEEPER THAN 1:3 (33%). PROTECTIVE EDGING SHOULD BE CONSIDERED WHEN CURB RAMPS OR LANDING PLATFORMS HAVE A VERTICAL DROP OF 3" OR MORE.

(3) DETECTABLE EDGING WITH 6" MIN. HEIGHT AND CONTRASTING COLOR SHALL BE INSTALLED ON ALL CURB RAMP LANDINGS WHERE THE WALKWAY CHANGES DIRECTION (TURNS).

(4) DO NOT RESTRICT WATER FLOW IN THE GUTTER SYSTEM.

(5) CAN ONLY BE USED FOR RAMPS WITH 6" OR LESS OF VERTICAL CHANGE.

6

SDD 15D30 - 07c

TRAFFIC CONTROL, PEDESTRIAN ACCOMMODATION

GENERAL NOTES

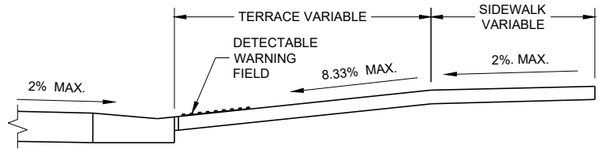
BARRICADE DEVICE SELECTED FROM APPROVED PRODUCT LIST

(1) REFLECTIVE SHEETING SHALL FOLLOW THE REQUIREMENTS IN THE APPROVED PRODUCTS LISTING FOR SIGN SHEETING.

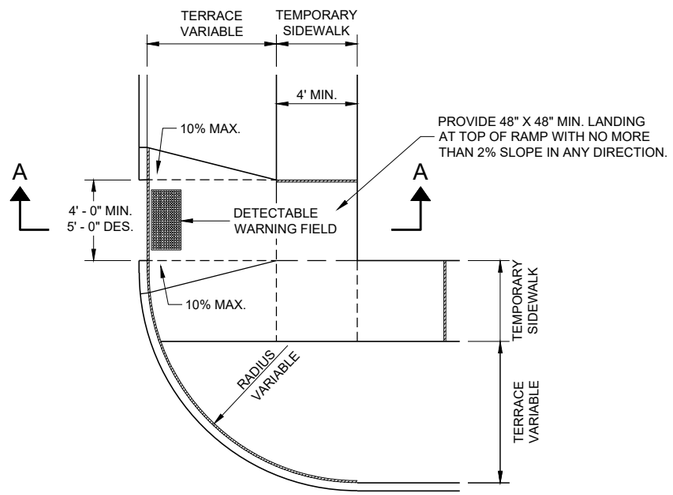
(2) SHEETING REQUIRED ON MORE THAN 50% OF BARRICADE WIDTH.

(3) PLACE SHEETING ON BOTH SIDES OF THE BARRICADE.

* USE THIS DETAIL FOR SHEETING PLACEMENT REFERENCE.



SECTION A - A



PLAN VIEW

TEMPORARY TYPE 3 RAMP

(OUTSIDE OF CROSSWALK AREA)

6

6

SDD 15D30 - 07d

SDD 15D30 - 07d

TRAFFIC CONTROL, PEDESTRIAN ACCOMMODATION

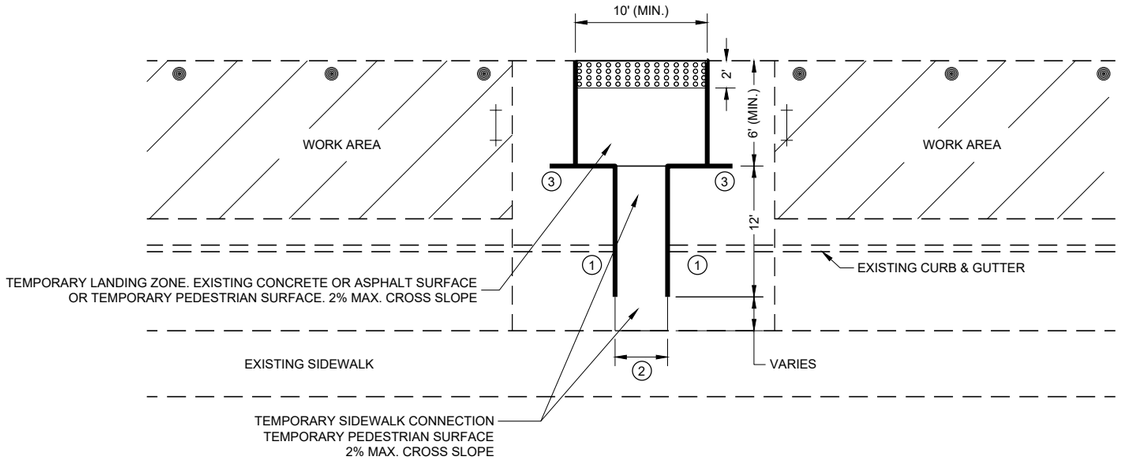
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

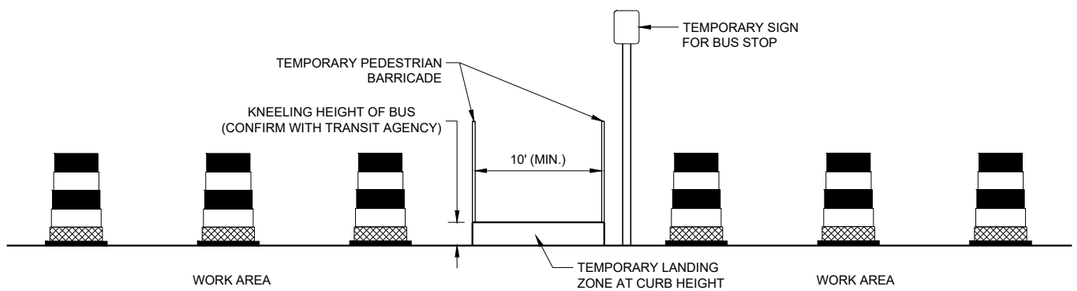
May 2022
DATE

/S/ Andrew Heidtke
WORK ZONE ENGINEE

FHWA



PLAN VIEW



PROFILE VIEW

TEMPORARY BUS STOP PAD

GENERAL NOTES

TYPICAL TEMPORARY PEDESTRIAN BARRICADE PANEL IS 6 FEET LONG.

NOTIFY THE BUS COMPANY 7 DAYS IN ADVANCE OF THE BUS STOP RELOCATION.

PROTECTIVE EDGING WITH A 2" MIN. HEIGHT SHALL BE INSTALLED WHEN A CURB RAMP OR LANDING PLATFORM HAS A VERTICAL DROP OF 6" OR GREATER OR HAS A SIDE APRON SLOPE STEEPER THAN 1:3 (33%). PROTECTIVE EDGING SHOULD BE CONSIDERED WHEN CURB RAMPS OR LANDING PLATFORMS HAVE A VERTICAL DROP OF 3" OR MORE.

DETECTABLE EDGING WITH 6" MIN. HEIGHT AND CONTRASTING COLOR SHALL BE INSTALLED ON ALL CURB RAMP LANDINGS WHERE THE WALKWAY CHANGES DIRECTION (TURNS).

LATERAL JOINTS OR GAPS BETWEEN SURFACES SHALL BE LESS THAN ½" WIDTH.

CHANGES BETWEEN SURFACE HEIGHTS SHALL NOT EXCEED ½". LATERAL EDGES MAY BE VERTICAL UP TO ¼" HIGH AND SHALL BE BEVELED AT 1:2 BETWEEN ¼" AND ½".

CURB RAMPS AND LANDINGS SHALL HAVE A 1:50 (2%) MAX. CROSS-SLOPE.

(1) DO NOT RESTRICT WATER FLOW IN THE GUTTER SYSTEM.

(2) 5' WIDE MIN. WITH TEMPORARY PEDESTRIAN BARRICADE, 10' WIDE MIN. WITHOUT TEMPORARY PEDESTRIAN BARRICADE.

(3) PLACE EXCESS PORTION OF TEMPORARY PEDESTRIAN BARRICADE INTO THIS SPACE.

LEGEND

- TRAFFIC CONTROL DRUM
- TYPE III BARRICADE
- TEMPORARY PEDESTRIAN BARRICADE
- TEMPORARY DETECTABLE WARNING FIELD
- WORK AREA

6

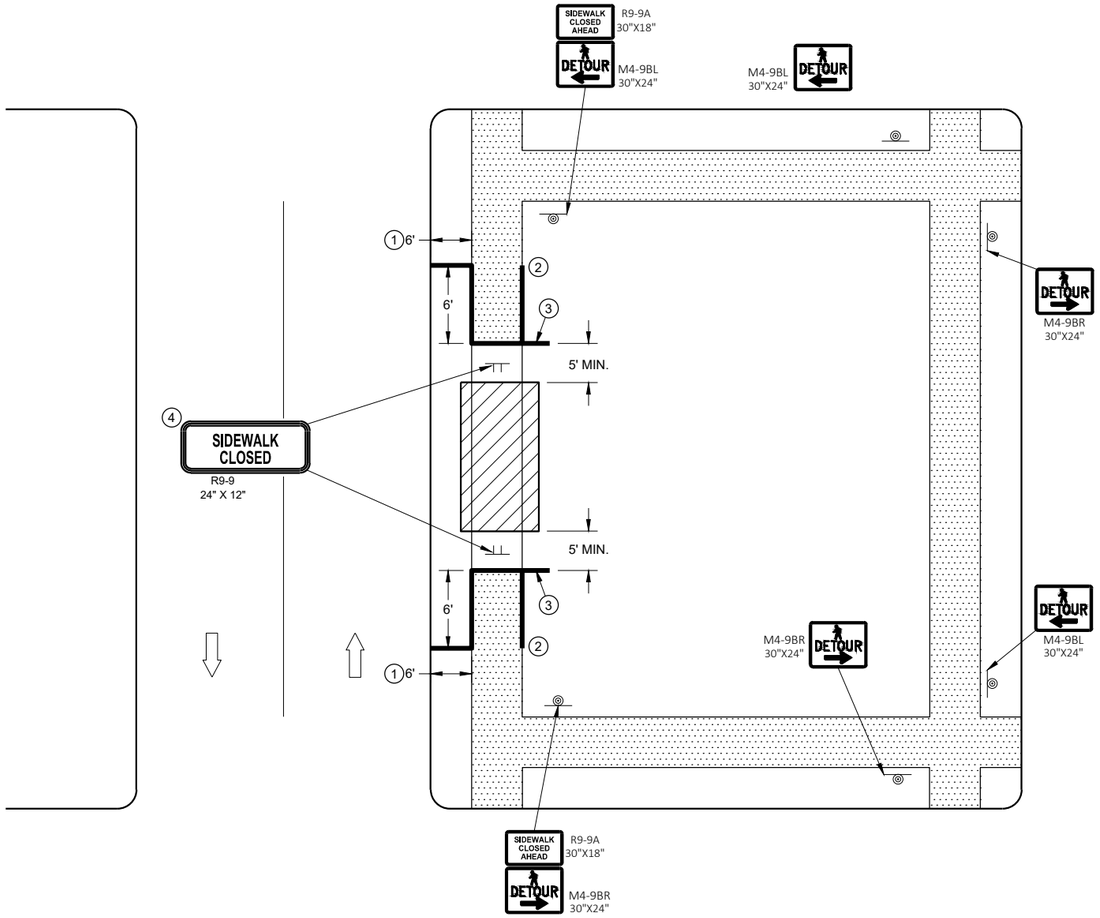
SDD 15D30 - 07e

TRAFFIC CONTROL, PEDESTRIAN ACCOMMODATION

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTA1 56

LEGEND

- SIGN ON PERMANENT SUPPORT
- SIGN ON TEMPORARY SUPPORT
- UNDER PEDESTRIAN TRAFFIC
- WORK AREA
- TEMPORARY PEDESTRIAN BARRICADE
- DIRECTION OF TRAFFIC



SIDEWALK DETOUR, SIDEWALK ONLY ON ONE SIDE

GENERAL NOTES

SIGN LAYOUTS SHALL BE IN ACCORDANCE WITH THE WISCONSIN STANDARD SIGN PLATES.

WHERE TEMPORARY BARRICADE RUNS PARALLEL ALONG SIDEWALK, PLACE THE FACE OF THE BARRICADE AT THE EDGE OF THE SIDEWALK.

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

1. IF TERRACE IS LESS THAN 6 FEET WIDE, OMIT TEMPORARY PEDESTRIAN BARRICADE FROM THE SIDEWALK TO THE CURB.
2. PLACE BARRICADE CLOSURE SO THAT THE TEMPORARY PEDESTRIAN BARRICADE END IS AT THE LAST OPEN SIDEWALK ACCESS TO RESIDENCES OR BUSINESSES BEFORE THE SIDEWALK CLOSURE.
3. IF TEMPORARY PEDESTRIAN BARRICADE PANEL IS WIDER THAN THE SIDEWALK WIDTH, THE PORTION OF EXCESS PANEL SHOULD EXTEND INTO THE TERRACE.
4. MOUNTING HEIGHT OF 5 FEET FROM THE SURFACE TO THE BOTTOM OF SIGN.

TRAFFIC CONTROL, PEDESTRIAN ACCOMMODATION

6

SDD 15D30 - 07f

LEGEND

- SIGN ON TEMPORARY SUPPORT
- WORK AREA
- UNDER PEDESTRIAN TRAFFIC
- TEMPORARY PEDESTRIAN SURFACE
- TEMPORARY PEDESTRIAN BARRICADE
- OPTIONAL TEMPORARY PEDESTRIAN BARRICADE
- DIRECTION OF TRAFFIC

GENERAL NOTES

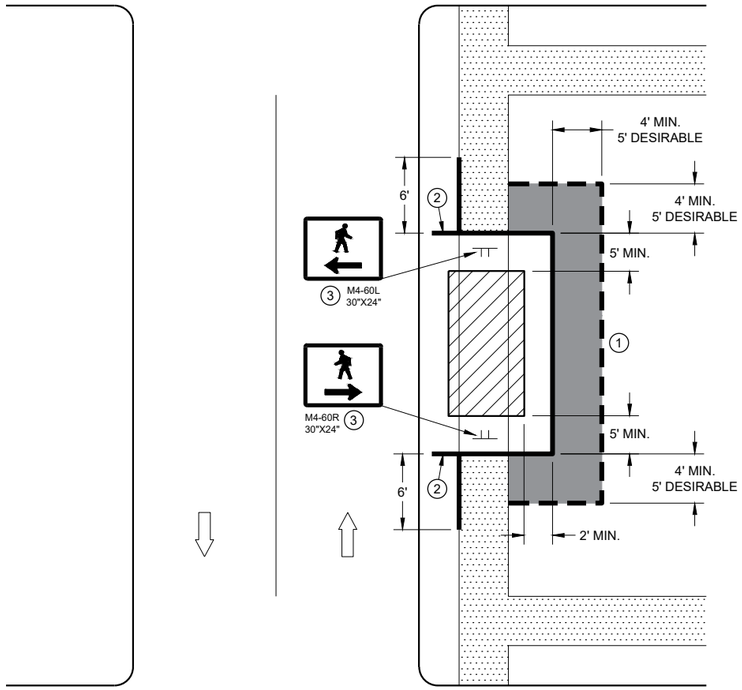
TYPICAL TEMPORARY PEDESTRIAN BARRICADE PANEL IS 6 FEET LONG.

SIGN LAYOUTS SHALL BE IN ACCORDANCE WITH THE WISCONSIN STANDARD SIGN PLATES.

WHERE TEMPORARY BARRICADE RUNS PARALLEL ALONG SIDEWALK, PLACE THE FACE OF THE BARRICADE AT THE EDGE OF THE SIDEWALK.

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

1. USE TEMPORARY PEDESTRIAN BARRICADE TO SEPARATE PEDESTRIANS FROM DROP OFFS OR FOR ADDITIONAL PEDESTRIAN CHANNELIZATION.
2. IF TEMPORARY PEDESTRIAN BARRICADE PANEL IS WIDER THAN THE SIDEWALK WIDTH, THE PORTION OF EXCESS PANEL SHOULD EXTEND INTO THE TERRACE.
3. MOUNTING HEIGHT OF 5 FEET FROM THE SURFACE TO THE BOTTOM OF SIGN.



SIDEWALK DIVERSION
SINGLE SIDE

6

6

SDD 15D30 - 07g

SDD15D30 - 07g

TRAFFIC CONTROL,
PEDESTRIAN ACCOMMODATION

LEGEND

- SIGN ON TEMPORARY SUPPORT
- TRAFFIC CONTROL DRUM
- WORK AREA
- UNDER PEDESTRIAN TRAFFIC
- TEMPORARY CURB RAMP
- TEMPORARY PEDESTRIAN SURFACE "A"
- TEMPORARY PEDESTRIAN SURFACE "B"
- TEMPORARY PEDESTRIAN BARRICADE
- DIRECTION OF TRAFFIC

GENERAL NOTES

TYPICAL TEMPORARY PEDESTRIAN BARRICADE PANEL IS 6 FEET LONG.

SIGN LAYOUTS SHALL BE IN ACCORDANCE WITH THE WISCONSIN STANDARD SIGN PLATES.

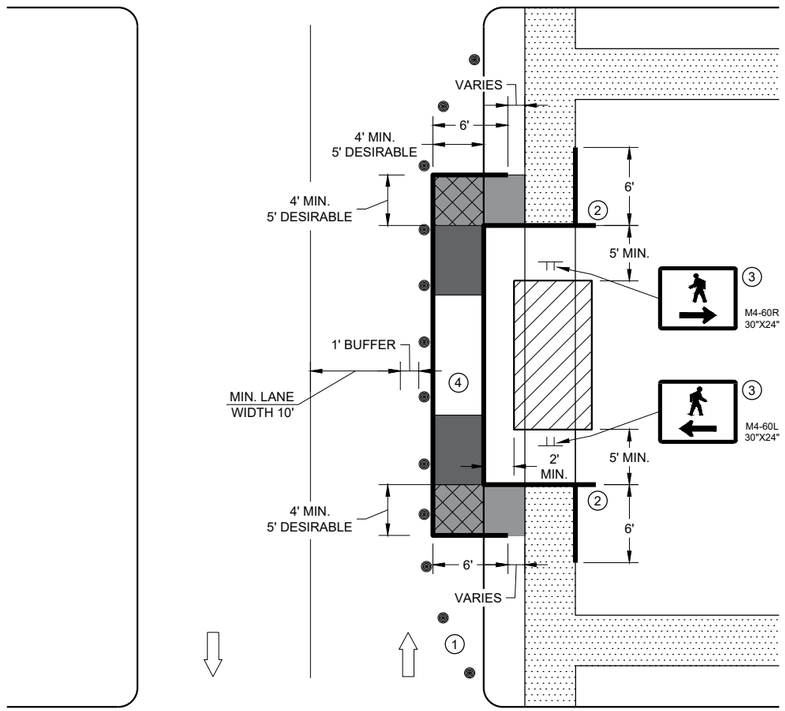
WHERE TEMPORARY BARRICADE RUNS PARALLEL ALONG SIDEWALK, PLACE THE FACE OF THE BARRICADE AT THE EDGE OF THE SIDEWALK.

(1) SHOULDER OR LANE CLOSURE ADVANCE WARNING AND BUFFER SPACE REQUIRED.

(2) PLACE EXCESS PORTION OF TEMPORARY PEDESTRIAN BARRICADE PANEL PAST THE SIDEWALK ON THE SIDE AWAY FROM THE ROAD.

(3) MOUNTING HEIGHT OF 5 FEET FROM THE SURFACE TO THE BOTTOM OF SIGN.

(4) USE EXISTING PAVEMENT SURFACE. IF EXISTING PAVEMENT SURACE HAS BEEN REMOVED, USE A TEMPORARY PEDESTRIAN SURFACE.



SIDEWALK DIVERSION, SINGLE SIDE

TRAFFIC CONTROL, PEDESTRIAN ACCOMMODATION

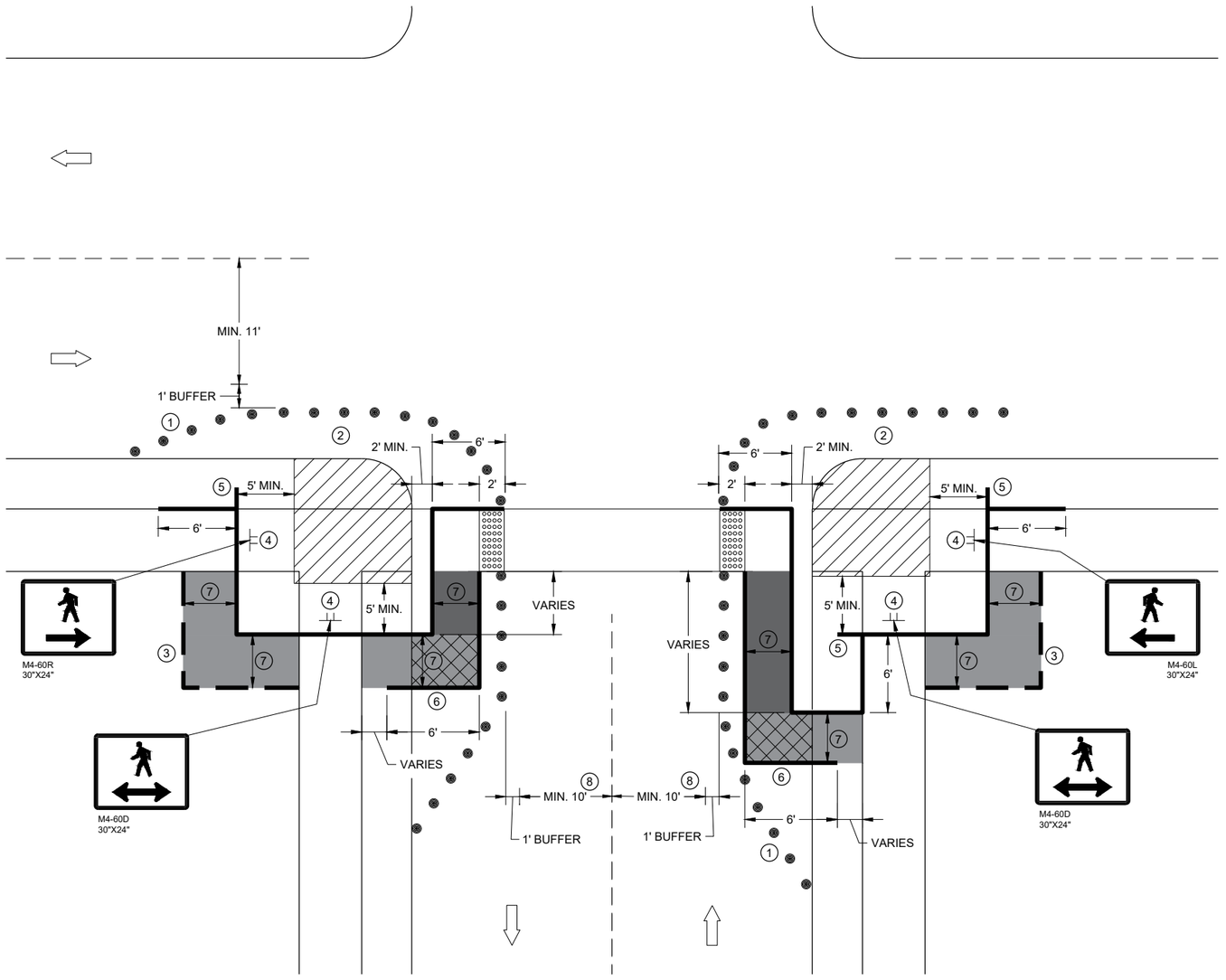
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

6

SDD 15D30 - 07h

6

SDD 15D30 - 07h



CURB RAMP PEDESTRIAN TRAFFIC CONTROL
SIDEWALK ON SINGLE SIDE

GENERAL NOTES

IF PEDESTRIAN PUSH BUTTONS ARE PRESENT ON THE EXISTING FACILITY, ENSURE THEY ARE MAINTAINED/ACCESSIBLE FOR PEDESTRIAN USE THROUGHOUT THE TEMPORARY PEDESTRIAN ACCOMMODATIONS.

SIGN LAYOUTS SHALL BE IN ACCORDANCE WITH THE WISCONSIN STANDARD SIGN PLATES.

TYPICAL TEMPORARY PEDESTRIAN BARRICADE PANEL IS 6 FEET LONG

WHEN TEMPORARY PEDESTRIAN BARRICADE RUNS PARALLEL ALONG THE SIDEWALK, PLACE THE FACE OF THE BARRICADE AT THE EDGE OF THE SIDEWALK.

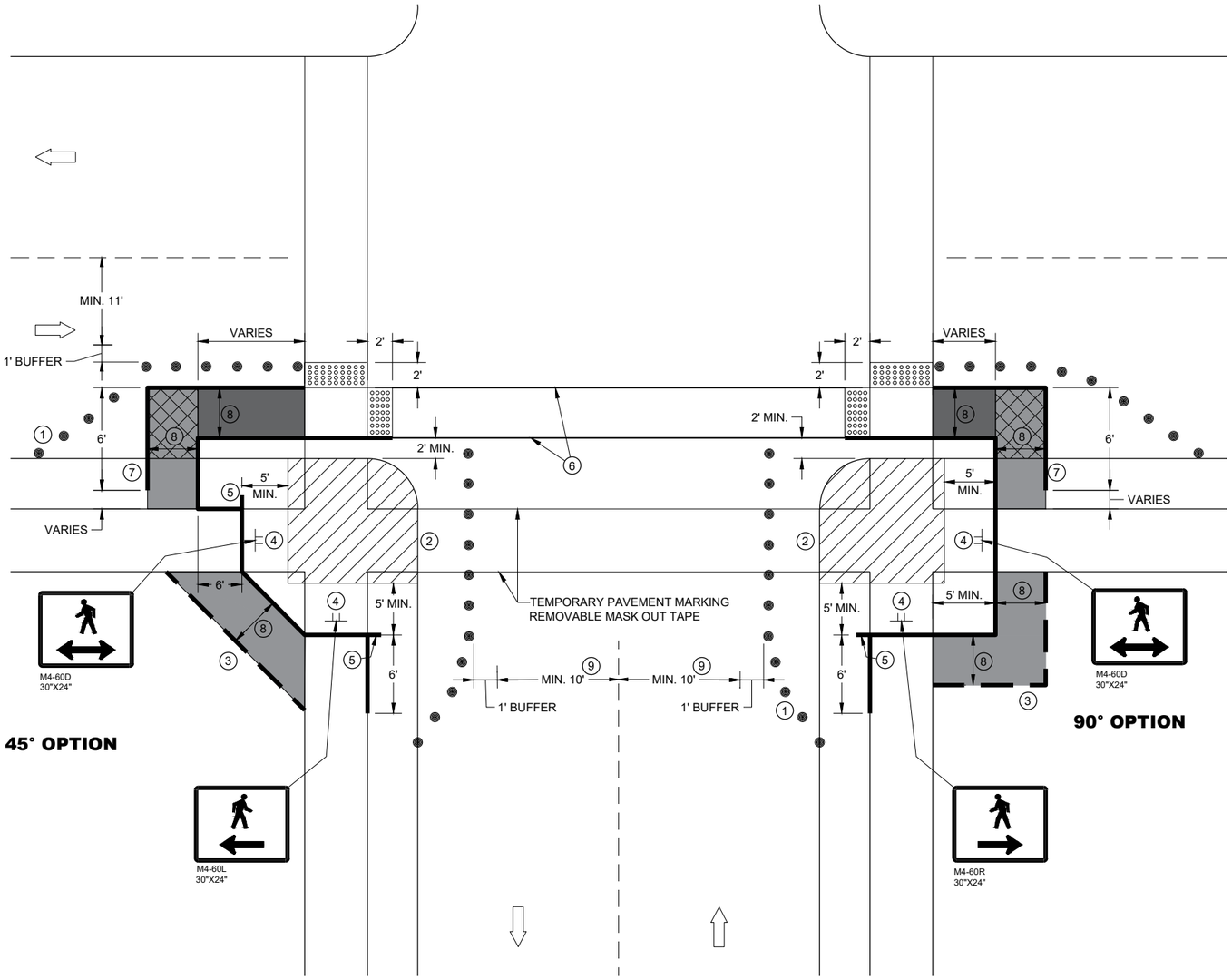
1. SHOULDER OR LANE CLOSURE ADVANCE WARNING AND PROPER BUFFER SPACE REQUIRED.
2. PROVIDE ADEQUATE SPACE FOR CONTRACTOR OPERATIONS
3. USE TEMPORARY PEDESTRIAN BARRICADE TO SEPARATE PEDESTRIANS FROM DROP OFFS OR FOR ADDITIONAL PEDESTRIAN CHANNELIZATION.
4. MOUNTING HEIGHT OF 5 FEET FROM SIDEWALK SURFACE TO BOTTOM OF SIGN.
5. PLACE EXCESS PORTION OF TEMPORARY PEDESTRIAN BARRICADE PANEL IN THE SIDEWALK TERRACE.
6. IF TEMPORARY PEDESTRIAN BARRICADE DOES NOT REACH THE FACE OF THE CURB, USE AN ADDITIONAL PANEL AND EXTEND INTO THE TERRACE.
7. 4 FEET MINIMUM, 5 FEET DESIRABLE
8. IF MINIMUM LANE WIDTHS CAN'T BE ATTAINED, CURB RAMPS MAY NEED TO BE CONSTRUCTED AT SEPARATE TIMES.

LEGEND

- SIGN ON TEMPORARY SUPPORT
- TRAFFIC CONTROL DRUM
- WORK AREA
- TEMPORARY CURB RAMP
- TEMPORARY PEDESTRIAN SURFACE "A"
- TEMPORARY PEDESTRIAN SURFACE "B"
- TEMPORARY DETECTABLE WARNING FIELD
- TEMPORARY PEDESTRIAN BARRICADE
- OPTIONAL TEMPORARY PEDESTRIAN BARRICADE
- DIRECTION OF TRAFFIC

TRAFFIC CONTROL,
PEDESTRIAN ACCOMMODATION

6
SDD 15D30 - 07i



CURB RAMP PEDESTRIAN TRAFFIC CONTROL

GENERAL NOTES

IF PEDESTRIAN PUSH BUTTONS ARE PRESENT ON THE EXISTING FACILITY, ENSURE THEY ARE MAINTAINED/ACCESSIBLE FOR PEDESTRIAN USE THROUGHOUT THE TEMPORARY PEDESTRIAN ACCOMMODATIONS.

SIGN LAYOUTS SHALL BE IN ACCORDANCE WITH THE WISCONSIN STANDARD SIGN PLATES.

TYPICAL TEMPORARY PEDESTRIAN BARRICADE PANEL IS 6 FEET LONG

WHEN TEMPORARY PEDESTRIAN BARRICADE RUNS PARALLEL ALONG THE SIDEWALK, PLACE THE FACE OF THE BARRICADE AT THE EDGE OF THE SIDEWALK.

1. SHOULDER OR LANE CLOSURE ADVANCE WARNING AND PROPER BUFFER SPACE REQUIRED.
2. PROVIDE ADEQUATE SPACE FOR CONTRACTOR OPERATIONS
3. USE TEMPORARY PEDESTRIAN BARRICADE TO SEPARATE PEDESTRIANS FROM DROP OFFS OR FOR ADDITIONAL PEDESTRIAN CHANNELIZATION.
4. MOUNTING HEIGHT OF 5 FEET FROM SIDEWALK SURFACE TO BOTTOM OF SIGN.
5. PLACE EXCESS PORTION OF TEMPORARY PEDESTRIAN BARRICADE PANEL IN THE SIDEWALK TERRACE.
6. WHITE 6" TEMPORARY PAVEMENT MARKING
7. IF TEMPORARY PEDESTRIAN BARRICADE DOES NOT REACH THE FACE OF THE CURB, USE AN ADDITIONAL PANEL AND EXTEND INTO THE TERRACE.
8. 4 FEET MINIMUM, 5 FEET DESIRABLE
9. IF MINIMUM LANE WIDTHS CAN'T BE ATTAINED, CURB RAMPS MAY NEED TO BE CONSTRUCTED AT SEPARATE TIMES.

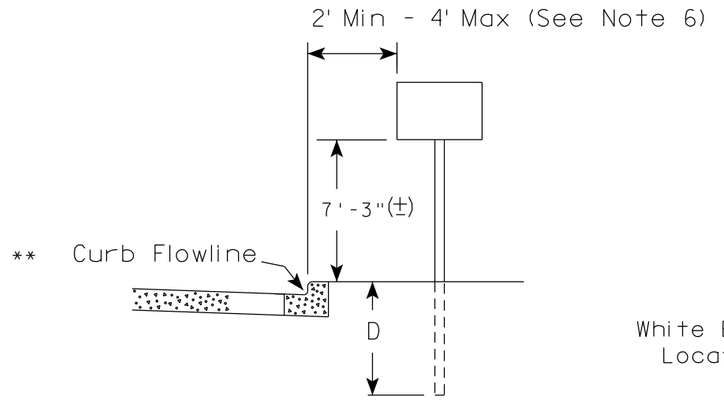
LEGEND

- SIGN ON TEMPORARY SUPPORT
- TRAFFIC CONTROL DRUM
- WORK AREA
- TEMPORARY CURB RAMP
- TEMPORARY PEDESTRIAN SURFACE "A"
- TEMPORARY PEDESTRIAN SURFACE "B"
- TEMPORARY DETECTABLE WARNING FIELD
- TEMPORARY PEDESTRIAN BARRICADE
- OPTIONAL TEMPORARY PEDESTRIAN BARRICADE
- DIRECTION OF TRAFFIC

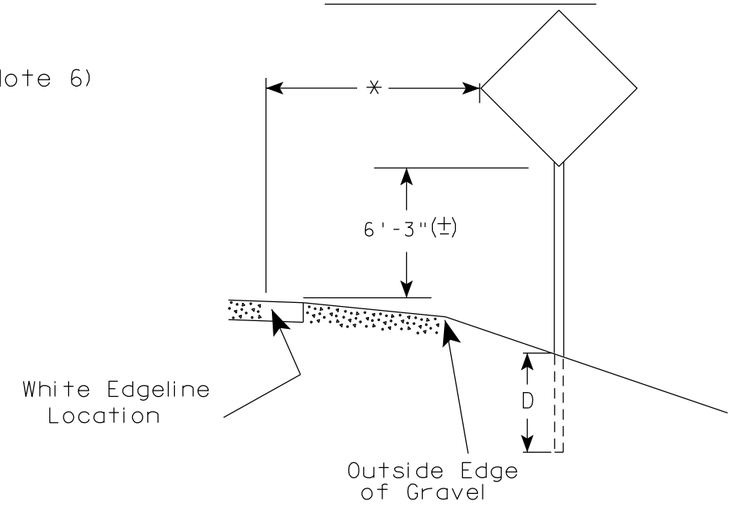
TRAFFIC CONTROL, PEDESTRIAN ACCOMMODATION

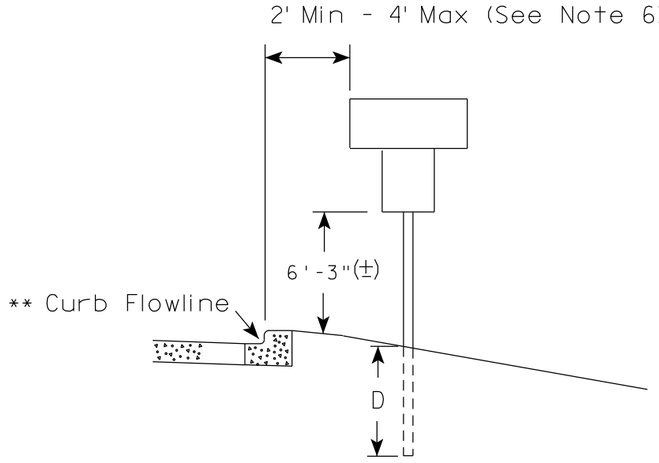
6
SDD 15D30 - 07j

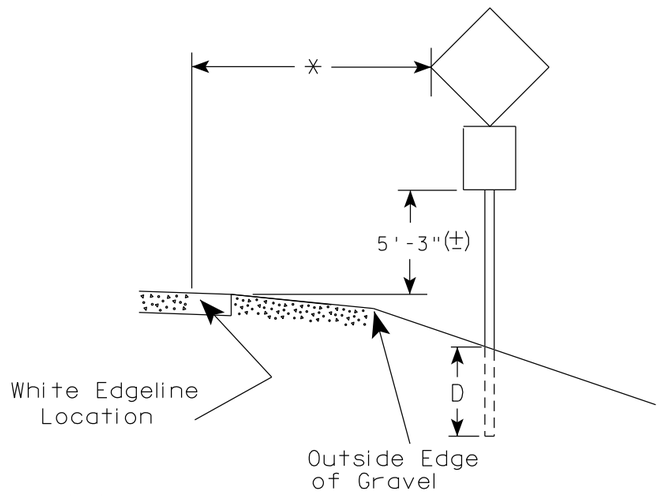
URBAN AREA



RURAL AREA (See Note 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. Offset of signs is measured from the flow line.

* 6 feet from edge of a paved shoulder or 12 feet from the edge of pavement (edge line location) or 2 feet from outside edge of gravel, whichever is greater unless directed by project engineer.

POST EMBEDMENT DEPTH

Area of Sign Installation (Sq.Ft.)	D (Min)
20 or Less	4'
Greater than 20	5'

GENERAL NOTES

1. Signs wider than 4 feet or 20 sq.ft or larger, shall be mounted on multiple posts. Refer to plate A4-4.
2. If signs are mounted on or behind barrier wall, see A4-10 sign plate.
   The Double Arrow sign (W12-1D) shall be mounted at a height of 2'-3" (±). The Chevron sign (W1-8), Roundabout Chevron panel (R6-4B), Enhanced Reference Markers, Clearance Markers (W5-52), Mile Markers (D10 series), In Road Object Markers (W5-54) & End of Road Markers (W5-56) shall be mounted at a height of 4'-3" (±).
3. For expressways and freeways, mounting height is 7'- 3" (±) or 6'-3" (±) depending upon existence of a sub-sign.
4. Minimum mounting height for signs mounted on traffic signal poles is 5'- 3" (±).
5. Offset distance shall be consistent with existing signs or consistent throughout length of project.
6. The (±) tolerance for mounting height is 3 inches.
7. Folding signs shall be mounted at a height of 5'-3" (±) or as directd by the Engineer.

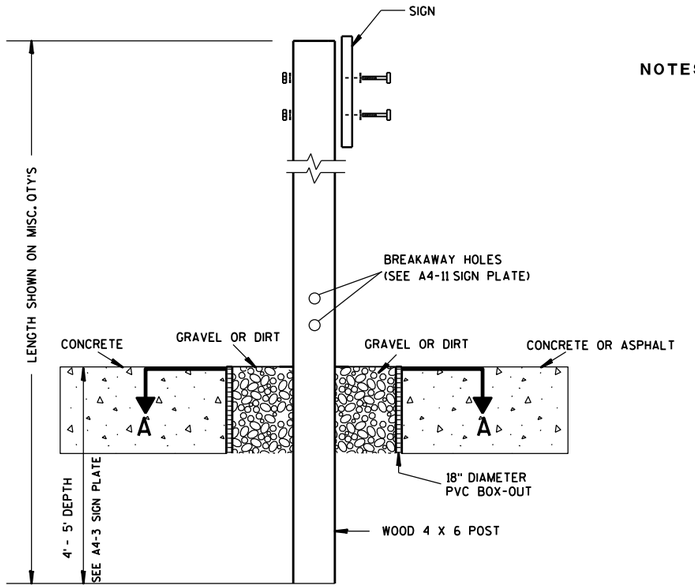
TYPICAL INSTALLATION OF PERMANENT TYPE II SIGNS ON SINGLE POSTS

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 5/13/2020 PLATE NO. A4-3.22

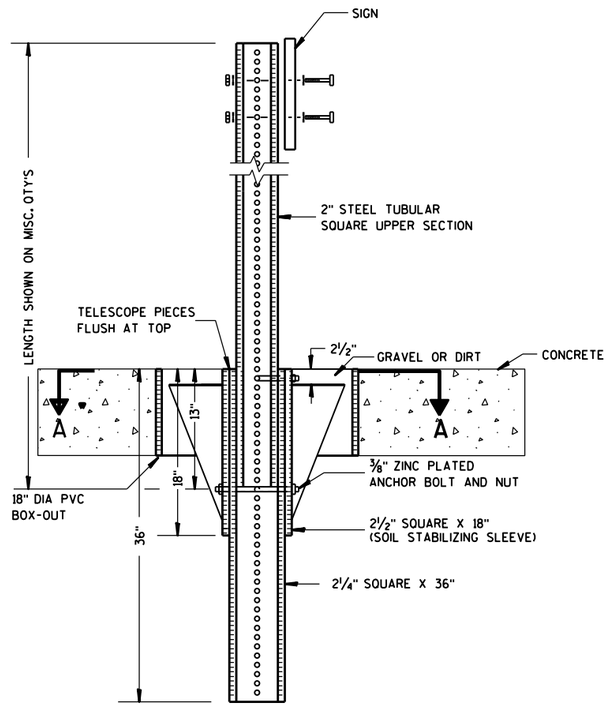
PROJECT NO:	HWY:	COUNTY:		SHEET NO: 62	E



ELEVATION VIEW

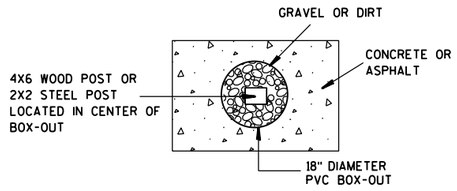
DETAIL OF WOOD 4 X 6 SIGN POST IN BOX-OUT

NOTES:
1. ALL MATERIAL TO BE APPROVED BY ENGINEER PRIOR TO INSTALLATION
2. SEE SIGN PLATE A4-8 FOR SIGN HARDWARE REQUIREMENTS
3. 18 INCH X 18 INCH SQUARE BOX-OUTS MAY BE USED FOR INSTALLATIONS IN EXISTING CONCRETE OR ASPHALT LOCATIONS.



ELEVATION VIEW

DETAIL OF STEEL 2 X 2 SIGN POST IN BOX-OUT



PLAN VIEW

FOR NEW CONCRETE/ASPHALT INSTALLATIONS

SIGN POST BOX-OUTS A4-3B

WISCONSIN DEPT OF TRANSPORTATION

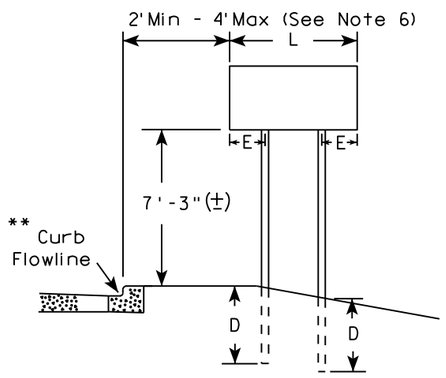
APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 1/27/14 PLATE NO. A4-3B.1

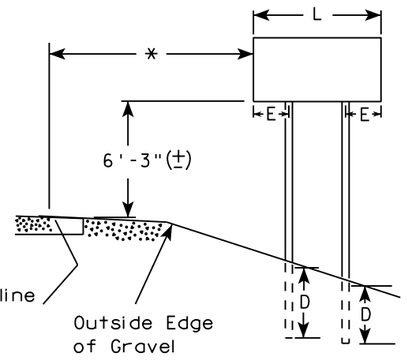
PROJECT NO:	HWY:	COUNTY:		SHEET NO:	E

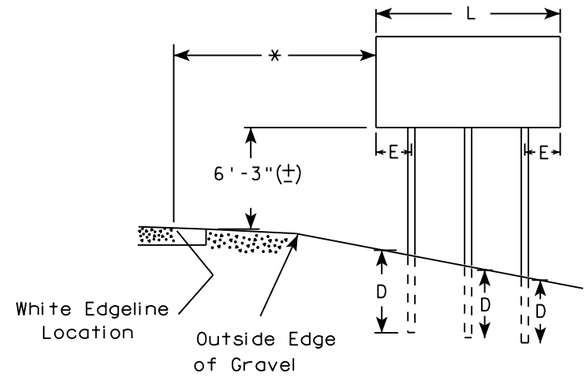
FILE NAME : C:\CAEFiles\Projects\tr_stdplate\A43B.DGN PLOT DATE : 27-JAN-2014 09:48 PLOT BY : mscsja PLOT NAME : PLOT SCALE : 13.659812:1.000000 WISDOT/CADDS SHEET 42

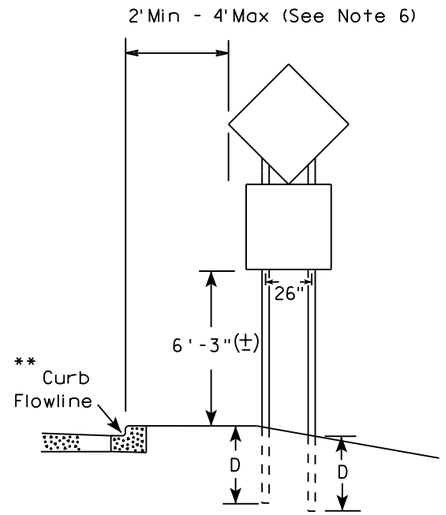
URBAN AREA



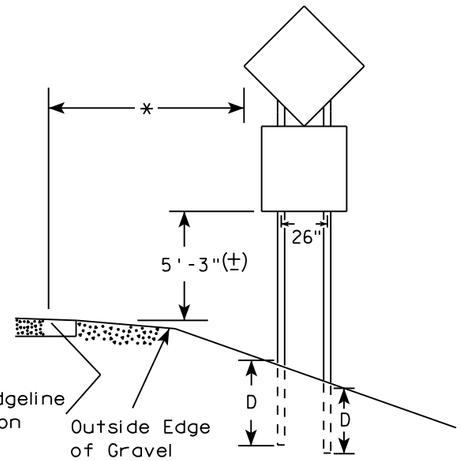
RURAL AREA (See Note 3)







48" DIAMOND WARNING SIGN



48" DIAMOND WARNING SIGN

***	SIGN SHAPE OTHER THAN DIAMOND (TWO POSTS REQUIRED)	
	L	E
	Greater than 48" Less than 60"	12"
	60" to 108"	L/5

SIGN SHAPE OTHER THAN DIAMOND (THREE POSTS REQUIRED)	
L	E
Greater than 108" to 144"	12"

GENERAL NOTES

1. For 3 or 4 post installations, individual post spacing shall be greater than 3'-6".
2. See tables below for required number of posts.
3. For expressways and freeways, mounting height is 7'-3" (±) or 6'-3" (±) depending upon existence of sub-sign.
4. The (±) tolerance for mounting height is 3 inches.
5. J-Assemblies are considered to be one sign for mounting height.
6. Offset distance shall be consistent with existing signs or consistent throughout length of project.
7. Folding signs shall be mounted at a height of 5'-3" (±) or as directed by the engineer.
8. The Double Arrow sign (W12-1) shall be mounted at a height of 2'-3" (±). The Chevron sign (W1-8), Roundabout Chevron panel (R6-4B), Clearance Markers (W5-52), Mile Markers (D10 series), In Road Object Markers (W5-54) & End of Road Markers (W5-56) shall be mounted at a height of 4"-3" (±).

* 6 feet from edge of a paved shoulder or 12 feet from the edge of pavement (edge line location) or 2 feet from outside edge of gravel, whichever is greater unless directed by project engineer.

** 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. Offset of signs is measured from the flow line.

*** See A4-3 sign plate for signs 4' or less in width and less than 20 S.F. in area.

POST EMBEDMENT DEPTH

Area of Sign Installation (Sq. Ft.)	D (Min)
20 or Less	4'
Greater than 20	5'

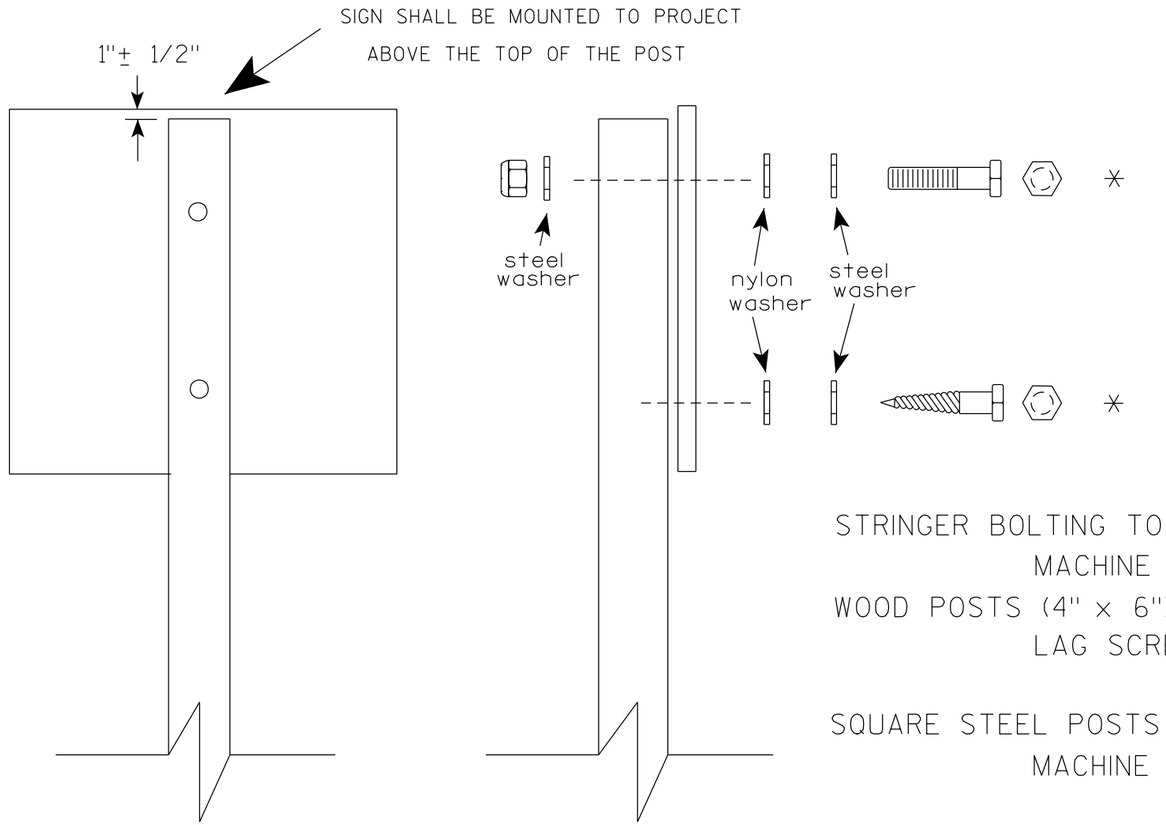
TYPICAL INSTALLATION OF TYPE II SIGNS ON MULTIPLE POSTS

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 8/21/17 PLATE NO. A4-4.15

PROJECT NO:	HWY:	COUNTY:		SHEET NO: 64	E



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.

STRINGER BOLTING TO ALUMINUM SIGNS (SEE SIGN PLATE A4-18)

MACHINE BOLTS - 5/16" X 1-3/4" Length w/ lock nuts

WOOD POSTS (4" x 6")

LAG SCREWS - 3/8" X 3" (NO STRINGERS ON BACK OF SIGN)
3/8" X 4" (STRINGERS ON BACK OF SIGN)

SQUARE STEEL POSTS (2" x 2")

MACHINE BOLTS - 3/8" X 3-1/4" Length w/ nuts (NO STRINGER ON BACK OF SIGN)
3/8" X 5" Length w/ nuts (STRINGERS ON BACK OF SIGN)

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

* 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, but normally there are two. For a single post installation, all signs greater than 9 sq. ft. require the use of 3 fasteners.

ATTACHMENT OF SIGNS TO POSTS

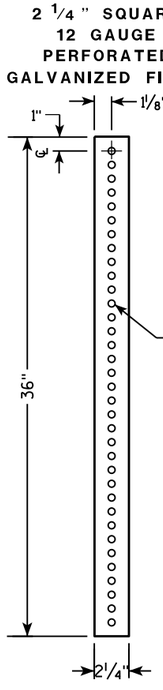
WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

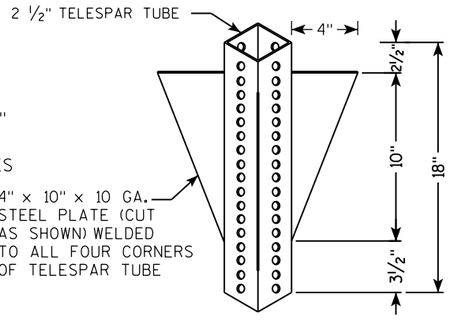
DATE 4/1/2020 PLATE NO. A4-8.9

TELESCOPIC TUBING ANCHORS
TWO PIECE SYSTEM

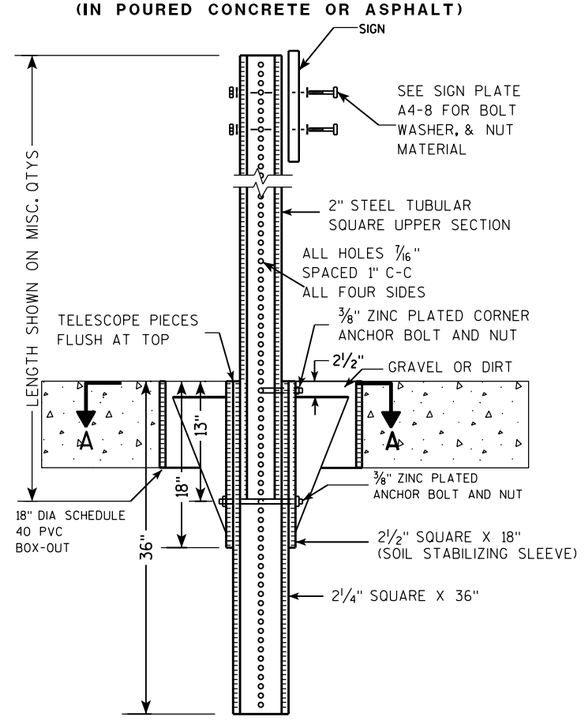
2 1/4 " SQUARE
12 GAUGE
PERFORATED
GALVANIZED FINISH



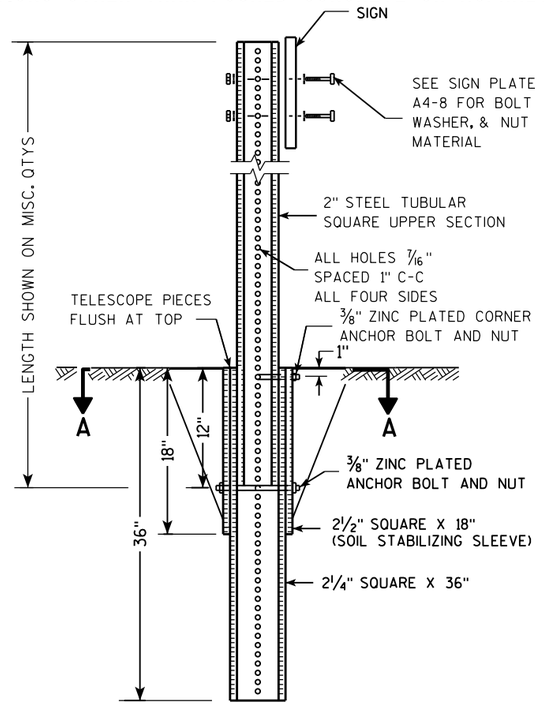
2 1/2 " SQUARE
12 GAUGE
OMNI-DIRECTIONAL
PERFORATED
SOIL STABILIZING SLEEVE
GALVANIZED FINISH

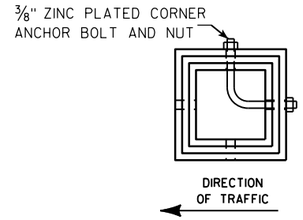


DETAIL OF TUBULAR STEEL SIGN POST
(IN POURED CONCRETE OR ASPHALT)



DETAIL OF TUBULAR STEEL SIGN POST
(IN LOCATIONS OTHER THAN POURED CONCRETE OR ASPHALT)





SECTION A-A

Area of Sign Installation (Sq. Ft.)	Number of Required 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).

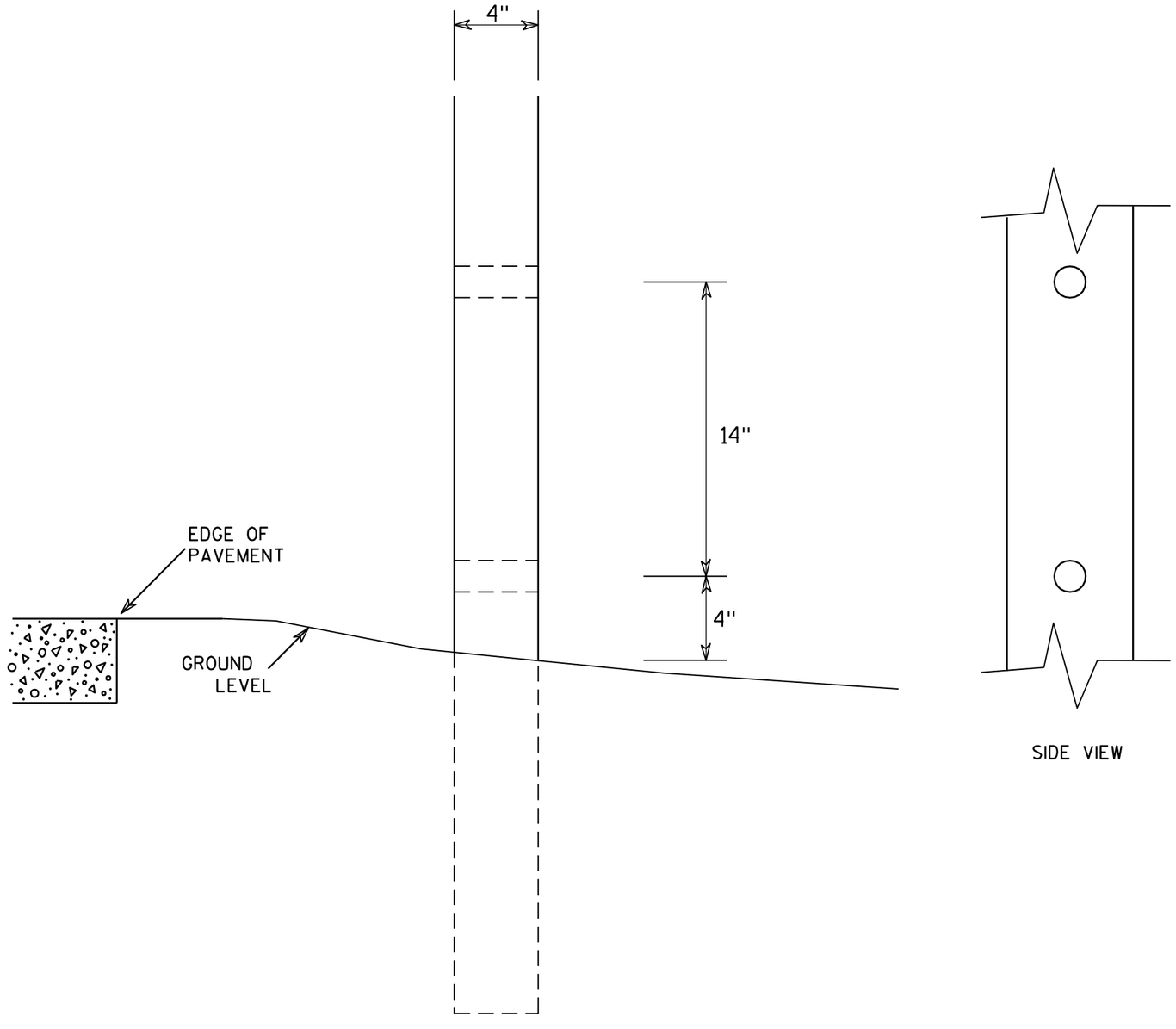
TUBULAR STEEL
SIGN POST
A4-9

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 2/05/15 PLATE 66 A4-9.9

PROJECT NO:	HWY:	COUNTY:		SHEET NO:	E



SIDE VIEW

GENERAL NOTES

1. All 4 x 6 Wood Posts shall be modified by having two 1½" diameter holes drilled perpendicular to the roadway centerline.

7

7

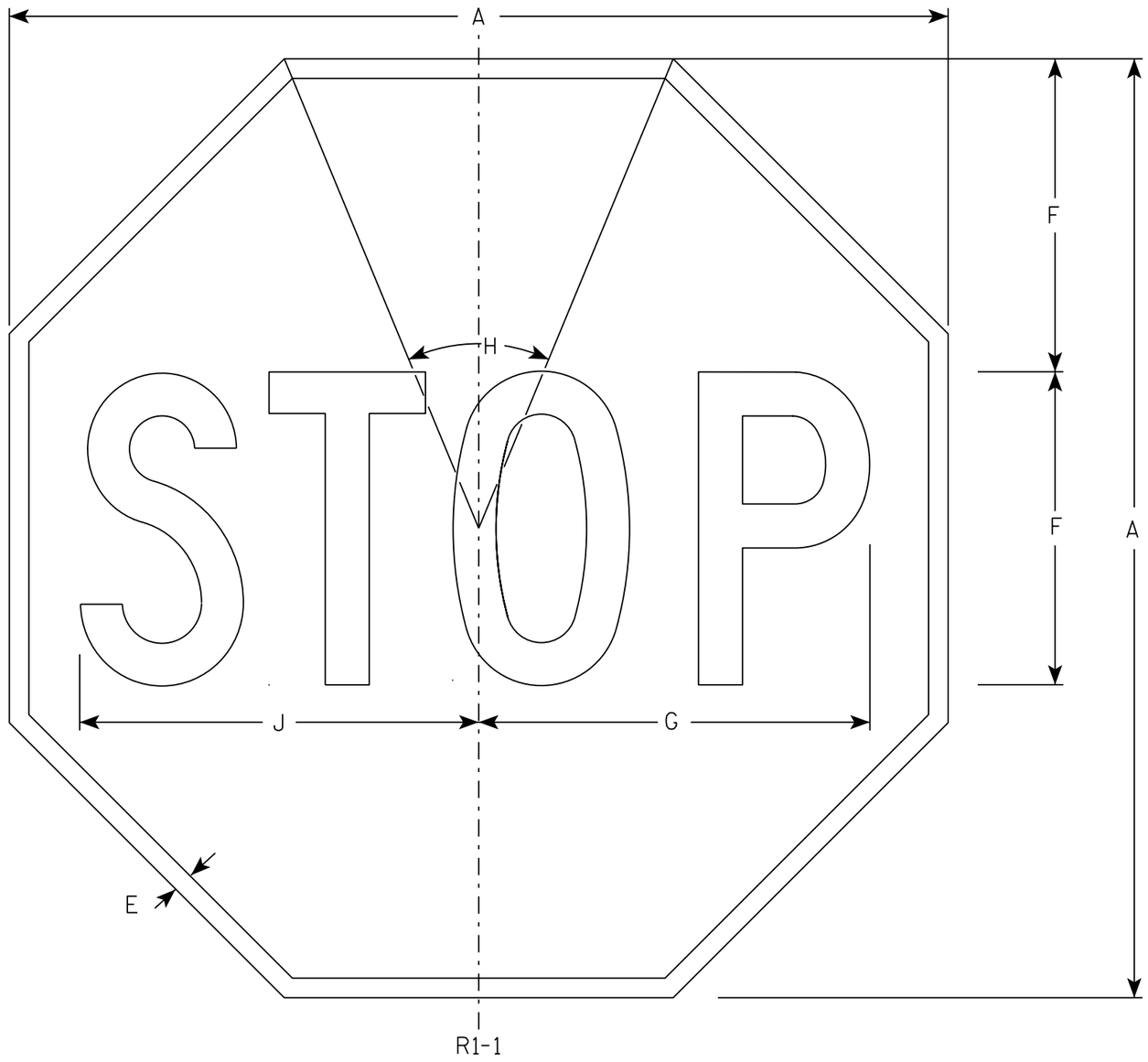
4 X 6 WOOD POST MODIFICATIONS

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Chester J Spang for State Traffic Engineer

DATE 3/27/97 PLATE NO. A4-11.2

PROJECT NO:	HWY:	COUNTY:		SHEET NO: 67	E



NOTES

1. Sign is Type II - Type H Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
   Background - Red
   Message - White
3. Message Series - C

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1	30				5/8	10	12 1/2	45°		12 3/4																	5.18
2S	30				5/8	10	12 1/2	45°		12 3/4																	5.18
2M	36				3/4	12	15	45°		15 3/8																	7.46
3	36				3/4	12	15	45°		15 3/8																	7.46
4	48				1	16	20	45°		20 1/2																	13.25
5	48				1	16	20	45°		20 1/2																	13.25
6	18				3/8	6	7 3/4	45°		7 3/4																	1.86
7	12				1/4	4	5	45°		5 1/8																	0.78

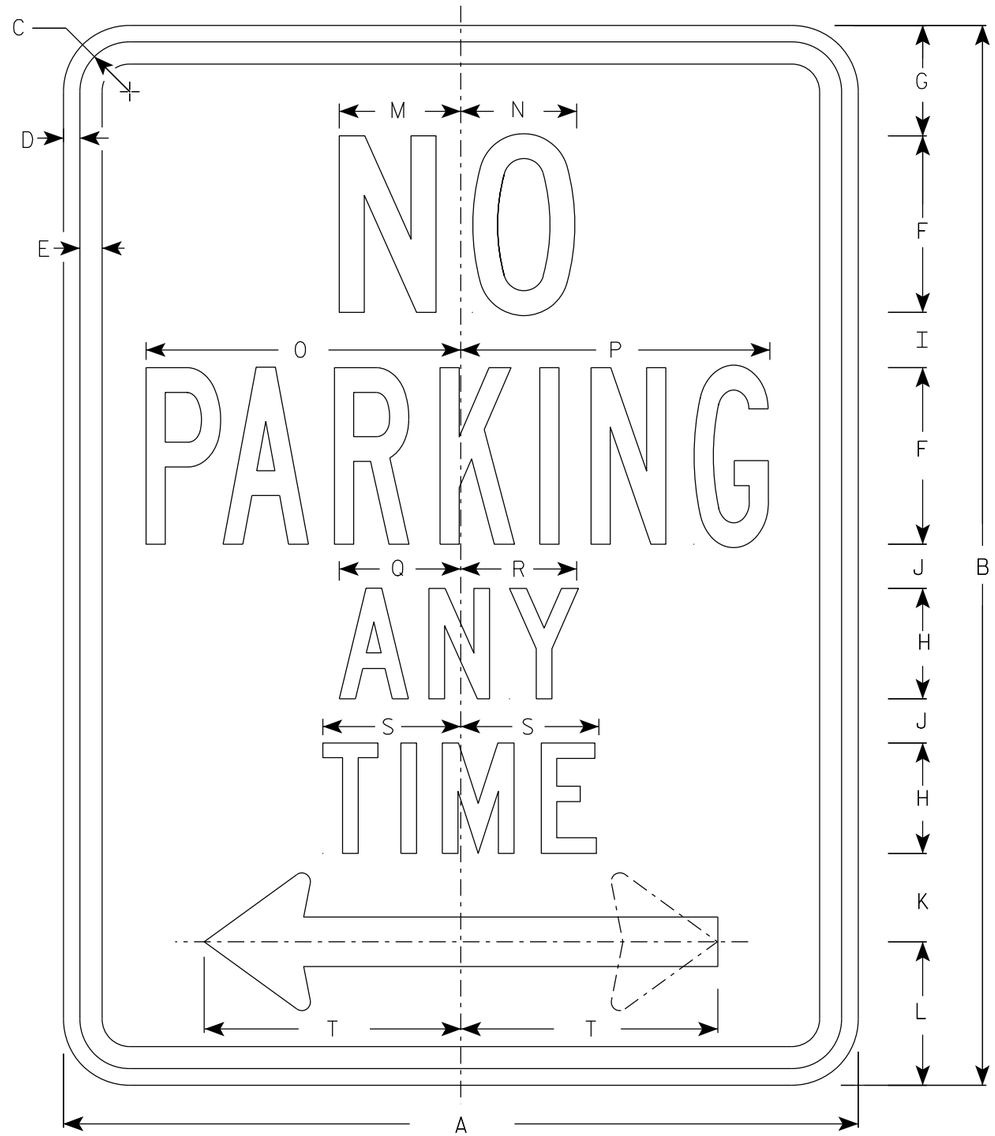
STANDARD SIGN
R1-1

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 11/12/15 PLATE NO. R1-1.13

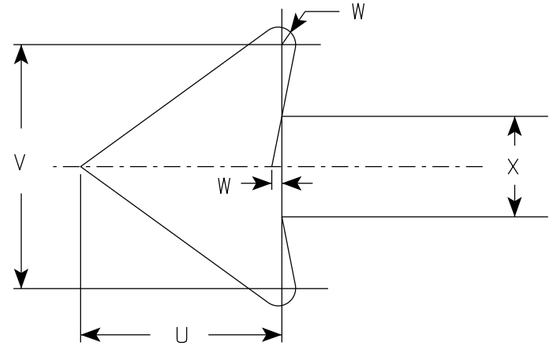
PROJECT NO:	HWY:	COUNTY:		SHEET NO: 68	E



R7-1

NOTES

1. Sign is Type II - Type H Reflective
2. Color:
   Background - White
   Message - Red
3. Message Series - See Note 5
4. Lines 1, 3 and 4 are series C, line 2 is series B.
5. R7-1D (double arrow)
   R7-1L (left arrow)
   R7-1R (right arrow)



SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1	12	18	1 1/8	3/8	3/8	3	1 7/8	2	7/8	5/8	1 1/2	2 1/2	2	2	4 7/8	4 7/8	2 1/4	2 1/8	2 1/2	3 7/8	1 1/2	1 3/4	1/8	3/4			1.5
2S	18	24	1 1/8	3/8	1/2	4	2 1/2	2 1/2	1 1/4	1	2	3 1/4	2 3/4	2 5/8	7 1/8	7	2 3/4	2 5/8	3 1/8	5 7/8	2 1/4	2 5/8	1/4	1 1/8			3.0
2M	24	30	1 1/8	3/8	1/2	5	3	3	2	1 1/4	2 1/2	4	3 1/4	3 3/8	9 1/4	9 1/4	3 1/4	3 1/4	3 3/4	7 3/4	3	3 1/2	1/4	1 1/2			5.0
3	24	30	1 1/8	3/8	1/2	5	3	3	2	1 1/4	2 1/2	4	3 1/4	3 3/8	9 1/4	9 1/4	3 1/4	3 1/4	3 3/4	7 3/4	3	3 1/2	1/4	1 1/2			5.0
4																											
5																											

STANDARD SIGN
R7-1

WISCONSIN DEPT OF TRANSPORTATION

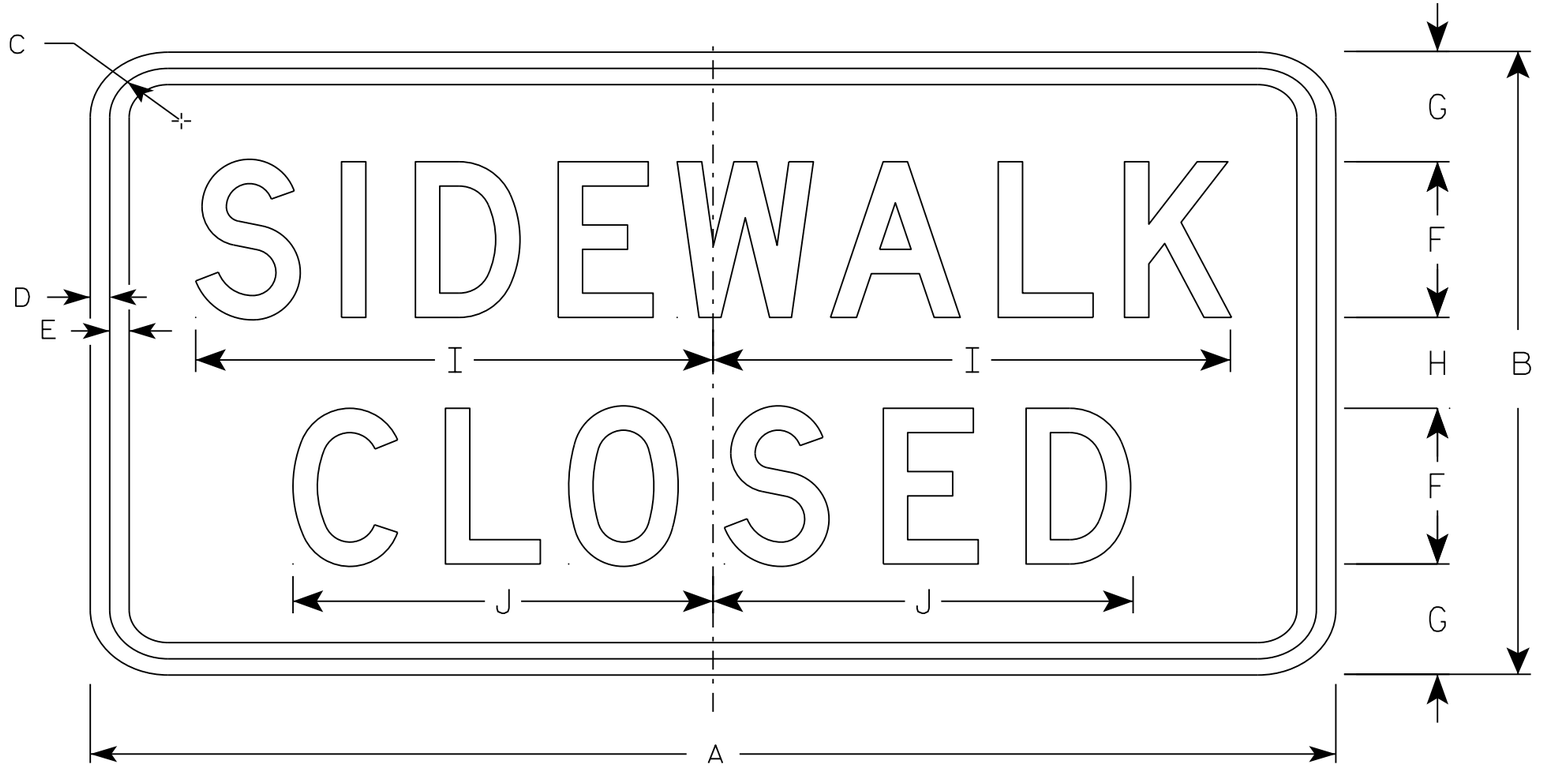
APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 3/31/2021 PLATE NO. R7-1.10

PROJECT NO: | HWY: | COUNTY: | SHEET NO: 69 E

7

7



R9-9

NOTES

1. Sign is Type II - Type H Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
   Background - White
   Message - Black
3. Message Series - C
4. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
5. Use Size 2 for Sidewalks. Use Size 3 for Paths and Trails.

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2S	24	12	1 3/4	1/2	1/2	3	2 1/8	1 3/4	10	8 1/8																	2.0
2M	24	12	1 3/4	1/2	1/2	3	2 1/8	1 3/4	10	8 1/8																	2.0
3	30	18	1 3/4	1/2	1/2	4	3 1/2	3	12 1/2	10 1/4																	3.75
4																											
5																											

STANDARD SIGN
R9-9

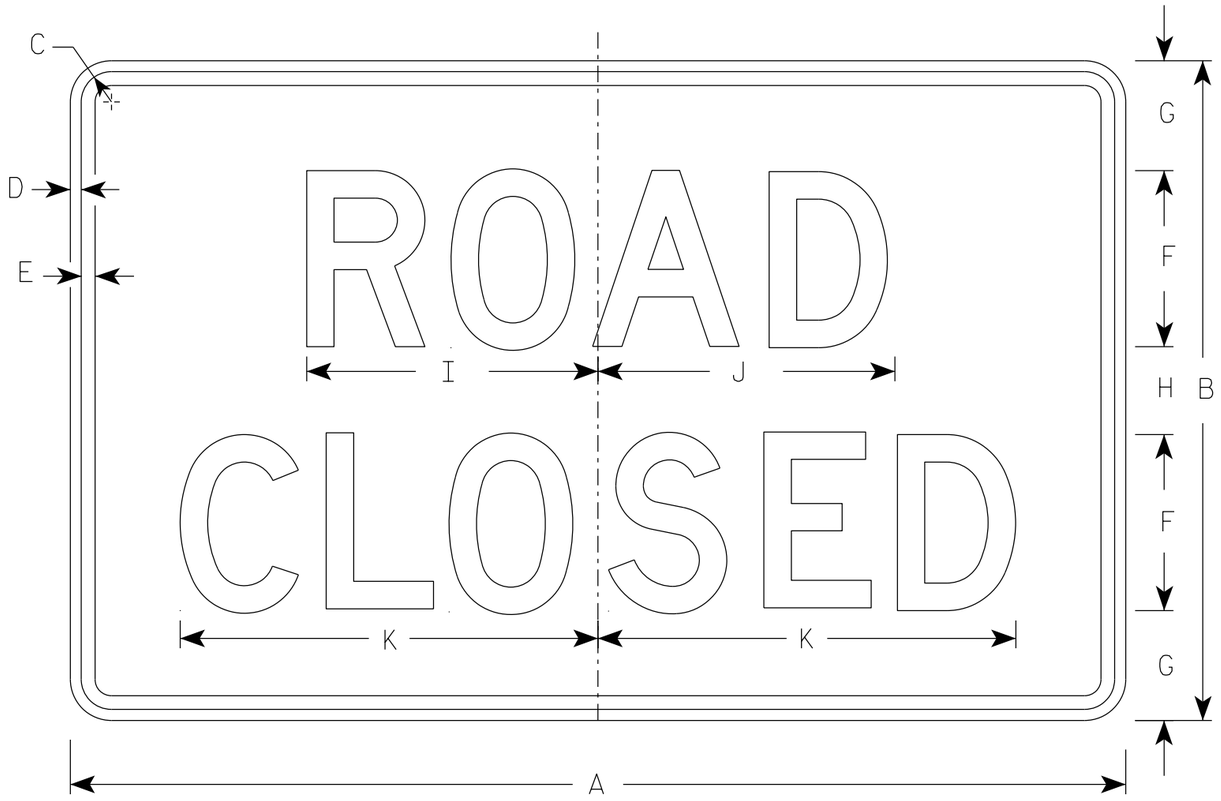
WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 8/11/16 PLATE 70 R9-9.6

PROJECT NO: | HWY: | COUNTY: | SHEET NO: E

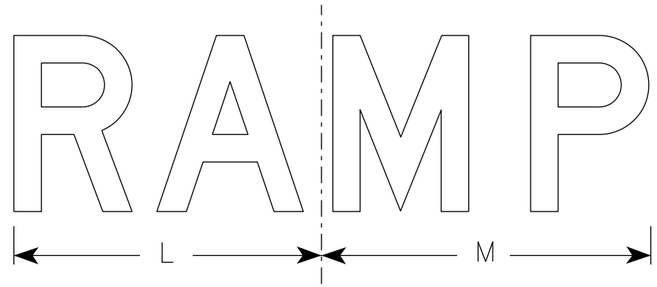
FILE NAME : C:\CAEfiles\Projects\tr_stdplate\R99.DGN PLOT DATE : 11-AUG-2016 11:33 PLOT BY : $$ plotuser $$ PLOT NAME : PLOT SCALE : 2.918761:1.000000



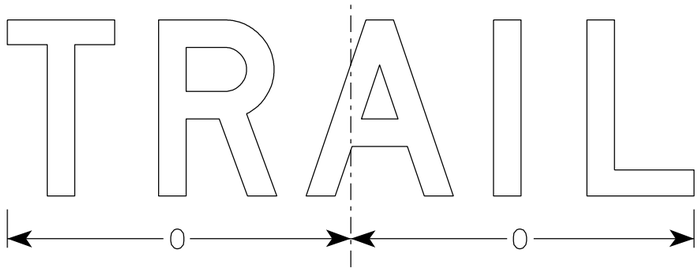
R11-2

NOTES

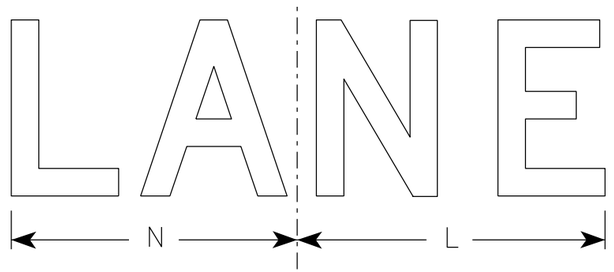
1. Sign is Type II - Type H Reflective
2. Color:
   Background - White
   Message - Black
3. Message Series - D
4. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
5. Modify the message as required.



R11-2R



R11-2T



R11-2L

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2S	48	30	1 3/8	1/2	5/8	8	5	4	13 1/4	13 1/2	19	14	15	13	15 5/8												10.0
2M	48	30	1 3/8	1/2	5/8	8	5	4	13 1/4	13 1/2	19	14	15	13	15 5/8												10.0
3	48	30	1 3/8	1/2	5/8	8	5	4	13 1/4	13 1/2	19	14	15	13	15 5/8												10.0
4	48	30	1 3/8	1/2	5/8	8	5	4	13 1/4	13 1/2	19	14	15	13	15 5/8												10.0
5	48	30	1 3/8	1/2	5/8	8	5	4	13 1/4	13 1/2	19	14	15	13	15 5/8												10.0

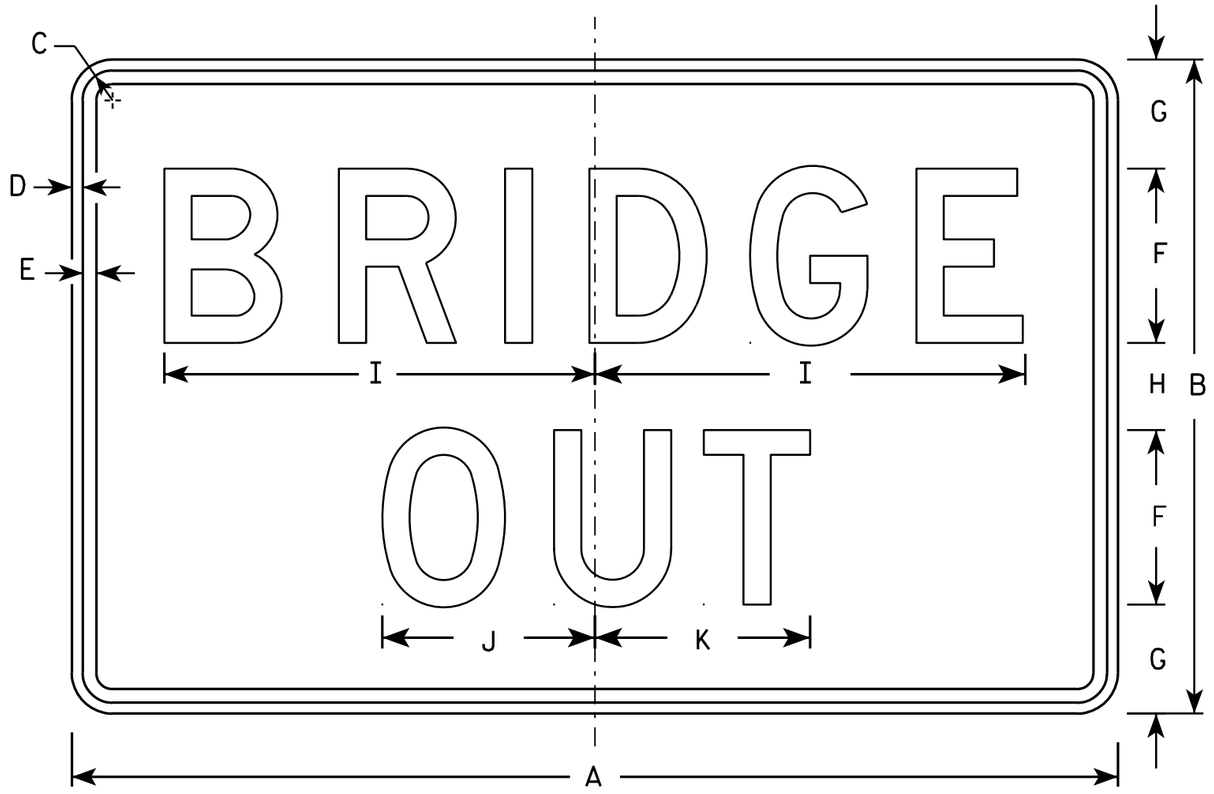
STANDARD SIGN
R11-2

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 3/29/2021 PLATE NO. R11-2.11

PROJECT NO:	HWY:	COUNTY:		SHEET NO: 71	E



R11-2B

NOTES

1. Sign is Type II - Type H Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
   Background - White
   Message - Black
3. Message Series - D
4. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2S	48	30	1 3/8	1/2	5/8	8	5	4	19 3/4	9 3/4	9 7/8																10.0
2M	48	30	1 3/8	1/2	5/8	8	5	4	19 3/4	9 3/4	9 7/8																10.0
3	48	30	1 3/8	1/2	5/8	8	5	4	19 3/4	9 3/4	9 7/8																10.0
4	48	30	1 3/8	1/2	5/8	8	5	4	19 3/4	9 3/4	9 7/8																10.0
5	48	30	1 3/8	1/2	5/8	8	5	4	19 3/4	9 3/4	9 7/8																10.0

STANDARD SIGN
R11-2B

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

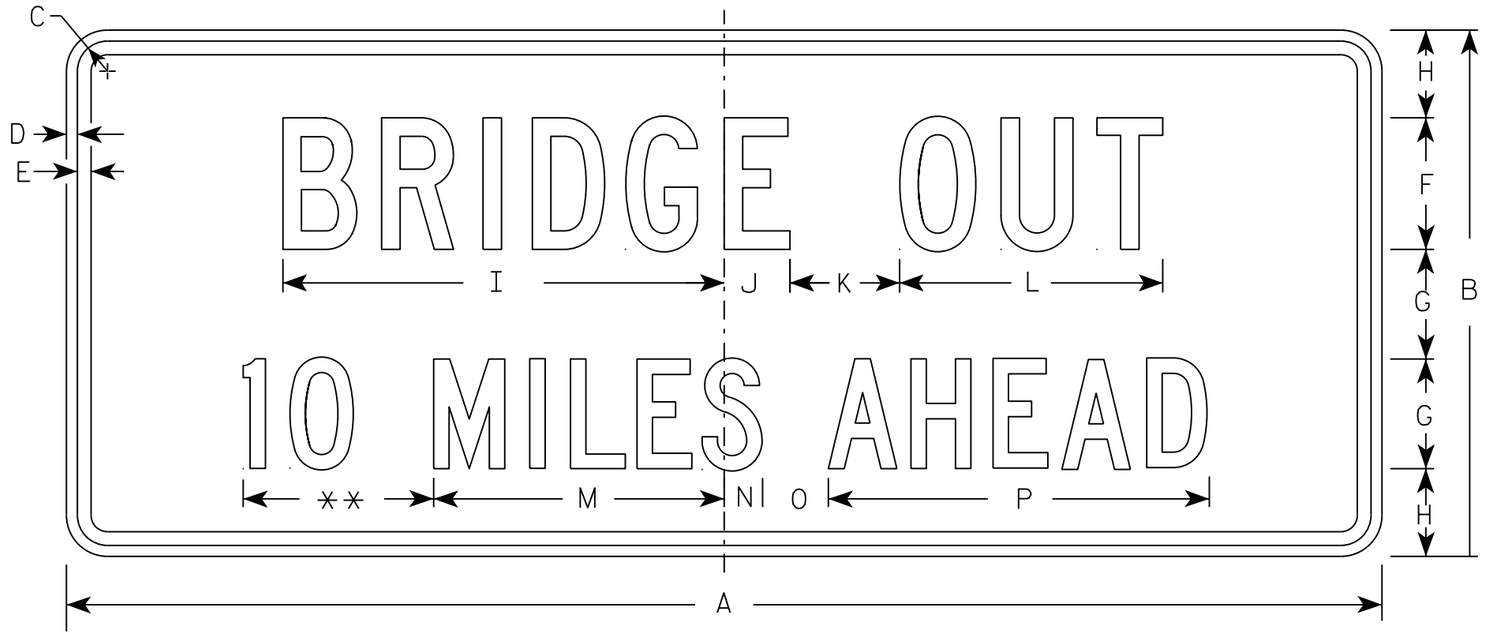
DATE 4/1/11 PLATE NO. R11-2B.2

PROJECT NO:

SHEET NO: 72 E

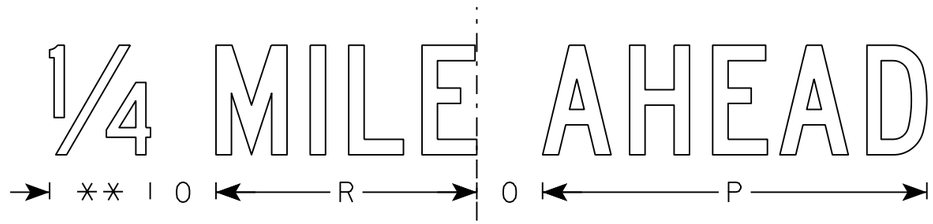
NOTES

1. Sign is Type II - Type H Reflective
2. Color:
   Background - White
   Message - Black
3. Message Series - C
4. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
5. Substitute appropriate numerals to nearest quarter mile and optically adjust spacing to achieve proper balance.



R11-3C

** See Note 5



SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1	36	15	1 3/8	1/2	5/8	4	3	2 1/2	13 1/4	2 1/4	3	8	8	1 1/2	2	10 3/4		7 1/8									3.75
2S	60	24	1 3/8	1/2	5/8	6	5	4	20 1/8	3	5	12	13 1/4	1 3/4	3	17 3/8		11 7/8									10.0
2M	60	24	1 3/8	1/2	5/8	6	5	4	20 1/8	3	5	12	13 1/4	1 3/4	3	17 3/8		11 7/8									10.0
3																											
4																											
5																											

STANDARD SIGN
R11-3C

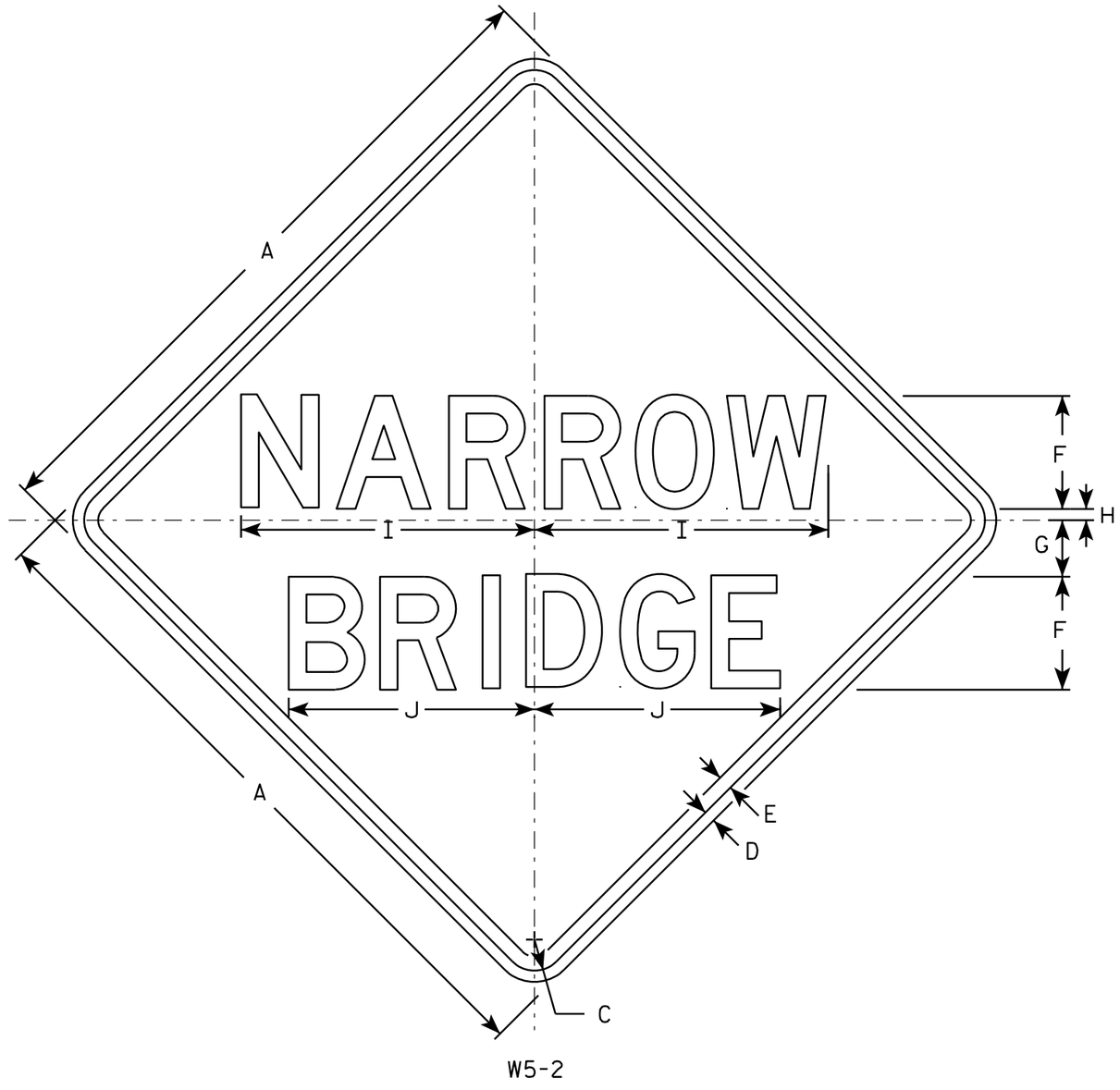
WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 7/28/16 PLATE NO. R11-3C.3

PROJECT NO:

SHEET NO: 73 E



W5-2

NOTES

1. Sign is Type II - Type F Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
   Background - Yellow
   Message - Black
3. Message Series - D
4. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1	30		1 3/8	1/2	5/8	5	2 1/2	1/2	13	10 7/8																	6.25
2S	36		1 5/8	5/8	3/4	6	3	3/4	15 5/8	13 1/8																	9.0
2M	36		1 5/8	5/8	3/4	6	3	3/4	15 5/8	13 1/8																	9.0
3	36		1 5/8	5/8	3/4	6	3	3/4	15 5/8	13 1/8																	9.0
4	48		2 1/4	3/4	1	8	4	3/4	20 3/4	17 3/8																	16.0
5																											

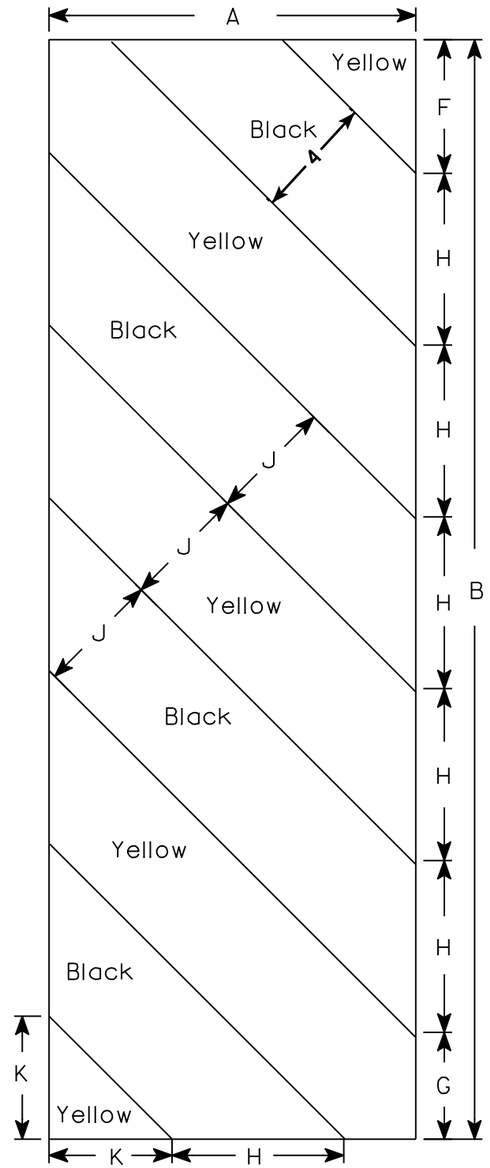
STANDARD SIGN
W5-2

WISCONSIN DEPT OF TRANSPORTATION

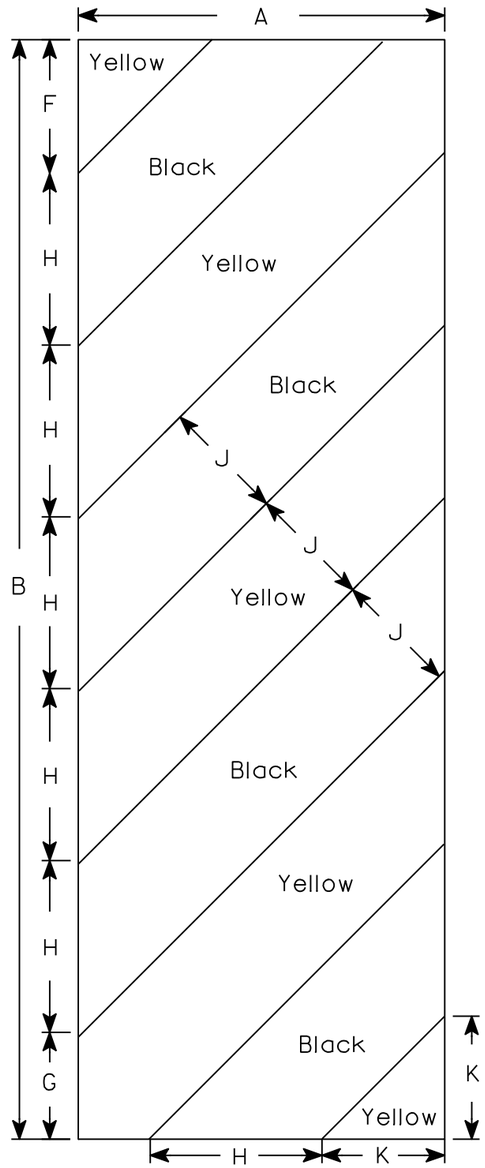
APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 03/12/13 PLATE NO. W5-2.8

PROJECT NO:	HWY:	COUNTY:		SHEET NO: 74	E



W5-52L



W5-52R

NOTES

1. Sign is Type II - Type F Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
   Background - Yellow
   Message - Black
3. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
4. Alternate colors of stripes as shown.

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2S	12	36				4 3/8	3 1/2	5 5/8	45°	4	4																3.0
2M	12	36				4 3/8	3 1/2	5 5/8	45°	4	4																3.0
3	18	54				6	5 1/2	8 1/2	45°	6	6 9/16																6.75
4																											
5																											

STANDARD SIGN

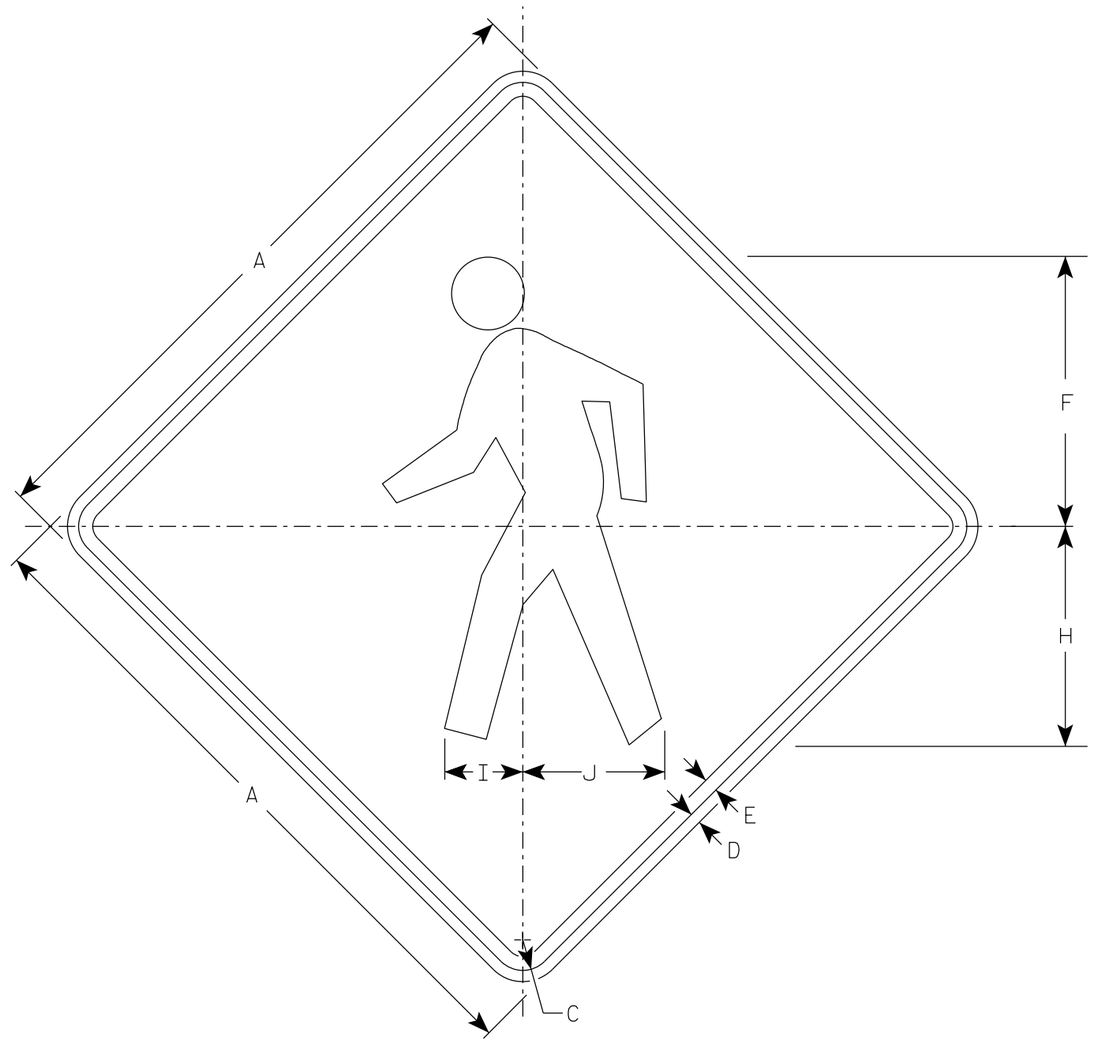
W5-52L & W5-52R

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 5/29/12 PLATE NO. W5-52.9

PROJECT NO: | HWY: | COUNTY: | SHEET NO: 75 | E



W11-2

NOTES

1. Sign is Type II - Type F Reflective
2. Color:
   Background - Yellow
   Message - Black

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1	24		1 1/8	3/8	1/2	9 3/4		7 7/8	2 7/8	5 1/8																	4.0
2S	30		1 3/8	1/2	5/8	12 1/8		9 7/8	3 1/2	6 3/8																	6.25
2M	36		1 5/8	5/8	3/4	14 1/2		11 7/8	4 1/4	7 5/8																	9.0
3	36		1 5/8	5/8	3/4	14 1/2		11 7/8	4 1/4	7 5/8																	9.0
4	48		2 1/4	3/4	1	19 3/8		15 3/4	5 5/8	10 1/4																	16.0
5																											

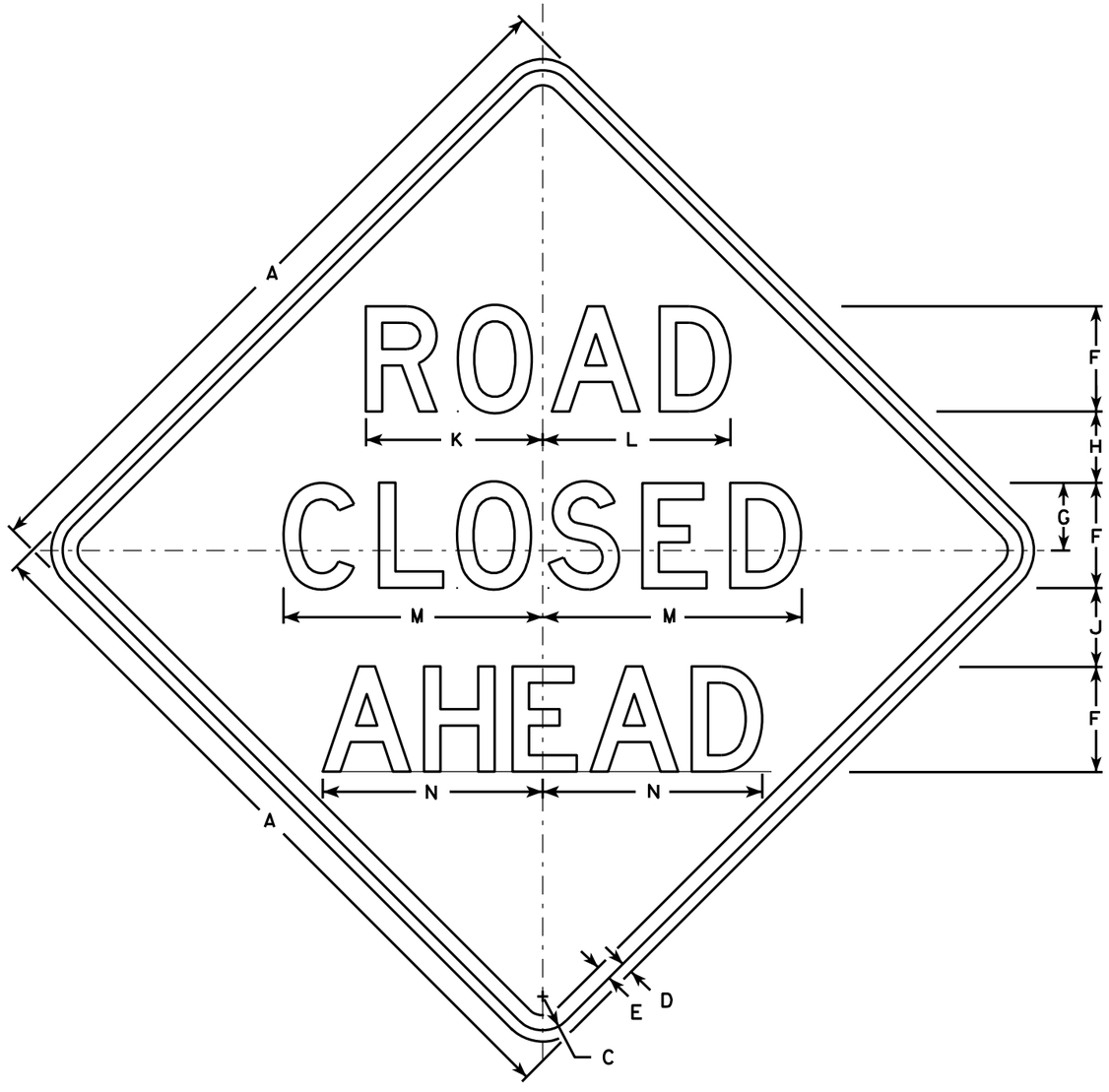
STANDARD SIGN
W11-2

WISCONSIN DEPT OF TRANSPORTATION

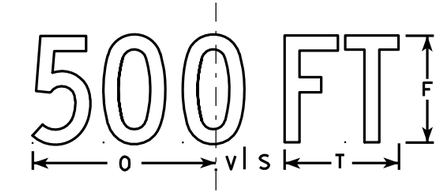
APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 4/8/2020 PLATE NO. W11-2.8

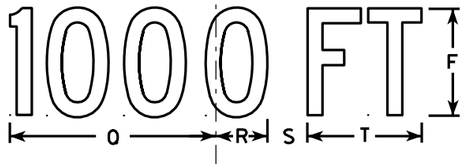
PROJECT NO:	HWY:	COUNTY:		SHEET NO: 76	E



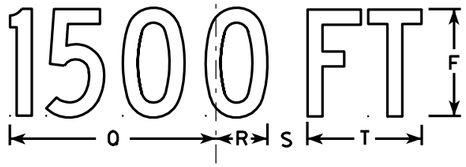
W20-3A



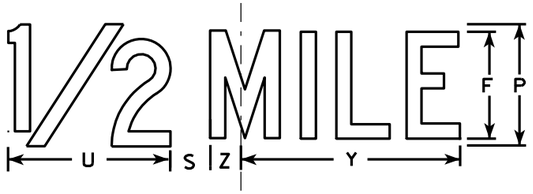
W20-3D



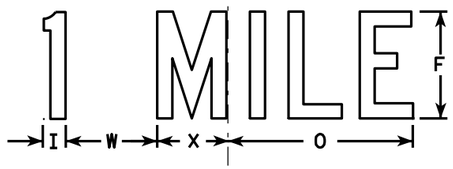
W20-3C



W20-3B



W20-3G



W20-3F

NOTES

1. Sign is Type II - Type F Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
   Background - Orange
   Message - Black
3. Message Series - see note 5
4. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
5. Lines 1 and 2 are Series D.
   Line 3 is Series D for AHEAD and Series C for all other distances.

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1	36		1 5/8	5/8	3/4	5	3 3/8	3 1/2	1 1/8	4	8 3/8	8 7/8	12 1/2	11	9	6	10 1/8	2 1/2	1 7/8	5 5/8	8	1 3/8	4 1/2	3 1/2	10 3/4	1 3/4	9.0
2S	48		2 1/4	3/4	1	7	4 1/2	4 3/4	1 1/2	5 1/4	11 3/4	12 1/2	17 1/4	14 5/8	12	8	13 1/2	3 3/8	2 5/8	7 1/2	10 5/8	1 7/8	6	4 5/8	14 3/8	2 3/8	16.0
2M	48		2 1/4	3/4	1	7	4 1/2	4 3/4	1 1/2	5 1/4	11 3/4	12 1/2	17 1/4	14 5/8	12	8	13 1/2	3 3/8	2 5/8	7 1/2	10 5/8	1 7/8	6	4 5/8	14 3/8	2 3/8	16.0
3	48		2 1/4	3/4	1	7	4 1/2	4 3/4	1 1/2	5 1/4	11 3/4	12 1/2	17 1/4	14 5/8	12	8	13 1/2	3 3/8	2 5/8	7 1/2	10 5/8	1 7/8	6	4 5/8	14 3/8	2 3/8	16.0
4	48		2 1/4	3/4	1	7	4 1/2	4 3/4	1 1/2	5 1/4	11 3/4	12 1/2	17 1/4	14 5/8	12	8	13 1/2	3 3/8	2 5/8	7 1/2	10 5/8	1 7/8	6	4 5/8	14 3/8	2 3/8	16.0
5	48		2 1/4	3/4	1	7	4 1/2	4 3/4	1 1/2	5 1/4	11 3/4	12 1/2	17 1/4	14 5/8	12	8	13 1/2	3 3/8	2 5/8	7 1/2	10 5/8	1 7/8	6	4 5/8	14 3/8	2 3/8	16.0

STANDARD SIGN
W20-3A, B, C, D, F & G

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer
DATE 3/18/11 PLATE NO. W20-3.7

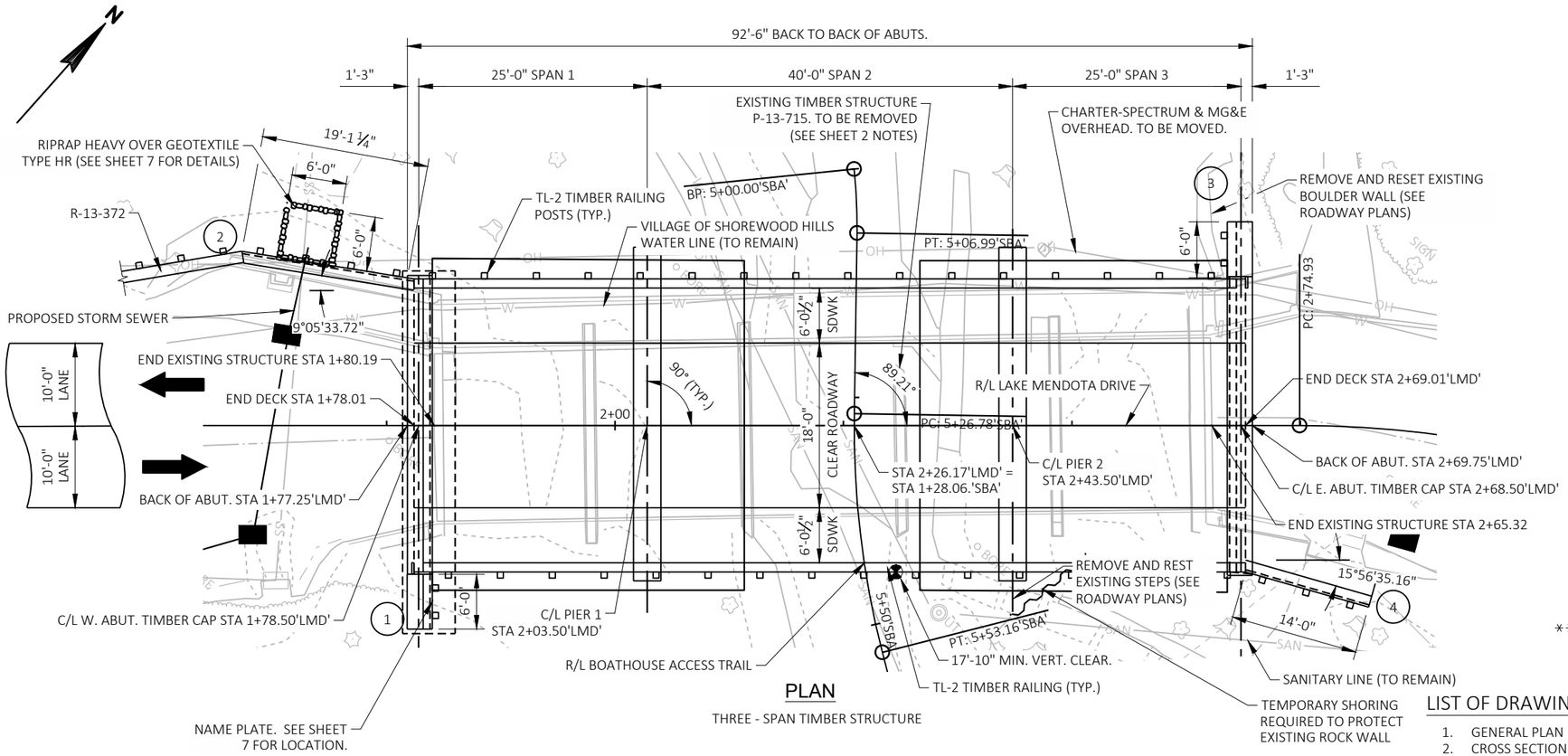
PROJECT NO: | HWY: | COUNTY: | SHEET NO: 77 | E

7

FILE NAME : C:\Users\PROJECTS\tr_stdplate\W203.DGN PLOT DATE : 18-MAR-2011 12:08 PLOT BY : mscj9h PLOT NAME : PLOT SCALE : 9.931739:1.000000
WISDOT/CADDS SHEET 42

STATE PROJECT NUMBER

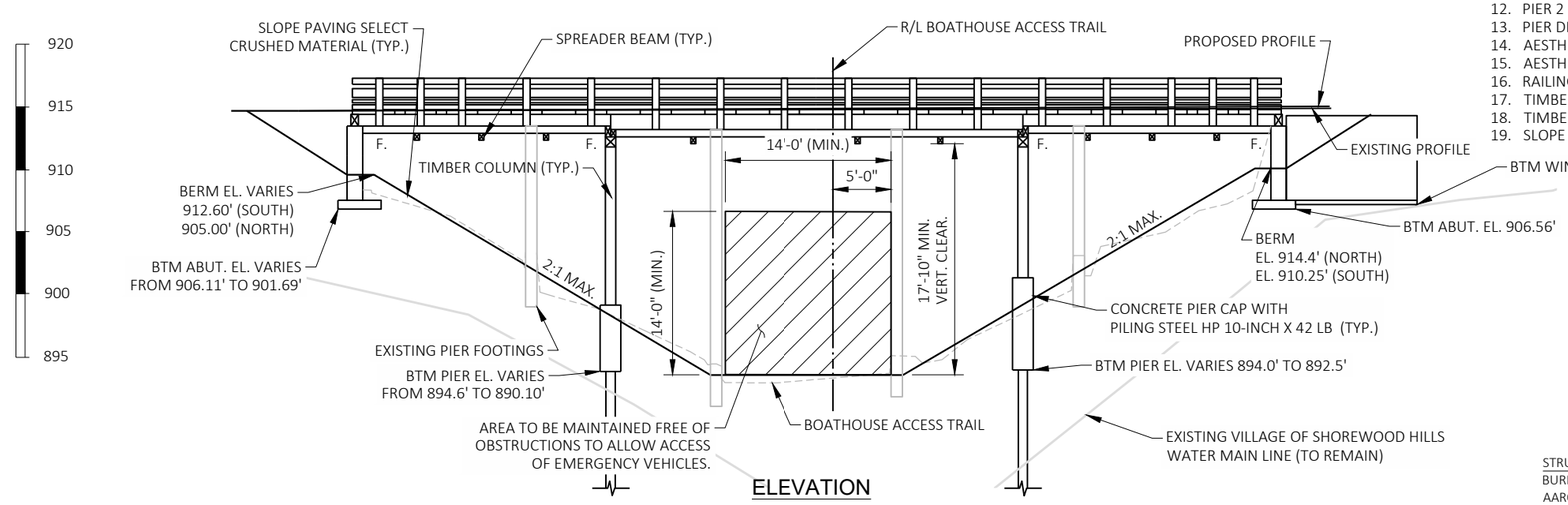
5992-10-04



PLAN

THREE - SPAN TIMBER STRUCTURE

SURVEY CONTROL POINT & STATION OFFSET REFERENCE TABLE							
POINT	TYPE	STATION	OFFSET	Y	X	ELEVATION	DESCRIPTION
1	BM	3+34.98'LMD'	18.32 LT	486,394.102	803,694.480	918.26	RR SPIKE
2	BM	0+20.47'LMD'	14.97 LT	486,192.123	803,447.026	918.54	CUT X FLANGE BOLT



ELEVATION

NORMAL TO R/L LAKE MENDOTA DRIVE LOOKING NORTH

DESIGN DATA

LIVE LOAD:
DESIGN LOADING: HL93
PEDESTRIAN LOADING: 90 PSF.

MATERIAL PROPERTIES:
CONCRETE MASONRY BRIDGES SUBSTRUCTURE.....f'c = 3,500 P.S.I.
BAR STEEL REINFORCEMENT HIGH STRENGTH, GRADE 60.....f'c = 60,000 P.S.I.

TRAFFIC VOLUME

LAKE MENDOTA DRIVE
A.A.D.T. = 1,650 (2023)
A.A.D.T. = 1,650 (2043)
RDS = 20 MPH

LEGEND

(#) INDICATES WING NUMBER

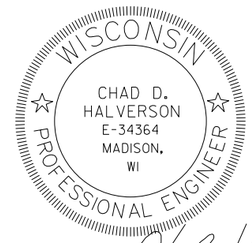
FOUNDATION DATA

ABUTMENTS TO BE SUPPORTED ON SPREAD FOOTINGS EMBEDDED INTO THE LOCAL DOLOMITIC LIMESTONE BEDROCK WITH FACTORED BEARING RESISTANCE OF 15,000 PSF. A GEOTECHNICAL ENGINEER, WITH 3 DAYS NOTICE, WILL DETERMINE THE FACTORED BEARING RESISTANCE BY VISUAL INSPECTION PRIOR TO CONSTRUCTION OF THE ABUTMENT FOOTING.

PIERS TO BE SUPPORTED ON HP 10-INCH X 42 STEEL PILING SEATED IN PREBORED HOLES CORED THROUGH UNCONSOLIDATED MATERIAL AND INTO CONSOLIDATED MATERIAL. FIRMLY SEAT PREBORED PILES BY TAPPING IN PLACE. THE FACTORED AXIAL RESISTANCE OF PILES IN COMPRESSION USED FOR DESIGN IS 90 TONS MULTIPLIED BY A RESISTANCE FACTOR OF 0.5. ALL PILES REQUIRE A MINIMUM DEPTH OF 3'-0" INTO CONSOLIDATED MATERIAL. CASING IS REQUIRED DURING PREBORING. ESTIMATED PILE LENGTHS VARY FROM 11' TO 18' AT PIER 1 AND ARE 11' AT PIER 2.

** THE FACTORED AXIAL RESISTANCE OF PILES IN COMPRESSION USED FOR DESIGN IS THE REQUIRED DRIVING RESISTANCE MULTIPLIED BY A RESISTANCE FACTOR OF 0.50 USING MODIFIED GATES TO DETERMINE DRIVEN PILE CAPACITY.

LIST OF DRAWINGS



August 1, 2022

NO.	DATE	REVISION	BY

KL Engineering
[A] Better Experience

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

ACCEPTED SDR 08/02/22
CHIEF STRUCTURES DESIGN ENGINEER DATE

STRUCTURE B-13-692

LAKE MENDOTA DRIVE OVER MULTI-USE TRAIL

COUNTY	TOWN/CITY/VILLAGE
DANE	SHOREWOOD HILLS

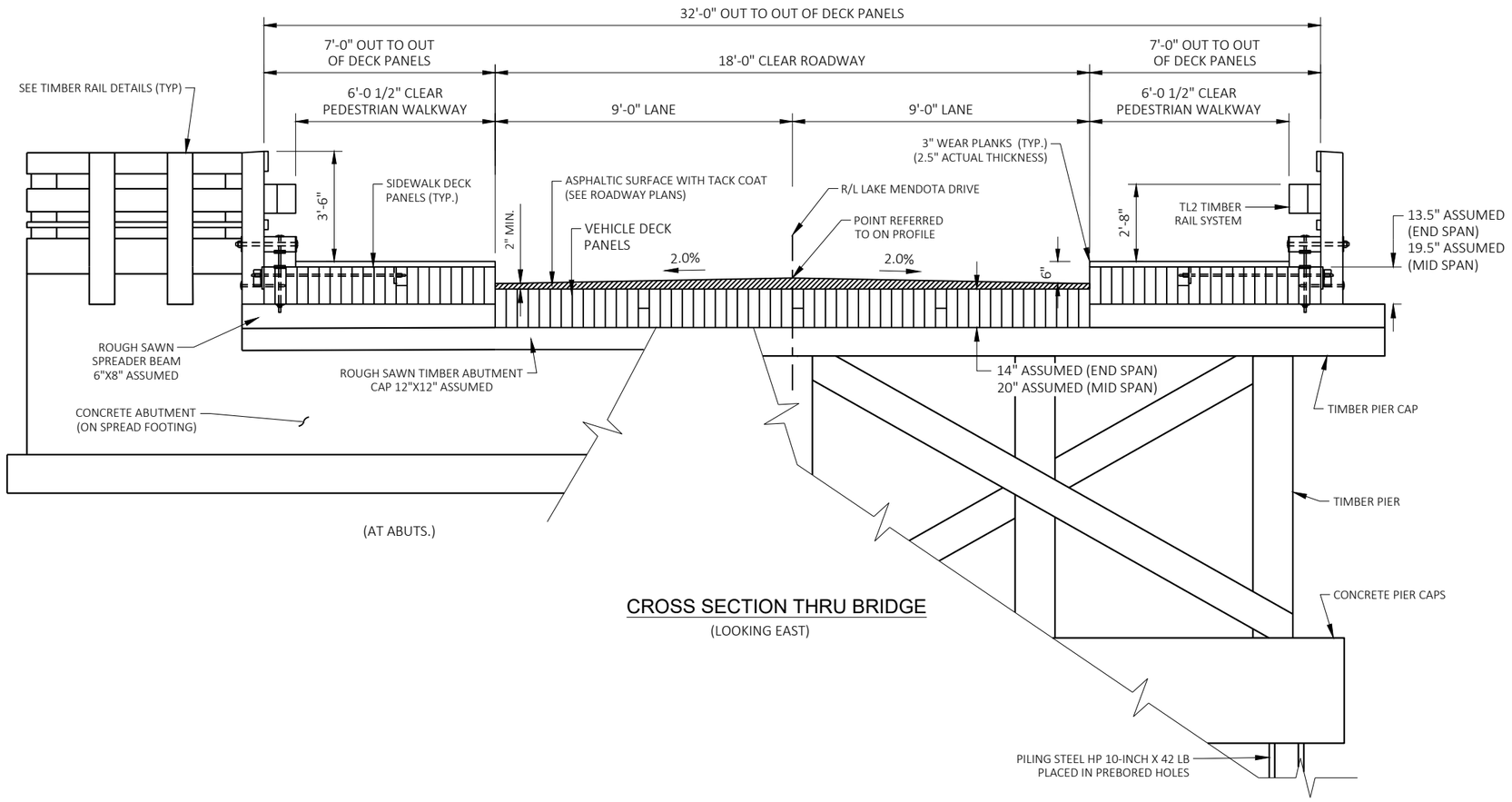
DESIGN SPEC.
AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS

DESIGNED BY	CAH	DESIGN CK'D.	CDH	DRAWN BY	STD	PLANS CK'D.	CDH

GENERAL PLAN

SHEET 1 OF 19
78

STRUCTURE DESIGN CONTACTS
BUREAU OF STRUCTURES:
AARON BONK (608) 261-0261
CONSULTANT:
CHAD HALVERSON (608) 663-1218

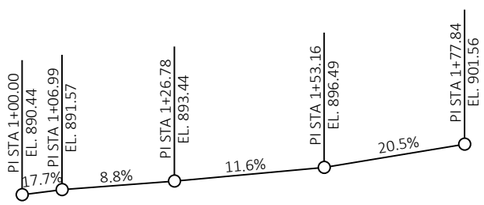


(AT ABUTS.)

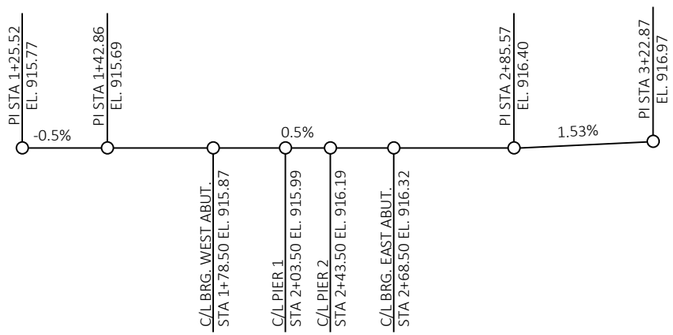
CROSS SECTION THRU BRIDGE

(LOOKING EAST)

(AT PIERS)



PROFILE GRADE LINE BOATHOUSE ACCESS TRAIL



PROFILE GRADE LINE LAKE MENDOTA DRIVE

GENERAL NOTES

DRAWINGS SHALL NOT BE SCALED.

ALL STATIONS ARE IN FEET.

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

THE FIRST TWO DIGITS OF A BAR NO. SIGNIFIES THE BAR SIZE.

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

JOINT FILLER SHALL CONFORM TO THE REQUIREMENTS OF AASHTO DESIGNATION M153 TYPE I, II OR III OR AASHTO DESIGNATION M213.

THE SLOPE OF THE FILL IN FRONT OF THE ABUTMENTS SHALL BE COVERED WITH SELECT CRUSHED MATERIAL TO THE EXTENT SHOWN ON SHEET 1 AND ON SHEET 18.

THE EXISTING GROUND LINE SHALL BE THE UPPER LIMIT FOR EXCAVATION FOR STRUCTURES.

THE EXISTING STRUCTURE P-13-715 TO BE REMOVED, IS A FIVE SPAN TIMBER GIRDER BRIDGE, 85 FT LONG WITH A 18 FT CLEAR ROADWAY WIDTH AND FOUR FOOT CLEAR SIDEWALK WIDTH. THE FOLLOWING ITEMS ARE TO BE SALVAGED:
- INTERIOR SUPERSTRUCTURE TIMBER BEAMS
- TIMBER PIER COLUMNS, CROSS BRACING AND PIER CAPS
- TIMBER ABUTMENT CAPS
- 30 DECORATIVE WASHERS

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

PROTECTIVE SURFACE TREATMENT TO BE APPLIED TO THE TOP OF WINGS.

BID ITEM "TIMBER STRUCTURE B-13-692" SHALL INCLUDE DESIGN, FABRICATION, DELIVERY AND INSTALLATION OF THE TIMBER SUPERSTRUCTURE AND PIERS BY THE CONTRACTOR. SHOP DRAWINGS SHALL BE STAMPED BY A LICENSED WISCONSIN PROFESSIONAL ENGINEER. THE DESIGN SHALL BE PER THE SPECIFICATIONS NOTED ON THE PLANS AND IN THE SPECIAL PROVISIONS. ALL ITEMS NOT SPECIFICALLY NOTED WITH THE PLAN SHEETS OR SPECIFICATIONS THAT ARE REQUIRED FOR THE INSTALLATION OF THE TIMBER STRUCTURE ARE TO BE DESIGNED BY THE CONTRACTOR AS PART OF THE TIMBER STRUCTURE BID ITEM.

STRUCTURE SHALL BE DESIGNED FOR A MINIMUM 2-INCH ASPHALTIC OVERLAY AS SHOWN ON THE PLANS. AVERAGE ASPHALTIC OVERLAY THICKNESS OF 3.1-INCH.

THE STRUCTURE DESIGN SHALL BE IN ACCORDANCE WITH THE LATEST EDITION OF THE "AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS" BY THE AMERICAN ASSOCIATION OF STATE HIGHWAY AND TRANSPORTATION OFFICIALS (AASHTO).

THE TIMBER STRUCTURE SHALL BE ANCHORED TO THE FOUNDATIONS IN A MANNER TO:
- PREVENT HORIZONTAL TRANSLATION OF THE SUPERSTRUCTURE PERPENDICULAR TO THE C/L OF THE ROADWAY.

FORMLINER PATTERN TO BE "RUSTIC ASHLAR" FROM WISDOT STANDARDS OR APPROVED EQUAL. SEE SHEETS 14 & 15 FOR FORMLINER COLORS AND ADDITIONAL DETAILS.

ROCK EXCAVATION IS REQUIRED AT ABUTMENTS AND SHALL BE INCLUDED IN THE BID ITEM "EXCAVATION FOR STRUCTURES".

PILING SHOULD BE FIRMLY SEATED ON ROCK AFTER PLACEMENT IN PREBORED HOLES. THE ANNULAR SPACE BETWEEN THE CORED HOLES IN BEDROCK AND PILING SHOULD BE FILLED WITH CONCRETE.

ALL EXISTING UTILITIES IN CONFLICT WITH PROPOSED STRUCTURES TO BE RELOCATED PRIOR TO CONSTRUCTION (BY OTHERS).

VILLAGE OF SHOREWOOD HILLS
WATER LINE TO REMAIN IN PLACE.

STATE PROJECT NUMBER
5992-10-04

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-13-692

DRAWN BY STD | PLANS CK'D. CDH

CROSS SECTION AND NOTES

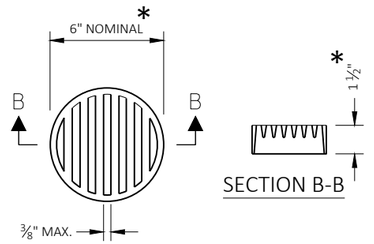
SHEET 2 OF 19
79

STATE PROJECT NUMBER
5992–10–04

TOTAL ESTIMATED QUANTITES

	ITEM NUMBER	ITEM DESCRIPTION	UNIT	W ABUT	PIER 1	PIER 2	E ABUT	TOTAL
	203.0220	REMOVING STRUCTURE P-13-715	EACH	---	---	---	---	1
	206.1001	EXCAVATION FOR STRUCTURES BRIDGES B-13-692	EACH	---	---	---	---	1
	210.1500	BACKFILL STRUCTURE TYPE A	TON	630	---	---	360	990
	502.0100	CONCRETE MASONRY BRIDGES	CY	84.3	32.5	30.0	40.1	187
	502.3200	PROTECTIVE SURFACE TREATMENT	SY	4.5	---	---	3.8	8.3
	505.0400	BAR STEEL REINFORCEMENT HS STRUCTURES	LB	4,970	1,830	1,350	3,400	11,550
	505.0600	BAR STEEL REINFORCEMENT HS COATED STRUCTURES	LB	3,640	---	---	2,230	5,870
	507.0200	TREATED LUMBER AND TIMBER	MBM	0.7	---	---	0.6	1.3
	511.1200	TEMPORARY SHORING B-13-692	SF	---	---	86	---	86.0
	516.0500	RUBBERIZED MEMBRANE WATERPROOFING	SY	10	---	---	6	16
★	517.1010.S	CONCRETE STAINING B-13-692	SF	92	248	218	82	640
★	517.1015.S	CONCRETE STAINING MULTI-COLOR B-13-692	SF	316	---	---	130	446
★	517.1050.S	ARCHITECTURAL SURFACE TREATMENT B-13-692	SF	316	---	---	130	446
	550.0020	PRE-BORING ROCK OR CONSOLIDATED MATERIALS	LF	---	53	33	---	86
	550.1100	PILING STEEL HP 10-INCH X 42 LB	LF	---	86	57	---	143
	604.0600	SLOPE PAVING SELECT CRUSHED MATERIAL	SY	140	---	---	140	280
	606.0300	RIPRAP HEAVY	CY	3	---	---	---	3
	612.0406	PIPE UNDERDRAIN WRAPPED 6-INCH	LF	63	---	---	63	126
	645.0111	GEOTEXTILE TYPE DF SCHEDULE A	SY	47	---	---	43	90
	645.0120	GEOTEXTILE TYPE HR	SY	10	---	---	---	10
	SPV.0060.01	TIMBER BRIDGE B-13-692	EACH	---	---	---	---	1
		NON-BID ITEMS						
		BRIDGE SEAT PROTECTION		1/2" & 3/4"	---	---	1/2"	
		FILLER						

★ ITEMS INCLUDED IN LOCALLY FUNDED CATEGORY.



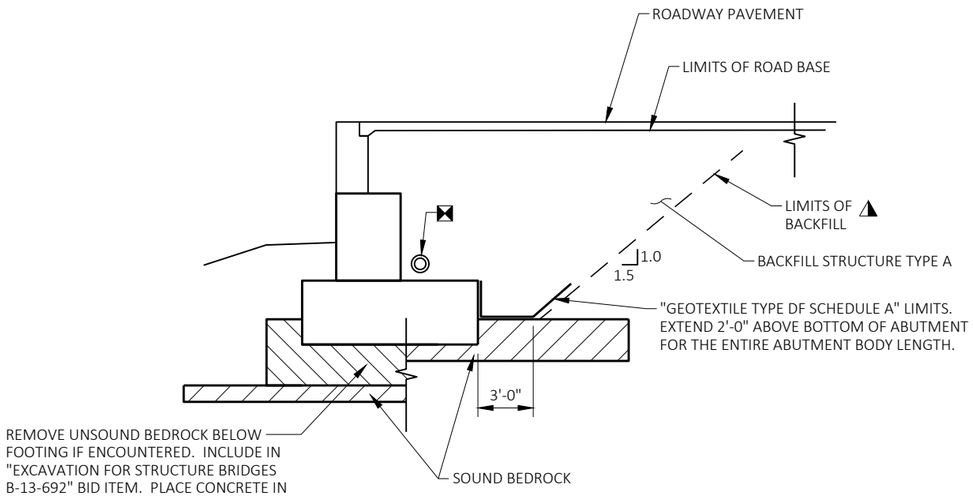
RODENT SHIELD DETAIL

* DIMENSIONS ARE APPROXIMATE. THE GRATE IS SIZED TO FIT INTO A PIPE COUPLING. ORIENT SO SLOTS ARE VERTICAL. THE RODENT SHIELD, PIPE COUPLING AND SCREWS SHALL BE CONSIDERED INCIDENTAL TO THE BID ITEM "PIPE UNDERDRAIN WRAPPED 6-INCH". THE RODENT SHIELD SHALL BE A PVC GRATE SIMILAR TO THIS DETAIL. THE GRATE IS COMMERCIALLY AVAILABLE AS A FLOOR STRAINER. A PIPE COUPLING IS REQUIRED FOR THE ATTACHMENT OF THIS SHIELD TO THE EXPOSED END OF THE PIPE UNDERDRAIN. THE SHIELD SHALL BE FASTENED TO THE PIPE COUPLING WITH TWO OR MORE NO. 10 X 1-INCH STAINLESS STEEL SHEET METAL SCREWS.

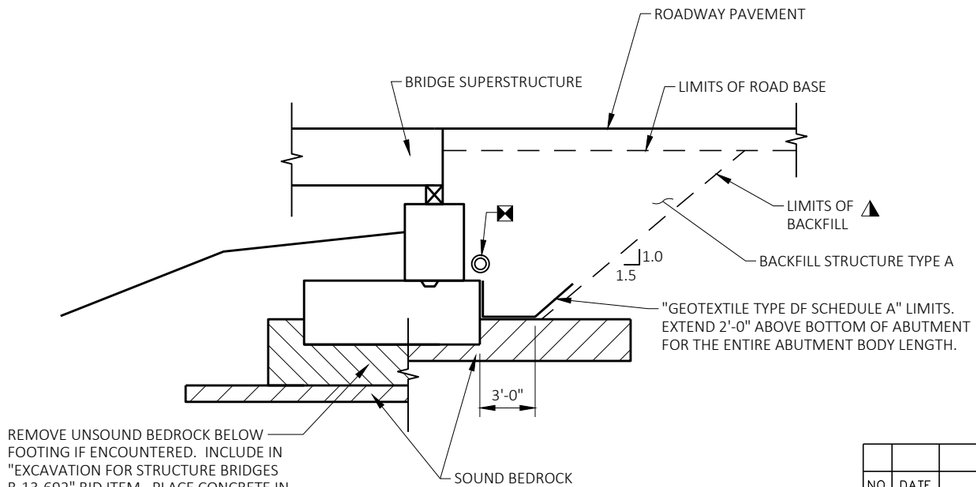
LEGEND

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

⧓ PIPE UNDERDRAIN WRAPPED (6-INCH), SLOPE 0.5% MIN. CONNECT TO PROPOSED STORM SEWER FOR THE WEST ABUTMENT. SLOPE TO SUITABLE DRAINAGE WITH RODENT SHIELD AT THE EAST ABUTMENT.



EXCAVATION DETAIL AND BACKFILL STRUCTURE LIMITS (WING 2 & 4)



EXCAVATION DETAIL AND BACKFILL STRUCTURE LIMITS

NO.	DATE	REVISION	BY

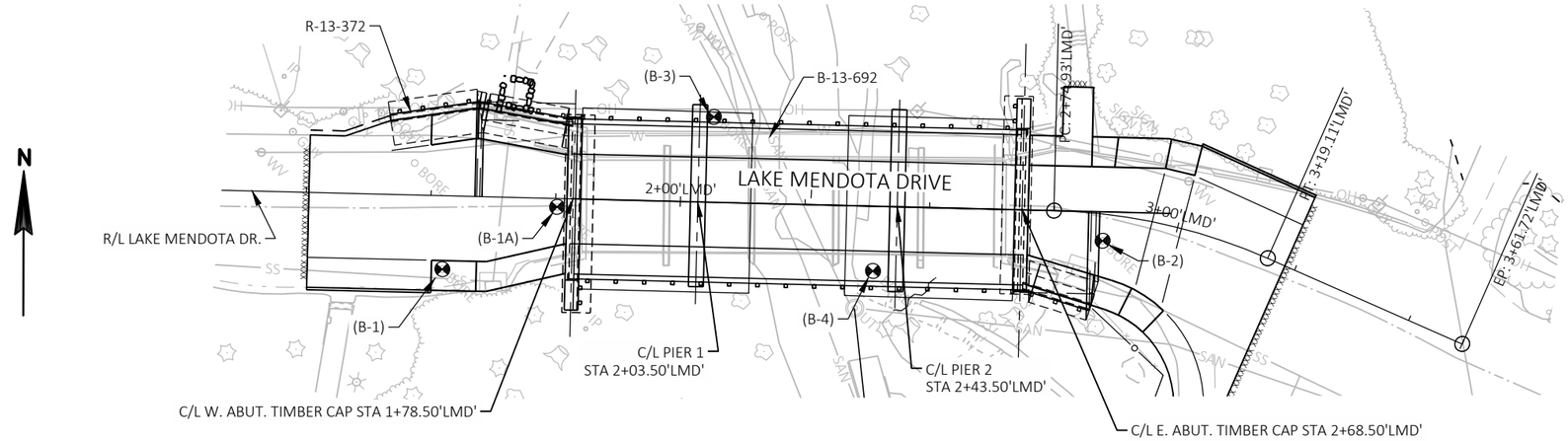
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B–13–692

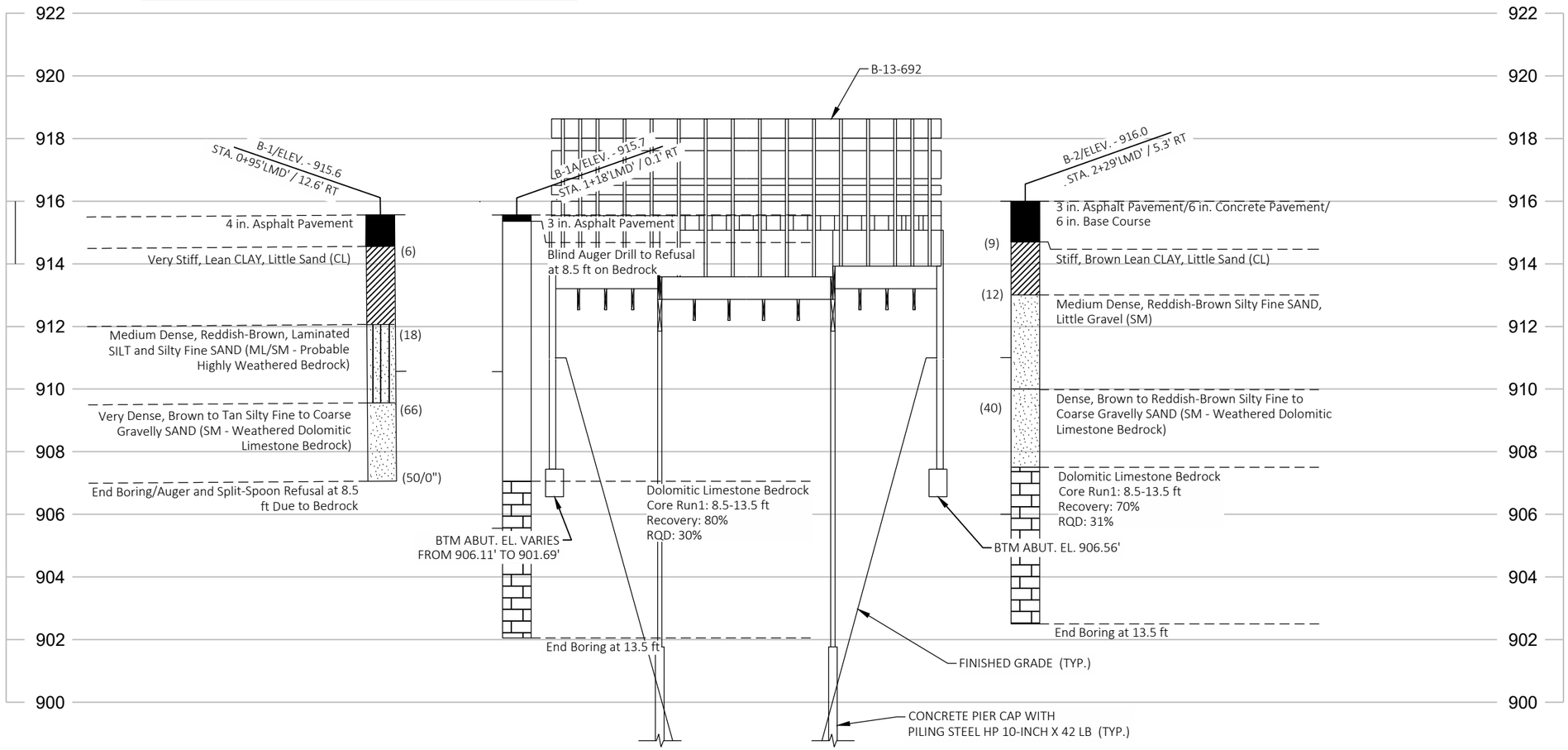
DRAWN BY STD | PLANS CK'D. CDH

QUANTITIES AND DETAILS

SHEET 3 OF 19
80



BORING #	DATE COMPLETED	NORTHING (Y)	EASTING (X)
B-1	11/30/2020	486257.36	803565.69
B-1A	12/01/2020	486282.20	803574.05
B-2	11/30/2020	486351.64	803658.83
B-3	06/23/2021	486317.26	803584.98
B-4	06/21/2021	486316.18	803629.96
BORINGS COMPLETED BY: BADGER STATE DRILLING			
REPORT COMPLETED BY: CGC, INC.			
ALL COORDINATES REFERENCED TO WCCS NAD DANE COUNTY			



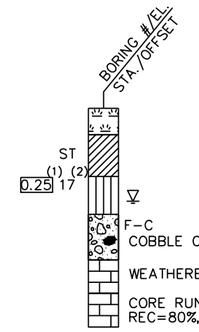
STATE PROJECT NUMBER

5992-10-04

MATERIAL SYMBOLS

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

LEGEND OF BORING



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

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

GROUND WATER ELEVATION

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

ABBREVIATIONS

F-FINE M-MEDIUM C-COARSE ST-SHELBY TUBE

SUBSURFACE EXPLORATION FOR FOUNDATION DESIGN AND BIDDERS INFORMATION

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

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

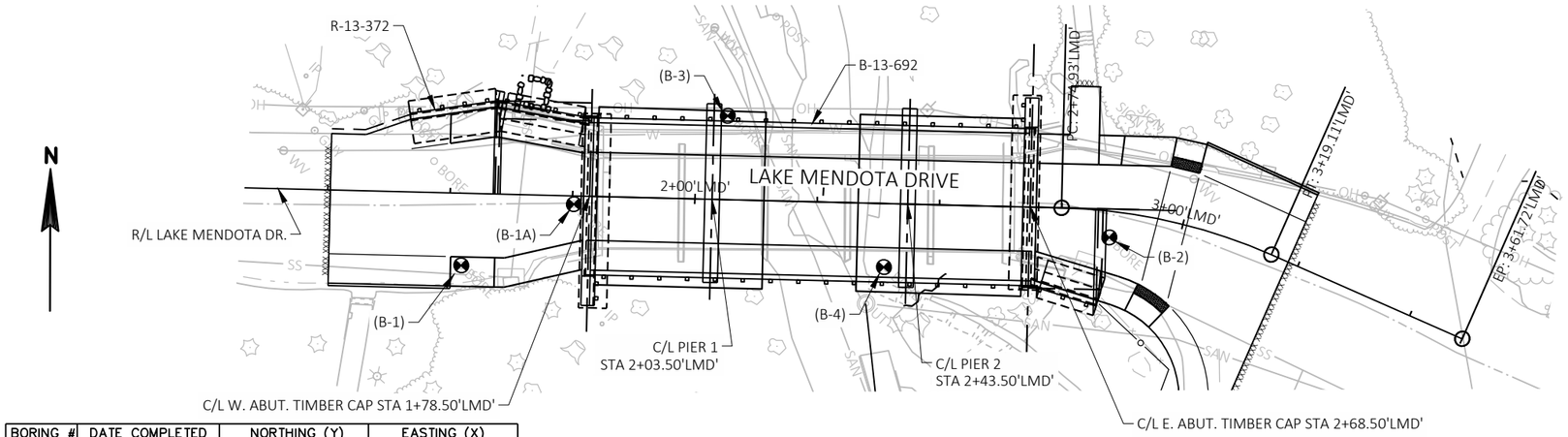
STRUCTURE B-13-692

DRAWN BY	STD	PLANS CK'D.	CDH

SUBSURFACE EXPLORATION-1

SHEET 4 OF 19

81



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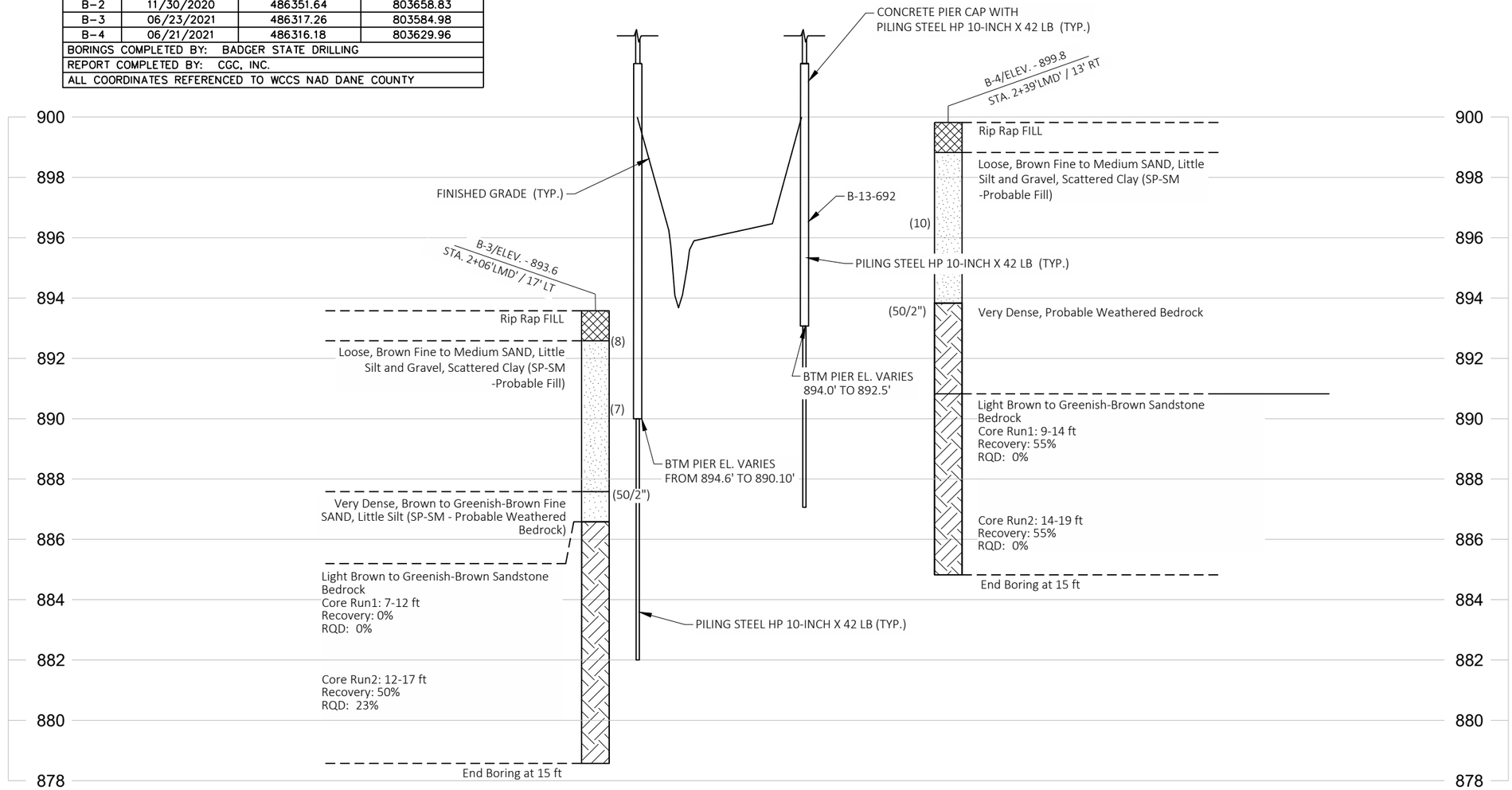
BORINGS COMPLETED BY: BADGER STATE DRILLING			
REPORT COMPLETED BY: CGC, INC.			
ALL COORDINATES REFERENCED TO WCCS NAD DANE COUNTY			



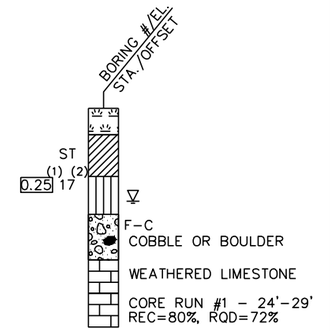
STATE PROJECT NUMBER

5992-10-04

MATERIAL SYMBOLS

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

LEGEND OF BORING



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- 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

STRUCTURE B-13-692

DRAWN BY	STD	PLANS CK'D.	CDH

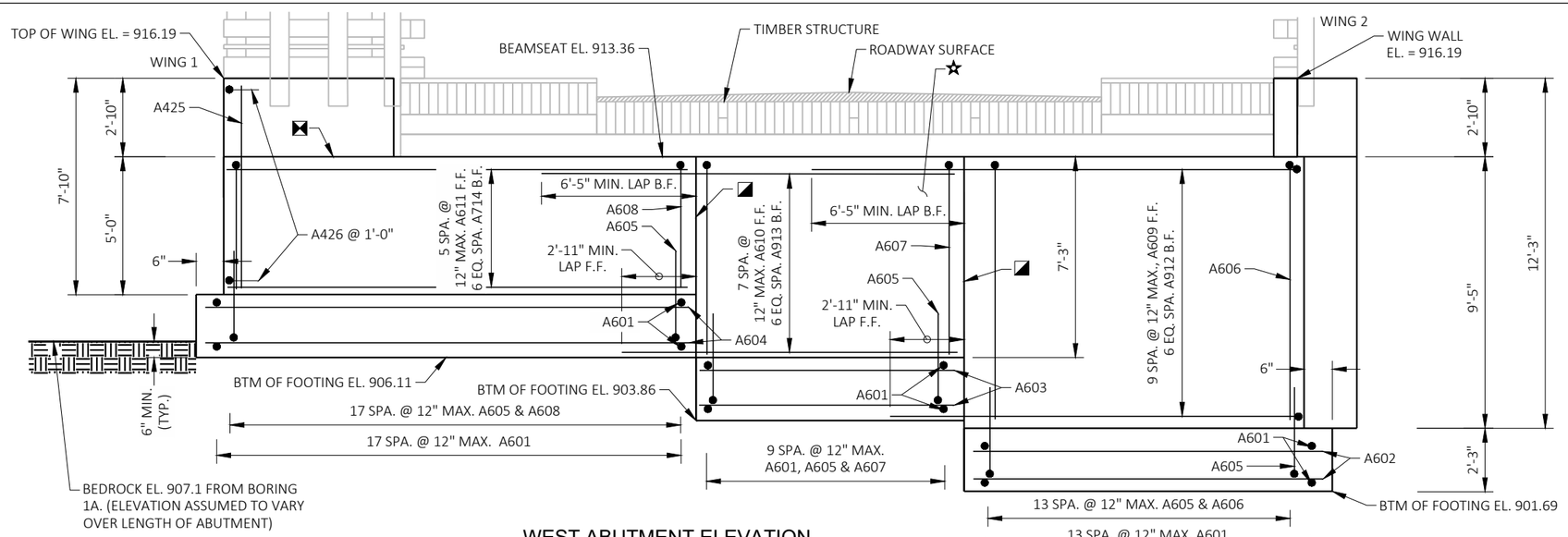
SUBSURFACE EXPLORATION-2

SHEET 5 OF 19

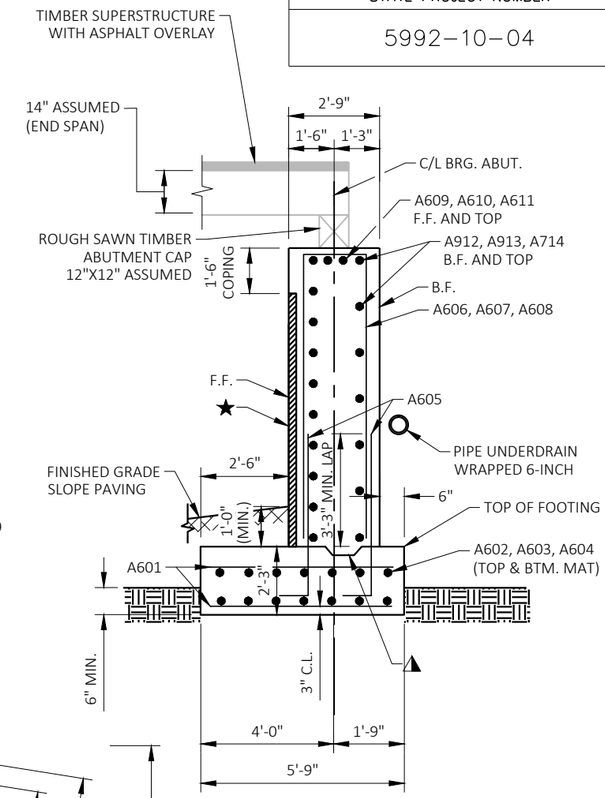
82

STATE PROJECT NUMBER

5992-10-04



WEST ABUTMENT ELEVATION
(LOOKING WEST)



SECTION THRU ABUTMENT
(LOOKING SOUTH)

LEGEND

★ ARCHITECTURAL SURFACE TREATMENT. SEE AESTHETIC DETAILS SHEETS.

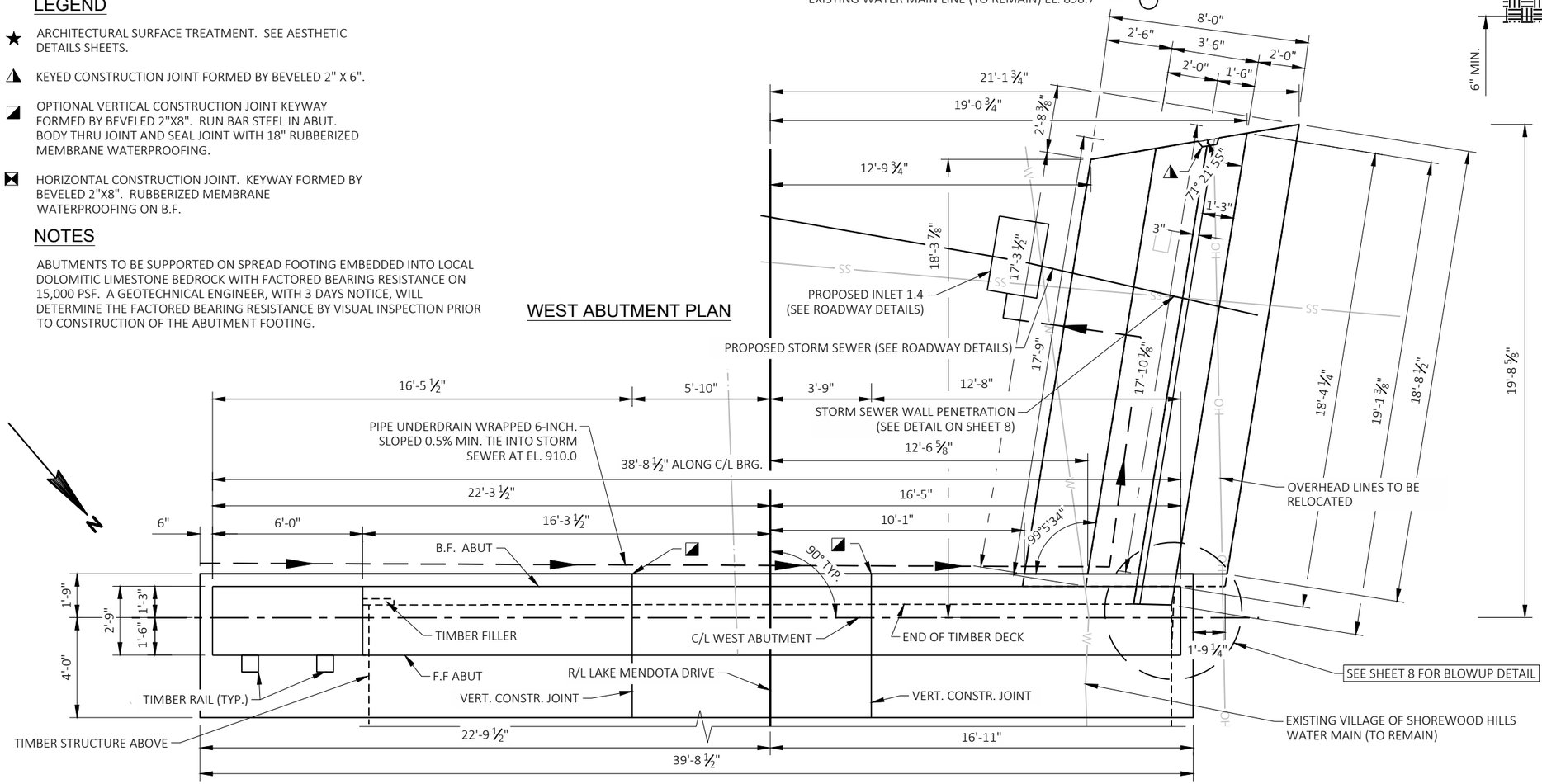
◭ KEYED CONSTRUCTION JOINT FORMED BY BEVELED 2" X 6".

◪ OPTIONAL VERTICAL CONSTRUCTION JOINT KEYWAY FORMED BY BEVELED 2"X8". RUN BAR STEEL IN ABUT. BODY THRU JOINT AND SEAL JOINT WITH 18" RUBBERIZED MEMBRANE WATERPROOFING.

⧓ HORIZONTAL CONSTRUCTION JOINT. KEYWAY FORMED BY BEVELED 2"X8". RUBBERIZED MEMBRANE WATERPROOFING ON B.F.

NOTES

ABUTMENTS TO BE SUPPORTED ON SPREAD FOOTING EMBEDDED INTO LOCAL DOLOMITIC LIMESTONE BEDROCK WITH FACTORED BEARING RESISTANCE ON 15,000 PSF. A GEOTECHNICAL ENGINEER, WITH 3 DAYS NOTICE, WILL DETERMINE THE FACTORED BEARING RESISTANCE BY VISUAL INSPECTION PRIOR TO CONSTRUCTION OF THE ABUTMENT FOOTING.



WEST ABUTMENT PLAN

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

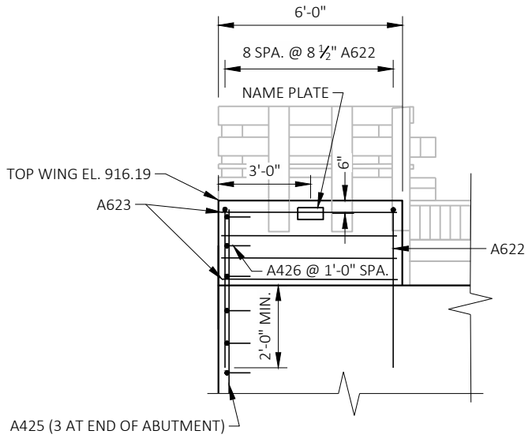
STRUCTURE B-13-692

DRAWN BY STD | PLANS CK'D. CDH

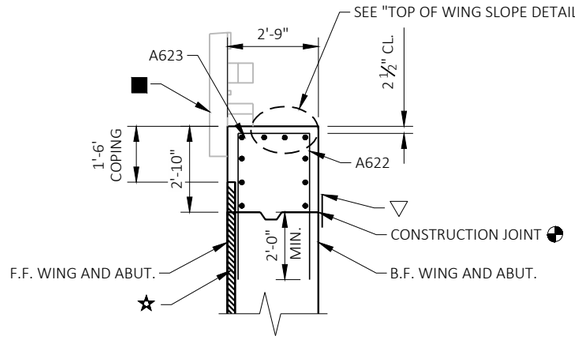
WEST ABUTMENT

SHEET 6 OF 19
83

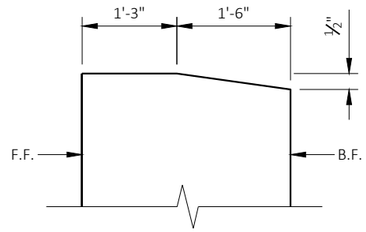
STATE PROJECT NUMBER
5992-10-04



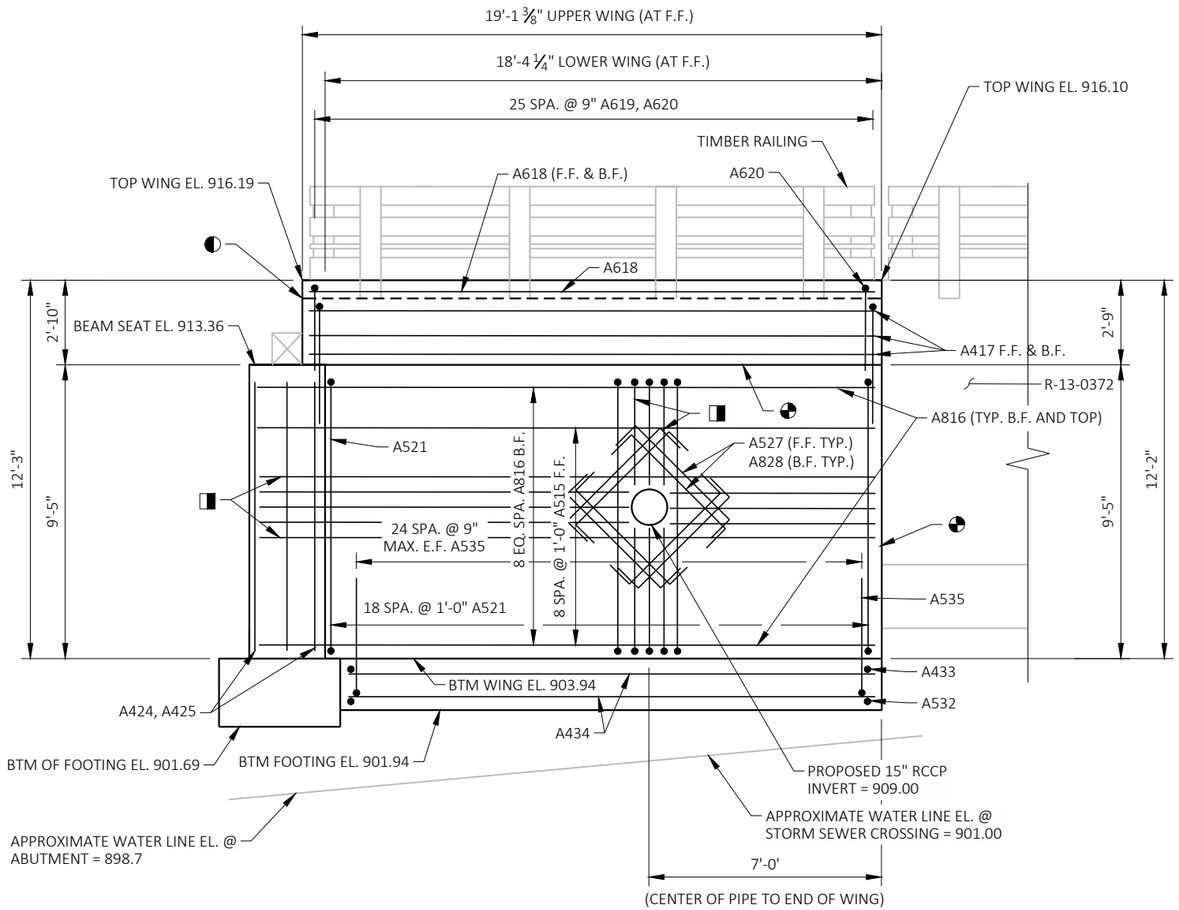
ELEVATION WING WALL 1
(LOOKING WEST)



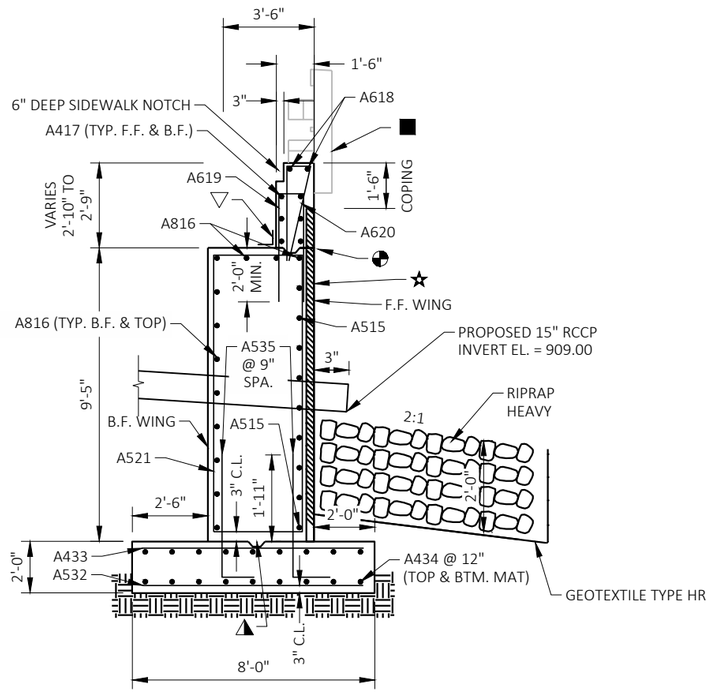
SECTION THRU WING WALL 1
(LOOKING SOUTH)



TOP OF WING SLOPE DETAIL



ELEVATION WING WALL 2
(LOOKING SOUTH)



SECTION THRU WING WALL 2
(LOOKING WEST)

LEGEND

- KEYED CONSTRUCTION JOINT FORMED BY BEVELED 2" X 6".
- CONSTRUCTION JOINT FORMED BY BEVELED 2" X 6" KEYWAY.
- 18" RUBBERIZED MEMBRANE WATERPROOFING. SEAL ALL HORIZONTAL AND VERTICAL JOINTS ON BACKFACE.
- TIMBER RAILING. SEE SHEETS 17 AND 18 FOR ADDITIONAL REINFORCEMENT.
- ARCHITECTURAL SURFACE TREATMENT. SEE AESTHETIC DETAILS SHEETS.
- ½" FILLER
- FIELD CUT UP TO THREE (3) A515, A816, A521 BARS AS REQUIRED FOR STORM SEWER OPENING. PROVIDE 3" CLEAR.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

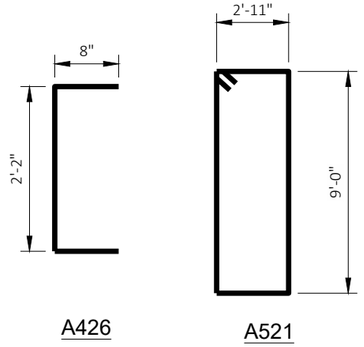
STRUCTURE B-13-692

DRAWN BY STD | PLANS CK'D. CDH

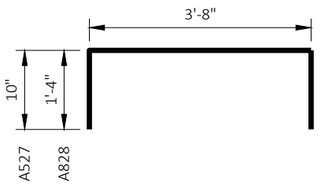
WEST ABUTMENT AND WING DETAILS

SHEET 7 OF 19
84

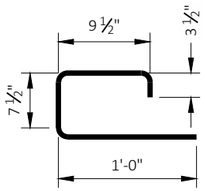
STATE PROJECT NUMBER
5992-10-04



A426 A521



A527, A828



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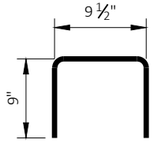

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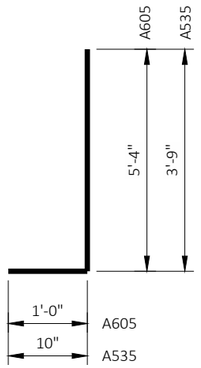
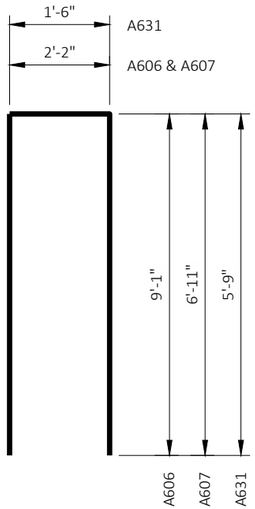
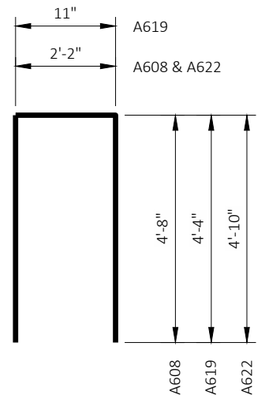


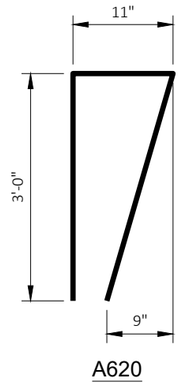
A605, A535



A606, A607 & A631



A608, A619 & A622



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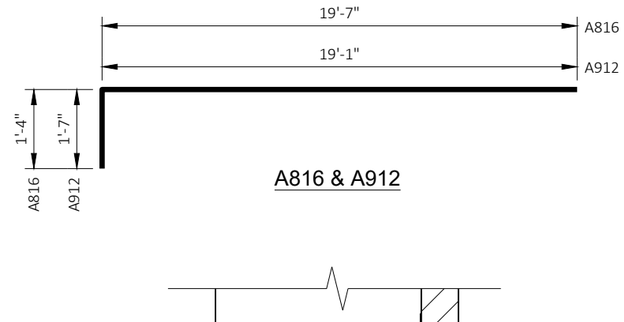
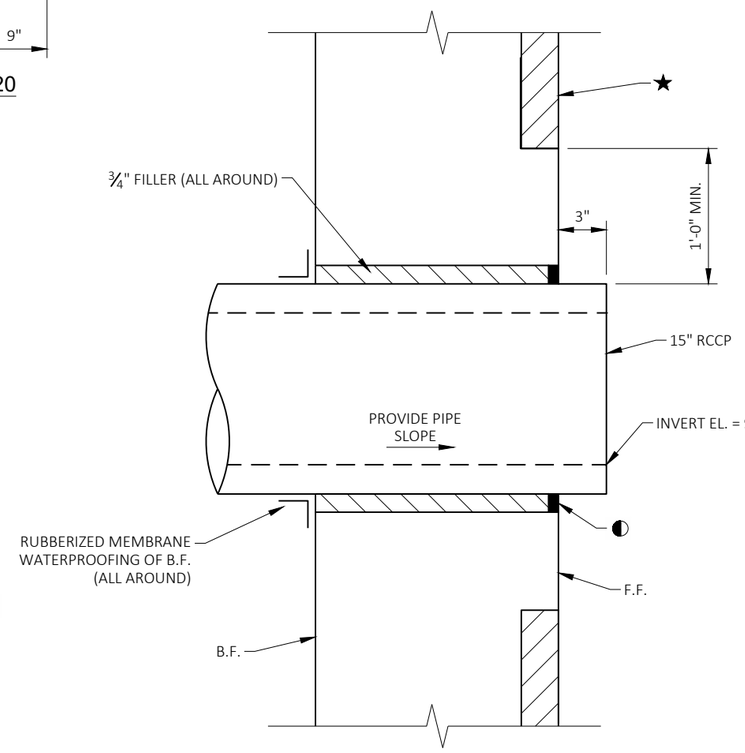
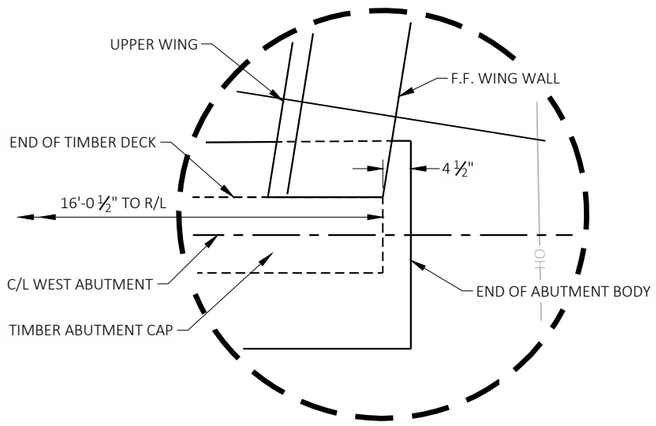


A816 & A912



STORM SEWER OUTLET DETAIL



WEST ABUTMENT BLOWUP DETAIL

BILL OF BARS

COATED TOTAL = 3,640 LBS
UNCOATED TOTAL = 4,970 LBS

BAR MARK	NO. REQ'D.	LENGTH	COAT	BENT	BAR SERIES	LOCATION
A601	84	5'-5"				FOOTING HORIZ. TRANS.
A602	14	12'-10"				FOOTING HORIZ. LONG.
A603	14	9'-2"				FOOTING HORIZ. LONG.
A604	14	16'-8"				FOOTING HORIZ. LONG.
A605	82	6'-2"		X		FOOTING VERT.
A606	14	20'-0"		X		ABUT. STIRRUP
A607	10	15'-8"		X		ABUT. STIRRUP
A608	18	11'-2"		X		ABUT. STIRRUP
A609	12	15'-7"				ABUT. HORIZ. F.F.
A610	10	12'-5"				ABUT. HORIZ. F.F.
A611	8	16'-1"				ABUT. HORIZ. F.F.
A912	7	20'-5"		X		ABUT. HORIZ. B.F.
A913	7	15'-11"				ABUT. HORIZ. B.F.
A714	7	16'-1"				ABUT. HORIZ. B.F.
A515	9	20'-5"	X			LOWER WING 2 HORIZ. F.F.
A816	12	20'-8"	X	X		LOWER WING 2 HORIZ. B.F. & TOP
A417	6	18'-3"	X			UPPER WING 2 HORIZ. F.F. AND B.F.
A618	2	18'-3"	X			UPPER WING 2 HORIZ. TOP
A619	26	9'-3"	X	X		UPPER WING 2 STIRRUP
A620	26	6'-7"	X	X		UPPER WING 2 SIDEWALK NOTCH STIRRUP
A521	19	24'-6"	X	X		LOWER WING 2 STIRRUP
A622	9	11'-6"	X	X		UPPER WING 1 STIRRUP
A623	10	5'-8"	X			UPPER WING 1 HORIZ. F.F. AND B.F.
A424	3	9'-1"	X			ABUT. ENDS VERT. NORTH
A425	3	6'-8"	X			ABUT. ENDS VERT. SOUTH
A426	8	3'-4"	X	X		ABUT. ENDS HORIZ. SOUTH
A527	8	5'-2"	X	X		STORM SEWER HORIZ. F.F.
A828	8	5'-11"	X	X		STORM SEWER HORIZ. B.F.
A529	36	2'-4"	X	X		RAIL POST VERTICAL
A530	36	2'-1"	X	X		RAIL POST VERTICAL
A631	12	12'-9"	X	X		RAIL POST VERTICAL
A532	19	7'-8"	X			WING 2 FOOTING HORIZ TRANS BTM
A433	19	7'-8"	X			WING 2 FOOTING HORIZ TRANS TOP
⚠ A434	18	17'-8"	X		X	WING 2 FOOTING HORIZ LONG. TOP & BTM
A535	50	4'-6"	X	X		WING 2 FOOTING VERT

ALL BEND DIMENSIONS ARE OUT TO OUT OF BAR.

⚠ BAR LENGTHS SHOWN IS AN AVERAGE LENGTH TO BE USED FOR BAR WEIGHT CALCULATION ONLY.

BAR SERIES TABLE

MARK	NO. REQ'D.	LENGTH
A434	2 SERIES OF 9	16'-11" TO 18'-4"

BUNDLE AND MARK EACH SERIES SEPARATELY.

LEGEND

★ ARCHITECTURAL SURFACE TREATMENT. SEE AESTHETIC DETAILS SHEETS.

◐ ¾" FILLER. SEAL ALL SURFACES OF FILLER WITH NON-BITUMINOUS JOINT SEALER. (1" DEEP AND HOLD ⅛" BELOW SURFACE OF CONCRETE)

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

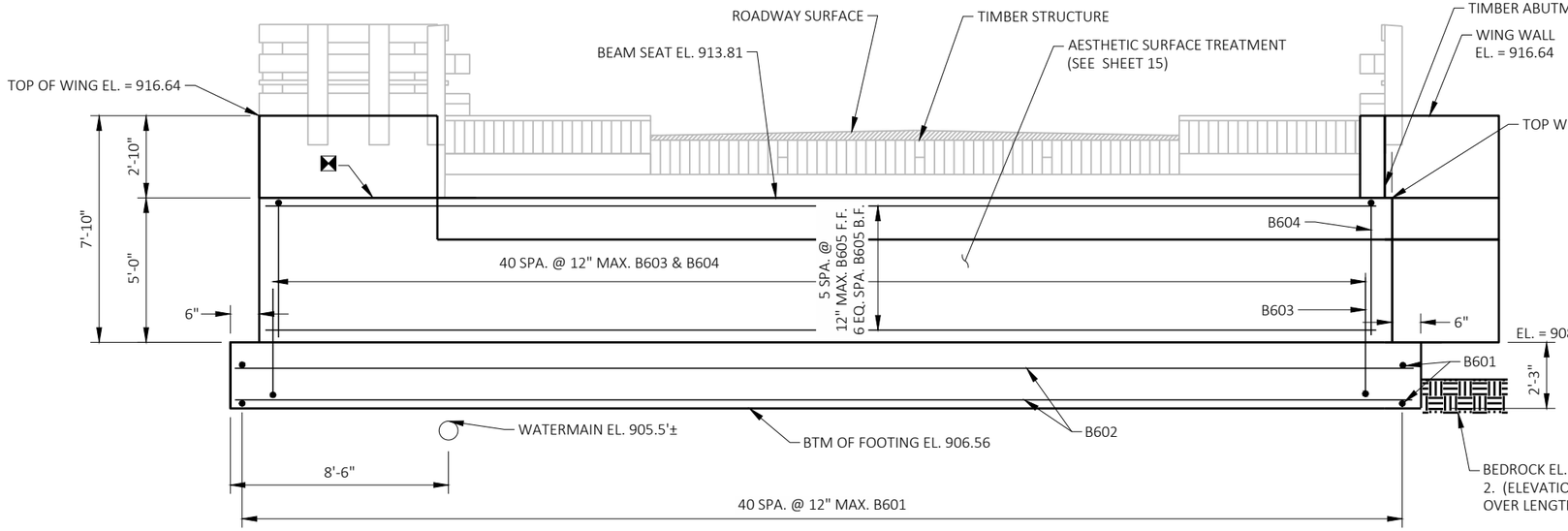
STRUCTURE B-13-692

DRAWN BY STD | PLANS CK'D. CDH

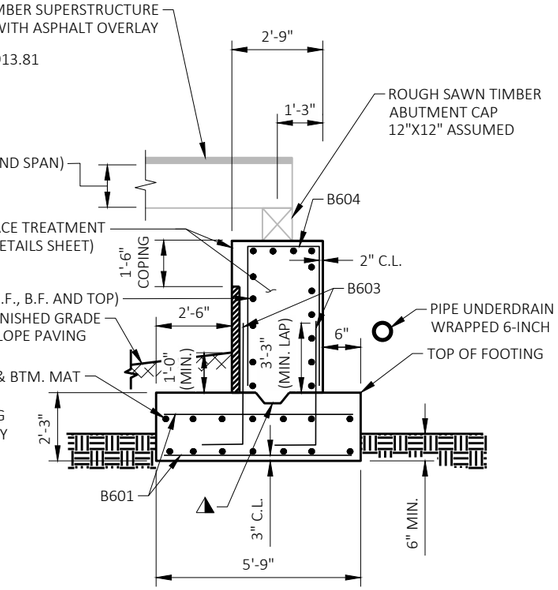
WEST ABUTMENT DETAILS

SHEET 8 OF 19
85

STATE PROJECT NUMBER
5992-10-03



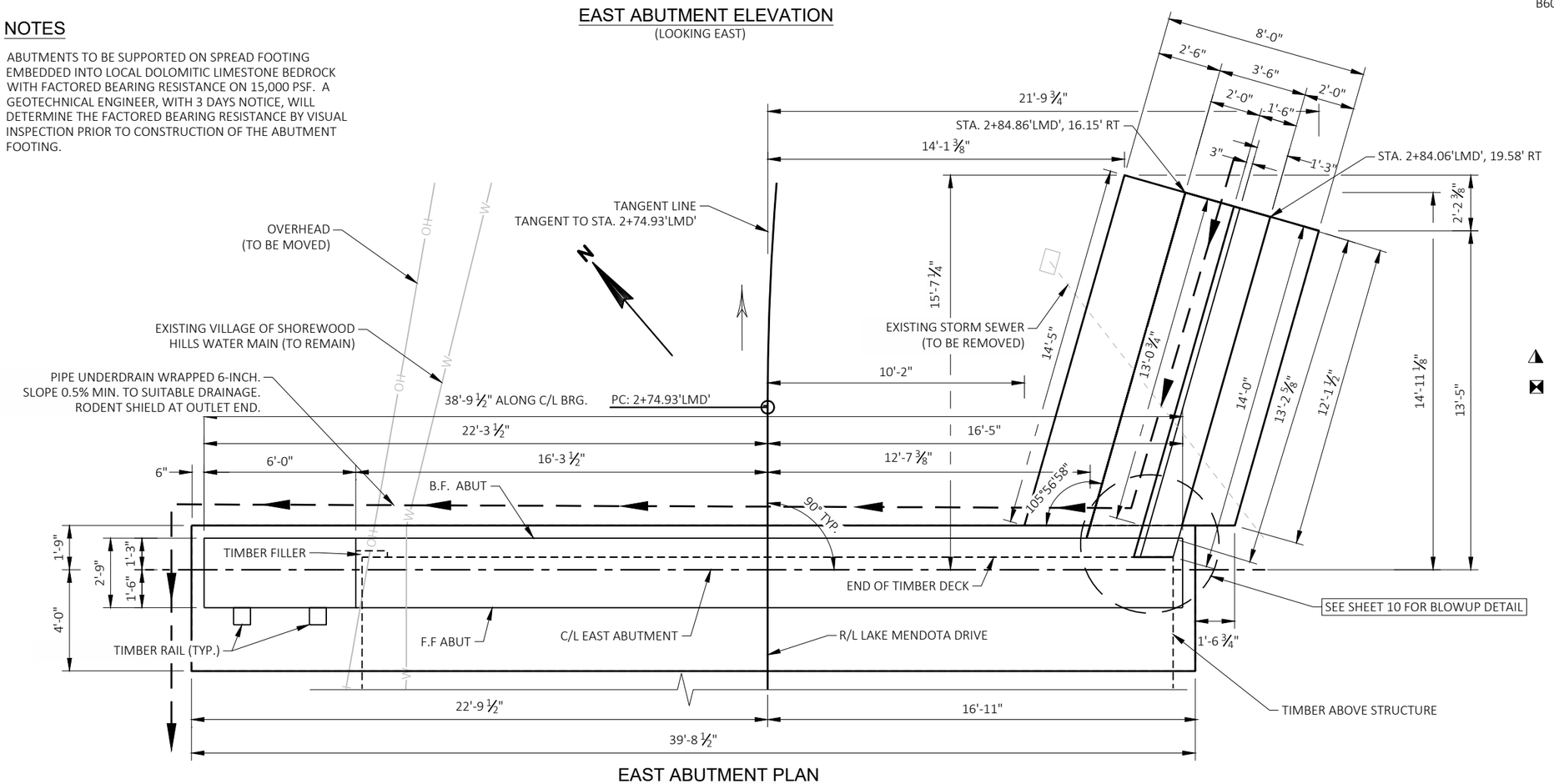
EAST ABUTMENT ELEVATION
(LOOKING EAST)



SECTION THRU ABUTMENT
(LOOKING SOUTH)

NOTES

ABUTMENTS TO BE SUPPORTED ON SPREAD FOOTING EMBEDDED INTO LOCAL DOLOMITIC LIMESTONE BEDROCK WITH FACTORED BEARING RESISTANCE ON 15,000 PSF. A GEOTECHNICAL ENGINEER, WITH 3 DAYS NOTICE, WILL DETERMINE THE FACTORED BEARING RESISTANCE BY VISUAL INSPECTION PRIOR TO CONSTRUCTION OF THE ABUTMENT FOOTING.



EAST ABUTMENT PLAN

LEGEND

- KEYED CONSTRUCTION JOINT FORMED BY BEVELED 2" X 6" .
- HORIZONTAL CONSTRUCTION JOINT. KEYWAY FORMED BY BEVELED 2"X8". RUBBERIZED MEMBRANE WATERPROOFING ON B.F.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-13-692

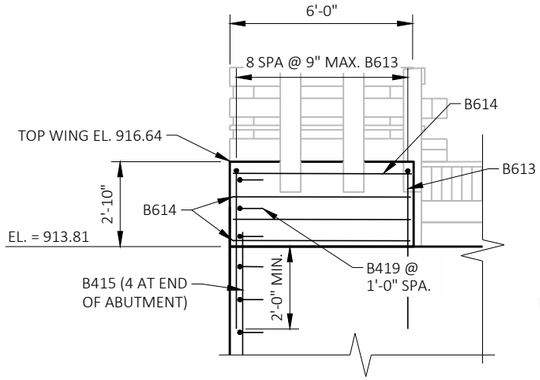
DRAWN BY	STD	PLANS CK'D.	CDH

EAST ABUTMENT

SHEET 9 OF 19
86

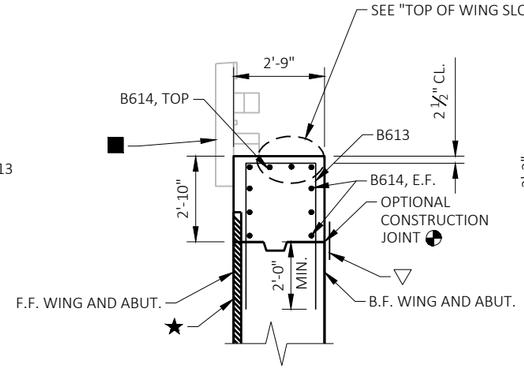
STATE PROJECT NUMBER

5992-10-04



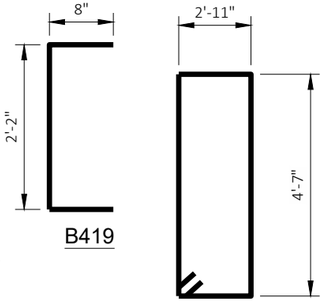
ELEVATION WING WALL 3

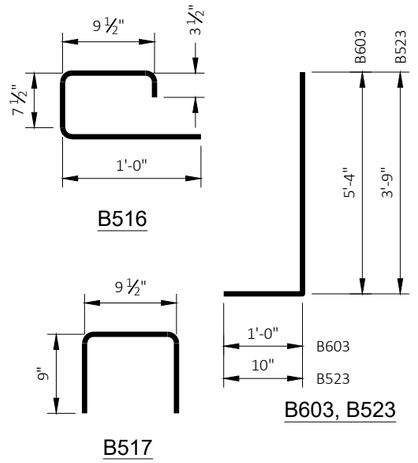
(LOOKING EAST)

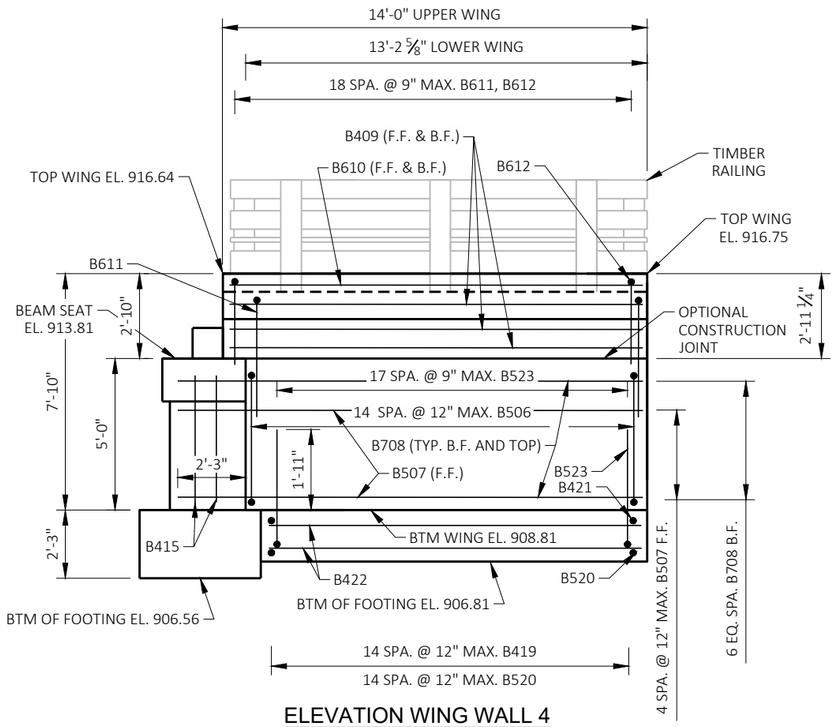


SECTION THRU WING WALL 3

(LOOKING NORTH)

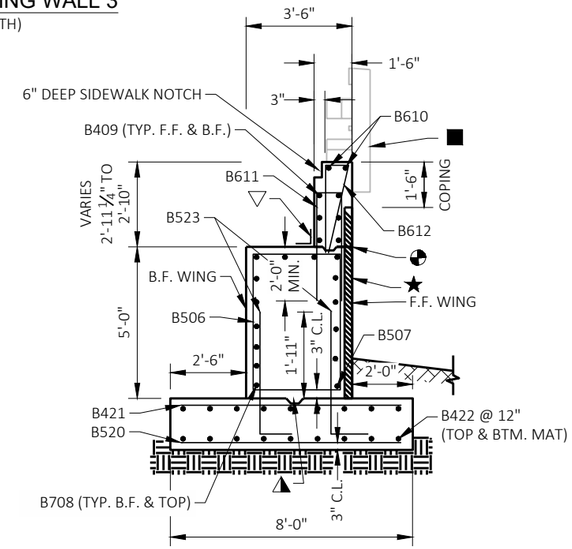






ELEVATION WING WALL 4

(LOOKING NORTH)



SECTION THRU WING WALL 4

(LOOKING EAST)

BILL OF BARS

COATED TOTAL = 2,230 LBS

UNCOATED TOTAL = 3,400 LBS

BAR MARK	NO. REQ'D.	LENGTH	COAT	BENT	BAR SERIES	LOCATION
B601	82	5'-5"				FOOTING HORIZ. TRANS.
B602	14	39'-4"				FOOTING HORIZ. LONG.
B603	40	6'-2"		X		FOOTING VERT.
B604	40	11'-2"		X		ABUT. STIRRUP
B605	15	38'-0"				ABUT. HORIZ. F.F., B.F. & TOP
B506	14	15'-8"	X	X		LOWER WING 4 STIRRUP
B507	5	15'-4"	X			LOWER WING 4 HORIZ. F.F.
B708	10	15'-3"	X			LOWER WING 4 HORIZ. B.F. & TOP
B409	6	13'-8"	X			UPPER WING 4 HORIZ. F.F. & B.F.
B610	2	13'-8"	X			UPPER WING 4 TOP
B611	19	9'-7"	X			UPPER WING 4 STIRRUP
B612	19	4'-7"	X	X		UPPER WING 4 SIDEWALK NOTCH STIRRUP
B613	9	11'-6"	X	X		UPPER WING 3 STIRRUP
B614	8	5'-8"	X			UPPER WING 3 HORIZ. F.F., B.F. & TOP
B415	4	4'-8"	X			ABUT. ENDS VERT.
B516	30	2'-4"	X	X		RAIL POST VERTICAL
B517	30	2'-1"	X	X		RAIL POST VERTICAL
B618	10	12'-9"	X	X		RAIL POST VERTICAL
B419	8	3'-4"	X	X		ABUT. ENDS HORIZ. NORTH
B520	15	7'-8"	X			WING 4 FOOTING HORIZ TRANS BTM
B421	15	7'-8"	X			WING 4 FOOTING HORIZ TRANS TOP
◭ B422	18	12'-11"	X		X	WING 4 FOOTING HORIZ LONG. TOP & BTM
B523	36	4'-6"	X	X		WING 4 FOOTING VERT

ALL BEND DIMENSIONS ARE OUT TO OUT OF BAR.

◭ BAR LENGTHS SHOWN IS AN AVERAGE LENGTH TO BE USED FOR BAR WEIGHT CALCULATION ONLY.

LEGEND

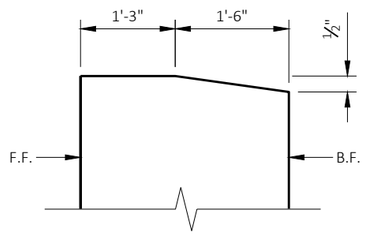
◭ KEYED CONSTRUCTION JOINT FORMED BY BEVELED 2" X 6".

◕ CONSTRUCTION JOINT FORMED BY BEVELED 2" X 6" KEYWAY.

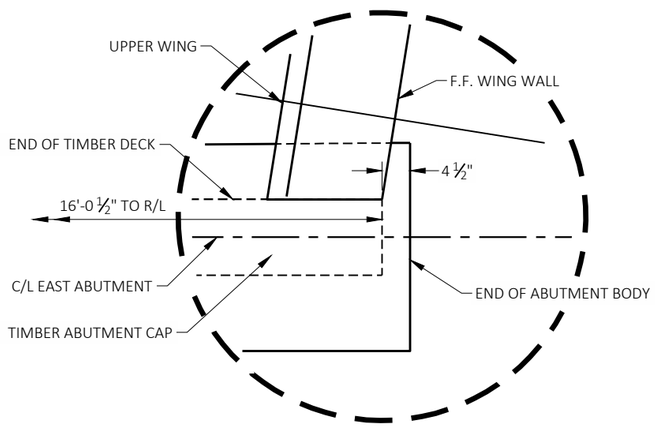
▽ 18" RUBBERIZED MEMBRANE WATERPROOFING. SEAL ALL HORIZONTAL JOINTS ON BACKFACE.

■ TIMBER RAILING. SEE SHEETS 17 AND 18 FOR DESIGN DETAILS AND REBAR DETAILS.

★ ARCHITECTURAL SURFACE TREATMENT. SEE AESTHETIC DETAILS SHEETS.



TOP OF WING SLOPE DETAIL



EAST ABUTMENT BLOWUP DETAIL

BAR SERIES TABLE

MARK	NO. REQ'D.	LENGTH
B422	2 SERIES OF 9	11'-9" TO 14'-1"

BUNDLE AND MARK EACH SERIES SEPARATELY.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-13-692

DRAWN BY STD | PLANS CK'D. CDH

EAST ABUTMENT AND WING DETAILS

SHEET 10 OF 19

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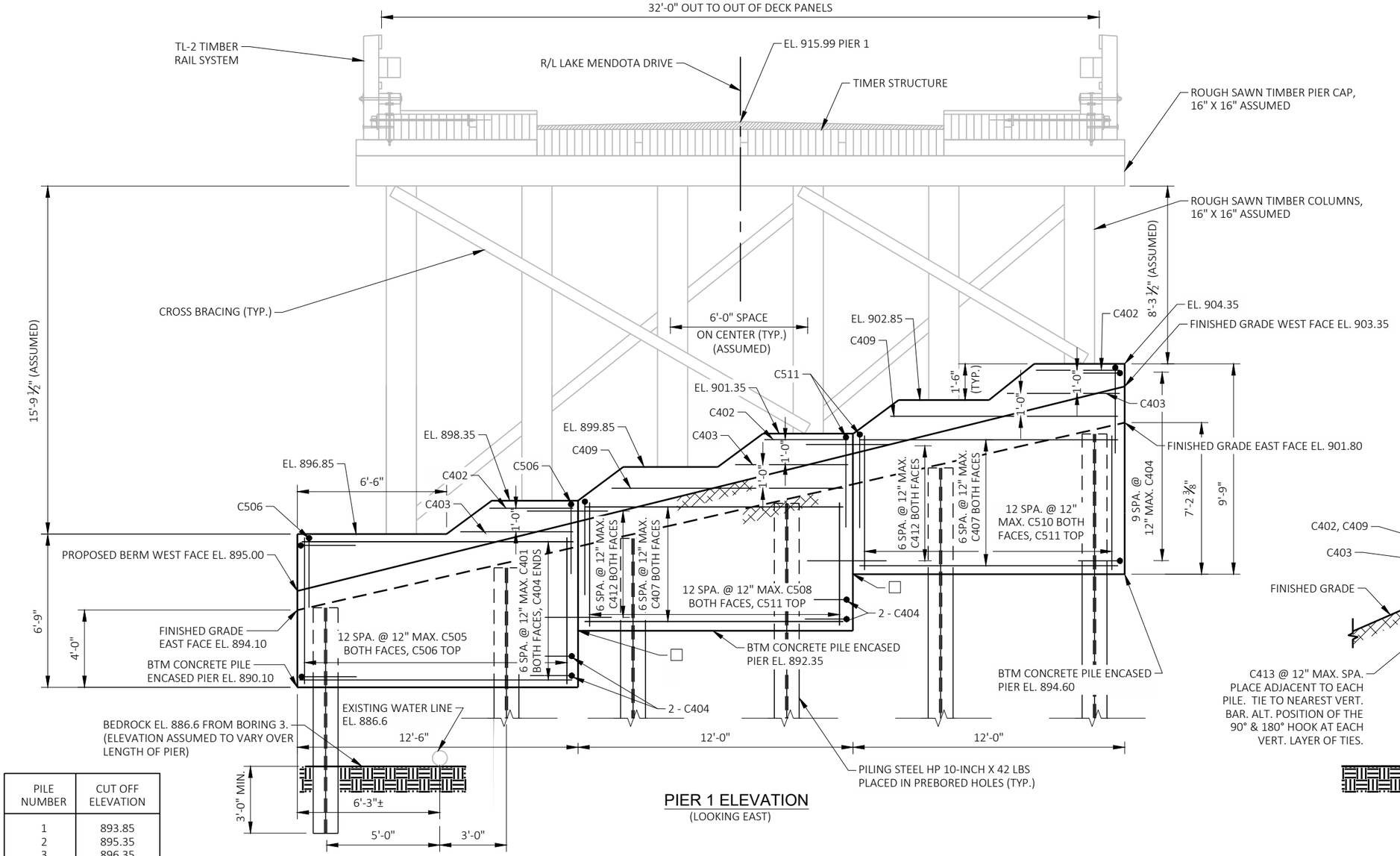
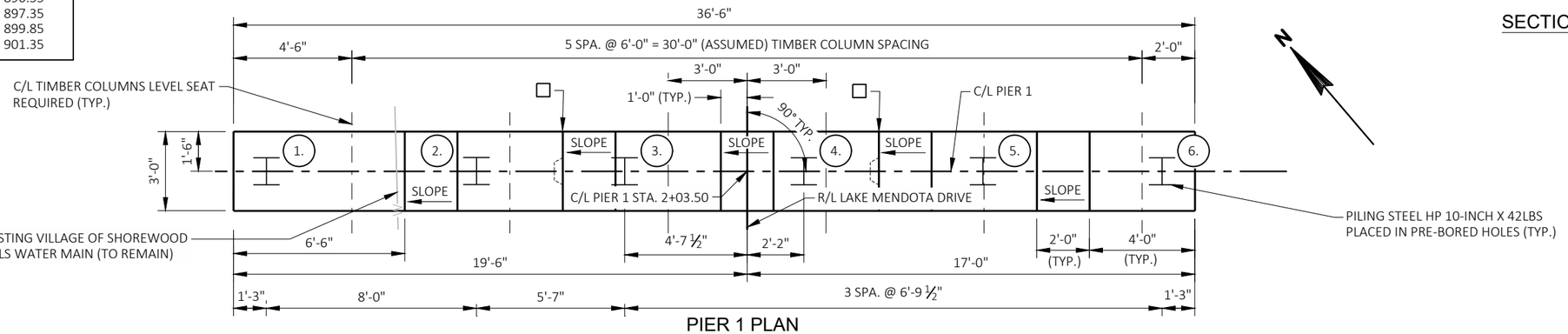
STATE PROJECT NUMBER
5992–10–04

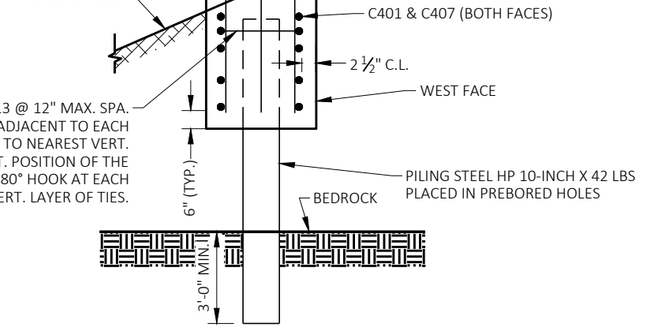


PIER 1 ELEVATION
(LOOKING EAST)

PILE NUMBER	CUT OFF ELEVATION
1	893.85
2	895.35
3	896.35
4	897.35
5	899.85
6	901.35



PIER 1 PLAN



SECTION THRU PIER 1

NOTES

PIERS TO BE SUPPORTED ON HP 10-INCH X 42 STEEL PILING SEATED IN PREBORED HOLES CORED THROUGH UNCONSOLIDATED MATERIAL INTO CONSOLIDATED MATERIAL. FIRMLY SEAT PREBORED PILES BY TAPPING IN PLACE. THE FACTORED AXIAL RESISTANCE OF PILES IN COMPRESSION USED FOR DESIGN IS 90 TONS MULTIPLIED BY A RESISTANCE FACTOR OF 0.5. ALL PILES REQUIRE A MINIMUM DEPTH OF 3'-0" INTO CONSOLIDATED MATERIAL. CASING IS REQUIRED DURING PREBORING. ESTIMATED PILE LENGTH VARIES FROM 11' TO 18'.

ELEVATIONS AND BEAM SEAT DIMENSIONS ARE BASED ON ASSUMED TIMBER PIER DETAILS AS SHOWN. ADJUST AS REQUIRED BASED ON THE TIMBER STRUCTURE SHOP DRAWINGS.

LEGEND

☐ OPTIONAL VERTICAL CONSTRUCTION JOINT. KEYWAY FORMED BY BEVELED 2"X8". RUN BARS STEEL THRU JOINT.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B–13–692

DRAWN BY: STD | PLANS CK'D.: CDH

PIER 1

SHEET 11 OF 19
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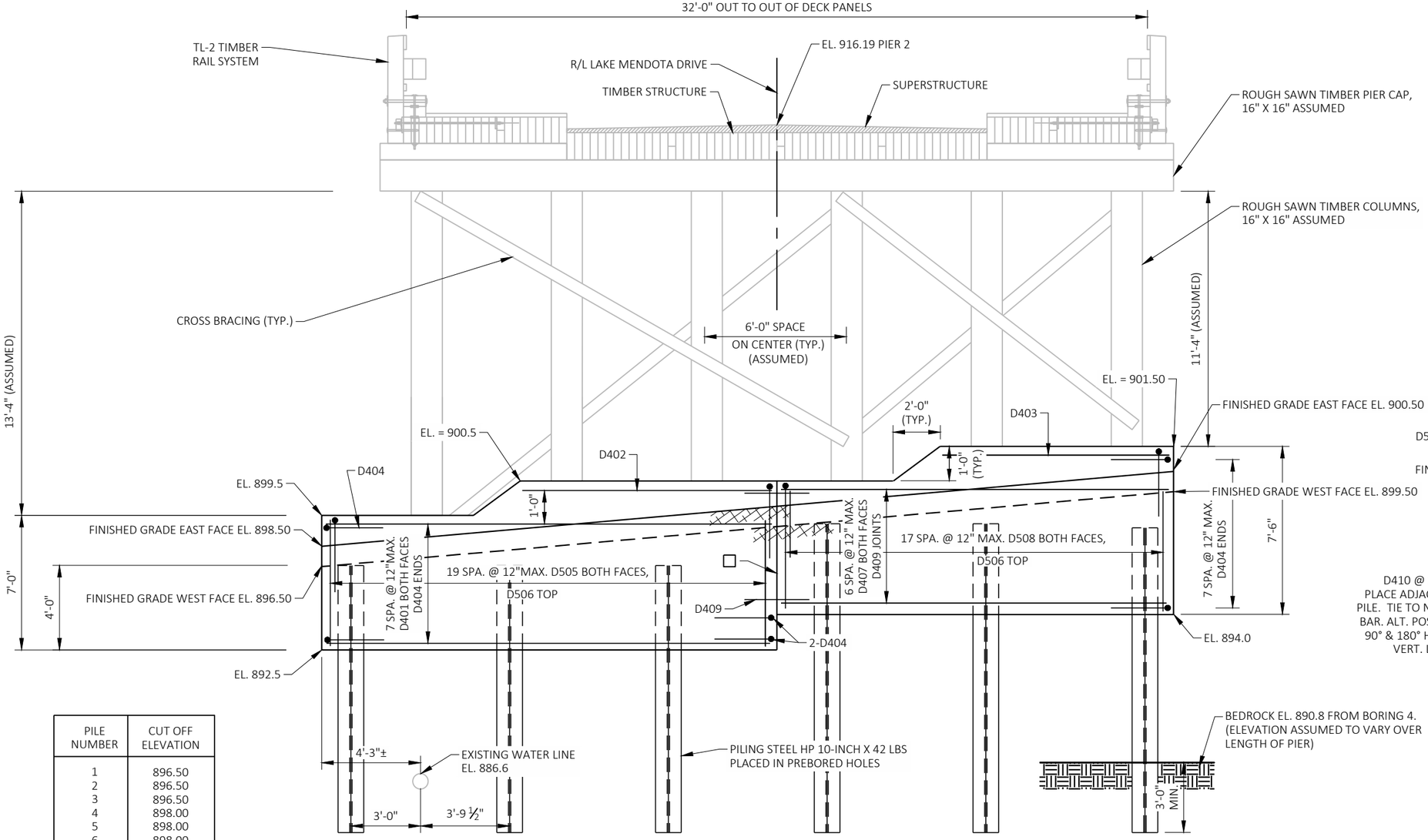
STATE PROJECT NUMBER
5992-10-04

NOTES

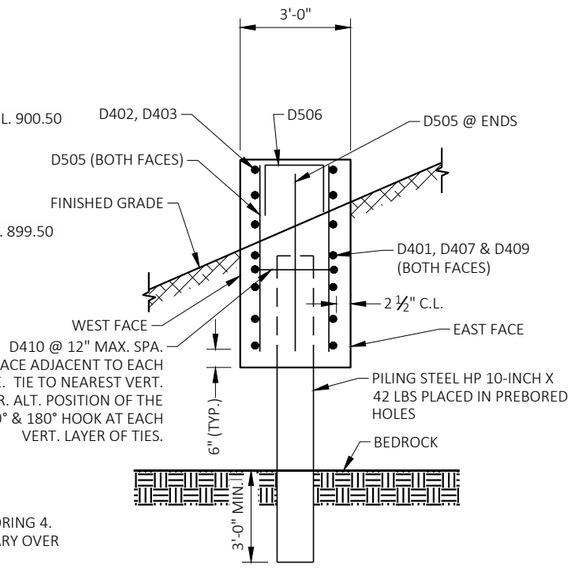
PIERS TO BE SUPPORTED ON HP 10-INCH X 42 STEEL PILING SEATED IN PREBORED HOLES CORED THROUGH UNCONSOLIDATED MATERIAL. FIRMLY SEAT PREBORED PILES BY TAPPING IN PLACE. THE FACTORED AXIAL RESISTANCE OF PILES IN COMPRESSION USED FOR DESIGN IS 90 TONS MULTIPLIED BY A RESISTANCE FACTOR OF 0.5. ALL PILES REQUIRE A MINIMUM DEPTH OF 3'-0" INTO CONSOLIDATED MATERIAL. CASING IS REQUIRED DURING PREBORING. ESTIMATED PILE LENGTHS ARE 11' LONG AT PIER 2.

ELEVATIONS AND BEAM SEAT DIMENSIONS ARE BASED ON ASSUMED TIMBER PIER DETAILS AS SHOWN. ADJUST AS REQUIRED BASED ON THE TIMBER STRUCTURE SHOP DRAWINGS.

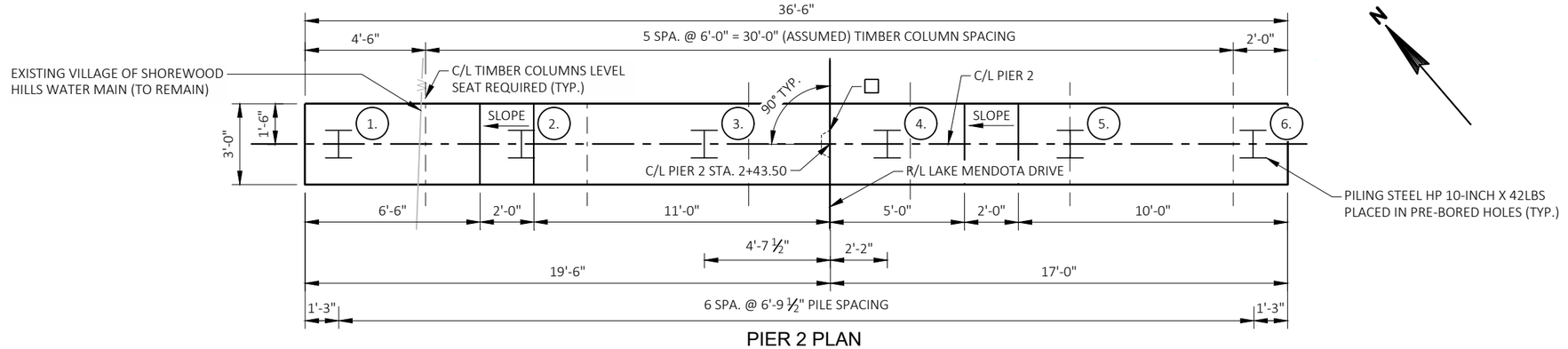


PIER 2 ELEVATION
(LOOKING EAST)

PILE NUMBER	CUT OFF ELEVATION
1	896.50
2	896.50
3	896.50
4	898.00
5	898.00
6	898.00



SECTION THRU PIER 2



PIER 2 PLAN

LEGEND

☐ OPTIONAL VERTICAL CONSTRUCTION JOINT. KEYWAY FORMED BY BEVELED 2"X8". RUN BAR STEEL THRU JOINT.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-13-692

DRAWN BY	STD	PLANS CK'D.	CDH

PIER 2

SHEET 12 OF 19
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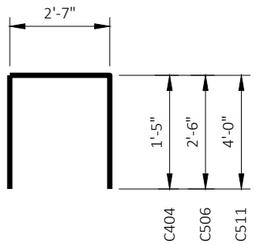
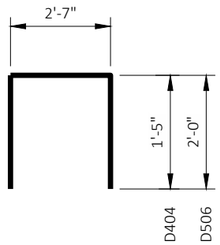
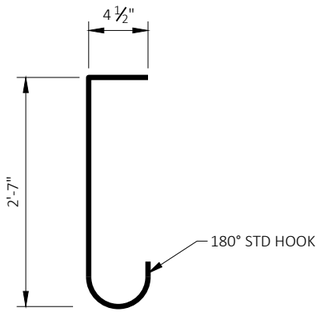


C404, C506 & C511



D404 & D506



C413, D410

PIER 1

BILL OF BARS

UNCOATED TOTAL = 1,830 LBS.

BAR MARK	NO. REQ'D.	LENGTH	COAT	BENT	LOCATION
C401	14	12'-2"			PIER 1 HORIZ.
C402	6	3'-8"			PIER 1 HORIZ. TOP
C403	6	5'-4"			PIER 1 HORIZ. TOP
C404	21	5'-3"		X	PIER 1 HORIZ. ENDS
C505	28	6'-1"			PIER 1 VERT.
C506	13	7'-4"		X	PIER 1 TOP
C407	28	11'-8"			PIER 1 HORIZ.
C508	26	5'-4"			PIER 1 VERT.
C409	4	10'-8"			PIER 1 HORIZ. TOP
C510	26	6'-1"			PIER 1 VERT.
C511	52	10'-4"		X	PIER 1 TOP
C412	28	5'-2"			PIER 1 HORIZ. JOINTS
C413	49	3'-5"		X	PIER 1 HORIZ. TIES

PIER 2

BILL OF BARS

UNCOATED TOTAL = 1,350 LBS.

BAR MARK	NO. REQ'D.	LENGTH	COAT	BENT	LOCATION
D401	16	19'-2"			PIER 2 HORIZ.
D402	2	10'-8"			PIER 2 HORIZ. TOP
D403	2	9'-8"			PIER 2 HORIZ. TOP
D404	18	5'-3"		X	PIER 2 HORIZ. ENDS
D505	42	6'-4"			PIER 2 VERT.
D506	38	6'-4"		X	PIER 2 TOP
D407	14	16'-8"			PIER 2 HORIZ.
D508	36	5'-10"			PIER 2 VERT.
D409	14	5'-2"			PIER 2 HORIZ. JOINTS
D410	45	3'-5"		X	PIER 2 HORIZ. TIES

ALL BEND DIMENSIONS ARE OUT TO OUT OF BAR.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-13-692

DRAWN BY STD | PLANS CK'D. CDH

PIER DETAILS

SHEET 13 OF 19
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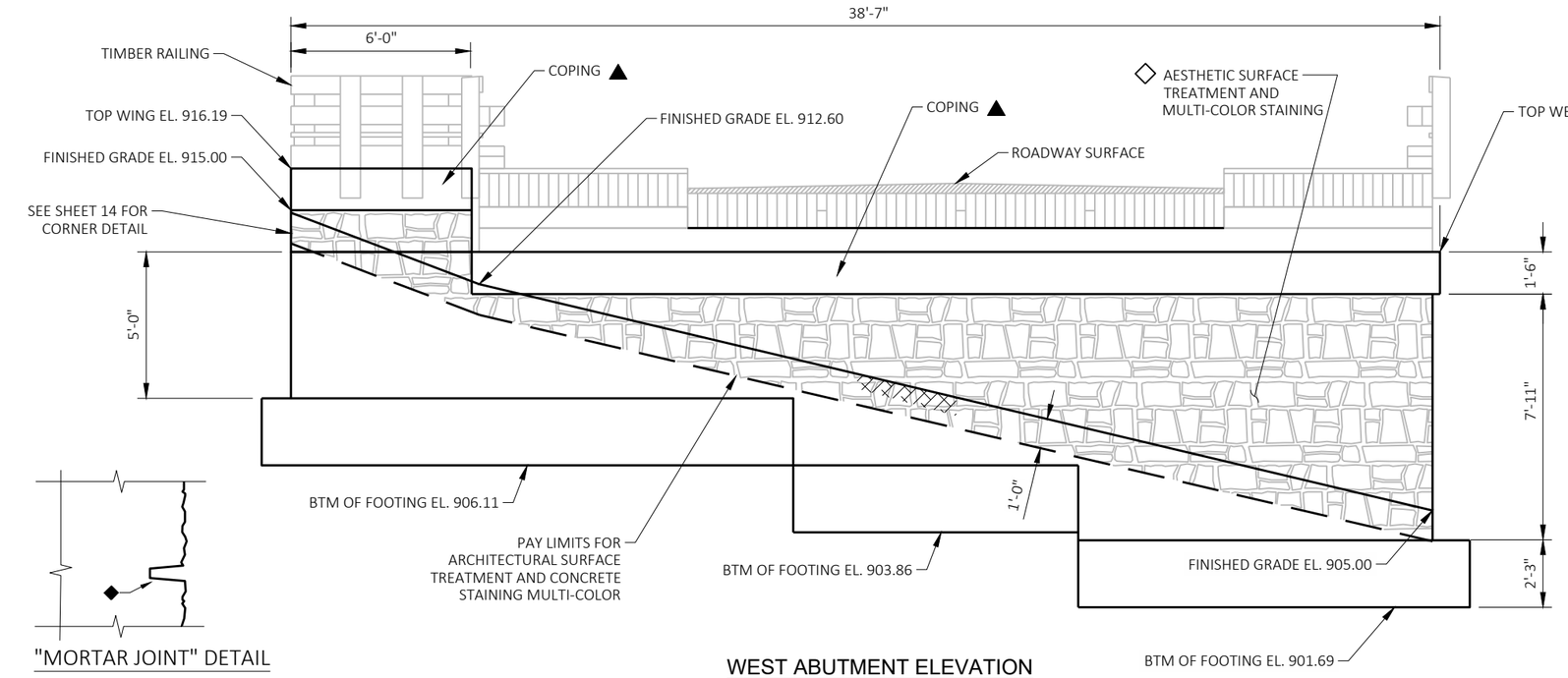
STATE PROJECT NUMBER
5992-10-04



WEST ABUTMENT ELEVATION
(LOOKING WEST)

"MORTAR JOINT" DETAIL
APPLIES TO HORIZONTAL & VERTICAL JOINTS

LEGEND

▲ CONCRETE COPING. STAIN FRONT FACE. STAIN COLOR NUMBER AMS-STD 36628.

◇ FORMLINE PATTERN TO BE "RUSTIC ASHLAR" FROM WISDOT STANDARDS OR APPROVED EQUAL. BASE FORMLINER COLOR TO BE AMS-STD 26586.

FORMLINER ACCENT COLOR NUMBERS TO BE USED IN THE APPROXIMATE PERCENTAGES AS SHOWN: 40% AMS-STD 13578, 20% AMS-STD 30372, 15% AMS-STD 30324, 10% AMS-STD 30219 AND 10% AMS-STD 16376.

MULTI-STAIN COLOR TO REPLICATE NATURAL LIMESTONE VARIATION, HIGHLIGHTING AND VEINING FOUND IN NATIVE LIMESTONE ON NEARBY BOATHOUSE STRUCTURE.

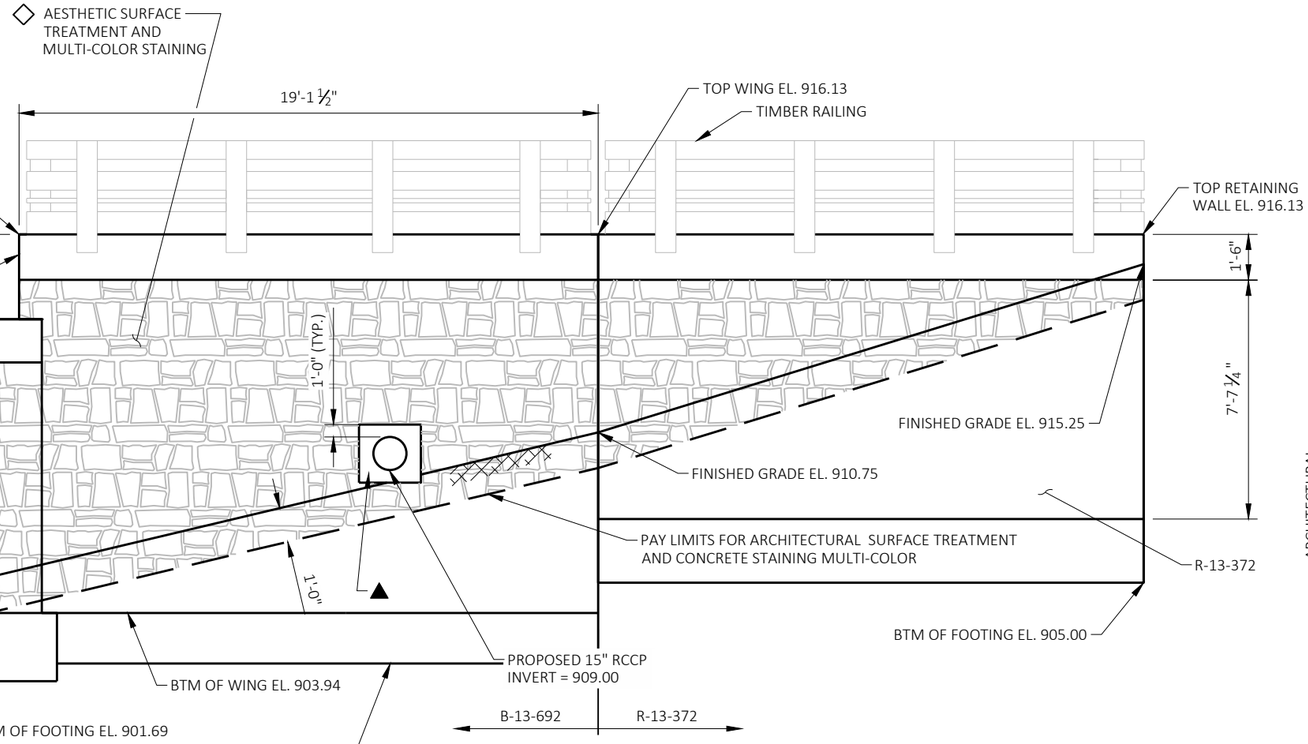
◆ MORTAR STAIN COLOR NUMBER AMS-STD 36628.

NOTES

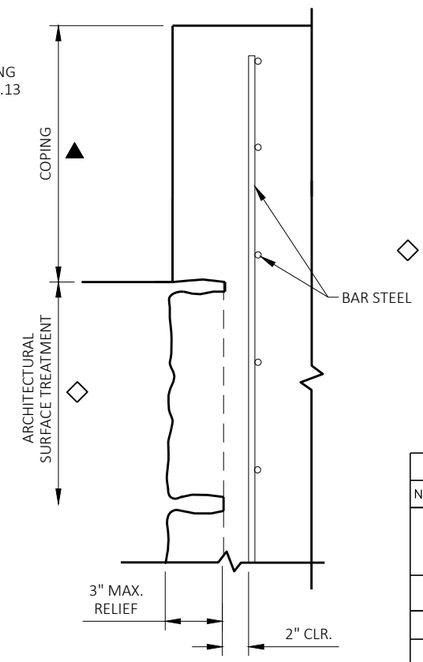
FORMLINER PATTERN SHALL BE LEVEL AND CONTINUOUS AROUND ALL CORNERS AND BETWEEN R-13-372 AND B-13-692 WING WALL.

THE COST OF FORMLINER TREATMENTS IS PAID FOR UNDER SPECIAL PROVISIONS "ARCHITECTURAL SURFACE TREATMENT". MAX. ALLOWED RELIEF IS 3".

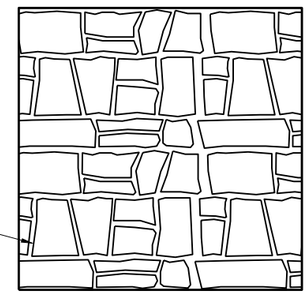
ARCHITECTURAL SURFACE TREATMENT AND STAIN SHALL EXTEND 1'-0" BELOW FINISHED GRADE.



WING WALL AND RETAINING WALL ELEVATION
(LOOKING SOUTH)



SECTION THRU FORMLINER



FORMLINER DETAIL
COURSE HEIGHT TO BE 8" TO 32"

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

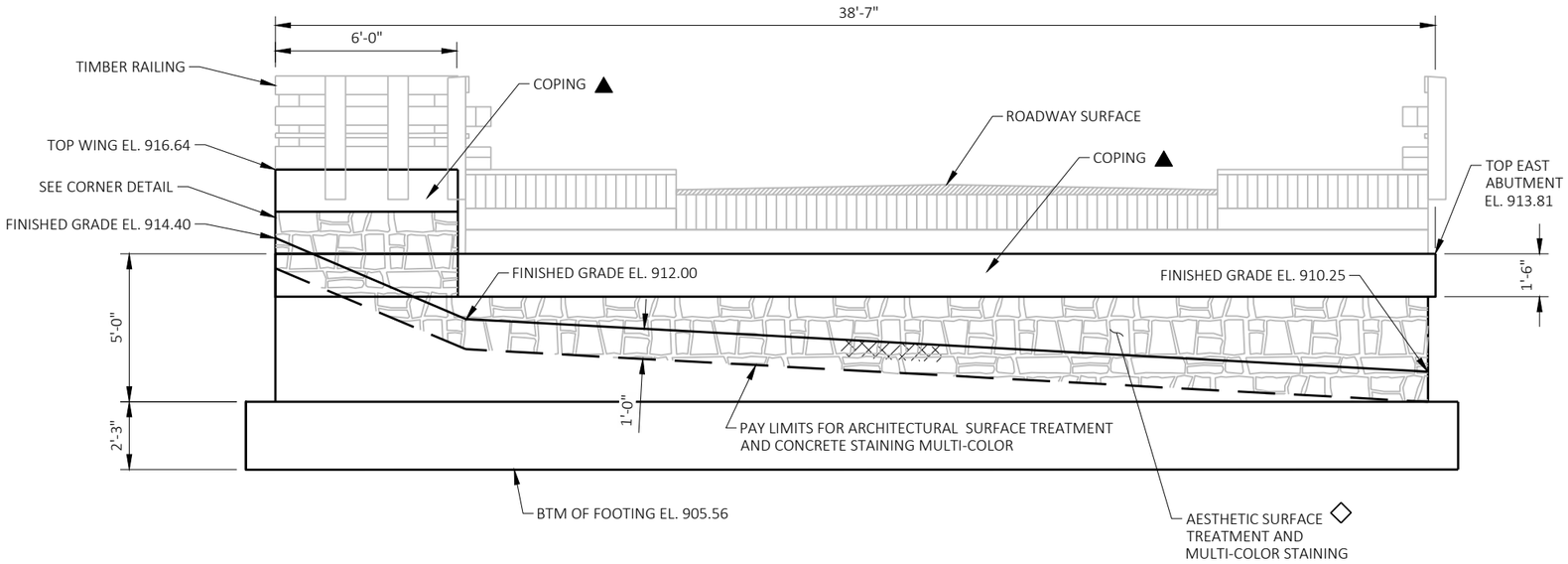
STRUCTURE B-13-692

DRAWN BY	STD	PLANS CK'D.	CDH

AESTHETIC DETAILS 1

SHEET 14 OF 19
91

STATE PROJECT NUMBER
5992-10-04



EAST ABUTMENT ELEVATION
(LOOKING EAST)

LEGEND

▲ CONCRETE COPING. STAIN FRONT FACE. STAIN COLOR NUMBER AMS-STD 36628.

◇ FORMLINE PATTERN TO BE "RUSTIC ASHLAR" FROM WISDOT STANDARDS OR APPROVED EQUAL. BASE FORMLINER COLOR TO BE AMS-STD 26586.

FORMLINER ACCENT COLOR NUMBERS TO BE USED IN THE APPROXIMATE PERCENTAGES AS SHOWN: 40% AMS-STD 13578, 20% AMS-STD 30372, 15% AMS-STD 30324, 10% AMS-STD 30219 AND 10% AMS-STD 16376.

MULTI-STAIN COLOR TO REPLICATE NATURAL LIMESTONE VARIATION, HIGHLIGHTING AND VEINING FOUND IN NATIVE LIMESTONE ON NEARBY BOATHOUSE STRUCTURE.

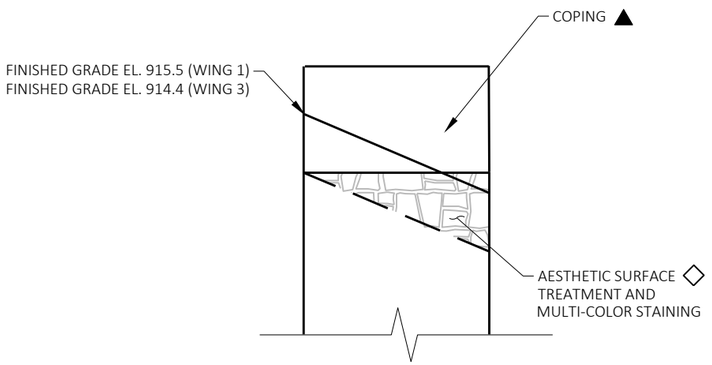
● STAIN FRONT FACE, BACK FACE AND ENDS WITH STAIN COLOR NUMBER AMS-STD 36628. STAINING TO EXTEND 1' BELOW FINISHED GRADE. SEE PIER SHEETS FOR FINISHED GRADE ELEVATIONS.

NOTES

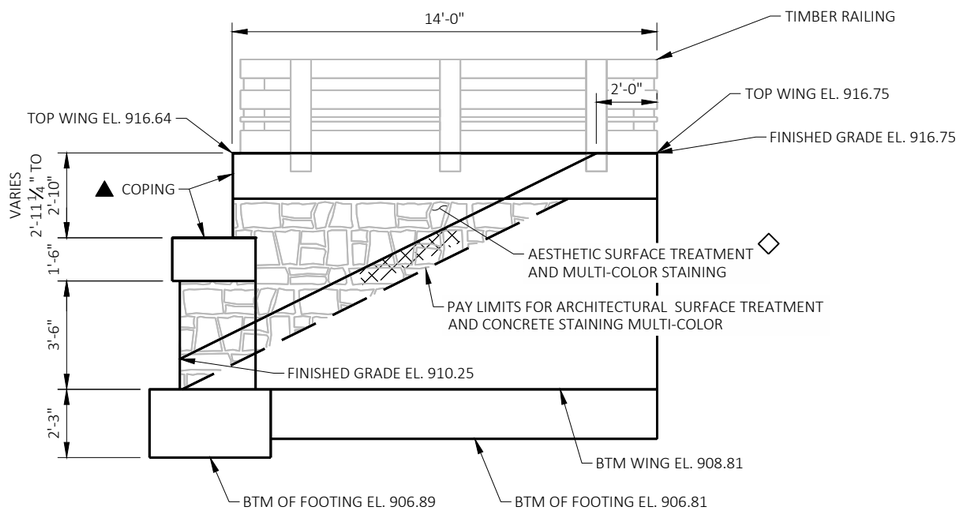
FORMLINER PATTERN SHALL BE LEVEL AND CONTINUOUS AROUND ALL CORNERS AND BETWEEN R-13-372 AND B-13-692 WING WALL.

THE COST OF FORMLINER TREATMENTS IS PAID FOR UNDER SPECIAL PROVISIONS "ARCHITECTURAL SURFACE TREATMENT". MAX. ALLOWED RELIEF IS 3".

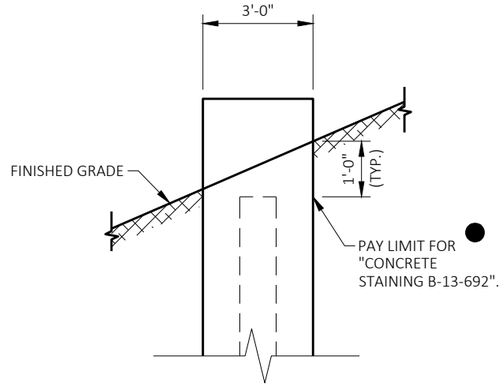
ARCHITECTURAL SURFACE TREATMENT AND STAIN SHALL EXTEND 1'-0" BELOW FINISHED GRADE.



CORNER DETAIL



WING WALL
(LOOKING NORTH)



SECTION THRU PIER

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-13-692

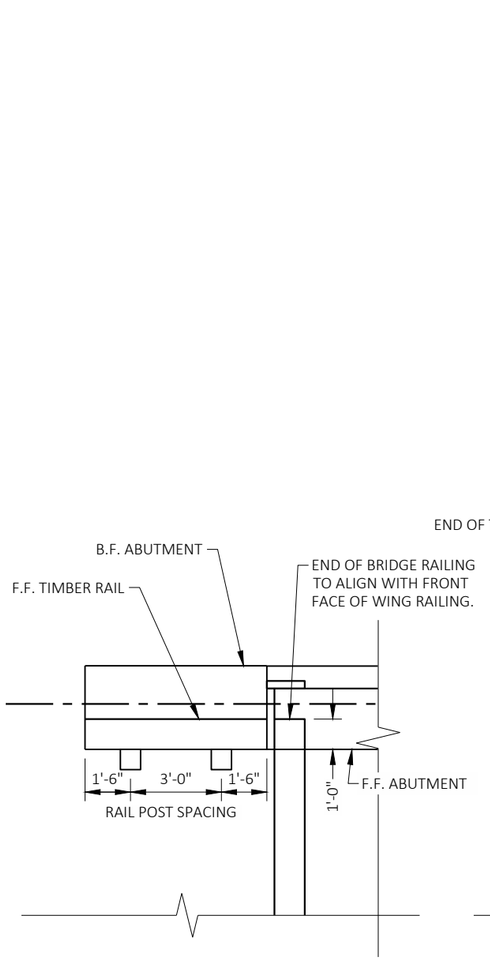
DRAWN BY STD | PLANS CK'D. CDH

AESTHETIC DETAILS 2

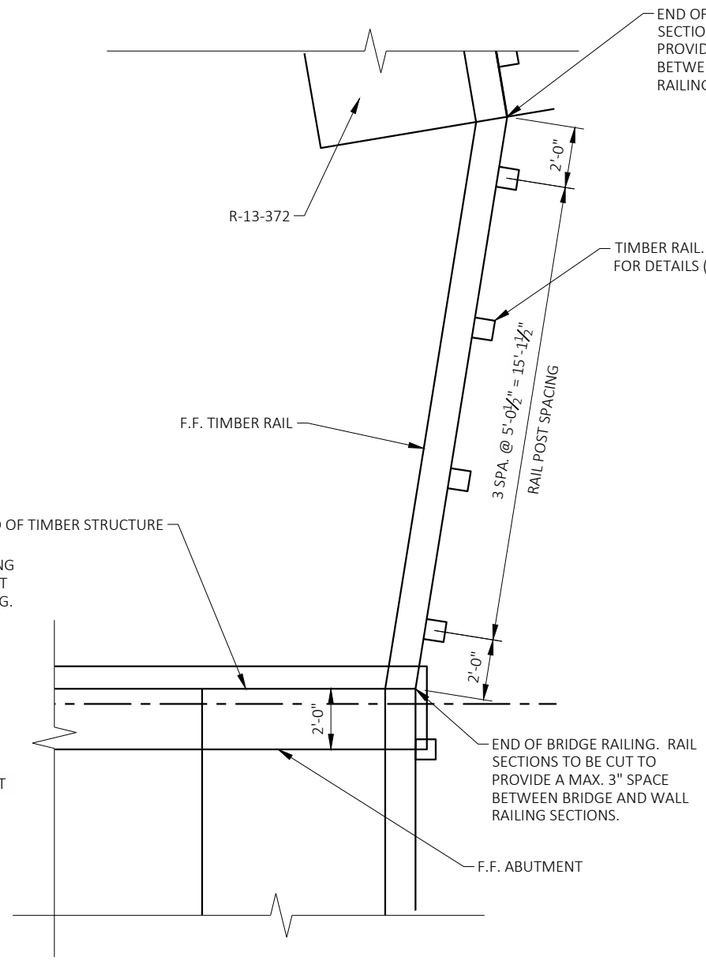
SHEET 15 OF 19
92

STATE PROJECT NUMBER

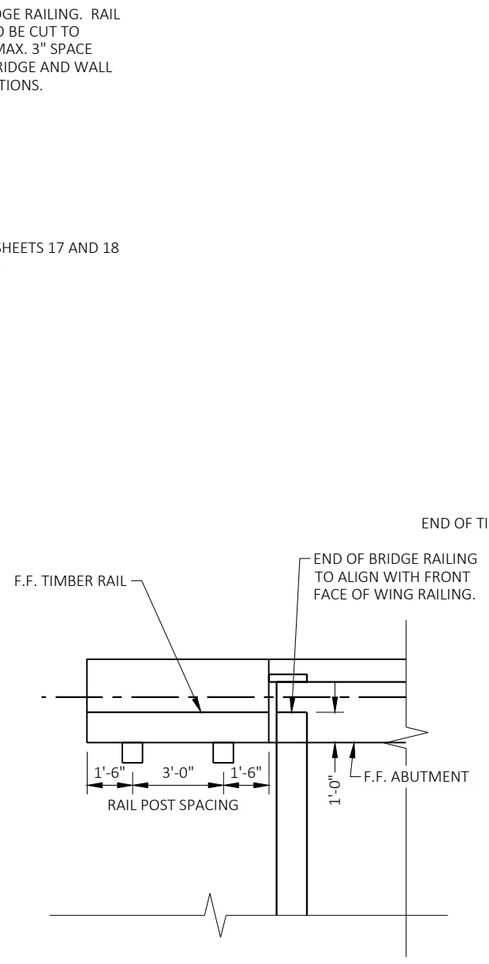
5992-10-04



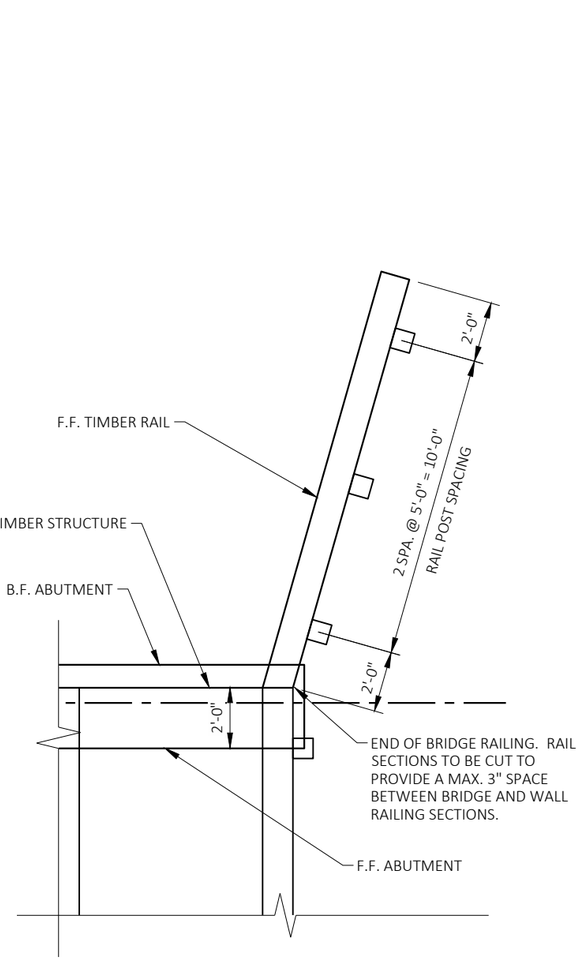
WING 1 PLAN



WING 2 PLAN



WING 3 PLAN



WING 4 PLAN

WEST ABUTMENT

EAST ABUTMENT

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-13-692

DRAWN BY	STD	PLANS CK'D.	CDH

RAILING LAYOUT

SHEET 16 OF 19

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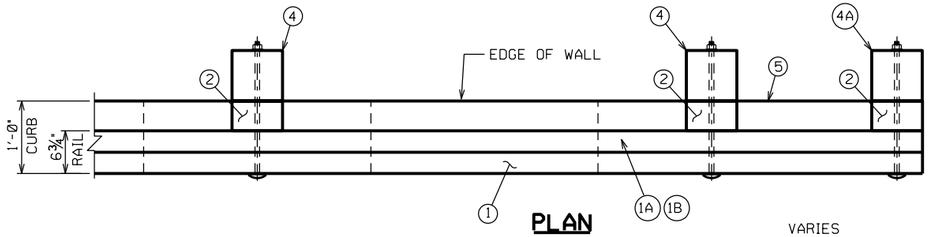
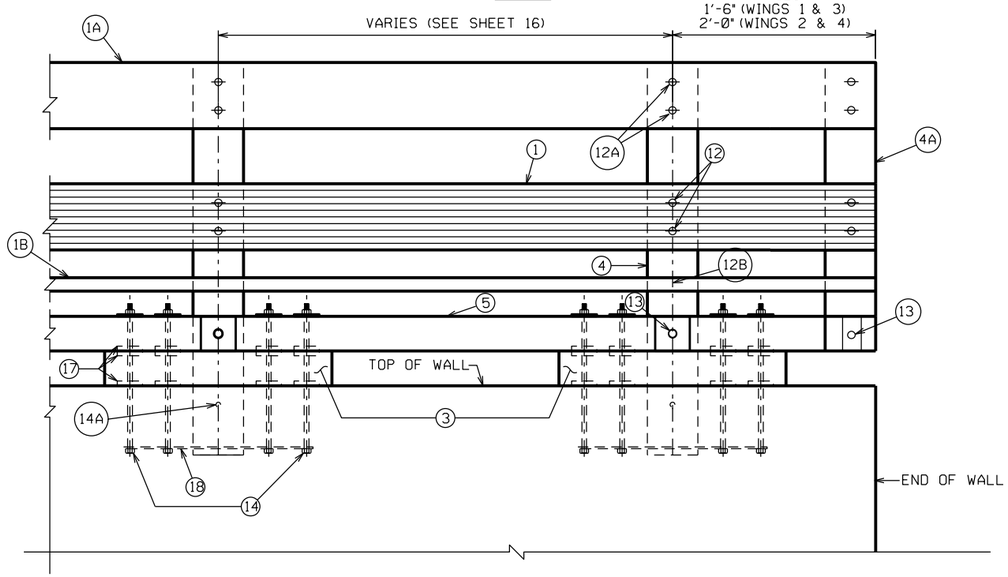
STATE PROJECT NUMBER

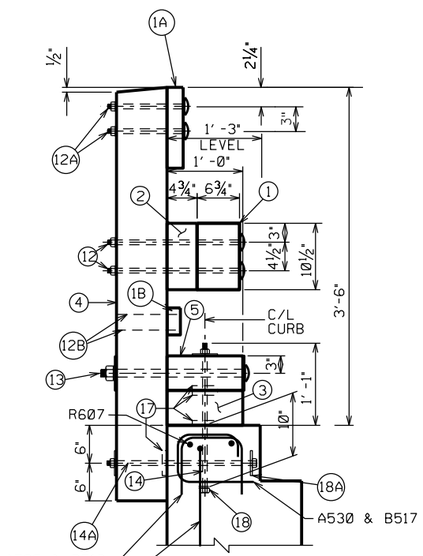
5992-10-04



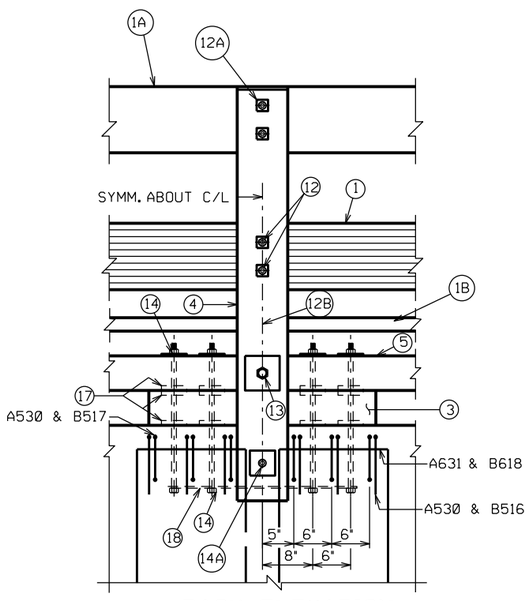
PLAN



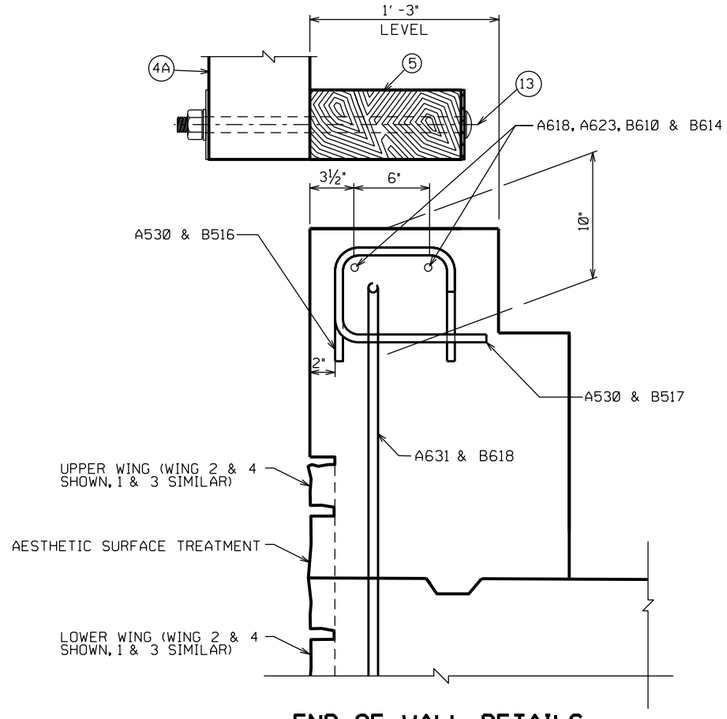
ELEVATION



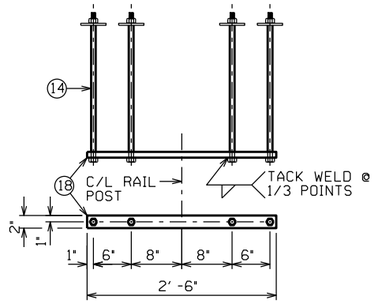
SECTION THRU RAIL
(WINGS 2 AND 4 SHOWN)



BACK ELEVATION



END OF WALL DETAILS
(WINGS 2 AND 4 SHOWN)



ANCHORAGE DETAIL

NOTES

LOCATION OF REINFORCEMENT AT POSTS MAY BE ADJUSTED TO FIT AT WINGS 1 & 3.

SEE SHEET 18 FOR RAILING DETAILS.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-13-692

DRAWN BY STD | PLANS CK'D. CDH

TIMBER RAILING 94

SHEET 17 OF 19

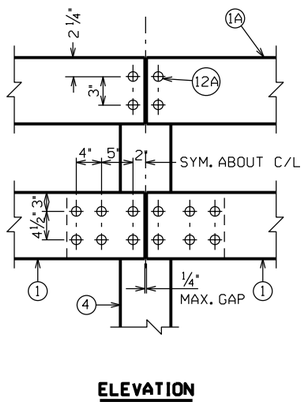
8

8

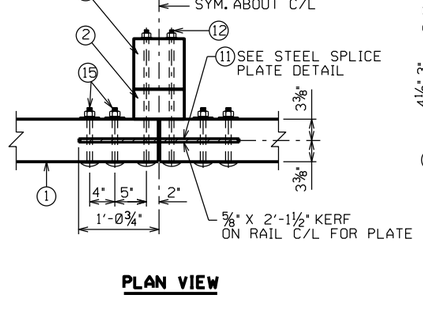
SCALE =

BILL OF TREATED LUMBER

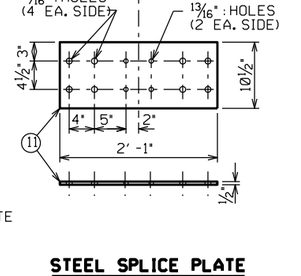
	Member #	Description	Size	Number	Thickness (in)	Width (in)	Length (ft)	Area (SF)	MBM
WING 1	1	GLULAM RAIL	6 3/4 x 10 1/2	1	6.75	10.5	5.75	5.03	0.03
	2	RAIL SPACER BLOCK	4 3/4 x 10 1/2	4	4.75	10.5	0.67	2.35	0.01
	3	SCUPPER BLOCK	6 x 12	1	12.00	6.0	6.00	3.00	0.04
	4	RAIL POST	8 x 8	2	8.00	8.0	5.50	7.33	0.06
	5	CURB	6 x 12	1	12.00	6.0	5.75	2.88	0.03
	1A	TOP PED. RAIL RAIL	3 x 8	1	3.00	8.0	5.75	3.83	0.01
	1B	LOWER PED. RAIL	2 x 4	1	2.00	4.0	5.75	1.92	0.00
	4A	END RAIL POST	8 x 8	2	8.00	8.0	3.17	4.23	0.03
								Total =	0.22
WING 2	1	GLULAM RAIL	6 3/4 x 10 1/2	1	6.75	10.5	18.87	16.51	0.11
	2	RAIL SPACER BLOCK	4 3/4 x 10 1/2	4	4.75	10.5	0.67	2.35	0.01
	3	SCUPPER BLOCK	6 x 12	4	12.00	6.0	3.00	6.00	0.07
	4	RAIL POST	8 x 8	4	8.00	8.0	4.50	12.00	0.10
	5	CURB	6 x 12	1	12.00	6.0	18.87	9.44	0.11
	1A	TOP PED. RAIL RAIL	3 x 8	1	3.00	8.0	18.87	12.58	0.04
	1B	LOWER PED. RAIL	2 x 4	1	2.00	4.0	18.87	6.29	0.01
	4A	END RAIL POST	8 x 8	2	8.00	8.0	3.17	4.23	0.03
								Total =	0.49
WING 3	1	GLULAM RAIL	6 3/4 x 10 1/2	1	6.75	10.5	5.75	5.03	0.03
	2	RAIL SPACER BLOCK	4 3/4 x 10 1/2	4	4.75	10.5	0.67	2.35	0.01
	3	SCUPPER BLOCK	6 x 12	1	12.00	6.0	6.00	3.00	0.04
	4	RAIL POST	8 x 8	2	8.00	8.0	5.50	7.33	0.06
	5	CURB	6 x 12	1	12.00	6.0	5.75	2.88	0.03
	1A	TOP PED. RAIL RAIL	3 x 8	1	3.00	8.0	5.75	3.83	0.01
	1B	LOWER PED. RAIL	2 x 4	1	2.00	4.0	5.75	1.92	0.00
	4A	END RAIL POST	8 x 8	2	8.00	8.0	3.17	4.23	0.03
								Total =	0.22
WING 4	1	GLULAM RAIL	6 3/4 x 10 1/2	1	6.75	10.5	13.75	12.03	0.08
	2	RAIL SPACER BLOCK	4 3/4 x 10 1/2	3	4.75	10.5	0.67	1.76	0.01
	3	SCUPPER BLOCK	6 x 12	3	12.00	6.0	3.00	4.50	0.05
	4	RAIL POST	8 x 8	3	8.00	8.0	4.50	9.00	0.07
	5	CURB	6 x 12	1	12.00	6.0	13.75	6.88	0.08
	1A	TOP PED. RAIL RAIL	3 x 8	1	3.00	8.0	13.75	9.17	0.03
	1B	LOWER PED. RAIL	2 x 4	1	2.00	4.0	13.75	4.58	0.01
	4A	END RAIL POST	8 x 8	2	8.00	8.0	3.17	4.23	0.03
								Total =	0.37



ELEVATION



PLAN VIEW



STEEL SPLICE PLATE

RAIL SPLICE DEATAILS

LEGEND

(1) GLULAM RAIL 6¾" X 10½"

(1A) TOP HORIZONTAL RAIL 3" X 8"

(1B) HORIZONTAL RAIL BETWEEN CURB AND RAIL 2" X 4"

(2) RAIL SPACER BLOCK 8" X 4¾" X 10½"

(3) SCUPPER BLOCK 6" X 12" X 3'-0"

(4) RAIL POST @ STRUCTURE 8" X 8" X 4'-6"

(4A) END RAIL POST @ STRUCTURE 8" X 8" X 3'-2"

(5) CURB 6" X 12"

(11) STEEL SPLICE PLATE, ASTM A36.

(12) ¾": X 1'-10" LONG ASTM A307, GRADE 2, DOME-HEAD BOLT W/ 1-PLATE WASHER PER BOLT. (2 REQ'D. @ EACH RAIL TO POST CONNECTION, 4 REQ'D. @ EACH RAIL SPLICE).

(12A) 5/8": X 1'-0" LONG ASTM A307, GRADE 2 DOME-HEAD BOLT W/ 3" X 3" X 1/4" PLATE WASHER PER BOLT. (2 REQ'D. @ EACH RAIL TO POST CONNECTION, 4 REQ'D. @ EACH RAIL SPLICE)

(12B) WOOD CONSTRUCTION LAG SCREWS. (2 REQ'D. @ EACH RAIL POST CONNECTION, 4 REQ'D. @ EACH RAIL SPLICE.

(13) 1¼": X 1'-10" LONG ASTM A325, DOME-HEAD BOLT W/ 2 - 5½" X 5½" X ¼" PLATE WASHERS, W/ 1⅜": HOLE. (1 REQ'D. @ EACH CURB TO POST CONNECTION.)

(14) ¾": x 1'-11" LONG ASTM A325 BOLT. 1 - 4" X 4" X 5/16" PLATE WASHER REQ'D. AT CURB TO WALL CONNECTION. 1 - 4" X 4" X 5/16" PLATE WASHER REQ'D. AT POST TO WALL CONNECTION.

(14A) ¾": x 1'-10" LONG ASTM A325 BOLT. 1 - 4" X 4" X 5/16" PLATE WASHER REQ'D. AT CURB TO WALL CONNECTION. 1 - 4" X 4" X 5/16" PLATE WASHER REQ'D. AT POST TO WALL CONNECTION.

(15) ⅞": X 9" LONG ASTM A307, GRADE 2, DOME HEAD BOLT AT RAIL SPLICE DETAIL.

(17) 4": SHEAR PLATE (8 REQ'D. @ EACH CURB TO SCUPPER CONNECTION, 4 REQ'D. @ EACH SCUPPER TO WALL CONNECTION AND 1 REQ'D. @ EACH POST TO SLAB CONNECTION). MALLEABLE IRON MEETING REQUIREMENTS OF ASTM A47, GRADE 32510.

(18) 2" X 2'-6" X 5/16" ANCHOR PLATE WITH 4 - 13/16": HOLES FOR ANCHOR BOLTS NO. 14 (CURB TO WALL CONNECTION).

(18A) 4" X 4" X 15/16" ANCHOR PLATE W/ 1 - 13/16": HOLE FOR THE ANCHOR BOLT NO. 14A.

NOTES

1. BID ITEM SHALL BE "TREATED LUMBER AND TIMBER" WHICH INCLUDES ALL ITEMS SHOWN.
2. DIMENSIONS GIVEN FOR GLUED-LAMINATED (GLULAM) TIMBER RAILS ARE ACTUAL DIMENSIONS.
3. DIMENSIONS FOR WOOD POSTS, CURBS AND SCUPPERS ARE GIVEN AS NOMINAL DIMENSIONS. ACTUAL DIMENSIONS MAY BE A MAXIMUM OF ½ INCH LESS THAN THE STATED NOMINAL DIMENSIONS. DIMENSION FOR SPACER BLOCK DEPTH ARE ACTUAL DIMENSIONS.
4. CURB AND RAIL SPLICES SHALL BE LOCATED SO THAT CURB AND RAIL MEMBERS ARE CONTINUOUS OVER NOT LESS THAN TWO POSTS. CURB SPLICES SHALL BE LOCATED A MINIMUM OF 1.5 POST SPACINGS AWAY FROM RAIL SPLICES. IT IS RECOMMENDED THAT GLULAM RAILS BE CONTINUOUS OVER THE LENGTH OF THE BRIDGE.
5. SAWN LUMBER AND GLULAM SHALL COMPLY WITH THE REQUIREMENTS OF AASHTO M168 AND SHALL BE PRESSURE TREATED WITH WOOD PRESERVATIVES IN ACCORDANCE WITH AASHTO M133 AND STANDARD SPECIFICATIONS.
6. BRIDGE RAIL SHALL BE HORIZONTALLY LAMINATED GLULAM, VISUALLY GRADED WESTERN SPECIES COMBINATION NO. 2, OR VISUALLY GRADED SOUTHERN PINE COMBINATION NO. 48. OTHER SPECIES AND GRADES OF GLULAM MAY BE USED, PROVIDED THE MINIMUM TABULATED VALUES ARE NOT LESS THAN THE FOLLOWING:

   $F_{b_{yy}}$ = 1,800 LB/IN^2 E = 1,800,000 LB/IN^2
7. POSTS, CURBS, SCUPPERS, TRANSITION BLOCKS AND SPACER BLOCKS MAY BE SAWN LUMBER OR GLULAM. WHEN SAWN LUMBER IS USED, MATERIAL SHALL BE VISUALLY GRADED NO. 1 SOUTHERN PINE OR VISUALLY GRADED NO 1 DOUGLAS FIR-LARCH. GLULAM AND OTHER SPECIES AND GRADES OF SAWN LUMBER MAY BE USED, PROVIDED THE MINIMUM TABULATED VALUES ARE NO LESS THAN THE FOLLOWING:

   F_b = 1,350 LB/IN^2 E = 1,500,000 LB/IN^2
8. ALL STEEL COMPONENTS AND FASTENERS SHALL BE GALVANIZED IN ACCORDANCE WITH AASHTO M111 OR M232.
9. TO THE EXTENT POSSIBLE, ALL WOOD SHALL BE CUT, DRILLED, AND COMPLETELY FABRICATED PRIOR TO PRESSURE TREATMENT WITH PRESERVATIVES. WHEN FIELD FABRICATION OF WOOD IS REQUIRED OR IF WOOD IS DAMAGED, ALL CUTS, BORE HOLES, AND DAMAGE SHALL BE IMMEDIATELY TREATED WITH WOOD PRESERVATIVE IN ACCORDANCE WITH AASHTO M133 AND STANDARD SPECIFICATIONS.
10. UNLESS NOTED, MALLEABLE IRON WASHERS SHALL BE PROVIDED UNDER BOLT HEADS AND UNDER NUTS THAT ARE IN CONTACT WITH WOOD. WHEN THE SIZE AND STRENGTH OF THE HEAD ARE SUFFICIENT TO DEVELOP CONNECTION STRENGTH WITHOUT WOOD CRUSHING, WASHERS MAY BE OMITTED UNDER HEADS OF DOME-HEAD TIMBER BOLTS.
11. TOPS OF RAIL POSTS AND TOP OF THE RAIL SPLICE PLATE KERF SHALL BE SEALED WITH ROOFING CEMENT OR OTHERWISE PROTECTED FROM DIRECT EXPOSURE TO WEATHER.
12. DESTROY THREADS ON ALL BOLTS WITH A CENTER PUNCH AFTER TIGHTENING NUT. EXPOSED BOLT PROJECTION OVER 1" SHALL BE CUT OFF. REPAIR END OF BOLT BY PAINTING WITH ZINC RICH PRIMER.
13. SEE SHEET 16 FOR RAIL POST SPACING.

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STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-13-692

DRAWN BY STD | PLANS CK'D. CDH

TIMBER RAILING DETAILS

SHEET 18 OF 19

95

SCALE =

8

8

STATE PROJECT NUMBER

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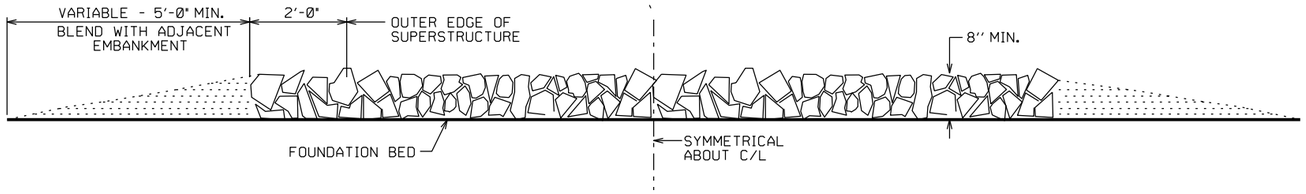
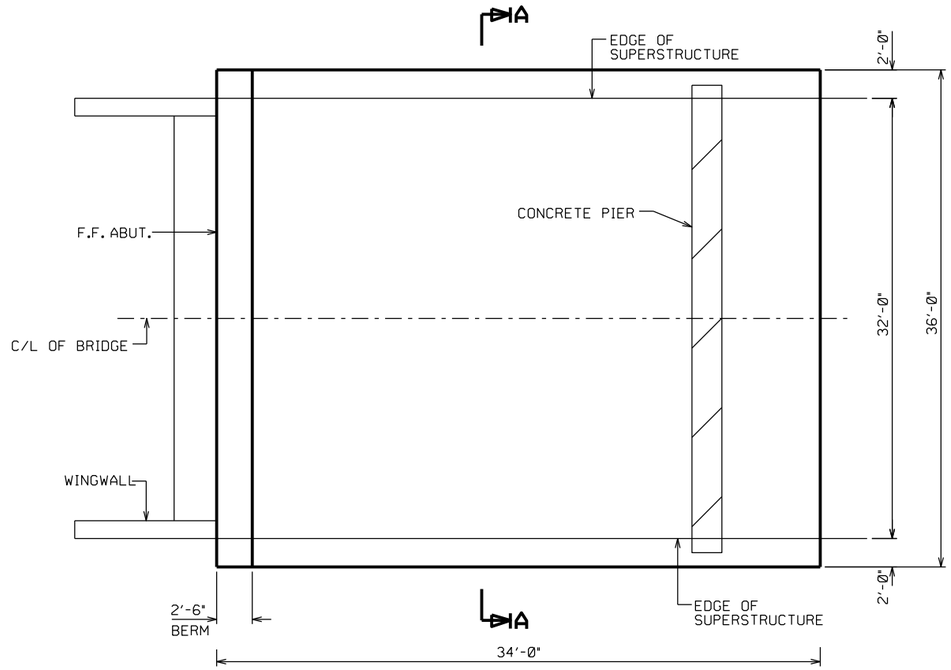
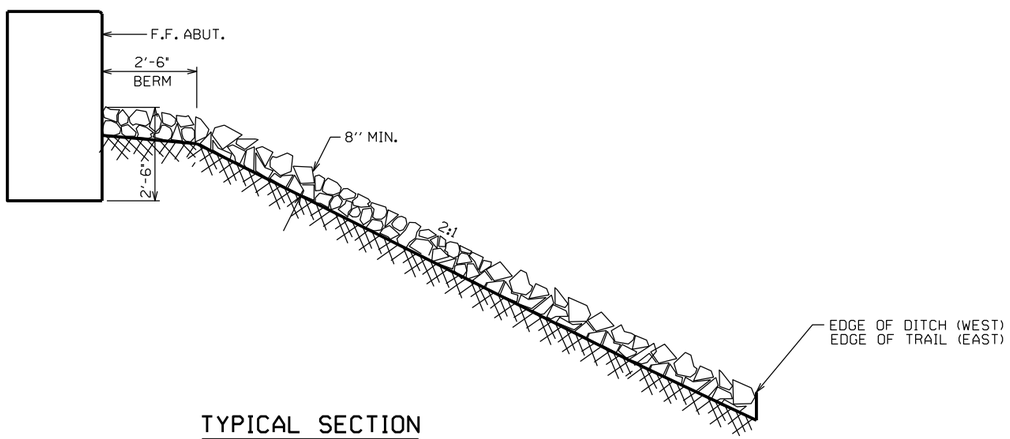


SECTION A-A



PLAN



TYPICAL SECTION

NOTES

BID ITEM SHALL BE "SLOPE PAVING SELECT CRUSHED MATERIAL"

WOOD FORMS MAY BE LEFT IN PLACE WHEN OF A QUALITY ACCEPTABLE TO THE ENGINEER.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-13-692

DRAWN BY STD | PLANS CK'D. CDH

SLOPE PAVING SELECT CRUSHED MATERIAL

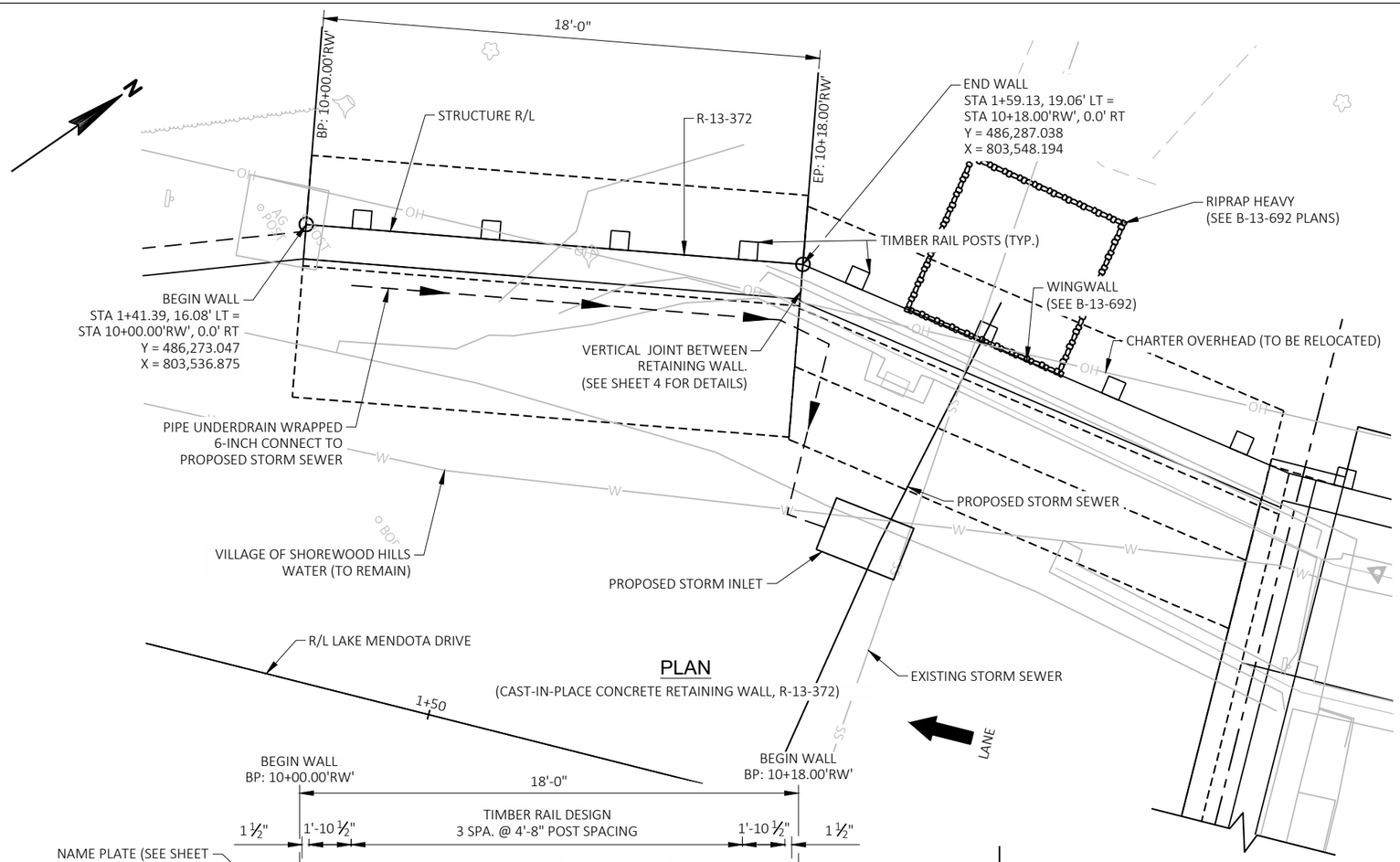
SHEET 19 OF 19

96

8

8

SCALE =



STATE PROJECT NUMBER
5992–10–04

DESIGN DATA

LIVE LOAD:
240 PSF SURCHARGE

MATERIAL PROPERTIES:
CONCRETE MASONRY.....f'c = 3,500 P.S.I.
HIGH STRENGTH BAR STEEL REINFORCEMENT, GRADE 60.....f'c = 60,000 P.S.I.

FOUNDATION DATA

RETAINING WALL TO BE SUPPORTED ON MATERIAL WITH A MINIMUM FACTORED BEARING RESISTANCE OF 5,000 PSF. A GEOTECHNICAL ENGINEER, WITH THREE DAYS NOTICE, WILL DETERMINE THE FACTORED BEARING RESISTANCE BY VISUAL INSPECTION PRIOR TO CONSTRUCTION OF THE RETAINING WALL FOOTING.

RETAINING WALL FOOTING SHOULD BE FOUNDED ON SOUND BEDROCK OR CONCRETE FILL. SEE SHEET 2 FOR DETAILS.

GENERAL NOTES

DRAWINGS SHALL NOT BE SCALED.

ALL STATIONS ARE IN FEET.

ALL DIMENSIONS AND STATIONING ARE ALONG THE FRONT FACE OF WALL, UNLESS SHOWN OR NOTED OTHERWISE.

FORMLINER PATTERN TO BE "RUSTIC ASHLAR" FROM WISDOT STANDARDS OR APPROVED EQUAL. SEE SHEET 6 FOR FORMLINER COLORS AND ADDITIONAL DETAILS.

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 ALL EXPOSED EDGES OF CONCRETE ¾" UNLESS SHOWN OR NOTED OTHERWISE.

AT THE BACKFACE OF RETAINING WALL ALL SPACES EXCAVATED AND NOT OCCUPIED BY THE NEW STRUCTURE SHALL BE BACKFILLED WITH STRUCTURAL BACKFILL FOLLOWING DETAIL ON SHEET 2.

ALL EXISTING UTILITIES IN CONFLICT WITH PROPOSED STRUCTURES TO BE RELOCATED PRIOR TO CONSTRUCTION (BY OTHERS).

VILLAGE OF SHOREWOOD HILLS WATER LINE TO REMAIN IN PLACE.

SURVEY CONTROL POINT & STATION OFFSET REFERENCE TABLE

POINT	TYPE	STATION	OFFSET	Y	X	ELEVATION	DESCRIPTION
1	BM	3+34.98'LMD'	18.32 LT	486,394.102	803,694.480	918.26	RR SPIKE
2	BM	0+20.47'LMD'	14.97 LT	486,192.123	803,447.026	918.54	CUT X FLANGE BOLT

LIST OF DRAWINGS

WISCONSIN
CHAD D. HALVERSON
E-34364
MADISON, WI
PROFESSIONAL ENGINEER

July 21, 2022

STRUCTURE DESIGN CONTACTS
BUREAU OF STRUCTURES:
AARON BONK (608) 261-0261
CONSULTANT:
CHAD HALVERSON (608) 663-1218

NO.	DATE	REVISION	BY

KL Engineering
[A] Better Experience

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

ACCEPTED SDR 08/01/22
CHIEF STRUCTURES DESIGN ENGINEER DATE

STRUCTURE R–13–372

LAKE MENDOTA DRIVE OVER MULTI–USE TRAIL

COUNTY	TOWN/CITY/VILLAGE
DANE	SHOREWOOD HILLS

DESIGN SPEC.
AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS

DESIGNED BY	CAH	DESIGN CK'D.	CDH	DRAWN BY	STD	PLANS CK'D.	CDH

GENERAL PLAN

SHEET 1 OF 8
97

STATE PROJECT NUMBER

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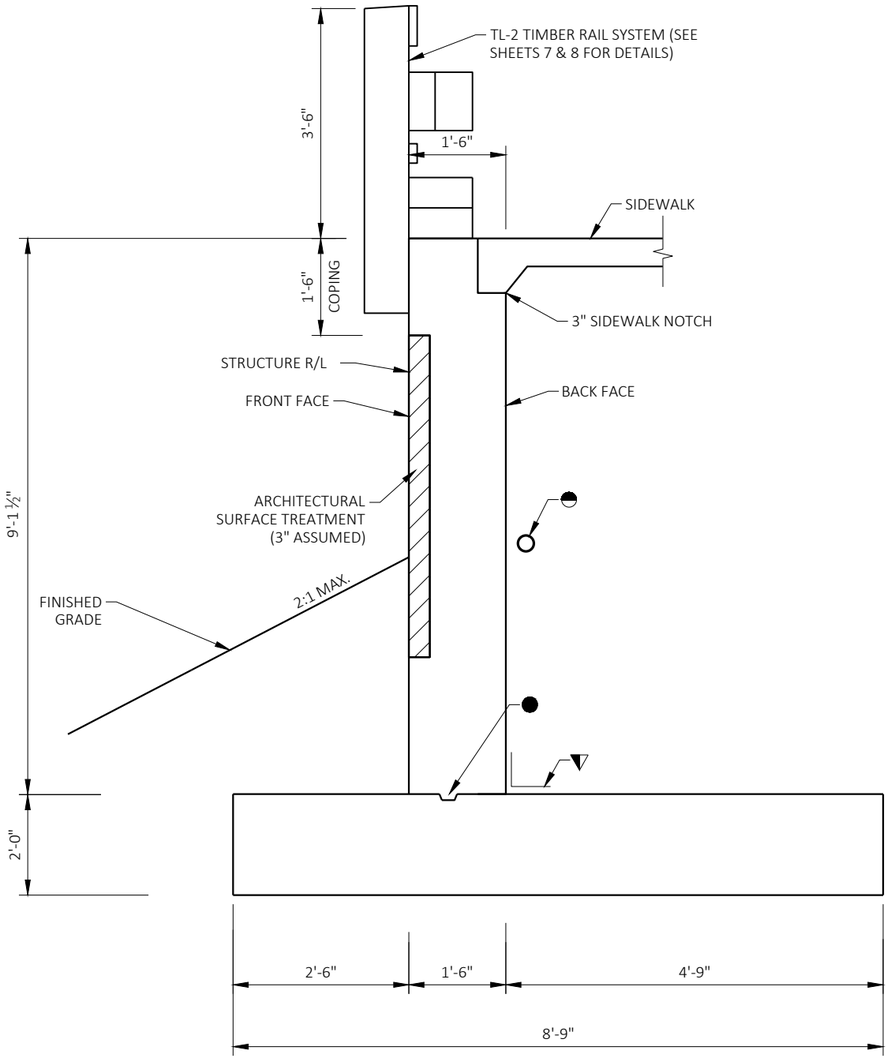
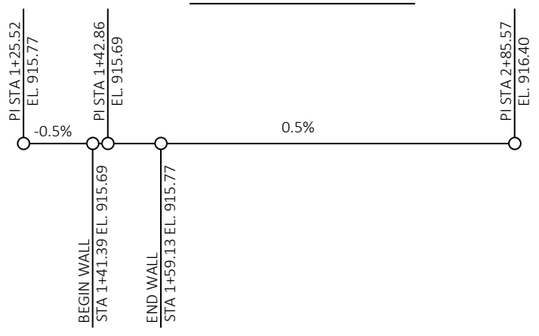
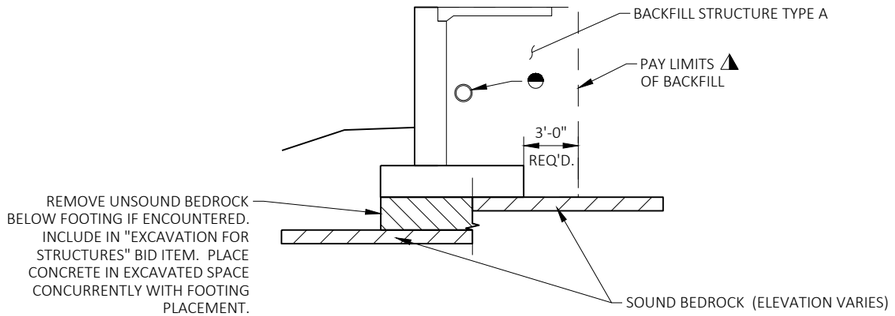


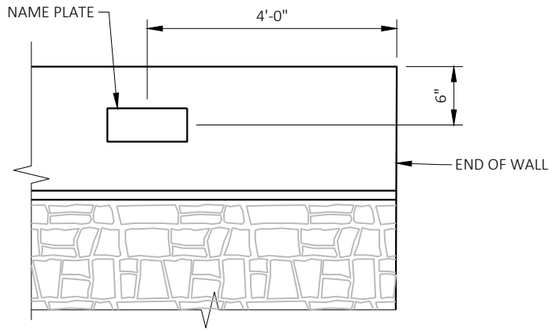
WALL TYPICAL SECTION



PROFILE GRADE LINE LAKE MENDOTA DRIVE



EXCAVATION AND FOUNDATION DETAIL



NAME PLATE DETAIL

NOTES

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

THE BACKFILL QUANTITIES ARE BASED ON THE PAY LIMITS SHOWN ON THE PLANS AND MAY NOT REFLECT ACTUAL PLACED QUANTITIES. "BACKFILL STRUCTURE TYPE A" REQUIRED FOR THE ENTIRE WALL LENGTH. BACKFILL PLACED BEYOND PAY LIMITS OR EXCEEDING PLAN QUANTITIES SHALL BE INCIDENTAL TO EXCAVATION FOR STRUCTURES.

LEGEND

- BACKFILL PAY LIMITS. BACKFILL BEYOND BACKFILL PAY LIMITS SHALL BE INCIDENTAL TO EXCAVATION FOR STRUCTURES. LIMITS OF EXCAVATION SHALL BE DETERMINED BY THE CONTRACTOR.
- UNDERDRAIN WRAPPED 6-INCH CONNECT TO PROPOSED STORM SEWER. AT ELEVATION 910.00.
- KEYED CONSTRUCTION JOINT FORMED BY BEVELED 2"X6"
- RUBBERIZED MEMBRANE WATERPROOFING ON BACK FACE.

TOTAL ESTIMATED QUANTITES

	ITEM NUMBER	ITEM DESCRIPTION	UNIT	TOTALS
	206.3001	EXCAVATION FOR STRUCTURES RETAINING WALLS R-13-372	EACH	1
	210.1500	BACKFILL STRUCTURE TYPE A	TON	97
	504.0500	CONCRETE MASONRY RETAINING WALLS	CY	21
	505.0400	BAR STEEL REINFORCEMENT HS STRUCTURES	LB	570
	505.0600	BAR STEEL REINFORCEMENT HS COATED STRUCTURES	LB	980
	507.0200	TREATED TIMBER AND LUMBER	MBM	0.5
	516.0500	RUBBERIZED MEMBRANE WATERPROOFING	SY	5
★	517.1010.S	CONCRETE STAINING R-13-372	SF	27
★	517.1015.S	CONCRETE STAINING MULTI-COLOR R-13-372	SF	48
★	517.1050.S	ARCHITECTURAL SURFACE TREATMENT R-13-372	SF	48
	612.0406	PIPE UNDERDRAIN WRAPPED 6-INCH	LF	28
		NON-BID ITEMS		
		FILLER	SIZE	1/2"

★ NON-PARTICIPATING ITEMS (100% VILLAGE FUNDED)

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE R-13-372

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TYPICAL SECTIONS AND DETAILS

SHEET 2 OF 8

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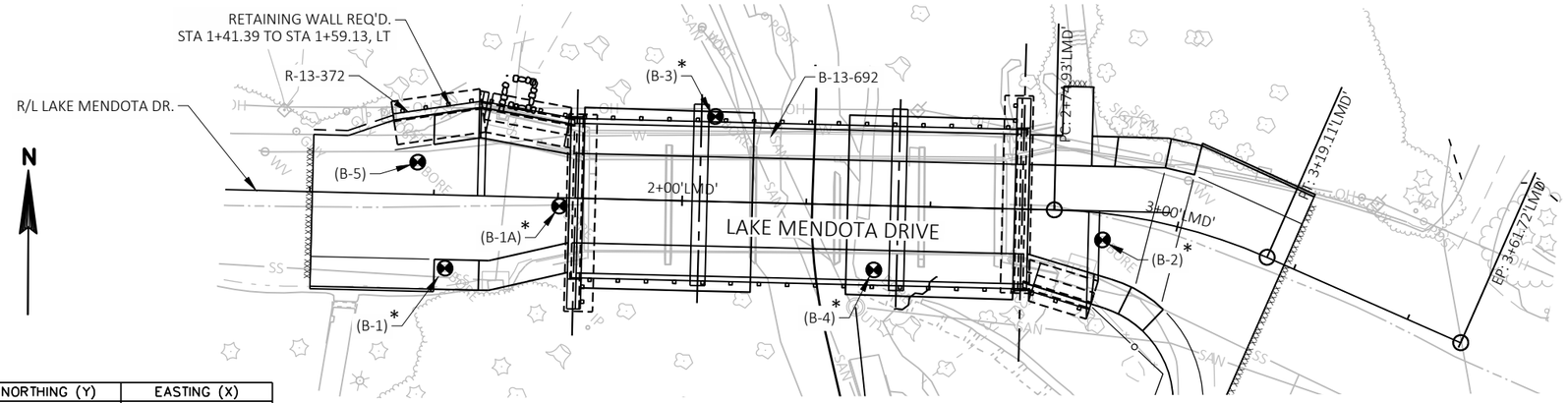
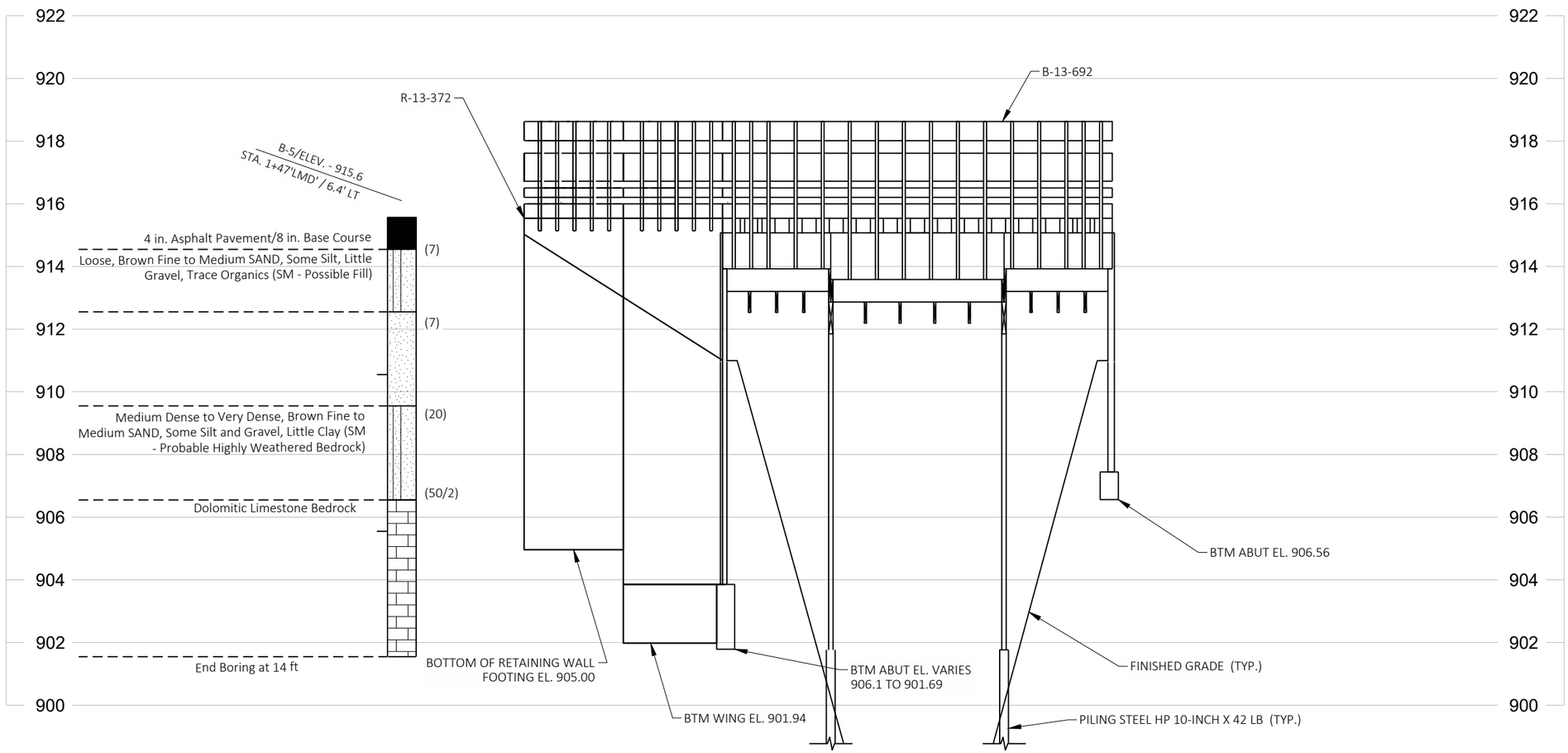


BORING #	DATE COMPLETED	NORTHING (Y)	EASTING (X)
* B-1	11/30/2020	486257.36	803565.69
* B-1A	12/01/2020	486282.20	803574.05
* B-2	11/30/2020	486351.64	803658.83
* B-3	06/23/2021	486317.26	803584.98
* B-4	06/21/2021	486316.18	803629.96
B-5	11/11/2021	486269.19	803547.16
BORINGS COMPLETED BY: BADGER STATE DRILLING			
REPORT COMPLETED BY: CGC, INC.			
ALL COORDINATES REFERENCED TO WCCS NAD DANE COUNTY			

*SEE B-13-692 PLANS FOR ADDITIONAL BORING INFORMATION



STATE PROJECT NUMBER

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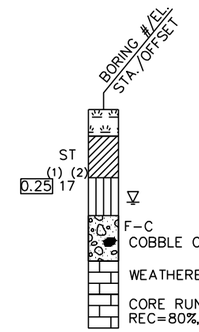
MATERIAL SYMBOLS

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

LEGEND OF BORING



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

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

GROUND WATER ELEVATION

- ▽ AT TIME OF DRILLING
- ▼ END OF DRILLING
- ▼ AFTER DRILLING

ABBREVIATIONS

F-FINE M-MEDIUM C-COARSE ST-SHELBY TUBE

SUBSURFACE EXPLORATION FOR FOUNDATION DESIGN AND BIDDERS INFORMATION

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

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE R-13-372

DRAWN BY STD | PLANS CK'D. CDH

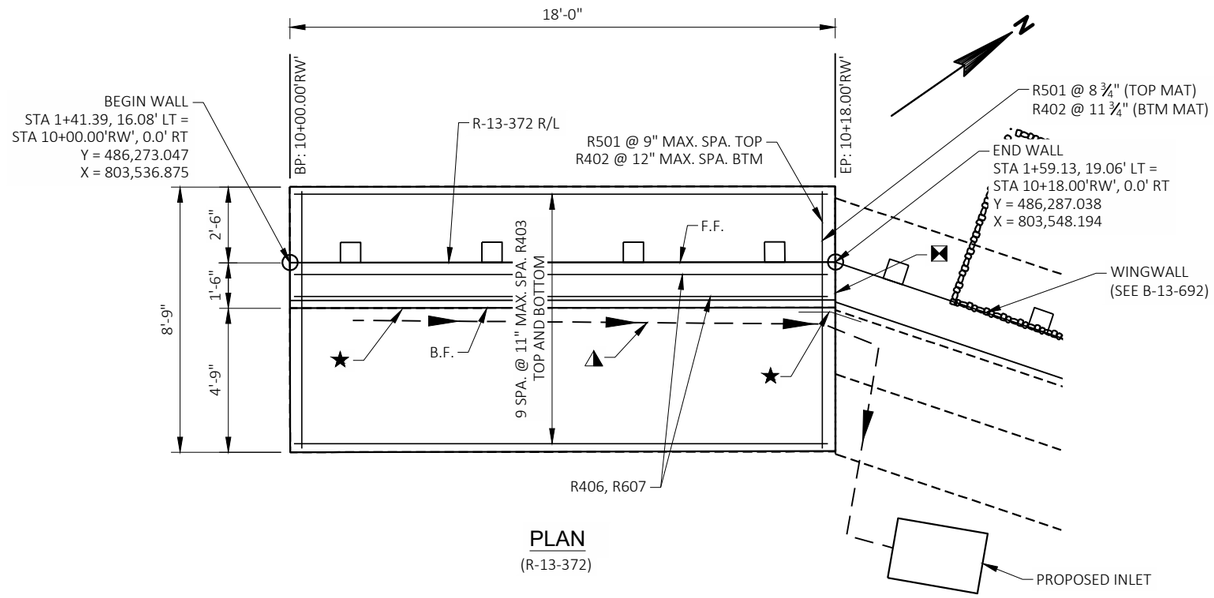
SUBSURFACE EXPLORATION

SHEET 3 OF 19
99

FILE NAME : G:\WDOT LP\SHOREWOOD HILLS\20014 LMD BRIDGE\CIVIL 3D\STRUCTURE CAD\080203-SE.DWG

PLOT DATE : 7/20/2022 7:53:41 AM

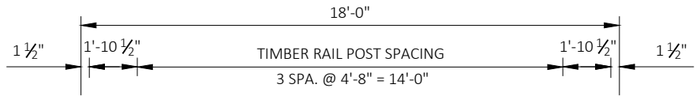
STATE PROJECT NUMBER
5992–10–04

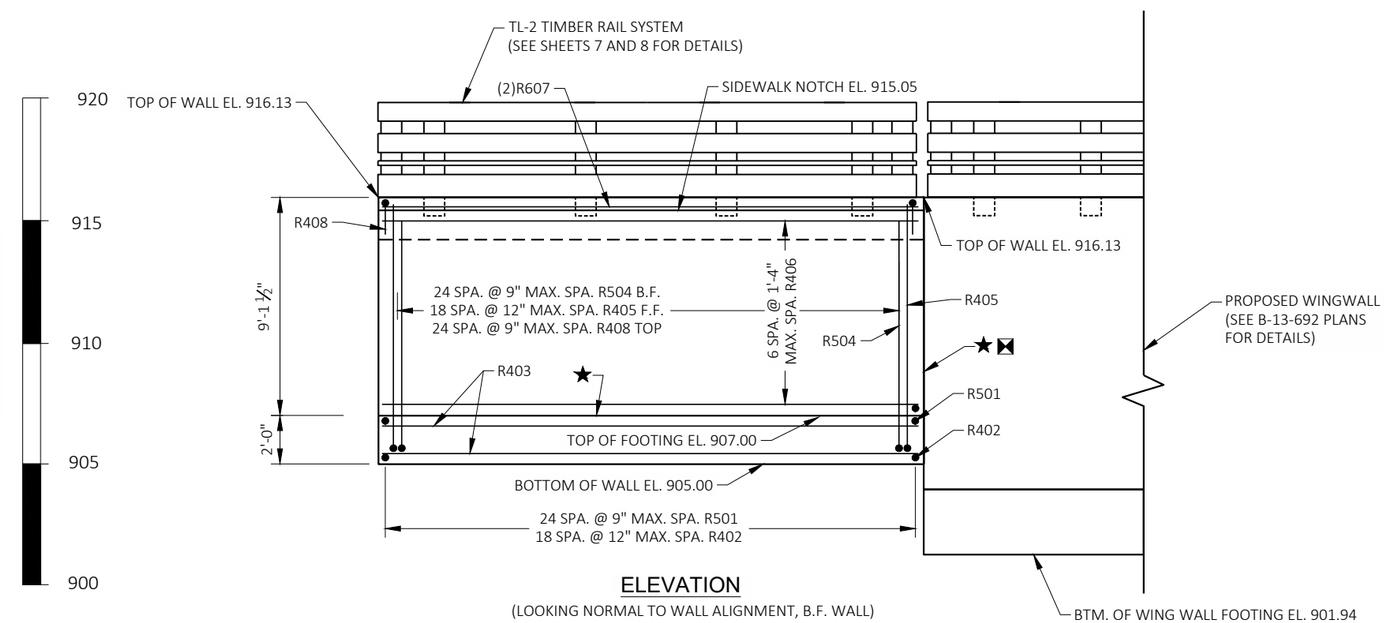


PLAN
(R-13-372)

LEGEND

- ◭ PIPE UNDERDRAIN WRAPPED (6-INCH), SLOPE 0.5% MIN. TO SUITABLE DRAINAGE. CONNECT TO PROPOSED STORM SEWER AT ELEVATION 910.00.
- ⧓ VERTICAL JOINT BETWEEN R-13-372 AND B-13-692 WING WALL. JOINT TO INCLUDE KEYWAY FORMED BY BEVELED 2"X8". FILL JOINT WITH ½" PERFORMED FILLER BETWEEN RETAINING WALL AND WING WALL. SEAL HORIZ. AND VERT. SURFACES WITH NON-STAINING GRAY NON-BITUMINOUS JOINT SEALER (1" DEEP AND HOLD ⅛" BELOW SURFACE OF CONCRETE).
- ★ 18-INCH RUBBERIZED WATERPROOFING ON BACKFACE.





ELEVATION
(LOOKING NORMAL TO WALL ALIGNMENT, B.F. WALL)

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE R–13–372

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WALL DETAILS

SHEET 4 OF 8
100

STATE PROJECT NUMBER
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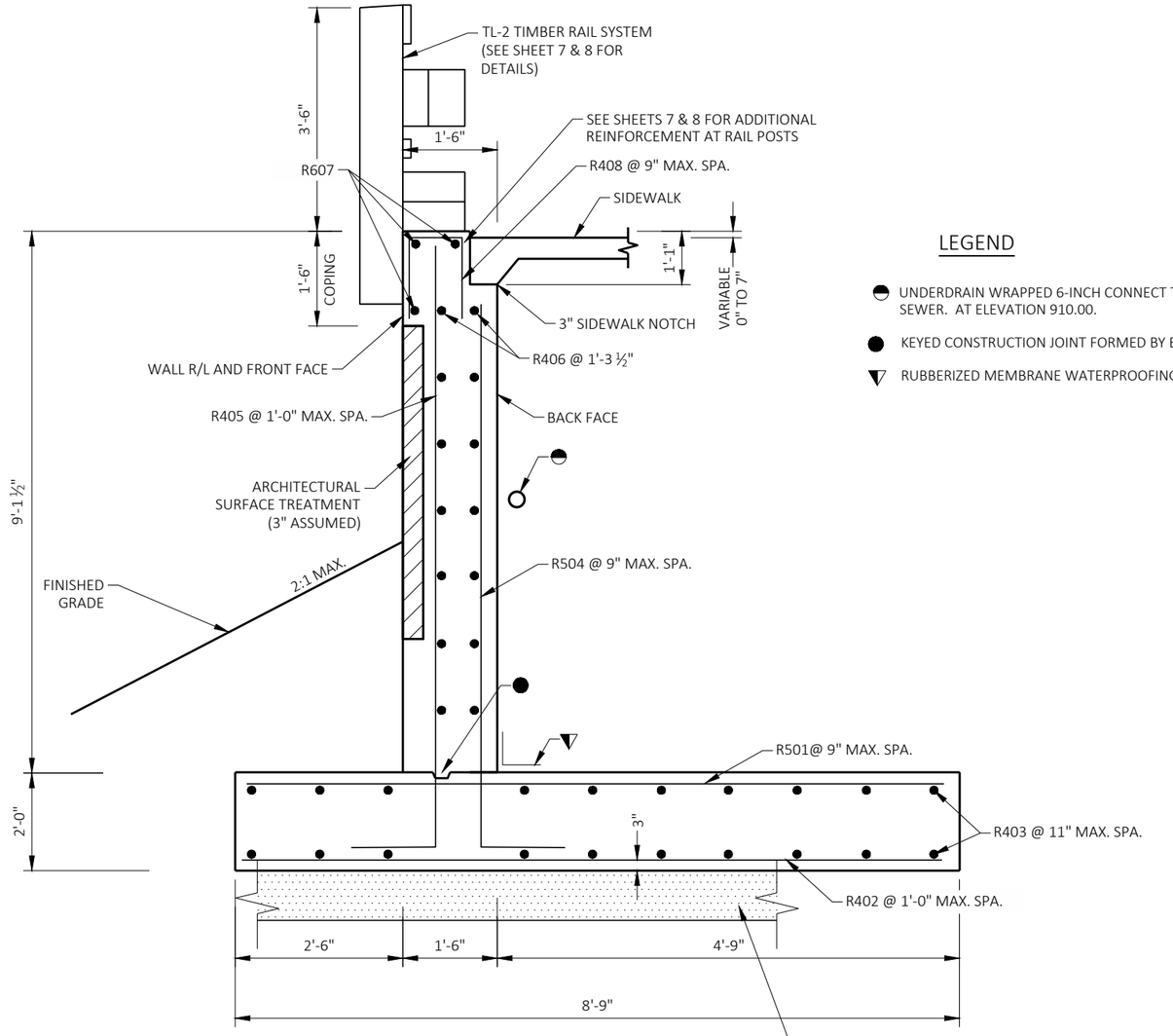
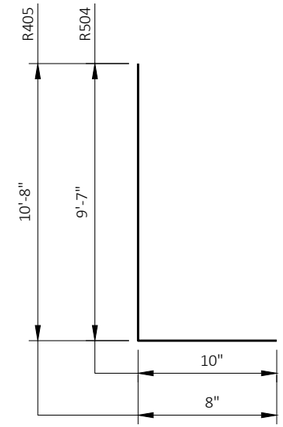


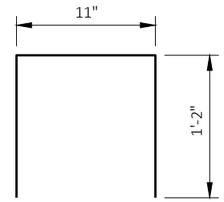
WALL TYPICAL SECTION

LEGEND

- UNDERDRAIN WRAPPED 6-INCH CONNECT TO PROPOSED STORM SEWER. AT ELEVATION 910.00.
- KEYED CONSTRUCTION JOINT FORMED BY BEVELED 2"X6"
- RUBBERIZED MEMBRANE WATERPROOFING ON BACK FACE.



R504 & R405



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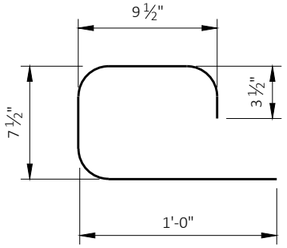

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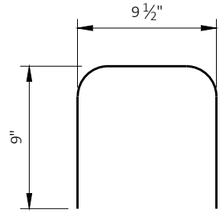

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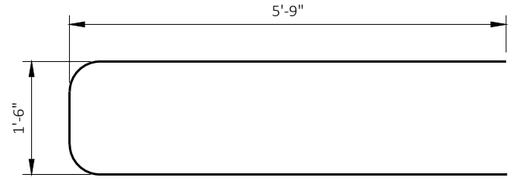


R611

BILL OF BARS

TOTAL COATED WEIGHT: 980 LBS
TOTAL UNCOATED WEIGHT: 570 LBS

BAR MARK	NO. REQ'D.	LENGTH	COAT	BENT	LOCATION
R501	25	8'-5"			FOOTING HORIZ. TRANSVERSE TOP
R402	19	8'-5"			FOOTING HORIZ. TRANSVERSE BTM
R403	20	17'-8"			FOOTING HORIZ. LONGITUDINAL
R504	25	10'-3"	X	X	STEM VERTICAL B.F.
R405	19	11'-3"	X	X	STEM VERTICAL F.F.
R406	14	17'-8"	X		STEM HORIZ.
R607	3	17'-8"	X		STEM HORIZ. TOP
R408	25	3'-1"	X	X	STEM TOP STIRRUP
R509	24	2'-4"	X	X	RAIL POST VERTICAL
R510	24	2'-1"	X	X	RAIL POST VERTICAL
R611	8	12'-9"	X	X	RAIL POST HORIZONTAL

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

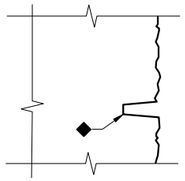
STRUCTURE R-13-372

DRAWN BY	STD	PLANS CK'D.	CDH

SECTIONS AND REINFORCEMENT

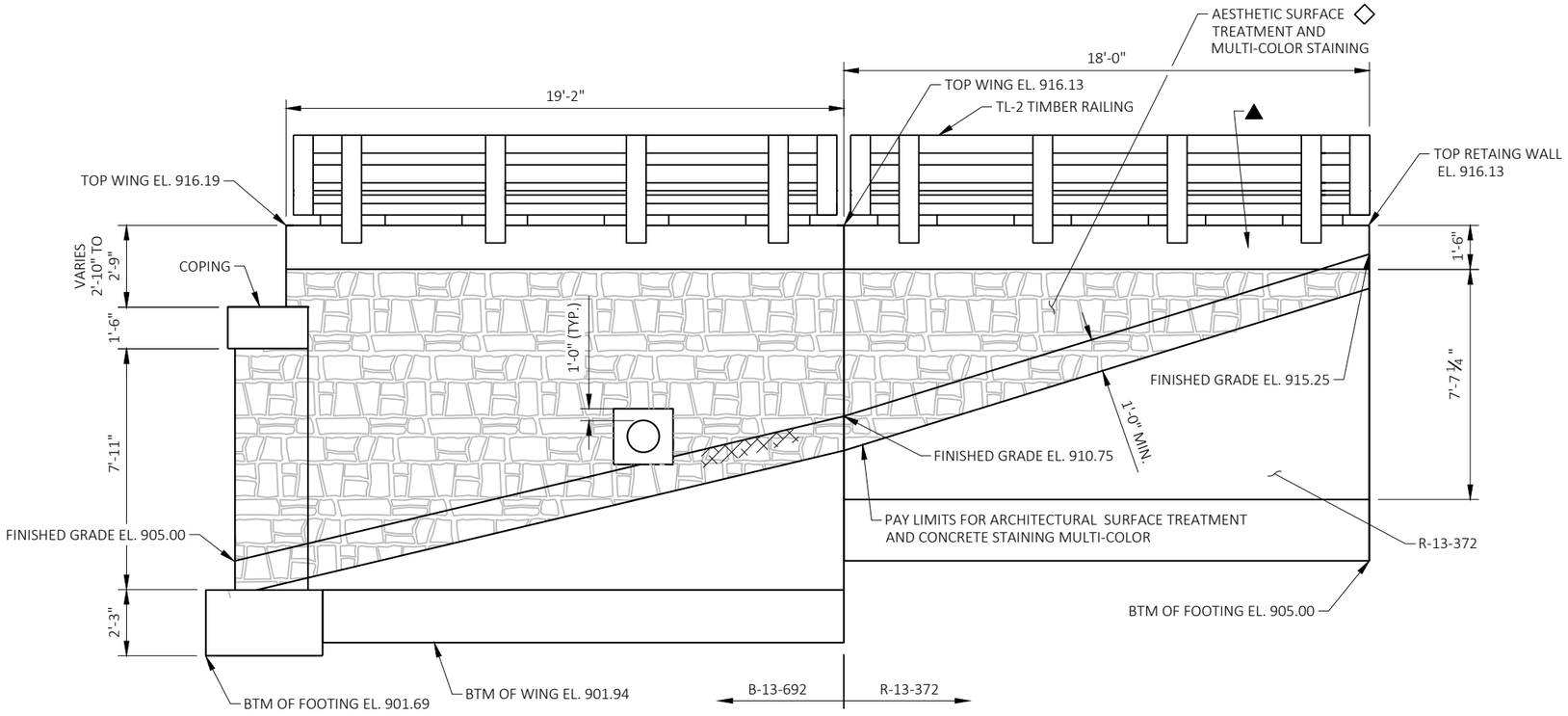
SHEET 5 OF 8
101

STATE PROJECT NUMBER
5992-10-04



"MORTAR JOINT" DETAIL

APPLIES TO HORIZONTAL & VERTICAL JOINTS



WING WALL AND RETAINING WALL ELEVATION

(LOOKING SOUTH)

LEGEND

▲ CONCRETE COPING. STAIN FRONT FACE. STAIN COLOR NUMBER AMS-STD 36628.

◇ FORMLINE PATTERN TO BE "RUSTIC ASHLAR" FROM WISDOT STANDARDS OR APPROVED EQUAL. BASE FORMLINER COLOR TO BE AMS-STD 26586.

FORMLINER ACCENT COLOR NUMBERS TO BE USED IN THE APPROXIMATE PERCENTAGES AS SHOWN: 40% AMS-STD 13578, 20% AMS-STD 30372, 15% AMS-STD 30324, 10% AMS-STD 30219 AND 10% AMS-STD 16376.

MULTI-STAIN COLOR TO REPLICATE NATURAL LIMESTONE VARIATION, HIGHLIGHTING AND VEINING FOUND IN NATIVE LIMESTONE ON NEARBY BOATHOUSE STRUCTURE.

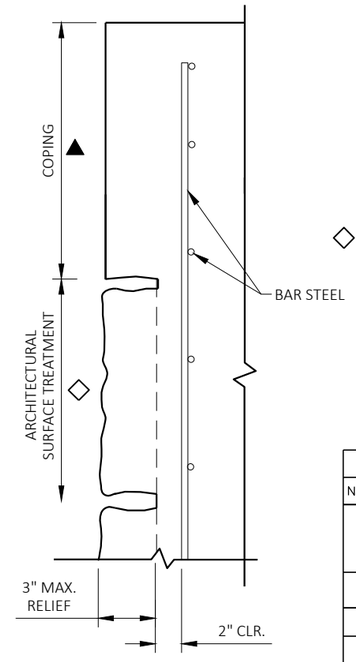
◆ MORTAR STAIN COLOR NUMBER AMS-STD 36628.

NOTES

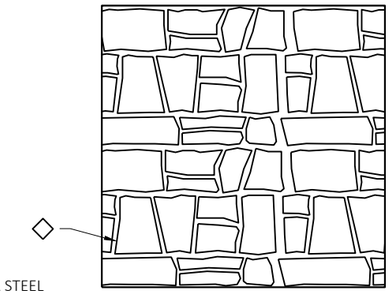
FORMLINER PATTERN SHALL BE LEVEL AND CONTINUOUS BETWEEN R-13-372 AND B-13-692 WING WALL.

THE COST OF FORMLINER TREATMENTS IS PAID FOR UNDER SPECIAL PROVISIONS "ARCHITECTURAL SURFACE TREATMENT". MAX. ALLOWED RELIEF IS 3".

ARCHITECTURAL SURFACE TREATMENT AND STAIN SHALL EXTEND 1'-0" BELOW FINISHED GRADE.



SECTION THRU FORMLINER



FORMLINER DETAIL

COURSE HEIGHT TO BE 8" TO 32"

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE R-13-372

DRAWN BY STD | PLANS CK'D. CDH

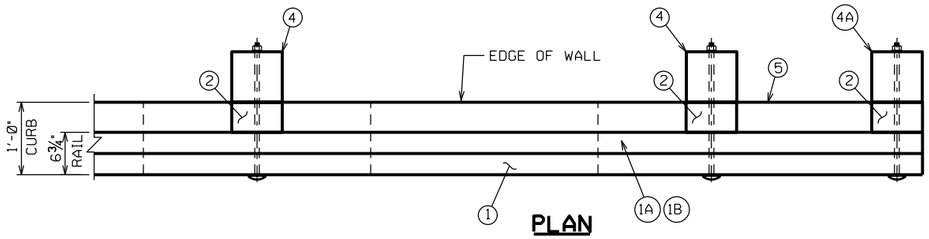
AESTHETIC DETAILS

SHEET 6 OF 8
102

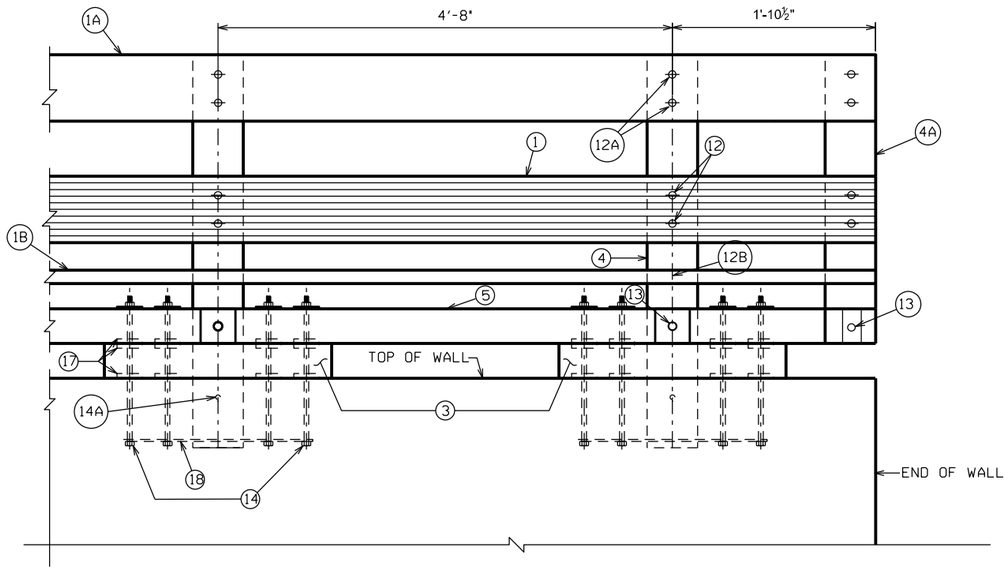
FILE NAME : G:\WDOT LP\SHOREWOOD HILLS\20014 LMD BRIDGE\CIVIL 3D\STRUCTURE CAD\080206-AD.DWG PLOT DATE : 7/20/2022 7:41 AM PLOT BY : KL ENGINEERING

STATE PROJECT NUMBER

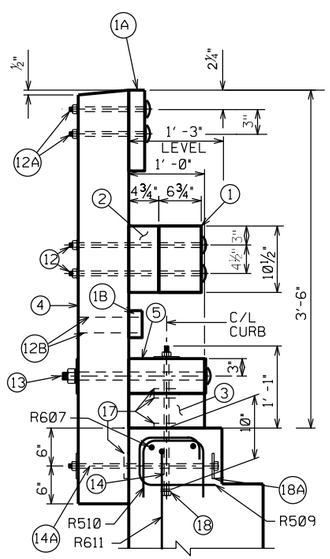
5992-10-04



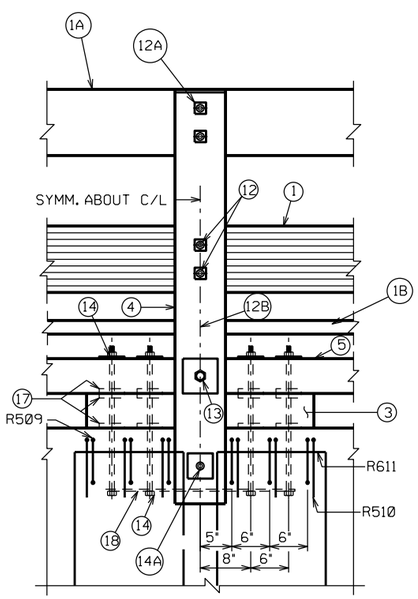
PLAN



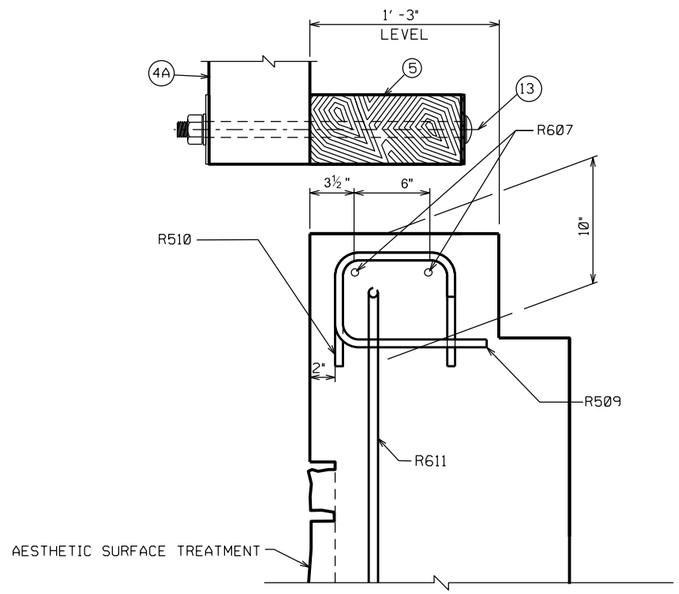
ELEVATION



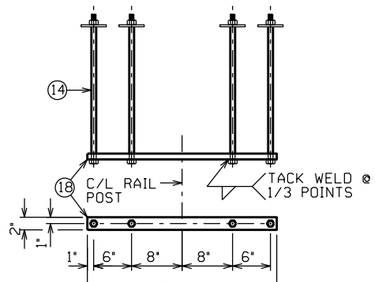
SECTION THRU RAIL



BACK ELEVATION



END OF WALL DETAILS



ANCHORAGE DETAIL

SEE SHEET 8 FOR RAILING DETAILS.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE R-13-372

DRAWN BY STD | PLANS CK'D. CDH

TIMBER RAILING

SHEET 7 OF 8

103

8

8

SCALE =

STATE PROJECT NUMBER
5992-10-04

LEGEND

(1) GLULAM RAIL 6¾" X 10½"

(1A) TOP HORIZONTAL RAIL 3" X 8"

(1B) HORIZONTAL RAIL BETWEEN CURB AND RAIL 2" X 4"

(2) RAIL SPACER BLOCK 8" X 4¾" X 10½"

(3) SCUPPER BLOCK 6" X 12" X 3'-0"

(4) RAIL POST @ STRUCTURE 8" X 8" X 4'-6"

(4A) END RAIL POST @ STRUCTURE 8" X 8" X 3'-2"

(5) CURB 6" X 12"

(11) STEEL SPLICE PLATE, ASTM A36.

(12) ¾": X 1'-10" LONG ASTM A307, GRADE 2, DOME-HEAD BOLT W/ 1-PLATE WASHER PER BOLT. (2 REQ'D. @ EACH RAIL TO POST CONNECTION, 4 REQ'D. @ EACH RAIL SPLICE).

(12A) 5/8": X 1'-0" LONG ASTM A307, GRADE 2 DOME-HEAD BOLT W/ 3" X 3" X 1/4" PLATE WASHER PER BOLT. (2 REQ'D. @ EACH RAIL TO POST CONNECTION, 4 REQ'D. @ EACH RAIL SPLICE)

(12B) WOOD CONSTRUCTION LAG SCREWS. (2 REQ'D. @ EACH RAIL POST CONNECTION, 4 REQ'D. @ EACH RAIL SPLICE.

(13) 1¼": X 1'-10" LONG ASTM A325, DOME-HEAD BOLT W/ 2 - 5½" X 5½" X ¼" PLATE WASHERS, W/ 1⅜": HOLE. (1 REQ'D. @ EACH CURB TO POST CONNECTION.)

(14) ¾": x 1'-11" LONG ASTM A325 BOLT. 1 - 4" X 4" X 5/16" PLATE WASHER REQ'D. AT CURB TO WALL CONNECTION. 1 - 4" X 4" X 5/16" PLATE WASHER REQ'D. AT POST TO WALL CONNECTION.

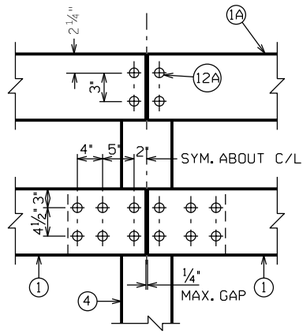
(14A) ¾": x 1'-10" LONG ASTM A325 BOLT. 1 - 4" X 4" X 5/16" PLATE WASHER REQ'D. AT CURB TO WALL CONNECTION. 1 - 4" X 4" X 5/16" PLATE WASHER REQ'D. AT POST TO WALL CONNECTION.

(15) ⅞": X 9" LONG ASTM A307, GRADE 2, DOME HEAD BOLT AT RAIL SPLICE DETAIL.

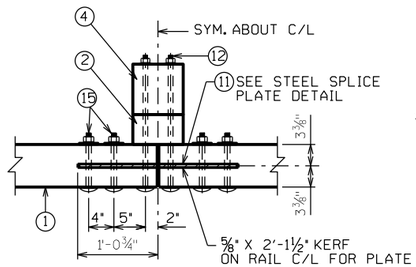
(17) 4": SHEAR PLATE (8 REQ'D. @ EACH CURB TO SCUPPER CONNECTION, 4 REQ'D. @ EACH SCUPPER TO WALL CONNECTION AND 1 REQ'D. @ EACH POST TO SLAB CONNECTION). MALLEABLE IRON MEETING REQUIREMENTS OF ASTM A47, GRADE 32510.

(18) 2" X 2'-6" X 5/16" ANCHOR PLATE WITH 4 - 13/16": HOLES FOR ANCHOR BOLTS NO. 14 (CURB TO WALL CONNECTION).

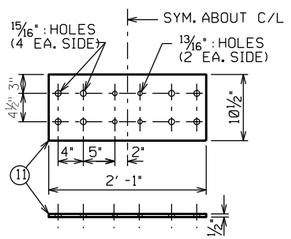
(18A) 4" X 4" X 15/16" ANCHOR PLATE W/ 1 - 13/16": HOLE FOR THE ANCHOR BOLT NO. 14A.



ELEVATION



PLAN VIEW



STEEL SPLICE PLATE

RAIL SPLICE DETAILS

BILL OF TREATED LUMBER

ITEM	NO. REQ'D.	SIZE	THICKNESS (IN)	WIDTH (IN)	LENGTH (FT)	AREA (SF)	MBM
GLULAM RAIL	1	6¾ X 10½	6.75	10.5	17.75	15.53	0.10
RAIL SPACER BLCOK	6	4¾ X 10½	4.75	10.5	0.67	3.50	0.02
SCUPPER BLOCK	4	6 X 12	12.00	6.0	3.00	6.00	0.07
RAIL POST	4	8 X 8	8.00	8.0	4.50	12.00	0.10
CURB	1	6 X 12	12.00	6.0	17.75	8.88	0.11
TOP PEDESTRIAL RAIL	1	3 X 8	2.50	7.5	17.75	11.09	0.03
LOWER PEDESTRIAN RAIL	1	2 X 4	1.50	3.5	17.75	5.18	0.01
END RAIL POST	2	8 X 8	8.00	8.0	3.17	4.22	0.03
TOTAL							0.50

NOTES

1. BID ITEM SHALL BE "TREATED LUMBER AND TIMBER" WHICH INCLUDES ALL ITEMS SHOWN.
2. DIMENSIONS GIVEN FOR GLUED-LAMINATED (GLULAM) TIMBER RAILS ARE ACTUAL DIMENSIONS.
3. DIMENSIONS FOR WOOD POSTS, CURBS AND SCUPPERS ARE GIVEN AS NOMINAL DIMENSIONS. ACTUAL DIMENSIONS MAY BE A MAXIMUM OF ½ INCH LESS THAN THE STATED NOMINAL DIMENSIONS. DIMENSION FOR SPACER BLOCK DEPTH ARE ACTUAL DIMENSIONS.
4. CURB AND RAIL SPLICES SHALL BE LOCATED SO THAT CURB AND RAIL MEMBERS ARE CONTINUOUS OVER NOT LESS THAN TWO POSTS. CURB SPLICES SHALL BE LOCATED A MINIMUM OF 1.5 POST SPACINGS AWAY FROM RAIL SPLICES. IT IS RECOMMENDED THAT GLULAM RAILS BE CONTINUOUS OVER THE LENGTH OF THE BRIDGE.
5. SAWN LUMBER AND GLULAM SHALL COMPLY WITH THE REQUIREMENTS OF AASHTO M168 AND SHALL BE PRESSURE TREATED WITH WOOD PRESERVATIVES IN ACCORDANCE WITH AASHTO M133 AND STANDARD SPECIFICATIONS.
6. BRIDGE RAIL SHALL BE HORIZONTALLY LAMINATED GLULAM, VISUALLY GRADED WESTERN SPECIES COMBINATION NO. 2, OR VISUALLY GRADED SOUTHERN PINE COMBINATION NO. 48. OTHER SPECIES AND GRADES OF GLULAM MAY BE USED, PROVIDED THE MINIMUM TABULATED VALUES ARE NOT LESS THAN THE FOLLOWING:

   $F_{b_{yy}}$ = 1,800 LB/IN^2 E = 1,800,000 LB/IN^2

7. POSTS, CURBS, SCUPPERS, TRANSITION BLOCKS AND SPACER BLOCKS MAY BE SAWN LUMBER OR GLULAM. WHEN SAWN LUMBER IS USED, MATERIAL SHALL BE VISUALLY GRADED NO. 1 SOUTHERN PINE OR VISUALLY GRADED NO 1 DOUGLAS FIR-LARCH. GLULAM AND OTHER SPECIES AND GRADES OF SAWN LUMBER MAY BE USED, PROVIDED THE MINIMUM TABULATED VALUES ARE NO LESS THAN THE FOLLOWING:

   F_b = 1,350 LB/IN^2 E = 1,500,000 LB/IN^2

8. ALL STEEL COMPONENTS AND FASTENERS SHALL BE GALVANIZED IN ACCORDANCE WITH AASHTO M111 OR M232.
9. TO THE EXTENT POSSIBLE, ALL WOOD SHALL BE CUT, DRILLED, AND COMPLETELY FABRICATED PRIOR TO PRESSURE TREATMENT WITH PRESERVATIVES. WHEN FIELD FABRICATION OF WOOD IS REQUIRED OR IF WOOD IS DAMAGED, ALL CUTS, BORE HOLES, AND DAMAGE SHALL BE IMMEDIATELY TREATED WITH WOOD PRESERVATIVE IN ACCORDANCE WITH AASHTO M133 AND STANDARD SPECIFICATIONS.
10. UNLESS NOTED, MALLEABLE IRON WASHERS SHALL BE PROVIDED UNDER BOLT HEADS AND UNDER NUTS THAT ARE IN CONTACT WITH WOOD. WHEN THE SIZE AND STRENGTH OF THE HEAD ARE SUFFICIENT TO DEVELOP CONNECTION STRENGTH WITHOUT WOOD CRUSHING, WASHERS MAY BE OMITTED UNDER HEADS OF DOME-HEAD TIMBER BOLTS.
11. TOPS OF RAIL POSTS AND TOP OF THE RAIL SPLICE PLATE KERF SHALL BE SEALED WITH ROOFING CEMENT OR OTHERWISE PROTECTED FROM DIRECT EXPOSURE TO WEATHER.
12. DESTROY THREADS ON ALL BOLTS WITH A CENTER PUNCH AFTER TIGHTENING NUT. EXPOSED BOLT PROJECTION OVER 1" SHALL BE CUT OFF. REPAIR END OF BOLT BY PAINTING WITH ZINC RICH PRIMER.
13. SEE SHEET 4 FOR RAIL POST SPACING.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE R-13-372

DRAWN BY STD | PLANS CK'D. CDH

TIMBER RAILING DETAILS

SHEET 8 OF 8

104

8

8

SCALE =

LAKE MENDOTA DRIVE													
		Area				Incremental Volume (Unadjusted)				Cumulative Vol (CY)			
STATION	Distance	Cut (SF)	Salvaged/Unusable Pavement Material (SF)	Fill (SF)	EBS (SF)	Cut Note 1 (CY)	Salvaged/Unusable Pavement Material Note 2 (CY)	Fill Note 3 (CY)	EBS (CY)	Cut 1.00 Note 1	Expanded Fill 1.25	Reduced EBS In Fill 0.80 Note 4	Mass Ordinate Note 5
1+26		41	10	1	2								
1+44	18	53	11	0	3	32	7	0	2	32	-1	1	26
1+50	6	44	12	3	2	11	3	0	1	43	-1	2	34
1+54	4	43	12	1	2	6	2	0	0	49	-1	2	39
1+66	12	28	12	3	1	16	5	1	1	65	-1	3	50
1+75	9	27	7	7	1	9	3	2	0	75	0	3	54
1+77	2	4	10	9	0	1	1	1	0	76	1	3	54
2+70	93	21	10	22	1	43	34	53	2	119	65	5	-1
2+75	5	25	8	7	1	5	2	3	0	123	69	5	-2
2+80	5	41	11	0	2	6	2	1	0	129	69	5	2
2+98	18	49	13	0	2	29	8	0	1	159	68	6	25
3+00	2	53	15	0	3	4	1	0	0	163	67	7	29
3+23	23	73	13	0	4	54	12	0	3	216	65	9	73
						184	**71**	**60**	**9**				

NOTES:

1-CUT	CUT INCLUDES SALVAGED/UNUSABLE PAVEMENT MATERIAL
2-SALVAGED/UNUSABLE PAVEMENT MATERIAL	THIS DOES NOT SHOW UP IN THE CROSS SECTIONS
3-FILL	DOES NOT INCLUDE UNUSABLE PAVEMENT EXCAVATION VOLUME OR SELECT FILL
4-REDUCED EBS IN FILL	REDUCED EBS EXCAVATION THAT CAN BE USED IN FILL
5-MASS ORDINATE	IF EBS TO BE BACKFILLED WITH OR BORROW: CUT-(FILL * FILL FACTOR AREA UNDER INSIDE 1:1'S EXTENDED DOWN FROM SUBGRADE SHOULDER POINTS (+) MASS ORDINATE INDICATES WASTE (-) MASS ORDINATE INDICATES BORROW

BEGIN PROJECT
STA. 1+25.53

1+26

25.0:1
2.5:1
0.7%
1.0%
1.0%
4.0:1
914.62
19.50
914.05
-16.52
914.36
-11.52
914.44
0.00
914.57
13.00
914.63
19.00

ROADWAY SAG POINT
STA. 1+42.86

1+44

R-13-792
STA. 1+41.39 - STA. 1+59.13

18:1
0.9%
2.0%
2.0%
1.5%
4.0:1
915.56
-15.25
914.23
-13.25
914.18
-9.16
914.36
0.00
914.43
13.00
914.10
13.00
914.00
19.00
908.45
-26.00

1+50

1.5%
2.0%
2.0%
1.5%
4.0:1
915.62
-16.25
914.45
-16.25
914.19
-10.17
914.39
0.00
914.13
13.00
914.04
19.50
914.05
19.00
17:1
908.13
-26.00

10 FT
10 FT

9

9

PROJECT NO: 5992-10-04	HWY: LAKE MENDOTA DRIVE	COUNTY: DANE	CROSS SECTIONS: LAKE MENDOTA DRIVE	SHEET 106	E

FILE NAME : G:\WDOT LP\SHOREWOOD HILLS\20014 LMD BRIDGE\CIVIL 3D\SHEETSPLAN\090201_XS.DWG
LAYOUT NAME - 1

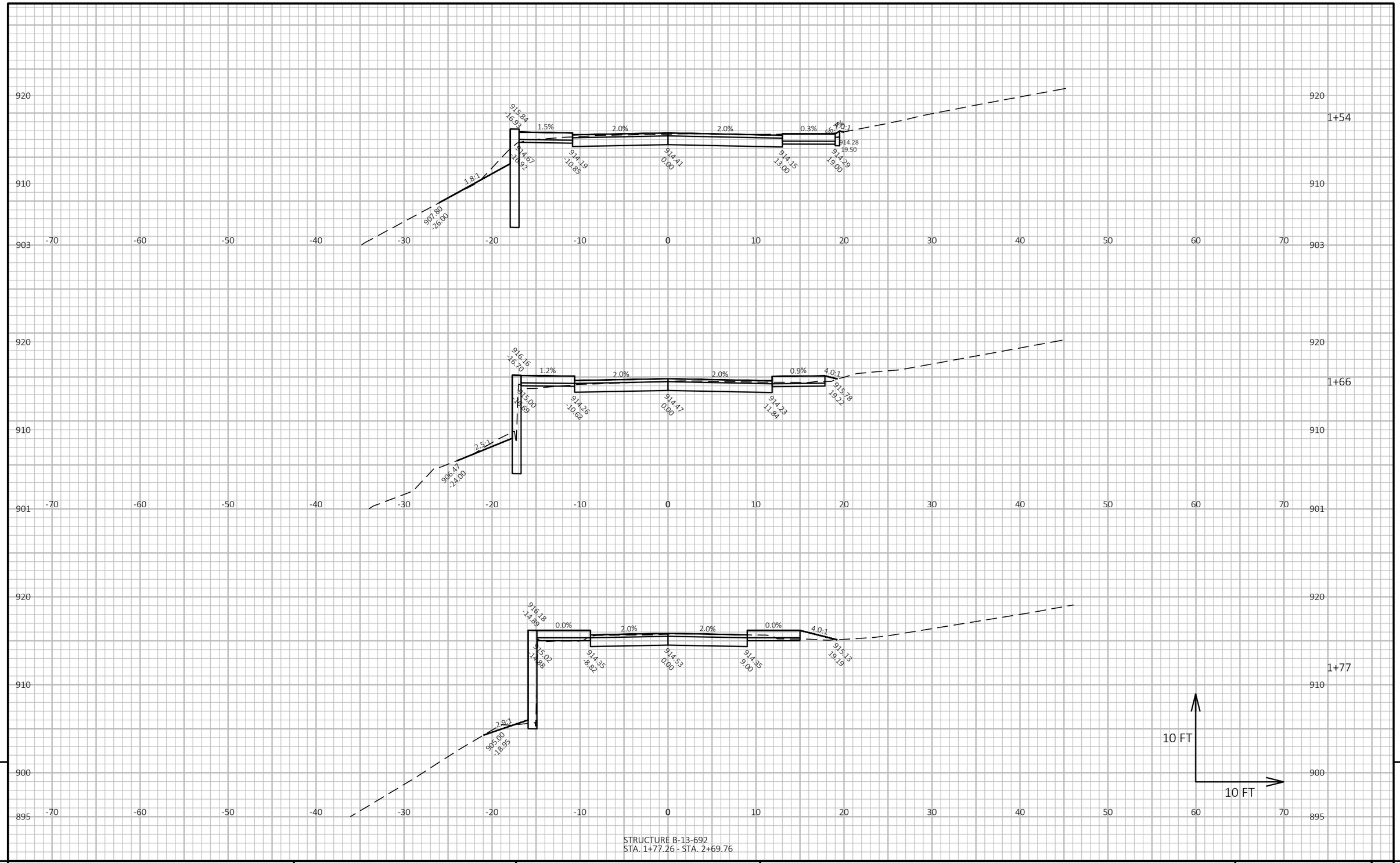
PLOT DATE : 7/6/2022 10:30 AM

PLOT BY : KAYLEE SIMON

PLOT NAME :

PLOT SCALE : 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

WISDOT/CADDS SHEET 49



STRUCTURE B-13-692
STA. 1+77.26 - STA. 2+69.76

PROJECT NO: 5992-10-04	HWY: LAKE MENDOTA DRIVE	COUNTY: DANE	CROSS SECTIONS: LAKE MENDOTA DRIVE	SHEET 107	E

FILE NAME : G:\WDOT LP\SHOREWOOD HILLS\20014 LMD BRIDGE\CIVIL 3D\SHEETSPLAN\090201_XS.DWG
LAYOUT NAME - 2

PLOT DATE : 7/6/2022 10:30 AM

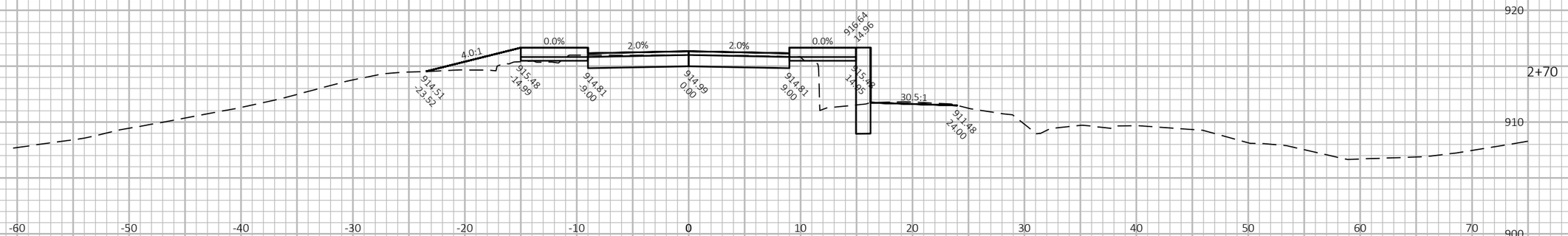
PLOT BY : KAYLEE SIMON

PLOT NAME :

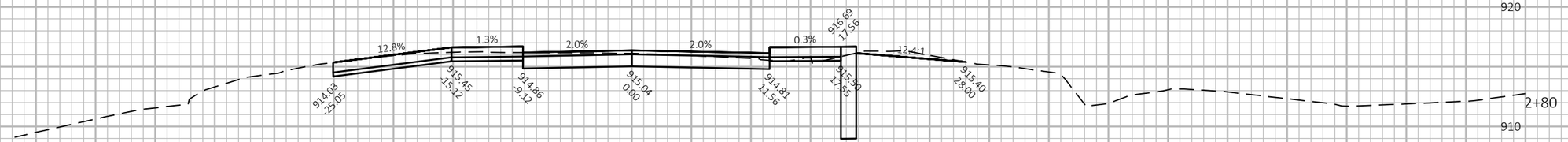
PLOT SCALE : 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

WISDOT/CADDS SHEET 49

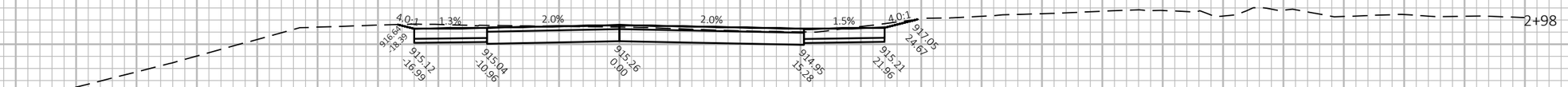
STRUCTURE B-13-692
STA. 1+77.26 - STA. 2+69.76



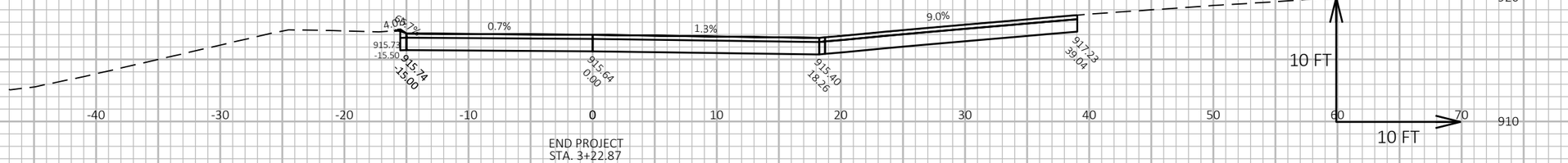
2+70



2+80



2+98



3+23

END PROJECT
STA. 3+22.87

9 9

PROJECT NO: 5992-10-04	HWY: LAKE MENDOTA DRIVE	COUNTY: DANE	CROSS SECTIONS: LAKE MENDOTA DRIVE	SHEET 108	E

FILE NAME : G:\WDOT LP\SHOREWOOD HILLS\20014 LMD BRIDGE\CIVIL 3D\SHEETSPLAN\090201_XS.DWG
LAYOUT NAME - 3

PLOT DATE : 7/6/2022 10:30 AM PLOT BY : KAYLEE SIMON PLOT NAME : PLOT SCALE : 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

WISDOT/CADDS SHEET 49

Notes

Wisconsin Department of Transportation

Dedicated people creating transportation solutions
through innovation and exceptional service.

http://www.dot.wisconsin.gov