WKE

MAY 2015

ORDER OF SHEETS

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

TOTAL SHEETS = 392

PROJECT ID: 1060-33-83

WITH:

COUNTY: MILWAUKEE

STATE PROJECT	FEDERAL PROJECT	
	PROJECT	CONTRACT
1060-33-83		

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

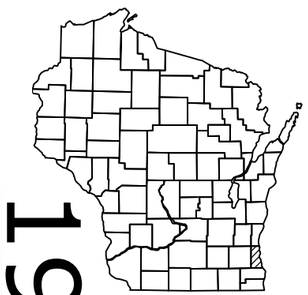
PLAN OF PROPOSED IMPROVEMENT

ZOO IC
PED BRIDGE OVER USH 45

AT WAUWATOSA WEST HS

USH 45
MILWAUKEE COUNTY

STATE PROJECT NUMBER
1060-33-83



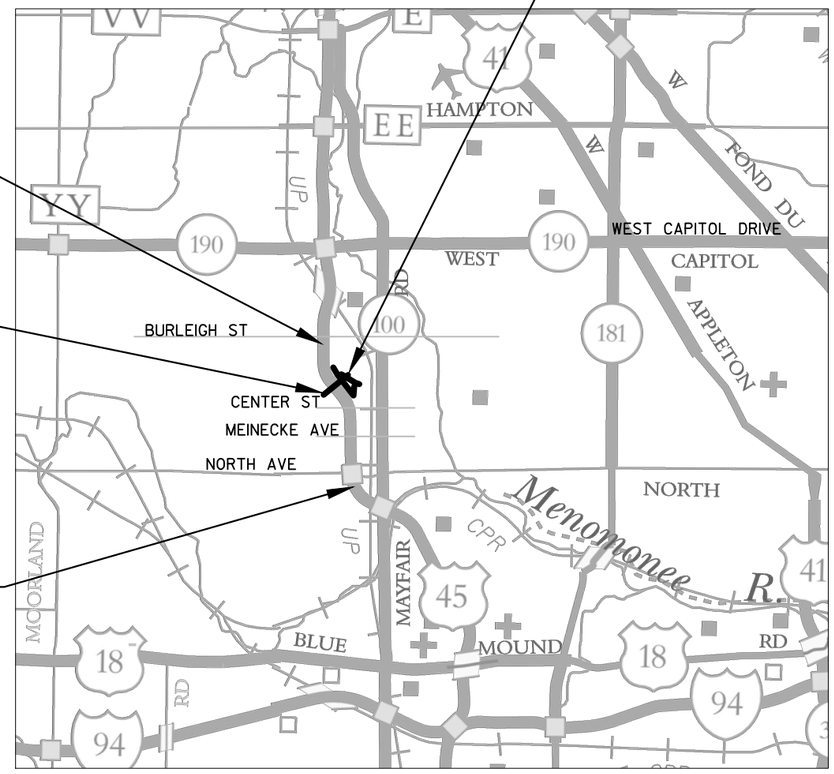


END PROJECT 1060-33-83
STA. 31+21.65 XD

END CONSTRUCTION
STA. 480+50 NS

BEGIN PROJECT 1060-33-83
STA. 20+42.26 XD
Y=566,984.05
X=310,709.70

BEGIN CONSTRUCTION
STA. 429+00 NS



LAYOUT
SCALE 0 2 MI.

TOTAL NET LENGTH OF CENTERLINE = 0.000 MI.

DESIGN DESIGNATION — USH 45

A.A.D.T. (2015)	=	144,000
A.A.D.T. (2035)	=	180,630
D.H.V.	=	---
D.D.	=	50% NB / 50% SB
T.	=	11.6%
DESIGN SPEED	=	60 MPH
ESALS	=	31,835,300

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

STRUCTURE SUMMARY TABLE:

BRIDGES	RETAINING WALLS
B-40-881	R-40-624
	R-40-625
	R-40-626

HORIZONTAL POSITIONS SHOWN ON THIS PLAN ARE WISCONSIN COUNTY COORDINATES, MILWAUKEE COUNTY, NAD83 (2007), IN U.S. SURVEY FEET. VALUES ARE GRID COORDINATES, GRID BEARINGS, AND GRID DISTANCES. GRID DISTANCES MAY BE USED AS GROUND DISTANCES.

ELEVATIONS SHOWN ON THIS PLAN ARE REFERENCED TO THE NORTH AMERICAN VERTICAL DATUM NAVD 88 (2007)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

PREPARED BY

Surveyor	FORWARD 45
Designer	WISDOT
Project Manager	CHRIS ZACHARIAS, P.E.
Regional Examiner	
Regional Supervisor	WILLIAM S. MOHR, P.E.

APPROVED FOR THE DEPARTMENT

DATE: 2/2/15 (Signature)

E

UTILITY CONTACTS

AT&T WISCONSIN - COMMUNICATION LINE
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2005 PEWAUKEE RD
WAUKESHA, WI 53188
(262) 896-7669
CELL: (414) 491-2855
JB5175@ATT.COM

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WILLIAM WEHRLEY
7725 W NORTH AVE
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RANDY MICHELZ
11100 W WALNUT RD
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RMICHELZ@WAUWATOSA.NET

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JAMES WOJCEHOWICZ
7725 W NORTH AVE
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JWOJCEHOWICZ@WAUWATOSA.NET

TIME WARNER CABLE - COMMUNICATION LINE
STEVEN CRAMER
1320 N DR MARTIN LUTHER KING JR DR
MILWAUKEE, WI 53212-4002
(414) 277-4045
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WE ENERGIES - ELECTRICITY
SEND ALL CORRESPONDENCE TO:
DAN SANDE
ROOM A299
333 WEST EVERETT ST
MILWAUKEE, WI 53203
(414) 221-4578
DAN.SANDE@WE-ENERGIES.COM

CONSTRUCTION FIELD CONTACT:
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WE ENERGIES - GAS/PETROLEUM
SEND ALL CORRESPONDENCE TO:
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333 WEST EVERETT ST
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DAN.SANDE@WE-ENERGIES.COM

CONSTRUCTION FIELD CONTACT:
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(414) 651-3948
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STATE AGENCIES

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OTHER AGENCIES

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WWEHRLEY@WAUWATOSA.NET

SCHOOL DISTRICT MANAGER OF BUILDINGS AND GROUNDS
MELISSA NETTESHEIM
WAUWATOSA SCHOOL DISTRICT – FISHER BUILDING
12121 W NORTH AVENUE
WAUWATOSA, WI 53226
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CELL: (262) 349-5356
NETTESME@WAUWATOSA.K12.WI.US

WAUWATOSA SCHOOL DISTRICT
LAURA WAINSCOTT
WAUWATOSA SCHOOL DISTRICT – FISHER BUILDING
12121 W NORTH AVENUE
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(414)773-1062
WAINSCLA@WAUWATOSA.K12.WI.US

MILWAUKEE COUNTY TRANSIT SYSTEM
DAVE ZIAREK
COORDINATOR OF STREET SUPERVISION
1942 N. 17TH STREET
MILWAUKEE, WI 53205
(414) 343-1764
DZIAREK@MCTS.ORG

SOUTHEASTERN WISONSIN REGIONAL PLANNING COMMISSION
DONALD SIMON
W239 N1812 ROCKWOOD DRIVE
P.O. BOX 1607
WAUKESHA, WI 53187-1607
(262) 547-6722 EXT. 249
DSIMON@SEWRPC.ORG

CITY OF WAUWATOSA – DEPARTMENT OF PUBLIC WORKS
WILLIAM PORTER – DIRECTOR
7725 W. NORTH AVE
WAUWATOSA ,WI 53213
(414) 479-8933
BPORTER@WAUWATOSA.NET

TO OBTAIN LOCATION OF PARTICIPANTS' UNDERGROUND FACILITIES BEFORE YOU DIG IN WISCONSIN

WIS. STATUTE 182.0175 (1974) REQUIRES MIN. OF 3 WORK DAYS NOTICE BEFORE YOU EXCAVATE

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

2

GENERAL NOTES

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

ANY REINFORCEMENT LOCATED IN EXISTING CONCRETE PAVEMENT SHALL BE CONSIDERED INCIDENTAL TO THE REMOVING PAVEMENT ITEM, AND NO ADDITIONAL COMPENSATION WILL BE GRANTED.

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

NOTIFY DIGGERS HOTLINE AND AFFECTED UTILITIES PRIOR TO THE START OF WORK. ANY LOCAL MUNICIPAL UTILITY WHICH IS NOT A MEMBER OF THE DIGGERS HOTLINE MUST BE CONTACTED SEPARATELY.

WHEN THE QUANTITY OF HMA PAVEMENT OR BASE AGGREGATE IS MEASURED FOR PAYMENT BY THE TON, THE DEPTH OR THICKNESS OF THE LAYER SHOWN ON THE PLAN IS APPROXIMATE AND THE ACTUAL THICKNESS WILL DEPEND ON THE DISTRIBUTION OF THE MATERIAL AS DIRECTED BY THE ENGINEER.

PROVIDE A TYPICAL PEDESTRIAN PATH AND SIDEWALK CROSS SLOPE OF 1.5% WITH A CONSTRUCTION TOLERANCE OF +/- 0.5%.

CROSS SECTIONS SHOWN INCLUDE THE THICKNESS OF TOPSOIL WHERE REQUIRED. TOPSOIL SHALL BE REPLACED WITH 6-INCH TYPICAL DEPTH THROUGHOUT THE PROJECT.

REMOVAL OF EROSION CONTROL DEVICES IS INCLUDED IN THE COST OF THEIR RESPECTIVE BID ITEMS.

CONTACT PROJECT ENGINEER AND THE SOUTHEASTERN WISCONSIN REGIONAL PLANNING COMMISSION (SEWRPC) AT LEAST TWO WEEKS PRIOR TO WORK NEAR ANY PUBLIC SURVEY MONUMENT.

SAWCUT ASPHALTIC AND CONCRETE DRIVEWAYS AND/OR PARKING LOTS AT THE MATCHLINE AS SHOWN ON THE REMOVAL PLANS AND PLAN DETAILS OR AS DIRECTED BY THE ENGINEER.

VERIFY EXISTING PAVEMENT ELEVATIONS AT ALL TIE-INS TO EXISTING PAVEMENT PRIOR TO CONSTRUCTION. IF A DISCREPANCY IS FOUND BETWEEN PROPOSED PLAN ELEVATIONS AND THE EXISTING PAVEMENT ELEVATIONS, CONTRACTOR IS TO NOTIFY THE ENGINEER.

THE EXACT LOCATION OF EXCAVATION BELOW SUBGRADE (EBS) WILL BE DETERMINED BY THE ENGINEER.

ALL PRIVATE EXISTING UTILITIES ARE TO BE ADJUSTED BY THE UTILITIES CONCERNED.

FERTILIZER SHALL NOT BE USED WITHIN 100' OF NAVIGABLE WATERWAYS OR WETLANDS.

ALL TYPES OF HMA PAVEMENT SHALL BE CONSTRUCTED WITH THE FOLLOWING LAYERS AND GRADATIONS:

PAVEMENT TYPE	TOTAL LAYER PAVEMENT THICKNESS	LAYERS	NOMINAL MAXIMUM SIZE GRADATION	ASPHALTIC MATERIAL
E-1	4 1/4"	1 3/4" UPPER	12.5 MM	PG58-28
		2 1/2" LOWER	19.0 MM	PG58-28
E-10	2"	2" UPPER	12.5 MM	PG64-28

2

ORDER OF SECTION 2 DETAIL SHEETS

UTILITY CONTACTS
GENERAL NOTES
PROJECT OVERVIEW
TYPICAL SECTIONS
CONSTRUCTION DETAILS
REMOVAL PLANS
PLAN DETAILS
FTMS PLANS
CONTOUR MAP
CROSS SECTION MATCHLINES
EROSION CONTROL
STORM SEWER
PERMANENT SIGNING
LIGHTING PLANS
PAVEMENT MARKING
TRAFFIC CONTROL
DETOURS
ALIGNMENT INFORMATION & SURVEY CONTROL

STANDARD ABBREVIATIONS

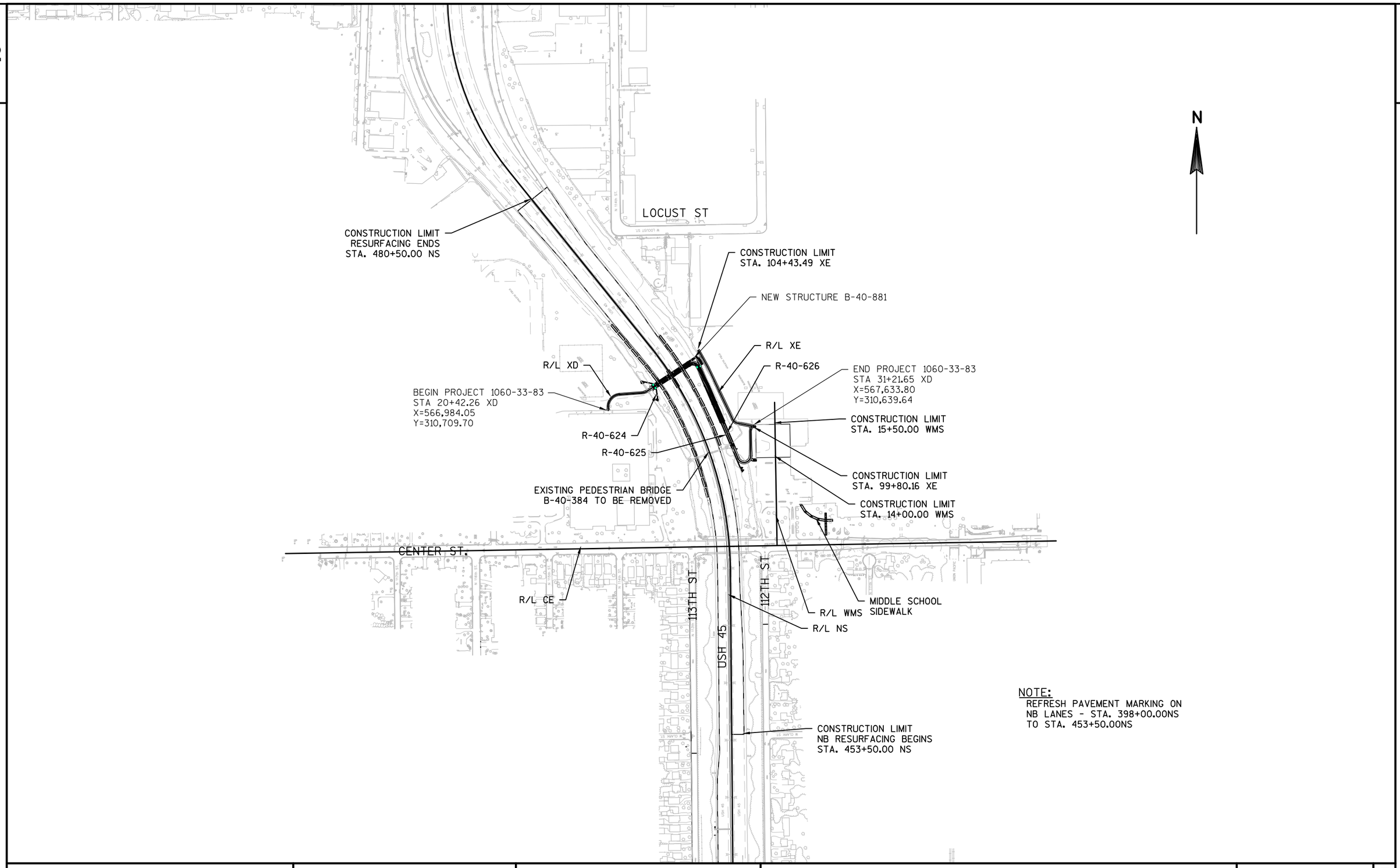
AEW	APRON ENDWALL	PC	POINT OF CURVE
AGG	AGGREGATE	PCC	POINT OF COMPOUND CURVE
ASPH	ASPHALTIC	PE	PRIVATE ENTRANCE
BAD	BASE AGGREGATE DENSE	PI	POINT OF INTERSECTION
BM	BENCHMARK	PGL	PROFILE GRADE LINE
BMP	BEST MANAGEMENT PRACTICE	PLE	PERMANENT LIMITED EASEMENT
C&G	CURB AND GUTTER	PT	POINT OF TANGENT
CL OR $^{C}_{L}$	CENTER LINE OR CONSTRUCTION LINE	R	RADIUS OF CURVE
CMCP	CULVERT PIPE CORRUGATED METAL	R/L	REFERENCE LINE
CONC	CONCRETE	R/W	RIGHT OF WAY
CP	CULVERT PIPE	RC	REVERSE CROWN
CPRC	CULVERT PIPE REINFORCED CONCRETE	RCAEW	APRON END WALL FOR CULVERT PIPE REINFORCED CONCRETE
CPRCHE	CULVERT PIPE REINFORCED CONCRETE HORIZONTAL ELLIPTICAL	REQD	REQUIRED
CSD	CONCRETE SURFACE DRAIN	RHF	RIGHT HAND FORWARD
CY	CUBIC YARD	RO	RUN OFF LENGTH
D	DEGREE OF CURVE	RRSP	RAILROAD SPIKE
Δ	DELTA	RT	RIGHT
DISCH	DISCHARGE	SALV	SALVAGED
EB	EASTBOUND	SB	SOUTHBOUND
ECIP	EROSION CONTROL IMPLEMENTATION PLAN	SDD	STANDARD DETAIL DRAWING
FE	FIELD ENTRANCE	SE	SUPER ELEVATION
FL	FLOW LINE	SF	SQUARE FOOT
HMA	HOT MIX ASPHALTIC	SI	SLOPE INTERCEPT
INV	INVERT	SSPRC	STORM SEWER PIPE REINFORCED CONCRETE
L	LENGTH OF CURVE	STA	STATION
LHF	LEFT HAND FORWARD	SY	SQUARE YARD
LT	LEFT	T	TANGENT LENGTH
MIN	MINIMUM	TLE	TEMPORARY LIMITED EASEMENT
M/L	MATCHLINE	VCL	VERTICAL CURVE LENGTH
NB	NORTHBOUND	VPC	POINT VERTICAL CURVE
NC	NORMAL CROWN	VPI	POINT OF VERTICAL INTERSECTION
PAVT	PAVEMENT	VPT	POINT OF VERTICAL TANGENT



PROJECT NO: 1060-33-83	HWY: USH 45	COUNTY: MILWAUKEE	PROJECT OVERVIEW	SHEET 5	E

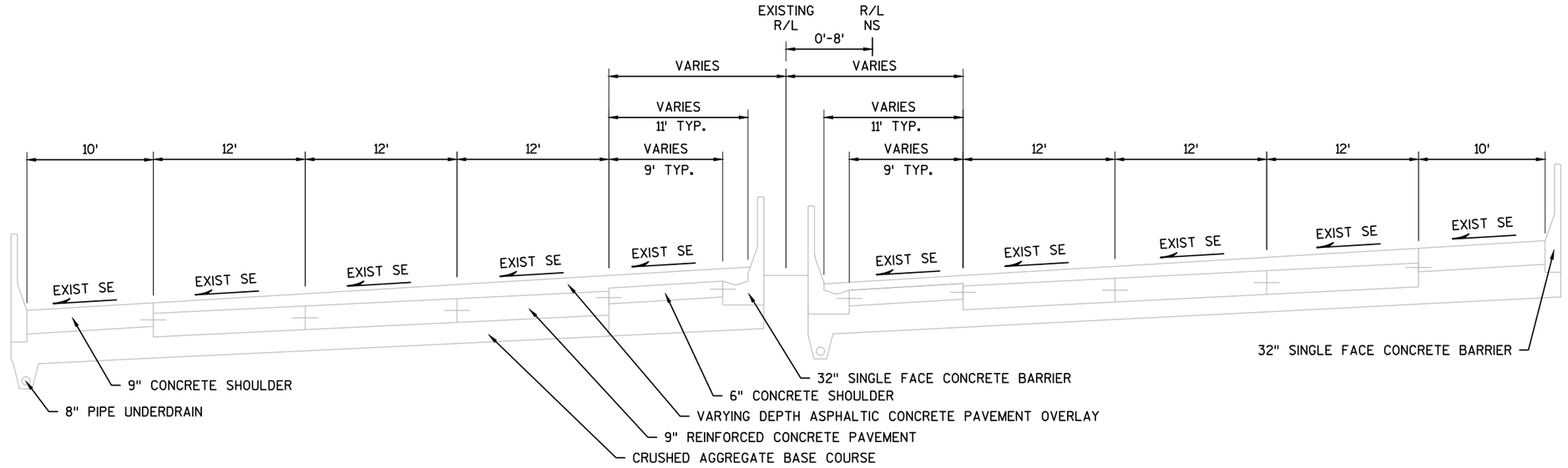
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WISDOT/CADDS SHEET 42

2

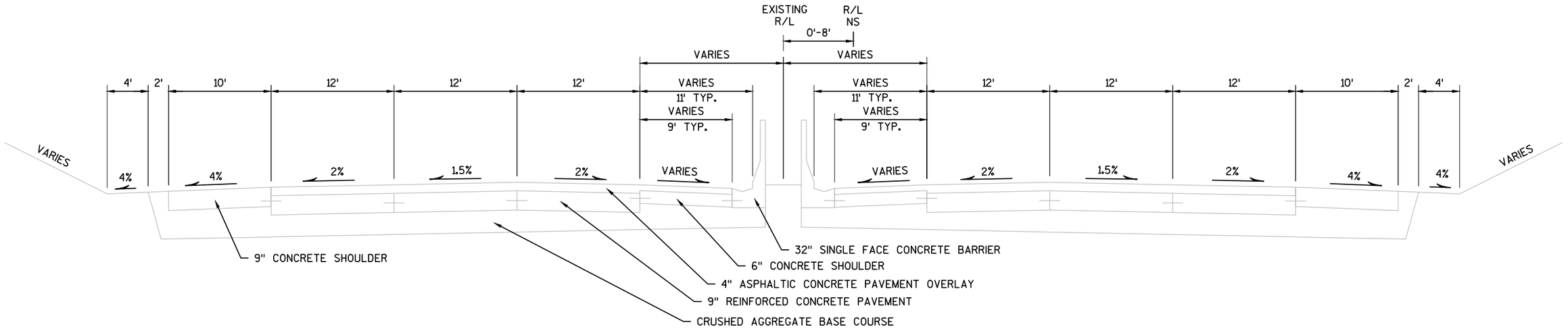


NOTE:
REFRESH PAVEMENT MARKING ON
NB LANES - STA. 398+00.00NS
TO STA. 453+50.00NS

PROJECT NO: 1060-33-83	HWY: USH 45	COUNTY: MILWAUKEE	PROJECT OVERVIEW	SHEET 6	E



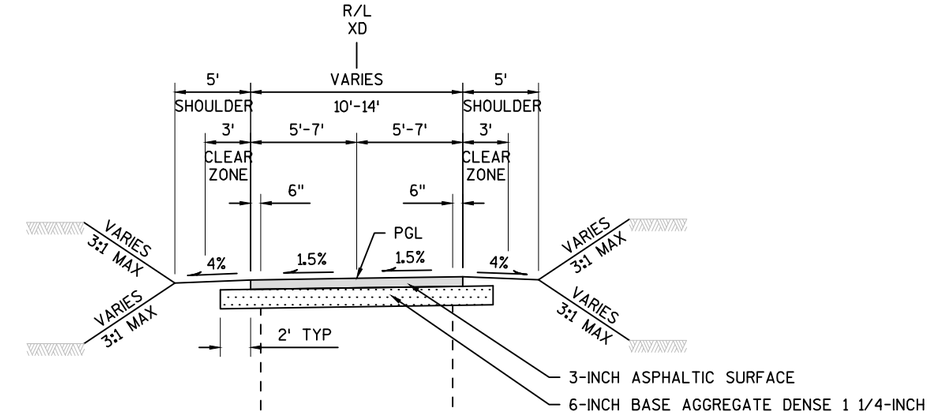
TYPICAL EXISTING SUPERELEVATED SECTION
USH 45

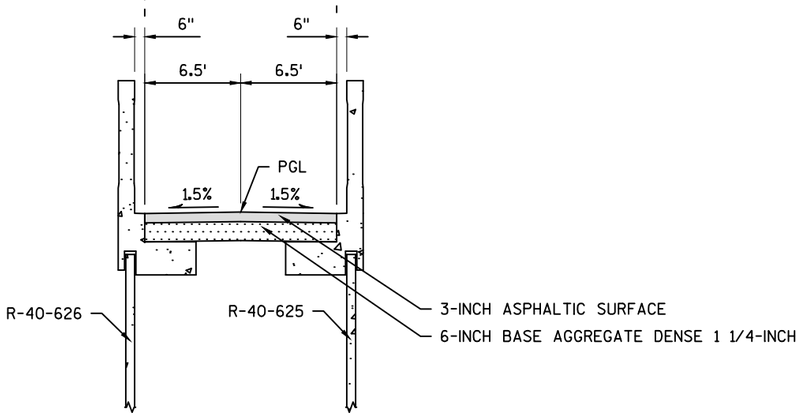


TYPICAL EXISTING SECTION
USH 45

PROJECT NO: 1060-33-83	HWY: USH 45	COUNTY: MILWAUKEE	TYPICAL SECTIONS	SHEET 7	E

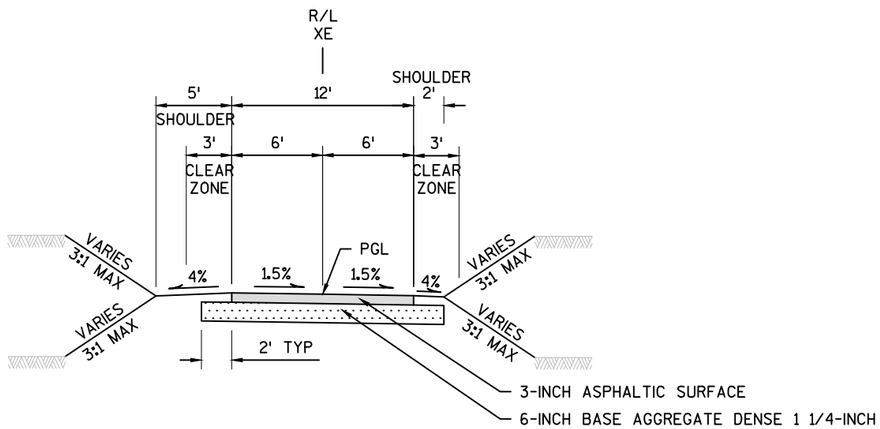
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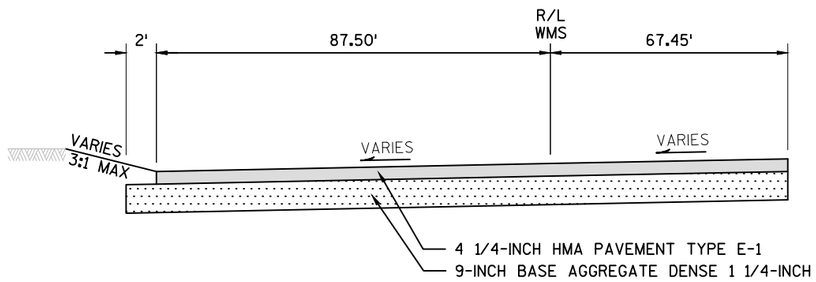


STA. 28+20.00XD TO STA. 29+50.00XD STA. 28+20.00XD TO STA. 30+02.99XD

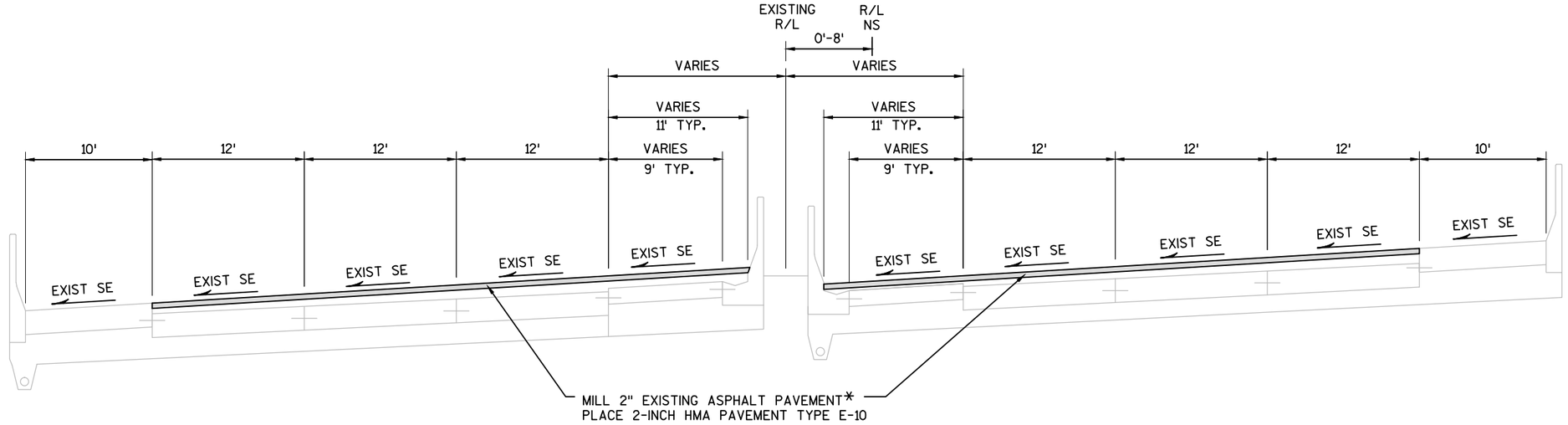
TYPICAL FINISHED SECTION
PEDESTRIAN PATH (XD)
STA. 20+42.26XD TO STA. 23+00.00XD
STA. 28+20.00XD TO STA. 32+21.65XD



TYPICAL FINISHED SECTION
PEDESTRIAN PATH (XE)
STA. 99+80.16XE TO STA. 104+43.49XE

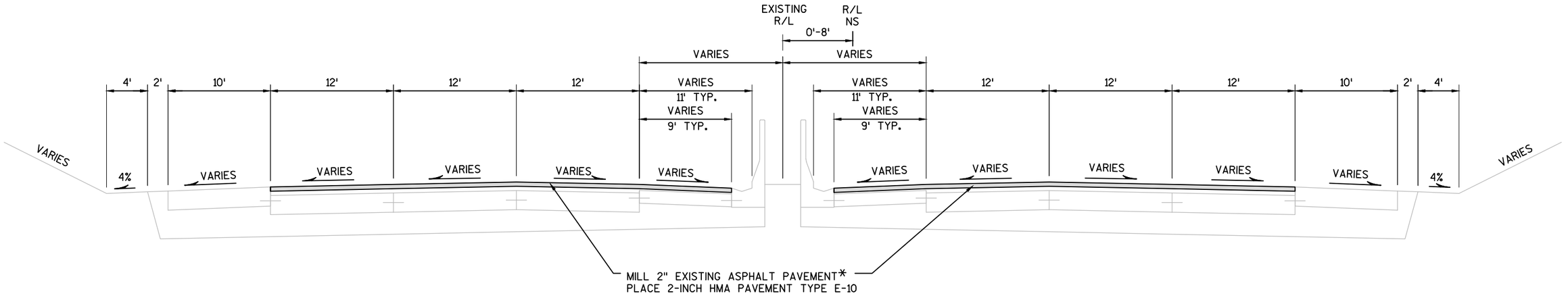


TYPICAL FINISHED SECTION
WHITMAN MIDDLE SCHOOL PARKING LOT
STA. 14+00.00WMS TO STA. 15+50.00WMS



*STA. 429+00.00NS TO STA. 440+95.00NS - SB LANES ONLY

TYPICAL FINISHED SUPERELEVATED SECTION
USH 45
STA. 429+00.00NS TO 440+95.00NS
STA. 458+70.00NS TO STA. 474+50.00NS

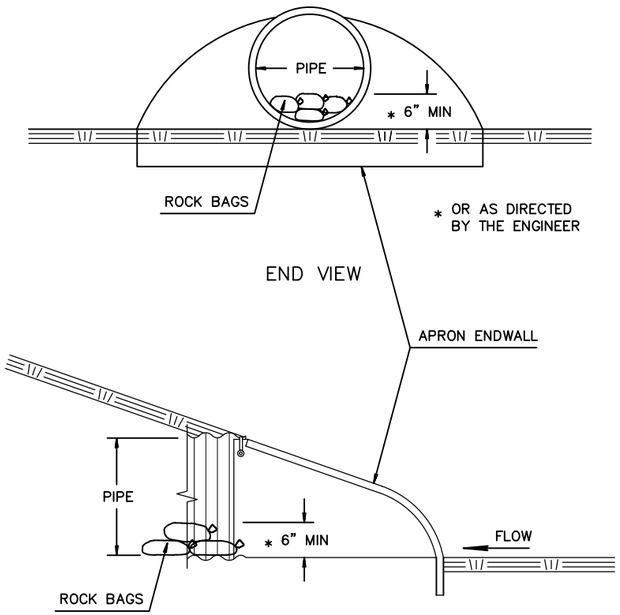


*STA. 440+95.00NS TO STA. 453+50.00NS - SB LANES ONLY

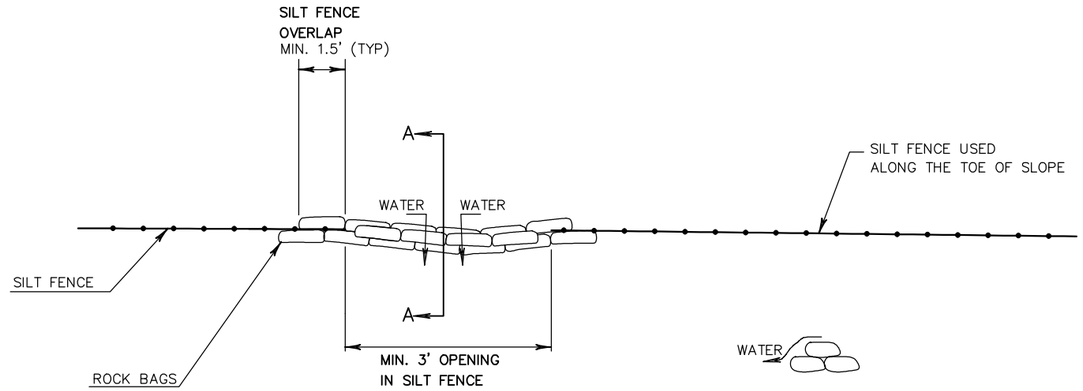
TYPICAL FINISHED SECTION
USH 45
STA. 440+95.00NS TO 458+70.00NS
STA. 474+50.00NS TO STA. 480+50.00NS

NOTE:
SHOULDER AND INLET REPAIRS WILL BE INCLUDED WITH MAINLINE PAVEMENT REPAIRS AS NEEDED

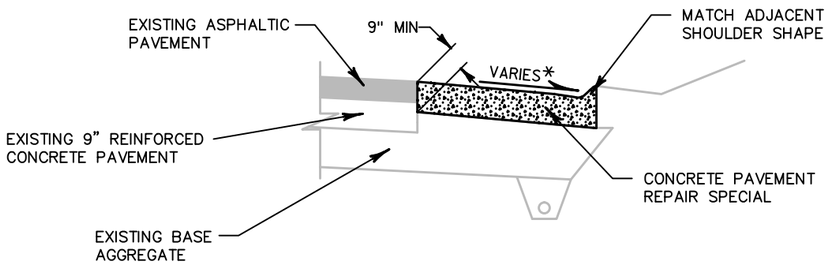
PROJECT NO: 1060-33-83	HWY: USH 45	COUNTY: MILWAUKEE	TYPICAL SECTIONS	SHEET 9	E



CULVERT PIPE CHECK, ROCK BAGS

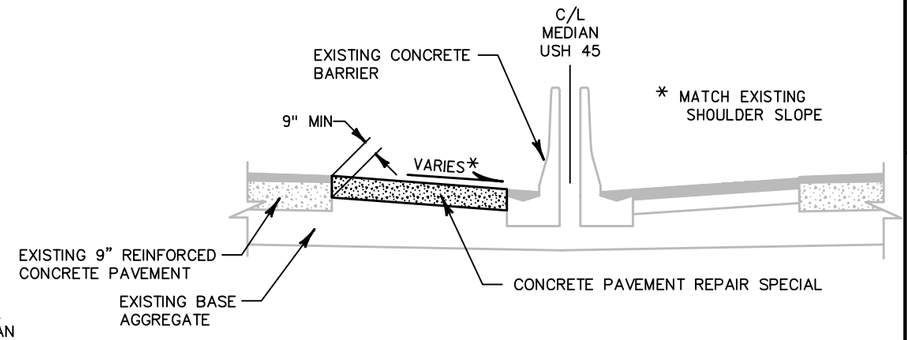


ROCK BAGS USED FOR SILT FENCE RELIEF DETAIL



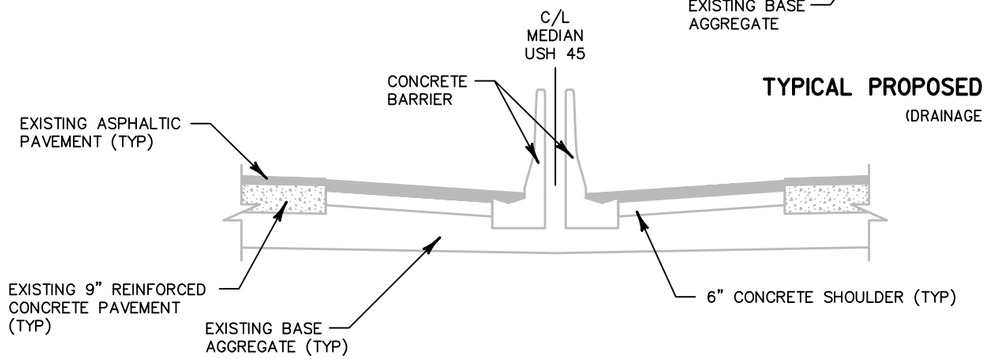
TYPICAL PROPOSED SECTION – OUTSIDE SHOULDER

(DRAINAGE STRUCTURES NOT SHOWN)



TYPICAL PROPOSED SECTION - MEDIAN SHOULDER

(DRAINAGE STRUCTURES NOT SHOWN)



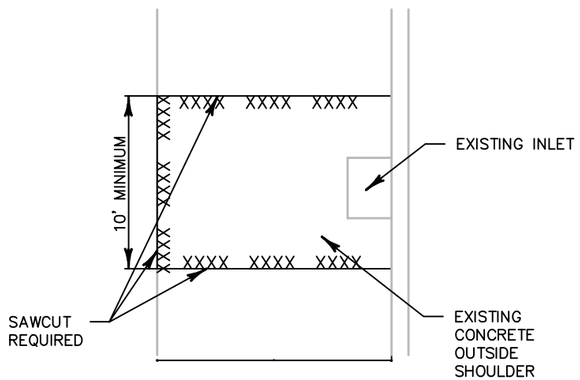
TYPICAL EXISTING SECTION

(DRAINAGE STRUCTURES NOT SHOWN)

NOTES

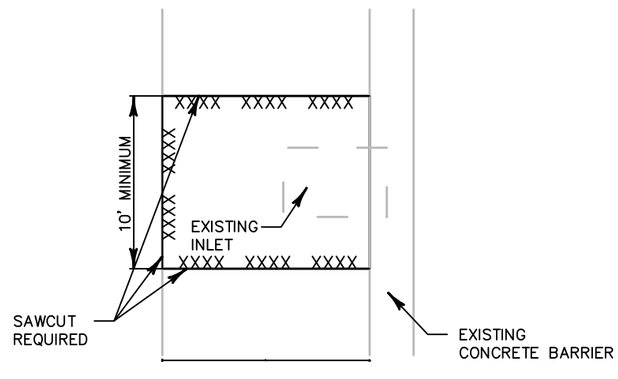
1. SAWCUT LIMITS TO BE DETERMINED BY THE ENGINEER.
2. IF VOIDS EXIST UNDER AREAS TO BE REPAIRED, AND AT THE DIRECTION OF THE ENGINEER, BACKFILL WITH BASE AGGREGATE DENSE AND/OR BACKFILL CONTROLLED LOW STRENGTH.

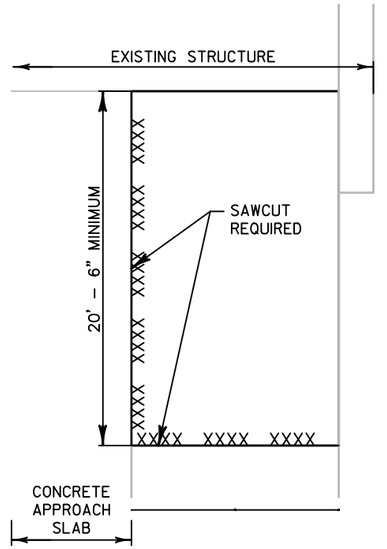
* MATCH EXISTING SHOULDER SLOPE



PLAN VIEW

REPAIR AT INLET



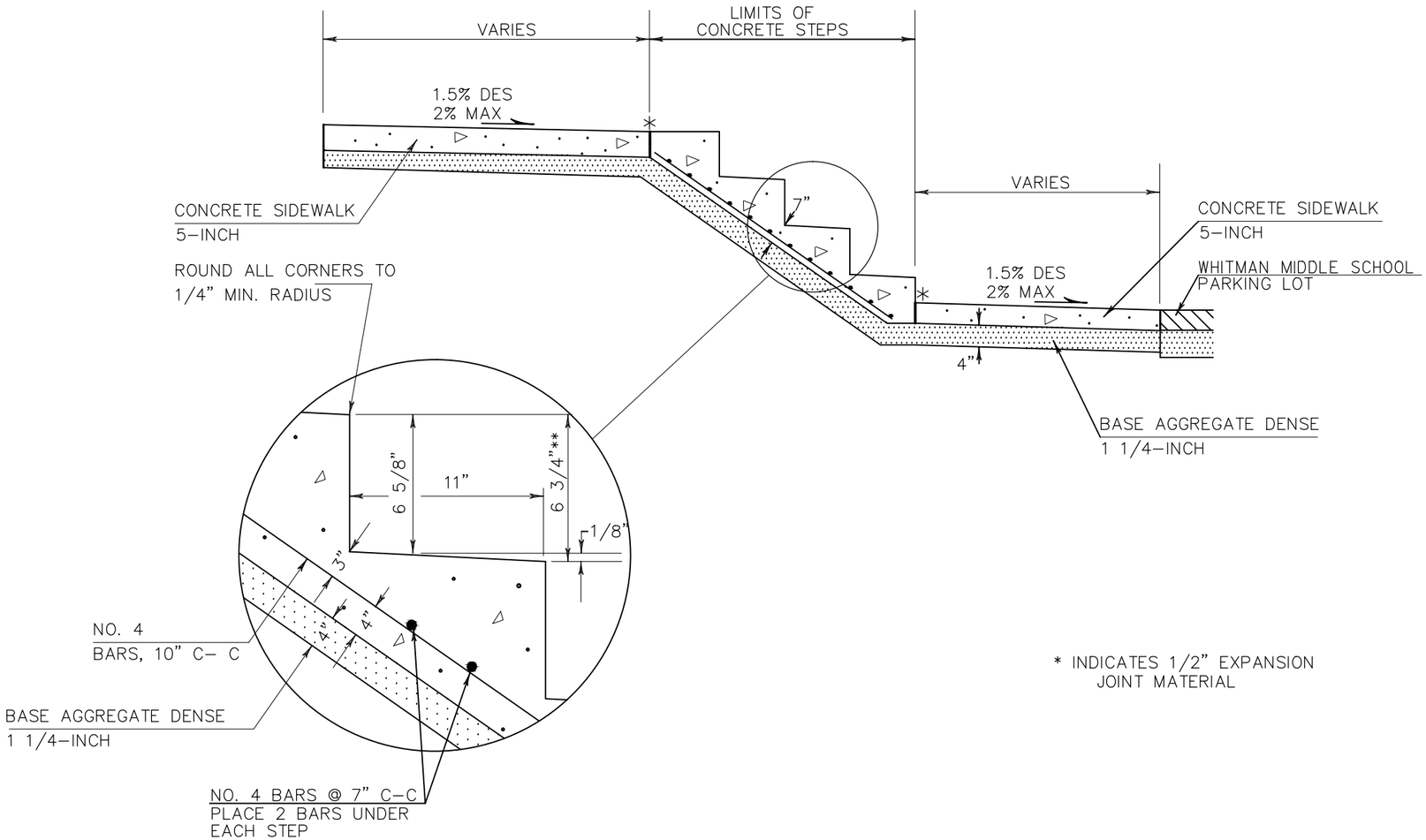


PLAN VIEW

REPAIR AT BRIDGE APPROACH SLAB

SHOULDER REPAIR

2



CONCRETE STEPS DETAIL

AT WHITMAN MIDDLE SCHOOL
(NOT DRAWN TO SCALE)

NOTES:

1. THE EXACT LOCATION & NUMBER OF STEPS TO BE DETERMINED BY THE ENGINEER IN THE FIELD.
2. MINIMUM WIDTH OF STEP EQUALS 9 FEET.
3. PIPE RAILING TO BE INSTALLED ON BOTH SIDES OF STAIRS.
4. WITHIN A STAIRWAY FLIGHT, THE GREATEST TREAD DEPTH MAY NOT EXCEED THE SMALLEST TREAD DEPTH BY MORE THAN 3/8–INCH AND THE GREATEST RISER HEIGHT MAY NOT EXCEED THE SMALLEST RISER HEIGHT BY MORE THAN 3/8–INCH.

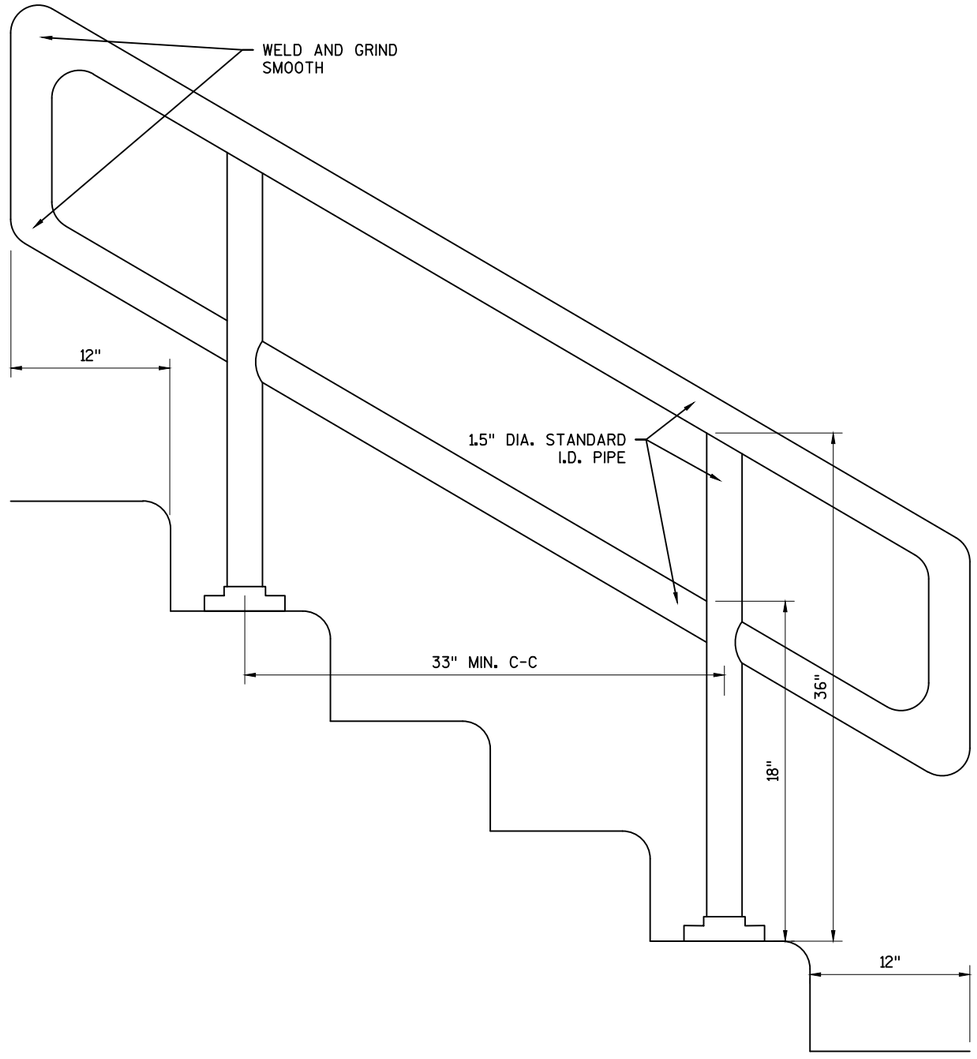
** 5. STAIR RISER HEIGHTS SHALL BE 6 3/4–INCH DESIRABLE, 7–INCH MAXIMUM AND 4–INCH MINIMUM.

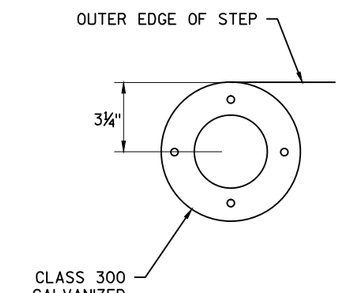
6. STAIR TREAD DEPTHS SHALL BE 11–INCH MINIMUM.
7. THE NUMBER OF TREADS WILL BE DETERMINED IN THE FIELD BASED ON FIELD ELEVATIONS.

* INDICATES 1/2" EXPANSION JOINT MATERIAL

PROJECT NO:1060-33-83	HWY: USH 45	COUNTY: MILWAUKEE	CONSTRUCTION DETAIL	SHEET 12	E

2



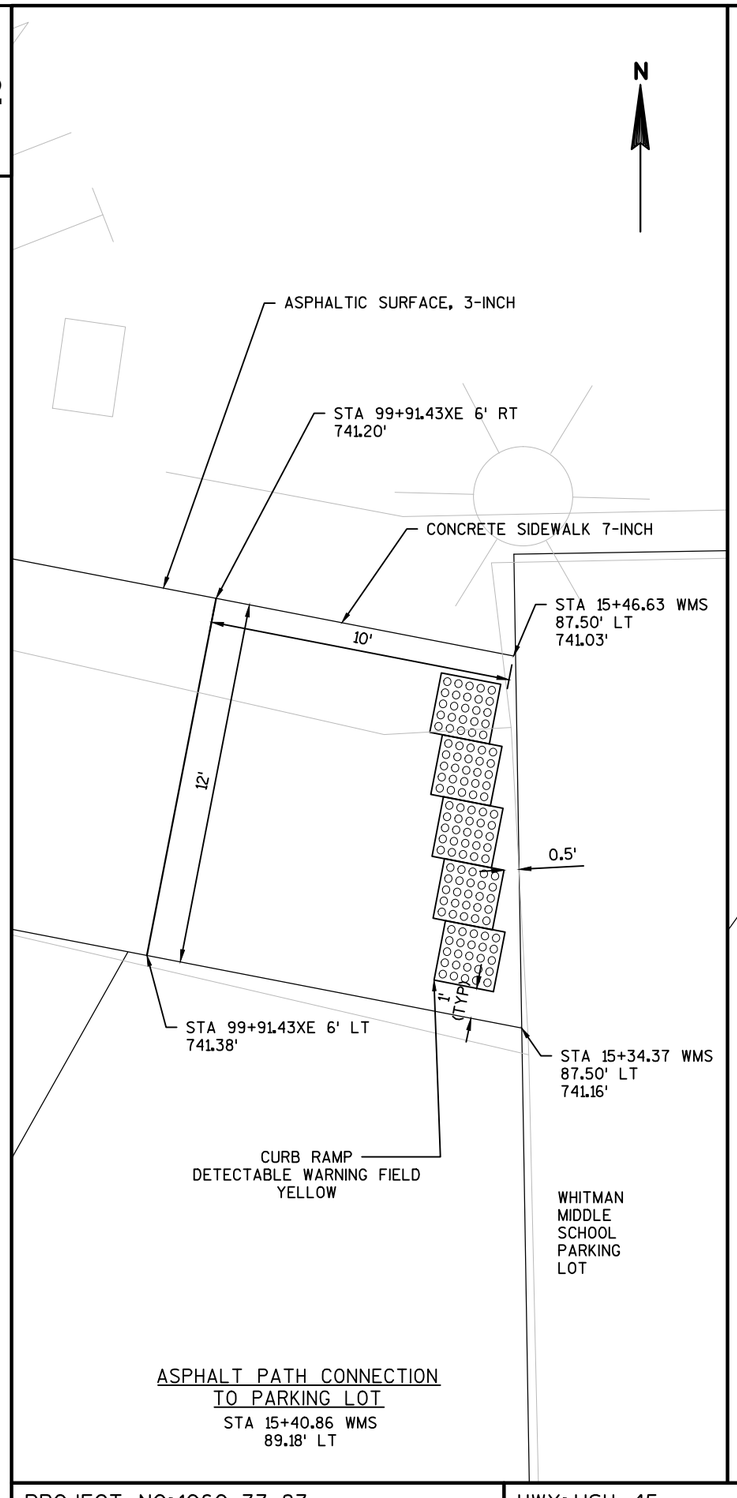


FLANGE DETAIL

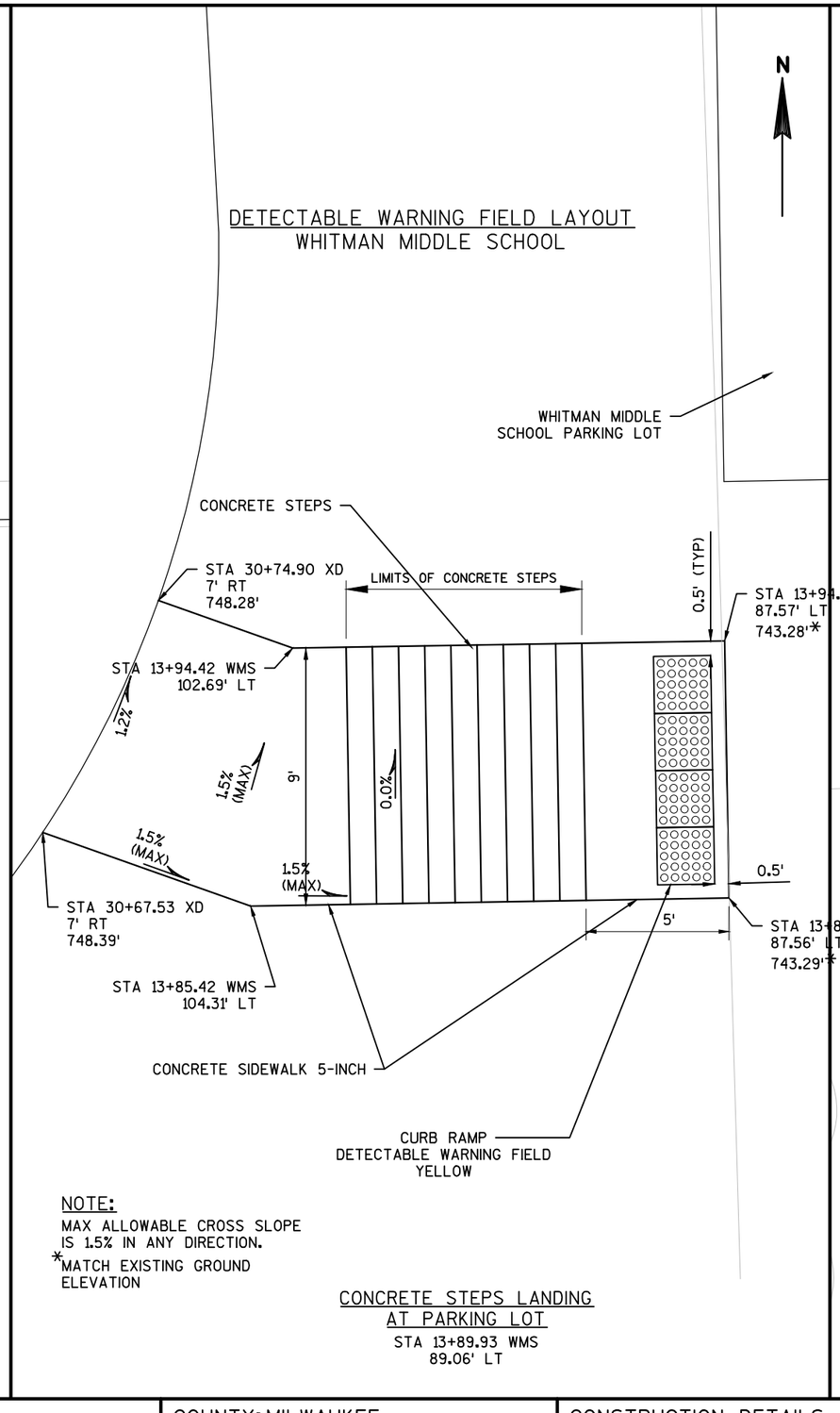
NOTE:
THE NUMBER OF TREADS WILL BE DETERMINED IN THE FIELD BASED ON FIELD ELEVATIONS.

GALVANIZED PIPE RAILING DETAIL

(NOT DRAWN TO SCALE)

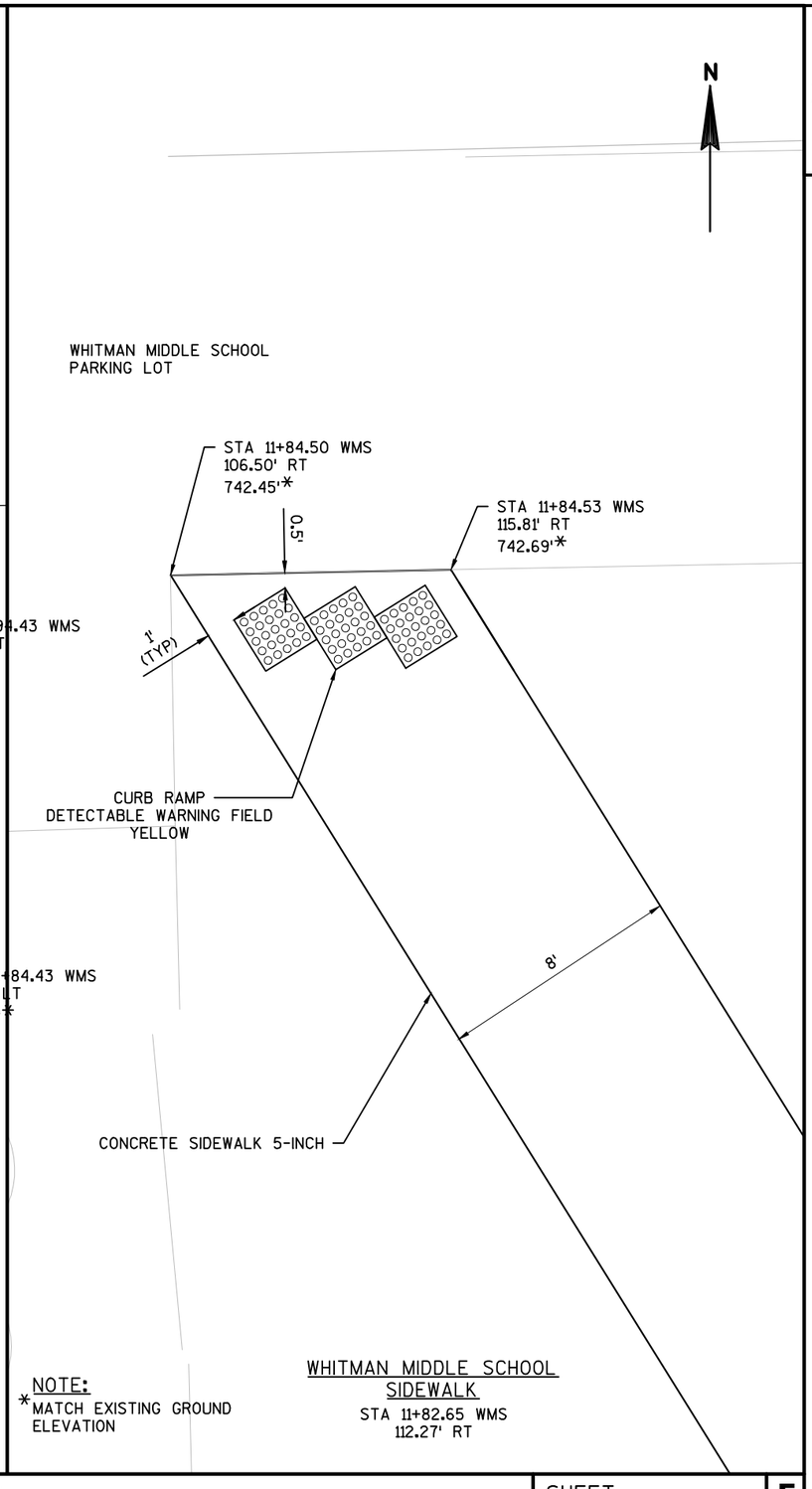


ASPHALT PATH CONNECTION
TO PARKING LOT
STA 15+40.86 WMS
89.18' LT



NOTE:
MAX ALLOWABLE CROSS SLOPE
IS 1.5% IN ANY DIRECTION.
*MATCH EXISTING GROUND
ELEVATION

CONCRETE STEPS LANDING
AT PARKING LOT
STA 13+89.93 WMS
89.06' LT



NOTE:
*MATCH EXISTING GROUND
ELEVATION

WHITMAN MIDDLE SCHOOL
SIDEWALK
STA 11+82.65 WMS
112.27' RT

2

N

PEDESTRIAN PATH (XE)
ASPHALTIC SURFACE (3-INCH)

104+00

7'0" X 3'6" FOOTING FOR PRECAST CONCRETE STAIRS.
SEE STRUCTURE PLAN FOR DETAILS.

STA 103+95.02 XE, 16.88' LT
744.82'

STA 103+93.53 XE, 17.03' LT
744.82'

STA 103+92.47 XE, 6.00' LT
745.15'

STA. 103+95.69XE, 23.85' LT
744.82'

2.8%

0.6%

8'

STA 103+91.54 XE, 17.22' LT
744.82'

STA 103+92.21 XE, 24.19' LT
744.82'

*

%0.0

STA 103+92.35 XE, 25.68' LT
744.81'

1.0%

2.8%

STA 103+84.41 XE, 6.00' LT
745.10'

2.0%

6'

0.8%

*

STAIR LANDING
CONCRETE SIDEWALK 5-INCH

STA. 103+85.59 XE, 18.30' LT
744.75'

STA. 103+86.36 XE, 26.26' LT
744.69'

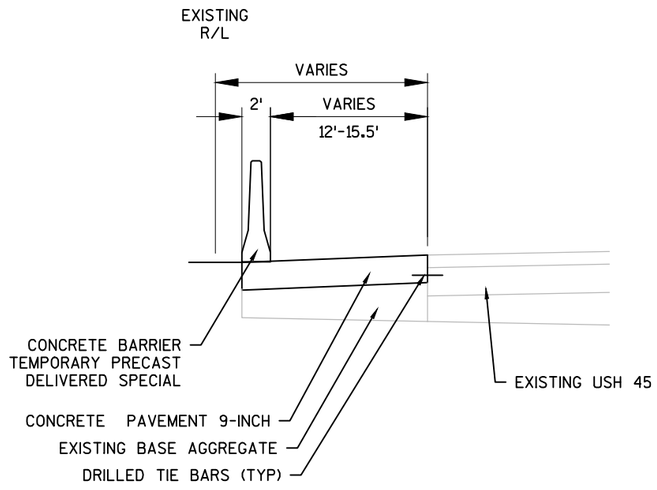
*PLACE ½" EXPANSION JOINT MATERIAL ALONG THE SIDE OF THE STAIR FOOTING AND ALONG THE FACE OF CONCRETE STAIR COLUMN 2.

R/L XE

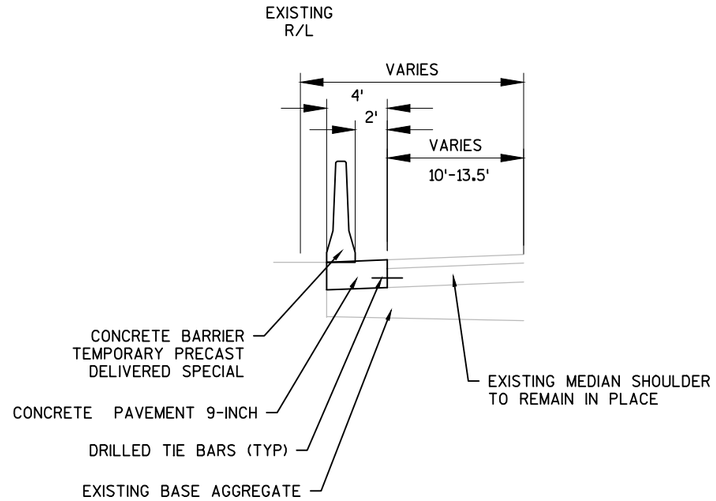
STAIRS LANDING & PATH CONNECTION
(STRUCTURE B-40-881)

PROJECT NO: 1060-33-83	HWY: USH 45	COUNTY: MILWAUKEE	CONSTRUCTION DETAILS	SHEET 15	E

2



FULL SHOULDER REPLACEMENT



MEDIAN BARRIER REPLACEMENT

MEDIAN RECONSTRUCTION DETAIL
USH 45 AT B-40-881
(LOOKING NORTHBOUND - SOUTHBOUND MIRROR IMAGE)

2

2

GENERAL NOTES:

1) ALL ITEMS ASSOCIATED WITH LIGHTING REMOVALS ARE SHOWN IN LIGHTING PLAN.

2) ALL ITEMS ASSOCIATED WITH BRIDGE REMOVALS ARE SHOWN IN BRIDGE PLAN.

3) ALL ITEMS ASSOCIATED WITH FTMS REMOVALS ARE SHOWN IN FTMS PLAN.

4) ALL ITEMS ASSOCIATED WITH STORM SEWER REMOVALS ARE SHOWN IN STORM SEWER PLANS.

5) CLEARING AND GRUBBING SHALL BE PAID BY THE STATION.

6) THE LOCATION OF THE EXISTING UTILITY INSTALLATIONS AS SHOWN ON THE PLANS IS APPROXIMATE. THERE MAY BE OTHER UTILITY INSTALLATIONS WITHIN THE PROJECT AREA THAT ARE NOT SHOWN, INCLUDING BUILDING SERVICES AND LATERALS.

REMOVAL LEGEND

X	CLEARING AND GRUBBING (I.D.)
	CLEARING AND GRUBBING (STA.)
	REMOVING PAVEMENT
	REMOVING ASPHALTIC SURFACE MILLING
	REMOVING ASPHALTIC SURFACE
	REMOVING CONCRETE SIDEWALK
	CONCRETE PAVEMENT REPAIR SPECIAL
	REMOVING CONCRETE BARRIER
	REMOVING FENCE
	SLOPE INTERCEPT
X X X X X.	SAWING ASPHALT
X X X X X	SAWING CONCRETE PAVEMENT

2

N. 113TH ST

PT: 436+86.55NS

434NS

436NS

438NS

440NS

442NS

444NS

USH 45 SB

USH 45 NB

430NS

432NS

SB RESURFACING BEGINS
STA. 429+00.00 NS

SITE EXCAVATION A

EXISTING INLET TO REMAIN

W. NORTH AVE

N. 112TH ST

PROJECT NO: 1060-33-83	HWY: USH 45	COUNTY: MILWAUKEE	REMOVALS	SHEET 18	E

2

2

N

W. CLARK ST

113TH STREET

USH 45 SB

MILLING OF CONCRETE PAVEMENT REPAIR SHES IS PAID FOR AS REMOVING ASPHALTIC SURFACE MILLING

4NS 446NS 448NS 450NS 452NS 454NS 456NS 458NS

USH 45

USH 45 NB

NB RESURFACING BEGINS
STA 453+50.00 NS

112TH STREET

W. CLARK ST

PROJECT NO: 1060-33-83	HWY: USH 45	COUNTY: MILWAUKEE	REMOVALS	SHEET 19	E

2

N. 113TH ST

MILLING OF CONCRETE PAVEMENT REPAIR SHES IS PAID FOR AS REMOVING ASPHALTIC SURFACE MILLING

SI

REMOVING GUARDRAIL

PCC 460+92.5ONS

462NS

464NS

466NS

468NS

470NS

472NS

474NS

USH 45 SB

USH 45 NB

TLE

SI

WETLAND BOUNDARY

BLEACHERS

TENNIS COURT

TENNIS COURT

N. 112TH ST

W. CENTER ST

REMOVING OLD STRUCTURE (STA. 466+36NS)
*SEE STRUCTURE PLANS FOR REMOVAL DETAILS

SI

REMOVING BASKETBALL POLE ASSEMBLY & BASE

ATHLETIC FIELD

TLE

WETLAND BOUNDARY

PROJECT NO: 1060-33-83	HWY: USH 45	COUNTY: MILWAUKEE	REMOVALS	SHEET 20	E

2

2

BLEACHERS

TENNIS COURT

TENNIS COURT

ATHLETIC FIELD

INL

WETLAND BOUNDARY

PT: 471+91.27NS

USH 45 SB

472NS

474NS

476NS

478NS

480NS

USH 45 NB

PC: 482+13.49NS

USH 45

482NS

484NS

486NS

END RESURFACING
STA 480+50.00 NS

WETLAND BOUNDARY

W. LOCUST ST

N. 114TH ST

SIGN

PROJECT NO: 1060-33-83	HWY: USH 45	COUNTY: MILWAUKEE	REMOVALS	SHEET 21	E

FILE NAME : W:\PDS\C3D\CAD\10603316\83\021104_RM.DWG
LAYOUT NAME - 021104_RM

PLOT DATE : 1/28/2015 2:45 PM PLOT BY : WAGNER, SCOTT H PLOT NAME : PLOT SCALE : 1" = 100'_XREF

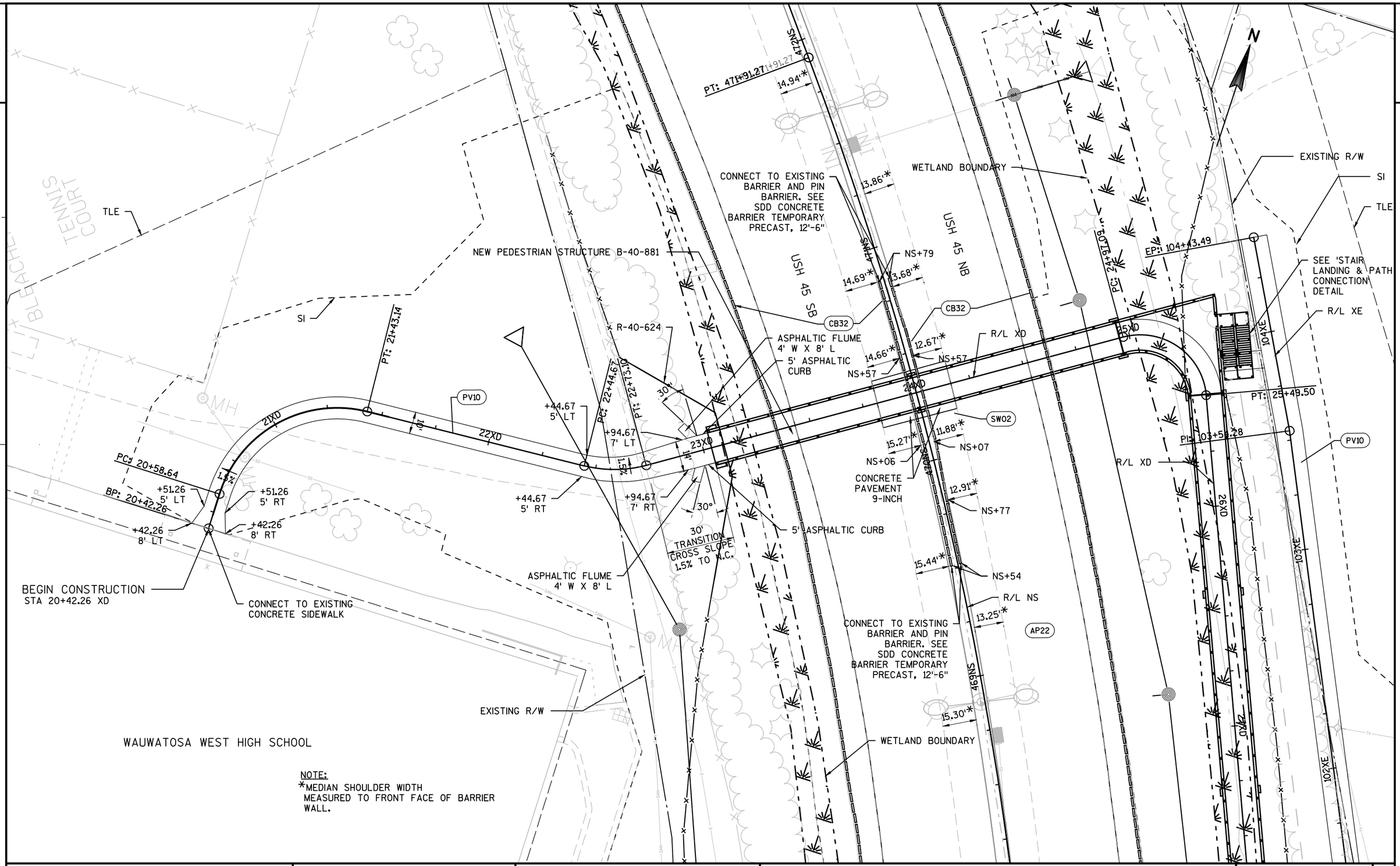
2

LEGEND

AP22	HMA PAVEMENT TYPE E-10, 2-INCH
AP35	HMA PAVEMENT TYPE E-1, 4 1/4-INCH
PV10	ASPHALTIC SURFACE, 3-INCH
CB32	CONCRETE BARRIER TEMPORARY PRECAST DELIVERED SPECIAL
SW01	SAWING ASPHALT
SW02	SAWING CONCRETE
CM07	CONCRETE SIDEWALK 5-INCH
CM11	CONCRETE STEPS
CM13	CONCRETE SIDEWALK 7-INCH

- PROPOSED MANHOLE
- PROPOSED INLET
- PROPOSED STORM SEWER PIPE
- PROPOSED STORM SEWER OUTFALL

2



NOTE:
*MEDIAN SHOULDER WIDTH MEASURED TO FRONT FACE OF BARRIER WALL.

PROJECT NO: 1060-33-83	HWY: USH 45	COUNTY: MILWAUKEE	PLAN DETAILS PEDESTRIAN BRIDGE	SHEET 23	E

EXISTING R/W
SI
SEE 'STAIR LANDING & PATH CONNECTION' DETAIL
EP: 104+43.49
PT: 23+48.50
PI: 103+52.28
104XE
103XE
102XE
101XE
100XE
99XE
26XD
28XD
29XD
30XD
TLE
PV10
R/L XE
WETLAND BOUNDARY
R/L XD
1.5%
EP: 32+21.65
PC: 100+61.09
100+94.56
R-40-626
CONNECT TO EXISTING STORM SEWER
BP: 99+80.16
CM13
END CONSTRUCTION
STA 31+21.65XD
+15.62
8' RT
PI: 31+98.54
+15.63
8' LT
+06.62
5' RT
+06.62
5' LT
1.6%
R/L WMS
SW01
SWM15
150'
AP35
+35.54
5' RT
+85.54
7' RT
INSTALL GALVANIZED PIPE RAILINGS
CM07
CM11
PV10
RECONSTRUCT SANITARY MANHOLE
+35.54
5' LT
5' ASPHALTIC CURB
+85.54
50' LT
TRANSITION CROSS SLOPE N.C. TO 1.5%
30°
+50
PI: 30+85.50
PC: 30+02.99
1.5%
R-40-625
+13.89
7' RT
ASPHALTIC FLUMES
4' W X 8' L
SW02
CB32
47'
NEW PEDESTRIAN STRUCTURE
B-40-881
USH 45 NB
AP22
USH 45 SB
R/L NS
SN69NS
SN68NS
SN67NS
SN66NS
WETLAND BOUNDARY
R-40-624

PROJECT NO:1060-33-83	HWY: USH 45	COUNTY: MILWAUKEE	PLAN DETAILS PEDESTRIAN BRIDGE	SHEET 24	E

2

2

N

EP: 16+50.00

16WMS

16WMS

TENNIS COURT

R/L XE

WETLAND BOUNDARY

R/L XD

SI

TLE

CONNECT TO EXISTING STORM SEWER

PV10

CM13

+50.00, 87.5' LT
740.90'

+50.00, 0' LT
741.69'

+50.00, 67.45' RT*
742.34'

SW01

EP: 32+21.65

BL: 100+94.56

PI: 31+98.54

PC: 100+61.02

BP: 99+80.16

+00.00, 87.5' LT
741.69'

+00.00, 0' LT
742.02'

+00.00, 67.45' RT*
742.88'

15WMS

RECONSTRUCT SANITARY MANHOLE

AP35

+50.00, 87.5' LT
742.48'

+50.00, 0' LT
742.34'

5' ASPHALTIC CURB

ASPHALTIC FLUMES
4' W X 8' L

+49.37, 67.45' RT*
743.50'

PT: 30+85.99

PC: 30+42.99

CM07

+00.00, 87.5' LT*
743.27'

+00.00'WMS', 0' LT*
742.87'

+00.00, 67.45' RT*
743.54'

14WMS

SW01

CM11

R/L NS

R/L WMS

NOTE: * EDGE OF BUILDING OR EXISTING PAVEMENT TO REMAIN - MATCH EXISTING ELEVATIONS

PROJECT NO: 1060-33-83	HWY: USH 45	COUNTY: MILWAUKEE	PLAN DETAILS PEDESTRIAN BRIDGE	SHEET 25	E

2

N

STRUCTURE B-40-138
STA. 433+88.25'NS' TO STA. 435+84.18'NS'
EXCEPTION TO MILL & OVERLAY LENGTH

NORTH AVE

113TH STREET

PT: STA. 436+86.55NS

USH 45 SB

USH 45 NB

USH 45

AP22

430NS

432NS

434NS

435

436NS

438NS

440NS

R/L NS

442NS

444NS

NS66.15
62.86' RT

FENCE CHAIN LINK
SALVAGED 6-FT

NS35.96
232.05' RT

SITE EXCAVATION A

NS+19.44
387.13' RT

SI

112TH STREET

EXISTING R/W

SB RESURFACING BEGINS
STA. 429+00.00 NS
MILL 2" EXISTING HMA PAVEMENT
PLACE 2" HMA PAVEMENT TYPE E-10

PROJECT NO: 1060-33-83	HWY: USH 45	COUNTY: MILWAUKEE	PLAN DETAILS USH 45	SHEET 26	E

FILE NAME : W:\PDS\C3D\CAD\10603316\83\021235_PD.DWG
LAYOUT NAME - 021235_PD

PLOT DATE : 1/28/2015 3:09 PM PLOT BY : WAGNER, SCOTT H PLOT NAME : PLOT SCALE : 1" = 100'_XREF

WISDOT/CADDS SHEET 42

2

2

113TH STREET

USH 45 SB

USH 45 NB

444NS 446NS 448NS 450NS 452NS 454NS 456NS 458NS

47'

58'

AP22

AP22

R/L NS

NB RESURFACING BEGINS
STA. 453+50.00NS
MILL 2" EXISTING HMA PAVEMENT
PLACE 2" HMA PAVEMENT TYPE E-10

EXISTING R/W

112TH STREET

W. CLARK ST.

N. 113th St.

N. 112th ST.

SIGN

PROJECT NO: 1060-33-83	HWY: USH 45	COUNTY: MILWAUKEE	PLAN DETAILS USH 45	SHEET 27	E

FILE NAME : W:\PDS\C3D\CAD\10603316\83\021236_PD.DWG
LAYOUT NAME - 021236_PD

PLOT DATE : 1/27/2015 10:48 AM PLOT BY : WAGNER, SCOTT H PLOT NAME : PLOT SCALE : 1" = 100'_XREF

2

N

NS+14*
CONNECT TO EXISTING BARRIER
SEE SDD CONCRETE
BARRIER TEMPORARY PRECAST 12'6"

CENTER STREET

PC: 460+92.50NS

460NS

462NS

464NS

466NS

468NS

470NS

472NS

474NS

USH 45 SB

USH 45 NB

47'

R/L NS

AP22

NS+45*
CONNECT TO EXISTING
BARRIER SEE SDD CONCRETE BARRIER
TEMPORARY PRECAST 12'6"

NS+94.24
157.35' LT

EXISTING R/W

BEGIN FENCE
NS+70.04
134.66' LT

SI

NS+25.26
152.87' LT

NS+48.65
144.94' LT

NS+27.05
125.42' LT

R/L XD

END FENCE
NS+61.96
112.34' LT

BEGIN FENCE
NS+86.12
125.02' LT

NS+51.41
126.26' LT

PT: 472+12.12NS

SI

TLE

END FENCE
NS+00.00
123.68' LT

EXISTING R/W

NS+00*
INSTALL CRASH CUSHION
TEMPORARY
LEFT IN PLACE

WETLAND BOUNDARY

SW01

CB32

CB32

NS+07*

NS+00.00
161.40' RT

NS+50.00
130.00' RT

NS+97.27
126.79' RT

WETLAND BOUNDARY

END FENCE
NS+50.00
165.40' RT

SI

NS+00.48
127.22' RT

EXISTING R/W

NS+00.00
125.00' RT

NS+00.00
130.00' RT

NS+50.00
135.00' RT

R/L XE

NS+50.00
127.50' RT

NS+75.00
125.00' RT

BEGIN FENCE
NS+46.11
112.81' RT

EXISTING R/W

SI

END FENCE
NS+21.04, 114.12' RT

BEGIN FENCE
NS+09.78, 134.56' RT

R/L WMS

TENNIS COURT

BLEACHERS

ATHLETIC FIELD

USH 45

*SEE TRAFFIC CONTROL DETAIL SHEETS FOR CONCRETE BARRIER TEMPORARY PRECAST DELIVERED SPECIAL LAYOUT INFORMATION.

PROJECT NO: 1060-33-83	HWY: USH 45	COUNTY: MILWAUKEE	PLAN DETAILS USH 45	SHEET 28	E

FILE NAME : W:\PDS\C3D\CAD\10603316\83\021237_PD.DWG
LAYOUT NAME - 021237_PD
PLOT DATE : 2/2/2015 7:45 AM
PLOT BY : WAGNER, SCOTT H
PLOT NAME :
PLOT SCALE : 1" = 100'_XREF
WISDOT/CADDS SHEET 42

2

2

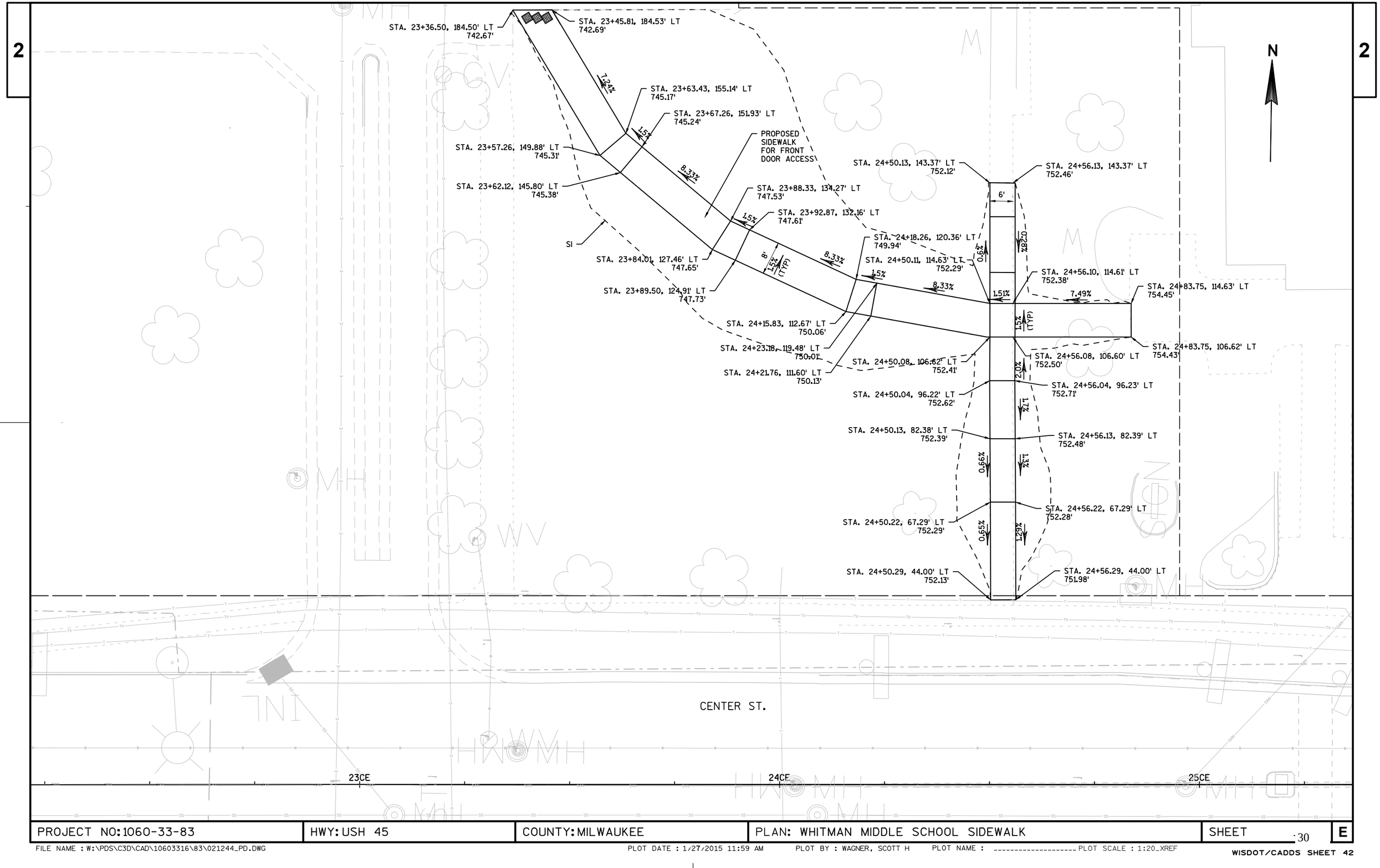
BLEACHERS
TENNIS COURT
TENNIS COURT
ATHLETIC FIELD
TLE
SI
EXISTING R/W
WETLAND BOUNDARY
AP22
R/L NS
USH 45 SB
USH 45 NB
USH 45
62'
29'
29'
PT: RT: 471+91.27NS
472NS
474NS
475
476NS
478NS
480NS
PC: RT: 482+13.49NS
482NS
484NS
485
END RESURFACING
STA. 480+50.00NS
WETLAND BOUNDARY
EXISTING R/W
W. LOCUST ST.
N. 114TH ST.
N

PROJECT NO: 1060-33-83	HWY: USH 45	COUNTY: MILWAUKEE	PLAN DETAILS USH 45	SHEET 29	E

FILE NAME : W:\PDS\C3D\CAD\10603316\83\021238_PD.DWG
LAYOUT NAME - 021238_PD

PLOT DATE : 1/28/2015 3:20 PM PLOT BY : WAGNER, SCOTT H PLOT NAME : PLOT SCALE : 1" = 100'_XREF

WISDOT/CADDS SHEET 42



PROJECT NO: 1060-33-83	HWY: USH 45	COUNTY: MILWAUKEE	PLAN: WHITMAN MIDDLE SCHOOL SIDEWALK	SHEET 30	E

2

LEGEND

FTMS CONVENTIONAL SYMBOLS	EXISTING	PROPOSED
CCTV CAMERA AND POLE		
FTMS FIELD CABINET AND BASE		
POLE MOUNTED CABINET		
METER BREAKER PEDESTAL		
24X36-INCH STEEL PULL BOX		
ANTENNA POLE		
MANHOLE		
ADVANCE FLASHER ASSEMBLY		
FTMS (ITS) CONDUIT		
LOOP DETECTOR		

FTMS STANDARD ABBREVIATIONS

CB	CONTROLLER CABINET
CCTV	CLOSED CIRCUIT TELEVISION SITE
PB	PULL BOX
MH	MANHOLE

FTMS GENERAL NOTES

1. THESE PLANS AND THE ASSOCIATED SPECIAL PROVISIONS REFLECT CONDITIONS KNOWN DURING THE DEVELOPMENT OF THE PLANS AND TECHNICAL SPECIAL PROVISIONS. ALL SCALES, DIMENSIONS AND LOCATIONS SHOWN IN THESE PLANS ARE APPROXIMATE. ACTUAL PHYSICAL FIELD CONDITIONS SHALL PROVIDE THE BASIS FOR THE APPLICATION OF WORK SHOWN IN THE PLANS. THE CONTRACTOR IS FULLY RESPONSIBLE FOR THE APPLICATION OF ALL WORK SHOWN IN THE PLANS TO THE ACTUAL PHYSICAL FIELD CONDITIONS TO PROVIDE A COMPLETE AND ACCEPTED PROJECT. IN THE EVENT THAT ACTUAL PHYSICAL FIELD CONDITIONS AFFECT OR PREVENT THE APPLICATION OR PROGRESSION OF ANY WORK SHOWN IN THE PLANS OR TECHNICAL SPECIAL PROVISIONS, THE CONTRACTOR SHALL NOTIFY THE ENGINEER IMMEDIATELY, AND PRIOR TO ANY FURTHER WORK ACTIVITY. THE CONTRACTOR SHALL IMMEDIATELY NOTIFY THE ENGINEER OF ANY LOCATION CHANGES OTHER THAN MINOR ADJUSTMENTS.
2. BE AWARE THAT ALL EXISTING UNDERGROUND AND ABOVE GROUND STRUCTURES AND FACILITIES WITHIN THE SCOPE OF THIS PROJECT MAY NOT BE LOCATED IN THE PLANS. THE CONTRACTOR IS FULLY RESPONSIBLE FOR LOCATING AND AVOIDING ALL UNDERGROUND AND ABOVE GROUND STRUCTURES AND FACILITIES.
3. BE AWARE THAT NO TEST BORINGS WERE MADE WHERE CONDUITS, PULLBOXES, POLES, CABINET FOUNDATIONS, OR OTHER EQUIPMENT IS TO BE INSTALLED. THE CONTRACTOR IS FULLY RESPONSIBLE FOR EXAMINING THE JOB SITE CONDITIONS BEFORE SUBMITTING BID PROPOSALS.
4. NO TREES (AND/OR SHRUBS) SHALL BE REMOVED WITHOUT APPROVAL OF THE ENGINEER.
5. AREAS WITHIN THE RIGHT-OF-WAY DISTURBED SPECIFICALLY FOR FTMS CONSTRUCTION SHALL BE RESTORED TO THE ORIGINAL CONDITION WITH TOPSOIL, FERTILIZER, SEED, AND EROSION MAT, AND SHALL BE INCLUDED IN THE COST OF INSTALLING FTMS ITEMS. RESTORATION FOR AREAS DISTURBED FOR OTHER CONSTRUCTION OPERATIONS BUT ALSO CONTAINING FTMS CONSTRUCTION SHALL BE DONE ACCORDING TO REQUIREMENTS AND PAYMENT PROVISIONS FOR THE OTHER CONSTRUCTION OPERATIONS.
6. THE LOCATION OF EXISTING AND PROPOSED UTILITY INSTALLATIONS SHOWN ON THE PLANS ARE APPROXIMATE. THERE MAY BE OTHER UTILITY INSTALLATIONS WITHIN THE PROJECT AREA THAT ARE NOT SHOWN.
7. DUE TO RAMP, LANE, SHOULDER CLOSURE RESTRICTIONS, AND WORK UNDER OTHER CONTRACTS, SOME WORK MAY BE REQUIRED TO BE PERFORMED AT NIGHT.
8. THE CONTRACTOR IS FULLY RESPONSIBLE FOR COORDINATING RAMP, LANE, SHOULDER, AND ROADWAY CLOSURES WITH OTHER CONTRACTS IN THE AREA.
9. THE CONTRACTOR SHALL CONTACT THE WISDOT STATEWIDE TRAFFIC OPERATIONS CENTER AT (414) 227-2166 FIVE (5) WORKING DAYS PRIOR TO ENTERING ANY EXISTING WISDOT FTMS OR ITS CABINET.
10. ALL LOOP DETECTORS ARE STATIONED TO CENTER OF LEADING EDGE AS APPROACHED BY NORMAL VEHICLE PATH.
11. HAND DIG TRENCHES CROSSING EXISTING CONDUIT CONTAINING FIBER OPTIC CABLE.
12. VISUALLY VERIFY DEPTHS OF EXISTING CONDUITS CONTAINING FIBER OPTIC CABLE PRIOR TO CROSSING BY DIRECTIONAL BORE OR SPECIAL METHOD.

2

2

N

MATCHLINE 476+00

EXISTING SDS-40-0069
TO REMAIN FUNCTIONAL

(3) 2-INCH CONDUITS
(FOR FUTURE USE)

REMOVE EXISTING FIBER OPTIC CABLES
AND ABANDON CONDUIT

(3) 2-INCH CONDUITS
(FOR FUTURE USE)

INSTALL CONDUIT AROUND PROPOSED
PEDESTRIAN BRIDGE STAIRS AFTER
STAIRS ARE BUILT.

EXMHCE01
REMOVE EXISTING FIBER OPTIC DROP
SPLICE TO EX-CCTV-40-0040.
CUT EXISTING CONDUIT AND CABLE
TO THE NORTH AND REMOVE THE
CONDUIT AND CABLE TO THE NORTH.
(2) FIBER OPTIC SPLICES IN EXISTING
SPLICE ENCLOSURE TO RECONNECT
DROP CABLE TO EX-CCTV-40-0040.
(MODIFICATIONS TO THE FIBER OPTIC
SYSTEM MUST BE SCHEDULED WITH
THE STOC A MINIMUM OF 2-WEEKS
PRIOR TO INTENDED CHANGE)

FIBER OPTIC CABLE
TO REMAIN IN PLACE

W. CENTER ST.

SB US 45

NB US 45

BLEACHERS

TENNIS COURT

ATHLETIC FIELD

PROJECT NO: 1060-33-83	HWY: US 45	COUNTY: MILWAUKEE	FTMS DESIGN	SHEET 32	E

2

2

N

SB US 45

NB US 45

490

488

486

484

482

480

478

(3) 2-INCH CONDUITS
(FOR FUTURE USE)

EXMHBU01
CUT EXISTING FIBER OPTIC CABLE
AND LEAVE 100-FEET OF SLACK
COILD IN MANHOLE.
INSTALL PROPOSED CONDUIT INTO
EXISTING MANHOLE (QTY. 1)
(MODIFICATIONS TO THE FIBER OPTIC
SYSTEM MUST BE SCHEDULED WITH
THE STOC A MINIMUM OF 2-WEEKS
PRIOR TO INTENDED CHANGE)

REMOVE EXISTING FIBER OPTIC CABLES
AND ABANDON CONDUIT

MATCHLINE 476+00

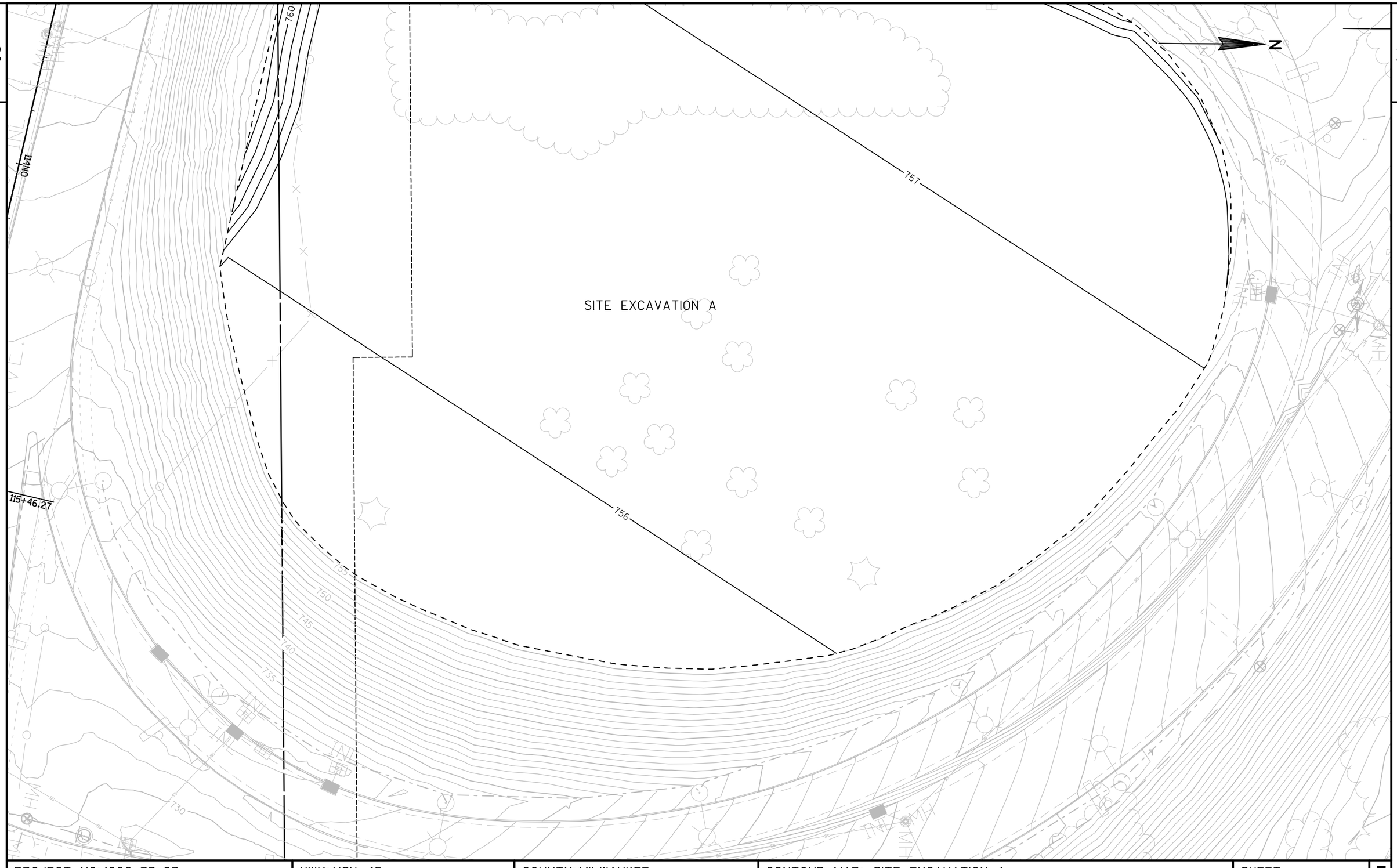
WATER
TOWER

W. BURLEIGH ST.

PROJECT NO: 1060-33-83	HWY: US 45	COUNTY: MILWAUKEE	FTMS DESIGN	SHEET	E

FILE NAME : \\mlww400\ingrproj\63099\zoo_n_leg\10603383_ped\FM10_10603383_ped.dgn PLOT DATE : 1/26/2015 11:14:47 AM PLOT BY : pkutz PLOT NAME : PLOT SCALE : 100:1
WISDOT/CADDS SHEET 42

2



PROJECT NO: 1060-33-83	HWY: USH 45	COUNTY: MILWAUKEE	CONTOUR MAP: SITE EXCAVATION A	SHEET 34	E

2

N

USH 45 SB

USH 45

USH 45 NB

USH 45

PT: 111+17.30

PT: 436+86.55

435NS

436NS

437NS

438NS

439NS

440NS

770

765

760

757

MH

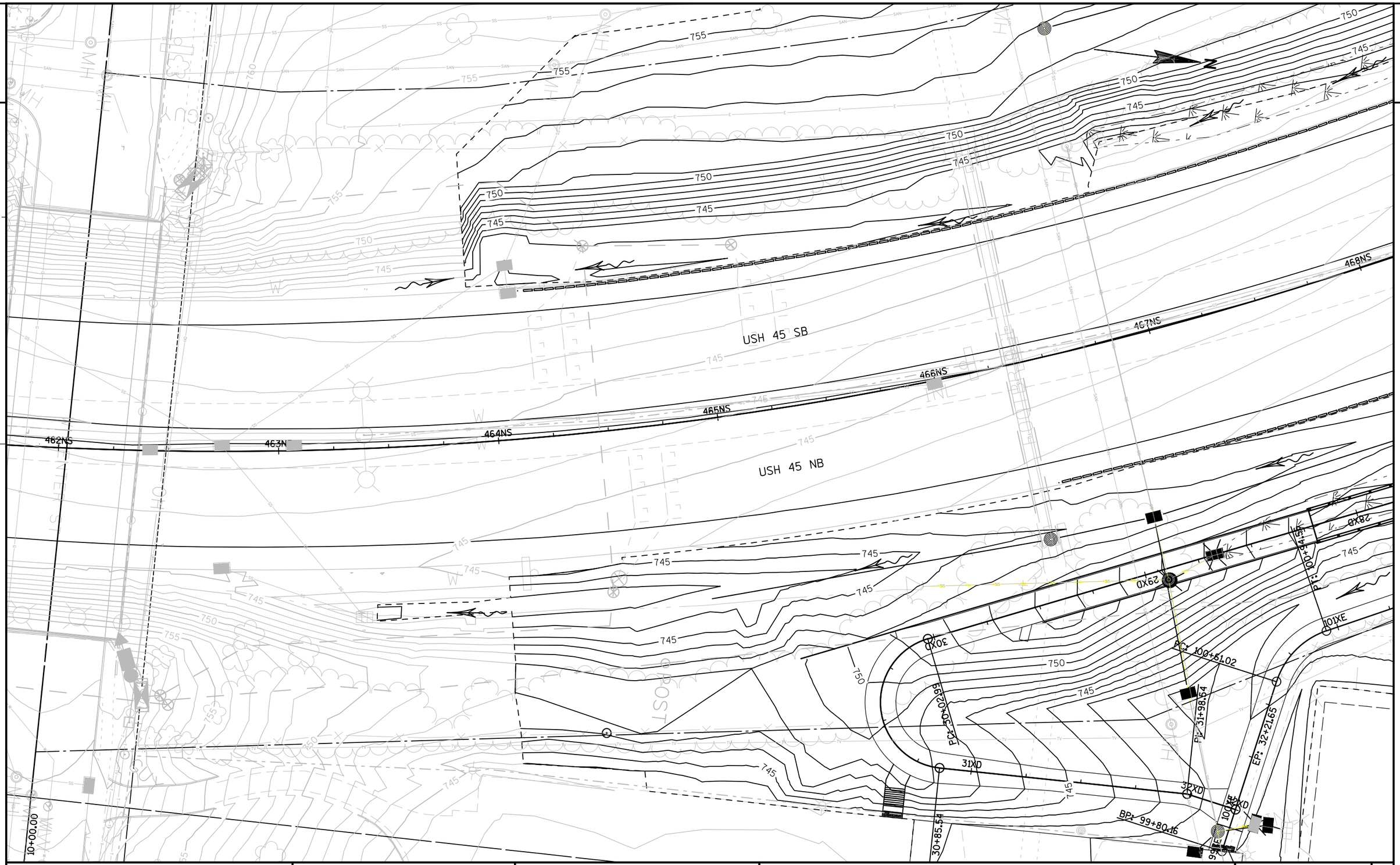
PROJECT NO: 1060-33-83	HWY: USH 45	COUNTY: MILWAUKEE	CONTOUR MAP: SITE EXCAVATION A	SHEET 35	E

FILE NAME : W:\PDS\C3D\CAD\10603316\83\021601_CM.DWG
LAYOUT NAME - 021601_CM

PLOT DATE : 1/29/2015 2:19 PM PLOT BY : WAGNER, SCOTT H PLOT NAME : PLOT SCALE : 1:40_XREF

WISDOT/CADDS SHEET 42

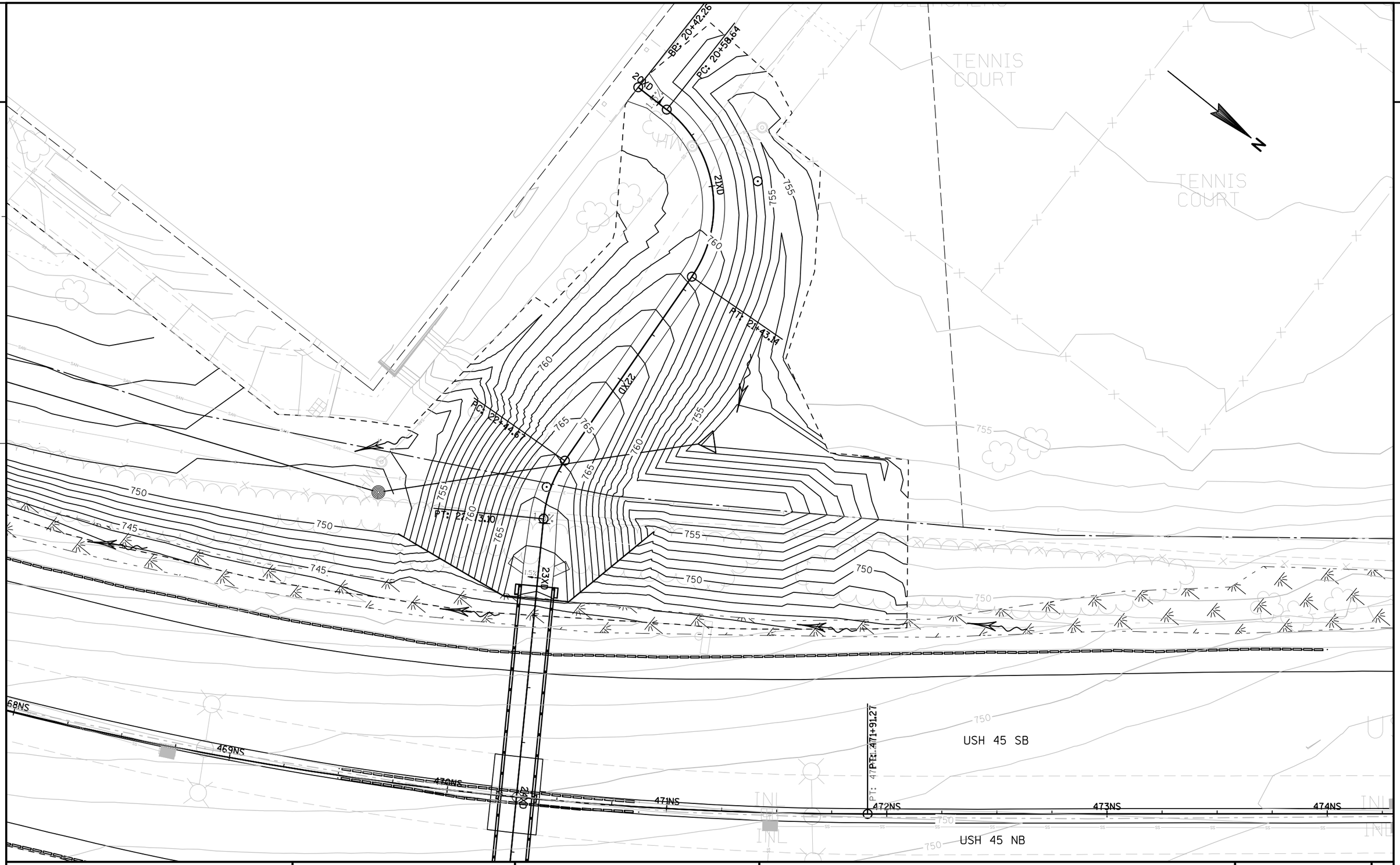
2



PROJECT NO: 1060-33-83	HWY: USH 45	COUNTY: MILWAUKEE	CONTOUR MAP: PEDESTRIAN BRIDGE	SHEET	E

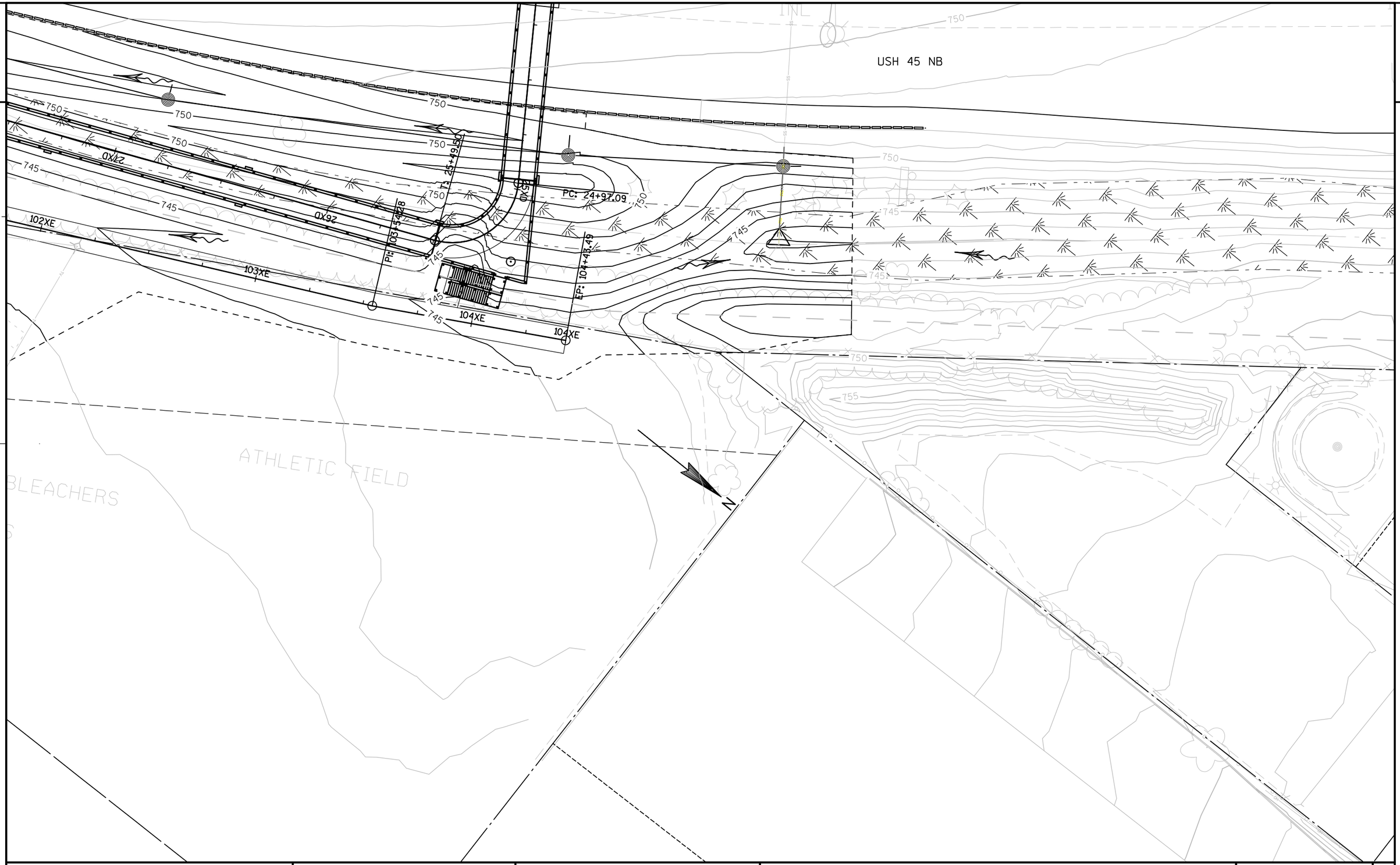
FILE NAME : W:\PDS\C3D\CAD\10603316\83\021602_CM.DWG PLOT DATE : 1/29/2015 2:22 PM PLOT BY : WAGNER, SCOTT H PLOT NAME : PLOT SCALE : 1:40_XREF

2



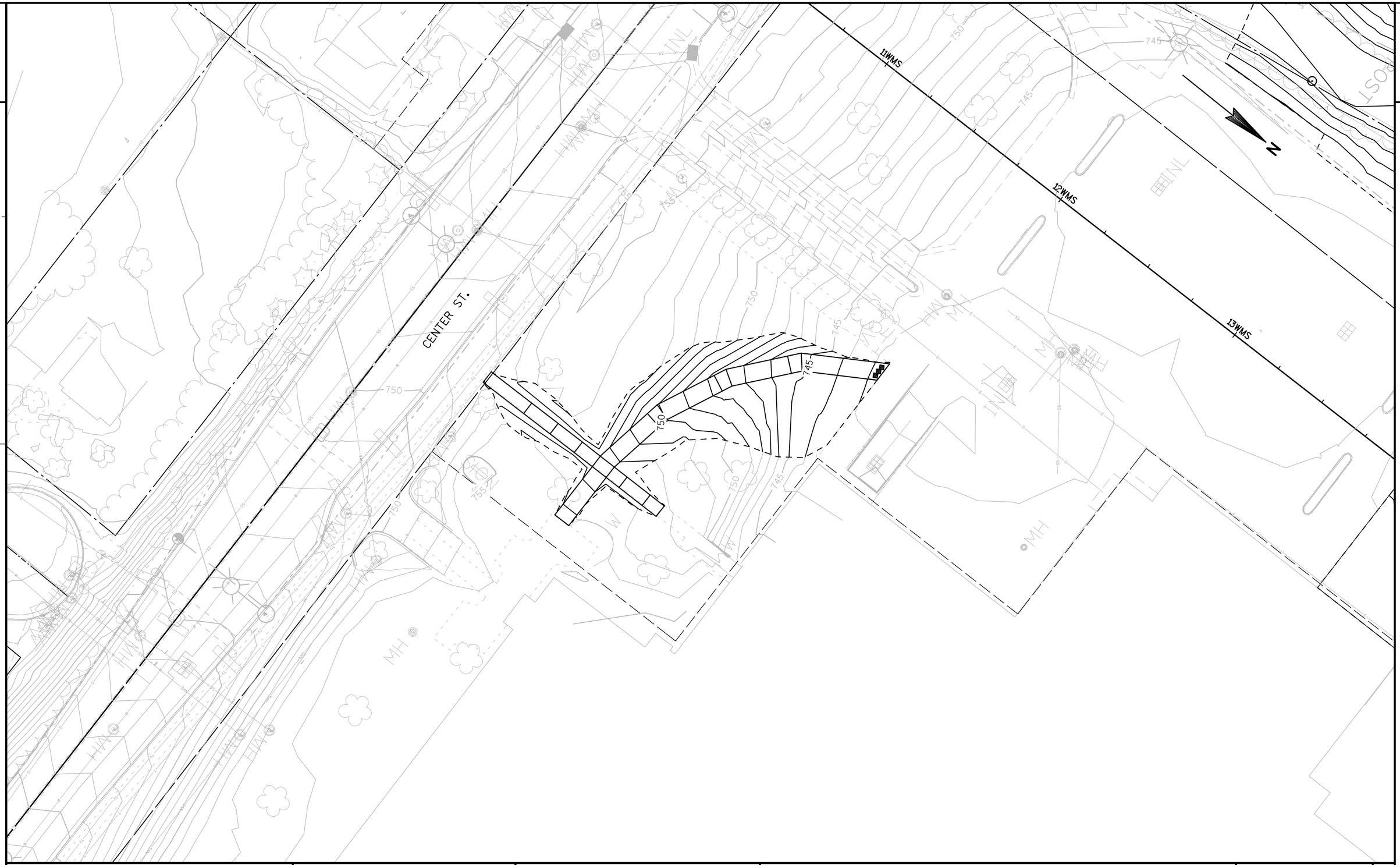
PROJECT NO:1060-33-83	HWY: USH 45	COUNTY: MILWAUKEE	CONTOUR MAP: PEDESTRIAN BRIDGE	SHEET 37	E

2



PROJECT NO: 1060-33-83	HWY: USH 45	COUNTY: MILWAUKEE	CONTOUR MAP: PEDESTRIAN BRIDGE	SHEET	E

FILE NAME : W:\PDS\C3D\CAD\10603316\83\021604_CM.DWG PLOT DATE : 1/29/2015 2:29 PM PLOT BY : WAGNER, SCOTT H PLOT NAME : PLOT SCALE : 1:40_XREF

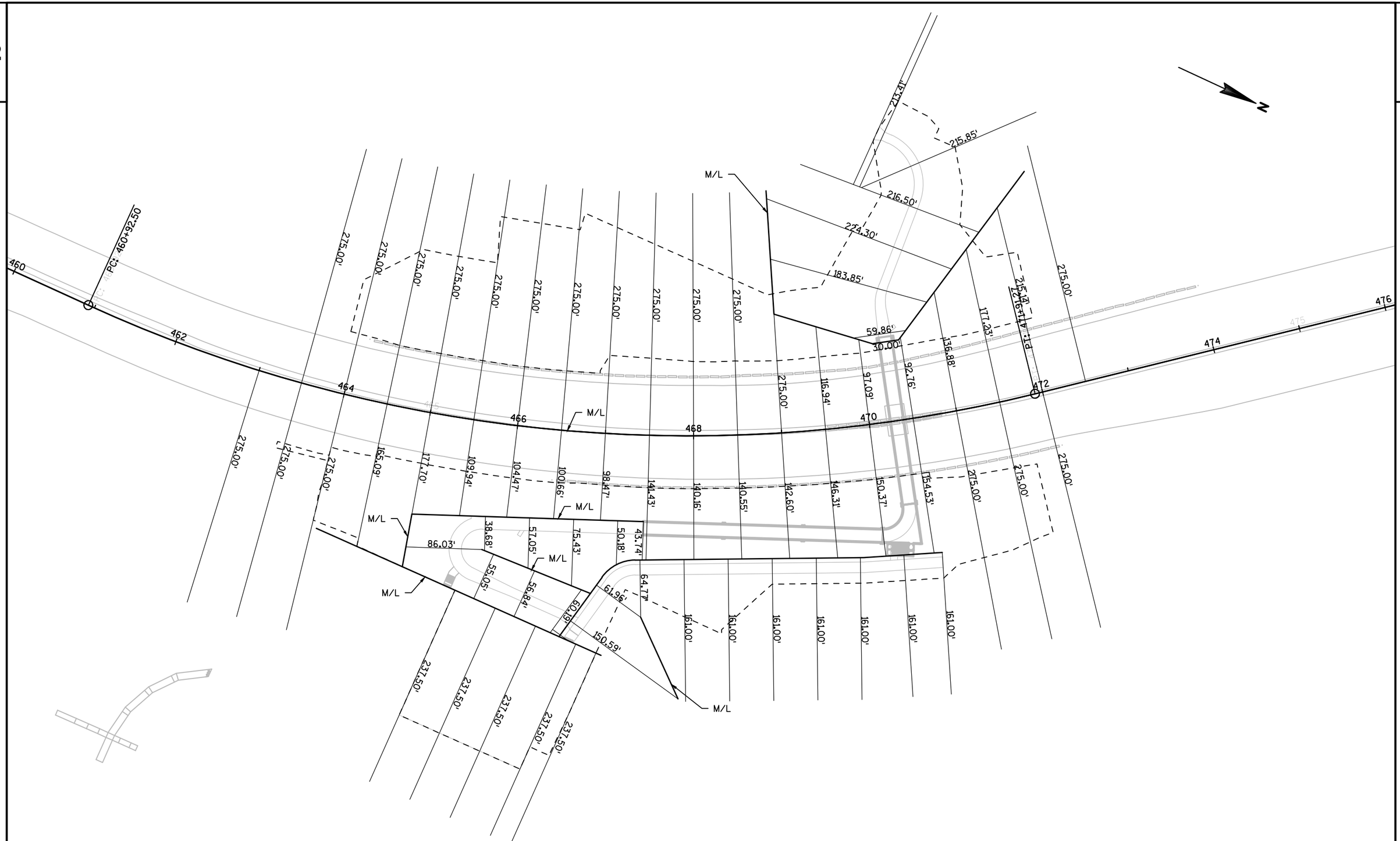


PROJECT NO: 1060-33-83	HWY: USH 45	COUNTY: MILWAUKEE	CONTOUR MAP: PEDESTRIAN BRIDGE	SHEET 39	E

FILE NAME : W:\PDS\C3D\CAD\10603316\83\021605_CM.DWG PLOT DATE : 1/29/2015 4:22 PM PLOT BY : WAGNER, SCOTT H PLOT NAME : PLOT SCALE : 1:40_XREF

WISDOT/CADDS SHEET 42

2



PROJECT NO: 1060-33-83	HWY: USH 45	COUNTY: MILWAUKEE	CROSS-SECTION MATCHLINES	SHEET 40	E

LEGEND

- SOD LAWN
- EROSION MAT URBAN CLASS I TYPE B
- EROSION MAT CLASS I TYPE B
- EROSION MAT CLASS II TYPE C
- SILT FENCE
- SURFACE WATER FLOW
- (A) INLET PROTECTION TYPE A
- (B) INLET PROTECTION TYPE B
- (C) INLET PROTECTION TYPE C
- (D) INLET PROTECTION TYPE D
- CULVERT PIPE CHECKS
- TEMPORARY DITCH CHECK
- EROSION BALES
- SLOPE INTERCEPT

NOTES:

1. USE EROSION MAT CLASS I TYPE B WITHIN THE RIGHT-OF-WAY FENCE. EROSION MAT URBAN CLASS 1 TYPE B SHOULD BE USED ON DISTURBED AREAS OUTSIDE THE RIGHT-OF-WAY FENCE THAT ARE NOT SHOWN AS SOD LAWN. EROSION MATS ARE NOT TO BE INSTALLED IN WATER.
2. INSTALL TYPE A INLET PROTECTION AS SHOWN IN THE PLANS, UNTIL GRADES ARE FINALIZED. AFTER GRADING AROUND INLETS IS FINISHED, INSTALL ALTERNATE INLET PROTECTION AS IDENTIFIED IN THE PLANS.

PROJECT NO: 1060-33-83	HWY: USH 45	COUNTY: MILWAUKEE	EROSION CONTROL - LEGEND	SHEET 41	E

2

2

N

N. 113TH STREET

108NO

110NO

112NO

114NO

116NO

W. NORTH AVE.

W. MEINECKE AVE.

112TH STREET

PT: 111+36.86

PT: 436+86.55

USH 45 SB

USH 45 NB

USH 45

USH 45

430NS

432NS

434NS

438NS

440NS

442NS

444NS

SOIL STABILIZER
TYPE A

TRACKING PAD
(20 FT X 50 FT)

SILT FENCE DRAINAGE OUTLET,
ROCK BAGS (SEE DETAIL)

PC: 115+46.27

A

B

C

D

PROJECT NO:1060-33-83	HWY: USH 45	COUNTY: MILWAUKEE	EROSION CONTROL	SHEET 42	E

FILE NAME : W:\PDS\C3D\CAD\10603316\83\022001_EC.DWG
LAYOUT NAME - 022001_EC

PLOT DATE : 1/27/2015 3:52 PM PLOT BY : WAGNER, SCOTT H PLOT NAME : PLOT SCALE : 1" = 100'_XREF

2

2

N

W. CLARK ST.

W. CLARK ST.

N. 113TH STREET

N. 112TH STREET

USH 45 SB

USH 45 NB

446NS

448NS

450NS

452NS

454NS

456NS

458NS

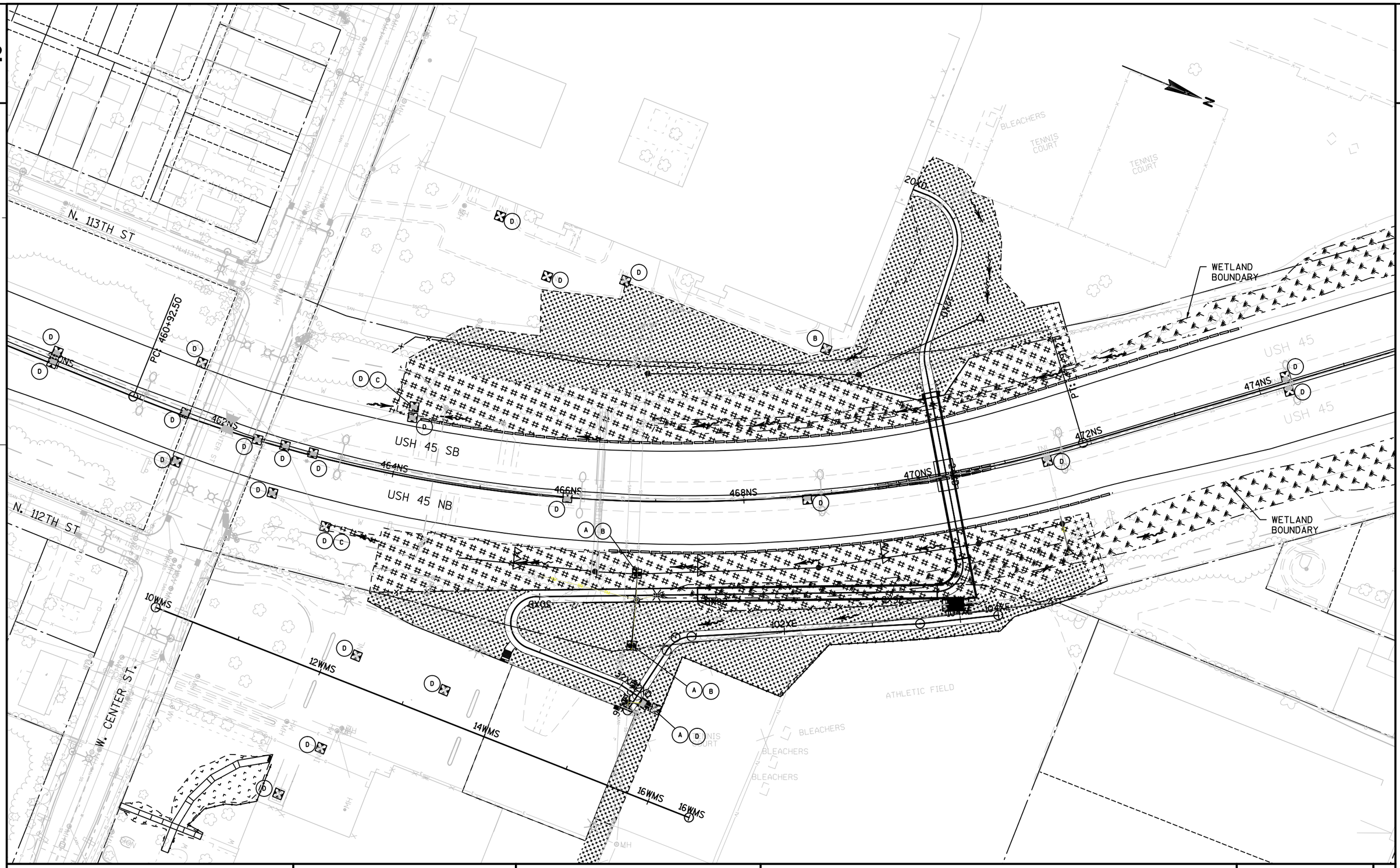
PROJECT NO: 1060-33-83 | HWY: USH 45 | COUNTY: MILWAUKEE | EROSION CONTROL | SHEET 43 | E

FILE NAME : W:\PDS\C3D\CAD\10603316\83\022002_EC.DWG
LAYOUT NAME - 022002_EC

PLOT DATE : 1/27/2015 4:07 PM PLOT BY : WAGNER, SCOTT H PLOT NAME : PLOT SCALE : 1" = 100'_XREF

WISDOT/CADDS SHEET 42

2



PROJECT NO: 1060-33-83	HWY: USH 45	COUNTY: MILWAUKEE	EROSION CONTROL	SHEET 44	E

FILE NAME : W:\PDS\C3D\CAD\10603316\83\022003_EC.DWG
LAYOUT NAME - 022003_EC
PLOT DATE : 1/30/2015 8:07 AM PLOT BY : WAGNER, SCOTT H PLOT NAME : PLOT SCALE : 1:100_XREF
WISDOT/CADDS SHEET 42

2

2

BLEACHERS

TENNIS COURT

TENNIS COURT

ATHLETIC FIELD

INL

INL

INL

GENERAL DRAINAGE NOTES

LOCATION OF STRUCTURES IN CURB AND GUTTER OR BARRIER SECTION REFERS TO FLOW LINE. LOCATION OF STRUCTURES NOT IN CURB AND GUTTER SECTION REFER TO CENTER OF STRUCTURE OR AS NOTED ON PLAN.

RIM ELEVATIONS ARE GIVEN AT FLOW LINE OF INLET GRATE OR AT CENTER OF MANHOLE GRATE. SEE STRUCTURE LOCATION DETAIL.

ADJUSTMENT RINGS MAY BE USED TO A COMBINED MAXIMUM THICKNESS OF 6-INCHES.

PLAN LENGTH REPRESENTS LENGTH OF PIPE MEASURED FROM CENTER OF STRUCTURE TO CENTER OF STRUCTURE AND IS USED FOR ESTIMATING. PIPE LENGTH REPRESENTS LENGTH OF PIPE MEASURED FROM INSIDE FACE OF STRUCTURE TO INSIDE FACE OF STRUCTURE AND IS USED TO COMPUTE PIPE SLOPE.

INLET AND DISCHARGE ELEVATIONS FOR DRAINAGE STRUCTURES AND PIPES SHOWN ON THE PLANS MAY BE ADJUSTED BY THE ENGINEER TO FIT EXISTING FIELD CONDITIONS.

UTILITY INFORMATION SHOWN ON THE PLANS IS APPROXIMATE. LOCATIONS SHOWN ARE TAKEN FROM EXISTING RECORDS AND BEST INFORMATION AVAILABLE FROM EXISTING PLANS. IT IS EXPECTED THAT THERE MAY BE DISCREPANCIES AND OMISSIONS IN THE LOCATION OF UTILITIES AND STRUCTURES SHOWN. VERIFY ALL LOCATIONS IN THE FIELD.

VERIFY THE STORM SEWER SYSTEM CONNECTIONS, LOCATIONS, AND ELEVATIONS PRIOR TO ORDERING DRAINAGE STRUCTURES AND PIPES. NOTIFY THE ENGINEER OF ANY DEVIATIONS FROM THE INFORMATION SHOWN ON THE PLANS PRIOR TO INSTALLING THE PROPOSED STORM SEWER.

PROVIDE TEMPORARY POSITIVE DRAINAGE THROUGHOUT THE PROJECT DURING ALL PROJECT STAGES. PROVIDING TEMPORARY POSITIVE DRAINAGE IS INCIDENTAL TO CONSTRUCTION.

SEE STORM SEWER PLANS FOR REMOVAL OF EXISTING STORM SEWER SYSTEM.

PROVIDE BOLTED COVERS FOR DRAINAGE STRUCTURE COVER TYPES J SPECIAL. COST OF PROVIDING BOLTED COVERS IS CONSIDERED INCIDENTAL TO COVER TYPE. WELD ALL OTHER EXISTING AND PROPOSED STORM SEWER STRUCTURE COVERS SUBJECT TO TRAFFIC LOADING. REMOVE WELDS FROM COVERS AT THE DIRECTION OF ENGINEER WHEN CONSTRUCTION IS COMPLETE.

SUPPORTING UTILITIES DURING STORM SEWER CONSTRUCTION IS INCIDENTAL TO STORM SEWER PIPE AND/OR STORM SEWER STRUCTURE.

CONCRETE PIPE JOINT TIES SHALL CONNECT ALL CONCRETE APRON ENDWALLS AND THE LAST THREE PIPE SEGMENTS PRECEDING THE APRON ENDWALL. THE COST OF JOINT TIES SHALL BE INCIDENTAL TO THE STORM SEWER PIPE.

FOR CONCRETE BARRIER TEMPORARY PRECAST, PROVIDE TWO (2) LIFTING SLOTS PER UNIT (12'-6") ONE (1) FOOT WIDE BY THREE (3) INCHES HIGH AS PER S.D.D. "CONCRETE BARRIER TEMPORARY PRECAST 12'-6".

STORM SEWER PLAN & PROFILE NOTE:
PLAN VIEW HIGHLIGHTS CORRESPOND TO PROFILES SHOWN IN PROFILE BELOW PLAN VIEW (SAME SHEET). STORM SEWER STRUCTURES AND PIPES LABELED IN PLAN VIEW WITHOUT HIGHLIGHT ARE SHOWN ON THE NEXT PROFILE ONLY SHEET(S).

STORM SEWER LEGEND

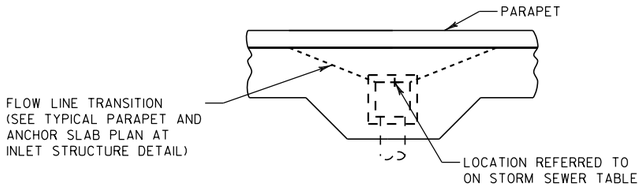
EXISTING NE***	EXISTING DRAINAGE STRUCTURE
N***	PROPOSED DRAINAGE STRUCTURE
●	PROPOSED MANHOLE
■	PROPOSED INLET
△	PROPOSED ENDWALL
◄———	PROPOSED STORM SEWER
EXISTING PE***	EXISTING STORM SEWER PIPE
P***	PROPOSED STORM SEWER PIPE
	REMOVING INLETS
	REMOVING MANHOLES
-RM———RM-	REMOVING STORM SEWER

2

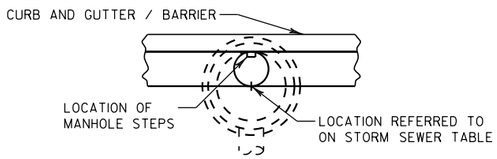
NOTE

1) LOCATION OF STRUCTURE MAY BE ADJUSTED TO FIT FIELD CONDITIONS.

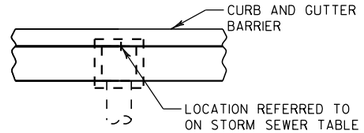
2) LOCATION AND SIZE OF STRUCTURE COVER OPENINGS DEPENDS ON TYPE OF CASTING. CASTING TYPES ARE SHOWN ON THE STORM SEWER TABLE.



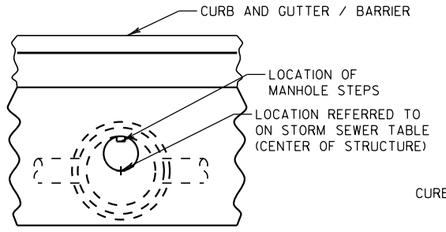
INLET IN RETAINING WALL ANCHOR SLAB



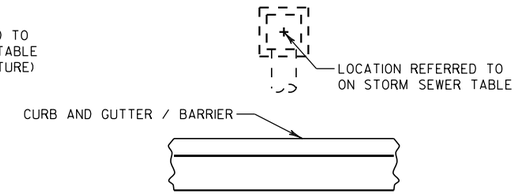
MANHOLE IN CURB AND GUTTER / AT BARRIER



INLET IN CURB AND GUTTER / AT BARRIER

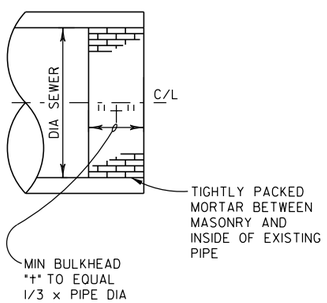


MANHOLE NOT IN CURB AND GUTTER / NOT AT BARRIER



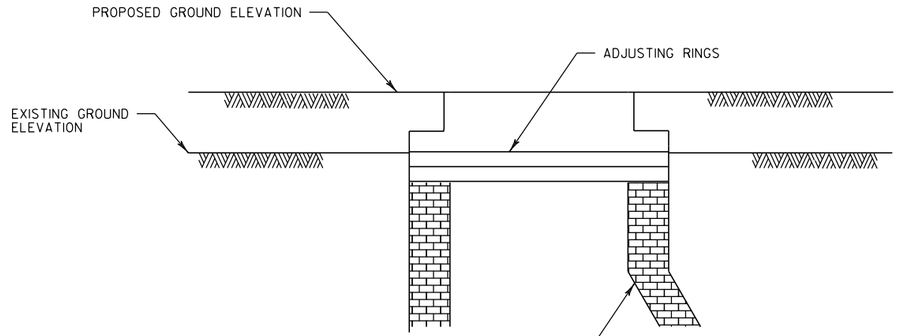
INLET NOT IN CURB AND GUTTER / NOT AT BARRIER

STRUCTURE LOCATION DETAIL



BULKHEAD PIPE MASONRY

ITEM TO BE PAID FOR UNDER ITEM "SEALING PIPES"
FOR LOCATIONS SEE MISCELLANEOUS QUANTITIES SHEETS



NON-PAVED LOCATION

NOTES

1. ADJUST CHIMNEY WITH PROPER SIZE CONCRETE ADJUSTING RINGS (SIZE OF OPENING OF CONCRETE ADJUSTING RING TO BE DETERMINED BY SIZE OF OPENING IN FRAME) AND REINSTALL EXISTING FRAME AND LID TO FINISHED GRADE. BACKFILL AND OTHER WORK TO BE DONE IN ACCORDANCE WITH ITEM ADJUSTING INLET COVERS.

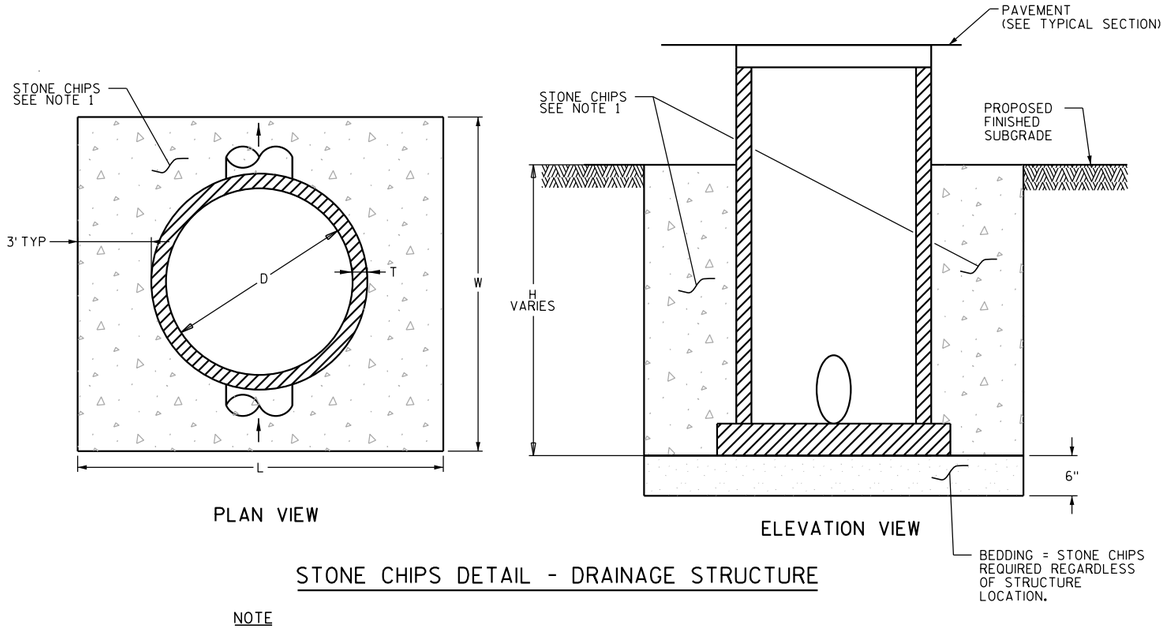
ADJUSTING MANHOLE OR INLET COVERS

STONE CHIPS -STRUCTURES (FOR INFORMATION ONLY)

DESCRIPTION	DIAMETER / STR LENGTH D FT	WALL THICKNESS T INCH	LENGTH L (D+2T)+2*3 FT	WIDTH W (D+2T)+2*3 FT	STRUCTURE BACKFILL AREA ABOVE BEDDING: STRUCTURE EXCAVATION AREA TEA L X W SF	STRUCTURE AREA SA (3.14*(D+2T)^2)/4 SF	STONE CHIPS AREA SCA TEA-SA SF	BEDDING VOLUME - 6" MINIMUM THICKNESS BV CY
MANHOLES 7-FT DIAMETER	7	8	14.3	14.3	205	55	151	4
MANHOLES 8-FT DIAMETER	8	9	15.5	15.5	240	71	169	4
MANHOLES 9-FT SPECIAL	9	10	16.7	16.7	278	89	188	5

STRUCTURE DIAMETER/STR LENGTH AND WALL THICKNESS APPROXIMATED DIMENSIONS FOR CALCULATION PURPOSES ONLY

STONE CHIPS VOLUME (CUBIC YARDS) = $\frac{\text{STONE CHIPS AREA (SCA) X H}}{27}$



PLAN VIEW

ELEVATION VIEW

STONE CHIPS DETAIL - DRAINAGE STRUCTURE

NOTE

(1) IF THE DRAINAGE STRUCTURE IS OUTSIDE THE TRAVELED WAY INCLUSIVE OF SHOULDERS AND AUXILIARY LANES, NATIVE BACKFILL MAY BE USED.

(2) STONE CHIPS ARE CONSIDERED INCIDENTAL TO DRAINAGE STRUCTURE. NO SEPARATE PAYMENTS WILL BE MADE.

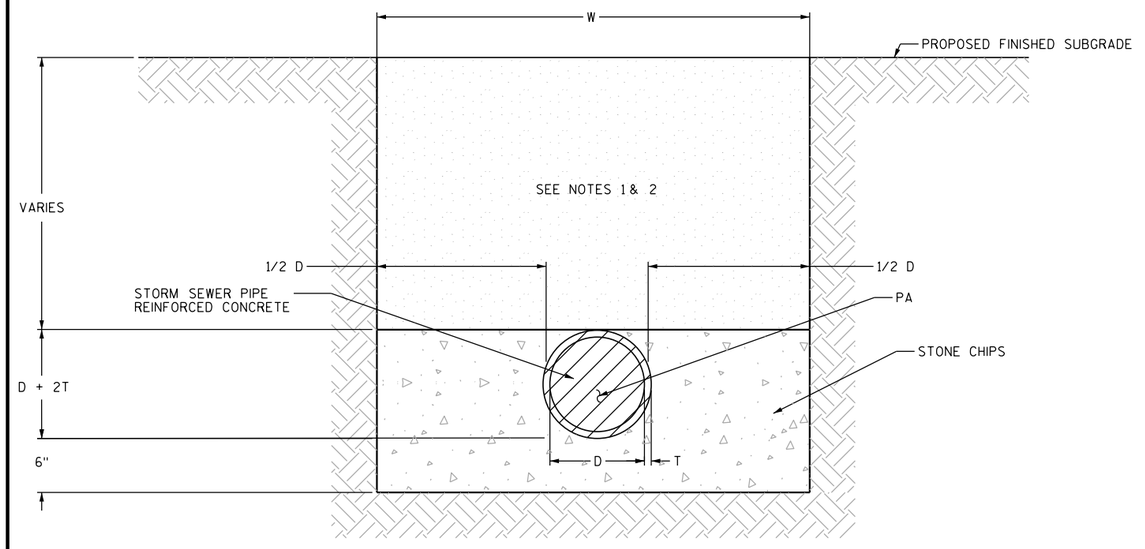
(3) WHEN TEMPORARY SUBGRADE IS HIGHER THAN PROPOSED FINISHED SUBGRADE, PROVIDE GRANULAR BACKFILL AT ALL LOCATIONS. COST FOR GRANULAR BACKFILL IS CONSIDERED INCIDENTAL TO CONSTRUCTION.

STONE CHIPS - PIPES (FOR INFORMATION ONLY)

Pipe Diameter D INCHES	Wall Thickness T INCHES	Bottom Trench Width W FT	Height of Pipe Zone D+2T+.5 (From 6" below pipe bottom to top outside pipe)	Area of Pipe Zone (D+2T+.5)*W SF	Area of Pipe PA SF	Pipe Stone Chips Area SF
24	3	4.50	3.00	13.50	4.91	8.59
36	4	6.67	4.17	27.78	10.56	17.22
42	4.5	7.75	4.75	36.81	14.19	22.63
54	6.25	10.04	6.04	60.67	24.12	36.55
60	6.75	11.13	6.63	73.70	29.46	44.24

H.E. PIPE VOLUME APPROXIMATED TO EQUIVALENT CIRCULAR PIPE DIAMETER VOLUME

STONE CHIPS VOLUME (CUBIC YARDS) = $\frac{\text{(PIPE ZONE AREA - PIPE AREA) X PIPE PLAN LENGTH}}{27}$



STONE CHIPS DETAIL - TRENCH

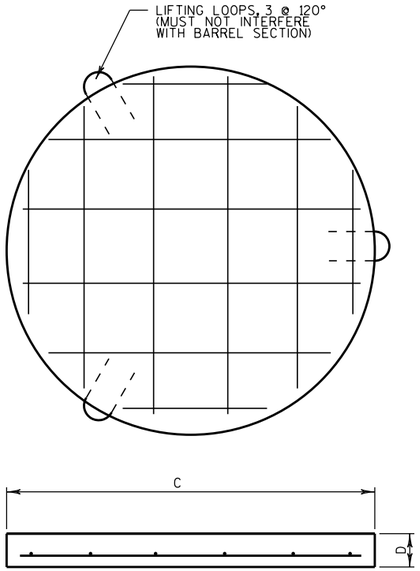
NOTE

(1) IF THE PIPE IS OUTSIDE THE TRAVELED WAY INCLUSIVE OF SHOULDERS AND AUXILIARY LANES, NATIVE BACKFILL MAY BE USED ABOVE STONE CHIPS.

(2) IF THE PIPE IS WITHIN THE TRAVELED WAY INCLUSIVE OF SHOULDERS AND AUXILIARY LANES, BACKFILL ABOVE STONE CHIPS SHALL CONFORM TO SECTION 209.

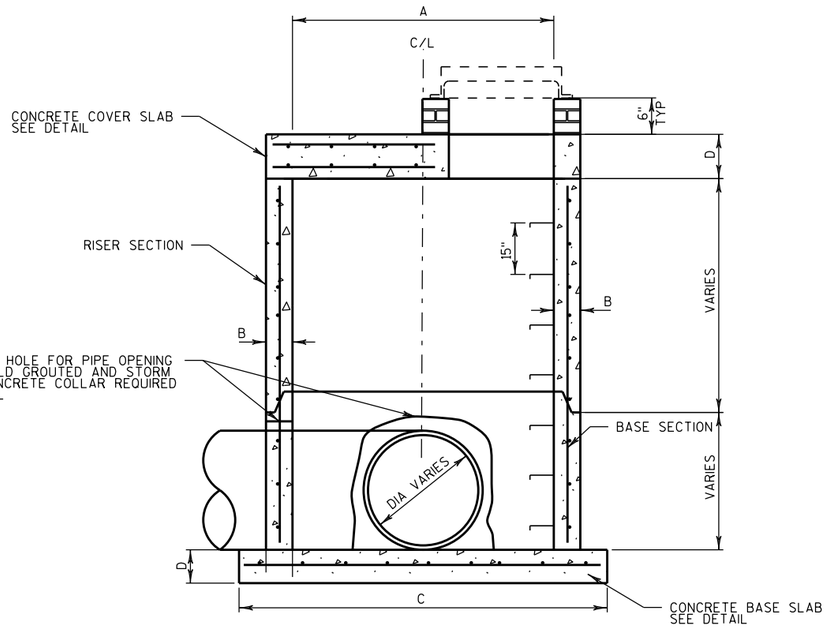
(3) STONE CHIPS ARE CONSIDERED INCIDENTAL TO DRAINAGE PIPE. NO SEPARATE PAYMENTS WILL BE MADE.

(4) WHEN TEMPORARY SUBGRADE IS HIGHER THAN PROPOSED FINISHED SUBGRADE, PROVIDE GRANULAR BACKFILL AT ALL LOCATIONS. COST FOR GRANULAR BACKFILL IS CONSIDERED INCIDENTAL TO CONSTRUCTION.



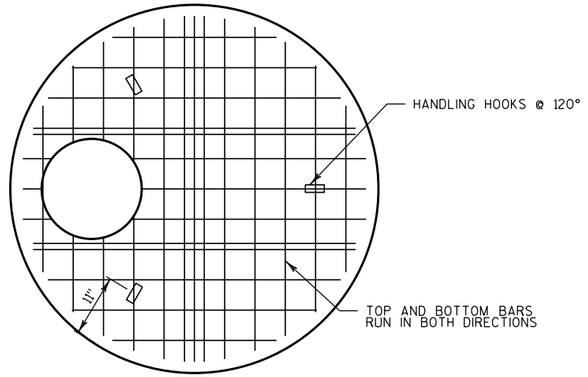
CONCRETE BASE SLAB

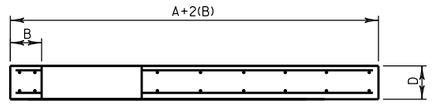
	A	B	C	D
MANHOLE 9-FT SPECIAL	108"	10"	132"	12"



NOTES

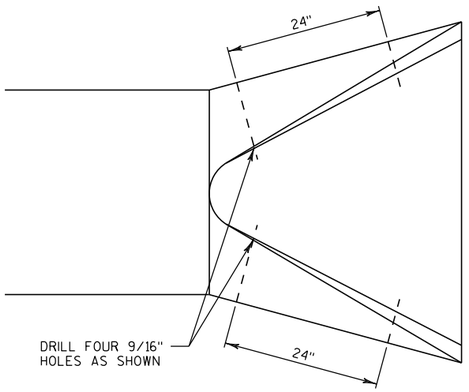
1) REINFORCING COMPLIES WITH ASTM C-478.
2) STEPS PLACED AT 15". STEPS COMPLY WITH ASTM C-478.
3) RISER & SLABS DESIGN FOR HS20 LOADING.

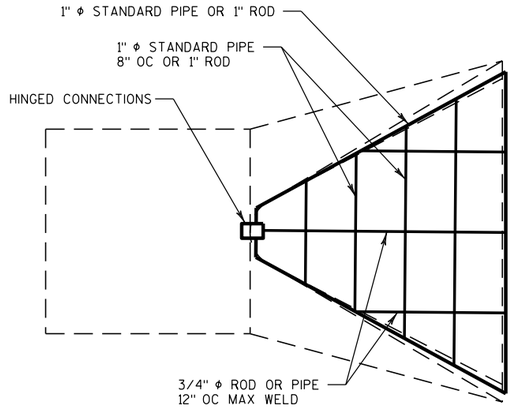




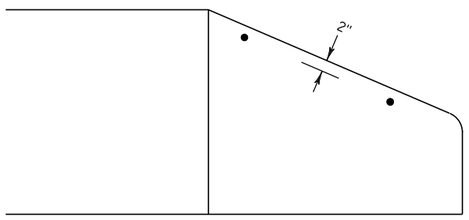
CONCRETE COVER SLAB

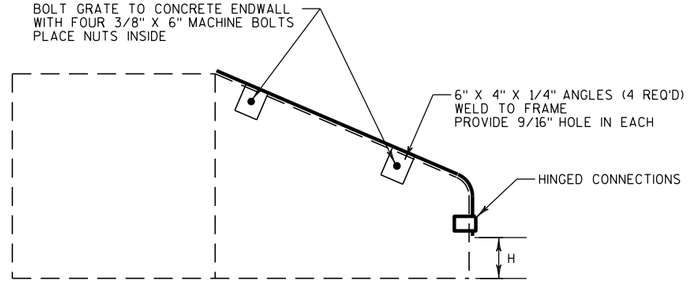
MANHOLE 9-FT SPECIAL





AT EACH PIPE





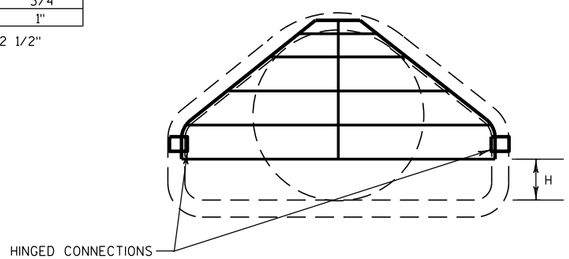
GRATE BAR SIZES
(STANDARD DESIGN)

	PIPE SIZE	HOLE DIAMETER REQUIRED	BOLT DIAMETER	BAR SIZE
ROUND PIPE	12" - 24"	3/4"	5/8"	5/8"
	27" - 48"	7/8"	3/4"	3/4"
	54" - 90"	1 1/8"	1"	1"
ARCH PIPE	22" - 29"	3/4"	5/8"	5/8"
	36" - 59"	7/8"	3/4"	3/4"
	65" - 85"	1 1/8"	1"	1"

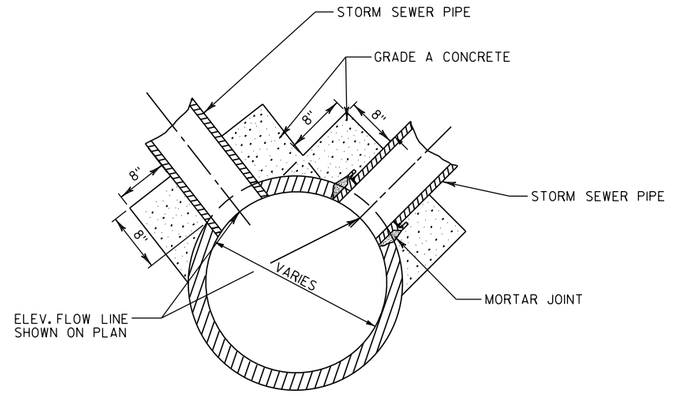
BOLT LENGTH = PIPE WALL THICKNESS + 2 1/2"

GRATE CLEARANCE HEIGHT

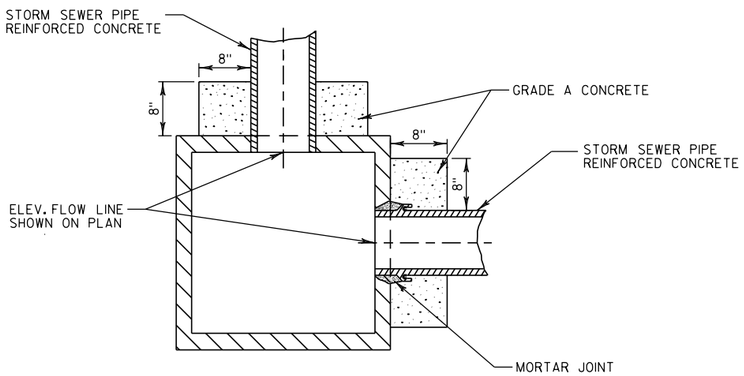
ROUND PIPE		ARCH PIPE	
PIPE SIZE	H	PIPE SIZE	H
12"	2 1/2"	22" - 29"	4"
15"	3"	36" - 44"	5"
18" - 24"	4"	51" - 65"	6"
27" - 36"	5"	73" - 85"	7"
42" - 54"	6"		
60" - 72"	7"		
78" - 90"	8"		



PIPE GRATE DETAIL



AT MANHOLE
INCIDENTAL TO NEW STRUCTURE
AND NEW PIPE ITEMS



AT STORM SEWER INLET
INCIDENTAL TO NEW STRUCTURE AND NEW PIPE ITEMS

NOTE

CONCRETE COLLAR TO BE PAID AS A BID ITEM WHEN CONNECTING AN EXISTING PIPE TO A NEW STRUCTURE.

CONCRETE COLLAR DETAIL

FOR LOCATIONS SEE MISCELLANEOUS QUANTITIES SHEETS

2

FIELD VERIFY ELEVATIONS PRIOR TO ORDERING STRUCTURE N1406

PE1405

CONCRETE COLLAR

REMOVING STORM SEWER 54-INCH

N1406

PE1407

CONCRETE COLLAR

P1404

P1402

N1403

N1401

22XD

USH 45 SB

USH 45 NB

USH 45

466NS

468NS

470NS

472NS

474NS

B-40-881

BULKHEAD PIPE MASONRY

BULKHEAD PIPE MASONRY

PE1409

CONCRETE COLLAR

REMOVING STORM SEWER 24-INCH

P273

N272

R-40-625

N268

P269

P267

P265

N266

P256

BULKHEAD PIPE MASONRY

P248

PE252

CONCRETE COLLAR

N253

BULKHEAD PIPE MASONRY

P250

REMOVING STORM SEWER 12-INCH

P251

P254

N255

N250

REMOVING STORM SEWER 18-INCH

30XD

R-40-626

REMOVING MANHOLES

P1412

N1413

PE1414

REMOVING INLETS

28XD

102XE

26XD

CONCRETE COLLAR

N1417

REMOVING STORM SEWER 54-INCH

32XD

REMOVING STORM SEWER 54-INCH & CONSTRUCT SSPRC CL V 54"

CONCRETE COLLAR

P1422

P1416

N1415

N1421

REMOVING INLETS

CONCRETE COLLAR

PE1418

PE1420

REMOVING STORM SEWER 15-INCH

6-INCH PIPE REMOVAL IS CONSIDERED INCIDENETAL TO INLET N1421 CONSTRUCTION. NO ADDITIONAL OR SEPARATE PAYMENT SHALL BE MADE.

ENDWALL REMOVAL IS CONSIDERED INCIDENETAL TO REMOVING STORM SEWER 12-INCH. NO ADDITIONAL OR SEPARATE PAYMENT SHALL BE MADE.

ATHLETIC FIELD

EXISTING PROFILE AT STORM SEWER TRUNKLINE

GRADING PROFILE AT STORM SEWER TRUNKLINE PROJECT 1060-33-83

FUTURE SSPRC CL III 42" @ 0.30% - TO BE CONSTRUCTED IN FUTURE CONTRACT 1060-33-84)

FUTURE FINISHED PROFILE AT STORM SEWER TRUNKLINE (PROJECT 1060-33-84)

FINISHED PROFILE AT STORM SEWER TRUNKLINE

765
760
755
750
745
740
735
730
725
720

N272 748.14

N268 746.27

N266 751.21

N255 752.89

N253 752.92

R-40-625

R-40-626

N268 746.27

N1413 740.51

N1417 741.28

N1406 752.89

N1403 750.63

N1401 751.11

751.32

746.06

746.06

SSPRC CL IV 24" @ 3.50%

SSPRC CL III 24" @ 2.00%

BULKHEAD PIPE MASONRY 739.95

SSPRC CL III 42" @ 0.30%

741.30

740.66

740.66

740.07

SSPRC CL III 42" @ 0.30%

741.69

741.19

741.19

741.46

741.96

SSPRC CL III 36" @ 0.30%

741.97

TO BE CONSTRUCTED IN FUTURE CONTRACT 1060-33-84

742.48

741.96

SSPRC CL III 42" @ 0.30%

BULKHEAD PIPE MASONRY

740.07

737.87

738.00

SSPRC CL V 54" @ 0.39%

741.40

EXISTING 54"

736.01

736.01

EXISTING 54"

740.07 (FUTURE FLOOR - CONSTRUCTED IN FUTURE CONTRACT 1060-33-84)

740.07 (FUTURE 42" INVERT - CONSTRUCTED IN FUTURE CONTRACT 1060-33-84)

733.95

SSPRC CL HE-III 48" X 76" @ 0.30%

BULKHEAD PIPE MASONRY 730.98 731.43

TO BE CONSTRUCTED IN FUTURE CONTRACT 1060-33-84

SSPRC CL III 42" @ 0.30%

740.06

EXISTING 54" 733.95

733.95

733.66

733.66

EXISTING 54"

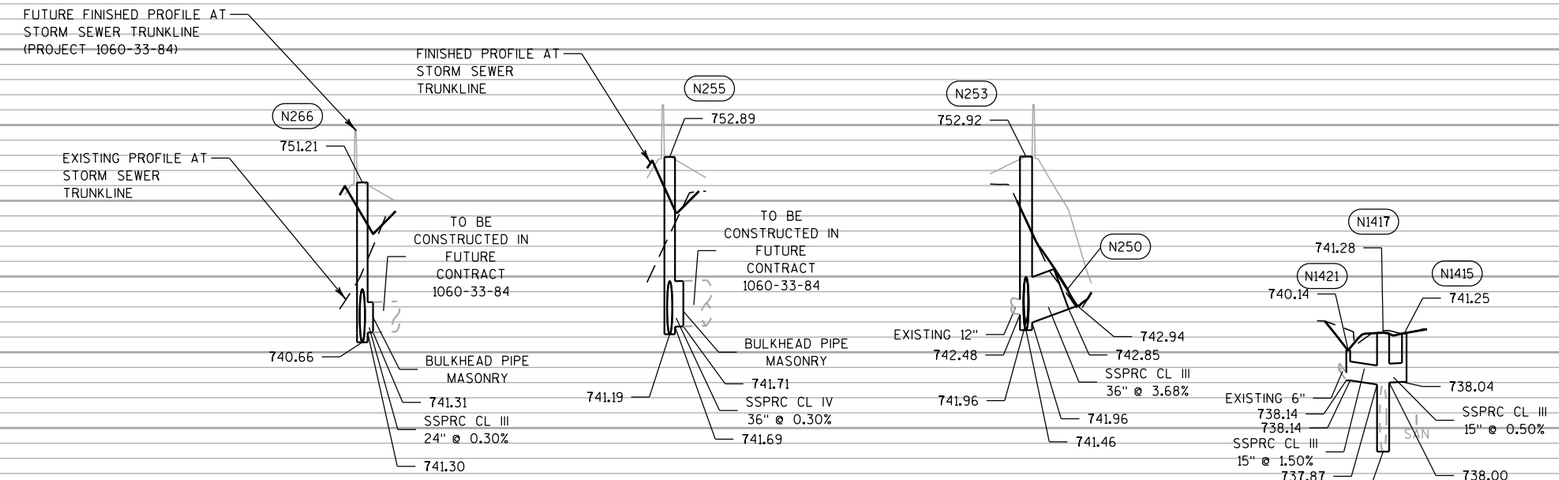
733.44

733.44

EXISTING 54"

N272, N266, N255 & N253 TO BE CONSTRUCTED WITH RIMS ABOVE GROUND FOR FUTURE PROJECT (1060-33-84)

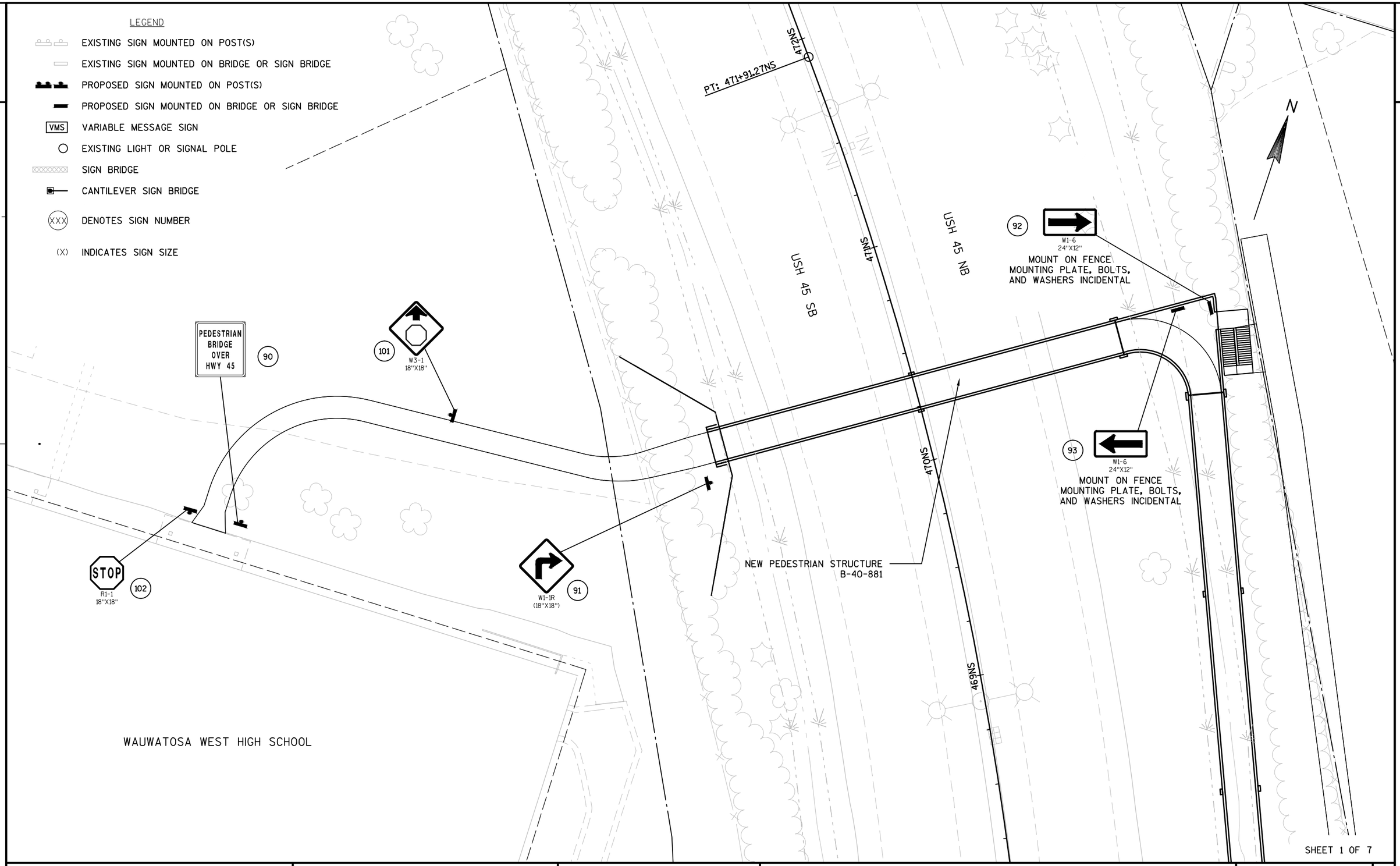
PROJECT NO:1060-33-83	HWY: USH 45	COUNTY: MILWAUKEE	STORM SEWER	SHEET E


FUTURE FINISHED PROFILE AT STORM SEWER TRUNKLINE (PROJECT 1060-33-84)
EXISTING PROFILE AT STORM SEWER TRUNKLINE
N266
751.21
740.66
TO BE CONSTRUCTED IN FUTURE CONTRACT 1060-33-84
BULKHEAD PIPE MASONRY
741.31
SSPRC CL III 24" @ 0.30%
741.30
FINISHED PROFILE AT STORM SEWER TRUNKLINE
N255
752.89
741.19
TO BE CONSTRUCTED IN FUTURE CONTRACT 1060-33-84
BULKHEAD PIPE MASONRY
741.71
SSPRC CL IV 36" @ 0.30%
741.69
N253
752.92
N250
EXISTING 12"
742.48
741.96
742.94
742.85
SSPRC CL III 36" @ 3.68%
741.96
741.46
N1417
741.28
N1421
740.14
N1415
741.25
738.04
EXISTING 6"
738.14
738.14
SSPRC CL III 15" @ 1.50%
737.87
733.44
SSPRC CL III 15" @ 0.50%
738.00
STA
760
755
750
745
740
735
730
725
720

2

LEGEND

- EXISTING SIGN MOUNTED ON POST(S)
- EXISTING SIGN MOUNTED ON BRIDGE OR SIGN BRIDGE
- PROPOSED SIGN MOUNTED ON POST(S)
- PROPOSED SIGN MOUNTED ON BRIDGE OR SIGN BRIDGE
- VMS — VARIABLE MESSAGE SIGN
- EXISTING LIGHT OR SIGNAL POLE
- SIGN BRIDGE
- CANTILEVER SIGN BRIDGE
- (XXX) — DENOTES SIGN NUMBER
- (X) — INDICATES SIGN SIZE



SHEET 1 OF 7

PROJECT NO: 1060-33-83	HWY: USH 45 - PEDESTRIAN BRIDGE	COUNTY: MILWAUKEE	PERMANENT SIGNING	SHEET	E

FILE NAME : W:\PDS\C3D\CAD\10603316\83\023201_PS.DWG PLOT DATE : 1/5/2015 10:30 AM PLOT BY : LAROSA, PHILIP P PLOT NAME : ---------- PLOT SCALE : *********

WISDOT/CADDS SHEET 42

2

2

LEGEND

- EXISTING SIGN MOUNTED ON POST(S)
- EXISTING SIGN MOUNTED ON BRIDGE OR SIGN BRIDGE
- PROPOSED SIGN MOUNTED ON POST(S)
- PROPOSED SIGN MOUNTED ON BRIDGE OR SIGN BRIDGE
- EXISTING LIGHT OR SIGNAL POLE
- SIGN BRIDGE
- CANTILEVER SIGN BRIDGE
- (XXX) DENOTES SIGN NUMBER
- (X) INDICATES SIGN SIZE
- ESTR EXISTING SIGN TO REMAIN

N

STOP
R1-1
18"X18"
104

PEDESTRIAN BRIDGE OVER HWY 45
97

103
W3-1
18"X18"

PEDESTRIAN BRIDGE OVER HWY 45
96

95
W1-6
(24"X12")

94
W1-11L
(18"X18")
MOUNT ON LIGHT POLE ARM

470NS
469NS
468NS
467NS
466NS

USH 45 NB
USH 45 SB

NEW PEDESTRIAN STRUCTURE
B-40-881

EXISTING PEDESTRIAN STRUCTURE B-40-384 TO BE REMOVED

SHEET 2 OF 7

PROJECT NO: 1060-33-83	HWY: USH 45 - PEDESTRIAN BRIDGE	COUNTY: MILWAUKEE	PERMANENT SIGNING	SHEET 54	E

LEGEND

- EXISTING SIGN MOUNTED ON POST(S)
- EXISTING SIGN MOUNTED ON BRIDGE OR SIGN BRIDGE
- PROPOSED SIGN MOUNTED ON POST(S)
- PROPOSED SIGN MOUNTED ON BRIDGE OR SIGN BRIDGE
- VMS — VARIABLE MESSAGE SIGN
- EXISTING LIGHT OR SIGNAL POLE
- SIGN BRIDGE
- CANTILEVER SIGN BRIDGE
- XXX — DENOTES SIGN NUMBER
- (X) — INDICATES SIGN SIZE
- ESTR — EXISTING SIGN TO REMAIN

30TA 31TA 32TA 33TA 34TA

MH MH

SIGN

N

USH 45 SB

SOUTH 45 MILE 42 .6
D10-5
ESTR

W

454NS 455NS 456NS 457NS 458NS 459NS

NORTH 45 MILE 42 .6
D10-5
ESTR

USH 45 NB

TB 29TB 30TB 31TB 32TB 33TB 34TB

MH MH MH

SHEET 3 OF 7

PROJECT NO: 1060-33-83	HWY: USH 45 - PEDESTRIAN BRIDGE	COUNTY: MILWAUKEE	PERMANENT SIGNING	SHEET	E

FILE NAME : W:\PDS\C3D\CAD\10603316\83\023201_PS.DWG PLOT DATE : 1/5/2015 10:30 AM PLOT BY : LAROSA, PHILIP P PLOT NAME : ---------- PLOT SCALE : ********* WISDOT/CADDS SHEET 42

2

2

LEGEND

- EXISTING SIGN MOUNTED ON POST(S)
- EXISTING SIGN MOUNTED ON BRIDGE OR SIGN BRIDGE
- PROPOSED SIGN MOUNTED ON POST(S)
- PROPOSED SIGN MOUNTED ON BRIDGE OR SIGN BRIDGE
- VMS — VARIABLE MESSAGE SIGN
- EXISTING LIGHT OR SIGNAL POLE
- SIGN BRIDGE
- CANTILEVER SIGN BRIDGE
- XXX — DENOTES SIGN NUMBER
- (X) — INDICATES SIGN SIZE
- ESTR — EXISTING SIGN TO REMAIN

113TH STREET

36TA

EP: 36+

CENTER ST

3361

CENTER ST
2700 NORTH
ESTR

CENTER ST
2700 NORTH
ESTR

SOUTH
45
MILE
42
.7
D10-5
ESTR

N

W

USH 45 SB

PC: 460+92.50NS

460NS

461NS

462NS

463NS

464NS

465NS

3002

NOTE:
BRIDGE BEING CONSTRUCTED
UNDER PROJECT 1060-34-84

USH 45 NB

Mount Mary University
EXIT 43
100

MOVE
TYPE I (FREEWAY)
GUIDE SIGN, PLACE
EXISTING SIGN ON
NEW STEEL I-BEAMS.
REMOVE EXISTING I-BEAMS

NORTH
45
MILE
42
.7
D10-5
ESTR

14'-0"
W12-2
ESTR

2106

EP: 36+56.54

CENTER ST

112TH STREET

35TB

36TB

36TB

INL

SHEET 4 OF 7

PROJECT NO: 1060-33-83	HWY: USH 45 - PEDESTRIAN BRIDGE	COUNTY: MILWAUKEE	PERMANENT SIGNING	SHEET	E

FILE NAME : W:\PDS\C3D\CAD\10603316\83\023201_PS.DWG PLOT DATE : 1/5/2015 10:31 AM PLOT BY : LAROSA, PHILIP P PLOT NAME : _____ PLOT SCALE : ********* WISDOT/CADDS SHEET 42

2

LEGEND

- EXISTING SIGN MOUNTED ON POST(S)
- EXISTING SIGN MOUNTED ON BRIDGE OR SIGN BRIDGE
- PROPOSED SIGN MOUNTED ON POST(S)
- PROPOSED SIGN MOUNTED ON BRIDGE OR SIGN BRIDGE
- VMS — VARIABLE MESSAGE SIGN
- EXISTING LIGHT OR SIGNAL POLE
- SIGN BRIDGE
- CANTILEVER SIGN BRIDGE
- XXX — DENOTES SIGN NUMBER
- (X) — INDICATES SIGN SIZE

N

Burleigh St	¼
Capitol Dr	1 ½
Hampton Ave	2 ½

ESTR

USH 45 SB

SOUTH 45 MILE 42 .8
D10-5
ESTR

14'-0"
W12-2
ESTR

471+91.2 NS

466NS 467NS 468NS 469NS 470NS 471NS

INL

EMERGENCY STOPPING ONLY
R8-7
ESTR

USH 45 NB

HOSPITAL EXIT 43
E10-61
ESTR

NORTH 45 MILE 42 .8
D10-5
ESTR

North Ave	½
Watertown Plank Rd	1 ¾
Wisconsin Ave	2 ½

SOUTH 45
ESTR

SHEET 5 OF 7

PROJECT NO: 1060-33-83	HWY: USH 45 - PEDESTRIAN BRIDGE	COUNTY: MILWAUKEE	PERMANENT SIGNING	SHEET 57	E

FILE NAME : W:\PDS\C3D\CAD\10603316\83\023201_PS.DWG PLOT DATE : 1/5/2015 10:31 AM PLOT BY : LAROSA, PHILIP P PLOT NAME : ---------- PLOT SCALE : *********

WISDOT/CADDS SHEET 42

2

LEGEND

- EXISTING SIGN MOUNTED ON POST(S)
- EXISTING SIGN MOUNTED ON BRIDGE OR SIGN BRIDGE
- PROPOSED SIGN MOUNTED ON POST(S)
- PROPOSED SIGN MOUNTED ON BRIDGE OR SIGN BRIDGE
- VMS — VARIABLE MESSAGE SIGN
- EXISTING LIGHT OR SIGNAL POLE
- SIGN BRIDGE
- CANTILEVER SIGN BRIDGE
- XXX — DENOTES SIGN NUMBER
- (X) — INDICATES SIGN SIZE
- ESTR — EXISTING SIGN TO REMAIN

N

PT: 471+91.27NS

472NS 473NS 474NS 475NS 476NS 477NS

SOUTH 45 MILE 42 .9
D10-5
ESTR

USH 45 SB

NORTH 45 MILE 42 .9
D10-5
ESTR

USH 45 NB

EXIT 43
Burleigh St
ESTR

SHEET 6 OF 7

PROJECT NO: 1060-33-83	HWY: USH 45 - PEDESTRIAN BRIDGE	COUNTY: MILWAUKEE	PERMANENT SIGNING	SHEET	E

FILE NAME : W:\PDS\C3D\CAD\10603316\83\023201_PS.DWG PLOT DATE : 1/5/2015 10:31 AM PLOT BY : LAROSA, PHILIP P PLOT NAME : ---------- PLOT SCALE : ********* WISDOT/CADDS SHEET 42

2

LEGEND

- EXISTING SIGN MOUNTED ON POST(S)
- EXISTING SIGN MOUNTED ON BRIDGE OR SIGN BRIDGE
- PROPOSED SIGN MOUNTED ON POST(S)
- PROPOSED SIGN MOUNTED ON BRIDGE OR SIGN BRIDGE
- VMS — VARIABLE MESSAGE SIGN
- EXISTING LIGHT OR SIGNAL POLE
- SIGN BRIDGE
- CANTILEVER SIGN BRIDGE
- XXX — DENOTES SIGN NUMBER
- (X) — INDICATES SIGN SIZE

N

USH 45 SB ON RAMP

INL

USH 45 SB

NO SIGNS ON THIS SHEET

PC: 482+13.49NS

478NS 479NS 480NS 481NS 482NS 483NS

INL INL INL

USH 45 NB

USH 45 NB OFF RAMP

SHEET 7 OF 7

2

PROJECT NO: 1060-33-83	HWY: USH 45 - PEDESTRIAN BRIDGE	COUNTY: MILWAUKEE	PERMANENT SIGNING	SHEET	E

FILE NAME : W:\PDS\C3D\CAD\10603316\83\023201_PS.DWG PLOT DATE : 1/5/2015 10:31 AM PLOT BY : LAROSA, PHILIP P PLOT NAME : ---------- PLOT SCALE : ********* WISDOT/CADDS SHEET 42

2

2

N

W CENTER STREET

WAUWATOSA
WEST
HIGH SCHOOL

N 114TH STREET

N 113TH STREET

USH 45 NB

USH 45 SB

N 112TH STREET

USH 45 NB

USH 45 SB

N 114TH STREET

W LOCUST STREET

N 112TH STREET

TENNIS COURT

ATHLETIC FIELD

W CENTER STREET

WHITMAN
MIDDLE
SCHOOL

LIGHTING CONTROL
CABINET 240/480
WAUWATOSA

PB	
A,C,E	RED
B,D,F	BLACK
N	WHITE
GND	GREEN OR BARE
A,B,C,D,E,F 240/480V ISOLATED	40A 1 PHASE NEUTRAL
LOCAL/WAUWATOSA	

PROJECT NO: 1060-33-83	HWY: USH 45	COUNTY: MILWAUKEE	LIGHTING PLAN OVERVIEW	SHEET 60	E

GENERAL NOTES:

FREEWAY LIGHTING SHALL BE INSTALLED IN COMPLIANCE WITH WISCONSIN DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS SECTION 652 TO 657 AND 659 EXCEPT:

1. DETAILS OF CONSTRUCTION MATERIALS AND WORKMANSHIP NOT SHOWN ON THESE DRAWINGS SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE CONTRACT.

2. LOCATIONS OF THE PVC CONDUITS ARE INDENTIFIED IN THE PLANS WHERE THEY ARE REQUIRED. HOWEVER, INSTALLATION WILL REQUIRE INTEGRATION WITH EXISTING FIELD CONDITIONS. UNDER THE APPROVAL OF THE ENGINEER, APPROPRIATE ADJUSTMENT OF CONDUIT LOCATIONS MAY BE MADE IF THE FIELD CONDITIONS ARE SUCH THAT THE CONDUIT CANNOT BE INSTALLED AT THE SPECIFIED LOCATIONS. FIELD MARK EACH CONDUIT LOCATION IN RE TO ILLUSTRATE AS BUILT CONDITIONS.

3. THE TRENCH SHALL NOT BE BACKFILLED PRIOR TO INSPECTION OF THE CONDUIT.

4. ALL OPEN AND UNTERMINATED CONDUITS SHALL BE CAPPED OR PLUGGED WITH ENGINEER APPROVED FITTINGS IMMEDIATLY AFTER INSTALLATION.

5. BENDING OF PVC ELECTRICAL CONDUIT SHALL BE ACCOMPLISHED BY USING A BLANKET OR IMMERSION TYPE TANK DESIGNED FOR THE PURPOSE OF BENDING PVC ELECTRICAL CONDUIT.

6. ALL CUT ENDS SHALL BE TRIMMED INSIDE AND OUTSIDE TO REMOVE ALL ROUGH EDGES ON ALL CONDUITS.

7. PRIOR TO CONDUIT ACCEPTANCE, ALL CONDUIT ENDS SHALL BE THOROUGHLY CLEANED AND BE CAPPED WITH THE APPROPRIATE CAST PLASTIC CAP WHICH FITS SNUGGLY ON THE CONDUIT THAT CAN BE EASILY REMOVED. DUCT TAPE OR ANY OTHER CAPPING METHOD IS NOT ACCEPTABLE.

8. CONSUIT RUNS SHALL BE THE SAME SIZE PIPE FROM ONE END TO THE OTHER (FROM PULL BOX-TO-PULL BOX, JUNCTION BOX OR BASE-TO-BASE, ETC.) UNLESS OTHERWISE NOTED ON PLANS.

9. PULL ROPE ($\frac{3}{8}$-INCH NYLON) SHALL BE INSTALLED IN ALL NEW CONDUITS.

10. CONTRACTOR SHALL SUPPLY AS-BUILT DRAWINGS (PDF FORMAT) FOR ALL THE WORK BEING DONE.

11. INSTALLATION OF LATERAL UNDERGROUND CONDUIT UNDER PAVEMENT SHALL BE INSTALLED MINIMUM 30 INCHES BELOW PROPOSED GRADE. CONDUIT LATERALS SHALL BE TRENCHED UNDER PAVEMENT BEFORE PAVEMENT CONSTRUCTION. CONTRACTOR IS RESPONSIBLE TO COORDINATE WITH ROADWAY CONSTRUCTION FOR CONDUIT LATERALS INSTALLATION.

12. PITCH ALL CONDUITS TOWARD PULL BOXES. INSTALL A 2" DRAIN DUCT TO STORM SEWER OR DRAIN SUMP AS REQUIRED FOR DAMAGE. THE 2" DRAIN DUCT OR SUMP IS INCIDENTAL TO THE PULL BOX BID ITEM AND IS NOT SHOWN.

13. EXISTING CONDUIT AND CID NO LONGER BEING USED IS ABANDONED IN PLACE. THE CONTRACTOR MAY REMOVE ABANDONED WIRING AT THE CONTRACT'S EXPENSE. ABANDONED PULL BOX REMOVAL IS INCIDENTAL TO THE ROAD CONSTRUCTION.

14. UNDERGROUND WIRE & CONDUIT SHOWN ON REMOVAL PLANS FOR REMOVAL SHALL BE ABANDONED IN PLACE UNLESS DIRECTED BY THE ENGINEER. CONTRACTOR MAY CHOOSE TO REMOVE CONDUCTOR AT THEIR OWN EXPENSE.

15. THE LOCATION OF EXISTING AND PROPOSED UTILITIES AS SHOWN ON THE PLANS ARE APPROXIMATE, IN ADDITION, THERE MAYBE OTHER UTILITIES WITHIN THE PROJECT AREA WHICH ARE NOT SHOWN. THE CONTRACTOR SHALL VERIFY THE LOCATIONS OF ALL UTILITIES PRIOR TO CONSTRUCTION.

16. HAND DIGGING MAYBE REQUIRED FOR LOCATIONS ADJACENT TO EXISTING GAS AND POWER LINES. HAND EXCAVATION SHOULD BE ANTICIPATED & WILL BE CONSIDERED INCIDENTAL TO THE CONCRETE BASE BID ITEM. COORDINATE ALL WORK NEAR GAS LINE WITH WE ENERGIES.

17. PROVIDE MINIMUM CABLE SLACK AS MENTIONED BELOW:

PULL BOXES:	10-FT
EMBEDDED JUCTION BOXES:	3-FT
DISTRIBUTION CENTER/LOAD CENTER:	10-FT
POLES:	5-FT IN AND 5-FT OUT

2

2

LIGHTING REMOVAL PLAN LEGEND

- LOCAL MUNI. POLE TO REMAIN
- LOCAL MUNI. POLE TO BE REMOVED

N

H-1-22 (250W)
STA 15+51.9, 87.2' LT
LIGHTING UNIT TO BE REMOVED

H-1-23 (250W)
STA 15+52.18, 49.2' RT
LIGHTING UNIT TO BE REMOVED

DBS10
EXISTING LIGHT ON SIGN STRUCTURE TO REMAIN

CBS10

H-1-21 (250W)
STA 13+57.8, 89.7' LT
LIGHTING UNIT TO BE REMOVED
(UNDER PROJECT ID 1060-34-84)

H-1-20 (250W)
STA 11+98.3, 89.2' LT
LIGHTING UNIT TO BE REMOVED
(UNDER PROJECT ID 1060-34-84)

USH 45 (SB)

USH 45 (NB)

468NS

467NS

469NS

465NS

464NS

16+00

15+00

14+00

13+00

12+00

SHEET 1 OF 1

PROJECT NO: 1060-33-83	HWY: USH 45	COUNTY: MILWAUKEE	LIGHTING REMOVAL PLAN - WHITMAN MIDDLE SCHOOL PARKING LOT	SHEET 62	E

FILE NAME : W:\PDS\C3D\CAD\10603316\83\023501_LP.DWG
LAYOUT NAME - ****

PLOT DATE : 2/16/2015 11:40 AM PLOT BY : LAROSA, PHILIP P PLOT NAME : PLOT SCALE : 1:50_XREF

2

LIGHTING PLAN LEGEND

PROPOSED	EXISTING	
⊠	⊠	DISTRIBUTION CENTER
▭	▭	JUNCTION BOX
----------	----------	CONDUIT- 2" UNLESS OTHERWISE NOTED)
— OH —	— OH —	OVER HEAD UTILITY
⊸●	⊸○	LOCAL MUNI. POLE
⊸●	⊸○	LIGHT POLE, ARM MOUNTED LUMINAIRE
⇉	⇉	CONDUIT STUBOUT
▫	▫	LIGHT POLE, POST-TOP UNIT

N

CBS8
EXISTING LIGHT
TO REMAIN

DBS8

CBS9

DBS9
EXISTING LIGHT
TO REMAIN

CBS10
EXISTING LIGHT
TO REMAIN

DBS10

USH 45 (NB)

USH 45 (SB)

LUMINAIRE UTILITY LED-C
H-1-22-E

LUMINAIRE UTILITY LED-C
H-1-21-F
(PROJECT ID 1060-34-84)

*6 A,B,N
*8 GND

*8 A,N,GND

*6 C,D,N
*8 GND

*6 C,D,N
*8 C,N,GND

*6 C,D,N
*8 GND

LPB101

LPB102

LPB103

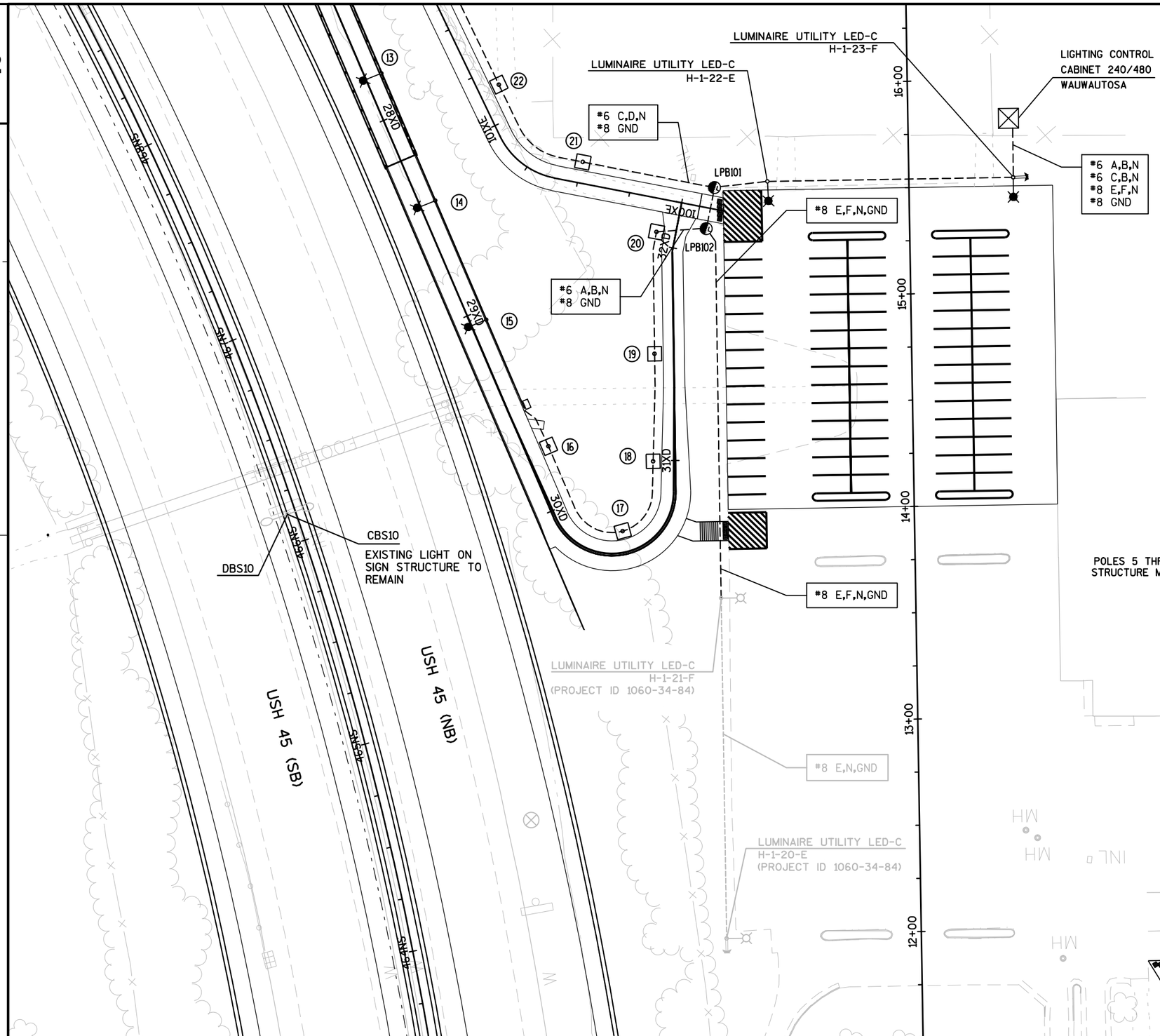
POLES 5 THRU 15
STRUCTURE MOUNT

POLE NO. & CIRCUIT	STATION
1 - A	20+50, 9.62' LT
2 - B	21+13, 9.00' LT
3 - A	21+75, 9.00' LT
4 - B	22+42, 9.00' LT
5 - A	23+13.54, 7.54' LT
6 - B	23+70.79, 7.54' LT
7 - A	24+28.04, 7.54' LT
8 - B	24+85.29, 7.54' LT
9 - A	25+19.74, 21.5' LT
10 - B	25+78.83, 7.54' LT
11 - A	26+46.50, 7.54' LT
12 - B	27+14.17, 7.54' LT
13 - A	27+81.83, 7.54' LT
14 - B	28+50.92, 7.54' LT
15 - A	29+20.63, 7.54' LT
16 - B	29+71, 11.00' LT
17 - A	30+46, 11.00' LT

POLE NO. & CIRCUIT	STATION
18 - B	30+99, 10.43' LT
19 - A	31+50, 9.00' LT
20 - B	32+05, 9.00' LT
21 - C	100+49, 10.00' RT
22 - D	101+16, 10.00' RT
23 - C	101+76, 10.00' RT
24 - D	102+36, 10.00' RT
25 - C	102+96, 10.00' RT
26 - D	103+56, 10.00' RT
27 - C	104+16, 10.00' RT
H-1-23 - F	15+54, 49.19' RT
H-1-22 - E	15+54, 66.48' LT
H-1-21 - F	13+58, 91.54' LT
H-1-20 - E	11+98, 91.60' LT
LPB101	99+86, 9.95' RT
LPB102	99+86, 9.75' LT
LPB103	103+80, 9.95' RT

SHEET 1 OF 2

PROJECT NO: 1060-33-83	HWY: USH 45	COUNTY: MILWAUKEE	LIGHTING PLAN - PEDESTRIAN BRIDGE	SHEET 63	E



LIGHTING PLAN LEGEND

N

PROPOSED	EXISTING	
☒	☒	DISTRIBUTION CENTER
▭	▭	JUNCTION BOX
----------	----------	CONDUIT- 2" UNLESS OTHERWISE NOTED)
— OH —	— OH —	OVER HEAD UTILITY
⊸✱	⊸○	LOCAL MUNI. POLE
⊸●	⊸○	LIGHT POLE, ARM MOUNTED LUMINAIRE
⇉	⇉	CONDUIT STUBOUT
⊡	⊡	LIGHT POLE, POST-TOP UNIT

POLE NO. & CIRCUIT	STATION
1 - A	20+50, 9.62' LT
2 - B	21+13, 9.00' LT
3 - A	21+75, 9.00' LT
4 - B	22+42, 9.00' LT
5 - A	23+13.54, 7.54' LT
6 - B	23+70.79, 7.54' LT
7 - A	24+28.04, 7.54' LT
8 - B	24+85.29, 7.54' LT
9 - A	25+19.74, 21.5' LT
10 - B	25+78.83, 7.54' LT
11 - A	26+46.50, 7.54' LT
12 - B	27+14.17, 7.54' LT
13 - A	27+81.83, 7.54' LT
14 - B	28+50.92, 7.54' LT
15 - A	29+20.63, 7.54' LT
16 - B	29+71, 11.00' LT
17 - A	30+46, 11.00' LT

POLE NO. & CIRCUIT	STATION
18 - B	30+99, 10.43' LT
19 - A	31+50, 9.00' LT
20 - B	32+05, 9.00' LT
21 - C	100+49, 10.00' RT
22 - D	101+16, 10.00' RT
23 - C	101+76, 10.00' RT
24 - D	102+36, 10.00' RT
25 - C	102+96, 10.00' RT
26 - D	103+56, 10.00' RT
27 - C	104+16, 10.00' RT
H-1-23 - F	15+54, 49.19' RT
H-1-22 - E	15+54, 66.48' LT
H-1-21 - F	13+58, 91.54' LT
H-1-20 - E	11+98, 91.60' LT
LPB101	99+86, 9.95' RT
LPB102	99+86, 9.75' LT
LPB103	103+80, 9.95' RT

SHEET 2 OF 2

PROJECT NO: 1060-33-83	HWY: USH 45	COUNTY: MILWAUKEE	LIGHTING PLAN - WHITMAN MIDDLE SCHOOL PARKING LOT	SHEET 64 E

FILE NAME : W:\PDS\C3D\CAD\10603316\83\023601_LP.DWG
LAYOUT NAME - 023502_LP

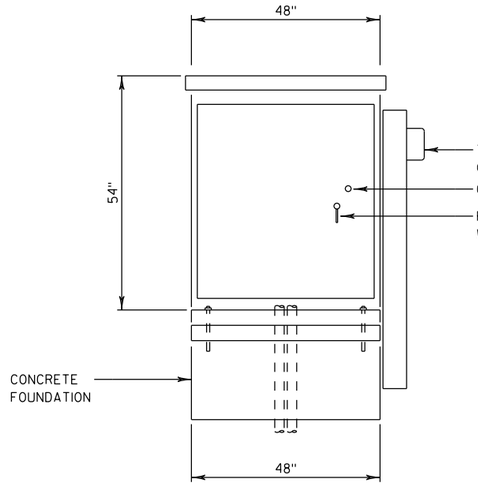
PLOT DATE : 2/16/2015 11:52 AM PLOT BY : LAROSA, PHILIP P PLOT NAME : PLOT SCALE : 1" = 50'_XREF

WISDOT/CADDS SHEET 42

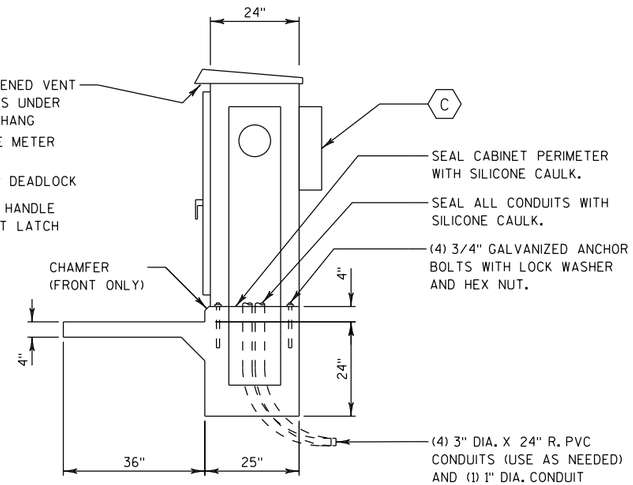
2

GENERAL NOTES

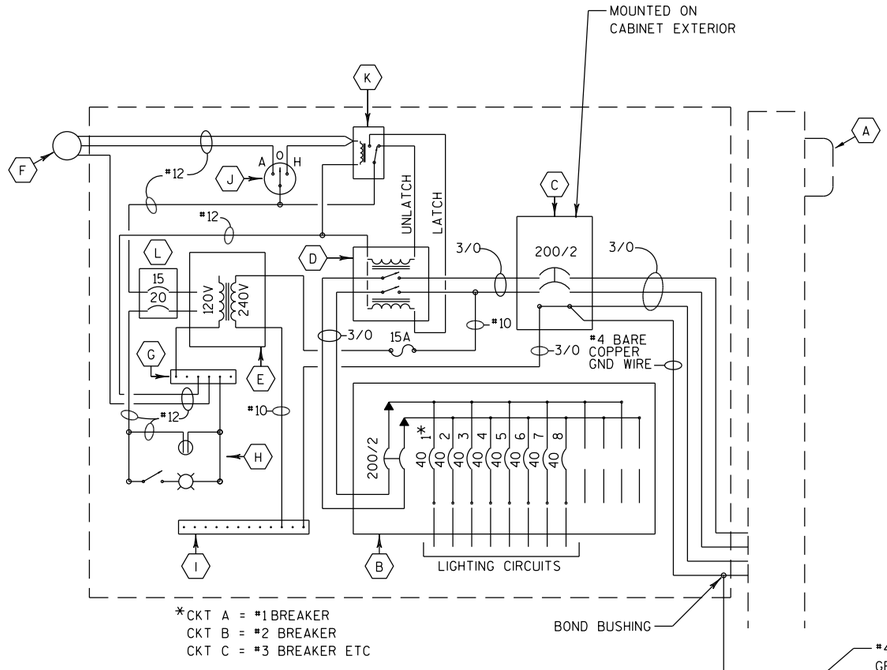
1. PROVIDE PVC, RUBBER OR OTHER NON-CONDUCTIVE SHROUD OVER EXPOSED LUGS ON CONTACTOR.



FRONT VIEW
NTS



SIDE VIEW
NTS



*CKT A = #1 BREAKER
CKT B = #2 BREAKER
CKT C = #3 BREAKER ETC

DISTRIBUTION CABINET SCHEMATIC
NTS

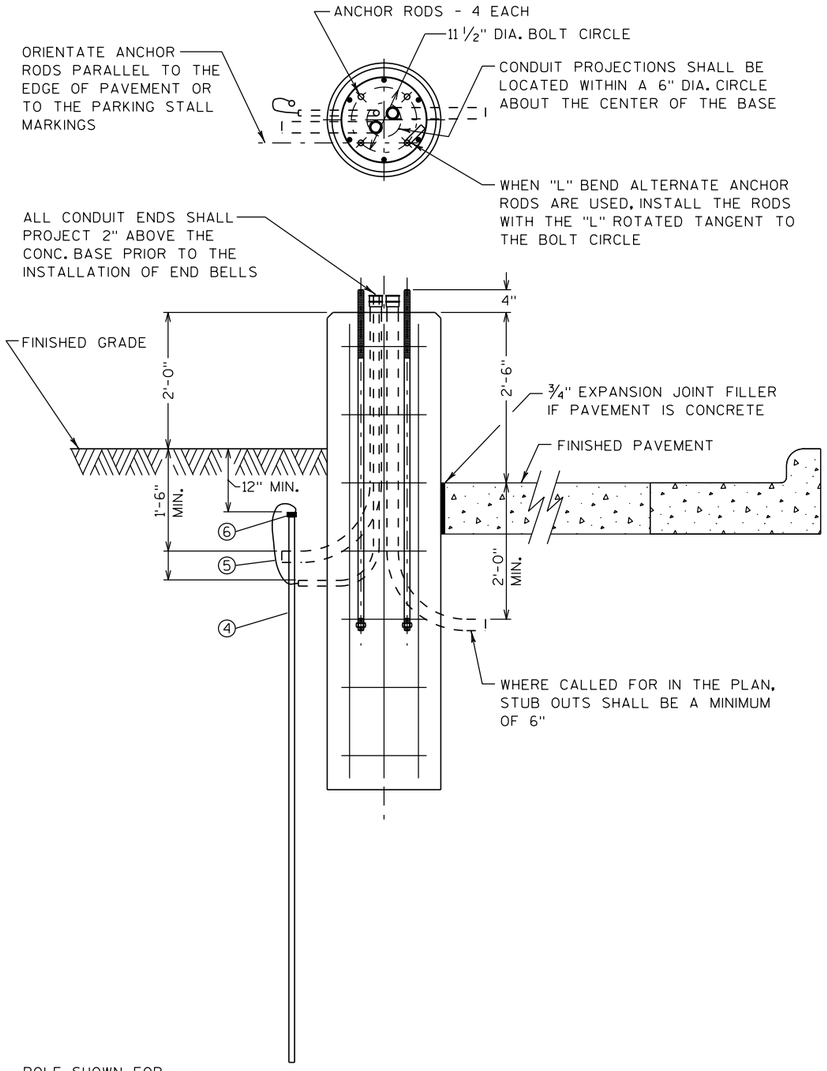
PROVIDE QUANTITY OF BREAKERS BASED ON NUMBER OF LIGHTING CIRCUITS SHOWN IN LIGHTING PLAN.

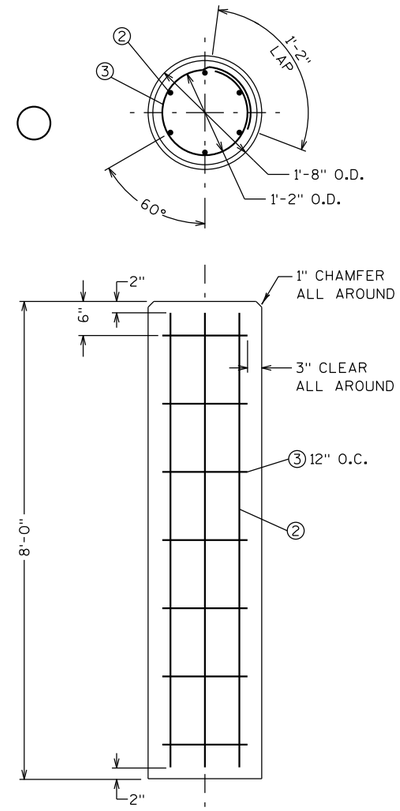
EQUIPMENT:

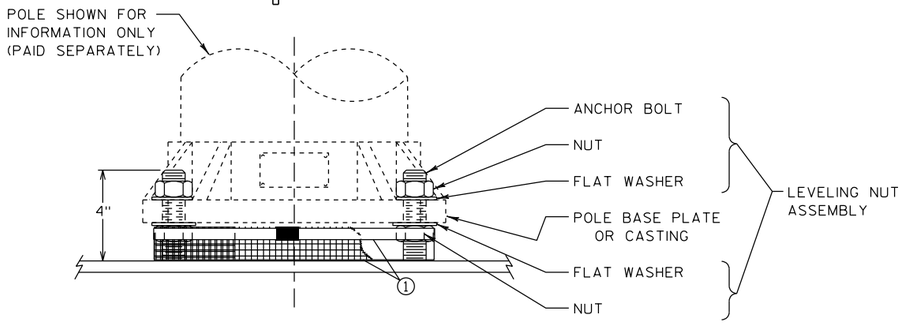
- (A) UTILITY APPROVED 200A, 240/480, 1PH, 3W METER PEDESTAL
- (B) SQUARE-D I-LINE DISTRIBUTION PANEL
- (C) 200A MAIN DISCONNECT 2P, 600V, SN, NEMA 4X STAINLESS STEEL MOUNTED ON EXTERIOR. UNIT TO BE LOCKABLE IN ON & OFF POSITIONS
- (D) 200A MECHANICALLY HELD CONTACTOR
- (E) 240V/120V 3KVA CONTROL TRANSFORMER
- (F) BUTTON TYPE PHOTO CELL, 120V (FACE NORTH)
- (G) NEUTRAL BAR FOR 120V CIRCUITS.
- (H) 20A CIRCUIT WITH GFI RECEPTACLE, LIGHT AND SWITCH.
- (I) NEUTRAL BAR FOR 240V CIRCUITS (LOCATE ON CABINET SIDEWALL)
- (J) HAND-OFF-AUTO SWITCH
- (K) 8-PIN DPDT RELAY & SOCKET. 120V COIL, 10A CONTACTS
- (L) BREAKER BOX FOR 120V CIRCUITS

BASIC EQUIPMENT LAYOUT
NTS

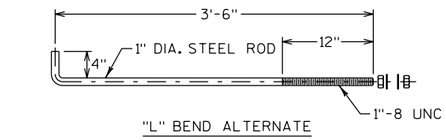
DETAIL - LIGHTING CONTROL CABINET 240/480 - WAUWATOSA
NTS



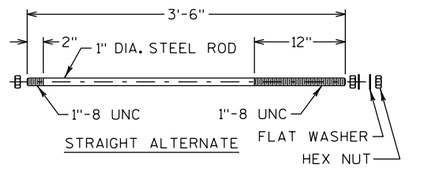




RAT SCREEN & LEVELING NUT DETAIL
(RAT SCREEN AND BANDING INCIDENTAL TO POLE, LEVELING NUT ASSEMBLIES INCIDENTAL TO CONCRETE BASE)



"L" BEND ALTERNATE



STRAIGHT ALTERNATE

ANCHOR ROD ASSEMBLY DETAIL
(INCIDENTAL TO CONCRETE BASE - 4 EACH PER BASE)

GENERAL NOTES:

DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF SECTION 654 OF THE STANDARD SPECIFICATIONS AND THE SPECIAL PROVISIONS.

CONCRETE BASES SHALL BE EXCAVATED BY USE OF A CIRCULAR AUGER.

FORMING SHALL BE LIMITED TO 6" BELOW THE EXISTING GRADE. UNLESS LOOSE SOIL OR FILL IS ENCOUNTERED. FORMING SHALL BE STRIPPED AFTER CONCRETE HAS SET.

IF A BASE REQUIRES A DEEP FORM BECAUSE OF LOOSE SOIL OR FILL, THE FORM SHALL BE STRIPPED BEFORE BACK FILLING AROUND THE BASE. BACKFILL SHALL BE TAMPED TIGHT AGAINST THE STRIPPED CONCRETE BASE IN LAYERS OF 6" OR LESS.

TOP SURFACE OF CONCRETE BASES SHALL BE TROWEL FINISHED AND LEVEL.

THE NUMBER, SIZE, AND LOCATION OF LINE AND LOAD SIDE CONDUITS WILL BE SHOWN IN THE PLANS. NOTE, SOME BASES MAY HAVE MORE THAN ONE LOAD SIDE CONDUIT REQUIRED (SEE THE PLAN). ALL BASES SHALL HAVE A 1" CONDUIT FOR THE EQUIPMENT GROUNDING CONDUCTOR.

CONDUIT ENDS PROJECTING ABOVE THE BASE SHALL BE SUITABLY PLUGGED BEFORE THE CONCRETE IS POURED, TO PREVENT DEBRIS CONTAMINATION OF THE RACEWAY.

ENDS OF CONDUIT INSTALLED BELOW GRADE FOR FUTURE USE (STUB OUTS) SHALL BE PLUGGED.

THE EQUIPMENT GROUNDING CONDUCTOR SHALL BE INSTALLED WITH A MINIMUM OF 6'-6" OF SLACK MEASURED FROM THE TOP OF THE CONCRETE BASE TO THE END OF THE CONDUCTOR. THE SLACK SHALL BE NEATLY TIED IN A COIL THAT FITS INSIDE THE ANCHOR BOLT CIRCLE UNTIL THE LIGHT POLE IS INSTALLED. GREAT CARE SHALL BE EXERCISED TO AVOID DAMAGE TO THE CONDUCTOR.

THE MINIMUM DEPTH OF CONDUIT EXITING THE CONCRETE BASE AND INSTALLED BELOW THE TRAVELED WAY SHALL BE 24". THE MINIMUM DEPTH OF CONDUIT EXITING THE CONCRETE BASE THAT IS NOT INSTALLED BELOW THE TRAVELED WAY SHALL BE 18". THE MAXIMUM DEPTH OF ALL CONDUIT SHALL BE 36". THE MAXIMUM DEPTH MAY ONLY BE EXCEEDED WITH THE WRITTEN APPROVAL OF THE ENGINEER.

ANCHOR RODS SHALL NOT BE WELDED TO THE BAR STEEL REINF. HOWEVER, TIE WIRES MAY BE USED.

BAR STEEL REINF. SHALL BE "COATED HIGH STRENGTH BAR STEEL REINFORCEMENT".

① STAINLESS STEEL MESH (RAT SCREEN) AND ¾" STAINLESS STEEL BANDING

② NO. 6 BAR STEEL REINF., 6'-8" LONG (6 EACH)

③ NO. 4 BAR STEEL REINF., 5'-0" LONG (7 EACH)

④ ⅝" × 8'-0" COPPER CLAD EQUIPMENT GROUNDING ELECTRODE (GROUND ROD) TOP OF ROD 12" MIN. BELOW FINISHED GRADE OR FINISHED PAVEMENT.

⑤ A NO. 4 AWG, STRANDED COPPER GROUNDING CONDUCTOR SHALL BE EXOTHERMICALLY WELDED TO THE EQUIPMENT GROUNDING ELECTRODE (GROUNDING ROD)

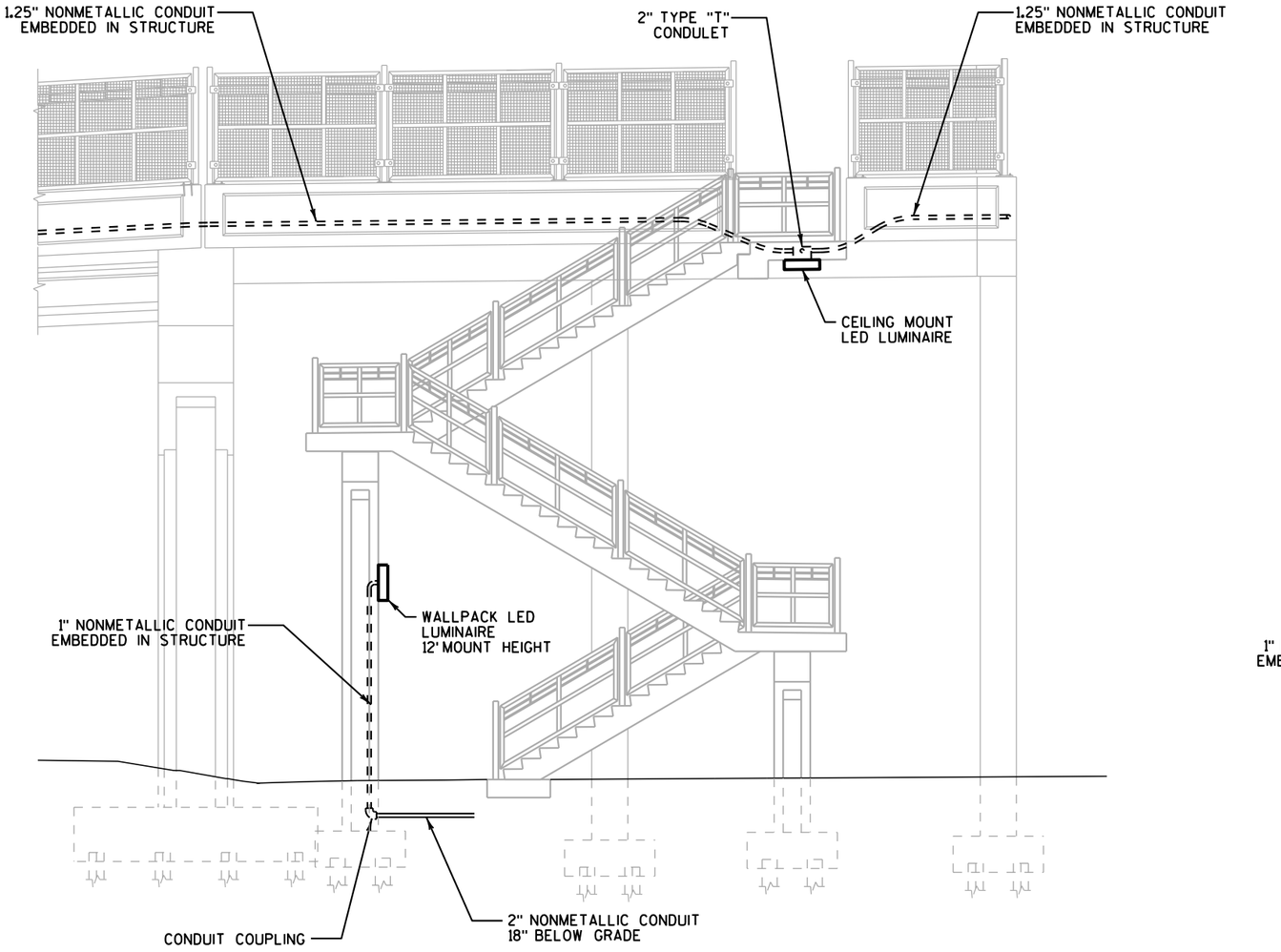
⑥ EXOTHERMIC WELD (CAD WELD)

CONCRETE BASE, TYPE 5, SPECIAL

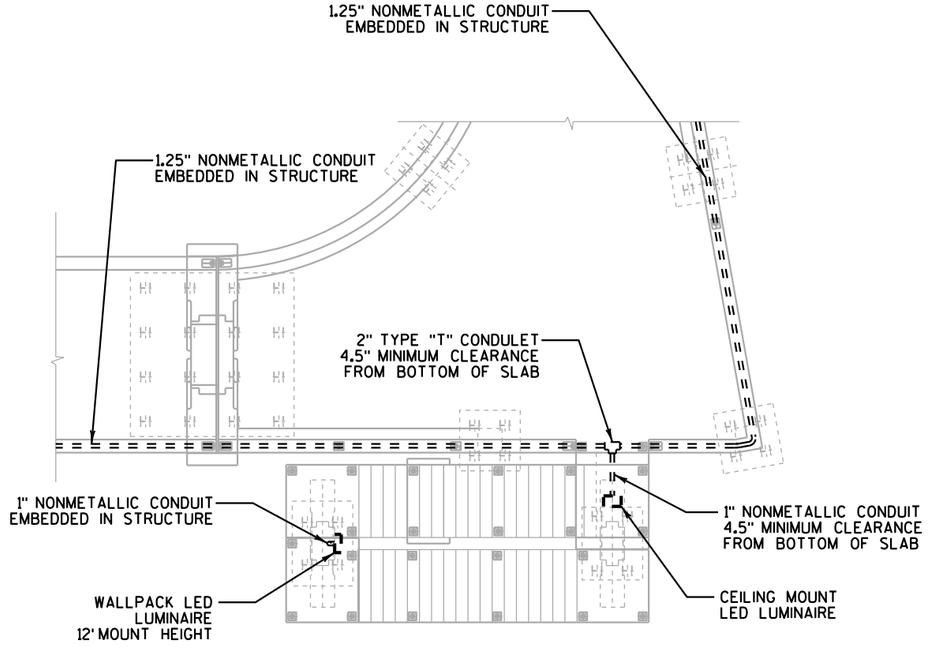
(1" ANCHOR RODS, 11.5" BOLT CIRCLE, 4" PROJECTION)

2

N



STAIR LIGHTING
(LOOKING WEST)



PLAN VIEW
(LOOKING WEST)

PROJECT NO: 1060-33-83	HWY: USH 45	COUNTY: MILWAUKEE	LIGHTING DETAIL - UNDERDECK LIGHTING/STAIRCASE LIGHTING	SHEET 67	E

2

LEGEND

(1) PAVEMENT MARKING EPOXY 4-INCH (YELLOW)

(2) PAVEMENT MARKING EPOXY 4-INCH (WHITE)

(3) PAVEMENT MARKING EPOXY 4-INCH (DASHED WHITE)
(12.5 FT LINE 37.5 FT SKIP)

(4) PAVEMENT MARKING EPOXY 4-INCH (DOT PATTERN WHITE)
(3 FT LINE 9 FT SKIP)

(6) PAVEMENT MARKING EPOXY 8-INCH (WHITE)

(13) PAVEMENT MARKING DIAGONAL EPOXY 24-INCH (WHITE)

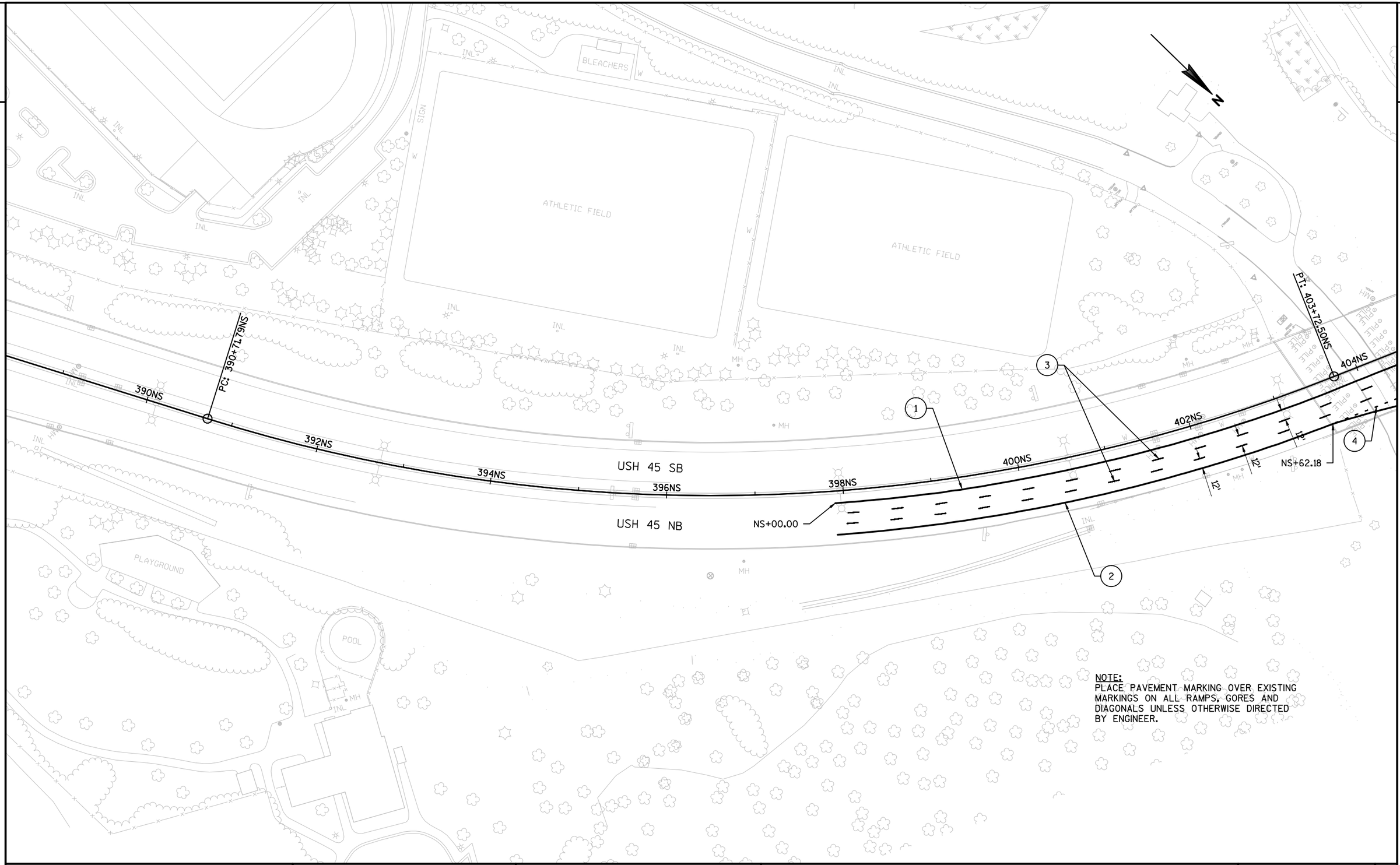
(140) PAVEMENT MARKING PARKING STALL EPOXY (YELLOW)*

NOTES:

*PAVEMENT MARKING PARKING STALL EPOXY (YELLOW) SHALL BE INSTALLED WITH A 4" WIDTH.

PROJECT NO:1060-33-83	HWY: USH 45	COUNTY: MILWAUKEE	PAVEMENT MARKING	SHEET 68	E

2



NOTE:
PLACE PAVEMENT MARKING OVER EXISTING MARKINGS ON ALL RAMPS, GORES AND DIAGONALS UNLESS OTHERWISE DIRECTED BY ENGINEER.

PROJECT NO: 1060-33-83	HWY: USH 45	COUNTY: MILWAUKEE	PAVEMENT MARKING - USH 45	SHEET 69	E

FILE NAME : W:\PDS\C3D\CAD\10603316\83\024498_PM.DWG
LAYOUT NAME - 024498_PM
PLOT DATE : 1/27/2015 4:44 PM PLOT BY : WAGNER, SCOTT H PLOT NAME : PLOT SCALE : 1:100_XREF
WISDOT/CADDS SHEET 42

2

PT: 403+72.50NS

404NS 406NS 408NS 410NS 412NS 414NS 416NS 418NS

PC: 416+48.94NS

USH 45 SB

USH 45 NB

12'

NS+07.29

NS+93.59

NS+99.80

NS+32.71

MAYFAIR RD

PARKING

UNION PACIFIC RAILROAD

N

1 2 3 4 6 13

NOTE:
PLACE PAVEMENT MARKING OVER EXISTING MARKINGS ON ALL RAMPS, GORES AND DIAGONALS UNLESS OTHERWISE DIRECTED BY ENGINEER.

PROJECT NO: 1060-33-83	HWY: USH 45	COUNTY: MILWAUKEE	PAVEMENT MARKING - USH 45	SHEET 70	E

FILE NAME : W:\PDS\C3D\CAD\10603316\83\024499_PM.DWG
LAYOUT NAME - 024499_PM

PLOT DATE : 1/27/2015 4:45 PM PLOT BY : WAGNER, SCOTT H PLOT NAME : PLOT SCALE : 1:100_XREF

2

USH 45 SB

USH 45 NB

NS+00.00

NS+30.56

NS+67.87

NS+81.92

NS+19.03

NO+22.11

NO+30.30

420NS

422NS

424NS

426NS

428NS

430NS

432NS

434NS

NORTH AVE

NOTE:
PLACE PAVEMENT MARKING OVER EXISTING MARKINGS ON ALL RAMPS, GORES AND DIAGONALS UNLESS OTHERWISE DIRECTED BY ENGINEER.

PROJECT NO: 1060-33-83	HWY: USH 45	COUNTY: MILWAUKEE	PAVEMENT MARKING - USH 45	SHEET 71	E

FILE NAME : W:\PDS\C3D\CAD\10603316\83\024500_PM.DWG
LAYOUT NAME - 024500_PM
PLOT DATE : 1/27/2015 4:46 PM PLOT BY : WAGNER, SCOTT H PLOT NAME : PLOT SCALE : 1:100_XREF
WISDOT/CADDS SHEET 42

2

N

N. 113TH ST.

N. 112TH ST.

USH 45 SB

USH 45 NB

NORTH AVE

MEINECKE AVE

N0+92.17

N0+62.08

N0+22.11

N0+30.30

N0117+44.34, 143.34' LT

N0117+05.81, 206.05' LT

NS+64.73

NS+78.68

NS+64.33

NS+28.93

PT: 436+86.55NS

NS+73.01

NS+92.38

NS+90.94

NS+22.33

NS+28.52

NS+27.08

NS+51.17

NS+56.12

NS+51.08

434NS

436NS

438NS

440NS

442NS

444NS

446NS

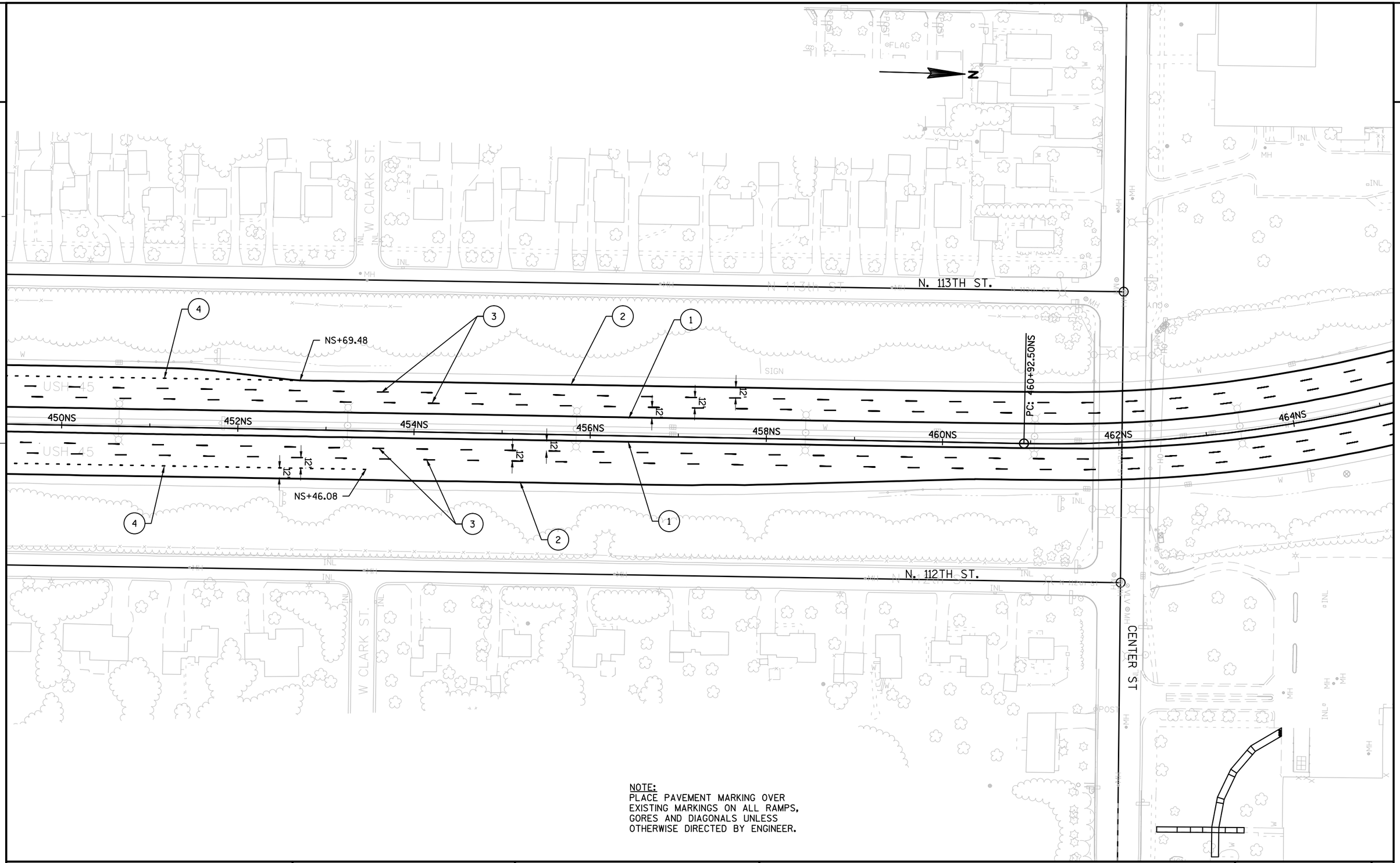
448NS

12'

NOTE:
PLACE PAVEMENT MARKING OVER EXISTING MARKINGS ON ALL RAMPS, GORES AND DIAGONALS UNLESS OTHERWISE DIRECTED BY ENGINEER.

PROJECT NO: 1060-33-83	HWY: USH 45	COUNTY: MILWAUKEE	PAVEMENT MARKING - USH 45	SHEET 72	E

2



NOTE:
PLACE PAVEMENT MARKING OVER EXISTING MARKINGS ON ALL RAMPS, GORES AND DIAGONALS UNLESS OTHERWISE DIRECTED BY ENGINEER.

PROJECT NO: 1060-33-83	HWY: USH 45	COUNTY: MILWAUKEE	PAVEMENT MARKING - USH 45	SHEET 73	E

2

XD20+48.64, 0' LT

140 *

XD21+53.14, 0' LT

NS+94.31

NS+83.31

NS+17.31

NS+98.12

466NS

468NS

470NS

472NS

474NS

476NS

478NS

480NS

12'

USH 45

TENNIS COURT

BLEACHERS

ATHLETIC FIELD

INL

N 114th ST.

W LOCUST ST.

NOTE:
PLACE PAVEMENT MARKING OVER EXISTING MARKINGS ON ALL RAMPS, GORES AND DIAGONALS UNLESS OTHERWISE DIRECTED BY ENGINEER.

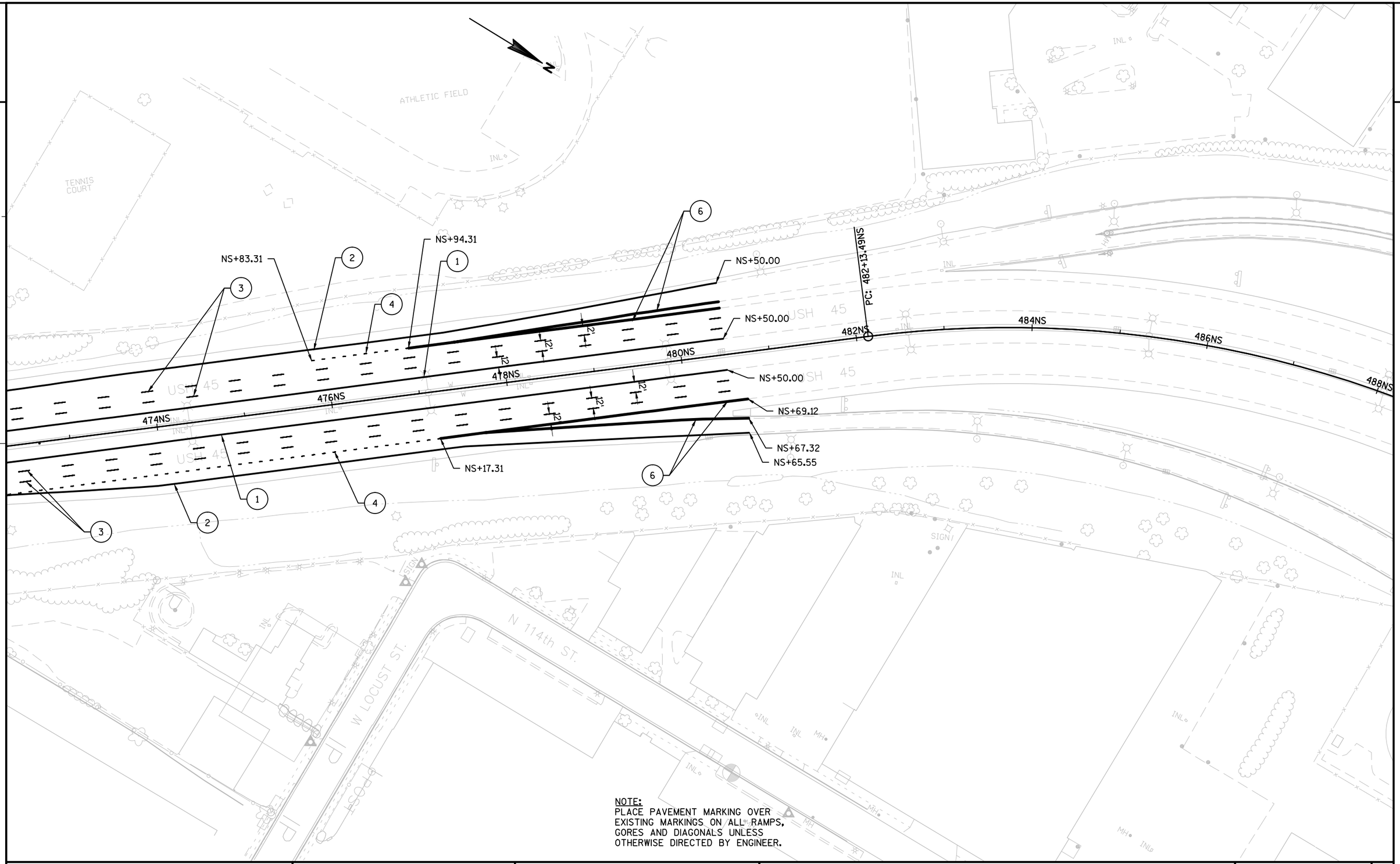
* PATH XD SOLID YELLOW CENTERLINE PAID FOR AS "PAVEMENT MARKING STALL EPOXY (YELLOW)"

PROJECT NO: 1060-33-83	HWY: USH 45	COUNTY: MILWAUKEE	PAVEMENT MARKING - USH 45	SHEET 74	E

FILE NAME : W:\PDS\C3D\CAD\10603316\83\024503_PM.DWG PLOT DATE : 1/27/2015 4:56 PM PLOT BY : WAGNER, SCOTT H PLOT NAME : PLOT SCALE : 1:100_XREF

WISDOT/CADDS SHEET 42

2



PROJECT NO: 1060-33-83	HWY: USH 45	COUNTY: MILWAUKEE	PAVEMENT MARKING - USH 45	SHEET 75	E

2

N

R/L XE

10XE

27XD

28XD

R/L XD

ET: 100+94.56

EP: 32+21.65

10XE

10XE

10XE

4" DIAGONALS @ 45°,
2' SPACING, TYP

16WMS

16WMS

15WMS

14WMS

PI: 31+98.54

PC: 100+61.02

12XD

BP: 99+80.16

140 BEGIN +00
0' LT

140 END +98
0' LT

29XD

140 +35
0' LT

+50
0' LT 140

140 +02.99
1' LT

140 +85.54
1' LT

31XD

PT: 30+85.54

PC: 30+02.99

30XD

R/L NS

24' (TYP)

3.5'

21'

+27.59'
13.19' LT

18'

22' (TYP)

15 SPACES 8.5' = 127.5'

8.5' (TYP)

18'

17'

+05.09'
13.33' LT

+27.56'
12.32' RT

21'

32.5' (TYP)

36' (TYP)

14 SPACES @ 8.5' = 119'

+05.06'
12.17' RT

140

R/L WMS

NOTE:
PLACE PAVEMENT MARKING OVER EXISTING MARKINGS ON ALL RAMPS, GORES AND DIAGONALS UNLESS OTHERWISE DIRECTED BY ENGINEER.

* PATH "XD"
SOLID YELLOW CENTERLINE
PAID FOR AS "PAVEMENT MARKING STALL EPOXY (YELLOW)"

PROJECT NO: 1060-33-83	HWY: USH 45	COUNTY: MILWAUKEE	PAVEMENT MARKING PEDESTRIAN BRIDGE	SHEET 76	E

GENERAL NOTES FOR TRAFFIC CONTROL

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

2) A FLAGGER MAY BE REQUIRED WHERE CONSTRUCTION VEHICLES ENTER OR LEAVE WORK AREAS IF WARRANTED BY CONDITIONS OR AS DIRECTED BY THE ENGINEER. FLAGGING IS NOT PERMITTED ON FREEWAY LANES.

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

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

5) FOR NIGHTTIME OPERATION ALL DRUMS IN TAPERS SHALL HAVE A TYPE C STEADY BURN WARNING LIGHT.

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

7) DIMENSIONS TO CONCRETE BARRIER TEMPORARY PRECAST ARE TO THE FACE OF BARRIER ADJACENT TO TRAFFIC. STATION CALL-OUTS TO CONCRETE BARRIER TEMPORARY PRECAST ARE TO THE FACE OF BARRIER.

8) WORK AREAS SHOWN MAY NOT ILLUSTRATE ALL REMOVALS. SEE REMOVAL SHEETS FOR ADDITIONAL INFORMATION.

9) ALL TRAFFIC CONTROL SIGNS LOCATED IN MEDIANS SHALL BE MOUNTED ON CONCRETE BARRIER UNLESS OTHERWISE NOTED, SEE TRAFFIC CONTROL DETAILS.

10) WHEN A SEGMENT OF THE PROJECT IS NOT SHOWN ON THE STAGING PLANS, USE THE SAME TRAFFIC CONTROL AS THE PREVIOUS STAGE FOR THAT SEGMENT.

11) TRAFFIC CONTROL DRUM SPACING SHALL BE 50' UNLESS OTHERWISE NOTED.

12) 16" X 16" ORANGE FLAGS SHALL BE INCIDENTAL TO TRAFFIC CONTROL SIGN BID ITEM.

LEGEND

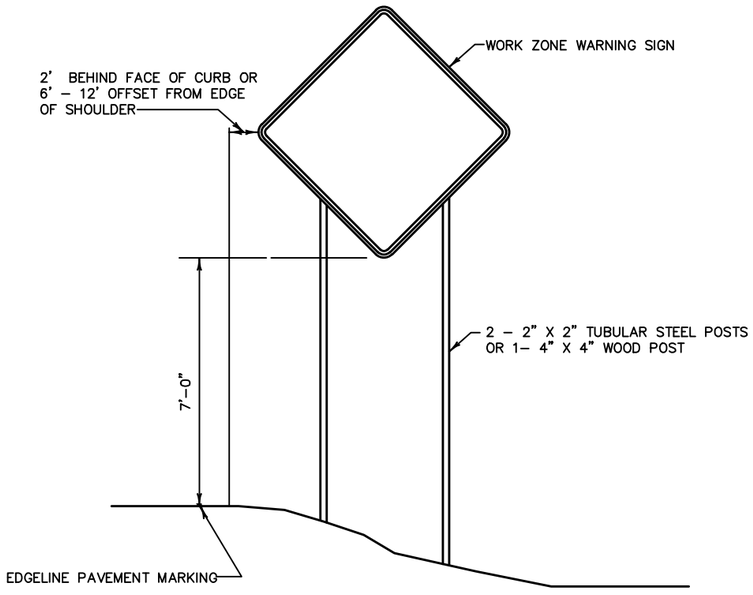
- TRAFFIC CONTROL BARRICADE TYPE III WITH LIGHTS TYPE A
- TRAFFIC CONTROL BARRICADE TYPE III WITH LIGHTS TYPE A AND ATTACHED SIGN
- SIGN ON PERMANENT SUPPORT
- SIGN ON TEMPORARY SUPPORT
- FIXED MESSAGE SIGN GROUND MOUNT
- TRAFFIC CONTROL ARROW BOARD
- CC — CRASH CUSHION TEMPORARY
- PCMS — TRAFFIC CONTROL SIGN PORTABLE CHANGEABLE MESSAGE
- TRAFFIC CONTROL DRUM WITH WITH LIGHT TYPE C
- TRAFFIC CONTROL DRUM
- CONCRETE BARRIER TEMPORARY PRECAST (CBTP)
- CONCRETE BARRIER TEMPORARY PRECAST PLACED IN PRIOR STAGE
- TRAFFIC FLOW ARROW
- WORK ZONE THIS STAGE

TEMPORARY PAVEMENT MARKING LEGEND

- (45) TEMPORARY PAVEMENT MARKING REFLECTIVE PAINT 4-INCH (YELLOW)
- (46) TEMPORARY PAVEMENT MARKING REFLECTIVE PAINT 4-INCH (WHITE)
- (112) TEMPORARY PAVEMENT MARKING REFLECTIVE PAINT 4-INCH (DOT PATTERN WHITE) (3 FT LINE 9 FT SKIP)
- (185) TEMPORARY PAVEMENT MARKING REFLECTIVE PAINT 4-INCH (DASHED WHITE) (20 FT LINE 20 FT SKIP)
- (P) PERMANENT PAVEMENT MARKING, SEE PAVEMENT MARKING PLAN
- ▶ TEMPORARY RAISED PAVEMENT MARKERS (ONE-WAY REFLECTOR)

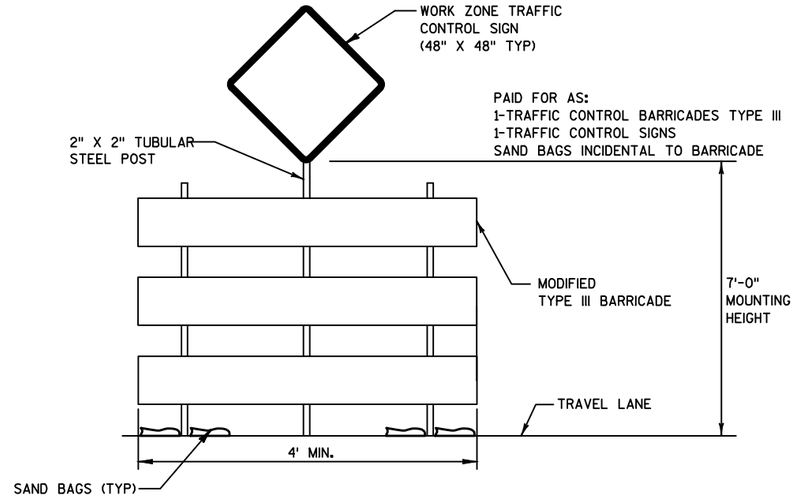
2

PROJECT NO: 1060-33-83	HWY: USH 45	COUNTY: MILWAUKEE	TRAFFIC CONTROL NOTES AND LEGENDS	SHEET 77	E



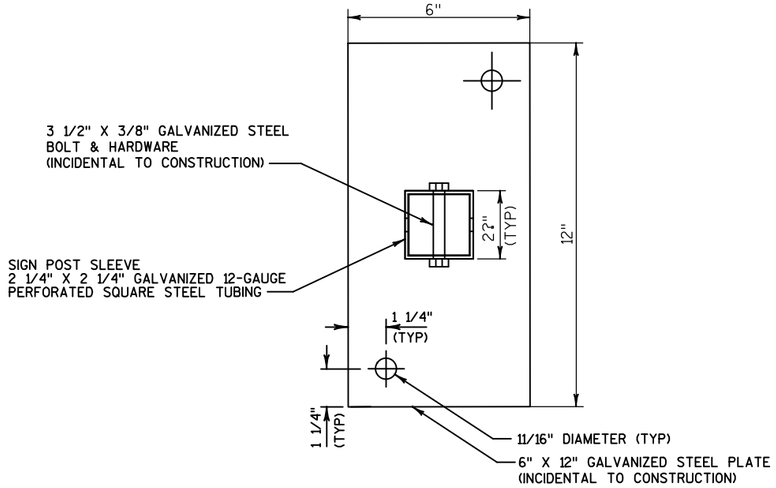
TYPICAL TEMPORARY TRAFFIC CONTROL SIGN
MOUNTING ON FIXED SUPPORT

LONG TERM
7 DAYS OR MORE

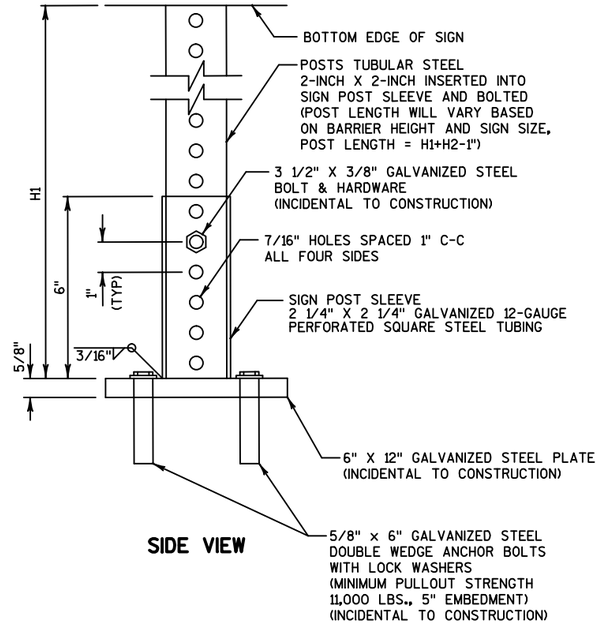


TYPICAL TEMPORARY TRAFFIC CONTROL DETAIL
MOUNTING ON TEMPORARY SUPPORT

2

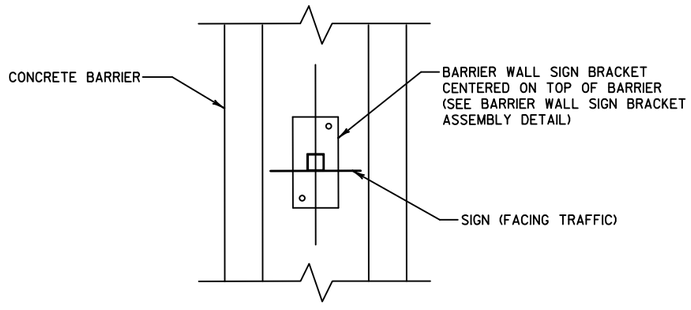


PLAN VIEW

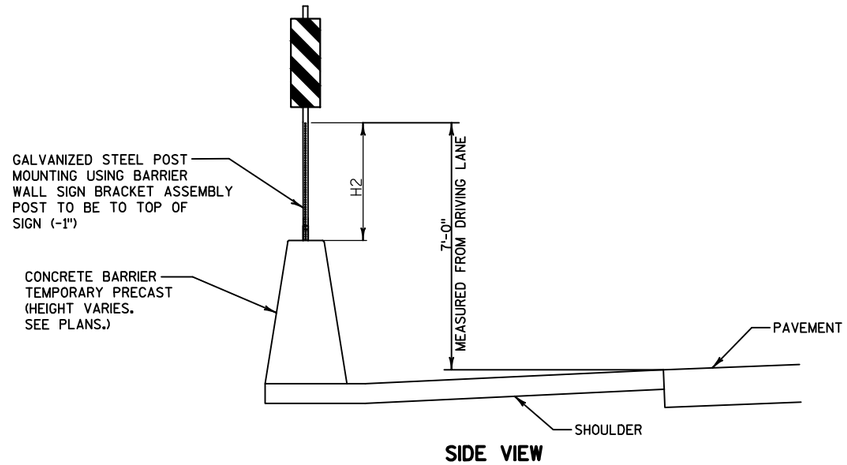


SIDE VIEW

BARRIER WALL SIGN BRACKET ASSEMBLY DETAIL



PLAN VIEW



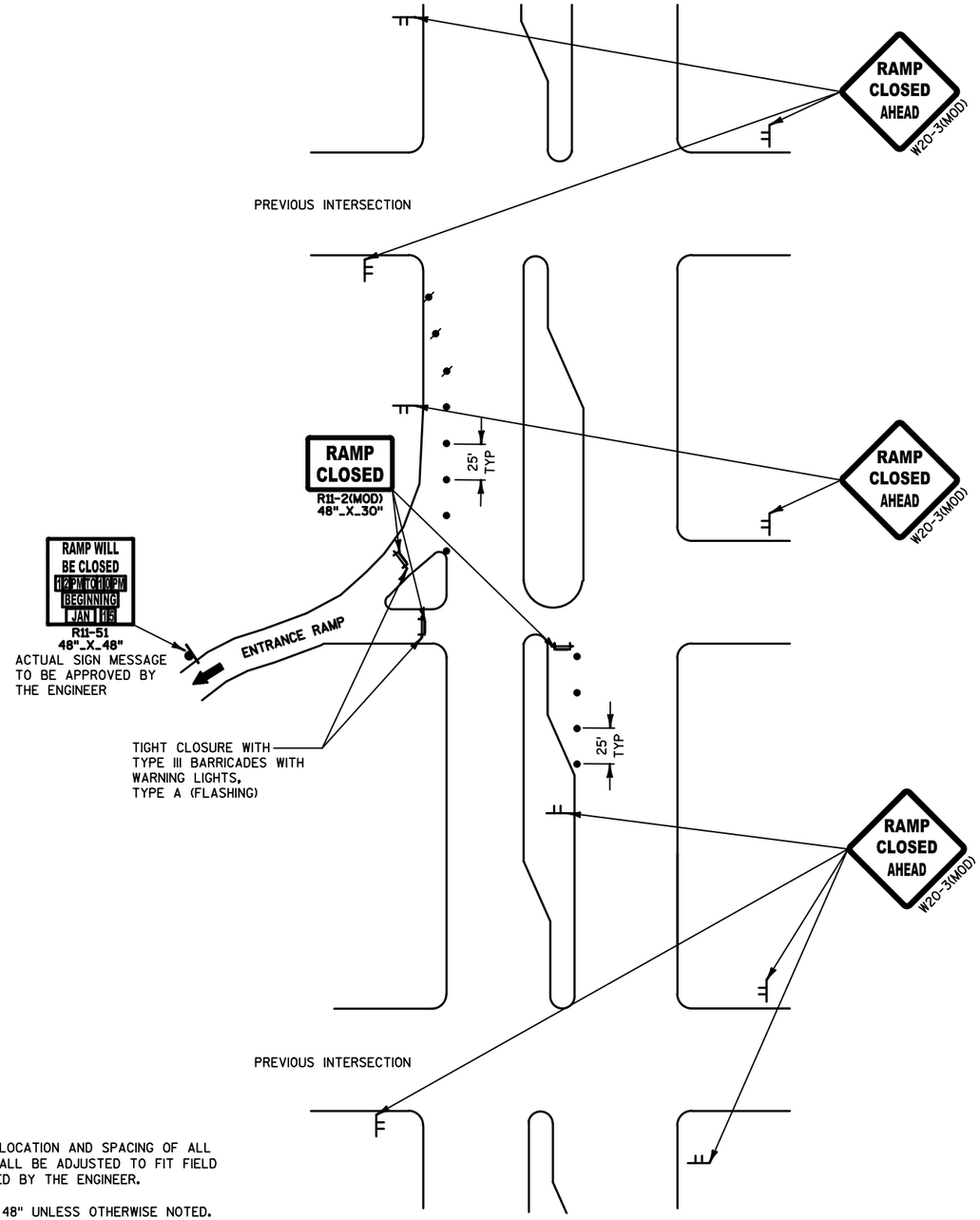
SIDE VIEW

MEDIAN BARRIER MOUNTING DETAIL

MOUNTING SIGNS TO MEDIAN BARRIER

NOT TO SCALE

2



NOTES

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

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

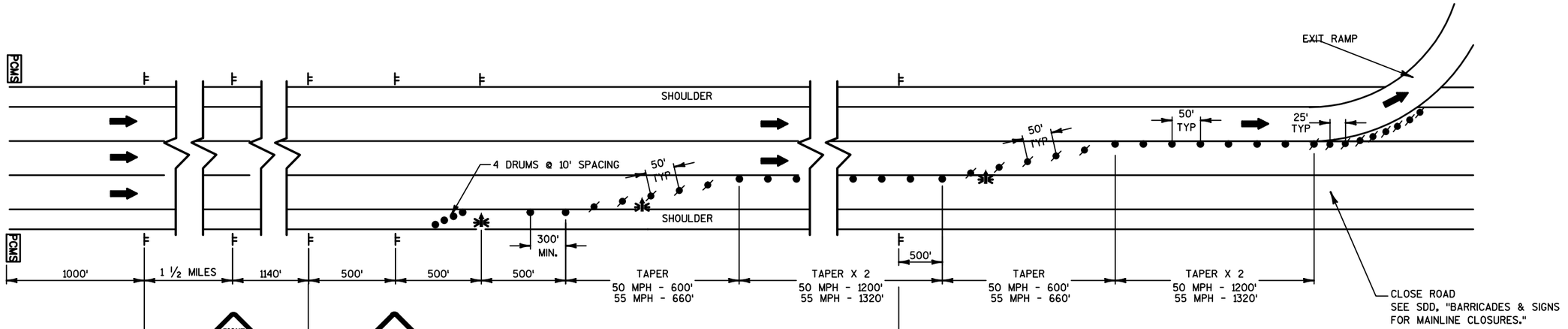
"WO" SIGNS ARE THE SAME AS "W" SIGNS EXCEPT THE BACKGROUND IS ORANGE.

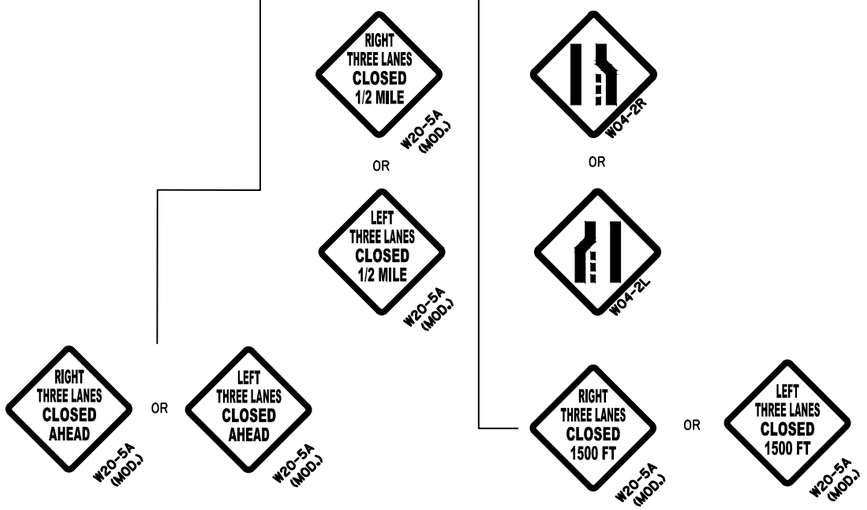
LEGEND

- TRAFFIC CONTROL DRUM
- TRAFFIC CONTROL DRUM WITH LIGHT TYPE C
- SIGN ON PERMANENT SUPPORT
- SIGN ON TEMPORARY SUPPORT
- TRAFFIC CONTROL III BARRICADE FOR SHORT TERM 3 DAYS OR LESS
- TRAFFIC CONTROL III BARRICADE WITH LIGHT TYPE A AND ATTACHED SIGN
- DIRECTION OF TRAFFIC

TRAFFIC CONTROL FOR ENTRANCE RAMP CLOSURE

(SHORT TERM ONLY)





LEGEND

- ● TRAFFIC CONTROL DRUM
- TRAFFIC CONTROL DRUM WITH LIGHT TYPE C
- SIGN ON TEMPORARY SUPPORT
- TRAFFIC CONTROL ARROW BOARD
- DIRECTION OF TRAFFIC
- PCMS TRAFFIC CONTROL SIGN PORTABLE CHANGEABLE MESSAGE

FULL FREEWAY CLOSURE DETAIL

3 LANE CLOSURE - SPEEDS 45 MPH OR GREATER

TRAFFIC CONTROL NOTES

RIGHT LANE CLOSURE SHOWN (LEFT LANE CLOSURE SIMILAR).

THREE LANE CLOSURE SHOWN. ADJUST DETAIL ACCORDINGLY FOR ROADWAY WITH FEWER LANES.
THE EXACT NUMBER, LOCATION AND SPACING OF ALL SIGNS AND DEVICES SHALL BE ADJUSTED TO FIT FIELD CONDITIONS AS DIRECTED BY THE ENGINEER.

FOR NIGHTTIME OPERATION ALL DRUMS IN TAPERS SHALL HAVE A WARNING LIGHT, TYPE C (STEADY BURN).

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

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

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

ALL SHORT TERM LANE CLOSURE SIGNS SHALL BE REMOVED OR COVERED AND ALL ARROW BOARDS AND DEVICES REMOVED BEYOND THE SHOULDER WHEN THE WORK IS NOT IN PROGRESS AND THE LANE IS RESTORED TO A SAFE OPERATING CONDITION.

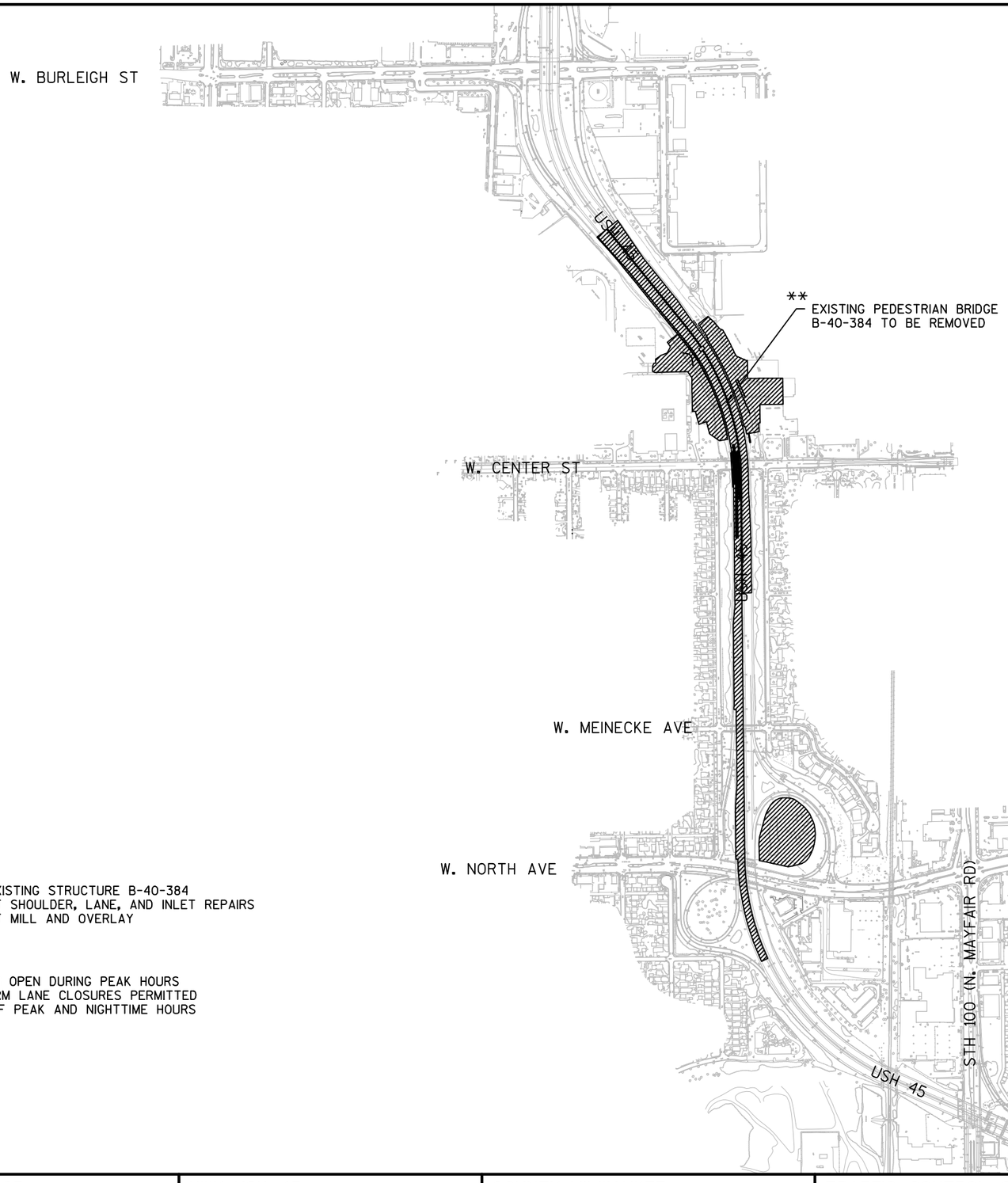
ALL WARNING SIGNS FOR LONG TERM OPERATIONS SHALL BE NON-FLUORESCENT DIAMOND GRADE SHEETING. TYPE A LIGHTS AND FLAGS ARE NOT REQUIRED.

IF LANE CLOSURE IS MORE THAN 1 MILE, PLACE A TYPE III BARRICADE APPROXIMATELY EVERY 1000' ACROSS THE CLOSED LANE TO HELP ENFORCE THE DRUM LINE.

CONSIDER GEOMETRICS WHEN LOCATING SIGNS AND ARROW BOARDS SO THE DRIVER HAS A CLEAR VIEW OF THE ARROW BOARD AND LANE CLOSURE DRUMS FOR A MINIMUM 1500' IN FRONT OF DRUMS WITH LANE CLOSED SIGN.

SEE DETOUR PLANS FOR ADDITIONAL SIGNING REQUIREMENTS.

2



N

STAGE 1

CONSTRUCTION

- USH 45
  - REMOVE EXISTING STRUCTURE B-40-384
  - CONSTRUCT SHOULDER, LANE, AND INLET REPAIRS
  - CONSTRUCT MILL AND OVERLAY

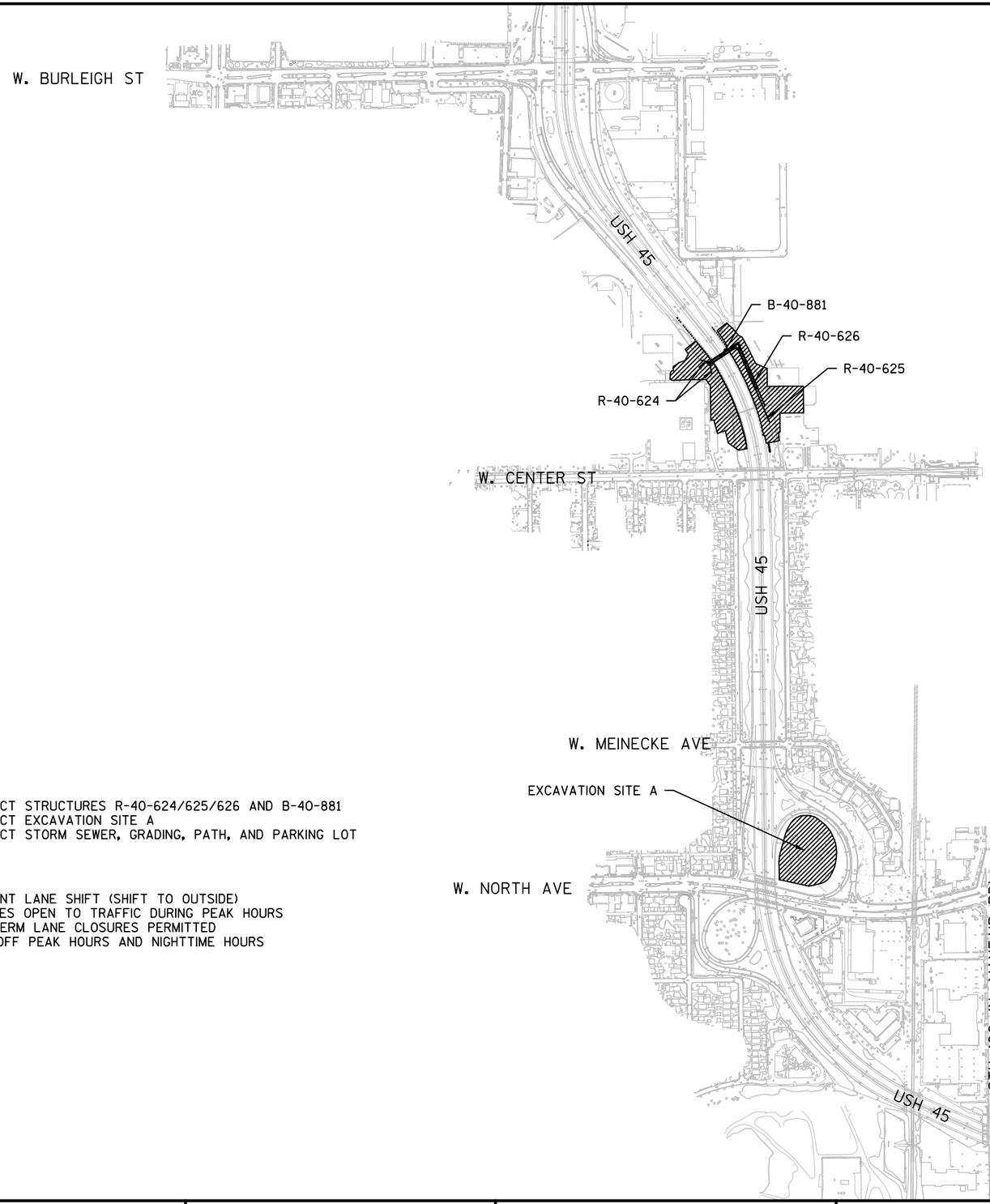
TRAFFIC

- ALL LANES OPEN DURING PEAK HOURS
- SHORT TERM LANE CLOSURES PERMITTED DURING OFF PEAK AND NIGHTTIME HOURS

**NOTE: INSTALL SIDEWALK CLOSURE SIGNS SHOWN IN STAGE 2 AND SAFETY FENCE PRIOR TO REMOVING BRIDGE B-40-384

PROJECT NO: 1060-33-83	HWY: USH 45	COUNTY: MILWAUKEE	TRAFFIC CONTROL STAGE 1 OVERVIEW	SHEET 82	E

2



STAGE 2

CONSTRUCTION

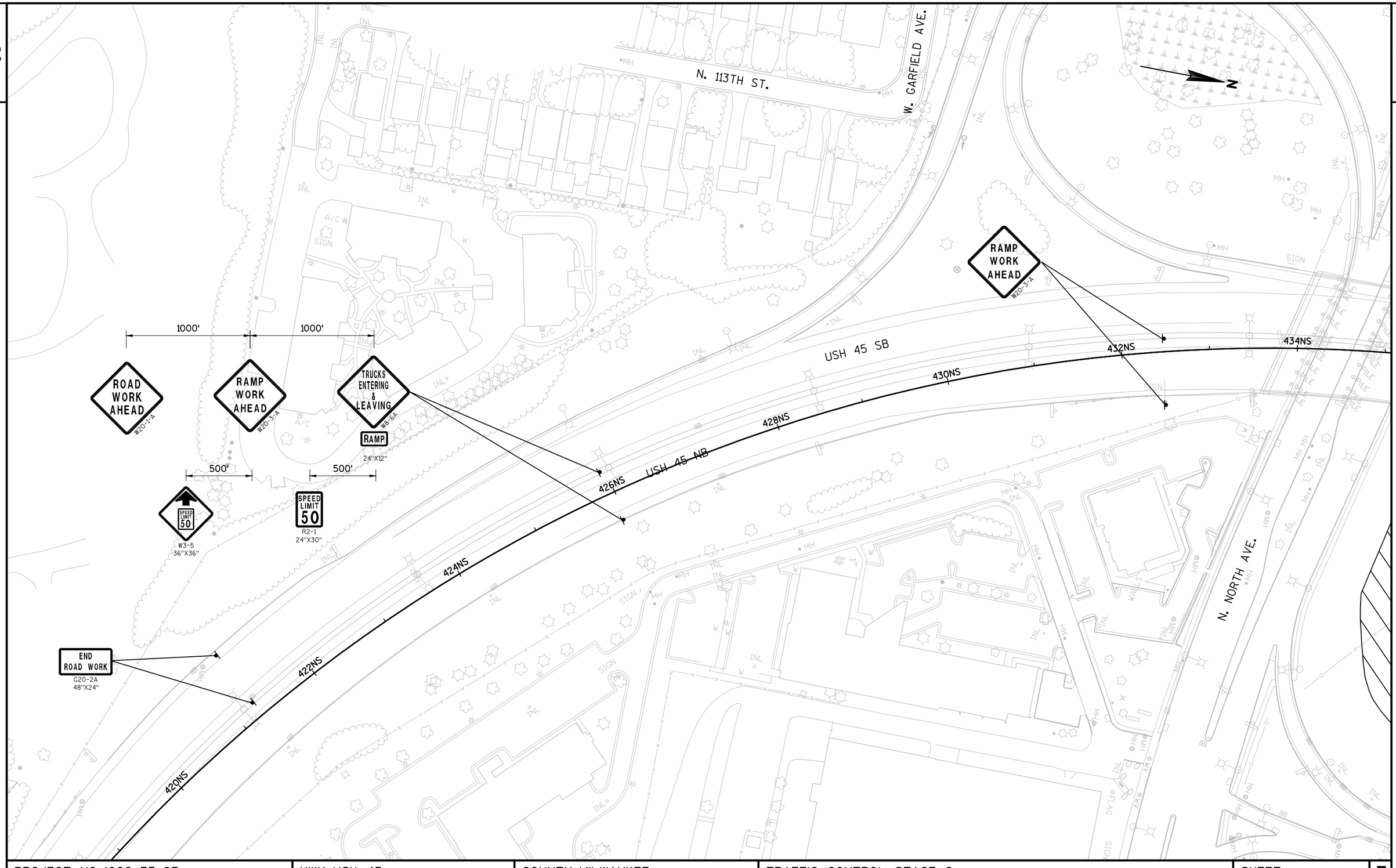
- USH 45
  - CONSTRUCT STRUCTURES R-40-624/625/626 AND B-40-881
  - CONSTRUCT EXCAVATION SITE A
  - CONSTRUCT STORM SEWER, GRADING, PATH, AND PARKING LOT

TRAFFIC

- PERMANENT LANE SHIFT (SHIFT TO OUTSIDE)
- ALL LANES OPEN TO TRAFFIC DURING PEAK HOURS
- SHORT TERM LANE CLOSURES PERMITTED DURING OFF PEAK HOURS AND NIGHTTIME HOURS

PROJECT NO: 1060-33-83	HWY: USH 45	COUNTY: MILWAUKEE	TRAFFIC CONTROL STAGE 2 OVERVIEW	SHEET 83	E

2



PROJECT NO: 1060-33-83	HWY: USH 45	COUNTY: MILWAUKEE	TRAFFIC CONTROL STAGE 2	SHEET 84 E

FILE NAME : W:\PDS\C3D\CAD\10603316\83\026298_S2.DWG
LAYOUT NAME - 026298_S2

PLOT DATE : 1/27/2015 10:51 AM PLOT BY : WAGNER, SCOTT H PLOT NAME : PLOT SCALE : 1:100_XREF

2

2

W. NORTH AVE.

N. 113TH ST.

PI: 436+86.55NS

434NS

436NS

438NS

440NS

442NS

444NS

446NS

448NS

W. MEINECKE AVE.

USH 45 SB

USH 45 NB

N. 112TH ST.

ROAD WORK 1/2 MILE W20-1-G

ROAD WORK AHEAD W20-1-A

ROAD WORK 1500 FT W20-1-B

N

PROJECT NO: 1060-33-83	HWY: USH 45	COUNTY: MILWAUKEE	TRAFFIC CONTROL STAGE 2	SHEET 85	E

FILE NAME : W:\PDS\C3D\CAD\10603316\83\026299_S2.DWG
LAYOUT NAME - 026299_S2

PLOT DATE : 1/27/2015 10:53 AM PLOT BY : WAGNER, SCOTT H PLOT NAME : PLOT SCALE : 1:100_XREF

WISDOT/CADDS SHEET 42

2

N

W. CLARK ST.

N. 113TH ST.

USH 45 SB

USH 45 NB

450NS

452NS

454NS

456NS

458NS

460NS

462NS

464NS

PC: 460+92.50NS

SPEED LIMIT 50
R2-1
24"X30"

LANES NARROW AHEAD
W20-1(MOD)

45 M.P.H.
W013-1
36"X36"

W24-1-SR

N. 112TH ST.

W. CLARK ST.

W. CENTER ST.

MAX. 11' WIDTH
W12-52

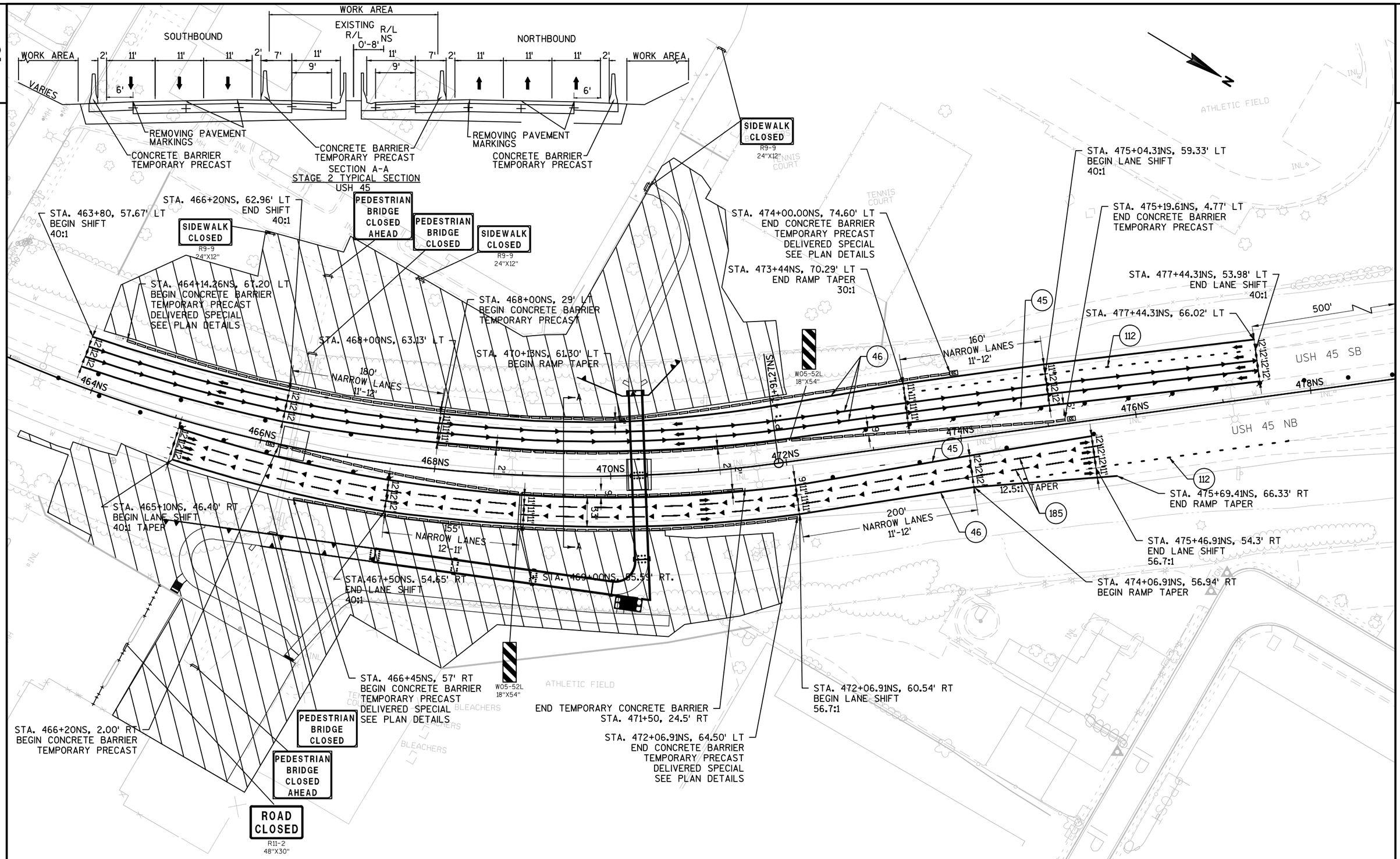
EACH LANE
W12-52P
48"X36"

PROJECT NO: 1060-33-83	HWY: USH 45	COUNTY: MILWAUKEE	TRAFFIC CONTROL STAGE 2	SHEET 86	E

FILE NAME : W:\PDS\C3D\CAD\10603316\83\026300_S2.DWG
LAYOUT NAME - 026300_S2

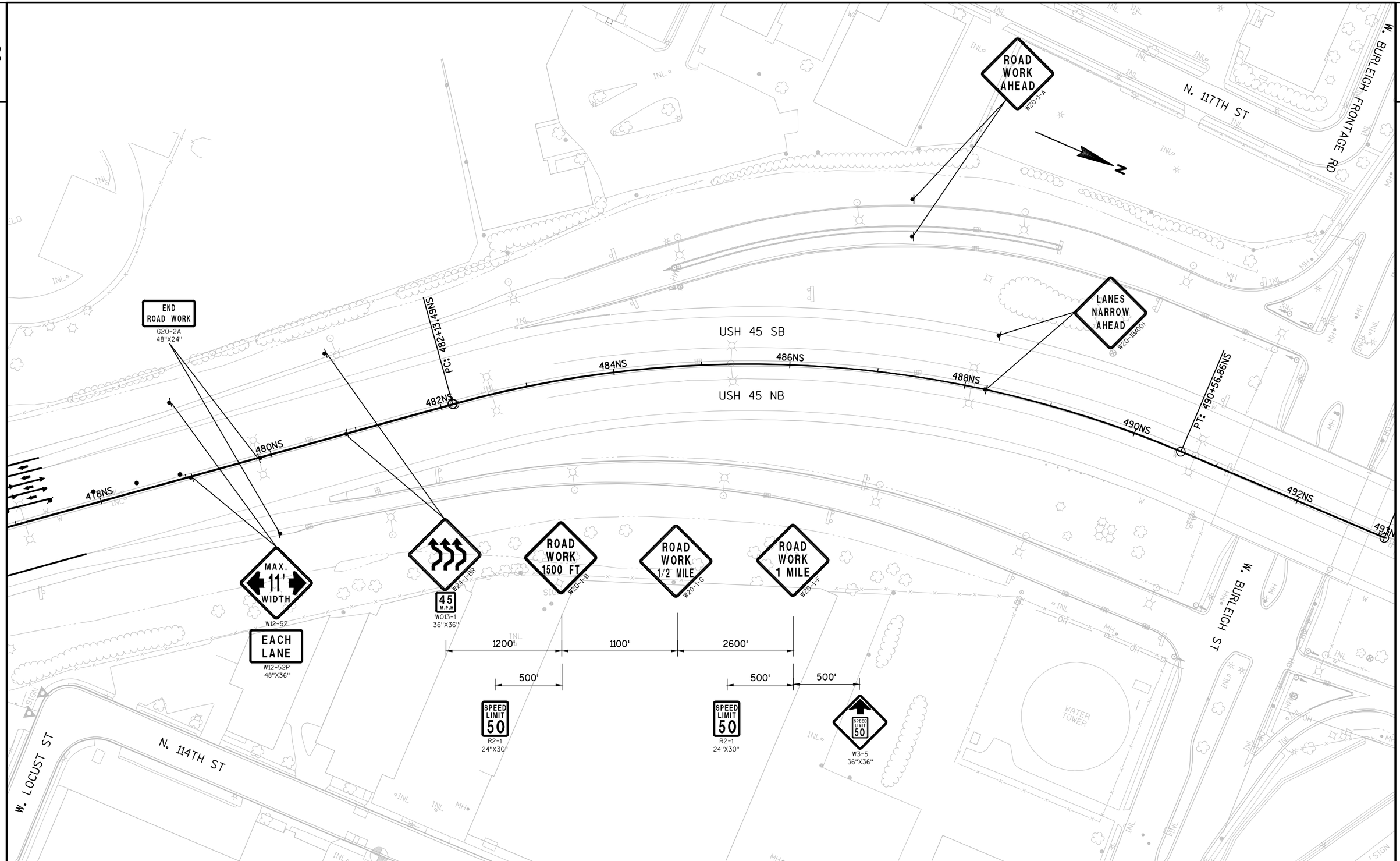
PLOT DATE : 1/27/2015 10:55 AM PLOT BY : WAGNER, SCOTT H PLOT NAME : PLOT SCALE : 1:100_XREF

WISDOT/CADDS SHEET 42



PROJECT NO: 1060-33-83	HWY: USH 45	COUNTY: MILWAUKEE	TRAFFIC CONTROL STAGE 2	SHEET 87 E

2



PROJECT NO: 1060-33-83	HWY: USH 45	COUNTY: MILWAUKEE	TRAFFIC CONTROL STAGE 2	SHEET 88 E

FILE NAME : W:\PDS\C3D\CAD\10603316\83\026302_S2.DWG
LAYOUT NAME - 026302_S2
PLOT DATE : 1/27/2015 10:57 AM PLOT BY : WAGNER, SCOTT H PLOT NAME : PLOT SCALE : 1:100_XREF
WISDOT/CADDS SHEET 42

2

SIGN CODE & SIGN SIZES

NORTH	M3-1	(2) 24"X12"	(3) 36"X18"
SOUTH	M3-3	(2) 24"X12"	(3) 36"X18"
TO	M04-5	(2) 24"X12"	(3) 36"X18"
END	M04-6	(2) 24"X12"	(3) 36"X18"
DETOUR	M4-8	(2) 24"X12"	(3) 36"X18"
45	M1-4	(2) 24"X24"	(3) 36"X36"
M05-1 M05-2		(2) 21"X21"	(3) 30"X30"
M06-1 M06-2		(2) 21"X21"	(3) 30"X30"

LEGEND

- DETOUR ROUTE
- WORK ZONE
- ROADWAY CLOSED
- EXISTING SIGN ON MOUNTED POST(S)
- PROPOSED SIGN ON MOUNTED POST(S)
- ( ) SIGN SIZE

DETOUR SIGNING - GENERAL NOTES

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

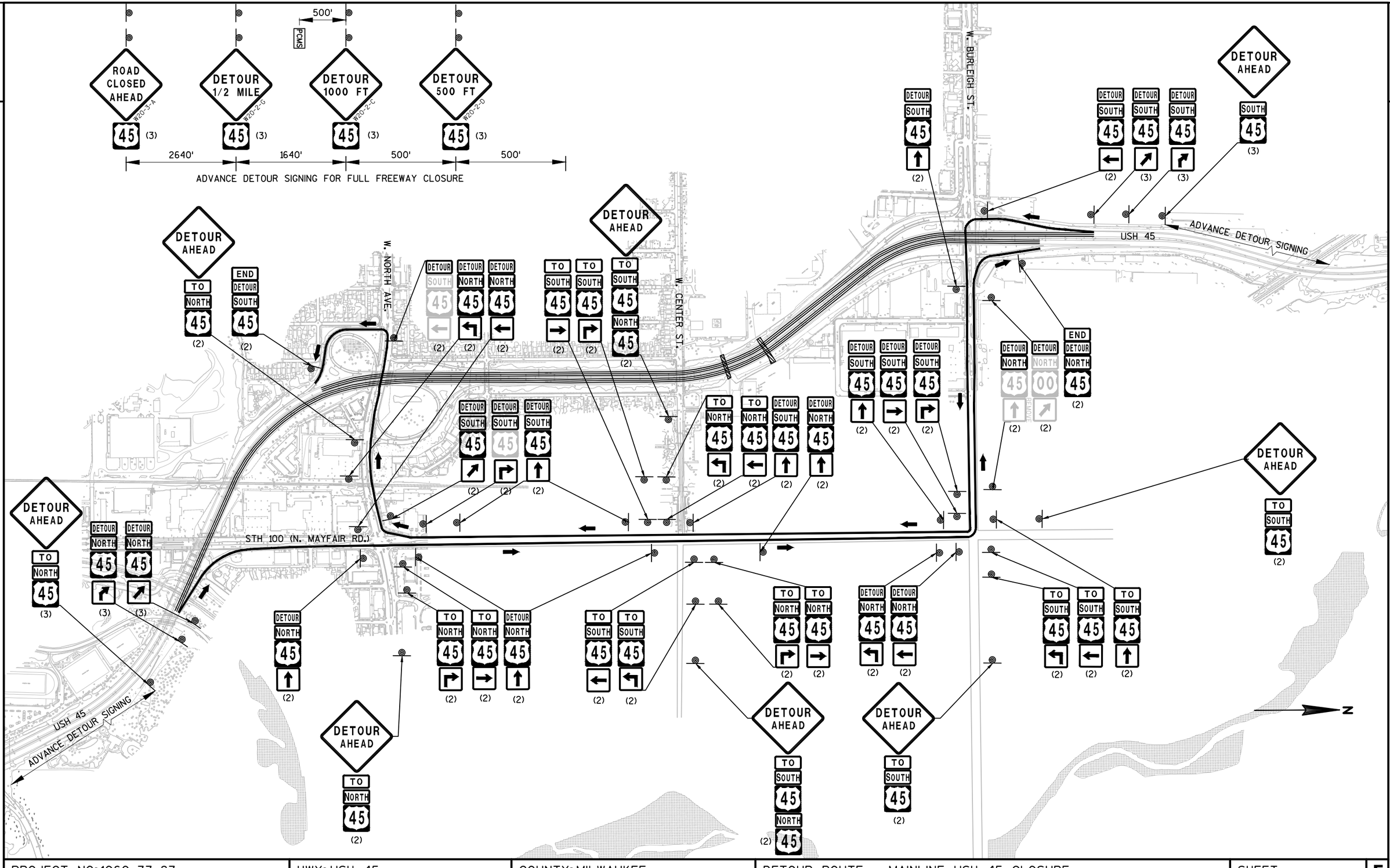
THE SPACING BETWEEN SIGNS SHOULD BE ADJUSTED NOT TO CONFLICT WITH AND TO PROVIDE A MINIMUM 200 FEET (500 FEET DESIREABLE) CLEARANCE TO EXISTING SIGNS.

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.

ALL WARNING SIGNS ARE 48"X48".

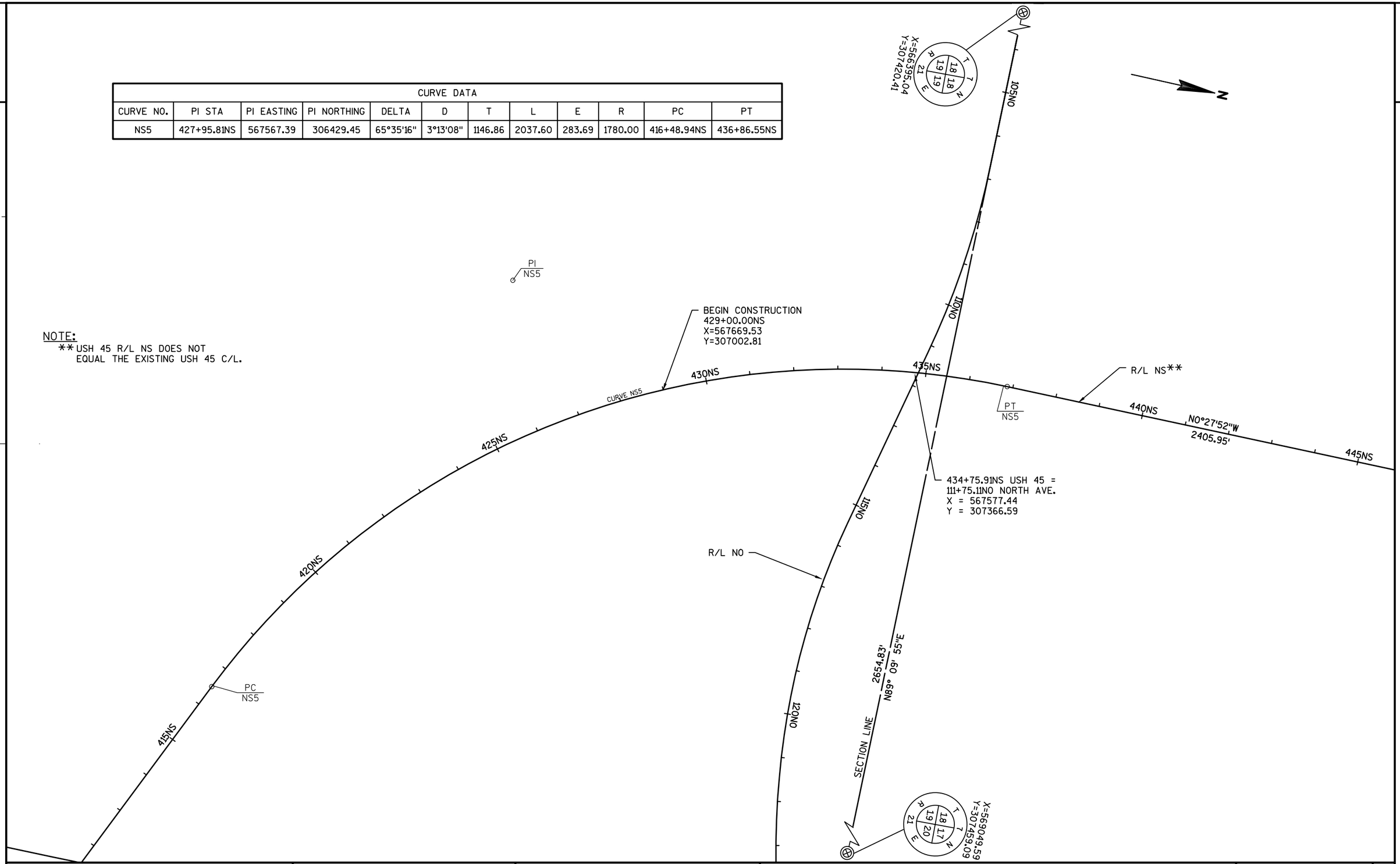
COVERING AND UNCOVERING SIGNS ARE INCIDENTAL TO DETOUR SIGNING.

A STAND-ALONE PROPOSED DETOUR SIGN ASSEMBLY MAY BE INSTALLED NEAR AN EXISTING J-ASSEMBLY AS AN ALTERNATIVE TO MODIFYING AN EXISTING J-ASSEMBLY AND VISE VERSA.



PROJECT NO: 1060-33-83	HWY: USH 45	COUNTY: MILWAUKEE	DETOUR ROUTE - MAINLINE USH 45 CLOSURE	SHEET 90	E

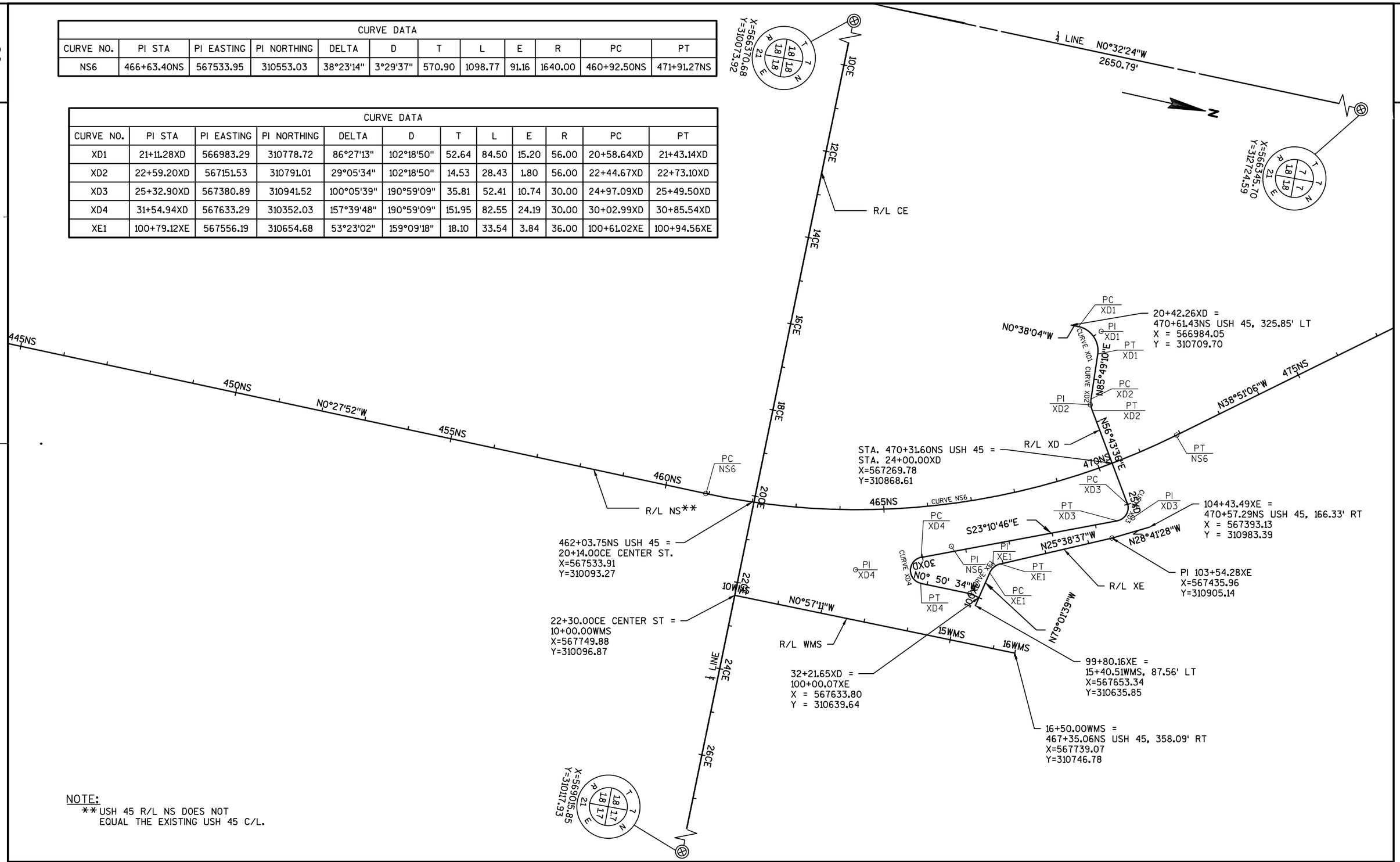
CURVE DATA											
CURVE NO.	PI STA	PI EASTING	PI NORTHING	DELTA	D	T	L	E	R	PC	PT
NS5	427+95.81NS	567567.39	306429.45	65°35'16"	3°13'08"	1146.86	2037.60	283.69	1780.00	416+48.94NS	436+86.55NS



PROJECT NO: 1060-33-83	HWY: USH 45	COUNTY: MILWAUKEE	ALIGNMENT LAYOUT	SHEET 91	E

CURVE DATA											
CURVE NO.	PI STA	PI EASTING	PI NORTHING	DELTA	D	T	L	E	R	PC	PT
NS6	466+63.40NS	567533.95	310553.03	38°23'14"	3°29'37"	570.90	1098.77	91.16	1640.00	460+92.50NS	471+91.27NS

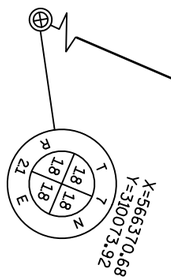
CURVE DATA											
CURVE NO.	PI STA	PI EASTING	PI NORTHING	DELTA	D	T	L	E	R	PC	PT
XD1	21+11.28XD	566983.29	310778.72	86°27'13"	102°18'50"	52.64	84.50	15.20	56.00	20+58.64XD	21+43.14XD
XD2	22+59.20XD	567151.53	310791.01	29°05'34"	102°18'50"	14.53	28.43	1.80	56.00	22+44.67XD	22+73.10XD
XD3	25+32.90XD	567380.89	310941.52	100°05'39"	190°59'09"	35.81	52.41	10.74	30.00	24+97.09XD	25+49.50XD
XD4	31+54.94XD	567633.29	310352.03	157°39'48"	190°59'09"	151.95	82.55	24.19	30.00	30+02.99XD	30+85.54XD
XE1	100+79.12XE	567556.19	310654.68	53°23'02"	159°09'18"	18.10	33.54	3.84	36.00	100+61.02XE	100+94.56XE



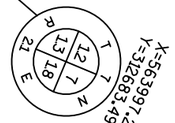
NOTE:
** USH 45 R/L NS DOES NOT EQUAL THE EXISTING USH 45 C/L.

PROJECT NO: 1060-33-83	HWY: USH 45	COUNTY: MILWAUKEE	ALIGNMENT LAYOUT	SHEET 92	E

2



¼ LINE N0°32'24"W
2650.79'



SECTION LINE 2348.86'
N88°59'51"E

BURLEIGH STREET

PI
NS7

485NS

CURVE NS7

480NS

PC
NS7

490NS

PT
NS7

N0° 30' 04"W
250.57'

493NS

N38°51'06"W

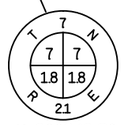
475NS

470NS

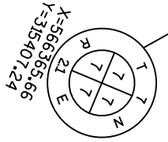
R/L NS**

END CONSTRUCTION
480+50.00NS
X = 566637.13
Y = 311666.38

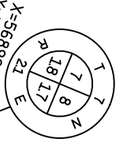
STA. 493+07.43NS
X=566253.68
Y=312823.65



¼ LINE N0°25'35"E
2682.72'



SECTION LINE 2647.79'
N88°52'16"E



CURVE DATA											
CURVE NO.	PI STA	PI EASTING	PI NORTHING	DELTA	D	T	L	E	R	PC	PT
NS7	486+51.65NS	566259.71	312134.93	38°21'02"	4°32'50"	438.17	843.37	69.91	1260.00	482+13.49NS	490+56.86NS

NOTE:
** USH 45 R/L NS DOES NOT
EQUAL THE EXISTING USH 45 C/L.

PROJECT NO: 1060-33-83	HWY: USH 45	COUNTY: MILWAUKEE	ALIGNMENT LAYOUT	SHEET 93	E

2

LEGEND

XXX CONTROL POINT

N

646
765.484
CP

644
760.513
CP

645
758.850
CP

705
734.822
CP

643
778.061
CP

CENTER ST.

113TH ST

112TH ST

USH 45

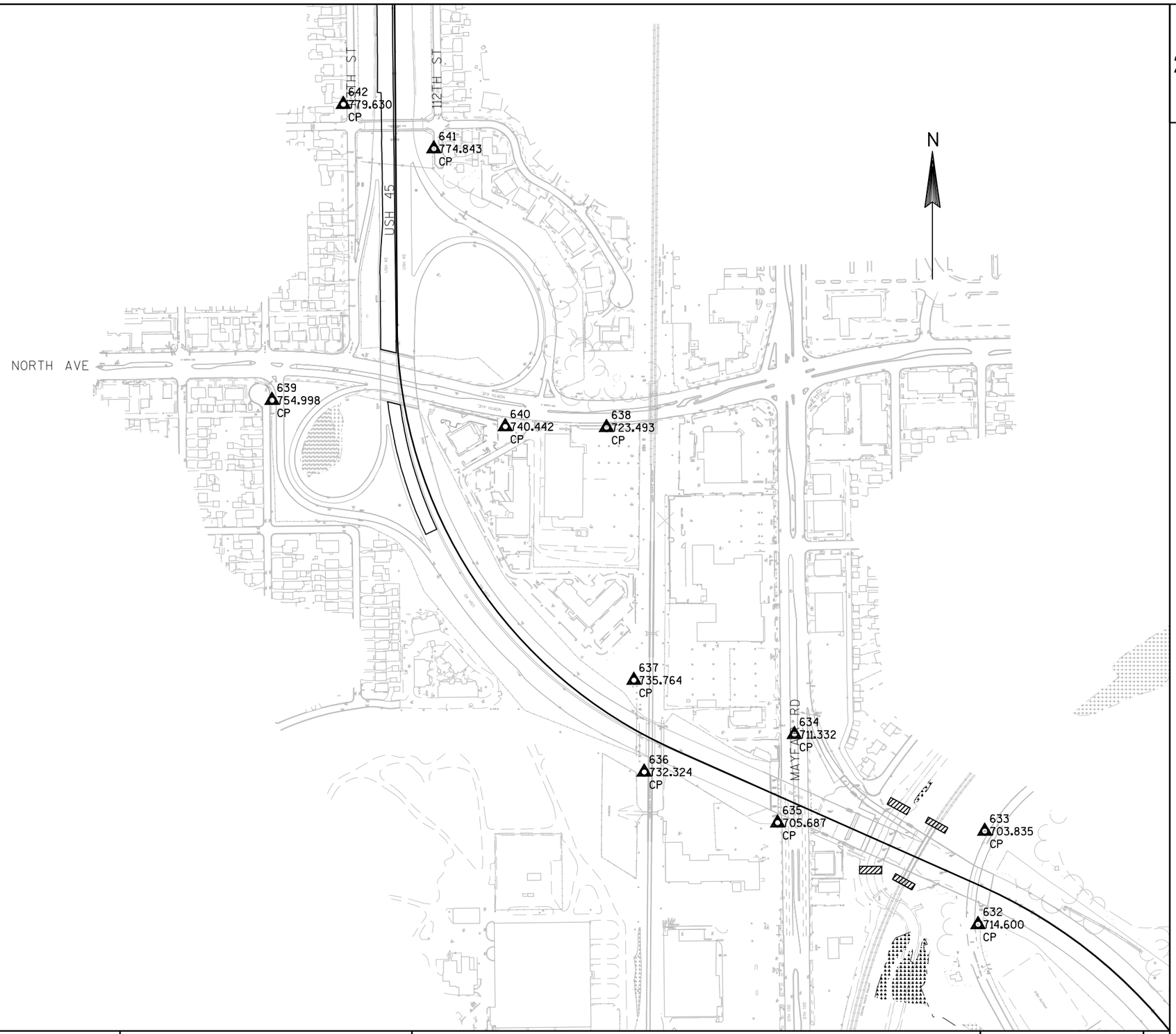
PROJECT NO: 1060-33-83	HWY: USH 45	COUNTY: MILWAUKEE	ALIGNMENT LAYOUT - SURVEY CONTROL OVERVIEW	SHEET 94	E

2

2

LEGEND

XXX CONTROL POINT



PROJECT NO: 1060-33-83	HWY: USH 45	COUNTY: MILWAUKEE	ALIGNMENT LAYOUT - SURVEY CONTROL OVERVIEW	SHEET 95	E

2

N

N. 113TH ST.

M738497

W. CLARK ST.

M728107

EP: 754+25.78

754NOD

USH 45 SB

CP643
BERNTSEN FENO F1000 SPK MONUMENT
W/ ALUMINUM CAP, NORTHWEST QUAD. OF
N. 113TH ST. AND W. CLARKE ST.,
5.3' WEST OF WEST BACK OF CURB, 7.0'
NORTH OF NORTH BACK OF CURB.
STA. 28TA+22.22, 21.7' LT
N=309,256.49
E=567,351.17
ELEV. 778.06

643
778.061
CP

28TA

PC: 753+08.98

CP644
BERNTSEN FENO F1000 SPK MONUMENT
W/ ALUMINUM CAP, NORTHWEST QUAD.
OF N. 113TH ST. AND W. CENTER ST.,
20' NORTH OF NORTH EDGE OF SIDEWALK,
100' EAST OF EAST BACK OF CURB ON
DRIVEWAY
STA. 18CE+30.25, 63.1' LT
N=310,153.26
E=567,349.14
ELEV. 760.51

644
760.513
CP

W. CENTER ST.

EP: 36+55.97

36TA

N. 113TH ST.

CP645
BERNTSEN FENO F1000 SPK MONUMENT
W/ ALUMINUM CAP, NORTHWEST QUAD.
OF N. 112TH ST. AND W. CENTER ST.,
6.5' NORTH OF NORTH EDGE OF SIDEWALK,
5.7' WEST OF WEST BACK OF CURB ON
WEST DRIVEWAY
STA. 21CE+57.65, 40.7' LT
N=310,136.35
E=567,676.87
ELEV. 759.85

645
759.850
CP

EP: 36+56.54

36TB

W. CENTER ST.

N. 112TH ST.

MK511

N

BURLEIGH ENTRANCE RAMP

USH 45 SB

784BUC

CP646
BERNTSEN FENO F1000 SPK MONUMENT
W/ ALUMINUM CAP, WEST OF USH 45 SB
ENTRANCE RAMP AT BURLEIGH ST., WEST
OF RAMP GORE AREA, 6.5' SOUTH WEST OF
OUTSIDE EDGE OF PAVED SHOULDER ON SB
ENTRANCE RAMP, 9.7' NORTHWEST OF LIGHT POLE.
STA. 483NS+11.04, 116.1' LT
N=311,806.37
E=566,380.64
ELEV. 765.48

646
765.484
CP

PC: 482+13.49

482NS

782BUC

N

N. MAYFAIR RD.

705
734.822
CP

EP: 34+96.15

PI: 638+25.59

638M

W. CENTER ST.

CP705
BERNTSEN FENO F1000 SPK
MONUMENT W/ ALUMINUM
CAP, NORTHWEST QUAD. OF
MAYFAIR RD. & W. CENTER ST.
STA. 34CE+31.92, 46.5' LT
N=310,163.33
E=568,950.86
ELEV. 734.82

2

PROJECT NO: 1060-33-83	HWY: USH 45	COUNTY: MILWAUKEE	ALIGNMENT LAYOUT - SURVEY CONTROL	SHEET 96	E

DATE 18MAR15 E S T I M A T E O F Q U A N T I T I E S

LINE NUMBER	ITEM	ITEM DESCRIPTION	UNIT	TOTAL	1060-33-83 QUANTITY
0010	108.4400	CPM Progress Schedule	EACH	1.000	1.000
0020	201.0105	Clearing	STA	22.000	22.000
0030	201.0205	Grubbing	STA	22.000	22.000
0040	203.0200	Removing Old Structure (station) 0001. 466+40NS	LS	1.000	1.000
0050	203.0210.S	Abatement of Asbestos Containing Material (structure) 0001. B-40-384	LS	1.000	1.000
0060	203.0225.S	Debris Containment (structure) 0001. B-40-384	LS	1.000	1.000
0070	204.0100	Removing Pavement	SY	69.000	69.000
0080	204.0110	Removing Asphaltic Surface	SY	2,442.000	2,442.000
0090	204.0120	Removing Asphaltic Surface Milling	SY	45,788.000	45,788.000
0100	204.0155	Removing Concrete Sidewalk	SY	480.000	480.000
0110	204.0157	Removing Concrete Barrier	LF	250.000	250.000
0120	204.0165	Removing Guardrail	LF	87.000	87.000
0130	204.0170	Removing Fence	LF	1,634.000	1,634.000
0140	204.0195	Removing Concrete Bases	EACH	2.000	2.000
0150	204.0210	Removing Manholes	EACH	1.000	1.000
0160	204.0220	Removing Inlets	EACH	2.000	2.000
0170	204.0245	Removing Storm Sewer (size) 0001. 12-Inch	LF	36.000	36.000
0180	204.0245	Removing Storm Sewer (size) 0002. 15-Inch	LF	10.000	10.000
0190	204.0245	Removing Storm Sewer (size) 0003. 18-Inch	LF	112.000	112.000
0200	204.0245	Removing Storm Sewer (size) 0005. 24-Inch	LF	24.000	24.000
0210	204.0245	Removing Storm Sewer (size) 0010. 54-Inch	LF	110.000	110.000
0220	204.0280	Sealing Pipes	EACH	5.000	5.000
0230	204.9060.S	Removing (item description) 0001. Basketball Pole Assembly And Base	EACH	2.000	2.000
0240	205.0100	Excavation Common **P**	CY	39,561.000	39,561.000
0250	206.1000	Excavation for Structures Bridges (structure) 0001. B-40-881	LS	1.000	1.000
0260	206.3000	Excavation for Structures Retaining Walls (structure) 0001. R-40-624	LS	1.000	1.000
0270	206.3000	Excavation for Structures Retaining Walls (structure) 0002. R-40-625	LS	1.000	1.000
0280	206.3000	Excavation for Structures Retaining Walls (structure) 0003. R-40-626	LS	1.000	1.000
0290	209.0200.S	Backfill Controlled Low Strength	CY	10.000	10.000
0300	210.0100	Backfill Structure **P**	CY	475.000	475.000
0310	213.0100	Finishing Roadway (project) 0001. 1060-33-83	EACH	1.000	1.000
0320	305.0120	Base Aggregate Dense 1 1/4-Inch	TON	2,046.000	2,046.000
0330	312.0110	Select Crushed Material	TON	60.000	60.000
0340	312.0115	Select Crushed Material	CY	2.000	2.000
0350	390.0403	Base Patching Concrete Shes	SY	280.000	280.000
0360	415.0090	Concrete Pavement 9-Inch	SY	180.000	180.000
0370	416.0610	Drilled Tie Bars	EACH	844.000	844.000
0380	416.0620	Drilled Dowel Bars	EACH	800.000	800.000
0390	416.1715	Concrete Pavement Repair SHES	SY	2,574.000	2,574.000
0400	455.0105	Asphaltic Material PG58-28	TON	31.000	31.000
0410	455.0120	Asphaltic Material PG64-28	TON	302.000	302.000
0420	455.0605	Tack Coat	GAL	1,201.000	1,201.000

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DATE 18MAR15 E S T I M A T E O F Q U A N T I T I E S

LINE NUMBER	ITEM	ITEM DESCRIPTION	UNIT	TOTAL	1060-33-83 QUANTITY
0430	460.1101	HMA Pavement Type E-1	TON	569.000	569.000
0440	460.1110	HMA Pavement Type E-10	TON	5,495.000	5,495.000
0450	460.2000	Incentive Density HMA Pavement	DOL	3,890.000	3,890.000
0460	465.0105	Asphaltic Surface	TON	267.000	267.000
0470	465.0310	Asphaltic Curb	LF	15.000	15.000
0480	465.0315	Asphaltic Flumes	SY	12.000	12.000
0490	502.0100	Concrete Masonry Bridges **P**	CY	723.000	723.000
0500	502.2000	Compression Joint Sealer Preformed Elastomeric (width) **P**	LF	6.000	6.000
0510	502.3100	Expansion Device (structure) 0001. B-40-881	LS	1.000	1.000
0520	502.3200	Protective Surface Treatment **P**	SY	979.000	979.000
0530	502.5005	Masonry Anchors Type L No. 5 Bars **P**	EACH	26.000	26.000
0540	503.0137	Prestressed Girder Type I 36W-Inch **P**	LF	922.000	922.000
0550	504.0500	Concrete Masonry Retaining Walls **P**	CY	143.000	143.000
0560	505.0405	Bar Steel Reinforcement HS Bridges **P**	LB	7,355.000	7,355.000
0570	505.0605	Bar Steel Reinforcement HS Coated Bridges **P**	LB	126,045.000	126,045.000
0580	505.0615	Bar Steel Reinforcement HS Coated Retaining Walls **P**	LB	15,150.000	15,150.000
0590	506.2605	Bearing Pads Elastomeric Non-Laminated **P**	EACH	8.000	8.000
0600	506.4000	Steel Diaphragms (structure) 0001. B-40-881 **P**	EACH	10.000	10.000
0610	506.6000	Bearing Assemblies Expansion (structure) 0001. B-40-881 **P**	EACH	12.000	12.000
0620	511.1200	Temporary Shoring (structure) 0001. B-40-881 **P**	SF	460.000	460.000
0630	514.0445	Floor Drains Type GC	EACH	1.000	1.000
0640	514.2625	Downspout 6-Inch **P**	LF	15.000	15.000
0650	516.0500	Rubberized Membrane Waterproofing **P**	SY	86.000	86.000
0660	517.1050.S	Architectural Surface Treatment (structure) 0001. R-40-624 **P**	SF	2,108.000	2,108.000
0670	517.1050.S	Architectural Surface Treatment (structure) 0002. R-40-625 **P**	SF	1,870.000	1,870.000
0680	517.1050.S	Architectural Surface Treatment (structure) 0003. R-40-626 **P**	SF	978.000	978.000
0690	520.8000	Concrete Collars for Pipe	EACH	8.000	8.000
0700	522.1024	Apron Endwalls for Culvert Pipe Reinforced Concrete 24-Inch	EACH	1.000	1.000
0710	522.1036	Apron Endwalls for Culvert Pipe Reinforced Concrete 36-Inch	EACH	1.000	1.000
0720	550.0500	Pile Points **P**	EACH	97.000	97.000
0730	550.1100	Piling Steel HP 10-Inch X 42 Lb **P**	LF	3,840.000	3,840.000
0740	602.0410	Concrete Sidewalk 5-Inch	SF	2,169.000	2,169.000
0750	602.0420	Concrete Sidewalk 7-Inch	SF	136.000	136.000
0760	602.0505	Curb Ramp Detectable Warning Field Yellow	SF	48.000	48.000
0770	602.1500	Concrete Steps	SF	74.000	74.000
0780	603.8000	Concrete Barrier Temporary Precast Delivered	LF	1,275.000	1,275.000
0790	603.8125	Concrete Barrier Temporary Precast Installed	LF	3,050.000	3,050.000
0800	604.0400	Slope Paving Concrete **P**	SY	5.000	5.000
0810	606.0200	Riprap Medium **P**	CY	3.000	3.000

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DATE 18MAR15 E S T I M A T E O F Q U A N T I T I E S

LINE NUMBER	ITEM	ITEM DESCRIPTION	UNIT	TOTAL	1060-33-83 QUANTITY
0820	608.0315	Storm Sewer Pipe Reinforced Concrete Class III 15-Inch	LF	37.000	37.000
0830	608.0324	Storm Sewer Pipe Reinforced Concrete Class III 24-Inch	LF	247.000	247.000
0840	608.0336	Storm Sewer Pipe Reinforced Concrete Class III 36-Inch	LF	36.000	36.000
0850	608.0342	Storm Sewer Pipe Reinforced Concrete Class III 42-Inch	LF	528.000	528.000
0860	608.0424	Storm Sewer Pipe Reinforced Concrete Class IV 24-Inch	LF	147.000	147.000
0870	608.0436	Storm Sewer Pipe Reinforced Concrete Class IV 36-Inch	LF	9.000	9.000
0880	608.0554	Storm Sewer Pipe Reinforced Concrete Class V 54-Inch	LF	78.000	78.000
0890	610.0148	Storm Sewer Pipe Reinforced Concrete Horizontal Elliptical Class HE-III 48x76-Inch	LF	160.000	160.000
0900	611.0535	Manhole Covers Type J-Special	EACH	7.000	7.000
0910	611.0642	Inlet Covers Type MS	EACH	1.000	1.000
0920	611.0663	Inlet Covers Type X	EACH	3.000	3.000
0930	611.2005	Manholes 5-FT Diameter	EACH	1.000	1.000
0940	611.2007	Manholes 7-FT Diameter	EACH	3.000	3.000
0950	611.2008	Manholes 8-FT Diameter	EACH	3.000	3.000
0960	611.3003	Inlets 3-FT Diameter	EACH	1.000	1.000
0970	611.3901	Inlets Median 1 Grate	EACH	1.000	1.000
0980	611.8115	Adjusting Inlet Covers	EACH	1.000	1.000
0990	611.9800.S	Pipe Grates	EACH	2.000	2.000
1000	612.0206	Pipe Underdrain Unperforated 6-Inch **P**	LF	20.000	20.000
1010	612.0406	Pipe Underdrain Wrapped 6-Inch **P**	LF	581.000	581.000
1020	614.0905	Crash Cushions Temporary	EACH	2.000	2.000
1030	616.0206	Fence Chain Link 6-FT	LF	1,114.000	1,114.000
1040	616.0329	Gates Chain Link (width) 0001. 6-Ft	EACH	1.000	1.000
1050	616.0406	Fence Chain Link Salvaged 6-FT	LF	370.000	370.000
1060	616.0700.S	Fence Safety	LF	800.000	800.000
1070	619.1000	Mobilization	EACH	1.000	1.000
1080	623.0200	Dust Control Surface Treatment	SY	42,961.000	42,961.000
1090	627.0200	Mulching	SY	16,247.000	16,247.000
1100	628.1104	Erosion Bales	EACH	31.000	31.000
1110	628.1504	Silt Fence	LF	1,951.000	1,951.000
1120	628.1520	Silt Fence Maintenance	LF	1,951.000	1,951.000
1130	628.1905	Mobilizations Erosion Control	EACH	7.000	7.000
1140	628.1910	Mobilizations Emergency Erosion Control	EACH	4.000	4.000
1150	628.2004	Erosion Mat Class I Type B	SY	8,954.000	8,954.000
1160	628.2008	Erosion Mat Urban Class I Type B	SY	14,408.000	14,408.000
1170	628.2027	Erosion Mat Class II Type C	SY	377.000	377.000
1180	628.6505	Soil Stabilizer Type A	ACRE	3.400	3.400
1190	628.7005	Inlet Protection Type A	EACH	6.000	6.000
1200	628.7010	Inlet Protection Type B	EACH	8.000	8.000
1210	628.7015	Inlet Protection Type C	EACH	4.000	4.000
1220	628.7020	Inlet Protection Type D	EACH	63.000	63.000
1230	628.7504	Temporary Ditch Checks	LF	113.000	113.000
1240	628.7555	Culvert Pipe Checks	EACH	3.000	3.000
1250	628.7560	Tracking Pads	EACH	5.000	5.000
1260	628.7570	Rock Bags	EACH	25.000	25.000

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DATE 18MAR15 E S T I M A T E O F Q U A N T I T I E S

LINE NUMBER	ITEM	ITEM DESCRIPTION	UNIT	TOTAL	1060-33-83 QUANTITY
1270	629.0205	Fertilizer Type A	CWT	10.200	10.200
1280	629.0210	Fertilizer Type B	CWT	17.200	17.200
1290	630.0130	Seeding Mixture No. 30	LB	474.000	474.000
1300	630.0140	Seeding Mixture No. 40	LB	288.000	288.000
1310	630.0200	Seeding Temporary	LB	1,144.000	1,144.000
1320	631.0300	Sod Water	MGAL	11.000	11.000
1330	631.1000	Sod Lawn	SY	605.000	605.000
1340	633.5200	Markers Culvert End	EACH	2.000	2.000
1350	634.0618	Posts Wood 4x6-Inch X 18-FT	EACH	3.000	3.000
1360	634.0816	Posts Tubular Steel 2x2-Inch X 16-FT	EACH	11.000	11.000
1370	635.0200	Sign Supports Structural Steel HS	LB	600.000	600.000
1380	636.0100	Sign Supports Concrete Masonry	CY	1.200	1.200
1390	636.0500	Sign Supports Steel Reinforcement	LB	68.000	68.000
1400	637.2210	Signs Type II Reflective H	SF	35.220	35.220
1410	637.2230	Signs Type II Reflective F	SF	15.000	15.000
1420	638.2101	Moving Signs Type I	EACH	1.000	1.000
1430	638.3100	Removing Structural Steel Sign Supports	EACH	2.000	2.000
1440	643.0200	Traffic Control Surveillance and Maintenance (project) 0001. 1060-33-83	DAY	175.000	175.000
1450	643.0300	Traffic Control Drums	DAY	13,833.000	13,833.000
1460	643.0420	Traffic Control Barricades Type III	DAY	2,415.000	2,415.000
1470	643.0705	Traffic Control Warning Lights Type A	DAY	4,494.000	4,494.000
1480	643.0715	Traffic Control Warning Lights Type C	DAY	4,788.000	4,788.000
1490	643.0800	Traffic Control Arrow Boards	DAY	266.000	266.000
1500	643.0900	Traffic Control Signs	DAY	11,978.000	11,978.000
1510	643.0920	Traffic Control Covering Signs Type II	EACH	72.000	72.000
1520	643.1050	Traffic Control Signs PCMS	DAY	48.000	48.000
1530	643.1055.S	Truck or Trailer Mounted Attenuator 0001. 1060-33-83	DAY	20.000	20.000
1540	643.2000	Traffic Control Detour (project) 0001. 1060-33-83	EACH	1.000	1.000
1550	643.3000	Traffic Control Detour Signs	DAY	892.000	892.000
1560	645.0120	Geotextile Fabric Type HR **P**	SY	15.000	15.000
1570	645.0140	Geotextile Fabric Type SAS **P**	SY	7.000	7.000
1580	646.0106	Pavement Marking Epoxy 4-Inch	LF	42,079.000	42,079.000
1590	646.0126	Pavement Marking Epoxy 8-Inch	LF	5,224.000	5,224.000
1600	646.0600	Removing Pavement Markings	LF	6,820.000	6,820.000
1610	647.0656	Pavement Marking Parking Stall Epoxy	LF	2,599.000	2,599.000
1620	647.0746	Pavement Marking Diagonal Epoxy 24-Inch	LF	474.000	474.000
1630	649.0200	Temporary Pavement Marking Reflective Paint 4-Inch	LF	7,453.000	7,453.000
1640	649.2100	Temporary Raised Pavement Markers	EACH	118.000	118.000
1650	652.0115	Conduit Rigid Metallic 1 1/4-Inch **P**	LF	60.000	60.000
1660	652.0210	Conduit Rigid Nonmetallic Schedule 40 1-Inch	LF	20.000	20.000
1670	652.0215	Conduit Rigid Nonmetallic Schedule 40 1 1/4-Inch **P**	LF	700.000	700.000
1680	652.0225	Conduit Rigid Nonmetallic Schedule 40 2-Inch	LF	2,235.000	2,235.000
1690	652.0700.S	Install Conduit into Existing Item	EACH	1.000	1.000
1700	653.0140	Pull Boxes Steel 24x42-Inch	EACH	3.000	3.000
1710	654.0111	Concrete Bases Type 11	EACH	16.000	16.000
1720	654.0217	Concrete Control Cabinet Bases Type 9 Special	EACH	1.000	1.000
1730	655.0610	Electrical Wire Lighting 12 AWG	LF	1,503.000	1,503.000

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DATE 18MAR15 E S T I M A T E O F Q U A N T I T I E S

LINE NUMBER	ITEM	ITEM DESCRIPTION	UNIT	TOTAL	1060-33-83 QUANTITY
1740	655.0620	Electrical Wire Lighting 8 AWG	LF	3,160.000	3,160.000
1750	655.0625	Electrical Wire Lighting 6 AWG	LF	8,160.000	8,160.000
1760	655.0640	Electrical Wire Lighting 1 AWG	LF	18.000	18.000
1770	656.0400	Electrical Service Main Lugs Only Meter Pedestal (location) 0001. 1060-33-83	LS	1.000	1.000
1780	657.0322	Poles Type 5-Aluminum	EACH	2.000	2.000
1790	657.0610	Luminaire Arms Single Member 4 1/2-Inch Clamp 6-FT	EACH	2.000	2.000
1800	659.0600	Underdeck Lighting (location) 0001. 1060-33-83	LS	1.000	1.000
1810	659.1125	Luminaires Utility LED C	EACH	2.000	2.000
1820	670.0100	Field System Integrator 0001. FTMS	LS	1.000	1.000
1830	670.0200	ITS Documentation 0001. FTMS	LS	1.000	1.000
1840	671.0132	Conduit HDPE 3-Duct 2-Inch	LF	2,050.000	2,050.000
1850	673.0105	Communication Vault Type 1	EACH	1.000	1.000
1860	674.0300	Remove Cable	LF	2,250.000	2,250.000
1870	678.0300	Fiber Optic Splice	EACH	2.000	2.000
1880	678.0500	Communication System Testing 0001. FTMS	LS	1.000	1.000
1890	690.0150	Sawing Asphalt	LF	257.000	257.000
1900	690.0250	Sawing Concrete	LF	4,607.000	4,607.000
1910	715.0502	Incentive Strength Concrete Structures	DOL	5,196.000	5,196.000
1920	SPV.0045	Special 0001. Portable Speed Trailer	DAY	350.000	350.000
1930	SPV.0060	Special 0001. Mobilizations Emergency Pavement Repair	EACH	3.000	3.000
1940	SPV.0060	Special 0002. Traffic Control Close-Open Freeway Entrance Ramp	EACH	60.000	60.000
1950	SPV.0060	Special 0003. Traffic Control Interim Freeway Lane Closure	EACH	30.000	30.000
1960	SPV.0060	Special 0004. Crash Cushion Temporary Left In Place	EACH	1.000	1.000
1970	SPV.0060	Special 0005. Traffic Control Interim Freeway Two Lane Closure	EACH	70.000	70.000
1980	SPV.0060	Special 1001. Removing Lighting Units	EACH	2.000	2.000
1990	SPV.0060	Special 1002. Lamp Disposal High Intensity Discharge	EACH	2.000	2.000
2000	SPV.0060	Special 1003. Concrete Bases Type 5 Special	EACH	2.000	2.000
2010	SPV.0060	Special 1004. Lighting Units Walkway LED	EACH	16.000	16.000
2020	SPV.0060	Special 1005. Luminaires Utility LED And Mounting Arm	EACH	11.000	11.000
2030	SPV.0060	Special 1006. Lighting Control Cabinet 240/480 - Wauwatosa	EACH	1.000	1.000
2040	SPV.0060	Special 1007. Luminaires LED	EACH	2.000	2.000
2050	SPV.0060	Special 5000. Reconstruct Sanitary Manhole	EACH	1.000	1.000
2060	SPV.0060	Special 8012. Manholes 9-Ft Special	EACH	2.000	2.000
2070	SPV.0090	Special 0001. Concrete Barrier Temporary Precast Delivered Special	LF	1,775.000	1,775.000
2080	SPV.0090	Special 0002. Galvanized Pipe Railing	LF	20.000	20.000
2090	SPV.0090	Special 4001. Fence Decorative Bridge B-40-881 **P**	LF	1,050.000	1,050.000
2100	SPV.0090	Special 4002. Fence Decorative Bridge Stair B-40-881 **P**	LF	180.000	180.000
2110	SPV.0090	Special 4003. Fence Decorative Retaining Wall R-40-624 **P**	LF	119.000	119.000

DATE 18MAR15 E S T I M A T E O F Q U A N T I T I E S

LINE NUMBER	ITEM	ITEM DESCRIPTION	UNIT	TOTAL	1060-33-83 QUANTITY
2120	SPV.0090	Special 4004. Fence Decorative Retaining Wall R-40-625 **P**	LF	240.000	240.000
2130	SPV.0090	Special 4005. Fence Decorative Retaining Wall R-40-626 **P**	LF	130.000	130.000
2140	SPV.0105	Special 0001. Survey Project 1060-33-83	LS	1.000	1.000
2150	SPV.0105	Special 0002. Pavement Cleanup Project 1060-33-83	LS	1.000	1.000
2160	SPV.0105	Special 1001. Lighting System Survey	LS	1.000	1.000
2170	SPV.0105	Special 1002. Lighting System Integrator	LS	1.000	1.000
2180	SPV.0105	Special 1003. Maintenance of Lighting Systems	LS	1.000	1.000
2190	SPV.0105	Special 4001. Precast Concrete Stair	LS	1.000	1.000
2200	SPV.0105	Special 8098. Control Of Water	LS	1.000	1.000
2210	SPV.0135	Special 0001. Vibration Monitoring	MON	4.000	4.000
2220	SPV.0165	Special 4001. Wall Concrete Panel Mechanically Stabilized Earth LRFD/QMP **P**	SF	4,956.000	4,956.000
2230	SPV.0180	Special 0001. Concrete Pavement Repair Special	SY	215.000	215.000
2240	SPV.0180	Special 0002. Topsoil Special	SY	42,964.000	42,964.000
2250	SPV.0195	Special 0001. Cold Patch	TON	2.000	2.000
2260	SPV.0195	Special 0002. HMA Longitudinal Joint Repair	TON	96.000	96.000

CLEARING AND GRUBBING ITEMS

CATEGORY	LOCATION	STATION	TO	STATION	LOCATION	201.0105 CLEARING STA	201.0205 GRUBBING STA
1000	USH 45 NB	464+00NS		472+00NS	RT	8	8
	USH 45 SB	464+00NS		472+00NS	LT	8	8
	NORTH AVE NB OFF RAMP	434+00NS		440+00NS	RT	6	6
	TOTALS:					22	22

REMOVING CONCRETE BARRIER

CATEGORY	STAGE	ROADWAY	STATION	TO	STATION	OFFSET	204.0157 REMOVING CONCRETE BARRIER LF
1000	2	USH 45	469+54NS		470+79NS	RT	125
			469+54NS		470+79NS	LT	125
		TOTAL:					250

REMOVING PAVEMENT

CATEGORY	ROADWAY	STATION	TO	STATION	OFFSET	204.0100 REMOVING PAVEMENT SY	204.0110 REMOVING ASPHALTIC SURFACE SY	** 204.0120 REMOVING ASPHALTIC SURFACE MILLING SY	204.0155 REMOVING CONCRETE SIDEWALK SY
1000	USH 45	453+50NS		480+50NS	RT	--	--	16,721	--
		429+00NS		433+88NS	LT	--	--	2,598	--
		435+84NS		480+50NS	LT	--	--	26,469	--
		470+20NS		470+42NS	RT	33	--	--	--
		470+20NS		470+42NS	LT	36	--	--	--
		465+45NS		467+72NS	LT	--	--	--	264
		14+00WMS		15+50WMS	LT/RT	--	2230	--	
		0+20WMS		1+17WMS	RT	--	--	--	61
		29+43XD		31+34XD	LT/RT	--	--	--	155
		99+81XE		102+05XE	RT	--	212	--	--
	TOTALS:					69	2,442	45,788	480

** NOTE: MILLING CONCRETE BASE PATCHING AND CONCRETE PAVEMENT REPAIR AREAS IS INCIDENTAL TO THE ITEM REMOVING ASPHALTIC SURFACE MILLING.

REMOVING GUARDRAIL

CATEGORY	ROADWAY	STA	TO	STA	OFFSET	204.0165 REMOVING GUARDRAIL LF
1000	USH 45	464+14NS		465+01NS	LT	87
	TOTAL:					87

3

REMOVING FENCE

CATEGORY	STAGE	ROADWAY	STA	TO	STA	OFFSET	204.0170 REMOVING FENCE LF	616.0406 FENCE CHAIN LINK SALVAGED 6-FT LF
1000	2	USH 45	464+00NS		466+30NS	RT	262	--
			466+40NS		471+37NS	RT	593	--
			463+93NS		466+30NS	LT	222	--
			466+43NS		472+10NS	LT	527	--
			100+99XE		101+10XE	RT	30	--
		NORTH AVE NB OFF RAMP	434+11NS		435+65NS	RT	--	370
		TOTAL:					1,634	370

REMOVING BASKETBALL POLE ASSEMBLY & BASE

CATEGORY	LOCATION	204.9060.S.0001 REMOVING BASKETBALL POLE ASSEMBLY AND BASE EACH
1000	WMS PARKING LOT	2
	TOTAL:	2

RECONSTRUCT SANITARY MANHOLE

CATEGORY	STATION	OFFSET	SPV.0060.5000 RECONSTRUCT SANITARY MANHOLE EACH
1000	31+88XD	30.7' LT	1
		TOTAL:	1

3

CATEGORY 1100
LIGHTING REMOVAL ITEMS

204.0195 REMOVING CONCRETE BASES
SPV.0060.1001 REMOVING LIGHTING UNITS
SPV.0060.1002 LAMP DISPOSAL HIGH INTENSITY DISCHARGE

SYSTEM	LOCATION	OFFSET	ITEM	204.0195 REMOVING CONCRETE BASES	SPV.0060.1001 REMOVING LIGHTING UNITS	SPV.0060.1002 LAMP DISPOSAL HIGH INTENSITY DISCHARGE	COMMENTS
				EACH	EACH	EACH	
WAUWATOSA	15+51.09	87.20' LT	H-1-22	1	1	1	WHITMAN MIDDLE SCHOOL PARKING LOT
WAUWATOSA	15+52.18	49.20' RT	H-1-23	1	1	1	WHITMAN MIDDLE SCHOOL PARKING LOT
TOTAL (1100)				**2**	**2**	**2**	

REMOVING MANHOLES

ROADWAY	STATION	OFFSET	204.0210 REMOVING MANHOLES EACH
MAINLINE			
USH 45			
	466NS+81	112' RT	1
TOTAL			1

REMOVING INLETS

ROADWAY	STATION	OFFSET	204.0220 REMOVING INLETS EACH
MAINLINE			
USH 45			
	466NS+90	229' RT	1
	467NS+03	106' RT	1
TOTAL			2

3

REMOVING STORM SEWER

ROADWAY	STATION	TO	STATION	OFFSET	204.0245.0001 REMOVING STORM SEWER 12-INCH LF	204.0245.0002 REMOVING STORM SEWER 15-INCH LF	204.0245.0003 REMOVING STORM SEWER 18-INCH LF	204.0245.0005 REMOVING STORM SEWER 24-INCH LF	204.0245.0010 REMOVING STORM SEWER 54-INCH LF
MAINLINE									
USH 45									
	471NS+45		471NS+44	RT	36	---	---	---	---
	465NS+78		466NS+81	RT	---	---	112	---	---
	466NS+75		466NS+75	RT	---	---	---	---	10
	466NS+81		467NS+03	RT	---	---	---	24	---
	466NS+81		466NS+78	RT	---	---	---	---	56
	466NS+81		466NS+81	RT	---	---	---	---	34
	466NS+82		466NS+90	RT	---	10	---	---	---
	466NS+88		466NS+88	RT	---	---	---	---	10
TOTAL					36	10	112	24	110

ALL ITEMS CATEGORY 1000

CPM PROGRESS SCHEDULE

CATEGORY	STAGE	LOCATION	108.4400 CPM PROGRESS SCHEDULE EACH
1000	ALL	PROJECT	1
		TOTAL:	1

FINISHING ROADWAY PROJECT ID 1060-33-83

CATEGORY	STAGE	LOCATION	213.0100 FINISHING ROADWAY (1060-33-83) EACH
1000	ALL	PROJECT	1
		TOTAL:	1

PAVEMENT CLEANUP

CATEGORY	STAGE	LOCATION	SPV. 0105.0002 PAVEMENT CLEANUP PROJECT 1060-33-83 LS
1000	ALL	PROJECT	1
		TOTAL:	1

VIBRATION MONITORING

CATEGORY	STAGE	LOCATION	SPV.0135.0001 VIBRATION MONITORING MON
1000	ALL	UNDISTISTRIBUTED	4
		TOTAL:	4

SURVEY PROJECT

CATEGORY	STAGE	LOCATION	SPV.0105.0001 SURVEY PROJECT 1060-33-83 LS
1000	ALL	PROJECT	1
		TOTAL:	1

Division	From/To Station	Location	Common Excavation (1)	Salvaged/ Unusable Pavement Material (3)	Available Material (4)	Unexpanded Fill	Expanded Fill (5)	Mass Ordinate +/- (6)
			Cut (2)				Factor 1.20	
Division 1								
1	463+00NS TO 472+00NS	USH 45 NB	920	0	920	4,344	5,212	-4,292
1	463+00NS TO 472+00NS	USH 45 NB - XD	80	0	80	137	165	-85
1	434+50NS TO 436+50NS	Site Excavation A	12,516	0	12,516	0	0	12,516
1	28+20.75XD TO 32+10.65XD	XD	1,470	0	1,470	1,804	2,165	-695
1	99+80.16XE TO 104+43.49XE	XE	135	0	135	76	91	44
1	14+00WMS TO 15+74.61WMS	WMS - Parking Lot	1,326	0	1,326	1	1	1,325
1	23+36.50CE TO 24+83.75CE	WMS - Sidewalk	244	0	244	0	0	244
Division 1 Subtotal			16,691	0	16,691	6,362	7,634	9,057
Division 2								
2	463+50NS TO 472+50NS	USH 45 SB	2,325	0	2,325	1,951	2,341	-16
2	463+50NS TO 472+50NS	USH 45 SB - XD	57	0	57	0	0	57
2	20+42.26XD TO 23+09.50XD	XD	140	0	140	4,470	5,363	-5,223
2	20+42.26XD TO 23+09.50XD	XD - USH 45 SB	24	0	24	48	58	-34
2	436+50NS TO 440+00NS	Site Excavation A	20,324	0	20,324	0	0	20,324
Division 2 Subtotal			22,870	0	22,870	6,469	7,762	15,108
Grand Total			39,561	0	39,561	12,831	15,396	24,165
		Total Common Exc	39,561					

1) Common Excavation is the sum of the Cut column. Item number 205.0100
2) Salvaged/Unsuable Pavement Material is included in Cut.
3) Salvaged/Unusable Pavement Material
4) Available Material = Cut - Salvaged/Unusuable Pavement Material
5) Expanded Fill. Factor = 1.20
6) 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.

BASE AGGREGATE ITEMS

CATEGORY	STAGE	LOCATION	STATION	TO	STATION	305.0120 BASE AGGREGATE DENSE 1 1/4-INCH TON	209.0200.S BACKFILL CONTROLLED LOW STRENGTH CY	312.0110 SELECT CRUSHED MATERIAL TON
1000	2	XD	20+42XD		32+22XD	395	--	--
		XE	99+80XE		104+43XE	274	--	--
		WMS PARKING LOT	14+00WMS		15+50WMS	1307	--	--
		WMS SIDEWALK	23+37CE		24+84CE	54	--	--
		WMS CONCRETE STEPS	30+69XD		30+78XD	6	--	--
		UNDISTRIBUTED	USH 45 PAVEMENT REPAIR			10	10	60
		TOTALS:				2,046	10	60

ASPHALTIC FLUMES & CURB

CATEGORY	STAGE	STATION	TO	STATION	OFFSET	465.0310 ASPHALTIC CURB LF	465.0315 ASPHALTIC FLUMES SY
1000	2	22+91XD		22+99XD	9' LT	--	4
		22+91XD		22+99XD	9' RT	--	4
		22+99XD		23+04XD	7' LT	5	--
		22+99XD		23+04XD	7' RT	5	--
		29+50XD		29+55XD	7' LT	5	--
		29+55XD		29+63XD	9' LT	--	4
		TOTALS:				15	12

ASPHALTIC PAVEMENT ITEMS

CATEGORY	STAGE	LOCATION	STATION	TO	STATION	455.0105 ASPHALTIC MATERIAL (PG 58-28) TON	455.0120 ASPHALTIC MATERIAL (PG 64-28) TON	455.0605 TACK COAT GAL	460.1101 HMA PAVEMENT TYPE E-1 TON	460.1110 HMA PAVEMENT TYPE E-10 TON	465.0105 ASPHALTIC SURFACE TON	460.2000 INCENTIVE DENSITY HMA PAVEMENT DOL
1000	1	USH 45 SB	431+00NS		480+50NS	--	192	727	--	3488	--	2,236
		USH 45 NB	453+50NS		480+50NS	--	110	418	--	2007	--	1,287
	2	WMS PARKING LOT	14+00WMS		15+50WMS	31	--	56	569	--	--	367
		WMS PEDESTRIAN PATH	99+92XE		104+43XE	--	--	--	--	--	108	--
		WHS PEDESTRIAN PATH	20+42XD		23+03XD	--	--	--	--	--	56	--
		WMS PEDESTRIAN PATH	28+20XD		32+15XD	--	--	--	--	--	103	--
		TOTALS:				31	302	1,201	569	5,495	267	3,890

PAVEMENT REPAIR ITEMS

CATEGORY	STAGE	ROADWAY	LOCATION		OFFSET	390.0403 BASE PATCHING CONCRETE SHES SY	SPV.0180.0001 CONCRETE PAVEMENT REPAIR SPECIAL SY	415.0090 CONCRETE PAVEMENT 9-INCH SY	416.0610 DRILLED TIE BARS EACH	416.0620 DRILLED DOWEL BARS EACH	416.1715 CONCRETE PAVEMENT REPAIR SHES SY	690.0250 SAWING CONCRETE LF	SPV.0060.0001 MOBILIZATIONS EMERGENCY PAVEMENT REPAIR EACH	SPV.0195.0002 HMA LONGITUDINAL JOINT REPAIR TON	SPV.0195.0001 COLD PATCH TON
1000	1	USH 45 SB	436+23NS	436+33NS	LT	--	11	--	--	--	--	40	--	--	--
			442+95NS	443+05NS	LT	--	11	--	--	--	--	40	--	--	--
			443+88NS	443+98NS	LT	--	16	--	--	--	--	50	--	--	--
			444+35NS	444+48NS	LT	--	22	--	--	--	--	58	--	--	--
			446+40NS	446+50NS	LT	--	11	--	--	--	--	40	--	--	--
			447+88NS	447+98NS	LT	--	11	--	--	--	--	40	--	--	--
			448+87NS	448+97NS	LT	--	11	--	--	--	--	40	--	--	--
			450+59NS	450+69NS	LT	--	11	--	--	--	--	40	--	--	--
			453+91NS	454+01NS	LT	--	11	--	--	--	--	40	--	--	--
			456+89NS	456+99NS	LT	--	11	--	--	--	--	40	--	--	--
			457+16NS	463+44NS	LT	--	--	--	--	--	--	640	--	--	--
			457+16NS	463+44NS	LT	--	--	--	311	16	872	640	--	--	--
			459+74NS	463+44NS	LT	--	--	--	--	16	439	344	--	--	--
			459+74NS	463+44NS	LT	--	--	--	197	16	437	343	--	--	--
			457+16NS	463+44NS	LT	--	--	--	--	--	--	40	--	--	--
			459+89NS	459+99NS	LT	--	11	--	--	--	--	40	--	--	--
			457+16NS	463+44NS	LT	--	--	--	--	--	--	40	--	--	--
			459+89NS	459+99NS	LT	--	11	--	--	--	--	40	--	--	--
			460+80NS	463+44NS	LT	--	--	--	--	16	360	26	--	--	--
			460+80NS	463+44NS	LT	--	--	--	--	16	306	22	--	--	--
			464+04NS	464+14NS	LT	--	11	--	--	--	--	40	--	--	--
			469+54NS	470+79NS	RT	--	--	56	63	--	--	--	--	--	--
			469+54NS	470+79NS	LT	--	--	56	63	--	--	--	--	--	--
			470+20NS	470+42NS	LT	--	--	33	20	16	--	56	--	--	--
			470+20NS	470+42NS	LT	--	--	36	20	16	--	56	--	--	--
			474+27NS	474+37NS	LT	--	11	--	--	--	--	40	--	--	--
			476+01NS	476+11NS	LT	--	11	--	--	--	--	40	--	--	--
			478+21NS	478+31NS	LT	--	11	--	--	--	--	40	--	--	--
			480+41NS	480+51NS	LT	--	11	--	--	--	--	40	--	--	--
		USH 45 NB													
			461+58NS	461+68NS	RT	--	11	--	--	--	--	40	--	--	--
			462+69NS	462+79NS	RT	--	11	--	--	--	--	40	--	--	--
		UNDISTRIBUTED				280	--	--	172	688	160	1692	3	96	2
		TOTALS:				280	215	180	844	800	2,574	4,607	3	96	2

SEALING PIPES

ROADWAY	STATION	OFFSET	PIPE END	PIPE ID	204.0280 SEALING PIPES EACH	NOTES:
MAINLINE						
USH 45						
	464NS+88	81'RT	DOWNSTREAM	P273	1	INSTALL MARKER BOARD
	466NS+75	82'RT	UPSTREAM	P269	1	INSTALL MARKER BOARD
	468NS+78	75'RT	UPSTREAM	P265	1	INSTALL MARKER BOARD
	470NS+52	73'RT	UPSTREAM	P248	1	INSTALL MARKER BOARD
	471NS+53	82'RT	UPSTREAM	P250	1	INSTALL MARKER BOARD
TOTAL					5	

CONCRETE COLLARS FOR PIPE

ROADWAY	STATION	OFFSET	520.8000 CONCRETE COLLARS FOR PIPE EACH
MAINLINE			
USH 45			
	466NS+75	224'RT	1
	466NS+75	232'RT	1
	466NS+78	168'RT	1
	466NS+82	79'RT	1
	466NS+88	149'LT	1
	466NS+88	140'LT	1
	466NS+96	232'RT	1
	471NS+46	77'RT	1
TOTAL			8

ADJUSTING STRUCTURES

LOCATION	STATION	OFFSET FT	EXISTING RIM ELEVATION	TO	PROPOSED RIM ELEVATION	611.8115 ADJUSTING INLET COVERS EACH
MAINLINE						
USH 45						
	467NS+02	235'RT	740.90		741.32	1
TOTALS						1

ENDWALLS & PIPE GRATES

ROADWAY	PIPE ID	ENDWALL ID	ENDWALL ELEVATION	ENDWALL STATION	ENDWALL OFFSET		522.1024 APRON ENDWALLS FOR CULVERT PIPE REINFORCED CONCRETE 24-INCH EACH	522.1036 APRON ENDWALLS FOR CULVERT PIPE REINFORCED CONCRETE 36-INCH EACH	611.9800.S PIPE GRATES EACH	633.5200 MARKERS CULVERT END EACH
MAINLINE										
USH 45										
	P251	N250	742.94	471NS+44	118'RT	36	--	1	1	1
	P1402	N1401	751.32	471NS+12	167'LT	24	1	--	1	1
TOTALS							1	1	2	2

NOTES
1) ENDWALL ELEVATION / STATION / OFFSET ARE TO END CENTER OF ENDWALL
2) PIPE LENGTHS AND SLOPES ARE MEASURED TO THE END OF PIPE

ALL ITEMS CATEGORY 1000

STORM SEWER STRUCTURES										STORM SEWER PIPES										
ROADWAY	STRUCTURE NO.	STATION	OFFSET (FT)	LOCATION	RIM OR FLOW ELEV	STRUCTURE TYPE	INLET/MANHOLE COVERS TYPE	DEPTH[1] (FT)	STRUCTURE COMMENTS	PIPE ID	FROM STR	TO STR	INLET ELEV	DISCH ELEV	SLOPE[A] %	PIPE LENGTH[B] (FT)	PLAN LENGTH[C] (FT)	PIPE CLASS	PIPE SIZE (INCH)	PIPE COMMENTS
US 45	---	---	---	---	---	---	---	--	---	P248	BULKHEAD	N255	741.71	741.69	0.30	6	9	IV	36	UNDER FUTURE PAVEMENT
US 45	---	---	---	---	---	---	---	--	---	P250	BULKHEAD	N253	741.97	741.96	0.30	4	8	III	36	UNDER FUTURE PAVEMENT
US 45	---	---	---	---	---	---	---	--	---	P251	N250	N253	742.85	741.96	3.68	24	28	III	36	UNDER FUTURE PAVEMENT
US 45	---	---	---	---	---	---	---	--	---	PE252	---	N253	---	742.48	---	---	---	---	12	EXIST PIPE INTERPOL ELEV FOR STR
US 45	N253	471NS+44.89	82.0	RT	752.92	MANHOLES 7-FT DIAMETER	J	11.46	UNDER FUTURE PAVEMENT	P254	N253	N255	741.46	741.19	0.30	90	98	III	42	UNDER FUTURE PAVEMENT
US 45	N255	470NS+51.86	82.5	RT	752.89	MANHOLES 7-FT DIAMETER	J	11.70	UNDER FUTURE PAVEMENT	P256	N255	N266	741.19	740.66	0.30	176	183	III	42	UNDER FUTURE PAVEMENT
US 45	---	---	---	---	---	---	---	--	---	P265	BULKHEAD	N266	741.31	741.30	0.30	4	7	III	24	UNDER FUTURE PAVEMENT
US 45	N266	468NS+77.30	82.5	RT	751.21	MANHOLES 7-FT DIAMETER	J	10.55	UNDER FUTURE PAVEMENT	P267	N266	N268	740.66	740.07	0.30	198	206	III	42	UNDER FUTURE PAVEMENT
US 45	---	---	---	---	---	---	---	--	---	P269	BULKHEAD	N272	740.06	739.95	0.30	37	41	III	42	UNDER FUTURE PAVEMENT
US 45	N272	466NS+35.56	81.5	RT	748.14	MANHOLES 9-FT SPECIAL	J	16.71	UNDER FUTURE PAVEMENT	P273	N272	BULKHEAD	731.43	730.98	0.30	151	160	HE-III	48x76	UNDER FUTURE PAVEMENT
US 45	---	---	---	---	---	---	---	--	---	P1402	N1401	N1403	751.11	746.06	3.50	144	147	IV	24	---
US 45	N1403	469NS+49.26	129.8	LT	750.63	MANHOLES 5-FT DIAMETER	J	4.57	---	P1404	N1403	N1406	746.06	741.40	2.00	233	240	III	24	---
US 45	---	---	---	---	---	---	---	--	---	PE1405	---	N1406	---	736.01	---	---	---	---	54	EXIST PIPE INTERPOL ELEV FOR STR
US 45	N1406	466NS+88.10	144.7	LT	752.89	MANHOLES 8-FT DIAMETER	J	16.88	---	PE1407	N1406	---	736.01	---	---	---	---	---	54	EXIST PIPE INTERPOL ELEV FOR STR
US 45	---	---	---	---	---	---	---	--	---	PE1409	---	N268	---	733.95	---	---	---	---	54	EXIST PIPE INTERPOL ELEV FOR STR
US 45	N268	466NS+81.30	82.5	RT	746.27	MANHOLES 9-FT SPECIAL	X	12.32	FUTURE CONTRACT 1060-33-84 42" S INVERT @ 740.07 & UNDER FUTURE PAVEMENT	P1412	N268	N1413	733.95	733.66	0.39	74	78	V	54	---
US 45	N1413	466NS+77.22	163.8	RT	740.51	MANHOLES 8-FT DIAMETER	X	6.85	---	PE1414	N1413	N1417	733.66	733.44	---	---	---	---	54	EXIST PIPE INTERPOL ELEV FOR STR
US 45	---	---	---	---	---	---	---	--	---	PE1420	---	N1421	---	738.14	---	---	---	---	6	EXIST PIPE INTERPOL ELEV FOR STR
US 45	N1421	466NS+95.21	230.9	RT	740.14	INLETS MEDIAN 1 GRATE	MS	2.00	---	P1422	N1421	N1417	738.14	737.87	1.50	18	23	III	15	---
US 45	N1415	466NS+64.40	234.6	RT	741.25	INLETS 3-FT DIAMETER	X	3.21	---	P1416	N1415	P1417	738.04	738.00	0.50	8	14	III	15	---
US 45	N1417	466NS+75.17	228.0	RT	741.28	MANHOLES 8-FT DIAMETER	J	7.84	---	PE1418	P1417	---	733.44	---	---	---	---	---	54	EXIST PIPE INTERPOL ELEV FOR STR

[1]DEPTH = RIM OR FLOW ELEV - LOWEST PIPE INVERT ELEVATION

[A] SLOPE CALCULATED BASED ON PIPE LENGTH. PIPE LENGTH REPRESENTS LENGTH OF PIPE MEASURED FROM INSIDE FACE OF STRUCTURE TO INSIDE FACE OF STRUCTURE

[B]PIPE LENGTH SHOWN FOR SLOPE CALCULATION ONLY. NOT INTENDED FOR PAY QUANTITY.

[C]PLAN LENGTH SHOWN FOR PAY QUANTITY.

UNDER FUTRUE PAVEMENT = BACKFILL SHALL CONFORM TO STONE CHIPS AND SECTION 209

ALL ITEMS CATEGORY 1000

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STORM SEWER STRUCTURES SUMMARY

	611.2005 MANHOLES 5-FT DIAMETER EACH	611.2007 MANHOLES 7-FT DIAMETER EACH	611.2008 MANHOLES 8-FT DIAMETER EACH	611.3003 INLETS 3-FT DIAMETER EACH	611.3901 INLETS MEDIAN 1 GRATE EACH	SPV.0060.8012 MANHOLES 9-FT SPECIAL EACH	611.0535 MANHOLE COVERS TYPE J SPECIAL EACH	611.0642 INLET COVERS TYPE MS EACH	611.0663 INLET COVERS TYPE X EACH
TOTAL	1	3	3	1	1	2	7	1	3

STORM SEWER PIPES SUMMARY

	608.0315 STORM SEWER PIPE REINFORCED CONCRETE CLASS III 15-INCH LF	608.0324 STORM SEWER PIPE REINFORCED CONCRETE CLASS III 24-INCH LF	608.0336 STORM SEWER PIPE REINFORCED CONCRETE CLASS III 36-INCH LF	608.0342 STORM SEWER PIPE REINFORCED CONCRETE CLASS III 42-INCH LF	608.0424 STORM SEWER PIPE REINFORCED CONCRETE CLASS IV 24-INCH LF	608.0436 STORM SEWER PIPE REINFORCED CONCRETE CLASS IV 36-INCH LF	608.0554 STORM SEWER PIPE REINFORCED CONCRETE CLASS V 54-INCH LF	610.0148 STORM SEWER PIPE REINFORCED CONCRETE HORIZONTAL ELLIPTICAL CLASS HE-III 48X76-INCH LF
TOTAL	37	247	36	528	147	9	78	160

SAWING

CATEGORY	STAGE	ROADWAY	STATION	TO	STATION	OFFSET	690.0150 SAWING ASPHALT LF
1000	1	WMS	14+00WMS		15+50WMS	LT/RT	257
		TOTAL:					257

CONCRETE SIDEWALK

CATEGORY	STAGE	LOCATION	STATION	TO	STATION	OFFSET	602.0410 CONCRETE SIDEWALK 5-INCH SF	602.0420 CONCRETE SIDEWALK 7-INCH SF	602.0505 CURB RAMP DETECTABLE WARNING FIELD YELLOW SF	602.1500 CONCRETE STEPS SF	SPV.0090.0002 GALVANIZED PIPE RAILING LF
1000	2	XE PATH AT WMS	99+80XE		99+91XE	LT/RT	--	136	20	--	--
		XE PEDESTRIAN PATH	103+84XE		103+92XE	LT	144	--	--	--	--
		XD PATH AT WMS	30+69XD		30+78XD	RT	156	--	16	74	20
		WMS	23+37CE		24+84CE	LT	1,869	--	12	--	--
		TOTALS:					2,169	136	48	74	20

FENCING ITEMS

CATEGORY	ROADWAY	STATION	TO	STATION	OFFSET	616.0206 FENCE CHAIN LINK 6-FT LF	616.0329.0001 GATES CHAIN LINK (6-FT) EACH	616.0700.S FENCE SAFETY LF
1000	USH 45	464+09NS		465+21NS	RT	121	--	--
		464+87NS		469+62NS	LT	444	--	--
		467+46NS		469+97NS	RT	289	1	--
		470+00NS		471+50NS	RT	150	--	--
		470+82NS		472+00NS	LT	110	--	--
		UNDISTRIBUTED				--	--	800
	TOTALS:					1,114	1	800

MOBILIZATION

CATEGORY	STAGE	LOCATION	619.1000 MOBILIZATION EACH
1000	ALL	PROJECT	1
		TOTAL:	1

INLET PROTECTION

CATEGORY	ROADWAY	STATION	TO	STATION	OFFSET	628.7005 TYPE A EACH	628.7010 TYPE B EACH	628.7015 TYPE C EACH	628.7020 TYPE D EACH
1000	USH 45 SB	436+17NS		480+46NS	LT	--	--	1	22
	USH 45 NB	435+84NS		480+20NS	RT	3	2	1	17
	NORTH AVE OFF RAMP NB				RT	1	3	1	3
	WMS PARKING LOT				LT/RT	1	--	--	5
	WHS PARKING LOT					--	1	--	3
	UNDISTRIBUTED					1	2	1	13
	TOTALS:					6	8	4	63

CONTROL OF WATER

CATEGORY	LOCATION	SPV.0105.8098 CONTROL OF WATER LS
1000	PROJECT	1
	TOTAL:	1

DUST CONTROL SURFACE TREATMENT

CATEGORY	STAGE	LOCATION	623.0200 DUST CONTROL SURFACE TREATMENT SY
1000	ALL	PROJECT	42,961
		TOTAL:	42,961

RESTORATION ITEMS

CATEGORY	ROADWAY	STATION	TO	STATION	LOCATION	SPV.0180.0002 TOPSOIL SPECIAL SY	627.0200 MULCHING SY	628.2004 EROSION MAT CLASS I TYPE B SY	628.2008 EROSION MAT URBAN CLASS I TYPE B SY	628.2027 EROSION MAT CLASS II TYPE C SY	628.6505 SOIL STABILIZER TYPE A ACRE	629.0205 FERTILIZER TYPE A CWT	629.0210 FERTILIZER TYPE B CWT	630.0130 SEEDING MIXTURE NO. 30 LB	630.0140 SEEDING MIXTURE NO. 40 LB	630.0200 SEEDING TEMPORARY LB	631.0300 SOD WATER MGAL	631.1000 SOD LAWN SY
1000	W. CENTER ST.	23+36CE		24+84CE	LT	550	--	--	--	--	--	--	0.4	--	--	--	10.0	550
	USH45	463+42NS		471+75NS	RT	11,205	--	3945	7080	182	--	4.6	2.6	73	129	303	--	--
		463+81NS		472+09NS	LT	12,069	--	4546	7329	195	--	4.7	3.0	84	133	326	--	--
	NORTH AVE OFF RAMP NB	434+86NS		439+82NS	RT	15,234	14770	463	--	--	3.1	--	9.6	274	--	411	--	--
	UNDISTRIBUTED					3,906	1,477	--	--	--	0.3	0.9	1.6	43	26	104	1	55
	TOTALS:					42,964	16,247	8,954	14,408	377	3.4	10.2	17.2	474	288	1144	11.0	605

EROSION CONTROL ITEMS

CATEGORY	ROADWAY	STATION	TO	STATION	LOCATION	628.1104 EROSION BALES EACH	628.1504 SILT FENCE LF	628.1520 SILT FENCE MAINTENANCE LF	628.1905 MOBILIZATIONS EROSION CONTROL EACH	628.1910 MOBILIZATIONS EMERGENCY EROSION CONTROL EACH	628.7504 TEMPORARY DITCH CHECKS LF	628.7555 CULVERT PIPE CHECKS EACH	628.7560 TRACKING PADS EACH	628.7570 ROCK BAGS EACH
1000	W. CENTER ST.	23+45CE		24+50CE	LT	--	151	151	--	--	--	--	--	--
	USH 45	463+42NS		471+75NS	RT	--	787	787	--	--	90	1	--	--
		470+34NS		472+10NS	LT	--	72	72	--	--	--	1	--	--
	NORTH AVE RAMP OFF RAMP NB	435+56NS		439+82NS	RT	25	551	551	--	--	--	--	1	20
	UNDISTRIBUTED					6	390	390	7	4	23	1	4	5
	TOTALS:					31	1,951	1,951	7	4	113	3	5	25

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TYPE I&II PERMANENT SIGNING -

Category Code 1000 **1060-33-83 zoo interchange-new pedestrian bridge**

SIGN NO.	SIGN CODE & SIZE	SIGN MESSAGE	SIGN SIZE W [IN.] x H [IN.]	**637.2210** SIGNS TYPE II REFLECTIVE H [SF]	**637.2230** SIGNS TYPE II RELFECTIVE F [SF]	**638.3000** REM SMALL SIGN SUP [EA]	**638.2102** MOVING SIGNS TYPE II [EA]	**634.0618** WOOD POSTS 4"X 6"x18' [EA]	**634.0816** POSTS TUBULAR STEEL 2" X 2" X 16' [EA]	MOUNT ON SAME POST AS SIGN #	REMARKS / NEW SIGN LOCATION	TYPE I SIGN SIZE W [FT.] x H [FT.]	**638.2101** MOVING SIGNS TYPE I [EA]	**638.3100** REM STR STEEL SIGN SUP [EA]	STEEL POST TYPE	**636.0100** SIGN NO. SUPPORTS CONCRETE MASONRY [CY]	**636.0500** SIGN SUPPORTS STEEL REINF. [LBS]	**635.0200** SIGN SUPPORTS STRUCTURAL STEEL HS [EST.LBS]	INFO ONLY-POST LENGTHS TO BE VERIFIED BY CONTRACTOR: POST NO 1 LENGTH [FT]	POST NO 2 LENGTH [FT]	OFF SET DISTANCE [FT]	DIST BTWN POSTS "S" [FT]
90		PEDESTRAIN BRIDGE OVER HWY 45	36 X 42	10.500					1														
91	W1-1R (18 X 18)		18 X 18		2.250				1														
92	W1-6 (24 X 12)		24 X 12		2.000				1														
93	W1-6 (24 X 12)		24 X 12		2.000				1														
94	W1-11L (18 X 18)		18 X 18		2.250						MOUNT ON ARM OF LIGHT POLE												
95	W1-6 (24 X 12)		24 X 12		2.000				1														
96		PEDESTRIAN BRIDGE OVER HWY 45	36 X 42	10.500					1														
97		PEDESTRIAN BRIDGE OVER HWY 45	36 X 42	10.500					1														
98	NOT USED																						
99	NOT USED																						
100		MOUNT MARY UNIVERSITY EXIT 43									PLACE ON NEW I-BEAMS		1	2	A	1.2	68	600				
101	W3-1 (18 X 18)		18 X 18		2.250				1														
102	R1-1 (18 X 18)		18 X 18	1.860					1														
103	W3-1 (18 X 18)		18 X 18		2.250				1														
104	R1-1 (18 X 18)		18 X 18	1.860					1														
UNDISTRIBUTED				--				3		--	--	x								--	--	--	--
TOTALS				35.220	15.000	0	0	3	11	--	--		1	2	--	1.2	68	600				

SHEET: 1 OF 1

PROJECT NO: 1060-33-83	HWY: USH 45 –PEDESTRIAN BRIDGE	COUNTY: MILWAUKEE	MISCELLANEOUS QUANTITIES—PERMANENT SIGNING	SHEET:	E

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TRAFFIC CONTROL DETOUR ID 1060-33-83

CATEGORY	STAGE	LOCATION	643.2000 TRAFFIC CONTROL DETOUR (1060-33-83) EACH
1000	ALL	PROJECT	1
		TOTAL:	1

PORTABLE SPEED TRAILER

CATEGORY	STAGE	LOCATION	SPV.0045.0001 PORTABLE SPEED TRAILER DAY
1000	1	NB	26
		SB	26
	2	NB	149
		SB	149
		TOTAL:	350

TRAFFIC CONTROL CLOSURES

CATEGORY	STAGE	LOCATION	SPV.0060.0002 TRAFFIC CONTROL CLOSE-OPEN FREEWAY ENTRANCE RAMP EACH	SPV.0060.0003 TRAFFIC CONTROL INTERIM FREEWAY LANE CLOSURE EACH	SPV.0060.0005 TRAFFIC CONTROL INTERIM FREEWAY TWO LANE CLOSURE EACH
1000	1	NB	15	6	20
		SB	15	6	20
	2	NB	15	9	15
		SB	15	9	15
		TOTAL:	60	30	70

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TRAFFIC CONTROL ITEMS

CATEGORY	STAGE	LOCATION	STAGE DURATION DAYS	643.0200 TRAFFIC CONTROL SURVEILLANCE AND MAINTENANCE 1060-33-83 DAYS	* 643.0300 TRAFFIC CONTROL DRUMS EACH	643.0300 DAYS	* 643.0420 TRAFFIC CONTROL BARRICADES TYPE III EACH	643.0420 DAYS	* 643.0705 TRAFFIC CONTROL WARNING LIGHTS TYPE A EACH	643.0705 DAYS	* 643.0715 TRAFFIC CONTROL WARNING LIGHTS TYPE C EACH	643.0715 DAYS	* 643.0800 TRAFFIC CONTROL ARROW BOARDS EACH	643.0800 DAYS	* 643.0900 TRAFFIC CONTROL SIGNS EACH	643.0900 DAYS	* 643.1050 TRAFFIC CONTROL SIGNS PCMS EACH	643.1050 DAYS	643.1055.S TRUCK OR TRAILER MOUNTED ATTENUATOR EACH	643.1055.S DAYS
1000	1	USH 45 SB	26	26	124	3224	2	52	--	--	26	676	3	78	15	390	--	--	--	--
		USH 45 NB	26	--	100	2600	2	52	--	--	26	676	3	78	15	390	--	--	--	--
	2	USH 45 SB	149	149	17	2533	--	--	--	--	10	1490	--	--	27	4023	--	--	--	--
		USH 45 NB	149	--	13	1937	--	--	--	--	6	894	--	--	32	4768	--	--	--	--
		WMS	149	--	--	--	9	1341	18	2682	--	--	--	--	3	447	--	--	--	--
		WHS	149	--	--	--	6	894	12	1788	--	--	--	--	6	894	--	--	--	--
		UNDISTRIBUTED		--	124	3224	2	52	--	--	26	676	3	78	15	390	2	40	2	20
		TOTALS:		175		13,518		2,391		4,470		4,412		234		11,302		40		20

* ADDITIONAL QUANTITIES LISTED ELSEWHERE IN PLAN.

PROJECT NO: 1060-33-83	HWY: USH 45	COUNTY: MILWAUKEE	MISCELLANEOUS QUANTITIES	SHEET:	E

FILE NAME : _____ PLOT DATE : _____ PLOT BY : _____ PLOT NAME : _____ PLOT SCALE : 1:1

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TRAFFIC CONTROL ITEMS (DETOUR)

CATEGORY	STAGE	LOCATION	STAGE DURATION DAYS	* 643.0300 TRAFIC CONTROL DRUMS EACH	DAYS	* 643.0420 TRAFFIC CONTROL BARRICADES TYPE III EACH	DAYS	* 643.0705 TRAFFIC CONTROL WARNING LIGHTS TYPE A EACH	DAYS	* 643.0715 TRAFFIC CONTROL WARNING LIGHTS TYPE C EACH	DAYS	* 643.0800 TRAFFIC CONTROL ARROW BOARDS EACH	DAYS	* 643.0900 TRAFFIC CONTROL SIGNS EACH	DAYS	643.0920 TRAFFIC CONTROL COVERING SIGNS TYPE II EACH	DAYS	* 643.1050 TRAFFIC CONTROL SIGNS PCMS EACH	DAYS	643.3000 TRAFFIC CONTROL DETOUR SIGNS EACH	DAYS
1000	1	BURLIEGH ON RAMP	1	17	17	3	3	3	3	3	3	--	--	12	12	18	18	1	1	4	4
		USH 45 SB	1	98	98	--	--	--	--	44	44	4	4	12	12	--	--	--	--	31	31
		W. BURLEIGH ST EB	1	--	--	--	--	--	--	--	--	--	--	16	16	--	--	--	--	12	12
		STH 100 SB	1	--	--	--	--	--	--	--	--	--	--	27	27	--	--	--	--	28	28
		W. CENTER ST EB	1	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	22	22
		W. NORTH AVE EB	1	--	--	--	--	--	--	--	--	--	--	23	23	--	--	--	--	12	12
		NORTH AVE. ON RAMP	1	--	--	3	3	3	3	3	3	--	--	12	12	18	18	1	1	4	4
		USH 45 NB	1	98	98	--	--	--	--	44	44	4	4	12	12	--	--	--	--	28	28
		STH 100 NB	1	--	--	--	--	--	--	--	--	--	--	24	24	--	--	--	--	24	24
		W. CENTER ST WB	1	--	--	--	--	--	--	--	--	--	--	24	24	--	--	--	--	22	22
		W. NORTH AVE WB	1	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	20	20
		W. BURLEIGH ST WB	1	--	--	--	--	--	--	--	--	--	--	7	7	--	--	--	--	16	16
	2	BURLIEGH ON RAMP	3	17	51	3	9	3	9	3	9	--	--	12	36	18	54	1	3	4	12
		USH 45 SB	3	--	--	--	--	--	--	44	132	4	12	12	36	--	--	--	--	31	93
		W. BURLEIGH ST EB	3	--	--	--	--	--	--	--	--	--	--	16	48	--	--	--	--	12	36
		STH 100 SB	3	--	--	--	--	--	--	--	--	--	--	27	81	--	--	--	--	28	84
		W. CENTER ST EB	3	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	22	66
		W. NORTH AVE EB	3	--	--	--	--	--	--	--	--	--	--	23	69	--	--	--	--	12	36
		NORTH AVE. ON RAMP	3	17	51	3	9	3	9	3	9	--	--	12	36	18	54	1	3	4	12
		USH 45 NB	3	--	--	--	--	--	--	44	132	4	12	12	36	--	--	--	--	28	84
		STH 100 NB	3	--	--	--	--	--	--	--	--	--	--	24	72	--	--	--	--	24	72
		W. CENTER ST WB	3	--	--	--	--	--	--	--	--	--	--	24	72	--	--	--	--	22	66
		W. NORTH AVE WB	3	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	20	60
		W. BURLEIGH ST WB	3	--	--	--	--	--	--	--	--	--	--	7	21	--	--	--	--	16	48
		TOTALS:			315		24		24		376		32		676	72			8		892

* ADDITIONAL QUANTITIES LISTED ELSEWHERE IN PLAN.

TEMPORARY PAVEMENT MARKING ITEMS

						646.0600	649.0200 TEMPORARY PAVEMENT MARKING REFLECTIVE PAINT 4-INCH					649.2100
						REMOVING PAVEMENT MARKINGS	20 FT LINE, 20 FT SKIP WHITE	12.5 FT LINE, 37.5 FT SKIP WHITE	3 FT LINE, 9 FT SKIP (DOT PATTERN)	WHITE	YELLOW	TEMPORARY RAISED PAVEMENT MARKERS
CATEGORY	STAGE	LOCATION	STATION	TO	STATION	LF	LF	LF	LF	LF	LF	WHITE EACH
1000	2	USH 45 SB	463+80NS		477+44NS	3410	--	--	100	3845	1292	66
		USH 45 NB	465+10NS		477+67NS	3410	1080	--	90	--	1046	52
		SUBTOTALS:				6820	1080	0	190	3845	2338	118
		TOTALS:				6820	7453					118

TEMPORARY CONCRETE BARRIER ITEMS

							603.8000 CONCRETE BARRIER TEMPORARY PRECAST DELIVERED	603.8125 CONCRETE BARRIER TEMPORARY PRECAST INSTALLED	SPV.0060.0004 CRASH CUSHION TEMPORARY LEFT IN PLACE	614.0905 CRASH CUSHIONS TEMPORARY	SPV.0090.0001 CONCRETE BARRIER TEMPORARY PRECAST DELIVERED SPECIAL	
CATEGORY	STAGE	LOCATION	STATION	TO	STATION	OFFSET	LF	LF	EACH	EACH	LF	COMMENTS
1000	2	USH 45 SB	464+14NS		474+00NS	LT	--	950	--	1	950	
			468+00NS		475+20NS	LT	725	725	1	--	--	
			469+54NS		469+79NS	LT	--	125	--	--	125	PIN BARRIER
		USH 45 NB	466+20NS		471+50NS	RT	550	550	--	1	--	
			466+45NS		472+04NS	RT	--	575	--	--	575	
			469+54NS		469+79NS	RT	--	125	--	--	125	PIN BARRIER
		TOTALS:					1,275	3,050	1	2	1,775	

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PAVEMENT MARKING ITEMS

CATEGORY	STAGE	LOCATION	STATION	STATION	646.0106 PAVEMENT MARKING EPOXY 4-INCH 12.5 FT LINE, 37.5 FT SKIP WHITE LF	646.0106 PAVEMENT MARKING EPOXY 4-INCH 3 FT LINE, 9 FT SKIP WHITE LF	646.0106 PAVEMENT MARKING EPOXY 4-INCH WHITE LF	646.0106 PAVEMENT MARKING EPOXY 4-INCH YELLOW LF	646.0126 PAVEMENT MARKING EPOXY 8-INCH WHITE LF	647.0746 PAVEMENT MARKING DIAGONAL EPOXY 24-INCH WHITE LF	647.0656 PAVEMENT MARKING PARKING STALL EPOXY YELLOW LF
1000	1	USH 45 NB	398+00NS	465+10NS	3,368	279	9,206	9,265	2,291	229	--
		USH 45 NB	475+47NS	480+50NS	253	43	519	505	653	--	--
											--
		USH 45 SB	429+00NS	463+80NS	1,689	274	4,742	5,082	1,618	245	--
		USH 45 SB	477+44	480+50	153	--	306	306	612	--	--
	STAGE 1 SUBTOTAL:				5,463	596	14,773	15,158	5,174	474	0
	2	USH 45 NB	465+10NS	475+47NS	519	87	1,037	1,037	--	--	--
		USH 45 SB	463+80NS	477+44NS	682	--	1,364	1,364	50	--	--
		XD	20+49XD	21+53XD	--	--	--	--	--	--	105
		XD	29+00 XD	31+98 XD	--	--	--	--	--	--	298
		WMS PARKING LOT			--	--	--	--	--	--	2,196
	STAGE 2 SUBTOTAL:				1,201	87	2,401	2,401	50	0	2,599
	TOTALS:				6,664	683	17,174	17,559	5,224	474	2,599
						42,079			5,224	474	2,599

CATEGORY 1100
LIGHTING BRANCH CIRCUIT CONDUIT

652.0225 CONDUIT RIGID NONMETALLIC SCHEDULE 40 2-INCH

SYSTEM	LOCATION TO LOCATION	652.0225 CONDUIT RIGID NONMETALLIC SCHEDULE 40 2-INCH LF	COMMENTS
WAUWATOSA	LIGHTING CONTROL CABINET TO POLE H-1-23	25	--
WAUWATOSA	POLE H-1-23 TO STUBOUT WEST	15	--
WAUWATOSA	POLE H-1-23 TO POLE H-1-22	115	--
WAUWATOSA	POLE H-1-22 TO LPB101	25	--
WAUWATOSA	LPB101 TO POLE 21	65	--
WAUWATOSA	POLE 21 TO POLE 22	65	--
WAUWATOSA	POLE 22 TO POLE 23	65	--
WAUWATOSA	POLE 23 TO POLE 24	65	--
WAUWATOSA	POLE 24 TO POLE 25	65	--
WAUWATOSA	POLE 25 TO POLE 26	65	--
WAUWATOSA	POLE 26 TO LPB103	25	--
WAUWATOSA	LPB103 TO LUMINAIRE LED	40	WALL MOUNTED
WAUWATOSA	LPB103 TO POLE 27	40	--
WAUWATOSA	POLE 27 TO STUBOUT NORTHWEST	25	--
WAUWATOSA	LPB101 TO LPB102	25	--
WAUWATOSA	LPB102 TO POLE 20	25	--
WAUWATOSA	POLE 20 TO POLE 19	65	--
WAUWATOSA	POLE 19 TO POLE 18	65	--
WAUWATOSA	POLE 18 TO POLE 17	50	--
WAUWATOSA	POLE 17 TO POLE 16	65	--
WAUWATOSA	POLE 16 TO POLE 15	75	STRUCTURE MOUNTED
WAUWATOSA	POLE 15 TO POLE 14	60	"
WAUWATOSA	POLE 14 TO POLE 13	65	"
WAUWATOSA	POLE 13 TO POLE 12	60	"
WAUWATOSA	POLE 12 TO POLE 11	70	"
WAUWATOSA	POLE 11 TO POLE 10	70	"
WAUWATOSA	POLE 10 TO POLE 09	70	"
WAUWATOSA	POLE 10 TO LUMINAIRE LED	70	CEILING MAOUNTED
WAUWATOSA	POLE 09 TO POLE 08	50	"
WAUWATOSA	POLE 08 TO POLE 07	65	"
WAUWATOSA	POLE 07 TO POLE 06	60	"
WAUWATOSA	POLE O6 TO POLE 05	65	"
WAUWATOSA	POLE 05 TO POLE 4	65	STRUCTURE MOUNTED
WAUWATOSA	POLE 04 TO POLE 03	65	--
WAUWATOSA	POLE 03 TO POLE 02	65	--
WAUWATOSA	POLE 02 TO POLE 01	70	--
WAUWATOSA	POLE 01 TO STUBOUT SOUTHWEST	15	--
WAUWATOSA	LPB102 TO EXISTING LIGHT POLE H-1-21	180	EXISTING POLE TO REMAIN
	TOTAL (1100)	**2,235**	

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CATEGORY 1100
LIGHTING SYSTEM ITEMS

654.0217	CONCRETE CONTROL CABINET BASES TYPE 9 SPECIAL
655.0640	ELECTRICAL WIRE LIGHTING 1 AWG
656.0400	ELECTRIC SERVICE MAIN LUGS ONLY METER PEDESTAL (1060-33-83)
659.0600	UNDERDECK LIGHTING (1060-33-83)
SPV.0060.1006	LIGHTING CONTROL CABINET 240/480 - WAUWATOSA
SPV.0105.1001	LIGHTING SYSTEM INTEGRATOR
SPV.0105.1002	LIGHTING SYSTEM SURVEY
SPV.0105.1003	MAINTENANCE OF LIGHTING SYSTEMS

SYSTEM	LOCATION	654.0217 CONCRETE CONTROL CABINET BASES TYPE 9 SPECIAL EACH	655.0640 ELECTRICAL WIRE LIGHTING 1 AWG LF	656.0400 ELECTRIC SERVICE MAIN LUGS ONLY METER PEDESTAL (1060-33-83) LS	659.0600 UNDERDECK LIGHTING (1060-33-83) LS	SPV.0060.1006 LIGHTING CONTROL CABINET 240/480 WAUWATOSA EACH	SPV.0105.1001 LIGHTING SYSTEM SURVEY LS	SPV.0105.1002 LIGHTING SYSTEM INTERGRATOR LS	SPV.0105.1003 MAINTENANCE OF LIGHTING SYSTEMS LS
WAUWATOSA	PEDESTRIAN BRIDGE OVER USH 45	1	18	1	1	1	1	1	1
	TOTAL (1100)	1	18	1	1	1	1	1	1

CATEGORY 1100
PULL BOXES

653.0140 PULL BOXES STEEL 24X42-INCH

SYSTEM	LOCATION	OFFSET	ITEM	653.0140 PULL BOXES STEEL 24X42-INCH EACH
WAUWATOSA	99+86XE	9.95' RT	LPB101	1
WAUWATOSA	99+86XE	9.75' LT	LPB102	1
WAUWATOSA	103+80XE	9.95' RT	LPB103	1
	TOTAL (1100)			**3**

PROJECT NO: 1060-33-83	HWY: USH 45	COUNTY: MILWAUKEE	MISCELLANEOUS QUANTITIES	SHEET:	E

CATEGORY 1100
LIGHTING WIRE QUANTITIES
120/240 VAC 3-WIRE ISOLATED NEUTRAL SYSTEM

655.0620 ELECTRICAL WIRE LIGHTING 8 AWG
655.0625 ELECTRICAL WIRE LIGHTING 6 AWG

SYSTEM	NETWORK	LOCATION TO LOCATION	DISTANCE	655.0620 ELECTRICAL WIRE LIGHTING 8 AWG LF	655.0625 ELECTRICAL WIRE LIGHTING 6 AWG LF	COMMENTS
WAUWATOSA	E/F/N/G	LIGHTING CONTROL CABINET TO POLE H-1-23	35	35	105	--
WAUWATOSA	E/F/N/G	POLE H-1-23 TO POLE H-1-22	125	125	375	--
WAUWATOSA	E/F/N/G	POLE H-1-22 TO LPB101 TO LPB 102 TO EXISTING POLE H-1-21	210	210	630	INTERCEPT EXISTING CONDUIT
WAUWATOSA	A/B/N/G	LIGHTING CONTROL CABINET TO POLE H-1-23 TO POLE H-1-22 TO LPB101 TO LPB102 TO POLE 20	240	60	720	--
WAUWATOSA	A/B/N/G	POLE 20 TO POLE 19	75	75	225	--
WAUWATOSA	A/B/N/G	POLE 19 TO POLE 18	75	75	225	--
WAUWATOSA	A/B/N/G	POLE 18 TO POLE 17	60	60	180	--
WAUWATOSA	A/B/N/G	POLE 17 TO POLE 16	75	75	225	--
WAUWATOSA	A/B/N/G	POLE 16 TO JB201 TO POLE 15	80	80	240	STRUCTURE MOUNT
WAUWATOSA	A/B/N/G	POLE 15 TO POLE 14	75	75	225	"
WAUWATOSA	A/B/N/G	POLE 14 TO POLE 13	80	80	240	"
WAUWATOSA	A/B/N/G	POLE 13 TO POLE 12	70	70	210	"
WAUWATOSA	A/B/N/G	POLE 12 TO POLE 11	80	80	240	"
WAUWATOSA	A/B/N/G	POLE 11 TO POLE 10	80	80	240	"
WAUWATOSA	A/B/N/G	POLE 10 TO POLE 09	80	80	240	"
WAUWATOSA	A/B/N/G	POLE 10 TO LUMINAIRE LED (UDL)	80	320	--	CEILING MOUNTED
WAUWATOSA	A/B/N/G	POLE 09 TO POLE 08	60	60	180	"
WAUWATOSA	A/B/N/G	POLE 08 TO POLE 07	75	75	225	"
WAUWATOSA	A/B/N/G	POLE 07 TO POLE 06	65	65	195	"
WAUWATOSA	A/B/N/G	POLE O6 TO POLE 05	75	75	225	STRUCTURE MOUNT
WAUWATOSA	A/B/N/G	POLE 05 TO JB202 TO POLE 04	75	75	225	--
WAUWATOSA	A/B/N/G	POLE 04 TO POLE 03	75	75	225	--
WAUWATOSA	A/B/N/G	POLE 03 TO POLE 02	75	75	225	--
WAUWATOSA	A/B/N/G	POLE 02 TO POLE 01	80	80	240	--
WAUWATOSA	C/D/N/G	LIGHTING CONTROL CABINET TO POLE H-1-23 TO POLE H-1-22 TO LPB101 TO POLE 21	250	250	750	--
WAUWATOSA	C/D/N/G	POLE 21 TO POLE 22	75	75	225	--
WAUWATOSA	C/D/N/G	POLE 22 TO POLE 23	75	75	225	--
WAUWATOSA	C/D/N/G	POLE 23 TO POLE 24	75	75	225	--
WAUWATOSA	C/D/N/G	POLE 24 TO POLE 25	75	75	225	--
WAUWATOSA	C/D/N/G	POLE 25 TO POLE 26	75	75	225	--
WAUWATOSA	C/D/N/G	POLE 26 TO POLE 27	75	75	225	--
WAUWATOSA	C/D/N/G	POLE 26 TO LUMINAIRE LED (UDL)	75	300	--	WALL MAOUNTED
		TOTAL (1100)		**3,160**	**8,160**	

CATEGORY 1100
LIGHT POLE QUANTITIES

654.0111	CONCRETE BASES TYPE 11
655.0610	ELECTRICAL WIRE LIGHTING 12 AWG
657.0322	POLES TYPE 5-ALUMINUM
657.0610	LUMINAIRE ARMS SINGLE MEMBER 4 1/2-INCH CLAMP 6-FT
659.1125	LUMINAIRES UTILITY LED C
SPV.0060.1003	CONCRETE BASES TYPE 5 SPECIAL
SPV.0060.1004	LIGHTING UNITS WALKWAY LED
SPV.0060.1005	LUMINAIRES UTILITY LED AND MOUNTING ARM
SPV.0060.1007	LUMINAIRES LED

SYSTEM	STATION	OFFSET	ITEM	654.0111 CONCRETE BASES TYPE 11 EACH	655.0610 ELECTRICAL WIRE LIGHTING 12 AWG L.F.	657.0322 POLES TYPE 5 ALUMINUM EACH	657.0610 LUMINAIRE ARMS SINGLE MEMBER 4 1/2-INCH CLAMP 6-FT EACH	659.1125 LUMINAIRES UTILITY LED C EACH	SPV.0060.1003 CONCRETE BASES TYPE 5 SPECIAL EACH	SPV.0060.1004 LIGHTING UNITS WALKWAY LED EACH	SPV.0060.1005 LUMINAIRES UTILITY LED AND MOUNTING ARM EACH	SPV.0060.1007 LUMINAIRES LED EACH	COMMENTS
WAUWATOSA	20+50XD	7.74' LT	POLE 01	1	45	--	--	--	--	1	--	--	--
WAUWATOSA	21+13XD	7.28' LT	POLE 02	1	45	--	--	--	--	1	--	--	--
WAUWATOSA	21+75XD	7.73' LT	POLE 03	1	45	--	--	--	--	1	--	--	--
WAUWATOSA	22+42XD	6.98' LT	POLE 04	1	45	--	--	--	--	1	--	--	--
WAUWATOSA	23+07XD	7.43' LT	POLE 05	--	45	--	--	--	--	--	1	--	STRUCTURE MOUNTED
WAUWATOSA	23+71XD	7.40' LT	POLE 06	--	45	--	--	--	--	--	1	--	"
WAUWATOSA	24+29XD	7.40' LT	POLE 07	--	45	--	--	--	--	--	1	--	"
WAUWATOSA	24+93XD	7.43' LT	POLE 08	--	45	--	--	--	--	--	1	--	"
WAUWATOSA	25+23XD	31.46' LT	POLE 09	--	45	--	--	--	--	--	1	--	"
WAUWATOSA	25+75XD	7.39' LT	POLE 10	--	45	--	--	--	--	--	1	--	"
WAUWATOSA	26+48XD	7.83' LT	POLE 11	--	45	--	--	--	--	--	1	--	"
WAUWATOSA	27+19XD	7.83' LT	POLE 12	--	45	--	--	--	--	--	1	--	"
WAUWATOSA	27+79XD	7.83' LT	POLE 13	--	45	--	--	--	--	--	1	--	"
WAUWATOSA	28+44XD	9.53' LT	POLE 14	--	45	--	--	--	--	--	1	--	"
WAUWATOSA	29+05XD	9.99' LT	POLE 15	--	45	--	--	--	--	--	1	--	STRUCTURE MOUNTED
WAUWATOSA	29+71XD	8.97' LT	POLE 16	1	45	--	--	--	--	1	--	--	--
WAUWATOSA	30+46XD	9.85' LT	POLE 17	1	45	--	--	--	--	1	--	--	--
WAUWATOSA	30+99XD	9.35' LT	POLE 18	1	45	--	--	--	--	1	--	--	--
WAUWATOSA	31+50XD	7.43' LT	POLE 19	1	45	--	--	--	--	1	--	--	--
WAUWATOSA	32+05XD	7.40' LT	POLE 20	1	45	--	--	--	--	1	--	--	--
WAUWATOSA	100+49XE	7.35' RT	POLE 21	1	45	--	--	--	--	1	--	--	--
WAUWATOSA	101+16XE	8.13' RT	POLE 22	1	45	--	--	--	--	1	--	--	--
WAUWATOSA	101+76XE	7.58' RT	POLE 23	1	45	--	--	--	--	1	--	--	--
WAUWATOSA	102+36XE	8.17' RT	POLE 24	1	45	--	--	--	--	1	--	--	--
WAUWATOSA	102+96XE	8.49' RT	POLE 25	1	45	--	--	--	--	1	--	--	--
WAUWATOSA	103+56XE	6.51' RT	POLE 26	1	45	--	--	--	--	1	--	--	--
WAUWATOSA	104XE+16	8.13' RT	POLE 27	1	45	--	--	--	--	1	--	--	--
WAUWATOSA	15+52	49.19' RT	H-1-23	--	144	1	1	1	1	--	--	--	--
WAUWATOSA	15+52	66.50' LT	H-1-22	--	144	1	1	1	1	--	--	--	--
WAUWATOSA	13+57	89.65' LT	H-1-21	--	--	--	--	--	--	--	--	--	PROJECT ID 1060-34-84
WAUWATOSA	11+98	89.21' LT	H-1-20	--	--	--	--	--	--	--	--	--	PROJECT ID 1060-34-84
WAUWATOSA	UNDERDECK	--	LUMINAIRE LED	--	--	--	--	--	--	--	--	1	WALL MOUNT
WAUWATOSA	UNDERDECK	--	LUMINAIRE LED	--	--	--	--	--	--	--	--	1	CEILING MOUNT
TOTAL (1100)				**16**	**1,503**	**2**	**2**	**2**	**2**	**16**	**11**	**2**	

PROJECT NO: 1060-33-83	HWY: USH 45	COUNTY: MILWAUKEE	MISCELLANEOUS QUANTITIES	SHEET:	E

FTMS MISCELLANEOUS QUANTITIES

CATEGORY 1300	FROM	TO	652.0700.S INSTALL CONDUIT INTO EXISTING ITEM EACH	671.0132 CONDUIT HDPE 3-DUCT 2-INCH LF	673.0105 COMMUNICATION VAULT TYPE 1 EACH	674.0300 REMOVE CABLE LF	678.0300 FIBER OPTIC SPLICE EACH
	EXMHCE01	EXMHBU01	--	--	--	2250	--
	EXMHCE01		--	--	--	--	2
	EXMHBU01	--	1	--	--	--	--
	CV464	EXMHBU01	--	2050	1	--	--
			1	2050	1	2250	2

ITS LUMP SUM ITEMS

CATEGORY	1300	ITEM ID	670.0100.0001 FIELD SYSTEM INTEGRATOR LS	670.0200.0001 ITS DOCUMENTATION LS	678.0500.0001 COMMUNICATION SYSTEM TESTING LS
		PROJECT	1	1	1
		TOTAL	1	1	1

PROJECT NO: 1060-33-83	HWY: US 45	COUNTY: MILWAUKEE	FTMS MISCELLANEOUS QUANTITIES	SHEET NO: E

FILE NAME : PLOT DATE: 1/26/2015 11:25:34 AM PLOT BY : PLOT NAME : ORG DATE : ORIGINATOR : PLOT SCALE : N/A

R/W PROJECT NUMBER	SHEET NUMBER	TOTAL SHEETS
1060-33-26	4.1	
FEDERAL PROJECT NUMBER 1060-33-26		

PLAT OF RIGHT-OF-WAY REQUIRED FOR

USH 45
SWAN BVLD. TO BURLEIGH STREET
MILWAUKEE COUNTY

CONSTRUCTION PROJECT NUMBER
1060-33-84 1060-34-84
1060-33-83

CONVENTIONAL ABBREVIATIONS

ACCESS RIGHTS	AR	REEL	R.
ACRES	AC.	REFERENCE LINE	RL
AND OTHERS	ET.AL.	RELEASE OF RIGHTS	ROR
CENTERLINE	CL	REMAINING	REM.
CERTIFIED SURVEY MAP	CSM	RIGHT-OF-WAY	R/W
CORNER	COR.	SECTION	SEC.
DOCUMENT	DOC.	STATION	STA.
EASEMENT	EASE.	TEMPORARY LIMITED EASEMENT	TLE
IMAGE	I.	VOLUME	V.
HIGHWAY EASEMENT	H.E.	**CURVE DATA**	
LAND CONTRACT	LC	LONG CHORD	LCH
MONUMENT	MON.	LONG CHORD BEARING	LCB
PAGE	P.	RADIUS	R
PERMANENT LIMITED EASEMENT	PLE	DEGREE OF CURVE	D
PROPERTY LINE	PL	CENTRAL ANGLE OR DELTA	DELTA
RECORDED AS	(100')	LENGTH OF CURVE	L
		TANGENT	TAN

CONVENTIONAL SYMBOLS

FOUND IRON PIPE/PIN	LS (1" UNLESS NOTED)	PROPOSED R/W LINE	
		EXISTING H.E. LINE	
R/W MONUMENT	(SET)	PROPERTY LINE	
R/W STANDARD	(SET)	LOT & TIE LINES	
SIGN	SIGN	SLOPE INTERCEPTS	
SECTION CORNER MONUMENT		CORPORATE LIMITS	
SECTION CORNER SYMBOL		ACCESS RESTRICTED (BY PREVIOUS ACQUISITION/CONTROL)	
FEE (HATCH VARIES)		ACCESS RESTRICTED (BY ACQUISITION)	
TEMPORARY LIMITED EASEMENT		NO ACCESS (BY STATUTORY AUTHORITY)	
PERMANENT LIMITED EASEMENT		SECTION LINE	
R/W BOUNDARY POINT	RWB20	QUARTER LINE	
PARCEL NUMBER	102	SIXTEENTH LINE	
UTILITY PARCEL NUMBER	92	EXISTING CENTERLINE	
SIGN NUMBER (OFF PREMISE)	21-1	PROPOSED REFERENCE LINE	
BUILDING		PARALLEL OFFSET	

CONVENTIONAL UTILITY SYMBOLS

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

NOTES:

POSITIONS SHOWN ON THIS PLAT ARE WISCONSIN COUNTY COORDINATES, MILWAUKEE COUNTY, NAD83 (2007) 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 MONUMENTS ARE TYPE 2 (TYPICAL ¾" REBAR) AND WILL BE PLACED PRIOR TO THE COMPLETION OF THE PROJECT.

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

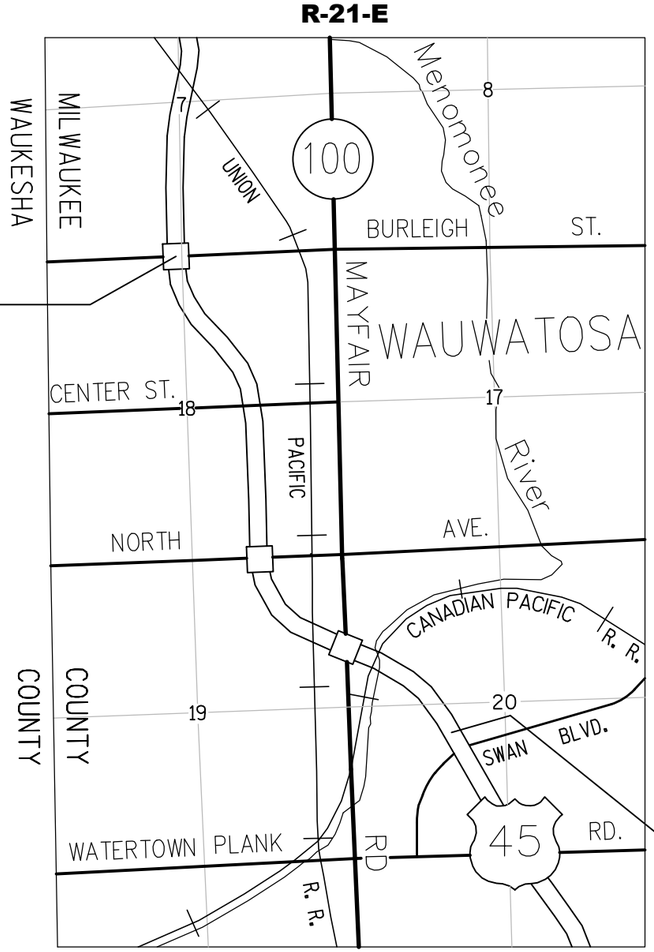
PROPERTY LINES SHOWN ON THIS PLAT ARE DRAWN FROM DATA DERIVED FROM MAPS AND DOCUMENTS OF PUBLIC RECORD AND/OR EXISTING OCCUPATIONAL LINES. THIS PLAT MAY NOT BE A TRUE REPRESENTATION OF EXISTING PROPERTY LINES, EXCLUDING RIGHT-OF-WAY LINES, AND SHOULD NOT BE USED AS A SUBSTITUTE FOR AN ACCURATE FIELD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

FOR THE LATEST ACCESS / DRIVEWAY INFORMATION, CONTACT THE PLANNING UNIT OF THE WISCONSIN DEPARTMENT OF TRANSPORTATION OFFICE IN WAUKESHA.

END RELOCATION ORDER
SECTION LINE

STA 492+06.77

1.59' SOUTH AND 91.13' WEST
OF THE SOUTH CORNER OF
SECTION 7 T-7-N, R-21-E
Y=312723.00
X=566254.57



BEGIN RELOCATION ORDER

STA 386+00.00

661.00' SOUTH AND 1845.19' EAST
OF THE WEST CORNER OF
SECTION 20 T-7-N, R-21-E
Y=304139.15
X=570927.13

N

SCALE 0 .5MI. 1MI.
LAYOUT

TOTAL NET LENGTH OF CENTERLINE = 2.01 MI.

REVISION DATE	STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION
07-15-2014 09-24-2014	APPROVED FOR THE DEPARTMENT DATE: 11-07-2013 Robert A Dufflocks (Signature)

SCHEDULE OF LANDS & INTERESTS REQUIRED

OWNER'S NAMES ARE SHOWN FOR REFERENCE PURPOSED ONLY AND ARE SUBJECT TO CHANGE PRIOR TO THE TRANSFER OF LAND INTERESTS TO THE DEPARTMENT.

* DENOTES AREAS COMPUTED

AREAS SHOWN IN THE TOTAL ACRES COLUMN MAY BE APPROXIMATE AND ARE DERIVED FROM TAX ROLLS OR OTHER AVAILABLE SOURCES AND MAY NOT INCLUDE LANDS OF THE OWNER WHICH ARE NOT CONTIGUOUS TO THE AREA TO BE ACQUIRED.

PARCEL NUMBER	SHEET NUMBER	OWNER	INTEREST REQUIRED	TOTAL ACRES	NEW	EXISTING	TOTAL	REMAINING ACRES	TEMP. ACRES	PERM. ACRES	PARCEL NUMBER
1	4.11	FELTON & MARIA BRAZIL	FEE	0.276	0.276	0.000	0.276	0.000	0.000	0.000	1
2	4.17	BRIAN E. & IRENE WALKER	FEE	0.224	0.224	0.000	0.224	0.000	0.000	0.000	2
3(3)	4.17	KENNETH R. & JANET L. DALLMANN	TLE	0.448	0.000	0.000	0.000	0.448	0.022	0.000	3(3)
4(3)	4.17	ADAM E. KLEIN	TLE	0.448	0.000	0.000	0.000	0.448	0.056	0.000	4(3)
5(3)	4.17	GREGORY J. & NICOLE K. WERRY	TLE	0.224	0.000	0.000	0.000	0.224	0.086	0.000	5(3)
6(3)	4.18	COURTNEY G. THOMEY	TLE	0.128	0.000	0.000	0.000	0.128	0.033	0.000	6(3)
7(3)	4.18	JOHN LYNCH	PLE, TLE	0.193	0.000	0.000	0.000	0.193	0.036	0.016	7(3)
8(3)	4.18	JOHN C. & TERESE M. BEAUCHAMP	TLE	0.193	0.000	0.000	0.000	0.193	0.035	0.000	8(3)
9(3)	4.18	MARIANO B. & NORALYN B. DAVID	TLE	0.128	0.000	0.000	0.000	0.128	0.024	0.000	9(3)
10(3)	4.18	KEVIN & MELINDA KROEGER	TLE	0.133	0.000	0.000	0.000	0.133	0.010	0.000	10(3)
11(3)	4.18	ARLEEN JEAN LEMMON	TLE	0.124	0.000	0.000	0.000	0.124	0.023	0.000	11(3)
12(3)	4.18	GIBSON REVOCABLE LIVING TRUST	TLE	0.122	0.000	0.000	0.000	0.122	0.012	0.000	12(3)
13(2)	4.19	SCHOOL DISTRICT OF WAUWATOSA	TLE	21.372	0.000	0.000	0.000	21.372	3.793	0.000	13(2)
14(2)	4.20	SCHOOL DISTRICT OF WAUWATOSA	TLE	34.918	0.000	0.000	0.000	34.918	2.949	0.000	14(2)
15(3)	4.10	DYNAMIS PROPERTIES LLC	FEE	0.386	0.386	0.000	0.386	0.000	0.000	0.000	15(3)
16											16
17											17
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31											31
32											32
33											33
34											34
35											35
36											36
500	4.10 4.11 4.17 4.19 4.20	WE ENERGIES ELECTRIC	RELEASE OF RIGHTS	--	--	--	--	--	--	--	500
503	4.10 4.11 4.20	AT&T WISCONSIN	RELEASE OF RIGHTS	--	--	--	--	--	--	--	503
533	4.10 4.19 4.20	CITY OF WAUWATOSA - STORM	RELEASE OF RIGHTS	--	--	--	--	--	--	--	533
534	4.19 4.20	CITY OF WAUWATOSA - SANITARY	RELEASE OF RIGHTS	--	--	--	--	--	--	--	534

SHEETS 4.03 TO 4.09 OMMITTED

REVISION DATE			
07-15-2014			
09-24-2014			

DATE 11-07-2013 | HWY: USH 45 | STATE R/W PROJECT NUMBER 1060-33-26 | PLAT SHEET 4.02

COUNTY: MILWAUKEE | CONSTRUCTION PROJECT NUMBER 1060-33-84, 1060-34-84

E

FILE NAME : N:\PDS\C3D\ROW\10603326\RW\4.02_2012\040402_RS.DWG PLOT DATE : 9/24/2014 8:21 AM PLOT BY : KRAUSE, PAUL H PLOT NAME : PLOT SCALE : NA

WISDOT/CADDS SHEET 75

SEE SHEET 4.20

SEE SHEET 4.20

SEE SHEET 4.17

SEE SHEET 4.19

Manhole 7067
Rim
w/ 4" Chiseled V
X 2501373.26
Y 563170.68

STA. 468+58.61 RL USH 45

WEST LINE OF E1/2 OF E1/2 OF W1/2 - NE1/4

50.03'

S00° 31' 20"E

WEPCO & WI BELL DOC. 8992065

10'

RL USH 45

465

508.40'

N34° 39' 18"W

360.60'

N28° 41' 28"W

PL

20'

RL CENTER ST. = QUARTER LINE

20

STA.462+03.75 RL USH 45
STA.20+14.00 RL CENTER ST.

N08° 29' 56"W

504.37'

45.39'

N00° 57' 11"W

120'

BLEACHERS

CITY

TENNIS COURT

OF

WAUWATOSA

1/16 LINE

SW1/4 - NE1/4

SE1/4 - NE1/4

N89° 02' 49"E

CSM 3491
PARCEL 2

CSM 3491
PARCEL 1

CSM 3356
PARCEL 1

1/16 LINE

45'

CENTER

STREET

225'

280'

95'

115'

105'

140'

1343.46'

348.57'

N00° 57' 11"W

WEPCO & WI BELL DOC. 3767474

SAN

MH

13

SCHOOL DISTRICT OF WAUWATOSA

TLE FOR SLOPES
ACCESS
PEDESTRIAN BRIDGE
& WALKWAY

TLE FOR SLOPES
DRIVEWAY SIDEWALK
& PARKING LOT

SIGN

25

N89° 02' 49"E

45'

RL USH 45
PI STA = 466+63.40
Y = 310553.03
X = 567533.95
PC STA = 460+92.50
PT STA = 471+91.27
DELTA = 38°23'14"
D = 3°29'37"
T = 570.90'
L = 1098.77'
R = 1640.00'
LCH = 1078.34'
LCB = N19°39'29"W

NOTES:

POSITIONS SHOWN ON THIS PLAT ARE WISCONSIN COUNTY COORDINATES, MILWAUKEE COUNTY, NAD83 (2007) 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 MONUMENTS ARE TYPE 2 (TYPICAL3/4" REBAR) AND WILL BE PLACED PRIOR TO THE COMPLETION OF THE PROJECT.

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

FOR THE LATEST ACCESS / DRIVEWAY INFORMATION, CONTACT THE PLANNING UNIT OF THE WISCONSIN DEPARTMENT OF TRANSPORTATION OFFICE IN WAUKESHA.

HIGHWAY	BASIS OF EXISTING RIGHT-OF-WAY	WIDTH	YEAR
USH 45	T03 - 1 (57)	VARIES	1965
CENTER STREET	DOC. NO. 5576905	45'	1982
CENTER STREET	DOC. NO. 5576906	45'	1982
CENTER STREET	S.S. 66.1024	45'	

PREVIOUS ACCESS CONTROL
T03 - 1 (57)

500 WE ENERGIES ELECTRIC
DOC. 3767474 V. 3974 P. 399
PCL. 13

533 CITY OF WAUWATOSA - STORM
NO RECORDED EASEMENT
PCL. 13

534 CITY OF WAUWATOSA - SANITARY
NO RECORDED EASEMENT
PCL. 13

A Concrete Monument
w/ 3/4" Bronze Plug
X 3107.83
563015.85

7068

A Concrete Monument
w/ A Brass Cap
X 3276.76
568932.98

7055

N00° 29' 34"W

2658.93'

REVISION DATE			
09-24-2014			

SCALE, FEET
0 50 100

DATE 07-15-2014

HWY: USH 45

STATE R/W PROJECT NUMBER 1060-33-26

PLAT SHEET 4.19

COUNTY: MILWAUKEE

CONSTRUCTION PROJECT NUMBER 1060-33-83 1060-34-84

E

FILE NAME : N:\PDS\C3D\ROW\10603326\RW\040419_RP.DWG PLOT DATE : 9/24/2014 11:31 AM PLOT BY : KRAUSE, PAUL H PLOT NAME : PLOT SCALE : 1:100_XREF

N00° 32' 24"W 1325.39'

Manhole Rim
w/ 4" Chiseled Vs
Y 310172.92
X 566370.68

7067

NOTES:

POSITIONS SHOWN ON THIS PLAT ARE WISCONSIN COUNTY COORDINATES, MILWAUKEE COUNTY, NAD83 (2007) IN US SURVEY FEET. VALUES SHOWN ARE GRID COORDINATES, GRID BEARINGS, AND GRID DISTANCES. GRID DISTANCES MAY BE USED AS GROUND DISTANCES.

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FOR THE LATEST ACCESS / DRIVEWAY INFORMATION, CONTACT THE PLANNING UNIT OF THE WISCONSIN DEPARTMENT OF TRANSPORTATION OFFICE IN WAUKESHA.

(500) WE ENERGIES ELECTRIC
DOC. 3924662 V. 4204 P. 436 PCL. 14
DOC. 08992065 PCL. 14
NO RECORDED EASEMENT PCL. 14

(503) AT&T
DOC. 3924662 V. 4204 P. 436 PCL. 14
DOC. 08992065 PCL. 14

(533) CITY OF WAUWATOSA - STORM
NO RECORDED EASEMENT PCL. 14

(534) CITY OF WAUWATOSA - SANITARY
NO RECORDED EASEMENT PCL. 14

7054
A Cast Iron Plug
in Concrete Pavement
Y 312724.59
X 566345.70

RL CENTER ST. = QUARTER LINE

45'

56.42'

20'

15

165'

SEE SHEET 4.18

CENTER

N89° 02' 49"E

80'

30'

43'

45'

TLE FOR SLOPES
PEDESTRIAN BRIDGE
& WALKWAY

BLEACHERS

TENNIS COURT

TENNIS COURT

CITY OF WAUWATOSA

SIGN

SW1/4 - NE1/4

300.00'

S89° 02' 49"W

N47° 19' 27"E

247.18'

(14) SCHOOL DISTRICT OF WAUWATOSA

TLE FOR SLOPES
DRIVEWAY SIDEWALK
& ACCESS

540.00'

S00° 57' 11"E

N38° 15' 03"W

540.53'

202.19'

160'

N53° 44' 36"W

197.08'

N27° 41' 41"W

202.00'

N20° 47' 53"W

MH

SS

SAN

199.51'

N14° 26' 38"W

WEPCO & WI BELL DOC. 08992065

80.00'
N00° 31' 20"W

90.71'
N08° 07' 27"W

WEST LINE OF E1/2 OF E1/2 OF W1/2 - NE1/4

STA. 468+58.61 RL USH 45

STA. 477+18.35 RL USH 45

1/16 LINE

475

470

RL USH 45

PT: 471+91.27

552.51'

N37° 18' 16"W

A Concrete Monum
w/ Brass Cap
Y 310179.93
X 569015.85

7068

SEE SHEET 4.19

SEE SHEET 4.19

HIGHWAY	BASIS OF EXISTING RIGHT-OF-WAY	WIDTH	YEAR
USH 45	T03 - 1 (57)	VARIES	1965
CENTER STREET	DOC. NO. 5576905	45'	1982
CENTER STREET	DOC. NO. 5576906	45'	1982
CENTER STREET	S.S. 66.1024	45'	

PREVIOUS ACCESS CONTROL
T03 - 1 (57)

RL USH 45
PI STA = 466+63.40
Y = 310553.03
X = 567533.95
PC STA = 460+92.50
PT STA = 471+91.27
DELTA = 38°23'14"
D = 3°29'37"
T = 570.90'
L = 1098.77'
R = 1640.00'
LCH = 1078.34'
LCB = N19°39'29"W

WAUWATOSA

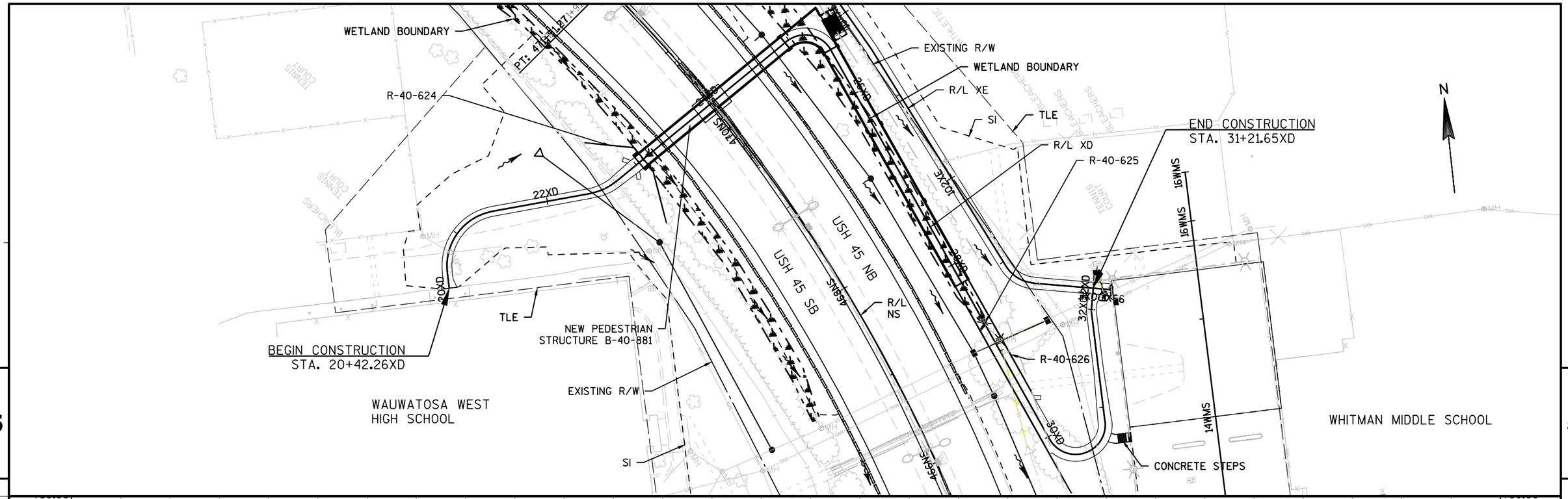
REVISION DATE			
09-24-2014			

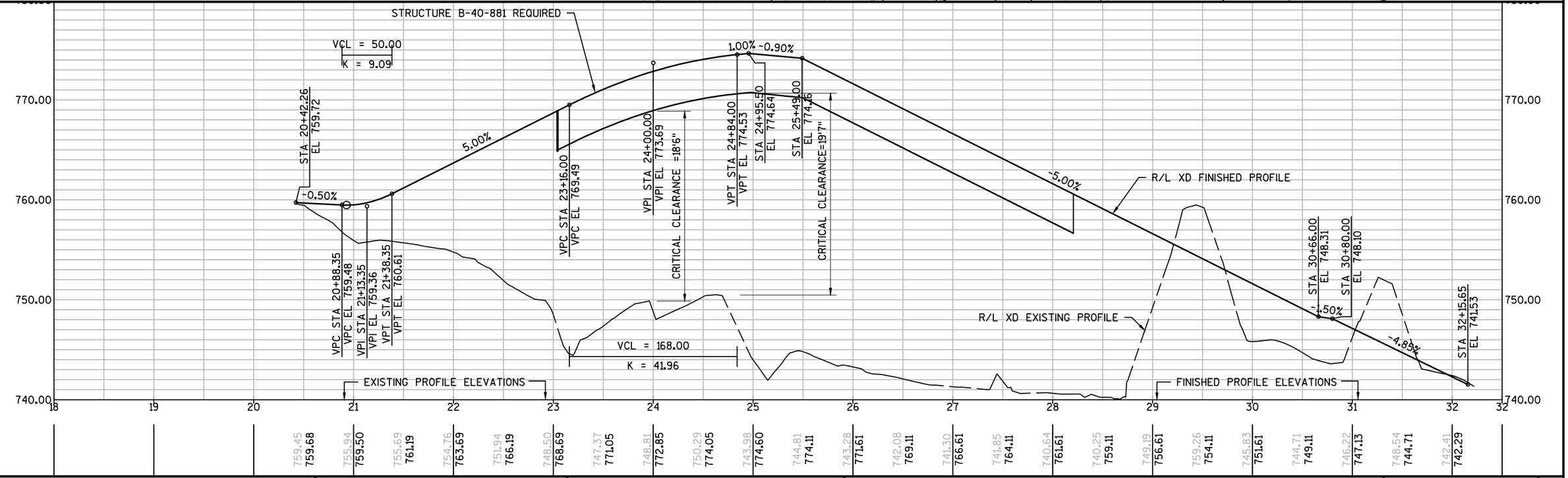
SCALE, FEET
0 50 100

DATE 07-15-2014 | HWY: USH 45 | STATE R/W PROJECT NUMBER 1060-33-26 | PLAT SHEET 4.20

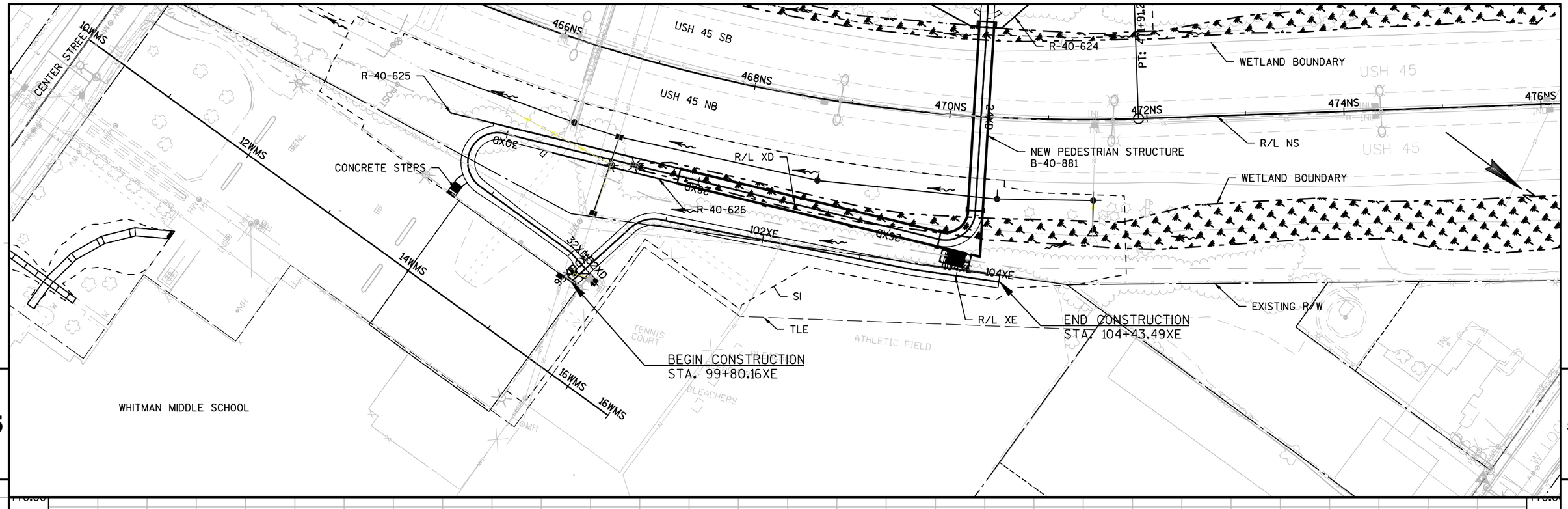
COUNTY: MILWAUKEE | CONSTRUCTION PROJECT NUMBER 1060-33-83 1060-34-84

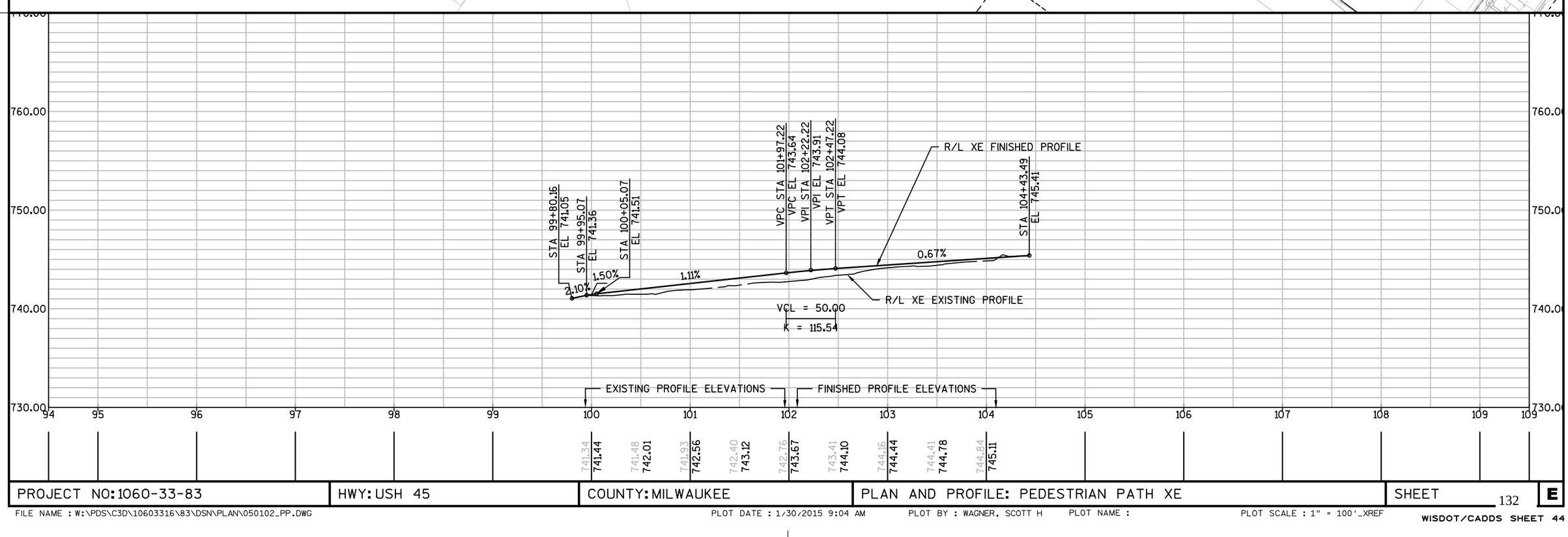
FILE NAME : N:\PDS\C3D\ROW\10603326\RW\040420_RP.DWG PLOT DATE : 9/24/2014 11:35 AM PLOT BY : KRAUSE, PAUL H PLOT NAME : PLOT SCALE : 1:100_XREF





PROJECT NO:1060-33-83	HWY: USH 45	COUNTY: MILWAUKEE	PLAN AND PROFILE: PEDESTRIAN BRIDGE XD	SHEET 131 E





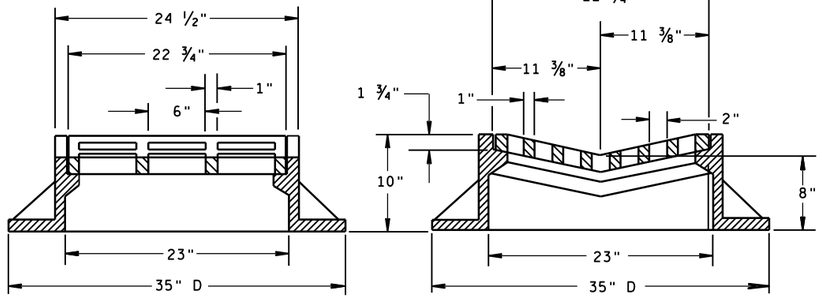
PROJECT NO:1060-33-83	HWY: USH 45	COUNTY: MILWAUKEE	PLAN AND PROFILE: PEDESTRIAN PATH XE	SHEET 132	E

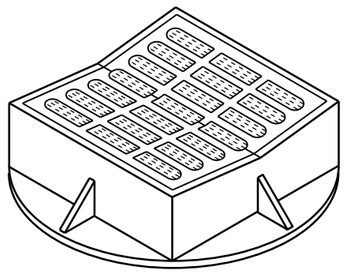
FILE NAME : W:\PDS\C3D\10603316\83\DSN\PLAN\050102_PP.DWG PLOT DATE : 1/30/2015 9:04 AM PLOT BY : WAGNER, SCOTT H PLOT NAME : PLOT SCALE : 1" = 100'_XREF

Standard Detail Drawing List

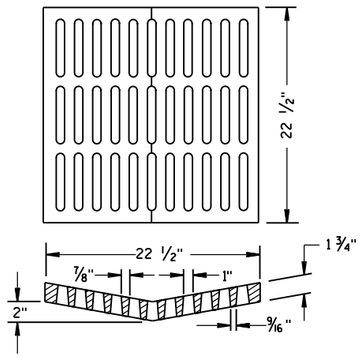
08A05-19B	INLET COVERS TYPE B, B-A, C, MS, MS-A, & WM
08A05-19D	INLET COVER TYPE BW, MANHOLE COVERS, TYPE K, J, J-S, L & M
08B09-01	MANHOLES 3-FT, 4-FT, 5-FT, 6-FT, 7-FT AND 8-FT DIAMETER
08C06-01	INLETS 3-FT AND 4-FT DIAMETER
08C08-01	INLETS MEDIAN 1 AND 2 GRATE
08D04-05	CONCRETE SURFACE DRAINS & ASPHALTIC FLUMES
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
08F01-11	APRON ENDWALLS FOR CULVERT PIPE
08F04-07	JOINT TIES FOR CONCRETE PIPE AND CONCRETE COLLAR DETAIL
08F05-01	CLASS "B" BEDDING FOR CULVERT PIPE OR STORM SEWER
09B02-08	CONDUIT UNDER PAVED HIGHWAYS
09B04-11	PULL BOX
09C02-07	CONCRETE BASES, TYPES 1, 2, 5, & 6
09C06-07	CONCRETE CONTROL CABINET BASE, TYPE 9, SPECIAL
09E01-13D	POLE MOUNTINGS FOR LIGHTING UNITS, TYPE 5 (30 FEET)
09E01-13G	HARDWARE DETAILS FOR POLE MOUNTINGS
09E03-05	NON-FREEWAY LIGHTING UNIT POLE WIRING
09E04-06	WALKWAY LIGHTING UNIT AND CONCRETE BASE, TYPE 11
10A01-03	ELECTRICAL HANDHOLE WIRING
10A05-02	ELECTRICAL DETAILS GROUND MOUNT LIGHT POLES ISOLATED NEUTRAL SYSTEMS
10A08-02	ELECTRICAL DETAILS STRUCTURE MOUNT LIGHT POLES ISOLATED NEUTRAL SYSTEMS
10A15-04A	ELECTRICAL DETAILS UNDERDECK LIGHTING
10A15-04B	ELECTRICAL DETAILS UNDERDECK LIGHTING
13C01-17	CONCRETE PAVEMENT LONGITUDINAL JOINTS AND TIES
13C04-16	URBAN NON-DOWELED CONCRETE PAVEMENT
13C09-11A	CONCRETE PAVEMENT REPAIR AND REPLACEMENT
13C09-11B	CONCRETE PAVEMENT REPAIR AND REPLACEMENT
13C09-11C	CONCRETE PAVEMENT REPAIR AND REPLACEMENT
13C14-04A	BASE PATCHING CONCRETE
13C14-04B	BASE PATCHING CONCRETE
13C14-04C	BASE PATCHING CONCRETE
13C18-02A	CONCRETE PAVEMENT JOINTING
13C18-02B	CONCRETE PAVEMENT STEEL REINFORCEMENT
13C18-02C	CONCRETE PAVEMENT JOINT TIES
13C18-02D	CONCRETE PAVEMENT JOINTING AT UTILITY FIXTURES
14B07-14A	CONCRETE BARRIER TEMPORARY PRECAST, 12'-6"
14B07-14B	CONCRETE BARRIER TEMPORARY PRECAST, 12'-6"
14B07-14C	CONCRETE BARRIER TEMPORARY PRECAST, 12'-6"
14B07-14D	CONCRETE BARRIER TEMPORARY PRECAST, 12'-6"
14B07-14E	CONCRETE BARRIER TEMPORARY PRECAST, 12'-6"
14B07-14F	CONCRETE BARRIER TEMPORARY PRECAST, 12'-6"
14B07-14G	CONCRETE BARRIER TEMPORARY PRECAST, 12'-6"
14B07-14H	CONCRETE BARRIER TEMPORARY PRECAST, 12'-6"
14B08-01A	CRASH CUSHION/SAND BARREL ARRAY AND OTHER TEMPORARY BARRIER LAYOUT DETAILS
14B08-01B	CRASH CUSHION/SAND BARREL ARRAY AND OTHER TEMPORARY BARRIER LAYOUT DETAILS
14B08-01C	CRASH CUSHION/SAND BARREL ARRAY AND OTHER TEMPORARY BARRIER LAYOUT DETAILS
14B08-01D	CRASH CUSHION/SAND BARREL ARRAY AND OTHER TEMPORARY BARRIER LAYOUT DETAILS
14B08-01E	CRASH CUSHION/SAND BARREL ARRAY AND OTHER TEMPORARY BARRIER LAYOUT DETAILS
15A03-02A	FLEXIBLE MARKER POST FOR CULVERT END
15A03-02B	FLEXIBLE MARKER POST FOR CULVERT END
15B03-14A	FENCE CHAIN LINK
15B03-14B	FENCE CHAIN LINK
15C02-05B	BARRICADES AND SIGNS FOR MAINLINE CLOSURES
15C02-05C	DETOUR SIGNING FOR MAINLINE CLOSURES
15C08-16A	PAVEMENT MARKING (MAINLINE)
15C31-01A	PAVEMENT MARKING (RAMPS AND GORES)
15C31-01D	PAVEMENT MARKING FOR PARALLEL ON-RAMP AND PARALLEL OFF-RAMP
15D14-02	TRAFFIC CONTROL, TWO LANE CLOSURE ON FREEWAY OR EXPRESSWAY, SHORT-TERM (LESS THAN 24 HOURS)
15D27-02	TRAFFIC CONTROL, SHOULDER CLOSURE ON DIVIDED ROADWAY, SPEEDS GREATER THAN 40 MPH
16A01-06	LANDMARK REFERENCE MONUMENTS AND COVERS

6



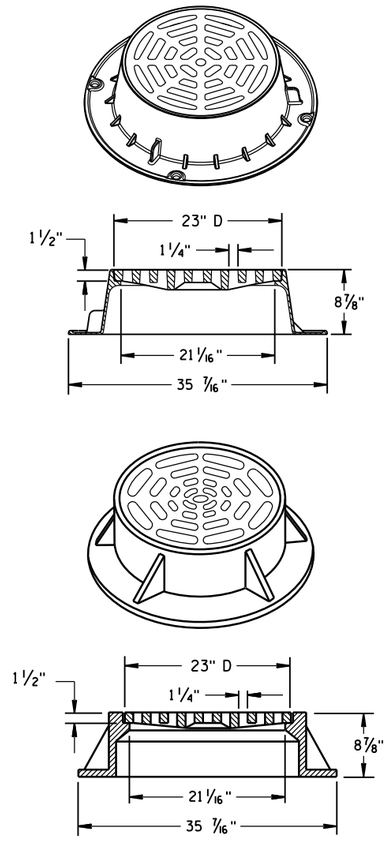


TYPE "B"



ALTERNATIVE GRATE FOR TYPE "B" COVER

USE WHERE PEDESTRIAN OR BICYCLE TRAFFIC IS POSSIBLE.
NOTED AS TYPE B-A ON THE DRAINAGE TABLE



TYPE "C"

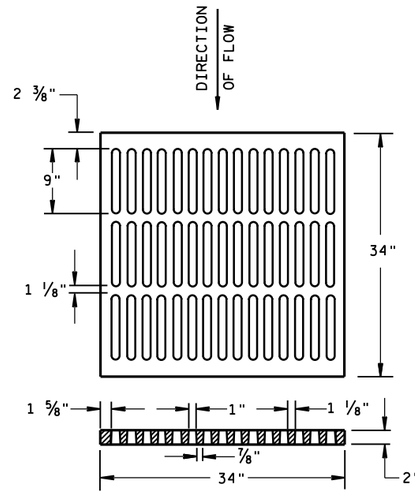
NOTE: EITHER CASTING IS ACCEPTABLE

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.

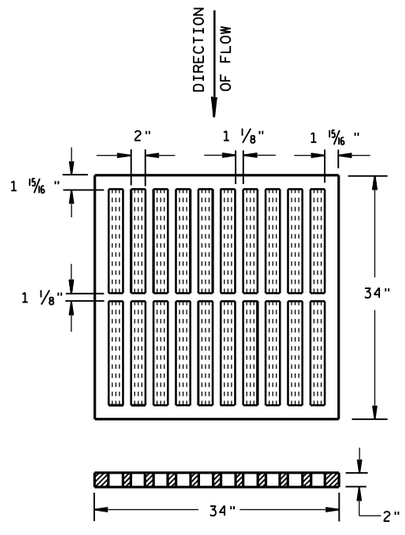
DETAIL DRAWINGS FOR PROPOSED ALTERNATE DESIGNS FOR CATCH BASIN, MANHOLE AND INLET COVERS SHALL BE SUBMITTED TO THE ENGINEER FOR APPROVAL PROVIDING THAT SUCH ALTERNATE DESIGNS MAKE PROVISION FOR EQUIVALENT CAPACITY AND STRENGTH.

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



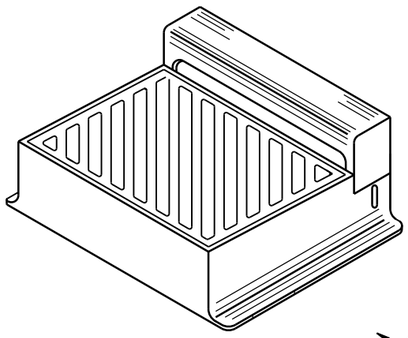
ALTERNATIVE TYPE "MS"

USE WHERE PEDESTRIAN OR BICYCLE TRAFFIC IS PERMITTED
NOTED AS TYPE MS-A ON THE DRAINAGE TABLE

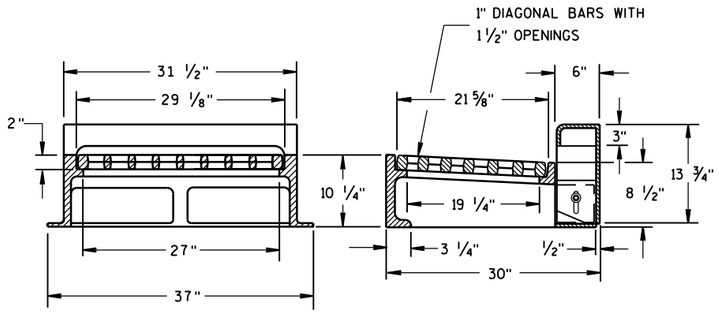


TYPE "MS"

USE ON FREEWAYS AND EXPRESSWAYS
NOTED AS TYPE MS ON DRAINAGE TABLE



DIAGONAL SLOTS, SHALL BE ORIENTED TO THE DIRECTION OF FLOW AS ILLUSTRATED. GRATES ARE MANUFACTURED TO BE REVERSIBLE.



NOTE: CURB BOX HEIGHT ADJUSTABLE 6" TO 9"

TYPE "WM"

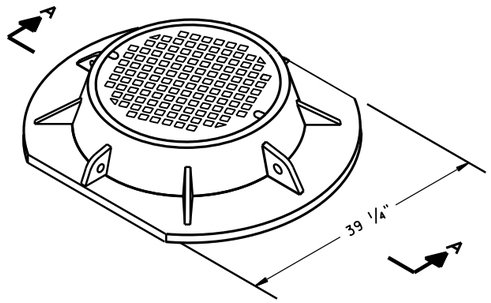
INLET COVERS
TYPE B, B-A, C, MS, MS-A, & WM

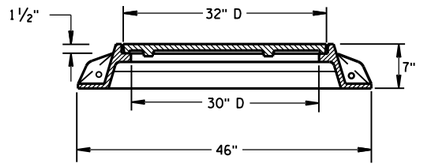
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
11/27/2013 — DATE
/S/ Jerry H. Zogg — ROADWAY STANDARDS DEVELOPMENT ENGINEER
FHWA

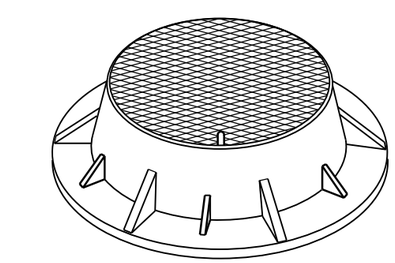
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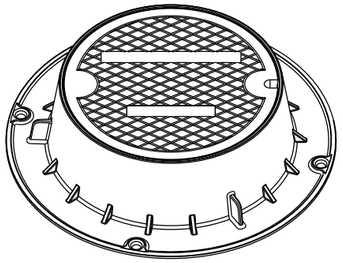
S.D.D. 8 A 5-19b

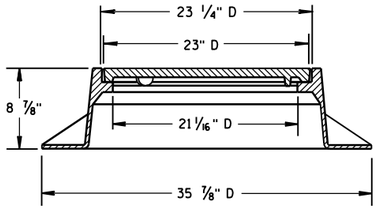


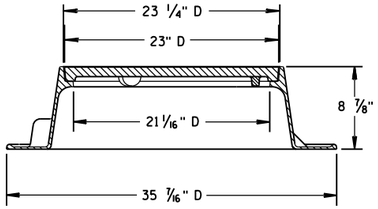


SECTION A-A
TYPE "K"









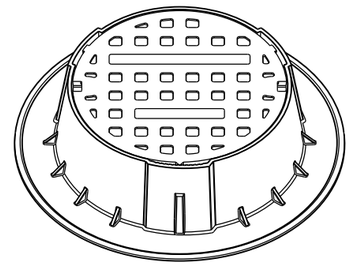
TYPE "J"
NOTE: EITHER CASTING IS ACCEPTABLE

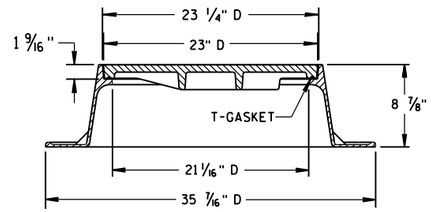
GENERAL NOTES

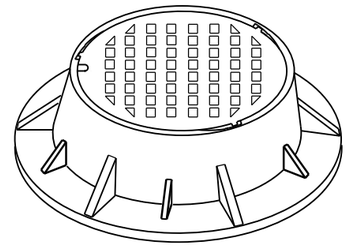
DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND THE APPLICABLE SPECIAL PROVISIONS.

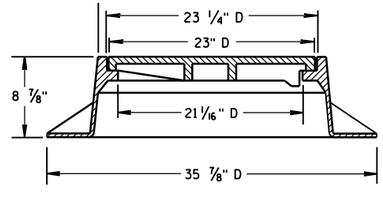
DETAIL DRAWINGS FOR PROPOSED ALTERNATE DESIGNS FOR MANHOLE COVERS SHALL BE SUBMITTED TO THE ENGINEER FOR APPROVAL PROVIDING THAT SUCH ALTERNATE DESIGNS MAKE PROVISION FOR EQUIVALENT CAPACITY AND STRENGTH.

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

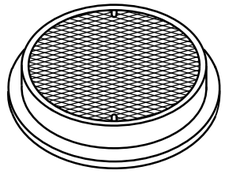


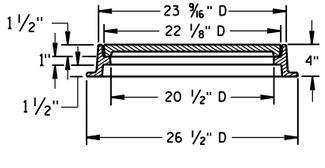




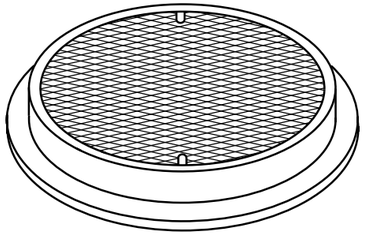


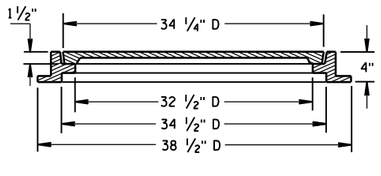
TYPE "J" SPECIAL
TYPE "B" NON-ROCKING SELF-SEAL LID
(NOTED AS TYPE J-S ON THE DRAINAGE TABLE)
NOTE: EITHER CASTING IS ACCEPTABLE



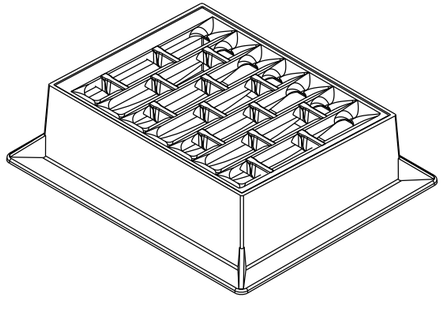


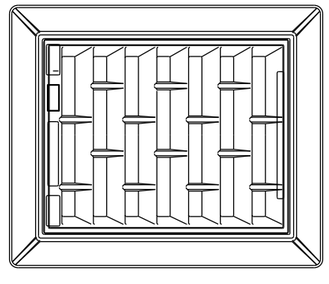
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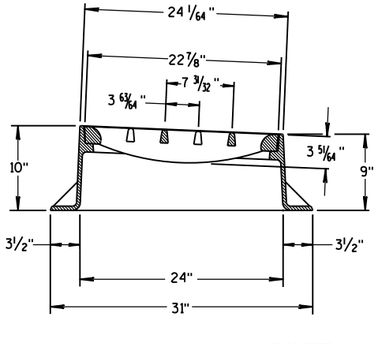


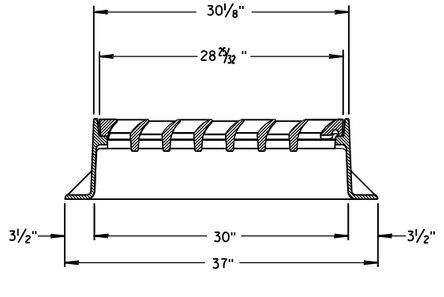


TYPE "M"









INLET COVER TYPE "BW"

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

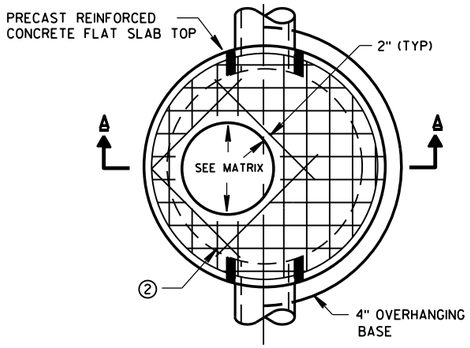
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
11/27/2013
DATE
FHWA

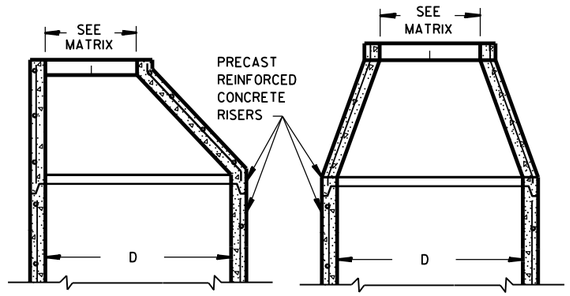
/S/ Jerry H. Zogg
ROADWAY STANDARDS DEVELOPMENT ENGINEER

6

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

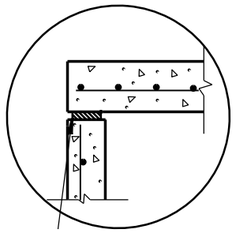


PLAN VIEW CIRCULAR OPENING

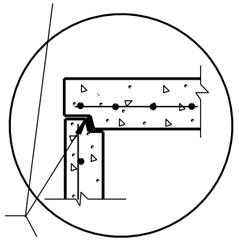


OPTIONAL PRECAST REINFORCED CONCRETE ECCENTRIC TOP

OPTIONAL PRECAST REINFORCED CONCRETE CONCENTRIC TOP

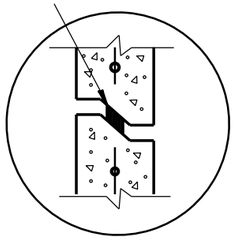


TOP WITH PLAIN END JOINT



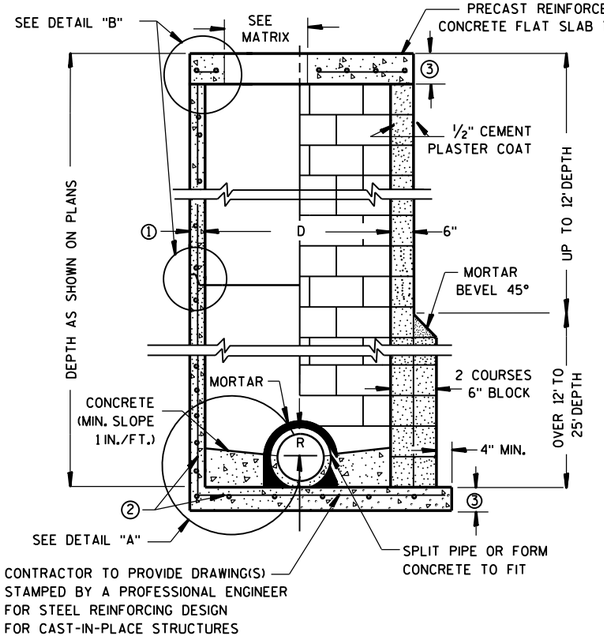
JOINTS TO BE SEALED WITH A BUTYL RUBBER SEAL PER SEALANT MANUFACTURERS RECOMMENDATIONS CONFORMING TO ASTM C990 (TYP)

TOP WITH TONGUE AND GROOVE JOINT



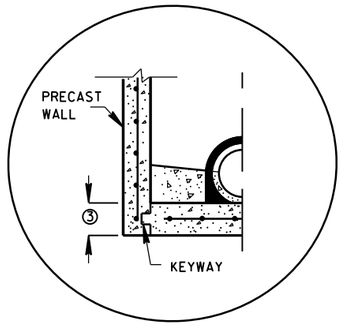
RISER WITH TONGUE AND GROOVE JOINT

DETAIL "B"

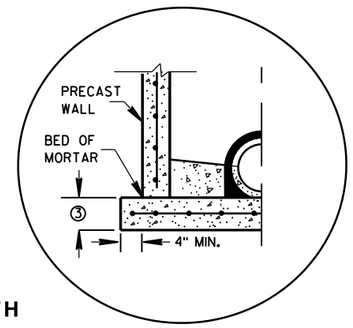


PRECAST REINFORCED CONCRETE WITH MONOLITHIC BASE

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

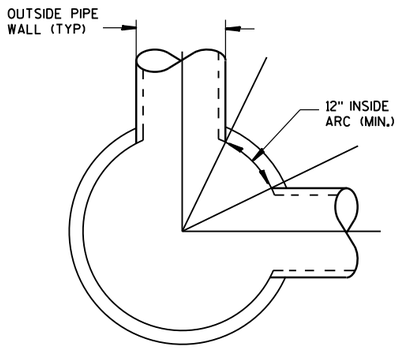


PRECAST REINFORCED CONCRETE WITH INTEGRAL BASE OPTION



SEPARATE PRECAST REINFORCED CONCRETE BASE OPTION

DETAIL "A"



DETAIL "C"

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

PRECAST REINFORCED CONE TOPS (ECCENTRIC OR CONCENTRIC) OR PRECAST REINFORCED FLAT SLAB TOPS MAY BE USED ON CONCRETE BLOCK STRUCTURES. THE CONE TOPS SHALL BE INSTALLED ON A BED OF MORTAR.

ECCENTRIC CONE TOPS MAY BE USED ON ALL STRUCTURES, AND CONCENTRIC CONE TOPS SHALL BE USED ONLY ON STRUCTURES 5 FEET OR LESS IN DEPTH, UNLESS OTHERWISE DIRECTED BY THE ENGINEER.

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" 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 DIAMETER.

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 AASHTO DESIGNATION M 199.

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 INCHES FOR 3-FT, 5 INCHES FOR 4-FT, 6 INCHES FOR 5-FT, 7 INCHES FOR 6-FT, 8 INCHES FOR 7-FT AND 9 INCHES FOR 8-FT DIAMETER PRECAST MANHOLES.

② FOR PRECAST MANHOLES PROVIDE REINFORCING STEEL IN ACCORDANCE TO AASHTO M199.

③ PRECAST FLAT SLAB TOPS AND BASES WITH A DIAMETER OF 48" AND LESS SHALL HAVE A MINIMUM THICKNESS OF 6". PRECAST FLAT SLAB TOPS AND BASES WITH A DIAMETER LARGER THAN 48" SHALL HAVE A MINIMUM THICKNESS OF 8".

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

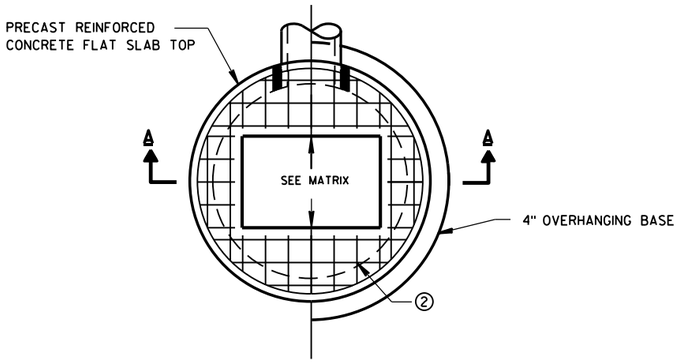
MANHOLE SIZE	MAXIMUM INSIDE PIPE DIAMETER FOR TWO PIPES	
	180° SEPARATION (IN)	90° SEPARATION (IN)
3-FT	15	12
4-FT	24	18
5-FT	36	24
6-FT	42	36
7-FT	48	36
8-FT	60	42

MANHOLES 3-FT, 4-FT, 5-FT, 6-FT, 7-FT AND 8-FT DIAMETER

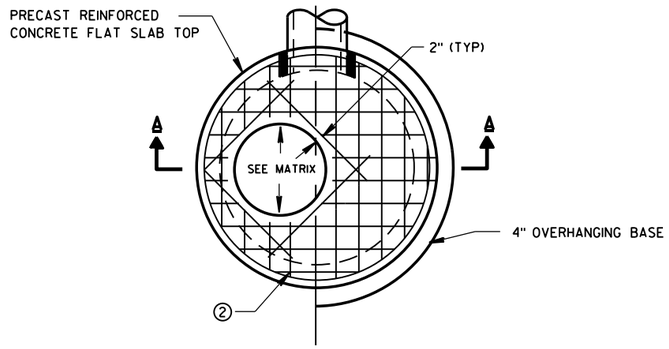
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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

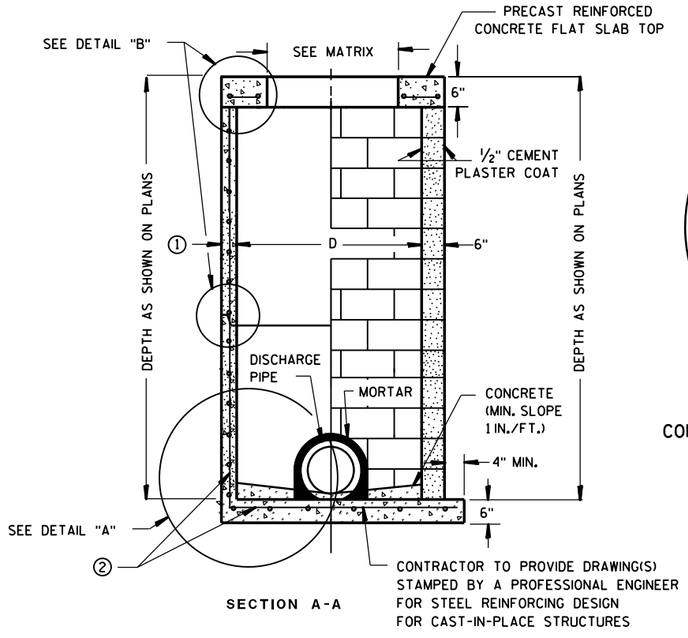
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PLAN VIEW RECTANGULAR OPENING



PLAN VIEW CIRCULAR OPENING

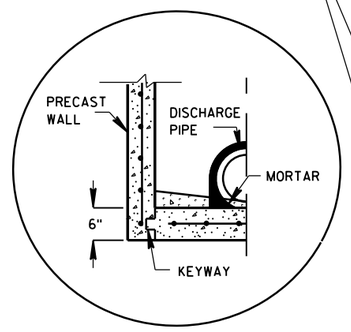


SECTION A-A

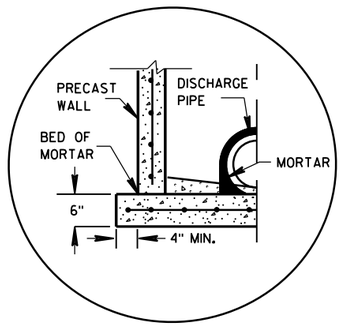
PRECAST REINFORCED CONCRETE WITH MONOLITHIC BASE

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

CIRCULAR INLETS W/ FLAT TOP

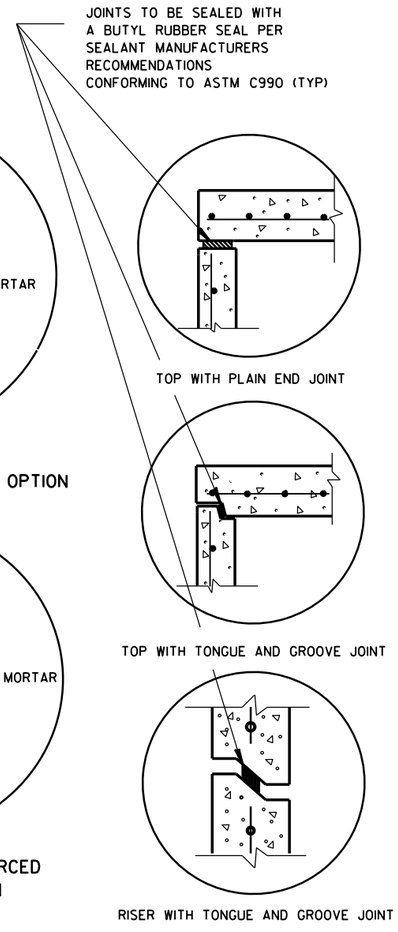


PRECAST REINFORCED CONCRETE WITH INTEGRAL BASE OPTION



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

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

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

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

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

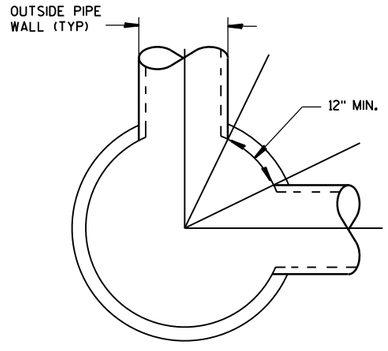
FOR ADDITIONAL CONFIGURATIONS, MAINTAIN A MINIMUM OF 12 INCHES AS MEASURED FROM THE INSIDE OF THE STRUCTURE WALL BETWEEN THE OUTSIDE PIPE WALLS OF ADJACENT PIPES. SEE DETAIL "C".

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

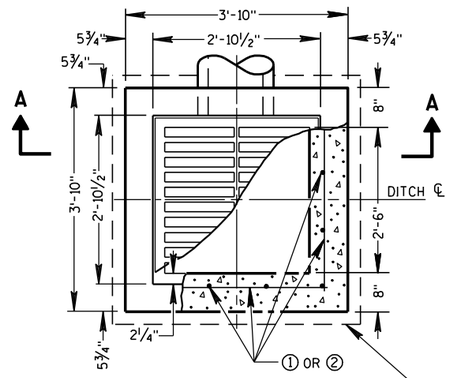
INLETS 3-FT AND 4-FT DIAMETER

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

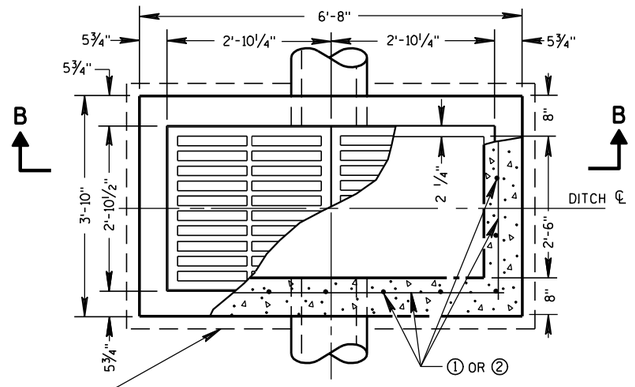
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6/5/2012 — DATE
/S/ Jerry H. Zogg — ROADWAY STANDARDS DEVELOPMENT ENGINEER
FHWA

INLETS 3-FT AND 4-FT DIAMETER

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S.D.D. 8 C 6-1

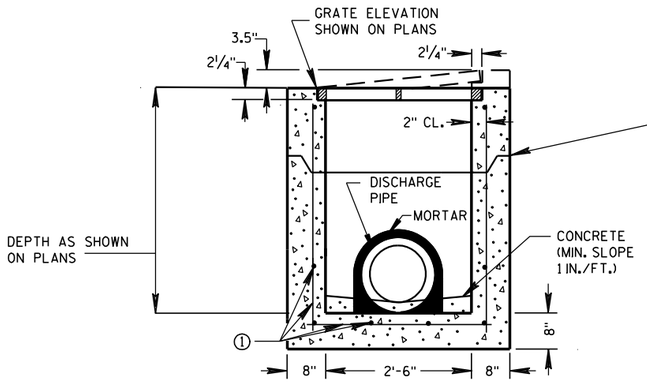


PLAN VIEW

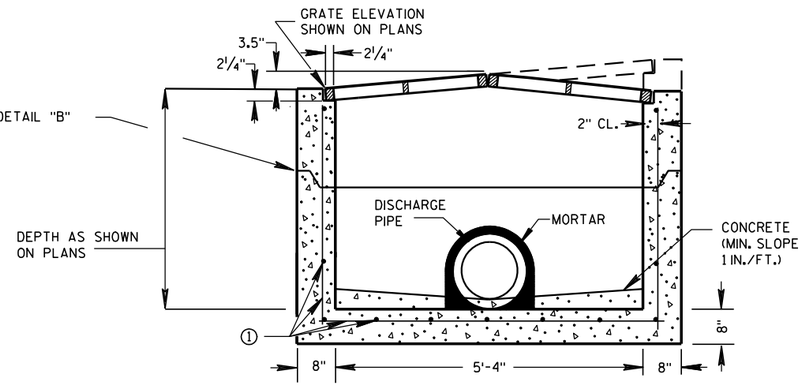


PLAN VIEW

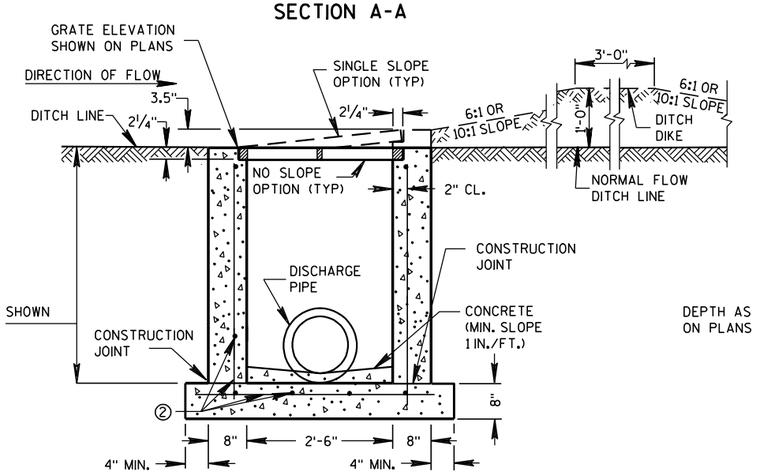
4" OVERHANGING BASE ON REINFORCED CAST-IN-PLACE CONCRETE INLETS



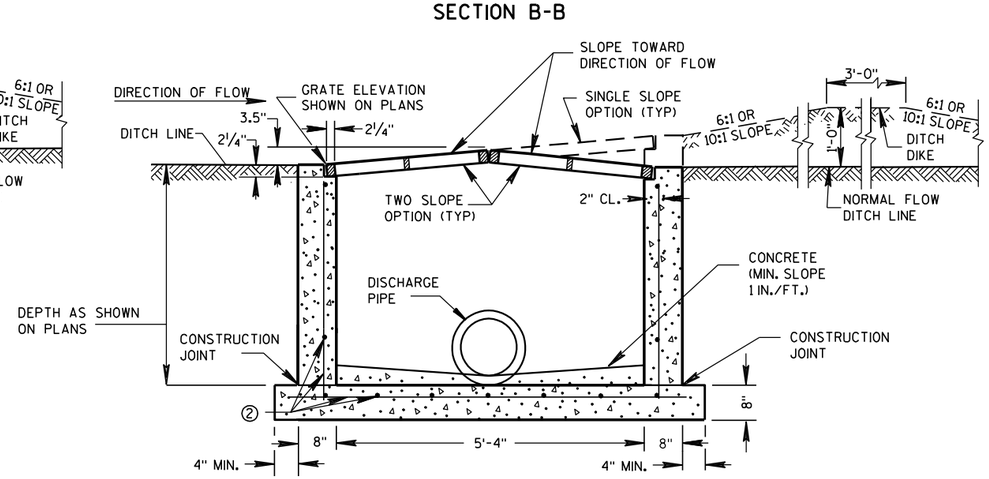
PRECAST REINFORCED CONCRETE SECTION A-A



PRECAST REINFORCED CONCRETE SECTION B-B



REINFORCED CAST-IN-PLACE CONCRETE SECTION A-A



REINFORCED CAST-IN-PLACE CONCRETE SECTION B-B

INLETS MEDIAN 1 GRATE

INLETS MEDIAN 2 GRATE

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 INLETS WHICH MAY INCLUDE PRECAST REINFORCED CONCRETE INLETS, SHALL BE SUBMITTED TO THE ENGINEER FOR APPROVAL PROVIDING THAT SUCH ALTERNATE DESIGNS MAKE PROVISION FOR EQUIVALENT CAPACITY AND STRENGTH.

ALL MEDIAN INLETS ARE DESIGNATED ON THE PLANS AS "INLETS, 1G-MS", ETC. THE FIRST NUMBER AND LETTER DESIGNATE THE TYPE OF STRUCTURE, AND THE FOLLOWING LETTERS DESIGNATE THE TYPE OF COVER TO BE USED TO COMPRISE THE COMPLETE UNIT.

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

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

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

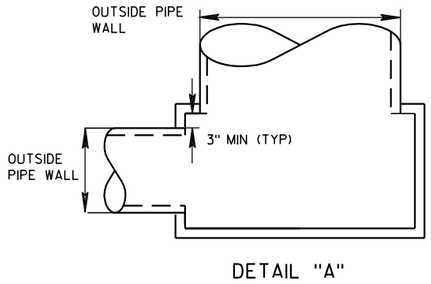
MAXIMUM INSIDE PIPE DIAMETER DETERMINED BY 3" CLEARANCE ON EACH SIDE OF THE OUTSIDE WALL OF THE PIPE. SEE DETAIL "A". ASSUMES PIPE ENTERS PERPENDICULAR TO THE STRUCTURE.

① FOR PRECAST INLETS 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.

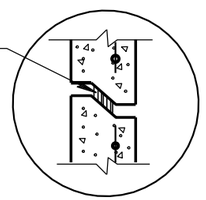
PIPE MATRIX

	MAXIMUM INSIDE PIPE DIAMETER	
INLET SIZE	WIDTH (IN)	LENGTH (IN)
1 GRATE	18	18
2 GRATE	18	42



DETAIL "A"

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



DETAIL "B"

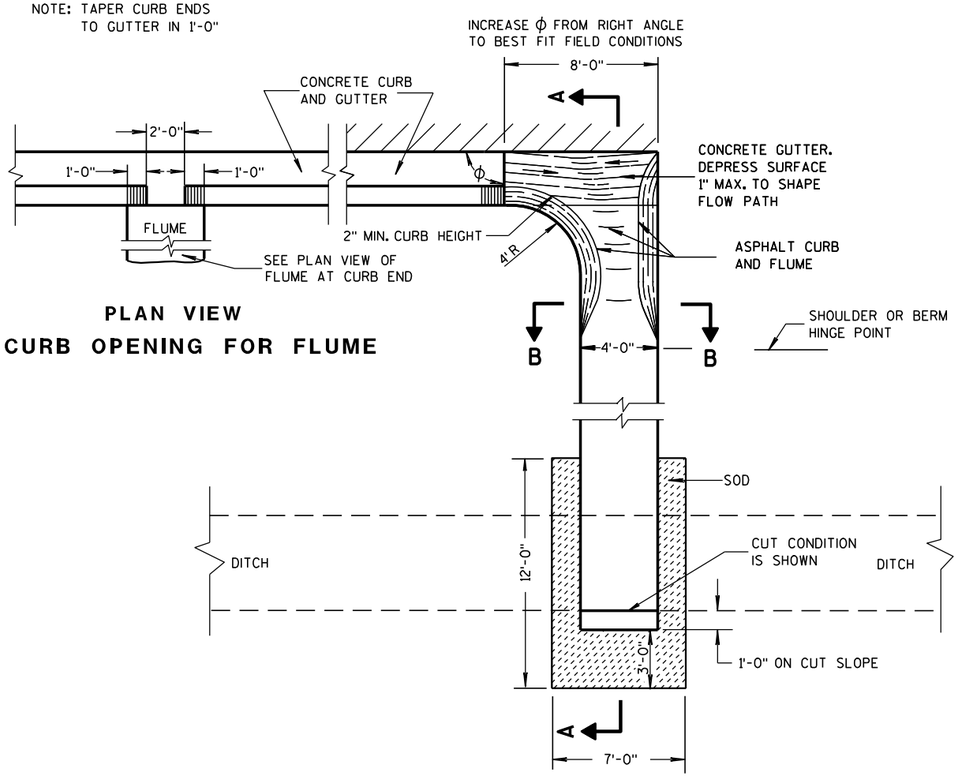
INLETS MEDIAN 1 AND 2 GRATE

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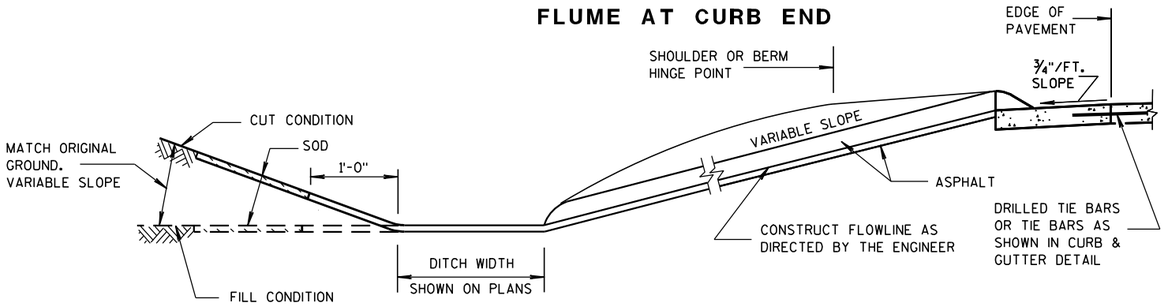
6
S.D.D. 8 C 8-1

ASPHALTIC FLUME

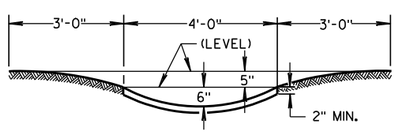


PLAN VIEW
CURB OPENING FOR FLUME

PLAN VIEW
FLUME AT CURB END



SECTION A-A



SECTION B-B

GENERAL NOTES

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

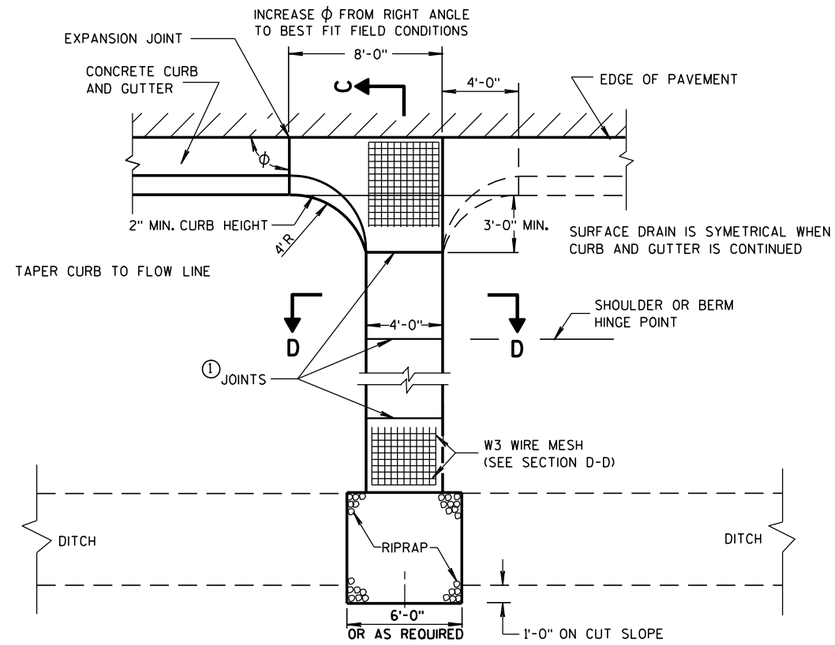
WELDED STEEL WIRE FABRIC SHALL BE IN ACCORDANCE WITH AASHTO SPECIFICATION M55.

① JOINTS SHALL BE ⅛ TO ¼ INCH WIDE BY 1½ INCHES DEEP AND SPACED AT UNIFORM INTERVALS OF APPROXIMATELY 4 FEET.

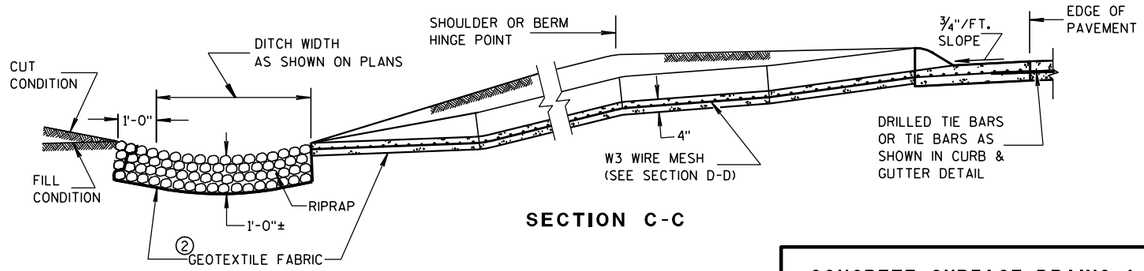
② GEOTEXTILE FABRIC TYPE "R" SHALL UNDERLAY THE FULL LENGTH AND WIDTH OF THE CONCRETE SURFACE DRAIN AND RIPRAP.

③ CONCRETE SURFACE DRAIN WITHOUT CURB AND GUTTER MAY BE USED ON BACKSLOPES WHEN SPECIFIED

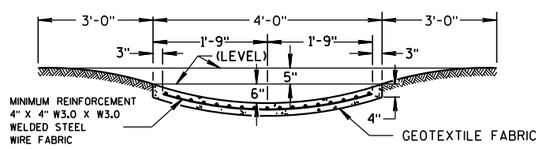
③ CONCRETE SURFACE DRAIN



PLAN VIEW



SECTION C-C



SECTION D-D

CONCRETE SURFACE DRAINS & ASPHALTIC FLUMES

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
9-4-08 DATE
/S/ Jerry H. Zogg
ROADWAY STANDARDS ENGINEER
139
MENT
FHWA

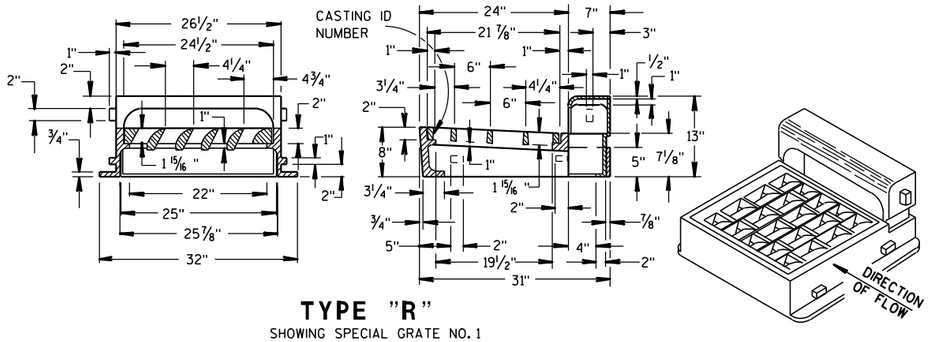
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S.D.D. 8 D 4-5

6

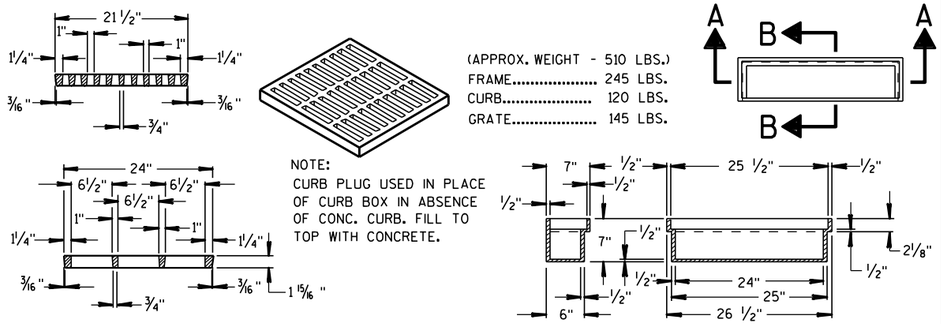
S.D.D. 8 D 4-5

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.

GRATE FOR TYPE "R" INLET COVER

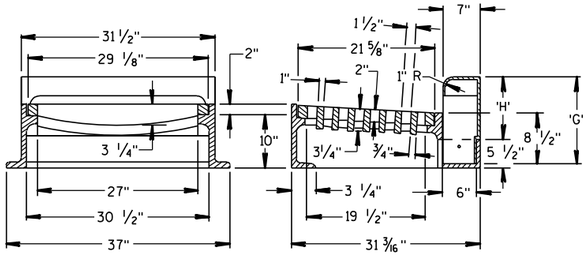
(GRATE..... 150 LBS.)
(TO BE USED UNLESS OTHERWISE NOTED IN DRAINAGE TABLE)

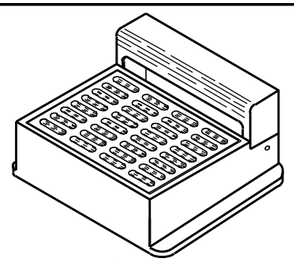
SECTION B-B SECTION A-A

SPECIAL CURB PLUG "P"

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

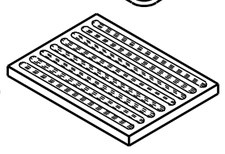
'H' = 9" FOR 6" CURB
'H' = 11" FOR 8" CURB
'G' = 13 3/4" FOR 6" CURB
'G' = 15 3/4" FOR 8" CURB



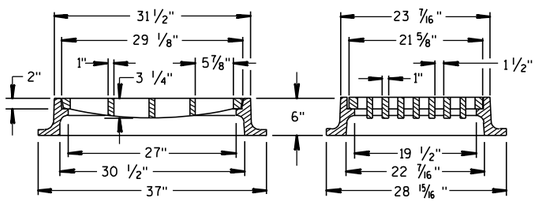


TYPE "W"

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



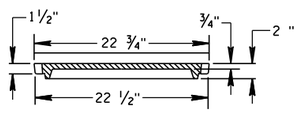
ALTERNATE GRATE
(FOR EXPRESSWAY RAMPS)
TYPES "W" & "X"



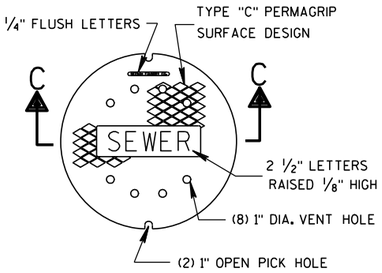
TYPE "X"

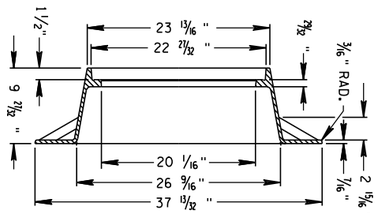
(APPROX. WEIGHT - 470 LBS.)

MANHOLE COVER



SECTION C-C

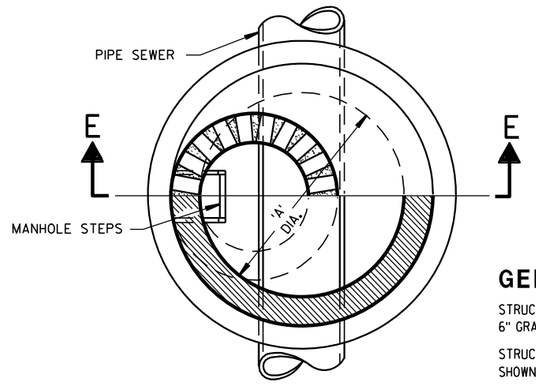




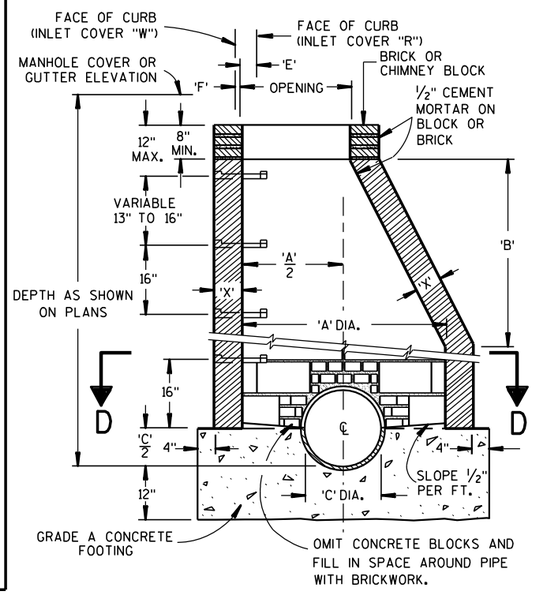
TYPE "Q"

(APPROX. WEIGHT - 290 LBS.)

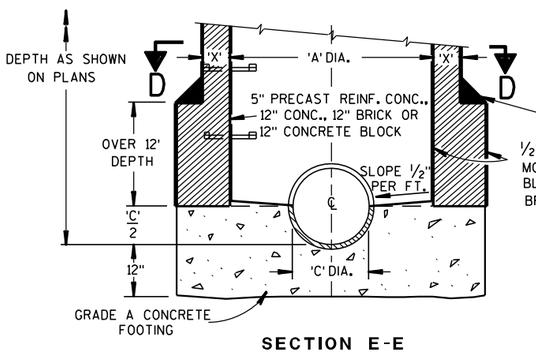
MANHOLE



HALF SECTION D-D



SECTION E-E



SECTION E-E

TYPES 11, 12, 13 & 14

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"	—

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.

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 5/8 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.

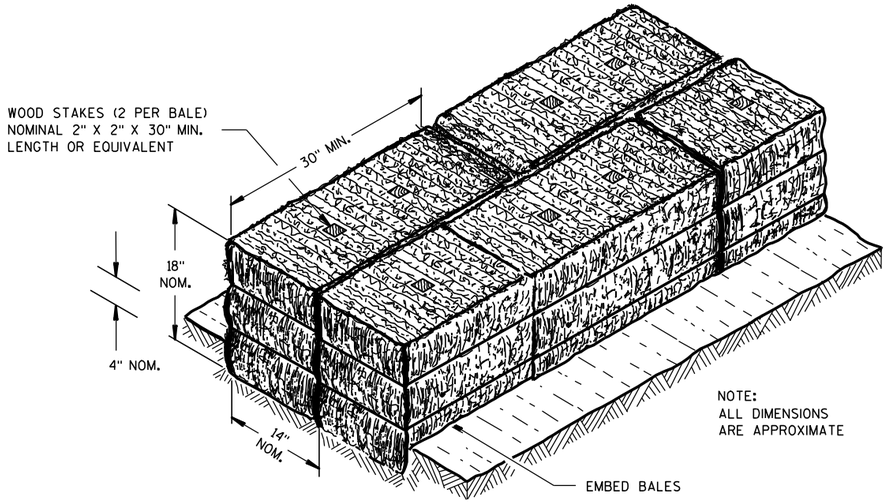
MANHOLES, MANHOLE & INLET COVERS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

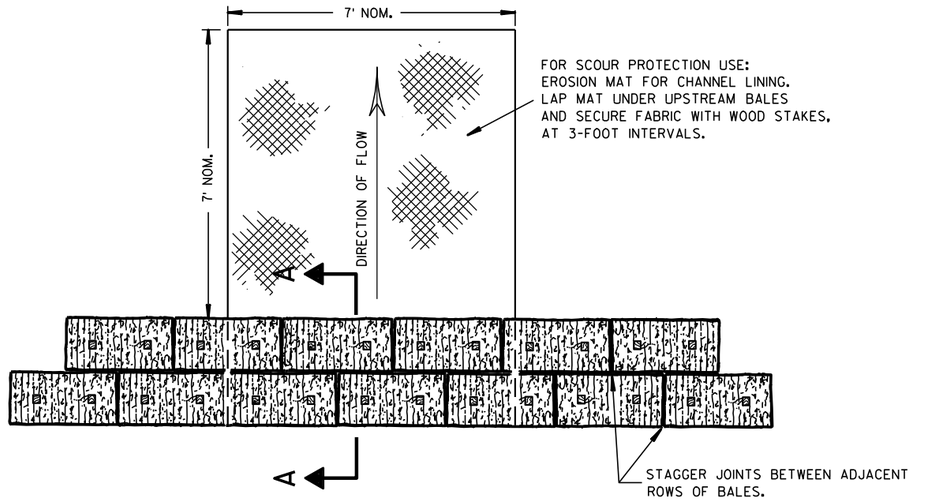
APPROVED
4/12/2011 — DATE
/S/ Jerry H. Zogg — ROADSIDE STANDARDS ENGINEER
FHWA

S.D.D. 8 D 17-6

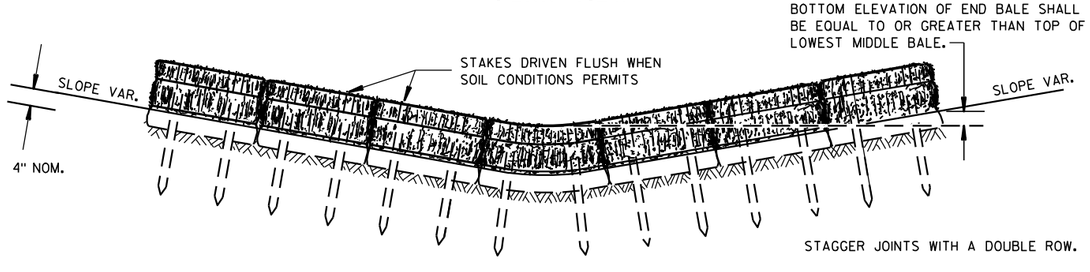
S.D.D. 8 D 17-6



SECTION A-A



PLAN VIEW



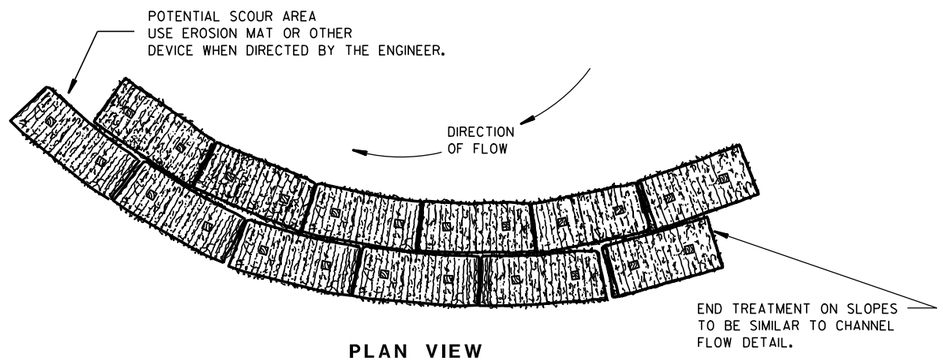
FRONT ELEVATION

TEMPORARY DITCH CHECK USING EROSION BALES (1)

GENERAL NOTES

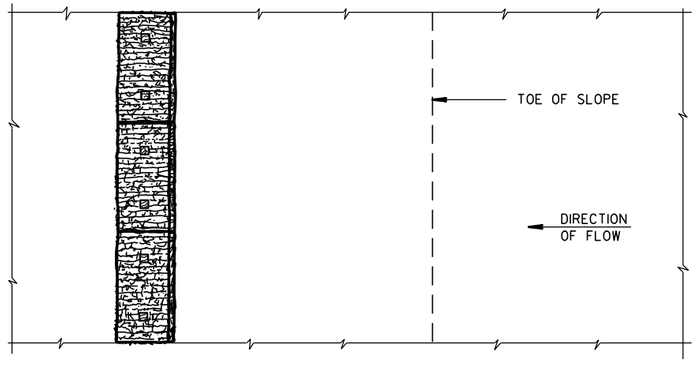
DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND THE APPLICABLE SPECIAL PROVISIONS.

(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.

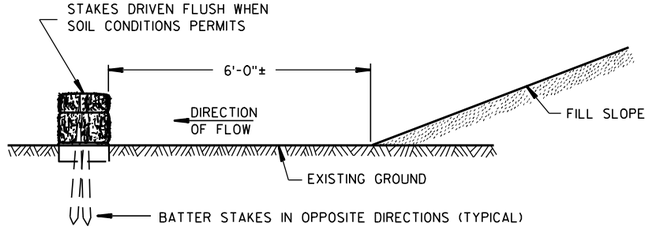


PLAN VIEW

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

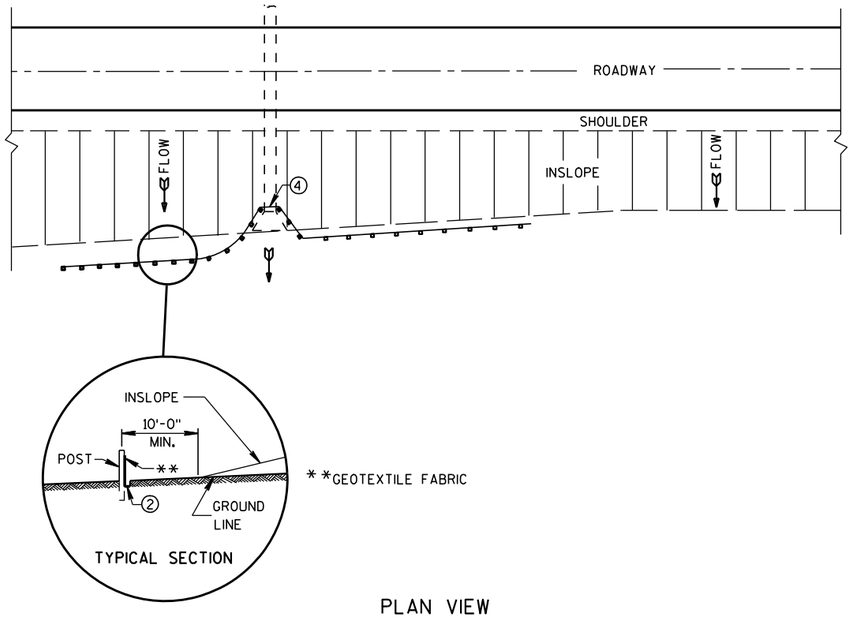
APPROVED
6/04/02 DATE
/S/ Beth Cannestra
CHIEF ROADWAY DEVELOPMENT ENGINEER
FHWA

6

S.D.D. 8 E 8-3

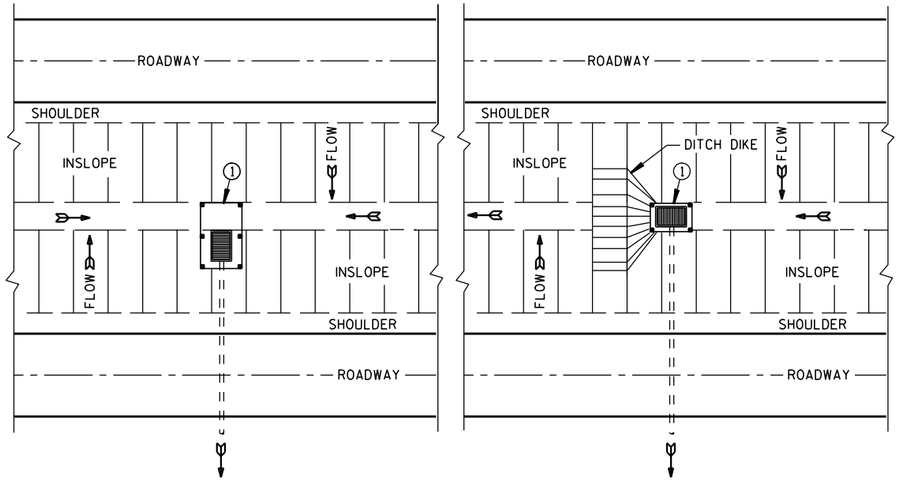
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S.D.D. 8 E 8-3



PLAN VIEW

TYPICAL APPLICATION OF SILT FENCE



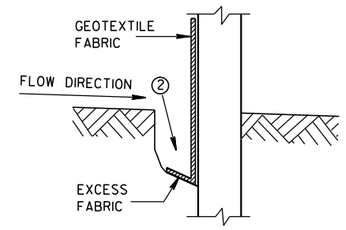
PLAN VIEW

SILT FENCE AT MEDIAN SURFACE DRAINS

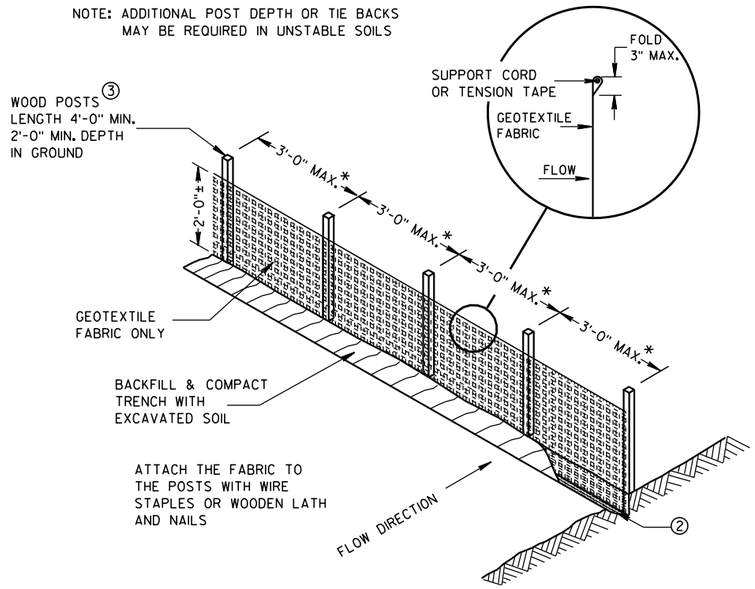
GENERAL NOTES

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

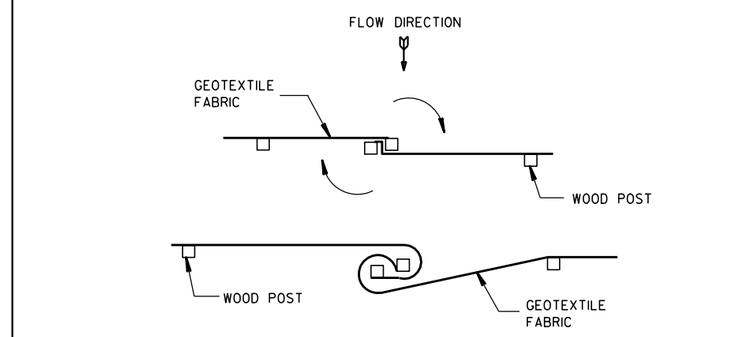
1. HORIZONTAL BRACE REQUIRED WITH 2" X 4" WOODEN FRAME OR EQUIVALENT AT TOP OF POSTS.
2. FOR MANUAL INSTALLATIONS THE TRENCH SHALL BE A MINIMUM OF 4" WIDE & 6" DEEP TO BURY AND ANCHOR THE GEOTEXTILE FABRIC. FOLD MATERIAL TO FIT TRENCH AND BACKFILL & COMPACT TRENCH WITH EXCAVATED SOIL.
3. WOOD POSTS SHALL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



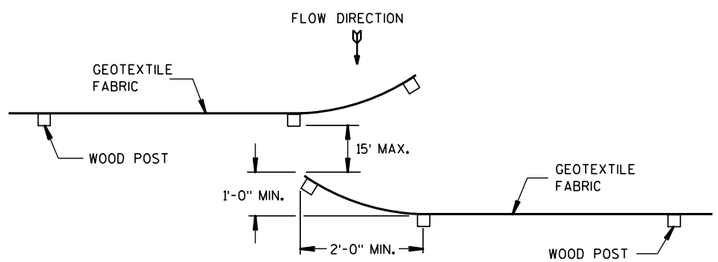
TRENCH DETAIL



SILT FENCE

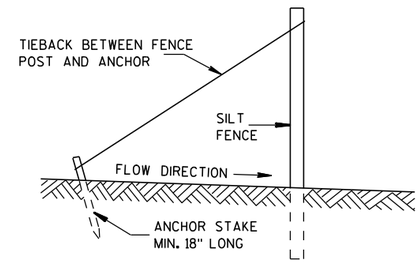


TWIST METHOD



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

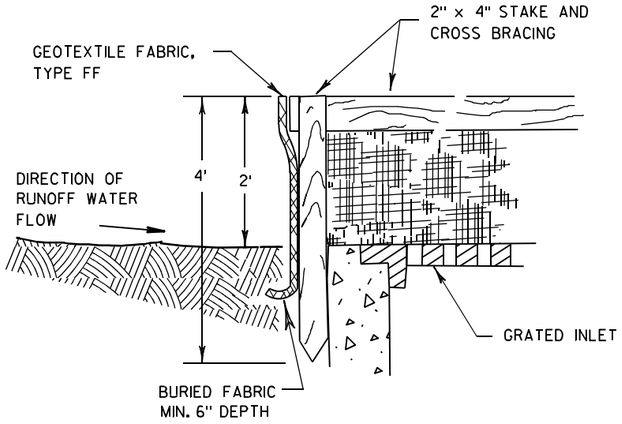
APPROVED
4-29-05 DATE
/S/ Beth Cannestra
CHIEF ROADWAY DEVELOPMENT ENGINEER
FHWA

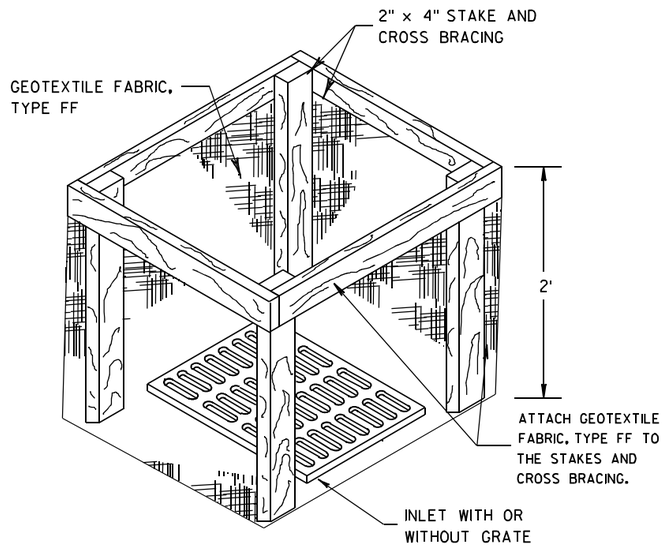
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S.D.D. 8 E 9-6

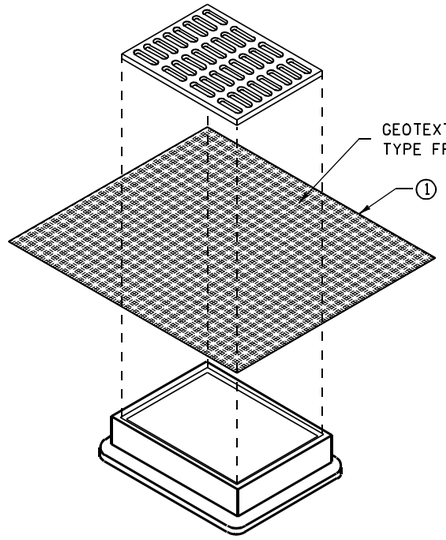
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S.D.D. 8 E 9-6



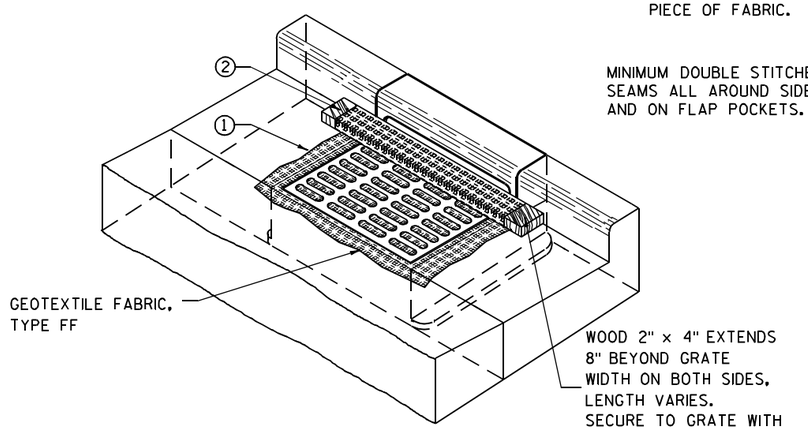


INLET PROTECTION, TYPE A

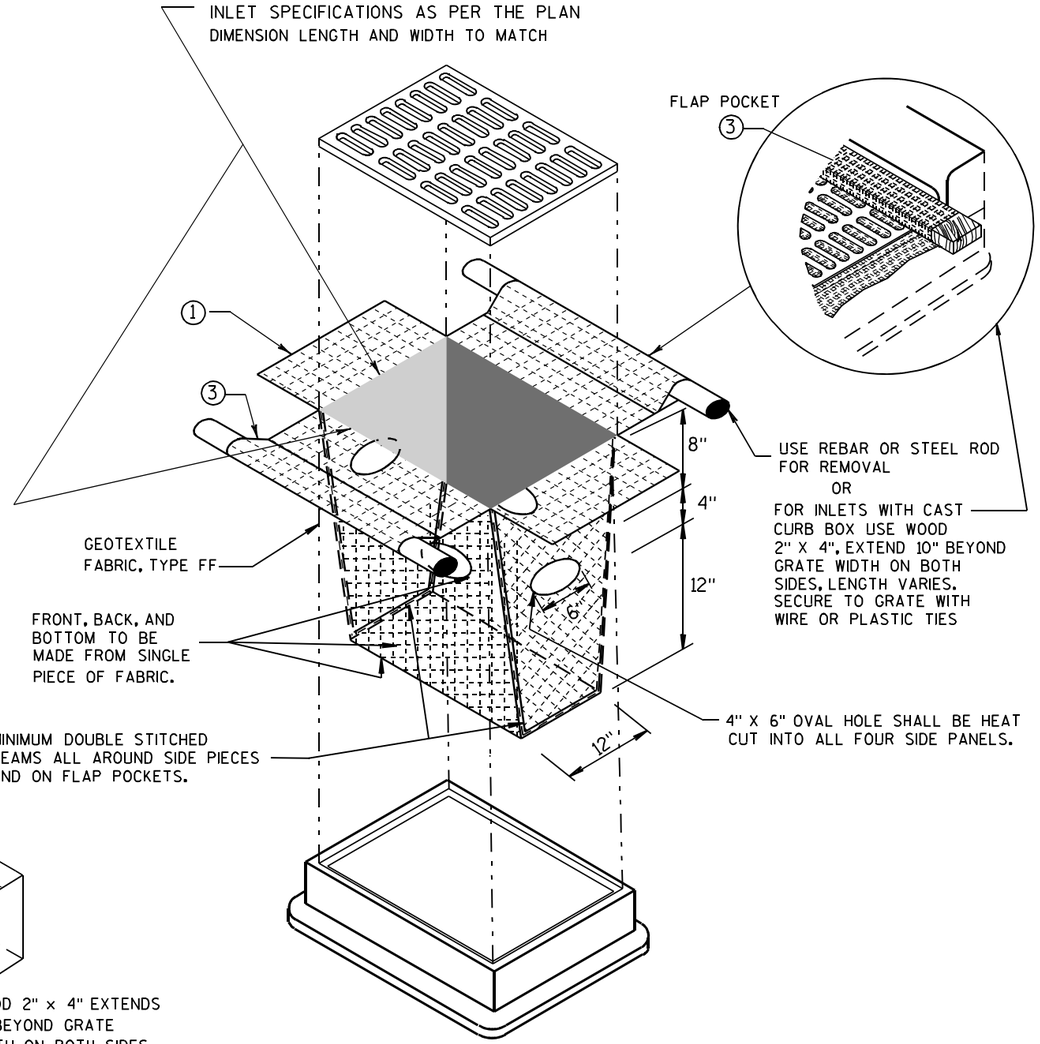


INLET PROTECTION, TYPE B
(WITHOUT CURB BOX)

(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

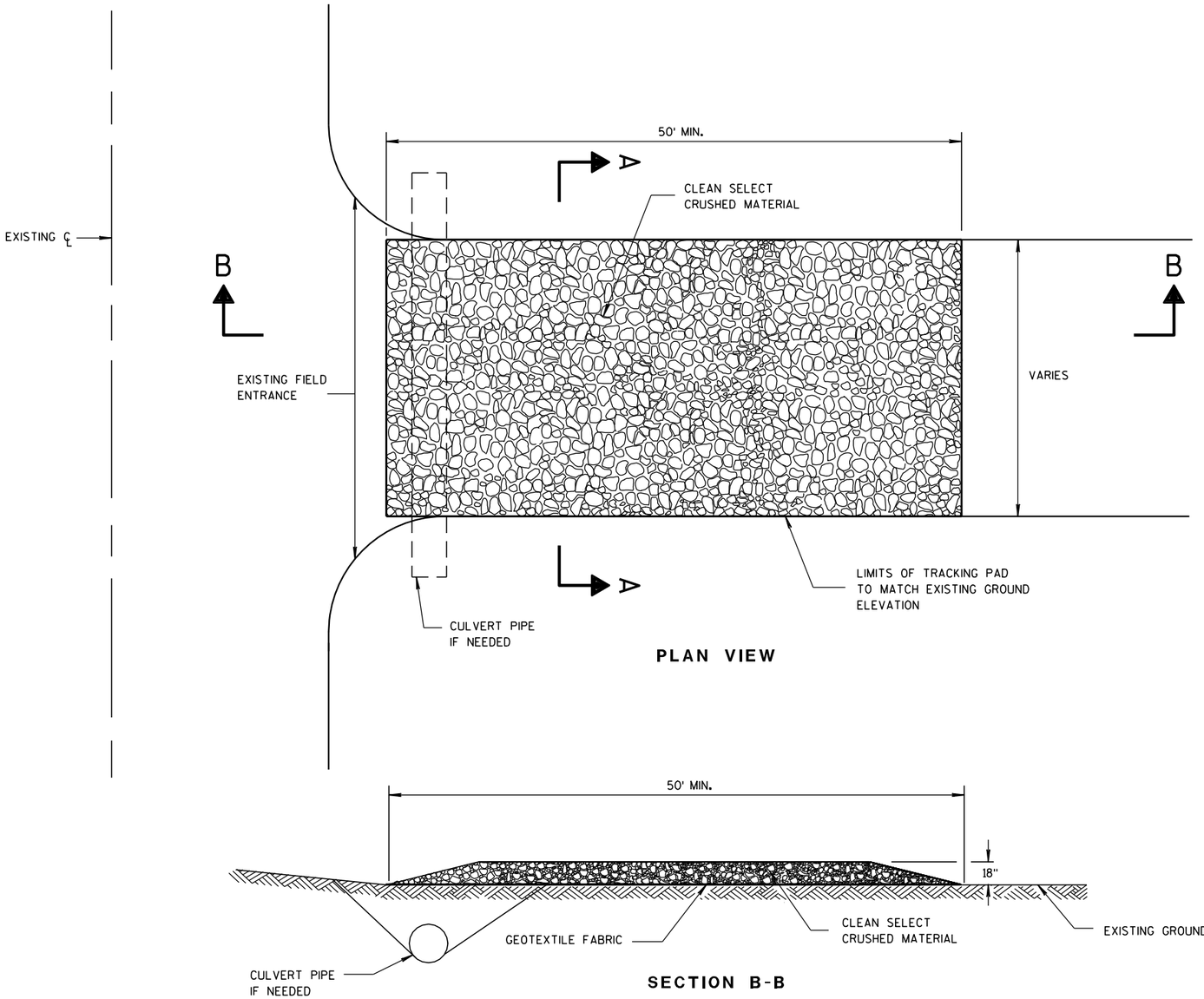
10/16/02
DATE

/S/ Beth Cannestra
CHIEF ROADWAY DEVELOPMENT ENGINEER

FHWA

6

S.D.D. 8 E 10-2



PLAN VIEW

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.

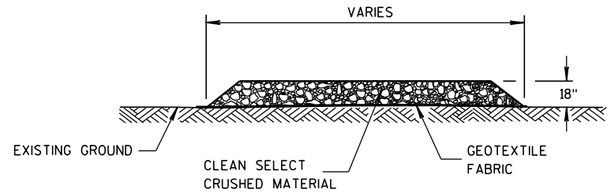
TRACKING PAD TO BE REMOVED AFTER CONSTRUCTION IS COMPLETED.

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

TRACKING PAD

6

S.D.D. 8 E 14-1

TRACKING PAD

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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

ENT

6

S.D.D. 8 E 14-1

METAL APRON ENDWALLS

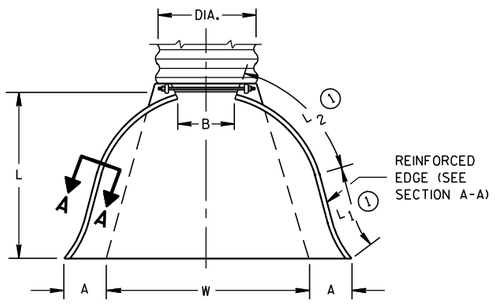
PIPE DIA. (IN.)	MIN. THICK. (Inches) STEEL	MIN. THICK. (Inches) ALUM.	DIMENSIONS (Inches) A (±1")	B (MAX.)	H (±1")	L (±1 1/2")	L1 ①	L2 ①	W (±2")	APPROX. SLOPE	BODY
12	.064	.060	6	6	6	21	12	17 1/2	24	2 1/2 to 1	1 Pc.
15	.064	.060	7	8	6	26	14	21 3/4	30	2 1/2 to 1	1 Pc.
18	.064	.060	8	10	6	31	15	28 1/4	36	2 1/2 to 1	1 Pc.
21	.064	.060	9	12	6	36	18	29 5/8	42	2 1/2 to 1	1 Pc.
24	.064	.075	10	13	6	41	18	37 1/4	48	2 1/2 to 1	1 Pc.
30	.079	.075	12	16	8	51	18	52 1/4	60	2 1/2 to 1	1 Pc.
36	.079	.105	14	19	9	60	24	59 3/4	72	2 1/2 to 1	2 Pc.
42	.109	.105	16	22	11	69	24	75 5/8	84	2 1/2 to 1	2 Pc.
48	.109	.105	18	27	12	78	24	81	90	2 1/4 to 1	3 Pc.
54	.109	.105	18	30	12	84	30	85 1/2	102	2 1/4 to 1	3 Pc.
60	.109×	.105×	18	33	12	87	—	—	114	2 to 1	3 Pc.
66	.109×	.105×	18	36	12	87	—	—	120	2 to 1	3 Pc.
72	.109×	.105×	18	39	12	87	—	—	126	2 to 1	3 Pc.
78	.109×	.105×	18	42	12	87	—	—	132	1 1/2 to 1	3 Pc.
84	.109×	.105×	18	45	12	87	—	—	138	1 1/2 to 1	3 Pc.
90	.109×	.105×	18	37	12	87	—	—	144	1 1/2 to 1	3 Pc.
96	.109×	.105×	18	35	12	87	—	—	150	1 1/2 to 1	3 Pc.

× EXCEPT CENTER PANEL SEE GENERAL NOTES

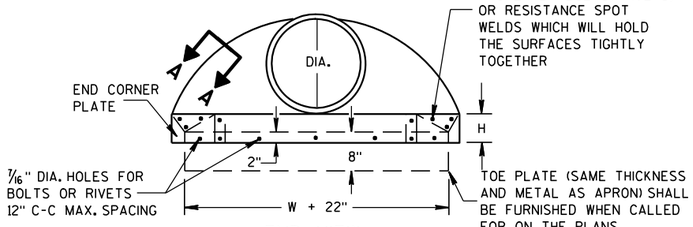
REINFORCED CONCRETE APRON ENDWALLS

PIPE DIA. (IN.)	DIMENSIONS (Inches) T	A	B	C	D	E	G	APPROX. SLOPE
12	2	4	24	48 7/8	72 1/8	24	2	3 to 1
15	2 1/4	6	27	46	73	30	2 1/4	3 to 1
18	2 1/2	9	27	46	73	36	2 1/2	3 to 1
21	2 3/4	9	36	37 1/2	73 1/2	42	2 3/4	3 to 1
24	3	9 1/2	43 1/2	30	73 1/2	48	3	3 to 1
27	3 1/4	10 1/2	49 1/2	24	73 1/2	54	3 1/4	3 to 1
30	3 1/2	12	54	19 3/4	73 1/2	60	3 1/2	3 to 1
36	4	15	63	34 3/4	97 3/4	72	4	3 to 1
42	4 1/2	21	63	35	98	78	4 1/2	3 to 1
48	5	24	72	26	98	84	5	3 to 1
54	5 1/2	27	65	* 33 1/4 - ** 35	* 98 1/4 - ** 100	90	5 1/2	2 2/5 to 1
60	6	* 30 - ** 35	60	39	99	96	5	2 to 1
66	6 1/2	* 24 - ** 30	* 72 - ** 78	* 21 - ** 27	99	102	5 1/2	2 to 1
72	7	* 24 - ** 36	78	21	99	108	6	2 to 1
78	7 1/2	* 24 - ** 36	78	21	99	114	6 1/2	2 to 1
84	8	36	90 1/2	21	111 1/2	120	6 1/2	1 1/2 to 1
90	8 1/2	41	87 1/2	24	111 1/2	132	6 1/2	1 1/2 to 1

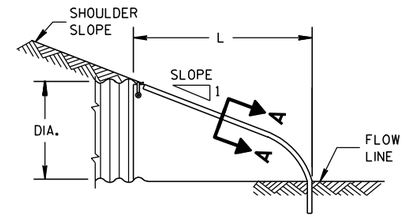
*MINIMUM
**MAXIMUM



PLAN VIEW

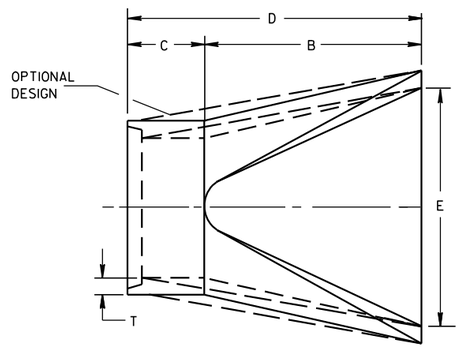


END VIEW

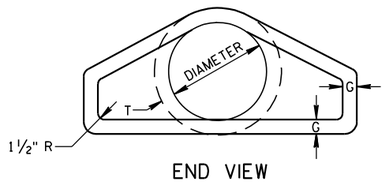


SIDE ELEVATION

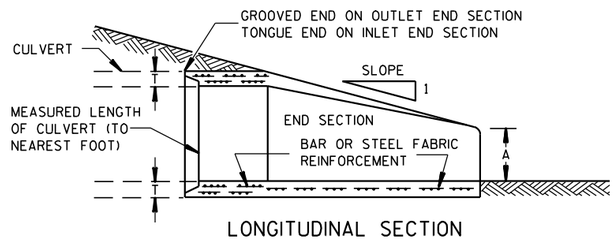
METAL ENDWALLS



PLAN

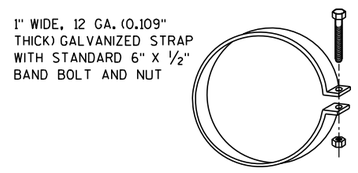


END VIEW



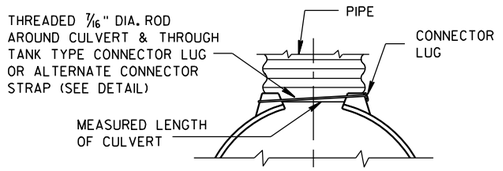
LONGITUDINAL SECTION

CONCRETE ENDWALLS

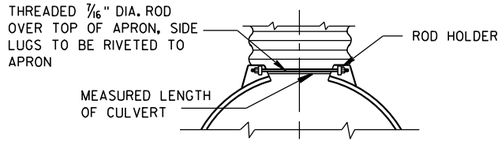


ALTERNATE FOR TYPE 1 CONNECTION

END SECTION CONNECTOR STRAP

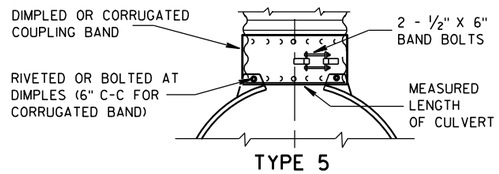


TYPE 1
FOR 12" THRU 24" CORR. PIPE



TYPE 2
FOR 30" THRU 96" CORR. PIPE

TYPE 3
FOR 42" THRU 96" CORR. PIPE



TYPE 5
ALTERNATE FOR:
ALL SIZES CORRUGATED CIRCULAR PIPE

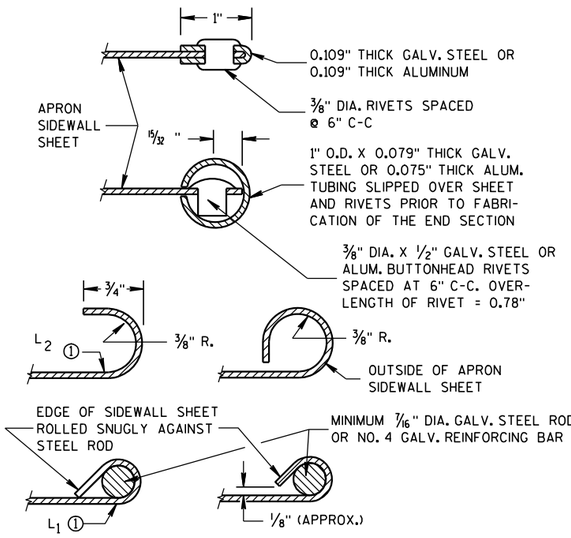
NOTE: DIMPLED BAND FITS OVER OUTSIDE OF ENDWALL. AND CORRUGATED BAND FITS INSIDE ENDWALL. DIMPLED BAND MAY BE USED WITH HELICALLY CORRUGATED PIPE.

FOR CIRCUMFERENTIALLY CORRUGATED PIPE USE ENDWALL CONNECTION DETAILS 1, 2, 3 OR 5 AS APPLICABLE.

FOR HELICALLY CORRUGATED PIPE USE ENDWALL CONNECTION DETAILS 1, 2 OR 5.

FOR HELICALLY CORRUGATED PIPES WITH TWO CIRCUMFERENTIAL CORRUGATIONS AT EACH END USE ENDWALL CONNECTION DETAILS 1, 2 OR 3.

CONNECTION DETAILS



SECTION A-A

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.

CONCRETE CULVERT ENDWALLS MAY NOT BE USED WITH GALVANIZED STEEL OR ALUMINUM CULVERT PIPE OR VISE VERSA. GALVANIZED STEEL OR ALUMINUM ENDWALLS SHALL NORMALLY BE INSTALLED ON CULVERT PIPE OF THE SAME METAL.

ALL THREE PIECE STEEL APRON ENDWALLS FOR 60" DIAMETER PIPE AND LARGER SHALL HAVE 0.109" SIDES AND 0.138" CENTER PANELS. ALL THREE PIECE ALUMINUM APRON ENDWALLS FOR 60" DIAMETER PIPE AND LARGER SHALL HAVE 0.105" SIDES AND 0.134" CENTER PANELS. THE WIDTH OF CENTER PANELS SHALL BE GREATER THAN 20 PERCENT OF THE PIPE PERIMETER.

LAP SEAMS SHALL BE TIGHTLY JOINED BY GALVANIZED RIVETS OR BOLTS FOR STEEL UNITS AND ALUMINUM RIVETS AND BOLTS FOR ALUMINUM UNITS. FOR THE 60" THROUGH 96" DIAMETER APRON ENDWALL SIZES, THE REINFORCED EDGES AND CENTER PANEL SEAMS SHALL BE FURTHER REINFORCED WITH GALVANIZED STEEL OR ALUMINUM STIFFENER ANGLES. THE ANGLES SHALL BE ATTACHED BY GALVANIZED NUTS AND BOLTS FOR STEEL UNITS AND ALUMINUM NUTS AND BOLTS FOR ALUMINUM UNITS.

WHERE TWO OR MORE PIPES WITH APRON ENDWALLS ARE LAID ADJACENT TO EACH OTHER, THEY SHALL BE SEPARATED BY A DISTANCE SUFFICIENT TO PROVIDE A MINIMUM CLEARANCE OF 6 INCHES BETWEEN APRON ENDWALLS.

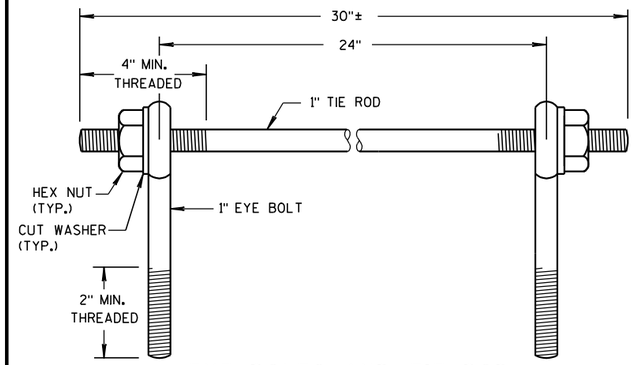
① FOR PIPE SIZES UP TO 60" DIAMETER, A 180° ROLLED EDGE MAY BE USED INSTEAD OF STEEL ROD REINFORCEMENT. SEE SECTION A-A.

APRON ENDWALLS FOR CULVERT PIPE

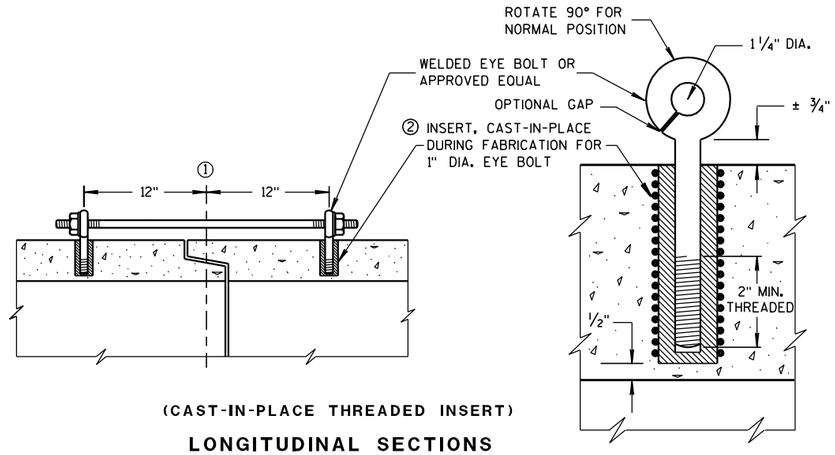
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
11/30/94 DATE
/S/ Rory L. Rhinesmith
CHIEF ROADWAY DEVELOPMENT ENGINEER
FHWA

6
S.D.D. 8 F 1-11



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 ℄ OF TONGUE AND GROOVE OR BELL AND SPIGOT JOINTS.

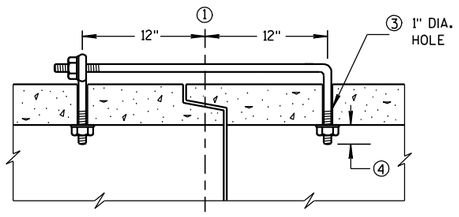
② THE INSIDE OF THE THREADED INSERTS SHALL BE CLEAN TO ALLOW THE INSERTION OF THREADED EYE BOLTS.

③ HOLES SHALL BE CAST-IN-PLACE OR DRILLED 12 INCHES FROM ℄ OF TONGUE AND GROOVE.

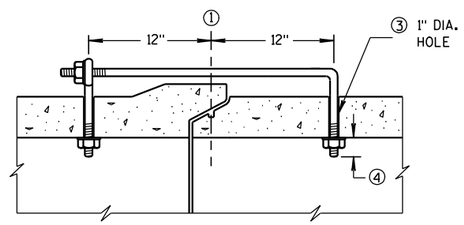
④ BOLT PROJECTION INSIDE OF PIPE SHALL NOT EXCEED 2 INCHES.

⑤ OPENING TO BE ROD DIAMETER PLUS 1 INCH.

⑥ LENGTH ADEQUATE TO EXTEND TO WITHIN 1/2 INCH OF THE INNER SURFACE OF THE PIPE.



(TONGUE & GROOVE PIPE)

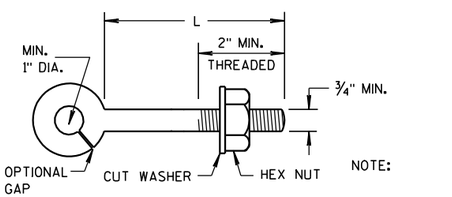


(MODIFIED BELL PIPE)

LONGITUDINAL SECTION

EYE BOLT DIMENSION TABLE

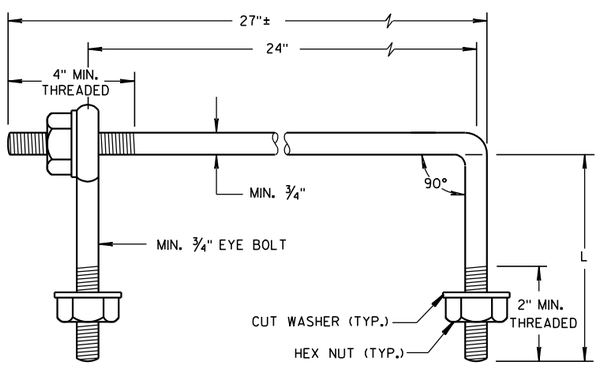
PIPE SIZE	L = LENGTH	
	TONGUE & GROOVE PIPE	MODIFIED BELL PIPE
18" TO 24"	4 1/2"	6 1/4"
30"	5"	7"
36"	5 1/2"	7"
42"	6"	
48"	6 1/2"	
60"	7 1/2"	
66"	8"	



NOTE:

EYE BOLT

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



EYE BOLT AND TIE ROD

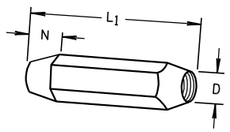
(JOINT TIES FOR 18" TO 66" DIA. CONCRETE PIPE)

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

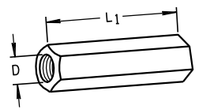
ADJUSTABLE TIE ROD TABLE

PIPE DIAMETER	TIE ROD DIAMETER	D	L_1	N
12-60	5/8	5/8	5	1/2
66-84	3/4	3/4	5	1/2
90-108	1	1	7	1 1/16

DIMENSIONS SHOWN ARE IN INCHES



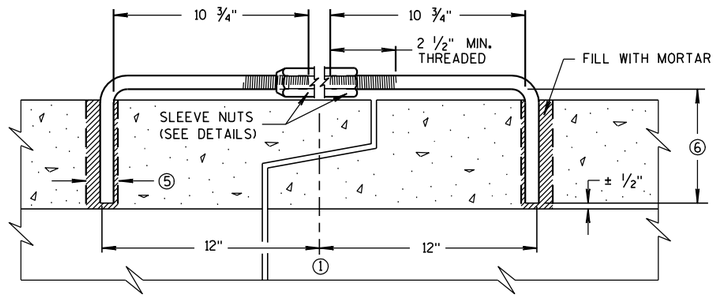
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PLAIN

RIGHT AND LEFT THREADS

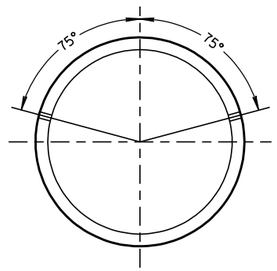
SLEEVE NUTS



LONGITUDINAL SECTION

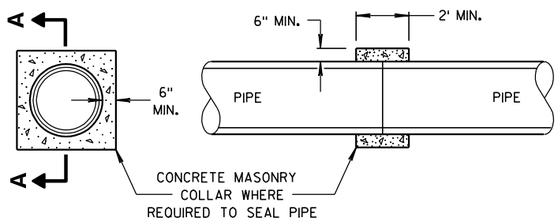
(JOINT TIES FOR 12" TO 108" DIA. CONCRETE PIPE)

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

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S.D.D. 8 F 4-7

6

S.D.D. 8 F 4-7

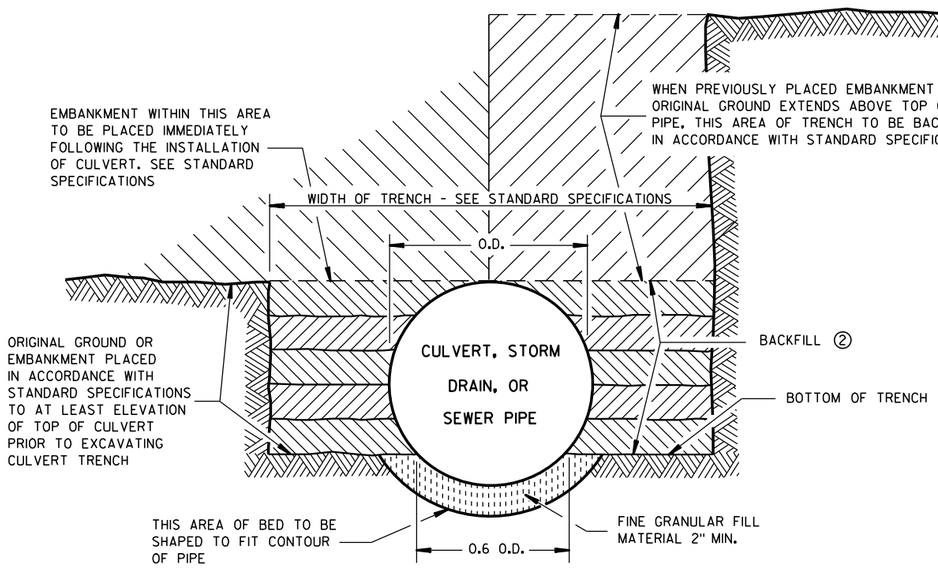
GENERAL NOTES

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

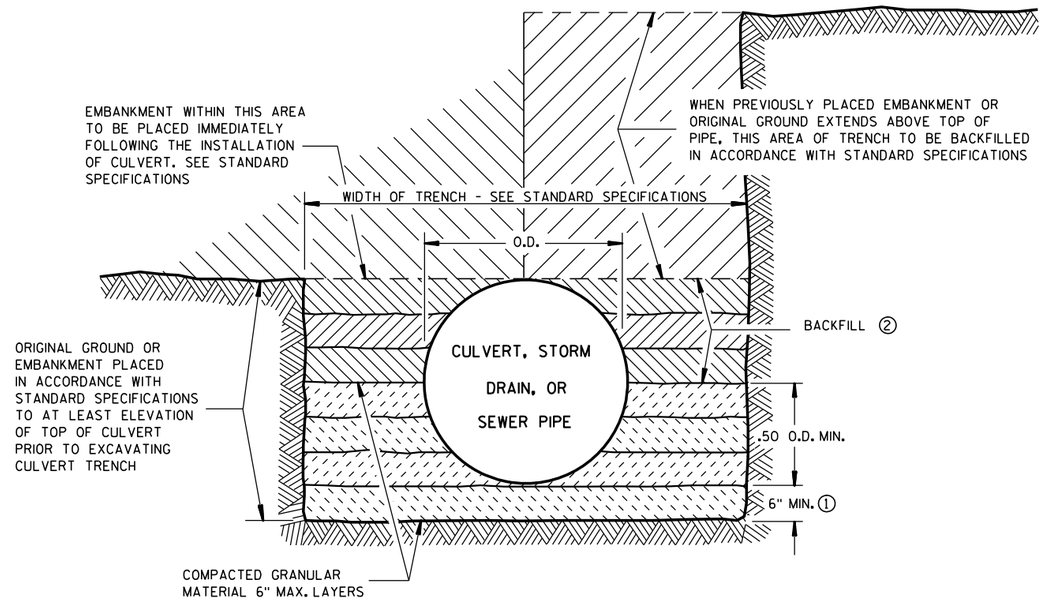
THE SHAPED SUBGRADE WITH GRANULAR FOUNDATION IS AN EQUAL ALTERNATE TO THE GRANULAR FOUNDATION EXCEPT WHERE ROCK IS ENCOUNTERED.

① WHERE ROCK, HARD PAN OR FRAGMENTED MATERIAL IS ENCOUNTERED, THE TRENCH SHALL BE EXCAVATED BELOW THE BOTTOM OF THE PIPE AN AMOUNT EQUAL TO ½ INCH PER FOOT OF PROPOSED EMBANKMENT ABOVE THE TOP OF THE PIPE, BUT NOT LESS THAN 6 INCHES.

② TRENCH SHALL BE BACKFILLED AS REQUIRED BY STANDARD SPECIFICATIONS; SECTION 520 FOR PIPE CULVERTS AND SECTION 607 FOR STORM SEWERS.



SHAPED SUBGRADE WITH GRANULAR FOUNDATION



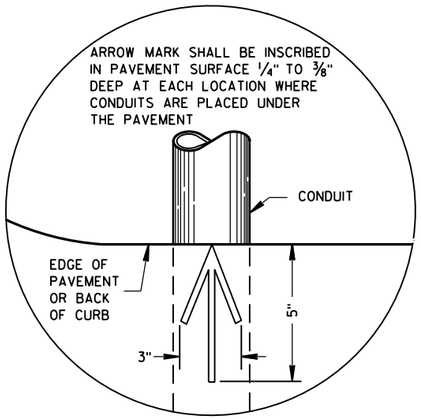
GRANULAR FOUNDATION

CLASS "B" BEDDING

CLASS "B" BEDDING FOR CULVERT PIPE OR STORM SEWER	
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
APPROVED	
4/7/83 DATE	/S/ D. L. Strand STATE DESIGN ENGINEER
FHWA	HWYS

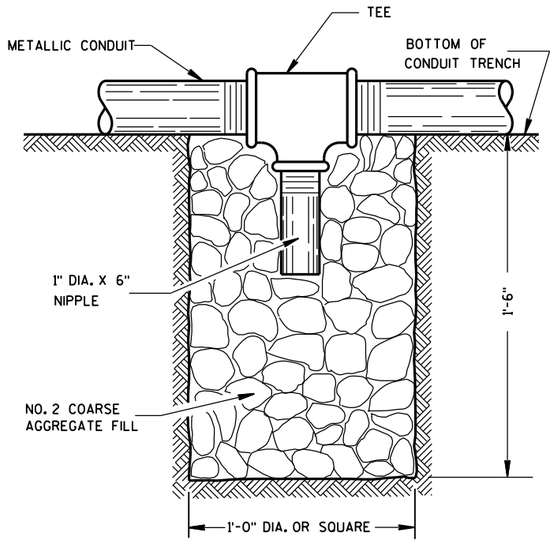
6

S.D.D. 8 F 5-1



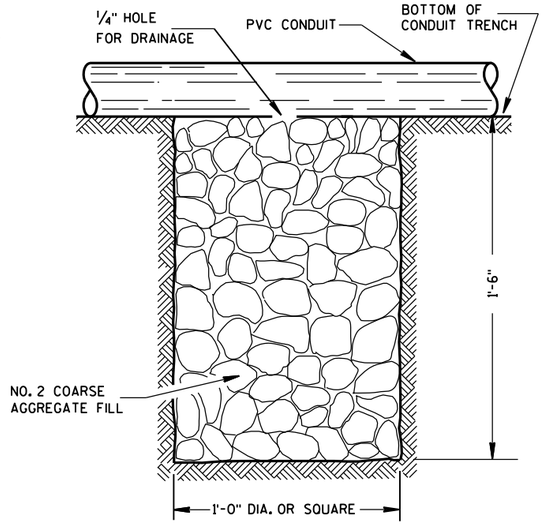
PLAN VIEW

ARROW MARK



NOTE: INSTALL AT LOCATIONS WHERE METALLIC CONDUITS CANNOT BE PITCHED TO DRAIN INTO A PULL BOX.

DRAIN SUMP FOR METALLIC CONDUIT



NOTE: INSTALL AT LOCATIONS WHERE PVC CONDUITS CANNOT BE PITCHED TO DRAIN INTO A PULL BOX.

DRAIN SUMP FOR PVC CONDUIT

GENERAL NOTES

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

METALLIC (STANDARD SPECIFICATION 652.2.2) OR NONMETALLIC (STANDARD SPECIFICATION 652.2.3) CONDUIT SHALL BE FURNISHED AND PLACED AS SHOWN.

DEPTH OF CONDUIT INSTALLED BELOW THE TRAVELED WAY SHALL BE 24 INCHES MINIMUM AND 36 INCHES MAXIMUM.

DEPTH OF CONDUIT INSTALLED THAT IS NOT BELOW THE TRAVELED WAY SHALL BE 18 INCHES MINIMUM AND 36 INCHES MAXIMUM.

ANY EXCEPTION TO THE MAXIMUM DEPTH SHALL BE ONLY WITH THE WRITTEN APPROVAL OF THE ENGINEER.

THE TRENCH SHALL NOT BE BACKFILLED PRIOR TO INSPECTION OF THE CONDUIT.

ALL METALLIC CONDUIT RACEWAY ENDS SHALL BE REAMED AND THREADED.

ALL METALLIC CONDUIT IN WHICH WIRE OR CABLE IS TO BE INSTALLED SHALL BE BUSHED WITH APPROVED THREADED BUSHINGS BEFORE INSTALLATION OF THE WIRE OR CABLE.

ALL METALLIC CONDUITS IN WHICH WIRE OR CABLE IS NOT TO BE INSTALLED SHALL BE CAPPED WITH THREADED PROTECTIVE CAPS, AS APPROVED BY THE ENGINEER.

ALL NONMETALLIC CONDUIT SHALL BE CAPPED OR PLUGGED IMMEDIATELY AFTER INSTALLATION AND SHALL REMAIN CAPPED OR PLUGGED UNTIL WIRE/CABLES ARE INSTALLED.

NONMETALLIC CONDUITS IN WHICH WIRE OR CABLE IS NOT BEING INSTALLED SHALL REMAIN CAPPED OR PLUGGED.

BENDING OF PVC ELECTRICAL CONDUIT SHALL BE ACCOMPLISHED BY USING A BLANKET OR EMERSION TYPE TANK DESIGNED FOR THE PURPOSE OF BENDING PVC ELECTRICAL CONDUIT.

ALL CUT ENDS SHALL BE TRIMMED INSIDE AND OUTSIDE TO REMOVE ALL ROUGH EDGES ON NONMETALLIC CONDUIT. (SEE NEC 347.5)

WHEN REQUIRED TO CONNECT NONMETALLIC CONDUIT TO METALLIC CONDUIT, ONLY U.L. LISTED ADAPTER FITTINGS SHALL BE USED.

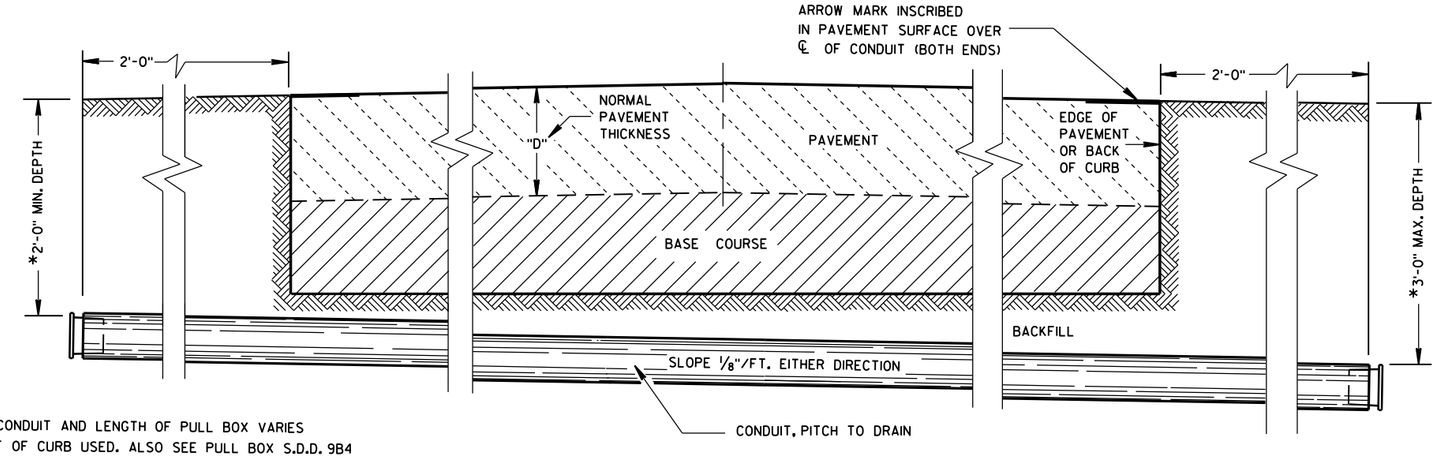
PRIOR TO CONDUIT ACCEPTANCE, CONDUIT CAPS OR PLUGS SHALL BE REMOVED, AND THE CAPS, PLUGS AND CONDUIT ENDS SHALL BE THOROUGHLY CLEANED AND THEN THE CAPS OR PLUGS REINSTALLED TO ENSURE THAT THE CAPS OR PLUGS CAN BE EASILY REMOVED IN THE FUTURE.

ALL CONDUIT BEING FURNISHED AND INSTALLED SHALL HAVE THE U.L. LABEL FIRMLY ATTACHED.

CONDUIT RUNS SHALL BE THE SAME SIZE OF CONDUIT FROM ONE END TO THE OTHER (FROM PULL BOX TO PULL BOX-OR-JUNCTION BOX TO JUNCTION BOX-OR-BASE TO BASE, ETC.).

POLY ROPE OR A PULL WIRE SHALL BE INSTALLED AS STATED IN THE STANDARD SPECIFICATION, ITEM 652.3.1.1.

ALL CONDUIT RUNS SHALL BE STRAIGHT (WITHOUT BENDS) FROM PULL BOX TO PULL BOX, PULL BOX TO BASE AND BASE TO BASE AS SHOWN ON THE PLANS.



*DEPTH OF CONDUIT AND LENGTH OF PULL BOX VARIES WITH HEIGHT OF CURB USED. ALSO SEE PULL BOX S.D.D. 9B4

SIDE ELEVATION

DETAIL FOR CONDUIT UNDER PAVED HIGHWAYS

CONDUIT UNDER PAVED HIGHWAYS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

Sept. 2014 — DATE

/S/ Ahmet Demirbilek — STATE ELECTRICAL

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6

S.D.D. 9 B 2-8

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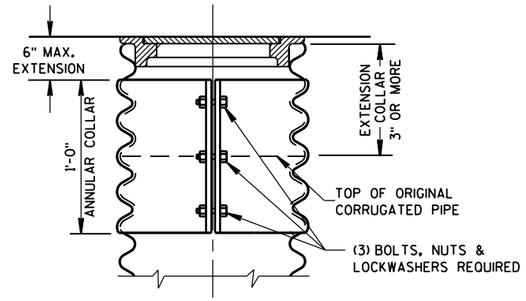
S.D.D. 9 B 2-8

TABLE OF NOMINAL DIMENSIONS AND WEIGHTS

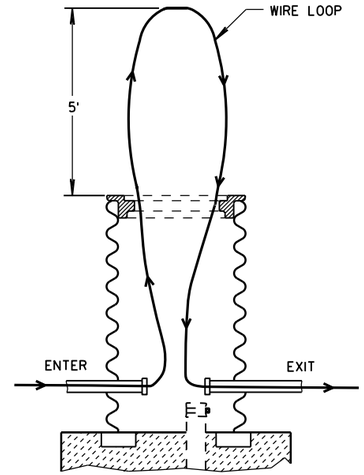
DIMENSION IN INCHES		CORRUGATED STEEL PIPE								
PIPE DIAMETER (INSIDE)	A	12	12	12	18	18	18	24	24	24
PIPE LENGTH **	B	24	30	36	24	30	36	36	42	48
WALL THICKNESS	C	0.064	0.064	0.064	0.064	0.064	0.064	0.064	0.064	0.064
COVER	D	10 1/4	10 1/4	10 1/4	16 1/4	16 1/4	16 1/4	22 1/4	22 1/4	22 1/4
FRAME	E	14 1/2	14 1/2	14 1/2	20 1/2	20 1/2	20 1/2	26 1/2	26 1/2	26 1/2
FRAME	F	8 1/2	8 1/2	8 1/2	14 1/2	14 1/2	14 1/2	20 1/2	20 1/2	20 1/2
FRAME	G	11 1/2	11 1/2	11 1/2	17 1/2	17 1/2	17 1/2	23 1/2	23 1/2	23 1/2
WEIGHT IN POUNDS *										
FRAME AND COVER		60	60	60	110	110	110	155	155	155

* THE ACTUAL WEIGHT OF THE MANHOLE FRAME AND COVER MAY VARY WITHIN 5 PERCENT PLUS OR MINUS OF THE WEIGHTS SHOWN.

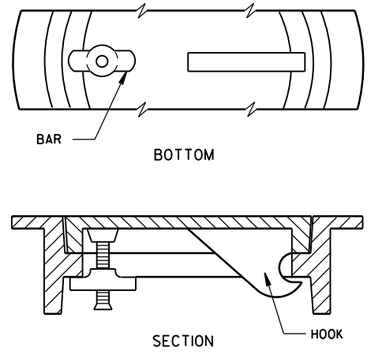
** NORMALLY USED LENGTHS. THE PROJECT ENGINEER SHALL DETERMINE IF PIPE LENGTHS, OTHER THAN THOSE SPECIFIED, SHALL BE USED, TO A MAXIMUM OF 48" (CONTINUOUS LENGTH, NON-SPLICED). THE ADDITIONAL LENGTH SHALL BE INCIDENTAL TO THE PULL BOX BID PRICE.



CORRUGATED PIPE EXTENDER

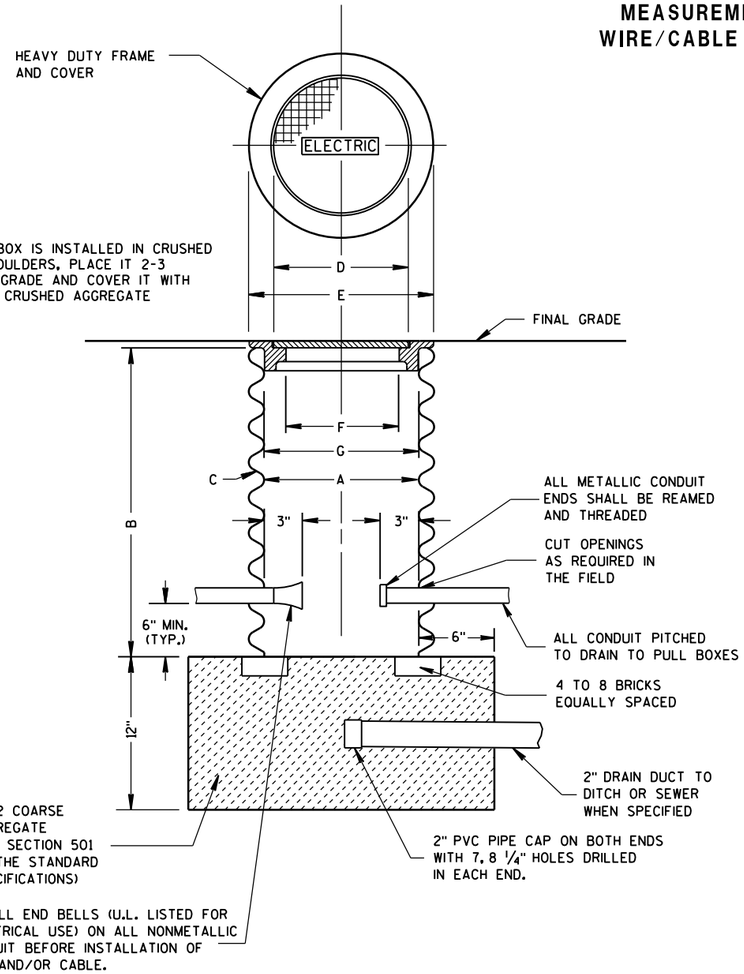


MEASUREMENT DETAIL FOR WIRE/CABLE IN THE PULL BOX



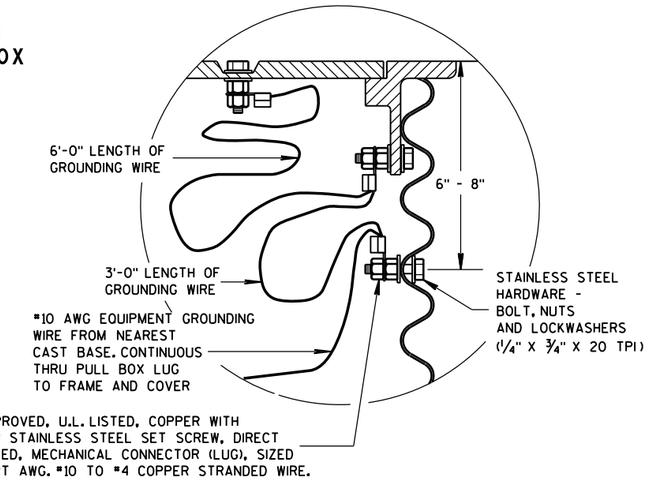
ALTERNATE COVER (LOCKING)

TIGHTENING BAR TYPE



WHEN A PULL BOX IS INSTALLED IN CRUSHED AGGREGATE SHOULDERS, PLACE IT 2-3 INCHES BELOW GRADE AND COVER IT WITH 2-3 INCHES OF CRUSHED AGGREGATE

PULL BOX



EQUIPMENT GROUNDING LUG AND LOCATION IN STEEL PULL BOXES

GENERAL NOTES

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

ALL FRAMES AND COVERS SHALL BE HEAVY DUTY TYPE, SUITABLE FOR VEHICULAR TRAFFIC LOADS.

PULL BOXES LOCATED IN THE ROADWAYS SHALL HAVE LOCKING COVERS.

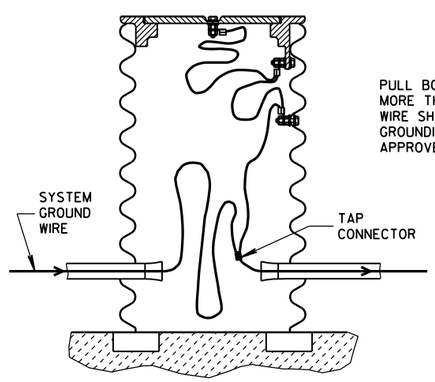
ENTRANCE HOLES INTO PULL BOXES SHALL BE CUT WITH A CIRCULAR HOLE SAW OR HYDRAULIC CONDUIT PUNCH. HOLE SIZE SHALL BE THE OUTSIDE DIAMETER OF THE CONDUIT THAT IS TO FIT IN THE OPENING PLUS NO MORE THAN 1/4".

THE CONTRACTOR SHALL NOT INSTALL WIRE IN ANY PULL BOX UNTIL ITS INSTALLATION HAS BEEN INSPECTED AND ACCEPTED BY THE ENGINEER.

GROUNDING LUGS (MECHANICAL CONNECTORS) SHALL BE U.L. LISTED AND APPROVED FOR USE WITH COPPER WIRE.

ALL METALLIC CONDUIT IN WHICH WIRE AND/OR CABLE IS TO BE INSTALLED, SHALL BE BUSHED BEFORE INSTALLATION OF THE WIRE AND/OR CABLE.

WHEN PULL BOXES ARE INSTALLED FOR FUTURE USE, DO NOT INSTALL THE EQUIPMENT GROUNDING LUG. THE EQUIPMENT GROUNDING LUG, THE EQUIPMENT GROUNDING ELECTRODE AND THE EQUIPMENT GROUNDING CONDUCTOR SHALL BE REQUIRED AND INSTALLED UNDER A FUTURE WIRING CONTRACT.



PULL BOX TO NEAREST BASE DISTANCE MORE THAN 20 FEET. PULL BOX GROUND WIRE SHALL CONNECT AT SYSTEM GROUNDING WIRE. USE DEPARTMENT APPROVED TAP CONNECTOR.

EQUIPMENT GROUNDING LUG AND LOCATION IN STEEL PULL BOXES

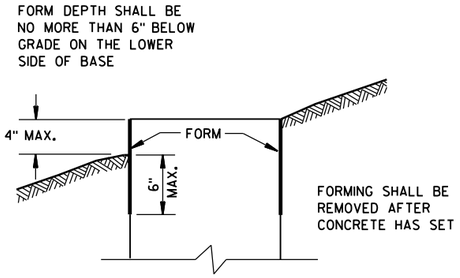
PULL BOX

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
Sept. 2014 — DATE
/S/ Ahmet Demirbilek — STATE ELECTRICAL
FHWA

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S.D.D. 9 B 4-11



FORMING DETAIL

QUANTITY REQUIREMENTS	CONCRETE BASE TYPE		
	1	2	5 & 6
APPROX. CUBIC YARDS OF CONCRETE	0.40	0.57	0.40
LBS. OF HOOP BAR STEEL	NONE	23	16
LBS. OF VERTICAL BAR STEEL	NONE	60	18

GENERAL NOTES

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

BASES SHALL BE EXCAVATED BY USE OF A CIRCULAR AUGER.

TOP SURFACES OF CONCRETE BASES SHALL BE TROWEL FINISHED SMOOTH AND LEVEL.

CONDUIT SIZES AND LOCATIONS SHALL BE AS SHOWN ON THE PLANS.

THE FINAL OR TERMINATING CONCRETE BASE IN A CONDUIT RUN SHALL HAVE A 6" EXIT STUB INSTALLED FOR FUTURE CABLING USE. THE EXIT STUB SHALL BE SIZED AS USED THROUGHOUT THE CONDUIT RUN AS SHOWN AT THE ENTRANCE OF THE BASE.

MINIMUM BENDING RADIUS OF CONDUIT IS EQUAL TO 6 X THE DIAMETER.

CONDUIT HEIGHT ABOVE CONCRETE BASES SHALL BE 1 INCH. ALL METALLIC CONDUIT ENDS SHALL BE REAMED AND THREADED.

ALL CONDUIT ENDS AT THE TOP OF CONCRETE BASES SHALL BE CAPPED IF METALLIC OR PLUGGED IF NONMETALLIC IMMEDIATELY AFTER PLACEMENT AND BEFORE CONCRETE IS POURED. CONDUITS IN WHICH WIRE OR CABLE IS NOT INSTALLED SHALL REMAIN CAPPED OR PLUGGED.

GENERAL NOTES (CONTINUED)

BELL ENDS SHALL BE INSTALLED ON ALL PVC CONDUIT EXPOSED AT THE TOP OF CONCRETE BASES BEFORE INSTALLATION OF CABLE OR WIRE.

ENDS OF CONDUIT INSTALLED BELOW GRADE FOR FUTURE USE SHALL BE CAPPED IF METALLIC OR PLUGGED IF NONMETALLIC.

WHEN REQUIRED TO CONNECT NONMETALLIC CONDUIT TO METALLIC CONDUIT, ONLY ADAPTER FITTINGS, U.L. LISTED FOR ELECTRICAL USE, SHALL BE USED.

IF A BASE REQUIRES A DEEP FORM BECAUSE OF LOOSE DIRT OR FILL, THE FORM SHALL BE REMOVED BEFORE BACKFILLING AROUND THE BASE. BACKFILL SHALL BE TAMPED TIGHT AGAINST THE BARE CONCRETE BASE IN LAYERS OF 1 FOOT OR LESS.

A NO. 4 AWG, STRANDED COPPER EQUIPMENT GROUNDING CONDUCTOR SHALL BE EXOTHERMICALLY WELDED TO THE EQUIPMENT GROUNDING ELECTRODE (GROUND ROD) FOR TYPE 1, TYPE 2, TYPE 5, AND TYPE 6 BASES.

THE EQUIPMENT GROUNDING CONDUCTOR SHALL BE FURNISHED AND INSTALLED TO ENTER THE BASE OF THE TYPE 2 AND TYPE 5 BASES THROUGH A 1 INCH CONDUIT INSTALLED FOR GROUNDING PURPOSES, LEAVING A 4 FOOT COIL OF WIRE ABOVE THE CONCRETE BASE. THE EQUIPMENT GROUNDING CONDUCTOR SHALL BE NEATLY COILED AND THE COILS TIED TOGETHER.

ANCHOR RODS SHALL BE THREADED 12" IN LENGTH ON EACH END OF THE ROD. ANCHOR RODS SHALL BE MANUFACTURED IN ACCORDANCE WITH SECTION 654.2.1 OF THE STANDARD SPECIFICATIONS.

WASHERS AND LOCK WASHERS ARE REQUIRED ON ALL ANCHOR RODS.

WHEN ANCHOR RODS USING THE ALTERNATE "L" BEND ARE FURNISHED, THE 4" "L" BEND SHALL BE IN ADDITION TO THE SPECIFIED ANCHOR ROD BAR LENGTH. THE "L" BEND END SHALL NOT BE THREADED.

ANCHOR RODS SHALL BE INSTALLED WITH MISALIGNMENTS OF LESS THAN 1:40 FROM VERTICAL.

WELDING OF THE ANCHOR RODS TO THE CAGE IS UNACCEPTABLE. TIE WIRES SHALL BE USED.

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

(1) THE MINIMUM DEPTH OF CONDUIT EXITING THE CONCRETE BASE AND INSTALLED BELOW THE TRAVELED WAY SHALL BE 24 INCHES. THE MINIMUM DEPTH OF CONDUIT EXITING THE CONCRETE BASE THAT IS NOT INSTALLED BELOW THE TRAVELED WAY SHALL BE 18 INCHES. THE MAXIMUM DEPTH OF ALL CONDUIT SHALL BE 36 INCHES EXCEPT WITH WRITTEN APPROVAL BY THE ENGINEER.

(2) (4) 1" DIA. X 3'-6" ANCHOR RODS.

(3) (4) 1" DIA. X 5'-0" ANCHOR RODS.

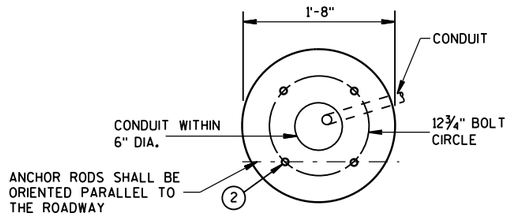
(4) (6) NO. 6 X 6'-8" BAR STEEL REINFORCEMENT.

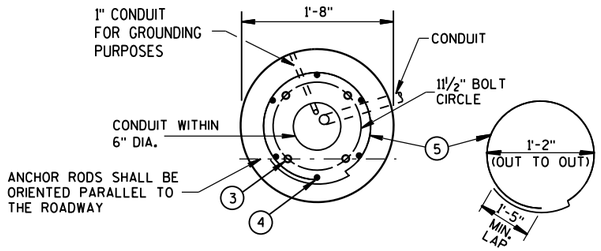
(5) (7) NO. 4 X 5'-1" BAR STEEL REINFORCEMENT @ 1'-0" C-C.

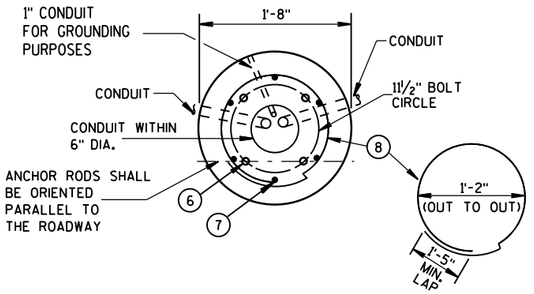
(6) (4) 1" DIA. X 3'-6" ANCHOR RODS.

(7) (6) NO.4 X 4'-8" BAR STEEL REINFORCEMENT.

(8) (5) NO. 4 X 5'-1" BAR STEEL REINFORCEMENT @ 1'-0" C-C.

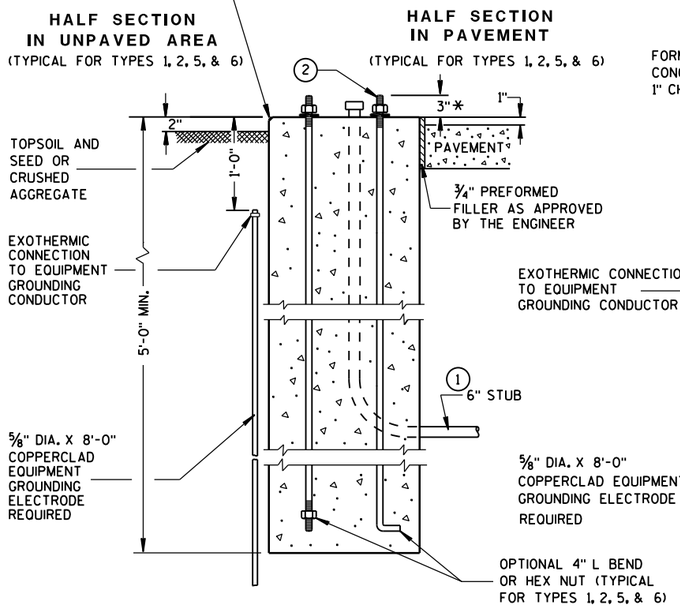






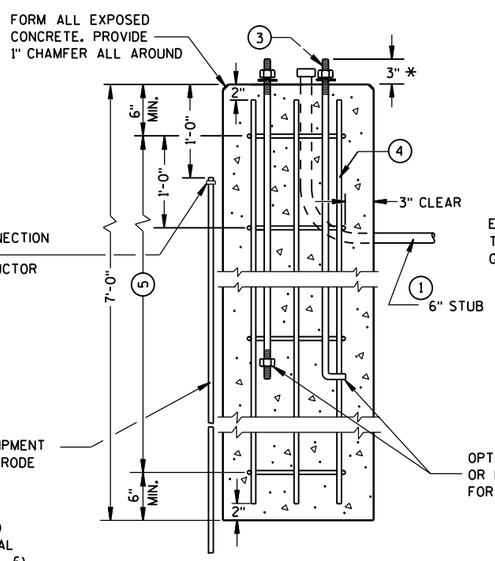
HALF SECTION IN UNPAVED AREA

(TYPICAL FOR TYPES 1, 2, 5, & 6)

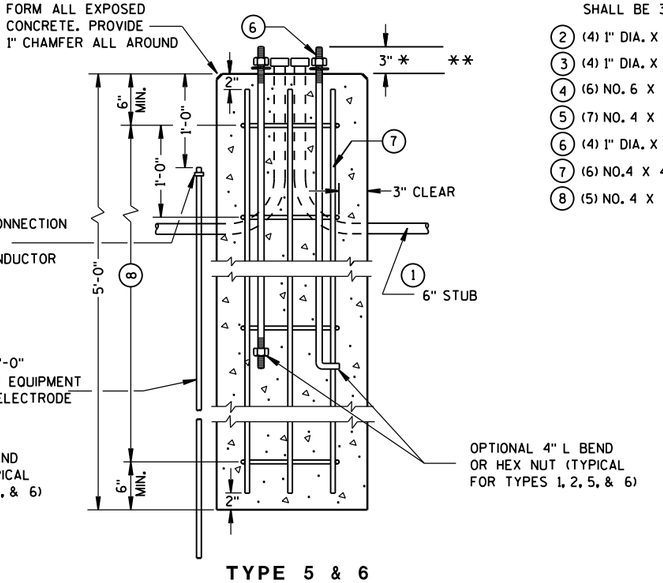


HALF SECTION IN PAVEMENT

(TYPICAL FOR TYPES 1, 2, 5, & 6)



TYPE 2



TYPE 5 & 6

CONCRETE BASES

* ANY ANCHOR ROD PROJECTION SHORTER THAN 2¾" OR LONGER THAN 3¼" SHALL REQUIRE THE BASE TO BE REMOVED AND REPLACED AT THE CONTRACTORS EXPENSE.

** FOR NONBREAKAWAY INSTALLATIONS, 4½" ± ANCHOR ROD PROJECTION WITH THE USE OF LEVELING NUTS. RODENT SCREEN REQUIRED.

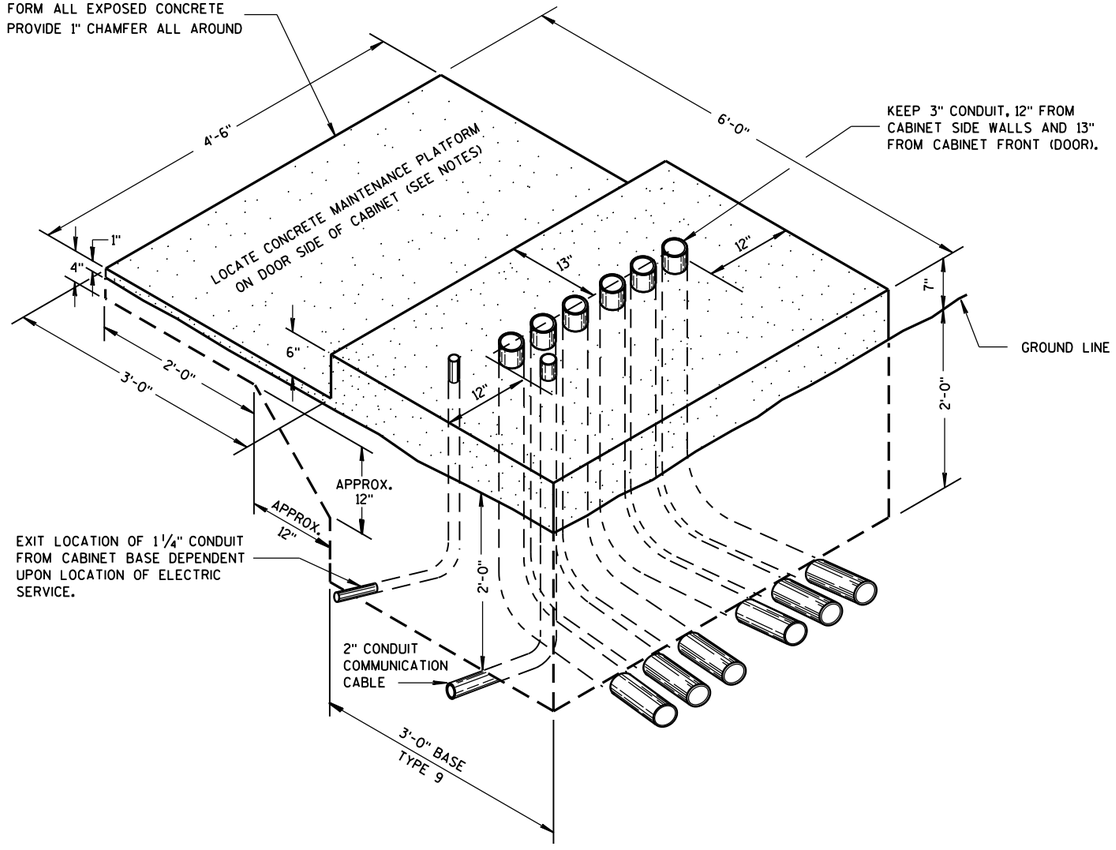
CONCRETE BASES, TYPES 1, 2, 5, & 6

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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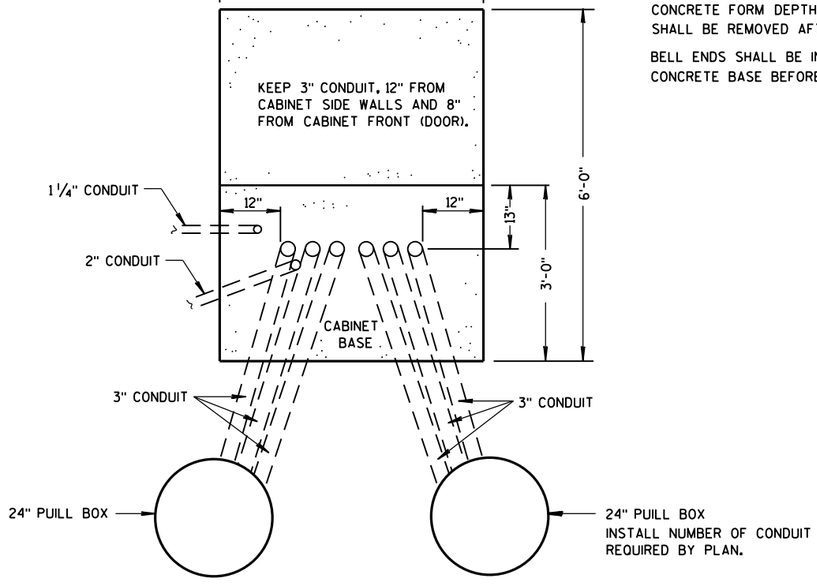
S.D.D. 9 C 2-7



ISOMETRIC VIEW

TYPE 9, SPECIAL

(C.Y. CONCRETE = APPROX. 1.56)



PLAN VIEW

CONCRETE CONTROL CABINET BASE, TYPE 9, SPECIAL

GENERAL NOTES

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

INSTALL FOUR ½ INCH MINIMUM DIAMETER X 4 INCH MINIMUM LENGTH STAINLESS STEEL APPROVED CONCRETE MASONRY ANCHORS WITH A PULLOUT STRENGTH OF 9,000 LBS. TO ANCHOR THE CABINET TO TYPE 6, 7, 8, AND 9 BASES. THE ANCHOR STUDS SHALL BE LOCATED AS DIRECTED BY THE ENGINEER TO PROPERLY ANCHOR THE CONTROL CABINET TO THE BASE.

WHEN REQUIRED TO CONNECT NONMETALLIC CONDUIT TO METALLIC CONDUIT, ONLY ADAPTER FITTINGS, U.L. LISTED FOR ELECTRICAL USE, SHALL BE USED.

CONDUIT HEIGHT ABOVE THE CONCRETE BASE SHALL BE 1 INCH.

DEPTH OF CONDUIT INSTALLED BELOW THE TRAVELED WAY SHALL BE 24 INCHES MINIMUM AND 36 INCHES MAXIMUM.

DEPTH OF CONDUIT INSTALLED THAT IS NOT BELOW THE TRAVELED WAY SHALL BE 18 INCHES MINIMUM AND 36 INCHES MAXIMUM.

ANY EXCEPTION TO THE MAXIMUM DEPTH SHALL BE ONLY WITH THE WRITTEN APPROVAL OF THE ENGINEER.

CONTROL CABINET BASE TOP SURFACE SHALL BE TROWEL FINISHED SMOOTH AND LEVEL.

MAINTENANCE PLATFORM SHALL BE FLOAT OR BROOM FINISHED AND BE LEVEL.

MAINTENANCE PLATFORMS ARE NOT REQUIRED WHEN THE SURROUNDING AREA IS PAVED.

MINIMUM BENDING RADIUS OF CONDUIT = 6 X THE DIAMETER.

ALL METALLIC CONDUIT ENDS SHALL BE REAMED AND THREADED.

CAP ALL BELOW GRADE METALLIC CONDUIT ENDS IN WHICH WIRE OR CABLE IS NOT BEING INSTALLED.

PLUG ALL BELOW GRADE NONMETALLIC CONDUIT ENDS IN WHICH WIRE OR CABLE IS NOT BEING INSTALLED.

ALL CONDUIT ENDS AT THE TOP OF CONCRETE BASES SHALL BE CAPPED IF METALLIC OR PLUGGED IF NONMETALLIC IMMEDIATELY AFTER PLACEMENT AND BEFORE CONCRETE IS POURED. CONDUITS IN WHICH WIRE OR CABLE IS NOT BEING INSTALLED SHALL REMAIN CAPPED OR PLUGGED.

CONDUIT EXITING THE CONCRETE BASE (SIX THREE INCH) SHALL TERMINATE IN PULL BOXES AS SHOWN ON THE PLANS.

CONCRETE FORM DEPTH BELOW FINISHED GRADE SHALL BE 6" MAXIMUM. CONCRETE FORMS SHALL BE REMOVED AFTER CONCRETE HAS SET.

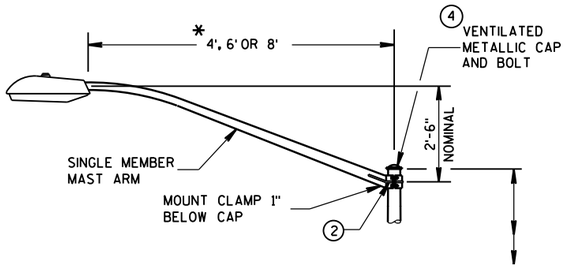
BELL ENDS SHALL BE INSTALLED ON ALL PVC CONDUIT EXPOSED AT THE TOP OF THE CONCRETE BASE BEFORE INSTALLATION OF CABLE OR WIRE.

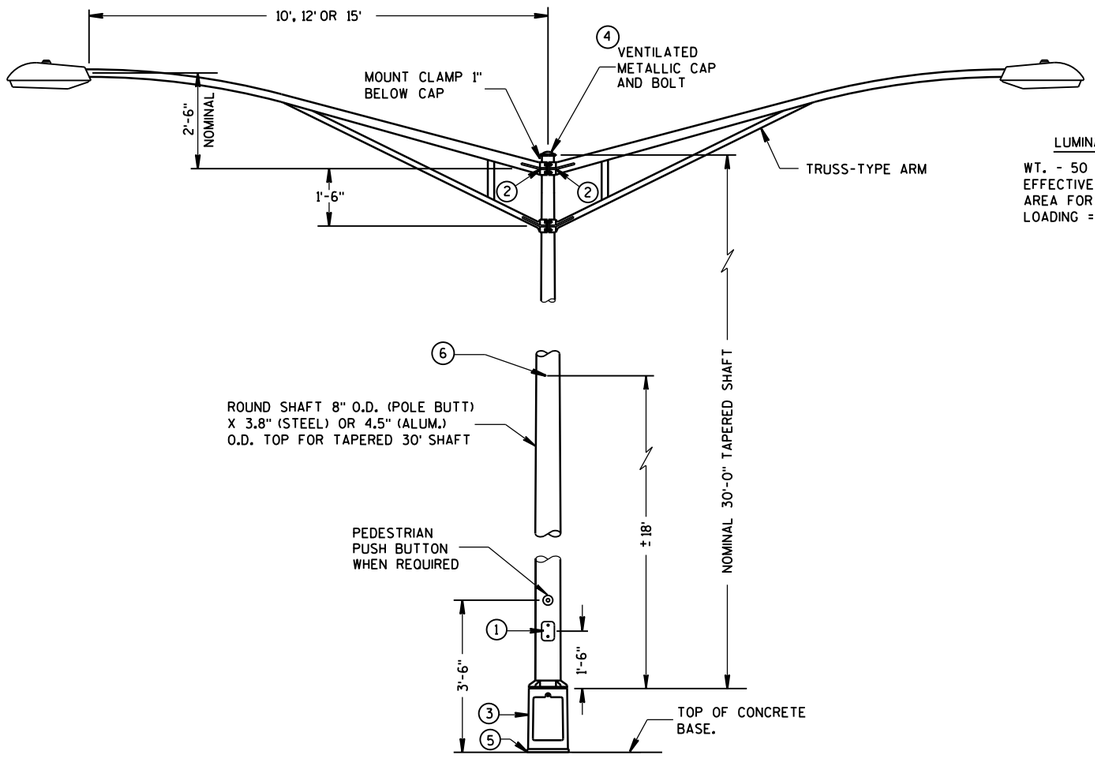
CONCRETE CONTROL CABINET BASE, TYPE 9, SPECIAL

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

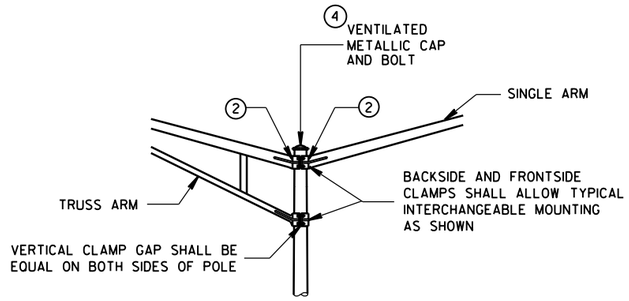
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*RISE FOR 4' ARM SHALL BE 2'-0".





TYPE 5 POLE MOUNTING CONFIGURATION
(MAXIMUM LOAD)
LIGHTING ONLY



INTERCHANGEABLE MOUNTING DETAIL

LUMINAIRE

WT. - 50 LBS.
EFFECTIVE PROJECTED
AREA FOR WIND
LOADING = 1.5 SQ. FT.

GENERAL NOTES

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

ALL TYPE 5 POLE MOUNTINGS SHALL BE DESIGNED TO INCLUDE TWIN 15' ARMS WITH LUMINAIRES.

POLES SHALL BE GALVANIZED STEEL OR ALUMINUM, AS CALLED FOR IN THE CONTRACT.

TYPE 5 ALUMINUM POLES SHALL BE CONSTRUCTED OF 6063-T6 ALUMINUM ALLOY. SLEEVING INSIDE THE POLE IS NOT ACCEPTABLE.

THE TYPE 5 ALUMINUM POLES SHALL HAVE A MINIMUM WALL THICKNESS OF 0.188".

TYPE 5 STEEL POLES SHALL HAVE A MINIMUM WALL THICKNESS OF U.S. STANDARD 11 GAGE (.1196").

THE SLIPFITTER END OF THE LUMINAIRE MAST ARM SHALL BE A NOMINAL 2⅜ INCHES IN OUTSIDE DIAMETER. THE STRAIGHT PORTION OF THE SLIPFITTER END OF THE LUMINAIRE ARM SHALL BE A NOMINAL 12 INCHES IN LENGTH.

WHEN TRANSFORMER BASES ARE USED, WIRE CONEECTIONS SHALL BE MADE IN THE TRANSFORMER BASE.

(1) 4" x 6" REINFORCED HANDHOLE & COVER ASSEMBLY WITH 2 (TWO) ¼" X ¾" - 20 TPI HEX HEAD STAINLESS STEEL BOLTS.

(2) GROMMETS, 1" CHASE NIPPLES OR 1" CLOSE CONDUIT NIPPLES WITH BUSHINGS SHALL BE PROVIDED FOR 1⅜" HOLE IN POLE SHAFT FOR WIRING.

(3) CAST ALUMINUM TRANSFORMER BASE, WHEN REQUIRED.

(4) FURNISH AND INSTALL VENTILATED, CAST, METALLIC (ALUMINUM ALLOY) CAPS. FASTEN CAPS WITH ONE (1) ¼" X ¾" - 20 TPI STAINLESS STEEL, HEX HEAD BOLT.

(5) SHIMMING, IF NEEDED, SHALL BE LOCATED BETWEEN THE CONCRETE FOUNDATION AND THE TRANSFORMER BASE.

(6) INTERNAL DUMBBELL-TYPE VIBRATION DAMPER.

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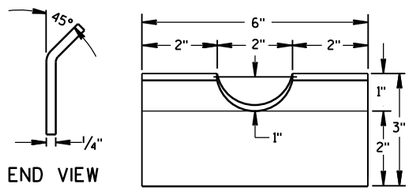
S.D.D. 9 E 1-13d

POLE MONTINGS FOR
LIGHTING UNITS, TYPE 5
(30 FEET)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPOI

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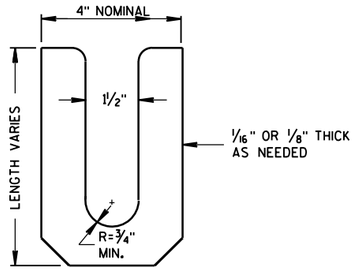


END VIEW

FRONT VIEW

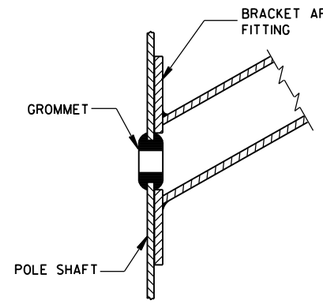
RECTANGULAR CLAMP SHIM

(4 TO A SET)

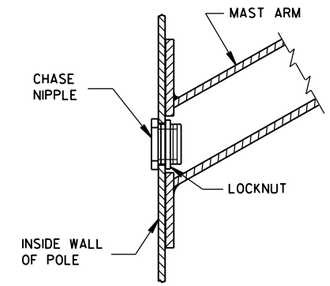


LEVELING SHIM (15)

SHALL BE ALUMINUM



TYPICAL APPLICATION OF GROMMET IN POLE SHAFT



TYPICAL APPLICATION OF CHASE NIPPLE IN POLE SHAFT

GENERAL NOTES

CLAMP BOLT-NUT TIGHTENING TORQUE SHALL BE INDICATED BY INDENT STAMPING (1/2 INCH NUMERALS AND LETTERS) OR WEATHERPROOF PRINTING ON THE INSIDE OF THE CLAMP THAT IS WELDED TO THE ARM MEMBER.

(10) 4.5" I.D. FOR LUMINAIRE MAST ARM CLAMP.
6.625" I.D. FOR TROMBONE MAST ARM CLAMP.

(11) INDIVIDUAL BASE PLATE ANCHOR ROD COVERS. (4 REQUIRED)

(12) BASE PLATE SLOTTED TO ACCEPT 11" THROUGH 12" BOLT CIRCLE USING 1" DIAMETER ANCHOR RODS.

(13) OUTSIDE SHIM DIAMETER - (4.5" O.D. FOR LUMINAIRE MAST ARM)
(6.625" O.D. FOR TROMBONE MAST ARM)

(14) VARIABLE SHIM THICKNESS - (0.10", 0.25", 0.35", 0.53" OR 0.70")

SHIM THICKNESS FOR TROMBONE MAST ARMS MAY BE TYPICALLY 0.25", 0.35", 0.53" OR 0.70".

SHIM THICKNESS FOR LUMINAIRE MAST ARMS MAY BE TYPICALLY 0.10", 0.25" OR 0.35".

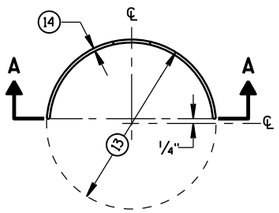
SHIM MATERIAL SHALL BE ALUMINUM ALLOY.

SHIM THICKNESS SHALL BE IMPRESSED INTO EACH SHIM. NUMERALS SHALL BE 1/4" HIGH AND LEGIBLE.

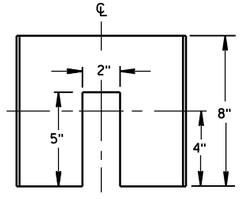
THE CONTRACTOR SHALL SUBMIT TWO COPIES OF ALL SHIM SHOP DRAWINGS TO THE ENGINEER FOR APPROVAL.

(15) LEVELING SHIMS, DESIGNED FOR THE PURPOSE, SHALL BE USED WHEN PLUMBING POLES. THE USE OF WASHERS IN LIEU OF PROPER LEVELING SHIMS IS NOT ACCEPTABLE. LEVELING SHIMS SHALL BE USED ONLY BETWEEN THE TOP OF THE CONCRETE BASE AND A METALLIC BASE PLATE.

SHIMS SHALL BE LONG ENOUGH AND WIDE ENOUGH TO COMPLETELY COVER THE AREA UNDER THE LENGTH AND WIDTH OF THE BASE MOUNTING FLANGE.



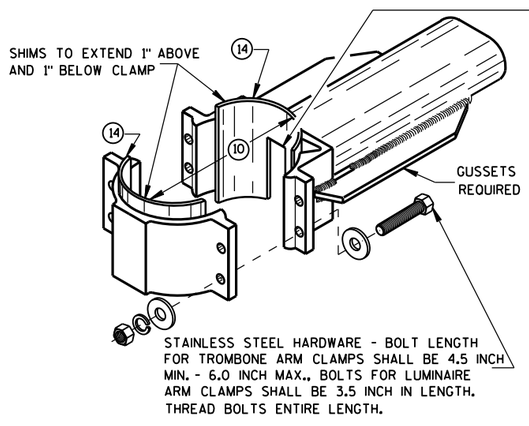
PLAN VIEW



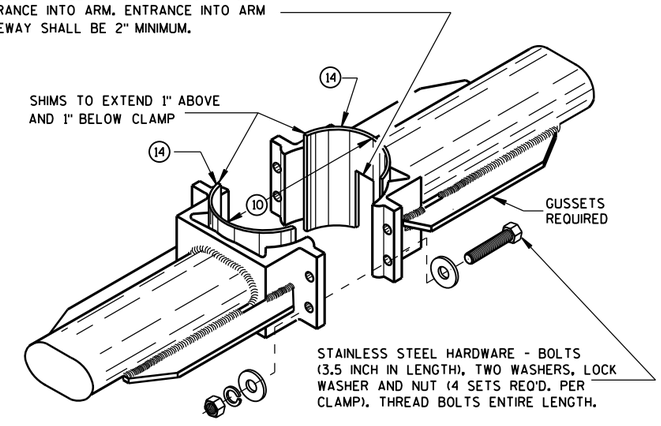
SECTION A-A

CIRCULAR CLAMP SHIM

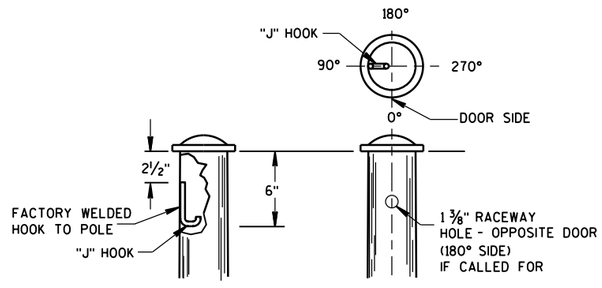
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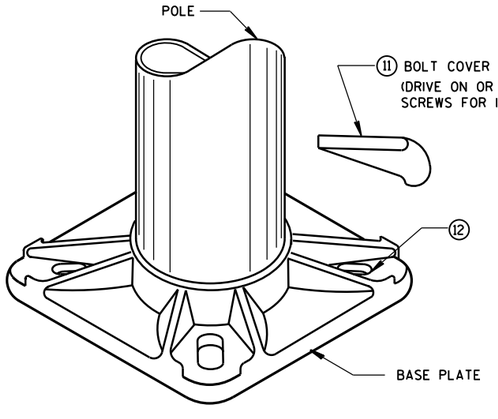
TYPICAL TROMBONE MAST ARM AND SINGLE LUMINAIRE MAST ARM MOUNTING CLAMP



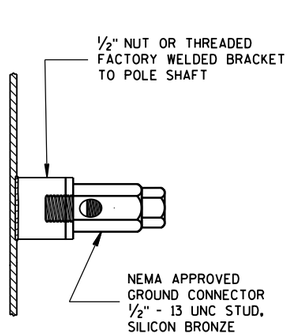
TYPICAL LUMINAIRE MAST ARM (DOUBLE) MOUNTING BRACKETS

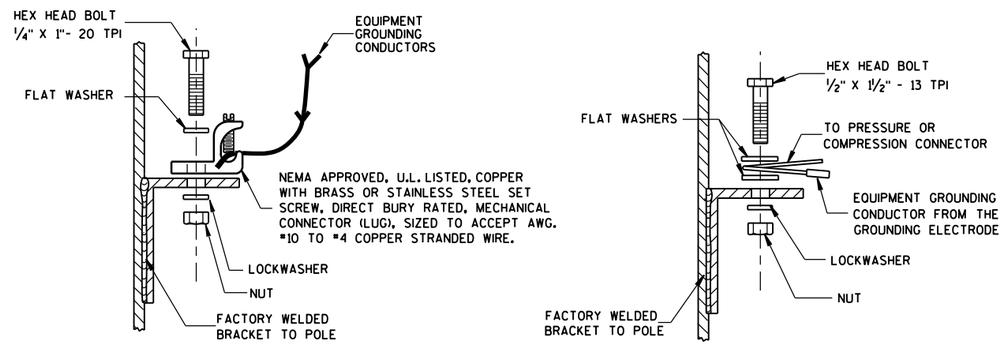


TYPICAL "J" HOOK LOCATION



BASE PLATE





TYPICAL GROUNDING CONNECTIONS

NUT, BOLT AND WASHERS SHALL BE STAINLESS STEEL

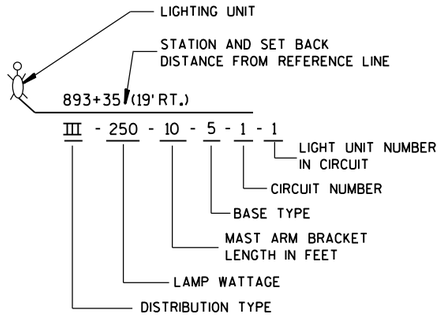
HARDWARE DETAILS FOR POLE MOUNTINGS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

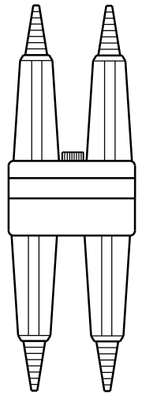
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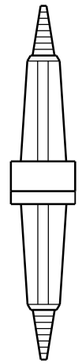
S.D.D. 9 E 1-13g



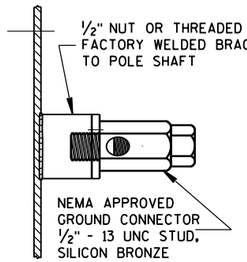
LIGHTING UNIT CODE
(TYPICAL)

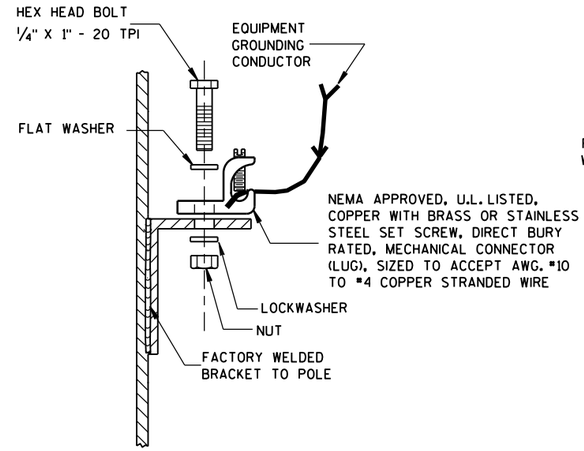


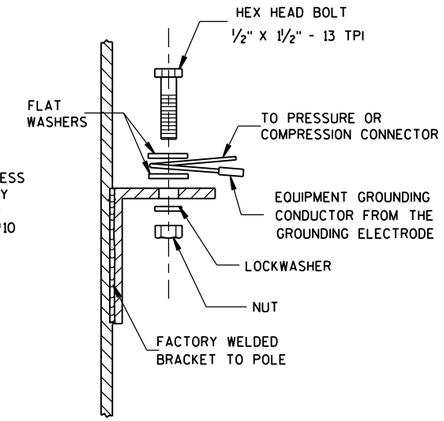
DETAIL "A"
BREAKAWY DOUBLE POLE WITH WATERPROOF INSULATING BOOT



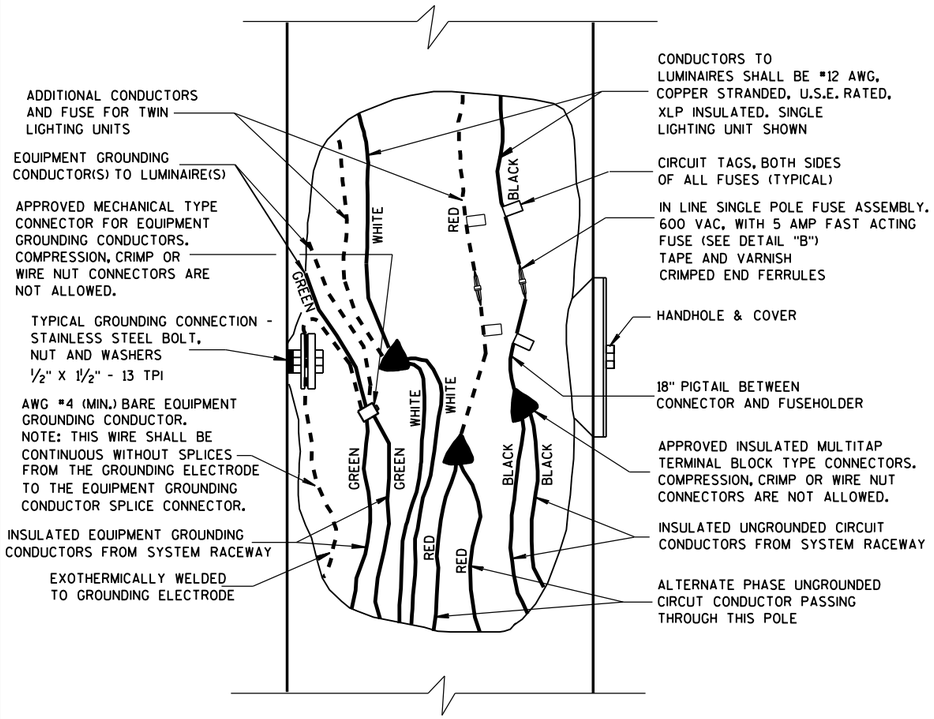
DETAIL "B"
BREAKAWY SINGLE POLE WITH WATERPROOF INSULATING BOOT



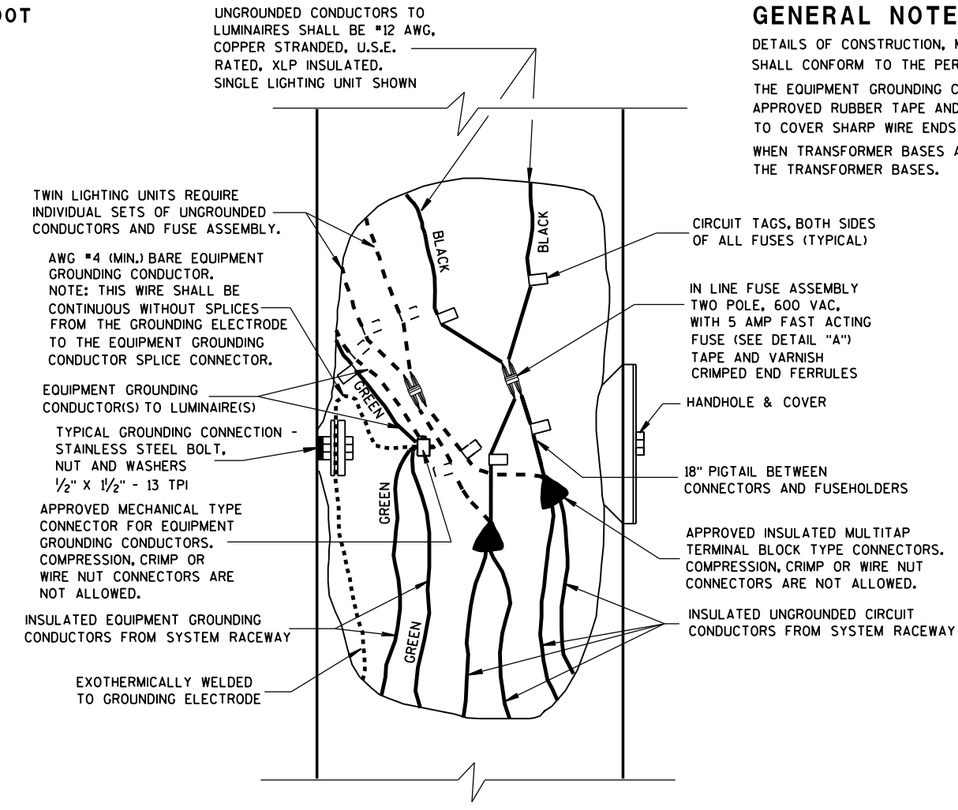




TYPICAL GROUNDING CONNECTIONS
NUT, BOLT, WASHERS AND LOCKWASHERS SHALL BE STAINLESS STEEL



3 WIRE - 120, 240 OR 480 VAC (UNGROUNDED CONDUCTOR) WITH GROUNDED CONDUCTOR AND WITH EQUIPMENT GROUNDING CONDUCTOR



2 WIRE - 240 OR 480 VAC (UNGROUNDED CONDUCTORS) WITH EQUIPMENT GROUNDING CONDUCTOR

GENERAL NOTES

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

THE EQUIPMENT GROUNDING CONNECTOR SHALL BE TAPED WITH 3 WRAPS (MINIMUM) OF APPROVED RUBBER TAPE AND THEN 3 WRAPS (MINIMUM) OF APPROVED VINYL TAPE TO COVER SHARP WIRE ENDS AFTER THE CONNECTION IS COMPLETED.

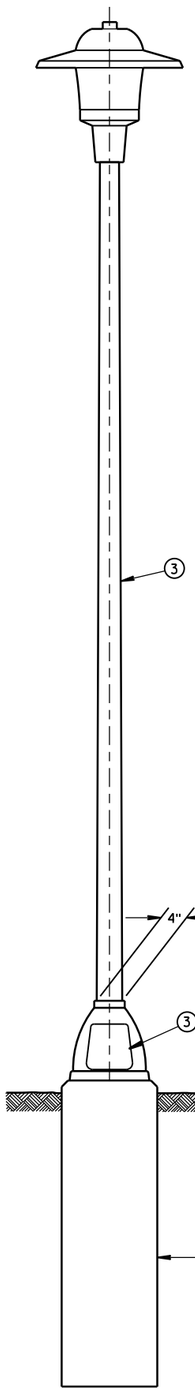
WHEN TRANSFORMER BASES ARE USED, ALL WIRING CONNECTIONS SHALL OCCUR WITHIN THE TRANSFORMER BASES.

NON-FREEWAY LIGHTING UNIT POLE WIRING

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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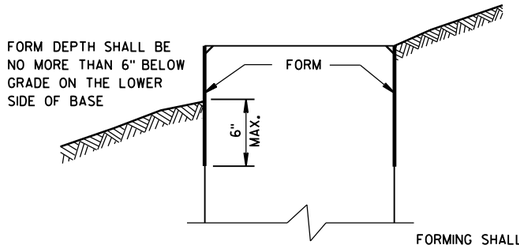


LUMINAIRE

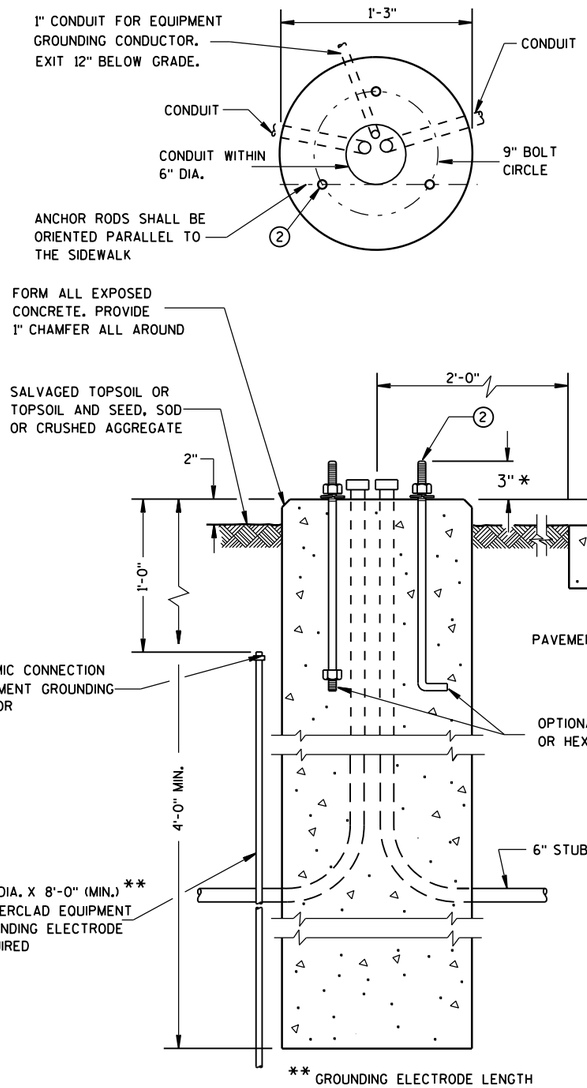
WT. = 50 LBS.
EFFECTIVE PROJECTED AREA
FOR WIND LOADING = 1.5 SQ. FT.

USE LUMINAIRE FROM DEPARTMENT APPROVED PRODUCTS LIST OR ENGINEER APPROVED EQUAL.

WALKWAY LIGHTING UNIT DETAIL



FORMING DETAIL



** GROUNDING ELECTRODE LENGTH MAY VARY, SEE SPECIAL PROVISIONS.

CONCRETE BASE, TYPE 11

GENERAL NOTES

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

CONCRETE BASES SHALL BE EXCAVATED BY USE OF A CIRCULAR AUGER.

TOP SURFACES OF CONCRETE BASES SHALL BE TROWEL FINISHED SMOOTH AND LEVEL.

CONDUIT RUNS, NUMBER OF CONDUITS IN EACH CONCRETE BASE AND CONDUIT SIZE IS AS SHOWN ON THE PLANS. THE 1-INCH CONDUIT IS USED IN ALL BASES.

MINIMUM BENDING RADIUS OF CONDUIT SHALL BE SIX TIMES THE DIAMETER OF THE CONDUIT.

CONDUIT HEIGHT ABOVE CONCRETE BASES SHALL BE 1-INCH. ALL METALLIC CONDUIT ENDS SHALL BE REAMED AND THREADED.

ALL METALLIC CONDUITS IN WHICH WIRE OR CABLE IS NOT TO BE INSTALLED SHALL BE CAPPED WITH THREADED PROTECTIVE CAPS, AS APPROVED BY THE ENGINEER.

BELL ENDS SHALL BE INSTALLED ON ALL PVC CONDUIT EXPOSED AT THE TOP OF THE CONCRETE BASE AND BEFORE INSTALLATION OF CABLE OR WIRE.

ALL CONDUIT ENDS AT THE TOP OF CONCRETE BASES SHALL BE CAPPED IF METALLIC OR PLUGGED IF NONMETALLIC IMMEDIATELY AFTER PLACEMENT AND BEFORE CONCRETE IS POURED. CONDUITS IN WHICH WIRE OR CABLE IS NOT INSTALLED SHALL REMAIN CAPPED OR PLUGGED.

ENDS OF CONDUIT INSTALLED BELOW GRADE FOR FUTURE USE SHALL BE CAPPED IF METALLIC OR PLUGGED IF NONMETALLIC.

WHEN REQUIRED TO CONNECT NONMETALLIC CONDUIT TO METALLIC CONDUIT, ONLY ADAPTER FITTINGS, U.L. LISTED FOR ELECTRICAL USE, SHALL BE USED.

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

THE EQUIPMENT GROUNDING CONDUCTOR SHALL BE NO. 4 AWG, BARE, STRANDED COPPER. IT SHALL BE EXOTHERMICALLY WELDED TO THE EQUIPMENT GROUNDING ELECTRODE. THE EQUIPMENT GROUNDING CONDUCTOR SHALL BE INSTALLED LEAVING A 2-FOOT LENGTH OF WIRE ABOVE THE CONCRETE BASE. THE 2-FOOT LENGTH OF EQUIPMENT GROUNDING CONDUCTOR ABOVE THE BASE SHALL BE NEATLY COILED AND THE COILS TIED TOGETHER.

ANCHOR RODS SHALL BE INSTALLED WITH MISALIGNMENTS OF LESS THAN 1:40 FROM VERTICAL PER SECTION 5.17.6.3, AASHTO 2001 4TH EDITION STANDARD SPECIFICATIONS FOR STRUCTURAL SUPPORTS FOR HIGHWAY SIGNS, LUMINARIES AND TRAFFIC SIGNALS.

* ANY ANCHOR ROD PROJECTION SHORTER THAN 2¾" OR LONGER THAN 3¼" SHALL REQUIRE THE BASE TO BE REMOVED AND REPLACED AT THE CONTRACTORS EXPENSE.

GENERAL NOTES (CONTINUED)

(1) DEPTH OF CONDUIT EXITING THE CONCRETE BASE AND INSTALLED BELOW THE TRAVELED WAY SHALL BE 24-INCHES MIN. DEPTH OF CONDUIT EXITING THE CONCRETE BASE THAT IS NOT INSTALLED BELOW THE TRAVELED WAY SHALL BE 18-INCHES MIN. DEPTH OF ALL CONDUITS SHALL NOT EXCEED 36-INCHES.

(2) THREE - ¾-INCH DIA. X 15-INCH ANCHOR RODS OR ¾-INCH DIA. X 19-INCH ANCHOR RODS INCLUDING THE 4-INCH "L" BEND. THE "L" BEND SHALL NOT BE THREADED. ANCHOR RODS SHALL BE MANUFACTURED IN ACCORDANCE WITH SECTION 654.2.1 AND 641.2.2 OF THE STANDARD SPECIFICATIONS.

(3) PEDESTAL BASE-STANDARD:

THE PEDESTAL BASE-STANDARD SHALL BE A ONE PIECE WELDED UNIT, WITH AN OVERALL HEIGHT OF TEN FEET.

THE POLE SHALL BE ROUND, TAPERED, ALUMINUM WITH A 3-INCH OUTSIDE DIAMETER TOP AND 0.125 INCH WALL THICKNESS.

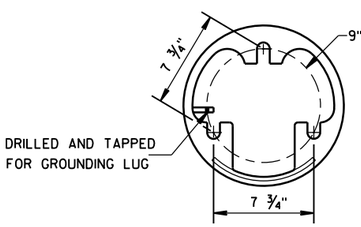
THE BELL SHAPED BASE SHALL BE 12 ½ INCHES IN DIAMETER AND HAVE A 9-INCH BOLT CIRCLE. ANCHOR RODS SHALL BE INCLUDED WITH THE BASE.

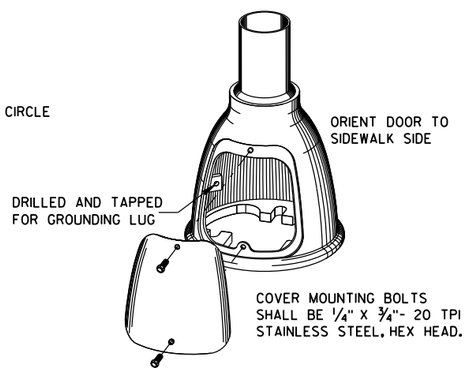
THE ACCESS DOOR OPENING SHALL BE APPROXIMATELY 7½ X 5¼ X 7½-INCHES.

THE FIXTURE AND PEDESTAL BASE-STANDARD SHALL BE PAINTED WITH AN EARTH COLORED THERMOSET POWDER COAT, ACRYLIC ENAMEL. THE ENAMEL SHALL BE FORMULATED TO SHOW NO APPRECIABLE FADING WITHIN FIVE YEARS.

GROUNDING LUGS (MECHANICAL CONNECTORS) SHALL BE U.L. LISTED BRASS OR COPPER TYPE. CONNECTION HARDWARE SHALL BE STAINLESS STEEL (BOLT, NUT, LOCKWASHER - ¼" X ¾" - 20 TPI).

ALL NONMETALLIC CONDUIT CUT ENDS SHALL BE TRIMMED INSIDE AND OUTSIDE TO REMOVE ALL ROUGH EDGES. (SEE NEC 347.5)





WALKWAY PEDESTAL BASE STANDARD DETAIL

WALKWAY LIGHTING UNIT AND CONCRETE BASE, TYPE 11

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

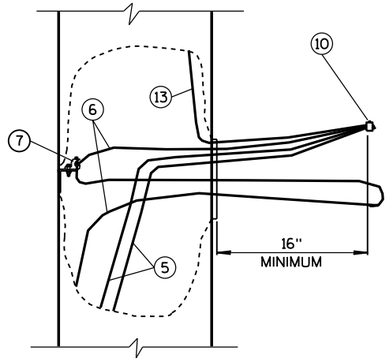
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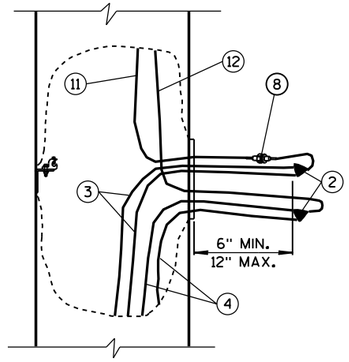
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S.D.D. 9 E 4-6

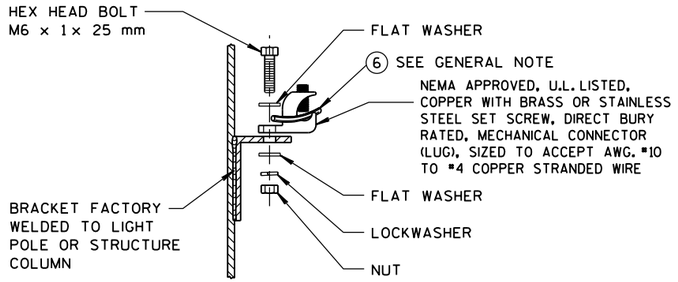


EQUIPMENT GROUNDING CONDUCTOR SLACK



UNGROUNDED CONDUCTOR SLACK (AND GROUNDED NEUTRAL SLACK IN GROUNDED NEUTRAL SYSTEM)

TYPICAL CONDUCTOR SLACK AT HANDHOLES



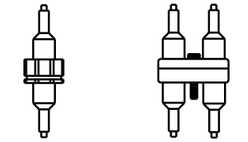
HANDHOLE GROUNDING LUG

(NUT, BOLT, WASHERS, AND LOCK WASHERS SHALL BE STAINLESS STEEL)

CONDUCTOR COLOR CODES

KEY	CONDUCTOR	COLOR
3	UNGROUNDED LINE WIRE	*
4	GROUNDED LINE WIRE	WHITE
5	SYSTEM GROUNDING LINE WIRE	GREEN
6	GROUNDING ELECTRODE CONDUCTOR	BARE
11	UNGROUNDED POLE WIRE	*
12	GROUNDED POLE WIRE	WHITE
13	EQUIPMENT GROUNDING POLE WIRE	GREEN

* FOLLOW COLOR CODING SHOWN IN THE PLANS. WHERE THE PLANS DO NOT SHOW COLOR CODING, USE BLACK FOR SINGLE LUMINAIRE POLES; BLACK AND RED FOR TWIN LUMINAIRE POLES.



1 POLE (1P) 2 POLE (2P)

FUSE ASSEMBLIES

GENERAL NOTES

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

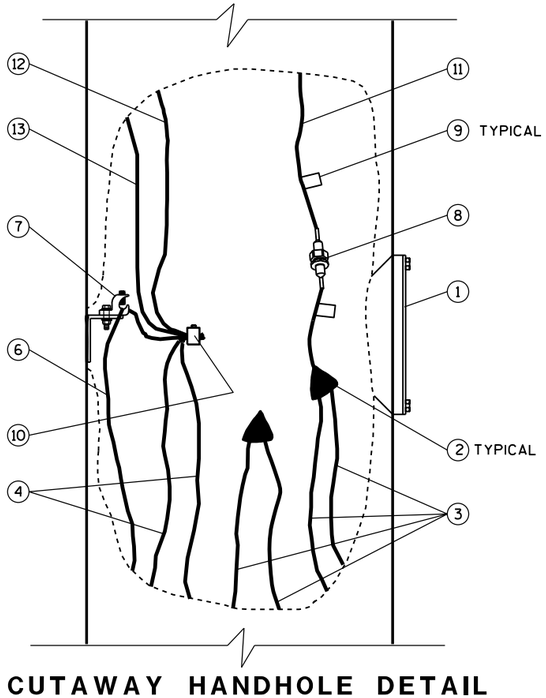
USE THIS DETAIL IN CONJUNCTION WITH THE ELECTRICAL DETAILS FOR THE APPLICATION, WHICH MAY BE A LIGHT POLE, SIGN BRIDGE, ETC.

THE GROUNDING ELECTRODE CONDUCTOR SHALL BE CONTINUOUS WITHOUT SPLICES FROM THE GROUNDING ELECTRODE THROUGH THE HANDHOLE GROUNDING LUG TO THE CONNECTOR.

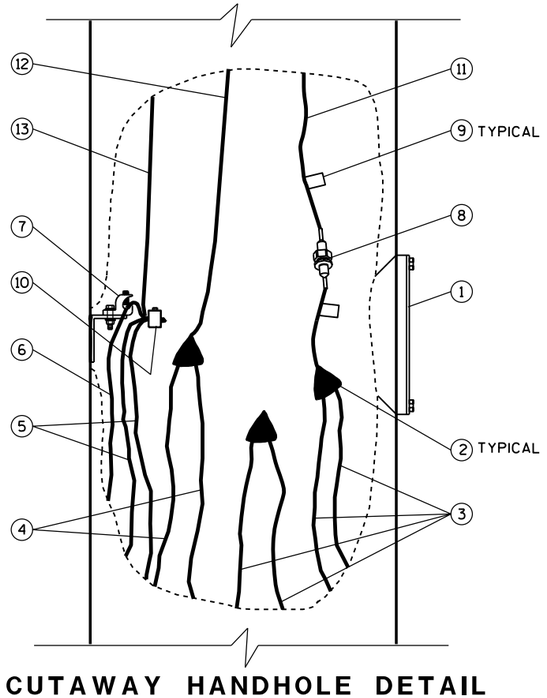
THREE POLE WIRES ARE SHOWN FOR A SINGLE LUMINAIRE LIGHT POLE. THREE ADDITIONAL POLE WIRES REQUIRED FOR TWIN LUMINAIRE LIGHT POLES ARE OMITTED FROM THE DRAWING FOR CLARITY. IN THE TWIN POLE CASE, BUNDLE EACH SET OF THREE WIRES WITH A NYLON CABLE TIE.

IN 3-PHASE SYSTEMS, THERE WILL BE ONE MORE UNGROUNDED LINE WIRE, WHICH IS OMITTED FROM THE DRAWING FOR CLARITY.

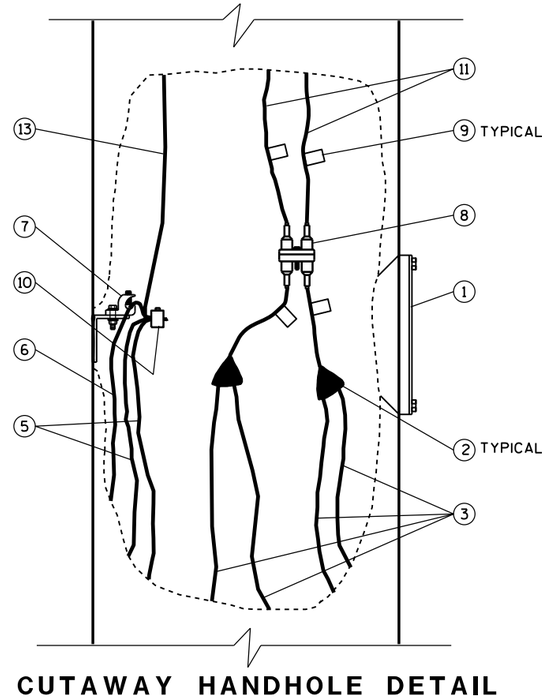
CIRCUIT TAGS SHALL BE INSTALLED ONLY WHERE REQUIRED IN THE SPECIAL PROVISIONS.



CUTAWAY HANDHOLE DETAIL
GROUNDED NEUTRAL SYSTEMS
1-Φ



CUTAWAY HANDHOLE DETAIL
ISOLATED NEUTRAL SYSTEMS
1-Φ SHOWN; 3-Φ WYE SIMILAR
(SEE GENERAL NOTE)



CUTAWAY HANDHOLE DETAIL
PHASE-TO-PHASE SYSTEMS
1-Φ SHOWN; 3-Φ DELTA SIMILAR
(SEE GENERAL NOTE)

NOTE: REQUIRED CONDUCTOR SLACK NOT SHOWN ON "CUTAWAY HAND HOLE" DETAILS FOR DRAWING CLARITY, SEE "TYPICAL CONDUCTOR SLACK AT HANDHOLES" ON THIS SHEET.

1. HANDHOLE AND COVER
2. INSULATED SPLICE
3. UNGROUNDED LINE WIRE
4. GROUNDED LINE WIRE
5. SYSTEM GROUNDING LINE WIRE
6. GROUNDING ELECTRODE CONDUCTOR
7. HANDHOLE GROUNDING LUG
8. FUSE ASSEMBLY, 1P OR 2P AS REQUIRED
9. CIRCUIT TAG (SEE GENERAL NOTE)
10. REVERSIBLE PRESSURE OR COMPRESSION GROUNDING CONNECTOR (NOT INSULATED)
11. UNGROUNDED POLE WIRE
12. GROUNDED POLE WIRE
13. EQUIPMENT GROUNDING POLE WIRE

ELECTRICAL HANDHOLE WIRING

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
Sept. 2014 — DATE
/S/ Ahmet Demirbilek — STATE ELECTRICAL
FHWA

6

S.D.D. 10 A 1-3

GENERAL NOTES

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

USE THIS DETAIL IN CONJUNCTION WITH THE DETAIL FOR ELECTRICAL HANDHOLE WIRING.

THE GROUNDING ELECTRODE CONDUCTOR SHALL BE CONTINUOUS WITHOUT SPLICES FROM THE GROUNDING ELECTRODE THROUGH THE HANDHOLE GROUNDING LUG TO THE CONNECTOR.

WIRING FOR SINGLE LUMINAIRE POLES IS SHOWN WITH SOLID LINES. WIRING FOR THE SECOND LUMINAIRE OF TWIN LUMINAIRE POLES IS SHOWN WITH DOTTED LINES.

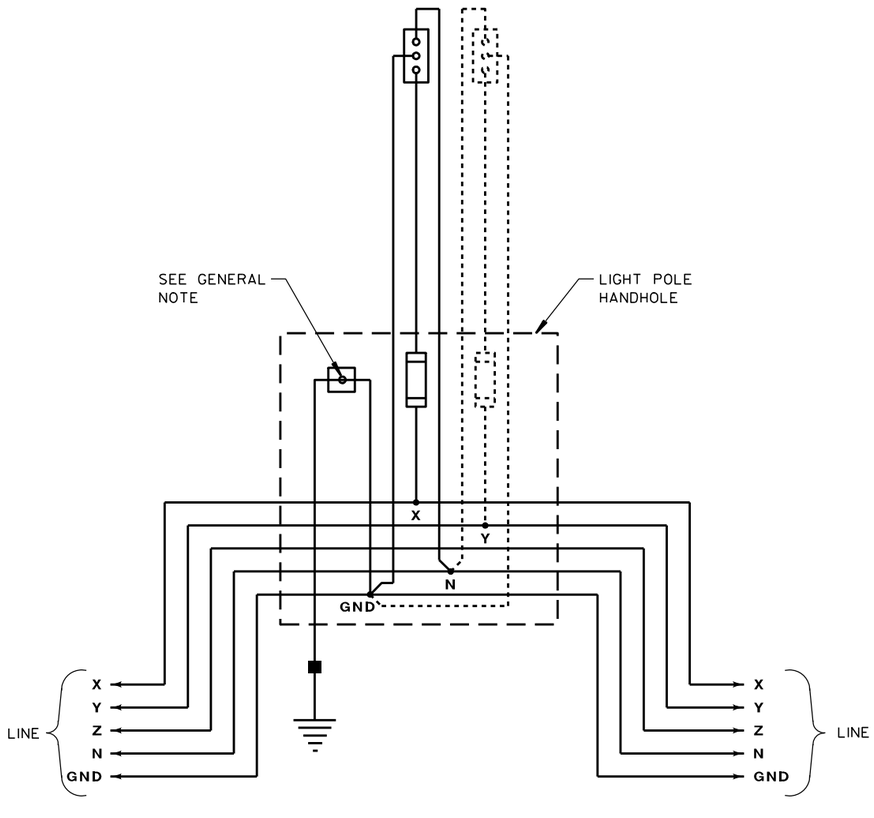
THE PLANS WILL SHOW WHICH CIRCUIT LEG(S) ARE CONNECTED TO EACH INSTALLATION.

HANDHOLE FUSE SCHEDULES

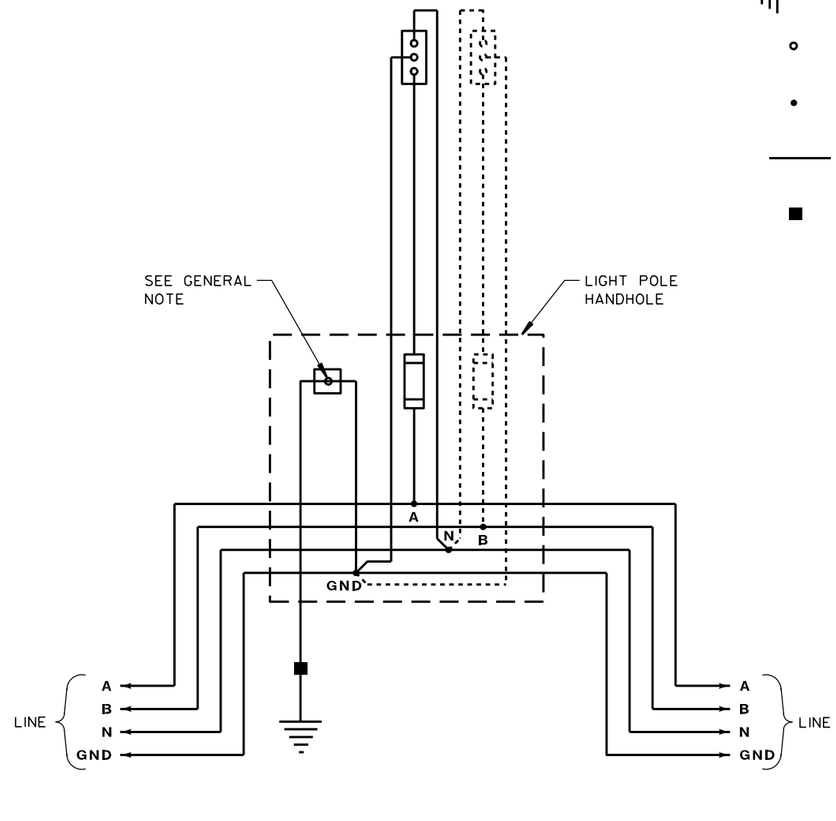
LINE VOLTAGE	BALLAST WATTAGE	
φ-GROUND	70-200 W	250-400 W
120 VAC	5 A	10 A
240 VAC	5 A	5 A
277 VAC	5 A	5 A
480 VAC	3 A	5 A

LEGEND

A,B,X,Y,Z	UNGROUNDED CIRCUIT CONDUCTORS
N	GROUNDED CIRCUIT CONDUCTORS
GND	EQUIPMENT GROUNDING CONDUCTOR
P	POLE (ELECTRICAL CIRCUIT)
φ	PHASE (ELECTRICAL CURRENT)
	HANDHOLE GROUND LUG
	SINGLE-POLE (1P) FUSE ASSEMBLY
	TWO-POLE (2P) FUSE ASSEMBLY
	UNFUSED LUMINAIRE
	EQUIPMENT GROUNDING ELECTRODE
	TERMINAL
	SPLICE
	CONDUCTOR
	EXOTHERMIC WELD



TYPICAL WIRING DIAGRAM
ISOLATED NEUTRAL SYSTEM
3-φ 208Y/120VAC OR 480Y/277VAC 4 WIRE



TYPICAL WIRING DIAGRAM
ISOLATED NEUTRAL SYSTEM
1-φ 120/240VAC OR 240/480VAC 3 WIRE

ELECTRICAL DETAILS
GROUND MOUNT LIGHT POLES
ISOLATED NEUTRAL SYSTEM

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
10/25/2010 DATE
/S/ John Corbin
STATE ELECTRICAL ENGI
FHWA

HWYS

6

S.D.D. 10 A 5-2

6

S.D.D. 10 A 5-2

HANDHOLE FUSE SCHEDULES

LINE VOLTAGE φ-GROUND	BALLAST WATTAGE	
	70-200 W	250-400 W
120 VAC	5 A	10 A
240 VAC	5 A	5 A
277 VAC	5 A	5 A
480 VAC	3 A	5 A

GENERAL NOTES

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

USE THIS DETAIL IN CONJUNCTION WITH THE DETAIL FOR ELECTRICAL HANDHOLE WIRING.

WIRING FOR SINGLE LUMINAIRE POLES IS SHOWN WITH SOLID LINES. WIRING FOR THE SECOND LUMINAIRE OF TWIN LUMINAIRE POLES IS SHOWN WITH DOTTED LINES.

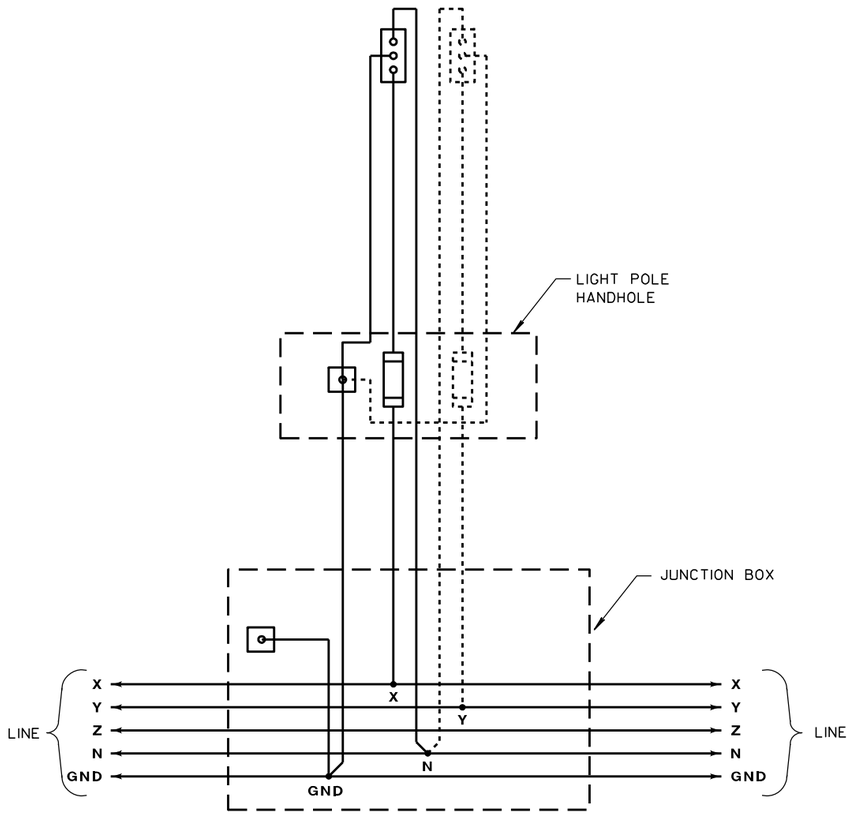
THE PLANS WILL SHOW WHICH CIRCUIT LEG(S) ARE CONNECTED TO EACH INSTALLATION.

WIRE SIZE FROM THE JUNCTION BOX TO THE POLE HANDHOLE SHALL EQUAL THE SIZE OF THE POLE WIRE.

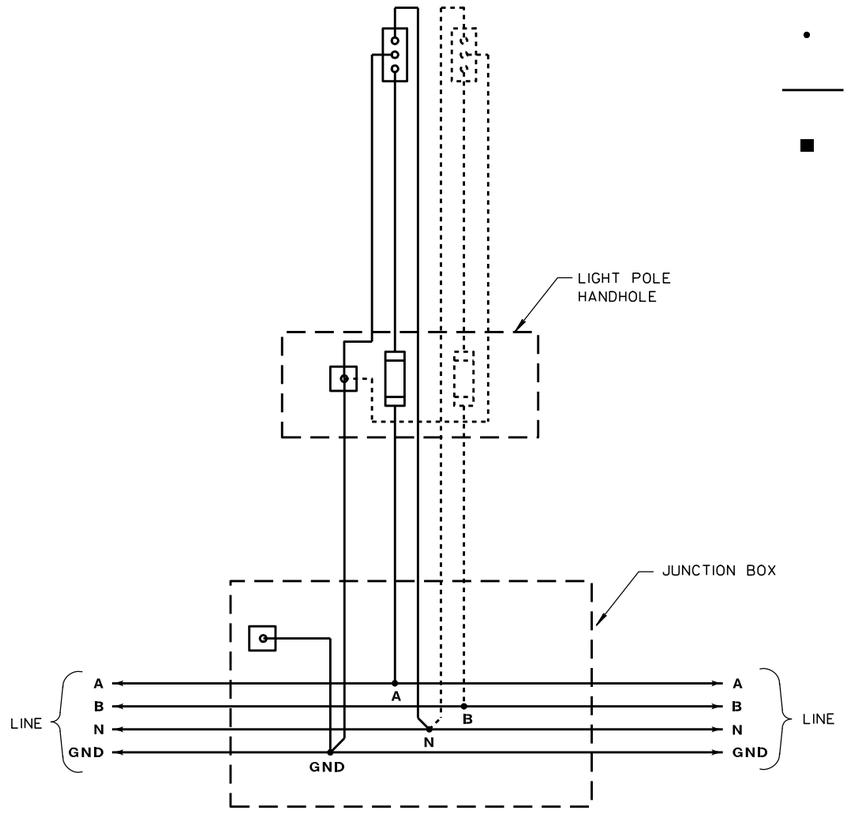
THE INTENT OF JUNCTION BOX SPLICES AS SHOWN IN THIS DETAIL IS FOR LIGHTING SYSTEMS WITH HEAVY LINE WIRE TOO LARGE TO PULL THROUGH THE CONDUIT INTO THE POLE HANDHOLE, DUE TO CONDUIT FILL REQUIREMENTS OF N.E.C., AND/OR THE STIFFNESS OF THE WIRE COMPARED TO THE NUMBER OF BENDS IN THE CONDUIT. IN CASES WHERE LINE WIRE IS LIGHTER, SUCH AS SMALLER SYSTEMS OR TOWARD THE FURTHEST END OF A LARGER SYSTEM, PULL THE LINE WIRE INTO THE POLE HANDHOLE FOR SPLICING.

LEGEND

A,B,X,Y,Z	UNGROUNDED CIRCUIT CONDUCTORS
N	GROUNDED CIRCUIT CONDUCTORS
GND	EQUIPMENT GROUNDING CONDUCTOR
P	POLE (ELECTRICAL CIRCUIT)
φ	PHASE (ELECTRICAL CURRENT)
	HANDHOLE GROUND LUG
	SINGLE-POLE (1P) FUSE ASSEMBLY
	TWO-POLE (2P) FUSE ASSEMBLY
	UNFUSED LUMINAIRE
	EQUIPMENT GROUNDING ELECTRODE
	TERMINAL
	SPLICE
	CONDUCTOR
	EXOTHERMIC WELD



TYPICAL WIRING DIAGRAM
ISOLATED NEUTRAL SYSTEM
3-φ 208Y/120VAC OR 480Y/277VAC 4 WIRE



TYPICAL WIRING DIAGRAM
ISOLATED NEUTRAL SYSTEM
1-φ 120/240VAC OR 240/480VAC 3 WIRE

ELECTRICAL DETAILS
STRUCTURE MOUNT LIGHT POLES
ISOLATED NEUTRAL SYSTEMS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

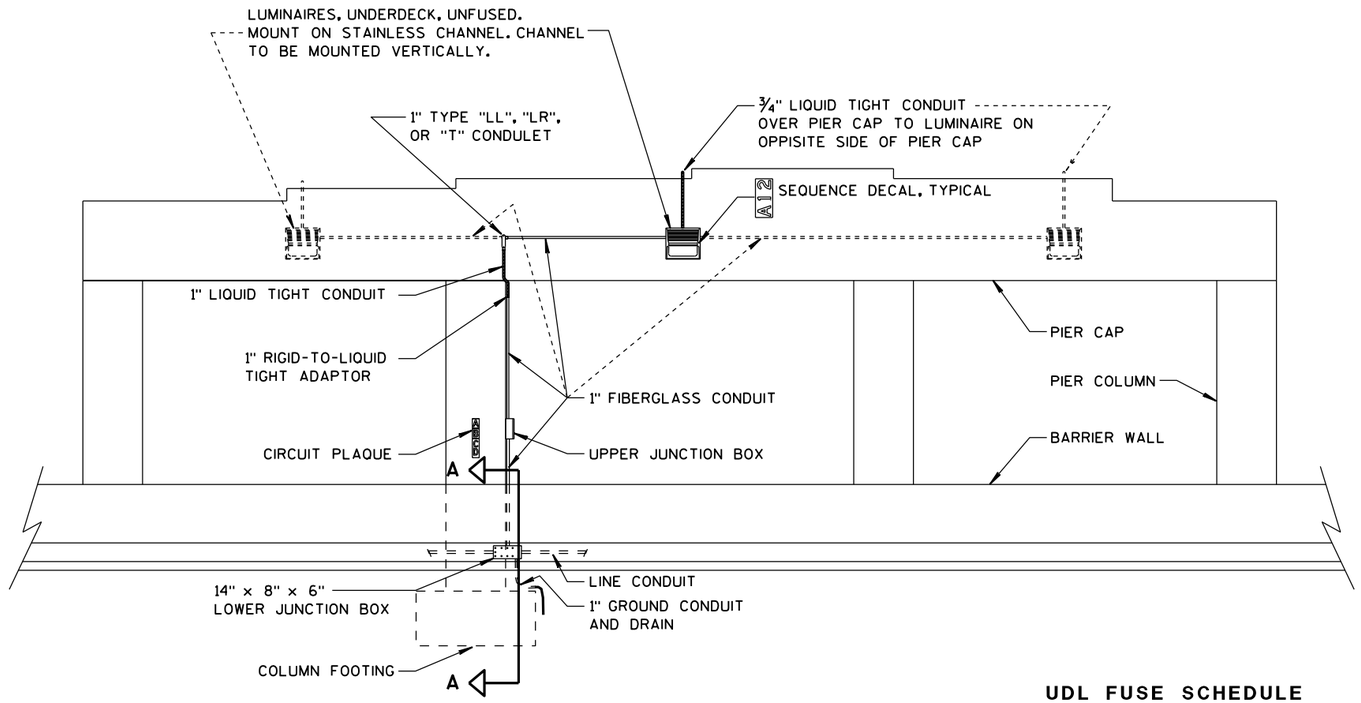
APPROVED
10/25/2010 — DATE
/S/ John Corbin — STATE ELECTRICAL ENGI
158
HWYS
FHWA

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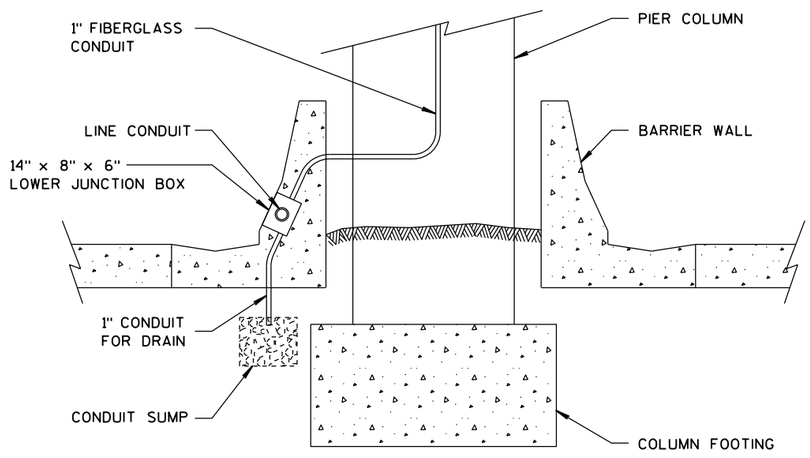
S.D.D. 10 A 8-2

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S.D.D. 10 A 8-2



TYPICAL UNDERDECK LIGHTING INSTALLATION



SECTION "A-A"

UDL FUSE SCHEDULE

LINE VOLTAGE ϕ-GROUND	TOP JUNCTION BOX FUSES
120VAC	5 A
208VAC	5 A
240VAC	5 A
480VAC	3 A

GENERAL NOTES

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

USE THIS DETAIL IN CONJUNCTION WITH THE DETAIL FOR ELECTRICAL HANDHOLE WIRING, SUBSTITUTING THE LOWER JUNCTION BOX FOR THE HANDHOLE SHOWN IN THAT DETAIL.

THE PLANS WILL SHOW WHICH CIRCUIT LEGS(S) ARE CONNECTED TO EACH INSTALLATION AND THE REQUIRED NUMBER OF LUMINAIRES.

THE UPPER JUNCTION BOX (FOR FUSE ASSEMBLIES) SHALL CONFORM TO THE APPLICABLE PROVISIONS OF SECTION 653.2.2 OF THE STANDARD SPECIFICATIONS; SHALL BE SUITABLE FOR SURFACE MOUNTING WITH EXTERNAL MOUNTING LUGS; AND SHALL HAVE A HINGED COVER, WING-NUT FASTENERS, AND PADLOCK HASP. ALL HARDWARE SHALL BE STAINLESS STEEL. FURNISH O-Z/GEDNEY YW-120603, SPRING CITY HC-12-06-04, CROUSE-HINDS WTB-120604, OR APPROVED EQUAL.

MEDIAN CONFIGURATIONS VARY; NOT ALL CASES CAN BE SHOWN IN THIS DETAIL.

WIRING FOR THE FIRST LUMINAIRE PAIR IS SHOWN IN SOLID LINES. WIRING FOR ADDITIONAL LUMINAIRE PAIRS, WHERE REQUIRED, IS SHOWN IN DOTTED LINES.

LEGEND

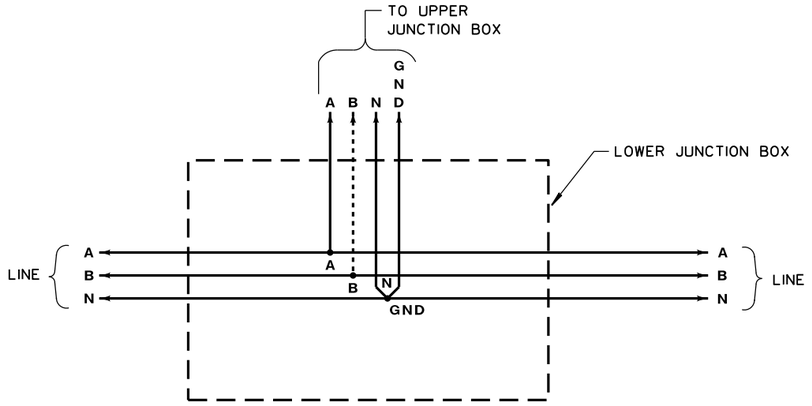
A,B,X,Y,Z	UNGROUNDED CIRCUIT CONDUCTORS
N	GROUNDED CIRCUIT CONDUCTORS
GND	EQUIPMENT GROUNDING CONDUCTOR
P	POLE (ELECTRICAL CIRCUIT)
ϕ	PHASE (ELECTRICAL CURRENT)
	HANDHOLE GROUND LUG
	UNFUSED LUMINAIRE
	SINGLE POLE (1P) FUSE ASSEMBLY
	TERMINAL
	SPLICE
	CONDUCTOR

ELECTRICAL DETAILS
UNDERDECK LIGHTING

STATE OF WISCONSIN
DEPARTMENT OF TRANSPO

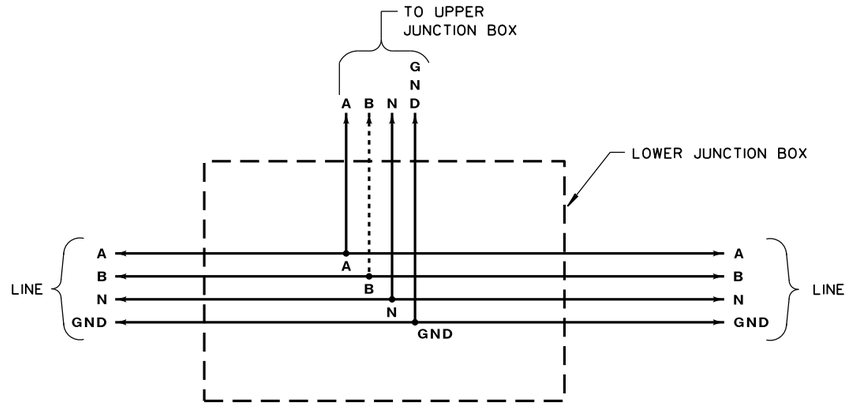
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S.D.D. 10 A 15-4a



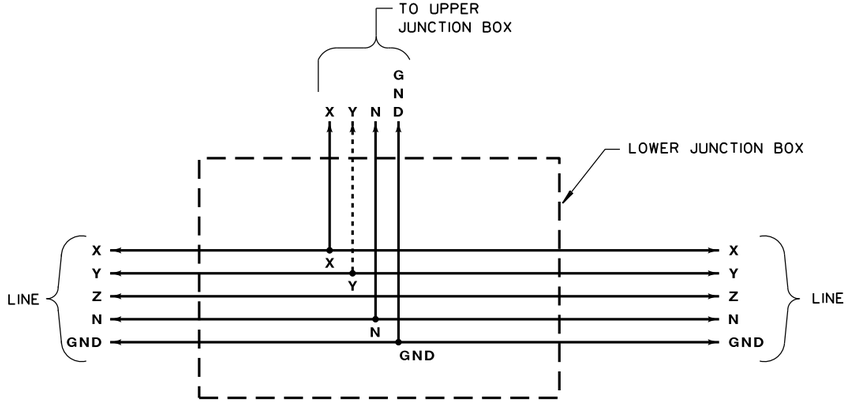
TYPICAL WIRING DIAGRAM, LOWER JUNCTION BOX

GROUNDED NEUTRAL SYSTEM
1-ϕ 240/480VAC OR 3 WIRE OR 480VAC 2 WIRE



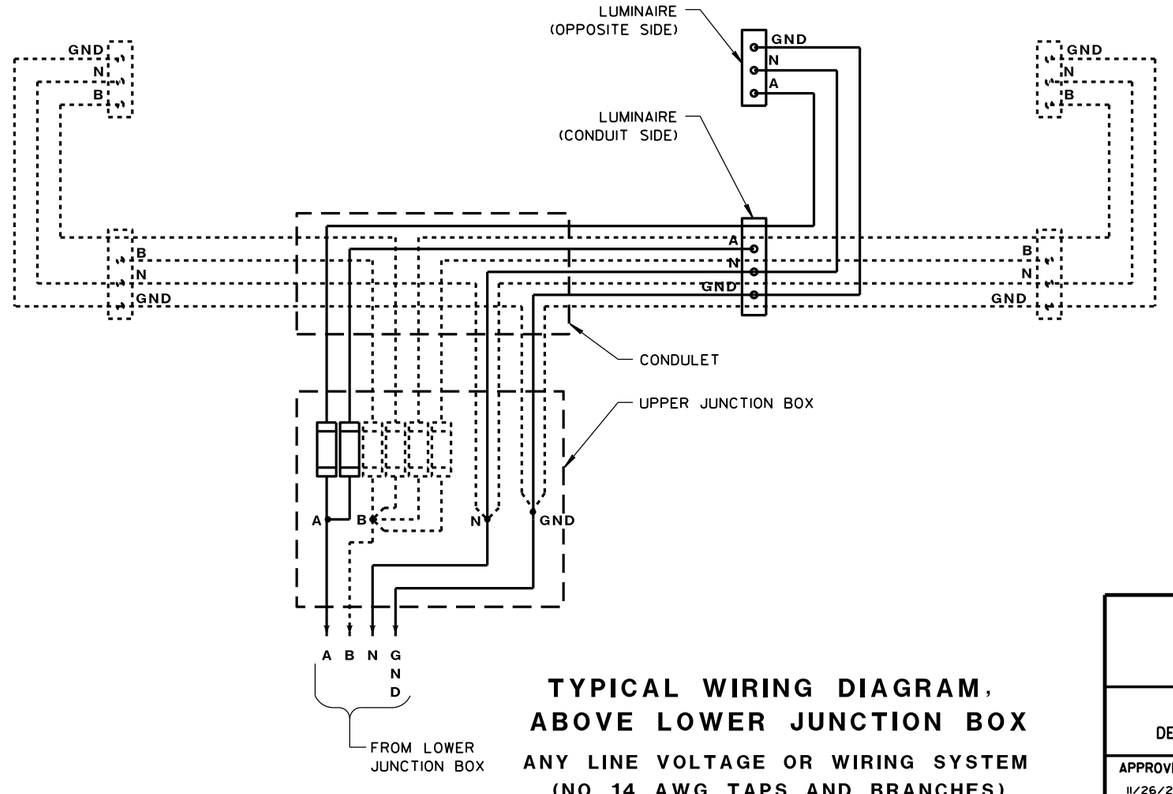
TYPICAL WIRING DIAGRAM, LOWER JUNCTION BOX

ISOLATED NEUTRAL SYSTEM
1-ϕ 120/240VAC OR 240/480VAC 3 WIRE



TYPICAL WIRING DIAGRAM, LOWER JUNCTION BOX

ISOLATED NEUTRAL SYSTEM
3-ϕ 208Y/120VAC OR 480Y/277VAC 4 WIRE



TYPICAL WIRING DIAGRAM, ABOVE LOWER JUNCTION BOX

ANY LINE VOLTAGE OR WIRING SYSTEM
(NO. 14 AWG TAPS AND BRANCHES)

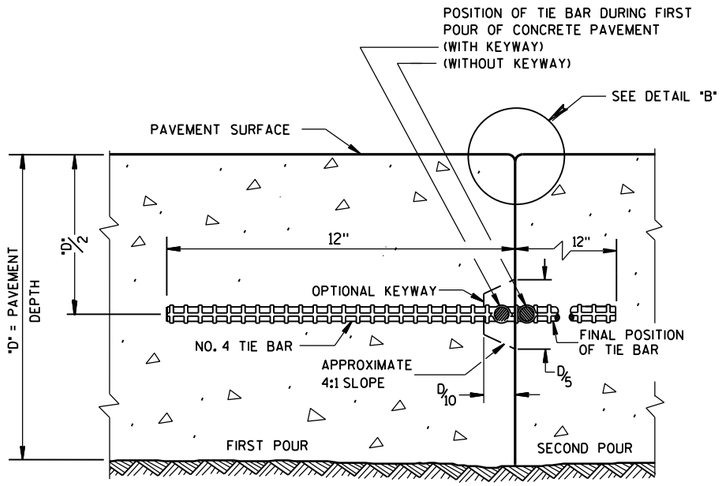
ELECTRICAL DETAILS
UNDERDECK LIGHTING

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

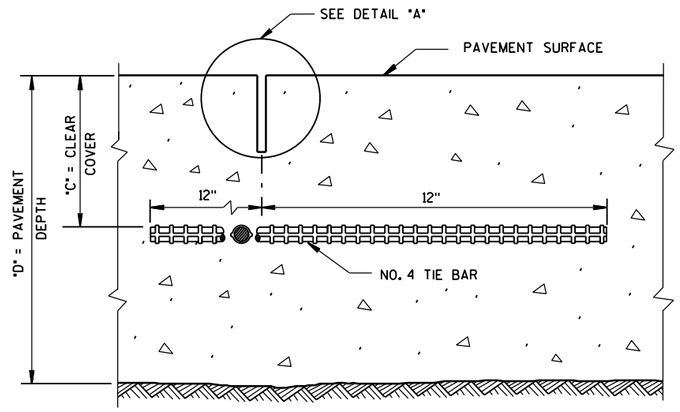
APPROVED
11/26/2013 — DATE
/S/ Ahmet Demirbilek — STATE ELECTRICAL
FHWA

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S.D.D. 10 A 15-4b



CONSTRUCTION JOINT



SAWED JOINT

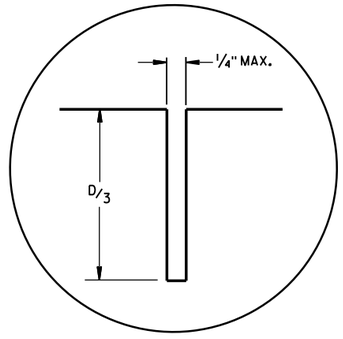
GENERAL NOTES

DO NOT SEAL OR FILL LONGITUDINAL JOINTS.

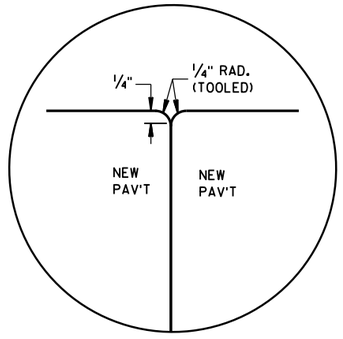
CREATE A LONGITUDINAL JOINT FOR PAVEMENT WIDTHS GREATER THAN 15 FEET.

CORRELATE LONGITUDINAL JOINTS WITH LANE LINES WHEN POSSIBLE.

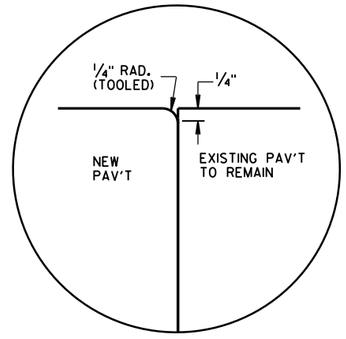
(1) ANCHOR TIE BARS INTO DRILLED HOLES WITH AN EPOXY.



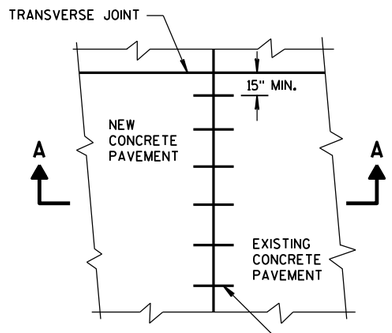
DETAIL "A"



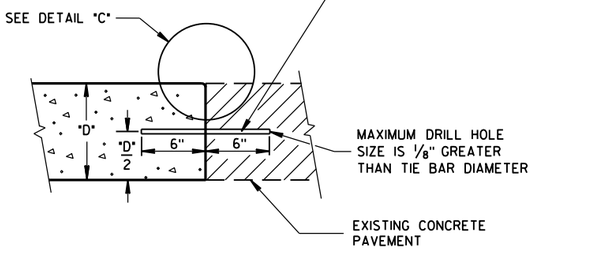
DETAIL "B"



DETAIL "C"



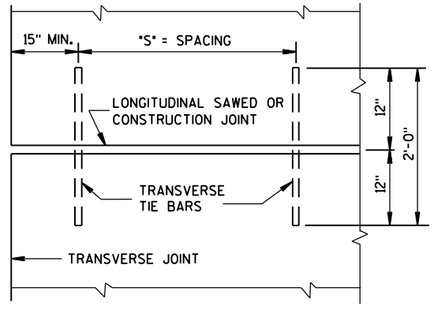
PLAN VIEW



SECTION A-A
LONGITUDINAL CONSTRUCTION JOINT TIE BARS ANCHORED INTO EXISTING PAVEMENT

TIE BAR TABLE

PAVEMENT DEPTH "D"	CLEAR COVER "C"	MAXIMUM TIE BAR SPACING "S"	
		PAVEMENT WIDTH	
		24' OR 26'	≥30'
6, 6 1/2"	3"±1/2"	48"	42"
7, 7 1/2"	3 1/4"±1"	45"	36"
8, 8 1/2"	3 3/4"±1"	39"	30"
9, 9 1/2"	4 1/4"±1"	33"	27"
10, 10 1/2"	4 3/4"±1"	30"	24"
11, 11 1/2"	5 1/4"±1"	27"	21"
12"	5 3/4"±1"	24"	21"



PLAN VIEW
SHOWING LOCATION OF TIE BARS

CONCRETE PAVEMENT LONGITUDINAL JOINTS AND TIES

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

9/2014 DATE

/S/ Deb Bischoff
PAVEMENT POLICY & DE ...NEER

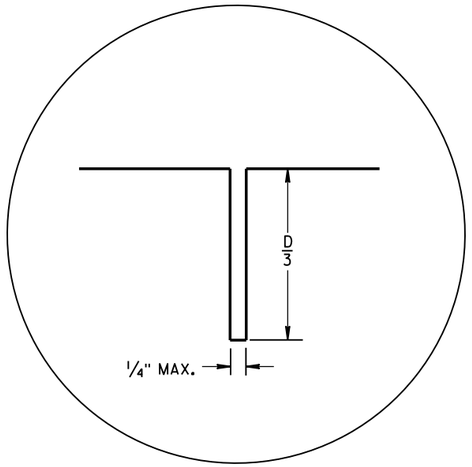
FHWA

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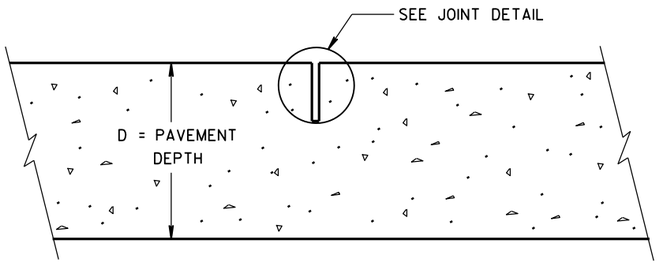
S.D.D. 13 C 1-17

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S.D.D. 13 C 1-17



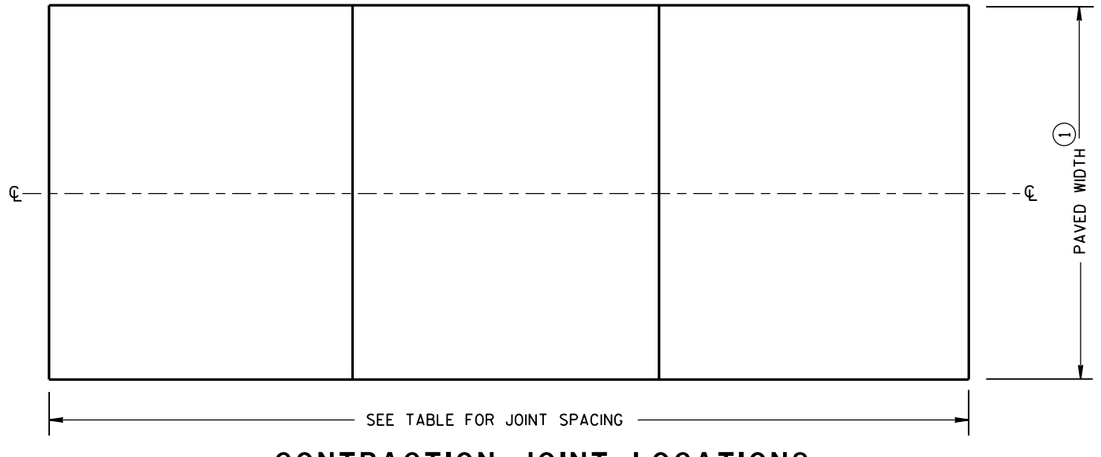
JOINT DETAIL



CONTRACTION JOINT

PAVEMENT DEPTH AND JOINT SPACING TABLE

PAVEMENT DEPTH (D)	CONTRACTION JOINT SPACING
6", 6 1/2"	12'
7", 7 1/2"	14'
8" & ABOVE	15'



CONTRACTION JOINT LOCATIONS

GENERAL NOTES

CONTRACTION JOINTS

CONSTRUCT TRANSVERSE CONTRACTION JOINTS NORMAL TO THE CENTERLINE.

LOCATE AND ORIENT CONTRACTION JOINTS THROUGH INTERSECTIONS AS SHOWN ON THE PLANS OR AS DIRECTED BY THE ENGINEER.

DO NOT SEAL OR FILL CONTRACTION JOINTS.

CONSTRUCTION JOINTS

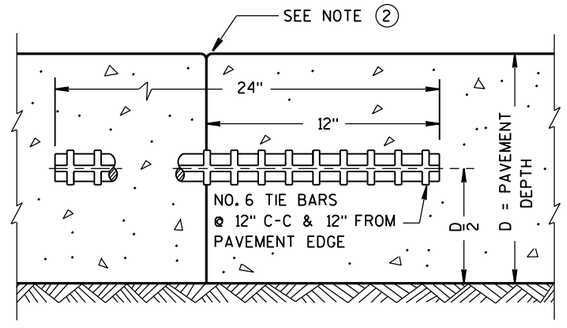
LOCATE CONSTRUCTION JOINTS A MINIMUM OF 6 FEET FROM THE NEAREST CONTRACTION JOINT AND ALIGN PARALLEL TO THE CONTRACTION JOINTS.

FORM OR SAW CONSTRUCTION JOINTS.

THE CONTRACTOR MAY INSERT TIE BARS THROUGH THE HEADER BOARD AFTER THE CONCRETE HAS BEEN PLACED.

(1) REFER TO TYPICAL CROSS SECTIONS FOR PAVED WIDTH AND LOCATION OF LONGITUDINAL JOINTS.

(2) PROVIDE A SMOOTH VERTICAL FACE FOR THE ENTIRE DEPTH OF THE PAVEMENT WHEN FORMING CONSTRUCTION JOINTS. PROVIDE A 1/4-INCH RADIUS AT FORMED JOINTS.



TIED TRANSVERSE CONSTRUCTION JOINT

6

6

S.D.D. 13 C 4-16

S.D.D. 13 C 4-16

URBAN NON-DOWELED CONCRETE PAVEMENT

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
5-3-2013
DATE
/S/ Deb Bischoff
PAVEMENT POLICY & DE
IEER
FHWA

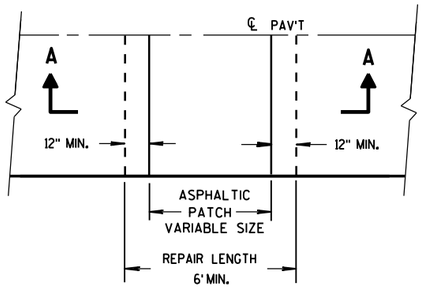
GENERAL NOTES

SAW CUT, DRILL, AND LIFT OUT EXISTING CONCRETE PAVEMENT WITHIN THE BOUNDARIES OF CONCRETE REPAIR AREAS. THE CONTRACTOR MAY MAKE ADDITIONAL SAW CUTS INSIDE THE REPAIR LIMITS TO REDUCE WEIGHT AND SIZE OF CONCRETE PIECES. ADDITIONAL SAW CUTS ARE NOT PAID FOR BY THE DEPARTMENT.

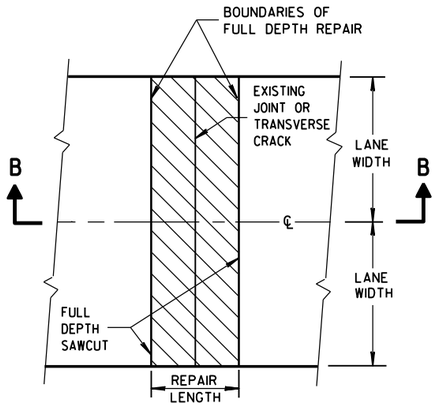
PROVIDE A 6-FOOT MINIMUM DISTANCE FROM BOUNDARIES OF CONCRETE REPAIR AREAS TO ADJACENT TRANSVERSE JOINT OR CRACK IN THE SAME LANE.

THE LENGTH OF THE REPAIRS MAY VARY FROM THE DIMENSIONS SHOWN IF THE EXISTING CONCRETE PAVEMENT IS NONDOWELED AND THE PAVEMENT IS TO BE OVERLAID AFTER REPAIRING.

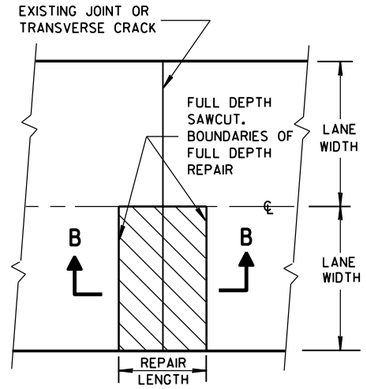
(1) DOWEL BARS MIGHT NOT EXIST.



PLAN VIEW



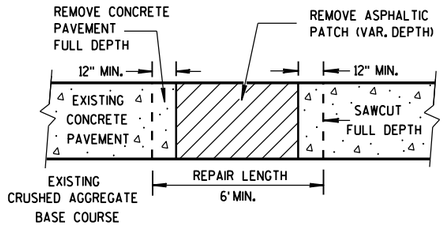
PLAN VIEW
(DOUBLE LANE REPAIR)



PLAN VIEW
(SINGLE LANE REPAIR)

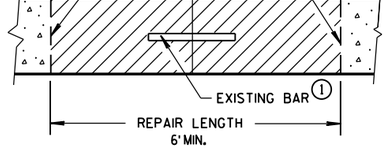
FULL DEPTH CONCRETE PAVEMENT REMOVAL

(SEE NOTE)



SECTION A-A

HMA PATCH REMOVAL



SECTION B-B

CONCRETE REMOVAL

CONCRETE PAVEMENT REPAIR AND REPLACEMENT

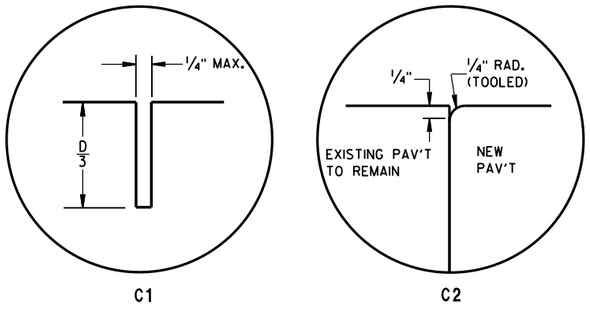
STATE OF WISCONSIN
DEPARTMENT OF TRANSPO

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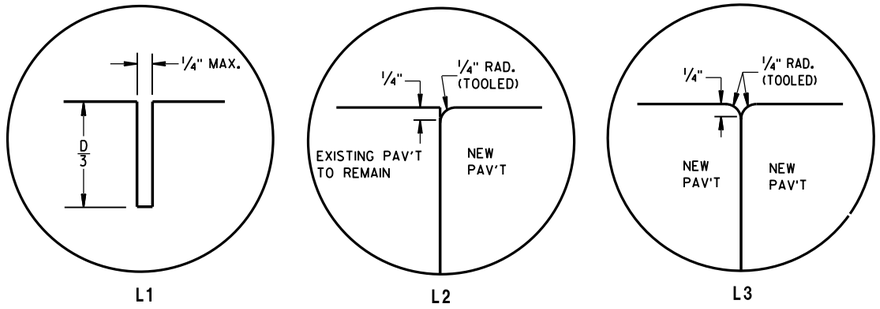
S.D.D. 13 C 9-11a



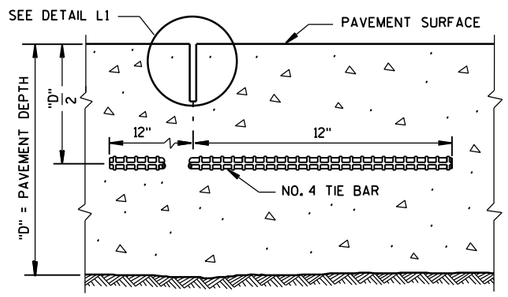
TRANSVERSE JOINTS

TIE BAR TABLE

PAVEMENT DEPTH "D"	CLEAR COVER "C"	MAXIMUM TIE BAR SPACING "S"	
		PAVEMENT WIDTH	
		24' OR 26'	≥ 30'
6, 6 1/2"	3"±1/2"	48"	42"
7, 7 1/2"	3 1/4"±1"	45"	36"
8, 8 1/2"	3 3/4"±1"	39"	30"
9, 9 1/2"	4 1/4"±1"	33"	27"
10, 10 1/2"	4 3/4"±1"	30"	24"
11, 11 1/2"	5 1/4"±1"	27"	21"
12"	5 3/4"±1"	24"	21"



LONGITUDINAL JOINTS



SECTION C-C

SAWED LONGITUDINAL JOINT

GENERAL NOTES

INSTALL DOWEL BARS PARALLEL TO THE PAVEMENT CENTERLINE AND PAVEMENT SURFACE.

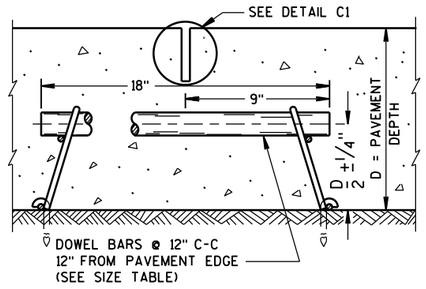
CONCRETE PAVEMENT REPAIRS OF EXISTING NONDOWELED CONCRETE PAVEMENTS DO NOT NEED TO BE DOWELED.

DO NOT SEAL OR FILL JOINTS.

ANCHOR DOWEL BARS AND TIE BARS INTO DRILLED HOLES WITH AN EPOXY.

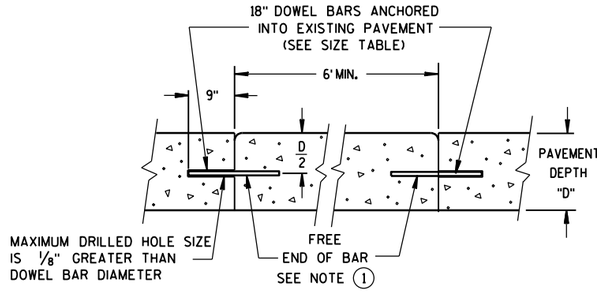
FOR MULTI-LANE CONCRETE PAVEMENT REPLACEMENTS, PROVIDE A MINIMUM DISTANCE OF 15 INCHES FROM ALL TRANSVERSE JOINTS OR EDGES OF REPLACEMENT TO THE CENTER OF THE TIE BAR NEAREST THAT JOINT OR EDGE.

(1) APPLY A THIN UNIFORM COATING OF SURFACE TREATMENT TO THE FREE END OF DOWEL BARS TO PREVENT BONDING.

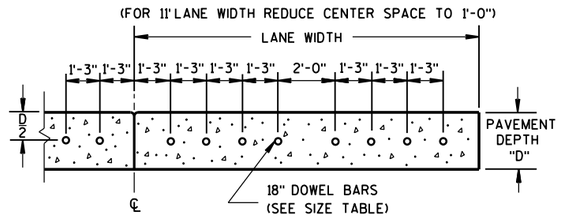


SECTION F-F

CONTRACTION JOINT



SECTION D-D

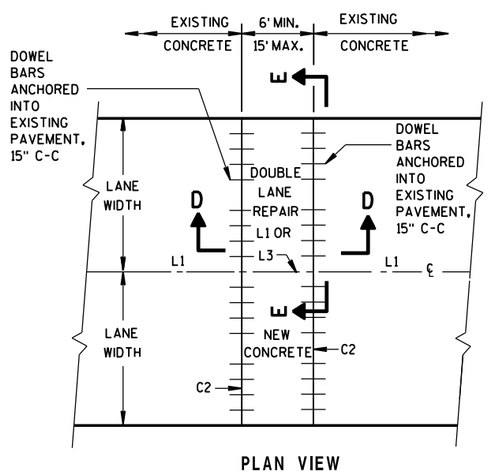


SECTION E-E

DRILLED DOWEL BAR CONSTRUCTION JOINT

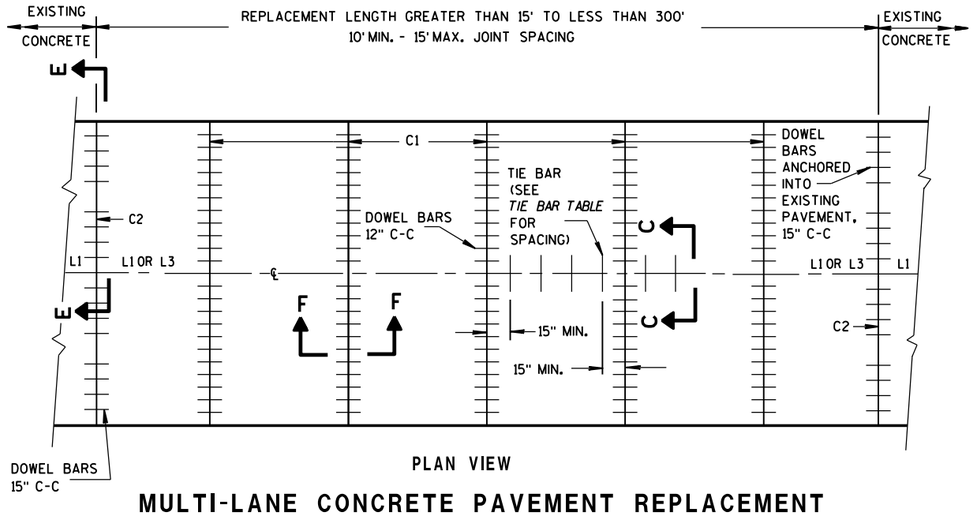
PAVEMENT DEPTH, DOWEL BAR SIZE AND JOINT SPACING TABLE

PAVEMENT DEPTH (D)	DOWEL BAR DIAMETER	CONTRACTION JOINT SPACING
5 1/2", 6",6 1/2"	NONE	12'
7",7 1/2"	1"	14'
8",8 1/2"	1 1/4"	15'
9",9 1/2"	1 1/4"	15'
10" & ABOVE	1 1/2"	15'



PLAN VIEW

MULTI-LANE CONCRETE PAVEMENT REPAIR



PLAN VIEW

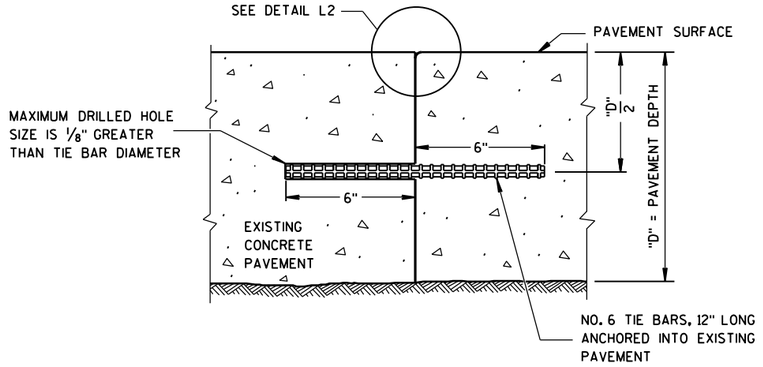
MULTI-LANE CONCRETE PAVEMENT REPLACEMENT

CONCRETE PAVEMENT REPAIR AND REPLACEMENT

STATE OF WISCONSIN
DEPARTMENT OF TRANSPOI

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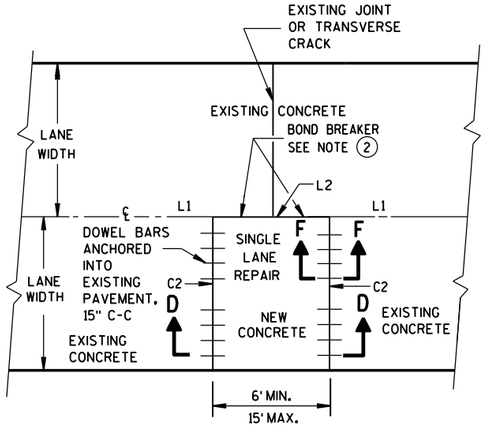
SECTION G-G

TIE BARS ANCHORED INTO EXISTING PAVEMENT

GENERAL NOTES

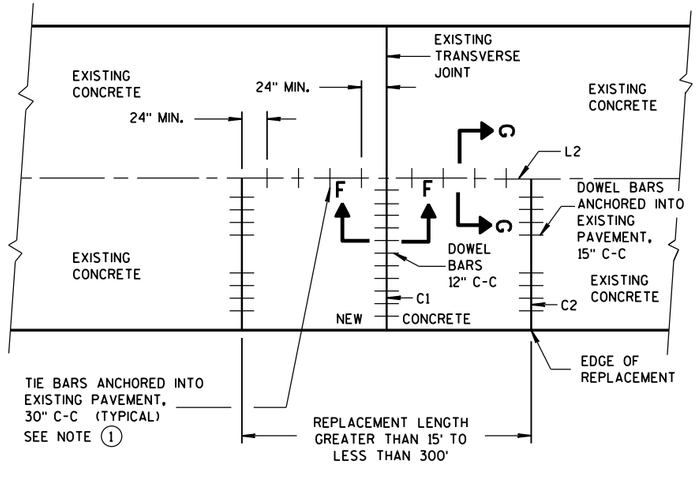
(1) WITH THE APPROVAL OF THE ENGINEER, FOR SINGLE LANE PAVEMENT REPLACEMENTS LESS THAN 30 FEET IN LENGTH, THE CONTRACTOR MAY INSTALL DRILLED TIE BARS ON 6:1 SKEW HORIZONTALLY, DIRECTION OF SKEW ALTERNATING WITH EACH SUCCESSIVE BAR. DRIVE SKEWED TIE BARS TO A DEPTH OF 6 INCHES AND TO SUCH A DIAMETER AS TO PROVIDE A TIGHT DRIVEN FIT.

(2) USE AN ENGINEER-APPROVED BOND BREAKER (E.G. RELEASE AGENT, CURING COMPOUND) FOR SINGLE LANE REPAIRS UP TO 15 FEET IN LENGTH.



PLAN VIEW

SINGLE LANE CONCRETE PAVEMENT REPAIR



PLAN VIEW

SINGLE LANE CONCRETE PAVEMENT REPLACEMENT

CONCRETE PAVEMENT REPAIR AND REPLACEMENT

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

12-2013
DATE

/S/ Deb Bischoff
PAVEMENT POLICY & DE

FHWA

IEER

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S.D.D. 13 C 9-11c

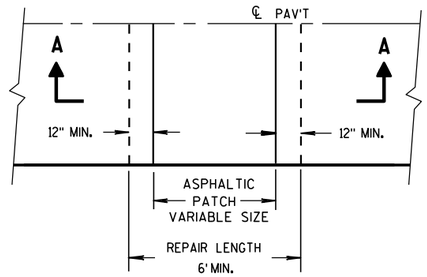
GENERAL NOTES

SAW CUT, DRILL, AND LIFT OUT EXISTING CONCRETE PAVEMENT WITHIN THE BOUNDARIES OF CONCRETE REPAIR AREAS. THE CONTRACTOR MAY MAKE ADDITIONAL SAW CUTS INSIDE THE REPAIR LIMITS TO REDUCE WEIGHT AND SIZE OF CONCRETE PIECES. ADDITIONAL SAW CUTS ARE NOT PAID FOR BY THE DEPARTMENT.

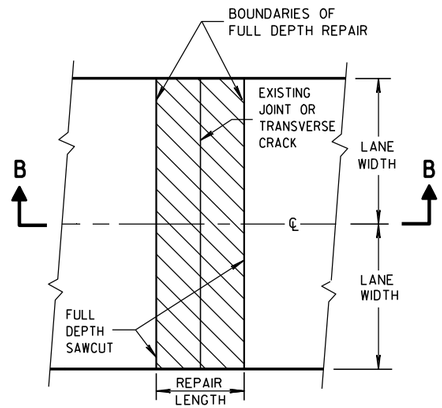
PROVIDE 6-FOOT MINIMUM DISTANCE FROM BOUNDARIES OF CONCRETE REPAIR AREAS TO ADJACENT TRANSVERSE JOINT OR CRACK.

THE LENGTH OF THE REPAIRS MAY VARY FROM THE DIMENSIONS SHOWN IF THE EXISTING CONCRETE PAVEMENT IS NONDOWELED AND THE PAVEMENT IS TO BE OVERLAID AFTER REPAIRING.

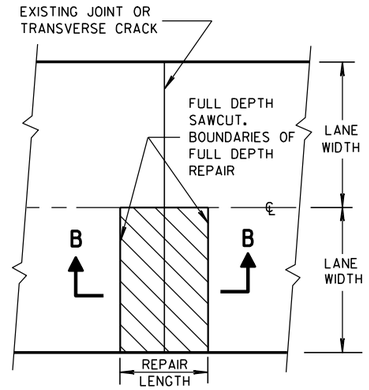
(1) DOWEL BARS MIGHT NOT EXIST.



PLAN VIEW



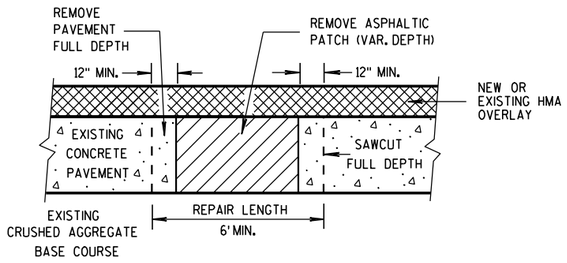
PLAN VIEW
(DOUBLE LANE REPAIR)



PLAN VIEW
(SINGLE LANE REPAIR)

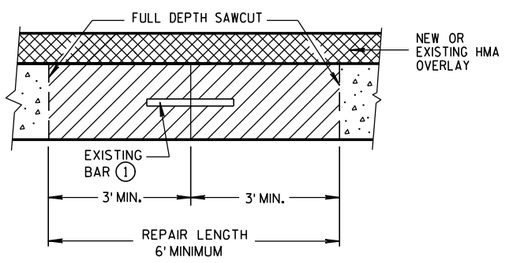
FULL DEPTH CONCRETE PAVEMENT REMOVAL

(SEE NOTE)



SECTION A-A

HMA PATCH REMOVAL



SECTION B-B

CONCRETE REMOVAL

BASE PATCHING CONCRETE

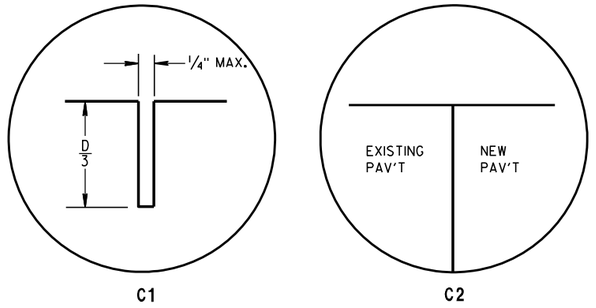
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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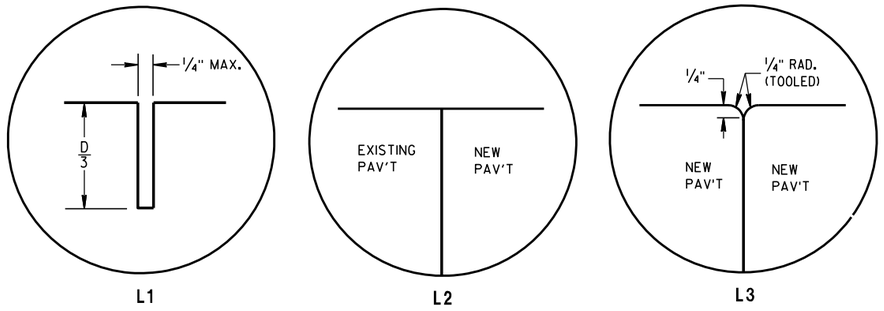
S.D.D. 13 C 14-4a

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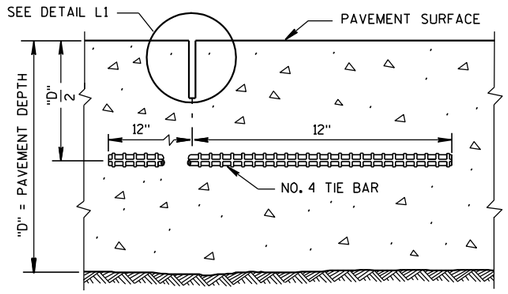
S.D.D. 13 C 14-4a



TRANSVERSE JOINTS

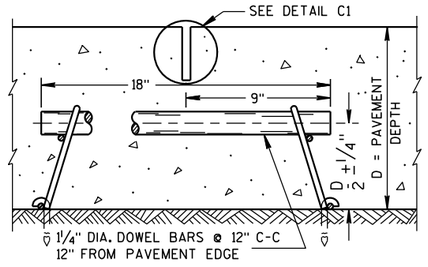


LONGITUDINAL JOINTS



SECTION C-C

SAWED LONGITUDINAL JOINT



SECTION F-F

CONTRACTION JOINT

GENERAL NOTES

INSTALL DOWEL BARS PARALLEL TO THE PAVEMENT CENTERLINE AND PAVEMENT SURFACE.

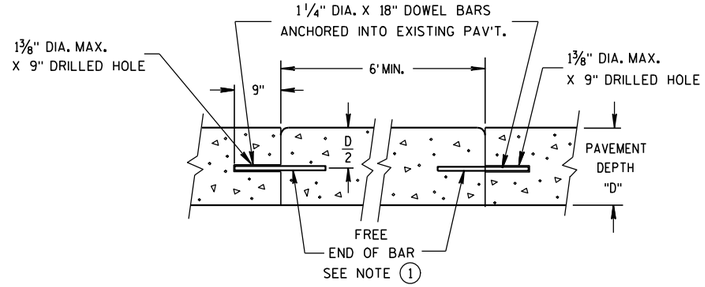
CONCRETE BASE PATCHES OF EXISTING NONDOWELED CONCRETE PAVEMENTS DO NOT NEED TO BE DOWELED.

DO NOT SEAL OR FILL JOINTS.

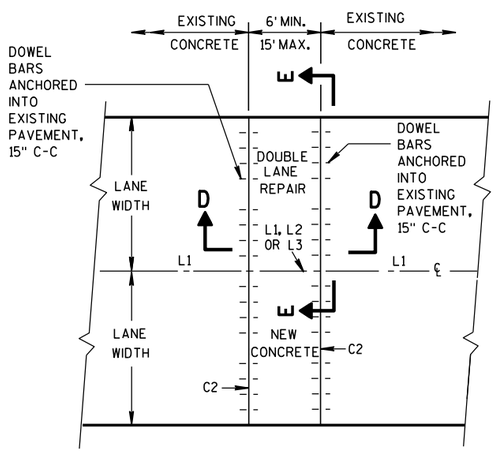
ANCHOR DOWEL BARS AND TIE BARS INTO DRILLED HOLES WITH AN EPOXY.

PROVIDE A MINIMUM DISTANCE OF 24 INCHES FROM AN EXISTING TRANSVERSE JOINT OR THE EDGE OF REPLACEMENT TO THE CENTER OF THE TIE BAR NEAREST THAT JOINT OR EDGE.

(1) APPLY A THIN UNIFORM COATING OF SURFACE TREATMENT TO THE FREE END OF DOWEL BARS TO PREVENT BONDING.

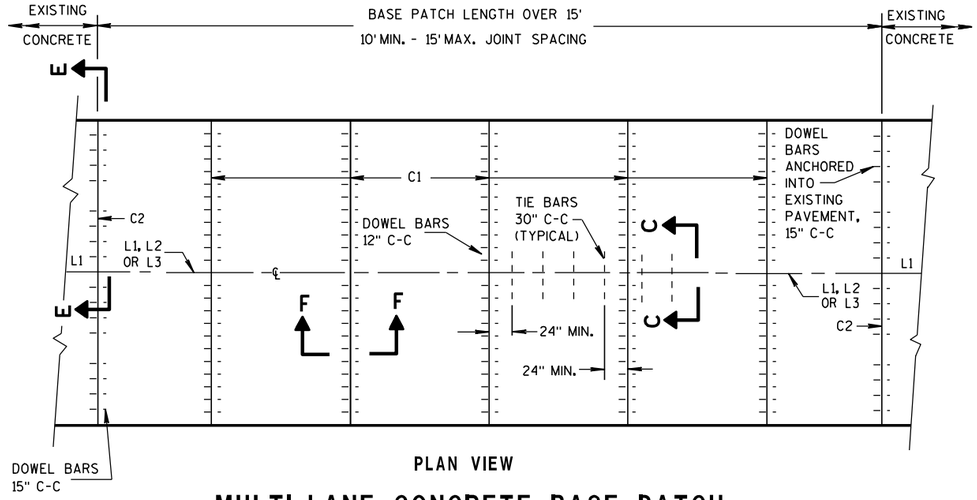


SECTION D-D



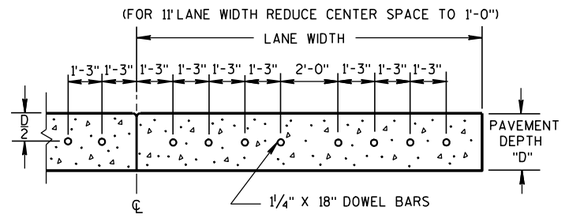
PLAN VIEW

MULTI-LANE CONCRETE BASE PATCH 15' MAXIMUM LENGTH



PLAN VIEW

MULTI-LANE CONCRETE BASE PATCH GREATER THAN 15' IN LENGTH



SECTION E-E

SPACING OF DOWEL BARS ANCHORED INTO EXISTING PAVEMENT

BASE PATCHING CONCRETE

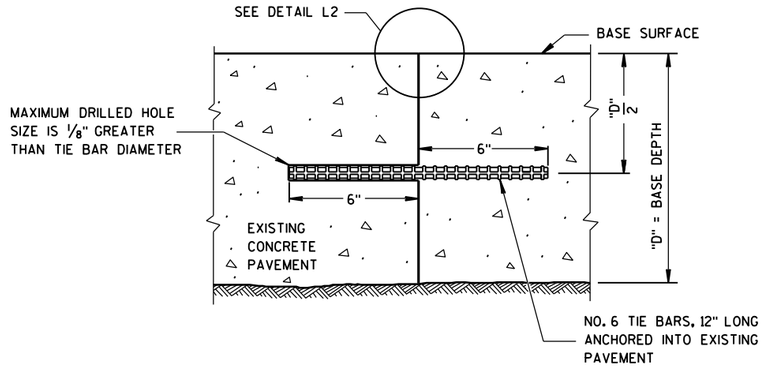
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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S.D.D. 13 C 14-4b

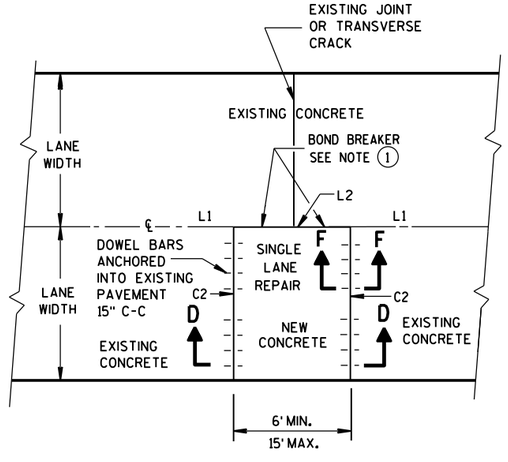
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S.D.D. 13 C 14-4b



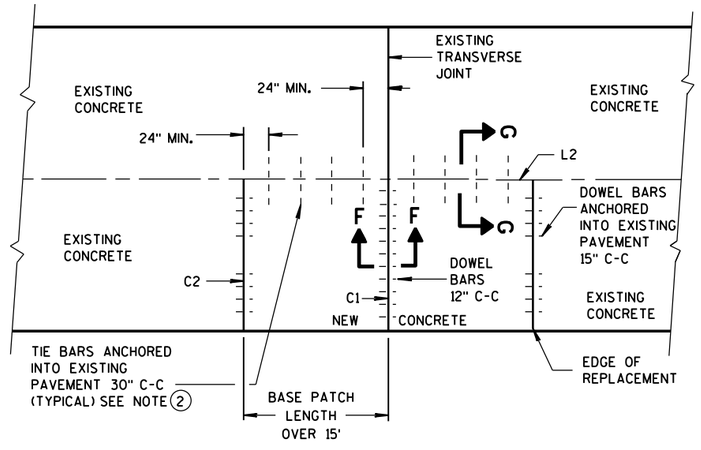
SECTION G-G

TIE BARS ANCHORED INTO EXISTING PAVEMENT



PLAN VIEW

SINGLE LANE CONCRETE BASE PATCH 15' MAXIMUM LENGTH



PLAN VIEW

SINGLE LANE CONCRETE BASE PATCH GREATER THAN 15' IN LENGTH

GENERAL NOTES

(1) USE AN ENGINEER-APPROVED BOND BREAKER (E.G. RELEASE AGENT, CURING COMPOUND) FOR SINGLE LANE BASE PATCHES UP TO 15 FEET IN LENGTH.

(2) WITH THE APPROVAL OF THE ENGINEER, FOR SINGLE LANE PAVEMENT REPLACEMENTS LESS THAN 30 FEET IN LENGTH, DRILLED TIE BARS MAY BE INSTALLED ON 6:1 SKEW HORIZONTALLY, DIRECTION OF SKEW ALTERNATING WITH EACH SUCCESSIVE BAR. DRIVE SKEWED TIE BARS TO A DEPTH OF 6 INCHES AND TO SUCH A DIAMETER AS TO PROVIDE A TIGHT DRIVEN FIT.

BASE PATCHING CONCRETE

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

12-11-2009
DATE

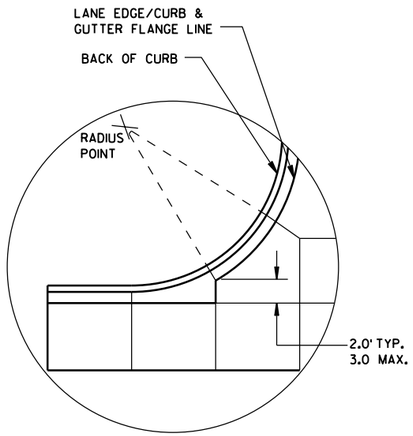
/S/ Deb Bischoff
PAVEMENT POLICY & DE

FHWA

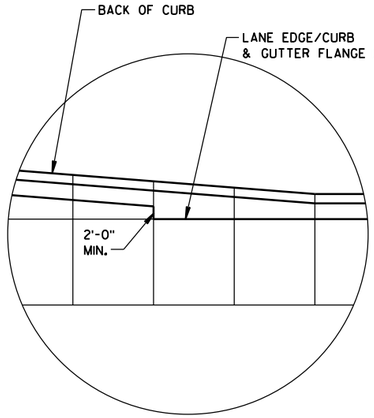
IEER

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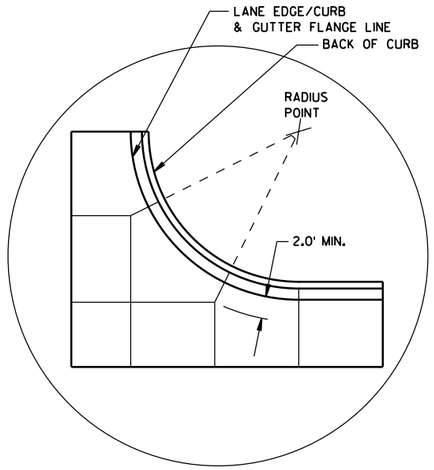
S.D.D. 13 C 14-4c



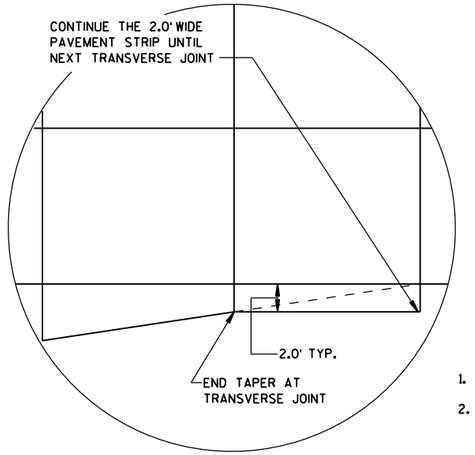
DETAIL "A"



DETAIL "B"



DETAIL "C"



DETAIL "D"

GENERAL NOTES

THE PRIMARY ROADWAY CONTROLS THE TRANSVERSE JOINT PATTERN.

ALIGN NEW JOINTS WITH EXISTING JOINTS OR CRACKS.

CONSTRUCT TRANSVERSE JOINTS PERPENDICULAR TO THE ROADWAY.

ADJUST TRANSVERSE JOINTS TO ALIGN WITH UTILITY FIXTURES (E.G. MANHOLES AND INLETS) IN THE PAVEMENT STRUCTURE WHEN POSSIBLE. WATER VALVES DO NOT REQUIRE JOINT ADJUSTMENT.

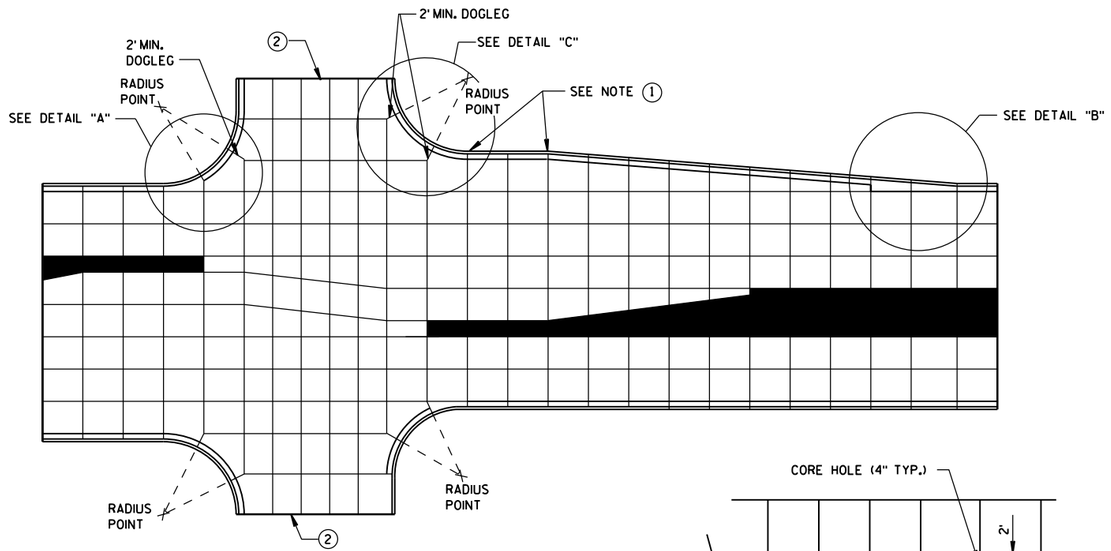
AVOID SLABS LESS THAN 2 FEET WIDE OR GREATER THAN 15 FEET WIDE.

SEE TABLE FOR TRANSVERSE JOINT SPACING. JOINT SPACING SPECIFIED IS MAXIMUM AND ACTUAL SPACING CAN BE ADJUSTED TO ACCOMMODATE INTERSECTIONS.

AVOID ANGLES LESS THAN 60° BY DOGLEGGING JOINTS THROUGH CURVE RADIUS POINTS. USE 90° ANGLES WHEN POSSIBLE.

CORRELATE LONGITUDINAL JOINTS WITH LANE LINES WHEN POSSIBLE.

1. PROVIDE TRANSVERSE JOINTS AT ALL PAVEMENT WIDTH CHANGES.
2. CONSTRUCT DOWELED EXPANSION JOINT ON THE SIDE ROAD OF AN INTERSECTION IF THE SIDE ROAD IS CONCRETE PAVEMENT AND GREATER THAN 300 FEET IN LENGTH. ALIGN EXPANSION JOINT WITH EDGE OF RADIUS.
3. THE ENGINEER MAY APPROVE SLIGHT VARIATIONS FROM THESE JOINTING DETAILS.

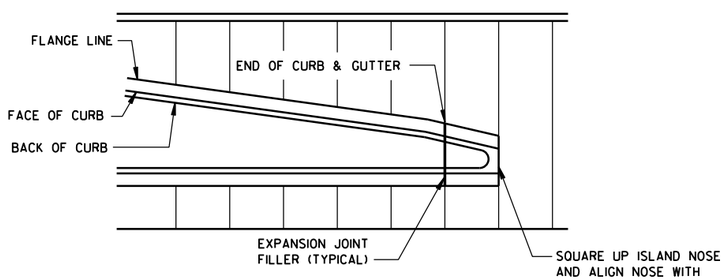


STANDARD INTERSECTION

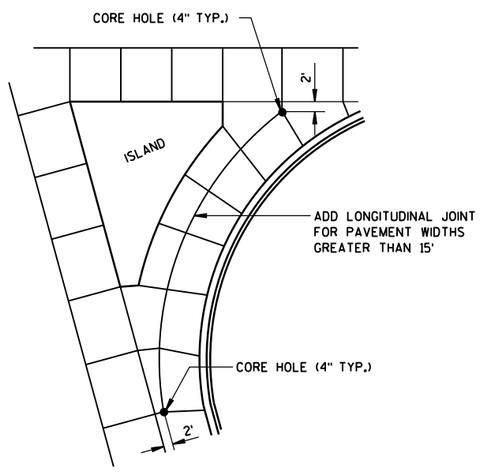
PAVEMENT DEPTH AND JOINT SPACING TABLE

PAVEMENT DEPTH (D)	CONTRACTION JOINT SPACING
6", 6½"	12'
7", 7½"	14'
8" & ABOVE	15'

SKEWED INTERSECTION



APPROACH TO MEDIAN



LARGE RIGHT TURN

CONCRETE PAVEMENT JOINTING

STATE OF WISCONSIN
DEPARTMENT OF TRANSPOI 169

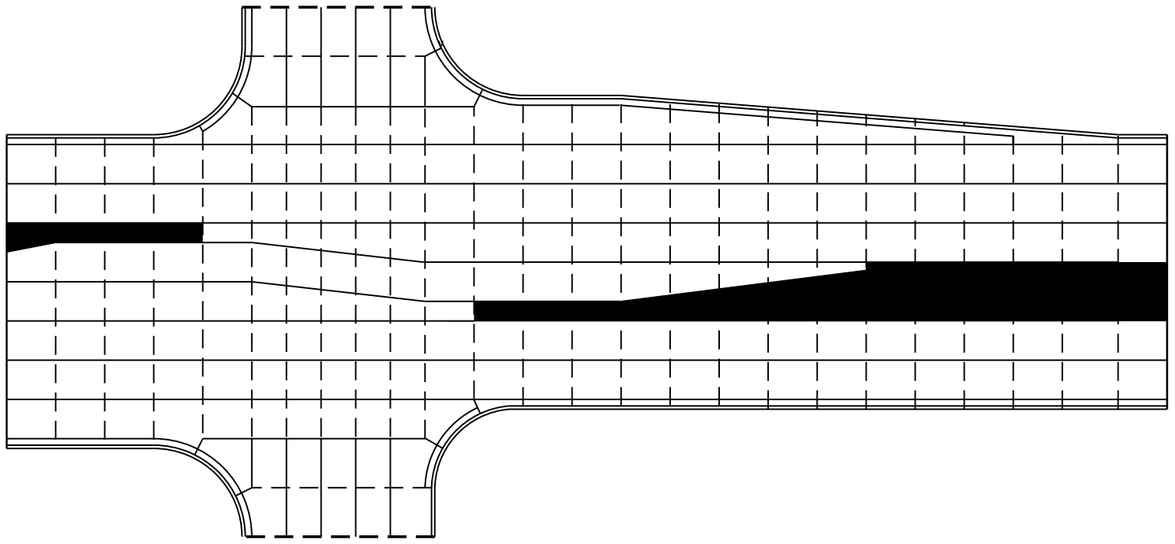
6
S.D.D. 13 C 18-2a

LEGEND

POTENTIAL DOWELED EXPANSION JOINT

DOWELED JOINT

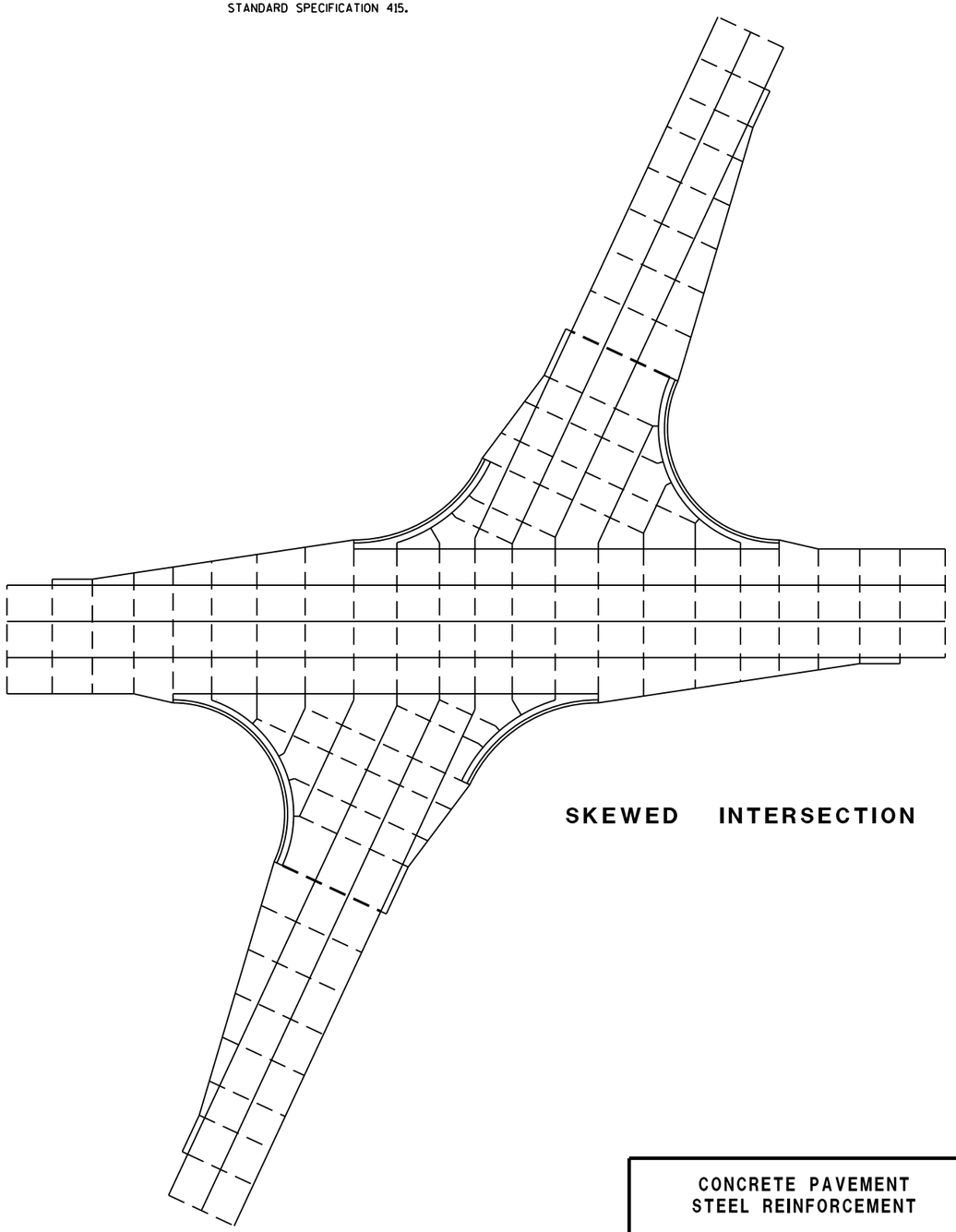
TIED JOINT



STANDARD INTERSECTION

GENERAL NOTES

USE AN EXPANSION JOINT FILLER MEETING THE REQUIREMENTS OF STANDARD SPECIFICATION 415.



SKEWED INTERSECTION

CONCRETE PAVEMENT
STEEL REINFORCEMENT

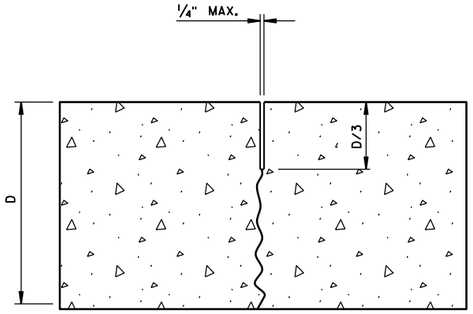
STATE OF WISCONSIN
DEPARTMENT OF TRANSPOI

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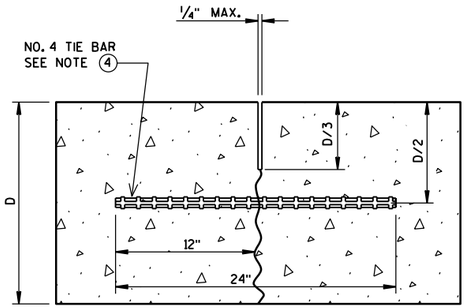
S.D.D. 13 C 18-2b

6

S.D.D. 13 C 18-2b



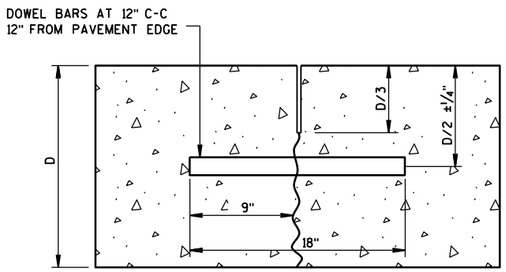
UNDOWELED-TRANSVERSE



TIED LONGITUDINAL

GENERAL NOTES

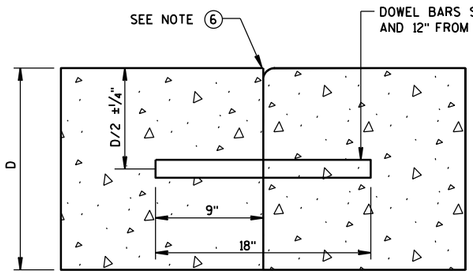
1. USE DOWELED EXPANSION JOINTS ON SIDE ROADS AT INTERSECTIONS (TO ISOLATE THE SIDE ROAD FROM THE THROUGH STREET) IF THE SIDE ROAD IS CONCRETE PAVEMENT AND GREATER THAN 300 FEET IN LENGTH.
2. SPACE CONTRACTION JOINTS IN ACCORDANCE WITH 13C4, 13C11 OR 13C13.
3. LOCATE CONSTRUCTION JOINTS A MINIMUM OF 6 FEET FROM THE NEAREST CONTRACTION JOINT AND ALIGN PARALLEL TO CONTRACTION JOINTS.
4. SPACE TIE BARS AT LONGITUDINAL CONSTRUCTION OR CONTRACTION JOINTS IN ACCORDANCE WITH SDD 13C1.
5. CONSTRUCTION JOINTS CAN BE FORMED OR SAWED.
6. IF JOINT IS FORMED, PROVIDE A 1/4-INCH RADIUS.



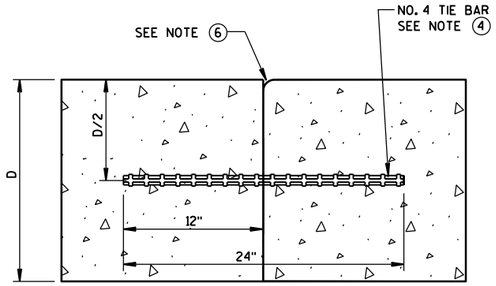
DOWELED-TRANSVERSE

CONTRACTION JOINTS

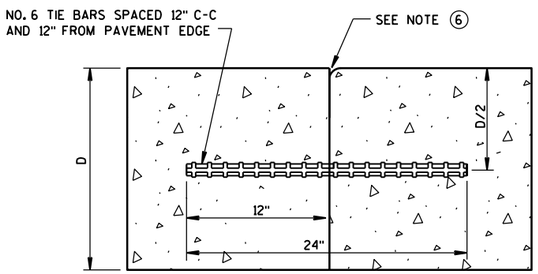
SEE NOTE (2)



DOWELED TRANSVERSE

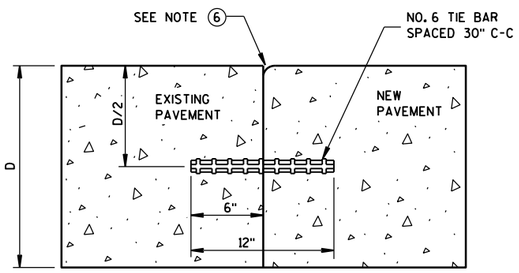


TIED LONGITUDINAL



TIED TRANSVERSE

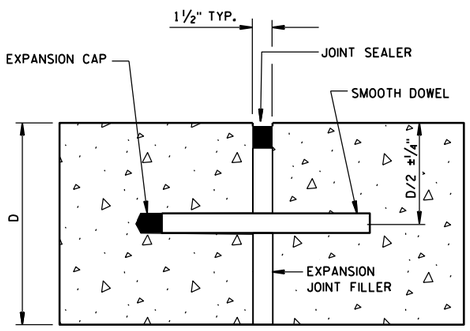
(FOR USE ON NON-DOWELED PAVEMENTS ONLY)



TIED LONGITUDINAL TO EXISTING

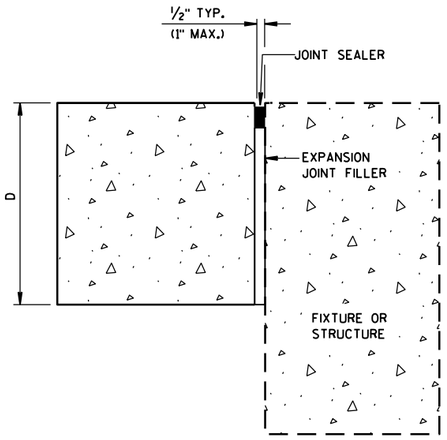
CONSTRUCTION JOINTS

SEE NOTE (5)



DOWELED-TRANSVERSE

SEE NOTE (1)



UNTIED-LONGITUDINAL

EXPANSION JOINTS

CONCRETE PAVEMENT
JOINT TYPES

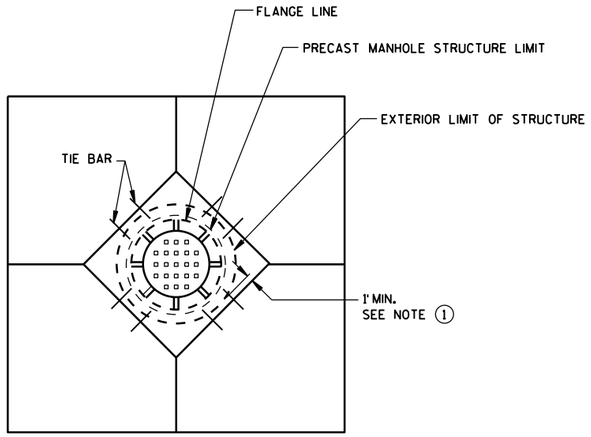
STATE OF WISCONSIN
DEPARTMENT OF TRANSPOI

6

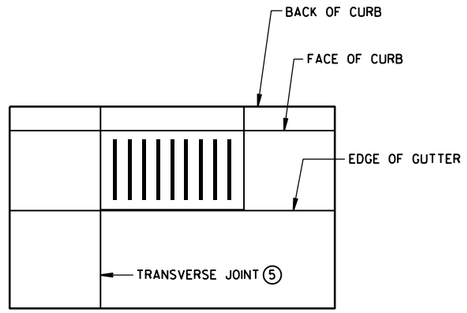
S.D.D. 13 C 18-2c

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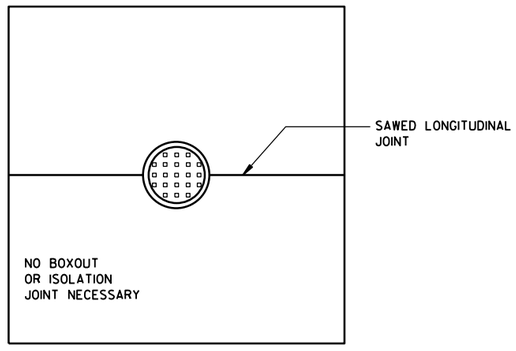
S.D.D. 13 C 18-2c



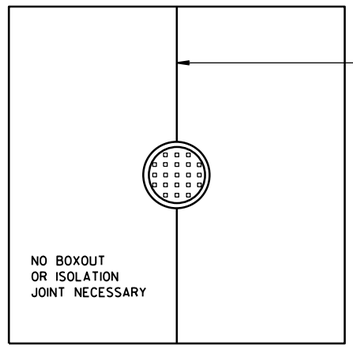
DIAGONAL MANHOLE BOXOUT FOR CONSTRUCTION JOINTS



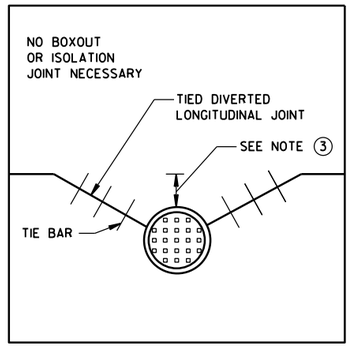
INLET WITH TRANSVERSE JOINT



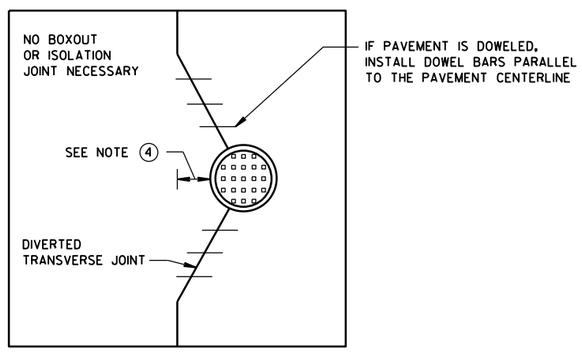
MANHOLE WITH LONGITUDINAL JOINT



MANHOLE WITH TRANSVERSE JOINT



MANHOLE WITH DIVERTED LONGITUDINAL CONTRACTION JOINT



MANHOLE WITH DIVERTED TRANSVERSE CONTRACTION JOINT

GENERAL NOTES

(1) USE BOXOUTS WHEN UTILITY STRUCTURE IS IN THE PATH OF CONSTRUCTION JOINTS. PROVIDE A 1-FOOT MINIMUM CLEARANCE BETWEEN THE EXTERIOR LIMIT OF THE STRUCTURE TO THE DIAMOND BOXOUT.

(2) ADJUST TRANSVERSE JOINT TO INTERSECT MANHOLE IF POSSIBLE.

(3) IF DISTANCE BETWEEN THE LONGITUDINAL JOINT AND THE EDGE OF MANHOLE IS 2 FEET OR LESS, DIVERT THE LONGITUDIAL JOINT AT A 2:1 TAPER RATE TO THE CENTER OF THE MANHOLE. IF THE DISTANCE IS GREATER THAN 2 FEET, DO NOT DIVERT THE JOINT AND SAW AS NORMAL. PLACE REBAR REINFORCEMENT AROUND THE MANHOLE.

(4) IF DISTANCE FROM THE EDGE OF THE MANHOLE TO THE NEAREST TRANSVERSE JOINT IS 4 FEET OR LESS, REDIRECT JOINT TO INTERSECT THE CENTER OF THE MANHOLE. IF DISTANCE IS GREATER THAN 4 FEET, DO NOT DIVERT THE JOINT AND SAW AS NORMAL. PLACE REBAR REINFORCEMENT AROUND THE MANHOLE.

(5) ALIGN TRANSVERSE JOINT WITH ONE EDGE OF INLET WHEN PRACTICAL.

CONCRETE PAVEMENT JOINTING AT UTILITY FIXTURES

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

5-3-2013
DATE

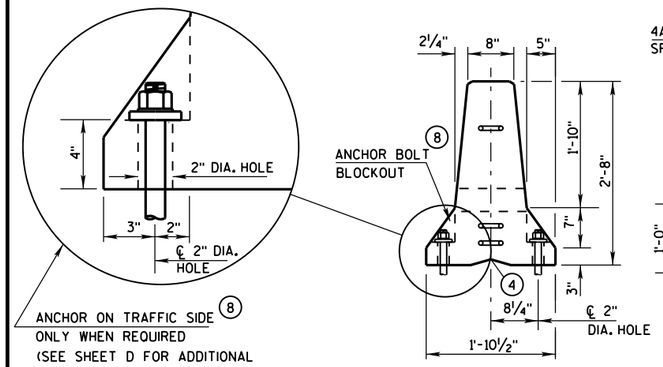
/S/ Deb Bischoff
PAVEMENT POLICY & DE

NEER

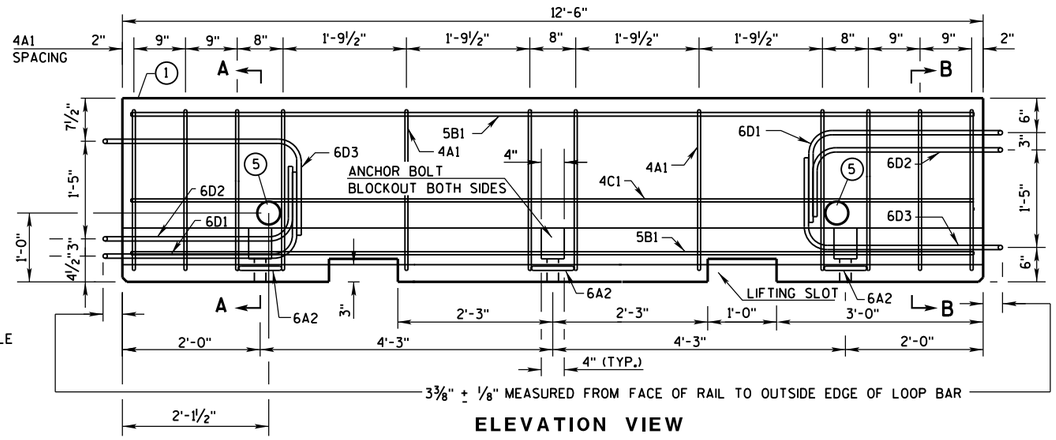
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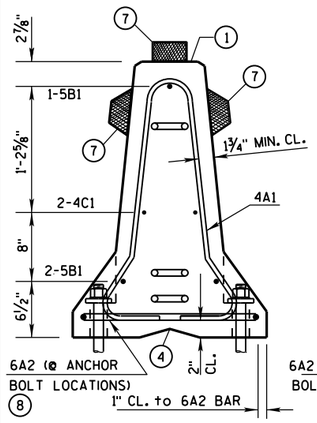
S.D.D. 13 C 18-2d



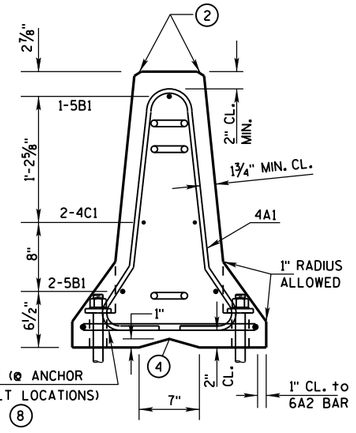
END VIEW



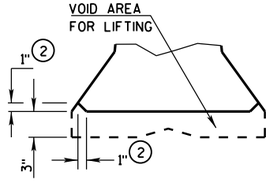
ELEVATION VIEW



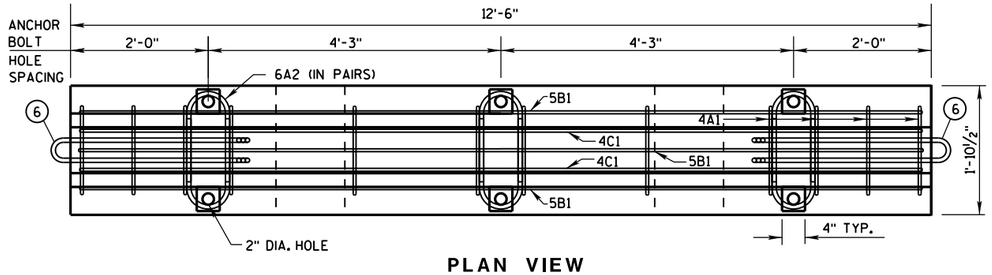
SECTION A-A
(STIRRUP PLACEMENT)



SECTION B-B
(STIRRUP PLACEMENT)

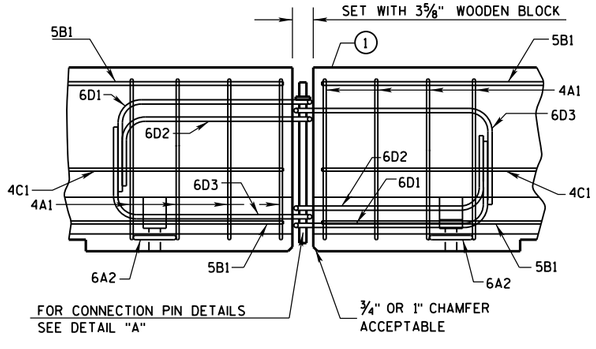


DETAIL "B"
LIFTING SLOT DETAIL

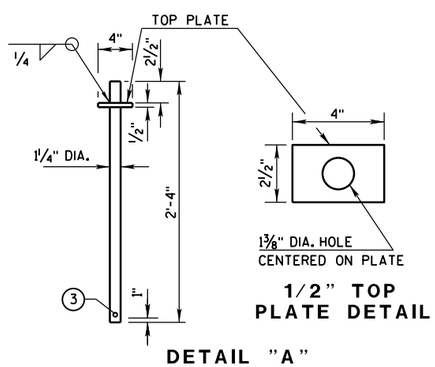


PLAN VIEW

DETAILS OF BARRIER SECTION

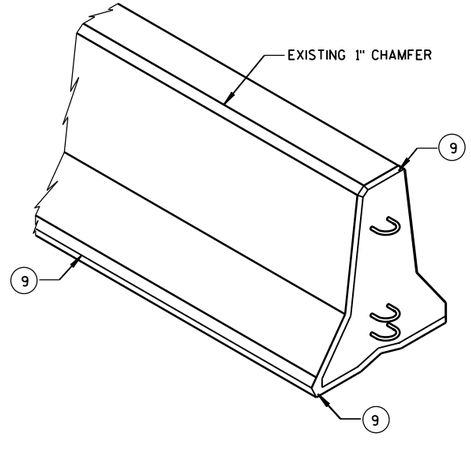


DETAILS OF BARRIER CONNECTION



1/2" TOP
PLATE DETAIL

DETAIL "A"
CONNECTION PIN
(A36 STEEL (10.9 LB EACH))



GENERAL NOTES

THESE GENERAL NOTES APPLY TO SHEETS 14B7-14(a) THRU 14B7-14(h).

DO NOT INTERMIX CONCRETE BARRIER TEMPORARY PRCAST, 12'-6" (CBTP12.5) WITH OTHER TEMPORARY CONCRETE BARRIERS.

USE ASTM A-615, GRADE 60, DEFORMED STEEL BARS FOR BARS 4A1, 6A2, 5B1 AND 4C1 IN THE BARRIER SECTION AND FOR 4V1, 4V2, 4V3, 4V4, 4V5, 4V6, 4F1, 4F2 AND 5F3 IN THE BARRIER TAPER SECTION.

LOOP BARS 6D1, 6D2 AND 6D3 SHALL BE ¾" SMOOTH STEEL BARS WITH A MINIMUM YIELD STRENGTH OF 60 KSI, A TENSILE STRENGTH OF NOT LESS THAN 1.25 TIMES THE YIELD STRENGTH BUT A MINIMUM OF 80 KSI, A MINIMUM 14% ELONGATION IN 8 INCHES AND PASSING A 180 DEGREE BEND TEST USING A 3-½" PIN BEND DIAMETER FOR BEND TESTS. THE LOOPS SHALL BE INSTALLED WITHIN ⅛" OF THE PLAN DIMENSION.

CONSTRUCT LIFTING SLOTS AS SPECIFIED ON THE PLANS TO FACILITATE THE DRAINAGE OF WATER AFTER INSTALLATION.

PLACE BARRIER ON A PAVED SURFACE. REMOVE ALL LOOSE DIRT AND SAND FROM THE ROADWAY SURFACE PRIOR TO PLACEMENT OF THE BARRIER.

INSTALL MECHANICAL OR EPOXY ANCHORS PER MANUFACTURER'S RECOMMENDATIONS. PROVIDE MANUFACTURER'S INFORMATION TO PROJECT ENGINEER.

(1) MARK ONE END OF EACH BARRIER PERMANENTLY BY FORMING INTO THE BARRIER THE FOLLOWING INFORMATION:
- a. TYPE: WI CBTP
- b. MANUFACTURER
- c. DATE MANUFACTURED (MONTH AND YEAR)

(2) 1" CHAMFER TO PREVENT SPALLING.

(3) A ⅜" HOLE IN THE CONNECTION PIN, AT THE LOCATION SHOWN, IS ACCEPTABLE, BUT NOT REQUIRED..

(4) "V" NOTCH IS OPTIONAL.

(5) THE 4" DIAMETER, 11 GAUGE STEEL, ROUND MECHANICAL TUBING SLEEVE FOR LIFTING (OPTIONAL).

(6) NEVER USE LOOP BARS (6D1, 6D2 OR 6D3) TO LIFT, MOVE OR REPOSITION THE BARRIER.

(7) USE DELINEATORS CONFORMING TO SECTION 633 OF THE STANDARD SPECIFICATIONS. CONTRACTOR MAY USE ALTERNATE SHAPES AND HOUSING. INSTALL DELINEATORS ACCORDING TO MANUFACTURES INSTRUCTION. INSTALL YELLOW REFLECTORS WHEN BARRIER IS LOCATED TO THE LEFT OF TRAFFIC AND WHITE REFLECTORS WHEN BARRIER IS LOCATED TO THE RIGHT OF TRAFFIC. SPACE DELINEATORS A MAXIMUM OF 25 FEET APART. PROVIDE TOP MOUNTED DELINEATORS IN ADDITION TO THE SIDE MOUNTED DELINEATORS ON ALL BARRIER INSTALLATIONS LOCATED ON A CURVED ALIGNMENT LONGER THAN 200 FEET AND ON BARRIERS USED TO SEPARATE OPPOSING TRAFFIC.

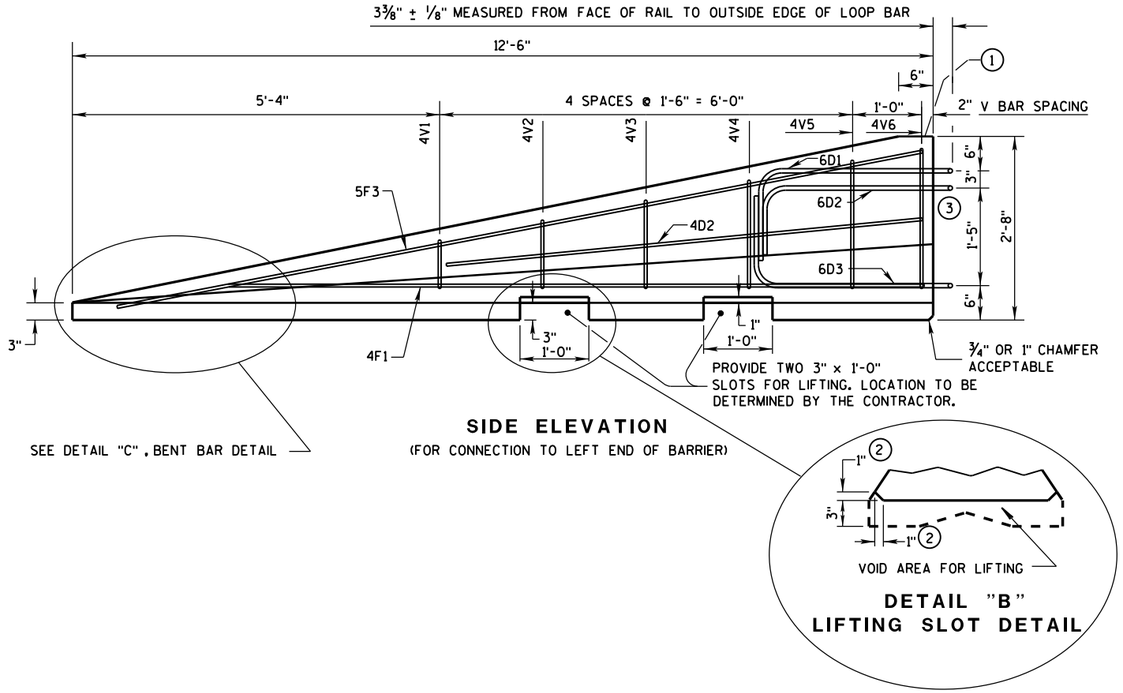
(8) SEE SHEET D FOR ANCHORING CRITERIA.

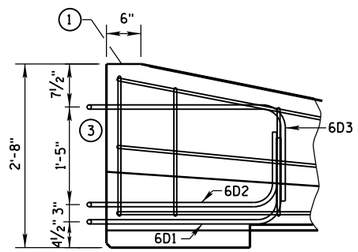
(9) 1" CHAMFER OPTIONAL.

CONCRETE BARRIER TEMPORARY PRECAST, 12'-6"

STATE OF WISCONSIN
DEPARTMENT OF TRANSPOI

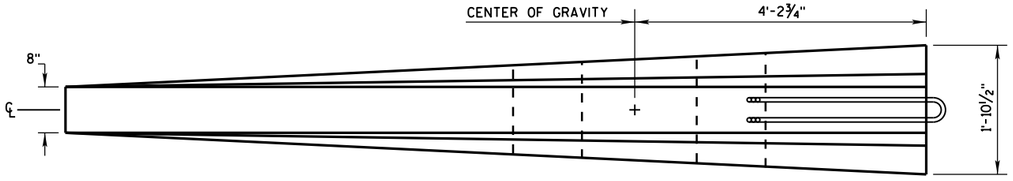
6
S.D.D. 14 B 7-14a

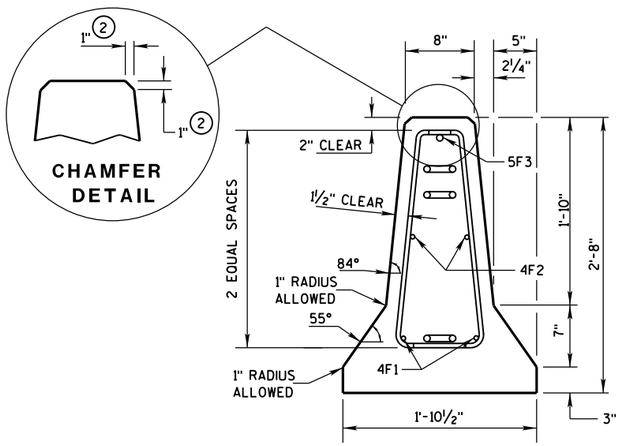


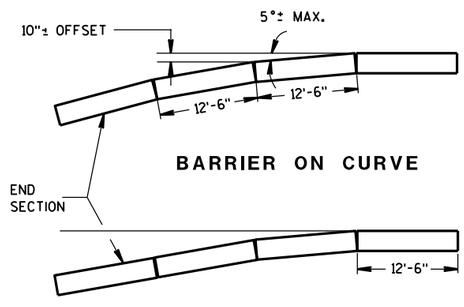


GENERAL NOTES

1. MARK ONE END OF EACH BARRIER PERMANENTLY BY FORMING INTO THE BARRIER THE FOLLOWING INFORMATION:
   a. TYPE WICBTP
   b. MANUFACTURER
   c. DATE MANUFACTURED (MONTH AND YEAR)
2. 1" CHAMFER TO PREVENT SPALLING.
3. NEVER USE LOOP BARS (6D1, 6D2 OR 6D3) TO LIFT, MOVE OR REPOSITION THE BARRIER.







POSTED SPEED, (MPH)	FLARE RATE
40 OR LESS	6:1
45 OR GREATER	8:1

DETAILS OF BARRIER TAPER SECTION

CONCRETE BARRIER
TEMPORARY PRECAST, 12'-6"

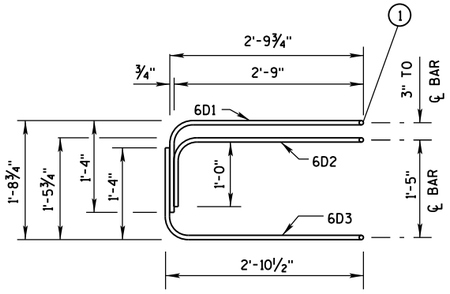
STATE OF WISCONSIN
DEPARTMENT OF TRANSPOI

6
S.D.D. 14 B 7-14b

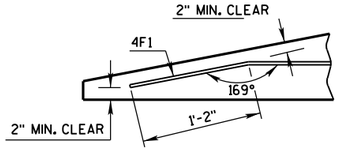
BARRIER TAPER SECTION BILL OF MATERIALS

(PER 12'-6" BARRIER TAPER SECTION)

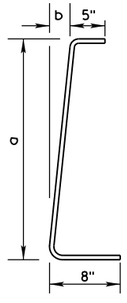
BAR	BAR SIZE	NO. OF BARS	LENGTH FT.
4V1	4	2	1'-11"
4V2	4	2	2'-2"
4V3	4	2	2'-6"
4V4	4	2	2'-9"
4V5	4	2	3'-2"
4V6	4	2	3'-4"
4F1	4	2	12'-0"
4F2	4	2	7'-6"
5F3	5	1	11'-9"
LOOP ASSEMBLY			
6D1	6	1	8'-5"
6D2	6	1	7'-7"
6D3	6	1	8'-6"



ELEVATION
LOOP BAR ASSEMBLY



DETAIL "C"
BENT BAR DETAIL



BAR	a	b
V1	10"	1"
V2	1'-1"	1¼"
V3	1'-5"	1⅝"
V4	1'-8"	1⅞"
V5	2'-0½"	2⅜"
V6	2'-3"	2¾"

4V BARS
2 AT EACH SIZE REQUIRED
FOR STIRRUP ASSEMBLY

TAPER BARRIER SECTION

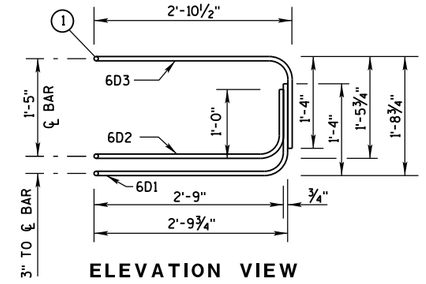
GENERAL NOTES

(1) NEVER USE LOOP BARS (6D1, 6D2 OR 6D3) TO LIFT, MOVE OR REPOSITION THE BARRIER.

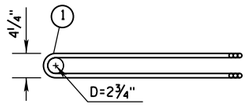
BARRIER SECTION BILL OF MATERIALS

(PER 12'-6" BARRIER SECTION)

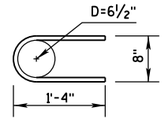
BAR	BAR SIZE	NO. OF BARS	LENGTH FT.
4A1	4	12	6'-0"
6A2	6	6	2'-11"
5B1	5	3	12'-2"
4C1	4	2	12'-2"
LOOP ASSEMBLY			
6D1	6	2	8'-5"
6D2	6	2	7'-7"
6D3	6	2	8'-6"



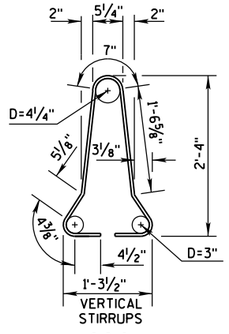
ELEVATION VIEW



PLAN VIEW
LOOP BAR ASSEMBLY
(MARKED END SHOWN, INVERT FOR OTHER END)



6A2



4A1

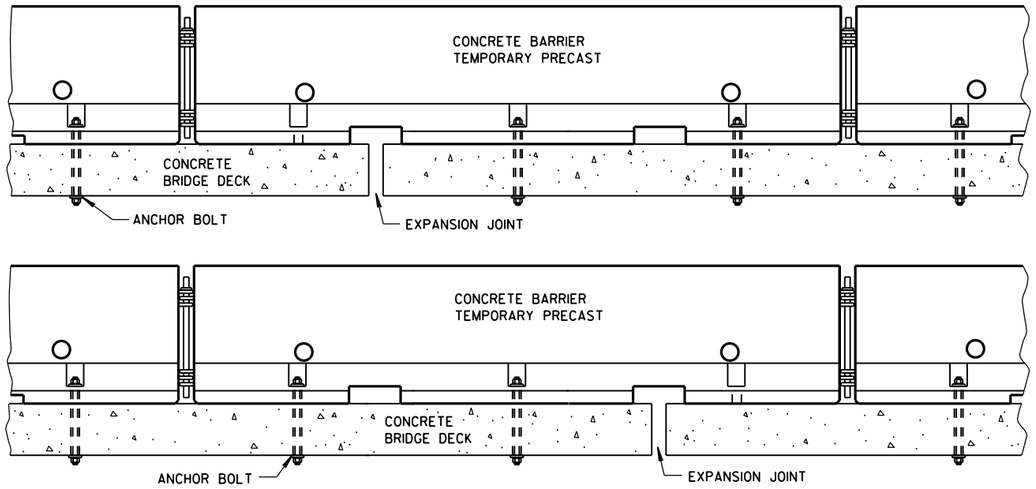
BARRIER SECTION

CONCRETE BARRIER
TEMPORARY PRECAST, 12'-6"

STATE OF WISCONSIN
DEPARTMENT OF TRANSPOR

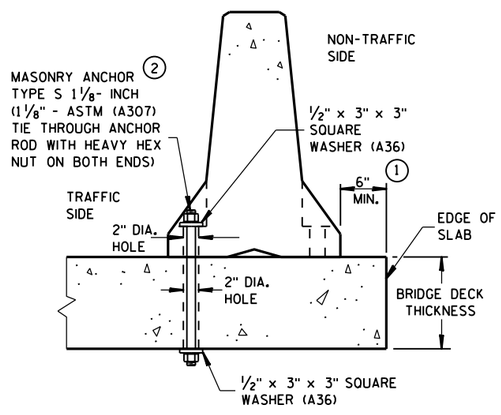
6

S.D.D. 14 B 7-14c



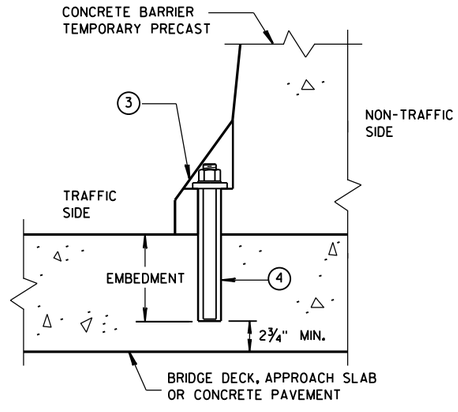
TREATMENT AT BRIDGE DECK EXPANSION JOINTS

(NO SINGLE CONCRETE BARRIER SECTION SHALL BE ANCHORED TO BOTH THE BRIDGE DECK AND THE APPROACH SLAB. ALL ANCHOR BOLT LOCATIONS SHALL BE ANCHORED TO THE DECK IN ACCORDANCE WITH THE DETAIL. NO MORE THAN ONE ANCHOR BOLT SHALL BE ELIMINATED FROM A BARRIER SECTION WHEN SPANNING AN EXPANSION JOINT.)



THROUGH BOLTED ANCHOR INSTALLATION ON BRIDGE DECK

(DO NOTUSE ON CONCRETE BRIDGE DECK WITH ASPHALT OVERLAY)



REMOVABLE ADHESIVE BONDED ANCHOR ② INSTALLATION ON CONCRETE BRIDGE DECK, CONCRETE APPROACH SLAB, OR CONCRETE PAVEMENT

(DO NOT USE ON CONCRETE WITH AN ASPHALTIC OVERLAY)

GENERAL NOTES

① CONCRETE BARRIER TEMPORARY PRECAST, 12'-6" SHALL BE ANCHORED IF:
THE DISTANCE TO A 2 FOOT OR GREATER DROPOFF THAT IS STEEPER THAN 3H : 1V, FOR EXAMPLE THE EDGE OF A BRIDGE DECK OR A DROPOFF AT THE EDGE OF PAVEMENT, IS LESS THAN 4 FEET FROM THE SIDE OF THE BARRIER CLOSEST TO THE DROPOFF AND THE POSTED SPEED IS 45 MPH OR GREATER, OR

THE DISTANCE TO A 2 FOOT OR GREATER DROPOFF THAT IS STEEPER THAN 3H : 1V, FOR EXAMPLE THE EDGE OF A BRIDGE DECK OR A DROPOFF AT THE EDGE OF PAVEMENT. IS LESS THAN 2 FEET FROM THE SIDE OF THE BARRIER CLOSEST TO THE DROPOFF AND THE POSTED SPEED IS 40 MPH OR LESS.

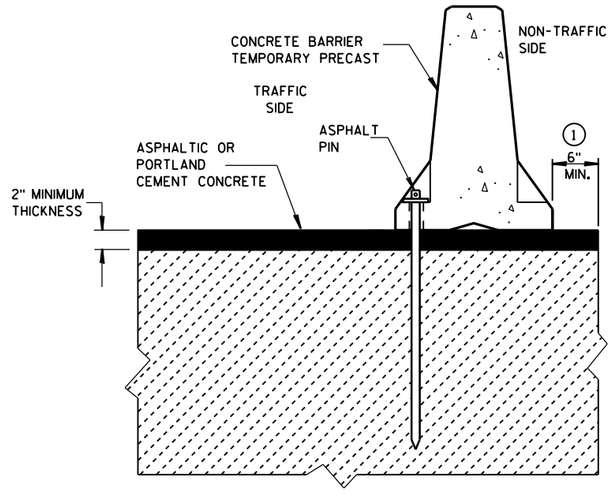
② ANCHORING IS INCIDENTAL TO CONCRETE BARRIER TEMPORARY PRECAST.

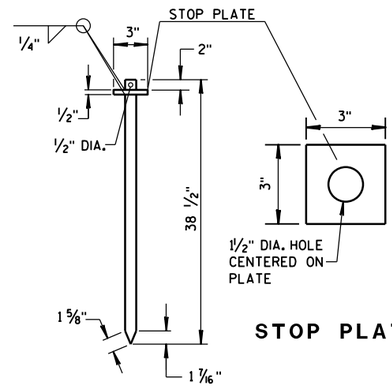
WITH THE APPROVAL OF THE ENGINEER, REMOVABLE ADHESIVE BONDED (EPOXY) ANCHOR BOLT INSTALLATION MAY BE USED IN LIEU OF THROUGH BOLTED ANCHOR INSTALLATION. THE ADHESIVE BONDED ANCHOR BOLT MUST BE REMOVABLE. USE ASTM (A307) MASONRY ANCHORS TYPE S 1⅛-INCH, EMBEDDED TO A DEPTH SUFFICIENT TO DEVELOP THE ULTIMATE CAPACITY OF THE ANCHOR BOLT AND PROVIDE DOCUMENTATION TO CONFIRM THIS.

UPON REMOVAL OR RELOCATION OF THE BARRIER UNITS, REMOVE ALLANCHOR BOLTS AND COMPLETELY FILL IN THE REMAINING HOLES IN CONCRETE BRIDGE DECKS, CONCRETE APPROACH SLABS AND CONCRETE PAVEMENTS THAT ARE TO REMAIN, WITH A NON-SHRINK COMMERICAL GROUT OR EPOXY MATERIAL IDENTIFIED ON THE CURRENT WISDOT APPROVED PRODUCTS LIST.

③ 1⅛" DIAMENTER A307 THREADED ROD, ½" X 3" X 3" SQUARE PLATE WASHER WITH ASTM A36 STEEL, ASTM A563A HEAVY HEX NUT.

④ ADHESIVE ANCHORS WITH A MINIMUM BOND STRENGTH OF 1,800 PSI AND 5¼" EMBEDMENT. SEE 603.2 AND 603.3.1.2 OF THE WISCONSIN STANDARD SPECIFICATIONS FOR MORE INFORMATION ON ADHESIVE ANCHORS.



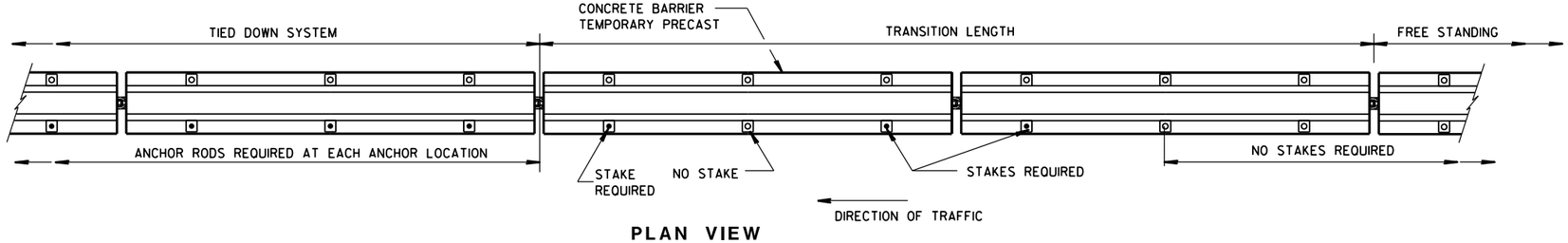


STOP PLATE

ASPHALT PIN
(ASTM A36 STEEL)

STAKE DOWN INSTALLATION FOR ASPHALTIC OR PORTLAND CEMENT CONCRETE SURFACE

(STAKING IS INCIDENTAL TO CONCRETE BARRIER TEMPORARY PRECAST)



PLAN VIEW

FREE STANDING TRANSITION TO TIED-DOWN SYSTEM

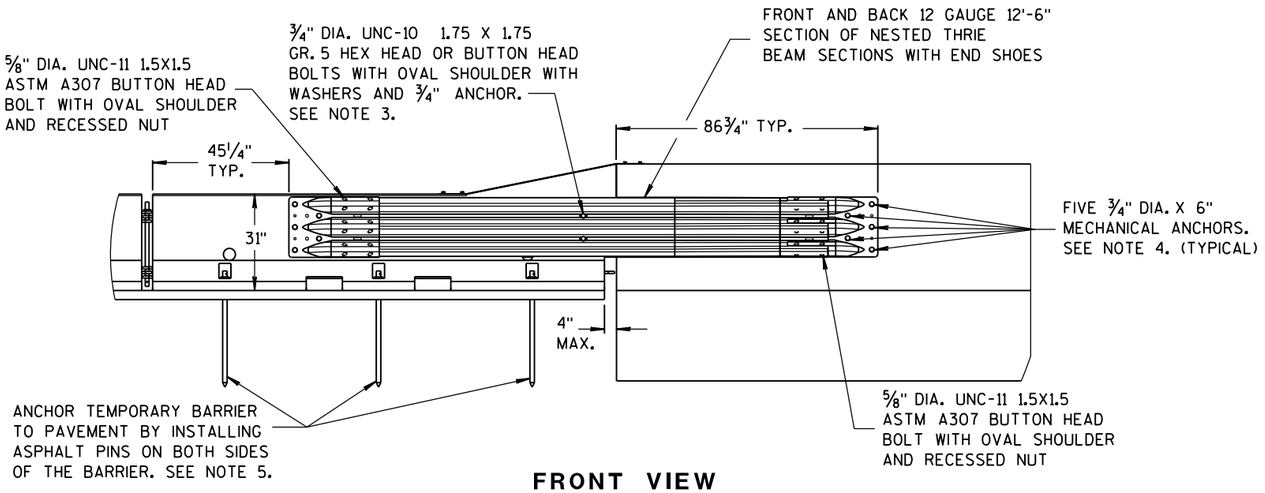
(PLACE TRANSITION IN A TANGENT SECTION OF BARRIER PARALLEL TO THE ROADWAY. IF TRANSITION OCCURS ON STRUCTURAL SLAB, ANCHOR AS SHOWN.)

CONCRETE BARRIER
TEMPORARY PRECAST, 12'-6"

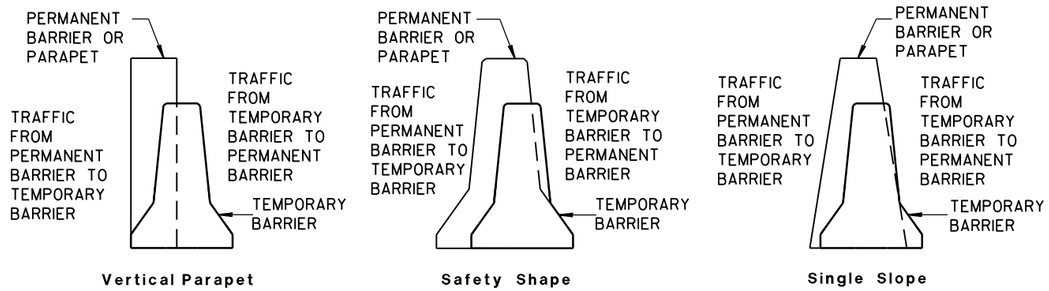
STATE OF WISCONSIN
DEPARTMENT OF TRANSPOI

6

S.D.D. 14 B 7-14d



FRONT VIEW



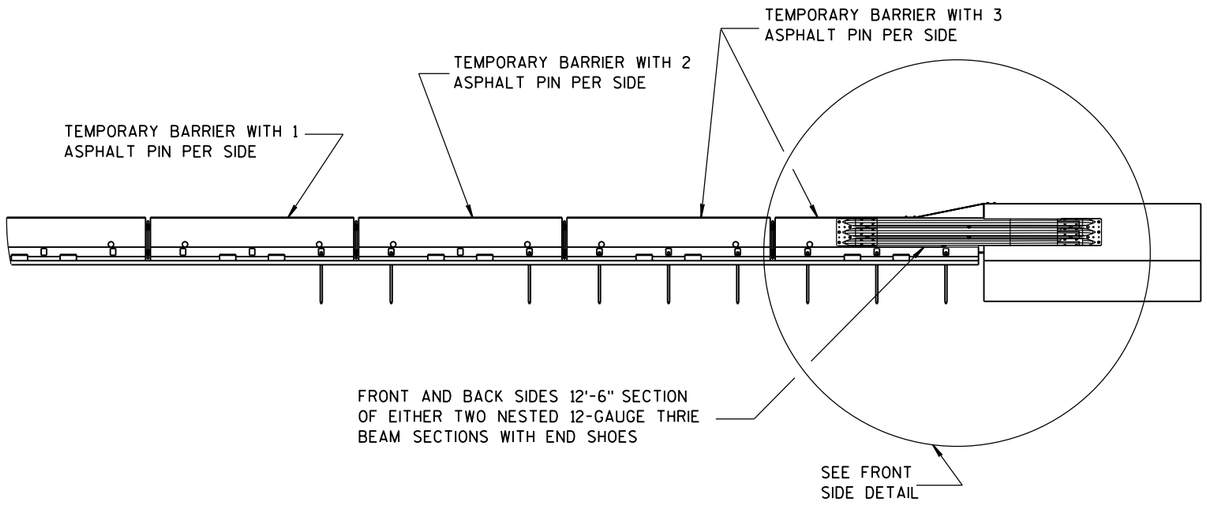
TEMPORARY BARRIER PLACEMENT FOR BI-DIRECTIONAL TRANSITION TO TIED-DOWN SYSTEM

NOTES

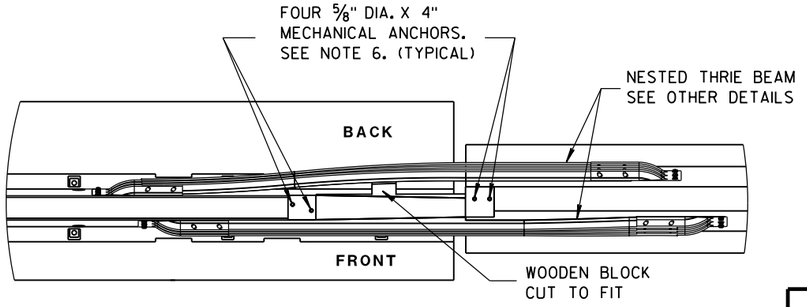
NESTED THRIE BEAM IS REQUIRED ON BOTH SIDES OF THE TEMPORARY BARRIER FOR ALL INSTALLATIONS.

1. CAP END PLATE PLACED FLUSH WITH UPSTREAM END OF PERMANENT BARRIER OR PARAPET.
2. THRIE BEAM PIECES ARE OFFSET 15 1/4" TO PREVENT INTERFERENCE FROM THE ANCHORS ON OPPOSING SIDES.
3. MINIMUM MECHANICAL OR EPOXY ANCHOR STRENGTH REQUIREMENTS: ULTIMATE TENSILE LOAD 9.48 KIPS AND ULTIMATE SHEAR LOAD 10.48 KIPS.
4. MINIMUM MECHANICAL OR EPOXY ANCHOR STRENGTH REQUIREMENTS: ULTIMATE TENSILE LOAD 17.9 KIPS AND ULTIMATE SHEAR LOAD 21.96 KIPS.
5. MAY BE USED ON CONCRETE OR ASPHALT PAVEMENTS. ASPHALT OPTION SHOWN. FOR CONCRETE OPTION SEE OTHER DETAILS.
6. MINIMUM MECHANICAL OR EPOXY ANCHOR STRENGTH REQUIREMENTS: ULTIMATE TENSILE LOAD 12.14 KIPS AND ULTIMATE SHEAR LOAD 17.5 KIPS.

BACK VIEW



FRONT VIEW



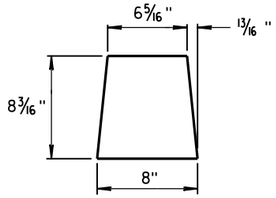
PLAN VIEW

BI-DIRECTIONAL TRANSITION TO TIED-DOWN SYSTEM

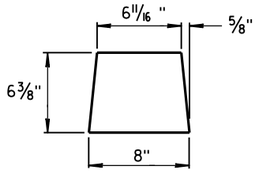
CONCRETE BARRIER TEMPORARY PRECAST, 12'-6"

STATE OF WISCONSIN
DEPARTMENT OF TRANSPO

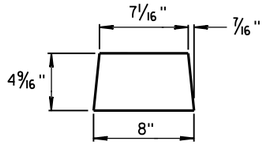
6
S.D.D. 14 B 7-14e



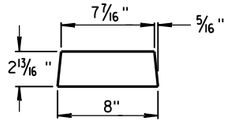
GUSSET 1



GUSSET 2

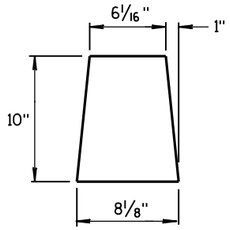


GUSSET 3

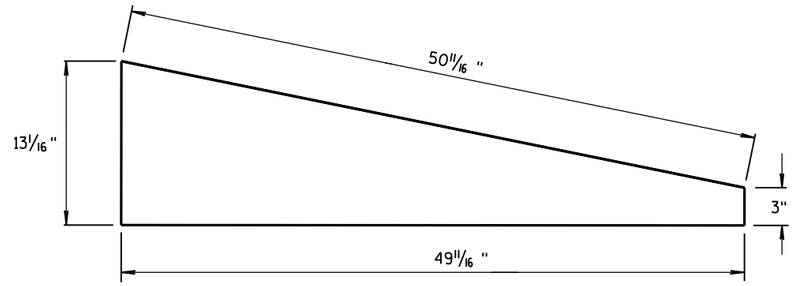


GUSSET 4

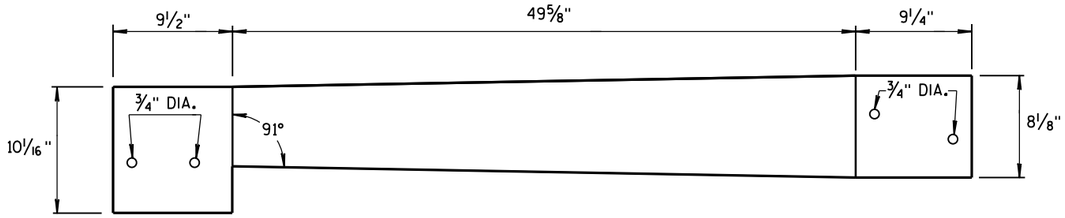
GUSSETS

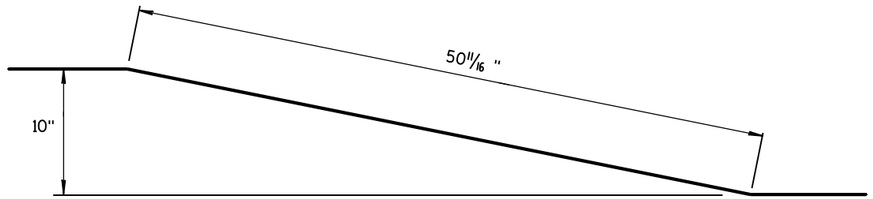


END PLATE



SIDE PLATE

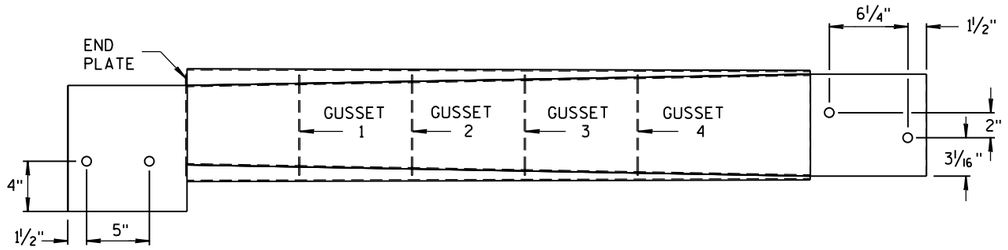


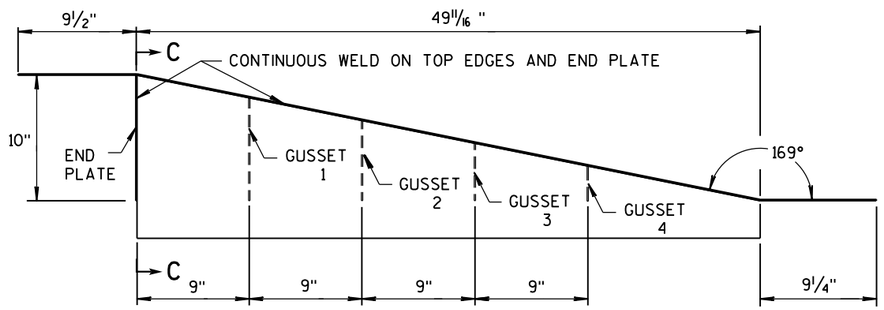


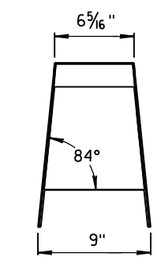
TOP PLATE

SIDE, TOP AND END PLATES FOR CAP FROM TEMPORARY CONCRETE BARRIER TO 42" PERMANENT CONCRETE BARRIER

SIDE PLATES, TOP PLATE, END PLATE AND GUSSETS ARE 12 GAUGE ASTM A36 GALVANIZED STEEL.







SECTION C-C

NOTES

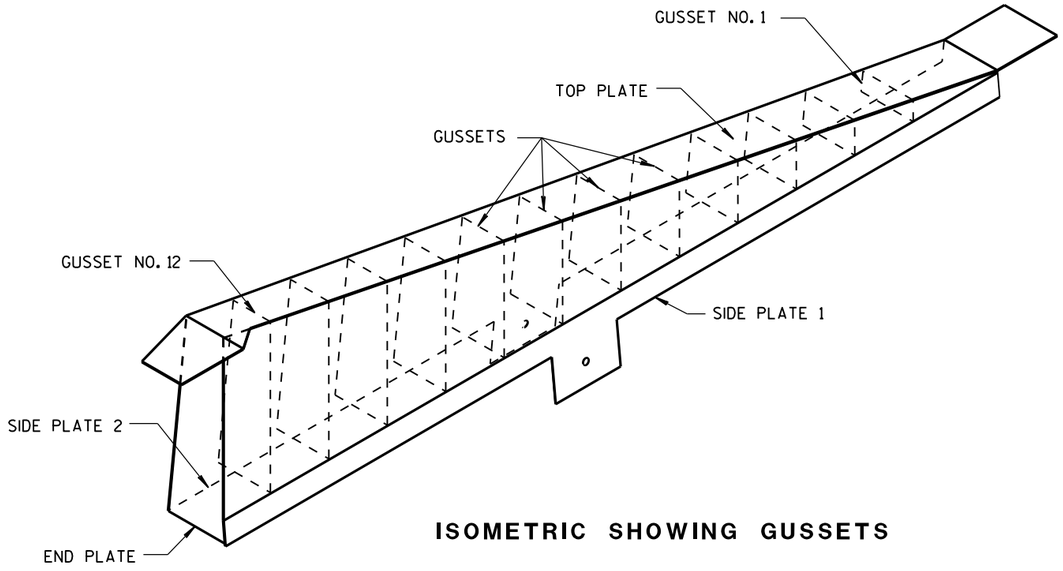
1. FOUR GUSSETS AND END PLATE ARE STITCH WELDED ON THREE SIDES.
2. TWO TRIANGULAR SIDE PLATES ARE STITCH WELDED TO TOP PLATE, END PLATE, AND GUSSETS.

CAP DETAILS FOR TEMPORARY CONCRETE BARRIER TO 42" PERMANENT CONCRETE BARRIER

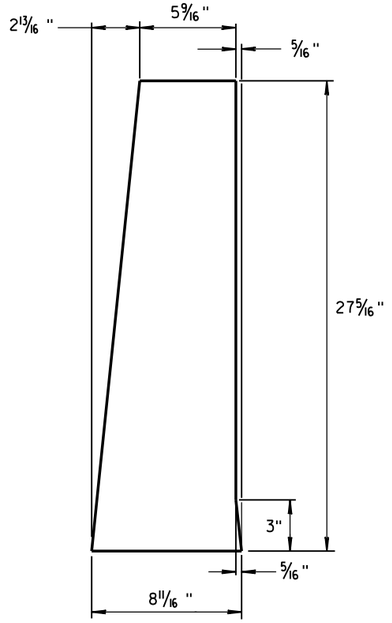
CONCRETE BARRIER
TEMPORARY PRECAST, 12'-6"

STATE OF WISCONSIN
DEPARTMENT OF TRANSPOI

6
S.D.D. 14 B 7-14f

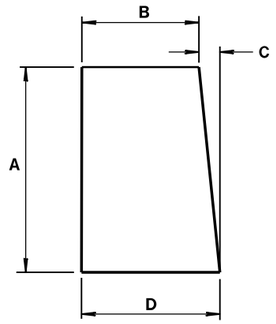


ISOMETRIC SHOWING GUSSETS



END PLATE

1/8" STEEL PLATE



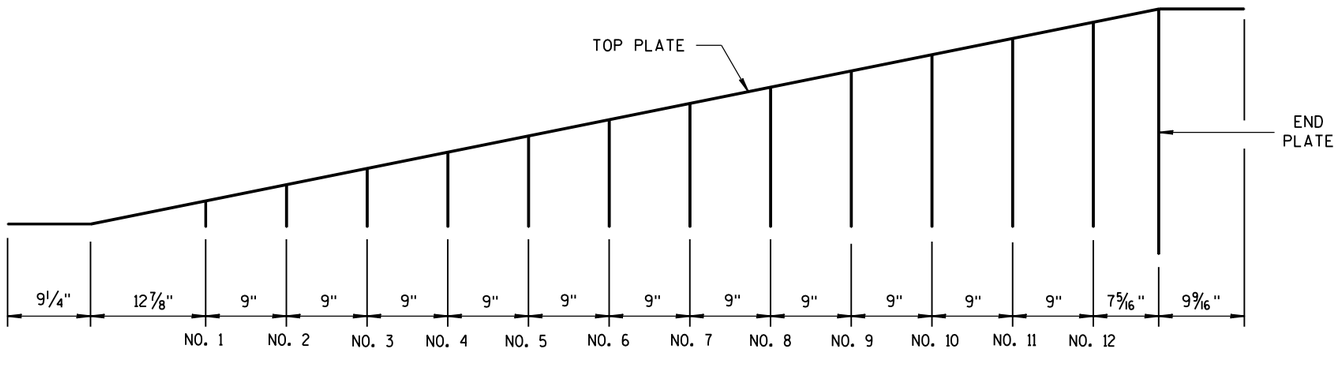
GUSSETS 1 - 12

ALL GUSSETS 1/8" STEEL PLATE

GUSSET DIMENSIONS				
GUSSET NO.	A	B	C	D
1	2 7/8"	7 3/4"	1/4"	8
2	4 11/16 "	7 9/16 "	1/2"	8
3	6 1/2"	7 3/8"	11/16 "	8 1/16 "
4	8 5/16 "	7 3/16 "	7/8"	8 1/16 "
5	10 1/8"	7"	1 1/16 "	8 1/16 "
6	11 15/16 "	6 13/16 "	1 1/4"	8 1/16 "
7	13 3/4"	6 5/8"	1 7/16 "	8 1/16 "
8	15 9/16 "	6 7/16 "	1 9/16 "	8 1/16 "
9	17 3/8"	6 1/4"	1 13/16 "	8 1/16 "
10	19 3/16 "	6 1/16 "	1 15/16 "	8 1/16 "
11	21"	5 7/8"	2 3/16 "	8 1/16 "
12	22 13/16 "	5 11/16 "	2 5/16 "	8 1/16 "

SIDE PLATES, TOP PLATE, END PLATE AND GUSSETS ARE 12 GAUGE ASTM A36 STEEL AND GALVANIZED.

GUSSETS AND END PLATE ARE STITCH WELDED ON 3 SIDES. TWO TRIANGULAR SIDE PLATES ARE STITCH WELDED TO TOP PLATE, END PLATE AND GUSSETS.



GUSSET LOCATION

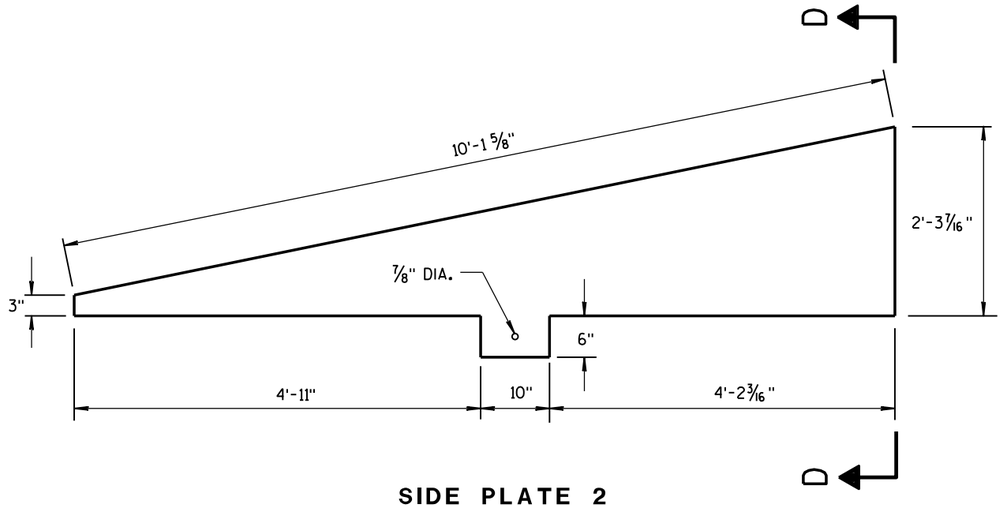
CAP DETAILS FOR TEMPORARY CONCRETE BARRIER TO 56" PERMANENT CONCRETE BARRIER

CONCRETE BARRIER
TEMPORARY PRECAST, 12'-6"

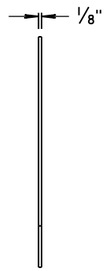
STATE OF WISCONSIN
DEPARTMENT OF TRANSPOI

6

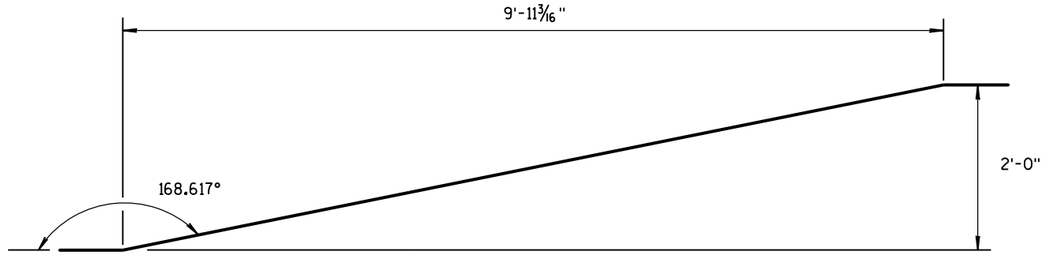
S.D.D. 14 B 7-14g



SIDE PLATE 2

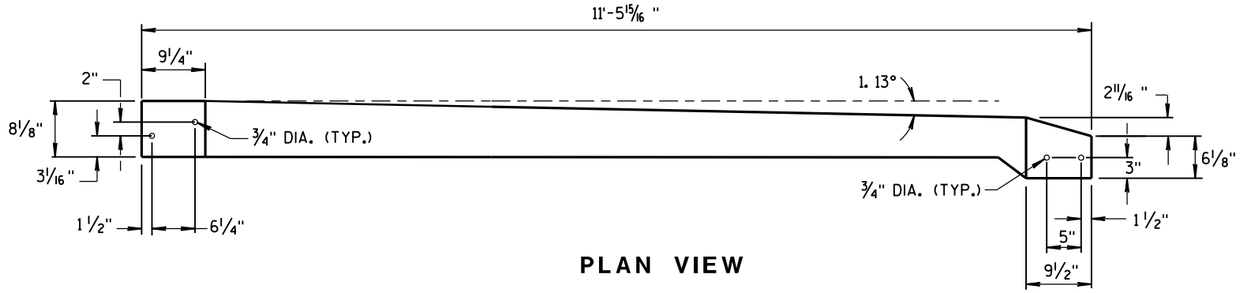


END VIEW



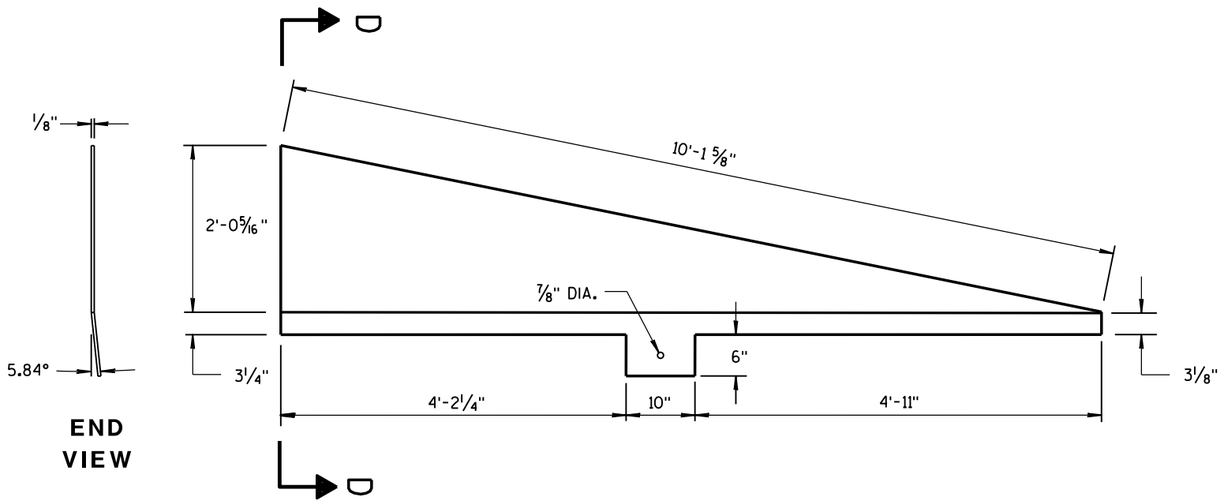
SIDE VIEW

TOP PLATE



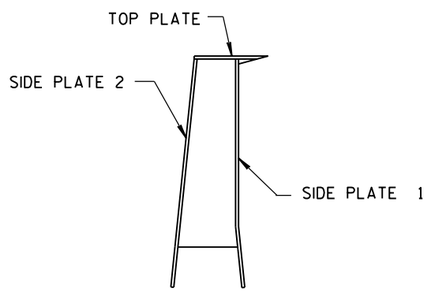
PLAN VIEW

TOP PLATE



END VIEW

SIDE PLATE 1



SECTION D-D

CAP DETAILS FOR TEMPORARY CONCRETE BARRIER TO 56" PERMANENT CONCRETE BARRIER

CONCRETE BARRIER
TEMPORARY PRECAST, 12'-6"

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

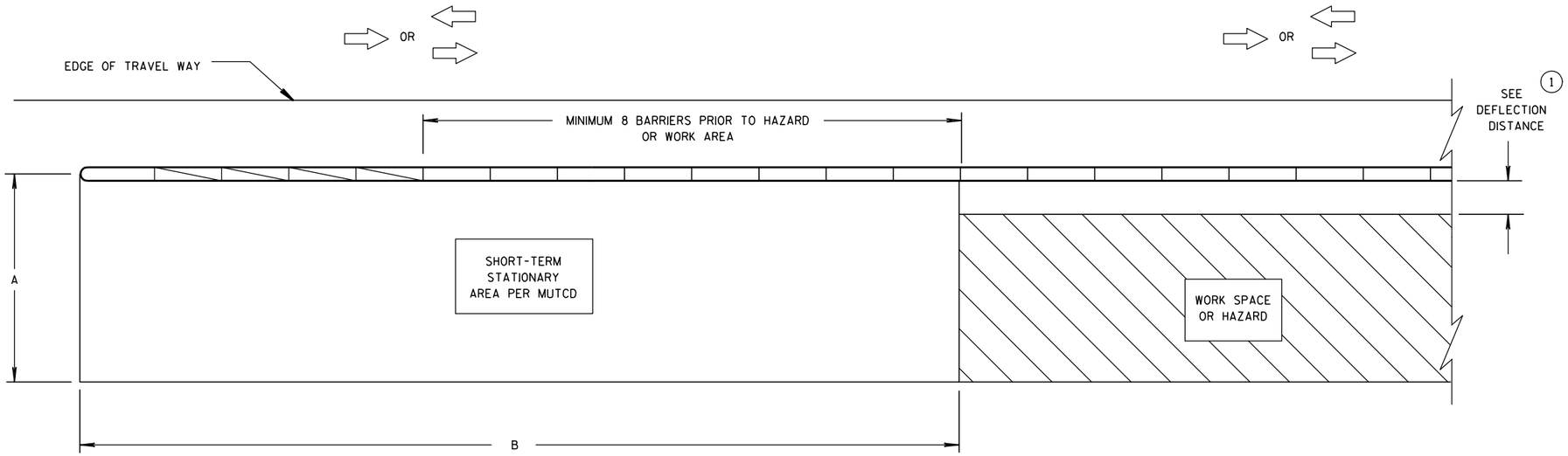
APPROVED
June 2014 — DATE
/S/ Jerry H. Zoda — ROADWAY STANDARD DEVELOPMENT ENGINEER
FHWA

6

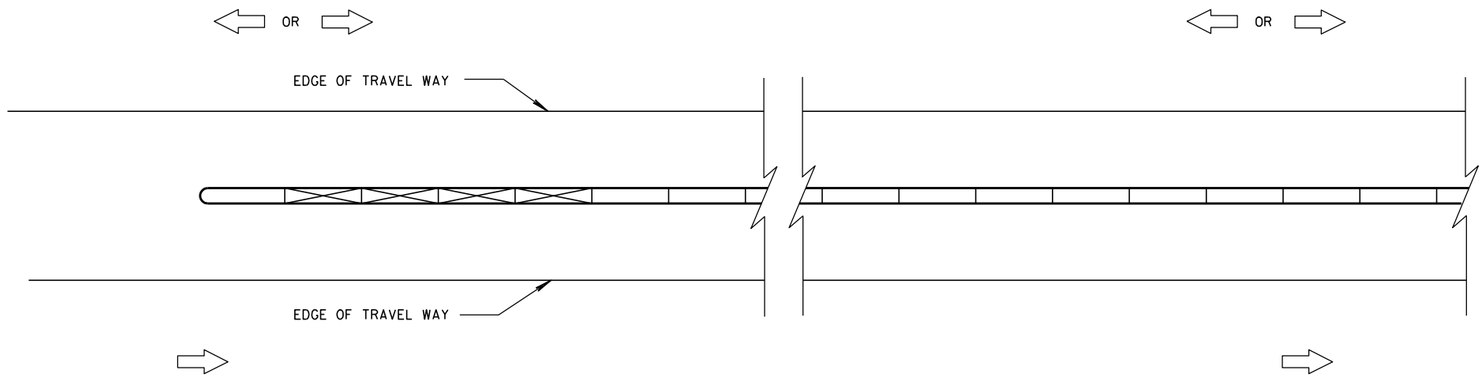
S.D.D. 14 B 7-14h

6

S.D.D. 14 B 7-14h



CRASH CUSHION/SAND BARREL ARRAY AND TEMPORARY BARRIER INSTALLATION FOR TRAFFIC ON ONE SIDE OF BARRIER



CRASH CUSHION/SAND BARREL ARRAY AND TEMPORARY BARRIER INSTALLATION FOR TRAFFIC ON BOTH SIDES OF BARRIER

DIMENSION A TABLE (2)

FACILITY	POSTED SPEED MPH	DIMENSION A	
		MIN. FT	MAX. FT
FREEWAY/EXPRESSWAY	ALL	15	20
NON-FREEWAY/EXPRESSWAY	GREATER THAN OR EQUAL TO 45	10	15
NON-FREEWAY/EXPRESSWAY	LESS THAN 45	8	10
AADT LESS THAN 1,500	ALL	8	10

DIMENSION B TABLE (2)

POSTED SPEEDS MPH	DIMENSION B FT
20	115
25	155
30	200
35	250
40	305
45	360
50	425
55	495
60	570
65	645

LEGEND

DIRECTION OF TRAVEL

CRASH CUSHION OR SAND BARREL ARRAY

SEE FREE STANDING TRANSITION TO TIED-DOWN SYSTEM DETAILS

SEE BI-DIRECTIONAL TRANSITION TO TIED-DOWN SYSTEM DETAILS

3 PINS PLACED ON TRAFFIC SIDE OF BARRIER

PERMANENT CONCRETE BARRIER OR CONCRETE PARAPET

FREE STANDING TEMPORARY BARRIER

GENERAL NOTES

SEE STANDARD DETAIL DRAWING 14B7 FOR MORE INFORMATION.

DETAILS PROVIDE A GENERAL LAYOUT OF TEMPORARY CONCRETE BARRIER, CRASH CUSHIONS, SAND BARREL ARRAYS AND TIE DOWN TRANSITIONS. DETAILS PROVIDED MAY NOT FIT ALL POSSIBLE SITUATIONS OR SITE CONDITIONS. SEE OTHER SECTIONS OF THE CONTRACT OR PROJECT ENGINEER FOR MORE DETAILS.

ADDITIONAL TEMPORARY BARRIER MAY BE REQUIRED TO PROTECT TRAVELING PUBLIC FROM HAZARDS, CONTRACTOR'S OPERATIONS OR TO CONTROL TRAFFIC.

TEMPORARY BARRIER MAY BE REQUIRED TO BE ANCHORED TO PAVEMENT OR BRIDGE DECK.

FOR DETAILS ON CRASH CUSHION OR SAND BARREL ARRAYS SEE OTHER SECTIONS OF THE PLAN AND MANUFACTURE'S DETAILS.

SLOPES LEADING TO TEMPORARY BARRIER, CRASH CUSHION OR SAND BARREL ARRAY ARE 10:1 OR LESS.

(1) FOR DEFLECTION INFORMATION SEE STANDARD DETAIL DRAWING 14B7.

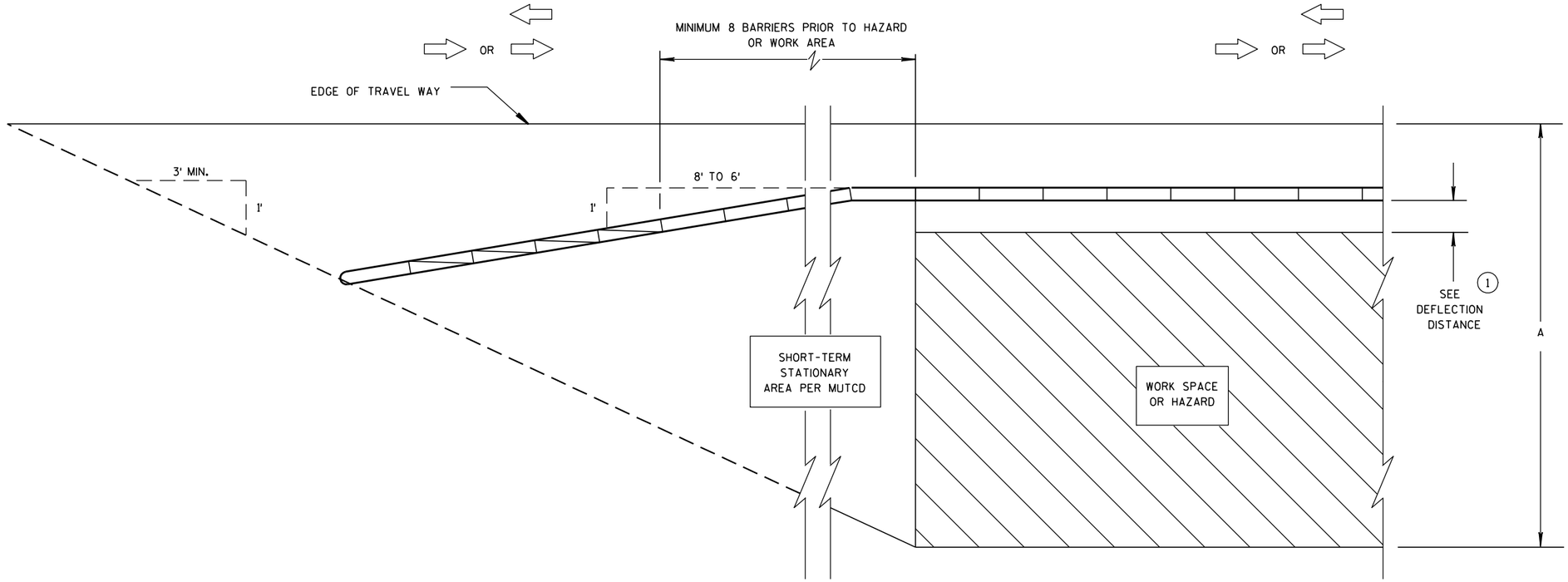
(2) VALUES PROVIDED MAY NOT FIT ALL POSSIBLE SITUATIONS OR SITE CONDITIONS. SEE OTHER SECTIONS OF THE CONTRACT OR PROJECT ENGINEER FOR MORE DETAILS.

CRASH CUSHION/SAND BARREL ARRAY AND OTHER TEMPORARY BARRIER LAYOUT DETAILS

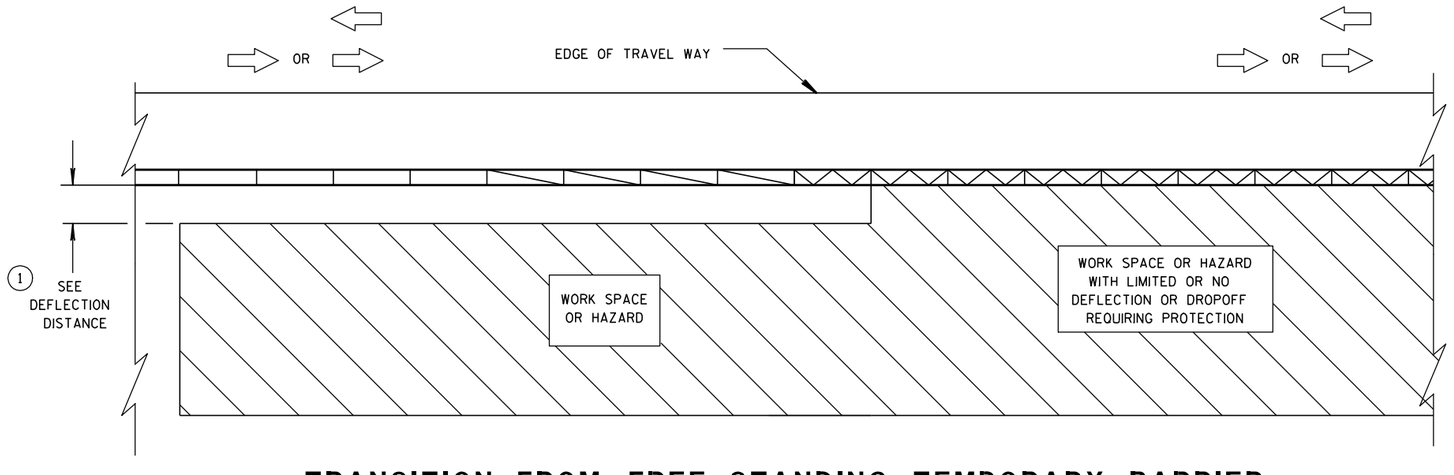
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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S.D.D. 14 B 8-1a



CRASH CUSHION/SAND BARREL ARRAY AND TEMPORARY BARRIER INSTALLATION FOR TRAFFIC ON ONE SIDE - FLARED INSTALLATION



TRANSITION FROM FREE STANDING TEMPORARY BARRIER TO ANCHORED BARRIER

LEGEND

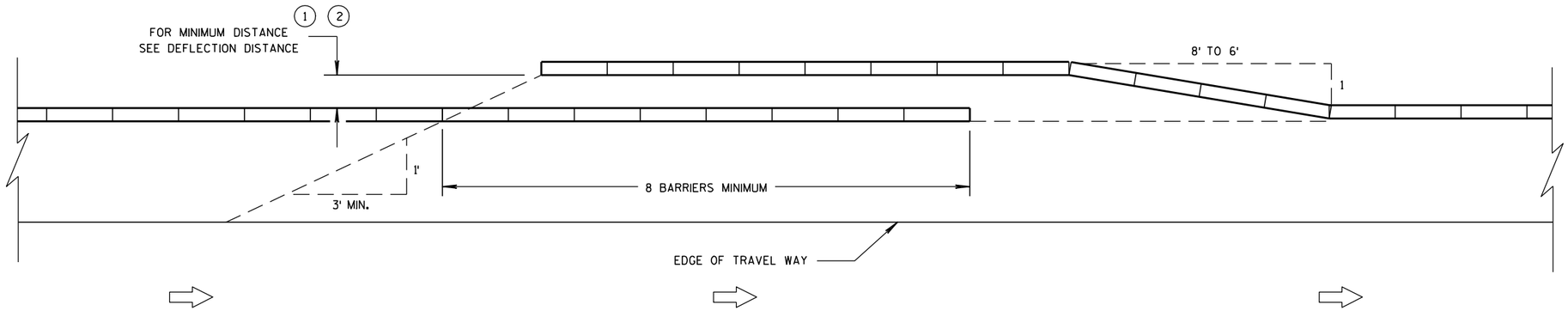
- DIRECTION OF TRAVEL
- CRASH CUSHION OR SAND BARREL ARRAY
- SEE FREE STANDING TRANSITION TO TIED-DOWN SYSTEM DETAILS
- SEE BI-DIRECTIONAL TRANSITION TO TIED-DOWN SYSTEM DETAILS
- 3 PINS PLACED ON TRAFFIC SIDE OF BARRIER
- PERMANENT CONCRETE BARRIER OR CONCRETE PARAPET
- FREE STANDING TEMPORARY BARRIER

CRASH CUSHION/SAND BARREL ARRAY AND OTHER TEMPORARY BARRIER LAYOUT DETAILS

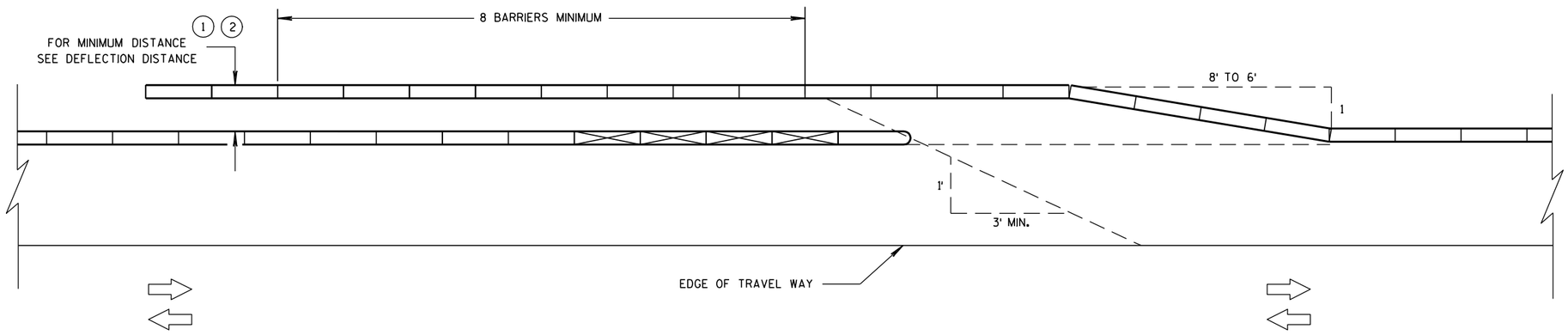
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

6

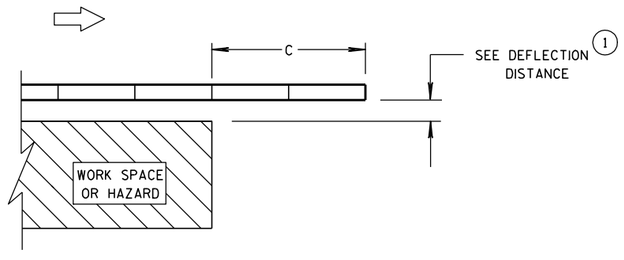
S.D.D. 14 B 8-1b



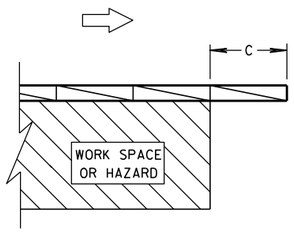
TEMPORARY BARRIER OVERLAP - ONE-WAY TRAFFIC



TEMPORARY BARRIER OVERLAP - TWO-WAY TRAFFIC



ENDING TEMPORARY BARRIER DOWNSTREAM - UNANCHORED



ENDING TEMPORARY BARRIER DOWNSTREAM - ANCHORED

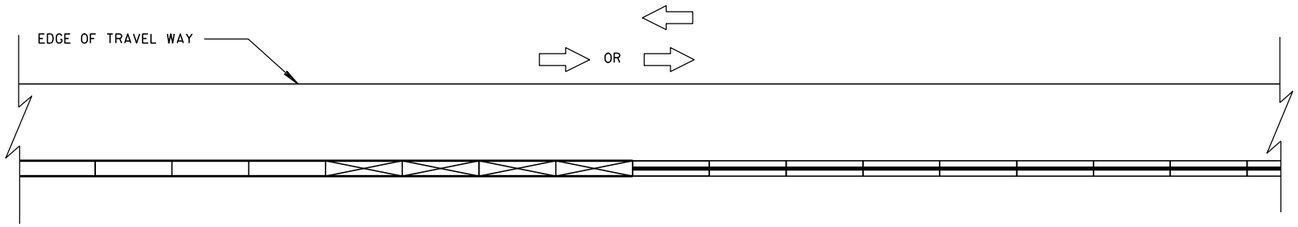
LEGEND

- DIRECTION OF TRAVEL
- CRASH CUSHION OR SAND BARREL ARRAY
- SEE FREE STANDING TRANSITION TO TIED-DOWN SYSTEM DETAILS
- SEE BI-DIRECTIONAL TRANSITION TO TIED-DOWN SYSTEM DETAILS
- 3 PINS PLACED ON TRAFFIC SIDE OF BARRIER
- PERMANENT CONCRETE BARRIER OR CONCRETE PARAPET
- FREE STANDING TEMPORARY BARRIER

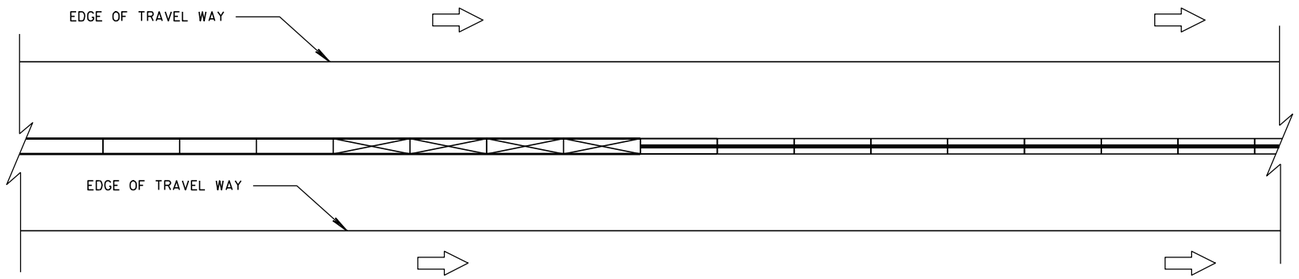
CRASH CUSHION/SAND BARREL ARRAY AND OTHER TEMPORARY BARRIER LAYOUT DETAILS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

6
S.D.D. 14 B 8-1c



CONNECTING TEMPORARY BARRIER TO PERMANENT
CONCRETE BARRIER-TRAFFIC ON ONE SIDE



CONNECTING TEMPORARY BARRIER TO PERMANENT
CONCRETE BARRIER-TRAFFIC ON BOTH SIDES

LEGEND

DIRECTION OF TRAVEL

CRASH CUSHION OR
SAND BARREL ARRAY

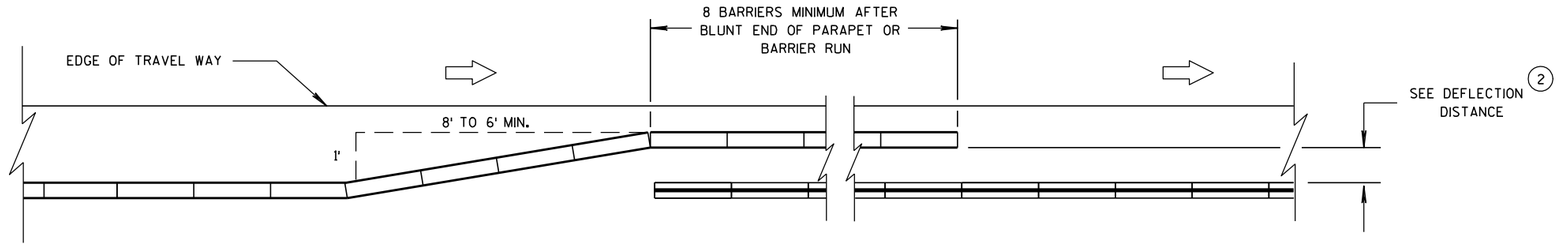
SEE FREE STANDING TRANSITION
TO TIED-DOWN SYSTEM DETAILS

SEE BI-DIRECTIONAL TRANSITION
TO TIED-DOWN SYSTEM DETAILS

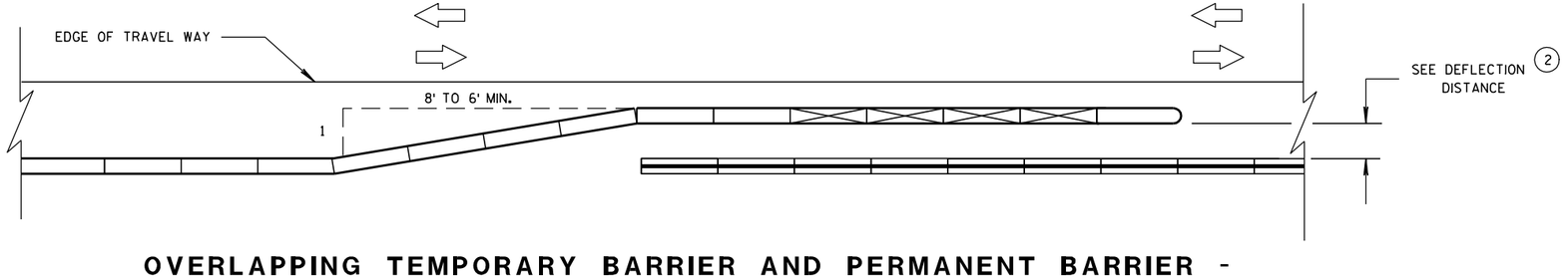
3 PINS PLACED ON
TRAFFIC SIDE OF BARRIER

PERMANENT CONCRETE BARRIER
OR CONCRETE PARAPET

FREE STANDING TEMPORARY
BARRIER



OVERLAPPING TEMPORARY BARRIER AND PERMANENT BARRIER -
ONE WAY TRAFFIC



OVERLAPPING TEMPORARY BARRIER AND PERMANENT BARRIER -
TWO WAY TRAFFIC

CRASH CUSHION/SAND BARREL
ARRAY AND OTHER TEMPORARY
BARRIER LAYOUT DETAILS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPO...

6
S.D.D. 14 B 8-1d

LEGEND

DIRECTION OF TRAVEL

CRASH CUSHION OR SAND BARREL ARRAY

SEE FREE STANDING TRANSITION TO TIED-DOWN SYSTEM DETAILS

SEE BI-DIRECTIONAL TRANSITION TO TIED-DOWN SYSTEM DETAILS

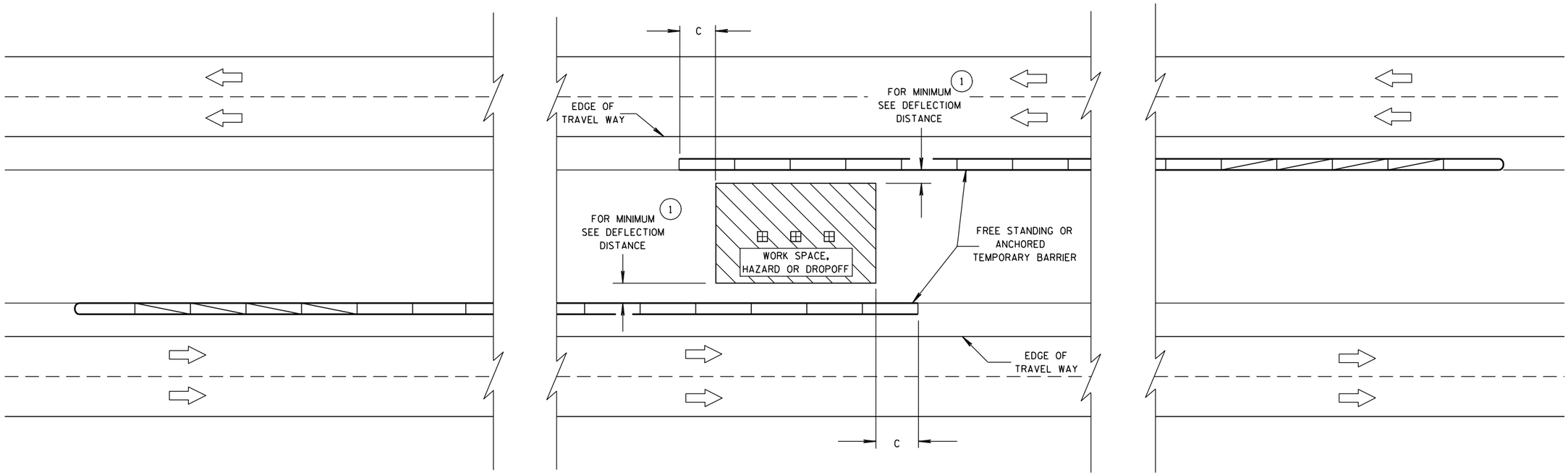
3 PINS PLACED ON TRAFFIC SIDE OF BARRIER

PERMANENT CONCRETE BARRIER OR CONCRETE PARAPET

FREE STANDING TEMPORARY BARRIER

DIMENSION C TABLE (2)

AVAILABLE DEFLECTION DISTANCE	MINIMUM LENGTH OF BARRIER BEYOND HAZARD FT
GREATER THAN 8'	12.5
LESS THAN OR EQUAL TO 8' BUT GREATER THAN 4'	50
LESS THAN OR EQUAL TO 4'	100



CRASH CUSHION/SAND BARREL ARRAY AND OTHER TEMPORARY BARRIER LAYOUT DETAILS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

8/31/2012
DATE

/S/ Jerry H. Zogg
ROADWAY STANDARDS ENGINNER

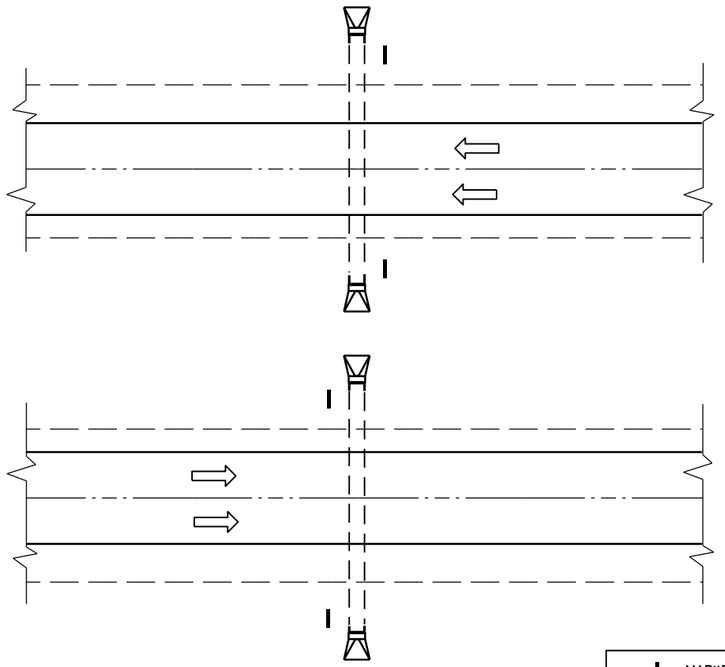
FHWA

6

S.D.D. 14 B 8-1e

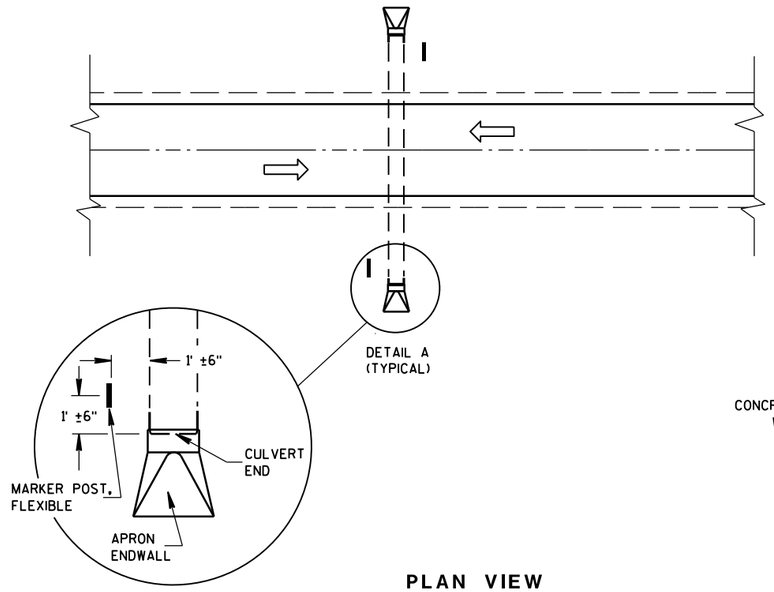
6

S.D.D. 14 B 8-1e



PLAN VIEW

DIVIDED HIGHWAY



DETAIL A
(TYPICAL)

PLAN VIEW

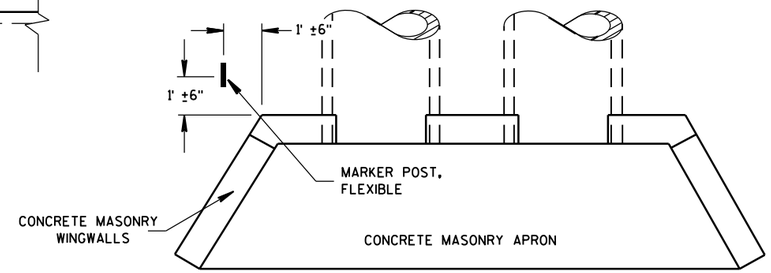
UNDIVIDED HIGHWAY

MARKER POST, FLEXIBLE

DIRECTION OF TRAFFIC FLOW

GENERAL NOTES

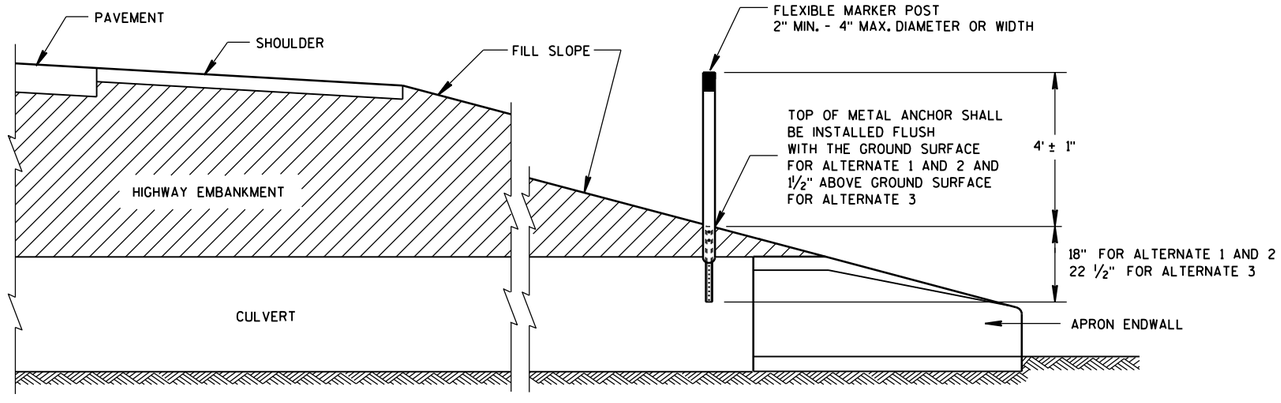
DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND THE APPLICABLE SPECIAL PROVISIONS.



PLAN VIEW

CONCRETE MASONRY ENDWALLS FOR CULVERT PIPE AND PIPE ARCH

FLEXIBLE MARKER POST LOCATION



CROSS SECTION

FLEXIBLE MARKER POST

FLEXIBLE MARKER POST FOR CULVERT END

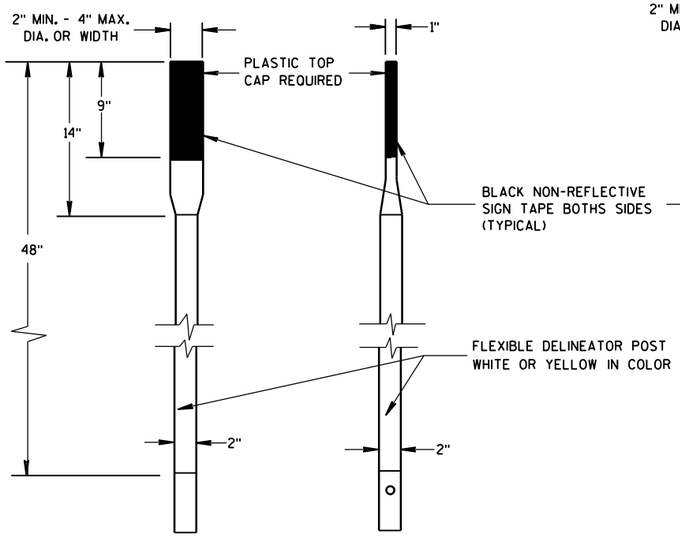
STATE OF WISCONSIN
DEPARTMENT OF TRANSPOI

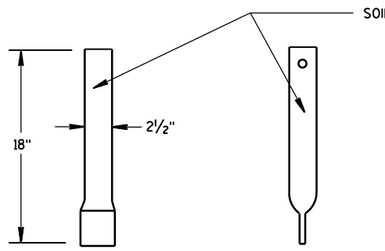
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S.D.D. 15 A 3-2a

6

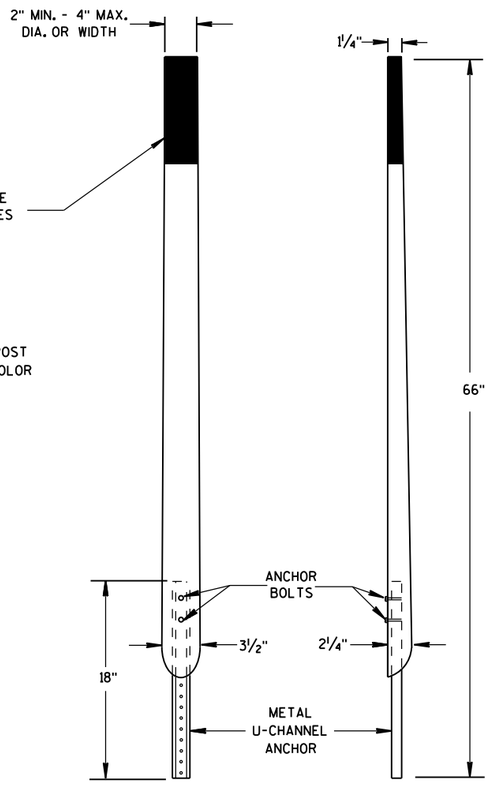
S.D.D. 15 A 3-2a





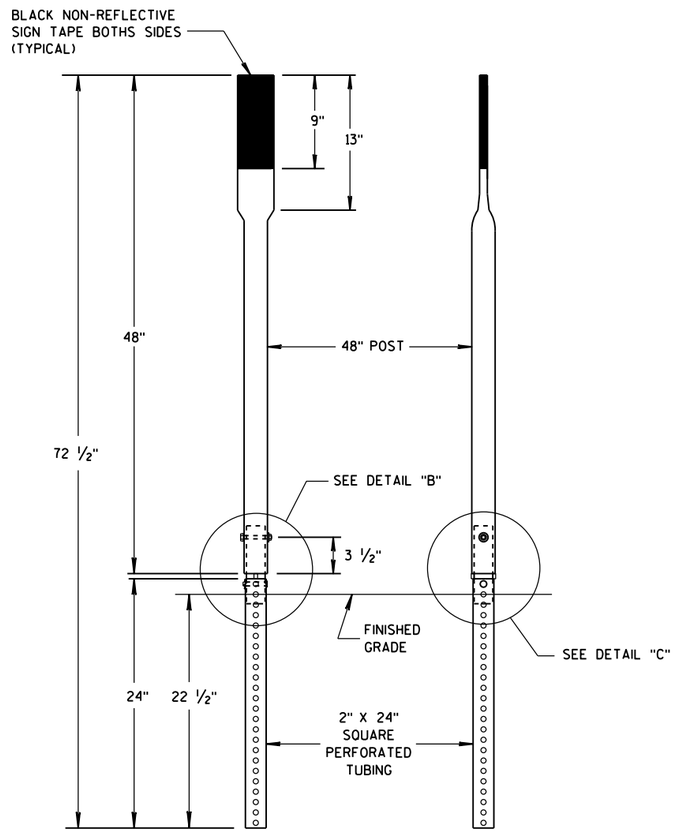
FRONT VIEW SIDE VIEW

ALTERNATE 1



FRONT VIEW SIDE VIEW

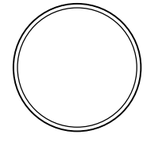
ALTERNATE 2



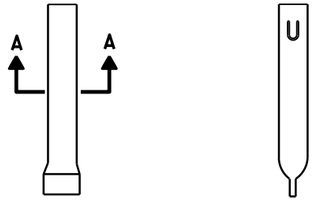
FRONT VIEW SIDE VIEW

ALTERNATE 3

FLEXIBLE MARKER POSTS

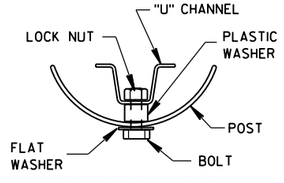


SECTION A-A

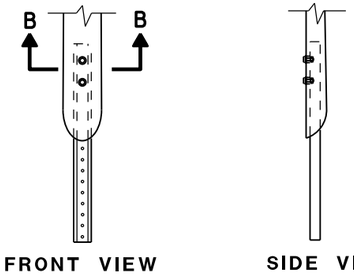


FRONT VIEW SIDE VIEW

ALTERNATE 1

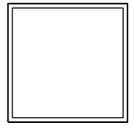


SECTION B-B

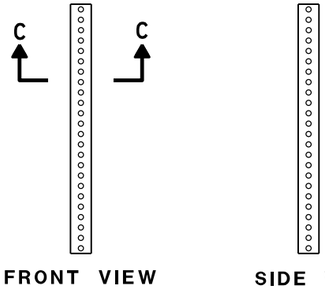


FRONT VIEW SIDE VIEW

ALTERNATE 2



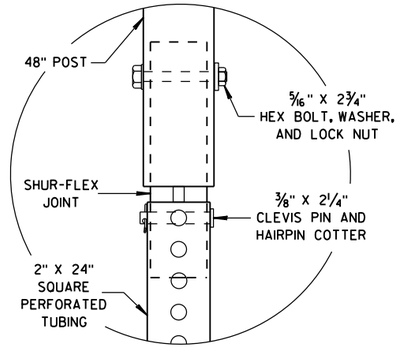
SECTION C-C



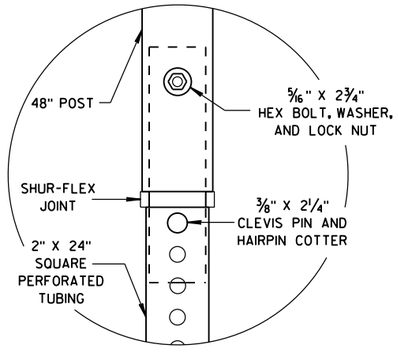
FRONT VIEW SIDE VIEW

ALTERNATE 3

FLEXIBLE MARKER POST ANCHORS



DETAIL B



DETAIL C

FLEXIBLE MARKER POST
FOR CULVERT END

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
10/1/2012
DATE
/S/ Travis Feltes
STATE TRAFFIC ENGINEER

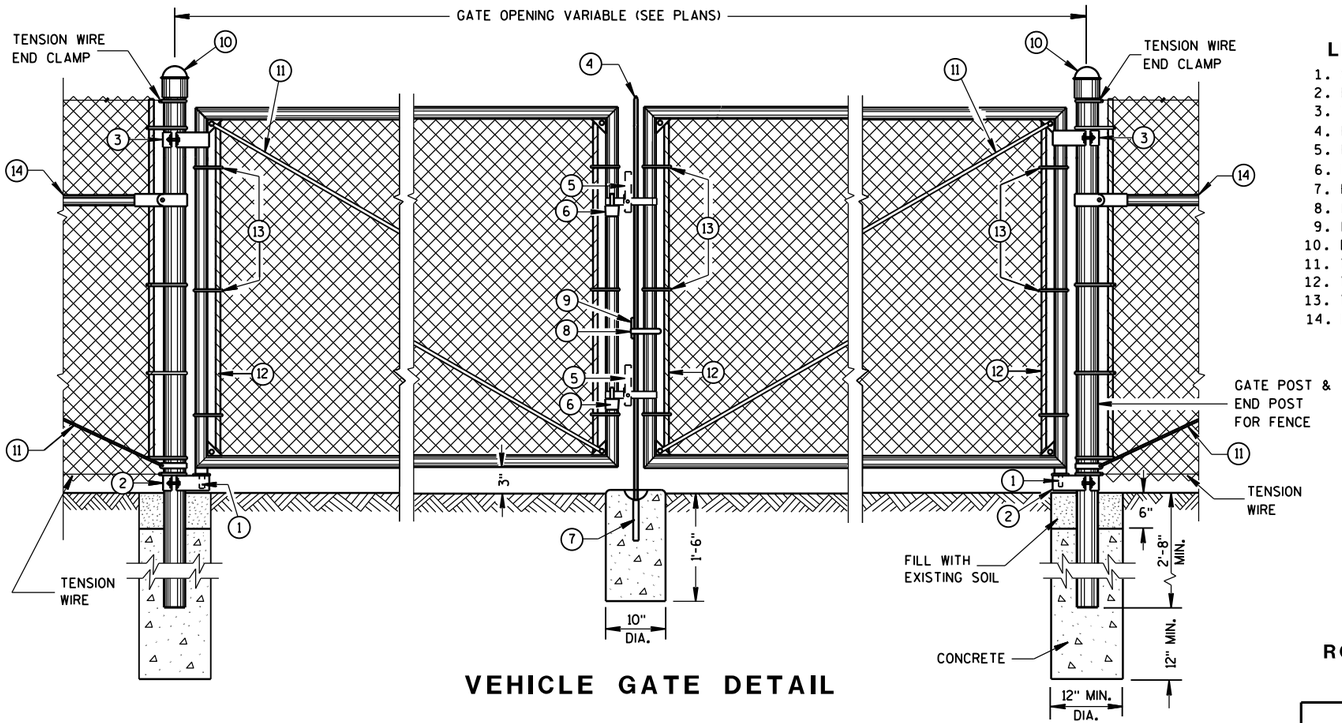
FHWA

6

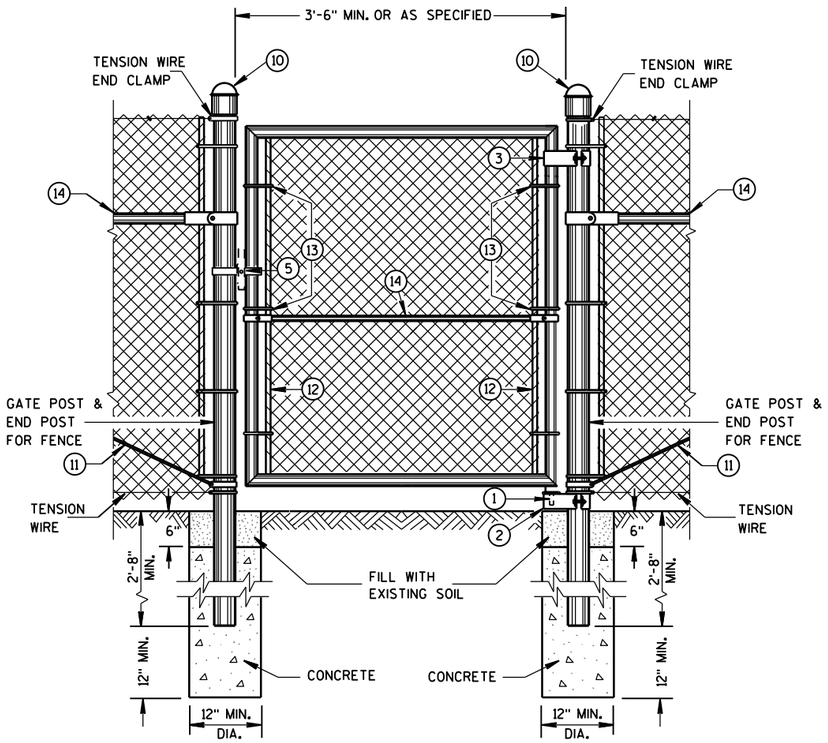
S.D.D. 15 A 3-2b

6

S.D.D. 15 A 3-2b



VEHICLE GATE DETAIL



PEDESTRIAN GATE DETAIL

LEGEND

1. STRAIGHT PLUG
2. BOTTOM HINGE
3. TOP HINGE
4. PLUNGER ROD
5. FULCRUM LATCH
6. FORK CATCH *
7. PLUNGER ROD CATCH
8. LOCK KEEPER GUIDE
9. LOCK KEEPER
10. DOME TOPS
11. TRUSS RODS
12. TENSION BAR
13. TENSION BANDS
14. BRACE RAIL

*NOT REQUIRED ON SINGLE SWING PEDESTRIAN GATE

GENERAL NOTES

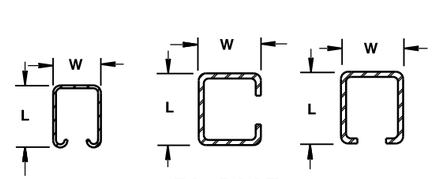
FENCE POSTS INSTALLED ON CONCRETE WALLS SHALL BE ANCHORED INTO EMBEDDED METAL SLEEVES OR CORED HOLE BY FILLING THE ANNULAR SPACE WITH PEA GRAVEL FOLLOWED BY AN EPOXY RESIN ADHESIVE. THE EPOXY RESIN ADHESIVE SHALL CONFORM TO THE REQUIREMENTS OF AASHTO M 235, CLASS A, B OR C.

USE FENCE FABRIC KNUCKLED AT BOTH SELVAGES.

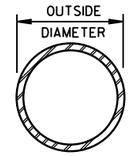
FOR LEAF GATES GREATER THAN 8 FEET WIDE, INSTALL INTERIOR VERTICAL BRACE RAIL AT 8 FOOT INTERVALS.

FOR FABRIC HEIGHTS GREATER THAN 8 FEET, INSTALL INTERIOR HORIZONTAL BRACE RAILS TO LEAF GATE.

MAXIMUM SAG FOR OUTER GATE MEMBER SHALL NOT EXCEED THE GREATER OF 1% OF THE LEAF GATE WIDTH OR 2 INCHES.



FS POST



SP POST & RAIL

CROSS SECTIONS OF POSTS AND RAILS

ROLLED-FORMED STEEL FENCE POST (2.0 OZ./SQ. FT. COATING)

POST TYPE	LENGTH (L) INCH	WIDTH (W) INCH	WEIGHT LBS/FT
FS1	1.625	1.25	1.35
FS2†	1.875	1.625	1.850
FS2	1.875	1.625	2.400
FS3	2.250	1.700	2.780

ROUND STEEL FENCE POST (1.8 OZ./SQ. FT. COATING)

POST TYPE	OUTSIDE DIMENSION INCH	WALL THICKNESS INCH	WEIGHT LBS/FT
SP1	1.660	0.140	2.270
SP2	1.900	0.145	2.720
SP3	2.375	0.154	3.650
SP4	2.875	0.203	5.800
SP5	4.000	0.226	9.120
SP6	6.625	0.280	18.990
SP7	8.625	0.322	28.580

REQUIRED FENCE POST SIZES

USE	FABRIC HEIGHTS FEET	POST TYPE
TERMINAL POSTS **	LESS THAN OR EQUAL TO 6 FT.	SP3
	GREATER THAN OR EQUAL TO 6 FT.	SP4
LINE POSTS	LESS THAN OR EQUAL TO 6 FT.	SP2
	LESS THAN OR EQUAL TO 8 FT.	SP3
	GREATER THAN OR EQUAL TO 8 FT.	SP4
	LESS THAN OR EQUAL TO 8 FT.	FS2 OR FS2†
	GREATER THAN OR EQUAL TO 8 FT.	FS3

REQUIRED POST SIZE FOR GATES

USE	LEAF WIDTHS FEET	POST TYPE
GATES	LESS THAN OR EQUAL TO 6 FT.	SP4
	LESS THAN OR EQUAL TO 13 FT.	SP5
	LESS THAN OR EQUAL TO 18 FT.	SP6
	LESS THAN OR EQUAL TO 23 FT.	SP7

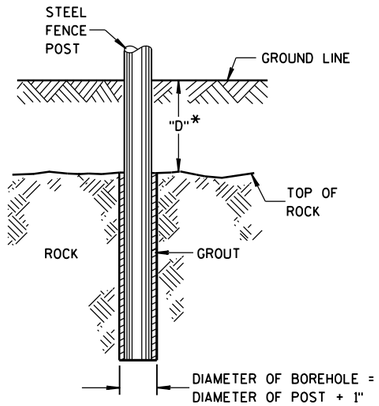
BRACE RAIL TYPES

USE		TYPE
BRACE RAIL		SP1 OR FS1

** INCLUDES END, CORNER, ANGLE, INTERSECTION AND INTERMEDIATE BRACED POSTS

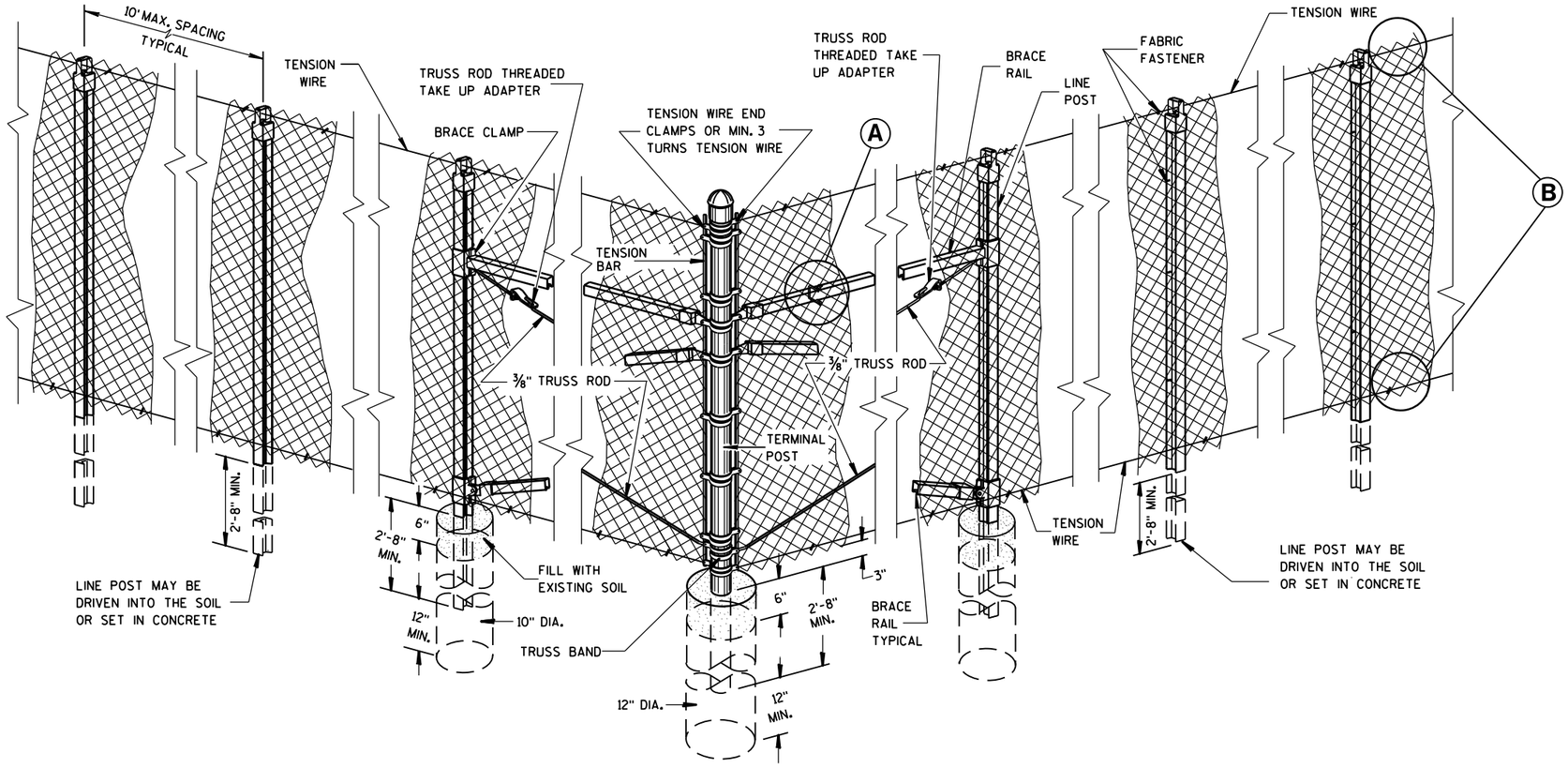
FENCE CHAIN LINK

STATE OF WISCONSIN
DEPARTMENT OF TRANSPOR

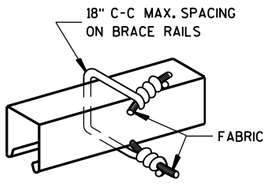


*IF "D" IS LESS THAN 2'-6", DRILL ROCK AND INSTALL GROUT

ROCK INSTALLATION OF LINE POST



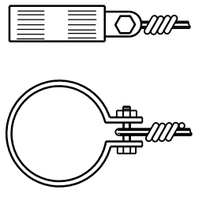
END, CORNER, ANGLE INTERSECTION & INTERMEDIATE BRACED POSTS



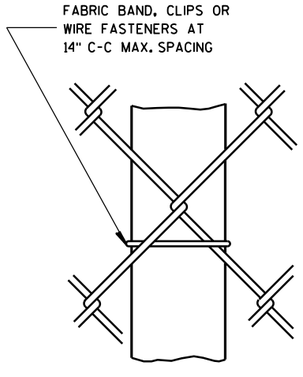
BRACE RAIL

FABRIC FASTENER

Ⓐ



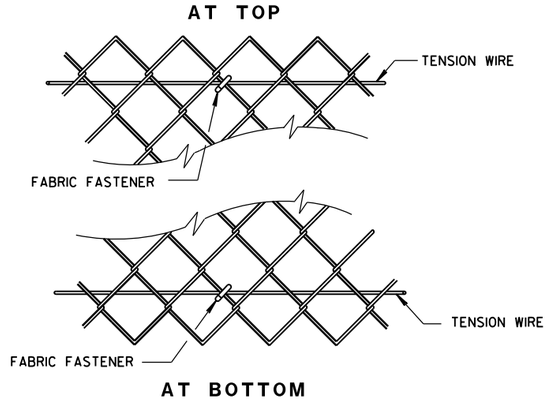
TENSION WIRE END CLAMP



LINE POST

FABRIC FASTENER

AT TOP



AT BOTTOM

SELVAGES

Ⓑ

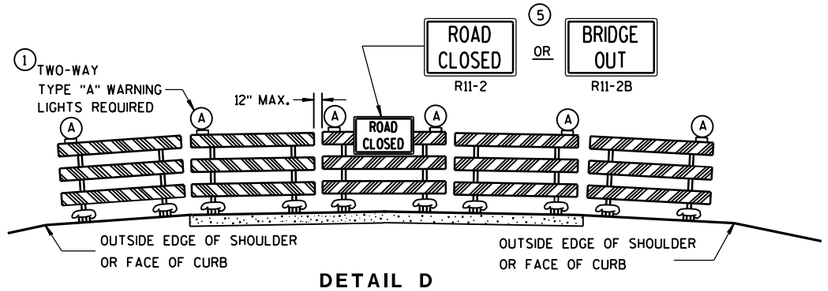
FENCE CHAIN LINK

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
Nov. 2014
DATE
/S/ Jerry H. Zogg
ROADWAY STANDARDS DEVELOPMENT ENGINEER
FHWA

6

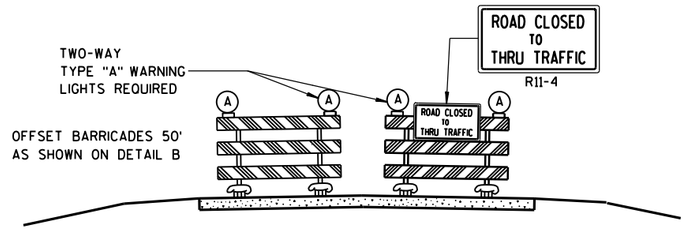
S.D.D. 15 B 3-14b



DETAIL D

ROAD CLOSURE BARRICADE DETAIL

APPROACH VIEW



DETAIL E

LANE CLOSURE BARRICADE DETAIL

APPROACH VIEW

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

GENERAL NOTES

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

BARRICADES AND SIGNS FOR MAINLINE CLOSURES

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

8/2013 — DATE

/S/ Travis Feltes — STATE TRAFFIC ENGINEER

DESIGN

FHWA

6

S.D.D. 15 C 2-5b

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

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.

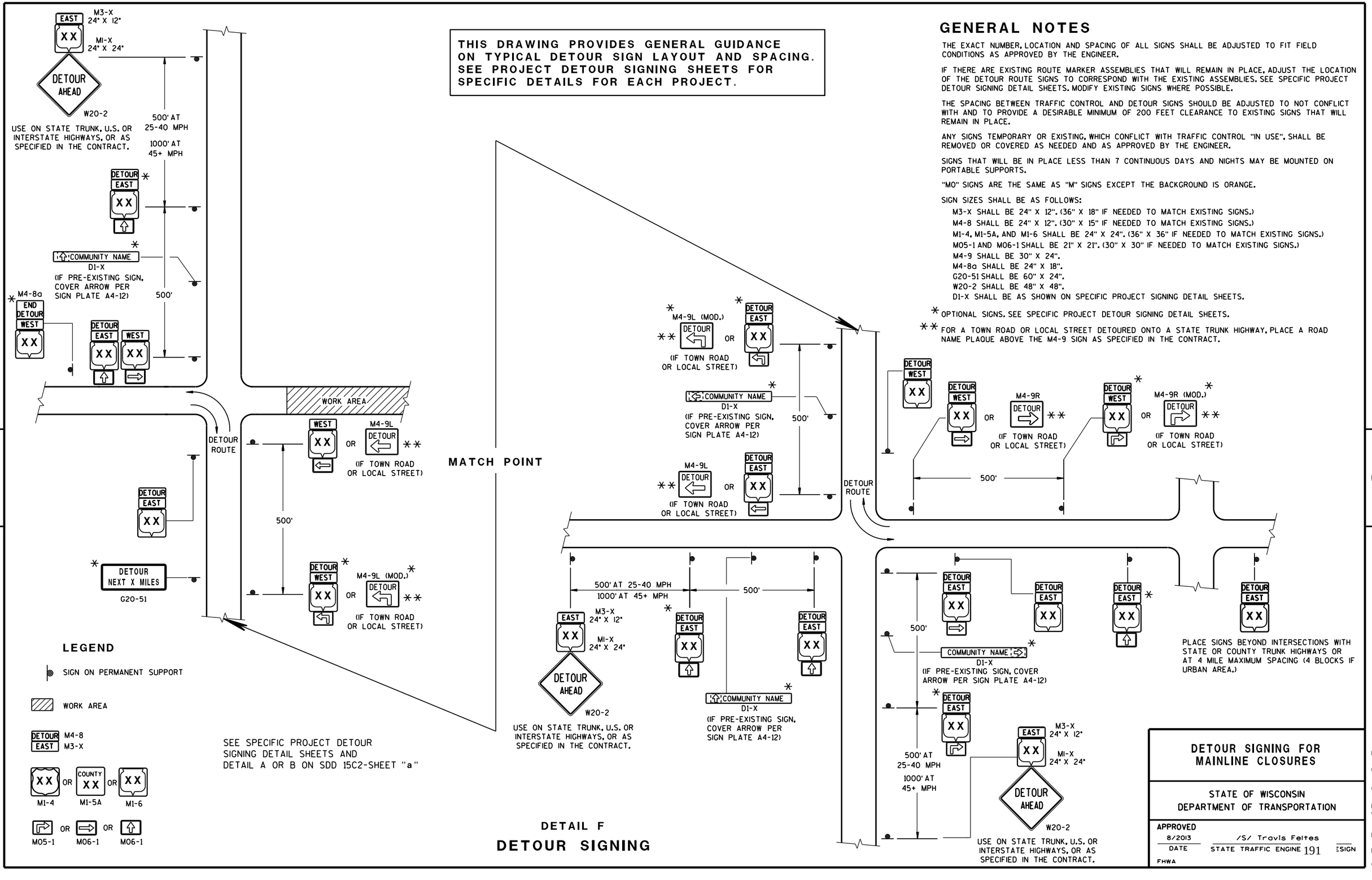
"MO" SIGNS ARE THE SAME AS "M" SIGNS EXCEPT THE BACKGROUND IS ORANGE.

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". (30" X 15" IF NEEDED TO MATCH EXISTING SIGNS.)
- M1-4, M1-5A, AND M1-6 SHALL BE 24" X 24". (36" X 36" IF NEEDED TO MATCH EXISTING SIGNS.)
- M05-1 AND M06-1 SHALL BE 21" X 21". (30" X 30" IF NEEDED TO MATCH EXISTING SIGNS.)
- M4-9 SHALL BE 30" X 24".
- M4-8a SHALL BE 24" X 18".
- G20-51 SHALL BE 60" X 24".
- W20-2 SHALL BE 48" X 48".
- D1-X SHALL BE AS SHOWN ON SPECIFIC PROJECT SIGNING DETAIL SHEETS.

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

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



DETAIL F

DETOUR SIGNING

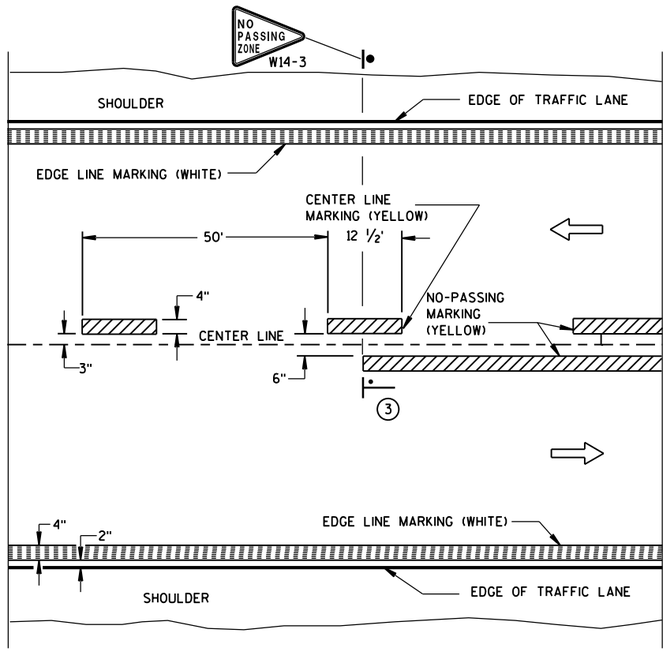
DETOUR SIGNING FOR MAINLINE CLOSURES

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

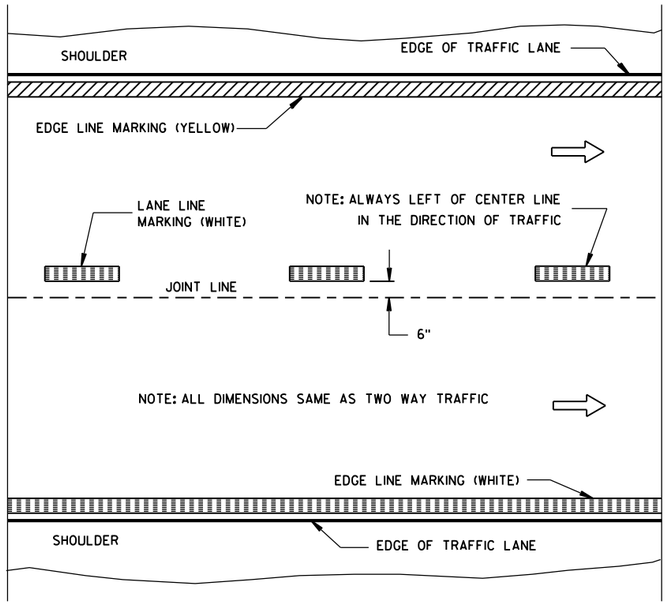
APPROVED
8/2013 DATE
/S/ Travis Feltes
STATE TRAFFIC ENGINE ESIGN
FHWA

S.D.D. 15 C 2-5c

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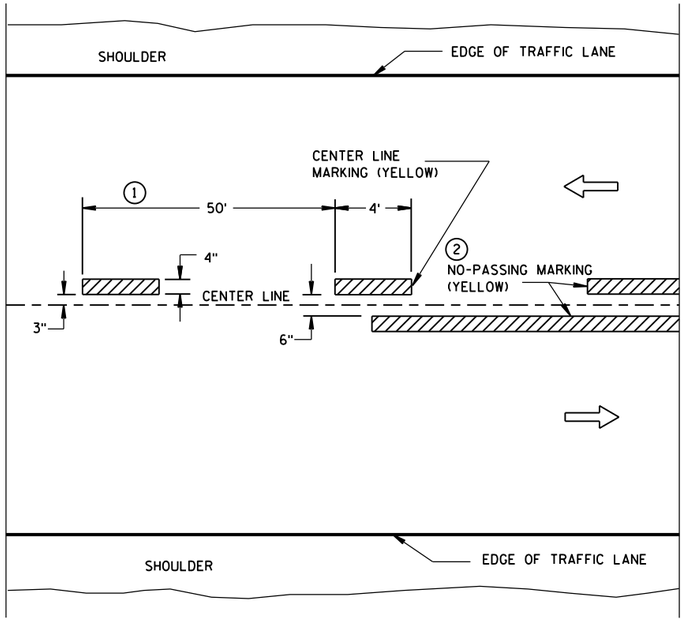


TWO WAY TRAFFIC

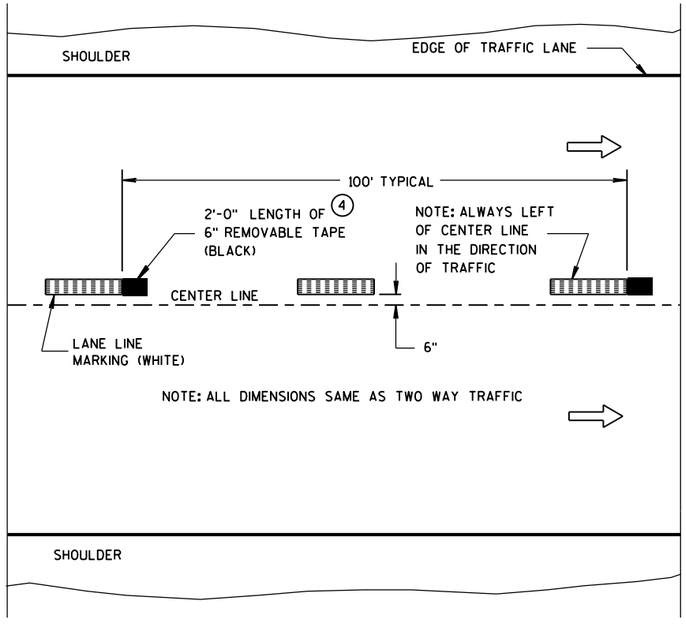


ONE WAY TRAFFIC

PERMANENT PAVEMENT MARKING



TWO WAY TRAFFIC



ONE WAY TRAFFIC

TEMPORARY (INTERMEDIATE) PAVEMENT MARKING

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

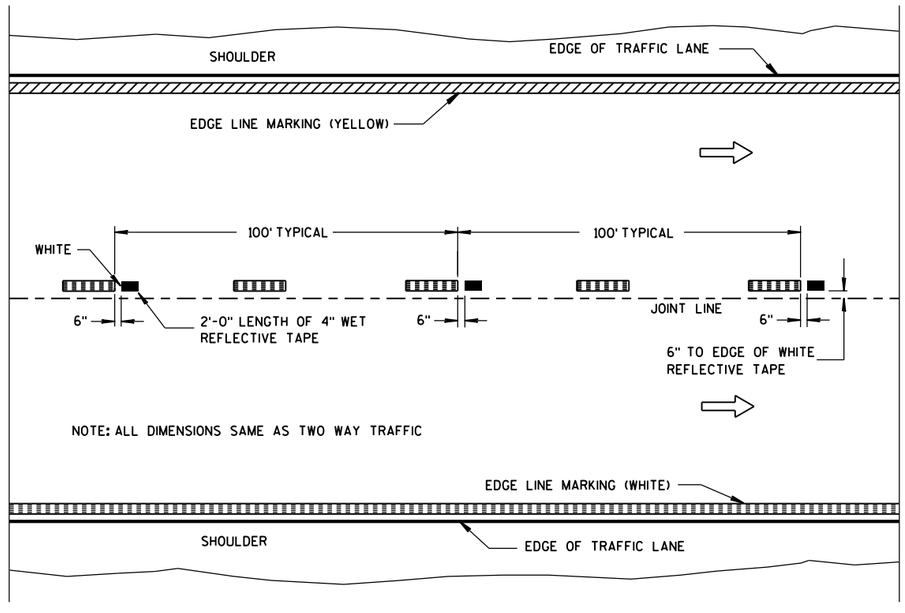
GENERAL NOTES

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

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

NOTE

ARROW SYMBOL (⇨) SHOWS DIRECTION OF TRAVEL



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

LEGEND

"T" MARKING

POST MOUNTED SIGN

PAVEMENT MARKING (MAINLINE)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

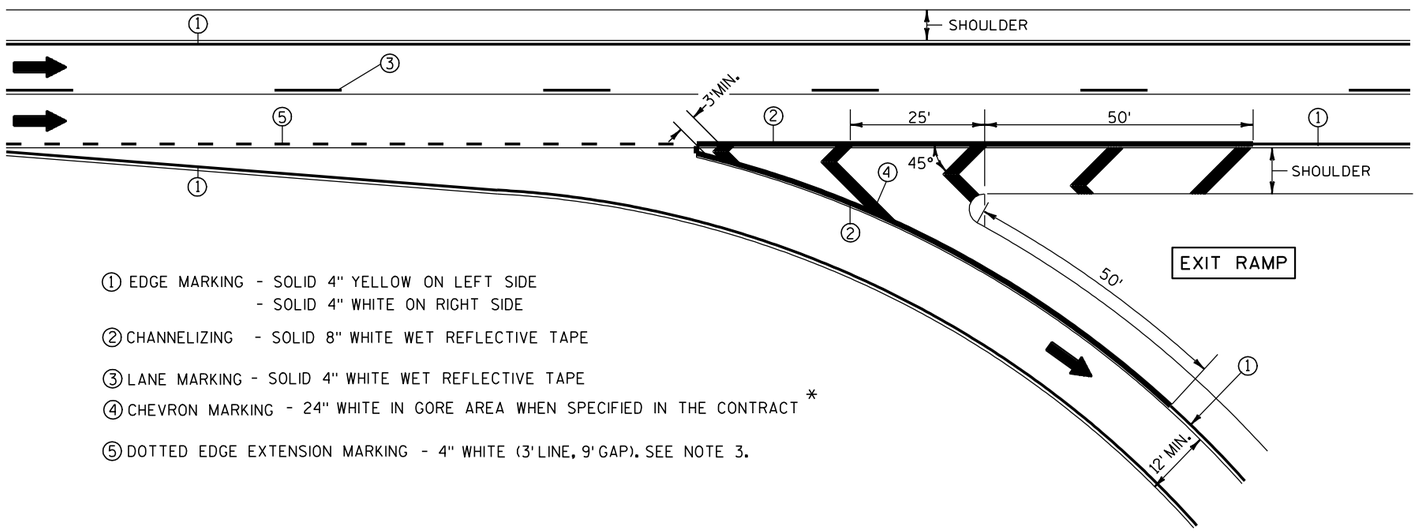
APPROVED
5-13-2013 DATE
/S/ Travis Feltes STATE TRAFFIC E
FHWA

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S.D.D. 15 C 8-16a

6

S.D.D. 15 C 8-16a



① EDGE MARKING - SOLID 4" YELLOW ON LEFT SIDE
- SOLID 4" WHITE ON RIGHT SIDE

② CHANNELIZING - SOLID 8" WHITE WET REFLECTIVE TAPE

③ LANE MARKING - SOLID 4" WHITE WET REFLECTIVE TAPE

④ CHEVRON MARKING - 24" WHITE IN GORE AREA WHEN SPECIFIED IN THE CONTRACT *

⑤ DOTTED EDGE EXTENSION MARKING - 4" WHITE (3' LINE, 9' GAP). SEE NOTE 3.

NOTES:

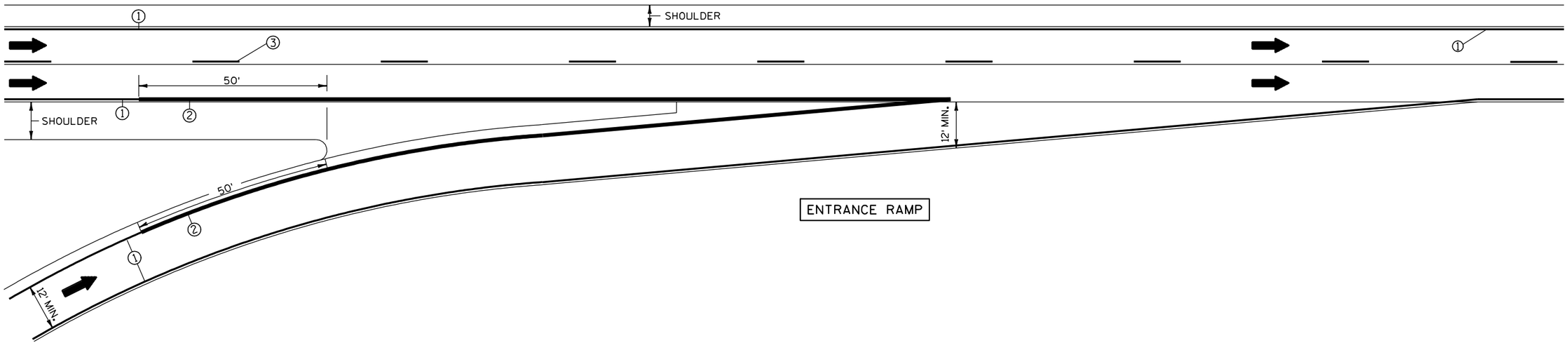
1. ARROWS SHOWN ON THIS MARKING PLAN DESIGNATE TRAFFIC FLOW, AND SHALL NOT BE TAKEN AS PROPOSED PAVEMENT MARKINGS.

2. PLACE WHITE EDGE OF TAPE 6" LEFT FROM JOINT.

3. 3' LINE 9' GAP, EXCEPT RETRACE THE EXISTING LINE-GAP PATTERN WHERE EXISTING MARKINGS ARE IN PLACE.

4. RETRACE EXISTING DIAGONAL MARKINGS.

* REFER TO DESIGN NOTES.



6

6

S.D.D. 15 C 31-1a

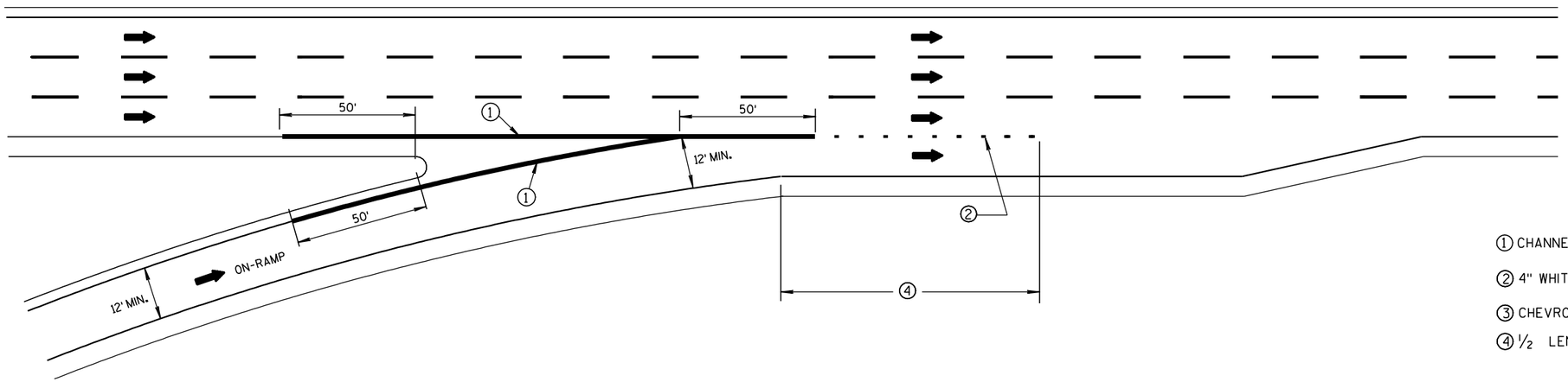
S.D.D. 15 C 31-1a

PAVEMENT MARKING
(RAMPS AND GORES)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

NOTES:

1. AHEAD ARROWS SHOWN ON THIS MARKING PLAN DESIGNATE TRAFFIC FLOW, AND SHALL NOT BE TAKEN AS PROPOSED PAVEMENT MARKINGS.
2. PLACE WHITE EDGE OF TAPE 6" LEFT FROM JOINT.
3. RETRACE EXISTING DIAGONAL MARKINGS.



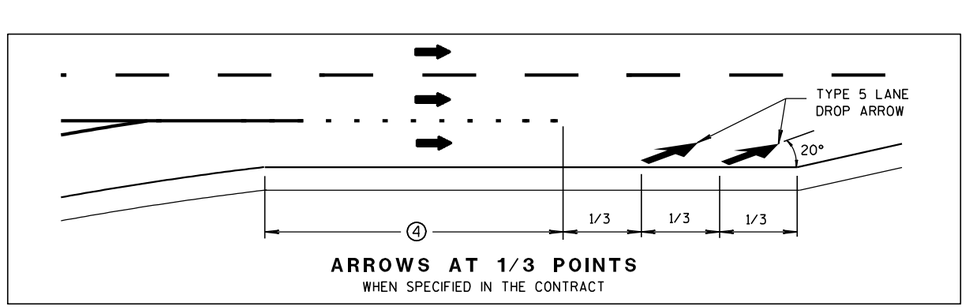
① CHANNELIZING - SOLID 8" WHITE WET REFLECTIVE TAPE IN GORE AREA.

② 4" WHITE (3' LINE, 9' GAP).

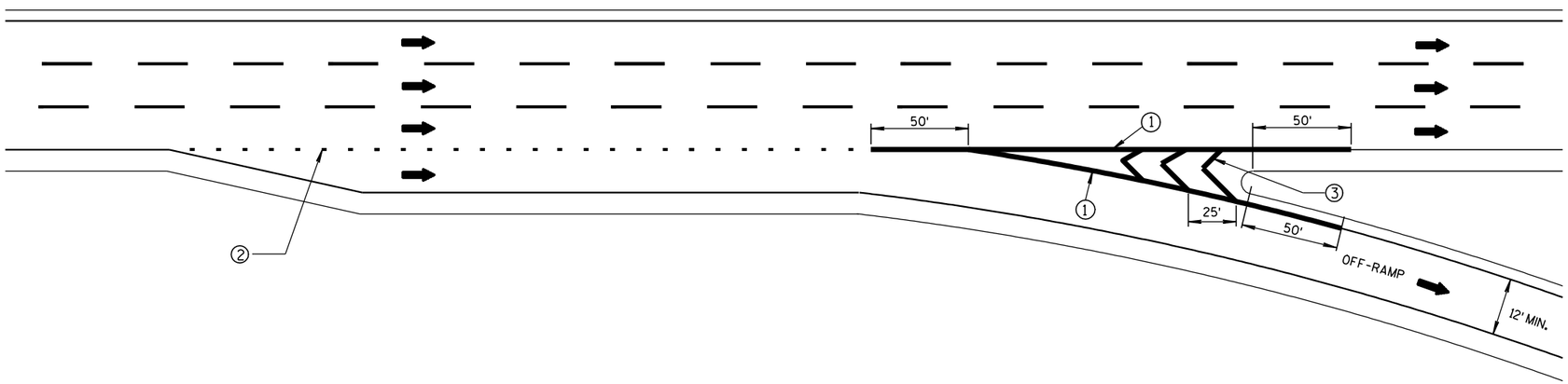
③ CHEVRON MARKING - 24" WHITE WHEN SPECIFIED IN THE CONTRACT.

④ ½ LENGTH OF FULL WIDTH ACCELERATION LANE.

SERVICE INTERCHANGE PAVEMENT MARKING FOR PARALLEL ENTRANCE-RAMP



ARROWS AT 1/3 POINTS
WHEN SPECIFIED IN THE CONTRACT



SERVICE INTERCHANGE PAVEMENT MARKING FOR PARALLEL EXIT-RAMP

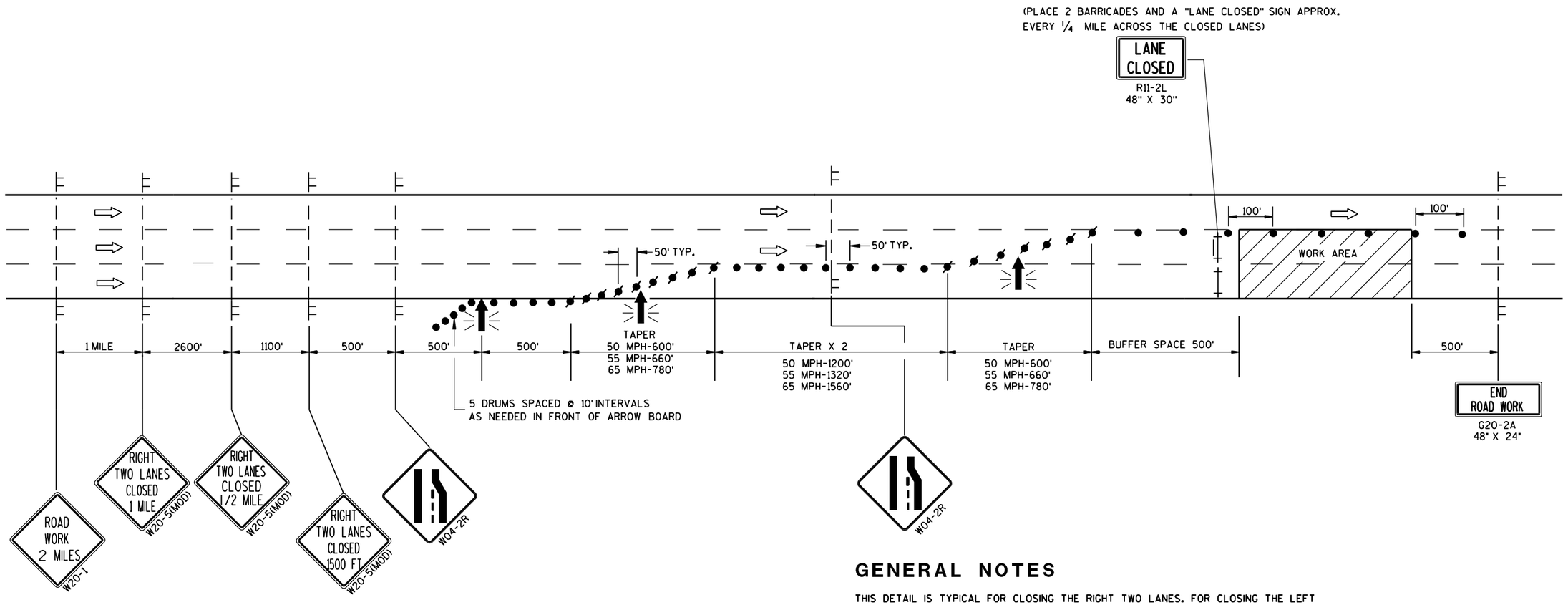
PAVEMENT MARKING FOR PARALLEL ON-RAMP AND PARALLEL OFF-RAMP

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
6/23/2011 DATE
/S/ Thomas N. Nothnagel STATE TRAFFIC ENGINE 194 SIGN
FHWA

6
S.D.D. 15 C 31-1d

(PLACE 2 BARRICADES AND A "LANE CLOSED" SIGN APPROX.
EVERY 1/4 MILE ACROSS THE CLOSED LANES)



LEGEND

- TYPE III BARRICADE
- TYPE III BARRICADE WITH ATTACHED SIGN
- SIGN ON TEMPORARY SUPPORT
- TRAFFIC CONTROL DRUM WITH TYPE "C" STEADY BURN LIGHT
- TRAFFIC CONTROL DRUM
- FLASHING ARROW BOARD
- DIRECTION OF TRAFFIC
- WORK AREA

GENERAL NOTES

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

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

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.

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

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.

W20-1 AND G20-2A SIGNS ARE NOT REQUIRED IF THE LANE CLOSURE IS WITHIN A LARGER WORK ZONE WHERE THESE SIGNS ARE ALREADY PRESENT.

CONSIDER GEOMETRICS WHEN LOCATING SIGNS AND ARROWBOARDS SO THE APPROACHING DRIVER HAS A CLEAR VIEW OF THE ARROWBOARDS AND LANE CLOSURE DRUMS FOR A MINIMUM 1500 FEET IN FRONT OF DRUMS.

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

BARRICADES IN A CLOSED LANE 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.

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

WARNING LIGHTS ARE NOT REQUIRED IF THE LANE CLOSURE IS A DAYTIME ONLY OPERATION.

TRAFFIC CONTROL, TWO LANE CLOSURE ON FREEWAY OR EXPRESSWAY, SHORT TERM (LESS THAN 24 HOURS)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
8/2013 — DATE
/S/ Travis Feltes — STATE TRAFFIC ENGINEER
FHWA

S.D.D. 15 D 14-2

LEGEND

- TRAFFIC CONTROL DRUM
- SIGN ON PERMANENT SUPPORT
- DIRECTION OF TRAFFIC
- FLASHING ARROW BOARD
- WORK AREA

GENERAL NOTES

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

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

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

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

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

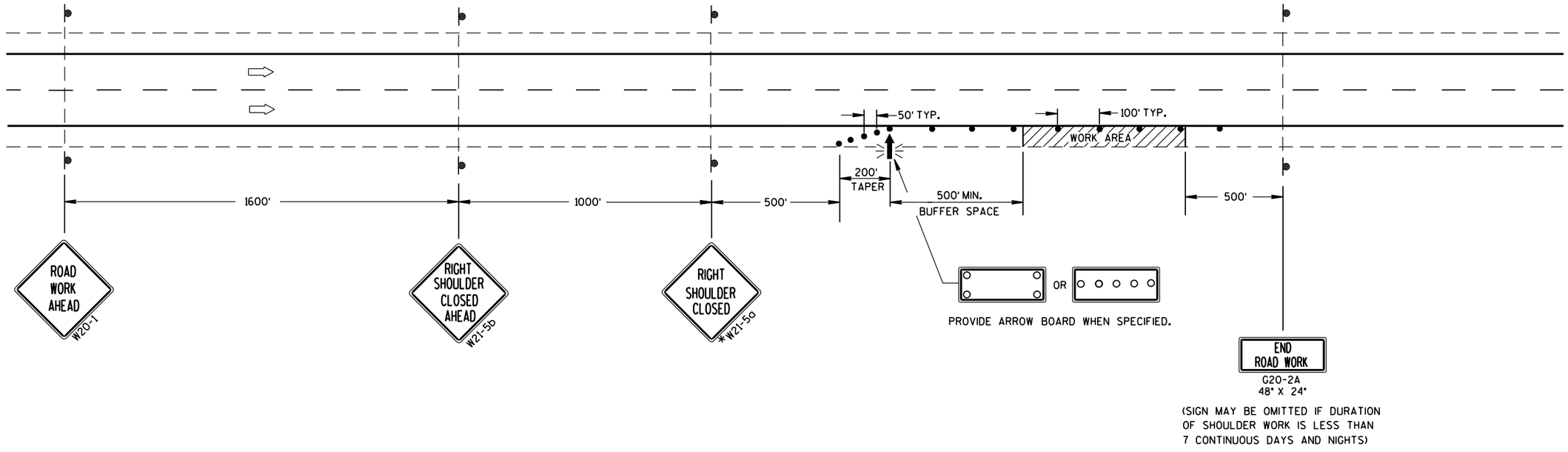
SIGNS THAT WILL BE IN PLACE LESS THAN 7 CONTINUOUS DAYS AND NIGHTS MAY BE MOUNTED ON PORTABLE SUPPORTS.

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

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

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

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



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

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

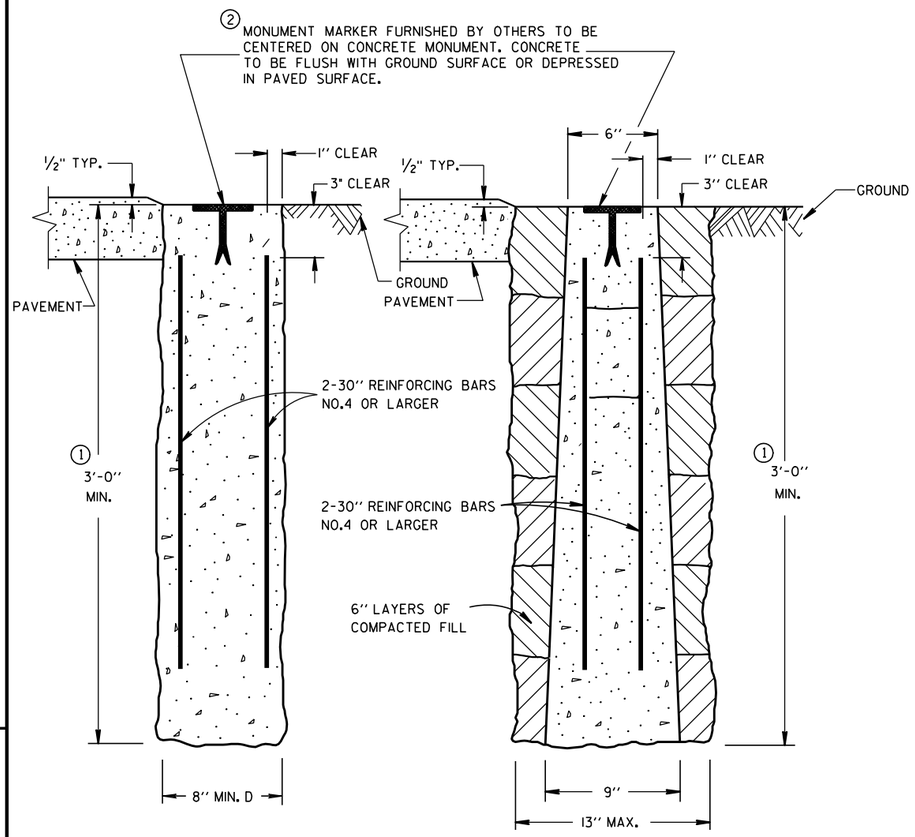
8/2013 DATE

/S/ Travis Feltes
STATE TRAFFIC ENGINEER

FHWA

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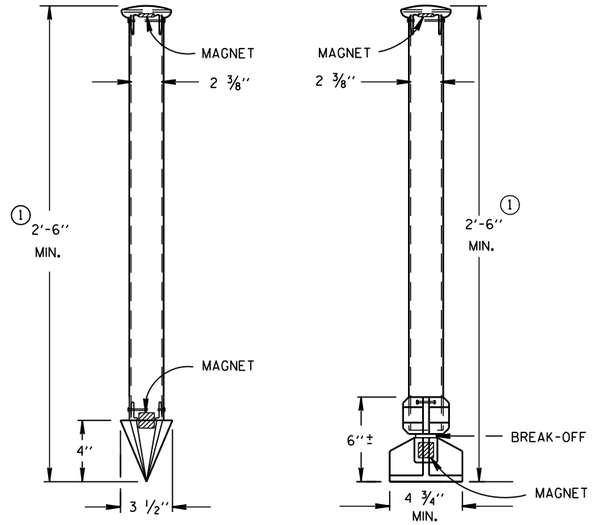
S.D.D. 15 D 27-2



CAST-IN-PLACE PRECAST

CONCRETE MONUMENTS

TYPE A



TYPE C DRIVE-IN MONUMENT

TYPE D BREAK-OFF MONUMENT

ALUMINUM MONUMENTS

(INCLUDES MARKER)

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.

DETAILED DRAWINGS OF PROPOSED ALTERNATE DESIGNS FOR METAL MONUMENTS OR MONUMENT COVERS SHALL BE SUBMITTED TO THE ENGINEER FOR APPROVAL.

INSTALLED METAL MONUMENTS MUST BE EASILY DETECTED WITH A DIP NEEDLE. INSERT PERMANENT MAGNETS SHALL BE ATTACHED NEAR THE TOP AND BOTTOM OF THOSE MONUMENTS CONSTRUCTED OF A METAL ALLOY WHICH IS NOT ATTRACTIVE TO A DIP NEEDLE.

THE CAST IRON MONUMENT COVER SHALL BE A "NON-ROCKING" TYPE. ADJUSTMENT OF THE COVER TO GRADE MAY BE ACCOMPLISHED BY THE USE OF MORTAR AND BRICK, OR BY EITHER PRECAST OR CAST-IN-PLACE REINFORCED CONCRETE GRADE RINGS.

MONUMENTS SHALL BE LOCATED AND PLACED AT THE DIRECTION OF THE ENGINEER.

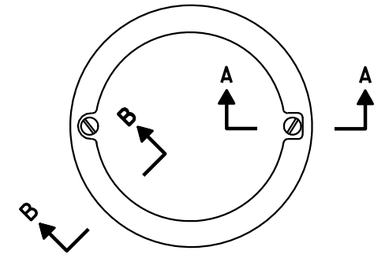
ALUMINUM MONUMENTS AND MONUMENT COVERS SHALL BE MADE FROM AN ALUMINUM AND MAGNESIUM ALLOY AS DETERMINED BY THE MANUFACTURER.

THE MONUMENT COVERS DETAILED ON THIS DRAWING ARE NOT EQUAL ALTERNATES. MONUMENT COVERS SHALL BE CAST IRON UNLESS ALUMINUM IS SPECIFIED ELSEWHERE IN THE CONTRACT.

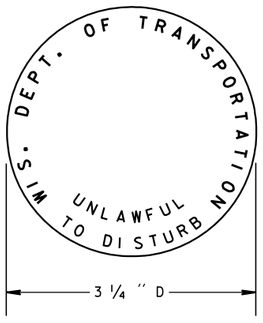
MONUMENT SHALL BE CAST-IN-PLACE CONCRETE UNLESS PRECAST CONCRETE OR ALUMINUM MONUMENTS ARE SPECIFIED IN THE CONTRACT OR PERMITTED BY THE ENGINEER.

① MINIMUM LENGTH SHALL BE 4'-0" FOR MONUMENTS INSTALLED IN PAVED AREAS.

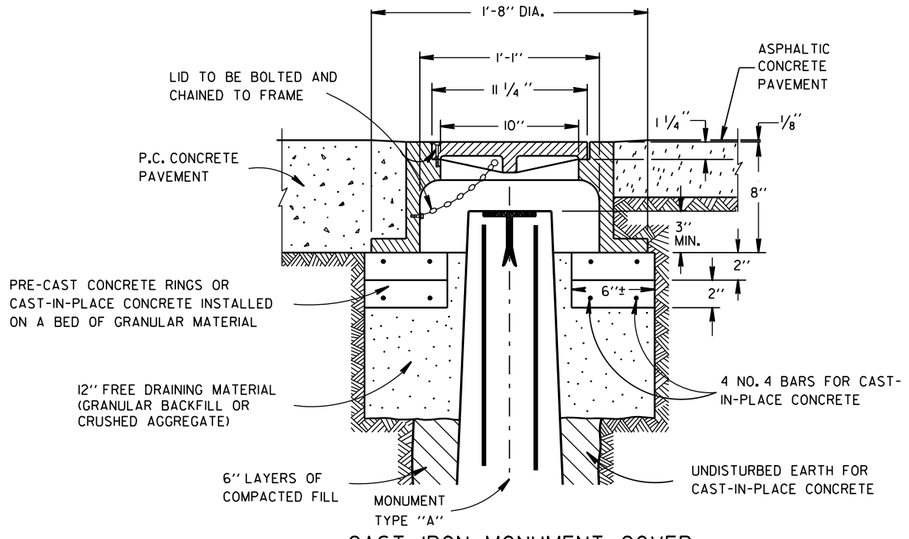
② AN OFFICIAL COUNTY MONUMENT MARKER SUPPLIED BY A COUNTY MAY BE REQUIRED FOR SOME SECTION CORNERS AND WITNESS MONUMENTS INSTEAD OF THIS WIS DOT MARKER.



TOP VIEW

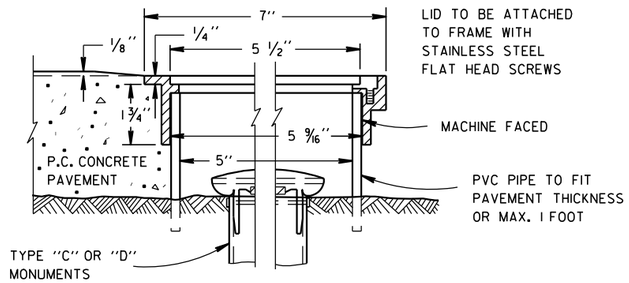


② WIS DOT MONUMENT MARKER LOGO FOR TYPES "A", "C" & "D"



CAST IRON MONUMENT COVER

(APPROXIMATE WEIGHT - 95 LBS.)



SECTION B-B SECTION A-A

ALUMINUM MONUMENT COVER

(APPROXIMATE WEIGHT 2 LBS)

(FOR CONCRETE PAVEMENT ONLY)

LANDMARK REFERENCE MOUNMENTS AND COVERS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

9/22/1999 DATE

/S/ Rory L. Rhinesmith
CHIEF ROADWAY DEVELOP NEER

FHWA

6

S.D.D. 16 A 1-6

FIXED MESSAGE SIGNS (DETAILS SHEETS)

GENERAL NOTES:

STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION," LATEST EDITION.

2. AFTER SIGNS HAVE BEEN LOCATED IN THE FIELD, BUT BEFORE INSTALLATION, THE PROJECT ENGINEER SHALL VERIFY EACH SIGN LOCATION.

3. ALL SIGNS TO BE MOUNTED ON WOODEN POST SUPPORTS (4"x6"). THE NUMBER OF POSTS REQUIRED FOR EACH LAYOUT IS SHOWN.

4. SIGNS ON THIS SHEET TO BE PAID UNDER THE ITEM "FIXED MESSAGE SIGNS."

5. SIGNS SHALL BE BLACK NON-REFLECTIVE MESSAGE ON ORANGE FLUORESCENT REFLECTIVE BACKGROUND PER SPEC 643 & 637.

6. ALL SIGNS SHALL HAVE CAPITAL LETTERS AND NUMERALS:
   12" CAPS SHALL BE SERIES "D"
   6" CAPS SHALL BE SERIES "C"

7. ALL SIGNS SHALL HAVE BORDER & RADIUS OF BORDERS AS FOLLOWS:

SIGN AREA	WIDTH OF BORDER
GREATER THAN 150 SQ FT	3"
60-150 SQ FT	2"
LESS THAN 60 SQ FT	1"

RADIUS SMALLEST OUTSIDE DIMENSION	CORNER RADIUS
> 8 FT	12"
≥ 6 FT	9"
≥ 4 FT	6"
LESS THAN 4 FT	3"

8. BEGIN XXX XX SIGNS SHALL BE SEPARATE PANELS, BUT SHALL BE CONSIDERED AS PART OF THE SIGN AND SHOULD BE REMOVED OR COVERED AFTER THEIR EFFECTIVE DATE. THE MONTH AND DAY SHALL BE AS DIRECTED BY THE ENGINEER IN THE FIELD.

9. CONTRACTOR SHALL SUBMIT SHOP DRAWINGS TO ENGINEER FOR REVIEW PRIOR TO MANUFACTURING.

10. SIGN BASE MATERIAL SHALL BE ACCORDING TO SECTION 643 & 637.

11. SIGNS TO BE IN PLACE 10 DAYS PRIOR TO CONSTRUCTION.

(X)= SIGN NUMBER

7

FOR PLAN SHEETS

LEGEND: FIXED MESSAGE SIGNS

- EXISTING GUIDE SIGN TO BE COVERED
- FIXED MESSAGE SIGN(S) ON WOOD POST SUPPORTS
- (XX) FIXED MESSAGE SIGN NUMBER
- (A1) CONTRACTOR SHALL COVER AS DIRECTED BY THE ENGINEER ALL ROUTE MARKINGS PERTAINING TO THE PROJECT. INCIDENTAL TO WORK ZONE TRAFFIC CONTROL SIGNING.
- [CMS] CHANGEABLE MESSAGE SIGN

NOTES: FIXED MESSAGE SIGNS

1. CONTRACTOR SHOULD LOCATE FIXED MESSAGE SIGNS A MINIMUM OF 400' FROM ANY EXISTING TYPE "I" SIGN.

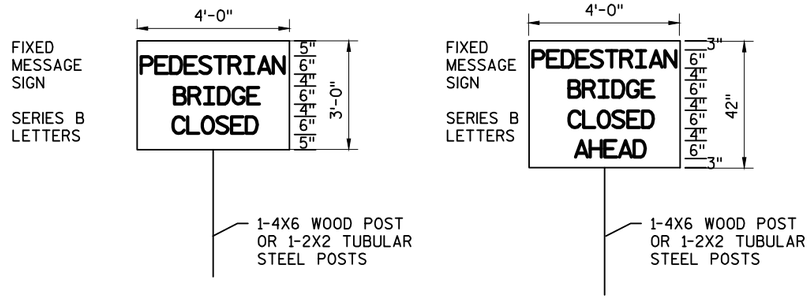
2. ALL FIXED MESSAGE SIGNS SHALL BE BLACK NON-REFLECTIVE MESSAGE ON ORANGE REFLECTIVE BACKGROUND.

3. SEE FIXED MESSAGE SIGNS AND SPECIAL MESSAGE SIGNS LAYOUT SHEETS FOR MORE INFORMATION.

4. COVER DETOUR SIGNING WHEN NOT IN USE. INCIDENTAL TO WORK ZONE TRAFFIC CONTROL SIGNING.

5. SIGNS TO BE PLACED 10 DAYS PRIOR TO CONSTRUCTION.

7



PED BRIDGE SIGN

7

7

PROJECT NO:1060-33-83	HWY: USH 45	COUNTY: MILWAUKEE	FIXED MESSAGE SIGN DETAIL	SCALE: 0 ½" 1"	SHEET 199	E

GENERAL NOTES:

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

2. UNLESS OTHERWISE NOTED, ALL SIGNS SHOWN ON THIS SHEET ARE "SIGNS, TYPE II".

3. UNLESS OTHERWISE NOTED, TYPE II SIGNS ON THIS SHEET SHALL HAVE "TYPE H REFLECTIVE SHEETING" AND, "TYPE H MESSAGE MATERIAL". TYPE I SIGNS SHALL HAVE TYPE SH REFLECTIVE SHEETING.

4. UNLESS OTHERWISE NOTED, ALL SIGNS SHOWN ON THIS SHEET SHALL HAVE A GREEN BACKGROUND AND WHITE MESSAGE.

5. TYPE II SIGNS ALL UPPER CASE MESSAGE (EXCEPT ON SHIELDS OR WHERE OTHERWISE NOTED) SHALL BE "SERIES E. ALL LOWER CASE MESSAGE WITH AN INITIAL UPPER CASE LETTER SHALL BE "SERIES E.

6. TYPE I SIGNS - ALL UPPER CASE MESSAGE (EXCEPT ON SHIELDS OR WHERE OTHERWISE NOTED) SHALL BE SERIES "E" MODIFIED. ALL LOWER CASE MESSAGE WITH AN INITIAL UPPER CASE LETTER SHALL BE SERIES "E" MODIFIED. ALL CAP WORDS ARE "SERIES E"

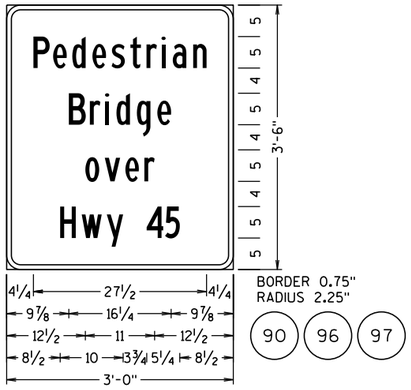
7. UNLESS OTHERWISE NOTED, ALL SIGNS SHOWN ON THIS SHEET SHALL HAVE "TYPE A" OR "TYPE C" ARROWS AS SHOWN. SEE THE STANDARD SIGN PLATES FOR FURTHER DETAILS.

8. SEE THE STANDARD SIGN PLATES FOR FURTHER DETAILS ON ROUTE MARKER SHIELDS.

9. THE SIGN NUMBER IS DENOTED IN THE CIRCLE NEAR EACH DETAIL.

10. NUMBER FRACTIONS FOR INTERCHANGE SEQUENCE SIGNS SHALL BE SERIES "E" PER PLATES A11-7 AND A11-10

11. DO NOT SCALE.

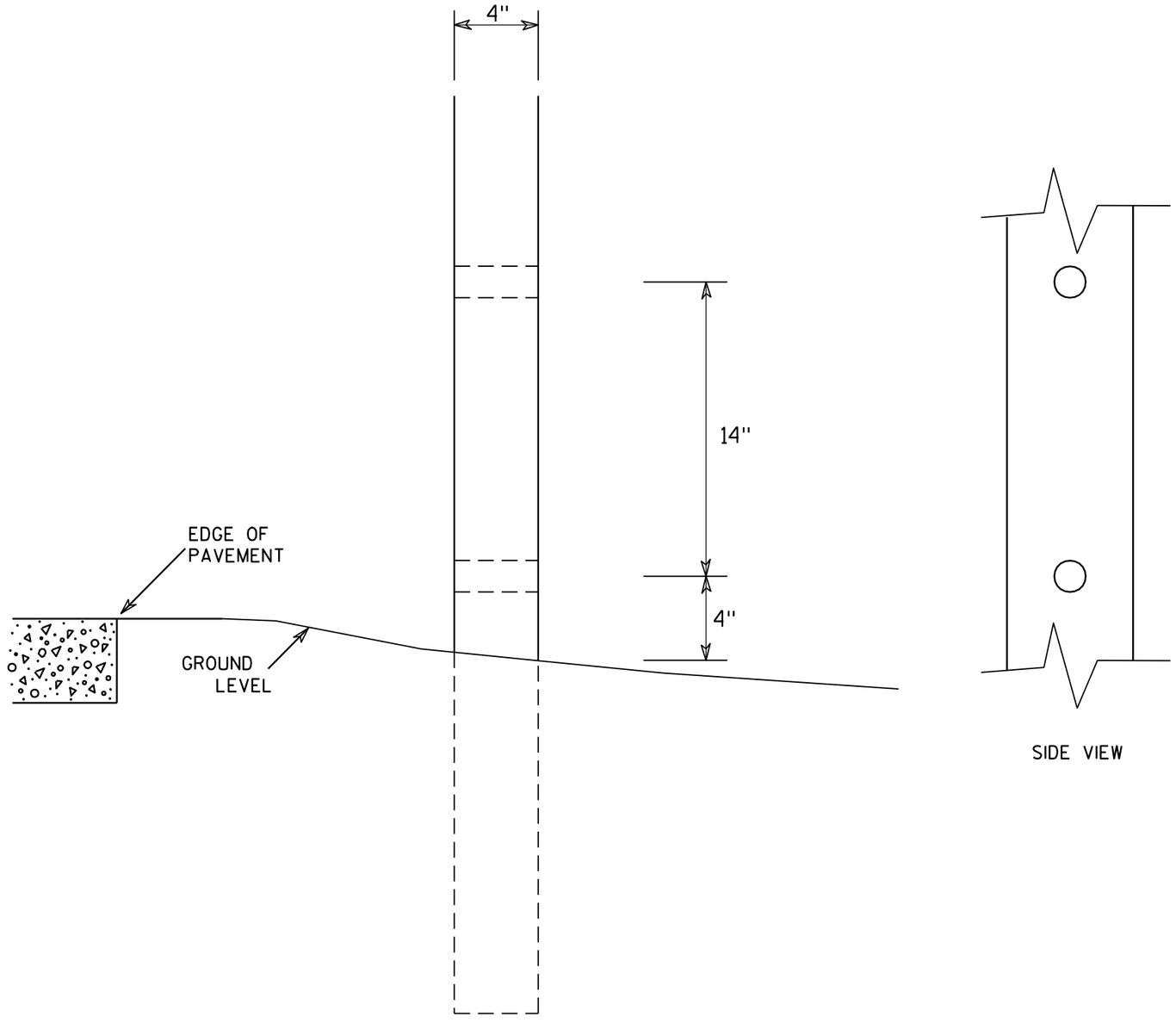


SERIES B TEXT

BORDER 0.75"
RADIUS 2.25"

90 96 97

7



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

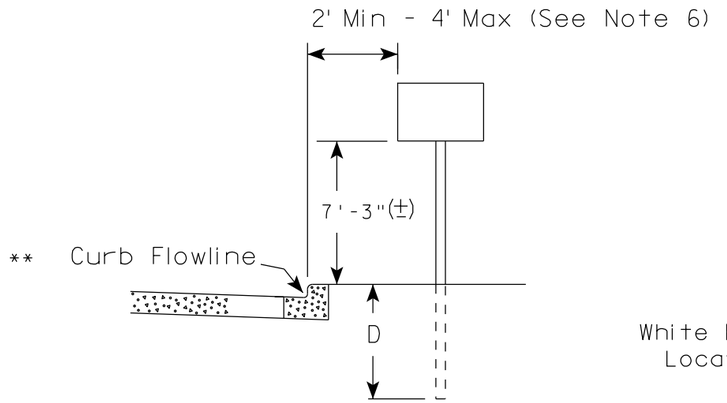
WISCONSIN DEPT OF TRANSPORTATION

APPROVED Chester J Spang for State Traffic Engineer

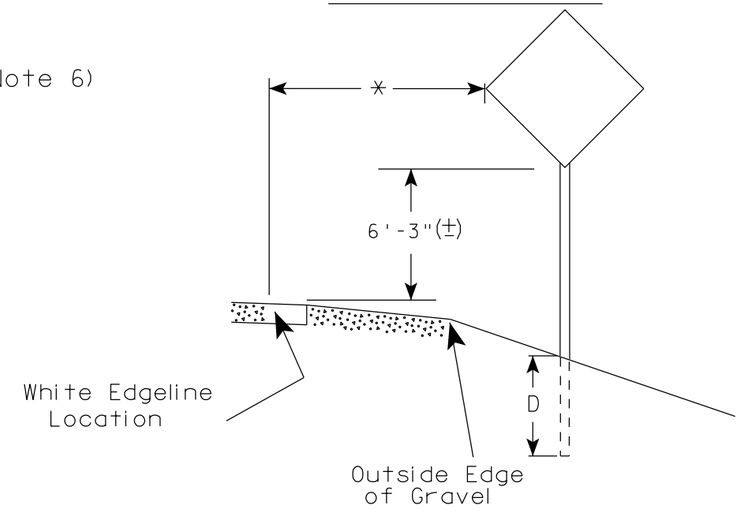
DATE 3/27/97 PLATE NO. A4-11.2

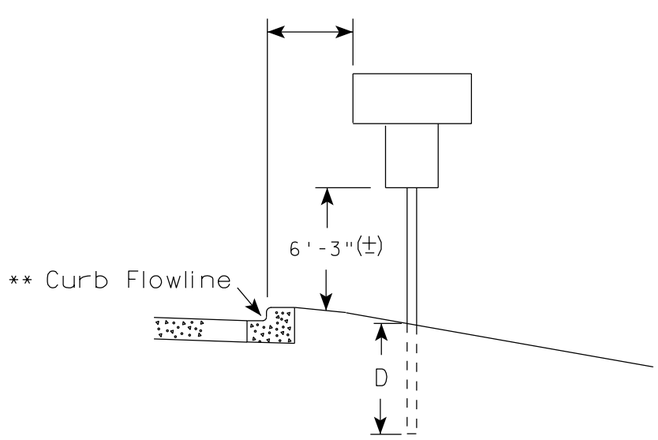
PROJECT NO:	HWY:	COUNTY:		SHEET NO: 201	E

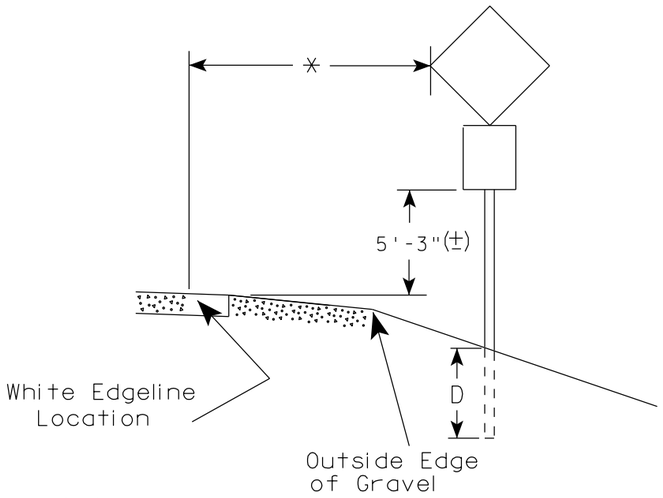
URBAN AREA



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, 20 sq.ft or larger, shall be mounted on multiple posts. Refer to plate A4-4.
2. If signs are mounted on barrier wall, see A4-10 sign plate.
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 J assemblies (A2-1S) is 7'-3" (±) or 6'-3" (±) per urban or rural detail respectively.
5. Minimum mounting height for signs mounted on traffic signal poles is 5'- 3" (±).
6. Offset distance shall be consistent with existing signs or consistent throughout length of project.
7. The (±) tolerance for mounting height is 3 inches.
8. Folding signs shall be mounted at a height of 5'-3" (±) or as directd by the Engineer.
9. 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), 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" (±).

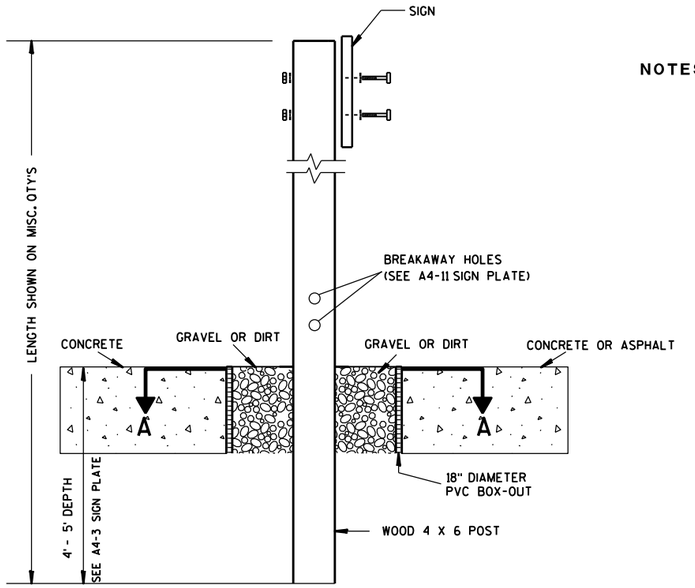
TYPICAL INSTALLATION OF PERMANENT TYPE II SIGNS ON SINGLE POSTS

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 11/12/14 PLATE NO. A4-3.19

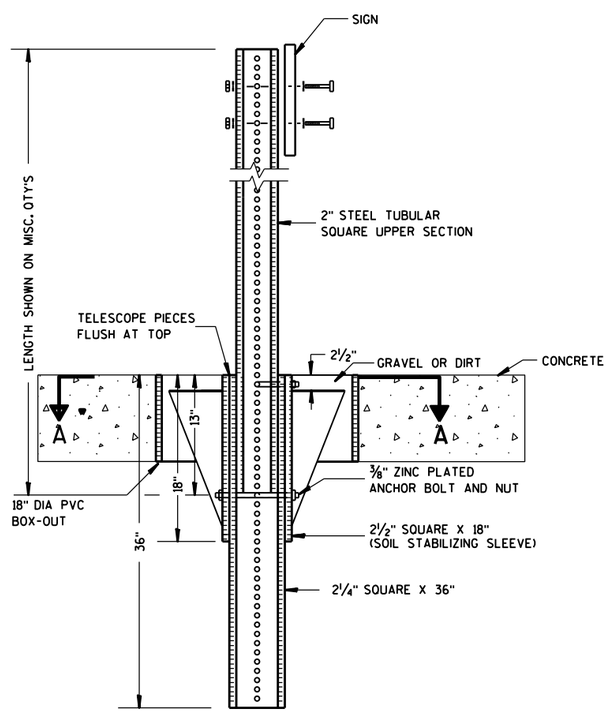
PROJECT NO:	HWY:	COUNTY:		SHEET NO:	E



ELEVATION VIEW

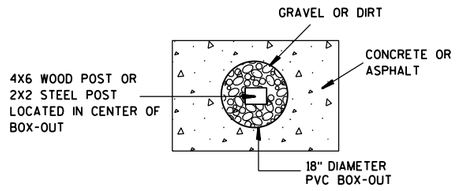
DETAIL OF WOOD 4 X 6 SIGN POST IN BOX-OUT

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

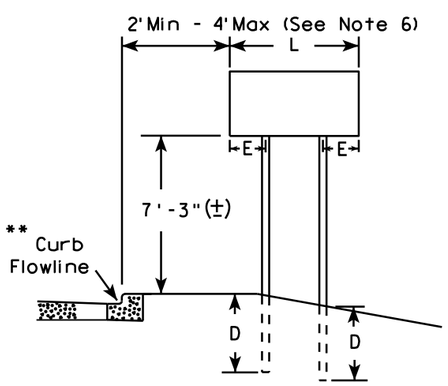
APPROVED Matthew R Rauch
for State Traffic Engineer

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

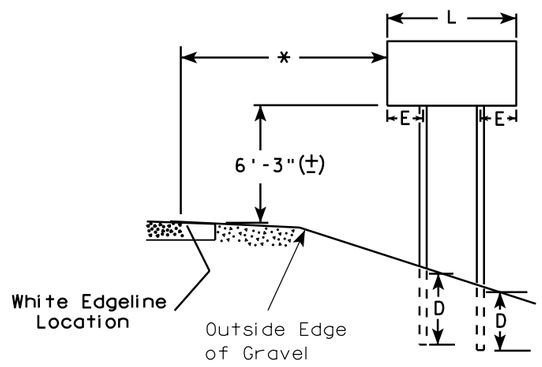
PROJECT NO:	HWY:	COUNTY:		SHEET NO:	E

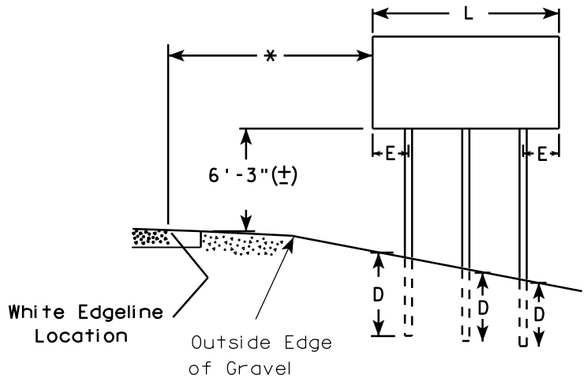
FILE NAME : C:\CAEFiles\Projects\tr_stdplate\A43B.DGN PLOT DATE : 27-JAN-2014 09:48 PLOT BY : mscsja PLOT NAME : PLOT SCALE : 13.659812:1.000000 WISDOT/CADDS SHEET 42

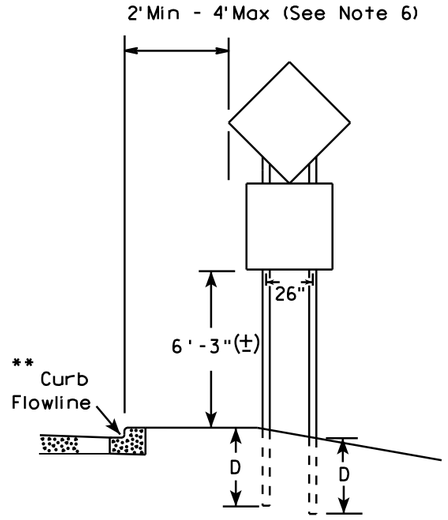
URBAN AREA



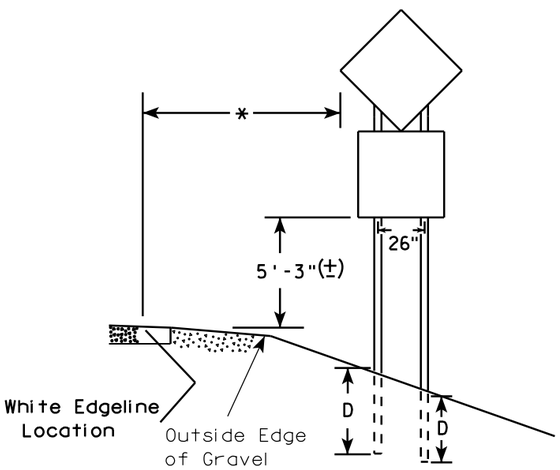
RURAL AREA (See Note 3)







48" DIAMOND WARNING SIGN



48" DIAMOND WARNING SIGN

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. Minimum mounting height for J assemblies (A2-1S) is 7'-3" (±) or 6'-3" (±) per urban or rural detail respectively.
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 or less than 20 S.F. in area.

SIGN SHAPE OTHER THAN DIAMOND (TWO POSTS REQUIRED)	
L	E
Greater than 48" Less than 60"	12"
60" to 120"	L/5

***

SIGN SHAPE OTHER THAN DIAMOND (THREE POSTS REQUIRED)	
L	E
Greater than 120" less than 168"	12"

SIGN SHAPE OTHER THAN DIAMOND (FOUR POSTS REQUIRED)	
L	E
168" and greater	12"

POST EMBEDMENT DEPTH

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

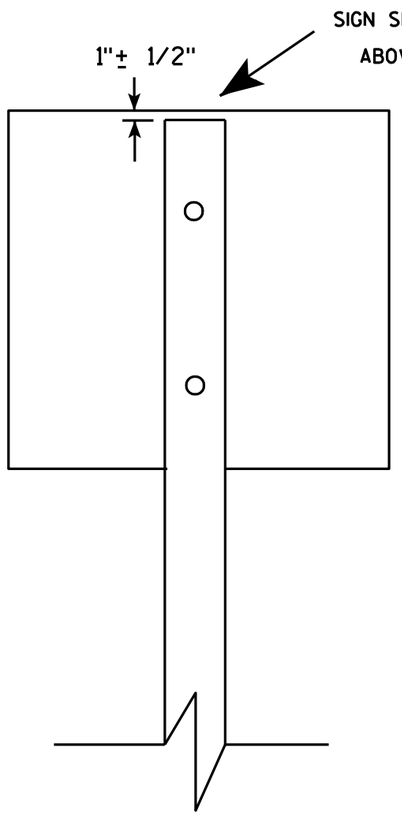
TYPICAL INSTALLATION OF TYPE II SIGNS ON MULTIPLE POSTS

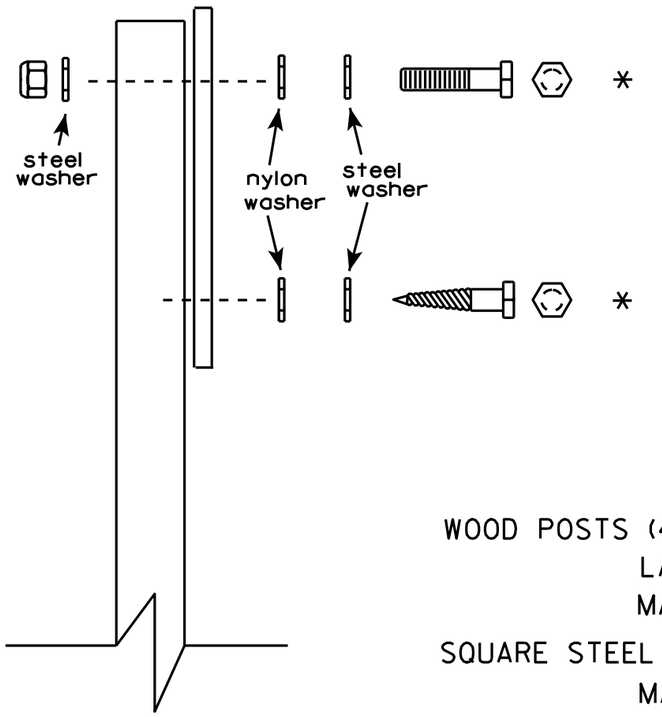
WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 11/12/14 PLATE NO. A4-4 13 204

PROJECT NO:	HWY:	COUNTY:		SHEET NO:	E





Nuts, bolts and lags used for mounting signs shall have hexagonal heads and shall be either :

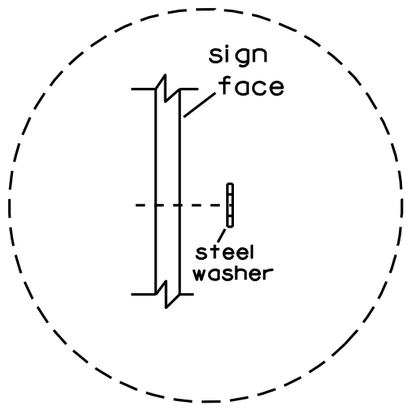
a. Hot dip galvanized in accordance with ASTM Designation: A 153, Class D, or SC 3
b. Electro-galvanized in accordance with ASTM Designation : B 633, TYPE III, SC 3.

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.

WOOD POSTS (4" x 4" or 4" x 6")
LAG SCREWS - 3/8" X 3"
MACHINE BOLTS - 5/16" X 6-1/2" or 7" Length w/ nuts

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

WASHERS (ALL POSTS) -
1-1/4" O.D. X 3/8" I.D. X 1/16" STEEL
1-1/4" O.D. X 3/8" I.D. X .080 NYLON for all Type H signs.



Washer Placement when Sign Has Other Than Type H or Type F Face

* 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 3/23/10 PLATE NO. A4-8.7

7

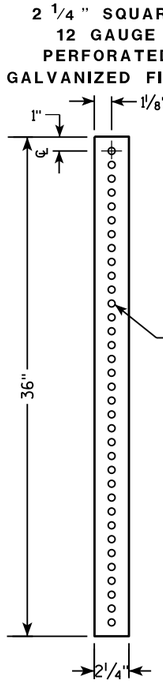
7

PROJECT NO:

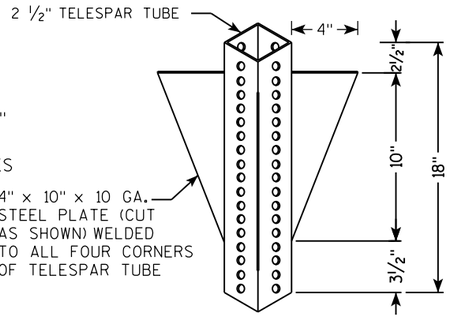
SHEET NO: 205 E

TELESCOPIC TUBING ANCHORS
TWO PIECE SYSTEM

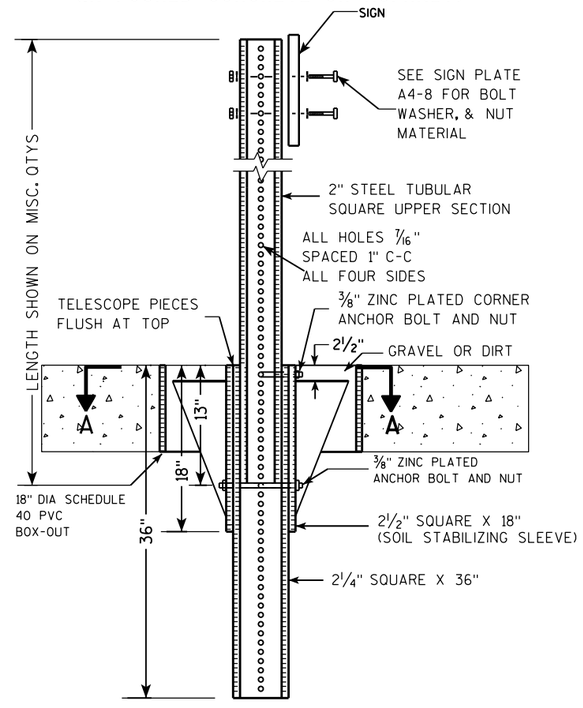
2 1/4 " SQUARE
12 GAUGE
PERFORATED
GALVANIZED FINISH



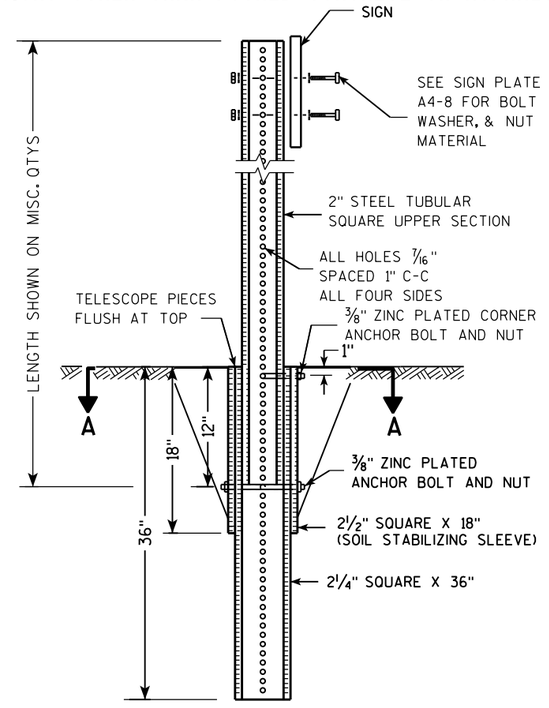
2 1/2 " SQUARE
12 GAUGE
OMNI-DIRECTIONAL
PERFORATED
SOIL STABILIZING SLEEVE
GALVANIZED FINISH

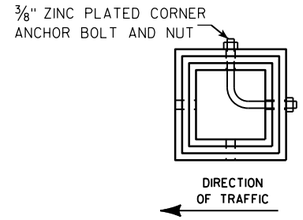


DETAIL OF TUBULAR STEEL SIGN POST
(IN POURED CONCRETE OR ASPHALT)



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).

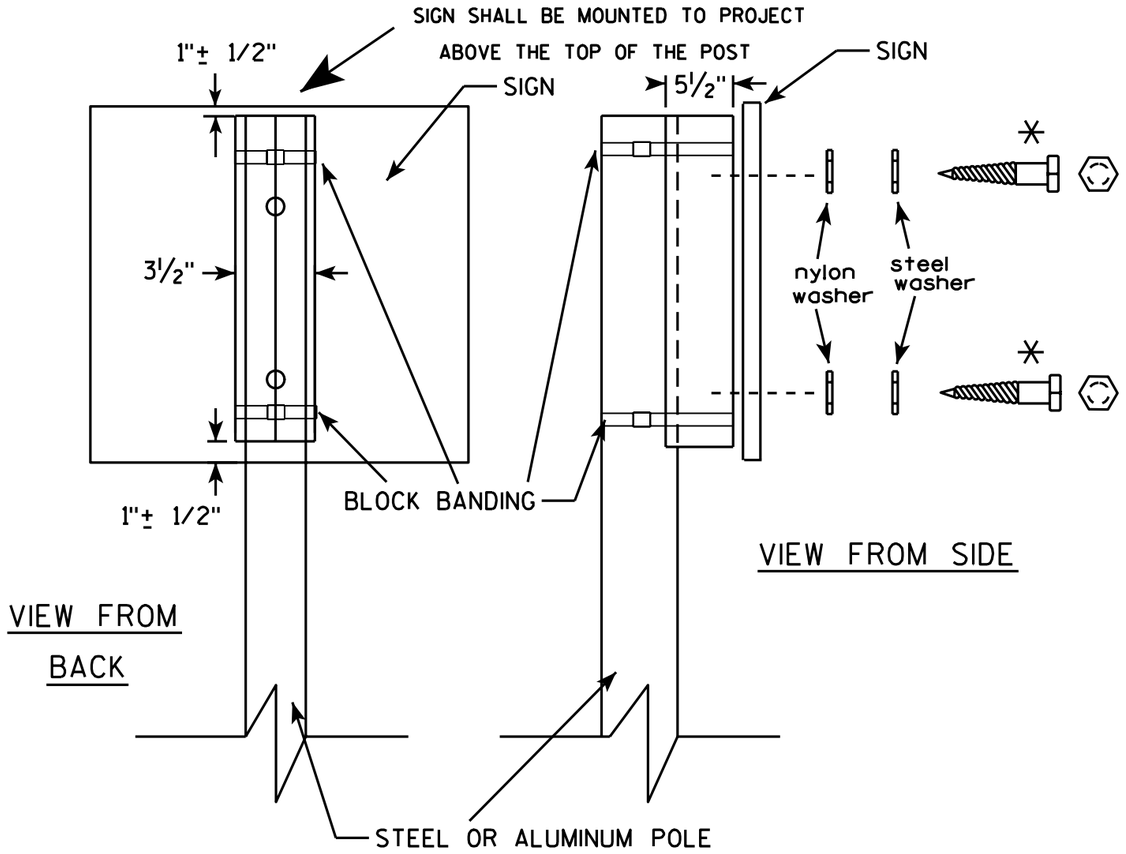
TUBULAR STEEL
SIGN POST
A4-9

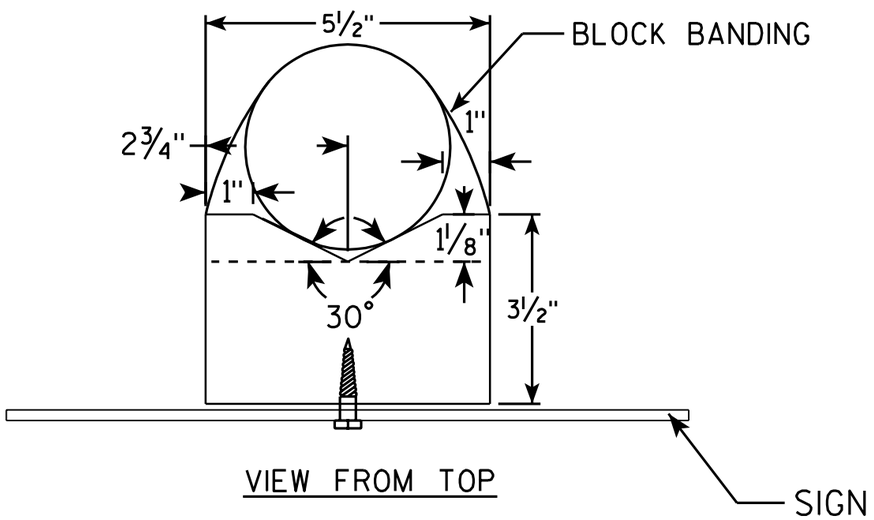
WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 2/05/15 PLATE 206 A4-9.9

PROJECT NO:	HWY:	COUNTY:		SHEET NO:	E





GENERAL NOTES

1. WOOD 4"X6" POST MATERIAL SHALL CONFORM TO 507.2.2 OF THE WisDOT STANDARD SPECIFICATIONS
2. BLOCK BANDING AND CLIPS SHALL BE STAINLESS STEEL, ¾" WIDTH AND 0.025" THICKNESS
3. SIGNS 3' OR GREATER IN HEIGHT SHALL UTILIZE 3 BLOCK BANDS. SIGNS UNDER 3' IN HEIGHT SHALL UTILIZE 2 BLOCK BANDS
4. ACTUAL NUMBER OF FASTENERS PER SIGN VARIES WITH THE SIGN AREA, BUT NORNALLY THERE ARE TWO. FOR SIGNS GREATER THAN 9 S.F. 3 FASTENERS SHALL BE USED.
5. ALL SIGN MOUNTING BOLTS AND WASHERS SHALL BE EITHER:
   a. Hot dip or mechanically galvanized in accordance with ASTM Designation: A 153, Class D, or
   b. Cadmium plated in accordance with ASTM Designation : B 766 TYPE 3, Class 12, or
   c. Electro-galvanized in accordance with ASTM Designation : B 633, TYPE III, SC 3.
6. ALL BOLTS SHALL HAVE HEXAGONAL HEADS.
7. STEEL WASHERS SHALL BE 1¼" O.D. X ⅜" I.D. X 1/16"
8. NYLON WASHERS SHALL BE 1¼" O.D. X ⅜" I.D. X .080 FOR TYPE H OR TYPE F FACE SIGN

✳ LAG BOLTS SHALL BE ⅜" X 2½"

BLOCK BANDING DETAIL (V-BLOCK OPTION)

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 7/12/07 PLATE NO. A5-10.1

PROJECT NO:

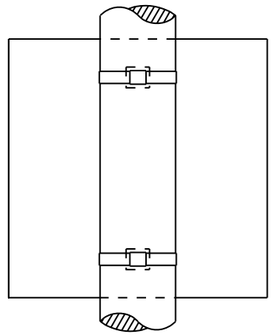
SHEET NO: 207 E

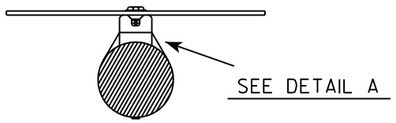
FILE NAME : C:\Users\Projects\tr_stdplate\A510.dgn PLOT DATE : 06-AUG-2007 13:37 PLOT BY : ditjph

WISDOT/CADDS SHEET 42

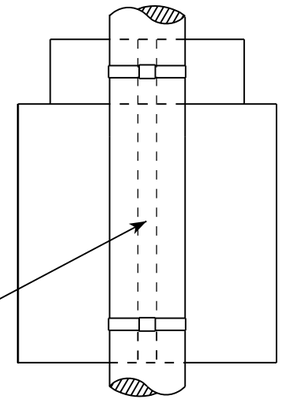
BANDING

SINGLE SIGN



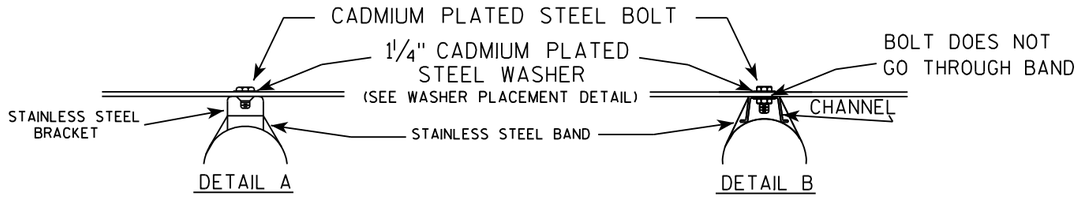


"J" ASSEMBLY

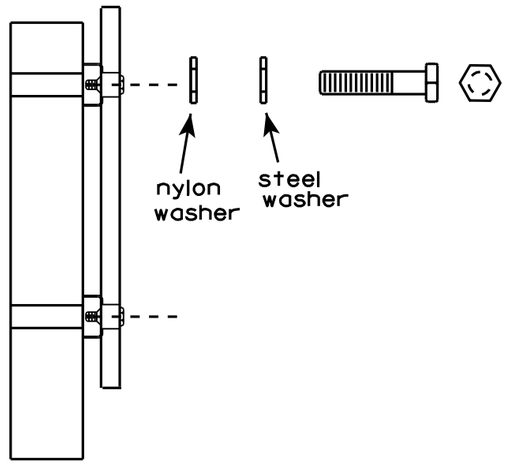


CHANNEL
SEE TYPICAL PANEL INSTALLATION SHEET





WASHER PLACEMENT



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

GENERAL NOTES

1. Any sign over 3 feet in width shall use the V-Block banding method. See A5-10 standard plate.
2. Signs 3 feet or greater in height shall have three bracket bands installed. Signs less than 3 feet in height shall have two bracket bands installed.
3. Banding and assembly bracket shall be stainless steel. All bands shall be ¾" in width and 0.025" thickness.

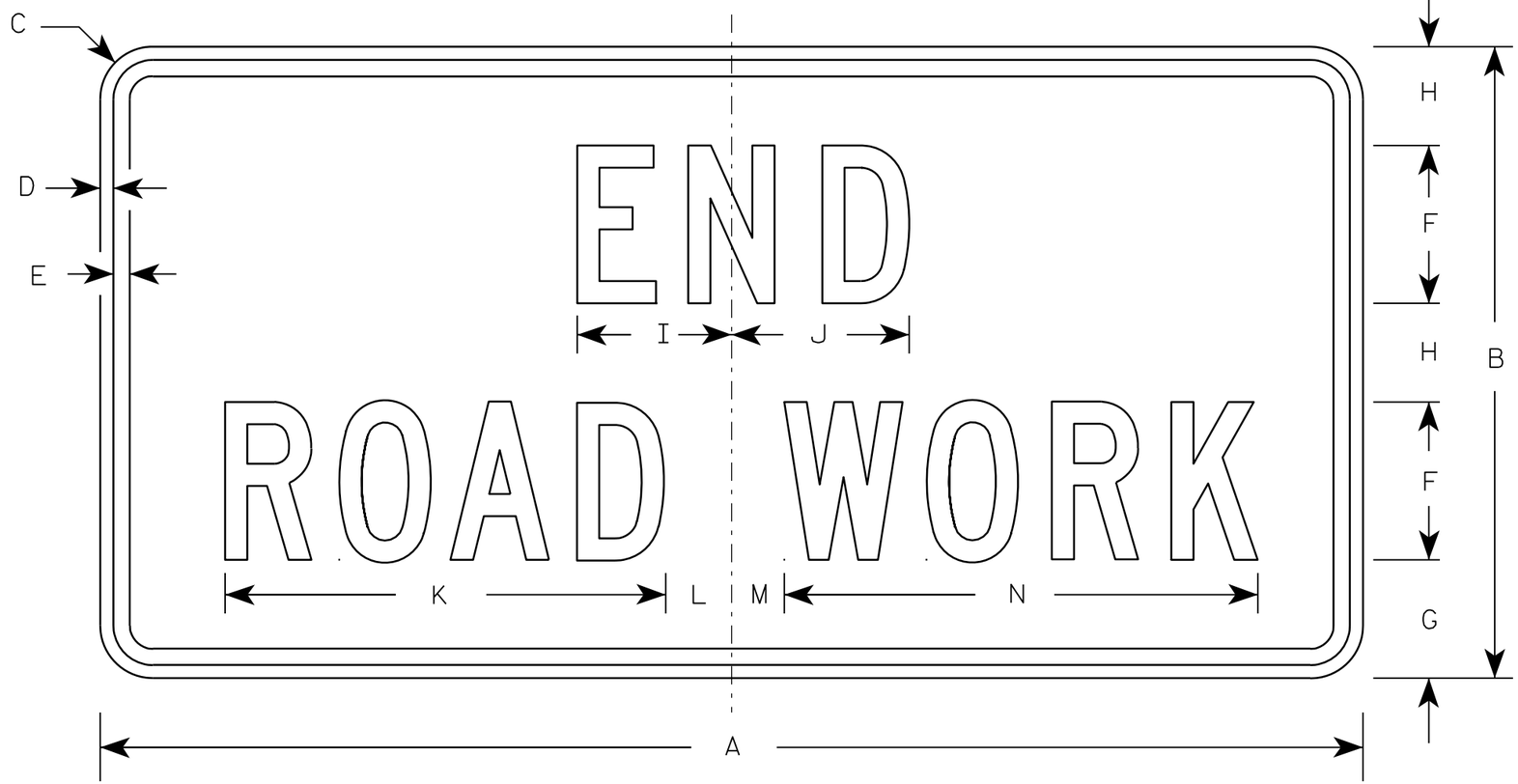
STANDARD SIGN
SIGN BANDING DETAILS

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 8/16/13 PLATE NO. A5-9.3

PROJECT NO:	HWY:	COUNTY:		SHEET NO: 208	E



G20-2A

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 - 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.

Metric equivalent for this sign is:

SIZE	
1	900 mm X 450 mm
2	1200 mm X 600 mm
3	1200 mm X 600 mm
4	1200 mm X 600 mm
5	1200 mm X 600 mm

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.	Area m2
1	36	18	1 1/8	3/8	1/2	4	3 3/4	2 1/2	4 1/8	4 1/8	11 1/8	2	1	12 1/8													4.5	0.41
2	48	24	1 1/2	1/2	5/8	6	4 1/2	3 3/4	5 7/8	6 3/4	16 3/4	2 1/2	1 3/4	18 1/2													8.0	0.72
3	48	24	1 1/2	1/2	5/8	6	4 1/2	3 3/4	5 7/8	6 3/4	16 3/4	2 1/2	1 3/4	18 1/2													8.0	0.72
4	48	24	1 1/2	1/2	5/8	6	4 1/2	3 3/4	5 7/8	6 3/4	16 3/4	2 1/2	1 3/4	18 1/2													8.0	0.72
5	48	24	1 1/2	1/2	5/8	6	4 1/2	3 3/4	5 7/8	6 3/4	16 3/4	2 1/2	1 3/4	18 1/2													8.0	0.72

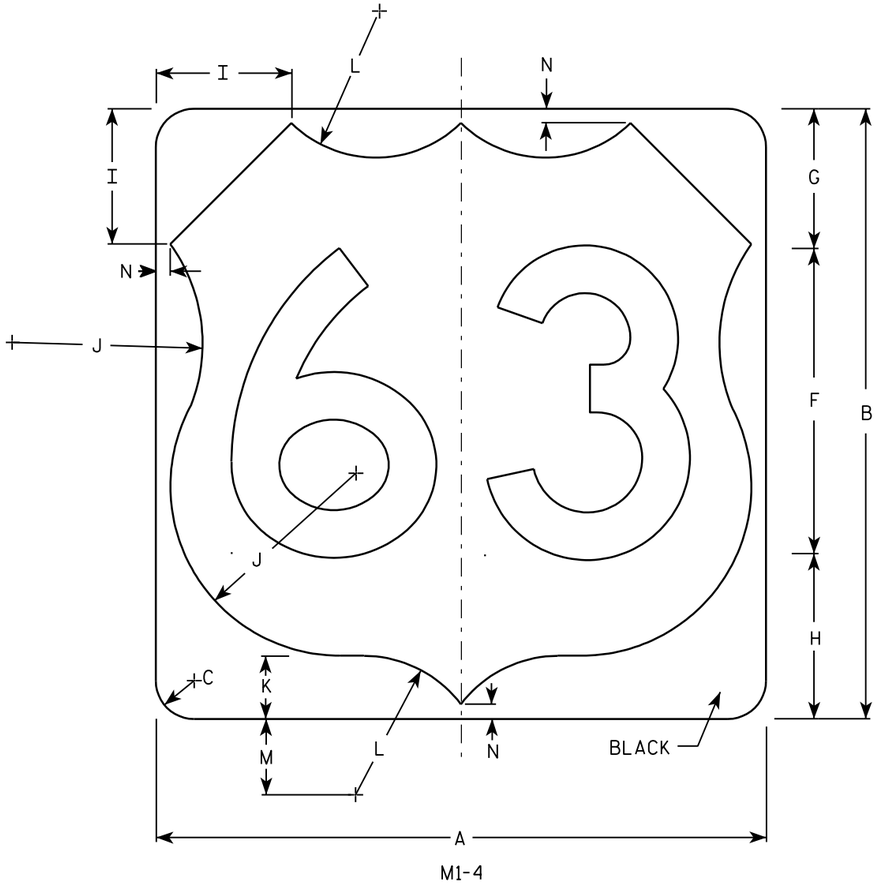
STANDARD SIGN
G20-2A

WISCONSIN DEPT OF TRANSPORTATION

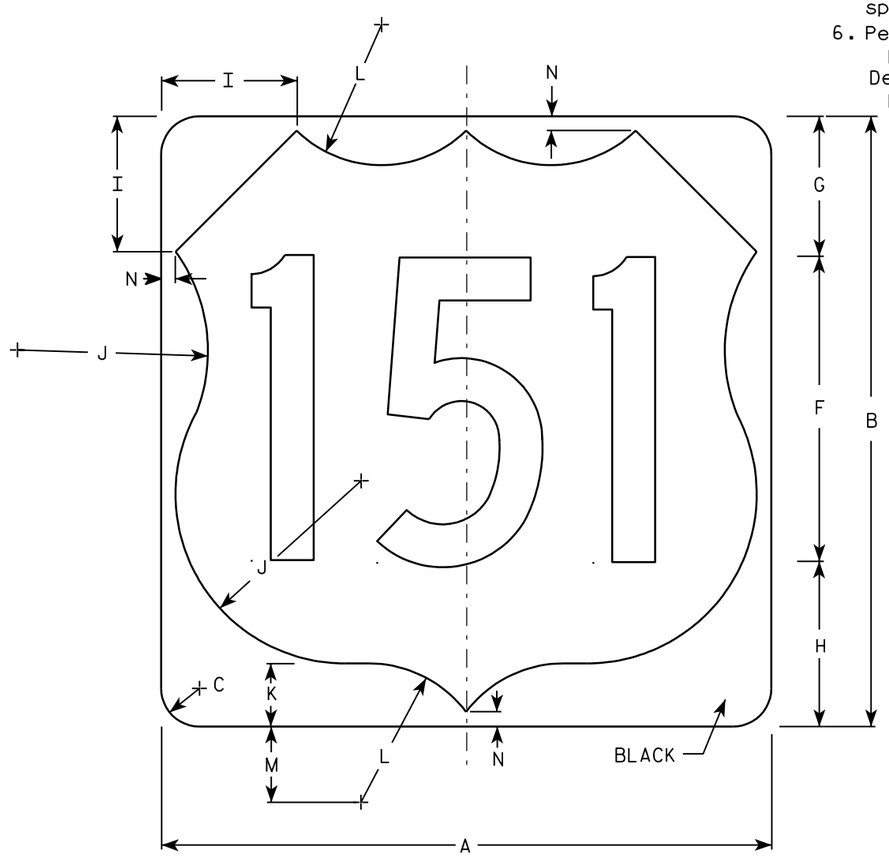
APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 9/30/09 PLATE NO. G20-2A.8

PROJECT NO:	HWY:	COUNTY:		SHEET NO: 209	E



M1-4



M1-4

NOTES

1. Sign is Type II - See Note 6 - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
   Background - White & Black - See Note 6
   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. Substitute appropriate numerals and adjust spacing as per Plate A10-1.
6. Permanent Signs
   Background - Type H Reflective
   Detour or other temporary signs
   Background - Reflective

Metric equivalent for this sign is:

SIZE	
1	
2	600 mm X 600 mm
3	900 mm X 900 mm
4	900 mm X 900 mm
5	900 mm X 900 mm

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.	Area m2
1																												
2	24	24	1 1/2			12	5 1/2	6 1/2	5	7 1/2	2 1/2	5 1/2	3	1/2													4.0	.36
3	36	36	2 1/4			18	8 1/4	9 1/4	7 1/4	11 1/4	3 3/4	8 1/4	4 1/2	3/4													9.0	.81
4	36	36	2 1/4			18	8 1/4	9 1/4	7 1/4	11 1/4	3 3/4	8 1/4	4 1/2	3/4													9.0	.81
5	36	36	2 1/4			18	8 1/4	9 1/4	7 1/4	11 1/4	3 3/4	8 1/4	4 1/2	3/4													9.0	.81

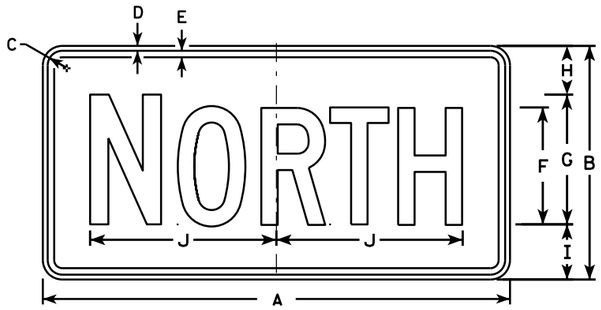
USH MARKER
M1-4 FOR ASSEMBLIES

WISCONSIN DEPT OF TRANSPORTATION

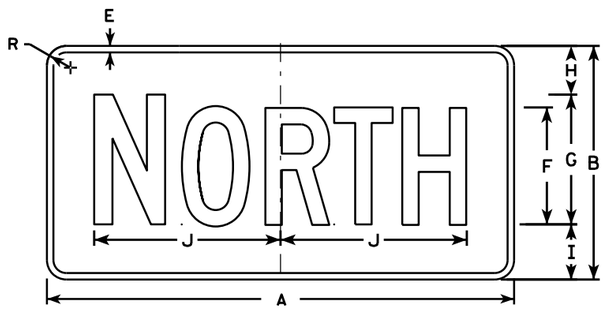
APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 08/25/05 PLATE NO. M1-4.9

PROJECT NO: | HWY: | COUNTY: | SHEET NO: 210 | E



M3-1
MK3-1
MM3-1
MN3-1



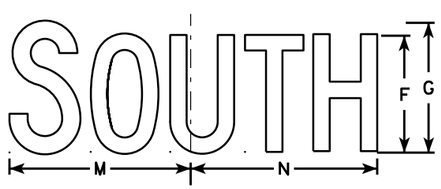
MB3-1



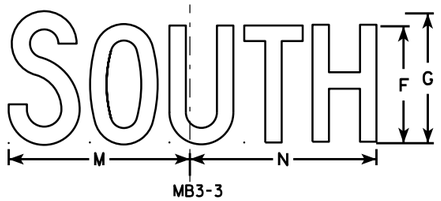
M3-2
MK3-2
MM3-2
MN3-2



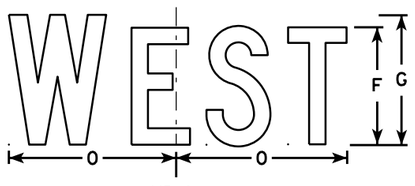
MB3-2



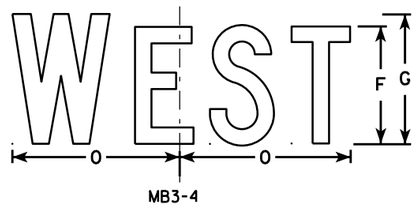
M3-3
MK3-3
MM3-3
MN3-3



MB3-3



M3-4
MK3-4
MM3-4
MN3-4



MB3-4

NOTES

1. All Signs Type II - Type H
2. Color:
   Background - See note 5
   Message - See note 5
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. M3-1 thru M3-4 Background - White
   Message - Black
   MB3-1 thru MB3-4 Background - Blue
   Message - White
   MK3-1 thru MK3-4 Background - Green
   Message - White
   MM3-1 thru MM3-4 Background - White
   Message - Green
   MN3-1 thru MN3-4 Background - Brown
   Message - White
6. Note the first letter of each direction is larger than the remainder of the message.

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																											
2	24	12	1 1/8	3/8	3/8	6	7	2 1/4	2 3/4	10 1/4	7 7/8	8 3/8	10 1/4	9 3/4	8 3/4			1 1/2									2.00
3	36	18	1 1/8	3/8	1/2	9	10	3 3/4	4 1/4	14 3/8	12	12 1/8	14	14 1/8	13			1 1/2									4.5
4	36	18	1 1/8	3/8	1/2	9	10	3 3/4	4 1/4	14 3/8	12	12 1/8	14	14 1/8	13			1 1/2									4.5
5	36	18	1 1/8	3/8	1/2	9	10	3 3/4	4 1/4	14 3/8	12	12 1/8	14	14 1/8	13			1 1/2									4.5

STANDARD SIGNS
M3-1 thur M3-4
SERIES

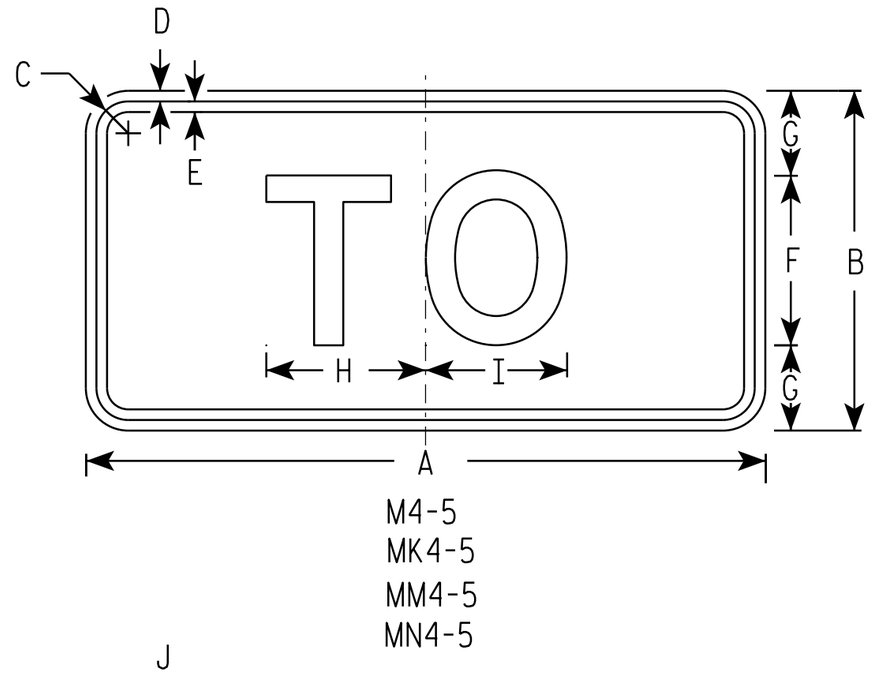
WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch for State Traffic Engineer

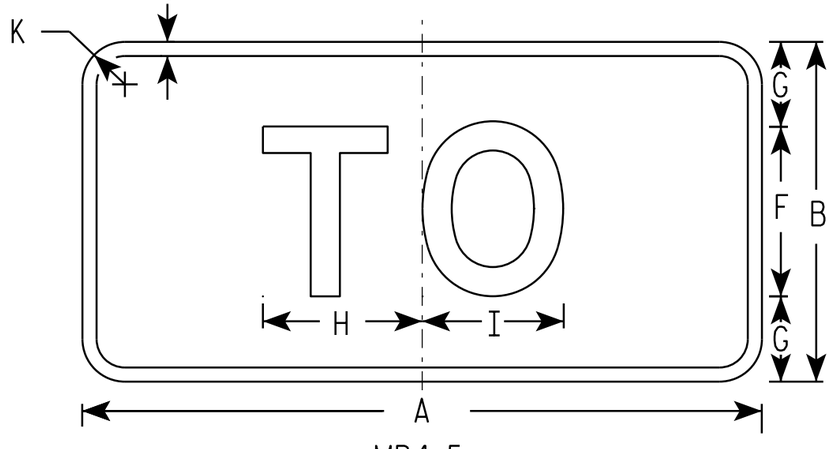
DATE 6/30/14 PLATE NO M3-1.13

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

7



M4-5
MK4-5
MM4-5
MN4-5



MB4-5

NOTES

1. Sign is Type II - Type H
2. Color:
   Background - See note 5
   Message - See note 5
3. Message Series - E
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. M4-5 Background - White
   Message - Black

   MB4-5 Background - Blue
   Message - White

   MK4-5 Background - Green
   Message - White

   MM4-5 Background - White
   Message - Green

   MN4-5 Background - Brown
   Message - White

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																											
2	24	12	1 1/8	3/8	3/8	6	3	5 3/8	5 1/4	1/2	1 1/2																2.00
3	36	18	1 3/8	3/8	1/2	9	4 1/2	8 1/4	8 3/8	1/2	1 1/2																4.5
4	36	18	1 3/8	3/8	1/2	9	4 1/2	8 1/4	8 3/8	1/2	1 1/2																4.5
5	36	18	1 3/8	3/8	1/2	9	4 1/2	8 1/4	8 3/8	1/2	1 1/2																4.5

STANDARD SIGN
M4-5

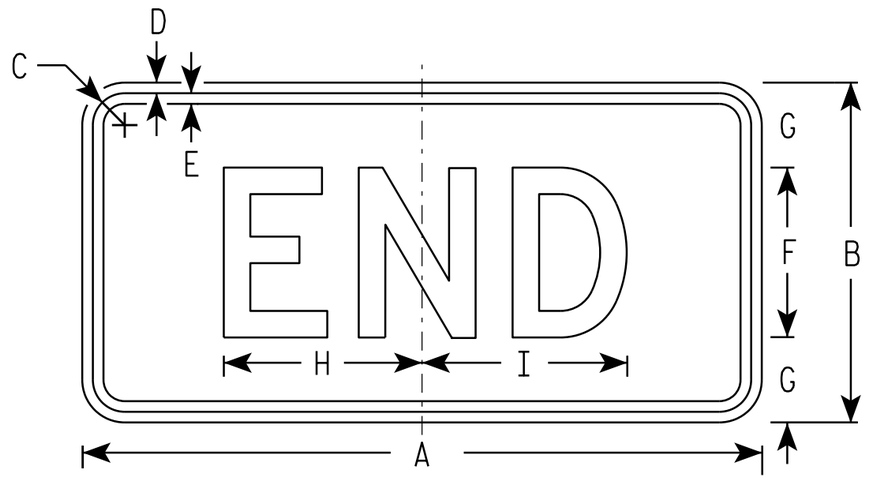
WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

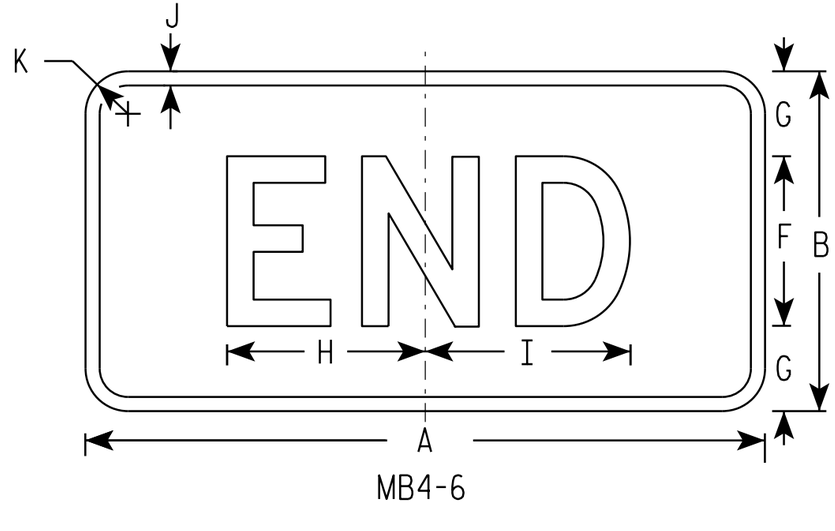
DATE 6/30/14 PLATE M4-5.7

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

FILE NAME : C:\CAEFiles\Projects\tr_stdplate\M45.DGN PLOT DATE : 30-JUN-2014 12:48 PLOT BY : mscsja PLOT NAME : PLOT SCALE : 5.351066:1.000000
WISDOT/CADDS SHEET 42



M4-6
MK4-6
MM4-6
MN4-6
MR4-6



MB4-6

NOTES

1. Sign is Type II - Type H
2. Color:
   Background - See note 5
   Message - See note 5
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. M4-6 Background - White
   Message - Black

   MB4-6 Background - Blue
   Message - White

   MK4-6 Background - Green
   Message - White

   MM4-6 Background - White
   Message - Green

   MN4-6 Background - Brown
   Message - White

   MR4-6 Background - Brown
   Message - Yellow

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																											
2	24	12	1 1/8	3/8	3/8	6	3	7	7 1/4	1/2	1 1/2																2.00
3	36	18	1 1/8	3/8	1/2	9	4 1/2	12	11 7/8	1/2	1 1/2																4.5
4	36	18	1 1/8	3/8	1/2	9	4 1/2	12	11 7/8	1/2	1 1/2																4.5
5	36	18	1 1/8	3/8	1/2	9	4 1/2	12	11 7/8	1/2	1 1/2																4.5

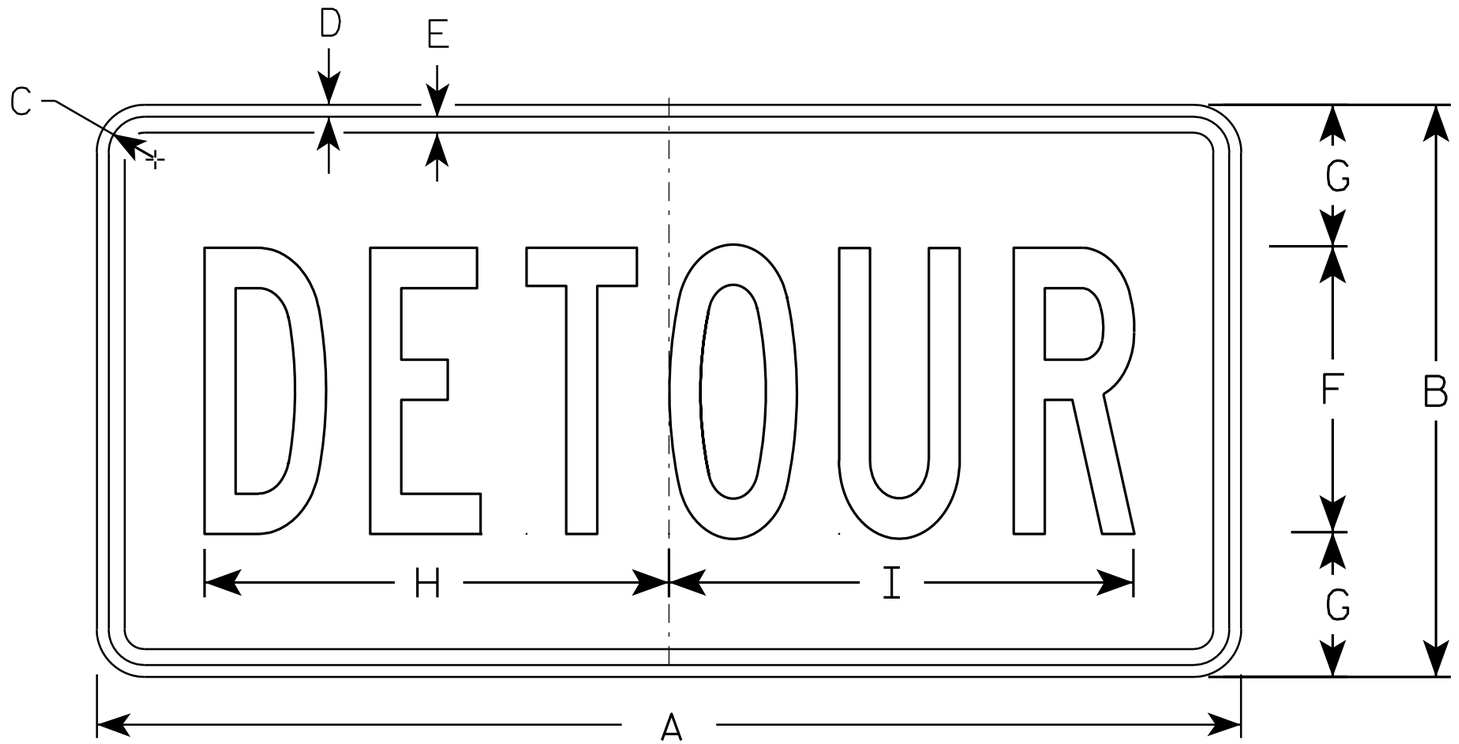
STANDARD SIGN
M4-6

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 6/30/14 PLATE 213 '14-7.8

PROJECT NO:	HWY:	COUNTY:		SHEET NO:	E



M4-8

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 - B
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																											
2	24	12	1 1/8	3/8	3/8	6	3	10	10 1/4																		2.0
3	36	18	1 1/8	3/8	1/2	9	4 1/2	14 5/8	14 1/2																		4.5
4																											
5																											

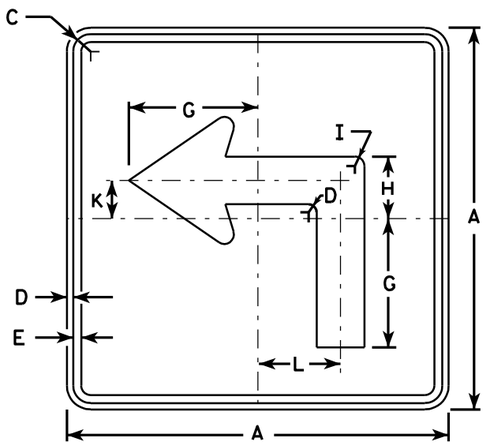
STANDARD SIGN
M4-8

WISCONSIN DEPT OF TRANSPORTATION

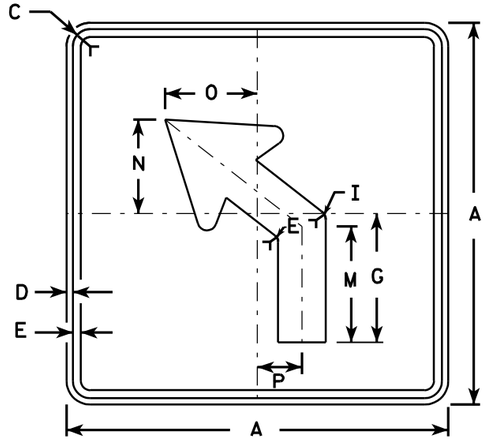
APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 11/10/10 PLATE NO. M4-8.2

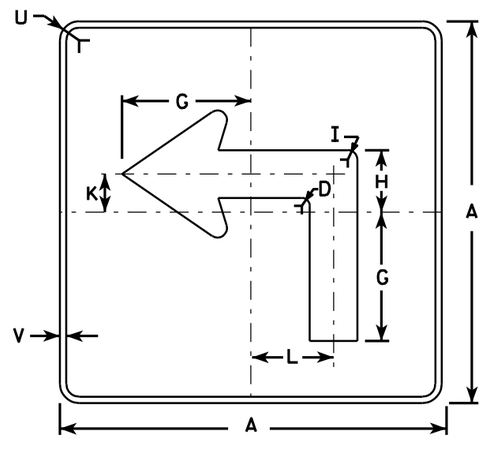
PROJECT NO:	HWY:	COUNTY:		SHEET NO: 214	E



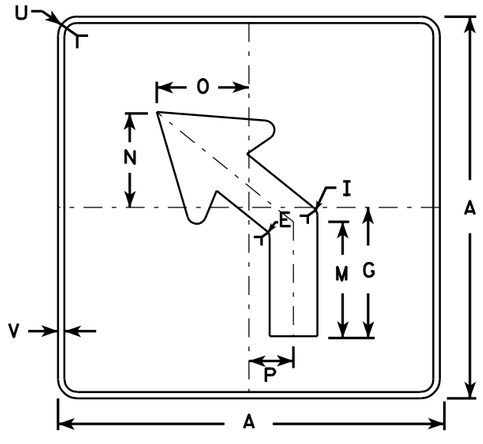
M5-1L
MK5-1L
MM5-1L
MO5-1L
MP5-1L
MR5-1L



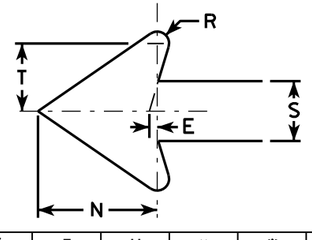
M5-2L
MK5-2L
MM5-2L
MO5-2L
MP5-2L
MR5-2L



MB5-1L
MG5-1L
MN5-1L



MB5-2L
MG5-2L
MN5-2L



NOTES

1. Signs are Type II - See Note 4 - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
   Background - See note 4
   Message - See note 4
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. M5-1 and M5-2 Background - White - Type H Reflective
   Message - Black
   MB5-1 and MB5-2 Background - Blue
   Message - White - Type H Reflective
   MG5-1 and MG5-2 Background - Green
   Message - White - Type H Reflective
   MK5-1 and MK5-2 Background - Green
   Message - White Type H Reflective
   MM5-1 and MM5-2 Background - White - Type H Reflective
   Message - Green
   MN5-1 and MN5-2 Background - Brown
   Message - White - Type H Reflective
   MO5-1 and MO5-2 Background - Orange - Type F Reflective
   Message - Black
   MP5-1 and MP5-2 Background - White - Type H Reflective
   Message - Blue
   MR5-1 and MR5-2 Background - Brown
   Message - Yellow - Type H Reflective
5. M5-1R same as M5-1L except arrow points right.
6. M5-2R same as M5-2L except arrow tilts right.

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																											
2	21		1 1/8	3/8	3/8		7	3 3/8	5/8		2 1/8	4 1/2	6 3/8	5 1/4	5	2 1/2		1/2	2 5/8	3	1 1/2	1/2					3.06
3	30		1 3/8	1/2	5/8		10 1/8	4 1/8	7/8		3	6 1/2	9 1/8	7 1/2	7 1/4	3 1/2		3/4	3 3/4	4 1/4	1 7/8	1/2					6.25
4	30		1 3/8	1/2	5/8		10 1/8	4 1/8	7/8		3	6 1/2	9 1/8	7 1/2	7 1/4	3 1/2		3/4	3 3/4	4 1/4	1 7/8	1/2					6.25
5	30		1 3/8	1/2	5/8		10 1/8	4 1/8	7/8		3	6 1/2	9 1/8	7 1/2	7 1/4	3 1/2		3/4	3 3/4	4 1/4	1 7/8	1/2					6.25

STANDARD SIGN
M5-1 & M5-2

WISCONSIN DEPT OF TRANSPORTATION

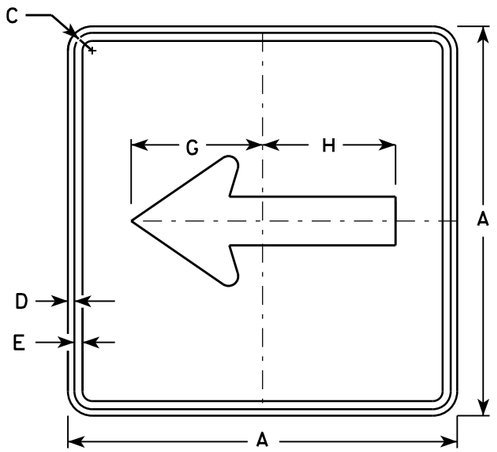
APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 7/29/13 PLATE NO. M5-1.12

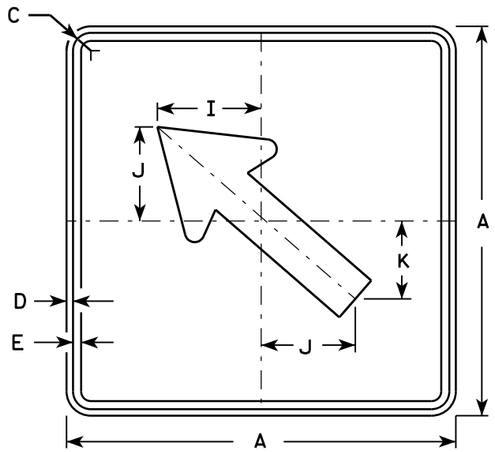
PROJECT NO: | HWY: | COUNTY: | SHEET NO: 215 | E

7

FILE NAME : C:\CAEFiles\Projects\tr_stdplate\M51.DGN PLOT DATE : 29-JUL-2013 13:34 PLOT BY : mscj9h PLOT NAME : PLOT SCALE : 11.908552:1.000000
WISDOT/CADDS SHEET 42



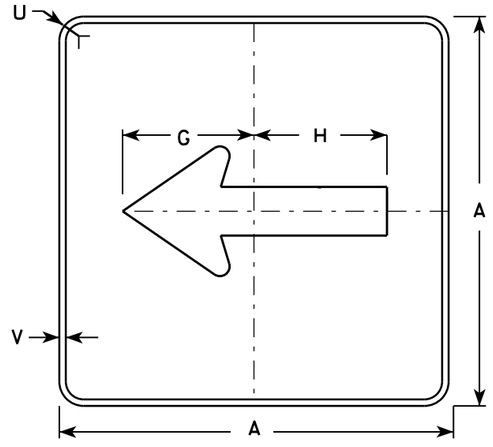
M6-1
MK6-1
MM6-1
MN6-1
MO6-1
MP6-1
MR6-1



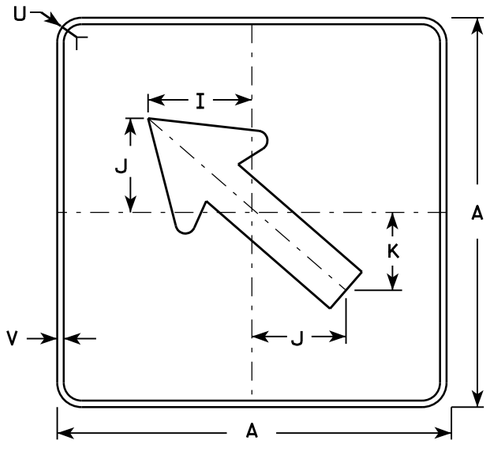
M6-2
MK6-2
MM6-2
MN6-2
MO6-2
MP6-2
MR6-2

NOTES

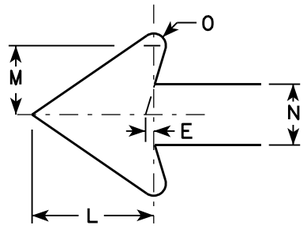
1. Signs are Type II - Type H except as Shown
2. Color:
   Background - See note 4
   Message - See note 4
3. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
4. M6-1 and M6-2 Background - White
   Message - Black
   MB6-1 and MB6-2 Background - Blue
   Message - White
   MG6-1 and MG6-2 Background - Green
   Message - White
   MK6-1 and MK6-2 Background - Green
   Message - White
   MM6-1 and MM6-2 Background - White
   Message - Green
   MN6-1 and MN6-2 Background - Brown
   Message - White
   MO6-1 and MO6-2 Background - Orange - Type F Reflective
   Message - Black
   MP6-1 and MP6-2 Background - White
   Message - Blue
   MR6-1 and MR6-2 Background - Brown
   Message - Yellow



MB6-1



MB6-2



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																											
2	21		1 1/8	3/8	3/8		7 1/2	7 1/8	5 5/8	5	4 1/4	5 1/4	3	2 5/8	1/2						1 1/2	1/2						3.06
3	30		1 3/8	1/2	5/8		10 3/4	10 1/4	8	7 1/4	6	7 1/2	4 1/4	3 3/4	3/4						1 7/8	1/2						6.25
4	30		1 3/8	1/2	5/8		10 3/4	10 1/4	8	7 1/4	6	7 1/2	4 1/4	3 3/4	3/4						1 7/8	1/2						6.25
5	30		1 3/8	1/2	5/8		10 3/4	10 1/4	8	7 1/4	6	7 1/2	4 1/4	3 3/4	3/4						1 7/8	1/2						6.25

STANDARD SIGN M6-1 & M6-2 SERIES

WISCONSIN DEPT OF TRANSPORTATION

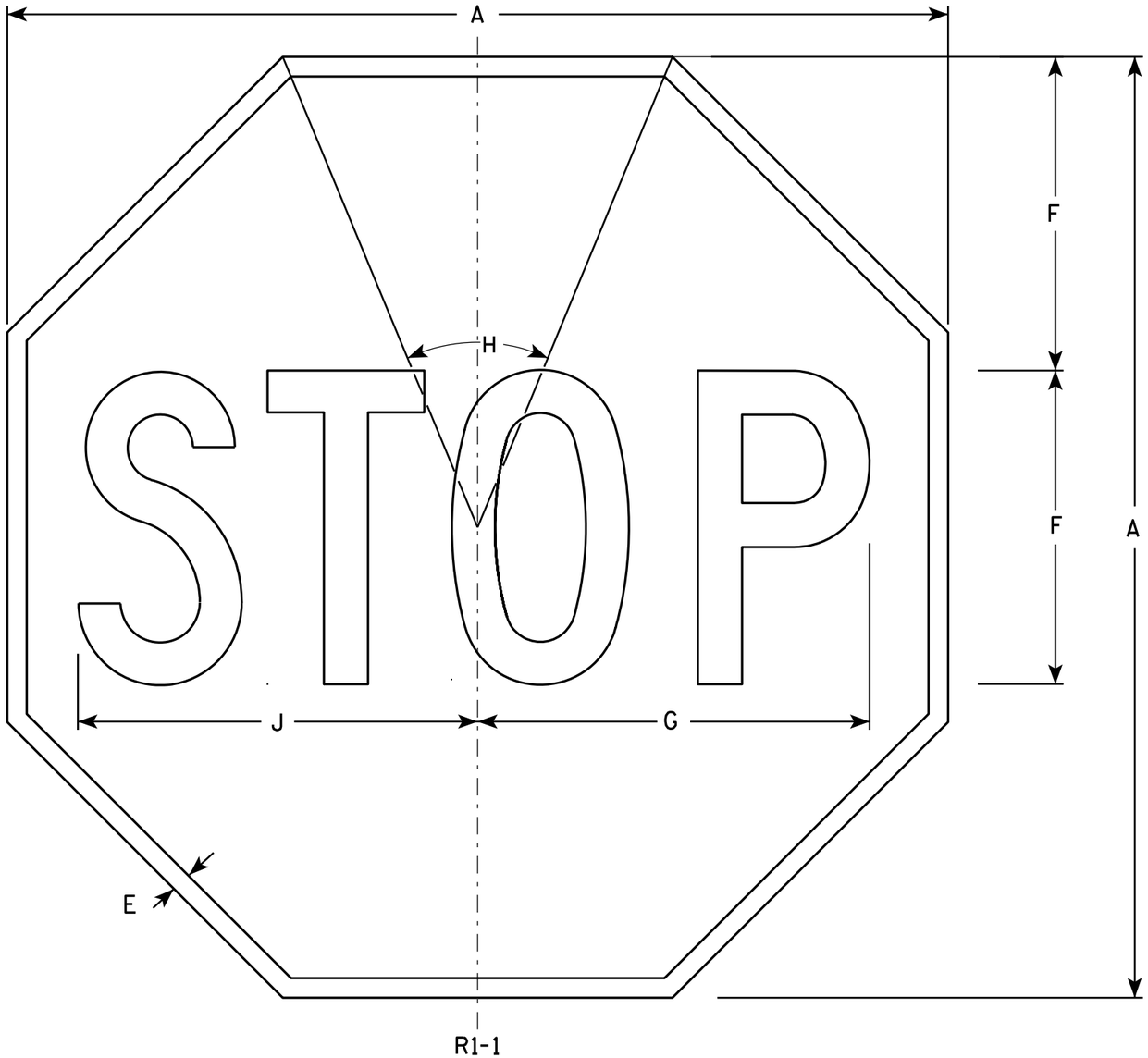
APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 7/03/14 PLATE M6-1.14

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

FILE NAME : C:\CAEFiles\Projects\tr_stdplate\M61.DGN PLOT DATE : 03-JUL-2014 14:28 PLOT BY : mscsja PLOT NAME : PLOT SCALE : 11.675051:1.000000

WISDOT/CADDS SHEET 42



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	24				3/8	8	10	45°		10 1/4																	3.31
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

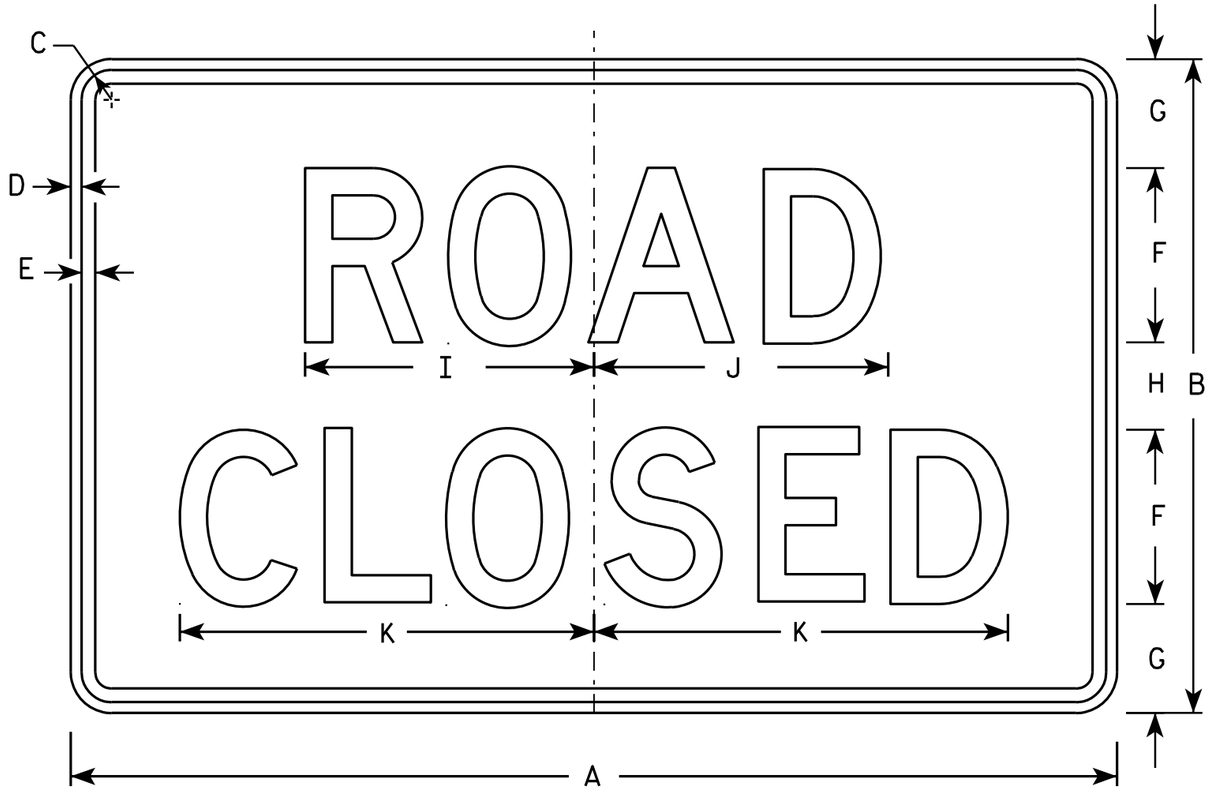
STANDARD SIGN
R1-1

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 12/03/10 PLATE NO. R1-1.12

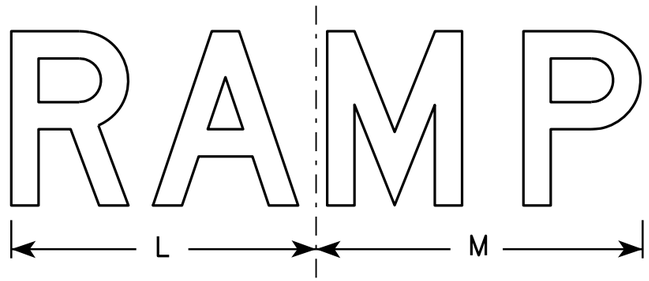
PROJECT NO:	HWY:	COUNTY:		SHEET NO: 217	E



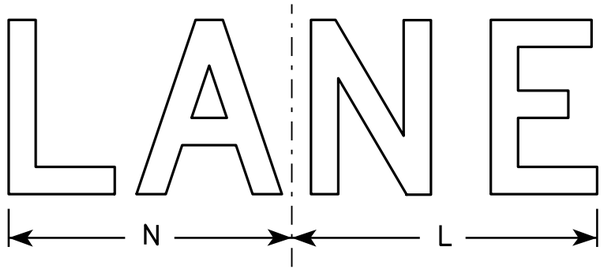
R11-2

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.
5. Modify the message as required.



R11-2R



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													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													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													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													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													10.0

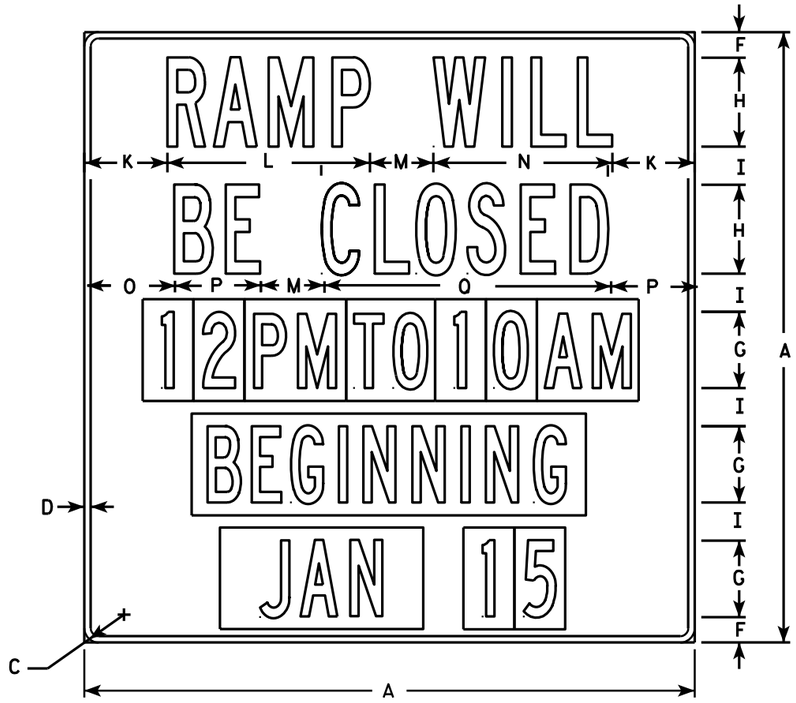
STANDARD SIGN
R11-2

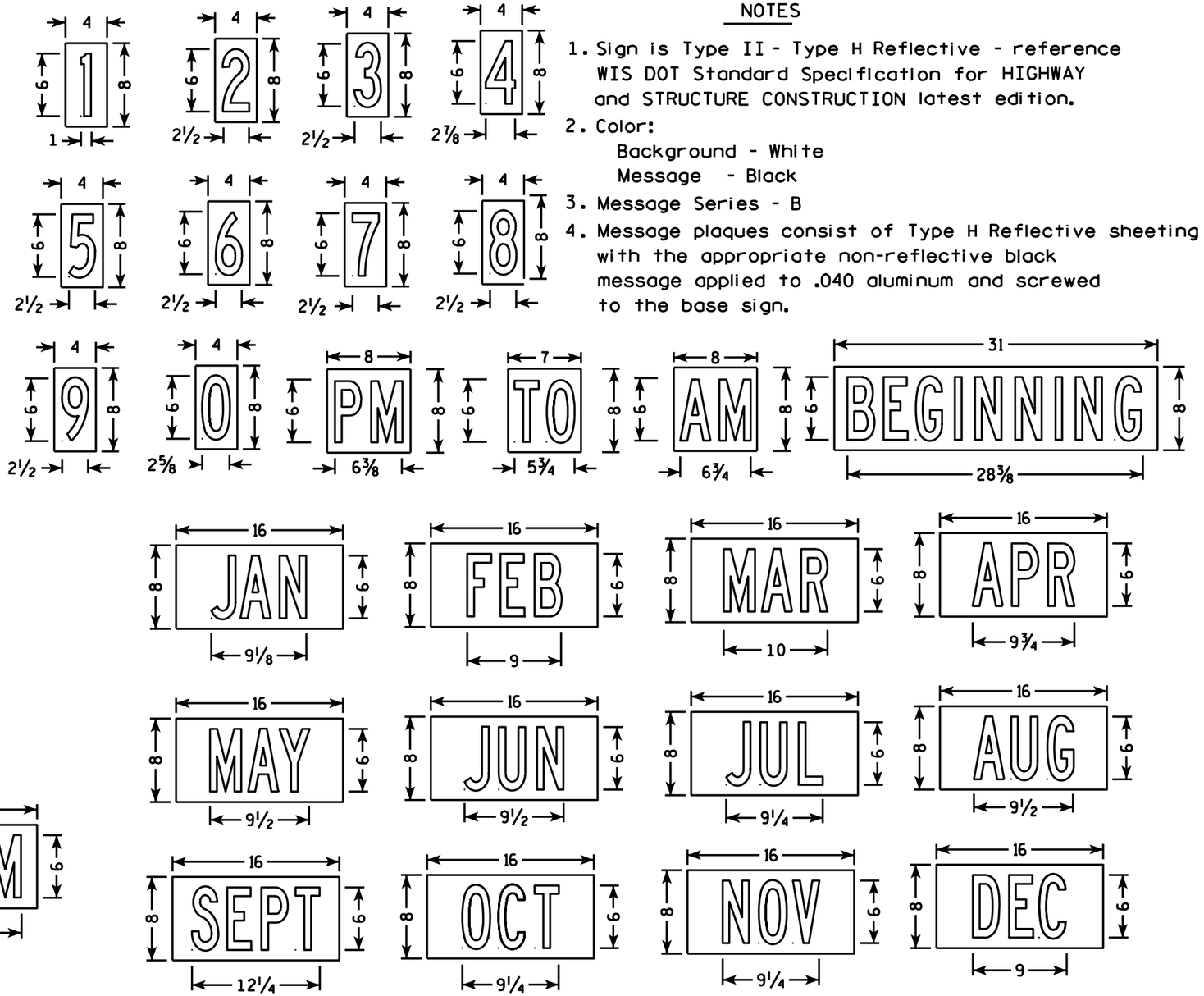
WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 4/1/11 PLATE NO. R11-2.10

PROJECT NO: | HWY: | COUNTY: | SHEET NO: 218 | 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 - White
   Message - Black
3. Message Series - B
4. Message plaques consist of Type H Reflective sheeting with the appropriate non-reflective black message applied to .040 aluminum and screwed to the base sign.

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		2 1/4	1/2		2	6	7	3		6 1/2	15 7/8	5	14 1/8	6 7/8	6 3/4	22 1/2										16.0
2M	48		2 1/4	1/2		2	6	7	3		6 1/2	15 7/8	5	14 1/8	6 7/8	6 3/4	22 1/2										16.0
3																											
4																											
5																											

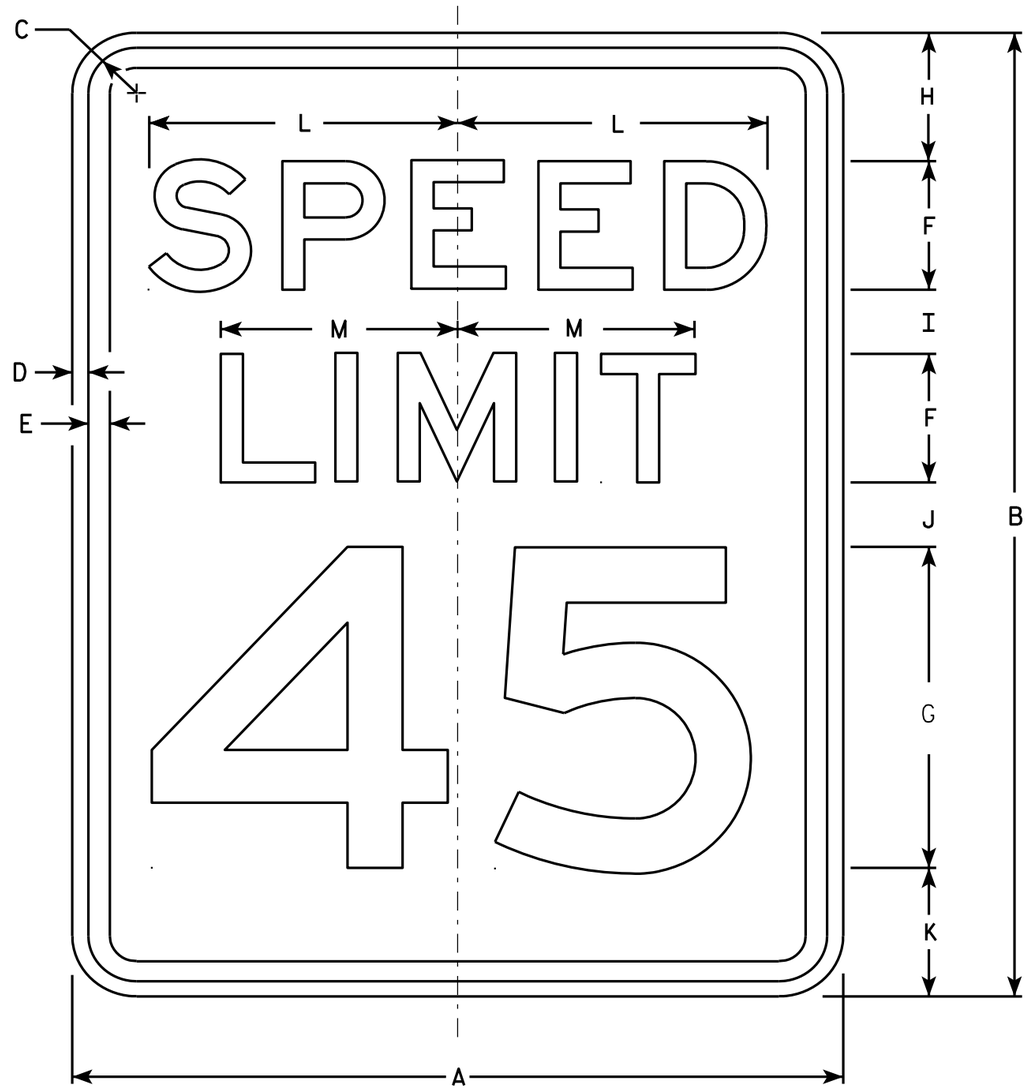
STANDARD SIGN
R11-51

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 4/1/11 PLATE NO. R11-51.4

PROJECT NO: | HWY: | COUNTY: | SHEET NO: 219 | E



R2-1

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 - E
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 and optically adjust spacing to achieve proper balance.

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	18	24	1 1/8	3/8	1/2	3	8	3	2	2	3	7 1/4	5 1/2														3.0
2S	24	30	1 1/8	3/8	1/2	4	10	3	2 1/4	3 3/8	3 3/8	9 5/8	7 3/8														5.0
2M	30	36	1 3/8	1/2	5/8	5	12	5	2 1/2	2 1/2	4	12	9 1/4														7.5
3	36	48	1 3/8	1/2	5/8	6	14	6	5	5	6	14 3/8	11														12.0
4	36	48	1 3/8	1/2	5/8	6	14	6	5	5	6	14 3/8	11														12.0
5	48	60	2 1/4	3/4	1	8	20	6	4 1/2	6 3/4	6 3/4	19 1/4	14 5/8														20.0

STANDARD SIGN
R2-1

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 5/26/10 PLATE NO. R2-1.13

PROJECT NO:	HWY:	COUNTY:		SHEET NO: 220	E



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.

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	30	18	1 3/4	1/2	1/2	4	3 1/2	3	10 3/4	8 1/8																	3.75
2M	30	18	1 3/4	1/2	1/2	4	3 1/2	3	10 3/4	8 1/8																	3.75
3																											
4																											
5																											

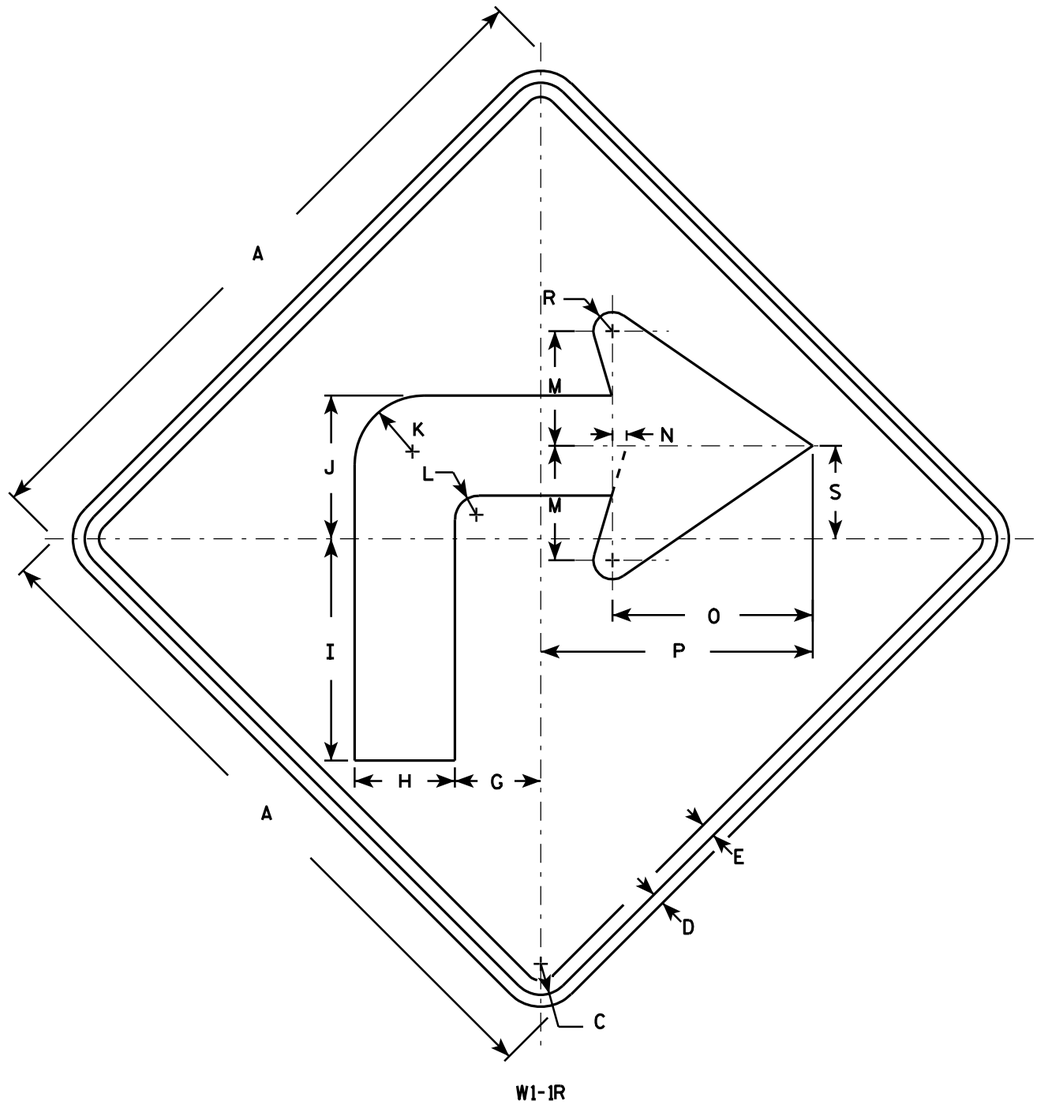
STANDARD SIGN
R9-9

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 4/1/2011 PLATE NO. R9-9.5

PROJECT NO:	HWY:	COUNTY:		SHEET NO: 221	E



W1-1R

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. W1-1L is the same as W1-1R except the arrow is reversed along the vertical centerline.

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		3	3 1/2	7 3/4	5	2 1/2	7/8	4	1/2	7	9 1/2		5/8	3 1/4								4.0
2S	36		1 5/8	5/8	3/4		4 1/2	5 1/4	11 5/8	7 1/2	3 5/8	1 1/4	6	3/4	10 1/2	14 1/4		1	4 7/8								9.0
2M	36		1 5/8	5/8	3/4		4 1/2	5 1/4	11 5/8	7 1/2	3 5/8	1 1/4	6	3/4	10 1/2	14 1/4		1	4 7/8								9.0
3	36		1 5/8	5/8	3/4		4 1/2	5 1/4	11 5/8	7 1/2	3 5/8	1 1/4	6	3/4	10 1/2	14 1/4		1	4 7/8								9.0
4	48		2 1/4	3/4	1		6	7	15 1/2	10	4 7/8	1 5/8	8	1	14	19		1 1/4	6 1/2								16.0
5	48		2 1/4	3/4	1		6	7	15 1/2	10	4 7/8	1 5/8	8	1	14	19		1 1/4	6 1/2								16.0

STANDARD SIGN
W1-1

WISCONSIN DEPT OF TRANSPORTATION

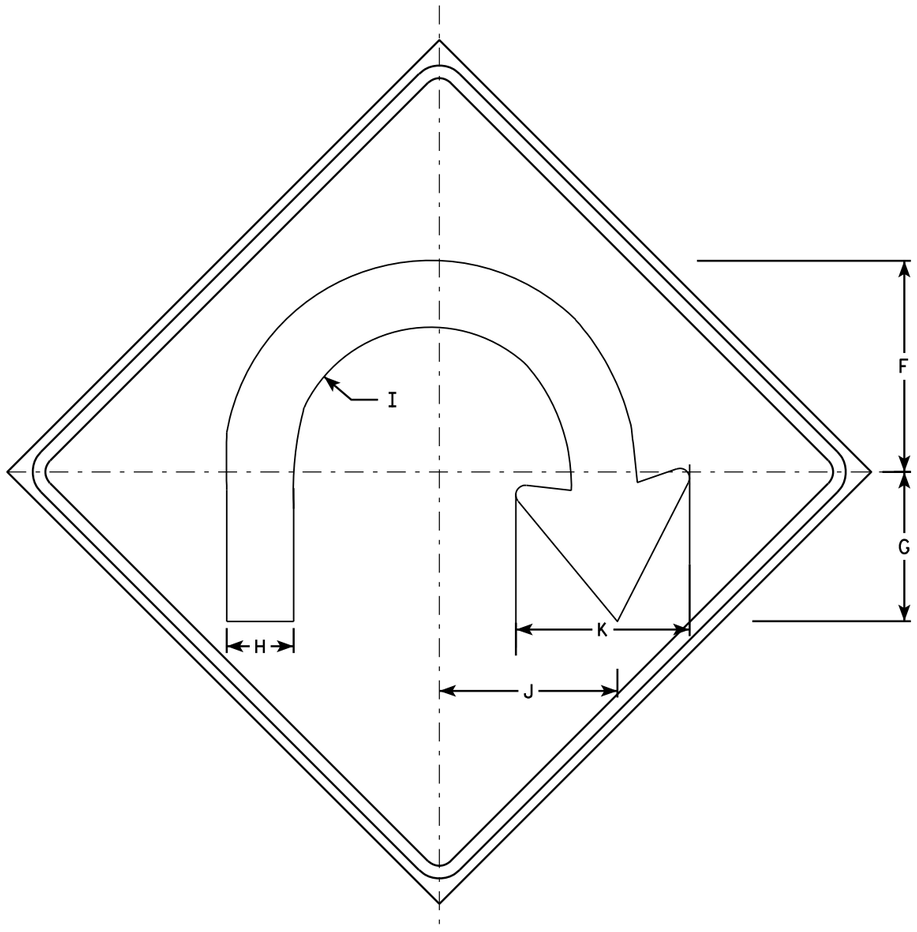
APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 5/15/12 PLATE NO. W1-1.11

PROJECT NO: | HWY: | COUNTY: | SHEET NO: 222 | E

7

FILE NAME : C:\CAEFiles\Projects\tr_stdplate\W11.DGN PLOT DATE : 15-MAY-2012 13:47 PLOT BY : mscsja PLOT NAME : PLOT SCALE : 7.939035:1.000000
WISDOT/CADDS SHEET 42



W1-11R

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. W1-11L is the same as W1-11R except arrow is reversed along the vertical centerline.

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	30		1 3/8	1/2	5/8	10 3/8	7 3/8	3 3/8	6 7/8	8 3/4	8 1/2																6.25
2M	36		1 5/8	5/8	3/4	12 1/2	8 3/4	4	8 1/4	10 1/2	10 1/4																9.0
3	36		1 5/8	5/8	3/4	12 1/2	8 3/4	4	8 1/4	10 1/2	10 1/4																9.0
4	36		1 5/8	5/8	3/4	12 1/2	8 3/4	4	8 1/4	10 1/2	10 1/4																9.0
5	48		2 1/4	3/4	1	16 5/8	11 3/4	5 1/4	11	14	13 5/8																16.0

STANDARD SIGN
W1-11L & R

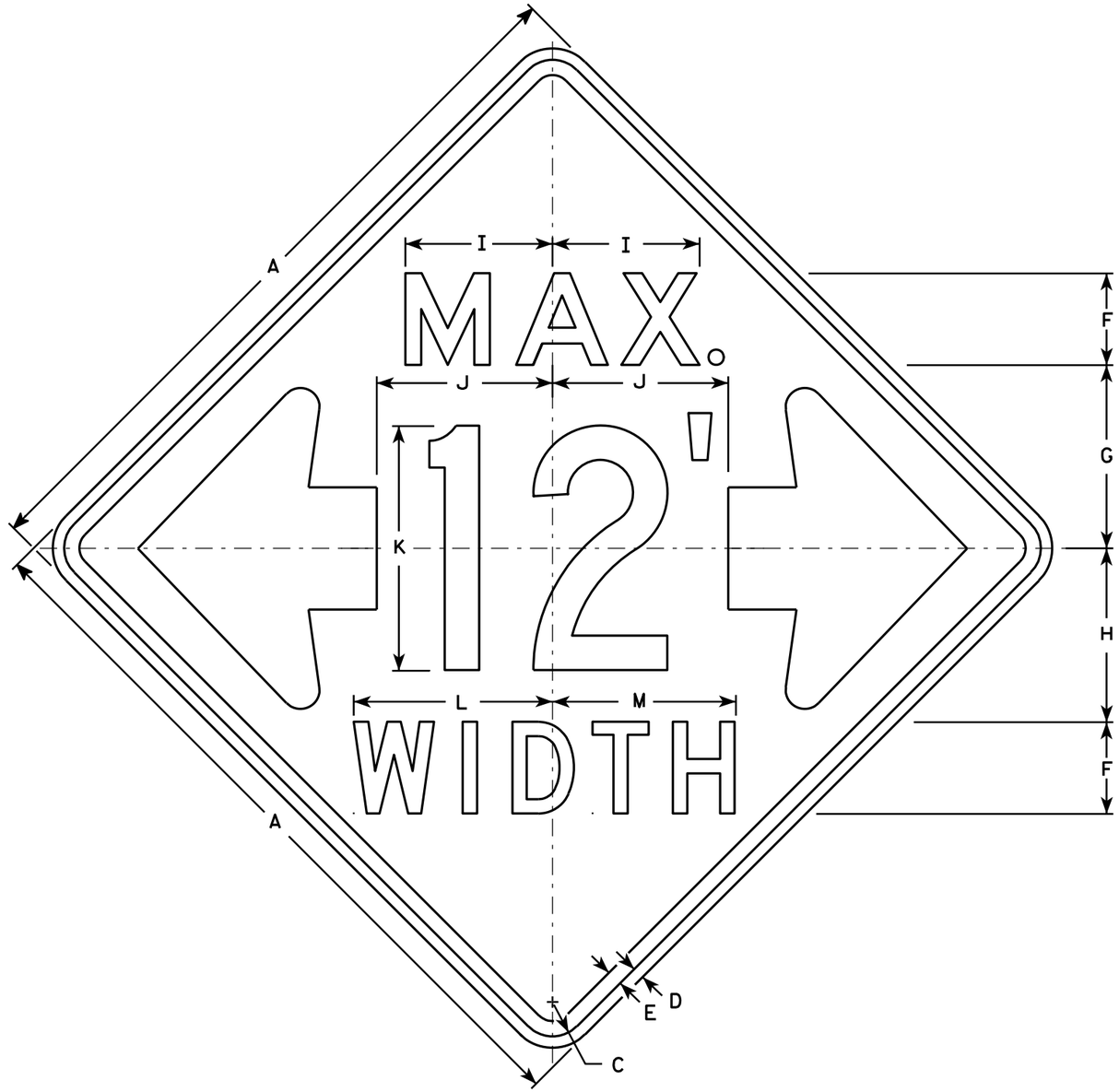
WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 03/21/13 PLATE NO. W1-11.1

PROJECT NO: | HWY: | COUNTY: | SHEET NO: 223 | E

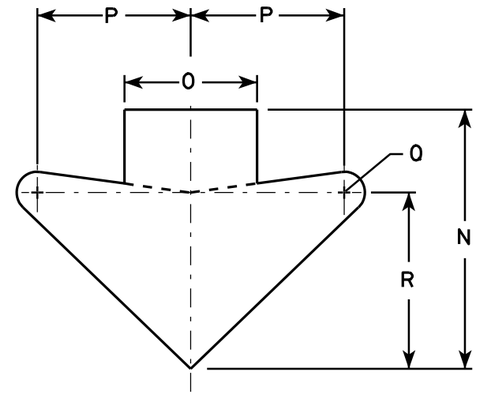
FILE NAME : C:\CAEFiles\Projects\tr_stdplate\W111A.DGN PLOT DATE : 21-MAR-2013 12:56 PLOT BY : mscsja PLOT NAME : PLOT SCALE : 11.908552:1.000000



W12-52

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. The top line is series E, the numerals are series C, and the bottom line is series D.
6. Substitute appropriate numerals and adjust spacing as required.



ARROW DETAIL

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		2 1/4	3/4	1	6	12	11 3/8	9 5/8	11 1/2	16	13	12	15 5/8	8	9 1/4	1 1/4	10 5/8									16.0
2M	48		2 1/4	3/4	1	6	12	11 3/8	9 5/8	11 1/2	16	13	12	15 5/8	8	9 1/4	1 1/4	10 5/8									16.0
3																											
4																											
5																											

STANDARD SIGN
W12-52

WISCONSIN DEPT OF TRANSPORTATION

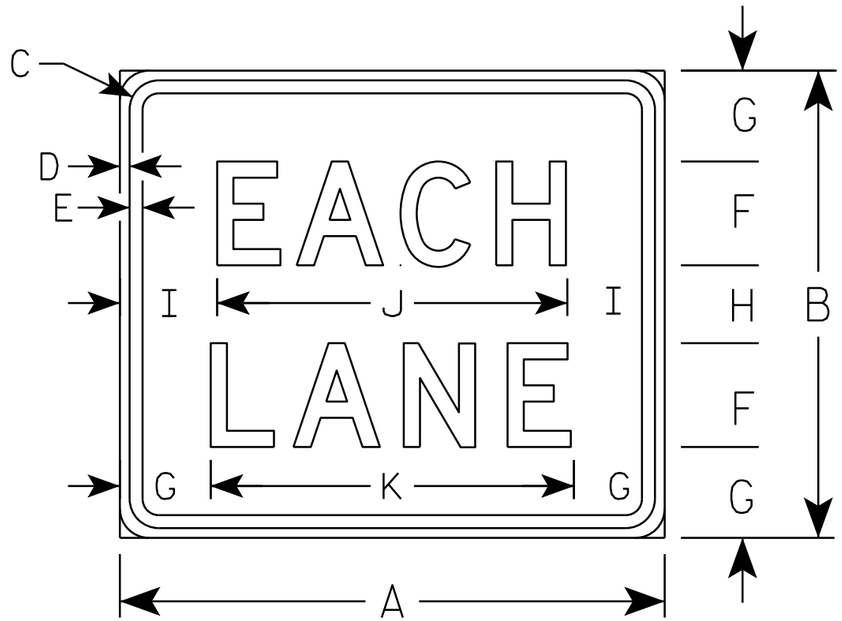
APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 3/16/11 PLATE NO. W12-52.7

PROJECT NO: | HWY: | COUNTY: | SHEET NO: 224 | E

7

FILE NAME : C:\Users\PROJECTS\tr_stdplate\W1252.DGN PLOT DATE : 16-MAR-2011 14:45 PLOT BY : mscj9h PLOT NAME : PLOT SCALE : 9.137199:1.000000
WISDOT/CADDS SHEET 42



W12-52P

NOTES

1. Sign is Type II - Type F Reflective - reference
2. Color:
   Background - Orange
   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	42	36	2 1/4	3/4	1	8	7	6	7 1/2	27	28																10.5
2M	42	36	2 1/4	3/4	1	8	7	6	7 1/2	27	28																10.5
3																											
4																											
5																											

STANDARD SIGN
W12-52P

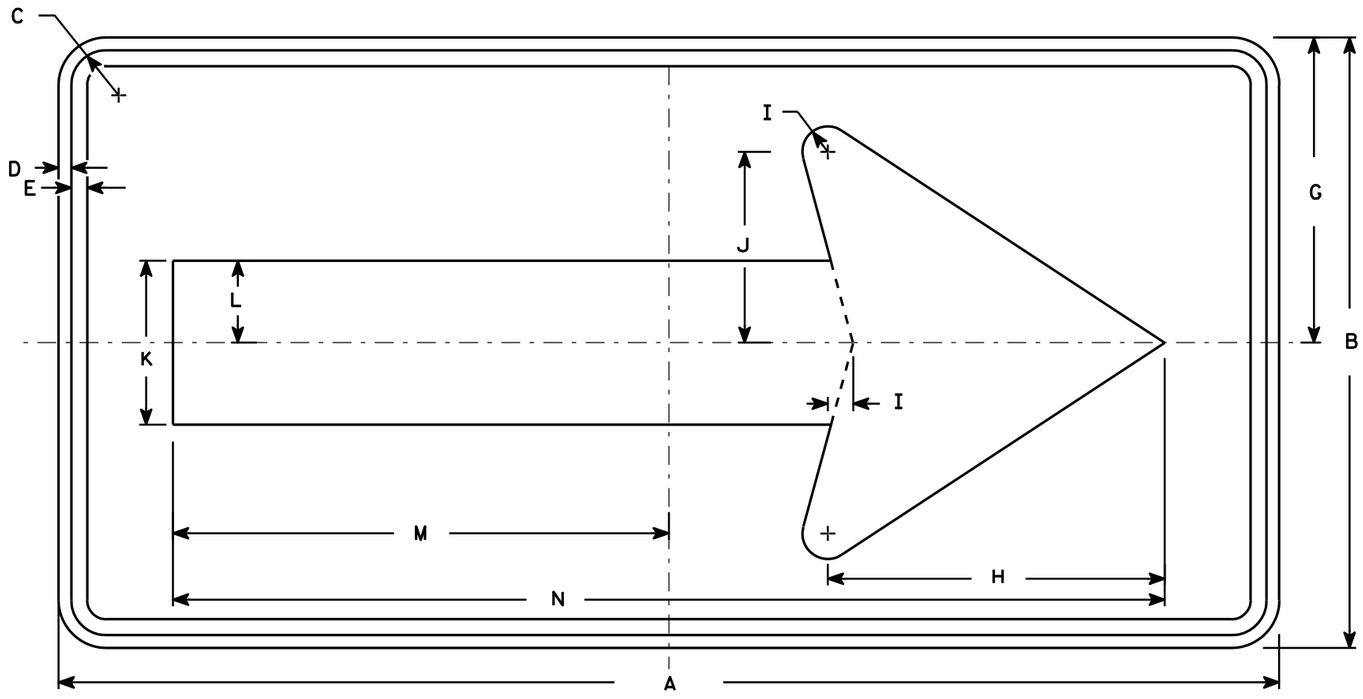
WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 12/16/13 PLATE NO. W12-52P.1

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

FILE NAME : C:\CAEFiles\Projects\tr_stdplate\W1252P.dgn PLOT DATE : 16-DEC-2013 11:01 PLOT BY : mscsja PLOT NAME : PLOT SCALE : 11.675051:1.000000
WISDOT/CADDS SHEET 42



W1-6

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.

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	18	1 1/8	3/8	3/8		9	10	3/4	5 5/8	4 3/4	2 3/8	14 5/8	29 1/4													4.5
2S	48	24	1 3/8	1/2	5/8		12	13 1/4	1	7 1/2	6 1/2	3 1/4	19 1/2	39													8.0
2M	48	24	1 3/8	1/2	5/8		12	13 1/4	1	7 1/2	6 1/2	3 1/4	19 1/2	39													8.0
3	60	30	1 3/8	1/2	5/8		15	16 1/4	1 1/4	9 1/4	8	4	24 3/8	48 3/4													12.5
4	60	30	1 3/8	1/2	5/8		15	16 1/4	1 1/4	9 1/4	8	4	24 3/8	48 3/4													12.5
5	96	48	2 1/4	3/4	1		24	26 1/2	2	15	13	6 1/2	39	78													32.0

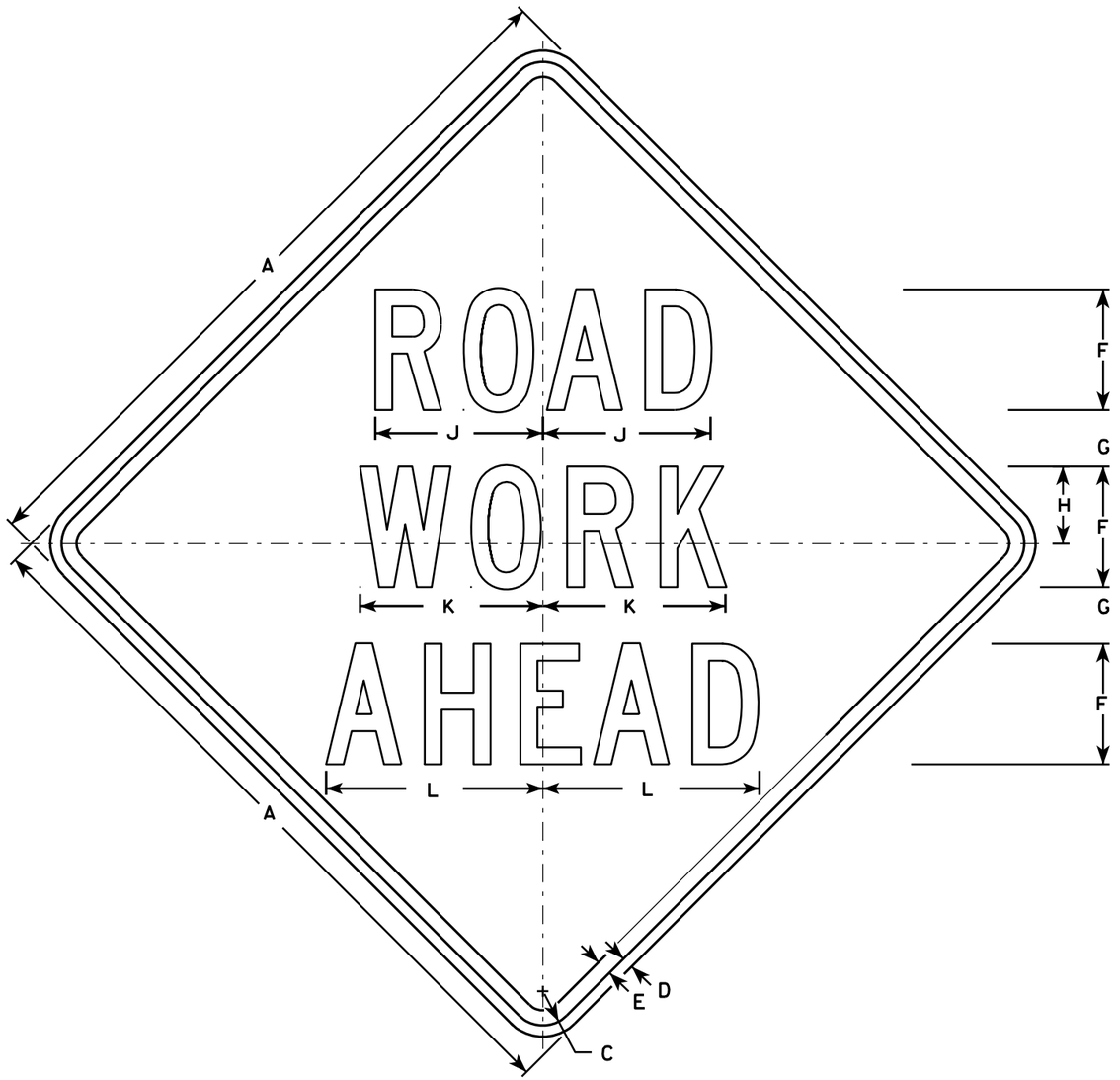
STANDARD SIGN
W1-6

WISCONSIN DEPT OF TRANSPORTATION

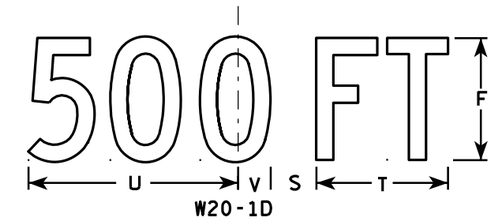
APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 6/7/10 PLATE NO. W1-6.8

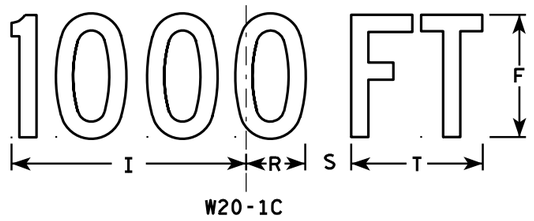
PROJECT NO: | HWY: | COUNTY: | SHEET NO: 226



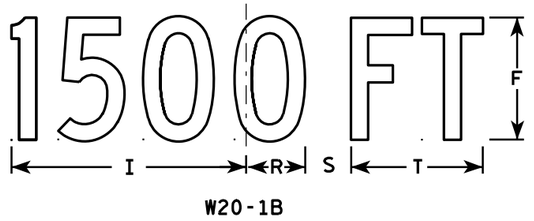
W20-1A



W20-1D



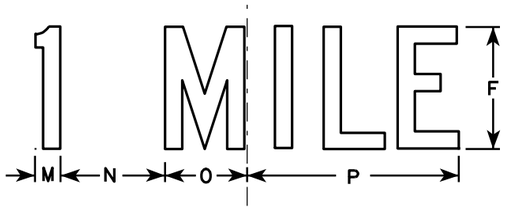
W20-1C



W20-1B



W20-1G



W20-1F

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 - 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.

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 3/8	1/2	5/8	5	2 5/8	3 1/4	10 1/8	7	7 5/8	8 7/8	1 1/8	4 1/2	3 1/2	9		2 1/2	1 7/8	5 5/8	9	1 3/8	8	1 3/4	10 3/4	6	9.0
2S	48		2 1/4	3/4	1	8	3 3/4	5 1/8	15 3/8	11 1/8	12 1/8	14 3/8	1 5/8	6 7/8	5 3/8	13 7/8		3 7/8	3	8 5/8	13 3/4	2 1/8	11 7/8	2 3/4	16 3/8	9	16.0
2M	48		2 1/4	3/4	1	8	3 3/4	5 1/8	15 3/8	11 1/8	12 1/8	14 3/8	1 5/8	6 7/8	5 3/8	13 7/8		3 7/8	3	8 5/8	13 3/4	2 1/8	11 7/8	2 3/4	16 3/8	9	16.0
3	48		2 1/4	3/4	1	8	3 3/4	5 1/8	15 3/8	11 1/8	12 1/8	14 3/8	1 5/8	6 7/8	5 3/8	13 7/8		3 7/8	3	8 5/8	13 3/4	2 1/8	11 7/8	2 3/4	16 3/8	9	16.0
4	48		2 1/4	3/4	1	8	3 3/4	5 1/8	15 3/8	11 1/8	12 1/8	14 3/8	1 5/8	6 7/8	5 3/8	13 7/8		3 7/8	3	8 5/8	13 3/4	2 1/8	11 7/8	2 3/4	16 3/8	9	16.0
5	48		2 1/4	3/4	1	8	3 3/4	5 1/8	15 3/8	11 1/8	12 1/8	14 3/8	1 5/8	6 7/8	5 3/8	13 7/8		3 7/8	3	8 5/8	13 3/4	2 1/8	11 7/8	2 3/4	16 3/8	9	16.0

STANDARD SIGN
W20-1A, B, C, D, F & G

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew L Rauch
for State Traffic Engineer

DATE 3/18/11 PLATE NO. W20-1.9

PROJECT NO:

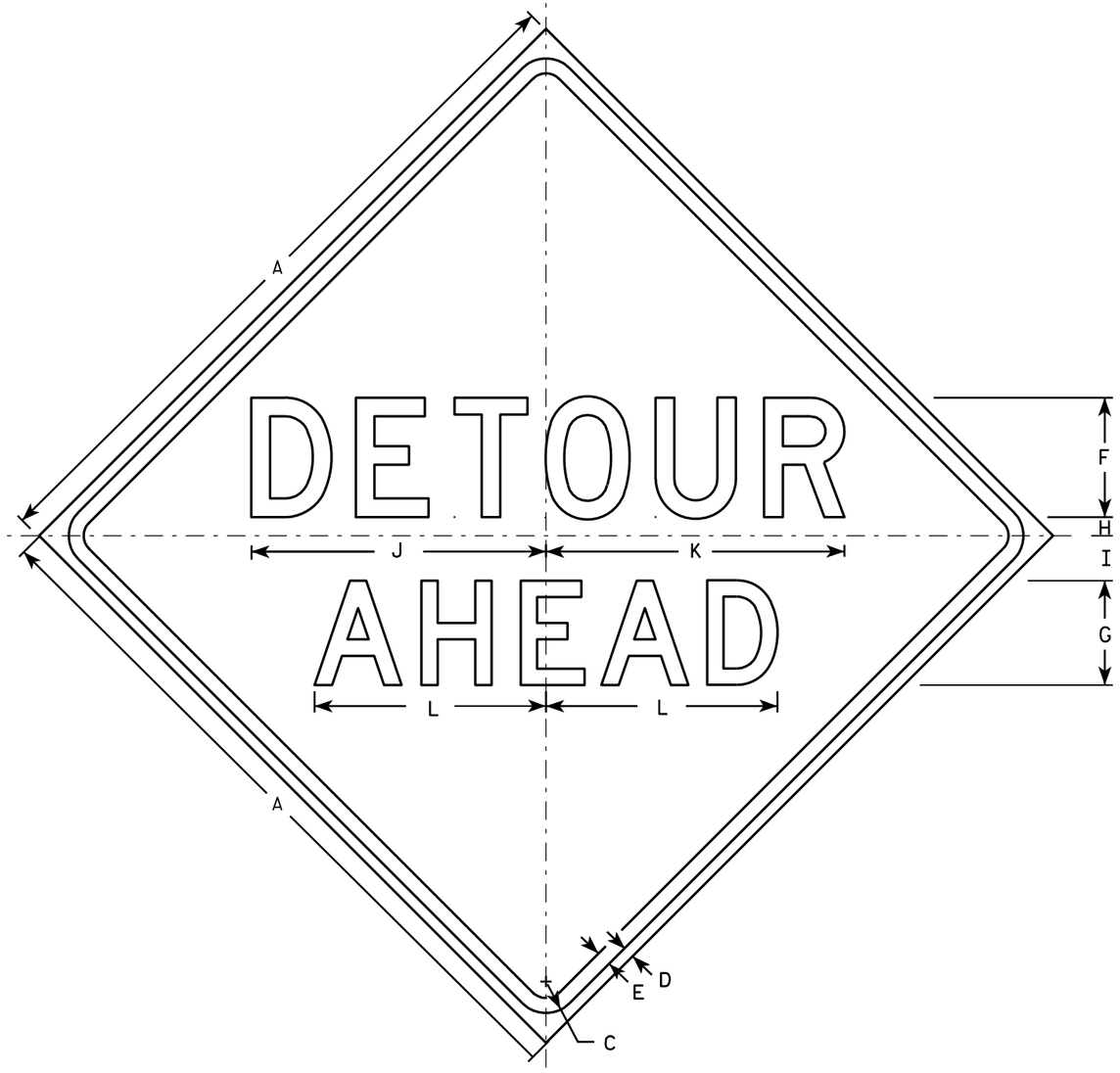
SHEET NO: 227 E

FILE NAME : C:\Users\PROJECTS\tr_stdplate\W201.DGN PLOT DATE : 18-MAR-2011 09:56 PLOT BY : mscj9h

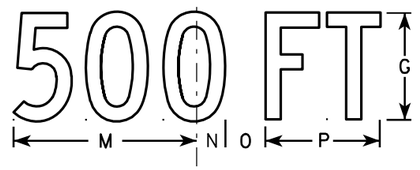
WISDOT/CADDS SHEET 42

7

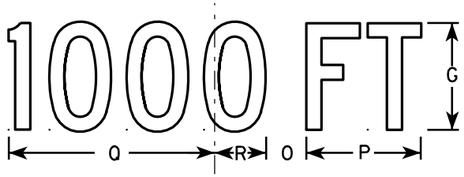
7



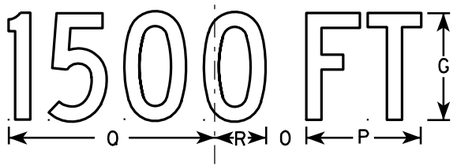
W20-2A



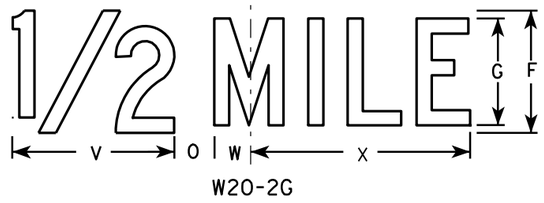
W20-2D



W20-2C



W20-2B



W20-2G



W20-2F

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. Line 1 is Series D.
   Line 2 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	O	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1	36		1 5/8	5/8	3/4	6	5	1	2 1/4	14 3/4	15	11 5/8	9	1 3/8	1 7/8	5 5/8	10 1/8	2 1/2	1 1/8	4 1/2	3 1/2	8	1 3/4	10 3/4			9.0
2S	48		2 1/4	3/4	1	8	7	1 1/4	3	19 3/4	20	15 1/2	12	1 7/8	2 5/8	7 1/2	13 1/2	3 3/8	1 1/2	6	4 5/8	10 5/8	2 3/8	14 3/8			16.0
2M	48		2 1/4	3/4	1	8	7	1 1/4	3	19 3/4	20	15 1/2	12	1 7/8	2 5/8	7 1/2	13 1/2	3 3/8	1 1/2	6	4 5/8	10 5/8	2 3/8	14 3/8			16.0
3	48		2 1/4	3/4	1	8	7	1 1/4	3	19 3/4	20	15 1/2	12	1 7/8	2 5/8	7 1/2	13 1/2	3 3/8	1 1/2	6	4 5/8	10 5/8	2 3/8	14 3/8			16.0
4	48		2 1/4	3/4	1	8	7	1 1/4	3	19 3/4	20	15 1/2	12	1 7/8	2 5/8	7 1/2	13 1/2	3 3/8	1 1/2	6	4 5/8	10 5/8	2 3/8	14 3/8			16.0
5	48		2 1/4	3/4	1	8	7	1 1/4	3	19 3/4	20	15 1/2	12	1 7/8	2 5/8	7 1/2	13 1/2	3 3/8	1 1/2	6	4 5/8	10 5/8	2 3/8	14 3/8			16.0

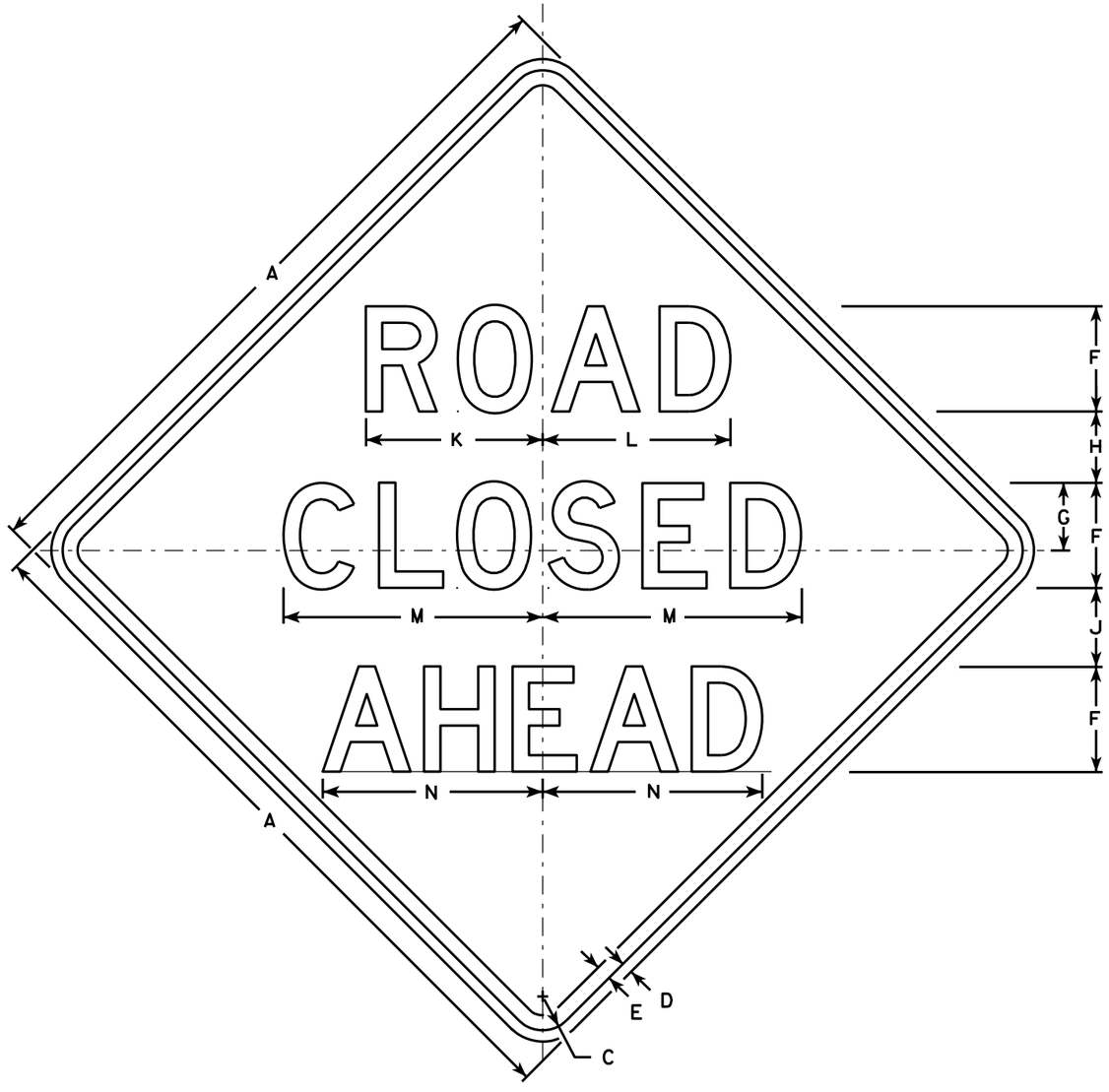
STANDARD SIGN
W20-2A,B,C,D,F & G

WISCONSIN DEPT OF TRANSPORTATION

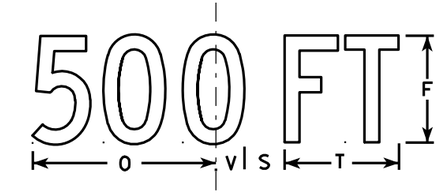
APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 3/18/11 PLATE NO. W20-2.6

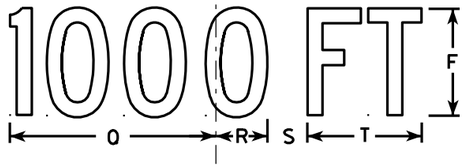
PROJECT NO:	HWY:	COUNTY:		SHEET NO: 228	E



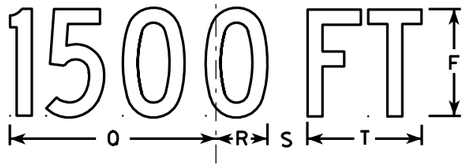
W20-3A



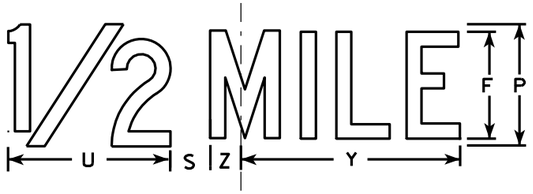
W20-3D



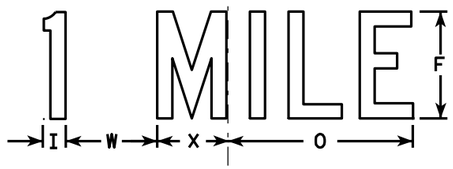
W20-3C



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

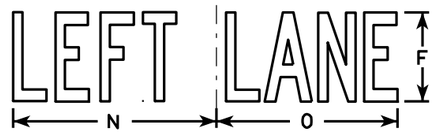
PROJECT NO: | HWY: | COUNTY: | SHEET NO: 229 | E

7

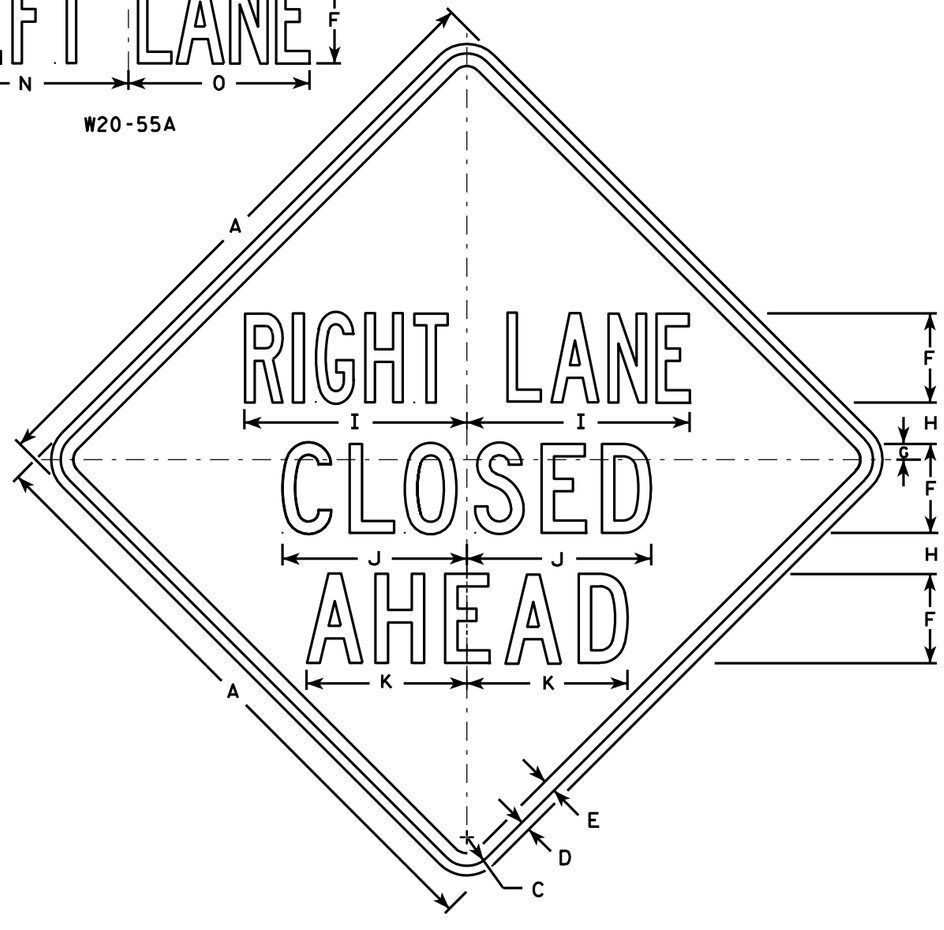
FILE NAME : C:\Users\PROJECTS\tr_stdplate\W203.DGN PLOT DATE : 18-MAR-2011 12:08 PLOT BY : mscj9h PLOT NAME : PLOT SCALE : 9.931739:1.000000
WISDOT/CADDS SHEET 42



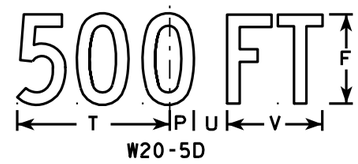
W20-56A



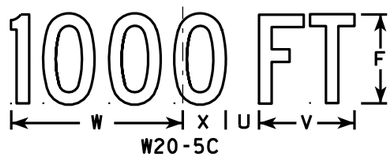
W20-55A



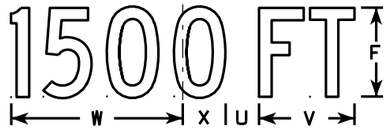
W20-5A



W20-5D



W20-5C



W20-5B



W20-5G



W20-5F

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. " _____ LANE" is Series B.
   All other copy is 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	36	6	1 5/8	5/8	3/4	5	1/8	2 1/2	13 1/8	10 3/4	9 1/2	14 1/4	13 5/8	12	12	1 3/8	1 1/8	4 1/2	3 1/2	9	1 1/8	5 5/8	10 1/8	2 1/2	1 3/4	8	9.0
2S	48	8	2 1/4	3/4	1	7	1 1/4	3 1/4	17 1/2	14 3/8	12 5/8	19	18 3/8	16	14 1/4	1 7/8	1 1/2	6	4 5/8	12	2 5/8	7 1/2	13 1/2	3 3/8	2 3/8	10 5/8	16.0
2M	48	8	2 1/4	3/4	1	7	1 1/4	3 1/4	17 1/2	14 3/8	12 5/8	19	18 3/8	16	14 1/4	1 7/8	1 1/2	6	4 5/8	12	2 5/8	7 1/2	13 1/2	3 3/8	2 3/8	10 5/8	16.0
3	48	8	2 1/4	3/4	1	7	1 1/4	3 1/4	17 1/2	14 3/8	12 5/8	19	18 3/8	16	14 1/4	1 7/8	1 1/2	6	4 5/8	12	2 5/8	7 1/2	13 1/2	3 3/8	2 3/8	10 5/8	16.0
4	48	8	2 1/4	3/4	1	7	1 1/4	3 1/4	17 1/2	14 3/8	12 5/8	19	18 3/8	16	14 1/4	1 7/8	1 1/2	6	4 5/8	12	2 5/8	7 1/2	13 1/2	3 3/8	2 3/8	10 5/8	16.0
5	48	8	2 1/4	3/4	1	7	1 1/4	3 1/4	17 1/2	14 3/8	12 5/8	19	18 3/8	16	14 1/4	1 7/8	1 1/2	6	4 5/8	12	2 5/8	7 1/2	13 1/2	3 3/8	2 3/8	10 5/8	16.0

STANDARD SIGN
W20-5A, B, C, D, F & G

WISCONSIN DEPT OF TRANSPORTATION

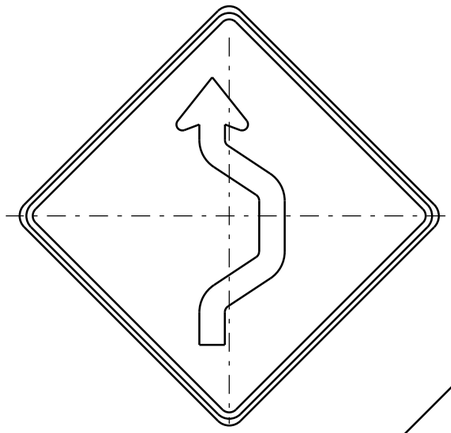
APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 3/18/11 PLATE NO. W20-5.11

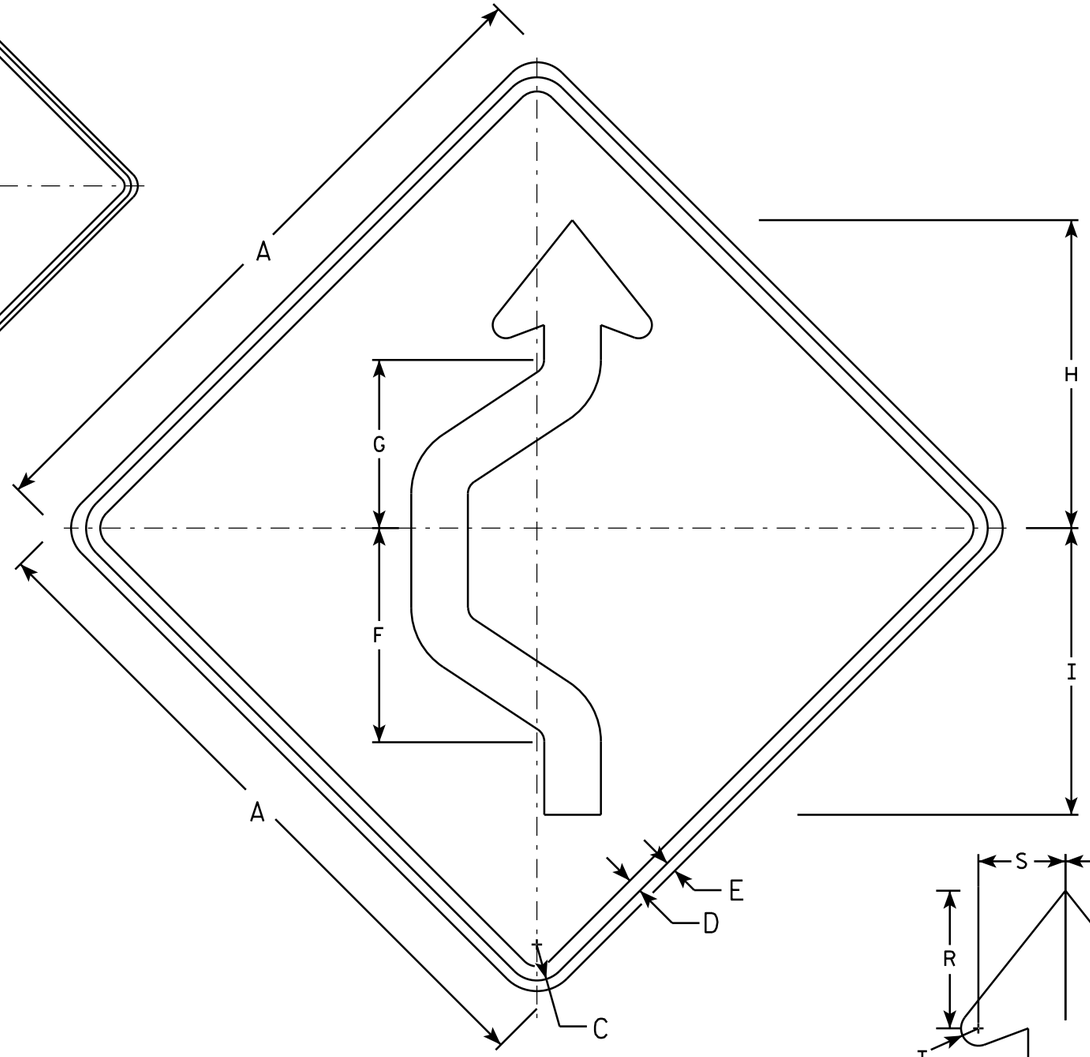
PROJECT NO:	HWY:	COUNTY:		SHEET NO: 230	E

FILE NAME : C:\Users\PROJECTS\tr_stdplate\W205.DGN PLOT DATE : 18-MAR-2011 12:15 PLOT BY : mscj9h PLOT NAME : PLOT SCALE : 11.918087:1.000000

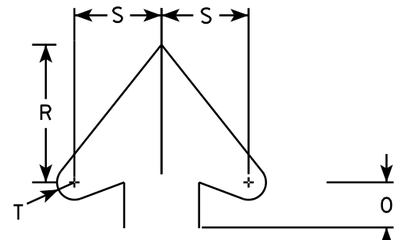
WISDOT/CADDS SHEET 42



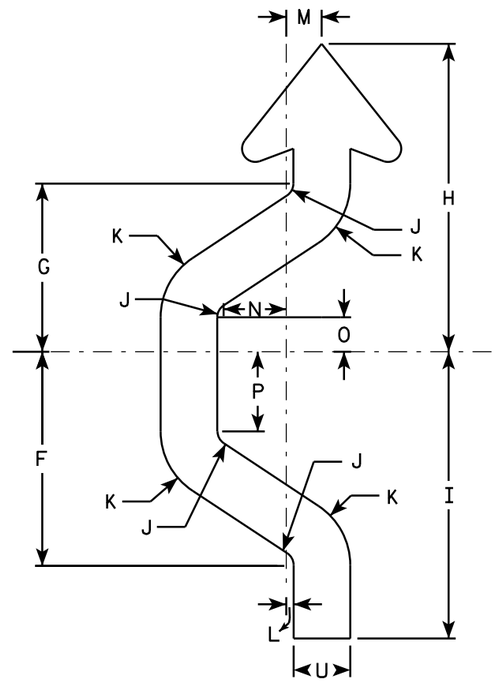
W24-1R



W24-1L



Arrowhead Detail



Arrow Detail

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. W24-1R is the same as W24-1L except reversed along the vertical centerline.

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	36		1 3/8	5/8	1/2	11 3/8	8 7/8	16 3/8	15 1/4	3/4	3 3/4	3/8	2	3 3/8	1 7/8	4 1/4		5 1/2	3 1/2	5/8	3						9
2M	36		1 3/8	5/8	1/2	11 3/8	8 7/8	16 3/8	15 1/4	3/4	3 3/4	3/8	2	3 3/8	1 7/8	4 1/4		5 1/2	3 1/2	5/8	3						9
3																											
4																											
5																											

STANDARD SIGN
W24-1 L & R

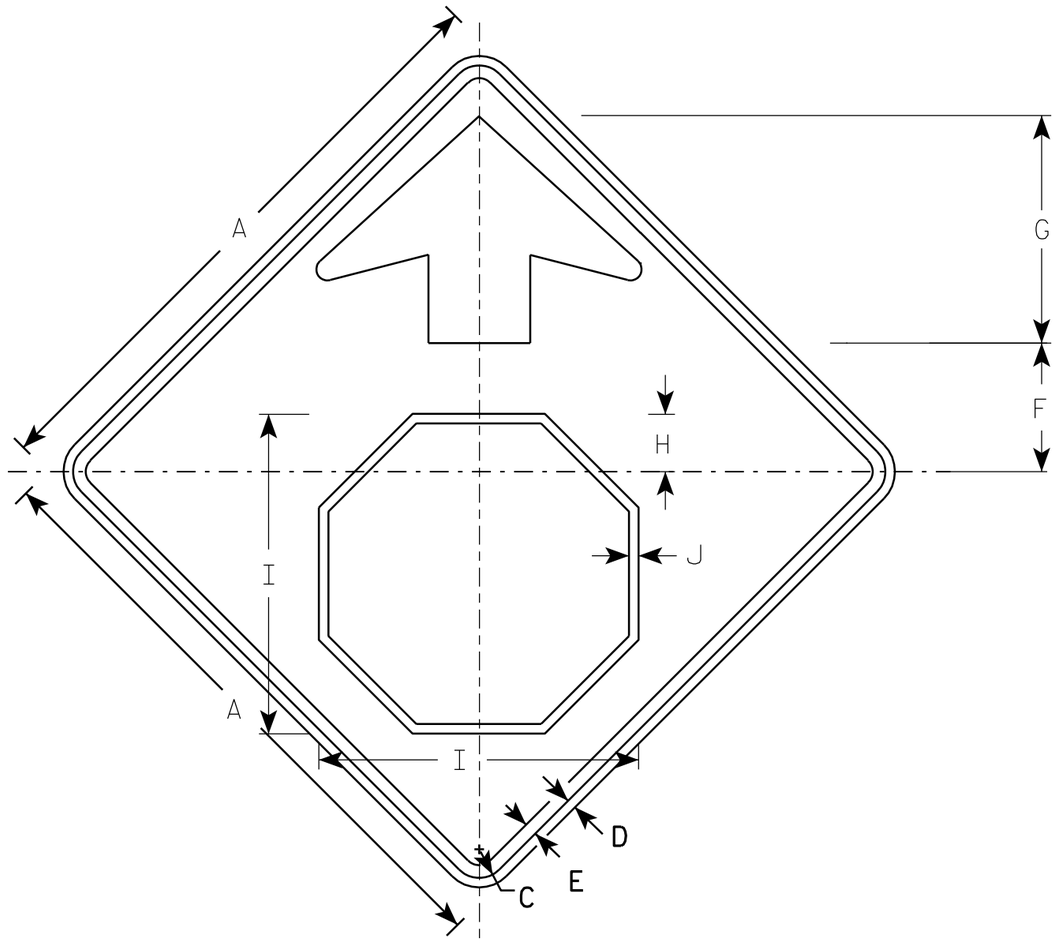
WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 9/25/2013 PLATE No. W24-1.3

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

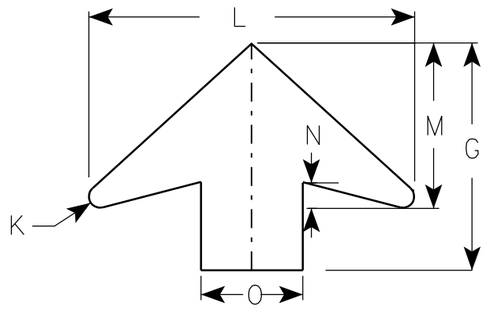
FILE NAME : C:\CAEFiles\Projects\tr_stdplate\W241L.DGN PLOT DATE : 25-SEP-2013 13:00 PLOT BY : mscsja PLOT NAME : PLOT SCALE : 10.702132:1.000000 WISDOT/CADDS SHEET 42



W3-1

NOTES

1. All Signs Type II - Type F Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
   Background - YELLOW
   Arrow & Border - BLACK
   Stop Symbol - WHITE BORDER ON RED BACKGROUND



ARROW DETAIL

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	6 1/4	11 1/4	2 7/8	15 3/4	1/2	1/2	16	8	1 1/4	5												6.25
2S	36		1 5/8	5/8	3/4	7 1/2	13 1/2	3 1/2	19	5/8	5/8	19 1/4	9 3/4	1 5/8	6												9.0
2M	36		1 5/8	5/8	3/4	7 1/2	13 1/2	3 1/2	19	5/8	5/8	19 1/4	9 3/4	1 5/8	6												9.0
3	36		1 5/8	5/8	3/4	7 1/2	13 1/2	3 1/2	19	5/8	5/8	19 1/4	9 3/4	1 5/8	6												9.0
4	48		2 1/4	3/4	1	10	17 7/8	4 1/2	25 1/8	3/4	7/8	25 5/8	13	2	8												16.0
5	48		2 1/4	3/4	1	10	17 7/8	4 1/2	25 1/8	3/4	7/8	25 5/8	13	2	8												16.0

STANDARD SIGN
W3-1

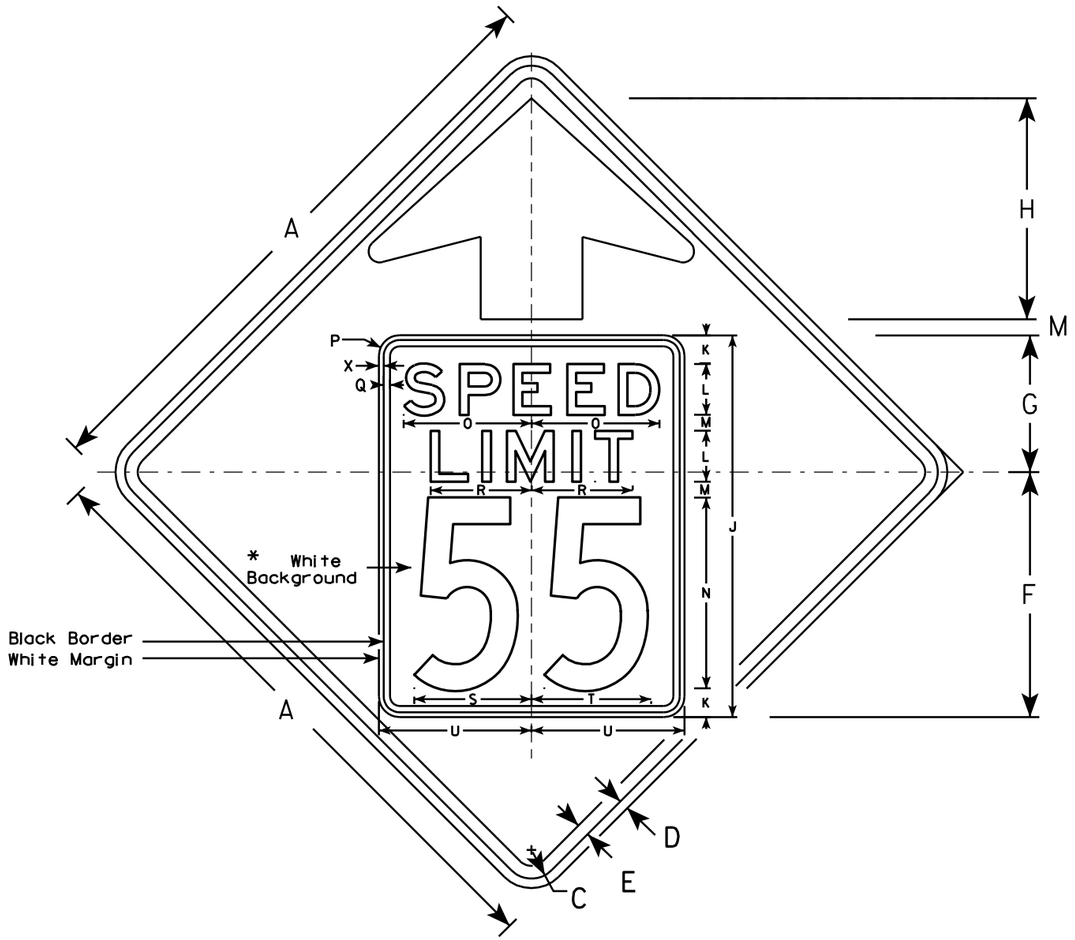
WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 6/7/10 PLATE NO. W3-1.12

PROJECT NO:

SHEET NO: 232 E

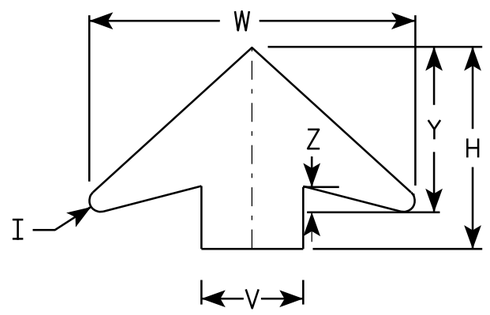


W3-5

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 - C for numbers Series E for wording
4. Substitute appropriate numerals and optically adjust spacing to achieve proper balance

*Speed Limit Sign shall have a White Background



ARROW DETAIL

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	36		1 5/8	5/8	3/4	14 1/2	9 1/2	11 1/2	5/8	24	2	3	1	12	7 1/8	1 1/2	3/8	5 3/4	7 1/4	7 1/8	9	6	19 1/4	3/8	9 3/4	1 5/8	9.0
2M	36		1 5/8	5/8	3/4	14 1/2	9 1/2	11 1/2	5/8	24	2	3	1	12	7 1/8	1 1/2	3/8	5 3/4	7 1/4	7 1/8	9	6	19 1/4	3/8	9 3/4	1 5/8	9.0
3	36		1 5/8	5/8	3/4	14 1/2	9 1/2	11 1/2	5/8	24	2	3	1	12	7 1/8	1 1/2	3/8	5 3/4	7 1/4	7 1/8	9	6	19 1/4	3/8	9 3/4	1 5/8	9.0
4	48		2 1/4	3/4	1	19 1/4	10 3/4	17 3/8	7/8	30	2 1/4	4	1 1/4	15	10	1 5/8	1/2	8	9 1/4	9 3/8	12	8	25 5/8	3/8	13	2	16.0
5	48		2 1/4	3/4	1	19 1/4	10 3/4	17 3/8	7/8	30	2 1/4	4	1 1/4	15	10	1 5/8	1/2	8	9 1/4	9 3/8	12	8	25 5/8	3/8	13	2	16.0

STANDARD SIGN
W3-5

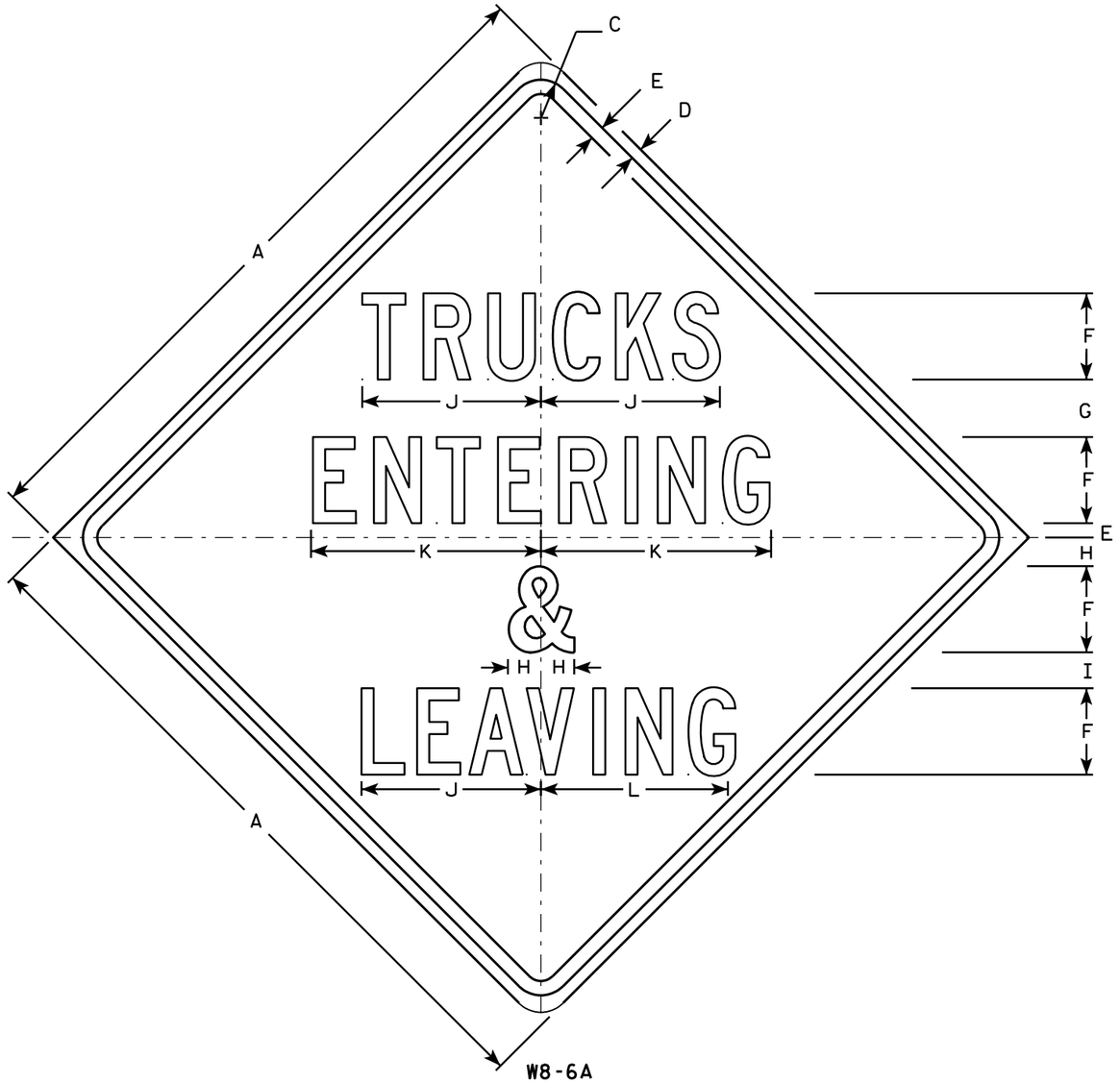
WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 5/29/12 PLATE NO. W3-5.5

PROJECT NO:

SHEET NO: 233 E



W8-6A

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 - 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.

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 3/8	1/2	5/8	4 1/2	3	1 1/2	1 7/8	9 3/8	12	9 3/4															9
2S	48		2 1/4	3/4	1	6	4	2	2 1/2	12 1/2	16	13															16
2M	48		2 1/4	3/4	1	6	4	2	2 1/2	12 1/2	16	13															16
3	48		2 1/4	3/4	1	6	4	2	2 1/2	12 1/2	16	13															16
4	48		2 1/4	3/4	1	6	4	2	2 1/2	12 1/2	16	13															16
5	48		2 1/4	3/4	1	6	4	2	2 1/2	12 1/2	16	13															16

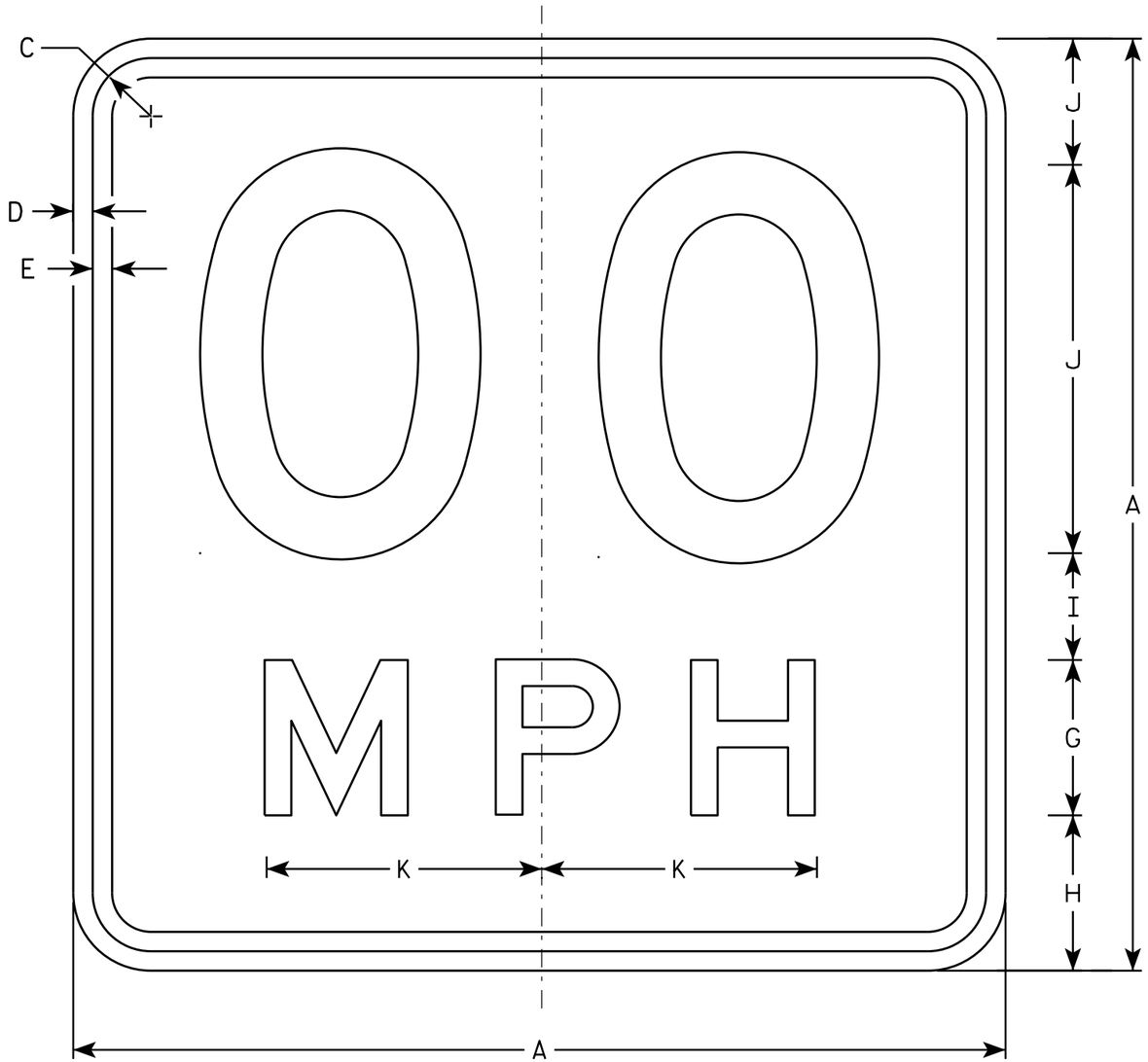
STANDARD SIGN
W8-6A

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 3/23/11 PLATE NO. W8-6A.2

PROJECT NO:	HWY:	COUNTY:		SHEET NO: 234	E



W013-1

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 6
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 and optically space about centerline to achieve proper balance.
6. Line 1 is Series D
   Line 2 is Series E

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	10	4	4	2 3/4	3 1/4	7 1/8																4.00
2S	36		1 5/8	5/8	3/4	16	6	5 1/2	4	4 1/2	10 5/8																9.00
2M	36		1 5/8	5/8	3/4	16	6	5 1/2	4	4 1/2	10 5/8																9.00
3	36		1 5/8	5/8	3/4	16	6	5 1/2	4	4 1/2	10 5/8																9.00
4	36		1 5/8	5/8	3/4	16	6	5 1/2	4	4 1/2	10 5/8																9.00
5	36		1 5/8	5/8	3/4	16	6	5 1/2	4	4 1/2	10 5/8																9.00

STANDARD SIGN
W013-1

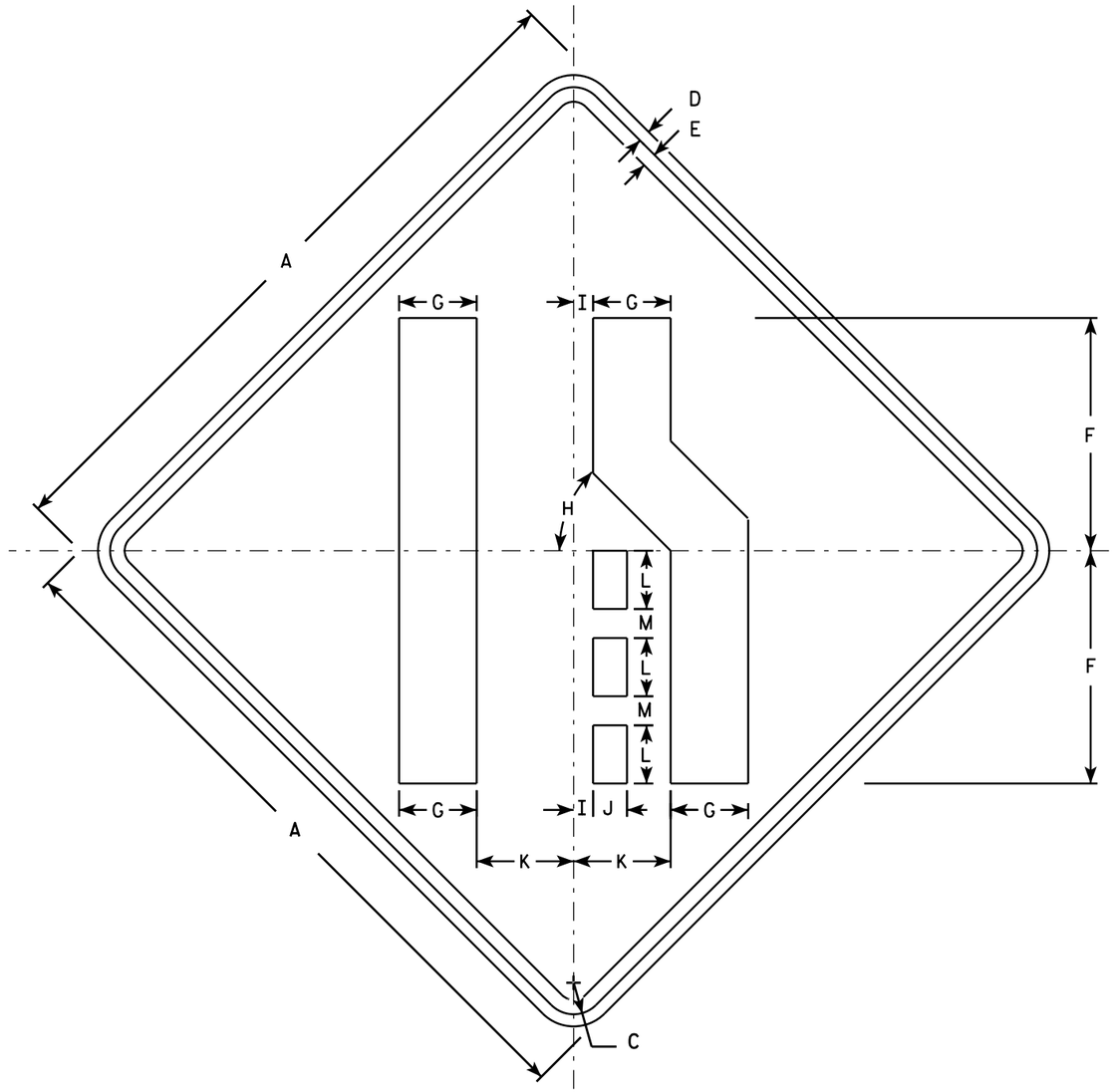
WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 11/21/13 PLATE 235 W013-1.1

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

FILE NAME : C:\CAEFiles\Projects\tr_stdplate\W0131.DGN PLOT DATE : 02-DEC-2013 13:55 PLOT BY : mscsja PLOT NAME : PLOT SCALE : 3.794391:1.000000
WISDOT/CADDS SHEET 42



W04-2R

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. 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. W04-2L is the same as W04-2R except the symbol is reversed along the vertical centerline.

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	12	4	45°	1	1 3/4	5	3	1 1/2														9.0
2S	48		2 1/4	3/4	1	16	5 3/8	45°	1 1/4	2 3/8	6 3/4	4	2														16.0
2M	48		2 1/4	3/4	1	16	5 3/8	45°	1 1/4	2 3/8	6 3/4	4	2														16.0
3	48		2 1/4	3/4	1	16	5 3/8	45°	1 1/4	2 3/8	6 3/4	4	2														16.0
4	48		2 1/4	3/4	1	16	5 3/8	45°	1 1/4	2 3/8	6 3/4	4	2														16.0
5	48		2 1/4	3/4	1	16	5 3/8	45°	1 1/4	2 3/8	6 3/4	4	2														16.0

STANDARD SIGN
W04-2

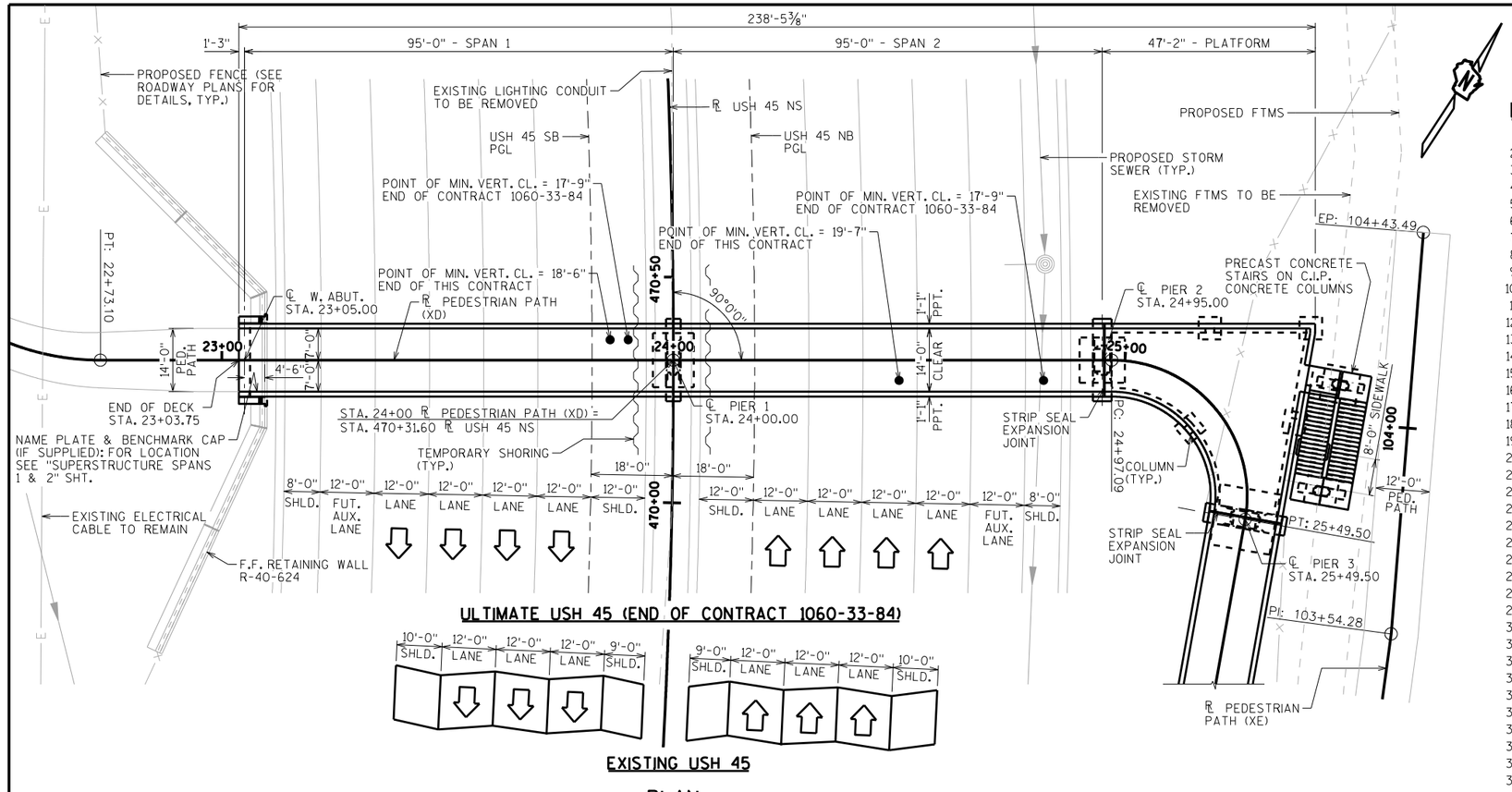
WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 11/20/13 PLATE 236 W04-2.1

PROJECT NO:

SHEET NO: E

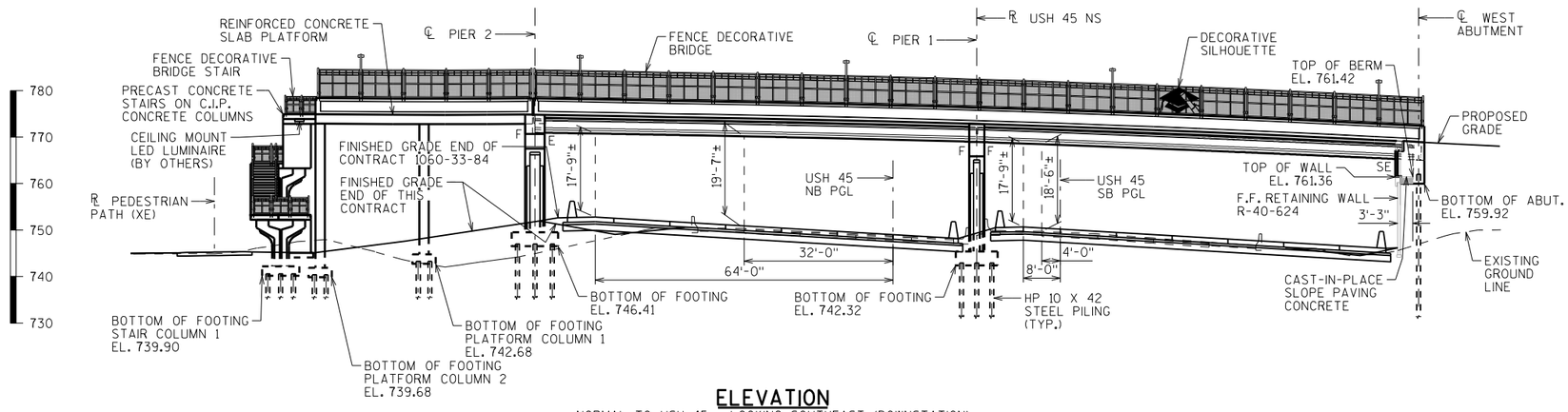


ULTIMATE USH 45 (END OF CONTRACT 1060-33-84)

EXISTING USH 45

PLAN

(2-SPAN 36W" PRESTRESSED GIRDERS, REINFORCED CONCRETE SLAB PLATFORM)



ELEVATION

NORMAL TO USH 45 - LOOKING SOUTHEAST (DOWNSTATION)

STATE PROJECT NUMBER

1060-33-83

LIST OF DRAWINGS

1. GENERAL PLAN 1
2. GENERAL PLAN 2
3. CROSS SECTION & GEN. NOTES
4. QUANTITIES & DESIGN DATA
5. TYPICAL SECTIONS
6. SUBSURFACE EXPLORATION 1
7. SUBSURFACE EXPLORATION 2
8. WEST ABUTMENT
9. WEST ABUTMENT DETAILS
10. PIER 1
11. PIER 1 DETAILS 1
12. PIER 1 DETAILS 2
13. PIER 2
14. PIER 2 DETAILS 1
15. PIER 2 DETAILS 2
16. PIER 3
17. PIER 3 DETAILS 1
18. PIER 3 DETAILS 2
19. PIER 4
20. PIER 4 DETAILS 1
21. PIER 4 DETAILS 2
22. PIER 5
23. PIER 5 DETAILS 1
24. PIER 5 DETAILS 2
25. EAST ABUTMENT
26. EAST ABUTMENT DETAILS
27. PRESTRESSED GIRDER STEEL BEARINGS
28. 36W" PRESTRESSED GIRDER DETAILS 1
29. 36W" PRESTRESSED GIRDER DETAILS 2
30. STEEL DIAPHRAGM
31. SUPERSTRUCTURE SPANS 1 & 2
32. SUPERSTRUCTURE SPANS 3 THRU 5
33. SUPERSTRUCTURE DETAILS
34. SUPERSTRUCTURE BAR DETAILS
35. PLATFORM LAYOUT
36. PLATFORM DETAILS 1
37. PLATFORM DETAILS 2
38. PLATFORM DETAILS 3
39. PLATFORM SLAB REINF.
40. PLATFORM WEST BACKWALL
41. PLATFORM EAST BACKWALL
42. PLATFORM REBAR DETAILS
43. STAIR ELEVATION
44. STAIR PLAN
45. STAIR COLUMN 1
46. STAIR COLUMN 1 BAR DETAILS
47. STAIR COLUMN 2
48. STAIR COLUMN 2 BAR DETAILS
49. PRECAST STAIR SECTION 1
50. PRECAST STAIR SECTION 2
51. PRECAST STAIR SECTION 3
52. STAIR DETAILS
53. MODIFIED VERTICAL FACE PARAPET "A"
54. CONDUIT DETAILS
55. EXPANSION DEVICE
56. COVER PLATE DETAILS
57. FLOOR DRAIN TYPE "GC"
58. DOWNSPOUT DETAILS
59. BRIDGE RAILING DETAILS 1
60. BRIDGE RAILING DETAILS 2
61. BRIDGE RAILING DETAILS 3
62. BRIDGE RAILING DETAILS 4
63. BRIDGE RAILING DETAILS 5
64. STAIR RAILING DETAILS 1
65. STAIR RAILING DETAILS 2
66. STAIR RAILING DETAILS 3
67. STAIR RAILING DETAILS 4
68. AESTHETIC DETAILS 1
69. AESTHETIC DETAILS 2

STRUCTURE DESIGN CONTACTS:

NICK RICE (608) 266-5092

AARON BONK (608) 261-0261

NO.	DATE	REVISION	BY

Plans Prepared By WISDOT
BUREAU OF STRUCTURES

ACCEPTED William C. Dreher 3/6/15
CHIEF STRUCTURES DESIGN ENGINEER — DATE

STRUCTURE B-40-881

PEDESTRIAN PATH OVER USH 45

COUNTY MILWAUKEE — CITY WAUWATOSA

DESIGN SPEC. AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS

DESIGNED BY	DESIGN CK'D.	DRAWN BY	PLANS CK'D.
NAR	REL	NAR/JPH	NAR

GENERAL PLAN 1

SHEET 1 OF 69

237

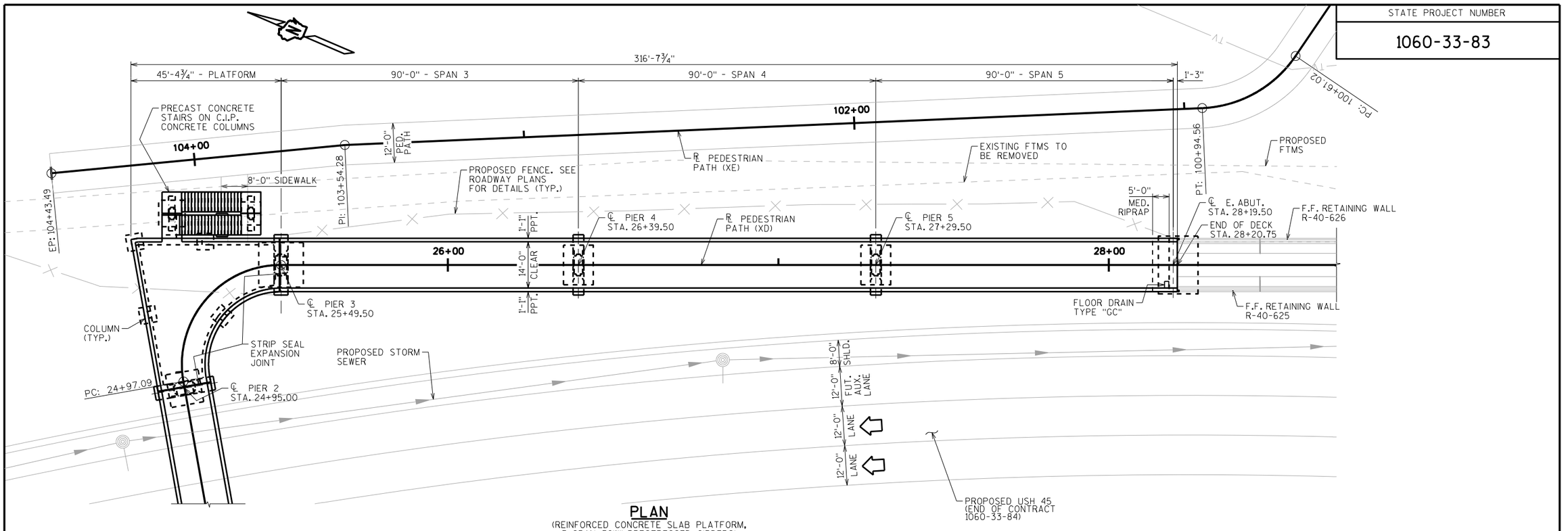
I.D. 1060-33-16D

DATE: MAR. 2015

SCALE = 15

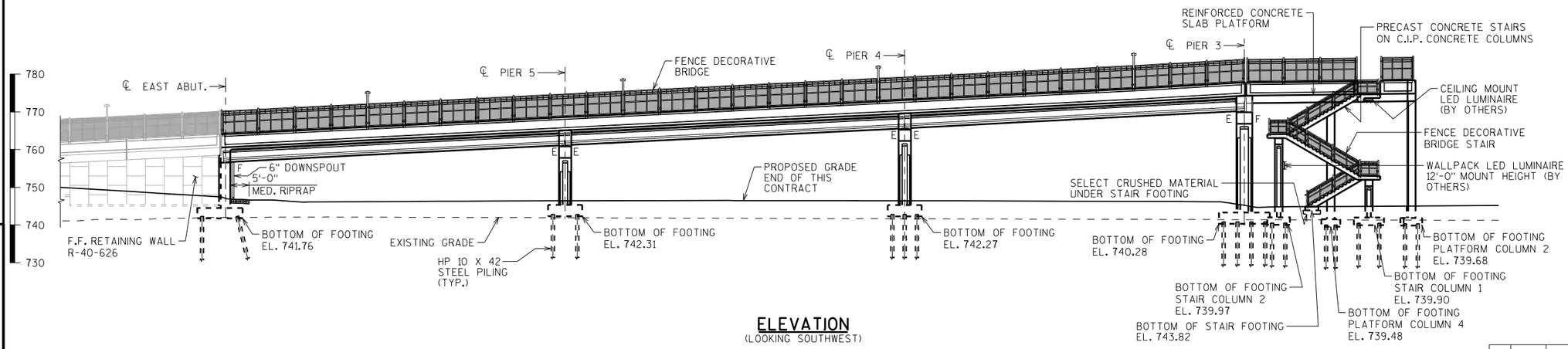
STATE PROJECT NUMBER

1060-33-83



PLAN

(REINFORCED CONCRETE SLAB PLATFORM, 3-SPAN 36W" PRESTRESSED GIRDERS)



ELEVATION

(LOOKING SOUTHWEST)

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-40-881

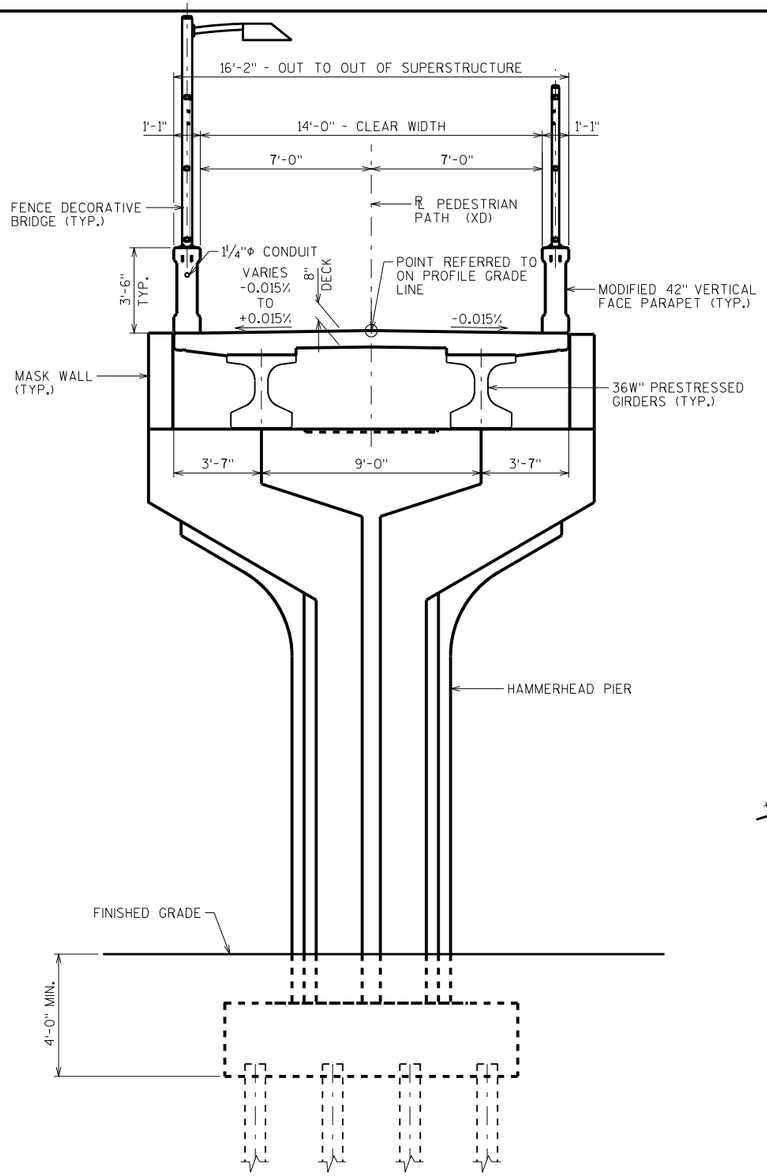
DRAWN BY NAR | PLANS CK'D. NAR

GENERAL PLAN 2

SHEET 2

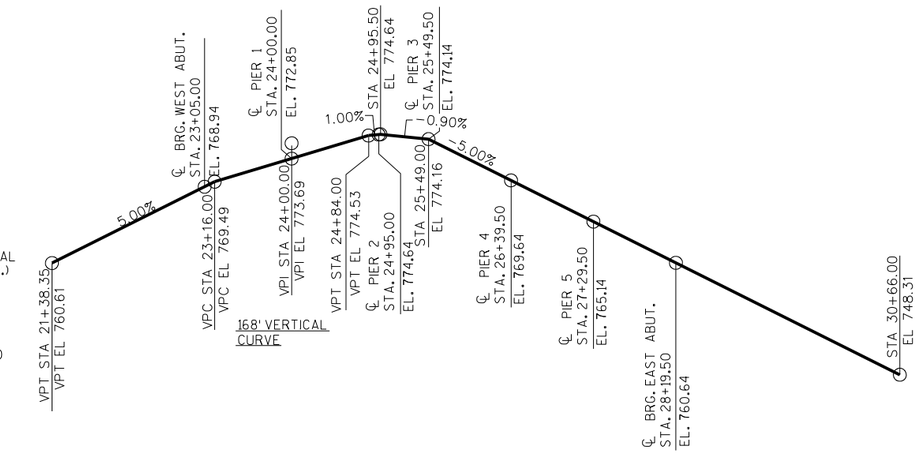
238

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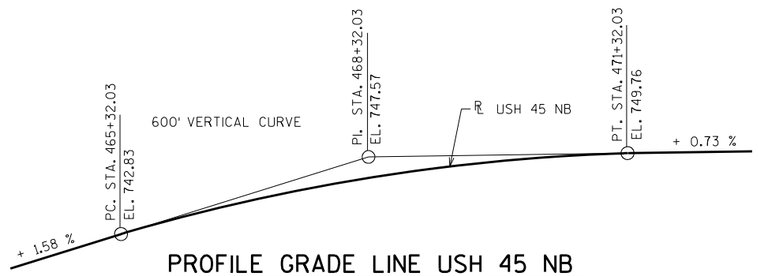


X-SECTION THRU PEDESTRIAN PATH

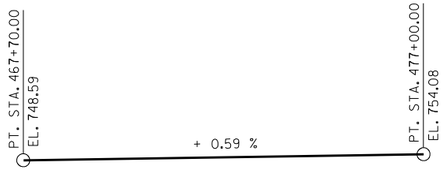
SHOWING SPANS 1-5
(LOOKING UPSTATION)



PROFILE GRADE LINE PEDESTRIAN PATH (℄ XD)



PROFILE GRADE LINE USH 45 NB



PROFILE GRADE LINE USH 45 SB

STATE PROJECT NUMBER

1060-33-83

GENERAL NOTES

DRAWINGS SHALL NOT BE SCALED.

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

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

BEVEL EXPOSED EDGES OF CONCRETE ¾" UNLESS OTHERWISE SHOWN OR NOTED

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

AT THE PIERS, PLATFORM COLUMNS, AND STAIR COLUMNS, ALL SPACES EXCAVATED AND NOT OCCUPIED BY THE NEW STRUCTURE SHALL BE BACKFILLED WITH STRUCTURE BACKFILL. AT FILL SECTIONS, BACKFILL WITH STRUCTURE BACKFILL TO THE TOP OF FOOTING.

ELASTOMERIC BEARING PADS NEED NOT BE INDIVIDUALLY MOLDED PROVIDED THE CUT EDGES ARE SMOOTH AND TRUE.

THE GRADATION OF THE STRUCTURE BACKFILL SHALL MEET THE REQUIREMENTS OF SECTION 209.2.2 OF THE STANDARD SPECIFICATIONS FOR GRADE 1 MATERIAL.

AT SPANS 1 THRU 5 AND THE PLATFORM, PROTECTIVE SURFACE TREATMENT TO BE APPLIED TO THE ENTIRE TOP OF DECK SURFACE. AT THE STAIRS, PROTECTIVE SURFACE TREATMENT TO BE APPLIED TO THE ENTIRE STAIR TREAD, RISER, AND LANDING SURFACES.

THE EXISTING GROUND LINE SHALL BE USED AS THE UPPER LIMITS OF EXCAVATION AT THE PIERS.

APPLY BRIDGE SEAT PROTECTION, AS PER SECTION 502.3.12 OF THE STANDARD SPECIFICATIONS, TO THE TOP SURFACES OF ALL ABUTMENTS AND PIERS BELOW EXPANSION DEVICES.

THE COST OF FURNISHING AND PLACING THE MSE BACKFILL OR SIZE 2 COARSE AGGREGATE BENEATH THE SLOPE PAVING AT THE WEST ABUTMENT SHALL BE CONSIDERED INCIDENTAL TO "SLOPE PAVING CONCRETE".

THE SLOPE OF THE FILL IN FRONT OF THE WEST ABUTMENT SHALL BE COVERED WITH SLOPE PAVING MATERIAL TO THE EXTENT SHOWN ON THE "GENERAL PLAN 1" AND THE "WEST ABUTMENT" DETAIL SHEETS.

THE SLOPE OF THE FILL IN FRONT OF THE EAST ABUTMENT SHALL BE COVERED WITH MEDIUM RIPRAP AND GEOTEXTILE FABRIC TYPE 'HR' TO THE EXTENT SHOWN ON THE "GENERAL PLAN 2" AND THE "EAST ABUTMENT" DETAIL SHEETS.

CONCRETE STAINING IS SHOWN FOR INFORMATIONAL PURPOSES ONLY. CONCRETE STAINING WILL BE APPLIED UNDER A FUTURE CONTRACT.

PROVIDE A SACK RUBBED FINISH IN ACCORDANCE TO STANDARD SPECIFICATION 502.3.7.5 AND AS MODIFIED HERE ON ALL EXPOSED CONCRETE SURFACES WHERE CONCRETE STAINING WILL BE APPLIED IN A FUTURE CONTRACT. THE MORTAR SHALL CONTAIN ONE OF THE FOLLOWING ACRYLIC BONDING ADMIXTURES MIXED AND APPLIED IN ACCORDANCE TO MANUFACTURER'S RECOMMENDATIONS; TK-225 BY TK PRODUCTS, ACHRO 60 BY THORO PRODUCTS, OR ACHRO SET BY MASTER BUILDERS. THIS WORK IS INCIDENTAL TO THE BID ITEMS "CONCRETE MASONRY BRIDGES".

THE CONTRACTOR MUST COORDINATE THE CONSTRUCTION OF THE BRIDGE B-40-881 ABUTMENTS WITH RETAINING WALLS R-40-624, R-40-625 AND R-40-626.

THE UTILITY INFORMATION SHOWN ON THESE DRAWINGS CONCERNING TYPE AND LOCATION OF UNDERGROUND UTILITIES IS NOT GUARANTEED TO BE ACCURATE OR ALL-INCLUSIVE. THE CONTRACTOR IS RESPONSIBLE FOR MAKING HIS OWN DETERMINATION AS TO TYPE AND LOCATION OF UNDERGROUND UTILITIES AS MAY BE NECESSARY TO AVOID DAMAGE.

THE EXISTING PEDESTRIAN BRIDGE, B-40-384, LOCATED SOUTH OF PROPOSED STRUCTURE B-40-881, IS A 2-SPAN STEEL GIRDER STRUCTURE BUILT ON CONCRETE ABUTMENTS AND PIERS. THE CONTRACTOR MUST COORDINATE THE REMOVAL OF THE EXISTING PEDESTRIAN BRIDGE, B-40-384, WITH THE CONSTRUCTION OF STRUCTURES B-40-881, R-40-624, R-40-625, & R-40-626.

DO NOT REMOVE THE CENTER PIER FOOTING OF THE EXISTING STRUCTURE, B-40-384. REMOVE THE EXISTING CENTER PIER TO BELOW THE TOP OF THE EXISTING BARRIER WALL.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-40-881

DRAWN BY NAR/JPH | PLANS CK'D. NAR

CROSS SECTION & GEN. NOTES

SHEET 3

239

SCALE = 3

8

8

DESIGN DATA

DESIGN LOADS:

PEDESTRIAN LIVE LOAD = 90 PSF
VEHICLE LOAD = H10 (20,000 LBS)

STRUCTURE IS DESIGNED FOR A FUTURE WEARING SURFACE OF 20 POUNDS PER SQUARE FOOT.

MATERIAL PROPERTIES:

CONCRETE MASONRY: PRECAST CONCRETE STAIRS ——— f'c = 7,000 P.S.I.
ALL OTHER ——— f'c = 4,000 P.S.I.
BAR STEEL REINFORCEMENT, GRADE 60 ——— fy = 60,000 P.S.I.
36W" PRESTRESSED GIRDERS, CONCRETE MASONRY ——— f'c = 8,000 P.S.I.
STRANDS- 0.6" DIA. WITH ULTIMATE TENSILE STRENGTH OF 270,000 P.S.I.

FOUNDATION DATA

ABUTMENTS TO BE SUPPORTED ON HP 10 X 42 STEEL PILING
DRIVEN TO A REQUIRED DRIVING RESISTANCE OF 180 TONS **PER PILE
AS DETERMINED BY THE MODIFIED GATES DYNAMIC FORMULA.
ESTIMATED 70'-0" LONG AT THE WEST ABUTMENT
ESTIMATED 45'-0" LONG AT THE EAST ABUTMENT

PIERS TO BE SUPPORTED ON HP 10 X 42 STEEL PILING
DRIVEN TO A REQUIRED DRIVING RESISTANCE OF 180 TONS **PER PILE
AS DETERMINED BY THE MODIFIED GATES DYNAMIC FORMULA.
ESTIMATED 40'-0" LONG AT PIERS 1, 3, & 4
ESTIMATED 45'-0" LONG AT PIER 2 & 5

PLATFORM COLUMNS TO BE SUPPORTED ON HP 10 X 42 STEEL PILING
DRIVEN TO A REQUIRED DRIVING RESISTANCE OF 80 TONS** PER PILE
AS DETERMINED BY THE MODIFIED GATES DYNAMIC FORMULA.
ESTIMATED 35'-0" LONG

STAIR COLUMNS TO BE SUPPORTED ON HP 10 X 42 STEEL PILING
DRIVEN TO A REQUIRED DRIVING RESISTANCE OF 50 TONS** PER PILE
AS DETERMINED BY THE MODIFIED GATES DYNAMIC FORMULA.
ESTIMATED 20'-0" LONG

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

TRAFFIC VOLUME

USH 45
A.D.T.=180,630 (2035)
R.D.S.=60 M.P.H.

CURVE DATA

USH 45	PEDESTRIAN PATH (XD)
P.I. = STA. 466+63.40	P.I. = 25+32.90
Δ = 38°-23'-14"	Δ = 100°-05'-39"
D = 03°-29'-37"	D = 190°-59'-09"
T = 570.90'	T = 35.81'
L = 1098.77'	L = 52.41'
R = 1640'	R = 30'
S.E. = 5.9%	S.E. = 1.5%
P.C. = 460+92.50	P.C. = 24+97.09
P.T. = 471+91.27	P.T. = 25+49.50

STATE PROJECT NUMBER
1060-33-83

TOTAL ESTIMATED QUANTITIES

BID ITEM NUMBER	BID ITEMS	UNIT	SUPER.	PLATFORM	STAIRS	WEST ABUT.	PIER 1	PIER 2	PIER 3	PIER 4	PIER 5	EAST ABUT.	TOTALS
203.0200	REMOVING OLD STRUCTURE STA. 466+40 NS	LS	———	———	———	———	———	———	———	———	———	———	1
203.0210.S	ABATEMENT OF ASBESTOS CONTAINING MATERIAL B-40-384	LS	———	———	———	———	———	———	———	———	———	———	1
203.0225.S	DEBRIS CONTAINMENT STRUCTURE B-40-384	LS	———	———	———	———	———	———	———	———	———	———	1
206.1000	EXCAVATION FOR STRUCTURES BRIDGES B-40-881	LS	———	———	———	———	———	———	———	———	———	———	1
210.0100	BACKFILL STRUCTURE	CY	———	65	40	75	50	40	55	50	50	50	475
312.0115	SELECT CRUSHED MATERIAL	CY	———	———	2	———	———	———	———	———	———	———	2
502.0100	CONCRETE MASONRY BRIDGES	CY	347	106	19	14	36	41	55	34	31	40	723
502.2000	COMPRESSION JOINT SEALER PREFORMED ELASTOMERIC 2-INCH	LF	———	———	6	———	———	———	———	———	———	———	6
502.3100	EXPANSION DEVICE B-40-881	LS	———	———	———	———	———	———	———	———	———	———	1
502.3200	PROTECTIVE SURFACE TREATMENT	SY	725	140	75	———	———	———	———	———	———	———	940
502.5005	MASONRY ANCHORS TYPE L NO. 5 BARS	EACH	———	———	26	———	———	———	———	———	———	———	26
503.0137	PRESTRESSED GIRDER TYPE I 36W-INCH	LF	922	———	———	———	———	———	———	———	———	———	922
505.0405	BAR STEEL REINFORCEMENT HS BRIDGES	LB	———	340	305	1,025	715	565	1,190	685	685	1,845	7,355
505.0605	BAR STEEL REINFORCEMENT HS COATED BRIDGES	LB	60,980	28,625	2,455	350	5,900	6,785	7,710	5,470	4,515	3,255	126,045
506.2605	BEARING PADS ELASTOMERIC NON-LAMINATED	EACH	———	———	———	2	4	———	———	———	———	2	8
506.4000	STEEL DIAPHRAGMS B-40-881	EACH	10	———	———	———	———	———	———	———	———	———	10
506.6000	BEARING ASSEMBLIES EXPANSION B-40-881	EACH	———	———	———	———	———	2	2	4	4	———	12
511.1200	TEMPORARY SHORING B-40-881	SF	———	———	———	———	460	———	———	———	———	———	460
514.0445	FLOOR DRAINS TYPE GC	EACH	1	———	———	———	———	———	———	———	———	———	1
514.2625	DOWNSPOUT 6-INCH	LF	15	———	———	———	———	———	———	———	———	———	15
516.0500	RUBBERIZED MEMBRANE WATERPROOFING	SY	———	———	———	5	———	———	———	———	———	5	10
550.0500	PILE POINTS	EACH	———	16	10	3	12	8	16	10	8	14	97
550.1100	PILING STEEL HP 10-INCH X 42	LF	———	560	200	210	480	360	640	400	360	630	3,840
604.0400	SLOPE PAVING CONCRETE	SY	———	———	———	5	———	———	———	———	———	———	5
606.0200	RIPRAP MEDIUM	CY	———	———	———	———	———	———	———	———	———	3	3
612.0406	PIPE UNDERDRAIN WRAPPED 6-INCH	LF	———	———	———	———	———	———	———	———	———	15	15
645.0120	GEOTEXTILE FABRIC TYPE HR	SY	———	———	———	———	———	———	———	———	———	15	15
645.0140	GEOTEXTILE FABRIC TYPE SAS	SY	———	———	7	———	———	———	———	———	———	———	7
652.0115	CONDUIT RIGID METALLIC 1 1/4-INCH	LF	20	10	———	———	———	———	———	———	———	———	30
652.0210	CONDUIT RIGID NONMETALLIC SCHEDULE 40 1-INCH	LF	———	5	15	———	———	———	———	———	———	———	20
652.0215	CONDUIT RIGID NONMETALLIC SCHEDULE 40 1 1/4-INCH	LF	490	100	———	———	———	———	———	———	———	———	590
SPV.0090.4001	FENCE DECORATIVE BRIDGE B-40-881	LF	925	125	———	———	———	———	———	———	———	———	1,050
SPV.0090.4002	FENCE DECORATIVE BRIDGE STAIR B-40-881	LF	———	15	165	———	———	———	———	———	———	———	180
SPV.0105.4001	PRECAST CONCRETE STAIR	LS	———	———	———	———	———	———	———	———	———	———	1
	NON-BID ITEMS												
	BRIDGE SEAT PROTECTION	L.S.	———	———	———	———	———	———	———	———	———	———	1
	FILLER/EXPANDED POLYSTYRENE	SIZE	———	———	———	———	———	———	———	———	———	———	½",¾", 1", 2"

ALL ITEMS ARE CATEGORY 2000

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-40-881

DRAWN BY NAR/JPH | PLANS CK'D. NAR

QUANTITIES & DESIGN DATA

SHEET 4

240

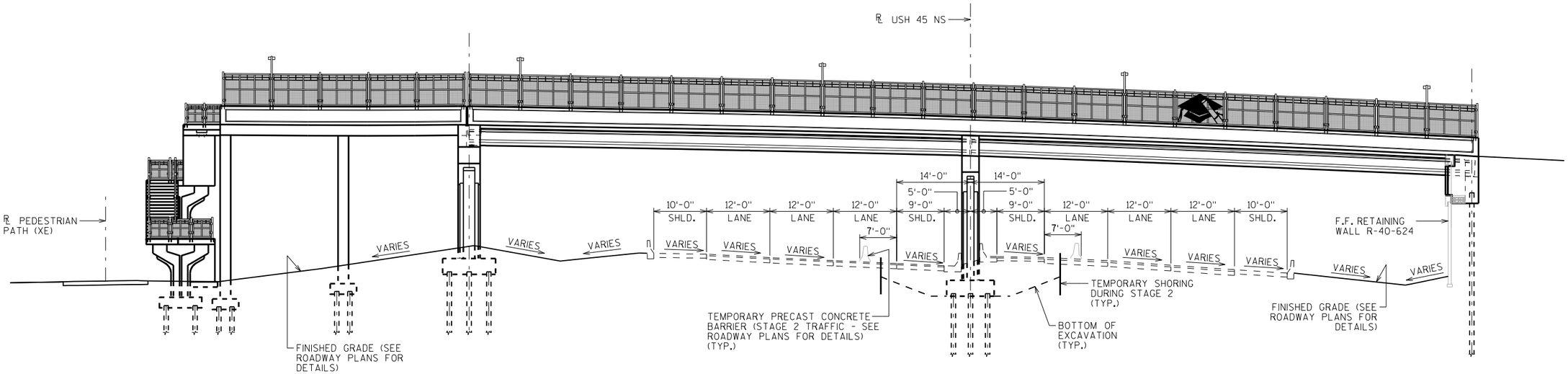
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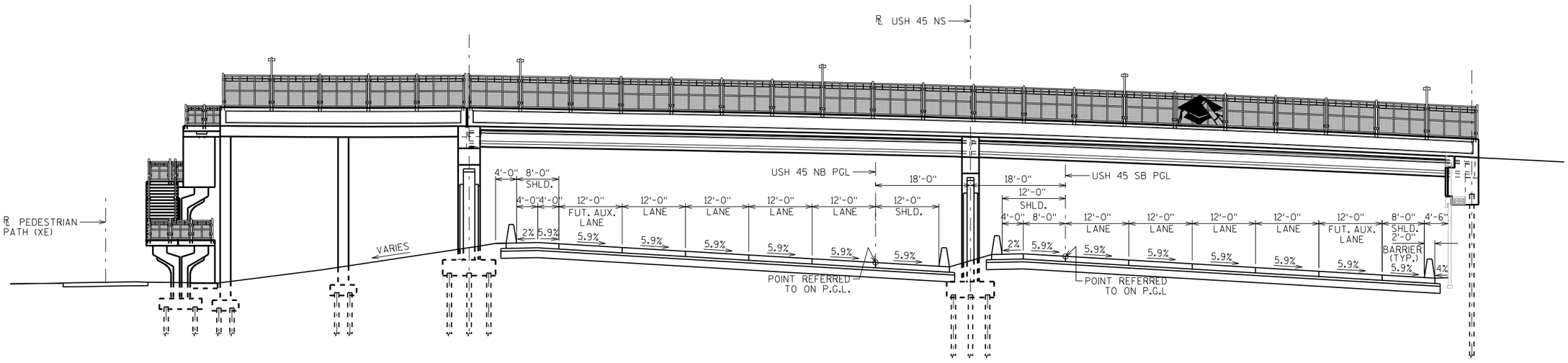
STATE PROJECT NUMBER

1060-33-83



USH 45 INTERIM TYPICAL SECTION UNDER PEDESTRIAN BRIDGE

(END OF THIS CONTRACT, LOOKING SOUTH)



USH 45 ULTIMATE TYPICAL SECTION UNDER PEDESTRIAN BRIDGE

(END OF CONTRACT 1060-33-84, LOOKING SOUTH)

8

8

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-40-881

DRAWN BY NAR | PLANS CK'D. NAR

TYPICAL SECTIONS

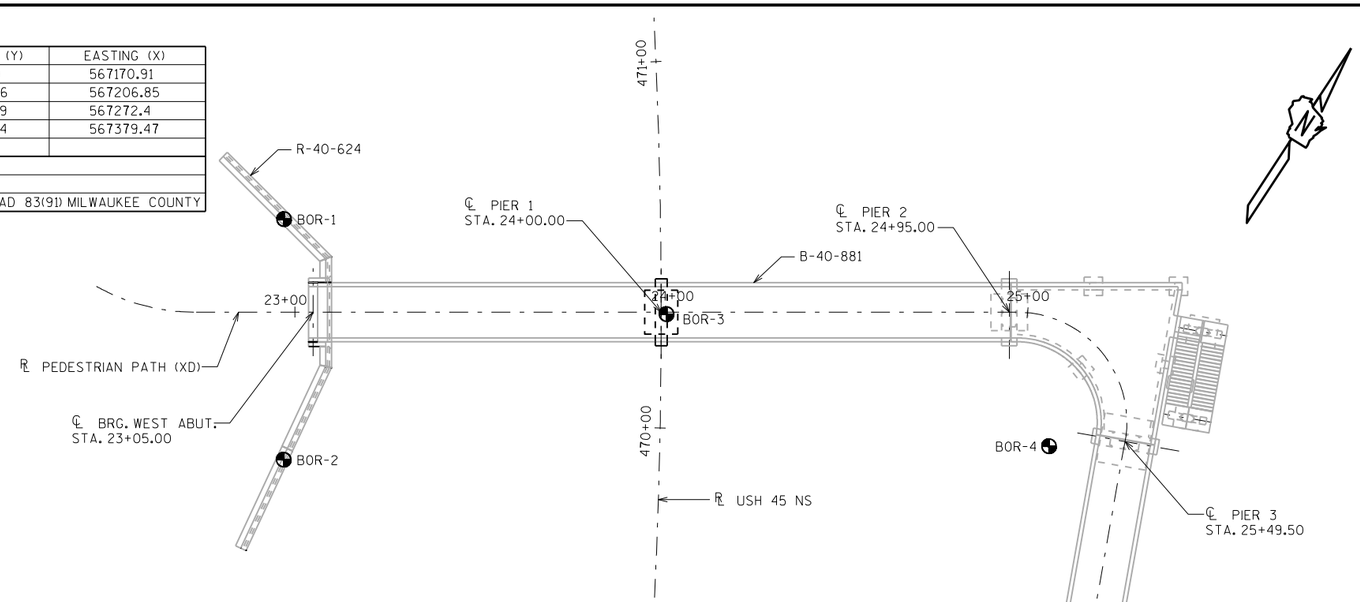
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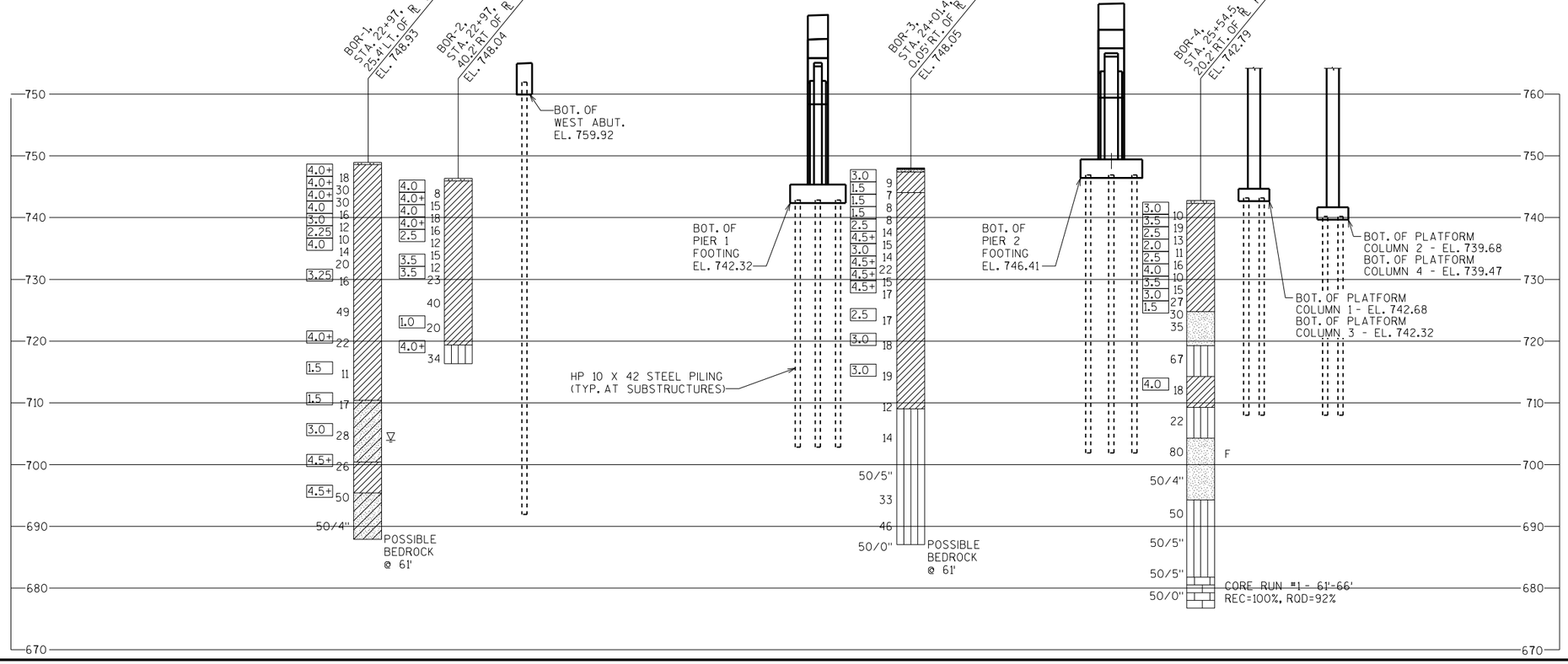
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ZOO INTERCHANGE, NORTH LEG
PEDESTRIAN PATH OVER USH 45

BORING #	DATE COMPLETED	NORTHING (Y)	EASTING (X)
1	10/7/2014	310834.0	567170.91
2	10/6/2014	310779.06	567206.85
3	10/9/2014	310869.59	567272.4
4	10/2/2014	310896.74	567379.47
BORINGS COMPLETED BY: GESTRA			
REPORT COMPLETED BY: WISDOT			
ALL COORDINATES REFERENCED TO WCCS NAD 83(91) MILWAUKEE COUNTY			



PLAN



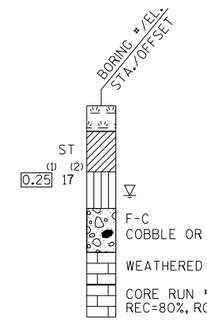
STATE PROJECT NUMBER

1060-33-83

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
STRUCTURES DESIGN SECTION

STRUCTURE B-40-881

DRAWN BY JPH | PLANS CK'D. NAR

SUBSURFACE EXPLORATION 1

SHEET 6

242

SCALE = 20

8

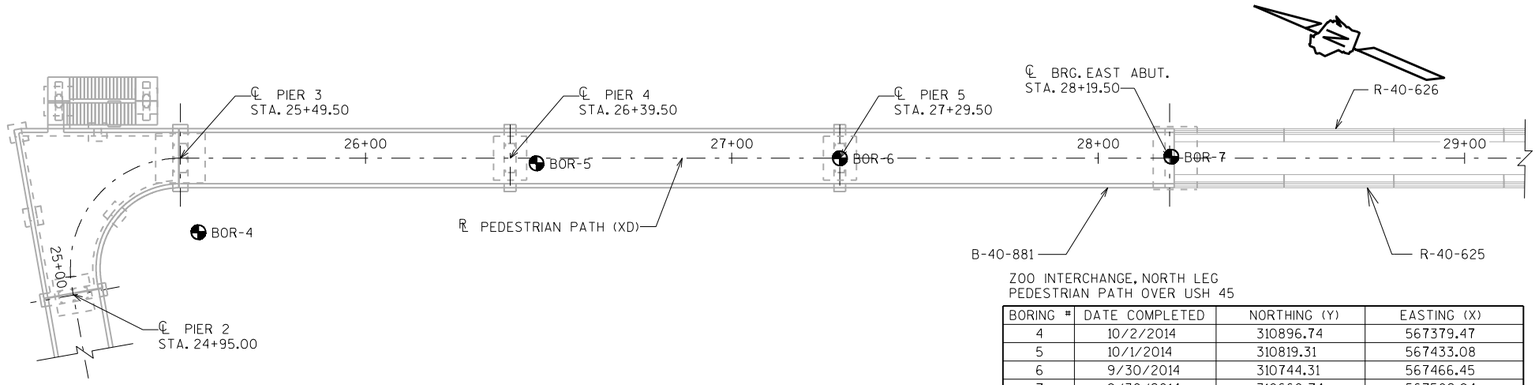
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STATE PROJECT NUMBER

1060-33-83

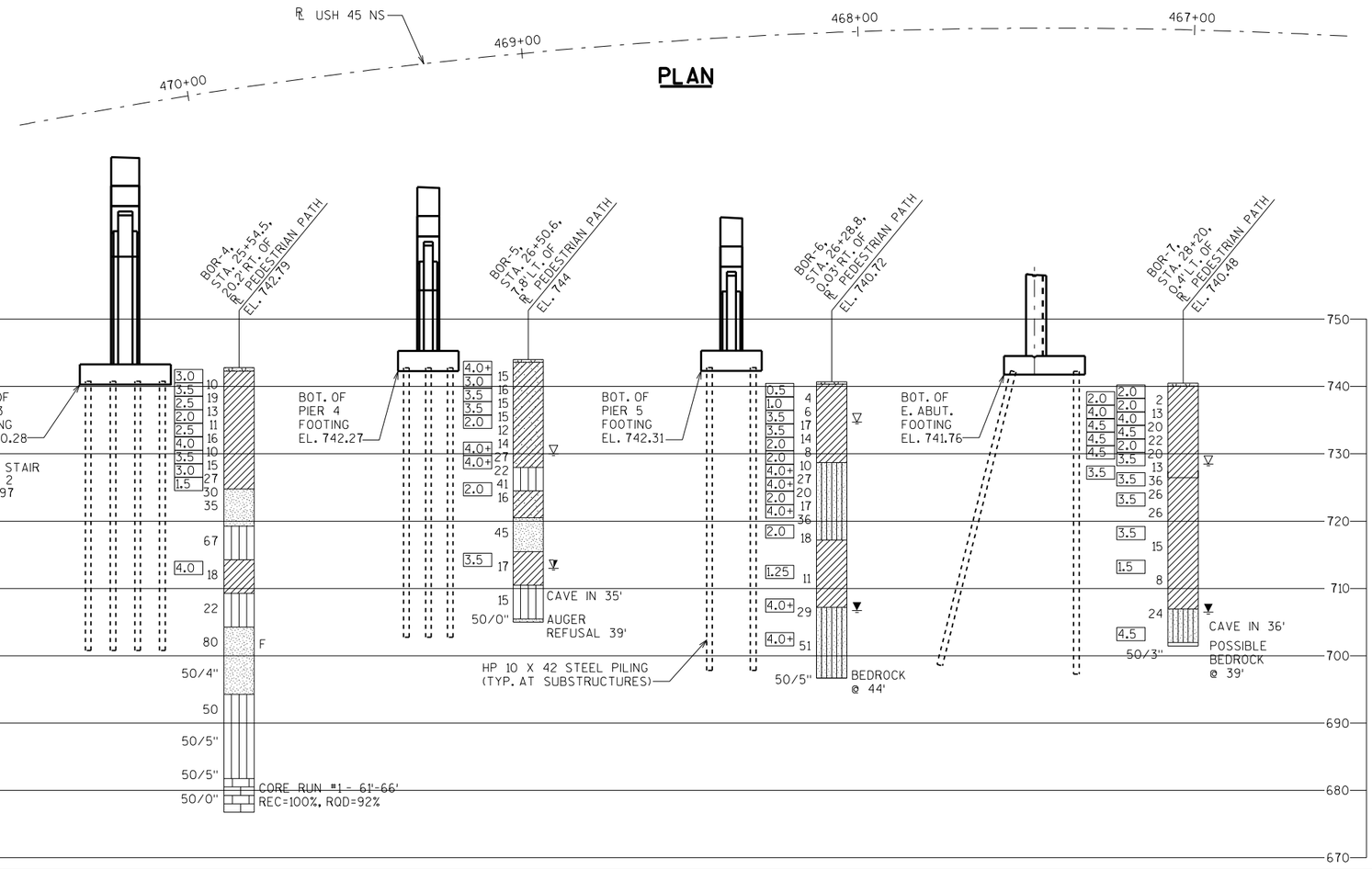
MATERIAL SYMBOLS

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

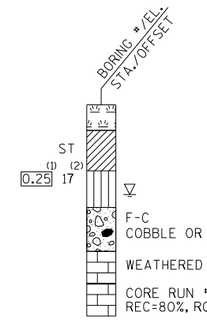


ZOO INTERCHANGE, NORTH LEG
PEDESTRIAN PATH OVER USH 45

BORING #	DATE COMPLETED	NORTHING (Y)	EASTING (X)
4	10/2/2014	310896.74	567379.47
5	10/1/2014	310819.31	567433.08
6	9/30/2014	310744.31	567466.45
7	9/30/2014	310660.74	567502.94
BORINGS COMPLETED BY: GESTRA			
REPORT COMPLETED BY: WISDOT			
ALL COORDINATES REFERENCED TO WCCS NAD 83(91) MILWAUKEE COUNTY			



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
STRUCTURES DESIGN SECTION

STRUCTURE B-40-881

DRAWN BY JPH | PLANS CK'D. NAR

SUBSURFACE EXPLORATION 2

SHEET 7

243

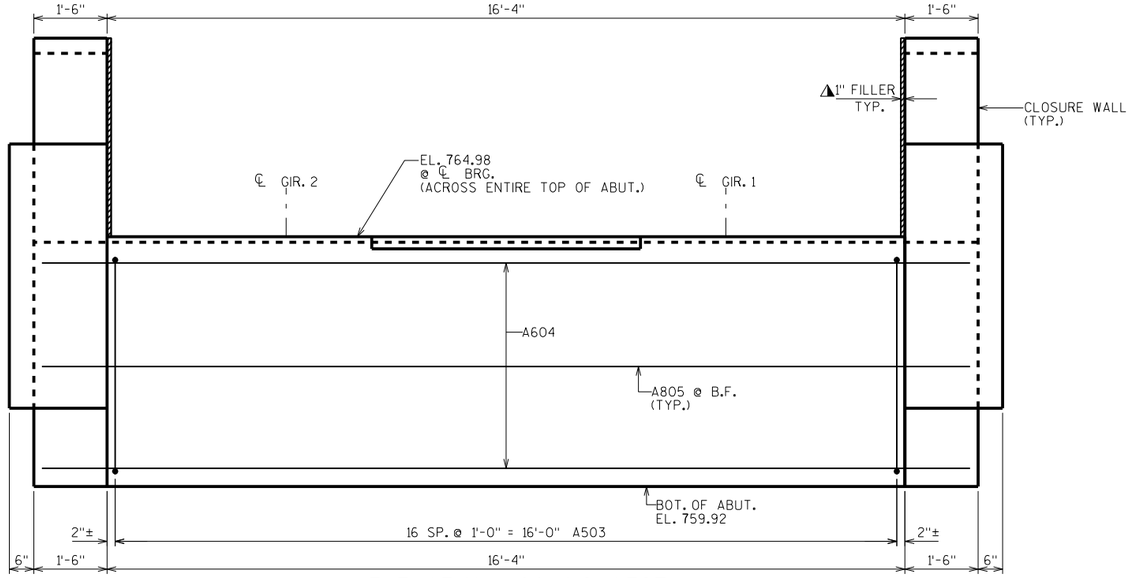
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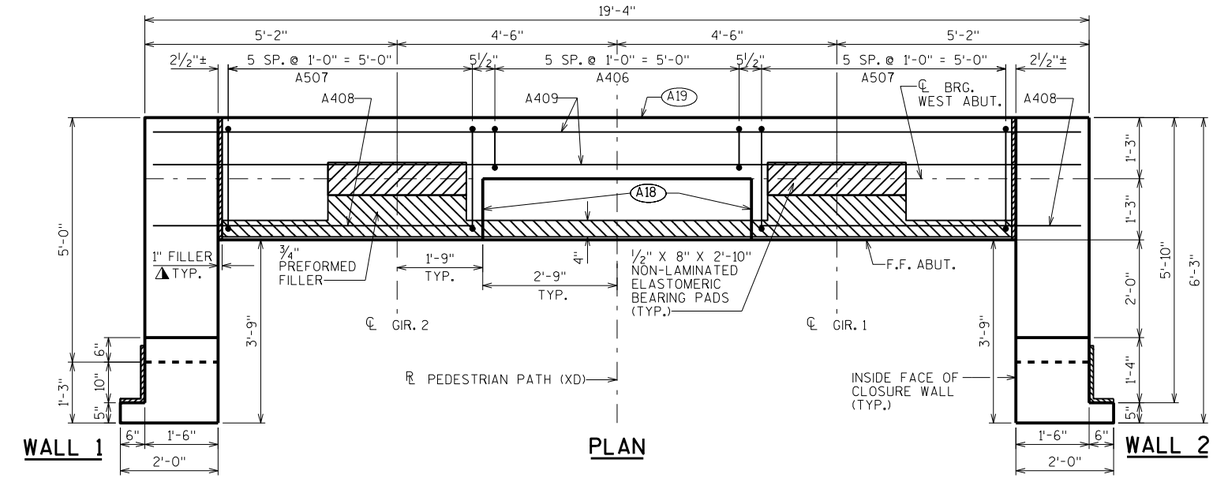
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STATE PROJECT NUMBER

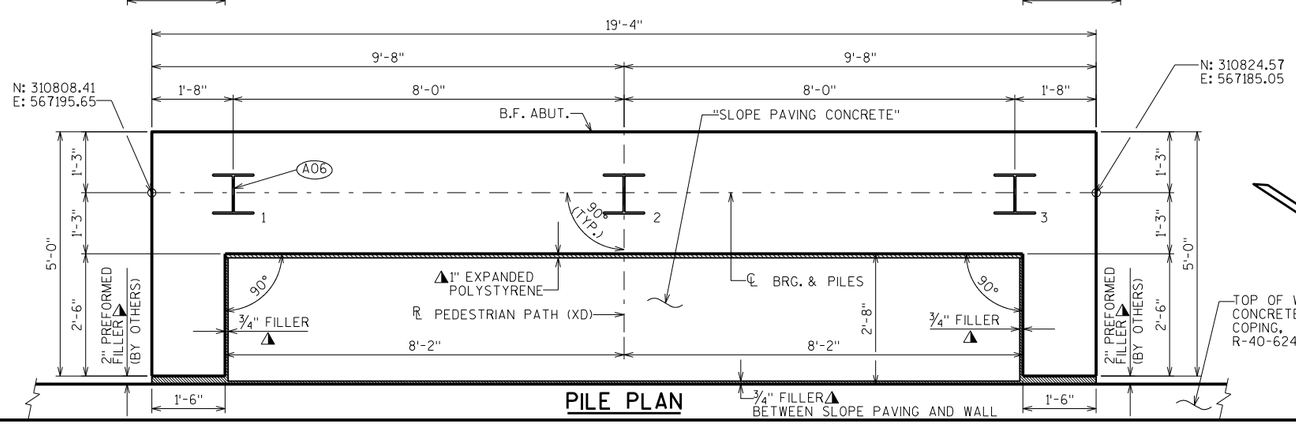
1060-33-83



ELEVATION LOOKING WEST

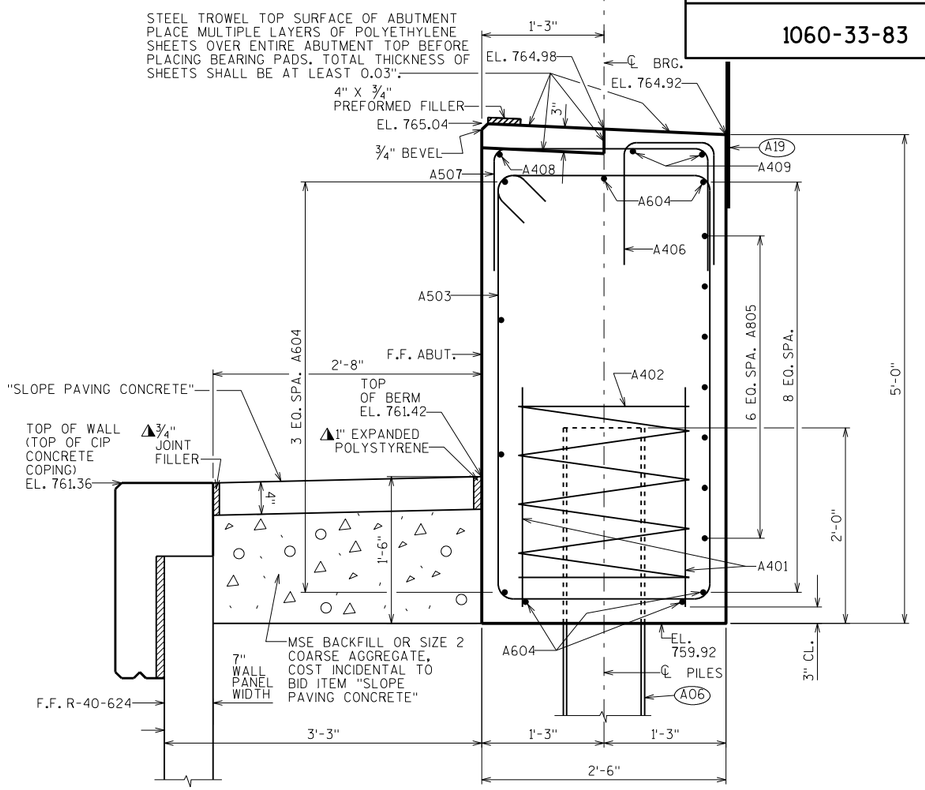


WALL 1 PLAN WALL 2

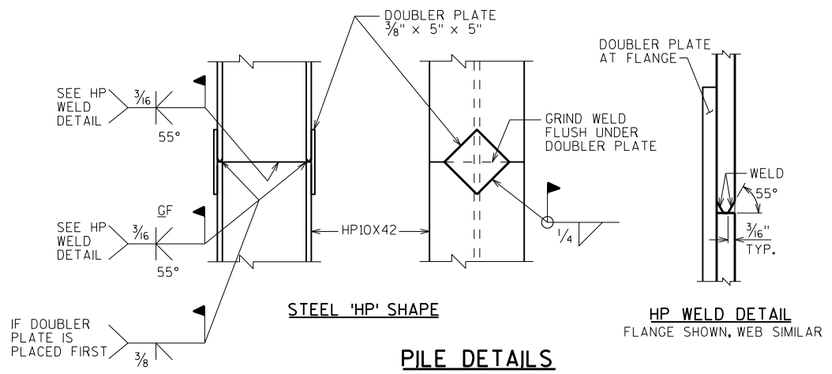


PILE PLAN

STEEL TROWEL TOP SURFACE OF ABUTMENT PLACE MULTIPLE LAYERS OF POLYETHYLENE SHEETS OVER ENTIRE ABUTMENT TOP BEFORE PLACING BEARING PADS. TOTAL THICKNESS OF SHEETS SHALL BE AT LEAST 0.03".



SECTION THRU BODY



STEEL 'HP' SHAPE

HP WELD DETAIL
FLANGE SHOWN, WEB SIMILAR

PILE DETAILS

(A06) SUPPORT ABUTMENT ON HP 10 x 42 STEEL PILING, ESTIMATED 70'-0" LONG WITH A REQUIRED DRIVING RESISTANCE OF 180 TONS PER PILE.

(A18) ¾" CORK FILLER UP VERT. BEAM SEAT FACES THAT RUN PARALLEL WITH GIRDER.

(A19) 18" (RMW) RUBBERIZED MEMBRANE WATERPROOFING SEAL ALL HORIZ. & VERT. JOINTS AT BACKFACE.

△SEAL ALL EXPOSED HORIZ. & VERT. SURFACES OF FILLERS & 1" EXPANDED POLYSTYRENE WITH NON-STAINING, GRAY, NON-BITUMINOUS JOINT SEALER. (1" DEEP AND HOLD 1/8" BELOW SURFACE OF CONCRETE).

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-40-881

DRAWN BY JPH | PLANS CK'D. NAR

WEST ABUTMENT

SHEET 8

244

8

8

SCALE = 1.5

STATE PROJECT NUMBER
1060-33-83

BILL OF BARS

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

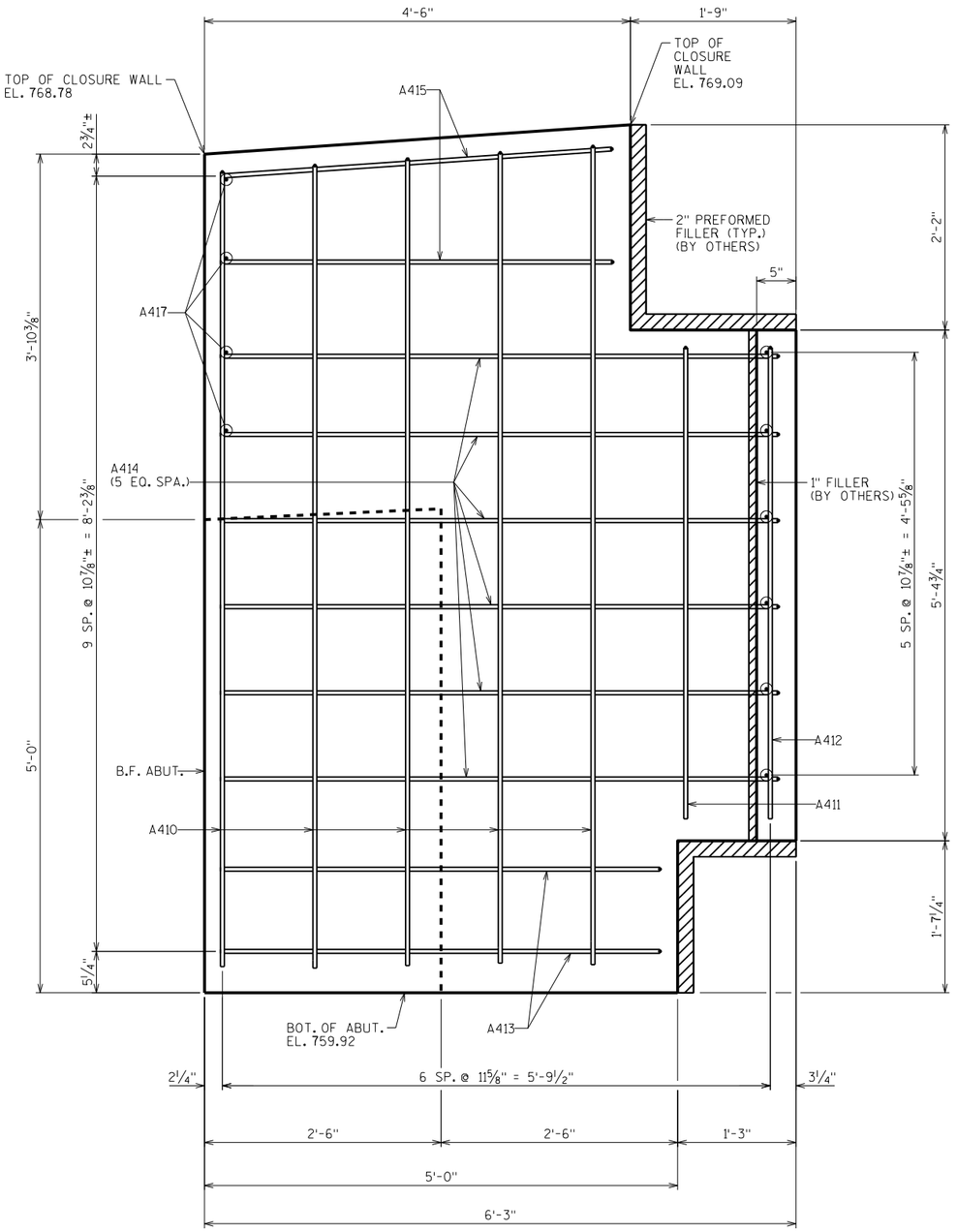
	BAR MARK	COAT	NO. REQ'D.	LENGTH	BENT	BAR SERIES	LOCATION
	A401		6	2'-3"			BODY-VERT.-BOT.-2 PER PILE
	A402		3	28'-0"	X		BODY-VERT.-BOT.-SPIRAL-1 PER PILE
	A503		17	13'-6"	X		BODY-STIRRUPS-VERT.
	A604		9	19'-0"			BODY-HORIZONTAL
	A805		7	19'-0"			BODY-HORIZONTAL-B.F.
	A406		6	3'-7"	X		BODY-VERT.-TOP-B.F.-BTWN. BEAM SEATS
	A507		12	4'-9"	X		BODY-VERT.-TOP-UNDER BEAM SEATS
	A408		2	6'-7"			BODY-HORIZ.-TOP-F.F.-UNDER BEAM SEATS
	A409		2	19'-0"			BODY-HORIZ.-TOP-B.F.
⚠	A410	X	12	18'-2"	X	X	CLOSURE WALLS-VERTICAL
	A411	X	2	11'-1"	X		CLOSURE WALLS-VERTICAL-AT ENDS
	A412	X	2	11'-7"	X		CLOSURE WALLS-VERTICAL-AT ENDS
	A413	X	4	10'-3"	X		CLOSURE WALLS-HORIZONTAL-BOTTOM
	A414	X	12	12'-9"	X		CLOSURE WALLS-HORIZONTAL
	A415	X	4	9'-3"	X		CLOSURE WALLS-HORIZONTAL-TOP
	A416	X	12	1'-8"			CLOSURE WALLS-HORIZONTAL-ENDS
	A417	X	8	1'-2"			CLOSURE WALLS-HORIZONTAL-TOP

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

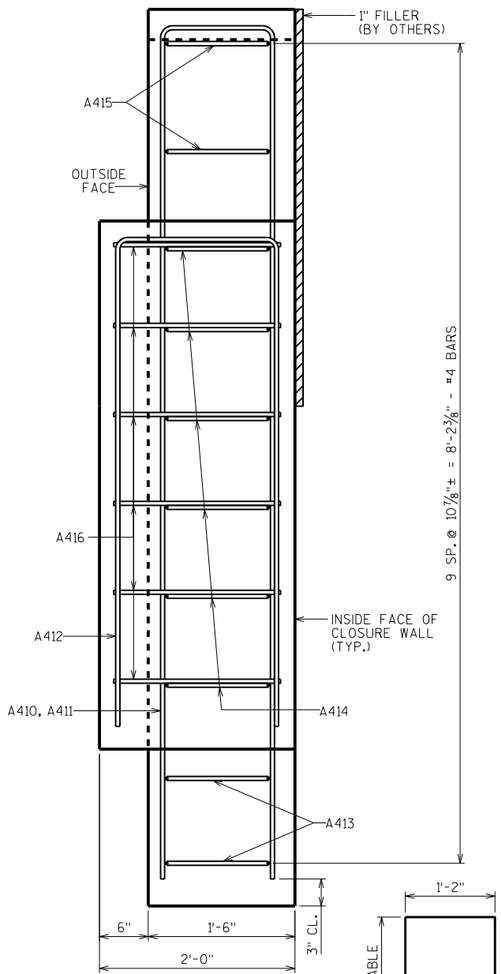
BAR SERIES TABLE

MARK	NO. REQD.	LEG LENGTH	TOTAL BAR LENGTH
A410	2 SERIES OF 5 BARS	8'-5½" TO 8'-8½"	17'-11" TO 18'-5"

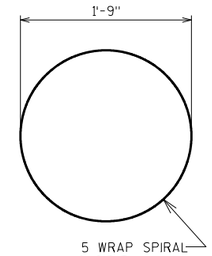
BUNDLE AND TAG EACH SERIES SEPARATELY.



ELEVATION VIEW OF CLOSURE WALL

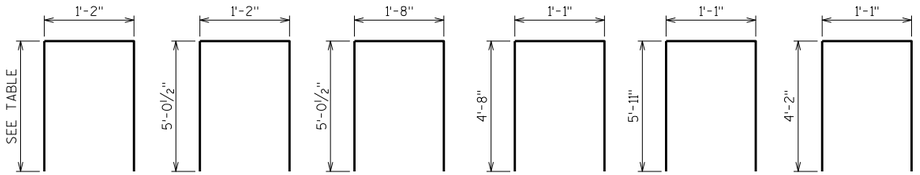


END VIEW OF CLOSURE WALL

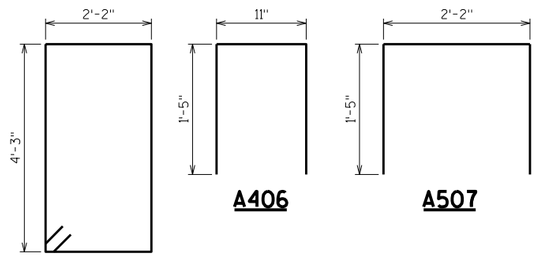


A402

NOTE:
SEAL ALL EXPOSED HORIZ. & VERT. SURFACES OF FILLERS & 1" EXPANDED POLYSTYRENE WITH NON-STAINING, GRAY, NON-BITUMINOUS JOINT SEALER. (1" DEEP AND HOLD 1/8" BELOW SURFACE OF CONCRETE).



A410 A411 A412 A413 A414 A415



A503 A406 A507

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-40-881

DRAWN BY JPH | PLANS CK'D. NAR

WEST ABUTMENT DETAILS

SHEET 9

245

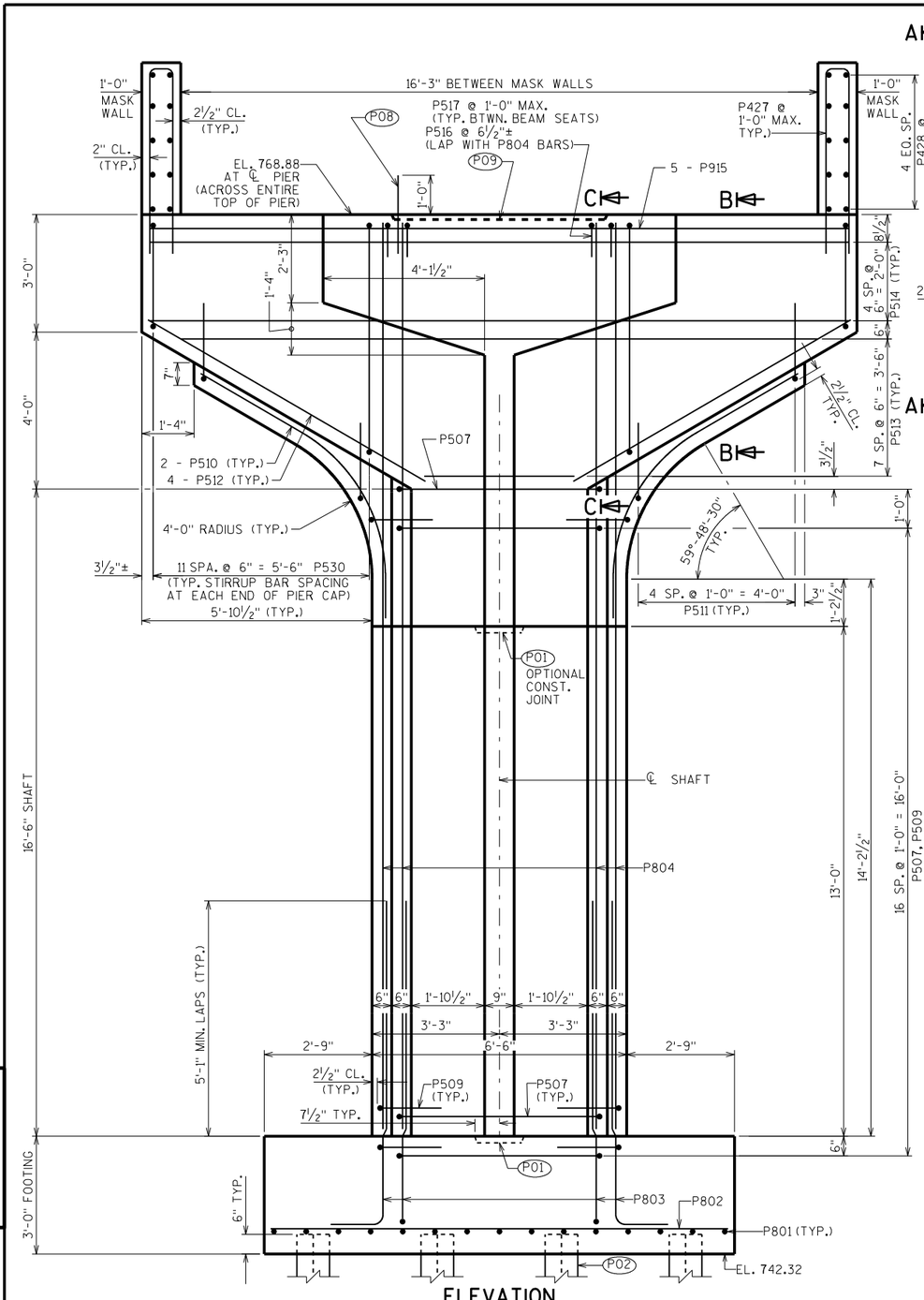
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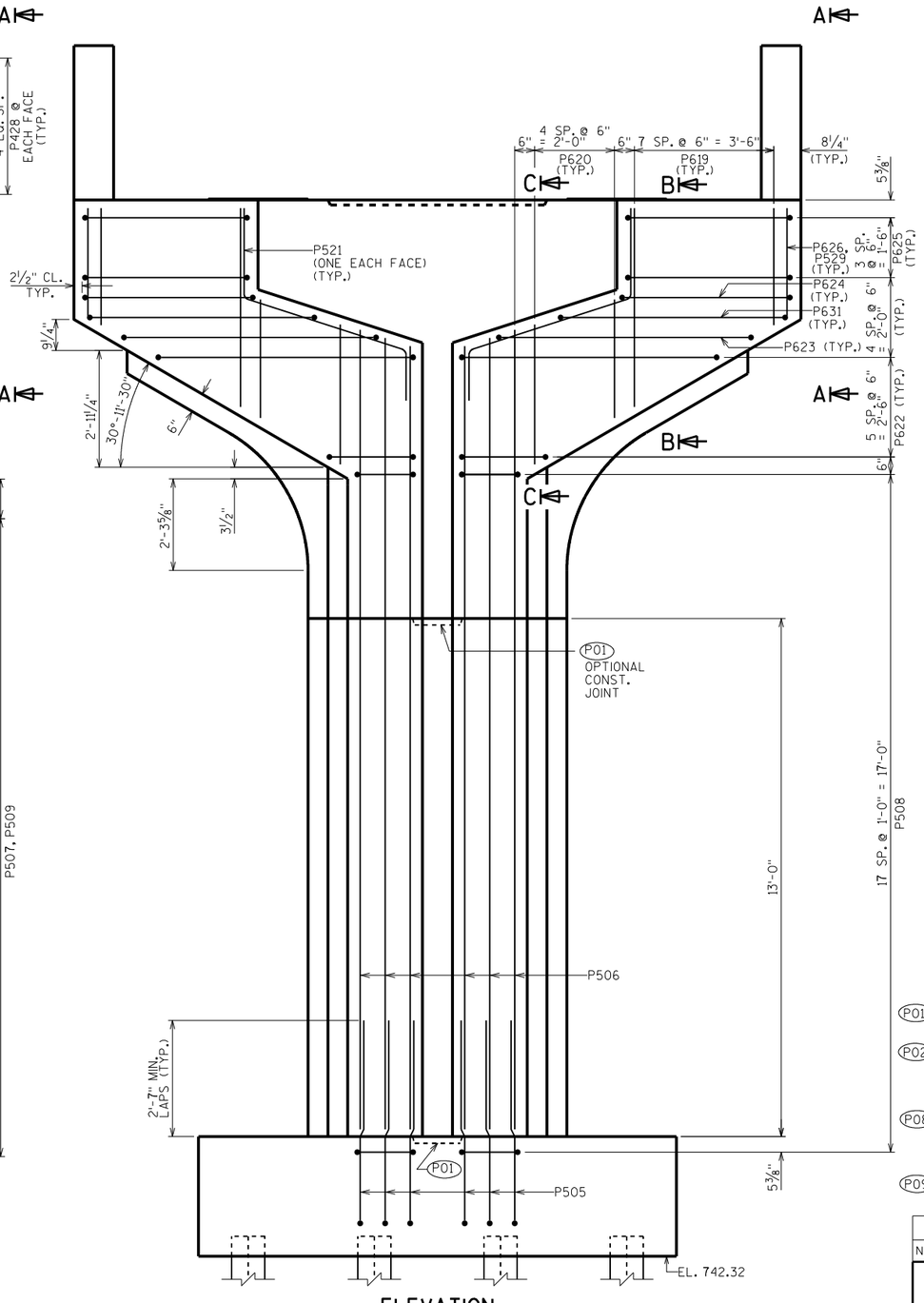
STATE PROJECT NUMBER

1060-33-83



ELEVATION

WITH INSIDE COLUMN & CAP BARS SHOWN (LOOKING NORTHEAST)



ELEVATION

WITH OUTSIDE COLUMN & CAP BARS SHOWN (LOOKING NORTHEAST)

(P01) 1'-3" X 1'-3" X 2" CONSTRUCTION JOINT FORMED BY BEVELED KEYWAY.

(P02) SUPPORT PIER ON HP 10 x 42 STEEL PILING, ESTIMATED 40 FEET LONG WITH A REQUIRED DRIVING RESISTANCE OF 180 TONS PER PILE.

(P08) P517 BARS @ 1'-0" CTRS. BETWEEN BEAM SEATS. MAY BE PLACED AFTER CONCRETE IS POURED BUT BEFORE INITIAL SET HAS TAKEN PLACE. (EMBED 1'-0" INTO CONC.)

(P09) KEYED CONSTRUCTION JOINT-FORMED BY BEVELED 2" x 6" BETWEEN BEAM SEATS.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-40-881

DRAWN BY JPH | PLANS CK'D. NAR

PIER 1

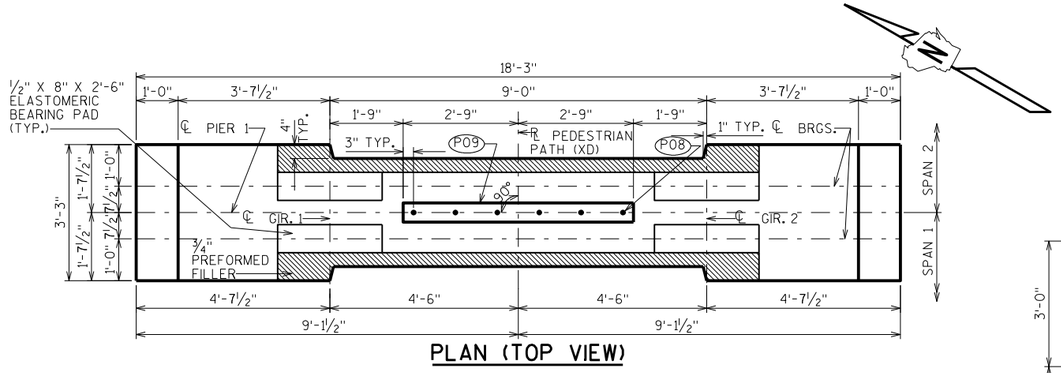
SHEET 10

246

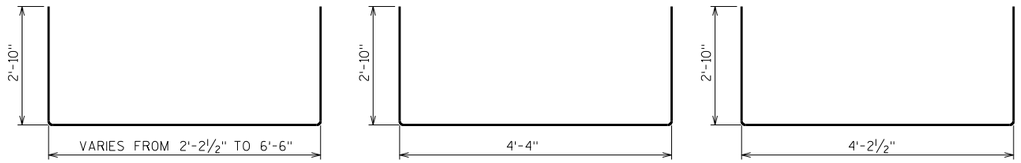
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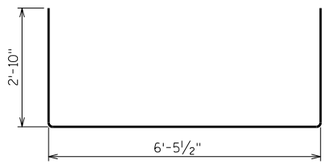
PLAN (TOP VIEW)



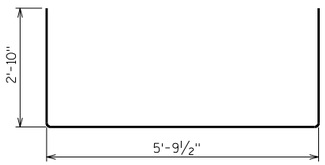
P622

P624

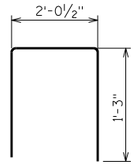
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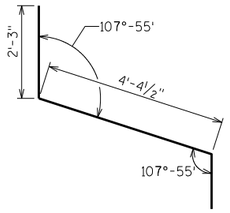
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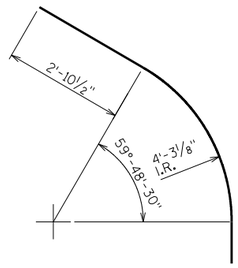
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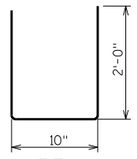
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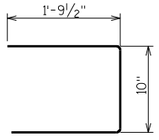
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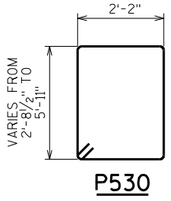
P510



P511



P509



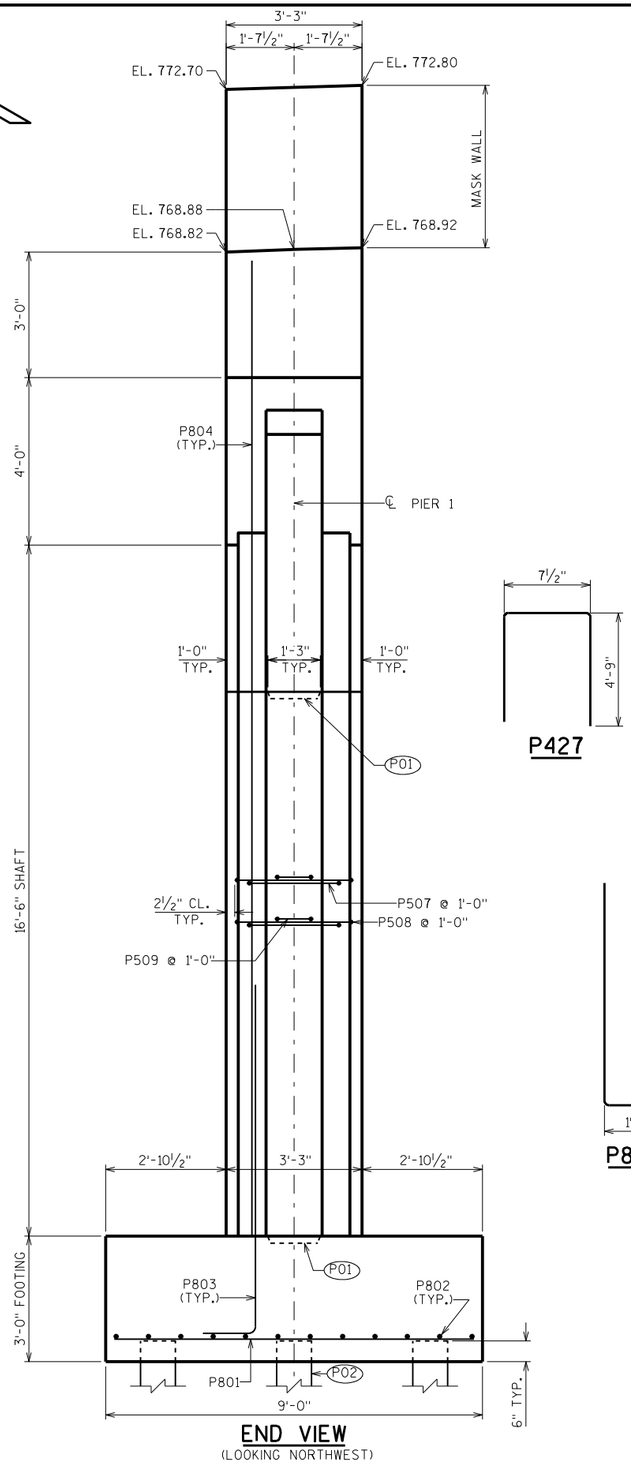
P530

(P01) 1'-3" X 1'-3" X 2" CONSTRUCTION JOINT FORMED BY BEVELED KEYWAY.

(P02) SUPPORT PIER ON HP 10 x 42 STEEL PILING. ESTIMATED 40 FEET LONG WITH A REQUIRED DRIVING RESISTANCE OF 180 TONS PER PILE.

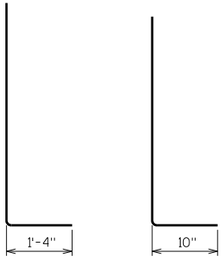
(P08) P517 BARS @ 1'-0" CTRS. BETWEEN BEAM SEATS. MAY BE PLACED AFTER CONCRETE IS POURED BUT BEFORE INITIAL SET HAS TAKEN PLACE. (EMBED 1'-0" INTO CONC.)

(P09) KEYED CONSTRUCTION JOINT-FORMED BY BEVELED 2" x 6" BETWEEN BEAM SEATS.

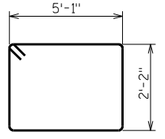


END VIEW
(LOOKING NORTHWEST)

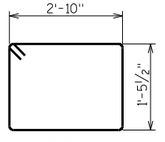
P427



P803 P505



P507



P508

STATE PROJECT NUMBER

1060-33-83

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

BILL OF BARS

BAR MARK	COAT	NO. REQ'D.	LENGTH	BENT	BAR SERIES	LOCATION
P801		15	8'-7"			FOOTING-BOTTOM-HORIZ.-TRANSVERSE
P802		12	11'-7"			FOOTING-BOTTOM-HORIZ.-LONGIT.
P803	X	28	8'-8"	X		FOOTING/SHAFT-VERT.-AT ALL FACES
P804	X	28	23'-0"			SHAFT/CAP-VERT.-AT ALL FACES
P505	X	12	5'-8"	X		FOOTING/SHAFT-VERT.-AT SIDE FACES
⚠ P506	X	12	20'-0"		X	SHAFT/CAP-VERT.-AT SIDE FACES
P507	X	18	15'-2"	X		FOOTING/SHAFT-HORIZ.-STIRRUPS
P508	X	36	9'-3"	X		FOOTING/SHAFT-HORIZ.-STIRRUPS
P509	X	34	4'-2"	X		FOOTING/SHAFT-HORIZ.-AT ENDS
P510	X	4	8'-4"	X		CAP/SHAFT-BOTTOM-VERT.
P511	X	10	4'-7"	X		CAP-BOTTOM-VERT.
P512	X	8	8'-0"			CAP-BOTTOM-VERT.
⚠ P513	X	16	10'-3"		X	CAP-BOTTOM-HORIZ.-BOTH FACES
P514	X	10	17'-7"			CAP-HORIZ.-BOTH FACES
P915	X	5	17'-7"			CAP-TOP-HORIZ.
P516	X	12	4'-4"	X		CAP-TOP-VERT.-ABOVE SHAFT
P517	X	6	2'-0"			CAP-TOP-VERT.-CENTER-BTWN. BEAM SEATS
P418		--	--			NOT USED
⚠ P619	X	32	3'-11"		X	CAP-VERT.-BOTH FACES-AT ENDS
⚠ P620	X	20	3'-3"		X	CAP-VERT.-BOTH FACES
P521	X	4	7'-9"	X		CAP-VERT.-BOTH FACES
⚠ P622	X	24	9'-8"	X	X	CAP-BOTTOM-HORIZ.-BOTH FACES-AT ENDS
P623	X	4	11'-9"	X		CAP-HORIZ.-BOTH FACES-AT ENDS
P624	X	4	9'-8"	X		CAP-HORIZ.-BOTH FACES-AT ENDS
P625	X	16	9'-6"	X		CAP-TOP-HORIZ.-BOTH FACES-AT ENDS
P626	X	4	2'-9"			CAP-VERT.-BOTH FACES-AT ENDS
P427	X	8	10'-0"	X		CAP/MASK WALL-VERT.
P428	X	20	2'-10"			MASK WALL-HORIZ.-BOTH FACES
P529	X	8	2'-7"			CAP-VERT.-AT ENDS
⚠ P530	X	24	13'-8"	X	X	CAP-VERT.-STIRRUPS-AT ENDS
P631	X	4	11'-1"	X		CAP-HORIZ.-BOTH FACES-AT ENDS

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

BAR SERIES TABLE

MARK	NO. REQD.	TOTAL BAR LENGTH
P506	4 SERIES OF 3 BARS	19'-10" TO 20'-2"
P513	2 SERIES OF 8 BARS	4'-3" TO 16'-3"
P619	4 SERIES OF 8 BARS	2'-11" TO 4'-11"
P620	4 SERIES OF 5 BARS	3'-0" TO 3'-6"
P622	4 SERIES OF 6 BARS	7'-6" TO 11'-10"
P530	2 SERIES OF 12 BARS	10'-5" TO 16'-10"

BUNDLE AND TAG EACH SERIES SEPARATELY.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-40-881

DRAWN BY JPH | PLANS CK'D. NAR

PIER 1 DETAILS 1

SHEET 11

247

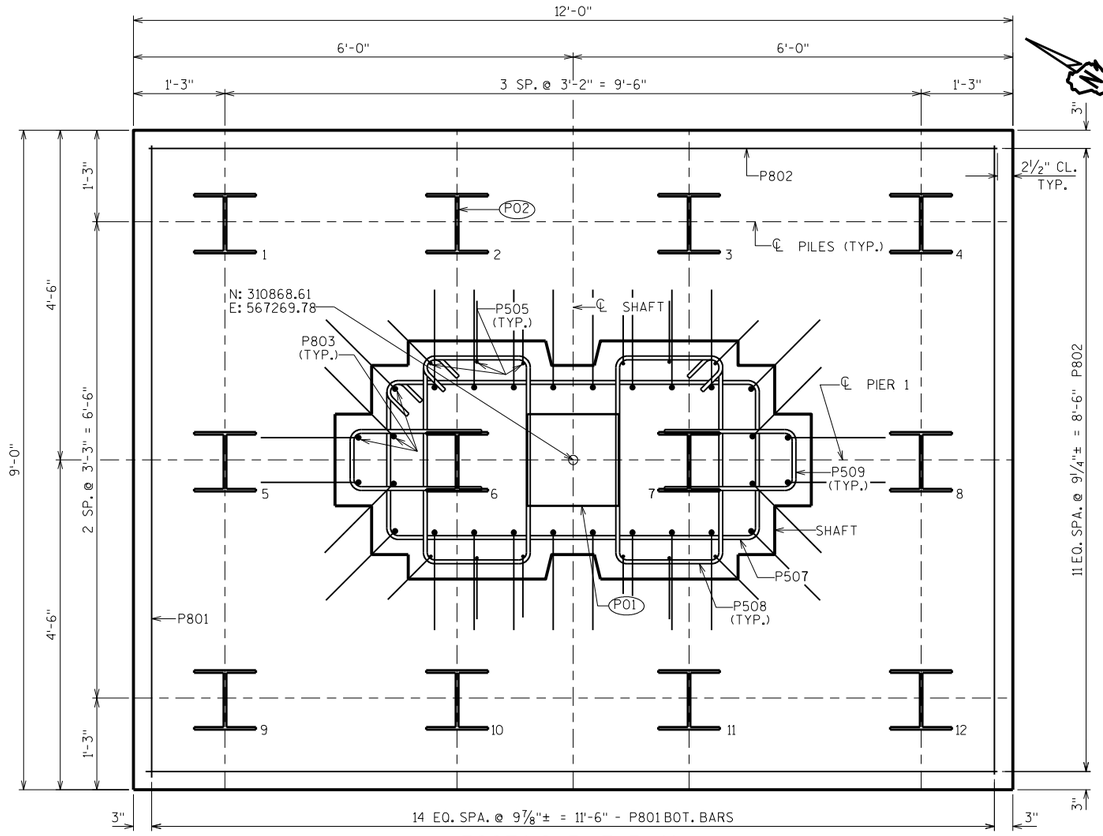
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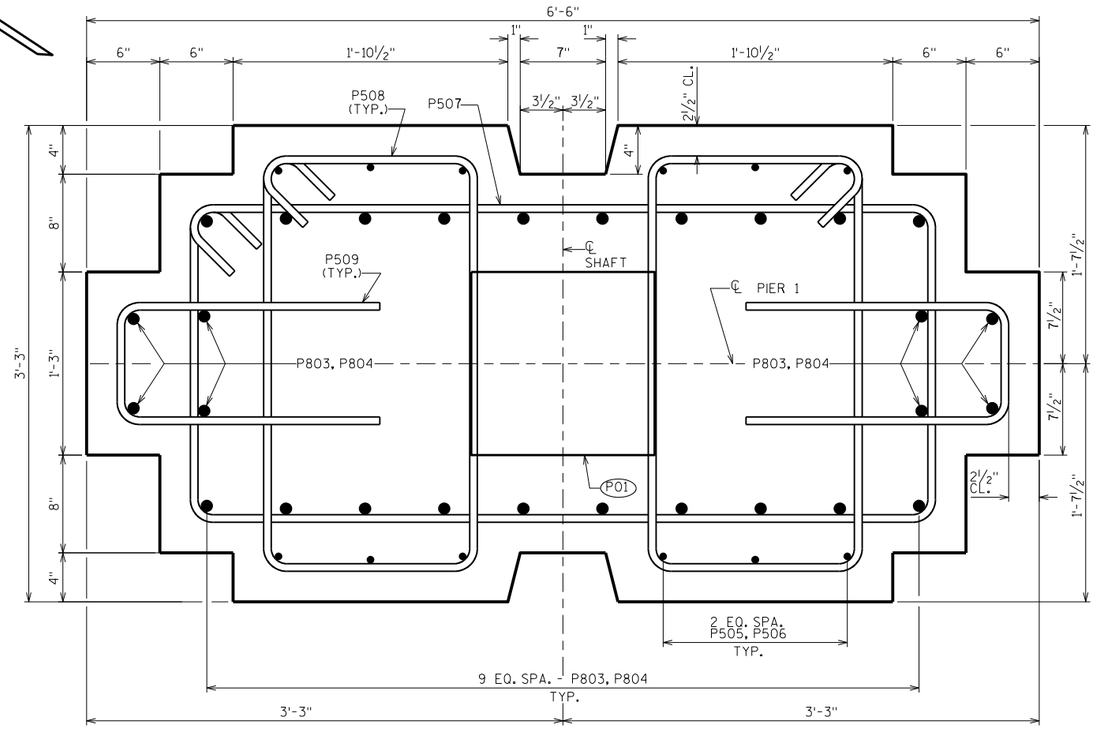
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STATE PROJECT NUMBER

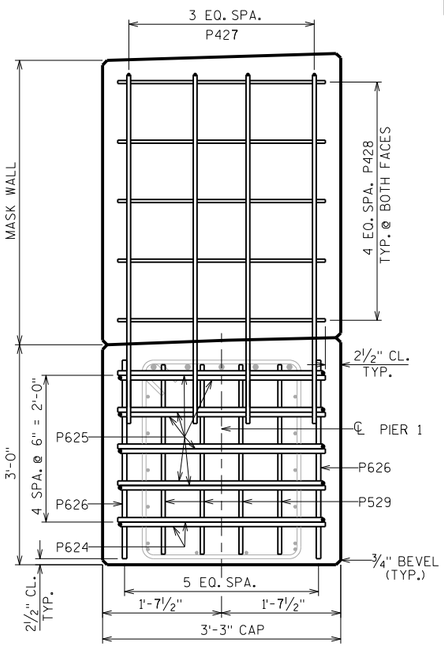
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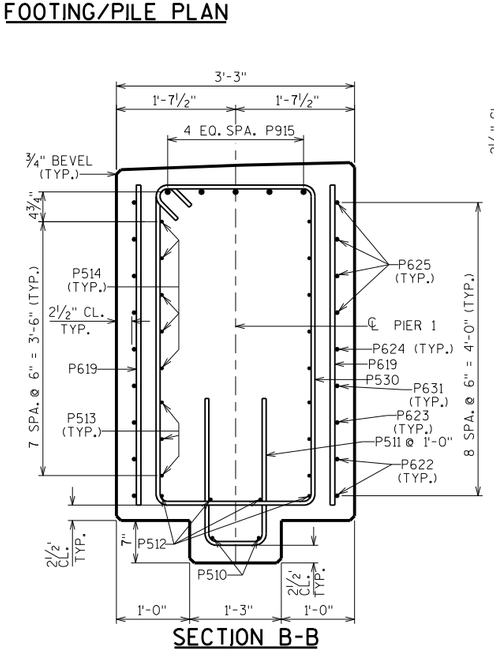
FOOTING/PILE PLAN



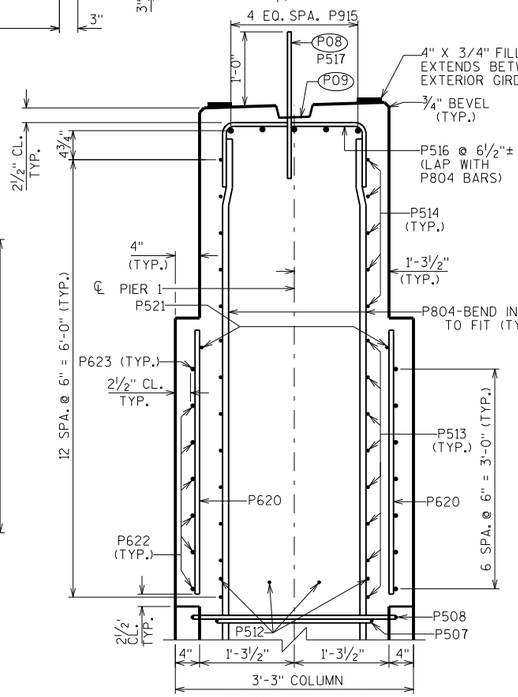
SECTION THRU COLUMN



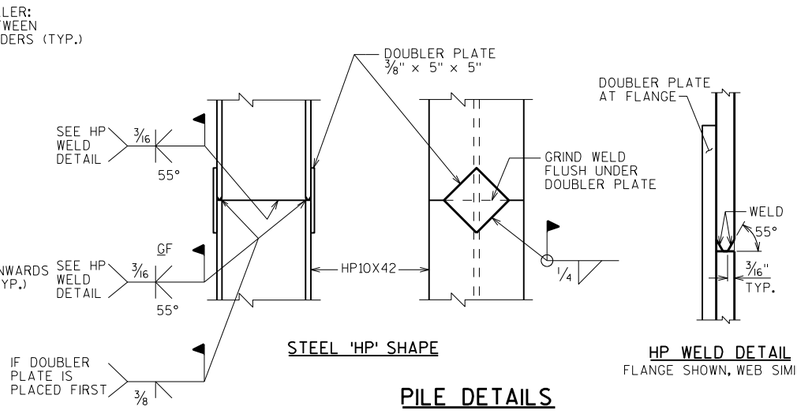
END VIEW - SECTION A-A



SECTION B-B



SECTION C-C



STEEL 'HP' SHAPE

HP WELD DETAIL
FLANGE SHOWN, WEB SIMILAR

PILE DETAILS

(P01) 1'-3" X 1'-3" X 2" CONSTRUCTION JOINT FORMED BY BEVELED KEYWAY.

(P02) SUPPORT PIER ON HP 10 x 42 STEEL PILING, ESTIMATED 40 FEET LONG WITH A REQUIRED DRIVING RESISTANCE OF 180 TONS PER PILE.

(P08) P517 BARS @ 1'-0" CTRS. BETWEEN BEAM SEATS. MAY BE PLACED AFTER CONCRETE IS POURED BUT BEFORE INITIAL SET HAS TAKEN PLACE. (EMBED 1'-0" INTO CONC.)

(P09) KEYED CONSTRUCTION JOINT-FORMED BY BEVELED 2" x 6" BETWEEN BEAM SEATS.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-40-881

DRAWN BY JPH | PLANS CK'D. NAR

PIER 1 DETAILS 2

SHEET 12

248

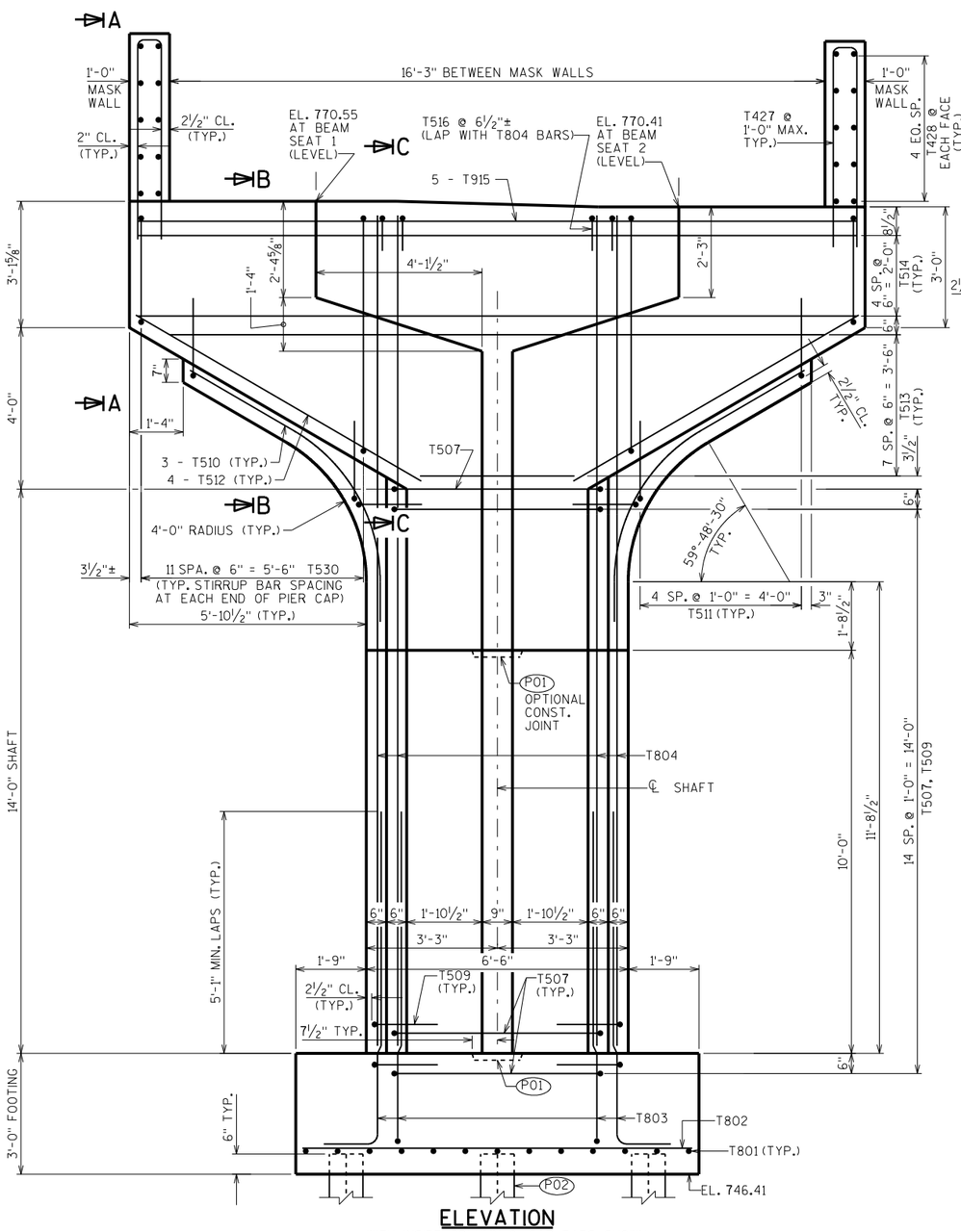
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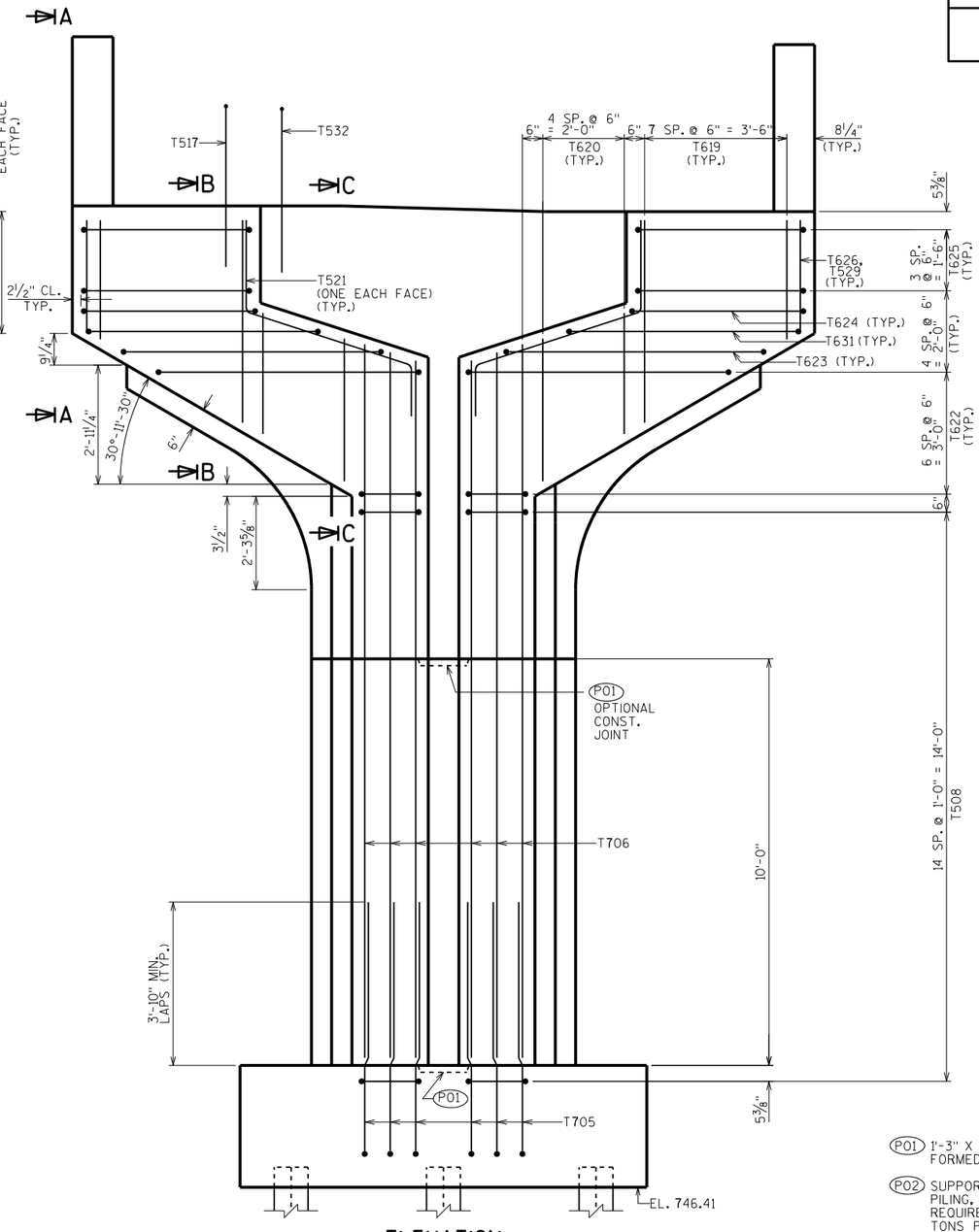
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STATE PROJECT NUMBER

1060-33-83



ELEVATION
WITH INSIDE COLUMN & CAP BARS SHOWN
(LOOKING NORTHEAST)



ELEVATION
WITH OUTSIDE COLUMN & CAP BARS SHOWN
(LOOKING NORTHEAST)

(P01) 1'-3" X 1'-3" X 2" CONSTRUCTION JOINT FORMED BY BEVELED KEYWAY.

(P02) SUPPORT PIER ON HP 10 x 42 STEEL PILING, ESTIMATED 45 FEET LONG WITH A REQUIRED DRIVING RESISTANCE OF 180 TONS PER PILE.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-40-881

DRAWN BY JPH | PLANS CK'D. NAR

PIER 2

SHEET 13

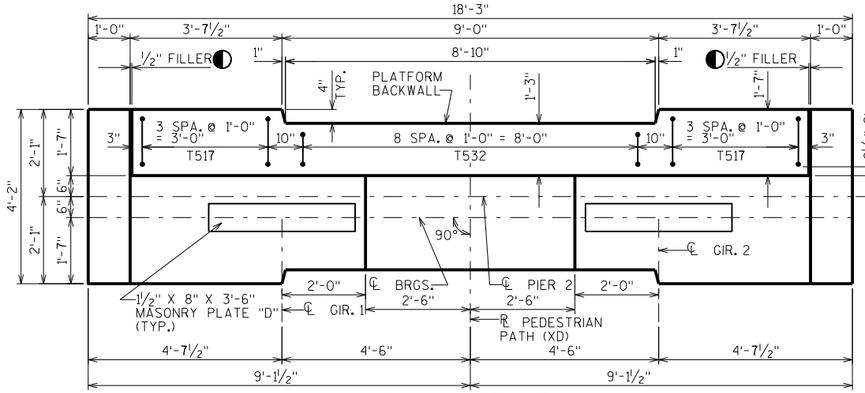
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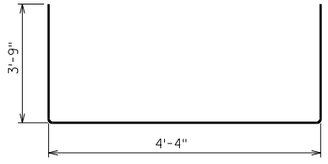
STATE PROJECT NUMBER
1060-33-83



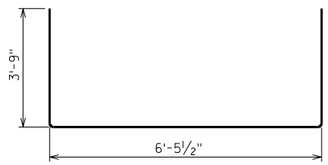
PLAN (TOP VIEW)



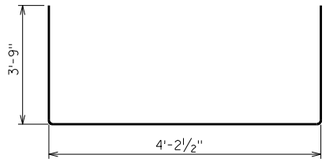
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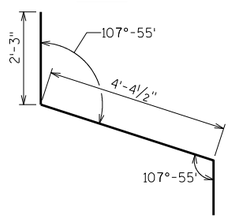
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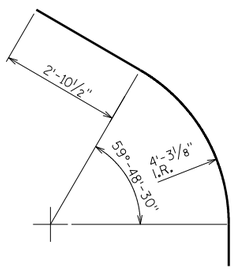
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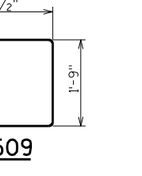
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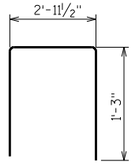
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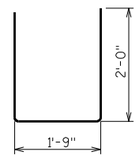
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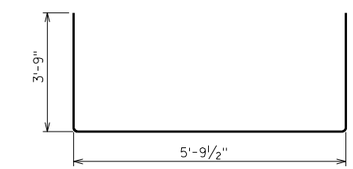
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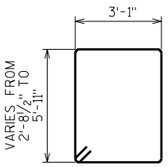
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T511



T631



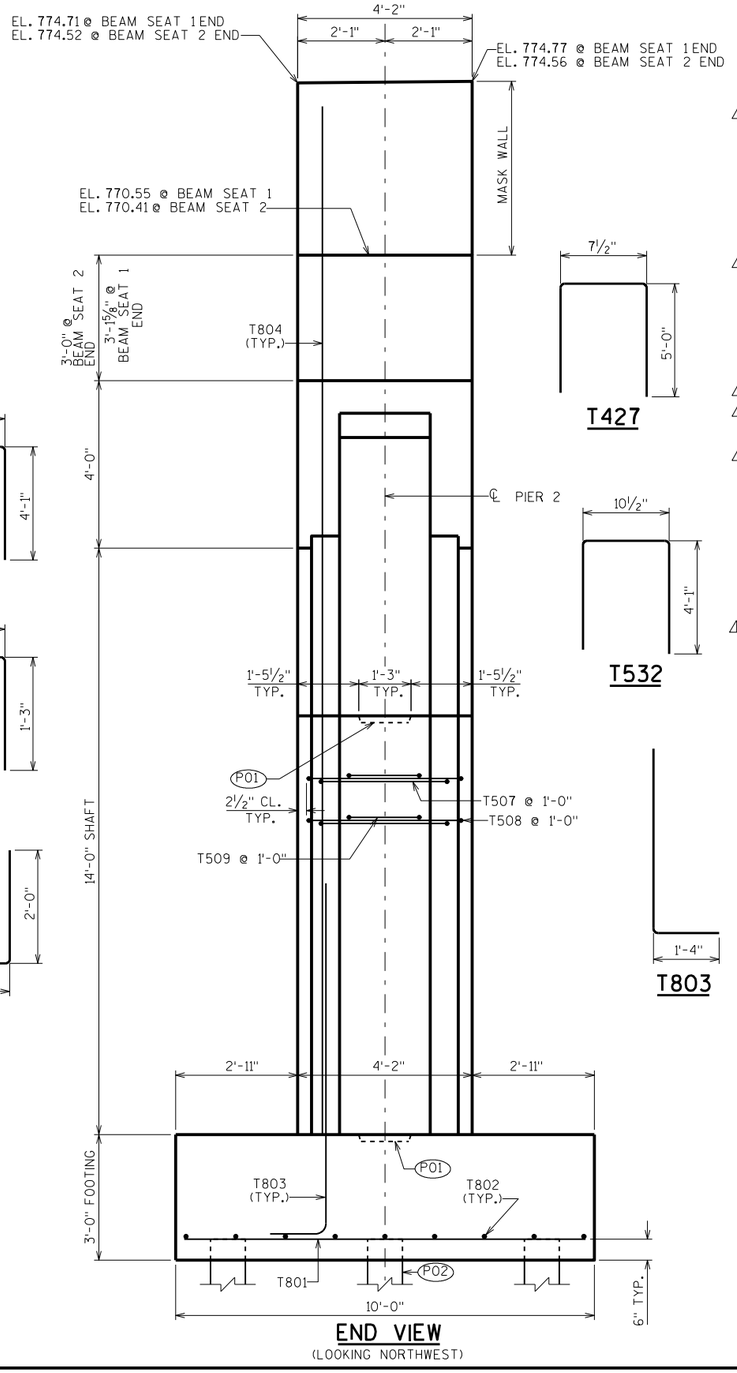
T530

T509

(P01) 1'-3" X 1'-3" X 2" CONSTRUCTION JOINT FORMED BY BEVELED KEYWAY.

(P02) SUPPORT PIER ON HP 10 x 42 STEEL PILING, ESTIMATED 45 FEET LONG WITH A REQUIRED DRIVING RESISTANCE OF 180 TONS PER PILE.

◐ SEAL ALL EXPOSED HORIZ. & VERT. SURFACES OF ½" FILLERS WITH NON-STAINING, GRAY, NON-BITUMINOUS JOINT SEALER. (1" DEEP AND HOLD 1/8" BELOW SURFACE OF CONCRETE).



END VIEW
(LOOKING NORTHWEST)

BILL OF BARS

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

BAR MARK	COAT	NO. REQ'D.	LENGTH	BENT	BAR SERIES	LOCATION
T801		13	9'-7"			FOOTING-BOTTOM-HORIZ.-TRANSVERSE
T802		9	9'-7"			FOOTING-BOTTOM-HORIZ.-LONGIT.
T803	X	32	8'-8"	X		FOOTING/SHAFT-VERT.-AT ALL FACES
T804	X	32	20'-6"			SHAFT/CAP-VERT.-AT ALL FACES
T705	X	12	7'-2"	X		FOOTING/SHAFT-VERT.-AT SIDE FACES
⚠ T706	X	12	17'-6"		X	SHAFT/CAP-VERT.-AT SIDE FACES
T507	X	16	17'-1"	X		FOOTING/SHAFT-HORIZ.-STIRRUPS
T508	X	30	11'-1"	X		FOOTING/SHAFT-HORIZ.-STIRRUPS
T509	X	30	5'-1"	X		FOOTING/SHAFT-HORIZ.-AT ENDS
T510	X	6	8'-10"	X		CAP/SHAFT-BOTTOM-VERT.
T511	X	10	5'-6"	X		CAP-BOTTOM-VERT.
T512	X	8	8'-0"			CAP-BOTTOM-VERT.
⚠ T513	X	16	10'-3"		X	CAP-BOTTOM-HORIZ.-BOTH FACES
T514	X	10	17'-7"			CAP-HORIZ.-BOTH FACES
T915	X	5	17'-7"			CAP-TOP-HORIZ.
T516	X	12	5'-3"	X		CAP-TOP-VERT.-ABOVE SHAFT
T517	X	8	9'-2"	X		CAP/BACKWALL-VERTICAL-AT ENDS
T418		--	--			NOT USED
⚠ T619	X	32	3'-11"		X	CAP-VERT.-BOTH FACES-AT ENDS
⚠ T620	X	20	3'-3"		X	CAP-VERT.-BOTH FACES
T521	X	4	7'-9"	X		CAP-VERT.-BOTH FACES
⚠ T622	X	28	11'-2"	X	X	CAP-BOTTOM-HORIZ.-BOTH FACES-AT ENDS
T623	X	4	13'-8"	X		CAP-HORIZ.-BOTH FACES-AT ENDS
T624	X	4	11'-6"	X		CAP-HORIZ.-BOTH FACES-AT ENDS
T625	X	16	11'-5"	X		CAP-TOP-HORIZ.-BOTH FACES-AT ENDS
T626	X	4	2'-9"			CAP-VERT.-BOTH FACES-AT ENDS
T427	X	10	10'-6"	X		CAP/MASK WALL-VERT.
T428	X	20	3'-9"			MASK WALL-HORIZ.-BOTH FACES
T529	X	8	2'-7"			CAP-VERT.-AT ENDS
⚠ T530	X	24	15'-6"	X	X	CAP-VERT.-STIRRUPS-AT ENDS
T631	X	4	12'-11"	X		CAP-HORIZ.-BOTH FACES-AT ENDS
T532	X	9	8'-11"	X		CAP/BACKWALL-VERTICAL-AT CENTER

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

BAR SERIES TABLE

MARK	NO. REQD.	TOTAL BAR LENGTH
T706	4 SERIES OF 3 BARS	17'-4" TO 17'-8"
T513	2 SERIES OF 8 BARS	4'-3" TO 16'-3"
T619	4 SERIES OF 8 BARS	2'-11" TO 4'-11"
T620	4 SERIES OF 5 BARS	3'-0" TO 3'-6"
T622	4 SERIES OF 7 BARS	8'-7" TO 13'-8"
T530	2 SERIES OF 12 BARS	12'-3" TO 18'-8"

BUNDLE AND TAG EACH SERIES SEPARATELY.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-40-881

DRAWN BY JPH | PLANS CK'D. NAR

PIER 2 DETAILS 1

SHEET 14

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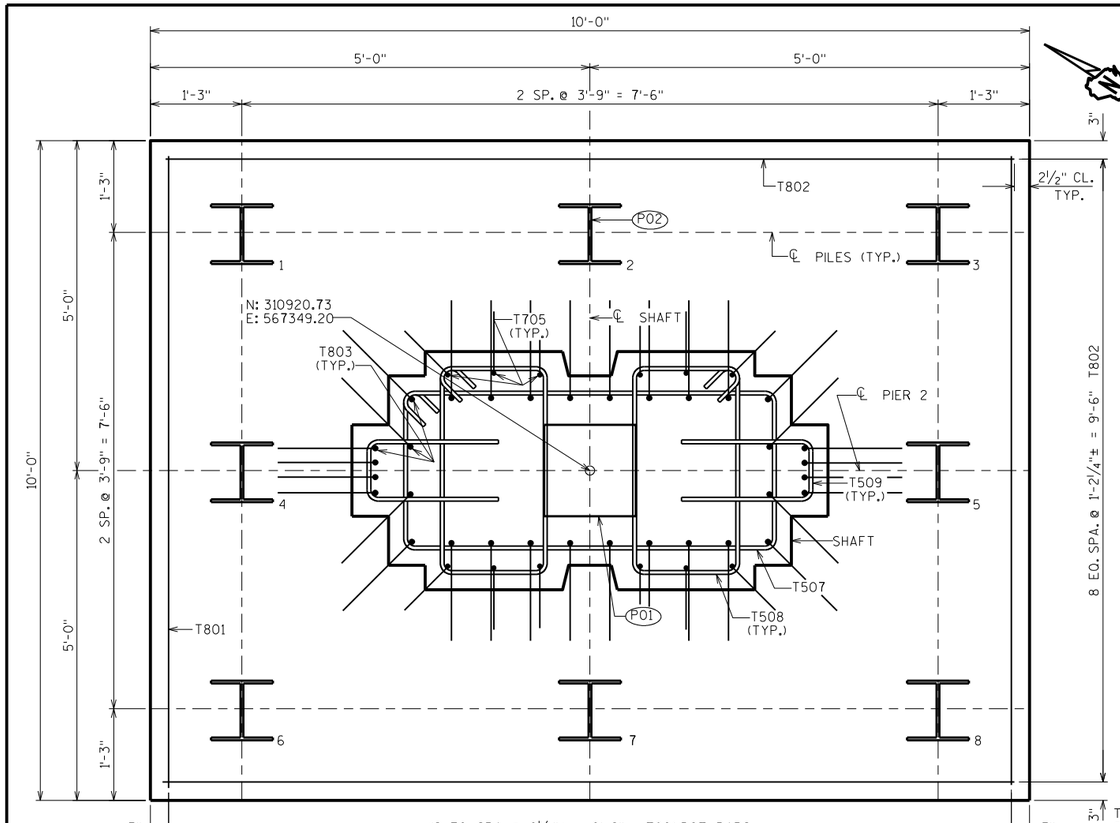
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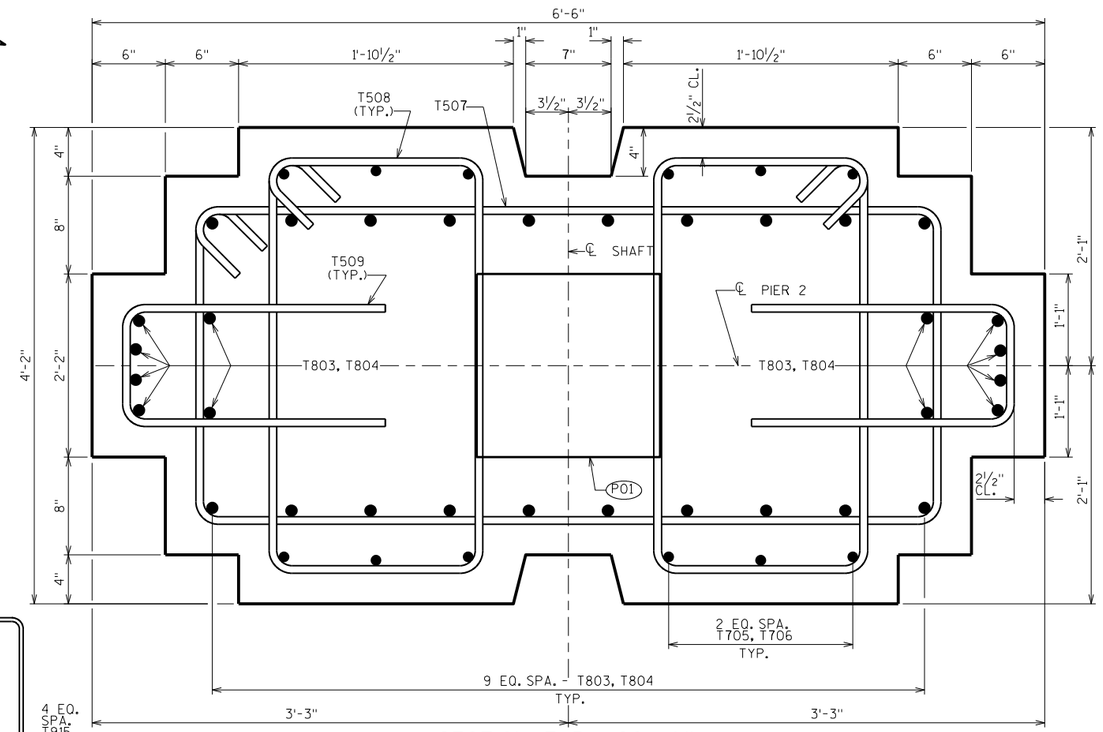
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STATE PROJECT NUMBER

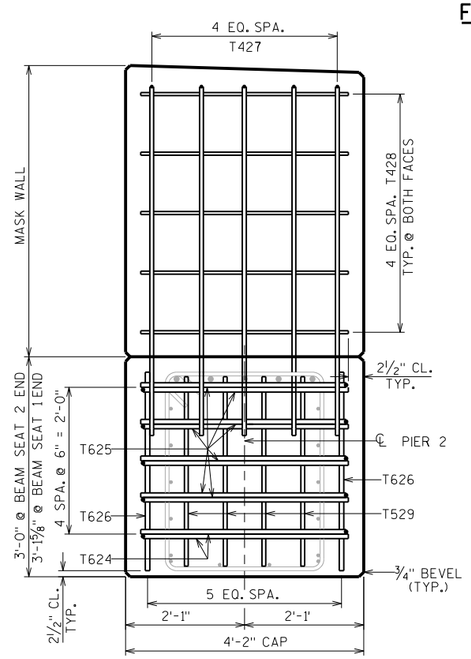
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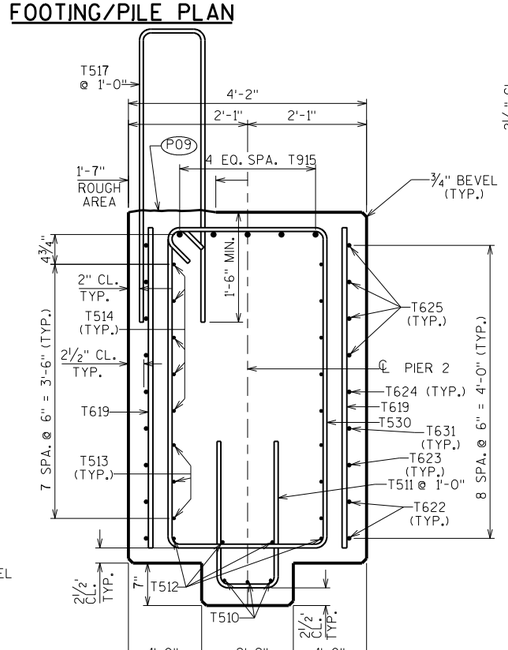
FOOTING/PILE PLAN



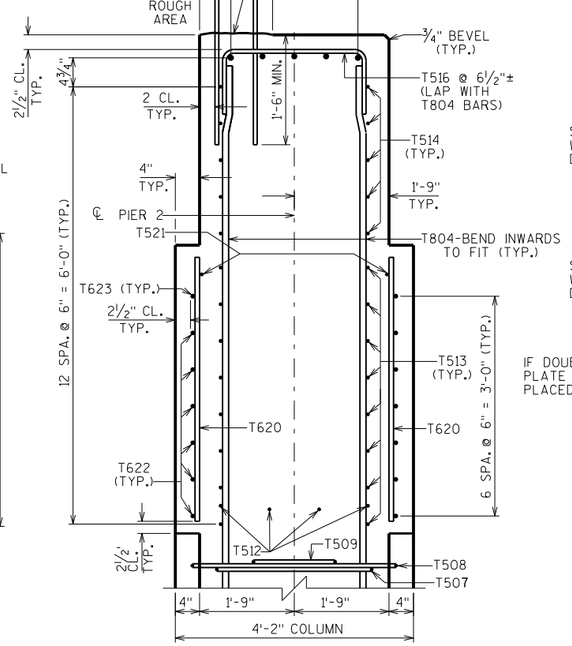
SECTION THRU COLUMN



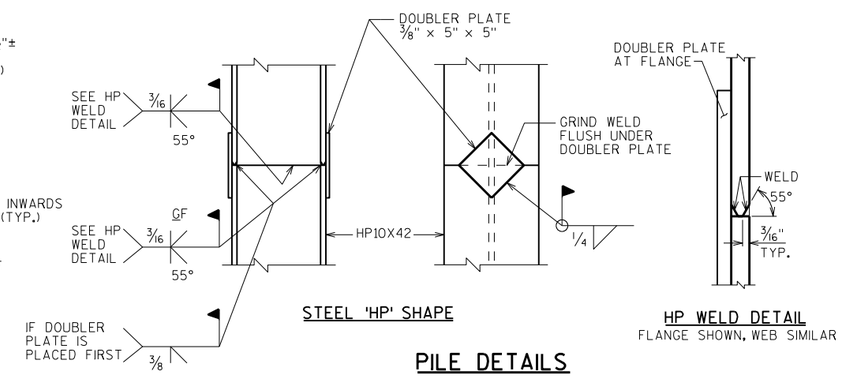
END VIEW - SECTION A-A



SECTION B-B



SECTION C-C



STEEL 'HP' SHAPE

HP WELD DETAIL
FLANGE SHOWN, WEB SIMILAR

PILE DETAILS

P01 1'-3" X 1'-3" X 2" CONSTRUCTION JOINT FORMED BY BEVELED KEYWAY.

P02 SUPPORT PIER ON HP 10 x 42 STEEL PILING. ESTIMATED 45 FEET LONG WITH A REQUIRED DRIVING RESISTANCE OF 180 TONS PER PILE.

P09 CONSTRUCTION JOINT: STRIKE OFF AND LEAVE ROUGH AS SHOWN.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-40-881

DRAWN BY JPH | PLANS CK'D. NAR

PIER 2
DETAILS 2

SHEET 15

251

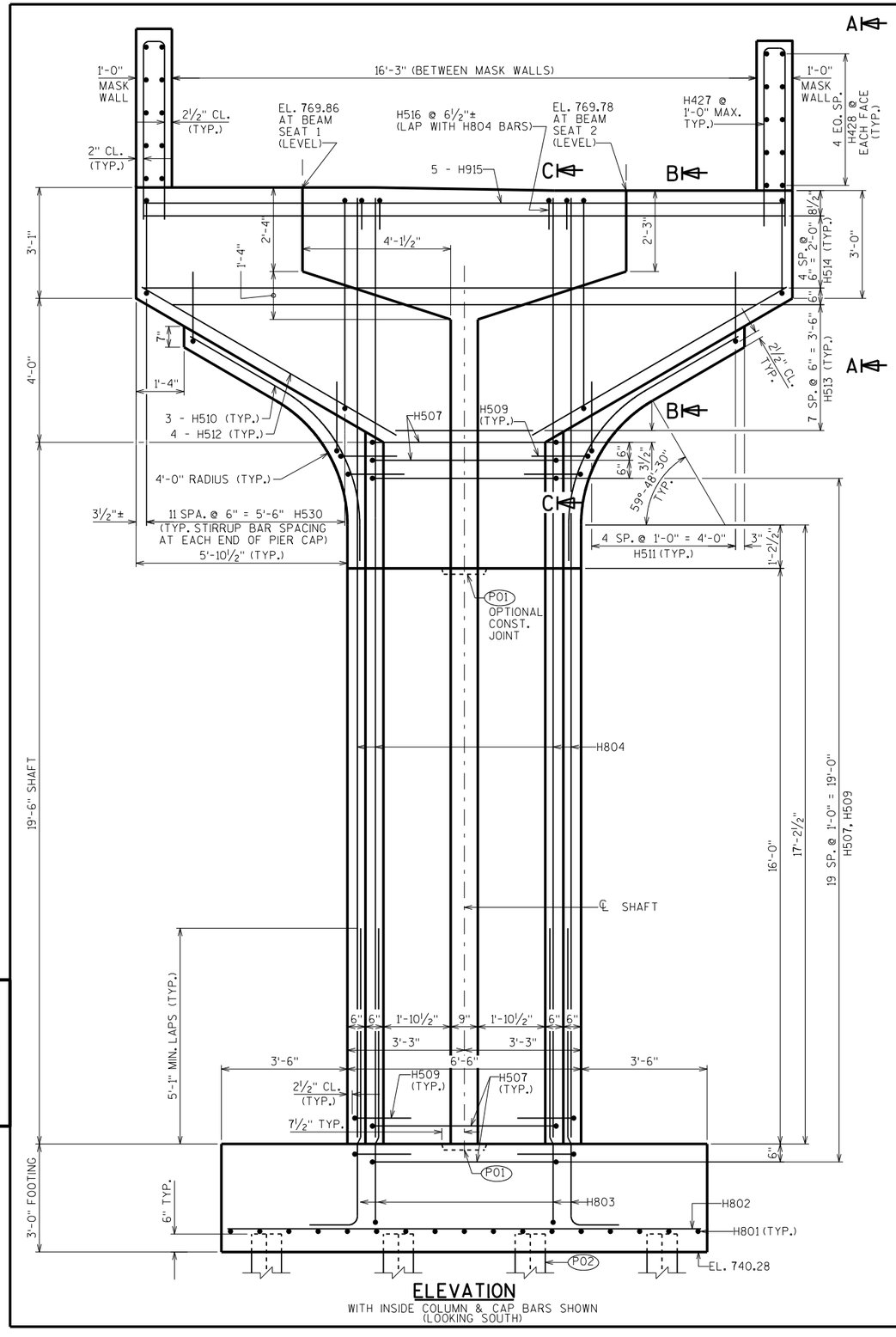
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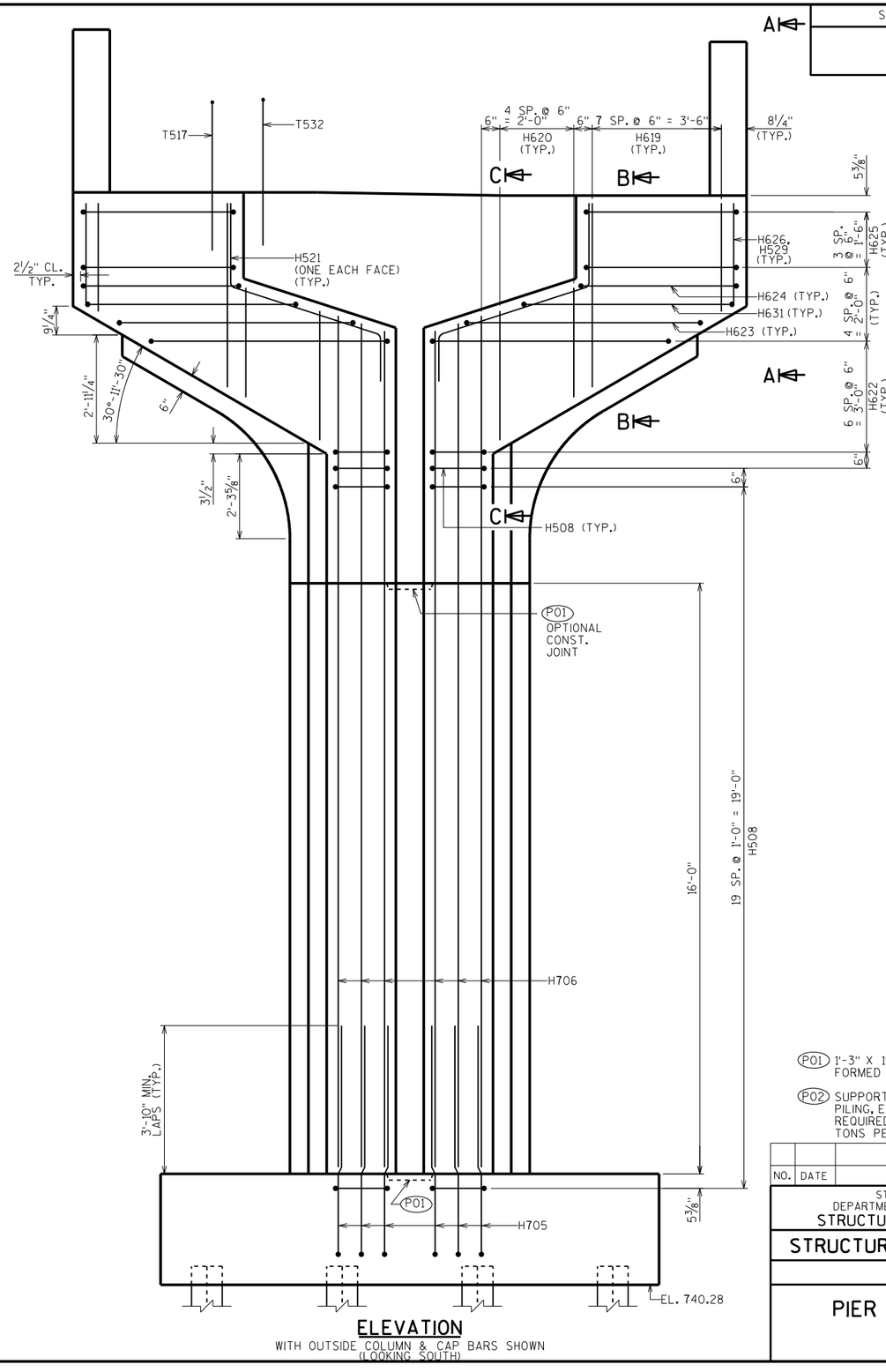
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STATE PROJECT NUMBER

1060-33-83



ELEVATION
WITH INSIDE COLUMN & CAP BARS SHOWN
(LOOKING SOUTH)



ELEVATION
WITH OUTSIDE COLUMN & CAP BARS SHOWN
(LOOKING SOUTH)

P01 1'-3" X 1'-3" X 2" CONSTRUCTION JOINT FORMED BY BEVELED KEYWAY.

P02 SUPPORT PIER ON HP 10 x 42 STEEL PILING, ESTIMATED 40 FEET LONG WITH A REQUIRED DRIVING RESISTANCE OF 180 TONS PER PILE.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-40-881

DRAWN BY JPH | PLANS CK'D. NAR

PIER 3

SHEET 16

252

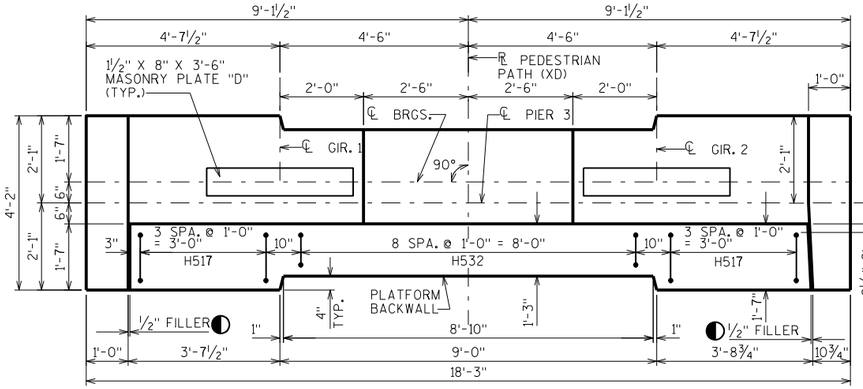
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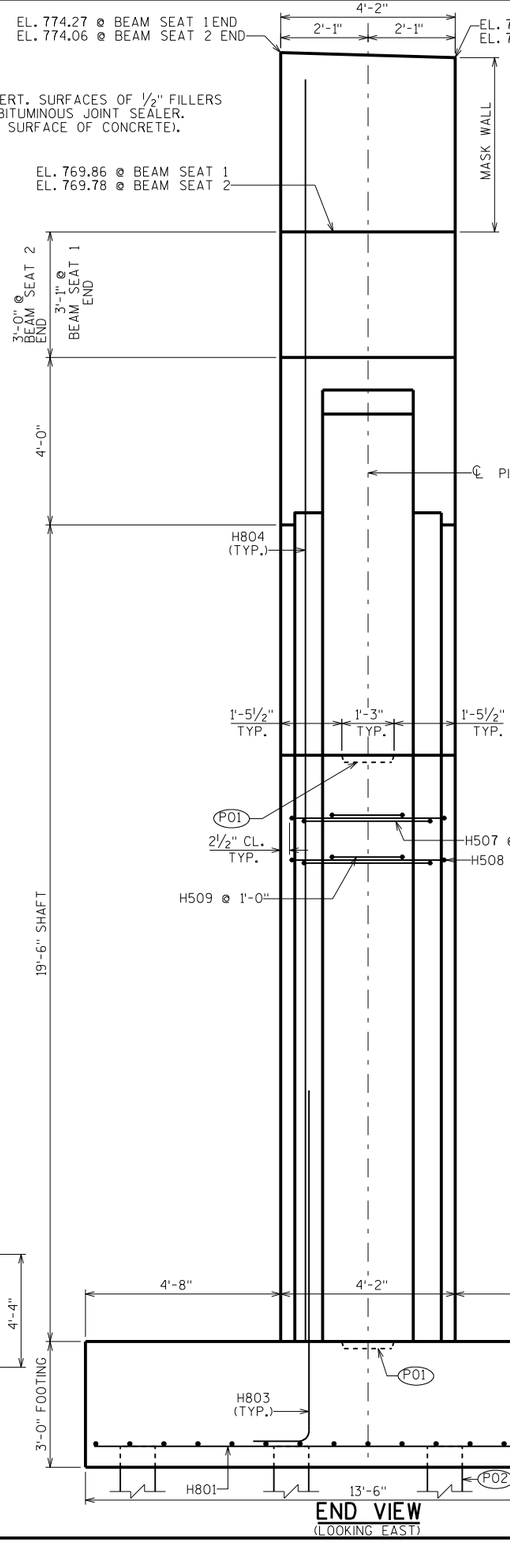
STATE PROJECT NUMBER

1060-33-83

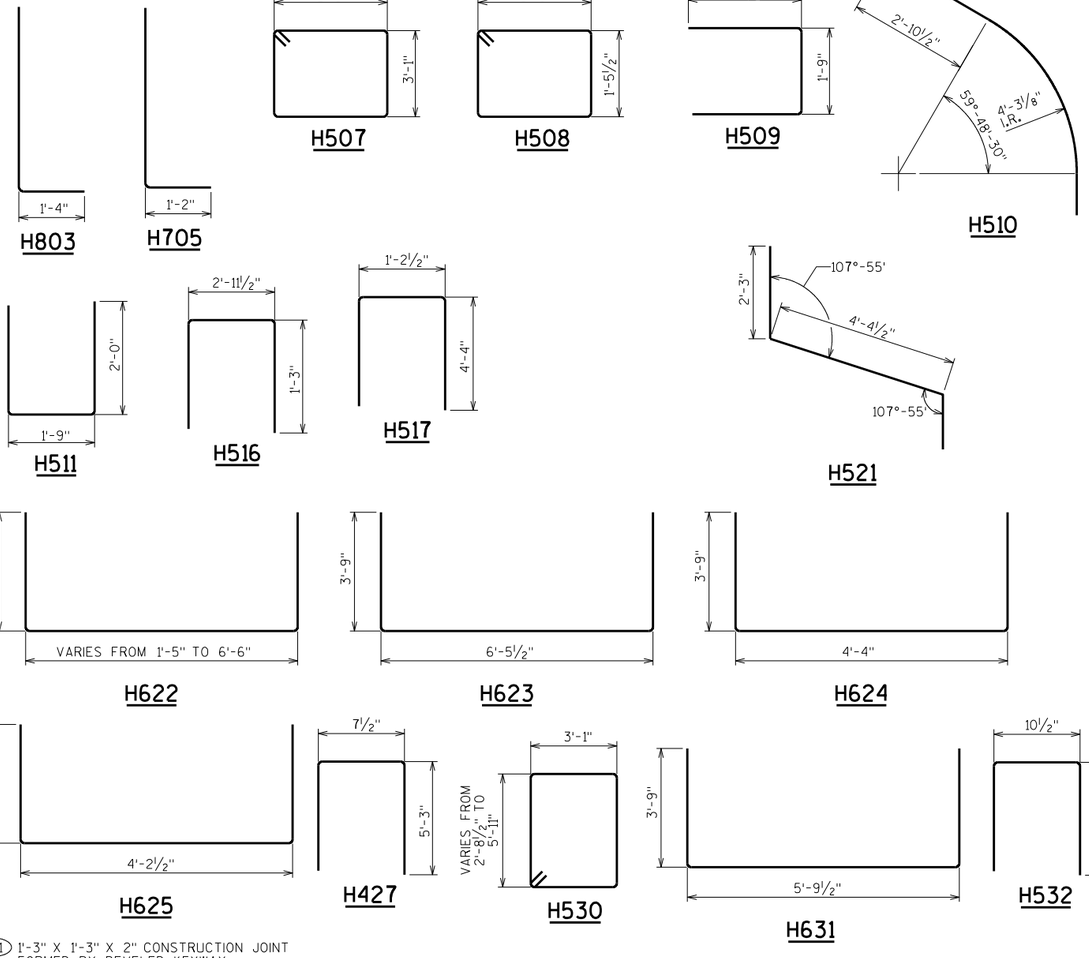


PLAN (TOP VIEW)

◐ SEAL ALL EXPOSED HORIZ. & VERT. SURFACES OF ½" FILLERS WITH NON-STAINING, GRAY, NON-BITUMINOUS JOINT SEALER. (1" DEEP AND HOLD 1/8" BELOW SURFACE OF CONCRETE).



END VIEW
(LOOKING EAST)



(P01) 1'-3" X 1'-3" X 2" CONSTRUCTION JOINT FORMED BY BEVELED KEYWAY.

(P02) SUPPORT PIER ON HP 10 x 42 STEEL PILING, ESTIMATED 40 FEET LONG WITH A REQUIRED DRIVING RESISTANCE OF 180 TONS PER PILE.

BILL OF BARS

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

BAR MARK	COAT	NO. REQ'D.	LENGTH	BENT	BAR SERIES	LOCATION
H801		17	13'-1"			FOOTING-BOTTOM-HORIZ.-TRANSVERSE
H802		17	13'-1"			FOOTING-BOTTOM-HORIZ.-LONGIT.
H803	X	32	8'-8"	X		FOOTING/SHAFT-VERT.-AT ALL FACES
H804	X	32	26'-0"			SHAFT/CAP-VERT.-AT ALL FACES
H705	X	12	7'-2"	X		FOOTING/SHAFT-VERT.-AT SIDE FACES
⚠ H706	X	12	23'-0"		X	SHAFT/CAP-VERT.-AT SIDE FACES
H507	X	22	17'-1"	X		FOOTING/SHAFT-HORIZ.-STIRRUPS
H508	X	42	11'-1"	X		FOOTING/SHAFT-HORIZ.-STIRRUPS
H509	X	42	5'-1"	X		FOOTING/SHAFT-HORIZ.-AT ENDS
H510	X	6	8'-10"	X		CAP/SHAFT-BOTTOM-VERT.
H511	X	10	5'-6"	X		CAP-BOTTOM-VERT.
H512	X	8	8'-0"			CAP-BOTTOM-VERT.
⚠ H513	X	16	10'-3"		X	CAP-BOTTOM-HORIZ.-BOTH FACES
H514	X	10	17'-7"			CAP-HORIZ.-BOTH FACES
H915	X	5	17'-7"			CAP-TOP-HORIZ.
H516	X	12	5'-3"	X		CAP-TOP-VERT.-ABOVE SHAFT
H517	X	8	9'-8"	X		CAP/BACKWALL-VERTICAL-AT ENDS
H418		--	--			NOT USED
⚠ H619	X	32	3'-11"		X	CAP-VERT.-BOTH FACES-AT ENDS
⚠ H620	X	20	3'-3"		X	CAP-VERT.-BOTH FACES
H521	X	4	7'-9"	X		CAP-VERT.-BOTH FACES
⚠ H622	X	28	11'-2"	X	X	CAP-BOTTOM-HORIZ.-BOTH FACES-AT ENDS
H623	X	4	13'-8"	X		CAP-HORIZ.-BOTH FACES-AT ENDS
H624	X	4	11'-6"	X		CAP-HORIZ.-BOTH FACES-AT ENDS
H625	X	16	11'-5"	X		CAP-TOP-HORIZ.-BOTH FACES-AT ENDS
H626	X	4	2'-9"			CAP-VERT.-BOTH FACES-AT ENDS
H427	X	10	11'-0"	X		CAP/MASK WALL-VERT.
H428	X	20	3'-9"			MASK WALL-HORIZ.-BOTH FACES
H529	X	8	2'-7"			CAP-VERT.-AT ENDS
⚠ H530	X	24	15'-6"	X	X	CAP-VERT.-STIRRUPS-AT ENDS
H631	X	4	12'-11"	X		CAP-HORIZ.-BOTH FACES-AT ENDS
H532	X	9	9'-4"	X		CAP/BACKWALL-VERTICAL-AT CENTER

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

BAR SERIES TABLE

MARK	NO. REQD.	TOTAL BAR LENGTH
H706	4 SERIES OF 3 BARS	22'-10" TO 23'-2"
H513	2 SERIES OF 8 BARS	4'-3" TO 16'-3"
H619	4 SERIES OF 8 BARS	2'-11" TO 4'-11"
H620	4 SERIES OF 5 BARS	3'-0" TO 3'-6"
H622	4 SERIES OF 7 BARS	8'-7" TO 13'-8"
H530	2 SERIES OF 12 BARS	12'-3" TO 18'-8"

BUNDLE AND TAG EACH SERIES SEPARATELY.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-40-881

DRAWN BY JPH PLANS CK'D. NAR

PIER 3
DETAILS 1

SHEET 17

253

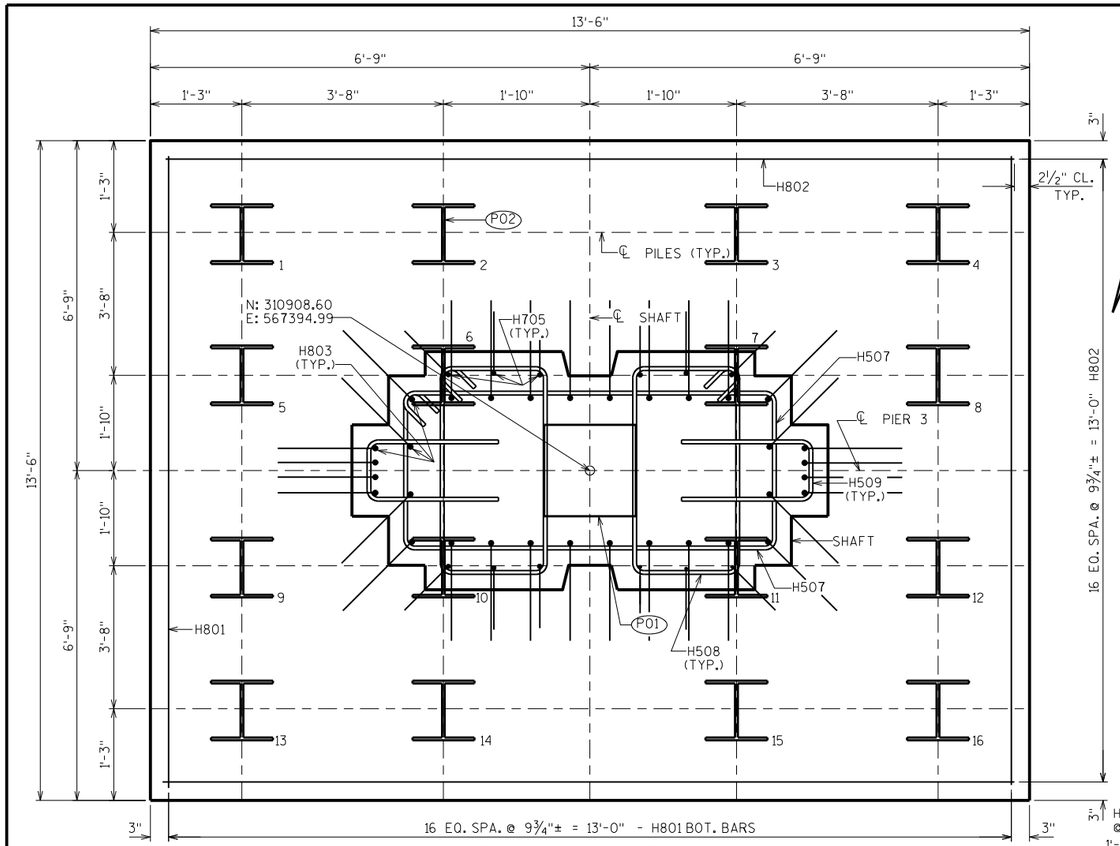
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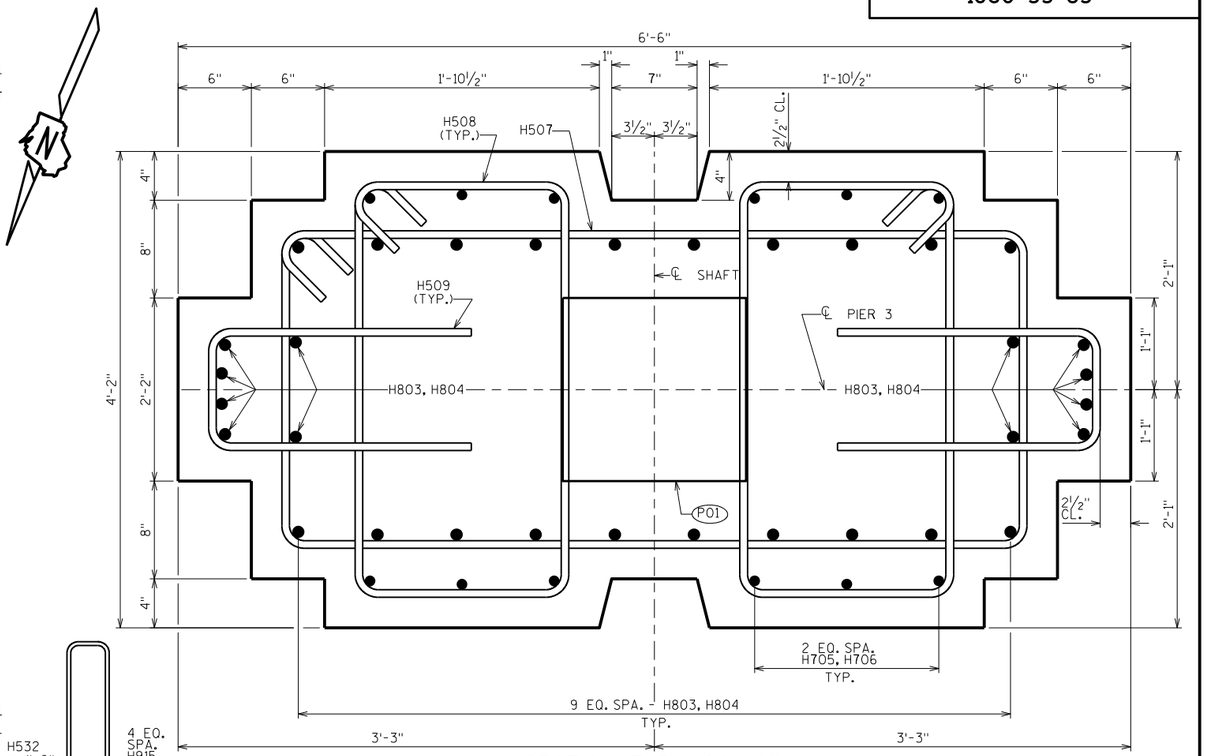
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STATE PROJECT NUMBER

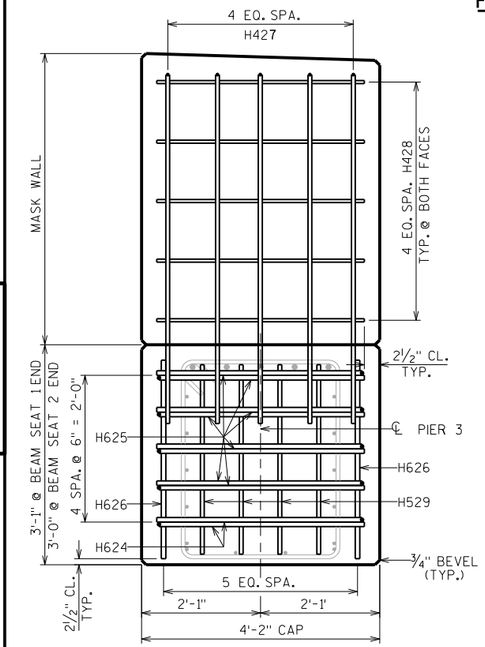
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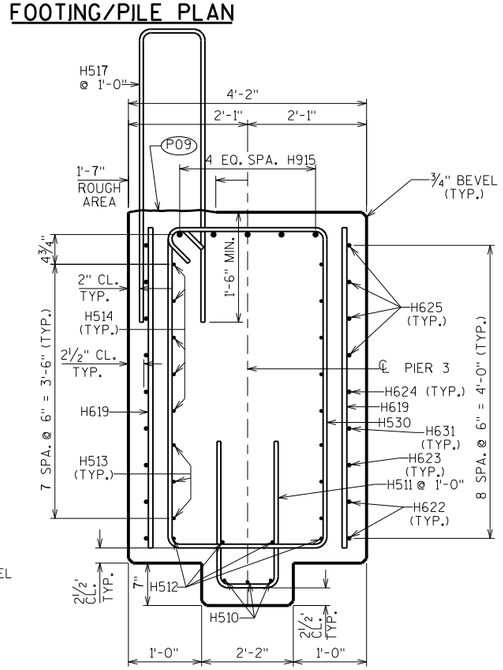
FOOTING/PILE PLAN



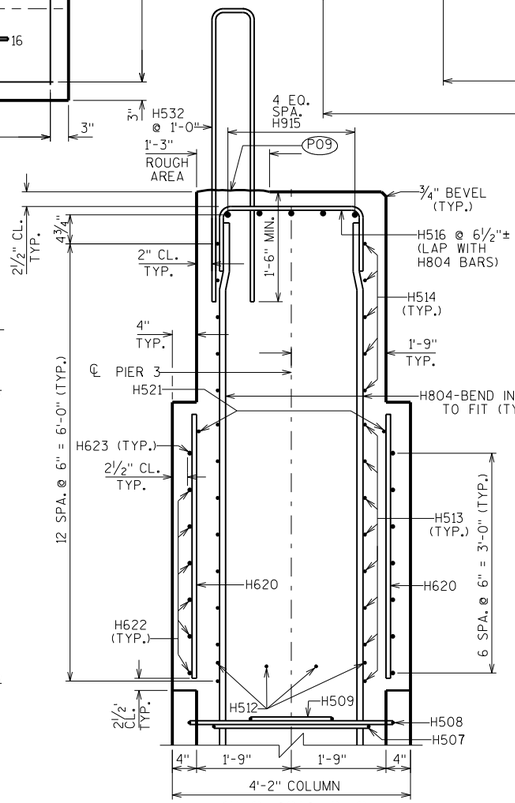
SECTION THRU COLUMN



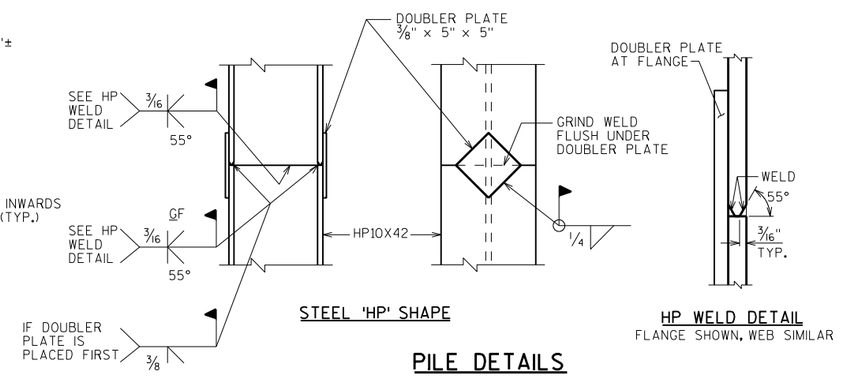
END VIEW - SECTION A-A



SECTION B-B



SECTION C-C



STEEL 'HP' SHAPE

HP WELD DETAIL
FLANGE SHOWN, WEB SIMILAR

PILE DETAILS

(P01) 1'-3" X 1'-3" X 2" CONSTRUCTION JOINT FORMED BY BEVELED KEYWAY.

(P02) SUPPORT PIER ON HP 10 x 42 STEEL PILING. ESTIMATED 40 FEET LONG WITH A REQUIRED DRIVING RESISTANCE OF 180 TONS PER PILE.

(P09) CONSTRUCTION JOINT: STRIKE OFF AND LEAVE ROUGH AS SHOWN.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-40-881

DRAWN BY JPH | PLANS CK'D. NAR

PIER 3 DETAILS 2

SHEET 18

254

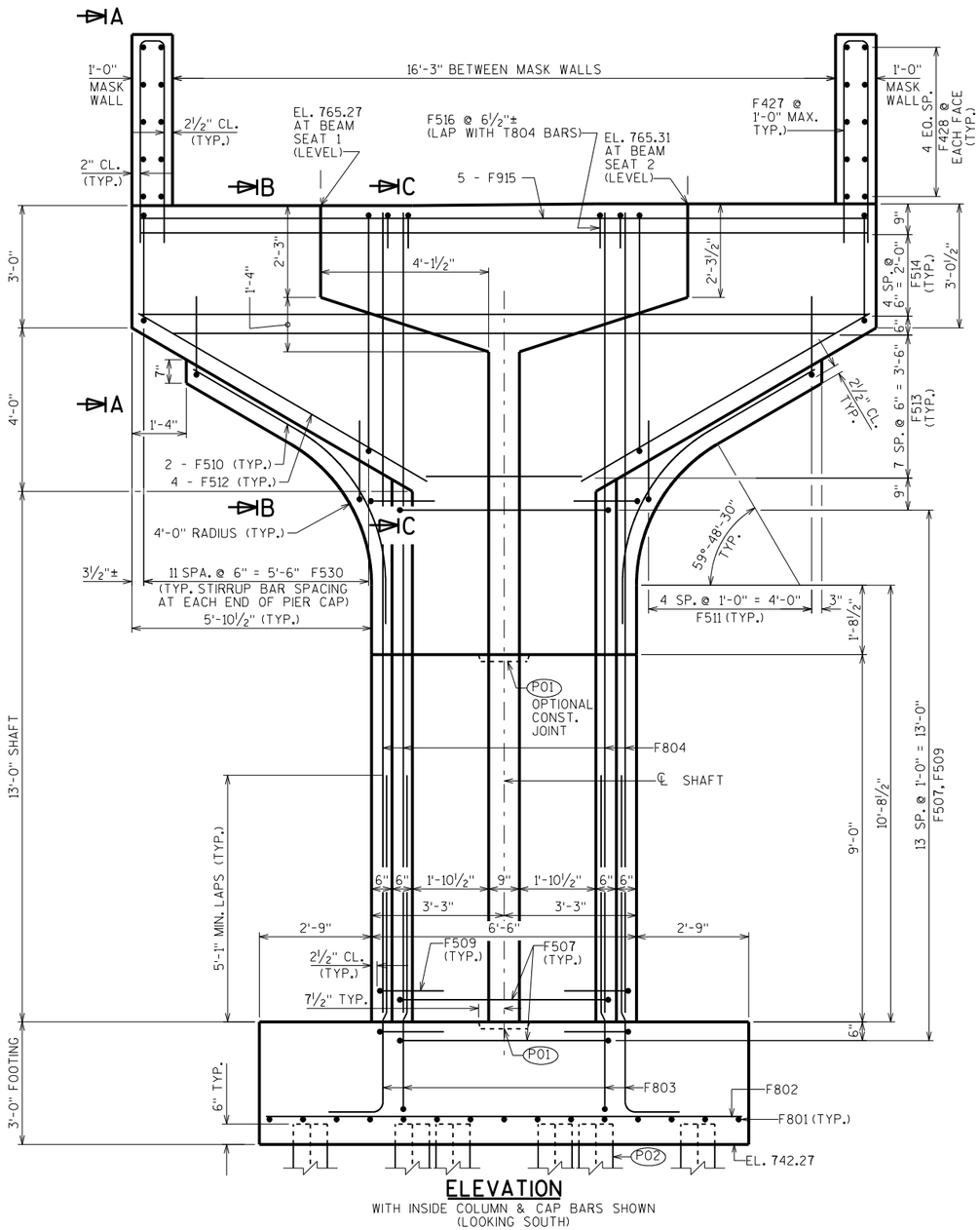
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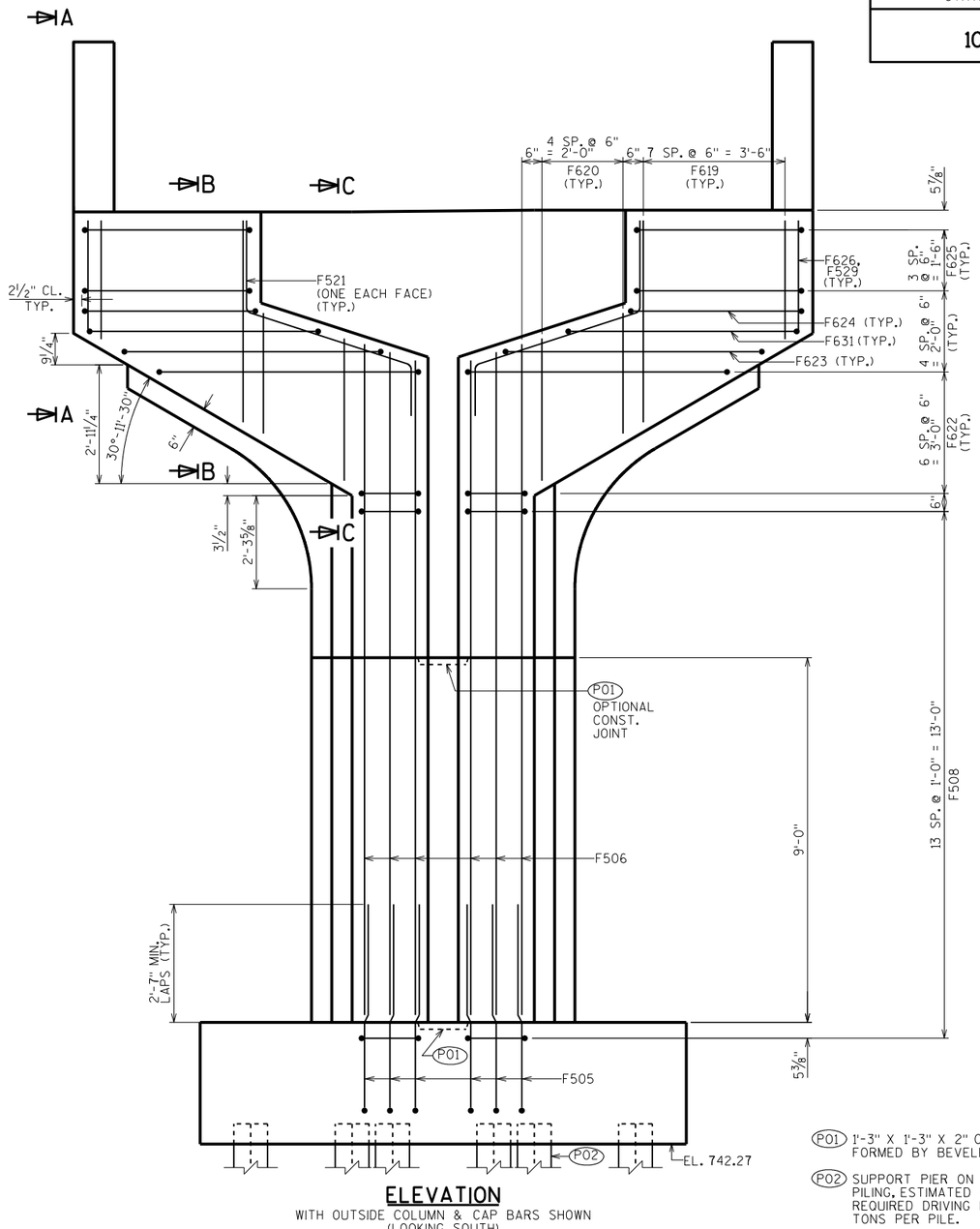
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STATE PROJECT NUMBER

1060-33-83



ELEVATION
WITH INSIDE COLUMN & CAP BARS SHOWN
(LOOKING SOUTH)



ELEVATION
WITH OUTSIDE COLUMN & CAP BARS SHOWN
(LOOKING SOUTH)

(P01) 1'-3" X 1'-3" X 2" CONSTRUCTION JOINT FORMED BY BEVELED KEYWAY.

(P02) SUPPORT PIER ON HP 10 x 42 STEEL PILING. ESTIMATED 40 FEET LONG WITH A REQUIRED DRIVING RESISTANCE OF 180 TONS PER PILE.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-40-881

DRAWN BY JPH | PLANS CK'D. NAR

PIER 4

SHEET 19

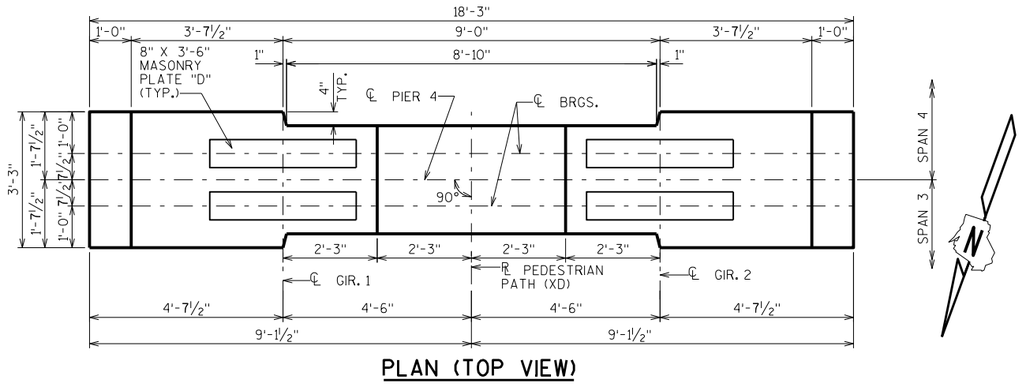
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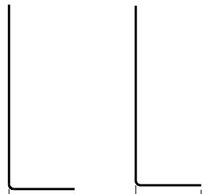
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STATE PROJECT NUMBER
1060-33-83

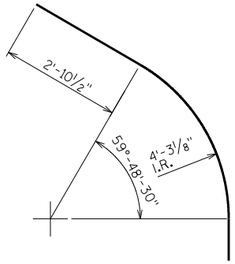


PLAN (TOP VIEW)

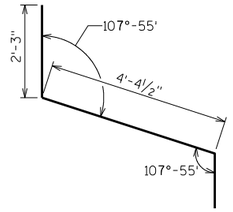


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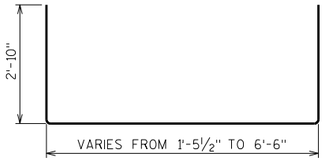
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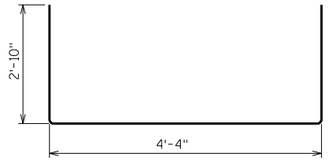
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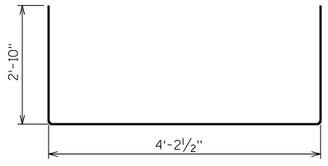
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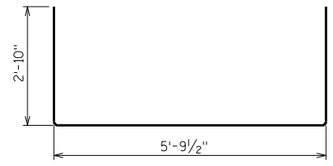
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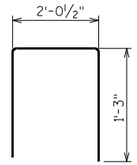
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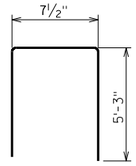
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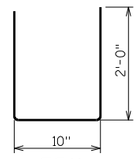
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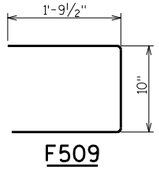
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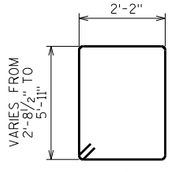
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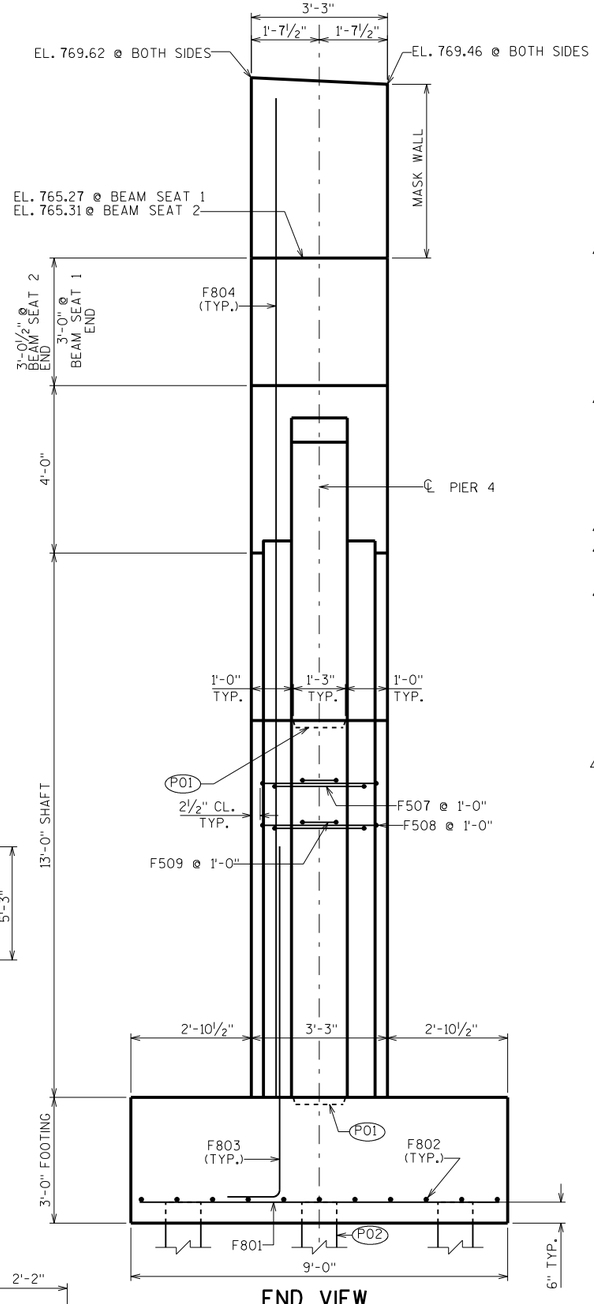
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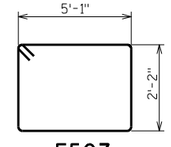
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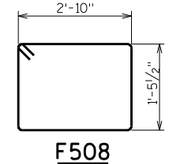
F530



END VIEW
(LOOKING EAST)



F507



F508

BILL OF BARS

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

BAR MARK	COAT	NO. REQ'D.	LENGTH	BENT	BAR SERIES	LOCATION
F801		15	8'-7"			FOOTING-BOTTOM-HORIZ.-TRANSVERSE
F802		11	11'-7"			FOOTING-BOTTOM-HORIZ.-LONGIT.
F803	X	28	8'-8"	X		FOOTING/SHAFT-VERT.-AT ALL FACES
F804	X	28	19'-6"			SHAFT/CAP-VERT.-AT ALL FACES
F505	X	12	5'-8"	X		FOOTING/SHAFT-VERT.-AT SIDE FACES
⚠ F506	X	12	16'-6"		X	SHAFT/CAP-VERT.-AT SIDE FACES
F507	X	14	15'-2"	X		FOOTING/SHAFT-HORIZ.-STIRRUPS
F508	X	28	9'-3"	X		FOOTING/SHAFT-HORIZ.-STIRRUPS
F509	X	28	4'-2"	X		FOOTING/SHAFT-HORIZ.-AT ENDS
F510	X	4	8'-10"	X		CAP/SHAFT-BOTTOM-VERT.
F511	X	10	4'-7"	X		CAP-BOTTOM-VERT.
F512	X	8	8'-0"			CAP-BOTTOM-VERT.
⚠ F513	X	16	10'-3"		X	CAP-BOTTOM-HORIZ.-BOTH FACES
F514	X	10	17'-7"			CAP-HORIZ.-BOTH FACES
F915	X	5	17'-7"			CAP-TOP-HORIZ.
F516	X	12	4'-4"	X		CAP-TOP-VERT.-ABOVE SHAFT
F517		--	--			NOT USED
F418		--	--			NOT USED
⚠ F619	X	32	3'-11"		X	CAP-VERT.-BOTH FACES-AT ENDS
⚠ F620	X	20	3'-3"		X	CAP-VERT.-BOTH FACES
F521	X	4	7'-9"	X		CAP-VERT.-BOTH FACES
⚠ F622	X	28	9'-4"	X	X	CAP-BOTTOM-HORIZ.-BOTH FACES-AT ENDS
F623	X	4	11'-9"	X		CAP-HORIZ.-BOTH FACES-AT ENDS
F624	X	4	9'-8"	X		CAP-HORIZ.-BOTH FACES-AT ENDS
F625	X	16	9'-6"	X		CAP-TOP-HORIZ.-BOTH FACES-AT ENDS
F626	X	4	2'-9"			CAP-VERT.-BOTH FACES-AT ENDS
F427	X	8	11'-0"	X		CAP/MASK WALL-VERT.
F428	X	20	2'-10"			MASK WALL-HORIZ.-BOTH FACES
F529	X	8	2'-7"			CAP-VERT.-AT ENDS
⚠ F530	X	24	13'-8"	X	X	CAP-VERT.-STIRRUPS-AT ENDS
F631	X	4	11'-1"	X		CAP-HORIZ.-BOTH FACES-AT ENDS

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

BAR SERIES TABLE

MARK	NO. REQD.	TOTAL BAR LENGTH
F506	4 SERIES OF 3 BARS	16'-4" TO 16'-8"
F513	2 SERIES OF 8 BARS	4'-3" TO 16'-3"
F619	4 SERIES OF 8 BARS	2'-11" TO 4'-11"
F620	4 SERIES OF 5 BARS	3'-0" TO 3'-6"
F622	4 SERIES OF 7 BARS	6'-10" TO 11'-10"
F530	2 SERIES OF 12 BARS	10'-5" TO 16'-10"

BUNDLE AND TAG EACH SERIES SEPARATELY.

P01 1'-3" X 1'-3" X 2" CONSTRUCTION JOINT FORMED BY BEVELED KEYWAY.

P02 SUPPORT PIER ON HP 10 x 42 STEEL PILING, ESTIMATED 40 FEET LONG WITH A REQUIRED DRIVING RESISTANCE OF 180 TONS PER PILE.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-40-881

DRAWN BY JPH | PLANS CK'D. NAR

PIER 4
DETAILS 1

SHEET 20

256

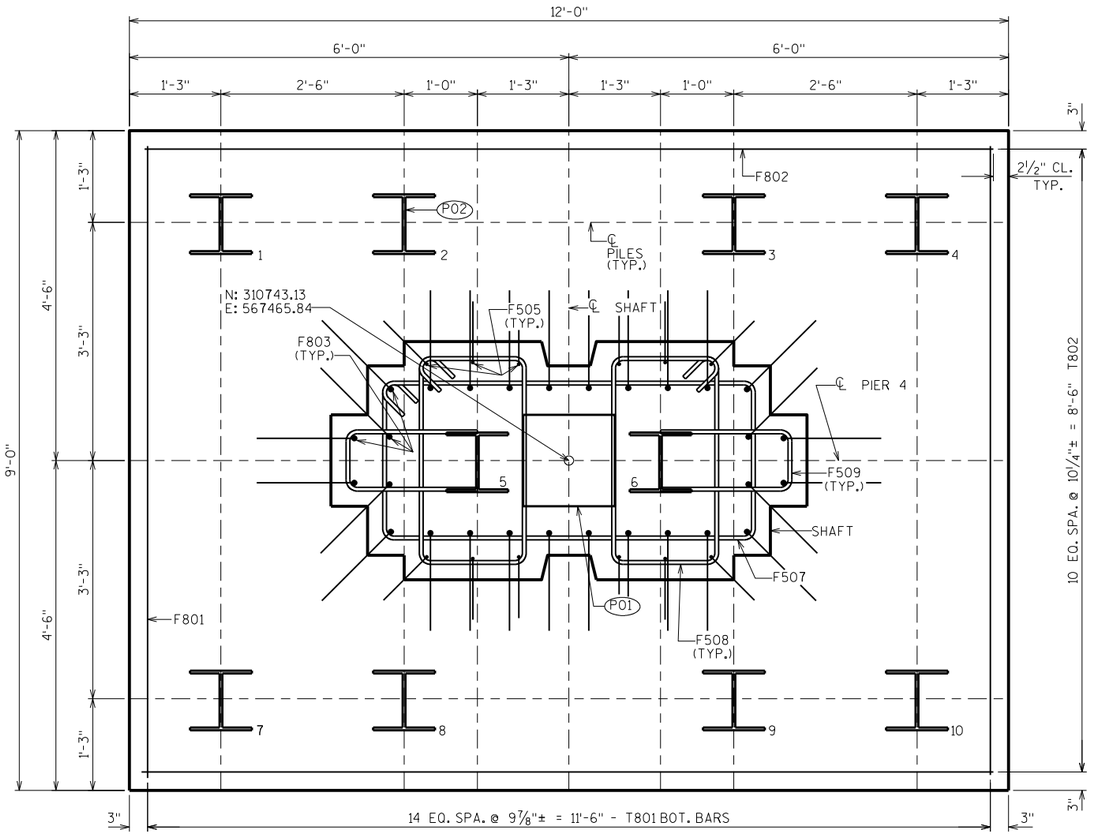
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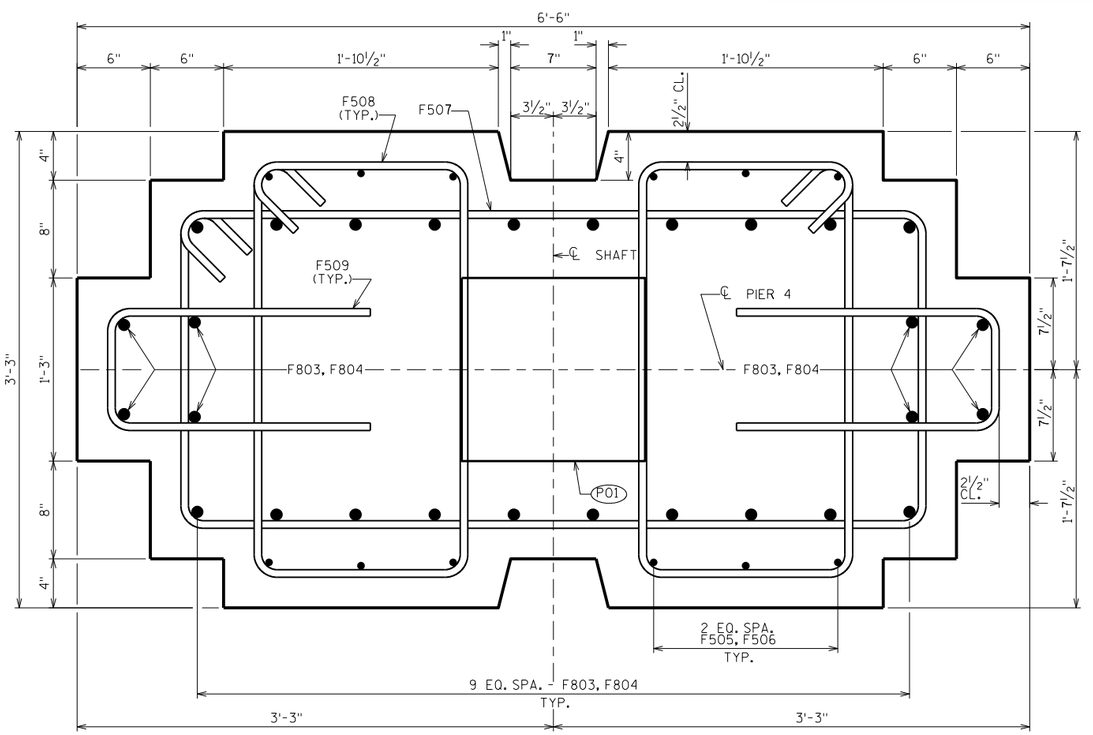
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STATE PROJECT NUMBER

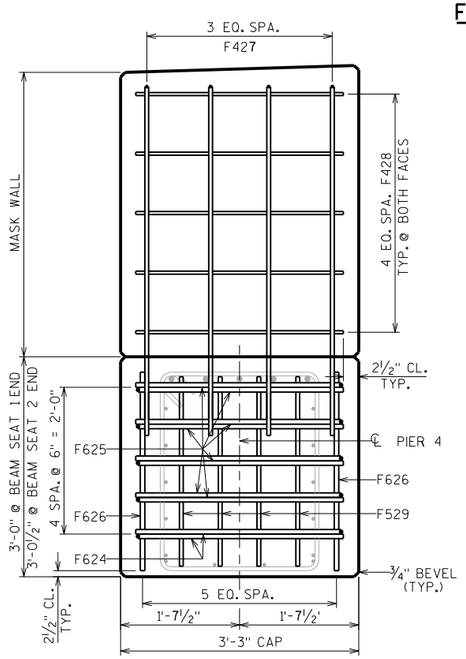
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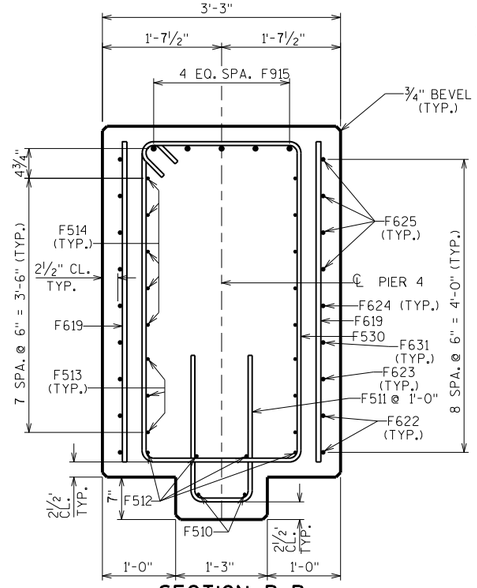
FOOTING/PILE PLAN



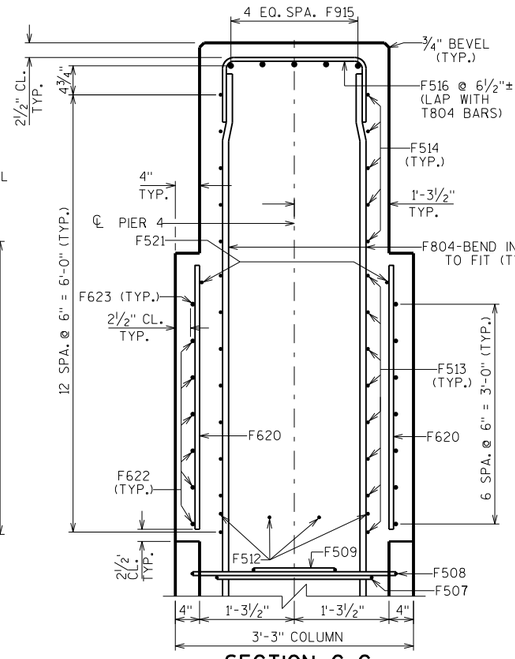
SECTION THRU COLUMN



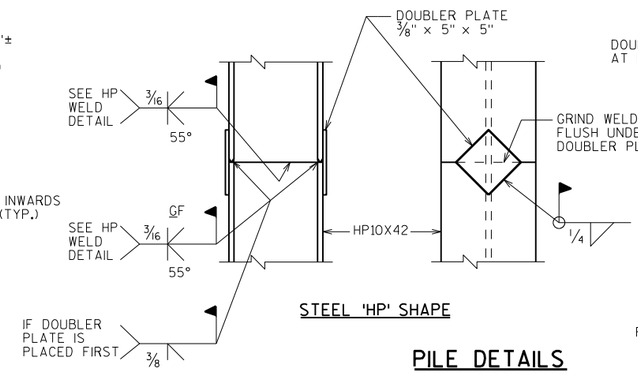
END VIEW - SECTION A-A



SECTION B-B



SECTION C-C



STEEL 'HP' SHAPE

HP WELD DETAIL
FLANGE SHOWN, WEB SIMILAR

PILE DETAILS

(P01) 1'-3" X 1'-3" X 2" CONSTRUCTION JOINT FORMED BY BEVELED KEYWAY.

(P02) SUPPORT PIER ON HP 10 x 42 STEEL PILING, ESTIMATED 40 FEET LONG WITH A REQUIRED DRIVING RESISTANCE OF 180 TONS PER PILE.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-40-881

DRAWN BY JPH | PLANS CK'D. NAR

PIER 4
DETAILS 2

SHEET 21

257

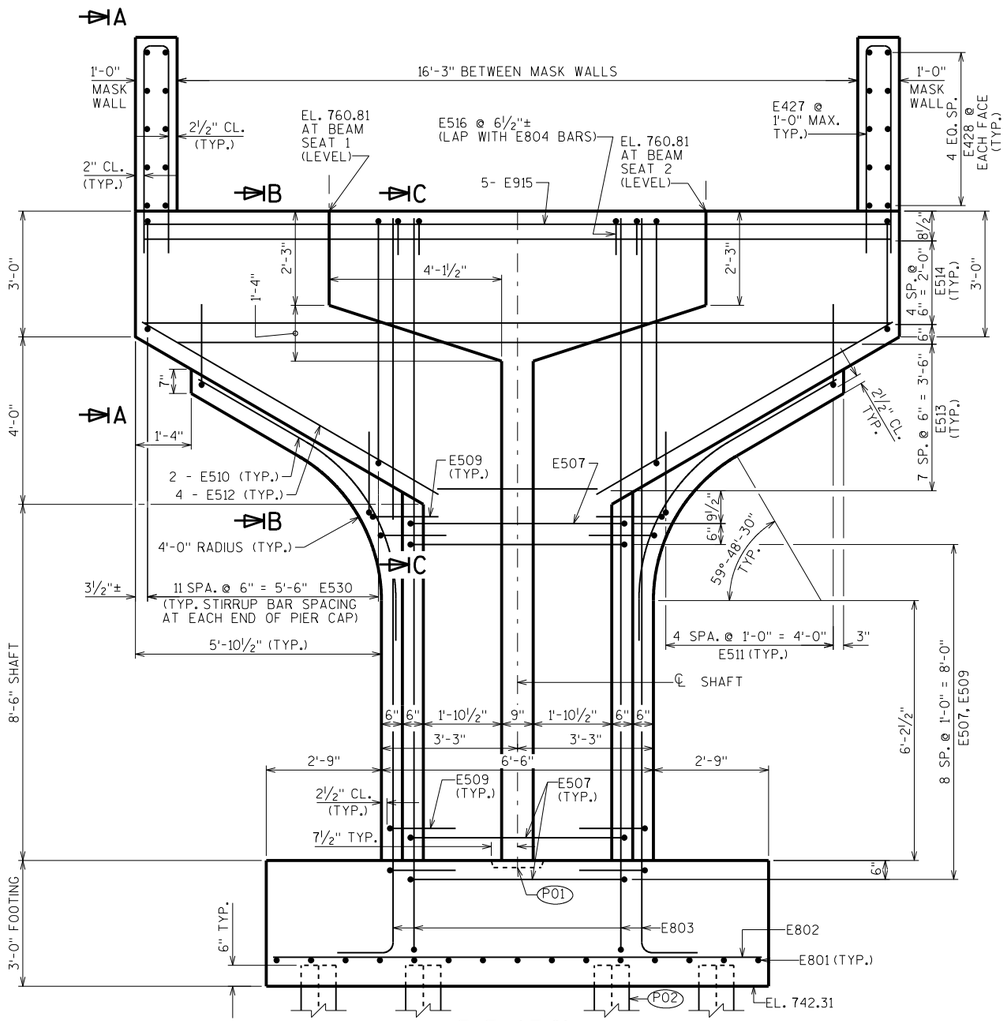
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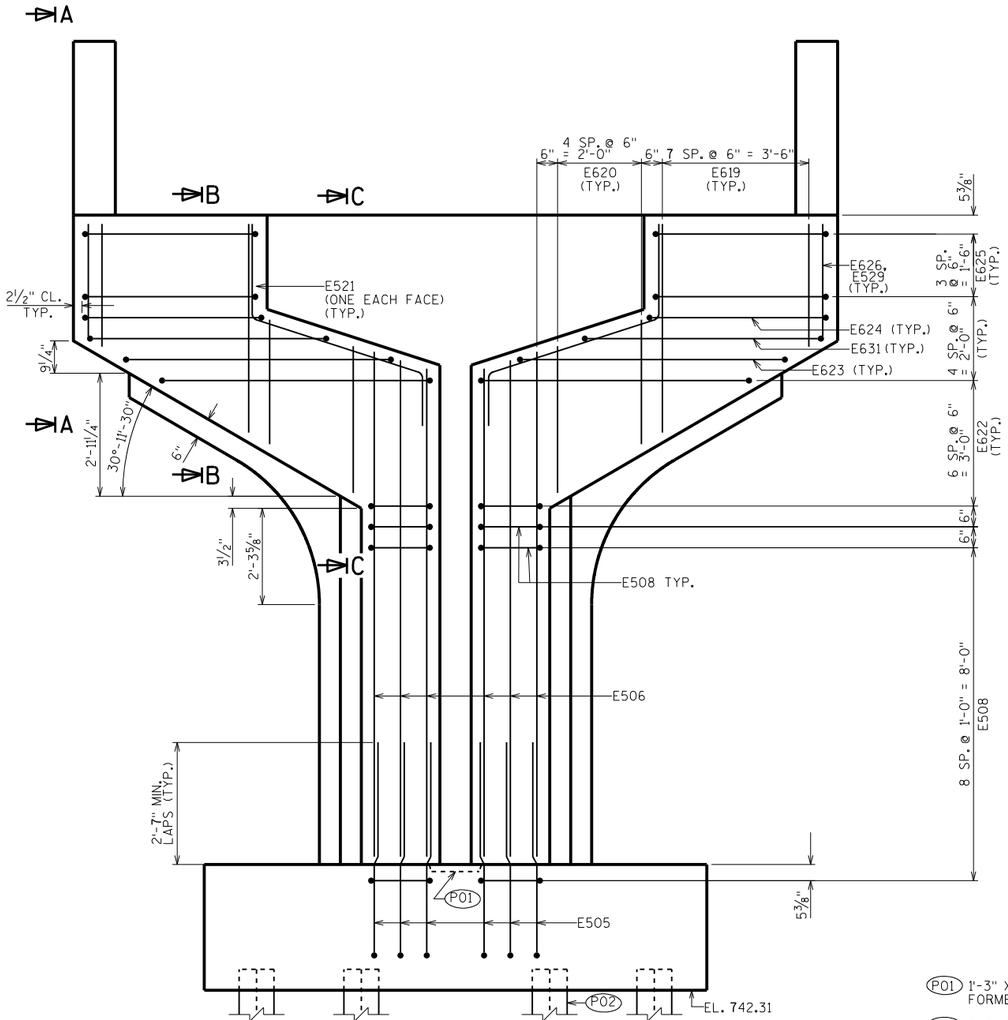
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STATE PROJECT NUMBER

1060-33-83



ELEVATION
WITH INSIDE COLUMN & CAP BARS SHOWN
(LOOKING SOUTH)



ELEVATION
WITH OUTSIDE COLUMN & CAP BARS SHOWN
(LOOKING SOUTH)

(P01) 1'-3" X 1'-3" X 2" CONSTRUCTION JOINT FORMED BY BEVELED KEYWAY.

(P02) SUPPORT PIER ON HP 10 x 42 STEEL PILING, ESTIMATED 45 FEET LONG WITH A REQUIRED DRIVING RESISTANCE OF 180 TONS PER PILE.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-40-881

DRAWN BY JPH | PLANS CK'D. NAR

PIER 5

SHEET 22

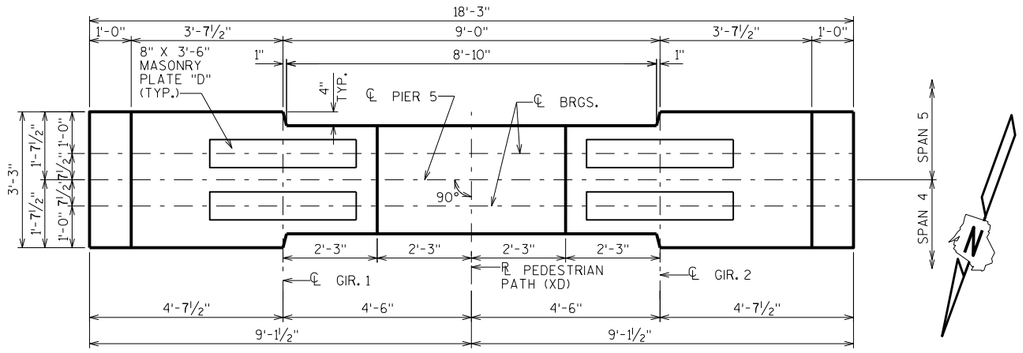
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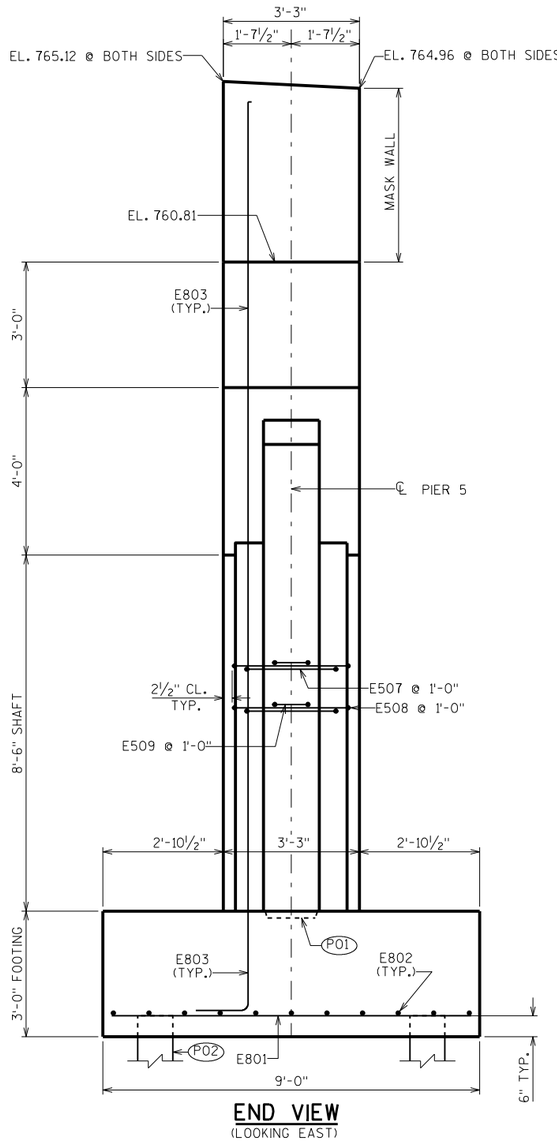
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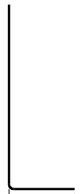
STATE PROJECT NUMBER
1060-33-83



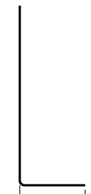
PLAN (TOP VIEW)



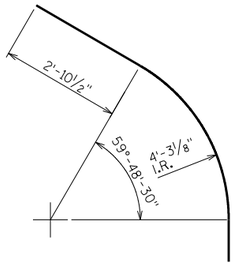
END VIEW
(LOOKING EAST)



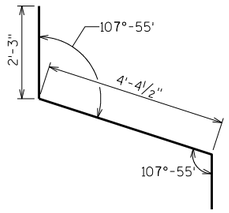
E803



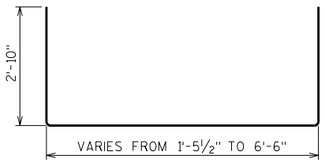
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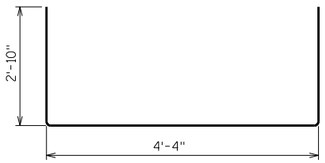
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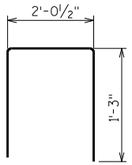
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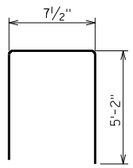
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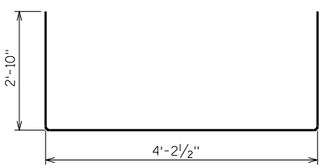
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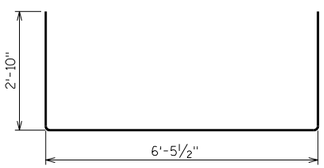
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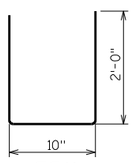
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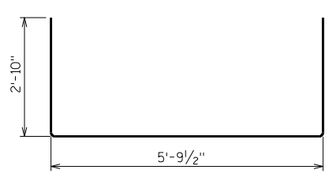
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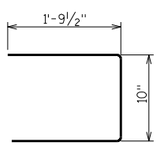
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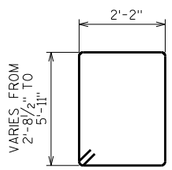
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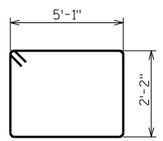
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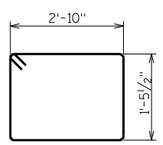
E509



E530



E507



E508

P01 1'-3" X 1'-3" X 2" CONSTRUCTION JOINT FORMED BY BEVELED KEYWAY.

P02 SUPPORT PIER ON HP 10 x 42 STEEL PILING, ESTIMATED 45 FEET LONG WITH A REQUIRED DRIVING RESISTANCE OF 180 TONS PER PILE.

BILL OF BARS

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E804		--	--			NOT USED
E505	X	12	5'-8"	X		FOOTING/SHAFT-VERT.-AT SIDE FACES
⚠ E506	X	12	12'-0"		X	SHAFT/CAP-VERT.-AT SIDE FACES
E507	X	10	15'-2"	X		FOOTING/SHAFT-HORIZ.-STIRRUPS
E508	X	20	9'-3"	X		FOOTING/SHAFT-HORIZ.-STIRRUPS
E509	X	20	4'-2"	X		FOOTING/SHAFT-HORIZ.-AT ENDS
E510	X	4	8'-10"	X		CAP/SHAFT-BOTTOM-VERT.
E511	X	10	4'-7"	X		CAP-BOTTOM-VERT.
E512	X	8	8'-0"			CAP-BOTTOM-VERT.
⚠ E513	X	16	10'-3"		X	CAP-BOTTOM-HORIZ.-BOTH FACES
E514	X	10	17'-7"			CAP-HORIZ.-BOTH FACES
E915	X	5	17'-7"			CAP-TOP-HORIZ.
E516	X	12	4'-4"	X		CAP-TOP-VERT.-ABOVE SHAFT
E517		--	--			NOT USED
E418		--	--			NOT USED
⚠ E619	X	32	3'-11"		X	CAP-VERT.-BOTH FACES-AT ENDS
⚠ E620	X	20	3'-3"		X	CAP-VERT.-BOTH FACES
E521	X	4	7'-9"	X		CAP-VERT.-BOTH FACES
⚠ E622	X	28	9'-4"	X	X	CAP-BOTTOM-HORIZ.-BOTH FACES-AT ENDS
E623	X	4	11'-9"	X		CAP-HORIZ.-BOTH FACES-AT ENDS
E624	X	4	9'-8"	X		CAP-HORIZ.-BOTH FACES-AT ENDS
E625	X	16	9'-6"	X		CAP-TOP-HORIZ.-BOTH FACES-AT ENDS
E626	X	4	2'-9"			CAP-VERT.-BOTH FACES-AT ENDS
E427	X	8	10'-10"	X		CAP/MASK WALL-VERT.
E428	X	20	2'-10"			MASK WALL-HORIZ.-BOTH FACES
E529	X	8	2'-7"			CAP-VERT.-AT ENDS
⚠ E530	X	24	13'-8"	X	X	CAP-VERT.-STIRRUPS-AT ENDS
E631	X	4	11'-1"	X		CAP-HORIZ.-BOTH FACES-AT ENDS

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

BAR SERIES TABLE

MARK	NO. REQD.	TOTAL BAR LENGTH
E506	4 SERIES OF 3 BARS	11'-10" TO 12'-2"
E513	2 SERIES OF 8 BARS	4'-3" TO 16'-3"
E619	4 SERIES OF 8 BARS	2'-11" TO 4'-11"
E620	4 SERIES OF 5 BARS	3'-0" TO 3'-6"
E622	4 SERIES OF 7 BARS	6'-10" TO 11'-10"
E530	2 SERIES OF 12 BARS	10'-5" TO 16'-10"

BUNDLE AND TAG EACH SERIES SEPARATELY.

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STRUCTURE B-40-881

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PIER 5
DETAILS 1

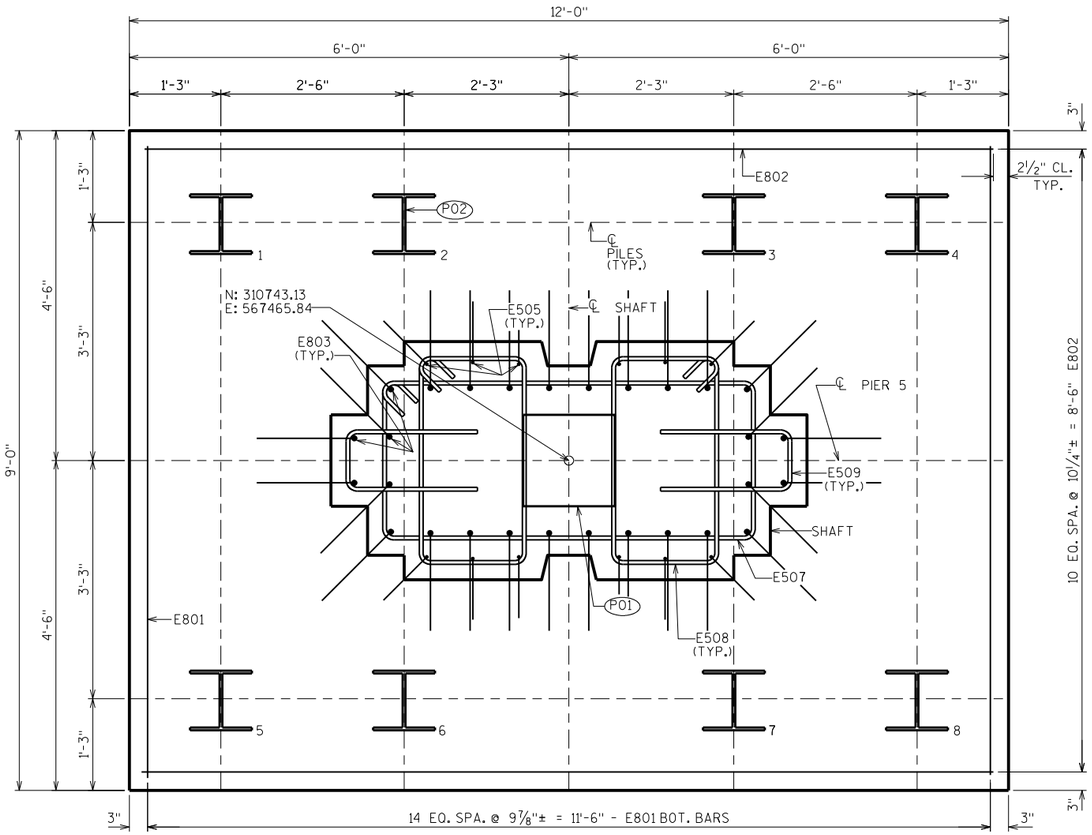
SHEET 23

259

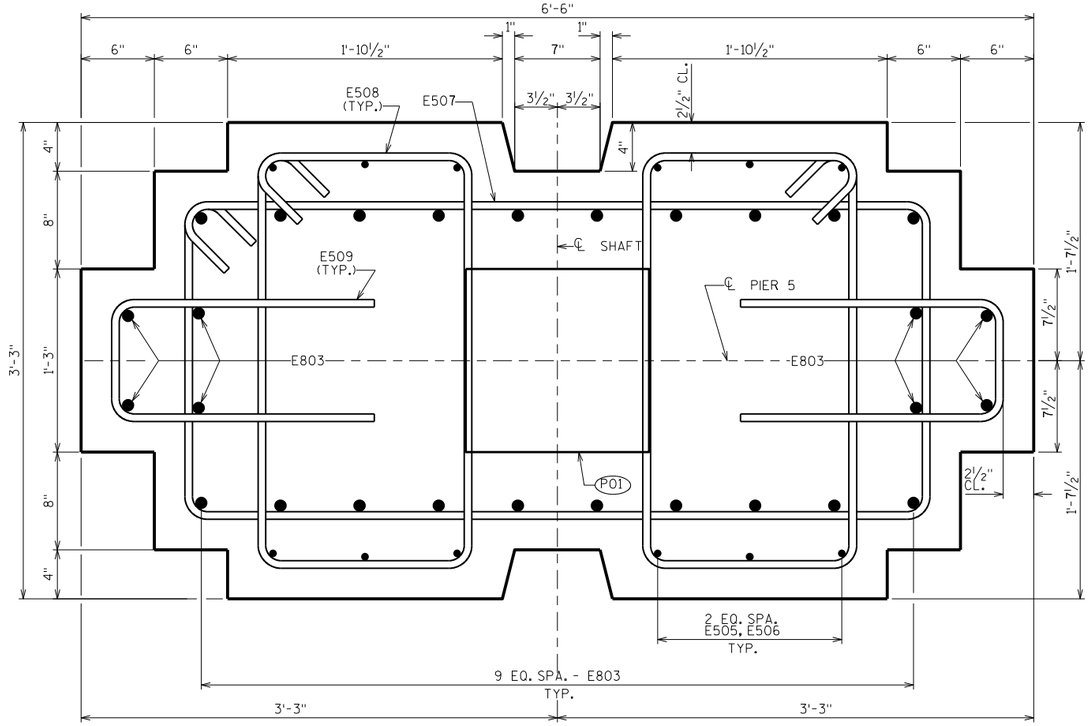
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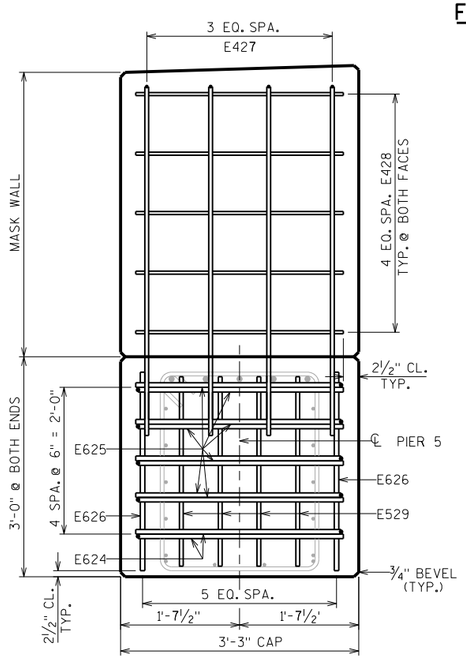
1060-33-83



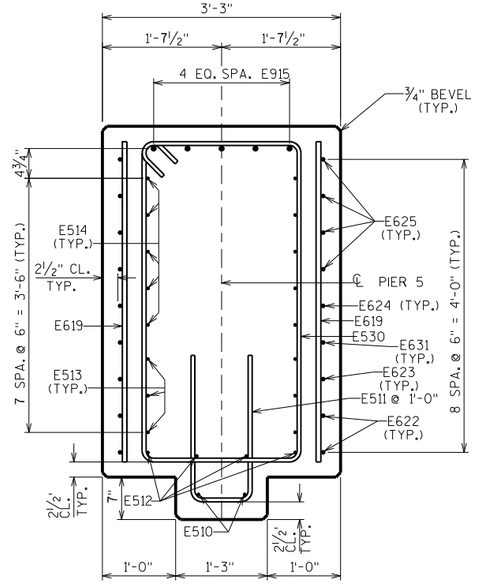
FOOTING/PILE PLAN



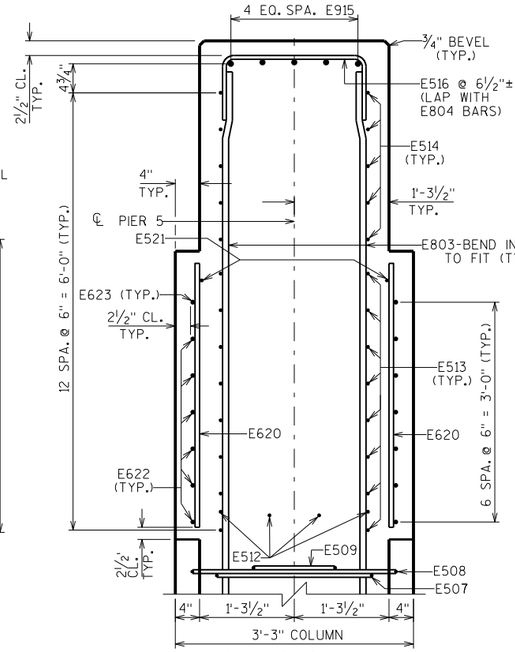
SECTION THRU COLUMN



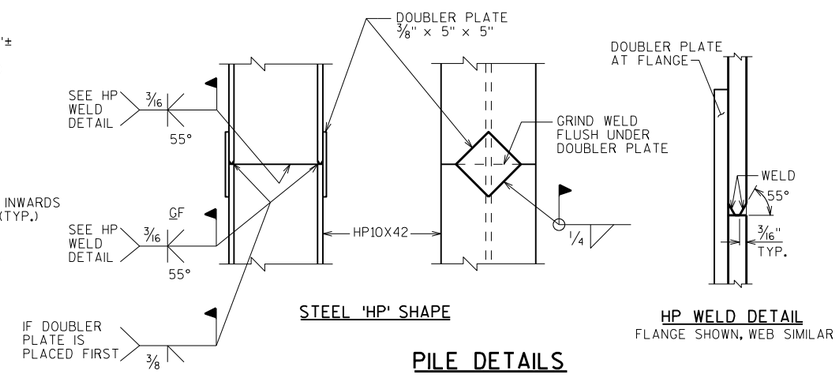
END VIEW - SECTION A-A



SECTION B-B



SECTION C-C



STEEL 'HP' SHAPE

HP WELD DETAIL
FLANGE SHOWN, WEB SIMILAR

PILE DETAILS

(P01) 1'-3" X 1'-3" X 2" CONSTRUCTION JOINT FORMED BY BEVELED KEYWAY.

(P02) SUPPORT PIER ON HP 10 x 42 STEEL PILING, ESTIMATED 45 FEET LONG WITH A REQUIRED DRIVING RESISTANCE OF 180 TONS PER PILE.

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PIER 5
DETAILS 2

SHEET 24

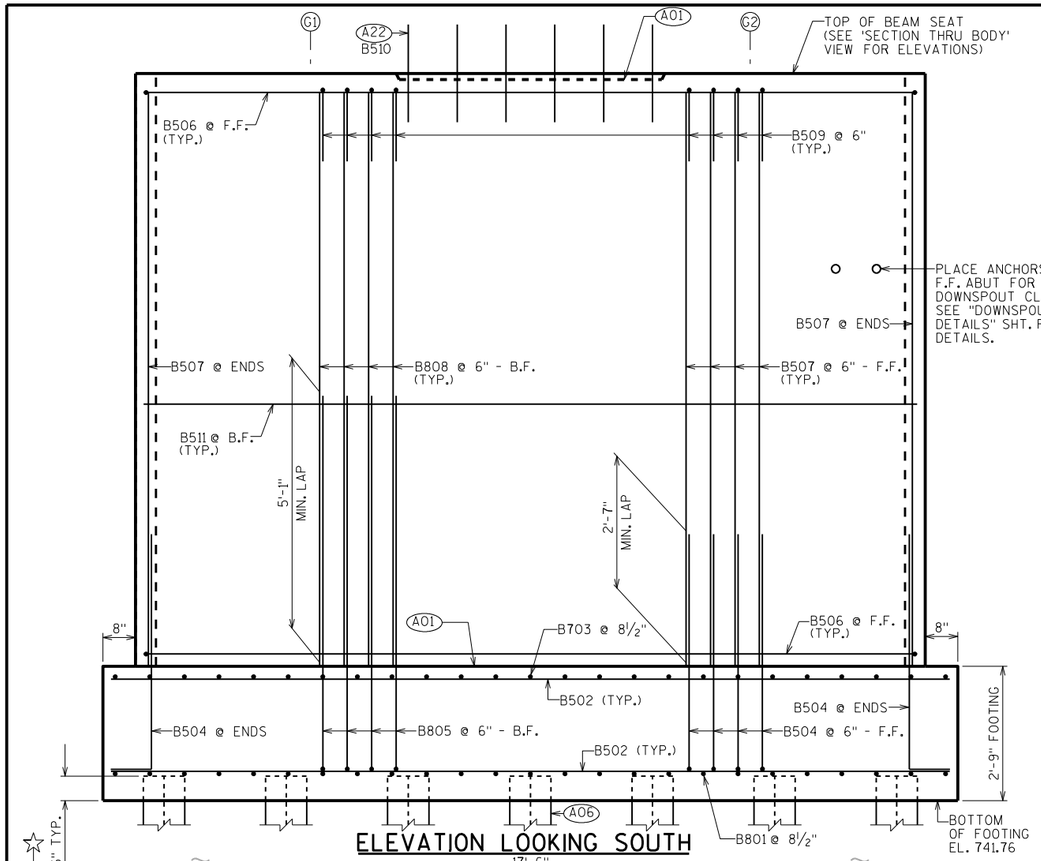
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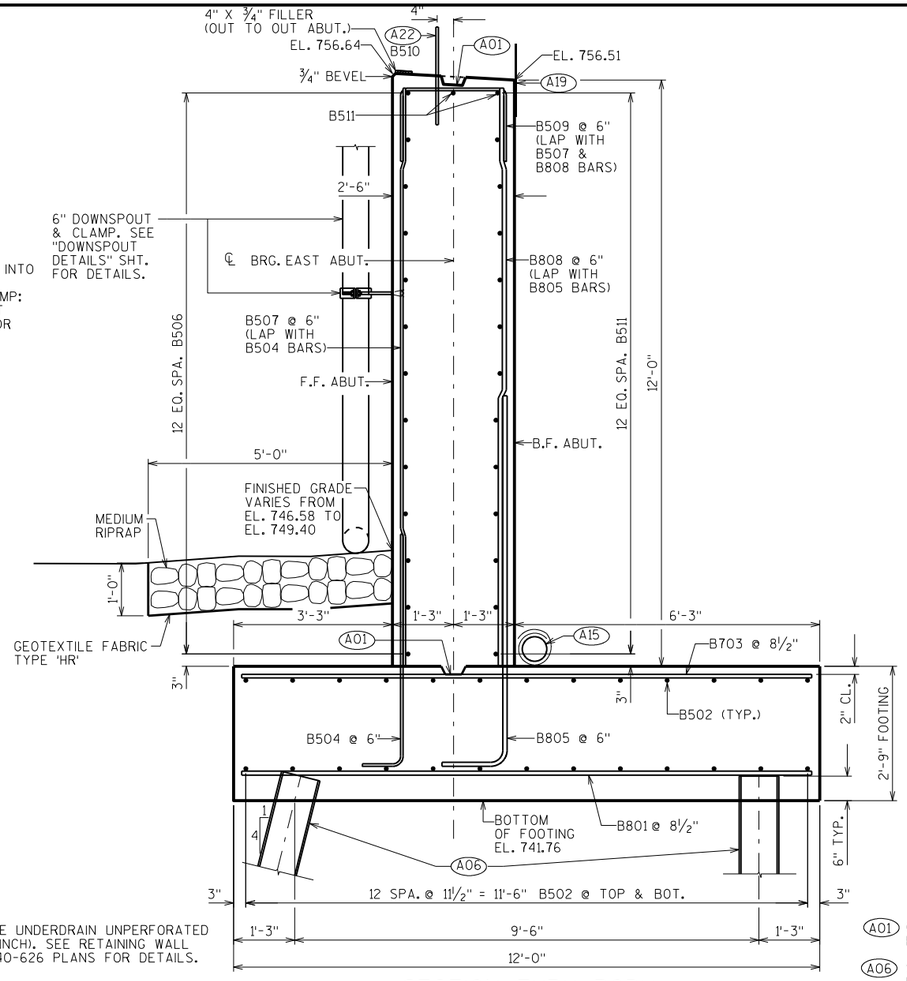
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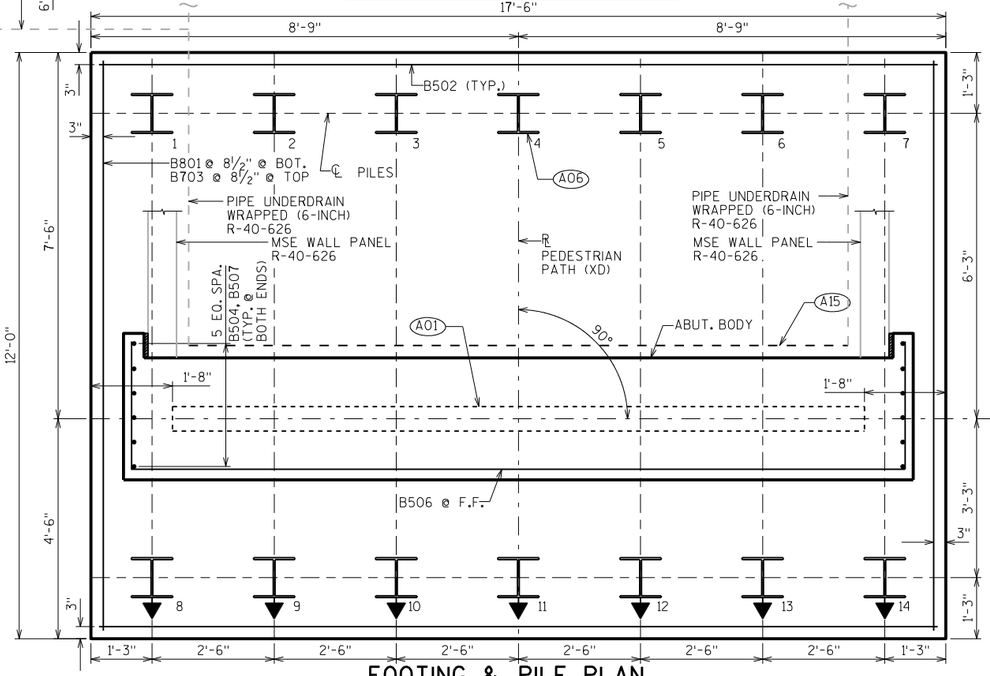
STATE PROJECT NUMBER
1060-33-83



ELEVATION LOOKING SOUTH

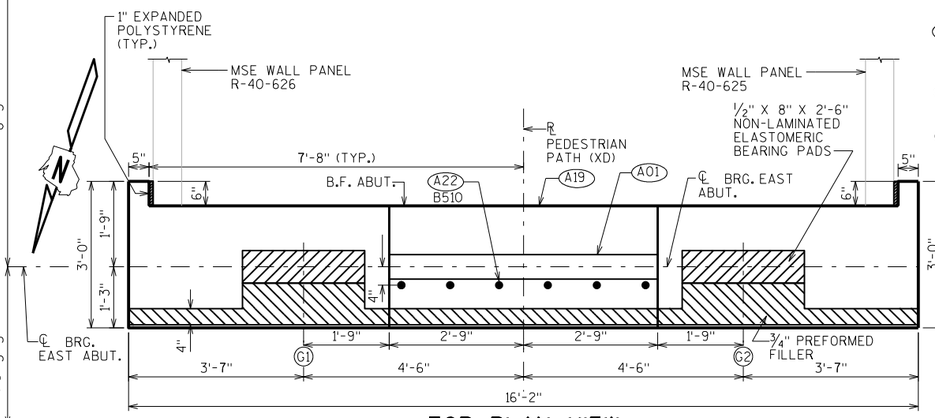


SECTION THRU BODY



FOOTING & PILE PLAN

☆ PIPE UNDERDRAIN UNPERFORATED (6-INCH). SEE RETAINING WALL R-40-626 PLANS FOR DETAILS.



TOP PLAN VIEW

INDICATES PILE BATTERED 1:4 IN DIRECTION SHOWN

(A01) CONSTRUCTION JOINT: KEYWAY FORMED BY A BEVELED 2" X 6".

(A06) SUPPORT ABUTMENT ON HP 10 X 42 STEEL PILING. ESTIMATED 45'-0" LONG WITH A REQUIRED DRIVING RESISTANCE OF 180 TONS PER PILE.

(A15) PIPE UNDERDRAIN WRAPPED (6-INCH). SLOPE 0.5% MIN. CONNECT TO RETAINING WALL PIPE UNDERDRAIN AS SHOWN.

(A19) 18" (RMW) RUBBERIZED MEMBRANE WATERPROOFING SEAL ALL HORIZ. & VERT. JOINTS AT BACKFACE.

(A22) B510 BARS @ 1'-0" CTRS. BETWEEN BEAM SEATS. MAY BE PLACED AFTER CONCRETE IS POURED BUT BEFORE INITIAL SET HAS TAKEN PLACE. (EMBED 1'-0" INTO CONC.)

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STRUCTURE B-40-881

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EAST ABUTMENT

SHEET 25

261

SCALE = 1.5

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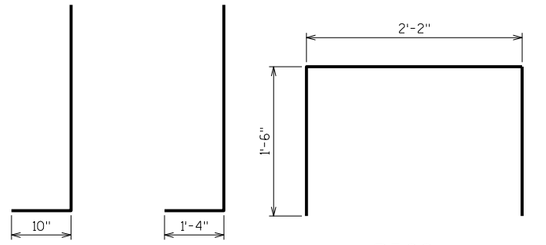
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BILL OF BARS

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

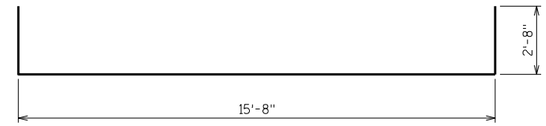
BAR MARK	COAT	NO. REQ'D.	LENGTH	BENT	BAR SERIES	LOCATION
B801		25	11'-8"			FOOTING-BOT.-HORIZ.-TRANS.
B502		26	17'-2"			FOOTING-TOP & BOT.-HORIZ.-LONGIT.
B703		25	11'-8"			FOOTING-TOP-HORIZ.-TRANS.
B504	X	44	5'-5"	X		FOOTING/BODY-F.F.-VERT.-TRANS.
B805	X	33	8'-5"	X		FOOTING/BODY-B.F.-VERT.-TRANS.
B506	X	13	20'-9"	X		BODY-F.F.-HORIZ.-LONGIT.
B507	X	44	11'-10"			BODY-F.F.-VERT.-TRANS.
B808	X	33	11'-10"			BODY-B.F.-VERT.-TRANS.
B509	X	33	4'-11"	X		BODY-TOP-VERT.-TRANS.
B510	X	6	2'-0"			BODY-TOP-VERT.-TRANS.-DOWEL BARS
B511	X	13	15'-8"			BODY-B.F.-HORIZ.-LONGIT.



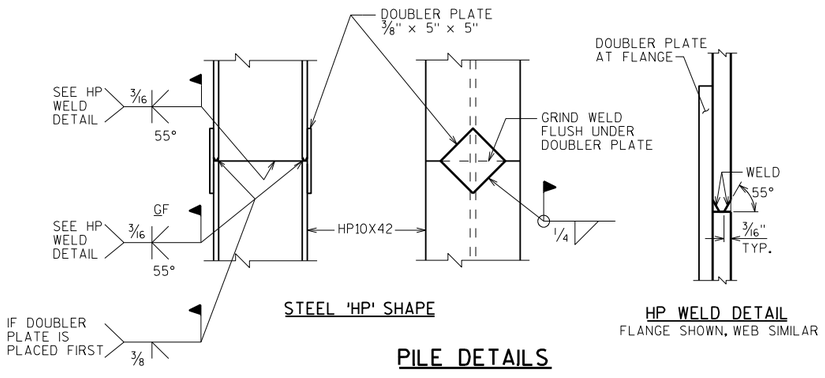
B504

B805

B509



B506



STEEL 'HP' SHAPE

HP WELD DETAIL
FLANGE SHOWN, WEB SIMILAR

PILE DETAILS

8

8

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STRUCTURE B-40-881

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EAST ABUTMENT DETAILS

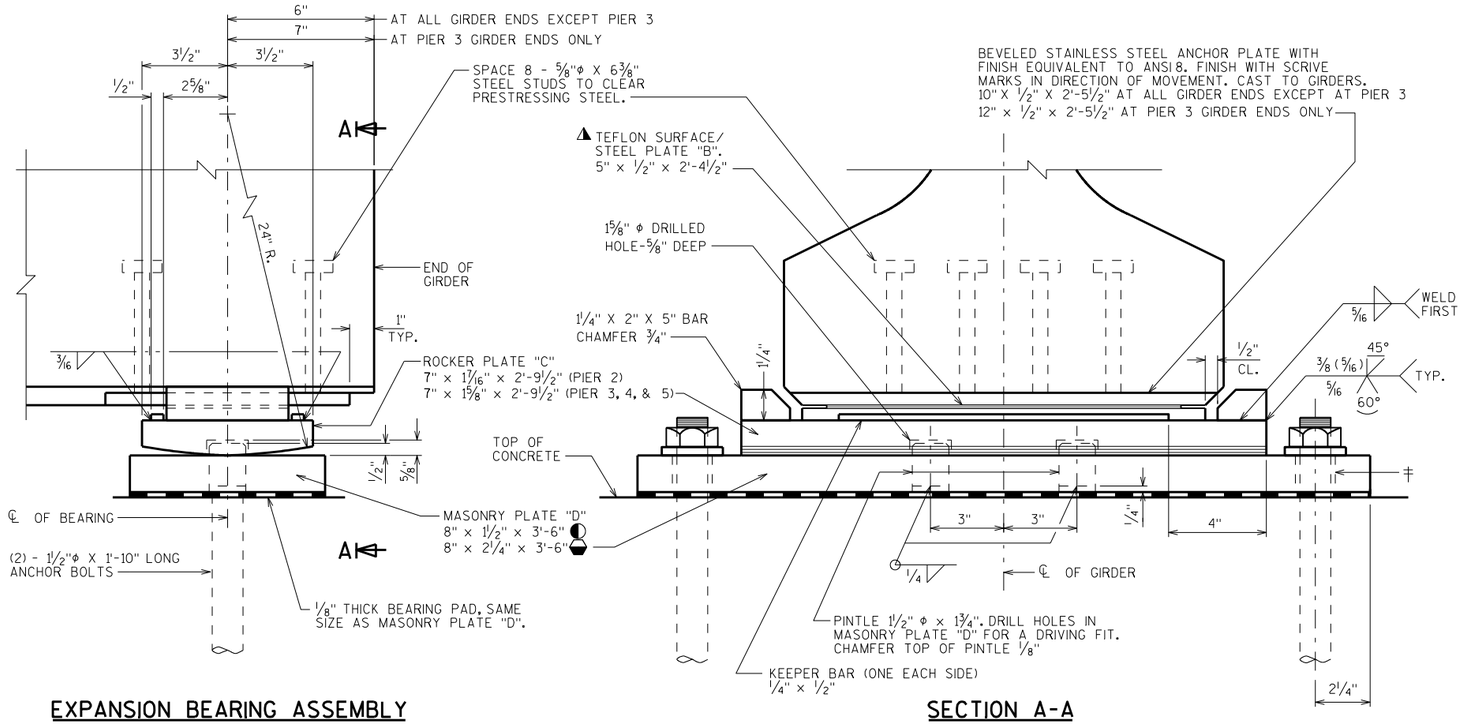
SHEET 26

262

SCALE = 0.75

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EXPANSION BEARING ASSEMBLY

SECTION A-A

BEARING NOTES

ALL BEARINGS ARE SYMMETRICAL ABOUT ℄ OF GIRDER AND ℄ OF BEARING, WITH THE EXCEPTION OF BEVELED ROCKER PLACE "C".

ALL MATERIAL IN BEARINGS, BUT EXCLUDING STAINLESS STEEL PLATE, TEFLON SURFACE, PINTLES, ANCHOR BOLTS, NUTS AND WASHERS SHALL CONFORM TO ASTM A709 GRADE 50W.

STAINLESS STEEL PLATE SHALL CONFORM TO ASTM A240, TYPE 304.

STEEL PINTLES SHALL CONFORM TO ASTM A449 OR MATERIAL OF EQUIVALENT YIELD STRENGTH AND ELONGATION.

ANCHOR BOLTS, NUTS AND WASHERS SHALL CONFORM TO ASTM A709 GRADE 36, OR MATERIAL OF EQUIVALENT YIELD STRENGTH AND ELONGATION.

ALL STRUCTURAL STEEL BEARING PLATES SHALL BE FLAT ROLLED STEEL PLATES WITH ALL SURFACES SMOOTH AND FREE FROM WARP AND ALL EDGES SMOOTH, STRAIGHT, AND VERTICAL.

ALL PLATE CUTS SHALL BE MACHINE OR MACHINE FLAME CUTS.

ALL FINISHED SURFACES SHALL BE MACHINE FINISHED BY AN AUTOMATIC PROCESS.

ANCHOR BOLTS SHALL BE THREADED 3". PROVIDE ONE STANDARD WROUGHT WASHER AND ONE HEX NUT PER BOLT. PROJECT ANCHOR BOLTS, MASONRY PLATE "D" THICKNESS + 2¼", ABOVE TOP OF CONCRETE.

CHAMFER ANCHOR BOLTS PRIOR TO THREADING.

MASONRY PLATE "D", ROCKER PLATE "C", ANCHOR BOLTS, NUTS AND WASHERS SHALL BE GALVANIZED IN ACCORDANCE WITH ASTM A153, CLASS "C". STEEL PLATE "B" SHALL BE SHOP PAINTED. DO NOT PAINT TEFLON SURFACE.

ALL MATERIAL IN "STEEL BEARINGS FOR PRESTRESSED CONCRETE GIRDERS", INCLUDING BEARING PADS, SHALL BE PAID FOR AT THE UNIT PRICE BID FOR "BEARING ASSEMBLIES EXPANSION B-40-881", EACH.

‡ DRILLED HOLES FOR ANCHOR BOLTS IN MASONRY PLATE "D" SHALL HAVE A DIAMETER ⅜" LARGER THAN ANCHOR BOLT.

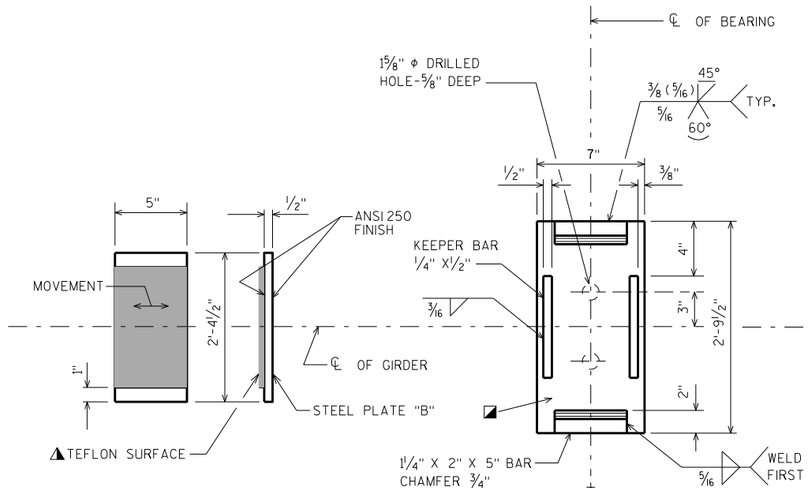
▲ TEFLON SURFACE, USE UNFILLED WITH MINIMUM 1/16" THICKNESS. PLACE WITH SCRIVE MARKS IN DIRECTION OF MOVEMENT. BOND STEEL PLATE "B" AND TEFLON WITH ADHESIVE MATERIAL MEETING FEDERAL SPECIFICATION MMM-A-134, FEP FILM OR EQUAL.

◪ PROVIDE A METHOD FOR HANDLING ROCKER PLATE "C" DURING GALVANIZING.

AT INSTALLATION, ENSURE STAINLESS STEEL SLIDING FACE OF THE UPPER ELEMENT AND THE TFE SLIDING FACE OF THE LOWER ELEMENT HAVE THE SURFACE FINISH SPECIFIED AND ARE CLEAN AND FREE OF ALL DUST, MOISTURE, AND OTHER FOREIGN MATTER.

◐ USE AT PIER 2, 3, & UPSTATION SIDE OF PIERS 4 & 5.

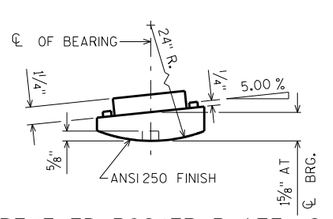
◒ USE AT DOWNSTATION SIDE OF PIERS 4 & 5. SEE "ALTERNATE MASONRY PLATE "D" DETAIL" FOR MULTIPLE MASONRY PLATE OPTION.



TEFLON SURFACE ON PLATE "B"

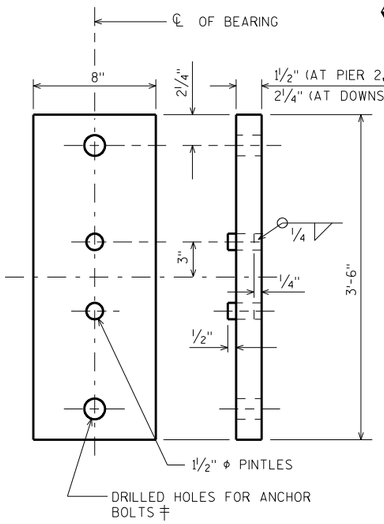
ROCKER PLATE "C"

(NON-BEVELED ROCKER PLATE AT PIER 2 ONLY)

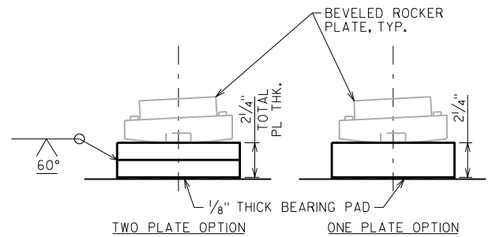


BEVELED ROCKER PLATE "C"

(TYPICAL AT PIERS 3, 4, & 5)



MASONRY PLATE "D"



ALTERNATE MASONRY PLATE "D" DETAIL

EXPANSION BEARING

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STRUCTURE B-40-881

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PRESTRESSED GIRDER STEEL BEARINGS

SHEET 27

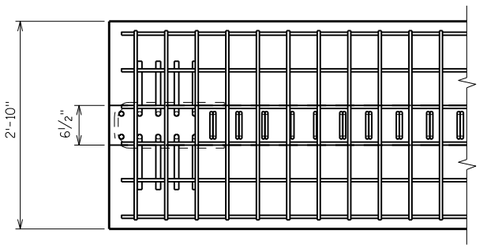
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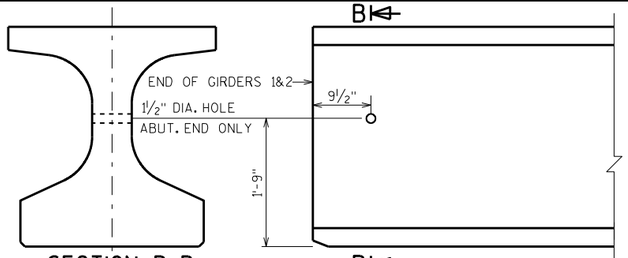
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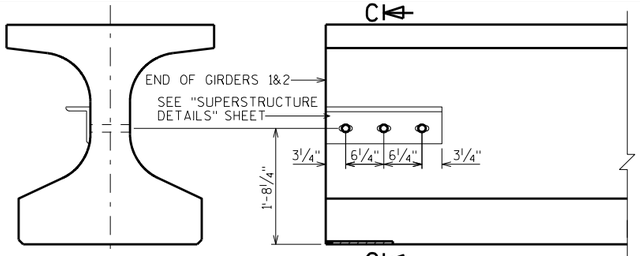
STATE PROJECT NUMBER
1060-33-83



TOP FLANGE



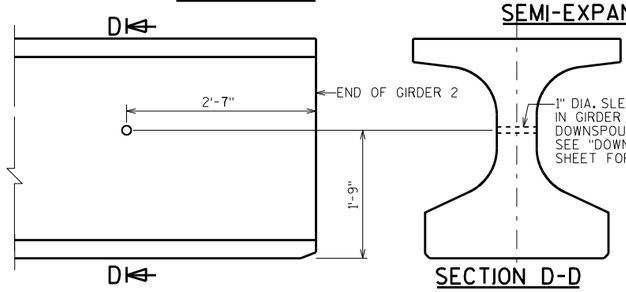
SECTION B-B



SECTION C-C

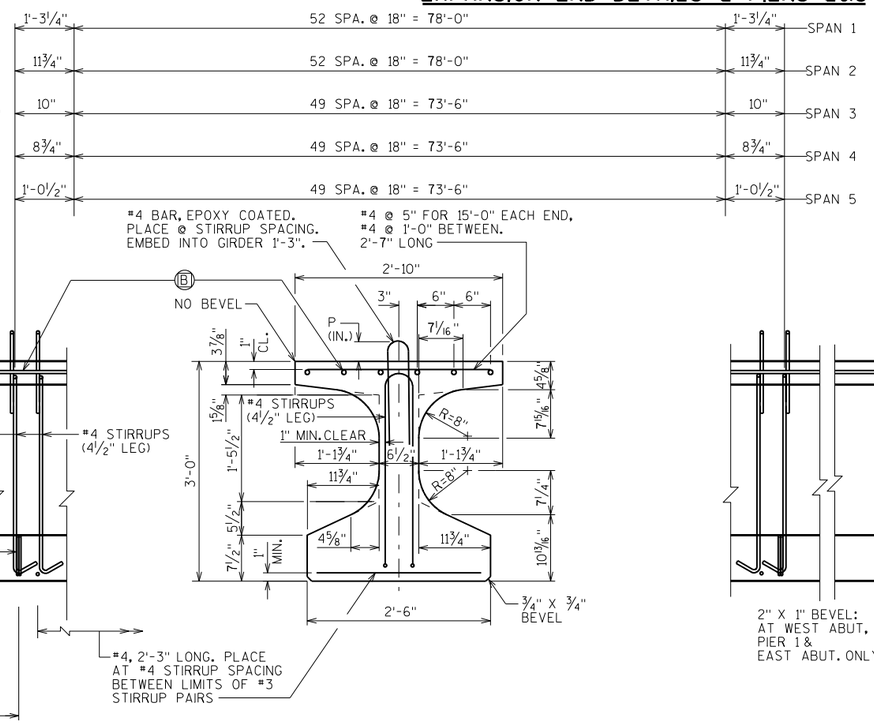
SEMI-EXPANSION END DETAILS @ WEST ABUT.

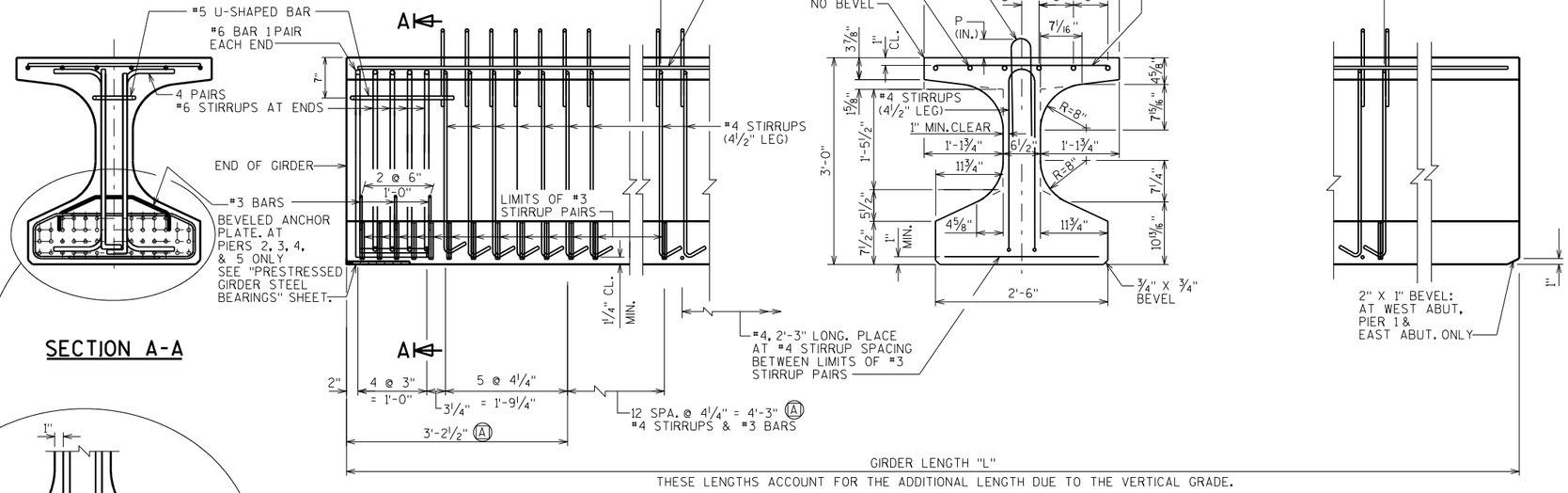
EXPANSION END DETAILS @ PIERS 2&3

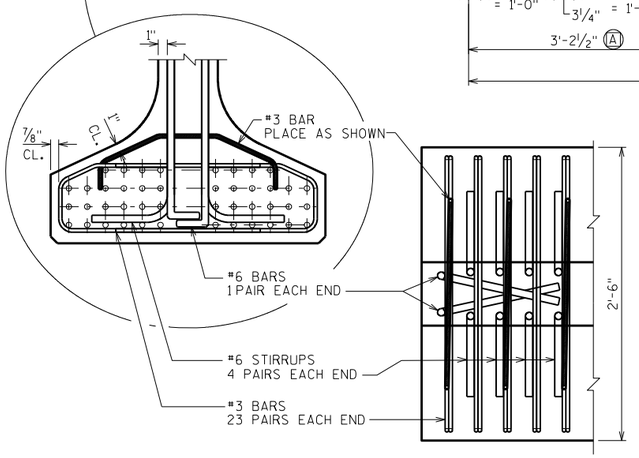


SECTION D-D

FIXED END DETAILS @ EAST ABUT. (GIR. 2 ONLY)





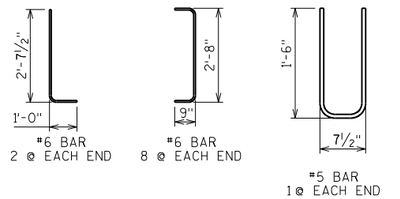


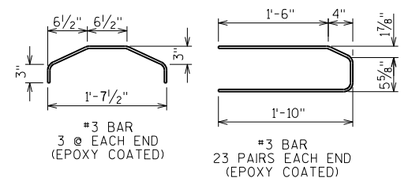
BOTTOM FLANGE

SIDE VIEW & TYPICAL SECTION IN SPAN

(A) DETAIL TYP. AT EACH END

(B) 6 #4 BARS, FULL LENGTH, WITH 1'-11" MIN. LAPS





NOTES

TOP OF GIRDER TO BE ROUGH FLOATED AND BROOMED TRANSVERSELY, EXCEPT THE THE OUTSIDE 8" OF GIRDER, WHICH SHALL RECEIVE A SMOOTH FINISH. AN APPROVED CONCRETE SEALER SHALL BE APPLIED TO ALL SMOOTH SURFACES INCLUDING THE OUTSIDE 8" OF THE TOP FLANGE.

DO NOT APPLY CONCRETE SEALER TO SURFACES RECEIVING APPLICATION OF CONCRETE STAINING.

THE GIRDERS SHALL BE PROVIDED WITH A SUITABLE LIFTING DEVICE FOR HANDLING AND ERECTING THE GIRDERS.

STRANDS SHALL BE FLUSH WITH END OF GIRDER. FOR GIRDER ENDS EMBEDDED COMPLETELY IN CONCRETE, END OF STRANDS SHALL BE COATED WITH NON-BITUMINOUS JOINT SEALER. FOR GIRDER ENDS THAT ARE FINALLY EXPOSED, COAT THE GIRDER ENDS, EXPOSED STRAND ENDS AND ALL NON-BONDING SURFACES WITHIN 2 FEET OF THE GIRDER ENDS WITH A NON-PIGMENTED EPOXY CONFORMING TO AASHTO M-235 TYPE III, GRADE 2, CLASS B OR C. THE EPOXY SHALL BE APPLIED AT LEAST 3 DAYS AFTER MOIST CURING HAS CEASED AND PRIOR TO THE APPLICATION OF THE SEALER.

ALL GIRDERS SHALL BE CAST FULL LENGTH AS SHOWN.

SPACING SHOWN FOR #4 STIRRUPS IS FOR GRADE 60 REINFORCEMENT.

AN ALTERNATE EQUIVALENT OF WELDED WIRE FABRIC (WWF) ASTM A497 MAY BE SUBSTITUTED FOR THE STIRRUP REINFORCEMENT SHOWN, UPON APPROVAL OF THE STRUCTURES DEVELOPMENT SECTION.

PRESTRESSING STRANDS SHALL BE (0.6" DIA.)-7 WIRE LOW-RELAXATION STRANDS WITH AN ULTIMATE STRENGTH OF 270,000 PSI.

FOR DIAPHRAGM INSERT & CONNECTION DETAILS SEE "STEEL DIAPHRAGM" SHEET.

✳ MINIMUM CYLINDER STRENGTH OF CONCRETE @ TIME OF TRANSFER OF PRESTRESS FORCE.

GIRDER DATA

SPAN	GIRDER	GIRDER LENGTH "L"	DEAD LOAD DEFL. (IN.) 1/10	2/10	3/10	4/10	5/10	6/10	7/10	8/10	9/10	CONC. STRGTH. f'c (p.s.i.)	"P" 1ST 1/3 OF GIRDER	"P" MID 1/3 OF GIRDER	"P" END 1/3 OF GIRDER	DIA. OF STRAND (IN.)	DRAPED PATTERN TOTAL NO. OF STRANDS	f'ci (P.S.I.) ✳	(IN.) "A"	"B" MIN.	"B" MAX.	"C"	UNDRAPED PATTERN TOTAL NO. OF STRANDS	f'ci (P.S.I.) ✳
1	1-2	95'-5½"	1.0	1.8	2.5	2.9	3.0	2.8	2.4	1.7	0.9	8000	7"	8"	7"	0.6	36	6500	31	11.5	14.5	5		
2	1-2	94'-10½"	0.9	1.7	2.4	2.8	3.0	2.9	2.5	1.8	1.0	8000	7"	8"	7"	0.6	36	6500	31	11.5	14.5	5		
3	1-2	90'-1"	0.8	1.5	2.0	2.4	2.5	2.3	2.0	1.4	0.7	8000	8"	7"	7.5"	0.6	28	6400	32	11	14	4		
4	1-2	89'-10½"	0.7	1.3	1.8	2.2	2.3	2.2	1.8	1.3	0.7	8000	7.5"	7"	7"	0.6	24	6400	32	11	14	4		
5	1-2	90'-6"	0.8	1.4	2.0	2.3	2.5	2.4	2.0	1.5	0.8	8000	7"	7"	7.5"	0.6	28	6400	32	11	14	4		

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-40-881

DRAWN BY JPH | PLANS CK'D. NAR

36W" PRESTRESSED GIRDER DETAILS 1

SHEET 28

264

SCALE = 1.0

8

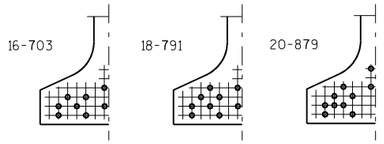
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9

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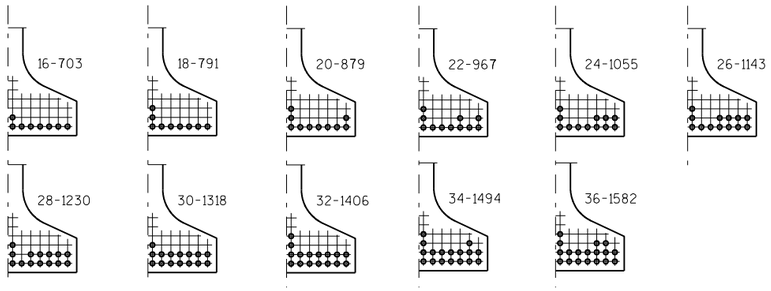
STATE PROJECT NUMBER

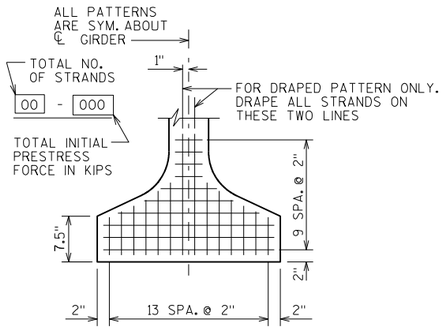
1060-33-83



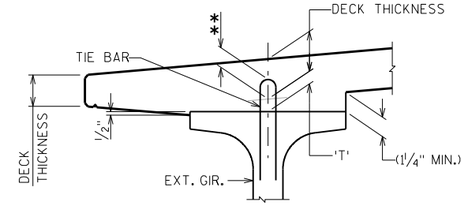
STANDARD ARRANGEMENTS TO RAISE CENTER OF GRAVITY TO AVOID DRAPING OF STRANDS

0.6"Φ STRANDS





TYP. STRAND PATTERN



DECK HAUNCH DETAIL

IF 1¼" MINIMUM HAUNCH HEIGHT AT EDGE OF GIRDER CANNOT BE MAINTAINED, THE GRADE LINE MAY BE REVISED BY THE ENGINEER AT THE OPTION OF THE CONTRACTOR, THE PLAN DECK THICKNESS SHALL BE HELD. NOTIFY THE STRUCTURES SECTION IF THE GRADE LINE IS RAISED FROM THE PLAN PROFILE BY MORE THAN ½" OR,

** IF 3" MINIMUM DECK EMBEDMENT OF TIE BAR CANNOT BE OBTAINED.

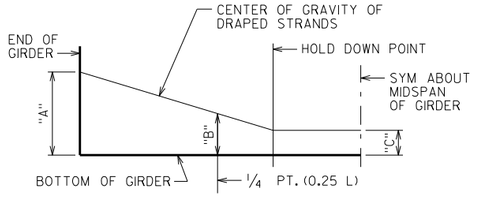
TO DETERMINE 'T', ELEV. OF TOP OF GIR'S. AT ℄ OF SUBSTRUCTURE UNITS & AT 1/10 POINTS OF EACH SPAN SHALL BE TAKEN. THEN FOLLOW THIS PROCESS:

TOP OF DECK ELEV. AT FINAL GRADE
- TOP OF GIRDER ELEVATION
+ DEAD LOAD DEFLECTION
- DECK THICKNESS
= HAUNCH HEIGHT 'T'

NOTE:
AN AVERAGE HAUNCH ('T') OF 3" WAS USED FOR COMPUTING THE SUPERSTRUCTURE QUANTITY "CONCRETE MASONRY BRIDGES".

ARRANGEMENT AT ℄ SPAN - FOR GIRDERS WITH DRAPED STRANDS

0.6"Φ STRANDS



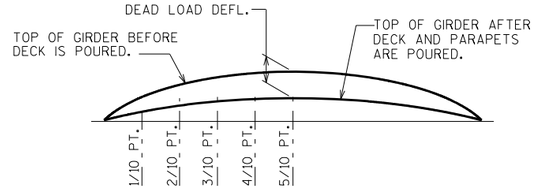
DRAPED STRAND PROFILE

*THE THEORETICAL INITIAL CAMBER VALUE AT THE TIME OF STRAND RELEASE AT MIDSPAN MULTIPLIED BY A FACTOR OF 1.4 TO ACCOUNT FOR CAMBER GROWTH FROM THE TIME OF STRAND RELEASE TO JOBSITE PLACEMENT.

SPAN	CAMBER (IN.) *
1	4.47
2	4.47
3	3.15
4	2.38
5	3.15

THESE VALUES ARE NOT TO BE USED IN DETERMINING 'T', USE ACTUAL GIRDER SHOTS.

THESE VALUES ARE FOR INFORMATIONAL PURPOSES ONLY.



DEAD LOAD DEFLECTION DIAGRAM

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-40-881

DRAWN BY JPH | PLANS CK'D. NAR

36W" PRESTRESSED GIRDER DETAILS 2

SHEET 29

265

SCALE = 1.0

8 18 9 4 12

8

STATE PROJECT NUMBER

1060-33-83

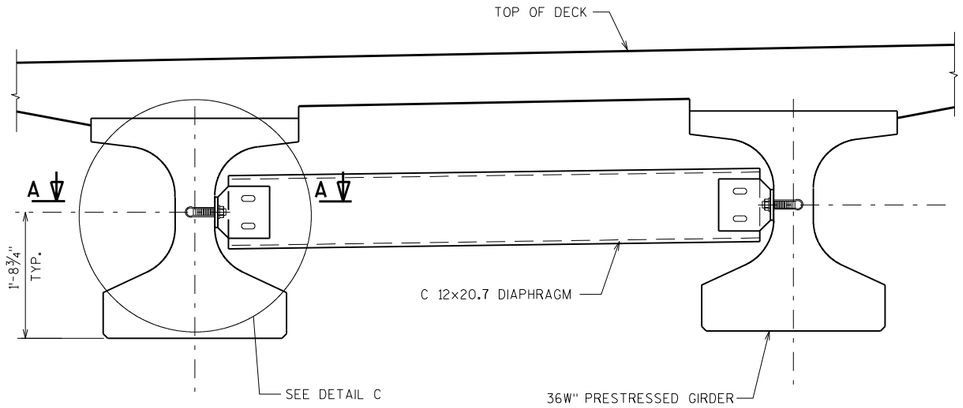
NOTES

ALL DIAPHRAGM MATERIAL NOT EMBEDDED IN THE CONCRETE GIRDER SHALL BE PAID FOR AT THE UNIT PRICE BID FOR "STEEL DIAPHRAGMS B-40-881", EACH.

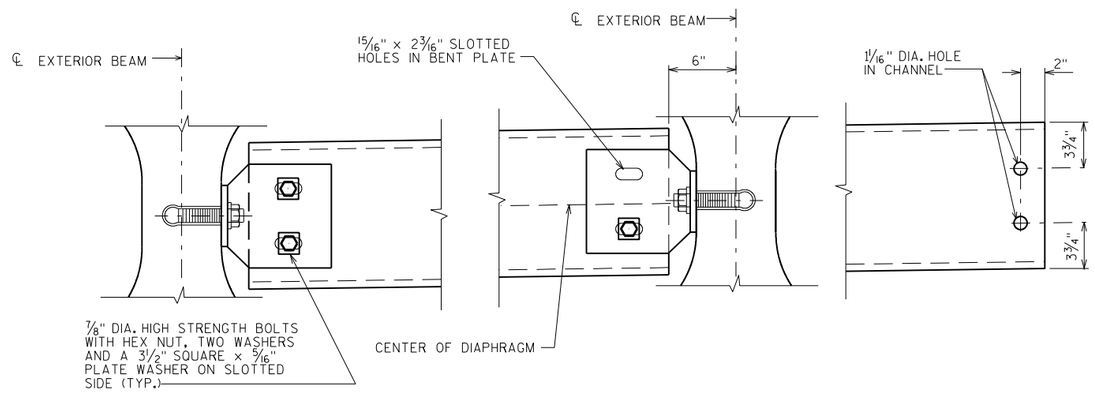
EACH DIAPHRAGM BETWEEN GIRDERS SHALL CONSTITUTE ONE UNIT.

ALL DIAPHRAGM STRUCTURAL STEEL SHALL BE ASTM A709 GRADE 36. ALL BOLTS, NUTS AND WASHERS SHALL BE ASTM A325 TYPE 1.

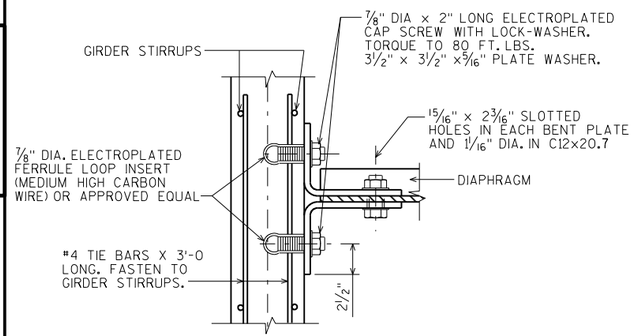
ALL DIAPHRAGM STRUCTURAL STEEL SHOWN SHALL BE HOT-DIPPED GALVANIZED. ALL BOLTS, NUTS AND WASHERS SHALL BE HOT-DIPPED GALVANIZED IN ACCORDANCE WITH ASTM A153 CLASS C. GALVANIZED NUTS SHALL BE TAPPED OVERSIZE IN ACCORDANCE WITH THE REQUIREMENTS OF ASTM A563 AND SHALL MEET THE REQUIREMENTS OF SUPPLEMENTARY REQUIREMENT S1 OF ASTM A563. LUBRICANT AND TEST FOR COATED NUTS.



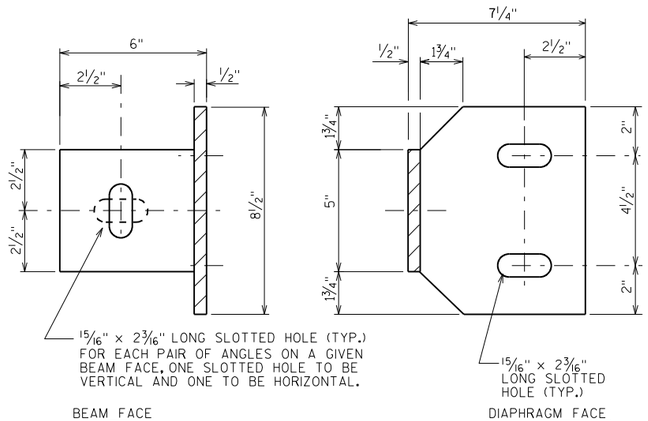
PART TRANSVERSE SECTION AT DIAPHRAGM



DETAIL C

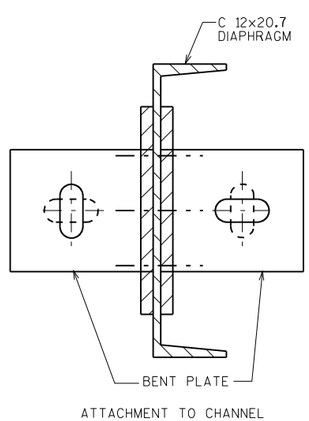


SECTION A-A
(FOR EXTERIOR ATTACHMENT)



BEAM FACE

DIAPHRAGM FACE



ATTACHMENT TO CHANNEL

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-40-881

DRAWN BY JPH | PLANS CK'D. NAR

STEEL DIAPHRAGM

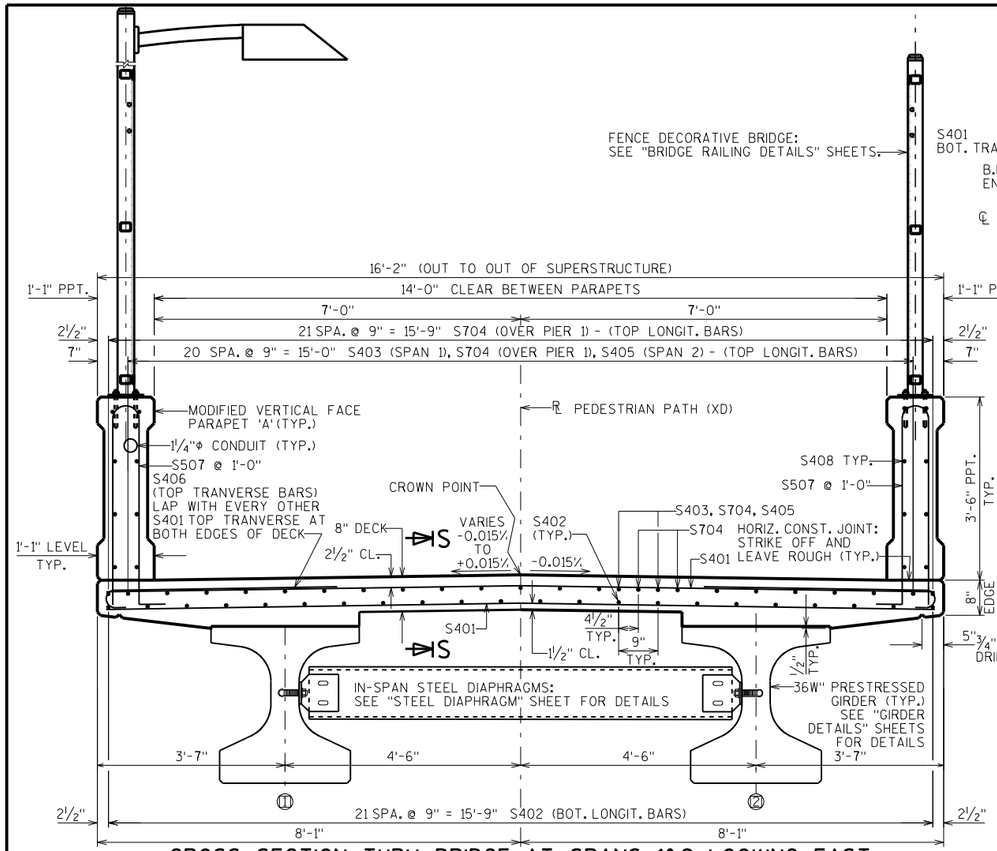
SHEET 30

266

SCALE = 1

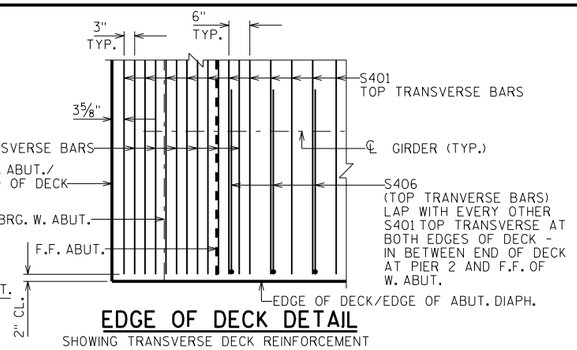
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8



CROSS SECTION THRU BRIDGE AT SPANS 1&2 LOOKING EAST

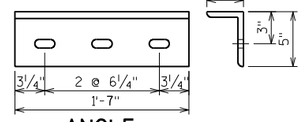
(SHOWING STEEL DIAPHRAGMS AT SPANS 1 THRU 5)



EDGE OF DECK DETAIL

SHOWING TRANSVERSE DECK REINFORCEMENT

◪ TERMINATE 2'-0" FROM FACE OF PIERS 2 & 3. EXTEND TO 6" FROM FRONT FACE OF WEST & EAST ABUTMENTS.



ANGLE

5" X 3½" X ¾" X 1'-7"

PROVIDE 3½" x 3½" x 5/16" PLATE WASHERS AT ALL LOCATIONS EXCEPT AT EXTERIOR FACES OF EXTERIOR GIRDERS WHERE 3½" x 3½" x ½" PLATE WASHERS SHALL BE PROVIDED.

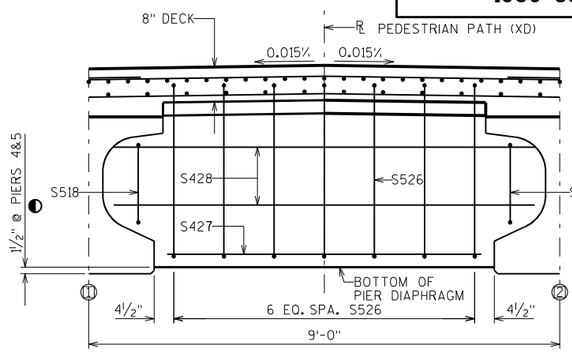
NOTES

DIAPHRAGM SUPPORT ANGLES SHALL BE ASTM A709 GRADE 36. ALL BOLTS, NUT AND WASHERS SHALL BE ASTM A325 TYPE 1.

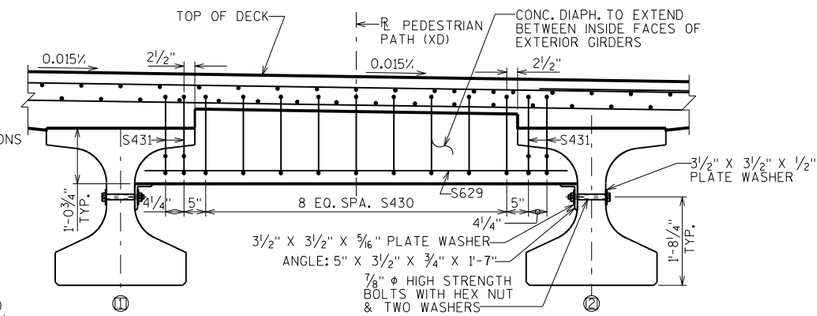
ALL SUPPORT ANGLES SHALL BE HOT-DIPPED GALVANIZED. ALL BOLTS, NUTS AND WASHERS SHALL BE HOT-DIPPED GALVANIZED IN ACCORDANCE WITH ASTM A153 CLASS C. GALVANIZED NUTS SHALL BE TAPPED OVERSIZED IN ACCORDANCE WITH THE REQUIREMENTS OF ASTM A563 AND SHALL MEET THE REQUIREMENTS OF SUPPLEMENTARY REQUIREMENT S1 OF ASTM A563, LUBRICANT AND TEST FOR COATED NUTS.

ALL DIAPHRAGM SUPPORT HARDWARE SHALL BE INCIDENTAL TO "CONCRETE MASONRY BRIDGES".

◐ FORM DIAPHRAGM TO TOP OF PIER 1 CAP AT PIER 1 DIAPHRAGM



PARTIAL CROSS SECTION THRU BRIDGE AT PIERS 1&4&5 DIAPHRAGMS

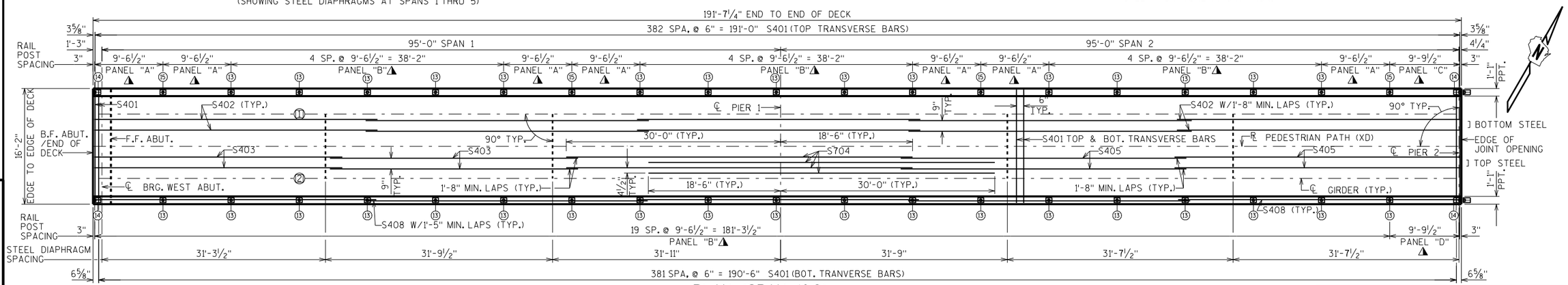


PARTIAL CROSS SECTION THRU BRIDGE AT PIERS 2&3 DIAPHRAGMS

⑪ INDICATES GIRDER NUMBER

⑬ DENOTES BASE PLATE TYPE: SEE "BRIDGE RAILING DETAILS 1" SHEET FOR MORE INFORMATION.

▲ SEE "BRIDGE RAILING DETAILS" SHTS. FOR FENCE PANEL TYPES

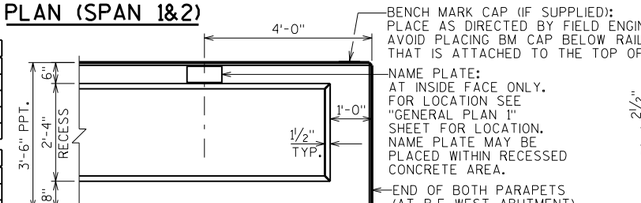


TOP OF DECK ELEVATIONS

SPAN 1	℄ W. ABUT.	1/10	2/10	3/10	4/10	5/10	6/10	7/10	8/10	9/10	℄ PIER 1
EDGE OF DECK	768.84	769.31	769.78	770.22	770.65	771.05	771.43	771.79	772.13	772.45	772.74
℄ GIRDER 1	768.87	769.35	769.81	770.26	770.69	771.09	771.47	771.83	772.17	772.49	772.78
REFERENCE LINE	768.94	769.41	769.88	770.33	770.75	771.16	771.54	771.90	772.24	772.55	772.85
℄ GIRDER 2	768.87	769.35	769.81	770.26	770.69	771.09	771.47	771.83	772.17	772.49	772.78
EDGE OF DECK	768.84	769.31	769.78	770.22	770.65	771.05	771.43	771.79	772.13	772.45	772.74

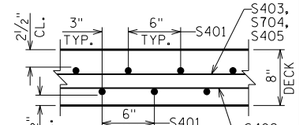
SPAN 2	℄ PIER 1	1/10	2/10	3/10	4/10	5/10	6/10	7/10	8/10	9/10	℄ PIER 2
EDGE OF DECK	772.74	773.02	773.27	773.50	773.71	773.90	774.07	774.21	774.41	774.58	774.75
℄ GIRDER 1	772.78	773.06	773.31	773.54	773.75	773.94	774.11	774.25	774.42	774.56	774.71
REFERENCE LINE	772.85	773.12	773.38	773.61	773.82	774.01	774.17	774.32	774.44	774.54	774.64
℄ GIRDER 2	772.78	773.06	773.31	773.54	773.75	773.94	774.11	774.25	774.37	774.48	774.57
EDGE OF DECK	772.74	773.02	773.27	773.50	773.71	773.90	774.07	774.21	774.34	774.44	774.54

PLAN (SPAN 1&2)



TYPICAL ELEVATION OF PARAPET ENDS (BOTH FACES)

(SHOWING NAME PLATE LOCATION AT SOUTH PPT. ONLY)



SECTION S-S

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-40-881

DRAWN BY JPH | PLANS CK'D. NAR

SUPERSTRUCTURE SPANS 1&2

SHEET 31

267

STATE PROJECT NUMBER

1060-33-83

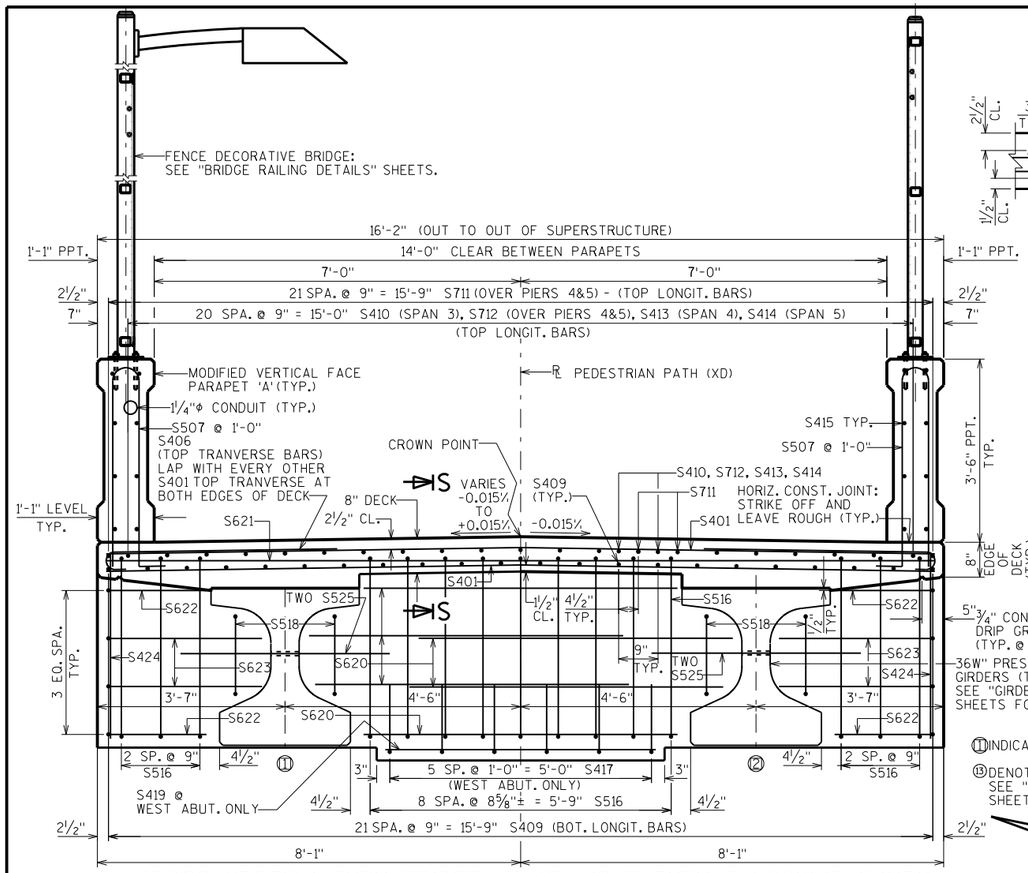
SCALE = 7

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8

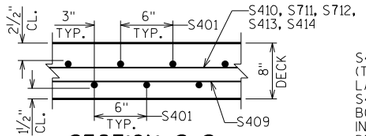
STATE PROJECT NUMBER

1060-33-83



CROSS SECTION THRU BRIDGE AT SPANS 3 THRU 5 LOOKING SOUTH

(SHOWING ABUT. DIAPHRAGM REINFORCEMENT AT BOTH ABUTMENTS)

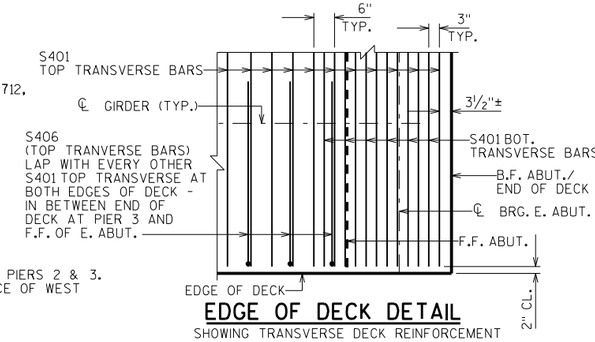


SECTION S-S

◪ TERMINATE 2'-0" FROM FACE OF PIERS 2 & 3. EXTEND TO 6" FROM FRONT FACE OF WEST & EAST ABUTMENTS.

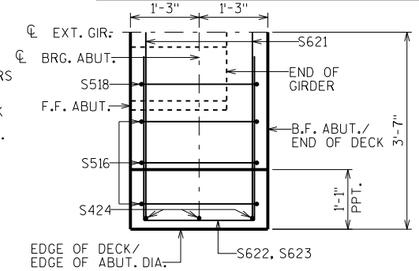
⑪ INDICATES GIRDER NUMBER

⑬ DENOTES BASE PLATE TYPE: SEE "BRIDGE RAILING DETAILS 1" SHEET FOR MORE INFORMATION.

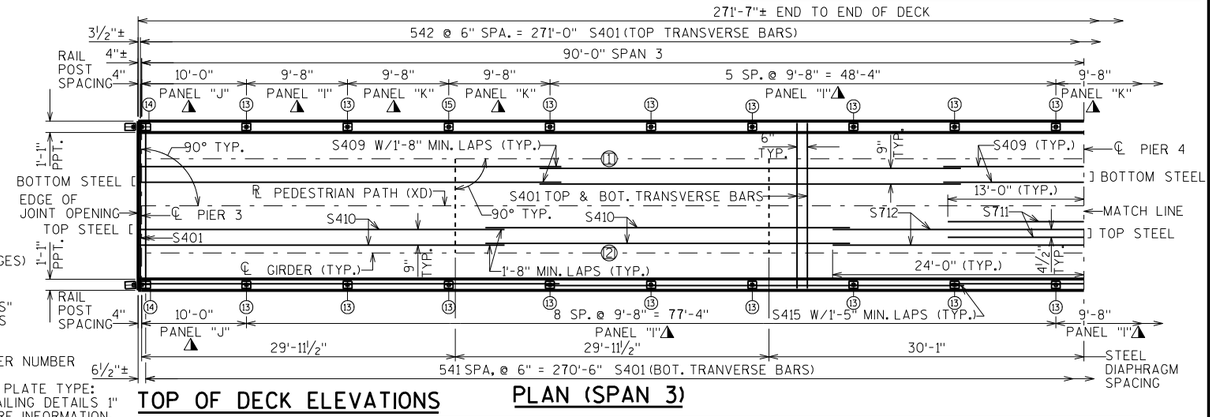


EDGE OF DECK DETAIL

SHOWING TRANSVERSE DECK REINFORCEMENT



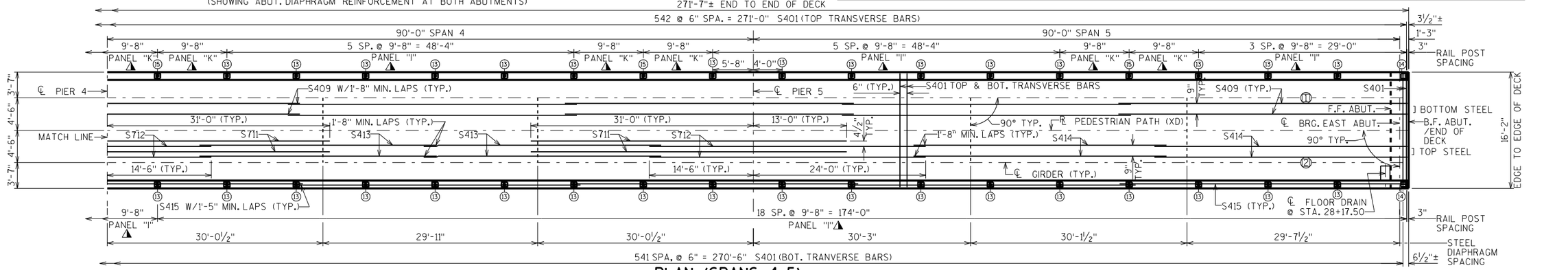
TYPICAL DIAPHRAGM DETAIL @ CORNERS



PLAN (SPAN 3)

TOP OF DECK ELEVATIONS

SPAN 3	℄ PIER 3	1/10	2/10	3/10	4/10	5/10	6/10	7/10	8/10	9/10	℄ PIER 4
EDGE OF DECK	774.25	773.73	773.21	772.69	772.24	771.79	771.34	770.89	770.44	769.99	769.54
℄ GIRDER 1	774.21	773.71	773.22	772.73	772.28	771.83	771.38	770.93	770.48	770.03	769.58
REFERENCE LINE	774.14	773.69	773.24	772.79	772.34	771.89	771.44	770.99	770.54	770.09	769.64
℄ GIRDER 2	774.08	773.63	773.18	772.73	772.28	771.83	771.38	770.93	770.48	770.03	769.58
EDGE OF DECK	774.04	773.59	773.14	772.69	772.24	771.79	771.34	770.89	770.44	769.99	769.54

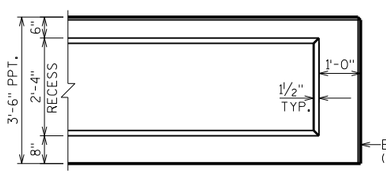


PLAN (SPANS 4-5)

TOP OF DECK ELEVATIONS

SPAN 4	℄ PIER 4	1/10	2/10	3/10	4/10	5/10	6/10	7/10	8/10	9/10	℄ PIER 5
EDGE OF DECK	769.54	769.09	768.64	768.19	767.74	767.29	766.84	766.39	765.94	765.49	765.04
℄ GIRDER 1	769.58	769.13	768.68	768.23	767.78	767.33	766.88	766.43	765.98	765.53	765.08
REFERENCE LINE	769.64	769.19	768.74	768.29	767.84	767.39	766.94	766.49	766.04	765.59	765.14
GIRDER 2	769.58	769.13	768.68	768.23	767.78	767.33	766.88	766.43	765.98	765.53	765.08
EDGE OF DECK	769.54	769.09	768.64	768.19	767.74	767.29	766.84	766.39	765.94	765.49	765.04

SPAN 5	℄ PIER 5	1/10	2/10	3/10	4/10	5/10	6/10	7/10	8/10	9/10	℄ E. ABUT.
EDGE OF DECK	765.04	764.59	764.14	763.69	763.24	762.79	762.34	761.89	761.44	760.99	760.54
℄ GIRDER 1	765.08	764.63	764.18	763.73	763.28	762.83	762.38	761.93	761.48	761.03	760.58
REFERENCE LINE	765.14	764.69	764.24	763.79	763.34	762.89	762.44	761.99	761.54	761.09	760.64
℄ GIRDER 2	765.08	764.63	764.18	763.73	763.28	762.83	762.38	761.93	761.48	761.03	760.58
EDGE OF DECK	765.04	764.59	764.14	763.69	763.24	762.79	762.34	761.89	761.44	760.99	760.54



TYPICAL ELEVATION OF PARAPET ENDS (BOTH FACES)

▲ SEE "BRIDGE RAILING DETAILS" SHTS. FOR FENCE PANEL TYPES

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-40-881

DRAWN BY JPH | PLANS CK'D. NAR

SUPERSTRUCTURE SPANS 3 THRU 5

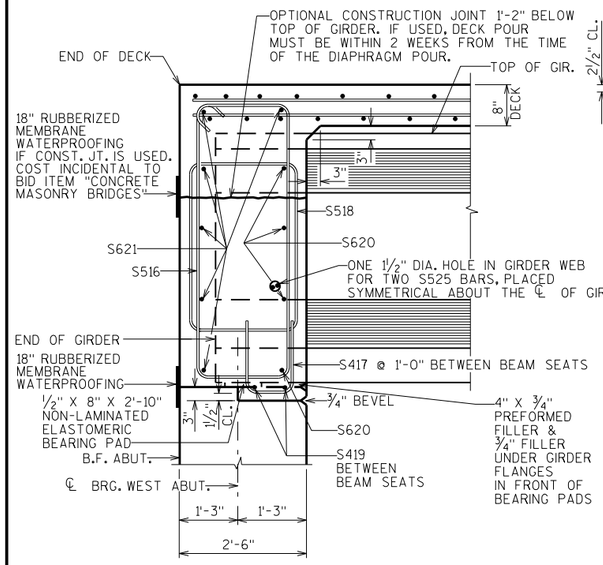
SHEET 32

268

SCALE = 7

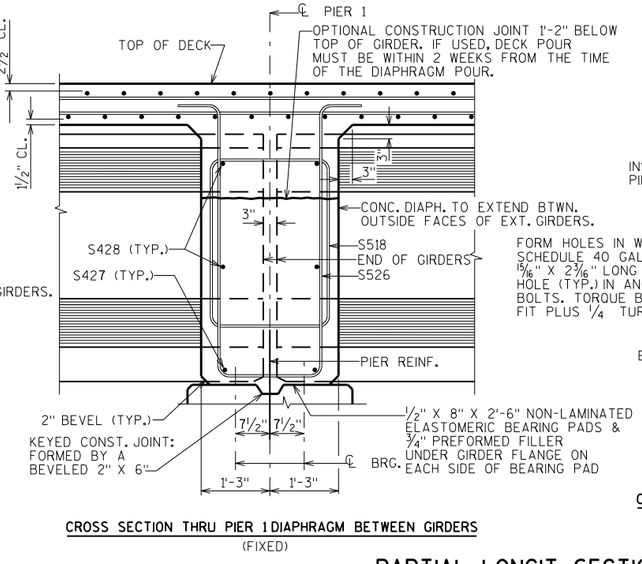
STATE PROJECT NUMBER

1060-33-83



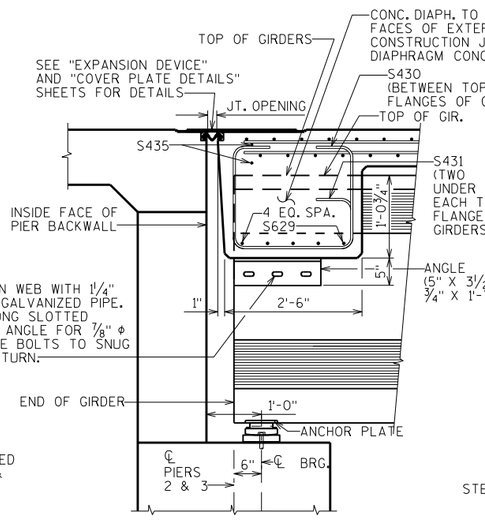
CROSS SECTION THRU WEST ABUTMENT DIAPHRAGM BETWEEN GIRDERS

(SEMI EXPANSION)



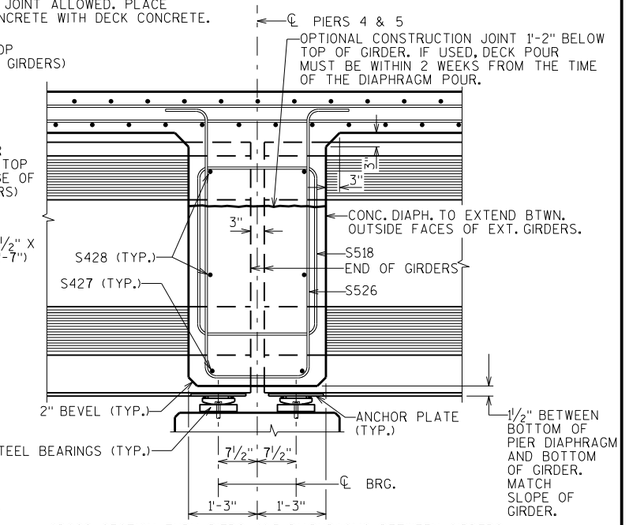
CROSS SECTION THRU PIER 1 DIAPHRAGM BETWEEN GIRDERS

(FIXED)



CROSS SECTION THRU PIERS 2&3 DIAPHRAGMS BETWEEN GIRDERS

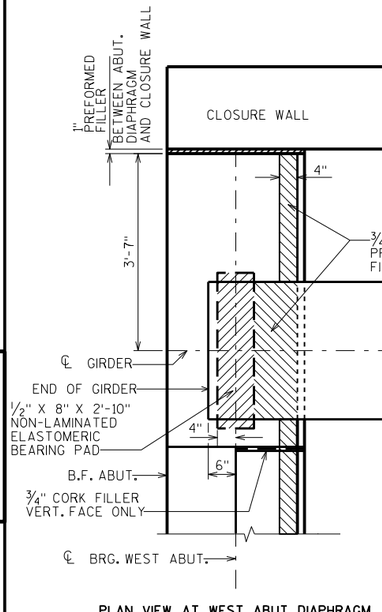
(EXPANSION)



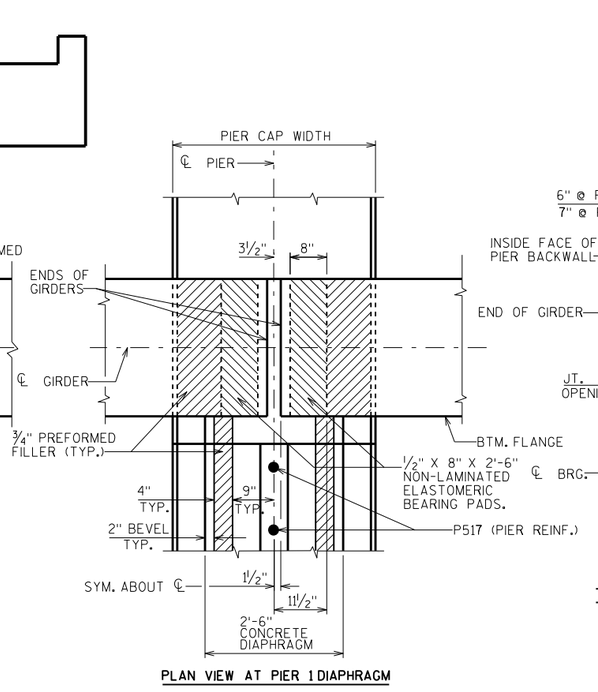
CROSS SECTION THRU PIERS 4&5 DIAPHRAGMS BETWEEN GIRDERS

(EXPANSION)

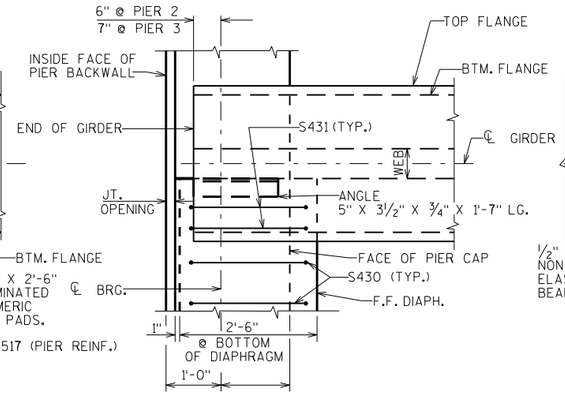
PARTIAL LONGIT. SECTIONS



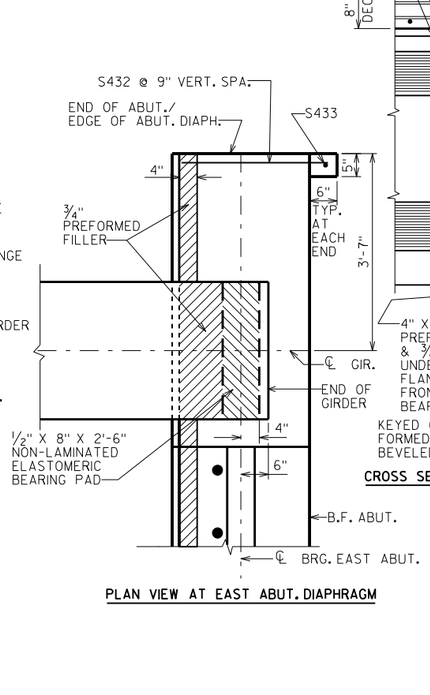
PLAN VIEW AT WEST ABUT. DIAPHRAGM



PLAN VIEW AT PIER 1 DIAPHRAGM

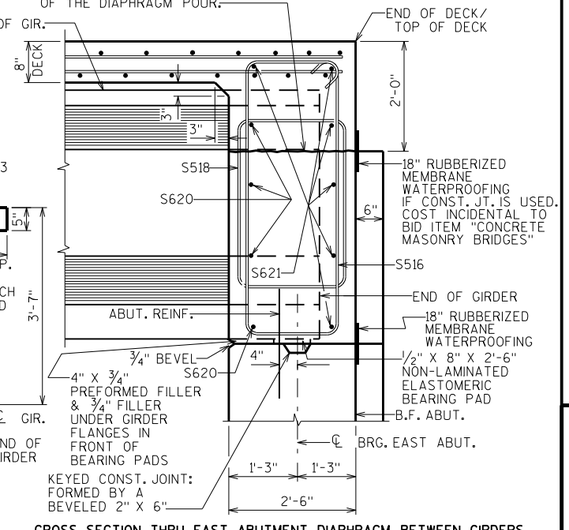


TOP VIEW OF PIERS 2&3 DIAPHRAGMS



PLAN VIEW AT EAST ABUT. DIAPHRAGM

OPTIONAL CONSTRUCTION JOINT 2'-0" BELOW TOP OF DECK. IF USED, DECK POUR MUST BE WITHIN 2 WEEKS FROM THE TIME OF THE DIAPHRAGM POUR.



CROSS SECTION THRU EAST ABUTMENT DIAPHRAGM BETWEEN GIRDERS

(FIXED)

BEARING PAD DETAILS

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-40-881

DRAWN BY JPH | PLANS CK'D. NAR

SUPERSTRUCTURE DETAILS

SHEET 33

269

SCALE = 1.3333

8

8

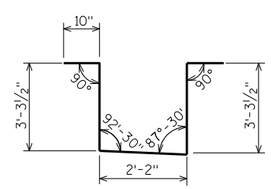
STATE PROJECT NUMBER

1060-33-83

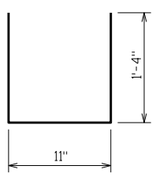
BILL OF BARS

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

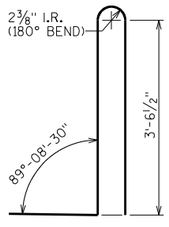
BAR MARK	COAT	NO. REQ'D.	LENGTH	BENT	LOCATION
S401	X	1850	15'-8"		DECK-TOP & BOT.-HORIZ.-TRANSVERSE-ALL SPANS
S402	X	110	39'-8"		DECK-BOT.-HORIZ.-LONGIT.-SPANS 1&2
S403	X	42	34'-9"		DECK-TOP-HORIZ.-LONGIT.-SPAN 1
S704	X	43	48'-6"		DECK-TOP-HORIZ.-LONGITUDINAL-OVER PIER 1
S405	X	42	40'-0"		DECK-TOP-HORIZ.-LONGIT.-SPAN 2
S406	X	916	4'-11"	X	DECK-TOP-VERT.-TRANS.-EDGES OF DECK-ALL SPANS
S507	X	928	8'-6"	X	DECK/PARAPET-VERT.-TRANS.-ALL SPANS
S408	X	80	39'-6"		PARAPET-HORIZ.-LONGIT.-SPANS 1&2
S409	X	154	40'-3"		DECK-BOT.-HORIZ.-LONGIT.-SPANS 3 THRU 5
S410	X	42	34'-9"		DECK-TOP-HORIZ.-LONGIT.-SPAN 3
S711	X	44	44'-0"		DECK-TOP-HORIZ.-LONGITUDINAL-OVER PIERS 4&5
S712	X	42	38'-6"		DECK-TOP-HORIZ.-LONGITUDINAL-OVER PIERS 4&5
S413	X	42	33'-1"		DECK-TOP-HORIZ.-LONGIT.-SPAN 4
S414	X	42	35'-3"		DECK-TOP-HORIZ.-LONGIT.-SPAN 5
S415	X	112	40'-1"		PARAPET-HORIZ.-LONGIT.-SPANS 3 THRU 5
S516	X	30	11'-11"	X	ABUT. DIAPHRAGMS/DECK-VERT.
S417	X	6	3'-5"	X	WEST ABUT. DIAPHRAGM-F.F.-BOT.-VERT.-BTWN. BEAM SEATS
S518	X	14	8'-2"	X	ABUT. & PIER DIAPHRAGMS-VERT.-UNDER GIR. FLANGES
S419	X	2	5'-2"		WEST ABUT. DIAPHRAGM-F.F.-BOT.-HORIZ.-BTWN. BEAM SEATS
S620	X	12	6'-0"		ABUT. DIAPHRAGMS-F.F.-HORIZ.-BTWN. GIRS.
S621	X	12	15'-8"		ABUT. DIAPHRAGMS-B.F./DECK-HORIZ.
S622	X	8	5'-7"	X	ABUT. DIAPHS.-TOP & BOT.-HORIZ.-@ GIR. EXTERIORS
S623	X	8	7'-7"	X	ABUT. DIAPHS.-HORIZ.-@ GIR. EXTERIORS
S424	X	12	3'-6"		ABUT. DIAPH./DECK-VERT.-@ GIR. EXTERIORS
S525	X	4	6'-0"		WEST ABUT. DIAPHRAGM-HORIZ.-THRU GIRDERS
S526	X	21	10'-0"	X	PIER 1&4&5 DIAPHRAGMS/DECK-VERT.-BTWN. GIRS.
S427	X	6	6'-2"		PIER 1&4&5 DIAPHRAGMS-BOT.-HORIZ.-BOTH FACES-BTWN. GIRS.
S428	X	12	8'-0"		PIER 1&4&5 DIAPHRAGMS-HORIZ.-BOTH FACES-BTWN. GIRS.
S629	X	10	8'-1"		PIER 2&3 DIAPHRAGMS-BOT.-HORIZ.-BTWN. GIRS.
S430	X	18	6'-0"	X	PIER 2&3 DIAPHRAGMS/DECK-VERT.-BTWN. GIR FLANGES
S431	X	8	5'-0"	X	PIER 2&3 DIAPHRAGMS/DECK-VERT.-BTWN. GIRS.
S432	X	6	2'-8"		EAST ABUT. DIAPHRAGM-HORIZ.-AT ENDS
S433	X	2	1'-8"		EAST ABUT. DIAPHRAGM-VERT.-AT ENDS
S534	X	4	5'-0"		DECK-TOP-HORIZ.-LONGIT.-AT FLOOR DRAIN BY EAST ABUT.
S435	X	4	9'-0"		DECK-HORIZ.-TRANS.-AT PIERS 2&3 DIAPHRAGMS-BETWEEN ℄ GIRDERS



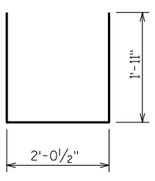
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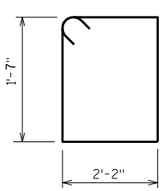
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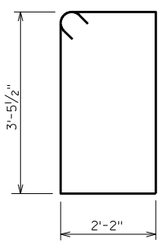
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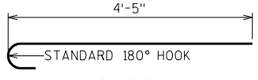
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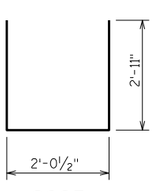
S518



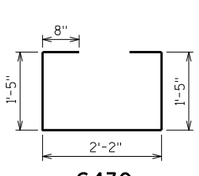
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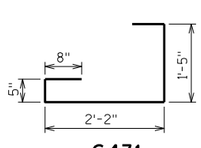
S406



S623



S430



S431

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-40-881

DRAWN BY JPH | PLANS CK'D. NAR

SUPERSTRUCTURE BAR DETAILS

SHEET 34

270

SCALE = 1.3333

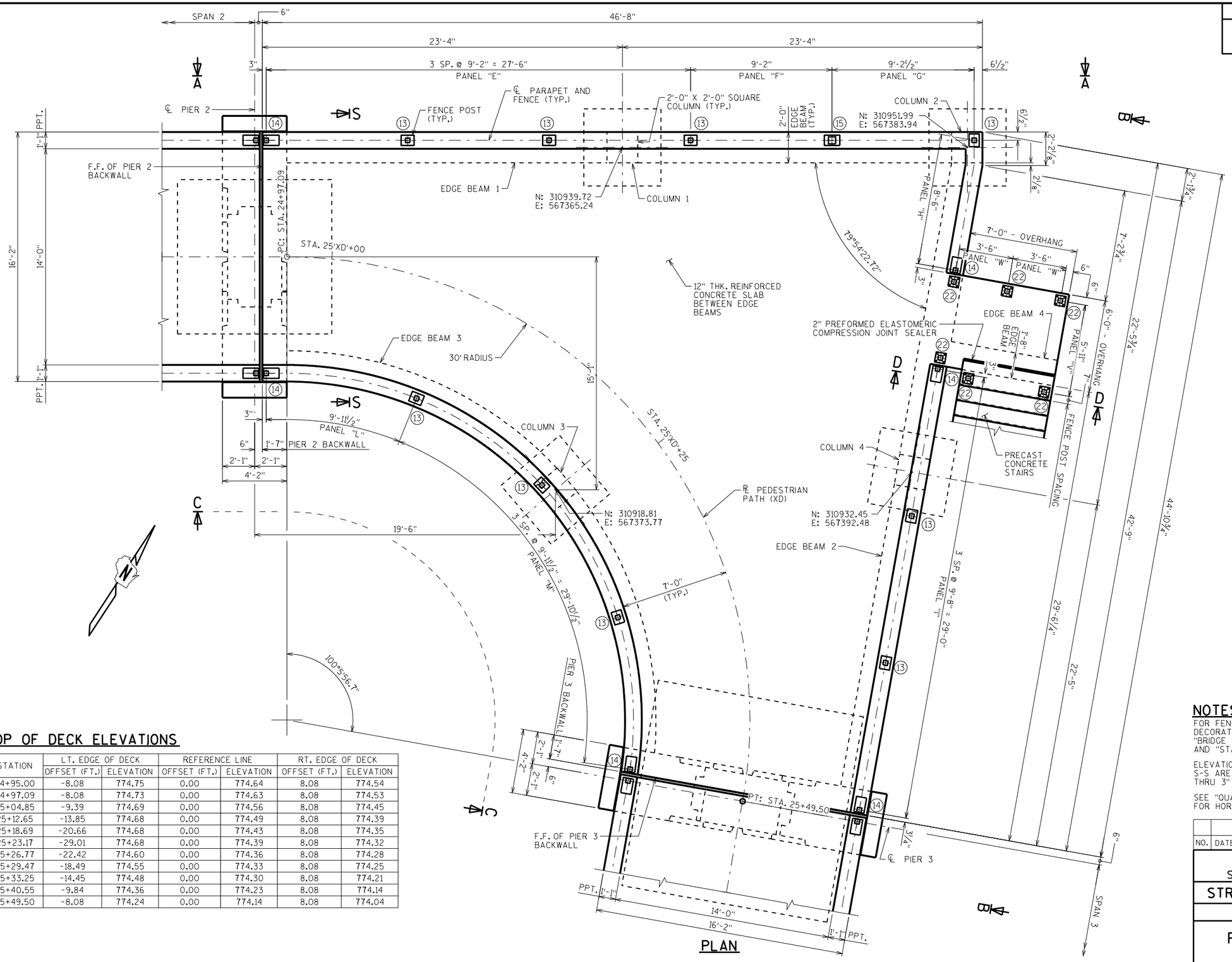
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8

STATE PROJECT NUMBER

1060-33-83

◯ DENOTES BASEPLATE TYPE. SEE "BRIDGE RAILING DETAILS 1" & "STAIR RAILING DETAILS 1" SHTS. FOR MORE INFORMATION.



TOP OF DECK ELEVATIONS

STATION	LT. EDGE OF DECK		REFERENCE LINE		RT. EDGE OF DECK	
	OFFSET (FT.)	ELEVATION	OFFSET (FT.)	ELEVATION	OFFSET (FT.)	ELEVATION
24+95.00	-8.08	774.75	0.00	774.64	8.08	774.54
24+97.09	-8.08	774.73	0.00	774.63	8.08	774.53
25+04.85	-9.39	774.69	0.00	774.56	8.08	774.45
25+12.65	-13.85	774.68	0.00	774.49	8.08	774.39
25+18.69	-20.66	774.68	0.00	774.43	8.08	774.35
25+23.17	-29.01	774.68	0.00	774.39	8.08	774.32
25+26.77	-22.42	774.60	0.00	774.36	8.08	774.28
25+29.47	-18.49	774.55	0.00	774.33	8.08	774.25
25+33.25	-14.45	774.48	0.00	774.30	8.08	774.21
25+40.55	-9.84	774.36	0.00	774.23	8.08	774.14
25+49.50	-8.08	774.24	0.00	774.14	8.08	774.04

NOTES

FOR FENCE DECORATIVE BRIDGE AND FENCE DECORATIVE BRIDGE STAIR DETAILS, SEE "BRIDGE RAILING DETAILS 1 THRU 5" SHTS. AND "STAIR RAILING DETAILS 1 THRU 4" SHTS.

ELEVATIONS A-A, B-B, C-C, & D-D & SECTION S-S ARE SHOWN ON "PLATFORM DETAILS 1 THRU 3" SHTS.

SEE "QUANTITIES & DESIGN DATA" SHEET FOR HORIZONTAL CURVE DATA

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-40-881

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PLATFORM LAYOUT

SHEET 35

271

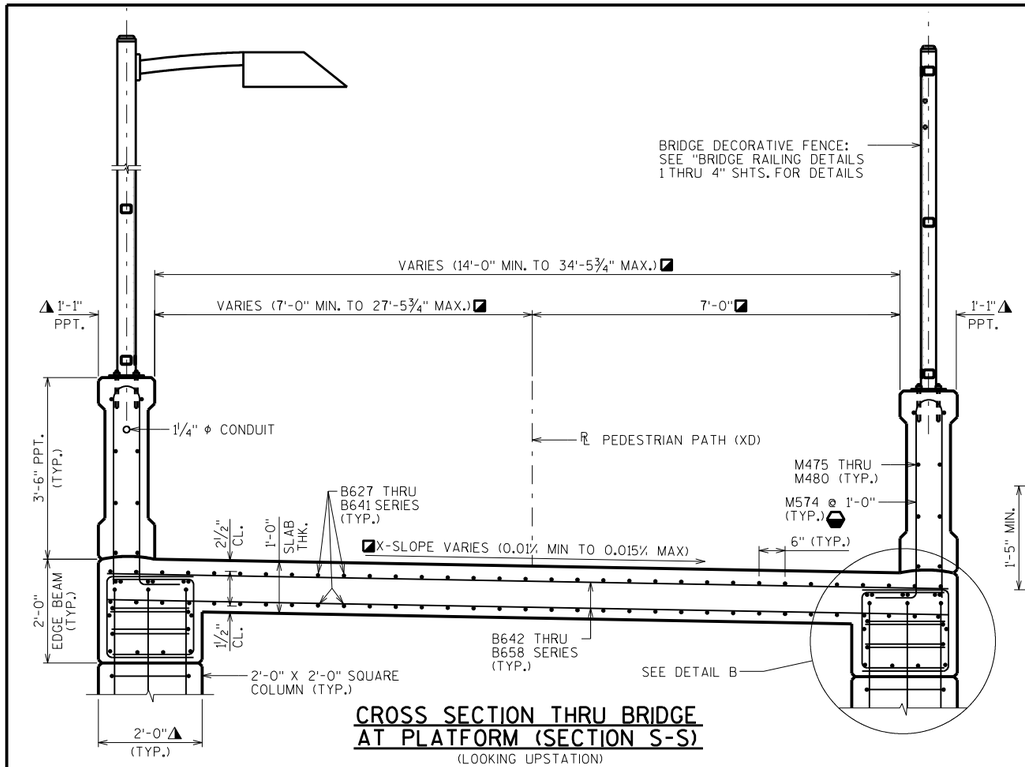
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8

STATE PROJECT NUMBER

1060-33-83

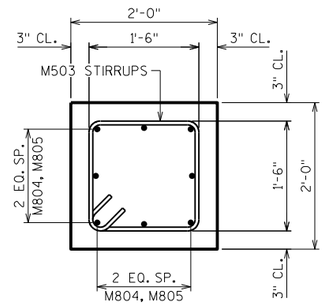


CROSS SECTION THRU BRIDGE AT PLATFORM (SECTION S-S)

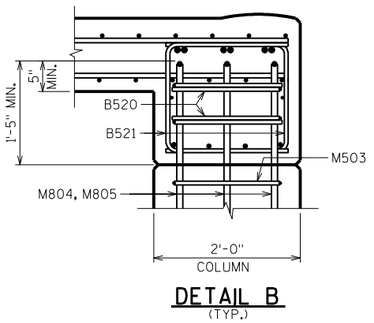
(LOOKING UPSTATION)

MEASURED ALONG RADIAL LINES

MEASURED NORMAL TO SLAB EDGE

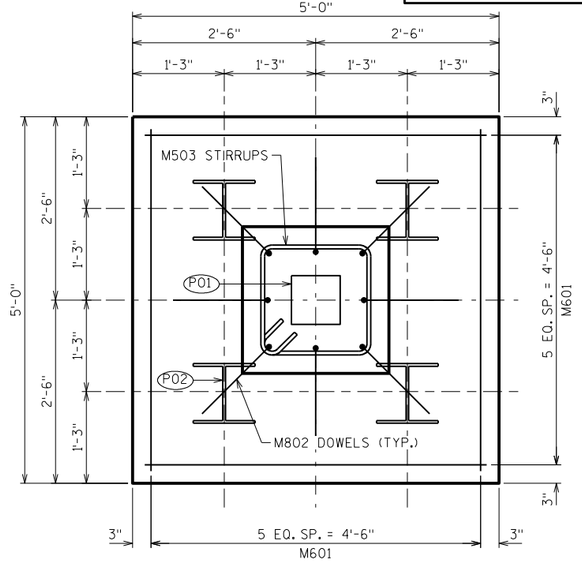


TYPICAL SECTION THRU COLUMNS

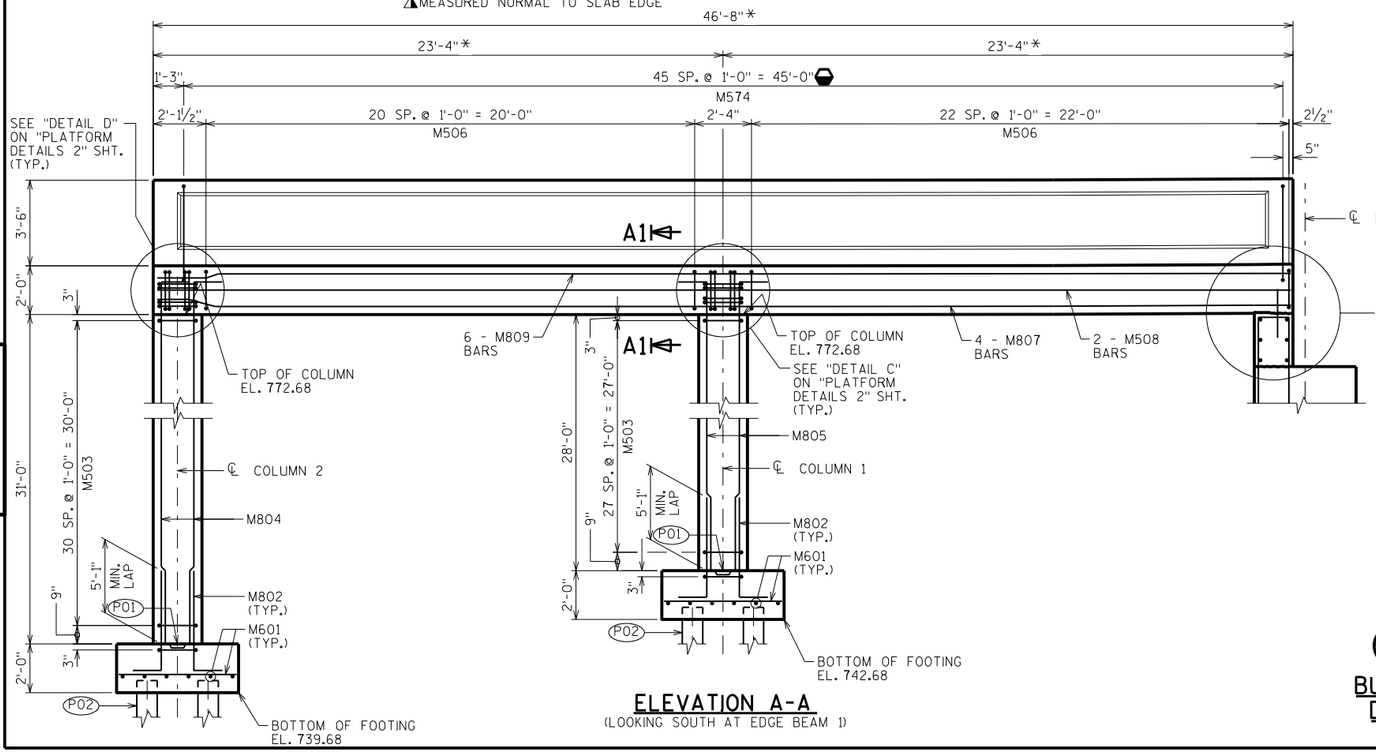


DETAIL B

(TYP.)

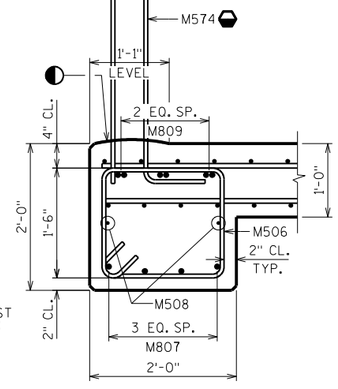


TYPICAL FOOTING/ PILE PLAN



ELEVATION A-A

(LOOKING SOUTH AT EDGE BEAM 1)



SECTION A1-A1

BUNDLING DETAIL

SEE "MODIFIED VERTICAL FACE PARAPET "A"" DETAIL SHEET FOR DETAILS

HORIZ. CONST. JOINT: STRIKE OFF AND LEAVE ROUGH

* MEASURED ALONG THE EXTERIOR EDGE OF SLAB

(P01) 8" X 8" X 2" CONSTRUCTION JOINT FORMED BY BEVELED KEYWAY

(P02) SUPPORT COLUMN ON HP 10 X 42 STEEL PILING, ESTIMATED 35'-0" LONG WITH A REQUIRED DRIVING RESISTANCE OF 80 TONS PER PILE.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-40-881

DRAWN BY NAR | PLANS CK'D. SAD

PLATFORM DETAILS 1

SHEET 36

272

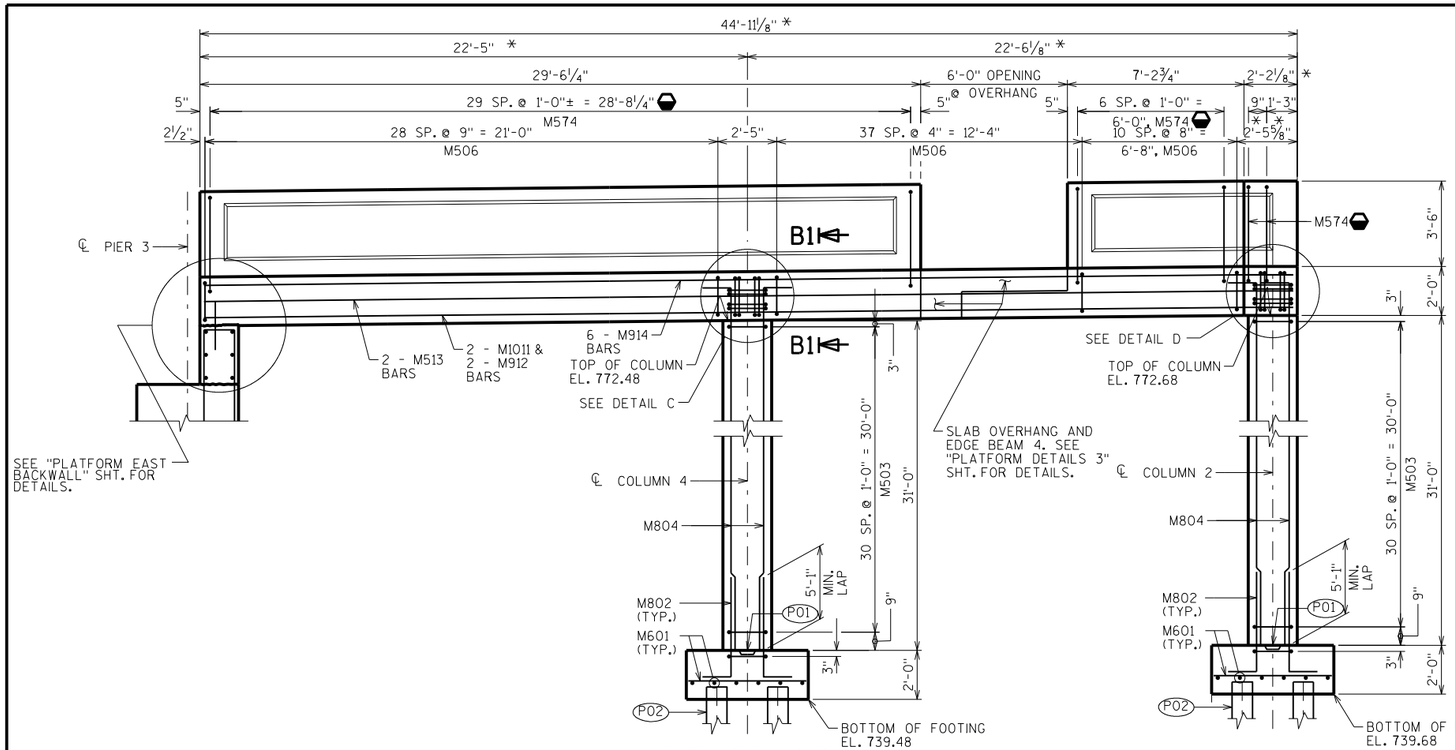
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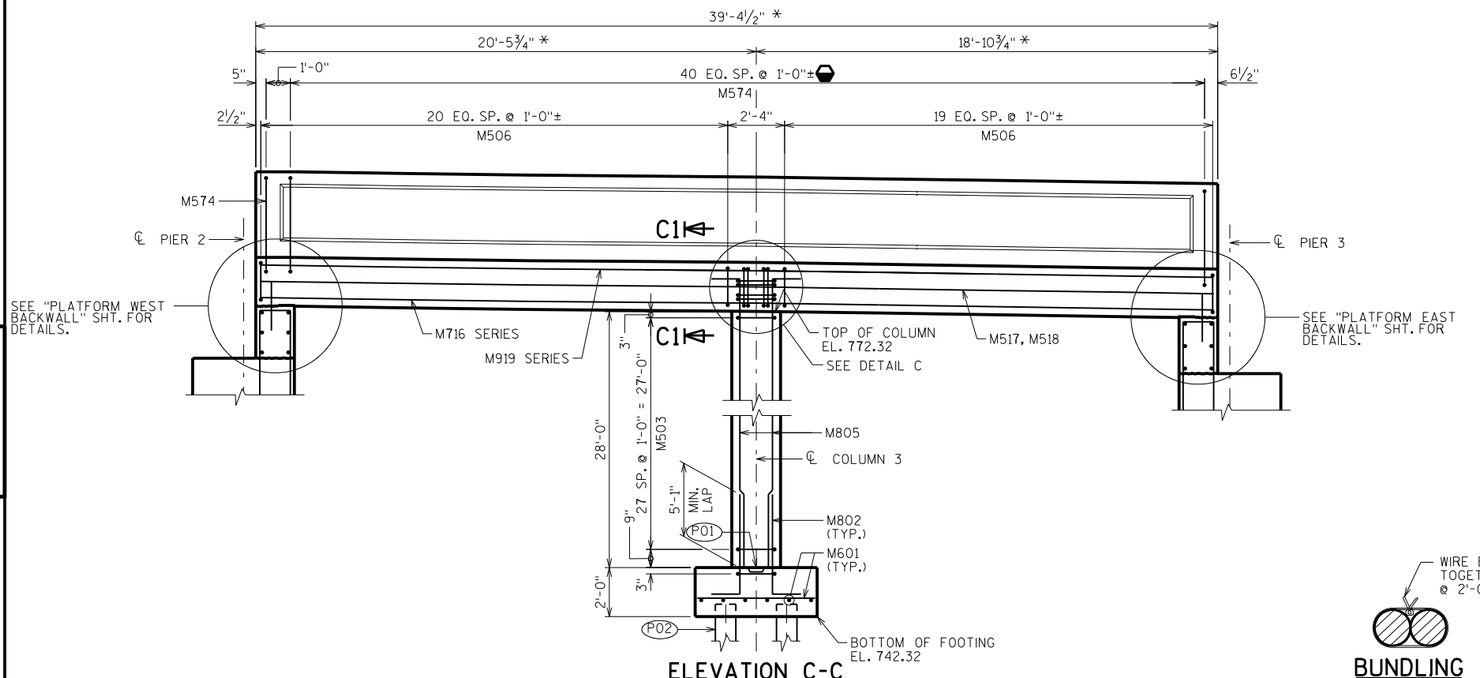
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STATE PROJECT NUMBER

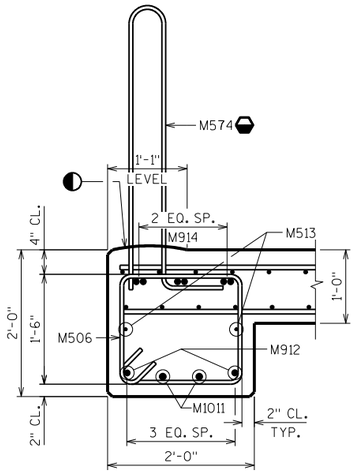
1060-33-83



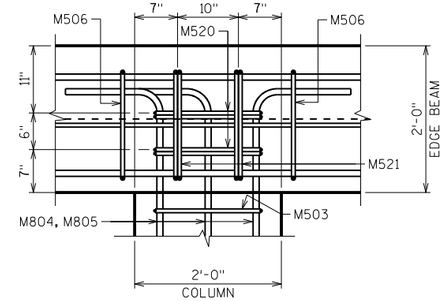
ELEVATION B-B
(LOOKING WEST AT EDGE BEAM 2)



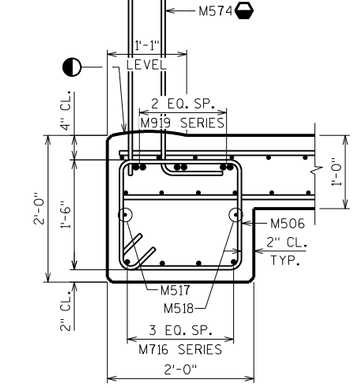
ELEVATION C-C
(LOOKING NORTH AT EDGE BEAM 3)



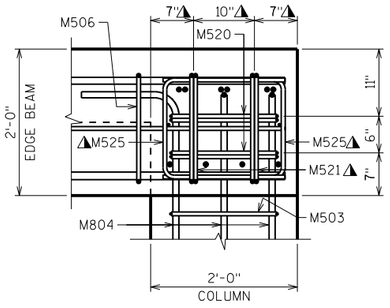
SECTION B1-B1



DETAIL C
(TYPICAL AT COLUMNS 1, 3, & 4)

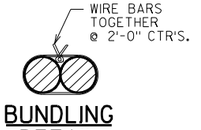


SECTION C1-C1



DETAIL D
(AT COLUMN 2)

▲ M525 BARS TO BE SPACED AT SAME SPACING AS M521 BARS (4 REQUIRED)



BUNDLING DETAIL

SEE "MODIFIED VERTICAL FACE PARAPET "A"" DETAIL SHEET FOR DETAILS

HORIZ. CONST. JOINT: STRIKE OFF AND LEAVE ROUGH

* MEASURED ALONG THE EXTERIOR EDGE OF SLAB

P01 8" X 8" X 2" CONSTRUCTION JOINT FORMED BY BEVELED KEYWAY

P02 SUPPORT COLUMN ON HP 10 X 42 STEEL PILING, ESTIMATED 35'-0" LONG WITH A REQUIRED DRIVING RESISTANCE OF 80 TONS PER PILE.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-40-881

DRAWN BY NAR | PLANS CK'D. SAD

PLATFORM DETAILS 2

SHEET 37

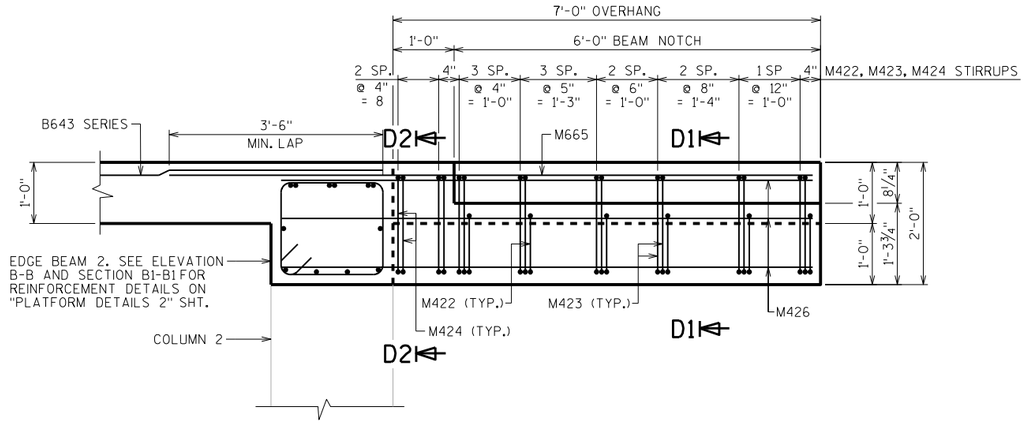
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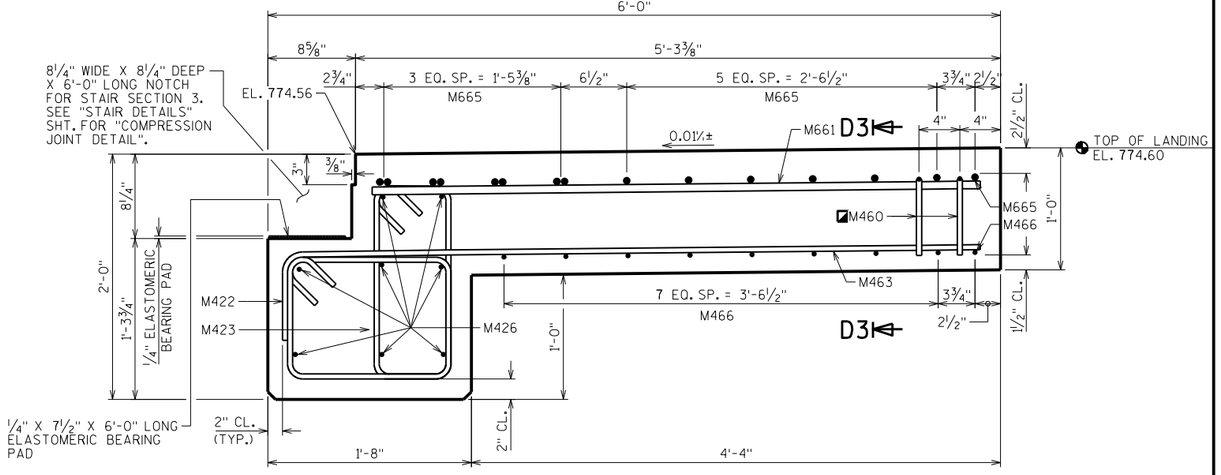
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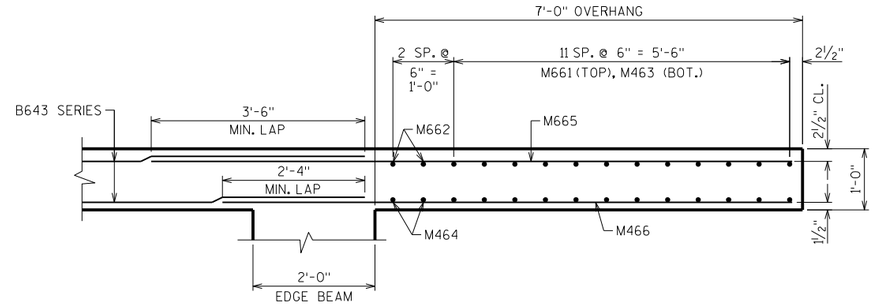
STATE PROJECT NUMBER
1060-33-83



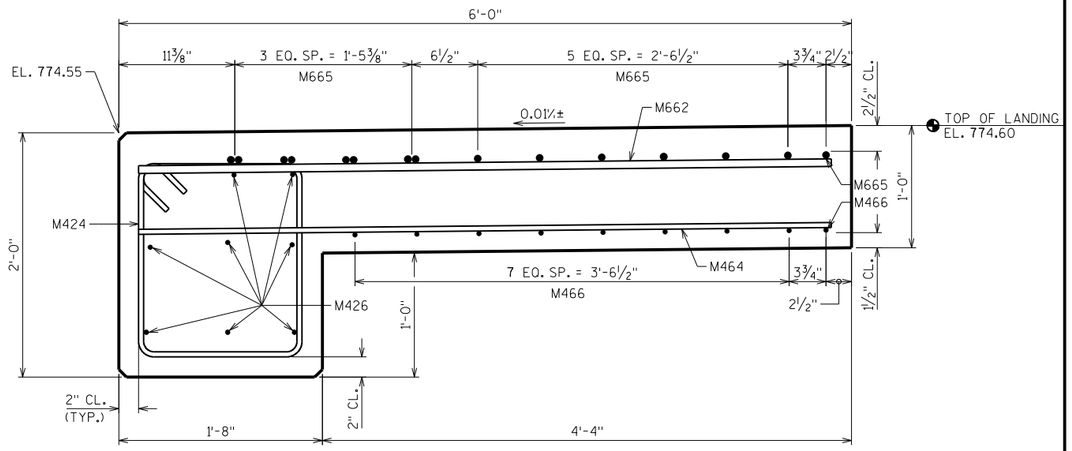
ELEVATION D-D
(LOOKING NORTH AT EDGE BEAM 4)



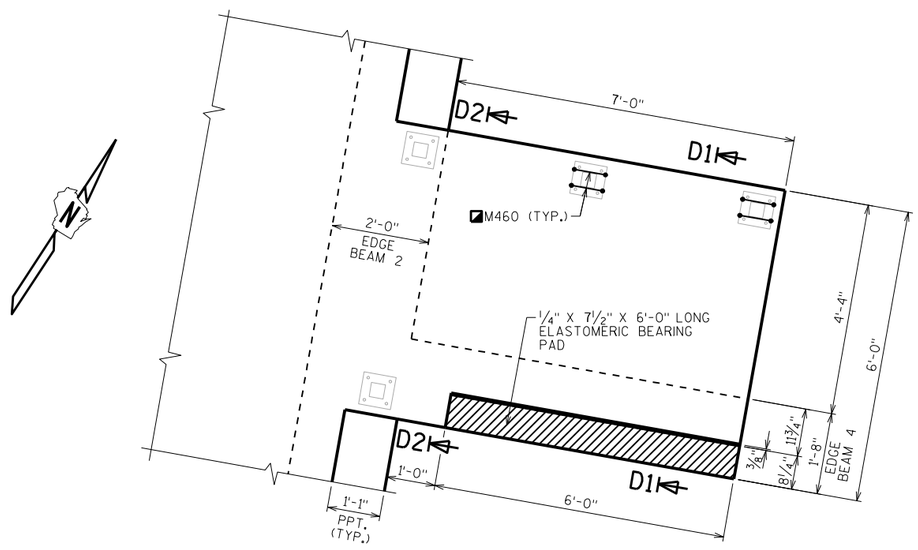
SECTION D1-D1
(SHOWING EDGE BEAM 4 AT BEAM NOTCH)



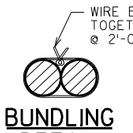
SECTION D3-D3
(SHOWING SLAB REINFORCEMENT)



SECTION D2-D2
(SHOWING EDGE BEAM 4)



PLAN AT OVERHANG



BUNDLING DETAIL

☑ TWO U-BARS REQUIRED PER POST LOCATION SHOWN ON "PLAN AT OVERHANG" DETAIL. LOCATE REINFORCEMENT TO BE NO MORE THAN 3" FROM THE LOCATION OF THE FUTURE ANCHOR BOLTS.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-40-881

DRAWN BY NAR | PLANS CK'D. SAD

PLATFORM DETAILS 3

SHEET 38

274

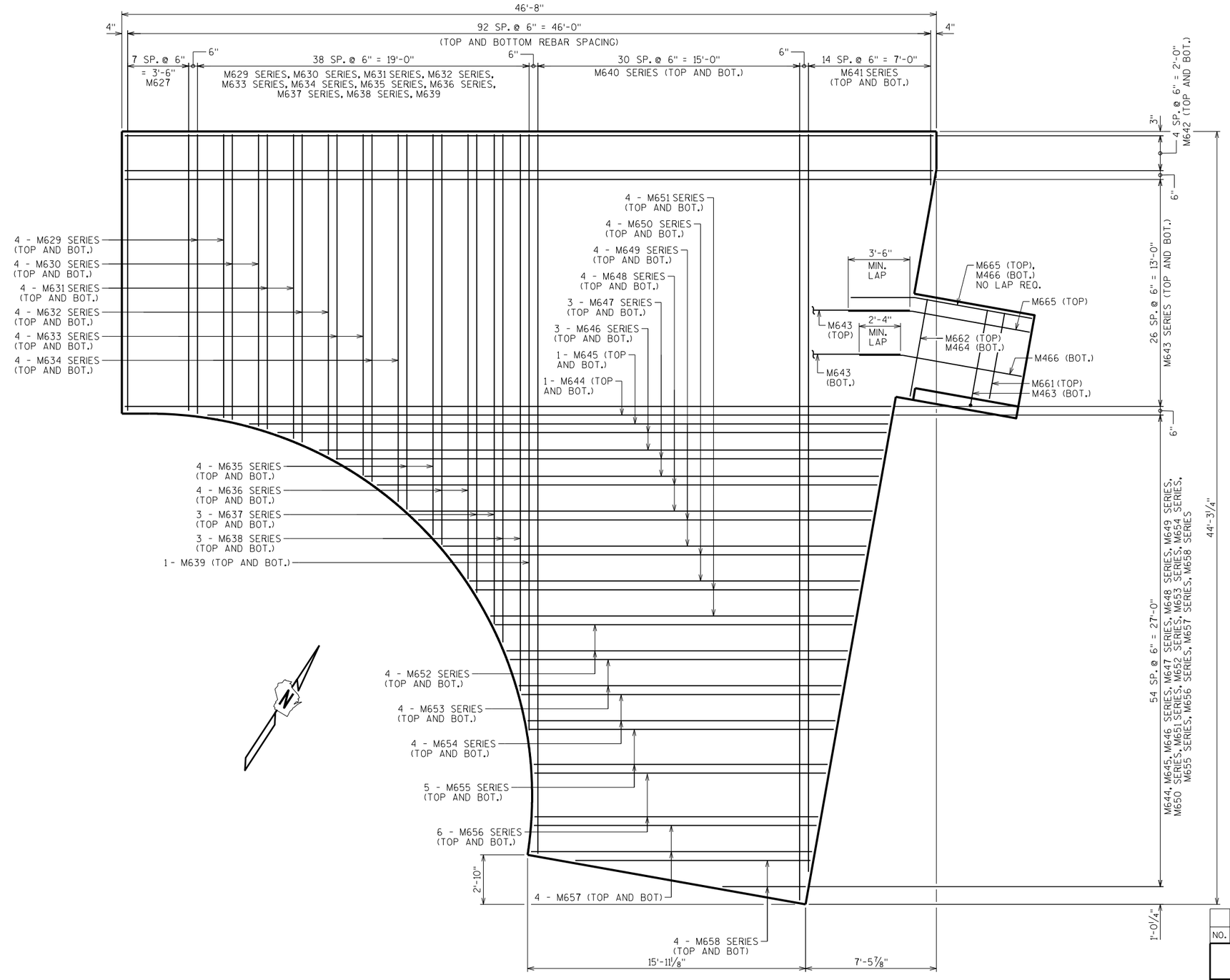
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8

STATE PROJECT NUMBER

1060-33-83



SLAB REINFORCEMENT PLAN

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-40-881

DRAWN BY NAR | PLANS CK'D. SAD

PLATFORM SLAB REINF.

SHEET 39

275

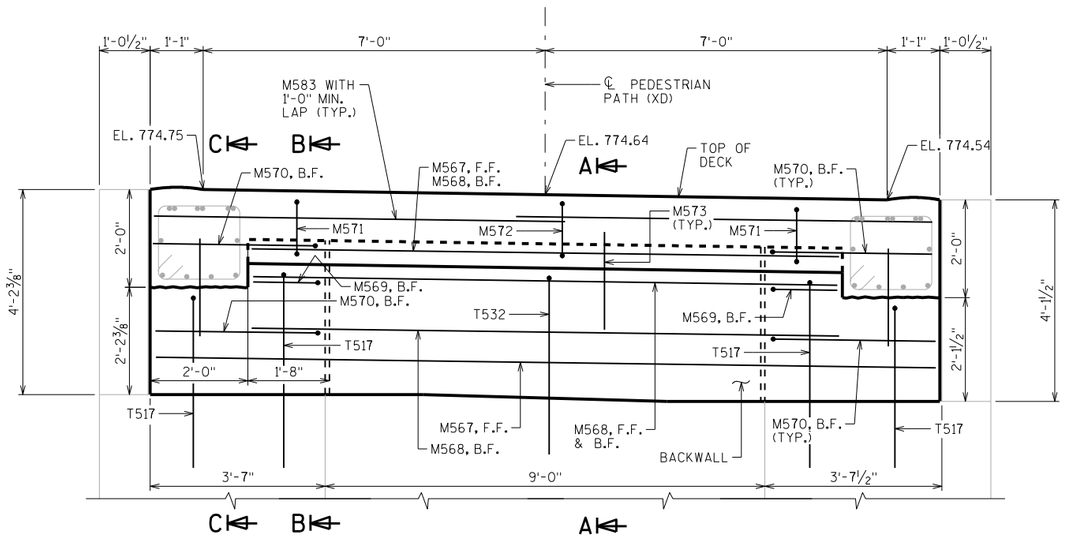
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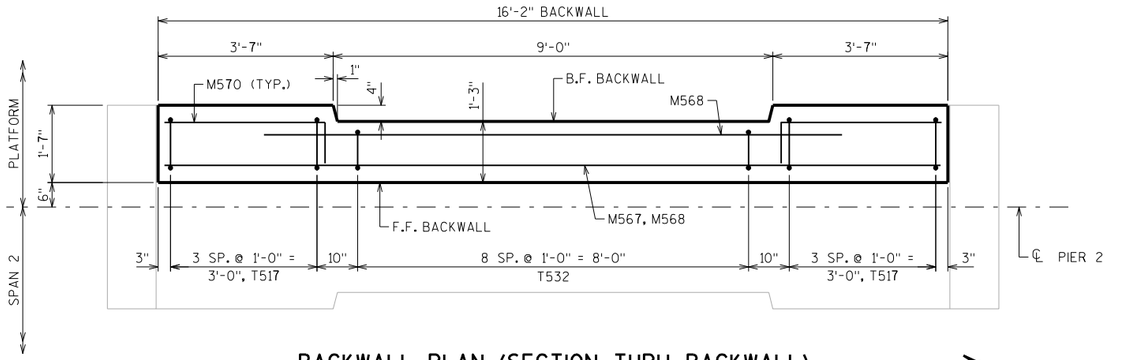
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STATE PROJECT NUMBER

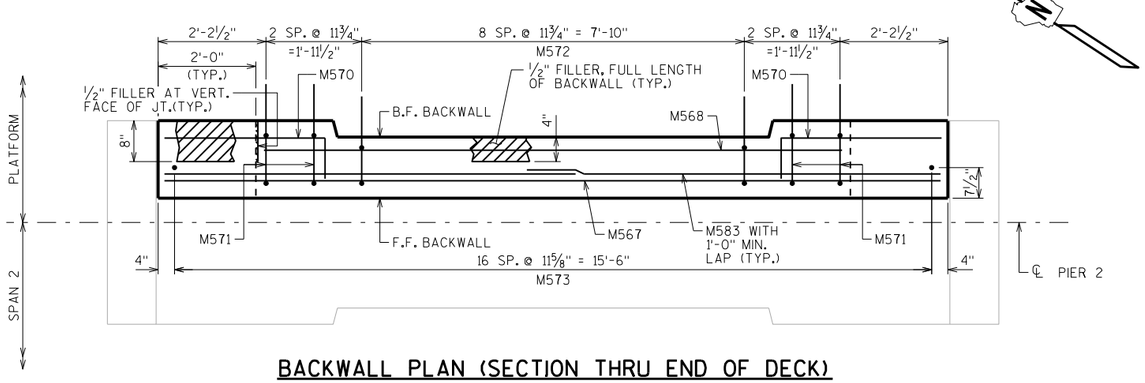
1060-33-83



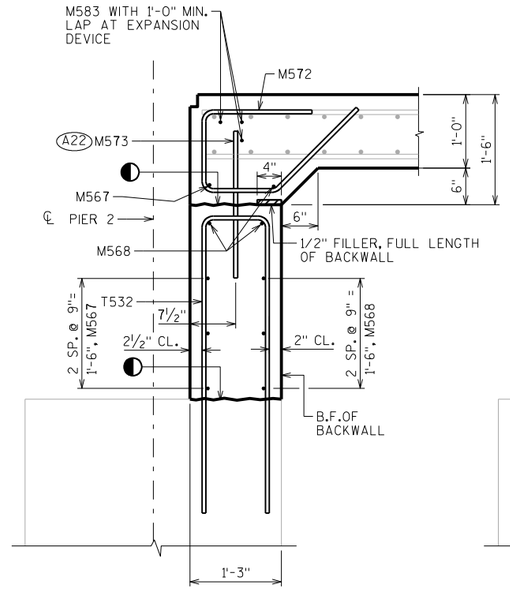
BACKWALL ELEVATION
(LOOKING NORTHEAST AT F.F. OF BACKWALL)



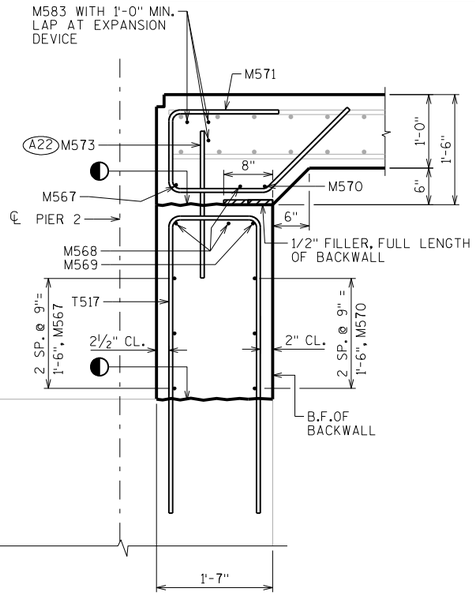
BACKWALL PLAN (SECTION THRU BACKWALL)



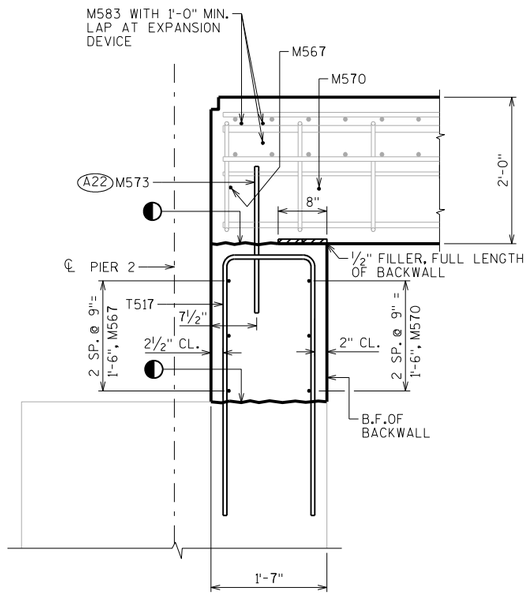
BACKWALL PLAN (SECTION THRU END OF DECK)



SECTION A-A



SECTION B-B



SECTION C-C

A22 BARS MAY BE PLACED AFTER CONCRETE IS POURED BUT BEFORE INITIAL SET HAS TAKEN PLACE. (EMBED 1'-0" INTO CONC.)

HORIZ. CONST. JOINT: STRIKE OFF AND LEAVE ROUGH

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-40-881

DRAWN BY NAR | PLANS CK'D. SAD

PLATFORM WEST BACKWALL

SHEET 40

276

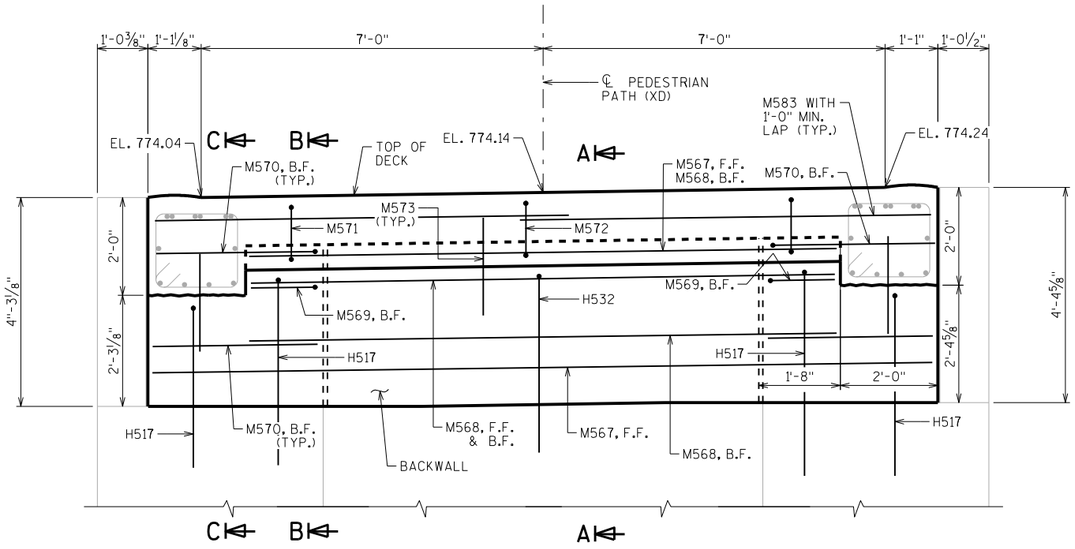
SCALE = 1.5

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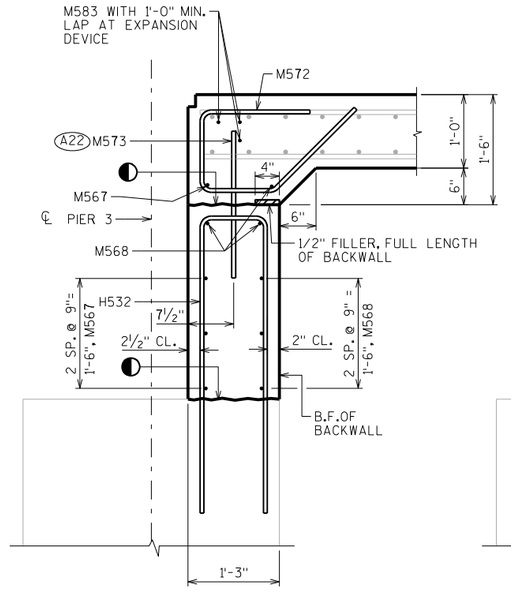
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STATE PROJECT NUMBER

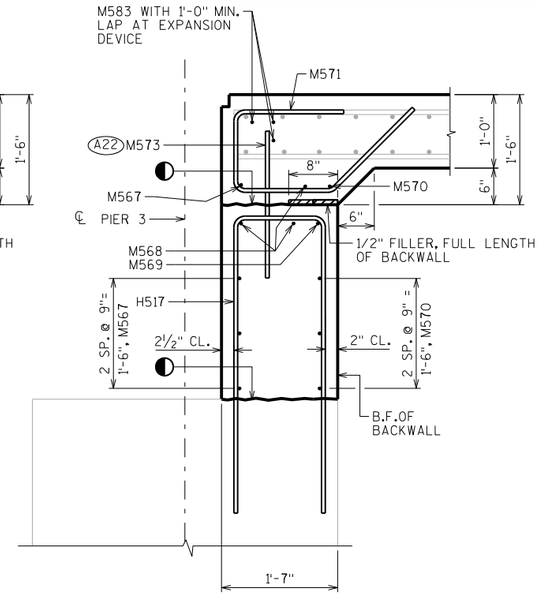
1060-33-83



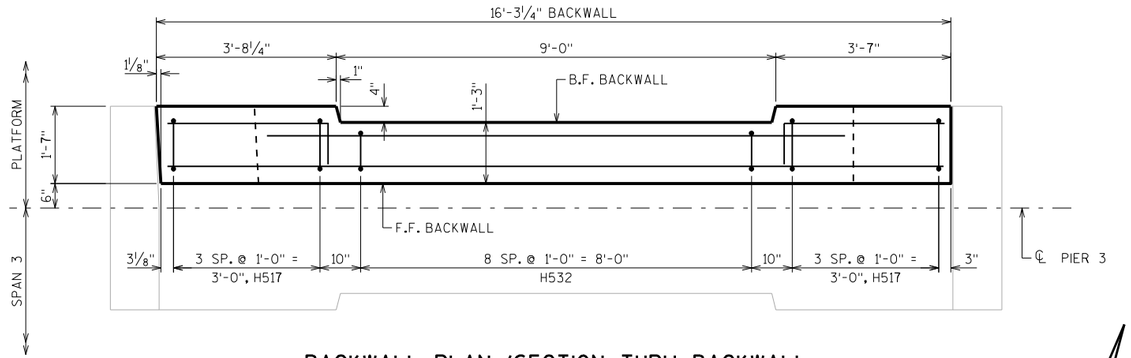
BACKWALL ELEVATION
(LOOKING NORTHWEST AT F.F. OF BACKWALL)



SECTION A-A

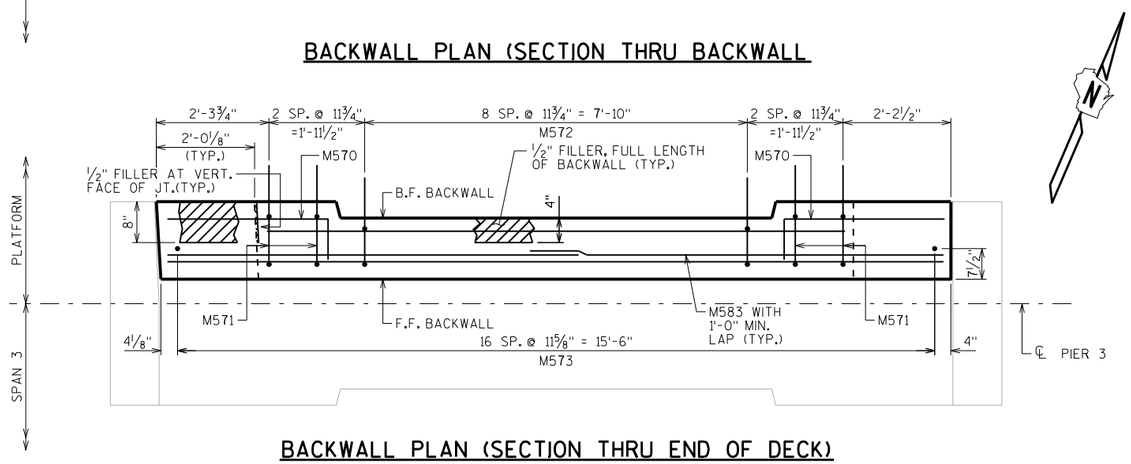


SECTION B-B



BACKWALL PLAN (SECTION THRU BACKWALL

SECTION C-C



BACKWALL PLAN (SECTION THRU END OF DECK)

A22 BARS MAY BE PLACED AFTER CONCRETE IS POURED BUT BEFORE INITIAL SET HAS TAKEN PLACE. (EMBED 1'-0" INTO CONC.)

HORIZ. CONST. JOINT: STRIKE OFF AND LEAVE ROUGH

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-40-881

DRAWN BY NAR | PLANS CK'D. SAD

PLATFORM EAST BACKWALL

SHEET 41

277

SCALE = 1.5

8

8

BILL OF BARS

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

BAR MARK	COAT	NO. REQ'D.	LENGTH	BENT	BAR SERIES	LOCATION
M601		48	4'-8"			COLUMN FOOTINGS - TRANS.
M802	X	32	7'-9"	X		COLUMNS - DOWELS - VERT.
M503	X	122	6'-8"	X		COLUMNS - STIRRUPS - HORIZ.
M804	X	16	33'-7"	X		COLUMNS 2 & 4 - VERT.
M805	X	16	30'-7"	X		COLUMNS 1 & 3 - VERT.
M506	X	163	7'-0"	X		EDGE BEAMS - STIRRUPS - VERT.
M807	X	4	46'-5"	X		EDGE BEAM 1 - BOT. - LONGIT.
M508	X	2	46'-4"			EDGE BEAM 1 - SIDES - LONGIT.
M809	X	6	46'-4"	X		EDGE BEAM 1 - TOP- LONGIT.
		NOT	USED			
M1011	X	2	44'-3"	X		EDGE BEAM 2- BOT.- LONGIT.
M912	X	2	44'-3"	X		EDGE BEAM 2 - BOT. - LONGIT.
M513	X	2	44'-3"	X		EDGE BEAM 2- SIDES - LONGIT.
M914	X	6	44'-6"	X	X	EDGE BEAM 2 - TOP - LONGIT.
		NOT	USED			
M716	X	4	40'-10"	X	X	EDGE BEAM 3 - BOT. - LONGIT.
M517	X	1	39'-7"	X		EDGE BEAM 3 - SIDES- LONGIT.
M518	X	1	42'-1"	X		EDGE BEAM 3 - SIDES- LONGIT.
M919	X	6	40'-9"	X	X	EDGE BEAM 3 - TOP - LONGIT.
M520	X	16	4'-3"	X		COLUMN/BEAM JOINT - HORIZ.
M521	X	16	4'-7"	X		COLUMN/BEAM JOINT - VERT.
M422	X	12	5'-2"	X		EDGE BEAM 4 - STIRRUPS - VERT.
M423	X	24	5'-0"	X		EDGE BEAM 4 - STIRRUPS - VERT.
M424	X	6	6'-4"	X		EDGE BEAM 4 - STIRRUPS - VERT.
M525	X	4	4'-5"	X		COLUMN/BEAM JOINT - VERT.
M426	X	8	8'-8"			EDGE BEAM 4 - LONGIT.
M627	X	16	15'-10			SLAB - TOP & BOT. - TRANS.
		NOT	USED			
M629	X	8	16'-2"		X	SLAB - TOP & BOT. - TRANS.
M630	X	8	16'-6"		X	SLAB - TOP & BOT. - TRANS.
M631	X	8	17'-2"		X	SLAB - TOP & BOT. - TRANS.
M632	X	8	18'-0"		X	SLAB - TOP & BOT. - TRANS.
M633	X	8	19'-1"		X	SLAB - TOP & BOT. - TRANS.
M634	X	8	20'-5"		X	SLAB - TOP & BOT. - TRANS.
M635	X	8	22'-2"		X	SLAB - TOP & BOT. - TRANS.
M636	X	8	24'-5"		X	SLAB - TOP & BOT. - TRANS.
M637	X	6	27'-1"		X	SLAB - TOP & BOT. - TRANS.
M638	X	6	30'-5"		X	SLAB - TOP & BOT. - TRANS.
M639	X	2	33'-10			SLAB - TOP & BOT. - TRANS.
M640	X	62	42'-6"		X	SLAB - TOP & BOT. - TRANS.
M641	X	30	22'-7"		X	SLAB - TOP & BOT. - TRANS.
M642	X	10	46'-4"			SLAB - TOP & BOT. - LONGIT.
M643	X	54	45'-1"		X	SLAB - TOP & BOT. - LONGIT.
M644	X	2	38'-10			SLAB - TOP & BOT. - LONGIT.
M645	X	2	36'-6"			SLAB - TOP & BOT. - LONGIT.
M646	X	6	33'-6"		X	SLAB - TOP & BOT. - LONGIT.
M647	X	6	30'-4"		X	SLAB - TOP & BOT. - LONGIT.
M648	X	8	27'-7"		X	SLAB - TOP & BOT. - LONGIT.
M649	X	8	25'-1"		X	SLAB - TOP & BOT. - LONGIT.
M650	X	8	23'-0"		X	SLAB - TOP & BOT. - LONGIT.
M651	X	8	21'-4"		X	SLAB - TOP & BOT. - LONGIT.
M652	X	8	20'-0"		X	SLAB - TOP & BOT. - LONGIT.
M653	X	8	18'-10		X	SLAB - TOP & BOT. - LONGIT.
M654	X	8	17'-11		X	SLAB - TOP & BOT. - LONGIT.
M655	X	10	17'-2"		X	SLAB - TOP & BOT. - LONGIT.
M656	X	12	16'-6"		X	SLAB - TOP & BOT. - LONGIT.
M657	X	8	16'-1"			SLAB - TOP & BOT. - LONGIT.
M658	X	8	8'-11"		X	SLAB - TOP & BOT. - LONGIT.
		NOT	USED			
M460	X	4	1'-10"	X		SLAB OVERHANG - AT RAIL POST - VERT.
M661	X	12	5'-0"			SLAB OVERHANG - TOP - TRANS.
M662	X	2	5'-8"			SLAB OVERHANG - TOP - TRANS.
M463	X	12	6'-3"	X		SLAB OVERHANG - BOT. - TRANS.

BAR MARK	COAT	NO. REQ'D.	LENGTH	BENT	BAR SERIES	LOCATION
M464	X	2	5'-8"			SLAB OVERHANG - BOT. - TRANS.
M665	X	15	9'-1"	X		SLAB OVERHANG - TOP - LONGIT.
M466	X	9	6'-8"			SLAB OVERHANG - BOT. - LONGIT
M567	X	8	15'-10			BACKWALL - F.F. - HORIZ.
M568	X	12	11'-10			BACKWALL - F.F. & B.F. - HORIZ.
M569	X	4	2'-0"	X		BACKWALL - B.F. - HORIZ.
M570	X	8	4'-0"	X		BACKWALL - B.F. - HORIZ.
M571	X	8	5'-2"	X		BACKWALL - SLAB ENDS - VERT.
M572	X	18	4'-10"	X		BACKWALL - SLAB ENDS - VERT.
M573	X	34	2'-0"			BACKWALL - DOWELS - VERT.
M574	X	126	8'-6"	X		PARAPETS - STIRRUPS - VERT.
M475	X	8	45'-0"			PARAPETS - HORIZ. - NW PPT.
M476	X	8	8'-10"	X		PARAPETS - HORIZ. - CORNER
M477	X	8	7'-0"			PARAPETS - HORIZ. - NE PPT.
M478	X	8	29'-2"			PARAPETS - HORIZ. - NE PPT.
M479	X	4	39'-9"	X		PARAPETS - HORIZ. - SW PPT.
M480	X	4	40'-4"	X		PARAPETS - HORIZ. - SW PPT.
M581	X	2	3'-2"			PARAPETS - AT CORNER - VERT.
M482	X	4	1'-10"			PARAPETS - AT CORNER - HORIZ.
M583	X	12	8'-5"			EXPANSION DEVICE - HORIZ.

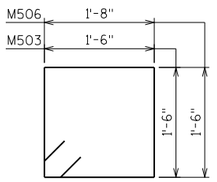
⚠ LENGTH SHOWN FOR BAR IS AN AVERAGE LENGTH AND SHOULD ONLY BE USED FOR BAR WEIGHT CALCULATIONS. SEE BAR SERIES TABLE FOR ACTUAL LENGTHS.

BAR SERIES TABLE

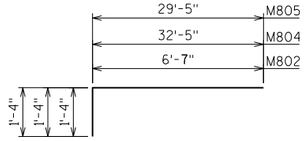
MARK	NO. REQD.	LENGTH
M914	2 SERIES OF 3	44'-4" TO 44'-7"
M716	1 SERIES OF 4	39'-7" TO 42'-1"
M919	2 SERIES OF 3	39'-9" TO 41'-10"
M629	2 SERIES OF 4	16'-0" TO 16'-3"
M630	2 SERIES OF 4	16'-4" TO 16'-8"
M631	2 SERIES OF 4	16'-10" TO 17'-5"
M632	2 SERIES OF 4	17'-7" TO 18'-4"
M633	2 SERIES OF 4	18'-7" TO 19'-6"
M634	2 SERIES OF 4	19'-10" TO 21'-0"
M635	2 SERIES OF 4	21'-5" TO 22'-11"
M636	2 SERIES OF 4	23'-5" TO 25'-5"
M637	2 SERIES OF 3	26'-2" TO 27'-11"
M638	2 SERIES OF 3	29'-0" TO 31'-9"
M640	2 SERIES OF 31	41'-2" TO 43'-10"
M641	2 SERIES OF 15	2'-11" TO 42'-3"
M643	2 SERIES OF 27	43'-11" TO 46'-2"

MARK	NO. REQD.	LENGTH
M646	2 SERIES OF 3	32'-3" TO 34'-9"
M647	2 SERIES OF 3	29'-5" TO 31'-2"
M648	2 SERIES OF 4	26'-6" TO 28'-7"
M649	2 SERIES OF 4	24'-3" TO 25'-10"
M650	2 SERIES OF 4	22'-4" TO 23'-8"
M651	2 SERIES OF 4	20'-9" TO 21'-11"
M652	2 SERIES OF 4	19'-6" TO 20'-5"
M653	2 SERIES OF 4	18'-5" TO 19'-3"
M654	2 SERIES OF 4	17'-7" TO 18'-3"
M655	2 SERIES OF 5	16'-10" TO 17'-5"
M656	2 SERIES OF 6	16'-3" TO 16'-8"
M658	2 SERIES OF 4	4'-7" TO 13'-3"

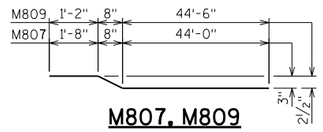
BUNDLE AND TAG EACH SERIES SEPARATELY.



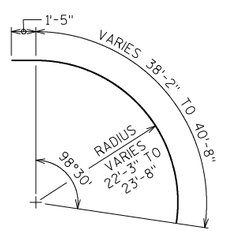
M503, M506



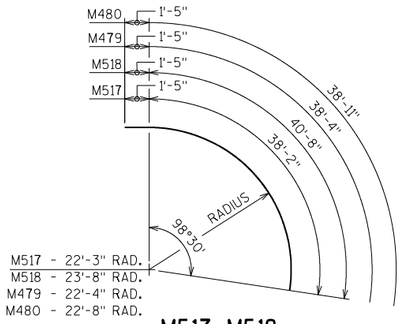
M802, M804, M805



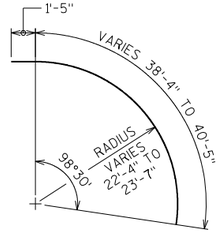
M807, M809



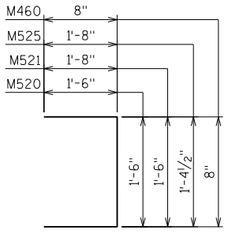
M716 SERIES



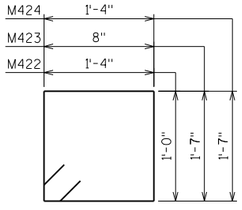
M517, M518, M479, M480



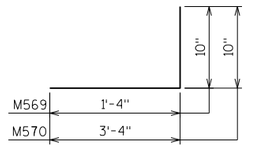
M919 SERIES



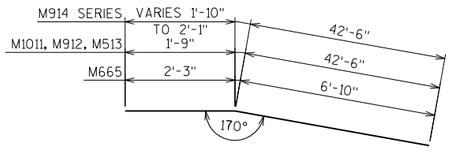
M520, M521, M525, M460



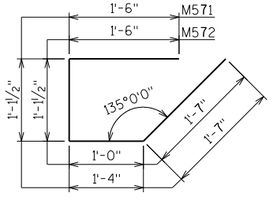
M422, M423, M424



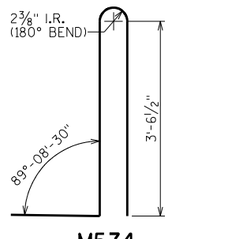
M569, M570



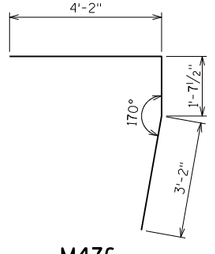
M1011, M912, M513, M914 SERIES, M665



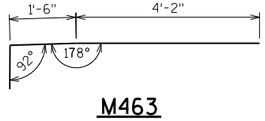
M571, M572



M574



M476



M463

STATE PROJECT NUMBER

1060-33-83

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-40-881

DRAWN BY NAR | PLANS CK'D. SAD

PLATFORM REBAR DETAILS

SHEET 42

278

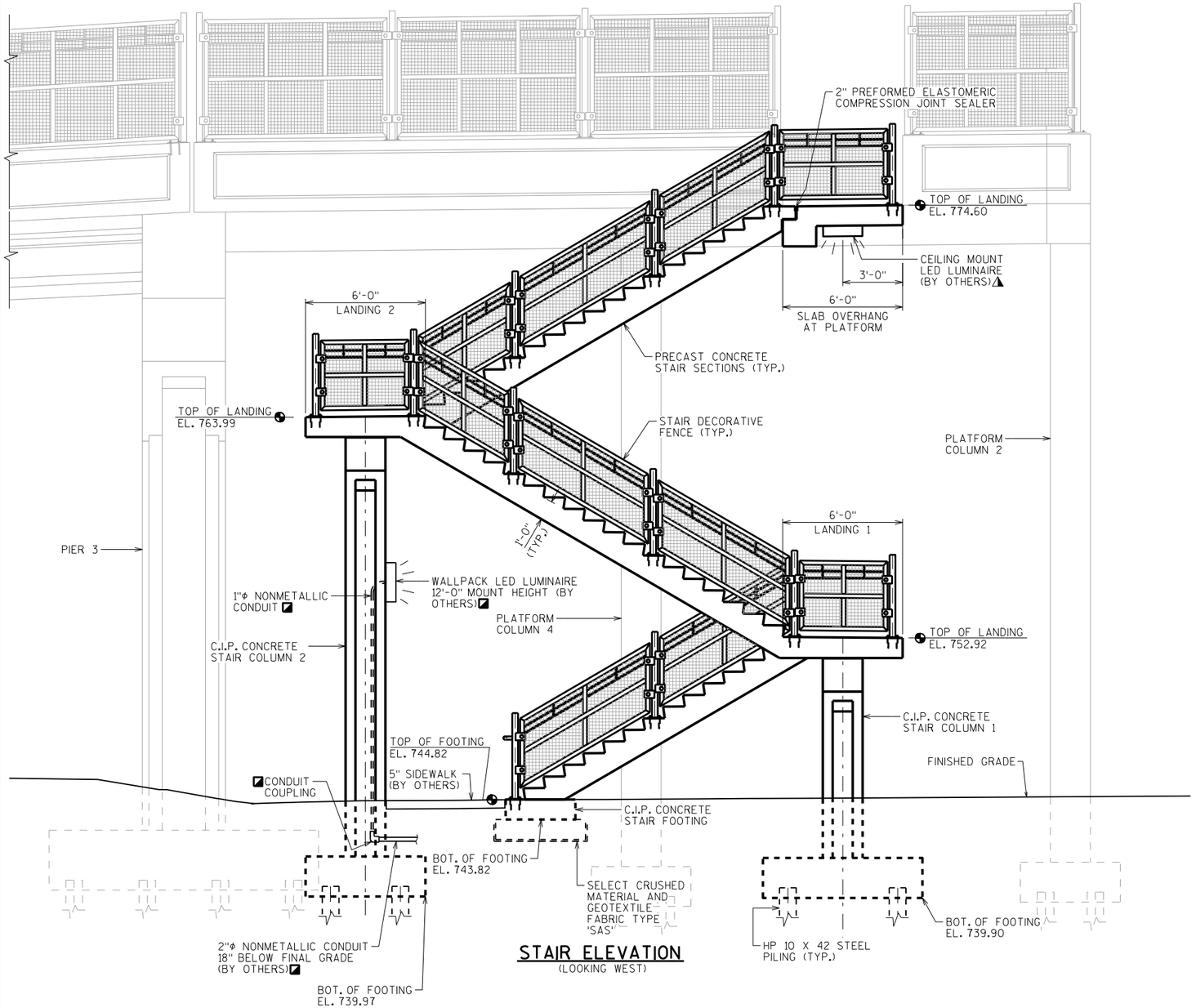
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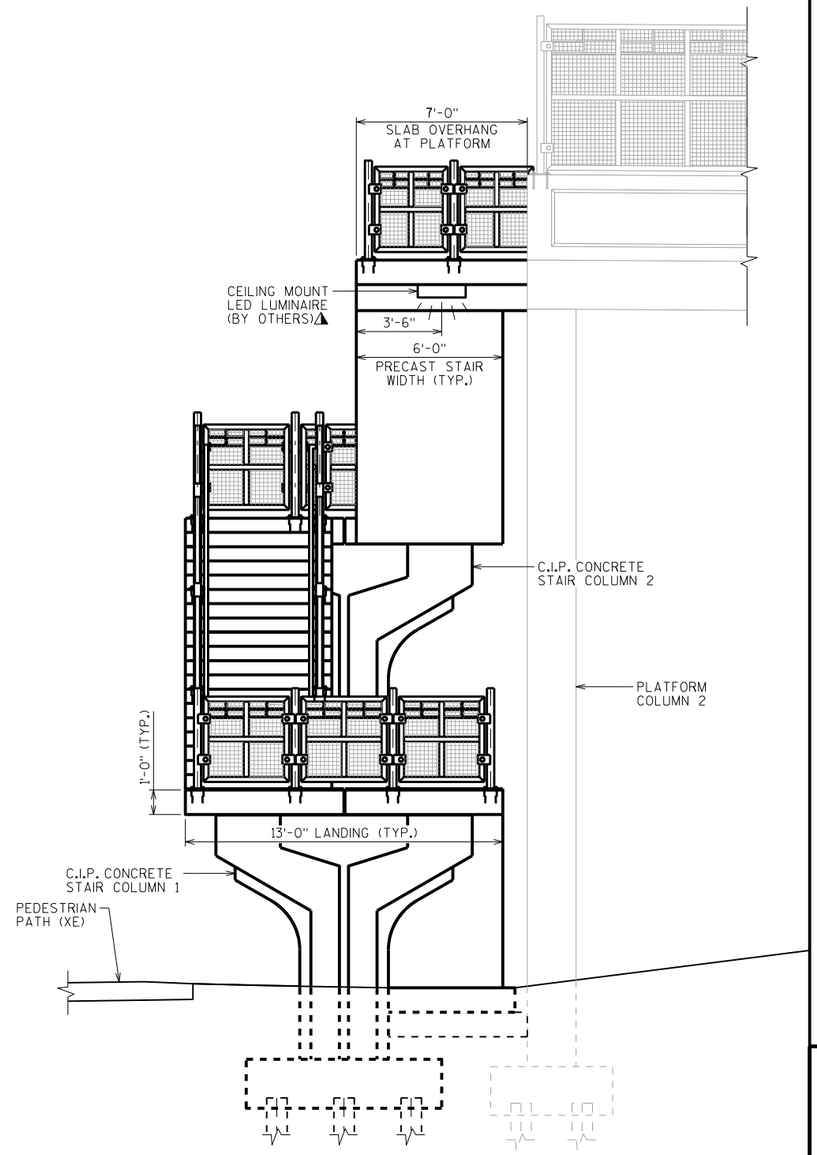
8

STATE PROJECT NUMBER

1060-33-83



STAIR ELEVATION
(LOOKING WEST)



STAIR ELEVATION
(LOOKING SOUTH)

▲ SEE "CONDUIT DETAILS" SHT. FOR CONDUIT DETAILS

◪ SEE "STAIR COLUMN 2" SHT. FOR ADDITIONAL CONDUIT DETAILS

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-40-881

DRAWN BY NAR | PLANS CK'D. SAD

STAIR ELEVATION

SHEET 43

279

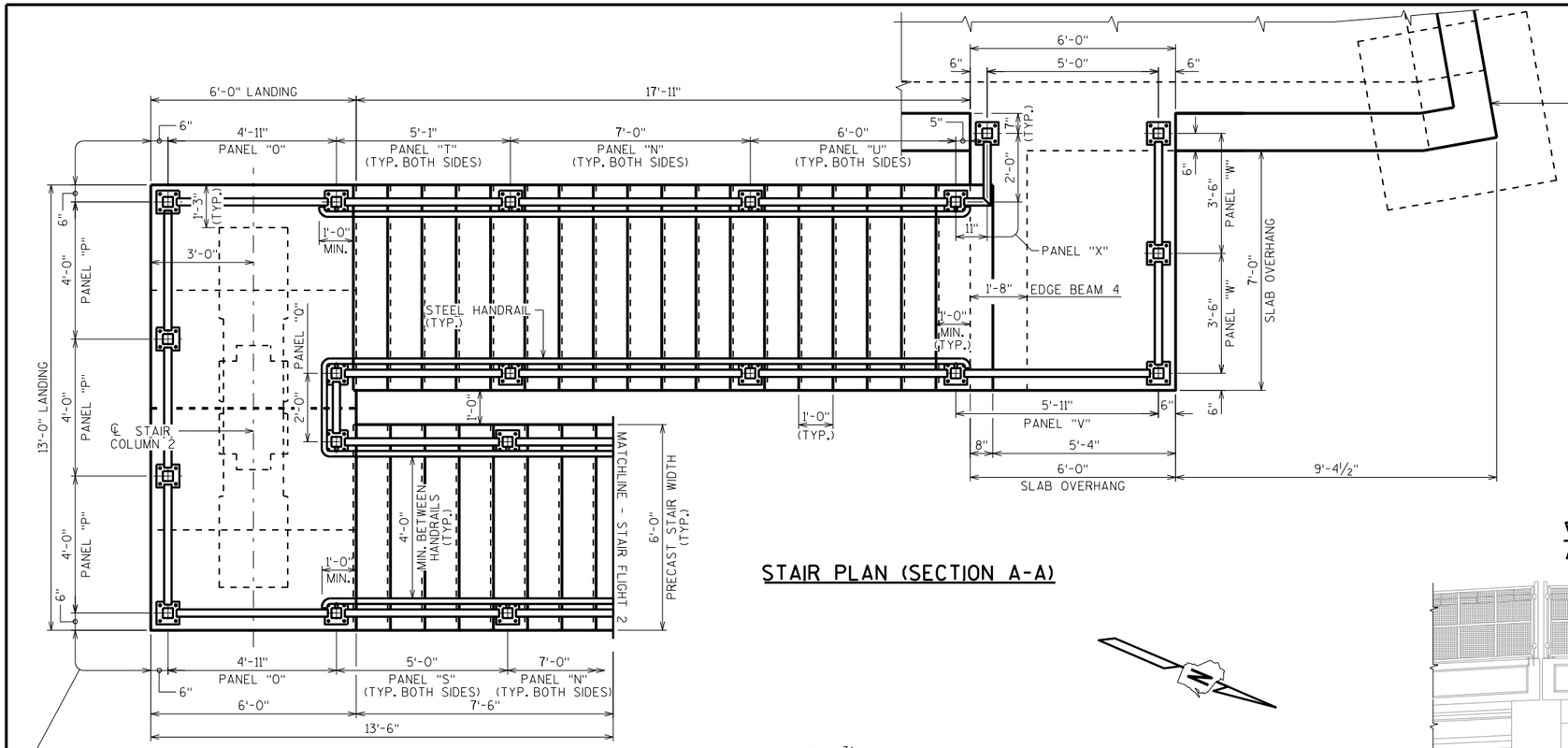
SCALE = 3

8

8

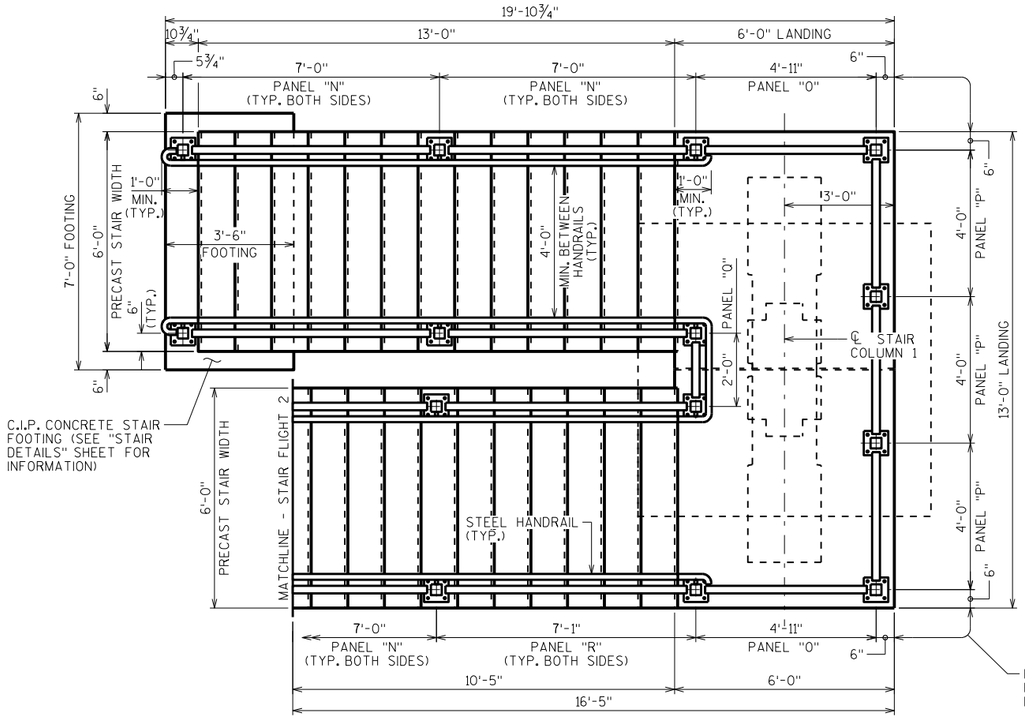
STATE PROJECT NUMBER

1060-33-83



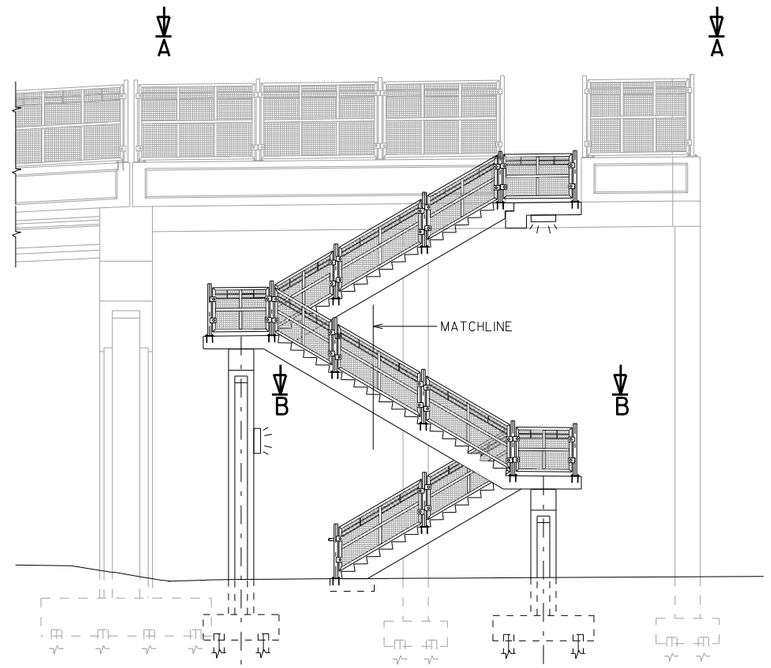
STAIR PLAN (SECTION A-A)

FENCE POST SPACING. SEE "STAIR RAILING DETAILS" SHTS. FOR DETAILS.



STAIR PLAN (SECTION B-B)

FENCE POST SPACING. SEE "STAIR RAILING DETAILS" SHTS. FOR DETAILS.



STAIR ELEVATION
(SHOWING SECTION CUTS)

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-40-881

DRAWN BY NAR | PLANS CK'D. SAD

STAIR PLAN

SHEET 44

280

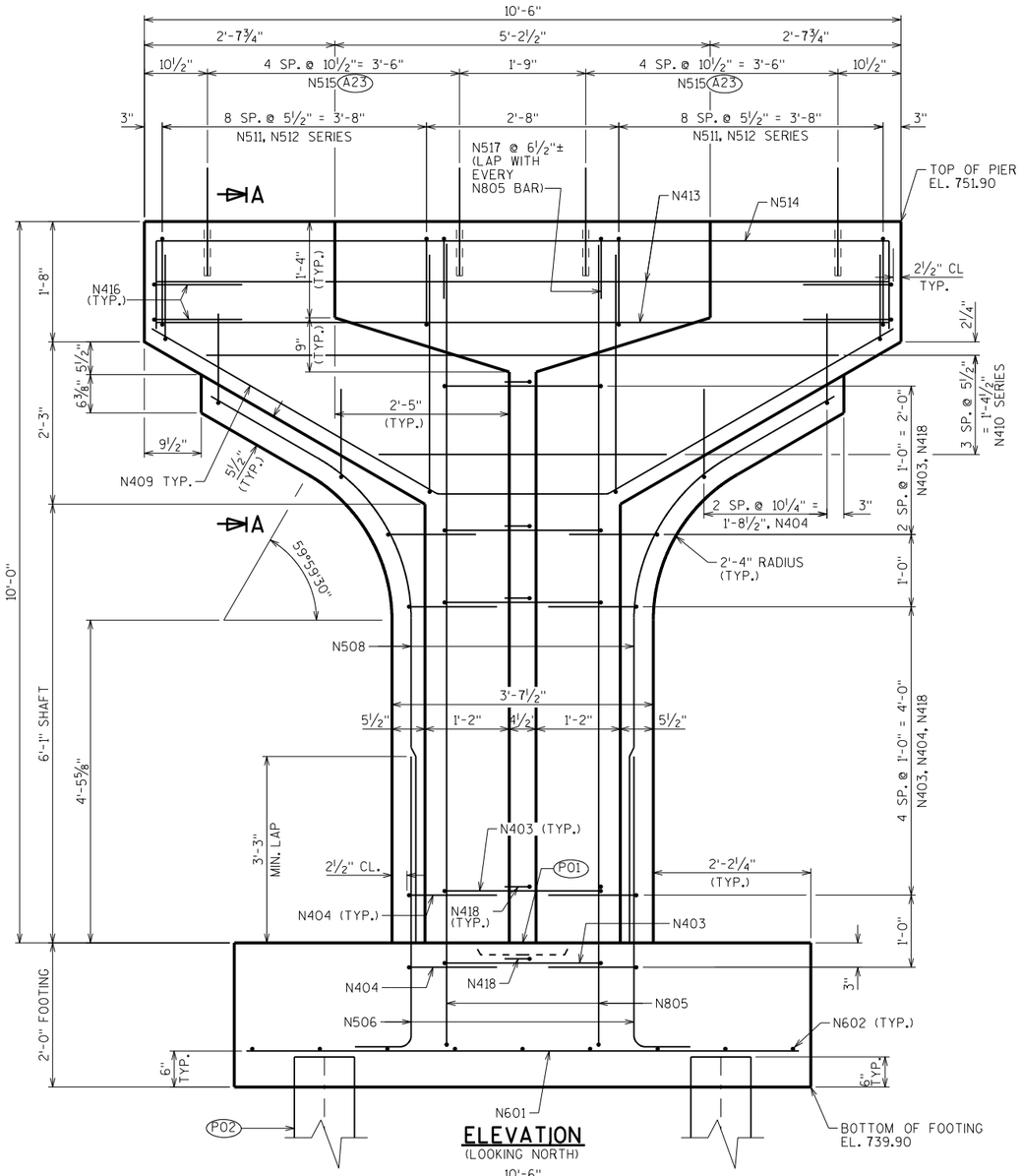
SCALE = 2

8

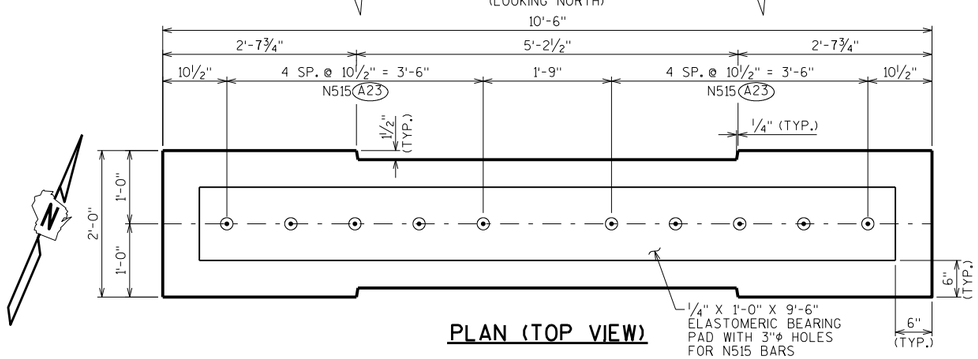
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STATE PROJECT NUMBER

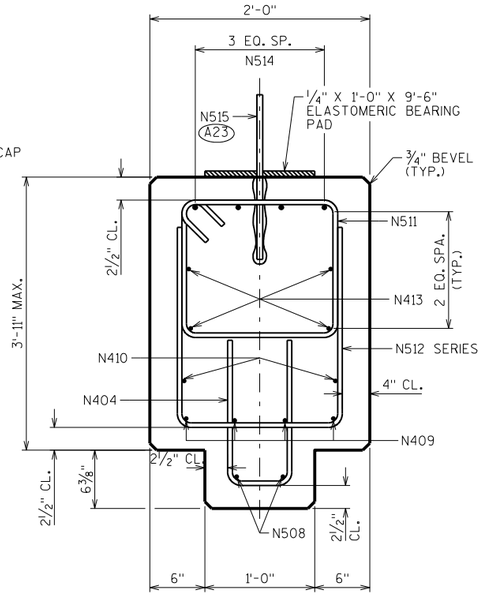
1060-33-83



ELEVATION
(LOOKING NORTH)

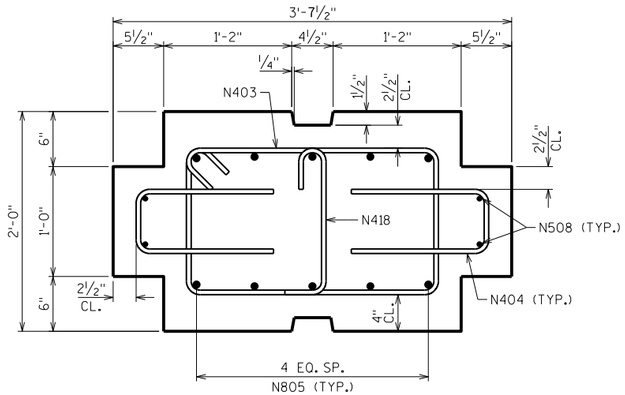


PLAN (TOP VIEW)

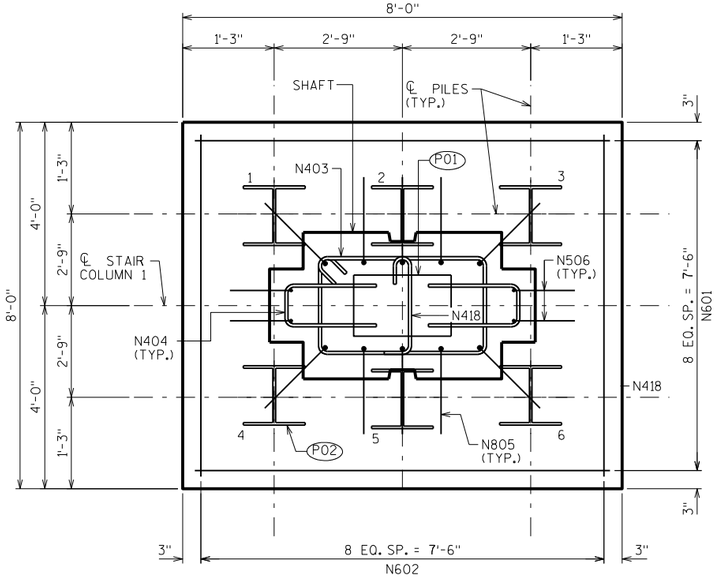


SECTION A-A

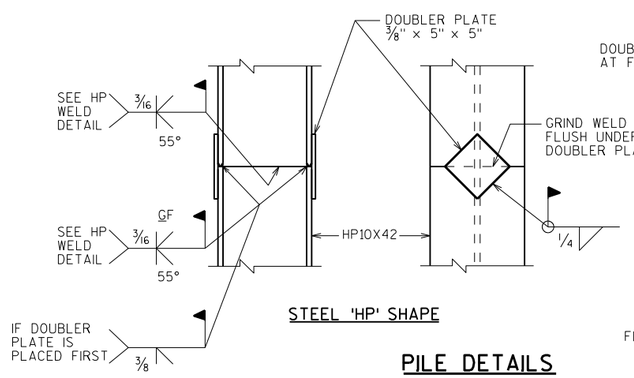
END OF VIEW OF CAP



SECTION THRU SHAFT



FOOTING/PILE PLAN



STEEL 'HP' SHAPE

HP WELD DETAIL
FLANGE SHOWN, WEB SIMILAR

PILE DETAILS

P01 10" X 1'-4" X 2" CONSTRUCTION JOINT FORMED BY BEVELED KEYWAY

P02 SUPPORT COLUMN ON HP 10 X 42 STEEL PILING, ESTIMATED 20'-0" LONG WITH A REQUIRED DRIVING RESISTANCE OF 50 TONS PER PILE.

A23 MASONRY ANCHORS TYPE L NO. 5 BARS, EMBED 9" IN CONCRETE.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-40-881

DRAWN BY NAR/JPH | PLANS CK'D. SAD

STAIR COLUMN 1

SHEET 45

281

SCALE = 1

8

8

STATE PROJECT NUMBER
1060-33-83

BILL OF BARS

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

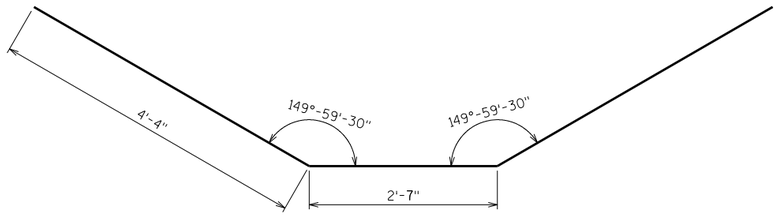
BAR MARK	COAT	NO. REQ'D.	LENGTH	BENT	BAR SERIES	LOCATION
N601		9	7'-8"			FOOTING-BOTTOM-HORIZ.
N602		9	7'-8"			FOOTING-BOTTOM-HORIZ.
N403	X	9	7'-9"	X		FOOTING/SHAFT/CAP-HORIZ.
N404	X	20	2'-11"	X		FOOTING/SHAFT-HORIZ.
N805	X	10	12'-0"	X		FOOTING/SHAFT.-VERT.
N506	X	4	5'-5"	X		FOOTING/SHAFT.-VERT.
		NOT	USED			
N508	X	4	8'-9"	X		SHAFT/CAP-VERT.
N409	X	4	11'-3"	X		CAP-BOTTOM-VERT.
N410	X	8	6'-3"		⚠	CAP-BOTTOM-HORIZ.-BOTH FACES
N511	X	18	5'-10"	X		CAP-TOP-VERT.-ENDS-STIRRUPS
N512	X	18	5'-7"	X	⚠	CAP-BOTTOM-VERT.-ENDS
N413	X	4	9'-10"			CAP-HORIZ.-BOTH FACES
N514	X	4	12'-1"	X		CAP-TOP-HORIZ. & VERT.
(A23) N515	X	10	1'-6"			CAP-TOP-VERT.-CENTER-DOWEL BARS
N416	X	4	4'-7"	X		CAP-HORIZ.-AT ENDS
N517	X	5	5'-1"	X		CAP-TOP-VERT.-ABOVE SHAFT
N418	X	9	2'-1"	X		FOOTING/SHAFT/CAP-HORIZ.

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

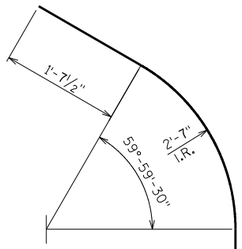
BAR SERIES TABLE

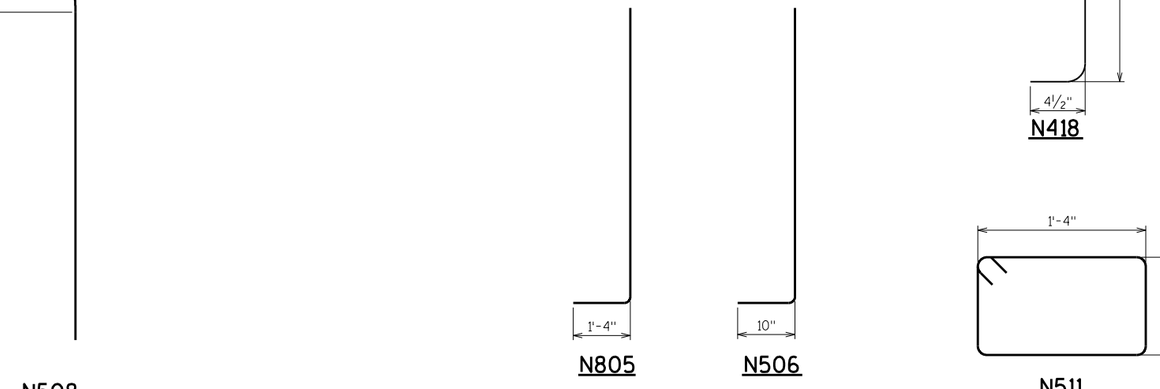
MARK	NO. REQD.	LENGTH
N410	2 SERIES OF 4 BARS	3'-10" TO 8'-8"
N512	2 SERIES OF 9 BARS	3'-5" TO 7'-9"

BUNDLE AND TAG EACH SERIES SEPARATELY.



N409

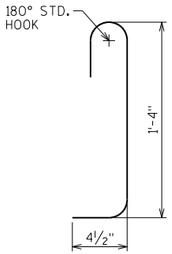




N508

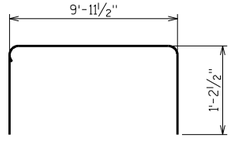
N805

N506

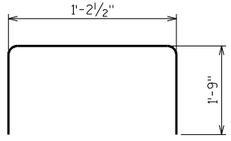


N418

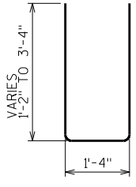
N511



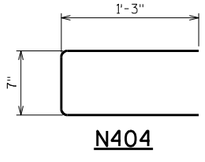
N514



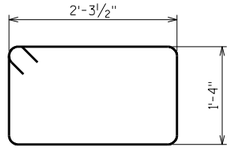
N416



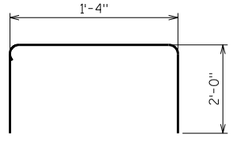
N512



N404



N403



N517

(A23) MASONRY ANCHORS TYPE L NO. 5 BARS, EMBED 9" IN CONCRETE.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-40-881

DRAWN BY JPH | PLANS CK'D. SAD

STAIR COLUMN 1
BAR DETAILS

SHEET 46

282

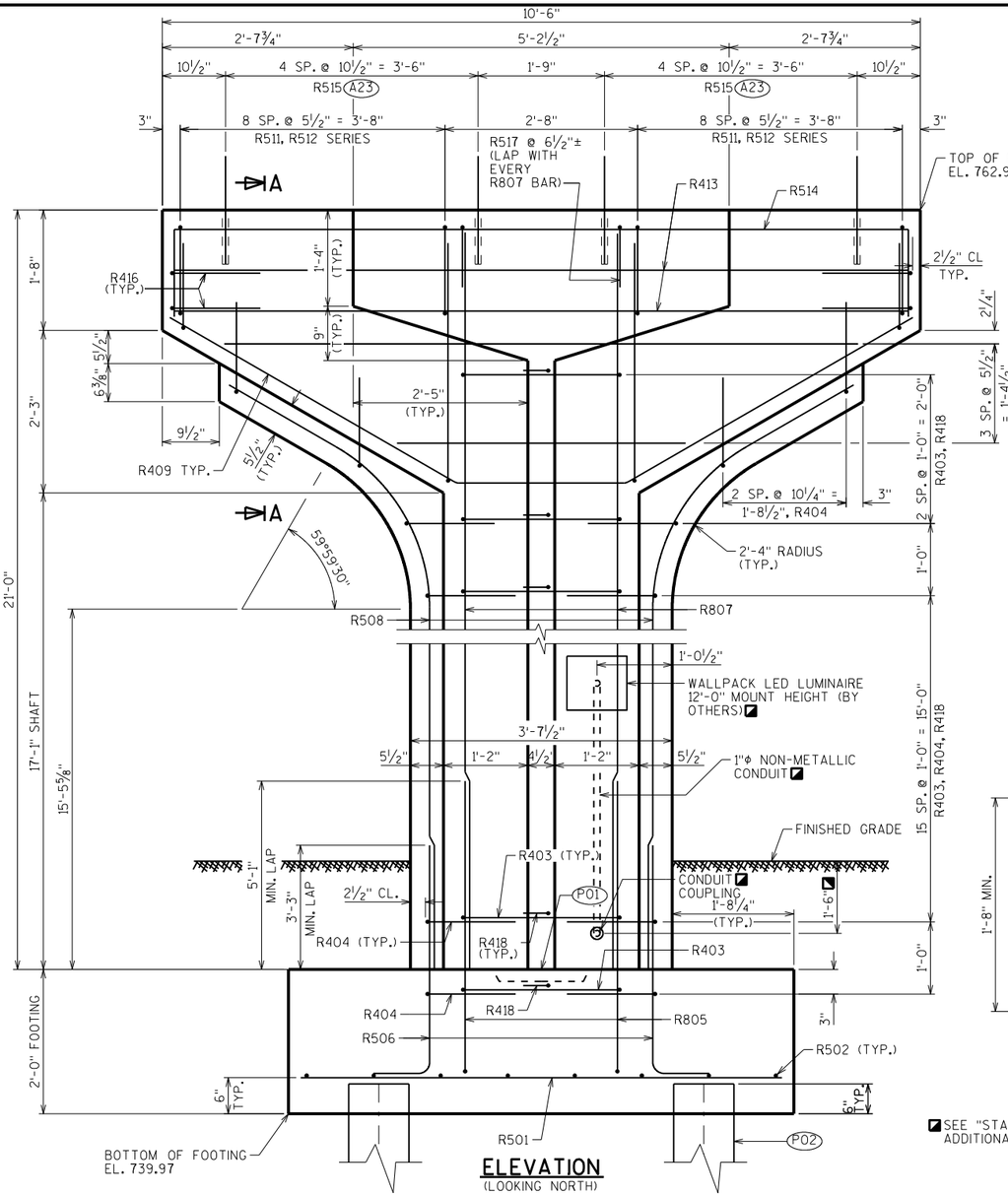
SCALE = 1

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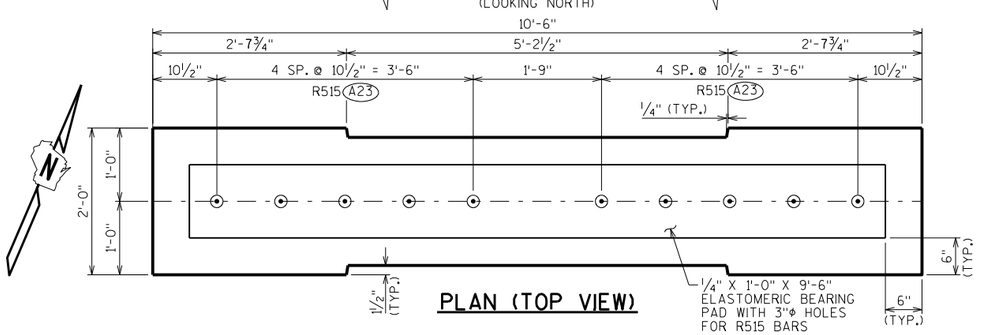
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STATE PROJECT NUMBER

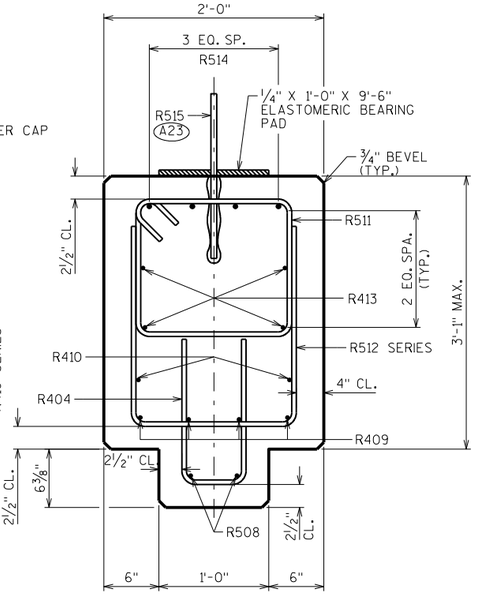
1060-33-83



ELEVATION
(LOOKING NORTH)

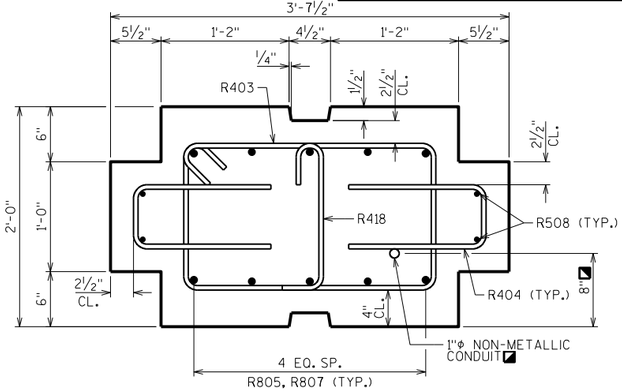


PLAN (TOP VIEW)

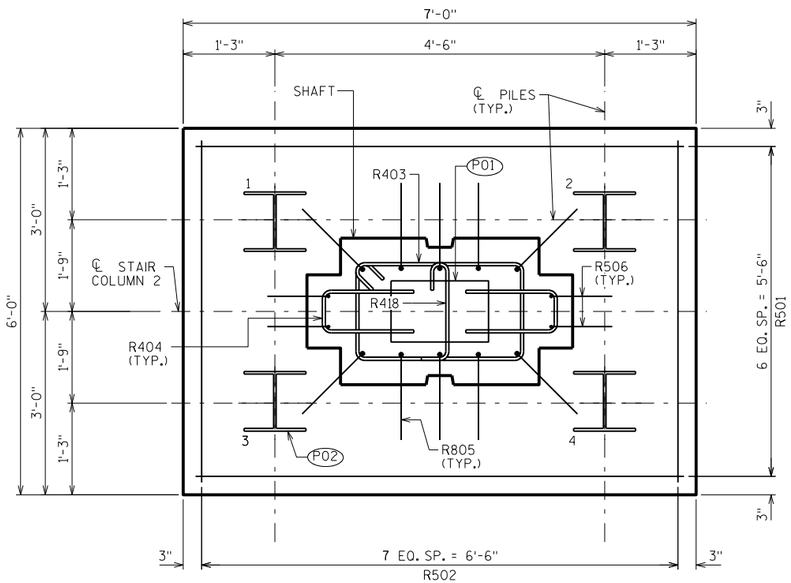


SECTION A-A

END OF VIEW OF CAP

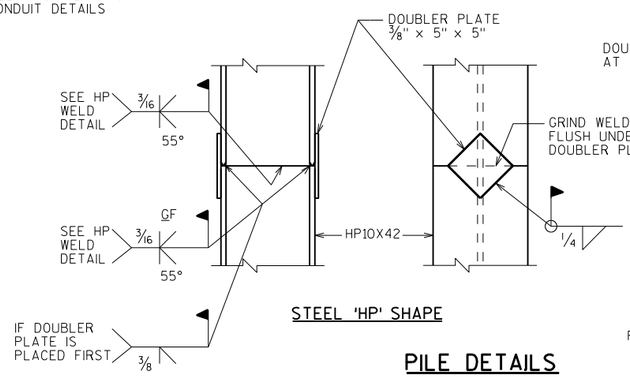


SECTION THRU SHAFT



FOOTING/PILE PLAN

SEE "STAIR ELEVATION" SHT. FOR ADDITIONAL CONDUIT DETAILS



STEEL 'HP' SHAPE

HP WELD DETAIL
FLANGE SHOWN, WEB SIMILAR

PILE DETAILS

P01 10" X 1'-4" X 2" CONSTRUCTION JOINT FORMED BY BEVELED KEYWAY

P02 SUPPORT COLUMN ON HP 10 X 42 STEEL PILING, ESTIMATED 20'-0" LONG WITH A REQUIRED DRIVING RESISTANCE OF 50 TONS PER PILE.

A23 MASONRY ANCHORS TYPE L NO. 5 BARS, EMBED 9" IN CONCRETE.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-40-881

DRAWN BY NAR/JPH | PLANS CK'D. SAD

STAIR COLUMN 2

SHEET 47

283

SCALE = 1

8

8

STATE PROJECT NUMBER
1060-33-83

BILL OF BARS

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

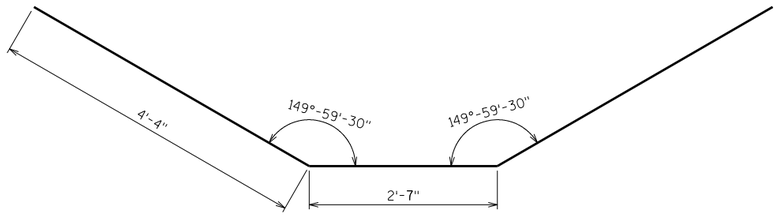
BAR MARK	COAT	NO. REQ'D.	LENGTH	BENT	BAR SERIES	LOCATION
R501		7	6'-8"			FOOTING-BOTTOM-HORIZ.
R502		8	5'-8"			FOOTING-BOTTOM-HORIZ.
R403	X	20	7'-9"	X		FOOTING/SHAFT/CAP-HORIZ.
R404	X	42	2'-11"	X		FOOTING/SHAFT-HORIZ.
R805	X	10	7'-8"	X		FOOTING/SHAFT.-VERT.
R506	X	4	5'-5"	X		FOOTING/SHAFT.-VERT.
R807	X	10	20'-7"			SHAFT/CAP-VERT.
R508	X	4	19'-9"	X		SHAFT/CAP-VERT.
R409	X	4	11'-3"	X		CAP-BOTTOM-VERT.
R410	X	8	6'-3"		⚠	CAP-BOTTOM-HORIZ.-BOTH FACES
R511	X	18	5'-10"	X		CAP-TOP-VERT.-ENDS-STIRRUPS
R512	X	18	5'-7"	X	⚠	CAP-BOTTOM-VERT.-ENDS
R413	X	4	9'-10"			CAP-HORIZ.-BOTH FACES
R514	X	4	12'-1"	X		CAP-TOP-HORIZ. & VERT.
(A23) R515	X	10	1'-6"			CAP-TOP-VERT.-CENTER-DOWEL BARS
R416	X	4	4'-7"	X		CAP-HORIZ.-AT ENDS
R517	X	5	5'-1"	X		CAP-TOP-VERT.-ABOVE SHAFT
R418	X	20	2'-1"	X		FOOTING/SHAFT/CAP-HORIZ.

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

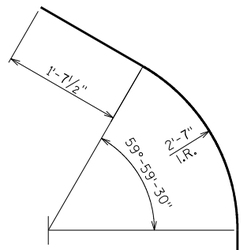
BAR SERIES TABLE

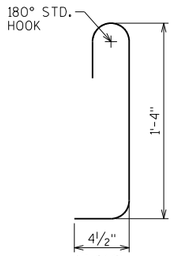
MARK	NO. REQD.	LENGTH
N410	2 SERIES OF 4 BARS	3'-10" TO 8'-8"
N512	2 SERIES OF 9 BARS	3'-5" TO 7'-9"

BUNDLE AND TAG EACH SERIES SEPARATELY.

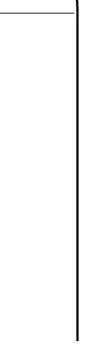


R409

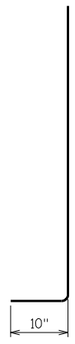




N418



R805

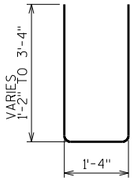


R506

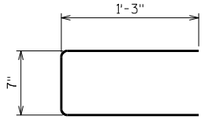
R805

R506

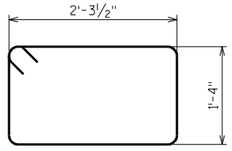
R511



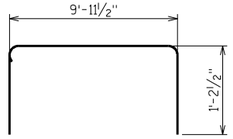
R512



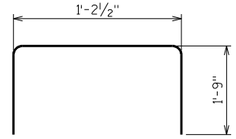
R404



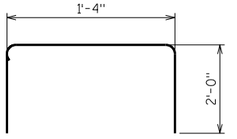
R403



R514



R416



R517

(A23) MASONRY ANCHORS TYPE L NO. 5 BARS, EMBED 9" IN CONCRETE.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-40-881

DRAWN BY JPH | PLANS CK'D. SAD

STAIR COLUMN 2
BAR DETAILS

SHEET 48

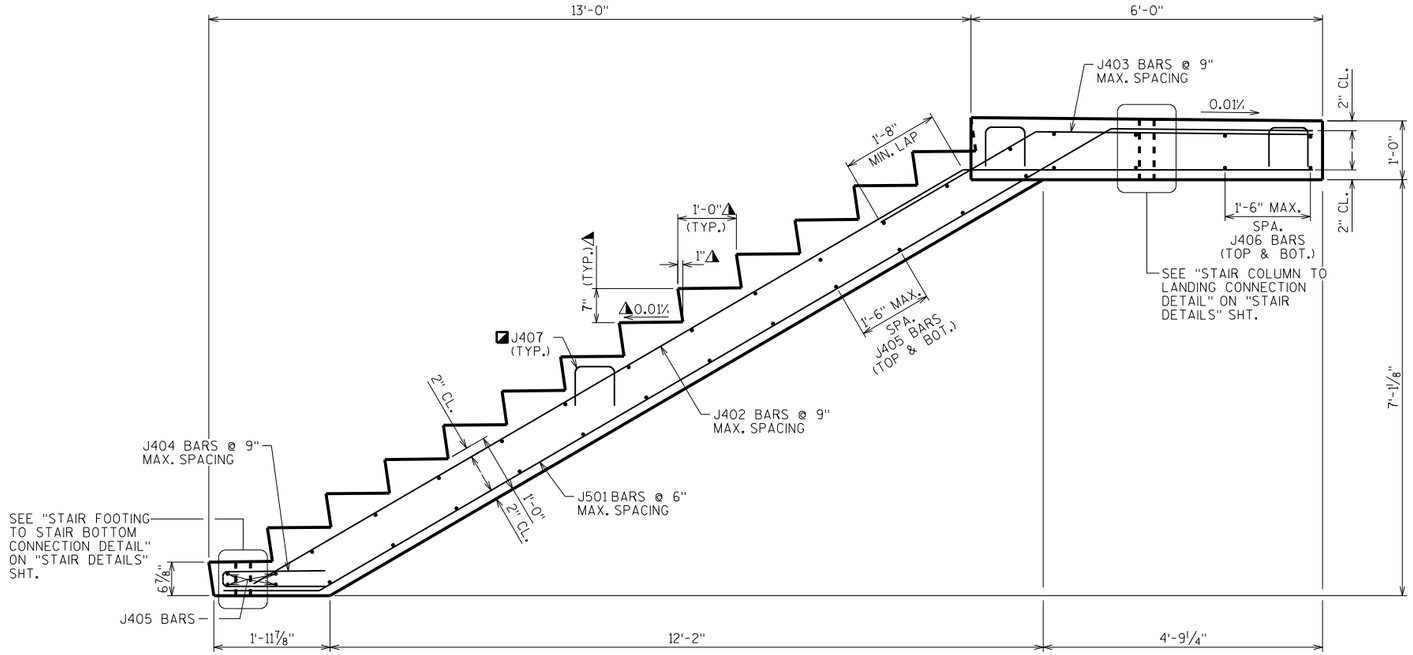
284

SCALE = 1

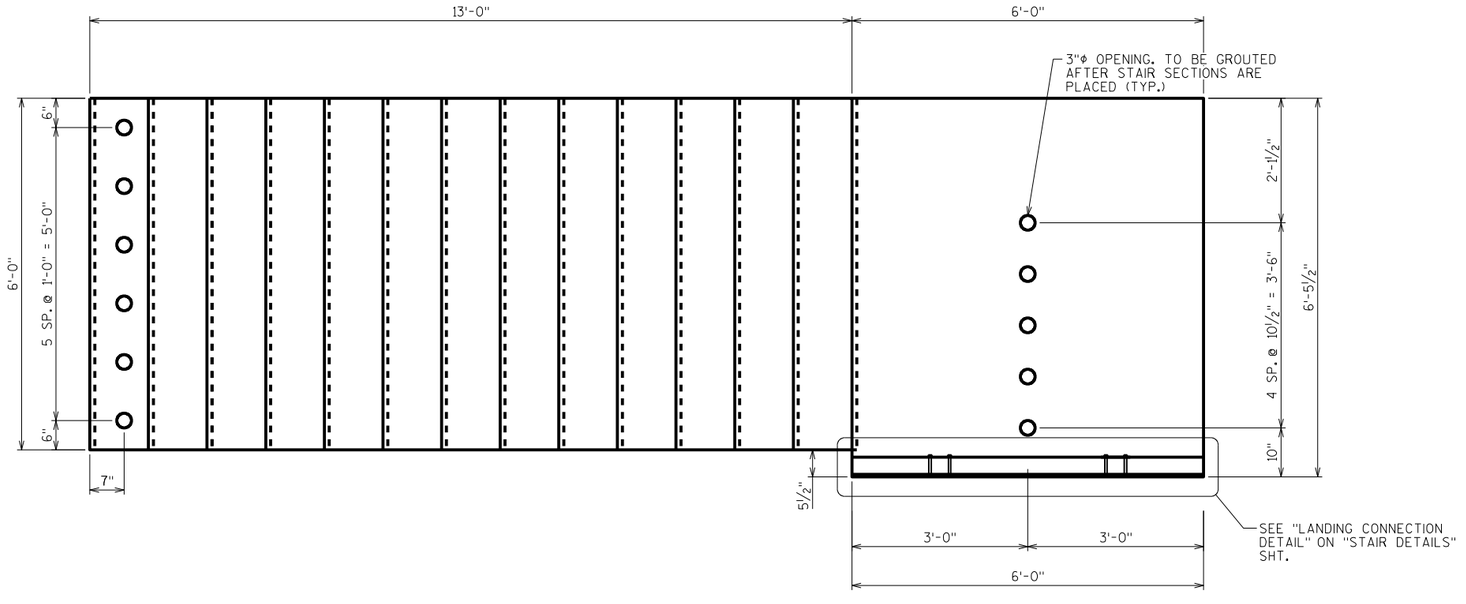
8

8

STATE PROJECT NUMBER
1060-33-83



ELEVATION



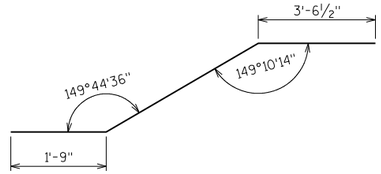
PLAN

BILL OF BARS

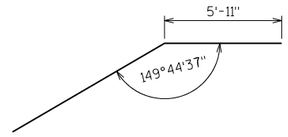
NOTE: THE FIRST OR FIRST TWO DIGITS OF THE BAR MARK SIGNIFIES THE BAR SIZE.

BAR MARK	COAT	NO. REQ'D.	LENGTH	BENT	BAR SERIES	COATED = 600 LBS. LOCATION
J501	X	12	20'-5"	X		STAIR - BOTTOM - LONGIT.
J402	X	9	20'-0"	X		STAIR - TOP - LONGIT.
J403	X	9	7'-9"	X		STAIR - AT LANDING - LONGIT.
J404	X	9	3'-7"	X		STAIR - AT BOTTOM - LONGIT.
J405	X	28	5'-8"			STAIR - AT STAIRS - TRANS.
J406	X	8	6'-1"			STAIR - AT LANDING - TRANS.
J407	X	12	1'-10	X		STAIR - AT RAILING POST - VERT.

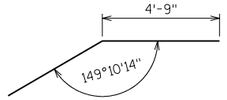
NOTE: THIS BILL OF BARS IS SHOWN FOR INFORMATION ONLY. PAYMENT FOR REINFORCEMENT IN PRECAST STAIRS IS INCLUDED IN THE BID ITEM 'PRECAST CONCRETE STAIR'.



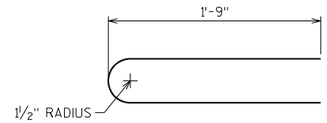
J501



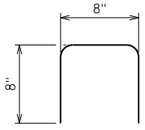
J402



J403



J404



J407

⚠ SEE "STAIR TREAD AND RISER DETAIL" ON "STAIR DETAILS" SHT.

◪ TWO U-BARS REQUIRED PER POST LOCATION. LOCATE REINFORCEMENT TO BE NO MORE THAN 3" FROM THE LOCATION OF THE FUTURE ANCHOR BOLTS.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-40-881

DRAWN BY NAR | PLANS CK'D. SAD

PRECAST STAIR SECTION 1

SHEET 49

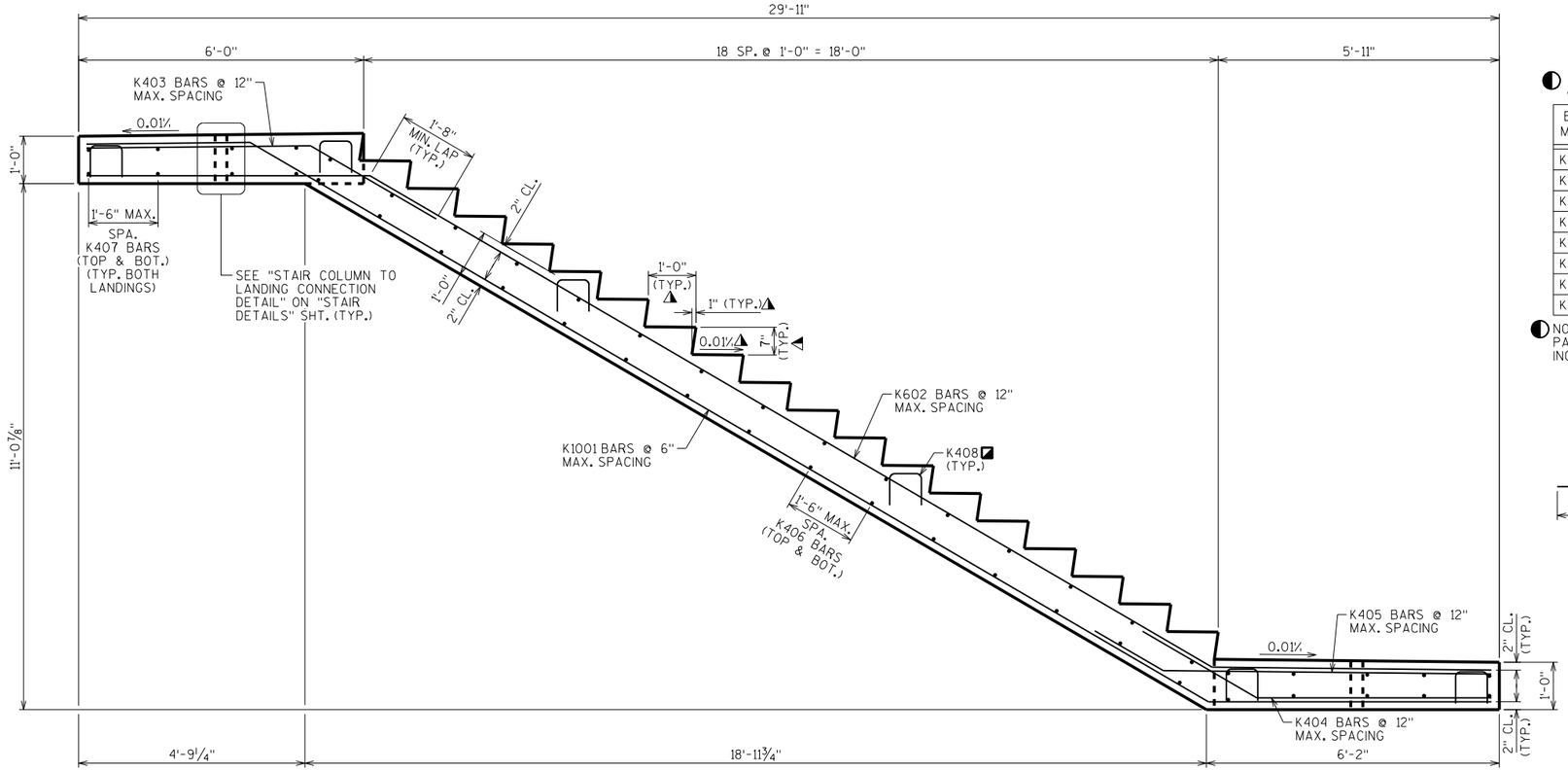
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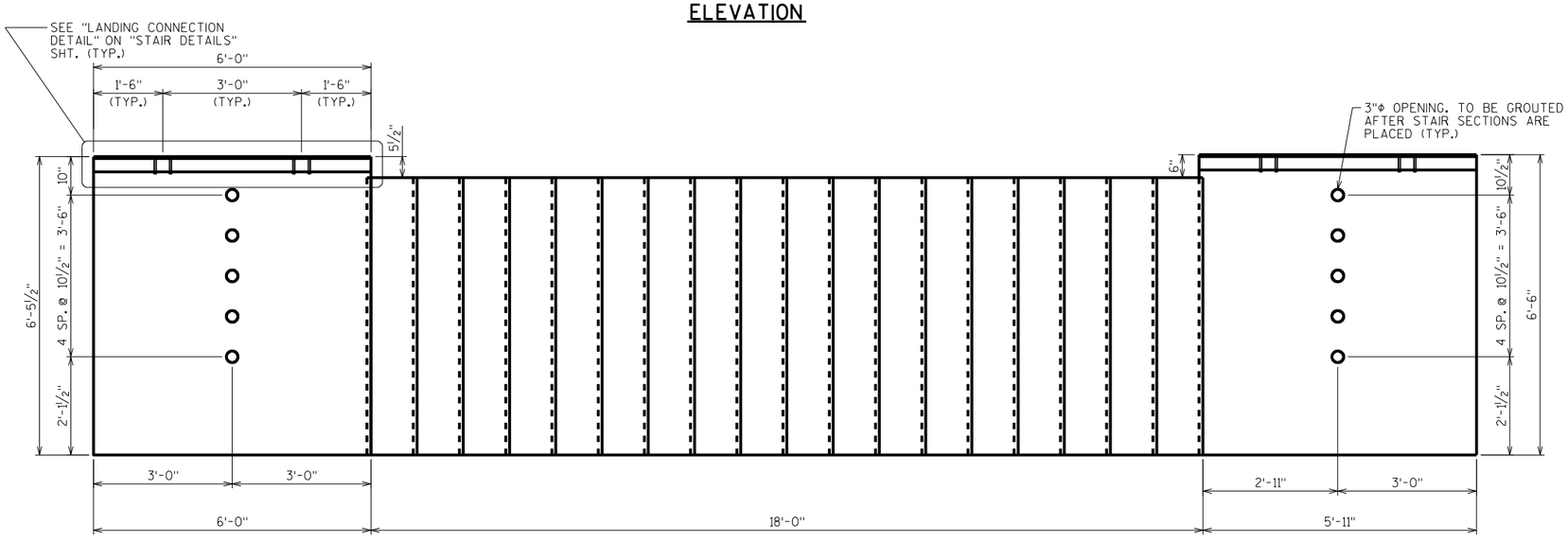
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8

STATE PROJECT NUMBER
1060-33-83



ELEVATION



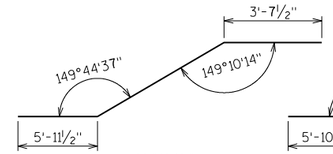
PLAN

BILL OF BARS

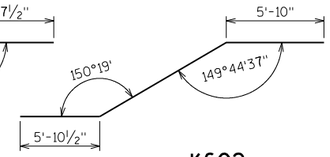
NOTE: THE FIRST OR FIRST TWO DIGITS OF THE BAR MARK SIGNIFIES THE BAR SIZE.

BAR MARK	COAT	NO. REQ'D.	LENGTH	BENT	BAR SERIES	COATED = 2,365 LBS. LOCATION
K1001	X	12	32'-9"	X		STAIR - BOTTOM - LONGIT.
K602	X	7	32'-5"	X		STAIR - TOP - LONGIT.
K403	X	7	7'-9"	X		STAIR - AT LANDING - LONGIT.
K404	X	7	7'-9"	X		STAIR - AT LANDING - LONGIT.
K405	X	7	8'-10"	X		STAIR - AT LANDING - LONGIT.
K406	X	30	5'-8"			STAIR - AT STAIRS - TRANS.
K407	X	18	6'-1"			STAIR - AT LANDING - TRANS.
K408	X	24	1'-10"	X		STAIR - AT RAILING POST - VERT.

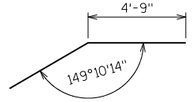
NOTE: THIS BILL OF BARS IS SHOWN FOR INFORMATION ONLY. PAYMENT FOR REINFORCEMENT IN PRECAST STAIRS IS INCLUDED IN THE BID ITEM 'PRECAST CONCRETE STAIR'.



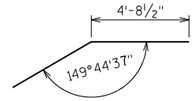
K1001



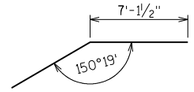
K602



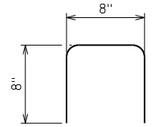
K403



K404



K405



K408

◭ SEE "STAIR TREAD AND RISER DETAIL" ON "STAIR DETAILS" SHT.

◪ TWO U-BARS REQUIRED PER POST LOCATION. LOCATE REINFORCEMENT TO BE NO MORE THAN 3" FROM THE LOCATION OF THE FUTURE ANCHOR BOLTS.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-40-881

DRAWN BY NAR | PLANS CK'D. SAD

PRECAST STAIR SECTION 2

SHEET 50

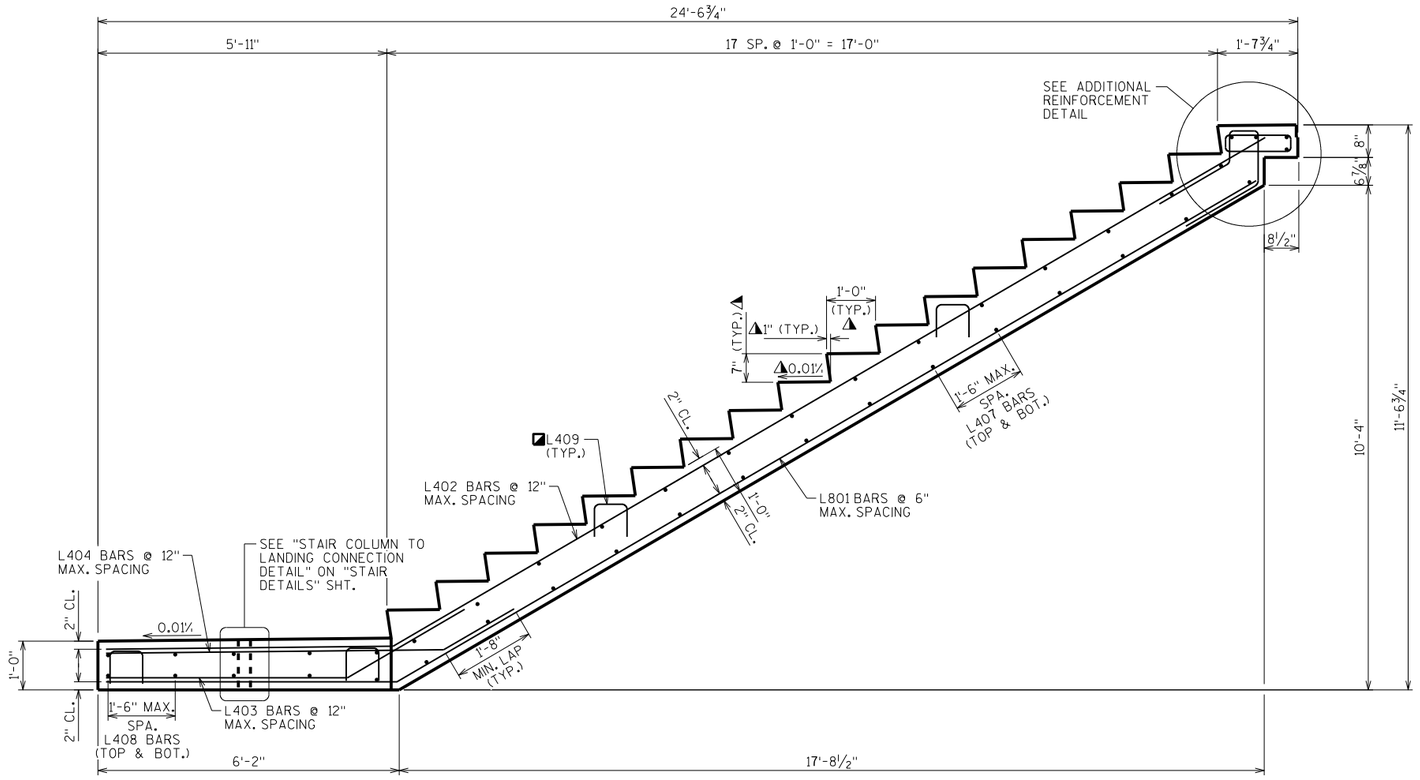
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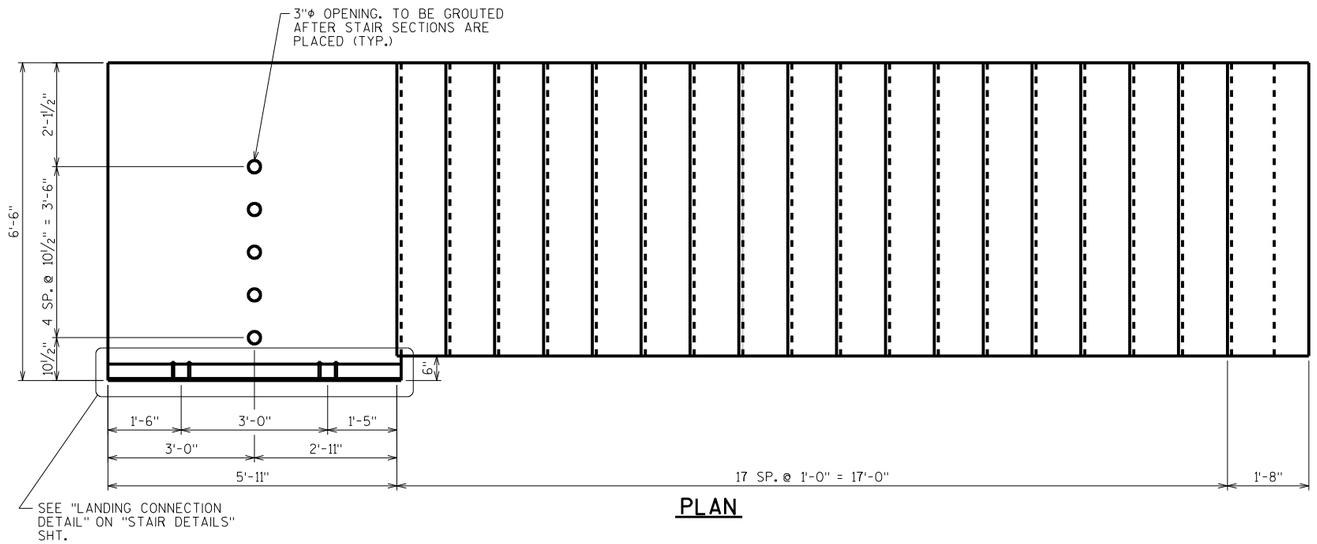
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8

STATE PROJECT NUMBER
1060-33-83



ELEVATION



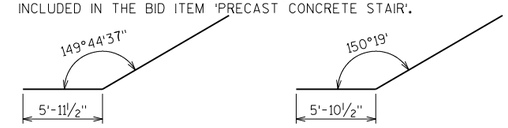
PLAN

BILL OF BARS

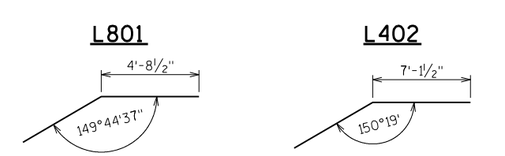
NOTE: THE FIRST OR FIRST TWO DIGITS OF THE BAR MARK SIGNIFIES THE BAR SIZE.

BAR MARK	COAT	NO. REQ'D.	LENGTH	BENT	BAR SERIES	COATED = 1,285 LBS. LOCATION
L801	X	12	26'-4"	X		STAIR - BOTTOM - LONGIT.
L402	X	7	25'-10	X		STAIR - TOP - LONGIT.
L403	X	7	7'-9"	X		STAIR - AT LANDING - LONGIT.
L404	X	7	8'-10"	X		STAIR - AT LANDING - LONGIT.
L405	X	12	3'-8"	X		STAIR - AT TOP - LONGIT.
L406	X	9	5'-1"	X		STAIR - AT TOP - LONGIT.
L407	X	32	5'-8"			STAIR - AT STAIRS - TRANS.
L408	X	10	6'-1"			STAIR - AT LANDING - TRANS.
L409	X	16	1'-10"	X		STAIR - AT RAILING POST - VERT.

NOTE: THIS BILL OF BARS IS SHOWN FOR INFORMATION ONLY. PAYMENT FOR REINFORCEMENT IN PRECAST STAIRS IS INCLUDED IN THE BID ITEM 'PRECAST CONCRETE STAIR'.



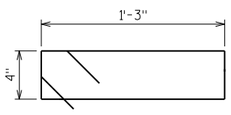
L801



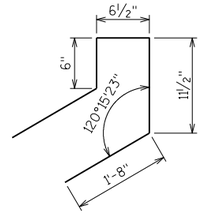
L403

L402

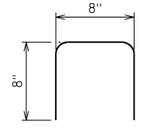
L404



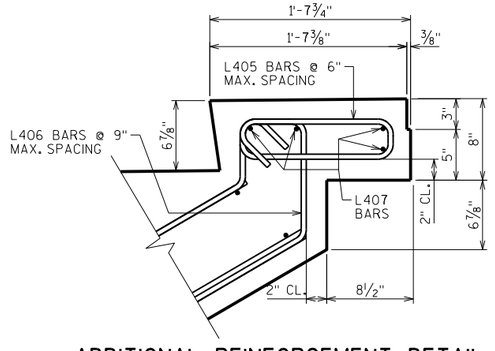
L405



L406



L409



ADDITIONAL REINFORCEMENT DETAIL

◭ SEE "STAIR TREAD AND RISER DETAIL" ON "STAIR DETAILS" SHT.

◪ TWO BARS REQUIRED PER POST LOCATION, EXCEPT AT TOP POSTS. LOCATE REINFORCEMENT TO BE NO MORE THAN 3" FROM THE LOCATION OF THE FUTURE ANCHOR BOLTS.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-40-881

DRAWN BY NAR | PLANS CK'D. SAD

PRECAST STAIR SECTION 3

SHEET 51

287

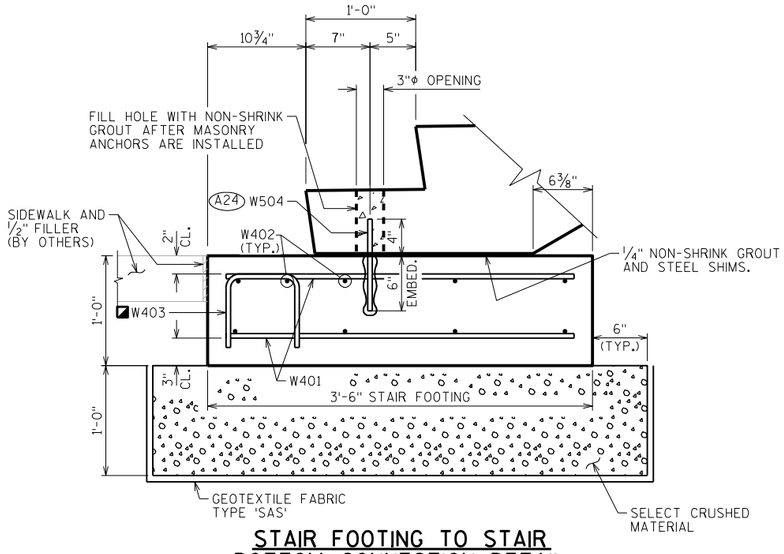
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8

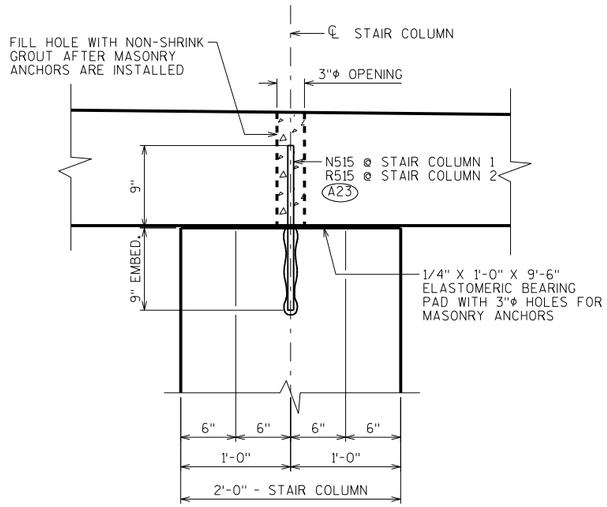
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STATE PROJECT NUMBER

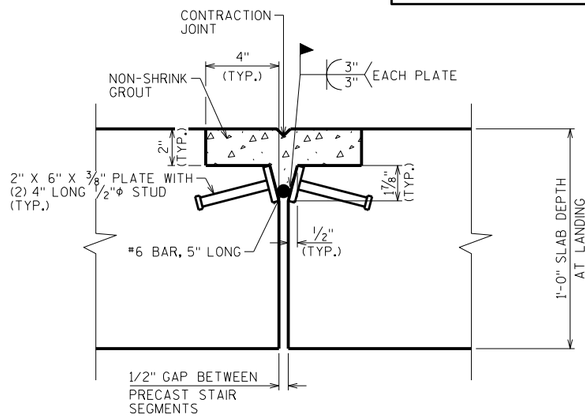
1060-33-83



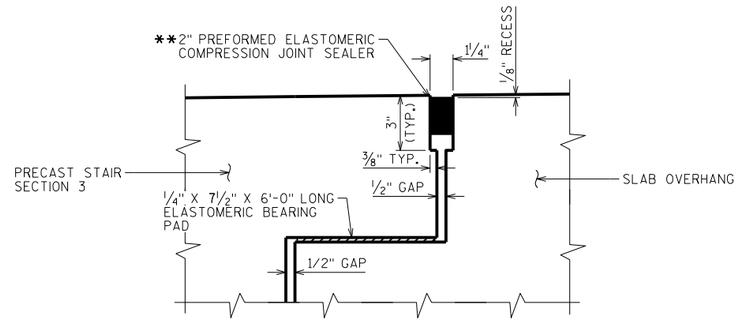
STAIR FOOTING TO STAIR BOTTOM CONNECTION DETAIL



STAIR COLUMN TO LANDING CONNECTION DETAIL

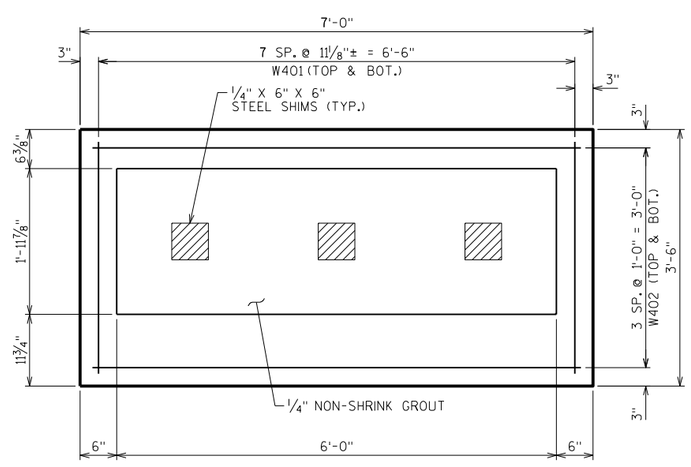


LANDING CONNECTION DETAIL

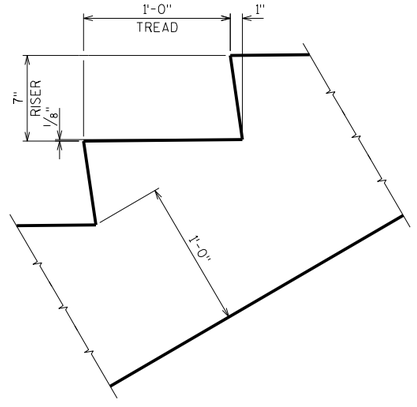


COMPRESSION JOINT DETAIL

** SEAL TO BE ONE CONTINUOUS PIECE. MANUFACTURER SHALL FURNISH SEAL WITH TOP SIDE LABELED. ENDS TO BE SEALED.



STAIR FOOTING PLAN

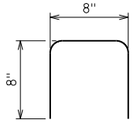


STAIR TREAD AND RISER DETAIL

BILL OF BARS - STAIR FOOTING

BAR MARK	COAT	NO. REQ'D.	LENGTH	BENT	BAR SERIES	LOCATION
W401	X	16	3'-2"			FOOTING - TOP & BOT. - TRANS.
W402	X	9	6'-8"			FOOTING - TOP & BOT. - LONGIT.
W403	X	4	1'-10"	X		FOOTING - AT RAILING POST - VERT.
(A24) W504	X	6	0'-10"			FOOTING - DOWELS - VERT.

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



W403

■ TWO BARS REQUIRED PER POST LOCATION. LOCATE REINFORCEMENT TO BE NO GREATER THAN 3" FROM THE LOCATION OF THE ANCHOR BOLTS.

(A23) MASONRY ANCHORS TYPE L NO. 5 BARS, EMBED 9" IN CONCRETE.

(A24) MASONRY ANCHORS TYPE L NO. 5 BARS, EMBED 6" IN CONCRETE.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-40-881

DRAWN BY NAR | PLANS CK'D. SAD

STAIR DETAILS

SHEET 52

288

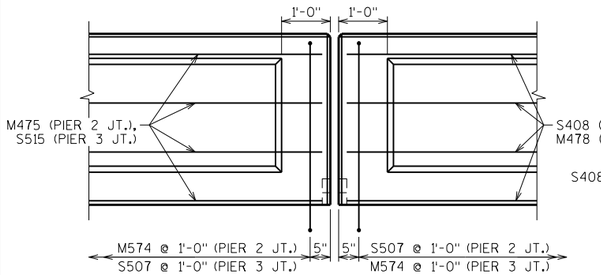
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8

SCALE = 1

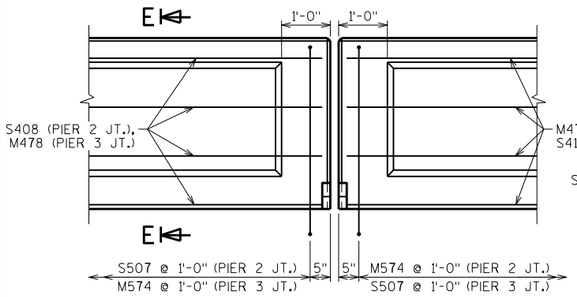
STATE PROJECT NUMBER

1060-33-83



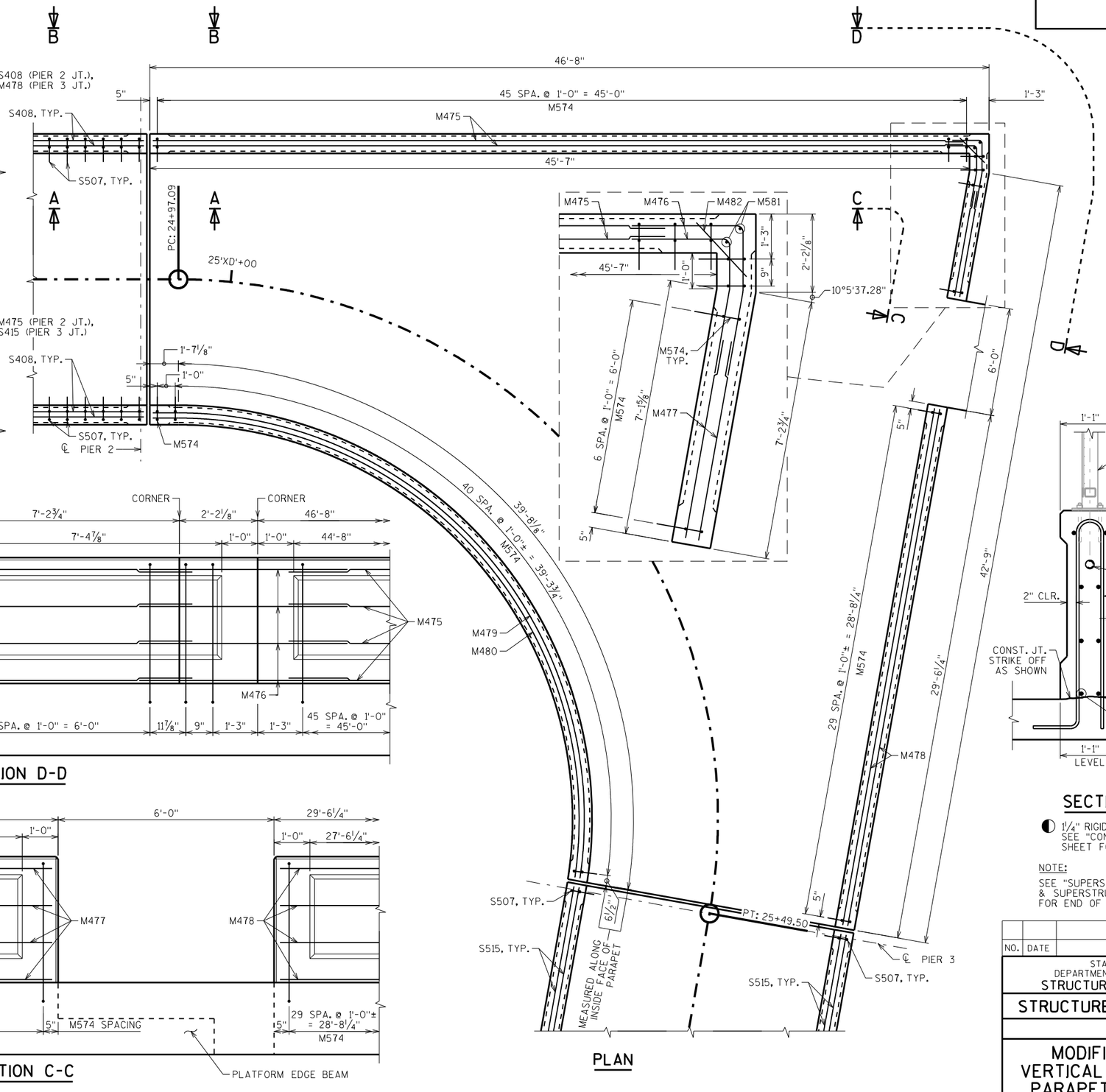
OUTSIDE ELEVATION B-B

LEFT PARAPET SHOWN, RIGHT PARAPET SIMILAR



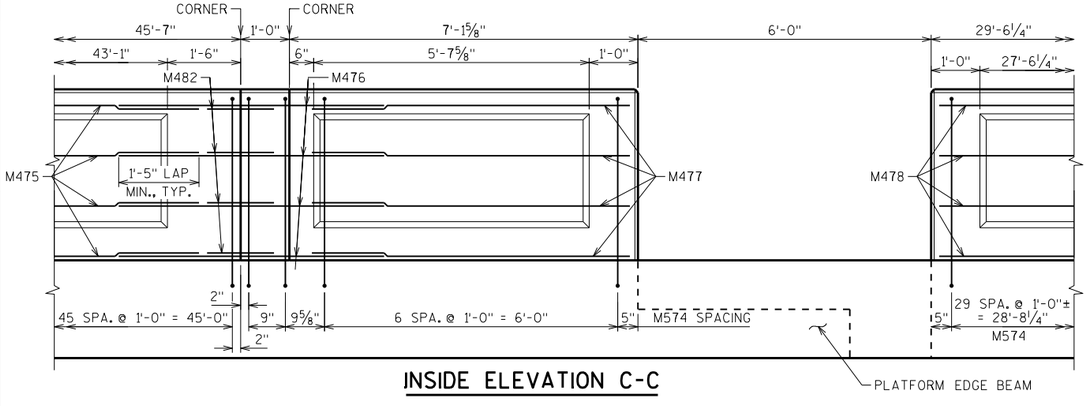
INSIDE ELEVATION A-A

LEFT PARAPET SHOWN, RIGHT PARAPET SIMILAR

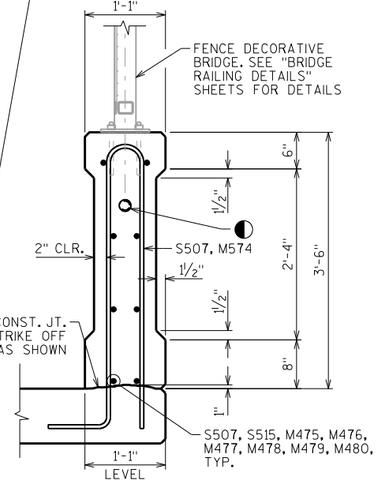


PLAN

OUTSIDE ELEVATION D-D



INSIDE ELEVATION C-C



SECTION E-E

◐ 1¼" RIGID CONDUIT. SEE "CONDUIT DETAILS" SHEET FOR DETAILS.

NOTE:

SEE "SUPERSTRUCTURE SPANS 1 & 2" & SUPERSTRUCTURE SPANS 3 THRU 5" FOR END OF PARAPET DETAILS.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-40-881

DRAWN BY ABS | PLANS CK'D. NAR

MODIFIED VERTICAL FACE PARAPET "A"

SHEET 53

289

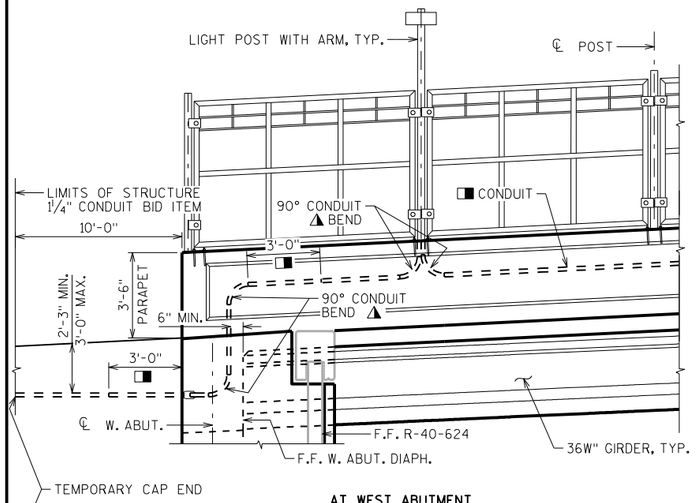
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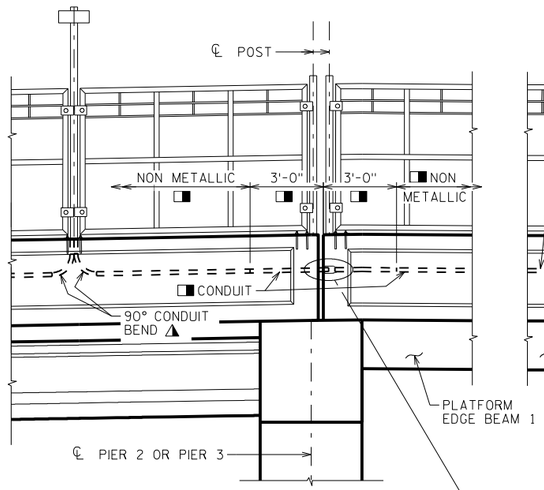
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STATE PROJECT NUMBER

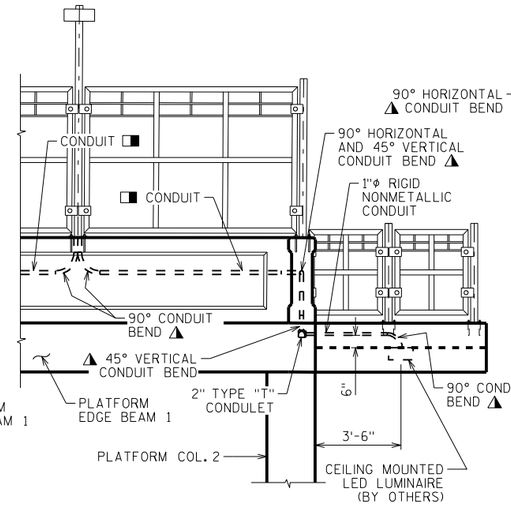
1060-33-83



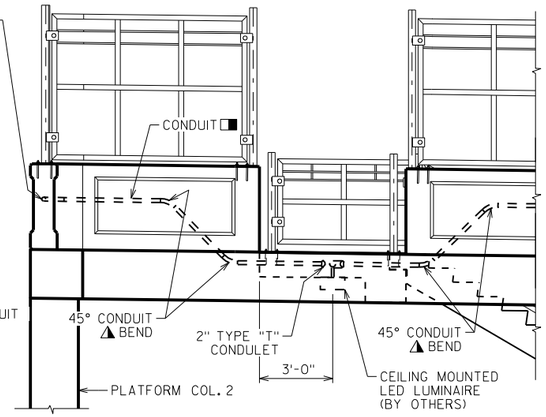
AT WEST ABUTMENT



AT PIER 2
(PIER 3 SIMILAR)



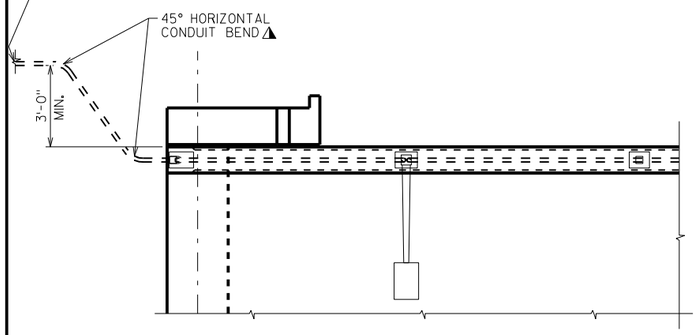
AT PLATFORM - LOOKING NORTH



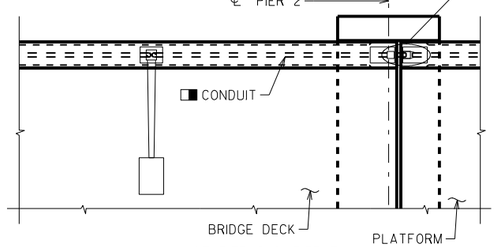
AT PLATFORM - LOOKING EAST

INSIDE ELEVATION

FENCING FABRIC NOT SHOWN FOR CLARITY)

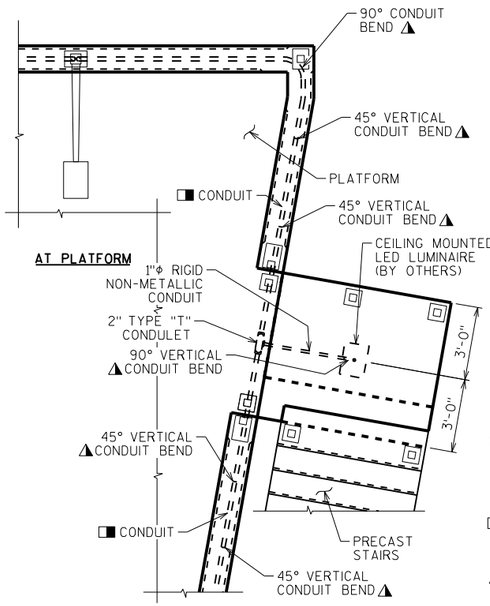


AT WEST ABUTMENT

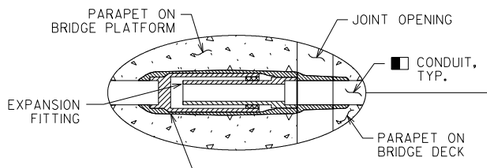


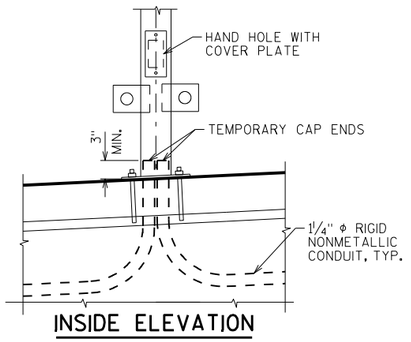
AT PIER 2 & PIER 3

PLAN

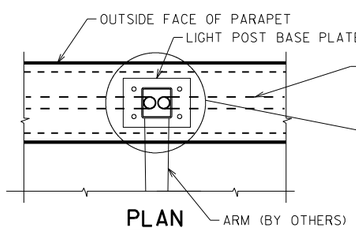


AT PLATFORM

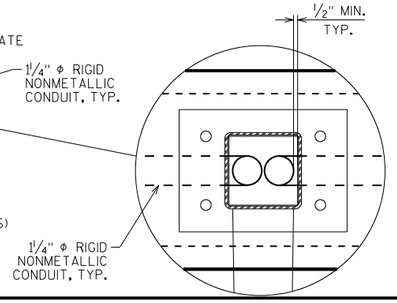




INSIDE ELEVATION



PLAN



CONDUIT AT LIGHT POLE ANCHORAGE DETAILS

NOTES

BID ITEMS SHALL BE:
"CONDUIT RIGID NONMETALLIC SCHEDULE 40 1¼-INCH"
"CONDUIT RIGID NONMETALLIC SCHEDULE 40 1-INCH"
"CONDUIT RIGID METALLIC 1¼-INCH".

EXPANSION FITTINGS, ANGLES, AND ADAPTER FITTINGS TO BE INCIDENTAL TO "CONDUIT RIGID METALLIC 1¼-INCH".

CONDULETS TO BE INCIDENTAL TO "CONDUIT RIGID NON-METALLIC SCHEDULE 40 ¼-INCH".

WHEN CONNECTING NONMETALLIC CONDUIT TO METALLIC CONDUIT, ONLY ADAPTER FITTINGS U.L. OR NRTL LISTED FOR ELECTRICAL USE SHALL BE USED.

APPROVED MANUFACTURER OR EQUIVALENT - EXPANSION FITTINGS: O-Z/GEDNEY TYPE AX-125 AND BONDING JUMPER (4" TOTAL CONDUIT MOVEMENT).

EXPANSION FITTING REQUIRED AT THE JOINT BETWEEN THE PARAPET AT THE EAST ABUTMENT AND THE PARAPET ON RETAINING WALL R-40-626. SEE R-40-626 RETAINING WALL PLANS FOR DETAILS.

SEE "STAIR ELEVATION" & "STAIR COLUMN 2" DETAIL SHEETS FOR 1"ϕ RIGID NONMETALLIC CONDUIT DETAILS AT STAIR COLUMN 2.

● POSITION MOVABLE END OF CONDUIT INSIDE EXPANSION FITTING, SUCH THAT IT WILL HAVE THE SAME ALLOWANCE FOR MOVEMENT (EXPANSION/CONTRACTION) AS THE EXPANSION DEVICE SET AT THE LOCATION. TAKE CARE TO INSTALL EXPANSION FITTINGS AND CONDUIT EXACTLY PARALLEL TO BRIDGE MOVEMENT.

■ USE 1¼-INCH ϕ RIGID NONMETALLIC CONDUIT EXCEPT AT EXPANSION LOCATIONS AND THE ENDS OF THE BRIDGE. USE RIGID CONDUIT 3'-0" ON EITHER SIDE AT EXPANSION LOCATIONS.

▲ FOR CONDUIT BENDS, USE MINIMUM BENDING RADIUS PER WISCONSIN ELECTRIC CODE.

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CONDUIT DETAILS

SHEET 54

290

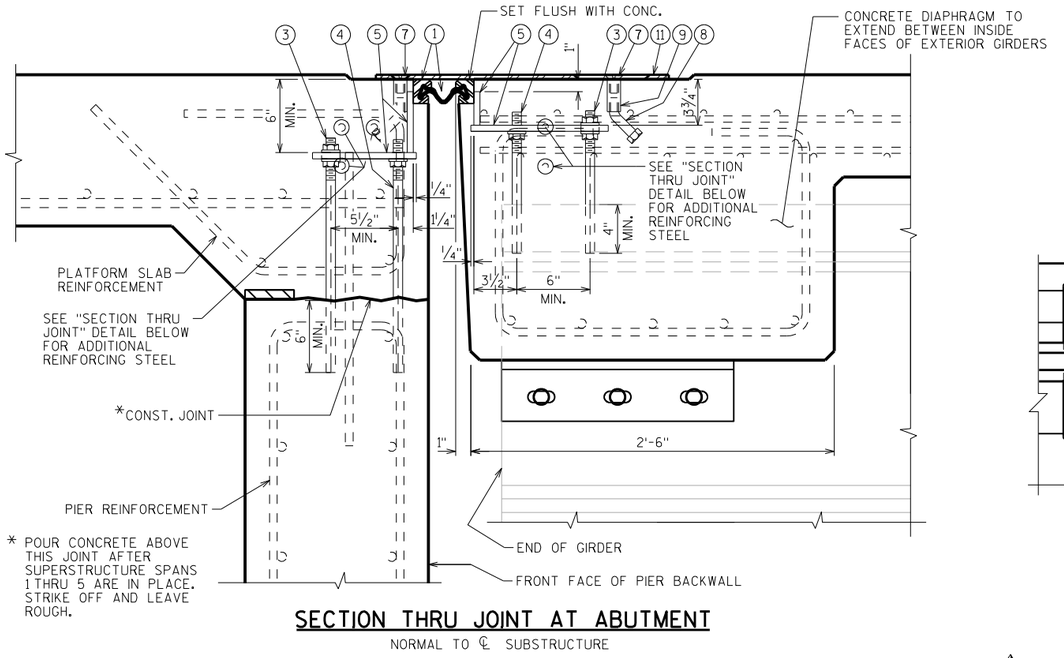
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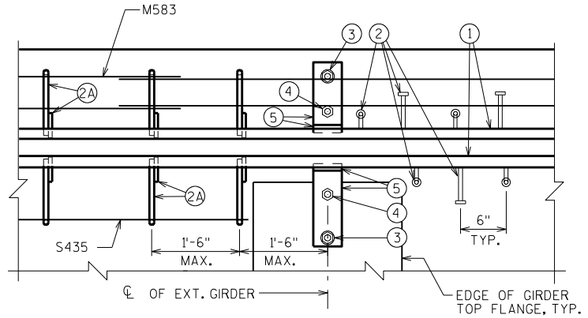
STATE PROJECT NUMBER

1060-33-83



SECTION THRU JOINT AT ABUTMENT

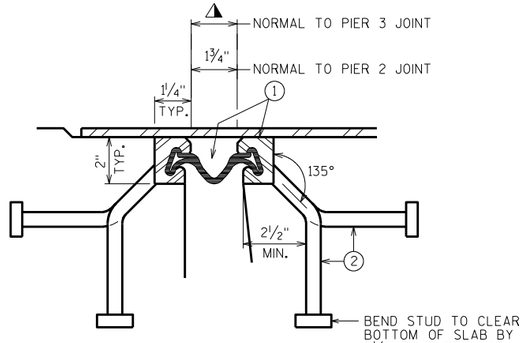
NORMAL TO ℄ SUBSTRUCTURE



PART PLAN

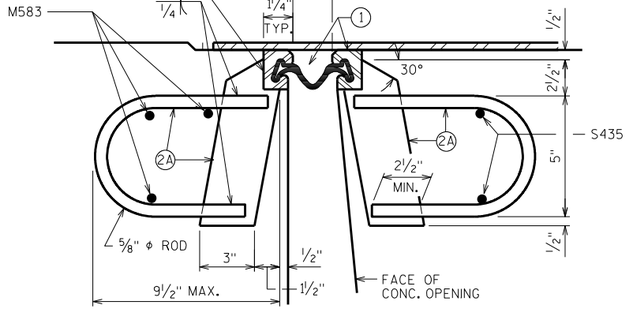
LEGEND

1. NEOPRENE STRIP SEAL (4 - INCH) AND STEEL EXTRUSIONS.
2. STUDS $\frac{5}{8}$"Φ X $6\frac{3}{8}$" LONG AT 6" ALTERNATE CENTERS. WELD TO EXTRUSIONS AND BEND AS SHOWN AFTER WELDING.
2A. $\frac{1}{2}$" THICK ANCHOR PLATE WITH $\frac{5}{8}$"Φ ROD (OR ALTERNATE STRIP SEAL ANCHOR). WELD ROD TO ANCHOR PLATE, WELD ANCHOR PLATE TO NO. 1 AT 1'-6" CENTERS BETWEEN GIRDERS.
3. $\frac{3}{4}$" Φ THREADED ROD WITH 2 NUTS AND PLATE WASHERS. GROUT THREADED ROD INTO FIELD DRILLED HOLES ON ℄ OF GIRDER. ON ABUTMENT SIDE GROUT THREADED ROD INTO FIELD DRILLED HOLES IN PIER BACKWALL AS SHOWN.
4. $\frac{3}{4}$"Φ THREADED ROD WITH NUT. TACK WELD NUT TO NO. 5.
5. FABRICATE SUPPORT FROM 3" X $\frac{1}{2}$" BAR AS SHOWN OR EQUIVALENT, ONE PER GIRDER PER SIDE. SHOP OR FIELD WELD TO NO. 1. IF FIELD WELDED, COVER WELDED AREAS WITH EPOXY-COATING MATERIAL. PROVIDE $1\frac{1}{2}$" Φ HOLE FOR NO. 3 AND 1" Φ HOLE FOR NO. 4.
6. GALVANIZED PLATE $\frac{3}{8}$" X 8" X 2'-2" LONG WITH HOLES FOR NO. 7. BEVEL TOP EDGE.
7. $\frac{3}{4}$"Φ X $1\frac{1}{2}$" STAINLESS STEEL SOCKET FLAT HEAD SCREWS WITH ANTI-SEIZE LUBRICANT. PLACE IN COUNTERSUNK HOLE. RECESS $\frac{1}{16}$" BELOW PLATE SURFACE.
8. $\frac{3}{4}$"Φ X 4" GALVANIZED HEX HEAD BOLT. BEND 45°.
9. $\frac{3}{4}$"Φ X $2\frac{1}{4}$" GALVANIZED THREADED COUPLING.
10. 1" X 5" SLOTTED COUNTERSUNK HOLE FOR NO. 7. PLACE SLOT PARALLEL TO DIRECTION OF MOVEMENT.
11. SIDEWALK COVER PLATE $\frac{3}{8}$" X 2'-2" X LIMITS SHOWN WITH HOLES FOR NO. 7. GALVANIZE PLATE AFTER SLIP-RESISTANT SURFACE IS APPLIED.



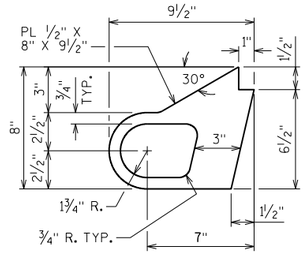
SECTION THRU JOINT

EXTERIOR GIRDER TO EDGE OF DECK AND AT PARAPETS, MEDIANS AND SIDEWALKS



SECTION THRU JOINT

BETWEEN EXTERIOR GIRDERS.



ALTERNATE STRIP SEAL ANCHOR

⚠ TEMPERATURE TABLE

SHADED UNDERSIDE DECK TEMP. (°F)	JOINT OPENING (NORMALTO JT.)
85°	1½"
75°	1¾"
65°	1⅞"
55°	2⅛"
45°	2¼"
35°	2½"
25°	2⅝"
15°	2⅞"
5°	3"

A SMALL JOINT OPENING DUE TO A HIGH TEMPERATURE AT TIME OF CONSTRUCTION MAY REQUIRE NEOPRENE STRIP SEAL INSTALLATION INTO STEEL EXTRUSIONS PRIOR TO SETTING THE EXPANSION JOINT.

NOTES

ONE FIELD SPLICE PERMITTED IN STEEL EXTRUSIONS, UNLESS MORE ARE REQUIRED FOR STAGED CONSTRUCTION, HANDLING OR GALVANIZING REQUIREMENTS. IF USED, DETAILS SHALL BE SUBMITTED FOR APPROVAL. NO SPLICING PERMITTED IN NEOPRENE STRIP SEAL.

AFTER FABRICATION, BUT BEFORE SHIPMENT, STRAIGHTEN STEEL EXTRUSIONS SUCH THAT THEY SHALL BE FREE FROM WARP, TWIST AND SWEEP.

FABRICATOR SHALL PROVIDE MEANS OF KEEPING GALVANIZED EXTRUSIONS CLEAN AND SMOOTH DURING SHIPMENT AND PRIOR TO APPLYING LUBRICANT ADHESIVE FOR NEOPRENE GLAND INSTALLATION.

SANDBLAST PLATES, SUPPORTS AND EXTRUSIONS AFTER FABRICATION IN ACCORDANCE WITH SSPC SP. #6 "COMMERCIAL BLAST CLEANING". AFTER BLAST CLEANING, THE PLATES, SUPPORTS AND EXTRUSIONS SHALL BE HOT DIPPED GALVANIZED.

ANCHOR SYSTEM NO. 8 AND NO. 9 SHALL CONFORM TO ASTM A307 AND SHALL BE GALVANIZED IN ACCORDANCE WITH ASTM A153 CLASS C AND D.

STRIP SEAL EXPANSION JOINT ASSEMBLY, INCLUDING ANCHOR STUDS AND HARDWARE WILL BE PAID FOR AT THE LUMP SUM PRICE BID FOR "EXPANSION DEVICE B-40-881".

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EXPANSION DEVICE

SHEET 55

291

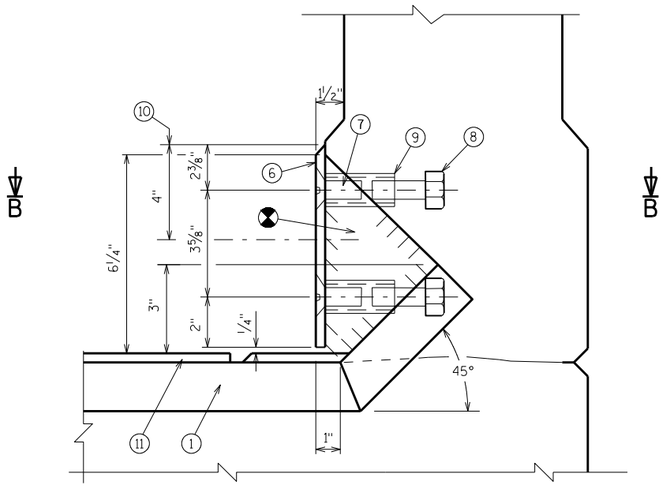
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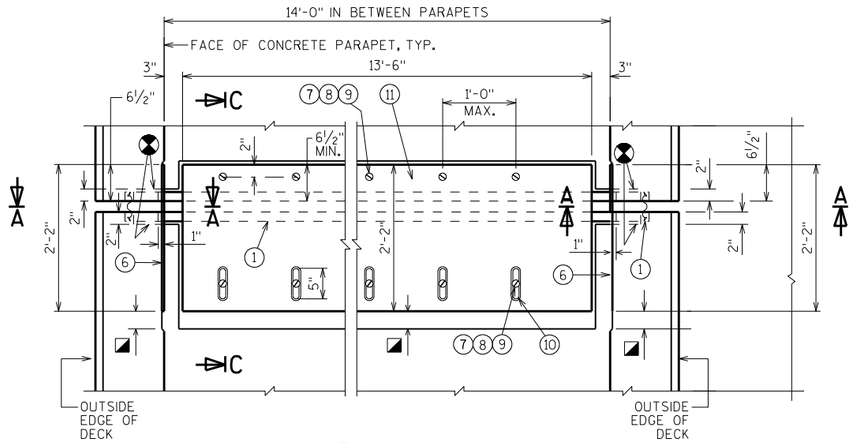
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STATE PROJECT NUMBER

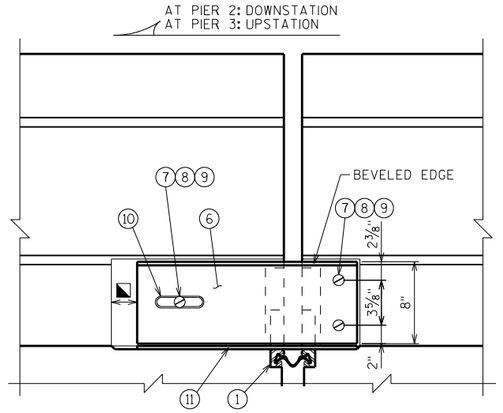
1060-33-83



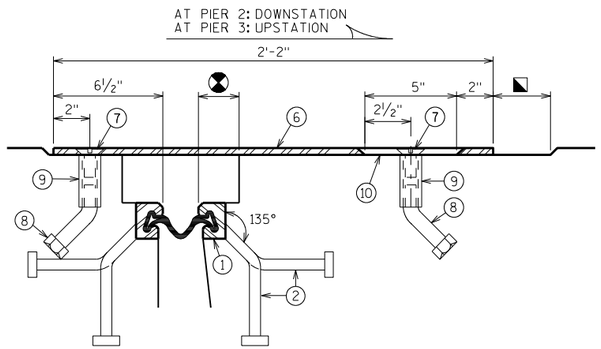
SECTION A-A



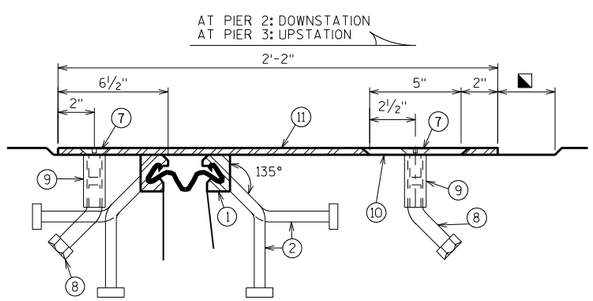
PLAN



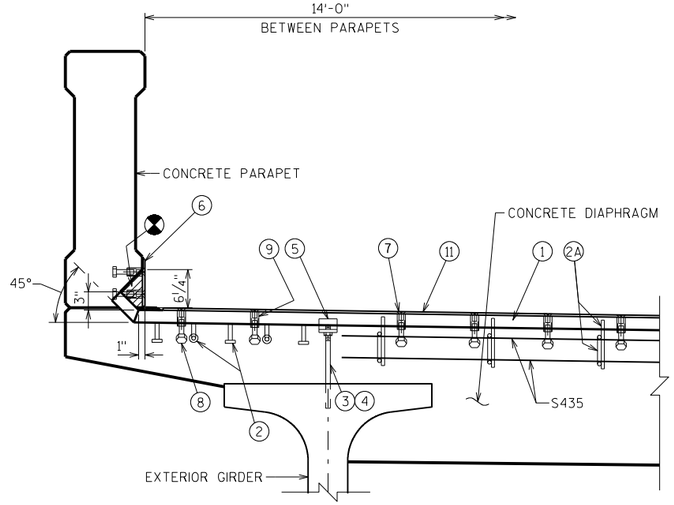
ELEVATION VIEW OF FRONT FACE PARAPET PLATE



SECTION B-B

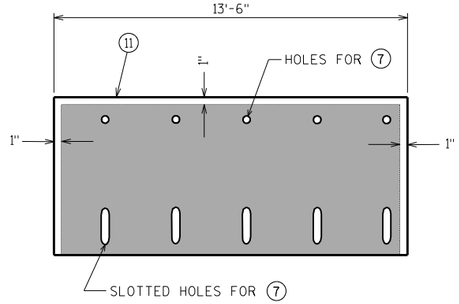


SECTION C-C



SECTION AT EXPANSION JOINT

SIMILAR AT BOTH PARAPETS



PLAN OF COVER PLATE WITH SLIP-RESISTANT SURFACE

PLACE SLIP-RESISTANT SURFACE ON TOP WALKING SURFACE IN SHADED AREA ONLY.

APPROVED SLIP-RESISTANT APPLIED SURFACES FOR STEEL PLATES		
PRODUCT	MANUFACTURER	CONTACT AT
SLIPNOT GRADE 2, STEEL	W. S. MOLNAR COMPANY	1-800-SLIPNOT
ALGRIP, STEEL	ROSS TECHNOLOGY CORP.	1-800-345-8170

BLOCK OUT CONCRETE 2" EACH SIDE OF JOINT OPENING.

JOINT OPENING DIMENSION ALONG SKEW PLUS ½".

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COVER PLATE DETAILS

SHEET 56

292

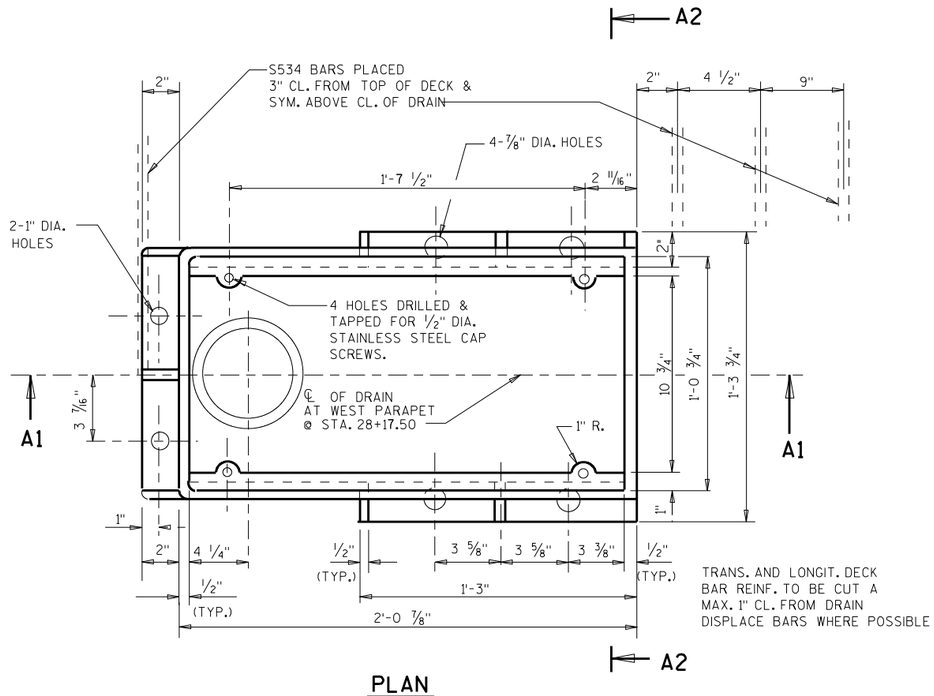
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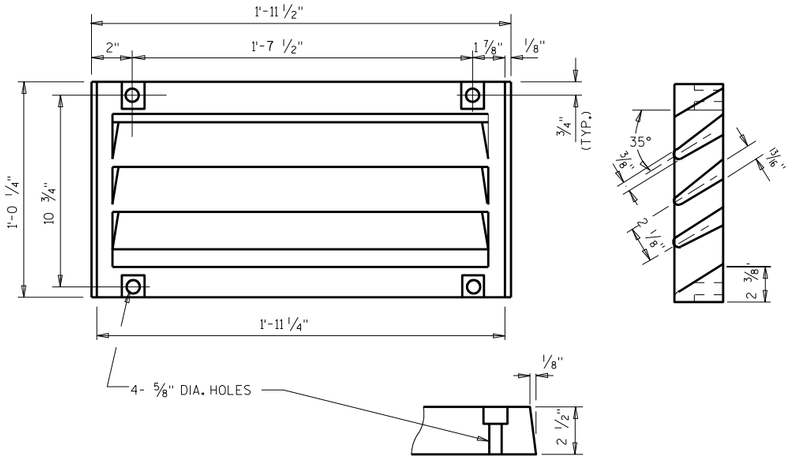
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TRANS. AND LONGIT. DECK BAR REINF. TO BE CUT A MAX. 1" CL. FROM DRAIN DISPLACE BARS WHERE POSSIBLE

PLAN



GRATE CASTING DETAIL

ATTACH GRATE TO FRAME FOR SHIPMENT

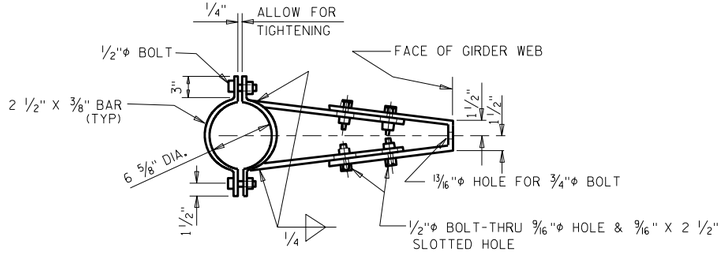
GENERAL NOTES

ALL MATERIAL FOR TYPE "GC" CASTING, EXCLUDING GRATE HOLD DOWN SCREWS, SHALL BE GRAY IRON CONFORMING TO A.S.T.M. A48, CLASS 30. (APPROX. WEIGHT = 225#)

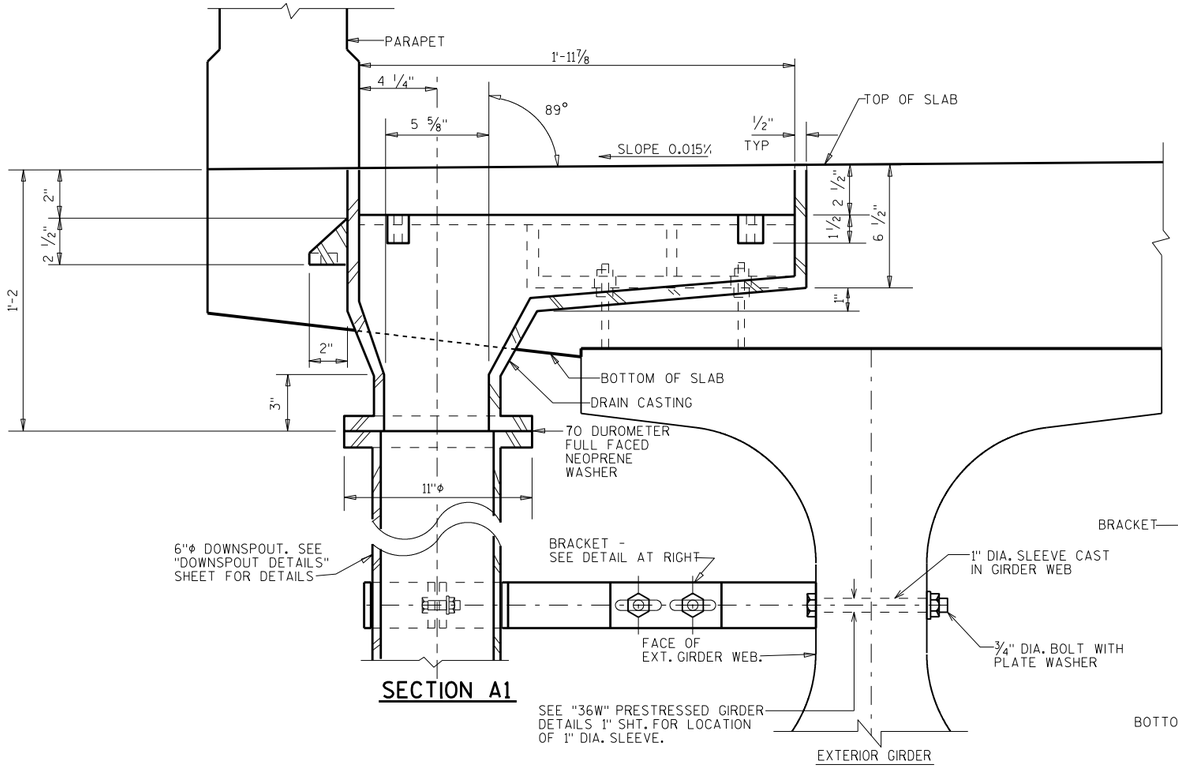
MATERIAL FOR BRACKETS SHALL CONFORM TO A.S.T.M. A36.

THE CONTRACTOR MAY PROPOSE AN ALTERNATE TYPE OF BRACKET. THE PROPOSED ALTERNATE DETAILS SHALL BE SUBMITTED AND SUBJECT TO THE APPROVAL OF THE ENGINEER.

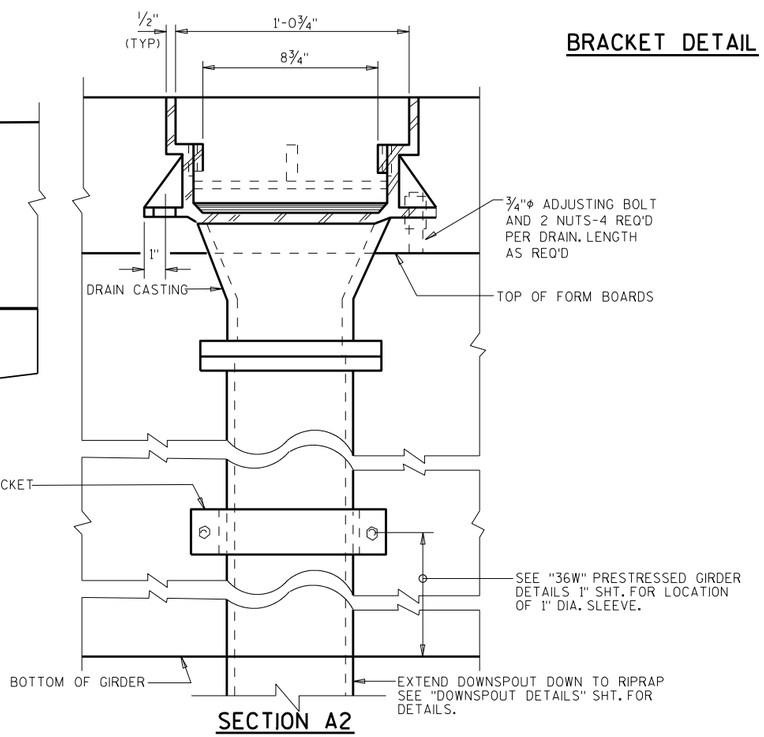
FLANGED 6" DIA. DOWNSPOUTS SHALL BE REINFORCED THERMOSETTING RESIN PIPE CONFORMING TO SECTION 514 OF THE STANDARD SPECIFICATIONS.



BRACKET DETAIL



SECTION A1



SECTION A2

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FLOOR DRAIN TYPE 'GC'

SHEET 57

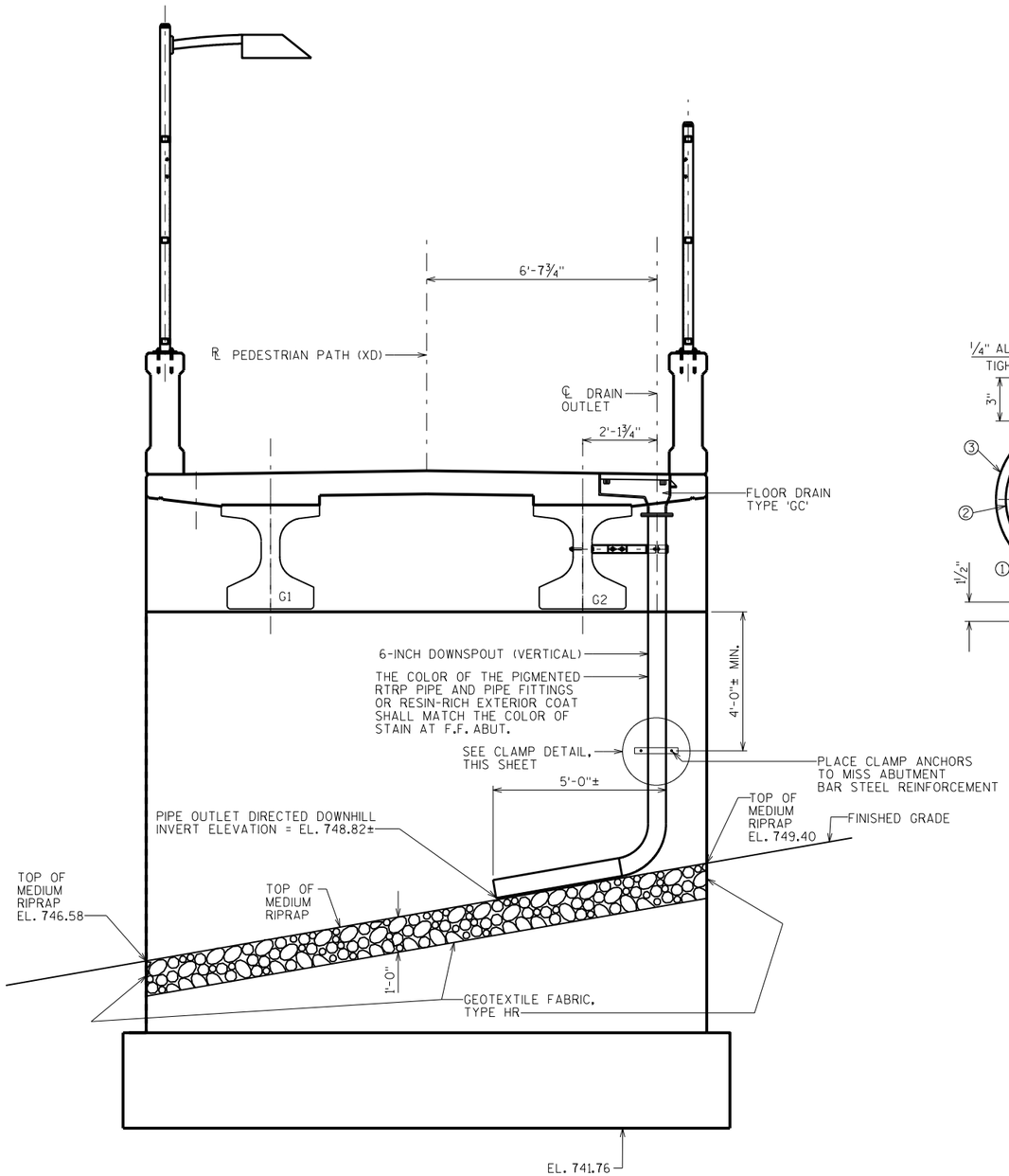
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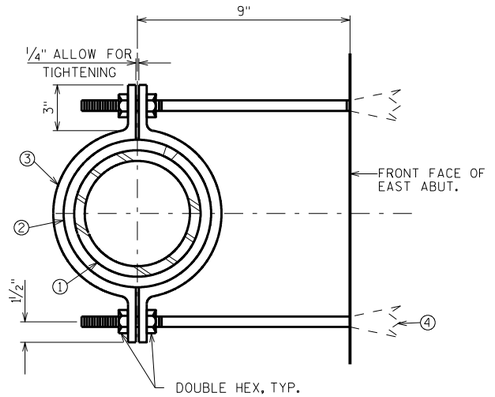
8

8

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EAST ABUT. ELEVATION LOOKING SOUTH @ F.F. ABUT.



CLAMP DETAIL

NOTES

① 6" ϕ DOWNSPOUT SHALL BE REINFORCED THERMOSETTING RESIN PIPING (RTRP) CONFORMING TO ASTM D2996 & 2310.

② 6" LONG SPLIT RTRP STRIP. BOND TO #1. PLACE AT ALL CLAMP LOCATIONS.

③ 2½" X ⅜" BAR, TYP

④ ⅝" ϕ TYPE S ANCHORS (ST STL BOLT & WASHER, TYP)

6" DIA. DOWNSPOUTS AND FITTINGS SHALL BE REINFORCED THERMOSETTING RESIN PIPING (RTRP).

CONTRACTOR TO FIELD VERIFY ALL DIMENSIONS.

ALL FITTINGS, ELBOWS, CLEAN-OUTS, HANGERS, MASONRY ANCHORS, BOLTS AND OTHER HARDWARE REQUIRED FOR MOUNTING THE DOWNSPOUT AND/OR FLOOR DRAIN IS INCLUDED IN BID ITEM "DOWNSPOUT 6-INCH".

MATERIAL FOR CLAMPS AND PIPE HANGERS SHALL CONFORM TO ASTM A36 AND BE HOT-DIP GALVANIZED AFTER FABRICATION. ALL BOLTS SHALL BE STAINLESS STEEL. PROVIDE OVERSIZE NYLON WASHERS TO ISOLATE STAINLESS STEEL BOLTS FROM GALVANIZED STEEL.

MASONRY ANCHORS SHALL MEET THE REQUIREMENTS FOR TYPE 'S' AS PER THE STANDARD SPECIFICATIONS.

TIGHTEN CLAMPS TO A TIGHT SLIP FIT (FOR TEMP. EXPANSION).

ALL ELBOWS TO BE LONG RADIUS TYPE.

THE CONTRACTOR MAY PROPOSE AN ALTERNATE TYPE OF CLAMP. THE PROPOSED ALTERNATE DETAILS SHALL BE SUBMITTED AND SUBJECT TO THE APPROVAL OF THE ENGINEER.

INSTALL CLEAN-OUTS AT ELBOWS AS NEEDED.

DRAIN WORK TO BE COMPLETED AS DIRECTED BY THE ENGINEER.

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DOWNSPOUT DETAILS

SHEET 58

294

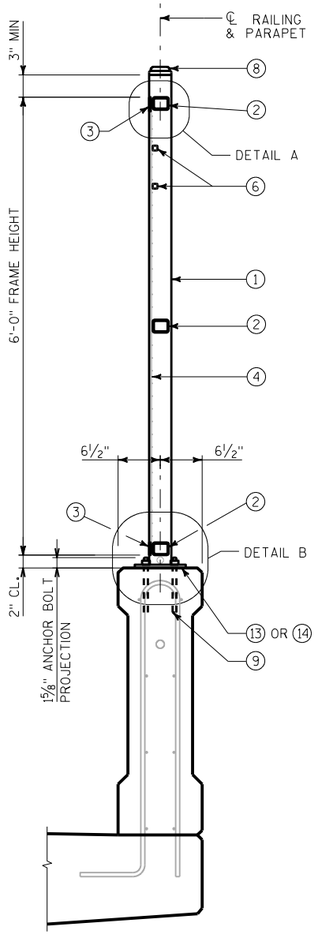
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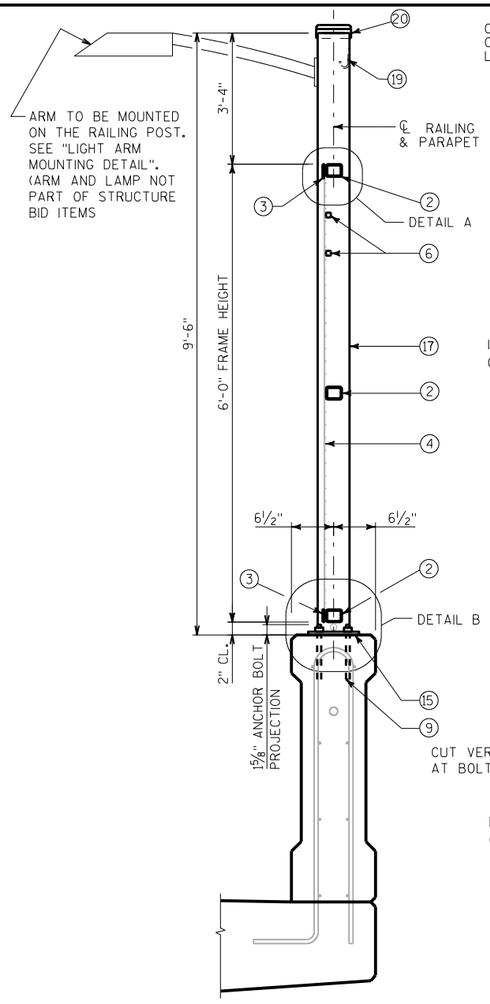
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STATE PROJECT NUMBER

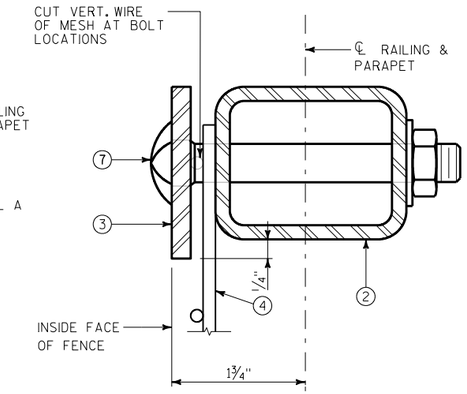
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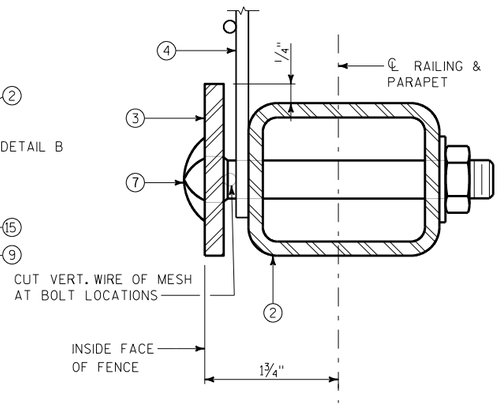
TYPICAL RAILING POST



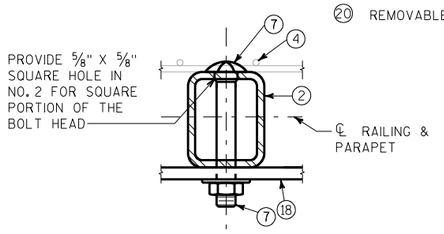
TYPICAL RAILING POST WITH ARM AND LAMP



DETAIL A



DETAIL B



SECTION K-K

LEGEND

(1) HSS 3½ X 3½ X 3/16 POST WITH ¼" DIA. VENT HOLES TOP & BOTTOM ON OUTSIDE FACE. RESIZE AS NECESSARY FOR GALVANIZING PROCESS. WELD TO NO. 8 & BASE PLATE, TYP.

(2) HSS 2½ X 2½ X 3/16. WELD TO NO. 2 & NO. 6.

(3) PL 2¾" X ¼" WELDED FRAME. WELD TO NO. 4. BOLT TO NO. 2 WITH NO. 7 AFTER PAINTING.

(4) STEEL MESH 2" X 2" X 0.162 (8 GA.). PLACE VERTICAL WIRES ON INSIDE FACE OF PARAPET. WELD TO NO. 3.

(5) NOT USED

(6) ¾" × ¾" BAR. WELD TO NO. 2 & NO. 6.

(7) ½" DIA. CARRIAGE BOLT, WASHER AND NUT. PROVIDE ⅝" X ⅝" SQUARE HOLE IN NO. 3 & NO. 2 WHERE CONNECTED TO DECORATIVE INSET PLATE FOR SQUARE PORTION OF THE BOLT HEAD.

(8) 3½" X 3½" SQUARE CAP. WELD TO NO. 1.

(9) ⅝" DIA. CONCRETE MASONRY ANCHOR TYPE S EPOXY, 7" MINIMUM EMBEDMENT.

(10) PL 5/16" X 4½" X 6" CONNECTION WITH 2" DIA. HOLES FOR NO. 7. USE NO. 12 TO COVER 2" DIA. ADJUSTMENT HOLES.

(11) PL ⅜" X 2" X 4½".

(12) PL WASHER ¼" X 3½" X 3½".

(13) PL ½" X 8" X 10" BASE PLATE. WELD TO NO. 1.

(14) PL ½" X 8" X 1'-0" BASE PLATE. WELD TO NO. 1.

(15) PL ½" X 8" X 1'-0" BASE PLATE. WELD TO NO. 17.

(16) ½" DIA. BOLT, WASHER & NUT. TACK WELD NUT TO NO. 2.

(17) HSS 5" X 5" X 3/16 POST WITH ¼" DIA. VENT HOLES TOP & BOTTOM ON OUTSIDE FACE. RESIZE AS NECESSARY FOR GALVANIZING PROCESS. ATTACH WITH SCREWS TO NO. 20 & WELD TO BASE PLATE, TYP.

(18) ¼" DECORATIVE SILHOUETTE INSET PLATE AT SPECIAL PANELS. SEE "DECORATIVE SILHOUETTE PANELS" DETAIL FOR LOCATIONS. BOLT TO NO. 2 WITH NO. 7. ELECTRONIC COPIES OF THE CUTTING PATTERN ARE AVAILABLE BY CONTACTING: MR. BILL MOHR, WIS. D.O.T., 141 NW BARSTOW ST., WAUKESHA, WI 53187 PHONE: (262) 548-5666 EMAIL: BILL.MOHR@DOT.STATE.WI.US

(19) J-HOOK. WELD TO NO. 17.

(20) REMOVABLE SQUARE CAP. ATTACH WITH SCREWS TO NO. 17.

NOTES

THE BID ITEM SHALL BE "FENCE DECORATIVE BRIDGE B-40-881" WHICH SHALL INCLUDE ALL ITEMS SHOWN.

FOR ELEVATIONS OF FENCE PANELS, SEE "BRIDGE RAILING DETAILS 2, 4, & 5".

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

STRUCTURAL TUBING SHALL BE A.S.T.M. A500, GRADE B. ROLLED SHAPES, PLATES, BARS AND SHIMS SHALL BE A.S.T.M. A709, GRADE 36.

CAULK AROUND PERIMETER OF BASE PLATES AND FILL PORTION OF HOLES AROUND ANCHOR BOLTS WITH NON-STAINING GRAY NON-BITUMINOUS JOINT SEALER.

CUT BOTTOM OF POST TO MAKE POST VERTICAL.

ANCHOR BOLTS, NUTS AND WASHERS SHALL BE A.S.T.M. A307 AND SHALL BE GALVANIZED.

STANDARD WASHERS SHALL BE USED TO SHIM BASE PLATES IF REQUIRED. ALL WASHERS SHALL BE GALVANIZED.

THE STEEL MESH SHALL BE TACK WELDED TO THE 2¾" X ¼" WELDED FRAME. THE MESH SHALL BE STRETCHED TO REMOVE SLACK.

VENT HOLES SHALL BE DRILLED IN MEMBERS AS REQUIRED TO FACILITATE GALVANIZING AND DRAINAGE.

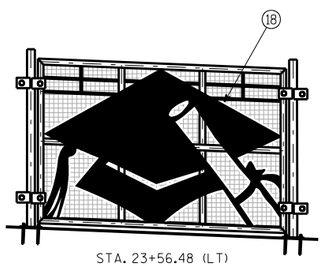
AFTER FABRICATION AND PRIOR TO BOLTING AND ASSEMBLING FENCE COMPONENTS, STEEL SHALL BE BLAST CLEANED PER SSPC-SP 6 AND GALVANIZED ACCORDING TO ASTM A 123. REPAIR ZINC COATING DAMAGED DURING FENCE ASSEMBLAGE AS SPECIFIED IN 513.3.3(3).

ALL WELDS SHALL BE PREQUALIFIED ACCORDING TO THE STRUCTURAL WELDING CODE STEEL (AWS D1.1). THE MINIMUM SIZE OF FILLET WELDS IS 3/16".

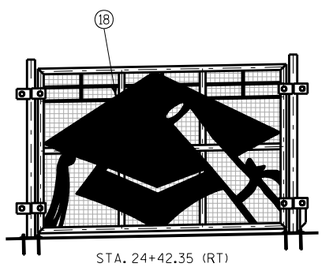
PRIOR TO FINAL ASSEMBLY OF THE FENCE PANELS, PAINT THE GALVANIZED FENCE COMPONENTS WITH A TWO COAT SYSTEM SPECIFICALLY INTENDED FOR PAINTING OF GALVANIZED SURFACES PER THE SPECIAL PROVISIONS. THE FINISH COLOR SHALL BE FEDERAL COLOR NO. 27038 BLACK.

COVER THE 2" X 2" STEEL MESH WITH A COLORED POLYMER COATING. COAT ALL OTHER FENCING COMPONENTS WITH AN EPOXY PAINT SYSTEM. TOUGH UP DAMAGED PORTIONS OF PAINT AFTER PANEL ERECTION. SEE SPECIAL PROVISIONS FOR REQUIREMENTS.

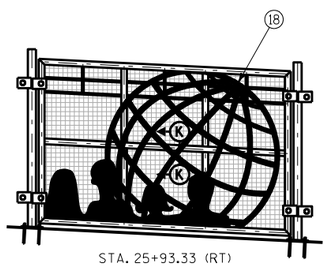
FOR LOCATION OF PANEL TYPES, SEE "SUPERSTRUCTURE SPANS 1 & 2", "SUPERSTRUCTURE 3 THRU 5", & "PLATFORM LAYOUT" SHEETS.



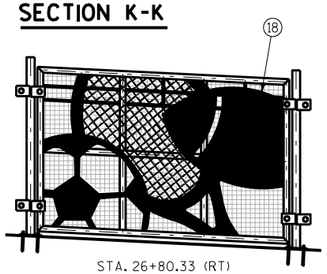
STA. 23+56.48 (LT)
(LOOKING SOUTH AT
NORTH PARAPET FENCE)



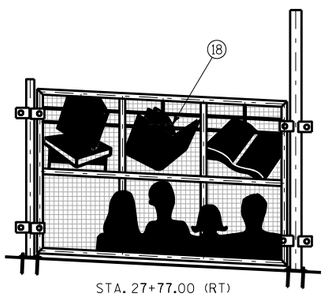
STA. 24+42.35 (RT)
(LOOKING NORTH AT
SOUTH PARAPET FENCE)



STA. 25+93.33 (RT)
(LOOKING EAST AT
WEST PARAPET FENCE)



STA. 26+80.33 (RT)
(LOOKING EAST AT
WEST PARAPET FENCE)



STA. 27+77.00 (RT)
(LOOKING EAST AT
WEST PARAPET FENCE)

DECORATIVE SILHOUETTE PANELS

(SHOWING DECORATIVE SILHOUETTE INSET PLATE)

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BRIDGE RAILING DETAILS 1

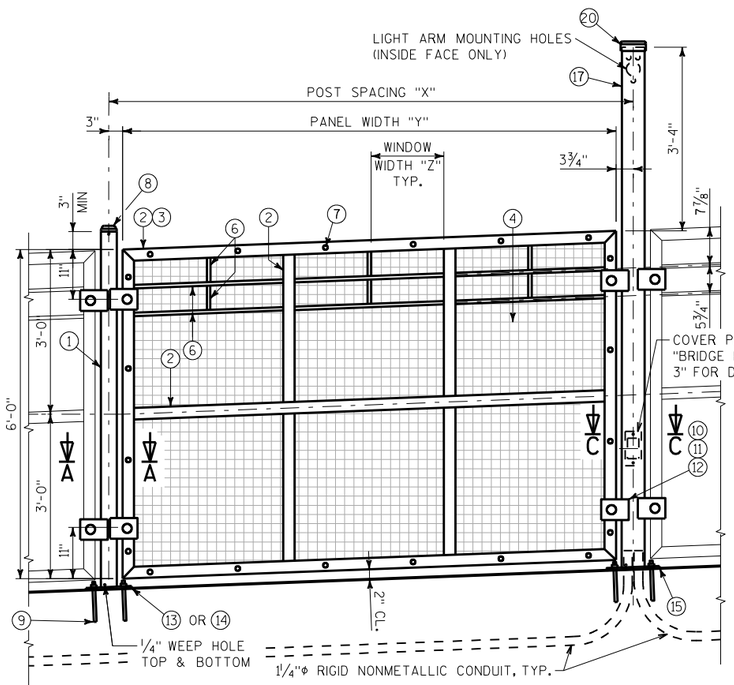
SHEET 59

295

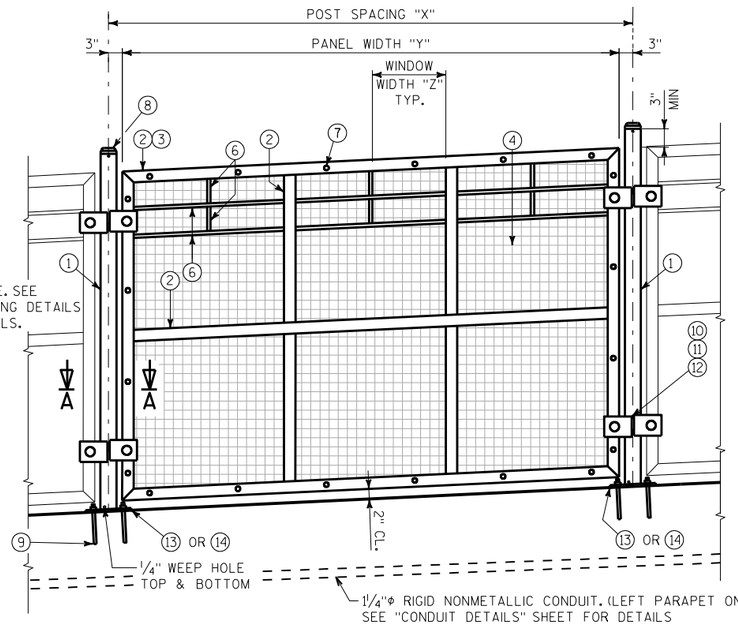
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STATE PROJECT NUMBER

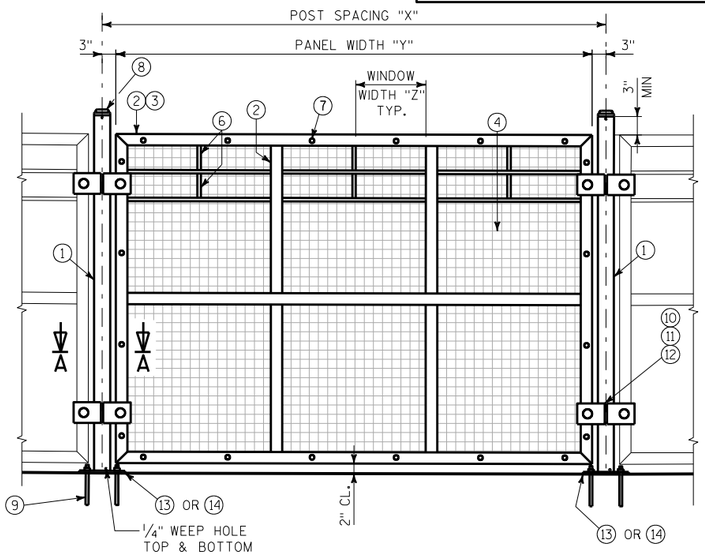
1060-33-83



◐ OUTSIDE ELEVATION OF PANEL TYPES "A", "C", "F", "G", & "K"

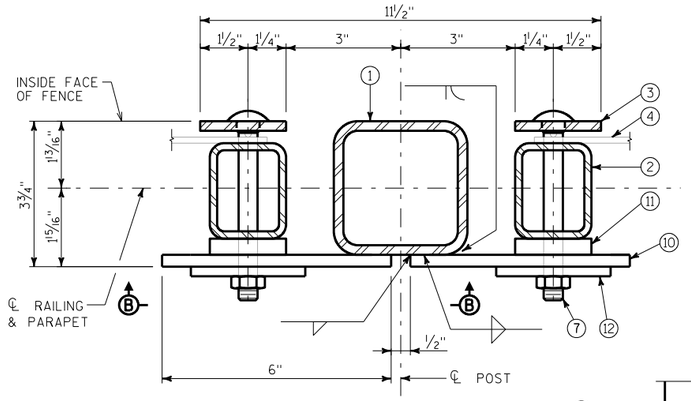


OUTSIDE ELEVATION OF PANEL TYPES "B", "D", "E", "H", "I", & "J"

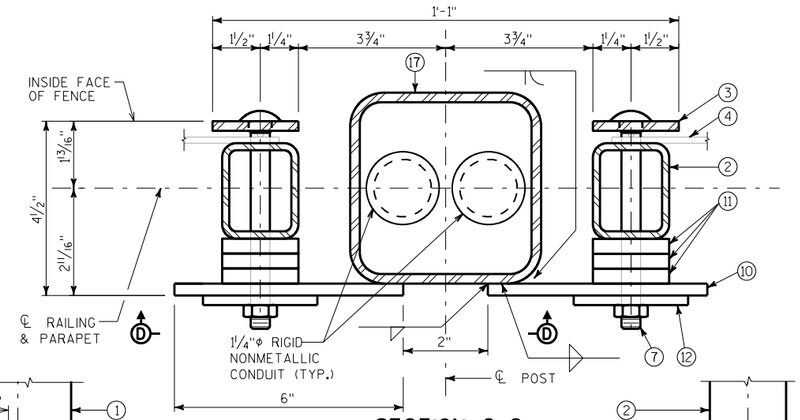


OUTSIDE ELEVATION OF PANEL TYPES "L" & "M"

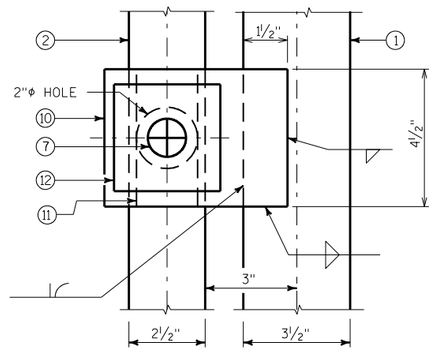
ALL DIMENSIONS MEASURE ALONG CURVE AT ℄ OF RAILS



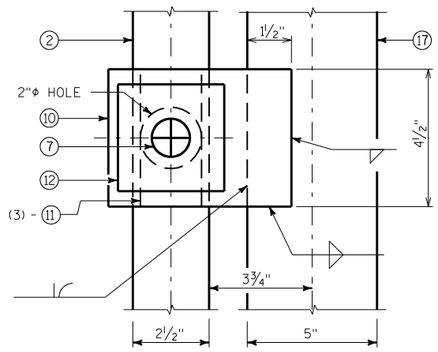
SECTION A-A



SECTION C-C



ELEVATION B-B



ELEVATION D-D

PANEL DIMENSION TABLE				
PANEL TYPE	POST SPA. X	PANEL WIDTH Y	WINDOW WIDTH Z	NO. REQ'D.
◐ A	9'-6½"	8'-11¾"	1'-3⁵⁄₁₆"	7
B	9'-6½"	9'-0½"	1'-4¹⁄₁₆"	31
◐ C	9'-9½"	9'-2¾"	1'-4⅞"	1
D	9'-9½"	9'-3½"	1'-4⅜"	1
E	9'-2"	8'-8"	1'-3⅝"	3
◐ F	9'-2"	8'-7¼"	1'-3⅜"	1
◐ G	9'-2½"	8'-7¾"	1'-3¼"	1
H	8'-6"	8'-0"	1'-1⁵⁄₁₆"	1
I	9'-8"	9'-2"	1'-4⅝"	49
J	10'-0"	9'-6"	1'-4¹⁵⁄₁₆"	2
◐ K	9'-8"	9'-1¼"	1'-4⅜"	8
L*	9'-10½"	9'-4½"	1'-4¹¹⁄₁₆"	1
M*	9'-10½"	9'-4½"	1'-4¹¹⁄₁₆"	3

◐ INDICATES PANEL ADJACENT TO LIGHT POST

* DIMENSIONS MEASURED ALONG ℄ OF RAILING

NOTES

FOR NOTES AND LEGEND, SEE "BRIDGE RAILING DETAILS 1" SHEET.

FOR CONDUIT DETAILS, SEE "CONDUIT DETAILS" SHEET

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STATE OF WISCONSIN
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BRIDGE RAILING DETAILS 2

SHEET 60

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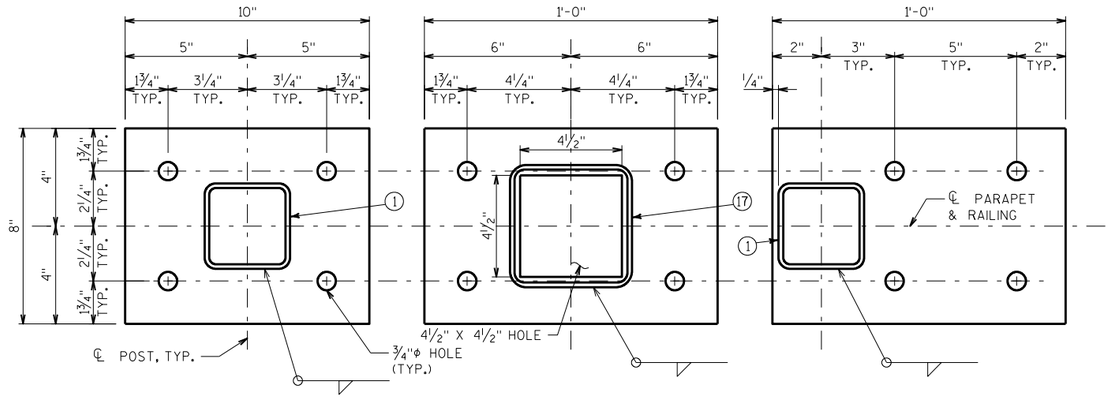
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STATE PROJECT NUMBER

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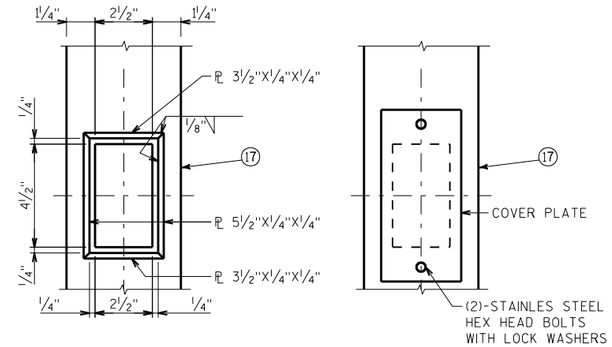


⑬ BASE PLATE

⑮ LIGHT POST BASE PLATE

⑭ END BASE PLATE

BASE PLATE DETAILS



REINFORCEMENT

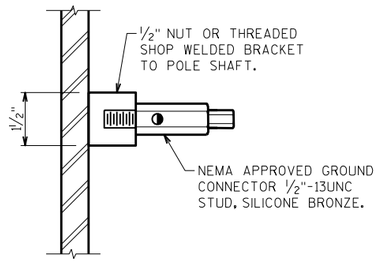
(AT INSIDE FACE OF FENCE)

COVER PLATE

(AT INSIDE FACE OF FENCE)

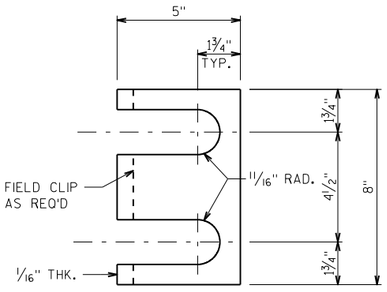
HAND HOLE DETAILS

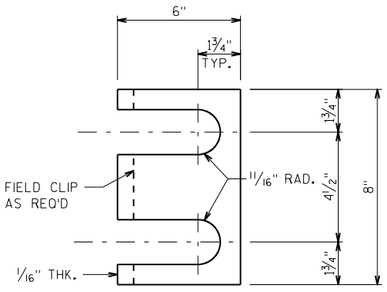
2½" X 4½" REINFORCED HANDHOLE AND COVER ASSEMBLY SECURED BY (2)-STAINLESS STEEL HEX HEAD BOLTS AT ALL LIGHT POSTS AND GROUNDED FENCE POSTS.

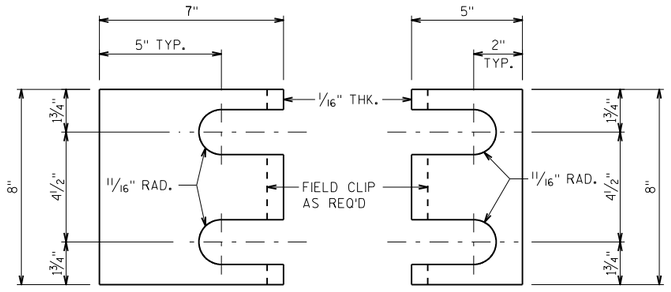


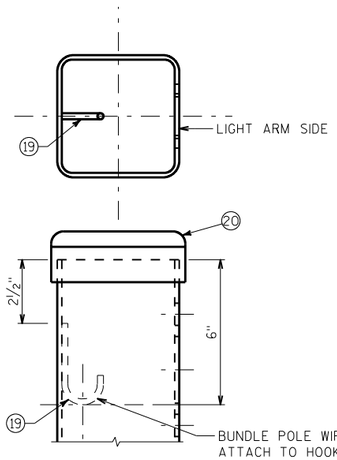
GROUNDING DETAIL

PLACE OPPOSITE THE MIDDLE OF POST HAND HOLE AT ALL LIGHT POSTS AND GROUNDED FENCE POSTS.



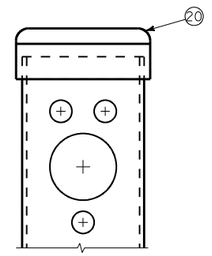






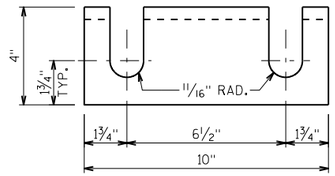
"J" HOOK DETAILS

THE "J" HOOK SHALL BE MOUNTED DIRECTLY OPPOSITE THE LIGHT ARM HOLE AS SHOWN.

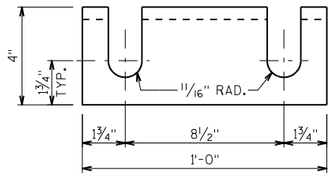


LIGHT ARM MOUNTING DETAIL

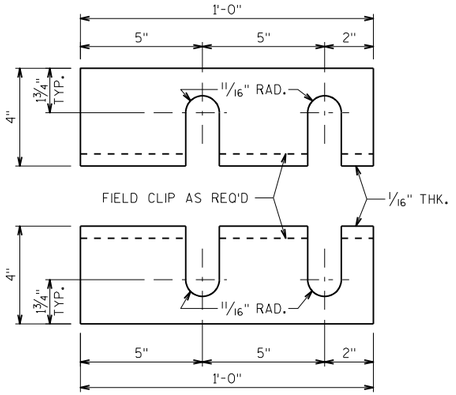
LIGHT ARM MOUNTING TO BE DESIGNED BY CONTRACTOR AND APPROVED BY THE ENGINEER. THE MINIMUM ALLOWABLE DISTANCE FROM THE LUMINAIRE TO THE DECK IS 12'-0".



BASE PLATE SHIM DETAILS



BASE PLATE SHIM DETAILS



END BASE PLATE SHIM DETAILS

NOTES

FOR NOTES AND LEGEND, SEE "BRIDGE RAILING DETAILS 1" SHEET.

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BRIDGE RAILING DETAILS 3

SHEET 61

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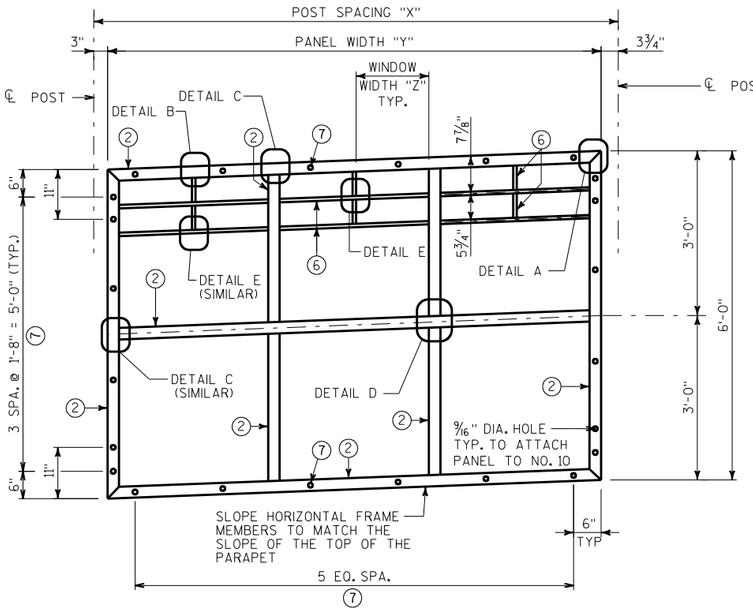
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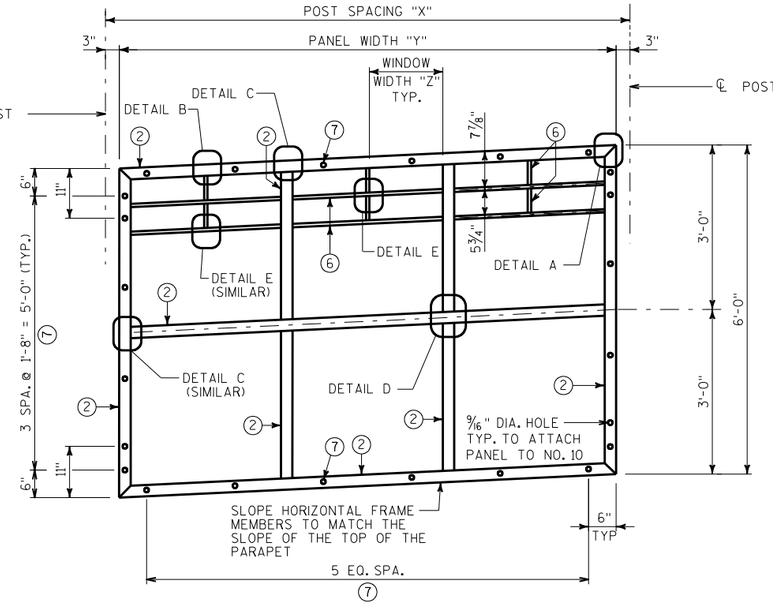
STATE PROJECT NUMBER

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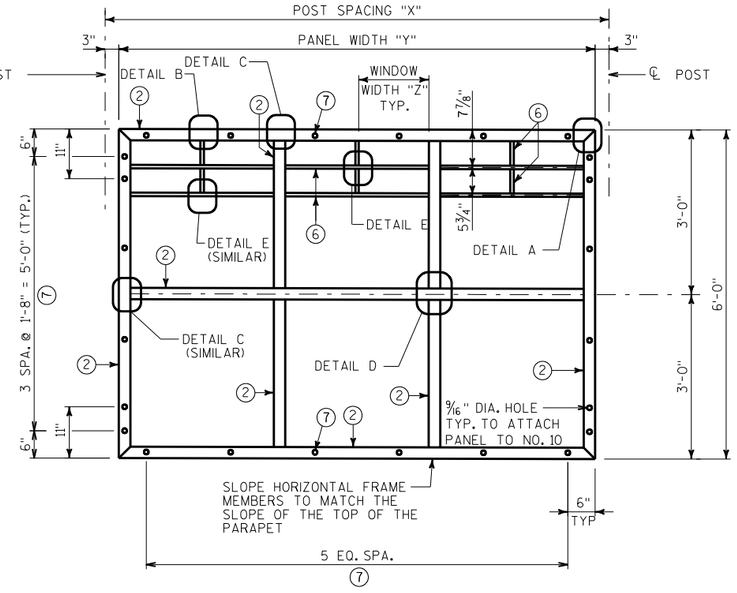
◐ OUTSIDE ELEVATION OF PANEL TYPES "A", "C", "F", "G", & "K"

FENCING FABRIC NOT SHOWN FOR CLARITY



OUTSIDE ELEVATION OF PANEL TYPES "B", "D", "E", "H", "J", & "J"

FENCING FABRIC NOT SHOWN FOR CLARITY

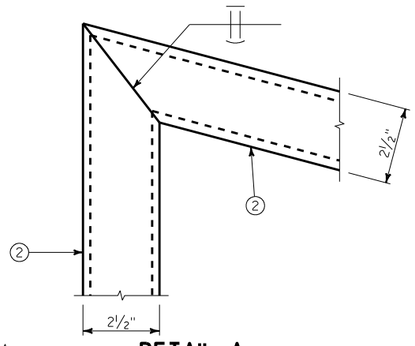


OUTSIDE ELEVATION OF PANEL TYPES "L" & "M"

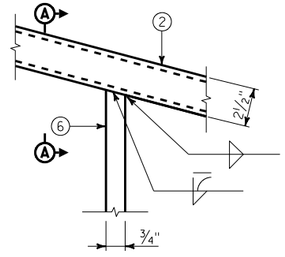
ALL DIMENSIONS MEASURE ALONG CURVE AT ℄ OF RAILS
FENCING FABRIC NOT SHOWN FOR CLARITY

NOTES

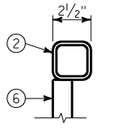
FOR NOTES AND LEGEND, SEE "BRIDGE RAILING DETAILS 1" SHEET.



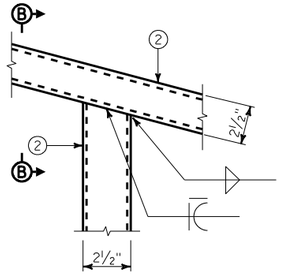
DETAIL A



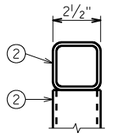
DETAIL B



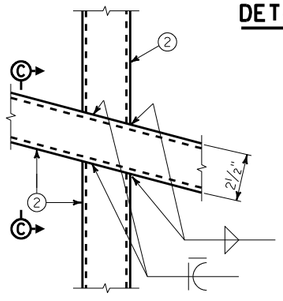
SECTION A-A



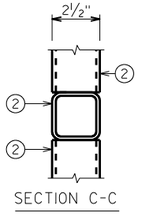
DETAIL C



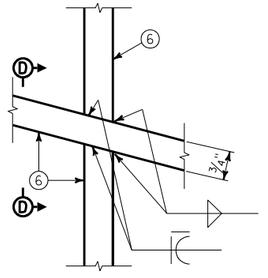
SECTION B-B



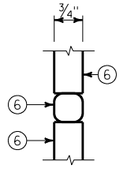
DETAIL D



SECTION C-C



DETAIL E



SECTION D-D

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BRIDGE RAILING DETAILS 4

SHEET 62

298

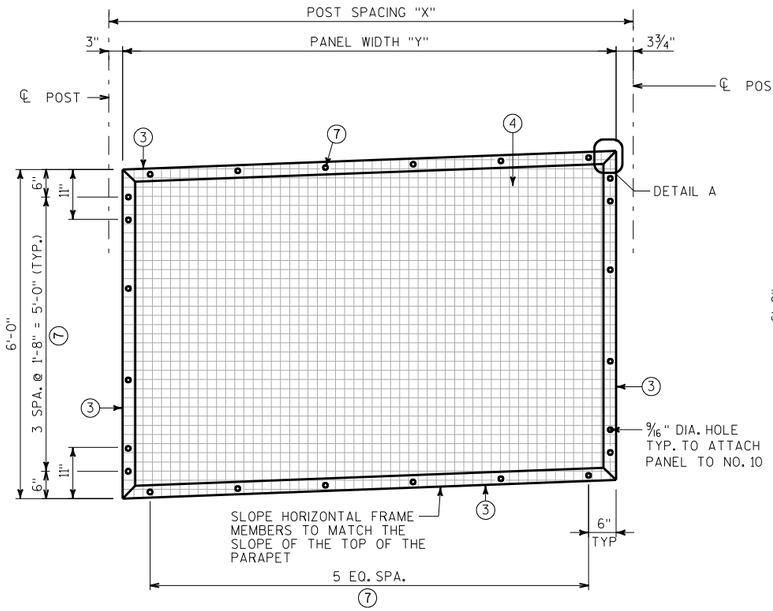
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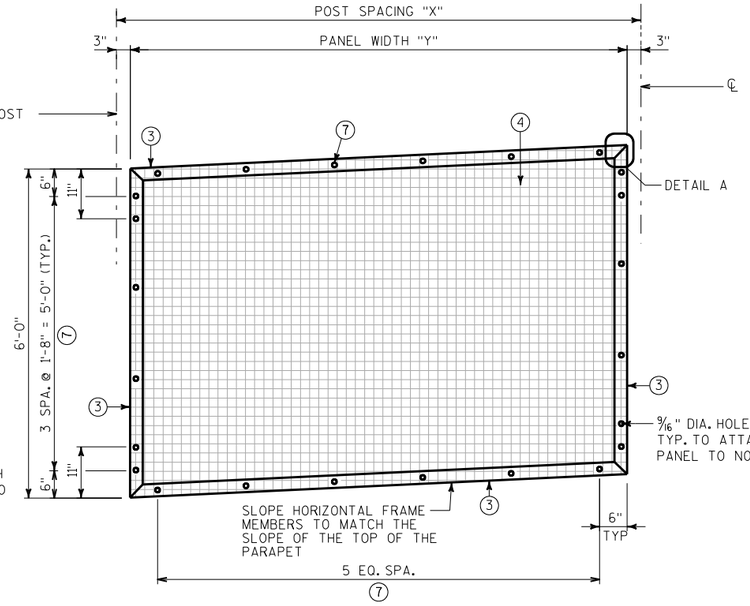
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STATE PROJECT NUMBER

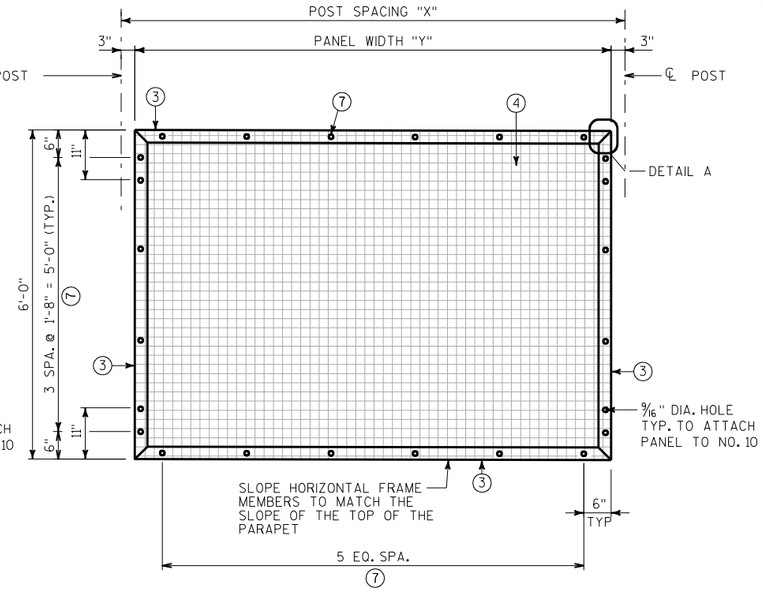
1060-33-83



◐ OUTSIDE ELEVATION OF PANEL TYPES "A", "C", "F", "G", & "K"

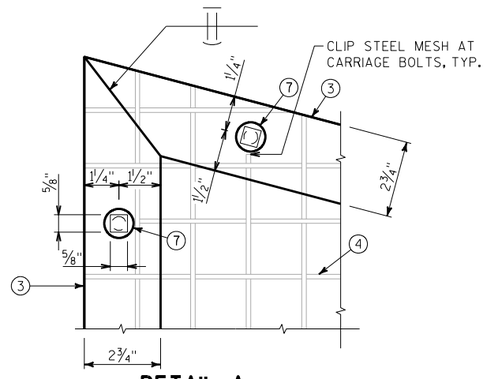


OUTSIDE ELEVATION OF PANEL TYPES "B", "D", "E", "H", "I", & "J"



OUTSIDE ELEVATION OF PANEL TYPES "L" & "M"

ALL DIMENSIONS MEASURE ALONG CURVE AT ℄ OF RAILS



DETAIL A

NOTE: STEEL MESH TO BE TACK WELDED TOWARDS ℄ OF FENCE

NOTES

FOR NOTES AND LEGEND, SEE "BRIDGE RAILING DETAILS 1" SHEET.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-40-881

DRAWN BY ABS | PLANS CK'D. NAR

BRIDGE RAILING DETAILS 5

SHEET 63

299

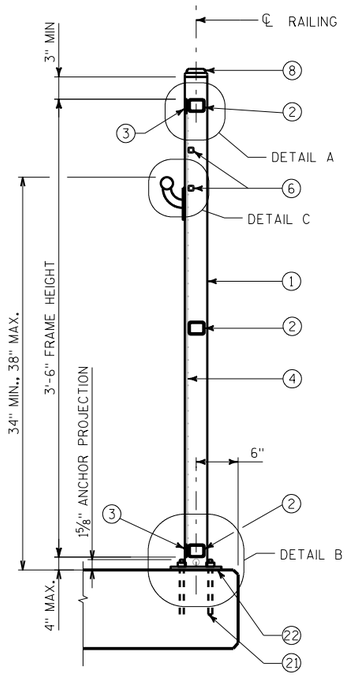
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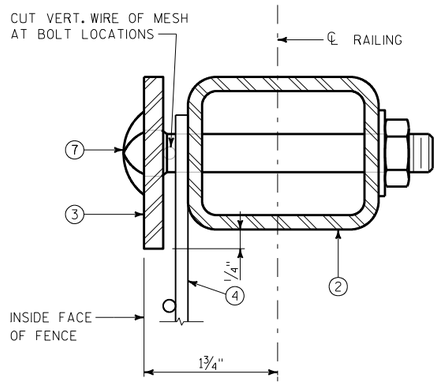
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STATE PROJECT NUMBER

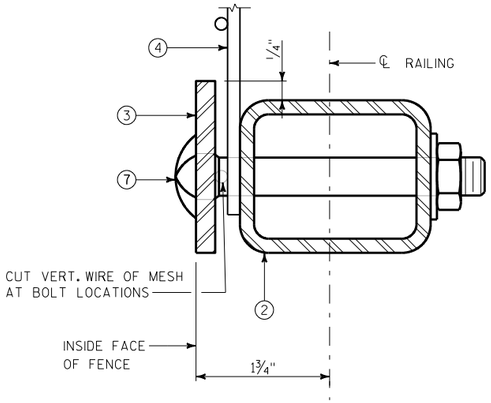
1060-33-83



SECTION THRU RAILING POST AT LANDINGS



DETAIL A



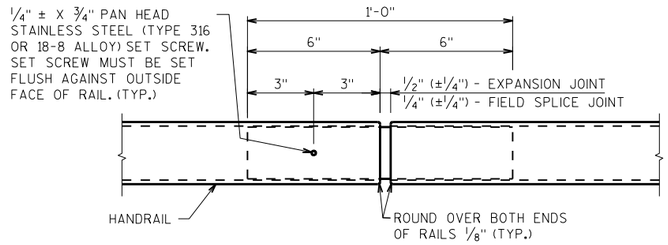
DETAIL B

LEGEND

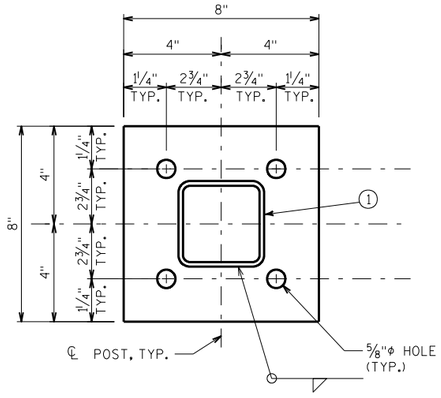
1. HSS 3½ X 3½ X 3/16 POST WITH ¼" DIA. VENT HOLES TOP & BOTTOM ON OUTSIDE FACE. RESIZE AS NECESSARY FOR GALVANIZING PROCESS. WELD TO NO. 8 & BASE PLATE, TYP.
2. HSS 2½ X 2½ X 3/16. WELD TO NO. 2 & NO. 6.
3. PL 2¾" X ¼" WELDED FRAME. WELD TO NO. 4. BOLT TO NO. 2 WITH NO. 7 AFTER PAINTING.
4. STEEL MESH 2" X 2" X 0.162 (8 GA.). PLACE VERTICAL WIRES ON INSIDE FACE OF PARAPET. WELD TO NO. 3.
5. NOT USED
6. ¾" × ¾" BAR. WELD TO NO. 2 & NO. 6.
7. ½" DIA. CARRIAGE BOLT, WASHER AND NUT. PROVIDE 5/8" X 5/8" SQUARE HOLE IN NO. 3 FOR SQUARE PORTION OF THE BOLT HEAD.
8. 3½" X 3½" SQUARE CAP. WELD TO NO. 1.
9. NOT USED
10. PL 5/16" X 4½" X 6" CONNECTION WITH 2" DIA. HOLES FOR NO. 7. USE NO. 12 TO COVER 2" DIA. ADJUSTMENT HOLES.
11. PL 3/8" X 2" X 4½".
12. PL WASHER ¼" X 3½" X 3½".

13 THRU 20. NOT USED

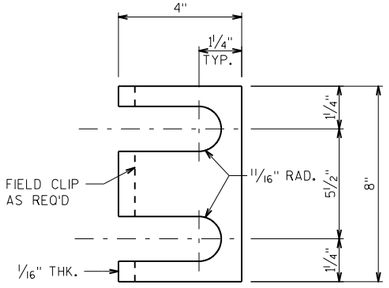
21. ½" DIA. CONCRETE MASONRY ANCHOR TYPE S EPOXY, 6" MINIMUM EMBEDMENT.
22. PL ½" X 8" X 8" BASE PLATE. WELD TO NO. 1.



HANDRAIL EXPANSION JOINT DETAIL

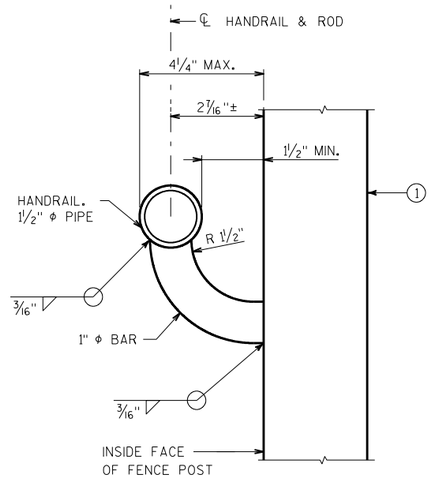


22 BASE PLATE DETAIL



BASE PLATE SHIM DETAILS

(4 PER POST)



DETAIL C

NOTES

THE BID ITEM SHALL BE "FENCE DECORATIVE BRIDGE STAIR B-40-881" WHICH SHALL INCLUDE ALL ITEMS SHOWN.

FOR ELEVATIONS OF FENCE PANELS, SEE "STAIR RAILING DETAILS 2 THRU 4".

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

STRUCTURAL TUBING SHALL BE A.S.T.M. A500, GRADE B. ROLLED SHAPES, PLATES, BARS AND SHIMS SHALL BE A.S.T.M. A709, GRADE 36.

CAULK AROUND PERIMETER OF BASE PLATES AND FILL PORTION OF HOLES AROUND ANCHOR BOLTS WITH NON-STAINING GRAY NON-BITUMINOUS JOINT SEALER.

CUT BOTTOM OF POST TO MAKE POST VERTICAL.

ANCHOR BOLTS, NUTS AND WASHERS SHALL BE A.S.T.M. A307 AND SHALL BE GALVANIZED.

STANDARD WASHERS SHALL BE USED TO SHIM BASE PLATES IF REQUIRED. ALL WASHERS SHALL BE GALVANIZED.

THE STEEL MESH SHALL BE TACK WELDED TO THE 2¾" X ¼" WELDED FRAME. THE MESH SHALL BE STRETCHED TO REMOVE SLACK.

VENT HOLES SHALL BE DRILLED IN MEMBERS AS REQUIRED TO FACILITATE GALVANIZING AND DRAINAGE.

AFTER FABRICATION AND PRIOR TO BOLTING AND ASSEMBLING FENCE COMPONENTS, STEEL SHALL BE BLAST CLEANED PER SSPC-SP 6 AND GALVANIZED ACCORDING TO ASTM A 123. REPAIR ZINC COATING DAMAGED DURING FENCE ASSEMBLAGE AS SPECIFIED IN 513.3.3(3).

ALL WELDS SHALL BE PREQUALIFIED ACCORDING TO THE STRUCTURAL WELDING CODE STEEL (AWS D1.1). THE MINIMUM SIZE OF FILLET WELDS IS 3/16".

PRIOR TO FINAL ASSEMBLY OF THE FENCE PANELS, PAINT THE GALVANIZED FENCE COMPONENTS WITH A TWO COAT SYSTEM SPECIFICALLY INTENDED FOR PAINTING OF GALVANIZED SURFACES PER THE SPECIAL PROVISIONS. THE FINISH COLOR SHALL BE FEDERAL COLOR NO. 27038 BLACK.

COVER THE 2" X 2" STEEL MESH WITH A COLORED POLYMER COATING. COAT ALL OTHER FENCING COMPONENTS WITH AN EPOXY PAINT SYSTEM. TOUGH UP DAMAGED PORTIONS OF PAINT AFTER PANEL ERECTION. SEE SPECIAL PROVISIONS FOR REQUIREMENTS.

FOR LOCATION OF PANEL TYPES, SEE "STAIR PLAN" DETAIL SHEETS.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-40-881

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STAIR RAILING DETAILS 1

SHEET 64

300

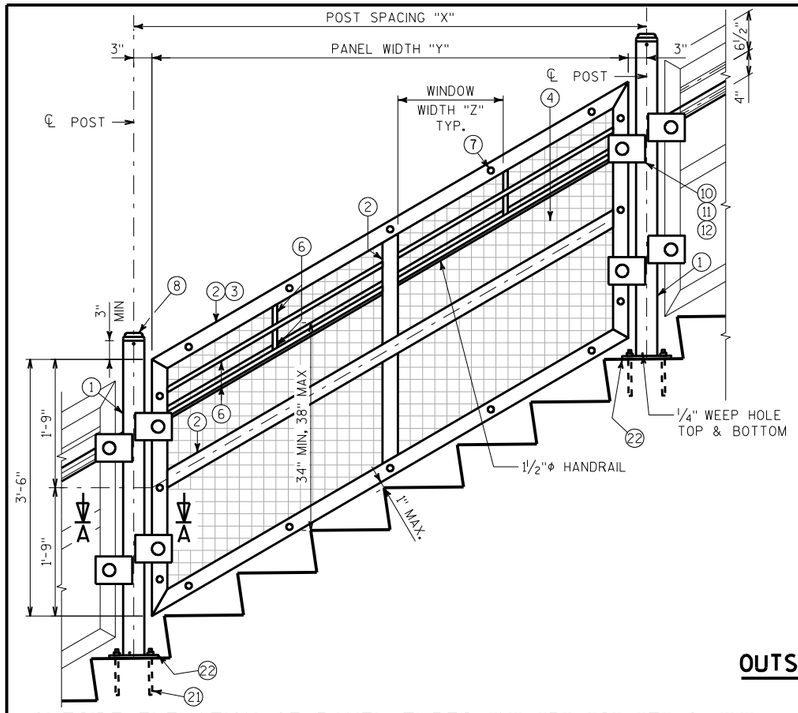
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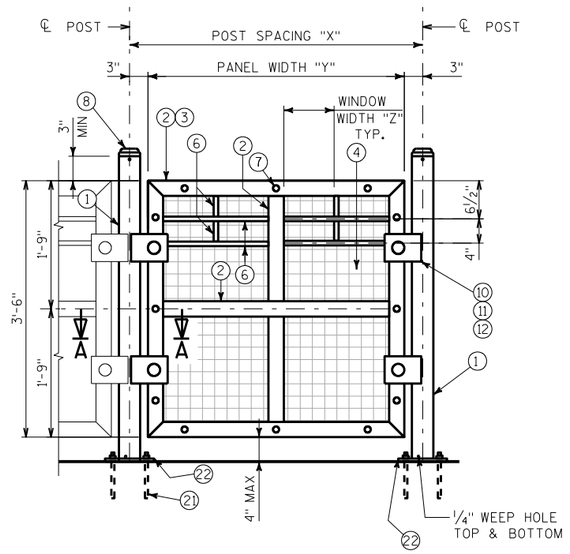
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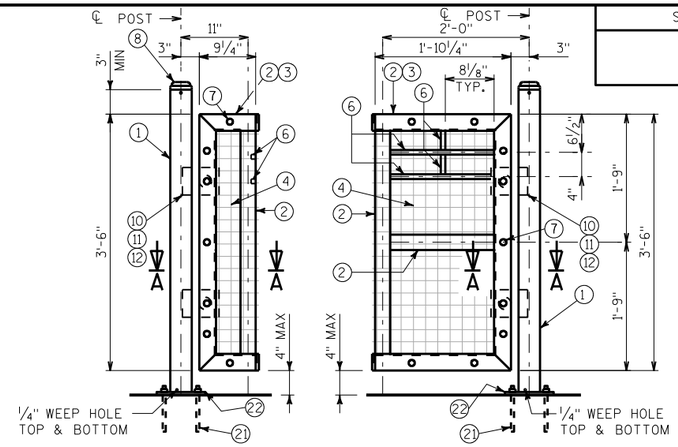
1060-33-83



OUTSIDE ELEVATION OF PANEL TYPES "N", "R", "S", "T", & "U"

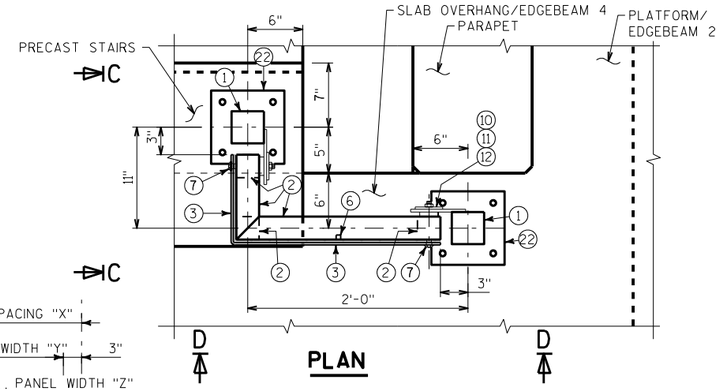


OUTSIDE ELEVATION OF PANEL TYPES "O", "P", "V", & "W"



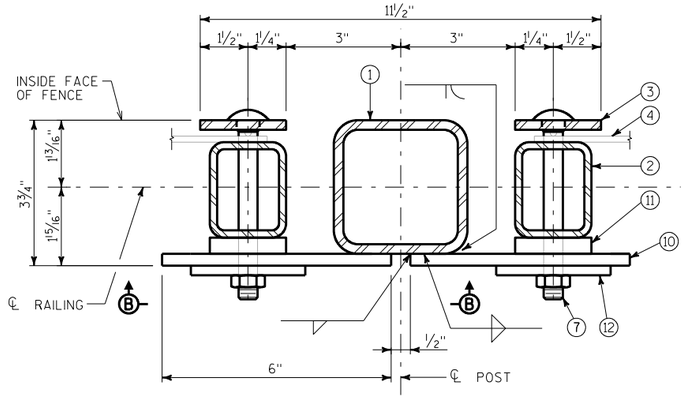
INSIDE ELEVATION C-C

INSIDE ELEVATION D-D

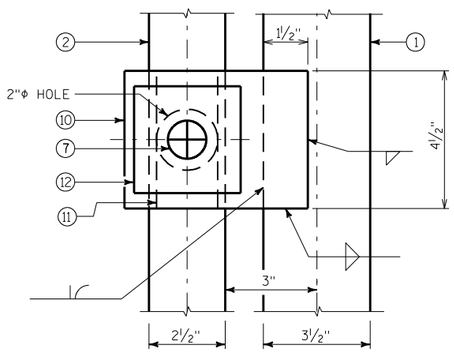


PLAN

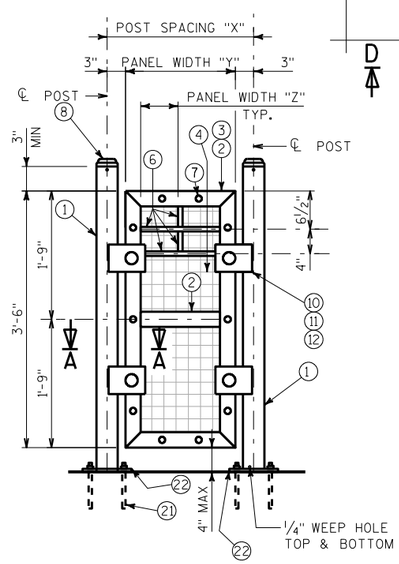
PANEL 'X' DETAIL



SECTION A-A



ELEVATION B-B



OUTSIDE ELEVATION OF PANEL TYPES "Q"

PANEL DIMENSION TABLE

PANEL TYPE	POST SPA. X	PANEL WIDTH Y	WINDOW WIDTH Z	NO. REQ'D.
N	7'-0"	6'-6"	1'-5¼"	8
O	4'-11"	4'-5"	11"	4
P	4'-0"	3'-6"	8¼"	6
Q	2'-0"	1'-6"	6⅛"	2
R	7'-1"	6'-7"	1'-5½"	2
S	5'-0"	4'-6"	11¼"	2
T	5'-1"	4'-7"	11½"	2
U	6'-0"	5'-6"	1'-2¼"	2
V	5'-11"	5'-5"	1'-2"	1
W	3'-6"	3'-0"	6¾"	2
X*	SEE "PANEL 'X' DETAIL"			1

* DIMENSIONS MEASURED ALONG ℄ OF RAILING

NOTES

FOR NOTES AND LEGEND, SEE "STAIR RAILING DETAILS 1" SHEET.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-40-881

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STAIR RAILING DETAILS 2

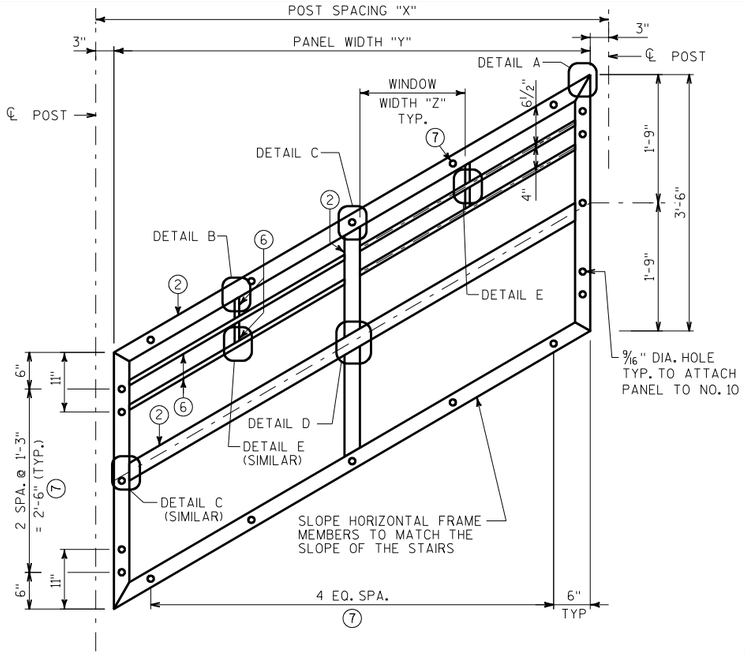
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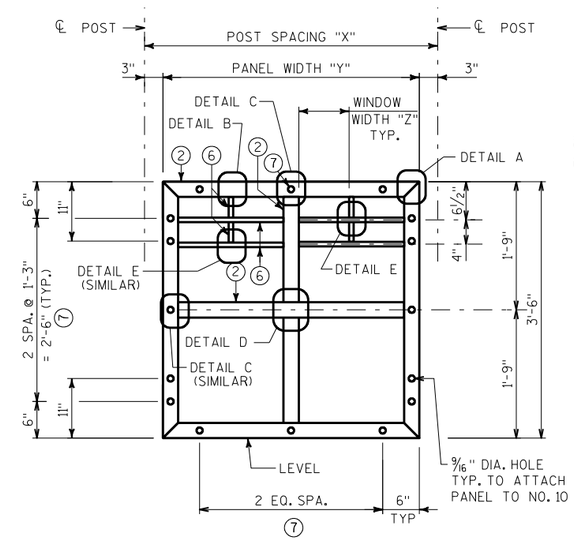
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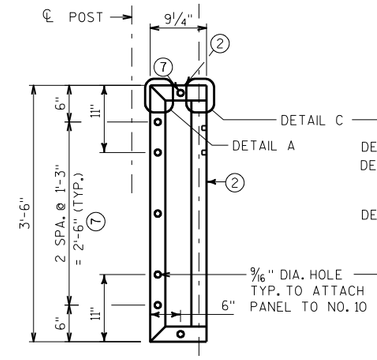
OUTSIDE ELEVATION OF PANEL TYPES "N", "R", "S", "T", & "U"

FENCING FABRIC NOT SHOWN FOR CLARITY



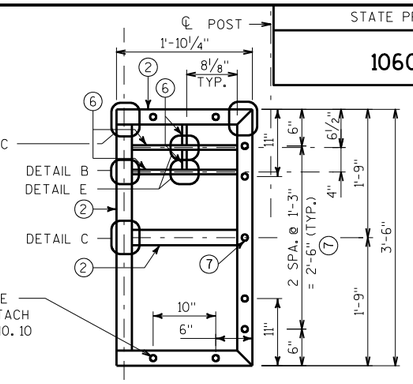
OUTSIDE ELEVATION OF PANEL TYPES "O", "P", "V", & "W"

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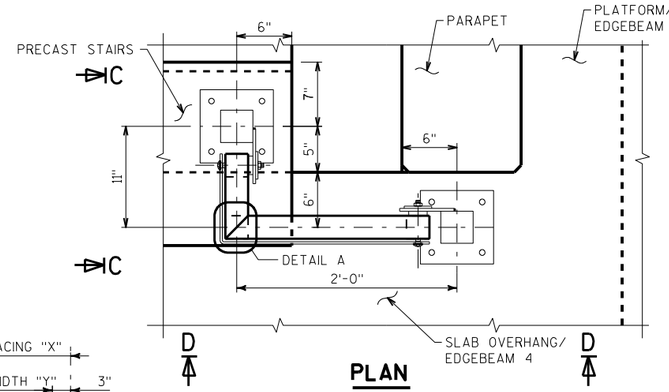
INSIDE ELEVATION C-C

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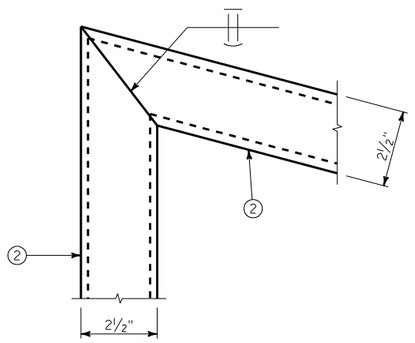
INSIDE ELEVATION D-D

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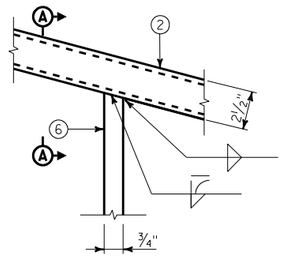


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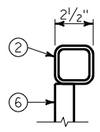
PANEL 'X' DETAIL



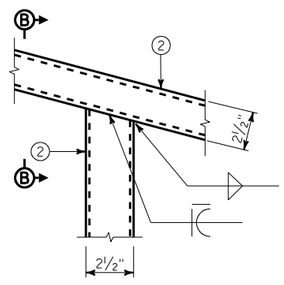
DETAIL A



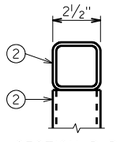
DETAIL B



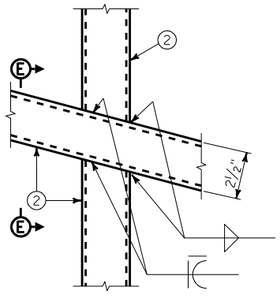
SECTION A-A



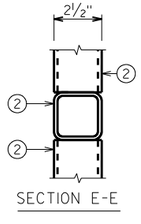
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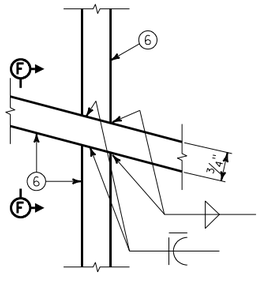
SECTION B-B



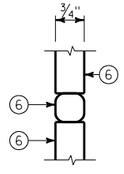
DETAIL D



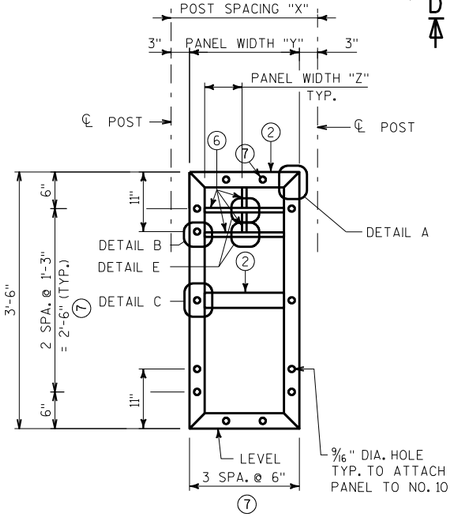
SECTION E-E



DETAIL E



SECTION F-F



OUTSIDE ELEVATION OF PANEL TYPES "Q"

FENCING FABRIC NOT SHOWN FOR CLARITY

NOTES

FOR NOTES AND LEGEND, SEE "STAIR RAILING DETAILS 1" SHEET.

STATE PROJECT NUMBER

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NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-40-881

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STAIR RAILING DETAILS 3

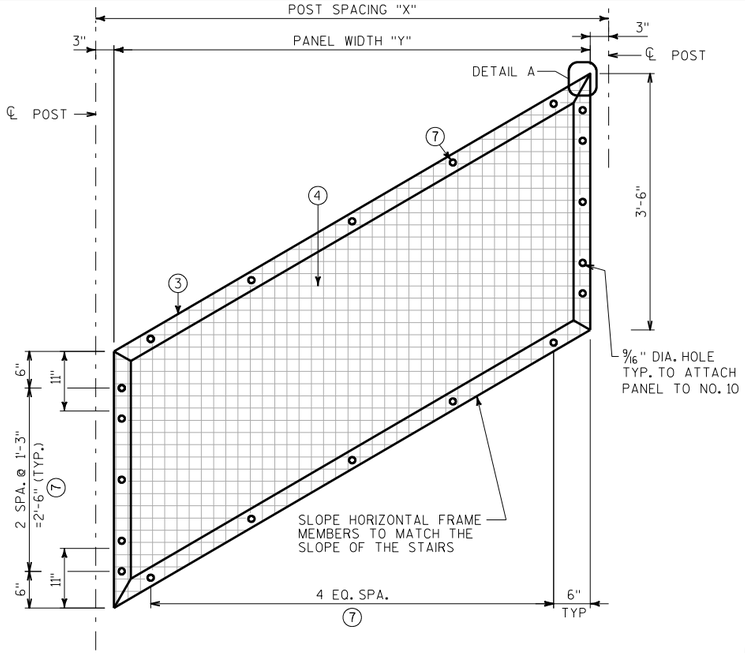
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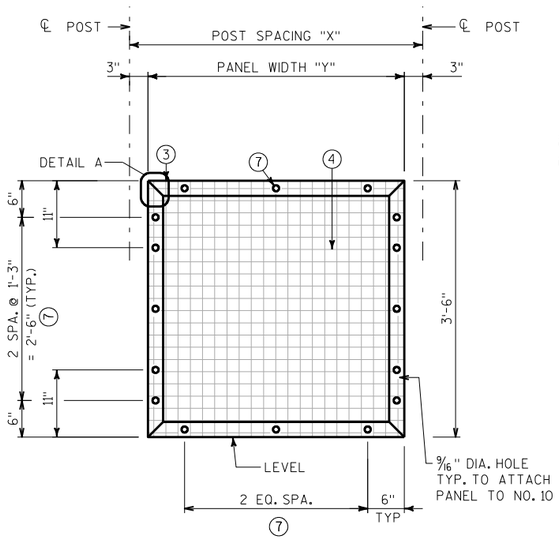
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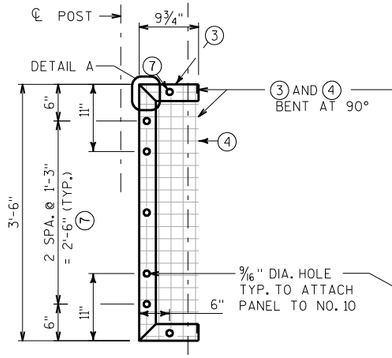
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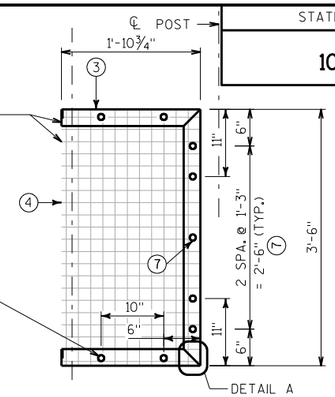
OUTSIDE ELEVATION OF PANEL TYPES "N", "R", "S", "T", & "U"



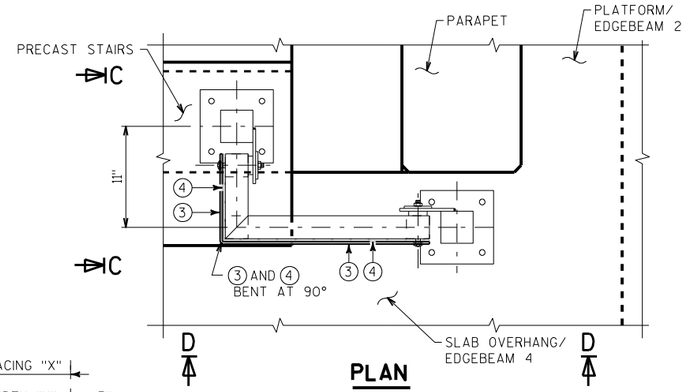
OUTSIDE ELEVATION OF PANEL TYPES "O", "P", "V", & "W"



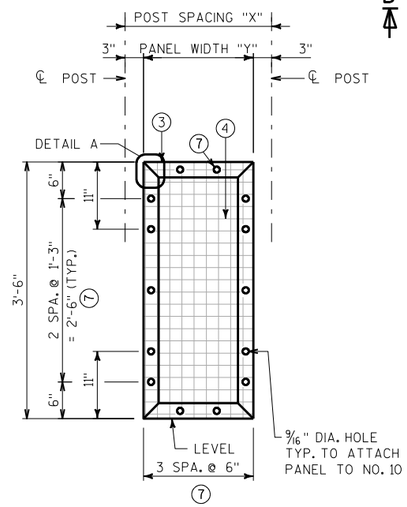
ELEVATION C-C



ELEVATION D-D

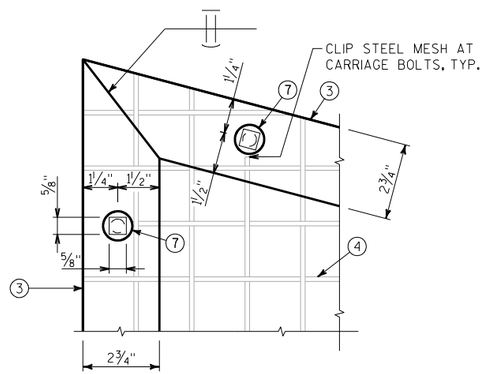


PLAN



OUTSIDE ELEVATION OF PANEL TYPES "Q"

PANEL 'X' DETAIL



DETAIL A

NOTE: STEEL MESH TO BE TACK WELDED TOWARDS ℄ OF FENCE

NOTES

FOR NOTES AND LEGEND, SEE "STAIR RAILING DETAILS 1" SHEET.

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STATE OF WISCONSIN
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STRUCTURES DESIGN SECTION

STRUCTURE B-40-881

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STAIR RAILING DETAILS 4

SHEET 67

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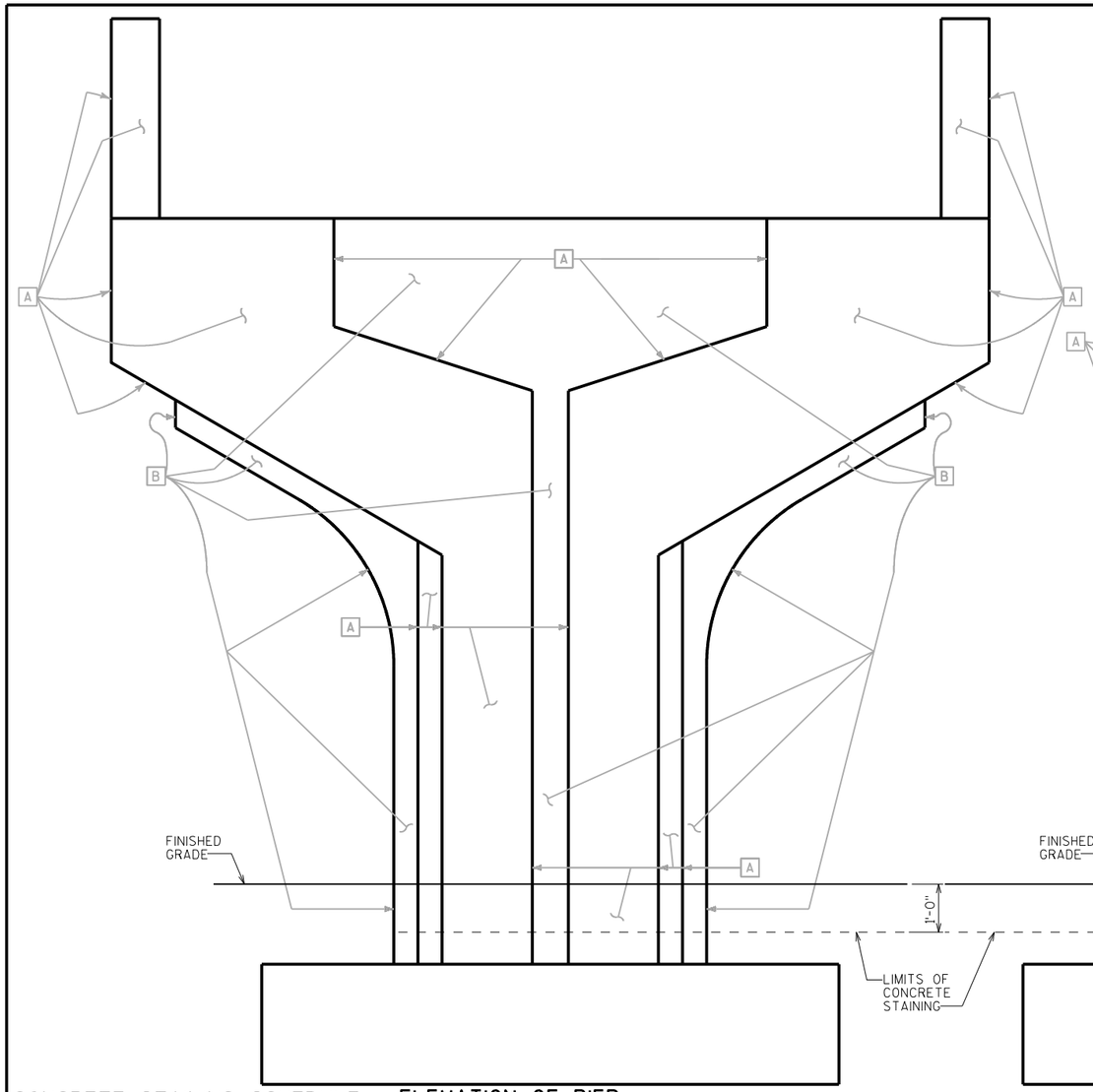
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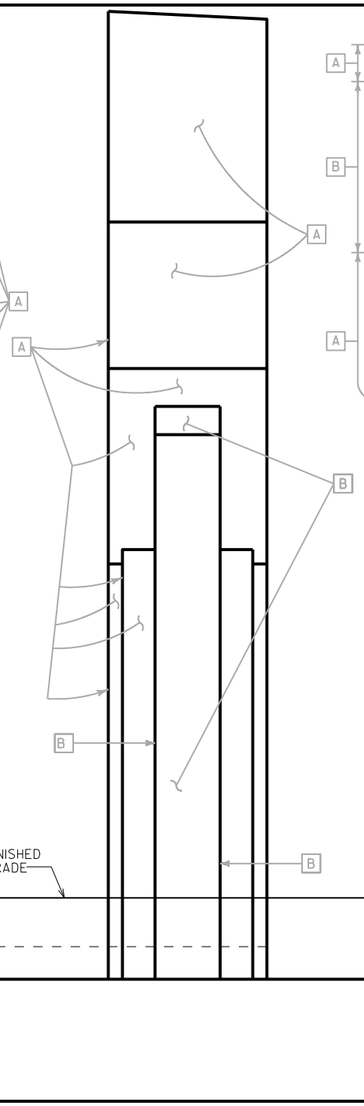
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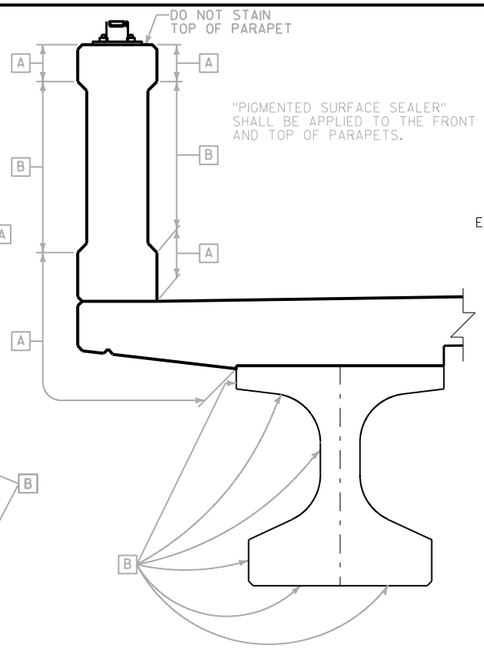
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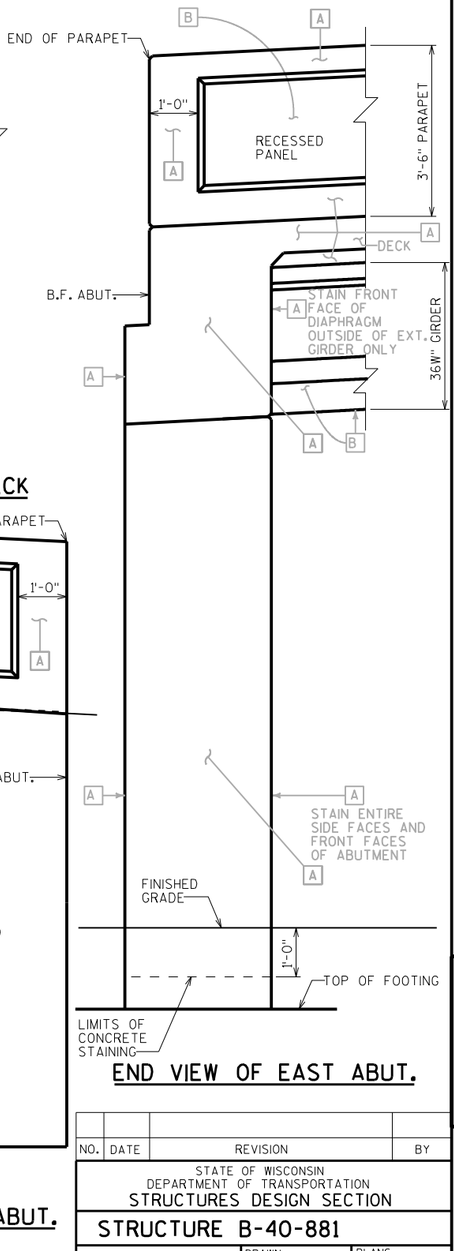


ELEVATION OF PIER

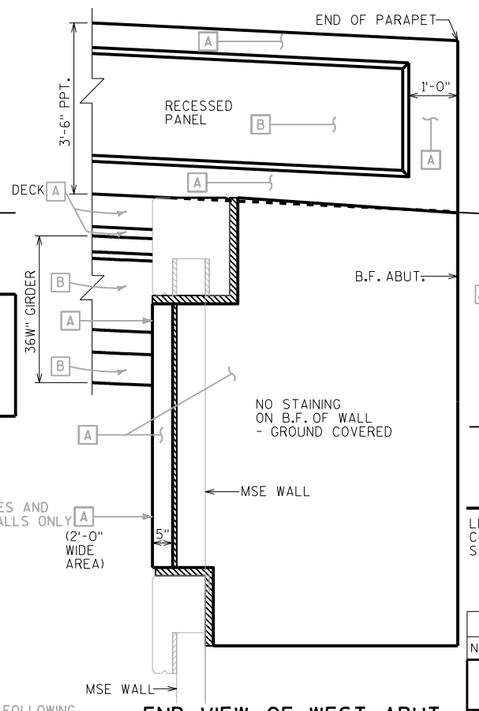


END VIEW OF PIER





PARTIAL SECTION AT DECK



END VIEW OF WEST ABUT.

END VIEW OF EAST ABUT.

CONCRETE STAINING SCHEDULE

MARK	COLOR	LOCATION	NOTES
A	BASE COLOR	PARAPETS	BOTH SIDES, EXCEPT AS NOTED FOR ACCENT COLORS
		DECK (SPANS 1-5)	FASCIA & EXPOSED UNDERSIDE TO EXTERIOR GIRDER FLANGE
		WEST ABUTMENT	FRONT FACE FROM TOP OF ABUTMENT TO 6" BELOW TOP OF RETAINING WALL COPING
		WEST ABUT. CLOSURE WALLS	EXPOSED OUTSIDE FACES & INSIDE FACES TO 6" BELOW TOP OF RETAINING WALL COPING.
		PIERS & STAIR COLUMNS	SIDES AND BOTTOM OF CAP BEAM, AND COLUMNS TO 1'-0" BELOW FINISHED GRADE EXCEPT AS NOTED FOR ACCENT COLORS
		PLATFORM EDGE BEAMS	EXTERIOR FACE & BOTTOM
		PLATFORM SLAB OVERHANG	ENTIRE BOTTOM & SIDE FACES
		PLATFORM COLUMNS	SIDES TO 1'-0" BELOW FINISHED GRADE
		MASK WALLS	EXTERIOR FACES
		EAST ABUTMENT	FRONT FACE & SIDES TO 1'-0" BELOW FINISHED GRADE
		EAST ABUTMENT DIAPHRAGM	FRONT FACE FROM EDGE OF DECK TO EXTERIOR FACE OF EXTERIOR GIRDER & ENTIRE SIDE FACES.
		PRECAST STAIRS	ENTIRE BOTTOM & SIDES OF PRECAST STAIR SECTIONS
B	ACCENT COLOR #1	PIERS & STAIR COLUMNS	REVEALS OF PIERS & STAIR COLUMNS
		GIRDERS	EXTERIOR FACE AND UNDERSIDE OF EXTERIOR GIRDERS
		PARAPETS	REVEALS OF PARAPETS

THE FINAL COLOR OF THE CONCRETE FOLLOWING APPLICATION OF THE STAIN SYSTEM SHALL MATCH THE SHERWIN-WILLIAMS STANDARD COLOR SYSTEM LISTED.

BASE COLOR : WHOLE WHEAT - SW 6121, FN 122
ACCENT COLOR #1: BAGUETTE - SW 6123, FN 124

CONCRETE STAINING DETAILS SHOWN ON THIS SHEET ARE FOR INFORMATION ONLY. CONCRETE STAINING IS NOT INCLUDED IN THIS CONTRACT. CONCRETE STAINING WILL BE DONE BY OTHERS UNDER A FUTURE CONTRACT.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-40-881

DRAWN BY JPH | PLANS CK'D. NAR

AESTHETIC DETAILS 1

SHEET 68

304

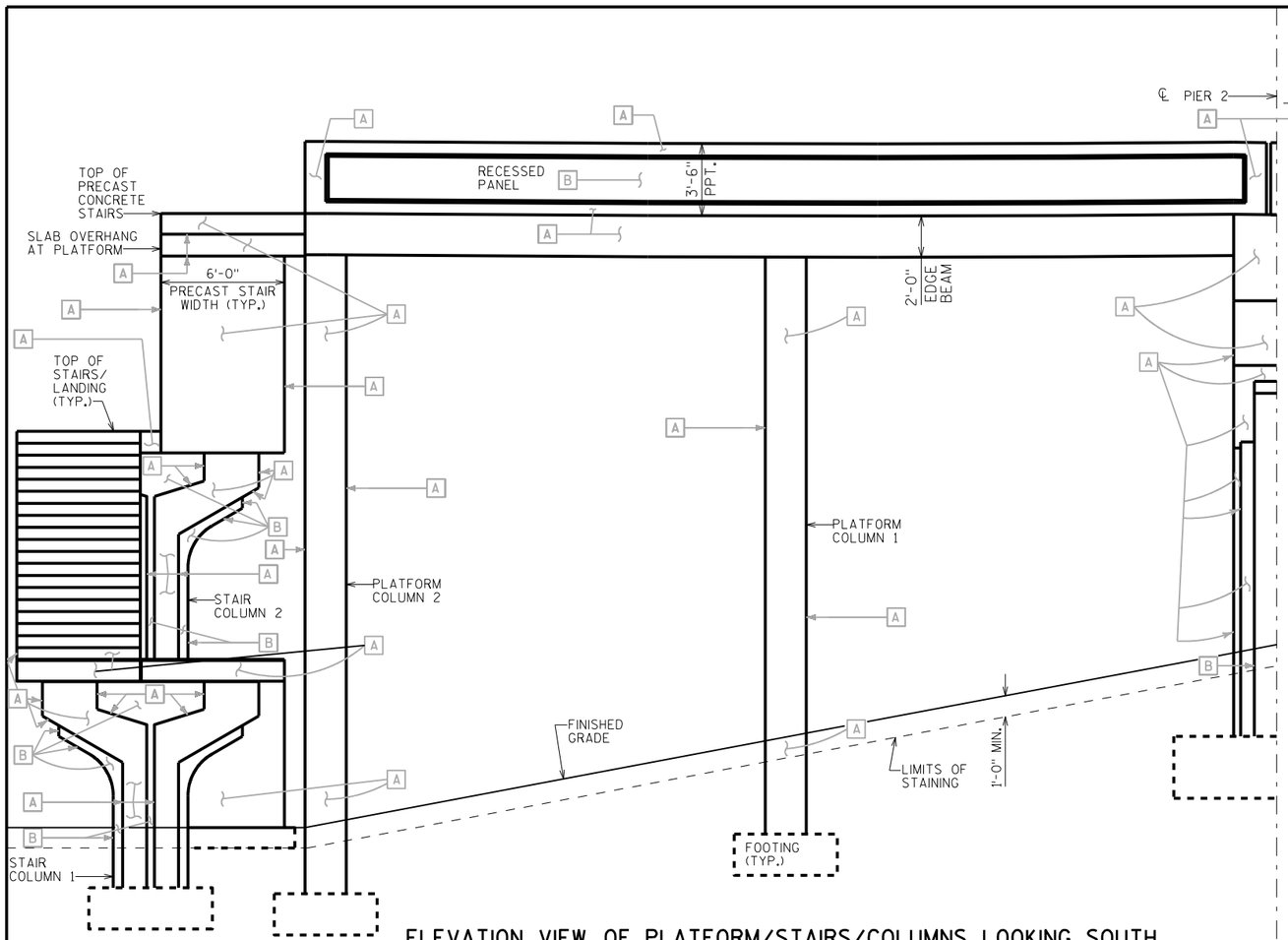
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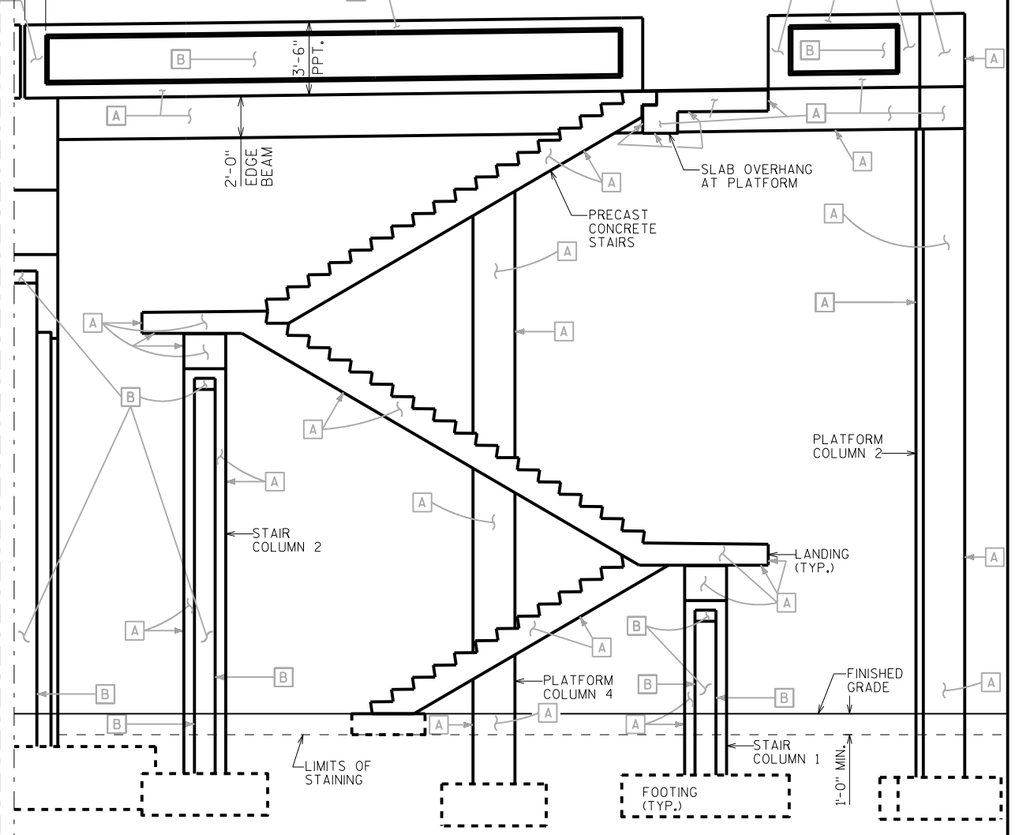
STATE PROJECT NUMBER

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ELEVATION VIEW OF PLATFORM/STAIRS/COLUMNS LOOKING SOUTH

DECORATIVE BRIDGE AND STAIRS FENCE NOT SHOWN FOR CLARITY



ELEVATION VIEW OF PLATFORM/STAIRS/COLUMNS LOOKING WEST

DECORATIVE BRIDGE AND STAIRS FENCE NOT SHOWN FOR CLARITY

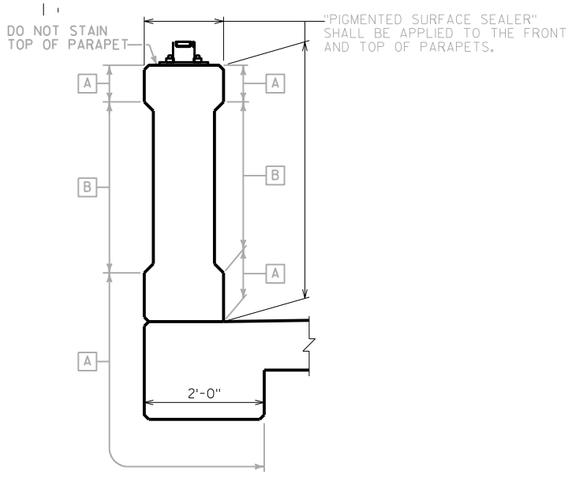
CONCRETE STAINING SCHEDULE

MARK	COLOR	LOCATION	NOTES
A	BASE COLOR	PARAPETS	BOTH SIDES, EXCEPT AS NOTED FOR ACCENT COLORS
		DECK (SPANS 1-5)	FASCIA & EXPOSED UNDERSIDE TO EXTERIOR GIRDER FLANGE
		WEST ABUTMENT	FRONT FACE FROM TOP OF ABUTMENT TO 6" BELOW TOP OF RETAINING WALL COPING
		WEST ABUT. CLOSURE WALLS	EXPOSED OUTSIDE FACES & INSIDE FACES TO 6" BELOW TOP OF RETAINING WALL COPING.
		PIERS & STAIR COLUMNS	SIDES AND BOTTOM OF CAP BEAM, AND COLUMNS TO 1'-0" BELOW FINISHED GRADE EXCEPT AS NOTED FOR ACCENT COLORS
		PLATFORM EDGE BEAMS	EXTERIOR FACE & BOTTOM
		PLATFORM SLAB OVERHANG	ENTIRE BOTTOM & SIDE FACES
		PLATFORM COLUMNS	SIDES TO 1'-0" BELOW FINISHED GRADE
		MASK WALLS	EXTERIOR FACES
		EAST ABUTMENT	FRONT FACE & SIDES TO 1'-0" BELOW FINISHED GRADE
		EAST ABUTMENT DIAPHRAGM	FRONT FACE FROM EDGE OF DECK TO EXTERIOR FACE OF EXTERIOR GIRDER & ENTIRE SIDE FACES.
		PRECAST STAIRS	ENTIRE BOTTOM & SIDES OF PRECAST STAIR SECTIONS
B	ACCENT COLOR #1	PIERS & STAIR COLUMNS	REVEALS OF PIERS & STAIR COLUMNS
		GIRDERS	EXTERIOR FACE AND UNDERSIDE OF EXTERIOR GIRDERS
		PARAPETS	REVEALS OF PARAPETS

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SECTION OF PARAPET AT PLATFORM EDGE BEAM

NO.	DATE	REVISION	BY

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DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-40-881

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AESTHETIC DETAILS 2

SHEET 69

305

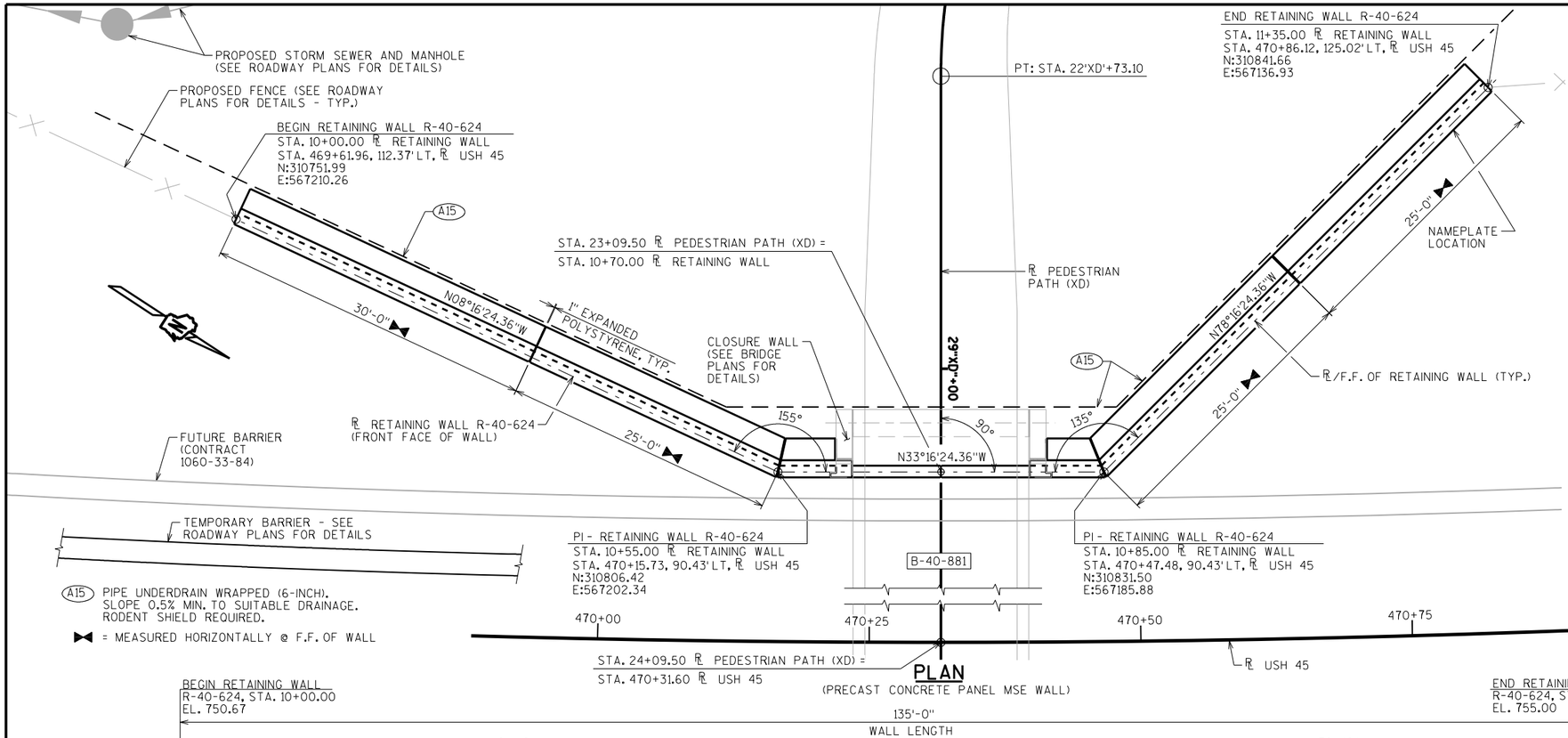
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STATE PROJECT NUMBER

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PLAN
(PRECAST CONCRETE PANEL MSE WALL)

DESIGN DATA

THE RETAINING WALL SHALL BE DESIGNED USING THE ELEVATIONS GIVEN ON THESE SHEETS.

DESIGN FOR RETAINING WALL TO PROVIDE FOR FINISHED GRADE SLOPED BEHIND WALL AS SHOWN ON THE ROADWAY PLANS.

DESIGN RETAINING WALL FOR A LIVE LOAD SURCHARGE OF 240 PSF.

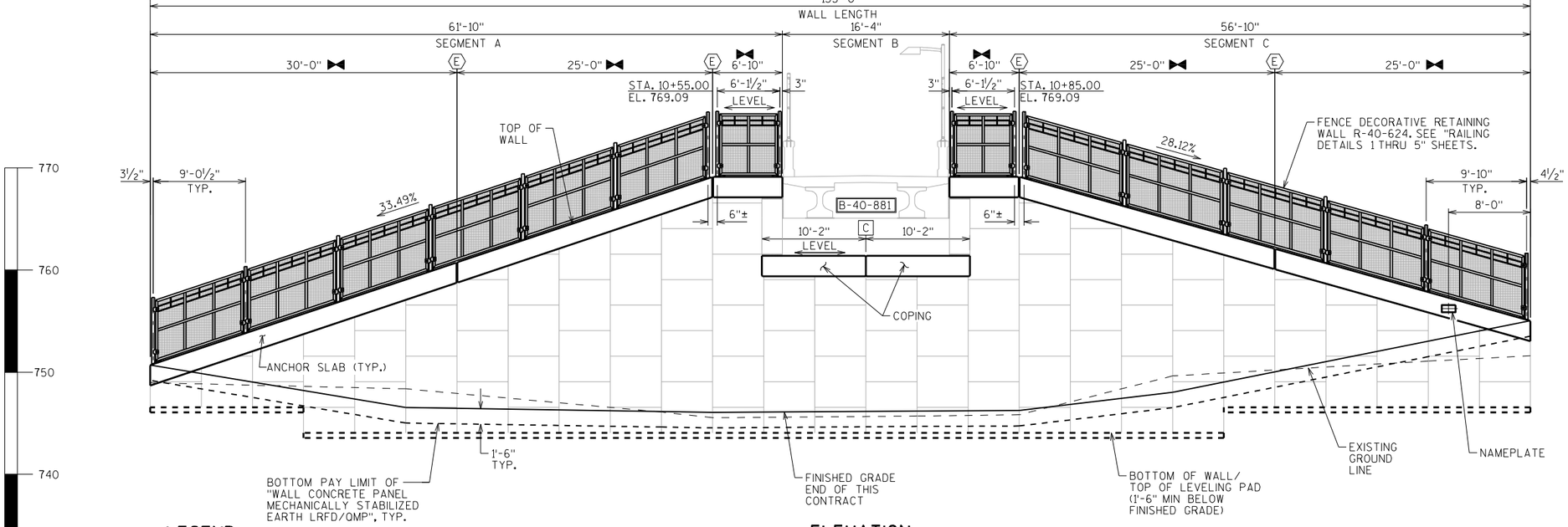
DESIGN THE MSE WALL IN FRONT OF THE ABUTMENT BODY TO RESIST THE FORCE FROM ALL HORIZONTAL EARTH PRESSURE ACTING ON THE BACK OF THE ABUTMENT BELOW THE BEAM SEATS AND A LIVE LOAD VERTICAL SURCHARGE OF 240 PSF.

ULTIMATE DESIGN STRESSES

CONCRETE MASONRY (CONCRETE COPING)	f'c = 4,000 P.S.I.
PRECAST CONCRETE WALL PANELS	f'c = 4,000 P.S.I.
BAR STEEL REINFORCEMENT, GRADE 60	fy = 60,000 P.S.I.
STRUCTURAL CARBON STEEL (ASTM A709, GRADE 36)	fy = 36,000 P.S.I.

LIST OF DRAWINGS

1. GENERAL PLAN & ELEVATION
2. QUANTITIES, NOTES & PROFILE GRADE LINES
3. TYPICAL WALL SECTIONS
4. SUBSURFACE EXPLORATION
5. COPING DETAILS
6. RAILING DETAILS 1
7. RAILING DETAILS 2
8. RAILING DETAILS 3
9. RAILING DETAILS 4
10. RAILING DETAILS 5
11. AESTHETIC DETAILS



ELEVATION
(LOOKING SOUTH AT FRONT FACE OF WALL)
(DISTANCES AND STATIONS ARE GIVEN ALONG THE FRONT FACE OF WALL)

LEGEND

(E) EXPANSION JOINT

[C] CONTRACTION JOINT

CURVE DATA

℄ USH 45

P.I. = STA. 466+63.50
Δ = 38°-23'-14.05"
D = 03°-29'-37.17"
T = 570.90'
L = 1098.77'
R = 1640'
S.E. = 5.9%
P.C. = 460+92.60
P.T. = 471+91.27

STRUCTURE DESIGN CONTACTS:

NICK RICE	(608) 266-5092
AARON BONK	(608) 261-0261

NO.	DATE	REVISION	BY

Plans Prepared By **WISDOT**
BUREAU OF STRUCTURES

ACCEPTED William C. Dreher 3/6/15
CHIEF STRUCTURES DESIGN ENGINEER — DATE

STRUCTURE R-40-624

PEDESTRIAN PATH OVER USH 45

COUNTY: MILWAUKEE	~~TOWN~~/CITY/~~VILLAGE~~: WAUWATOSA
DESIGN SPEC.: AASHTO LRFD DESIGN SPEC.	
DESIGNED BY: NAR	DESIGN CK'D.: ABS
DRAWN BY: NAR	PLANS CK'D.: ABS

GENERAL PLAN & ELEVATION

SHEET 1 OF 11

306

I.D. 1060-33-16E

DATE: MAR. 2015

SCALE = 6

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SOIL PARAMETERS

SOIL DESCRIPTION	FRICTION ANGLE (DEGREES)	COHESION (PSF)	UNIT WEIGHT (PCF)
GRANULAR BACKFILL WITHIN THE WALL IN THE REINFORCING ZONE	30	0	120
FILL BEHIND AND BELOW THE REINFORCING ZONE	31	0	120
BOR-2, 22+97 40' RT.			
CLAY, BROWN TO GRAY, SOME SAND, SOME GRAVEL (ELEVATION 747.6 FT - 741.0 FT)	0	4,000	135
CLAY, BROWN TO GRAY, SOME SAND, SOME GRAVEL (ELEVATION 741.0 FT - 733.0 FT)	0	3,000	130
CLAY, BROWN TO GRAY, SOME SAND, SOME GRAVEL (ELEVATION 733.0 FT - 728.0 FT)	0	4,000	135
CLAY, GRAY, SOME SAND, SOME GRAVEL (ELEVATION 728.0 FT - 719.5 FT)	0	1,500	115
SILT, GRAY, SOME SAND AND GRAVEL (ELEVATION 719.5 FT - 718.0 FT)	0	4,000	135
BOR-1, 22+97 25' LT.			
CLAY, BROWN, SOME SAND, TRACE GRAVEL (ELEVATION 747.9 FT - 740.9 FT)	0	4,000	135
CLAY, BROWN, SOME SAND, TRACE GRAVEL (ELEVATION 740.9 FT - 728.9 FT)	0	3,000	130
CLAY, BROWN, SOME SAND, TRACE GRAVEL (ELEVATION 728.9 FT - 718.9 FT)	0	4,000	135
CLAY, GRAY (ELEVATION 718.9 FT - 710.4 FT)	0	1,500	115
CLAY, GRAY, SOME SAND, SOME SILT, TRACE GRAVEL (ELEVATION 710.4 FT - 700.4 FT)	0	2,500	120
CLAY, GRAY (ELEVATION 700.4 FT - 695.4 FT)	0	3,500	130
SAND, GRAY, SOME CLAY, TRACE GRAVEL (ELEVATION 695.4 FT AND BELOW)	0	25,000	140

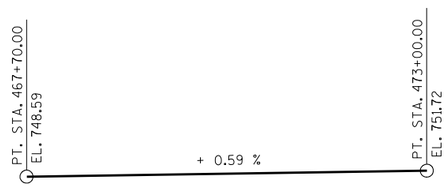
WALL EXTERNAL STABILITY EVALUATION

DIMENSIONS			
WALL HEIGHT (FEET)[1]	24.5	20.4	18.3
EXPOSED WALL HEIGHT (FEET)	23.0	18.9	16.8
LENGTH OF REINFORCEMENT (FEET)[3]	17.2	15.9	12.8
LENGTH OF REINFORCEMENT/WALL HEIGHT (FEET)	0.70	0.78	0.70
WALL STATION (R/L RETAINING WALL)	10+55.10	10+75.00	11+00.00
BORING USED	BOR-2	BOR-1	BOR-1
CAPACITY TO DEMAND RATIO (CDR)[4]			
SLIDING ($CDR_{REQ'D}$ > 1.0)	1.4	1.1	1.4
ECCENTRICITY ($CDR_{REQ'D}$ > 1.0)	1.3	1.0	1.3
GLOBAL STABILITY ($CDR_{REQ'D}$ > 1.0)	N/A[5]	2.9	N/A[5]
BEARING ($CDR_{REQ'D}$ > 1.0)	1.2	1.1	1.6
REQUIRED BEARING RESISTANCE (PSF)	7,000	7,000	7,000

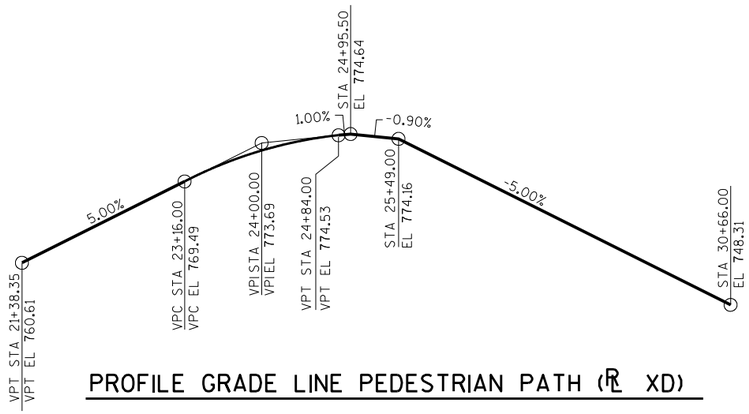
TOTAL ESTIMATED QUANTITIES

BID ITEM NUMBER	BID ITEMS	UNIT	SEGMENT A	SEGMENT B	SEGMENT C	TOTALS
206.3000.0001	EXCAVATION FOR STRUCTURES RETAINING WALL R-40-624	LS	—	—	—	1
504.0500	CONCRETE MASONRY RETAINING WALLS	CY	10	—	9	19
505.0615	BAR STEEL REINFORCEMENT HS COATED RETAINING WALLS	LB	970	—	940	1910
516.0500	RUBBERIZED MEMBRANE WATERPROOFING	SY	2	—	2	4
517.1050.S.0001	ARCHITECTURAL SURFACE TREATMENT R-40-624	SF	940	334	834	2108
612.0406	PIPE UNDERDRAIN WRAPPED 6-INCH	LF	77	17	72	166
SPV.0090.4003	FENCE DECORATIVE RETAINING WALL R-40-624	LF	62	—	57	119
SPV.0165.4001	WALL CONCRETE PANEL MECHANICALLY STABILIZED EARTH LRFD/OMP	SF	940	334	834	2108
	NON-BID ITEMS					
	NON-BITUMINOUS JOINT SEALER	SIZE	—	—	—	
	CORK FILLER	SIZE	—	—	—	1"
	EXPANDED POLYSTYRENE	SIZE	—	—	—	1"

ALL ITEMS ARE CATEGORY 3000



PROFILE GRADE LINE USH 45 SB



PROFILE GRADE LINE PEDESTRIAN PATH (℄ XD)

WALL EXTERNAL STABILITY EVALUATION NOTES:

1. THE WALL HEIGHT INCLUDES AN EMBEDMENT OF 1.5 FEET.
2. THE WALL STABILITY EVALUATION INCLUDED A SURCHARGE LOAD THAT WAS EQUAL TO THE WEIGHT OF THE SOIL BEHIND THE ABUTMENT.
3. THE LENGTH OF REINFORCEMENT IS THE MINIMUM REQUIRED LENGTH.
4. CDR REQUIREMENTS AND LOAD AND RESISTANCE FACTORS ARE PRESENTED IN CHAPTER 14 OF THE BRIDGE MANUAL.
5. N/A - NOT APPLICABLE. GLOBAL SLOPE STABILITY WAS EVALUATED AT THE CRITICAL WALL LOCATION.

WALL ELEVATION TABLES

SEGMENT A
BEGINNING OF WALL TO STRUCTURE B-40-881

WALL STATION	TOP OF WALL EL.	FINISHED GRADE EL.	EXISTING GRADE EL.
10+00.00	750.67	750.67	748.96
10+30.00	760.72	746.43	747.89
10+55.00	769.09	746.03	745.51
10+61.83	769.09	746.08	745.57

SEGMENT B
UNDER STRUCTURE B-40-881

WALL STATION	TOP OF WALL EL.	FINISHED GRADE EL.	EXISTING GRADE EL.
10+61.83	761.36	746.08	745.57
10+70.00	761.36	746.13	745.64
10+78.17	761.36	746.18	745.73

SEGMENT C
STRUCTURE B-40-881 TO END OF WALL

WALL STATION	TOP OF WALL EL.	FINISHED GRADE EL.	EXISTING GRADE EL.
10+78.17	769.09	746.18	745.73
10+85.00	769.09	746.22	745.81
11+10.00	762.05	750.00	749.57
11+35.00	755.00	755.00	750.95

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GENERAL NOTES

DRAWINGS SHALL NOT BE SCALED.

BEVEL EXPOSED EDGES OF CONCRETE ¾", UNLESS NOTED OTHERWISE.

ALL STATIONS AND ELEVATIONS ARE IN FEET, ELEVATIONS ARE REFERENCED TO THE NAVD 88 DATUM.

ALL DIMENSIONS ARE ALONG THE FRONT FACE OF WALL, UNLESS SHOWN OTHERWISE.

BAR STEEL REINFORCEMENT SHALL HAVE 2" CLEAR COVER, UNLESS SHOWN OTHERWISE.

EXISTING STRUCTURE, B-40-384 IS NOT SHOWN IN THESE PLANS. THE REMOVAL OF THIS STRUCTURE IS INCLUDED IN A LUMP SUM PAY ITEM AS PART OF THE B-40-881 BRIDGE QUANTITIES.

THE COST OF FURNISHING AND PLACING MSE BACKFILL WITHIN THE REINFORCED SOIL ZONE IS TO BE INCLUDED IN THE BID ITEM "WALL CONCRETE PANEL MECHANICALLY STABILIZED EARTH LRFD/OMP".

THESE PLANS ARE FOR A PRECAST CONCRETE PANEL MECHANICALLY STABILIZED EARTH (MSE) RETAINING WALL.

THE QUANTITIES AND REINFORCEMENT DETAILS ARE BASED ON AN ASSUMED CONCRETE WALL PANEL THICKNESS OF 7 INCHES. FOR PANEL THICKNESSES DIFFERENT THAN 7 INCHES, THE CONTRACTOR SHALL VERIFY REINFORCEMENT BAR DETAILS AND QUANTITIES AND WILL BE RESPONSIBLE FOR ANY QUANTITY VARIATIONS.

THE CONTRACTOR MUST COORDINATE THE CONSTRUCTION OF WALL R-40-624 WITH THE CONSTRUCTION OF THE WEST ABUTMENT OF BRIDGE B-40-881.

THE CONTRACTOR SHALL PROVIDE COMPLETE DESIGN, PLANS, DETAILS, SPECIFICATIONS, AND SHOP DRAWINGS FOR THE RETAINING WALLS IN ACCORDANCE WITH THE SPECIAL PROVISIONS. THE RETAINING WALL MANUFACTURER SHALL PROVIDE TECHNICAL ASSISTANCE TO THE CONTRACTOR DURING CONSTRUCTION. THE COST OF FURNISHING THESE ITEMS IS INCLUDED IN THE BID ITEM "WALL CONCRETE PANEL MECHANICALLY STABILIZED EARTH LRFD/OMP".

THE COST OF FURNISHING AND PLACING THE UNREINFORCED CONCRETE LEVELING PAD UNDER THE MSE PRECAST WALL PANELS IS INCLUDED IN THE BID ITEM "WALL CONCRETE PANEL MECHANICALLY STABILIZED EARTH LRFD/OMP".

THE VOLUME OF EARTHWORK REQUIRED TO INSTALL THE UNREINFORCED CONCRETE LEVELING PAD, MSE PRECAST WALL PANELS, MSE BACKFILL AND REINFORCING STRIPS IS INCLUDED IN THE BID ITEM "WALL CONCRETE PANEL MECHANICALLY STABILIZED EARTH LRFD/OMP".

ALL BAR STEEL REINFORCEMENT IN THE CONCRETE COPING IS TO BE EPOXY COATED.

THE QUANTITIES OF CONCRETE MASONRY & BAR STEEL REINFORCEMENT FOR THE SEGMENTS A & C CAST-IN-PLACE COPING ARE PAID FOR UNDER THE ITEMS "CONCRETE MASONRY RETAINING WALLS" & "BAR STEEL REINFORCEMENT HS COATED RETAINING WALLS", RESPECTIVELY.

THE QUANTITIES OF CONCRETE MASONRY & BAR STEEL REINFORCEMENT FOR THE SEGMENT B CAST-IN-PLACE COPING ARE INCLUDED IN THE BID ITEM "WALL CONCRETE PANEL MECHANICALLY STABILIZED EARTH LRFD/OMP".

THE PLAN QUANTITY FOR THE ITEM "WALL CONCRETE PANEL MECHANICALLY STABILIZED EARTH LRFD/OMP" IS BASED ON A WALL HEIGHT MEASURED FROM THE TOP OF THE LEVELING PAD TO THE TOP OF WALL AS SHOWN IN THE PLANS. THE TOP OF LEVELING PAD IS ASSUMED TO BE 1'-6" BELOW FINISHED GRADE. WALL AREAS CONSTRUCTED OUTSIDE THESE LIMITS WILL NOT BE MEASURED FOR PAYMENT.

PLANS, ELEVATIONS, AND DETAILS SHOWN ON THESE DRAWINGS ARE INTENDED TO INDICATE WALL LOCATIONS, LENGTHS, HEIGHTS, AND DETAILS COMMON TO THE WALL SYSTEM SELECTED. THE CONTRACTOR SHALL VERIFY THAT THE WALL SYSTEM SELECTED WILL CONFORM TO THE REQUIRED ALIGNMENTS AND DETAILS.

THE MAXIMUM VALUE OF THE ANGLE OF INTERNAL FRICTION OF THE WALL BACKFILL MATERIAL IN THE REINFORCED ZONE SHALL BE ASSUMED TO BE 30° WITHOUT CERTIFIED TEST VALUES.

THE LOWER LIMIT OF "WALL CONCRETE PANEL MECHANICALLY STABILIZED EARTH LRFD/OMP" IS THE UPPER LIMIT OF "EXCAVATION FOR STRUCTURES RETAINING WALL R-40-624".

PROVIDE A SACK RUBBED FINISH IN ACCORDANCE TO STANDARD SPECIFICATION 502.3.7.5 AND AS MODIFIED HERE ON ALL EXPOSED CONCRETE SURFACES WHERE CONCRETE STAINING WILL BE APPLIED IN A FUTURE CONTRACT. THE MORTAR SHALL CONTAIN ONE OF THE FOLLOWING ACRYLIC BONDING ADMIXTURES MIXED AND APPLIED IN ACCORDANCE TO MANUFACTURER'S RECOMENDATIONS; TK-225 BY TK PRODUCTS, ACHRO 60 BY THORO PRODUCTS, OR ACHRO SET BY MASTER BUILDERS. THIS WORK IS INCIDENTAL TO THE BID ITEMS "CONCRETE MASONRY RETAINING WALLS".

ALLOWABLE WALL SYSTEM

WALL CONCRETE PANEL MECHANICALLY STABILIZED EARTH LRFD/OMP

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE R-40-624

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QUANTITIES, NOTES & PROFILE GRADE LINES

SHEET 2

307

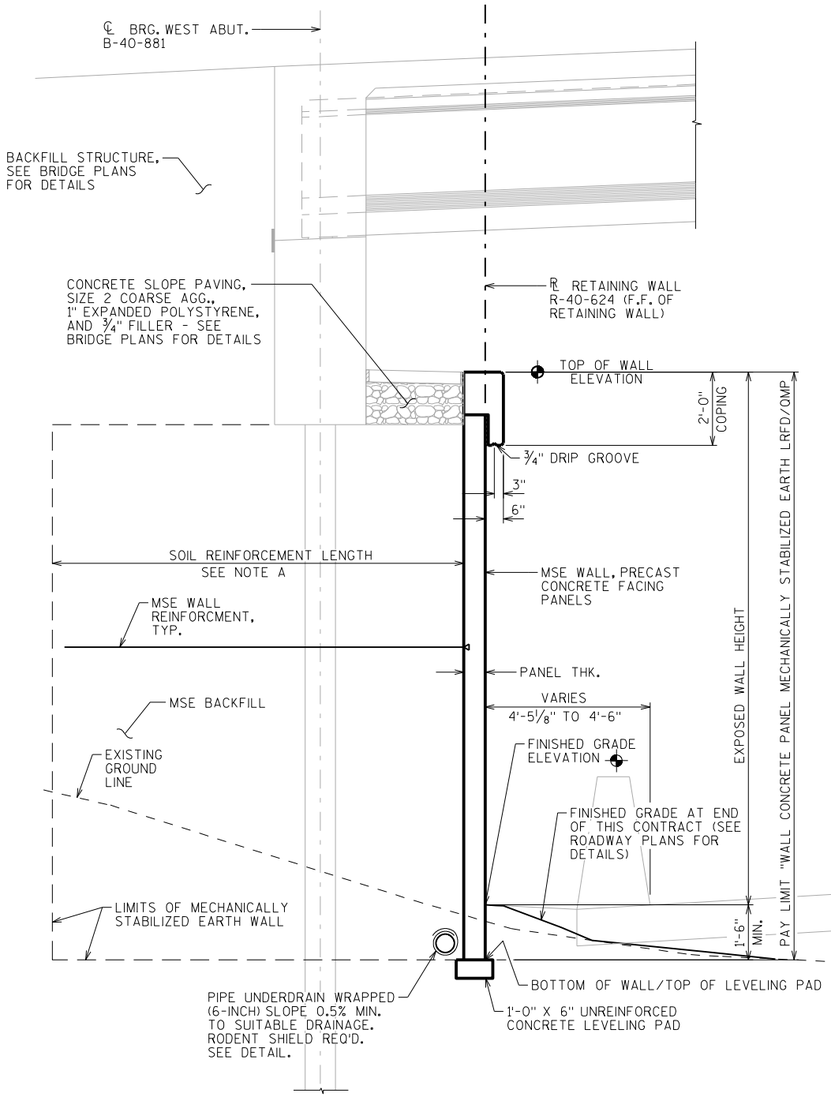
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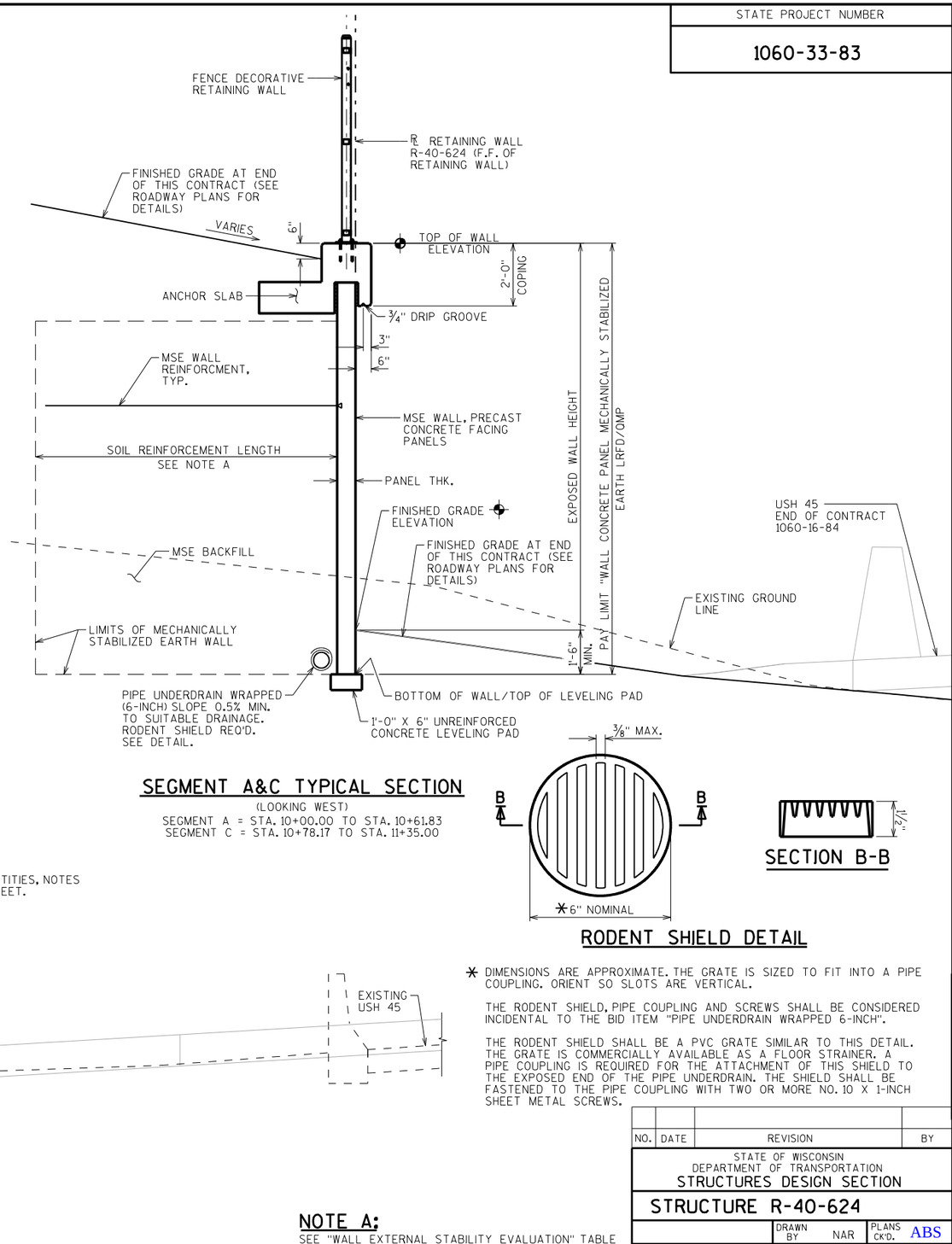
STATE PROJECT NUMBER

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SEGMENT B TYPICAL SECTION

(LOOKING WEST)
SEGMENT B = STA. 10+61.83 TO STA. 10+78.17



SEGMENT A&C TYPICAL SECTION

(LOOKING WEST)
SEGMENT A = STA. 10+00.00 TO STA. 10+61.83
SEGMENT C = STA. 10+78.17 TO STA. 11+35.00

⊕ = FOR ELEVATIONS SEE "QUANTITIES, NOTES & PROFILE GRADE LINES" SHEET.

SECTION B-B

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 SHEET METAL SCREWS.

NOTE A:

SEE "WALL EXTERNAL STABILITY EVALUATION" TABLE ON "COPING DETAILS" SHEET FOR MINIMUM LENGTH OF MSE WALL REINFORCING STRIPS. SOIL REINFORCEMENT MUST EXTEND A MINIMUM OF 3.0 FEET BEYOND THE FAILURE PLANE FOR INTERNAL STABILITY AS DEFINED BY AASHTO SPECIFICATIONS.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
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STRUCTURES DESIGN SECTION

STRUCTURE R-40-624

DRAWN BY NAR | PLANS CK'D. ABS

TYPICAL WALL SECTIONS

SHEET 3

308

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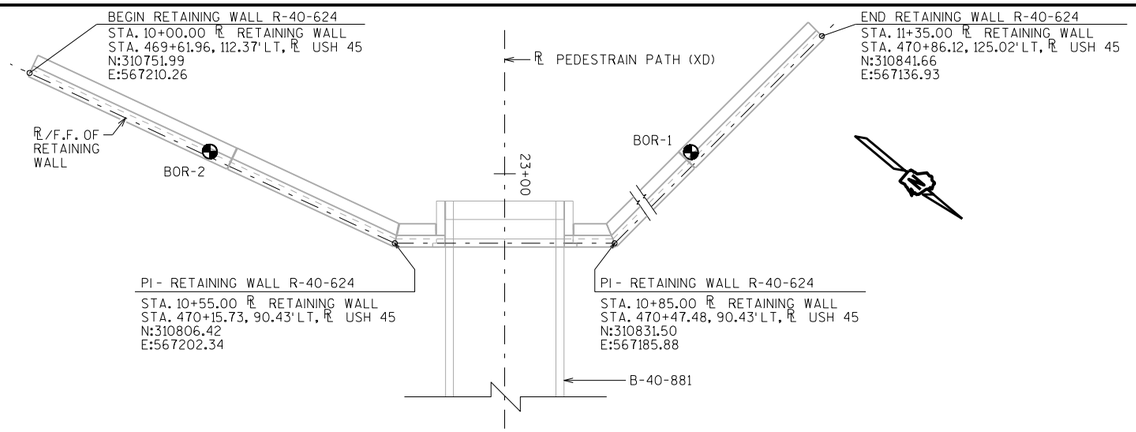
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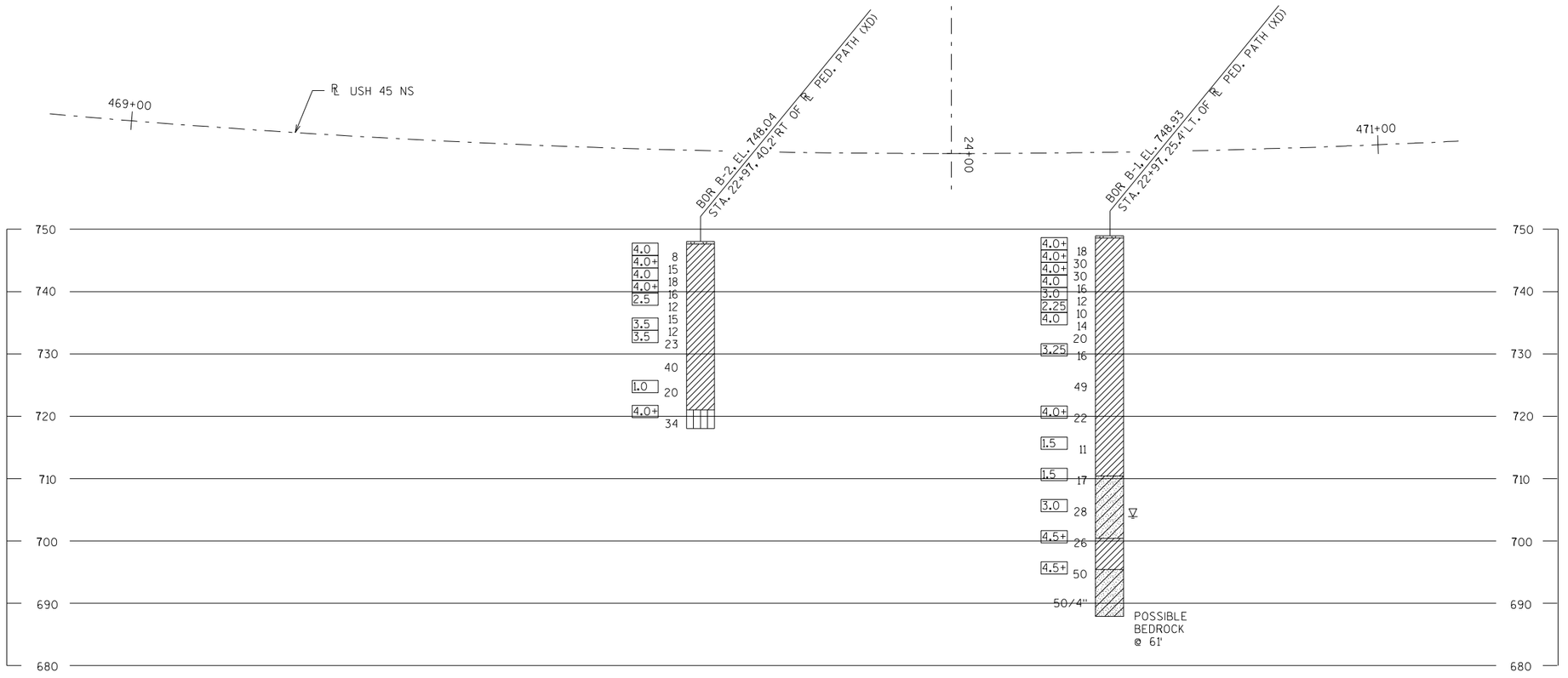
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ZOO INTERCHANGE, NORTH LEG
PEDESTRIAN PATH OVER USH 45

BORING #	DATE COMPLETED	NORTHING (Y)	EASTING (X)
1	10/7/2014	310834.0	567170.91
2	10/6/2014	310779.06	567206.85
BORINGS COMPLETED BY: GESTRA			
REPORT COMPLETED BY: WISDOT			
ALL COORDINATES REFERENCED TO WCCS NAD 83(91) MILWAUKEE COUNTY			

NOTE: ALL STATIONS AND OFFSETS ARE MEASURED TO FRONT FACE OF MSE WALL PRECAST CONCRETE FACING PANELS.





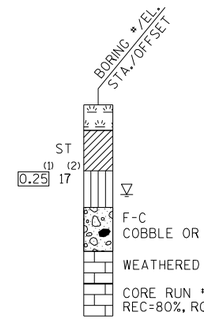
STATE PROJECT NUMBER

1060-33-83

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
STRUCTURES DESIGN SECTION

STRUCTURE R-40-624

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SUBSURFACE EXPLORATION

SHEET 4

309

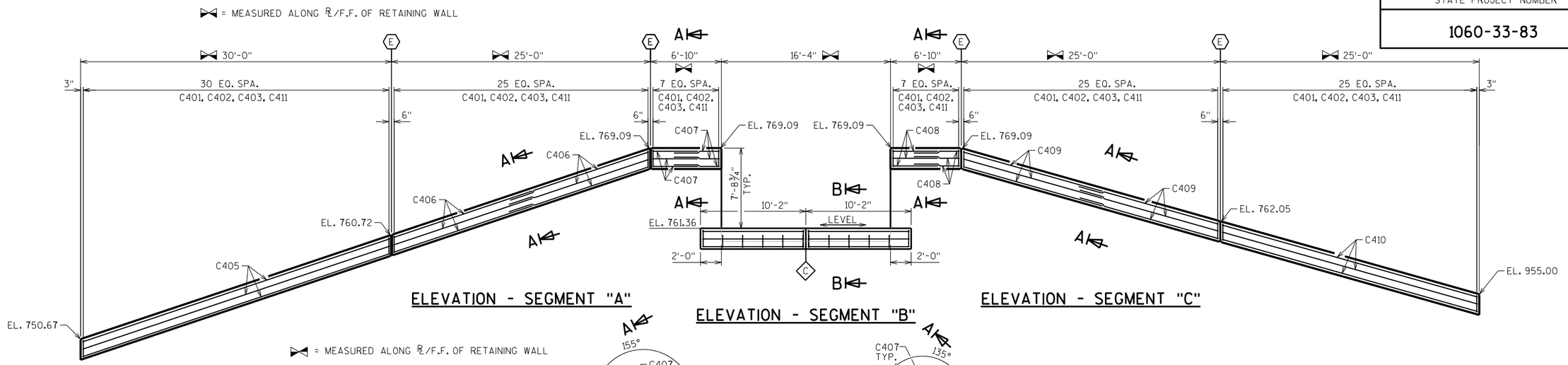
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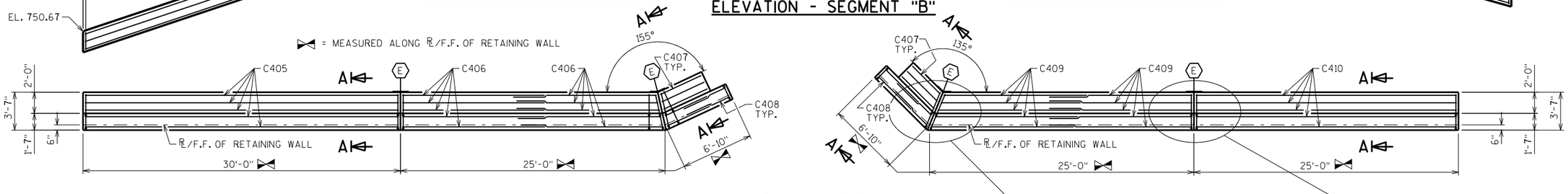
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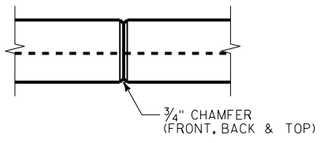
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STATE PROJECT NUMBER

1060-33-83







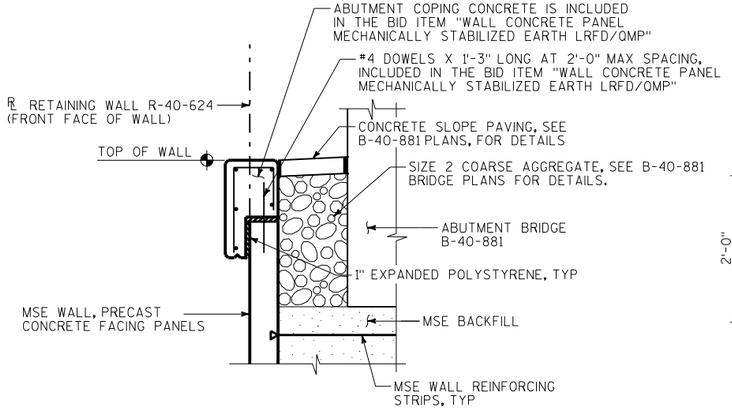
COPING CONTRACTION JOINT

DO NOT RUN BAR STEEL THRU JOINT.
MAX SPACING OF JOINT = 10'-2"

BAR SERIES TABLE

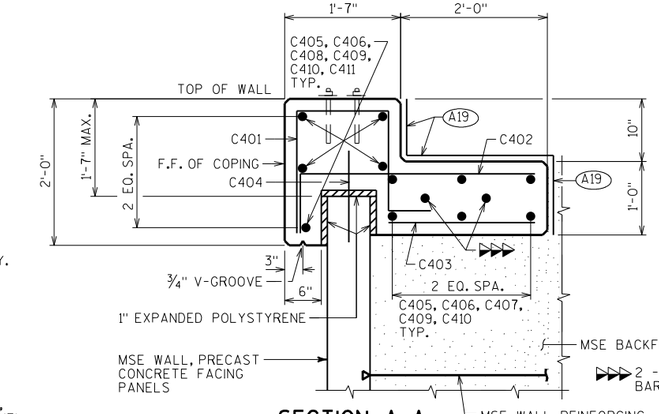
MARK	NO. REQD.	LENGTH
C407	4 SERIES OF 3	4'-2" TO 4'-8"

BUNDLE AND TAG EACH SERIES SEPARATELY.

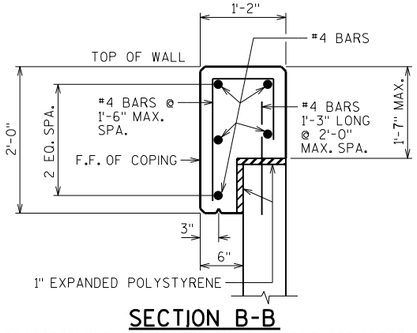


COPING DETAIL AT ABUTMENTS

(BENEATH BRIDGE B-40-881)

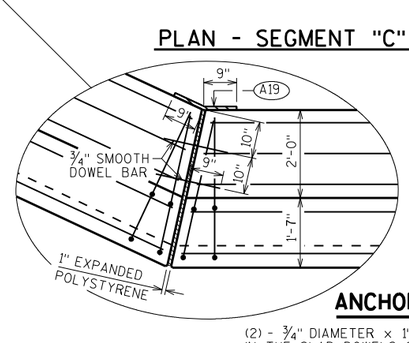


SECTION A-A



SECTION B-B

NOTE: REINFORCEMENT SHOWN HERE SHALL BE PAID FOR UNDER THE BID ITEM "WALL CONCRETE PANEL MECHANICALLY STABILIZED EARTH LRFD/QMP"



ANCHOR SLAB EXPANSION JOINT

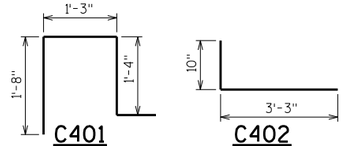
(2) - ¾" DIAMETER x 1'-6" SMOOTH EPOXY COATED DOWELS PLACED AT MID-DEPTH IN THE SLAB. DOWELS SHALL BE LIGHTLY COATED WITH A BONDING SURFACE TREATMENT OVER ½ THE DOWEL LENGTH. EMBED 9" INTO ADJACENT SLABS. DOWELS INCLUDED IN THE BID ITEM "CONCRETE MASONRY RETAINING WALLS".

BILL OF BARS

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

BAR MARK	COAT	NO. REQ'D.	LENGTH	BENT	BAR SERIES	LOCATION
C401	X	125	4'-7"	X		COPING - VERT. (SEGMENTS A&C)
C402	X	125	4'-0"	X		COPING - VERT. (SEGMENTS A&C)
C403	X	125	2'-0"			COPING - HORIZ. (SEGMENTS A&C)
C404	X	125	1'-3"			DOWEL BARS - VERT. (SEGMENTS A&C)
C405	X	11	31'-3"			COPING - HORIZ. (SEGMENT A)
C406	X	22	13'-10"			COPING - HORIZ. (SEGMENT A)
C407	X	12	4'-5"		⚠	COPING - HORIZ. (SEGMENTS A&C)
C408	X	20	4'-1"			COPING - HORIZ. (SEGMENTS A&C)
C409	X	22	13'-8"			COPING - HORIZ. (SEGMENT C)
C410	X	11	25'-7"			COPING - HORIZ. (SEGMENT C)

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



(A19) 18" (RMW) RUBBERIZED MEMBRANE WATERPROOFING SEAL ALL HORIZ. & VERT. JOINTS AT BACKFACE.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE R-40-624

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COPING DETAILS

SHEET 5

310

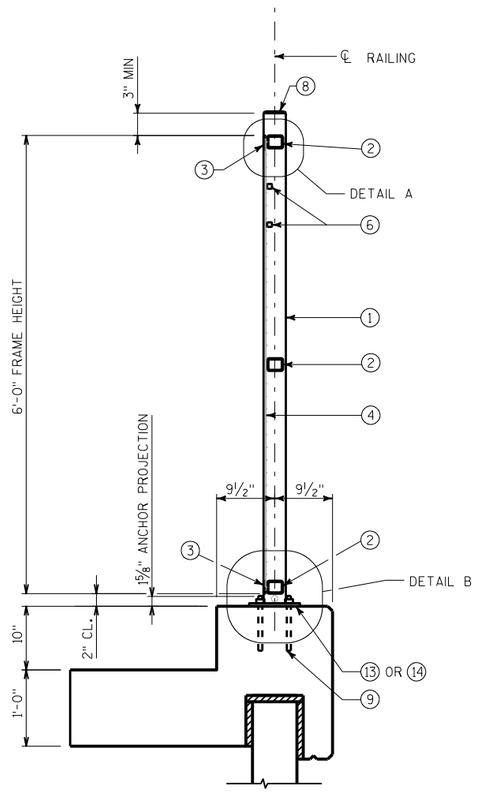
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8

SCALE =

STATE PROJECT NUMBER

1060-33-83



SECTION THRU VERTICAL FACE COPING

LEGEND

1. HSS 3½ X 3½ X 3/16 POST WITH ¼" DIA. VENT HOLES TOP & BOTTOM ON OUTSIDE FACE. RESIZE AS NECESSARY FOR GALVANIZING PROCESS. WELD TO NO. 8 & BASE PLATE, TYP.
2. HSS 2½ X 2½ X 3/16. WELD TO NO. 6. & NO. 2
3. PL 2¾" X ¼" WELDED FRAME. WELD TO NO. 4. BOLT TO NO. 2 WITH NO. 7 AFTER PAINTING.
4. STEEL MESH 2" X 2" X 0.162 (8 GA.). PLACE VERTICAL WIRES ON BACK FACE OF COPING. TACK WELD TO NO. 3.
5. NOT USED
6. ¾" x ¾" BAR. WELD TO NO. 2 & NO. 6.
7. ½" DIA. CARRIAGE BOLT, WASHER AND NUT. PROVIDE ⅝" X ⅝" SQUARE HOLE IN NO. 3 FOR SQUARE PORTION OF THE BOLT HEAD.
8. 3½" X 3½" SQUARE END CAP. WELD TO NO. 1.
9. ⅝" DIA. CONCRETE MASONRY ANCHOR TYPE S EPOXY, 7" MINIMUM.
10. PL 5/16" X 4½" X 6" CONNECTION WITH 2" DIA. HOLES FOR NO. 7. USE NO. 12 TO COVER 2" DIA. ADJUSTMENT HOLES.
11. PL ⅜" X 2" X 4½".
12. PL WASHER ¼" X 3½" X 3½".
13. PL ½" X 8" X 10" BASE PLATE. WELD TO NO. 1.
14. PL ½" X 8" X 1'-0" BASE PLATE. WELD TO NO. 1.

NOTES

THE BID ITEM SHALL BE "FENCE DECORATIVE RETAINING WALL R-40-624" WHICH SHALL INCLUDE ALL ITEMS SHOWN.

FOR ELEVATIONS OF SPECIAL FENCE PANELS, SEE "RAILING DETAILS 2" SHEET.

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

STRUCTURAL TUBING SHALL BE A.S.T.M. A500, GRADE B. ROLLED SHAPES, PLATES, BARS AND SHIMS SHALL BE A.S.T.M. A709, GRADE 36.

CAULK AROUND PERIMETER OF BASE PLATES AND FILL PORTION OF HOLES AROUND ANCHOR BOLTS WITH NON-STAINING GRAY NON-BITUMINOUS JOINT SEALER.

CUT BOTTOM OF POST TO MAKE POST VERTICAL.

ANCHOR BOLTS, NUTS AND WASHERS SHALL BE EITHER STAINLESS STEEL OR A.S.T.M. A307. IF A307 IS USED ANCHOR BOLTS, NUTS AND WASHERS SHALL BE GALVANIZED.

STANDARD WASHERS SHALL BE USED TO SHIM BASE PLATES IF REQUIRED. ALL WASHERS SHALL BE GALVANIZED.

THE STEEL MESH SHALL BE TACK WELDED TO THE 2¾" X ¼" WELDED FRAME. THE MESH SHALL BE STRETCHED TO REMOVE SLACK.

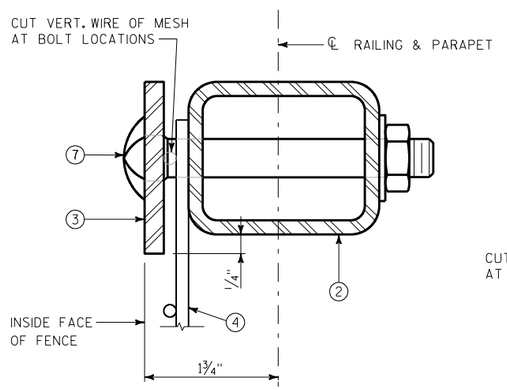
VENT HOLES SHALL BE DRILLED IN MEMBERS AS REQUIRED TO FACILITATE GALVANIZING AND DRAINAGE.

AFTER FABRICATION AND PRIOR TO BOLTING AND ASSEMBLING FENCE COMPONENTS, STEEL SHALL BE BLAST CLEANED PER SSPC-SP 6 AND GALVANIZED ACCORDING TO ASTM A 123. REPAIR ZINC COATING DAMAGED DURING FENCE ASSEMBLAGE AS SPECIFIED IN 513.3.3(3)

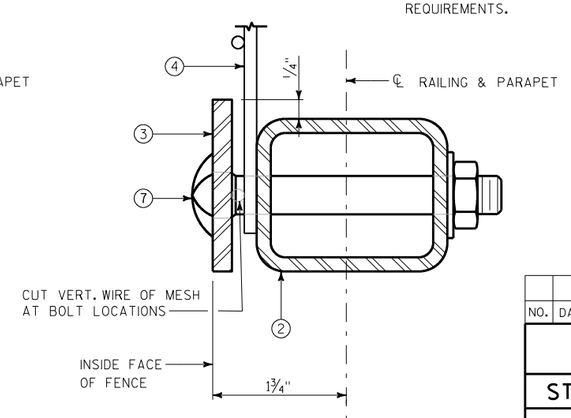
ALL WELDS SHALL BE PREQUALIFIED ACCORDING TO THE STRUCTURAL WELDING CODE STEEL (AWS D1.1). THE MINIMUM SIZE OF FILLET WELDS IS 3/16".

PRIOR TO FINAL ASSEMBLY OF THE FENCE PANELS, PAINT THE GALVANIZED FENCE COMPONENTS WITH A TWO COAT SYSTEM SPECIFICALLY INTENDED FOR PAINTING OF GALVANIZED SURFACES PER THE SPECIAL PROVISIONS. THE FINISH COLOR SHALL BE FEDERAL COLOR NO. 27038 BLACK.

COVER THE 2" X 2" STEEL MESH WITH A COLORED POLYMER COATING. COAT ALL OTHER FENCING COMPONENTS WITH AN EPOXY PAINT SYSTEM. TOUGH UP DAMAGED PORTIONS OF PAINT AFTER PANEL ERECTION. SEE SPECIAL PROVISIONS FOR REQUIREMENTS.



DETAIL A



DETAIL B

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE R-40-624

DRAWN BY DDS | PLANS CK'D. ABS

RAILING DETAILS 1

SHEET 6

311

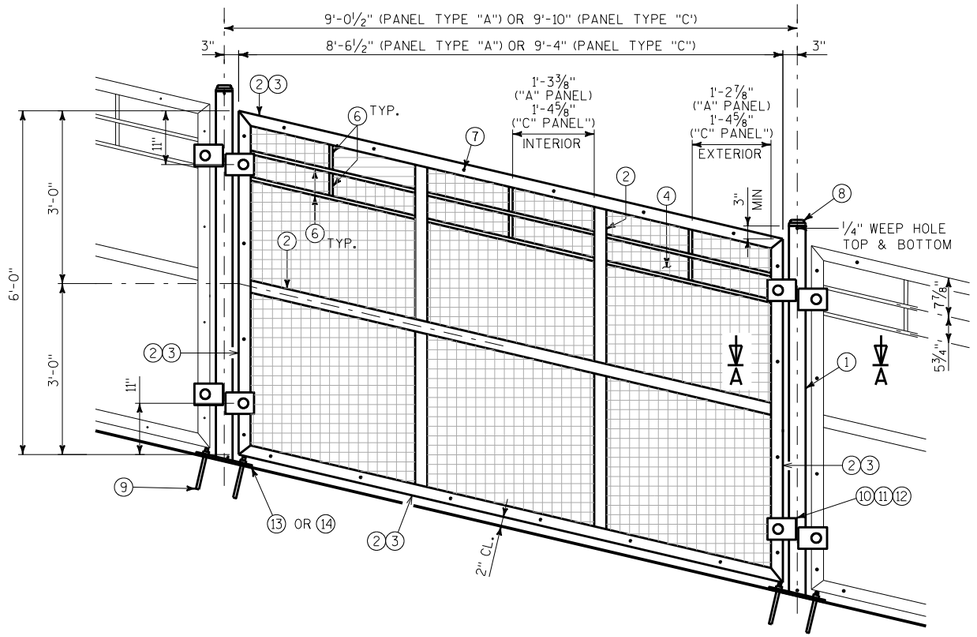
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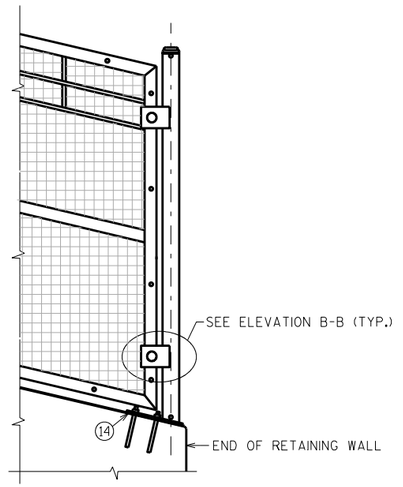
STATE PROJECT NUMBER

1060-33-83



OUTSIDE ELEVATION OF PANEL TYPES "A" & "C"

(LOOKING AT F.F. OF B-40-624)



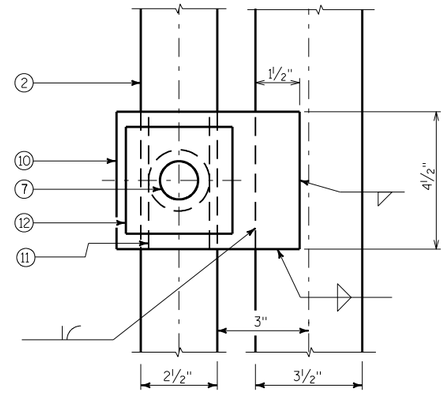
END POST DETAILS FOR PANELS TYPE "A" & "C"

AT END OF RETAINING WALL

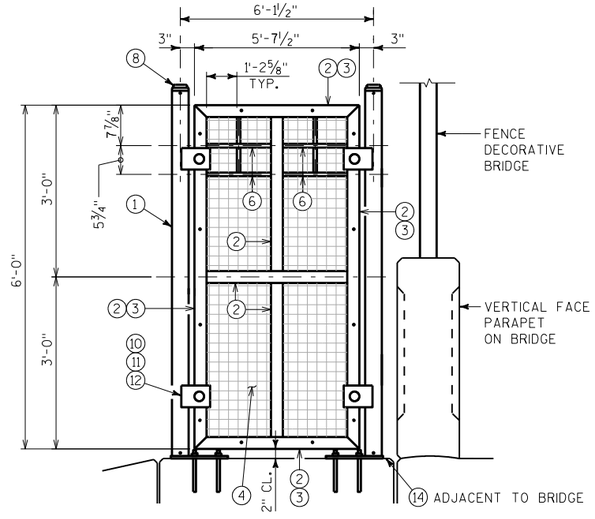
NOTES

FOR NOTES AND LEGEND, SEE "RAILING DETAILS 1" SHEET.

TYPICAL MEMBER SIZES, WELDING AND BOLTING DETAILS, AND MATERIALS ARE SHOWN IN 'OUTSIDE ELEVATION OF PANEL TYPES "A", "B" & "C" ON THIS SHEET.

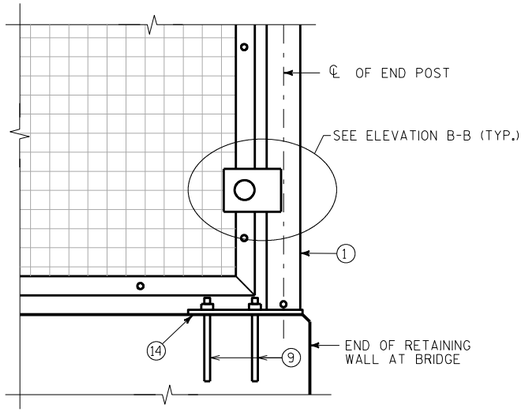


ELEVATION B-B

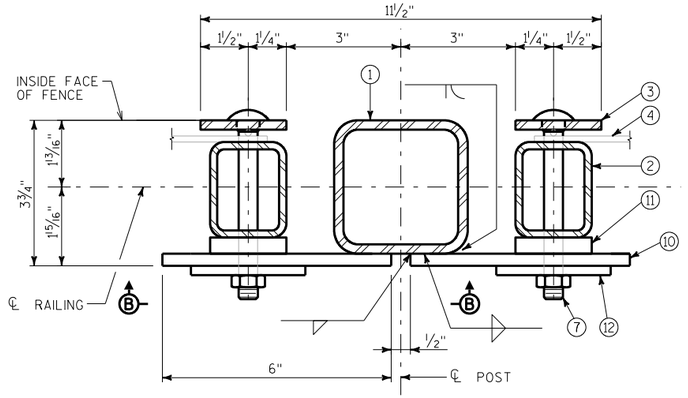


OUTSIDE ELEVATION OF PANEL TYPE "B"

(LOOKING AT F.F. OF B-40-624)



END POST DETAIL FOR PANEL TYPE "B"



SECTION A-A

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE R-40-624

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RAILING DETAILS 2

SHEET 7

312

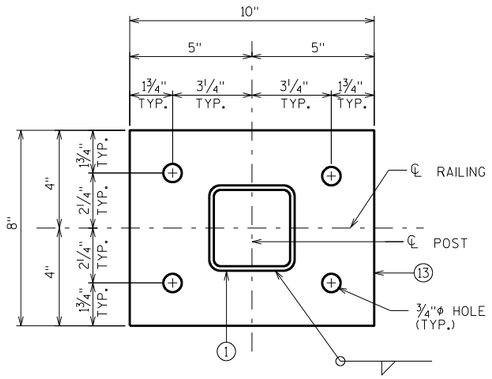
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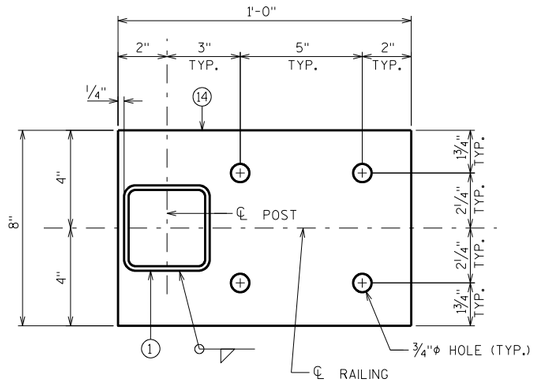
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STATE PROJECT NUMBER

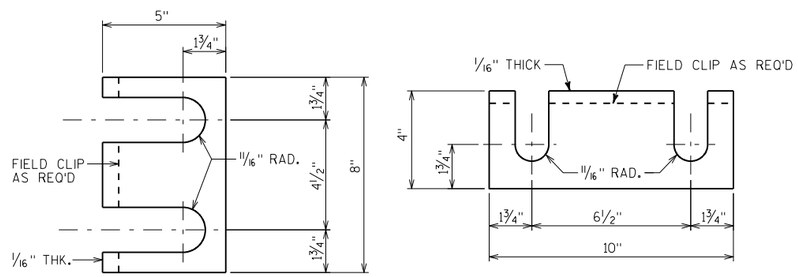
1060-33-83



BASE PLATE



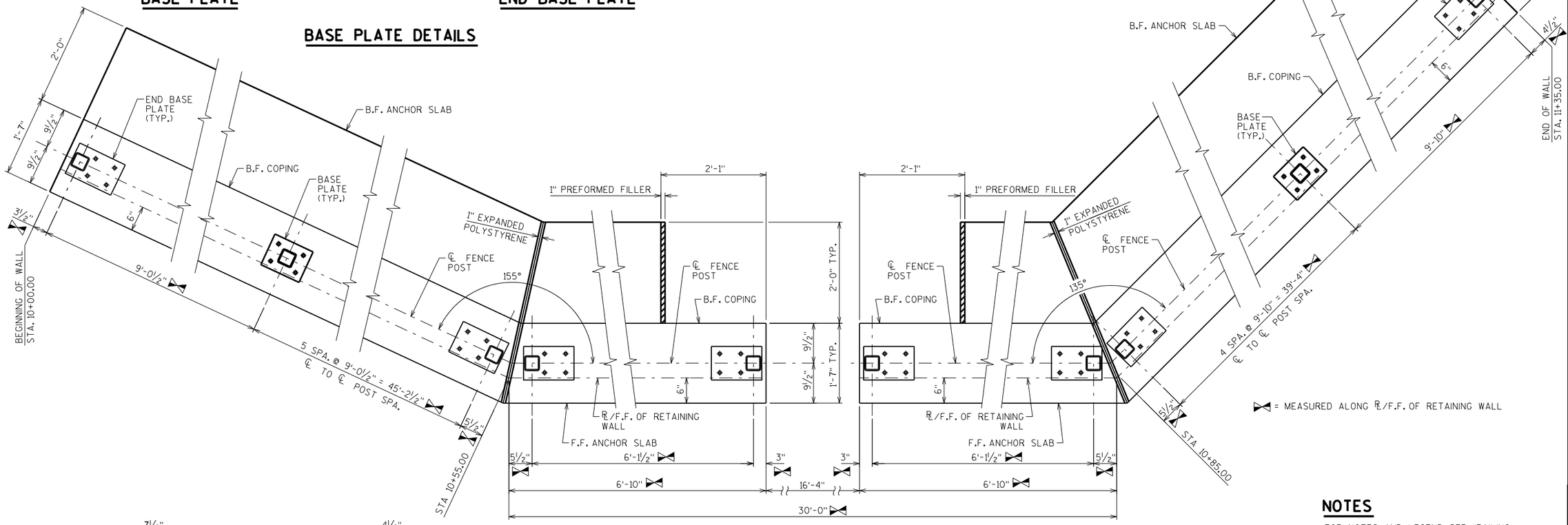
END BASE PLATE



BASE PLATE SHIMS DETAILS

(2 SETS PER POST)

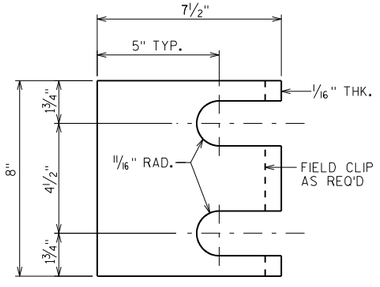
BASE PLATE DETAILS

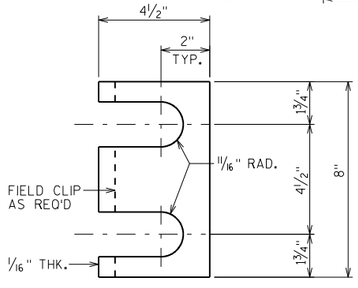


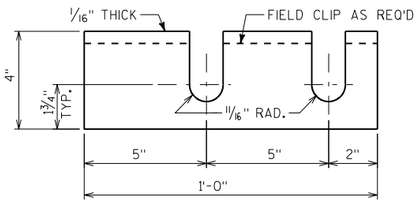
PLAN - BASE PLATE LAYOUT DETAILS

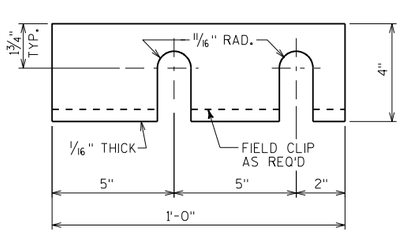
(DIMENSIONS GIVEN ALONG FRONT FACE OF WALL)

= MEASURED ALONG ℄R/F.F. OF RETAINING WALL









END BASE PLATE SHIMS DETAILS

(1 SET PER POST)

NOTES

FOR NOTES AND LEGEND, SEE "RAILING DETAILS 1" SHEET.

DETAILS SHOWN ARE TYPICAL FOR ALL WALL PANELS.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE R-40-624

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RAILING DETAILS 3

SHEET 8

313

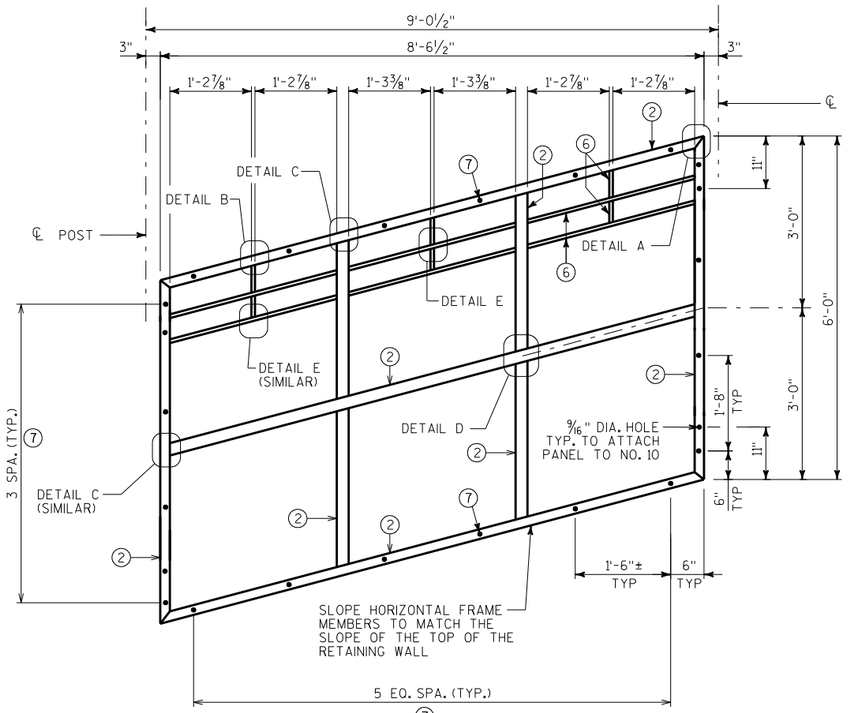
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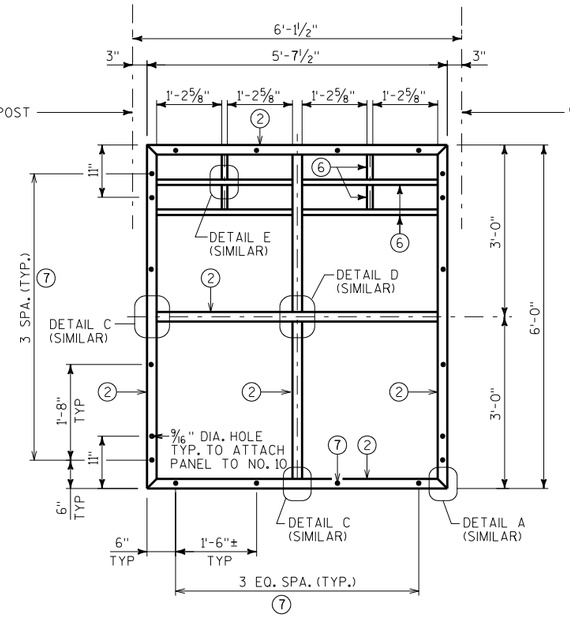
STATE PROJECT NUMBER

1060-33-83



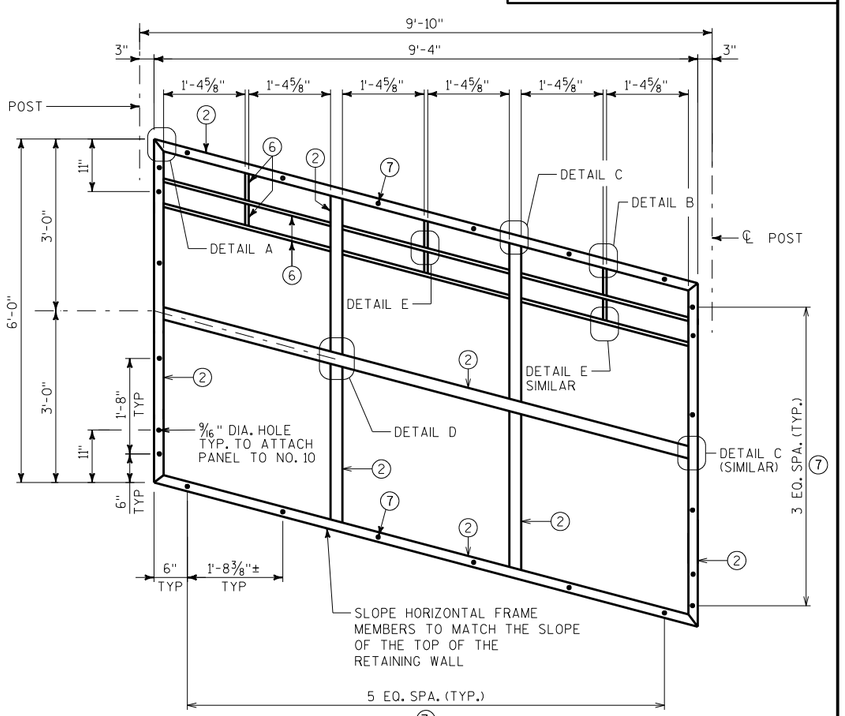
OUTSIDE ELEVATION OF PANEL TYPE "A"

FENCING FABRIC NOT SHOWN FOR CLARITY
(6 PANELS REQUIRED)



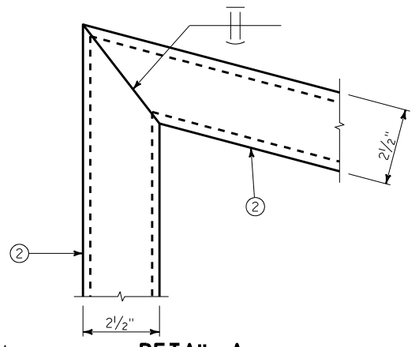
OUTSIDE ELEVATION OF PANEL TYPE "B"

FENCING FABRIC NOT SHOWN FOR CLARITY
(2 PANELS REQUIRED)

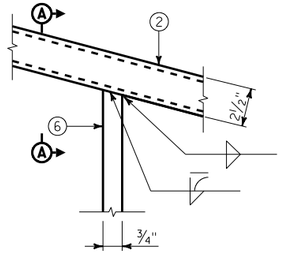


OUTSIDE ELEVATION OF PANEL TYPE "C"

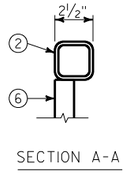
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(5 PANELS REQUIRED)



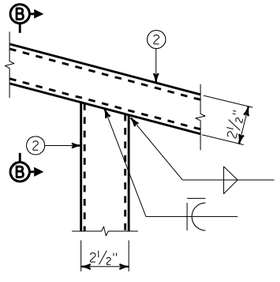
DETAIL A



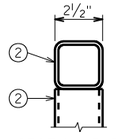
DETAIL B



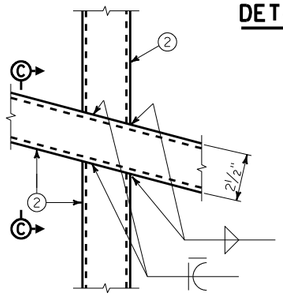
SECTION A-A



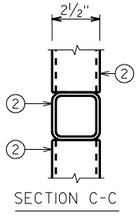
DETAIL C



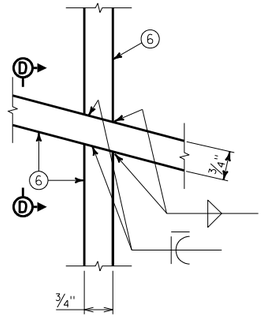
SECTION B-B



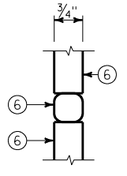
DETAIL D



SECTION C-C



DETAIL E



SECTION D-D

NOTES

FOR NOTES AND LEGEND, SEE "RAILING DETAILS 1" SHEET.

DETAILS SHOWN ARE TYPICAL FOR ALL WALL PANELS.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE R-40-624

DRAWN BY DDS | PLANS CK'D. ABS

RAILING DETAILS 4

SHEET 9

314

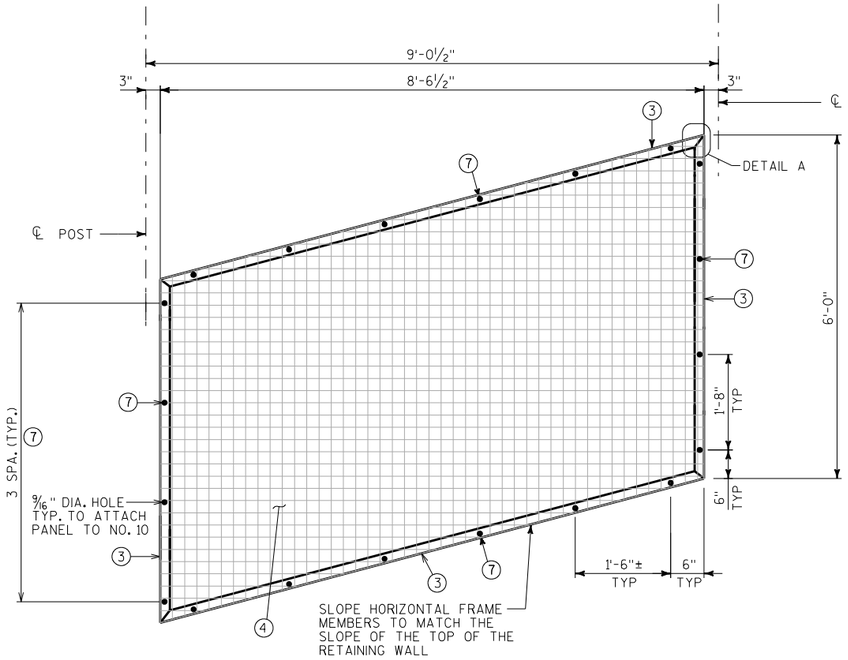
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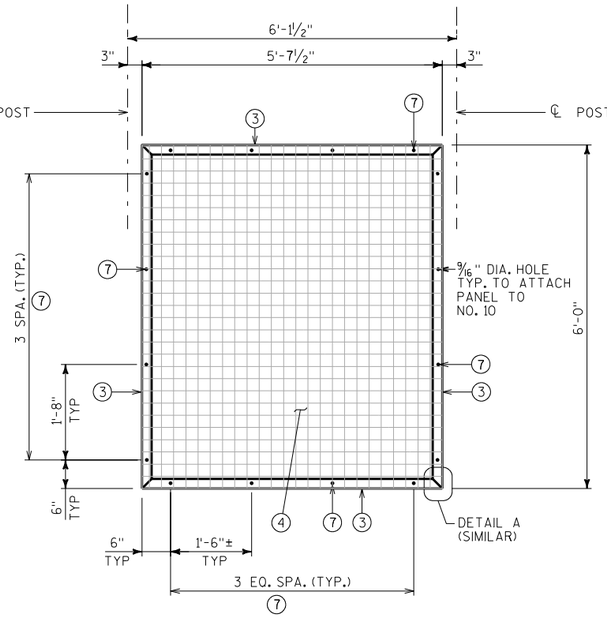
STATE PROJECT NUMBER

1060-33-83



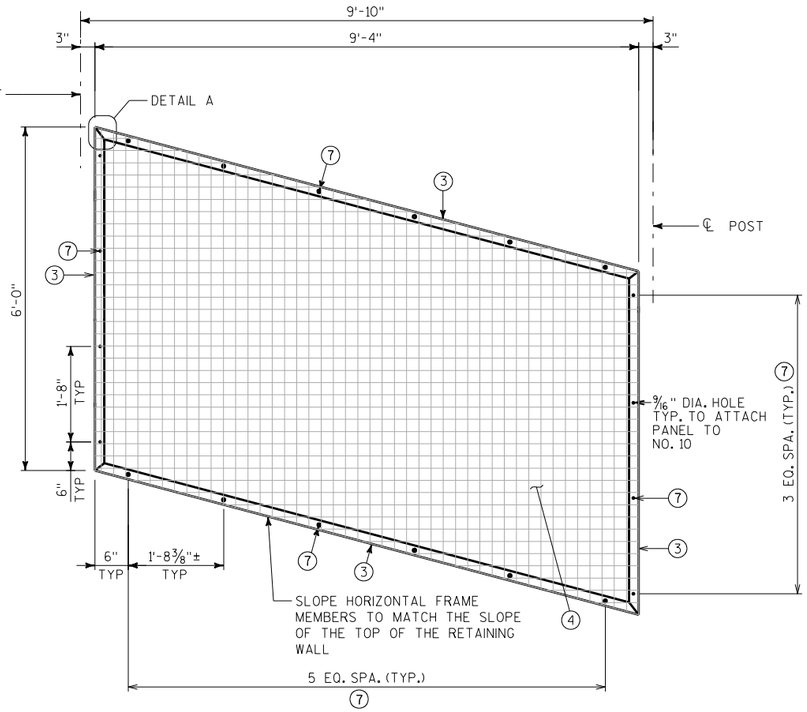
OUTSIDE ELEVATION OF PANEL TYPE "A"

(6 PANELS REQUIRED)



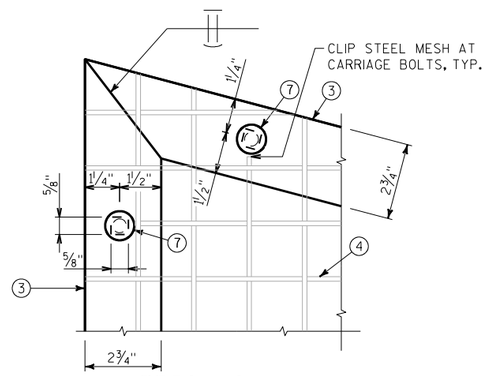
OUTSIDE ELEVATION OF PANEL TYPE "B"

(2 PANELS REQUIRED)



OUTSIDE ELEVATION OF PANEL TYPE "C"

(5 PANELS REQUIRED)



DETAIL A

NOTE: STEEL MESH TO BE TACK WELDED TOWARDS ℄ OF FENCE

NOTES

FOR NOTES AND LEGEND, SEE "RAILING DETAILS 1" SHEET.

DETAILS SHOWN ARE TYPICAL FOR ALL WALL PANELS.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE R-40-624

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RAILING DETAILS 5

SHEET 10

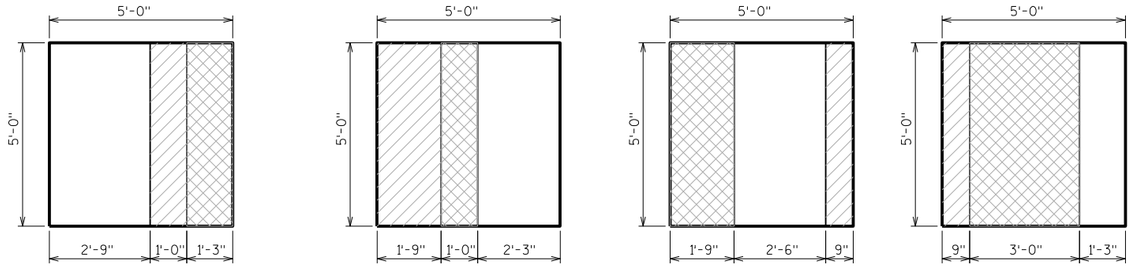
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STATE PROJECT NUMBER
1060-33-83

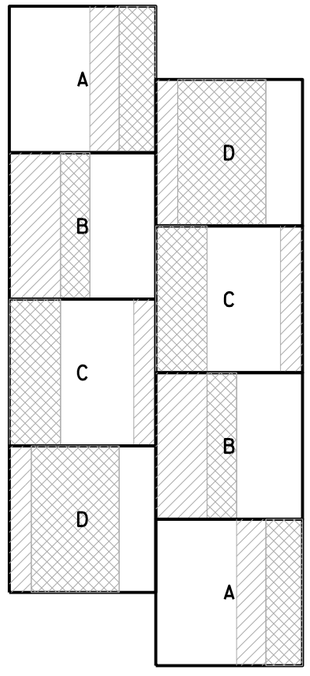


WALL PANEL "A" WALL PANEL "B" WALL PANEL "C" WALL PANEL "D"

5'-0" X 5'-0" MSE CONCRETE PANEL RAISED SURFACE DETAILS

LEGEND

- PANEL THICKNESS + 0"
- PANEL THICKNESS + 1"
- PANEL THICKNESS + 2"



TYPICAL 5'-0" X 5'-0" MSE CONCRETE PANEL PATTERN

CONCRETE STAINING IS **NOT** INCLUDED IN THIS CONTRACT. CONCRETE STAINING WILL BE DONE BY OTHERS UNDER A FUTURE CONTRACT.

STAIN COLOR

ALL EXPOSED SURFACES FOR BOTH THE WALL AND THE COPING SHALL BE STAINED. THE FINAL COLORING OF THE CONCRETE FOLLOWING APPLICATION OF THE STAIN SYSTEM SHALL MATCH THE FEDERAL STANDARD COLOR SYSTEM LISTED BELOW.
FEDERAL COLOR NO. 33564

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NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE R-40-624

DRAWN BY DDS | PLANS CK'D. ABS

AESTHETIC DETAILS

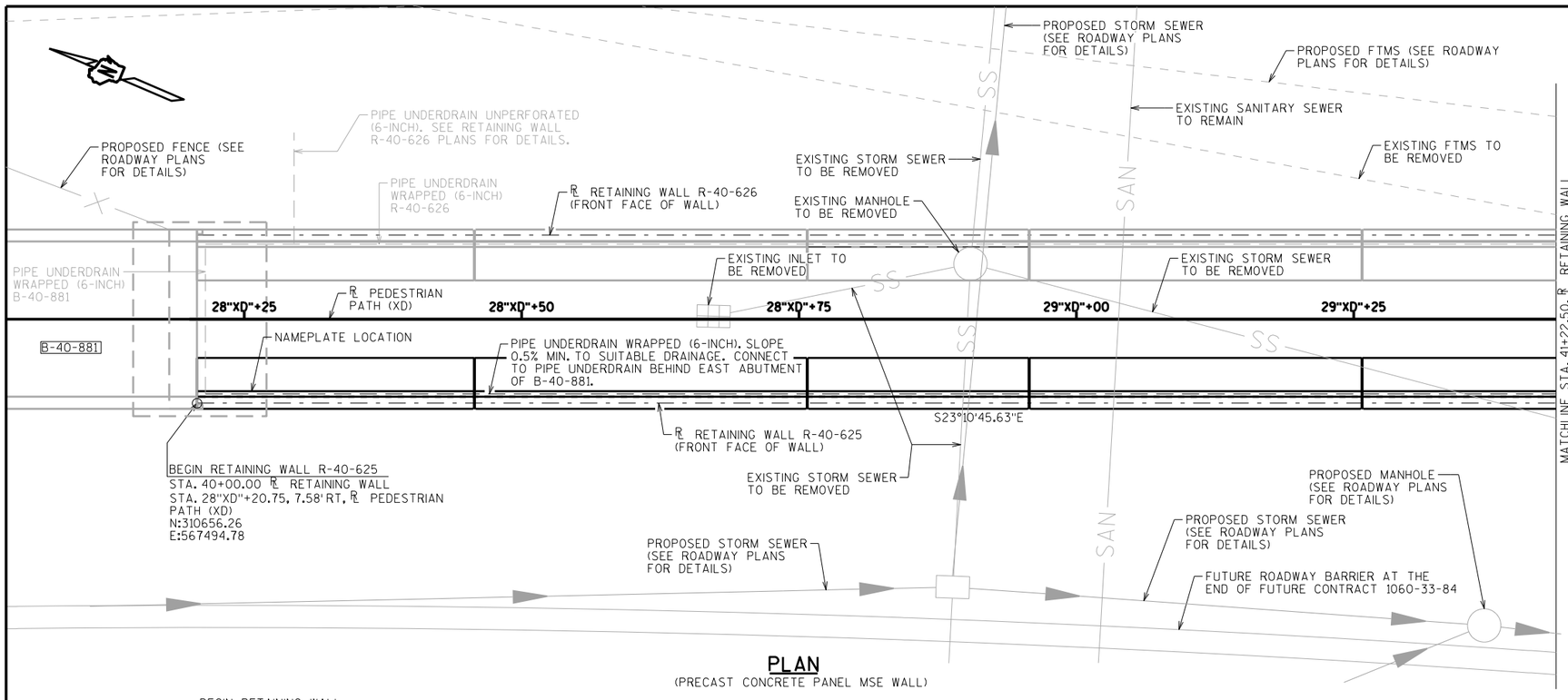
SHEET 11

316

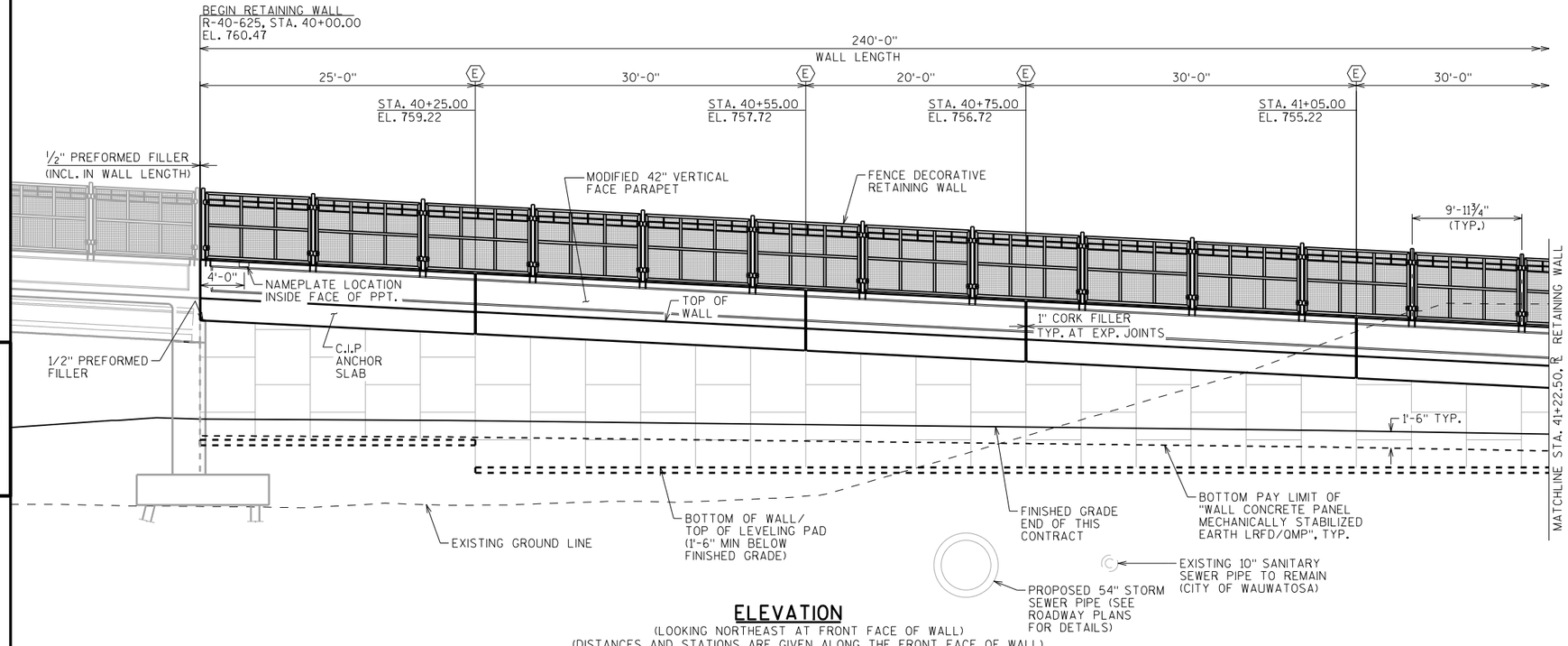
SCALE = 1:0

STATE PROJECT NUMBER

1060-33-83



PLAN
(PRECAST CONCRETE PANEL MSE WALL)



ELEVATION
(LOOKING NORTHEAST AT FRONT FACE OF WALL)
(DISTANCES AND STATIONS ARE GIVEN ALONG THE FRONT FACE OF WALL)

DESIGN DATA

THE RETAINING WALL SHALL BE DESIGNED USING THE ELEVATIONS GIVEN ON THESE SHEETS.

DESIGN FOR RETAINING WALL TO PROVIDE FOR FINISHED GRADE SLOPED BEHIND WALL AS SHOWN.

DESIGN RETAINING WALL FOR A LIVE LOAD SURCHARGE OF 240 PSF.

ULTIMATE DESIGN STRESSES

CONCRETE MASONRY (CONCRETE COPING)	f'c = 4,000 P.S.I.
PRECAST CONCRETE WALL PANELS	f'c = 4,000 P.S.I.
BAR STEEL REINFORCEMENT, GRADE 60	fy = 60,000 P.S.I.

LIST OF DRAWINGS

1. GENERAL PLAN & ELEVATION 1
2. GENERAL PLAN & ELEVATION 2
3. QUANTITIES, NOTES & PROFILE GRADE LINES
4. TYPICAL WALL SECTIONS
5. SUBSURFACE EXPLORATION
6. ANCHOR SLAB REINFORCEMENT
7. RAILING DETAILS 1
8. RAILING DETAILS 2
9. RAILING DETAILS 3
10. RAILING DETAILS 4
11. AESTHETIC DETAILS

LEGEND

(E) EXPANSION JOINT

CURVE DATA

PEDESTRIAN PATH "XD"

P.I. = 25+32.90
Δ = 100°-05'-38.73"
D = 190°-59'-09.60
T = 35.81'
L = 52.41'
R = 30'
S.E. = 1.5% N.C.
P.C. = 24+97.09
P.T. = 25+49.50

STRUCTURE DESIGN CONTACTS:

NICK RICE (608) 266-5092
AARON BONK (608) 261-0261

NO.	DATE	REVISION	BY

Plans Prepared By **WISDOT**
BUREAU OF STRUCTURES

ACCEPTED William C. Duchac 3/6/15
CHIEF STRUCTURES DESIGN ENGINEER — DATE

STRUCTURE R-40-625

PEDESTRIAN PATH OVER USH 45

COUNTY: MILWAUKEE	~~TOWN~~/CITY/~~VILLAGE~~: WAUWATOSA
DESIGN SPEC.: AASHTO LRFD DESIGN SPEC.	
DESIGNED BY: NAR	DESIGN CK'D.: ABS
DRAWN BY: DDS/NAR	PLANS CK'D.: ABS

GENERAL PLAN & ELEVATION 1

SHEET 1 OF 11

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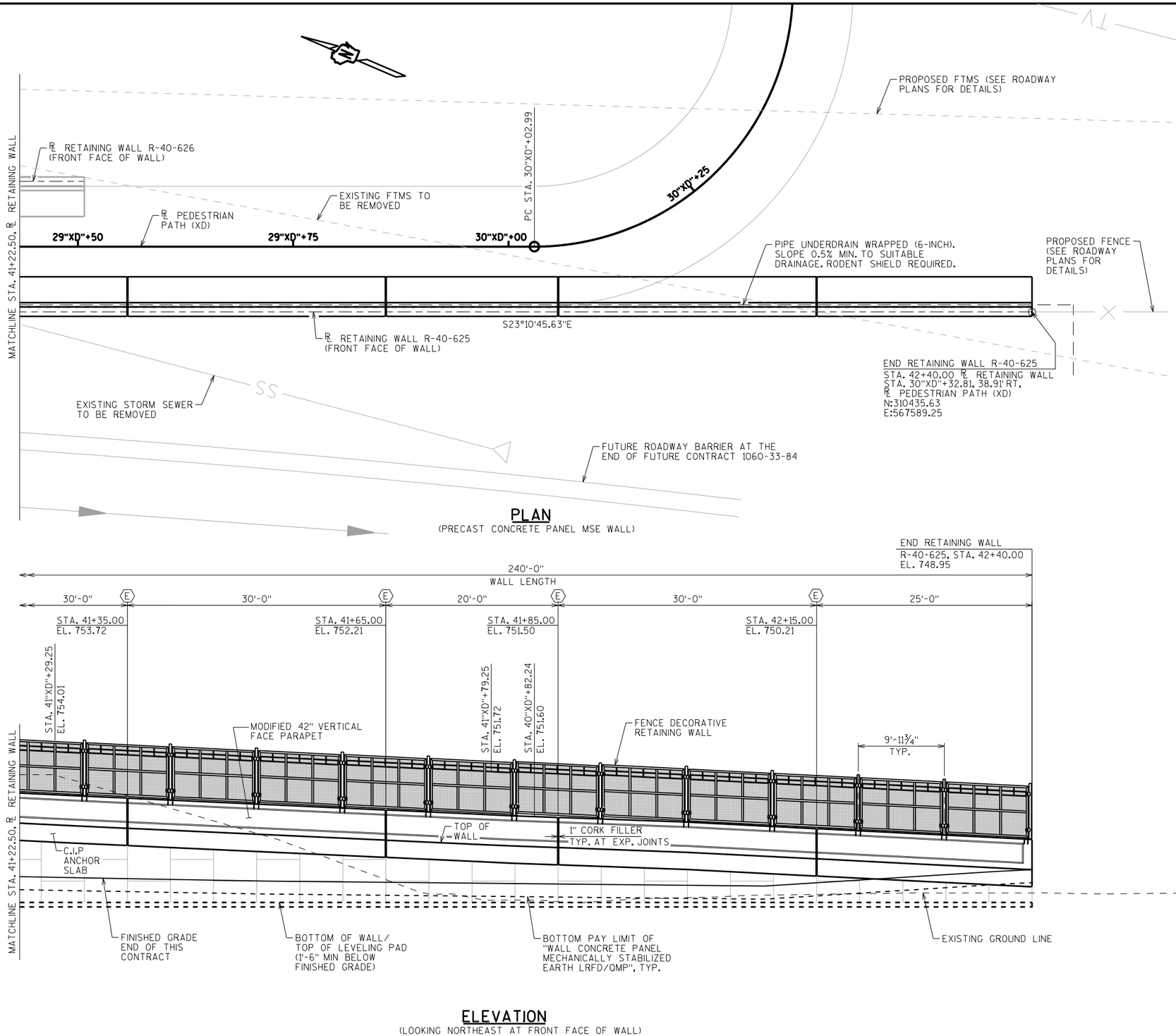
SCALE = 6

I.D. 1060-33-16F

DATE: MAR. 2015

STATE PROJECT NUMBER

1060-33-83



PLAN
(PRECAST CONCRETE PANEL MSE WALL)

ELEVATION
(LOOKING NORTHEAST AT FRONT FACE OF WALL)
(DISTANCES AND STATIONS ARE GIVEN ALONG THE FRONT FACE OF WALL)

CURVE DATA

PEDESTRIAN PATH "XD"

P.I. = 25+32.90
Δ = 100°-05'-38.73"
D = 190°-59'-09.60
T = 35.81'
L = 52.41'
R = 30'
S.E. = 1.5% N.C.
P.C. = 24+97.09
P.T. = 25+49.50

LEGEND

Ⓔ EXPANSION JOINT

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE R-40-625

DRAWN BY DDS/NAR | PLANS CK'D. ABS

GENERAL PLAN & ELEVATION 2

SHEET 2

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SCALE = 6

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STATE PROJECT NUMBER
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SOIL PARAMETERS

SOIL DESCRIPTION	FRICTION ANGLE (DEGREES)	COHESION (PSF)	UNIT WEIGHT (PCF)
GRANULAR BACKFILL WITHIN THE WALL IN THE REINFORCING ZONE	30	0	120
FILL BEHIND AND BELOW THE REINFORCING ZONE	31	0	120
BOR-7, 28+20, 0.4 LT.			
CLAY, BROWN, TRACE GRAVEL (ELEV. 741.5 FT. TO 737.5 FT.)	0	2,000	120
CLAY, BROWN TO GRAY, TRACE GRAVEL (ELEV. 737.5 FT. TO 727.5 FT.)	0	4,000	130
SAND AND GRAVEL, GRAY (ELEV. 727.5 FT. TO 726.5 FT.)	34	0	130
CLAY, GRAY, SOME GRAVEL (ELEV. 726.5 FT. TO 712.0 FT.)	0	3,000	125
CLAY, GRAY, SOME GRAVEL (ELEV. 712.0 FT. TO 707.0 FT.)	0	1,000	115
SILT, GRAY, SOME SAND (ELEV. 707.0 FT. TO 702.0 FT.)	32	0	120
SILT, GRAY, SOME SAND, SOME GRAVEL (ELEV. 702.0 FT. TO 701.5 FT.)	0	25,000	140
BEDROCK (ELEV. 701.5 FT. AND BELOW)	0	96,000	140
BOR-8, 29+31, 3.9 LT.			
SAND, BROWN, SOME SILT, TRACE GRAVEL (ELEV. 757.7 FT. TO 753.0 FT.)	32	0	120
CLAY, BROWN, TRACE SAND AND GRAVEL, MOTTLED (ELEV. 753.0 FT. TO 743.0 FT.)	0	4,000	135
CLAY, BROWN, TRACE GRAVEL (ELEV. 743.0 FT. TO 734.5 FT.)	0	4,000	135
SILT, SOME SAND (ELEV. 734.5 FT. TO 722.5 FT.)	0	3,500	130
BOR-9, 30+17, 10.1 RT.			
CLAY, BROWN, SOME FINE TO COURSE SAND (ELEV. 745.6 FT. TO 739.9 FT.)	0	4,000	135
CLAY, GRAY, LITTLE FINE SAND, FEW GRAVEL (ELEV. 739.9 FT. TO 735.9 FT.)	0	4,000	135
CLAY, GRAY, TRACE SAND, TRACE GRAVEL (ELEV. 735.9 FT. TO 727.4 FT.)	0	3,000	130
CLAY, GRAY, TRACE SAND, TRACE GRAVEL (ELEV. 727.4 FT. TO 715.9 FT.)	0	2,500	125

WALL EXTERNAL STABILITY EVALUATION

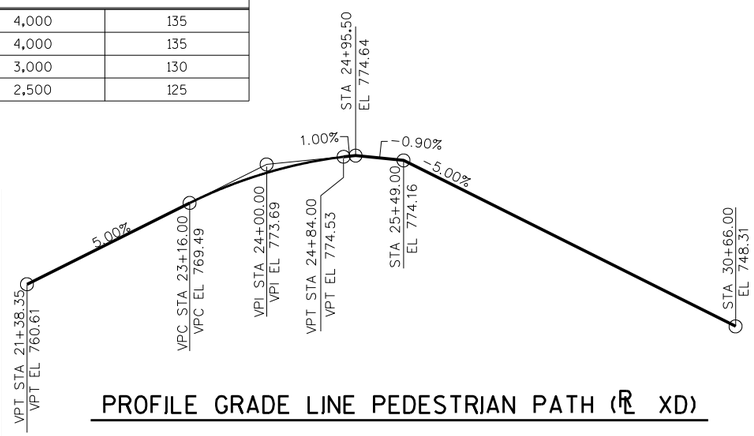
DIMENSIONS			
WALL HEIGHT (FEET)[1]	12.5	8.5	7.1
EXPOSED WALL HEIGHT (FEET)	11.0	7.0	5.6
MINIMUM LENGTH OF REINFORCEMENT (FEET)[2]	8.7	8.0	8.0
LENGTH OF REINFORCEMENT/WALL HEIGHT	0.70	NA[3]	NA[3]
WALL STATION (R/L RETAINING WALL)	40+00	41+00	41+79
BORING USED	BOR-7	BOR-8	BOR-9
CAPACITY TO DEMAND RATIO (CDR)[4]			
SLIDING ($CDR_{REQ'D}$ > 1.0)	1.3	1.5	1.7
ECCENTRICITY ($CDR_{REQ'D}$ > 1.0)	1.2	2.1	3.0
GLOBAL STABILITY ($CDR_{REQ'D}$ > 1.0)	4.7	NA[5]	NA[5]
BEARING RESISTANCE ($CDR_{REQ'D}$ > 1.0)	2.2	3.5	4.2
REQUIRED BEARING RESISTANCE (PSF)	7,000	7,000	7,000

1. THE WALL HEIGHT INCLUDES AND EMBEDMENT OF 1.5 FEET.
2. THE LENGTH OF REINFORCEMENT IS THE MINIMUM REQUIRED LENGTH.
3. NA NOT APPLICABLE, THE MINIMUM REINFORCEMENMT LENGTH OF 8 FEET CONTROLS.
4. CDR REQUIREMENTS AND LOAD AND RESISTANCE FACTORS ARE PRESENTED IN CHAPTER 14 OF THE BRIDGE MANUAL.
5. NA NOT APPLICABLE, GLOBAL SLOPE STABILITY WAS EVALUATED AT THE CRITICAL WALL LOCATION.

TOTAL ESTIMATED QUANTITIES

BID ITEM NUMBER	BID ITEMS	UNIT	TOTALS
206.3000.0002	EXCAVATION FOR STRUCTURES RETAINING WALL R-40-625	LS	1
504.0500	CONCRETE MASONRY RETAINING WALLS	CY	81
505.0615	BAR STEEL REINFORCEMENT HS COATED RETAINING WALLS	LB	8590
502.3200	PROTECTIVE SURFACE TREATMENT	SY	26
516.0500	RUBBERIZED MEMBRANE WATERPROOFING	SY	47
517.1050.S.0002	ARCHITECTURAL SURFACE TREATMENT R-40-625	SF	1870
612.0406	PIPE UNDERDRAIN WRAPPED 6-INCH	LF	255
SPV.0090.4004	FENCE DECORATIVE RETAINING WALL R-40-625	LF	240
SPV.0165.4001	WALL CONCRETE PANEL MECHANICALLY STABILIZED EARTH LRFD/QMP	SF	1870
	NON-BID ITEMS		
	NON-BITUMINOUS JOINT SEALER	SIZE	1"
	CORK FILLER	SIZE	1"
	EXPANDED POLYSTYRENE	SIZE	1"

ALL ITEMS ARE CATEGORY 3100



PROFILE GRADE LINE PEDESTRIAN PATH (℄ XD)

ALLOWABLE WALL SYSTEM

WALL CONCRETE PANEL MECHANICALLY STABILIZED EARTH LRFD/QMP

WALL ELEVATION TABLE

WALL STATION	TOP OF WALL EL.	FINISHED GRADE EL.	EXISTING GRADE EL.
40+00.00	760.47	749.50	741.59
40+25.00	759.22	749.36	741.70
40+55.00	757.72	749.01	743.39
40+75.00	756.72	748.78	748.03
41+05.00	755.22	748.43	756.53
41+20.00	754.47	748.17	759.12
41+29.25	754.01	748.02	759.18
41+35.00	753.72	747.91	757.49
41+65.00	752.21	747.48	748.66
41+79.25	751.72	747.34	745.43
41+82.24	751.60	747.31	745.47
41+85.00	751.50	747.28	745.51
42+15.00	750.21	747.43	746.03
42+40.00	748.95	748.95	745.25

GENERAL NOTES

DRAWINGS SHALL NOT BE SCALED.

BEVEL EXPOSED EDGES OF CONCRETE ¾", UNLESS NOTED OTHERWISE.

ALL STATIONS AND ELEVATIONS ARE IN FEET, ELEVATIONS ARE REFERENCED TO THE NAVD 88 DATUM.

ALL DIMENSIONS ARE ALONG THE FRONT FACE OF WALL, UNLESS SHOWN OTHERWISE.

BAR STEEL REINFORCEMENT SHALL HAVE 2" CLEAR COVER, UNLESS SHOWN OTHERWISE.

EXISTING STRUCTURE, B-40-384 IS NOT SHOWN IN THESE PLANS. THE REMOVAL OF THIS STRUCTURE IS INCLUDED IN A LUMP SUM PAY ITEM AS PART OF THE B-40-881 BRIDGE QUANTITIES.

THE COST OF FURNISHING AND PLACING MSE BACKFILL WITHIN THE REINFORCED SOIL ZONE AND GRANULAR FILL IN CUT SECTIONS IS TO BE INCLUDED IN THE BID ITEM "WALL CONCRETE PANEL MECHANICALLY STABILIZED EARTH LRFD/QMP".

THESE PLANS ARE FOR A PRECAST CONCRETE PANEL MECHANICALLY STABILIZED EARTH (MSE) RETAINING WALL.

THE QUANTITIES AND REINFORCEMENT DETAILS ARE BASED ON AN ASSUMED CONCRETE WALL PANEL THICKNESS OF 7 INCHES. FOR PANEL THICKNESSES DIFFERENT THAN 7 INCHES, THE CONTRACTOR SHALL VERIFY REINFORCEMENT BAR DETAILS AND QUANTITIES AND WILL BE RESPONSIBLE FOR ANY QUANTITY VARIATIONS.

THE CONTRACTOR MUST COORDINATE THE CONSTRUCTION OF WALL R-40-625 WITH THE CONSTRUCTION OF THE EAST ABUTMENT OF BRIDGE B-40-881 & RETAINING WALL R-40-626.

THE CONTRACTOR SHALL PROVIDE COMPLETE DESIGN, PLANS, DETAILS, SPECIFICATIONS, AND SHOP DRAWINGS FOR THE RETAINING WALLS IN ACCORDANCE WITH THE SPECIAL PROVISIONS. THE RETAINING WALL MANUFACTURER SHALL PROVIDE TECHNICAL ASSISTANCE TO THE CONTRACTOR DURING CONSTRUCTION. THE COST OF FURNISHING THESE ITEMS IS INCLUDED IN THE BID ITEM "WALL CONCRETE PANEL MECHANICALLY STABILIZED EARTH LRFD/QMP".

THE COST OF FURNISHING AND PLACING THE UNREINFORCED CONCRETE LEVELING PAD UNDER THE MSE PRECAST WALL PANELS IS INCLUDED IN THE BID ITEM "WALL CONCRETE PANEL MECHANICALLY STABILIZED EARTH LRFD/QMP".

THE VOLUME OF EARTHWORK REQUIRED TO INSTALL THE UNREINFORCED CONCRETE LEVELING PAD, MSE PRECAST WALL PANELS, MSE BACKFILL AND REINFORCING STRIPS IS INCLUDED IN THE BID ITEM "WALL CONCRETE PANEL MECHANICALLY STABILIZED EARTH LRFD/QMP".

ALL BAR STEEL REINFORCEMENT IN THE CONCRETE COPING IS TO BE EPOXY COATED.

THE QUANTITIES OF CONCRETE MASONRY & BAR STEEL REINFORCEMENT FOR THE CAST-IN-PLACE ANCHOR SLAB ARE PAID FOR UNDER THE ITEMS "CONCRETE MASONRY RETAINING WALLS" & "BAR STEEL REINFORCEMENT HS COATED RETAINING WALLS", RESPECTIVELY.

THE PLAN QUANTITY FOR THE ITEM "WALL CONCRETE PANEL MECHANICALLY STABILIZED EARTH LRFD/QMP" IS BASED ON A WALL HEIGHT MEASURED FROM THE TOP OF THE LEVELING PAD TO THE TOP OF WALL AS SHOWN IN THE PLANS. THE TOP OF LEVELING PAD IS ASSUMED TO BE 1'-6" BELOW FINISHED GRADE. WALL AREAS CONSTRUCTED OUTSIDE THESE LIMITS WILL NOT BE MEASURED FOR PAYMENT.

PLANS, ELEVATIONS, AND DETAILS SHOWN ON THESE DRAWINGS ARE INTENDED TO INDICATE WALL LOCATIONS, LENGTHS, HEIGHTS, AND DETAILS COMMON TO THE WALL SYSTEM SELECTED. THE CONTRACTOR SHALL VERIFY THAT THE WALL SYSTEM SELECTED WILL CONFORM TO THE REQUIRED ALIGNMENTS AND DETAILS.

THE MAXIMUM VALUE OF THE ANGLE OF INTERNAL FRICTION OF THE WALL BACKFILL MATERIAL IN THE REINFORCED ZONE SHALL BE ASSUMED TO BE 30° WITHOUT CERTIFIED TEST VALUES.

THE LOWER LIMIT OF "WALL CONCRETE PANEL MECHANICALLY STABILIZED EARTH LRFD/QMP" IS THE UPPER LIMIT OF "EXCAVATION FOR STRUCTURES RETAINING WALL R-40-625".

PROVIDE A SACK RUBBED FINISH IN ACCORDANCE TO STANDARD SPECIFICATION 502.3.7.5 AND AS MODIFIED HERE ON ALL EXPOSED CONCRETE SURFACES WHERE CONCRETE STAINING WILL BE APPLIED IN A FUTURE CONTRACT. THE MORTAR SHALL CONTAIN ONE OF THE FOLLOWING ACRYLIC BONDING ADMIXTURES MIXED AND APPLIED IN ACCORDANCE TO MANUFACTURER'S RECOMENDATIONS; TK-225 BY TK PRODUCTS, ACHRO 60 BY THORO PRODUCTS, OR ACHRO SET BY MASTER BUILDERS. THIS WORK IS INCIDENTAL TO THE BID ITEMS "CONCRETE MASONRY RETAINING WALLS".

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

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE R-40-625

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QUANTITIES, NOTES & PROFILE GRADE LINES

SHEET 3

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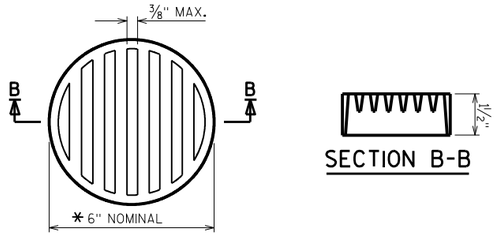
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STATE PROJECT NUMBER

1060-33-83



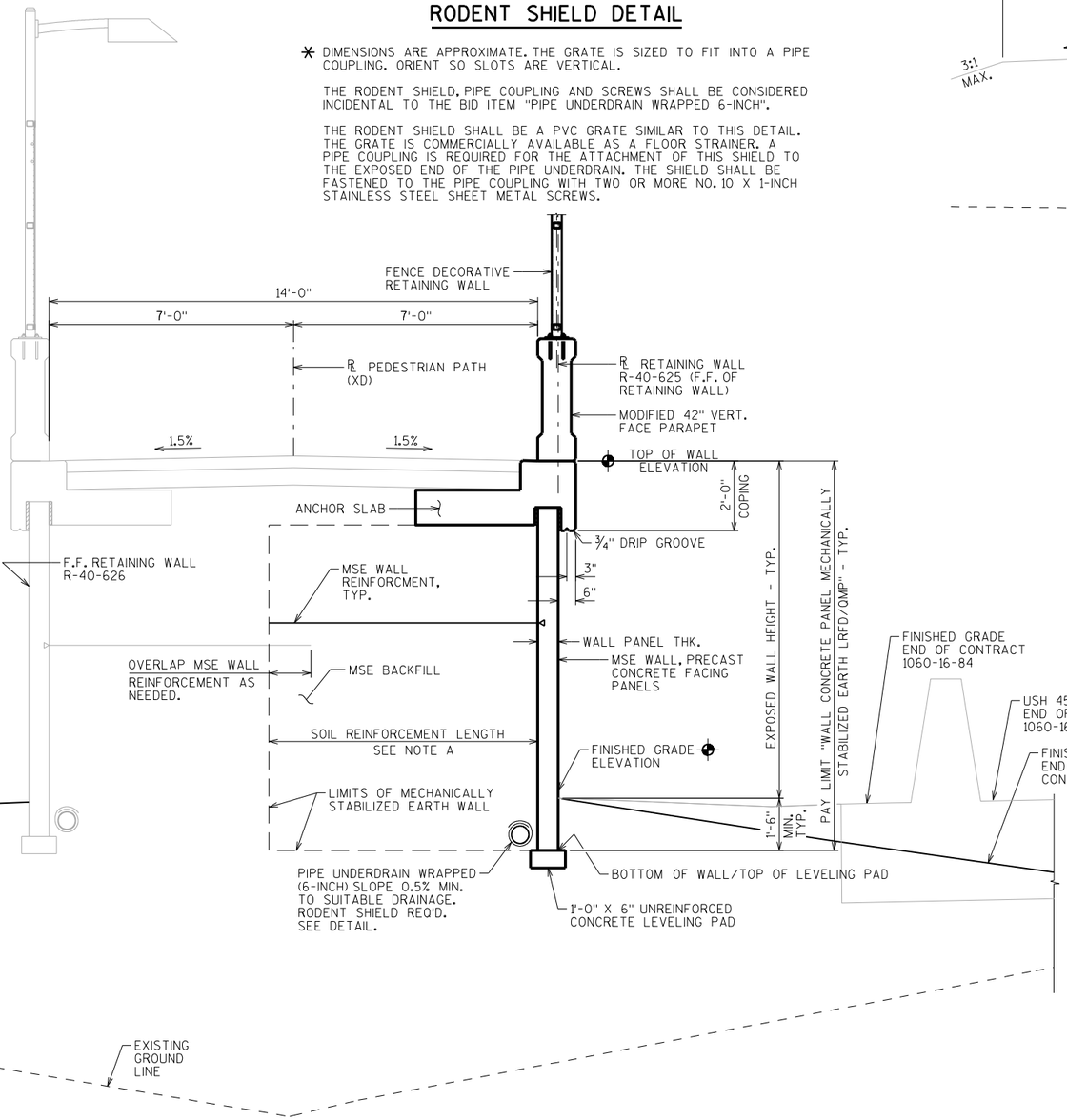
SECTION B-B

RODENT SHIELD DETAIL

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

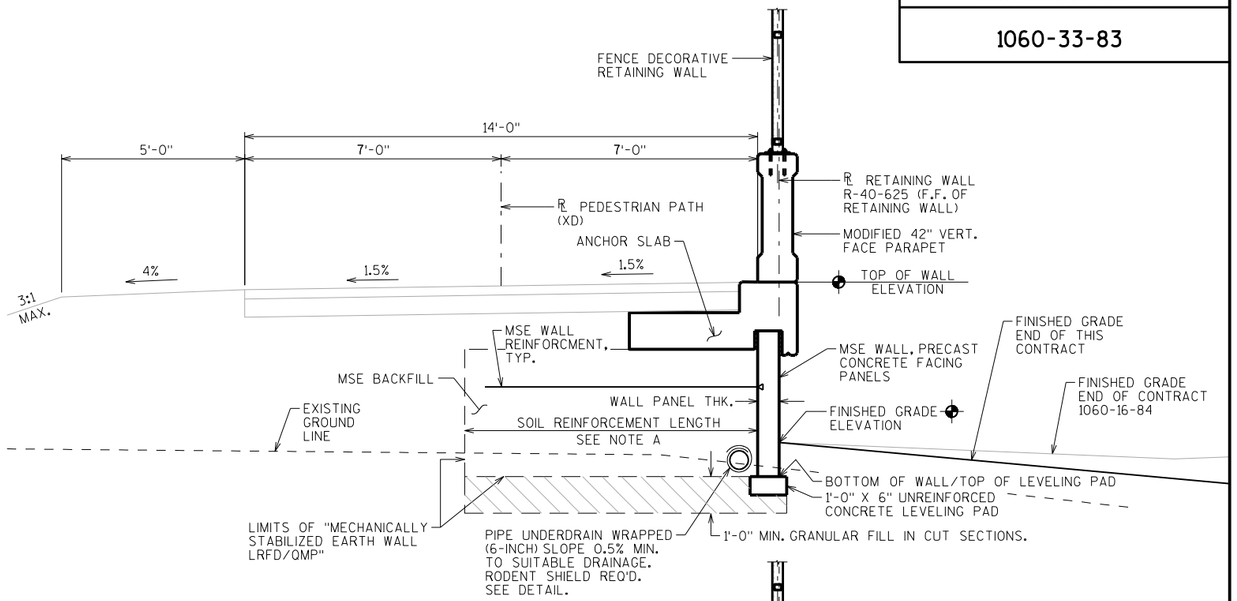
THE RODENT SHIELD, PIPE COUPLING AND SCREWS SHALL BE CONSIDERED INCIDENTAL TO THE BID ITEM "PIPE UNDERDRAIN WRAPPED 6-INCH".

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.



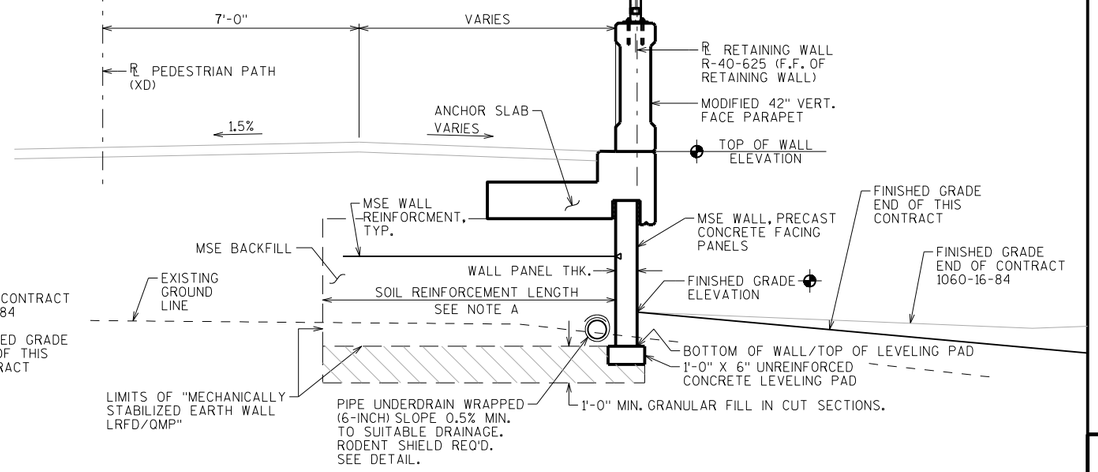
TYPICAL SECTION THRU PEDESTRIAN PATH

(LOOKING NORTH)
STA. 40+00.00 THRU STA. 41+30.00



TYPICAL SECTION

(LOOKING NORTH)
STA. 41+30.00 THRU STA. 41+82.24



TYPICAL SECTION

(LOOKING NORTH)
STA. 41+82.24 THRU STA. 42+40.00

NOTE A:
SEE "WALL EXTERNAL STABILITY EVALUATION" TABLE ON "QUANTITIES, NOTES & PROFILE GRADE LINES" SHEET FOR MINIMUM LENGTH OF MSE WALL REINFORCING STRIPS. SOIL REINFORCEMENT MUST EXTEND A MINIMUM OF 3.0 FEET BEYOND THE FAILURE PLANE FOR INTERNAL STABILITY AS DEFINED BY AASHTO SPECIFICATIONS.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE R-40-625

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TYPICAL WALL SECTIONS

SHEET 4

320

SCALE = 2

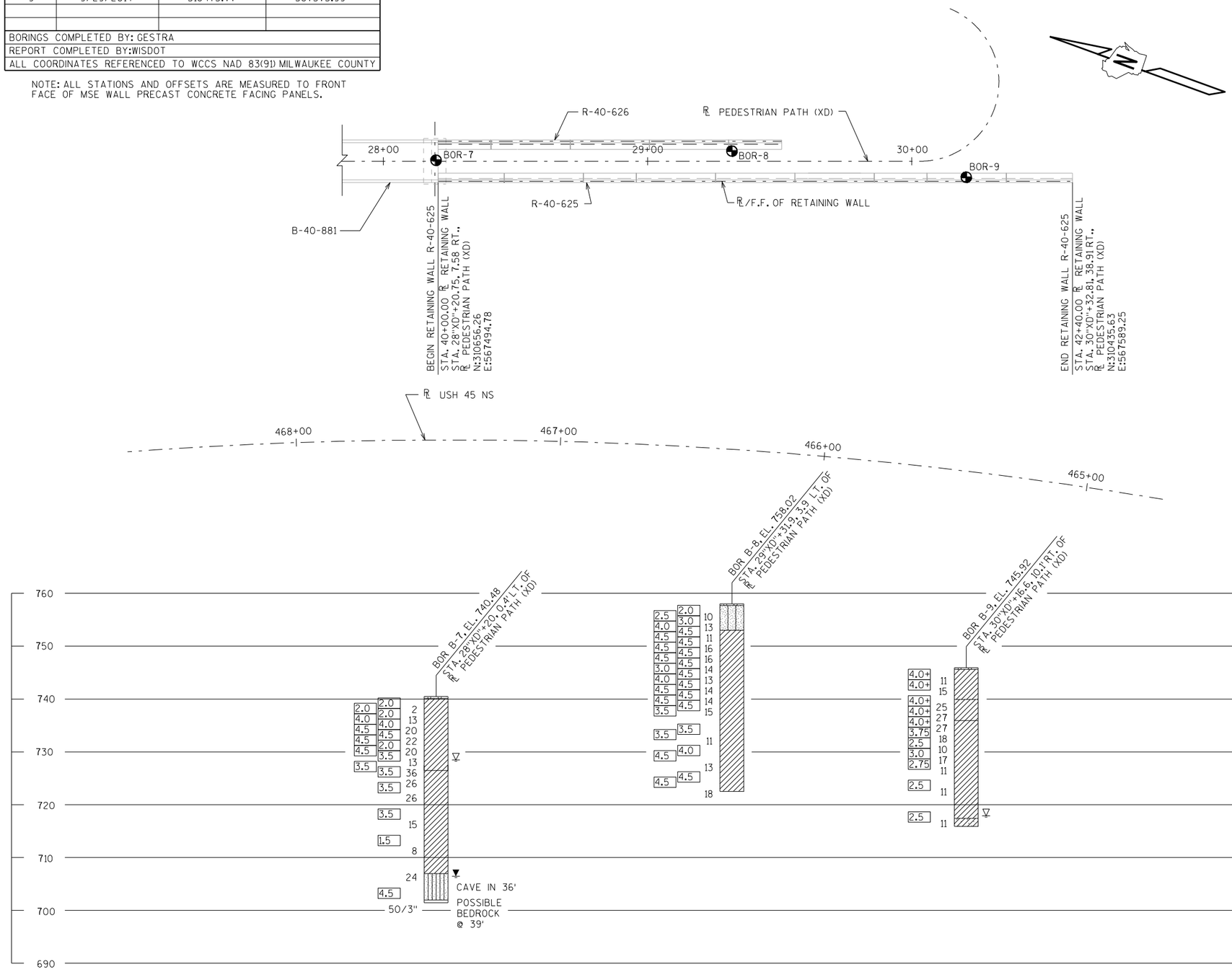
8

8

ZOO INTERCHANGE, NORTH LEG
PEDESTRIAN PATH OVER USH 45

BORING #	DATE COMPLETED	NORTHING (Y)	EASTING (X)
7	9/30/2014	310660.74	567502.94
8	10/1/2014	310559.19	567550.2
9	9/29/2014	310473.77	567575.99
BORINGS COMPLETED BY: GESTRA			
REPORT COMPLETED BY: WISDOT			
ALL COORDINATES REFERENCED TO WCCS NAD 83(91) MILWAUKEE COUNTY			

NOTE: ALL STATIONS AND OFFSETS ARE MEASURED TO FRONT FACE OF MSE WALL PRECAST CONCRETE FACING PANELS.



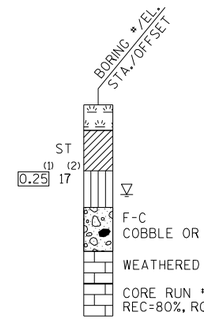
STATE PROJECT NUMBER

1060-33-83

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
STRUCTURES DESIGN SECTION

STRUCTURE R-40-625

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SUBSURFACE EXPLORATION

SHEET 5

321

SCALE = 20

8

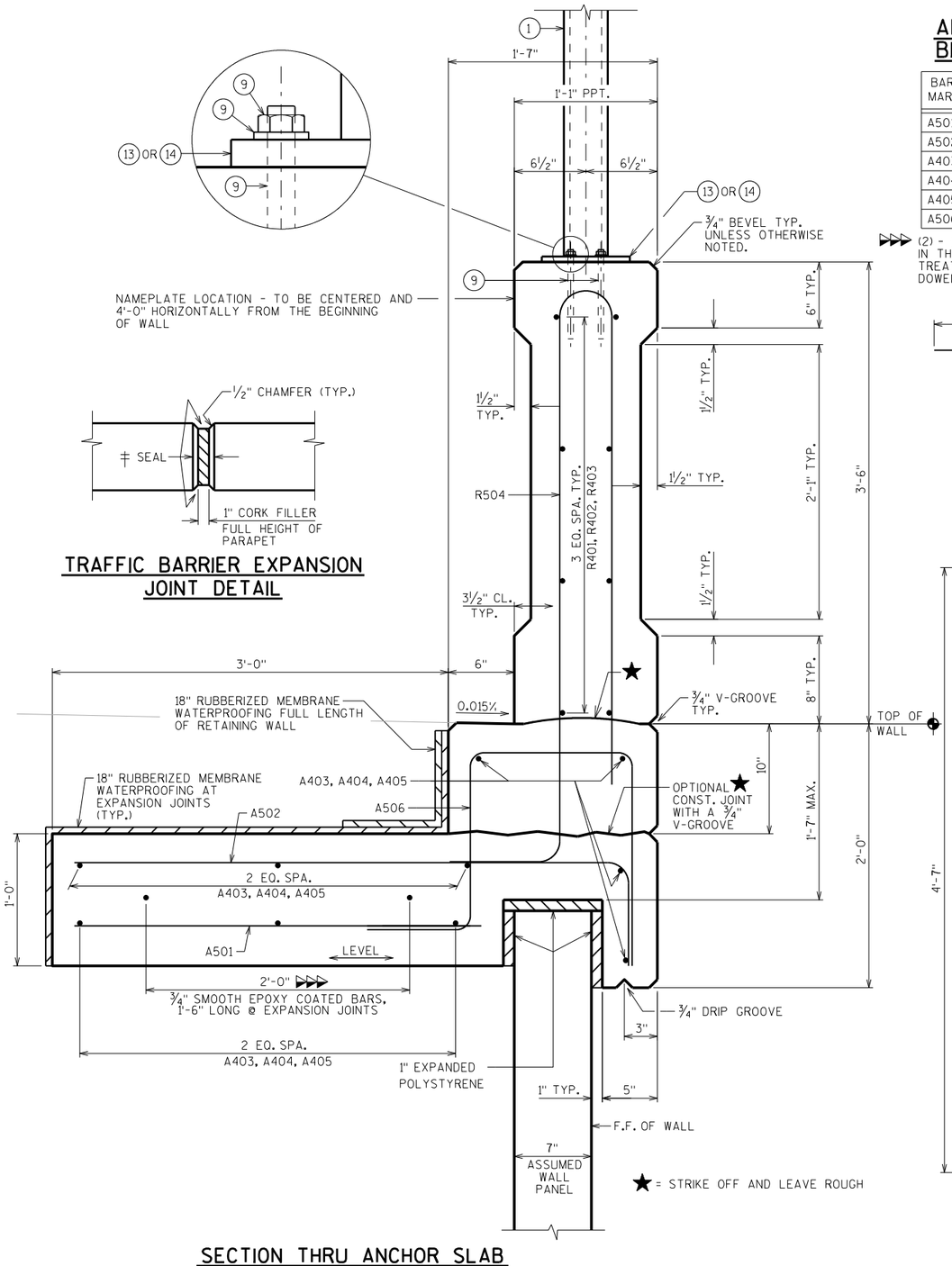
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STATE PROJECT NUMBER

1060-33-83

NAMEPLATE LOCATION - TO BE CENTERED AND 4'-0" HORIZONTALLY FROM THE BEGINNING OF WALL

TRAFFIC BARRIER EXPANSION JOINT DETAIL



SECTION THRU ANCHOR SLAB

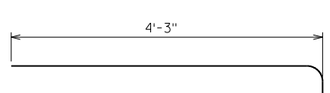
ALL BEVELED ARE 3/4" UNLESS OTHERWISE NOTED.

ANCHOR SLAB BILL OF BARS

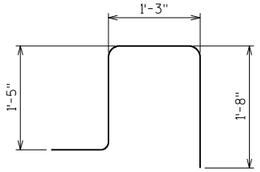
NOTE: THE FIRST OR FIRST TWO DIGITS OF THE BAR MARK SIGNIFIES THE BAR SIZE.

BAR MARK	COAT	NO. REQ'D.	LENGTH	BENT	BAR SERIES	LOCATION
A501	X	249	3'-1"			ANCHOR SLAB - HORIZ.
A502	X	249	5'-0"	X		ANCHOR SLAB - VERT.
A403	X	20	24'-8"			ANCHOR SLAB - HORIZ. - 25'-0" SEGMENTS
A404	X	50	29'-8"			ANCHOR SLAB - HORIZ. - 30'-0" SEGMENTS
A405	X	20	19'-8"			ANCHOR SLAB - HORIZ. - 20'-0" SEGMENTS
A506	X	249	4'-10"	X		ANCHOR SLAB - VERT.

▶▶▶ (2) - 3/4" DIAMETER x 1'-6" SMOOTH EPOXY COATED DOWELS PLACED AT MID-DEPTH IN THE SLAB. DOWELS SHALL BE LIGHTLY COATED WITH A BONDING SURFACE TREATMENT OVER 1/2 THE DOWEL LENGTH. EMBED 9" INTO ADJACENT SLABS. DOWELS INCLUDED IN THE BID ITEM "CONCRETE MASONRY RETAINING WALLS".



A502

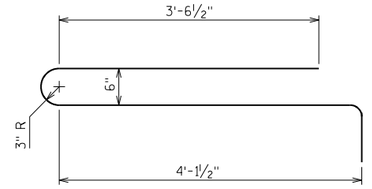


A506

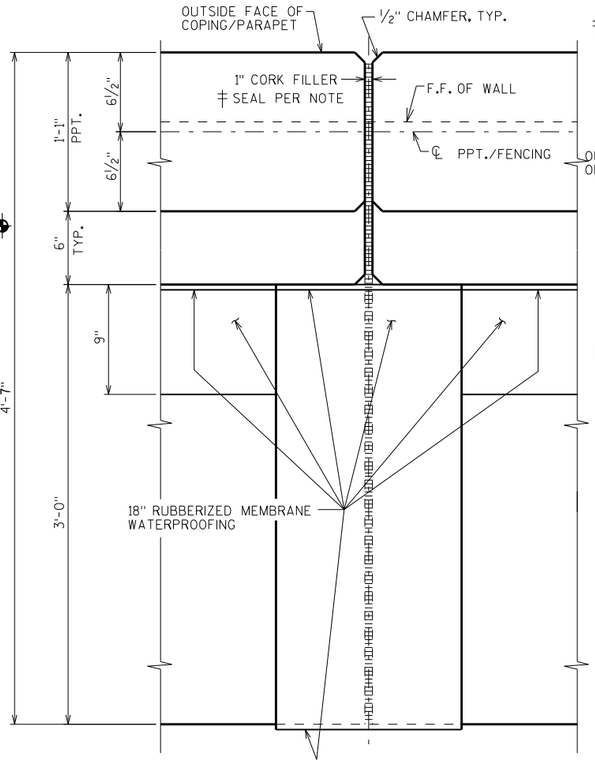
PARAPET BILL OF BARS

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

BAR MARK	COAT	NO. REQ'D.	LENGTH	BENT	BAR SERIES	LOCATION
R401	X	16	24'-8"			PARAPET - HORIZ. - 25'-0" SEGMENTS
R402	X	40	29'-8"			PARAPET - HORIZ. - 30'-0" SEGMENTS
R403	X	16	19'-8"			PARAPET - HORIZ. - 20'-0" SEGMENTS
R504	X	249	9'-2"	X		PARAPET - VERT.



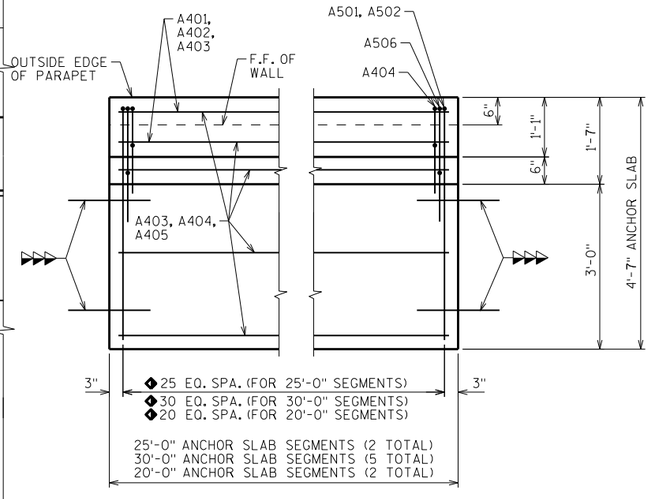
R504



PLAN - ANCHOR SLAB EXPANSION JOINT

DO NOT RUN BAR STEEL THRU JOINT.

‡ SEAL ALL EXPOSED HORIZ. & VERT. SURFACES OF FILLER WITH NON-STAINING GRAY NON-BITUMINOUS JOINT SEALER. (1" DEEP AND HOLD 1/8" BELOW SURFACE OF CONC.)



PLAN

◆ = A501, A502, A506, R504

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE R-40-625

DRAWN BY DDS | PLANS CK'D. ABS

ANCHOR SLAB REINFORCEMENT

SHEET 6

322

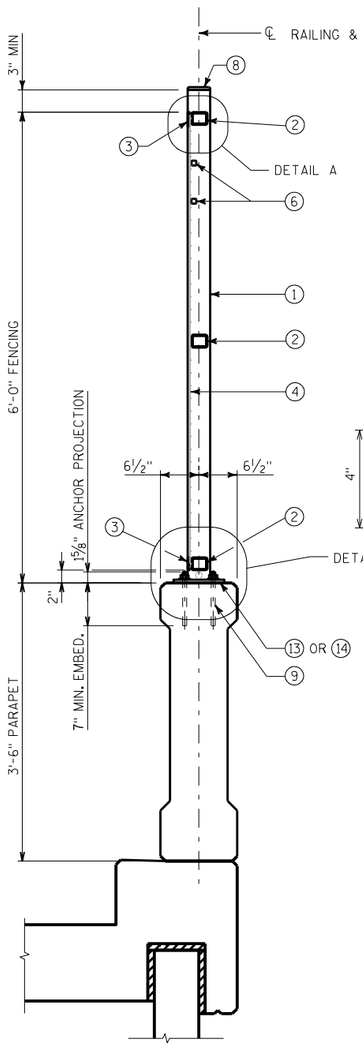
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8

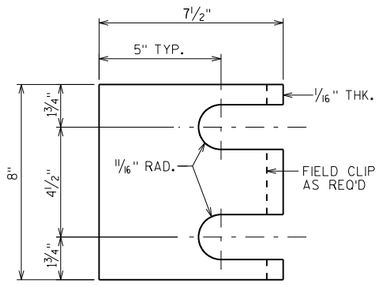
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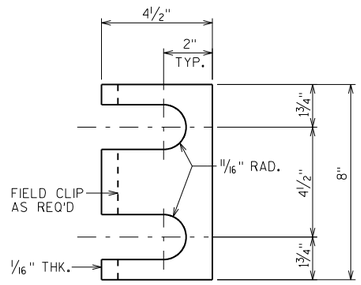
STATE PROJECT NUMBER

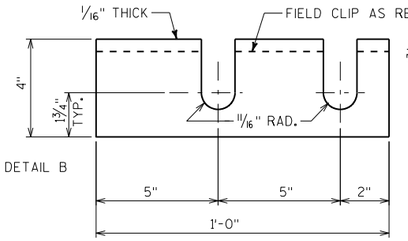
1060-33-83

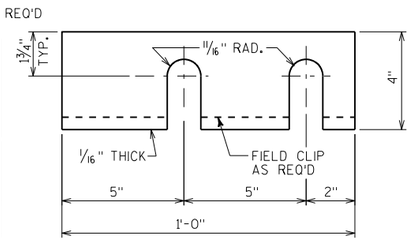


SECTION THRU VERTICAL FACE COPING



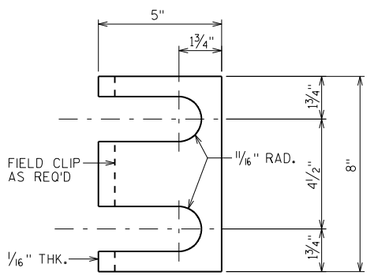


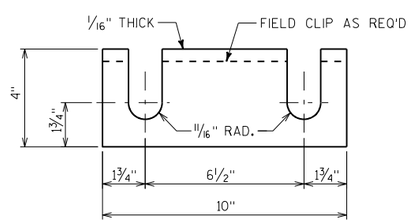




END BASE SHIM DETAILS

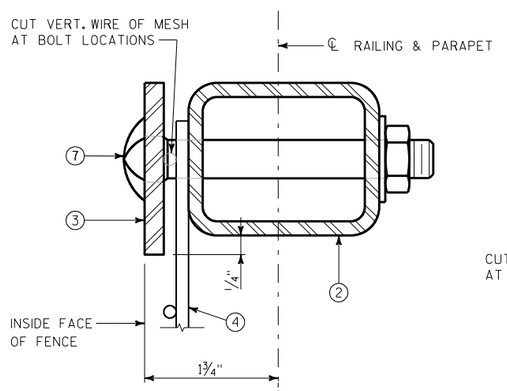
(1 EACH PER POST)



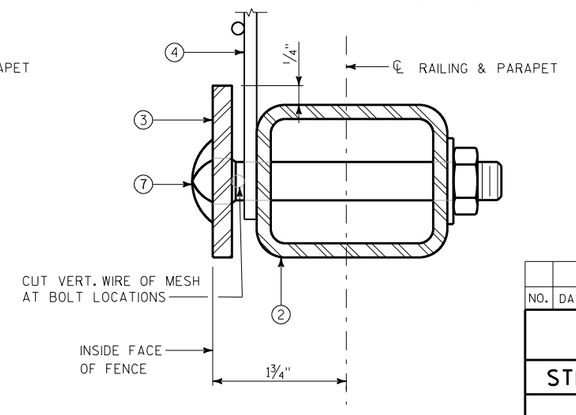


BASE PLATE SHIM DETAILS

(2 SETS PER POST)



DETAIL A



DETAIL B

LEGEND

1. HSS 3½ X 3½ X 3/16 POST WITH ¼" DIA. VENT HOLES TOP & BOTTOM ON OUTSIDE FACE. RESIZE AS NECESSARY FOR GALVANIZING PROCESS. WELD TO NO. 8 & BASE PLATE, TYP.
2. HSS 2½ X 2½ X 3/16. WELD TO NO. 6. & NO. 2
3. PL 2¾" X ¼" WELDED FRAME. WELD TO NO. 4. BOLT TO NO. 2 WITH NO. 7 AFTER PAINTING.
4. STEEL MESH 2" X 2" X 0.162 (8 GA.). PLACE VERTICAL WIRES ON BACK FACE OF COPING. TACK WELD TO NO. 3.
5. NOT USED
6. ¾" X ¾" BAR. WELD TO NO. 2 TO NO. 6.
7. ½" DIA. CARRIAGE BOLT, WASHER AND NUT. PROVIDE 5/8" X 5/8" SQUARE HOLE IN NO. 3 FOR SQUARE PORTION OF THE BOLT HEAD.
8. 3½" X 3½" SQUARE END CAP. WELD TO NO. 1.
9. 5/8" DIA. CONCRETE MASONRY ANCHOR TYPE S EPOXY, 7" MINIMUM.
10. PL 5/16" X 4½" X 6" CONNECTION WITH 2" DIA. HOLES FOR NO. 7. USE NO. 12 TO COVER 2" DIA. ADJUSTMENT HOLES.
11. PL ⅜" X 2" X 4½".
12. PL WASHER ¼" X 3½" X 3½".
13. PL ½" X 8" X 10" BASE PLATE. WELD TO NO. 1.
14. PL ½" X 8" X 1'-0" BASE PLATE. WELD TO NO. 1.

NOTES

THE BID ITEM SHALL BE "FENCE DECORATIVE RETAINING WALL R-40-625" WHICH SHALL INCLUDE ALL ITEMS SHOWN.

FOR ELEVATIONS OF SPECIAL FENCE PANELS, SEE "RAILING DETAILS 2" SHEET.

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

STRUCTURAL TUBING SHALL BE A.S.T.M. A500, GRADE B. ROLLED SHAPES, PLATES, BARS AND SHIMS SHALL BE A.S.T.M. A709, GRADE 36.

CAULK AROUND PERIMETER OF BASE PLATES AND FILL PORTION OF HOLES AROUND ANCHOR BOLTS WITH NON-STAINING GRAY NON-BITUMINOUS JOINT SEALER.

CUT BOTTOM OF POST TO MAKE POST VERTICAL.

ANCHOR BOLTS, NUTS AND WASHERS SHALL BE EITHER STAINLESS STEEL OR A.S.T.M. A307. IF A307 IS USED ANCHOR BOLTS, NUTS AND WASHERS SHALL BE GALVANIZED.

STANDARD WASHERS SHALL BE USED TO SHIM BASE PLATES IF REQUIRED. ALL WASHERS SHALL BE GALVANIZED.

THE STEEL MESH SHALL BE TACK WELDED TO THE 2¾" X ¼" WELDED FRAME. THE MESH SHALL BE STRETCHED TO REMOVE SLACK.

VENT HOLES SHALL BE DRILLED IN MEMBERS AS REQUIRED TO FACILITATE GALVANIZING AND DRAINAGE.

AFTER FABRICATION AND PRIOR TO BOLTING AND ASSEMBLING FENCE COMPONENTS, STEEL SHALL BE BLAST CLEANED PER SSPC-SP 6 AND GALVANIZED ACCORDING TO ASTM A 123. REPAIR ZINC COATING DAMAGED DURING FENCE ASSEMBLAGE AS SPECIFIED IN 513.3.3(3)

ALL WELDS SHALL BE PREQUALIFIED ACCORDING TO THE STRUCTURAL WELDING CODE STEEL (AWS D1.1). THE MINIMUM SIZE OF FILLET WELDS IS 3/16".

PRIOR TO FINAL ASSEMBLY OF THE FENCE PANELS, PAINT THE GALVANIZED FENCE COMPONENTS WITH A TWO COAT SYSTEM SPECIFICALLY INTENDED FOR PAINTING OF GALVANIZED SURFACES PER THE SPECIAL PROVISIONS. THE FINISH COLOR SHALL BE FEDERAL COLOR NO. 27038 BLACK.

COVER THE 2" X 2" STEEL MESH WITH A COLORED POLYMER COATING. COAT ALL OTHER FENCING COMPONENTS WITH AN EPOXY PAINT SYSTEM. TOUCH UP DAMAGED PORTIONS OF PAINT AFTER PANEL ERECTION. SEE SPECIAL PROVISIONS FOR REQUIREMENTS.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE R-40-625

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RAILING DETAILS 1

SHEET 7

323

SCALE = 1.0

8

8

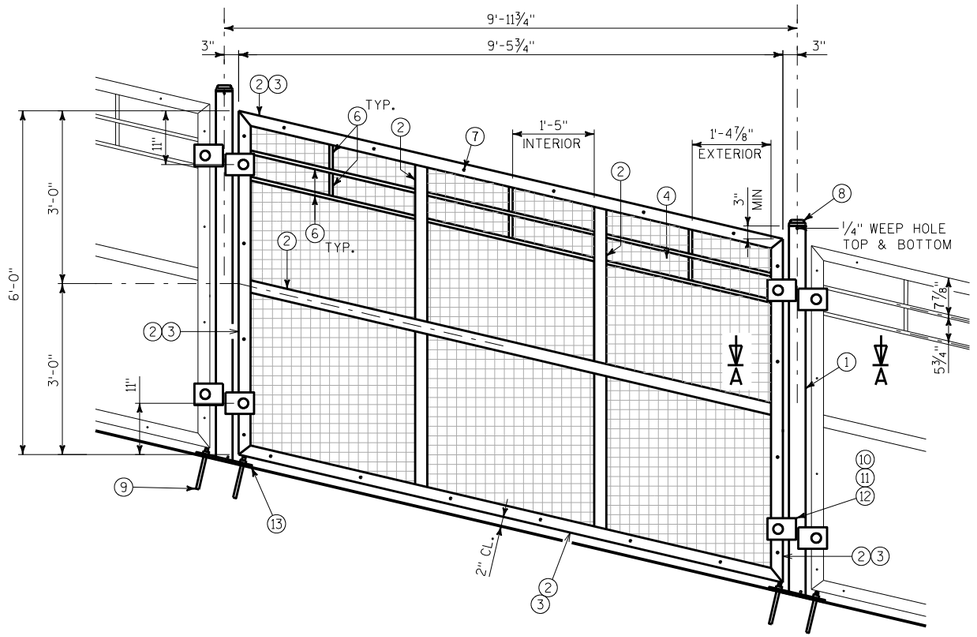
STATE PROJECT NUMBER

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NOTES

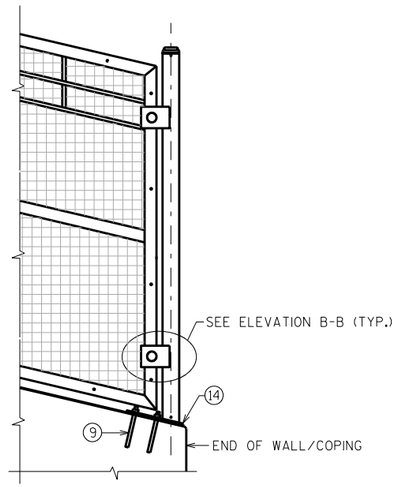
FOR NOTES AND LEGEND, SEE SEE "RAILING DETAILS 1" SHEET.

TYPICAL MEMBER SIZES, WELDING AND BOLTING DETAILS, AND MATERIALS ARE SHOWN IN "OUTSIDE ELEVATION OF PANEL" ON THIS SHEET.



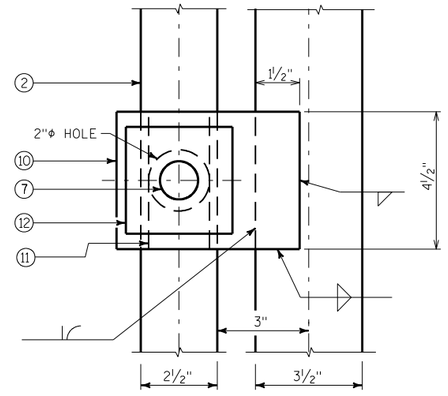
OUTSIDE ELEVATION OF PANEL

TYP. - LOOKING AT F.F. OF R-40-625

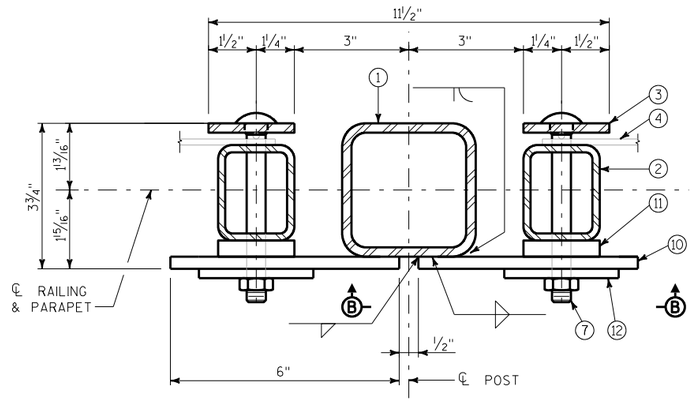


END POST DETAILS FOR PANELS

AT END OF WALL/COPING



ELEVATION B-B



SECTION A-A

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE R-40-625

DRAWN BY DDS | PLANS CK'D. ABS

RAILING DETAILS 2

SHEET 8

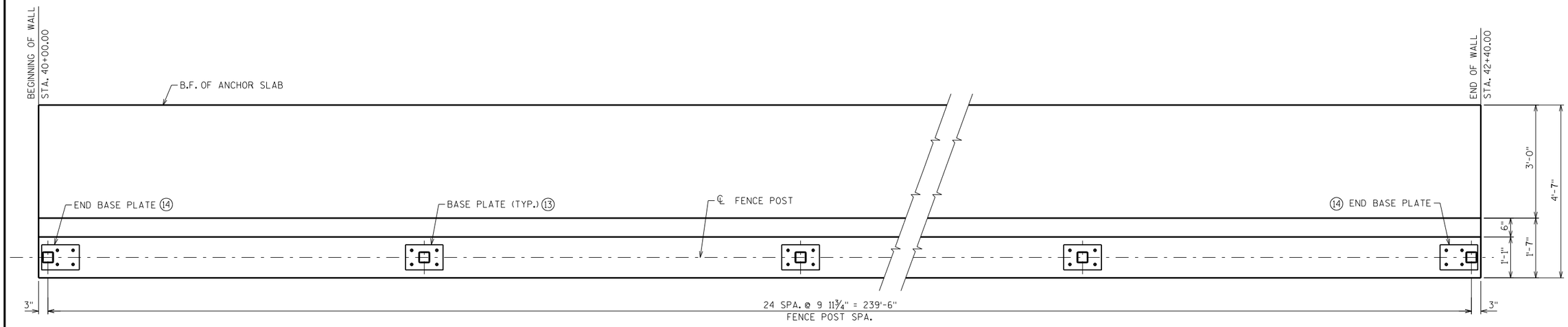
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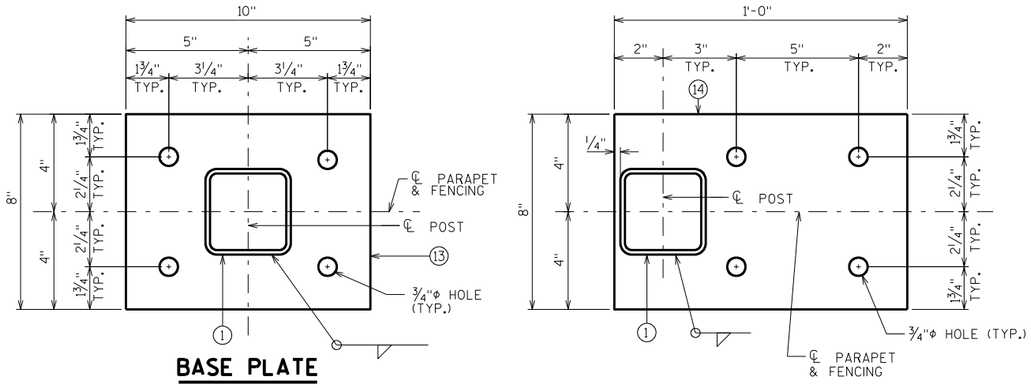
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8

STATE PROJECT NUMBER
1060-33-83



PLAN



BASE PLATE

BASE PLATE DETAILS

END BASE PLATE

NOTES

FOR NOTES AND LEGEND, SEE "RAILING DETAILS 1" SHEET.

DETAILS SHOWN ARE TYPICAL FOR ALL WALL PANELS.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE R-40-625

DRAWN BY DDS | PLANS CK'D. ABS

RAILING DETAILS 3

SHEET 9

325

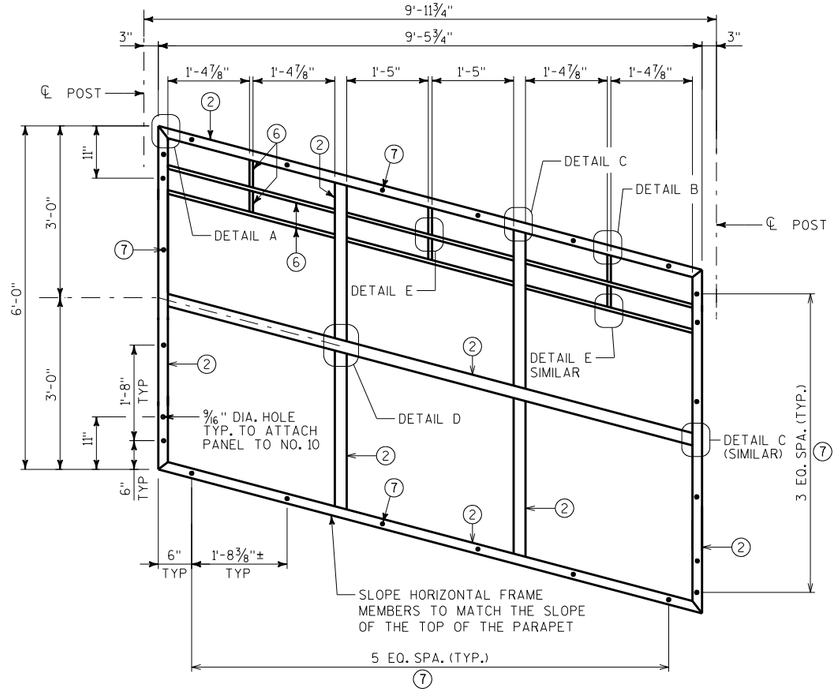
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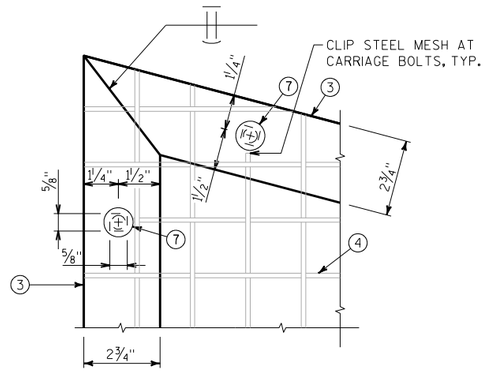
STATE PROJECT NUMBER

1060-33-83



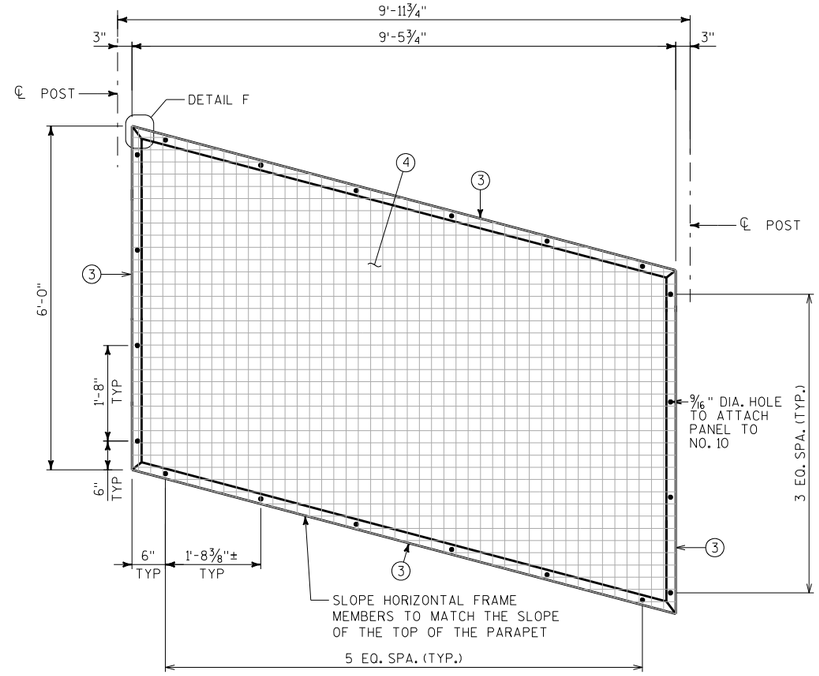
OUTSIDE ELEVATION OF PANEL

FENCING FABRIC NOT SHOWN FOR CLARITY
(24 PANELS REQUIRED)

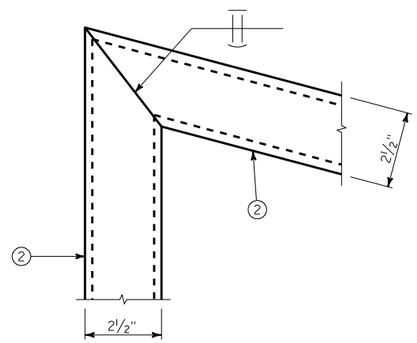


DETAIL F

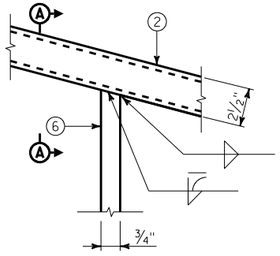
NOTE: STEEL MESH TO BE TACK WELDED TOWARDS ℄ OF FENCE



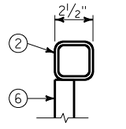
OUTSIDE ELEVATION OF PANEL



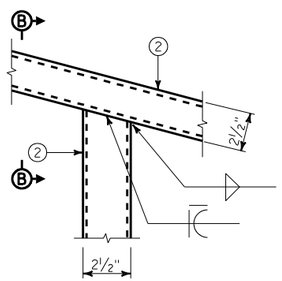
DETAIL A



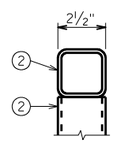
DETAIL B



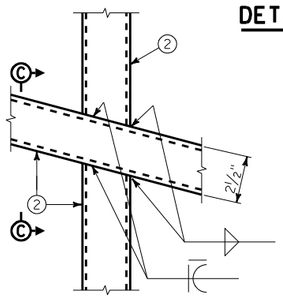
SECTION A-A



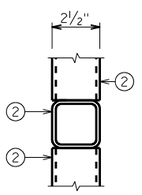
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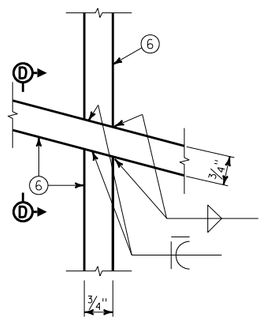
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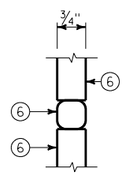
DETAIL D



SECTION C-C



DETAIL E



SECTION D-D

NOTES

FOR NOTES AND LEGEND, SEE "RAILING DETAILS 1" SHEET.

DETAILS SHOWN ARE TYPICAL FOR ALL WALL PANELS.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE R-40-625

DRAWN BY DDS | PLANS CK'D. ABS

RAILING DETAILS 4

SHEET 10

326

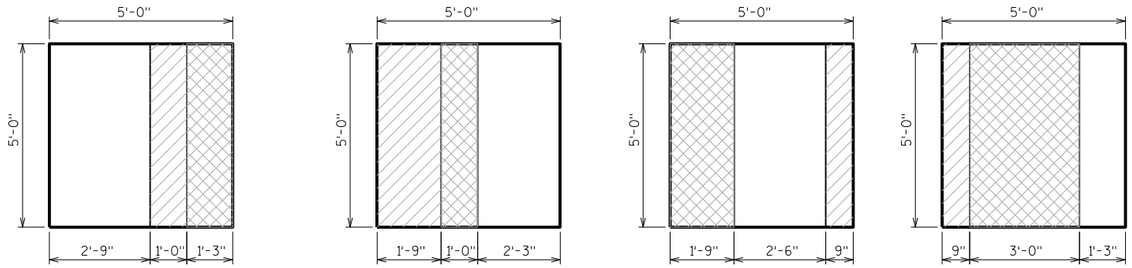
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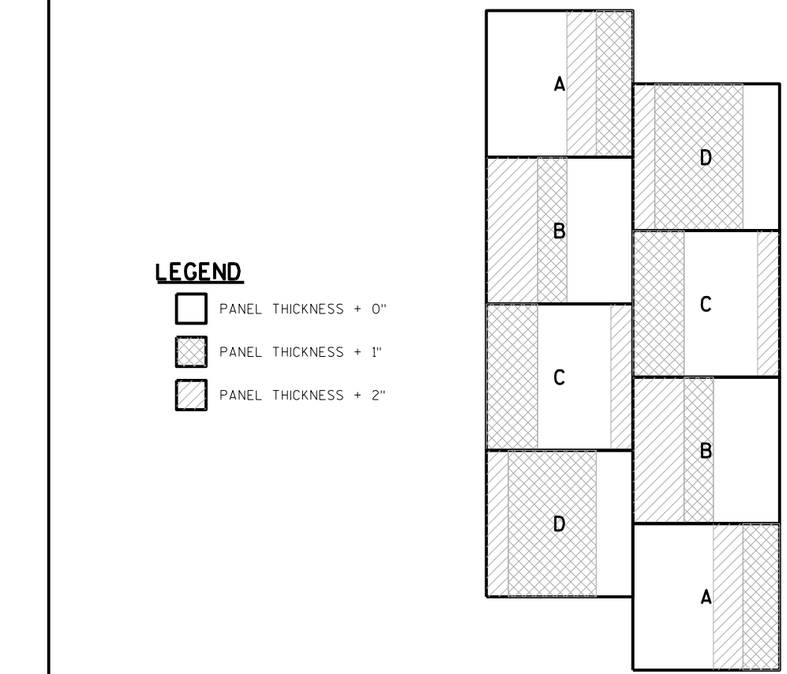
STATE PROJECT NUMBER

1060-33-83



WALL PANEL "A" WALL PANEL "B" WALL PANEL "C" WALL PANEL "D"

5'-0" X 5'-0" MSE CONCRETE PANEL RAISED SURFACE DETAILS

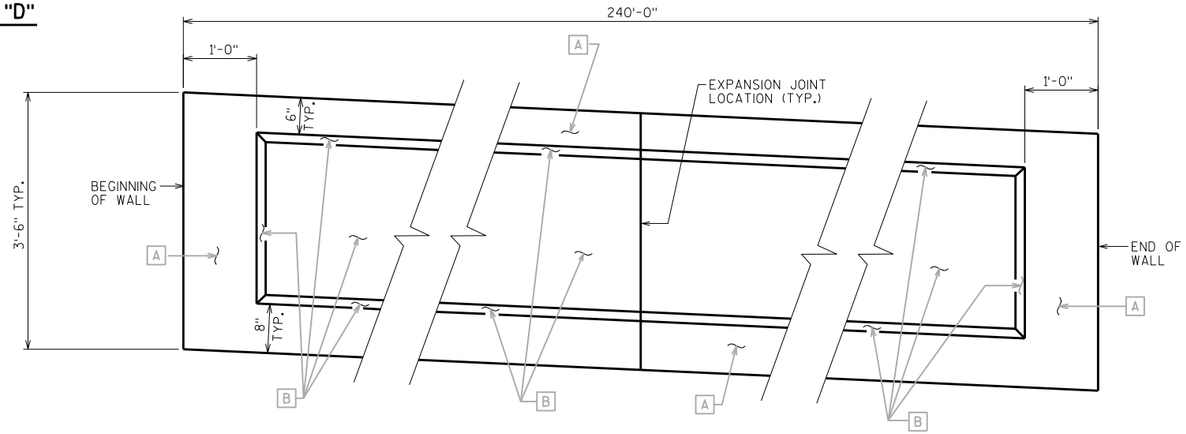


LEGEND

- PANEL THICKNESS + 0"
- PANEL THICKNESS + 1"
- PANEL THICKNESS + 2"

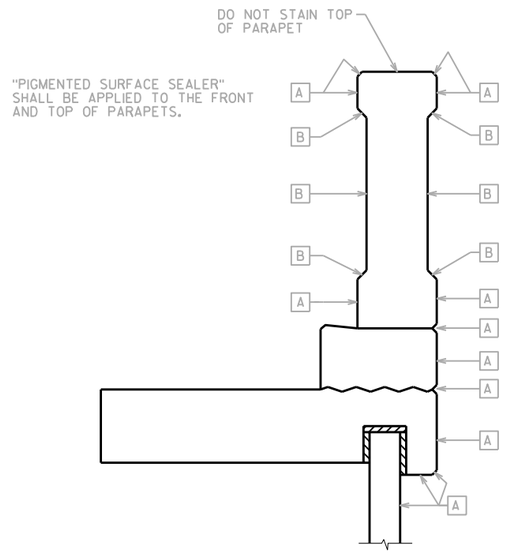
TYPICAL 5'-0" X 5'-0" MSE CONCRETE PANEL PATTERN

CONCRETE STAINING IS **NOT** INCLUDED IN THIS CONTRACT. CONCRETE STAINING WILL BE DONE BY OTHERS UNDER A FUTURE CONTRACT.



PARAPET ELEVATION DETAIL

(TYP. - BOTH FACES)



STAINING DETAILS

CONCRETE STAINING IS **NOT** INCLUDED IN THIS CONTRACT. CONCRETE STAINING WILL BE DONE BY OTHERS UNDER A FUTURE CONTRACT.

CONCRETE STAINING SCHEDULE

MARK	COLOR	LOCATION	NOTES
A	BASE COLOR	PARAPETS	BOTH SIDES, EXCEPT AS NOTED FOR ACCENT COLORS
		COPING	ALL EXPOSED EXTERIOR SURFACES
		WALL PANELS	FRONT FACE FROM TOP OF WALL PANEL TO 1'-0" BELOW FINISHED GRADE LINE.
B	ACCENT COLOR #1	PARAPETS	REVEALS ON PARAPETS

THE FINAL COLOR OF THE CONCRETE FOLLOWING APPLICATION OF THE STAIN SYSTEM SHALL MATCH THE SHERWIN-WILLIAMS STANDARD COLOR SYSTEM LISTED.

BASE COLOR : WHOLE WHEAT - SW 6121, FN 122
ACCENT COLOR #1: BAGUETTE - SW 6123, FN 124

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE R-40-625

DRAWN BY DDS | PLANS CK'D. ABS

AESTHETIC DETAILS

SHEET 11

327

SCALE = 1.0

8

8

STATE PROJECT NUMBER

1060-33-83

DESIGN DATA

THE RETAINING WALL SHALL BE DESIGNED USING THE ELEVATIONS GIVEN ON THESE SHEETS.

DESIGN FOR RETAINING WALL TO PROVIDE FOR FINISHED GRADE SLOPED BEHIND WALL AS SHOWN.

DESIGN RETAINING WALL FOR A LIVE LOAD SURCHARGE OF 240 PSF.

ULTIMATE DESIGN STRESSES

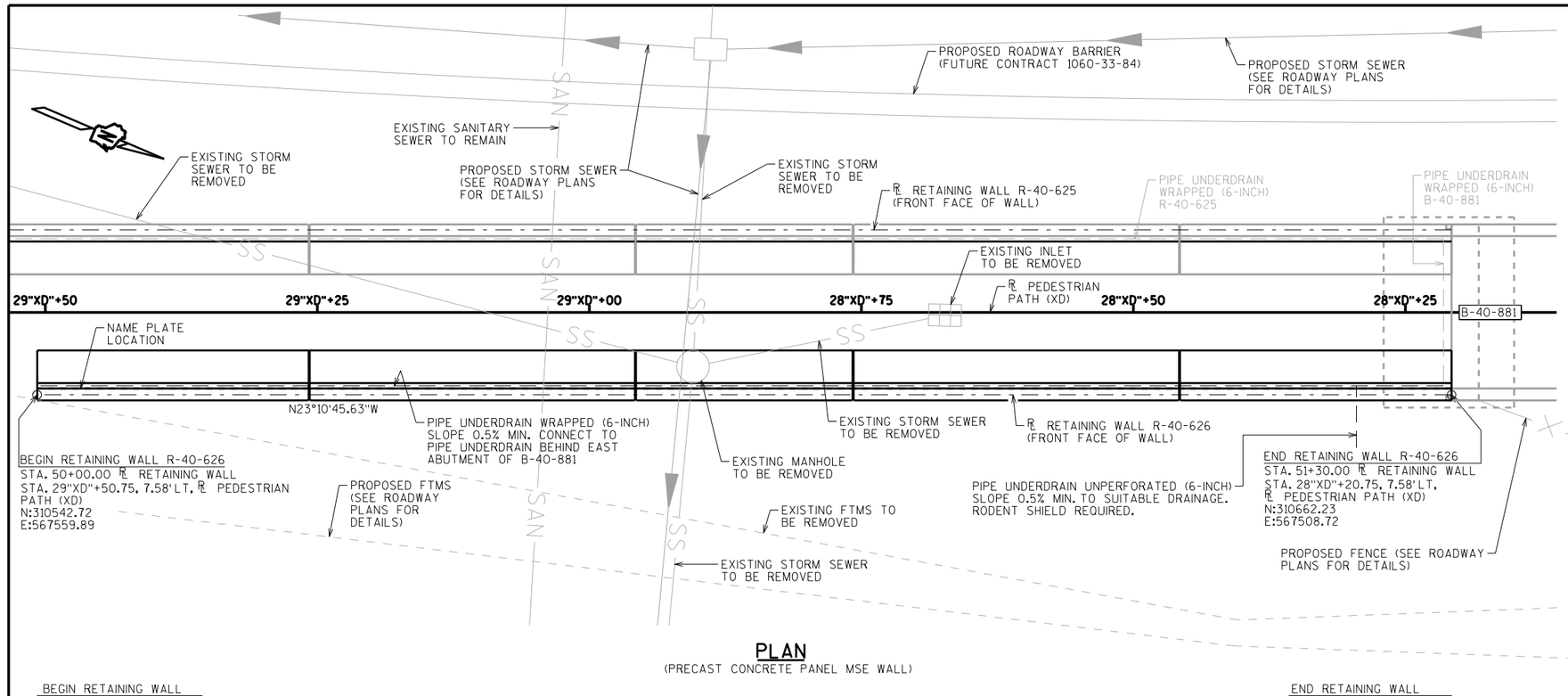
CONCRETE MASONRY (CONCRETE COPING) ——— f'c = 4,000 P.S.I.
PRECAST CONCRETE WALL PANELS ——— f'c = 4,000 P.S.I.
BAR STEEL REINFORCEMENT, GRADE 60 ——— fy = 60,000 P.S.I.

LIST OF DRAWINGS

1. GENERAL PLAN & ELEVATION
2. QUANTITIES, NOTES & PROFILE GRADE LINES
3. TYPICAL WALL SECTIONS
4. SUBSURFACE EXPLORATION
5. ANCHOR SLAB REINFORCEMENT
6. MODIFIED VERTICAL FACE PARAPET "A"
7. RAILING DETAILS 1
8. RAILING DETAILS 2
9. RAILING DETAILS 3
10. RAILING DETAILS 4
11. RAILING DETAILS 5
12. AESTHETIC DETAILS

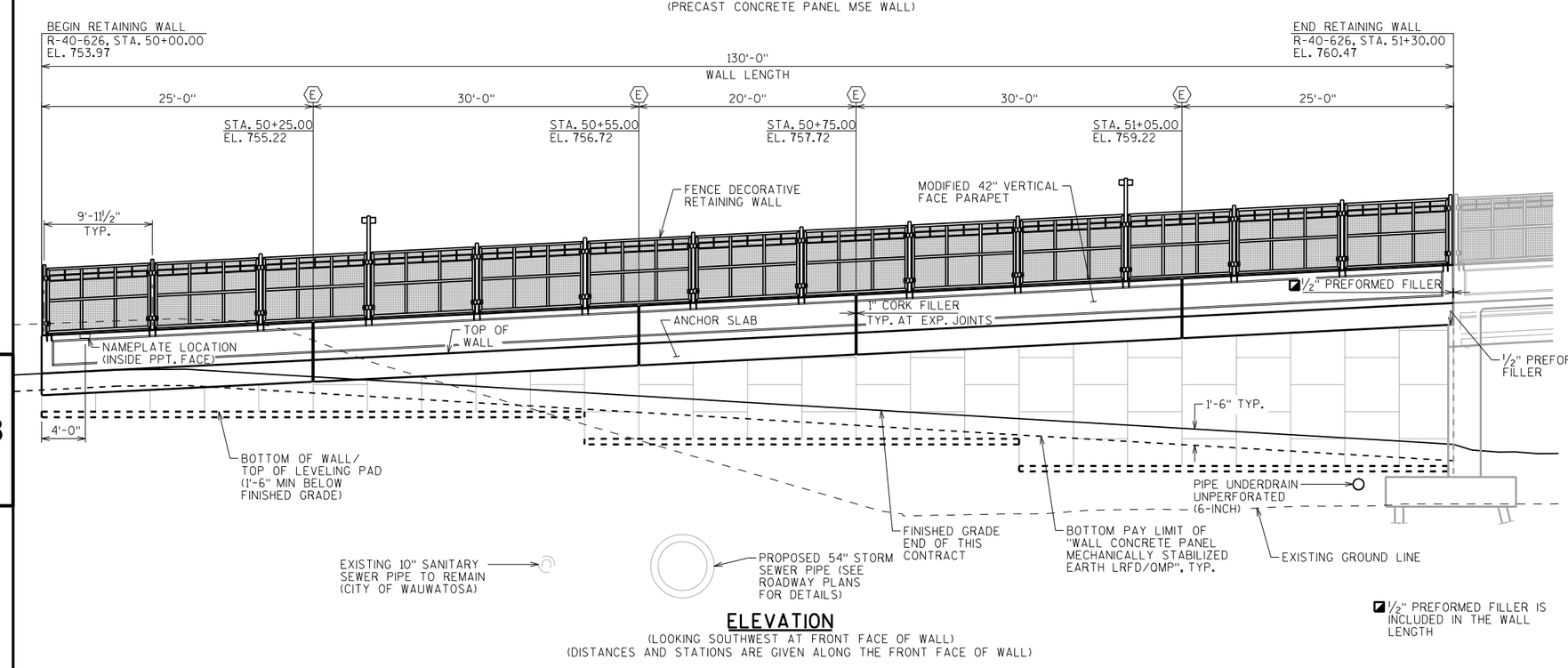
LEGEND

(E) EXPANSION JOINT



PLAN

(PRECAST CONCRETE PANEL MSE WALL)



½" PREFORMED FILLER IS INCLUDED IN THE WALL LENGTH

ELEVATION

(LOOKING SOUTHWEST AT FRONT FACE OF WALL)
(DISTANCES AND STATIONS ARE GIVEN ALONG THE FRONT FACE OF WALL)

STRUCTURE DESIGN CONTACTS:

NICK RICE (608) 266-5092
AARON BONK (608) 261-0261

NO.	DATE	REVISION	BY

Plans Prepared By **WISDOT**
BUREAU OF STRUCTURES

ACCEPTED William C. Duchac — CHIEF STRUCTURES DESIGN ENGINEER — 3/6/15 DATE

STRUCTURE R-40-626

PEDESTRIAN PATH OVER USH 45

COUNTY MILWAUKEE — ~~TOWN~~/CITY/~~VILLAGE~~ WAUWATOSA

DESIGN SPEC. AASHTO LRFD DESIGN SPEC.

DESIGNED BY NAR | DESIGN CK'D. ABS | DRAWN BY NAR/DDS | PLANS CK'D. ABS

GENERAL PLAN & ELEVATION

SHEET 1 OF 12

328

I.D. 1060-33-160

DATE: **MAR. 2015**

SCALE = 6

8 8

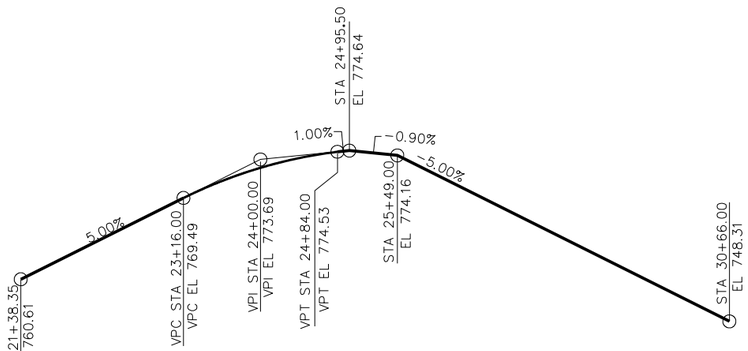
SOIL PARAMETERS

SOIL DESCRIPTION	FRICTION ANGLE (DEGREES)	COHESION (PSF)	UNIT WEIGHT (PCF)
GRANULAR BACKFILL WITHIN THE WALL IN THE REINFORCING ZONE	30	0	120
FILL BEHIND AND BELOW THE REINFORCING ZONE	31	0	120
BOR-7, 28+20, 0.4 LT.			
CLAY, BROWN, TRACE GRAVEL (ELEV. 741.5 FT. TO 737.5 FT.)	0	2,000	120
CLAY, BROWN TO GRAY, TRACE GRAVEL (ELEV. 737.5 FT. TO 727.5 FT.)	0	4,000	130
SAND AND GRAVEL, GRAY (ELEV. 727.5 FT. TO 726.5 FT.)	34	0	130
CLAY, GRAY, SOME GRAVEL (ELEV. 726.5 FT. TO 712.0 FT.)	0	3,000	125
CLAY, GRAY, SOME GRAVEL (ELEV. 712.0 FT. TO 707.0 FT.)	0	1,000	115
SILT, GRAY, SOME SAND (ELEV. 707.0 FT. TO 702.0 FT.)	32	0	120
SILT, GRAY, SOME SAND, SOME GRAVEL (ELEV. 702.0 FT. TO 701.5 FT.)	0	25,000	140
BEDROCK (ELEV. 701.5 FT. AND BELOW)	0	96,000	140
BOR-8, 29+32, 3.9 LT.			
SAND, BROWN, SOME SILT, TRACE GRAVEL (ELEV. 757.7 FT. TO 753.0 FT.)	32	0	120
CLAY, BROWN, TRACE SAND AND GRAVEL, MOTTLED (ELEV. 753.0 FT. TO 743.0 FT.)	0	4,000	135
CLAY, BROWN, TRACE GRAVEL (ELEV. 743.0 FT. TO 734.5 FT.)	0	4,000	135
SILT, SOME SAND (ELEV. 734.5 FT. TO 722.5 FT.)	0	3,500	130

WALL EXTERNAL STABILITY EVALUATION

DIMENSIONS		
WALL HEIGHT (FEET)[1]	8.5	14.5
EXPOSED WALL HEIGHT (FEET)	7.0	13.0
LENGTH OF REINFORCEMENT (FEET)[2]	8.0	10.2
LENGTH OF REINFORCEMENT/WALL HEIGHT	NA[3]	0.70
WALL STATION	50+75	51+30
BORING USED	BOR-8	BOR-7
CAPACITY TO DEMAND RATIO (CDR)[4]		
SLIDING ($CDR_{REQ'D}$ > 1.0)	1.5	1.3
ECCENTRICITY ($CDR_{REQ'D}$ > 1.0)	2.1	1.2
GLOBAL STABILITY ($CDR_{REQ'D}$ > 1.0)	NA[5]	2.2
BEARING RESISTANCE ($CDR_{REQ'D}$ > 1.0)	3.0	1.1
REQUIRED BEARING RESISTANCE (PSF)	6,000	4,000

1. THE WALL HEIGHT INCLUDES AND EMBEDMENT OF 1.5 FEET.
2. THE LENGTH OF REINFORCEMENT IS THE MINIMUM REQUIRED LENGTH.
3. NA NOT APPLICABLE. THE MINIMUM REINFORCEMENMT LENGTH OF 8 FEET CONTROLS.
4. CDR REQUIREMENTS AND LOAD AND RESISTANCE FACTORS ARE PRESENTED IN CHAPTER 14 OF THE BRIDGE MANUAL.
5. NA NOT APPLICABLE, GLOBAL SLOPE STABILITY WAS EVALUATED AT THE CRITICAL WALL LOCATION.



PROFILE GRADE LINE PEDESTRIAN PATH (R XD)

TOTAL ESTIMATED QUANTITIES

BID ITEM NUMBER	BID ITEMS	UNIT	TOTALS
206.3000.0003	EXCAVATION FOR STRUCTURES RETAINING WALL R-40-626	LS	1
502.3200	PROTECTIVE SURFACE TREATMENT	SY	13
504.0500	CONCRETE MASONRY RETAINING WALLS	CY	43
505.0615	BAR STEEL REINFORCEMENT HS COATED RETAINING WALLS	LB	4650
516.0500	RUBBERIZED MEMBRANE WATERPROOFING	SY	25
517.1050.S.0003	ARCHITECTURAL SURFACE TREATMENT R-40-626	SF	978
612.0206	PIPE UNDERDRAIN UNPERFORATED 6-INCH	LF	20
612.0406	PIPE UNDERDRAIN WRAPPED 6-INCH	LF	145
652.0115	CONDUIT RIGID METALLIC 1 1/4-INCH	LF	30
652.0215	CONDUIT RIGID NONMETALLIC SCHEDULE 40 1 1/4-INCH	LF	110
SPV.0090.4005	FENCE DECORATIVE RETAINING WALL R-40-626	LF	130
SPV.0165.4001	WALL CONCRETE PANEL MECHANICALLY STABILIZED EARTH LRFD/OMP	SF	978
	NON-BID ITEMS		
	NON-BITUMINOUS JOINT SEALER	SIZE	1"
	CORK FILLER	SIZE	1"
	EXPANDED POLYSTYRENE	SIZE	1"

ALL ITEMS ARE CATEGORY 3200

WALL ELEVATION TABLE

WALL STATION	TOP OF WALL EL.	FINISHED GRADE EL.	EXISTING GRADE EL.
50+00.00	753.97	753.97	758.57
50+11.00	754.33	754.33	758.98
50+25.00	755.22	753.69	757.45
50+55.00	756.72	751.91	749.32
50+75.00	757.72	750.72	743.47
51+05.00	759.22	748.94	741.44
51+30.00	760.47	746.68	741.96

STATE PROJECT NUMBER

1060-33-83

GENERAL NOTES

DRAWINGS SHALL NOT BE SCALED.

BEVEL EXPOSED EDGES OF CONCRETE ¾", UNLESS NOTED OTHERWISE.

ALL STATIONS AND ELEVATIONS ARE IN FEET, ELEVATIONS ARE REFERENCED TO THE NAVD 88 DATUM.

ALL DIMENSIONS ARE ALONG THE FRONT FACE OF WALL, UNLESS SHOWN OTHERWISE.

BAR STEEL REINFORCEMENT SHALL HAVE 2" CLEAR COVER, UNLESS SHOWN OTHERWISE.

EXISTING STRUCTURE, B-40-384 IS NOT SHOWN IN THESE PLANS. THE REMOVAL OF THIS STRUCTURE IS INCLUDED IN A LUMP SUM PAY ITEM AS PART OF THE B-40-881 BRIDGE QUANTITIES.

THE COST OF FURNISHING AND PLACING MSE BACKFILL WITHIN THE REINFORCED SOIL ZONE IS TO BE INCLUDED IN THE BID ITEM "WALL CONCRETE PANEL MECHANICALLY STABILIZED EARTH LRFD/OMP".

THESE PLANS ARE FOR A PRECAST CONCRETE PANEL MECHANICALLY STABILIZED EARTH (MSE) RETAINING WALL.

THE QUANTITIES AND REINFORCEMENT DETAILS ARE BASED ON AN ASSUMED CONCRETE WALL PANEL THICKNESS OF 7 INCHES. FOR PANEL THICKNESSES DIFFERENT THAN 7 INCHES, THE CONTRACTOR SHALL VERIFY REINFORCEMENT BAR DETAILS AND QUANTITIES AND WILL BE RESPONSIBLE FOR ANY QUANTITY VARIATIONS.

THE CONTRACTOR MUST COORDINATE THE CONSTRUCTION OF WALL R-40-626 WITH THE CONSTRUCTION OF THE NORTHEAST ABUTMENT OF BRIDGE B-40-881 & RETAINING WALL R-40-625.

THE CONTRACTOR SHALL PROVIDE COMPLETE DESIGN, PLANS, DETAILS, SPECIFICATIONS, AND SHOP DRAWINGS FOR THE RETAINING WALLS IN ACCORDANCE WITH THE SPECIAL PROVISIONS. THE RETAINING WALL MANUFACTURER SHALL PROVIDE TECHNICAL ASSISTANCE TO THE CONTRACTOR DURING CONSTRUCTION. THE COST OF FURNISHING THESE ITEMS IS INCLUDED IN THE BID ITEM "WALL CONCRETE PANEL MECHANICALLY STABILIZED EARTH LRFD/OMP".

THE COST OF FURNISHING AND PLACING THE UNREINFORCED CONCRETE LEVELING PAD UNDER THE MSE PRECAST WALL PANELS IS INCLUDED IN THE BID ITEM "WALL CONCRETE PANEL MECHANICALLY STABILIZED EARTH LRFD/OMP".

THE VOLUME OF EARTHWORK REQUIRED TO INSTALL THE UNREINFORCED CONCRETE LEVELING PAD, MSE PRECAST WALL PANELS, MSE BACKFILL AND REINFORCING STRIPS IS INCLUDED IN THE BID ITEM "WALL CONCRETE PANEL MECHANICALLY STABILIZED EARTH LRFD/OMP".

ALL BAR STEEL REINFORCEMENT IN THE CONCRETE COPING IS TO BE EPOXY COATED.

THE QUANTITIES OF CONCRETE MASONRY & BAR STEEL REINFORCEMENT FOR THE CAST-IN-PLACE ANCHOR SLAB ARE PAID FOR UNDER THE ITEMS "CONCRETE MASONRY RETAINING WALLS" & "BAR STEEL REINFORCEMENT HS COATED RETAINING WALLS", RESPECTIVELY.

THE PLAN QUANTITY FOR THE ITEM "WALL CONCRETE PANEL MECHANICALLY STABILIZED EARTH LRFD/OMP" IS BASED ON A WALL HEIGHT MEASURED FROM THE TOP OF THE LEVELING PAD TO THE TOP OF WALL AS SHOWN IN THE PLANS. THE TOP OF LEVELING PAD IS ASSUMED TO BE 1'-6" BELOW FINISHED GRADE. WALL AREAS CONSTRUCTED OUTSIDE THESE LIMITS WILL NOT BE MEASURED FOR PAYMENT.

PLANS, ELEVATIONS, AND DETAILS SHOWN ON THESE DRAWINGS ARE INTENDED TO INDICATE WALL LOCATIONS, LENGTHS, HEIGHTS, AND DETAILS COMMON TO THE WALL SYSTEM SELECTED. THE CONTRACTOR SHALL VERIFY THAT THE WALL SYSTEM SELECTED WILL CONFORM TO THE REQUIRED ALIGNMENTS AND DETAILS.

THE MAXIMUM VALUE OF THE ANGLE OF INTERNAL FRICTION OF THE WALL BACKFILL MATERIAL IN THE REINFORCED ZONE SHALL BE ASSUMED TO BE 30° WITHOUT CERTIFIED TEST VALUES.

PROVIDE A SACK RUBBED FINISH IN ACCORDANCE TO STANDARD SPECIFICATION 502.3.7.5 AND AS MODIFIED HERE ON ALL EXPOSED CONCRETE SURFACES WHERE CONCRETE STAINING WILL BE APPLIED IN A FUTURE CONTRACT. THE MORTAR SHALL CONTAIN ONE OF THE FOLLOWING ACRYLIC BONDING ADMIXTURES MIXED AND APPLIED IN ACCORDANCE TO MANUFACTURER'S RECOMENDATIONS; TK-225 BY TK PRODUCTS, ACHRO 60 BY THORO PRODUCTS, OR ACHRO SET BY MASTER BUILDERS. THIS WORK IS INCIDENTAL TO THE BID ITEMS "CONCRETE MASONRY RETAINING WALLS".

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

THE LOWER LIMIT OF "WALL CONCRETE PANEL MECHANICALLY STABILIZED EARTH LRFD/OMP" IS THE UPPER LIMIT OF "EXCAVATION OF STRUCTURES RETAINING WALL R-40-626".

ALLOWABLE WALL SYSTEM

WALL CONCRETE PANEL MECHANICALLY STABILIZED EARTH LRFD/OMP

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE R-40-626

DRAWN BY NAR/DDS | PLANS CK'D. ABS

QUANTITIES, NOTES & PROFILE GRADE LINES

SHEET 2

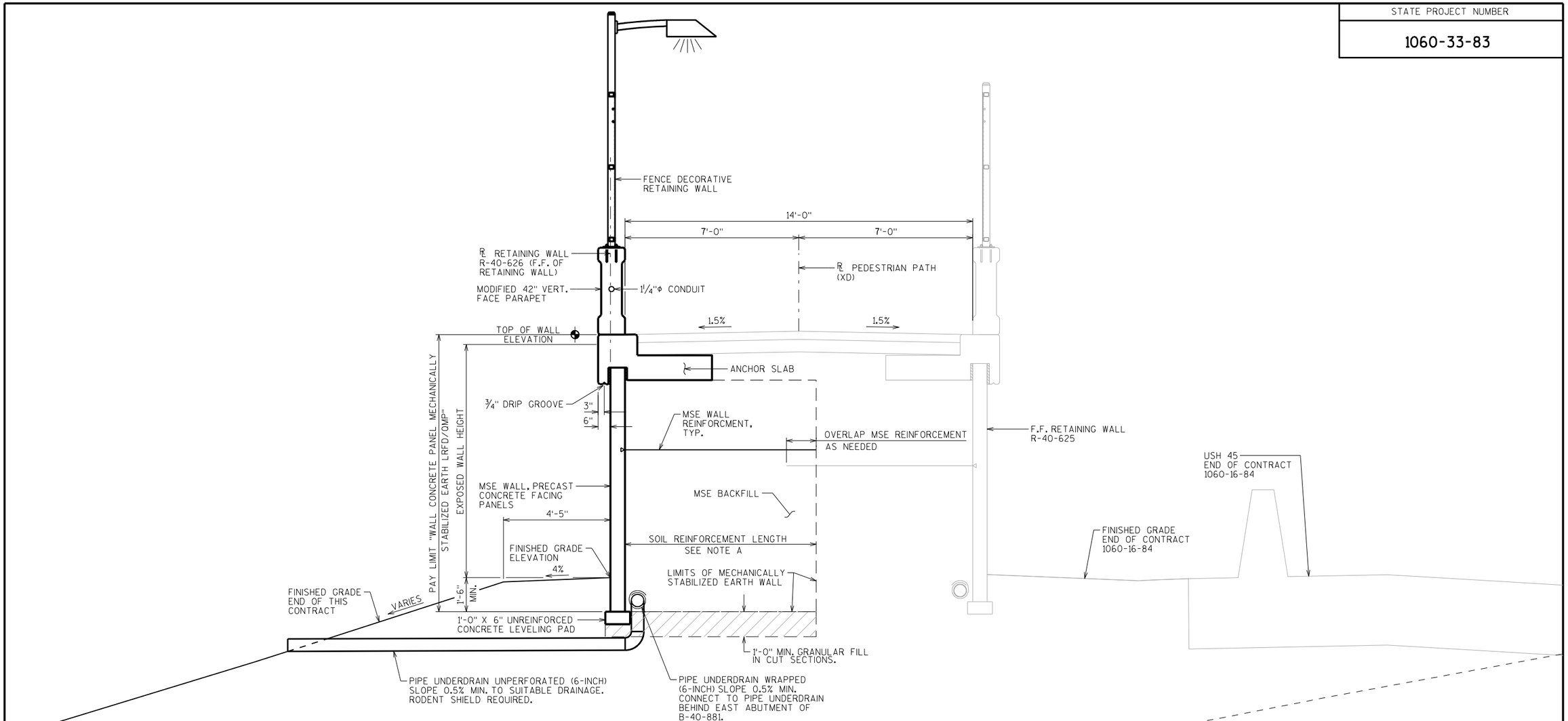
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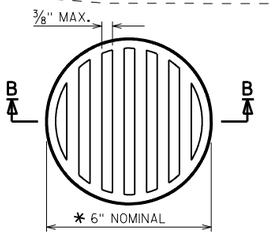
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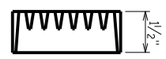
STATE PROJECT NUMBER
1060-33-83



TYPICAL SECTION THRU PEDESTRIAN PATH

(LOOKING SOUTH)





SECTION B-B

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 UNPERFORATED 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.

NOTE A:
SEE "WALL EXTERNAL STABILITY EVALUATION" TABLE ON "QUANTITIES, NOTES & PROFILE GRADE LINE" SHEET FOR MINIMUM LENGTH OF MSE WALL REINFORCING STRIPS. SOIL REINFORCEMENT MUST EXTEND A MINIMUM OF 3.0 FEET BEYOND THE FAILURE PLANE FOR INTERNAL STABILITY AS DEFINED BY AASHTO SPECIFICATIONS.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE R-40-626

DRAWN BY NAR/DDS | PLANS CK'D. ABS

TYPICAL WALL SECTIONS

SHEET 3

330

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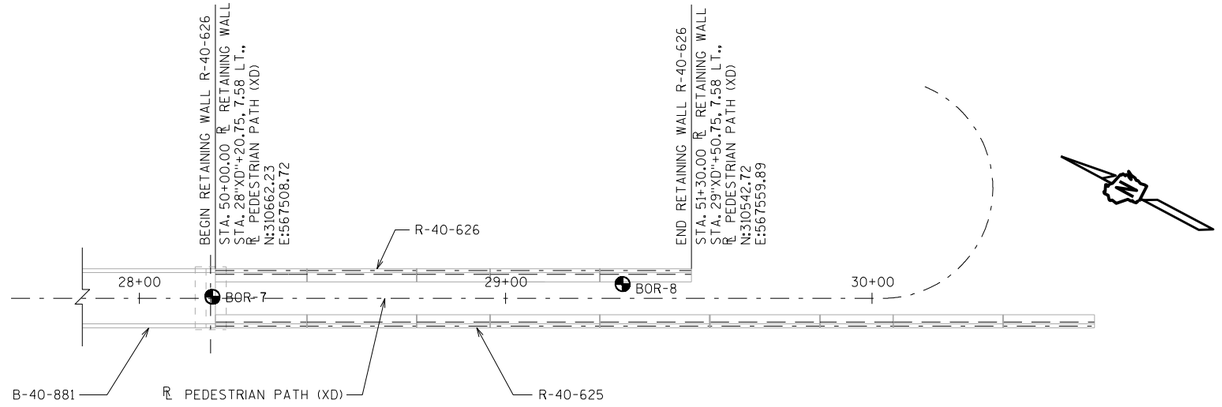
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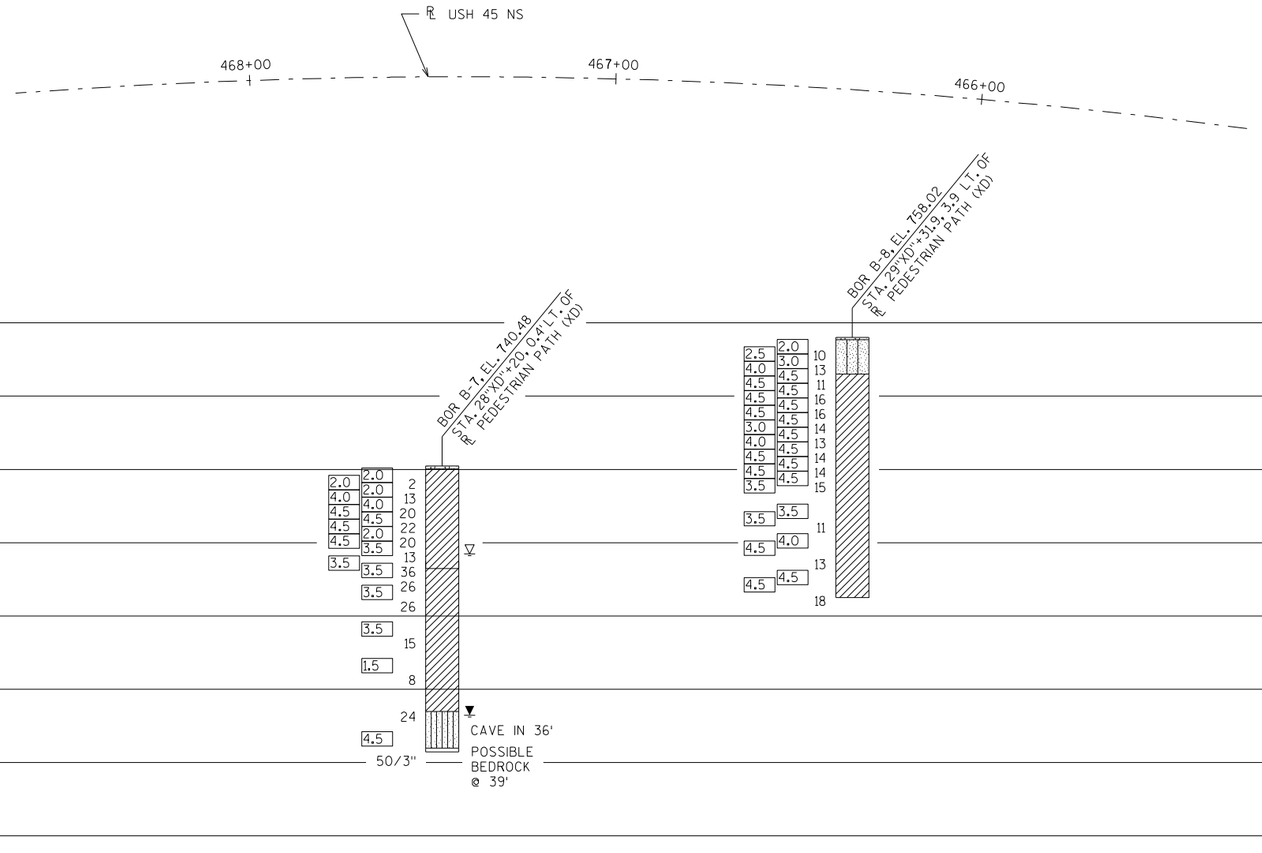
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ZOO INTERCHANGE, NORTH LEG
PEDESTRIAN PATH OVER USH 45

BORING #	DATE COMPLETED	NORTHING (Y)	EASTING (X)
7	9/30/2014	310660.74	567502.94
8	10/1/2014	310559.19	567550.2
BORINGS COMPLETED BY: GESTRA			
REPORT COMPLETED BY: WISDOT			
ALL COORDINATES REFERENCED TO WCCS NAD 83(91) MILWAUKEE COUNTY			

NOTE: ALL STATIONS AND OFFSETS ARE MEASURED TO FRONT FACE OF MSE WALL PRECAST CONCRETE FACING PANELS.





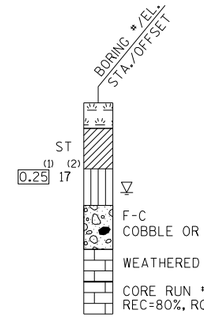
STATE PROJECT NUMBER

1060-33-83

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
STRUCTURES DESIGN SECTION

STRUCTURE R-40-626

DRAWN BY PR/DDS | PLANS CK'D. ABS

SUBSURFACE EXPLORATION

SHEET 4

331

8

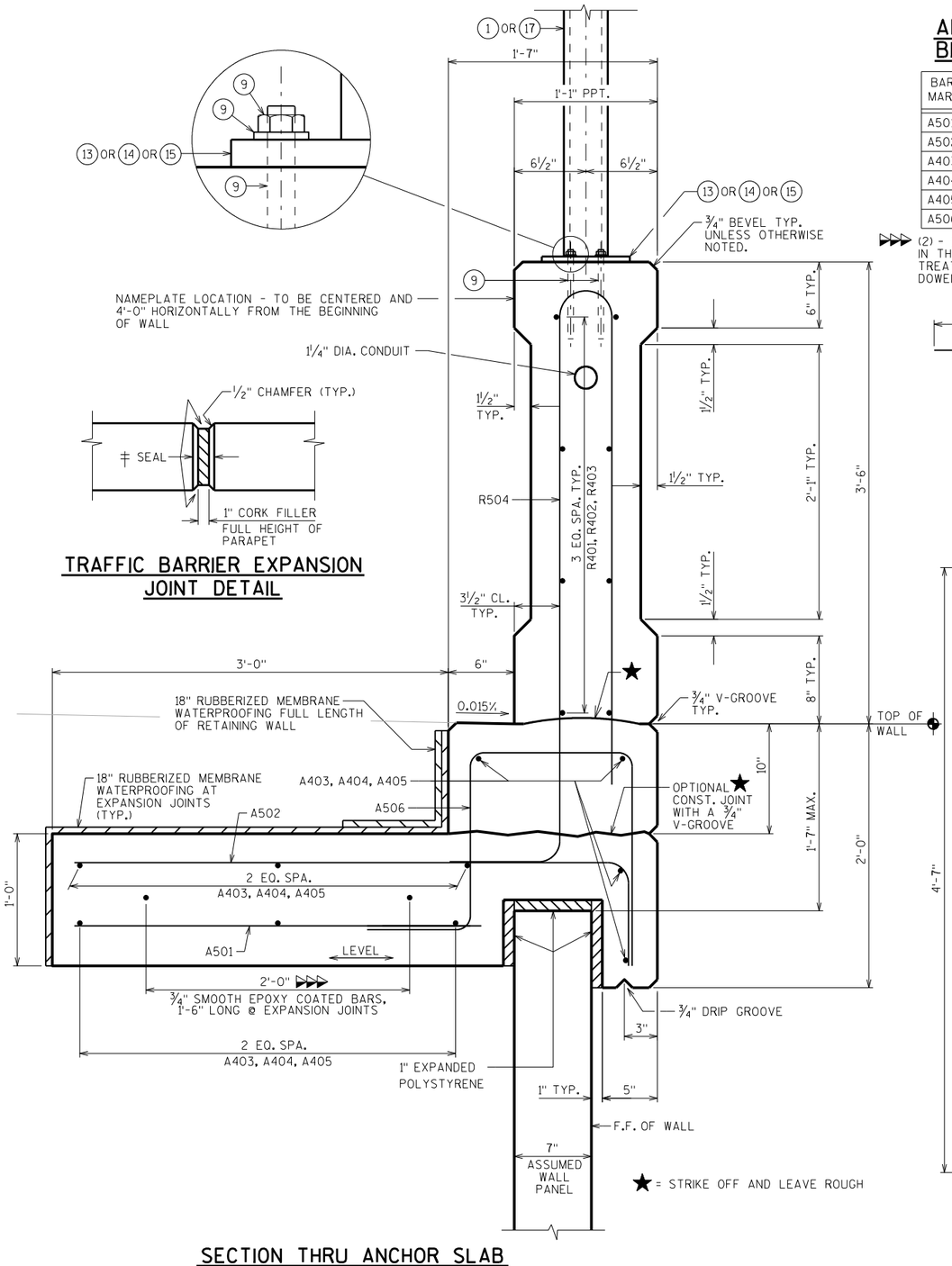
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SCALE = 20

STATE PROJECT NUMBER

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TRAFFIC BARRIER EXPANSION JOINT DETAIL



SECTION THRU ANCHOR SLAB

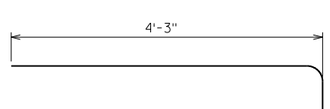
ALL BEVELED ARE ¾" UNLESS OTHERWISE NOTED.

ANCHOR SLAB BILL OF BARS

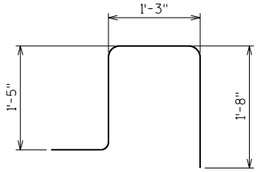
NOTE: THE FIRST OR FIRST TWO DIGITS OF THE BAR MARK SIGNIFIES THE BAR SIZE.

BAR MARK	COAT	NO. REQ'D.	LENGTH	BENT	BAR SERIES	LOCATION
A501	X	135	3'-1"			ANCHOR SLAB - HORIZ.
A502	X	135	5'-0"	X		ANCHOR SLAB - VERT.
A403	X	20	24'-8"			ANCHOR SLAB - HORIZ. - 25'-0" SEGMENTS
A404	X	20	29'-8"			ANCHOR SLAB - HORIZ. - 30'-0" SEGMENTS
A405	X	10	19'-8"			ANCHOR SLAB - HORIZ. - 20'-0" SEGMENTS
A506	X	135	4'-10"	X		ANCHOR SLAB - VERT.

▶▶▶ (2) - ¾" DIAMETER x 1'-6" SMOOTH EPOXY COATED DOWELS PLACED AT MID-DEPTH IN THE SLAB. DOWELS SHALL BE LIGHTLY COATED WITH A BONDING SURFACE TREATMENT OVER ½ THE DOWEL LENGTH. EMBED 9" INTO ADJACENT SLABS. DOWELS INCLUDED IN THE BID ITEM "CONCRETE MASONRY RETAINING WALLS".



A502

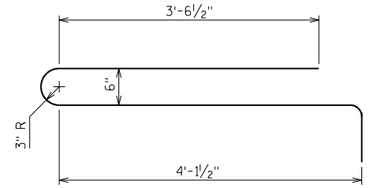


A506

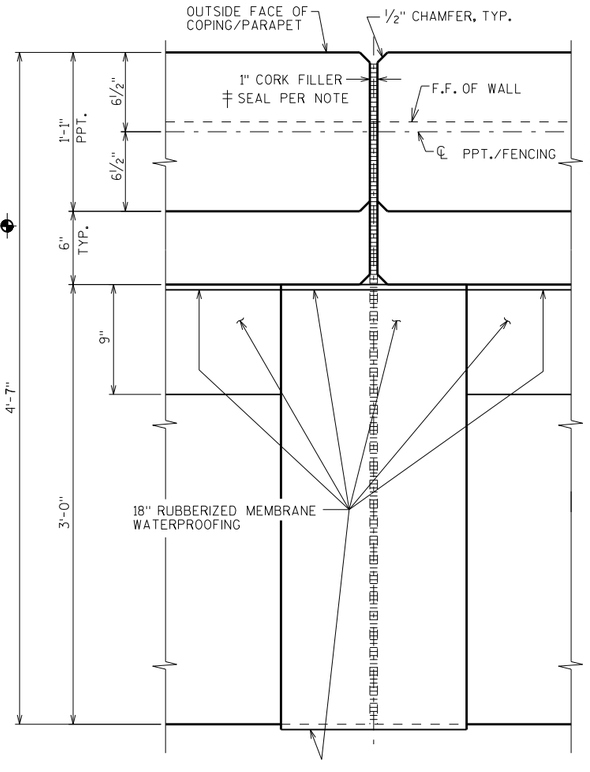
PARAPET BILL OF BARS

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

BAR MARK	COAT	NO. REQ'D.	LENGTH	BENT	BAR SERIES	LOCATION
R401	X	16	24'-8"			PARAPET - HORIZ. - 25'-0" SEGMENTS
R402	X	16	29'-8"			PARAPET - HORIZ. - 30'-0" SEGMENTS
R403	X	8	19'-8"			PARAPET - HORIZ. - 20'-0" SEGMENTS
R504	X	135	9'-2"	X		PARAPET - VERT.



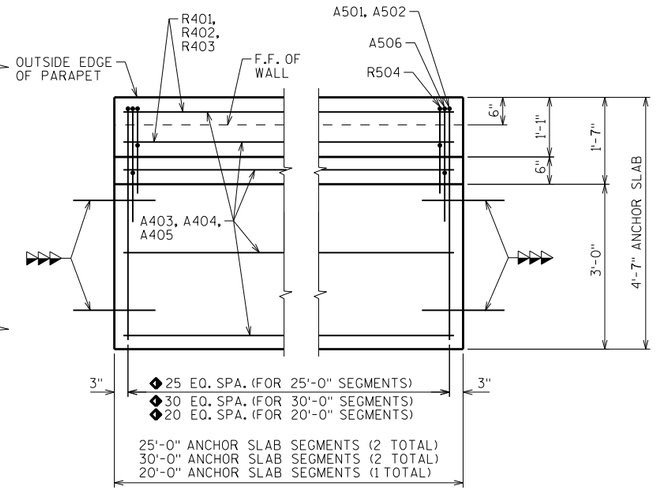
R504



PLAN - ANCHOR SLAB EXPANSION JOINT

DO NOT RUN BAR STEEL THRU JOINT.

‡ SEAL ALL EXPOSED HORIZ. & VERT. SURFACES OF FILLER WITH NON-STAINING GRAY NON-BITUMINOUS JOINT SEALER. (1" DEEP AND HOLD ⅛" BELOW SURFACE OF CONC.)



PLAN

◆ = A501, A502, A506, R504

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE R-40-626

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ANCHOR SLAB REINFORCEMENT

SHEET 5

332

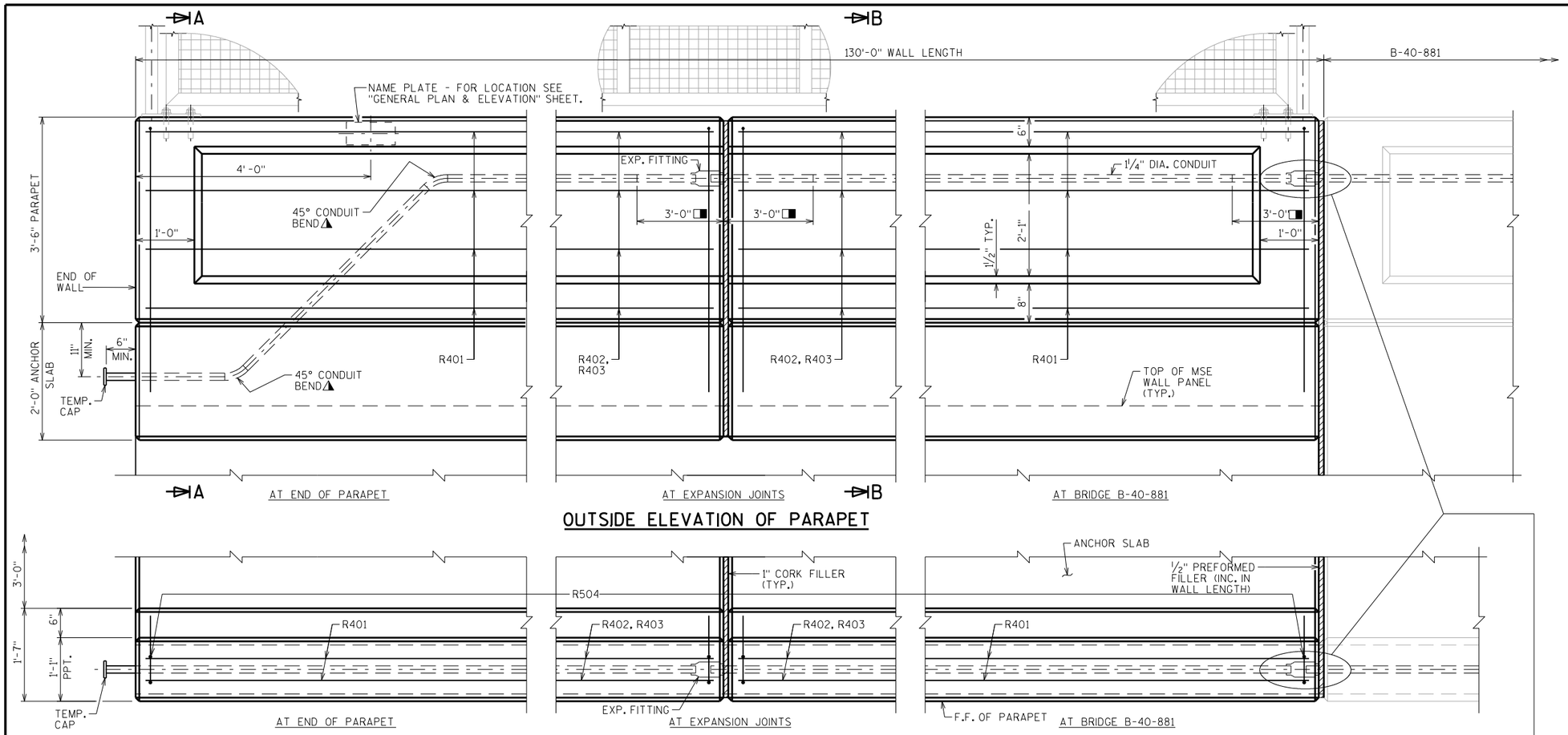
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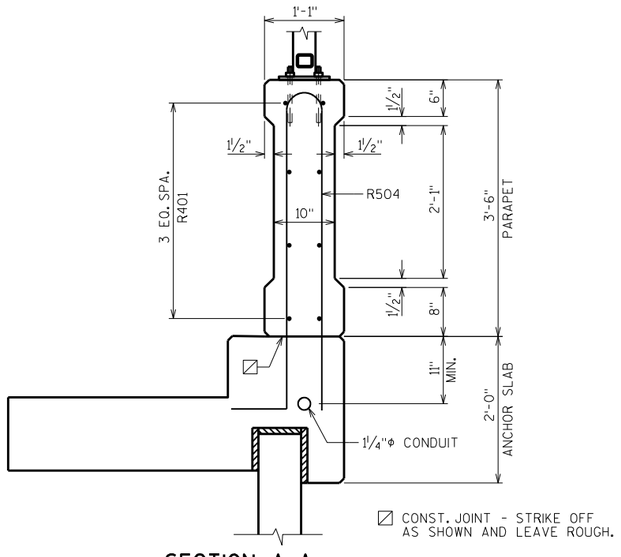
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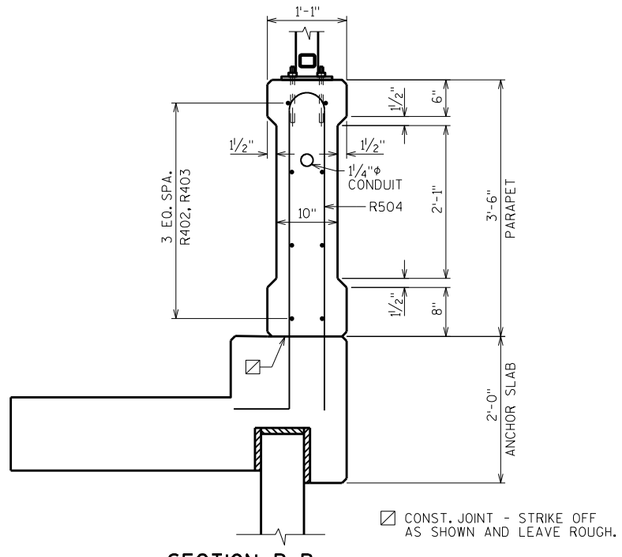
STATE PROJECT NUMBER

1060-33-83

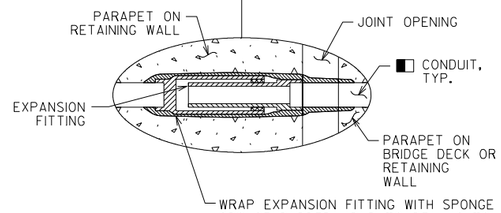




SECTION A-A



SECTION B-B



NOTES

BID ITEMS SHALL BE:
"CONDUIT RIGID NONMETALLIC SCHEDULE 40 1¼-INCH"
"CONDUIT RIGID METALLIC 1¼-INCH".

EXPANSION FITTINGS, ANGLES, AND ADAPTER FITTINGS TO BE INCIDENTAL TO "CONDUIT RIGID METALLIC 1¼-INCH".

WHEN CONNECTING NONMETALLIC CONDUIT TO METALLIC CONDUIT, ONLY ADAPTER FITTINGS U.L. OR NRTL LISTED FOR ELECTRICAL USE SHALL BE USED.

APPROVED MANUFACTURER OR EQUIVALENT - EXPANSION FITTINGS: O-Z/GEDNEY TYPE AX-125 AND BONDING JUMPER (4" TOTAL CONDUIT MOVEMENT).

● POSITION MOVABLE END OF CONDUIT INSIDE EXPANSION FITTING, SUCH THAT IT WILL HAVE THE SAME ALLOWANCE FOR MOVEMENT (EXPANSION/CONTRACTION) AS THE EXPANSION DEVICE SET AT THE LOCATION. TAKE CARE TO INSTALL EXPANSION FITTINGS AND CONDUIT EXACTLY PARALLEL TO MOVEMENT.

◨ USE 1¼-INCH Φ RIGID NONMETALLIC CONDUIT EXCEPT AT EXPANSION LOCATIONS. USE RIGID CONDUIT 3'-0" ON EITHER SIDE AT EXPANSION LOCATIONS.

⚠ FOR CONDUIT BENDS, USE MINIMUM BENDING RADIUS PER WISCONSIN ELECTRIC CODE.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE R-40-626

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MODIFIED VERTICAL FACE PARAPET "A"

SHEET 6

333

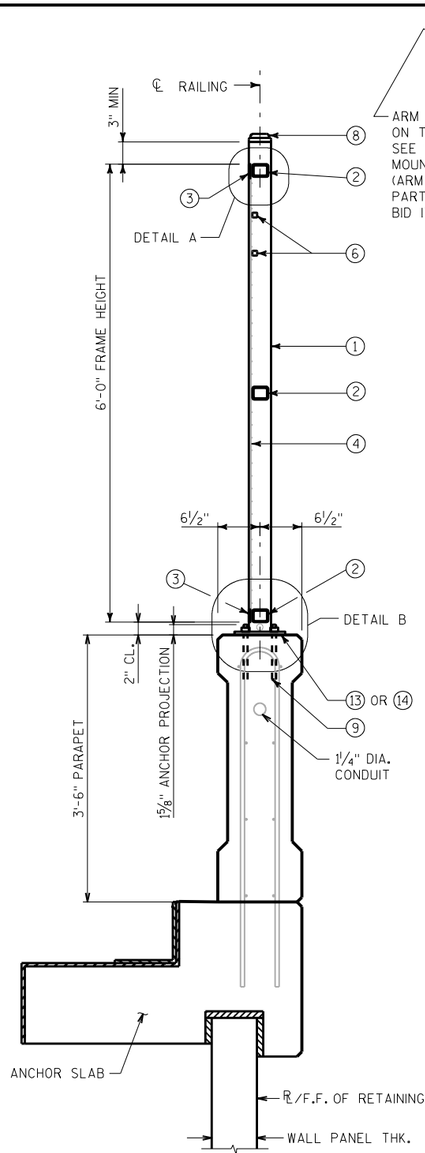
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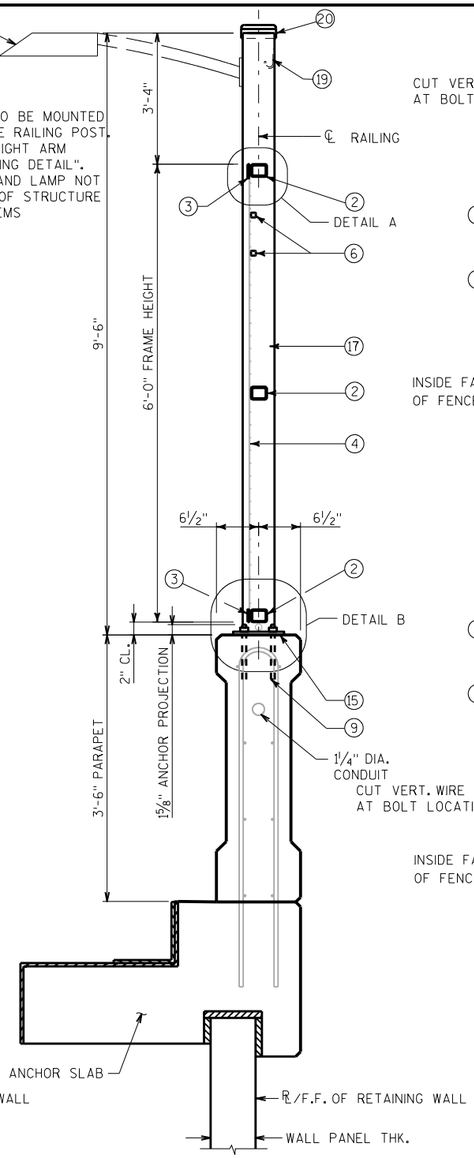
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STATE PROJECT NUMBER

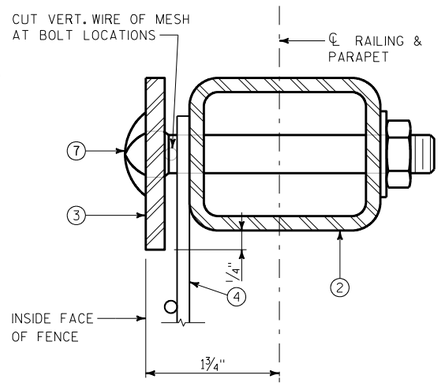
1060-33-83



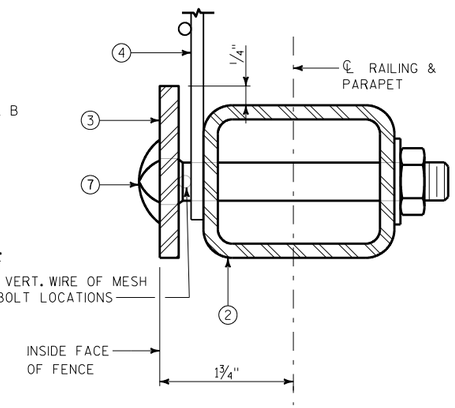
TYPICAL RAILING POST



TYPICAL RAILING POST WITH ARM AND LAMP



DETAIL A



DETAIL B

LEGEND

1. HSS 3½ X 3½ X 3/16 POST WITH ¼" DIA. VENT HOLES TOP & BOTTOM ON OUTSIDE FACE. RESIZE AS NECESSARY FOR GALVANIZING PROCESS. WELD TO NO. 8 & BASE PLATE, TYP.
2. HSS 2½ X 2½ X 3/16. WELD TO NO. 2 & NO. 6.
3. PL 2¾" X ¼" WELDED FRAME. WELD TO NO. 4. BOLT TO NO. 2 WITH NO. 7 AFTER PAINTING.
4. STEEL MESH 2" X 2" X 0.162 (8 GA.). PLACE VERTICAL WIRES ON INSIDE FACE OF PARAPET. WELD TO NO. 3.
5. NOT USED
6. ¾" × ¾" BAR. WELD TO NO. 2 & NO. 6.
7. ½" DIA. CARRIAGE BOLT, WASHER AND NUT. PROVIDE ⅝" X ⅝" SQUARE HOLE IN NO. 3 FOR SQUARE PORTION OF THE BOLT HEAD.
8. 3½" X 3½" SQUARE CAP. WELD TO NO. 1.
9. ⅝" DIA. CONCRETE MASONRY ANCHOR TYPE S EPOXY, 7" MINIMUM EMBEDMENT.
10. PL 5/16" X 4½" X 6" CONNECTION WITH 2" DIA. HOLES FOR NO. 7. USE NO. 12 TO COVER 2" DIA. ADJUSTMENT HOLES.
11. PL ⅜" X 2" X 4½".
12. PL WASHER ¼" X 3½" X 3½".
13. PL ½" X 8" X 10" BASE PLATE. WELD TO NO. 1.
14. PL ½" X 8" X 1'-0" BASE PLATE. WELD TO NO. 1.
15. PL ½" X 8" X 1'-0" BASE PLATE. WELD TO NO. 17.
16. ½" DIA. BOLT, WASHER & NUT. TACK WELD NUT TO NO. 2.
17. HSS 5" X 5" X 3/16 POST WITH ¼" DIA. VENT HOLES TOP & BOTTOM ON OUTSIDE FACE. RESIZE AS NECESSARY FOR GALVANIZING PROCESS. ATTACH WITH SCREWS TO NO. 20 & WELD TO BASE PLATE, TYP.
18. NOT USED
19. J-HOOK. WELD TO NO. 17.
20. REMOVABLE SQUARE CAP. ATTACH WITH SCREWS TO NO. 17.

NOTES

THE BID ITEM SHALL BE "FENCE DECORATIVE RETAINING WALL R-40-626" WHICH SHALL INCLUDE ALL ITEMS SHOWN.

FOR ELEVATIONS OF SPECIAL FENCE PANELS, SEE SHEET 7.

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

STRUCTURAL TUBING SHALL BE A.S.T.M. A500, GRADE B. ROLLED SHAPES, PLATES, BARS AND SHIMS SHALL BE A.S.T.M. A709, GRADE 36.

CAULK AROUND PERIMETER OF BASE PLATES AND FILL PORTION OF HOLES AROUND ANCHOR BOLTS WITH NON-STAINING GRAY NON-BITUMINOUS JOINT SEALER.

CUT BOTTOM OF POST TO MAKE POST VERTICAL.

ANCHOR BOLTS, NUTS AND WASHERS SHALL BE EITHER STAINLESS STEEL OR A.S.T.M. A307. IF A307 IS USED ANCHOR BOLTS, NUTS AND WASHERS SHALL BE GALVANIZED.

STANDARD WASHERS SHALL BE USED TO SHIM BASE PLATES IF REQUIRED. ALL WASHERS SHALL BE GALVANIZED.

THE STEEL MESH SHALL BE TACK WELDED TO THE 2¾" X ¼" WELDED FRAME. THE MESH SHALL BE STRETCHED TO REMOVE SLACK.

VENT HOLES SHALL BE DRILLED IN MEMBERS AS REQUIRED TO FACILITATE GALVANIZING AND DRAINAGE.

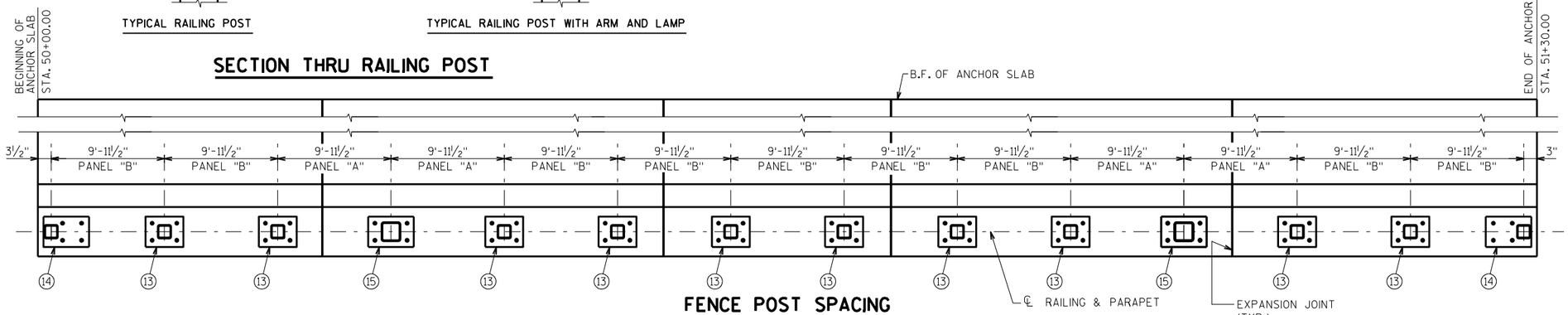
AFTER FABRICATION AND PRIOR TO BOLTING AND ASSEMBLING FENCE COMPONENTS, STEEL SHALL BE BLAST CLEANED PER SSPC-SP 6 AND GALVANIZED ACCORDING TO ASTM A 123. REPAIR ZINC COATING DAMAGED DURING FENCE ASSEMBLAGE AS SPECIFIED IN 513.3.3(3).

ALL WELDS SHALL BE PREQUALIFIED ACCORDING TO THE STRUCTURAL WELDING CODE STEEL (AWS D1.1). THE MINIMUM SIZE OF FILLET WELDS IS 3/16".

PRIOR TO FINAL ASSEMBLY OF THE FENCE PANELS, PAINT THE GALVANIZED FENCE COMPONENTS WITH A TWO COAT SYSTEM SPECIFICALLY INTENDED FOR PAINTING OF GALVANIZED SURFACES PER THE SPECIAL PROVISIONS. THE FINISH COLOR SHALL BE FEDERAL COLOR NO. 27038 BLACK.

COVER THE 2" X 2" STEEL MESH WITH A COLORED POLYMER COATING. COAT ALL OTHER FENCING COMPONENTS WITH AN EPOXY PAINT SYSTEM. TOUGH UP DAMAGED PORTIONS OF PAINT AFTER PANEL ERECTION. SEE SPECIAL PROVISIONS FOR REQUIREMENTS.

SECTION THRU RAILING POST



FENCE POST SPACING

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE R-40-626

DRAWN BY ABS/DDS | PLANS CK'D. ABS

RAILING DETAILS 1

SHEET 7

334

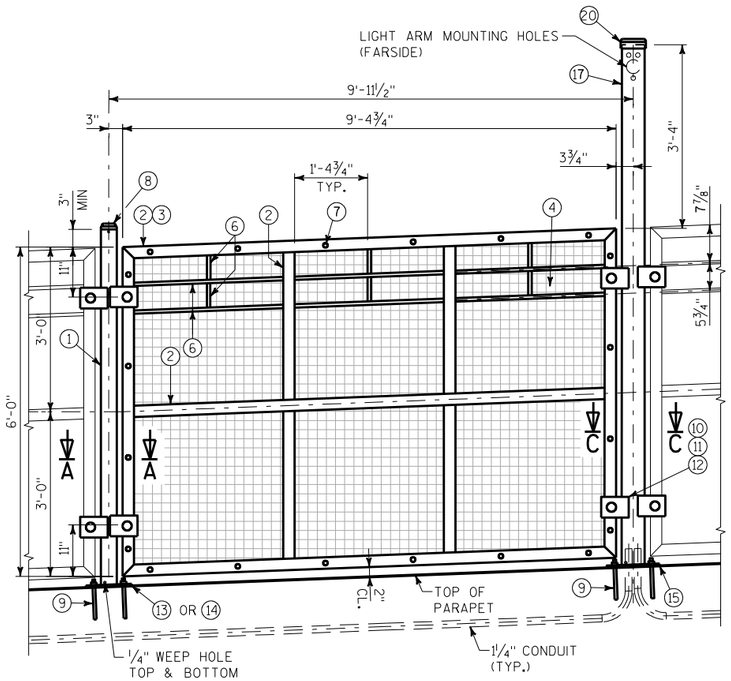
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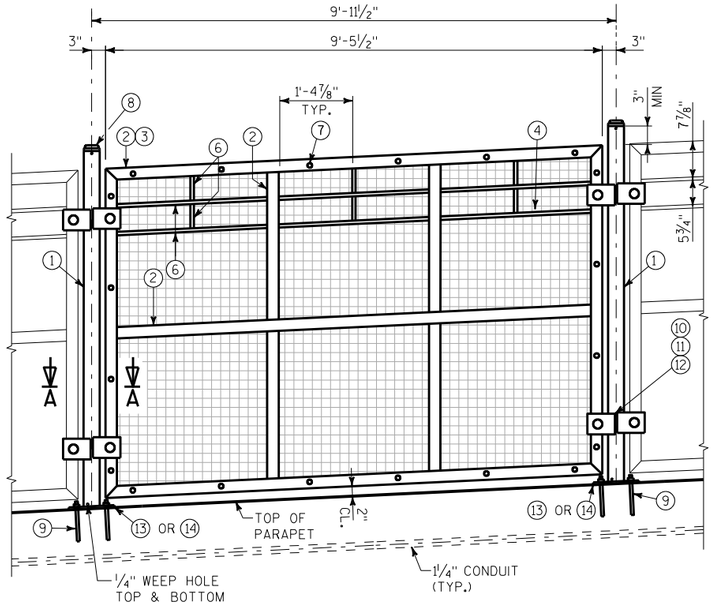
STATE PROJECT NUMBER

1060-33-83



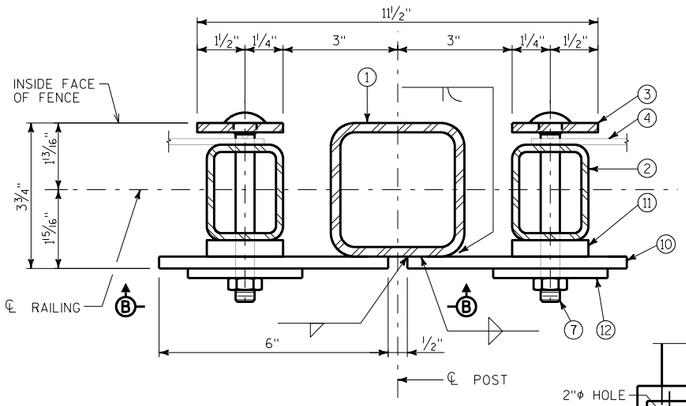
OUTSIDE ELEVATION OF PANEL TYPE "A"

4 REQUIRED

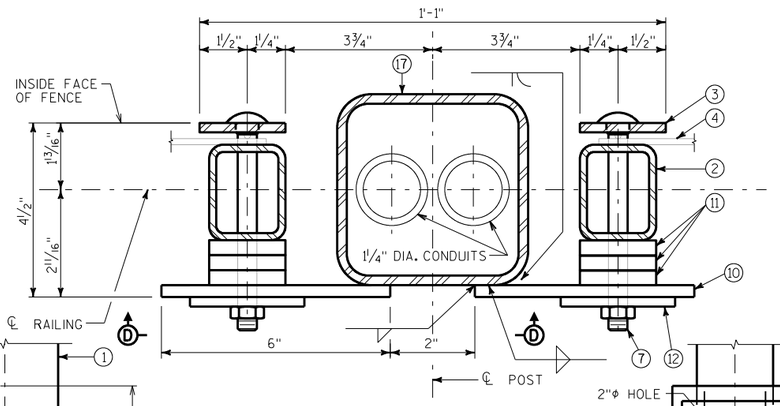


OUTSIDE ELEVATION OF PANEL TYPE "B"

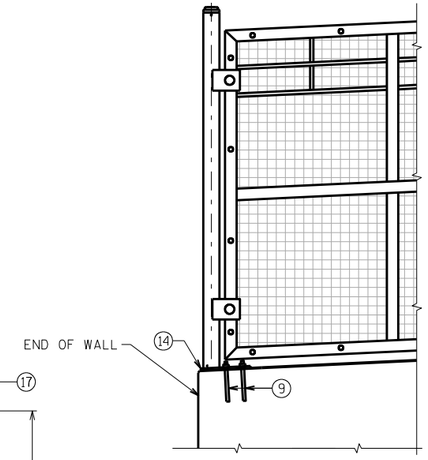
9 REQUIRED



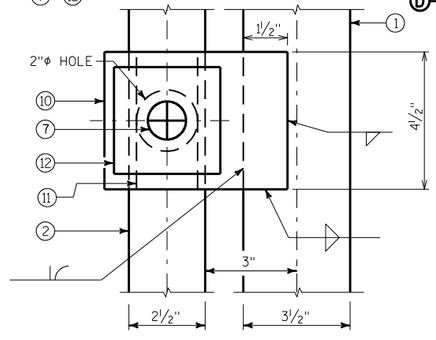
SECTION A-A



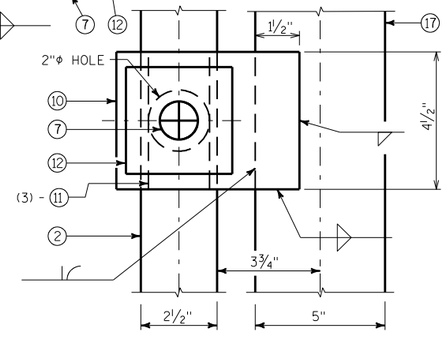
SECTION C-C



END POST DETAILS FOR PANEL



ELEVATION B-B



ELEVATION D-D

NOTES

FOR NOTES AND LEGEND, SEE "RAILING DETAILS 1" SHEET.

TYPICAL MEMBER SIZES, WELDING AND BOLTING DETAILS, AND MATERIALS ARE SHOWN IN "OUTSIDE ELEVATION OF PANEL TYPE "A"" & "OUTSIDE ELEVATION OF PANEL "B"" DETAILS ON "RAILING DETAILS 2" SHEET.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE R-40-626

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RAILING DETAILS 2

SHEET 8

335

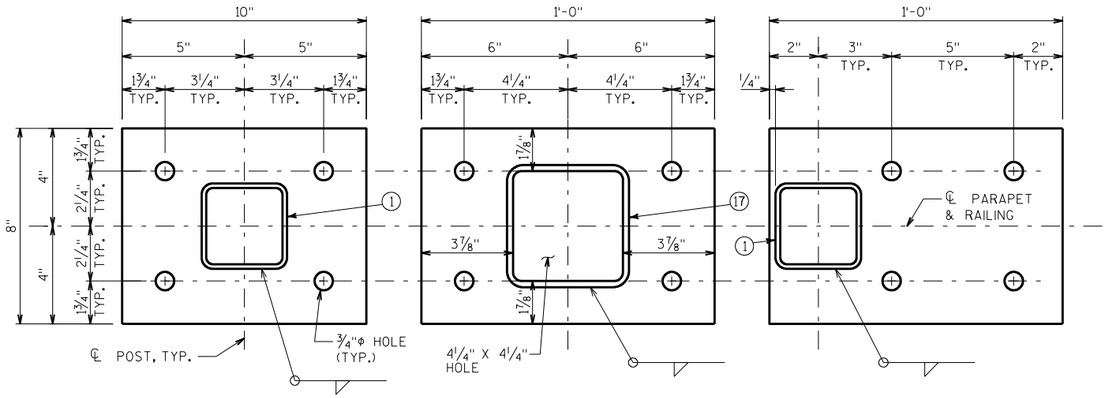
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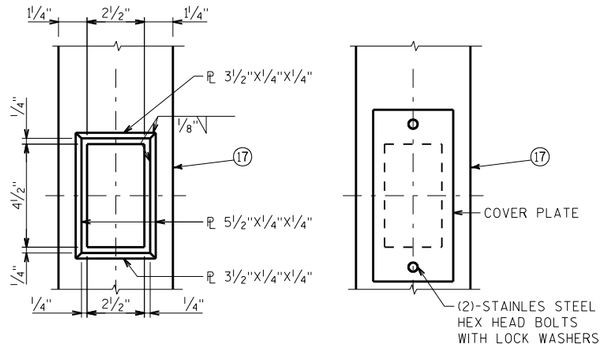
STATE PROJECT NUMBER

1060-33-83



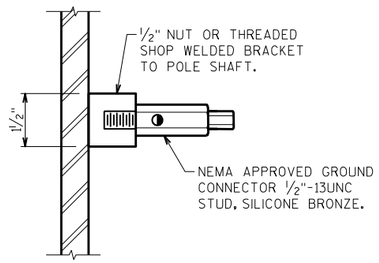
BASE PLATE **LIGHT POST BASE PLATE** **END BASE PLATE**

BASE PLATE DETAILS



REINFORCEMENT

COVER PLATE

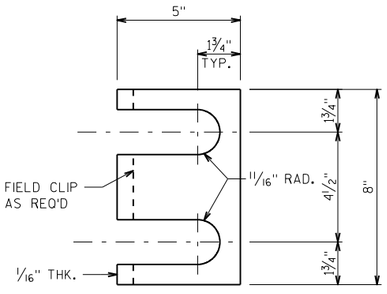


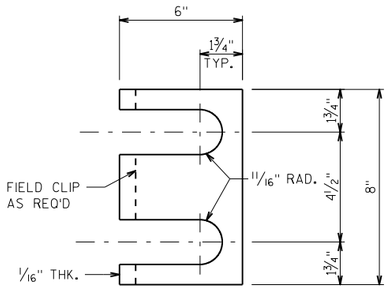
GROUNDING DETAIL

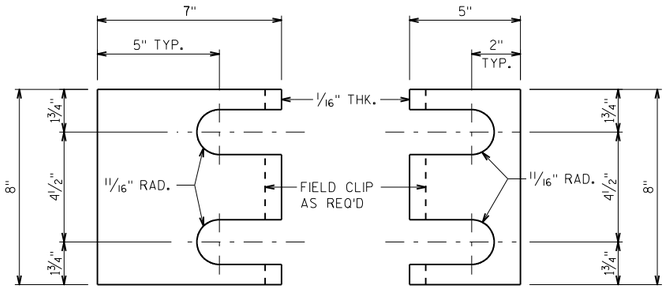
PLACE OPPOSITE THE MIDDLE OF POST HAND HOLE AT ALL LIGHT POSTS AND GROUNDED FENCE POSTS.

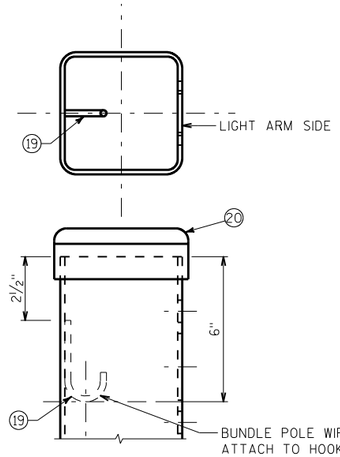
HAND HOLE DETAILS

2½" X 4½" REINFORCED HANDHOLE AND COVER ASSEMBLY SECURED BY (2)-STAINLESS STEEL HEX HEAD BOLTS AT ALL LIGHT POSTS AND GROUNDED FENCE POSTS.



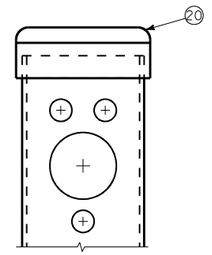






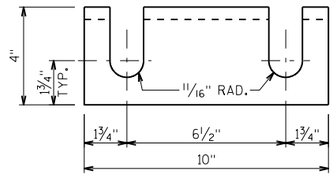
"J" HOOK DETAILS

THE "J" HOOK SHALL BE MOUNTED DIRECTLY OPPOSITE THE LIGHT ARM HOLE AS SHOWN.

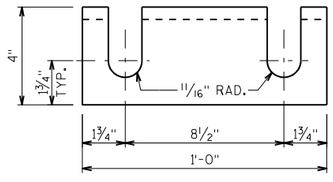


LIGHT ARM MOUNTING DETAIL

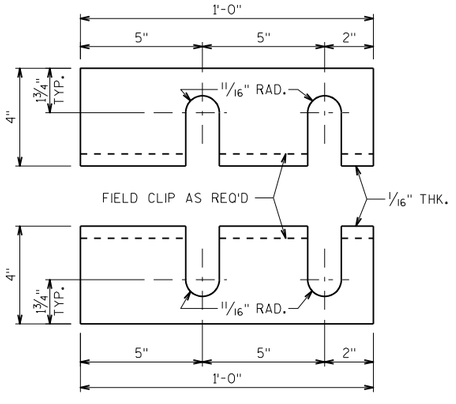
LIGHT ARM MOUNTING TO BE DESIGNED BY CONTRACTOR AND APPROVED BY THE ENGINEER. THE MINIMUM ALLOWABLE DISTANCE FROM THE LUMINAIRE TO THE DECK IS 12'-0".



BASE PLATE SHIM DETAILS



BASE PLATE SHIM DETAILS



END BASE PLATE SHIM DETAILS

NOTES

FOR NOTES AND LEGEND, SEE "RAILING DETAILS 1" SHEET.

TYPICAL MEMBER SIZES, WELDING AND BOLTING DETAILS, AND MATERIALS ARE SHOWN IN "OUTSIDE ELEVATION OF PANEL TYPE "A"" & "OUTSIDE ELEVATION OF PANEL TYPE "B"" DETAILS ON "RAILING DETAILS 2" SHEET.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE R-40-626

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RAILING DETAILS 3

SHEET 9

336

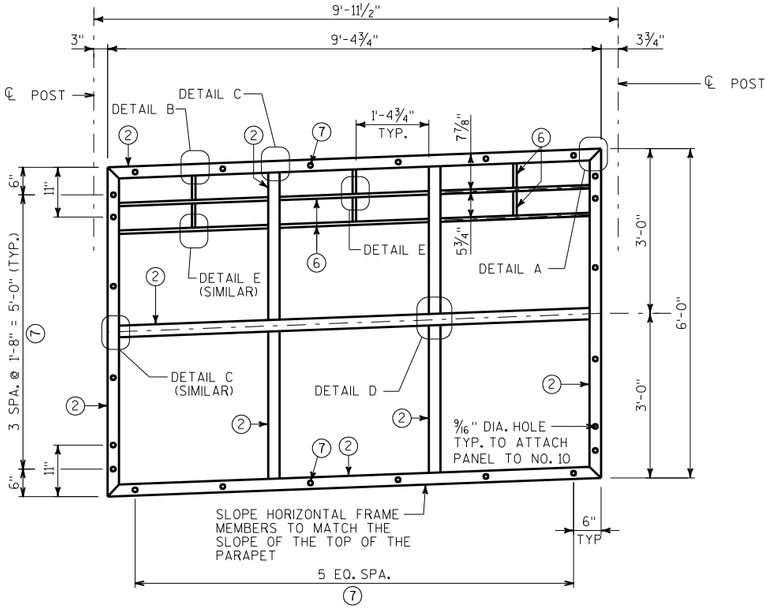
SCALE = 1.333

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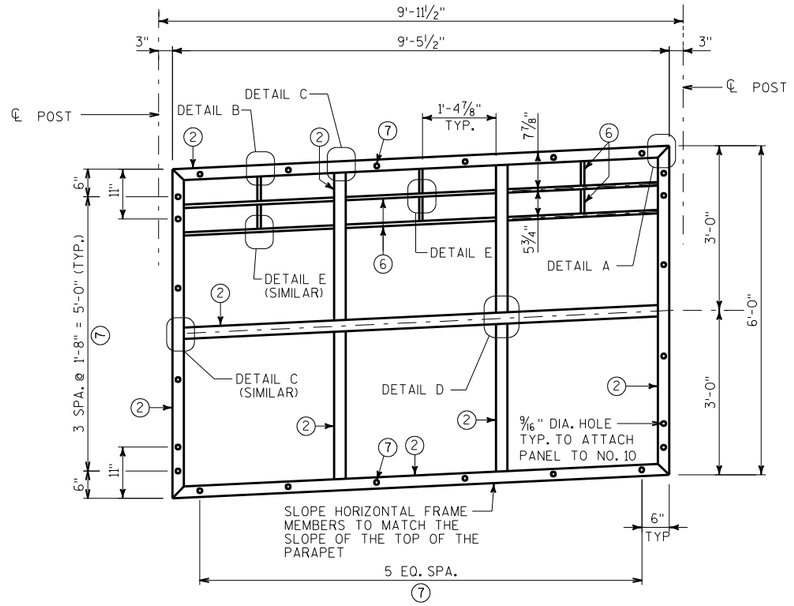
STATE PROJECT NUMBER

1060-33-83



OUTSIDE ELEVATION OF PANEL TYPE "A"

FENCING FABRIC NOT SHOWN FOR CLARITY



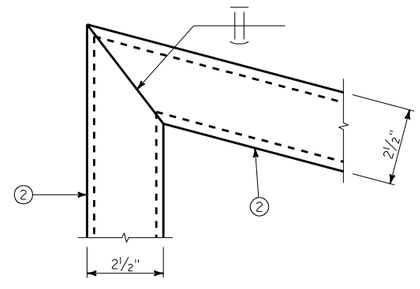
OUTSIDE ELEVATION OF PANEL TYPE "B"

FENCING FABRIC NOT SHOWN FOR CLARITY

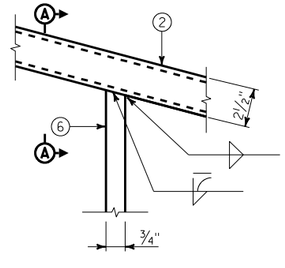
NOTES

FOR NOTES AND LEGEND, SEE "RAILING DETAILS 1" SHEET.

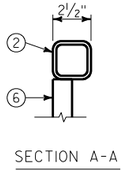
TYPICAL MEMBER SIZES, WELDING AND BOLTING DETAILS, AND MATERIALS ARE SHOWN IN "OUTSIDE ELEVATION OF PANEL TYPE "A"" & "OUTSIDE ELEVATION OF PANEL TYPE "B"" DETAILS ON "RAILING DETAILS 2" SHEET.



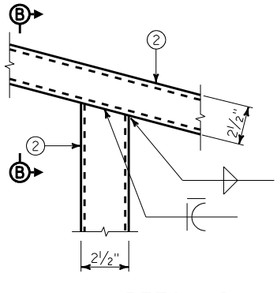
DETAIL A



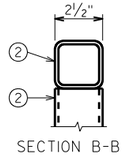
DETAIL B



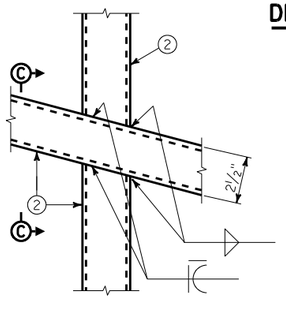
SECTION A-A



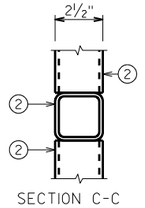
DETAIL C



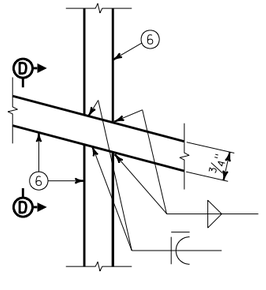
SECTION B-B



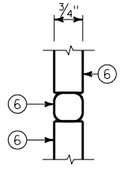
DETAIL D



SECTION C-C



DETAIL E



SECTION D-D

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE R-40-626

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RAILING DETAILS 4

SHEET 10

337

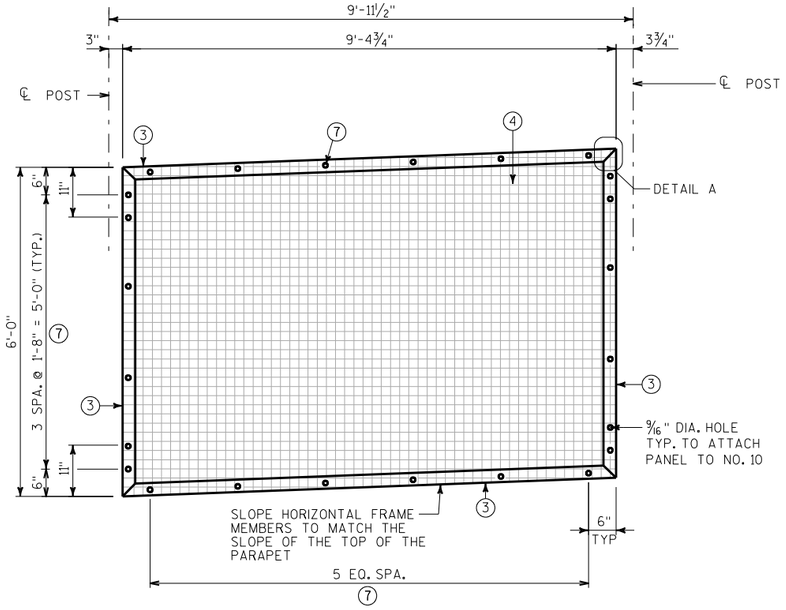
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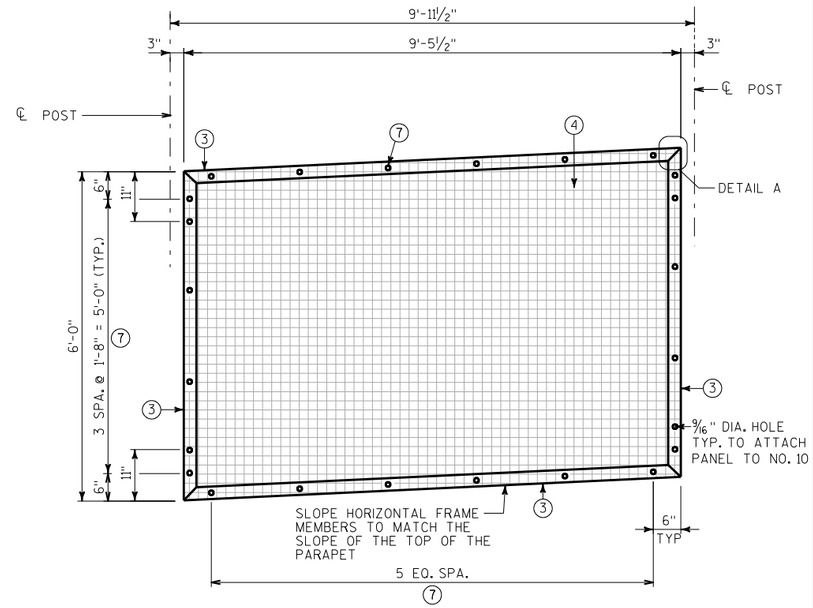
STATE PROJECT NUMBER

1060-33-83



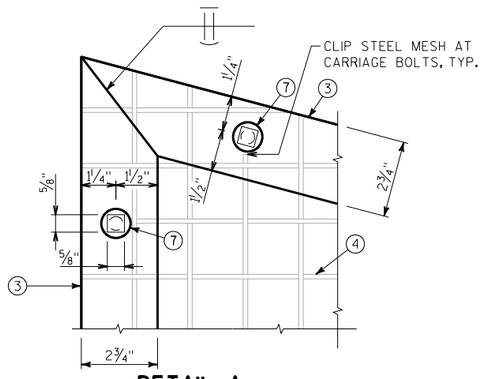
OUTSIDE ELEVATION OF PANEL TYPE "A"

ALL DIMENSIONS MEASURE ALONG ℄ OF RAILS
(4 REQUIRED)



OUTSIDE ELEVATION OF PANEL TYPE "B"

ALL DIMENSIONS MEASURE ALONG ℄ OF RAILS
(9 REQUIRED)



DETAIL A

NOTE: STEEL MESH TO BE TACK WELDED TOWARDS ℄ OF FENCE

NOTES

FOR NOTES AND LEGEND, SEE "RAILING DETAILS 1" SHEET.

TYPICAL MEMBER SIZES, WELDING AND BOLTING DETAILS, AND MATERIALS ARE SHOWN IN "OUTSIDE ELEVATION OF PANEL TYPE "A"" & "OUTSIDE ELEVATION OF PANEL TYPE "B"" DETAILS ON "RAILING DETAILS 2" SHEET.

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NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE R-40-626

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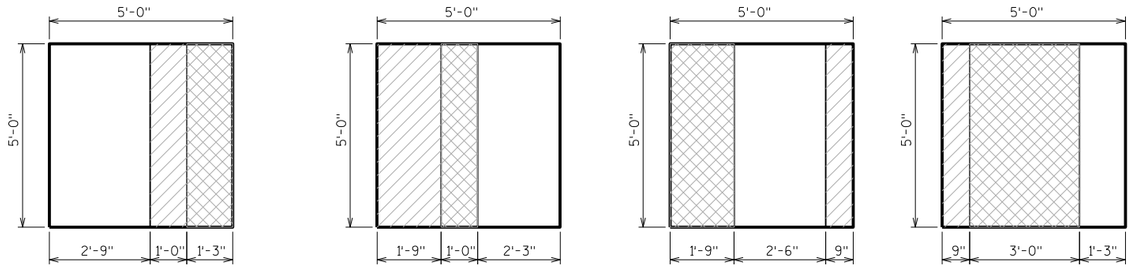
RAILING DETAILS 5

SHEET 11

338

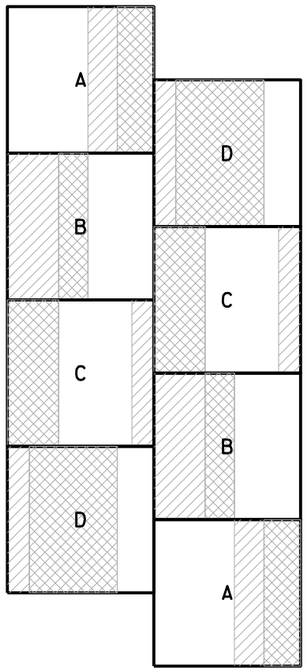
SCALE = 1.333

STATE PROJECT NUMBER
1060-33-83



WALL PANEL "A" WALL PANEL "B" WALL PANEL "C" WALL PANEL "D"

5'-0" X 5'-0" MSE CONCRETE PANEL RAISED SURFACE DETAILS

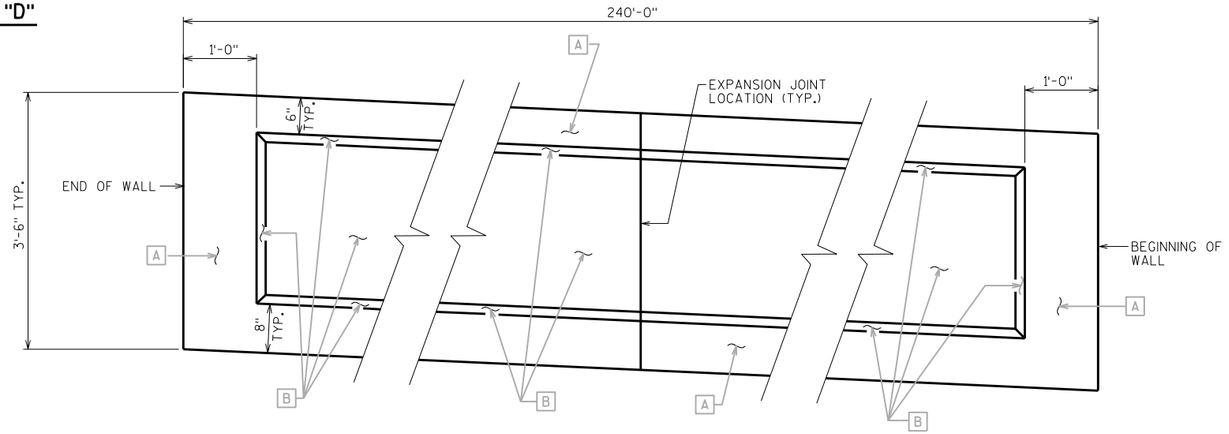


LEGEND

- PANEL THICKNESS + 0"
- PANEL THICKNESS + 1"
- PANEL THICKNESS + 2"

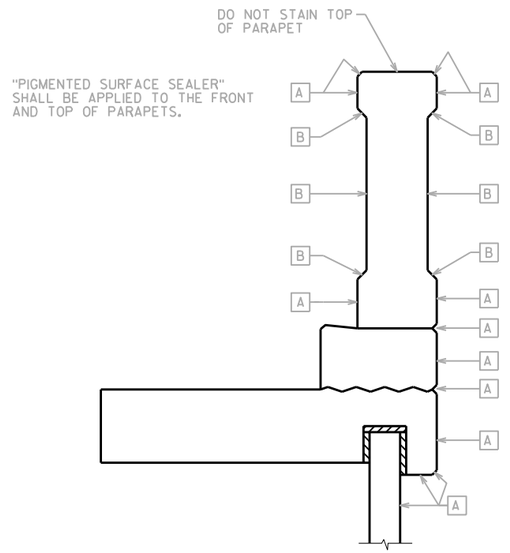
TYPICAL 5'-0" X 5'-0" MSE CONCRETE PANEL PATTERN

CONCRETE STAINING IS **NOT** INCLUDED IN THIS CONTRACT. CONCRETE STAINING WILL BE DONE BY OTHERS UNDER A FUTURE CONTRACT.



PARAPET ELEVATION DETAIL

(TYP. - BOTH FACES)



STAINING DETAILS

CONCRETE STAINING IS **NOT** INCLUDED IN THIS CONTRACT. CONCRETE STAINING WILL BE DONE BY OTHERS UNDER A FUTURE CONTRACT.

CONCRETE STAINING SCHEDULE

MARK	COLOR	LOCATION	NOTES
A	BASE COLOR	PARAPETS	BOTH SIDES, EXCEPT AS NOTED FOR ACCENT COLORS
		COPING	ALL EXPOSED EXTERIOR SURFACES
		WALL PANELS	FRONT FACE FROM TOP OF WALL PANEL TO 1'-0" BELOW FINISHED GRADE LINE.
B	ACCENT COLOR #1	PARAPETS	REVEALS ON PARAPETS

THE FINAL COLOR OF THE CONCRETE FOLLOWING APPLICATION OF THE STAIN SYSTEM SHALL MATCH THE SHERWIN-WILLIAMS STANDARD COLOR SYSTEM LISTED.

BASE COLOR : WHOLE WHEAT - SW 6121, FN 122
ACCENT COLOR #1: BAGUETTE - SW 6123, FN 124

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE R-40-626

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AESTHETIC DETAILS

SHEET 12

339

SCALE = 1.0

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DIVISION 1 - NB GRADING - USH 45

STATION	Real Station	Distance	AREA (SF) Cut	AREA (SF) Salvaged/Unusable Pavement Material	AREA (SF) Fill	Incremental Vol (CY) (Unadjusted) Cut Note 1	Incremental Vol (CY) (Unadjusted) Salvaged/Unusable Pavement Material Note 2	Incremental Vol (CY) (Unadjusted) Fill Note 3	Cumulative Vol (CY) Cut 1.00 Note 1	Cumulative Vol (CY) Expanded Fill 1.20	Mass Ordinate Note 4
463+00	46300.00	0.00	0.00	0.00	0.00	0	0	0	0	0	0.00
463+50	46350.00	50.00	2.07	0.00	0.00	2	0	0	2	0	1.91
464+00	46400.00	50.00	1.68	0.00	1.14	3	0	1	5	1	4.12
464+50	46450.00	50.00	11.18	0.00	76.73	12	0	72	17	88	-70.50
465+00	46500.00	50.00	3.17	0.00	31.62	13	0	100	31	208	-177.62
465+50	46550.00	50.00	0.11	0.00	91.39	3	0	114	34	345	-311.26
466+00	46600.00	50.00	135.04	0.00	0.00	125	0	85	159	446	-287.66
466+50	46650.00	50.00	243.94	0.00	0.00	351	0	0	510	446	63.25
467+00	46700.00	50.00	3.38	0.00	70.86	229	0	66	739	525	213.51
467+50	46750.00	50.00	4.23	0.00	239.81	7	0	288	746	870	-124.63
468+00	46800.00	50.00	2.44	0.00	244.39	6	0	448	752	1,408	-656.46
468+50	46850.00	50.00	3.05	0.00	277.78	5	0	483	757	1,989	-1,231.57
469+00	46900.00	50.00	2.71	0.00	279.19	5	0	516	762	2,607	-1,845.10
469+50	46950.00	50.00	5.11	0.00	276.95	7	0	515	770	3,225	-2,455.80
470+00	47000.00	50.00	11.43	0.00	263.28	15	0	500	785	3,826	-3,040.74
470+50	47050.00	50.00	33.38	0.00	303.50	41	0	525	826	4,455	-3,628.99
471+00	47100.00	50.00	30.75	0.00	183.65	59	0	451	886	4,997	-4,110.89
471+50	47150.00	50.00	2.95	0.00	5.32	31	0	175	917	5,207	-4,289.65
472+00	47200.00	50.00	0.00	0.00	0.00	3	0	5	920	5,212	-4,292.83
				Column Totals:		920	0	4,344			

Notes:
1) Salvaged/Unusable Pavement Material is included in Cut.
2) Salvaged/Unusable Pavement Material
3) Unexpanded Fill Volume
4) The Mass Ordinate + or - Qty calculated for the Division. Plus quantity indicates an excess of material between stations. Minus quantity indicates a shortage of material between stations.

DIVISION 1 - NB GRADING - XD

STATION	Real Station	Distance	AREA (SF) Cut	AREA (SF) Salvaged/Unusable Pavement Material	AREA (SF) Fill	Incremental Vol (CY) (Unadjusted) Cut Note 1	Incremental Vol (CY) (Unadjusted) Salvaged/Unusable Pavement Material Note 2	Incremental Vol (CY) (Unadjusted) Fill Note 3	Cumulative Vol (CY) Cut 1.00 Note 1	Cumulative Vol (CY) Expanded Fill 1.20	Mass Ordinate Note 4
463+00	46300.00	0.00	0.00	0.00	0.00	0	0	0	0	0	0.00
463+50	46350.00	50.00	0.00	0.00	0.00	0	0	0	0	0	0.00
464+00	46400.00	50.00	0.00	0.00	0.00	0	0	0	0	0	0.00
464+50	46450.00	50.00	0.00	0.00	0.00	0	0	0	0	0	0.00
465+00	46500.00	50.00	0.00	0.00	68.35	0	0	63	0	76	-75.94
465+50	46550.00	50.00	0.00	0.00	0.00	0	0	63	0	152	-151.87
466+00	46600.00	50.00	0.00	0.00	0.00	0	0	0	0	152	-151.87
466+50	46650.00	50.00	0.00	0.00	0.00	0	0	0	0	152	-151.87
467+00	46700.00	50.00	0.00	0.00	0.00	0	0	0	0	152	-151.87
467+50	46750.00	50.00	0.09	0.00	0.81	0	0	1	0	153	-152.69
468+00	46800.00	50.00	0.00	0.00	1.75	0	0	2	0	156	-155.45
468+50	46850.00	50.00	0.00	0.00	3.19	0	0	5	0	161	-160.94
469+00	46900.00	50.00	0.57	0.00	0.04	1	0	3	1	165	-164.00
469+50	46950.00	50.00	4.98	0.00	0.00	5	0	0	6	165	-158.90
470+00	47000.00	50.00	26.46	0.00	0.00	29	0	0	35	165	-129.80
470+50	47050.00	50.00	11.09	0.00	0.00	35	0	0	70	165	-95.03
471+00	47100.00	50.00	0.00	0.00	0.00	10	0	0	80	165	-84.76
471+50	47150.00	50.00	0.00	0.00	0.00	0	0	0	80	165	-84.76
472+00	47200.00	50.00	0.00	0.00	0.00	0	0	0	80	165	-84.76
					Column Totals:	80	0	137			

Notes:
1) Salvaged/Unusable Pavement Material is included in Cut.
2) Salvaged/Unusable Pavement Material
3) Unexpanded Fill Volume
4) The Mass Ordinate + or - Qty calculated for the Division. Plus quantity indicates an excess of material between stations. Minus quantity indicates a shortage of material between stations.

Division 1 - Site Excavation A

STATION	Real Station	Distance	AREA (SF) Cut	AREA (SF) Salvaged/Unusable Pavement Material	AREA (SF) Fill	Incremental Vol (CY) (Unadjusted) Cut Note 1	Incremental Vol (CY) (Unadjusted) Salvaged/Unusable Pavement Material Note 2	Incremental Vol (CY) (Unadjusted) Fill Note 3	Cumulative Vol (CY) Cut 1.00 Note 1	Cumulative Vol (CY) Expanded Fill 1.20	Mass Ordinate Note 4
434+50	43450.00	0.00	0.00	0.00	0.00	0	0	0	0	0	0.00
435+00	43500.00	50.00	135.91	0.00	0.03	126	0	0	126	0	125.81
435+50	43550.00	50.00	2415.45	0.00	0.05	2,362	0	0	2,488	0	2,488.10
436+00	43600.00	50.00	2851.88	0.00	0.00	4,877	0	0	7,365	0	7,365.20
436+50	43650.00	50.00	2710.46	0.00	0.00	5,150	0	0	12,516	0	12,515.51
					Column Totals:	12,516	0	0			

Division 1 - XD

STATION	Real Station	Distance	AREA (SF) Cut	AREA (SF) Salvaged/Unusable Pavement Material	AREA (SF) Fill	Incremental Vol (CY) (Unadjusted) Cut Note 1	Incremental Vol (CY) (Unadjusted) Salvaged/Unusable Pavement Material Note 2	Incremental Vol (CY) (Unadjusted) Fill Note 3	Cumulative Vol (CY) Cut 1.00 Note 1	Cumulative Vol (CY) Expanded Fill 1.20	Mass Ordinate Note 4
28+20.75	2820.75	0.00	0.26	0.00	302.06	0	0	0	140	0	0.00
28+50	2850.00	29.25	4.61	0.00	320.10	3	0	337	142	404	-401.77
29+00	2900.00	50.00	41.14	0.00	165.03	42	0	449	185	943	-898.44
29+50	2950.00	50.00	399.35	0.00	0.00	408	0	153	592	1,127	-673.94
30+00	3000.00	50.00	0.00	0.00	156.23	370	0	145	962	1,300	-477.76
30+50	3050.00	50.00	0.00	0.00	285.37	0	0	409	962	1,791	-968.43
31+00	3100.00	50.00	26.27	0.00	25.64	24	0	288	987	2,137	-1,289.66
31+50	3150.00	50.00	293.58	0.00	0.00	296	0	24	1,283	2,165	-1,021.99
32+00	3200.00	50.00	44.02	0.00	0.11	313	0	0	1,595	2,165	-709.51
32+10.65	3210.65	10.65	29.59	0.00	0.01	15	0	0	1,610	2,165	-695.02
					Column Totals:	1,470	0	1,804			

Notes:
1) Salvaged/Unusable Pavement Material is included in Cut.
2) Salvaged/Unusable Pavement Material
3) Unexpanded Fill Volume
4) The Mass Ordinate + or - Qty calculated for the Division. Plus quantity indicates an excess of material between stations. Minus quantity indicates a shortage of material between stations.

Division 1 - XE

STATION	Real Station	Distance	AREA (SF) Cut	AREA (SF) Salvaged/Unusable Pavement Material	AREA (SF) Fill	Incremental Vol (CY) (Unadjusted) Cut Note 1	Incremental Vol (CY) (Unadjusted) Salvaged/Unusable Pavement Material Note 2	Incremental Vol (CY) (Unadjusted) Fill Note 3	Cumulative Vol (CY) Cut 1.00 Note 1	Cumulative Vol (CY) Expanded Fill 1.20	Mass Ordinate Note 4
99+80.16	9980.16	0.00	3.22	0.00	1.91	0	0	0	0	0	0.00
100+00	10000.00	19.84	27.50	0.00	1.23	11	0	1	11	1	9.90
100+50	10050.00	50.00	10.58	0.00	1.51	35	0	3	47	4	42.12
101+00	10100.00	50.00	5.65	0.00	3.86	15	0	5	62	10	51.18
101+50	10150.00	50.00	4.14	0.00	9.15	9	0	12	71	25	45.79
102+00	10200.00	50.00	0.07	0.00	15.84	4	0	23	75	53	21.92
102+50	10250.00	50.00	1.11	0.00	4.23	1	0	19	76	75	0.70
103+00	10300.00	50.00	8.52	0.00	2.09	9	0	6	85	82	2.60
103+50	10350.00	50.00	9.92	0.00	2.24	17	0	4	102	87	14.86
104+00	10400.00	50.00	13.91	0.00	0.76	22	0	3	124	90	33.59
104+43.49	10443.49	43.49	0.00	0.00	0.00	11	0	1	135	91	44.06
				Column Totals:		135	0	76			

Division 1 - WMS Parking Lot

STATION	Real Station	Distance	AREA (SF) Cut	AREA (SF) Salvaged/Unusable Pavement Material	AREA (SF) Fill	Incremental Vol (CY) (Unadjusted) Cut Note 1	Incremental Vol (CY) (Unadjusted) Salvaged/Unusable Pavement Material Note 2	Incremental Vol (CY) (Unadjusted) Fill Note 3	Cumulative Vol (CY) Cut 1.00 Note 1	Cumulative Vol (CY) Expanded Fill 1.20	Mass Ordinate Note 4
14+00	1400.00	0.00	152.34	0.00	0.00	0	0	0	0	0	0.00
14+50	1450.00	50.00	455.35	0.00	0.00	563	0	0	563	0	562.68
15+00	1500.00	50.00	170.79	0.00	0.00	580	0	0	1,142	0	1,142.44
15+50	1550.00	50.00	17.56	0.00	0.72	174	0	1	1,317	1	1,316.04
15+74.61	1574.61	24.61	3.63	0.00	0.00	10	0	0	1,326	1	1,325.30
				Column Totals:		1,326	0	1			

Notes:
1) Salvaged/Unusable Pavement Material is included in Cut.
2) Salvaged/Unusable Pavement Material
3) Unexpanded Fill Volume
4) The Mass Ordinate + or - Qty calculated for the Division. Plus quantity indicates an excess of material between stations. Minus quantity indicates a shortage of material between stations.

Division 1 - WMS Sidewalk

STATION	Real Station	Distance	AREA (SF) Cut	AREA (SF) Salvaged/Unusable Pavement Material	AREA (SF) Fill	Incremental Vol (CY) (Unadjusted) Cut Note 1	Incremental Vol (CY) (Unadjusted) Salvaged/Unusable Pavement Material Note 2	Incremental Vol (CY) (Unadjusted) Fill Note 3	Cumulative Vol (CY) Cut 1.00 Note 1	Cumulative Vol (CY) Expanded Fill 1.20	Mass Ordinate Note 4
23+36.5	2336.50	0.00	0.41	0.00	0.00	0	0	0	0	0	0.00
23+50	2350.00	13.50	17.76	0.00	0.00	5	0	0	5	0	4.54
23+75	2375.00	25.00	34.93	0.00	0.00	24	0	0	29	0	28.94
24+00	2400.00	25.00	35.18	0.00	0.00	32	0	0	61	0	61.40
24+25	2425.00	25.00	26.36	0.00	0.00	28	0	0	90	0	89.89
24+50	2450.00	25.00	146.78	0.00	0.00	80	0	0	170	0	170.05
24+75	2475.00	25.00	7.95	0.00	0.00	72	0	0	242	0	241.68
24+83.75	2483.75	8.75	6.74	0.00	0.00	2	0	0	244	0	244.06
					Column Totals:	244	0	0			

Notes:
1) Salvaged/Unusable Pavement Material is included in Cut.
2) Salvaged/Unusable Pavement Material
3) Unexpanded Fill Volume
4) The Mass Ordinate + or - Qty calculated for the Division. Plus quantity indicates an excess of material between stations. Minus quantity indicates a shortage of material between stations.

Division 2 - SB Grading - USH 45

STATION	Real Station	Distance	AREA (SF) Cut	AREA (SF) Salvaged/Unusable Pavement Material	AREA (SF) Fill	Incremental Vol (CY) (Unadjusted) Cut Note 1	Incremental Vol (CY) (Unadjusted) Salvaged/Unusable Pavement Material Note 2	Incremental Vol (CY) (Unadjusted) Fill Note 3	Cumulative Vol (CY) Cut 1.00 Note 1	Cumulative Vol (CY) Expanded Fill 1.20	Mass Ordinate Note 4
463+50	46350.00	0.00	0.00	0.00	0.00	0	0	0	0	0	0.00
464+00	46400.00	50.00	148.39	0.00	0.12	137	0	0	137	0	137.27
464+50	46450.00	50.00	81.60	0.00	3.45	213	0	3	350	4	346.25
465+00	46500.00	50.00	82.65	0.00	7.03	152	0	10	502	16	486.68
465+50	46550.00	50.00	97.72	0.00	8.10	167	0	14	669	33	636.89
466+00	46600.00	50.00	204.38	0.00	0.32	280	0	8	949	42	907.25
466+50	46650.00	50.00	578.01	0.00	0.00	724	0	0	1,674	42	1,631.33
467+00	46700.00	50.00	0.12	0.00	81.28	535	0	75	2,209	133	2,076.32
467+50	46750.00	50.00	0.00	0.00	160.99	0	0	224	2,209	402	1,807.25
468+00	46800.00	50.00	0.00	0.00	201.39	0	0	336	2,209	804	1,404.61
468+50	46850.00	50.00	0.00	0.00	163.43	0	0	338	2,209	1,210	999.26
469+00	46900.00	50.00	0.00	0.00	97.13	0	0	241	2,209	1,499	709.74
469+50	46950.00	50.00	1.23	0.00	18.83	1	0	107	2,210	1,628	582.03
470+00	47000.00	50.00	3.69	0.00	0.21	5	0	18	2,215	1,649	565.43
470+50	47050.00	50.00	0.06	0.00	1.69	3	0	2	2,218	1,651	566.79
471+00	47100.00	50.00	1.89	0.00	108.41	2	0	102	2,220	1,774	446.25
471+50	47150.00	50.00	8.50	0.00	200.15	10	0	286	2,230	2,117	113.02
472+00	47200.00	50.00	47.21	0.00	1.07	52	0	186	2,281	2,340	-58.97
472+50	47250.00	50.00	0.00	0.00	0.00	44	0	1	2,325	2,341	-16.45
				Column Totals:		2,325	0	1,951			

Notes:
1) Salvaged/Unusable Pavement Material is included in Cut.
2) Salvaged/Unusable Pavement Material
3) Unexpanded Fill Volume
4) The Mass Ordinate + or - Qty calculated for the Division. Plus quantity indicates an excess of material between stations. Minus quantity indicates a shortage of material between stations.

Division 2 - SB Grading - XD

STATION	Real Station	Distance	AREA (SF) Cut	AREA (SF) Salvaged/Unusable Pavement Material	AREA (SF) Fill	Incremental Vol (CY) (Unadjusted) Cut Note 1	Incremental Vol (CY) (Unadjusted) Salvaged/Unusable Pavement Material Note 2	Incremental Vol (CY) (Unadjusted) Fill Note 3	Cumulative Vol (CY) Cut 1.00 Note 1	Cumulative Vol (CY) Expanded Fill 1.20	Mass Ordinate Note 4
463+50	46350.00	0.00	0.00	0.00	0.00	0	0	0	0	0	0.00
464+00	46400.00	50.00	0.00	0.00	0.00	0	0	0	0	0	0.00
464+50	46450.00	50.00	0.00	0.00	0.00	0	0	0	0	0	0.00
465+00	46500.00	50.00	0.00	0.00	0.00	0	0	0	0	0	0.00
465+50	46550.00	50.00	0.00	0.00	0.00	0	0	0	0	0	0.00
466+00	46600.00	50.00	0.00	0.00	0.00	0	0	0	0	0	0.00
466+50	46650.00	50.00	0.00	0.00	0.00	0	0	0	0	0	0.00
467+00	46700.00	50.00	0.00	0.00	0.00	0	0	0	0	0	0.00
467+50	46750.00	50.00	0.00	0.00	0.00	0	0	0	0	0	0.00
468+00	46800.00	50.00	0.00	0.00	0.00	0	0	0	0	0	0.00
468+50	46850.00	50.00	0.00	0.00	0.00	0	0	0	0	0	0.00
469+00	46900.00	50.00	0.00	0.00	0.00	0	0	0	0	0	0.00
469+50	46950.00	50.00	0.00	0.00	0.00	0	0	0	0	0	0.00
470+00	47000.00	50.00	0.00	0.00	0.00	0	0	0	0	0	0.00
470+50	47050.00	50.00	0.00	0.00	0.01	0	0	0	0	0	-0.01
471+00	47100.00	50.00	0.00	0.00	0.00	0	0	0	0	0	-0.02
471+50	47150.00	50.00	30.63	0.00	0.00	28	0	0	28	0	28.35
472+00	47200.00	50.00	0.00	0.00	0.00	28	0	0	57	0	56.71
472+50	47250.00	50.00	0.00	0.00	0.00	0	0	0	57	0	56.71
				Column Totals:		57	0	0			

Notes:
1) Salvaged/Unusable Pavement Material is included in Cut.
2) Salvaged/Unusable Pavement Material
3) Unexpanded Fill Volume
4) The Mass Ordinate + or - Qty calculated for the Division. Plus quantity indicates an excess of material between stations. Minus quantity indicates a shortage of material between stations.

Division 2 - XD

STATION	Real Station	Distance	AREA (SF) Cut	AREA (SF) Salvaged/Unusable Pavement Material	AREA (SF) Fill	Incremental Vol (CY) (Unadjusted) Cut Note 1	Incremental Vol (CY) (Unadjusted) Salvaged/Unusable Pavement Material Note 2	Incremental Vol (CY) (Unadjusted) Fill Note 3	Cumulative Vol (CY) Cut 1.00 Note 1	Cumulative Vol (CY) Expanded Fill 1.20	Mass Ordinate Note 4
20+42.26	2042.26	0.00	0.00	0.00	0.00	0	0	0	0	0	0.00
20+50	2050.00	7.74	11.17	0.00	1.21	2	0	0	2	0	1.39
21+00	2100.00	50.00	18.73	0.00	125.69	28	0	117	29	141	-111.92
21+50	2150.00	50.00	33.18	0.00	237.62	48	0	336	77	545	-467.54
22+00	2200.00	50.00	10.27	0.00	469.76	40	0	655	118	1,331	-1,213.29
22+50	2250.00	50.00	6.77	0.00	876.84	16	0	1,247	133	2,827	-2,693.74
23+00	2300.00	50.00	0.00	0.00	1072.04	6	0	1,805	140	4,993	-4,852.89
23+09.5	2309.50	9.50	0.00	0.00	685.48	0	0	309	140	5,363	-5,223.82
				Column Totals:		140	0	4,470			

Division 2 - XD - SB USH 45

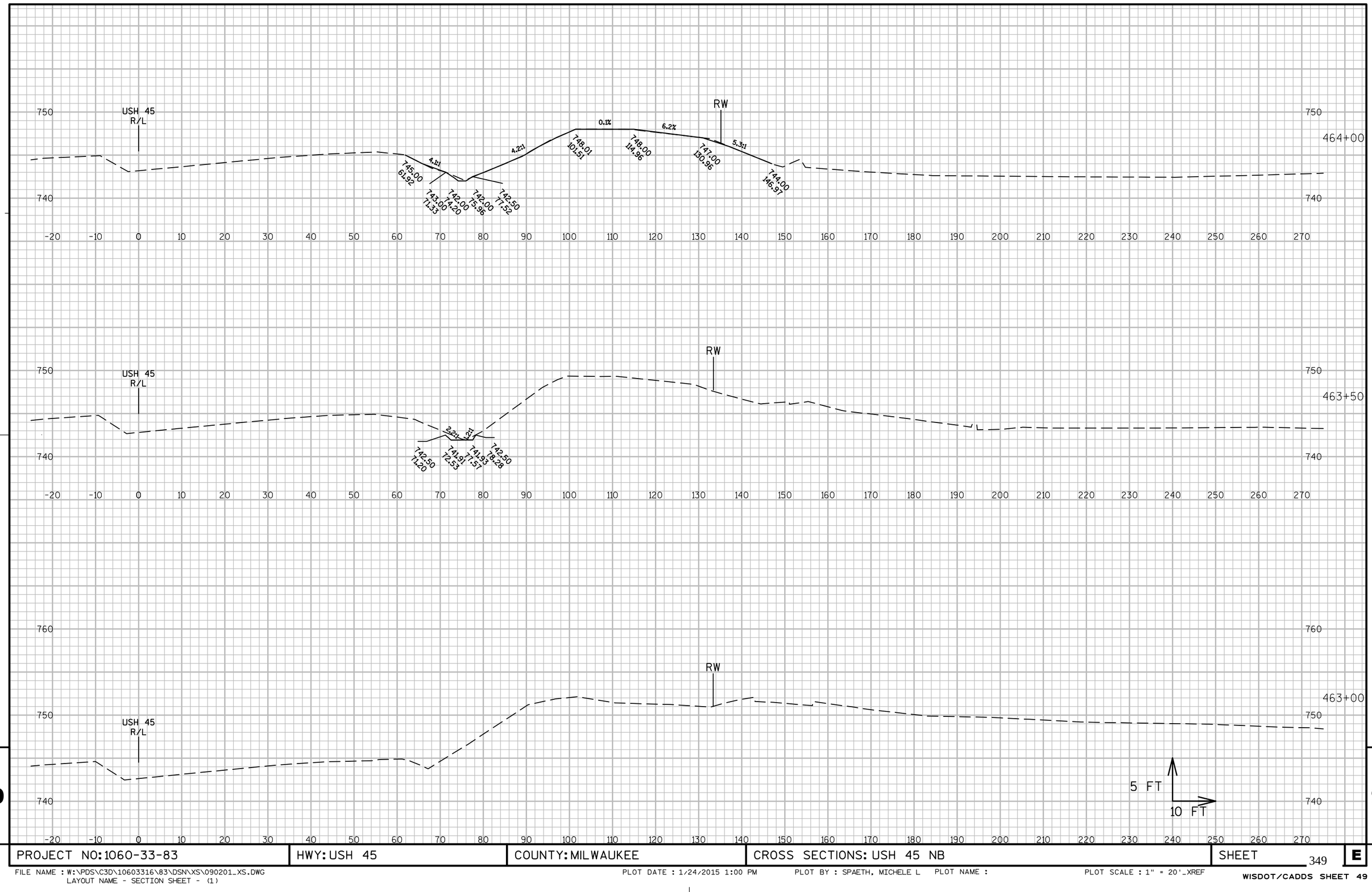
STATION	Real Station	Distance	AREA (SF) Cut	AREA (SF) Salvaged/Unusable Pavement Material	AREA (SF) Fill	Incremental Vol (CY) (Unadjusted) Cut Note 1	Incremental Vol (CY) (Unadjusted) Salvaged/Unusable Pavement Material Note 2	Incremental Vol (CY) (Unadjusted) Fill Note 3	Cumulative Vol (CY) Cut 1.00 Note 1	Cumulative Vol (CY) Expanded Fill 1.20	Mass Ordinate Note 4
20+42.26	2042.26	0.00	0.00	0.00	0.00	0	0	0	0	0	0.00
20+50	2050.00	7.74	0.00	0.00	0.00	0	0	0	0	0	0.00
21+00	2100.00	50.00	0.00	0.00	0.00	0	0	0	0	0	0.00
21+50	2150.00	50.00	0.00	0.00	0.00	0	0	0	0	0	0.00
22+00	2200.00	50.00	12.90	0.00	0.99	12	0	1	12	1	10.85
22+50	2250.00	50.00	0.00	0.00	23.52	12	0	23	24	28	-4.44
23+00	2300.00	50.00	0.49	0.00	0.00	0	0	22	24	54	-30.12
23+09.5	2309.50	9.50	0.00	0.00	14.64	0	0	3	24	58	-33.12
				Column Totals:		24	0	48			

Notes:
1) Salvaged/Unusable Pavement Material is included in Cut.
2) Salvaged/Unusable Pavement Material
3) Unexpanded Fill Volume
4) The Mass Ordinate + or - Qty calculated for the Division. Plus quantity indicates an excess of material between stations. Minus quantity indicates a shortage of material between stations.

Division 2 - Site Excavation A

STATION	Real Station	Distance	AREA (SF) Cut	AREA (SF) Salvaged/Unusable Pavement Material	AREA (SF) Fill	Incremental Vol (CY) (Unadjusted) Cut Note 1	Incremental Vol (CY) (Unadjusted) Salvaged/Unusable Pavement Material Note 2	Incremental Vol (CY) (Unadjusted) Fill Note 3	Cumulative Vol (CY) Cut 1.00 Note 1	Cumulative Vol (CY) Expanded Fill 1.20	Mass Ordinate Note 4
436+50	43650.00	0.00	2,710.46	0.00	0.00	0	0	0	0	0	0.00
437+00	43700.00	50.00	2511.66	0.00	0.00	4,835	0	0	4,835	0	4,835.29
437+50	43750.00	50.00	2208.02	0.00	0.02	4,370	0	0	9,205	0	9,205.37
438+00	43800.00	50.00	1858.33	0.00	0.00	3,765	0	0	12,971	0	12,970.51
438+50	43850.00	50.00	1507.34	0.00	0.00	3,116	0	0	16,087	0	16,086.88
439+00	43900.00	50.00	1083.13	0.00	0.00	2,399	0	0	18,485	0	18,485.47
439+50	43950.00	50.00	451.41	0.00	0.03	1,421	0	0	19,906	0	19,906.34
440+00	44000.00	50.00	0.00	0.00	0.00	418	0	0	20,324	0	20,324.32
				Column Totals:		20,324	0	0			

Notes:
1) Salvaged/Unusable Pavement Material is included in Cut.
2) Salvaged/Unusable Pavement Material
3) Unexpanded Fill Volume
4) The Mass Ordinate + or - Qty calculated for the Division. Plus quantity indicates an excess of material between stations. Minus quantity indicates a shortage of material between stations.

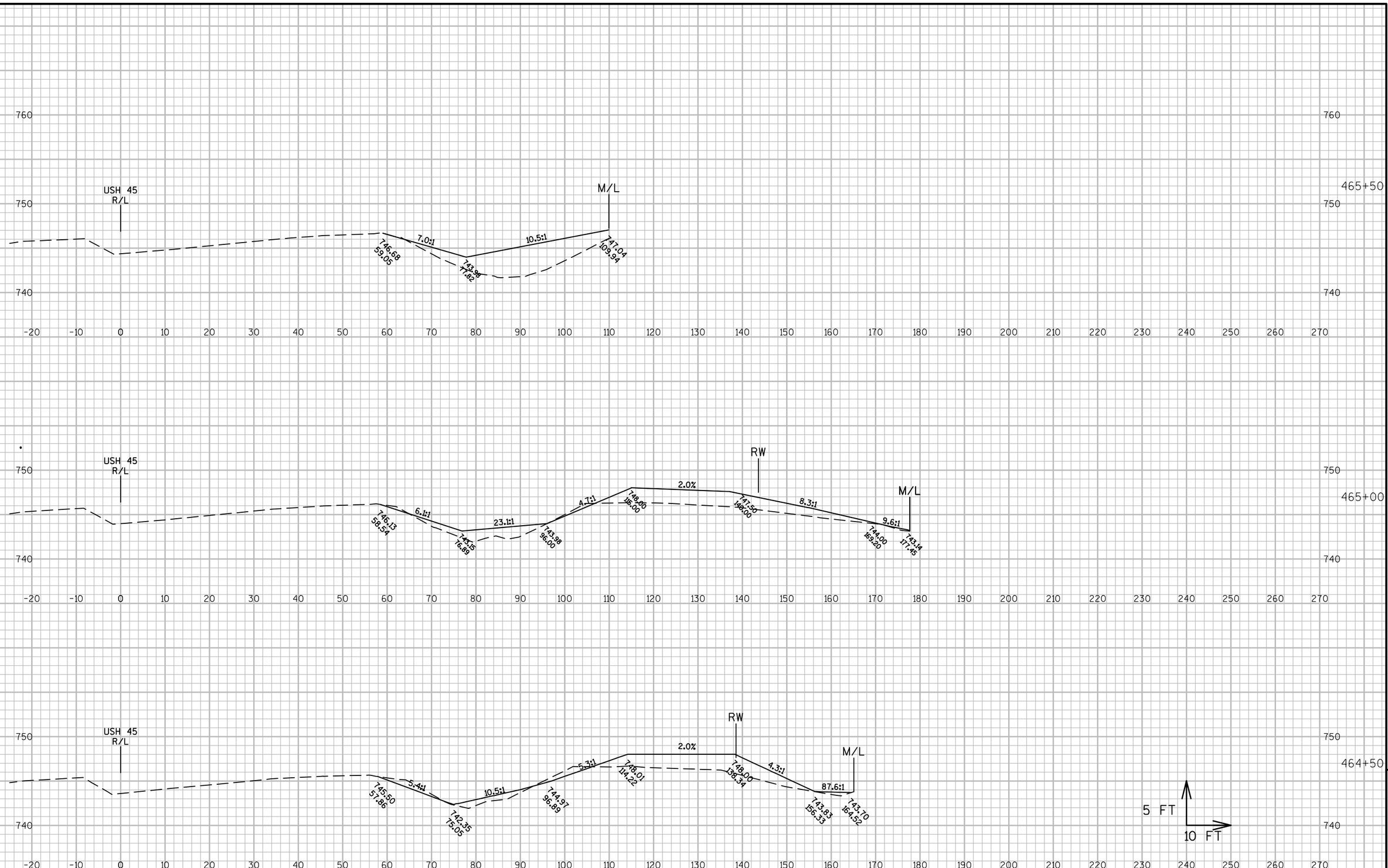


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PLOT DATE : 1/24/2015 1:00 PM PLOT BY : SPAETH, MICHELE L PLOT NAME : PLOT SCALE : 1" = 20'_XREF

WISDOT/CADDS SHEET 49



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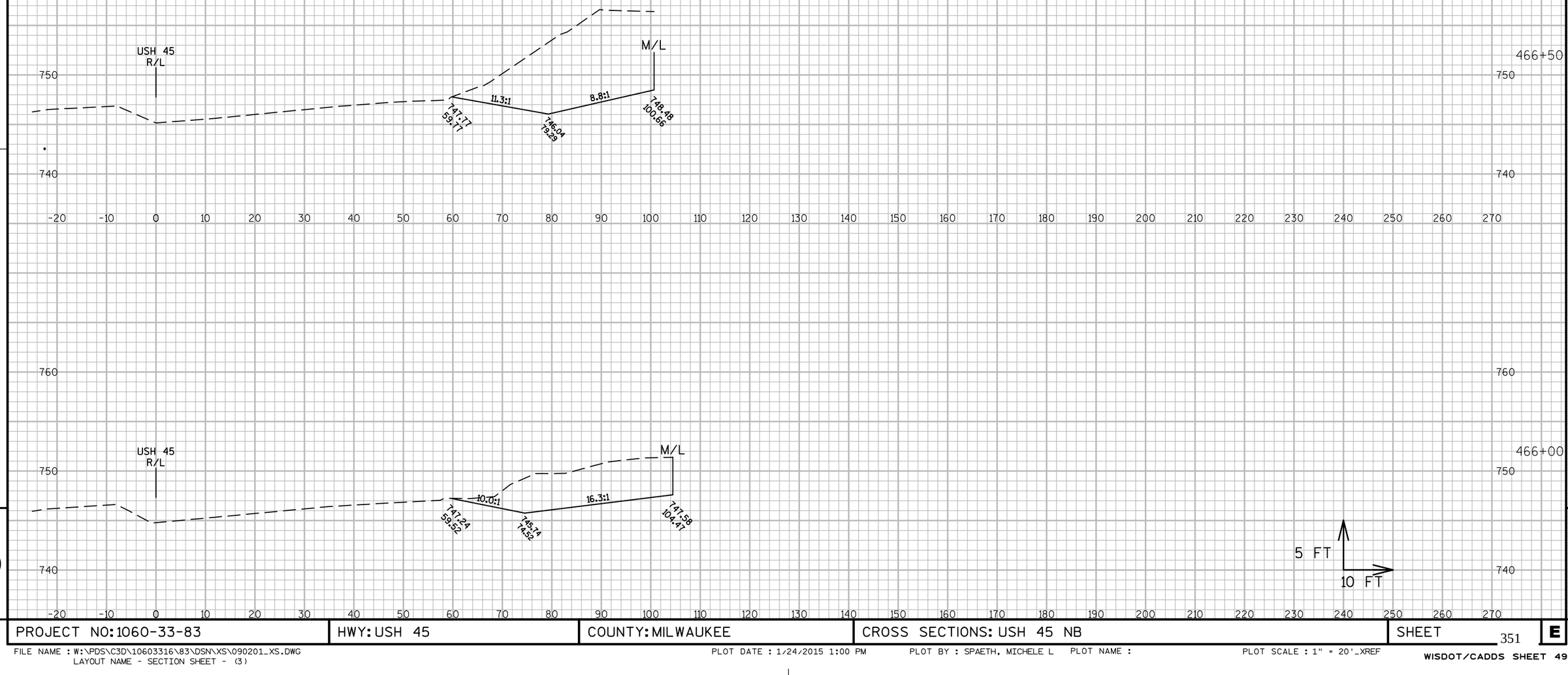
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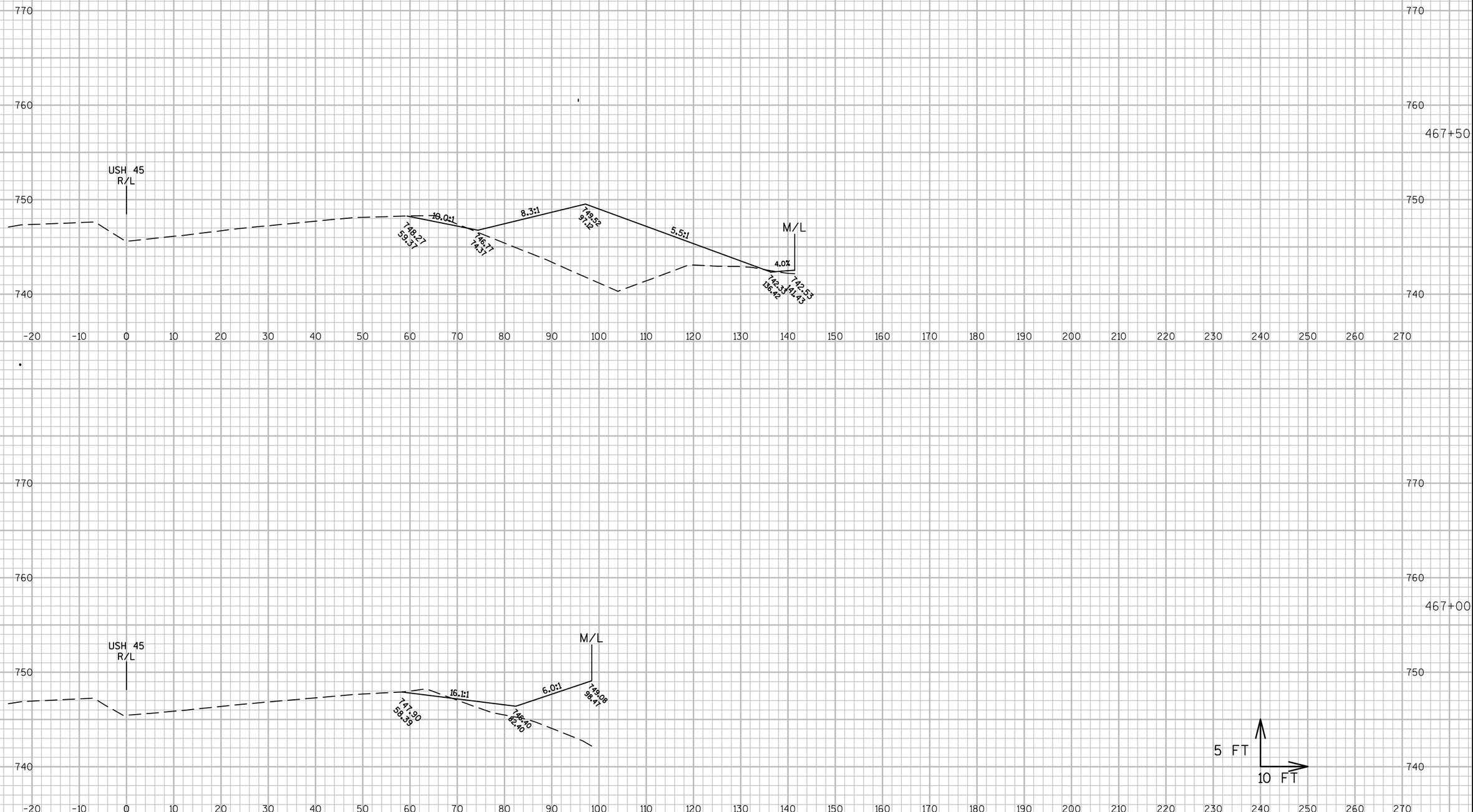
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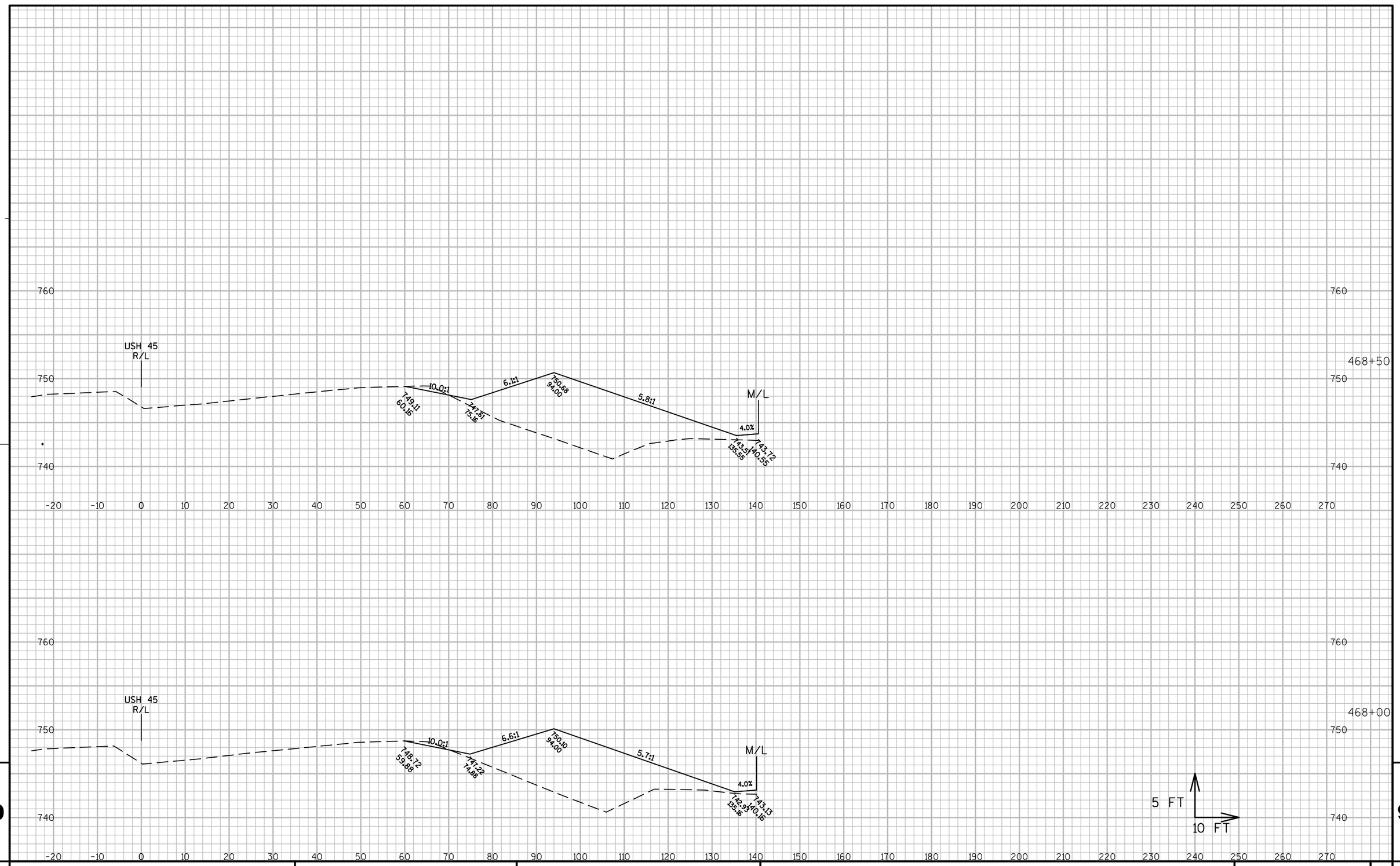


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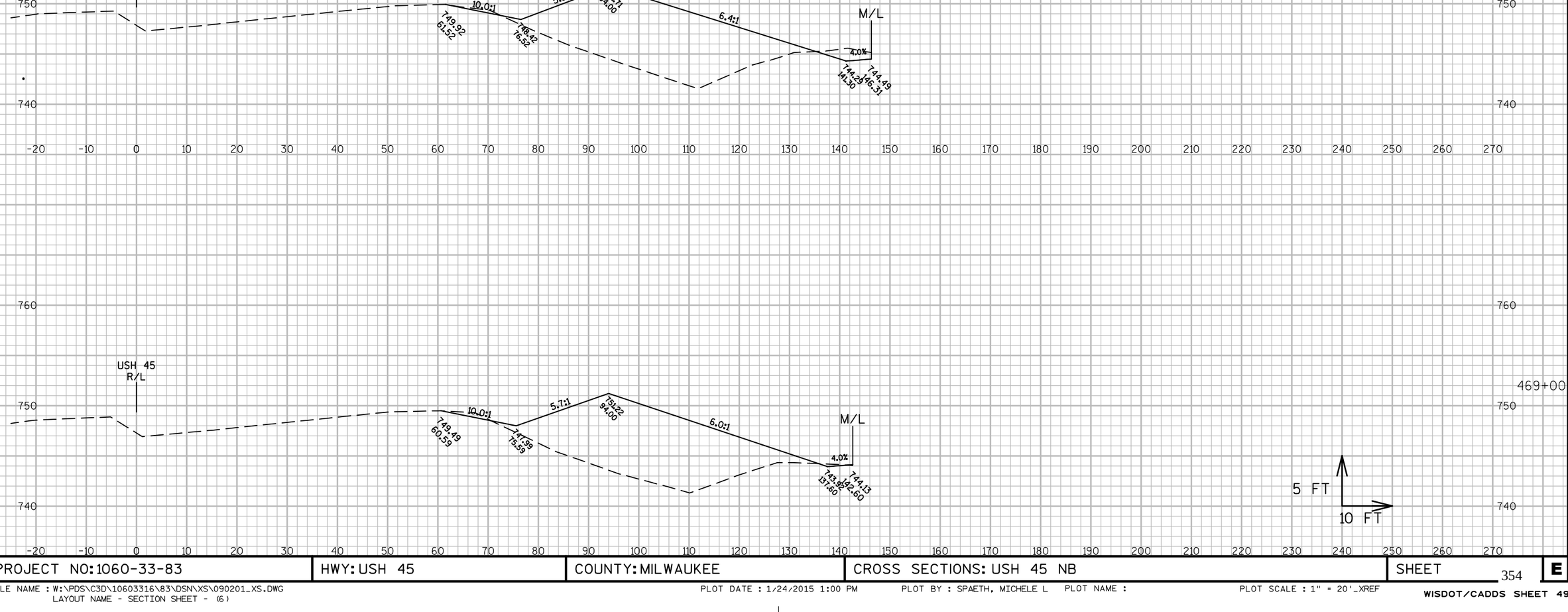
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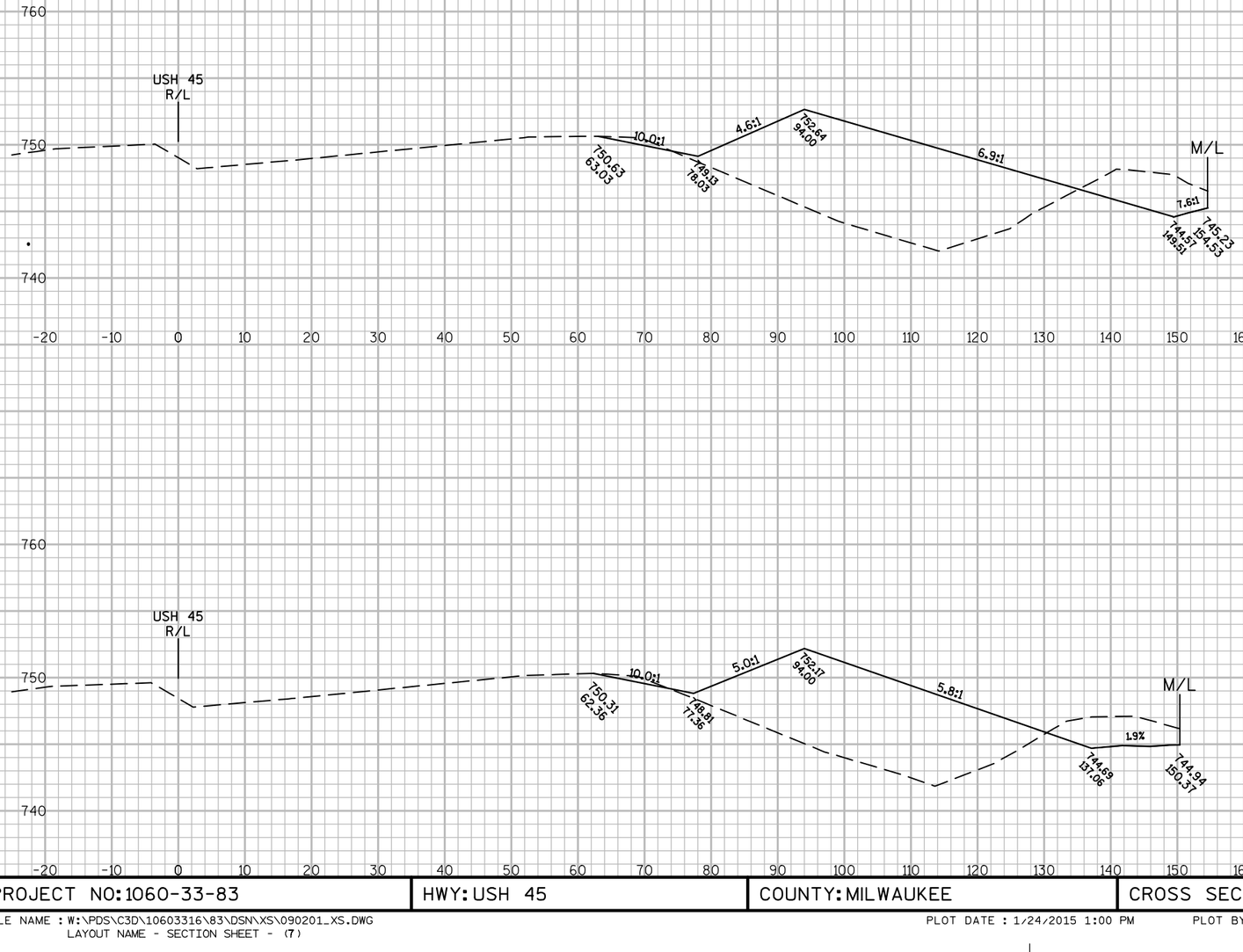
WISDOT/CADDS SHEET 49



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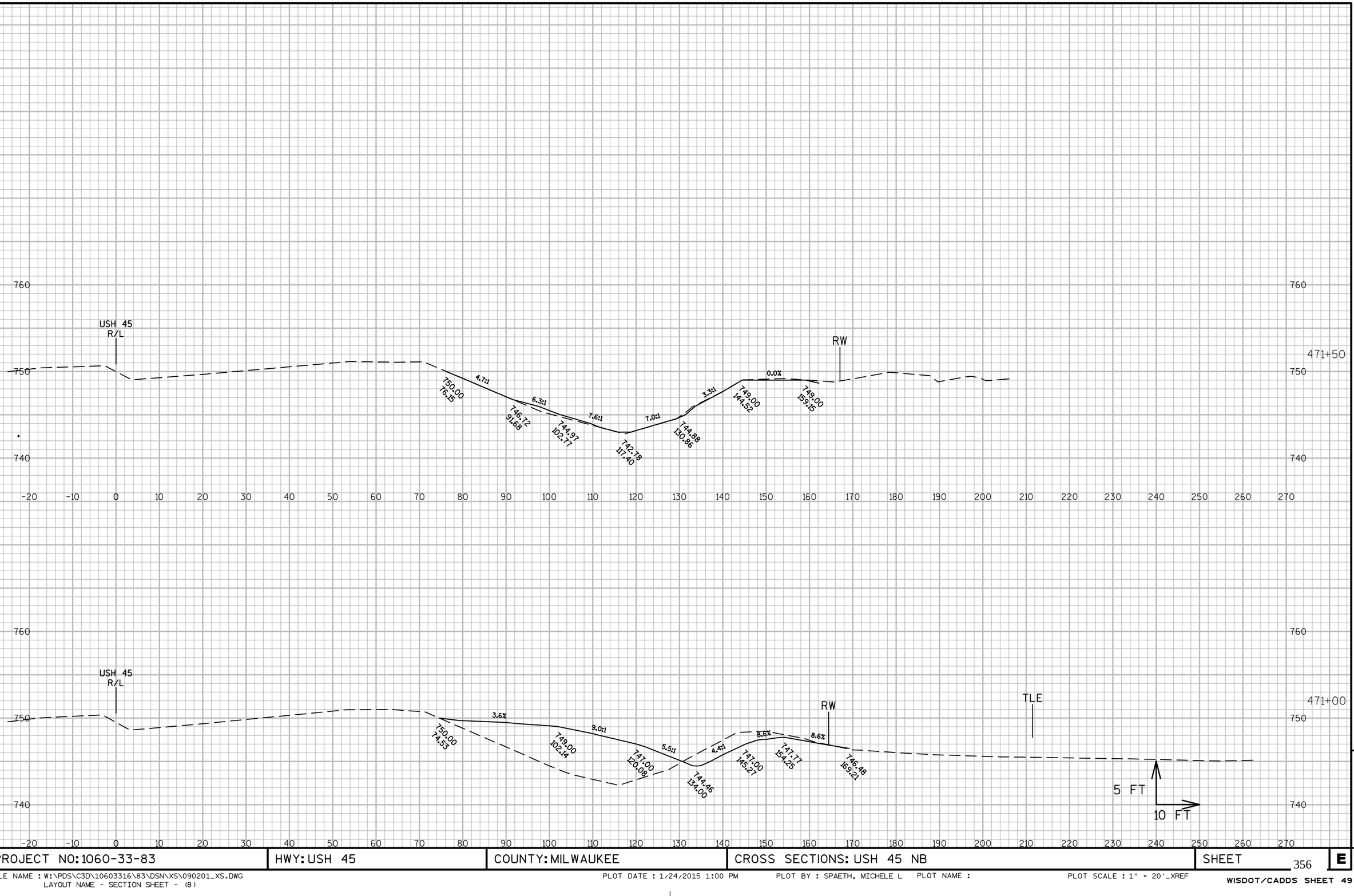


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PLOT DATE : 1/24/2015 1:00 PM PLOT BY : SPAETH, MICHELE L PLOT NAME : PLOT SCALE : 1" = 20'_XREF

WISDOT/CADDS SHEET 49



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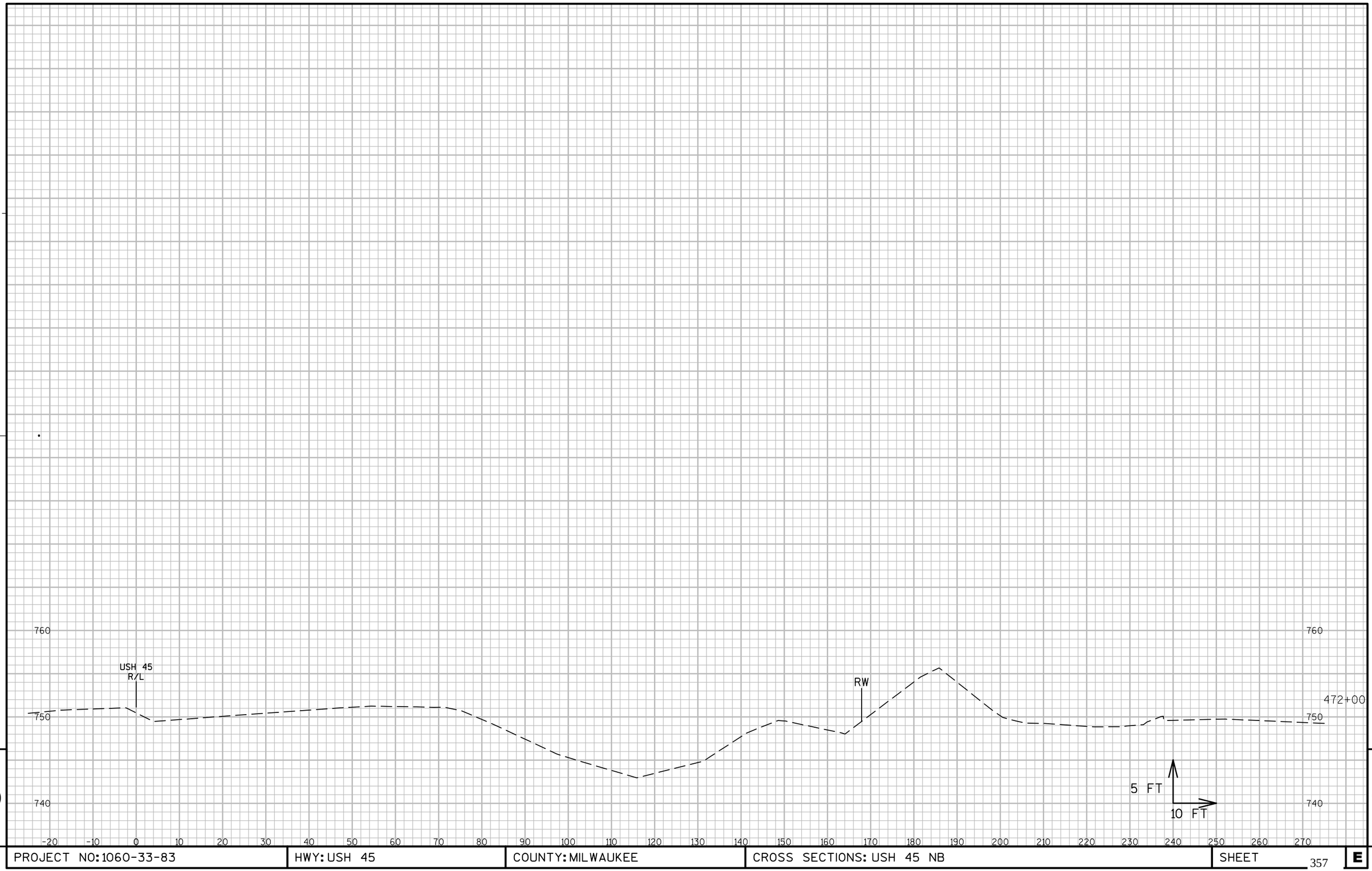
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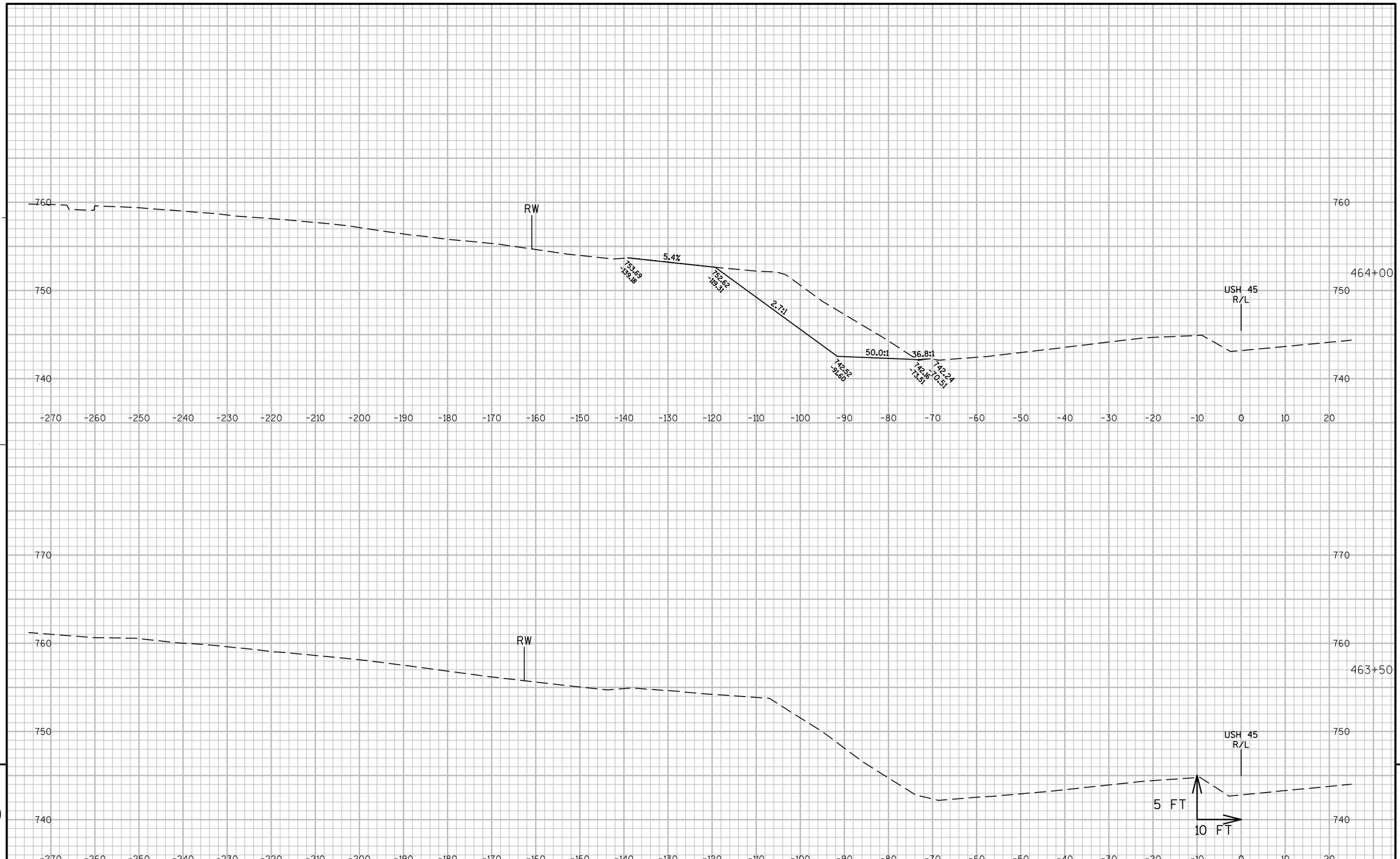


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WISDOT/CADDS SHEET 49



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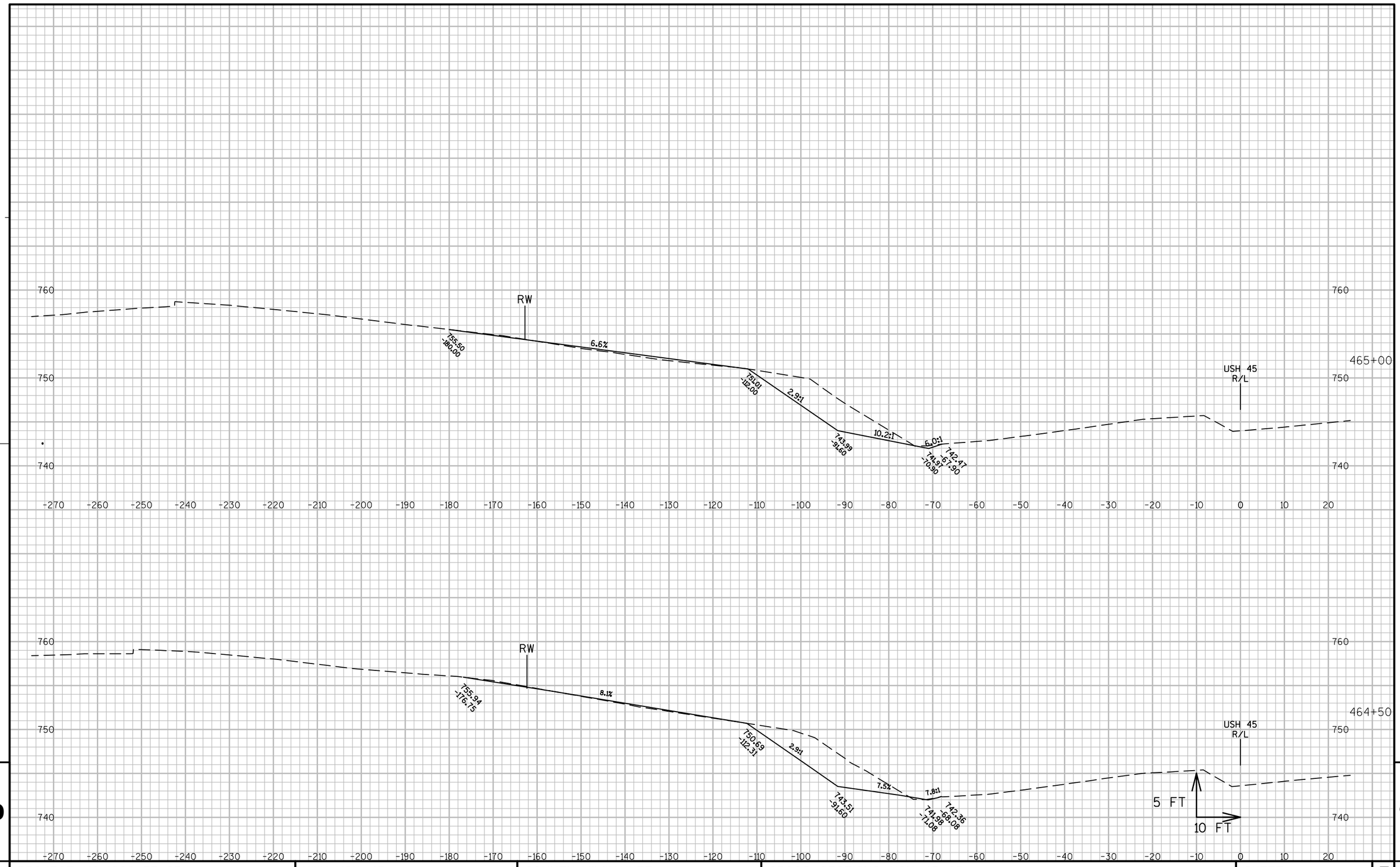
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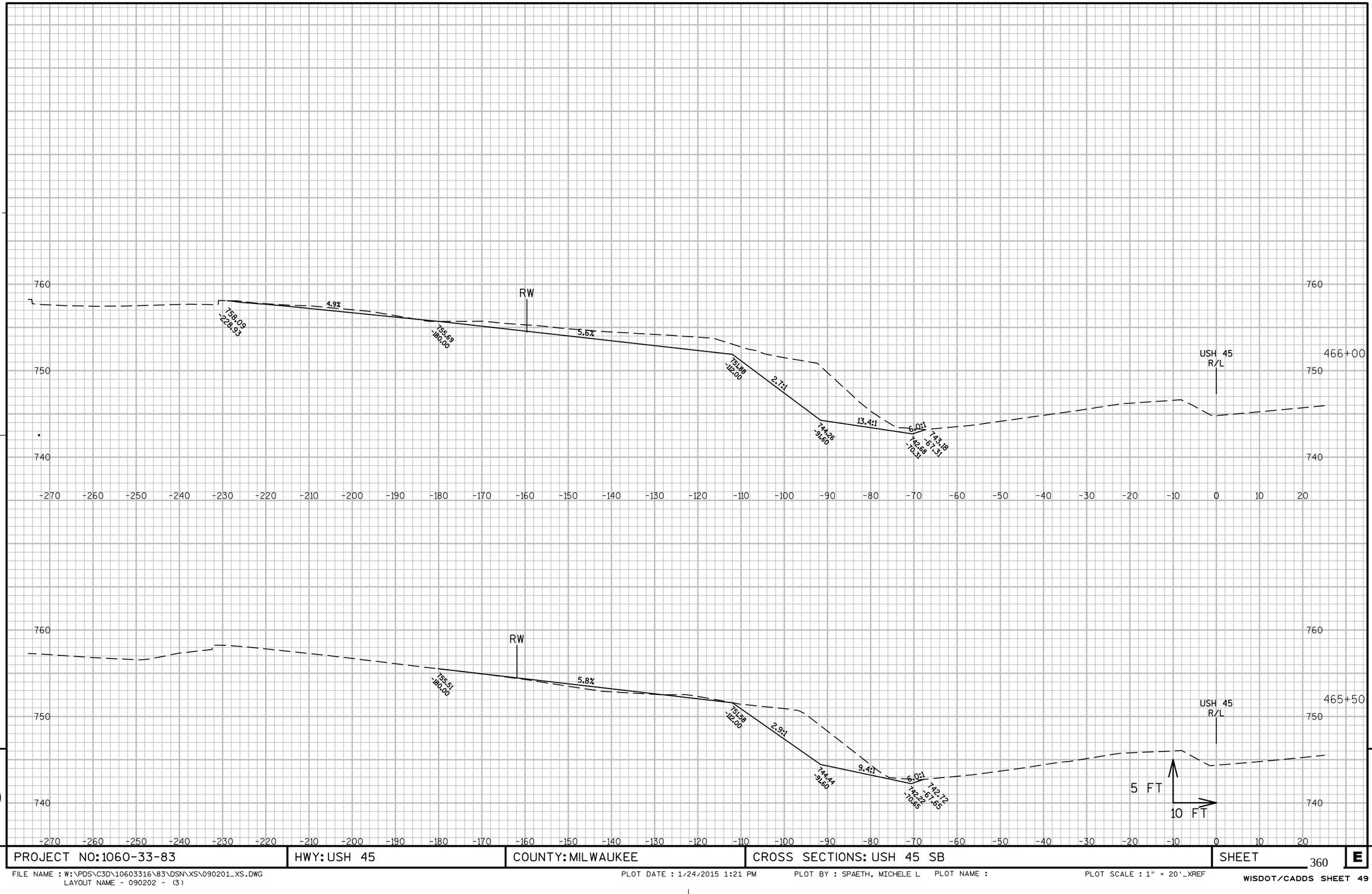
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9

PROJECT NO: 1060-33-83	HWY: USH 45	COUNTY: MILWAUKEE	CROSS SECTIONS: USH 45 SB	SHEET 359	E

FILE NAME : W:\PDS\C3D\10603316\83\DSN\XS\090201_XS.DWG
LAYOUT NAME - 090202 - (2)

PLOT DATE : 1/24/2015 1:21 PM PLOT BY : SPAETH, MICHELE L PLOT NAME : PLOT SCALE : 1" = 20'_XREF



9

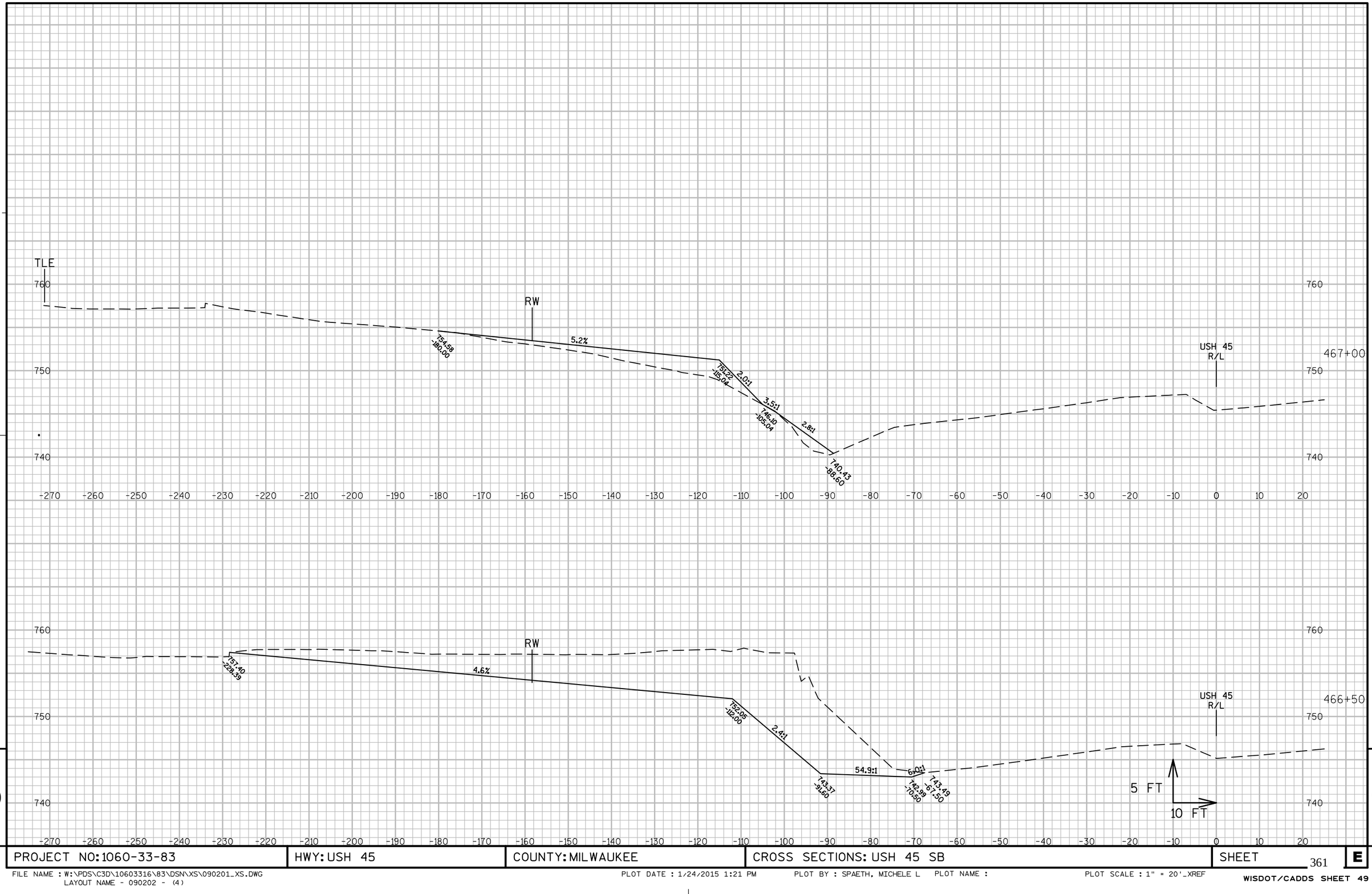
PROJECT NO: 1060-33-83	HWY: USH 45	COUNTY: MILWAUKEE	CROSS SECTIONS: USH 45 SB	SHEET 360	E

9

FILE NAME : W:\PDS\C3D\10603316\83\DSN\XS\090201_XS.DWG
LAYOUT NAME - 090202 - (3)

PLOT DATE : 1/24/2015 1:21 PM PLOT BY : SPAETH, MICHELE L PLOT NAME : PLOT SCALE : 1" = 20'_XREF

WISDOT/CADDS SHEET 49



9

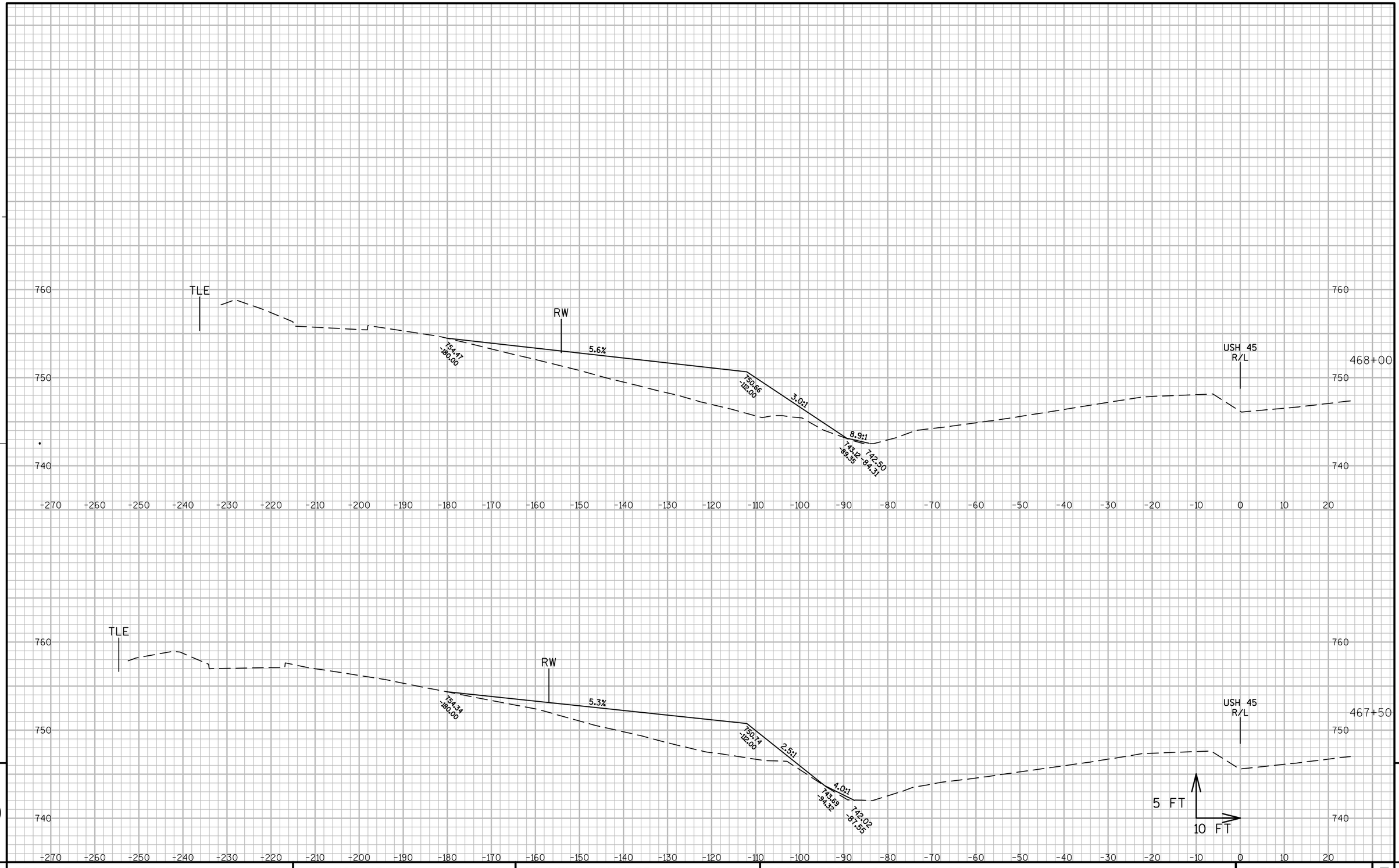
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PROJECT NO: 1060-33-83	HWY: USH 45	COUNTY: MILWAUKEE	CROSS SECTIONS: USH 45 SB	SHEET 361	E

FILE NAME : W:\PDS\C3D\10603316\83\DSN\XS\090201_XS.DWG
LAYOUT NAME - 090202 - (4)

PLOT DATE : 1/24/2015 1:21 PM PLOT BY : SPAETH, MICHELE L PLOT NAME : PLOT SCALE : 1" = 20'_XREF

WISDOT/CADDS SHEET 49



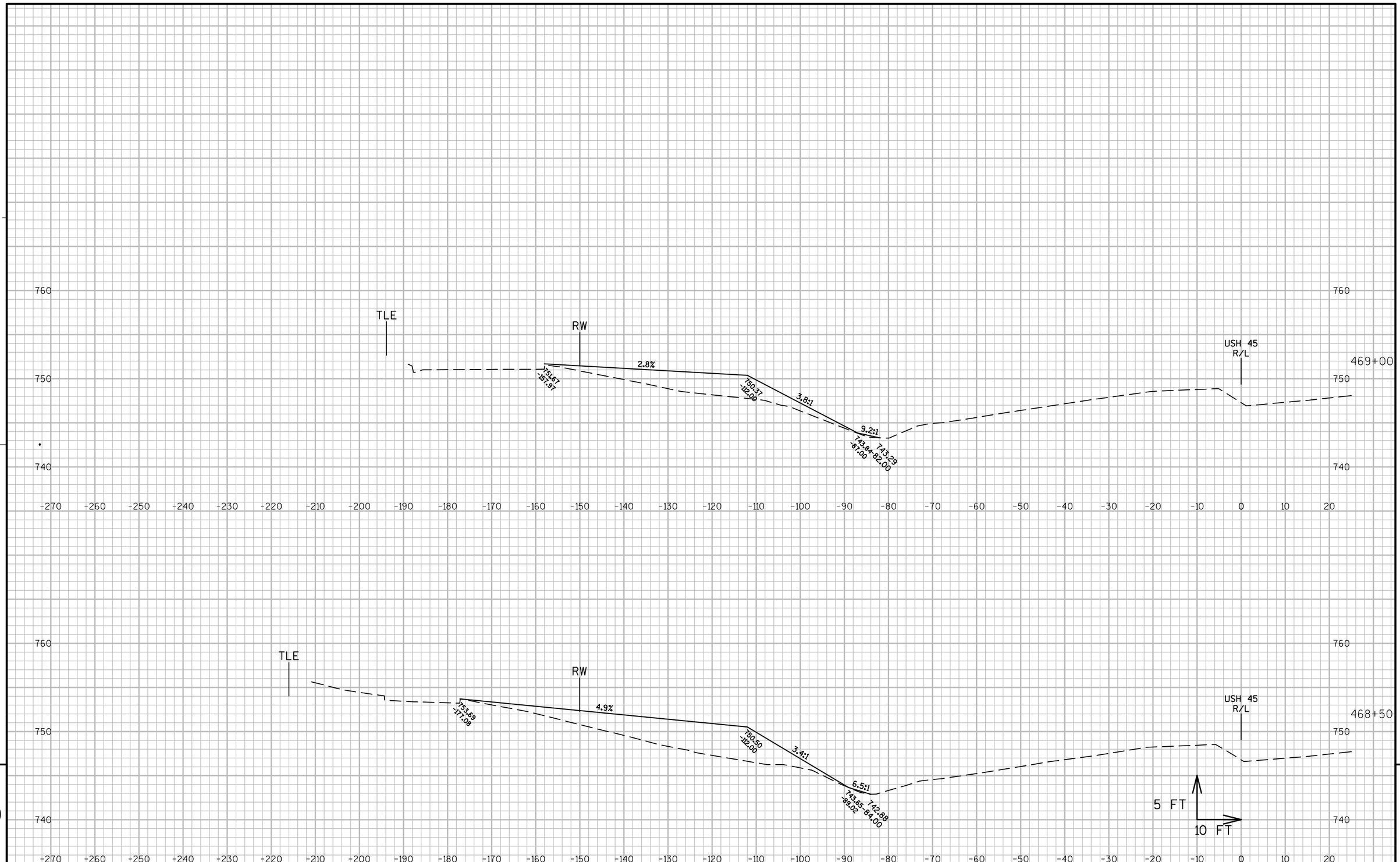
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PROJECT NO: 1060-33-83	HWY: USH 45	COUNTY: MILWAUKEE	CROSS SECTIONS: USH 45 SB	SHEET 362	E

FILE NAME : W:\PDS\C3D\10603316\83\DSN\XS\090201_XS.DWG
LAYOUT NAME - 090202 - (5)

PLOT DATE : 1/24/2015 1:21 PM PLOT BY : SPAETH, MICHELE L PLOT NAME : PLOT SCALE : 1" = 20'_XREF



9

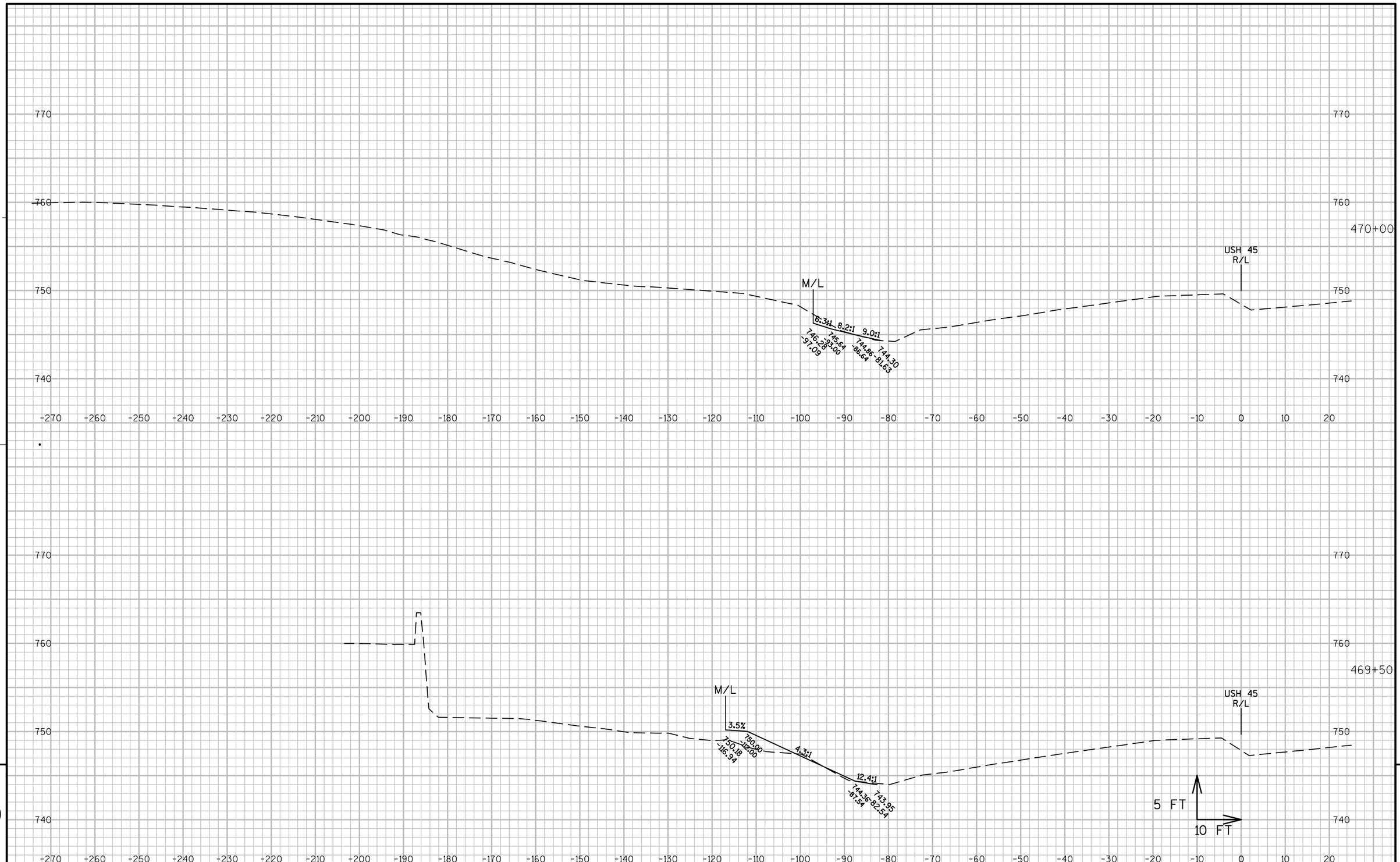
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PROJECT NO: 1060-33-83	HWY: USH 45	COUNTY: MILWAUKEE	CROSS SECTIONS: USH 45 SB	SHEET 363	E

FILE NAME : W:\PDS\C3D\10603316\83\DSN\XS\090201_XS.DWG
LAYOUT NAME - 090202 - (6)

PLOT DATE : 1/24/2015 1:21 PM PLOT BY : SPAETH, MICHELE L PLOT NAME : PLOT SCALE : 1" = 20'_XREF

WISDOT/CADDS SHEET 49

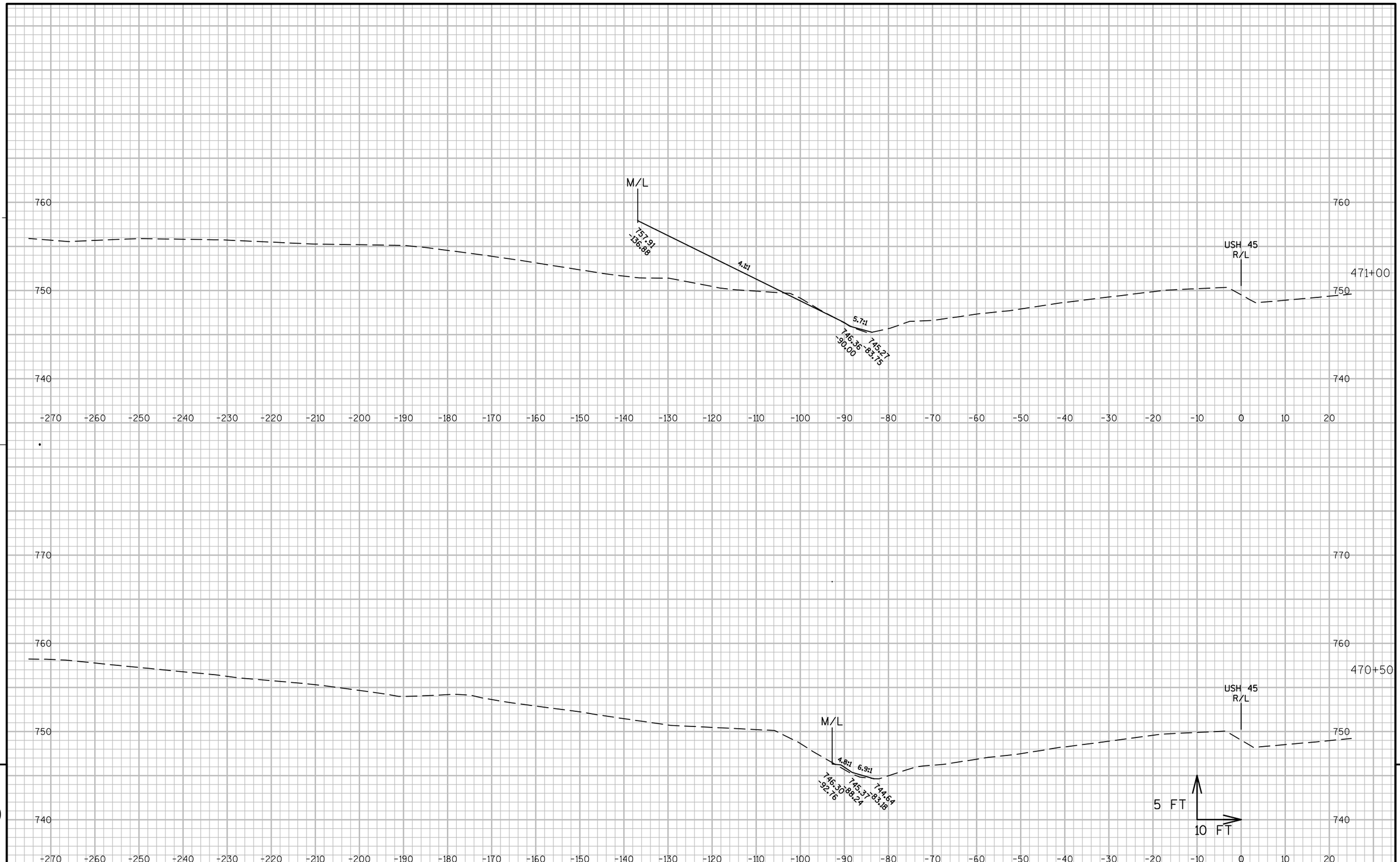


PROJECT NO: 1060-33-83	HWY: USH 45	COUNTY: MILWAUKEE	CROSS SECTIONS: USH 45 SB	SHEET 364 E

FILE NAME : W:\PDS\C3D\10603316\83\DSN\XS\090201_XS.DWG
LAYOUT NAME - 090202 - (7)

PLOT DATE : 1/24/2015 1:21 PM PLOT BY : SPAETH, MICHELE L PLOT NAME : PLOT SCALE : 1" = 20'_XREF

WISDOT/CADDS SHEET 49



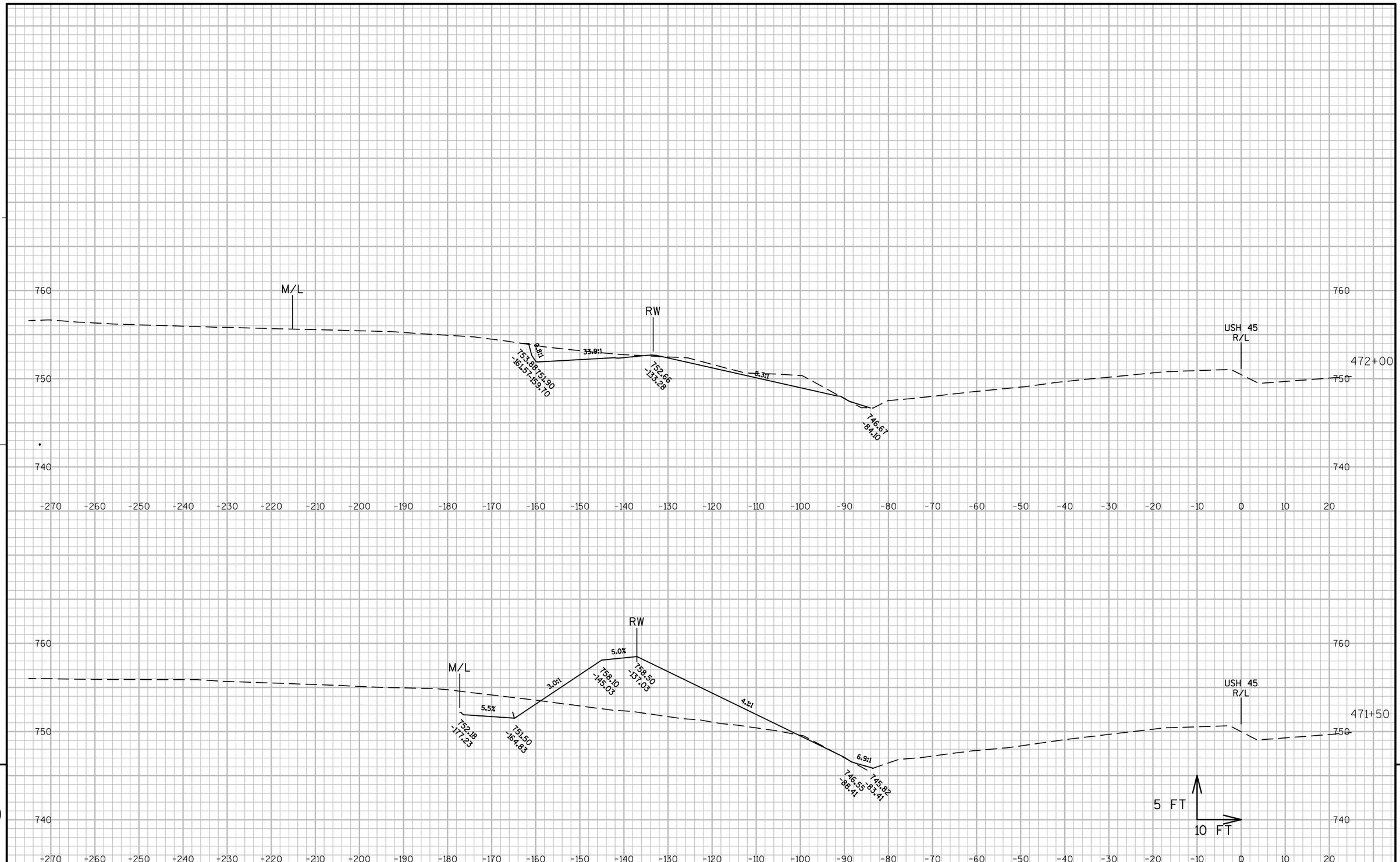
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PROJECT NO: 1060-33-83	HWY: USH 45	COUNTY: MILWAUKEE	CROSS SECTIONS: USH 45 SB	SHEET 365	E

FILE NAME : W:\PDS\C3D\10603316\83\DSN\XS\090201_XS.DWG
LAYOUT NAME - 090202 - (8)

PLOT DATE : 1/24/2015 1:21 PM PLOT BY : SPAETH, MICHELE L PLOT NAME : PLOT SCALE : 1" = 20'_XREF

WISDOT/CADDS SHEET 49



9

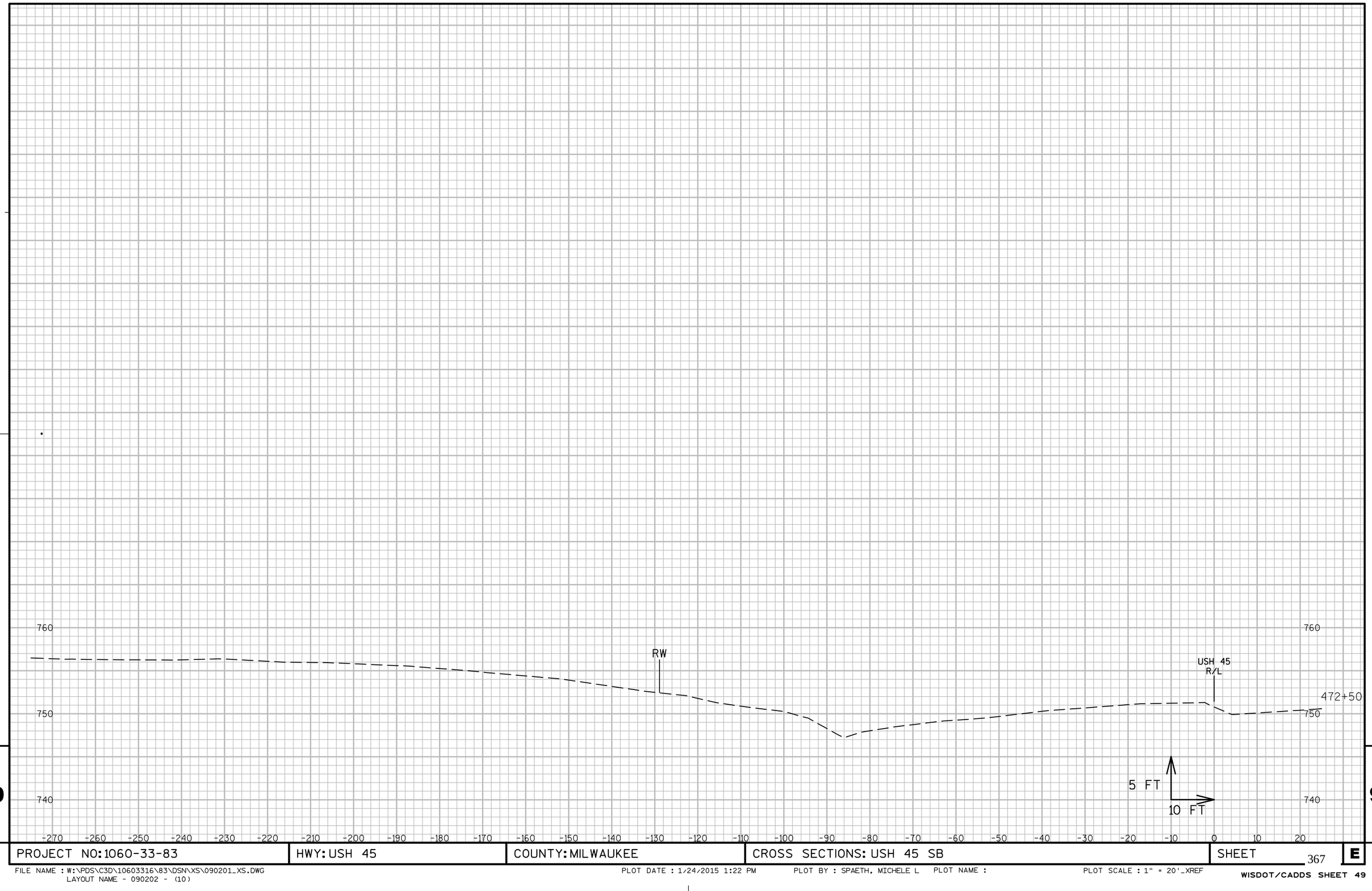
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PROJECT NO: 1060-33-83	HWY: USH 45	COUNTY: MILWAUKEE	CROSS SECTIONS: USH 45 SB	SHEET 366	E

FILE NAME : W:\PDS\C3D\10603316\83\DSN\XS\090201_XS.DWG
LAYOUT NAME - 090202 - (9)

PLOT DATE : 1/24/2015 1:21 PM PLOT BY : SPAETH, MICHELE L PLOT NAME : PLOT SCALE : 1" = 20'_XREF

WISDOT/CADDS SHEET 49

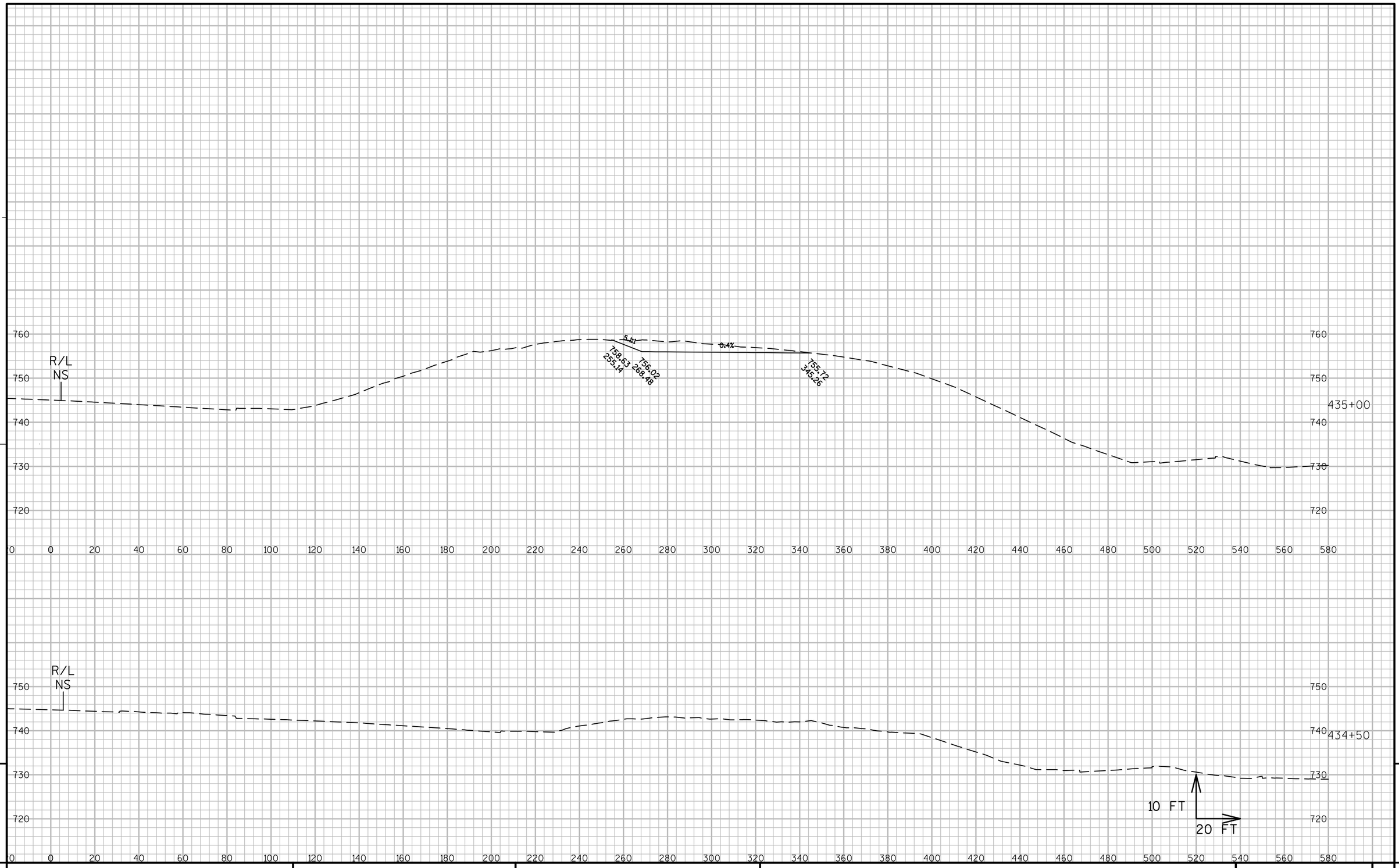


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9

PROJECT NO: 1060-33-83	HWY: USH 45	COUNTY: MILWAUKEE	CROSS SECTIONS: USH 45 SB	SHEET 367	E

FILE NAME : W:\PDS\C3D\10603316\83\DSN\XS\090201_XS.DWG
LAYOUT NAME - 090202 - (10)
PLOT DATE : 1/24/2015 1:22 PM PLOT BY : SPAETH, MICHELE L PLOT NAME : PLOT SCALE : 1" = 20'_XREF
WISDOT/CADDS SHEET 49



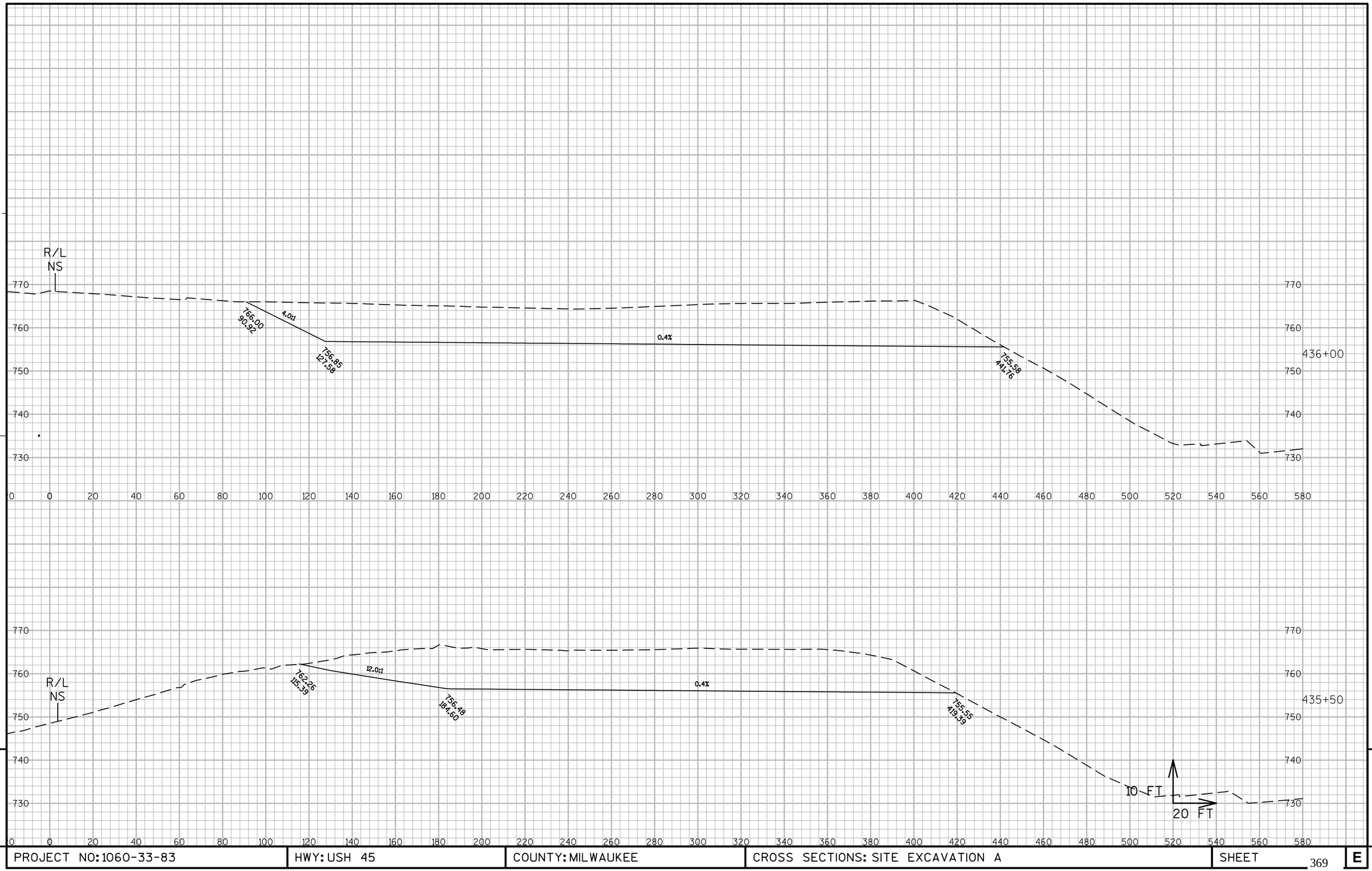
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PROJECT NO: 1060-33-83	HWY: USH 45	COUNTY: MILWAUKEE	CROSS SECTIONS: SITE EXCAVATION A	SHEET 368	E

FILE NAME : W:\PDS\C3D\10603316\83\DSN\XS\090601_XS_SEA.DWG
LAYOUT NAME - SEA_XS (01)

PLOT DATE : 1/24/2015 11:01 AM PLOT BY : SPAETH, MICHELE L PLOT NAME : PLOT SCALE : 1 IN:40 FT



9

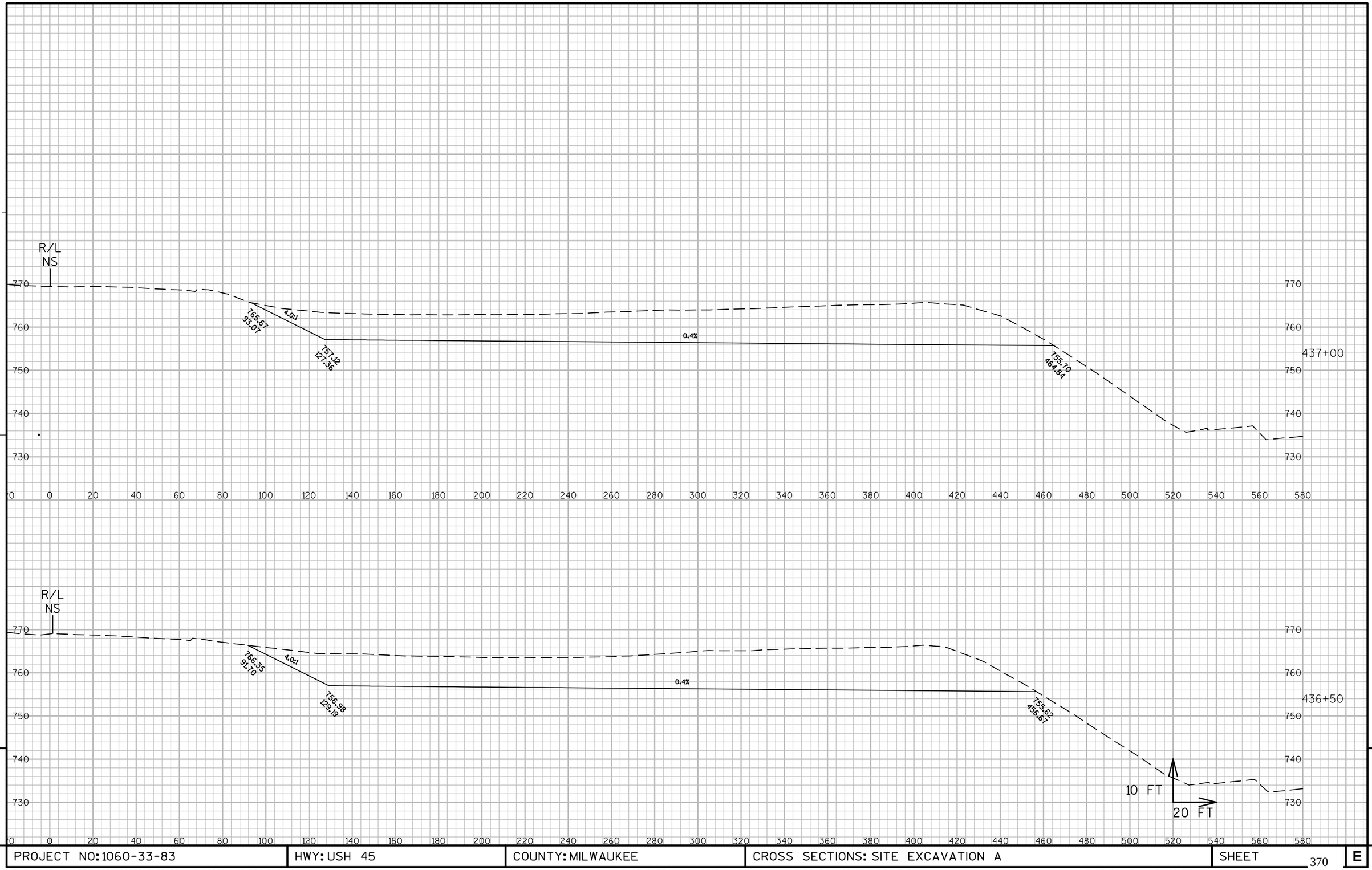
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PROJECT NO: 1060-33-83	HWY: USH 45	COUNTY: MILWAUKEE	CROSS SECTIONS: SITE EXCAVATION A	SHEET 369	E

FILE NAME : W:\PDS\C3D\10603316\83\DSN\XS\090601_XS_SEA.DWG
LAYOUT NAME - SEA_XS (02)

PLOT DATE : 1/24/2015 11:01 AM PLOT BY : SPAETH, MICHELE L PLOT NAME : PLOT SCALE : 1 IN:40 FT

WISDOT/CADDS SHEET 49



9

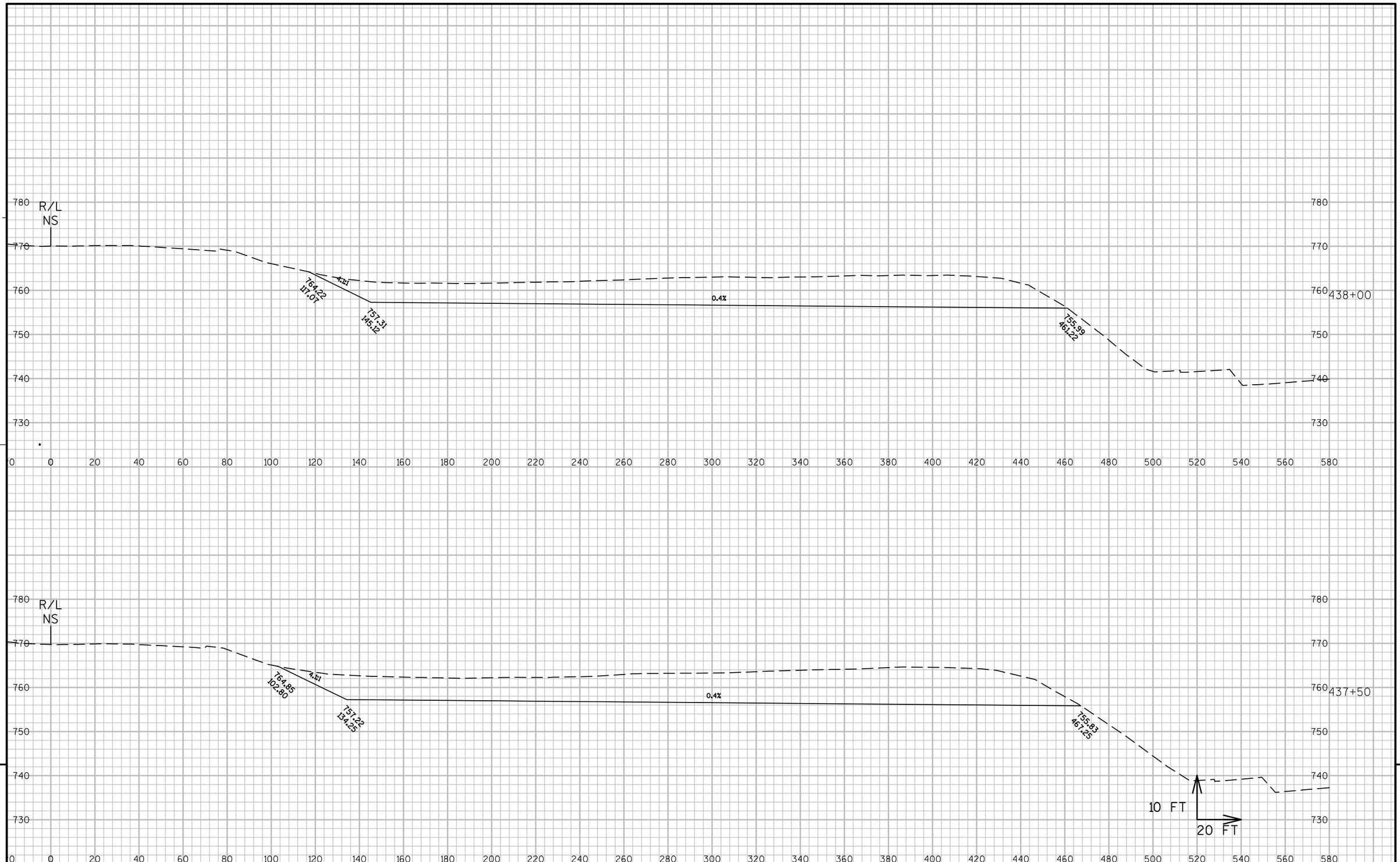
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PROJECT NO: 1060-33-83	HWY: USH 45	COUNTY: MILWAUKEE	CROSS SECTIONS: SITE EXCAVATION A	SHEET 370	E

FILE NAME : W:\PDS\C3D\10603316\83\DSN\XS\090601_XS_SEA.DWG
LAYOUT NAME - SEA_XS (03)

PLOT DATE : 1/24/2015 11:01 AM PLOT BY : SPAETH, MICHELE L PLOT NAME : PLOT SCALE : 1 IN:40 FT

WISDOT/CADDS SHEET 49



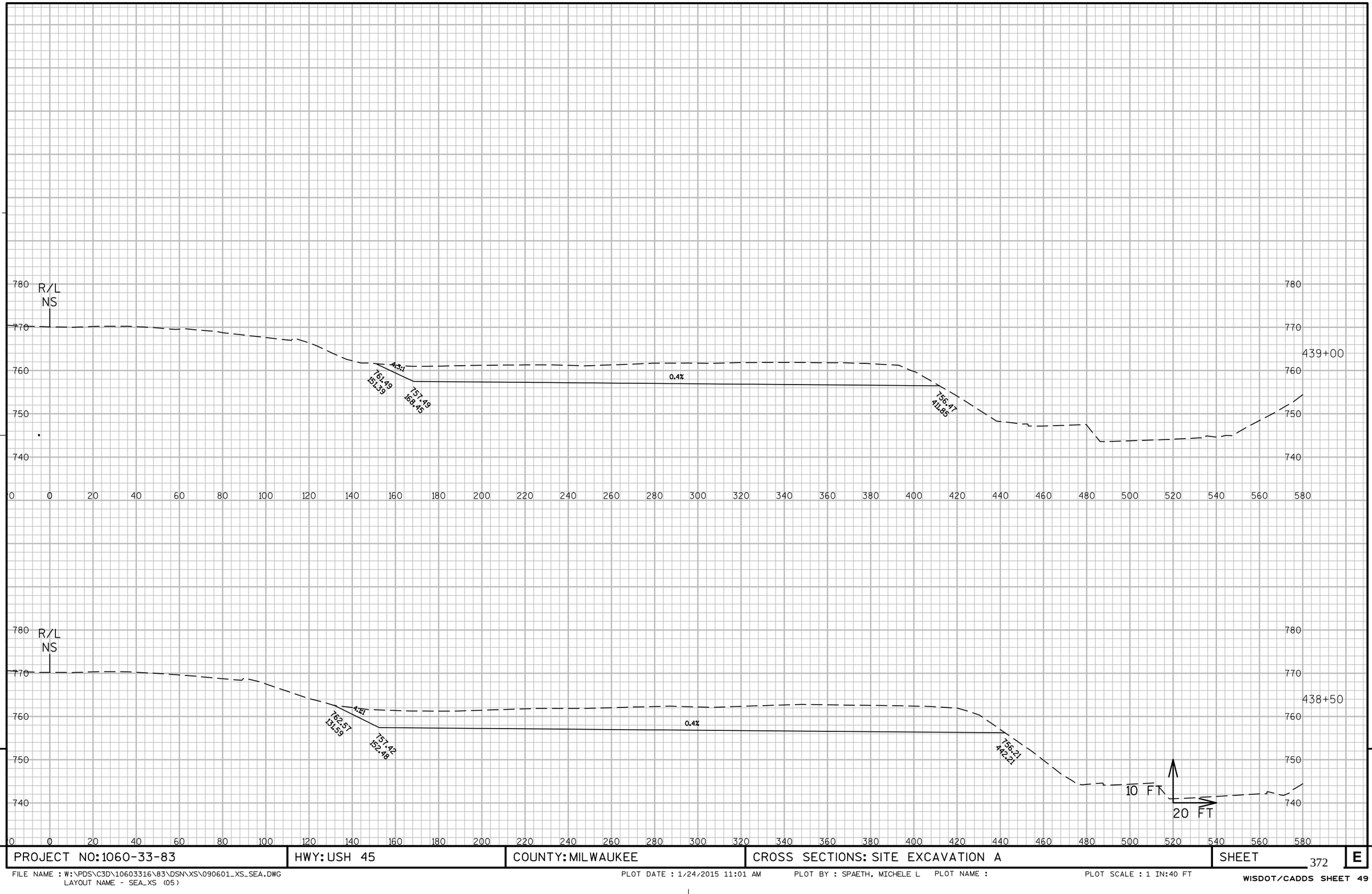
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PROJECT NO: 1060-33-83	HWY: USH 45	COUNTY: MILWAUKEE	CROSS SECTIONS: SITE EXCAVATION A	SHEET 371	E

FILE NAME : W:\PDS\C3D\10603316\83\DSN\XS\090601_XS_SEA.DWG
LAYOUT NAME - SEA_XS (04)

PLOT DATE : 1/24/2015 11:01 AM PLOT BY : SPAETH, MICHELE L PLOT NAME : PLOT SCALE : 1 IN:40 FT



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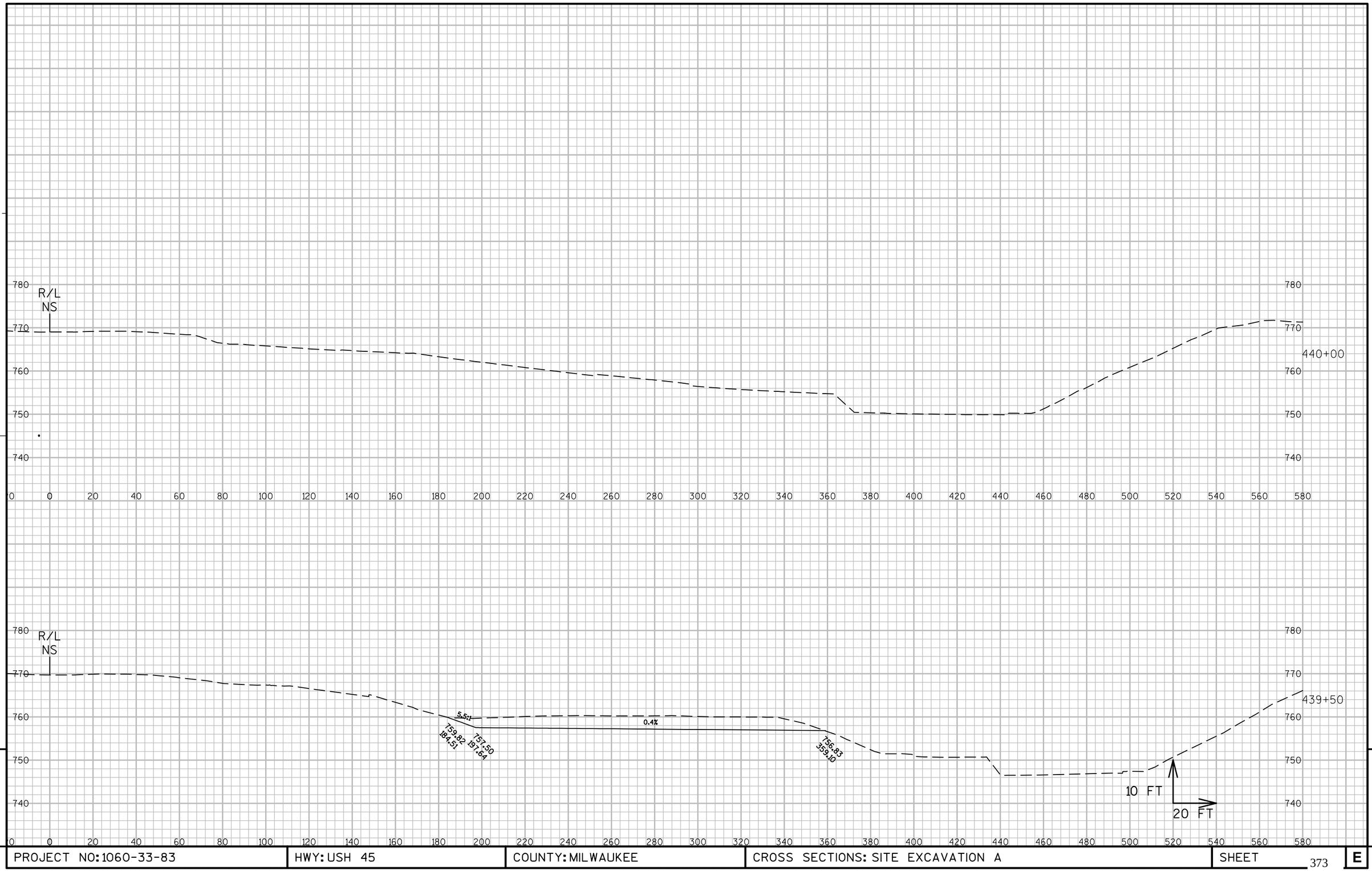
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PROJECT NO: 1060-33-83	HWY: USH 45	COUNTY: MILWAUKEE	CROSS SECTIONS: SITE EXCAVATION A	SHEET 372	E

FILE NAME : W:\PDS\C3D\10603316\83\DSN\XS\090601_XS_SEA.DWG
LAYOUT NAME - SEA_XS (05)

PLOT DATE : 1/24/2015 11:01 AM PLOT BY : SPAETH, MICHELE L PLOT NAME : PLOT SCALE : 1 IN:40 FT

WISDOT/CADDS SHEET 49



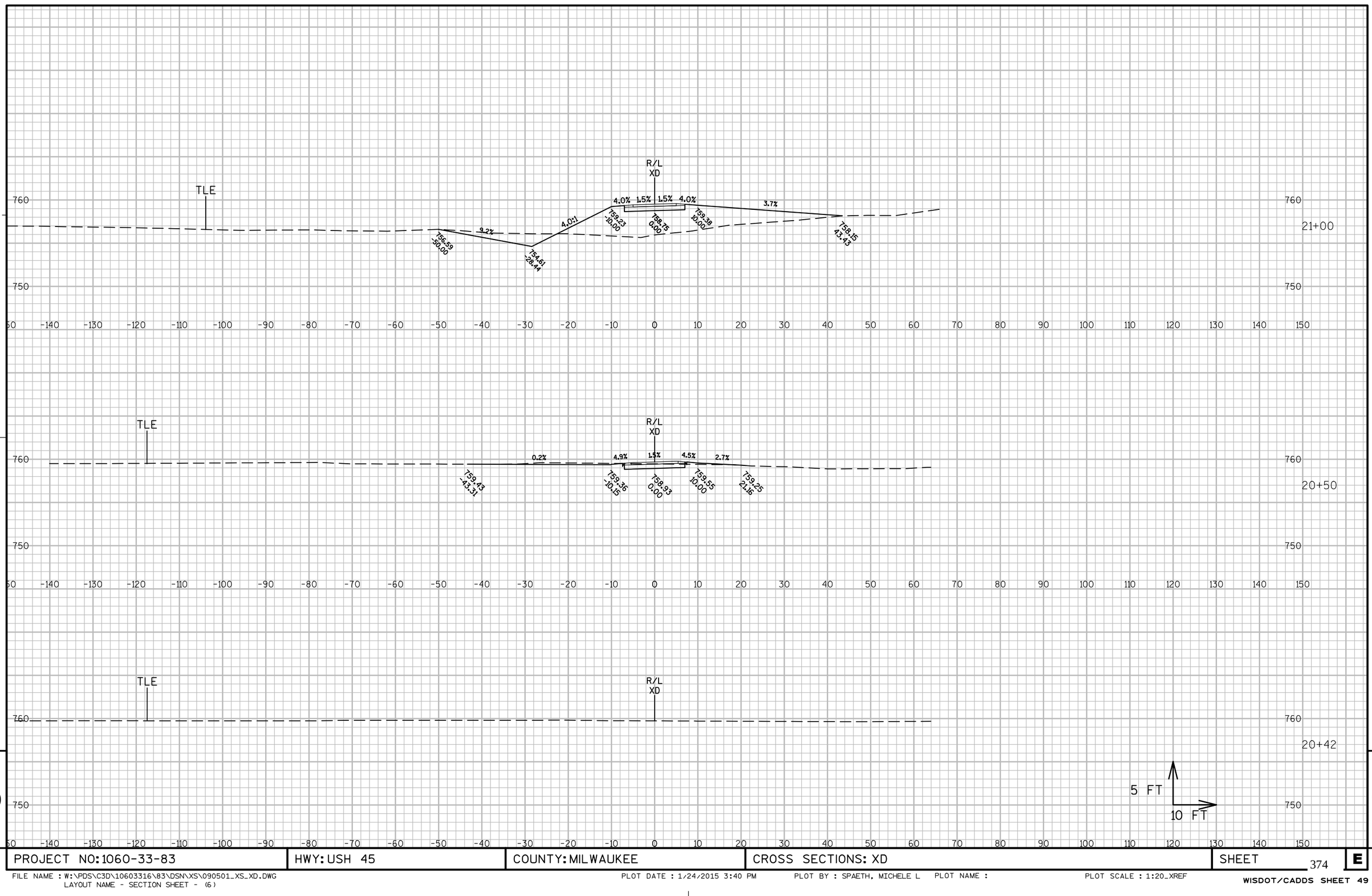
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PROJECT NO: 1060-33-83	HWY: USH 45	COUNTY: MILWAUKEE	CROSS SECTIONS: SITE EXCAVATION A	SHEET 373 E

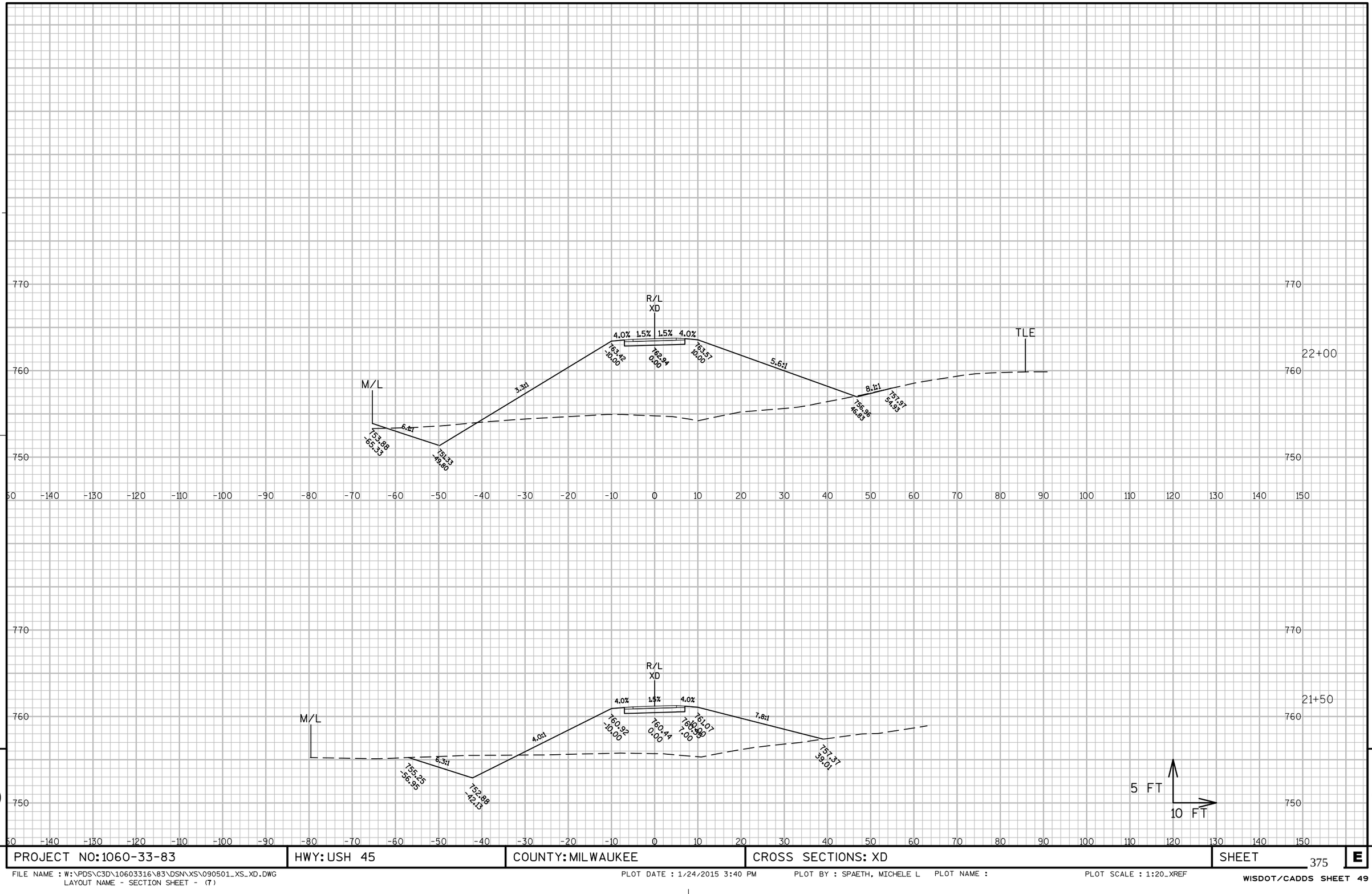
FILE NAME : W:\PDS\C3D\10603316\83\DSN\XS\090601_XS_SEA.DWG
LAYOUT NAME - SEA_XS (06)

PLOT DATE : 1/24/2015 11:01 AM PLOT BY : SPAETH, MICHELE L PLOT NAME : PLOT SCALE : 1 IN:40 FT



9

PROJECT NO: 1060-33-83	HWY: USH 45	COUNTY: MILWAUKEE	CROSS SECTIONS: XD	SHEET 374 E



9

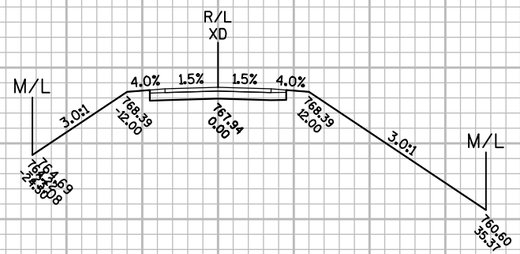
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PROJECT NO: 1060-33-83	HWY: USH 45	COUNTY: MILWAUKEE	CROSS SECTIONS: XD	SHEET 375	E

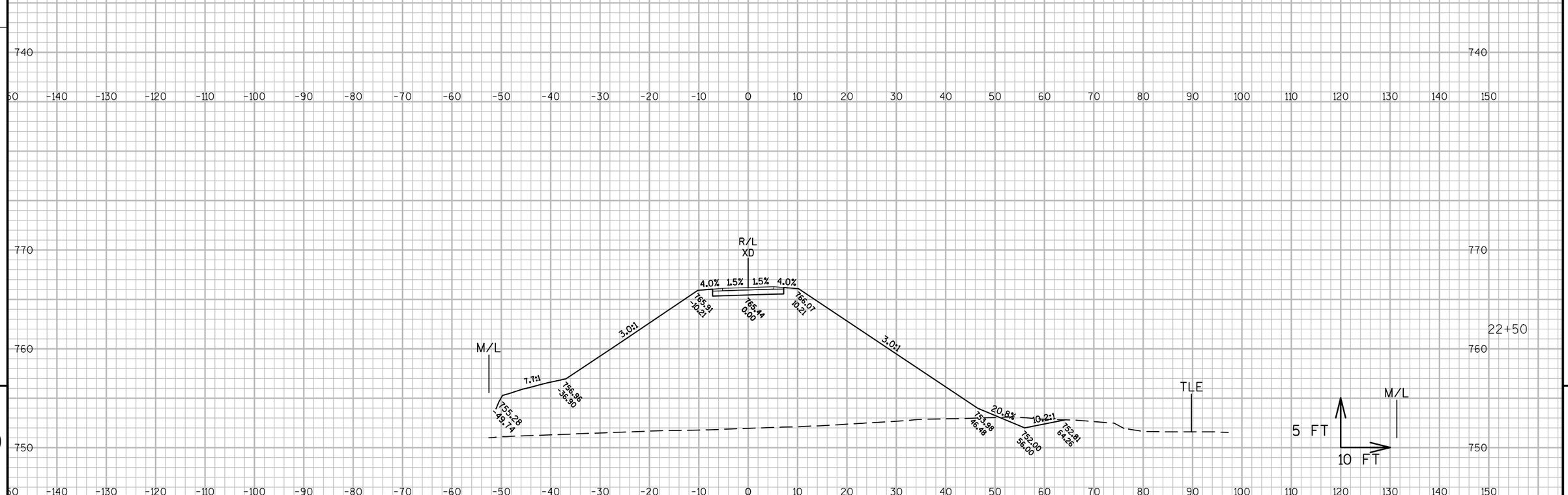
FILE NAME : W:\PDS\C3D\10603316\83\DSN\XS\090501_XS_XD.DWG
LAYOUT NAME - SECTION SHEET - (7)

PLOT DATE : 1/24/2015 3:40 PM PLOT BY : SPAETH, MICHELE L PLOT NAME : PLOT SCALE : 1:20_XREF

WISDOT/CADDS SHEET 49



770
760
750
23+00



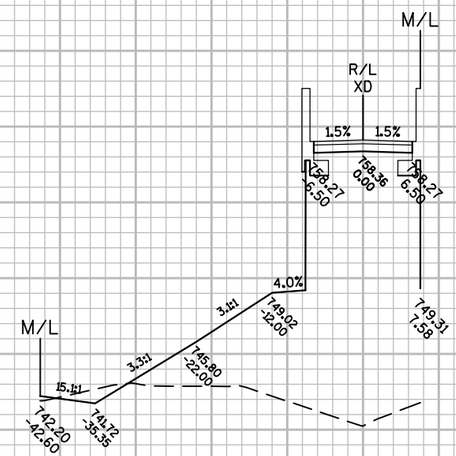
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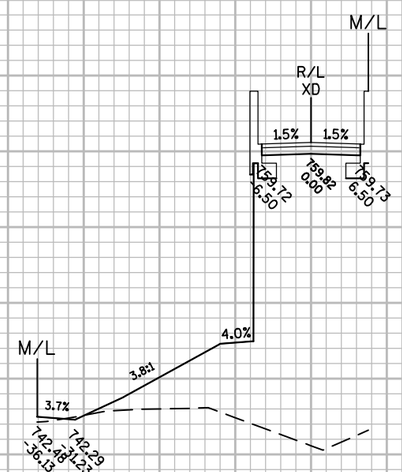
PROJECT NO: 1060-33-83	HWY: USH 45	COUNTY: MILWAUKEE	CROSS SECTIONS: XD	SHEET 376	E

FILE NAME : W:\PDS\C3D\10603316\83\DSN\XS\090501_XS_XD.DWG
LAYOUT NAME - SECTION SHEET - (8)

PLOT DATE : 1/24/2015 3:40 PM PLOT BY : SPAETH, MICHELE L PLOT NAME : PLOT SCALE : 1:20_XREF

WISDOT/CADDS SHEET 49





28+50

28+21

5 FT

10 FT

9

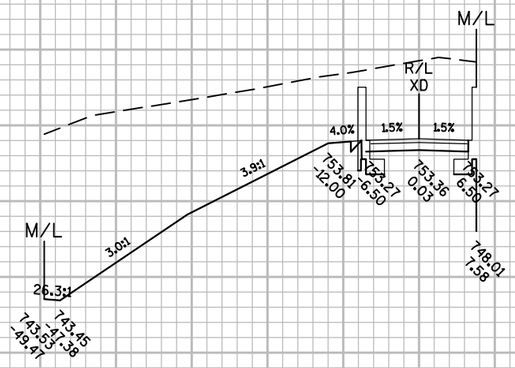
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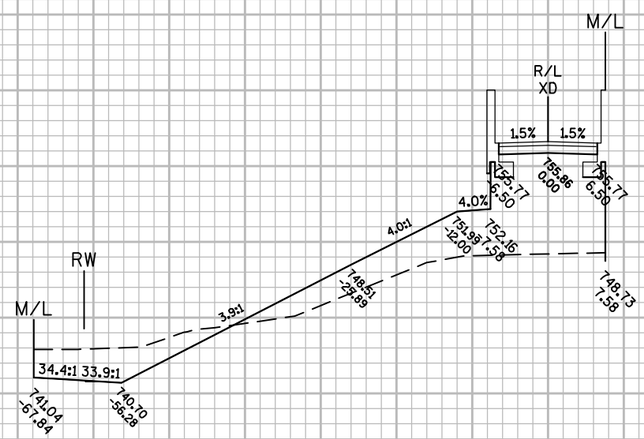
PROJECT NO: 1060-33-83	HWY: USH 45	COUNTY: MILWAUKEE	CROSS SECTIONS: XD	SHEET 377	E

FILE NAME : W:\PDS\C3D\10603316\83\DSN\XS\090501_XS_XD.DWG
LAYOUT NAME - SECTION SHEET - (9)

PLOT DATE : 1/24/2015 3:40 PM PLOT BY : SPAETH, MICHELE L PLOT NAME : PLOT SCALE : 1:20_XREF

WISDOT/CADDS SHEET 49





9

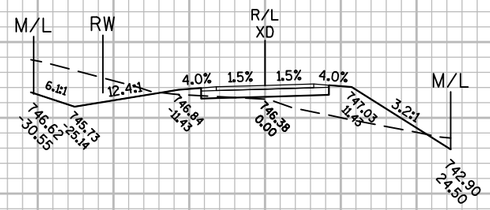
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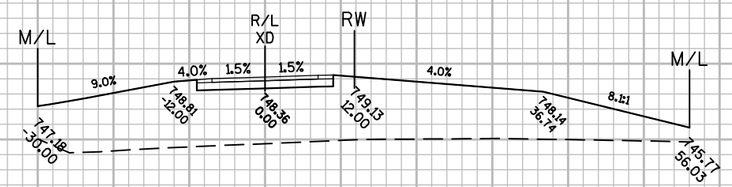
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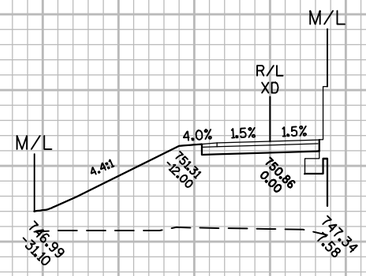
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LAYOUT NAME - SECTION SHEET - (10)

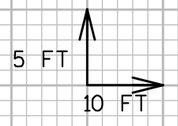
PLOT DATE : 1/24/2015 3:40 PM PLOT BY : SPAETH, MICHELE L PLOT NAME : PLOT SCALE : 1:20_XREF

WISDOT/CADDS SHEET 49









31+00

30+50

30+00

9

9

PROJECT NO: 1060-33-83	HWY: USH 45	COUNTY: MILWAUKEE	CROSS SECTIONS: XD	SHEET 379	E

FILE NAME : W:\PDS\C3D\10603316\83\DSN\XS\090501_XS_XD.DWG
LAYOUT NAME - SECTION SHEET - (11)

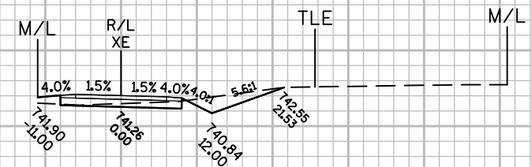
PLOT DATE : 1/24/2015 3:41 PM PLOT BY : SPAETH, MICHELE L PLOT NAME : PLOT SCALE : 1:20_XREF

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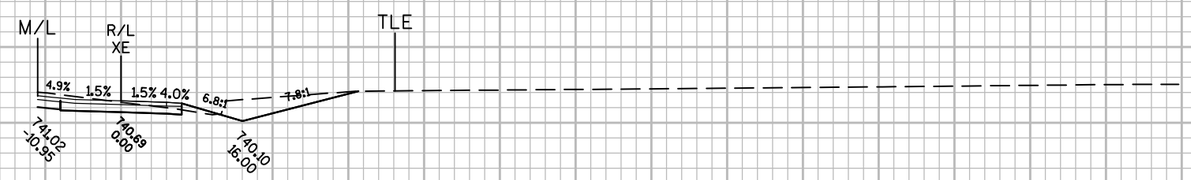
PROJECT NO: 1060-33-83	HWY: USH 45	COUNTY: MILWAUKEE	CROSS SECTIONS: XD	SHEET 380	E

9

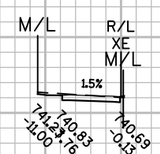
FILE NAME : W:\PDS\C3D\10603316\83\DSN\XS\090501_XS_XD.DWG
LAYOUT NAME - SECTION SHEET - (12)
PLOT DATE : 1/24/2015 3:41 PM PLOT BY : SPAETH, MICHELE L PLOT NAME : PLOT SCALE : 1:20_XREF
WISDOT/CADDS SHEET 49



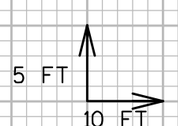
100+50



100+00



99+80

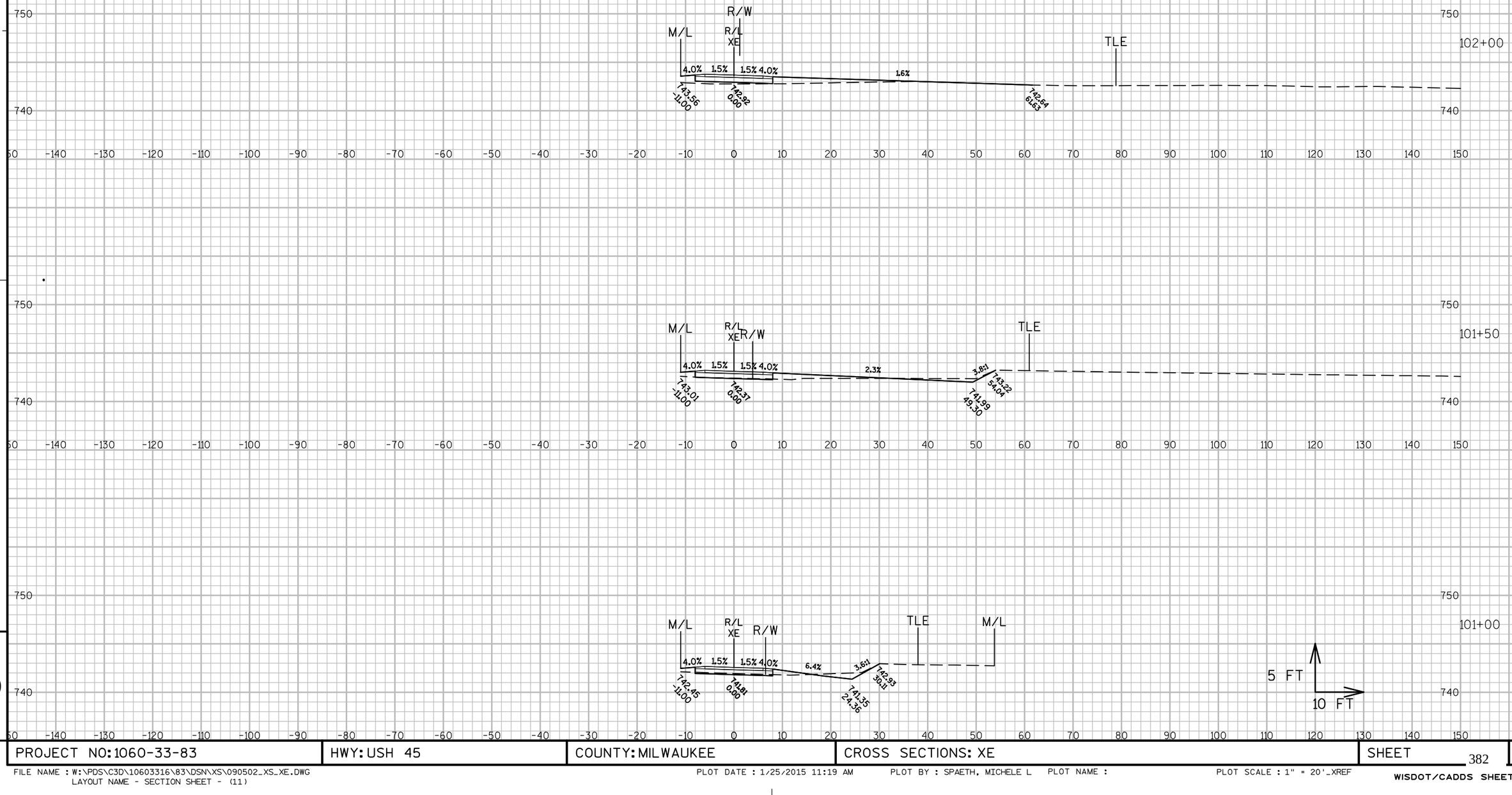


PROJECT NO: 1060-33-83	HWY: USH 45	COUNTY: MILWAUKEE	CROSS SECTIONS: XE	SHEET 381	E

FILE NAME : W:\PDS\C3D\10603316\83\DSN\XS\090502_XS_XE.DWG
LAYOUT NAME - SECTION SHEET - (10)

PLOT DATE : 1/25/2015 11:19 AM PLOT BY : SPAETH, MICHELE L PLOT NAME : PLOT SCALE : 1" = 20'_XREF

WISDOT/CADDS SHEET 49

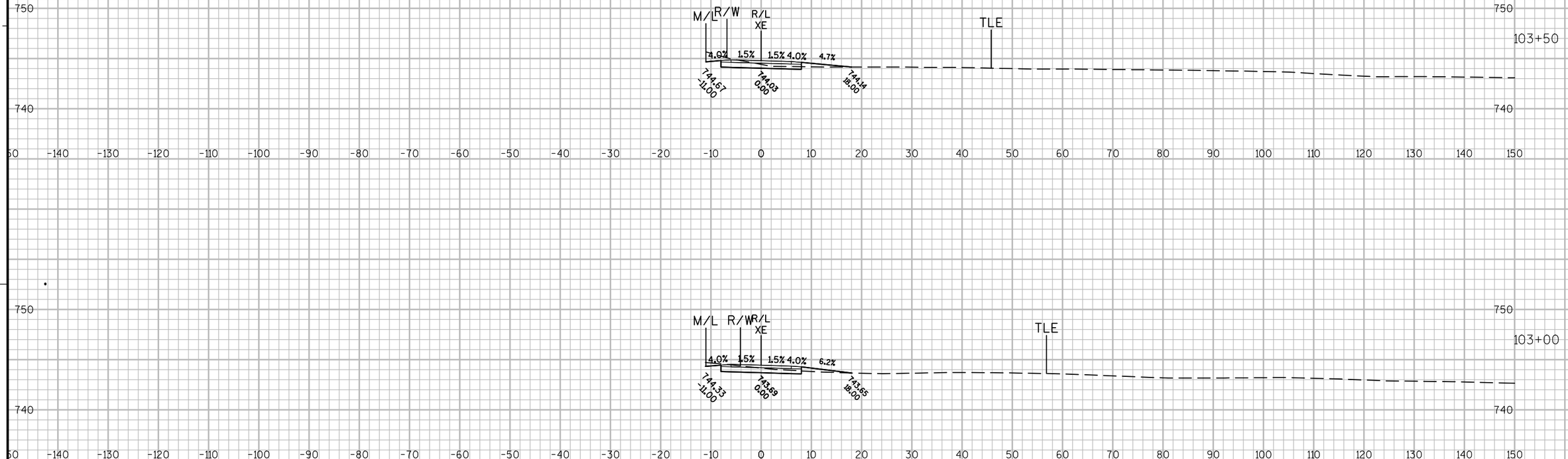


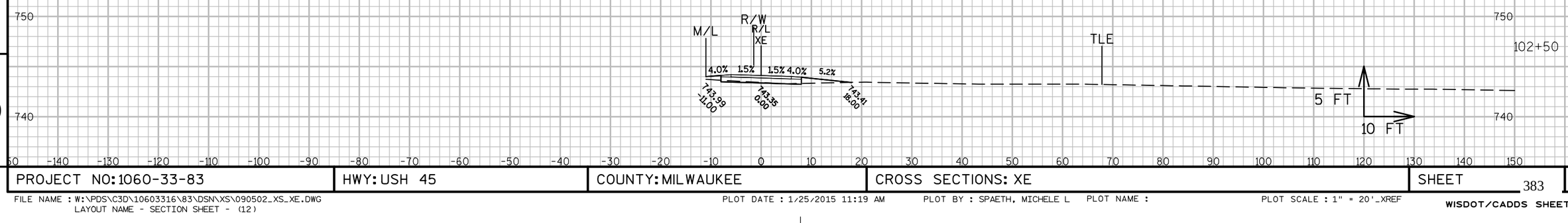
PROJECT NO: 1060-33-83	HWY: USH 45	COUNTY: MILWAUKEE	CROSS SECTIONS: XE	SHEET 382 E

FILE NAME : W:\PDS\C3D\10603316\83\DSN\XS\090502_XS_XE.DWG
LAYOUT NAME - SECTION SHEET - (11)

PLOT DATE : 1/25/2015 11:19 AM PLOT BY : SPAETH, MICHELE L PLOT NAME : PLOT SCALE : 1" = 20'_XREF

WISDOT/CADDS SHEET 49





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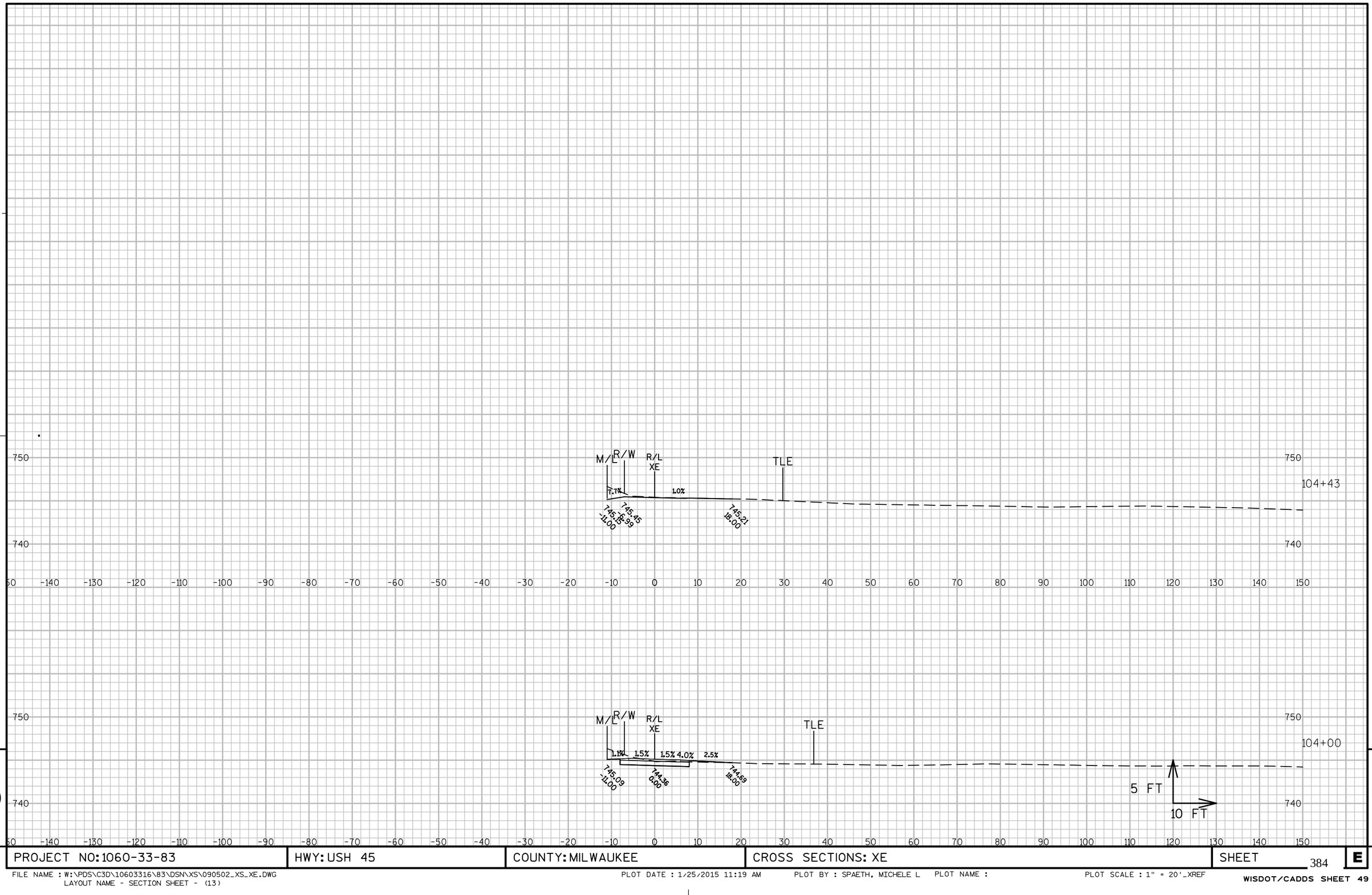
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PROJECT NO: 1060-33-83	HWY: USH 45	COUNTY: MILWAUKEE	CROSS SECTIONS: XE	SHEET 383	E

FILE NAME : W:\PDS\C3D\10603316\83\DSN\XS\090502_XS_XE.DWG
LAYOUT NAME - SECTION SHEET - (12)

PLOT DATE : 1/25/2015 11:19 AM PLOT BY : SPAETH, MICHELE L PLOT NAME : PLOT SCALE : 1" = 20'_XREF

WISDOT/CADDS SHEET 49



9

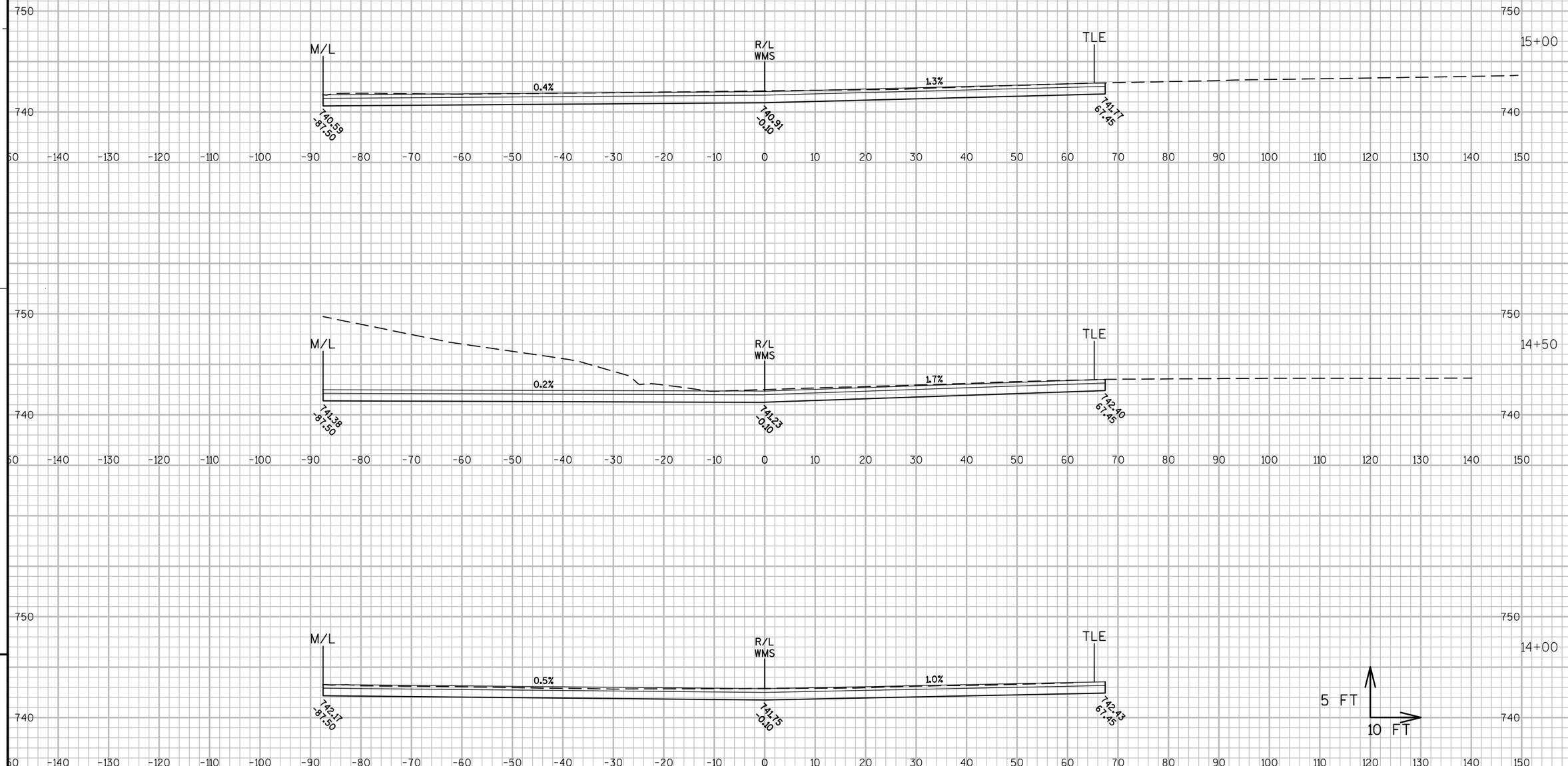
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PROJECT NO: 1060-33-83	HWY: USH 45	COUNTY: MILWAUKEE	CROSS SECTIONS: XE	SHEET 384	E

FILE NAME : W:\PDS\C3D\10603316\83\DSN\XS\090502_XS_XE.DWG
LAYOUT NAME - SECTION SHEET - (13)

PLOT DATE : 1/25/2015 11:19 AM PLOT BY : SPAETH, MICHELE L PLOT NAME : PLOT SCALE : 1" = 20'_XREF

WISDOT/CADDS SHEET 49



9

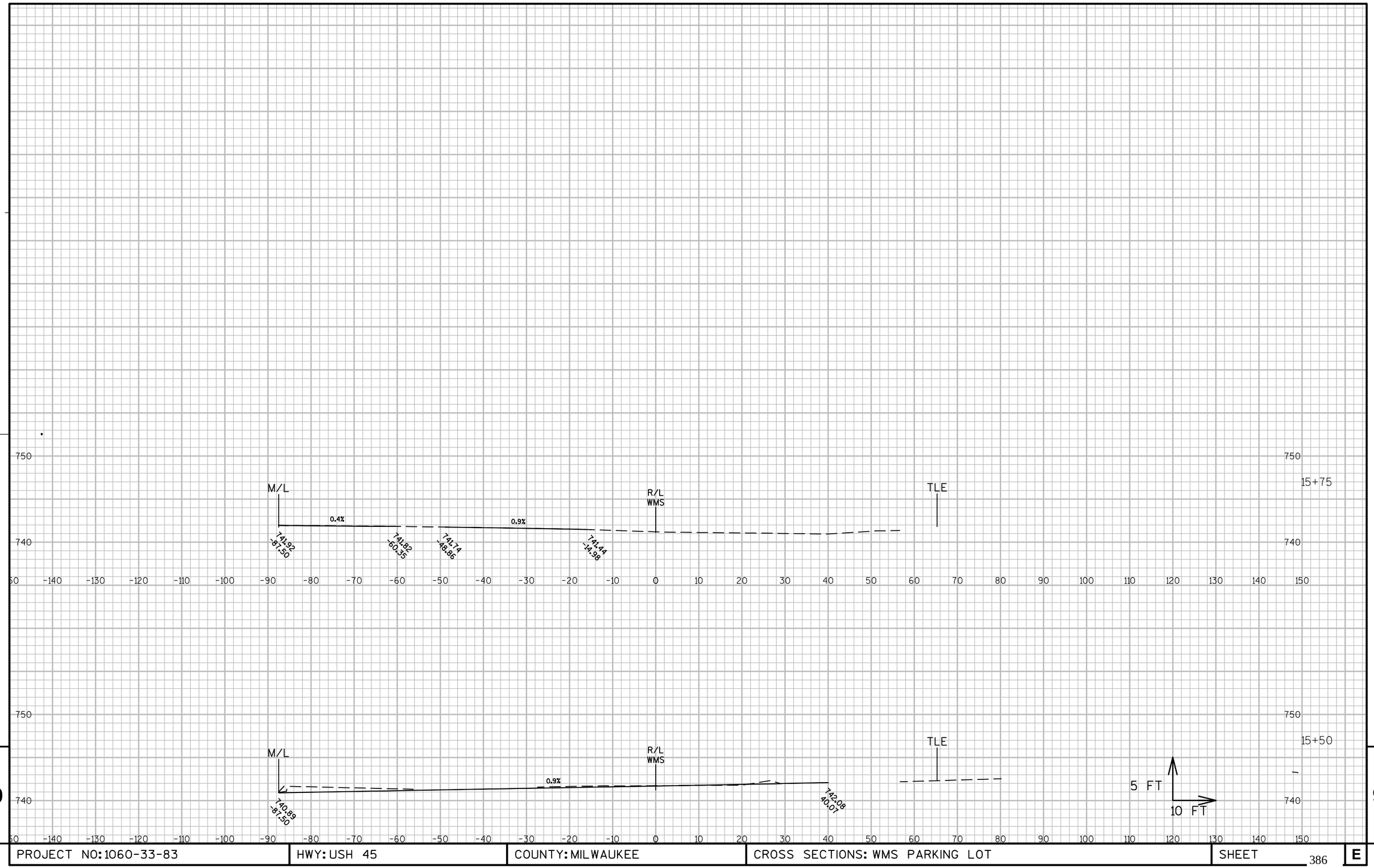
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PROJECT NO: 1060-33-83	HWY: USH 45	COUNTY: MILWAUKEE	CROSS SECTIONS: WMS PARKING LOT	SHEET 385	E

FILE NAME : W:\PDS\C3D\10603316\83\DSN\XS\XS_PARKINGLOT.DWG
LAYOUT NAME - SECTION SHEET - (5)

PLOT DATE : 1/25/2015 2:49 PM PLOT BY : SPAETH, MICHELE L PLOT NAME : PLOT SCALE : 1:20_XREF

WISDOT/CADDS SHEET 49



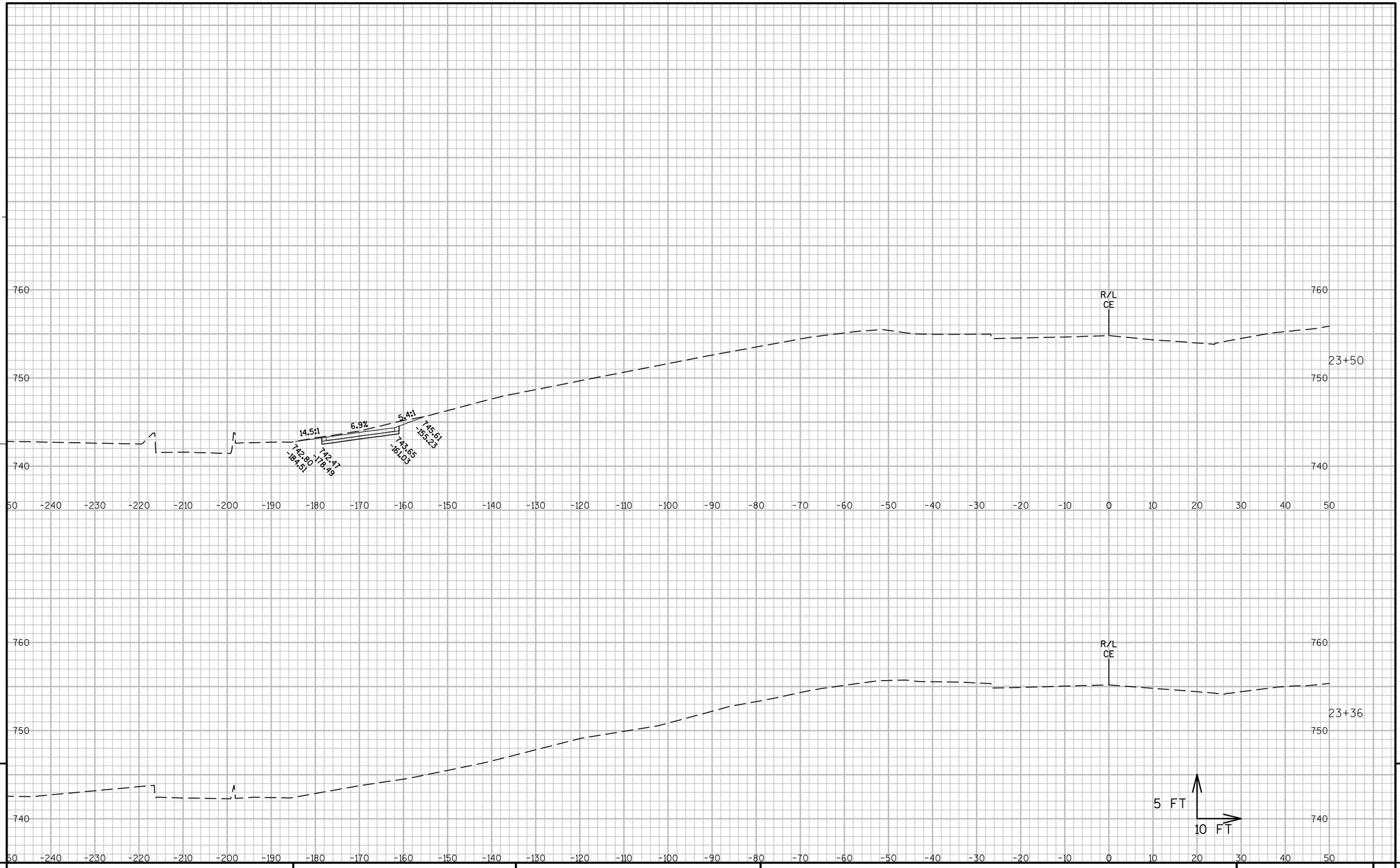
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PROJECT NO: 1060-33-83	HWY: USH 45	COUNTY: MILWAUKEE	CROSS SECTIONS: WMS PARKING LOT	SHEET 386	E

FILE NAME : W:\PDS\C3D\10603316\83\DSN\XS\XS_PARKINGLOT.DWG
LAYOUT NAME - SECTION SHEET - (6)

PLOT DATE : 1/25/2015 2:49 PM PLOT BY : SPAETH, MICHELE L PLOT NAME : PLOT SCALE : 1:20_XREF

WISDOT/CADDS SHEET 49



9

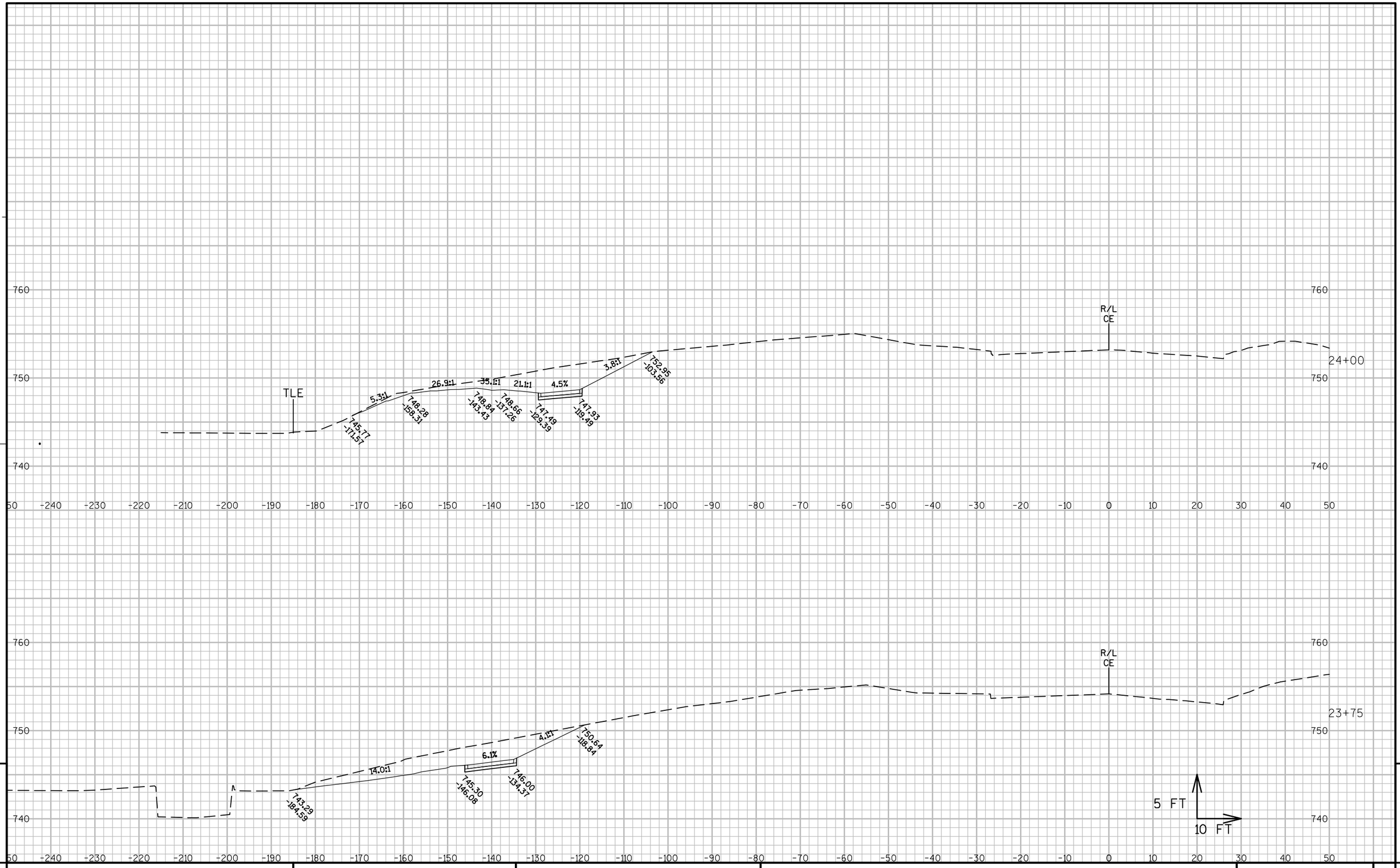
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PROJECT NO: 1060-33-83	HWY: USH 45	COUNTY: MILWAUKEE	CROSS SECTIONS: WHITMAN MIDDLE SCHOOL SIDEWALK	SHEET 387	E

FILE NAME : W:\PDS\C3D\10603316\83\DSN\XS\090602_XS_WSW.DWG
LAYOUT NAME - SECTION SHEET - (1)

PLOT DATE : 1/24/2015 11:09 AM PLOT BY : SPAETH, MICHELE L PLOT NAME : PLOT SCALE : 1:20_XREF

WISDOT/CADDS SHEET 49

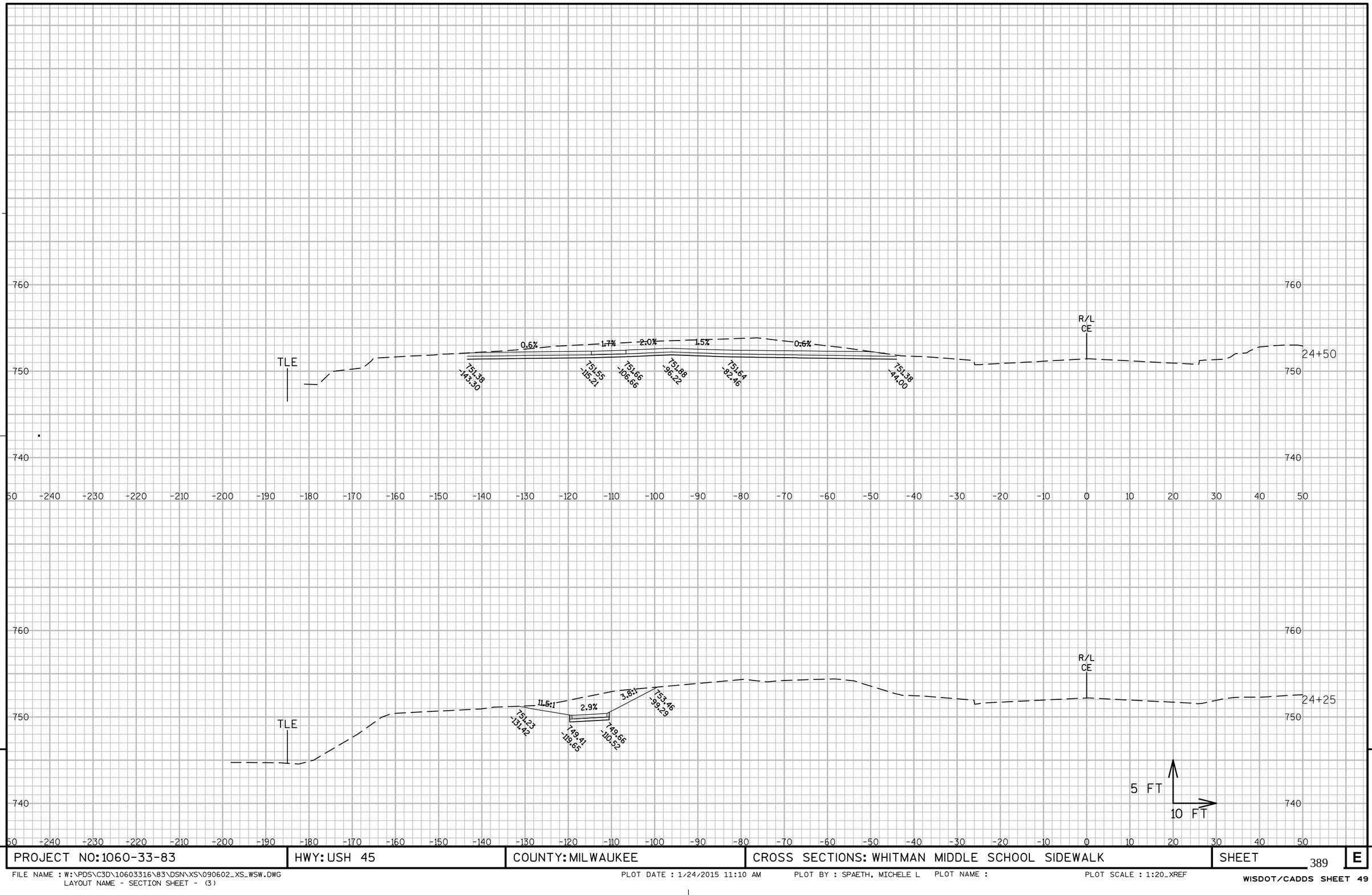


PROJECT NO: 1060-33-83	HWY: USH 45	COUNTY: MILWAUKEE	CROSS SECTIONS: WHITMAN MIDDLE SCHOOL SIDEWALK	SHEET 388	E

FILE NAME : W:\PDS\C3D\10603316\83\DSN\XS\090602_XS_WSW.DWG
LAYOUT NAME - SECTION SHEET - (2)

PLOT DATE : 1/24/2015 11:09 AM PLOT BY : SPAETH, MICHELE L PLOT NAME : PLOT SCALE : 1:20_XREF

WISDOT/CADDS SHEET 49



9

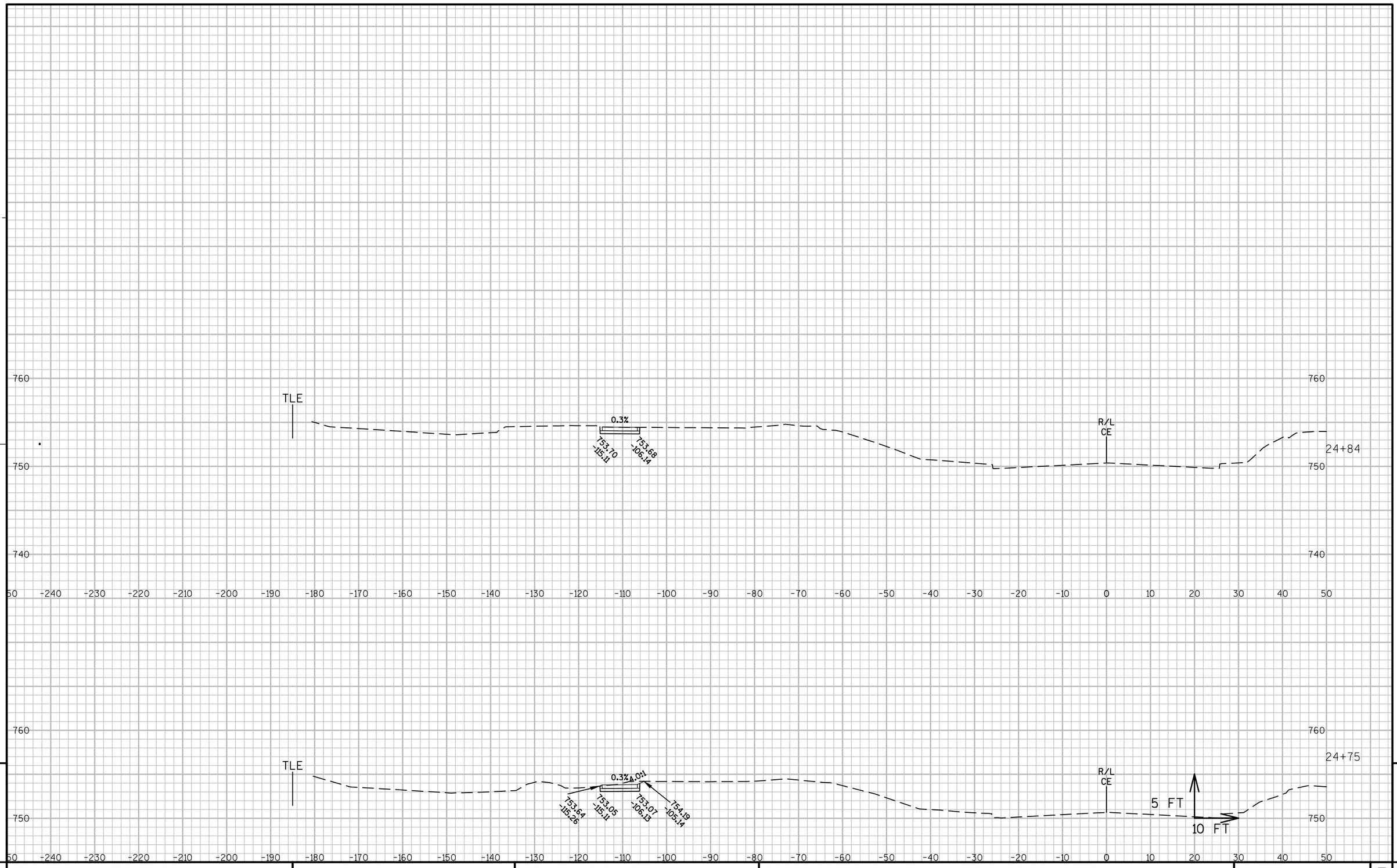
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PROJECT NO: 1060-33-83	HWY: USH 45	COUNTY: MILWAUKEE	CROSS SECTIONS: WHITMAN MIDDLE SCHOOL SIDEWALK	SHEET 389	E

FILE NAME : W:\PDS\C3D\10603316\83\DSN\XS\090602_XS_WSW.DWG
LAYOUT NAME - SECTION SHEET - (3)

PLOT DATE : 1/24/2015 11:10 AM PLOT BY : SPAETH, MICHELE L PLOT NAME : PLOT SCALE : 1:20_XREF

WISDOT/CADDS SHEET 49



9

9

PROJECT NO: 1060-33-83	HWY: USH 45	COUNTY: MILWAUKEE	CROSS SECTIONS: WHITMAN MIDDLE SCHOOL SIDEWALK	SHEET 390	E

FILE NAME : W:\PDS\C3D\10603316\83\DSN\XS\090602_XS_WSW.DWG
LAYOUT NAME - SECTION SHEET - (4)

PLOT DATE : 1/24/2015 11:10 AM PLOT BY : SPAETH, MICHELE L PLOT NAME : PLOT SCALE : 1:20_XREF

Notes

Wisconsin Department of Transportation

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