GRE

MAY 2014

PROJECT ID: 1517-07-72

COUNTY: WINNEBAGO

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 = 652

STATE PROJECT	FEDERAL PROJECT	
	PROJECT	CONTRACT
1517-07-72		

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

PLAN OF PROPOSED IMPROVEMENT

USH 10 - USH 10/STH 441

COUNTY CB - ONEIDA STREET

USH 10

WINNEBAGO COUNTY

USH 41 INTERCHANGE PHASE 1

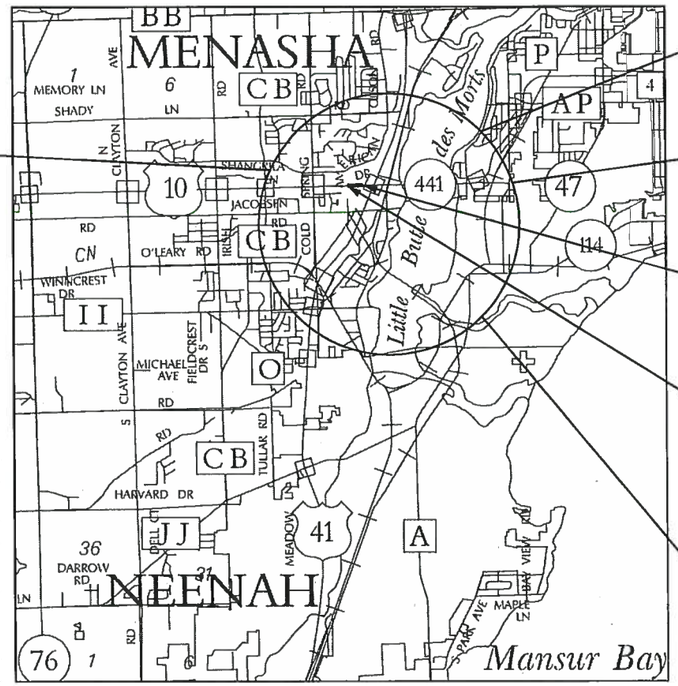
STATE PROJECT NUMBER
1517-07-72

26

N

BRIDGES
B-70-134
B-70-402

R-17-E



BOX CULVERT
C-70-42
C-70-54

RETAINING WALLS
R-70-100
R-70-102
R-70-105
R-70-115
R-70-121

END PROJECT ID 1517-07-72
STA 133WB+00.00

BEGIN PROJECT
ID 1517-07-72
STA 114WB+50.00
X=808261.38
Y=546433.46

T-20-N

SIGN STRUCTURE
S-70-203
S-70-205
S-70-253

DESIGN DESIGNATION USH 41 USH 10

A.A.D.T.	2020	=	96,100	31,500
A.A.D.T.	2038	=	113,800	41,000
D.H.V.		=	11,610	9,500
D.D.		=	51%	57%
T.		=	12.5%	11.0%
DESIGN SPEED		=	70 MPH	70 MPH
ESALS		=	22,125,000	11,772,000

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
- COMMUNICATION OVERHEAD — OH
- COMMUNICATION UNDERGROUND — C
- ELECTRIC OVERHEAD — OH
- ELECTRIC UNDERGROUND — FO
- GAS — G
- SANITARY SEWER — SAN
- STORM SEWER — SS
- WATER — W
- UTILITY PEDESTAL
- POWER POLE
- TELEPHONE POLE

LAYOUT
SCALE 0 0.75 MI.

TOTAL NET LENGTH OF CENTERLINE = 0.350 MI.

-COORDINATES ON THIS PLAN ARE REFERENCED TO THE WISCONSIN COUNTY COORDINATE SYSTEM (WCCS), WINNEBAGO COUNTY NAVD 83 (1991).
-ELEVATIONS SHOWN ON THIS PLAN ARE REFERENCED TO THE NORTH AMERICAN VERTICAL DATUM OF 1988, NAVD 88 (1991).

ORIGINAL PLANS PREPARED BY
KAPUR & ASSOCIATES, INC.
CONSULTING ENGINEERS
MILWAUKEE, WISCONSIN
414.751.7200

WISCONSIN PROFESSIONAL ENGINEER
PRASAD S. NARAYAN
E-26170
BROOKFIELD, WI.

1.29.14 (Date) Prasad Narayan (Signature)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

PREPARED BY

Surveyor	WISDOT/TCP
Designer	KAPUR & ASSOCIATES
Project Manager	SCOTT EBEL
Regional Examiner	
Regional Supervisor	CHAD DEGRAVE
C.O. Examiner	

APPROVED FOR THE DEPARTMENT
DATE: 1/29/14 (Signature)

E

FILE NAME : S:\DOT\DOT_NE\120012-Tri County Freeway\1517-07-72\DGN_Files\Plansheets\010101_ti.dgn | PLOT DATE : 1/28/2014 | PLOT BY : wally_w | PLOT NAME : | PLOT SCALE : 1:16000

WISDOT/CADDS SHEET 10

GENERAL NOTES

THE CONTRACTOR SHALL CONTACT THE UTILITIES AND DIGGERS HOTLINE TO LOCATE AND FIELD VERIFY UTILITIES PRIOR TO THE START OF WORK. THE LOCATIONS OF EXISTING AND PROPOSED UTILITY INSTALLATIONS AS SHOWN ON THE PLANS ARE APPROXIMATE. THERE MAY BE OTHER UTILITY INSTALLATIONS WITHIN THE PROJECT AREA THAT ARE NOT SHOWN. ANY LOCAL, MUNICIPAL OR OTHER UTILITY THAT IS NOT A MEMBER OF DIGGERS HOTLINE SHALL BE CONTACTED SEPERATELY.

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

RIGHT OF WAY LINES SHOWN ON THE CROSS SECTIONS ARE APPROXIMATE.

ANY MESH MATERIAL THAT IS FOUND IN EXISTING PAVEMENT WILL BE INCIDENTAL TO THE REMOVAL OF THE PAVEMENT ITEM IN THAT SECTION.

A SAWED JOINT IS REQUIRED WHERE NEW HMA PAVEMENT MEETS EXISTING HMA PAVEMENT.

REMOVAL PLAN DOES NOT INCLUDE REMOVAL OF TEMPORARY PAVEMENT. SEE TRAFFIC CONTROL PLAN.

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

VERIFY PROPOSED BEAMGUARD AND THRIE BEAM POST SPACING PRIOR TO SIGN STRUCTURE AND DRAINAGE STRUCTURE PLACEMENT.

PROTECT INLETS WITH PROPER INLET PROTECTION AT LOCATIONS EXHIBITING RISK OF BEING IMPACTED BY CONSTRUCTION OPERATIONS AS SHOWN ON THE PLANS, OR AS DIRECTED BY THE ENGINEER.

THE CONTRACTOR SHALL BE RESPONSIBLE FOR RESHAPING AND SEEDING ANY PREVIOUSLY GRASSED AREAS WHICH ARE DISTURBED BY ANY OPERATION OUTSIDE OF THE NORMAL CONSTRUCTION LIMITS AT THE CONTRACTOR'S EXPENSE.

PLACE SALVAGED TOPSOIL OR TOPSOIL IN ALL GRADED AREAS AS DESIGNATED BY THE ENGINEER IMMEDIATELY AFTER GRADING HAS BEEN COMPLETED. SEED, MULCH, AND FERTILIZE OR SOD ALL AREAS 5 DAYS AFTER PLACEMENT OF SALVAGED TOPSOIL.

EROSION BALES ARE TO ONLY BE USED FOR REINFORCEMENT OF PROPOSED SILT FENCE LOCATIONS ALONG WETLANDS AS SHOWN IN THE PLANS. ANY OTHER USE OF EROSION BALES IS PROHIBITED.

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

CROSS SECTIONS SHOWN INCLUDE THE THICKNESS OF TOPSOIL WHERE REQUIRED. TOPSOIL SHALL BE REPLACED WITH SPECIFIED THICKNESS AS OUTLINED IN THE STANDARD SPECIFICATIONS AND SPECIAL PROVISIONS.

FILL AND COMPACT ALL HOLES OR OPENINGS BELOW SUBGRADE RESULTING FROM ABANDONMENT OR REMOVAL OF EXISTING STRUCTURES WITH GRANULAR BACKFILL. BACKFILLING IS INCIDENTAL TO CORRESPONDING ABANDONMENT OR REMOVAL ITEM.

FERTILIZER SHALL NOT BE USED NEAR NAVIGABLE WATERWAYS OR WETLANDS.

BROKEN CONCRETE CONTAINING STEEL SHALL NOT BE USED AS RIPRAP OR HEAVY RIPRAP.

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

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

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

SIGNS IN CONFLICT WITH TRAFFIC CONTROL "IN USE" SHALL BE COVERED AS DIRECTED BY THE ENGINEER AND PAID FOR UNDER THE ITEM "TRAFFIC CONTROL COVERING SIGNS TYPE I OR TYPE II."

STATIONING, DISTANCES AND OFFSETS FOR SIGNS SHOWN IN THE PLANS ARE APPROXIMATE AND THE FINAL LOCATION OF SIGNS ARE TO BE DETERMINED BY THE ENGINEER.

BENCHMARK LOCATIONS SHOWN ON PLAN ARE APPROXIMATE AND SHOULD BE VERIFIED.

ALL ITEMS ASSOCIATED WITH SIGNING REMOVALS ARE SHOWN ON SIGNING PLAN, EXCEPT FOR REMOVING OLD SIGN STRUCTURES.

EXCAVATION REQUIRED FOR ALL SIGN STRUCTURES, BRIDGES, AND RETAINING WALLS IS NOT INCLUDED IN THE COMPUTER EARTHWORK AND IS INCIDENTAL TO THE PERTINANENT STRUCTURE ITEMS. SEE STRUCTURE PLANS FOR ADDITIONAL GUIDANCE ON REQUIRED EXCAVATION LIMITS.

UNLESS SHOWN IN THE PLAN, REMNANT FILL AREAS IN THE SYSTEM INTERCHANGE MAY NOT BE USED AS ROADWAY EMBANKMENT.

ALIGNMENTS ARE LABELED WITH THE FOLLOWING IDENTIFIERS:

ALIGNMENT IDENTIFIERS	
EB	USH 10 EB / STH 441 NB
FEN	USH 10 EB TO USH 41 NB
FES	USH 10 EB TO USH 41 SB
FNE	USH 41 NB TO USH 10 EB / STH 441 NB
FNW	USH 41 NB TO USH 10 WB
FSE	USH 41 SB TO USH 10 EB / STH 441 NB
FSW	USH 41 SB TO USH 10 WB
FWN	USH 10 WB / STH 441 SB TO USH 41 NB
FWS	USH 10 WB / STH 441 SB TO USH 41 SB
NB	USH 41 NB
SB	USH 41 SB
WB	USH 10 WB / STH 441 SB

ABBREVIATIONS

AEW	APRON END WALL
AGG	AGGREGATE
BAD	BASE AGGREGATE DENSE
BM	BENCH MARK
C&G	CURB AND GUTTER
C/L	CENTER OR CONSTRUCTION LINE
CMCP	CULVERT PIPE CORRUGATED METAL
CONC	CONCRETE
CP	CULVERT PIPE
CPRC	CULVERT PIPE REINFORCED CONCRETE
CSD	CONCRETE SURFACE DRAIN
CY	CUBIC-YARD
D	DEGREE OF CURVE
Δ	DELTA
DISCH	DISCHARGE
EAT	ENERGY ABSORBING TERMINAL
FE	FIELD ENTRANCE
HMA	HOT MIX ASPHALT
INV	INVERT
L	LENGTH OF CURVE
LHF	LEFT HAND FORWARD
LT	LEFT
MIN	MINIMUM
M/L	MATCHLINE
NB	NORTHBOUND
NC	NORMAL CROWN
NIC	NOT IN CONTRACT
PAVT	PAVEMENT
PC	POINT OF CURVE
PCC	POINT OF COMPOUND CURVE
PE	PRIVATE ENTRANCE
PI	POINT OF INTERSECTION
PLE	PERMANENT LIMITED EASMENT
PT	POINT OF TANGENT
R	RADIUS OF CURVE
R/L	REFERENCE LINE
R/W	RIGHT OF WAY
RC	REVERSE CROWN
RCAEW	APRON ENDWALL FOR CULVERT PIPE REINFORCED CONCRETE
REQD	REQUIRED
RHF	RIGHT HAND FORWARD
RO	RUN OFF LENGTH
RRSP	RAILROAD SPIKE
RT	RIGHT
SALV	SALVAGED
SAPBC	SALVAGED ASPHALTIC PAVEMENT BASE COARSE
SB	SOUTHBOUND
SDD	STANDARD DETAIL DRAWINGS
SE	SUPER ELEVATION
SF	SQUARE FOOT
SSPRC	STORM SEWER PIPE REINFORCED CONCRETE
STA	STATION
SY	SQUARE YARD
T	TANGENT LENGTH
TLE	TEMPORARY LIMITED EASEMENT
VCL	VERTICAL CURVE LENGTH
VPC	POINT OF VERTICAL CURVE
VPI	POINT OF VERTICAL INTERSECTION

2

OTHER AGENCIES

DNR AREA LIAISON

JAY SCHIEFELBEIN
DEPARTMENT OF NATURAL RESOURCES
2984 SHAWANO AVENUE
GREEN BAY, WI 54313
(920) 662-5407
JEREMIAH.SCHIEFELBEIN@WISCONSIN.GOV

US ARMY CORP OF ENGINEERS

ANN NYE
OLD FORT SQUARE
211 N. BROADWAY, STE 221
GREEN BAY, WI 54303
(920) 448-2824
ANN.M.NYE@USACE.ARMY.MIL

COUNTY SURVEYOR OR SURVEYS CONTACT PERSON

DIANE CULVER
WINNEBAGO COUNTY PLANNING AND ZONING DEPT
PO BOX 2808
OSHKOSH, WI 54903
920-232-3335
DCULVER@CO.WINNEBAGO.WI.US

WINNEBAGO COUNTY HIGHWAY COMMISSIONER

ERNIE WINTERS
901 WEST COUNTY ROAD Y
P.O. BOX 2764
OSHKOSH, WI 54903
(920) 232-1700

DESIGN CONTACTS

SCOTT EBEL
WISDOT - NE REGION
1940 WEST MASON STREET
GREEN BAY, WI 54303
920-492-2240
SCOTT.EBEL@DOT.WI.GOV

JUSTIN ARNDT
KAPUR & ASSOCIATES, INC.
7711 N. PORT WASHINGTON RD.
MILWAUKEE, WI 53217
414-751-7233
JARNDT@KAPUR-ASSOC.COM

WISCONSIN CENTRAL LTD CONTACTS

RAILROAD FLAGGING CONTACT
MARY ELLEN CARMODY
2800 LIVERNOIS ROAD, SUITE 330
TROY, MI 48083
OFFICE: (248) 740-6227
FAX: (248) 740-6036
MARYELLEN.CARMODY@CN.CA

MAIN RAILROAD CONTACT
JACKIE MACEWICZ
MANAGER PUBLIC WORKS
1625 DEPOT STREET
STEVENS POINT, WI 54481
OFFICE: (715) 345-2503
FAX: (715) 345-2507
JACKIE.MACEWICZ@CN.CA

24 HOUR EMERGENCY RAILROAD SIGNAL

1-800-616-3432

CALL BEFORE YOU DIG

WISCONSIN CENTRAL LTD IS NOT PART OF DIGGERS HOTLINE.
CALL CHRISTINE GRZESIAK, (715) 345-2506, WHEN DIGGING ON RAILROAD R/W

ORDER OF SECTION 2 DETAIL SHEETS

GENERAL NOTES
UTILITY CONTACTS
PROJECT OVERVIEW
TYPICAL SECTIONS
CONSTRUCTION DETAILS
REMOVAL PLAN
PLAN DETAIL
PAVING GRADES
WETLAND DETAILS
INVASIVE SPECIES
EROSION CONTROL
POND DETAILS
STORM SEWER PLAN
PERMANENT SIGNING PLAN
LIGHTING PLAN
STAGE CONSTRUCTION
TRAFFIC CONTROL
ALIGNMENT PLAN

UTILITY CONTACTS

AT&T LEGACY
MR. WILLIAM KOENIG
C/O JMC ENGINEERS & ASSOCIATES, INC.
P.O. BOX 244
LAKE MILLS, WI 53551
MOBILE: (608) 628-0575
JMC140@FRONTIER.COM

AT&T TCG
MR. DON DIETSCH
C/O NORTHWIND TECHNICAL SERVICES LLC
383 WILLAMSTOWNE STE B
DELAFIELD, WI 53018
(262) 646-5602
MOBILE: (414) 651-2862
FAX: (262) 646-5603
D.DIETSCH@NORTHWINDTECH.COM

AT&T WISCONSIN
MR. VINCENT LEBRUN
221 W. WASHINGTON ST 4TH FLOOR
APPLETON, WI 54911
(920) 735-3076
VL1253@ATT.COM

TOWN OF MENASHA - SANITARY SEWER
MR. STEVEN LAABS
UTILITY DISTRICT
2340 AMERICAN DR
NEENAH, WI 54956
(920) 739-5120
STEVEL@TOWN-MENASHA.COM

TOWN OF MENASHA - WATER
MR. JEFF ROTH
UTILITY DISTRICT
2000 MUNICIPAL DR
NEENAH, WI 54956
(920) 720-7175
JEFFR@TOWN-MENASHA.COM

SPRINT
MR. JAMES BURTON
C/O ERICSSON INC.
400 W GRAND AVE
ELMHURST, IL 60126
(847) 737-1273
MOBILE: (708) 955-6659
JAMES.BURTON@ERICSSON.COM

TDS METROCOM
MR. STEVE JAKUBIEC
10 COLLEGE AVE STE 218A
APPLETON, WI 54911
(920) 882-4166
MOBILE: (920) 562-7221
STEVE.JAKUBIEC@TDSTELECOM.COM

TIME WARNER CABLE
MR. VINCE ALBIN
3520 DESTINATION DR
APPLETON, WI 54915
(920) 831-9249
MOBILE: (920) 378-0444
VINCE.ALBIN@TWCABLE.COM

TRANSCANADA
MR. ROBERT BIBELHAUSEN
ANR PIPELINE COMPANY
N 4956 OAKCREST DR
BONDUEL, WI 54107
(715) 758-3343
MOBILE: (715) 460-4001
ROBERT_BIBELHAUSEN@TRANSCANADA.COM

WE ENERGIES - ELECTRIC
MR. JIM QUINN
P.O. BOX 1699
APPLETON, WI 54912
(920) 380-3401
JIM.QUINN@WE-ENERGIES.COM

WE ENERGIES - GAS
MR. KEN VAN OSS
P.O. BOX 1699
APPLETON, WI 54912
(920) 380-3318
KENNETH.VAN-OSS@WE-ENERGIES.COM

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

RUNOFF COEFFICENT TABLE

	HYDROLOGIC SOIL GROUP											
	A			B			C			D		
	SLOPE RANGE (PERCENT)			SLOPE RANGE (PERCENT)			SLOPE RANGE (PERCENT)			SLOPE RANGE (PERCENT)		
LAND USE:	0-2	2-6	6 & OVER	0-2	2-6	6 & OVER	0-2	2-6	6 & OVER	0-2	2-6	6 & OVER
ROW CROPS	0.08	0.16	0.22	0.12	0.20	0.27	0.15	0.24	0.33	0.19	0.28	0.38
	0.22	0.30	0.38	0.26	0.34	0.44	0.30	0.37	0.50	0.34	0.41	0.56
MEDIAN STRIP-	0.19	0.20	0.24	0.19	0.22	0.26	0.20	0.23	0.30	0.20	0.25	0.30
TURF	0.24	0.26	0.30	0.25	0.28	0.33	0.26	0.30	0.37	0.27	0.32	0.40
SIDE SLOPE-			0.25			0.27			0.28			0.30
TURF			0.32			0.34			0.36			0.38
PAVEMENT:												
ASPHALT	.70 - .95											
CONCRETE	.80 - .95											
BRICK	.70 - .80											
DRIVES, WALKS	.75 - .85											
ROOFS	.75 - .95											
GRAVEL ROADS, SHOULDERS	.40 - .60											

1517-07-72

TOTAL PROJECT AREA = 94 ACRES

TOTAL AREA EXPECTED TO BE DISTURBED BY CONSTRUCTION ACTIVITIES = 37 ACRES

FILE NAME: S:\DOT\DOT_NE\120012-Tri County Freeway\PSE\30%\020101_GN.PPT PLOT DATE : 2/25/2014 10:09:28 AM PLOT BY : justin_a PLOT NAME : 020101_gn3 PLOT SCALE : 1:1

NOTE:
1) UNLESS SHOWN IN THE PLAN, REMNANT FILL AREAS IN THE SYSTEM INTERCHANGE MAY NOT BE USED AS ROADWAY EMBANKMENT.

BEGIN CONSTRUCTION
STA 118FEN+50.00

C-70-54 (CULVERT EXTENSION)

USH 10 EB TO USH 41 NB RAMP

END CONSTRUCTION
STA 125FEN+90.10

END CONSTRUCTION
STA 119FWS+44.57

USH 10 WB/STH 441 SB TO USH 41 SB RAMP

BEGIN CONSTRUCTION
STA 113FWS+00.00

BEGIN CONSTRUCTION
STA 1307FNW+89.43

USH 41 NB

S-70-203

BEGIN CONSTRUCTION
STA 1319FNE+57.14

END CONSTRUCTION
STA 1324FNW+50.00

C-70-42 (CULVERT EXTENSION)

BEGIN CONSTRUCTION
STA 136FEN+68.15

USH 41 NB TO USH 10 EB/STH 441 NB RAMP

R-70-102

END CONSTRUCTION
STA 142FEN+50.00

B-70-402

END CONSTRUCTION
STA 1342FNE+70.00

BEGIN PROJECT
STA 114WB+50.00

STORM WATER POND 1

USH 41 NB TO USH 10 WB RAMP

END PROJECT
STA 133WB+00.00

USH 10 EB

USH 10 WB

USH 41 SB

R-70-121

B-70-134

R-70-100

END CONSTRUCTION
STA 137FWN+24.85

BEGIN CONSTRUCTION
STA 152FEN+91.50

END CONSTRUCTION
STA 1338FNW+13.68

BEGIN CONSTRUCTION
STA 1334FNW+00.00

USH 10 WB/STH 441 SB TO USH 41 NB RAMP

S-70-253

S-70-205

R-70-115

R-70-105

BEGIN CONSTRUCTION
STA 1356NB+51.55

BEGIN CONSTRUCTION
STA 128FWN+01.18

END CONSTRUCTION
STA 1387NB+39.79

END CONSTRUCTION
STA 170FEN+75.00

LBDM BEACH ROAD

USH 41
WISCONSIN CENTRAL LTD RR

W AMERICAN DRIVE

WESTFIELD LN

USH 10

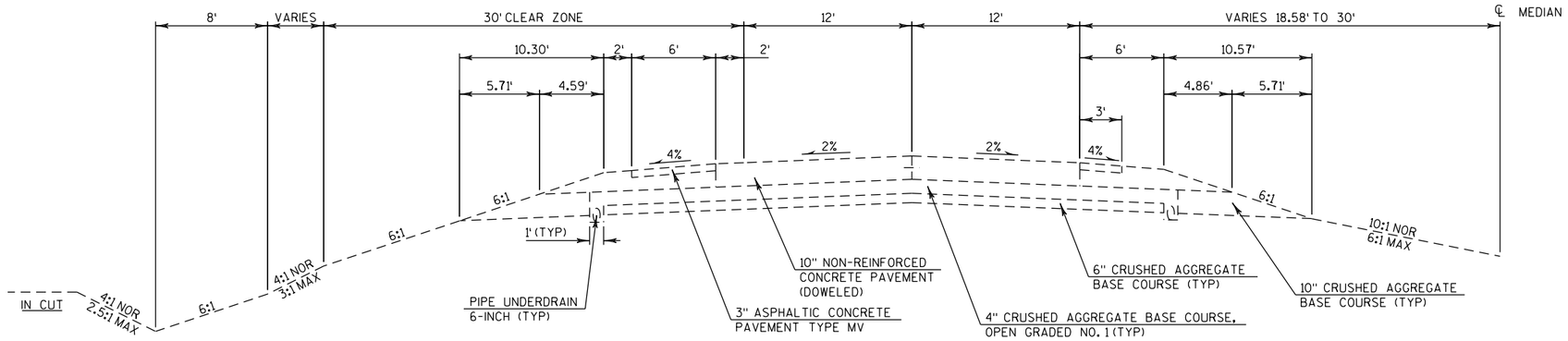
JACOBSON ROAD

N LAKE ST

PROJECT NO: 1517-07-72	HWY: USH 10	COUNTY: WINNEBAGO	PROJECT OVERVIEW	SHEET 5	E

FILE NAME : S:\DOT\DOT_NE\120012-Tri County Freeway\1517-07-72\DGN_Files\Plansheets\020201_po.dgn PLOT DATE : 2/25/2014 PLOT BY : wally_w PLOT NAME : PLOT SCALE : 1:600

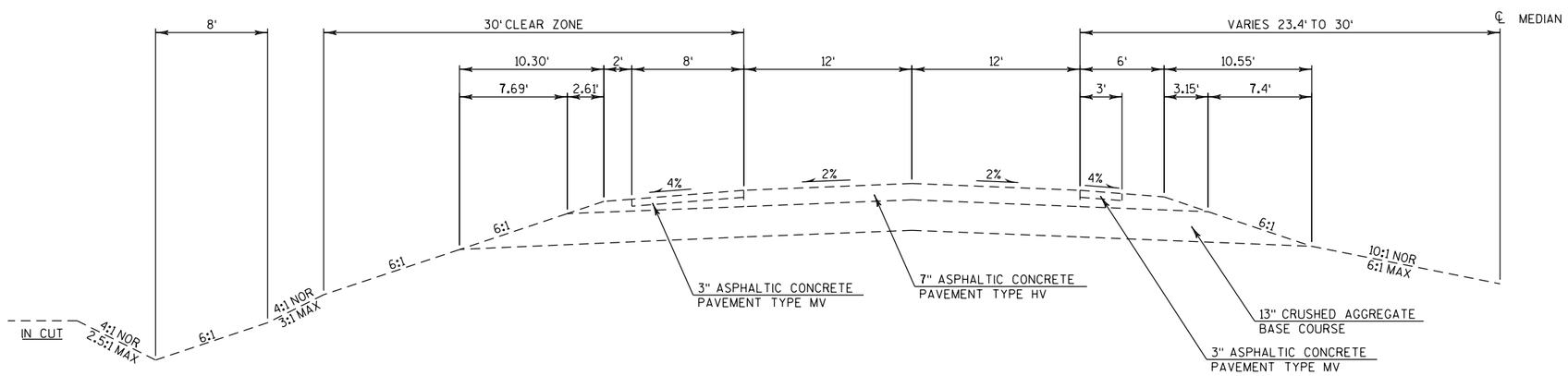
WISDOT/CADDS SHEET 42



EXISTING TYPICAL SECTION

USH 10 WB

STA 86WB+68.93 - STA 116WB+00

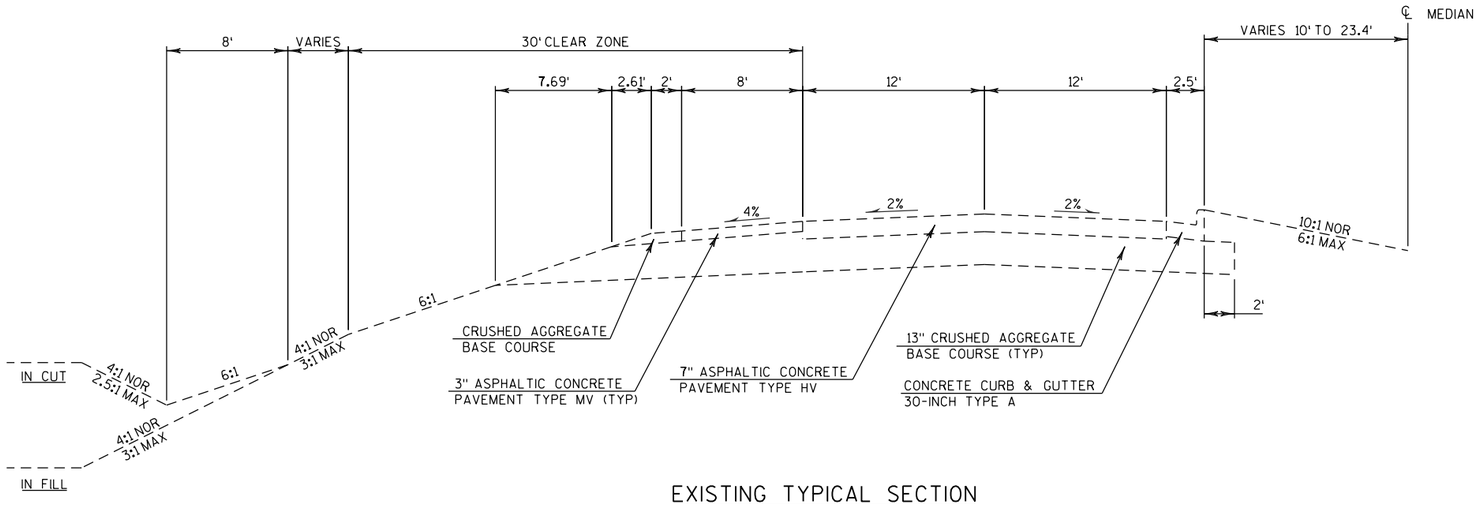


EXISTING TYPICAL SECTION

USH 10 WB

STA 116WB+00 - STA 120WB+92.38

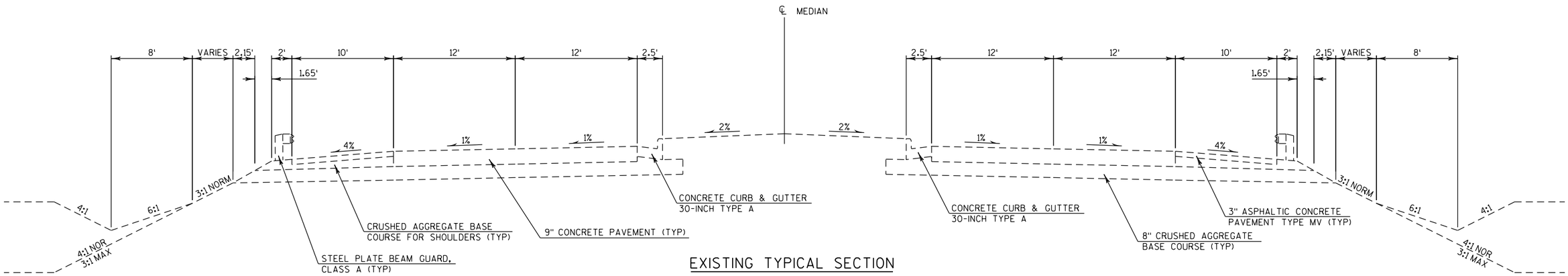
PROJECT NO: 1517-07-72	HWY: USH 10	COUNTY: WINNEBAGO	TYPICAL SECTIONS	SHEET 6	E



EXISTING TYPICAL SECTION

USH 10 WB

STA 120WB+92.38 - STA 125WB+50



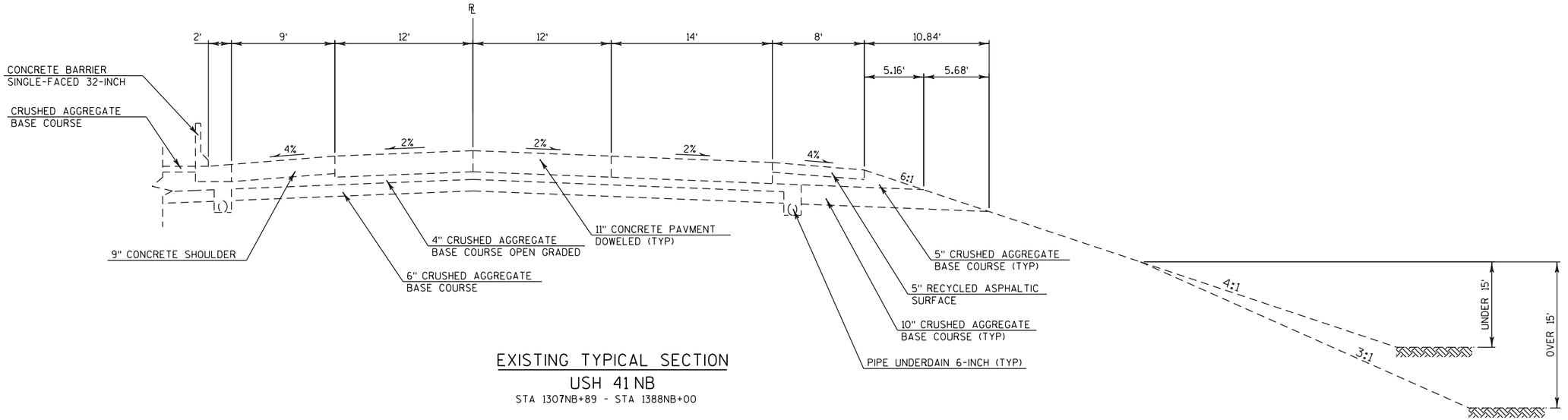
EXISTING TYPICAL SECTION

USH 10

STA 125WB+50 - STA 147WB+47

PROJECT NO: 1517-07-72	HWY: USH 10	COUNTY: WINNEBAGO	TYPICAL SECTIONS	SHEET 7	E

2

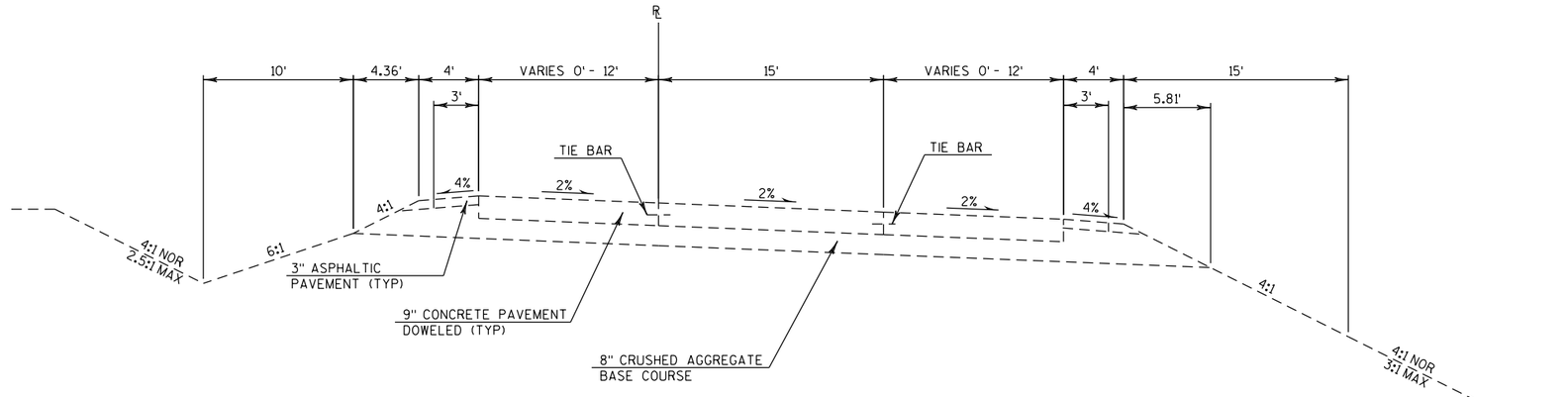


EXISTING TYPICAL SECTION

USH 41 NB

STA 1307NB+89 - STA 1388NB+00

PROJECT NO: 1517-07-72	HWY: USH 10	COUNTY: WINNEBAGO	TYPICAL SECTIONS	SHEET 8	E



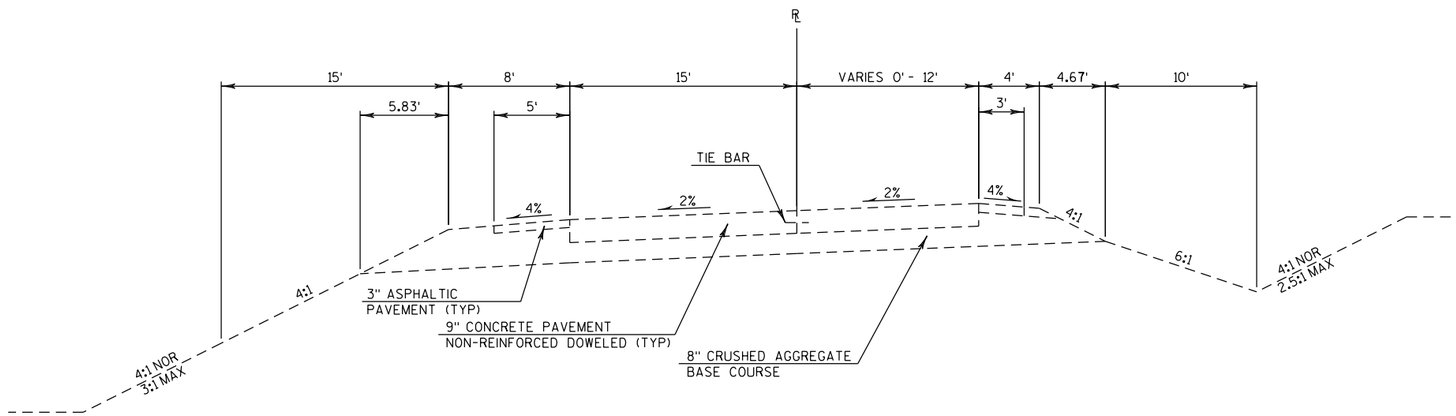
EXISTING TYPICAL SECTION

FNW RAMP

STA 1308FNE+50 - STA 1323FNE+20

FNE RAMP

STA 1323FNE+20 - STA 1338FNE+00



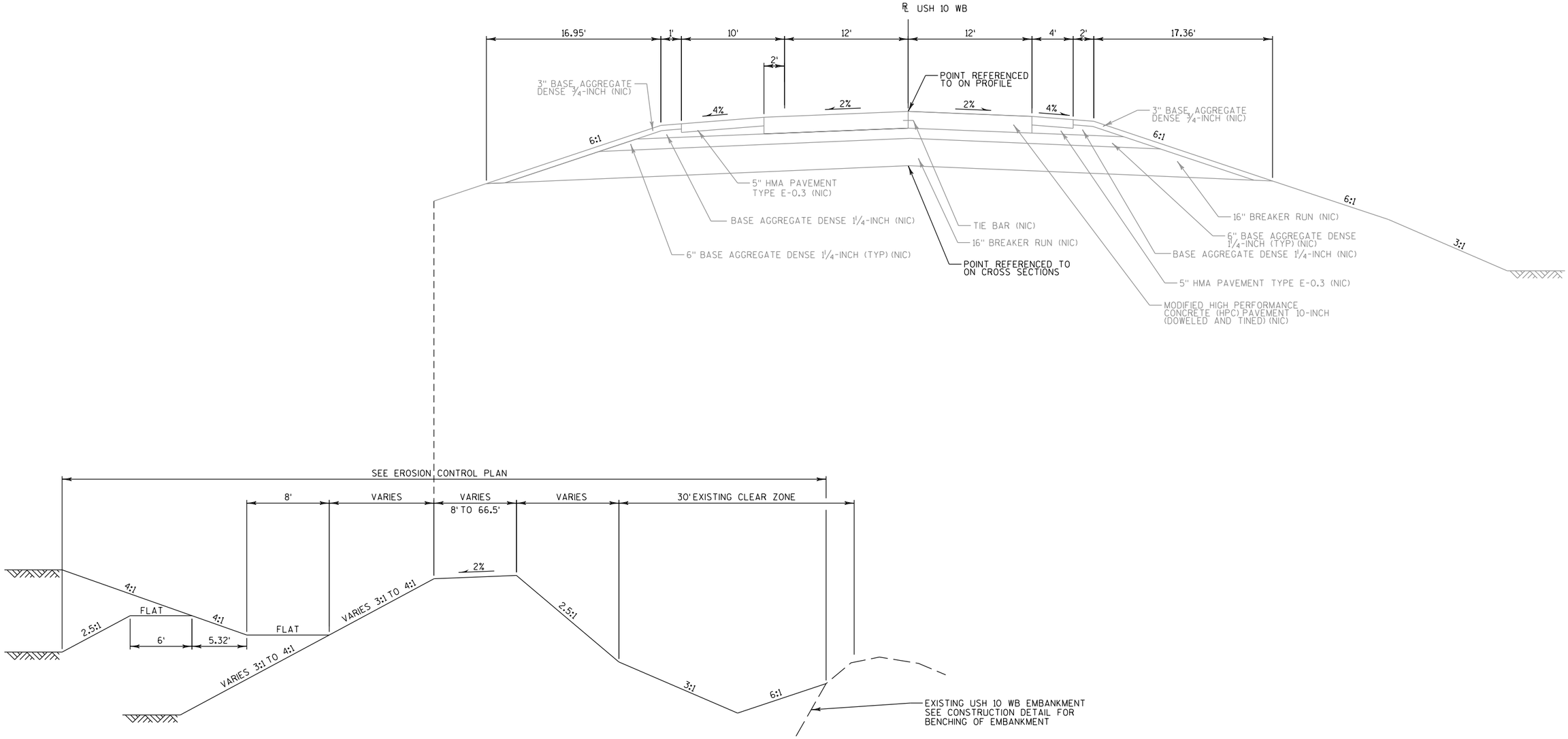
EXISTING TYPICAL SECTION

FWN RAMP

STA 128FWN+00 - STA 137FWN+00

PROJECT NO: 1517-07-72	HWY: USH 10	COUNTY: WINNEBAGO	TYPICAL SECTIONS	SHEET 9	E

NOTE:
NIC = NOT IN CONTRACT



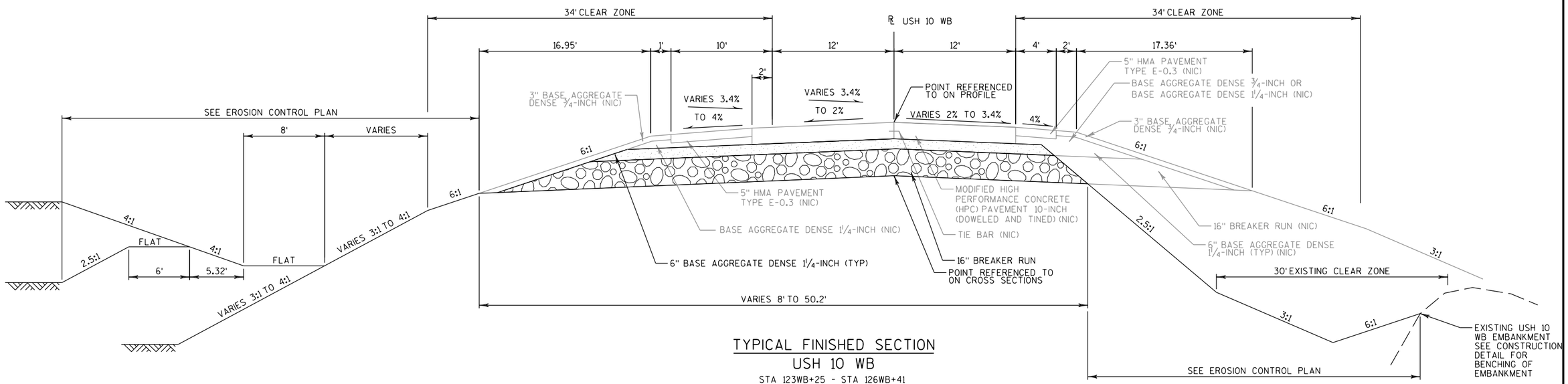
TYPICAL FINISHED SECTION
USH 10 WB

STA 114WB+50 - STA 123WB+25
STA 126WB+41 - STA 129WB+07

PROJECT NO: 1517-07-72	HWY: USH 10	COUNTY: WINNEBAGO	TYPICAL SECTIONS	SHEET 10	E

FILE NAME : S:\DOT\DOT_NE\120012-Tri County Freeway\1517-07-72\DGN_Files\Plansheets\020303_ts.dgn PLOT DATE : 2/19/2014 PLOT BY : wally_w PLOT NAME : PLOT SCALE : 1:10

NOTE:
NIC = NOT IN CONTRACT

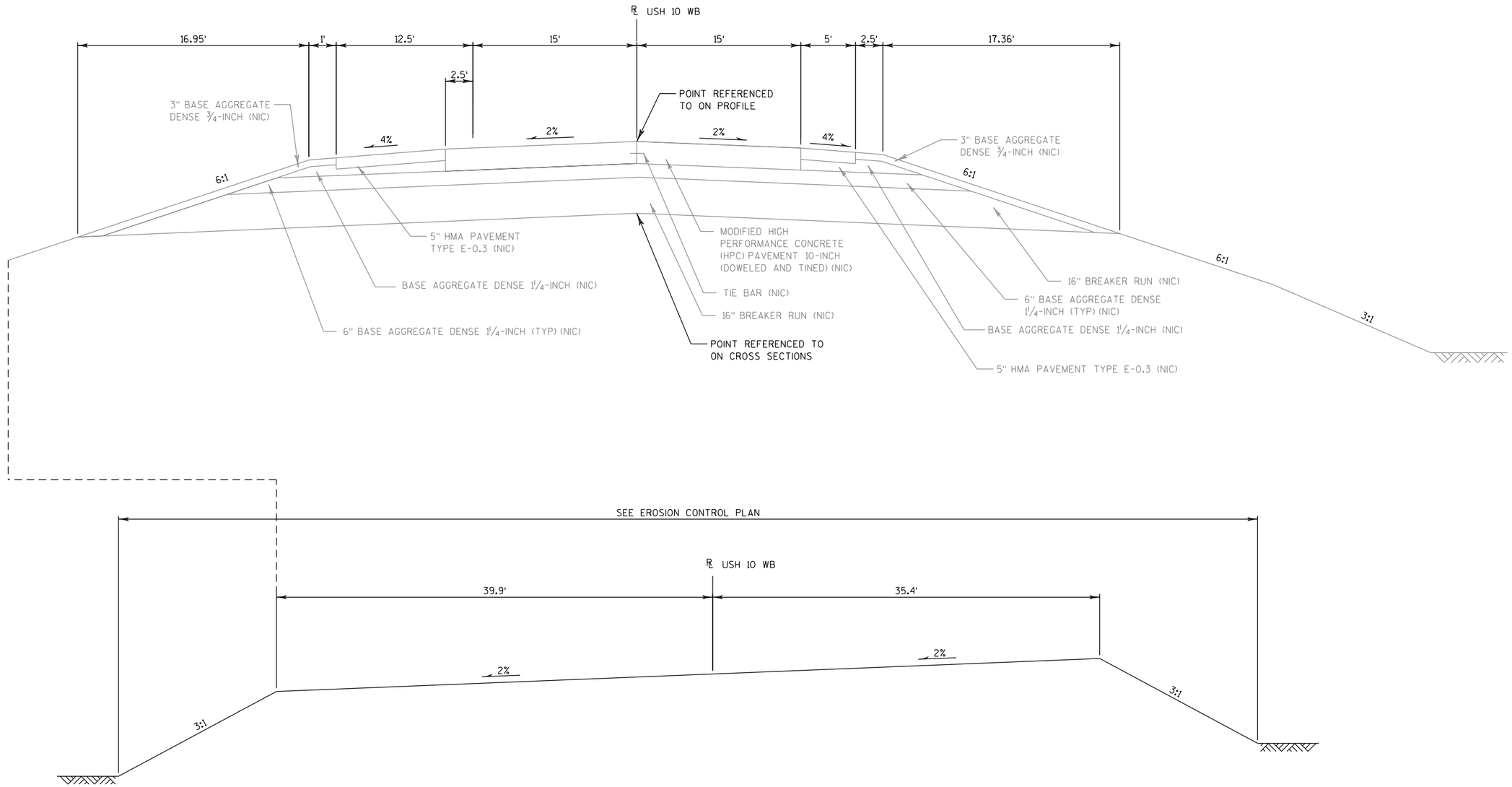


TYPICAL FINISHED SECTION
USH 10 WB

STA 123WB+25 - STA 126WB+41
STA 129WB+07 - STA 131WB+75

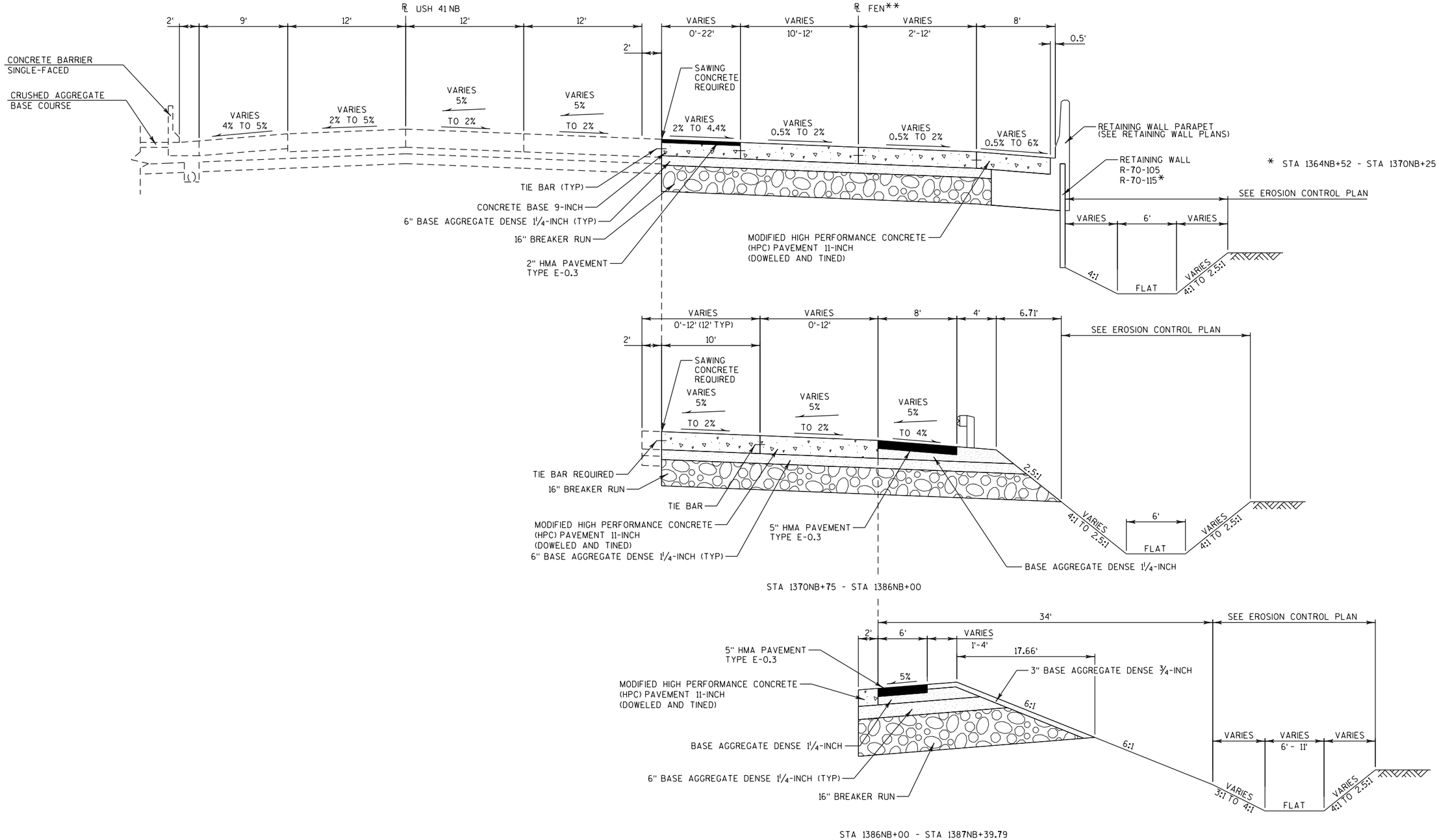
PROJECT NO: 1517-07-72	HWY: USH 10	COUNTY: WINNEBAGO	TYPICAL SECTIONS	SHEET 11	E

NOTE:
NIC = NOT IN CONTRACT



TYPICAL FINISHED SECTION
USH 10 WB
STA 131WB+75 - STA 133+00

PROJECT NO: 1517-07-72	HWY: USH 10	COUNTY: WINNEBAGO	TYPICAL SECTIONS	SHEET 12	E



TYPICAL FINISHED SECTION

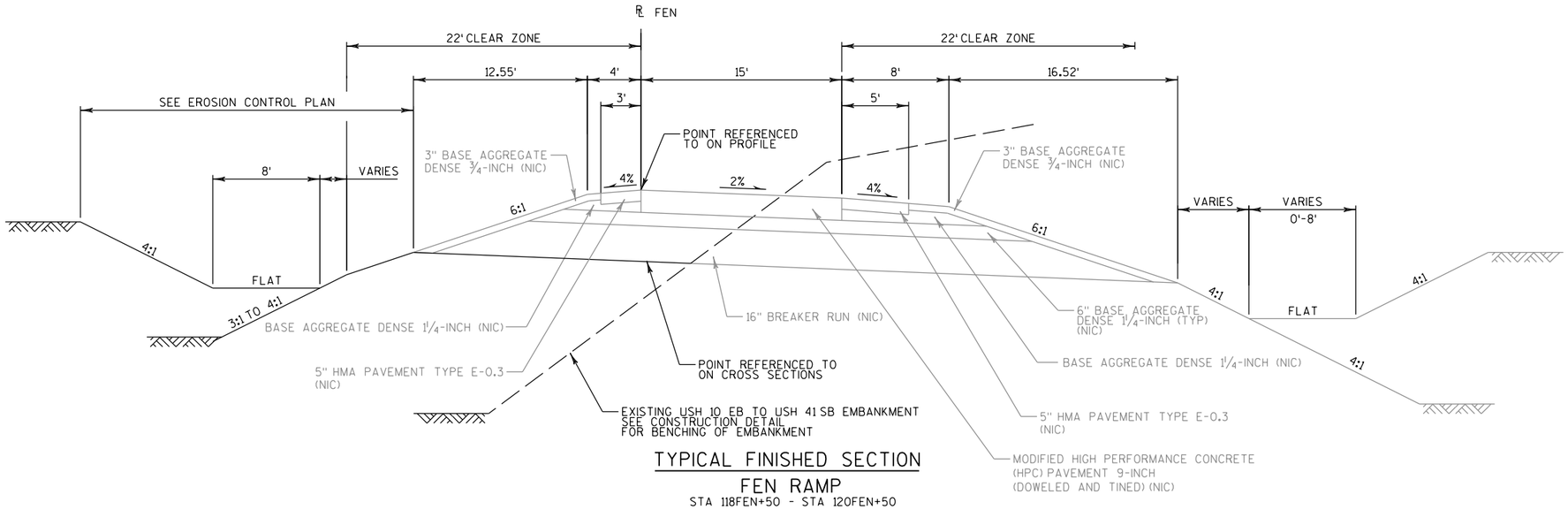
USH 41 NB

STA 1356NB+51.55 - STA 1364NB+10
STA 1364NB+52 - STA 1387NB+39.79
** STA 1358NB+27 - STA 1364NB+10 & STA 1364NB+52 - STA 1367NB+60

PAVEMENT TYPE	TOTAL LAYER PAVEMENT THICKNESS	LAYERS	NORMAL MAXIMUM SIZE GRADATION	ASPHALTIC MATERIAL
E-0.3	5"	5" LAYER	12.5 MM	PG-58-28
E-0.3	2"	2" UPPER LAYER	12.5 MM	PG-58-28

PROJECT NO: 1517-07-72	HWY: USH 10	COUNTY: WINNEBAGO	TYPICAL SECTIONS	SHEET 13	E

NOTE:
NIC = NOT IN CONTRACT



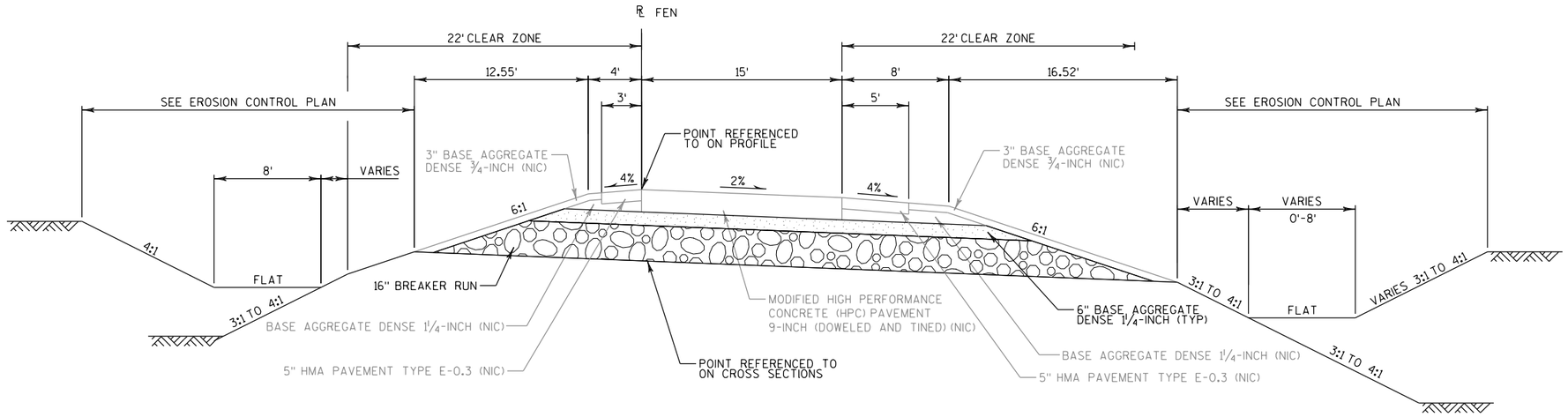
TYPICAL FINISHED SECTION

FEN RAMP

STA 118FEN+50 - STA 120FEN+50

PROJECT NO: 1517-07-72	HWY: USH 10	COUNTY: WINNEBAGO	TYPICAL SECTIONS	SHEET 14	E

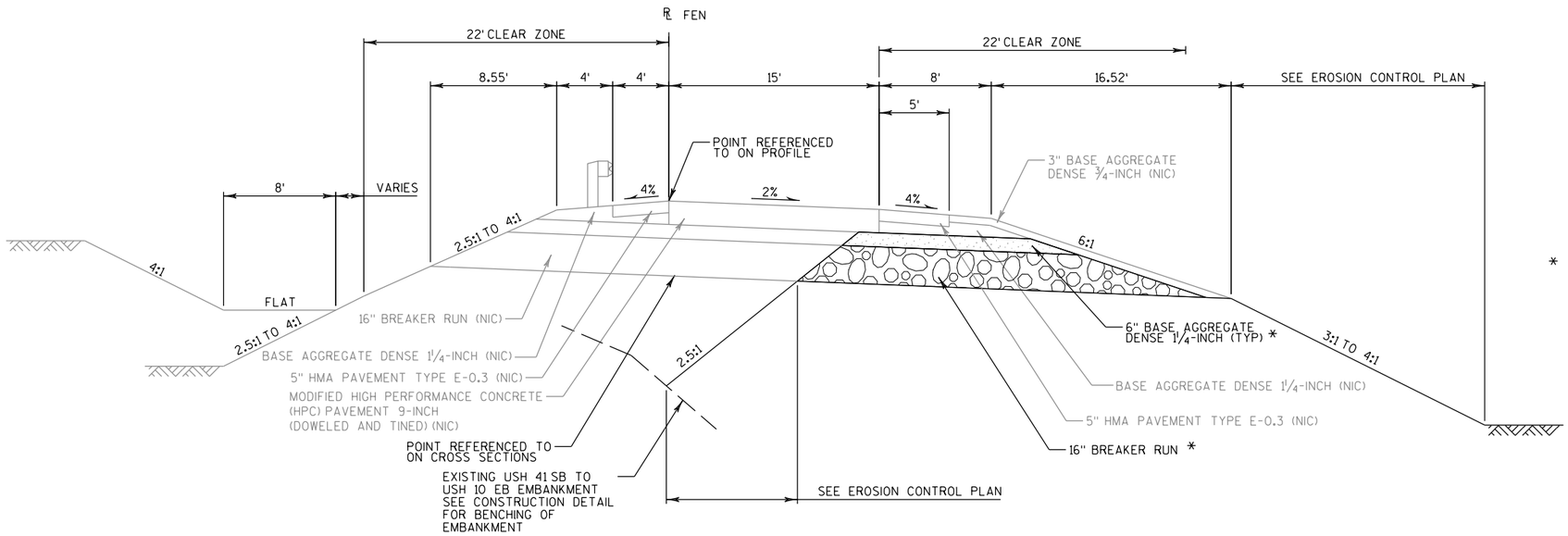
NOTE:
NIC = NOT IN CONTRACT



TYPICAL FINISHED SECTION
FEN RAMP
STA 120FEN+50 - STA 124FEN+75

PROJECT NO: 1517-07-72	HWY: USH 10	COUNTY: WINNEBAGO	TYPICAL SECTIONS	SHEET 15	E

NOTE:
NIC = NOT IN CONTRACT

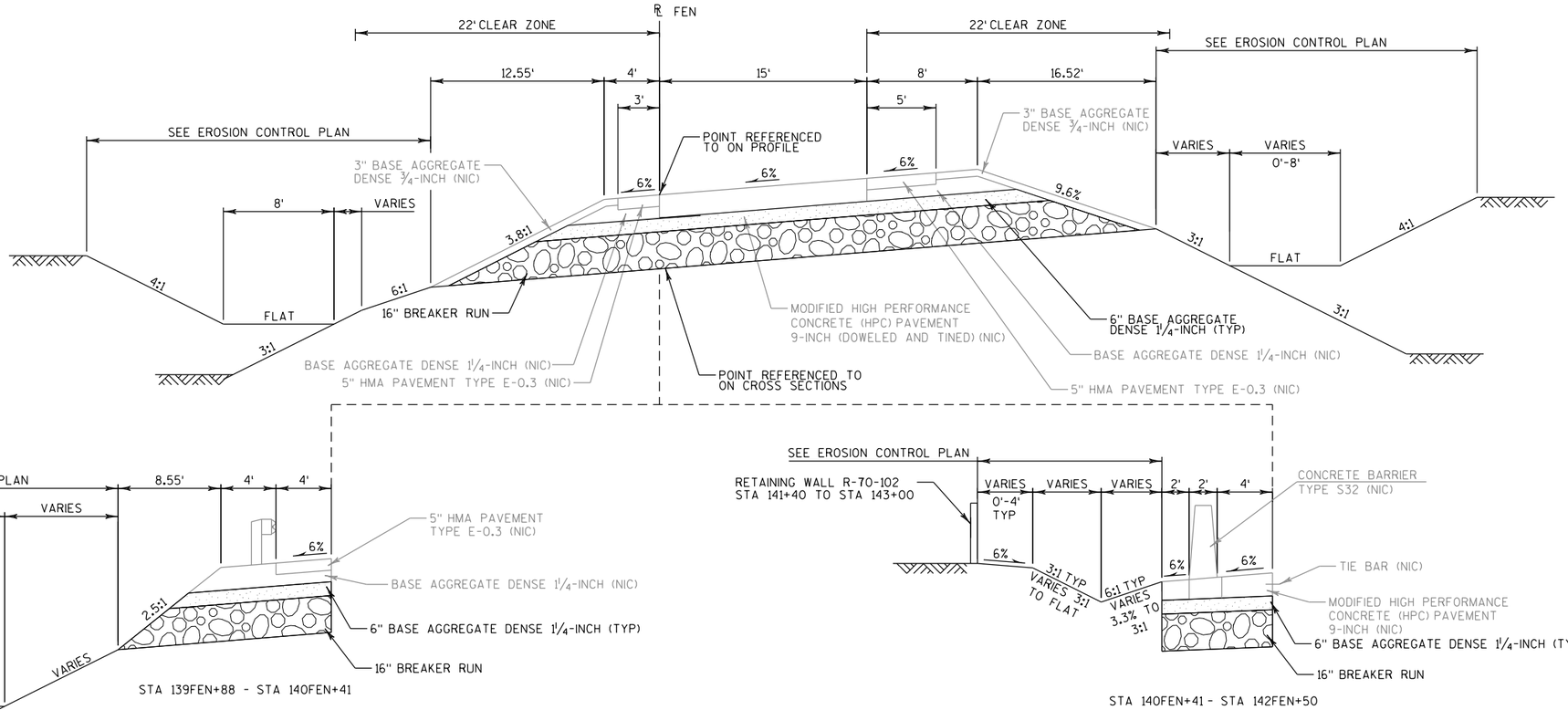


* NO AGGREGATE OR BREAKER RUN FROM STA 125FEN+41 TO STA 125FEN+86

TYPICAL FINISHED SECTION
FEN RAMP
STA 124FEN+75 - STA 125FEN+90

PROJECT NO: 1517-07-72	HWY: USH 10	COUNTY: WINNEBAGO	TYPICAL SECTIONS	SHEET 16	E

NOTE:
NIC = NOT IN CONTRACT



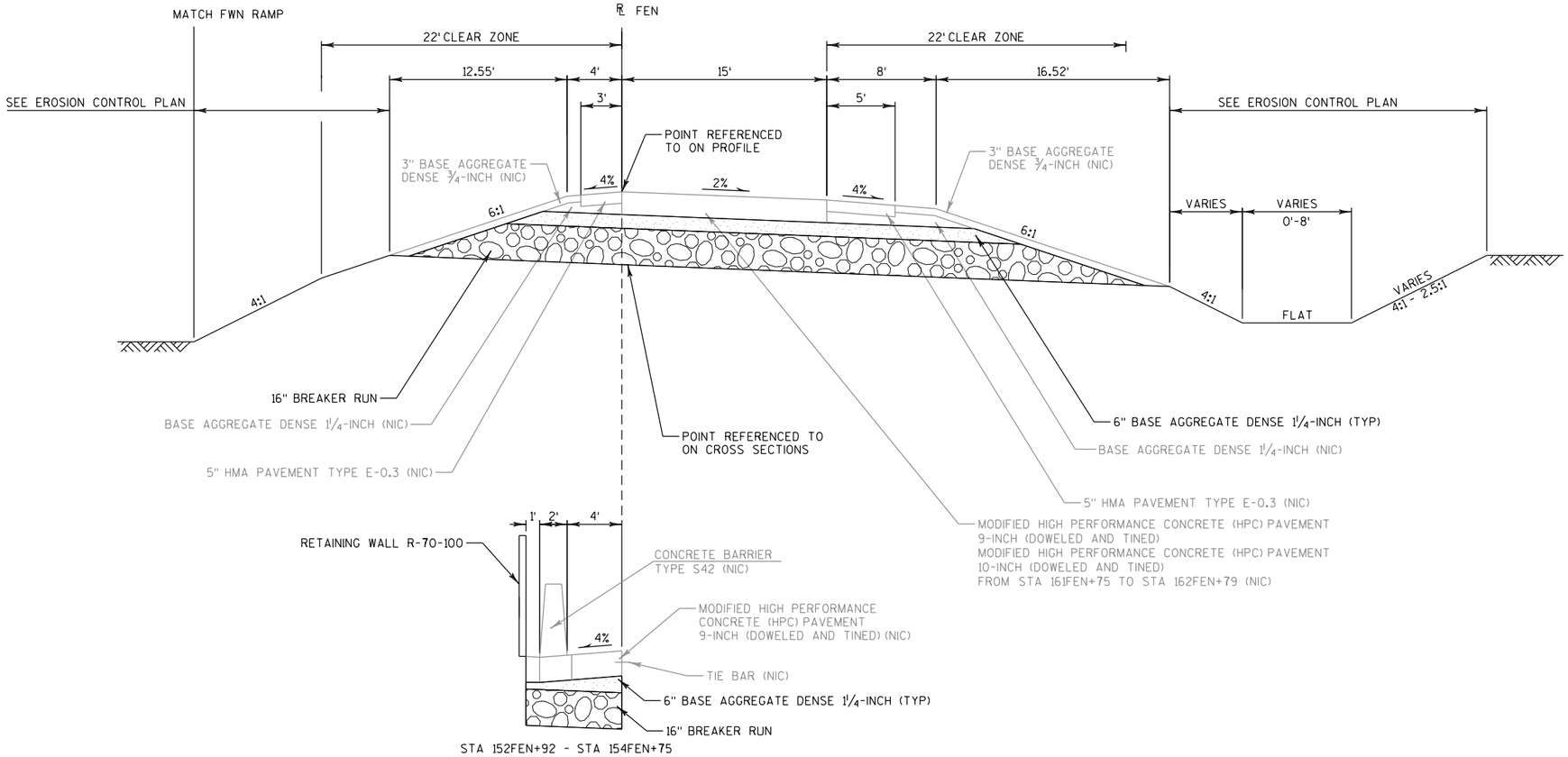
TYPICAL FINISHED SECTION

FEN RAMP

STA 137FEN+31 - STA 142FEN+50

PROJECT NO: 1517-07-72	HWY: USH 10	COUNTY: WINNEBAGO	TYPICAL SECTIONS	SHEET 17	E

NOTE:
NIC = NOT IN CONTRACT

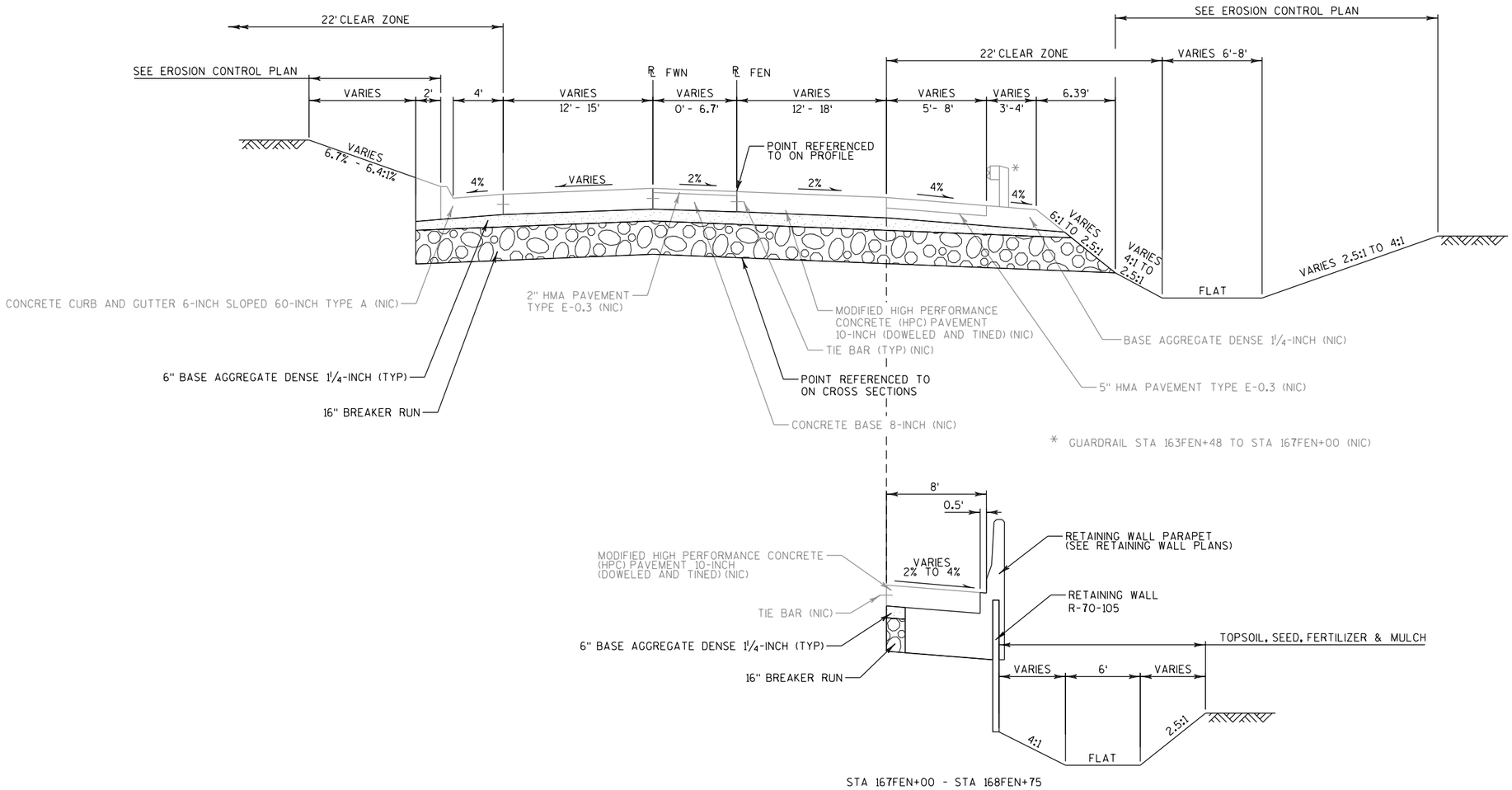


TYPICAL FINISHED SECTION

FEN RAMP
STA 152FEN+92 - STA 161FEN+87

PROJECT NO: 1517-07-72	HWY: USH 10	COUNTY: WINNEBAGO	TYPICAL SECTIONS	SHEET 18	E

NOTE:
NIC = NOT IN CONTRACT



STA 167FEN+00 - STA 168FEN+75

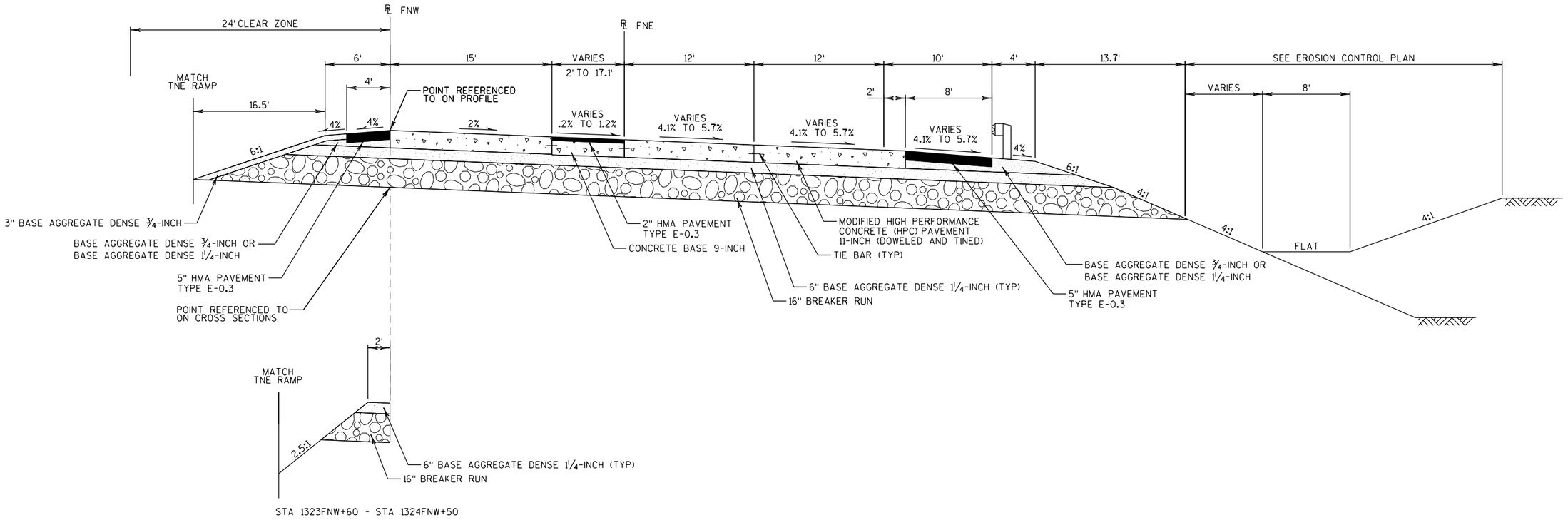
TYPICAL FINISHED SECTION

FEN RAMP

STA 161FEN+87 - STA 168FEN+75

PROJECT NO: 1517-07-72	HWY: USH 10	COUNTY: WINNEBAGO	TYPICAL SECTIONS	SHEET 19	E

FILE NAME : S:\DOT\DOT_NE\120012-Tri County Freeway\1517-07-72\DGN_Files\Plansheets\020331_ts.dgn PLOT DATE : 2/19/2014 PLOT BY : wally_w PLOT NAME : PLOT SCALE : 1:10



TYPICAL FINISHED SECTION

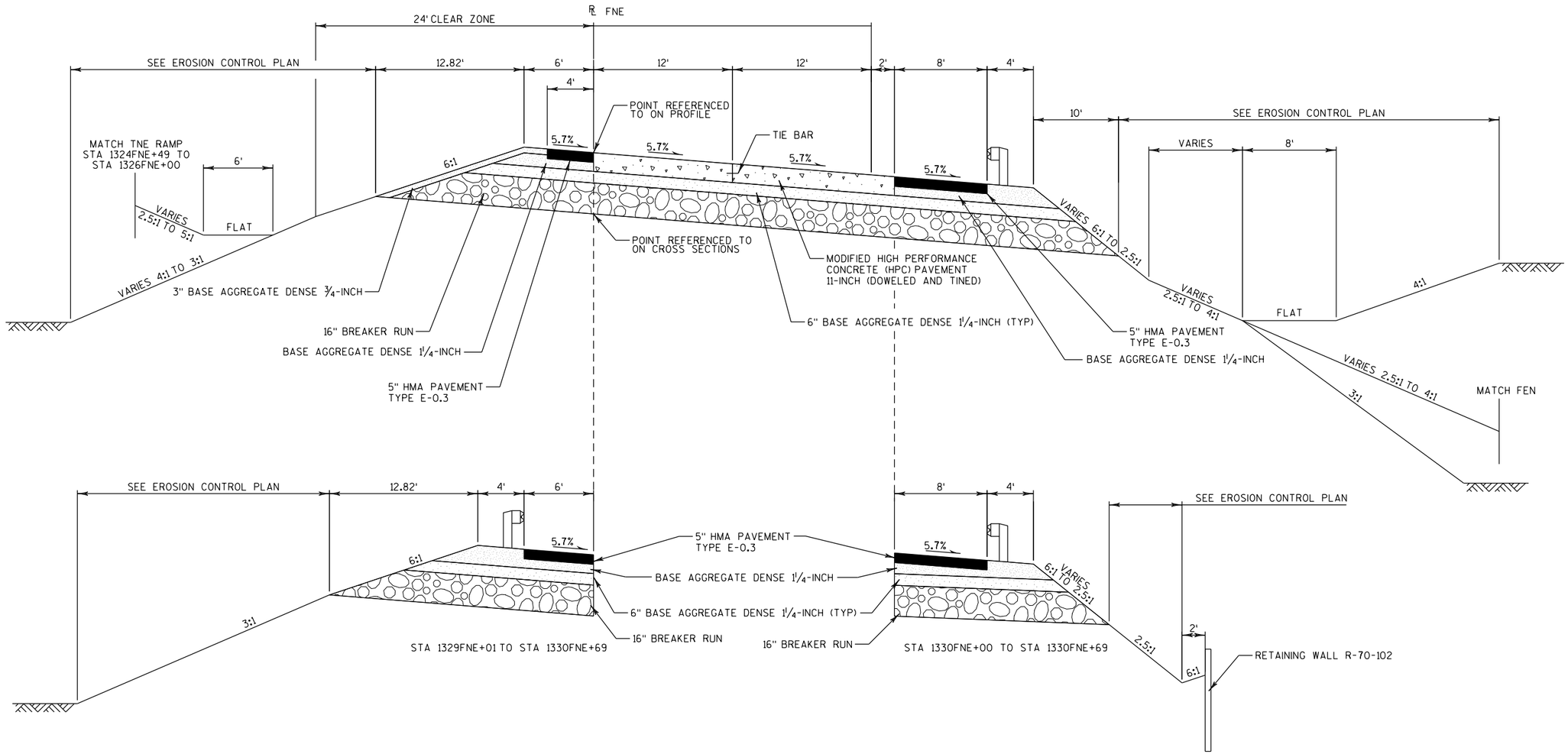
FNE RAMP

STA 1323FNE+41 - STA 1324FNE+49

FNW RAMP

STA 1323FNW+41 - STA 1324FNW+50

PAVEMENT TYPE	TOTAL LAYER PAVEMENT THICKNESS	LAYERS	NORMAL MAXIMUM SIZE GRADATION	ASPHALTIC MATERIAL
E-0.3	5"	5" LAYER	12.5 MM	PG-58-28
E-0.3	2"	2" UPPER LAYER	12.5 MM	PG-58-28



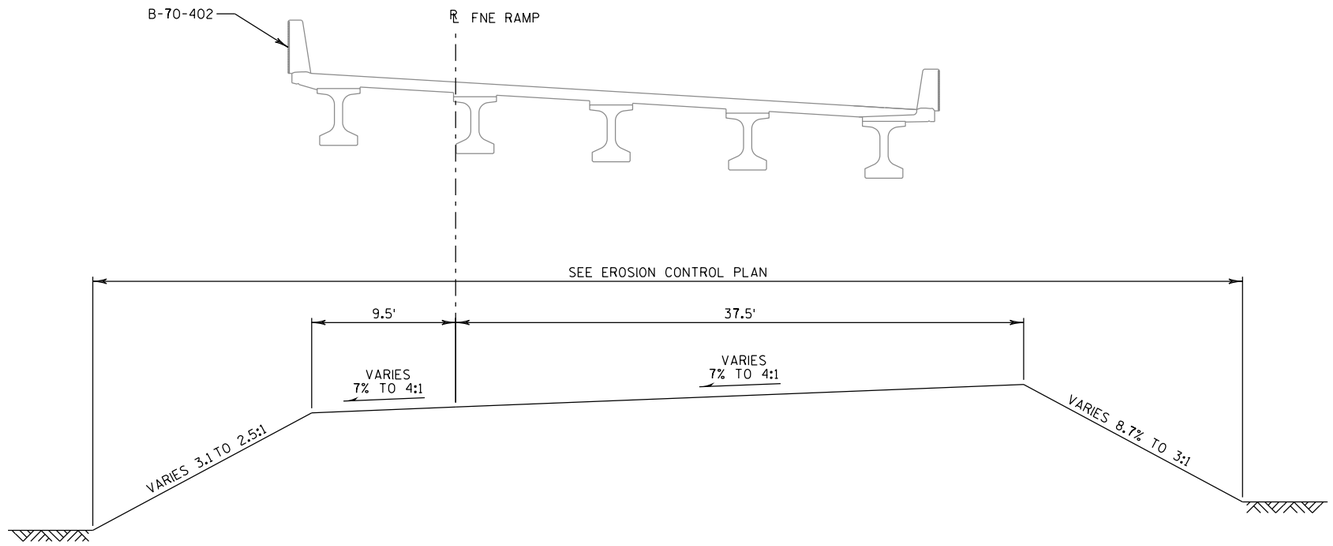
TYPICAL FINISHED SECTION

FNE RAMP

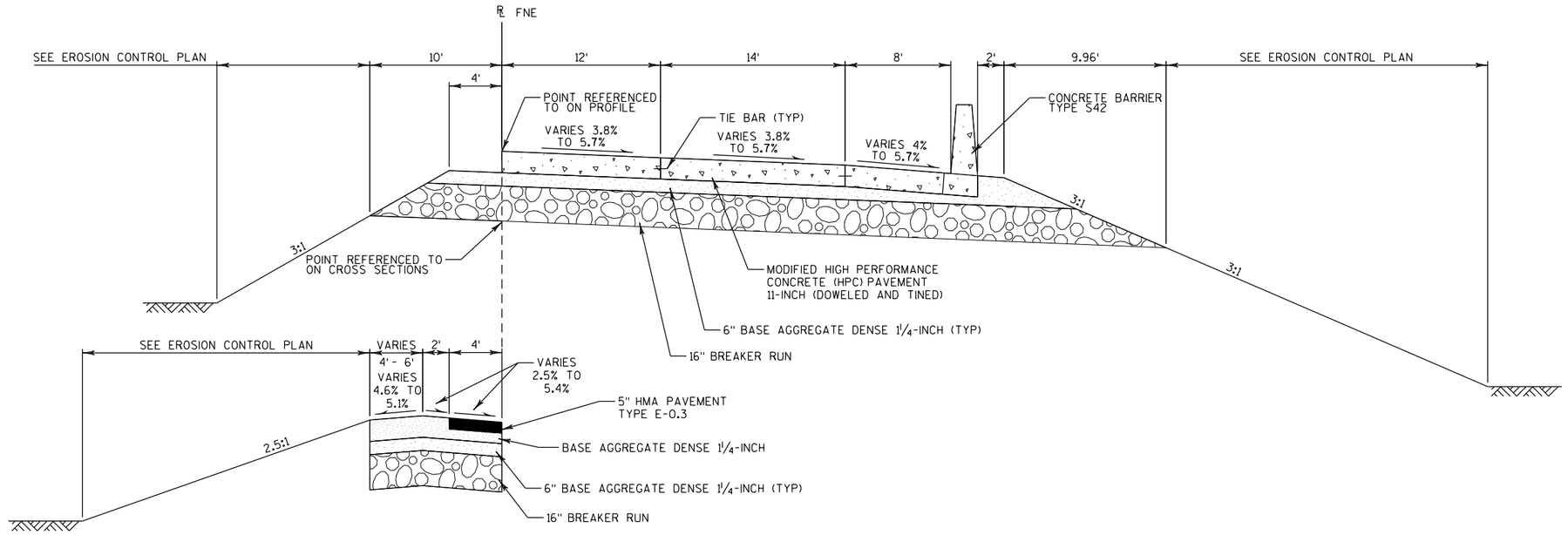
STA 1324FNE+49 - STA 1330FNE+69

PAVEMENT TYPE	TOTAL LAYER PAVEMENT THICKNESS	LAYERS	NORMAL MAXIMUM SIZE GRADATION	ASPHALTIC MATERIAL
E-0.3	5"	5" LAYER	12.5 MM	PG-58-28

PROJECT NO: 1517-07-72	HWY: USH 10	COUNTY: WINNEBAGO	TYPICAL SECTIONS	SHEET 21	E



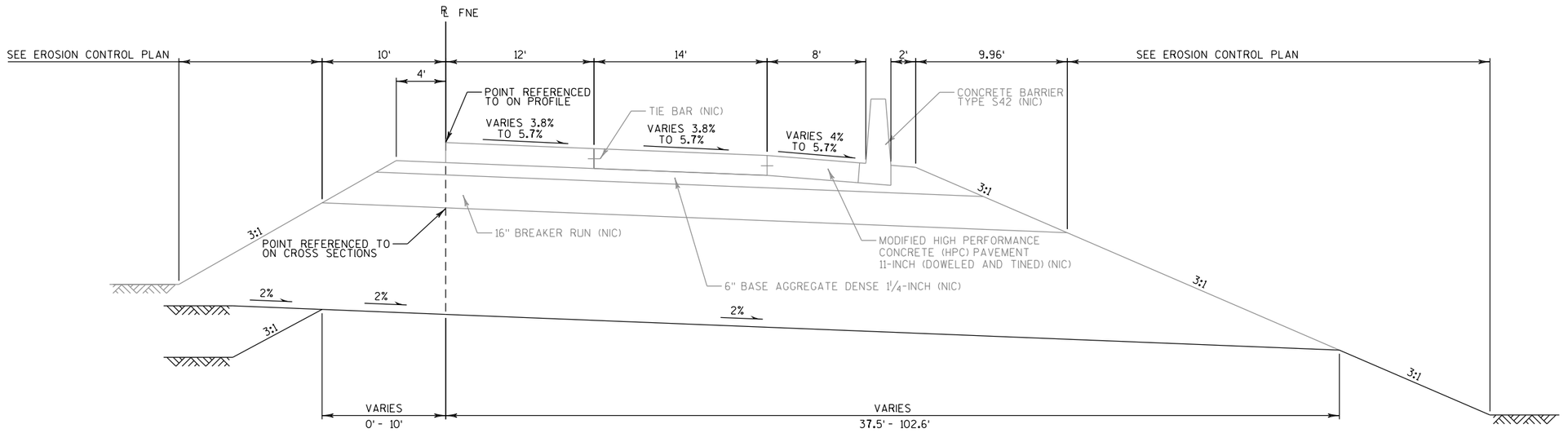
TYPICAL FINISHED SECTION
FNE RAMP
STA 1335FNE+25 - STA 1336FNE+27



STA 1336FNE+27 TO STA 1336FNE+65

TYPICAL FINISHED SECTION
FNE RAMP
STA 1336FNE+27 - STA 1338FNE+00

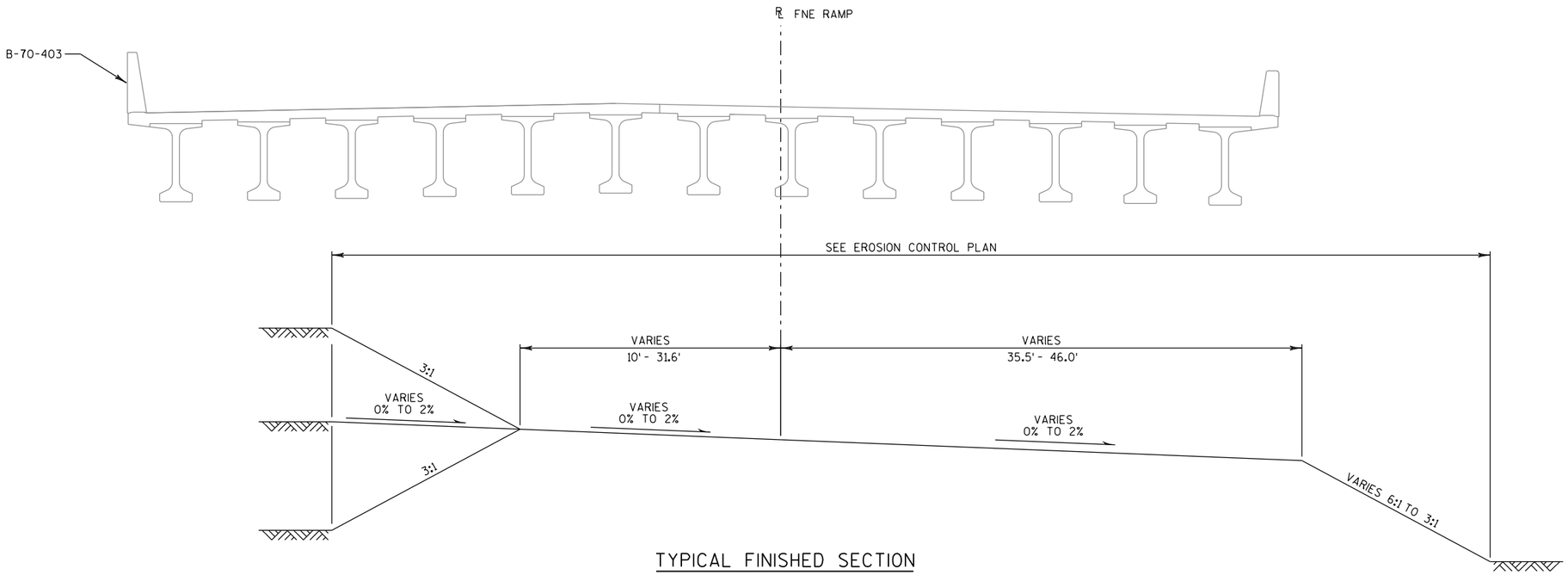
PAVEMENT TYPE	TOTAL LAYER PAVEMENT THICKNESS	LAYERS	NORMAL MAXIMUM SIZE GRADATION	ASPHALTIC MATERIAL
E-0.3	5"	5" LAYER	12.5 MM	PG-58-28



TYPICAL FINISHED SECTION

FNE RAMP

STA 1338FNE+00 - STA 1340FNE+30

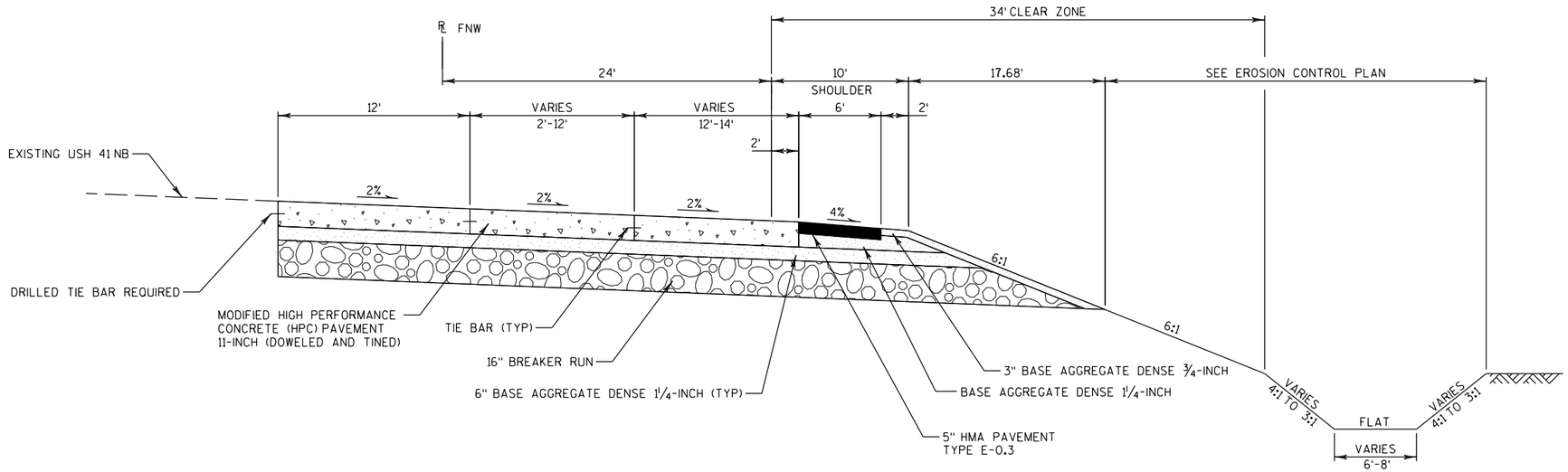


TYPICAL FINISHED SECTION

FNE RAMP

STA 1340FNE+30 - STA 1342FNE+70

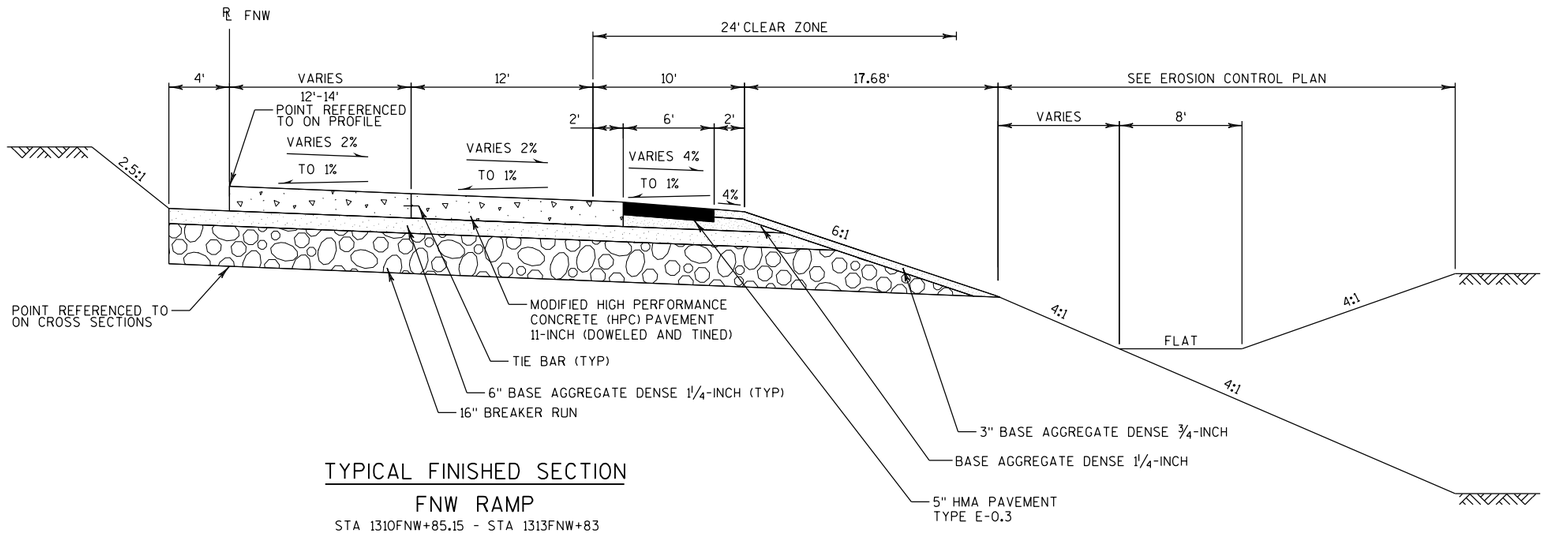
PROJECT NO: 1517-07-72	HWY: USH 10	COUNTY: WINNEBAGO	TYPICAL SECTIONS	SHEET 23	E



TYPICAL FINISHED SECTION

FNW RAMP

STA 1307FNW+89.43 - STA 1310FNW+85.15

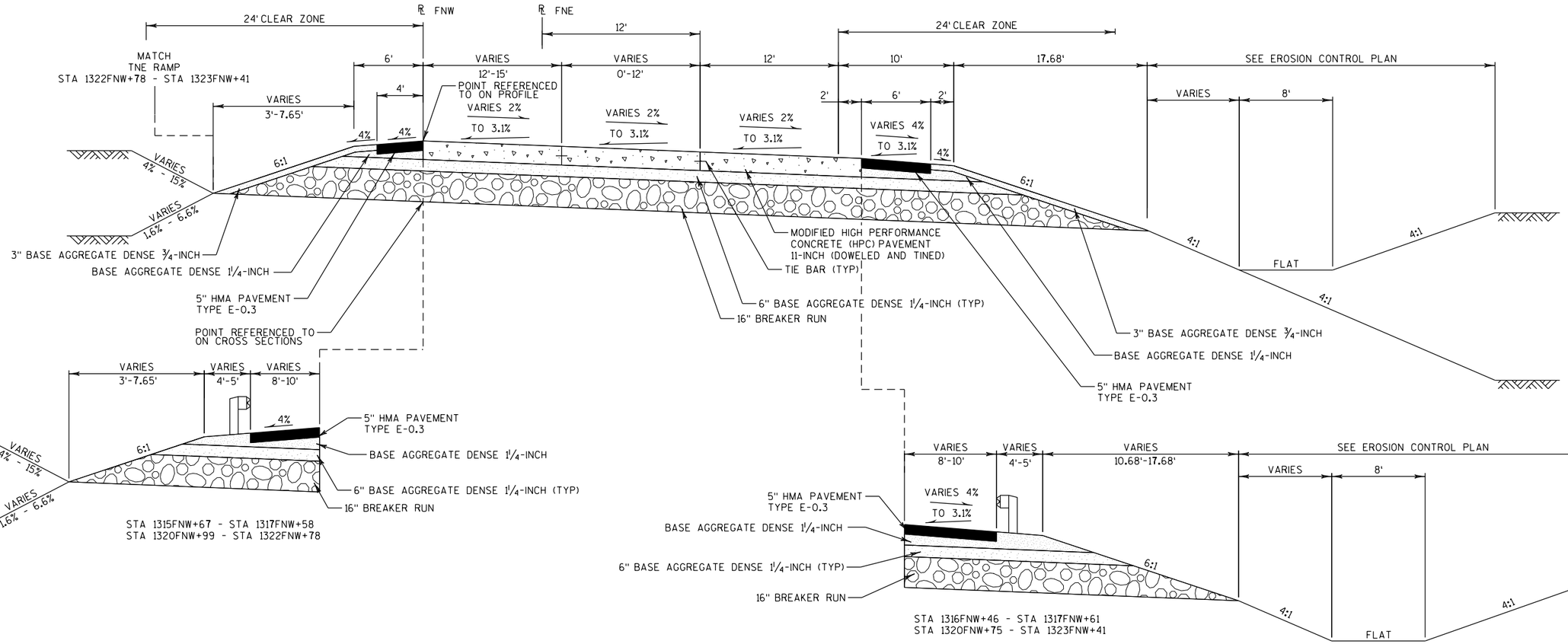


TYPICAL FINISHED SECTION

FNW RAMP

STA 1310FNW+85.15 - STA 1313FNW+83

PAVEMENT TYPE	TOTAL LAYER PAVEMENT THICKNESS	LAYERS	NORMAL MAXIMUM SIZE GRADATION	ASPHALTIC MATERIAL
E-0.3	5"	5" LAYER	12.5 MM	PG-58-28



TYPICAL FINISHED SECTION

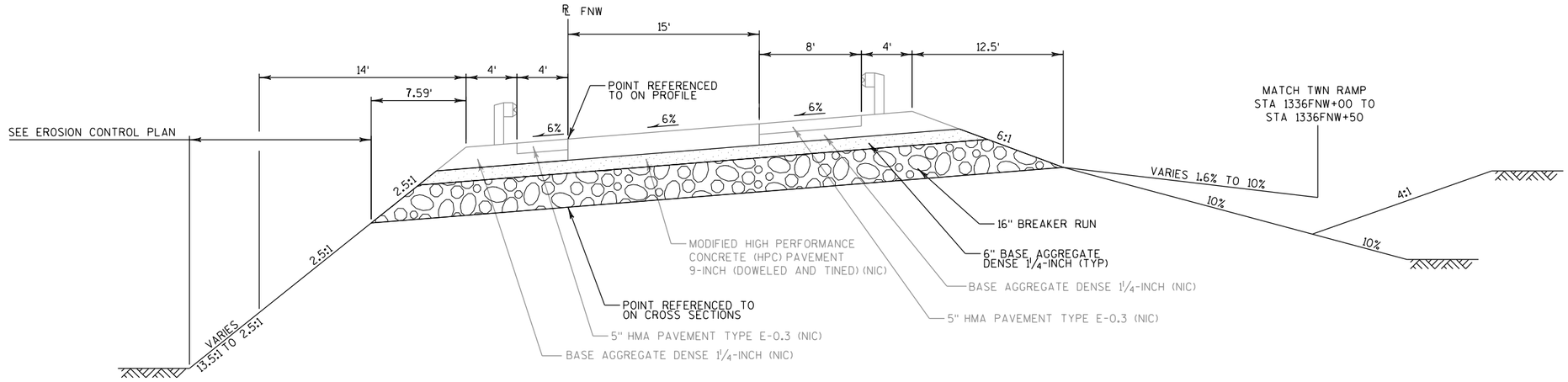
FNW RAMP

STA 1313FNW+83 - STA 1323FNW+41

PAVEMENT TYPE	TOTAL LAYER PAVEMENT THICKNESS	LAYERS	NORMAL MAXIMUM SIZE GRADATION	ASPHALTIC MATERIAL
E-0.3	5"	5" LAYER	12.5 MM	PG-58-28

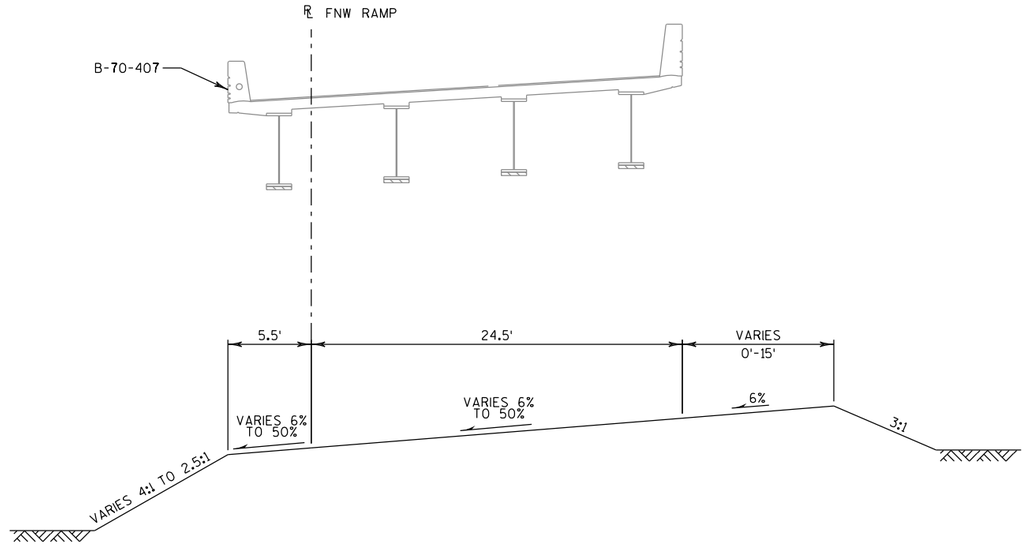
PROJECT NO: 1517-07-72	HWY: USH 10	COUNTY: WINNEBAGO	TYPICAL SECTIONS	SHEET 25	E

NOTE:
NIC = NOT IN CONTRACT



TYPICAL FINISHED SECTION
FNW RAMP
STA 1334FNW+00 - STA 1336FNW+75

PROJECT NO: 1517-07-72	HWY: USH 10	COUNTY: WINNEBAGO	TYPICAL SECTIONS	SHEET 26	E



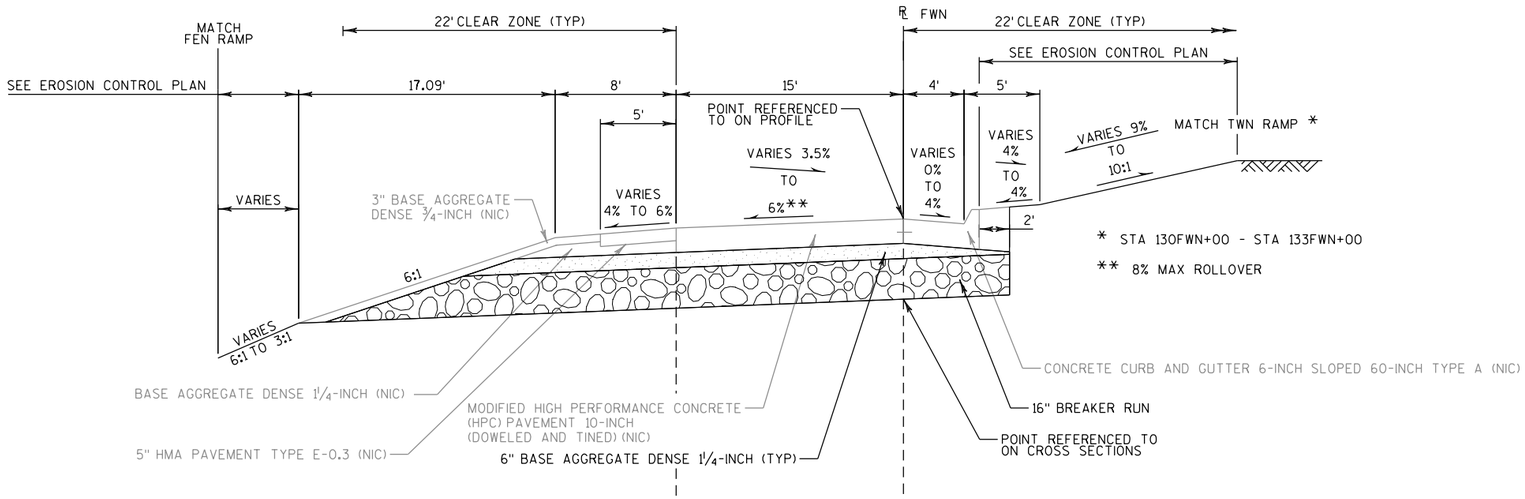
TYPICAL FINISHED SECTION

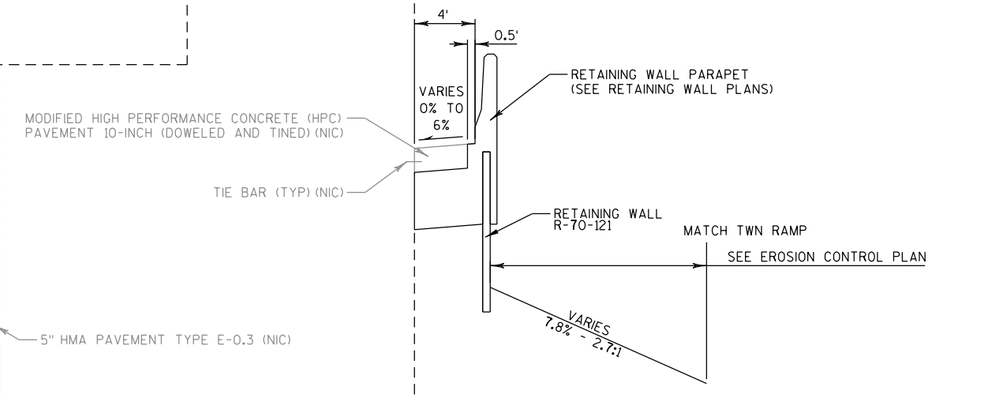
FNW RAMP

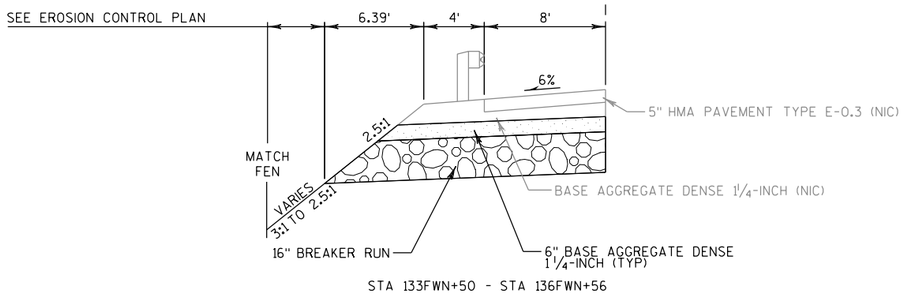
STA 1336FNW+75 - STA 1338FNW+13.68

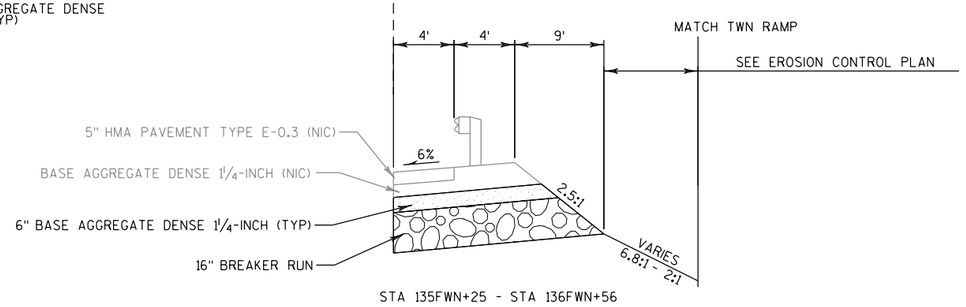
PROJECT NO: 1517-07-72	HWY: USH 10	COUNTY: WINNEBAGO	TYPICAL SECTIONS	SHEET 27	E

NOTE:
NIC = NOT IN CONTRACT





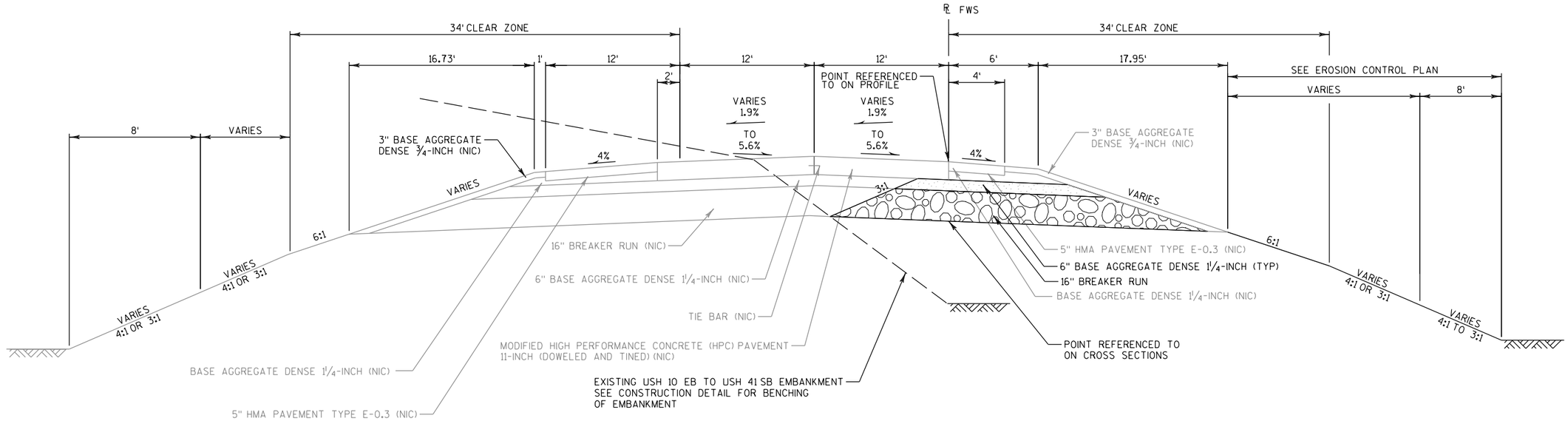




TYPICAL FINISHED SECTION
FWN RAMP
STA 128FWN+01 - STA 136FWN+56

PROJECT NO: 1517-07-72	HWY: USH 10	COUNTY: WINNEBAGO	TYPICAL SECTIONS	SHEET 28	E

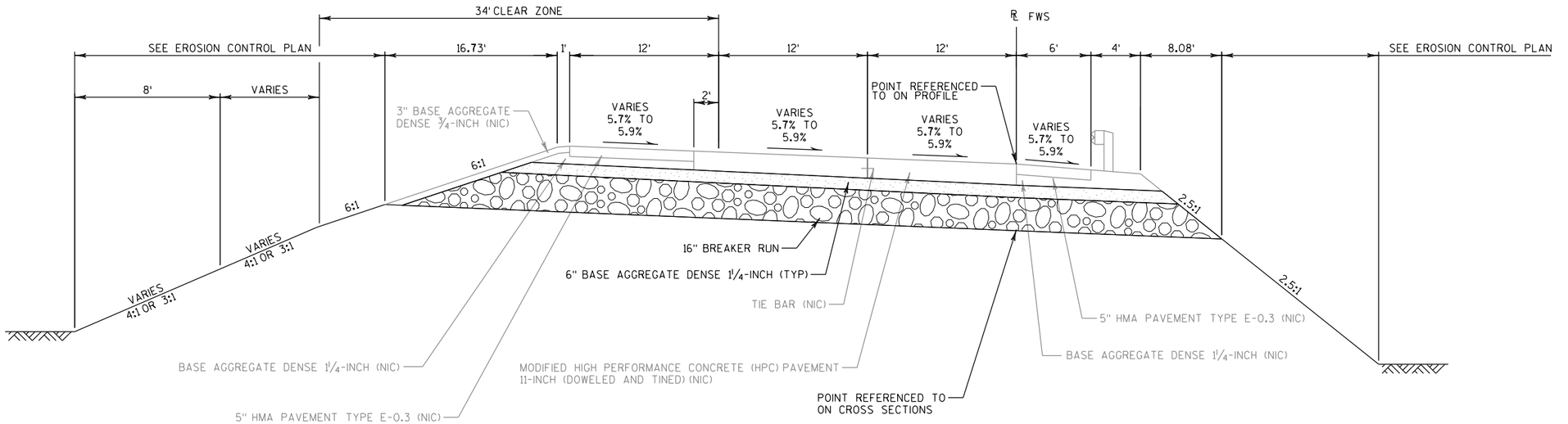
NOTE:
NIC = NOT IN CONTRACT



TYPICAL FINISHED SECTION
FWS RAMP
STA 113FWS+00 - STA 116FWS+15

PROJECT NO: 1517-07-72	HWY: USH 10	COUNTY: WINNEBAGO	TYPICAL SECTIONS	SHEET 29	E

NOTE:
NIC = NOT IN CONTRACT



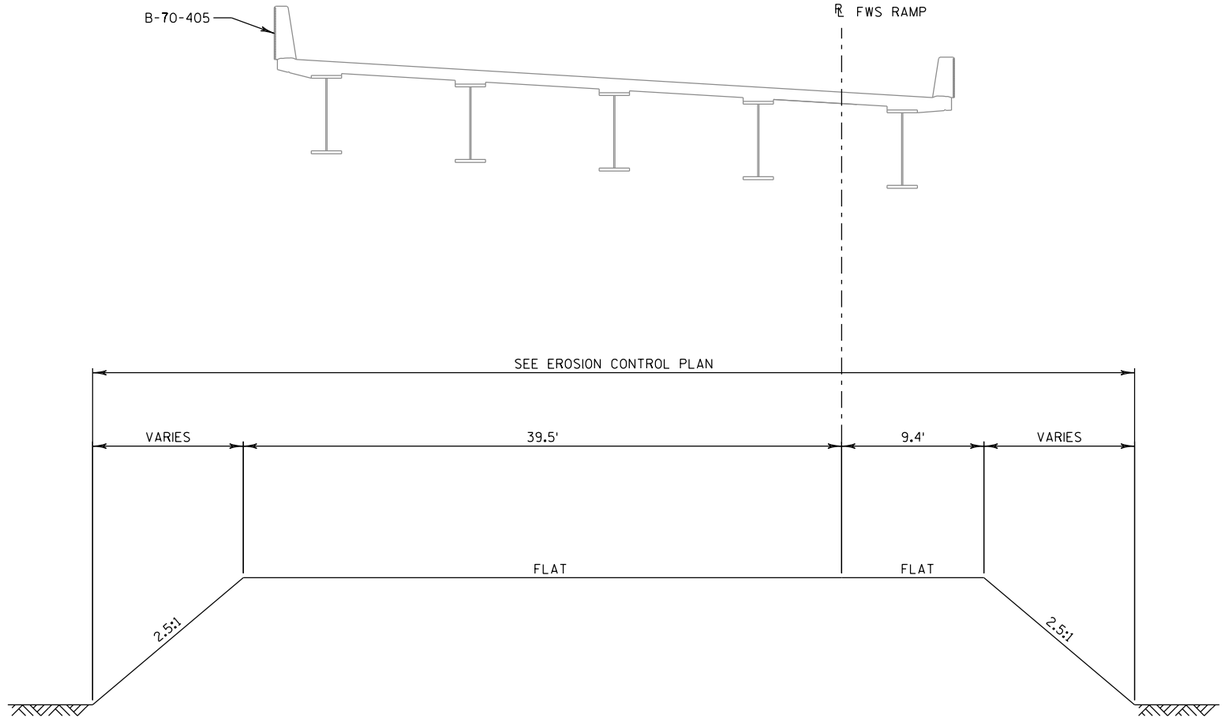
TYPICAL FINISHED SECTION
FWS RAMP
STA 116FWS+15 - STA 118FWS+78

PROJECT NO: 1517-07-72	HWY: USH 10	COUNTY: WINNEBAGO	TYPICAL SECTIONS	SHEET 30	E

FILE NAME : S:\DOT\DOT_NE\120012-Tri County Freeway\1517-07-72\DGN_Files\Plansheets\020350_ts.dgn PLOT DATE : 2/19/2014 PLOT BY : wally_w PLOT NAME : PLOT SCALE : 1:10

WISDOT/CADDS SHEET 42

2

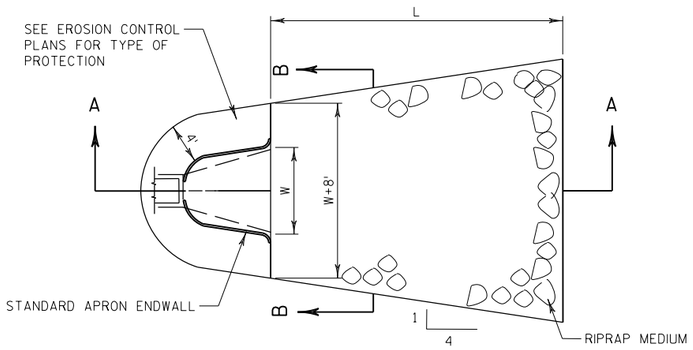


TYPICAL FINISHED SECTION

FWS RAMP

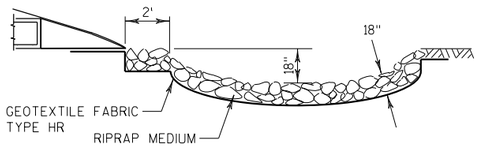
STA 118FWS+78 - STA 119FWS+45

PROJECT NO: 1517-07-72	HWY: USH 10	COUNTY: WINNEBAGO	TYPICAL SECTIONS	SHEET 31	E

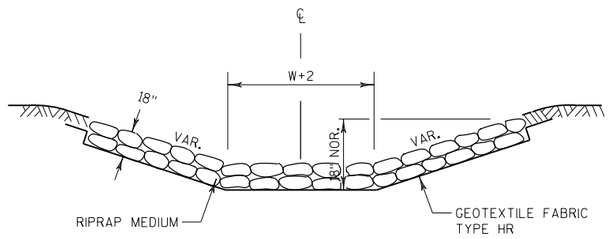


PLAN VIEW

L = 3 x W (NOR.) OR 10' MIN. OR AS INDICATED IN THE PLANS OR AS DIRECTED BY THE ENGINEER.

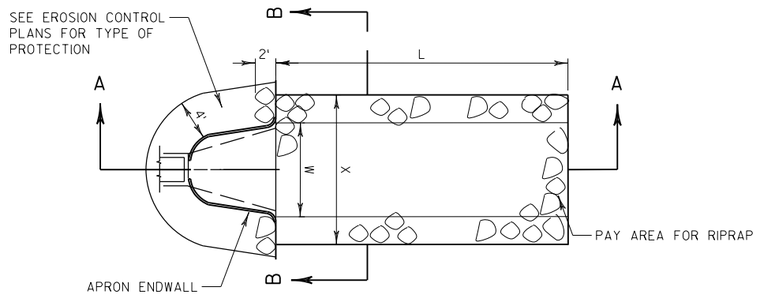


SECTION A-A



SECTION B-B

RIPRAP AND GEOTEXTILE FABRIC DETAIL AT POND OUTFALL ENDWALLS



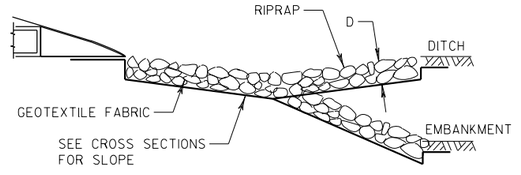
PLAN VIEW

L = 3 x W (NOR.) OR 10' MIN. OR AS INDICATED IN THE PLANS OR AS DIRECTED BY THE ENGINEER.

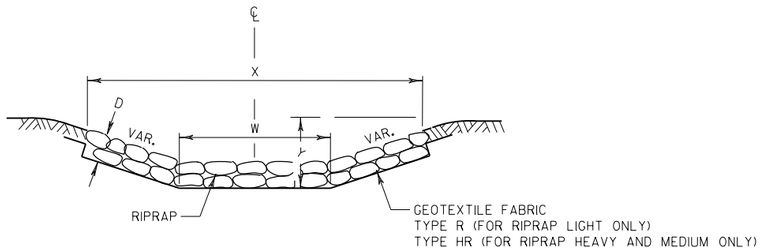
D = 12" FOR RIPRAP LIGHT
18" FOR RIPRAP MEDIUM
24" FOR RIPRAP HEAVY

X = W+2' FOR TYPICAL CULVERT DISCHARGE INTO DITCH
W+5' FOR CULVERT DISCHARGE DOWN EMBANKMENT SLOPE

Y = 0' FOR TYPICAL CULVERT DISCHARGE INTO DITCH
12" FOR CULVERT DISCHARGE DOWN EMBANKMENT SLOPE



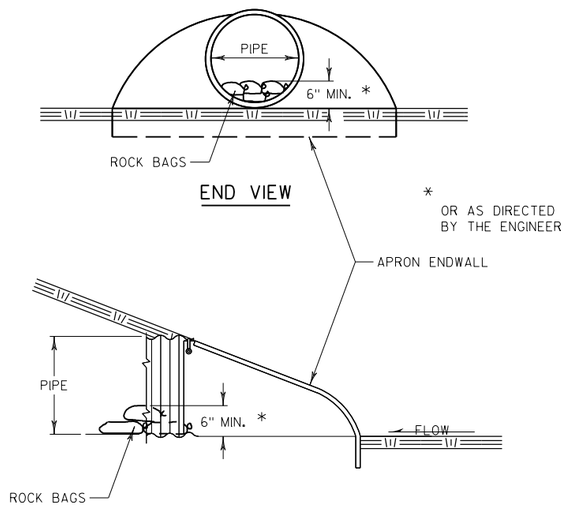
SECTION A-A



SECTION B-B

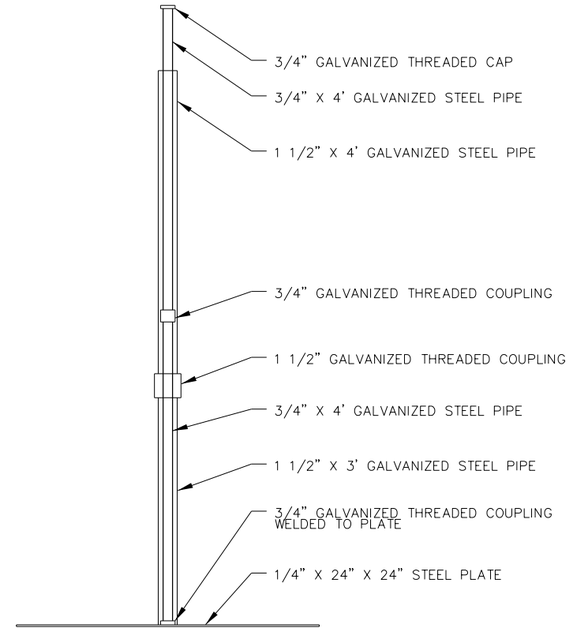
RIPRAP AND GEOTEXTILE FABRIC DETAIL AT APRON ENDWALLS

SEE EROSION CONTROL PLAN FOR LOCATIONS

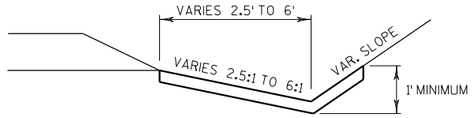


CULVERT PIPE CHECKS

AT INLET LOCATIONS

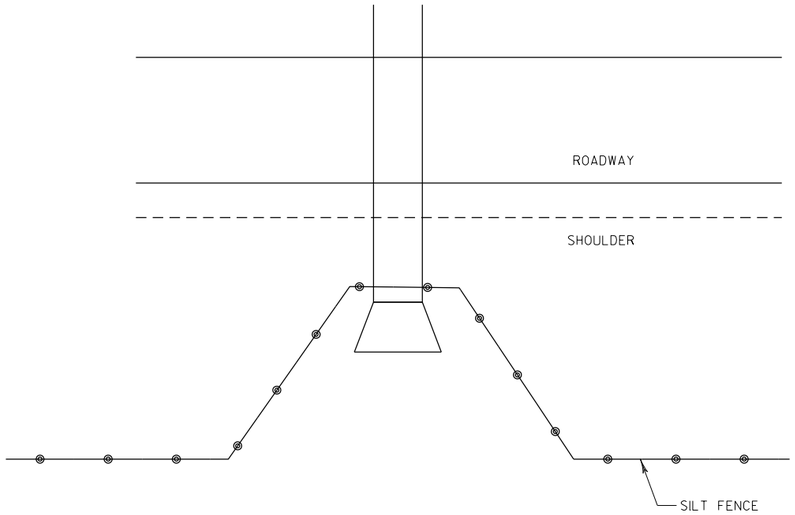


SETTLEMENT GAUGE DETAIL



EROSION MAT DETAIL FOR DITCHES

NOTE:
FOR FURTHER DETAIL SEE
SILT FENCE DETAIL SDD



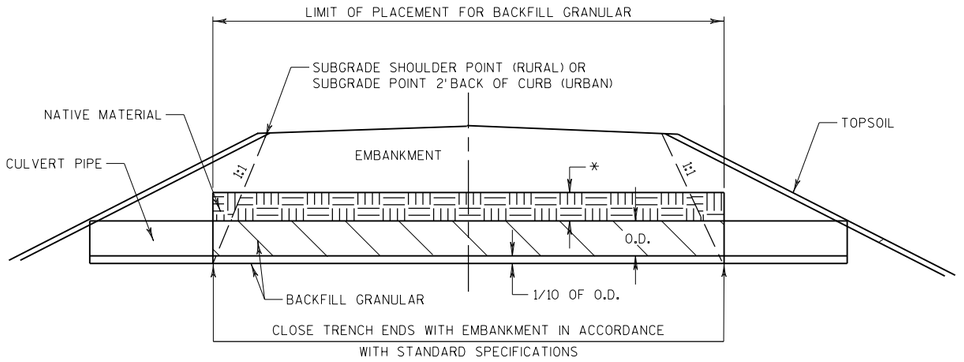
TYPICAL SILT FENCE DETAIL AT PIPE INLET

NOTES:

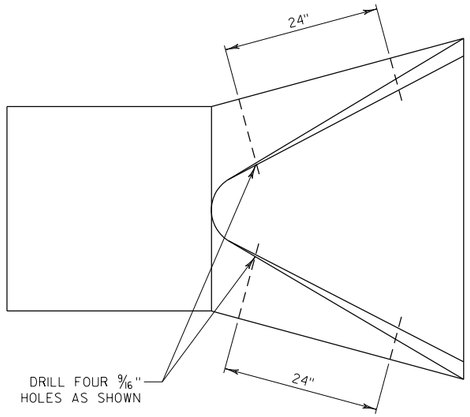
1) BACKFILL GRANULAR INCIDENTAL TO PIPE

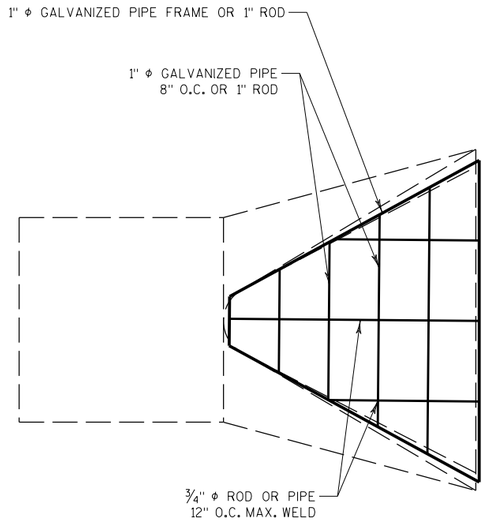
OD = OUTSIDE DIAMETER

* CULVERT PIPE IN NEW EMBANKMENT = 1' MIN
* CULVERT PIPE IN EXISTING EMBANKMENT = TO EXISTING GROUND ELEVATION

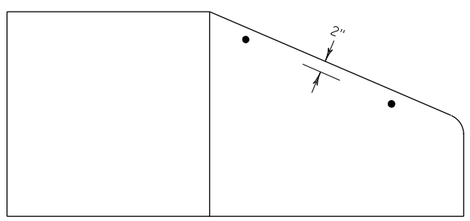


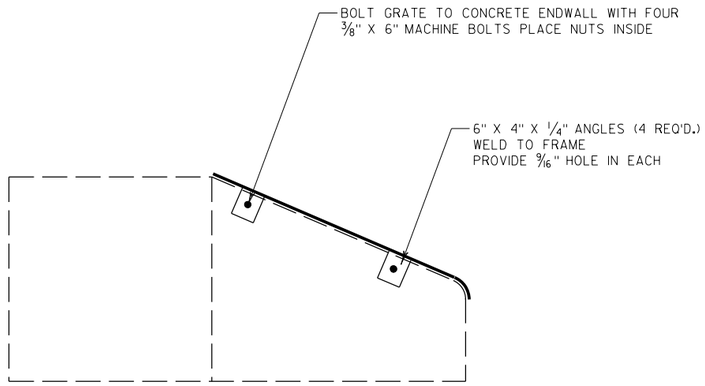
CULVERT BACKFILL DETAIL





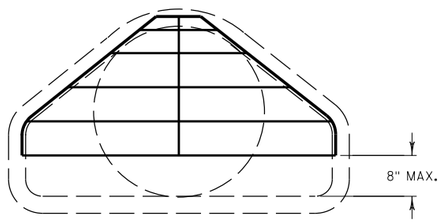
AT EACH PIPE



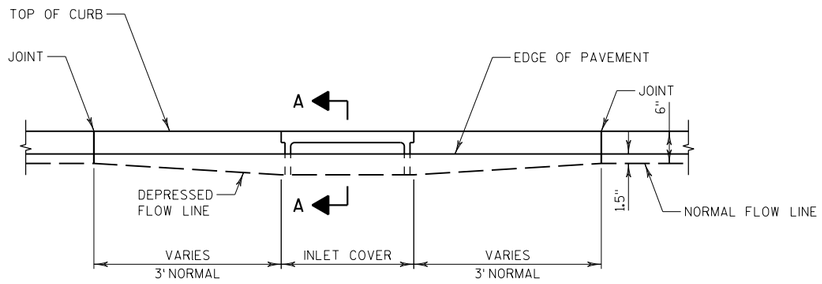


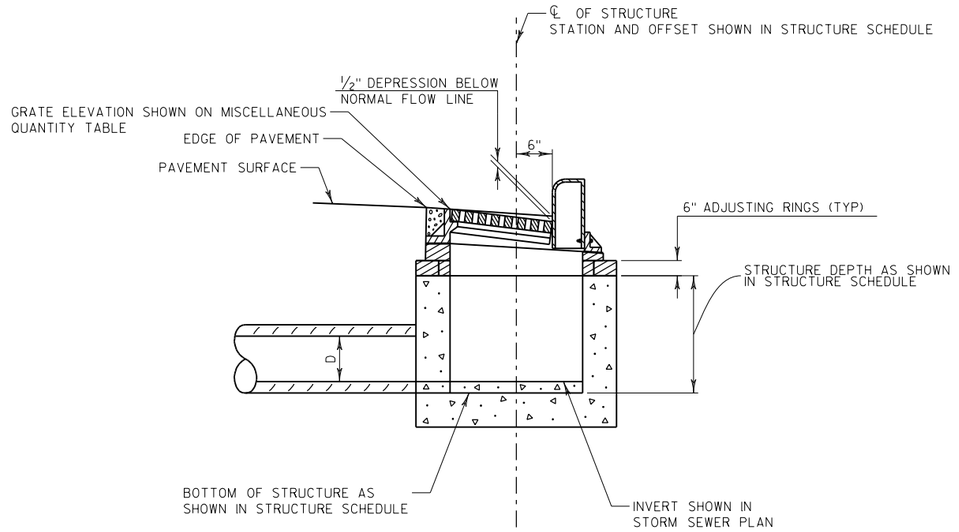
BAR SIZES				
STANDARD DESIGN				
	PIPE SIZE	HOLE DIA. REQ'D.	BOLT DIA.	BAR SIZE
ROUND	12'-24"	3/4"	5/8"	5/8"
	27"-48"	7/8"	3/4"	3/4"
	54"-90"	1 1/8"	1"	1"
ARCH	22"-29"	3/4"	5/8"	5/8"
	36"-59"	7/8"	3/4"	3/4"
	65"-88"	1 1/8"	1"	1"
BOLT LG.=PIPEWALL THK. + 2 1/2"				

ROUND		ARCH	
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



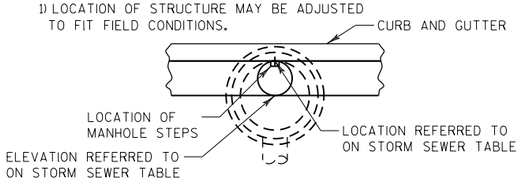


SECTION A-A

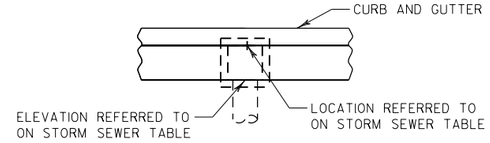
DETAIL OF CURB AND GUTTER AT INLETS

NOTE

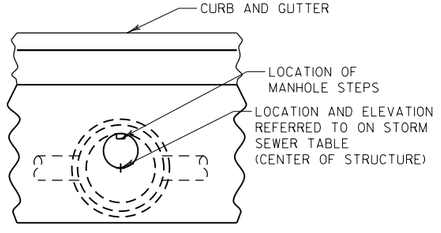
1) LOCATION OF STRUCTURE MAY BE ADJUSTED TO FIT FIELD CONDITIONS.



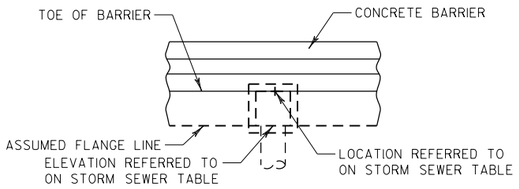
MANHOLE OR CIRCULAR INLET IN CURB AND GUTTER



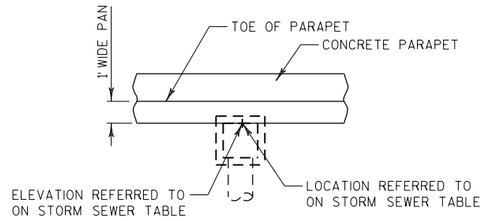
INLET IN CURB AND GUTTER



MANHOLE NOT IN CURB AND GUTTER

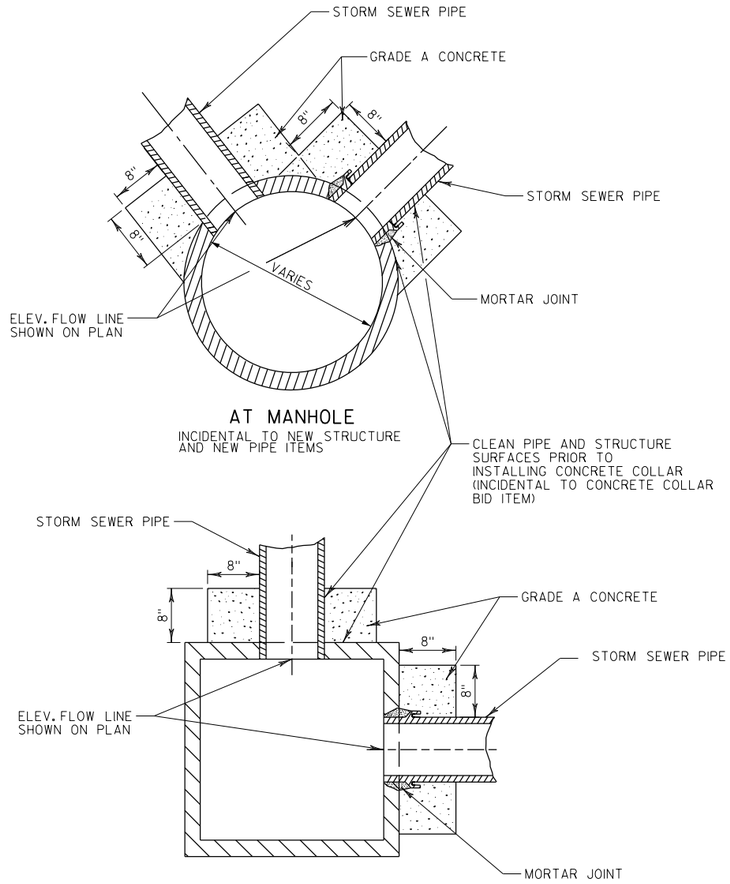


INLET ADJACENT TO CONCRETE BARRIER



INLET ADJACENT TO RETAINING WALL PARAPET

STRUCTURE LOCATION DETAIL



AT MANHOLE

INCIDENTAL TO NEW STRUCTURE AND NEW PIPE ITEMS

CLEAN PIPE AND STRUCTURE SURFACES PRIOR TO INSTALLING CONCRETE COLLAR (INCIDENTAL TO CONCRETE COLLAR BID ITEM)

AT STORM SEWER INLET

INCIDENTAL TO NEW STRUCTURE AND NEW PIPE ITEMS

NOTE

CONCRETE COLLAR TO BE PAID AS A BID ITEM WHEN:

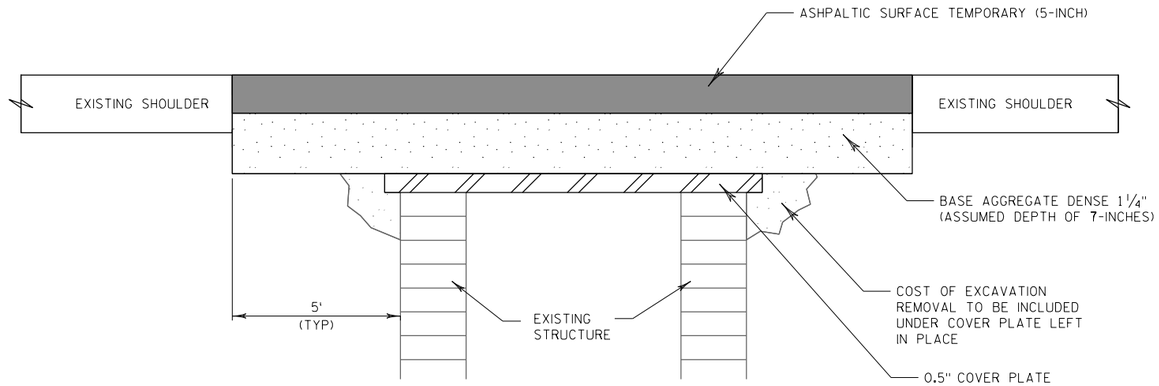
A) CONNECTING AN EXISTING PIPE TO A NEW STRUCTURE AND
B) CONNECTING AN EXISTING STRUCTURE TO A NEW PIPE

CONCRETE COLLAR DETAIL

NOTE:

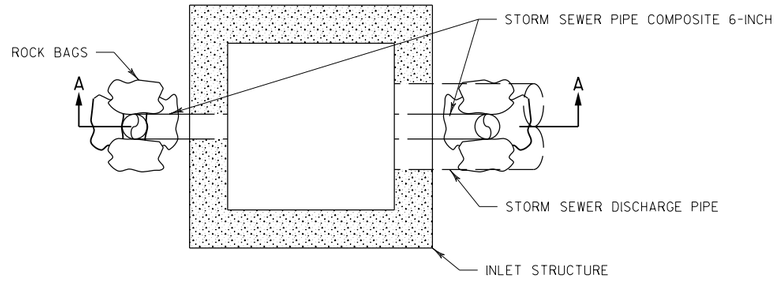
1) INSTALL COVER PLATE TO REST FLAT UPON THE EXISTING STRUCTURE. COVER PLATE SHOULD EXTEND OUTSIDE EDGE OF THE EXISTING MASONRY.

2) THE FOLLOWING ITEMS ARE INCIDENTAL TO ITEM COVER PLATE LEFT IN PLACE:
   A. FURNISH AND INSTALL COVER PLATE
   B. BACKFILL USING BASE AGGREGATE DENSE 1 1¾"

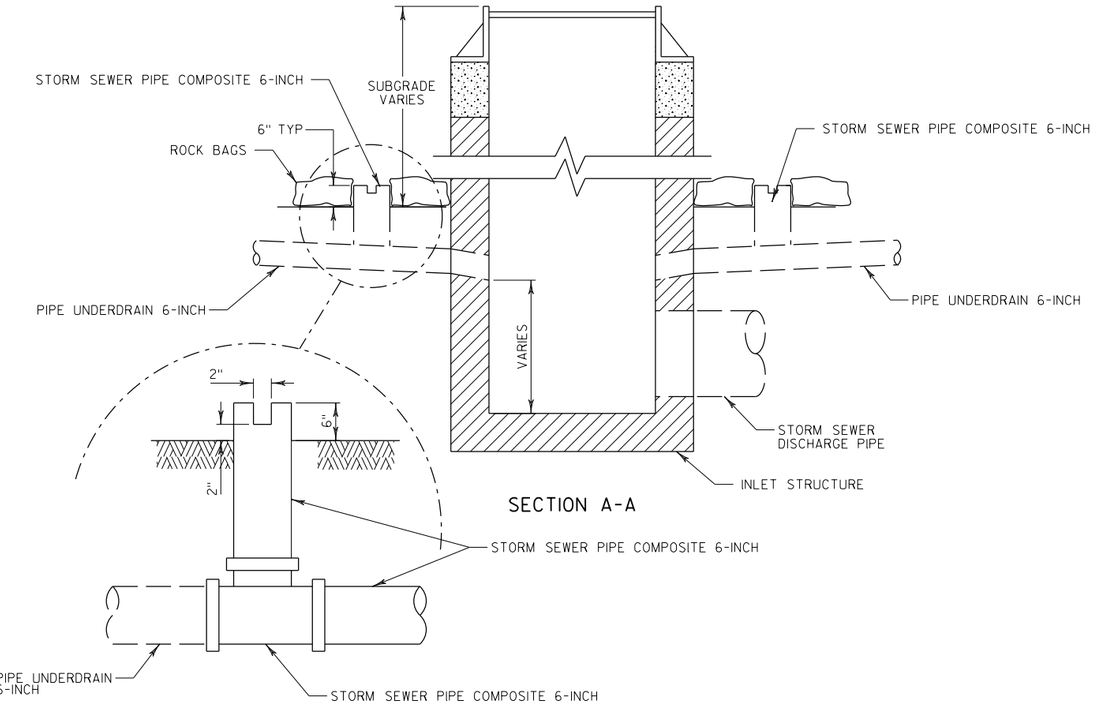


REMOVING INLET COVER AND CASTING

STATION 182EB+80, RT

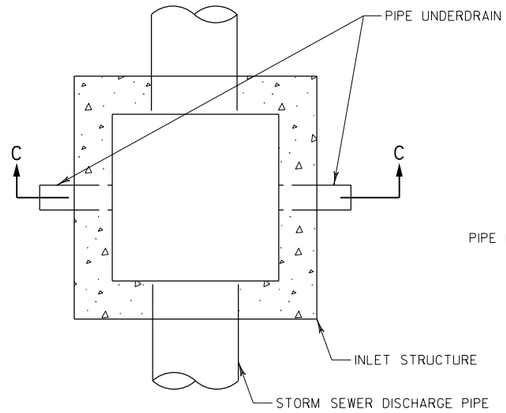


PLAN VIEW

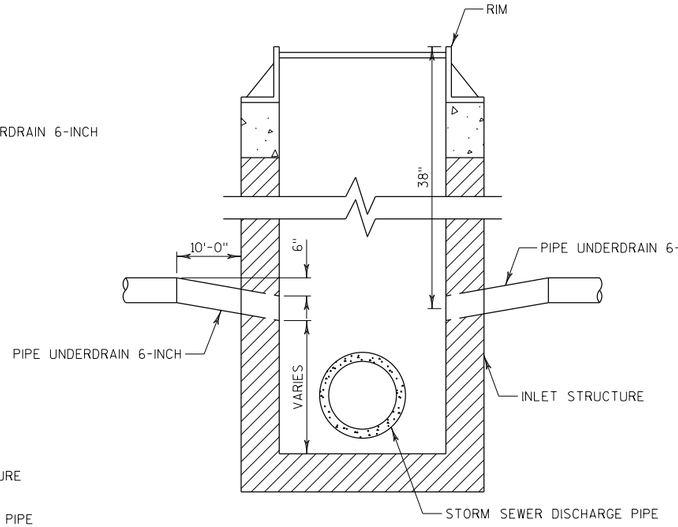


SECTION A-A

TEMPORARY SUBGRADE DRAINAGE AT SAG POINTS



PLAN VIEW



SECTION C-C

UNDERDRAIN OUTFALL AT INLET

NOTES:

1) CONNECTIONS TO INLETS OR MANHOLES IN MEDIAN SHALL USE PIPE UNDERDRAIN, 6-INCH.

2) PROVIDE TWO 6" DIA. OPENINGS FOR UNDERDRAIN PIPE A MINIMUM OF 38" BELOW THE RIM ELEVATION.

3) SEE MISCELLANEOUS QUANTITIES FOR PIPE UNDERDRAIN LOCATIONS.

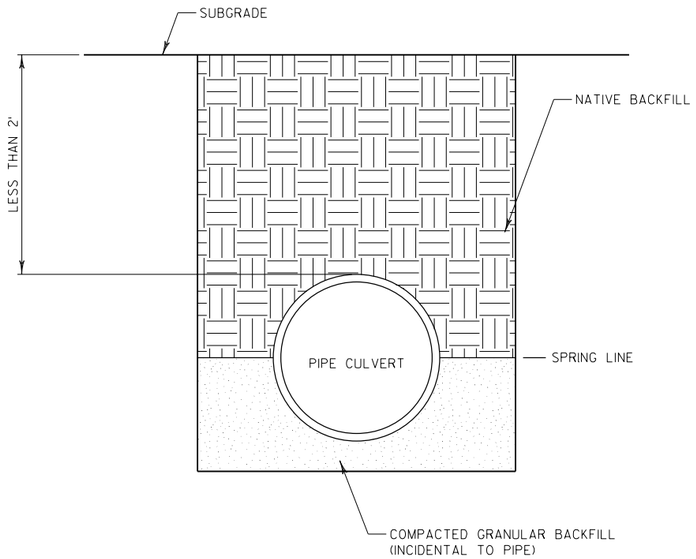
4) PIPE UNDERDRAIN ONLY REQUIRED ON HIGH SIDE OF INLET IN SLOPED CONDITION.

5) PIPE UNDERDRAIN REQUIRED ON BOTH SIDES OF INLET IN SAG CONDITION.

2

NOTES:

(1) NATIVE BACKFILL SHALL BE FREE OF LARGE LUMPS, CLODS, OR ROCK.

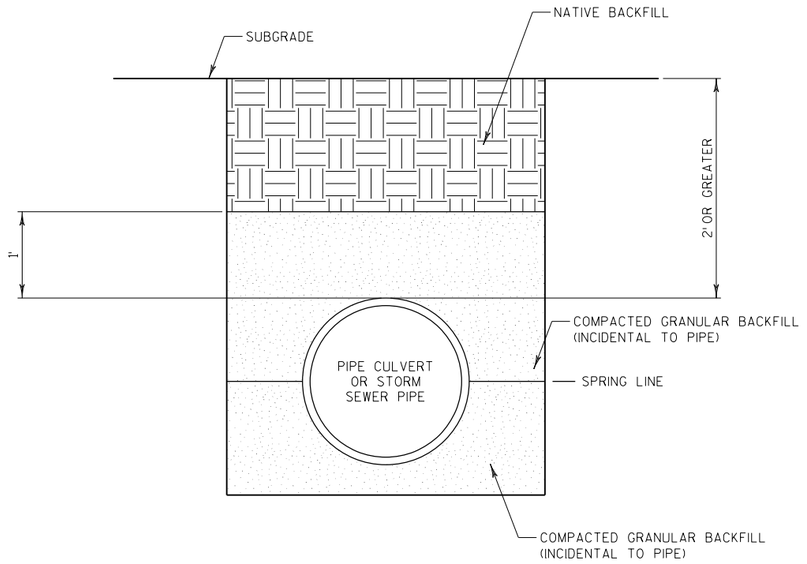


TRENCH BACKFILL DETAIL FOR SHALLOW PIPE CULVERTS

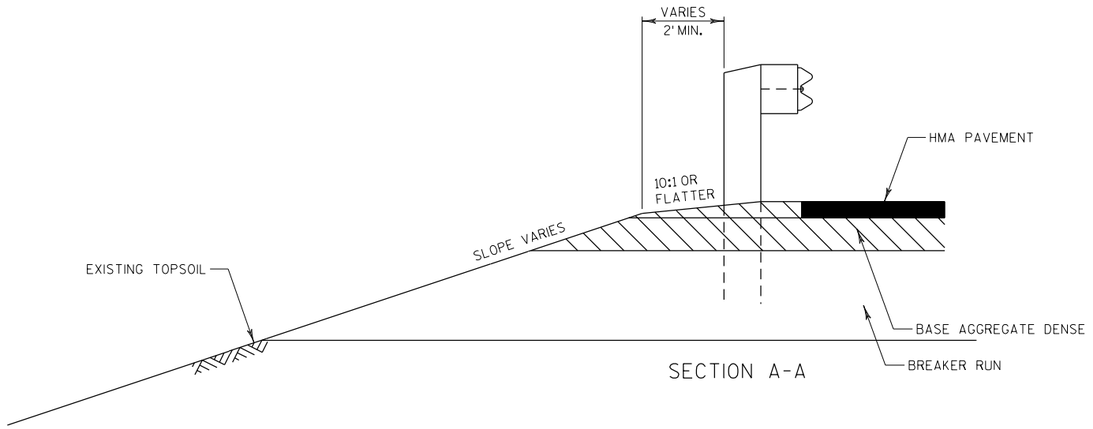
NOTES:

(1) NATIVE BACKFILL SHALL BE FREE OF LARGE LUMPS, CLODS, OR ROCK.

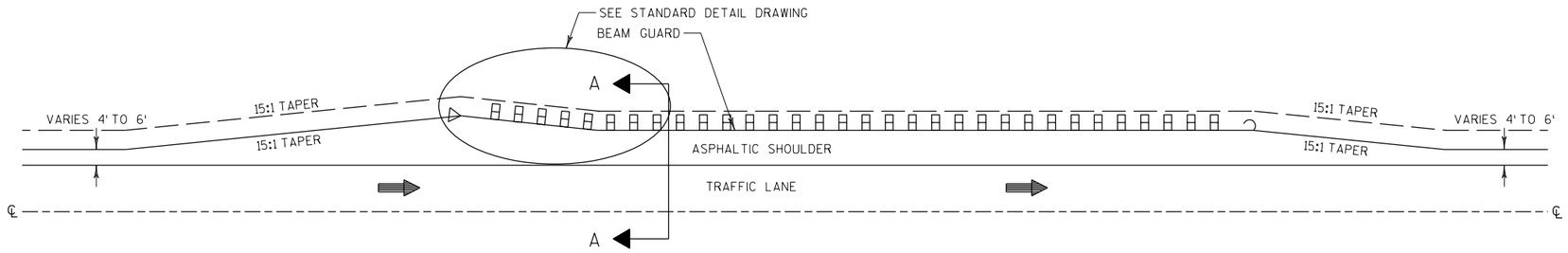
2



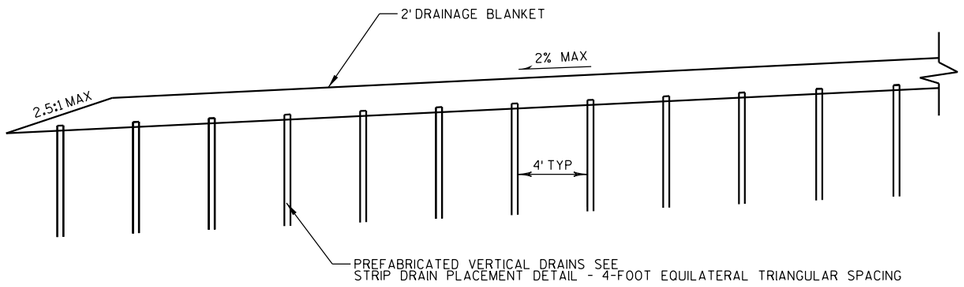
TRENCH BACKFILL DETAIL FOR NORMAL DEPTH PIPE CULVERTS AND STORM SEWER PIPE INSTALLATIONS



SECTION A-A

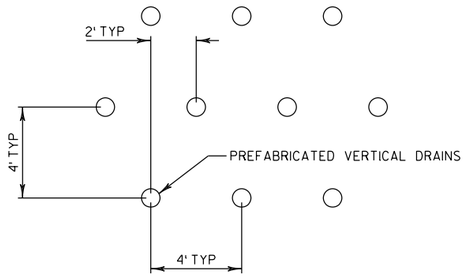


DETAIL FOR ASPHALTIC SHOULDER AT GUARDRAIL



DRAINAGE BLANKET DETAIL - 4-FOOT EQUILATERAL TRIANGULAR SPACING

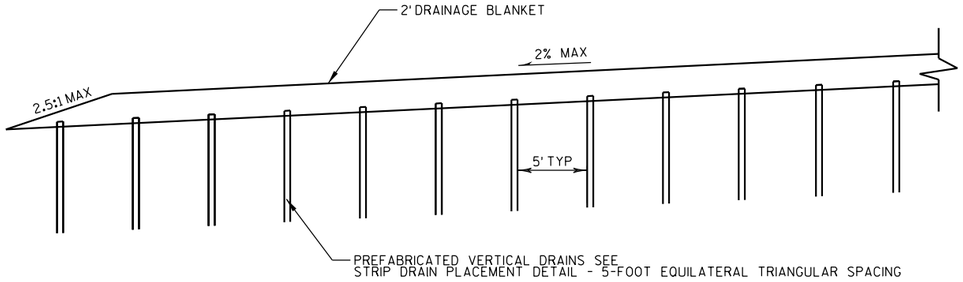
NOT TO SCALE



PREFABRICATED VERTICAL DRAINS PLACEMENT DETAIL - 4-FOOT EQUILATERAL TRIANGULAR SPACING

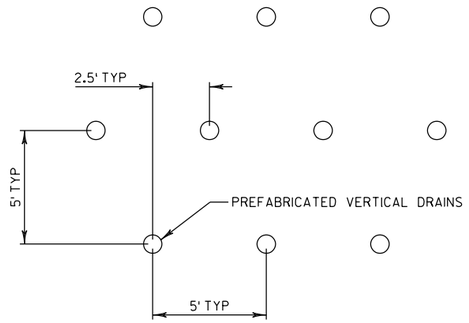
NOT TO SCALE
STA 132FWN+00 TO STA 135FWN+25
STA 1365NB+02.79 TO STA 1365NB+50.01

2



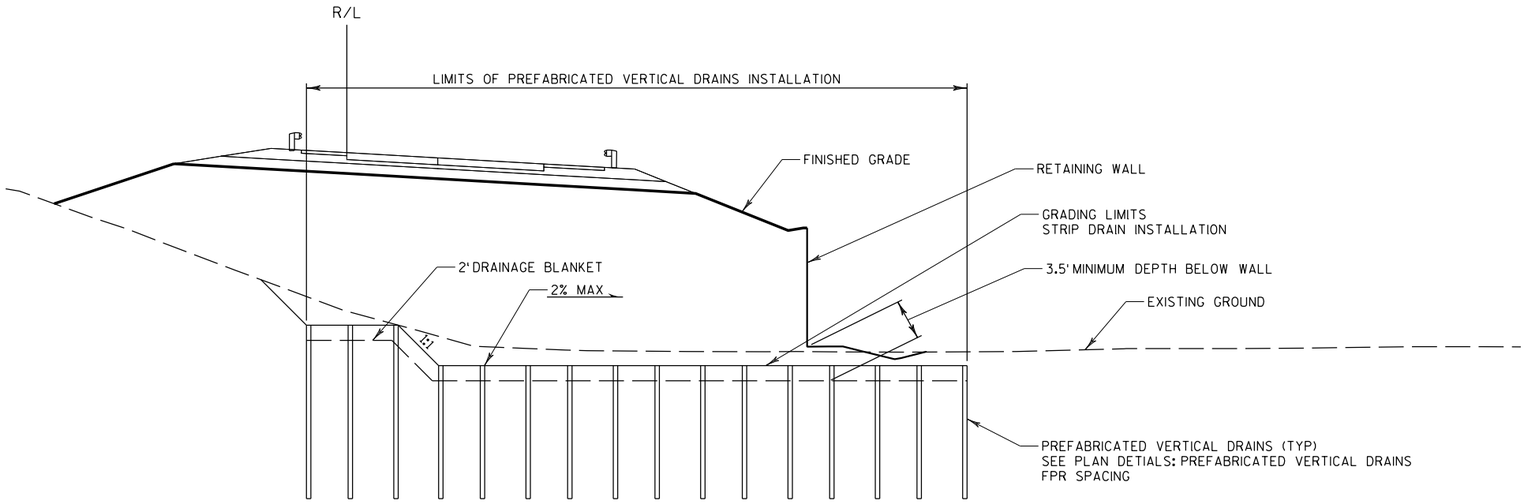
DRAINAGE BLANKET DETAIL - 5-FOOT EQUILATERAL TRIANGULAR SPACING

NOT TO SCALE



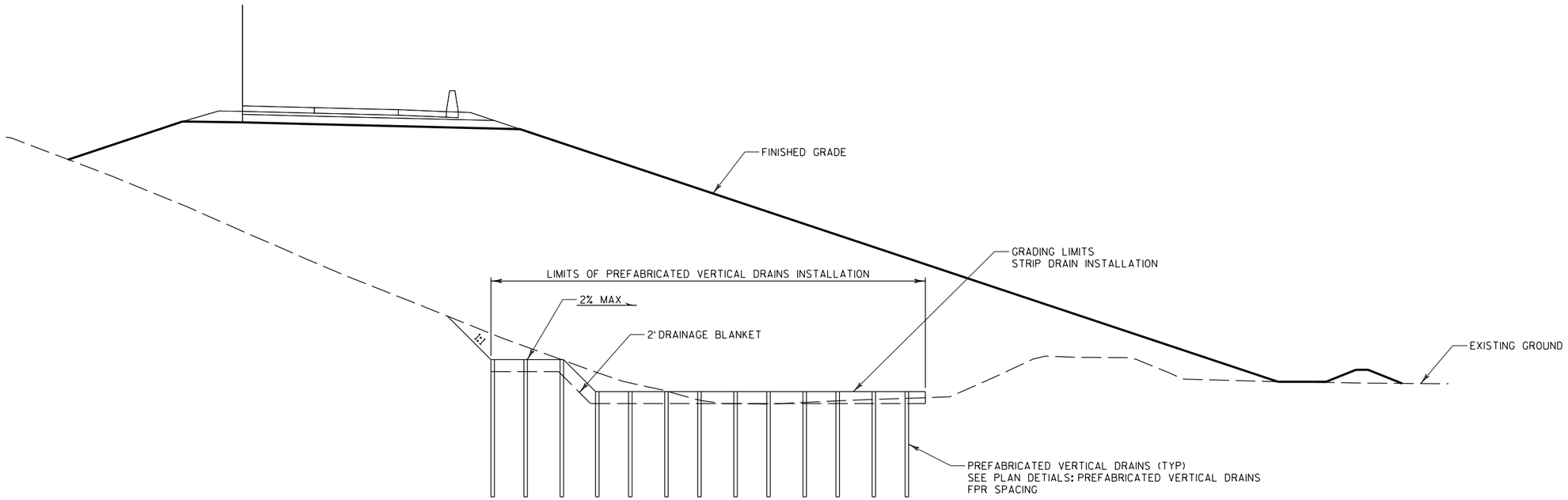
PREFABRICATED VERTICAL DRAINS PLACEMENT DETAIL - 5-FOOT EQUILATERAL TRIANGULAR SPACING

NOT TO SCALE
STA 120WB+00 TO STA 128WB+13
STA 126WB+75 TO STA 133WB+00
STA 122FEN+50 TO STA 125FEN+90
STA 1324FNE+50 TO STA 1331FNE+25
STA 136FEN+66 TO STA 140FEN+00
STA 1335FNE+35 TO STA STA 1342FNE+84



TYPICAL CROSS SECTION - PREFABRICATED VERTICAL DRAINS WITH STRUCTURE

NOT TO SCALE

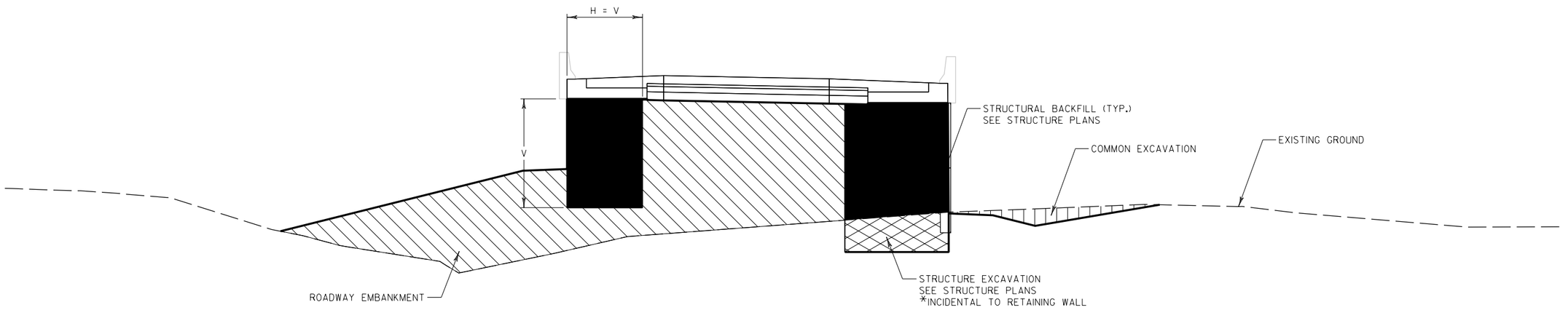


TYPICAL CROSS SECTION - PREFABRICATED VERTICAL DRAINS WITHOUT STRUCTURE

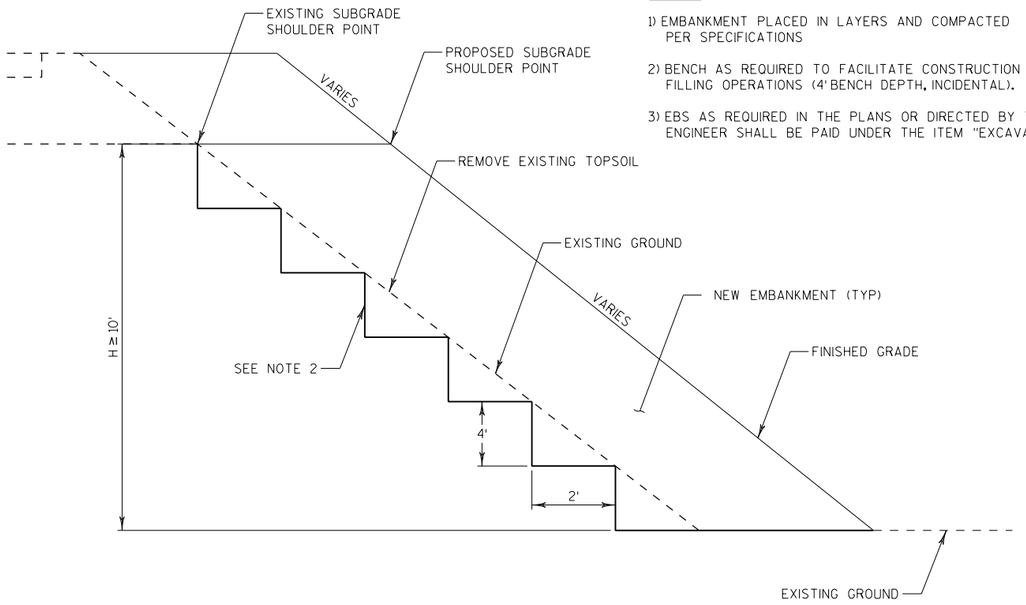
NOT TO SCALE

PROJECT NO: 1517-07-72	HWY: USH 10	COUNTY: WINNEBAGO	CONSTRUCTION DETAILS	SHEET 42	E

2



RETAINING WALL EARTHWORK



NOTES:

1) EMBANKMENT PLACED IN LAYERS AND COMPACTED PER SPECIFICATIONS

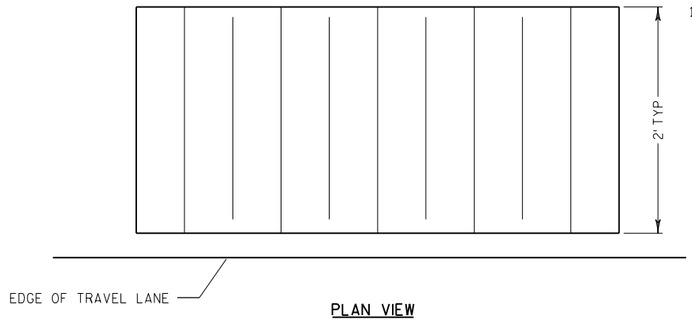
2) BENCH AS REQUIRED TO FACILITATE CONSTRUCTION FILLING OPERATIONS (4' BENCH DEPTH, INCIDENTAL).

3) EBS AS REQUIRED IN THE PLANS OR DIRECTED BY THE ENGINEER SHALL BE PAID UNDER THE ITEM "EXCAVATION COMMON".

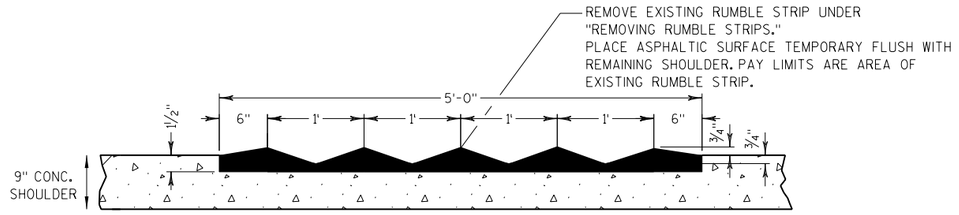
STEPPED EMBANKMENT

NOTES:

1) RUMBLE STRIPS ARE LONGITUDINALLY SPACED 20' CENTER TO CENTER (VERIFY SPACING IN FIELD).



PLAN VIEW

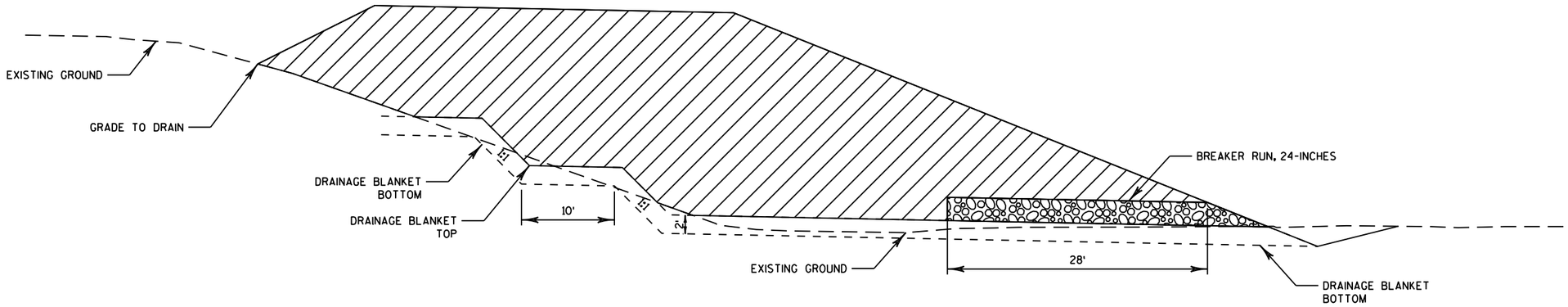


PROFILE VIEW

REMOVING RUMBLE STRIPS

STA 1339NB+80 TO STA 1392NB+70

2



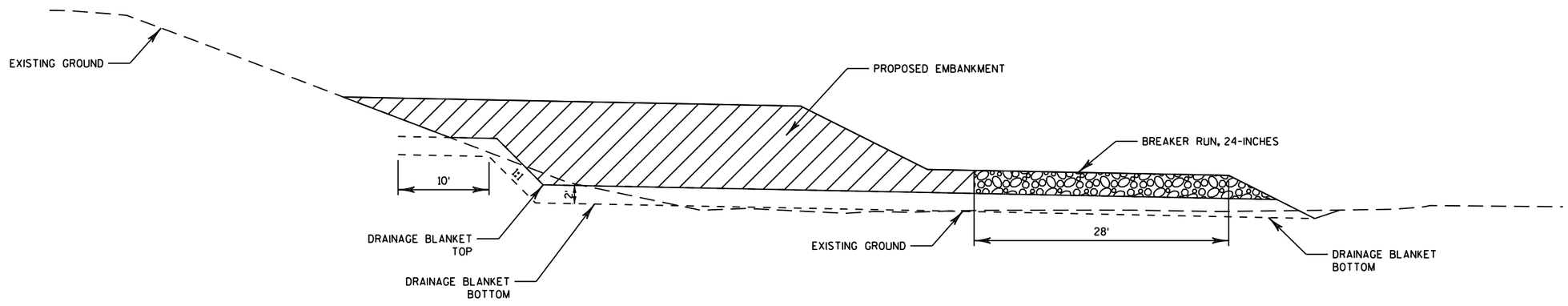
HAUL ROAD - BREAKER RUN

FILL OVER TOP

NOTES:

1) HAUL ROAD WILL BE PLACED IN 1517-07-72 CONTRACT. PAID AS 24-INCHES BREAKER RUN.

2) SEE PLAN DETAILS FOR WICK DRAIN PLACEMENT LOCATION.



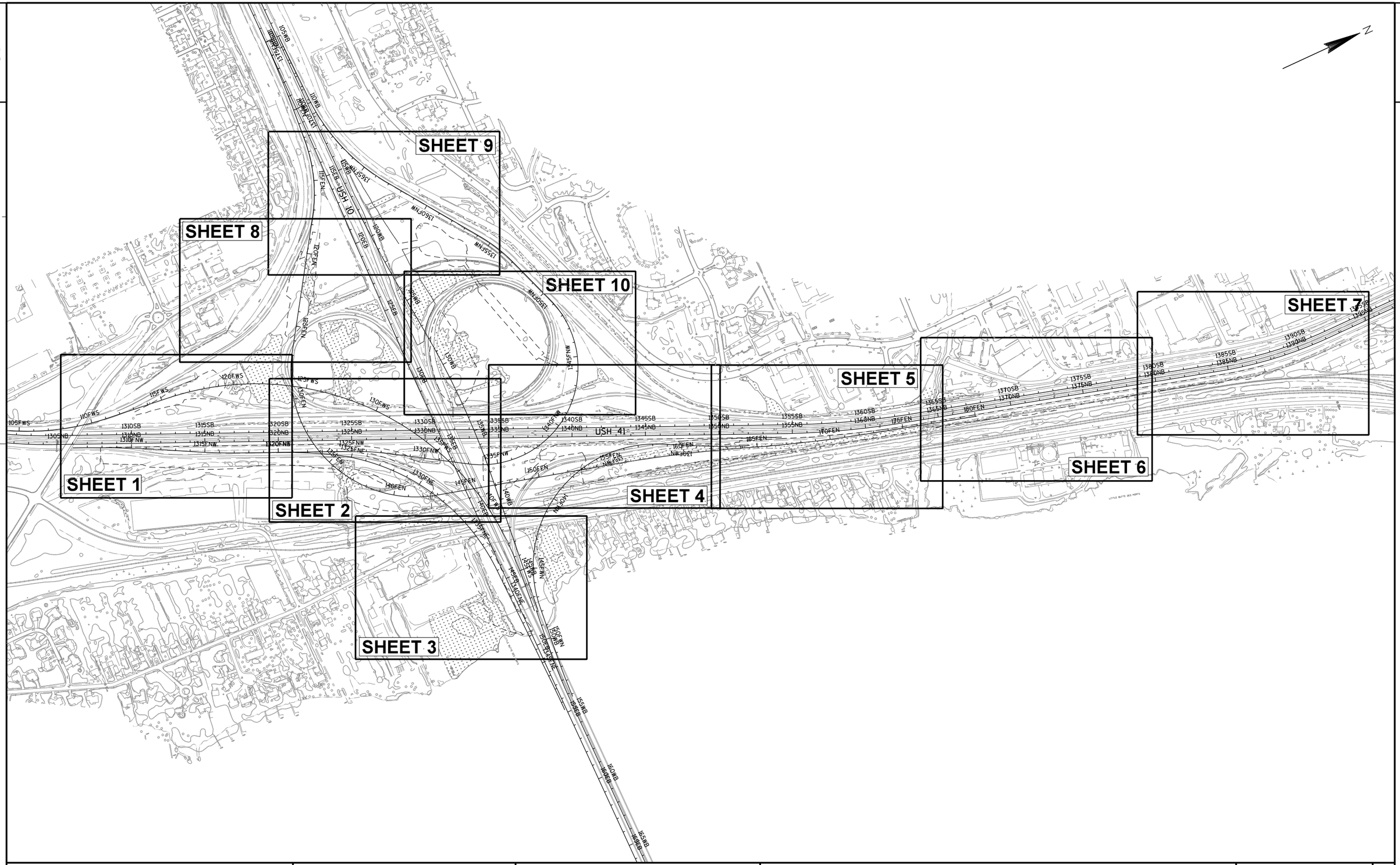
HAUL ROAD - BREAKER RUN

NO FILL OVER TOP

NOTES:

1) HAUL ROAD WILL BE PAID AS 24-INCHES BREAKER RUN.

2) SEE PLAN DETAILS FOR WICK DRAIN PLACEMENT LOCATION.



PROJECT NO: 1517-07-72	HWY: USH 10	COUNTY: WINNEBAGO	REMOVAL PLANS OVERVIEW	SHEET 45	E

FILE NAME : S:\DOT\DOT_NE\120012-Tri County Freeway\1517-07-72\DGN_Files\Plansheets\021200_rm.dgn PLOT DATE : 2/19/2014 PLOT BY : wally_w PLOT NAME : PLOT SCALE : 1:600

2

2

JACOBSON ROAD

BIKE PATH

BIKE PATH

USH 10 EB TO USH 41 SB RAMP

N

110FWS

112FWS

114FWS

116FWS

118FWS

120FWS

122FWS

124

REMOVING FENCE STA 117FWS+63 TO STA 118FWS+79

08FWS

SIGN

1308SB

1310SB

1312SB

USH 41 SB

1314SB

1316SB

1318SB

1320SB

INL

INL

INL

INL

1306NB

1308NB

1310NB

1312NB

1314NB

1316NB

1318NB

1320NB

USH 41 NB

1308FNW

1310FNW

1312FNW

1314FNW

1316FNW

1318FNW

1320FNW

SIGN

REMOVING INLETS

USH 41 NB TO USH 10 EB STH 441 NB RAMP

REMOVING STORM SEWER 18-INCH

RIPRAP

REMOVING FENCE STA 1314FNW+12 TO STA 1318FNW+39

RIPRAP

INL

LEGEND

- REMOVING FENCE
- SALVAGING GUARDRAIL
- XXXXX SAWCUT
- REMOVING PAVEMENT
- CLEARING AND GRUBBING
- AB — ABANDONING STORM SEWER
- RM — REMOVING STORM SEWER
- REMOVING INLETS
- REMOVING MANHOLES
- REMOVING CULVERT PIPE
- SLOPE INTERCEPT

PROJECT NO: 1517-07-72	HWY: USH 10	COUNTY: WINNEBAGO	REMOVAL PLANS: SHEET 1	SHEET 46	E

FILE NAME : S:\DOT\DOT_NE\120012-Tri County Freeway\1517-07-72\DGN_Files\Plansheets\021201_rm.dgn PLOT DATE : 2/19/2014 PLOT BY : wally_w PLOT NAME : PLOT SCALE : 1:100

2

LEGEND

- REMOVING FENCE
- SALVAGING GUARDRAIL
- XXXXX SAWCUT
- REMOVING PAVEMENT
- CLEARING AND GRUBBING
- —AB— ABANDONING STORM SEWER
- —RM— REMOVING STORM SEWER
- REMOVING INLETS
- REMOVING MANHOLES
- REMOVING CULVERT PIPE
- SLOPE INTERCEPT

124EWS
126FWS
128FWS
130FWS
132FWS
134FWS
130FEN
132FEN
136FEN
138FEN
140FEN
142FEN
144FEN
146FEN
132EB
134EB
136EB
138EB
140EB
132WB
134WB
136WB
138WB
140FWS
138FWS
136FWS
1320SB
1322SB
1324SB
1326SB
1328SB
1330SB
1332SB
1334SB
1320NB
1322NB
1324NB
1326NB
1328NB
1330NB
1332NB
1334NB
USH 41 SB
USH 41 NB
USH 10 EB
USH 10 WB
1320FNW
1322FNW
1322FNE
1324FNW
1324FNE
1326FNW
1326FNE
1328FNW
1328FNE
1330FNW
1330FNE
1332FNW
1332FNE
1334FNW
1334FNE
INL
RM
N
END PROJECT
STA 133WB+00.00
SALVAGED RAIL STA 1327FNE+83 TO STA 1328FNE+93
REMOVING INLETS
REMOVING STORM SEWER 18-INCH
SALVAGED RAIL STA 1322FNE+93 TO STA 1324FNE+84
SALVAGED RAIL STA 1327FNE+95 TO STA 1328FNE+57
REMOVING CULVERT PIPE
REMOVING FENCE STA 1321FNE+40 TO STA 1332FNE+50
CANADIAN NATIONAL

PROJECT NO: 1517-07-72	HWY: USH 10	COUNTY: WINNEBAGO	REMOVAL PLANS: SHEET 2	SHEET 47	E

2

2

REMOVING FENCE STA 1336FNE+20 TO STA 1336FNE+26

REMOVING FENCE STA 1335FNE+50 TO STA 1342FNE+21

REMOVING FENCE STA 1341FNE+02 TO STA 1341FNE+17

1334FNE
1336FNE
1338FNE
1340FNE
1342FNE
1344FNE
142EB
144EB
146EB
148EB
150EB
142WB
144WB
146WB
148WB
150WB
142FWS
144FWS
146FWS
142FWN
144FWN
146FWN
148FWN
150FWN

USH 10 EB/STH 441 NB
USH 10 WB/STH 441 SB

CANADIAN
FOOTBRIDGE
CANOPY
MH
INL
SIGN
LITTLE BUTTE DES M

N

LEGEND

- REMOVING FENCE
- SALVAGING GUARDRAIL
- XXXXX SAWCUT
- REMOVING PAVEMENT
- CLEARING AND GRUBBING
- —AB— ABANDONING STORM SEWER
- —RM— REMOVING STORM SEWER
- REMOVING INLETS
- REMOVING MANHOLES
- REMOVING CULVERT PIPE
- SLOPE INTERCEPT

PROJECT NO: 1517-07-72	HWY: USH 10	COUNTY: WINNEBAGO	REMOVAL PLANS: SHEET 3	SHEET 48	E

FILE NAME : S:\DOT\DOT_NE\120012-Tri County Freeway\1517-07-72\DGN_Files\Plansheets\021203_rm.dgn PLOT DATE : 2/19/2014 PLOT BY : wally_w PLOT NAME : PLOT SCALE : 1:100

WISDOT/CADDS SHEET 42

AFTER PIPE INSTALLATION REPLACE WITH
5" ASPHALTIC SURFACE TEMPORARY OVER
12" BASE AGGREGATE DENSE 1¼-INCH

1344FNW
1342FNW
1340FNW
1338FNW
1336FNW

1336SB 1338SB 1340SB 1342SB 1344SB 1346SB 1348SB 1350S

USH 41 SB

1336NB 1338NB 1340NB 1342NB 1344NB 1346NB 1348NB 1350N

USH 41 NB

SALVAGED RAIL STA 136FWN+24 TO STA 140FWN+52

USH 10 WB / STH 441 SB TO USH 41 NB

138WB
140WB

148FEN 150FEN 152FEN 154FEN 156FEN 158FEN 160FEN

REMOVING STORM SEWER 30-INCH

REMOVING FENCE STA 152FEN+92 TO STA 155FEN+82

SALVAGED RAIL STA 135FWN+82 TO STA 137FWN+76

WISCONSIN CENTRAL LTD RR

LBDM BEACH ROAD

CANADIAN

RAILROAD

SIGN

INL

MH

ANT.

LEGEND

- REMOVING FENCE
- SALVAGING GUARDRAIL
- SAWCUT
- REMOVING PAVEMENT
- CLEARING AND GRUBBING
- ABANDONING STORM SEWER
- REMOVING STORM SEWER
- REMOVING INLETS
- REMOVING MANHOLES
- REMOVING CULVERT PIPE
- SLOPE INTERCEPT

PROJECT NO: 1517-07-72	HWY: USH 10	COUNTY: WINNEBAGO	REMOVAL PLANS: SHEET 4	SHEET 49	E

FILE NAME : S:\DOT\DOT_NE\120012-Tri County Freeway\1517-07-72\DGN_Files\Plansheets\021204_rm.dgn PLOT DATE : 2/19/2014 PLOT BY : wally_w PLOT NAME : PLOT SCALE : 1:100

WISDOT/CADDS SHEET 42

2

2

N

USH 41 SB

USH 41 NB

1350SB 1352SB 1354SB 1356SB 1358SB 1360SB 1362SB 1364SB

1350NB 1352NB 1354NB 1356NB 1358NB 1360NB 1362NB 1364NB

REMOVING INLETS

176FEN 174FEN 172FEN 170FEN 168FEN 166FEN 164FEN

REMOVING STORM SEWER 18-INCH

REMOVING STORM SEWER 18-INCH

REMOVING STORM SEWER 12-INCH

REMOVING STORM SEWER 24-INCH

REMOVING FENCE STA 1363NB+76 TO STA 1364NB+03

SALVAGED RAIL STA 1361NB+02 TO STA 1364NB+20

REMOVING FENCE STA 1364NB+72 TO STA 1387NB+13

REMOVING STORM SEWER 18-INCH

REMOVING FENCE STA 163FEN+13 TO STA 171FEN+85

BERM SIGN SIGN SIGN SIGN SIGN SIGN SIGN

INL MH INL INL INL INL INL MH W A/C A/C

RAILROAD

NATIONAL WISCONSIN CENTRAL LTD RR

LBDM BEACH ROAD

MH INL W

LEGEND

—×—×— REMOVING FENCE	—RM— REMOVING STORM SEWER
SALVAGING GUARDRAIL	REMOVING INLETS
X X X X X SAWCUT	REMOVING MANHOLES
REMOVING PAVEMENT	REMOVING CULVERT PIPE
CLEARING AND GRUBBING	SLOPE INTERCEPT
—AB— ABANDONING STORM SEWER	

PROJECT NO: 1517-07-72	HWY: USH 10	COUNTY: WINNEBAGO	REMOVAL PLANS: SHEET 5	SHEET 50	E

FILE NAME : S:\DOT\DOT_NE\120012-Tri County Freeway\1517-07-72\DGN_Files\Plansheets\021205_rm.dgn PLOT DATE : 2/19/2014 PLOT BY : wally_w PLOT NAME : PLOT SCALE : 1:100

WISDOT/CADDS SHEET 42

2

2

USH 41 SB

USH 41 NB

1378SB
1376SB
1374SB
1372SB
1370SB
1368SB
1366SB
1364SB

1378NB
1376NB
1374NB
1372NB
1370NB
1368NB
1366NB
1364NB

180FEN

178FEN

REMOVING INLETS

REMOVING STORM SEWER 12-INCH

REMOVING FENCE STA 1363NB+76 TO STA 1364NB+03

SALVAGED RAIL STA 1361NB+02 TO STA 1364NB+20

REMOVING FENCE STA 1364NB+72 TO STA 1387NB+13

WISCONSIN CENTRAL LTD RR

LBDM BEACH ROAD

SEWAGE TREATMENT PLANT

LEGEND

- REMOVING FENCE
- SALVAGING GUARDRAIL
- XXXXX SAWCUT
- REMOVING PAVEMENT
- CLEARING AND GRUBBING
- —AB— ABANDONING STORM SEWER
- —RM— REMOVING STORM SEWER
- REMOVING INLETS
- REMOVING MANHOLES
- REMOVING CULVERT PIPE
- SLOPE INTERCEPT

PROJECT NO: 1517-07-72	HWY: USH 10	COUNTY: WINNEBAGO	REMOVAL PLANS: SHEET 6	SHEET 51	E

FILE NAME : S:\DOT\DOT_NE\120012-Tri County Freeway\1517-07-72\DGN_Files\Plansheets\021206_rm.dgn PLOT DATE : 2/19/2014 PLOT BY : wally_w PLOT NAME : PLOT SCALE : 1:100

2

2

SIGN
O.P.
W
INL
RAMP
SIGN
SIGN
SIGN
MH
INL
INL
INL
INL
INL
INL
ANT.
A/C
SIGN
1394SB
1394NB
1392SB
1392NB
1390SB
1390NB
1388SB
1388NB
1386SB
1386NB
1384SB
1384NB
1382SB
1382NB
1380SB
1380NB
USH 41 SB
USH 41 NB
SIGN
SIGN
SIGN
SIGN
SIGN
MH
WISCONSIN CENTRAL LTD RR
CANADIAN NATIONAL
CANADIAN NATIONAL
SIGN
MH
MH
REMOVING FENCE STA 1364NB+72 TO STA 1387NB+13
MH
MH
MH
W
W
W
LBDM BEACH ROAD
1310
751.010

LEGEND

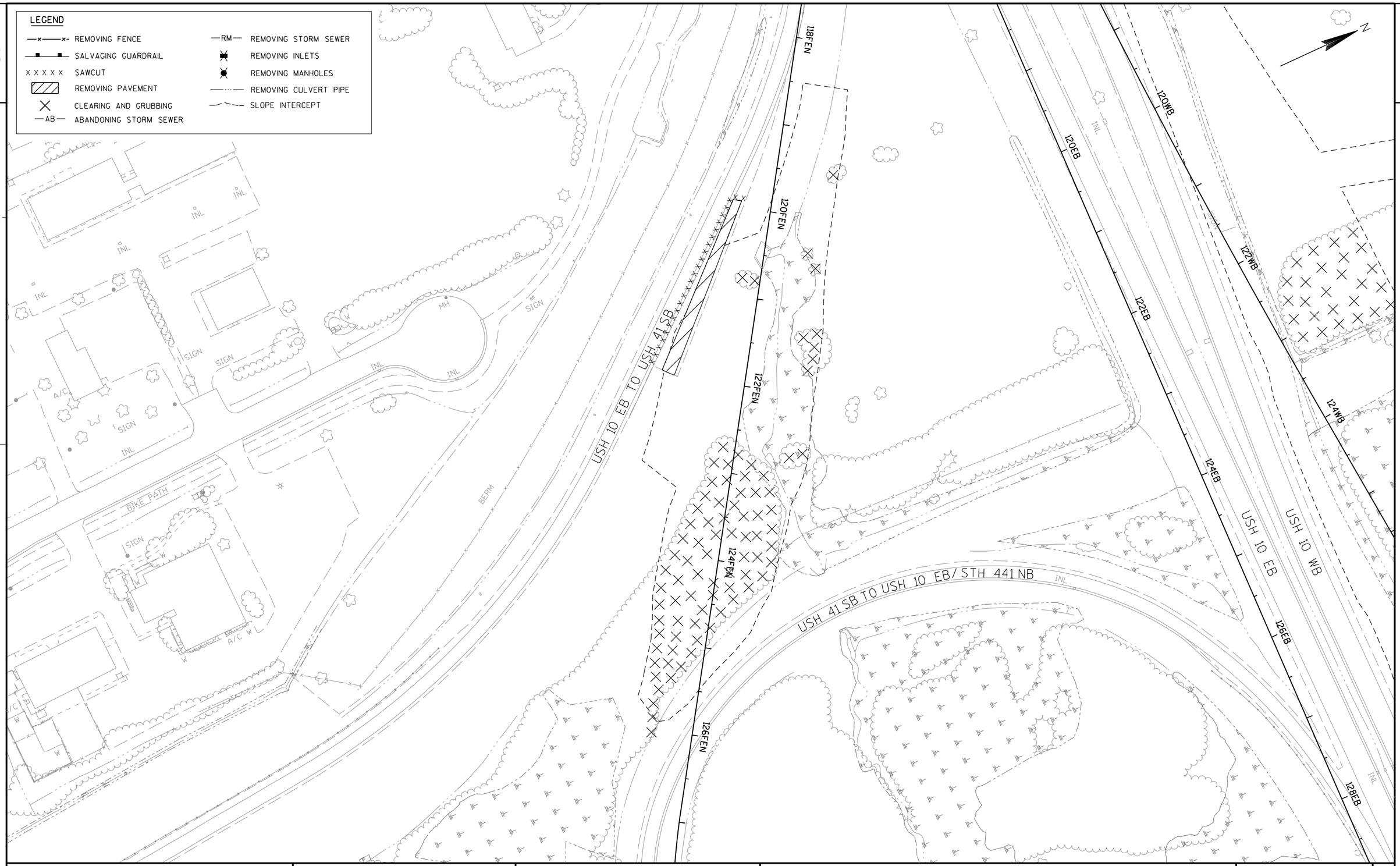
- REMOVING FENCE
- SALVAGING GUARDRAIL
- XXXXX SAWCUT
- REMOVING PAVEMENT
- CLEARING AND GRUBBING
- —AB— ABANDONING STORM SEWER
- —RM— REMOVING STORM SEWER
- REMOVING INLETS
- REMOVING MANHOLES
- REMOVING CULVERT PIPE
- SLOPE INTERCEPT

PROJECT NO: 1517-07-72	HWY: USH 10	COUNTY: WINNEBAGO	REMOVAL PLANS: SHEET 7	SHEET 52	E

FILE NAME : S:\DOT\DOT_NE\120012-Tri County Freeway\1517-07-72\DGN_Files\Plansheets\021207_rm.dgn PLOT DATE : 2/19/2014 PLOT BY : wally_w PLOT NAME : PLOT SCALE : 1:100

LEGEND

- REMOVING FENCE
- SALVAGING GUARDRAIL
- SAWCUT
- REMOVING PAVEMENT
- CLEARING AND GRUBBING
- ABANDONING STORM SEWER
- REMOVING STORM SEWER
- REMOVING INLETS
- REMOVING MANHOLES
- REMOVING CULVERT PIPE
- SLOPE INTERCEPT



2

LEGEND

- REMOVING FENCE
- SALVAGING GUARDRAIL
- X X X X X SAWCUT
- REMOVING PAVEMENT
- CLEARING AND GRUBBING
- —AB— ABANDONING STORM SEWER
- —RM— REMOVING STORM SEWER
- REMOVING INLETS
- REMOVING MANHOLES
- REMOVING CULVERT PIPE
- SLOPE INTERCEPT

BEGIN PROJECT
STA 114WB+50.00

USH 10 EB TO USH 41 SB

USH 41 SB TO USH 10 WB

USH 10 EB

USH 10 WB

112EB
112FEN
114EB
114FEN
114WB
116EB
116FEN
116WB
118EB
118FEN
118WB
120EB
120FEN
120WB
122EB
122WB
136GFNW
136FFNW
136EFNW
136DFNW
136CFNW
136BFNW
136AFNW
135ZFNW
135YFNW
135XFNW
135WFNW

BIKE PATH

PROJECT NO: 1517-07-72	HWY: USH 10	COUNTY: WINNEBAGO	REMOVAL PLANS: SHEET 9	SHEET 54 E

2

LEGEND

- REMOVING FENCE
- SALVAGING GUARDRAIL
- X X X X X SAWCUT
- REMOVING PAVEMENT
- CLEARING AND GRUBBING
- —AB— ABANDONING STORM SEWER
- —RM— REMOVING STORM SEWER
- REMOVING INLETS
- REMOVING MANHOLES
- REMOVING CULVERT PIPE
- SLOPE INTERCEPT

USH 10 WB/ STH 441 SB TO USH 41 SB

AFTER PIPE INSTALLATION REPLACE WITH
5" ASPHALTIC SURFACE TEMPORARY OVER
12" BASE AGGREGATE DENSE 1¼-INCH

AFTER PIPE INSTALLATION REPLACE WITH
5" ASPHALTIC SURFACE TEMPORARY OVER
12" BASE AGGREGATE DENSE 1¼-INCH

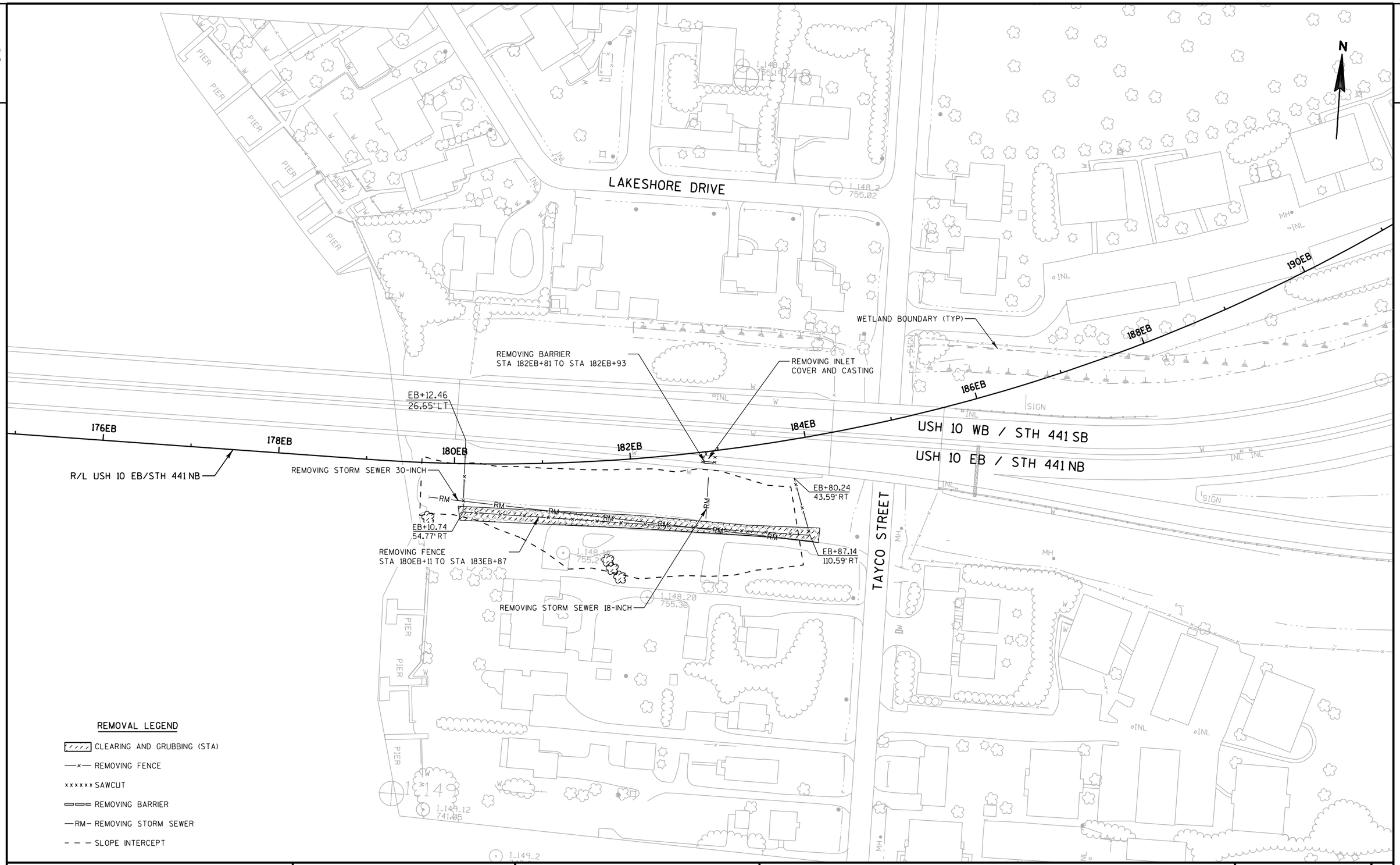
END PROJECT
STA 133WB+00.00

1352FNW
1350FNW
1348FNW
1346FNW
1344FNW
1342FNW
126WB
128WB
130WB
132WB
130EB
132EB
INL
SIGN
BERM
MH
ANT.
N

PROJECT NO: 1517-07-72	HWY: USH 10	COUNTY: WINNEBAGO	REMOVAL PLANS: SHEET 10	SHEET 55	E

FILE NAME : S:\DOT\DOT_NE\120012-Tri County Freeway\1517-07-72\DGN_Files\Plansheets\021210_rm.dgn PLOT DATE : 2/19/2014 PLOT BY : wally_w PLOT NAME : PLOT SCALE : 1:100

2


N
LAKESHORE DRIVE
PIER
PIER
PIER
PIER
1_148_17
755.13
1_148_2
755.02
MH
INL
INL
INL
INL
INL
INL
SIGN
SIGN
SIGN
SIGN
W
W
W

2

2

N

LEGEND

PREFABRICATED VERTICAL DRAINS

AREA B STA 120WB+00.00 TO STA 128WB+12.48
APPROXIMATELY 4520 PREFABRICATED VERTICAL DRAINS
PLACED TO AN ELEVATION OF 744FT
5-FOOT EQUILATERAL TRIANGLE SPACING

SLOPE INTERCEPT (TYP)

STA 120WB+00.00
107.05'LT

PREFABRICATED VERTICAL DRAINS

STA 120WB+00.00
17.73'LT

SLOPE INTERCEPT (TYP)

R/L USH 10 WB

116WB 117WB 118WB 119WB 120WB 121WB

USH 10 WB

INL

INL

USH 10 EB

116EB 117EB 118EB 119EB 120EB 121EB

MATCHLINE
STA 121WB+00

PROJECT NO: 1517-07-72	HWY: USH 10	COUNTY: WINNEBAGO	PLAN DETAILS: PREFABRICATED VERTICAL DRAINS	SHEET 57	E

LEGEND

PREFABRICATED VERTICAL DRAINS

AREA B STA 120WB+00.00 TO STA 128WB+12.48
APPROXIMATELY 4520 PREFABRICATED VERTICAL DRAINS
PLACED TO AN ELEVATION OF 744FT
5-FOOT EQUILATERAL TRIANGLE SPACING

STA 126WB+75.00 TO STA 133WB+00.00
APPROXIMATELY 4490 PREFABRICATED VERTICAL DRAINS
PLACED TO AN ELEVATION OF 744FT
5-FOOT EQUILATERAL TRIANGLE SPACING

N

STA 126WB+41.01
124.01'LT

STA 126WB+75.49
137.48'LT

STA 126WB+05.01
135.03'LT

PREFABRICATED VERTICAL DRAINS

SLOPE INTERCEPT (TYP)

121WB
122WB
123WB
124WB
125WB
126WB
127WB

SIGN

R/L USH 10 WB

STA 122WB+25.00
19.13'RT

USH 10 WB

MATCHLINE
STA 121WB+00

MATCHLINE
STA 127WB+00

121EB
122EB
123EB
124EB
125EB
126EB
127EB

PROJECT NO: 1517-07-72	HWY: USH 10	COUNTY: WINNEBAGO	PLAN DETAILS: PREFABRICATED VERTICAL DRAINS	SHEET 58	E

FILE NAME : S:\DOT\DOT_NE\120012-Tri County Freeway\1517-07-72\DGN_Files\Plansheets\021221_pd.dgn PLOT DATE : 2/19/2014 PLOT BY : wally_w PLOT NAME : PLOT SCALE : 1:40

WISDOT/CADDS SHEET 42

2

AREA C STA 126WB+75.00 TO STA 133WB+00.00
APPROXIMATELY 4490 PREFABRICATED VERTICAL DRAINS
PLACED TO AN ELEVATION OF 744FT
5-FOOT EQUILATERAL TRIANGLE SPACING

LEGEND

PREFABRICATED VERTICAL DRAINS

N

SLOPE INTERCEPT (TYP)

PREFABRICATED VERTICAL DRAINS

STA 131WB+75.00
167.20'LT

STA 131WB+50.00
162.44'LT

STA 128WB+25.00
149.59'LT

STA 132WB+50.00
94.59'LT

MATCHLINE
STA 127WB+00

STA 127WB+50.00
50.68'LT

STA 127FWN+00.00
43.38'LT

R/L USH 10 WB

STA 133WB+00.00
14.37'LT

131WB

132WB

133WB

130WB

129WB

128WB

127WB

STA 133WB+00.00
12.63'RT

STA 127WB+50.00
3.35'RT

STA 128WB+19.62
1.22'RT

STA 132WB+75.00
51.93'RT

STA 129WB+12.19
46.13'RT

STA 132WB+50.00
74.59'RT

SIGN

STA 128WB+12.48
46.52'RT

STA 130WB+12.52
76.02'RT

STA 131WB+96.89
95.15'RT

INL

STA 128WB+03.31
84.53'RT

SLOPE INTERCEPT (TYP)

STA 131WB+24.53
93.22'RT

AREA B STA 120WB+00.00 TO STA 128WB+12.48
APPROXIMATELY 4520 PREFABRICATED VERTICAL DRAINS
PLACED TO AN ELEVATION OF 744FT
5-FOOT EQUILATERAL TRIANGLE SPACING

USH 10 WB

PROJECT NO: 1517-07-72	HWY: USH 10	COUNTY: WINNEBAGO	PLAN DETAILS: PREFABRICATED VERTICAL DRAINS	SHEET 59	E

2

LEGEND

PREFABRICATED VERTICAL DRAINS

N

USH 41 SB TO USH 10 EB/STH 441 NB

AREA D STA 122FEN+50.00 TO STA 125FEN+90.10
APPROXIMATELY 1135 PREFABRICATED VERTICAL DRAINS
PLACED TO AN ELEVATION OF 741FT
5-FOOT EQUILATERAL TRIANGLE SPACING

SLOPE INTERCEPT (TYP)

STA 122FEN+50.00
42.30' LT

PREFABRICATED VERTICAL DRAINS

STA 124FEN+00.00
42.32' LT

STA 124FEN+94.31
36.46' LT

STA 125FEN+25.00
14.70' LT

STA 125FEN+65.00
9.27' RT

122FEN

123FEN

124FEN

125FEN

126FEN

127FEN

R/L USH 10 EB TO
USH 41 NB RAMP (FEN)

USH 10 EB TO USH 41 NB RAMP

STA 125FEN+87.17
29.36' RT

STA 125FEN+90.10
38.76' RT

STA 125FEN+87.65
44.42' RT

STA 125FEN+78.66
53.48' RT

STA 122FEN+50.00
47.14' RT

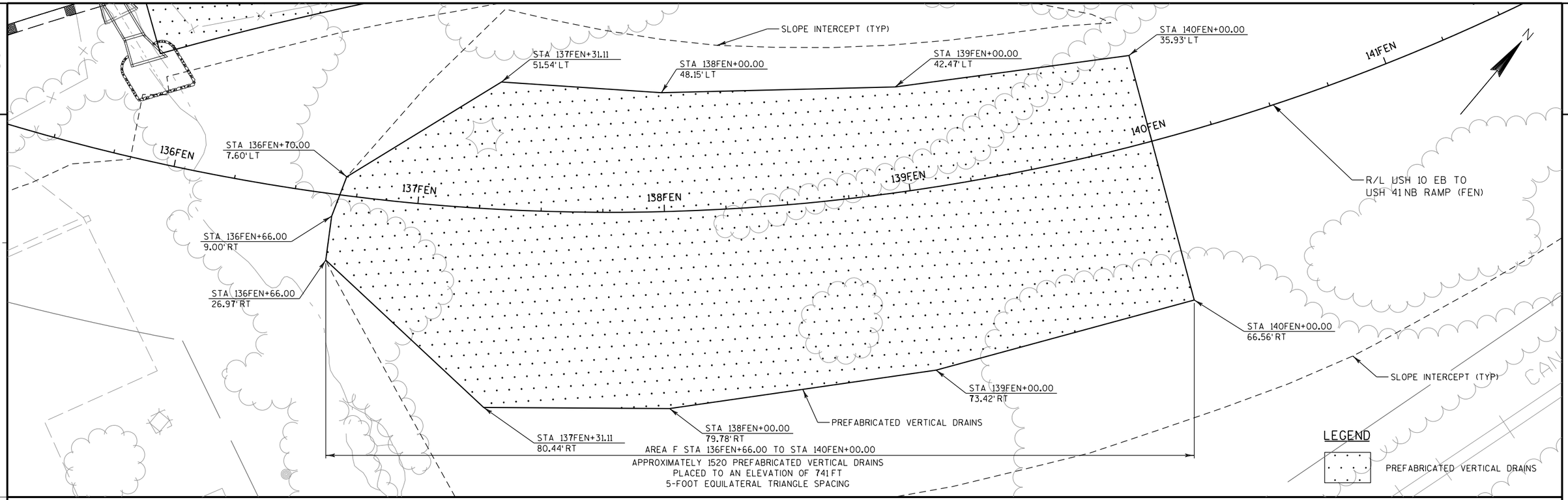
STA 124FEN+00.00
52.87' RT

SLOPE INTERCEPT (TYP)

USH 10 EB TO USH 41 SB

PROJECT NO: 1517-07-72	HWY: USH 10	COUNTY: WINNEBAGO	PLAN DETAILS: PREFABRICATED VERTICAL DRAINS	SHEET 60	E

FILE NAME : S:\DOT\DOT_NE\120012-Tri County Freeway\1517-07-72\DGN_Files\Plansheets\021223_pd.dgn PLOT DATE : 2/19/2014 PLOT BY : wally_w PLOT NAME : PLOT SCALE : 1:40



PROJECT NO: 1517-07-72	HWY: USH 10	COUNTY: WINNEBAGO	PLAN DETAILS: PREFABRICATED VERTICAL DRAINS	SHEET 61	E

R/L USH 41 NB TO USH 10 WB RAMP (FNW)

1321FNE

1322FNE

1323FNE

USH 41 NB TO USH 10 WB RAMP

1324FNE

USH 41 NB TO USH 10 EB/STH 441 NB RAMP

R/L USH 41 NB TO USH 10
EB/STH 441 NB RAMP (FNE)

C-70-42

AREA E STA 1324FNE+50.00 TO STA 1331FNE+29.16
APPROXIMATELY 2365 PREFABRICATED VERTICAL DRAINS
PLACED TO AN ELEVATION OF 737FT
5-FOOT EQUILATERAL TRIANGLE SPACING

STA 1324FNE+50.00
22.80'LT

PREFABRICATED VERTICAL DRAINS

1325FNE

SLOPE INTERCEPT (TYP)

1326FNE

1327FNE

MATCHLINE STA 1327FNE+00

STA 1324FNE+50.00
63.00'RT

SLOPE INTERCEPT (TYP)

AREA E STA 1324FNE+50.00 TO STA 1331FNE+29.16
APPROXIMATELY 2365 PREFABRICATED VERTICAL DRAINS
PLACED TO AN ELEVATION OF 737FT
5-FOOT EQUILATERAL TRIANGLE SPACING

LEGEND

PREFABRICATED VERTICAL DRAINS

R/L USH 41 NB TO USH 10
EB/STH 441 NB RAMP (FNE)

SLOPE INTERCEPT (TYP)

STA 1331FNE+03.79
34.09'LT

STA 1330FNE+78.74
22.80'LT

PREFABRICATED VERTICAL DRAINS

B-70-402

1328FNE

1329FNE

1330FNE

1327FNE

USH 41 NB TO USH 10 EB/STH 441 NB RAMP

STA 1331FNE+29.16
08.98'LT

1331FNE

1332FNE

STA 1330FNE+73.49
46.07'RT

MATCHLINE
STA 1327FNE+00

STA 1327FNE+09.67
63.00'RT

STA 1328FNE+61.79
82.76'RT

SLOPE INTERCEPT (TYP)

STA 1330FNE+09.03
73.72'RT

R-70-102

STA 1330FNE+14.55
82.25'RT

PROJECT NO: 1517-07-72	HWY: USH 10	COUNTY: WINNEBAGO	PLAN DETAILS: PREFABRICATED VERTICAL DRAINS	SHEET 62	E

FILE NAME : S:\DOT\DOT_NE\120012-Tri County Freeway\1517-07-72\DGN_Files\Plansheets\021225_pd.dgn PLOT DATE : 2/19/2014 PLOT BY : wally_w PLOT NAME : PLOT SCALE : 1:40

2

2

LEGEND

PREFABRICATED VERTICAL DRAINS

N

AREA A STA 1335FNE+09.41 TO STA 1342FNE+70.00
APPROXIMATELY 3740 PREFABRICATED VERTICAL DRAINS
PLACED TO AN ELEVATION OF 710FT
5-FOOT EQUILATERAL TRIANGLE SPACING

SLOPE INTERCEPT (TYP)

R/L USH 10 EB/STH 441 NB

142EB 143EB 144EB 145EB 146EB 147EB

MH

SIGN

STA 1335FNE+22.73
13.00' RT

B-70-402

R/L USH 41 NB TO
USH 10 EB/STH 441 NB RAMP (FNE)

STA 1337FNE+98.17
13.00' RT

1335FNE 1336FNE 1337FNE 1338FNE 1339FNE 1340FNE 1341FNE

USH 41 NB TO USH 10 EB/STH 441 NB RAMP

STA 1335FNE+09.41
37.45' RT

STA 1335FNE+25.00
93.49' RT

STA 1335FNE+50.00
128.00' RT

STA 1337FNE+00.00
128.00' RT

STA 1338FNE+00.00
145.00' RT

PREFABRICATED VERTICAL DRAINS

STA 1340FNE+00.00
145.00' RT

STA 1340FNE+00.00
177.74' RT

STA 1340FNE+30.20
178.89' RT

STA 1340FNE+75.00
190.19' RT

STA 1341FNE+00.00
191.05' RT

SLOPE INTERCEPT (TYP)

MATCHLINE
STA 1341FNE+00

PROJECT NO: 1517-07-72	HWY: USH 10	COUNTY: WINNEBAGO	PLAN DETAILS: PREFABRICATED VERTICAL DRAINS	SHEET 63	E

FILE NAME : S:\DOT\DOT_NE\120012-Tri County Freeway\1517-07-72\DGN_Files\Plansheets\021226_pd.dgn PLOT DATE : 2/19/2014 PLOT BY : wally_w PLOT NAME : PLOT SCALE : 1:40

2

LEGEND

PREFABRICATED VERTICAL DRAINS

N

148WB
149WB
150WB
151WB
152WB
153WB

150FWN
151FWN
152FWN
153FWN

AREA A STA 1335FNE+09.41 TO STA 1342FNE+70.00
APPROXIMATELY 3740 PREFABRICATED VERTICAL DRAINS
PLACED TO AN ELEVATION OF 710FT
5-FOOT EQUILATERAL TRIANGLE SPACING

SLOPE INTERCEPT (TYP)

148EB
149EB
150EB
151EB
152EB
153EB

R/L USH 10 EB/STH 441 NB

1341FNE
1342FNE
1343FNE
1344FNE
1345FNE
1346FNE
1347FNE

USH 41 NB TO USH 10 EB/STH 441 NB RAMP

STA 1342FNE+70
13.00' RT

STA 1342FNE+70.00
37.50' RT

STA 1342FNE+50.00
38.70' RT

STA 1342FNE+25.00
89.31' RT

PREFABRICATED VERTICAL DRAINS

STA 1342FNE+00.00
118.37' RT

STA 1341FNE+75.00
145.00' RT

STA 1341FNE+25.00
183.46' RT

STA 1341FNE+00.00
191.05' RT

MATCHLINE
STA 1341FNE+00

LITTLE BUTTE DES MORTS

LITTLE BUTTE DES MORTS

PROJECT NO: 1517-07-72	HWY: USH 10	COUNTY: WINNEBAGO	PLAN DETAILS: PREFABRICATED VERTICAL DRAINS	SHEET 64	E

FILE NAME : S:\DOT\DOT_NE\120012-Tri County Freeway\1517-07-72\DGN_Files\Plansheets\021227_pd.dgn PLOT DATE : 2/19/2014 PLOT BY : wally_w PLOT NAME : PLOT SCALE : 1:40

WISDOT/CADDS SHEET 42

2

1342NB 1343NB 1344NB 1345NB 1346NB 1347NB

AREA G STA 132FWN+00.00 TO STA 135FWN+25.00
APPROXIMATELY 845' PREFABRICATED VERTICAL DRAINS
PLACED TO AN ELEVATION OF 734FT
4-FOOT EQUILATERAL TRIANGLE SPACING

USH 41 NB

LEGEND
PREFABRICATED VERTICAL DRAINS

SLOPE INTERCEPT (TYP)

R-70-121

R/L USH 10 WB/STH 441 SB
TO USH 41 NB RAMP (FWN)

STA 132FWN+00.00
4.75' RT

STA 135FWN+25.00
4.75' RT

STA 135FWN+25.00
17.75' LT

STA 132FWN+00.00
33.77' LT

PREFABRICATED VERTICAL DRAINS

USH 10 WB/STH 441 SB
TO USH 41 NB RAMP

135FWN 134FWN 133FWN 132FWN 131FWN

159FEN 158FEN 157FEN 156FEN 155FEN 154FEN

USH 10 EB TO USH 41 NB RAMP

R-70-100

R/L USH 10 EB TO USH 41 NB RAMP (FEN)

SLOPE INTERCEPT (TYP)

WISCONSIN CENTRAL LIMITED RAILROAD

2

PROJECT NO: 1517-07-72	HWY: USH 10	COUNTY: WINNEBAGO	PLAN DETAILS: PREFABRICATED VERTICAL DRAINS	SHEET 65	E

2

2

LEGEND

PREFABRICATED VERTICAL DRAINS

N

MENASHA CREEK

A/C

PLE

PLE

STA 1365NB+02.79 TO STA 1365NB+50.01
APPROXIMATELY 40 PREFABRICATED VERTICAL DRAINS
PLACED TO AN ELEVATION OF 715 FT
4-FOOT EQUILATERAL TRIANGLE SPACING

STA 1365NB+02.79
119.59' RT

TLE

STA 1365NB+50.01
120.08' RT

SIGN

R/W

PREFABRICATED VERTICAL DRAINS

SIGN

STA 1365NB+02.77
94.34' RT

STA 1365NB+25.01
103.47' RT

STA 1365NB+50.01
102.66' RT

USH 41 SB

INL

W

INL

W

R/L USH 41 NB

1363NB 1364NB 1365NB 1366NB 1367NB 1368NB

R/L USH 10 EB TO USH 41 NB RAMP (FEN)

USH 41 NB

SLOPE INTERCEPT (TYP)

175FEN 176FEN 177FEN 178FEN 179FEN 180FEN

INL

WISCONSIN CENTRAL LIMITED RAILROAD

PROJECT NO: 1517-07-72	HWY: USH 10	COUNTY: WINNEBAGO	PLAN DETAILS: PREFABRICATED VERTICAL DRAINS	SHEET 66	E

FILE NAME : S:\DOT\DOT_NE\120012-Tri County Freeway\1517-07-72\DGN_Files\Plansheets\021229_pd.dgn PLOT DATE : 2/19/2014 PLOT BY : wally_w PLOT NAME : PLOT SCALE : 1:40

2

2

N

WETLAND BOUNDARY (TYP)

USH 10 WB / STH 441 SB

AREA STA 179EB+63.00 TO STA 183EB+75.00
APPROXIMATELY 690 PREFABRICATED VERTICAL DRAINS
PLACED TO AN ELEVATION OF 725 FT
5-FOOT EQUILATERAL TRIANGLE SPACING

USH 10 EB / STH 441 NB

R/L USH 10 EB / STH 441 NB

179EB
180EB
181EB
182EB
183EB
184EB
185EB

EB+63.00 .00' RT
EB+75.00 2.50' RT
EB+00.00 5.00' RT
EB+25.00 7.10' RT
EB+50.00 9.05' RT
EB+75.00 11.69' RT
EB+00.00 14.28' RT
EB+25.00 14.45' RT
EB+50.00 17.30' RT
EB+75.00 19.69' RT
EB+00.00 22.39' RT
EB+25.00 25.41' RT
EB+50.00 28.28' RT
EB+75.00 31.59' RT
EB+00.00 38.63' RT
EB+25.00 46.03' RT
EB+50.00 51.80' RT
EB+75.00 57.44' RT

PREFABRICATED VERTICAL DRAINS

EB+63.00 56.25' RT
EB+75.00 53.61' RT
EB+00.00 53.90' RT
EB+25.00 59.54' RT
EB+50.00 70.07' RT
EB+75.00 80.14' RT
EB+00.00 93.04' RT
SLOPE INTERCEPT (TYP)
EB+25.00 114.00' RT
EB+50.00 113.86' RT
EB+75.00 119.67' RT
EB+00.00 126.91' RT
EB+25.00 126.92' RT
EB+50.00 126.93' RT
EB+75.00 127.11' RT
EB+00.00 127.28' RT
EB+25.00 127.49' RT
EB+50.00 127.94' RT
EB+75.00 128.80' RT

1_148_18
755.39
1_148_20
755.36

TAYCO STREET

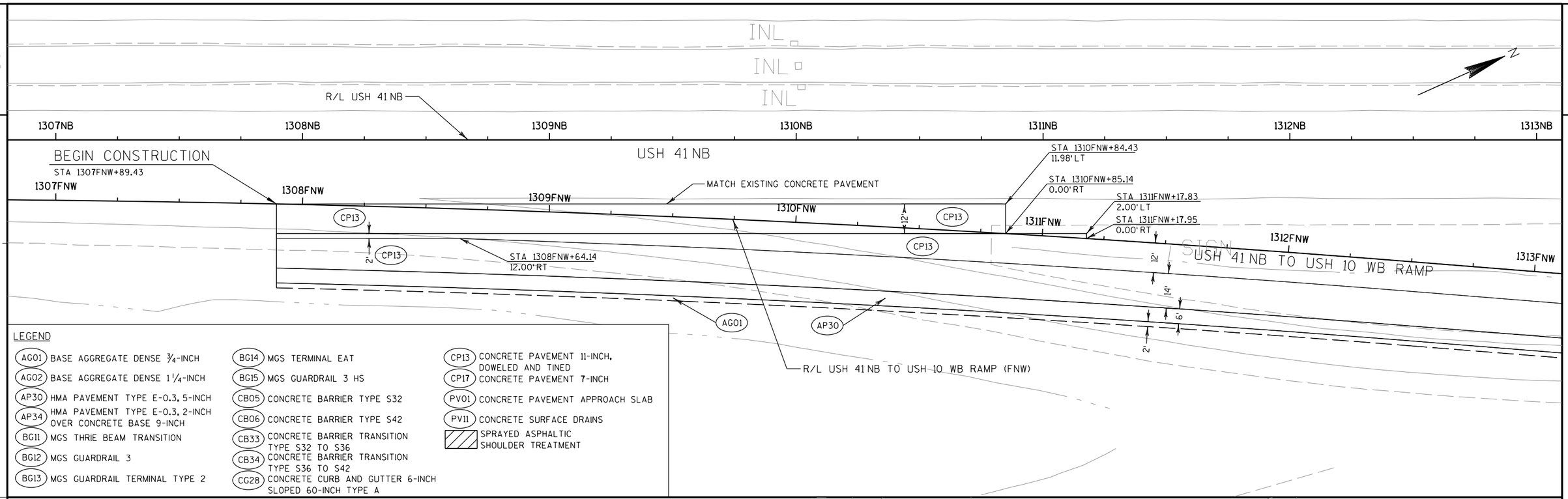
LEGEND

STRIP DRAIN AREA

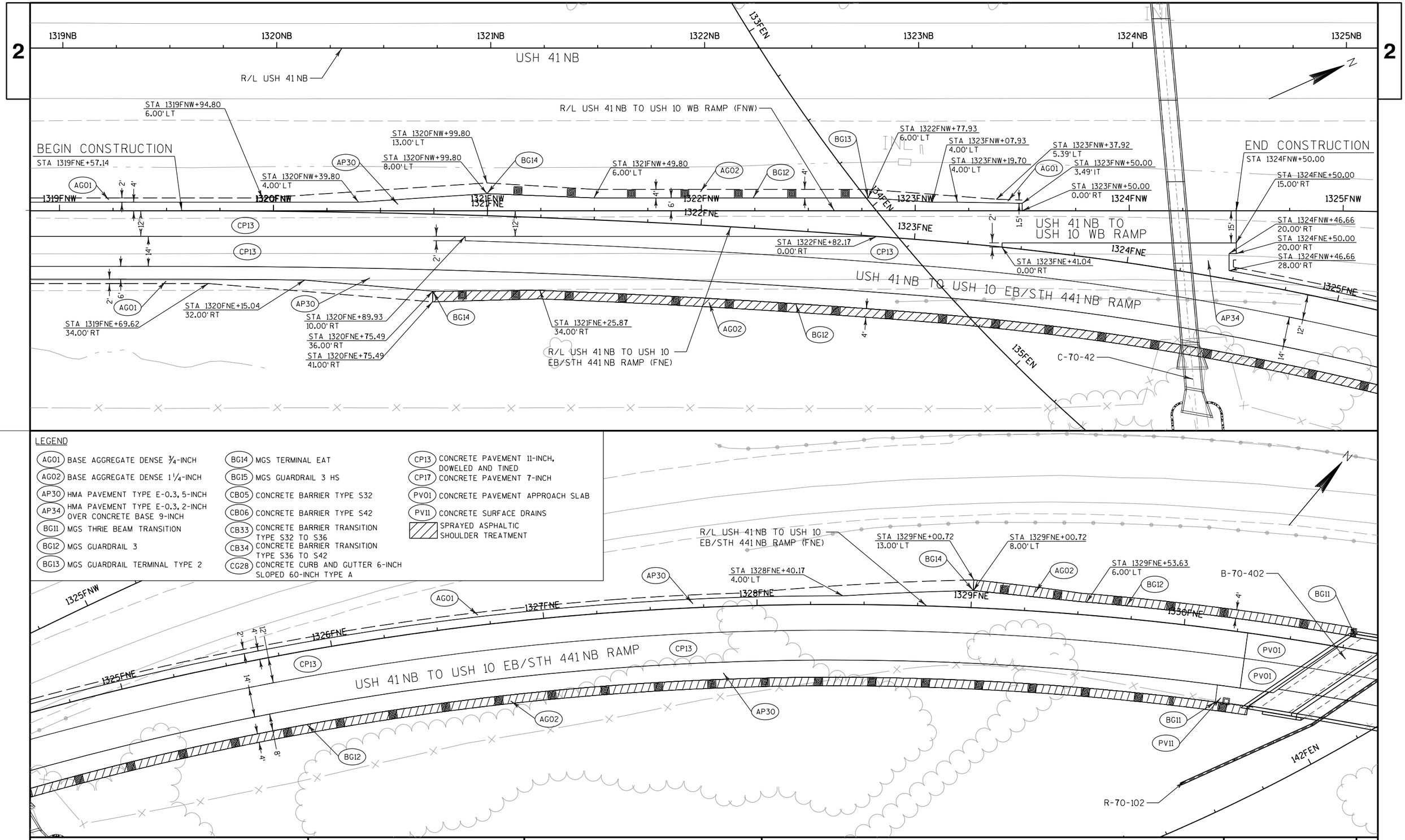
PROJECT NO: 1517-07-72	HWY: USH 10	COUNTY: WINNEBAGO	PLAN DETAIL: PREFABRICATED VERTICAL DRAINS	SHEET 67	E

FILE NAME : \\milw00\ingrproj\56537\1517-07-71_72_73_KA_System\t1\cds\021229_pd.dgn PLOT DATE : 2/25/2014 1:41:21 PM PLOT BY : nspitzer PLOT NAME : PLOT SCALE : 40:1

WISDOT/CADDS SHEET 42



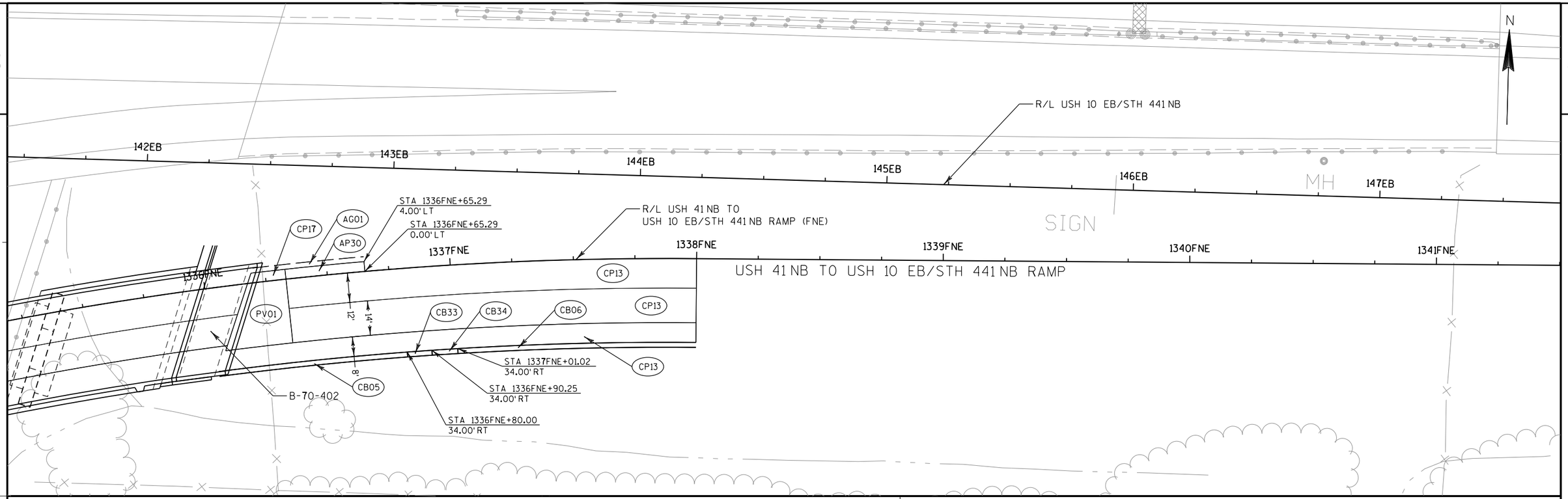
PROJECT NO: 1517-07-72	HWY: USH 10	COUNTY: WINNEBAGO	PLAN DETAILS	SHEET 68	E



LEGEND

- AG01 BASE AGGREGATE DENSE 3/4-INCH
- AG02 BASE AGGREGATE DENSE 1 1/4-INCH
- AP30 HMA PAVEMENT TYPE E-0.3, 5-INCH
- AP34 HMA PAVEMENT TYPE E-0.3, 2-INCH OVER CONCRETE BASE 9-INCH
- BG11 MGS THRIE BEAM TRANSITION
- BG12 MGS GUARDRAIL 3
- BG13 MGS GUARDRAIL TERMINAL TYPE 2
- BG14 MGS TERMINAL EAT
- BG15 MGS GUARDRAIL 3 HS
- CB05 CONCRETE BARRIER TYPE S32
- CB06 CONCRETE BARRIER TYPE S42
- CB33 CONCRETE BARRIER TRANSITION TYPE S32 TO S36
- CB34 CONCRETE BARRIER TRANSITION TYPE S36 TO S42
- CG28 CONCRETE CURB AND GUTTER 6-INCH SLOPED 60-INCH TYPE A
- CP13 CONCRETE PAVEMENT 11-INCH, DOWELED AND TINED
- CP17 CONCRETE PAVEMENT 7-INCH
- PV01 CONCRETE PAVEMENT APPROACH SLAB
- PV11 CONCRETE SURFACE DRAINS
- SPRAYED ASPHALTIC SHOULDER TREATMENT

PROJECT NO: 1517-07-72	HWY: USH 10	COUNTY: WINNEBAGO	PLAN DETAILS	SHEET 69	E

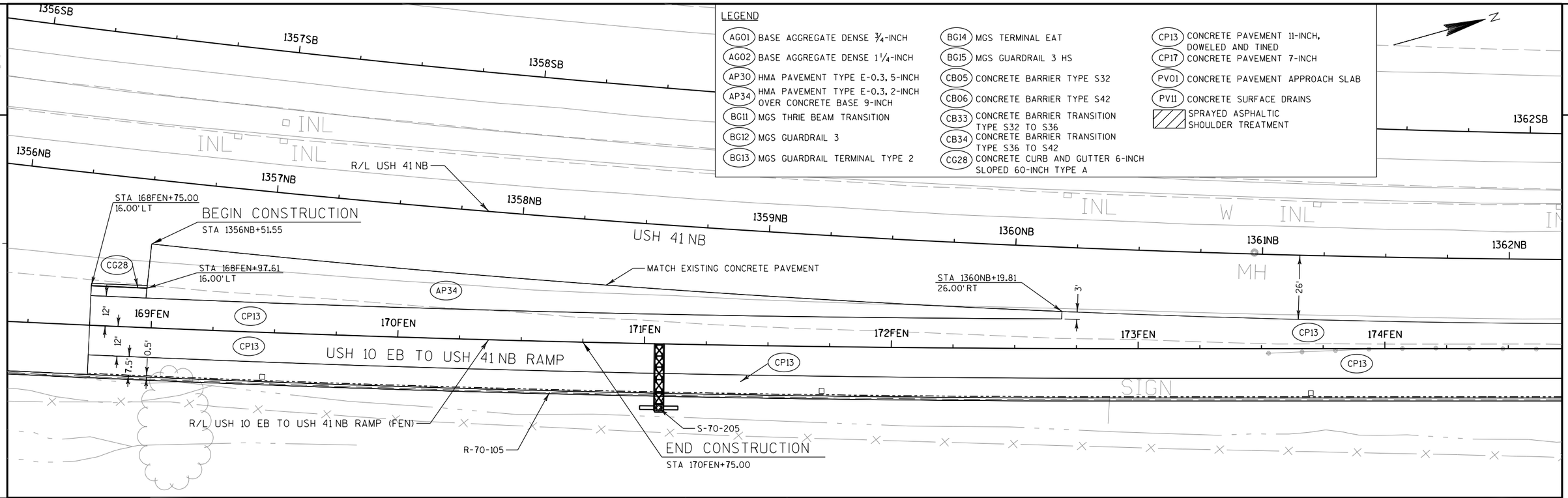


LEGEND

AG01 BASE AGGREGATE DENSE ¾-INCH	BG14 MGS TERMINAL EAT	CP13 CONCRETE PAVEMENT 11-INCH, DOWELED AND TINED
AG02 BASE AGGREGATE DENSE 1¼-INCH	BG15 MGS GUARDRAIL 3 HS	CP17 CONCRETE PAVEMENT 7-INCH
AP30 HMA PAVEMENT TYPE E-0.3, 5-INCH	CB05 CONCRETE BARRIER TYPE S32	PV01 CONCRETE PAVEMENT APPROACH SLAB
AP34 HMA PAVEMENT TYPE E-0.3, 2-INCH OVER CONCRETE BASE 9-INCH	CB06 CONCRETE BARRIER TYPE S42	PV11 CONCRETE SURFACE DRAINS
BG11 MGS THRIE BEAM TRANSITION	CB33 CONCRETE BARRIER TRANSITION TYPE S32 TO S36	SPRAYED ASPHALTIC SHOULDER TREATMENT
BG12 MGS GUARDRAIL 3	CB34 CONCRETE BARRIER TRANSITION TYPE S36 TO S42	
BG13 MGS GUARDRAIL TERMINAL TYPE 2	CG28 CONCRETE CURB AND GUTTER 6-INCH SLOPED 60-INCH TYPE A	

LEGEND

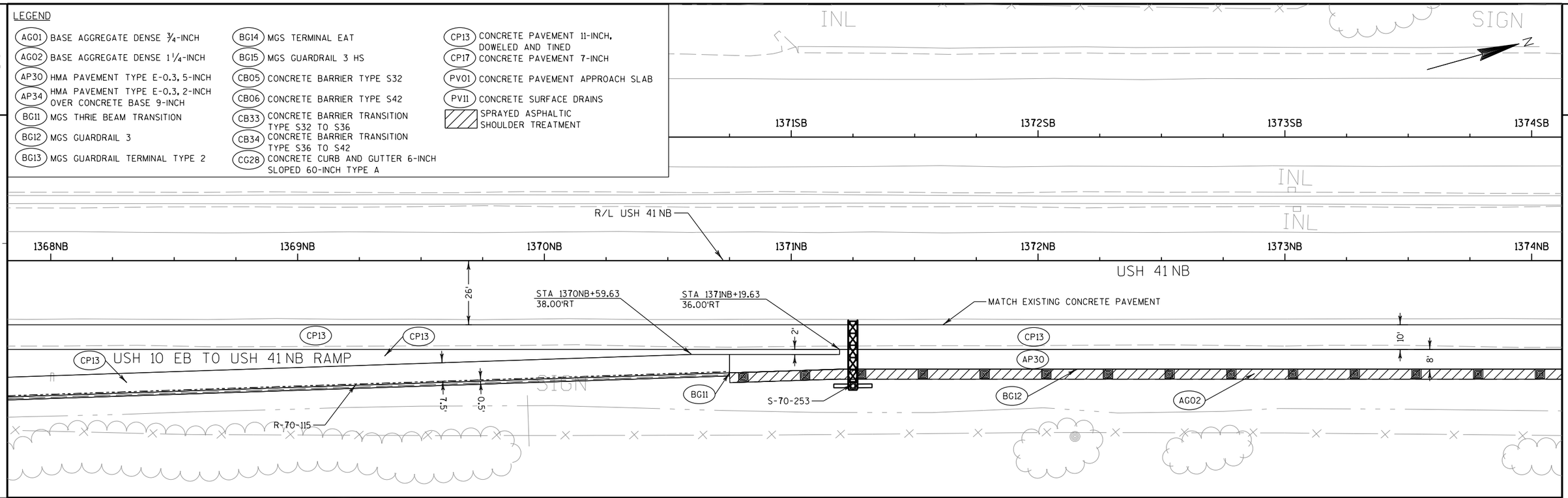
AG01	BASE AGGREGATE DENSE ¾-INCH	BG14	MGS TERMINAL EAT	CP13	CONCRETE PAVEMENT 11-INCH, DOWELED AND TINED
AG02	BASE AGGREGATE DENSE 1 ¼-INCH	BG15	MGS GUARDRAIL 3 HS	CP17	CONCRETE PAVEMENT 7-INCH
AP30	HMA PAVEMENT TYPE E-0.3, 5-INCH	CB05	CONCRETE BARRIER TYPE S32	PV01	CONCRETE PAVEMENT APPROACH SLAB
AP34	HMA PAVEMENT TYPE E-0.3, 2-INCH OVER CONCRETE BASE 9-INCH	CB06	CONCRETE BARRIER TYPE S42	PV11	CONCRETE SURFACE DRAINS
BG11	MGS THRIE BEAM TRANSITION	CB33	CONCRETE BARRIER TRANSITION TYPE S32 TO S36		SPRAYED ASPHALTIC SHOULDER TREATMENT
BG12	MGS GUARDRAIL 3	CB34	CONCRETE BARRIER TRANSITION TYPE S36 TO S42		
BG13	MGS GUARDRAIL TERMINAL TYPE 2	CG28	CONCRETE CURB AND GUTTER 6-INCH SLOPED 60-INCH TYPE A		



PROJECT NO: 1517-07-72	HWY: USH 10	COUNTY: WINNEBAGO	PLAN DETAILS	SHEET 71	E

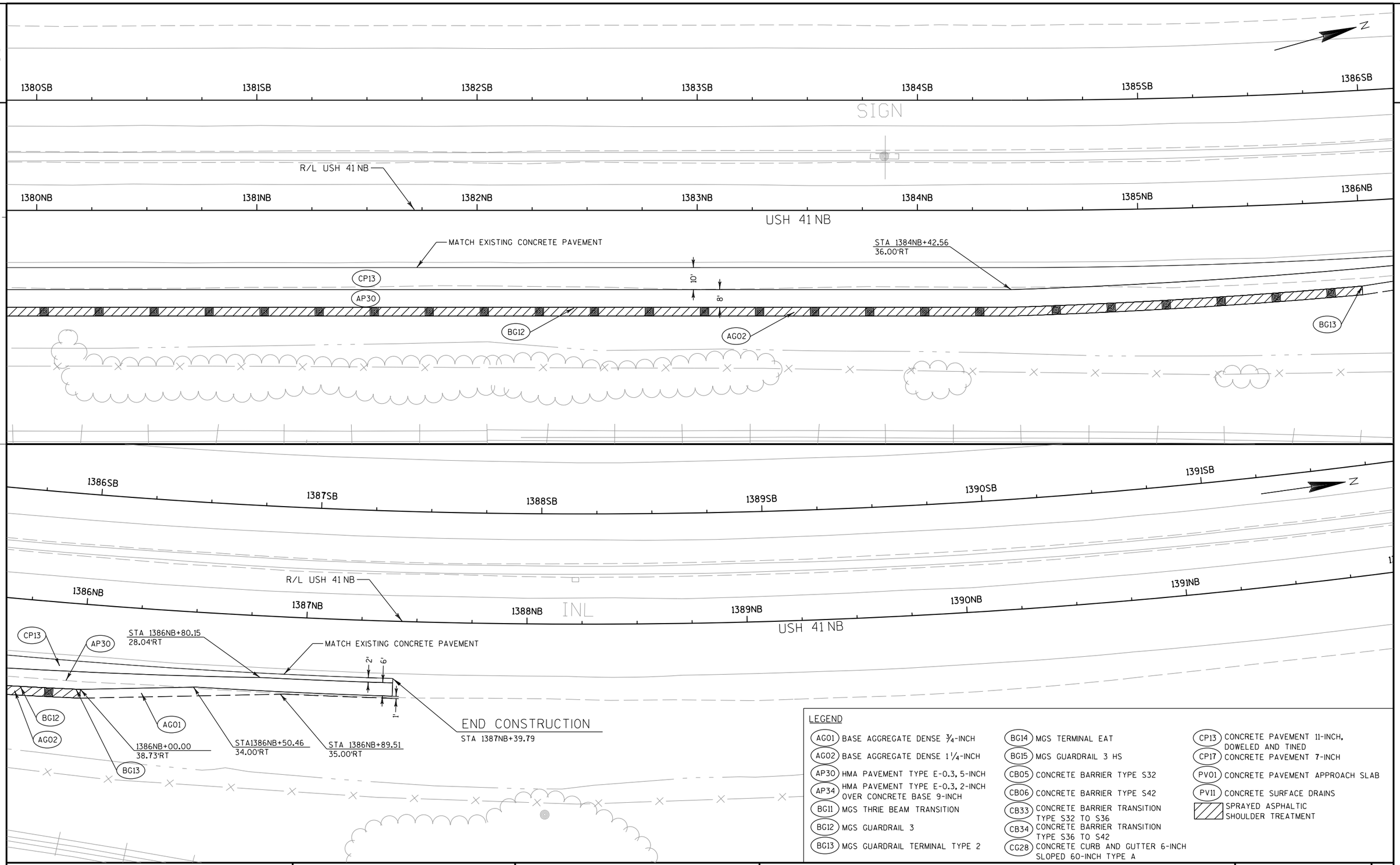
LEGEND

- AG01 BASE AGGREGATE DENSE ¾-INCH
- AG02 BASE AGGREGATE DENSE 1¼-INCH
- AP30 HMA PAVEMENT TYPE E-0.3, 5-INCH
- AP34 HMA PAVEMENT TYPE E-0.3, 2-INCH OVER CONCRETE BASE 9-INCH
- BG11 MGS THRIE BEAM TRANSITION
- BG12 MGS GUARDRAIL 3
- BG13 MGS GUARDRAIL TERMINAL TYPE 2
- BG14 MGS TERMINAL EAT
- BG15 MGS GUARDRAIL 3 HS
- CB05 CONCRETE BARRIER TYPE S32
- CB06 CONCRETE BARRIER TYPE S42
- CB33 CONCRETE BARRIER TRANSITION TYPE S32 TO S36
- CB34 CONCRETE BARRIER TRANSITION TYPE S36 TO S42
- CG28 CONCRETE CURB AND GUTTER 6-INCH SLOPED 60-INCH TYPE A
- CP13 CONCRETE PAVEMENT 11-INCH, DOWELED AND TINED
- CP17 CONCRETE PAVEMENT 7-INCH
- PV01 CONCRETE PAVEMENT APPROACH SLAB
- PV11 CONCRETE SURFACE DRAINS
- SPRAYED ASPHALTIC SHOULDER TREATMENT



PROJECT NO: 1517-07-72	HWY: USH 10	COUNTY: WINNEBAGO	PLAN DETAILS	SHEET 72	E

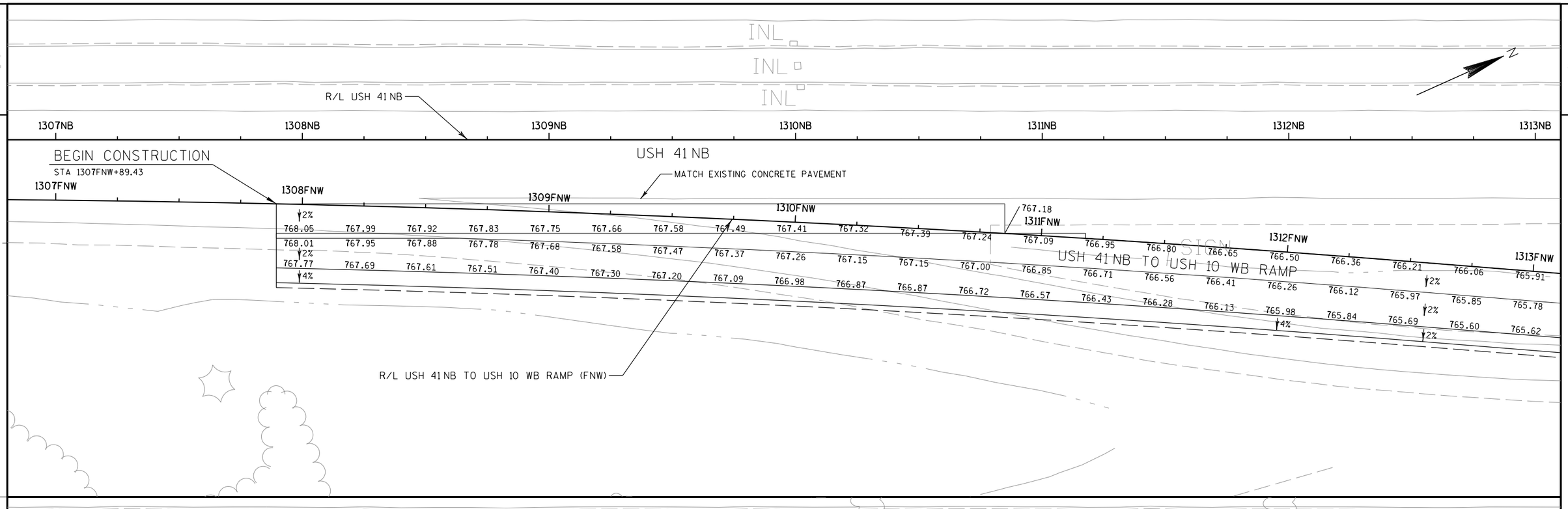
FILE NAME : S:\DOT\DOT_NE\120012-Tri County Freeway\1517-07-72\DGN_Files\Plansheets\021235_pd.dgn PLOT DATE : 2/19/2014 PLOT BY : wally_w PLOT NAME : PLOT SCALE : 1:40



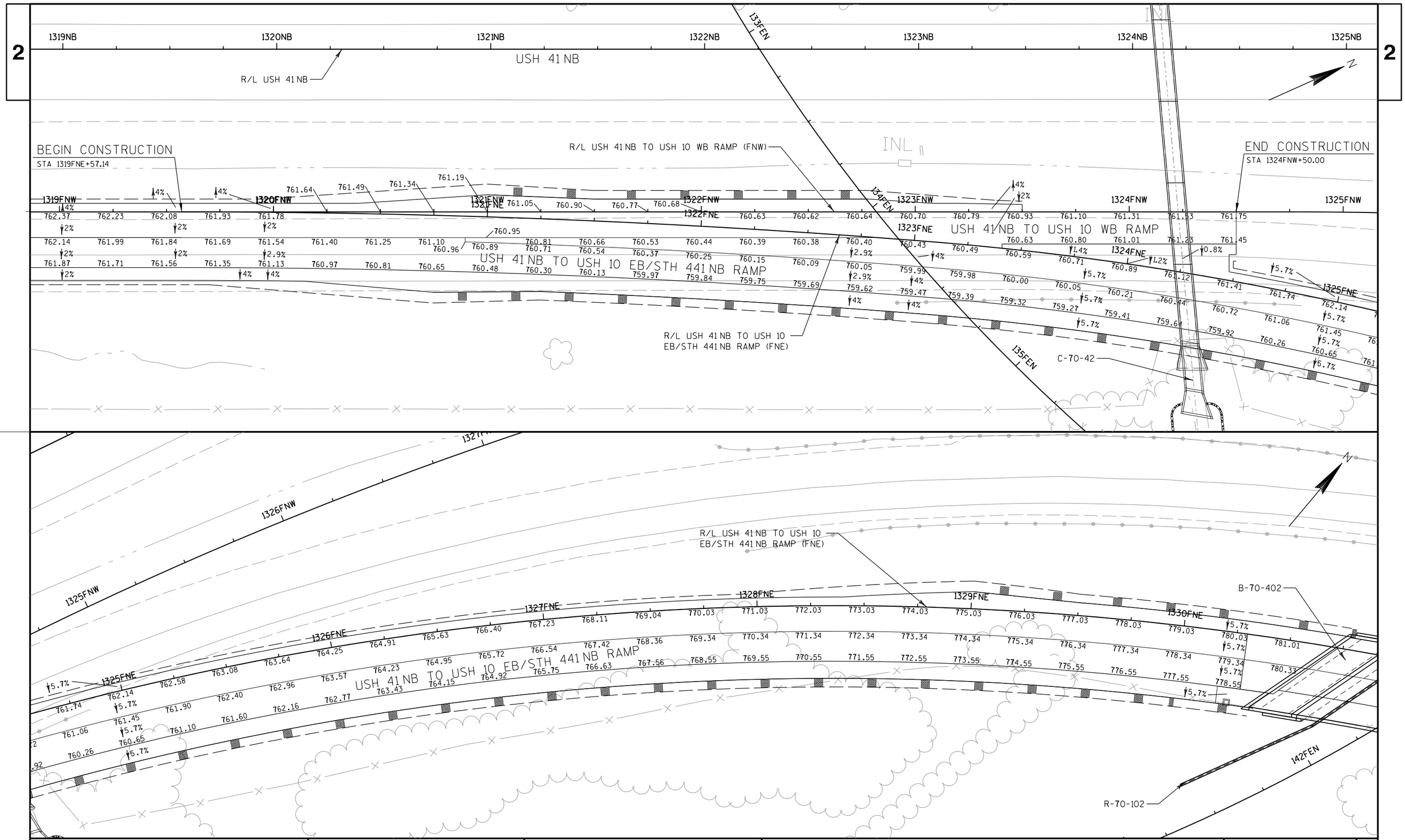
LEGEND

- AGO1 BASE AGGREGATE DENSE ¾-INCH
- AGO2 BASE AGGREGATE DENSE 1 ¼-INCH
- AP30 HMA PAVEMENT TYPE E-0.3, 5-INCH
- AP34 HMA PAVEMENT TYPE E-0.3, 2-INCH OVER CONCRETE BASE 9-INCH
- BG11 MGS THRIE BEAM TRANSITION
- BG12 MGS GUARDRAIL 3
- BG13 MGS GUARDRAIL TERMINAL TYPE 2
- BG14 MGS TERMINAL EAT
- BG15 MGS GUARDRAIL 3 HS
- CB05 CONCRETE BARRIER TYPE S32
- CB06 CONCRETE BARRIER TYPE S42
- CB33 CONCRETE BARRIER TRANSITION TYPE S32 TO S36
- CB34 CONCRETE BARRIER TRANSITION TYPE S36 TO S42
- CG28 CONCRETE CURB AND GUTTER 6-INCH SLOPED 60-INCH TYPE A
- CP13 CONCRETE PAVEMENT 11-INCH, DOWELED AND TINED
- CP17 CONCRETE PAVEMENT 7-INCH
- PV01 CONCRETE PAVEMENT APPROACH SLAB
- PV11 CONCRETE SURFACE DRAINS
- SPRAYED ASPHALTIC SHOULDER TREATMENT

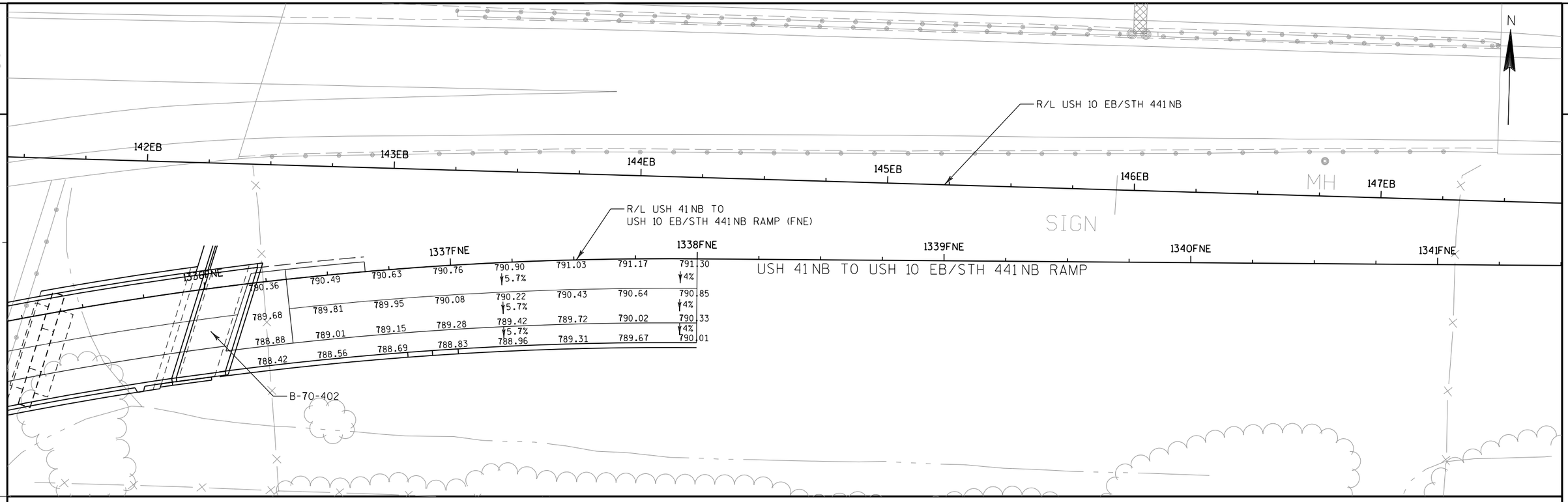
PROJECT NO: 1517-07-72	HWY: USH 10	COUNTY: WINNEBAGO	PLAN DETAILS	SHEET 73	E



PROJECT NO: 1517-07-72	HWY: USH 10	COUNTY: WINNEBAGO	PAVING GRADES	SHEET 74	E



PROJECT NO: 1517-07-72	HWY: USH 10	COUNTY: WINNEBAGO	PAVING GRADES	SHEET 75	E



PROJECT NO: 1517-07-72	HWY: USH 10	COUNTY: WINNEBAGO	PAVING GRADES	SHEET 76	E

NOTES:

1) PAVING GRADES FOR THE SHOULDERS ALONG WALLS R-70-105 AND R-70-115 VARY BETWEEN 2% AND 6%

2) PAVING GRADES STARTING AT STA 171FEN+00 ARE GIVEN OFF OF THE USH 41 NB ALIGNMENT

N

1356SB 1357SB 1358SB 1359SB 1360SB 1361SB 1362SB

1356NB 1357NB 1358NB 1359NB 1360NB 1361NB 1362NB

R/L USH 41 NB

BEGIN CONSTRUCTION
STA 1356NB+51.55

USH 41 NB

MATCH EXISTING CONCRETE PAVEMENT

749.95 749.90 749.84 749.76 749.67 749.58 749.50 749.41 749.32 749.29 749.24 749.17 749.10 749.06 749.03 749.05

749.71 2% 169FEN 749.66 749.60 749.52 749.43 170FEN 749.34 749.26 749.17 749.08 171FEN 749.05 749.00 748.93 748.86 172FEN 748.82 748.79 748.81 748.84 173FEN 748.84 748.86 748.85 748.85 174FEN 748.87 748.83 748.80

749.47 2% 749.42 749.36 749.28 749.19 749.10 749.01 748.93 748.84 748.81 748.76 748.69 748.62 748.58 748.55 748.57 748.60 748.60 748.62 748.61 748.61 748.63 748.59 748.56

749.17 749.09 749.00 748.84 748.77 748.69 748.62 748.54 748.47 748.39 748.31 748.22 748.25 748.33 748.40 748.43 748.43 748.34 748.25 748.28 748.38 748.27

USH 10 EB TO USH 41 NB RAMP

FLOW LINE ELEVATION = 748.95

R/L USH 10 EB TO USH 41 NB RAMP (FEN)

R-70-105

S-70-205

END CONSTRUCTION
STA 170FEN+75.00

FLOW LINE ELEVATION = 748.20

FLOW LINE ELEVATION = 748.19

1362SB 1363SB 1364SB 1365SB 1366SB 1367SB 1368SB

1362NB 1363NB 1364NB 1365NB 1366NB 1367NB 1368NB

R/L USH 41 NB

USH 41 NB

MATCH EXISTING CONCRETE PAVEMENT

748.80 748.72 175FEN 748.68 748.62 748.60 748.52 176FEN 748.57 748.58 0.5% 748.57 177FEN 0.5% 748.67 748.78 748.77 178FEN 748.74 748.92 748.95 749.09 749.22 2% 179FEN 749.34 749.58 749.72 749.79 180FEN 749.96 2% 750.14

USH 10 EB TO USH 41 NB RAMP

748.56 748.48 748.44 748.38 748.36 748.28 748.40 748.48 0.5% 748.51 0.5% 748.61 748.68 748.60 748.50 748.68 748.71 748.85 748.98 2% 749.10 749.34 749.48 749.55 749.73 2% 749.92

748.27 748.16 748.05 748.04 748.14 748.24 748.34 0.5% 748.45 0.5% 748.55 748.47 748.39 748.32 748.32 748.47 748.63 748.78 748.94 749.10 749.40 749.55

MATCH EXISTING CONCRETE PAVEMENT

FLOW LINE ELEVATION = 747.96

R-70-105

R/L USH 10 EB TO USH 41 NB RAMP (FEN)

B-70-134

FLOW LINE ELEVATION = 748.26

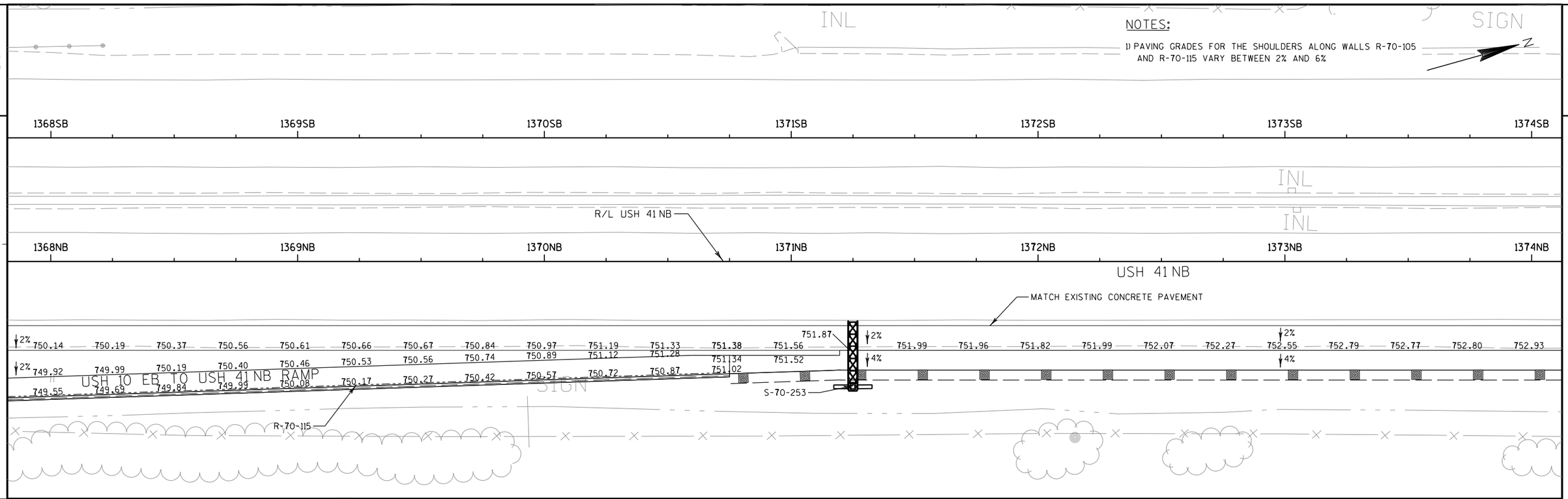
R-70-115

FLOW LINE ELEVATION = 749.27

PROJECT NO: 1517-07-72	HWY: USH 10	COUNTY: WINNEBAGO	PAVING GRADES	SHEET 77	E

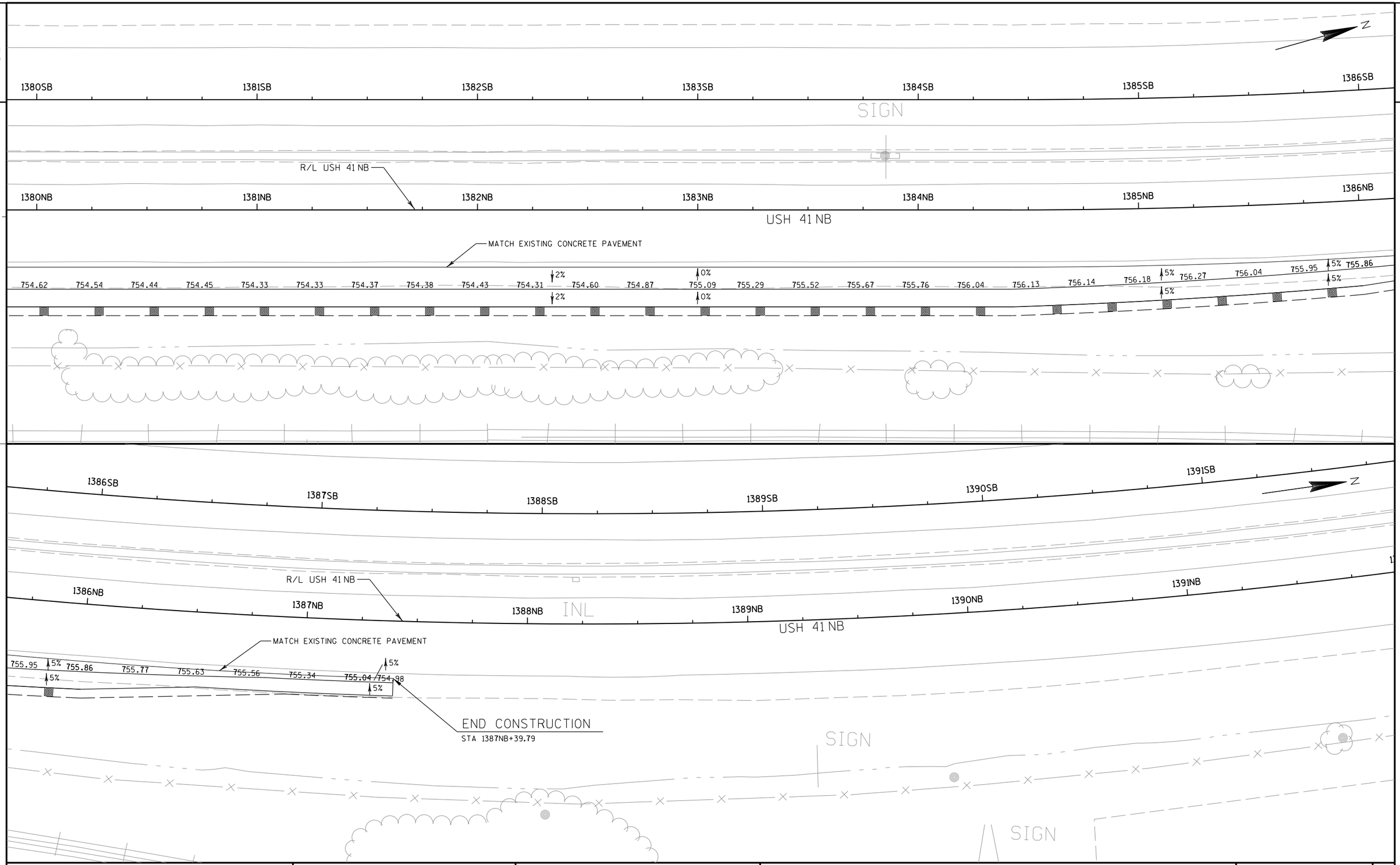
NOTES:

1) PAVING GRADES FOR THE SHOULDERS ALONG WALLS R-70-105 AND R-70-115 VARY BETWEEN 2% AND 6%



PROJECT NO: 1517-07-72	HWY: USH 10	COUNTY: WINNEBAGO	PAVING GRADES	SHEET 78	E

2



PROJECT NO: 1517-07-72	HWY: USH 10	COUNTY: WINNEBAGO	PAVING GRADES	SHEET 79	E

FILE NAME : S:\DOT\DOT_NE\120012-Tri County Freeway\1517-07-72\DGN_Files\Plansheets\021259_pg.dgn PLOT DATE : 2/19/2014 PLOT BY : wally_w PLOT NAME : PLOT SCALE : 1:40

WISDOT/CADDS SHEET 42

2

2

LEGEND

WETLAND BOUNDARY

N

COLD SPRING ROAD

WESTFIELD LN

BEGIN PROJECT
STA 114WB+50.00

W AMERICAN DRIVE

USH 10 EB

USH 41 NB TO USH 10 WB RAMP

USH 10 EB TO USH 41 NB RAMP

END PROJECT
STA 133WB+00.00

USH 10 WB/STH 441 SB
TO USH 41 SB RAMP

USH 10

JACOBSON RD

USH 10 WB

USH 41 SB

USH 41

USH 41

WISCONSIN CENTRAL LTD RR
LBDM BEACH ROAD

USH 41 NB

USH 41 NB TO USH 10 EB/STH 441 NB RAMP

N LAKE ST

USH 10 WB/STH 441 SB
TO USH 41 NB RAMP

PROJECT NO: 1517-07-72	HWY: USH 10	COUNTY: WINNEBAGO	WETLAND LOCATIONS	SHEET 80	E

FILE NAME : S:\DOT\DOT_NE\120012-Tri County Freeway\1517-07-72\DGN_Files\Plansheets\022001_ec.dgn PLOT DATE : 1/30/2014 PLOT BY : wally_w PLOT NAME : PLOT SCALE : 1:600

WISDOT/CADDS SHEET 42

2

LEGEND

PHRAGMITES

TEASEL

PURPLE LOOSESTRIFE

N

COLD SPRING ROAD

WESTFIELD LN

BEGIN PROJECT
STA 114WB+50.00

W AMERICAN DRIVE

USH 41 NB TO USH 10 WB RAMP

USH 10 EB

USH 10 EB TO USH 41 NB RAMP

USH 10 WB/STH 441 SB
TO USH 41 SB RAMP

END PROJECT
STA 133WB+00.00

USH 10

JACOBSON RD

USH 10 WB

USH 41 SB

USH 41

WISCONSIN CENTRAL LTD RR

USH 41 NB

LBDM BEACH ROAD

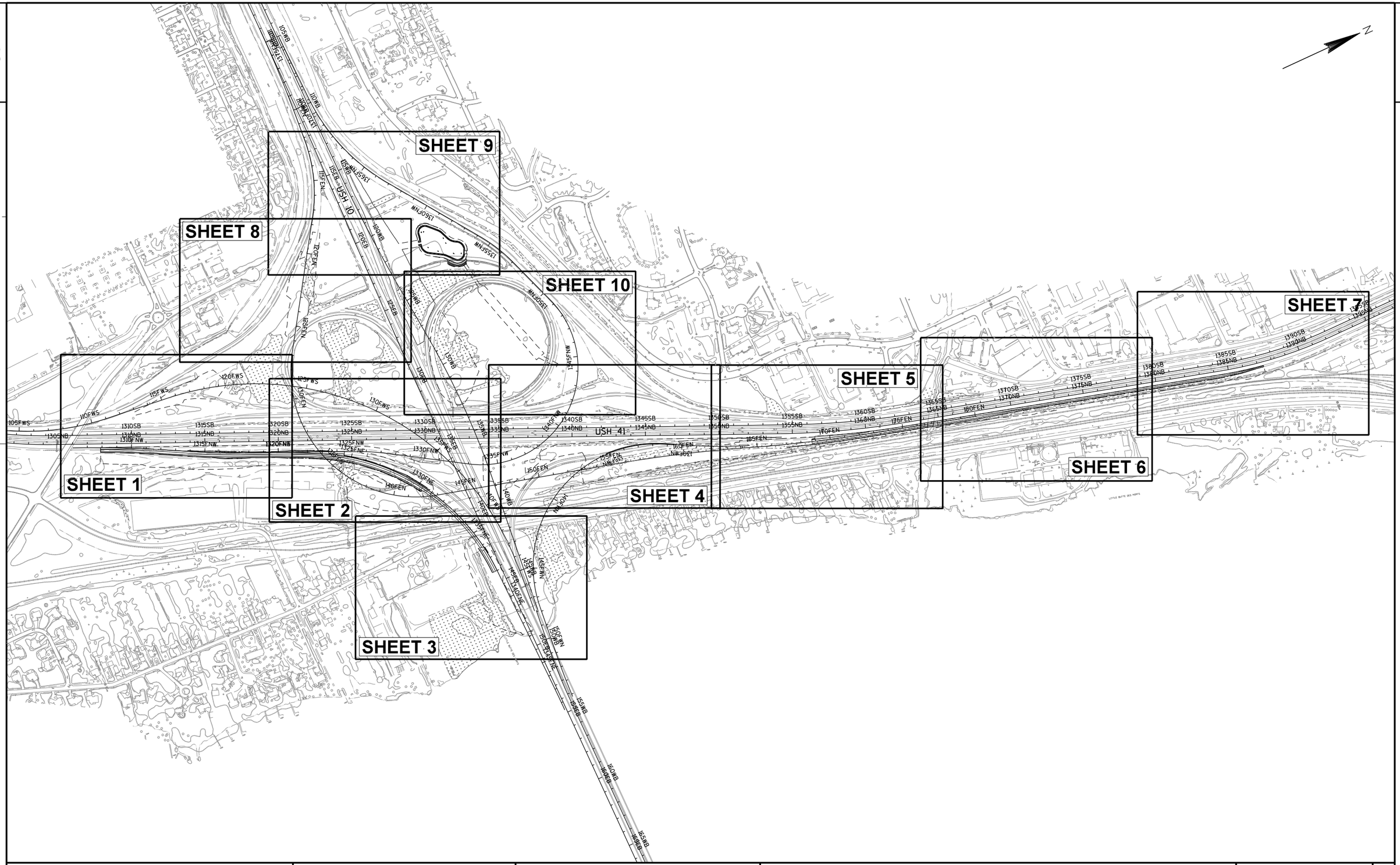
ONLY AREA OF PURPLE LOOSESTRIFE
ON THIS PROJECT

USH 41 NB TO USH 10 EB/STH 441 NB RAMP

N LAKE ST

USH 10 WB/STH 441 SB
TO USH 41 NB RAMP

PROJECT NO: 1517-07-72	HWY: USH 10	COUNTY: WINNEBAGO	INVASIVE SPECIES	SHEET 81	E

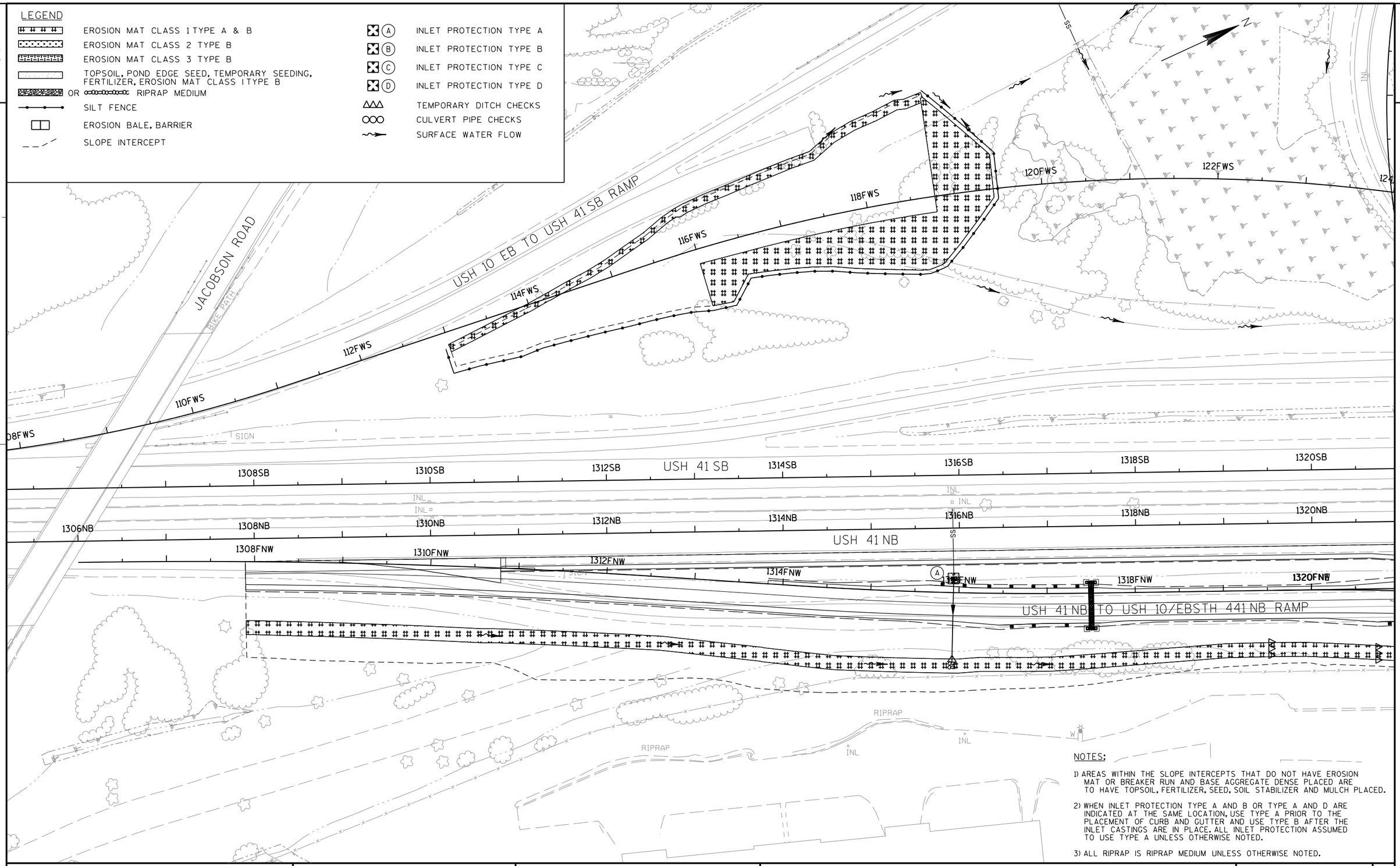


PROJECT NO: 1517-07-72	HWY: USH 10	COUNTY: WINNEBAGO	EROSION CONTROL PLANS OVERVIEW	SHEET 82	E

FILE NAME : S:\DOT\DOT_NE\120012-Tri County Freeway\1517-07-72\DGN_Files\Plansheets\022050_ec.dgn PLOT DATE : 2/19/2014 PLOT BY : wally_w PLOT NAME : PLOT SCALE : 1:600

LEGEND

- EROSION MAT CLASS 1 TYPE A & B
- EROSION MAT CLASS 2 TYPE B
- EROSION MAT CLASS 3 TYPE B
- TOPSOIL, POND EDGE SEED, TEMPORARY SEEDING, FERTILIZER, EROSION MAT CLASS 1 TYPE B OR RIPRAP MEDIUM
- SILT FENCE
- EROSION BALE, BARRIER
- SLOPE INTERCEPT
- (A) INLET PROTECTION TYPE A
- (B) INLET PROTECTION TYPE B
- (C) INLET PROTECTION TYPE C
- (D) INLET PROTECTION TYPE D
- TEMPORARY DITCH CHECKS
- CULVERT PIPE CHECKS
- SURFACE WATER FLOW



NOTES:

1) AREAS WITHIN THE SLOPE INTERCEPTS THAT DO NOT HAVE EROSION MAT OR BREAKER RUN AND BASE AGGREGATE DENSE PLACED ARE TO HAVE TOPSOIL, FERTILIZER, SEED, SOIL STABILIZER AND MULCH PLACED.

2) WHEN INLET PROTECTION TYPE A AND B OR TYPE A AND D ARE INDICATED AT THE SAME LOCATION, USE TYPE A PRIOR TO THE PLACEMENT OF CURB AND GUTTER AND USE TYPE B AFTER THE INLET CASTINGS ARE IN PLACE. ALL INLET PROTECTION ASSUMED TO USE TYPE A UNLESS OTHERWISE NOTED.

3) ALL RIPRAP IS RIPRAP MEDIUM UNLESS OTHERWISE NOTED.

PROJECT NO: 1517-07-72	HWY: USH 10	COUNTY: WINNEBAGO	EROSION CONTROL PLAN: SHEET 1	SHEET 83	E

NOTES:

1) AREAS WITHIN THE SLOPE INTERCEPTS THAT DO NOT HAVE EROSION MAT OR BREAKER RUN AND BASE AGGREGATE DENSE PLACED ARE TO HAVE TOPSOIL, FERTILIZER, SEED, SOIL STABILIZER AND MULCH PLACED.

2) WHEN INLET PROTECTION TYPE A AND B OR TYPE A AND D ARE INDICATED AT THE SAME LOCATION, USE TYPE A PRIOR TO THE PLACEMENT OF CURB AND GUTTER AND USE TYPE B AFTER THE INLET CASTINGS ARE IN PLACE. ALL INLET PROTECTION ASSUMED TO USE TYPE A UNLESS OTHERWISE NOTED.

3) ALL RIPRAP IS RIPRAP MEDIUM UNLESS OTHERWISE NOTED.

LEGEND

- EROSION MAT CLASS 1 TYPE A & B
- EROSION MAT CLASS 2 TYPE B
- EROSION MAT CLASS 3 TYPE B
- TOPSOIL, POND EDGE SEED, TEMPORARY SEEDING, FERTILIZER, EROSION MAT CLASS 1 TYPE B
- OR RIPRAP MEDIUM
- SILT FENCE
- EROSION BALE, BARRIER
- SLOPE INTERCEPT
- (A) INLET PROTECTION TYPE A
- (B) INLET PROTECTION TYPE B
- (C) INLET PROTECTION TYPE C
- (D) INLET PROTECTION TYPE D
- TEMPORARY DITCH CHECKS
- CULVERT PIPE CHECKS
- SURFACE WATER FLOW

END PROJECT
STA 133WB+00.00

USH 41 SB
USH 41 NB
USH 10 EB
USH 10 WB
CANADIAN NATIONAL

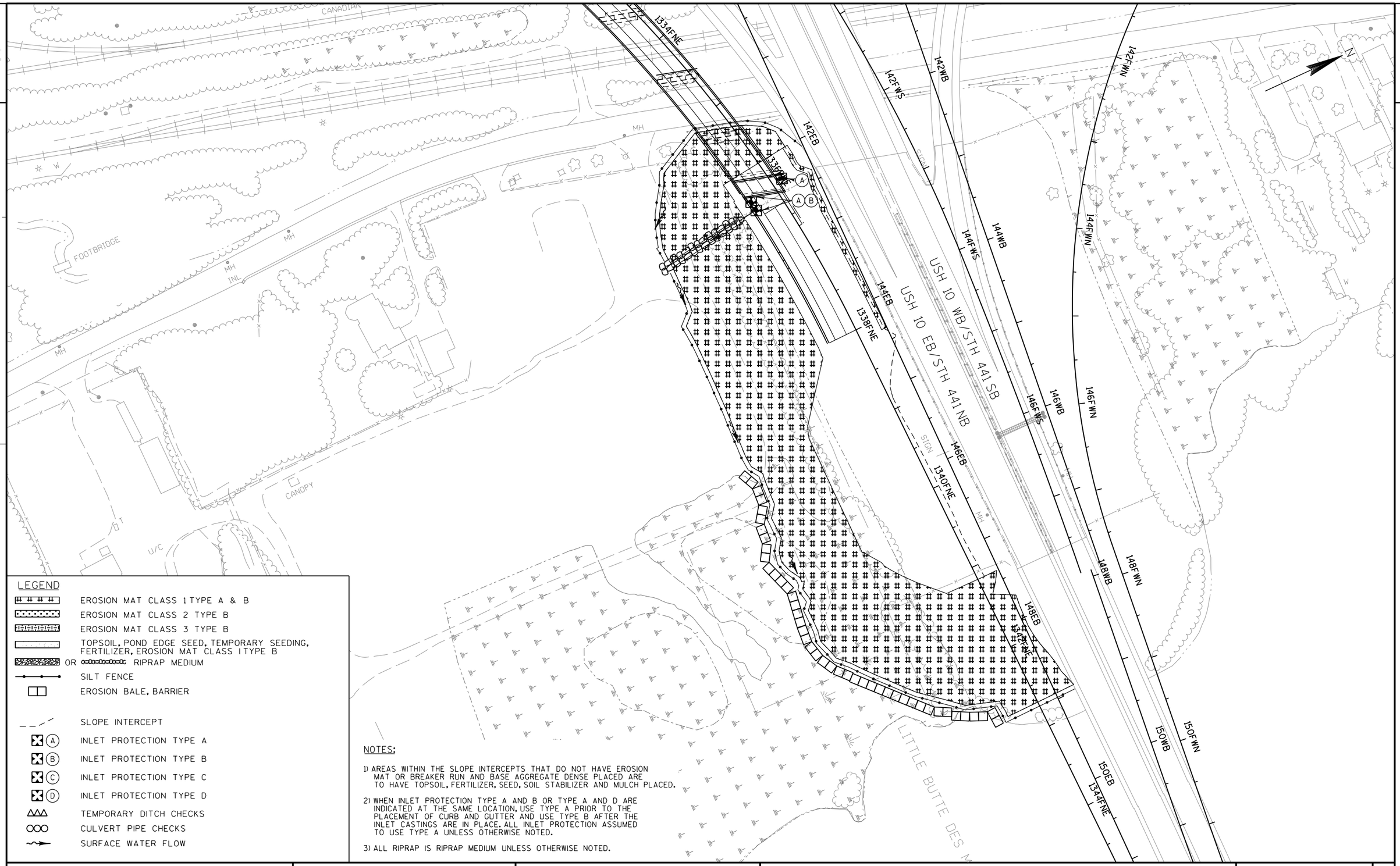
HEAVY RIPRAP SEE STRUCTURE PLANS

PROJECT NO: 1517-07-72	HWY: USH 10	COUNTY: WINNEBAGO	EROSION CONTROL PLAN: SHEET 2	SHEET 84	E

FILE NAME : S:\DOT\DOT_NE\120012-Tri County Freeway\1517-07-72\DGN_Files\Plansheets\022052_ec.dgn PLOT DATE : 2/19/2014 PLOT BY : wally_w PLOT NAME : PLOT SCALE : 1:100

WISDOT/CADDS SHEET 42

2



LEGEND

- EROSION MAT CLASS 1 TYPE A & B
- EROSION MAT CLASS 2 TYPE B
- EROSION MAT CLASS 3 TYPE B
- TOPSOIL, POND EDGE SEED, TEMPORARY SEEDING, FERTILIZER, EROSION MAT CLASS 1 TYPE B
- OR RIPRAP MEDIUM
- SILT FENCE
- EROSION BALE, BARRIER
- SLOPE INTERCEPT
- (A) INLET PROTECTION TYPE A
- (B) INLET PROTECTION TYPE B
- (C) INLET PROTECTION TYPE C
- (D) INLET PROTECTION TYPE D
- TEMPORARY DITCH CHECKS
- CULVERT PIPE CHECKS
- SURFACE WATER FLOW

NOTES:

1) AREAS WITHIN THE SLOPE INTERCEPTS THAT DO NOT HAVE EROSION MAT OR BREAKER RUN AND BASE AGGREGATE DENSE PLACED ARE TO HAVE TOPSOIL, FERTILIZER, SEED, SOIL STABILIZER AND MULCH PLACED.

2) WHEN INLET PROTECTION TYPE A AND B OR TYPE A AND D ARE INDICATED AT THE SAME LOCATION, USE TYPE A PRIOR TO THE PLACEMENT OF CURB AND GUTTER AND USE TYPE B AFTER THE INLET CASTINGS ARE IN PLACE. ALL INLET PROTECTION ASSUMED TO USE TYPE A UNLESS OTHERWISE NOTED.

3) ALL RIPRAP IS RIPRAP MEDIUM UNLESS OTHERWISE NOTED.

PROJECT NO: 1517-07-72	HWY: USH 10	COUNTY: WINNEBAGO	EROSION CONTROL PLAN: SHEET 3	SHEET 85	E

LEGEND

- EROSION MAT CLASS 1 TYPE A & B
- EROSION MAT CLASS 2 TYPE B
- EROSION MAT CLASS 3 TYPE B
- TOPSOIL, POND EDGE SEED, TEMPORARY SEEDING, FERTILIZER, EROSION MAT CLASS 1 TYPE B
- OR RIPRAP MEDIUM
- SILT FENCE
- EROSION BALE, BARRIER
- SLOPE INTERCEPT
- (A) INLET PROTECTION TYPE A
- (B) INLET PROTECTION TYPE B
- (C) INLET PROTECTION TYPE C
- (D) INLET PROTECTION TYPE D
- TEMPORARY DITCH CHECKS
- CULVERT PIPE CHECKS
- SURFACE WATER FLOW

NOTES:

1) AREAS WITHIN THE SLOPE INTERCEPTS THAT DO NOT HAVE EROSION MAT OR BREAKER RUN AND BASE AGGREGATE DENSE PLACED ARE TO HAVE TOPSOIL, FERTILIZER, SEED, SOIL STABILIZER AND MULCH PLACED.

2) WHEN INLET PROTECTION TYPE A AND B OR TYPE A AND D ARE INDICATED AT THE SAME LOCATION, USE TYPE A PRIOR TO THE PLACEMENT OF CURB AND GUTTER AND USE TYPE B AFTER THE INLET CASTINGS ARE IN PLACE. ALL INLET PROTECTION ASSUMED TO USE TYPE A UNLESS OTHERWISE NOTED.

3) ALL RIPRAP IS RIPRAP MEDIUM UNLESS OTHERWISE NOTED.

N

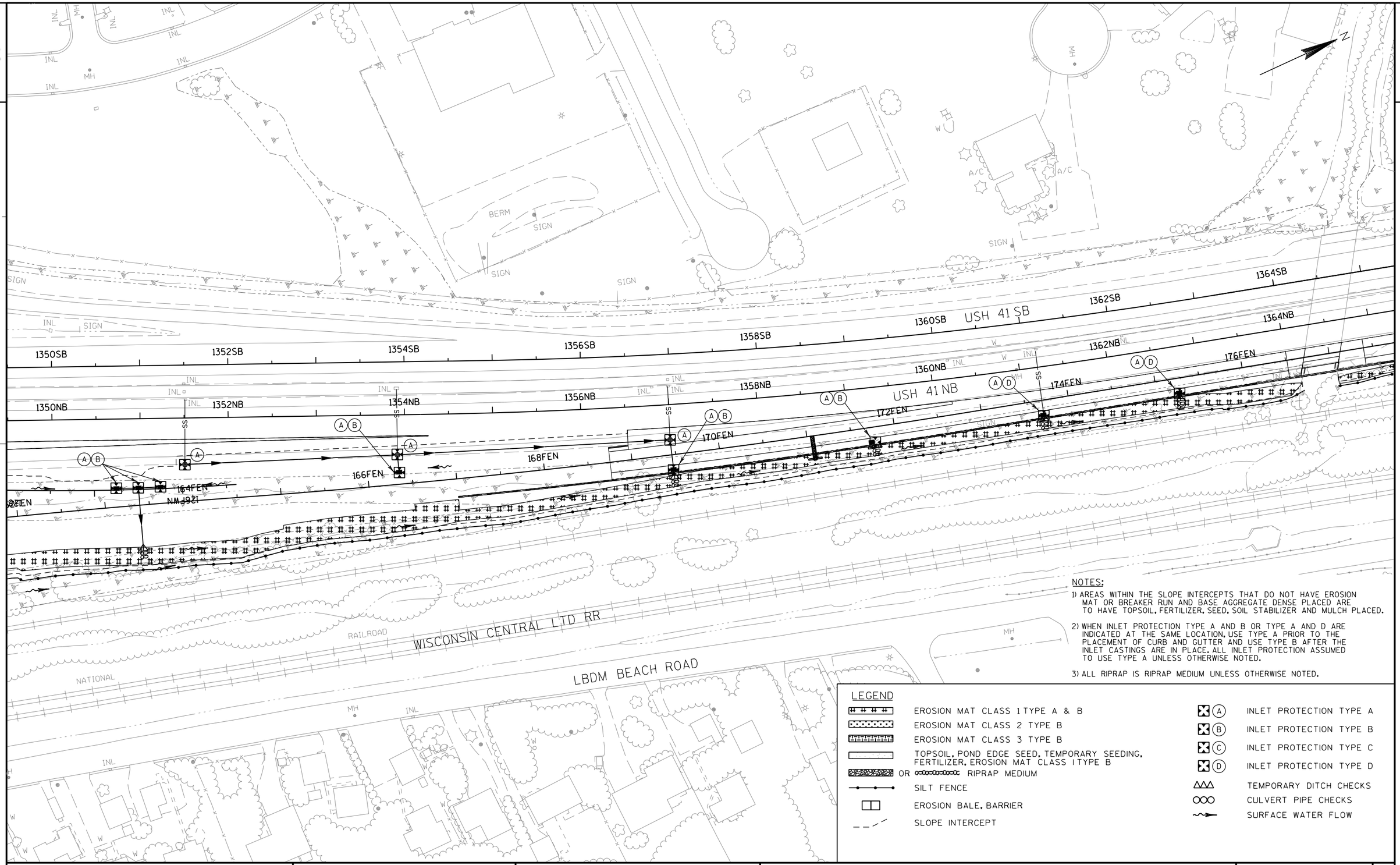
1344FNW
1342FNW
1340FNW
1338FNW
1336FNW
1336SB
1338SB
1340SB
1342SB
1344SB
1346SB
1348SB
1350S
USH 41 SB
1336NB
1338NB
1340NB
1342NB
1344NB
1346NB
1348NB
1350N
USH 41 NB
SIGN
ANT.
MH
INL
132FWN
130FWN
128FWN
134FWN
136FWN
154FEN
158FEN
156FEN
160FEN
162FEN
USH 10 WB / STH 441 SB TO USH 41 NB
152FEN
150FEN
148FEN
138WB
140WB
RAILROAD
CANADIAN
WISCONSIN CENTRAL LTD RR
LBDM BEACH ROAD
W

PROJECT NO: 1517-07-72	HWY: USH 10	COUNTY: WINNEBAGO	EROSION CONTROL PLAN: SHEET 4	SHEET 86	E

FILE NAME : S:\DOT\DOT_NE\120012-Tri County Freeway\1517-07-72\DGN_Files\Plansheets\022054_ec.dgn PLOT DATE : 2/19/2014 PLOT BY : wally_w PLOT NAME : PLOT SCALE : 1:100

WISDOT/CADDS SHEET 42

2



NOTES:

1) AREAS WITHIN THE SLOPE INTERCEPTS THAT DO NOT HAVE EROSION MAT OR BREAKER RUN AND BASE AGGREGATE DENSE PLACED ARE TO HAVE TOPSOIL, FERTILIZER, SEED, SOIL STABILIZER AND MULCH PLACED.

2) WHEN INLET PROTECTION TYPE A AND B OR TYPE A AND D ARE INDICATED AT THE SAME LOCATION, USE TYPE A PRIOR TO THE PLACEMENT OF CURB AND GUTTER AND USE TYPE B AFTER THE INLET CASTINGS ARE IN PLACE. ALL INLET PROTECTION ASSUMED TO USE TYPE A UNLESS OTHERWISE NOTED.

3) ALL RIPRAP IS RIPRAP MEDIUM UNLESS OTHERWISE NOTED.

LEGEND

- EROSION MAT CLASS 1 TYPE A & B
- EROSION MAT CLASS 2 TYPE B
- EROSION MAT CLASS 3 TYPE B
- TOPSOIL, POND EDGE SEED, TEMPORARY SEEDING, FERTILIZER, EROSION MAT CLASS 1 TYPE B
- OR RIPRAP MEDIUM
- SILT FENCE
- EROSION BALE, BARRIER
- SLOPE INTERCEPT
- (A) INLET PROTECTION TYPE A
- (B) INLET PROTECTION TYPE B
- (C) INLET PROTECTION TYPE C
- (D) INLET PROTECTION TYPE D
- TEMPORARY DITCH CHECKS
- CULVERT PIPE CHECKS
- SURFACE WATER FLOW

PROJECT NO: 1517-07-72	HWY: USH 10	COUNTY: WINNEBAGO	EROSION CONTROL PLAN: SHEET 5	SHEET 87	E

FILE NAME : S:\DOT\DOT_NE\120012-Tri County Freeway\1517-07-72\DGN_Files\Plansheets\022055_ec.dgn PLOT DATE : 2/19/2014 PLOT BY : wally_w PLOT NAME : PLOT SCALE : 1:100

NOTES:

1) AREAS WITHIN THE SLOPE INTERCEPTS THAT DO NOT HAVE EROSION MAT OR BREAKER RUN AND BASE AGGREGATE DENSE PLACED ARE TO HAVE TOPSOIL, FERTILIZER, SEED, SOIL STABILIZER AND MULCH PLACED.

2) WHEN INLET PROTECTION TYPE A AND B OR TYPE A AND D ARE INDICATED AT THE SAME LOCATION, USE TYPE A PRIOR TO THE PLACEMENT OF CURB AND GUTTER AND USE TYPE B AFTER THE INLET CASTINGS ARE IN PLACE. ALL INLET PROTECTION ASSUMED TO USE TYPE A UNLESS OTHERWISE NOTED.

3) ALL RIPRAP IS RIPRAP MEDIUM UNLESS OTHERWISE NOTED.

LEGEND

- EROSION MAT CLASS 1 TYPE A & B
- EROSION MAT CLASS 2 TYPE B
- EROSION MAT CLASS 3 TYPE B
- TOPSOIL, POND EDGE SEED, TEMPORARY SEEDING, FERTILIZER, EROSION MAT CLASS 1 TYPE B
- OR RIPRAP MEDIUM
- SILT FENCE
- EROSION BALE, BARRIER
- SLOPE INTERCEPT
- (A) INLET PROTECTION TYPE A
- (B) INLET PROTECTION TYPE B
- (C) INLET PROTECTION TYPE C
- (D) INLET PROTECTION TYPE D
- TEMPORARY DITCH CHECKS
- CULVERT PIPE CHECKS
- SURFACE WATER FLOW

PROJECT NO: 1517-07-72	HWY: USH 10	COUNTY: WINNEBAGO	EROSION CONTROL PLAN: SHEET 6	SHEET 88	E

NOTES:

1) AREAS WITHIN THE SLOPE INTERCEPTS THAT DO NOT HAVE EROSION MAT OR BREAKER RUN AND BASE AGGREGATE DENSE PLACED ARE TO HAVE TOPSOIL, FERTILIZER, SEED, SOIL STABILIZER AND MULCH PLACED.

2) WHEN INLET PROTECTION TYPE A AND B OR TYPE A AND D ARE INDICATED AT THE SAME LOCATION, USE TYPE A PRIOR TO THE PLACEMENT OF CURB AND GUTTER AND USE TYPE B AFTER THE INLET CASTINGS ARE IN PLACE. ALL INLET PROTECTION ASSUMED TO USE TYPE A UNLESS OTHERWISE NOTED.

3) ALL RIPRAP IS RIPRAP MEDIUM UNLESS OTHERWISE NOTED.

LEGEND

- EROSION MAT CLASS 1 TYPE A & B
- EROSION MAT CLASS 2 TYPE B
- EROSION MAT CLASS 3 TYPE B
- TOPSOIL, POND EDGE SEED, TEMPORARY SEEDING, FERTILIZER, EROSION MAT CLASS 1 TYPE B
- OR RIPRAP MEDIUM
- SILT FENCE
- EROSION BALE, BARRIER
- SLOPE INTERCEPT
- (A) INLET PROTECTION TYPE A
- (B) INLET PROTECTION TYPE B
- (C) INLET PROTECTION TYPE C
- (D) INLET PROTECTION TYPE D
- TEMPORARY DITCH CHECKS
- CULVERT PIPE CHECKS
- SURFACE WATER FLOW

PROJECT NO: 1517-07-72	HWY: USH 10	COUNTY: WINNEBAGO	EROSION CONTROL PLAN: SHEET 7	SHEET 89	E

FILE NAME : S:\DOT\DOT_NE\120012-Tri County Freeway\1517-07-72\DGN_Files\Plansheets\022057_ec.dgn PLOT DATE : 2/19/2014 PLOT BY : wally_w PLOT NAME : PLOT SCALE : 1:100

WISDOT/CADDS SHEET 42

2

LEGEND

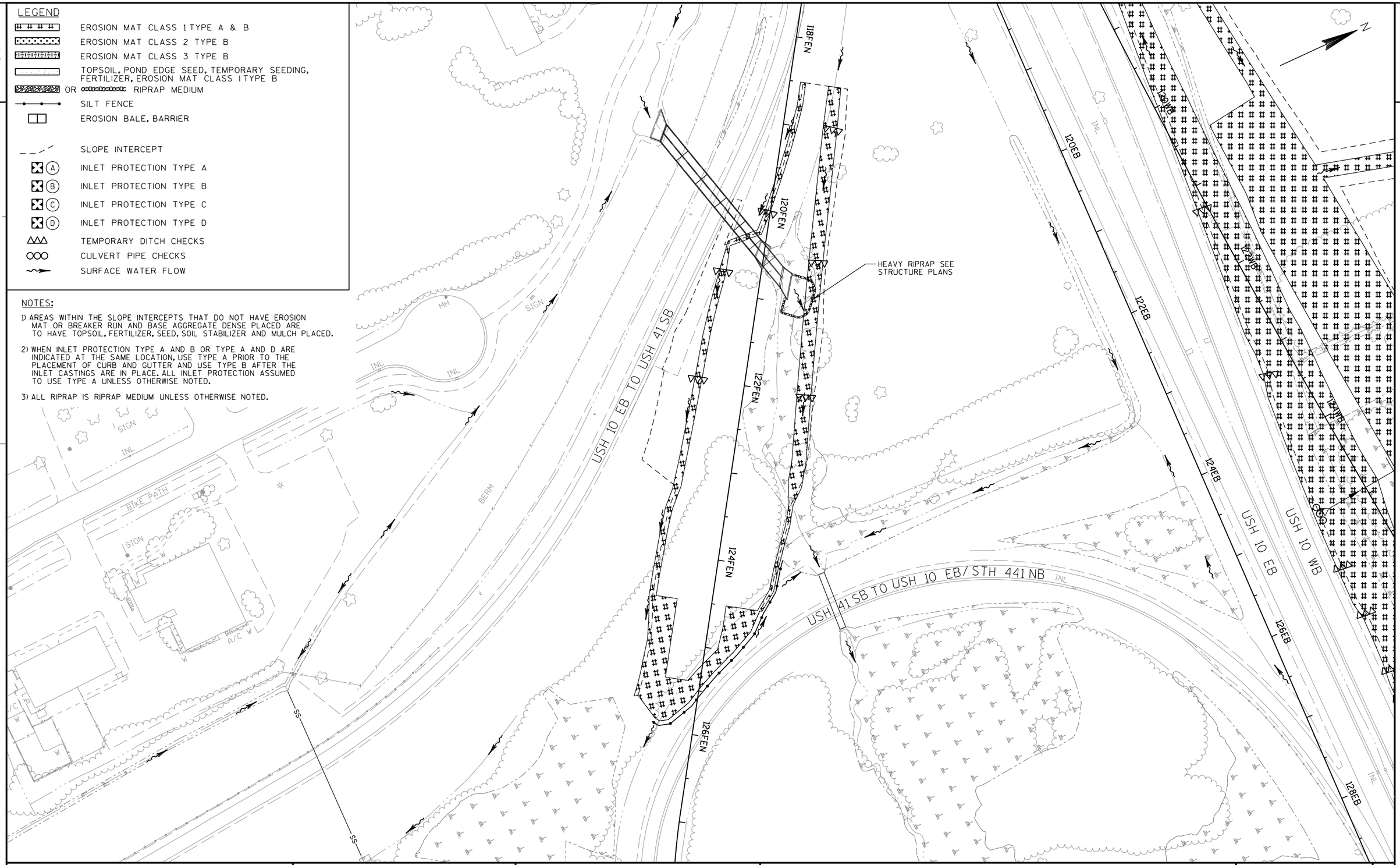
- EROSION MAT CLASS 1 TYPE A & B
- EROSION MAT CLASS 2 TYPE B
- EROSION MAT CLASS 3 TYPE B
- TOPSOIL, POND EDGE SEED, TEMPORARY SEEDING, FERTILIZER, EROSION MAT CLASS 1 TYPE B
- OR RIPRAP MEDIUM
- SILT FENCE
- EROSION BALE, BARRIER
- SLOPE INTERCEPT
- (A) INLET PROTECTION TYPE A
- (B) INLET PROTECTION TYPE B
- (C) INLET PROTECTION TYPE C
- (D) INLET PROTECTION TYPE D
- TEMPORARY DITCH CHECKS
- CULVERT PIPE CHECKS
- SURFACE WATER FLOW

NOTES:

1) AREAS WITHIN THE SLOPE INTERCEPTS THAT DO NOT HAVE EROSION MAT OR BREAKER RUN AND BASE AGGREGATE DENSE PLACED ARE TO HAVE TOPSOIL, FERTILIZER, SEED, SOIL STABILIZER AND MULCH PLACED.

2) WHEN INLET PROTECTION TYPE A AND B OR TYPE A AND D ARE INDICATED AT THE SAME LOCATION, USE TYPE A PRIOR TO THE PLACEMENT OF CURB AND GUTTER AND USE TYPE B AFTER THE INLET CASTINGS ARE IN PLACE. ALL INLET PROTECTION ASSUMED TO USE TYPE A UNLESS OTHERWISE NOTED.

3) ALL RIPRAP IS RIPRAP MEDIUM UNLESS OTHERWISE NOTED.



PROJECT NO: 1517-07-72	HWY: USH 10	COUNTY: WINNEBAGO	EROSION CONTROL PLAN: SHEET 8	SHEET 90	E

FILE NAME : S:\DOT\DOT_NE\120012-Tri County Freeway\1517-07-72\DGN_Files\Plansheets\022058_ec.dgn PLOT DATE : 2/19/2014 PLOT BY : wally_w PLOT NAME : PLOT SCALE : 1:100

WISDOT/CADDS SHEET 42

2

LEGEND

- EROSION MAT CLASS 1 TYPE A & B
- EROSION MAT CLASS 2 TYPE B
- EROSION MAT CLASS 3 TYPE B
- TOPSOIL, POND EDGE SEED, TEMPORARY SEEDING, FERTILIZER, EROSION MAT CLASS 1 TYPE B
- OR RIPRAP MEDIUM
- SILT FENCE
- EROSION BALE, BARRIER
- SLOPE INTERCEPT
- (A) INLET PROTECTION TYPE A
- (B) INLET PROTECTION TYPE B
- (C) INLET PROTECTION TYPE C
- (D) INLET PROTECTION TYPE D
- TEMPORARY DITCH CHECKS
- CULVERT PIPE CHECKS
- SURFACE WATER FLOW

NOTES:

1) AREAS WITHIN THE SLOPE INTERCEPTS THAT DO NOT HAVE EROSION MAT OR BREAKER RUN AND BASE AGGREGATE DENSE PLACED ARE TO HAVE TOPSOIL, FERTILIZER, SEED, SOIL STABILIZER AND MULCH PLACED.

2) WHEN INLET PROTECTION TYPE A AND B OR TYPE A AND D ARE INDICATED AT THE SAME LOCATION, USE TYPE A PRIOR TO THE PLACEMENT OF CURB AND GUTTER AND USE TYPE B AFTER THE INLET CASTINGS ARE IN PLACE. ALL INLET PROTECTION ASSUMED TO USE TYPE A UNLESS OTHERWISE NOTED.

3) ALL RIPRAP IS RIPRAP MEDIUM UNLESS OTHERWISE NOTED.

BEGIN PROJECT
STA 114WB+50.00

USH 10 EB TO USH 41 SB

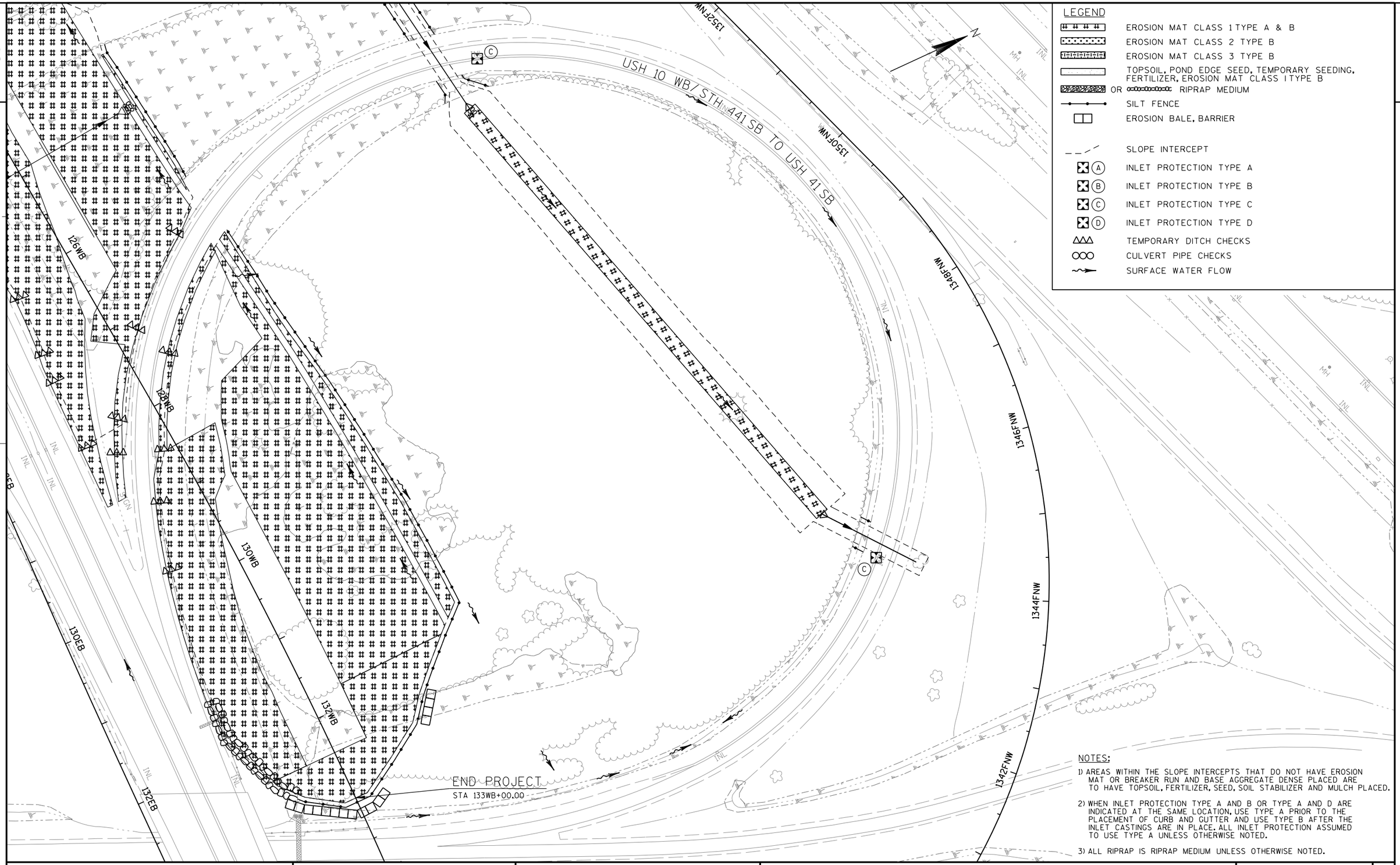
USH 41 SB TO USH 10 WB

USH 10 WB

112EB
112FEN
114EB
114FEN
116EB USH 10 EB
116FEN
118EB
118FEN
120EB
120FEN
122EB
114WB
116WB
118WB
120WB
136GFNW
136FNW
136AFNW
136BFNW
136CFNW
136DFNW
136EFNW
136FFNW
SIGN
INL
MH
HEAVY RIPRAP SEE STRUCTURE PLANS

PROJECT NO: 1517-07-72	HWY: USH 10	COUNTY: WINNEBAGO	EROSION CONTROL PLAN: SHEET 9	SHEET 91	E

FILE NAME : S:\DOT\DOT_NE\120012-Tri County Freeway\1517-07-72\DGN_Files\Plansheets\022059_ec.dgn PLOT DATE : 2/19/2014 PLOT BY : wally_w PLOT NAME : PLOT SCALE : 1:100



NOTES:

1) AREAS WITHIN THE SLOPE INTERCEPTS THAT DO NOT HAVE EROSION MAT OR BREAKER RUN AND BASE AGGREGATE DENSE PLACED ARE TO HAVE TOPSOIL, FERTILIZER, SEED, SOIL STABILIZER AND MULCH PLACED.

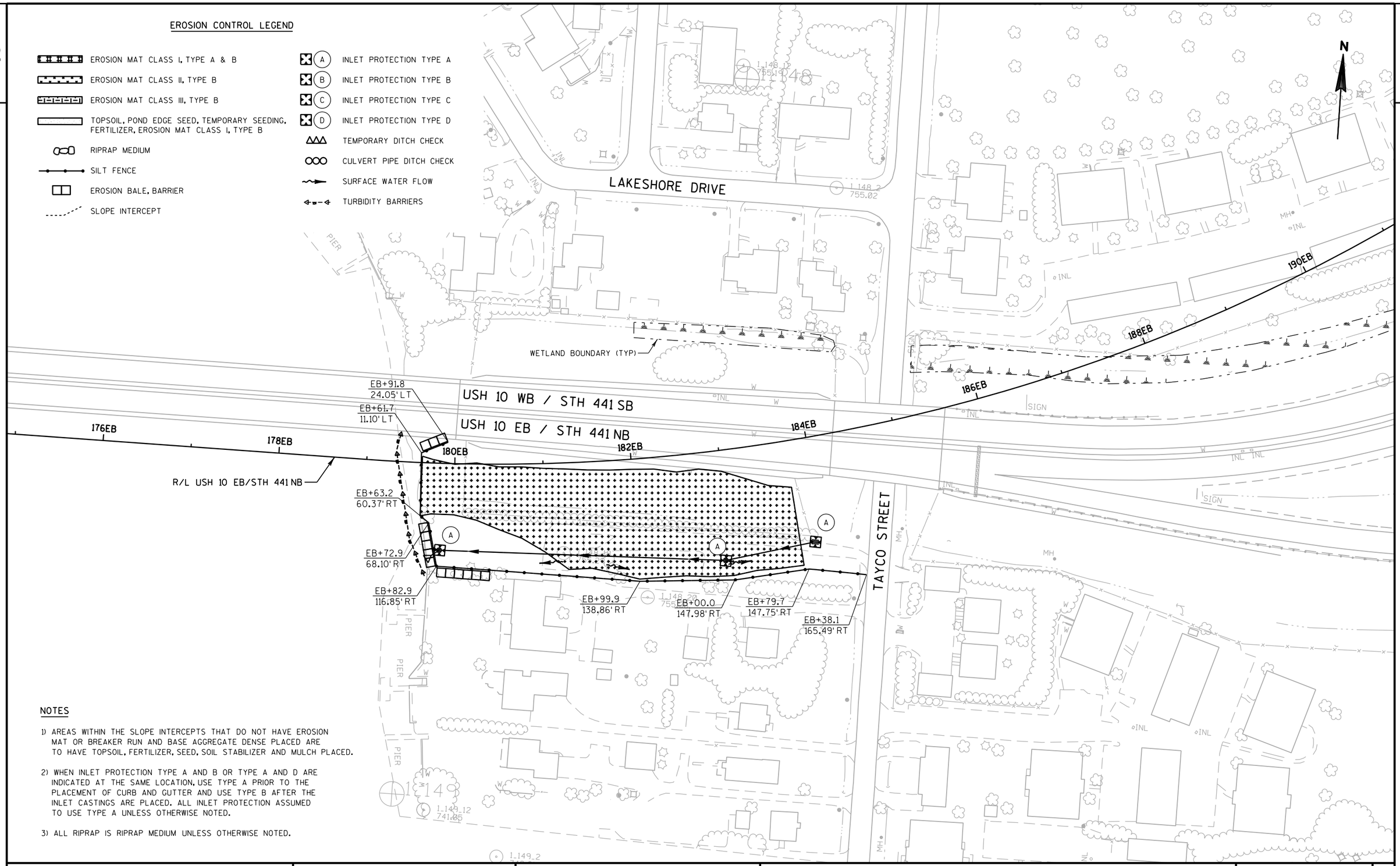
2) WHEN INLET PROTECTION TYPE A AND B OR TYPE A AND D ARE INDICATED AT THE SAME LOCATION, USE TYPE A PRIOR TO THE PLACEMENT OF CURB AND GUTTER AND USE TYPE B AFTER THE INLET CASTINGS ARE IN PLACE. ALL INLET PROTECTION ASSUMED TO USE TYPE A UNLESS OTHERWISE NOTED.

3) ALL RIPRAP IS RIPRAP MEDIUM UNLESS OTHERWISE NOTED.

PROJECT NO: 1517-07-72	HWY: USH 10	COUNTY: WINNEBAGO	EROSION CONTROL PLAN: SHEET 10	SHEET 92	E

EROSION CONTROL LEGEND

- EROSION MAT CLASS I, TYPE A & B
- EROSION MAT CLASS II, TYPE B
- EROSION MAT CLASS III, TYPE B
- TOPSOIL, POND EDGE SEED, TEMPORARY SEEDING, FERTILIZER, EROSION MAT CLASS I, TYPE B
- RIPRAP MEDIUM
- SILT FENCE
- EROSION BALE, BARRIER
- SLOPE INTERCEPT
- (A) INLET PROTECTION TYPE A
- (B) INLET PROTECTION TYPE B
- (C) INLET PROTECTION TYPE C
- (D) INLET PROTECTION TYPE D
- TEMPORARY DITCH CHECK
- CULVERT PIPE DITCH CHECK
- SURFACE WATER FLOW
- TURBIDITY BARRIERS



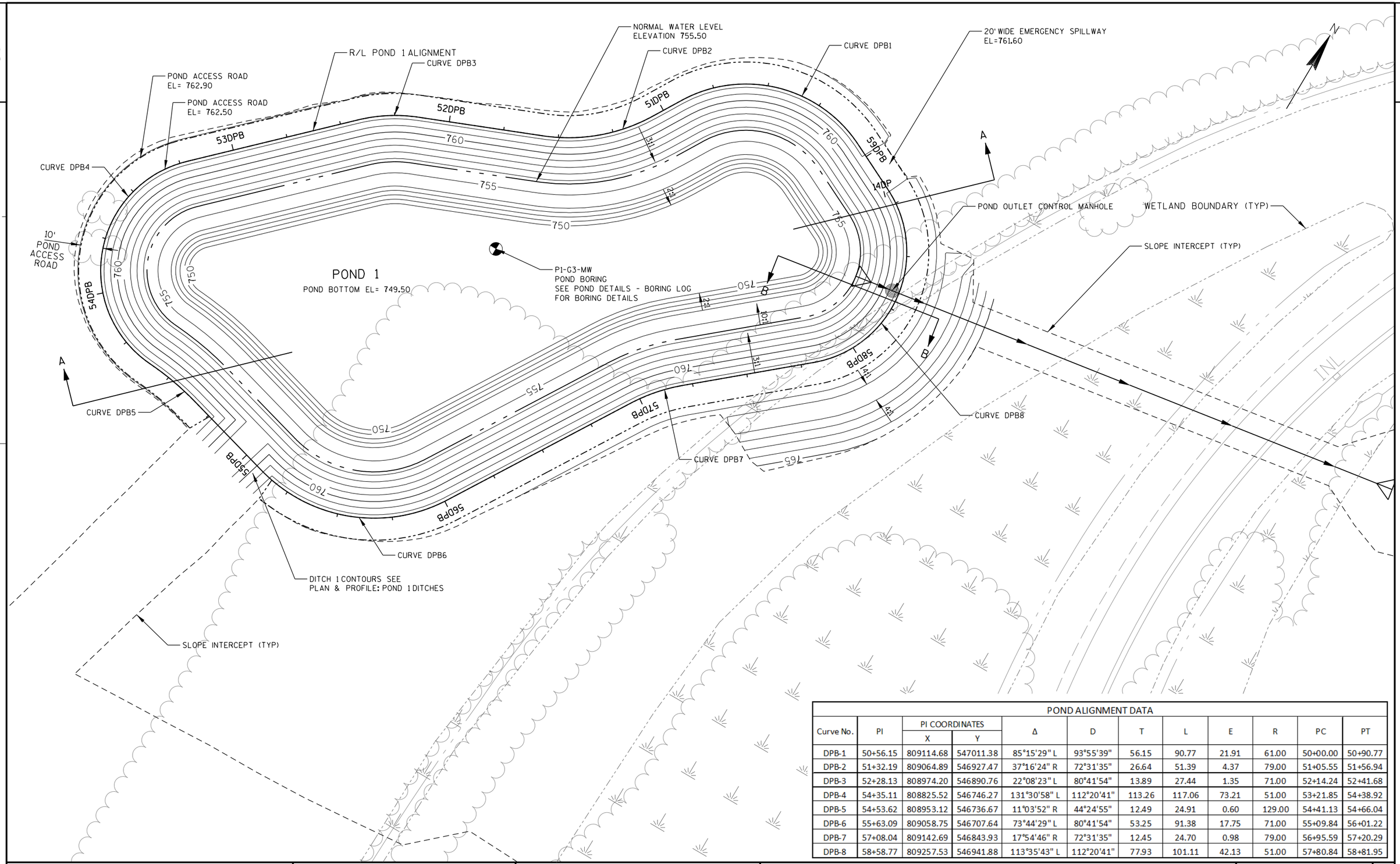
NOTES

1) AREAS WITHIN THE SLOPE INTERCEPTS THAT DO NOT HAVE EROSION MAT OR BREAKER RUN AND BASE AGGREGATE DENSE PLACED ARE TO HAVE TOPSOIL, FERTILIZER, SEED, SOIL STABILIZER AND MULCH PLACED.

2) WHEN INLET PROTECTION TYPE A AND B OR TYPE A AND D ARE INDICATED AT THE SAME LOCATION, USE TYPE A PRIOR TO THE PLACEMENT OF CURB AND GUTTER AND USE TYPE B AFTER THE INLET CASTINGS ARE PLACED. ALL INLET PROTECTION ASSUMED TO USE TYPE A UNLESS OTHERWISE NOTED.

3) ALL RIPRAP IS RIPRAP MEDIUM UNLESS OTHERWISE NOTED.

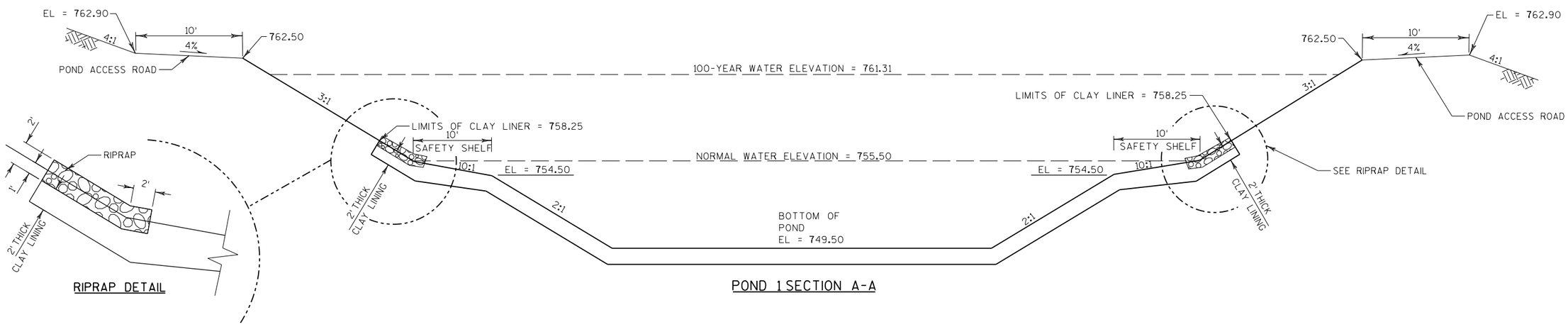
PROJECT NO: 1517-07-72	HWY: USH 10	COUNTY: WINNEBAGO	EROSION CONTROL	SHEET 93	E



POND ALIGNMENT DATA

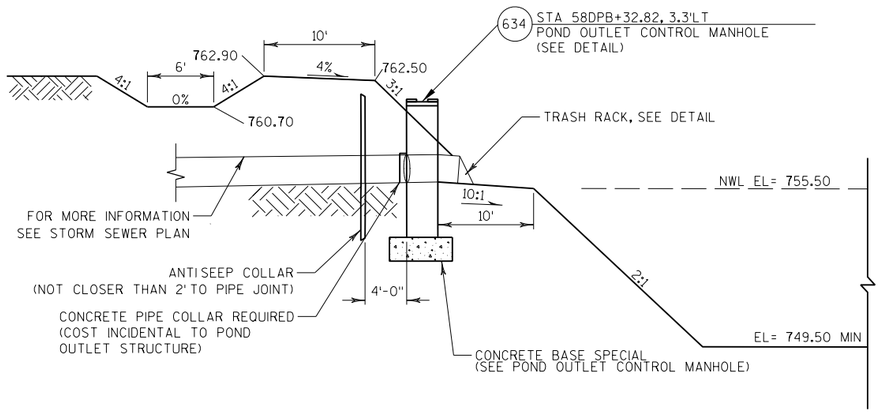
Curve No.	PI	PI COORDINATES X	PI COORDINATES Y	Δ	D	T	L	E	R	PC	PT
DPB-1	50+56.15	809114.68	547011.38	85°15'29" L	93°55'39"	56.15	90.77	21.91	61.00	50+00.00	50+90.77
DPB-2	51+32.19	809064.89	546927.47	37°16'24" R	72°31'35"	26.64	51.39	4.37	79.00	51+05.55	51+56.94
DPB-3	52+28.13	808974.20	546890.76	22°08'23" L	80°41'54"	13.89	27.44	1.35	71.00	52+14.24	52+41.68
DPB-4	54+35.11	808825.52	546746.27	131°30'58" L	112°20'41"	113.26	117.06	73.21	51.00	53+21.85	54+38.92
DPB-5	54+53.62	808953.12	546736.67	11°03'52" R	44°24'55"	12.49	24.91	0.60	129.00	54+41.13	54+66.04
DPB-6	55+63.09	809058.75	546707.64	73°44'29" L	80°41'54"	53.25	91.38	17.75	71.00	55+09.84	56+01.22
DPB-7	57+08.04	809142.69	546843.93	17°54'46" R	72°31'35"	12.45	24.70	0.98	79.00	56+95.59	57+20.29
DPB-8	58+58.77	809257.53	546941.88	113°35'43" L	112°20'41"	77.93	101.11	42.13	51.00	57+80.84	58+81.95

PROJECT NO: 1517-07-72	HWY: USH 10	COUNTY: WINNEBAGO	POND DETAILS - POND 1	SHEET 94	E

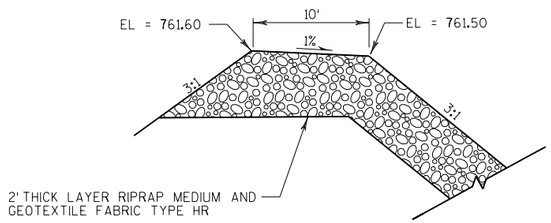


RIPRAP DETAIL

POND 1 SECTION A-A



POND 1 SECTION B-B



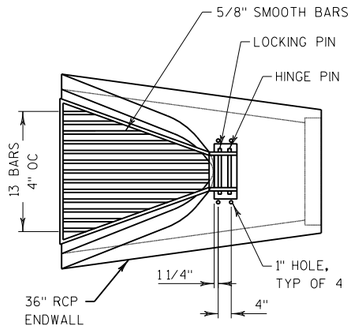
TYPICAL SECTION - EMERGENCY SPILLWAY

STA 58DPB+81.95 - STA 59DPB+01.95

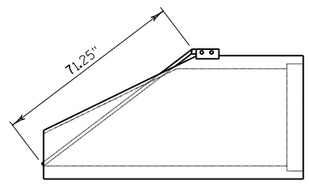
NOTES

1. REFER TO STANDARD DETAIL FOR CATCH BASIN 6-FT DIAMETER FOR OTHER INFORMATION.
2. OUTLET STRUCTURE WILL BE PAID FOR AS POND OUTLET CONTROL MANHOLE.
3. TRASH RACKS WILL BE GALVANIZED OR SIMILARLY PROTECTED FROM CORROSION.
4. CONNECTOR DEVICE WILL BE REMOVABLE AND APPROVED BY THE ENGINEER.

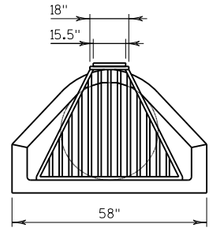
PROJECT NO: 1517-07-72	HWY: USH 10	COUNTY: WINNEBAGO	POND CONSTRUCTION DETAILS - POND 1	SHEET 95	E



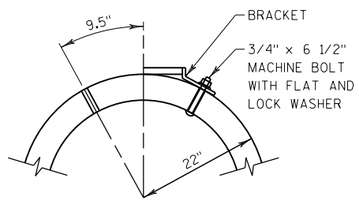
PLAN



SIDE VIEW



END VIEW



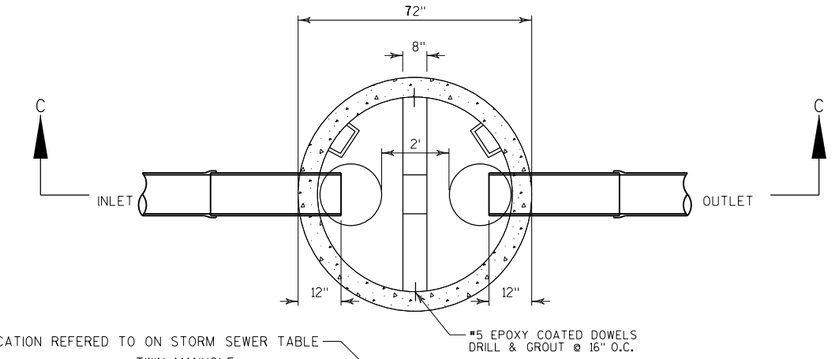
HOLE CROSS SECTION

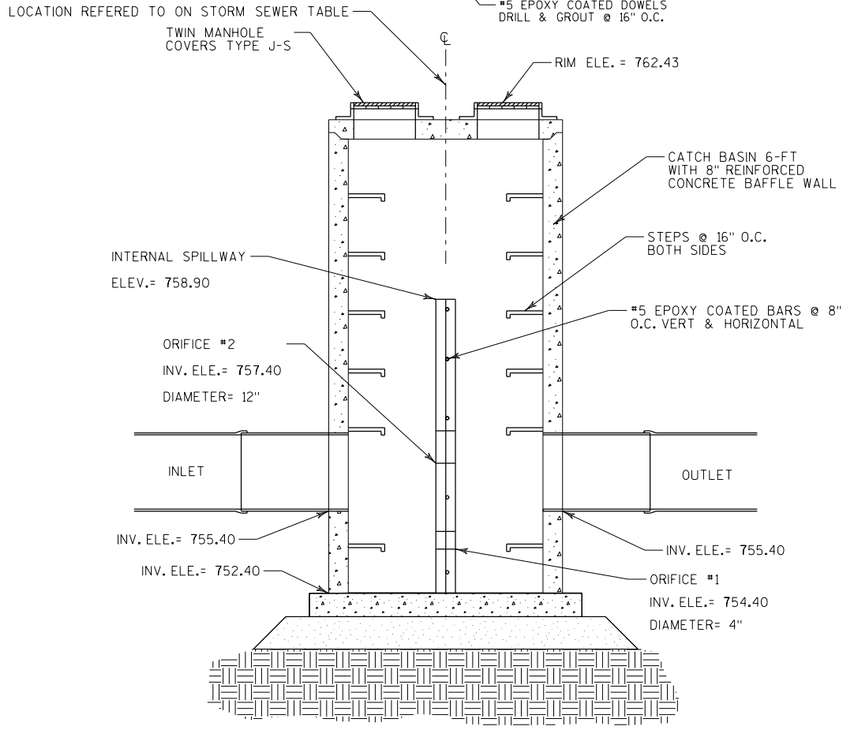
FLARED END SECTION WITH TRASH RACK DETAIL

N.T.S.

NOTES

1. REFER TO STANDARD DETAIL FOR CATCH BASIN 6-FT DIAMETER FOR OTHER INFORMATION.
2. OUTLET STRUCTURE WILL BE PAID FOR AS POND OUTLET CONTROL MANHOLE.
3. TRASH RACKS WILL BE GALVANIZED OR SIMILARLY PROTECTED FROM CORROSION.
4. CONNECTOR DEVICE WILL BE REMOVABLE AND APPROVED BY THE ENGINEER.





SECTION C-C

POND OUTLET CONTROL MANHOLE

N.T.S.

WI Dept. of Transportation
3502 Kinsman Blvd.
Madison, WI 53704

WISDOT PROJECT ID: 1517-07-04
WISDOT STRUCTURE ID:

BORING ID: P1-G3-MW
PAGE NO: 1 of 1

WISDOT PROJECT NAME: WIS 441	CONSULTANT: Tri-County Partners, Inc.	CONSULTANT PROJECT NO: 49349781	LATITUDE:
ROADWAY NAME:	DRILLING CONTRACTOR: Soils & Engineering Services, Inc.	DRILLING CONTRACTOR PROJECT NO: 12974	LONGITUDE:
DATE STARTED: 8/06/13	CREW CHIEF: S. Hunger	DRILL RIG: CME 550X	NORTHING: 546862.38
DATE COMPLETED: 8/06/13	LOGGED BY: R. Borkovetz	HOLE SIZE: 7.6 in	COORDINATE SYSTEM: EASTING: 809047.81
COUNTY: Winnebago	LOG QC BY: D. Reichel	HAMMER TYPE: Automatic	HORIZONTAL DATUM: WGS 1984 / VERTICAL DATUM: MSL
STATION: OFFSET:	TOWNSHIP: 20 RANGE: 17 SECTION: 1/4 SECTION: 1/4 1/4 SECTION:		STREAMBED ELEVATION: NA
			SURFACE ELEVATION: 761.77 ft

SAMPLE TYPE NUMBER	RECOVERY (in) (RQD)	Moisture	BLOW COUNTS (N VALUE)	Depth (ft)	Graphic	Soil / Rock Description and Geological Origin for Each Major Unit / Comments	USCS / AASHTO	WELL DIAGRAM	Strength Qp (tsf)	Liquid Limit (%)	Plasticity Index (%)	Boulders	Drilling Method	Notes
		M				***TOPSOIL***-[14" thick]								
SPT 1	8	M 26	4-4-4 (8)	1.2		760.6 ***LEAN CLAY (CL)*** Reddish-Brown, moist, very stiff to hard			2.5, 3.5 2.5, 2.6					NM=26.4%
SPT 2	16	M M 28	3-4-6 (10)	5			CL		2.5, 4.5+ 3.0, 4.5+				HSA	NM=27.6%
SPT 3	18	M M 35	2-3-4 (7)						2.5, 2.9 1.5, 1.8					4¼"-inside-diameter continuous flight hollow-stem augers NM=34.6%
SPT 4	18	W M 77	1-1-4 (5)	10		9.5 752.3 ***FIBROUS PEAT (PT)*** Black, moist, soft 9.9 751.9 ***SANDY LEAN CLAY, OCCASIONAL CLAYEY FINE SAND SEAMS AND GRAVEL (CL)*** Brown, wet, very soft 10.8 750.9 Auger refusal on bedrock at 10.83' End of Boring at 10.8 ft.	PT CL		0.25					NM=77.3% LI=63.2%

WATER LEVEL & CAVE-IN OBSERVATION DATA

WATER ENCOUNTERED DURING DRILLING: NMR		CAVE - IN DEPTH AT COMPLETION: NMR	WET ☐ DRY ☐
WATER LEVEL AT COMPLETION: 8.58ft.		CAVE - IN DEPTH AFTER 0 HOURS: NMR	WET ☐ DRY ☐

NOTES: 1) Stratification lines between soil types represent the approximate boundary; gradual transition between in-situ soil layers should be expected.
2) NE = Not Encountered, NMR = No Measurement Recorded

Y:\PROJECTS\DRILLING PROJECTS\12900 PROJECTS\12974 WIS 441\12974 WIS 441 PONDS 08.06.WISDOT.GPJ WIS 441 11/21/13

State of Wisconsin
Department of Natural Resources

Route To: Watershed/Wastewater ☐ Waste Management ☐
Remediation/Redevelopment ☐ Other ■ Geotechnical

MONITORING WELL CONSTRUCTION
Form 4400-113A Rev. 7-98

SES Project Number **12974**

Facility/Project Name: WIS 441
Facility License, Permit or Monitoring No.:
Facility ID:
Type of Well — Well Code 11 / mw
Distance From Waste/Source ____ ft. Enf. Stds. Apply ☐

Local Grid Location of Well: ____ ft. ☐ N. ☐ S. ____ ft. ☐ E. ☐ W.
Grid Origin Location ☐ (estimated: ☐) Well Location ☐
Lat. ____ Long. ____ or
St. Plane ____ ft. N, ____ ft. E. S/C/N
Section Location of Waste/Source
____ 1/4 of ____ 1/4 of Sec. ____ T. 20 N, R. 17 ■ E ☐ W
Location of Well Relative to Waste/Source: u ☐ Upgradient s ☐ Sidegradient d ☐ Downgradient n ☐ Not Known
Gov. Lot Number

Well Name: P1-G3-MW
Wis. Unique Well No. | DNR Well Number
Date Well Installed: 08/06/2013 (m m / d d / y y y y)
Well Installed By: Name (first,last) and Firm: Kevin Z. Hargis — Soils & Engineering Services, Inc.

A. Protective pipe, top elevation ____ ft. MSL
B. Well casing, top elevation 763.84 ft. MSL
C. Land surface elevation 761.5 ft. MSL
D. Surface seal, bottom 758.5 ft. MSL or 3.0 ft.

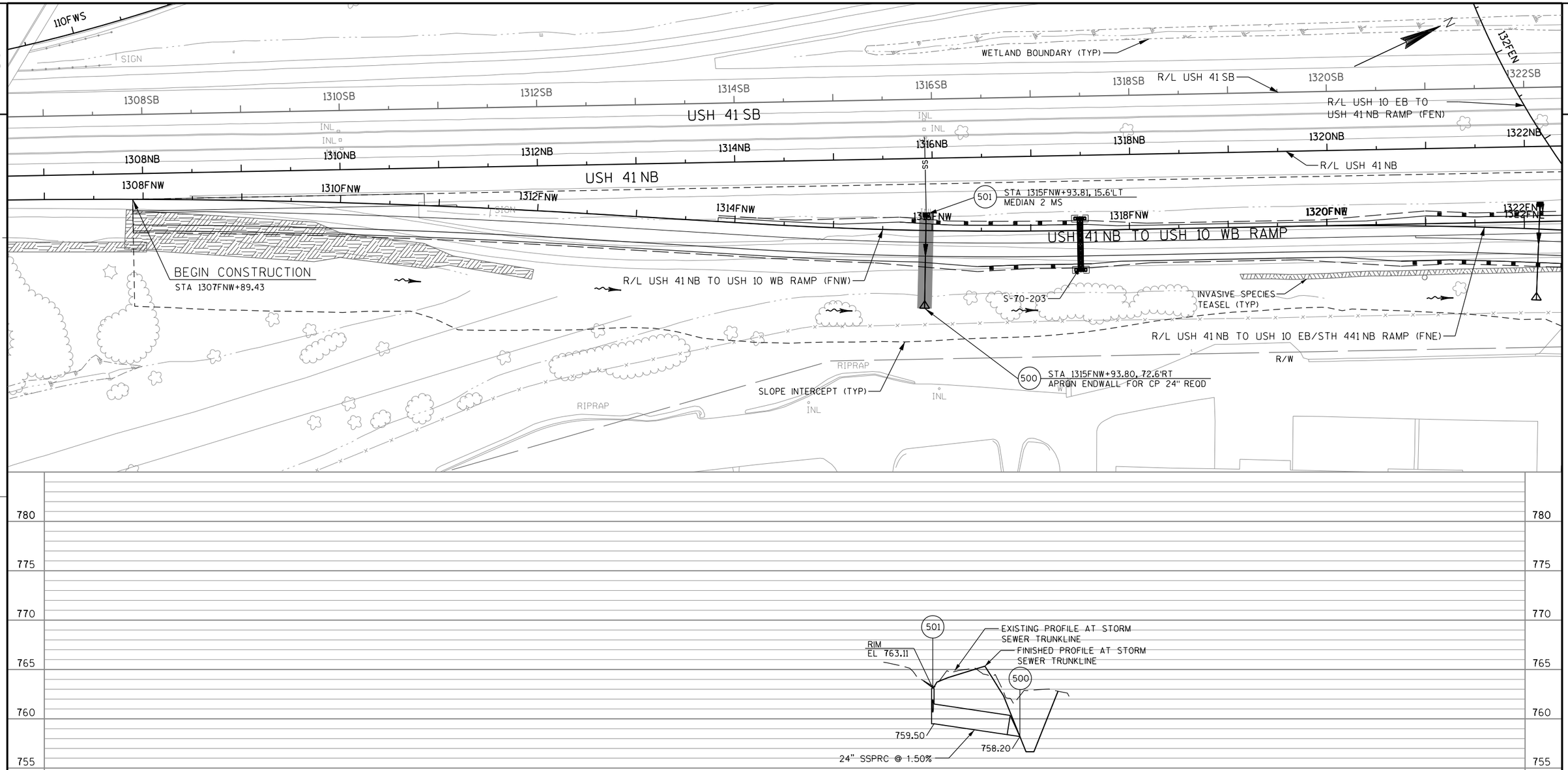
12. USCS classification of soil near screen:
GP ☐ GM ☐ GC ☐ GW ☐ SW ☐ SP ☐
SM ☐ SC ☐ ML ☐ MH ☐ CL ■ CH ☐
Bedrock ☐ OL/OH ☐ PT ☐
13. Sieve analysis attached? ☐ Yes ■ No
14. Drilling method used: Rotary ☐ 5 0 / Hollow Stem Auger ■ 4 1 / Other ☐
15. Drilling fluid used: Water ☐ 0 2 Air ☐ 0 1 Drilling Mud ☐ 0 3 None ■ 9 9
16. Drilling additives used? ☐ Yes ■ No — Describe ____
17. Source of water (attach analysis): ____

E. Bentonite seal, top 758.5 ft. MSL or 3.0 ft.
F. Fine sand, top 758.5 ft. MSL or 3.0 ft.
G. Filter pack, top 757.0 ft. MSL or 4.5 ft.
H. Screen joint, top 755.6 ft. MSL or 5.8 ft.
I. Well bottom 750.6 ft. MSL or 10.8 ft.
J. Filter pack, bottom 750.6 ft. MSL or 10.8 ft.
K. Borehole, bottom 750.6 ft. MSL or 10.8 ft.
L. Borehole, diameter 7.6 in.
M. O.D. well casing 2.38 in.
N. I.D. well casing 2.07 in.

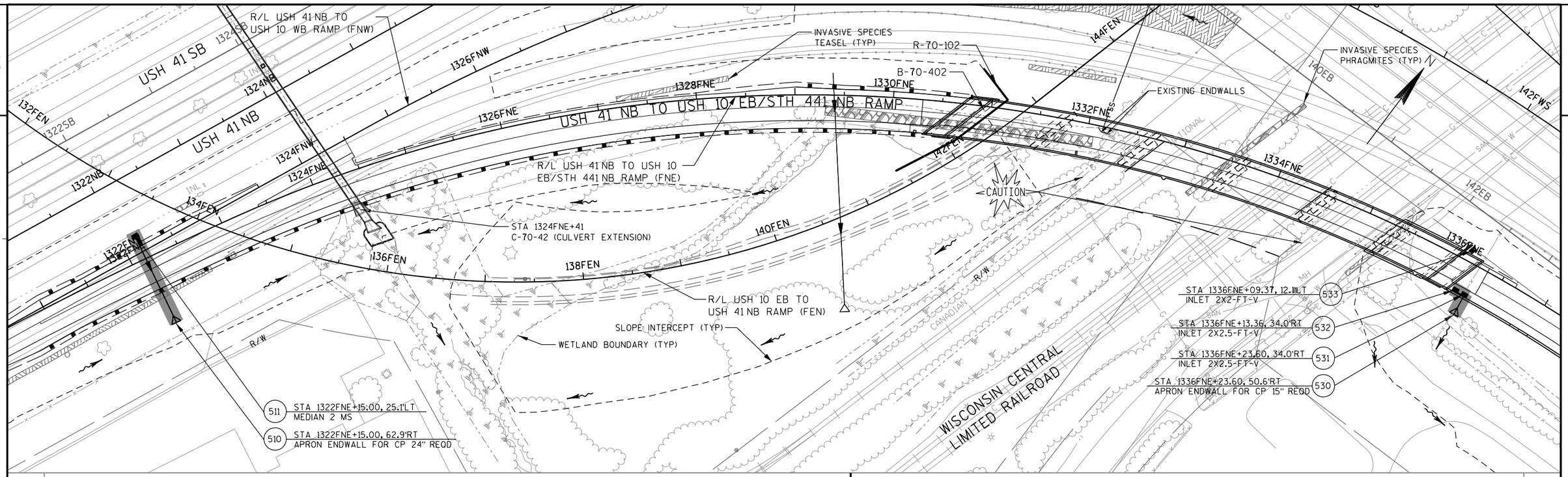
1. Cap and lock? ■ Yes ☐ No
2. Protective cover pipe:
a. Inside diameter: 4.0 in.
b. Length: 7.0 ft.
c. Material: Steel ■ 0 4 / Other ☐
d. Additional protection? ☐ Yes ■ No — If yes, describe: ____
3. Surface seal: Bentonite ■ 3 0 / Concrete ☐ 0 1 / Other ☐
4. Material between well casing and protective pipe: Bentonite ■ 3 0 / Other ☐
5. Annular space seal: a. Granular/Chipped Bentonite ■ 3 3
b. ____ Lbs/gal mud weight . . . . Bentonite-sand slurry ☐ 3 5
c. ____ Lbs/gal mud weight . . . . . Bentonite slurry ☐ 3 1
d. ____ % Bentonite . . . . . Bentonite-cement grout ☐ 5 0
e. 0.000 Ft³ volume added for any of the above
f. How installed: Tremie ☐ 0 1 / Tremie pumped ☐ 0 2 / Gravity ■ 0 8
6. Bentonite seal: a. Bentonite granules ☐ 3 3
b. ☐ 1/4 in. ☐ 3/8 in. ☐ 1/2 in. Bentonite chips ☐ 3 2
c. None Other ☐
7. Fine sand material: Manufacturer, product name and mesh size
a. American Materials, Red Flint #15 well slot
b. Volume added 0.43 ft³
8. Filter pack material: Manufacturer, product name and mesh size
a. American Materials, Red Flint #40 well slot
b. Volume added 1.6 ft³
9. Well casing: Flush threaded PVC schedule 40 ■ 2 3 / Flush threaded PVC schedule 80 ☐ 2 4 / Other ☐
10. Screen material: Flush threaded PVC schedule 40
a. Screen Type: Factory cut ■ 1 1 / Continuous slot ☐ 0 1 / Other ☐
b. Manufacturer Monoflex
c. Slot size: 0.010 in.
d. Slotted length: 5.0 ft.
11. Backfill material (below filter pack): None ■ 1 4 / Other ☐

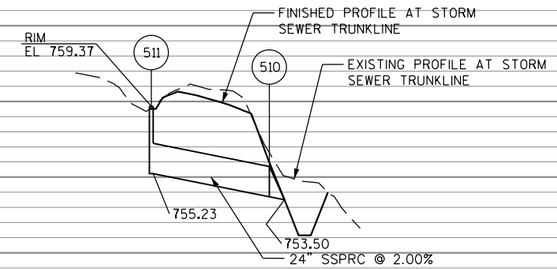
I hereby certify that the information on this form is true and correct to the best of my knowledge.
Signature: Kevin Z. Reichel
Firm: Soils & Engineering Services, Inc. 1102 Stewart Street, Madison, Wisconsin 53713 Tel: 608-274-7600 Fax: 608-274-7511

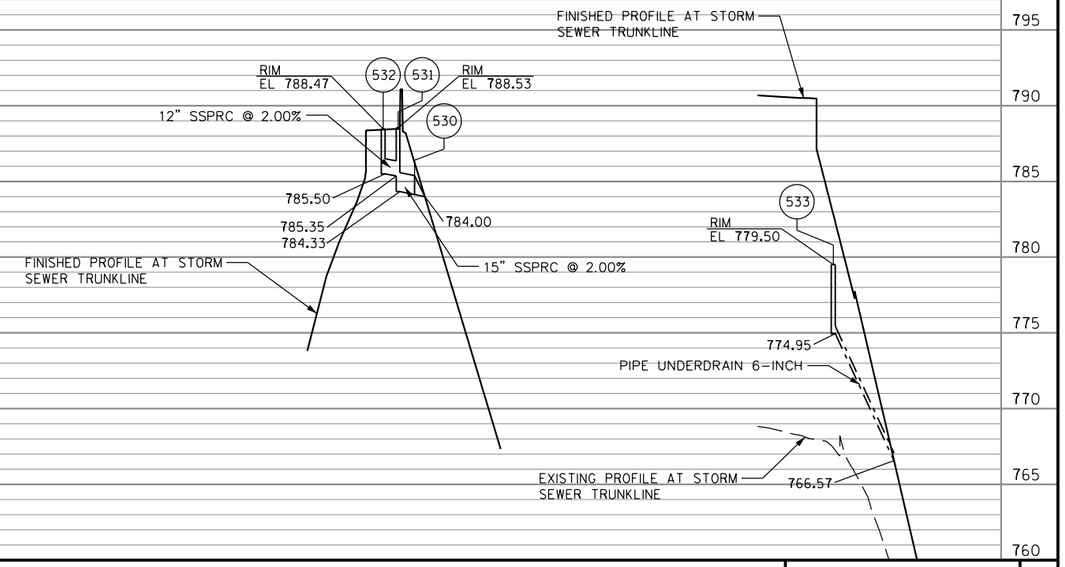
Please complete both Forms 4400-113A and 4400-113B and return to the appropriate DNR office and bureau. Completion of these reports is required by chs. 160, 281, 283, 289, 291, 292, 293, 295, and 299, Wis. Stats., and ch. NR 141, Wis. Adm. Code. In accordance with chs. 281, 289, 291, 292, 293, 295, and 299, Wis. Stats., failure to file these forms may result in a forfeiture of between $10 and $25,000, or imprisonment for up to one year, depending on the program and conduct involved. Personally identifiable information on these forms is not intended to be used for any other purpose. NOTE: See the instructions for more information, including where the completed forms should be sent.
Printed on 8/21/2013



PROJECT NO: 1517-07-72	HWY: USH 10	COUNTY: WINNEBAGO	STORM SEWER PLAN & PROFILE: USH 41 NB / FNW RAMP	SHEET 98	E







PROJECT NO: 1517-07-72	HWY: USH 10	COUNTY: WINNEBAGO	STORM SEWER PLAN & PROFILE: FNE RAMP	SHEET 99	E

2

410 STA 160FEN+45.64, 47.8'RT
APRON ENDWALL FOR CP 24" REOD

411 STA 129FWN+48.10, 4.0'RT
INLET 4-FT-HM

412P STA 129FWN+49.31, 9.9'RT
STORM SEWER PLUG

SLOPE INTERCEPT (TYP)

400 STA 156FEN+51.14, 28.3'LT
APRON ENDWALL FOR CP 30" REOD

T401 STA 133FWN+52.53, 14.9'RT
MEDIAN 2 MS

EX10 STA 133FWN+53.88, 21.6'RT
COVER PLATES LEFT IN PLACE

T20 STA 135FWN+24.26, 88.7'RT
MEDIAN 2 MS

WISCONSIN CENTRAL LIMITED RAILROAD

R/W

PLE

140FWN

N

RAMP

USH 10 WB/STH 441 SB TO USH 41 NB

138FWN

INVASIVE SPECIES
TEASEL (TYP)

140WB

RAILROAD

160FEN

158FEN

156FEN

154FEN

152FEN

150FEN

148FEN

130FWN

132FWN

134FWN

136FWN

R-70-100

END CONSTRUCTION
STA 137FWN+24.85

R/L USH 10 EB TO USH 41 NB RAMP (FEN)

138WB

R-70-121

R/L USH 10 WB/STH 441 SB
TO USH 41 NB RAMP (FWN)

WETLAND BOUNDARY (TYP)

INVASIVE SPECIES PHRAGMITES (TYP)

USH 41 NB

USH 41 SB

134NB

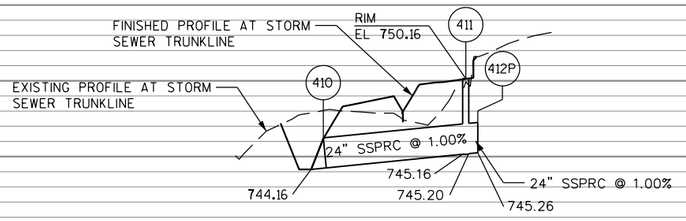
134SB

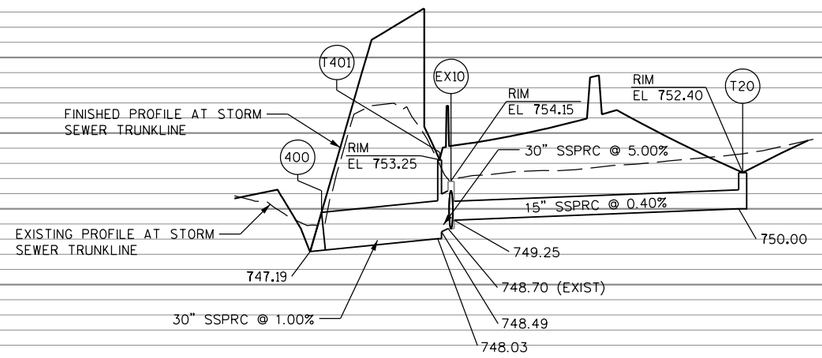
136FWN

138FWN

140NB

780
775
770
765
760
755
750
745
740
735

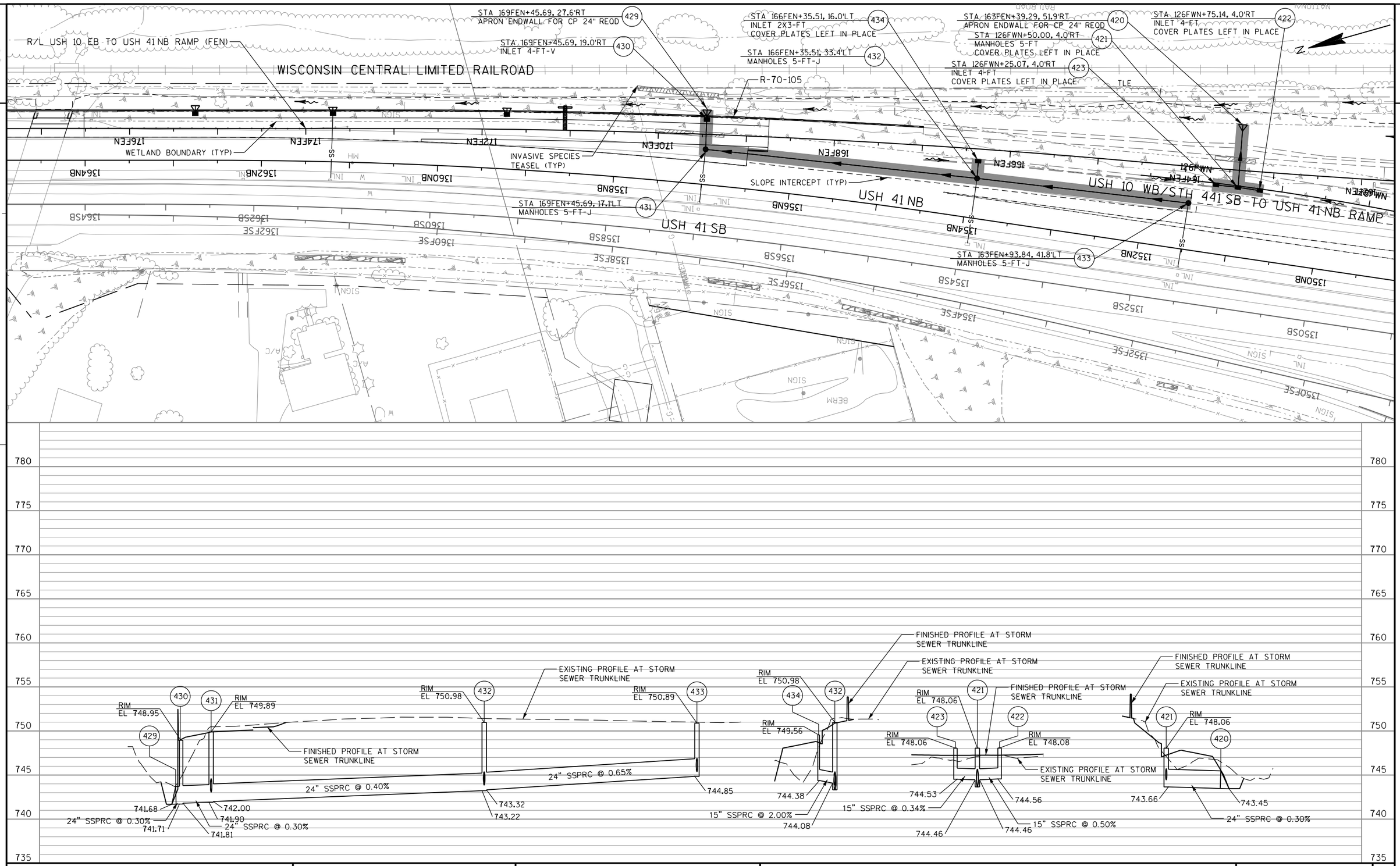




PROJECT NO: 1517-07-72	HWY: USH 10	COUNTY: WINNEBAGO	STORM SEWER PLAN & PROFILE: FWN RAMP	SHEET 100 E

FILE NAME : S:\DOT\DOT_NE\120012-Tri County Freeway\1517-07-72\DGN_Files\Plansheets\022513_ss.dgn PLOT DATE : 2/19/2014 PLOT BY : wally_w PLOT NAME : PLOT SCALE : 1:100

WISDOT/CADDS SHEET 41



PROJECT NO: 1517-07-72	HWY: USH 10	COUNTY: WINNEBAGO	STORM SEWER PLAN & PROFILE: FWN RAMP / FEN RAMP	SHEET 101	E

FILE NAME : S:\DOT\DOT_NE\120012-Tri County Freeway\1517-07-72\DGN_Files\Plansheets\022514_ss.dgn
PLOT DATE : 2/19/2014
PLOT BY : wally_w
PLOT NAME :
PLOT SCALE : 1:100
WISDOT/CADDS SHEET 41

2

STA 180FEN+00.00, 23.8'RT
APRON ENDWALL FOR CP 15" REQD
480

STA 180FEN+00.00, 19.0'RT
INLET 2X2.5-FT-V
481

WETLAND BOUNDARY (TYP)

STA 178FEN+25.37, 25.7'RT
APRON ENDWALL FOR CP 15" REQD
470

STA 178FEN+25.37, 19.0'RT
INLET 2X2.5-FT-V
471

STA 175FEN+25.37, 25.7'RT
APRON ENDWALL FOR CP 15" REQD
460

STA 175FEN+25.37, 19.0'RT
INLET 2X2.5-FT-V
461

STA 173FEN+69.31, 24.0'RT
APRON ENDWALL FOR CP 24" REQD
450

STA 173FEN+69.31, 19.0'RT
INLET 4-FT-V
451

STA 171FEN+72.03, 23.9'RT
APRON ENDWALL FOR CP 15" REQD
440

STA 171FEN+72.03, 19.0'RT
INLET 2X2.5-FT-V
441

R-70-105

WISCONSIN CENTRAL LIMITED RAILROAD

TLE

SLOPE INTERCEPT (TYP)

USH 41 NB

R-70-115

B-70-134

180FEN 178FEN 176FEN 174FEN 172FEN 170FEN

R/L USH 41 NB

R/L USH 10 EB TO USH 41 NB RAMP (FEN)

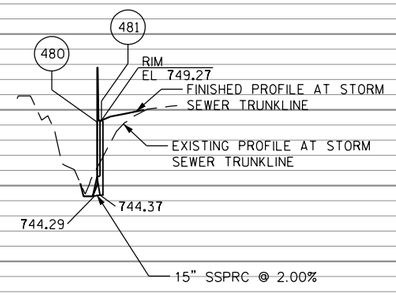
USH 41 SB

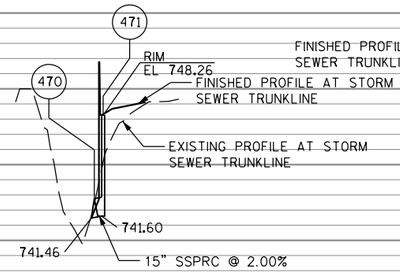
13 72NB 13 70NB 13 68NB 13 66NB 13 64NB 13 62NB 13 60NB 13 58NB

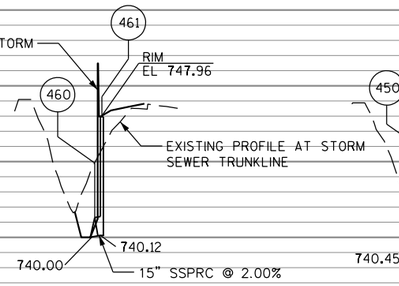
13 72SB 13 70SB 13 68SB 13 66SB 13 64SB 13 62SB 13 60SB 13 58SB

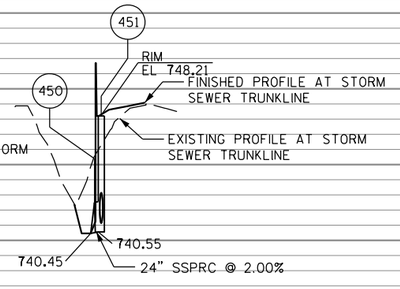
13 62FSE 13 60FSE 13 58FSE

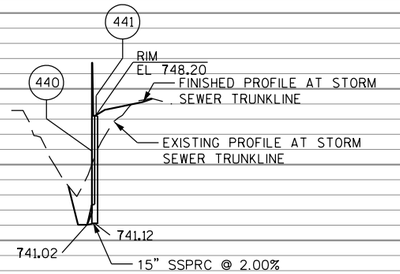
780 775 770 765 760 755 750 745 740 735







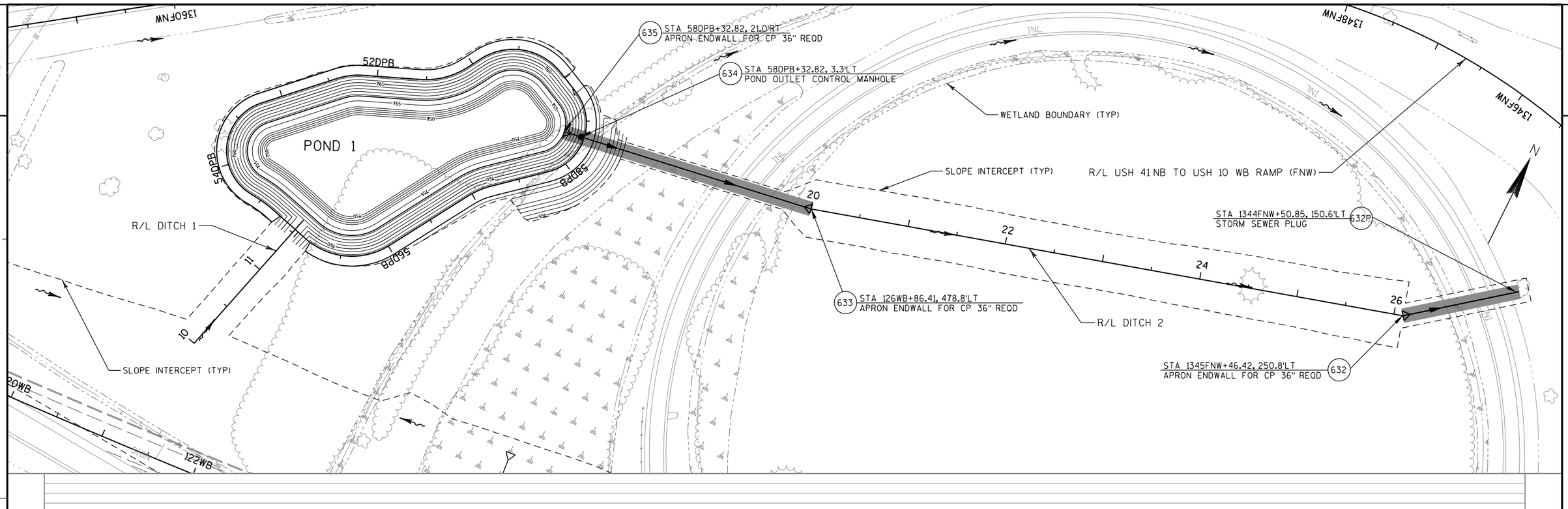


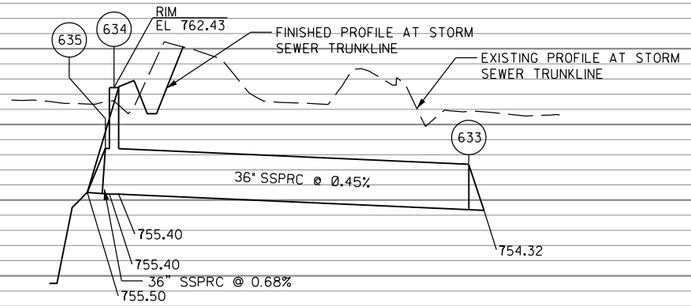


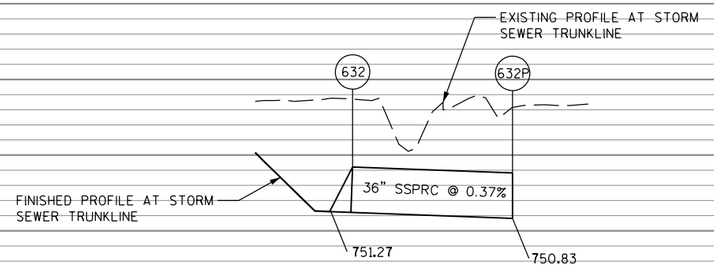
PROJECT NO: 1517-07-72	HWY: USH 10	COUNTY: WINNEBAGO	STORM SEWER PLAN & PROFILE: USH 41 NB / FEN RAMP	SHEET 102	E

FILE NAME : S:\DOT\DOT_NE\120012-Tri County Freeway\1517-07-72\DGN_Files\Plansheets\022515_ss.dgn PLOT DATE : 2/19/2014 PLOT BY : wally_w PLOT NAME : PLOT SCALE : 1:100

WISDOT/CADDS SHEET 41

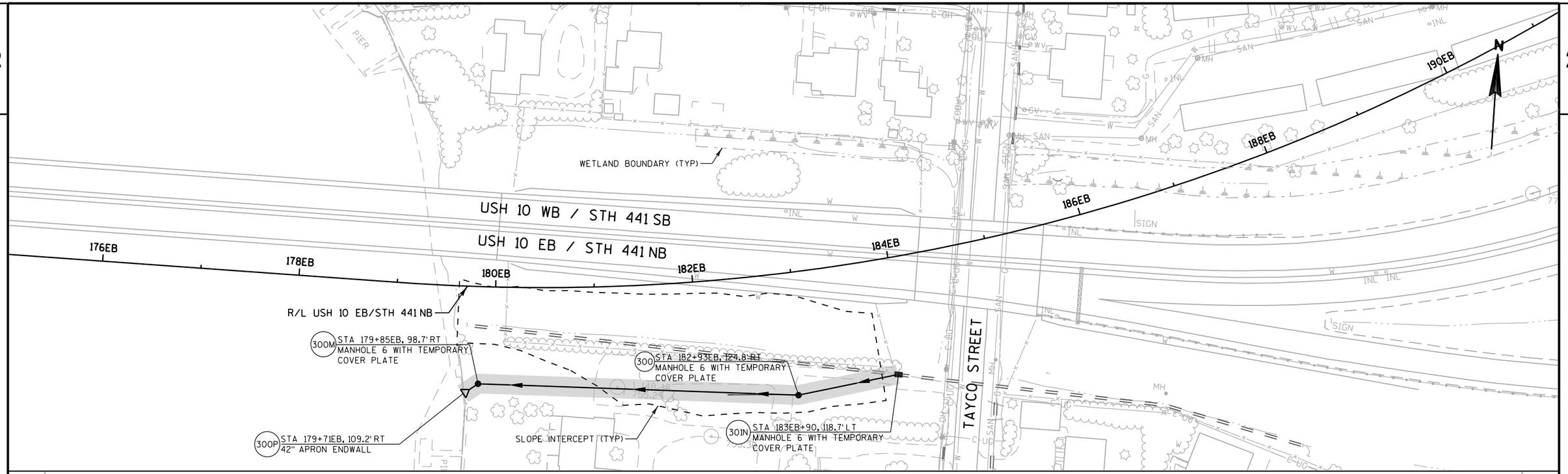


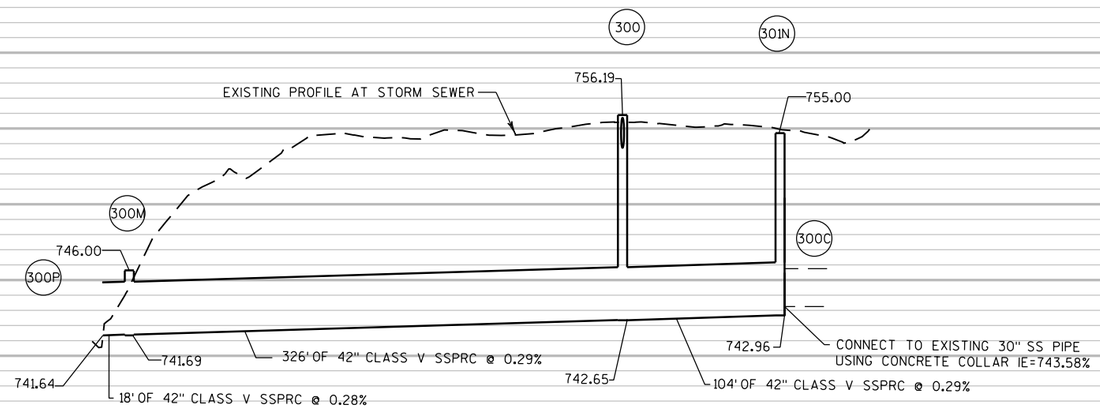




PROJECT NO: 1517-07-72	HWY: USH 10	COUNTY: WINNEBAGO	STORM SEWER PLAN & PROFILE: POND 1 DITCHES	SHEET 103 E

FILE NAME : S:\DOT\DOT_NE\120012-Tri County Freeway\1517-07-72\DGN_Files\Plansheets\022517_ss.dgn PLOT DATE : 2/19/2014 PLOT BY : wally_w PLOT NAME : PLOT SCALE : 1:100
WISDOT/CADDS SHEET 41



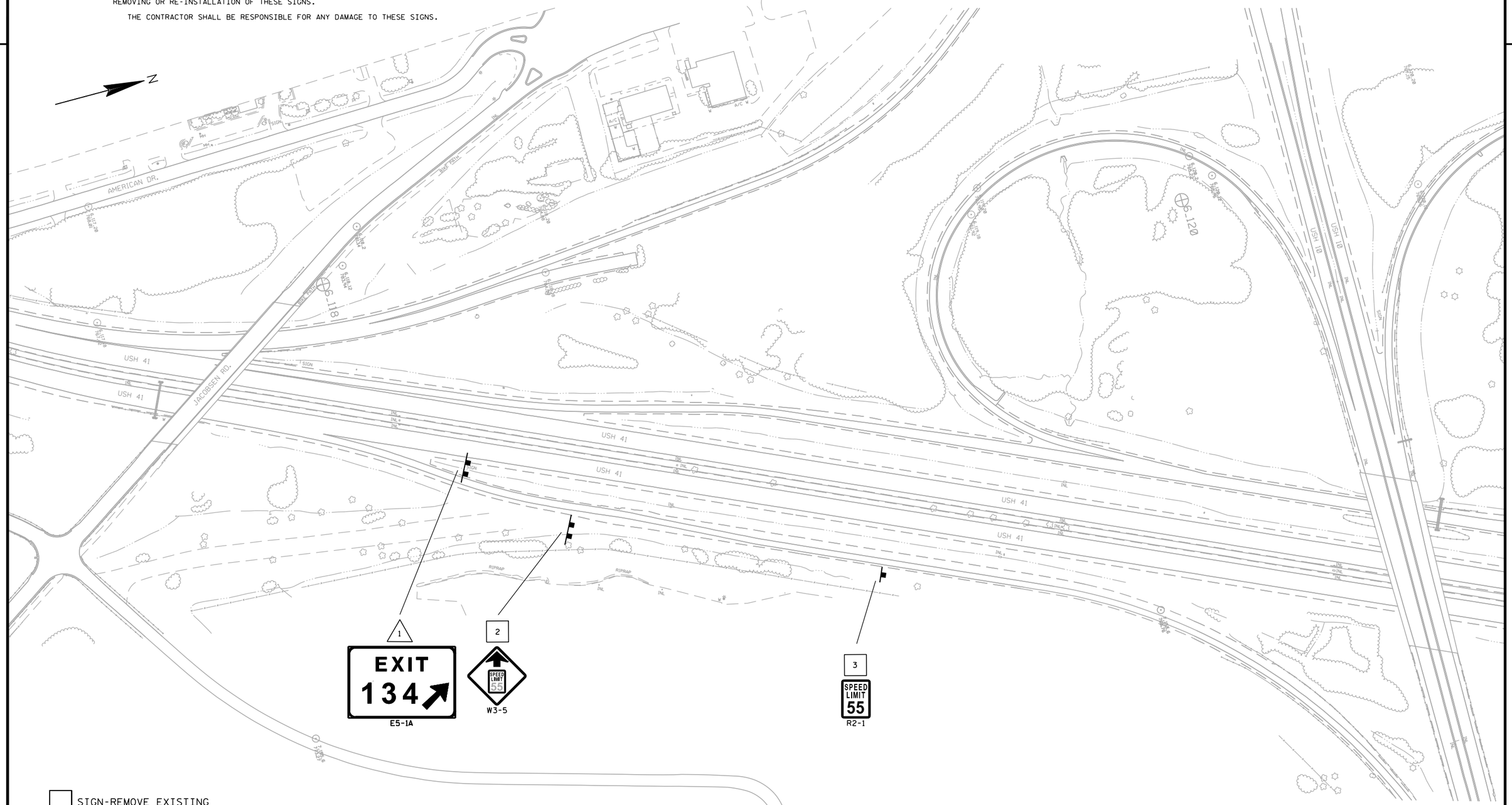


PROJECT NO: 1517-07-72	HWY: USH 10	COUNTY: WINNEBAGO	STORM SEWER	SHEET 104	E

SIGNING NOTES

DO NOT MOVE OR REMOVE ANY SPECIFIC INFORMATION SIGNS (BLUE GAS, FOOD, LODGING, CAMPING OR ATTRACTION SIGNS) OR THEIR ASSOCIATED POSTS. A SEPARATE CONTRACTOR, DERSE, INC., MAINTAINS THESE SIGNS. CONTACT MARK ROGNSVOOG OF THE DERSE COMPANY AT (800) 345-5772 A MINIMUM OF 14 CALENDAR DAYS IN ADVANCE TO COORDINATE MOVING, REMOVING OR RE-INSTALLATION OF THESE SIGNS.

THE CONTRACTOR SHALL BE RESPONSIBLE FOR ANY DAMAGE TO THESE SIGNS.



SIGN-REMOVE EXISTING

SIGN-MOVE EXISTING

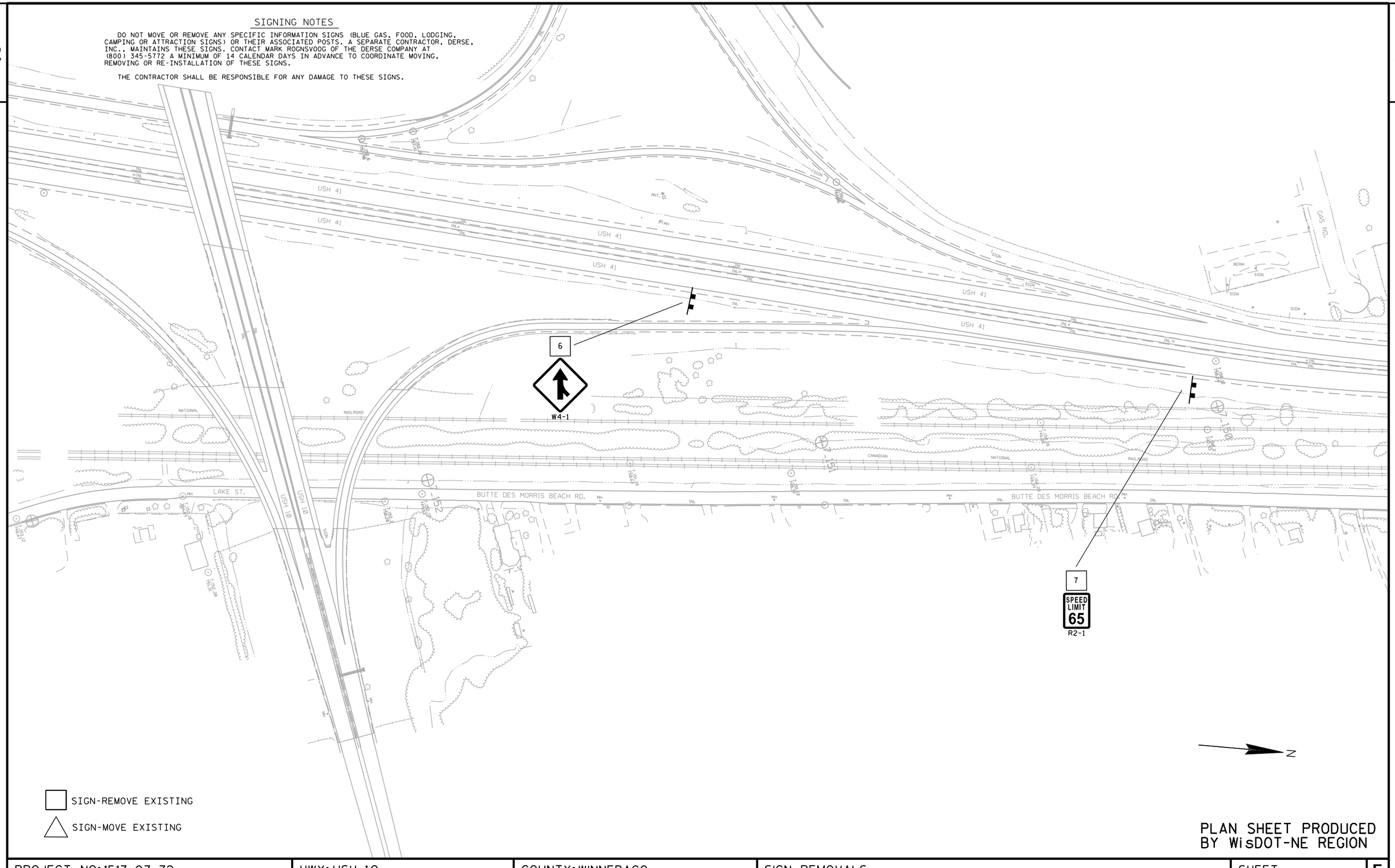
PLAN SHEET PRODUCED BY WisDOT-NE REGION

PROJECT NO: 1517-07-72	HWY: USH 10	COUNTY: WINNEBAGO	SIGN REMOVALS	SHEET 105 E

SIGNING NOTES

DO NOT MOVE OR REMOVE ANY SPECIFIC INFORMATION SIGNS (BLUE GAS, FOOD, LODGING, CAMPING OR ATTRACTION SIGNS) OR THEIR ASSOCIATED POSTS. A SEPARATE CONTRACTOR, DERSE, INC., MAINTAINS THESE SIGNS. CONTACT MARK ROGNSVOOG OF THE DERSE COMPANY AT (800) 345-5772 A MINIMUM OF 14 CALENDAR DAYS IN ADVANCE TO COORDINATE MOVING, REMOVING OR RE-INSTALLATION OF THESE SIGNS.

THE CONTRACTOR SHALL BE RESPONSIBLE FOR ANY DAMAGE TO THESE SIGNS.



SIGN-REMOVE EXISTING

SIGN-MOVE EXISTING

PLAN SHEET PRODUCED BY WisDOT-NE REGION

PROJECT NO: 1517-07-72	HWY: USH 10	COUNTY: WINNEBAGO	SIGN REMOVALS	SHEET 106 E

FILE NAME : N:\spo\traffic\SIGNING\Projects\1517-07-72 STH 441-USH 10 Winnebago Cty\023204_ps.dgn PLOT DATE : 13-JAN-2014 16:31 dotj1f PLOT NAME : PLOT SCALE : 200:1

WISDOT/CADDS SHEET 42

2

N

SIGNING NOTES

TYPE II SIGNS AND SUPPORTS REMOVED UNDER THE CONTRACT SHALL BE DELIVERED TO THE REGIONAL TRAFFIC UNIT. SIGNS SHALL BE CAREFULLY REMOVED FROM THE SUPPORTS, SORTED BY BASE MATERIAL AND PALLETIZED BY MATERIAL TYPE. SUPPORTS SHALL BE SORTED BY LENGTH AND TYPE. THE REGIONAL TRAFFIC UNIT 920-492-5653, SHALL BE NOTIFIED THREE WORKING DAYS PRIOR TO DELIVERY OF SIGNS AND SUPPORTS.

WHEN AN EXISTING STOP SIGN AND SUPPORT IS TO BE REMOVED AND A NEW STOP SIGN AND SUPPORT ERECTED THE WORK SHALL BE DONE CONCURRENTLY. FOR OTHER SIGNS AND SUPPORTS THAT ARE TO BE REMOVED AND NEW SIGNS AND SUPPORTS ERECTED, THE REMOVAL OF THE EXISTING SIGN/SUPPORT AND ERECTION OF THE NEW SIGN/SUPPORT SHOULD BE DONE AS CONCURRENTLY AS POSSIBLE. IN NO CASE SHALL A NEW SIGN/SUPPORT BE DOWN FOR MORE THAN 24 HOURS AND THERE SHALL NOT BE MORE THAN ONE SIGN OF THE SAME LEGEND MISSING IN A ROW.

WOOD POSTS SIZES, FOR TYPE II SIGNING, ARE ESTIMATED LENGTHS AND THE ACTUAL LENGTH WILL BE DETERMINED IN THE FIELD.

4 STA. 1317+50
SIGN BRIDGE
S-70-203
RAMP 50 M.P.H.
W13-3
48" X 60"

5
RAMP 50 M.P.H.
W13-3
48" X 60"

101
E1-5
144" X 30"
EXIT 134 B COVER

102
E1-5
144" X 30"
EXIT 134 A

WEST 10 Stevens Point
COVER
COVER
EAST 10 441
EXIT ONLY

E7-2
408" X 156"

100

STA. 145+70
GROUND MOUNT

103 STA. 171+06 FEN
CANTILEVER
S-70-205
TO BE MANUFACTURED AND INSTALLED AS PART OF PROJECT ID 1517-07-73

LANE ENDS 1/2 MILE
W9-63
72" X 90"

SIGN-PLACE NEW

LEGEND
- BUTTERFLY
- CANTILEVER
- SIGN BRIDGE
- SIGN POSTS
- STEEL POSTS

PLAN SHEET PRODUCED BY WisDOT-NE REGION

PROJECT NO: 1517-07-72	HWY: USH 10	COUNTY: WINNEBAGO	PERMANENT SIGNING	SHEET 107	E

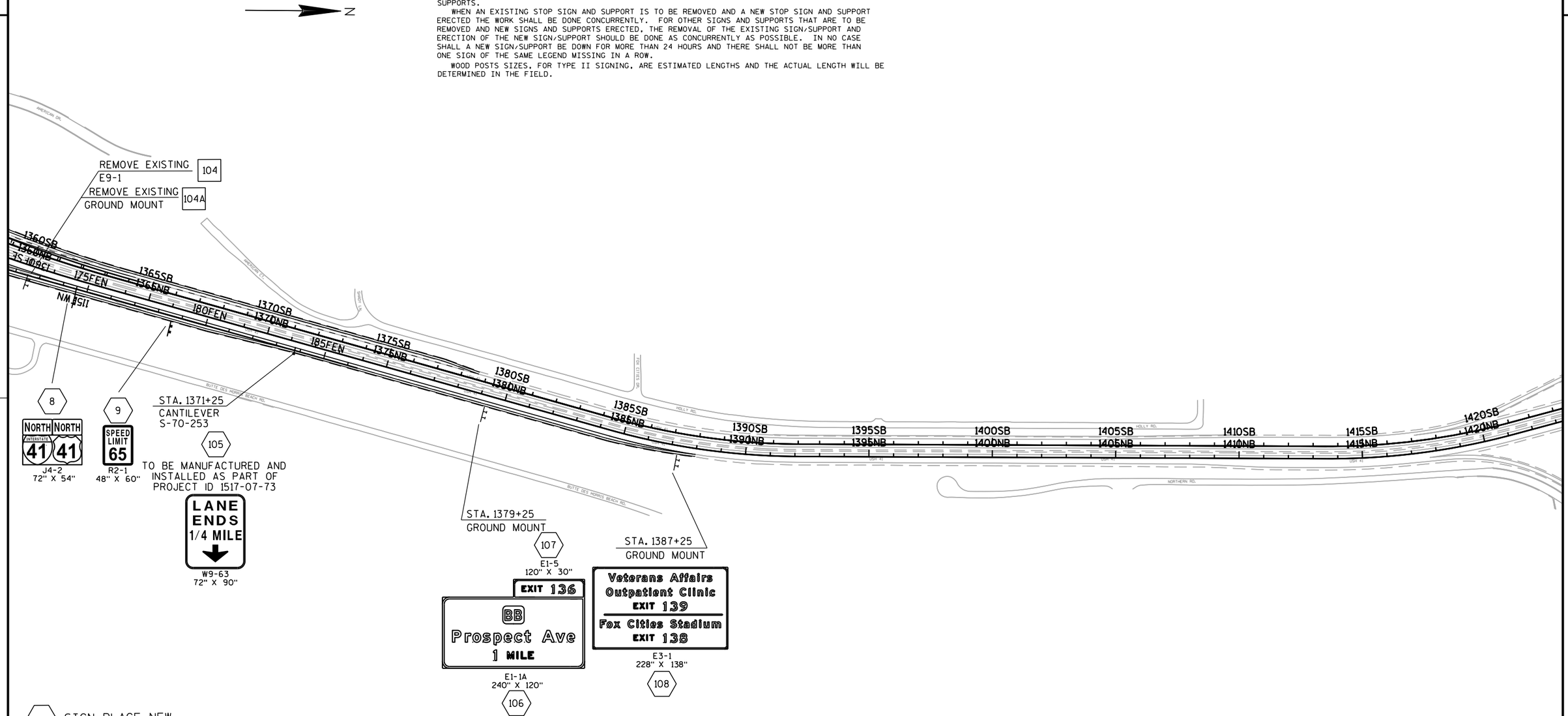
2

SIGNING NOTES

TYPE II SIGNS AND SUPPORTS REMOVED UNDER THE CONTRACT SHALL BE DELIVERED TO THE REGIONAL TRAFFIC UNIT. SIGNS SHALL BE CAREFULLY REMOVED FROM THE SUPPORTS, SORTED BY BASE MATERIAL AND PALLETIZED BY MATERIAL TYPE. SUPPORTS SHALL BE SORTED BY LENGTH AND TYPE. THE REGIONAL TRAFFIC UNIT 920-492-5653, SHALL BE NOTIFIED THREE WORKING DAYS PRIOR TO DELIVERY OF SIGNS AND SUPPORTS.

WHEN AN EXISTING STOP SIGN AND SUPPORT IS TO BE REMOVED AND A NEW STOP SIGN AND SUPPORT ERECTED THE WORK SHALL BE DONE CONCURRENTLY. FOR OTHER SIGNS AND SUPPORTS THAT ARE TO BE REMOVED AND NEW SIGNS AND SUPPORTS ERECTED, THE REMOVAL OF THE EXISTING SIGN/SUPPORT AND ERECTION OF THE NEW SIGN/SUPPORT SHOULD BE DONE AS CONCURRENTLY AS POSSIBLE. IN NO CASE SHALL A NEW SIGN/SUPPORT BE DOWN FOR MORE THAN 24 HOURS AND THERE SHALL NOT BE MORE THAN ONE SIGN OF THE SAME LEGEND MISSING IN A ROW.

WOOD POSTS SIZES, FOR TYPE II SIGNING, ARE ESTIMATED LENGTHS AND THE ACTUAL LENGTH WILL BE DETERMINED IN THE FIELD.



SIGN-PLACE NEW

LEGEND

- BUTTERFLY
- CANTILEVER
- SIGN BRIDGE
- SIGN POSTS
- STEEL POSTS

PLAN SHEET PRODUCED BY WisDOT-NE REGION

PROJECT NO: 1517-07-72	HWY: USH 10	COUNTY: WINNEBAGO	PERMANENT SIGNING	SHEET 108	E

LIGHTING PLAN LEGEND

PROPOSED LIGHT POLE FOUNDATION LOCATION, CONCRETE BASES TYPE 7 OR TYPE 7 SPECIAL

LOCATION OF ELECTRICAL SERVICE METER BREAKER PEDESTAL, UNDERGROUND WORK ONLY

---------- 2" CONDUIT RIGID NONMETALLIC

24"X42" PULL BOX

SLBXX
V, W — SLB= STREET LIGHT BASE, XX= POLE NUMBER
V = STATION, W= OFFSET

LPLBXX
V, W — LPLB= LIGHTING PULL BOX, XX= PULL BOX NUMBER
V = STATION, W= OFFSET

LIGHTING DESIGN BASIS:

A. LIGHT FIXTURE USED IN DESIGN IS A WISDOT TYPE LED-B AS SHOWN ON THE LATEST WISDOT QUALIFIED ELECTRICAL PRODUCTS LIST UNDER ITEM NO. 659.0000-LIGHTING. LED FIXTURE USED HAS LUMINAIRE WATTS OF APPROXIMATELY 150 WATT, LUMINAIRE LUMENS OF 14000, AND A TYPE MC- II OR III DISTRIBUTION.
B. LUMINAIRE MOUNTING HEIGHT IS 40 FEET ABOVE PAVEMENT TO CENTER OF LIGHT FIXTURE.
C. LIGHTING MAST ARM LENGTH IS 12 FEET.
D. LIGHTING ARM AND LUMINAIRE ORIENTATION AS SHOWN ON THIS PLAN.

DIGGERS HOTLINE
Call 811 3 Work Days Before You Dig
or Toll Free (800) 242-8511
Hearing Impaired TDD (800) 542-2289
www.DiggersHotline.com

LIGHTING GENERAL NOTES

1. VERIFY ALL OF THE INFORMATION SHOWN ON THE CONTRACT DRAWINGS WHICH WOULD AFFECT THE WORK UNDER THIS CONTRACT.
2. ALL NEW CONDUITS, CABLE DUCTS, DIRECT BURIAL CABLES, AND ACCESSORIES ARE INDICATED DIAGRAMMATICALLY ON THE DRAWINGS. THE ACTUAL LOCATIONS IN THE FIELD SHALL MEET WITH APPROVAL OF THE ENGINEER.
3. PERFORM THE ELECTRICAL WORK IN ACCORDANCE WITH WISDOT LATEST STANDARDS, THE SPECIAL PROVISIONS AND APPLICABLE SECTIONS OF THE WISDOT STANDARD SPECIFICATIONS (LATEST EDITION).
4. INSTALL ALL FOUNDATIONS IN ORDER FOR THE FUTURE LUMINAIRES TO BE ORIENTED WITH THE OPTICS PERPENDICULAR TO THE ROADWAY UNLESS OTHERWISE INDICATED OR DIRECTED BY THE ENGINEER.
5. INSTALL CONDUITS AT A MINIMUM 24" DEPTH BELOW GRADE AND POSITIONED IN THE FIELD TO AVOID CONFLICT WITH ROADWAY UNDERDRAINS AND OTHER EXISTING AND PROPOSED UTILITIES. INCREASE DEPTH OF DUCT AND CONDUIT AS REQUIRED AT NO ADDITIONAL COST. COORDINATE RACEWAY DEPTH WITH THE ELECTRICAL DETAILS AND THE ENGINEER.
6. ALL CONDUIT USED FOR BORED CABLE RUNS UNDER PAVEMENTS SHALL BE POLYVINYL CHLORIDE (PVC), SCHEDULE 40 IN CONFORMANCE WITH SECTION 652.2.3 OF THE WISDOT SPECIFICATIONS.
7. CAP CONDUIT ON BOTH ENDS UNTIL CABLING IS PLACED. FUNISH AND INSTALL A MANUFACTURER APPROVED CAP FOR ALL CONDUITS. DUCT TAPE AND OTHER TAPE IS NOT ACCEPTABLE MEANS OF CONDUIT CAP.
8. FURNISH AND INSTALL CABLE PULL STRINGS OR WIRES IN ALL CONDUITS. PULL WIRES MUST BE ACCESSIBLE AND ANCHORED AT EACH CONDUIT END FOR EASY FUTURE ACCESS.
9. LIGHT POLES, MAST ARMS AND LUMINAIRES WILL BE FURNISHED AND INSTALLED IN A FUTURE CONTRACT.

LIGHTING PLANS PREPARED BY:
URS
342 N Water Street
7th Floor
Milwaukee, WI 53202
(414) 831-4100

WISCONSIN
MOHAMMED A ELSHOLI
E-37874-6
ORLAND HILLS
ILLINOIS
PROFESSIONAL ENGINEER

2/1/2014 (Date)

(Signature)

PROJECT NO: 1517-07-72	HWY: USH 10	COUNTY: WINNEBAGO	LIGHTING PLAN - CONSTRUCTION DETAILS	SHEET 109	E

NOTES:

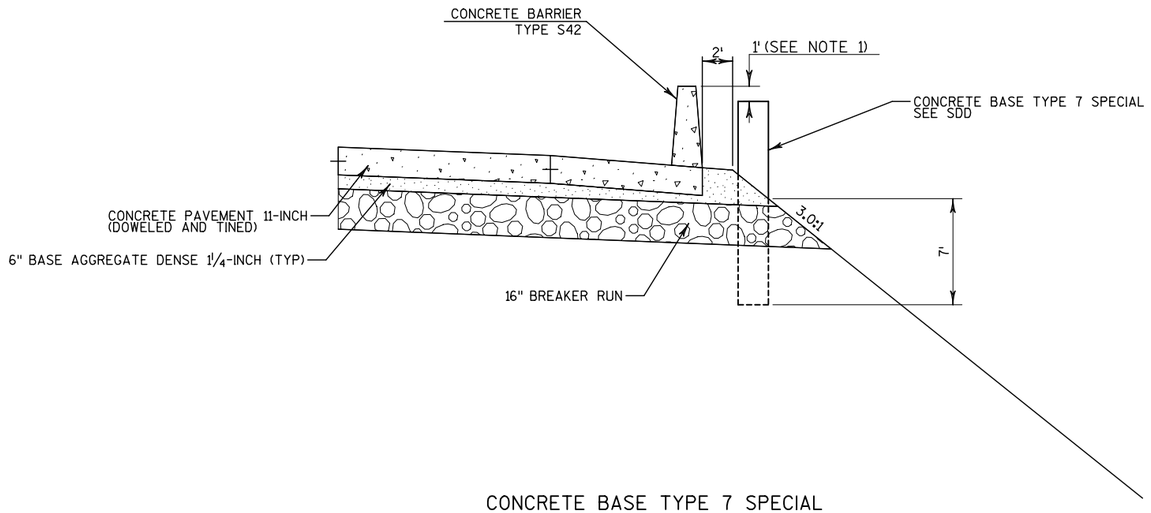
1) TOP OF CONCRETE BASE TO BE 1-FOOT BELOW THE TOP OF THE LOWEST BARRIER.

2) ROUTE CONDUIT ALONG SIDE MEDIAN INLETS, SIGN FOOTINGS & BRIDGE PIERS.

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

4) THE BASES SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE STANDARD DETAIL DRAWING FOR CONCRETE BASE, TYPE 7, EXCEPT FOR THE DETAILS AND OTHER INFORMATION AS SPECIFICALLY SHOWN. PROVIDE REINFORCEMENT AS SHOWN IN THE SDD AND ACCOUNT FOR THE ADDITIONAL BASE HEIGHT.

5) ALL CONDUIT ENDS SHALL PROJECT 4" ABOVE THE CONCRETE BASE PRIOR TO INSTALLATION OF THE PVC CAPS AND SHALL BE LOCATED WITHIN A 6" DIA. CIRCLE ABOUT CENTER OF BASE.



CONCRETE BASE TYPE 7 SPECIAL

NO SCALE

PROJECT NO: 1517-07-72	HWY: USH 10	COUNTY: WINNEBAGO	LIGHTING PLAN - CONSTRUCTION DETAILS	SHEET 110	E

NOTES:

1. COORDINATE ALL WORK WITH STRUCTURAL PLANS.
2. INSTALL LIGHT POLE BASES IN THE LOCATIONS SHOWN. INSTALL POLE FOUNDATIONS SO THAT LIGHTING MAST ARM AND LUMINAIRE CAN BE INSTALLED IN THE ORIENTATION SHOWN ON THESE PLANS.
3. COORDINATE THE UNDERGROUND WORK WITH WE-ENERGIES BEFORE BEGINNING ANY LIGHTING WORK.
4. QUANTITIES AND PAYMENT FOR ALL ELECTRICAL AND LIGHTING ITEMS INCORPORATED INTO STRUCTURES ARE SHOWN ON THE STRUCTURAL PLANS.
5. INSTALL LIGHT POLE BASES WITH TOP OF BASE LEVEL WITH THE TOP OF PAVEMENT. THIS WILL ALLOW FOR THE LIGHT FIXTURE TO BE INSTALLED WITH THE DESIGNED MOUNTING HEIGHT ABOVE PAVEMENT IN A FUTURE CONTRACT.

PROJECT NO: 1517-07-72	HWY: USH 10	COUNTY: WINNEBAGO	LIGHTING PLAN - FNW/FNE RAMP	SHEET 111	E

2

2

USH 10 EB

USH 10 WB

USH 41

USH 41 SB

USH 41 NB

122FWS 124FWS 126FWS 128FWS 130FWS 132FWS 134FWS

1322FSE 1324FSE 1326FSE

130FEN 132FEN 134FEN 136FEN 138FEN 140FEN 142FEN 144FEN

1318FNW 1320FNW 1322FNW 1324FNW 1326FNW 1328FNW 1330FNW 1332FNW

1322FNE 1324FNE 1326FNE 1328FNE 1330FNE 1332FNE

LPB03
1324FNE+75, 10' LT

(3) CONDUITS RIGID NON-METALLIC
SCHEDULE 40 2-Inch
INSTALLED BETWEEN PULL BOXES
(TYPICAL)

JUNCTION BOX, EMBEDDED
IN BRIDGE PARAPET
1330FNE+72, 35' RT
SEE NOTE 4

SLB08
1327FNE+20, 38' RT
NOTE 5

LPB02
1324FNE+70, 40' RT

SLB09
1330FNE+00, 38' RT
NOTE 5

LPB04
1330FNE+30, 40' RT

SLB07
1324FNE+52, 38' RT
NOTE 5

SLB06
1321FNE+70, 37' RT
NOTE 5

SLB05
1318FNW+95, 37' RT
NOTE 5

CONDUIT RIGID NON-METALLIC SCHEDULE 40 2-Inch
INSTALLED UNDERGROUND
(TYPICAL)

CONDUITS INSTALLED EMBEDDED IN BRIDGE PARAPET
SEE STRUCTURAL PLANS FOR CONDUIT TYPE, SIZE,
AND QUANTITY. SEE NOTE 4
(TYPICAL)

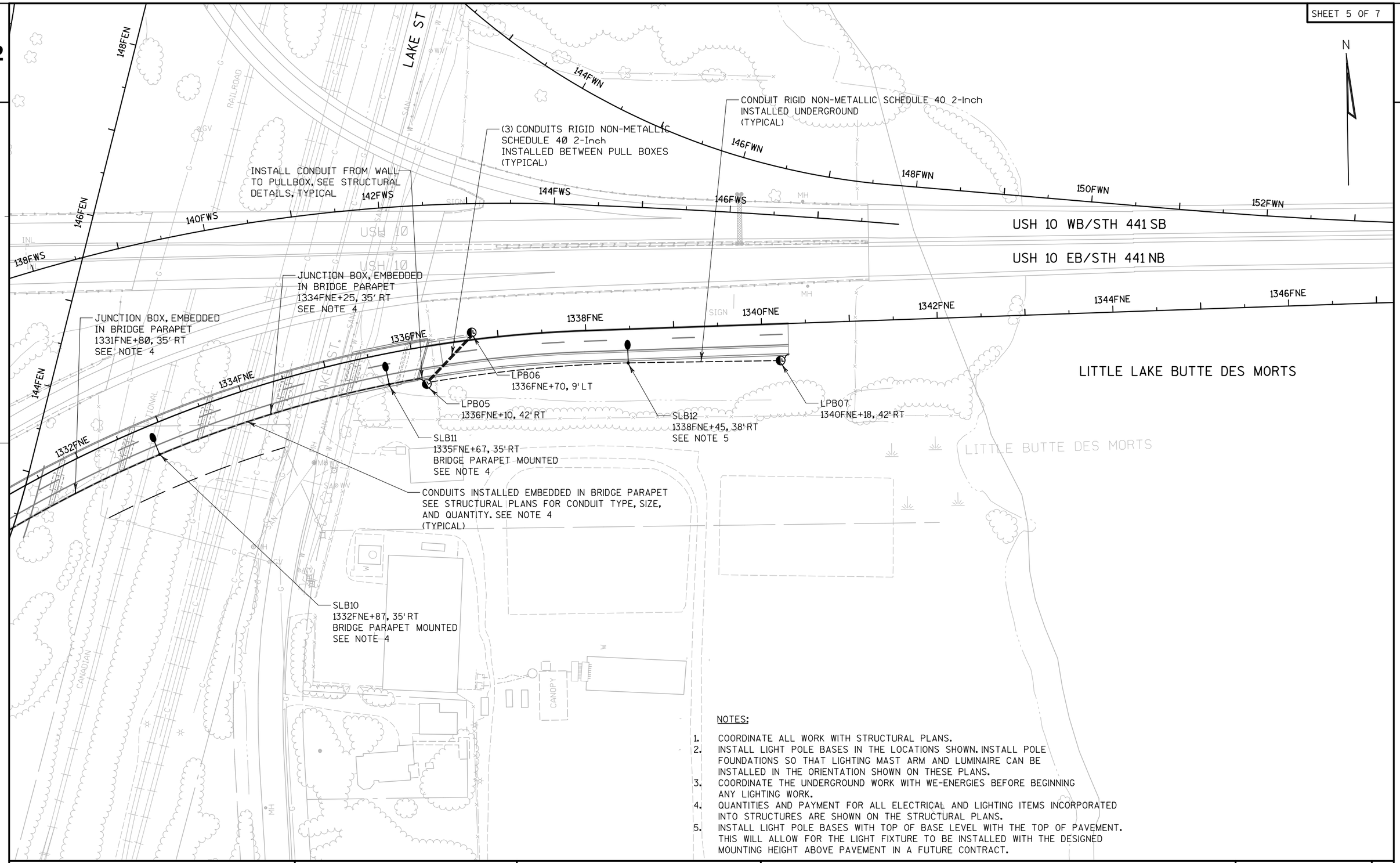
SLB10
1332FNE+87, 35' RT
BRIDGE PARAPET MOUNTED
SEE NOTE 4

N

NOTES:

1. COORDINATE ALL WORK WITH STRUCTURAL PLANS.
2. INSTALL LIGHT POLE BASES IN THE LOCATIONS SHOWN. INSTALL POLE FOUNDATIONS SO THAT LIGHTING MAST ARM AND LUMINAIRE CAN BE INSTALLED IN THE ORIENTATION SHOWN ON THESE PLANS.
3. COORDINATE THE UNDERGROUND WORK WITH WE-ENERGIES BEFORE BEGINNING ANY LIGHTING WORK.
4. QUANTITIES AND PAYMENT FOR ALL ELECTRICAL AND LIGHTING ITEMS INCORPORATED INTO STRUCTURES ARE SHOWN ON THE STRUCTURAL PLANS.
5. INSTALL LIGHT POLE BASES WITH TOP OF BASE LEVEL WITH THE TOP OF PAVEMENT. THIS WILL ALLOW FOR THE LIGHT FIXTURE TO BE INSTALLED WITH THE DESIGNED MOUNTING HEIGHT ABOVE PAVEMENT IN A FUTURE CONTRACT.

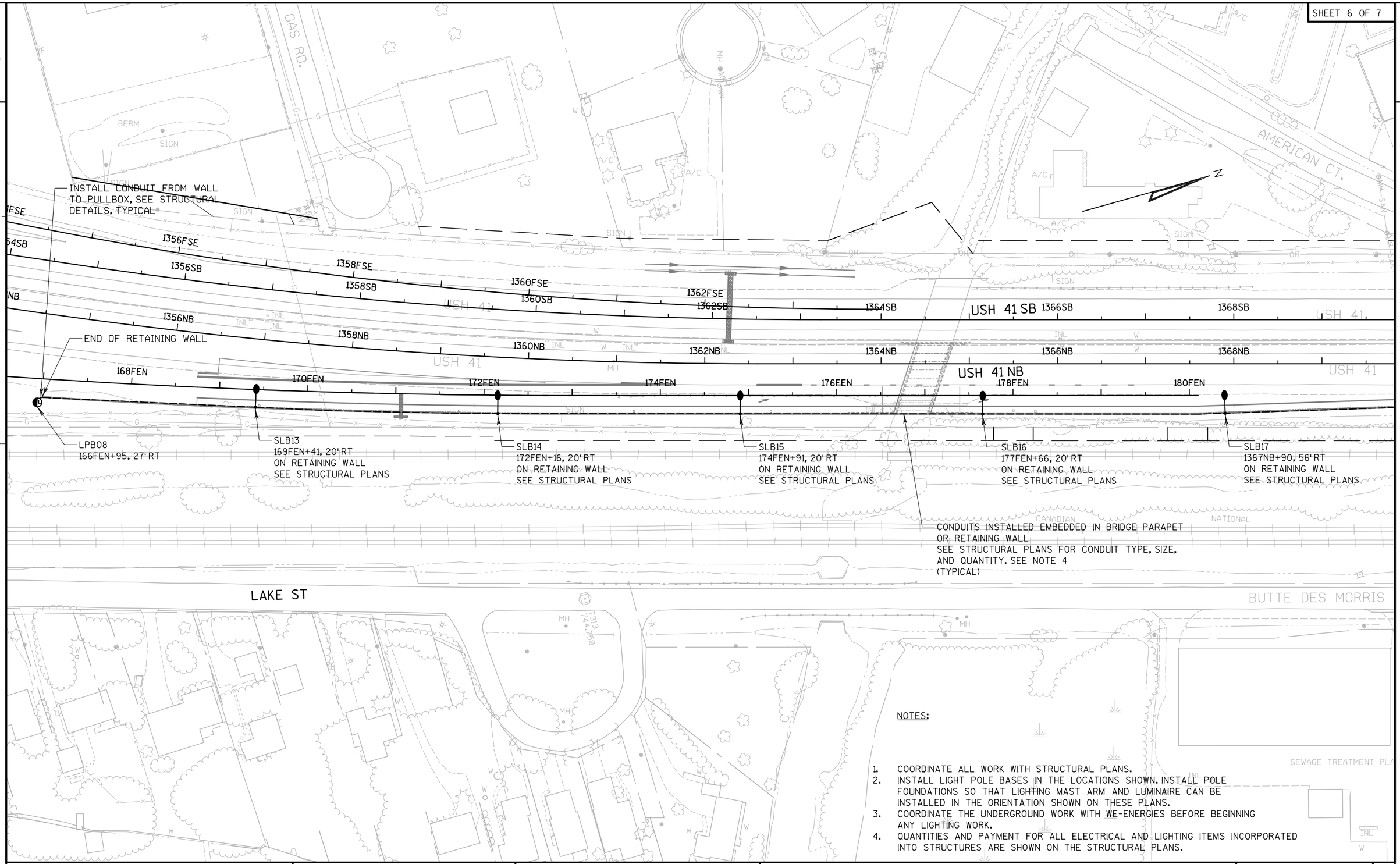
PROJECT NO: 1517-07-72	HWY: USH 10	COUNTY: WINNEBAGO	LIGHTING PLAN - FNE RAMP	SHEET 112	E



NOTES:

1. COORDINATE ALL WORK WITH STRUCTURAL PLANS.
2. INSTALL LIGHT POLE BASES IN THE LOCATIONS SHOWN. INSTALL POLE FOUNDATIONS SO THAT LIGHTING MAST ARM AND LUMINAIRE CAN BE INSTALLED IN THE ORIENTATION SHOWN ON THESE PLANS.
3. COORDINATE THE UNDERGROUND WORK WITH WE-ENERGIES BEFORE BEGINNING ANY LIGHTING WORK.
4. QUANTITIES AND PAYMENT FOR ALL ELECTRICAL AND LIGHTING ITEMS INCORPORATED INTO STRUCTURES ARE SHOWN ON THE STRUCTURAL PLANS.
5. INSTALL LIGHT POLE BASES WITH TOP OF BASE LEVEL WITH THE TOP OF PAVEMENT. THIS WILL ALLOW FOR THE LIGHT FIXTURE TO BE INSTALLED WITH THE DESIGNED MOUNTING HEIGHT ABOVE PAVEMENT IN A FUTURE CONTRACT.

PROJECT NO: 1517-07-72	HWY: USH 10	COUNTY: WINNEBAGO	LIGHTING PLAN - FNE RAMP	SHEET 113	E



NOTES:

1. COORDINATE ALL WORK WITH STRUCTURAL PLANS.
2. INSTALL LIGHT POLE BASES IN THE LOCATIONS SHOWN. INSTALL POLE FOUNDATIONS SO THAT LIGHTING MAST ARM AND LUMINAIRE CAN BE INSTALLED IN THE ORIENTATION SHOWN ON THESE PLANS.
3. COORDINATE THE UNDERGROUND WORK WITH WE-ENERGIES BEFORE BEGINNING ANY LIGHTING WORK.
4. QUANTITIES AND PAYMENT FOR ALL ELECTRICAL AND LIGHTING ITEMS INCORPORATED INTO STRUCTURES ARE SHOWN ON THE STRUCTURAL PLANS.

PROJECT NO: 1517-07-72	HWY: USH 10	COUNTY: WINNEBAGO	LIGHTING PLAN - FEN RAMP	SHEET 114	E

1370SB 1372SB 1374SB 1376SB 1378SB USH 41 SB 1380SB 1382SB 1384SB

1370NB 1372NB 1374NB 1376NB 1378NB 1380NB 1382NB 1384NB

USH 41 NB

END OF RETAINING WALL

SLB18
1370NB+65, 47' RT
ON RETAINING WALL

LPB09
1370NB+82, 49' RT

INSTALL CONDUIT FROM WALL TO PULLBOX, SEE STRUCTURAL DETAILS, TYPICAL

SHADY LN.

FOX CITIES DR.

RRIS BEACH RD.

LAKE ST

BUTTE DES MORRIS E

SEWAGE TREATMENT PLANT

NOTES:

1. COORDINATE ALL WORK WITH STRUCTURAL PLANS.
2. INSTALL LIGHT POLE BASES IN THE LOCATIONS SHOWN. INSTALL POLE FOUNDATIONS SO THAT LIGHTING MAST ARM AND LUMINAIRE CAN BE INSTALLED IN THE ORIENTATION SHOWN ON THESE PLANS.
3. COORDINATE THE UNDERGROUND WORK WITH WE-ENERGIES BEFORE BEGINNING ANY LIGHTING WORK.
4. QUANTITIES AND PAYMENT FOR ALL ELECTRICAL AND LIGHTING ITEMS INCORPORATED INTO STRUCTURES ARE SHOWN ON THE STRUCTURAL PLANS.

PROJECT NO: 1517-07-72	HWY: USH 10	COUNTY: WINNEBAGO	LIGHTING PLAN - FEN RAMP	SHEET 115	E

2

WORK ZONE

CONSTRUCTION
- TEMPORARY USH 41 NORTHBOUND EXIT LANE
- TEMPORARY RAMP TNE
- TEMPORARY RAMP TWN
- USH 41 NORTHBOUND MEDIAN SHOULDER WORK

TRAFFIC
- USH 41 NORTHBOUND OPEN TO TRAFFIC
- USH 41 NORTHBOUND TO USH 10EB/STH 441NB OPEN TO TRAFFIC
- USH 10WB/STH 441SB TO USH 41 NORTHBOUND OPEN TO TRAFFIC

N

BEGIN PROJECT
STA 114WB+50.00

USH 10 EB TO USH 41 NB RAMP

USH 41 NB TO USH 10 WB RAMP

END PROJECT
STA 133WB+00.00

USH 41 SB

USH 10 WB/STH 441 SB
TO USH 41 SB RAMP

END CONSTRUCTION
STA 54TWN+26.53

USH 10 EB

USH 10 WB

BEGIN CONSTRUCTION
STA 1310NB+79.24

USH 41 NB

END CONSTRUCTION
STA 29TNE+32.57

USH 41 NB TO USH 10 EB/STH 441 NB RAMP

BEGIN CONSTRUCTION
STA 35TWN+43.05

USH 10 WB/STH 441 SB
TO USH 41 NB RAMP

WESTFIELD LN
W AMERICAN DRIVE
JACOBSON RD
USH 10
USH 41
N LAKE ST
WISCONSIN CENTRAL LTD RR
LBDM BEACH ROAD

PROJECT NO: 1517-07-72	HWY: USH 10	COUNTY: WINNEBAGO	STAGE CONSTRUCTION PLAN - PRELIMINARY STAGE	SHEET 116	E

WORK ZONE

CONSTRUCTION

- B-70-134
- B-70-402
- C-70-42 (CULVERT EXTENSION)
- C-70-54 (CULVERT EXTENSION)
- R-70-100
- R-70-102
- R-70-121
- R-70-105
- R-70-115
- S-70-203
- S-70-205
- S-70-253
- USH 41 NOERTHBOUND
- USH 10 WESTBOUND FILL
- RAMP FEN FILL
- RAMP FNE
- RAMP FNW
- RAMP FWN FILL
- RAMP FNW FILL
- RAMP FWS FILL
- STORM WATER POND 1
- DITCH 1
- DITCH 2
- B-70-403 EAST ABUTMENT FILL AREA

TRAFFIC

- USH 10 EB/STH 441 NB OPEN TO TRAFFIC
- USH 10 WB/STH 441 SB OPEN TO TRAFFIC
- USH 41 NORTHBOUND OPEN TO TRAFFIC
- USH 41 SOUTHBOUND OPEN TO TRAFFIC
- USH 10 EASTBOUND TO USH 41 SOUTHBOUND OPEN TO TRAFFIC
- USH 41 NORTHBOUND TO USH 10 EB/STH 441 NB OPEN TO TRAFFIC ON TEMPORARY RAMP
- USH 41 SOUTHBOUND TO USH 10 EB/STH 441 NB OPEN TO TRAFFIC
- USH 41 SOUTHBOUND TO USH 10 WESTBOUND OPEN TO TRAFFIC
- USH 10 WB/STH 441 SB TO USH 41 NORTHBOUND OPEN TO TRAFFIC ON TEMPORARY RAMP
- USH 10 WB/STH 441 SB TO USH 41 SOUTHBOUND OPEN TO TRAFFIC

BEGIN CONSTRUCTION
STA 118FEN+50.00

C-70-54 (CULVERT EXTENSION)

USH 10 EB TO USH 41 NB RAMP

END CONSTRUCTION
STA 125FEN+90.10

END CONSTRUCTION
STA 119FWS+44.57

USH 10 WB/STH 441 SB TO USH 41 SB RAMP

BEGIN CONSTRUCTION
STA 113FWS+00.00

BEGIN PROJECT
STA 114WB+50.00

STORM WATER POND 1

USH 41 NB TO USH 10 WB RAMP

END PROJECT
STA 133WB+00.00

B-70-134

R-70-121

USH 10 EB

USH 10 WB

USH 41 SB

USH 41 NB

S-70-203

BEGIN CONSTRUCTION
STA 1307FNW+89.43

BEGIN CONSTRUCTION
STA 1319FNE+57.14

END CONSTRUCTION
STA 1324FNW+50.00

C-70-42 (CULVERT EXTENSION)

BEGIN CONSTRUCTION
STA 136FEN+68.15

USH 41 NB TO USH 10 EB/STH 441 NB RAMP

R-70-102

END CONSTRUCTION
STA 142FEN+50.00

B-70-402

END CONSTRUCTION
STA 1342FNE+84.16

R-70-100

END CONSTRUCTION
STA 137FWN+24.85

BEGIN CONSTRUCTION
STA 152FEN+91.50

END CONSTRUCTION
STA 1338FNW+13.68

BEGIN CONSTRUCTION
STA 1334FNW+00.00

USH 10 WB/STH 441 SB TO USH 41 NB RAMP

END CONSTRUCTION
STA 1387NB+39.79

S-70-253

R-70-115

S-70-205

END CONSTRUCTION
STA 170FEN+75.00

BEGIN CONSTRUCTION
STA 1356NB+51.55

R-70-105

BEGIN CONSTRUCTION
STA 128FWN+01.18

W AMERICAN DRIVE

WESTFIELD LN

JACOBSON ROAD

N LAKE ST

LBDM BEACH ROAD

USH 41 WISCONSIN CENTRAL LTD RR

USH 10

PROJECT NO: 1517-07-72	HWY: USH 10	COUNTY: WINNEBAGO	STAGE CONSTRUCTION PLAN - STAGE 1A	SHEET 117	E

2

WORK ZONE

CONSTRUCTION

- B-70-134
- B-70-402
- C-70-42 (CULVERT EXTENSION)
- C-70-54 (CULVERT EXTENSION)
- R-70-100
- R-70-102
- R-70-121
- R-70-105
- R-70-115
- S-70-203
- S-70-205
- S-70-253
- USH 41 NOERTHBOUND
- USH 10 WESTBOUND FILL
- RAMP FEN FILL
- RAMP FNE
- RAMP FNW
- RAMP FWN FILL
- RAMP FNW FILL
- RAMP FWS FILL
- STORM WATER POND 1
- DITCH 1
- DITCH 2

TRAFFIC

- USH 10 EB/STH 441 NB OPEN TO TRAFFIC
- USH 10 WB/STH 441 SB OPEN TO TRAFFIC
- USH 41 NORTHBOUND OPEN TO TRAFFIC
- USH 41 SOUTHBOUND OPEN TO TRAFFIC
- USH 10 EASTBOUND TO USH 41 SOUTHBOUND OPEN TO TRAFFIC
- USH 41 NORTHBOUND TO USH 10 EB/STH 441 NB OPEN TO TRAFFIC ON TEMPORARY RAMP
- USH 41 SOUTHBOUND TO USH 10 EB/STH 441 NB OPEN TO TRAFFIC
- USH 41 SOUTHBOUND TO USH 10 WESTBOUND OPEN TO TRAFFIC
- USH 10 WB/STH 441 SB TO USH 41 NORTHBOUND OPEN TO TRAFFIC ON TEMPORARY RAMP
- USH 10 WB/STH 441 SB TO USH 41 SOUTHBOUND OPEN TO TRAFFIC

NOTE:

STAGE 1B IS A ONE MONTH CLOSURE OF THE USH 41 NB AUXILIARY LANE BETWEEN CTH II AND THE USH 41 NB TO USH 10 EB/STH 441 EXIT RAMP. CLOSURE OF AUXILIARY LANE TO COINCIDE WITH LANE CLOSURES ON USH 41 NB AT GREEN BAY ROAD UNDER PROJECT 1120-54-60.

BEGIN CONSTRUCTION
STA 118FEN+50.00

C-70-54 (CULVERT EXTENSION)

USH 10 EB TO USH 41 NB RAMP

END CONSTRUCTION
STA 125FEN+90.10

END CONSTRUCTION
STA 119FWS+44.57

USH 10 WB/STH 441 SB TO USH 41 SB RAMP

BEGIN CONSTRUCTION
STA 113FWS+00.00

BEGIN PROJECT
STA 114WB+50.00

STORM WATER POND 1

USH 41 NB TO USH 10 WB RAMP

END PROJECT
STA 133WB+00.00

WESTFIELD LN

W AMERICAN DRIVE

JACOBSON ROAD

USH 10 EB

USH 10 WB

USH 41 SB

USH 41

R-70-121

B-70-134

BEGIN CONSTRUCTION
STA 1307FNW+89.43

USH 41 NB

S-70-203

BEGIN CONSTRUCTION
STA 1319FNE+57.14

END CONSTRUCTION
STA 1324FNW+50.00

C-70-42 (CULVERT EXTENSION)

BEGIN CONSTRUCTION
STA 136FEN+68.15

USH 41 NB TO USH 10 EB/STH 441 NB RAMP

N LAKE ST

R-70-102

END CONSTRUCTION
STA 142FEN+50.00

B-70-402

END CONSTRUCTION
STA 1342FNE+84.16

R-70-100

END CONSTRUCTION
STA 137FWN+24.85

BEGIN CONSTRUCTION
STA 152FEN+91.50

END CONSTRUCTION
STA 1338FNW+13.68

BEGIN CONSTRUCTION
STA 1334FNW+00.00

USH 10 WB/STH 441 SB TO USH 41 NB RAMP

LBDM BEACH ROAD

END CONSTRUCTION
STA 170FEN+75.00

S-70-205

BEGIN CONSTRUCTION
STA 1356NB+51.55

R-70-105

BEGIN CONSTRUCTION
STA 128FWN+01.18

USH 41
WISCONSIN CENTRAL LTD RR

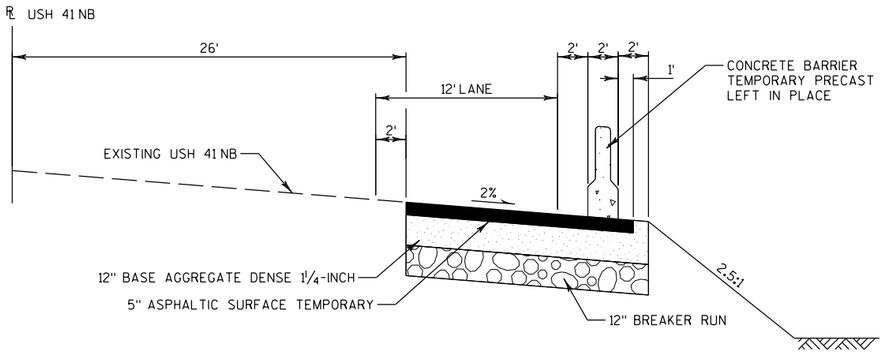
END CONSTRUCTION
STA 1387NB+39.79

S-70-253

R-70-115

PROJECT NO: 1517-07-72	HWY: USH 10	COUNTY: WINNEBAGO	STAGE CONSTRUCTION PLAN - STAGE 1B	SHEET 118	E

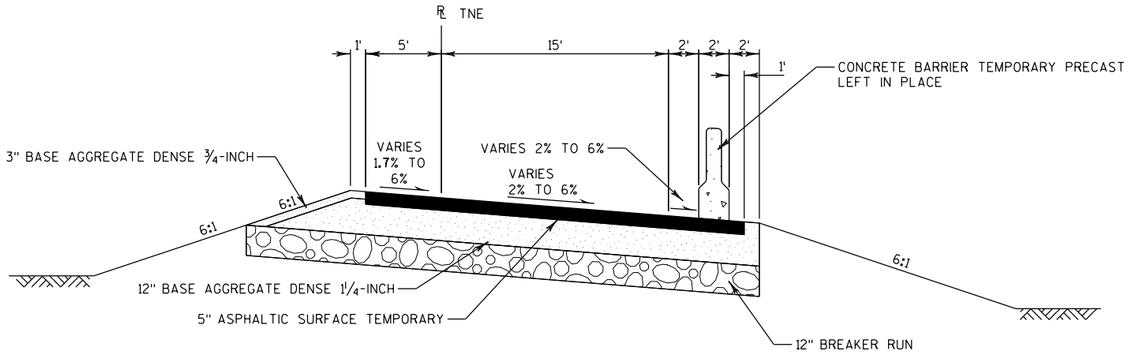
FILE NAME : S:\DOT\DOT_NE\120012-Tri County Freeway\1517-07-72\DGN_Files\Plansheets\025003_tc.dgn PLOT DATE : 1/30/2014 PLOT BY : wally_w PLOT NAME : PLOT SCALE : 1:600



TYPICAL FINISHED SECTION

TNE RAMP

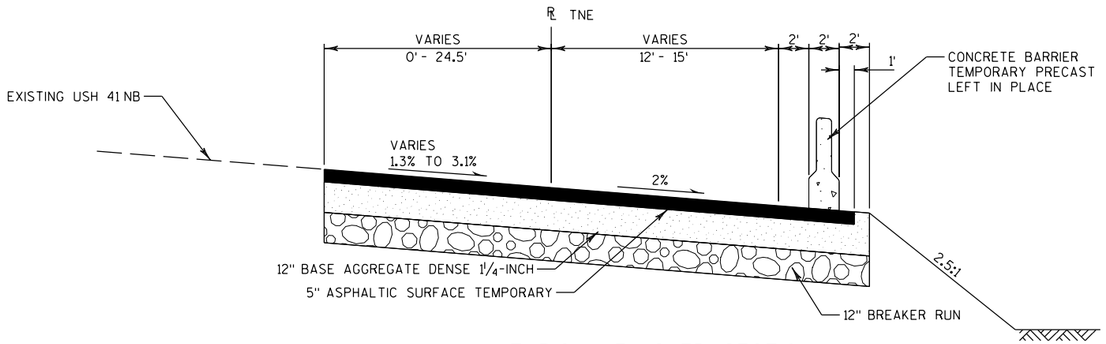
STA 1310NB+79.24 - STA 1320NB+66.49



TYPICAL FINISHED SECTION

TNE RAMP

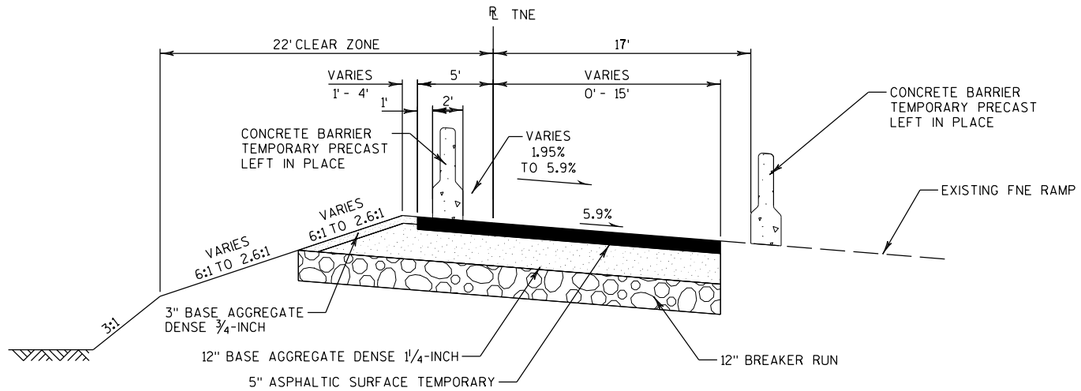
STA 24TNE+15.48 - STA 28TNE+44.02



TYPICAL FINISHED SECTION

TNE RAMP

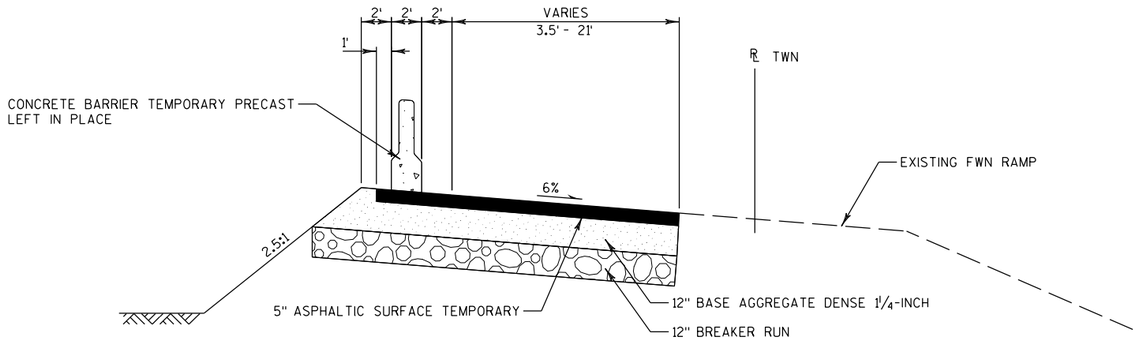
STA 20TNE+65.52 - STA 24TNE+15.48



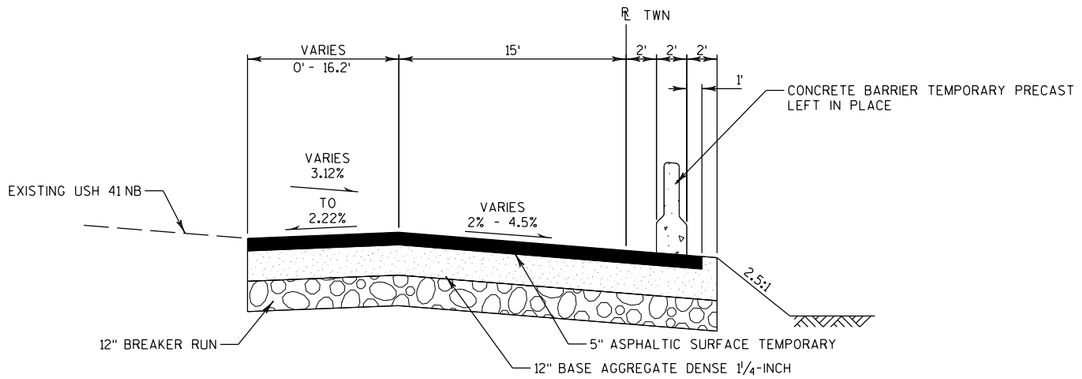
TYPICAL FINISHED SECTION

TNE RAMP

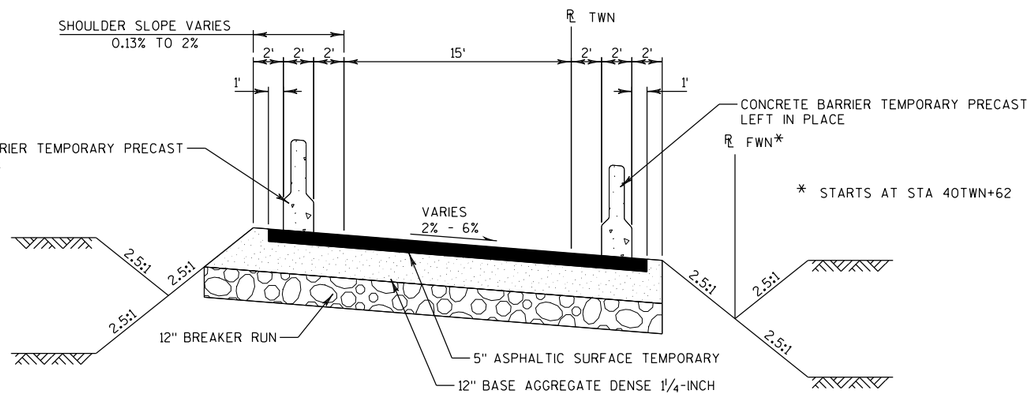
STA 28TNE+44.02 - STA 29TNE+32.57



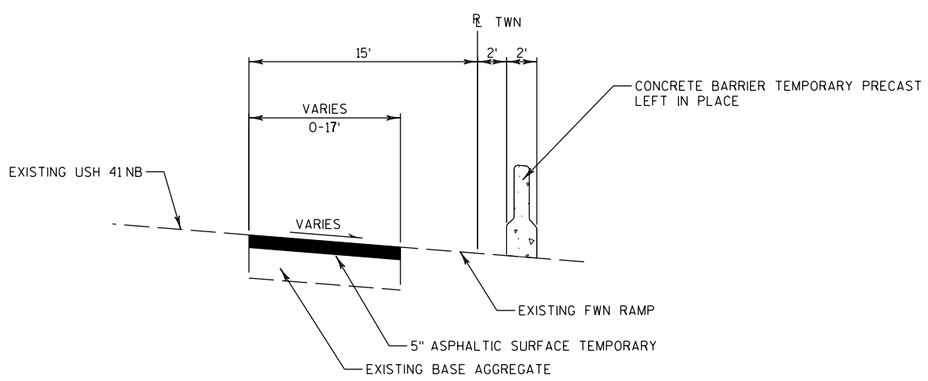
TYPICAL FINISHED SECTION
TWN RAMP
STA 35TWN+57.48 - STA 36TWN+39.91



TYPICAL FINISHED SECTION
TWN RAMP
STA 43TWN+63.94 - STA 47TWN+49.71



TYPICAL FINISHED SECTION
TWN RAMP
STA 36TWN+39.91 - STA 43TWN+63.94



TYPICAL FINISHED SECTION
TWN RAMP
STA 47TWN+49.71 - STA 54TWN+26.53

LEGEND

AGO1 BASE AGGREGATE DENSE ¾-INCH

AGO2 BASE AGGREGATE DENSE 1¼-INCH

PV03 ASPHALTIC SURFACE TEMPORARY, 5-INCH

N

MATCHLINE STA 1313NB+15.00

INL

INL

INL

BEGIN CONSTRUCTION
STA 1308NB+96.34

R/L USH 41 NB

1308NB 1309NB 1310NB 1311NB 1312NB 1313NB

USH 41 NB

STA 1308NB+96.34
26.00' RT

STA 1308NB+96.15
28.99' RT

2%

1'

PV03

MATCH EXISTING CONCRETE PAVEMENT

STA 1310NB+79.24
26.00' RT

STA 1310NB+79.13
36.00' RT

STA 1310NB+78.92
54.51' RT

10'

5'

1'

2%

MATCH EXISTING CONCRETE PAVEMENT

PV03

AGO2

PV03

USH 41 NB TO USH 10 WB RAMP

N

MATCHLINE STA 1313NB+15.00

INL

INL

INL

R/L USH 41 NB

1313NB 1314NB 1315NB 1316NB 1317NB 1318NB 1319NB

MATCHLINE STA 1318NB+85.00

USH 41 NB

MATCH EXISTING CONCRETE PAVEMENT

2%

10'

5'

1'

2%

PV03

2%

AGO2

PV03

INL

USH 41 NB TO USH 10 WB RAMP

PROJECT NO: 1517-07-72	HWY: USH 10	COUNTY: WINNEBAGO	TRAFFIC CONTROL - TEMPORARY RAMP PAVING GRADES	SHEET 121	E

FILE NAME : S:\DOT\DOT_NE\120012-Tri County Freeway\1517-07-72\DGN_Files\Plansheets\025009_tc.dgn PLOT DATE : 2/19/2014 PLOT BY : wally_w PLOT NAME : PLOT SCALE : 1:40

LEFT EDGE OF PAVED SHOULDER	STATION	RIGHT
MATCH AT GORE END	24TNE+15.49	1.7%
REVERSE CROWN	24TNE+25.00	2%

RIGHT EDGE OF PAVEMENT	STATION	RIGHT
REVERSE CROWN	24TNE+59.20	-2%
BEGIN FULL SUPER	25TNE+91.20	-6%
END FULL SUPER	28TNE+17.25	-6%
MATCH EXISTING SUPER	28TNE+19.45	-5.9%

LEGEND

- AGO1 BASE AGGREGATE DENSE ¾-INCH
- AGO2 BASE AGGREGATE DENSE 1¼-INCH
- PVO3 ASPHALTIC SURFACE TEMPORARY, 5-INCH

MATCHLINE STA 1318NB+85.00

R/L USH 41 NB

1319NB 1320NB 1325NB

R/L TEMPORARY RAMP TNE

20TNE 21TNE 22TNE 23TNE 24TNE 25TNE

USH 41 NB

MATCH EXISTING CONCRETE PAVEMENT

STA 20TNE+65.52
15.00' RT

STA 21TNE+30.11
0.00' RT

STA 24TNE+15.48
21.96' LT

STA 24TNE+15.48
5.00' LT

761.89 761.52 761.22 760.92 760.62 760.33 760.32 760.22 760.38

2% 3.9% 2.2% 1.3% 1.2% 1.6% 1.8% 1.7% 2% 4%

AGO1 AGO2 PVO3

MATCHLINE STA 24TNE+85.00

USH 41 NB TO USH 10 WB RAMP

1326NB 1325NB

USH 41 NB

R/L TEMPORARY RAMP TNE

26TNE 27TNE 28TNE 29TNE 30TNE 31TNE

763.72 762.49 761.52 760.82 765.23 767.00 768.84 770.69

764.33 764.03 766.10 765.77 767.74 766.41

6% 6.6% 6% 5.9% 5.9% 4%

STA 28TNE+91.28
6.00' LT

STA 29TNE+11.90
5.00' LT

STA 29TNE+32.57
8.01' LT

1.95%

STA 28TNE+44.02
15.00' RT

STA 28TNE+15.50
20.00' RT

MATCH EXISTING
CONCRETE PAVEMENT

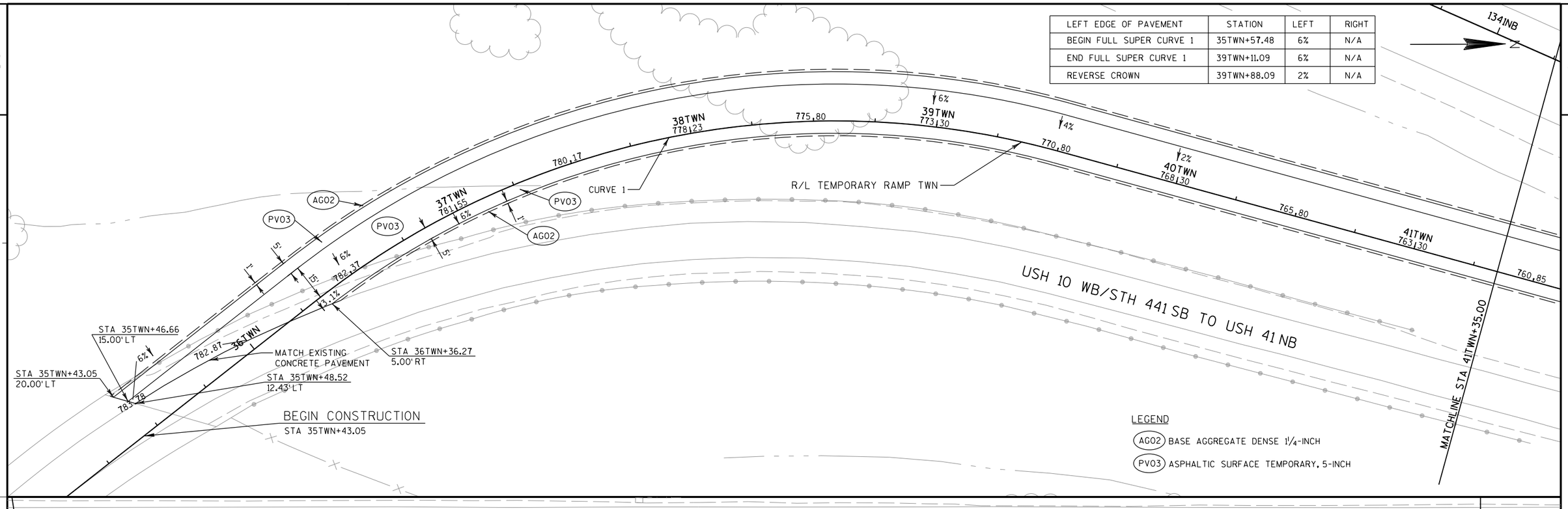
END CONSTRUCTION
STA 29TNE+32.57

MATCHLINE STA 24TNE+85.00

USH 41 NB TO USH 10 WB RAMP

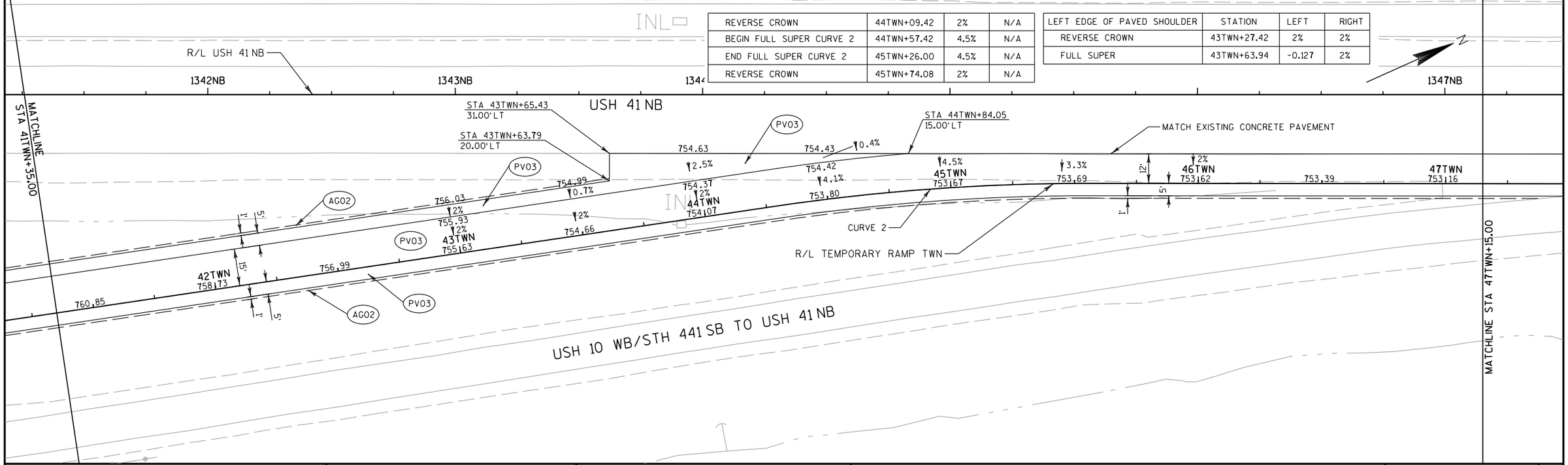
PROJECT NO: 1517-07-72	HWY: USH 10	COUNTY: WINNEBAGO	TRAFFIC CONTROL - TEMPORARY RAMP PAVING GRADES	SHEET 122	E

LEFT EDGE OF PAVEMENT	STATION	LEFT	RIGHT
BEGIN FULL SUPER CURVE 1	35TWN+57.48	6%	N/A
END FULL SUPER CURVE 1	39TWN+11.09	6%	N/A
REVERSE CROWN	39TWN+88.09	2%	N/A



REVERSE CROWN	44TWN+09.42	2%	N/A
BEGIN FULL SUPER CURVE 2	44TWN+57.42	4.5%	N/A
END FULL SUPER CURVE 2	45TWN+26.00	4.5%	N/A
REVERSE CROWN	45TWN+74.08	2%	N/A

LEFT EDGE OF PAVED SHOULDER	STATION	LEFT	RIGHT
REVERSE CROWN	43TWN+27.42	2%	2%
FULL SUPER	43TWN+63.94	-0.127	2%



PROJECT NO: 1517-07-72	HWY: USH 10	COUNTY: WINNEBAGO	TRAFFIC CONTROL - TEMPORARY RAMP PAVING GRADES	SHEET 123	E

2

LEGEND

AG02 BASE AGGREGATE DENSE 1¼-INCH

PV03 ASPHALTIC SURFACE TEMPORARY, 5-INCH

N

MATCHLINE STA 47TWN+15.00

MATCHLINE 52TWN+85.00

INL

1347NB 1348NB 1349NB 1350NB 1351NB 1352NB 1353NB

R/L USH 41 NB

USH 41 NB

MATCH EXISTING CONCRETE PAVEMENT

47TWN
753+16

48TWN

49TWN

50TWN

51TWN

52TWN

53TWN

PV03

12'

5"

1"

STA 47TWN+49.71
5.00' RT

STA 48TWN+33.07
0.00' RT

R/L TEMPORARY RAMP TWN

INL

1353NB 1354NB 1355NB 1356NB 1357NB 1358NB 135

R/L USH 41 NB

USH 41 NB

MATCH EXISTING CONCRETE PAVEMENT

PV03

53TWN

54TWN

STA 54TWN+26.55
0.54' LT

0.63'

END CONSTRUCTION
STA 54TWN+26.53

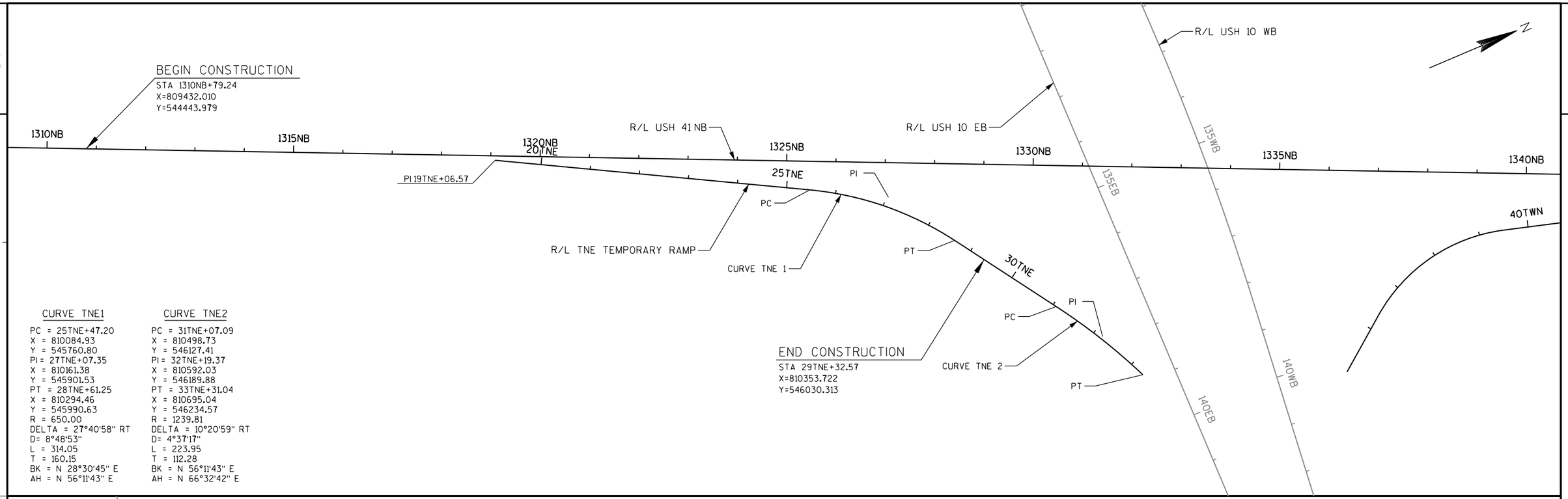
R/L TEMPORARY RAMP TWN

MATCHLINE 52TWN+85.00

PROJECT NO: 1517-07-72	HWY: USH 10	COUNTY: WINNEBAGO	TRAFFIC CONTROL - TEMPORARY RAMP PAVING GRADES	SHEET 124	E

FILE NAME : S:\DOT\DOT_NE\120012-Tri County Freeway\1517-07-72\DGN_Files\Plansheets\025012_tc.dgn PLOT DATE : 2/19/2014 PLOT BY : wally_w PLOT NAME : PLOT SCALE : 1:40

WISDOT/CADDS SHEET 42

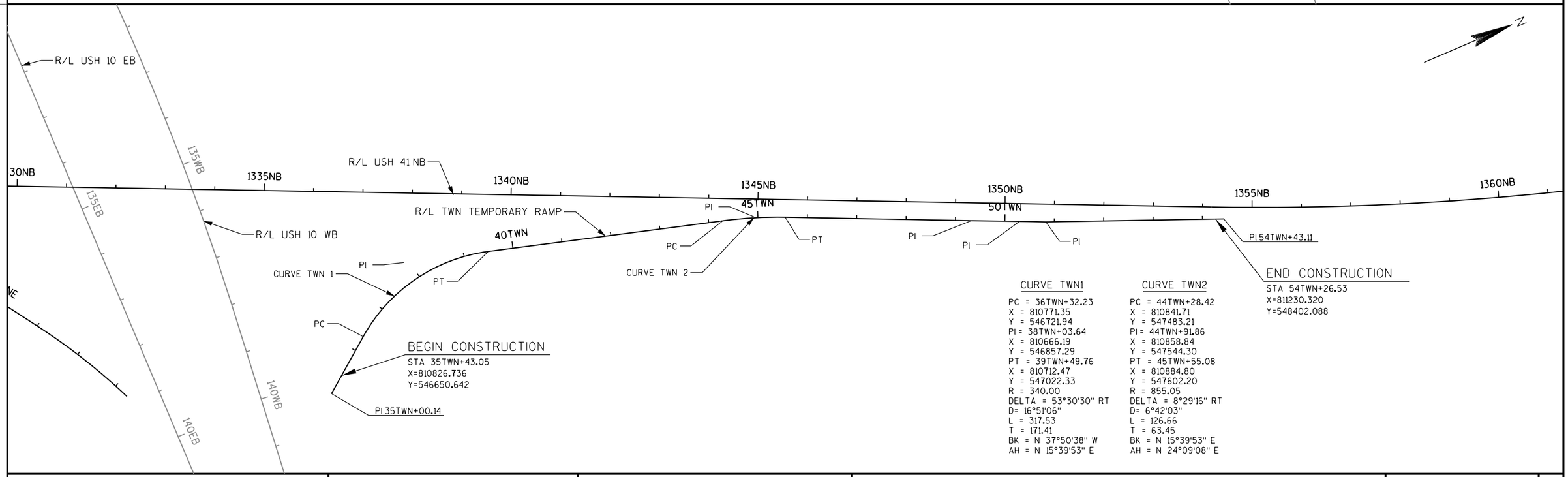


CURVE TNE1

PC = 25TNE+47.20
X = 810084.93
Y = 545760.80
PI = 27TNE+07.35
X = 810161.38
Y = 545901.53
PT = 28TNE+61.25
X = 810294.46
Y = 545990.63
R = 650.00
DELTA = 27°40'58" RT
D= 8°48'53"
L = 314.05
T = 160.15
BK = N 28°30'45" E
AH = N 56°11'43" E

CURVE TNE2

PC = 31TNE+07.09
X = 810498.73
Y = 546127.41
PI = 32TNE+19.37
X = 810592.03
Y = 546189.88
PT = 33TNE+31.04
X = 810695.04
Y = 546234.57
R = 1239.81
DELTA = 10°20'59" RT
D= 4°37'17"
L = 223.95
T = 112.28
BK = N 56°11'43" E
AH = N 66°32'42" E



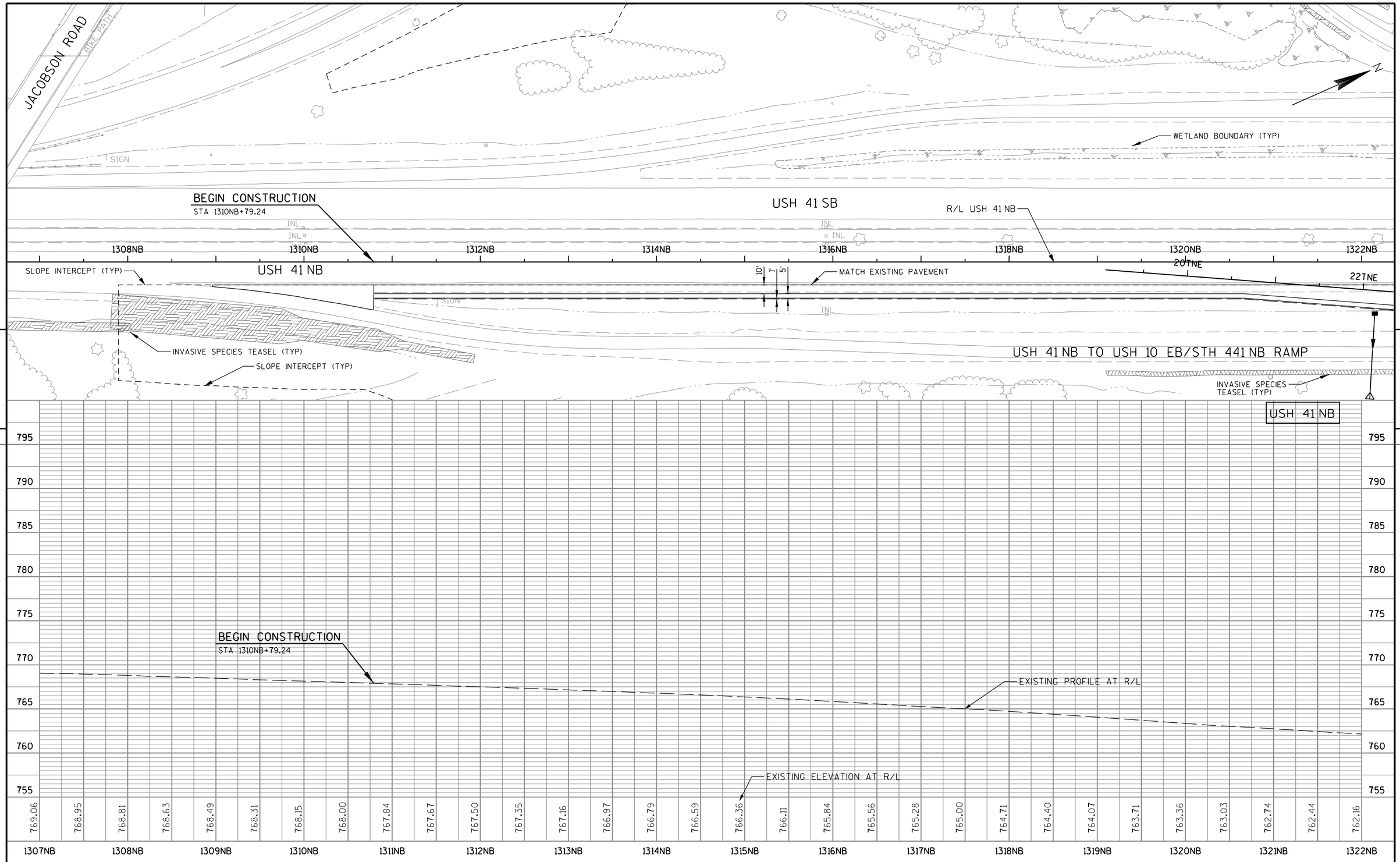
CURVE TWN1

PC = 36TWN+32.23
X = 810771.35
Y = 546721.94
PI = 38TWN+03.64
X = 810666.19
Y = 546857.29
PT = 39TWN+49.76
X = 810712.47
Y = 547022.33
R = 340.00
DELTA = 53°30'30" RT
D= 16°51'06"
L = 317.53
T = 171.41
BK = N 37°50'38" W
AH = N 15°39'53" E

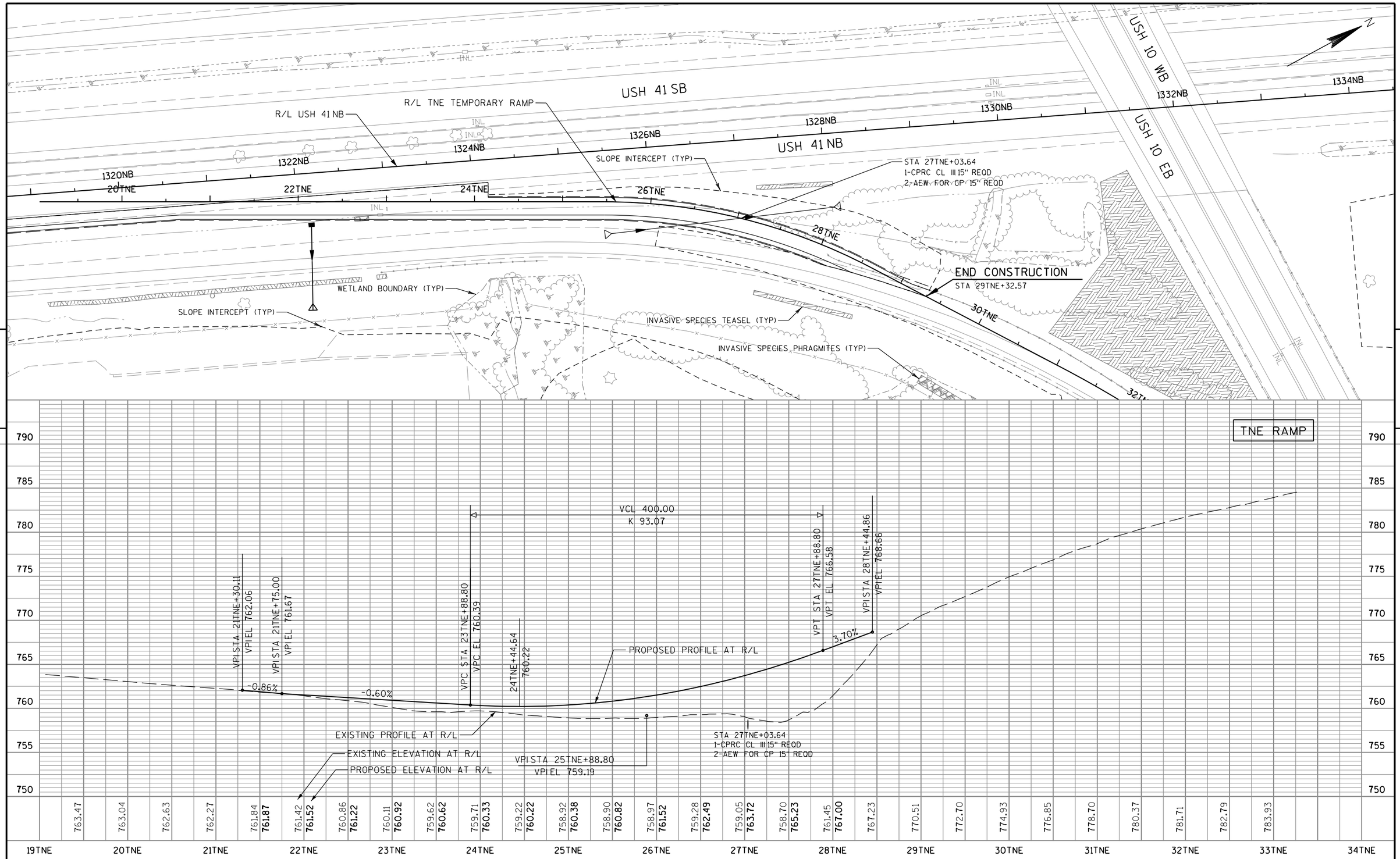
CURVE TWN2

PC = 44TWN+28.42
X = 810841.71
Y = 547483.21
PI = 44TWN+91.86
X = 810858.84
Y = 547544.30
PT = 45TWN+55.08
X = 810884.80
Y = 547602.20
R = 855.05
DELTA = 8°29'16" RT
D= 6°42'03"
L = 126.66
T = 63.45
BK = N 15°39'53" E
AH = N 24°09'08" E

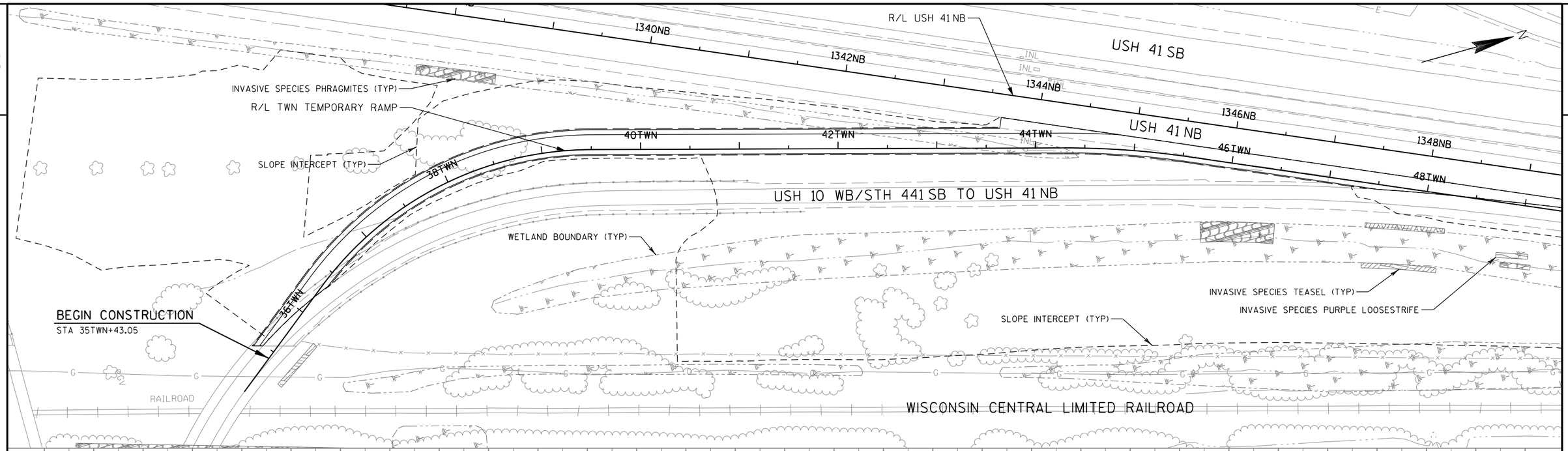
PROJECT NO: 1517-07-72	HWY: USH 10	COUNTY: WINNEBAGO	TRAFFIC CONTROL ALIGNMENT - TEMPORARY RAMPS	SHEET 125	E



PROJECT NO: 1517-07-72	HWY: USH 10	COUNTY: WINNEBAGO	TRAFFIC CONTROL - PLAN & PROFILE TEMPORARY RAMP TNE	SHEET 126	E

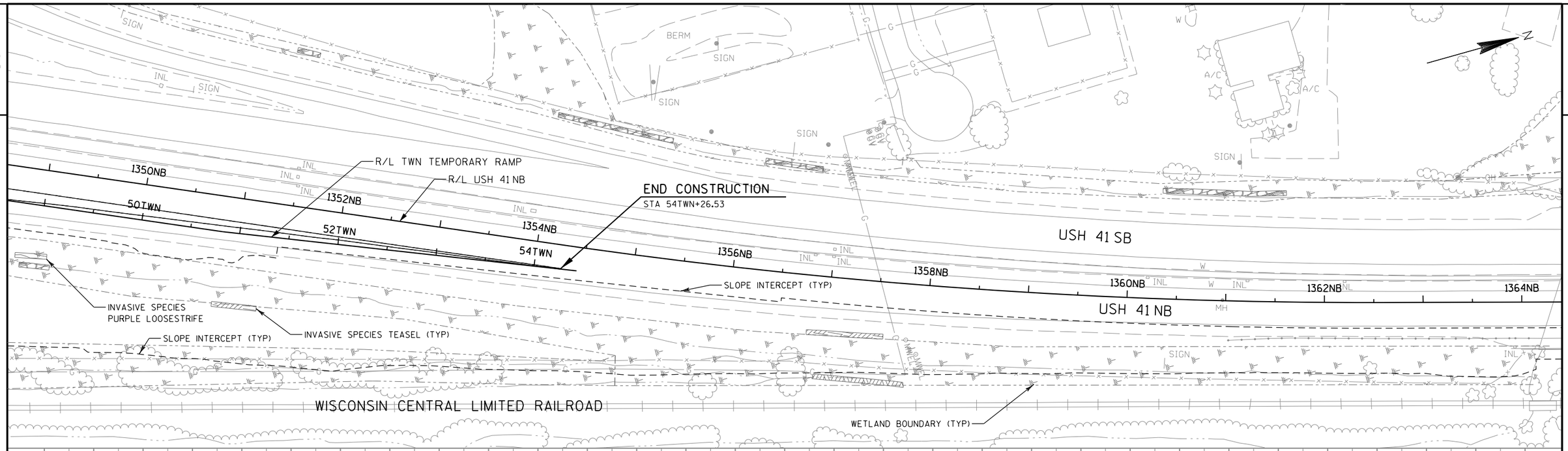


PROJECT NO: 1517-07-72	HWY: USH 10	COUNTY: WINNEBAGO	TRAFFIC CONTROL - PLAN & PROFILE TEMPORARY RAMP TNE	SHEET 127 E



PROJECT NO: 1517-07-72	HWY: USH 10	COUNTY: WINNEBAGO	TRAFFIC CONTROL - PLAN & PROFILE TEMPORARY RAMP TNW	SHEET 128 E

FILE NAME : S:\DOT\DOT_NE\120012-Tri County Freeway\1517-07-72\DGN_Files\Plansheets\025032_tc.dgn PLOT DATE : 2/19/2014 PLOT BY : wally_w PLOT NAME : PLOT SCALE : 1:100



PROJECT NO: 1517-07-72	HWY: USH 10	COUNTY: WINNEBAGO	TRAFFIC CONTROL - PLAN & PROFILE TEMPORARY RAMP TNW	SHEET 129 E

FILE NAME : S:\DOT\DOT_NE\120012-Tri County Freeway\1517-07-72\DGN_Files\Plansheets\025033_tc.dgn PLOT DATE : 2/19/2014 PLOT BY : wally_w PLOT NAME : PLOT SCALE : 1:100

WISDOT/CADDS SHEET 45

LEGEND

DENOTES APPROVED CONSTRUCTION ENTRANCE AND EXIT LOCATION

DENOTES APPROVED CONSTRUCTION ENTRANCE ONLY LOCATION

NOTE:

1) SEE CONSTRUCTION ACCESS DETAIL

N

BEGIN CONSTRUCTION
STA 118FEN+50.00

C-70-54 (CULVERT EXTENSION)

USH 10 EB TO USH 41 NB RAMP

END CONSTRUCTION
STA 125FEN+90.10

END CONSTRUCTION
STA 119FWS+44.57

USH 10 WB/STH 441 SB TO
USH 41 SB RAMP

BEGIN CONSTRUCTION
STA 113FWS+00.00

BEGIN CONSTRUCTION
STA 1307FNW+89.43

EXIT ONLY

USH 41 NB
S-70-203

BEGIN CONSTRUCTION
STA 1319FNE+57.14

END CONSTRUCTION
STA 1324FNW+50.00

C-70-42 (CULVERT EXTENSION)

BEGIN CONSTRUCTION
STA 136FEN+68.15

USH 41 NB TO USH 10 EB/STH 441 NB RAMP

R-70-102

END CONSTRUCTION
STA 142FEN+50.00

B-70-402

END CONSTRUCTION
STA 1342FNE+84.16

WESTFIELD LN

W AMERICAN DRIVE

BEGIN PROJECT
STA 114WB+50.00

STORM WATER POND 1

USH 41 NB TO USH 10 WB RAMP

USH 10 EB

USH 41 SB

USH 10 WB

USH 41

JACOBSON ROAD

N LAKE ST

END PROJECT
STA 133WB+00.00

R-70-121

B-70-134

USH 41
WISCONSIN CENTRAL LTD RR

END CONSTRUCTION
STA 1387NB+39.79

LBDM BEACH ROAD

END CONSTRUCTION
STA 170FEN+75.00

S-70-253

S-70-205

R-70-115

BEGIN CONSTRUCTION
STA 1356NB+51.55

R-70-105

BEGIN CONSTRUCTION
STA 128FWN+01.18

R-70-100

END CONSTRUCTION
STA 137FWN+24.85

BEGIN CONSTRUCTION
STA 152FEN+91.50

END CONSTRUCTION
STA 1338FNW+13.68

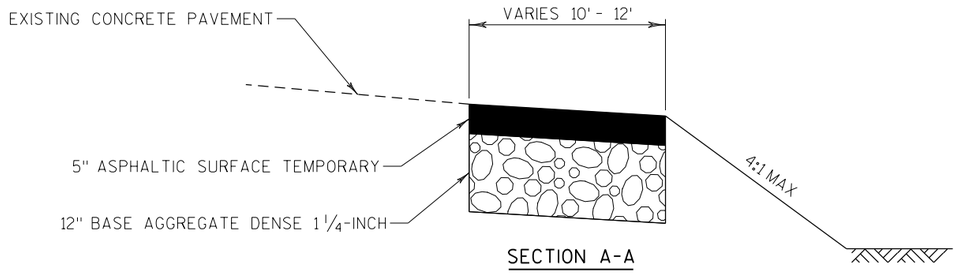
BEGIN CONSTRUCTION
STA 1334FNW+00.00

USH 10 WB/STH 441 SB
TO USH 41 NB RAMP

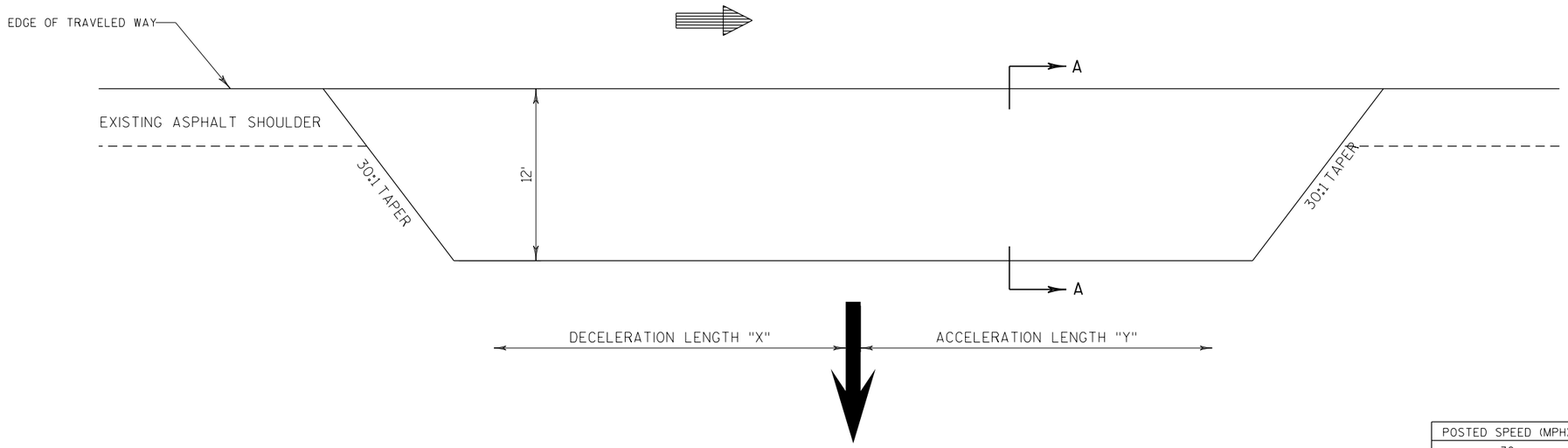
PROJECT NO: 1517-07-72	HWY: USH 10	COUNTY: WINNEBAGO	TRAFFIC CONTROL ACCESS LOCATION MAP	SHEET 130	E

FILE NAME : S:\DOT\DOT_NE\120012-Tri County Freeway\1517-07-72\DGN_Files\Planssheets\025040_tc.dgn PLOT DATE : 2/19/2014 PLOT BY : wally_w PLOT NAME : PLOT SCALE : 1:600

WISDOT/CADDS SHEET 42



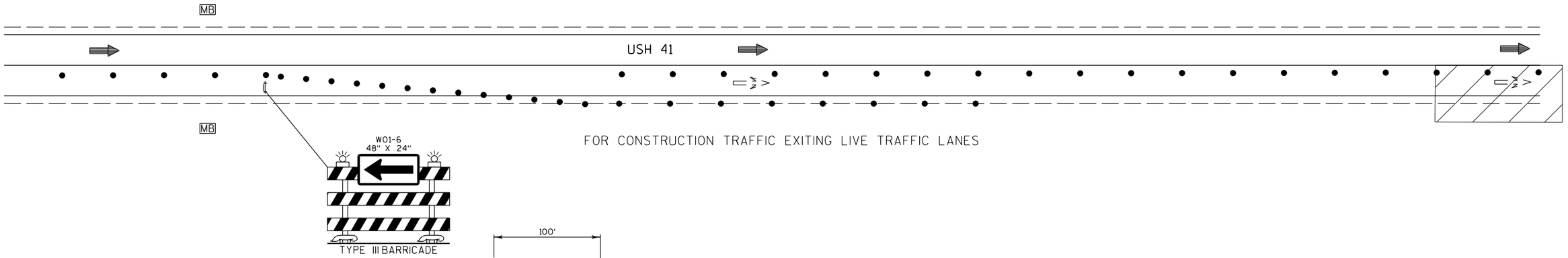
SECTION A-A



POSTED SPEED (MPH)	X (FEET)	Y (FEET)
30	250'	250'
45	400'	450'
50	450'	600'
55	500'	750'

CONSTRUCTION ACCESS DETAIL

2



FOR CONSTRUCTION TRAFFIC EXITING LIVE TRAFFIC LANES

FOR CONSTRUCTION TRAFFIC RE-ENTERING LIVE TRAFFIC LANES

TRAFFIC CONTROL DETAIL FOR CONSTRUCTION ACCESS TO USH 41

NOTE:
SPACING AND LOCATIONS OF DEVICES IN THE FIELD
SUBJECT TO REVIEW AND APPROVAL BY THE ENGINEER

SEE OTHER TRAFFIC CONTROL DETAILS AND STANDARD
DETAIL DRAWINGS FOR LANE CLOSURE DETAILS

PORTABLE MESSAGE SIGN MESSAGES SHOULD READ:

FRAME 1	FRAME 2
TRUCKS EXITING RIGHT	TRAFFIC STAY LEFT

LEGEND

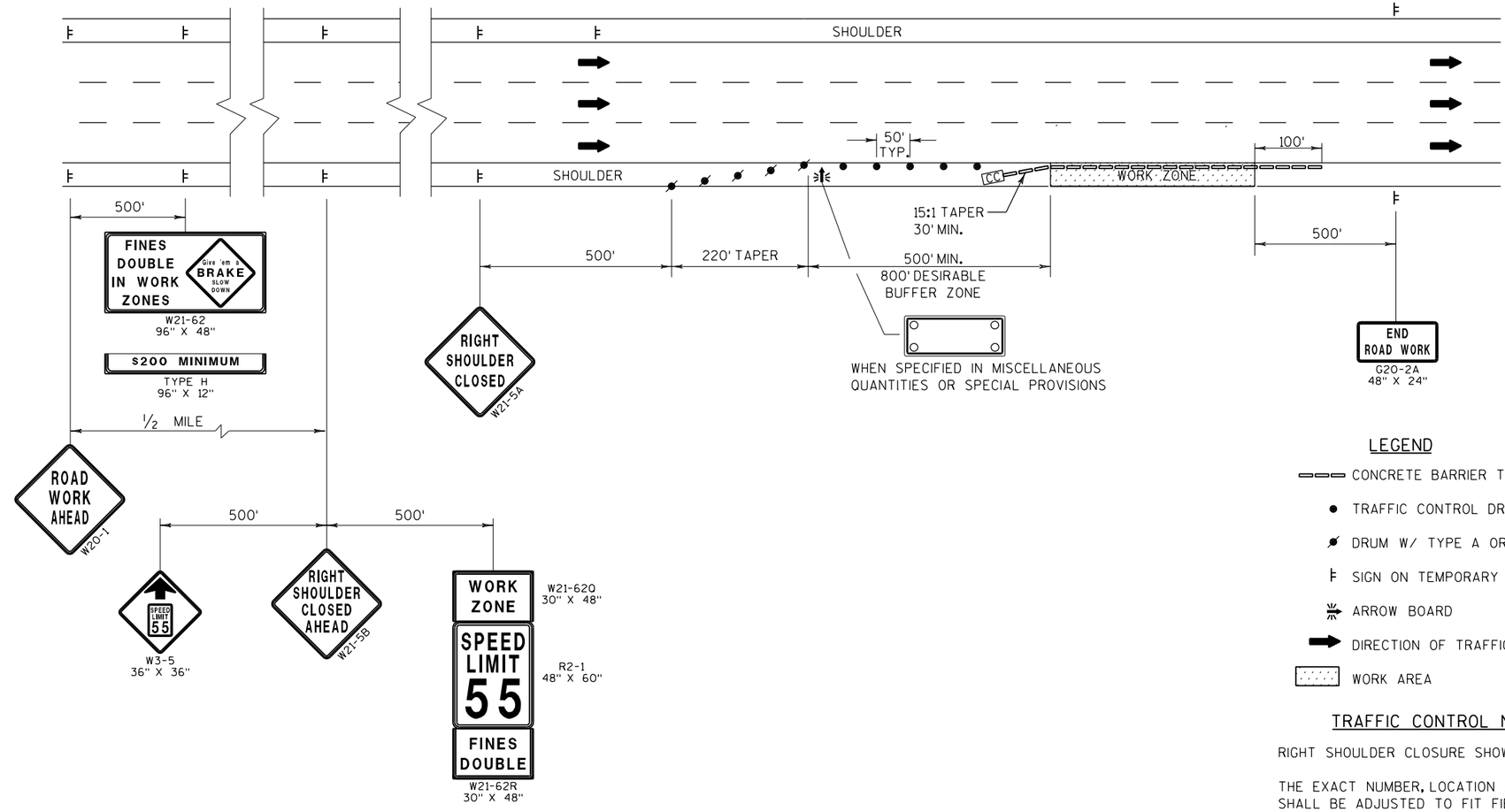
- TRAFFIC CONTROL DRUM
- TRAFFIC CONTROL SIGN
- USH 41 TRAFFIC
- CONSTRUCTION TRAFFIC
- WORK ZONE
- MB — PORTABLE CHANGEABLE MESSAGE BOARD

PROJECT NO: 1517-07-72	HWY: USH 10	COUNTY: WINNEBAGO	TRAFFIC CONTROL - CONSTRUCTION DETAILS	SHEET 132	E

FILE NAME : S:\DOT\DOT_NE\120012-Tri County Freeway\1517-07-72\DGN_Files\Plansheets\025042_tc.dgn PLOT DATE : 2/19/2014 PLOT BY : wally_w PLOT NAME : PLOT SCALE : 1:40
WISDOT/CADDS SHEET 42

2

TYPICAL ONE-LANE CLOSURE



LEGEND

- CONCRETE BARRIER TEMPORARY PRECAST
- TRAFFIC CONTROL DRUM
- DRUM W/ TYPE A OR C LIGHT
- SIGN ON TEMPORARY SUPPORT
- ARROW BOARD
- DIRECTION OF TRAFFIC
- WORK AREA

TRAFFIC CONTROL NOTES

RIGHT SHOULDER CLOSURE SHOWN, REVERSE FOR CLOSING THE LEFT LANE.

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

ALL DRUMS IN TAPERS OR LANE SHIFTS SHALL HAVE A WARNING LIGHT, TYPE C (STEADY BURN). ALL OTHER DRUMS SHALL HAVE A WARNING LIGHT, TYPE A (FLASHING).

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.

CONSIDER GEOMETRICS WHEN LOCATING SIGNS AND ARROWBOARDS SO THE DRIVER HAS A CLEAR VIEW OF THE ARROWBOARD AND LANE CLOSURE DRUMS FOR A MINIMUM 1500' IN FRONT OF DRUMS.

SPEEDS 45 MPH OR GREATER

PROJECT NO: 1517-07-72	HWY: USH 10	COUNTY: WINNEBAGO	TRAFFIC CONTROL DETAIL - SHOULDER CLOSURE	SHEET 133	E

2

GENERAL NOTES FOR TRAFFIC CONTROL

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

2) CONFLICTING TRAFFIC SIGNS SHALL BE COVERED OR REMOVED AS DIRECTED BY THE ENGINEER. CONFLICTING SIGNS WILL BE COVERED USING THE STANDARD BID ITEM, TRAFFIC CONTROL COVERING SIGNS.

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

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

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

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

7) 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.

8) PAVEMENT MARKING THAT IS SHOWN SHADED ON TRAFFIC CONTROL PLANS ARE THERE FOR REFERENCE ONLY. PAVEMENT MARKING SHALL BE ADJUSTED TO FIT FIELD CONDITIONS AS DIRECTED BY THE ENGINEER.

9) ALL PAVEMENT MARKING STATIONING IN TRAFFIC CONTROL PLANS HAVE THE PREFIX OF THE ALIGNMENT THAT IT IS MEASURED OFF OF, IN THE STATION CALLOUT.

10) FOR ALL CONCRETE BARRIER TEMPORARY PRECAST, THERE WILL BE DELINEATORS ATTACHED PER STANDARD DETAIL DRAWING CONCRETE BARRIER TEMPORARY PRECAST 12'-6". PLACE REFLECTORS OF THE APPROPRIATE COLOR ON BOTH SIDES OF THE DELINATOR.

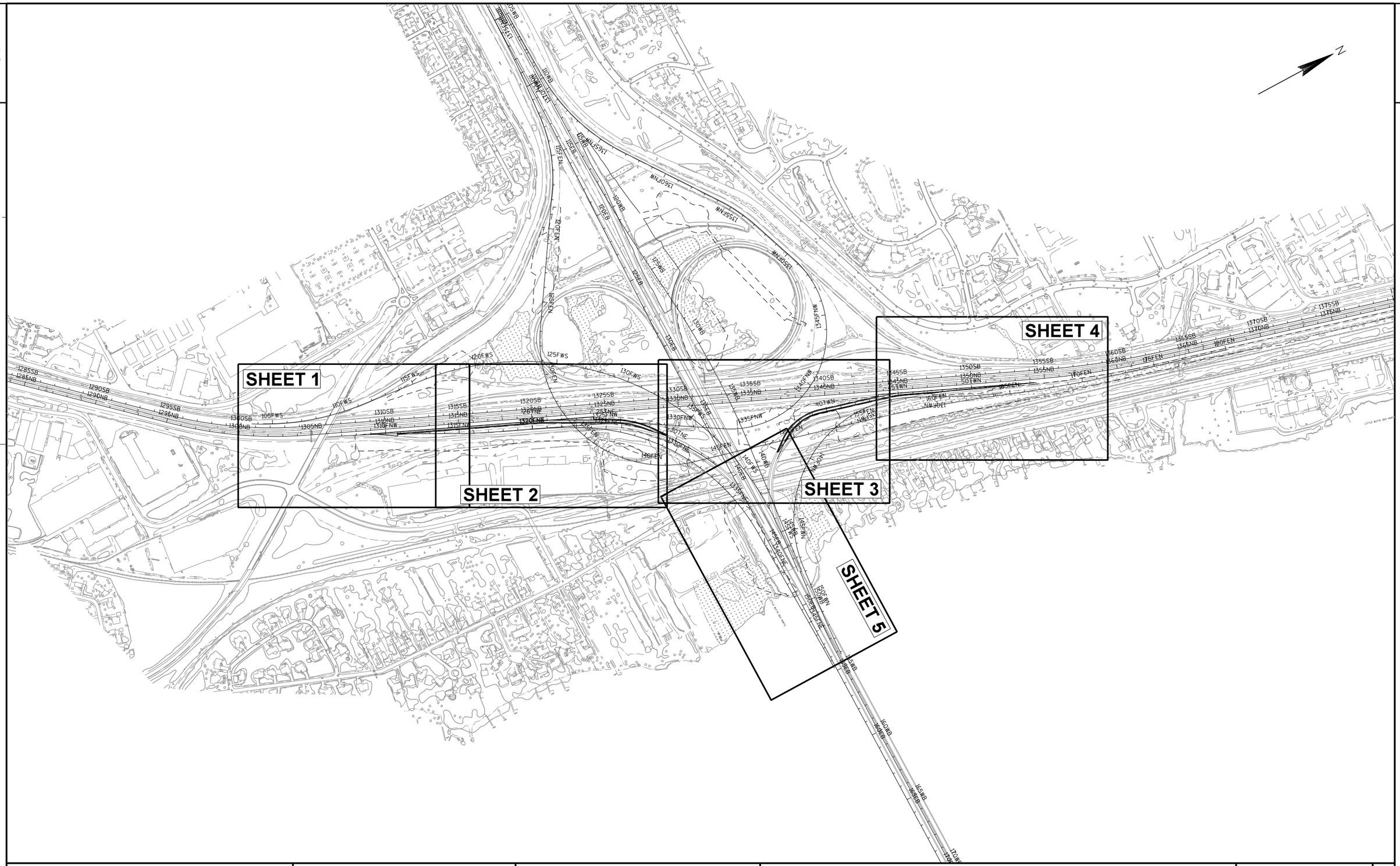
11) REMOVING PAVEMENT MARKING ON EXISTING AND NEW PAVEMENT USES THE STANDARD BID ITEM.

TRAFFIC CONTROL LEGEND

- TRAFFIC CONTROL BARRICADE TYPE III WITH LIGHTS TYPE A
- TRAFFIC CONTROL BARRICADE TYPE III WITH LIGHTS TYPE A AND ATTACHED SIGN
- TRAFFIC CONTROL DRUM
- TRAFFIC CONTROL DRUM WITH LIGHT TYPE C
- TRAFFIC CONTROL ARROW BOARD
- TRAFFIC CONTROL SIGN(S) ON SUPPORTS
- PROPOSED SIGN MOUNTED ON POST(S)
- TRAFFIC FLOW ARROW
- CONCRETE BARRIER TEMPORARY PRECAST
- CC — CRASH CUSHIONS TEMPORARY
- XXX — DENOTES SIGN NUMBER (PERMANENT SIGN)

2

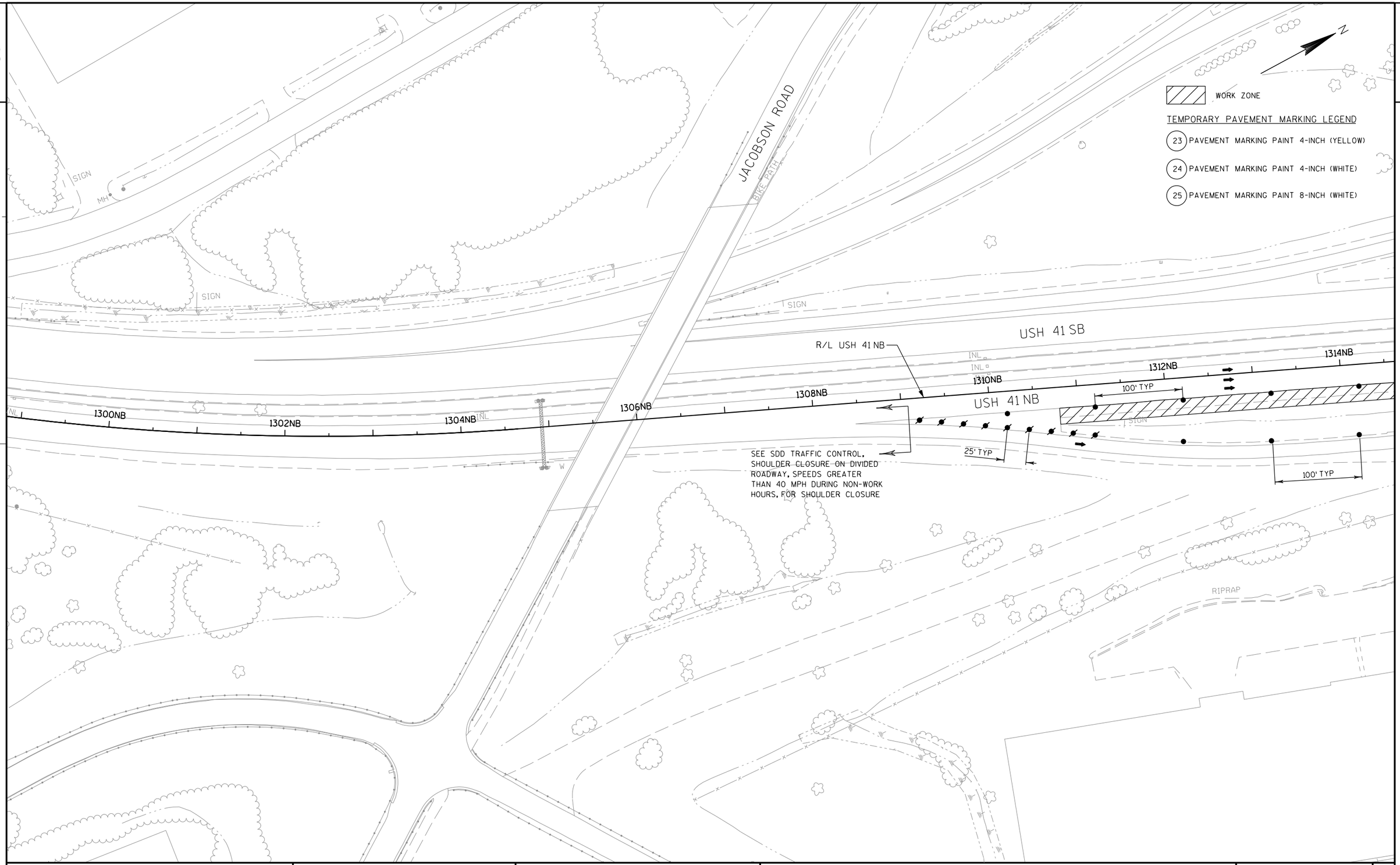
PROJECT NO: 1517-07-72	HWY: USH 10	COUNTY: BROWN	TRAFFIC CONTROL DETAILS	SHEET 134	E



PROJECT NO: 1517-07-72	HWY: USH 10	COUNTY: WINNEBAGO	TRAFFIC CONTROL PRELIMINARY STAGE PLAN OVERVIEW	SHEET	E

FILE NAME : S:\DOT\DOT_NE\120012-Tri County Freeway\1517-07-72\DGN_Files\Plansheets\025051_tc.dgn PLOT DATE : 2/19/2014 PLOT BY : wally_w PLOT NAME : PLOT SCALE : 1:600

2



PROJECT NO: 1517-07-72	HWY: USH 10	COUNTY: WINNEBAGO	TRAFFIC CONTROL PLAN: PRELIMINARY STAGE SHEET 1	SHEET 136	E

2

2

USH 41 SB

R/L TNE TEMPORARY RAMP

R/L USH 41 NB

USH 41 NB

1314NB

1316NB

1318NB

1320NB

20TNE

1322NB

22TNE

1324NB

24TNE

1326NB

26TNE

1328NB

28TNE

100' TYP

100' TYP

2' TYP

6' TYP

CC

INL

USH 41 NB TO USH 10 EB/STH 441 NB RAMP

RIPRAP

W

WORK ZONE

TEMPORARY PAVEMENT MARKING LEGEND

23 PAVEMENT MARKING PAINT 4-INCH (YELLOW)

24 PAVEMENT MARKING PAINT 4-INCH (WHITE)

25 PAVEMENT MARKING PAINT 8-INCH (WHITE)

PROJECT NO: 1517-07-72	HWY: USH 10	COUNTY: WINNEBAGO	TRAFFIC CONTROL PLAN: PRELIMINARY STAGE SHEET 2	SHEET 137 E

FILE NAME : S:\DOT\DOT_NE\120012-Tri County Freeway\1517-07-72\DGN_Files\Plansheets\025055_tc.dgn PLOT DATE : 2/19/2014 PLOT BY : wally_w PLOT NAME : PLOT SCALE : 1:100

WISDOT/CADDS SHEET 42

TEMPORARY PAVEMENT MARKING LEGEND

WORK ZONE

(23) PAVEMENT MARKING PAINT 4-INCH (YELLOW)

(24) PAVEMENT MARKING PAINT 4-INCH (WHITE)

(25) PAVEMENT MARKING PAINT 8-INCH (WHITE)

N

USH 41 SB

R/L USH 41 NB

USH 41 NB

USH 10 WB

USH 10 EB

INL

1330NB

1332NB

1334NB

1336NB

1338NB

1340NB

1342NB

1344NB

2' CLEAR

CC

100' TYP

2' TYP

441TWN

421TWN

401TWN

50' TYP

R/L TWN TEMPORARY RAMP

381TWN

USH 10 WB/STH 441 SB TO USH 41 NB

STA 39TWN+04
END TAPER

23

STA 37TWN+92
END TAPER

24

STA 35TWN+58
BEGIN TAPER

361TWN

2' CLEAR

STA 35TWN+58
BEGIN TAPER

100'

8:1 TAPER

12'

W5-52L
12" X 36"

RAILROAD

WISCONSIN CENTRAL LIMITED RAILROAD

301NE

USH 41 NB TO USH 10 EB/STH 441 NB RAMP

100'

500'

321NE

END
ROAD WORK

G20-2A
48" X 24"

NATIONAL

CANADIAN

MH

A/C

W

PROJECT NO: 1517-07-72	HWY: USH 10	COUNTY: WINNEBAGO	TRAFFIC CONTROL PLAN: PRELIMINARY STAGE SHEET 3	SHEET 138 E

2

2

TEMPORARY PAVEMENT MARKING LEGEND

WORK ZONE

(23) PAVEMENT MARKING PAINT 4-INCH (YELLOW)

(24) PAVEMENT MARKING PAINT 4-INCH (WHITE)

(25) PAVEMENT MARKING PAINT 8-INCH (WHITE)

USH 41 SB

USH 41 NB

R/L USH 41 NB

1344NB 1346NB 1348NB 1350NB 1352NB 1354NB 1356NB 1358NB

44TWN 46TWN 48TWN 50TWN 52TWN 54TWN

50' TYP

R/L TWN TEMPORARY RAMP

END ROAD WORK
G20-2A
48" X 24"

WISCONSIN CENTRAL LIMITED RAILROAD

CANADIAN NATIONAL RAILROAD

SIGN BERM INL MH W

PROJECT NO: 1517-07-72	HWY: USH 10	COUNTY: WINNEBAGO	TRAFFIC CONTROL PLAN: PRELIMINARY STAGE SHEET 4	SHEET 139 E

FILE NAME : S:\DOT\DOT_NE\120012-Tri County Freeway\1517-07-72\DGN_Files\Plansheets\025057_tc.dgn PLOT DATE : 2/19/2014 PLOT BY : wally_w PLOT NAME : PLOT SCALE : 1:100

WISDOT/CADDS SHEET 42

2' CLEAR

STA 35TWN+58
BEGIN TAPER

STA 35TWN+58
BEGIN TAPER

NM-95E

100'

8:1 TAPER

RAILROAD

W5-52L
12" X 36"

12'

24

23

5' SHIFT FROM EXISTING

2' MIN SHOULDER

275' TAPER

LEFT
SHOULDER
CLOSED
W21-5AL

ON RAMP
M04-10
30" X 15"

1000'

LEFT
SHOULDER
CLOSED
AHEAD
W21-5BL

ON RAMP
M04-10
30" X 15"

ROAD
WORK
AHEAD
W20-1

1600'

APPROX END OF
STRUCTURE (REF)

60'

SIGN

MH

USH 10 WB

USH 10 EB

25

143'

24'

+75 WB

+45 WB

+88 WB

+18 WB

SIGN

EQUATION

STATION EQUATION
PI 147WB+92.21, 12'RT AHEAD
PI 147WB+92.21 BACK

NATIONAL

MH

LITTLE BUTTE DES MORTS

N

WORK ZONE

TEMPORARY PAVEMENT MARKING LEGEND

(23) PAVEMENT MARKING PAINT 4-INCH (YELLOW)

(24) PAVEMENT MARKING PAINT 4-INCH (WHITE)

(25) PAVEMENT MARKING PAINT 8-INCH (WHITE)

PROJECT NO: 1517-07-72	HWY: USH 10	COUNTY: WINNEBAGO	TRAFFIC CONTROL PLAN: PRELIMINARY STAGE SHEET 5	SHEET 140	E

FILE NAME : S:\DOT\DOT_NE\120012-Tri County Freeway\1517-07-72\DGN_Files\Plansheets\025058_tc.dgn PLOT DATE : 2/19/2014 PLOT BY : wally_w PLOT NAME : PLOT SCALE : 1:100

2

2

JACOBSON ROAD

BIKE PATH

SIGN

MH

SIGN

SIGN

SEE SDD "TRAFFIC CONTROL, TWO LANE CLOSURE ON FREEWAY OR EXPRESSWAY, SHORT TERM (LESS THAN 24 HOURS)"

100'

1298NB

INL

1300NB

12'

1302NB

1304NB

INL

1306NB

USH 41 NB

USH 41 SB

R/L USH 41 NB

INL

INL

100' TYP

1312NB

1310NB

1308NB

1308FNW

1310FNW

1312FNW

SIGN

24'

W

+50

12'

+50

25'(TYP)

+50

+95

+85

+46

25' TYP

15'

100' TYP

LANE CLOSED

R11-2(MOD)
48" X 30"

EXIT

E5-1
60" X 48"

SEE SDD "TRAFFIC CONTROL, EXIT AND ENTRANCE RAMP WITHIN LANE CLOSURE" FOR "MOUNTING DETAIL FOR MOVABLE EXIT SIGN"

RIPRAP

WORK ZONE

RAMP CLOSURE

PROJECT NO: 1517-07-72	HWY: USH 10	COUNTY: WINNEBAGO	TRAFFIC CONTROL PLAN: PRELIMINARY STAGE - LANE/RAMP CLOSURE SHEET 1	SHEET 141	E

2

PROJECT NO: 1517-07-72	HWY: USH 10	COUNTY: WINNEBAGO	TRAFFIC CONTROL PLAN: PRELIMINARY STAGE - LANE/RAMP CLOSURE SHEET 2	SHEET 142	E

FILE NAME : S:\DOT\DOT_NE\120012-Tri County Freeway\1517-07-72\DGN_Files\Plansheets\025065_tc.dgn PLOT DATE : 2/19/2014 PLOT BY : wally_w PLOT NAME : PLOT SCALE : 1:100
WISDOT/CADDS SHEET 42

2

WORK ZONE

RAMP CLOSURE

N

STA 1339NB+80 TO STA 1392NB+70
REMOVING RUMBLE STRIPS
SEE SDD "TRAFFIC CONTROL, LANE CLOSURE, SPEEDS GREATER THAN 40 MPH".
MEDIAN LANE CLOSURE NOT TO OCCUR DURING OUTSIDE LANE CLOSURE.

R/L USH 41 NB

USH 41 SB

USH 41 NB

USH 10 WB

USH 10 EB

100' TYP

12'

14'

2' CLEAR

1328NB
1330NB
1332NB
1334NB
1336NB
1338NB
1340NB
1342NB

CC

R/L TWN TEMPORARY RAMP

28TNE
30TNE
32TNE
100'
500'

END ROAD WORK
G20-2A
48" X 24"

38TWN
40TWN
42TWN
36TWN

USH 10 WB/STH 441 SB TO USH 41 NB

WISCONSIN CENTRAL LIMITED RAILROAD

RAILROAD

NATIONAL

CANADIAN

INL

MH

ANT

PROJECT NO: 1517-07-72	HWY: USH 10	COUNTY: WINNEBAGO	TRAFFIC CONTROL PLAN: PRELIMINARY STAGE - LANE/RAMP CLOSURE SHEET 3	SHEET 143	E

FILE NAME : S:\DOT\DOT_NE\120012-Tri County Freeway\1517-07-72\DGN_Files\Plansheets\025066_tc.dgn PLOT DATE : 2/19/2014 PLOT BY : wally_w PLOT NAME : PLOT SCALE : 1:100

2

WORK ZONE

RAMP CLOSURE

N

STA 1339NB+80 TO STA 1392NB+70
REMOVING RUMBLE STRIPS
SEE SDD "TRAFFIC CONTROL, LANE CLOSURE,
SPEEDS GREATER THAN 40 MPH".
MEDIAN LANE CLOSURE NOT TO OCCUR
DURING OUTSIDE LANE CLOSURE.

USH 41 SB

USH 41 NB

R/L USH 41 NB

R/L TWN TEMPORARY RAMP

100' TYP

100'

500'

12'

14'

2' CLEAR

1344NB

1346NB

1348NB

1350NB

1352NB

1354NB

1356NB

1358NB

44TWN

46TWN

48TWN

50TWN

52TWN

54TWN

END ROAD WORK
G20-2A
48" X 24"

WISCONSIN CENTRAL LIMITED RAILROAD

CANADIAN NATIONAL RAILROAD

SIGN

BERM

INL

MH

W

PROJECT NO: 1517-07-72	HWY: USH 10	COUNTY: WINNEBAGO	TRAFFIC CONTROL PLAN: PRELIMINARY STAGE - LANE/RAMP CLOSURE SHEET 4	SHEET 144	E

FILE NAME : S:\DOT\DOT_NE\120012-Tri County Freeway\1517-07-72\DGN_Files\Plansheets\025067_tc.dgn PLOT DATE : 2/19/2014 PLOT BY : wally_w PLOT NAME : PLOT SCALE : 1:100

WISDOT/CADDS SHEET 42

2

WORK ZONE

RAMP CLOSURE

N

142FWN

144FWN

146FWN

148FWN

150FWN

152FWN

154FWN

60'

APPROX END OF STRUCTURE (REF)

USH 10 WB

USH 10 EB

MH

SIGN

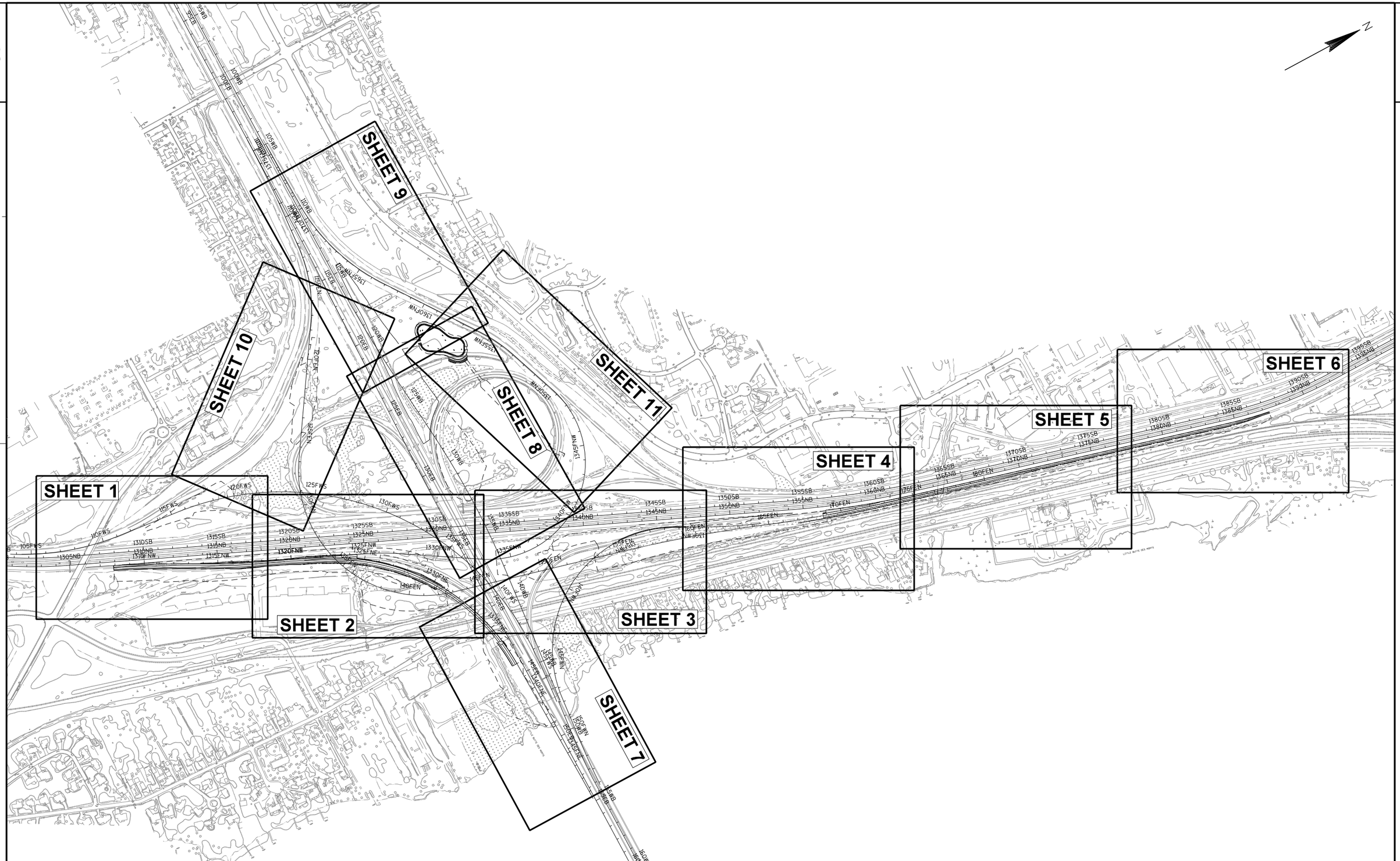
RAILROAD

NATIONAL

LITTLE BUTTE DES MORTS

SEE SDD "TRAFFIC CONTROL RAMP CLOSURE"

PROJECT NO: 1517-07-72	HWY: USH 10	COUNTY: WINNEBAGO	TRAFFIC CONTROL PLAN: PRELIMINARY STAGE - LANE/RAMP CLOSURE SHEET 5	SHEET 145	E



PROJECT NO: 1517-07-72	HWY: USH 10	COUNTY: WINNEBAGO	TRAFFIC CONTROL STAGE 1A & 1B PLAN OVERVIEW	SHEET 146	E

FILE NAME : S:\DOT\DOT_NE\120012-Tri County Freeway\1517-07-72\DGN_Files\Plansheets\025070_tc.dgn PLOT DATE : 2/19/2014 PLOT BY : wally_w PLOT NAME : PLOT SCALE : 1:600

2

JACOBSON ROAD

BIKE PATH

USH 10 EB TO USH 41 SB RAMP

100' TYP

132FES

134FES

136FES

112FWS

114FWS

116FWS

118FWS

120FWS

110FWS

106FWS

108FWS

R/L USH 10 WB/STH 441 SB TO USH 41 SB RAMP (FWS)

END ROAD WORK
G20-2A
48" X 24"

MAX. 11' WIDTH
W12-52
48" X 48"

1/2 MILE AHEAD
W057-52
36" X 24"

SIGN

USH 41 SB

USH 41 NB

R/L USH 41 NB

2' CLEAR

12'

36'

1304NB

1306NB

1308NB

1310NB

1312NB

1314NB

1316NB

1318NB

1308FNW

1310FNW

1312FNW

1314FNW

1316FNW

1318FNW

NB +50

NB +00

NB +90

SEE CONSTRUCTION DETAIL
"TRAFFIC CONTROL DETAIL - SHOULDER CLOSURE"

15:1 TAPER
30' MIN

USH 41 NB TO USH 10 EB/STH 441 NB RAMP

R/L USH 41 NB TO USH 10 WB RAMP (FNW)

STA 1307NB+00 TO STA 1325NB+50
CONCRETE BARRIER TEMPORARY
PRECAST TO BE LEFT IN PLACE
AFTER STAGE

RIPRAP

INL

W

N

WORK ZONE

TEMPORARY PAVEMENT MARKING LEGEND

1. PAVEMENT MARKING EPOXY 4-INCH (YELLOW)
2. PAVEMENT MARKING EPOXY 4-INCH (WHITE)
3. PAVEMENT MARKING EPOXY 4-INCH DASHED (12.5'FT LINE, 37.5-FT SKIP)
5. PAVEMENT MARKING EPOXY 8-INCH (DOT PATTERN WHITE) (3 FT LINE 9 FT SKIP)
6. PAVEMENT MARKING EPOXY 8-INCH (WHITE)

PROJECT NO: 1517-07-72	HWY: USH 10	COUNTY: WINNEBAGO	TRAFFIC CONTROL PLAN: STAGE 1A SHEET 1	SHEET 147	E

2

JACOBSON ROAD

BIKE PATH

USH 10 EB TO USH 41 SB RAMP

USH 41 SB

USH 41 NB

USH 41 NB TO USH 10 EB/STH 441 NB RAMP

R/L USH 10 WB/STH 441 SB TO USH 41 SB RAMP (FWS)

R/L USH 41 NB

R/L USH 41 NB TO USH 10 WB RAMP (FNW)

100' TYP

132FES

134FES

135FES

112FWS

114FWS

116FWS

118FWS

120FWS

110FWS

108FWS

106FWS

END ROAD WORK
G20-2A
48" X 24"

MAX 11' WIDTH
W12-52
48" X 48"

1/2 MILE AHEAD
W057-52
36" X 24"

BEGIN TAPER NB +00

END TAPER NB +50

NB +06

1318NB

1316NB

1314NB

1312NB

1310NB

1308NB

1306NB

1304NB

1318FNW

1316FNW

1314FNW

1312FNW

1310FNW

1308FNW

2 CLEAR

12'

36"

100' (TYP)

COORDINATE TRAFFIC CONTROL WITH PROJECT ID 1120-54-60

15:1 TAPER 30' MIN

NB +50

NB +00

NB +75

CC

STA 1307NB+00 TO STA 1325NB+50
CONCRETE BARRIER TEMPORARY PRECAST TO BE LEFT IN PLACE AFTER STAGE

RIPRAP

INL

W

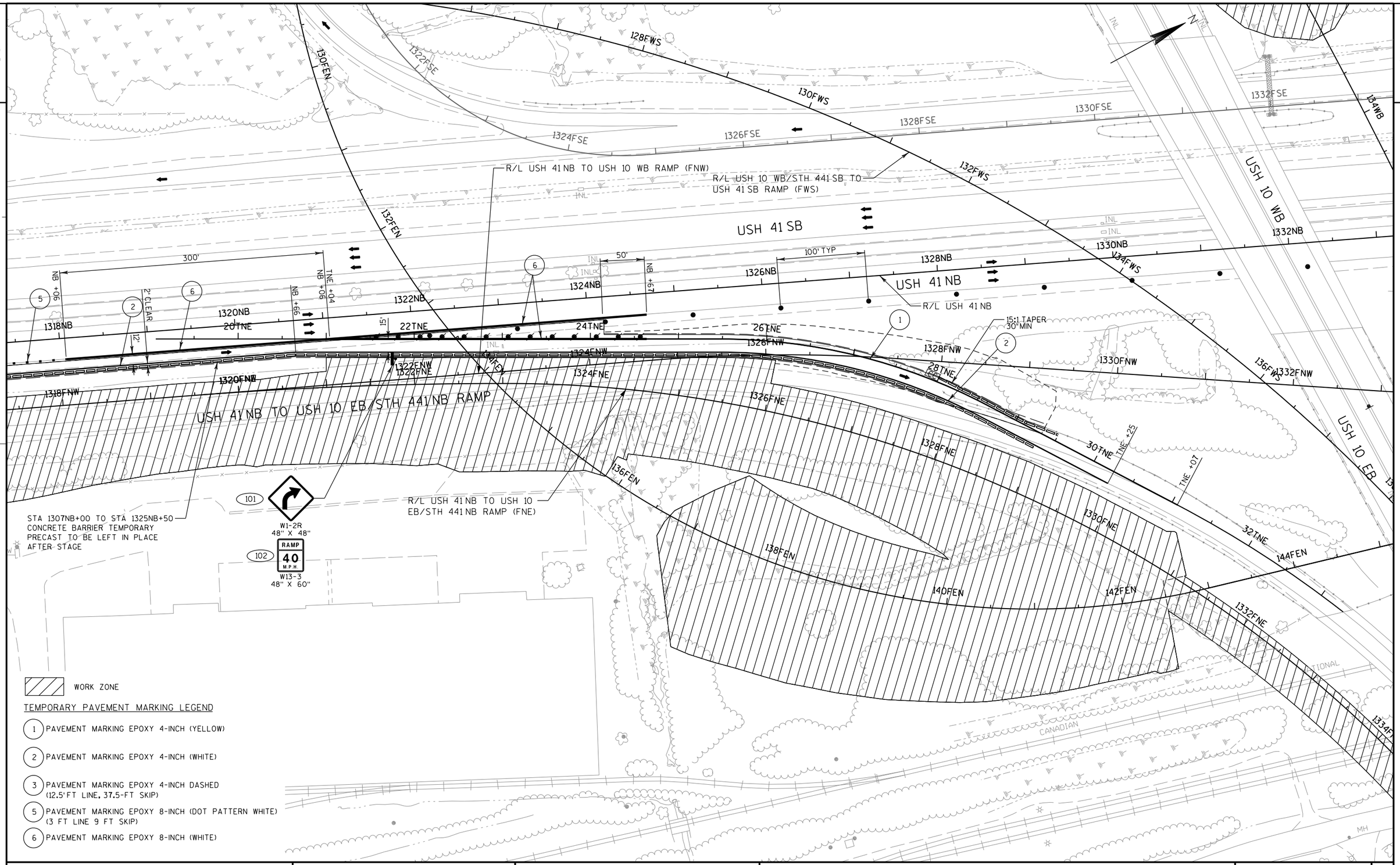
WORK ZONE

TEMPORARY PAVEMENT MARKING LEGEND

1. PAVEMENT MARKING EPOXY 4-INCH (YELLOW)
2. PAVEMENT MARKING EPOXY 4-INCH (WHITE)
3. PAVEMENT MARKING EPOXY 4-INCH DASHED (12.5'FT LINE, 37.5-FT SKIP)
5. PAVEMENT MARKING EPOXY 8-INCH (DOT PATTERN WHITE) (3 FT LINE 9 FT SKIP)
6. PAVEMENT MARKING EPOXY 8-INCH (WHITE)

PROJECT NO: 1517-07-72	HWY: USH 10	COUNTY: WINNEBAGO	TRAFFIC CONTROL PLAN: STAGE 1B SHEET 1	SHEET 148	E

2



WORK ZONE

TEMPORARY PAVEMENT MARKING LEGEND

1. PAVEMENT MARKING EPOXY 4-INCH (YELLOW)
2. PAVEMENT MARKING EPOXY 4-INCH (WHITE)
3. PAVEMENT MARKING EPOXY 4-INCH DASHED (12.5'FT LINE, 37.5-FT SKIP)
5. PAVEMENT MARKING EPOXY 8-INCH (DOT PATTERN WHITE) (3 FT LINE 9 FT SKIP)
6. PAVEMENT MARKING EPOXY 8-INCH (WHITE)

PROJECT NO: 1517-07-72	HWY: USH 10	COUNTY: WINNEBAGO	TRAFFIC CONTROL PLAN: STAGE 1A & 1B SHEET 2	SHEET 149	E

2

STA 35TWN+45 TO STA 44TWN+28
CONCRETE BARRIER TEMPORARY
PRECAST TO BE LEFT IN PLACE
AFTER STAGE

STA 1340NB+92 TO STA 1344NB+27
CONCRETE BARRIER TEMPORARY
PRECAST TO BE LEFT IN PLACE
AFTER STAGE

STA 36TWN+29 TO STA 47TWN+50
CONCRETE BARRIER TEMPORARY
PRECAST TO BE LEFT IN PLACE
AFTER STAGE

R/L USH 41 NB

R/L USH 41 SB

R/L USH 10 WB/STH 441 WB
TO USH 41 NB RAMP (FWN)

USH 10 WB/STH 441 SB TO USH 41 NB

THRIE BEAM TEMPORARY
LEFT IN PLACE

W01-4CL

W1-6
48" X 24"

W4-1
48" X 48"

W1-6
48" X 24"
15:1 TAPER
30' MIN

NB +80
BEGIN TAPER

NB +92

NB +00
END TAPER

NB +90

NB +53

TWN +90

TWN +45

TWN +00

TWN +61

100'

100' TYP

50'

70'

2' CLEAR

15'

USH 41 SB

USH 41 NB

USH 10 EB

USH 10 WB

WISCONSIN CENTRAL LIMITED RAILROAD

RAILROAD

CANADIAN

1334FSE 1336FSE 1338FSE 1340FSE 1342FSE 1344FSE 1346FSE 1348FSE

1334NB 1336NB 1338NB 1340NB 1342NB 1344NB 1346NB 1348NB

1348TWN 46TWN 48TWN 42TWN

1334WB 136WB 138WB 140WB 142WB

1334FNW 1336FNW 1338FNW 1340FNW

1334FNE

1334FWS 136FWS 138FWS 140FWS 142FWS

1320FWN 1322FWN 1324FWN 1326FWN 1328FWN 1330FWN 1332FWN 1334FWN 1336FWN 1338FWN 1340FWN 1342FWN

1320FEN 1322FEN 1324FEN 1326FEN 1328FEN 1330FEN 1332FEN 1334FEN 1336FEN 1338FEN 1340FEN 1342FEN 1344FEN 1346FEN 1348FEN 1350FEN 1352FEN 1354FEN 1356FEN 1358FEN 1360FEN

142FWN 140FWN 138FWN

142FEN 144FEN 146FEN 148FEN 150FEN 152FEN 154FEN 156FEN 158FEN 160FEN

WORK ZONE

TEMPORARY PAVEMENT MARKING LEGEND

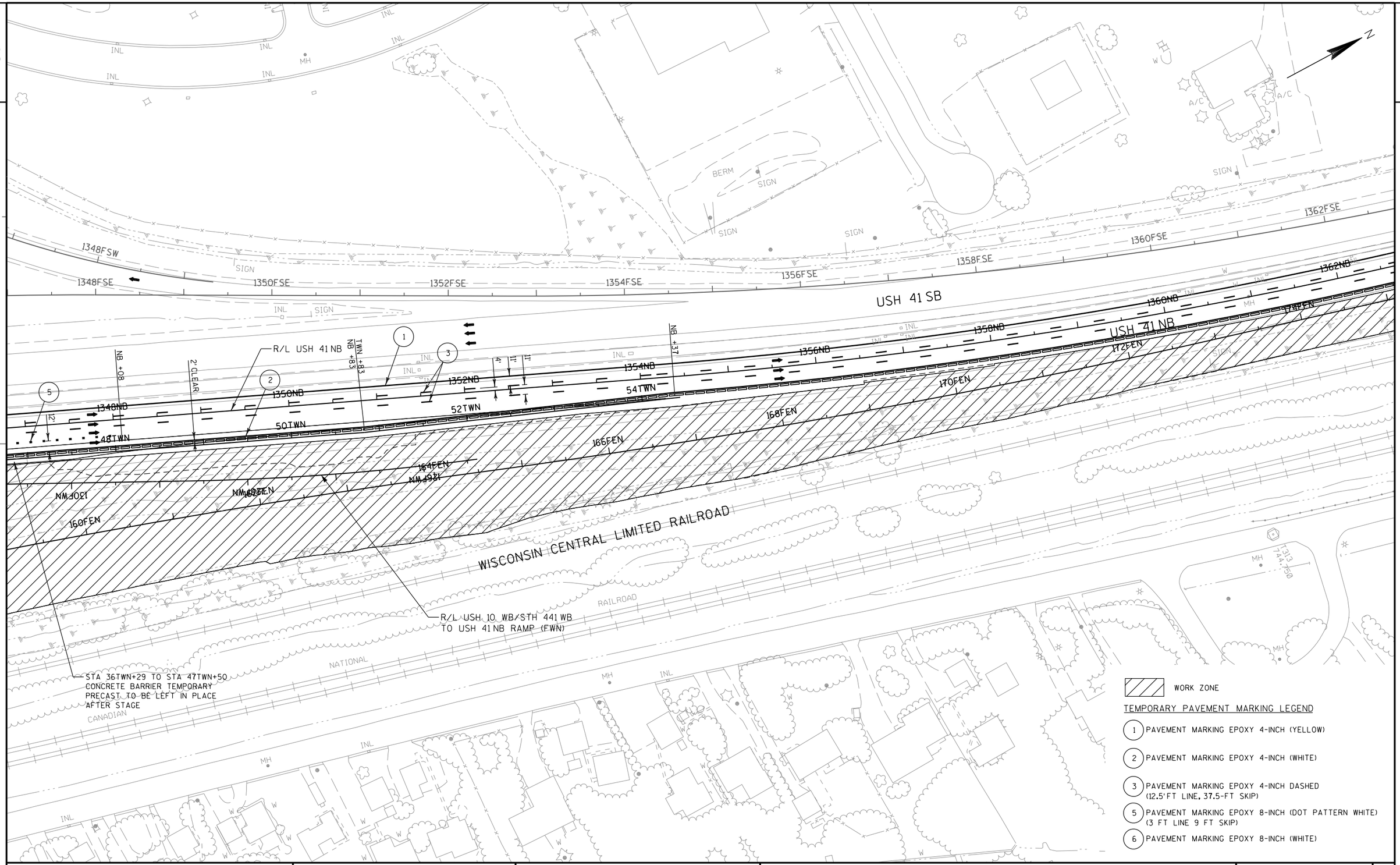
1. PAVEMENT MARKING EPOXY 4-INCH (YELLOW)
2. PAVEMENT MARKING EPOXY 4-INCH (WHITE)
3. PAVEMENT MARKING EPOXY 4-INCH DASHED (12.5'FT LINE, 37.5-FT SKIP)
5. PAVEMENT MARKING EPOXY 8-INCH (DOT PATTERN WHITE) (3 FT LINE 9 FT SKIP)
6. PAVEMENT MARKING EPOXY 8-INCH (WHITE)

REFLECTIVE PAVEMENT MARKERS

PROJECT NO: 1517-07-72	HWY: USH 10	COUNTY: WINNEBAGO	TRAFFIC CONTROL PLAN: STAGE 1A & 1B SHEET 3	SHEET 150	E

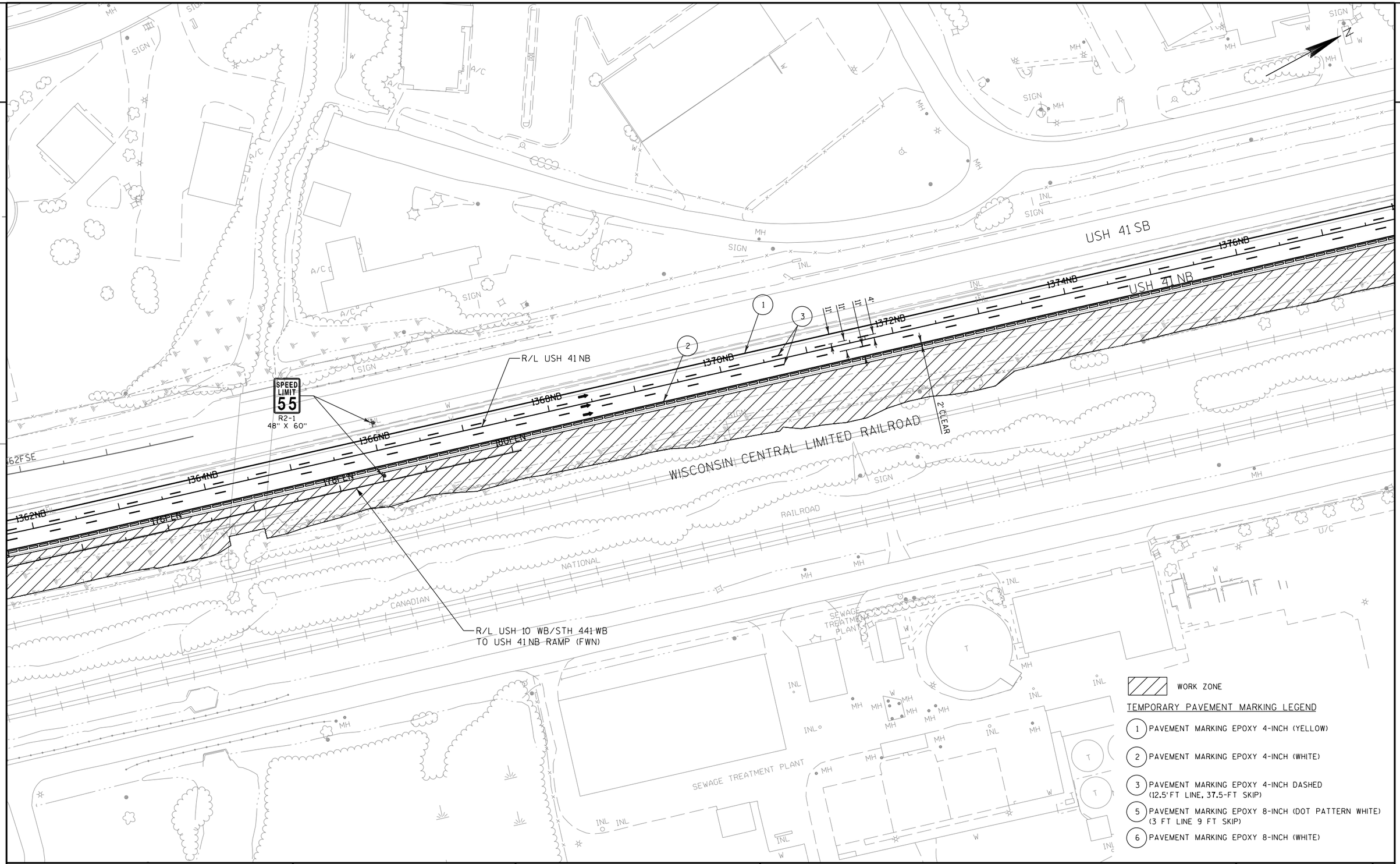
FILE NAME : S:\DOT\DOT_NE\120012-Tri County Freeway\1517-07-72\DGN_Files\Plansheets\025074_tc.dgn PLOT DATE : 2/19/2014 PLOT BY : wally_w PLOT NAME : PLOT SCALE : 1:100

2



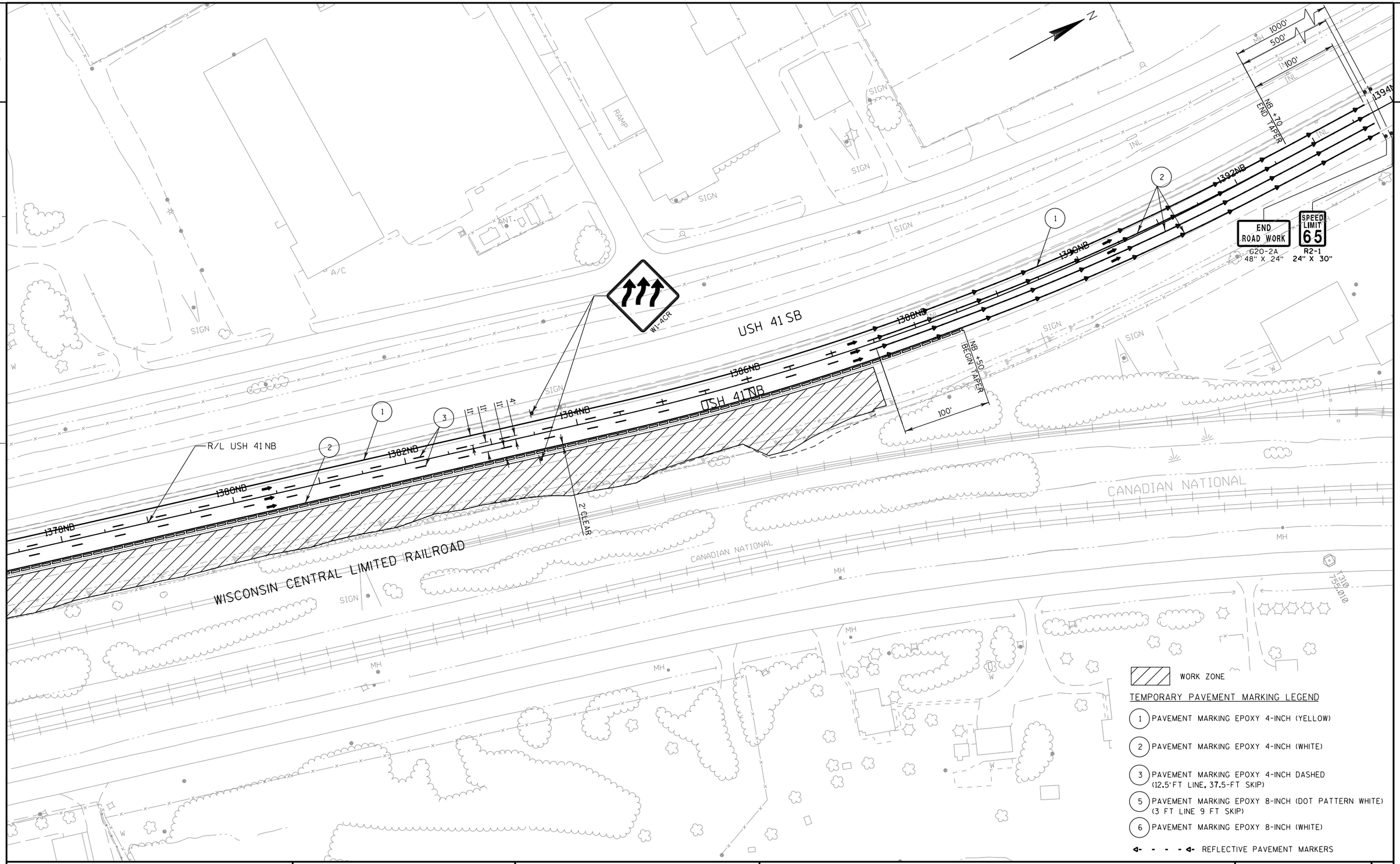
PROJECT NO: 1517-07-72	HWY: USH 10	COUNTY: WINNEBAGO	TRAFFIC CONTROL PLAN: STAGE 1A & 1B SHEET 4	SHEET 151	E

2



PROJECT NO: 1517-07-72	HWY: USH 10	COUNTY: WINNEBAGO	TRAFFIC CONTROL PLAN: STAGE 1A & 1B SHEET 5	SHEET 152	E

2



PROJECT NO: 1517-07-72	HWY: USH 10	COUNTY: WINNEBAGO	TRAFFIC CONTROL PLAN: STAGE 1A & 1B SHEET 6	SHEET 153	E

2

N

2' CLEAR
TWN +29
15'
50' TYP
TWN +45
TWN +00
THRIE BEAM TEMPORARY LEFT IN PLACE
148FEN
RAILROAD
142FWN
EXISTING SIGN TO REMAIN
W01-2R
35 M.P.H. W13-1
ROAD WORK 500 FT W20-1
144FWN
EXIT 35 M.P.H. W013-2 48" X 60"
RIGHT SHOULDER CLOSED AHEAD W21-5B
1600'
ROAD WORK AHEAD W20-1
140WB
142WB
144WB
146WB
148WB
150WB
152WB
154WB
146FWN
148FWN
150FWN
152FWN
154FWN
140FWS
142FWS
144FWS
146FWS
SIGN
MH
R/L USH 10 WB/STH 441 WB TO USH 41 NB RAMP (FWN)
USH 10 WB
USH 10 EB
1334FNE
1336FNE
1338FNE
1340FNE
1342FNE
1344FNE
1346FNE
1348FNE
USH 41 NB TO USH 10 EB/STH 441 NB RAMP
END ROAD WORK G20-2A 48" X 24"
R/L USH 41 NB TO USH 10 EB/STH 441 NB RAMP (FNE)
LITTLE BUTTE DES MORTS

WORK ZONE

TEMPORARY PAVEMENT MARKING LEGEND

1. PAVEMENT MARKING EPOXY 4-INCH (YELLOW)
2. PAVEMENT MARKING EPOXY 4-INCH (WHITE)
3. PAVEMENT MARKING EPOXY 4-INCH DASHED (12.5'FT LINE, 37.5-FT SKIP)
5. PAVEMENT MARKING EPOXY 8-INCH (DOT PATTERN WHITE) (3 FT LINE 9 FT SKIP)
6. PAVEMENT MARKING EPOXY 8-INCH (WHITE)

PROJECT NO: 1517-07-72	HWY: USH 10	COUNTY: WINNEBAGO	TRAFFIC CONTROL PLAN: STAGE 1A & 1B SHEET 7	SHEET 154	E

PIPE CROSSINGS TO BE CONSTRUCTED AT NIGHT
SEE SDD "TRAFFIC CONTROL EXIT RAMP CLOSURE"

PIPE CROSSINGS TO BE CONSTRUCTED AT NIGHT
SEE SDD "TRAFFIC CONTROL EXIT RAMP CLOSURE"

WORK ZONE

TEMPORARY PAVEMENT MARKING LEGEND

1. PAVEMENT MARKING EPOXY 4-INCH (YELLOW)
2. PAVEMENT MARKING EPOXY 4-INCH (WHITE)
3. PAVEMENT MARKING EPOXY 4-INCH DASHED (12.5'FT LINE, 37.5-FT SKIP)
5. PAVEMENT MARKING EPOXY 8-INCH (DOT PATTERN WHITE) (3 FT LINE 9 FT SKIP)
6. PAVEMENT MARKING EPOXY 8-INCH (WHITE)

R/L USH 10 WB

R/L USH 41 NB

USH 10 WB/STH 441 SB TO USH 41 SB

USH 10 EB

USH 10 WB

USH 41 SB

USH 41 NB

50' TYP

100' TYP

500'

SIGN

RIGHT SHOULDER CLOSED
W21-5A

INL

1356FNW

1358

1340FNW

1338FSE

1336FSE

1336NB

1334FSE

1334NB

1333FSE

1332NB

1332FNW

1330FSE

1310FSE

1308FSE

1312FSE

1336FWS

1334FWS

130NB

122WB

124WB

126WB

128WB

130WB

132WB

134WB

136WB

PROJECT NO: 1517-07-72	HWY: USH 10	COUNTY: WINNEBAGO	TRAFFIC CONTROL PLAN: STAGE 1A & 1B SHEET 8	SHEET 155	E

FILE NAME : S:\DOT\DOT_NE\120012-Tri County Freeway\1517-07-72\DGN_Files\Plansheets\025079_tc.dgn PLOT DATE : 2/19/2014 PLOT BY : wally_w PLOT NAME : PLOT SCALE : 1:100

WISDOT/CADDS SHEET 42

WORK ZONE

TEMPORARY PAVEMENT MARKING LEGEND

1. PAVEMENT MARKING EPOXY 4-INCH (YELLOW)
2. PAVEMENT MARKING EPOXY 4-INCH (WHITE)
3. PAVEMENT MARKING EPOXY 4-INCH DASHED (12.5'FT LINE, 37.5-FT SKIP)
5. PAVEMENT MARKING EPOXY 8-INCH (DOT PATTERN WHITE) (3 FT LINE 9 FT SKIP)
6. PAVEMENT MARKING EPOXY 8-INCH (WHITE)

N

USH 41 SB TO USH 10 WB

R/L USH 41 NB TO USH 10 WB RAMP (FNW)

R/L USH 10 WB

R/L USH 10 EB TO USH 41 NB RAMP (FEN)

USH 10 WB

USH 10 EB

END ROAD WORK
G20-2A
48" X 24"

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

100' TYP

100' TYP

BIKE PATH

WALLS

BERM

PROJECT NO: 1517-07-72	HWY: USH 10	COUNTY: WINNEBAGO	TRAFFIC CONTROL PLAN: STAGE 1A & 1B SHEET 9	SHEET 156	E

2

USH 10 WB

120WB

118WB

USH 10 EB

INL

USH 10 WB/STH 441 SB TO USH 41 SB

1316FSE

1320FSE

1318FSE

130FEN

SM:12

128FEN

50' TYP

126FEN

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

R/L USH 10 EB TO USH 41 NB RAMP (FEN)

124FEN

122FEN

120FEN

SM:22

EXISTING BARRIER TO REMAIN

120FES

122FES

124FES

100' TYP

126FES

EXISTING BARRIER TO REMAIN

118FEN

USH 10 EB TO USH 41 SB

100' TYP

116FEN

SM:20

BERM

128FES

130FES

SIGN

INL

MH

M

W

BIKE PATH

A/C W

WORK ZONE

TEMPORARY PAVEMENT MARKING LEGEND

1. PAVEMENT MARKING EPOXY 4-INCH (YELLOW)
2. PAVEMENT MARKING EPOXY 4-INCH (WHITE)
3. PAVEMENT MARKING EPOXY 4-INCH DASHED (12.5'FT LINE, 37.5-FT SKIP)
5. PAVEMENT MARKING EPOXY 8-INCH (DOT PATTERN WHITE) (3 FT LINE 9 FT SKIP)
6. PAVEMENT MARKING EPOXY 8-INCH (WHITE)

PROJECT NO: 1517-07-72	HWY: USH 10	COUNTY: WINNEBAGO	TRAFFIC CONTROL PLAN: STAGE 1A & 1B SHEET 10	SHEET 157	E

2

WORK ZONE

TEMPORARY PAVEMENT MARKING LEGEND

1. PAVEMENT MARKING EPOXY 4-INCH (YELLOW)
2. PAVEMENT MARKING EPOXY 4-INCH (WHITE)
3. PAVEMENT MARKING EPOXY 4-INCH DASHED (12.5'FT LINE, 37.5-FT SKIP)
5. PAVEMENT MARKING EPOXY 8-INCH (DOT PATTERN WHITE) (3 FT LINE 9 FT SKIP)
6. PAVEMENT MARKING EPOXY 8-INCH (WHITE)

N

R/L USH 41NB TO USH 10 WB RAMP (FNW)

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

1338FSW 1340FSW 1342FSW

USH 41 SB TO USH 10 WB

1354FNW 1352FNW 1350FNW 1348FNW

1356FNW 1358FNW

EXISTING BARRIER TO REMAIN

USH 10 WB/STH 441 SB TO USH 41 SB

EXISTING BARRIER TO REMAIN

PIPE CROSSINGS TO BE CONSTRUCTED AT NIGHT SEE SDD "TRAFFIC CONTROL EXIT RAMP CLOSURE"

PIPE CROSSINGS TO BE CONSTRUCTED AT NIGHT SEE SDD "TRAFFIC CONTROL EXIT RAMP CLOSURE"

1346FNW 1344FNW 1342FNW

1340FSE

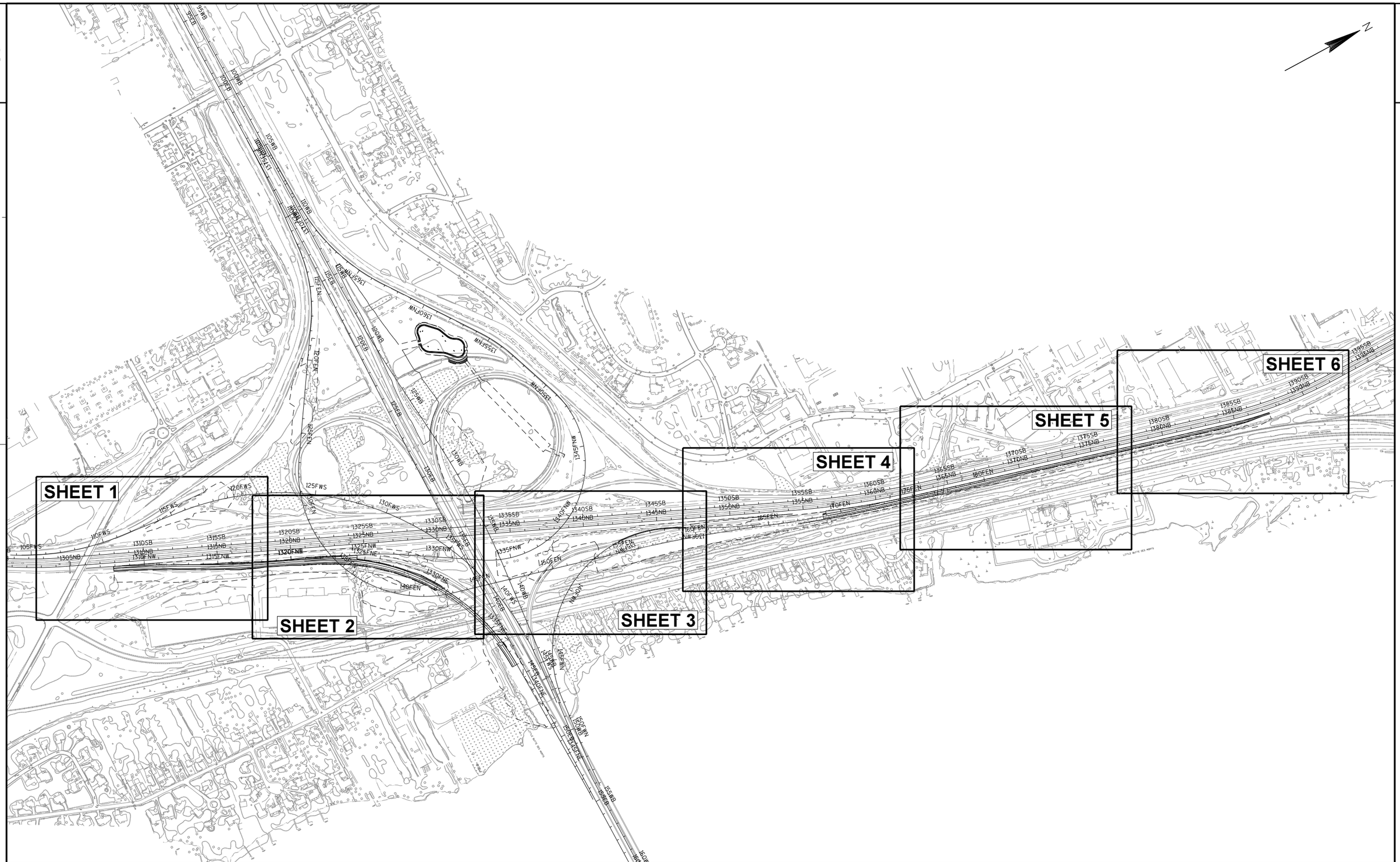
BERM BERM

MH MH MH MH

INL

SIGN

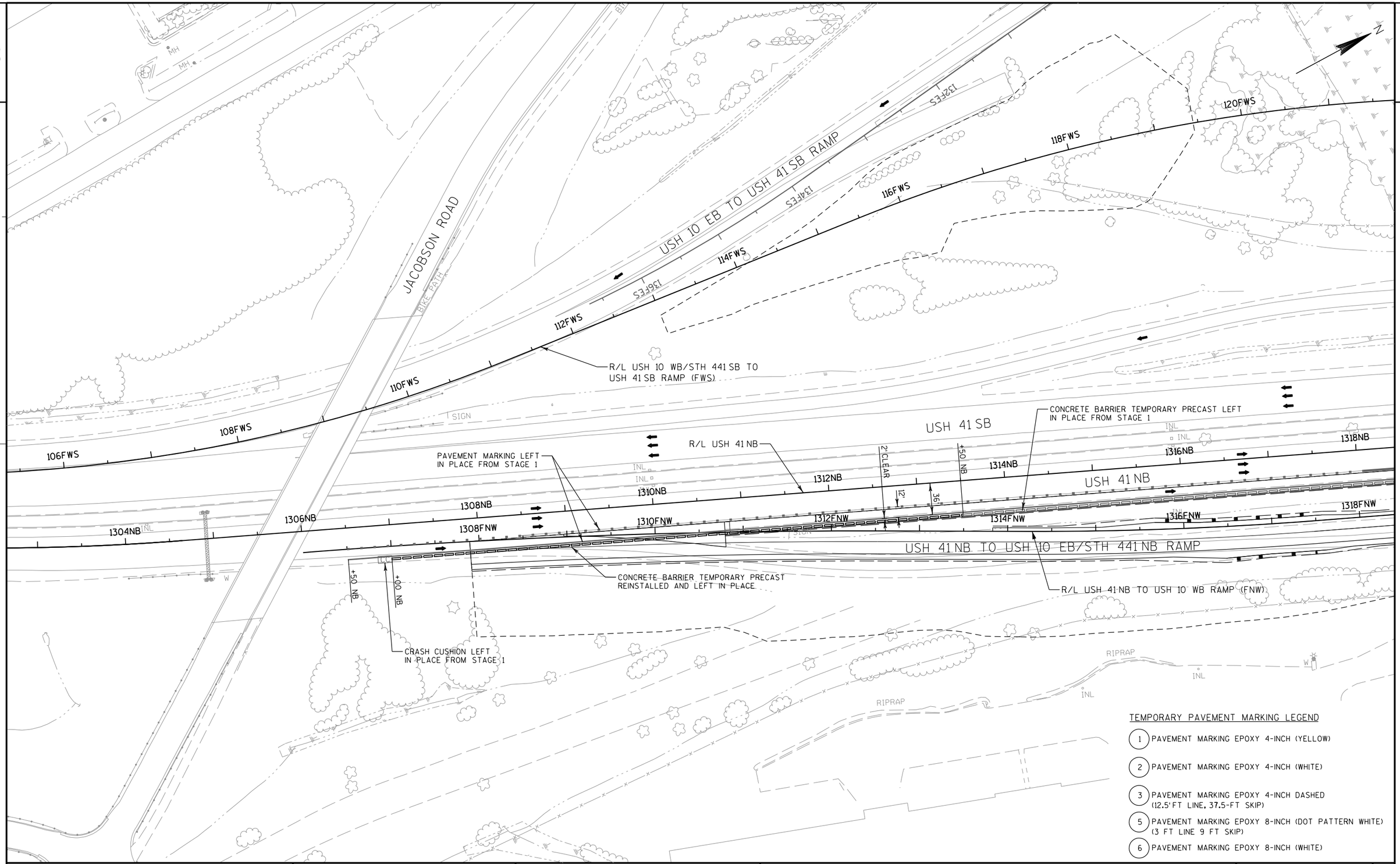
PROJECT NO: 1517-07-72	HWY: USH 10	COUNTY: WINNEBAGO	TRAFFIC CONTROL PLAN: STAGE 1A & 1B SHEET 11	SHEET 158 E



PROJECT NO: 1517-07-72	HWY: USH 10	COUNTY: WINNEBAGO	TRAFFIC CONTROL LEFT IN PLACE PLAN OVERVIEW	SHEET 159	E

FILE NAME : S:\DOT\DOT_NE\120012-Tri County Freeway\1517-07-72\DGN_Files\Plansheets\025083_tc.dgn PLOT DATE : 2/19/2014 PLOT BY : wally_w PLOT NAME : PLOT SCALE : 1:600

2

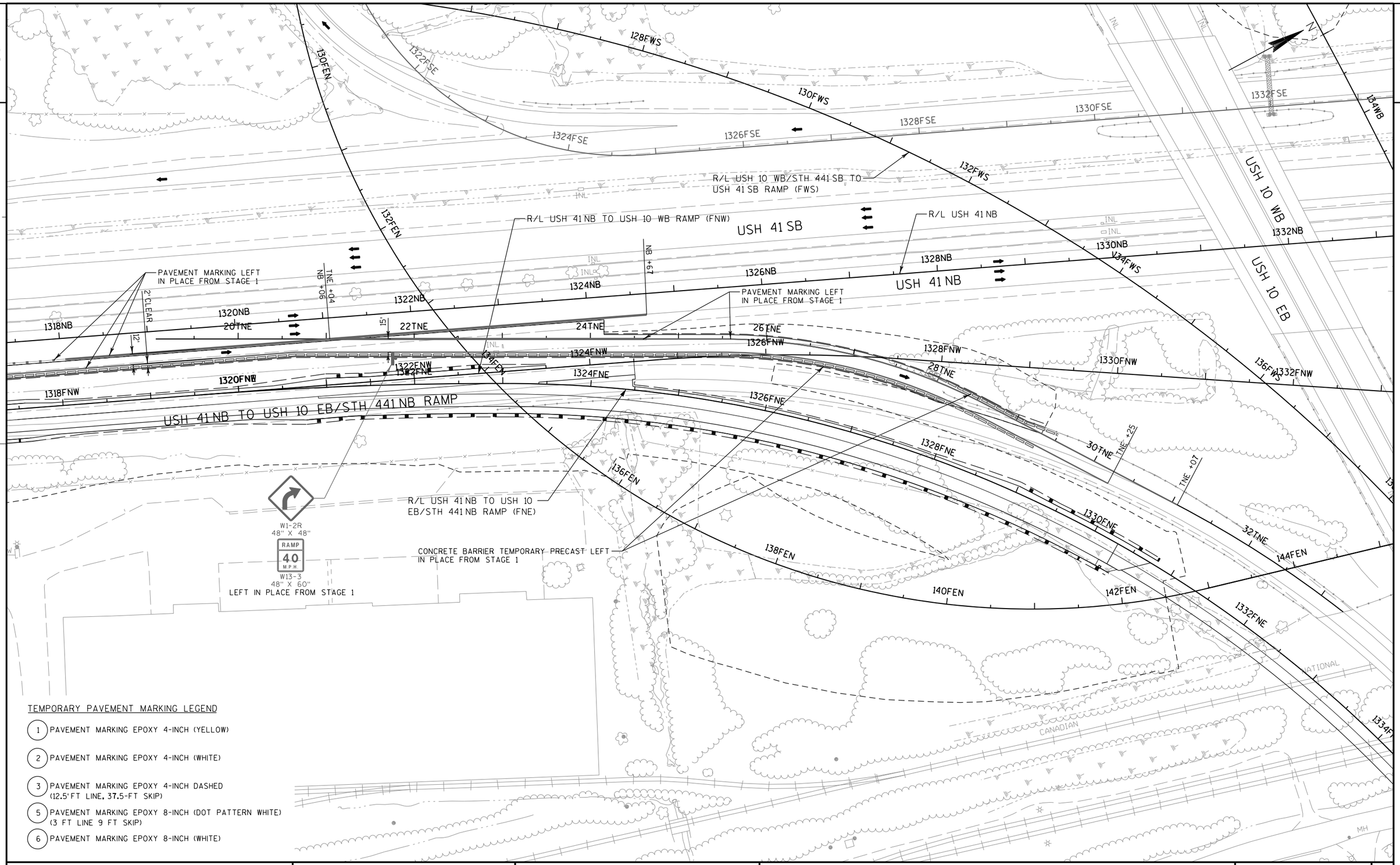


TEMPORARY PAVEMENT MARKING LEGEND

1. PAVEMENT MARKING EPOXY 4-INCH (YELLOW)
2. PAVEMENT MARKING EPOXY 4-INCH (WHITE)
3. PAVEMENT MARKING EPOXY 4-INCH DASHED (12.5'FT LINE, 37.5-FT SKIP)
5. PAVEMENT MARKING EPOXY 8-INCH (DOT PATTERN WHITE) (3 FT LINE 9 FT SKIP)
6. PAVEMENT MARKING EPOXY 8-INCH (WHITE)

PROJECT NO: 1517-07-72	HWY: USH 10	COUNTY: WINNEBAGO	TRAFFIC CONTROL LEFT IN PLACE PLAN: SHEET 1	SHEET 160	E

2



TEMPORARY PAVEMENT MARKING LEGEND

1. PAVEMENT MARKING EPOXY 4-INCH (YELLOW)
2. PAVEMENT MARKING EPOXY 4-INCH (WHITE)
3. PAVEMENT MARKING EPOXY 4-INCH DASHED (12.5'FT LINE, 37.5-FT SKIP)
5. PAVEMENT MARKING EPOXY 8-INCH (DOT PATTERN WHITE) (3 FT LINE 9 FT SKIP)
6. PAVEMENT MARKING EPOXY 8-INCH (WHITE)

PROJECT NO: 1517-07-72	HWY: USH 10	COUNTY: WINNEBAGO	TRAFFIC CONTROL LEFT IN PLACE PLAN: SHEET 2	SHEET 161	E

2

USH 41 SB

USH 41 NB

USH 10 WB/STH 441 SB TO USH 41 NB

WISCONSIN CENTRAL LIMITED RAILROAD

USH 10 EB

USH 10 WB

RAILROAD

LEFT IN PLACE FROM STAGE 1

W1-6 48" X 24"

R/L USH 41 NB

LEFT IN PLACE FROM STAGE 1

W4-1 X 48"

CRASH CUSHION LEFT IN PLACE FROM STAGE 1

PAVEMENT MARKING LEFT IN PLACE FROM STAGE 1

CONCRETE BARRIER TEMPORARY PRECAST LEFT IN PLACE FROM STAGE 1

STA 44TWN+28 TO STA 1384NB+42 CONCRETE BARRIER TEMPORARY PRECAST FROM STAGE 1 MOVED IN THIS STAGE AS SHOWN

THRIE BEAM TEMPORARY LEFT IN PLACE

CONCRETE BARRIER TEMPORARY PRECAST LEFT IN PLACE FROM STAGE 1

R/L USH 10 WB/STH 441 WB TO USH 41 NB RAMP (FWN)

LEFT IN PLACE FROM STAGE 1

W1-6 48" X 24"

CRASH CUSHION LEFT IN PLACE FROM STAGE 1

2' CLEAR

15'

12'

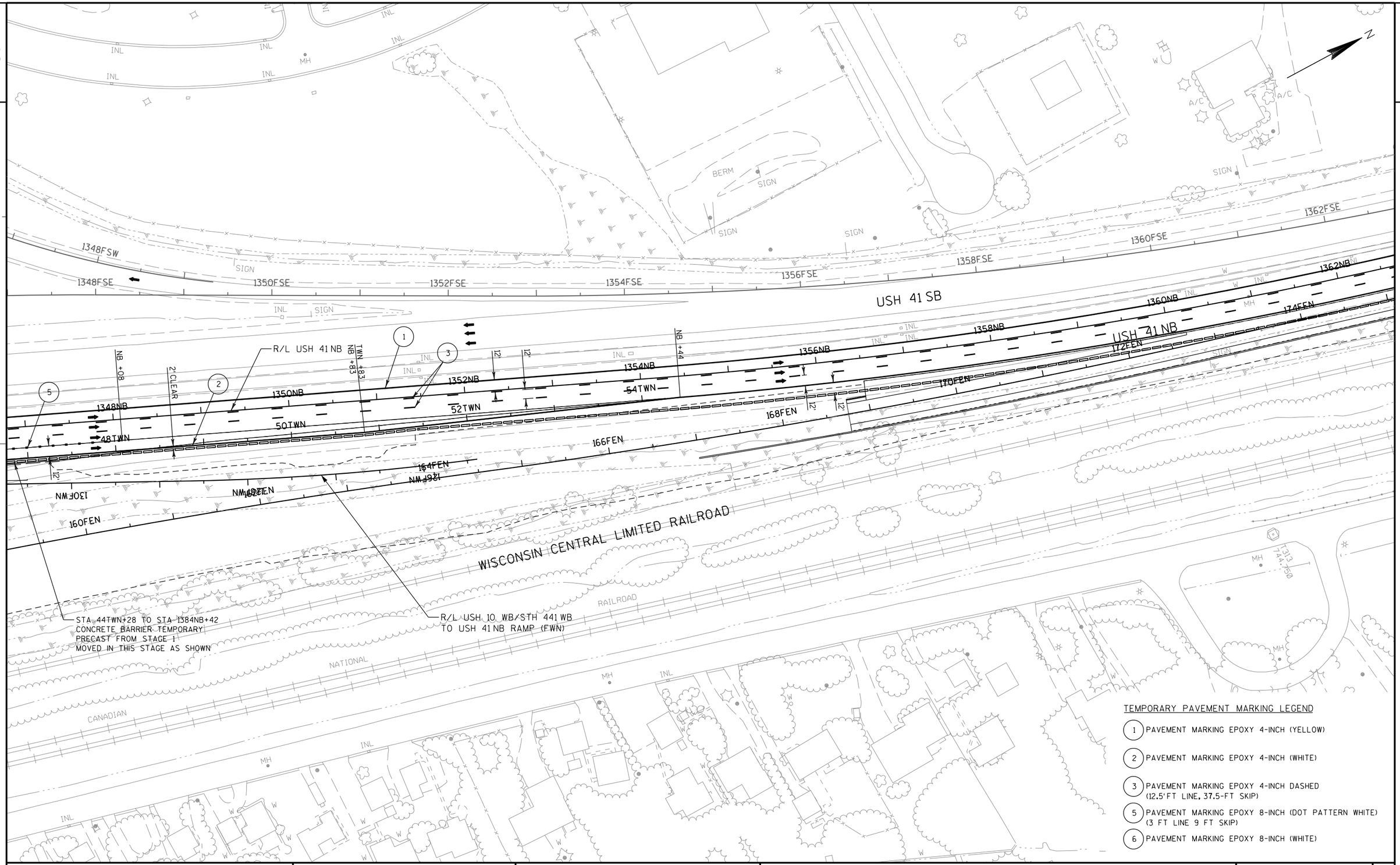
TEMPORARY PAVEMENT MARKING LEGEND

1. PAVEMENT MARKING EPOXY 4-INCH (YELLOW)
2. PAVEMENT MARKING EPOXY 4-INCH (WHITE)
3. PAVEMENT MARKING EPOXY 4-INCH DASHED (12.5'FT LINE, 37.5-FT SKIP)
5. PAVEMENT MARKING EPOXY 8-INCH (DOT PATTERN WHITE) (3 FT LINE 9 FT SKIP)
6. PAVEMENT MARKING EPOXY 8-INCH (WHITE)

PROJECT NO: 1517-07-72	HWY: USH 10	COUNTY: WINNEBAGO	TRAFFIC CONTROL LEFT IN PLACE PLAN: SHEET 3	SHEET 162	E

FILE NAME : S:\DOT\DOT_NE\120012-Tri County Freeway\1517-07-72\DGN_Files\Plansheets\025087_tc.dgn PLOT DATE : 2/19/2014 PLOT BY : wally_w PLOT NAME : PLOT SCALE : 1:100

2



TEMPORARY PAVEMENT MARKING LEGEND

1. PAVEMENT MARKING EPOXY 4-INCH (YELLOW)
2. PAVEMENT MARKING EPOXY 4-INCH (WHITE)
3. PAVEMENT MARKING EPOXY 4-INCH DASHED (12.5'FT LINE, 37.5-FT SKIP)
5. PAVEMENT MARKING EPOXY 8-INCH (DOT PATTERN WHITE) (3 FT LINE 9 FT SKIP)
6. PAVEMENT MARKING EPOXY 8-INCH (WHITE)

PROJECT NO: 1517-07-72	HWY: USH 10	COUNTY: WINNEBAGO	TRAFFIC CONTROL LEFT IN PLACE PLAN: SHEET 4	SHEET 163	E

2

2

USH 41 SB

USH 41 NB

1376NB

1374NB

1372NB

1370NB

1368NB

1366NB

1364NB

1362NB

180FEN

178FEN

176FEN

62FSE

R/L USH 41 NB

STA 44TWN+28 TO STA 1384NB+42
CONCRETE BARRIER TEMPORARY
PRECAST FROM STAGE 1
MOVED IN THIS STAGE AS SHOWN

R/L USH 10 WB/STH 441 WB
TO USH 41 NB RAMP (FWN)

WISCONSIN CENTRAL LIMITED RAILROAD

CANADIAN

SEWAGE TREATMENT PLANT

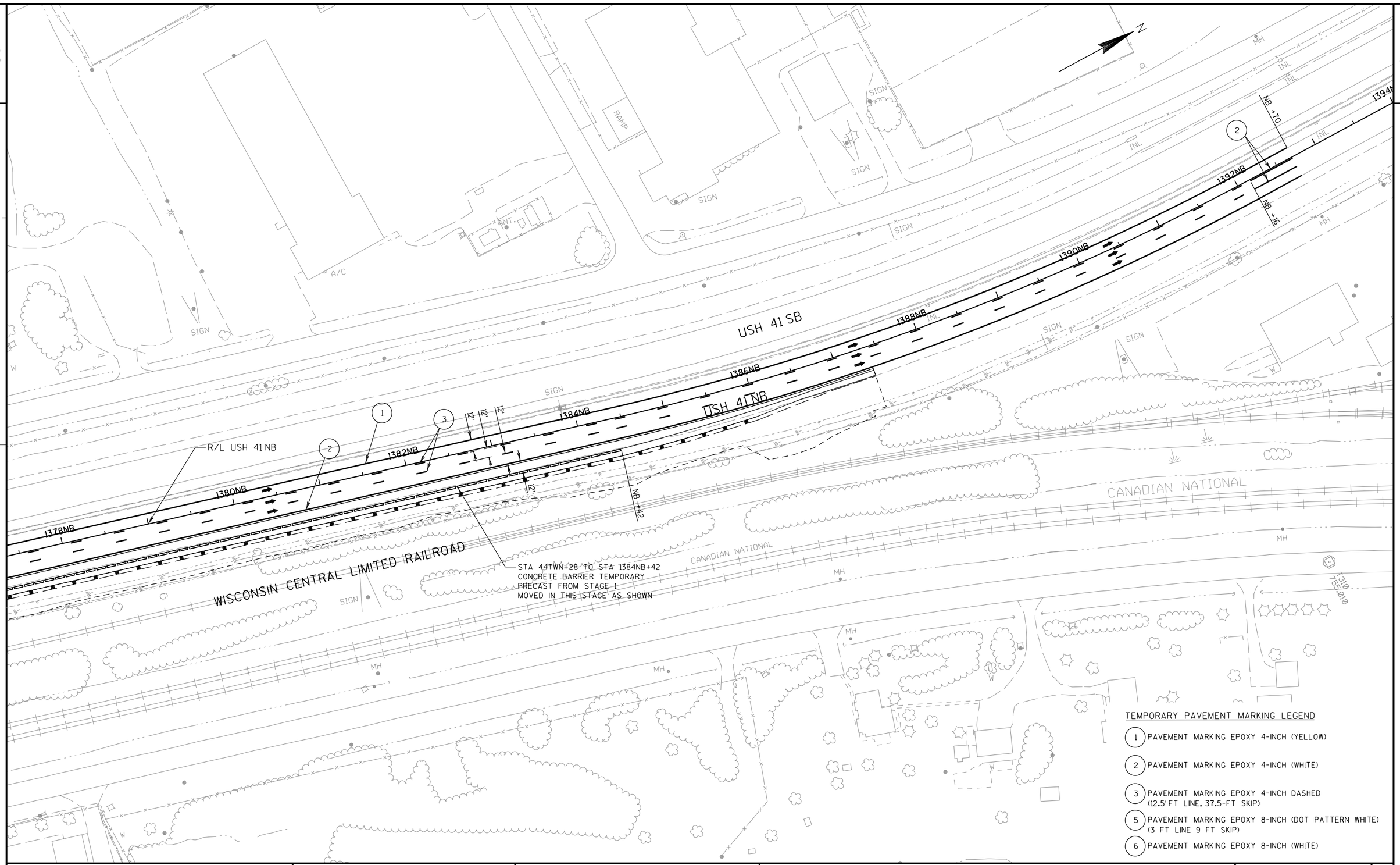
TEMPORARY PAVEMENT MARKING LEGEND

1. PAVEMENT MARKING EPOXY 4-INCH (YELLOW)
2. PAVEMENT MARKING EPOXY 4-INCH (WHITE)
3. PAVEMENT MARKING EPOXY 4-INCH DASHED (12.5'FT LINE, 37.5-FT SKIP)
5. PAVEMENT MARKING EPOXY 8-INCH (DOT PATTERN WHITE) (3 FT LINE 9 FT SKIP)
6. PAVEMENT MARKING EPOXY 8-INCH (WHITE)

PROJECT NO: 1517-07-72	HWY: USH 10	COUNTY: WINNEBAGO	TRAFFIC CONTROL LEFT IN PLACE PLAN: SHEET 5	SHEET 164	E

FILE NAME : S:\DOT\DOT_NE\120012-Tri County Freeway\1517-07-72\DGN_Files\Plansheets\025089_tc.dgn PLOT DATE : 2/19/2014 PLOT BY : wally_w PLOT NAME : PLOT SCALE : 1:100

2



TEMPORARY PAVEMENT MARKING LEGEND

1. PAVEMENT MARKING EPOXY 4-INCH (YELLOW)
2. PAVEMENT MARKING EPOXY 4-INCH (WHITE)
3. PAVEMENT MARKING EPOXY 4-INCH DASHED (12.5'FT LINE, 37.5-FT SKIP)
5. PAVEMENT MARKING EPOXY 8-INCH (DOT PATTERN WHITE) (3 FT LINE 9 FT SKIP)
6. PAVEMENT MARKING EPOXY 8-INCH (WHITE)

PROJECT NO: 1517-07-72	HWY: USH 10	COUNTY: WINNEBAGO	TRAFFIC CONTROL LEFT IN PLACE PLAN: SHEET 6	SHEET 165	E

BENCHMARKS			
NUMBER	LOCATION	DESCRIPTION	ELEVATION
CS-1	STA 100WB+56.22, 538.49' RT	NW FLANGE BOLT ON HYD IN SE QUAD OF COLDSPRING ROAD AND WESTFIELD	772.51
CS-2	STA 99WB+23.66, 469.3' LT	NE FLANGE BOLT ON HYD IN NW QUAD OF COLDSPRING ROAD AND W AMERICAN DRIVE	773.26
AM-1	STA 105WB+21.00, 475.4' LT	FLANGE BOLT ON FIRST HYD ON NORTH SIDE OF AMERICAN DRIVE EAST OF COLDSPRING ROAD	771.60
AM-2	STA 110WB+16.68, 472.9' LT	FLANGE BOLT ON SECOND HYD ON NORTH SIDE OF AMERICAN DRIVE EAST OF COLDSPRING ROAD	771.22
AM-3	STA 1363FNW+18.38, 392.1' RT	FLANGE BOLT ON FIRST HYD ON NORTH SIDE OF AMERICAN DRIVE EAST OF DELTA DRIVE	769.07
AM-4	STA 1357FNW+69.57, 330.9'RT	FLANGE BOLT ON SECOND HYD ON NORTH SIDE OF AMERICAN DRIVE EAST OF DELTA DRIVE	766.74

N

BM AM-4

BM CS-2

BM AM-1

BM AM-2

BM AM-3

SECTION LINE 2641.49' N00°09'49"W

R/L USH 41 NB TO USH 10 WB RAMP (FNW)

SEE ALIGNMENT - SYSTEM INTERCHANGE RAMPS FOR ALIGNMENT INFORMATION

BEGIN PROJECT
STA 114WB+50.00
X=808261.379
Y=546433.457

R/L USH 10 WB

90WB 95WB 100WB 105WB 110WB 115WB 120WB

6767.27'
S89°47'36"E

424.79
S89°47'36"E

PC

PI

PI

CURVE WB1

USH 10 WB

90EB 95EB 100EB 110EB 115EB 120EB

USH 10 EB

R/L USH 10 EB

SEE ALIGNMENT - SYSTEM INTERCHANGE RAMPS FOR ALIGNMENT INFORMATION

115FEN

120FEN

120FES

R/L USH 10 EB TO USH 41 SB RAMP (FES)

SEE ALIGNMENT - SYSTEM INTERCHANGE RAMPS FOR ALIGNMENT INFORMATION

BM CS-1

T 20 N
8 9
17 16
R 17 E

SEC 2017-057
ALUM. DISK
Y 544929.224
X 806834.878

CURVE WB1

PC = 114WB+59.40
X = 808270.78
Y = 546433.42
PI = 119WB+30.29
X = 808741.66
Y = 546431.72
PT = 124WB+00.52
X = 809210.74
Y = 546473.00
R = 10300.00
DELTA = 5°14'07" LT
D= 0°33'23"
L = 941.12
T = 470.89
BK = S 89°47'36" E
AH = N 84°58'17" E

PROJECT NO: 1517-07-72	HWY: USH 10	COUNTY: WINNEBAGO	ALIGNMENT - USH 10 WB	SHEET 166	E

FILE NAME : S:\DOT\DOT_NE\120012-Tri County Freeway\1517-07-72\DGN_Files\Plansheets\027201_ad.dgn PLOT DATE : 2/19/2014 PLOT BY : wally_w PLOT NAME : PLOT SCALE : 1:200

WISDOT/CADDS SHEET 42

BM AM-4

CTR 2017-045
ALUM. DISK
Y 547572.829
X 809467.241

T 20 N
R 9 E
17

SEE ALIGNMENT - SYSTEM INTERCHANGE RAMPS FOR ALIGNMENT INFORMATION

1/4 LINE 2636.03' N00°03'52"E

R/L USH 41 NB TO USH 10 WB RAMP (FNW)

BENCHMARKS			
NUMBER	LOCATION	DESCRIPTION	ELEVATION
41-D	STA 133WB+53.21, 90.26'RT	SIGN BRIDGE NORTH OF 441 BRIDGE OVER ON & OFF RAMP LANES, NW CORNER OF CONCRETE BASE BETWEEN ON OFF RAMP LANES	761.25
AM-4	STA 1357FNW+69.57, 330.9'RT	FLANGE BOLT ON SECOND HYD ON NORTH SIDE OF AMERICAN DRIVE EAST OF DELTA DRIVE	766.74

END PROJECT
STA 133WB+00.00
X=810108.128
Y=546527.700

R/L USH 10 WB
CURVE WB1
PT
125WB
379.96'
N84°58'17"E
PC
CURVE WB2
130WB
PI
135WB
PT
140WB
954.96'
S84°10'39"E
145WB
288.68'
S84°10'39"E
150WB
120WB
PI
USH 10 WB
BM 41-D

120EB 125EB 130EB 135EB 140EB 145EB 150EB
USH 10 EB
R/L USH 10 EB

R/L USH 41 SB
R/L USH 41 NB
SEE ALIGNMENT - USH 41 NB FOR ALIGNMENT INFORMATION
SEE ALIGNMENT - SYSTEM INTERCHANGE RAMPS FOR ALIGNMENT INFORMATION
R/L USH 10 WB/STH 441 SB TO USH 41 NB RAMP (FWN)
EQUATION
STATION EQUATION
PI 147WB+92.21, 12'RT AHEAD
PI 147WB+92.21 BACK

R/L USH 41 SB TO USH 10 EB/STH 441 NB RAMP (FSE)
R/L USH 10 WB/STH 441 SB TO USH 41 SB RAMP (FWS)
SEE ALIGNMENT - SYSTEM INTERCHANGE RAMPS FOR ALIGNMENT INFORMATION
R/L USH 41 NB TO USH 10 EB/STH 441 NB RAMP (FNE)
SEE ALIGNMENT - SYSTEM INTERCHANGE RAMPS FOR ALIGNMENT INFORMATION
R/L USH 10 EB TO USH 41 NB RAMP (FEN)

USH 41 SB
USH 41 NB

OTR 2017-058
ALUM. DISK
Y 544936.799
X 809464.280

T 20 N
R 9 E
16
17

CURVE WB1	CURVE WB2
PC = 114WB+59.40	PC = 127WB+80.49
X = 808270.78	X = 809589.24
Y = 546433.42	Y = 546506.30
PI = 119WB+30.29	PI = 133WB+10.45
X = 808741.66	X = 810117.17
Y = 546431.72	Y = 546552.76
PT = 124WB+00.52	PT = 138WB+37.25
X = 809210.74	X = 810644.40
Y = 546473.00	Y = 546498.99
R = 10300.00	R = 5580.00
DELTA = 5°14'07" LT	DELTA = 10°51'03" RT
D= 0°33'23"	D= 1°01'37"
L = 941.12	L = 1056.76
T = 470.89	T = 529.97
BK = S 89°47'36" E	BK = N 84°58'17" E
AH = N 84°58'17" E	AH = S 84°10'39" E

PROJECT NO: 1517-07-72	HWY: USH 10	COUNTY: WINNEBAGO	ALIGNMENT - USH 10 WB	SHEET 167	E

2

SEC 2017-057
ALUM. DISK
Y 544929.224
X 806834.878

T 20 N
R 17 E
8 9
17 16

SECTION LINE 2629.41' N89°50'06"E

R/L USH 10 EB TO USH 41 SB RAMP (FES)

125FES

SEE ALIGNMENT - SYSTEM INTERCHANGE RAMPS FOR ALIGNMENT INFORMATION

130FES

R/L USH 10 WB/STH 441 SB TO USH 41 SB RAMP (FWS)

120FWS

115FWS

135FES

QTR 2017-058
ALUM. DISK
Y 544936.799
X 809464.280

T 20 N
R 17 E
9
16

110FWS

R/L USH 41 SB

1310SB 1315SB 1320SB 1325SB 1330SB

1305NB 1310NB 1315NB USH 41 SB 1320NB 1325NB 1330NB

4953.83'
N24°06'43"E

PT

1310FNW

1315FNW

USH 41 NB

1320FNW

1325FNW

1325FNE

1330FNW

BM 41-C

CURVE NB 3

R/L USH 41 NB

SEE ALIGNMENT - USH 41 NB FOR ALIGNMENT INFORMATION

SEE ALIGNMENT - SYSTEM INTERCHANGE RAMPS FOR ALIGNMENT INFORMATION

1/4 LINE 2633.83' N00°28'27"W

CTR 2017-071
BERNTSEN MON.
Y 542303.060
X 809486.204

T 20 N
R 17 E
16

125FEN

125EB

125WB

USH 10 EB

USH 10 WB

N

CTR 2017-045
ALUM. DISK
Y 547572.829
X 809467.241

T 20 N
R 17 E
9

1315FSE

1/4 LINE 2636.03' N00°03'52"E

1310FSE

1320FSE

125FWS

R/L USH 41 SB TO USH 10 EB/STH 441 NB RAMP (FSE)

130FEN

130EB

130WB

R/L USH 10 WB

R/L USH 10 EB

130FWS

BM 41-D

1325FSE

1330FSE

135FWS

135EB

135WB

135FEN

R/L USH 41 NB TO USH 10 WB (FNW)

1330FNE

145FEN

R/L USH 41 NB TO USH 10 EB/STH 441 NB RAMP (FNE)

140FEN

R/L USH 10 EB TO USH 41 NB RAMP (FEN)

140EB

1335FNE

2

CURVE NB3

PC = 1295NB+24.93
X = 808664.47
Y = 543102.99
PI = 1299NB+99.05
X = 808987.25
Y = 543450.27
PT = 1304NB+64.66
X = 809180.94
Y = 543883.02
R = 2864.79
DELTA = 18°47'40" LT
D= 2°00'00"
L = 939.72
T = 474.12
BK = N 42°54'23" E
AH = N 24°06'43" E

BENCHMARKS			
NUMBER	LOCATION	DESCRIPTION	ELEVATION
41-C	STA 1304NB+78.44, 53.5'RT	SIGN BRIDGE JUST SOUTH OF JACOBSON RD ON EAST SIDE OF 41 FOR NORTH BOUND LANES; NW CORNER OF CONCRETE BASE	776.40
41-D	STA 1331NB+95.68, 149.7'LT	SIGN BRIDGE NORTH OF 441 BRIDGE OVER ON & OFF RAMP LANES, NW CORNER OF CONCRETE BASE BETWEEN ON OFF RAMP LANES	761.25

PROJECT NO: 1517-07-72	HWY: USH 10	COUNTY: WINNEBAGO	ALIGNMENT - USH 41 NB	SHEET 168	E

BENCHMARKS			
NUMBER	LOCATION	DESCRIPTION	ELEVATION
41-E	STA 1364NB+4.11, 47.1'RT	WIS DOT DISK IN SE PARRAPET WALL OF 41 BRIDGE OVER CREEK, NORTH OF 441 BRIDGE, B-70-134-92 PLATE; DISK STAMPED 751.31	751.32

T 20 N
9
R 17 E

CTR 2017-045
ALUM. DISK
Y 547572.829
X 809467.241

SEE ALIGNMENT - SYSTEM INTERCHANGE RAMPS FOR ALIGNMENT INFORMATION

R/L USH 41 NB TO USH 10 WB RAMP (FNW)

1/4 LINE 1875.33' N89°35'07"E

R/L USH 41 SB TO USH 10 WB RAMP (FSW)

R/L USH 41 SB TO USH 10 EB/STH 441 NB RAMP (FSE)

R/L USH 41 SB

USH 41 SB

USH 41 NB

R/L USH 41 NB

4953.83'
N24°06'43"E

CURVE NB 4

PC

PI

2182.95'
N15°42'02"E

BM 41-E

BEGIN CONSTRUCTION
STA 1356NB+51.55

R/L USH 10 EB TO USH 41 NB RAMP (FEN)

SEE ALIGNMENT - SYSTEM INTERCHANGE RAMPS FOR ALIGNMENT INFORMATION

R/L USH 10 WB/STH 441 SB TO USH 41 NB RAMP (FWN)

1335FSE 1340FSE 1345FSE 1350FSE 1355FSE 1360FSE 1360SB
1335SB 1340SB 1345SB 1350SB 1355SB
1335NB 1340NB 1345NB 1350NB 1355NB 1360NB
1335FNW 1340FNW 1345FNW 1350FNW
1335FSW 1340FSW 1345FSW
1335FNE 1335FWB 140EB 140FWS 140WB 140FWN 145EB 145FWS 145WB 145FWN
150FEN 155FEN 165FEN 170FEN 175FEN

CURVE NB4

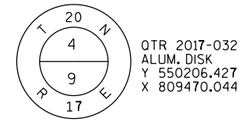
PC = 1354NB+18.48
X = 811204.68
Y = 548404.62
PI = 1358NB+39.81
X = 811376.80
Y = 548789.18
PT = 1362NB+59.62
X = 811490.82
Y = 549194.79
R = 5729.58
DELTA = 8°24'41" LT
D= 1°00'00"
L = 841.14
T = 421.32
BK = N 24°06'43" E
AH = N 15°42'02" E

PROJECT NO: 1517-07-72	HWY: USH 10	COUNTY: WINNEBAGO	ALIGNMENT - USH 41 NB	SHEET 169	E

FILE NAME : S:\DOT\DOT_NE\120012-Tri County Freeway\1517-07-72\DGN_Files\Plansheets\027207_ad.dgn PLOT DATE : 2/19/2014 PLOT BY : wally_w PLOT NAME : PLOT SCALE : 1:200

WISDOT/CADDS SHEET 42

2



QTR 2017-032
ALUM. DISK
Y 550206.427
X 809470.044

BENCHMARKS			
NUMBER	LOCATION	DESCRIPTION	ELEVATION
41-E	STA 1364NB+4.11, 47.1'RT	WIS DOT DISK IN SE PARRAPET WALL OF 41 BRIDGE OVER CREEK, NORTH OF 441 BRIDGE, B-70-134-92 PLATE: DISK STAMPED 751.31	751.32

2

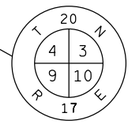
SECTION LINE 2650.47' S89°50'57"E

R/L USH 41 SB

1365SB 1370SB 1375SB 1380SB 1385SB 1390SB

CURVE NB 4
PT
1365NB 1370NB 1375NB 1380NB 1385NB 1390NB
175FEN 180FEN
2182.95'
N15°42'02"E
USH 41 SB
USH 41 NB
R/L USH 41 NB
PT
2140.05'
N0°14'34"E
PC
CURVE NB 5
PI
BM 41-E

END CONSTRUCTION
STA 1387NB+39.79



QTR 2017-033
NONE (IN BUILDING)
Y 550199.45
X 812120.51

SECTION LINE 1040.52' N00°08'57"W

CURVE NB4	CURVE NB5
PC = 1354NB+18.48	PC = 1384NB+42.57
X = 811204.68	X = 812081.55
Y = 548404.62	Y = 551296.29
PI = 1358NB+39.81	PI = 1388NB+31.38
X = 811376.80	X = 812186.76
Y = 548789.18	Y = 551670.59
PT = 1362NB+59.62	PT = 1392NB+15.46
X = 811490.82	X = 812188.41
Y = 549194.79	Y = 552059.39
R = 5729.58	R = 2864.79
DELTA = 8°24'41" LT	DELTA = 15°27'28" LT
D= 1°00'00"	D= 2°00'00"
L = 841.14	L = 772.89
T = 421.32	T = 388.80
BK = N 24°06'43" E	BK = N 15°42'02" E
AH = N 15°42'02" E	AH = N 0°14'34" E

PROJECT NO: 1517-07-72	HWY: USH 10	COUNTY: WINNEBAGO	ALIGNMENT - USH 41 NB	SHEET 170	E

2

CURVE FEN1	CURVE FEN2	CURVE FNW5	CURVE FNW6
PC = 104FEN+13.49	PC = 112FEN+22.08	PC = 1352FNW+94.11	PC = 1363FNW+14.56
X = 807224.57	X = 808031.81	X = 809380.33	X = 808523.92
Y = 546353.20	Y = 546311.47	Y = 547247.83	Y = 546697.84
PI = 107FEN+34.87	PI = 114FEN+88.61	PI = 1354FNW+39.33	PI = 1367FNW+25.63
X = 807545.95	X = 808297.42	X = 809243.60	X = 808186.56
Y = 546352.04	Y = 546289.29	Y = 547198.91	Y = 546462.97
PT = 110FEN+55.90	PT = 117FEN+43.95	PT = 1355FNW+82.85	PT = 1371FNW+12.55
X = 807866.21	X = 808519.74	X = 809124.42	X = 807775.55
Y = 546325.29	Y = 546142.27	Y = 547115.93	Y = 546456.28
R = 8060.00	R = 1041.74	R = 1091.35	R = 1348.14
DELTA = 4°34'00" RT	DELTA = 28°42'10" RT	DELTA = 15°09'33" LT	DELTA = 33°54'52" RT
D= 0°42'39"	D= 5°30'00"	D= 5°15'00"	D= 4°15'00"
L = 642.41	L = 521.87	L = 288.74	L = 797.99
T = 321.37	T = 266.53	T = 145.22	T = 411.07
BK = S 89°47'36" E	BK = S 85°13'36" E	BK = S 70°18'44" W	BK = S 55°09'11" W
AH = S 85°13'36" E	AH = S 56°31'26" E	AH = S 55°09'11" W	AH = S 89°04'04" W

BENCHMARKS			
NUMBER	LOCATION	DESCRIPTION	ELEVATION
CS-1	STA 100WB+56.22, 538.49' RT	NW FLANGE BOLT ON HYD IN SE QUAD OF COLDSPRING ROAD AND WESTFIELD	772.51
AM-1	STA 105WB+21.00, 475.4'LT	FLANGE BOLT ON FIRST HYD ON NORTH SIDE OF AMERICAN DRIVE EAST OF COLDSPRING ROAD	771.60
AM-2	STA 110WB+16.68, 472.9'LT	FLANGE BOLT ON SECOND HYD ON NORTH SIDE OF AMERICAN DRIVE EAST OF COLDSPRING ROAD	771.22
AM-3	STA 1363FNW+18.38, 392.1' RT	FLANGE BOLT ON FIRST HYD ON NORTH SIDE OF AMERICAN DRIVE EAST OF DELTA DRIVE	769.07
AM-4	STA 1357FNW+69.57, 330.9'RT	FLANGE BOLT ON SECOND HYD ON NORTH SIDE OF AMERICAN DRIVE EAST OF DELTA DRIVE	766.74
AM-5	STA 1353FNW+61.33, 272.4'RT	FLANGE BOLT ON HYD IN NE QUAD OF AMERICAN DRIVE AND MILL POND LANE	766.36

BM CS-1

SEE ALIGNMENT - USH 10 WB FOR ALIGNMENT INFORMATION

PC

PI 1375FNW+68.36

105WB

105FEN

1375FNW

455.81'
S89°04'04"W

BM AM-1

BM AM-2

PI

PT

CURVE FEN1

110WB

110EB

110FEN

1370FNW

PT

PC

CURVE FNW6

BM AM-3

CURVE FEN2

PI

115WB

115EB

115FEN

1365FNW

PI

PC

731.71'
S55°09'11"W

BM AM-4

R/L USH 10 EB TO USH 41 NB RAMP (FEN)

R/L USH 41 SB TO USH 10 WB RAMP (FSW)

BEGIN CONSTRUCTION
STA 118FEN+50.00
X=808608.195
Y=546083.775

PT

1360FNW

BM AM-5

USH 10 WB

USH 10 EB

120WB

120EB

120ES

120FEN

PT

PI

CURVE FNW5

1355FNW

R/L USH 10 WB

PC

356.55'
S70°18'44"W

R/L USH 10 EB TO USH 41 SB RAMP (FES)

R/L USH 10 EB

1/4 LINE 2639.91' N89°57'14"E

T 20 N
R 9 E
17

CTR 2017-045
ALUM. DISK
Y 547572.829
X 809467.241

PROJECT NO: 1517-07-72	HWY: USH 10	COUNTY: WINNEBAGO	ALIGNMENT - SYSTEM INTERCHANGE RAMPS	SHEET 171	E

CURVE FNW1
PC = 1306FNW+10.01
X = 809262.23
Y = 544005.89
PI = 1309FNW+31.39
X = 809393.51
Y = 544299.22
PT = 1312FNW+52.42
X = 809547.74
Y = 544581.17
R = 8060.00
DELTA = 4°34'00" RT
D= 0°42'39"
L = 642.41
T = 321.37
BK = N 24°06'43" E
AH = N 28°40'43" E

CURVE FNW2
PC = 1314FNW+22.44
X = 809629.33
Y = 544730.34
PI = 1315FNW+84.73
X = 809707.21
Y = 544872.71
PT = 1317FNW+46.84
X = 809773.51
Y = 545020.83
R = 4070.00
DELTA = 4°34'00" LT
D= 1°24'28"
L = 324.39
T = 162.28
BK = N 28°40'43" E
AH = N 24°06'43" E

CURVE FNW3
PC = 1324FNW+78.85
X = 810072.55
Y = 545688.98
PI = 1326FNW+12.74
X = 810127.25
Y = 545811.18
PT = 1327FNW+46.16
X = 810198.88
Y = 545924.29
R = 1860.00
DELTA = 8°14'04" RT
D= 3°04'50"
L = 267.31
T = 133.89
BK = N 24°06'43" E
AH = N 32°20'47" E

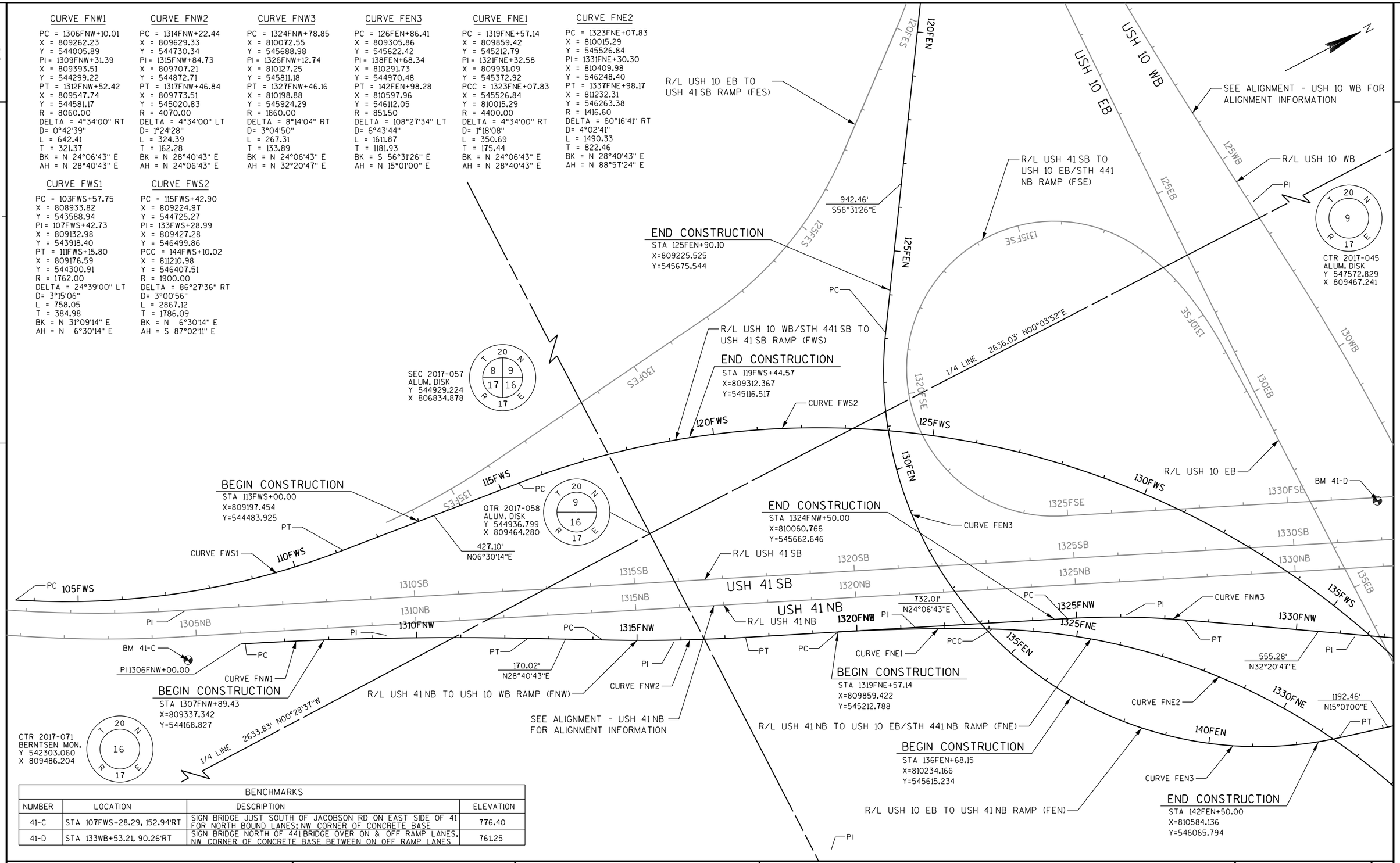
CURVE FEN3
PC = 126FEN+86.41
X = 809305.86
Y = 545622.42
PI = 138FEN+68.34
X = 810291.73
Y = 544970.48
PT = 142FEN+98.28
X = 810597.96
Y = 546112.05
R = 851.50
DELTA = 108°27'34" LT
D= 6°43'44"
L = 1611.87
T = 1181.93
BK = S 56°31'26" E
AH = N 15°01'00" E

CURVE FNE1
PC = 1319FNE+57.14
X = 809859.42
Y = 545212.79
PI = 1321FNE+32.58
X = 809931.09
Y = 545372.92
PCC = 1323FNE+07.83
X = 545526.84
Y = 810015.29
R = 4400.00
DELTA = 4°34'00" RT
D= 1°18'08"
L = 350.69
T = 175.44
BK = N 24°06'43" E
AH = N 28°40'43" E

CURVE FNE2
PC = 1323FNE+07.83
X = 810015.29
Y = 545526.84
PI = 1331FNE+30.30
X = 810409.98
Y = 546248.40
PT = 1337FNE+98.17
X = 811232.31
Y = 546263.38
R = 1416.60
DELTA = 60°16'41" RT
D= 4°02'41"
L = 1490.33
T = 822.46
BK = N 28°40'43" E
AH = N 88°57'24" E

CURVE FWS1
PC = 103FWS+57.75
X = 808933.82
Y = 543588.94
PI = 107FWS+42.73
X = 809132.98
Y = 543918.40
PT = 111FWS+15.80
X = 809176.59
Y = 544300.91
R = 1762.00
DELTA = 24°39'00" LT
D= 3°15'06"
L = 758.05
T = 384.98
BK = N 31°09'14" E
AH = N 6°30'14" E

CURVE FWS2
PC = 115FWS+42.90
X = 809224.97
Y = 544725.27
PI = 133FWS+28.99
X = 809427.28
Y = 546499.86
PCC = 144FWS+10.02
X = 811210.98
Y = 546407.51
R = 1900.00
DELTA = 86°27'36" RT
D= 3°00'56"
L = 2867.12
T = 1786.09
BK = N 6°30'14" E
AH = S 87°02'11" E



BENCHMARKS			
NUMBER	LOCATION	DESCRIPTION	ELEVATION
41-C	STA 107FWS+28.29, 152.94'RT	SIGN BRIDGE JUST SOUTH OF JACOBSON RD ON EAST SIDE OF 41 FOR NORTH BOUND LANES; NW CORNER OF CONCRETE BASE	776.40
41-D	STA 133WB+53.21, 90.26'RT	SIGN BRIDGE NORTH OF 441 BRIDGE OVER ON & OFF RAMP LANES, NW CORNER OF CONCRETE BASE BETWEEN ON OFF RAMP LANES	761.25

PROJECT NO: 1517-07-72	HWY: USH 10	COUNTY: WINNEBAGO	ALIGNMENT - SYSTEM INTERCHANGE RAMPS	SHEET 172	E

2

CTR 2017-045
ALUM. DISK
Y 547572.829
X 809467.241

T 20 N
9
R 17 E

CURVE FEN4
PC = 154FEN+90.75
X = 810906.93
Y = 547263.79
PI = 159FEN+70.95
X = 811031.35
Y = 547727.60
PRC = 164FEN+50.32
X = 811202.33
Y = 548176.33
R = 9410.00
DELTA = 5°50'34" RT
D= 0°36'32"
L = 959.58
T = 480.20
BK = N 15°01'00" E
AH = N 20°51'33" E

CURVE FEN5
PC = 164FEN+50.32
X = 811202.33
Y = 548176.33
PI = 168FEN+74.22
X = 811353.27
Y = 548572.45
PT = 172FEN+97.55
X = 811467.98
Y = 548980.53
R = 9410.00
DELTA = 5°09'31" LT
D= 0°36'32"
L = 847.23
T = 423.90
BK = N 20°51'33" E
AH = N 15°42'02" E

CURVE FNE2
PC = 1323FNE+07.83
X = 810015.29
Y = 545526.84
PI = 1331FNE+30.30
X = 810409.98
Y = 546248.40
PT = 1337FNE+98.17
X = 811232.31
Y = 546263.38
R = 1416.60
DELTA = 60°16'41" RT
D= 4°02'41"
L = 1490.33
T = 822.46
BK = N 28°40'43" E
AH = N 88°57'24" E

CURVE FNW4
PC = 1333FNW+01.44
X = 810495.97
Y = 546393.41
PI = 1352FNW+20.07
X = 811522.51
Y = 548014.33
PT = 1349FNW+37.56
X = 547367.95
Y = 809716.04
R = 660.00
DELTA = 142°02'03" LT
D= 8°40'52"
L = 1636.11
T = 1918.63
BK = N 32°20'47" E
AH = S 70°18'44" W

CURVE FNW5
PC = 1352FNW+94.11
X = 809380.33
Y = 547247.83
PI = 1354FNW+39.33
X = 809243.60
Y = 547198.91
PT = 1355FNW+82.85
X = 809124.42
Y = 547115.93
R = 1091.35
DELTA = 15°09'33" LT
D= 5°15'00"
L = 288.74
T = 145.22
BK = S 70°18'44" W
AH = S 55°09'11" W

CURVE FWN1
PC = 125FWN+38.63
X = 811188.32
Y = 548181.67
PI = 127FWN+02.17
X = 811130.09
Y = 548028.85
PT = 128FWN+65.34
X = 811054.58
Y = 547883.79
R = 2820.00
DELTA = 6°38'16" RT
D= 2°01'54"
L = 326.70
T = 163.53
BK = S 20°51'33" W
AH = S 27°29'49" W

CURVE FWN2
PC = 131FWN+43.62
X = 810926.10
Y = 547636.94
PI = 143FWN+71.06
X = 810359.38
Y = 546548.16
PT = 147FWN+67.21
X = 811580.49
Y = 546423.64
R = 833.00
DELTA = 111°40'29" LT
D= 6°52'42"
L = 1623.59
T = 1227.44
BK = S 27°29'49" W
AH = S 84°10'39" E

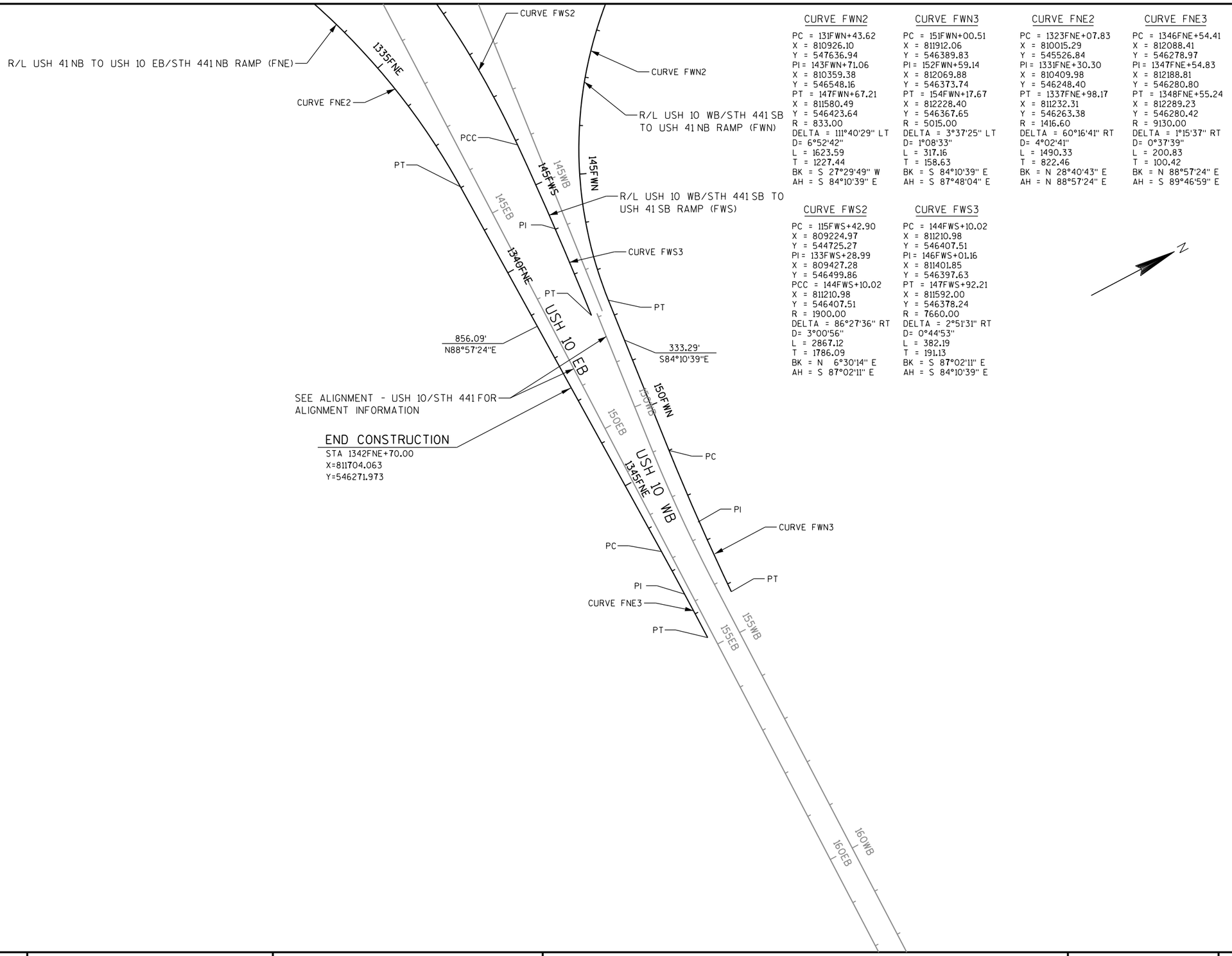
CURVE FWS2
PC = 115FWS+42.90
X = 809224.97
Y = 544725.27
PI = 133FWS+28.99
X = 809427.28
Y = 546499.86
PCC = 144FWS+10.02
X = 811210.98
Y = 546407.51
R = 1900.00
DELTA = 86°27'36" RT
D= 3°00'56"
L = 2867.12
T = 1786.09
BK = N 6°30'14" E
AH = S 87°02'11" E

CURVE FNW5
356.55'
S70°18'44"W
PC
PT
135OFNW
1/4 LINE 2636.03' N00°03'52"E
R/L USH 41 NB TO
USH 10 WB RAMP (FNW)
1/4 LINE 1875.33' N89°36'07"E
1340FSW
1345FNW
SEE ALIGNMENT - USH 10/STH 441 FOR
ALIGNMENT INFORMATION
CURVE FNW4
END PROJECT
STA 133WB+00.00
X=810108.128
Y=546527.700
R/L USH 10 WB
R/L USH 41 SB TO USH 10 WB RAMP (FSW)
1345FSW
MATCHLINE
STA 175FEN+00
1335FSE
1340FSE
1345FSE
1350FSE
1355FSE
1360FSE
1360SB
1355SB
1350SB
1345SB
1340SB
1335SB
1335NB
1340NB
1345NB
1350NB
1355NB
1360NB
175FEN
R/L USH 41 SB
R/L USH 41 NB
BM 41-D
1340FNW
135WB
PI
USH 41 SB
USH 41 NB
PT
712.45'
N15°42'02"E
SEE ALIGNMENT - USH 41 NB
FOR ALIGNMENT INFORMATION
END CONSTRUCTION
STA 170FEN+75.00
X=811405.517
Y=548766.925
278.28'
S27°29'49"W
PC
PT
CURVE FWN1
PI
165FEN
CURVE FEN5
170FEN
PRC
PI
135EB
R/L USH 10 EB/STH 441 NB
CURVE FWN2
END CONSTRUCTION
STA 137FWN+24.85
X=810851.438
Y=547072.385
NW 155FEN
135FWN
155FEN
PI
CURVE FEN4
PC
1335FNW
BEGIN CONSTRUCTION
STA 1334FNW+00.00
X=810542.306
Y=546480.297
555.28'
N32°20'47"E
150FEN
1192.46'
N15°01'00"E
BEGIN CONSTRUCTION
STA 152FEN+91.50
X=810855.842
Y=547071.204
BEGIN CONSTRUCTION
STA 128FWN+01.18
X=811083.554
Y=547941.034
R/L USH 10 EB TO
USH 41 NB RAMP (FEN)
PI
145FEN
R/L USH 10 WB/STH 441 SB
TO USH 41 SB RAMP (FWS)
140FWS
140WB
140EB
140FWN
R/L USH 10 WB/STH 441 WB
TO USH 41 NB RAMP (FWN)
R/L USH 41 NB TO USH 10 EB/STH 441 NB RAMP (FNE)
CURVE FWS2
1335FNE
CURVE FNE2

MATCHLINE
STA 175FEN+00
R/L USH 41 SB TO USH 10 EB/STH 441
NB RAMP (FSE)
1365SB
1365NB
180FEN
175FEN
PI 180FEN+10.00
BM 41-E
712.45'
N15°42'02"E
R/L USH 10 EB TO
USH 41 NB RAMP (FEN)

BENCHMARKS			
NUMBER	LOCATION	DESCRIPTION	ELEVATION
41-D	STA 133WB+53.21, 90.26'RT	SIGN BRIDGE NORTH OF 441 BRIDGE OVER ON & OFF RAMP LANES, NW CORNER OF CONCRETE BASE BETWEEN ON OFF RAMP LANES	761.25
41-E	STA 176FEN+54.48, 11.06'RT	WIS DOT DISK IN SE PARRAPET WALL OF 41 BRIDGE OVER CREEK, NORTH OF 441 BRIDGE, B-70-134-92 PLATE; DISK STAMPED 751.31	751.32

PROJECT NO: 1517-07-72	HWY: USH 10	COUNTY: WINNEBAGO	ALIGNMENT - SYSTEM INTERCHANGE RAMPS	SHEET 173	E



CURVE FWN2
PC = 131FWN+43.62
X = 810926.10
Y = 547636.94
PI = 143FWN+71.06
X = 810359.38
Y = 546548.16
PT = 147FWN+67.21
X = 811580.49
Y = 546423.64
R = 833.00
DELTA = 111°40'29" LT
D= 6°52'42"
L = 1623.59
T = 1227.44
BK = S 27°29'49" W
AH = S 84°10'39" E

CURVE FWN3
PC = 151FWN+00.51
X = 811912.06
Y = 546389.83
PI = 152FWN+59.14
X = 812069.88
Y = 546373.74
PT = 154FWN+17.67
X = 812228.40
Y = 546367.65
R = 5015.00
DELTA = 3°37'25" LT
D= 1°08'33"
L = 317.16
T = 158.63
BK = S 84°10'39" E
AH = S 87°48'04" E

CURVE FNE2
PC = 1323FNE+07.83
X = 810015.29
Y = 545526.84
PI = 1331FNE+30.30
X = 810409.98
Y = 546248.40
PT = 1337FNE+98.17
X = 811232.31
Y = 546263.38
R = 1416.60
DELTA = 60°16'41" RT
D= 4°02'41"
L = 1490.33
T = 822.46
BK = N 28°40'43" E
AH = N 88°57'24" E

CURVE FNE3
PC = 1346FNE+54.41
X = 812088.41
Y = 546278.97
PI = 1347FNE+54.83
X = 812188.81
Y = 546280.80
PT = 1348FNE+55.24
X = 812289.23
Y = 546280.42
R = 9130.00
DELTA = 1°15'37" RT
D= 0°37'39"
L = 200.83
T = 100.42
BK = N 88°57'24" E
AH = S 89°46'59" E

CURVE FWS2
PC = 115FWS+42.90
X = 809224.97
Y = 544725.27
PI = 133FWS+28.99
X = 809427.28
Y = 546499.86
PCC = 144FWS+10.02
X = 811210.98
Y = 546407.51
R = 1900.00
DELTA = 86°27'36" RT
D= 3°00'56"
L = 2867.12
T = 1786.09
BK = N 6°30'14" E
AH = S 87°02'11" E

CURVE FWS3
PC = 144FWS+10.02
X = 811210.98
Y = 546407.51
PI = 146FWS+01.16
X = 811401.85
Y = 546397.63
PT = 147FWS+92.21
X = 811592.00
Y = 546378.24
R = 7660.00
DELTA = 2°51'31" RT
D= 0°44'53"
L = 382.19
T = 191.13
BK = S 87°02'11" E
AH = S 84°10'39" E

2

T 20 N
10
R 17 E

CTR 2017-047
ALUMINUM DISK
Y 547998.337
X 814983.928

1/4 LINE 2639.67' S00°22'23"W

T 20 N
10
R 17 E

CTR 2017-047
ALUMINUM DISK
Y 547998.337
X 814983.928

1/4 LINE 2642.83' S89°08'21"E

T 20 N
10 11
R 17 E

CTR 2017-048
P.K. NAIL
Y 547958.626
X 817626.459

175EB

S 89°46'59" E

LITTLE LAKE
BUTTE DES MORTS

PC
EB-3

180EB

BEGIN CONSTRUCTION
STA 179EB+63.00
X = 814773.421
Y = 546283.926

185EB

190EB

USH 10/STH 441

195EB

200EB

PT
EB-3

205EB

CURVE EB-3

END CONSTRUCTION
STA 183EB+75.00
X = 815181.405
Y = 546336.049

R/L USH 10 EB/STH 441 NB

PI
EB-3

T 20 N
10
15
R 17 E

QTR 2017-060
ALUMINUM DISK
Y 545358.751
X 814966.708

Curve : EB-3

PC = 179EB+02.05
X = 814712.48
Y = 546283.25
PI = 191EB+10.01
X = 815920.43
Y = 546278.67
PT = 200EB+83.29
X = 816505.21
Y = 547335.64
R = 2040.00
DELTA = 61°15'45" LT
D = 2°48'31.02"
L = 2181.23
T = 1207.95
E = 330.81
BK = S 89°46'59" E
AH = N 28°57'16" E

PROJECT NO: 1517-07-72	HWY: USH 10	COUNTY: WINNEBAGO	ALIGNMENT - USH 10 EB/STH 441 NB	SHEET 175	E

2

SUPERELEVATION DATA CURVE WB1	STATION	RATE	
		LEFT	RIGHT
END NORMAL CROWN	113+09.40	-2.00%	-2.00%
REVERSE CROWN	114+89.40	-2.00%	2.00%
BEGIN FULL SUPER CURVE 1	114+89.40	-2.00%	2.00%
END FULL SUPER CURVE 1	123+70.52	-2.00%	2.00%
REVERSE CROWN	123+70.52	-2.00%	2.00%
BEGIN NORMAL CROWN	125+50.52	-2.00%	-2.00%

SUPERELEVATION DATA CURVE WB2-LEFT	STATION	RATE
		LEFT
END NORMAL CROWN	125+88.49	-2.00%
REVERSE CROWN	127+68.49	2.00%
BEGIN FULL SUPER CURVE 2	128+31.49	3.40%
END FULL SUPER CURVE 2	137+86.25	3.40%
REVERSE CROWN	138+49.25	2.00%
End of B-70-401	143+17.53	2.00%
BEGIN NORMAL CROWN	144+97.53	-2.00%

SUPERELEVATION DATA CURVE WB2-RIGHT	STATION	RATE
		RIGHT
END NORMAL CROWN	125+88.49	-2.00%
REVERSE CROWN	127+68.49	-2.00%
BEGIN FULL SUPER CURVE 2	128+31.49	-3.40%
END FULL SUPER CURVE 2	137+86.25	-3.40%
REVERSE CROWN	138+49.25	-2.00%
End of B-70-401		-2.00%

SUPERELEVATION DATA CURVE NB 4	STATION	RATE	
		LEFT	RIGHT
END NORMAL CROWN	1352+50.48	N/A	-2.00%
REVERSE CROWN	1354+18.48	N/A	2.00%
BEGIN FULL SUPER CURVE 2	1354+60.48	N/A	3.00%
END FULL SUPER CURVE 2	1362+17.62	N/A	3.00%
REVERSE CROWN	1362+59.62	N/A	2.00%
BEGIN NORMAL CROWN	1364+27.62	N/A	-2.00%

SUPERELEVATION DATA CURVE NB 5	STATION	RATE	
		LEFT	RIGHT
END NORMAL CROWN	1382+19.64	N/A	-2.00%
REVERSE CROWN	1383+86.84	N/A	2.00%
BEGIN FULL SUPER CURVE 2	1385+12.24	N/A	5.00%
END FULL SUPER CURVE 2	1391+45.79	N/A	5.00%
REVERSE CROWN	1392+71.19	N/A	2.00%
BEGIN NORMAL CROWN	1394+38.39	N/A	-2.00%

SUPERELEVATION DATA CURVE FEN3	STATION	RATE	
		LEFT	RIGHT
END NORMAL CROWN	125+42.41	N/A	-2.00%
REVERSE CROWN	126+38.41	N/A	2.00%
BEGIN FULL SUPER CURVE 3	127+34.41	N/A	6.00%
END FULL SUPER CURVE 3	142+50.28	N/A	6.00%
REVERSE CROWN	143+46.28	N/A	2.00%
BEGIN NORMAL CROWN	144+42.28	N/A	-2.00%

SUPERELEVATION DATA FEN Completing FWN Super	STATION	RATE	
		LEFT	RIGHT
MATCH CURVE FWN1	164+50.32	-2.33%	N/A
NORMAL CROWN	164+58.32	-2.00%	N/A
REVERSE CROWN	165+54.32	2.00%	N/A

SUPERELEVATION DATA CURVE FNE1	STATION	RATE	
		LEFT	RIGHT
REVERSE CROWN	1319+59.69	-2.00%	-2.00%
BEGIN FULL SUPER CURVE 1	1319+94.14	-2.90%	-2.90%
END FULL SUPER CURVE 1	1322+70.83	-2.90%	-2.90%

SUPERELEVATION DATA CURVE FNE2	STATION	RATE
		RIGHT
MATCH CURVE 1	1322+70.83	-2.90%
BEGIN FULL SUPER CURVE 2	1323+80.50	-5.70%
END FULL SUPER CURVE 2	1337+25.50	-5.70%
REVERSE CROWN	1338+67.01	-2.00%

SUPERELEVATION DATA CURVE FNW2	STATION	RATE
		RIGHT
END NORMAL CROWN	1312+66.33	-2.00%
REVERSE CROWN	1314+19.88	2.00%
BEGIN FULL SUPER CURVE 2	1314+62.11	3.10%
END FULL SUPER CURVE 2	1317+07.17	3.10%
REVERSE CROWN	1317+49.40	2.00%
BEGIN NORMAL CROWN	1319+02.95	-2.00%

SUPERELEVATION DATA CURVE FNW4	STATION	RATE
		RIGHT
END NORMAL CROWN	1331+68.44	-2.00%
REVERSE CROWN	1332+57.11	2.00%
BEGIN FULL SUPER CURVE 4	1333+45.77	6.00%
END FULL SUPER CURVE 4	1348+52.27	6.00%

SUPERELEVATION DATA CURVE FWN1	STATION	RATE	
		LEFT	RIGHT
Match FEN	125+38.63	2.33%	N/A
BEGIN FULL SUPER CURVE 1	125+66.63	3.50%	N/A
END FULL SUPER CURVE 1	128+37.34	3.50%	N/A
REVERSE CROWN	128+73.34	2.00%	N/A
BEGIN NORMAL CROWN	129+69.34	-2.00%	N/A

SUPERELEVATION DATA CURVE FWN2	STATION	RATE	
		LEFT	RIGHT
REVERSE CROWN	130+95.62	-2.00%	N/A
BEGIN FULL SUPER CURVE 2	131+91.62	-6.00%	N/A
END FULL SUPER CURVE 2	147+19.21	-6.00%	N/A
REVERSE CROWN	148+15.21	-2.00%	N/A

SUPERELEVATION DATA CURVE FWS2	STATION	RATE	
		LEFT	RIGHT
END NORMAL CROWN	112+94.50	-2.00%	-2.00%
REVERSE CROWN	114+61.96	2.00%	2.00%
BEGIN FULL SUPER CURVE 2	116+25.23	5.90%	5.90%
END FULL SUPER CURVE 2	143+27.69	5.90%	5.90%
REVERSE CROWN	144+65.84	2.60%	2.60%

FILE NAME: S:\DOT\DOT_NE\120012-Tri County Freeway\DGN_Files\Plansheets\SYSTEM\027214_AD.PPT PLOT DATE : 2/19/2014 1:38:19 PM PLOT BY : justin_a PLOT NAME : 020101_gn1 PLOT SCALE : 1:1

DATE 18MAR14 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	1517-07-72 QUANTITY
0010	108.4400	CPM PROGRESS SCHEDULE	EACH	1.000	1.000
0020	201.0105	CLEARING	STA	119.000	119.000
0030	201.0205	GRUBBING	STA	119.000	119.000
0040	203.0100	REMOVING SMALL PIPE CULVERTS	EACH	1.000	1.000
0050	203.0200	REMOVING OLD STRUCTURE (STATION) 750. 1324FNE+25	LS	1.000	1.000
0060	203.0200	REMOVING OLD STRUCTURE (STATION) 751. 120FEN+50	LS	1.000	1.000
0070	203.0600.S	REMOVING OLD STRUCTURE OVER WATERWAY WITH MINIMAL DEBRIS (STATION) 699. 176FEN+91.99	LS	1.000	1.000
0080	204.0100	REMOVING PAVEMENT	SY	6,308.000	6,308.000
0090	204.0157	REMOVING CONCRETE BARRIER	LF	12.000	12.000
0100	204.0170	REMOVING FENCE	LF	6,694.000	6,694.000
0110	204.0180	REMOVING DELINEATORS AND MARKERS	EACH	50.000	50.000
0120	204.0220	REMOVING INLETS	EACH	3.000	3.000
0130	204.0245	REMOVING STORM SEWER (SIZE) 001. 12-INCH - 18-INCH	LF	375.000	375.000
0140	204.0245	REMOVING STORM SEWER (SIZE) 002. 21-INCH -30-INCH	LF	532.000	532.000
0150	204.9060.S	REMOVING (ITEM DESCRIPTION) 001. CONCRETE APRON ENDWALL FOR PIPE UNDERDRAIN	EACH	20.000	20.000
0160	204.9060.S	REMOVING (ITEM DESCRIPTION) 002. INLET COVER AND CASTING	EACH	1.000	1.000
0170	204.9090.S	REMOVING (ITEM DESCRIPTION) 001. UNDERDRAIN	LF	100.000	100.000
0180	205.0100	EXCAVATION COMMON	CY	90,370.000	90,370.000
0190	206.1000	EXCAVATION FOR STRUCTURES BRIDGES (STRUCTURE) 699. B-70-134	LS	1.000	1.000
0200	206.1000	EXCAVATION FOR STRUCTURES BRIDGES (STRUCTURE) 700. B-70-402	LS	1.000	1.000
0210	206.2000	EXCAVATION FOR STRUCTURES CULVERTS (STRUCTURE) 750. C-70-42	LS	1.000	1.000
0220	206.2000	EXCAVATION FOR STRUCTURES CULVERTS (STRUCTURE) 751. C-70-54	LS	1.000	1.000
0230	206.3000	EXCAVATION FOR STRUCTURES RETAINING WALLS (STRUCTURE) 704. R-70-105	LS	1.000	1.000
0240	206.3000	EXCAVATION FOR STRUCTURES RETAINING WALLS (STRUCTURE) 705. R-70-115	LS	1.000	1.000
0250	206.6000.S	TEMPORARY SHORING	SF	1,244.000	1,244.000
0260	210.0100	BACKFILL STRUCTURE	CY	943.000	943.000
0270	213.0100	FINISHING ROADWAY (PROJECT) 001. 1517-07-72	EACH	1.000	1.000
0280	305.0110	BASE AGGREGATE DENSE 3/4-INCH	TON	1,378.000	1,378.000
0290	305.0120	BASE AGGREGATE DENSE 1 1/4-INCH	TON	30,830.000	30,830.000
0300	311.0110	BREAKER RUN	TON	54,520.000	54,520.000
0310	320.0155	CONCRETE BASE 9-INCH	SY	589.000	589.000
0320	415.0070	CONCRETE PAVEMENT 7-INCH	SY	7.000	7.000
0330	415.0410	CONCRETE PAVEMENT APPROACH SLAB	SY	302.000	302.000
0340	416.0610	DRILLED TIE BARS	EACH	1,493.000	1,493.000
0350	416.1110	CONCRETE RUMBLE STRIPS SHOULDER	LF	5,290.000	5,290.000
0360	440.4410.S	INCENTIVE IRI RIDE	DOL	3,286.000	3,286.000
0370	455.0105	ASPHALTIC MATERIAL PG58-28	TON	72.000	72.000
0380	455.0605	TACK COAT	GAL	16.000	16.000
0390	460.1100	HMA PAVEMENT TYPE E-0.3	TON	1,313.000	1,313.000
0400	460.2000	INCENTIVE DENSITY HMA PAVEMENT	DOL	841.000	841.000

3

DATE 18MAR14 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	1517-07-72 QUANTITY
0410	465.0125	ASPHALTIC SURFACE TEMPORARY	TON	4,790.000	4,790.000
0420	502.3100	EXPANSION DEVICE (STRUCTURE) 700. B-70-402	LS	1.000	1.000
0430	502.3200	PROTECTIVE SURFACE TREATMENT	SY	4,164.000	4,164.000
0440	502.5002	MASONRY ANCHORS TYPE L NO. 4 BARS	EACH	116.000	116.000
0450	502.5010	MASONRY ANCHORS TYPE L NO. 6 BARS	EACH	60.000	60.000
0460	503.0128	PRESTRESSED GIRDER TYPE I 28-INCH	LF	39.000	39.000
0470	503.0146	PRESTRESSED GIRDER TYPE I 45W-INCH	LF	2,507.000	2,507.000
0480	504.0100	CONCRETE MASONRY CULVERTS	CY	108.000	108.000
0490	504.0500	CONCRETE MASONRY RETAINING WALLS	CY	1,137.000	1,137.000
0500	505.0405	BAR STEEL REINFORCEMENT HS BRIDGES	LB	60,084.000	60,084.000
0510	505.0410	BAR STEEL REINFORCEMENT HS CULVERTS	LB	15,230.000	15,230.000
0520	505.0605	BAR STEEL REINFORCEMENT HS COATED BRIDGES	LB	430,459.000	430,459.000
0530	505.0610	BAR STEEL REINFORCEMENT HS COATED CULVERTS	LB	4,000.000	4,000.000
0540	505.0615	BAR STEEL REINFORCEMENT HS COATED RETAINING WALLS	LB	122,230.000	122,230.000
0550	506.2605	BEARING PADS ELASTOMERIC NON-LAMINATED	EACH	22.000	22.000
0560	506.4000	STEEL DIAPHRAGMS (STRUCTURE) 699. B-70-134	EACH	1.000	1.000
0570	506.4000	STEEL DIAPHRAGMS (STRUCTURE) 700. B-70-402	EACH	48.000	48.000
0580	506.6000	BEARING ASSEMBLIES EXPANSION (STRUCTURE) 700. B-70-402	EACH	40.000	40.000
0590	509.5100.S	POLYMER OVERLAY	SY	2,443.000	2,443.000
0600	513.2000	RAILING PIPE (STRUCTURE) 701. R-70-100	LS	1.000	1.000
0610	513.2000	RAILING PIPE (STRUCTURE) 702. R-70-102	LS	1.000	1.000
0620	514.0450	FLOOR DRAINS TYPE WF	EACH	1.000	1.000
0630	516.0500	RUBBERIZED MEMBRANE WATERPROOFING	SY	240.000	240.000
0640	517.1010.S	CONCRETE STAINING (STRUCTURE) 700. B-70-402	SF	24,583.000	24,583.000
0650	517.1010.S	CONCRETE STAINING (STRUCTURE) 701. R-70-100	SF	2,132.000	2,132.000
0660	517.1010.S	CONCRETE STAINING (STRUCTURE) 702. R-70-102	SF	2,216.000	2,216.000
0670	517.1010.S	CONCRETE STAINING (STRUCTURE) 703. R-70-121	SF	4,894.000	4,894.000
0680	517.1050.S	ARCHITECTURAL SURFACE TREATMENT (STRUCTURE) 700. B-70-402	SF	3,444.000	3,444.000
0690	517.1050.S	ARCHITECTURAL SURFACE TREATMENT (STRUCTURE) 701. R-70-100	SF	1,714.000	1,714.000
0700	517.1050.S	ARCHITECTURAL SURFACE TREATMENT (STRUCTURE) 702. R-70-102	SF	1,866.000	1,866.000
0710	517.1050.S	ARCHITECTURAL SURFACE TREATMENT (STRUCTURE) 703. R-70-121	SF	3,464.000	3,464.000
0720	520.8000	CONCRETE COLLARS FOR PIPE	EACH	9.000	9.000
0730	521.1012	APRON ENDWALLS FOR CULVERT PIPE STEEL 12-INCH	EACH	1.000	1.000
0740	522.0315	CULVERT PIPE REINFORCED CONCRETE CLASS IV 15-INCH	LF	242.000	242.000
0750	522.0324	CULVERT PIPE REINFORCED CONCRETE CLASS IV 24-INCH	LF	167.000	167.000
0760	522.0524	CULVERT PIPE REINFORCED CONCRETE CLASS V 24-INCH	LF	167.000	167.000

3

DATE 18MAR14 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	1517-07-72 QUANTITY
0770	522.0530	CULVERT PIPE REINFORCED CONCRETE CLASS V 30-INCH	LF	229.000	229.000
0780	522.1015	APRON ENDWALLS FOR CULVERT PIPE REINFORCED CONCRETE 15-INCH	EACH	7.000	7.000
0790	522.1024	APRON ENDWALLS FOR CULVERT PIPE REINFORCED CONCRETE 24-INCH	EACH	10.000	10.000
0800	522.1030	APRON ENDWALLS FOR CULVERT PIPE REINFORCED CONCRETE 30-INCH	EACH	2.000	2.000
0810	522.1036	APRON ENDWALLS FOR CULVERT PIPE REINFORCED CONCRETE 36-INCH	EACH	3.000	3.000
0820	522.1042	APRON ENDWALLS FOR CULVERT PIPE REINFORCED CONCRETE 42-INCH	EACH	1.000	1.000
0830	523.0119	CULVERT PIPE REINFORCED CONCRETE HORIZONTAL ELLIPTICAL CLASS HE-III 19X30-INCH	LF	135.000	135.000
0840	523.0519	APRON ENDWALLS FOR CULVERT PIPE REINFORCED CONCRETE HORIZONTAL ELLIPTICAL 19X30-INCH	EACH	4.000	4.000
0850	550.0020	PRE-BORING ROCK OR CONSOLIDATED MATERIALS	LF	1,212.000	1,212.000
0860	550.0500	PILE POINTS	EACH	111.000	111.000
0870	550.1100	PILING STEEL HP 10-INCH X 42 LB	LF	1,438.000	1,438.000
0880	550.1120	PILING STEEL HP 12-INCH X 53 LB	LF	4,020.000	4,020.000
0890	550.1140	PILING STEEL HP 14-INCH X 73 LB	LF	456.000	456.000
0900	603.1132	CONCRETE BARRIER TYPE S32	LF	88.000	88.000
0910	603.1142	CONCRETE BARRIER TYPE S42	LF	97.000	97.000
0920	603.3513	CONCRETE BARRIER TRANSITION TYPE S32 TO S36	EACH	1.000	1.000
0930	603.3535	CONCRETE BARRIER TRANSITION TYPE S36 TO S42	EACH	1.000	1.000
0940	603.8000	CONCRETE BARRIER TEMPORARY PRECAST DELIVERED	LF	8,926.000	8,926.000
0950	603.8125	CONCRETE BARRIER TEMPORARY PRECAST INSTALLED	LF	15,669.000	15,669.000
0960	604.0600	SLOPE PAVING SELECT CRUSHED MATERIAL	SY	419.000	419.000
0970	606.0200	RIPRAP MEDIUM	CY	1,049.000	1,049.000
0980	606.0300	RIPRAP HEAVY	CY	168.000	168.000
0990	607.0406	STORM SEWER PIPE COMPOSITE 6-INCH	LF	25.000	25.000
1000	608.0312	STORM SEWER PIPE REINFORCED CONCRETE CLASS III 12-INCH	LF	10.000	10.000
1010	608.0315	STORM SEWER PIPE REINFORCED CONCRETE CLASS III 15-INCH	LF	282.000	282.000
1020	608.0324	STORM SEWER PIPE REINFORCED CONCRETE CLASS III 24-INCH	LF	857.000	857.000
1030	608.0336	STORM SEWER PIPE REINFORCED CONCRETE CLASS III 36-INCH	LF	366.000	366.000
1040	608.0424	STORM SEWER PIPE REINFORCED CONCRETE CLASS IV 24-INCH	LF	65.000	65.000
1050	608.0430	STORM SEWER PIPE REINFORCED CONCRETE CLASS IV 30-INCH	LF	86.000	86.000
1060	608.0542	STORM SEWER PIPE REINFORCED CONCRETE CLASS V 42-INCH	LF	448.000	448.000
1070	611.0430	RECONSTRUCTING INLETS	EACH	1.000	1.000
1080	611.0530	MANHOLE COVERS TYPE J	EACH	3.000	3.000
1090	611.0627	INLET COVERS TYPE HM	EACH	1.000	1.000
1100	611.0642	INLET COVERS TYPE MS	EACH	8.000	8.000
1110	611.0654	INLET COVERS TYPE V	EACH	10.000	10.000

3

DATE 18MAR14 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	1517-07-72 QUANTITY
1120	611.2005	MANHOLES 5-FT DIAMETER	EACH	4.000	4.000
1130	611.2006	MANHOLES 6-FT DIAMETER	EACH	3.000	3.000
1140	611.3004	INLETS 4-FT DIAMETER	EACH	5.000	5.000
1150	611.3220	INLETS 2X2-FT	EACH	2.000	2.000
1160	611.3225	INLETS 2X2.5-FT	EACH	6.000	6.000
1170	611.3230	INLETS 2X3-FT	EACH	1.000	1.000
1180	611.3902	INLETS MEDIAN 2 GRATE	EACH	4.000	4.000
1190	611.9800.S	PIPE GRATES	EACH	1.000	1.000
1200	612.0106	PIPE UNDERDRAIN 6-INCH	LF	526.000	526.000
1210	612.0212	PIPE UNDERDRAIN UNPERFORATED 12-INCH	LF	78.000	78.000
1220	612.0406	PIPE UNDERDRAIN WRAPPED 6-INCH	LF	2,501.000	2,501.000
1230	612.0806	APRON ENDWALLS FOR UNDERDRAIN REINFORCED CONCRETE 6-INCH	EACH	1.000	1.000
1240	614.0150	ANCHOR ASSEMBLIES FOR STEEL PLATE BEAM GUARD	EACH	5.000	5.000
1250	614.0905	CRASH CUSHIONS TEMPORARY	EACH	8.000	8.000
1260	614.0920	SALVAGED RAIL	LF	1,093.000	1,093.000
1270	614.0925	SALVAGED GUARDRAIL END TREATMENTS	EACH	8.000	8.000
1280	614.2300	MGS GUARDRAIL 3	LF	2,702.000	2,702.000
1290	614.2310	MGS GUARDRAIL 3 HS	LF	50.000	50.000
1300	614.2500	MGS THRIE BEAM TRANSITION	LF	117.000	117.000
1310	614.2610	MGS GUARDRAIL TERMINAL EAT	EACH	5.000	5.000
1320	614.2620	MGS GUARDRAIL TERMINAL TYPE 2	EACH	4.000	4.000
1330	616.0700.S	FENCE SAFETY	LF	2,000.000	2,000.000
1340	618.0100	MAINTENANCE AND REPAIR OF HAUL ROADS (PROJECT) 001. 1517-07-72	EACH	1.000	1.000
1350	619.1000	MOBILIZATION	EACH	1.000	1.000
1360	624.0100	WATER	MGAL	1,717.000	1,717.000
1370	625.0500	SALVAGED TOPSOIL	SY	127,814.000	127,814.000
1380	627.0200	MULCHING	SY	53,584.000	53,584.000
1390	628.1104	EROSION BALES	EACH	639.000	639.000
1400	628.1504	SILT FENCE	LF	11,073.000	11,073.000
1410	628.1520	SILT FENCE MAINTENANCE	LF	11,073.000	11,073.000
1420	628.1905	MOBILIZATIONS EROSION CONTROL	EACH	16.000	16.000
1430	628.1910	MOBILIZATIONS EMERGENCY EROSION CONTROL	EACH	8.000	8.000
1440	628.2002	EROSION MAT CLASS I TYPE A	SY	20,618.000	20,618.000
1450	628.2004	EROSION MAT CLASS I TYPE B	SY	57,680.000	57,680.000
1460	628.2023	EROSION MAT CLASS II TYPE B	SY	6,348.000	6,348.000
1470	628.2033	EROSION MAT CLASS III TYPE B	SY	89.000	89.000
1480	628.6005	TURBIDITY BARRIERS	SY	1,550.000	1,550.000
1490	628.7005	INLET PROTECTION TYPE A	EACH	31.000	31.000
1500	628.7010	INLET PROTECTION TYPE B	EACH	14.000	14.000
1510	628.7015	INLET PROTECTION TYPE C	EACH	3.000	3.000
1520	628.7020	INLET PROTECTION TYPE D	EACH	4.000	4.000
1530	628.7504	TEMPORARY DITCH CHECKS	LF	978.000	978.000
1540	628.7555	CULVERT PIPE CHECKS	EACH	51.000	51.000
1550	628.7560	TRACKING PADS	EACH	17.000	17.000
1560	628.7570	ROCK BAGS	EACH	70.000	70.000
1570	629.0205	FERTILIZER TYPE A	CWT	74.000	74.000
1580	630.0120	SEEDING MIXTURE NO. 20	LB	3,386.000	3,386.000
1590	630.0200	SEEDING TEMPORARY	LB	3,450.000	3,450.000
1600	631.1100	SOD EROSION CONTROL	SY	150.000	150.000
1610	633.5200	MARKERS CULVERT END	EACH	9.000	9.000
1620	634.0616	POSTS WOOD 4X6-INCH X 16-FT	EACH	5.000	5.000

3

DATE 18MAR14 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	1517-07-72 QUANTITY
1630	634.0618	POSTS WOOD 4X6-INCH X 18-FT	EACH	4.000	4.000
1640	635.0200	SIGN SUPPORTS STRUCTURAL STEEL HS	LB	1,977.000	1,977.000
1650	636.0100	SIGN SUPPORTS CONCRETE MASONRY	CY	58.200	58.200
1660	636.0500	SIGN SUPPORTS STEEL REINFORCEMENT	LB	196.000	196.000
1670	636.1000	SIGN SUPPORTS STEEL REINFORCEMENT HS	LB	2,740.000	2,740.000
1680	636.1500	SIGN SUPPORTS STEEL COATED REINFORCEMENT HS	LB	910.000	910.000
1690	637.1220	SIGNS TYPE I REFLECTIVE SH	SF	945.500	945.500
1700	637.2210	SIGNS TYPE II REFLECTIVE H	SF	47.000	47.000
1710	637.2230	SIGNS TYPE II REFLECTIVE F	SF	108.000	108.000
1720	638.2102	MOVING SIGNS TYPE II	EACH	1.000	1.000
1730	638.2601	REMOVING SIGNS TYPE I	EACH	1.000	1.000
1740	638.2602	REMOVING SIGNS TYPE II	EACH	4.000	4.000
1750	638.3000	REMOVING SMALL SIGN SUPPORTS	EACH	7.000	7.000
1760	638.3100	REMOVING STRUCTURAL STEEL SIGN SUPPORTS	EACH	2.000	2.000
1770	641.1200	SIGN BRIDGE CANTILEVERED (STRUCTURE) 801. S-70-205	LS	1.000	1.000
1780	641.1200	SIGN BRIDGE CANTILEVERED (STRUCTURE) 802. S-70-253	LS	1.000	1.000
1790	641.6600	SIGN BRIDGE (STRUCTURE) 800. S-70-203	LS	1.000	1.000
1800	642.5401	FIELD OFFICE TYPE D	EACH	1.000	1.000
1810	643.0100	TRAFFIC CONTROL (PROJECT) 001. 1517-07-72	EACH	1.000	1.000
1820	643.0300	TRAFFIC CONTROL DRUMS	DAY	61,644.000	61,644.000
1830	643.0420	TRAFFIC CONTROL BARRICADES TYPE III	DAY	355.000	355.000
1840	643.0705	TRAFFIC CONTROL WARNING LIGHTS TYPE A	DAY	709.000	709.000
1850	643.0715	TRAFFIC CONTROL WARNING LIGHTS TYPE C	DAY	17,964.000	17,964.000
1860	643.0800	TRAFFIC CONTROL ARROW BOARDS	DAY	1,238.000	1,238.000
1870	643.0900	TRAFFIC CONTROL SIGNS	DAY	26,045.000	26,045.000
1880	643.0910	TRAFFIC CONTROL COVERING SIGNS TYPE I	EACH	10.000	10.000
1890	643.0920	TRAFFIC CONTROL COVERING SIGNS TYPE II	EACH	12.000	12.000
1900	643.1050	TRAFFIC CONTROL SIGNS PCMS	DAY	1,460.000	1,460.000
1910	645.0113	GEOTEXTILE FABRIC TYPE DF SCHEDULE C	SY	64.000	64.000
1920	645.0120	GEOTEXTILE FABRIC TYPE HR	SY	1,160.000	1,160.000
1930	646.0103	PAVEMENT MARKING PAINT 4-INCH	LF	2,675.000	2,675.000
1940	646.0106	PAVEMENT MARKING EPOXY 4-INCH	LF	34,017.000	34,017.000
1950	646.0123	PAVEMENT MARKING PAINT 8-INCH	LF	356.000	356.000
1960	646.0126	PAVEMENT MARKING EPOXY 8-INCH	LF	2,148.000	2,148.000
1970	646.0600	REMOVING PAVEMENT MARKINGS	LF	28,830.000	28,830.000
1980	649.2100	TEMPORARY RAISED PAVEMENT MARKERS	EACH	108.000	108.000
1990	652.0125	CONDUIT RIGID METALLIC 2-INCH	LF	400.000	400.000
2000	652.0225	CONDUIT RIGID NONMETALLIC SCHEDULE 40 2-INCH	LF	4,879.000	4,879.000
2010	653.0140	PULL BOXES STEEL 24X42-INCH	EACH	9.000	9.000
2020	653.0222	JUNCTION BOXES 18X12X6-INCH	EACH	19.000	19.000
2030	654.0107	CONCRETE BASES TYPE 7	EACH	5.000	5.000
2040	657.6005.S	ANCHOR ASSEMBLIES LIGHT POLES ON STRUCTURES	EACH	8.000	8.000
2050	690.0150	SAWING ASPHALT	LF	173.000	173.000
2060	690.0250	SAWING CONCRETE	LF	7,452.000	7,452.000
2070	715.0415	INCENTIVE STRENGTH CONCRETE PAVEMENT	DOL	3,274.000	3,274.000
2080	SPV.0035	SPECIAL 004. DRAINAGE BLANKET	CY	36,603.000	36,603.000
2090	SPV.0035	SPECIAL 010. ROADWAY EMBANKMENT	CY	357,938.000	357,938.000
2100	SPV.0035	SPECIAL 100. POND LINER CLAY	CY	2,741.000	2,741.000

3

DATE 18MAR14 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	1517-07-72 QUANTITY
2110	SPV.0035	SPECIAL 700. HIGH PERFORMANCE CONCRETE (HPC) MASONRY STRUCTURES	CY	2,609.000	2,609.000
2120	SPV.0045	SPECIAL 050. PCMS REMOTE COMMUNICATIONS	DAY	1,460.000	1,460.000
2130	SPV.0060	SPECIAL 008. VIBRATING WIRE PIEZOMETER INSTRUMENTATION SYSTEM DELIVERED	EACH	20.000	20.000
2140	SPV.0060	SPECIAL 009. SETTLEMENT GAUGES	EACH	20.000	20.000
2150	SPV.0060	SPECIAL 096. EMERGENCY SWEEPING MOBILIZATION	EACH	12.000	12.000
2160	SPV.0060	SPECIAL 100. POND OUTLET CONTROL MANHOLE	EACH	1.000	1.000
2170	SPV.0060	SPECIAL 104. STORM SEWER PLUG	EACH	4.000	4.000
2180	SPV.0060	SPECIAL 107. FLARED END SECTION WITH TRASH RACK	EACH	1.000	1.000
2190	SPV.0060	SPECIAL 108. DETENTION POND CORRUGATED METAL ANTI SEEP COLLAR	EACH	1.000	1.000
2200	SPV.0060	SPECIAL 120. COVER PLATES LEFT IN PLACE	EACH	9.000	9.000
2210	SPV.0060	SPECIAL 202. CRASH CUSHION TEMPORARY LEFT IN PLACE	EACH	4.000	4.000
2220	SPV.0060	SPECIAL 204. TEMPORARY THRIE BEAM CONNECTION LEFT IN PLACE	EACH	1.000	1.000
2230	SPV.0060	SPECIAL 350. CONCRETE BASES TYPE 7 SPECIAL	EACH	5.000	5.000
2240	SPV.0075	SPECIAL 001. STREET SWEEPING	HRS	24.000	24.000
2250	SPV.0075	SPECIAL 002. EMERGENCY SWEEPING	HRS	24.000	24.000
2260	SPV.0075	SPECIAL 200. TRUCK MOUNTED ATTENUATOR WITH OPERATOR	HRS	50.000	50.000
2270	SPV.0075	SPECIAL 201. TRUCK MOUNTED ATTENUATOR WITHOUT OPERATOR	HRS	50.000	50.000
2280	SPV.0085	SPECIAL 100. POND EDGE SEED	LB	140.000	140.000
2290	SPV.0085	SPECIAL 800. BAR STEEL REINFORCEMENT HS STAINLESS BRIDGES	LB	1,479.000	1,479.000
2300	SPV.0090	SPECIAL 001. CONCRETE CURB & GUTTER 6-INCH SLOPED 60-INCH TYPE A FULL DEPTH	LF	22.000	22.000
2310	SPV.0090	SPECIAL 006. PREFABRICATED VERTICAL DRAINS	LF	479,985.000	479,985.000
2320	SPV.0090	SPECIAL 010. PREBORED PREFABRICATED VERTICAL DRAINS	LF	13,570.000	13,570.000
2330	SPV.0090	SPECIAL 204. CONCRETE BARRIER TEMPORARY PRECAST LEFT IN PLACE	LF	8,524.000	8,524.000
2340	SPV.0105	SPECIAL 001. SURVEY PROJECT I.D. 1517-07-72	LS	1.000	1.000
2350	SPV.0105	SPECIAL 007. GEOTECHNICAL INSTRUMENTATION	LS	1.000	1.000
2360	SPV.0165	SPECIAL 001. SPRAYED ASPHALT SHOULDER TREATMENT	SF	10,633.000	10,633.000
2370	SPV.0165	SPECIAL 250. PERMANENT COVERING TYPE I SIGNS	SF	125.000	125.000
2380	SPV.0165	SPECIAL 850. PRESTRESSED PRECAST CONCRETE WALL PANEL	SF	4,502.000	4,502.000
2390	SPV.0165	SPECIAL 851. WALL CONCRETE PANEL MECHANICALLY STABILIZED EARTH LRFD/QMP PILOT	SF	12,083.000	12,083.000
2400	SPV.0165	SPECIAL 852. WALL WIRE FACED MECHANICALLY STABILIZED EARTH LRFD/QMP PILOT	SF	4,502.000	4,502.000
2410	SPV.0165	SPECIAL 853. TEMPORARY SHORING LEFT IN PLACE B-70-402	SF	189.000	189.000
2420	SPV.0180	SPECIAL 001. MODIFIED HIGH PERFORMANCE CONCRETE (HPC) PAVEMENT 11-INCH	SY	13,934.000	13,934.000

3

DATE 18MAR14 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	1517-07-72 QUANTITY
2430	SPV.0180	SPECIAL 002. REMOVING RUMBLE STRIPS	SY	290.000	290.000

3

3

CLEARING & GRUBBING

STATION	-	STATION	OFFSET	LOCATION	201.0105 CLEARING STA	201.0205 GRUBBING STA	REMARKS
117WB+00	-	120WB+00	LT/RT	USH 10 WB	3	3	
122WB+00	-	133WB+00	LT/RT	USH 10 WB	11	11	
1362NB+00	-	1373NB+00	RT	USH 41 NB	11	11	
1380NB+00	-	1385NB+00	RT	USH 41 NB	5	5	
119FEN+00	-	127FEN+00	RT/LT	FEN RAMP	8	8	
136FEN+00	-	143FEN+00	RT/LT	FEN RAMP	7	7	
152FEN+00	-	157FEN+00	RT/LT	FEN RAMP	5	5	
162FEN+00	-	170FEN+00	RT	FEN RAMP	8	8	
1321FNE+00	-	1330FNE+00	RT	FNE RAMP	9	9	
1335FNE+00	-	1343FNE+00	RT	FNE RAMP	8	8	
1307FNW+00	-	1309FNW+00	RT	FNW RAMP	2	2	
1313FNW+00	-	1319FNW+00	RT	FNW RAMP	6	6	
1327FNW+00	-	1330FNW+00	RT/LT	FNW RAMP	3	3	
1334FNW+00	-	1338FNW+00	RT	FNW RAMP	4	4	
1335FNW+00	-	1339FNW+00	RT	FNW RAMP	4	4	TWN RAMP
1344FNW+00	-	1360FNW+00	LT	FNW RAMP	16	16	POND & DITCH 2
115FWS+00	-	120FWS+00	RT/LT	FWS RAMP	5	5	
180EB+00	-	184EB+00	RT	USH 10 EB / STH 441 NB	4	4	
PROJECT 1517-07-72 TOTAL					119	119	

REMOVING CONCRETE BARRIER

STATION	-	STATION	OFFSET	LOCATION	201.0157 REMOVING CONCRETE BARRIER LF
182EB+81	-	182EB+93	RT	USH 10 EB/STH 441 NB	12
PROJECT 1517-07-72 TOTAL					12

3

REMOVING SMALL PIPE CULVERTS

STATION	OFFSET	-	STATION	OFFSET	LOCATION	203.0100 REMOVING SMALL PIPE CULVERTS EACH	REMARKS
1329FNE+38	22.3' LT	-	1329FNE+41	17.1' RT	FNE RAMP	1	40 LF REINFORCED CONCRETE CULVERT PIPE, 24"
PROJECT 1517-07-72 TOTAL						1	

REMOVING PAVEMENT

FROM STATION	OFFSET	TO STATION	OFFSET	LOCATION	204.0100 REMOVING PAVEMENT SY	REMARKS
1351NB+40	RT	1359NB+67	RT	USH 41 NB	304	
119FEN+92	RT	121FEN+99	RT	FEN RAMP	288	
1307FNW+90	RT/LT	1327FNW+98	RT	FNW RAMP	4,553	
1344FNW+55	LT	1344FNW+98	LT	FNW RAMP	45	EXIST FWS RAMP
1353FNW+92	LT	1354FNW+31	LT	FNW RAMP	36	EXIST FWS RAMP
129FWN+97	RT	136FWN+63	RT	FWN RAMP	1,072	EXIST FWN RAMP
182EB+81	RT	182EB+93	RT	USH 10 EB/STH 441 NB	10	EXIST FWN RAMP
PROJECT 1517-07-72 TOTAL					6,308	

REMOVING FENCE

STATION	OFFSET	LOCATION	204.0170 REMOVING FENCE LF
1363NB+76 - 1364NB+03	RT	USH 41 NB	46
1364NB+72 - 1387NB+13	RT	USH 41 NB	2,254
152FEN+92 - 155FEN+82	RT	FEN RAMP	289
163FEN+13 - 171FEN+85	RT	FEN RAMP	877
1321FNE+40 - 1332FNE+50	RT	FNE RAMP	1,183
1335FNE+50 - 1342FNE+21	RT	FNE RAMP	657
1336FNE+20 - 1336FNE+26	RT/LT	FNE RAMP	135
1341FNE+02 - 1341FNE+17	RT/LT	FNE RAMP	152
1314FNW+12 - 1318FNW+39	RT	FNW RAMP	437
117FWS+63 - 118FWS+79	RT	FWS RAMP	121
180EB+10 - 183EB+13	RT/LT	USH 10 EB / STH 441 NB	81
180EB+10 - 183EB+87	RT	USH 10 EB / STH 441 NB	395
183EB+80 - 183EB+87	RT	USH 10 EB / STH 441 NB	67
PROJECT 1517-07-72 TOTAL			6,694

ALL ITEMS ARE CATEGORY **1000** UNLESS OTHERWISE SPECIFIED.

REMOVING INLETS

STATION	OFFSET	LOCATION	204.0220 REMOVING INLETS EACH
1315NB+93	56' RT	USH 41 NB	1
1322NB+93	53' RT	USH 41 NB	1
1363NB+93	46' RT	USH 41 NB	1
PROJECT 1517-07-72 TOTAL			3

REMOVING DELINEATORS AND MARKERS

LOCATION	204.0180 REMOVING DELINEATORS AND MARKERS EACH
UNDISTRIBUTED	50
PROJECT 1517-07-72 TOTAL	50

3

REMOVING STORM SEWER

STATION	OFFSET	-	STATION	OFFSET	LOCATION	204.0245.001 REMOVING STORM SEWER 12-INCH-18-INCH LF	204.0245.002 REMOVING STORM SEWER 21-INCH-30-INCH LF
1315NB+93	56.2' RT	-	1315NB+93	135.5' RT	USH 41 NB	79	--
1322NB+84	137.5' RT	-	1322NB+93	53.0' RT	USH 41 NB	83	--
1361NB+20	55.7' RT	-	1361NB+20	65.4' RT	USH 41 NB	--	10
1363NB+92	73.0' RT	-	1363NB+93	45.7 FT	USH 41 NB	27	--
166FEN+29	47.4' RT	-	166FEN+36	35.9' LT	FEN RAMP	84	--
169FEN+46	17.1' LT	-	169FEN+43	14.7' RT	FEN RAMP	32	---
125FWN+96	26.0' RT	-	125FWN+97	3.7' RT	FWN RAMP	22	---
133FWN+53	59.2' LT	-	133FWN+54	21.6' RT	FWN RAMP	--	81
179EB+72	39.1' RT	-	183EB+91	118.7' RT	USH 10 EB / STH 441 NB	--	441
182EB+77	75.6' RT	-	182EB+86	29.2' RT	USH 10 EB / STH 441 NB	48	--
PROJECT 1517-07-72 TOTAL						375	532

REMOVING INLET COVER AND CASTING

STATION	OFFSET	LOCATION	204.9060.S.002 REMOVING INLET COVER AND CASTING EACH
182EB+87	RT	USH 10 EB/STH 441 NB	1
PROJECT 1517-07-72 TOTAL			1

REMOVING CONCRETE APRON ENDWALL FOR PIPE UNDERDRAIN

LOCATION	204.9060.S.001 REMOVING CONCRETE APRON ENDWALL FOR PIPE UNDERDRAIN EACH
UNDISTRIBUTED	20
PROJECT 1517-07-72 TOTAL	20

REMOVING UNDERDRAIN

LOCATION	204.9090.S.001 REMOVING UNDERDRAIN LF
UNDISTRIBUTED	100
PROJECT 1517-07-72 TOTAL	100

UNDERDRAIN REMOVED DURING EXCAVATION COMMON IS INCIDENTAL TO BID ITEM EXCAVATION COMMON.

ALL ITEMS ARE CATEGORY **1000** UNLESS OTHERWISE SPECIFIED.

EARTHWORK

Category	Stage	From/To Station	Location	Excavation Common (CY) (1) 205.0100		Structure Excavation (CY) (6)	Fill (CY)	Structure Fill (CY) (6)	Roadway Embankment (CY) (4) SPV.0035.010	Mass Ordinate +/- (5)
				Cut (CY) (2)	EBS (CY) (3)					
1000	1	114WB+50.00 to 133WB+00.00	USH 10 WB	2,205	0	0	166,690	0	166,690	-164,485
		1310NB+79.24 to 1320NB+66.49	USH 41 NB 1	1,271	0	0	34	0	34	1,237
		1356NB+51.55 to 1364NB+14.26	USH 41 NB 2	2,552	0	1,266	31	23	8	2,521
		1364NB+74.15 to 1387NB+39.79	USH 41 NB 3	5,292	0	828	190	34	156	5,102
		118FEN+50.00 to 125FEN+65.00	FEN RAMP 1	2,246	0	0	12,827	0	12,827	-10,581
		136FEN+66.00 to 142FEN+50.00	FEN RAMP 2	1,182	0	0	27,156	0	27,156	-25,974
		152FEN+92.00 to 170FEN+75.00	FEN RAMP 3	11,675	1,400	389	1,113	190	2,323	10,562
		1323FNE+20.00 to 1331FNE+10.00	FNE RAMP 1	450	0	290	24,832	1,374	23,458	-24,382
		1335FNE+25 to 1342FNE+70	FNE RAMP 2	875	0	0	75,261	0	75,261	-74,385
		1307FNW+90.21 to 1324FNW+50	FNW RAMP	22,800	0	0	89	0	89	22,711
		1334FNW+00.00 to 1338FNW+00.00	FNW RAMP	10,893	0	0	5,968	0	5,968	4,924
		128FWN+01.18 to 136FWN+81.76	FWN RAMP	475	0	641	7,138	1,203	5,934	-6,662
		113FWS+00.00 to 119FWS+44.57	FWS RAMP	23	0	0	23,243	0	23,243	-23,220
		50DPB+00.00 to 59DPB+06.74	POND 1	17,539	0	0	215	0	215	17,324
		10+00.00 to 11+67.00	DITCH 1	657	0	0	0	0	0	657
		20+00.00 to 26+09.33	DITCH 2	5,218	0	0	0	0	0	5,218
		20TNE+65.75 to 29TNE+32.57	TNE RAMP	1,111	0	0	1,679	0	1,679	-568
		35TWN+57.48 to 47TWN+50.00	TWN RAMP	980	0	0	5,986	0	5,986	-5,006
		179EB+63 to 183EB+75	USH 10 EB/ STH 441 NB	1,523	0	0	6,909	0	6,909	-5,386
				88,970	1,400	3,415	359,362	2,825	357,938	-270,393
Project 1517-07-72 Total				90,370					357,938	

1) Excavation Common = Cut + EBS Excavation.

2) Cut volume includes concrete and asphaltic surface material.

3) EBS Excavation to be backfilled roadway embankment unless otherwise noted in plans.

4) Roadway Embankment = (Fill - Structure Fill)

5) The Mass Ordinate: A positive quantity indicates an excess of material and a negative quantity indicates a shortage of material.
Mass Ordinate = Cut - Fill. The Mass Ordinate is for information purposes only as Common Excavation and Roadway Embankment are not balanced for quantity purposes and does not guarantee the quality of Common Excavation, and if it can be reused onsite. All EBS material is assumed to be wasted offsite. Structure Excavation is not included in this calculation.

6) Structure Excavation and Structure Fill limits for Retaining Wall construction are shown in the cross sections and are assumed to be 70% of the retaining wall height if information is not provided as part of wall design. This is for information purposes only, and will vary depending on shop drawing design.

ALL ITEMS ARE CATEGORY **1000** UNLESS OTHERWISE SPECIFIED.

AGGREGATE ITEMS

STATION			OFFSET	LOCATION	305.0110 BASE AGGREGATE DENSE 3/4-INCH TON	305.0120 BASE AGGREGATE DENSE 1 1/4-INCH TON	311.0110 BREAKER RUN TON	REMARKS
PRELIMINARY STAGE								
1308NB+96	-	1319NB+09	RL	USH 41 NB	--	1,308	1195	
19TNE+07	-	29TNE+33	RL	TNE RAMP	113	1,776	1975	
35TWN+42	-	54TWN+27	RL	TWN RAMP	--	2,538	2340	
CONTRACTOR ACCESS					--	5,272	--	
UNDISTRIBUTED					11	562	551	
PRELIMINARY STAGE SUBTOTAL					124	11,456	4866	
STAGE 1								
114WB+50	-	128WB+75	RL	USH 10 WB	--	174	634	
127WB+50	-	133WB+00	RL	USH 10 WB	--	382	1,093	
1356NB+52	-	1364NB+14	RL	USH 41 NB	--	876	2,104	
1364NB+56	-	1387NB+40	RL	USH 41 NB	195	2,794	6,176	
118FEN+50	-	125FEN+90	RL	FEN RAMP	--	658	2,043	
136FEN+66	-	142FEN+50	RL	FEN RAMP	--	760	2,200	
152FEN+92	-	168FEN+97	RL	FEN RAMP	--	2,454	7,344	
1324FNE+48	-	1330FNE+73	RL	FNE RAMP	230	1,902	4,158	
1336FNE+05	-	1338FNE+00	RL	FNE RAMP	--	340	909	
1307FNW+89	-	1324FNW+47	RL	FNW RAMP	715	4,640	10,282	
1334FNW+00	-	1336FNW+75	RL	FNW RAMP	--	456	1,301	
1344FNW+55	-	1344FNW+98	LT	FNW RAMP	--	30	27	EXISTING FWS RAMP
1353FNW+92	-	1354FNW+31	LT	FNW RAMP	--	24	22	EXISTING FWS RAMP
128FWN+01	-	136FWN+82	RL	FWN RAMP	--	1,018	2,776	
113FWS+50	-	119FWS+45	RL	FWS RAMP	--	822	2,390	
179EB+63	-	183EB+75	RT	USH 10 EB / STH 441 NB	--	4	--	
182EB+81	-	182EB+93	RT	USH 10 EB / STH 441 NB	--	--	1,849	
UNDISTRIBUTED					114	1,733	4,346	
STAGE 1 SUBTOTAL					1,254	19,067	49,654	
PROJECT 1517-07-72 TOTAL					1,378	30,523	54,520	

FINISHING ROADWAY

LOCATION	213.0100 FINISHING ROADWAY PROJECT ID 1517-07-72 EACH
PROJECT 1517-07-72	1
PROJECT 1517-07-72 TOTAL	1

TIE BARS

FROM STATION	OFFSET	TO STATION	OFFSET	LOCATION	416.0610 DRILLED TIE BARS EACH
1356NB+52	RT	1387NB+40	RT	USH 41 NB	1252
1307FNW+89	LT	1313FNW+83	RT	FNW RAMP	241
PROJECT 1517-07-72 TOTAL					1,493

RUMBLE STRIPS

STATION	OFFSET	LOCATION	416.1110 CONCRETE RUMBLE STRIPS SHOULDER LF
1339SB+80 - 1392SB+70	LT	USH 41 NB	5,290
PROJECT 1517-07-72 TOTAL			5,290

ALL ITEMS ARE CATEGORY **1000** UNLESS OTHERWISE SPECIFIED.

3

PAVEMENT ITEMS

STATION			OFFSET	LOCATION	320.0155 CONCRETE BASE 9-INCH SY	415.0070 CONCRETE PAVEMENT 7-INCH SY	SPV.0180.001 MODIFIED HIGH PERFORMANCE CONCRETE (HPC) PAVEMENT 11-INCH SY	415.0410 CONCRETE PAVEMENT APPROACH SLAB SY	455.0105 ASPHALTIC MATERIAL PG58-28 TON	455.0605 TACK COAT GAL	460.1100 HMA PAVEMENT TYPE E-0.3 TON	465.0125 ASPHALTIC SURFACE TEMPORARY TON	REMARKS
PRELIMINARY STAGE													
1308NB+96	-	1319NB+09	RL	USH 41 NB	--	--	--	--	--	--	--	501	
19TNE+07	-	29TNE+33	RL	TNE RAMP	--	--	--	--	--	--	--	804	
35TWN+42	-	54TWN+27	RL	TWN RAMP	--	--	--	--	--	--	--	1,070	
		CONTRACTOR ACCESS			--	--	--	--	--	--	--	2,387	
PRELIMINARY STAGE SUBTOTAL					0	0	0	0	0	0	0	4,762	
STAGE 1													
1356NB+52	-	1364NB+01	RL	USH 41 NB	483	--	2,681	--	3	13	59	--	
1364NB+01	-	1364NB+14	RL	USH 41 NB	--	--	--	60	--	--	--	--	
1364NB+56	-	1364NB+89	RL	USH 41 NB	--	--	--	95	--	--	--	--	
1364NB+89	-	1387NB+40	RL	USH 41 NB	--	--	3,440	--	24	--	437	--	
168FEN+75	-	168FEN+97	RL	FEN RAMP	--	--	80	--	--	--	--	--	
1324FNE+48	-	1330FNE+30	RL	FNE RAMP	--	--	1,667	--	14	--	252	--	
1330FNE+30	-	1330FNE+73	RL	FNE RAMP	--	--	--	85	--	--	--	--	
1336FNE+05	-	1336FNE+33	RL	FNE RAMP	--	7	--	62	--	--	--	--	
1336FNE+33	-	1338FNE+00	RL	FNE RAMP	--	--	692	--	--	--	4	--	
1307FNW+89	-	1324FNW+47	RL	FNW RAMP	106	--	5,374	--	31	3	561	--	
1344FNW+55	-	1344FNW+98	LT	FNW RAMP	--	--	--	--	--	--	--	14	EXISTING FWS RAMP
1353FNW+92	-	1354FNW+31	LT	FNW RAMP	--	--	--	--	--	--	--	11	EXISTING FWS RAMP
182EB+81	-	182EB+93	RT	USH 10 EB/STH 441 NB	--	--	--	--	--	--	--	3	
STAGE 1 SUBTOTAL					589	7	13,934	302	72	16	1,313	28	
PROJECT 1517-07-72 TOTAL					589	7	13,934	302	72	16	1,313	4,790	

ALL ITEMS ARE CATEGORY **1000** UNLESS OTHERWISE SPECIFIED.

3

CULVERT PIPES

INLET END				DISCHARGE END					PIPE[2]	520.8000* CONCRETE COLLARS FOR PIPE	522.1015* APRON ENDWALLS FOR CULVERT PIPE REINFORCED CONCRETE	522.1024*	522.1030*	522.0315 CULVERT PIPE REINFORCED CONCRETE CLASS IV	522.0324 CLASS IV	522.0524 CLASS V	522.0530 CLASS V	523.0119 CULVERT PIPE REINFORCED CONCRETE HORIZONTAL ELLIPTICAL CLASS HE-III	523.0519 APRON ENDWALLS FOR CULVERT PIPE REINFORCED CONCRETE HORIZONTAL ELLIPTICAL	611.9800.S PIPE GRATES	633.5200 MARKERS CULVERT END	SPV.0060.104* STORM SEWER PLUG	
STATION	OFFSET	LOCATION	ELEVATION	STATION	OFFSET	LOCATION	ELEVATION	SLOPE (%)[1]	LENGTH	EACH	15-INCH EACH	24-INCH EACH	30-INCH EACH	15-INCH LF	24-INCH LF	24-INCH LF	30-INCH LF	19X30- INCH LF	19X30-INCH EACH	EACH	EACH	EACH	REMARKS
124WB+92.28	48.5' RT	USH 10 WB	764.90	124WB+92.28	130.5' LT	USH 10 WB	761.32	2.00	179	---	---	2	---	---	---	167	---	---	---	1	2	---	C
1329FNE+38.18	22.5' LT	FNE RAMP	EXIST	140FEN+41.44	83.5' RT	FEN RAMP	750.33	0.95	235	1	---	---	1	---	---	---	229	---	---	---	1	---	A,C, 752.56
157FEN+85.90	28.0' LT	FEN RAMP	746.45	157FEN+85.86	51.5' RT	FEN RAMP	744.73	2.16	80	---	---	---	---	---	---	---	---	68	2	---	2	---	B
157FEN+93.88	28.0' LT	FEN RAMP	746.40	157FEN+93.91	51.4' RT	FEN RAMP	744.71	2.13	79	---	---	---	---	---	---	---	---	67	2	---	2	---	B
1336FNW+68.81	65.4' LT	FNW RAMP	752.75	1337FNW+99.61	57.6' RT	FNW RAMP	751.50	0.70	179	---	---	2	---	---	167	---	---	---	---	---	---	2	B,D
25TNE+56.04	36.2' RT	FNW RAMP	758.25	27TNE+97.06	44.5' LT	FNW RAMP	757.02	0.48	254	---	2	---	---	242	---	---	---	---	---	---	---	---	B,D
PROJECT 1517-07-72 TOTAL										1	2	4	1	242	167	167	229	135	4	1	9	2	

1) SLOPE CALCULATED BASED ON "PIPE LENGTH"
2) "PIPE LENGTH" COLUMN SHOWN FOR SLOPE CALCULATION ONLY. "PIPE LENGTH" IS CALCULATED FROM FLOWLINE END OF ENDWALL TO FLOWLINE END OF ENDWALL. NOT INTENDED FOR PAY QUANTITY
A) WHEN CONNECTING TO EXISTING PIPES, CONTRACTOR SHALL FIELD VERIFY EXISTING PIPE SIZES, MATERIALS, AND INVERT ELEVATIONS PRIOR TO MANUFACTURING STRUCTURES.
B) JOINT TIES FOR CONCRETE PIPE SHALL BE PROVIDED AT ALL REINFORCED CONCRETE APRON ENDWALL LOCATIONS. APRON ENDWALLS SHALL BE TIED FOR THE LAST THREE JOINTS AT PIPE ENDS.
THE COST OF THESE TIES SHALL BE INCLUDED IN THE CONTRACT PRICE OF THE PIPE.
C) JOINT TIES FOR CONCRETE PIPE SHALL BE PROVIDED AT EACH JOINT IN AREAS WITH PREFABRICATED VERTICAL DRAINS. THE COST OF THESE TIES SHALL BE INCLUDED IN THE CONTRACT PRICE OF THE PIPE.
D) ALL OR PORTION OF PIPE TO BE PLACED IN PRELIMINARY STAGE
*ADDITIONAL QUANTITIES SHOWN ELSEWHERE IN PROJECT 1517-07-72

ALL ITEMS ARE CATEGORY **1000** UNLESS OTHERWISE SPECIFIED.

STORM SEWER STRUCTURES

ROADWAY	STR NO.	STATION	OFFSET FT	LOCATION	RIM, FLANGE, OR FLOW-LINE ELEV	STR TYPE	COVER	STR[1] DEPTH FT	520.8000* [2] CONCRETE COLLARS FOR PIPE	522.1015* APRON ENDWALLS FOR CULVERT PIPE REINFORCED CONCRETE					522.1036	522.1042	611.0530 MANHOLE COVER TYPE J	611.0627 INLET COVERS TYPE HM	611.0642 INLET COVERS TYPE MS	611.0654 INLET COVERS TYPE V	611.2005 MANHOLES 5-FT DIAMETER	611.2006 MANHOLES 6-FT DIAMETER	611.3004 INLETS 4-FT DIAMETER	611.3220 INLETS 2X2-FT	611.3225 INLETS 2X2.5-FT	611.3230 INLETS 2X3-FT	611.3902 INLETS MEDIAN 2 GRATE	SPV.0060.100 POND OUTLET CONTROL MANHOLE	SPV.0060.104* STORM SEWER PLUG	SPV.0060.107 FLARED END SECTION WITH TRASH RACK	SPV.0060.120 COVER PLATES LEFT IN PLACE	REMARKS
									EACH	15-INCH EACH	24-INCH EACH	30-INCH EACH	36-INCH EACH	42-INCH EACH			EACH	EACH	EACH	EACH	EACH	EACH	EACH	EACH	EACH	EACH	EACH	EACH	EACH	EACH	EACH	
USH 10 EB/STH 441 NB	EX IN2	182EB+87.00	10.2	RT	N/A	N/A	N/A	N/A	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	1	
USH 10 EB/STH 441 NB	300	182EB+93.00	124.8	RT	756.19	MH 6-FT	HM	11.56	---	---	---	---	---	---	---	---	---	---	---	---	1	---	---	---	---	---	---	---	---	1	A,C,H
USH 10 EB/STH 441 NB	300M	179EB+85.00	98.7	RT	746.00	MH 6-FT	HM	2.64	---	---	---	---	---	---	---	---	---	---	---	---	1	---	---	---	---	---	---	---	---	1	A,C,H
USH 10 EB/STH 441 NB	300P	EB179+71	109.2	RT	N/A	ENDWALL 42	N/A	N/A	---	---	---	---	---	1	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	B
USH 10 EB/STH 441 NB	301N	183EB+90.00	117.7	RT	755.00	MH 6-FT	HM	10.37	---	---	---	---	---	---	---	---	---	---	---	---	1	---	---	---	---	---	---	---	---	1	A,C,H
FEN RAMP	400	156FEN+51.14	28.3	LT	N/A	ENDWALL 30	N/A	N/A	---	---	---	1	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	B
FEN RAMP	410	160FEN+45.64	47.8	RT	N/A	ENDWALL 24	N/A	N/A	---	---	1	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	B
FWN RAMP	411	129FWN+48.10	4.0	RT	750.16	IN 4-FT	HM	4.50	---	---	---	---	---	---	---	---	---	1	---	---	---	---	---	---	---	---	---	---	---	---	---	D,H
FWN RAMP	412P	129FWN+49.31	9.9	RT	N/A	PLUG	N/A	N/A	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	1	---	---
FEN RAMP	420	163FEN+39.29	51.9	RT	N/A	ENDWALL 24	N/A	N/A	---	---	1	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	B
FWN RAMP	421	126FWN+50.00	4.0	RT	748.06	MH 5-FT	HM	3.40	---	---	---	---	---	---	---	---	---	---	---	---	1	---	---	---	---	---	---	---	---	1	D,F
FWN RAMP	422	126FWN+75.14	4.0	RT	748.08	IN 4-FT	HM	2.52	---	---	---	---	---	---	---	---	---	---	---	---	---	---	1	---	---	---	---	---	---	1	D,F
FWN RAMP	423	126FWN+25.07	4.0	RT	748.06	IN 4-FT	HM	2.53	---	---	---	---	---	---	---	---	---	---	---	---	---	---	1	---	---	---	---	---	---	1	D,F
FEN RAMP	429	169FEN+45.69	27.6	RT	N/A	ENDWALL 24	N/A	N/A	---	---	1	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	B
FEN RAMP	430	169FEN+45.69	19.0	RT	748.95	IN 4-FT	V	5.99	---	---	---	---	---	---	---	---	---	---	---	1	---	---	1	---	---	---	---	---	---	---	---	E
FEN RAMP	431	169FEN+45.69	17.1	LT	749.89	MH 5-FT	J	6.57	1	---	---	---	---	---	---	1	---	---	---	---	1	---	---	---	---	---	---	---	---	---	---	A,C,H
FEN RAMP	432	166FEN+35.51	33.4	LT	750.98	MH 5-FT	J	6.34	1	---	---	---	---	---	---	1	---	---	---	---	1	---	---	---	---	---	---	---	---	---	---	A,C,H
FEN RAMP	433	163FEN+93.84	41.8	LT	750.89	MH 5-FT	J	4.62	1	---	---	---	---	---	---	1	---	---	---	---	1	---	---	---	---	---	---	---	---	---	---	A,C,H
FEN RAMP	434	166FEN+35.51	16.0	LT	749.56	IN 2X3-FT	HM	3.68	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	1	---	---	---	1	D,F
FEN RAMP	440	171FEN+72.03	23.9	RT	N/A	ENDWALL 15	N/A	N/A	---	1	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	B
FEN RAMP	441	171FEN+72.03	19.0	RT	748.20	IN 2X2.5-FT	V	5.83	---	---	---	---	---	---	---	---	---	---	---	1	---	---	---	---	---	1	---	---	---	---	---	E
FEN RAMP	450	173FEN+69.31	24.0	RT	N/A	ENDWALL 24	N/A	N/A	---	---	1	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	B
FEN RAMP	451	173FEN+69.31	19.0	RT	748.21	IN 4-FT	V	6.41	1	---	---	---	---	---	---	---	---	---	---	1	---	---	1	---	---	---	---	---	---	---	---	A,E
FEN RAMP	460	175FEN+25.37	25.7	RT	N/A	ENDWALL 15	N/A	N/A	---	1	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	B
FEN RAMP	461	175FEN+25.37	19.0	RT	747.96	IN 2X2.5-FT	V	6.59	---	---	---	---	---	---	---	---	---	---	---	1	---	---	---	---	---	1	---	---	---	---	---	E
FEN RAMP	470	178FEN+25.37	25.7	RT	N/A	ENDWALL 15	N/A	N/A	---	1	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	B
FEN RAMP	471	178FEN+25.37	19.0	RT	748.26	IN 2X2.5-FT	V	5.41	---	---	---	---	---	---	---	---	---	---	---	1	---	---	---	---	---	1	---	---	---	---	---	E
FEN RAMP	480	180FEN+00.00	23.8	RT	N/A	ENDWALL 15	N/A	N/A	---	1	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	B
FEN RAMP	481	180FEN+00.00	19.0	RT	749.27	IN 2X2.5-FT	V	3.65	---	---	---	---	---	---	---	---	---	---	---	1	---	---	---	---	---	1	---	---	---	---	---	E
FNW RAMP	500	1315FNW+93.80	72.6	RT	N/A	ENDWALL 24	N/A	N/A	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	B
FNW RAMP	501	1315FNW+93.81	15.6	LT	763.11	MEDIAN 2	MS	3.61	1	---	---	---	---	---	---	---	---	---	2	---	---	---	---	---	---	---	---	1	---	---	---	---	A,C,G
FNE RAMP	510	1322FNE+15.00	62.9	RT	N/A	ENDWALL 24	N/A	N/A	---	---	1	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	B
FNE RAMP	511	1322FNE+15.00	25.1	LT	759.37	MEDIAN 2	MS	4.14	---	---	---	---	---	---	---	---	---	---	2	---	---	---	---	---	---	---	---	1	---	---	---	---	C,G,I
FNE RAMP	530	1336FNE+23.60	50.6	RT	N/A	ENDWALL 15	N/A	N/A	---	1	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	B
FNE RAMP	531	1336FNE+23.60	34.0	RT	788.53	IN 2X2.5-FT	V	2.95	---	---	---	---	---	---	---	---	---	---	---	1	---	---	---	---	---	1	---	---	---	---	---	D
FNE RAMP	532	1336FNE+13.36	34.0	RT	788.47	IN 2X2.5-FT	V	1.72	---	---	---	---	---	---	---	---	---	---	---	1	---	---	---	---	---	1	---	---	---	---	---	D
FNE RAMP	533	1336FNE+09.37	12.1	LT	779.50	IN 2X2-FT	V	3.30	---	---	---	---	---	---	---	---	---	---	---	1	---	---	---	---	1	---	---	---	---	---	---	C
FNW RAMP	632	1345FNW+46.42	250.8	LT	N/A	ENDWALL 36	N/A	N/A	---	---	---	---	1	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	B
FNW RAMP	632P	1344FNW+50.85	150.6	LT	N/A	PLUG	N/A	N/A	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	1	---	---
USH 10 WB	633	126WB+86.41	478.8	LT	N/A	ENDWALL 36	N/A	N/A	---	---	---	---	1	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	B
POND 1	634	58DPB+32.82	3.3	LT	N/A	POND 1 OUTLET	NA	N/A	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	1	---	1	---	SEE DETAIL
POND 1	635	58DPB+32.82	21.0	LT	N/A	ENDWALL 36	N/A	N/A	---	---	---	---	1	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	B
FWN RAMP	T20	135FWN+24.26	88.7	RT	752.40	MEDIAN 2	MS	2.40	---	---	---	---	---	---	---	---	---	---	2	---	---	---	---	---	---	---	---	1	---	---	---	---	A,C,G,J
FWN RAMP	T401	133FWN+52.53	14.9	RT	753.25	MEDIAN 2	MS	5.22	---	---	---	---	---	---	---	---	---	---	2	---	---	---	---	---	---	---	---	1	---	---	---	---	A,C,G
FNE RAMP	CSD1	1330FNE+24.17	34.0	RT	778.17	IN 2X2-FT	V	2.75	---	---	---	---	---	---	---	---	---	---	---	1	---	---	---	---	---	---	---	---	---	---	---	---	SURF.DRAIN
PROJECT 1517-07-72 TOTAL									5	5	6	1	3	1	3	1	8	10	4	3	5	2	6	1	4	1	2	1	8			

1) STRUCTURE DEPTH = RIM ELEVATION - CASTING DEPTH - 6" FOR ADJUSTMENT RINGS - INVERT ELEVATION

2) USE CONCRETE COLLAR TO ATTACH EXISTING PIPE TO NEW STRUCTURE, SEE CONSTRUCTION DETAIL

A) WHEN CONNECTING TO EXISTING PIPES, CONTRACTOR SHALL FIELD VERIFY EXISTING PIPE SIZES, MATERIALS, AND INVERT ELEVATIONS PRIOR TO MANUFACTURING STRUCTURES.

B) STATION/OFFSET OF APRON ENDWALLS ARE TO FLOWLINE END OF ENDWALL.

C) STATION/OFFSET/RIM ELEVATION ARE GIVEN FROM THE CENTER OF STRUCTURE. SEE CONSTRUCTION DETAIL

D) STATION/OFFSET OF INLETS ARE GIVEN FROM TOE OF CONCRETE BARRIER OR FACE OF CURB AND GUTTER. RIM ELEVATIONS ARE GIVEN AT THE FLANGE LINE. SEE CONSTRUCTION DETAIL

E)STATION/OFFSET AND RIM ELEVATION ARE GIVEN FROM EDGE OF PAN, 1 -FT FROM TOE OF PARAPET, SEE CONSTRUCTION DETAIL

F) CASTING PLACED IN FUTURE CONTRACT

G) STRUCTURE DEPTH = RIM ELEVATION - INVERT ELEVATION

H) STRUCTURE DEPTH = RIM ELEVATION - CASTING DEPTH - INVERT ELEVATION

I) TO BE CONSTRUCTED IMMEDIATELY AFTER EXISTING USH 41 NB TO USH 10 EB/STH 441 NB RAMP IS CLOSED TO TRAFFIC

J) STRUCTURE TO BE PLACED IN PRELIMINARY STAGE

*ADDITIONAL QUANTITIES SHOWN ELSEWHERE IN PROJECT 1517-07-72

DETENTION POND CORRUGATED METAL ANTI-SEEP COLLAR

LOCATION	SPV.0060.108 DETENTION POND CORRUGATED METAL ANTI-SEEP COLLAR EACH
POND 1	1
PROJECT 1517-07-72 TOTAL	1

ALL ITEMS ARE CATEGORY **1000** UNLESS OTHERWISE SPECIFIED.

STORM SEWER PIPES

ROADWAY	PIPE ID	FROM STR	TO STR	INLET ELEV	DISCH ELEV	SLOPE[1] %	PIPE[2] LENGTH LF	520.8000* CONCRETE COLLARS FOR PIPE EACH	608.0312 STORM SEWER PIPE REINFORCED CONCRETE CLASS III 12-INCH LF	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	608.0424 STORM SEWER PIPE REINFORCED CONCRETE CLASS IV 24-INCH LF	608.0430 STORM SEWER PIPE REINFORCED CONCRETE CLASS IV 30-INCH LF	608.0542 STORM SEWER PIPE REINFORCED CONCRETE CLASS V 42-INCH LF	REMARKS
USH 10 EB/STH 441 NB	P110	300M	300P	741.69	741.64	0.28	18	---	---	---	---	---	---	---	18	B,C
USH 10 EB/STH 441 NB	P127	301N	300	742.96	742.65	0.29	104	---	---	---	---	---	---	---	104	C
USH 10 EB/STH 441 NB	P219	EXIST	300C	EXIST	742.96	0.00	0	1	---	---	---	---	---	---	---	C
USH 10 EB/STH 441 NB	P252	300	300M	742.65	741.69	0.29	326	---	---	---	---	---	---	---	326	C
FWN RAMP	P411	411	410	745.16	744.16	1.00	100	---	---	---	96	---	---	---	---	C
FWN RAMP	P412	412P	411	745.26	745.20	1.00	6	---	---	---	8	---	---	---	---	---
FWN RAMP	P421	421	420	743.66	743.45	0.30	69	---	---	---	---	---	65	---	---	B
FWN RAMP	P422	422	421	744.56	744.46	0.50	21	---	---	25	---	---	---	---	---	---
FWN RAMP	P423	423	421	744.53	744.46	0.34	20	---	---	25	---	---	---	---	---	---
FEN RAMP	P430	430	429	741.71	741.68	0.30	9	---	---	---	4	---	---	---	---	B
FEN RAMP	P431	431	430	741.90	741.81	0.30	30	---	---	---	34	---	---	---	---	---
FEN RAMP	P432	432	431	743.22	742.00	0.40	305	---	---	---	310	---	---	---	---	---
FEN RAMP	P433	433	432	744.85	743.32	0.65	236	---	---	---	241	---	---	---	---	---
FEN RAMP	P434	434	432	744.38	744.08	2.00	15	---	---	18	---	---	---	---	---	---
FEN RAMP	P441	441	440	741.12	741.02	2.00	5	---	---	0	---	---	---	---	---	B
FEN RAMP	P451	451	450	740.55	740.45	2.00	5	---	---	---	0	---	---	---	---	B
FEN RAMP	P461	461	460	740.12	740.00	2.00	7	---	---	2	---	---	---	---	---	B
FEN RAMP	P471	471	470	741.60	741.46	2.00	7	---	---	2	---	---	---	---	---	B
FEN RAMP	P481	481	480	744.37	744.29	2.00	5	---	---	0	---	---	---	---	---	B
FNW RAMP	P501	501	500	759.50	758.20	1.50	87	---	---	---	82	---	---	---	---	B
FNE RAMP	P511	511	510	755.23	753.50	2.00	87	---	---	---	82	---	---	---	---	B,D
FNE RAMP	P531	531	530	784.33	784.00	2.00	17	---	---	18	---	---	---	---	---	C
FNE RAMP	P532	532	531	785.50	785.35	2.00	7	---	10	---	---	---	---	---	---	C
FWN RAMP	PT20	T20	EX10	750.00	EXIST	0.40	188	1	---	193	---	---	---	---	---	A,E 749.25
FWN RAMP	PT401	T401	400	748.03	747.19	1.00	84	---	---	---	---	---	---	79	---	C
USH 10 WB	P632	632	632P	751.27	750.83	0.37	120	---	---	---	---	120	---	---	---	B
POND 1	P634	634	633	755.40	754.32	0.45	241	---	---	---	---	236	---	---	---	B
POND 1	P635	635	633	755.50	755.40	0.68	15	---	---	---	---	10	---	---	---	B
FWN RAMP	PTEX10	EX10	T401	EXIST	748.49	5.00	4	1	---	---	---	---	---	7	---	A,E 748.70
PROJECT 1517-07-72 TOTAL								3	10	282	857	366	65	86	448	

1) SLOPE CALCULATED BASED ON "PIPE LENGTH"

2) "PIPE LENGTH" COLUMN SHOWN FOR SLOPE CALCULATION ONLY. NOT INTENDED FOR PAY QUANTITY.
"PIPE LENGTH" REPRESENTS LENGTH OF PIPE MEASURED FROM INSIDE STRUCTURE WALL TO EITHER INSIDE STRUCTURE WALL OR FLOWLINE END OF ENDWALL

A) WHEN CONNECTING TO EXISTING PIPES, CONTRACTOR SHALL FIELD VERIFY EXISTING PIPE SIZES, MATERIALS, AND INVERT ELEVATIONS PRIOR TO MANUFACTURING STRUCTURES.

B) JOINT TIES FOR CONCRETE PIPE SHALL BE PROVIDED AT ALL REINFORCED CONCRETE APRON ENDWALL LOCATIONS. APRON ENDWALLS SHALL BE TIED FOR THE LAST THREE JOINTS AT PIPE ENDS.
THE COST OF THESE TIES SHALL BE INCLUDED IN THE CONTRACT PRICE OF THE PIPE.

C) JOINT TIES FOR CONCRETE PIPE SHALL BE PROVIDED AT EACH JOINT IN AREAS WITH PREFABRICATED VERTICAL DRAINS. THE COST OF THESE TIES SHALL BE INCLUDED IN THE CONTRACT PRICE OF THE PIPE.

D) TO BE CONSTRUCTED IMMEDIATELY AFTER EXISTING USH 41 NB TO USH 10 EB/STH 441 NB RAMP IS CLOSED TO TRAFFIC

E) ALL OR PORTION OF PIPE TO BE PLACED IN PRELIMINARY STAGE

*ADDITIONAL QUANTITIES SHOWN ELSEWHERE IN PROJECT 1517-07-72

ALL ITEMS ARE CATEGORY **1000** UNLESS OTHERWISE SPECIFIED.

3

ADJUSTING DRAINAGE STRUCTURES

STRUCTURE NUMBER	STATION	OFFSET	LOCATION	611.0430 RECONSTRUCTING INLETS EACH	SPV.0060.120* COVER PLATES LEFT IN PLACE EACH
EX10	133FWN+53.88	21.6' LT	FWN RAMP	1	1
PROJECT 1517-07-72 TOTAL				1	1

*ADDITIONAL QUANTITIES SHOWN ELSEWHERE IN PROJECT 1517-07-72

CONCRETE BARRIER

STATION	OFFSET	LOCATION	603.1132 CONCRETE BARRIER TYPE S32 LF	603.1142 CONCRETE BARRIER TYPE S42 LF	603.3513 CONCRETE BARRIER TRANSITION TYPE S32 TO S36 EACH	603.3535 CONCRETE BARRIER TRANSITION TYPE S36 TO S42 EACH
1336FNE+01 - 1336FNE+90	RT	FNE RAMP	76	--	1	--
1336FNE+90 - 1338FNE+00	RT	FNE RAMP	--	97	--	1
182EB+81 - 182EB+93	RT	USH 10 EB/STH 441 NB	12	--	--	--
PROJECT 1517-07-72 TOTAL			88	97	1	1

3

PIPE UNDERDRAIN

STATION	OFFSET	LOCATION	521.1012 APRON ENDWALLS FOR CULVERT PIPE STEEL 12-INCH EACH	607.0406 STORM SEWER PIPE COMPOSITE 6-INCH LF	612.0106 PIPE UNDER-DRAIN 6-INCH LF	612.0212 PIPE UNDERDRAIN UNPERFORATED 12-INCH LF	612.0806 APRON ENDWALLS FOR UNDERDRAIN REINFORCED CONCRETE 6-INCH EACH	628.7570 ROCK BAGS EACH	REMARKS
1315FNW+41 - 1315FNW+91	LT	FNW RAMP	---	---	50	---	---	---	
1315FNW+96 - 1316FNW+47	LT	FNW RAMP	---	---	50	---	---	---	
1321FNE+63 - 1322FNE+12	LT	FNE RAMP	---	---	50	---	---	---	
1322FNE+18 - 1322FNE+67	LT	FNE RAMP	---	---	50	---	---	---	
1329FNE+77	RT	FNE RAMP	1	---	---	78	---	---	1329FNE+76.89 91.9' RT
1335FNE+70 - 1336FNE+08	LT	FNE RAMP	---	---	40	---	1	---	ENDWALL: 1335FNE+70,17.5 LT
129FWN+52 - 130FWN+00	RT	FWN RAMP	---	---	50	---	---	---	
126FWN+79 - 127FWN+27	RT	FWN RAMP	---	5	48	---	---	4	
126FWN+54 - 126FWN+72	RT	FWN RAMP	---	5	18	---	---	4	
126FWN+29 - 126FWN+48	RT	FWN RAMP	---	5	19	---	---	4	
125FWN+73 - 126FWN+22	RT	FWN RAMP	---	5	49	---	---	4	
166FEN+38 - 166FEN+87	LT	FEN RAMP	---	5	49	---	---	4	
1367NB+51 - 1368NB+00	RT	USH 41 NB	---	---	53	---	---	---	CONNECT TO EXISTING DRAIN TILE
UNDISTRIBUTED			---	---	---	---	---	50	
PROJECT 1517-07-72 TOTAL			1	25	526	78	1	70	

ALL ITEMS ARE CATEGORY **1000** UNLESS OTHERWISE SPECIFIED.

3

SALVAGED RAIL

STATION	OFFSET	LOCATION	614.0920 SALVAGED RAIL LF	614.0925 SALVAGED GUARDRAIL END TREATMENTS EACH	REMARKS
1361NB+02 - 1364NB+20	RT	USH 41 NB	248	2	STB + EAT
1322FNE+93 - 1324FNE+84	RT	FNE RAMP	140	1	EAT
1327FNE+83 - 1328FNE+93	LT	FNE RAMP	66	1	EAT
1327FNE+95 - 1328FNE+57	LT	FNE RAMP	--	1	DB
135FWN+82 - 137FWN+76	RT	FWN RAMP	175	1	EAT
136FWN+24 - 140FWN+52	RT	FWN RAMP	464	2	STB + EAT
PROJECT 1517-07-72 TOTAL			1,093	8	

REMARKS: STB = STEEL THRIE BEAM STRUCTURE APPROACH
EAT = ENERGY ABSORPTION TERMINAL
DB = DOWNTURNED BULLNOSE

FENCE SAFETY

LOCATION	616.0700.S FENCE SAFETY LF
UNDISTRIBUTED	2,000
PROJECT 1517-07-72 TOTAL	2,000

3

GUARDRAIL ITEMS

FROM STATION	OFFSET	TO STATION	OFFSET	ROADWAY	614.2300 MGS GUARDRAIL 3 LF	614.2310 HS LF	614.2500 MGS THRIE BEAM TRANSITION LF	614.2610 MGS GUARDRAIL TERMINAL EAT EACH	614.2620 TYPE 2 EACH	SPV.0165.001 SPRAYED ASPHALT SHOULDER TREATMENT SF
1370NB+75.0	45.5' RT	1386NB+00.0	38.7' RT	USH 41 NB	1,488	--	39	--	1	6,110
1320FNE+75.5	36.0' RT	1330FNE+37.3	34.0' RT	FNE RAMP	850	--	39	1	--	3,779
1329FNE+00.7	8.0' LT	1330FNE+80.0	6.0' LT	FNE RAMP	88	--	39	1	--	744
1315FNW+66.8	8.0' LT	1317FNW+57.6	6.0' LT	FNW RAMP	113	25	--	1	1	--
1316FNW+46.4	36.0' RT	1317FNW+61.3	34.0' RT	FNW RAMP	38	25	--	1	1	--
1320FNW+99.8	8.0' LT	1322FNW+77.9	6.0' LT	FNW RAMP	125	--	--	1	1	--
PROJECT 1517-07-72 TOTAL					2,702	50	117	5	4	10,633

ALL ITEMS ARE CATEGORY **1000** UNLESS OTHERWISE SPECIFIED.

RIPRAP, SOD & GEOTEXTILE FABRIC

STATION	OFFSET	LOCATION	606.0200 RIPRAP MEDIUM CY	631.1100 SOD EROSION CONTROL SY	645.0120 GEOTEXTILE FABRIC TYPE HR SY
124WB+92	LT	USH 10 WB	5	6	9
131WB+26 - 132WB+73	RT	USH 10 WB	78	--	156
1361NB+20	RT	USH 41 NB	5	6	9
1362NB+75	RT	USH 41 NB	3	6	6
1365NB+75	RT	USH 41 NB	3	6	6
1367NB+50	RT	USH 41 NB	3	6	6
140FEN+39	RT	FEN RAMP	7	7	13
157FEN+86	RT	FEN RAMP	7	7	13
157FEN+94	RT	FEN RAMP	7	7	13
160FEN+46	RT	FEN RAMP	5	6	9
163FEN+39	RT	FEN RAMP	5	6	9
169FEN+46	RT	FEN RAMP	5	6	9
171FEN+76	RT	FEN RAMP	3	6	6
1322FNE+15	RT	FNE RAMP	5	6	9
1329FNE+77	RT	FNE RAMP	2	--	3
1336FNE+24	RT	FNE RAMP	29	6	58
1315FNW+94	RT	FNW RAMP	5	6	9
1328FNW+15	LT	FNW RAMP	3	6	6
1338FNW+04	RT	FNW RAMP	5	6	9
133FWN+52	LT	FWN RAMP	7	7	13
58DPB+82 - 59DPB+02	RT/LT	POND 1	35	--	71
50DPB+00 - 59DPB+07	LT	POND 1	603	--	--
0+00	RT/LT	DITCH 2	9	8	18
UNDISTRIBUTED			210	30	115
PROJECT 1517-07-72 TOTAL			1,049	150	575

WATER

LOCATION	624.0100 WATER MGAL
AGGREGATE COMPACTION	63
EARTHWORK COMPACTION	1,404
DUST CONTROL	250
PROJECT 1517-07-72 TOTAL	1,717

MOBILIZATION

LOCATION	619.1000 MOBILIZATION EACH
PROJECT 1517-07-72	1
PROJECT 1517-07-72 TOTAL	1

MAINTENANCE AND REPAIR OF HAUL ROADS

LOCATION	618.0100 MAINTENANCE AND REPAIR OF HAUL ROADS PROJECT I.D. 1517-07-72 EACH
PROJECT 1517-07-72	1
PROJECT 1517-07-72 TOTAL	1

RESTORATION

STATION	OFFSET	LOCATION	625.0500 SALVAGED TOPSOIL SY	627.0200 MULCHING SY	629.0205 FERTILIZER TYPE A CWT	630.0120 SEEDING MIXTURE NO. 20 LB	630.0200 SEEDING TEMPORARY LB	REMARKS
114WB+50 - 133WB+00	RT/LT	USH 10 WB	36,495	8,599	21.5	986	986	INCLUDES DITCH 1
1310NB+79 - 1319NB+09	RT	USH 41 NB	1,682	1,682	1.1	45	45	
1364NB+56 - 1387NB+40	RT/LT	FEN RAMP	4,983	1,768	2.6	134	134	
118FEN+50 - 125FEN+90	RT/LT	FEN RAMP	7,498	5,064	4.4	202	202	
136FEN+66 - 142FEN+50	RT/LT	FEN RAMP	7,682	4,357	4.4	208	208	
152FEN+92 - 176FEN+65	RT	FEN RAMP	8,006	3,487	2.5	217	217	
1323FNE+20 - 1331FNE+15	RT/LT	FNE RAMP	4,049	3,500	2.5	109	109	
1335FNE+09 - 1342FNE+70	RT/LT	FNE RAMP	10,749	559	6.2	290	290	
1307FNW+89 1325FNW+50	RT	FNW RAMP	10,608	7,401	6.4	286	286	
1334FNW+00 1336FNW+75	RT	FNW RAMP	5,833	4,632	3.6	157	157	
128FWN+01 - 136FWN+82	RT/LT	FWN RAMP	6,523	4,545	4.1	176	176	
113FWS+00 - 119FWS+45	RT/LT	FWS RAMP	4,632	1,768	3.0	125	125	
50DPB+00 - 59DPB+07	RT/LT	POND 1	3,165	726	2.0	22	86	
20+00 - 26+09	RT/LT	DITCH 2	5,871	4,679	3.7	158	158	
19TNE+07 - 29TNE+33	LT	TNE RAMP	1,232	817	0.8	33	33	
35TWN+57 - 54TWN+43	RT/LT	TWN RAMP	4,004	--	2.2	108	108	
179EB+63 - 183EB+75	RT	USH 10 EB / STH 441 NB	4,802	--	3.0	130	130	
PROJECT 1517-07-72 TOTAL			127,814	53,584	74	3,386	3,450	

ALL ITEMS ARE CATEGORY **1000** UNLESS OTHERWISE SPECIFIED.

EROSION BALES AND SILT FENCE

STATION			OFFSET	LOCATION	628.1104 EROSION BALES EACH	628.1504 SILT FENCE LF	628.1520 SILT FENCE MAINTENANCE LF	REMARKS
117WB+97	-	118WB+35	LT	USH10 WB	--	38	38	
118WB+95	-	119WB+06	LT	USH10 WB	--	12	12	
123WB+38	-	123WB+47	LT	USH10 WB	--	9	9	
124WB+16	-	125WB+93	LT	USH10 WB	--	177	177	
126WB+68	-	133WB+05	LT	USH10 WB	32	758	758	
132WB+72	-	133WB+05	RT	USH10 WB	28	71	71	
1364NB+56	-	1368NB+05	RT	USH 41 NB	--	352	352	
1382NB+00	-	1382NB+91	RT	USH 41 NB	--	91	91	
1385NB+00	-	1385NB+80	RT	USH 41 NB	--	84	84	
1386NB+91	-	1387NB+45	RT	USH 41 NB	--	70	70	
123FEN+90	-	125FEN+92	RT/LT	FEN RAMP	--	253	253	
137FEN+18	-	137FEN+26	RT/LT	FEN RAMP	99	248	248	
140FEN+11	-	142FEN+55	RT	FEN RAMP	--	276	276	
152FEN+87	-	154FEN+79	RT	FEN RAMP	--	192	192	
156FEN+19	-	176FEN+65	RT/LT	FEN RAMP	--	2,051	2,051	
1322FNE+50	-	1325FNE+84	RT	FNE RAMP	62	392	392	
1335FNE+93	-	1342FNE+75	RT/LT	FNE RAMP	176	1,106	1,106	
1333FNW+94	-	1338FNW+26	RT/LT	FNW RAMP	--	451	451	
1335FNW+05	-	1335FNW+88	RT	FNW RAMP	--	101	101	
1344FNW+71	-	1344FNW+82	LT	FNW RAMP	--	14	14	FROM DITCH 2
1345FNW+18	-	1345FNW+30	LT	FNW RAMP	--	13	13	FROM DITCH 2
1353FNW+27	-	1353FNW+68	LT	FNW RAMP	--	34	34	TO DITCH 2
1353FNW+58	-	1353FNW+92	LT	FNW RAMP	--	29	29	TO DITCH 2
1354FNW+37	-	1355FNW+06	LT	FNW RAMP	--	58	58	TO DITCH 2
1354FNW+61	-	1355FNW+45	LT	FNW RAMP	--	69	69	TO DITCH 2
1355FNW+67	-	1355FNW+72	LT	FNW RAMP	--	10	10	TO DITCH 2
112FWS+95	-	119FWS+50	RT	FWS RAMP	--	728	728	
118FWS+79	-	119FWS+50	LT	FWS RAMP	--	150	150	
28TNE+99	-	29TNE+37	LT	TNE RAMP	--	51	51	
35TWN+59	-	35TWN+96	LT	TWN RAMP	--	40	40	
36TWN+63	-	37TWN+72	LT	TWN RAMP	--	124	124	
38TWN+37	-	39TWN+57	LT	TWN RAMP	24	146	146	
179EB+63	-	180EB+10	RT	USH 10 EB / STH 441 NB	90	--	--	
179EB+61	-	184EB+38	RT	USH 10 EB / STH 441 NB	--	660	660	
UNDISTRIBUTED					128	2,215	2,215	
PROJECT 1517-07-72 TOTAL					639	11,073	11,073	

3

INLET PROTECTION

STRUCTURE NUMBER	LOCATION	628.7005 INLET PROTECTION TYPE A EACH	628.7010 INLET PROTECTION TYPE B EACH	628.7015 INLET PROTECTION TYPE C EACH	628.7020 INLET PROTECTION TYPE D EACH	REMARKS
300	USH 10 EB / STH 441 NB	1	--	--	--	
300M	USH 10 EB / STH 441 NB	1	--	--	--	
301N	USH 10 EB / STH 441 NB	1	--	--	--	
411	FWN RAMP	1	--	--	1	
421	FWN RAMP	1	1	--	--	
422	FWN RAMP	1	1	--	--	
423	FWN RAMP	1	1	--	--	
430	FEN RAMP	1	1	--	--	
431	FWN RAMP	1	--	--	--	
432	FWN RAMP	1	--	--	--	
433	FWN RAMP	1	--	--	--	
434	FWN RAMP	1	1	--	--	
441	FEN RAMP	1	1	--	--	
451	FEN RAMP	1	--	--	1	
461	FEN RAMP	1	--	--	1	
471	FEN RAMP	1	1	--	--	
481	FEN RAMP	1	1	--	--	
501	FNE RAMP	1	--	--	--	
511	FNE RAMP	1	--	--	--	
531	FNE RAMP	1	1	--	--	
532	FNE RAMP	1	1	--	--	
533	FNE RAMP	1	--	--	--	
CSD1	FNE RAMP	1	1	--	--	
T20	TWN RAMP	1	--	--	--	
T401	FWN RAMP	1	--	--	--	
EX8	FNW RAMP	--	--	1	--	1353FNW+67, 234' LT
EX9	FNW RAMP	--	--	1	--	1344FNW+60, 195' LT
UNDISTRIBUTED		6	3	1	1	
PROJECT 1517-07-72 TOTAL		31	14	3	4	

ALL ITEMS ARE CATEGORY **1000** UNLESS OTHERWISE SPECIFIED.

3

EROSION MAT

STATION		OFFSET	LOCATION	628.2002 EROSION MAT CLASS I TYPE A SY	628.2004 EROSION MAT CLASS I TYPE B SY	628.2023 EROSION MAT CLASS II TYPE B SY	628.2033 EROSION MAT CLASS III TYPE B SY	REMARKS
114WB+50	- 133WB+00	RT/LT	USH 10 WB	2,132	23,227	--	--	INCLUDES DITCH 1
1364NB+56	- 1387NB+40	RT/LT	USH 41 NB	--	2,923	--	--	INCLUDES DITCH 1
118FEN+50	- 125FEN+90	RT/LT	FEN RAMP	--	2,213	--	--	
136FEN+66	- 142FEN+50	RT/LT	FEN RAMP	900	2,052	--	71	
152FEN+92	- 176FEN+65	RT	FEN RAMP	--	4,108	--	--	
1326FNE+00	- 1330FNE+93	RT/LT	FNE RAMP	--	499	--	--	
1335FNE+09	- 1342FNE+70	RT/LT	FNE RAMP	9,103	160	--	--	
1307FNW+91	1324FNW+36	RT	FNW RAMP	--	2,916	--	--	
1334FNW+00	1338FNW+14	RT/LT	FNW RAMP	899	192	--	--	
129FWN+45	- 137FWN+23	RT/LT	FWN RAMP	101	1,697	--	--	
113FWS+00	- 119FWS+45	RT/LT	FWS RAMP	2,264	341	--	--	
50DPB+00	- 59DPB+07	RT/LT	POND 1	--	2,217	--	--	
20+00	- 26+09	RT/LT	DITCH 2	--	1,083	--	--	
25TNE+50	- 29TNE+33	LT	TNE RAMP	132	245	--	--	
35TWN+57	- 48TWN+00	RT/LT	TWN RAMP	963	2,271	407	--	
179EB+63	- 183EB+75	RT	USH 10 EB / STH 441 NB	--	--	4,671	--	
UNDISTRIBUTED				4,124	11,536	1,270	18	
PROJECT 1517-07-72 TOTAL				20,618	57,680	6,348	89	

MOBILIZATIONS EROSION CONTROL

LOCATION	628.1905 MOBILIZATIONS EROSION CONTROL EACH	628.1910 MOBILIZATIONS EMERGENCY EROSION CONTROL EACH
UNDISTRIBUTED	16	8
PROJECT 1517-07-72 TOTAL	16	8

TURBIDITY BARRIERS

STATION		OFFSET	LOCATION	628.6005 TURBIDITY BARRIERS SY
179EB+30	- 179EB+71	LT/RT	USH 10 EB/STH 441 NB	1550
PROJECT 1517-07-72 TOTAL				1550

TRACKING PADS

LOCATION	628.7560 TRACKING PADS EACH
UNDISTRIBUTED	17
PROJECT 1517-07-72 TOTAL	17

ALL ITEMS ARE CATEGORY **1000** UNLESS OTHERWISE SPECIFIED.

TEMPORARY DITCH CHECKS

STATION	OFFSET	LOCATION	628.7504 TEMPORARY DITCH CHECKS LF
116WB+00	LT	USH 10 WB	20
119WB+00	LT	USH 10 WB	20
121WB+25	RT	USH 10 WB	17
123WB+25	RT	USH 10 WB	17
125WB+60	RT	USH 10 WB	17
126WB+10	RT	USH 10 WB	17
126WB+50	LT	USH 10 WB	18
126WB+75	RT	USH 10 WB	17
127WB+10	LT	USH 10 WB	18
127WB+35	RT	USH 10 WB	17
127WB+50	LT	USH 10 WB	18
127WB+80	RT	USH 10 WB	18
128WB+00	RT	USH 10 WB	17
128WB+25	RT	USH 10 WB	18
128WB+50	RT	USH 10 WB	18
129WB+90	RT	USH 10 WB	18
129WB+75	RT	USH 10 WB	18
119FEN+00	LT	FEN RAMP	24
120FEN+50	LT	FEN RAMP	24
120FEN+75	RT	FEN RAMP	16
122FEN+00	LT	FEN RAMP	24
122FEN+00	RT	FEN RAMP	16
1326FNE+50	LT	FNE RAMP	12
1327FNE+00	LT	FNE RAMP	12
1327FNE+75	LT	FNE RAMP	12
1328FNE+25	LT	FNE RAMP	12
1328FNE+75	LT	FNE RAMP	12
1329FNE+25	LT	FNE RAMP	12
1330FNE+00	LT	FNE RAMP	12
1330FNE+50	LT	FNE RAMP	12

TEMPORARY DITCH CHECKS (CONTINUED)

STATION	OFFSET	LOCATION	628.7504 TEMPORARY DITCH CHECKS LF
1319FNW+50	RT	FNW RAMP	24
1320FNW+75	RT	FNW RAMP	24
1321FNW+75	RT	FNW RAMP	24
1322FNW+00	RT	FNW RAMP	24
1334FNW+50	RT	FNW RAMP	28
1337FNW+30	RT	FNW RAMP	15
37TWN+07	RT	TWN RAMP	10
37TWN+71	RT	TWN RAMP	10
38TWN+19	RT	TWN RAMP	10
38TWN+61	RT	TWN RAMP	10
39TWN+02	RT	TWN RAMP	10
39TWN+42	RT	TWN RAMP	10
39TWN+83	RT	TWN RAMP	10
40TWN+22	RT	TWN RAMP	10
40TWN+64	RT	TWN RAMP	10
41TWN+05	RT	TWN RAMP	10
41TWN+45	RT	TWN RAMP	10
41TWN+94	RT	TWN RAMP	10
42TWN+47	RT	TWN RAMP	10
43TWN+25	RT	TWN RAMP	10
UNDISTRIBUTED			196
PROJECT 1517-07-72 TOTAL			978

CULVERT PIPE CHECKS

STATION	OFFSET	LOCATION	628.7555 CULVERT PIPE CHECKS EACH
125WB+00	LT	USH 10 WB	8
157FEN+86	LT	FEN RAMP	10
157FEN+94	LT	FEN RAMP	10
1325FNE+43	LT	FNE RAMP	5
1336FNW+62	LT	FNW RAMP	8
UNDISTRIBUTED			10
PROJECT 1517-07-72 TOTAL			51

FIELD OFFICE TYPE D

LOCATION	642.5401 FIELD OFFICE TYPE D EACH
PROJECT 1517-07-72	1
PROJECT 1517-07-72 TOTAL	1

TRAFFIC CONTROL

LOCATION	643.0100 TRAFFIC CONTROL PROJECT ID 1517-07-72 EACH
PROJECT 1517-07-72	1
PROJECT 1517-07-72 TOTAL	1

ALL ITEMS ARE CATEGORY **1000** UNLESS OTHERWISE SPECIFIED.

3

3

ERECTION & REMOVAL OF PERMANENT SIGNING, TYPE I
ERECTING STRUCTURAL STEEL SIGN SUPPORTS

SIGN NO.	LOCATION	SIGN CODE	637.1220 SIGNS TYPE I REFLECTIVE SH W X H	637.1220 S.F.	635.0200 SIGN SUPPORTS STRUCT. STEEL HIGH-STRENGTH LB	636.0100 SIGN SUPPORTS CONCRETE MASONRY CY	636.0500 SIGN SUPPORTS STEEL REINFORCEMENT LB	638.2601 REMOVING SIGNS TYPE I EACH	638.3100 REMOVING STRUCT. STEEL SIGN SUPPORTS EACH	SPV.0165.250 PERMANENT COVERING TYPE I SIGNS S.F.	TYPE/STEEL OF STEEL	INFO ONLY - POST LENGTH TO BE VERIFIED BY CONTRACTOR: SIGN BRIDGE CANTILEVERED LS	SIGN BRIDGE LS	POST NO. 1 LENGTH FT	POST NO. 2 LENGTH FT	OFFSET DISTANCE FT	DISTANCE BETWEEN POSTS (S) FT	REMARKS
100	RAMP FROM USH 41 NB TO USH 10	E7-2	408 X 156	442.00						125			1					SIGN STRUCTURE S-70-203, STA 117+50FNW, SEE SIGN DETAIL SHEET, COVER AS SHOWN
101	"	E1-5	144 X 30	30.00														EXIT 134B, MOUNT ABOVE SIGN #100, SEE SIGN DETAIL SHEET
102	"	E1-5	144 X 30	30.00														EXIT 134A, MOUNT ABOVE SIGN #100, SEE SIGN DETAIL SHEET
103	USH 10 EB RAMP TO USH 41 NB CONNECTION	---	---	---								1						SIGN CANTILEVER STRUCTURE S-70-205, STA 171+06 FEN
104	"	---	---	---				1										
104A	"	---	---	---					2									
105	USH 41 NB, S. OF PROSPECT AVE	---	---	---								1						SIGN CANTILEVER STRUCTURE S-70-253, STA 1371+25NW
106	"	E1-1A	240" X 120"	200.00	966	1.6	98.0				2-TYPE B			23.8	25.8	30.0	12.0	SEE SIGN DETAIL SHEET
107	"	E1-5	120" X 30"	25.00														EXIT 136, SEE SIGN DETAIL SHEET, MOUNT ABOVE SIGN #106
108	"	E3-1	228" X 138"	218.50	1011	1.6	98.0				2-TYPE B			21.5	23.4	30.0	11.4	
	PROJECT TOTALS			**945.50**	**1977**	**3.2**	**196**	**1**	**2**	**125**								

ERECTION & REMOVAL OF TYPE II SIGNS AND SUPPORTS

SIGN NO.	LOCATION	SIGN CODE	W X H	637.2210 SIGNS TYPE II REFLECTIVE H S.F.	637.2230 SIGNS TYPE II REFLECTIVE F S.F.	634.0618 POSTS WOOD 4x6x18 EACH	638.2102 MOVING SIGNS TYPE II EACH	638.2602 REMOVING SIGNS TYPE II EACH	638.3000 REMOVING SMALL SIGN SUPPORTS EACH	REMARKS
1	USH 41 NB, RAMP TO STH 441/USH 10	E5-1A	---	---	---		1			TO BE MOVED TO NEW TEMPORARY EXIT GORE FOR RAMP
2	"	W3-5	---	---	---			1	2	
3	"	R2-1	---	---	---			1	1	
4	USH 41 NB, RAMP TO STH 441/USH 10	W13-3	48" X 60"	---	20.00					50 MPH, MOUNT/BAND TO LEFT COLUMN OF STRUCTURE S-70-203
5	"	W13-3	48" X 60"	---	20.00					50 MPH, MOUNT/BAND TO RIGHT COLUMN OF STRUCTURE S-70-203
6	USH 41 NB, N. OF STH 441	W4-1	---	---	---			1	2	
7	"	R2-1	---	---	---			1	2	
8	"	J4-2	72" X 54"	27.00	---	2				NORTH I-41, NORTH USH 41
9	"	R2-1	48" X 60"	20.00	---	2				65 MPH
	PROJECT TOTALS			**47.00**	**40.00**	**4**	**1**	**4**	**7**	

PLAN SHEET PRODUCED
BY WisDOT - NE REGION

PERMANENT SIGNING

ROADWAY	STATION	OFFSET	SIGN NO.	SIGN CODE	SIGN SIZE	SIGN SIZE (INCHES)			637.2230* SIGNS TYPE II REFLECTIVE F SF	634.0616 POSTS WOOD 4X6-INCH X 16 FEET EACH	REMARKS
STAGE 1											
TNE RAMP	21TNE+79	22.00' RT	101	W1-2R	5	48	X	48	16.0	--	ROAD CURVES RIGHT - ON SAME POST AS SIGN 102
TNE RAMP	21TNE+79	22.00' RT	102	W13-3	5	48	X	60	20.0	2	RAMP SPEED 40 M.P.H.
USH 41NB	1340NB+02	40.00' RT	103	W4-1	5	48	X	48	16.0	1	THRU TRAFFIC MERGE LEFT
TWN RAMP	35TWN+76	7.00' RT	104	W1-6	2	48	X	24	8.0	1	ONE DIRECTION LARGE ARROW
TWN RAMP	38TWN+09	27.00' LT	105	W1-6	2	48	X	24	8.0	1	ONE DIRECTION LARGE ARROW
PROJECT 1517-07-72 TOTAL									68.0	5	

* ADDITIONAL QUANTITIES FOUND ELSEWHERE IN PROJECT 1517-07-72

TRAFFIC CONTROL

STATION	DURATION DAYS	603.8000 CONCRETE BARRIER TEMPORARY PRECAST DELIVERED LF	603.8125 CONCRETE BARRIER TEMPORARY PRECAST INSTALLED LF	SPV.0090.204 CONCRETE BARRIER TEMPORARY PRECAST LEFT IN PLACE LF	614.0905 CRASH CUSHION TEMPORARY EACH	SPV.0060.202 CRASH CUSHION TEMPORARY LEFT IN PLACE EACH	SPV.0060.204 TEMPORARY THRIE BEAM CONNECTION LEFT IN PLACE EACH	643.0300 TRAFFIC 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	643.0910 TRAFFIC CONTROL COVERING SIGNS TYPE I EACH	643.0920 TRAFFIC CONTROL COVERING SIGNS TYPE II EACH	643.1050 TRAFFIC CONTROL SIGNS PCMS EACH	DAYS	SPV.0045.050 PCMS REMOTE COMMUNICATIONS EACH	DAYS
PRELIMINARY STAGE	30	1,423	1,423	--	3	--	--	324	9,720	11	330	22	660	324	9,720	5	150	57	1,710	--	1	--	--	--	--
STAGE 1A	305	7,503	8,926	3,855	4	4	1	145	44,225	--	--	--	--	22	6,710	3	915	69	21,045	--	--	--	--	--	--
STAGE 1 - LOOP CLOSURE	2	--	--	--	--	--	--	26	52	4	8	8	16	26	52	--	--	11	22	--	1	--	--	--	--
STAGE 1B	30	--	651	--	1	--	--	165	4,950	--	--	--	--	22	660	4	120	71	2,130	--	--	--	--	--	--
LEFT IN PLACE	0	--	4,669	4,669	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
UNDISTRIBUTED		--	--	--	--	--	--	--	2,697	--	17	--	33	--	822	--	53	--	1,138	10	10	4	1,460	4	1,460
PROJECT 1517-07-72 TOTAL		8,926	15,669	8,524	8	4	1		61,644		355		709		17,964		1,238		26,045	10	12		1,460		1,460

TRAFFIC CONTROL PAVEMENT MARKING

STATION	646.0103 PAVEMENT MARKING PAINT 4-INCH (WHITE) LF	(YELLOW) LF	646.0106 PAVEMENT MARKING EPOXY 4-INCH (WHITE) LF	(YELLOW) LF	646.0123 PAVEMENT MARKING PAINT 8-INCH LF	646.0126 PAVEMENT MARKING EPOXY 8-INCH LF	646.0600 REMOVING PAVEMENT MARKING LF	649.2100 TEMPORARY RAISED PAVEMENT MARKERS EACH
PRELIMINARY STAGE	1,102	873	--	--	356	--	--	--
STAGE 1A	--	--	12,941	6,953	--	1,858	14,850	108
STAGE 1B	700	--	--	--	--	--	--	--
LEFT IN PLACE	--	--	8,838	5,285	--	290	13,980	--
PROJECT 1517-07-72 TOTAL	1,802	873	21,779	12,238	356	2,148	28,830	108
	2,675		34,017					

ALL ITEMS ARE CATEGORY **1000** UNLESS OTHERWISE SPECIFIED.

3

3

SAWCUTS

STATION			OFFSET	LOCATION	690.0150 SAWING ASPHALT LF	690.0250 SAWING CONCRETE LF	REMARKS
1307NB+89			RT	USH 41 NB	8	14	
1307NB+89	-	1324NB+18	RT	USH 41 NB	--	1,631	
1324NB+18			RT	USH 41 NB	10	--	
1351NB+40	-	1387FNE+40	RT	USH 41 NB	--	3,610	
1387NB+40			RT	USH 41 NB	10	--	
119FEN+92			RT	FEN RAMP	--	12	
119FEN+92	-	121FEN+93	RT	FEN RAMP	--	210	
164FEN+50	-	166FEN+73	LT	FEN RAMP	--	220	
159FEN+99	-	166FEN+73	LT	FEN RAMP	--	678	
166FEN+89			LT	FEN RAMP	8	14	
1327FNE+81	-	1327FNE+84	LT	FNE RAMP	6	24	
1344FNW+55	-	1344FNW+67	LT	FNW RAMP	5	18	EXIST FWS RAMP
1344FNW+86	-	1344FNW+98	LT	FNW RAMP	5	18	EXIST FWS RAMP
1353FNW+92	-	1354FNW+15	LT	FNW RAMP	5	18	EXIST FWS RAMP
1354FNW+07	-	1354FNW+31	LT	FNW RAMP	5	18	EXIST FWS RAMP
129FWN+97	-	129FWN+99	RT	FWN RAMP	5	15	
133FWN+75			RT	FWN RAMP	10	--	
125FWN+39	-	133FWN+75	RT	FWN RAMP	--	845	
136FWN+52	-	136FWN+63	RT	FWN RAMP	12	15	
139FWN+39	-	140FWN+52	RT	FWN RAMP	56	92	
182EB+81	-	182EB+93	RT	USH 10 EB/STH 441 NB	28	--	
PROJECT 1517-07-72 TOTAL					173	7,452	

DRAINAGE BLANKET

STATION			LOCATION	SPV.0035.004 DRAINAGE BLANKET CY
120WB+00	-	128WB+12	USH 10 WB	8,375
126WB+75	-	133WB+00	USH 10 WB	8,315
1365NB+03	-	1365NB+50	USH 41 NB	65
122FEN+50	-	125FEN+90	FEN RAMP	2,071
136FEN+66	-	140FEN+00	FEN RAMP	2,810
1324FNE+50	-	1331FNE+29	FNE RAMP	4,390
1335FNE+09	-	1342FNE+70	FNE RAMP	6,898
132FWN+00	-	135FWN+25	FWN RAMP	964
179EB+63	-	183EB+75	USH 10 EB / STH 441 NB	2,715
PROJECT 1517-07-72 TOTAL				36,603

POND LINER CLAY

STATION			OFFSET	LOCATION	SPV.0035.100 POND LINER CLAY CY
50DPB+00	-	59DPB+07	LT	POND 1	2,741
PROJECT 1517-07-72 TOTAL					2,741

ALL ITEMS ARE CATEGORY **1000** UNLESS OTHERWISE SPECIFIED.

3

VIBRATING WIRE PIEZOMETER INSTRUMENTATION SYSTEM DELIVERED

STATION	OFFSET	LOCATION	SPV.0060.008 VIBRATING WIRE PIEZOMETER INSTRUMENTATION SYSTEM DELIVERED EACH
122WB+00	40.0' LT	USH 10 WB	1
126WB+00	23.0' LT	USH 10 WB	1
130WB+00	28.0' LT	USH 10 WB	1
132WB+00	0' RT	USH 10 WB	1
1365NB+05	103.0' LT	USH 41 NB	1
124FEN+50	4.0' RT	FEN RAMP	1
137FEN+50	20.5' RT	FEN RAMP	1
139FEN+00	21.0' RT	FEN RAMP	1
153FEN+90	16.5' LT	FEN RAMP	1
1327FNE+00	18.0' RT	FNE RAMP	1
1330FNE+00	18.0' RT	FNE RAMP	1
1330FNE+62	31.0' RT	FNE RAMP	1
1336FNE+72	38.8' RT	FNE RAMP	1
1339FNE+75	50.9' RT	FNE RAMP	1
1340FNE+75	78.1' RT	FNE RAMP	1
1341FNE+24	114.2' RT	FNE RAMP	1
133FWN+80	0' RT	FWN RAMP	1
135FWN+00	2' RT	FWN RAMP	1
181EB+50	50' RT	USH 10 EB / STH 441 NB	1
182EB+88	60' RT	USH 10 EB / STH 441 NB	1
PROJECT 1517-07-72 TOTAL			20

SETTLEMENT GAUGES

STATION	OFFSET	LOCATION	SPV.0060.009 SETTLEMENT GAUGES EACH
122WB+00	40.0' LT	USH 10 WB	1
126WB+00	23.0' LT	USH 10 WB	1
130WB+00	28.0' LT	USH 10 WB	1
132WB+00	0' RT	USH 10 WB	1
1365NB+05	103.0' LT	USH 41 NB	1
124FEN+50	4.0' RT	FEN RAMP	1
137FEN+50	20.5' RT	FEN RAMP	1
139FEN+00	21.0' RT	FEN RAMP	1
153FEN+90	16.5' LT	FEN RAMP	1
1327FNE+00	18.0' RT	FNE RAMP	1
1330FNE+00	18.0' RT	FNE RAMP	1
1330FNE+62	31.0' RT	FNE RAMP	1
1336FNE+72	38.8' RT	FNE RAMP	1
1339FNE+75	50.9' RT	FNE RAMP	1
1340FNE+74	113.1' RT	FNE RAMP	1
1341FNE+08	78.8' RT	FNE RAMP	1
133FWN+80	0' RT	FWN RAMP	1
135FWN+00	2' RT	FWN RAMP	1
181EB+50	50' RT	USH 10 EB / STH 441 NB	1
182EB+88	60' RT	USH 10 EB / STH 441 NB	1
PROJECT 1517-07-72 TOTAL			20

STREET SWEEPING

STATION	SPV.0060.096 EMERGENCY SWEEPING MOBILIZATION EACH	SPV.0075.001 STREET SWEEPING HRS	SPV.0075.002 EMERGENCY SWEEPING HRS
UNDISTRIBUTED	12	24	24
PROJECT 1517-07-72 TOTAL	12	24	24

3

TRUCK MOUNTED ATTENUATOR

LOCATION	SPV.0075.200 TRUCK MOUNTED ATTENUATOR WITH OPERATOR HRS	SPV.0075.201 TRUCK MOUNTED ATTENUATOR WITHOUT OPERATOR HRS
UNDISTRIBUTED	50	50
PROJECT 1517-07-72 TOTAL	50	50

POND EDGE SEED

STATION		STATION	OFFSET	LOCATION	SPV.0085.100 POND EDGE SEED LB
50DPB+00	-	58DPB+82	LT	POND 1	139
59DPB+02	-	59DPB+07	LT	POND 1	1
PROJECT 1517-07-72 TOTAL					140

ALL ITEMS ARE CATEGORY **1000** UNLESS OTHERWISE SPECIFIED.

3

CONCRETE CURB & GUTTER 6-INCH SLOPED 60-INCH TYPE A FULL DEPTH

STATION			OFFSET	LOCATION	SPV.0090.001 CONCRETE CURB & GUTTER 6-INCH SLOPED 60-INCH TYPE A FULL DEPTH LF
168FEN+75	-	168FEN+97	LT	FEN RAMP	22
PROJECT 1517-07-72 TOTAL					22

PREFABRICATED VERTICAL DRAINS

STATION		STATION	LOCATION	SPV.0090.006 PREFABRICATED VERTICAL DRAINS LF	SPV.0090.010 PREBORED PREFABRICATED VERTICAL DRAINS LF
120WB+00	-	128WB+12	USH 10 WB	89,250	--
126WB+75	-	133WB+00	USH 10 WB	76,330	--
1365NB+03	-	1365NB+50	USH 41 NB	1,080	--
122FEN+50	-	125FEN+90	FEN RAMP	24,970	--
136FEN+66	-	140FEN+00	FEN RAMP	18,240	--
1324FNE+50	-	1331FNE+29	FNE RAMP	49,170	2,860
1335FNE+09	-	1342FNE+70	FNE RAMP	168,300	--
132FWN+00	-	135FWN+25	FWN RAMP	7,035	10,710
179EB+63	-	183EB+75	USH 10 EB / STH 441 NB	45,610	--
PROJECT 1517-07-72 TOTAL				479,985	13,570

PREBORE ASSUMED OVER AREAS OF EXISTING ROADWAY

SURVEY PROJECT

LOCATION	SPV.0105.001 SURVEY PROJECT ID 1517-07-72 LS
PROJECT 1517-07-72	1
PROJECT 1517-07-72 TOTAL	1

3

GEOTECHNICAL INSTRUMENTATION

LOCATION	SPV.0105.007 GEOTECHNICAL INSTRUMENTATION LS
PROJECT 1517-07-72	1
PROJECT 1517-07-72 TOTAL	1

REMOVING RUMBLE STRIPS

STATION		STATION	LOCATION	SPV.0180.002 REMOVING RUMBLE STRIPS SY
1339NB+80	-	1392NB+70	USH 41 NB	290
PROJECT 1517-07-72 TOTAL				290

ALL ITEMS ARE CATEGORY **1000** UNLESS OTHERWISE SPECIFIED.

FILE NAME:S:\DOT\DOT_NE\120012-Tri County Freeway\1517-07-72\Quantities\1517-07-72_MQ.ppt ORIGINATOR: JUSTIN ARNDT ORIG. DATE: DECEMBER 2, 2013 PLOTTED DATE: 2/25/2014 3:06 PM

3

LIGHTING PULLBOXES

SYSTEM	DESCRIPTION	STATION	CATEGORY OFFSET		1100 653.0140 PULL BOXES STEEL 24X42-INCH EACH
FNW / FNE RAMPS	LPB01	STA 1307+82	40.00	RT	1
	LPB02	STA 1324+70	40.00	RT	1
	LPB03	STA 1324+75	10.00	LT	1
	LPB04	STA 1330+30	40.00	RT	1
	LPB05	STA 1336+10	42.00	RT	1
	LPB06	STA 1336+70	9.00	LT	1
	LPB07	STA 1340+18	42.00	RT	1
FEN RAMP	LPB08	STA 166+95	27.00	RT	1
	LPB09	STA 1370+82	49.00	RT	1
				TOTAL	9

LIGHTING CONDUIT AND BASES

FROM (POLE LOCATION)	CATEGORY TO (POLE LOCATION)	QTY	1100 652.0225 CONDUIT RIGID NONMETALLIC SCHEDULE 40 2-INCH LF	1100 654.0107 CONCRETE BASES TYPE 7 EACH	1100 SPV.0060.350 CONCRETE BASES TYPE 7 SPECIAL EACH
STA 1307+82	STA 1307+95	1	13	-	-
STA 1307+95	STA 1310+70	1	275	1	-
STA 1310+70	STA 1313+45	1	275	1	-
STA 1313+45	STA 1316+20	1	275	1	-
STA 1316+20	STA 1318+95	1	275	1	-
STA 1318+95	STA 1321+70	1	275	1	-
STA 1321+70	STA 1324+52	1	282	-	1
STA 1324+52	STA 1324+70	1	18	-	-
STA 1324+70	STA 1324+75	3	150	-	-
STA 1324+70	STA 1327+20	1	250	-	1
STA 1327+20	STA 1330+00	1	280	-	1
STA 1330+00	STA 1330+30	1	40	-	1
STA 1330+30	STA 1332+87	-	BRIDGE PARAPET	-	-
STA 1332+87	STA 1335+67	-	BRIDGE PARAPET	-	-
STA 1335+67	STA 1336+10	-	BRIDGE PARAPET	-	-
STA 1336+10	STA 1336+70	3	240	-	-
STA 1336+10	STA 1338+45	1	235	-	-
STA 1338+45	STA 1340+18	1	173	-	1
	TOTAL		3056	5	5

3

FILE NAME : P:\Transportation\US 10 WIS 441\CADD\sheets\15170772\030201_MQ.dgn PLOT DATE : 2/19/2014 PLOT BY : jessica_meddaugh PLOT NAME : PLOT SCALE : 200.0000 sf / in.
WISDOT/CADDS SHEET 43

TRANSPORTATION PROJECT PLAT NO: 1517-07-21 - 4.06

USH 10 / STH 441, CTH CB - S. ONEIDA ST.

PART OF SW 1/4 OF THE SE 1/4, GOVERNMENT LOT 2 AND GOVERNMENT LOT 3 OF SECTION 9, TOWNSHIP 20 NORTH, RANGE 17 EAST, TOWN OF MENASHA, WINNEBAGO COUNTY, WISCONSIN.

RELOCATION ORDER USH 10/STH 441 WINNEBAGO COUNTY

TO PROPERLY ESTABLISH, LAY OUT, WIDEN, ENLARGE, EXTEND, CONSTRUCT, RECONSTRUCT, IMPROVE, OR MAINTAIN A PORTION OF THE HIGHWAY DESIGNATED ABOVE, THE STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION DEEMS IT NECESSARY TO RELOCATE OR CHANGE SAID HIGHWAY AND ACQUIRE CERTAIN LANDS AND INTERESTS OR RIGHTS IN LANDS FOR THE ABOVE NAMED PROJECT.

TO EFFECT THIS CHANGE, PURSUANT TO AUTHORITY GRANTED UNDER SUBSECTIONS 84.02 (3), 84.09 AND 84.30, WISCONSIN STATUTES, THE DEPARTMENT OF TRANSPORTATION HEREBY ORDERS THAT:

1. THAT PORTION OF SAID HIGHWAY AS SHOWN ON THIS PLAT IS LAID OUT AND ESTABLISHED TO THE LINES AND WIDTHS AS SO SHOWN FOR THE ABOVE NAMED PROJECT.
2. THE LANDS OR INTERESTS OR RIGHTS IN LANDS AS SHOWN ON THIS PLAT ARE REQUIRED BY THE DEPARTMENT FOR THE ABOVE PROJECT AND SHALL BE ACQUIRED IN THE NAME OF THE STATE OF WISCONSIN, PURSUANT TO THE PROVISIONS OF SUBSECTION 84.09 (1) OR (2), WISCONSIN STATUTES.

CONVENTIONAL ABBREVIATIONS

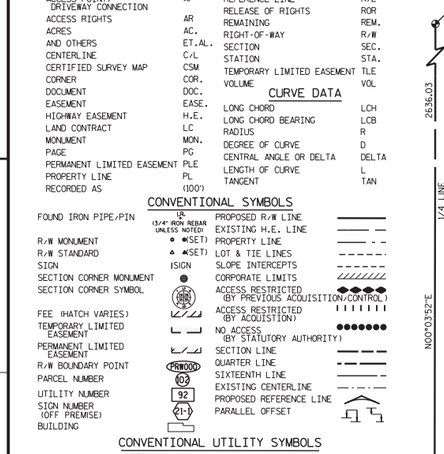
ACCESS POINT/ DRIVEWAY CONNECTION	AP	REFERENCE LINE	R/L
ACCESS RIGHTS	AR	RELEASE OF RIGHTS	ROR
ACRES	AC.	REMAINING	REM.
AND OTHERS	ET.AL.	RIGHT-OF-WAY	R/W
CENTERLINE	C/L	SECTION	SEC.
CERTIFIED SURVEY MAP	CSM	STATION	STA.
CORNER	COR.	TEMPORARY LIMITED EASEMENT	TLE
DOCUMENT	DOC.	VOLUME	VOL
EASEMENT	EASE.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

CONVENTIONAL SYMBOLS

FOUND IRON PIPE/PIN	○ UNLESS NOTED) (3/4" IRON REBAR	PROPOSED R/W LINE	
R/W MONUMENT	● (SET)	EXISTING H.E. LINE	
R/W STANDARD	▲ (SET)	PROPERTY LINE	
SIGN	SIGN	LOT & TIE LINES	
SECTION CORNER MONUMENT	●	SLOPE INTERCEPTS	
SECTION CORNER SYMBOL	COR	CORPORATE LIMITS	
FEE (HATCH VARIES)		ACCESS RESTRICTED (BY PREVIOUS ACQUISITION/CONTROL)	
TEMPORARY LIMITED EASEMENT		ACCESS RESTRICTED (BY ACQUISITION)	
PERMANENT LIMITED EASEMENT		NO ACCESS (BY STATUTORY AUTHORITY)	
R/W BOUNDARY POINT	PRNO000	SECTION LINE	
PARCEL NUMBER	102	QUARTER LINE	
UTILITY NUMBER	92	SIXTEENTH LINE	
SIGN NUMBER (OFF PREMISE)	21	EXISTING CENTERLINE	
BUILDING		PROPOSED REFERENCE LINE	
		PARALLEL OFFSET	

CONVENTIONAL UTILITY SYMBOLS

	NON COMPENSABLE	COMPENSABLE
WATER	W	
GAS	G	
COMMUNICATION	C	
ELECTRIC OVERHEAD	OH	
ELECTRIC UNDERGROUND	E	
FIBER OPTIC	FO	
SANITARY SEWER	SAN	
STORM SEWER	SS	
POWER POLE		
TELEPHONE POLE		
TELEPHONE PEDESTAL		
ELECTRIC TOWER		



NOTES:

POSITIONS SHOWN ON THIS PLAT ARE WISCONSIN COUNTY COORDINATES, WINNEBAGO COUNTY, NAD 83 (91) IN U.S. SURVEY FEET. VALUES SHOWN ARE GRID COORDINATES. GRID BEARINGS, AND GRID DISTANCES. GRID DISTANCES MAY BE USED AS GROUND DISTANCES.

RIGHT OF WAY BOUNDARIES ARE DEFINED WITH COURSES OF THE PERIMETER OF THE HIGHWAY LANDS AND ARE REFERENCED TO THE US PUBLIC LAND SURVEY OR OTHER SURVEYS OF PUBLIC RECORD.

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

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 AND SHOULD NOT BE USED AS A SUBSTITUTE FOR AN ACCURATE FIELD SURVEY.

A HIGHWAY EASEMENT (HE) IS AN EASEMENT FOR HIGHWAY PURPOSES, AS LONG AS SO USED, INCLUDING THE RIGHT TO PRESERVE, PROTECT, REMOVE OR PLANT THEREON ANY VEGETATION THAT THE HIGHWAY AUTHORITIES MAY DEEM NECESSARY OR DESIRABLE.

RIGHT OF WAY MONUMENTS ARE TYPE 2 MONUMENTS (TYPICALLY 1" X 24" IRON PIPE) AND WILL BE PLACED PRIOR TO THE COMPLETION OF THE PROJECT.

EXISTING RIGHT OF WAY WAS REESTABLISHED UNDER PROJECT: TRANSPORTATION PROJECT PLAT NO. 1517-07-00-4.02, DOCUMENT NO. 1590507, FILED IN FILE 1, TPP P 192.

EXISTING ACCESS CONTROL WAS ACQUIRED UNDER PROJECT: 1122-1-21 AND T03-2(20).
USH 41 IN WINNEBAGO COUNTY WAS DESIGNATED AS A FREEWAY UNDER SECTION 84.295 OF WISCONSIN STATE STATUTES BY THE HIGHWAY COMMISSION ON JUNE 08, 1972.

THE REFERENCE LINE SHOWN ON THIS PLAT MAY NOT BE THE SAME AS THE REFERENCE LINE SHOWN ON THE CONSTRUCTION PLAN.

SCHEDULE OF UTILITIES & INTERESTS REQUIRED

UTILITY NUMBER	*OWNER	INTEREST REQUIRED
501	WE ENERGIES - GAS	RELEASE OF RIGHTS
507	SPRINT	RELEASE OF RIGHTS
508	AT&T LEGACY	RELEASE OF RIGHTS
605	TOWN OF MENASHA - SANITARY SEWER	UTILITY AGREEMENT
622	TOWN OF MENASHA - WATER	UTILITY AGREEMENT

COURSE TABLE
USH 10/STH 441 REFERENCE LINE

POINT	TO POINT	BEARING	DISTANCE
2017058	DB906	N00°03'52"E	1374.69
DB906	DB907	S88°29'10"E	210.72
DB907	DB908	CURVE C1	
DB908	DB909	S89°46'59"E	1614.89
DB909	2017058	S57°40'21"W	2539.83

COURSE TABLE
USH 41 REFERENCE LINE

POINT	TO POINT	BEARING	DISTANCE
2017058	DB902	N00°03'52"E	1318.02
DB902	DB901	N89°46'27"E	778.11
DB901	DB905	N24°06'43"E	1451.07
DB905	2017045	S89°36'07"W	1369.45

STATION OFFSET TABLE USH 41

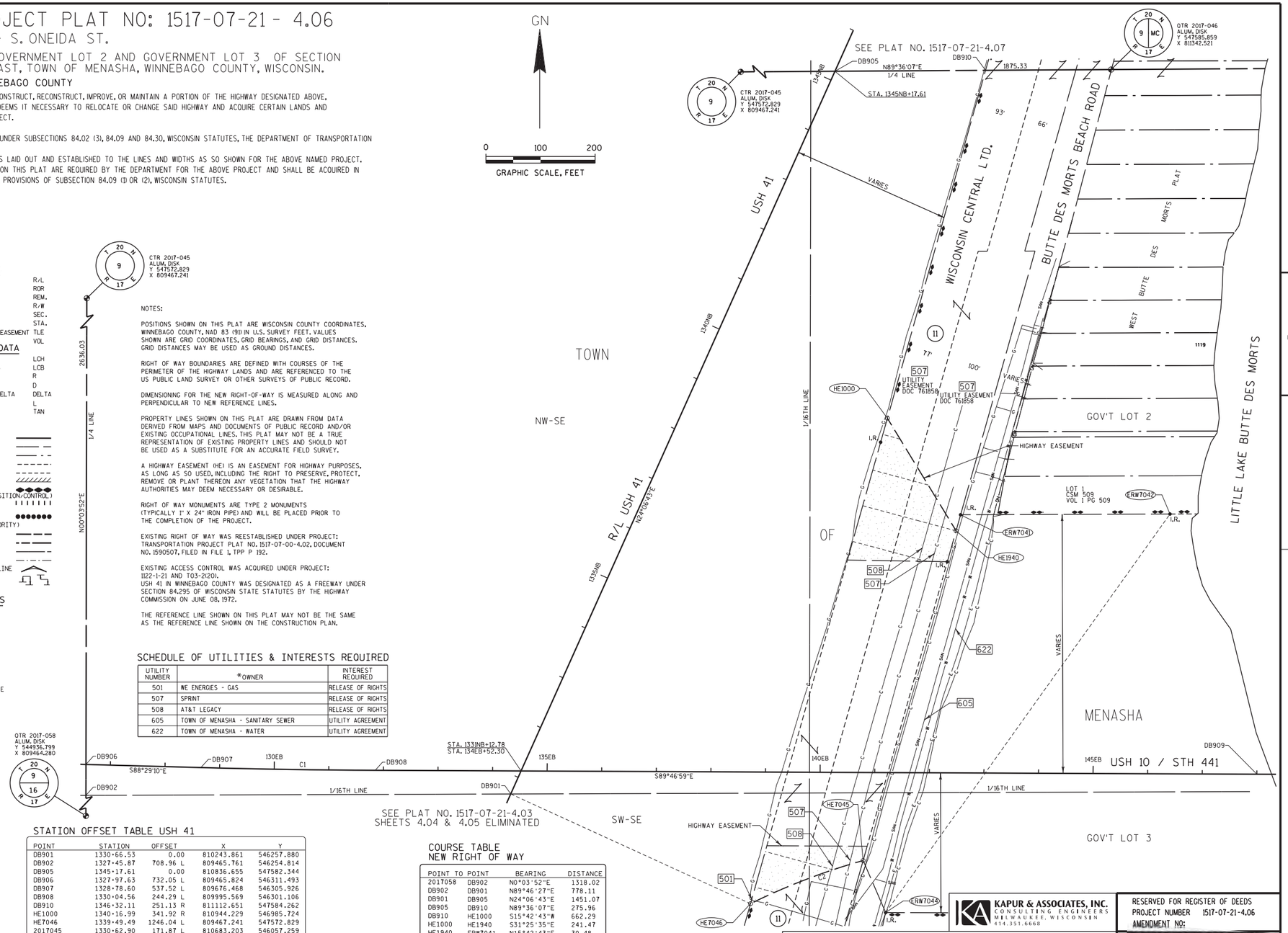
POINT	STATION	OFFSET	X	Y
DB901	1330+66.53	0.00	810243.861	546257.880
DB902	1327+45.87	708.96 L	809465.761	546254.814
DB905	1345+17.61	0.00	810836.655	547582.344
DB906	1327+97.63	732.05 L	809465.824	546311.493
DB907	1328+78.60	537.52 L	809676.468	546305.926
DB908	1330+04.56	244.29 L	809995.569	546301.106
DB910	1346+32.11	251.13 R	811112.651	547584.262
HE1000	1340+16.99	341.92 R	810944.229	546985.724
HE7046	1339+49.49	1246.04 L	809467.241	547572.829
2017045	1330+62.90	171.87 L	810683.203	546057.259
2017058	1315+42.24		809464.280	544936.799

STATION OFFSET TABLE USH 10/STH 441

POINT	STATION	OFFSET	X	Y
DB909	148+00.00	0.00	811610.449	546294.992
HE1940	142+47.03	443.59 L	811059.162	546740.668
ERW7041	142+55.17	472.96 L	811067.417	546770.011
ERW7042	146+38.64	476.07 L	811450.893	546771.665
ERW7044	141+21.24	256.35 R	810930.725	546041.213
HE7045	140+79.50	161.30 R	810889.348	546136.424

CURVE TABLE

CURVE	CH DISTANCE	CH BEARING	RADIUS	ARC LENGTH	PI COORDINATES
C1	319.14'	S89°08'05"E	14100.00'	319.14'	X 809835.991 Y 546301.710
C2	220.82'	S68°59'31"W	1201.81'	221.13'	X 810683.203 Y 546057.259



COURSE TABLE
NEW RIGHT OF WAY

POINT	TO POINT	BEARING	DISTANCE
2017058	DB902	N0°03'52"E	1318.02
DB902	DB901	N89°46'27"E	778.11
DB901	DB905	N24°06'43"E	1451.07
DB905	DB910	N89°36'07"E	275.96
DB910	HE1000	S15°42'43"W	662.29
HE1000	HE1940	S31°25'35"E	241.47
HE1940	ERW7041	N15°42'43"E	30.48
ERW7041	ERW7042	N89°45'10"E	383.48
ERW7042	ERW7044	S35°27'19"W	896.74
ERW7044	HE7045	N23°29'21"W	103.81
HE7045	HE7046	CURVE C2	
HE7046	DB901	N65°27'24"W	482.98

SCHEDULE OF LANDS & INTERESTS REQUIRED

PARCEL NUMBER	*OWNER	INTEREST REQUIRED	NEW R/W ACRES	P.L.E. ACRES	T.L.E. ACRES	H.E. ACRES
11	WISCONSIN CENTRAL LTD.	HE	-	-	-	0.930

*OWNER'S NAMES ARE SHOWN FOR REFERENCE PURPOSES ONLY, AND ARE SUBJECT TO CHANGE PRIOR TO TRANSFER OF LAND INTERESTS TO THE WISCONSIN DEPARTMENT OF TRANSPORTATION.

KAPUR & ASSOCIATES, INC.
CONSULTING ENGINEERS
MILWAUKEE, WISCONSIN
414.351.6668

I, GARY R. SPLINTER, REGISTERED LAND SURVEYOR, HEREBY CERTIFY THAT IN FULL COMPLIANCE WITH THE PROVISIONS OF SECTION 84.095 OF THE WISCONSIN STATUTES AND UNDER THE DIRECTIONS OF THE WISCONSIN DEPARTMENT OF TRANSPORTATION, I HAVE SURVEYED TRANSPORTATION PROJECT PLAT 1517-07-21-4.06 AND THAT SUCH PLAT CORRECTLY REPRESENTS ALL EXTERIOR BOUNDARIES OF THE SURVEYED LAND.

WISCONSIN GARY R. SPLINTER S-2239 OAK CREEK, WI LAND SURVEYOR

SIGNATURE _____ DATE 01/27/14
GARY R. SPLINTER, R.L.S. S-2239

THIS PLAT AND RELOCATION ORDER ARE APPROVED FOR THE WISCONSIN DEPARTMENT OF TRANSPORTATION

SIGNATURE _____ DATE 02/05/14
PRINT CURT VAN EREM

RESERVED FOR REGISTER OF DEEDS
PROJECT NUMBER 1517-07-21-4.06
AMENDMENT NO:

ACCEPTED FOR RECORDING AND FILING IN THE OFFICE OF THE REGISTER OF DEEDS IN WINNEBAGO COUNTY, WISCONSIN AT 2:48 PM ON 2/10/2014 AS DOCUMENT # 1637781 AND FILED IN FILE 1 of TPP 228

SIGNATURE OF REGISTER OF DEEDS

1637781

TRANSPORTATION PROJECT PLAT NO: 1517-07-21 - 4.07

USH 10 / STH 441, CTH CB - S. ONEIDA ST.

PART OF GOVERNMENT LOT 1 OF SECTION 9, TOWNSHIP 20 NORTH, RANGE 17 EAST, TOWN OF MENASHA, WINNEBAGO COUNTY, WISCONSIN.

RELOCATION ORDER USH 10/STH 441 WINNEBAGO COUNTY

TO PROPERLY ESTABLISH, LAY OUT, WIDEN, ENLARGE, EXTEND, CONSTRUCT, RECONSTRUCT, IMPROVE, OR MAINTAIN A PORTION OF THE HIGHWAY DESIGNATED ABOVE, THE STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION DEEMS IT NECESSARY TO RELOCATE OR CHANGE SAID HIGHWAY AND ACQUIRE CERTAIN LANDS AND INTERESTS OR RIGHTS IN LANDS FOR THE ABOVE NAMED PROJECT.

TO EFFECT THIS CHANGE, PURSUANT TO AUTHORITY GRANTED UNDER SUBSECTIONS 84.02 (3), 84.09 AND 84.30, WISCONSIN STATUTES, THE DEPARTMENT OF TRANSPORTATION HEREBY ORDERS THAT:

1. THAT PORTION OF SAID HIGHWAY AS SHOWN ON THIS PLAT IS LAID OUT AND ESTABLISHED TO THE LINES AND WIDTHS AS SO SHOWN FOR THE ABOVE NAMED PROJECT.
2. THE LANDS OR INTERESTS OR RIGHTS IN LANDS AS SHOWN ON THIS PLAT ARE REQUIRED BY THE DEPARTMENT FOR THE ABOVE PROJECT AND SHALL BE ACQUIRED IN THE NAME OF THE STATE OF WISCONSIN, PURSUANT TO THE PROVISIONS OF SUBSECTION 84.09 (1) OR (2), WISCONSIN STATUTES.

SCHEDULE OF LANDS & INTERESTS REQUIRED

PARCEL NUMBER	*OWNER	INTEREST REQUIRED	NEW R/W ACRES	P.L.E. ACRES	T.L.E. ACRES
12	WISCONSIN CENTRAL LTD.	TLE	-	-	0.179
13	RIESTERER PROPERTIES, LLC	FEE	0.098	-	-
14	WI NATURAL GAS	FEE	0.017	-	-

*OWNER'S NAMES ARE SHOWN FOR REFERENCE PURPOSES ONLY, AND ARE SUBJECT TO CHANGE PRIOR TO TRANSFER OF LAND INTERESTS TO THE WISCONSIN DEPARTMENT OF TRANSPORTATION.

CURVE TABLE

CURVE	CH DISTANCE	CH BEARING	RADIUS	ARC LENGTH	PI COORDINATES
C1	515.94'	N21°31'53"E	5729.58'	516.12'	X 811310.176 Y 548640.322
C2	134.76'	N20°19'46"E	7539.43'	134.76'	X 811230.911 Y 548821.536

SCHEDULE OF UTILITIES & INTERESTS REQUIRED

UTILITY NUMBER	*OWNER	INTEREST REQUIRED
501	WE ENERGIES - GAS	RELEASE OF RIGHTS
507	SPRINT	RELEASE OF RIGHTS

STATION OFFSET TABLE

POINT	STATION	OFFSET		X	Y
DB905	1345+17.61	0.00		810836.655	547582.344
DB910	1346+32.11	251.13	R	811112.651	547584.262
DB911	1354+18.48	0.00		811204.682	548404.619
DB912	1359+34.60	0.00		811394.039	548884.560
DB953	1358+88.32	132.62	L	811253.755	548884.929
PRW1168	1354+57.57	157.10	L	811076.704	548503.547
PRW1169	1357+46.68	142.45	L	811196.967	548758.513
PRW1173	1357+50.36	133.15	L	811206.937	548758.562
TLE1202	1359+61.39	79.86	R	811478.333	548884.338
TLE1203	1359+64.64	89.70	R	811488.713	548884.310
TLE1204	1352+00.00	177.34	R	811277.290	548132.753
TLE1205	1352+00.00	167.23	R	811268.064	548136.882

COURSE TABLE USH 41 REFERENCE LINE

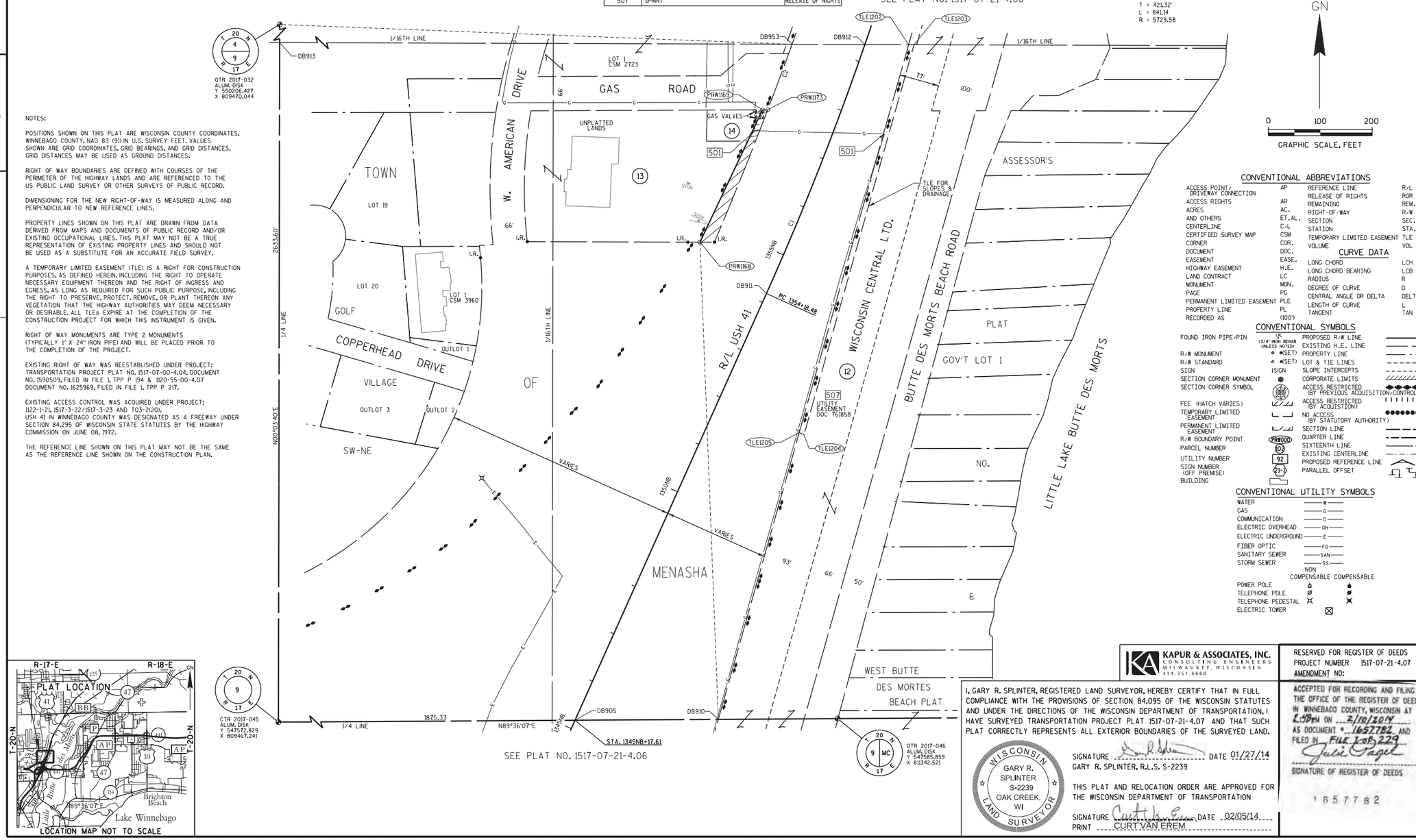
POINT TO POINT		BEARING	DISTANCE
2017045	DB905	N89°36'07"E	1369.45
DB905	DB911	N24°06'43"E	900.88
DB911	DB912	CURVE C1	
DB912	DB913	N89°50'57"W	1925.40
DB913	2017032	N00°03'40"E	1316.80

COURSE TABLE NEW RIGHT OF WAY

POINT TO POINT		BEARING	DISTANCE
2017032	DB953	S53°27'59"E	2219.91
DB953	TLE1202	S89°50'57"E	224.58
TLE1202	DB910	S15°42'43"W	1350.54
DB910	PRW1168	N02°14'11"W	919.99
PRW1168	PRW1169	N25°15'08"E	281.91
PRW1169	PRW1173	N89°43'06"E	9.97
PRW1173	DB953	CURVE C2	

RL USH-41
PI STA. 1358+39.81
Y : 548789.183
X : 811376.802
DELTA = 8°24'41"
D = 1°00'00"
T = 421.32'
L = 841.14
R = 5729.58

SEE PLAT NO. 1517-07-21-4.08



SEE PLAT NO. 1517-07-21-4.06

NOTES:

POSITIONS SHOWN ON THIS PLAT ARE WISCONSIN COUNTY COORDINATES, WINNEBAGO COUNTY, NAD 83 (91) IN U.S. SURVEY FEET. VALUES SHOWN ARE GRID COORDINATES. GRID BEARINGS, AND GRID DISTANCES. GRID DISTANCES MAY BE USED AS GROUND DISTANCES.

RIGHT OF WAY BOUNDARIES ARE DEFINED WITH COURSES OF THE PERIMETER OF THE HIGHWAY LANDS AND ARE REFERENCED TO THE US PUBLIC LAND SURVEY OR OTHER SURVEYS OF PUBLIC RECORD.

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

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 AND SHOULD NOT BE USED AS A SUBSTITUTE FOR AN ACCURATE FIELD SURVEY.

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

RIGHT OF WAY MONUMENTS ARE TYPE 2 MONUMENTS (TYPICALLY 1" X 24" IRON PIPE) AND WILL BE PLACED PRIOR TO THE COMPLETION OF THE PROJECT.

EXISTING RIGHT OF WAY WAS REESTABLISHED UNDER PROJECT: TRANSPORTATION PROJECT PLAT NO. 1517-07-00-4.04, DOCUMENT NO. 1590509, FILED IN FILE 1, TPP P 194 & 1120-55-00-4.07 DOCUMENT NO. 1625969, FILED IN FILE 1, TPP P 217.

EXISTING ACCESS CONTROL WAS ACQUIRED UNDER PROJECT: 1122-1-21, 1517-3-22/1517-3-23 AND T03-2(20). USH 41 IN WINNEBAGO COUNTY WAS DESIGNATED AS A FREEWAY UNDER SECTION 84.295 OF WISCONSIN STATE STATUTES BY THE HIGHWAY COMMISSION ON JUNE 08, 1972.

THE REFERENCE LINE SHOWN ON THIS PLAT MAY NOT BE THE SAME AS THE REFERENCE LINE SHOWN ON THE CONSTRUCTION PLAN.

CONVENTIONAL ABBREVIATIONS

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

CONVENTIONAL SYMBOLS

FOUND IRON PIPE/PIN	⌀ (3/4" IRON REBAR UNLESS NOTED)	PROPOSED R/W LINE	
		EXISTING H.E. LINE	
R/W MONUMENT	● (SET)	PROPERTY LINE	
R/W STANDARD	▲ (SET)	LOT & TIE LINES	
SIGN	ISIGN	SLOPE INTERCEPTS	
SECTION CORNER MONUMENT	●	CORPORATE LIMITS	
SECTION CORNER SYMBOL	(DNR)	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	PRW000	QUARTER LINE	
PARCEL NUMBER	102	SIXTEENTH LINE	
UTILITY NUMBER	92	EXISTING CENTERLINE	
SIGN NUMBER (OFF PREMISE)	21	PROPOSED REFERENCE LINE	
BUILDING		PARALLEL OFFSET	

CONVENTIONAL UTILITY SYMBOLS

	NON COMPENSABLE	COMPENSABLE
WATER	W	
GAS	G	
COMMUNICATION	C	
ELECTRIC OVERHEAD	OH	
ELECTRIC UNDERGROUND	E	
FIBER OPTIC	FO	
SANITARY SEWER	SAN	
STORM SEWER	SS	
POWER POLE	⌀	⌀
TELEPHONE POLE	⌀	⌀
TELEPHONE PEDESTAL	☒	☒
ELECTRIC TOWER	⊠	

KAPUR & ASSOCIATES, INC.
CONSULTING ENGINEERS
MILWAUKEE, WISCONSIN
414.351.6668

I, GARY R. SPLINTER, REGISTERED LAND SURVEYOR, HEREBY CERTIFY THAT IN FULL COMPLIANCE WITH THE PROVISIONS OF SECTION 84.095 OF THE WISCONSIN STATUTES AND UNDER THE DIRECTIONS OF THE WISCONSIN DEPARTMENT OF TRANSPORTATION, I HAVE SURVEYED TRANSPORTATION PROJECT PLAT 1517-07-21-4.07 AND THAT SUCH PLAT CORRECTLY REPRESENTS ALL EXTERIOR BOUNDARIES OF THE SURVEYED LAND.

WISCONSIN GARY R. SPLINTER S-2239 OAK CREEK, WI LAND SURVEYOR

SIGNATURE _____ DATE 01/27/14
GARY R. SPLINTER, R.L.S. S-2239

THIS PLAT AND RELOCATION ORDER ARE APPROVED FOR THE WISCONSIN DEPARTMENT OF TRANSPORTATION

SIGNATURE _____ DATE 02/05/14
PRINT CURT VAN EREM

RESERVED FOR REGISTER OF DEEDS
PROJECT NUMBER 1517-07-21-4.07
AMENDMENT NO:

ACCEPTED FOR RECORDING AND FILING IN THE OFFICE OF THE REGISTER OF DEEDS IN WINNEBAGO COUNTY, WISCONSIN AT 1:19PM ON 2/10/2014 AS DOCUMENT # 1657782 AND FILED IN FILE 1 OF 229

SIGNATURE OF REGISTER OF DEEDS

1657782

FILE NAME : S:\DOT\DOT_NE\120012-Tri County Freeway\Plat\Plats\040407_RP.dgn PLOT DATE : 2/5/2014 PLOT BY : g_splinter PLOT NAME : PLOT SCALE : 1:100

APPRAISAL PLAT DATE :

TRANSPORTATION PROJECT PLAT NO: 1517-07-21 - 4.08

USH 10 / STH 441, CTH CB - S. ONEIDA ST.

PART OF LOTS 2 AND 3 OF CSM 3619, LOT 1 OF CSM 2723 AND LANDS IN THE NE 1/4 OF THE NE 1/4 OF SECTION 9, TOWNSHIP 20 NORTH, RANGE 17 EAST, TOWN OF MENASHA, WINNEBAGO COUNTY, WISCONSIN.

RELOCATION ORDER USH 10/STH 441 WINNEBAGO COUNTY

TO PROPERLY ESTABLISH, LAY OUT, WIDEN, ENLARGE, EXTEND, CONSTRUCT, RECONSTRUCT, IMPROVE, OR MAINTAIN A PORTION OF THE HIGHWAY DESIGNATED ABOVE, THE STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION DEEMS IT NECESSARY TO RELOCATE OR CHANGE SAID HIGHWAY AND ACQUIRE CERTAIN LANDS AND INTERESTS OR RIGHTS IN LANDS FOR THE ABOVE NAMED PROJECT.

TO EFFECT THIS CHANGE, PURSUANT TO AUTHORITY GRANTED UNDER SUBSECTIONS 84.02 (3), 84.09 AND 84.30, WISCONSIN STATUTES, THE DEPARTMENT OF TRANSPORTATION HEREBY ORDERS THAT:

1. THAT PORTION OF SAID HIGHWAY AS SHOWN ON THIS PLAT IS LAID OUT AND ESTABLISHED TO THE LINES AND WIDTHS AS SO SHOWN FOR THE ABOVE NAMED PROJECT.
2. THE LANDS OR INTERESTS OR RIGHTS IN LANDS AS SHOWN ON THIS PLAT ARE REQUIRED BY THE DEPARTMENT FOR THE ABOVE PROJECT AND SHALL BE ACQUIRED IN THE NAME OF THE STATE OF WISCONSIN, PURSUANT TO THE PROVISIONS OF SUBSECTION 84.09 (1) OR (2), WISCONSIN STATUTES.

STATION OFFSET TABLE

POINT	STATION	OFFSET		X	Y
DB912	1359+34.60	0.00		811394.039	548884.560
DB914	1362+59.62	0.00		811490.817	549194.788
DB915	1373+04.17	0.00		811773.483	550200.364
DB950	1372+69.46	124.75	L	811643.996	550200.705
TLE1202	1359+61.39	79.86	R	811478.333	548884.338
TLE1206	1358+65.24	142.71	L	811236.712	548867.067
TLE1207	1360+99.81	140.23	L	811311.542	549083.261
PLE1208	1363+40.05	139.98	L	811377.822	549310.097
TLE1209	1369+91.97	139.51	L	811554.699	549937.567
TLE1210	1373+28.45	87.26	R	811864.062	550200.125
TLE1211	1359+66.26	94.63	R	811493.903	548884.297
TLE1212	1358+68.94	132.74	L	811247.312	548867.121
PLE1215	1365+04.51	124.91	L	811436.841	549464.345
TLE1216	1370+22.34	124.80	L	811577.076	549962.817
TLE1217	1373+24.28	72.26	R	811848.491	550200.166
TLE1220	1365+10.38	139.86	L	811424.036	549474.041
PLE1961	1364+57.25	183.14	L	811367.987	549434.605
PLE1962	1365+27.50	72.11	R	811632.723	549433.161
PLE1963	1365+27.50	87.11	R	811647.163	549429.099
PLE1964	1365+72.50	87.11	R	811659.349	549472.417
PLE1965	1365+72.50	72.11	R	811644.909	549476.479
PLE1966	1367+25.30	72.32	R	811686.456	549623.522
PLE1967	1367+25.30	87.14	R	811700.727	549619.507
PLE1968	1367+70.30	87.15	R	811712.913	549662.826
PLE1969	1367+70.30	72.15	R	811698.473	549666.888
ERW7034	1364+36.94	124.91	L	811418.550	549399.294
2017033	1373+97.20	334.33	R	812120.510	550199.450

SCHEDULE OF LANDS & INTERESTS REQUIRED

PARCEL NUMBER	*OWNER	INTEREST REQUIRED	NEW R/W ACRES	P.L.E. ACRES	T.L.E. ACRES
12	WISCONSIN CENTRAL LTD.	PLE,TLE	-	0.030	0.441
15	WI NATURAL GAS	TLE	-	-	0.056
16	ALTENHOFEN, ET AL.	PLE	-	0.130	-
17	AMERICAN COURT OFFICES	TLE	-	-	0.170
30	TROJEN LLC	TLE	-	-	0.037
35	FLAHERTY VENDOR TROJEN LLC PURCHASER	TLE	-	-	0.031

*OWNER'S NAMES ARE SHOWN FOR REFERENCE PURPOSES ONLY, AND ARE SUBJECT TO CHANGE PRIOR TO TRANSFER OF LAND INTERESTS TO THE WISCONSIN DEPARTMENT OF TRANSPORTATION.

CURVE TABLE

CURVE	CH DISTANCE	CH BEARING	RADIUS	ARC LENGTH	PI COORDINATES
C1	324.97'	N17°19'32"E	5729.58'	325.02'	X 811446.829 Y 549038.301
C2	559.04'	N17°50'12"E	7539.43'	559.17'	X 811342.803 Y 549130.031

RL USH-41
PI STA. 1358+39.81
Y : 548789.183
X : 811376.802
DELTA = 8°24'41"
D = 1°00'00"
T = 421.32'
L = 841.14
R = 5729.58

COURSE TABLE NEW RIGHT OF WAY

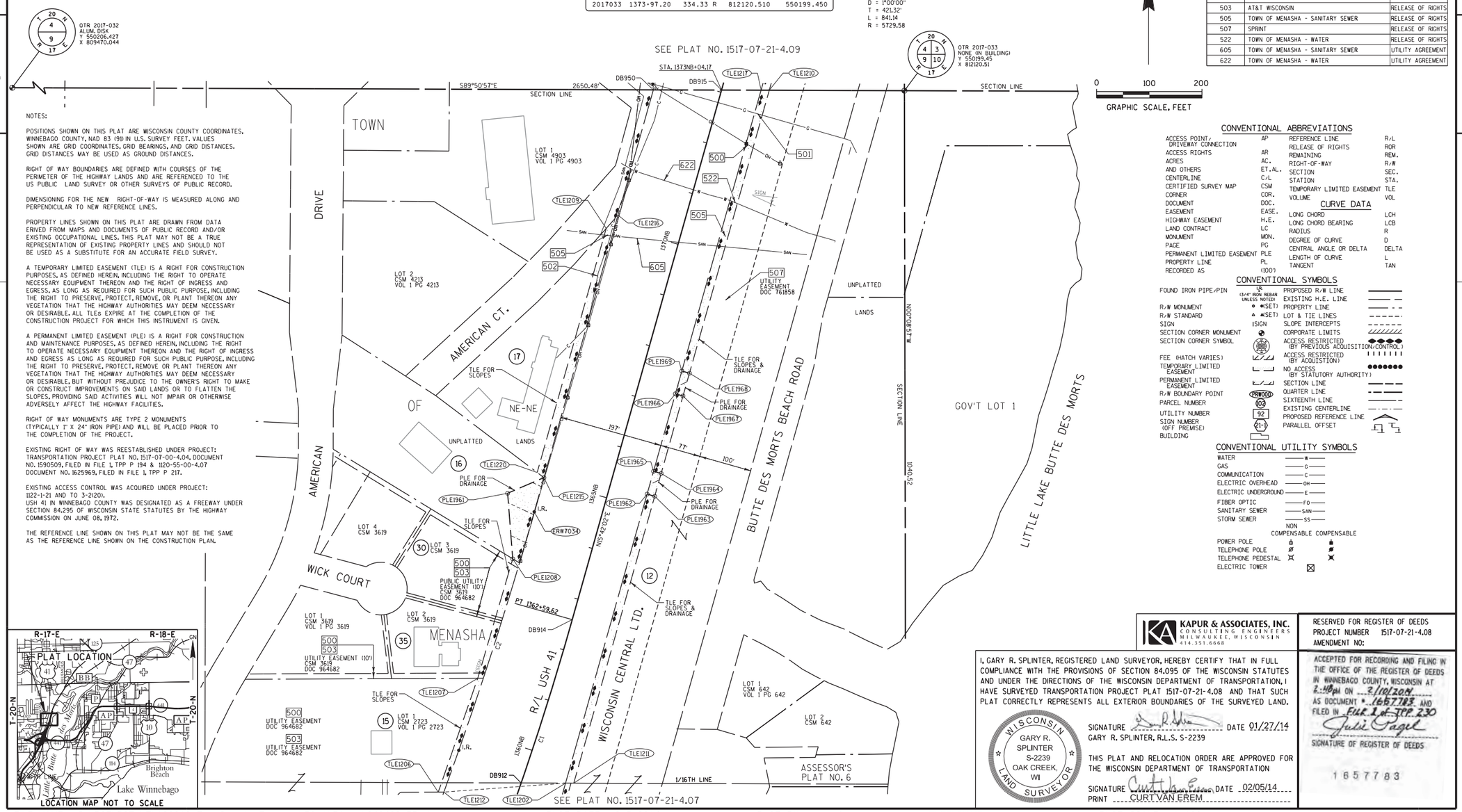
POINT TO POINT		BEARING	DISTANCE
2017032	DB950	S89°50'57"E	2173.96'
DB950	TLE1217	S89°50'57"E	204.50'
TLE1217	TLE1202	S15°42'43"W	1366.90'
TLE1202	TLE1212	S85°44'16"W	231.66'
TLE1212	ERW7034	CURVE C2	
ERW7034	DB950	N15°42'43"E	832.52'

COURSE TABLE USH 41 REFERENCE LINE

POINT TO POINT		BEARING	DISTANCE
2017032	DB912	S55°30'33"E	2334.33'
DB912	DB914	CURVE C1	
DB914	DB915	N15°42'02"E	1044.55'
DB915	2017033	S89°50'57"E	347.03'

SCHEDULE OF UTILITIES & INTERESTS REQUIRED

UTILITY NUMBER	*OWNER	INTEREST REQUIRED
500	WE ENERGIES - ELECTRIC	RELEASE OF RIGHTS
501	WE ENERGIES - GAS	RELEASE OF RIGHTS
502	TIME WARNER CABLE	RELEASE OF RIGHTS
503	AT&T WISCONSIN	RELEASE OF RIGHTS
505	TOWN OF MENASHA - SANITARY SEWER	RELEASE OF RIGHTS
507	SPRINT	RELEASE OF RIGHTS
522	TOWN OF MENASHA - WATER	RELEASE OF RIGHTS
605	TOWN OF MENASHA - SANITARY SEWER	UTILITY AGREEMENT
622	TOWN OF MENASHA - WATER	UTILITY AGREEMENT



NOTES:

POSITIONS SHOWN ON THIS PLAT ARE WISCONSIN COUNTY COORDINATES, WINNEBAGO COUNTY, NAD 83 (91) IN U.S. SURVEY FEET. VALUES SHOWN ARE GRID COORDINATES, GRID BEARINGS, AND GRID DISTANCES. GRID DISTANCES MAY BE USED AS GROUND DISTANCES.

RIGHT OF WAY BOUNDARIES ARE DEFINED WITH COURSES OF THE PERIMETER OF THE HIGHWAY LANDS AND ARE REFERENCED TO THE US PUBLIC LAND SURVEY OR OTHER SURVEYS OF PUBLIC RECORD.

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

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

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

A PERMANENT LIMITED EASEMENT (PLE) IS A RIGHT FOR CONSTRUCTION AND MAINTENANCE PURPOSES, AS DEFINED HEREIN, INCLUDING THE RIGHT TO OPERATE NECESSARY EQUIPMENT THEREON AND THE RIGHT OF INGRESS AND EGRESS AS LONG AS REQUIRED FOR SUCH PUBLIC PURPOSE, INCLUDING THE RIGHT TO PRESERVE, PROTECT, REMOVE OR PLANT THEREON ANY VEGETATION THAT THE HIGHWAY AUTHORITIES MAY DEEM NECESSARY OR DESIRABLE, BUT WITHOUT PREJUDICE TO THE OWNER'S RIGHT TO MAKE OR CONSTRUCT IMPROVEMENTS ON SAID LANDS OR TO FLATTEN THE SLOPES, PROVIDING SAID ACTIVITIES WILL NOT IMPAIR OR OTHERWISE ADVERSELY AFFECT THE HIGHWAY FACILITIES.

RIGHT OF WAY MONUMENTS ARE TYPE 2 MONUMENTS (TYPICALLY 1" X 24" IRON PIPE) AND WILL BE PLACED PRIOR TO THE COMPLETION OF THE PROJECT.

EXISTING RIGHT OF WAY WAS REESTABLISHED UNDER PROJECT: TRANSPORTATION PROJECT PLAT NO. 1517-07-00-4.04, DOCUMENT NO. 1590509, FILED IN FILE 1, TPP P 194 & 1120-55-00-4.07 DOCUMENT NO. 1625969, FILED IN FILE 1, TPP P 217.

EXISTING ACCESS CONTROL WAS ACQUIRED UNDER PROJECT: 1122-1-21 AND TO 3-2(20). USH 41 IN WINNEBAGO COUNTY WAS DESIGNATED AS A FREEWAY UNDER SECTION 84.295 OF WISCONSIN STATE STATUTES BY THE HIGHWAY COMMISSION ON JUNE 08, 1972.

THE REFERENCE LINE SHOWN ON THIS PLAT MAY NOT BE THE SAME AS THE REFERENCE LINE SHOWN ON THE CONSTRUCTION PLAN.

CONVENTIONAL ABBREVIATIONS

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

CONVENTIONAL SYMBOLS

FOUND IRON PIPE/PIN	⌊R (3/4" IRON REBAR UNLESS NOTED)	PROPOSED R/W LINE
R/W MONUMENT	● =(SET)	EXISTING H.E. LINE
R/W STANDARD	▲ =(SET)	PROPERTY LINE
SIGN	(SIGN)	LOT & TIE LINES
SECTION CORNER MONUMENT		SLOPE INTERCEPTS
SECTION CORNER SYMBOL	(1/4)	CORPORATE LIMITS
FEE (HATCH VARIES)		ACCESS RESTRICTED (BY PREVIOUS ACQUISITION/CONTROL)
TEMPORARY LIMITED EASEMENT		ACCESS RESTRICTED (BY ACQUISITION)
PERMANENT LIMITED EASEMENT		NO ACCESS (BY STATUTORY AUTHORITY)
R/W BOUNDARY POINT	PKNAIL	SECTION LINE
PARCEL NUMBER	403	QUARTER LINE
UTILITY NUMBER	92	SIXTEENTH LINE
SIGN NUMBER (OFF PREMISE)	21	EXISTING CENTERLINE
BUILDING		PROPOSED REFERENCE LINE
		PARALLEL OFFSET

CONVENTIONAL UTILITY SYMBOLS

	NON COMPENSABLE	COMPENSABLE
WATER	W	
GAS	G	
COMMUNICATION	C	
ELECTRIC OVERHEAD	OH	
ELECTRIC UNDERGROUND	E	
FIBER OPTIC	FO	
SANITARY SEWER	SAN	
STORM SEWER	SS	
POWER POLE		
TELEPHONE POLE		
TELEPHONE PEDESTAL		
ELECTRIC TOWER		

KAPUR & ASSOCIATES, INC.
CONSULTING ENGINEERS
MILWAUKEE, WISCONSIN
414.351.6668

I, GARY R. SPLINTER, REGISTERED LAND SURVEYOR, HEREBY CERTIFY THAT IN FULL COMPLIANCE WITH THE PROVISIONS OF SECTION 84.095 OF THE WISCONSIN STATUTES AND UNDER THE DIRECTIONS OF THE WISCONSIN DEPARTMENT OF TRANSPORTATION, I HAVE SURVEYED TRANSPORTATION PROJECT PLAT 1517-07-21-4.08 AND THAT SUCH PLAT CORRECTLY REPRESENTS ALL EXTERIOR BOUNDARIES OF THE SURVEYED LAND.

WISCONSIN GARY R. SPLINTER S-2239 OAK CREEK, WI LAND SURVEYOR

SIGNATURE _____ DATE 01/27/14
GARY R. SPLINTER, R.L.S. S-2239

THIS PLAT AND RELOCATION ORDER ARE APPROVED FOR THE WISCONSIN DEPARTMENT OF TRANSPORTATION

SIGNATURE _____ DATE 02/05/14
PRINT CURT VAN EREM

RESERVED FOR REGISTER OF DEEDS
PROJECT NUMBER 1517-07-21-4.08
AMENDMENT NO:

ACCEPTED FOR RECORDING AND FILING IN THE OFFICE OF THE REGISTER OF DEEDS IN WINNEBAGO COUNTY, WISCONSIN AT 2:40 PM ON 2/10/2014 AS DOCUMENT # 1657783 AND FILED IN FILE 1 of TPP 230

Judi Gagel
SIGNATURE OF REGISTER OF DEEDS

1657783

FILE NAME : S:\DOT\DOT_NE\120012-Tri County Freeway\Plat\Plats\040408_RP.dgn
PLOT DATE : 2/5/2014
PLOT BY : g_splinter
PLOT NAME :
PLOT SCALE : 1:100
APPRAISAL PLAT DATE :

TRANSPORTATION PROJECT PLAT NO: 1517-07-21 - 4.09

USH 10 / STH 441, CTH CB - S. ONEIDA ST.

PART OF GOVERNMENT LOT 7 OF SECTION 3 AND THE SE 1/4 OF THE SE 1/4 OF SECTION 4, TOWNSHIP 20 NORTH, RANGE 17 EAST, TOWN OF MENASHA, WINNEBAGO COUNTY, WISCONSIN.

RELOCATION ORDER USH 10/STH 441 WINNEBAGO COUNTY

TO PROPERLY ESTABLISH, LAY OUT, WIDEN, ENLARGE, EXTEND, CONSTRUCT, RECONSTRUCT, IMPROVE, OR MAINTAIN A PORTION OF THE HIGHWAY DESIGNATED ABOVE, THE STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION DEEMS IT NECESSARY TO RELOCATE OR CHANGE SAID HIGHWAY AND ACQUIRE CERTAIN LANDS AND INTERESTS OR RIGHTS IN LANDS FOR THE ABOVE NAMED PROJECT.

TO EFFECT THIS CHANGE, PURSUANT TO AUTHORITY GRANTED UNDER SUBSECTIONS 84.02 (3), 84.09 AND 84.30, WISCONSIN STATUTES, THE DEPARTMENT OF TRANSPORTATION HEREBY ORDERS THAT:

1. THAT PORTION OF SAID HIGHWAY AS SHOWN ON THIS PLAT IS LAID OUT AND ESTABLISHED TO THE LINES AND WIDTHS AS SO SHOWN FOR THE ABOVE NAMED PROJECT.
2. THE LANDS OR INTERESTS OR RIGHTS IN LANDS AS SHOWN ON THIS PLAT ARE REQUIRED BY THE DEPARTMENT FOR THE ABOVE PROJECT AND SHALL BE ACQUIRED IN THE NAME OF THE STATE OF WISCONSIN, PURSUANT TO THE PROVISIONS OF SUBSECTION 84.09 (1) OR (2), WISCONSIN STATUTES.

SCHEDULE OF LANDS & INTERESTS REQUIRED

PARCEL NUMBER	*OWNER	INTEREST REQUIRED	NEW R/W ACRES	P.L.E. ACRES	T.L.E. ACRES
12	WISCONSIN CENTRAL LTD.	TLE	-	-	0.478

*OWNER'S NAMES ARE SHOWN FOR REFERENCE PURPOSES ONLY, AND ARE SUBJECT TO CHANGE PRIOR TO TRANSFER OF LAND INTERESTS TO THE WISCONSIN DEPARTMENT OF TRANSPORTATION.

STATION OFFSET TABLE

POINT	STATION	OFFSET		X	Y
DB915	1373+04.17	0.00		811773.483	550200.364
DB945	1384+42.57	0.00		812081.548	551296.294
DB946	1386+86.87	0.00		812137.555	551534.007
DB950	1372+69.46	124.75	L	811643.996	550200.705
DB951	1386+61.85	124.58	L	812010.596	551533.896
TLE1210	1373+28.45	87.26	R	811864.062	550200.125
TLE1217	1373+24.28	72.26	R	811848.491	550200.166
ERW1221	1384+89.30	73.03	R	812164.440	551322.760
TLE1223	1384+89.06	88.03	R	812178.881	551318.703
TLE1225	1387+06.56	106.50	R	812245.923	551534.102
TLE1226	1387+03.77	90.91	R	812230.068	551534.088
ERW7035	1384+40.25	124.52	L	811961.048	551327.751
2017033	1373+97.20	334.33	R	812120.510	550199.450

COURSE TABLE NEW RIGHT OF WAY

POINT TO	POINT	BEARING	DISTANCE
2017032	DB950	S89°50'57"E	2173.96
DB950	ERW7035	N15°42'43"E	1170.79
ERW7035	DB951	CURVE C3	
DB951	TLE1226	N89°57'00"E	219.47
TLE1226	ERW1221	CURVE C2	
ERW1221	TLE1217	S15°43'09"W	1166.21
TLE1217	DB950	N89°50'57"W	204.50

COURSE TABLE USH 41 REFERENCE LINE

POINT TO	POINT	BEARING	DISTANCE
2017032	DB915	S89°50'57"E	2303.45
DB915	DB945	N15°42'02"E	1138.41
DB945	DB946	CURVE C1	
DB946	2017033	S63°32'28"W	2979.61

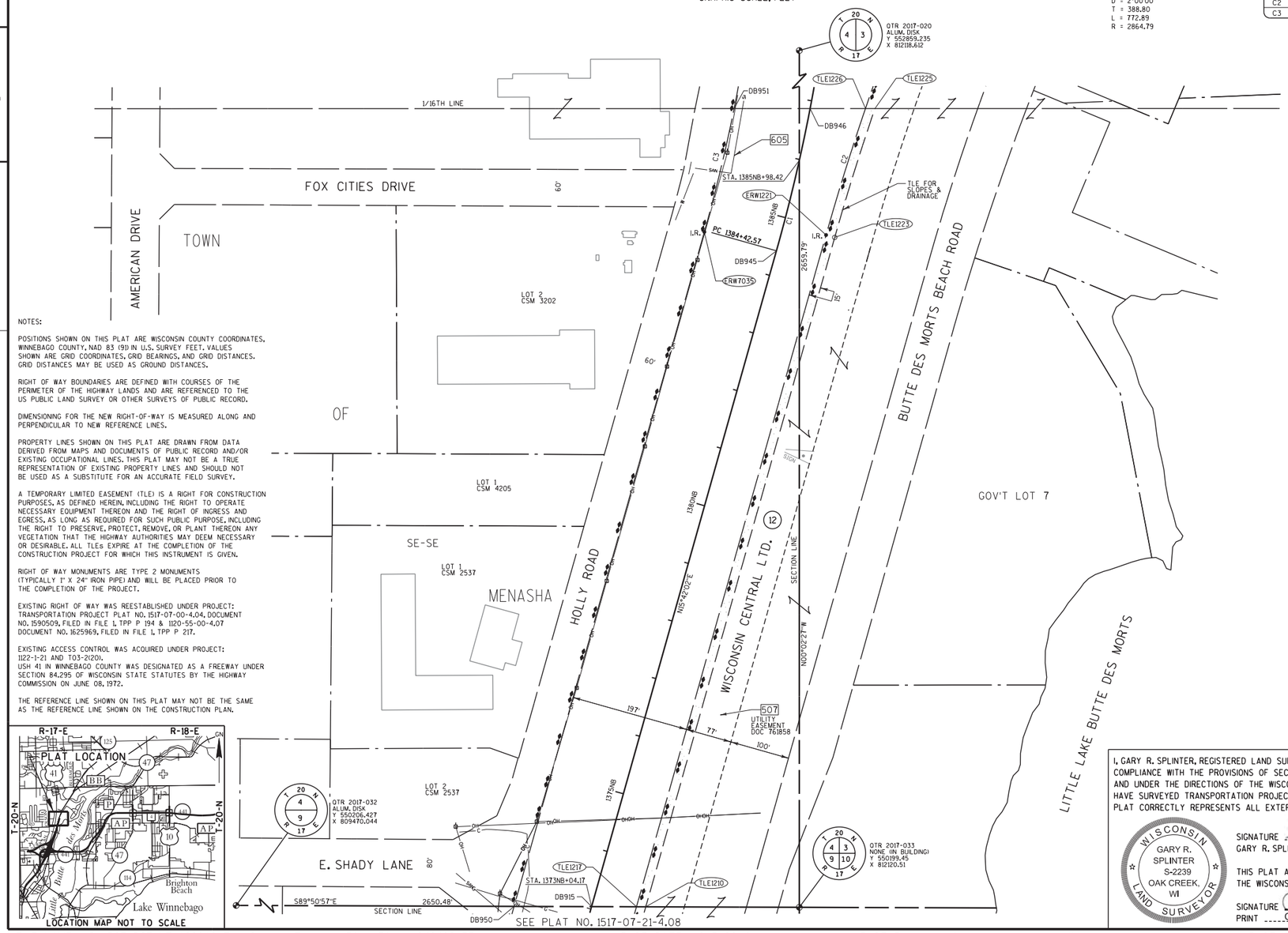
RL USH-41
PI STA. 1388+31.38
Y : 551670.591
X : 812186.762
DELTA = 15°27'28"
D = 2°00'00"
T = 388.80
L = 772.89
R = 2864.79

CURVE TABLE

CURVE	CH DISTANCE	CH BEARING	RADIUS	ARC LENGTH	PI COORDINATES	
C1	244.22'	N13°15'28"E	2864.79'	244.30'	X 812114.622	Y 551413.956
C2	221.28'	S17°15'08"W	4067.04'	221.31'	X 812194.379	Y 551429.317
C3	212.02'	N13°30'54"E	2764.79'	212.07'	X 811989.777	Y 551429.873

SCHEDULE OF UTILITIES & INTERESTS REQUIRED

UTILITY NUMBER	*OWNER	INTEREST REQUIRED
507	SPRINT	RELEASE OF RIGHTS
605	TOWN OF MENASHA - SANITARY SEWER	UTILITY AGREEMENT



NOTES:

POSITIONS SHOWN ON THIS PLAT ARE WISCONSIN COUNTY COORDINATES, WINNEBAGO COUNTY, NAD 83 (91) IN U.S. SURVEY FEET. VALUES SHOWN ARE GRID COORDINATES, GRID BEARINGS, AND GRID DISTANCES. GRID DISTANCES MAY BE USED AS GROUND DISTANCES.

RIGHT OF WAY BOUNDARIES ARE DEFINED WITH COURSES OF THE PERIMETER OF THE HIGHWAY LANDS AND ARE REFERENCED TO THE US PUBLIC LAND SURVEY OR OTHER SURVEYS OF PUBLIC RECORD.

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

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 AND SHOULD NOT BE USED AS A SUBSTITUTE FOR AN ACCURATE FIELD SURVEY.

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

RIGHT OF WAY MONUMENTS ARE TYPE 2 MONUMENTS (TYPICALLY 1" X 24" IRON PIPE) AND WILL BE PLACED PRIOR TO THE COMPLETION OF THE PROJECT.

EXISTING RIGHT OF WAY WAS REESTABLISHED UNDER PROJECT: TRANSPORTATION PROJECT PLAT NO. 1517-07-00-4.04, DOCUMENT NO. 1590509, FILED IN FILE 1, TPP P 194 & 1120-55-00-4.07 DOCUMENT NO. 1625969, FILED IN FILE 1, TPP P 217.

EXISTING ACCESS CONTROL WAS ACQUIRED UNDER PROJECT: 1122-1-21 AND T03-2120).
USH 41 IN WINNEBAGO COUNTY WAS DESIGNATED AS A FREEWAY UNDER SECTION 84.295 OF WISCONSIN STATE STATUTES BY THE HIGHWAY COMMISSION ON JUNE 08, 1972.

THE REFERENCE LINE SHOWN ON THIS PLAT MAY NOT BE THE SAME AS THE REFERENCE LINE SHOWN ON THE CONSTRUCTION PLAN.

CONVENTIONAL ABBREVIATIONS

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

CONVENTIONAL SYMBOLS

FOUND IRON PIPE/PIN	LC (3/4" IRON REBAR UNLESS NOTED)	PROPOSED R/W LINE	
	● =(SET)	EXISTING H.E. LINE	
R/W MONUMENT		PROPERTY LINE	
R/W STANDARD	▲ =(SET)	LOT & TIE LINES	
SIGN	ISIGN	SLOPE INTERCEPTS	
SECTION CORNER MONUMENT	●	CORPORATE LIMITS	
SECTION CORNER SYMBOL	(SEE DETAIL)	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	PKNAIL	QUARTER LINE	
PARCEL NUMBER	03	SIXTEENTH LINE	
UTILITY NUMBER	92	EXISTING CENTERLINE	
SIGN NUMBER (OFF PREMISE)	(I-)	PROPOSED REFERENCE LINE	
BUILDING		PARALLEL OFFSET	

CONVENTIONAL UTILITY SYMBOLS

	NON COMPENSABLE	COMPENSABLE
WATER	W	
GAS	G	
COMMUNICATION	C	
ELECTRIC OVERHEAD	OH	
ELECTRIC UNDERGROUND	E	
FIBER OPTIC	FO	
SANITARY SEWER	SAN	
STORM SEWER	SS	
POWER POLE		
TELEPHONE POLE		
TELEPHONE PEDESTAL		
ELECTRIC TOWER		

KAPUR & ASSOCIATES, INC.
CONSULTING ENGINEERS
MILWAUKEE, WISCONSIN
414.351.6668

I, GARY R. SPLINTER, REGISTERED LAND SURVEYOR, HEREBY CERTIFY THAT IN FULL COMPLIANCE WITH THE PROVISIONS OF SECTION 84.095 OF THE WISCONSIN STATUTES AND UNDER THE DIRECTIONS OF THE WISCONSIN DEPARTMENT OF TRANSPORTATION, I HAVE SURVEYED TRANSPORTATION PROJECT PLAT 1517-07-21-4.09 AND THAT SUCH PLAT CORRECTLY REPRESENTS ALL EXTERIOR BOUNDARIES OF THE SURVEYED LAND.

WISCONSIN GARY R. SPLINTER S-2239 OAK CREEK, WI LAND SURVEYOR

SIGNATURE _____ DATE 01/27/14
GARY R. SPLINTER, R.L.S. S-2239

THIS PLAT AND RELOCATION ORDER ARE APPROVED FOR THE WISCONSIN DEPARTMENT OF TRANSPORTATION

SIGNATURE _____ DATE 02/05/14
PRINT CURT VAN EREM

RESERVED FOR REGISTER OF DEEDS
PROJECT NUMBER 1517-07-21-4.09
AMENDMENT NO:

ACCEPTED FOR RECORDING AND FILING IN THE OFFICE OF THE REGISTER OF DEEDS IN WINNEBAGO COUNTY, WISCONSIN AT 2:18PM ON 2/10/2014 AS DOCUMENT # 1657784 AND FILED IN FILE 1 OF TPP 231

Julie Gagel
SIGNATURE OF REGISTER OF DEEDS

1657784

FILE NAME : S:\DOT\DOT_NE\120012-Tri County Freeway\Plat\Plats\040409_RP.dgn
PLOT DATE : 2/5/2014
PLOT BY : g_splinter
PLOT NAME :
PLOT SCALE : 1:100
APPRAISAL PLAT DATE :

4.09

4

TRANSPORTATION PROJECT PLAT NO: 1517-07-21- 4.10

USH 10 / STH 441, CTH CB - S. ONEIDA ST.

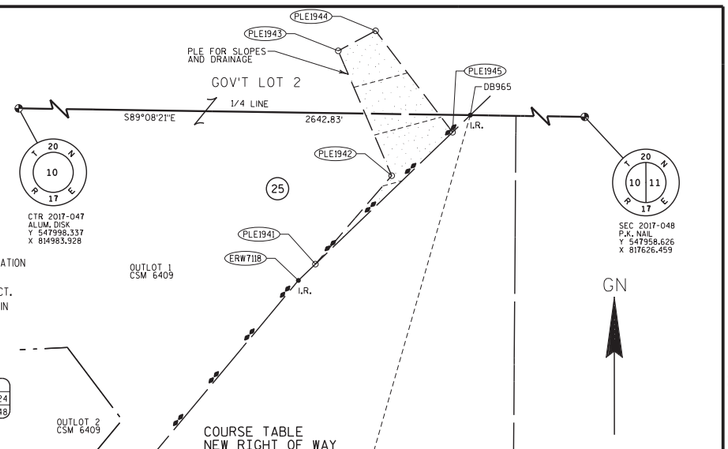
PART OF LOTS 20 AND 21 OF THE TOWN OF MENASHA ASSESSORS PLAT NO. 7, AND LOT 3 OF CSM 1246 ALL IN GOVERNMENT LOT 4. OUTLOT 1 OF CSM 6409 IN GOVERNMENT LOT 2 AND GOVERNMENT LOT 3, AND LANDS IN GOVERNMENT LOT 3, ALL IN SECTION 10, TOWNSHIP 20 NORTH, RANGE 17 EAST IN THE TOWN OF MENASHA, AND PART OF LOTS 1, 2 AND 3 OF CSM 3354 IN GOVERNMENT LOT 3 AND GOVERNMENT LOT 4, AND LOTS 1 AND 2 OF CSM 1336 IN GOVERNMENT LOT 4, ALL IN SECTION 10, TOWNSHIP 20 NORTH, RANGE 17 EAST IN THE CITY OF MENASHA, ALL IN WINNEBAGO COUNTY, WISCONSIN.

RELOCATION ORDER USH 10/STH 441 WINNEBAGO COUNTY

TO PROPERLY ESTABLISH, LAY OUT, WIDEN, ENLARGE, EXTEND, CONSTRUCT, RECONSTRUCT, IMPROVE, OR MAINTAIN A PORTION OF THE HIGHWAY DESIGNATED ABOVE, THE STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION DEEMS IT NECESSARY TO RELOCATE OR CHANGE SAID HIGHWAY AND ACQUIRE CERTAIN LANDS AND INTERESTS OR RIGHTS IN LANDS FOR THE ABOVE NAMED PROJECT.

TO EFFECT THIS CHANGE, PURSUANT TO AUTHORITY GRANTED UNDER SUBSECTIONS 84.02 (3), 84.09 AND 84.30, WISCONSIN STATUTES, THE DEPARTMENT OF TRANSPORTATION HEREBY ORDERS THAT:

1. THAT PORTION OF SAID HIGHWAY AS SHOWN ON THIS PLAT IS LAID OUT AND ESTABLISHED TO THE LINES AND WIDTHS AS SO SHOWN FOR THE ABOVE NAMED PROJECT.
2. THE LANDS OR INTERESTS OR RIGHTS IN LANDS AS SHOWN ON THIS PLAT ARE REQUIRED BY THE DEPARTMENT FOR THE ABOVE PROJECT AND SHALL BE ACQUIRED IN THE NAME OF THE STATE OF WISCONSIN, PURSUANT TO THE PROVISIONS OF SUBSECTION 84.09 (1) OR (2), WISCONSIN STATUTES.



CURVE TABLE

CURVE	CH DISTANCE	CH BEARING	RADIUS	ARC LENGTH	PI COORDINATES
C1	1664.36'	N63°23'28"W	2040.00'	1714.37'	X 815720.975 Y 546325.524
C2	63.83'	N85°53'12"E	1085.92'	63.84'	X 815422.259 Y 546677.048

CONVENTIONAL ABBREVIATIONS

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

CONVENTIONAL SYMBOLS

FOUND IRON PIPE/PIN	(3/4" IRON REBAR UNLESS NOTED)	PROPOSED R/W LINE	
R/W MONUMENT	● =(SET)	EXISTING H.E. LINE	
R/W STANDARD	▲ =(SET)	PROPERTY LINE	
SIGN	ISIGN	LOT & TIE LINES	
SECTION CORNER MONUMENT		SLOPE INTERCEPTS	
SECTION CORNER SYMBOL		CORPORATE LIMITS	
		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	PRW000	QUARTER LINE	
PARCEL NUMBER	02	SIXTEENTH LINE	
UTILITY NUMBER	92	EXISTING CENTERLINE	
SIGN NUMBER (OFF PREMISE)	21	PROPOSED REFERENCE LINE	
BUILDING		PARALLEL OFFSET	

CONVENTIONAL UTILITY SYMBOLS

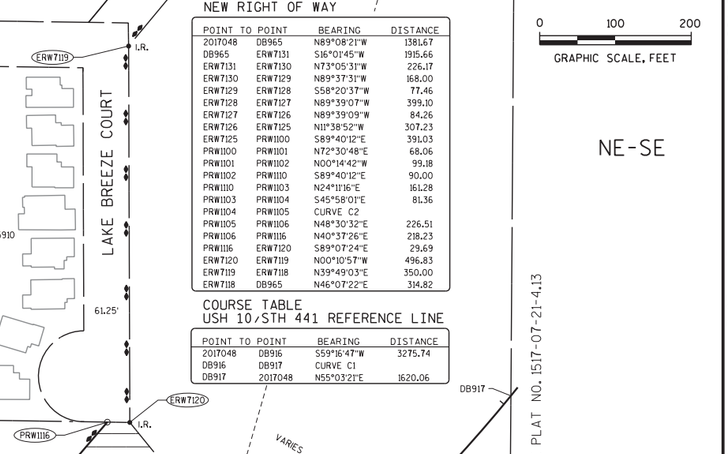
		NON COMPENSABLE	COMPENSABLE
WATER	W		
GAS	G		
COMMUNICATION	C		
ELECTRIC OVERHEAD	OH		
ELECTRIC UNDERGROUND	E		
FIBER OPTIC	FO		
SANITARY SEWER	SAN		
STORM SEWER	SS		
POWER POLE		▲	▲
TELEPHONE POLE		⌀	⌀
TELEPHONE PEDESTAL		✖	✖
ELECTRIC TOWER		⊠	

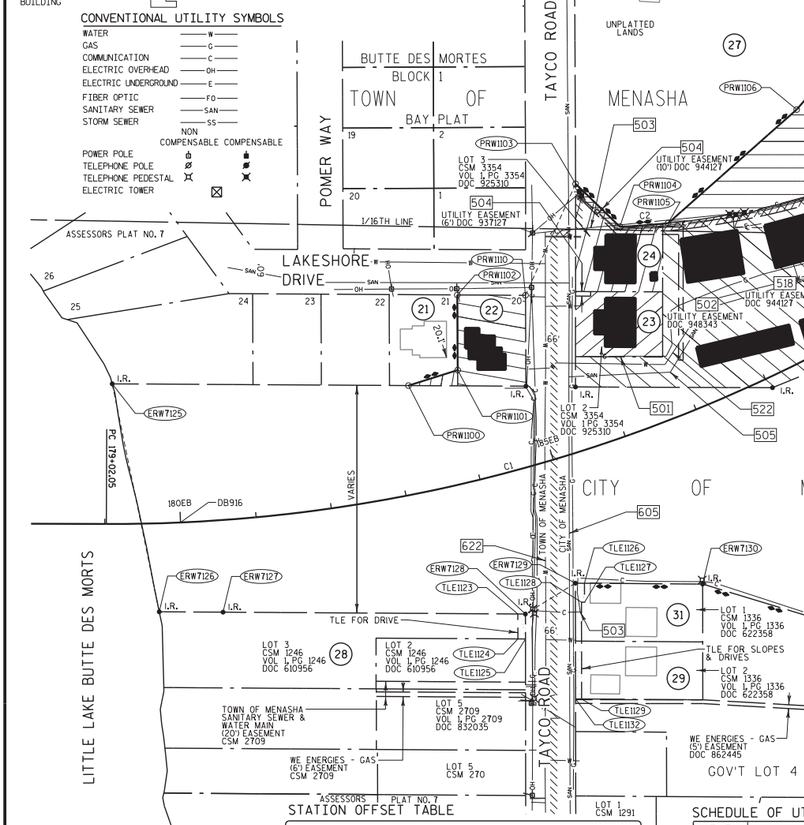
COURSE TABLE NEW RIGHT OF WAY

POINT TO POINT		BEARING	DISTANCE
2017048	DB965	N89°08'21"W	138.67
DB965	ERW7131	S16°01'45"W	1915.66
ERW7131	ERW7130	N73°05'31"W	226.17
ERW7130	ERW7129	N89°37'31"W	168.00
ERW7129	ERW7128	S58°20'37"W	77.46
ERW7128	ERW7127	N89°39'07"W	399.10
ERW7127	ERW7126	N89°39'09"W	84.26
ERW7126	ERW7125	N11°38'52"W	307.23
ERW7125	PRW1100	S89°40'12"E	391.03
PRW1100	PRW1101	N72°30'48"E	68.06
PRW1101	PRW1102	N00°14'42"W	99.18
PRW1102	PRW1110	S89°40'12"E	90.00
PRW1110	PRW1103	N24°11'16"E	161.28
PRW1103	PRW1104	S45°58'01"E	81.36
PRW1104	PRW1105	CURVE C2	
PRW1105	PRW1106	N48°30'32"E	226.51
PRW1106	PRW1116	N40°37'26"E	218.23
PRW1116	ERW7120	S89°07'24"E	29.69
ERW7120	ERW7119	N00°10'57"W	496.83
ERW7119	ERW7118	N39°49'03"E	350.00
ERW7118	DB965	N46°07'22"E	314.82

COURSE TABLE USH 10/STH 441 REFERENCE LINE

POINT TO POINT		BEARING	DISTANCE
2017048	DB916	S59°16'47"W	3275.74
DB916	DB917	CURVE C1	
DB917	2017048	N55°03'21"E	1620.06





SCHEDULE OF LANDS & INTERESTS REQUIRED

PARCEL NUMBER	*OWNER	INTEREST REQUIRED	NEW R/W ACRES	P.L.E. ACRES	T.L.E. ACRES
21	JOAN A. O'DELL	FEE	0.016	-	-
22	JAMES J. & SHIRLEY A. VIOTTO	FEE	0.248	-	-
23	RICHARD J. HARTZHEIM	FEE	0.227	-	-
24	RICHARD M. & LAURA J. KEARN	FEE	0.267	-	-
25	TOWN/CITY OF MENASHA	PLE	-	0.347	-
26	ROBERT T. & DAWN M. WEBER	FEE	2.919	-	-
27	PETERSON ET AL.	FEE	1.310	-	-
28	MICHAEL J. WADZINSKI	TLE	-	-	0.008
29	ALAN C. POZOLINSKI	TLE	-	-	0.014
31	RONALD J. POZOLINSKI	TLE	-	-	0.016

*OWNER'S NAMES ARE SHOWN FOR REFERENCE PURPOSES ONLY, AND ARE SUBJECT TO CHANGE PRIOR TO TRANSFER OF LAND INTERESTS TO THE WISCONSIN DEPARTMENT OF TRANSPORTATION.

NOTES:

POSITIONS SHOWN ON THIS PLAT ARE WISCONSIN COUNTY COORDINATES, WINNEBAGO COUNTY, NAD 83 (91) IN U.S. SURVEY FEET. VALUES SHOWN ARE GRID COORDINATES, GRID BEARINGS, AND GRID DISTANCES. GRID DISTANCES MAY BE USED AS GROUND DISTANCES.

RIGHT OF WAY BOUNDARIES ARE DEFINED WITH COUNTIES OF THE PERIMETER OF THE HIGHWAY LANDS AND ARE REFERENCED TO THE US PUBLIC LAND SURVEY OR OTHER SURVEYS OF PUBLIC RECORD.

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

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 AND SHOULD NOT BE USED AS A SUBSTITUTE FOR AN ACCURATE FIELD SURVEY.

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

A PERMANENT LIMITED EASEMENT (PLE) IS A RIGHT FOR CONSTRUCTION AND MAINTENANCE PURPOSES, AS DEFINED HEREIN, INCLUDING THE RIGHT TO OPERATE NECESSARY EQUIPMENT THEREON AND THE RIGHT OF INGRESS AND EGRESS AS LONG AS REQUIRED FOR SUCH PUBLIC PURPOSE, INCLUDING THE RIGHT TO PRESERVE, PROTECT, REMOVE OR PLANT THEREON ANY VEGETATION THAT THE HIGHWAY AUTHORITIES MAY DEEM NECESSARY OR DESIRABLE, BUT WITHOUT PREJUDICE TO THE OWNER'S RIGHT TO MAKE OR CONSTRUCT IMPROVEMENTS ON SAID LANDS OR TO FLATTEN THE SLOPES, PROVIDING SAID ACTIVITIES WILL NOT IMPAIR OR OTHERWISE ADVERSELY AFFECT THE HIGHWAY FACILITIES.

RIGHT OF WAY MONUMENTS ARE TYPE 2 MONUMENTS (TYPICALLY 1" X 24" IRON PIPE) AND WILL BE PLACED PRIOR TO THE COMPLETION OF THE PROJECT.

EXISTING RIGHT OF WAY WAS REESTABLISHED UNDER PROJECT: TRANSPORTATION PROJECT PLAT NO. 1517-07-00-4.05, DOCUMENT NO. 1590510, FILED IN FILE 1, TPP PG 195.

EXISTING ACCESS CONTROL WAS ACQUIRED UNDER PROJECT: 4685-04-00, NOTICE OF NON-ACCESS DOC. 430395, 430398 & 4686-01-00. STH 441 IN WINNEBAGO COUNTY WAS DESIGNATED AS A FREEWAY UNDER SECTION 84.295 OF THE WISCONSIN STATE STATUTES BY THE WISCONSIN DEPARTMENT OF TRANSPORTATION ON JUNE 26, 1986.

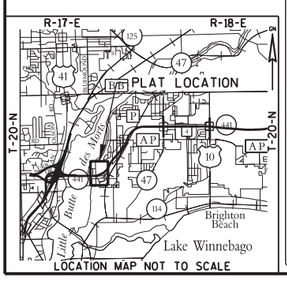
THE REFERENCE LINE SHOWN ON THIS PLAT MAY NOT BE THE SAME AS THE REFERENCE LINE SHOWN ON THE CONSTRUCTION PLAN.

STATION OFFSET TABLE

POINT	STATION	OFFSET		X	Y
DB916	180+00.00		0	814810.397	546285.227
DB917	197+14.37		0	816298.479	547030.694
DB965	205+20.57	539.39	L	816244.942	547979.387
PRW1100	184+33.17	142.05	L	815111.294	546466.014
PRW1101	184+06.20	147.47	L	815176.210	546486.465
PRW1102	184+32.87	243.68	L	815175.786	546585.642
PRW1103	186+58.53	335.49	L	815331.866	546732.246
PRW1104	186+97.87	261.38	L	815390.359	546675.695
PRW1105	187+66.70	240.61	L	815454.023	546680.274
PRW1106	190+20.00	295.00	L	815623.690	546830.335
PRW1110	185+30.25	218.28	L	815265.784	546585.124
PRW1116	192+70.95	350.37	L	815765.780	546995.974
TLE1123	184+05.76	184.16	R	815255.648	546164.490
TLE1124	183+98.62	216.21	R	815255.701	546131.490
TLE1125	184+07.38	218.66	R	815265.701	546131.429
TLE1126	184+93.65	168.05	R	815343.583	546205.004
TLE1127	184+87.24	192.06	R	815343.623	546180.003
TLE1128	184+83.73	190.92	R	815339.623	546180.029
TLE1129	184+53.14	314.04	R	815339.828	546052.200
TLE1132	184+46.46	311.90	R	815331.828	546052.252
PLE1941	202+49.58	623.11	L	816040.494	547782.800
PLE1942	204+00.33	591.54	L	816141.103	547899.425
PLE1943	205+10.42	733.08	L	816070.552	548064.275
PLE1944	205+57.45	702.75	L	816119.852	548090.747
PLE1945	204+89.48	549.00	L	816221.484	547956.832
ERW7118	202+19.77	632.32	L	816018.008	547761.178
ERW7119	197+70.66	682.37	L	815793.888	547492.347
ERW7120	192+98.46	331.49	L	815795.471	546995.520
ERW7125	179+09.85	185.03	L	814720.271	546468.266
ERW7126	179+68.52	116.76	R	814782.298	546167.364
ERW7127	180+48.02	121.34	R	814866.555	546166.853
ERW7128	184+14.64	186.64	R	815265.648	546164.429
ERW7129	184+83.02	164.62	R	815331.583	546205.082
ERW7130	186+28.69	218.02	R	815499.580	546203.983
ERW7131	187+82.09	361.23	R	815715.973	546138.205

SCHEDULE OF UTILITIES & INTERESTS REQUIRED

UTILITY NUMBER	*OWNER	INTEREST REQUIRED
501	WE ENERGIES - GAS	RELEASE OF RIGHTS
502	TIME WARNER	RELEASE OF RIGHTS
503	AT&T WISCONSIN	RELEASE OF RIGHTS
504	CITY OF MENASHA - UTILITY	RELEASE OF RIGHTS
505	TOWN OF MENASHA - SANITARY SEWER	RELEASE OF RIGHTS
518	MENASHA UTILITIES - ELECTRIC	RELEASE OF RIGHTS
522	TOWN OF MENASHA - WATER	RELEASE OF RIGHTS
605	TOWN OF MENASHA - SANITARY SEWER	UTILITY AGREEMENT
622	TOWN OF MENASHA - WATER	UTILITY AGREEMENT



KAPUR & ASSOCIATES, INC.
CONSULTING ENGINEERS
MILWAUKEE, WISCONSIN
414.351.6668

I, GARY R. SPLINTER, REGISTERED LAND SURVEYOR, HEREBY CERTIFY THAT IN FULL COMPLIANCE WITH THE PROVISIONS OF SECTION 84.095 OF THE WISCONSIN STATUTES AND UNDER THE DIRECTIONS OF THE WISCONSIN DEPARTMENT OF TRANSPORTATION, I HAVE SURVEYED TRANSPORTATION PROJECT PLAT 1517-07-21-4.10 AND THAT SUCH PLAT CORRECTLY REPRESENTS ALL EXTERIOR BOUNDARIES OF THE SURVEYED LAND.

WISCONSIN GARY R. SPLINTER S-2239 OAK CREEK, WI LAND SURVEYOR

SIGNATURE _____ DATE 01/27/14
GARY R. SPLINTER, R.L.S. S-2239

THIS PLAT AND RELOCATION ORDER ARE APPROVED FOR THE WISCONSIN DEPARTMENT OF TRANSPORTATION

SIGNATURE _____ DATE _____
PRINT _____

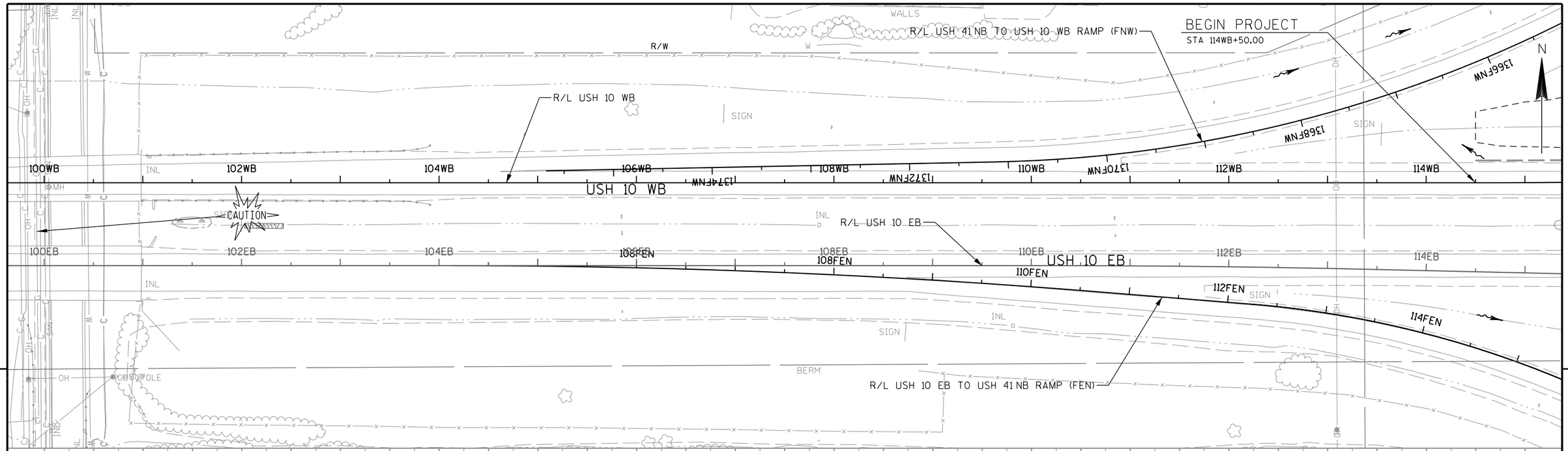
RESERVED FOR REGISTER OF DEEDS
PROJECT NUMBER 1517-07-21-4.10
AMENDMENT NO:

ACCEPTED FOR RECORDING AND FILING IN THE OFFICE OF THE REGISTER OF DEEDS IN WINNEBAGO COUNTY, WISCONSIN AT ..:.. .M ON _____ AS DOCUMENT *_____ AND FILED IN _____

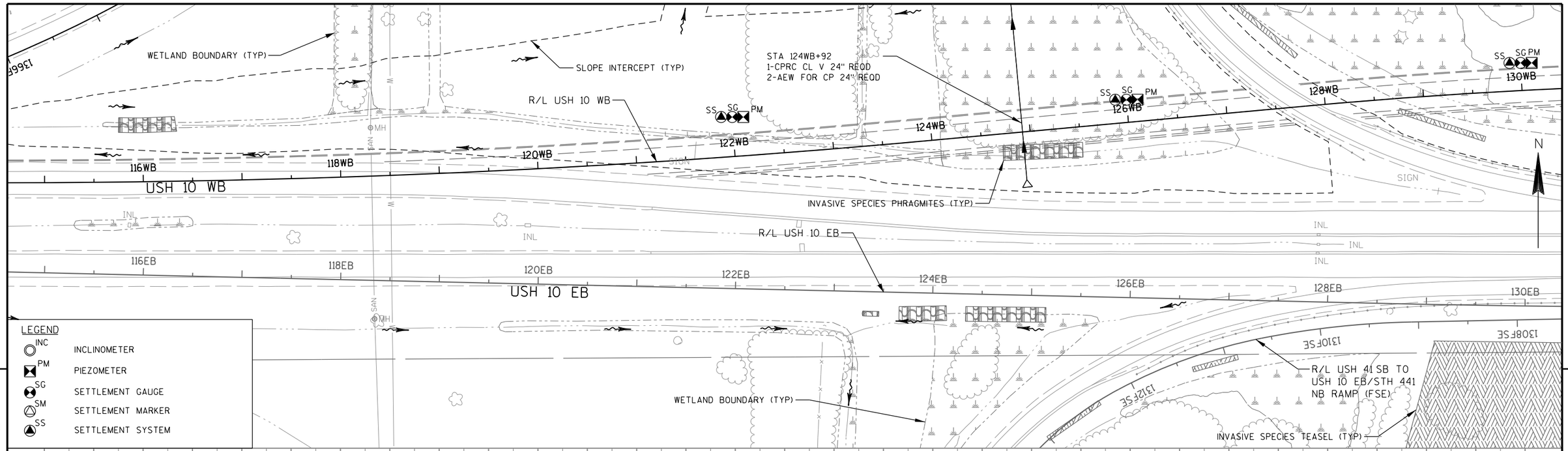
_____
SIGNATURE OF REGISTER OF DEEDS

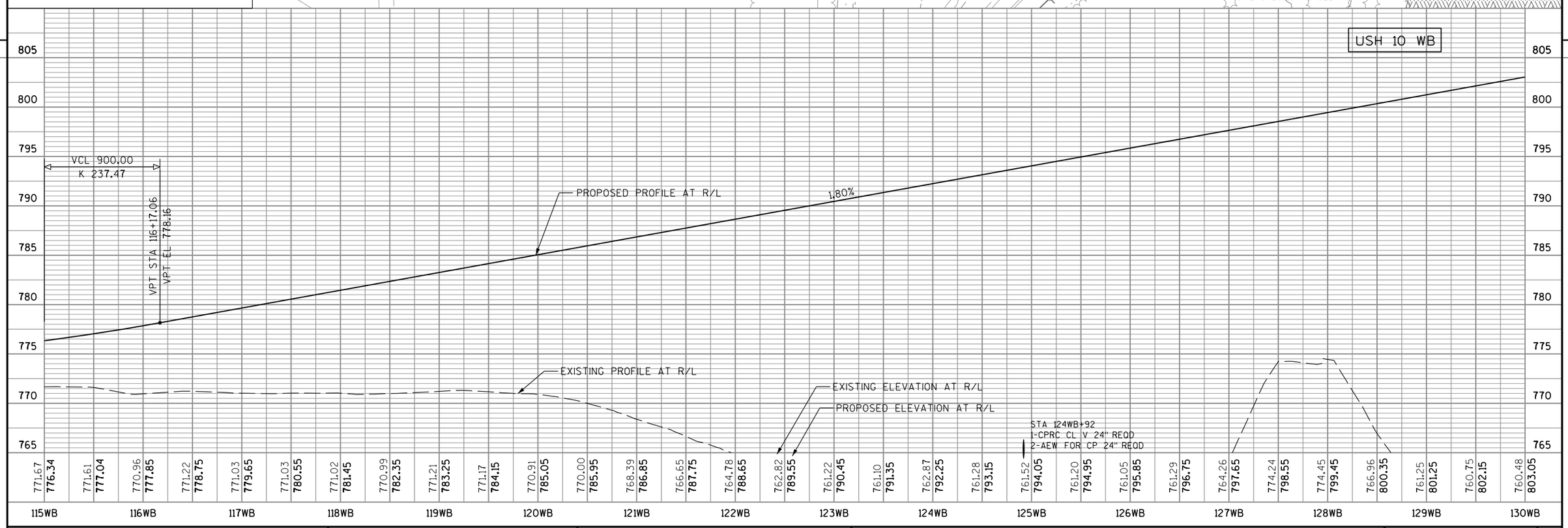
4.10

PLOT SCALE : 1:100
PLOT NAME :
PLOT BY : g_splinter
PLOT DATE : 1/27/2014
FILE NAME : S:\DOT\DOT_NE\120012-Tri County Freeway\Plat\Plats\040410_RP.dgn
APPRAISAL PLAT DATE :



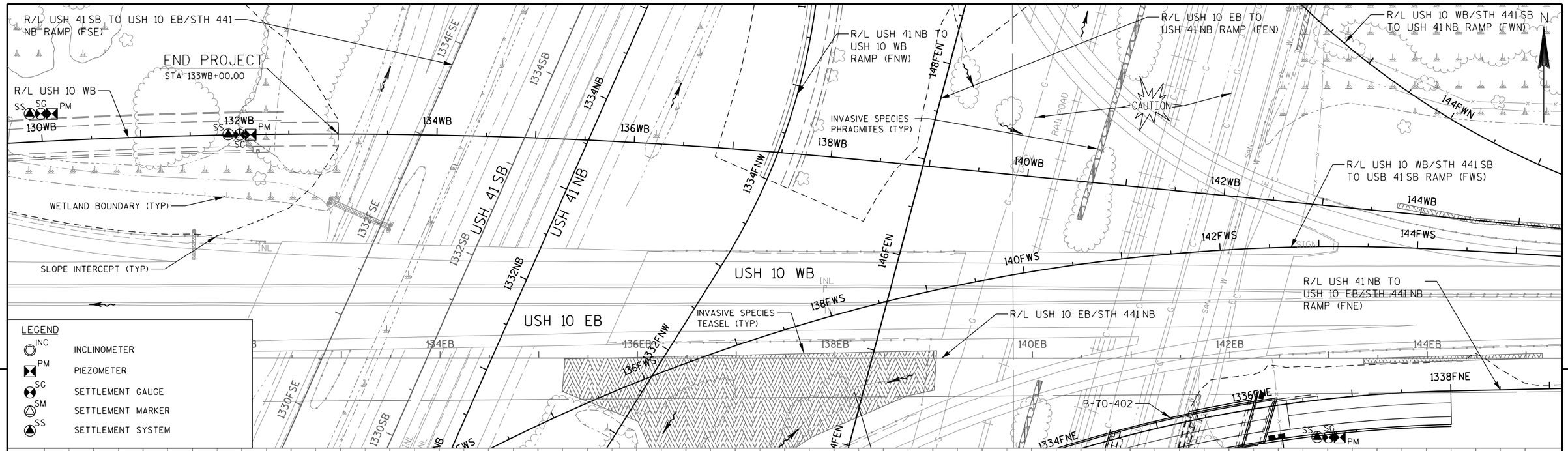
PROJECT NO: 1517-07-72	HWY: USH 10	COUNTY: WINNEBAGO	PLAN & PROFILE: USH 10 WB	SHEET 209 E

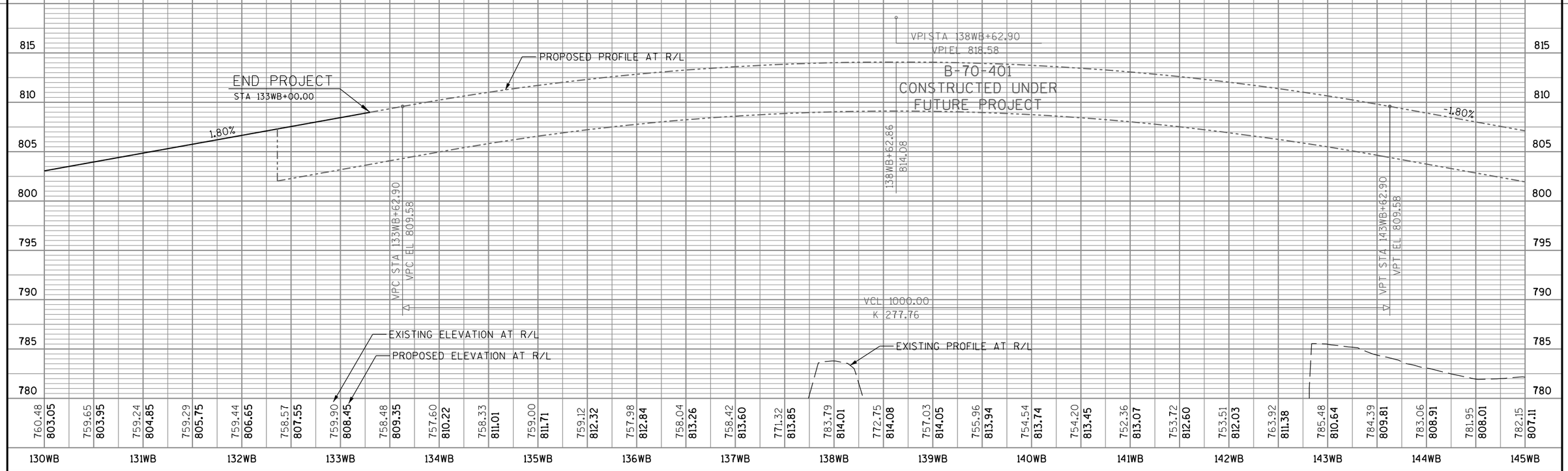




PROJECT NO: 1517-07-72	HWY: USH 10	COUNTY: WINNEBAGO	PLAN & PROFILE: USH 10 WB	SHEET 210 E

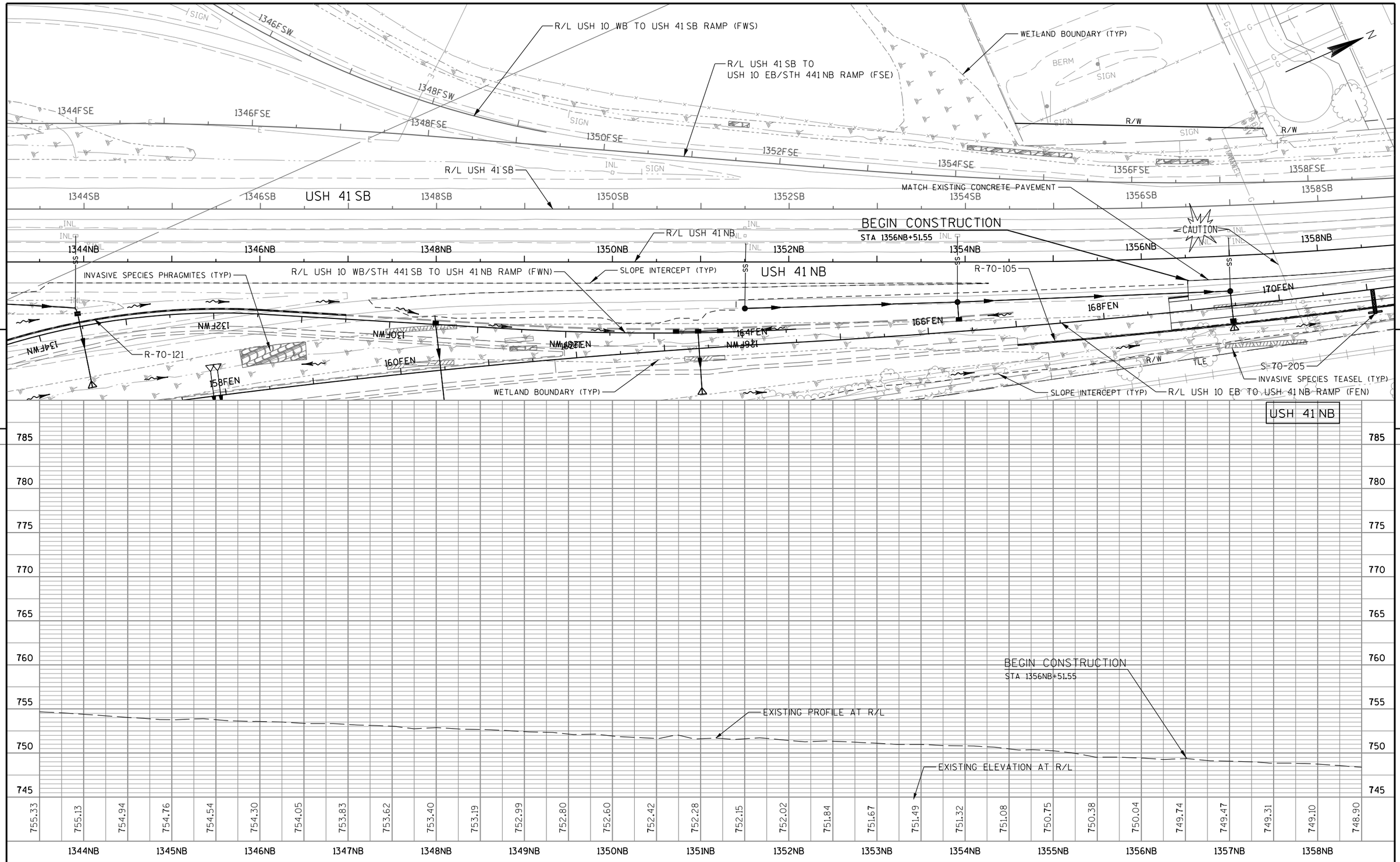
FILE NAME : S:\DOT\DOT_NE\120012-Tri County Freeway\1517-07-72\DGN_Files\Plansheets\050113_pp.dgn PLOT DATE : 2/19/2014 PLOT BY : wally_w PLOT NAME : PLOT SCALE : 1:100
WISDOT/CADDS SHEET 45





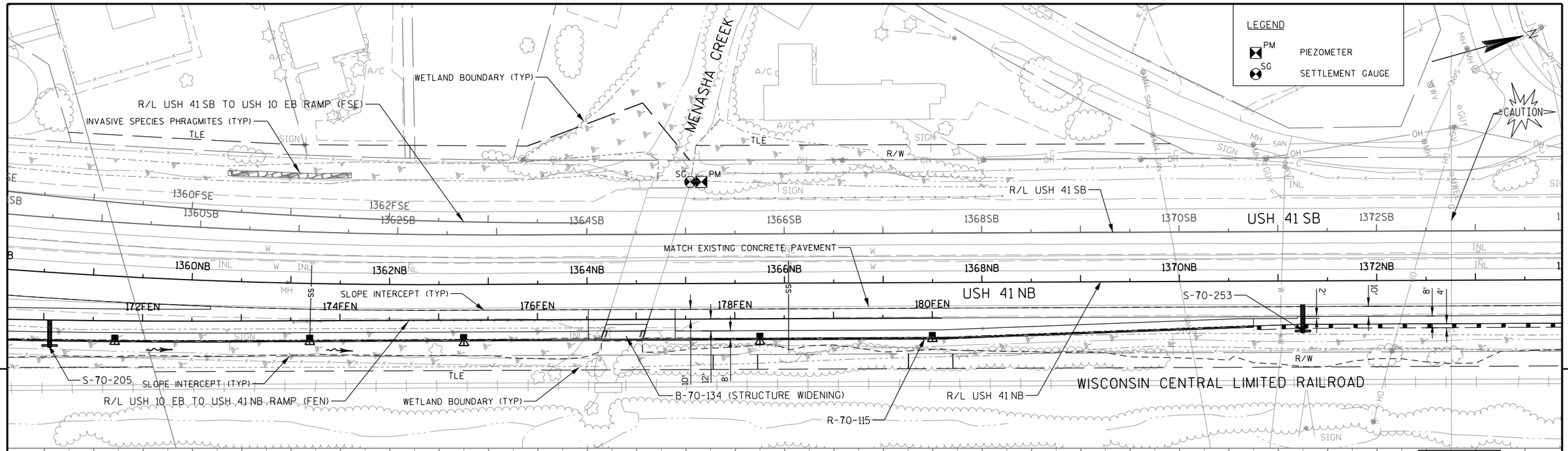
PROJECT NO: 1517-07-72	HWY: USH 10	COUNTY: WINNEBAGO	PLAN & PROFILE: USH 10 WB	SHEET 211 E

FILE NAME : S:\DOT\DOT_NE\120012-Tri County Freeway\1517-07-72\DGN_Files\Plansheets\050114_pp.dgn PLOT DATE : 2/19/2014 PLOT BY : wally_w PLOT NAME : PLOT SCALE : 1:100



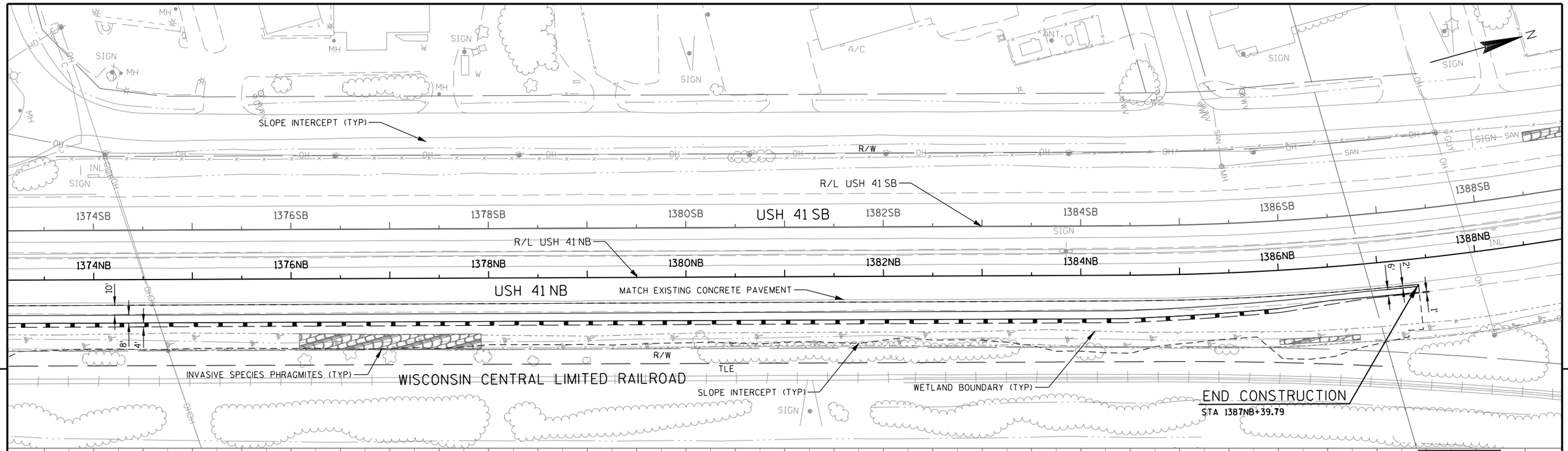
PROJECT NO: 1517-07-72	HWY: USH 10	COUNTY: WINNEBAGO	PLAN & PROFILE: USH 41 NB	SHEET 212	E

FILE NAME : S:\DOT\DOT_NE\120012-Tri County Freeway\1517-07-72\DGN_Files\Plansheets\050127_pp.dgn PLOT DATE : 2/19/2014 PLOT BY : wally_w PLOT NAME : PLOT SCALE : 1:100



PROJECT NO: 1517-07-72	HWY: USH 10	COUNTY: WINNEBAGO	PLAN & PROFILE: USH 41 NB	SHEET 213	E

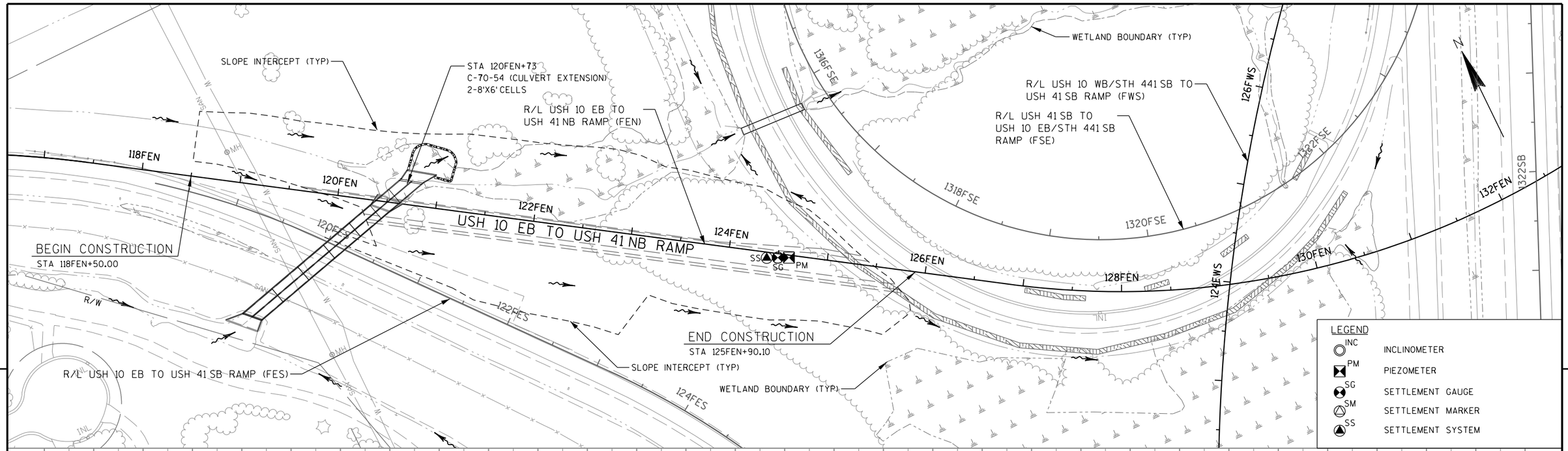
FILE NAME : S:\DOT\DOT_NE\120012-Tri County Freeway\1517-07-72\DGN_Files\Plansheets\050128_pp.dgn PLOT DATE : 2/19/2014 PLOT BY : wally_w PLOT NAME : PLOT SCALE : 1:100

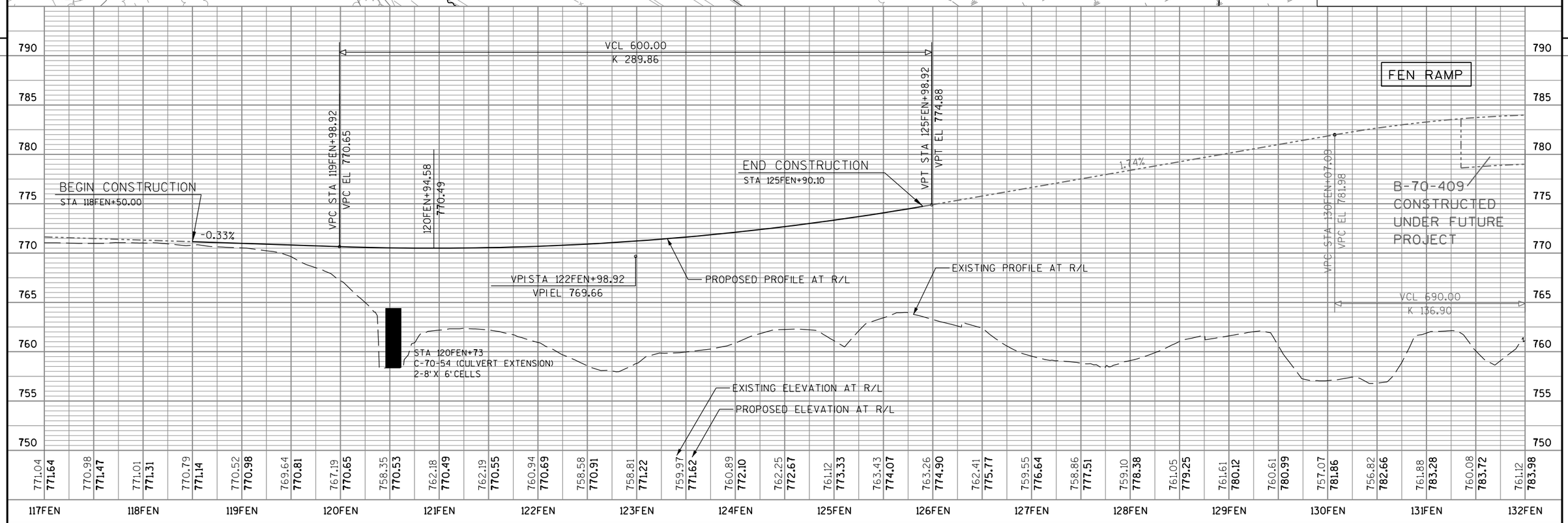


PROJECT NO: 1517-07-72	HWY: USH 10	COUNTY: WINNEBAGO	PLAN & PROFILE: USH 41 NB	SHEET 214	E

FILE NAME : S:\DOT\DOT_NE\120012-Tri County Freeway\1517-07-72\DGN_Files\Plansheets\050129_pp.dgn PLOT DATE : 2/19/2014 PLOT BY : wally_w PLOT NAME : PLOT SCALE : 1:100

WISDOT/CADDS SHEET 45





PROJECT NO: 1517-07-72	HWY: USH 10	COUNTY: WINNEBAGO	PLAN & PROFILE: FEN RAMP	SHEET 215 E

FILE NAME : S:\DOT\DOT_NE\120012-Tri County Freeway\1517-07-72\DGN_Files\Plansheets\050142_pp.dgn PLOT DATE : 2/19/2014 PLOT BY : wally_w PLOT NAME : PLOT SCALE : 1:100

LEGEND

- INC — INCLINOMETER
- PM — PIEZOMETER
- SG — SETTLEMENT GAUGE
- SM — SETTLEMENT MARKER
- SS — SETTLEMENT SYSTEM

R/L USH 41 SB
USH 41 SB
R/L USH 41 NB
USH 41 NB
R/L USH 10 WB/STH 441 SB TO USH 41 SB RAMP (FWS)
R/L USH 41 NB TO USH 10 WB RAMP (FNW)
R/L USH 10 WB
USH 10 EB
INVASIVE SPECIES TEASEL (TYP)
CAUTION
C-70-42 (CULVERT EXTENSION)
WETLAND BOUNDARY (TYP)
R/L USH 41 NB TO USH 10 EB/ STH 441 NB RAMP (FNE)
B-70-402
R-70-102
INVASIVE SPECIES PHRAGMITES (TYP)
R/L USH 10 EB TO USH 41 NB RAMP (FEN)
USH 10 EB TO USH 41 NB RAMP
STA 140FEN+69
1-CPRC CL V 30" REQD
1-AEW FOR CP 30" REQD
BEGIN CONSTRUCTION
STA 136FEN+68.15
SLOPE INTERCEPT (TYP)
END CONSTRUCTION
STA 142FEN+50.00
R/L USH 10 EB/STH 441 NB
1320FNW
1322NB
1324NB
1326NB
1328FNW
1330FNW
1332FNW
1324FNW
1326FNW
1322FNE
1324FNE
1326FNE
1328FNE
1330FNE
1332FNE
1334FNE
134FEN
136FEN
138FEN
140FEN
142FEN
144FEN
146FEN
136FWS
138FWS
140FWS
138EB
140EB
INL
R/W

FEN RAMP

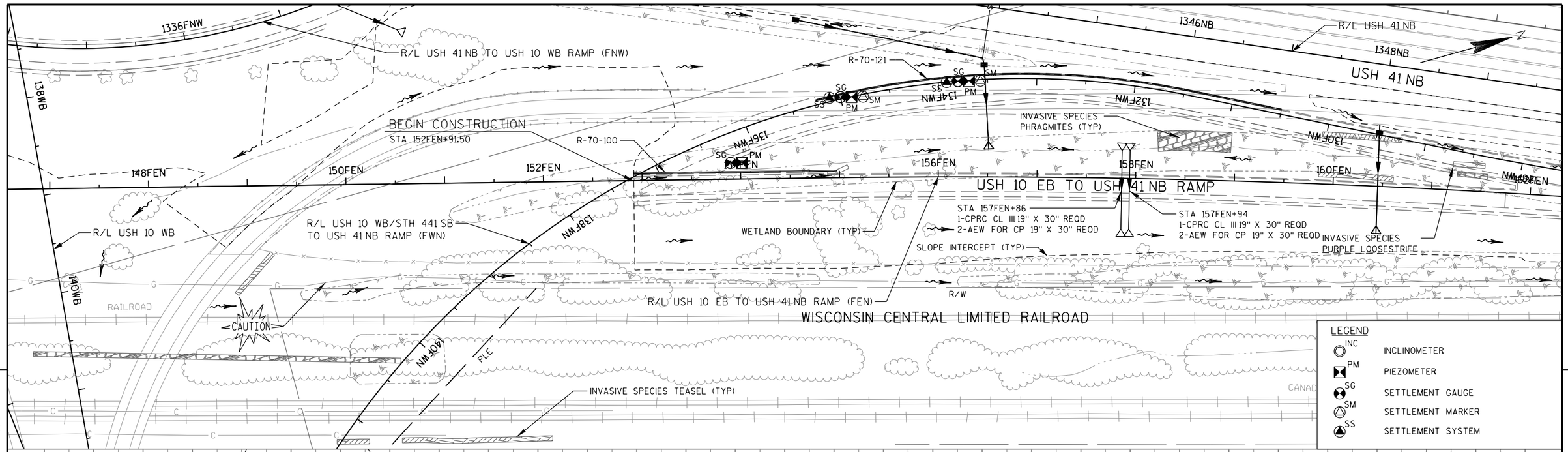
VPI STA 133FEN+52.09
VPI EL 787.99
B-70-409 CONSTRUCTED UNDER FUTURE PROJECT
132FEN+45.30
784.06
BEGIN CONSTRUCTION
STA 136FEN+68.15
PROPOSED PROFILE AT R/L
-3.30%
VPT STA 136FEN+97.09
VPT EL 776.60
VPC STA 142FEN+21.74
VPC EL 759.29
VCL 500.00
K 128.21
END CONSTRUCTION
STA 142FEN+50.00
EXISTING PROFILE AT R/L
VCL 690.00
K 136.90
STA 140FEN+69
1-CPRC CL V 30" REQD
1-AEW FOR CP 30" REQD
EXISTING ELEVATION AT R/L
PROPOSED ELEVATION AT R/L
VPI STA 144FEN+71.74
VPI EL 751.04
146FEN+44.82
752.31
STA 146FEN+25
1-CPRC CL III 19" X 30" REQD
2-AEW FOR CP 19" X 30" REQD

785 780 775 770 765 760 755 750 745

132FEN	133FEN	134FEN	135FEN	136FEN	137FEN	138FEN	139FEN	140FEN	141FEN	142FEN	143FEN	144FEN	145FEN	146FEN	147FEN
761.12	761.97	761.94	761.22	760.27	759.97	753.43	751.88	748.47	748.95	749.49	750.71	750.98	751.06	751.91	752.58
783.98	**784.06**	**783.95**	**783.66**	**783.18**	**782.53**	**781.69**	**780.67**	**779.46**	**778.07**	**776.51**	**774.86**	**773.21**	**771.56**	**769.91**	**768.26**
752.77	753.34	753.62	753.91	754.28	754.92	764.94	779.20	783.08	773.89	782.16	785.85	784.92	769.42	757.25	
766.61	**764.96**	**763.31**	**761.66**	**760.01**	**758.39**	**756.94**	**755.70**	**754.64**	**753.79**	**753.12**	**752.66**	**752.39**	**752.31**	**752.43**	

PROJECT NO: 1517-07-72	HWY: USH 10	COUNTY: WINNEBAGO	PLAN & PROFILE: FEN RAMP	SHEET 216 E

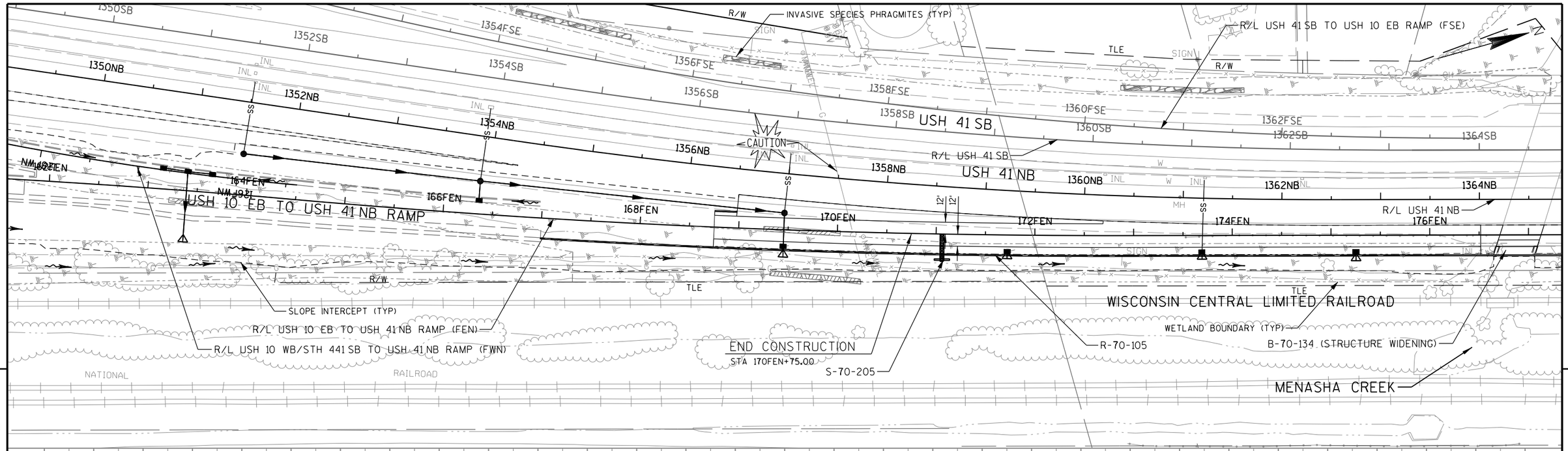
FILE NAME : S:\DOT\DOT_NE\120012-Tri County Freeway\1517-07-72\DGN_Files\Plansheets\050143_pp.dgn
PLOT DATE : 2/19/2014
PLOT BY : wally_w
PLOT NAME :
PLOT SCALE : 1:100

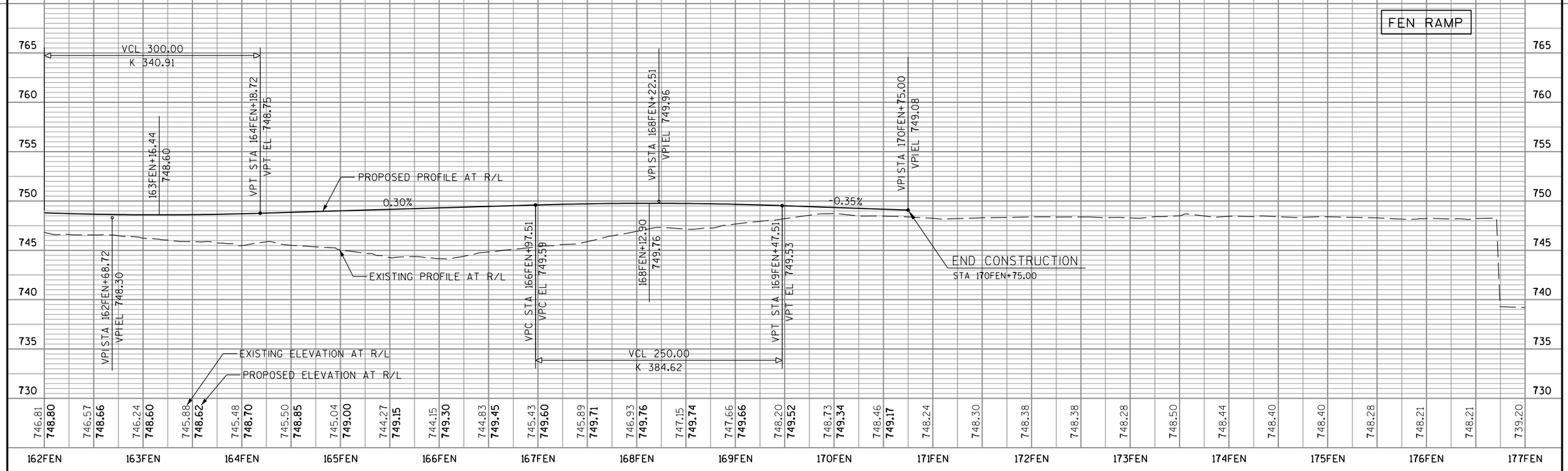


PROJECT NO: 1517-07-72	HWY: USH 10	COUNTY: WINNEBAGO	PLAN & PROFILE: FEN RAMP	SHEET 217 E

FILE NAME : S:\DOT\DOT_NE\120012-Tri County Freeway\1517-07-72\DGN_Files\Plansheets\050144_pp.dgn PLOT DATE : 2/19/2014 PLOT BY : wally_w PLOT NAME : PLOT SCALE : 1:100

WISDOT/CADDS SHEET 45





PROJECT NO: 1517-07-72	HWY: USH 10	COUNTY: WINNEBAGO	PLAN & PROFILE: FEN RAMP	SHEET 218 E

LEGEND

INC — INCLINOMETER
PM — PIEZOMETER
SG — SETTLEMENT GAUGE
SM — SETTLEMENT MARKER
SS — SETTLEMENT SYSTEM

R/L USH 41 NB TO USH 10 WB RAMP (FNW)

INVASIVE SPECIES TEASEL (TYP)

STA 1329FNE+40
1-CPRC CL V 30" REOD
1-AEW FOR CP 30" REOD

R-70-102

B-70-402

INVASIVE SPECIES PHRAGMITES (TYP)

USH 41 SB

USH 41 NB

USH 41 NB TO USH 10 EB/STH 441 NB RAMP

R/L USH 41 NB TO USH 10 EB/STH 441 NB RAMP (FNE)

CAUTION

STA 1324FNE+26.71
C-70-42 (CULVERT EXTENSION)

R/L USH 10 EB TO USH 41 NB RAMP (FEN)
SLOPE INTERCEPT (TYP)

WETLAND BOUNDARY (TYP)

WISCONSIN CENTRAL LIMITED RAILROAD

BEGIN CONSTRUCTION
STA 1319FNE+57.14

FNE RAMP

VPI STA 1332FNE+29.95
VPI EL 788.23

B-70-402

BEGIN STATION 1330FNE+91.77
B-70-402
6 SPAN 45W" PRESTRESSED GIRDERS
43'-0" OVERALL WIDTH
507'-8 5/8" LENGTH
SKEW 44°51'36" LHF

VCL 415.00
K 115.44

VPI STA 1323FNE+20.00
VPI EL 760.47

VPC STA 1323FNE+52.89
VPC EL 760.60

VPT STA 1327FNE+67.89
VPT EL 769.74

VPC STA 1330FNE+29.95
VPC EL 780.23

VCL 400.00
K 115.61

0.41%

4.00%

PROPOSED PROFILE AT R/L

EXISTING PROFILE AT R/L

VPI STA 1325FNE+60.39
VPI EL 761.44

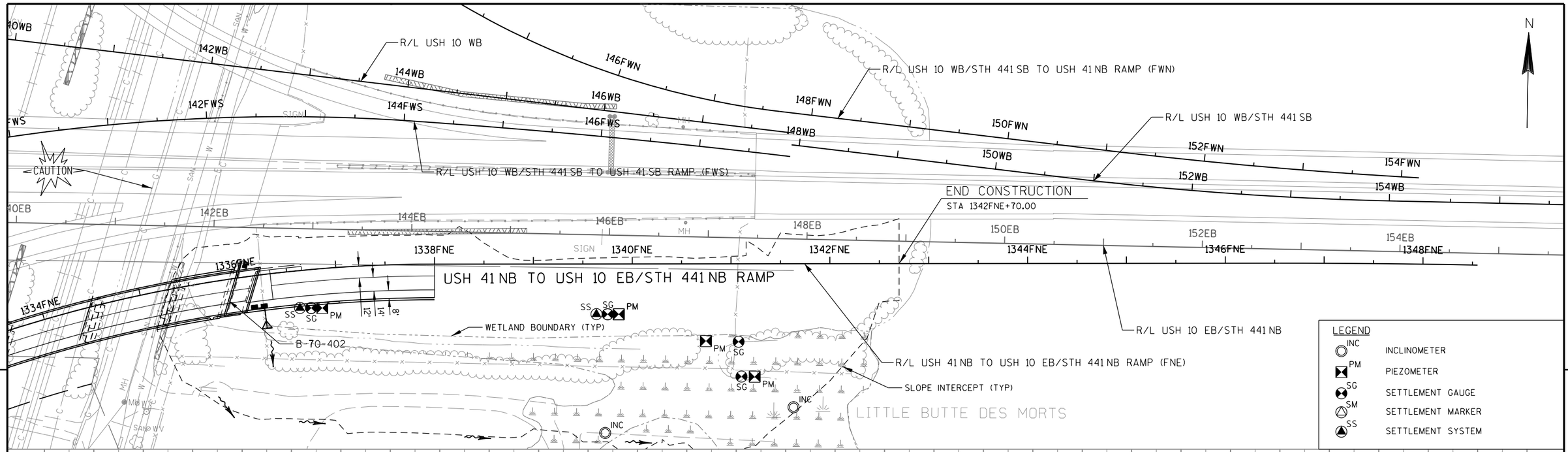
EXISTING ELEVATION AT R/L

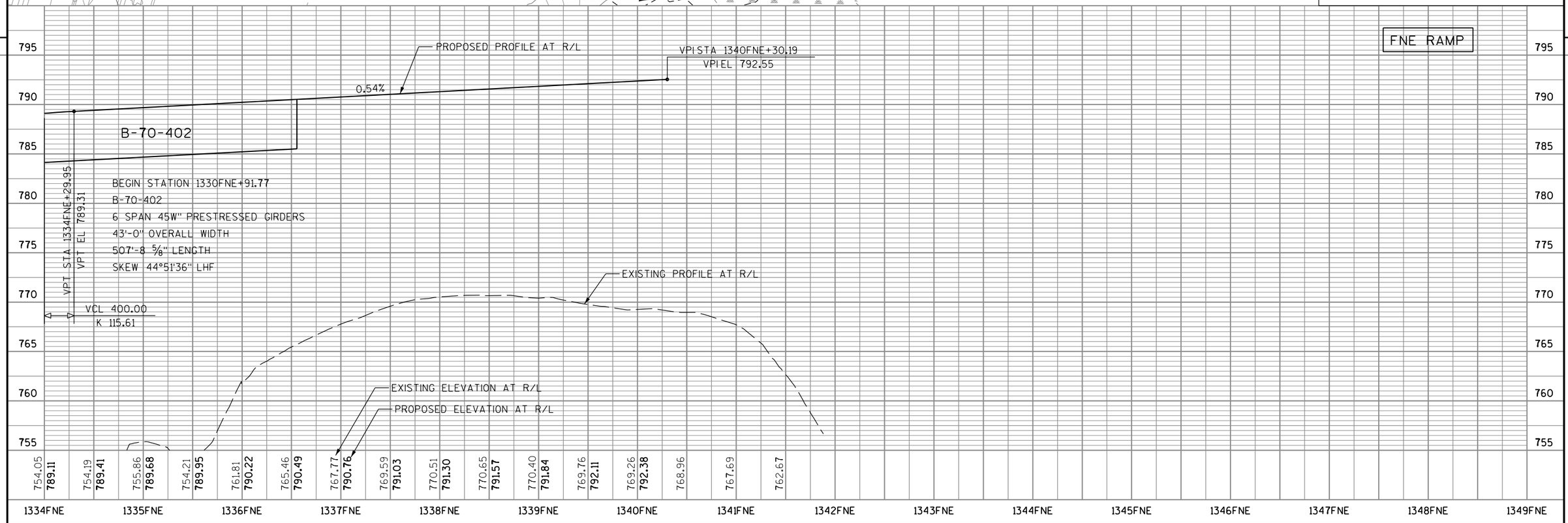
PROPOSED ELEVATION AT R/L

STA 1324FNE+26.71
C-70-42 (CULVERT EXTENSION)
1-7'X6' CELL

STA 1329FNE+40
1-CPRC CL V 30" REOD
1-AEW FOR CP 30" REOD

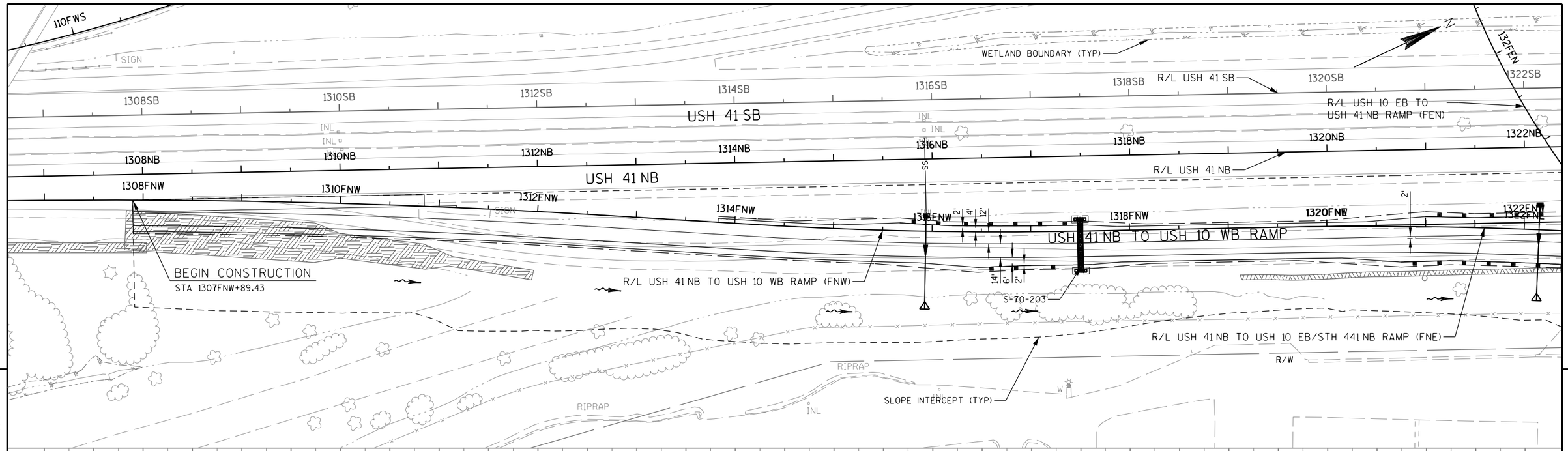
| | | |

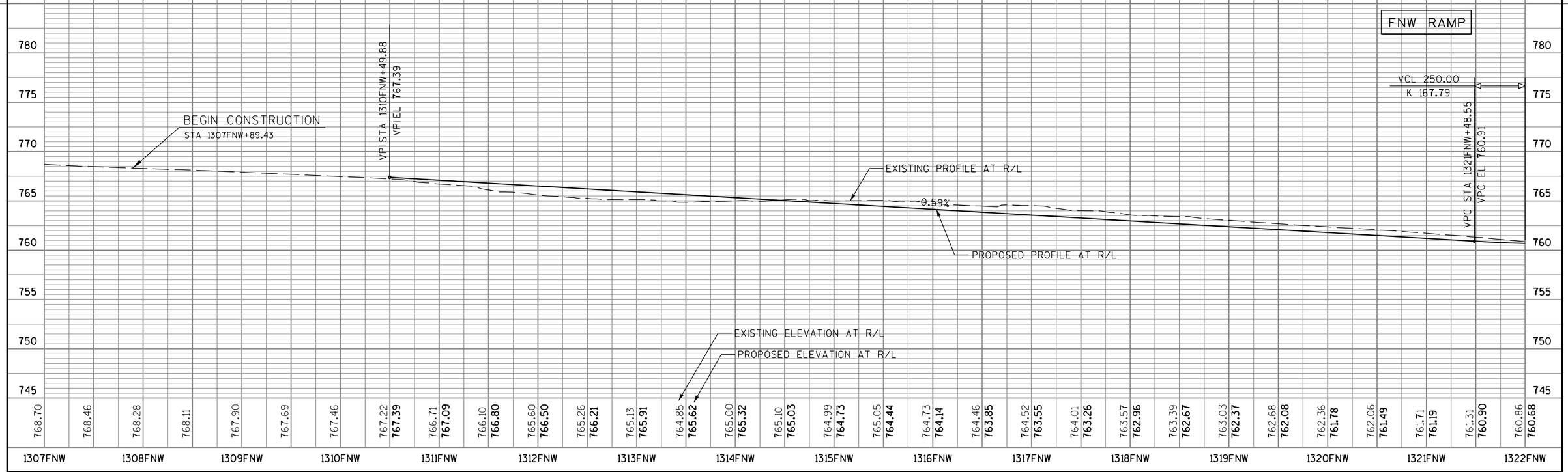




PROJECT NO: 1517-07-72	HWY: USH 10	COUNTY: WINNEBAGO	PLAN & PROFILE: FNE RAMP	SHEET 220	E

FILE NAME : S:\DOT\DOT_NE\120012-Tri County Freeway\1517-07-72\DGN_Files\Plansheets\050156_pp.dgn PLOT DATE : 2/19/2014 PLOT BY : wally_w PLOT NAME : PLOT SCALE : 1:100
WISDOT/CADDS SHEET 45

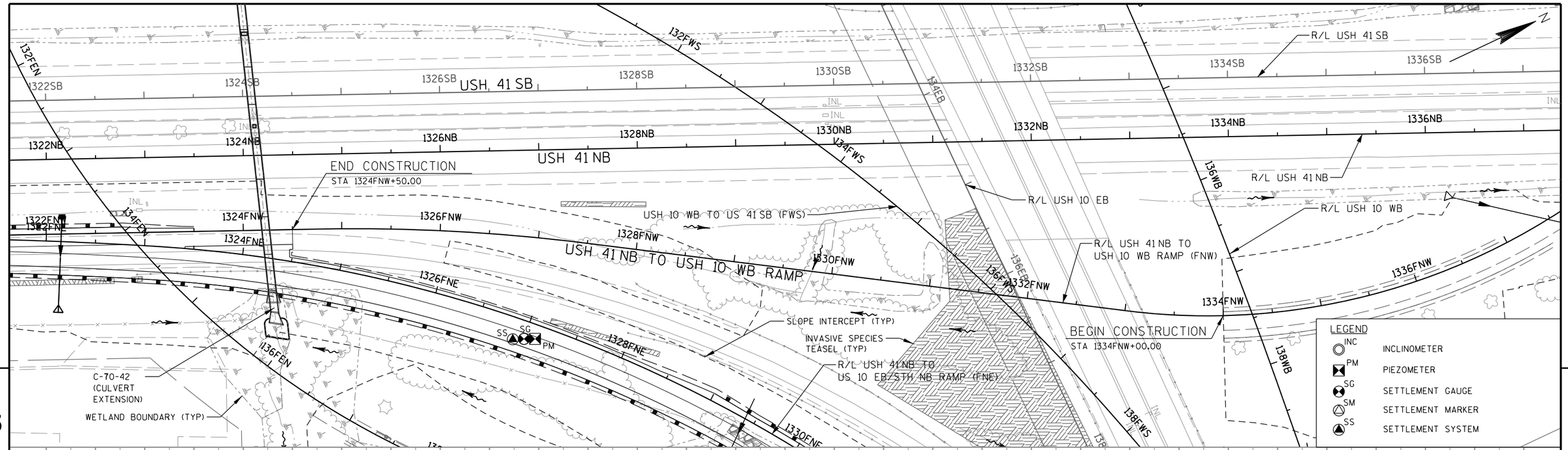


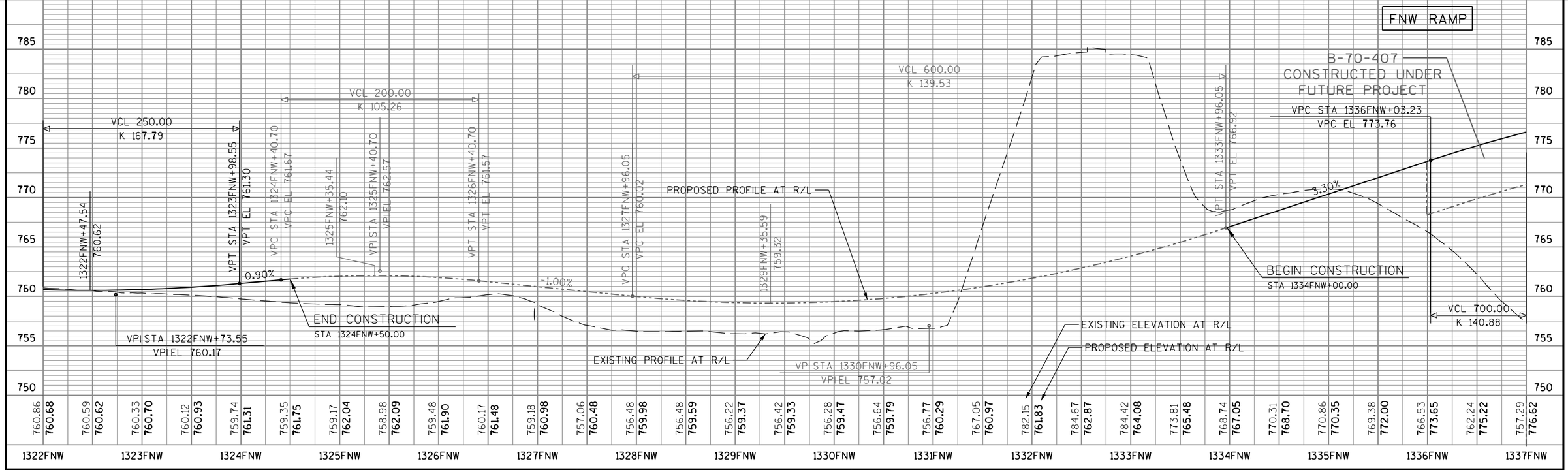


PROJECT NO: 1517-07-72	HWY: USH 10	COUNTY: WINNEBAGO	PLAN & PROFILE: FNW RAMP	SHEET 221	E

FILE NAME : S:\DOT\DOT_NE\120012-Tri County Freeway\1517-07-72\DGN_Files\Plansheets\050161_pp.dgn PLOT DATE : 2/19/2014 PLOT BY : wally_w PLOT NAME : PLOT SCALE : 1:100

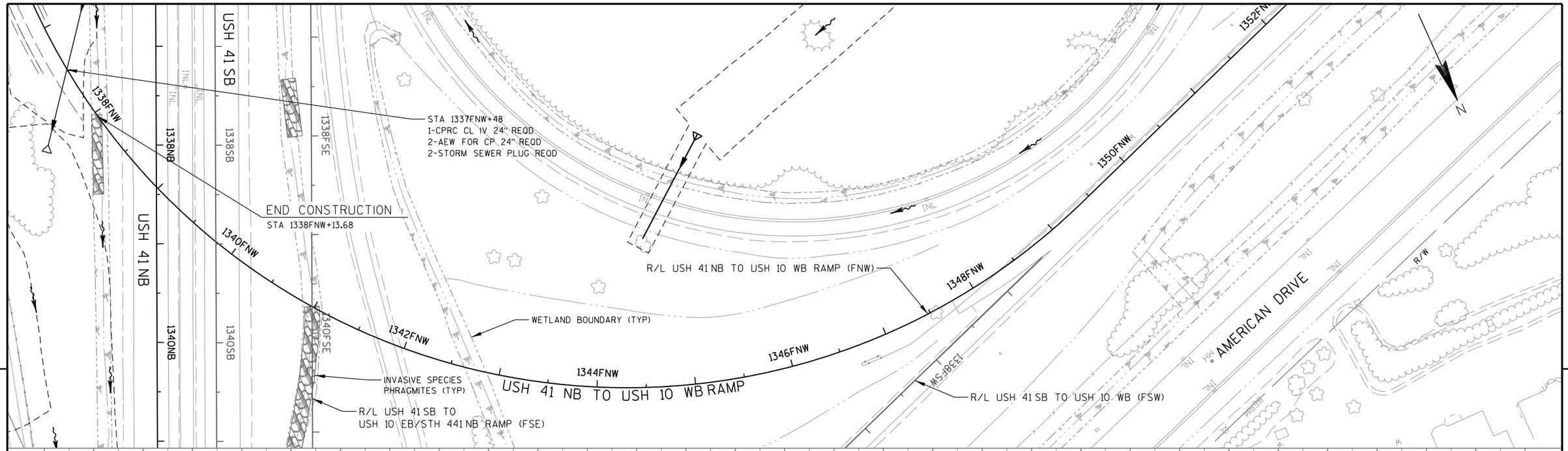
WISDOT/CADDS SHEET 45

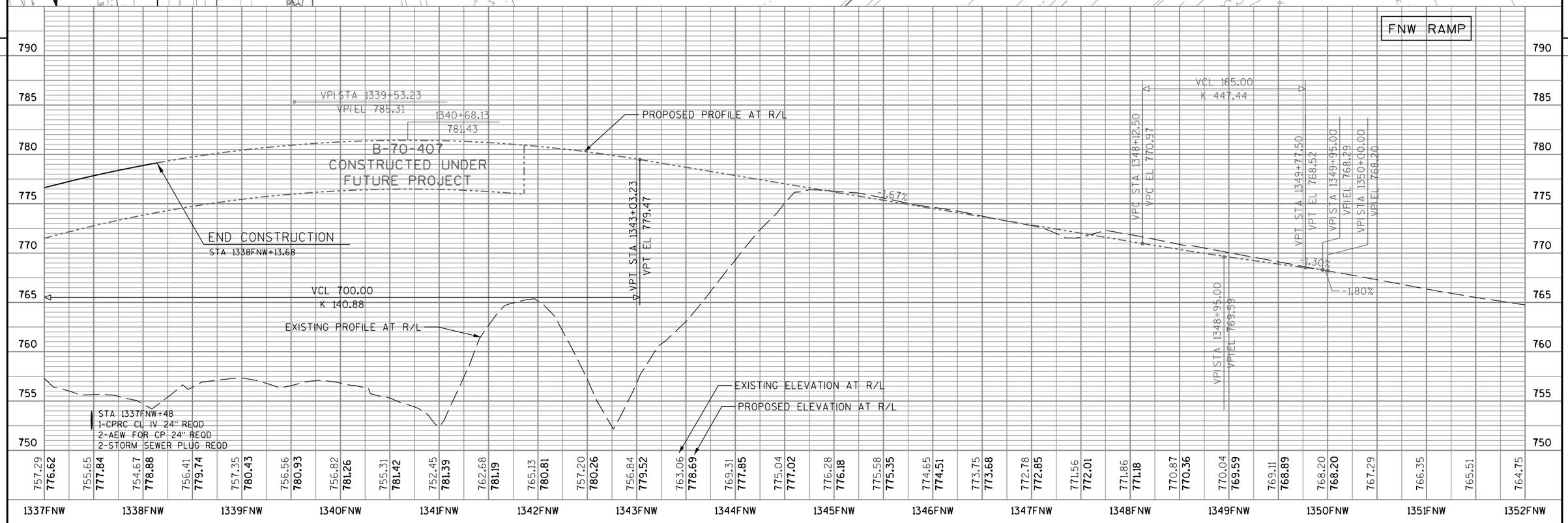




1322FNW	1323FNW	1324FNW	1325FNW	1326FNW	1327FNW	1328FNW	1329FNW	1330FNW	1331FNW	1332FNW	1333FNW	1334FNW	1335FNW	1336FNW	1337FNW
760.86 **760.68**	760.59 **760.62**	760.33 **760.70**	760.12 **760.93**	759.74 **761.31**	759.35 **761.75**	759.17 **762.04**	758.98 **762.09**	759.48 **761.90**	760.17 **761.48**	759.18 **760.98**	757.06 **760.48**	756.48 **759.98**	756.48 **759.59**	756.22 **759.37**	756.42 **759.33**	756.28 **759.47**	756.64 **759.79**	756.77 **760.29**	767.05 **760.97**	782.15 **761.83**	784.67 **762.87**	784.42 **764.08**	773.81 **765.48**	768.74 **767.05**	770.31 **768.70**	770.86 **770.35**	769.38 **772.00**	766.53 **773.65**	762.24 **775.22**	757.29 **776.62**

PROJECT NO: 1517-07-72	HWY: USH 10	COUNTY: WINNEBAGO	PLAN & PROFILE: FNW RAMP	SHEET 222 E

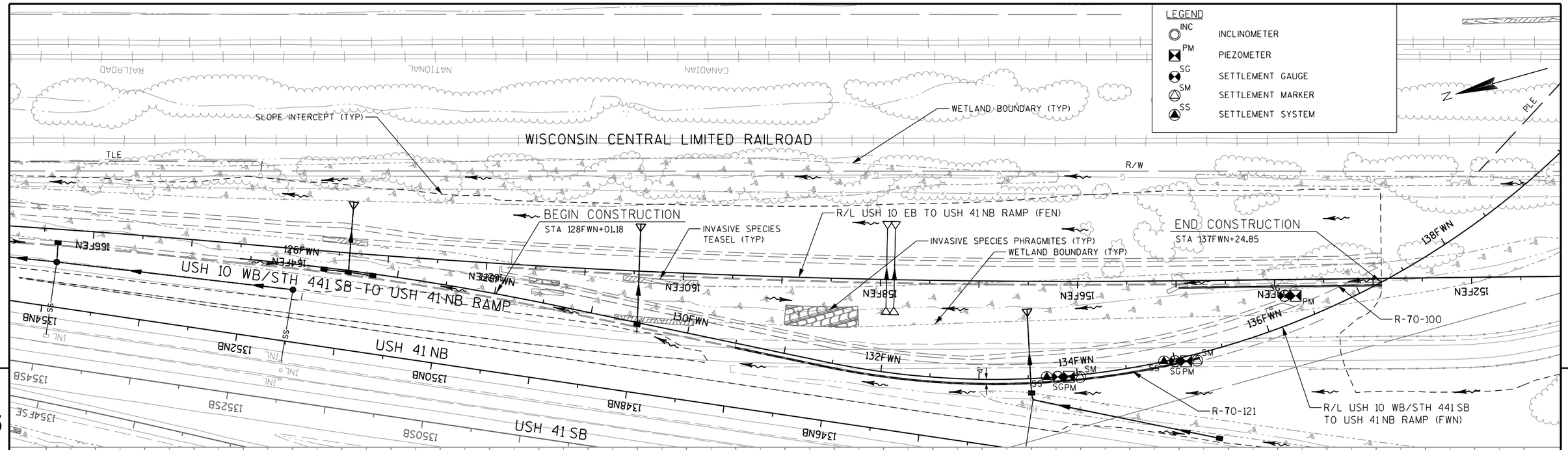




PROJECT NO: 1517-07-72	HWY: USH 10	COUNTY: WINNEBAGO	PLAN & PROFILE: FNW RAMP	SHEET 223 E

FILE NAME : S:\DOT\DOT_NE\120012-Tri County Freeway\1517-07-72\DGN_Files\Plansheets\050163_pp.dgn PLOT DATE : 2/19/2014 PLOT BY : wally_w PLOT NAME : PLOT SCALE : 1:100

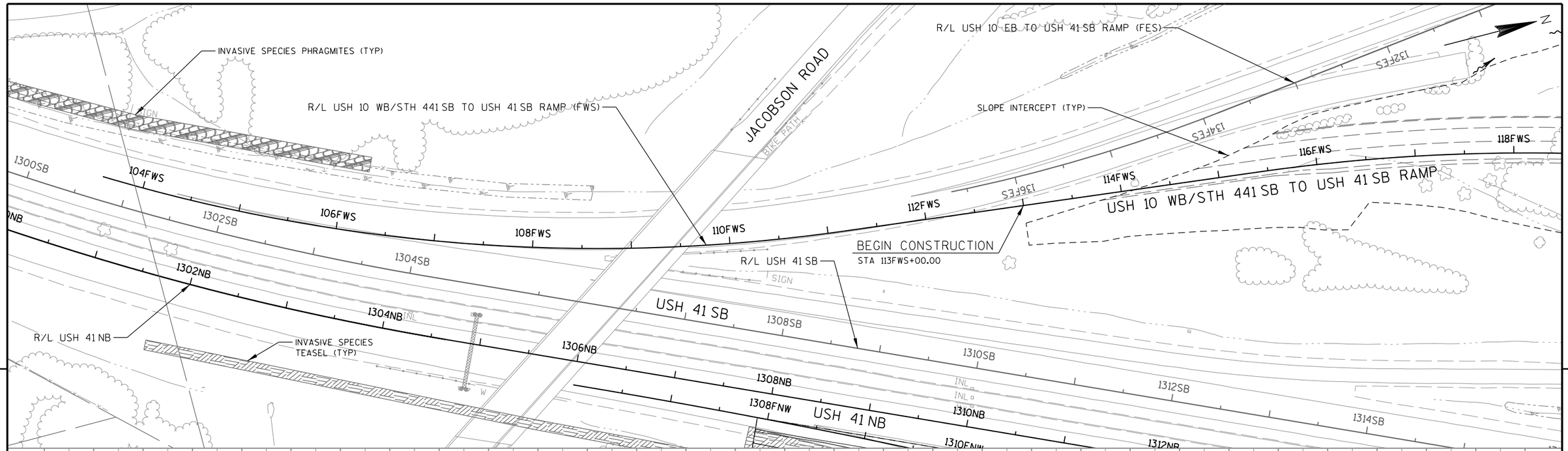
WISDOT/CADDS SHEET 45

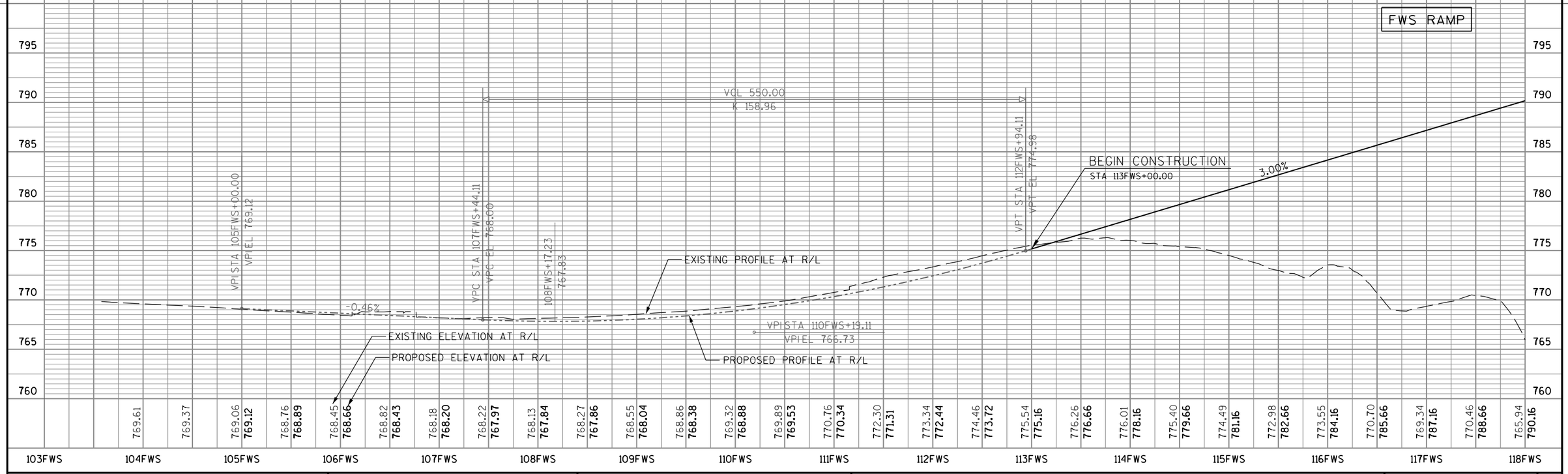


PROJECT NO: 1517-07-72	HWY: USH 10	COUNTY: WINNEBAGO	PLAN & PROFILE: FWN RAMP	SHEET 224 E

FILE NAME : S:\DOT\DOT_NE\120012-Tri County Freeway\1517-07-72\DGN_Files\Plansheets\050181_pp.dgn PLOT DATE : 2/19/2014 PLOT BY : wally_w PLOT NAME : PLOT SCALE : 1:100

WISDOT/CADDS SHEET 45





PROJECT NO: 1517-07-72	HWY: USH 10	COUNTY: WINNEBAGO	PLAN & PROFILE: FWS RAMP	SHEET 225 E

R/L USH 10 EB TO
USH 41 NB RAMP (FEN)

R/L USH 41 SB TO
USH 10 EB/STH 441 NB RAMP (FSE)

R/L USH 10 WB/STH 441 SB TO
USH 41 SB RAMP (FWS)

INVASIVE SPECIES
TEASEL (TYP)

WETLAND
BOUNDARY
(TYP)

WETLAND BOUNDARY (TYP)

C-70-42

USH 10 WB/STH 441 WB TO USH 41 SB RAMP

USH 41 SB

USH 41 NB

END CONSTRUCTION
STA 119FWS+44.57

SLOPE INTERCEPT (TYP)

PROPOSED PROFILE AT R/L

END CONSTRUCTION
STA 119FWS+44.57

3.00%

VPC STA 120FWS+08.89
VPC EL 796.43

VCL 1800.00
K 444.44

VPI STA 129FWS+08.89
VPI EL 823.43

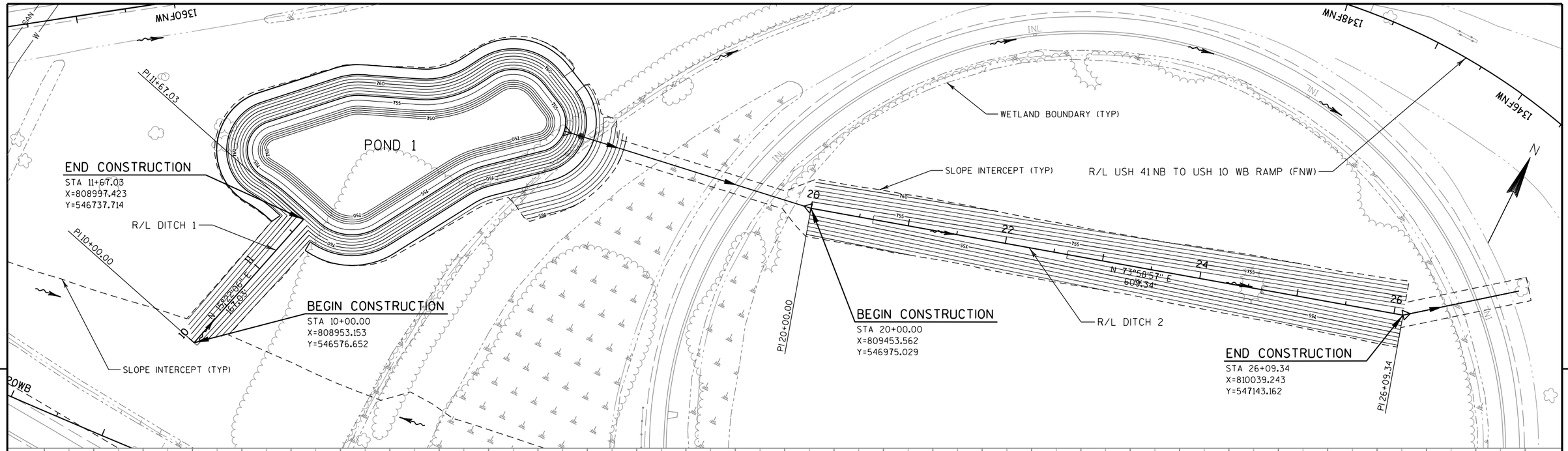
FWS RAMP
B-70-405
CONSTRUCTED UNDER
FUTURE PROJECT

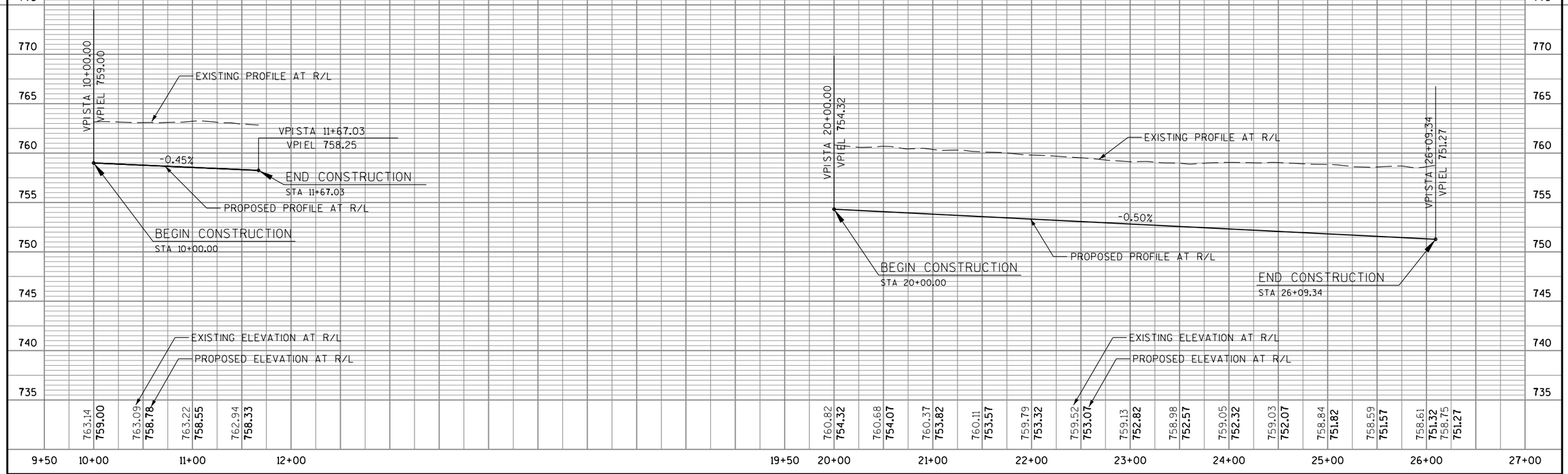
EXISTING ELEVATION AT R/L
PROPOSED ELEVATION AT R/L

765.94	764.20	762.87	761.73	760.59	759.46	759.26	759.47	759.05	758.83	758.36	758.01	761.67	756.33	756.51	755.42	751.57	753.09	750.26	753.55	754.86	755.72	755.62	757.59	759.87	760.34	759.51	758.58	758.87	760.04	759.62
790.16	**791.66**	**793.16**	**794.66**	**796.16**	**797.64**	**799.07**	**800.43**	**801.75**	**803.00**	**804.21**	**805.35**	**806.44**	**807.47**	**808.45**	**809.36**	**810.23**	**811.03**	**811.79**	**812.48**	**813.12**	**813.70**	**814.23**	**814.69**	**815.11**	**815.46**	**815.77**	**816.01**	**816.20**	**816.33**	**816.41**

118FWS 119FWS 120FWS 121FWS 122FWS 123FWS 124FWS 125FWS 126FWS 127FWS 128FWS 129FWS 130FWS 131FWS 132FWS 133FWS

PROJECT NO: 1517-07-72	HWY: USH 10	COUNTY: WINNEBAGO	PLAN & PROFILE: FWS RAMP	SHEET 226 E





PROJECT NO: 1517-07-72	HWY: USH 10	COUNTY: WINNEBAGO	PLAN & PROFILE: POND 1 DITCHES	SHEET 227	E

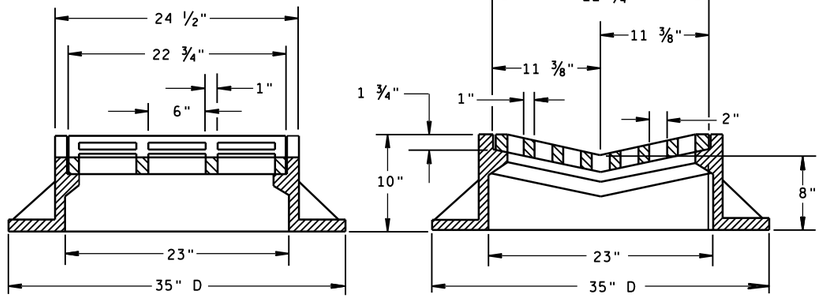
Standard Detail Drawing List

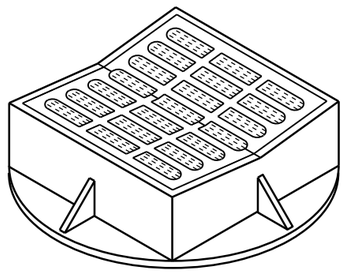
08A05-19B	INLET COVERS TYPE B, B-A, C, MS, MS-A, & WM
08A05-19C	INLET COVERS TYPE F, HM, HM-S, S, T, V, HM-GJ, & HM-GJ-S
08A05-19D	INLET COVER TYPE BW, MANHOLE COVERS, TYPE K, J, J-S, L & M
08B09-01	MANHOLES 3-FT, 4-FT, 5-FT, 6-FT, 7-FT AND 8-FT DIAMETER
08C06-01	INLETS 3-FT AND 4-FT DIAMETER
08C07-01	INLETS 2X2-FT, 2X2.5-FT, 2X3-FT AND 2.5X3-FT
08C08-01	INLETS MEDIAN 1 AND 2 GRATE
08D03-06	CONCRETE SURFACE DRAINS DROP INLET TYPE AT STRUCTURES
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
08F02-01	APRON ENDWALLS FOR PIPE ARCH AND ELLIPTICAL PIPE
08F04-07	JOINT TIES FOR CONCRETE PIPE AND CONCRETE COLLAR DETAIL
08F06-04	REINFORCED CONCRETE APRON ENDWALL FOR PIPE UNDERDRAIN
09B02-07	CONDUIT
09B04-10	PULL BOX
09C08-04	CONCRETE BASE, TYPE 7
13A03-05	CONCRETE PAVEMENT SHOULDERS
13B02-06	CONCRETE PAVEMENT APPROACH SLAB
13C01-16	CONCRETE PAVEMENT LONGITUDINAL JOINTS AND TIES
13C11-11A	RURAL DOWELED CONCRETE PAVEMENT
13C11-11B	RURAL DOWELED CONCRETE PAVEMENT
13C15-05A	CONCRETE BASE
13C15-05B	CONCRETE BASE
13C17-01A	CONCRETE JOINT DETAIL FOR EXIT RAMP TERMINI
13C17-01B	CONCRETE JOINT DETAIL FOR ENTRANCE RAMP TERMINI
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
14B07-13A	CONCRETE BARRIER TEMPORARY PRECAST, 12'-6"
14B07-13B	CONCRETE BARRIER TEMPORARY PRECAST, 12'-6"
14B07-13C	CONCRETE BARRIER TEMPORARY PRECAST, 12'-6"
14B07-13D	CONCRETE BARRIER TEMPORARY PRECAST, 12'-6"
14B07-13E	CONCRETE BARRIER TEMPORARY PRECAST, 12'-6"
14B07-13F	CONCRETE BARRIER TEMPORARY PRECAST, 12'-6"
14B07-13G	CONCRETE BARRIER TEMPORARY PRECAST, 12'-6"
14B07-13H	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
14B32-02A	CONCRETE BARRIER SINGLE SLOPE (CBSS)
14B32-02B	CONCRETE BARRIER SINGLE SLOPE (CBSS)
14B32-02C	CONCRETE BARRIER SINGLE SLOPE (CBSS)
14B32-02D	CONCRETE BARRIER SINGLE SLOPE (CBSS)
14B32-02E	CONCRETE BARRIER SINGLE SLOPE (CBSS)
14B39-01A	32-INCH SSCB TO 36-INCH SSCB HEIGHT TRANSITION
14B39-01C	36-INCH SSCB TO 42-INCH SSCB HEIGHT TRANSITION
14B42-02A	MIDWEST GUARDRAIL SYSTEM (MGS) GUARDRAIL
14B42-02B	MIDWEST GUARDRAIL SYSTEM (MGS) GUARDRAIL
14B42-02C	MIDWEST GUARDRAIL SYSTEM (MGS) GUARDRAIL
14B44-01A	MIDWEST GUARDRAIL SYSTEM ENERGY ABSORBING TERMINAL (MGS)
14B44-01B	MIDWEST GUARDRAIL SYSTEM ENERGY ABSORBING TERMINAL (MGS)
14B44-01C	MIDWEST GUARDRAIL SYSTEM ENERGY ABSORBING TERMINAL (MGS)
14B45-03A	MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)
14B45-03B	MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)
14B45-03C	MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)
14B45-03D	MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)
14B45-03E	MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)
14B45-03F	MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)
14B45-03G	MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)
14B45-03H	MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)
14B45-03I	MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)
14B45-03J	MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)

6

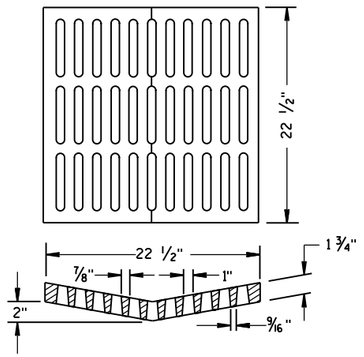
Standard Detail Drawing List

14B47-01A	MIDWEST GUARDRAIL SYSTEM (MGS) TYPE 2 TERMINAL
14B47-01B	MIDWEST GUARDRAIL SYSTEM (MGS) TYPE 2 TERMINAL
14B47-01C	MIDWEST GUARDRAIL SYSTEM (MGS) TYPE 2 TERMINAL
15A03-02A	FLEXIBLE MARKER POST FOR CULVERT END
15A03-02B	FLEXIBLE MARKER POST FOR CULVERT END
15C08-16A	PAVEMENT MARKING (MAINLINE)
15C08-16B	PAVEMENT MARKING (INTERSECTIONS)
15D12-03	TRAFFIC CONTROL, LANE CLOSURE, SPEEDS GREATER THAN 40 M.P.H.
15D14-02	TRAFFIC CONTROL, TWO LANE CLOSURE ON FREEWAY OR EXPRESSWAY, SHORT-TERM (LESS THAN 24 HOURS)
15D15-01	TRAFFIC CONTROL, EXIT AND ENTRANCE RAMP WITHIN LANE CLOSURE
15D16-02	TRAFFIC CONTROL, EXIT RAMP CLOSURE
15D27-02	TRAFFIC CONTROL, SHOULDER CLOSURE ON DIVIDED ROADWAY, SPEEDS GREATER THAN 40 MPH
15D29-03	TRAFFIC CONTROL, VEHICLE ENTRANCE/EXIT OR HAUL ROAD



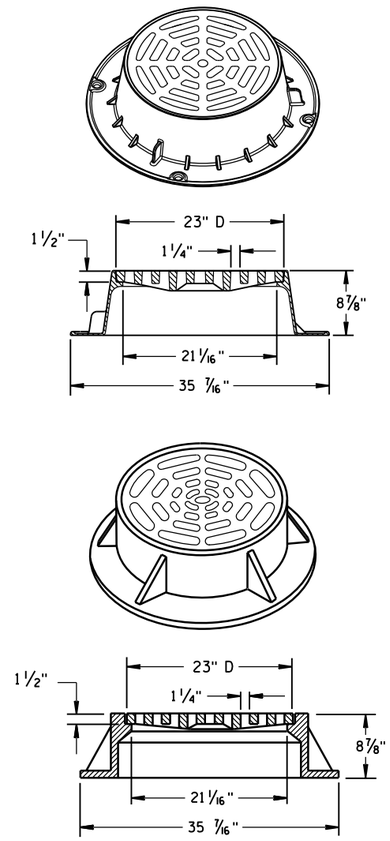


TYPE "B"



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"

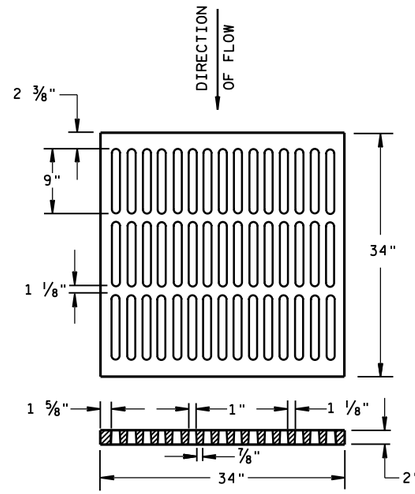
NOTE: EITHER CASTING IS ACCEPTABLE

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.

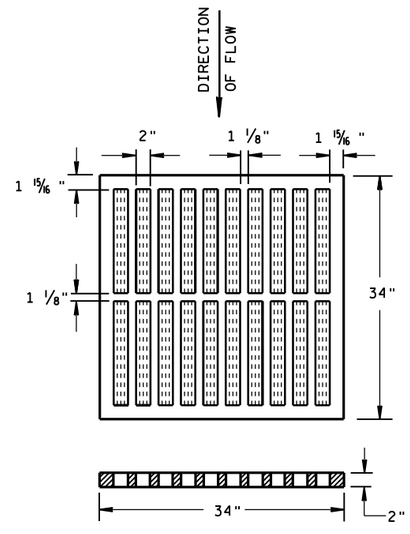
DETAIL DRAWINGS FOR PROPOSED ALTERNATE DESIGNS FOR CATCH BASIN, MANHOLE AND INLET COVERS SHALL BE SUBMITTED TO THE ENGINEER FOR APPROVAL PROVIDING THAT SUCH ALTERNATE DESIGNS MAKE PROVISION FOR EQUIVALENT CAPACITY AND STRENGTH.

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



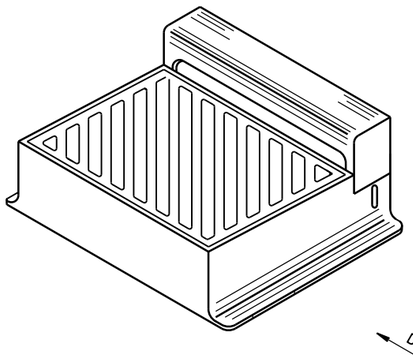
ALTERNATIVE TYPE "MS"

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

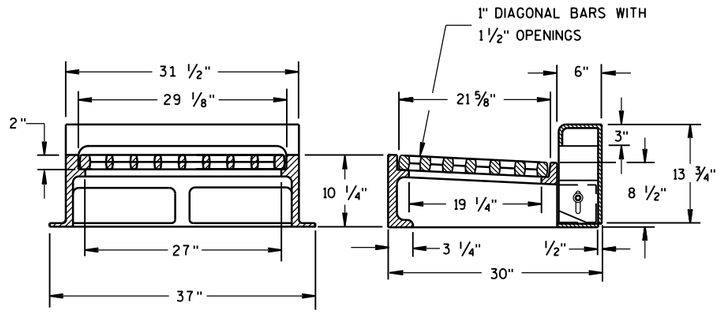


TYPE "MS"

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"

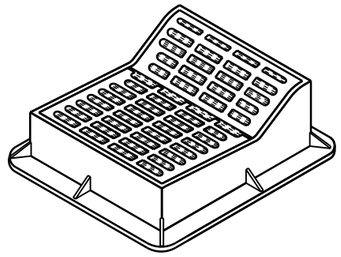
INLET COVERS
TYPE B, B-A, C,
MS, MS-A, & WM

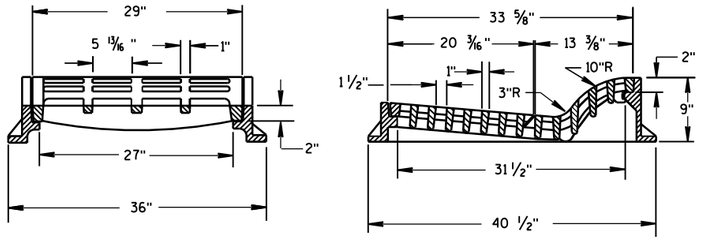
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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

6

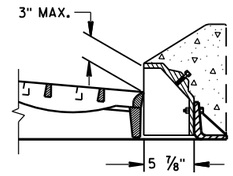
S.D.D. 8 A 5-19b





TYPE "F"

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



ALTERNATIVE CURB BOX FOR TYPE "HM" COVER

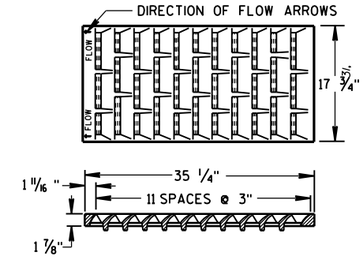
USE WITH TYPES G & J CONCRETE CURB & GUTTER, 30 INCH
NOTED AS TYPE HM-GJ ON DRAINAGE TABLE

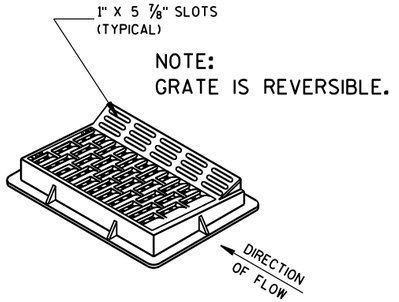
NOTE:
SPECIAL GRATE FOR THE
TYPE "H" COVER MAY ALSO BE
USED FOR THE TYPE "HM-GJ" COVER
NOTED AS TYPE HM-GJ-S ON DRAINAGE TABLE

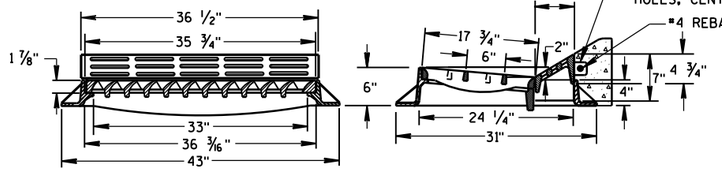
GENERAL NOTES

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

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



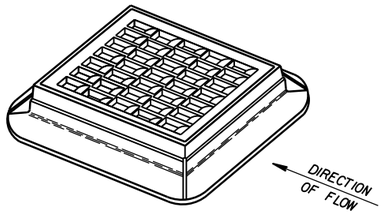


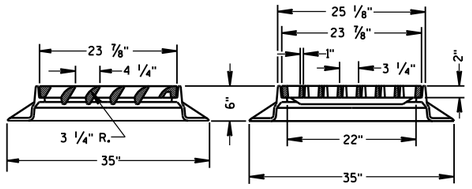


TYPE "HM"

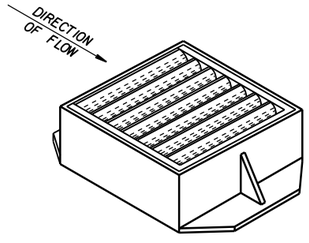
USE WITH TYPES A & D CONCRETE CURB & GUTTER, 36 INCH.

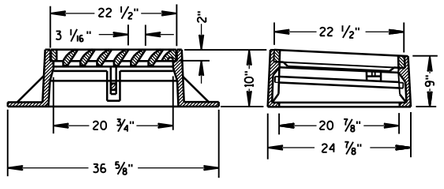
NOTE:
SPECIAL GRATE FOR THE
TYPE "H" COVER MAY ALSO BE
USED FOR THE TYPE "HM" COVER
NOTED AS TYPE HM-S ON DRAINAGE TABLE



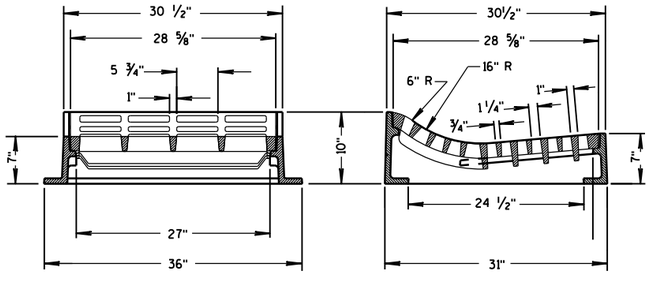


TYPE "S"



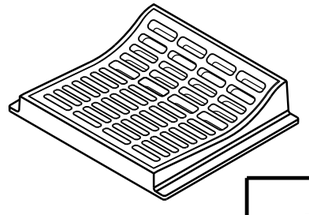


TYPE "V"



TYPE "T"

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



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

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
11/27/2013
DATE

/S/ Jerry H. Zogg
ROADWAY STANDARDS ENGINEER

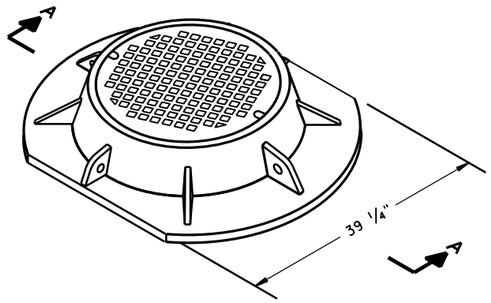
FHWA

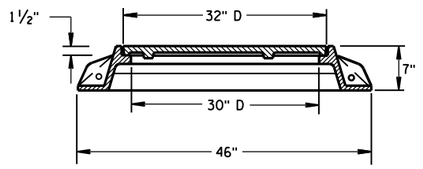
6

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

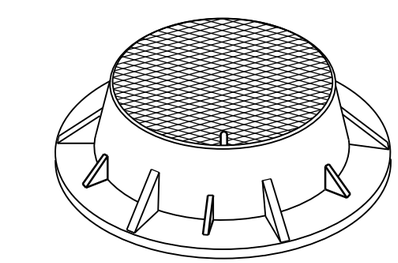
6

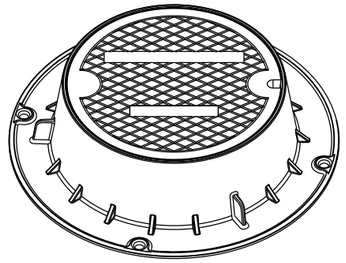
S.D.D. 8 A 5-19c

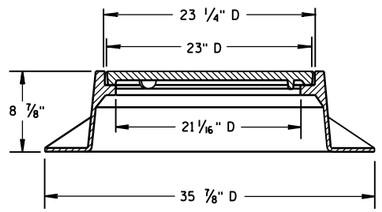


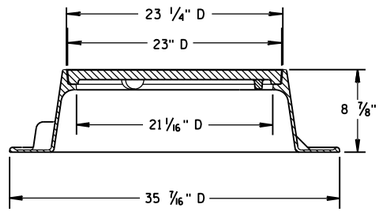


SECTION A-A
TYPE "K"









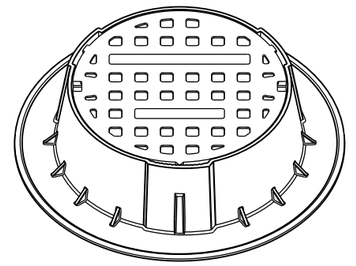
TYPE "J"
NOTE: EITHER CASTING IS ACCEPTABLE

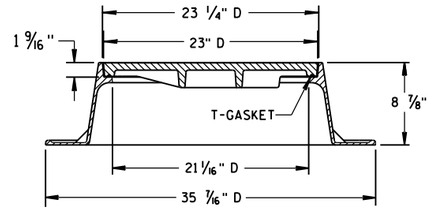
GENERAL NOTES

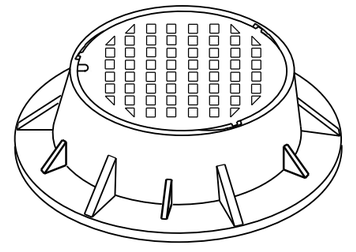
DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND THE APPLICABLE SPECIAL PROVISIONS.

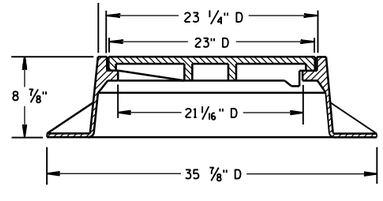
DETAIL DRAWINGS FOR PROPOSED ALTERNATE DESIGNS FOR MANHOLE COVERS SHALL BE SUBMITTED TO THE ENGINEER FOR APPROVAL PROVIDING THAT SUCH ALTERNATE DESIGNS MAKE PROVISION FOR EQUIVALENT CAPACITY AND STRENGTH.

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

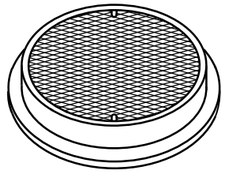


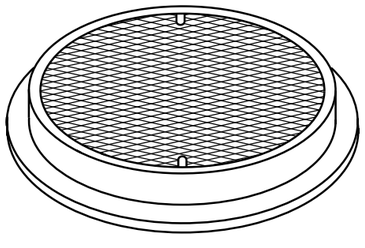


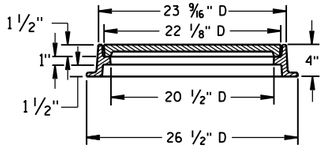




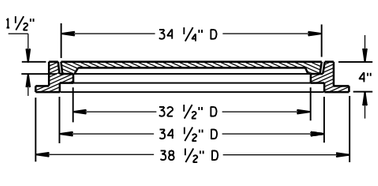
TYPE "J" SPECIAL
TYPE "B" NON-ROCKING SELF-SEAL LID
(NOTED AS TYPE J-S ON THE DRAINAGE TABLE)
NOTE: EITHER CASTING IS ACCEPTABLE



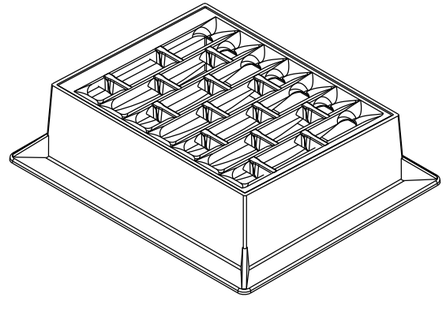


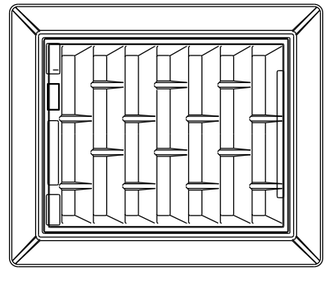


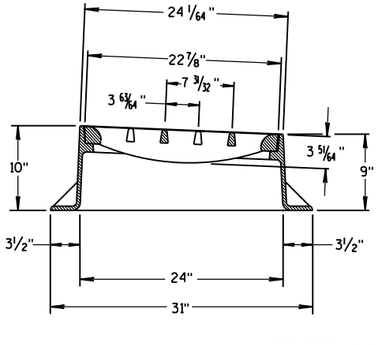
TYPE "L"

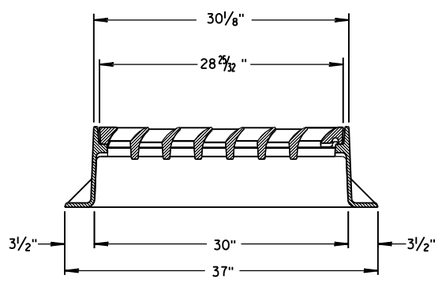


TYPE "M"









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

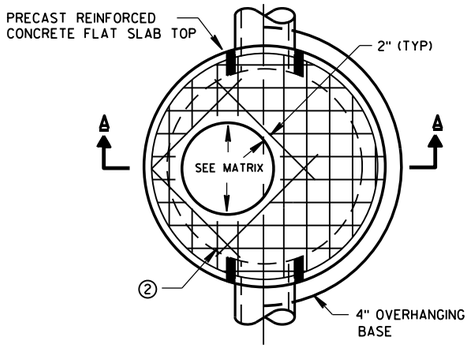
/S/ Jerry H. Zogg
ROADWAY STANDARDS DEVELOPMENT ENGINEER

6

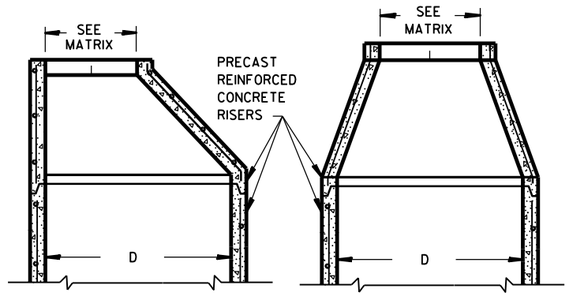
S.D.D. 8 A 5-19d

6

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

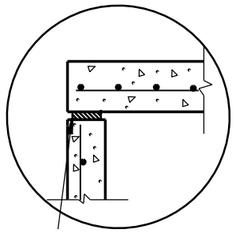


PLAN VIEW CIRCULAR OPENING

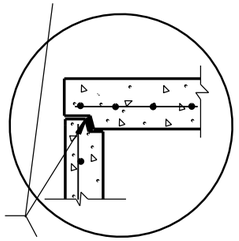


OPTIONAL PRECAST REINFORCED CONCRETE ECCENTRIC TOP

OPTIONAL PRECAST REINFORCED CONCRETE CONCENTRIC TOP

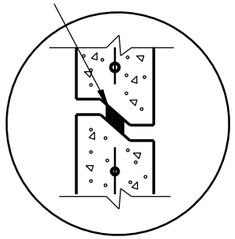


TOP WITH PLAIN END JOINT



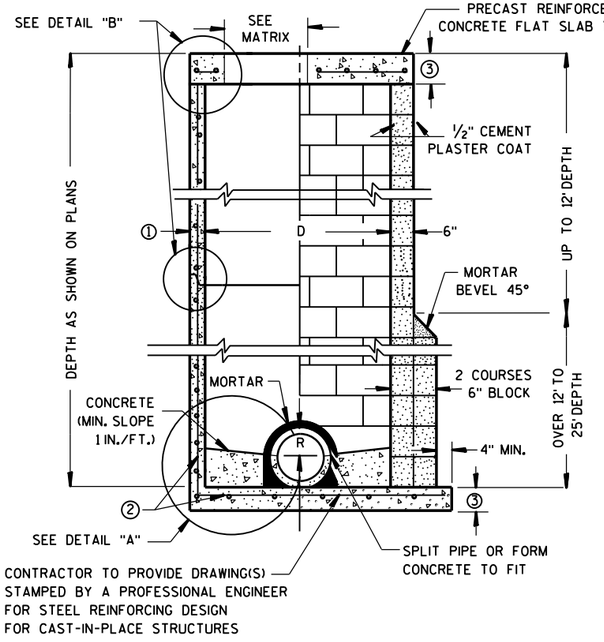
JOINTS TO BE SEALED WITH A BUTYL RUBBER SEAL PER SEALANT MANUFACTURERS RECOMMENDATIONS CONFORMING TO ASTM C990 (TYP)

TOP WITH TONGUE AND GROOVE JOINT



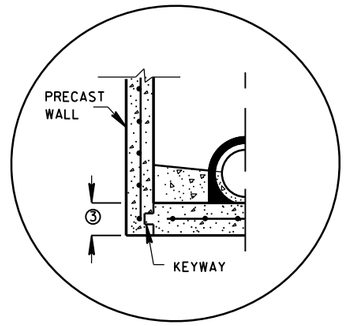
RISER WITH TONGUE AND GROOVE JOINT

DETAIL "B"

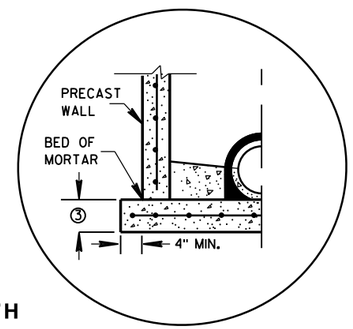


PRECAST REINFORCED CONCRETE WITH MONOLITHIC BASE

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

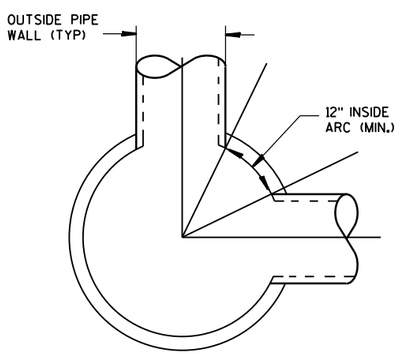


PRECAST REINFORCED CONCRETE WITH INTEGRAL BASE OPTION



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

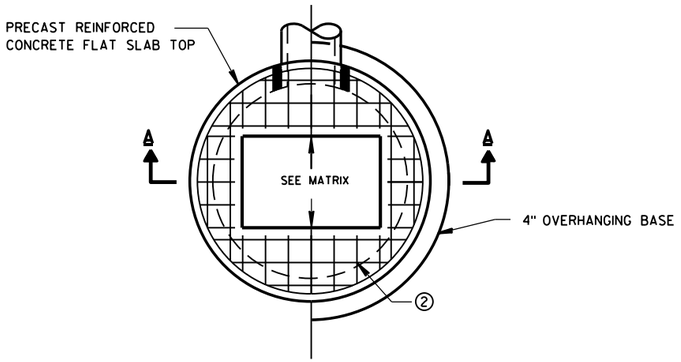
MANHOLE SIZE	MAXIMUM INSIDE PIPE DIAMETER FOR TWO PIPES	
	180° SEPARATION (IN)	90° SEPARATION (IN)
3-FT	15	12
4-FT	24	18
5-FT	36	24
6-FT	42	36
7-FT	48	36
8-FT	60	42

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

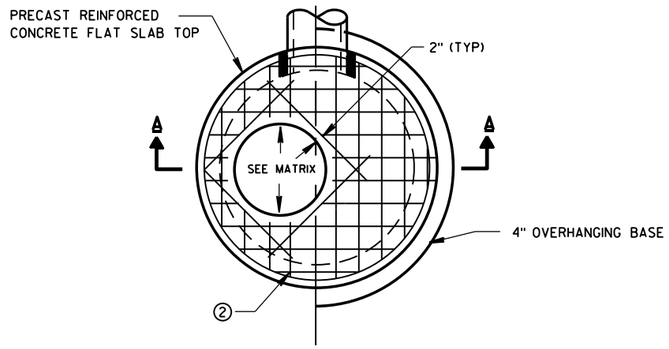
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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

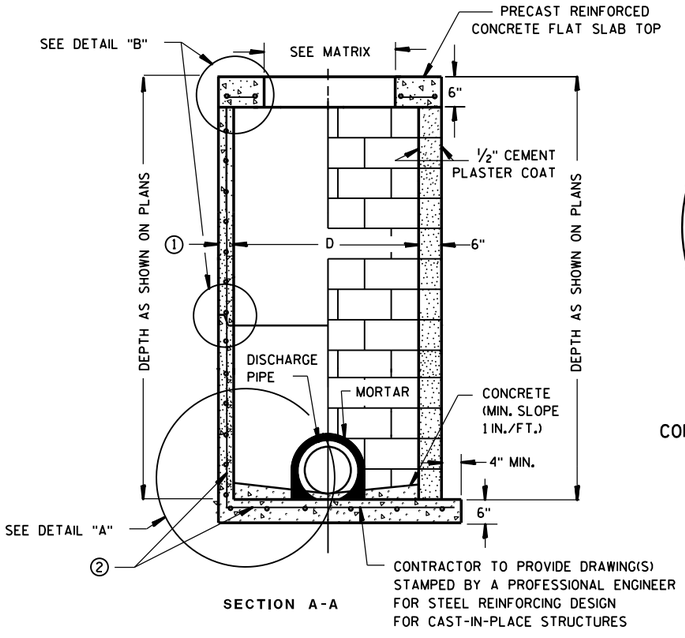
6
S.D.D. 8 B 9-1



PLAN VIEW RECTANGULAR OPENING



PLAN VIEW CIRCULAR OPENING

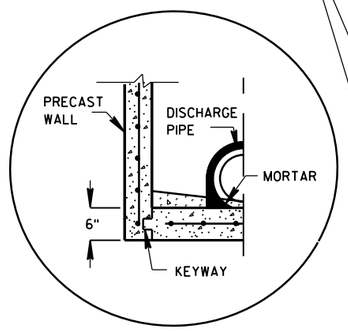


SECTION A-A

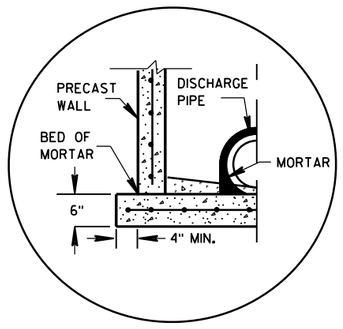
PRECAST REINFORCED CONCRETE WITH MONOLITHIC BASE

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

CIRCULAR INLETS W/ FLAT TOP

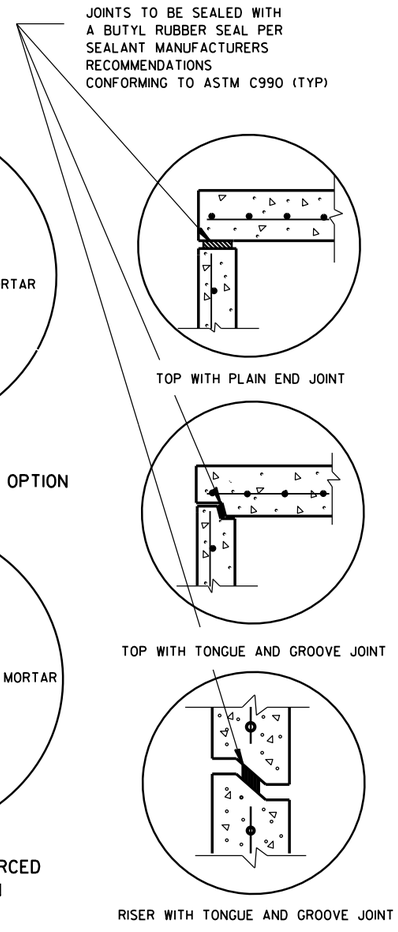


PRECAST REINFORCED CONCRETE WITH INTEGRAL BASE OPTION



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.

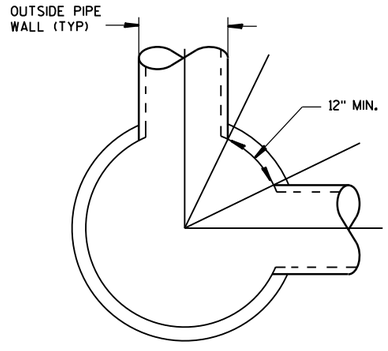
FOR ADDITIONAL CONFIGURATIONS, MAINTAIN A MINIMUM OF 12 INCHES AS MEASURED FROM THE INSIDE OF THE STRUCTURE WALL BETWEEN THE OUTSIDE PIPE WALLS OF ADJACENT PIPES. SEE DETAIL "C".

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

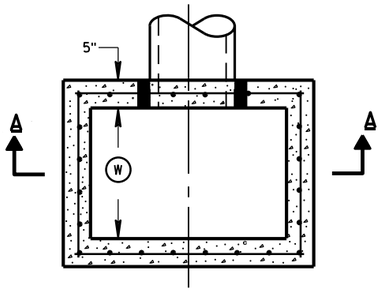
INLETS 3-FT AND 4-FT DIAMETER

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

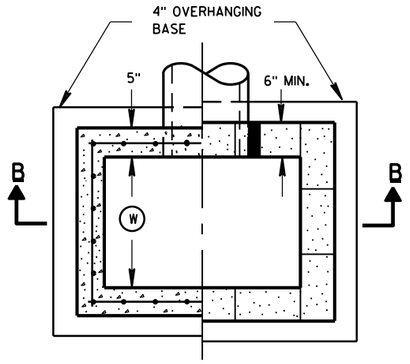
APPROVED
6/5/2012 — DATE
/S/ Jerry H. Zogg — ROADWAY STANDARDS DEVELOPMENT ENGINEER
FHWA

INLETS 3-FT AND 4-FT DIAMETER

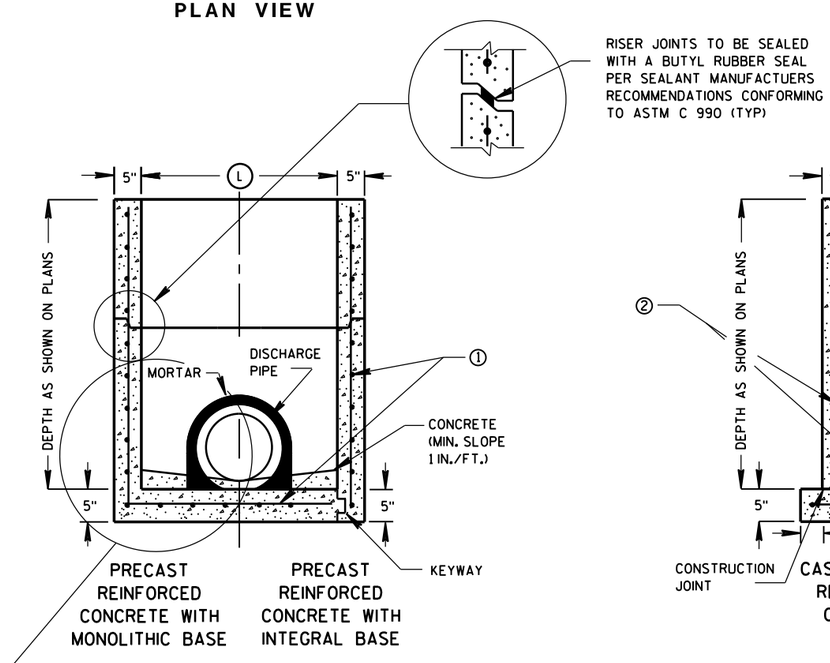
6
S.D.D. 8 C 6-1



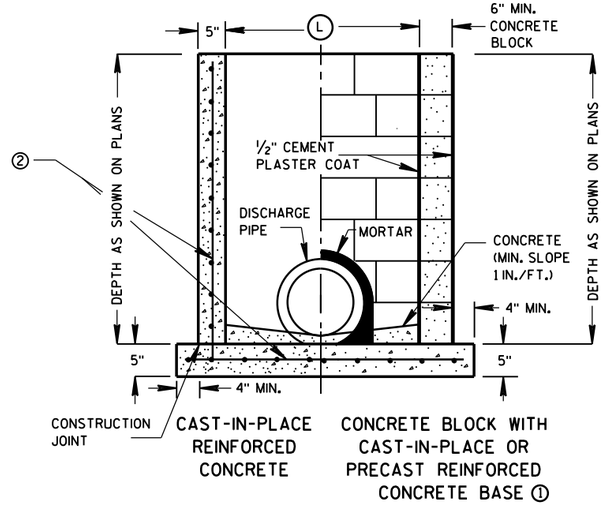
PLAN VIEW



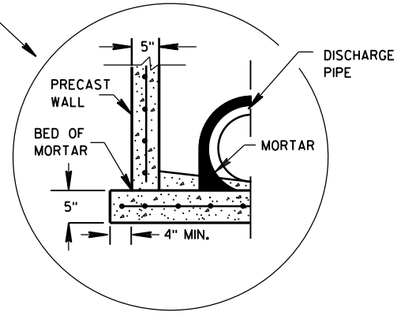
PLAN VIEW



SECTION A-A



SECTION B-B



SEPARATE PRECAST REINFORCED CONCRETE BASE OPTION

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

ALL DRAINAGE STRUCTURES ARE DESIGNATED ON THE PLANS AS "MANHOLES 3X3-L", "CATCH BASINS 4-B", "INLETS 2X3-H", ETC. THE FIRST NUMBERS DESIGNATES 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.

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

4" OVERHANGING BASES ARE REQUIRED FOR CAST-IN-PLACE REINFORCED CONCRETE AND CONCRETE BLOCK INSTALLATIONS.
4" OVERHANG IS REQUIRED WHEN SEPARATE PRECAST BASE IS PROVIDED.
OVERHANG IS NOT REQUIRED ON PRECAST STRUCTURES WITH AN INTEGRAL OR MONOLITHIC BASE.

MAXIMUM INSIDE PIPE DIAMETER DETERMINED BY 3 INCH 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.

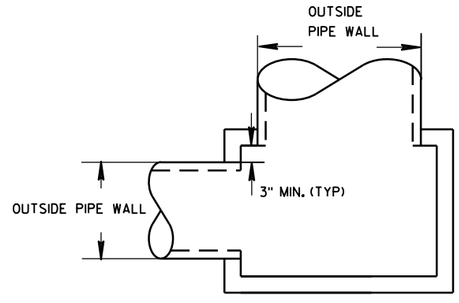
② CONTRACTOR TO PROVIDE DRAWING(S) STAMPED BY A PROFESSIONAL ENGINEER FOR STEEL REINFORCING DESIGN FOR CAST-IN-PLACE STRUCTURES.

INLET COVER MATRIX

INLET SIZE		INLET COVER TYPE	ALL A'S	ALL B'S	BW	F	ALL H'S	S	T	V	WM
	WIDTH (W) (FT)	LENGTH (L) (FT)									
2X2-FT	2	2	X	X				X		X	
2X2.5-FT	2	2.5			X			X	X	X	X
2X3-FT	2	3					X				
2.5X3-FT	2.5	3				X					

PIPE MATRIX

INLET SIZE	MAXIMUM INSIDE PIPE DIAMETER	
	WIDTH (IN)	LENGTH (IN)
2X2-FT	12	12
2X2.5-FT	12	18
2X3-FT	12	24
2.5X3-FT	18	24



DETAIL "A"

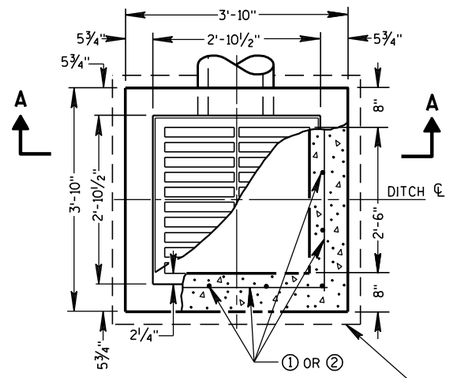
INLETS 2X2-FT, 2X2.5-FT, 2X3-FT AND 2.5X3-FT

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

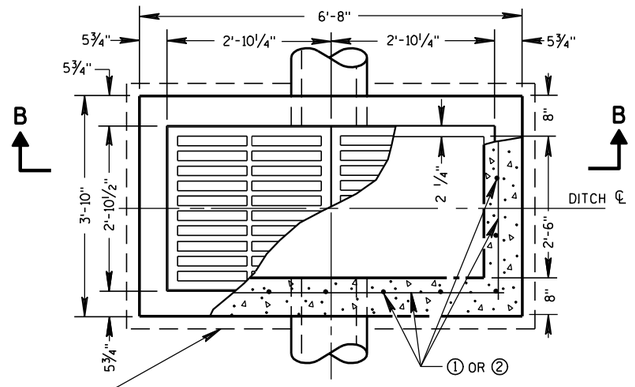
APPROVED
6/5/2012
DATE
FHWA

/S/ Jerry H. Zogg
ROADWAY STANDARDS DE
ENGINEER

6
S.D.D. 8 C 7-1

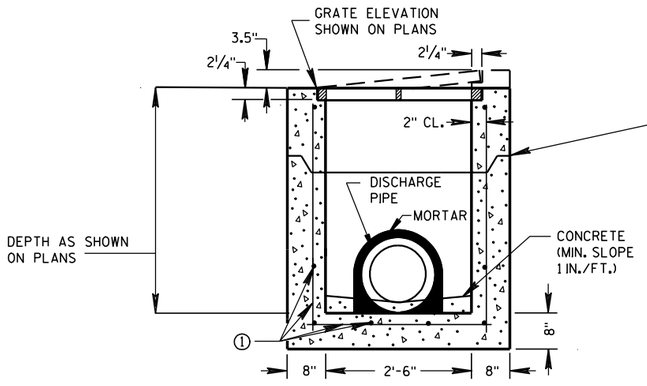


PLAN VIEW

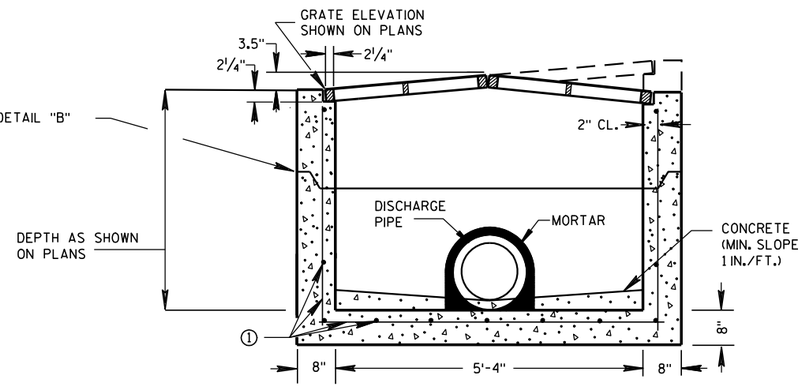


PLAN VIEW

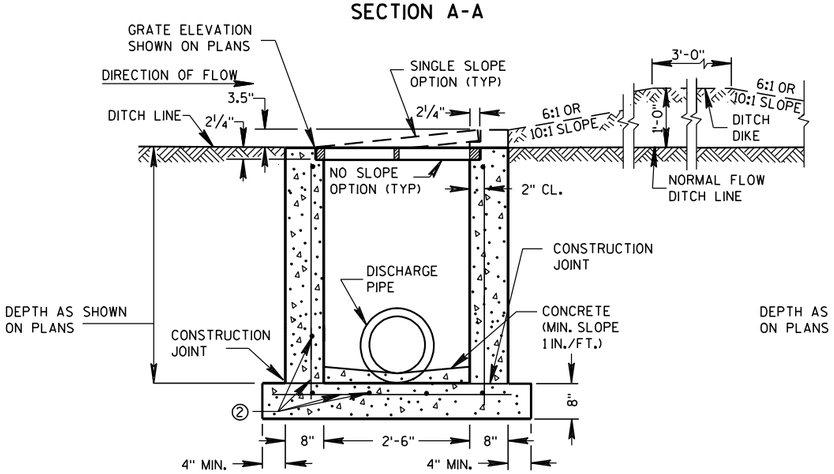
4" OVERHANGING BASE ON REINFORCED CAST-IN-PLACE CONCRETE INLETS



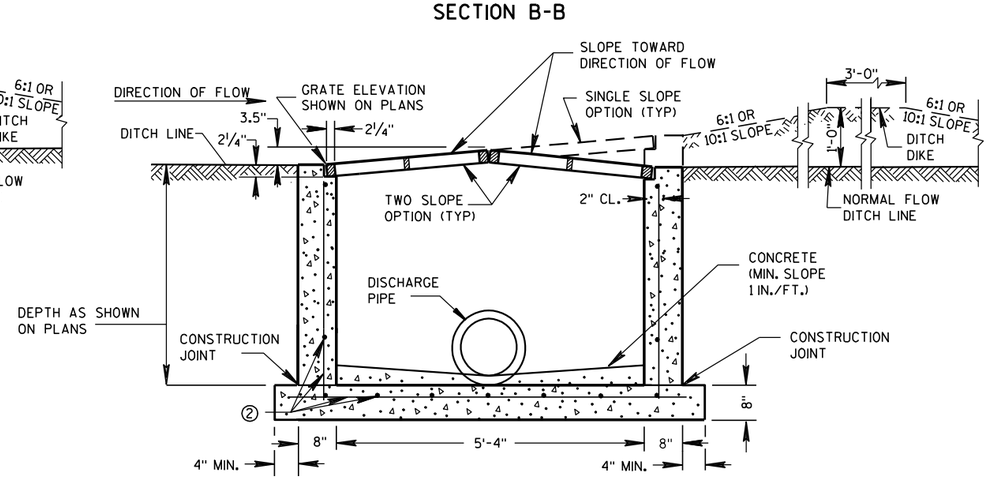
PRECAST REINFORCED CONCRETE SECTION A-A



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.

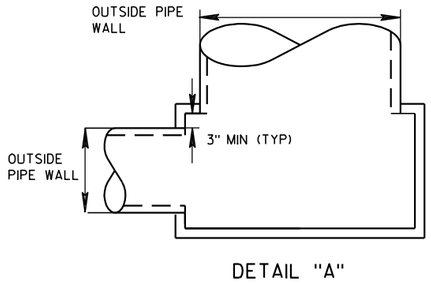
MAXIMUM INSIDE PIPE DIAMETER DETERMINED BY 3" CLEARANCE ON EACH SIDE OF THE OUTSIDE WALL OF THE PIPE. SEE DETAIL "A". ASSUMES PIPE ENTERS PERPENDICULAR TO THE STRUCTURE.

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.

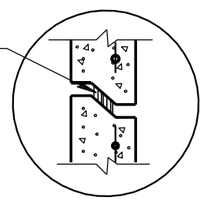
PIPE MATRIX

	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)



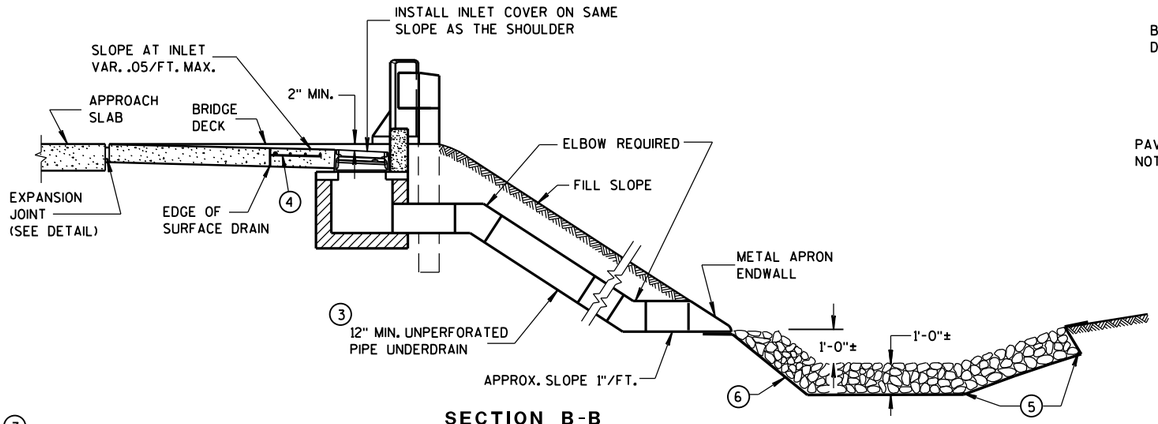
DETAIL "B"

INLETS MEDIAN 1 AND 2 GRATE

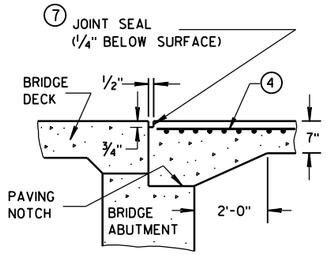
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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

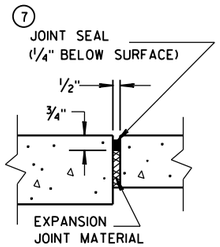
6
S.D.D. 8 C 8-1



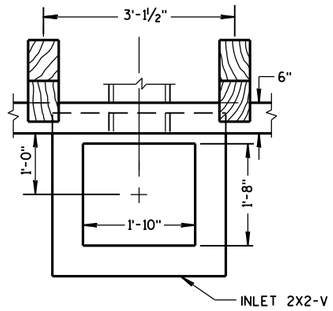
SECTION B-B



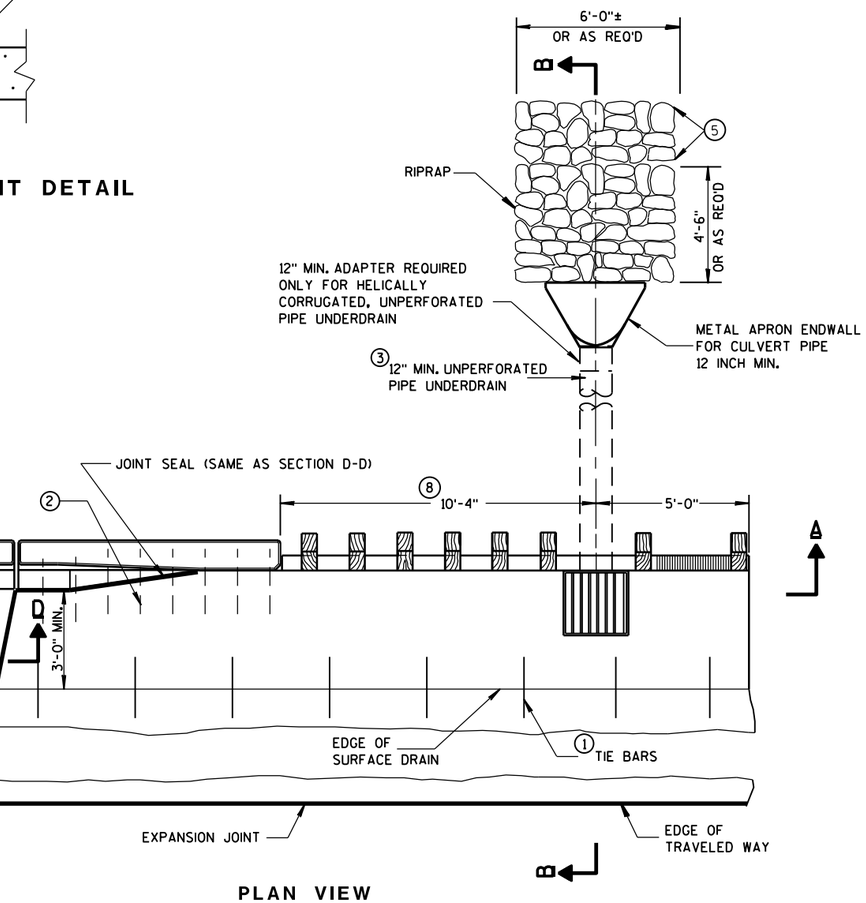
SECTION D-D



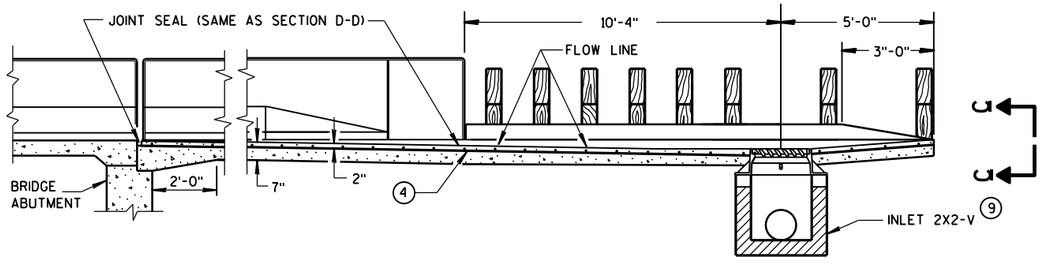
EXPANSION JOINT DETAIL



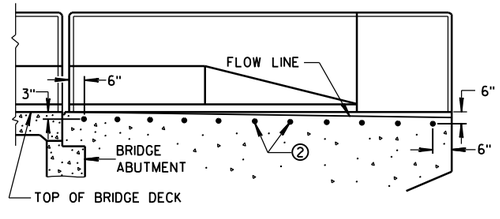
PLAN VIEW



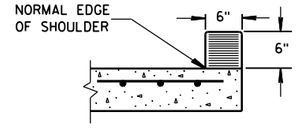
PLAN VIEW



SECTION A-A



LOCATION OF TIE BARS IN WINGWALL



SECTION C-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.

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

(1) NO. 4 X 2'-0" TIE BARS SPACED AT 3'-0" CENTERS TO BE USED ONLY WHEN ADJACENT TO P.C. CONCRETE.

(2) NO. 4 X 2'-0" TIE BARS SPACED AT 12" CENTERS TO BE PLACED BY BRIDGE CONTRACTOR, OR DRILLED TIE BARS PLACED AS DIRECTED BY THE ENGINEER.

(3) THE PIPE UNDERDRAIN MAY BE ANY ONE OF THE SIX MATERIALS LISTED IN THE STANDARD SPECIFICATIONS SECTION 612.2 EXCEPT DRAIN TILE.

(4) MINIMUM REINFORCEMENT SHALL BE 6" X 6" - W4.0 X W4.0 OR NO. 3 BARS LONGITUDINAL AND TRANSVERSE SPACING 12" C-C.

(5) LIMITS OF ADDITIONAL RIPRAP WHEN SPECIAL DITCH IS REQUIRED.

(6) GEOTEXTILE FABRIC, TYPE 'R'

(7) HOT POURED SEALANT UNLESS OTHERWISE SPECIFIED.

(8) THIS DIMENSION MAY VARY DEPENDING ON THE SPACING OF POSTS FOR THE STEEL PLATE BEAM GUARD. THE TYPICAL LOCATION FOR THE SURFACE DRAIN IS WHERE THE POST SPACING WIDENS TO 3'-1½".

(9) SEE CURRENT STANDARD DETAIL DRAWINGS 8A5 AND 8C7 FOR DETAILS.

CONCRETE SURFACE DRAINS DROP INLET TYPE AT STRUCTURES

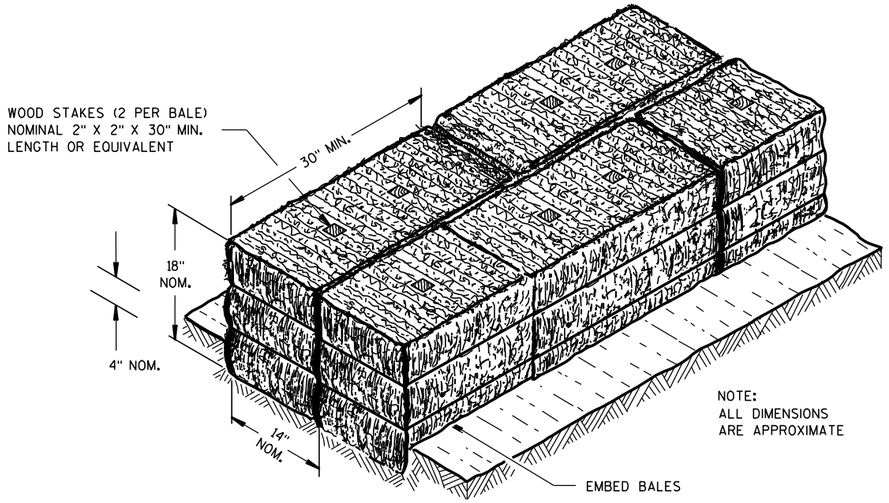
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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

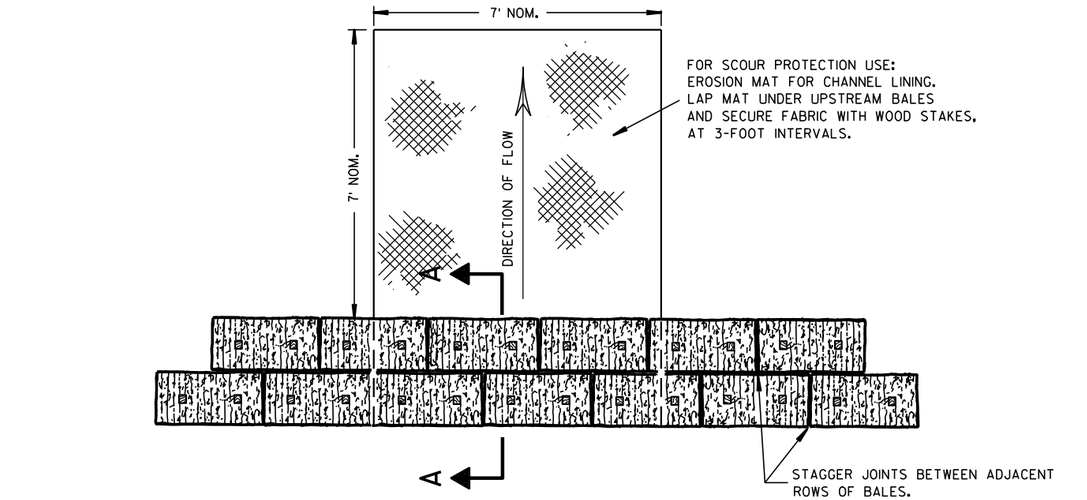
237

6

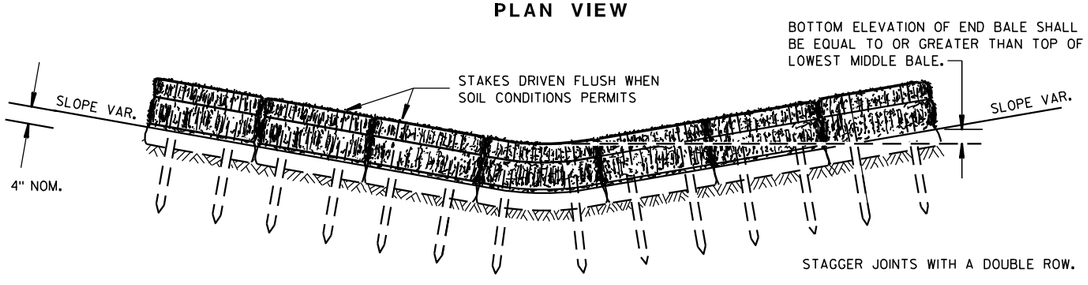
S.D.D. 8 D 3-6



SECTION A-A



PLAN VIEW



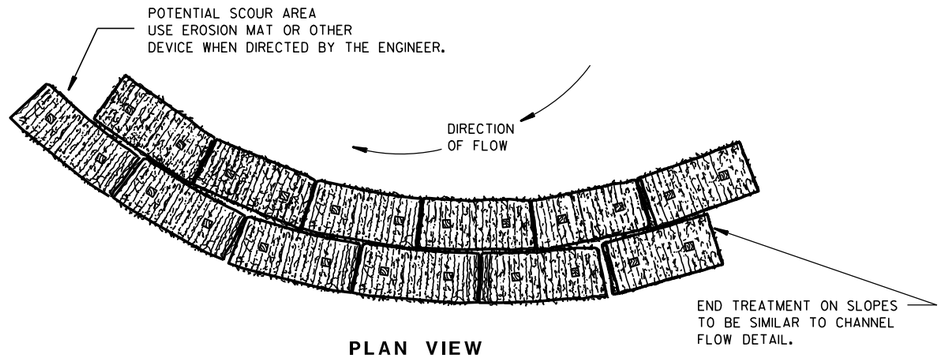
FRONT ELEVATION

TEMPORARY DITCH CHECK USING EROSION BALES (1)

GENERAL NOTES

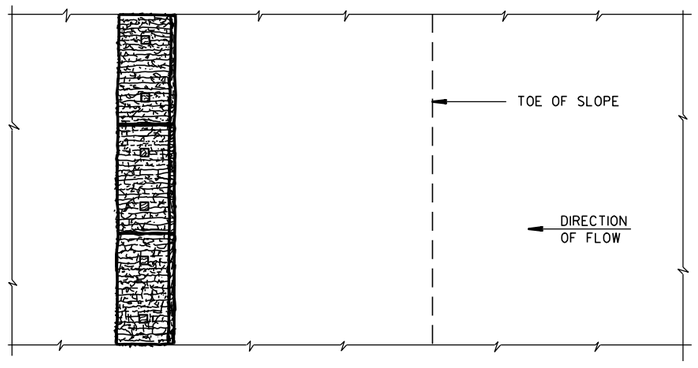
DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND THE APPLICABLE SPECIAL PROVISIONS.

(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.

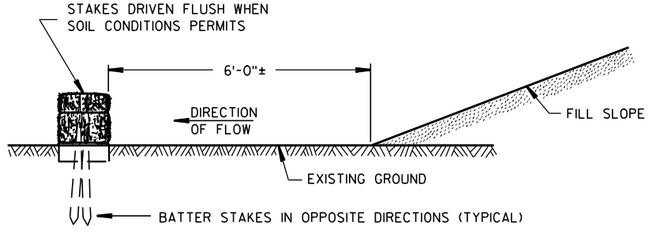


PLAN VIEW

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

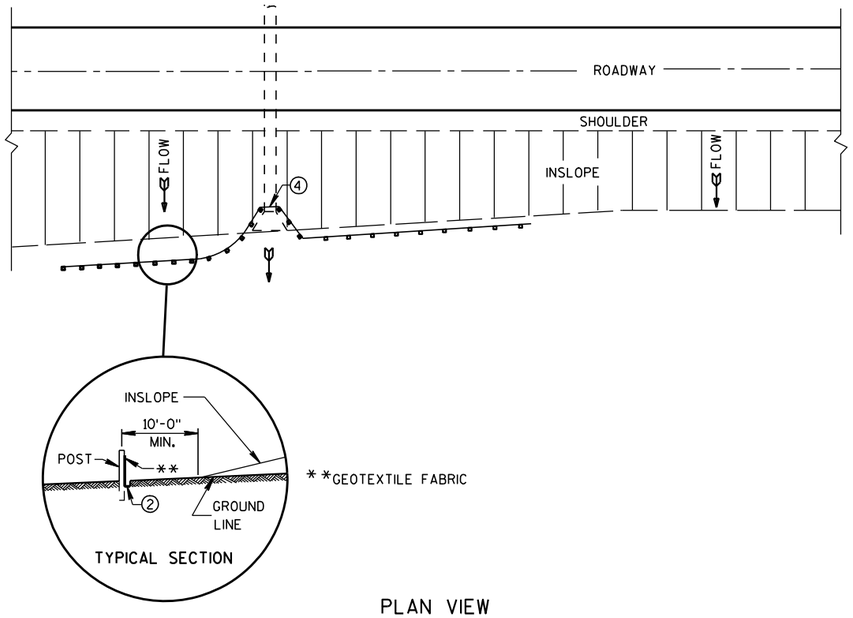
FHWA

6

S.D.D. 8 E 8-3

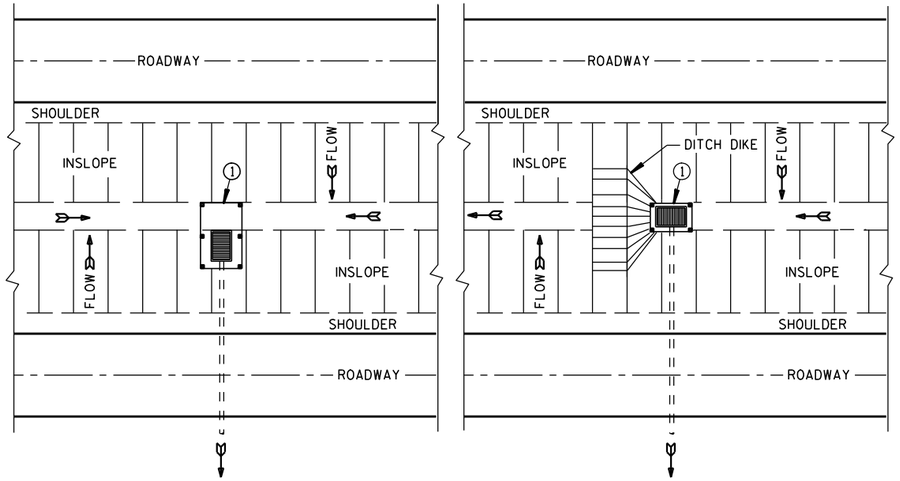
6

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.

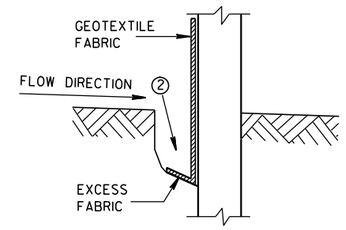
① HORIZONTAL BRACE REQUIRED WITH 2" X 4" WOODEN FRAME OR EQUIVALENT AT TOP OF POSTS.

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.

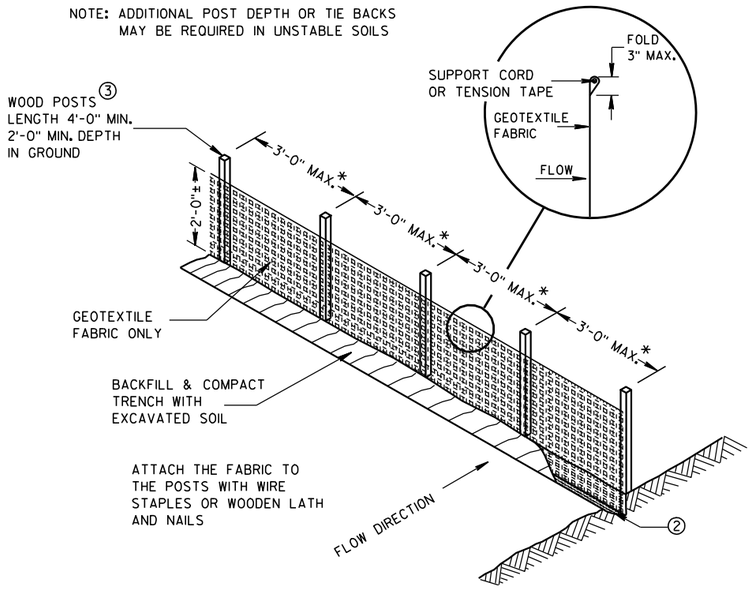
③ WOOD POSTS SHALL BE A MINIMUM SIZE OF 1⅛" X 1⅛" OF OAK OR HICKORY.

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.

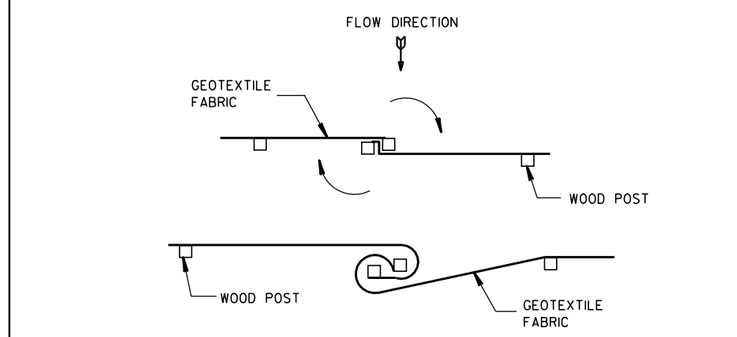


TRENCH DETAIL

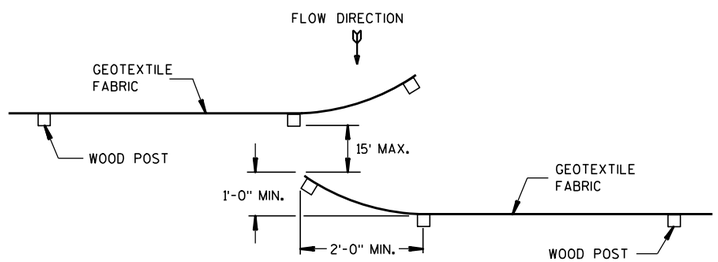


*NOTE: 8'-0" POST SPACING ALLOWED IF A WOVEN GEOTEXTILE FABRIC IS USED.

SILT FENCE

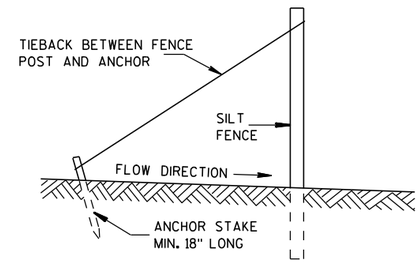


TWIST METHOD



HOOK METHOD

JOINING TWO LENGTHS OF SILT FENCE ⑤



SILT FENCE TIE BACK

(WHEN REQUIRED BY THE ENGINEER)

SILT FENCE

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

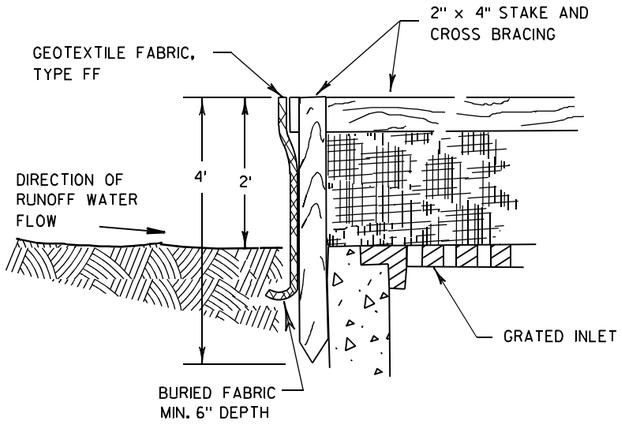
APPROVED
4-29-05 DATE
/S/ Beth Cannestra
CHIEF ROADWAY DEVELOPMENT ENGINEER
FHWA

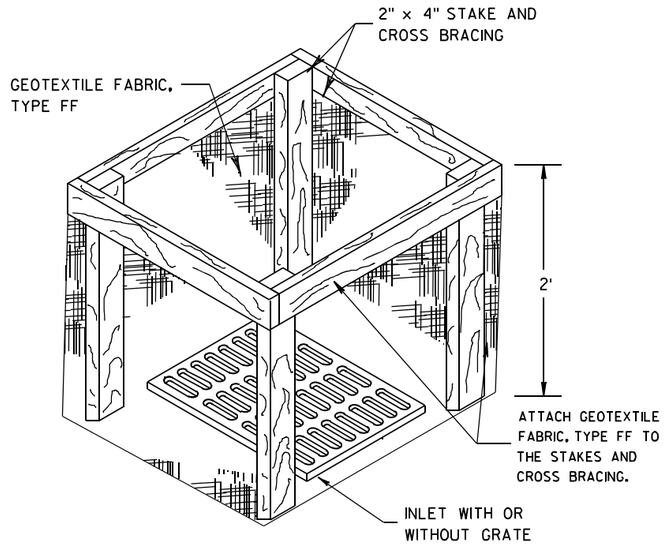
6

S.D.D. 8 E 9-6

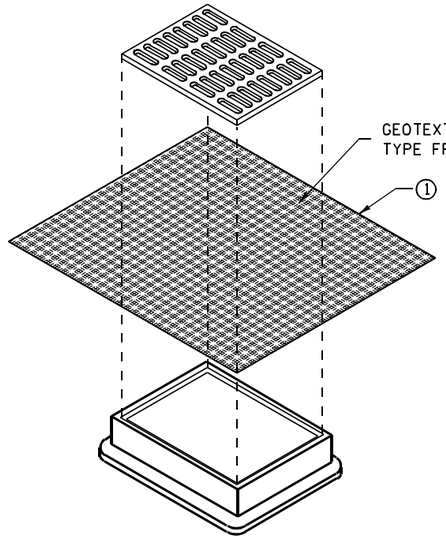
6

S.D.D. 8 E 9-6



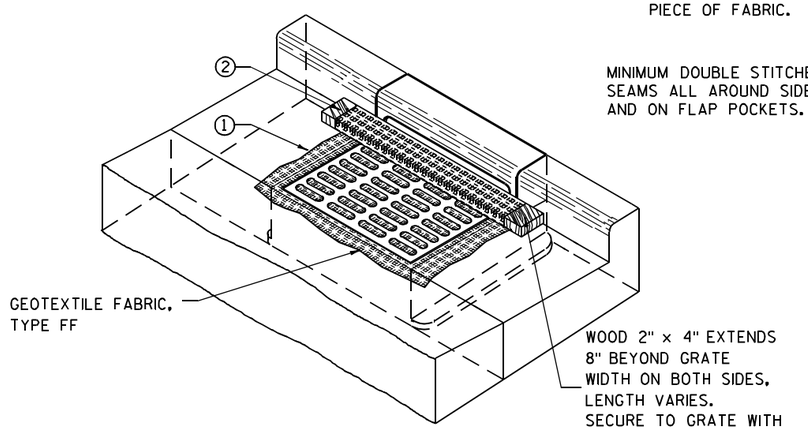


INLET PROTECTION, TYPE A

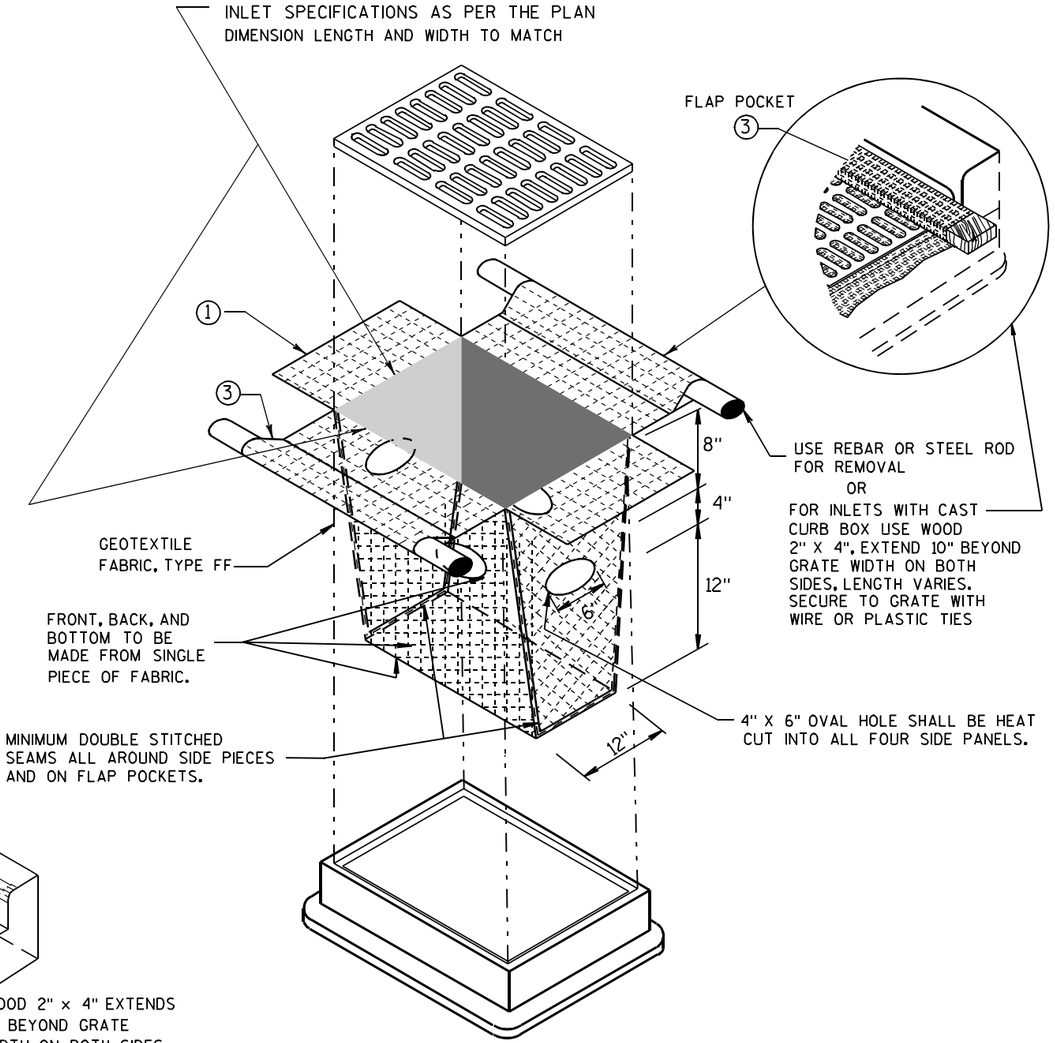


INLET PROTECTION, TYPE B
(WITHOUT CURB BOX)

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



INLET PROTECTION, TYPE C (WITH CURB BOX)



INLET PROTECTION, TYPE D

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

GENERAL NOTES

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

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

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

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

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

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

INSTALLATION NOTES

TYPE B & C

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

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

TYPE D

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

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

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

INLET PROTECTION
TYPE A, B, C, AND D

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

10/16/02
DATE

/S/ Beth Cannestra
CHIEF ROADWAY DEVELOPMENT ENGINEER

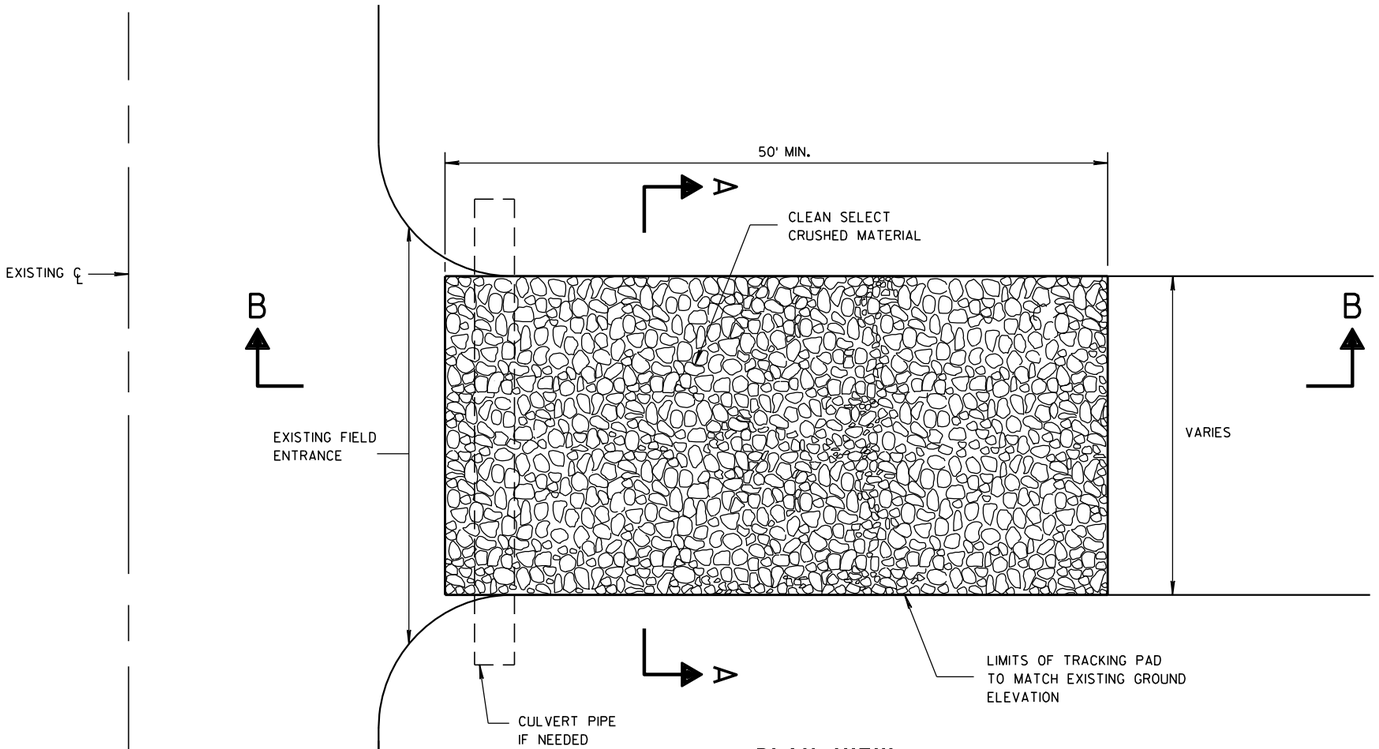
FHWA

6

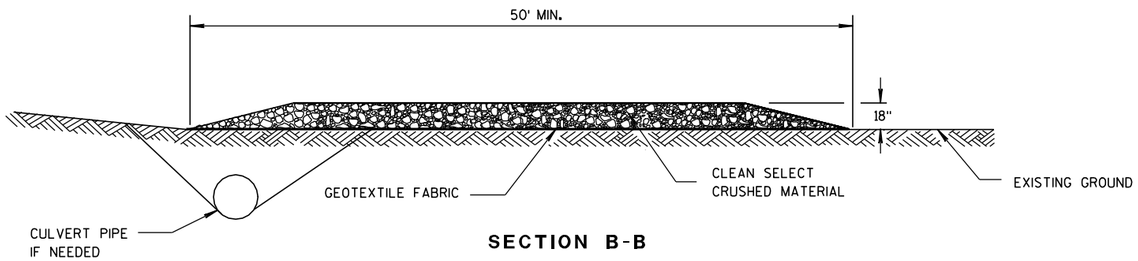
S.D.D. 8 E 10-2

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.

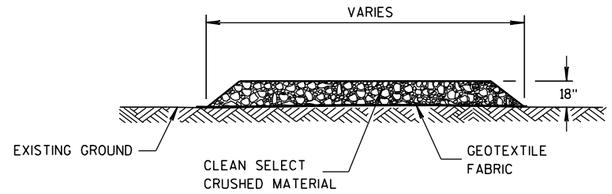
TRACKING PAD TO BE REMOVED AFTER CONSTRUCTION IS COMPLETED.

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

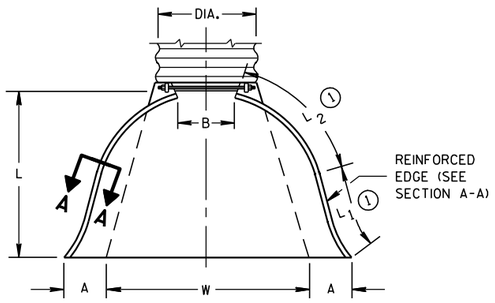
PIPE DIA. (IN.)	MIN. THICK. (Inches) STEEL	MIN. THICK. (Inches) ALUM.	DIMENSIONS (Inches) A (±1")	B (MAX.)	H (±1")	L (±1 1/2")	L1 ①	L2 ①	W (±2")	APPROX. SLOPE	BODY
12	.064	.060	6	6	6	21	12	17 1/2	24	2 1/2 to 1	1 Pc.
15	.064	.060	7	8	6	26	14	21 3/4	30	2 1/2 to 1	1 Pc.
18	.064	.060	8	10	6	31	15	28 1/4	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

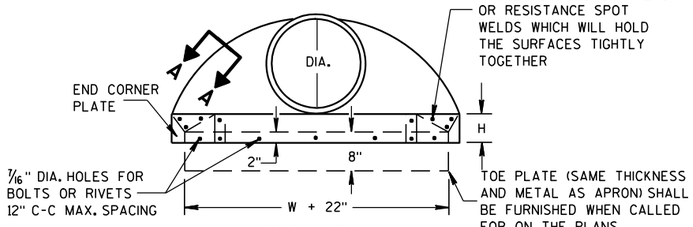
REINFORCED CONCRETE APRON ENDWALLS

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

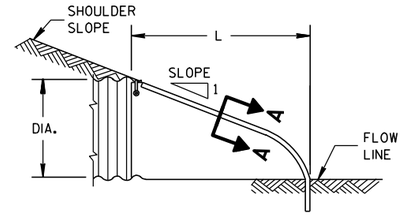
*MINIMUM
**MAXIMUM



PLAN VIEW

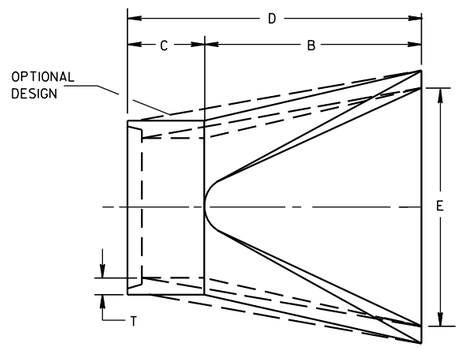


END VIEW

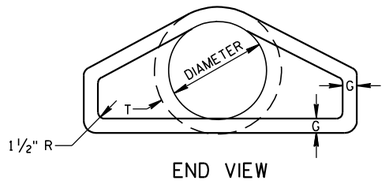


SIDE ELEVATION

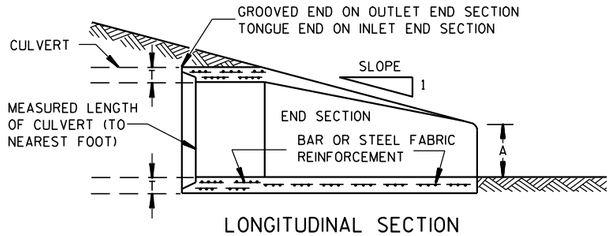
METAL ENDWALLS



PLAN

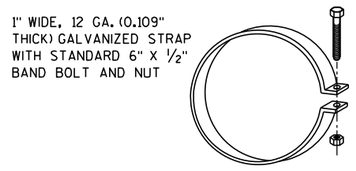


END VIEW



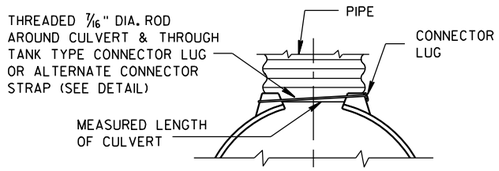
LONGITUDINAL SECTION

CONCRETE ENDWALLS

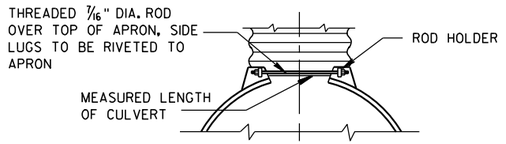


ALTERNATE FOR TYPE 1 CONNECTION

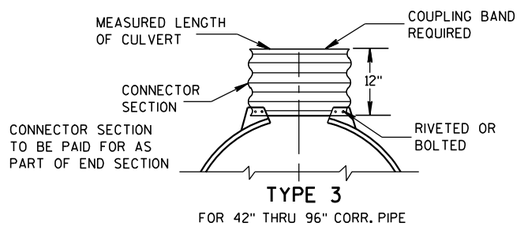
END SECTION CONNECTOR STRAP



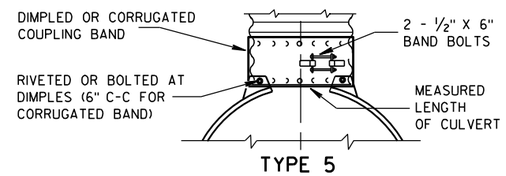
TYPE 1
FOR 12" THRU 24" CORR. PIPE



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

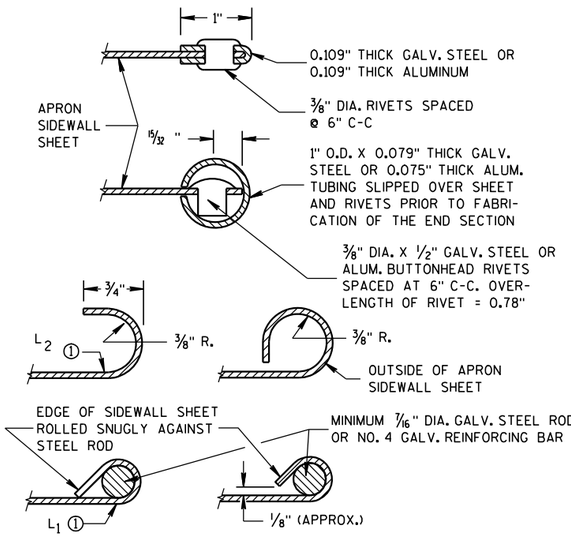
NOTE: DIMPLED BAND FITS OVER OUTSIDE OF ENDWALL. AND CORRUGATED BAND FITS INSIDE ENDWALL. DIMPLED BAND MAY BE USED WITH HELICALLY CORRUGATED PIPE.

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.

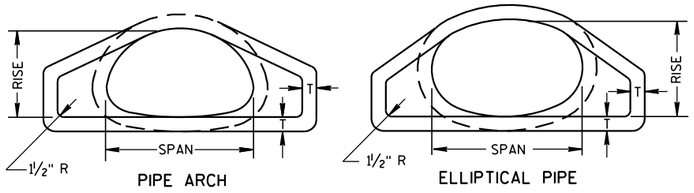
① FOR PIPE SIZES UP TO 60" DIAMETER, A 180° ROLLED EDGE MAY BE USED INSTEAD OF STEEL ROD REINFORCEMENT. SEE SECTION A-A.

APRON ENDWALLS FOR CULVERT PIPE

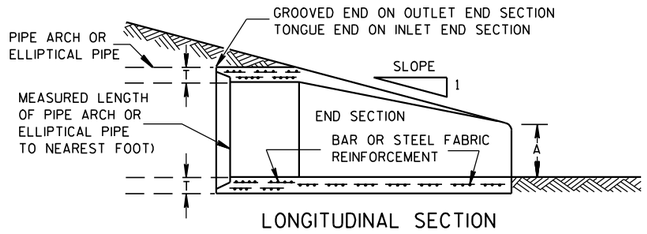
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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

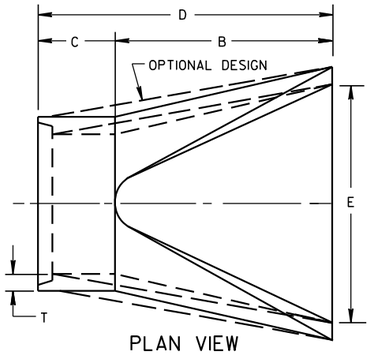
6
S.D.D. 8 F 1-11



END VIEW

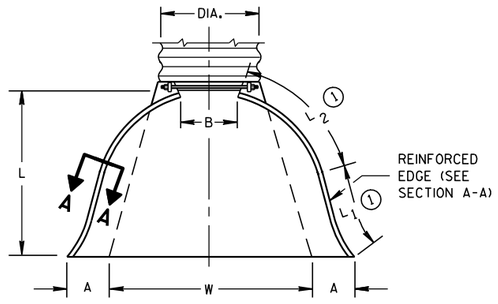


LONGITUDINAL SECTION



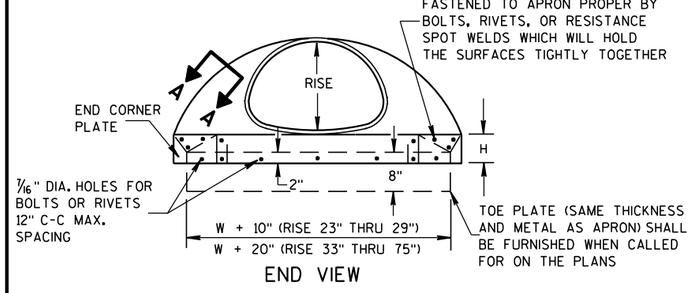
PLAN VIEW

CONCRETE ENDWALLS



REINFORCED EDGE (SEE SECTION A-A)

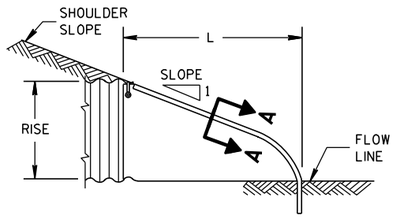
PLAN VIEW



END CORNER PLATES MAY BE FASTENED TO APRON PROPER BY BOLTS, RIVETS, OR RESISTANCE SPOT WELDS WHICH WILL HOLD THE SURFACES TIGHTLY TOGETHER

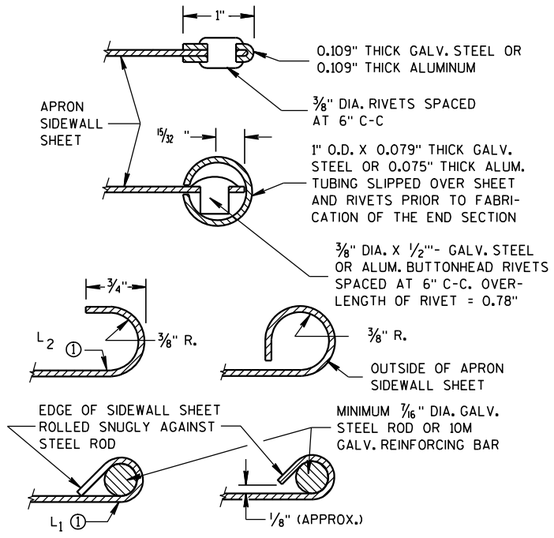
TOE PLATE (SAME THICKNESS AND METAL AS APRON) SHALL BE FURNISHED WHEN CALLED FOR ON THE PLANS

END VIEW



SIDE ELEVATION

METAL ENDWALLS



SECTION A-A

2- 2/3" X 1/2" CORRUGATIONS

EQUIV. DIA. (Inches)	(Inches) SPAN	(Inches) RISE	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
15	17	13	.064	.060	7	9	6	19	14	16	30	2½ to 1	1 Pc.
18	21	15	.064	.060	7	10	6	23	14	19⅜	36	2½ to 1	1 Pc.
21	24	18	.064	.060	8	12	6	28	18	21¾	42	2½ to 1	1 Pc.
24	28	20	.064	.060	9	14	6	32	18	27½	48	2½ to 1	1 Pc.
30	35	24	.079	.075	10	16	6	39	18	37⅝	60	2½ to 1	1 Pc.
36	42	29	.079	.075	12	18	8	46	24	45⅜	75	2½ to 1	1 Pc.
42	49	33	.109	.105	13	21	9	53	24	54¾	85	2½ to 1	2 Pc.
48	57	38	.109	.105	18	26	12	63	24	68	90	2½ to 1	3 Pc.
54	64	43	.109	.105	18	30	12	70	24	72¾	102	2¼ to 1	3 Pc.
60	71	47	.109*	.105*	18	33	12	77	30	82¼	114	2¼ to 1	3 Pc.
66	77	52	.109*	.105*	18	36	12	77	—	—	126	2 to 1	3 Pc.
72	83	57	.109*	.105*	18	39	12	77	—	—	138	2 to 1	3 Pc.

3" X 1" CORRUGATIONS

EQUIV. DIA. (Inches)	(Inches) SPAN	(Inches) RISE	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
48	53	41	.109	.105	18	26	12	63	24	72¾	90	2½ to 1	2 Pc.
54	60	46	.109	.105	18	30	12	70	30	82¼	102	2 to 1	2 Pc.
60	66	51	.109*	.105*	18	33	12	77	—	—	114	1½ to 1	3 Pc.
66	73	55	.109*	.105*	18	36	12	77	—	—	126	1½ to 1	3 Pc.
72	81	59	.109*	.105*	18	39	12	77	—	—	138	2 to 1	3 Pc.
78	87	63	.109*	.105*	22	38	12	77	—	—	148	1½ to 1	3 Pc.
84	95	67	.109*	.105*	22	34	12	77	—	—	162	1½ to 1	3 Pc.
90	103	71	.109*	.105*	22	38	12	77	—	—	174	1½ to 1	3 Pc.
96	112	75	.109*	.105*	24	40	12	77	—	—	174	1½ to 1	3 Pc.

NOTE: ALL SPLICES TO BE LAP RIVETED OR BOLTED.

* EXCEPT CENTER PANEL SEE GENERAL NOTES

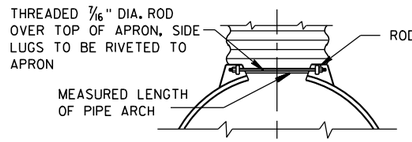
REINFORCED CONCRETE PIPE ARCH

EQUIV. DIA. (Inches)	DIMENSIONS (Inches) ** SPAN	** RISE	T	A	B	C	D	E	APPROX. SLOPE
24	29	18	3	8½	39	33	72	48	3 to 1
30	36	22	3½	9½	50	46	96	60	3 to 1
36	44	27	4	11⅛	60	36	96	72	3 to 1
42	51	31	4½	15 13/16	60	36	96	78	3 to 1
48	58	36	5	21	60	36	96	84	3 to 1
54	65	40	5½	25½	60	36	96	90	3 to 1
60	73	45	6	31	60	36	96	96	3 to 1
72	88	54	7	31	60	39	99	120	2 to 1
84	102	62	8	28½	83	19	102	144	2 to 1

REINFORCED CONCRETE ELLIPTICAL PIPE

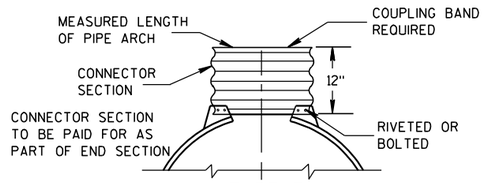
EQUIV. DIA. (Inches)	DIMENSIONS (Inches) ** SPAN	** RISE	T	A	B	C	D	E	APPROX. SLOPE
24	30	19	3¼	8½	39	33	72	48	3 to 1
30	38	24	3¾	9½	54	18	72	60	3 to 1
36	45	29	4½	11⅛	60	24	84	72	2½ to 1
42	53	34	5	15¾	60	36	96	78	2½ to 1
48	60	38	5½	21	60	36	96	84	2½ to 1
54	68	43	6	25½	60	36	96	90	2½ to 1
60	76	48	6½	30	60	36	96	96	2½ to 1

**NOMINAL SIZE



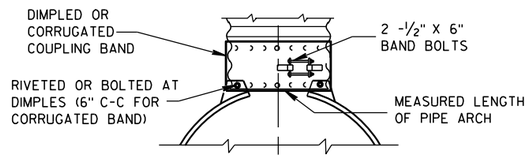
TYPE 2

FOR 17" X 13" THRU 112" X 75" PIPE ARCH



TYPE 3

FOR 64" X 43" THRU 112" X 75" PIPE ARCH



TYPE 5

ALTERNATE FOR:

ALL SIZES CORRUGATED PIPE ARCHES

NOTE: DIMPLED BAND FITS OVER OUTSIDE OF ENDWALL, AND CORRUGATED BAND FITS INSIDE ENDWALL.

CONNECTION DETAILS

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

ALL THREE PIECE STEEL APRON ENDWALLS FOR 66" X 51" PIPE ARCH AND LARGER SHALL HAVE 0.109" SIDES AND 0.138" CENTER PANELS. ALL THREE PIECE ALUMINUM APRON ENDWALLS FOR 66" X 51" PIPE ARCH 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 ARCH 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 77" X 52" THROUGH 112" X 75" 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 ARCH SIZES UP TO 73" X 55" A 180° ROLLED EDGE MAY BE USED INSTEAD OF STEEL ROD REINFORCEMENT. SEE SECTION A-A.

APRON ENDWALLS FOR PIPE ARCH AND ELLIPTICAL PIPE

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

11/30/94 — DATE

/S/ Rory L. Rhinesmith — CHIEF ROADWAY DEVELOPMENT ENGINEER

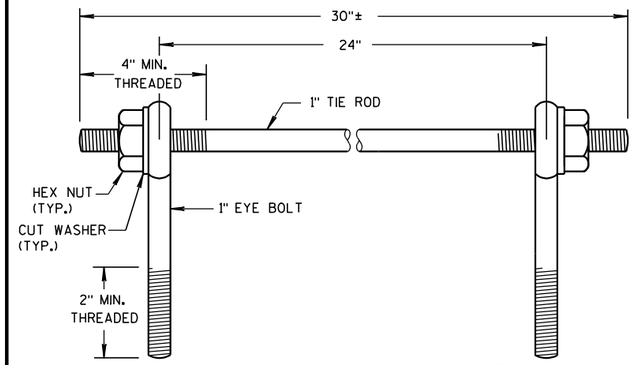
FHWA

6

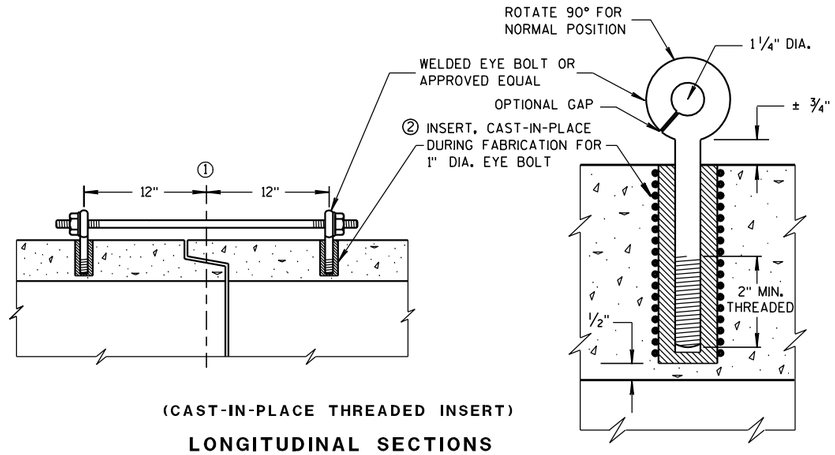
S.D.D. 8 F 2-1

6

S.D.D. 8 F 2-1



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.

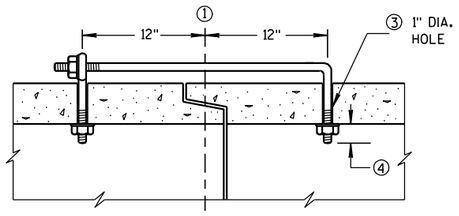
② THE INSIDE OF THE THREADED INSERTS SHALL BE CLEAN TO ALLOW THE INSERTION OF THREADED EYE BOLTS.

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

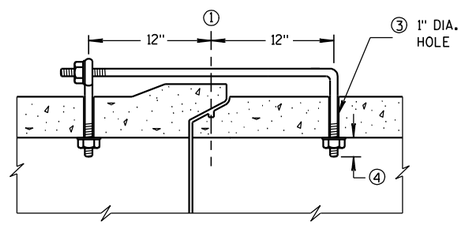
④ BOLT PROJECTION INSIDE OF PIPE SHALL NOT EXCEED 2 INCHES.

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)

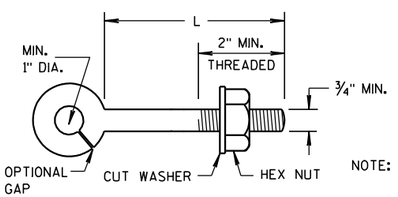


(MODIFIED BELL PIPE)

LONGITUDINAL SECTION

EYE BOLT DIMENSION TABLE

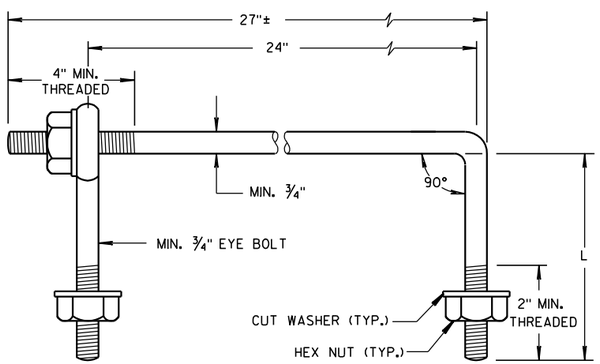
PIPE SIZE	L = LENGTH	
	TONGUE & GROOVE PIPE	MODIFIED BELL PIPE
18" TO 24"	4 1/2"	6 1/4"
30"	5"	7"
36"	5 1/2"	7"
42"	6"	
48"	6 1/2"	
60"	7 1/2"	
66"	8"	



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

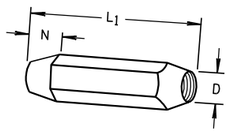
(JOINT TIES FOR 18" TO 66" DIA. CONCRETE PIPE)

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

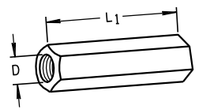
ADJUSTABLE TIE ROD TABLE

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



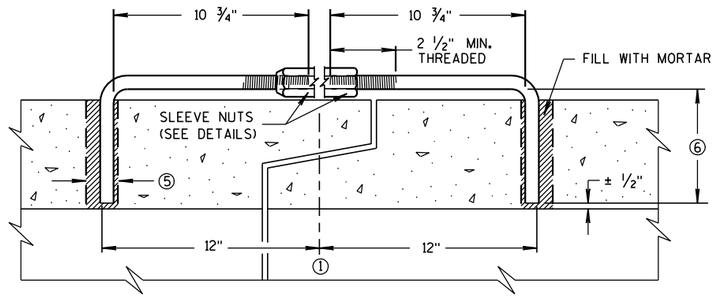
TAPERED



PLAIN

RIGHT AND LEFT THREADS

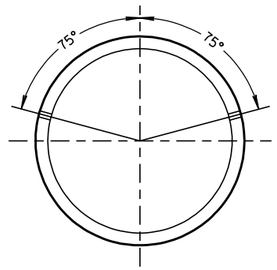
SLEEVE NUTS



LONGITUDINAL SECTION

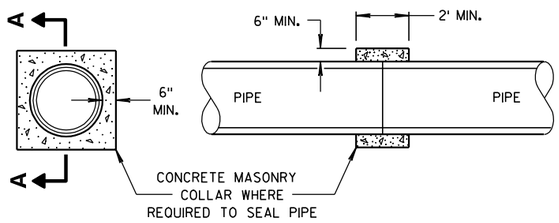
(JOINT TIES FOR 12" TO 108" DIA. CONCRETE PIPE)

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
244
FHWA

6

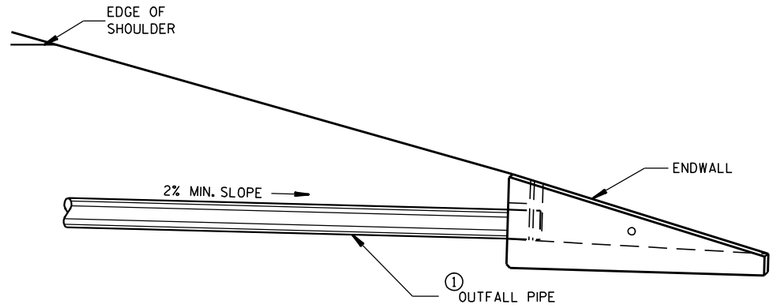
S.D.D. 8 F 4-7

6

S.D.D. 8 F 4-7

DIMENSIONS IN INCHES											
PIPE DIA.	A	B	C	D	E	F	G	H	J	L	Z
**4	6	12	5 1/4	9	8	32	36	11	2 3/8	6 1/2	4
6	8	14	7 1/4	11	10	42	44	13	3 5/8	8 1/2	6

**APRON ENDWALL FOR 6 INCH DIAMETER PIPE MAY BE SUBSTITUTED FOR THIS SIZE PROVIDED THE HOLE IN THE HEADWALL IS SIZED AND LOCATED TO CONFORM TO THE 4 INCH DIAMETER PIPE DIMENSIONS (C & J)



INSTALLATION DETAIL

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.

ALTERNATIVE DESIGNS WHICH PROVIDE EQUIVALENT CAPACITY AND STRENGTH MAY BE USED WHEN APPROVED BY THE ENGINEER. ENDWALL MAY BE EITHER PRECAST OR CAST-IN-PLACE CONCRETE.

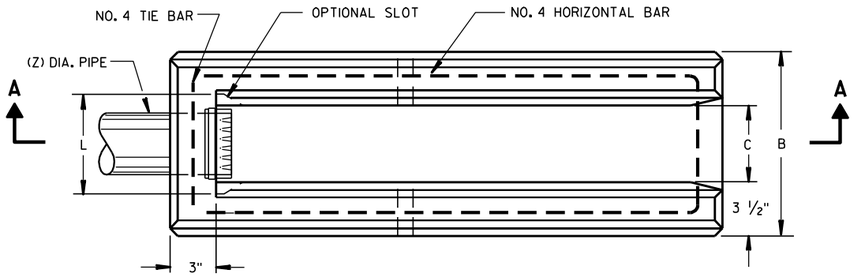
THE UNDERDRAIN PIPE SHALL BE FULLY INSERTED AND SEALED INTO THE ENDWALL WITH CEMENT MORTAR PRIOR TO BACKFILLING AROUND THE STRUCTURE.

THE UPPERMOST POINT OF THE ENDWALL SHALL BE PLACED FLUSH WITH THE ROADWAY SLOPE. ADJACENT EMBANKMENT SLOPES SHALL BE SHAPED TO FIT THE SIDES AND TOE OF THE ENDWALL. EXACT PLACEMENT OF THE OUTFALL PIPE AND ENDWALL SHALL BE DETERMINED BY THE ENGINEER TO MATCH THE ELEVATIONS AND FLOW DIRECTION OF THE ROADSIDE DITCH.

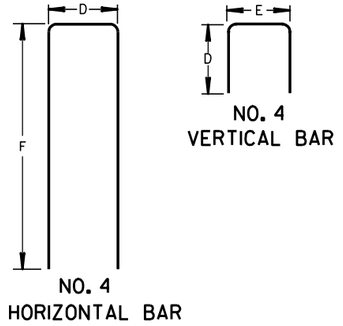
① THE OUTFALL PIPE UNDERDRAIN AND FITTINGS SHALL CONFORM TO THE REQUIREMENTS OF THE SPECIFICATION FOR POLY (VINYL CHORIDE) (PVC) PLASTIC DRAIN, WASTE AND VENT PIPE AND FITTINGS, ASTM DESIGNATION: D 2665, SCHEDULE 40 PVC OR THE STANDARD SPECIFICATION FOR TYPE PSM POLY (VINYL CHORIDE) (PVC) SEWER PIPE AND FITTINGS, ASTM DESIGNATION: D 3034, TYPE PSM SDR 23.5 PVC SEWER PIPE, ALL JOINTS SHALL BE SOLVENT WELDED.

THE OUTFALL PIPE INCLUDING ALL FITTINGS AND THE RODENT SHIELD SHALL BE MEASURED AND PAID FOR AS PIPE UNDERDRAIN UNPERFORATED.

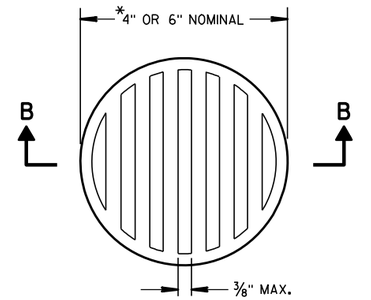
② THE RODENT SHIELD SHALL BE A PVC GRATE SIMILAR TO THIS DETAIL. THE GRATE IS COMMERCIALLY AVAILABLE AS A FLOOR STRAINER. A PIPE COUPLING IS REQUIRED FOR THE ATTACHMENT OF THIS SHIELD TO THE OUTFALL PIPE. THE SHIELD SHALL BE FASTENED TO THE PIPE COUPLING WITH TWO OR MORE NO. 10 X 1-INCH STAINLESS STEEL SHEET METAL SCREWS.



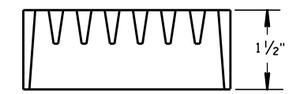
PLAN VIEW



BAR STEEL REINFORCEMENT DETAILS



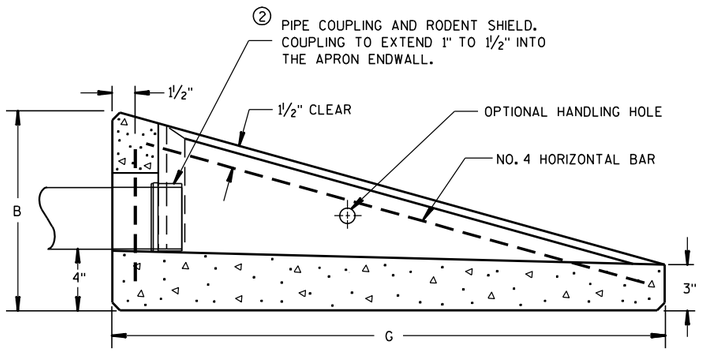
NOTE: ORIENT SHIELD SO SLOTS ARE VERTICAL.



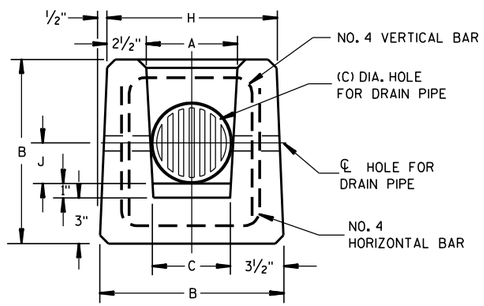
SECTION B-B

② RODENT SHIELD

*NOTE: DIMENSIONS ARE APPROXIMATE. THE GRATE IS SIZED TO FIT INTO A PIPE COUPLING.



SECTION A-A



END VIEW

CONCRETE APRON ENDWALL FOR UNDERDRAIN

REINFORCED CONCRETE APRON ENDWALL FOR PIPE UNDERDRAIN

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

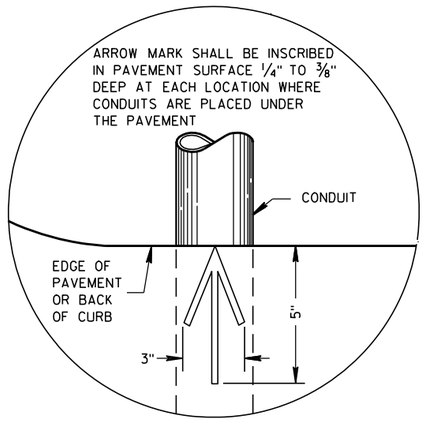
APPROVED
3/10/98 DATE
/S/ Rory L. Rhinesmith
CHIEF ROADWAY DEVELOPMENT ENGINEER
FHWA

6

S.D.D. 8 F 6-4

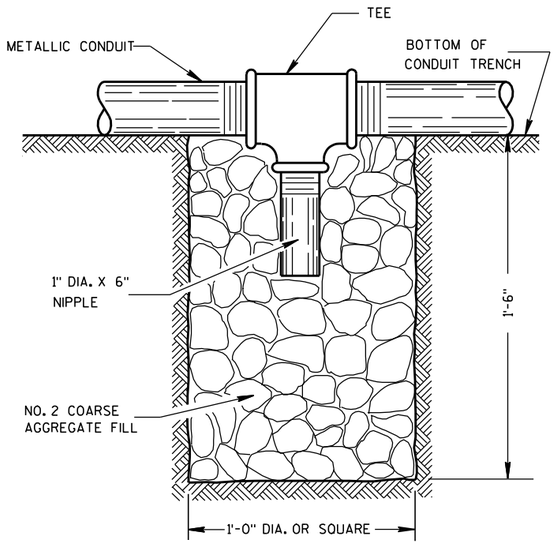
6

S.D.D. 8 F 6-4



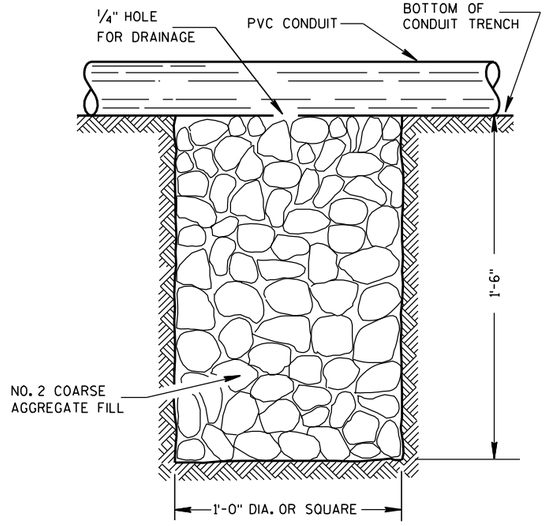
PLAN VIEW

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.

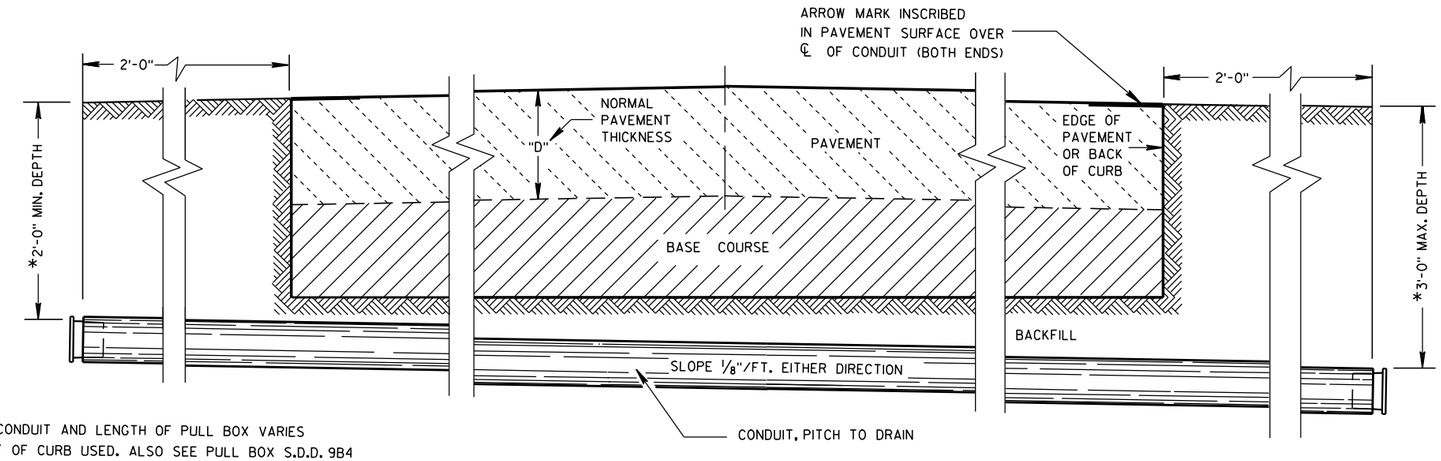
PRIOR TO CONDUIT ACCEPTANCE, CONDUIT CAPS OR PLUGS SHALL BE REMOVED, AND THE CAPS, PLUGS AND CONDUIT ENDS SHALL BE THOROUGHLY CLEANED AND THEN THE CAPS OR PLUGS REINSTALLED TO ENSURE THAT THE CAPS OR PLUGS CAN BE EASILY REMOVED IN THE FUTURE.

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

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

10/23/03 DATE

/S/ Balu Ananthanarayanan
STATE ELECTRICAL ENGI

246

HWYS

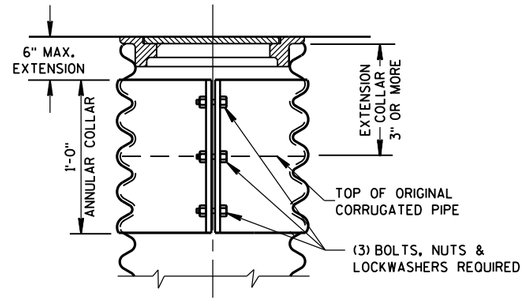
FHWA

TABLE OF NOMINAL DIMENSIONS AND WEIGHTS

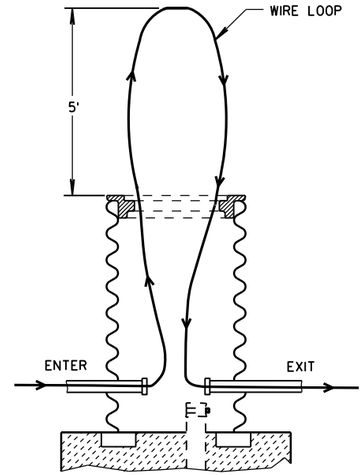
DIMENSION IN INCHES		CORRUGATED STEEL PIPE								
PIPE DIAMETER (INSIDE)	A	12	12	12	18	18	18	24	24	24
PIPE LENGTH **	B	24	30	36	24	30	36	36	42	48
WALL THICKNESS	C	0.064	0.064	0.064	0.064	0.064	0.064	0.064	0.064	0.064
COVER	D	10 1/4	10 1/4	10 1/4	16 1/4	16 1/4	16 1/4	22 1/4	22 1/4	22 1/4
FRAME	E	14 1/2	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.

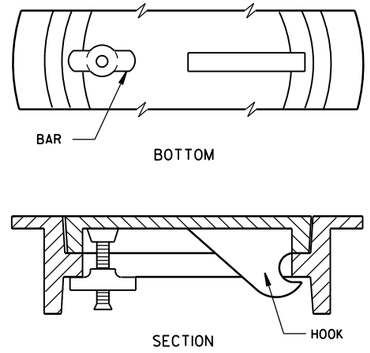
** NORMALLY USED LENGTHS. THE PROJECT ENGINEER SHALL DETERMINE IF PIPE LENGTHS, OTHER THAN THOSE SPECIFIED, SHALL BE USED, TO A MAXIMUM OF 48" (CONTINUOUS LENGTH, NON-SPLICED). THE ADDITIONAL LENGTH SHALL BE INCIDENTAL TO THE PULL BOX BID PRICE.



CORRUGATED PIPE EXTENDER

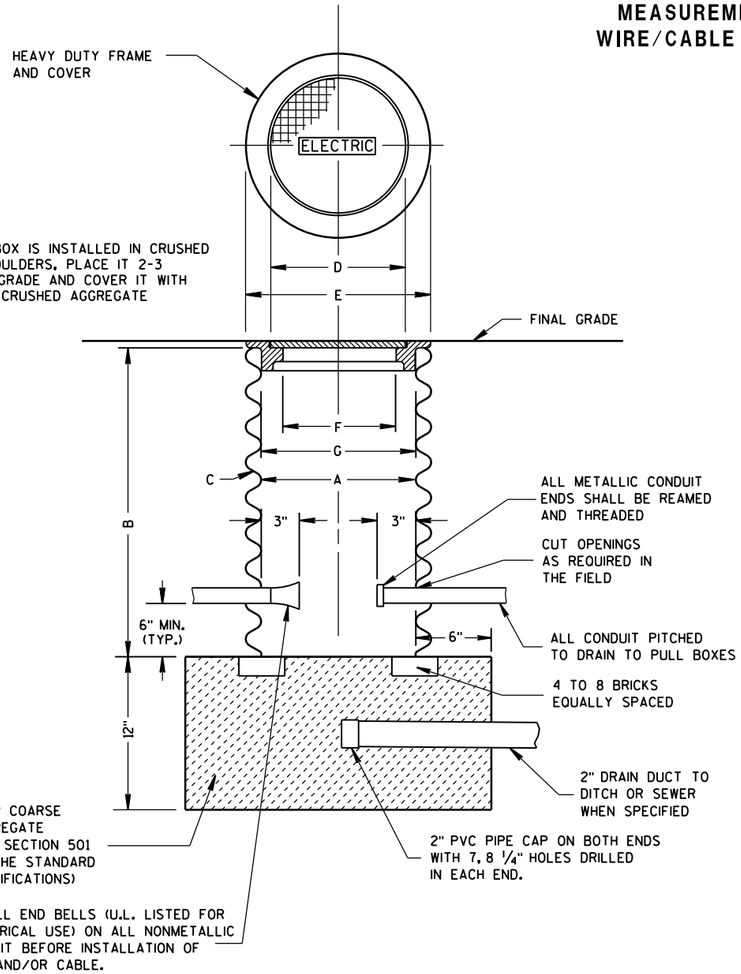


MEASUREMENT DETAIL FOR WIRE/CABLE IN THE PULL BOX



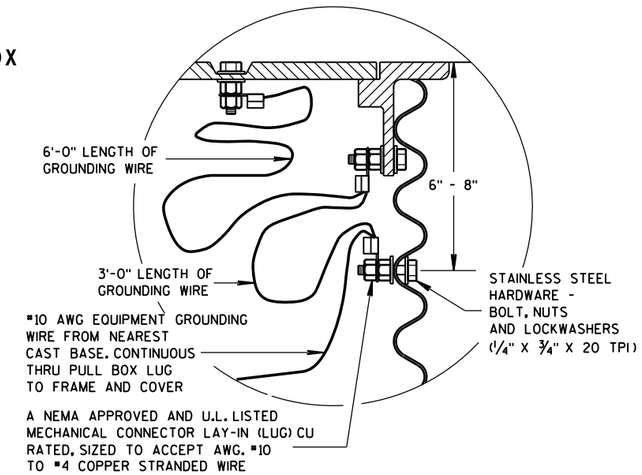
ALTERNATE COVER (LOCKING)

TIGHTENING BAR TYPE

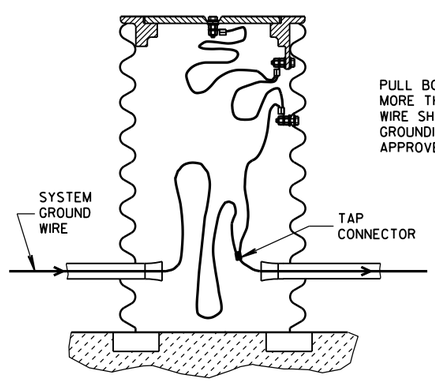


WHEN A PULL BOX IS INSTALLED IN CRUSHED AGGREGATE SHOULDERS, PLACE IT 2-3 INCHES BELOW GRADE AND COVER IT WITH 2-3 INCHES OF CRUSHED AGGREGATE

PULL BOX



EQUIPMENT GROUNDING LUG AND LOCATION IN STEEL PULL BOXES



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

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.

GROUNDING LUGS ARE NOT REQUIRED IN PULL BOXES WHEN VOLTAGES OF LESS THAN 50 VOLTS AC ARE THE ONLY VOLTAGES ENCOUNTERED IN THE BOXES.

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

S.D.D. 9B2, "CONDUIT", APPLIES TO THIS DRAWING.

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	
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
APPROVED	
2-7-2013 DATE	/S/ Ahmet Demirbilek STATE ELECTRICAL
FHWA	247

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.

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).

THE EQUIPMENT GROUNDING CONDUCTOR SHALL ENTER THE BASE 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 1" X 60".

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 AND 641.2.2 OF THE STANDARD SPECIFICATIONS.

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.

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

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

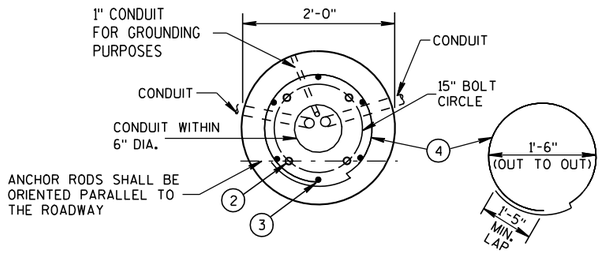
BAR STEEL REINFORCEMENT SHALL BE COATED WITH POWDERED EPOXY RESIN IN ACCORDANCE WITH SECTION 505 OF THE STANDARD SPECIFICATIONS (LATEST EDITION).

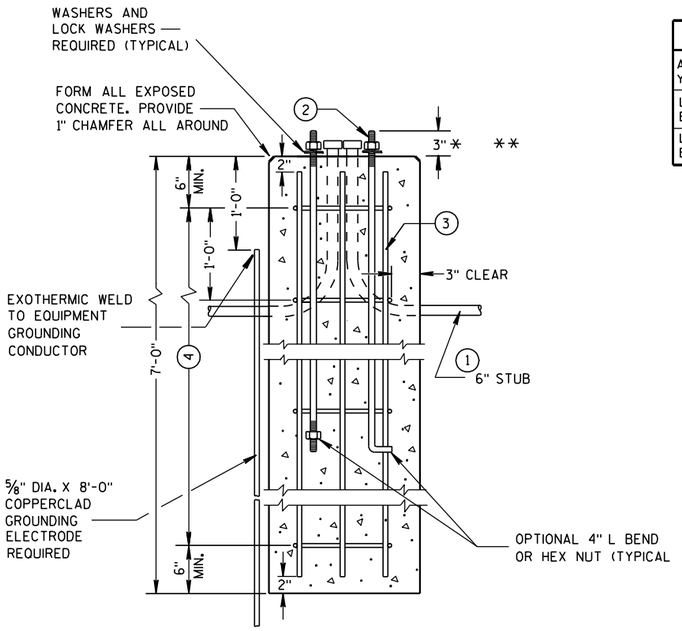
(1) THE MINIMUM DEPTH OF CONDUIT EXITING THE CONCRETE BASE AND INSTALLED BELOW THE TRAVELED WAY SHALL BE 24 INCHES. THE MINIMUM DEPTH OF CONDUIT EXITING THE CONCRETE BASE THAT IS NOT INSTALLED BELOW THE TRAVELED WAY SHALL BE 18 INCHES. THE MAXIMUM DEPTH OF ALL CONDUIT SHALL BE 36 INCHES EXCEPT WITH WRITTEN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

(2) (4) 1" DIA. X 5'-0" ANCHOR RODS

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

(4) (7) NO. 4 X 6'-2" BAR STEEL REINFORCEMENT @ 1'-0" C-C.



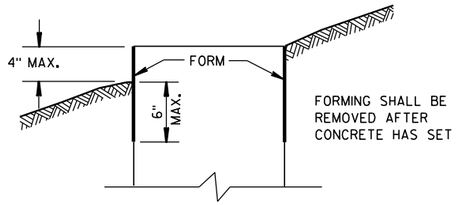


CONCRETE BASE, TYPE 7 (FOR 40' LIGHT POLES)

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

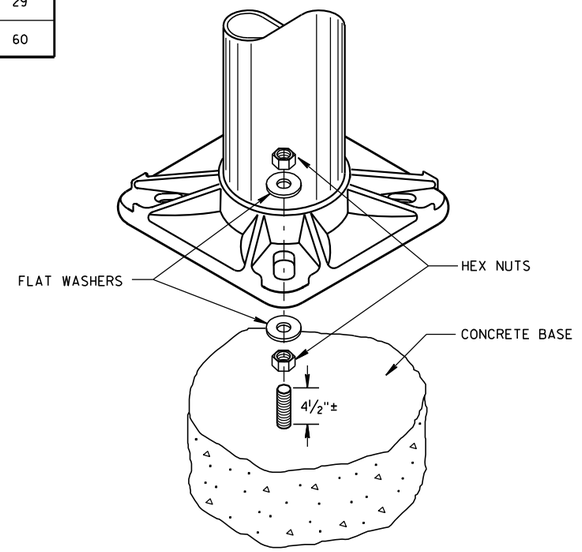
** FOR NONBREAKAWAY INSTALLATIONS, 4½" ± ANCHOR ROD PROJECTION WITH THE USE OF LEVELING NUTS. RODENT SCREEN REQUIRED.

FORM DEPTH SHALL BE NO MORE THAN 6" BELOW GRADE ON THE LOWER SIDE OF BASE



FORMING DETAIL

QUANTITY REQUIREMENTS	
APPROX. CUBIC YARDS OF CONCRETE	0.8
LBS. OF HOOP BAR STEEL	29
LBS. OF VERTICAL BAR STEEL	60



NON-BREAKAWAY INSTALLATION (LEVELING NUT)

CONCRETE BASE, TYPE 7

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

3/3/10 DATE

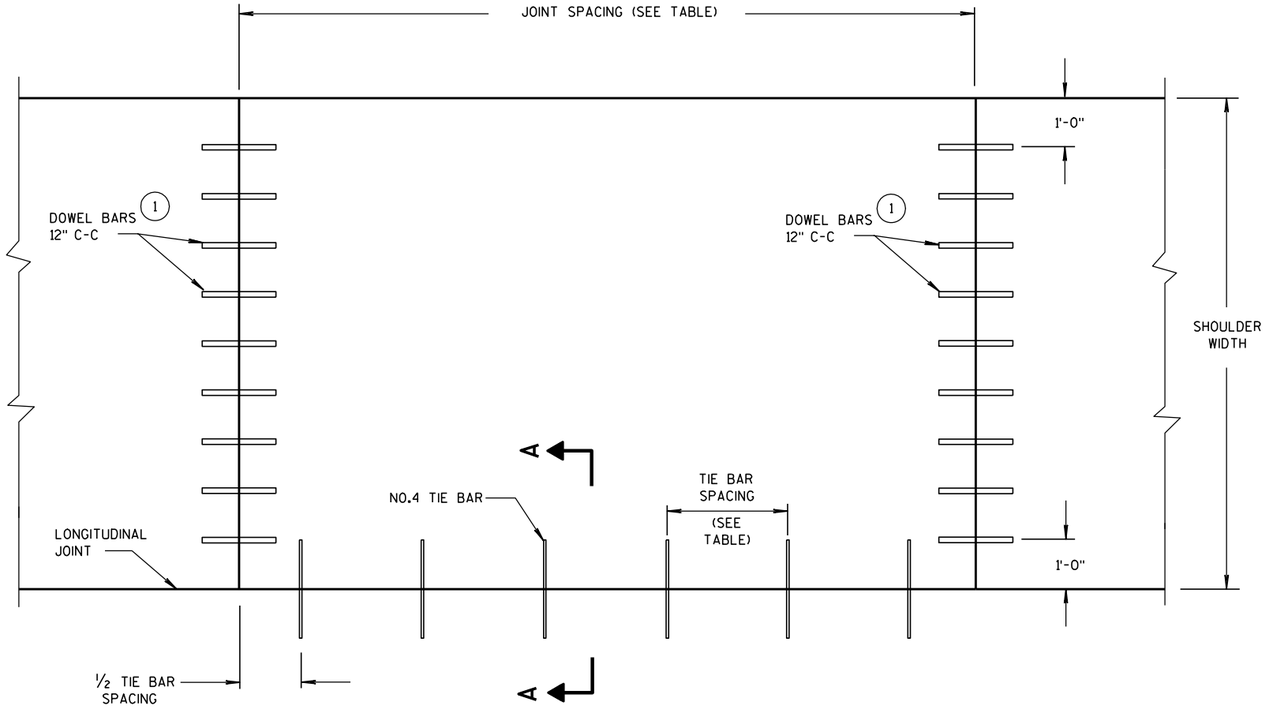
/S/ Joanna L. Rich
STATE ELECTRICAL ENGI

FHWA

HWYS

6

S.D.D. 9 C 8-4



PLAN VIEW

CONCRETE PAVEMENT SHOULDER

PAVEMENT TYPE OF TRAFFIC LANES	TIE BAR SPACING	SHOULDER JOINT SPACING
NON-REINFORCED	30"	MATCH JOINT SPACING OF ADJACENT TRAFFIC LANE
CONTINUOUSLY REINFORCED	30"	15' FOR 6' TO 10' WIDE SHOULDERS
CONTINUOUSLY REINFORCED	36"	12' FOR 3' WIDE SHOULDERS

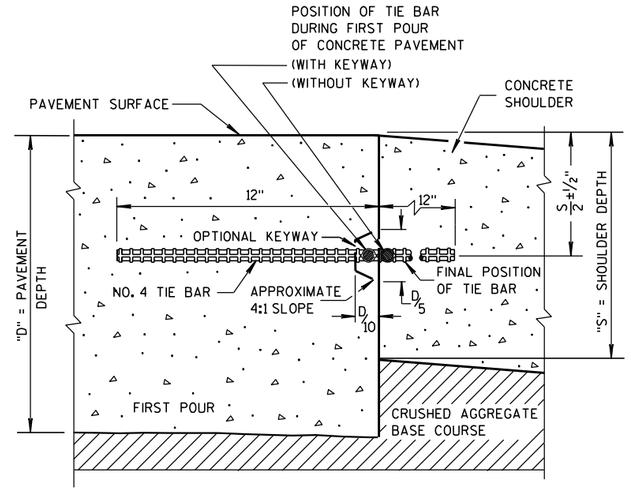
GENERAL NOTES

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.

TRANSVERSE JOINT DETAILS ARE SHOWN ELSEWHERE IN THE PLAN.

FINISH THE SHOULDER PAVEMENT CONFORMING TO SUBSECTION 415.3.8 OF THE STANDARD SPECIFICATIONS.

TIE BARS SHALL CONFORM TO SUBSECTION 505.2.4 OF THE STANDARD SPECIFICATIONS.



SECTION A-A

LONGITUDINAL CONSTRUCTION JOINT

(1)

PAVEMENT DEPTH, DOWEL BAR SIZE AND JOINT SPACING TABLE

PAVEMENT DEPTH (D)	DOWEL BAR DIAMETER	CONTRACTION JOINT SPACING
5 ½", 6", 6 ½"	NONE	12'
7", 7 ½"	1"	14'
8", 8 ½"	1 ¼"	15'
9", 9 ½"	1 ¼"	15'
10" & ABOVE	1 ½"	15'

FOR DOWELED CONCRETE SHOULDERS WITH TRAPEZOIDAL CROSS SECTIONS, CHOSE THE APPROPRIATE DOWEL BAR DIAMETER BASED ON THE SMALLER PAVEMENT DEPTH (LIKELY THE OUTSIDE EDGE OF THE SHOULDER). IF USING BASKETS, USE BASKETS FOR THE AVERAGE THICKNESS OF THE CROSS SECTION.

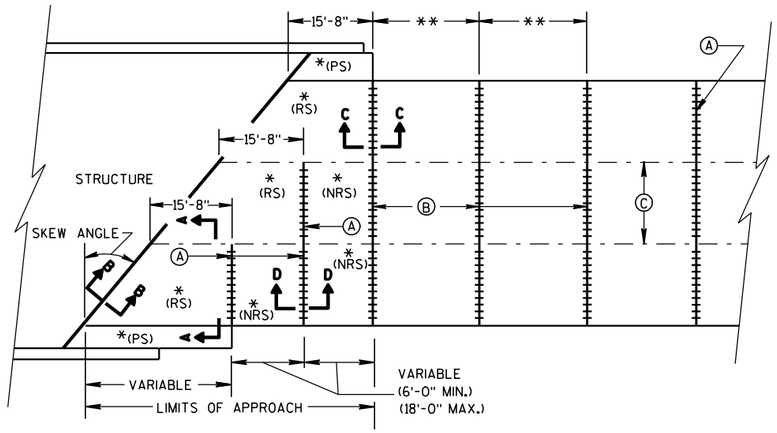
CONCRETE PAVEMENT SHOULDERS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

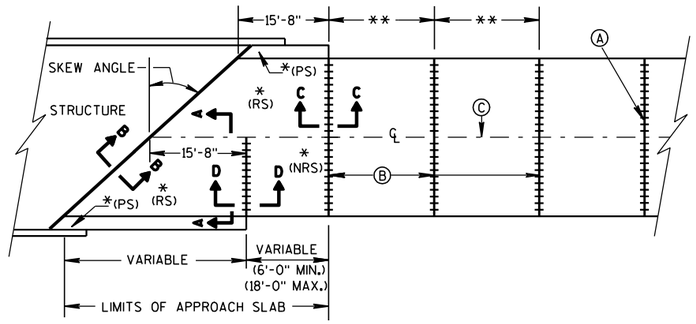
APPROVED
8/15/2011 — DATE
/S/ Deb Bischoff — PAVEMENT POLICY & D — INEER
FHWA

6

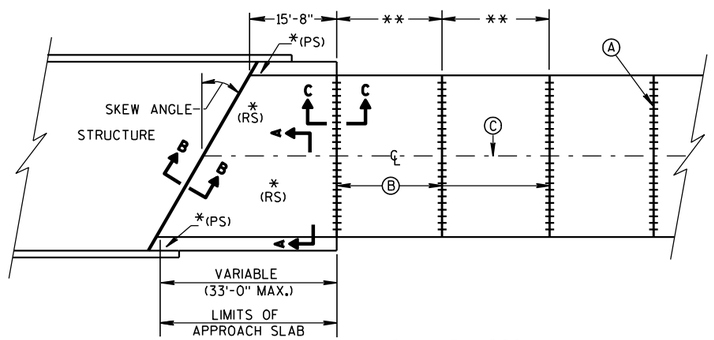
S.D.D. 13 A 3-5



SKEWED APPROACH
(PAVEMENT MORE THAN 2 LANES)



SKEWS >30°
(PAVEMENT WIDTH ≤30')



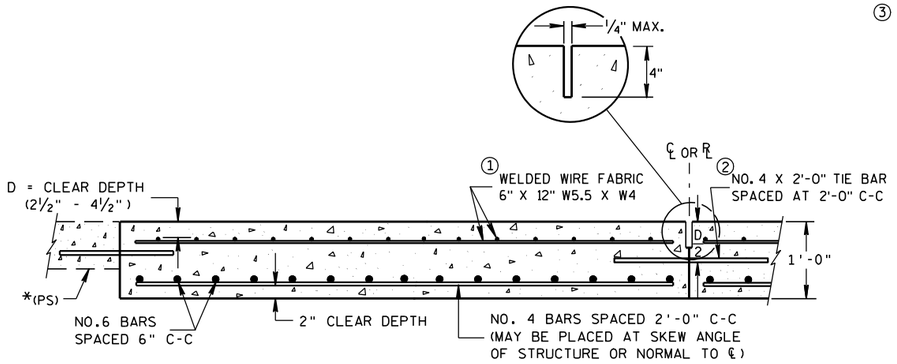
SKEWS ≤30°
(PAVEMENT WIDTH ≤30')

APPROACH SLAB AND ADJACENT PAVEMENT

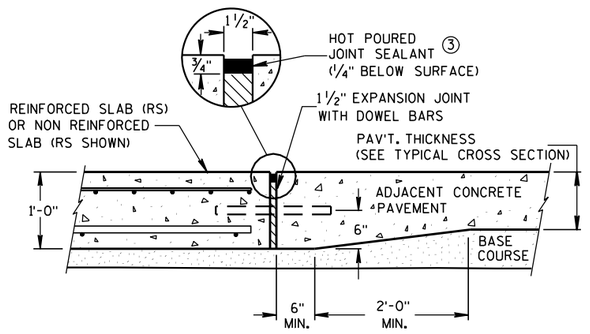
*(RS) = REINFORCED CONCRETE SLAB
*(PS) = PAVED CONCRETE SHOULDER: CONCRETE PAVEMENT, OR CONCRETE SURFACE DRAIN
(SEE DETAILS ELSEWHERE IN THE PLAN)
*(NRS) = NON-REINFORCED CONCRETE SLAB

**STANDARD TRANSVERSE JOINT SPACING
(SEE SDD 13C4, SDD 13C11, & SDD 13C13)

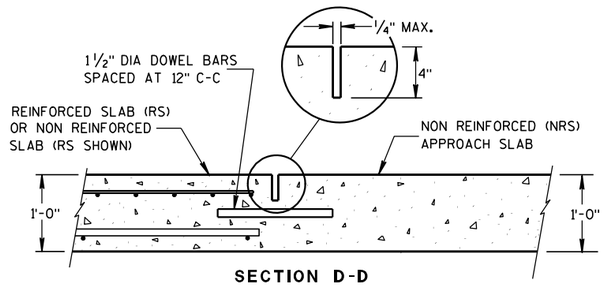
(A) STANDARD CONTRACTION JOINT NORMAL TO ℄ OR ℄
(B) 1½" EXPANSION JOINT WITH DOWEL BARS NORMAL TO ℄ OR ℄
(C) STANDARD LONGITUDINAL JOINT AND TIE BARS.



SECTION A-A
REINFORCEMENT POSITIONING DETAIL



SECTION C-C
TRANSITION DETAIL
APPROACH SLAB TO ADJACENT PAVEMENT



SECTION D-D
CONTRACTION JOINT

GENERAL NOTES

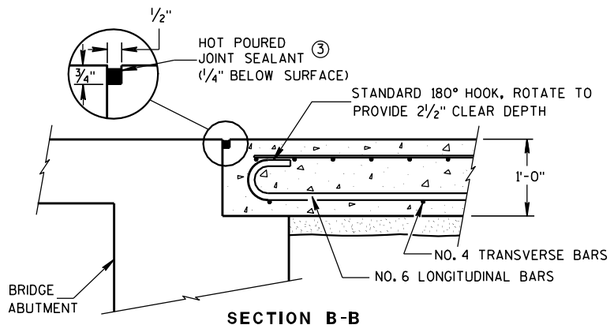
APPROACH SLABS ABUTTING AN HMA PAVEMENT OVER BASE COURSE DO NOT NEED TO BE DOWELED.

THE CONTRACTOR MAY SPLICE NO. 6 BARS IN THE APPROACH SLAB FOR SKEWED STRUCTURES ONLY. STAGGER SPLICES WITH A MAXIMUM OF ONE SPLICE PER BAR. THE LENGTH OF LAP IS 20 INCHES.

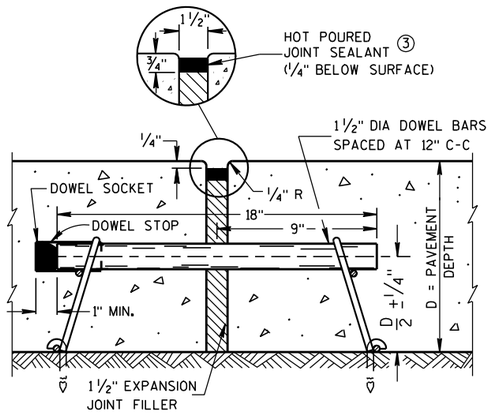
① THE CONTRACTOR MAY USE NO. 4 BARS SPACED AT 2'-0" C-C IN BOTH THE LONGITUDINAL AND TRANSVERSE DIRECTIONS FOR TOP REINFORCEMENT AS AN ALTERNATIVE TO THE WELDED WIRE FABRIC.

② THE CONTRACTOR MAY OMIT TIE BARS BETWEEN REINFORCED SLABS WHERE SLAB REINFORCEMENT BARS EXTEND ACROSS THE CENTERLINE OR REFERENCE LINE.

③ USE A JOINT SEALANT MEETING THE REQUIREMENTS OF ASTM D6690.



SECTION B-B
BEND DETAIL
BOTTOM REINFORCEMENT

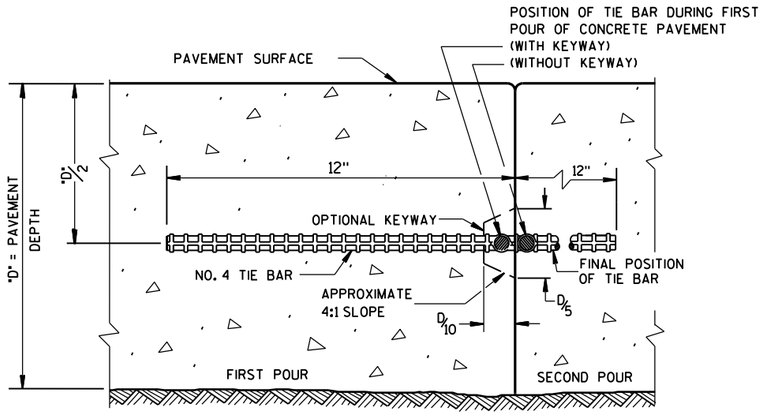


EXPANSION JOINT

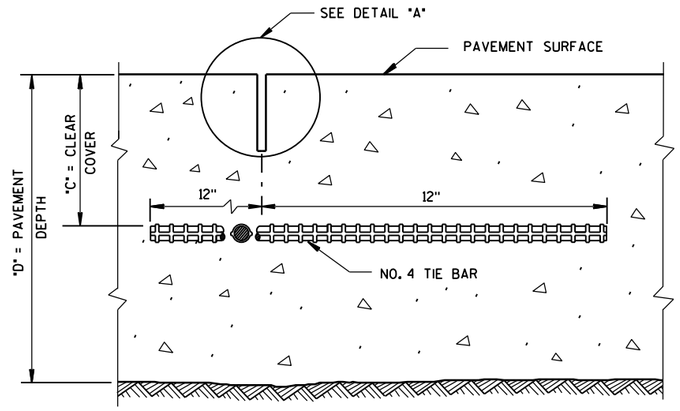
CONCRETE PAVEMENT APPROACH SLAB

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
12/11/2009 — DATE
/S/ Deb Bischoff — PAVEMENT POLICY & DESIGN ENGINEER
FHWA



CONSTRUCTION JOINT



SAWED JOINT

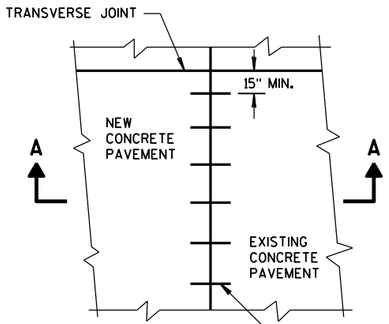
GENERAL NOTES

DO NOT SEAL OR FILL LONGITUDINAL JOINTS.

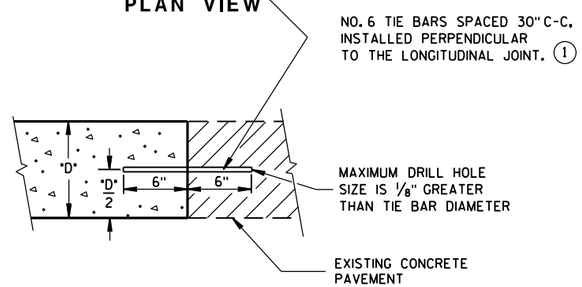
CREATE A LONGITUDINAL JOINT FOR PAVEMENT WIDTHS GREATER THAN 15 FEET.

CORRELATE LONGITUDINAL JOINTS WITH LANE LINES WHEN POSSIBLE.

(1) ANCHOR TIE BARS INTO DRILLED HOLES WITH AN EPOXY.

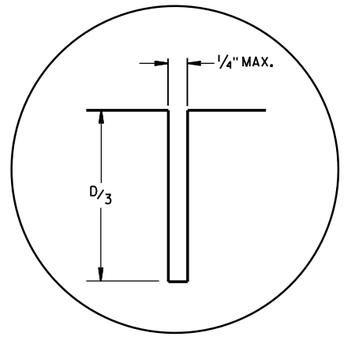


PLAN VIEW



SECTION A-A

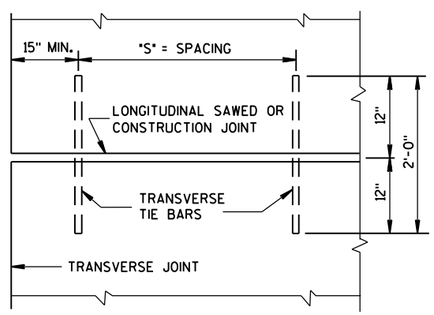
LONGITUDINAL CONSTRUCTION JOINT
TIE BARS ANCHORED
INTO EXISTING PAVEMENT



DETAIL "A"

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

5-3-2013
DATE

/S/ Deb Bischoff
PAVEMENT POLICY & DE ENGINEER

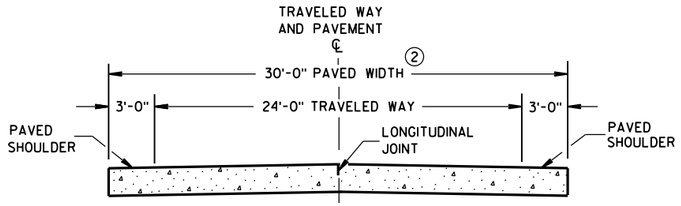
FHWA

6

S.D.D. 13 C 1-16

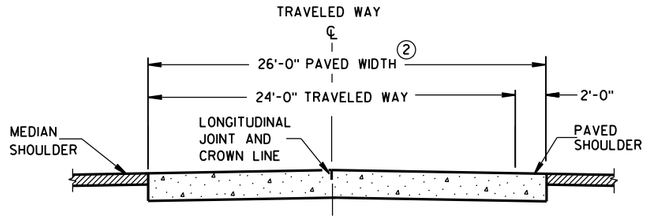
6

S.D.D. 13 C 1-16

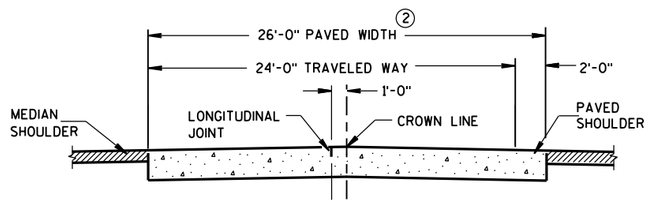


SECTION A-A ①

TWO-LANE TWO-WAY HIGHWAY



SECTION B-B



ALTERNATIVE SECTION B-B ①

DIVIDED HIGHWAY

GENERAL NOTES

CONTRACTION JOINTS

CONSTRUCT TRANSVERSE CONTRACTION JOINTS NORMAL TO THE CENTERLINE. SHOW THE LOCATION OF CONTRACTION JOINTS THROUGH INTERSECTIONS ON THE PLANS OR AS DIRECTED BY THE ENGINEER.

DO NOT SEAL OR FILL CONTRACTION JOINTS.

INSTALL DOWEL BARS PARALLEL TO THE PAVEMENT CENTERLINE AND PAVEMENT SURFACE.

FOR PAVEMENT SLABS OF VARYING WIDTHS, LOCATE THE OUTER MOST DOWEL BAR SO THAT THE CENTER OF THE BAR IS A MINIMUM OF 6 INCHES AND A MAXIMUM OF 18 INCHES FROM THE FREE EDGE OF PAVEMENT.

CONSTRUCTION JOINTS

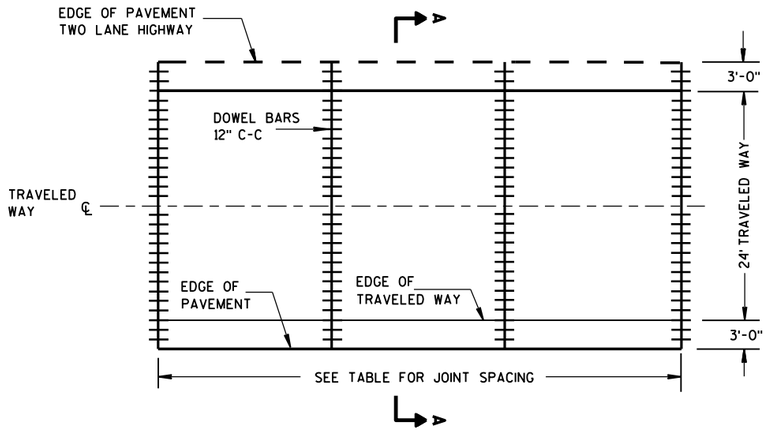
LOCATE CONSTRUCTION JOINTS A MINIMUM OF 6 FEET FROM THE NEAREST CONTRACTION JOINT AND ALIGN PARALLEL TO CONTRACTION JOINTS.

① REFER TO TYPICAL CROSS SECTIONS FOR ADDITIONAL DETAILS.

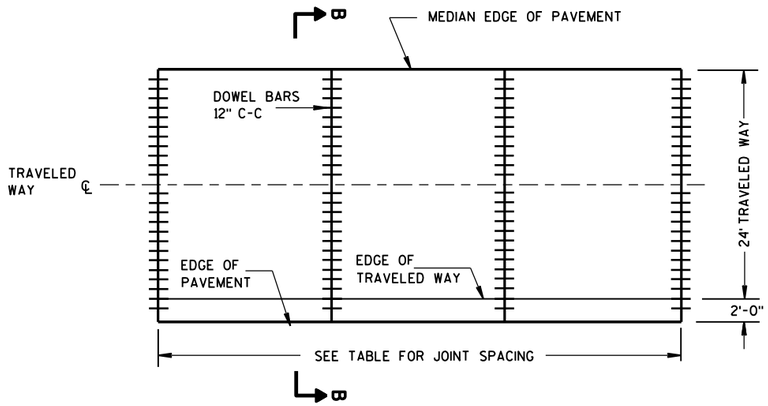
② MEASURE THE ENTIRE PAVED WIDTH INCLUDING THE PORTION(S) LABELED PAVED SHOULDER AS CONCRETE PAVEMENT.

PAVEMENT DEPTH, DOWEL BAR SIZE AND JOINT SPACING TABLE

PAVEMENT DEPTH (D)	DOWEL BAR DIAMETER	CONTRACTION JOINT SPACING
5 ½", 6", 6 ½"	NONE	12'
7", 7 ½"	1"	14'
8", 8 ½"	1 ¼"	15'
9", 9 ½"	1 ¼"	15'
10" & ABOVE	1 ½"	15'



CONTRACTION JOINT LAYOUT
FOR TWO-LANE TWO-WAY HIGHWAY



CONTRACTION JOINT LAYOUT
FOR DIVIDED HIGHWAY

RURAL DOWELED
CONCRETE PAVEMENT

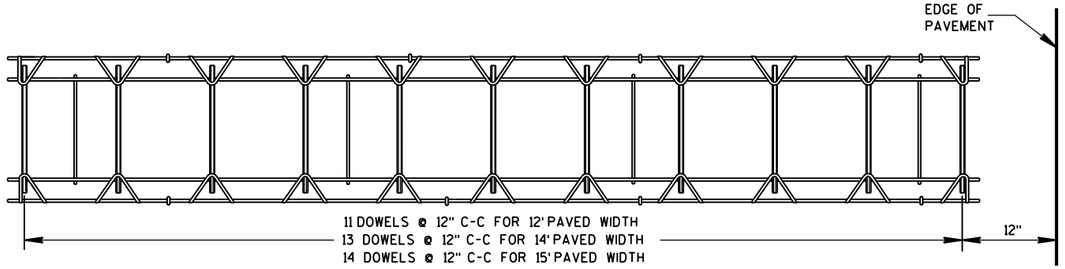
STATE OF WISCONSIN
DEPARTMENT OF TRANSPOI 252

6

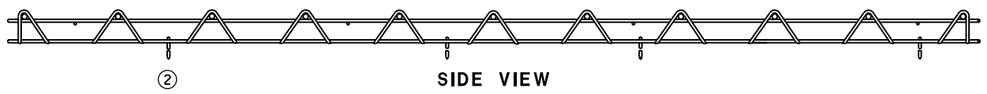
S.D.D. 13 C 11-11a

6

S.D.D. 13 C 11-11a



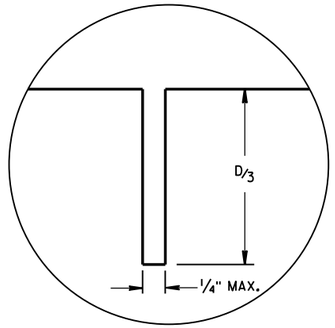
PLAN VIEW



SIDE VIEW

(NORMAL TO CENTERLINE)

CONTRACTION JOINT DOWEL ASSEMBLY ①



JOINT DETAIL

GENERAL NOTES

① OBTAIN THE ENGINEER'S APPROVAL FOR THE USE OF ALTERNATIVE DESIGNS OF THE DOWEL ASSEMBLY. USE MECHANICAL DOWEL BAR INSERTERS OR DOWEL ASSEMBLIES WHEN CONSTRUCTING CONTRACTION JOINTS.

② SECURE BASKETS WITH ANCHORS TO HOLD DOWEL BARS IN THE CORRECT POSITION AND ALIGNMENT. TYPE, LOCATION, NUMBER AND LENGTH OF ANCHORS ARE DEPENDENT UPON FIELD CONDITIONS.

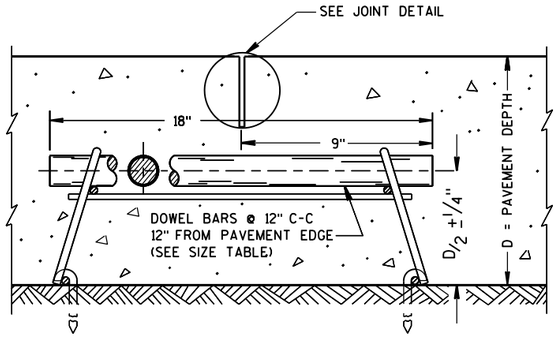
③ FORM OR SAW CONSTRUCTION JOINTS. PROVIDE A 1/4-INCH RADIUS AT FORMED JOINTS.

④ PROVIDE A SMOOTH VERTICAL FACE FOR THE ENTIRE DEPTH OF THE PAVEMENT WHEN FORMING CONSTRUCTION JOINTS.

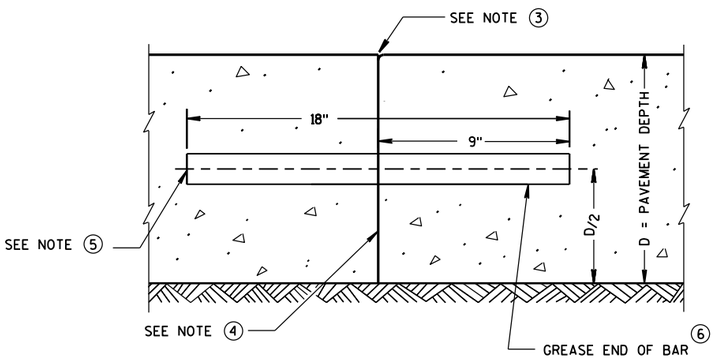
⑤ INSTALL DOWEL BARS AT CONSTRUCTION JOINTS BY FORMING OR DRILLING. INSTALL FORMED DOWEL BARS 12 INCHES C-C AND 12 INCHES FROM PAVEMENT EDGE. REMOVE EXCESS CONCRETE FROM THE FREE END OF THE DOWEL BAR IF DOWEL BARS ARE FORMED THROUGH A HEADER BOARD. INSTALL DRILLED DOWEL BARS ACCORDING TO *DRILLED DOWEL BAR CONSTRUCTION JOINT* DETAIL.

⑥ APPLY A THIN UNIFORM COATING OF SURFACE TREATMENT TO THE FREE END OF DOWEL BARS TO PREVENT BONDING.

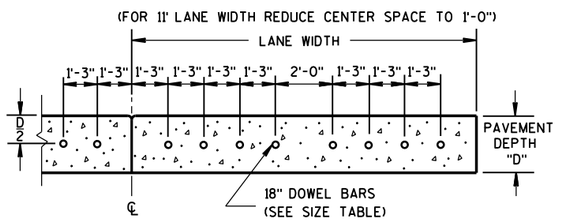
⑦ ANCHOR DOWEL BARS INTO DRILLED HOLES WITH AN EPOXY. MAXIMUM DRILLED HOLE SIZE IS 1/8-INCH GREATER THAN DOWEL BAR DIAMETER, 9 INCHES IN LENGTH.



DOWELED CONTRACTION JOINT



TRANSVERSE CONSTRUCTION JOINT



DRILLED DOWEL BAR CONSTRUCTION JOINT ⑦

6

S.D.D. 13 C 11-11b

RURAL DOWELED CONCRETE PAVEMENT

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

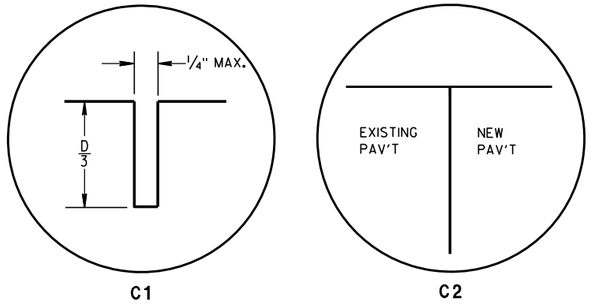
5/3/2013
DATE

/S/ Deb Bischoff
PAVEMENT POLICY & DE ENGINEER

FHWA

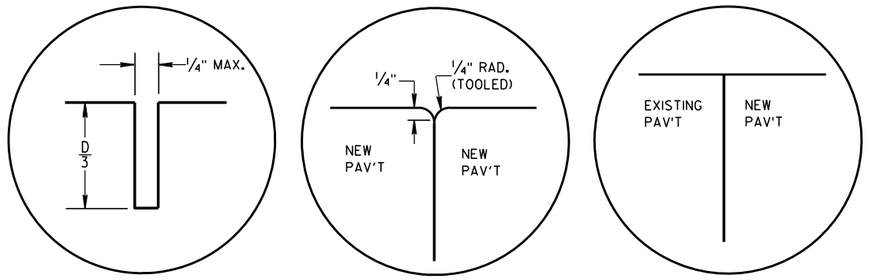
6

S.D.D. 13 C 11-11b



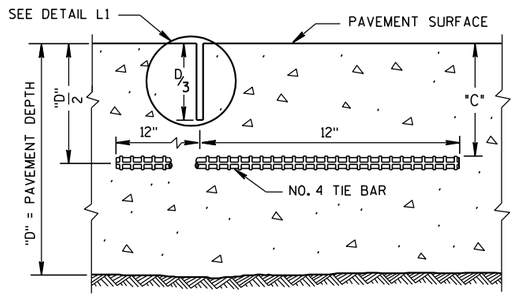
C1 C2

TRANSVERSE JOINTS



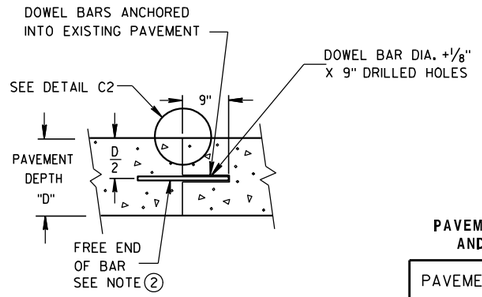
L1 L2 L3

LONGITUDINAL JOINTS



SECTION C-C

SAWED JOINT



SECTION D-D

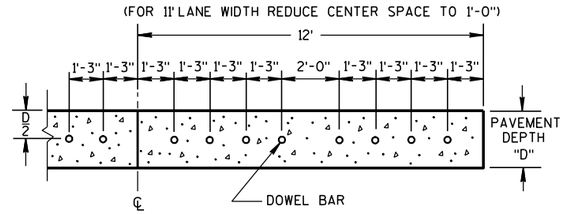
GENERAL NOTES

ANCHOR TIE BARS AND DOWEL 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) INSTALL DOWEL BARS PARALLEL TO THE PAVEMENT CENTERLINE AND PAVEMENT SURFACE.

(2) APPLY A THIN UNIFORM COATING OF SURFACE TREATMENT TO THE FREE END OF DOWEL BARS TO PREVENT BONDING.



SECTION E-E

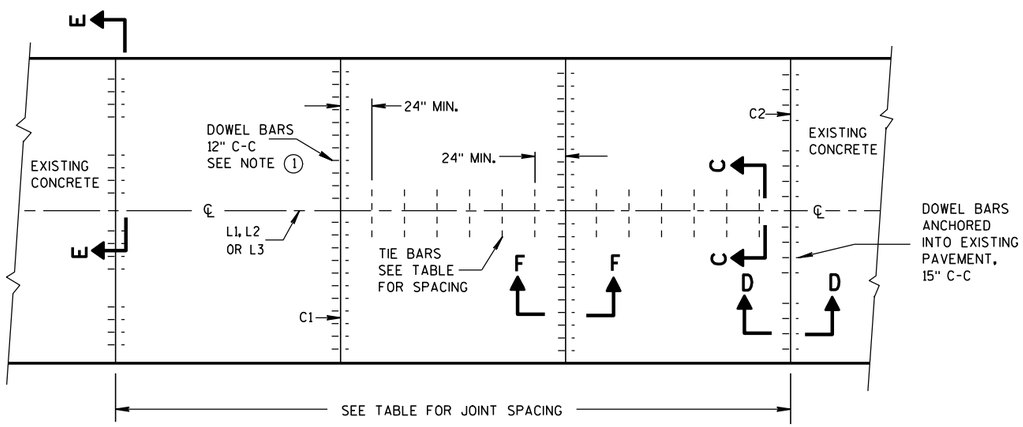
SPACING OF DOWEL BARS ANCHORED INTO EXISTING PAVEMENT

PAVEMENT DEPTH, DOWEL BAR SIZE AND JOINT SPACING TABLE

PAVEMENT DEPTH "D"	DOWEL BAR DIAMETER	CONTRACTION JOINT SPACING
5½", 6, 6 ½"	NONE	12'
7, 7 ½"	1"	14'
8, 8 ½"	1 ¼"	15'
9, 9 ½"	1 ¼"	15'
10" & ABOVE	1 ½"	15'

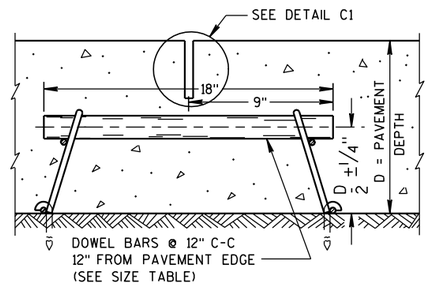
TIE BAR LOCATION TABLE

PAVEMENT DEPTH "D"	CLEAR COVER "C"	MAXIMUM TIE BAR SPACING C-C	
		PAVEMENT WIDTH	
		24' OR 26'	≥ 30'
6, 6 ½"	3"±½"	48"	42"
7, 7 ½"	3 ¼"±1"	45"	36"
8, 8 ½"	3 ¾"±1"	39"	30"
9, 9 ½"	4 ¼"±1"	33"	27"
10, 10 ½"	4 ¾"±1"	30"	24"
11, 11 ½"	5 ¼"±1"	27"	21"
12"	5 ¾"±1"	24"	21"



PLAN VIEW

CONCRETE BASE CONTRACTION JOINT LOCATIONS



SECTION F-F

CONTRACTION JOINT

CONCRETE BASE

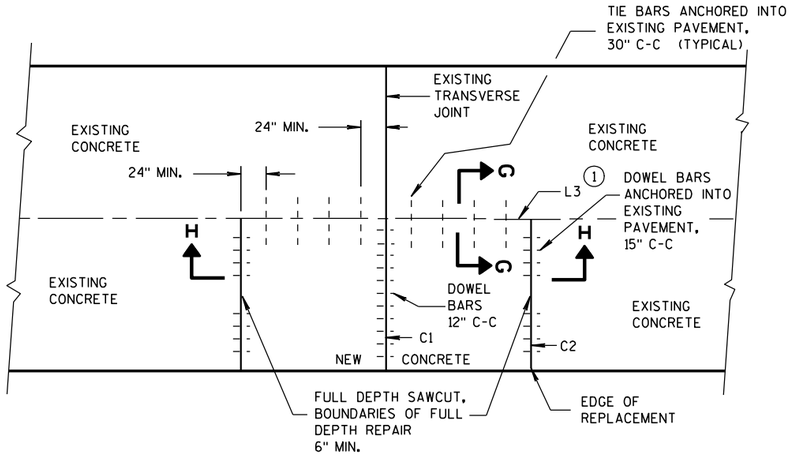
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

6

S.D.D. 13 C 15-5a

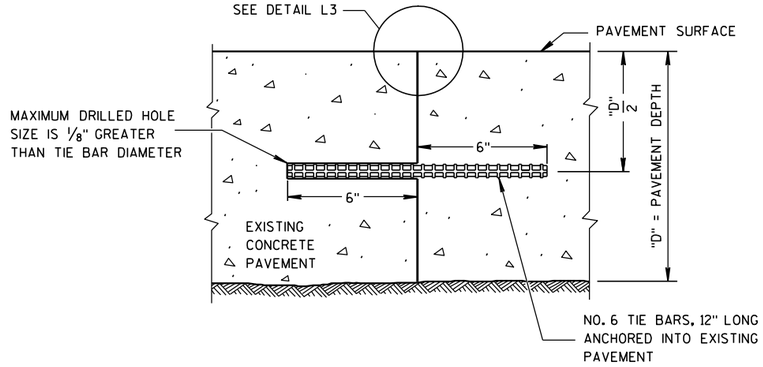
GENERAL NOTES

(1) USE AN ENGINEER-APPROVED BOND BREAKER AT THE LONGITUDINAL JOINT IN LIEU OF TIE BARS FOR SINGLE LANE CONCRETE BASE REPAIRS UP TO 15 FEET IN LENGTH.



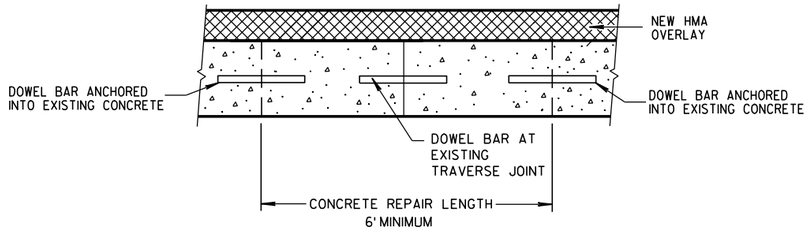
PLAN VIEW

SINGLE LANE CONCRETE BASE REPAIR



SECTION G-G

TIE BARS ANCHORED INTO EXISTING PAVEMENT



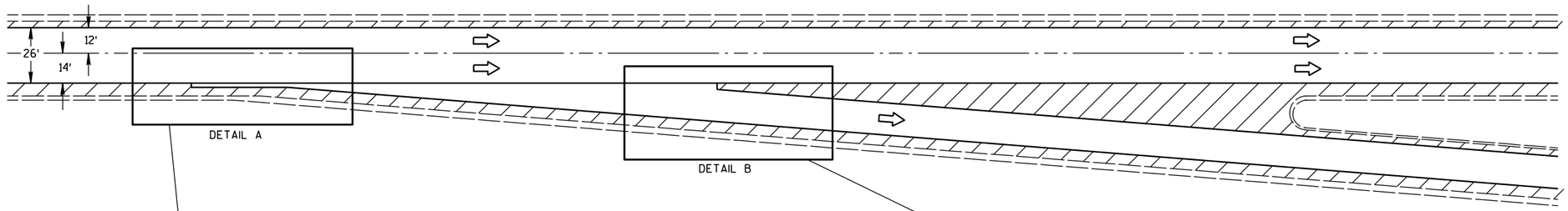
SECTION H-H

CONCRETE BASE

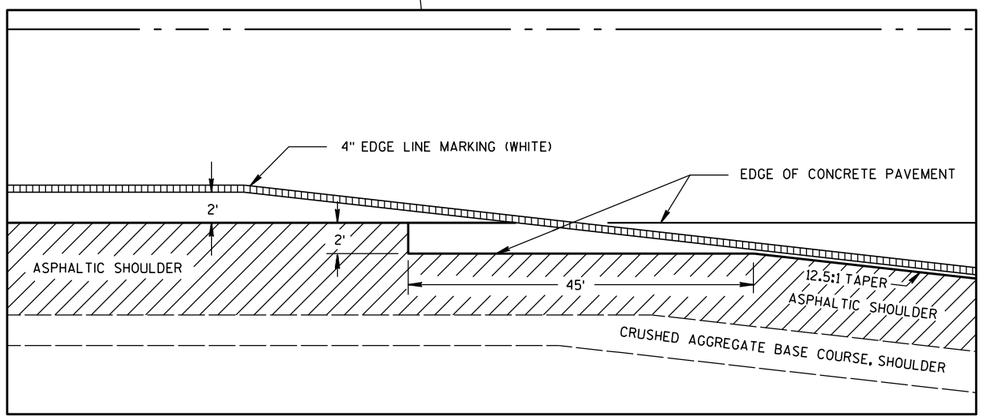
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
12-11-2009 DATE
/S/ Deb Bischoff
PAVEMENT POLICY & D255 ENGINEER
FHWA

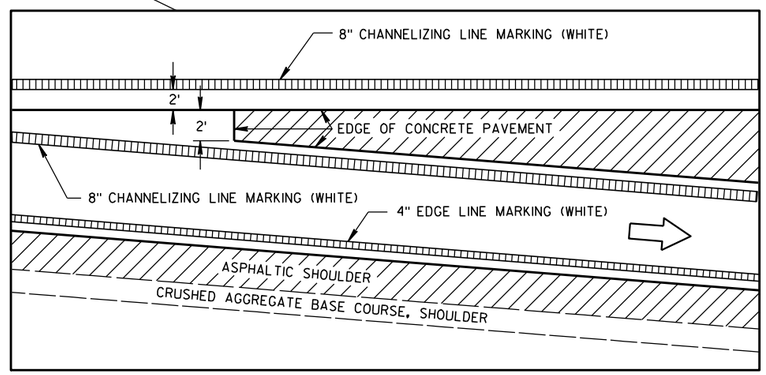
6
S.D.D. 13 C 15-5b



EXIT RAMP DETAIL



DETAIL A



DETAIL B

CONCRETE JOINT PAVING DETAILS

GENERAL NOTES

PAVEMENT MARKING DETAILS AND SPECIFICATIONS ARE PROVIDED ELSEWHERE IN THE CONTRACT.

SEE SDD 13 A 4-4c OR SDD 13 A 5-1b FOR RAMP AND GORE RUMBLE STRIP LOCATION.

CONCRETE JOINT DETAIL FOR EXIT RAMP TERMINI

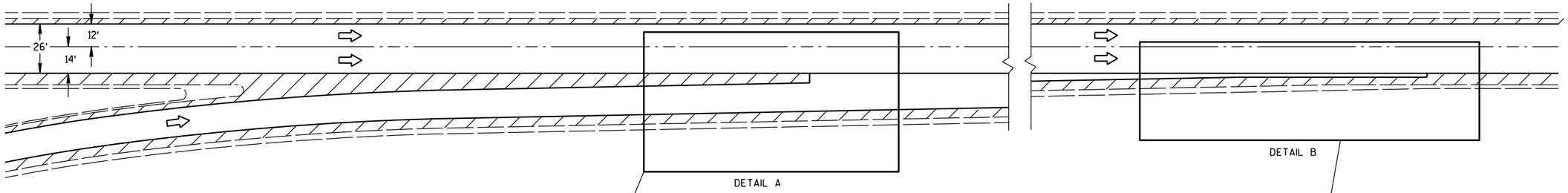
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

6

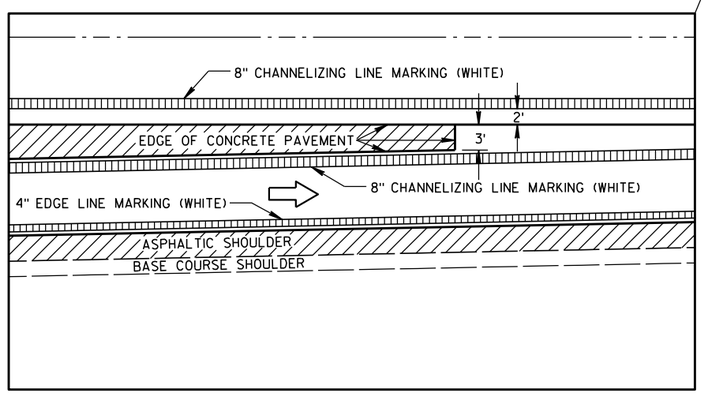
S.D.D. 13 C 17-1a

6

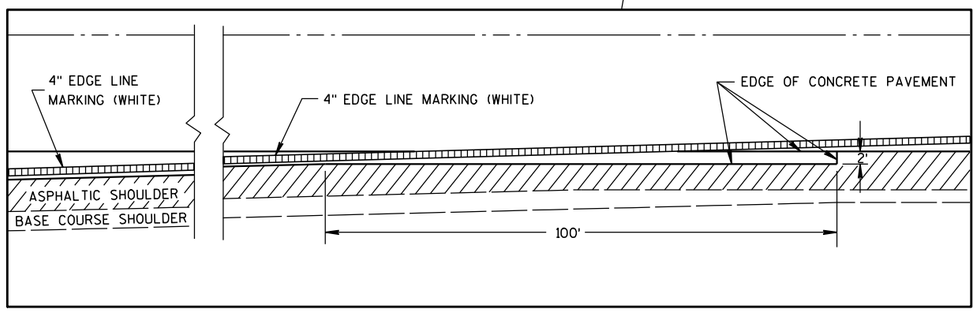
S.D.D. 13 C 17-1a



ENTRANCE RAMP DETAIL



DETAIL A



DETAIL B

CONCRETE JOINT PAVING DETAILS

GENERAL NOTES

PAVEMENT MARKING DETAILS AND SPECIFICATIONS ARE PROVIDED ELSEWHERE IN THE CONTRACT.

SEE SDD 13 A 4-4c OR SDD 13 A 5-1b FOR RAMP AND GORE RUMBLE STRIP LOCATION.

CONCRETE JOINT DETAIL FOR ENTRANCE RAMP TERMINI

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

5/27/98
DATE

/S/ Rory L. Rhinesmith
CHIEF ROADWAY DEVELOPMENT ENGINEER

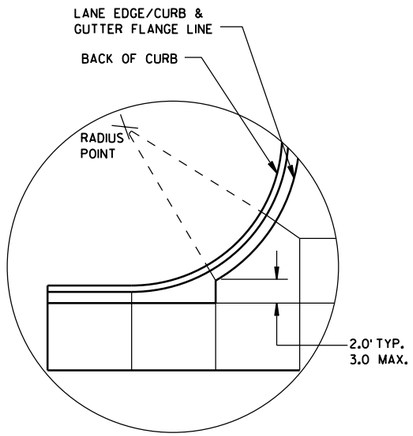
FHWA

6

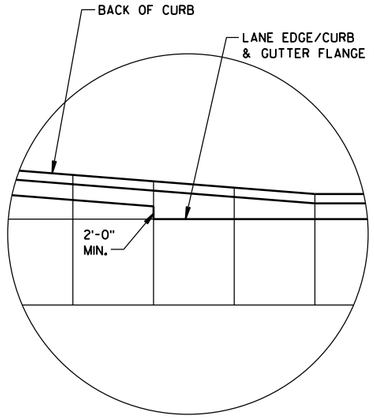
S.D.D. 13 C 17-1b

6

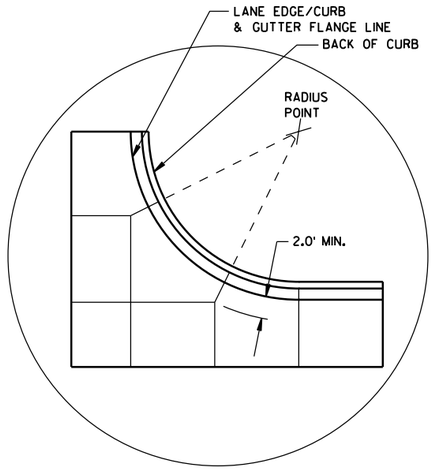
S.D.D. 13 C 17-1b



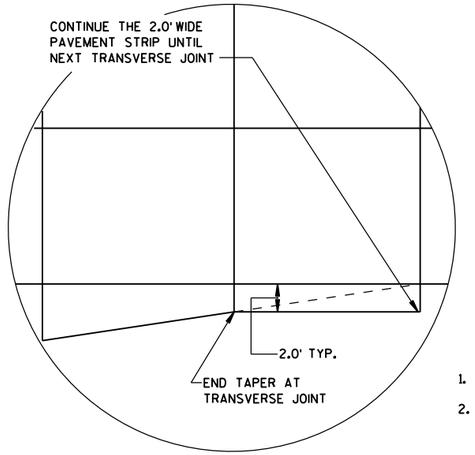
DETAIL "A"



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.

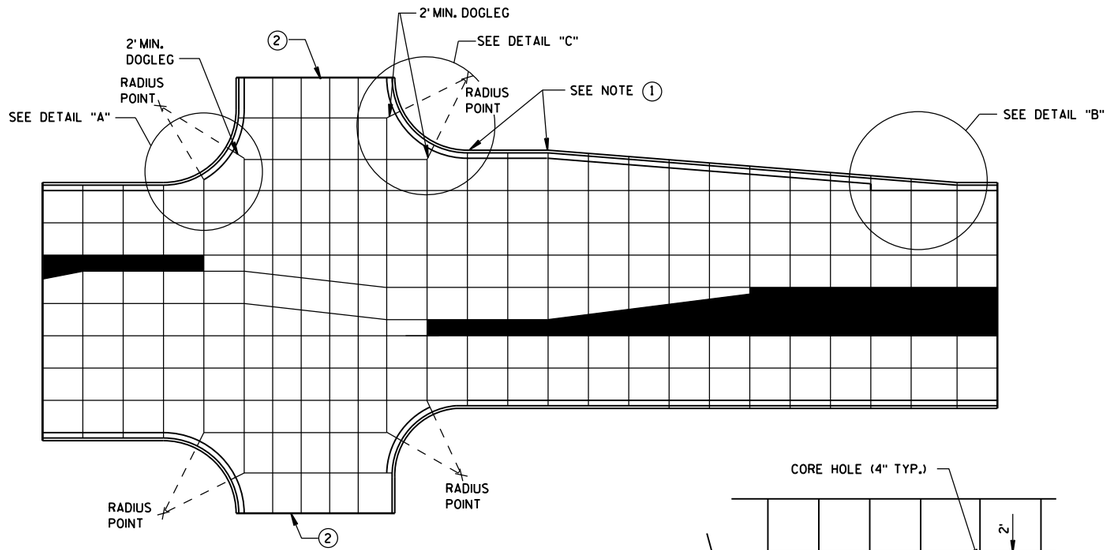
AVOID SLABS LESS THAN 2 FEET WIDE OR GREATER THAN 15 FEET WIDE.

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.

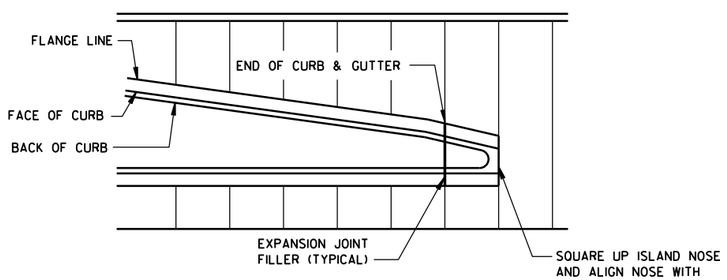


STANDARD INTERSECTION

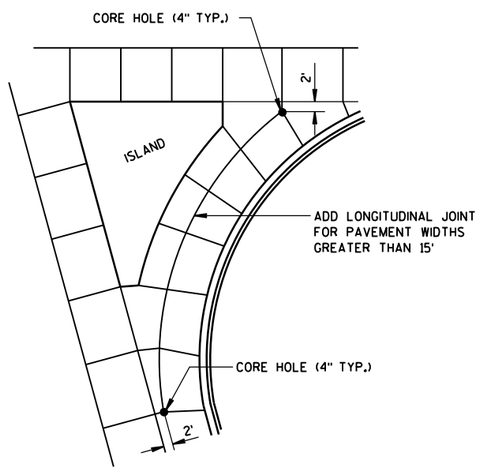
PAVEMENT DEPTH AND JOINT SPACING TABLE

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

6

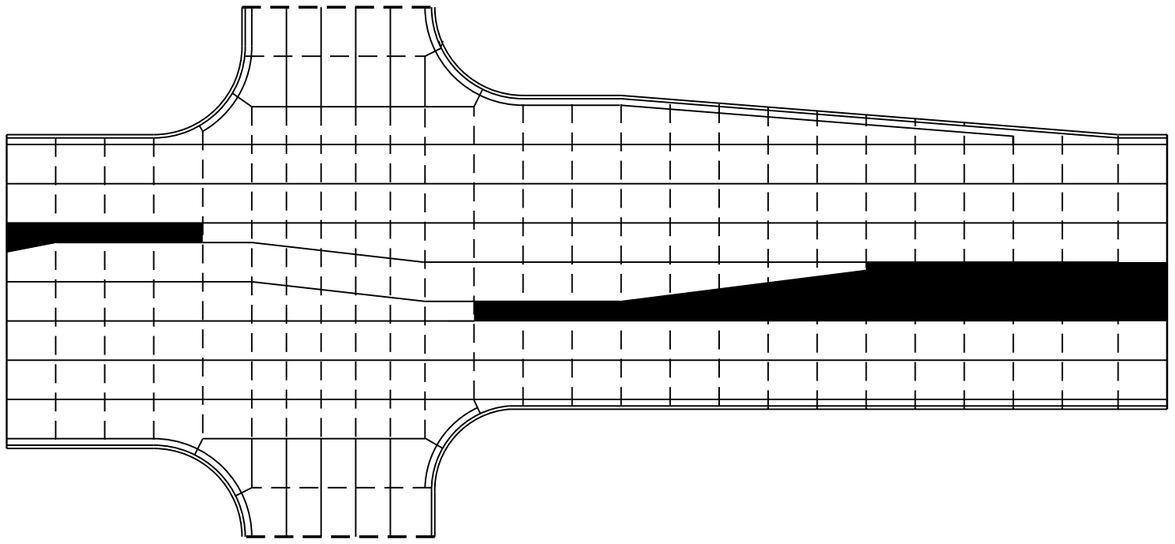
S.D.D. 13 C 18-2a

LEGEND

POTENTIAL DOWELED EXPANSION JOINT

DOWELED JOINT

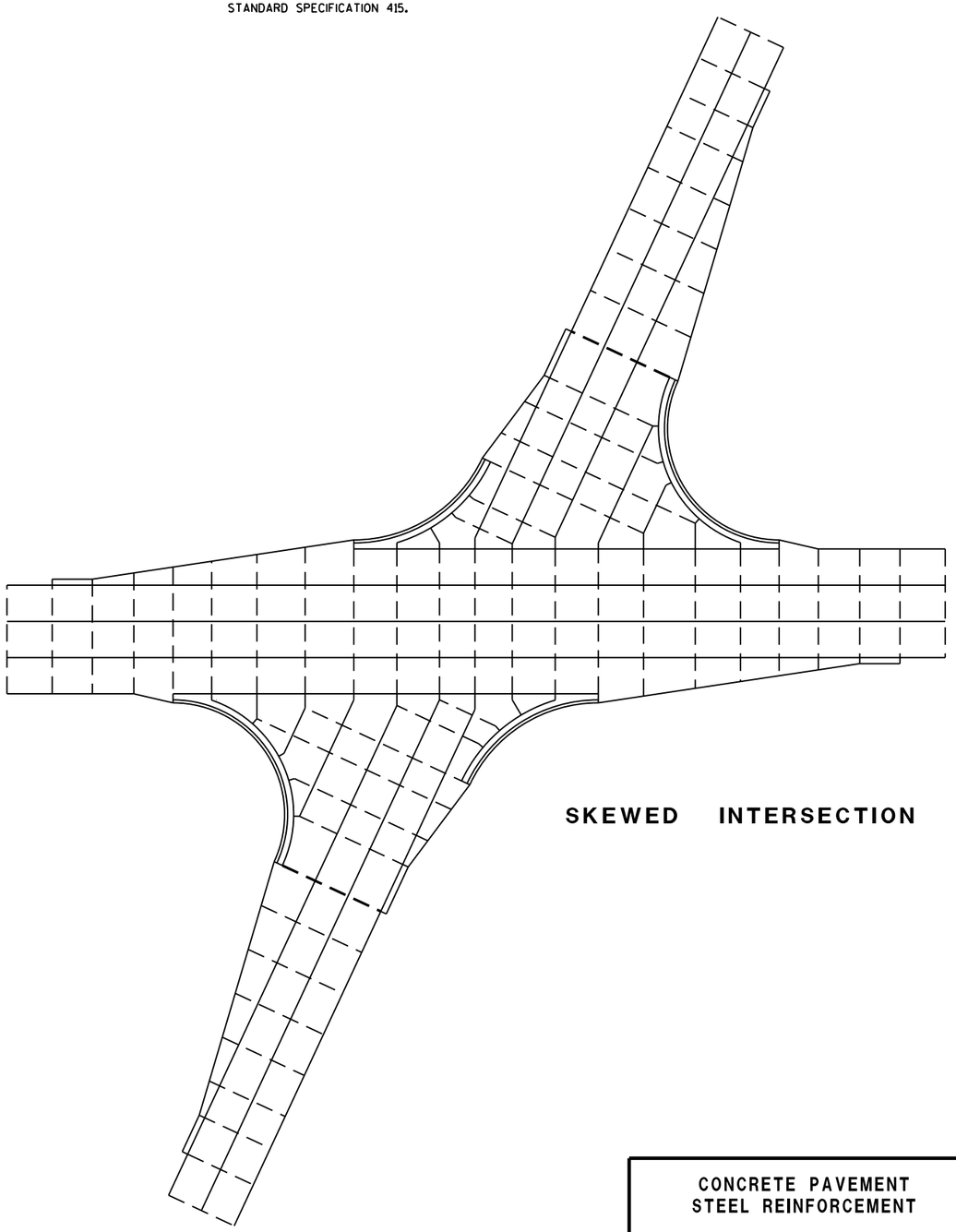
TIED JOINT



STANDARD INTERSECTION

GENERAL NOTES

USE AN EXPANSION JOINT FILLER MEETING THE REQUIREMENTS OF STANDARD SPECIFICATION 415.



SKEWED INTERSECTION

CONCRETE PAVEMENT
STEEL REINFORCEMENT

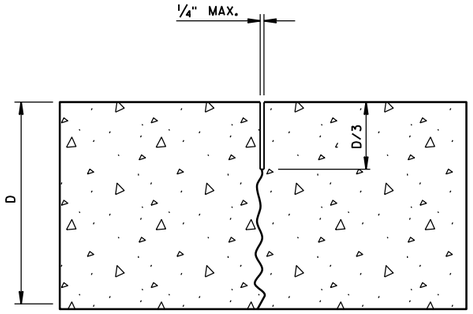
STATE OF WISCONSIN
DEPARTMENT OF TRANSPOR

6

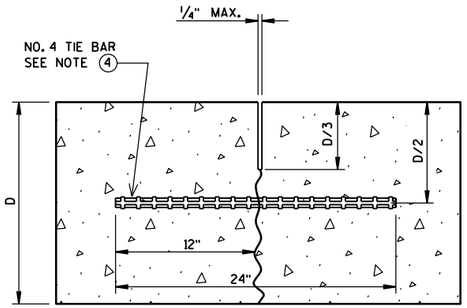
S.D.D. 13 C 18-2b

6

S.D.D. 13 C 18-2b



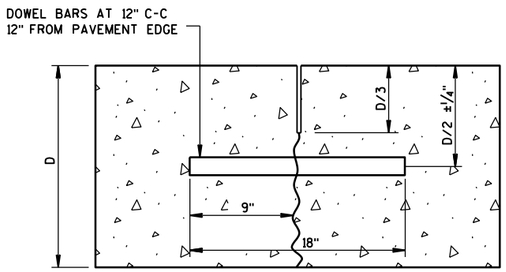
UNDOWELED-TRANSVERSE



TIED LONGITUDINAL

GENERAL NOTES

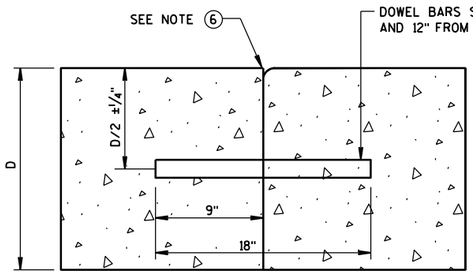
1. USE DOWELED EXPANSION JOINTS ON SIDE ROADS AT INTERSECTIONS (TO ISOLATE THE SIDE ROAD FROM THE THROUGH STREET) IF THE SIDE ROAD IS CONCRETE PAVEMENT AND GREATER THAN 300 FEET IN LENGTH.
2. SPACE CONTRACTION JOINTS IN ACCORDANCE WITH 13C4, 13C11 OR 13C13.
3. LOCATE CONSTRUCTION JOINTS A MINIMUM OF 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.



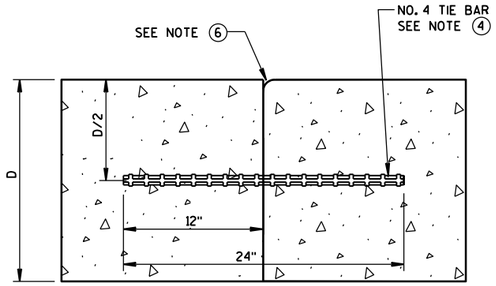
DOWELED-TRANSVERSE

CONTRACTION JOINTS

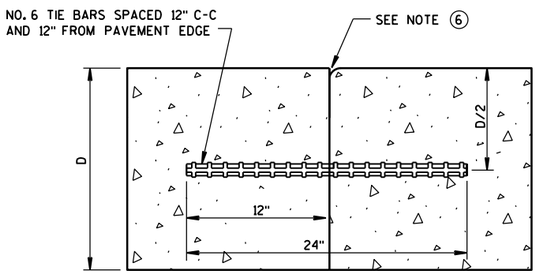
SEE NOTE (2)



DOWELED TRANSVERSE

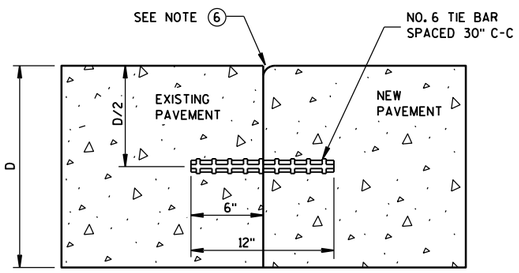


TIED LONGITUDINAL



TIED TRANSVERSE

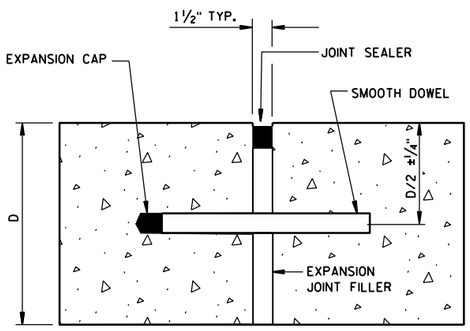
(FOR USE ON NON-DOWELED PAVEMENTS ONLY)



TIED LONGITUDINAL TO EXISTING

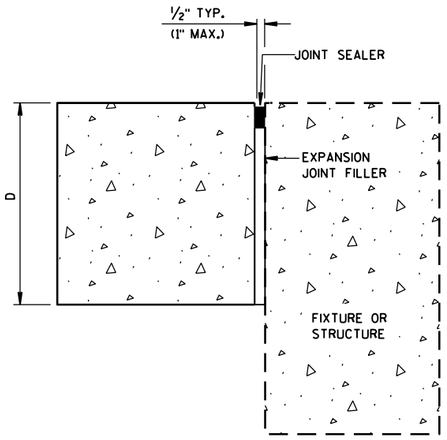
CONSTRUCTION JOINTS

SEE NOTE (5)



DOWELED-TRANSVERSE

SEE NOTE (1)



UNTIED-LONGITUDINAL

EXPANSION JOINTS

CONCRETE PAVEMENT
JOINT TYPES

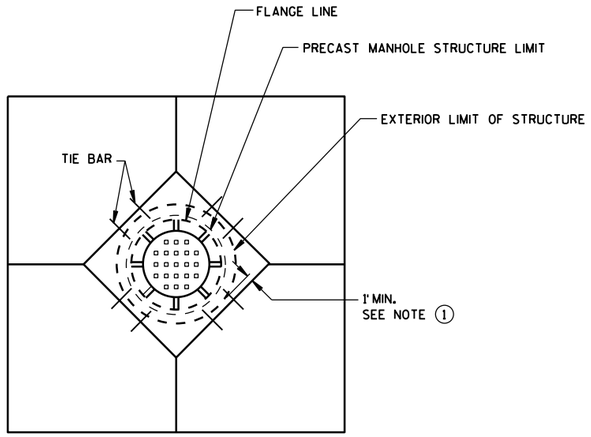
STATE OF WISCONSIN
DEPARTMENT OF TRANSPOI

6

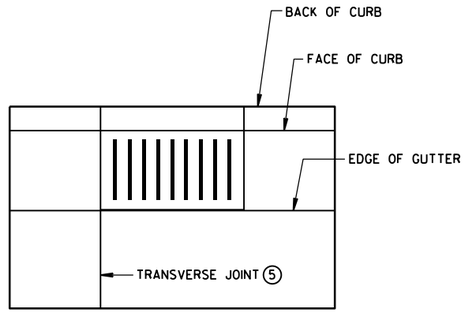
S.D.D. 13 C 18-2c

6

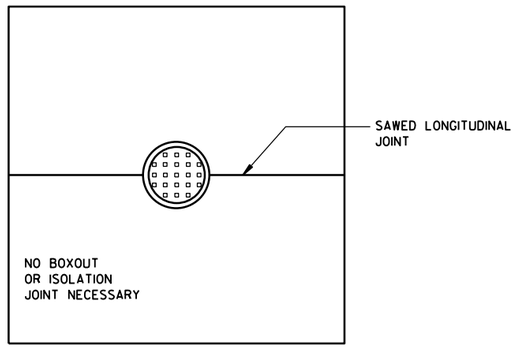
S.D.D. 13 C 18-2c



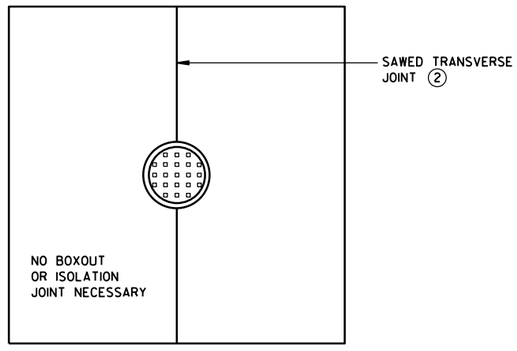
DIAGONAL MANHOLE BOXOUT FOR CONSTRUCTION JOINTS



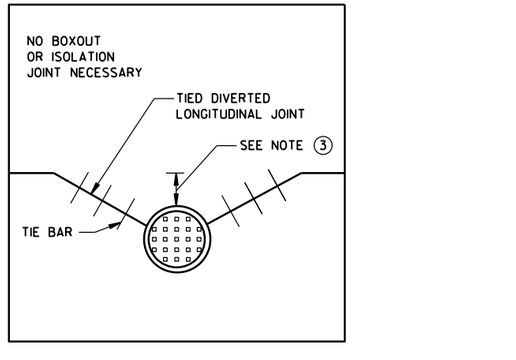
INLET WITH TRANSVERSE JOINT



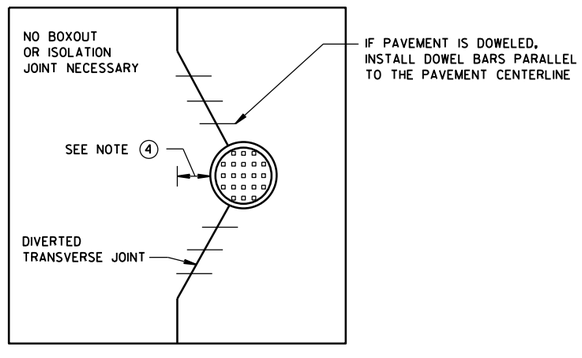
MANHOLE WITH LONGITUDINAL JOINT



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

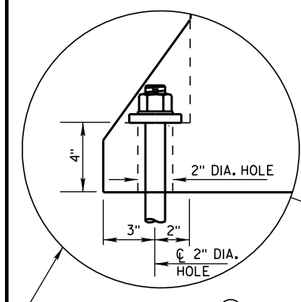
APPROVED

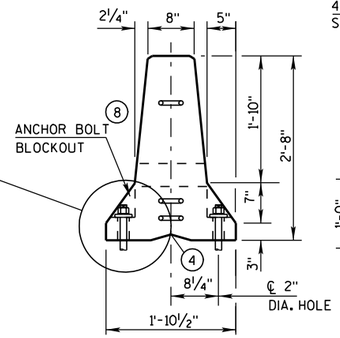
5-3-2013	/S/ Deb Bischoff	
DATE	PAVEMENT POLICY & DE	NEER

FHWA

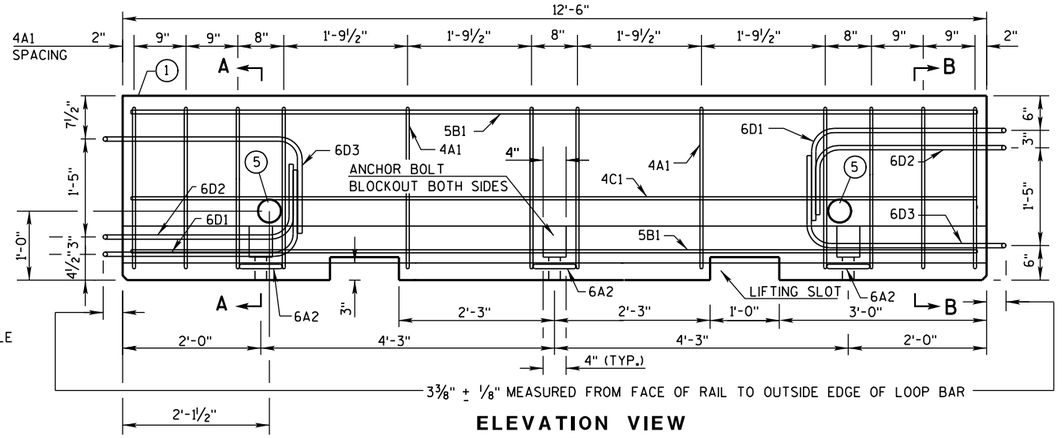
6

S.D.D. 13 C 18-2d

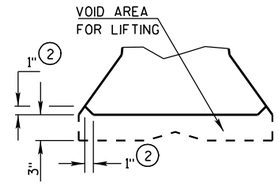




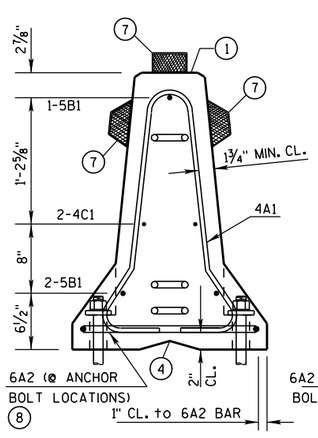
END VIEW



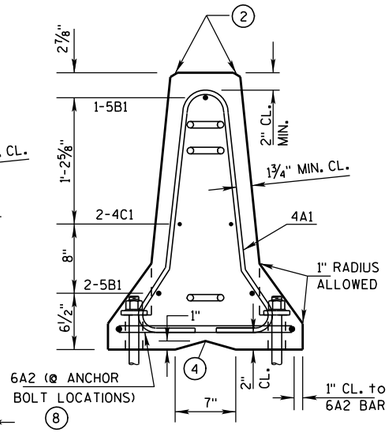
ELEVATION VIEW



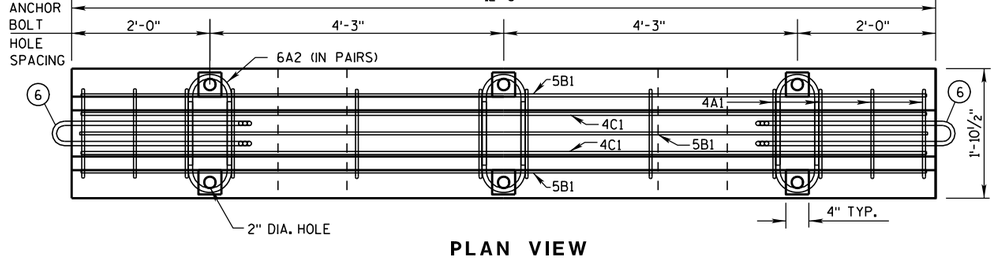
DETAIL "B"
LIFTING SLOT DETAIL



SECTION A-A
(STIRRUP PLACEMENT)

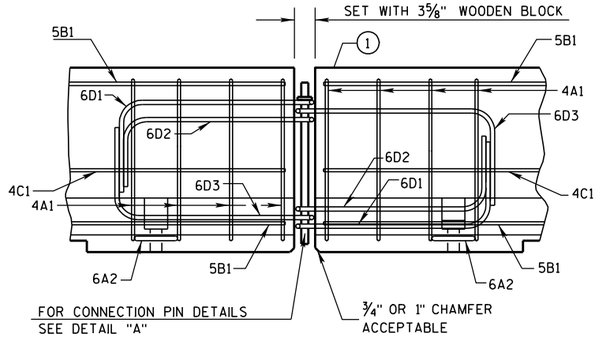


SECTION B-B
(STIRRUP PLACEMENT)

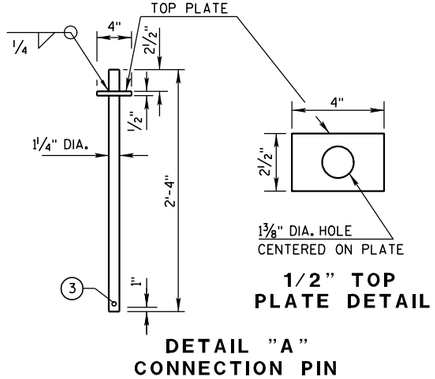


PLAN VIEW

DETAILS OF BARRIER SECTION

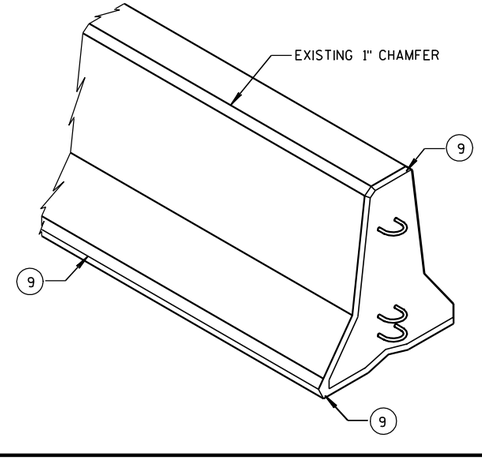


DETAILS OF BARRIER CONNECTION



1/2" TOP PLATE DETAIL

DETAIL "A"
CONNECTION PIN
(A36 STEEL (10.9 LB EACH))



GENERAL NOTES

THESE GENERAL NOTES APPLY TO SHEETS 14B7-13(a) THRU 14B7-13(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: WICBTP
- 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.

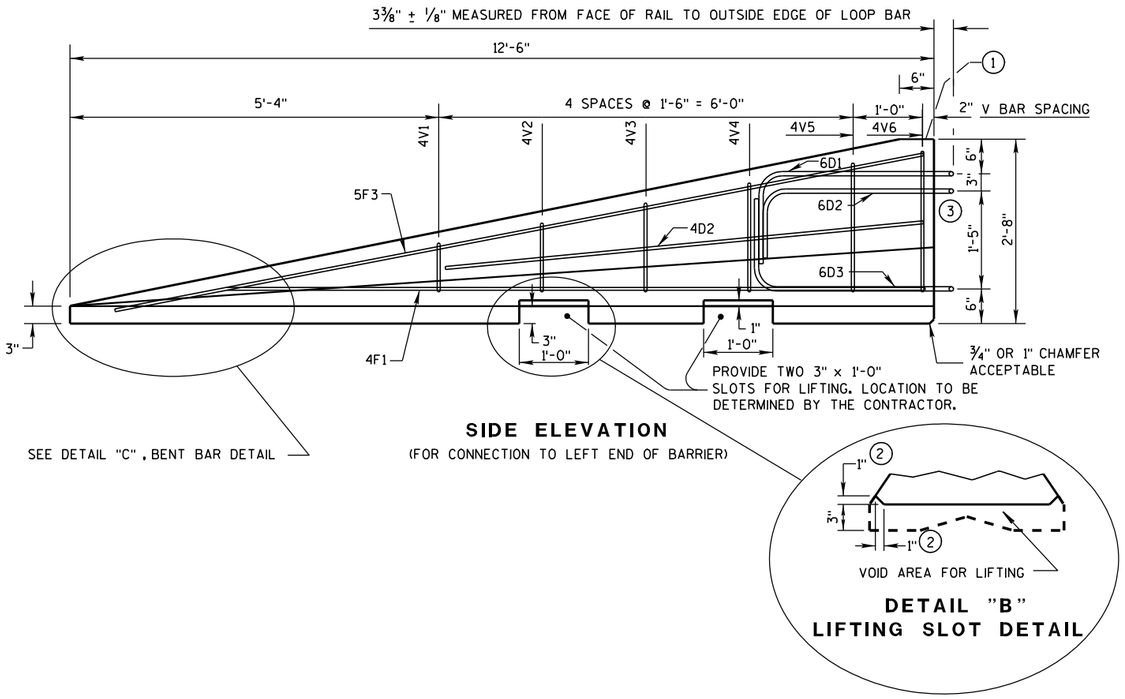
(9) 1" CHAMFER OPTIONAL.

CONCRETE BARRIER TEMPORARY PRECAST, 12'-6"

STATE OF WISCONSIN
DEPARTMENT OF TRANSPO...

6

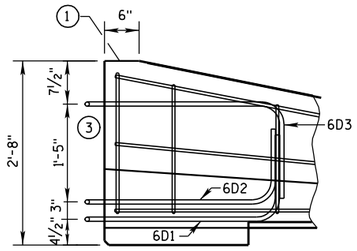
S.D.D. 14 B 7-13a



SIDE ELEVATION

(FOR CONNECTION TO LEFT END OF BARRIER)

DETAIL "B"
LIFTING SLOT DETAIL

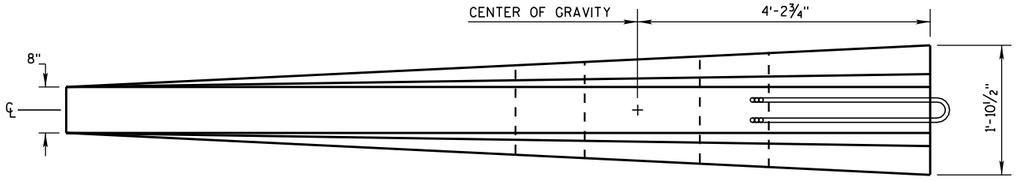


SIDE ELEVATION

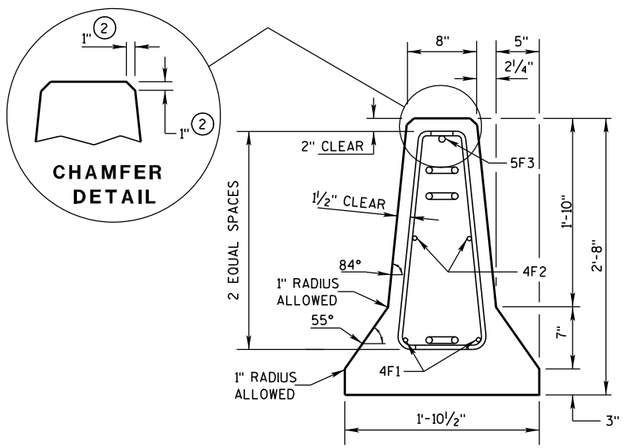
LOOP BAR ASSEMBLY INVERTED
FOR OPPOSITE END.
(FOR CONNECTION TO RIGHT END OF BARRIER)

GENERAL NOTES

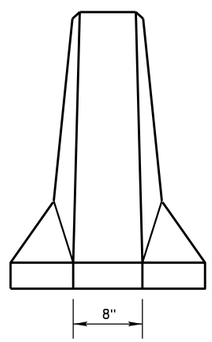
1. MARK ONE END OF EACH BARRIER PERMANENTLY BY FORMING INTO THE BARRIER THE FOLLOWING INFORMATION:
   a. TYPE WICBTP
   b. MANUFACTURER
   c. DATE MANUFACTURED (MONTH AND YEAR)
2. 1" CHAMFER TO PREVENT SPALLING.
3. NEVER USE LOOP BARS (6D1, 6D2 OR 6D3) TO LIFT, MOVE OR REPOSITION THE BARRIER.



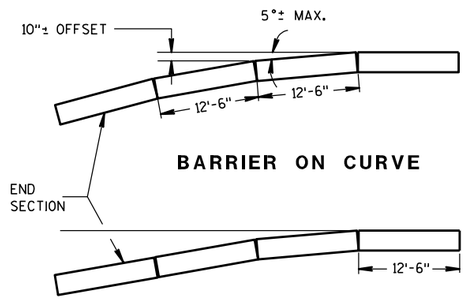
PLAN VIEW



END SECTION



FRONT ELEVATION



BARRIER ON CURVE

FLARE AT BARRIER END

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 TRANSPORTATION

6

S.D.D. 14 B 7-13b

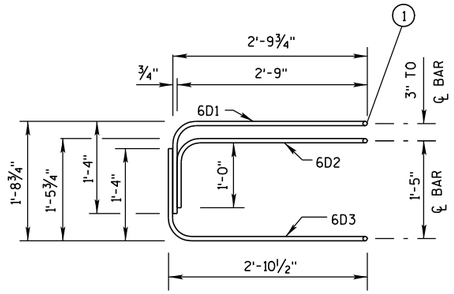
6

S.D.D. 14 B 7-13b

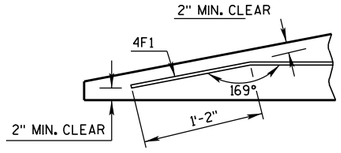
BARRIER TAPER SECTION BILL OF MATERIALS

(PER 12'-6" BARRIER TAPER SECTION)

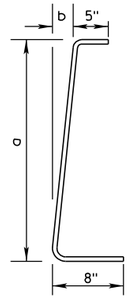
BAR	BAR SIZE	NO. OF BARS	LENGTH FT.
4V1	4	2	1'-11"
4V2	4	2	2'-2"
4V3	4	2	2'-6"
4V4	4	2	2'-9"
4V5	4	2	3'-2"
4V6	4	2	3'-4"
4F1	4	2	12'-0"
4F2	4	2	7'-6"
5F3	5	1	11'-9"
LOOP ASSEMBLY			
6D1	6	1	8'-5"
6D2	6	1	7'-7"
6D3	6	1	8'-6"



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

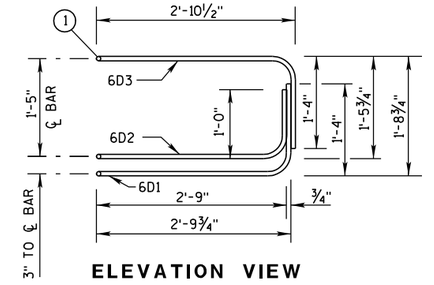
GENERAL NOTES

(1) NEVER USE LOOP BARS (6D1, 6D2 OR 6D3) TO LIFT, MOVE OR REPOSITION THE BARRIER.

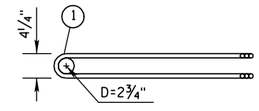
BARRIER SECTION BILL OF MATERIALS

(PER 12'-6" BARRIER SECTION)

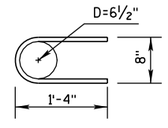
BAR	BAR SIZE	NO. OF BARS	LENGTH FT.
4A1	4	12	6'-0"
6A2	6	6	2'-11"
5B1	5	3	12'-2"
4C1	4	2	12'-2"
LOOP ASSEMBLY			
6D1	6	2	8'-5"
6D2	6	2	7'-7"
6D3	6	2	8'-6"



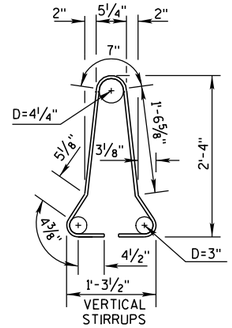
ELEVATION VIEW



PLAN VIEW
LOOP BAR ASSEMBLY
(MARKED END SHOWN, INVERT FOR OTHER END)



6A2



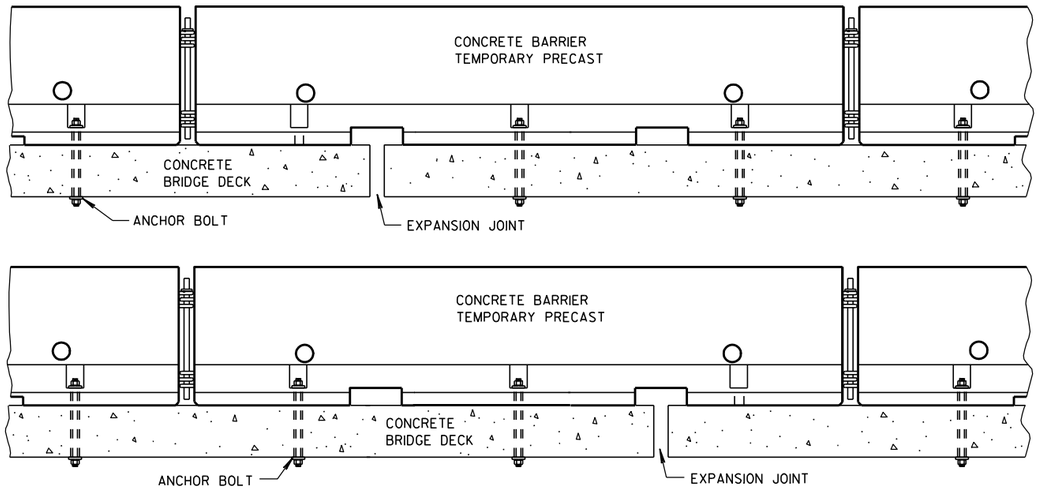
4A1

BARRIER SECTION

CONCRETE BARRIER
TEMPORARY PRECAST, 12'-6"

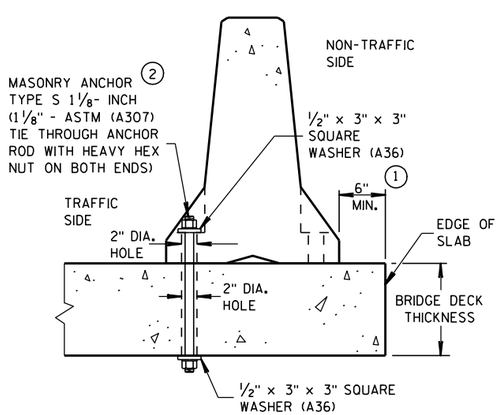
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

6
S.D.D. 14 B 7-13c



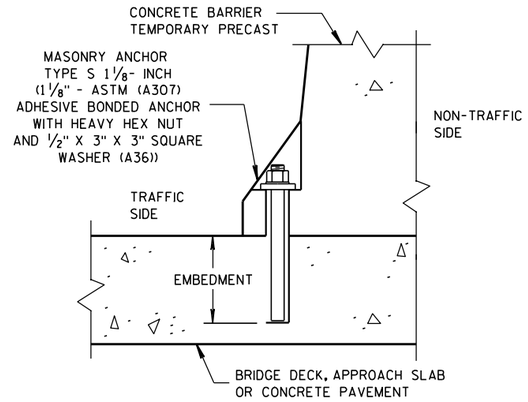
TREATMENT AT BRIDGE DECK EXPANSION JOINTS

(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 INSTALLATION ON CONCRETE BRIDGE DECK, CONCRETE APPROACH SLAB, OR CONCRETE PAVEMENT

(DO NOT USE ON CONCRETE WITH AN ASPHALTIC OVERLAY)

GENERAL NOTES

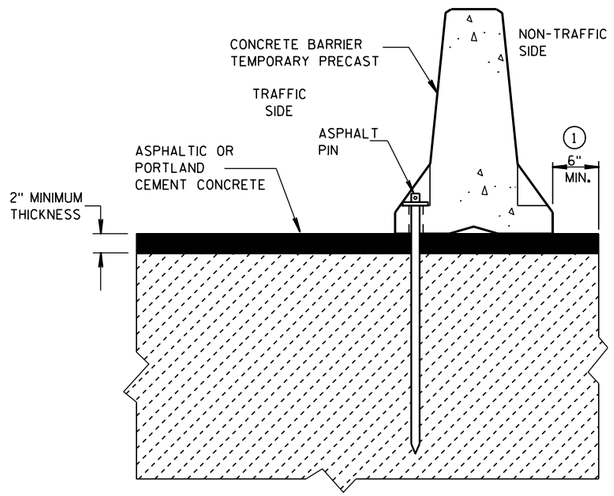
1. CONCRETE BARRIER TEMPORARY PRECAST, 12'-6" SHALL BE ANCHORED IF:
   THE DISTANCE TO A 2 FOOT OR GREATER DROPOFF THAT IS STEEPER THAN 3H : 1V, FOR EXAMPLE THE EDGE OF A BRIDGE DECK OR A DROPOFF AT THE EDGE OF PAVEMENT, IS LESS THAN 4 FEET FROM THE SIDE OF THE BARRIER CLOSEST TO THE DROPOFF AND THE 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.

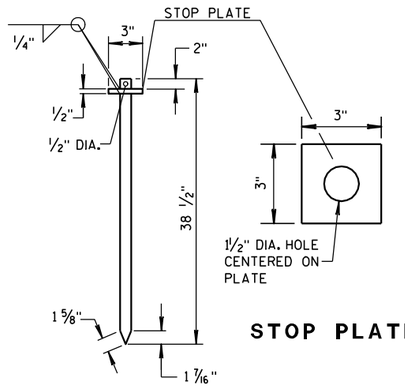
   WITH THE APPROVAL OF THE ENGINEER, REMOVABLE ADHESIVE BONDED (EPOXY) ANCHOR BOLT INSTALLATION MAY BE USED IN LIEU OF THROUGH BOLTED ANCHOR INSTALLATION. THE ADHESIVE BONDED ANCHOR BOLT MUST BE REMOVABLE. USE ASTM (A307) MASONRY ANCHORS TYPE S 1⅛-INCH, EMBEDDED TO A DEPTH SUFFICIENT TO DEVELOP THE ULTIMATE 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.



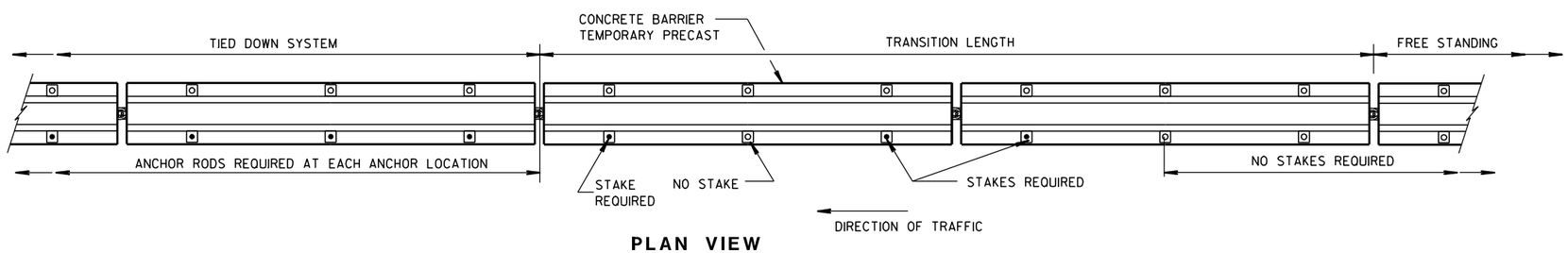
STAKE DOWN INSTALLATION FOR ASPHALTIC OR PORTLAND CEMENT CONCRETE SURFACE

(STAKING IS INCIDENTAL TO CONCRETE BARRIER TEMPORARY PRECAST)



ASPHALT PIN

(ASTM A36 STEEL)



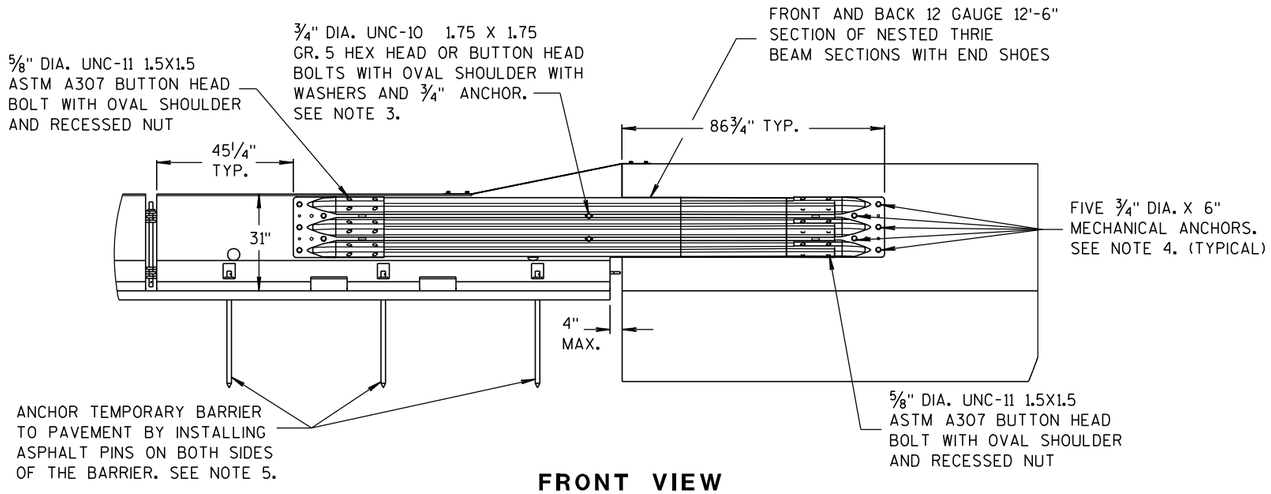
PLAN VIEW

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"

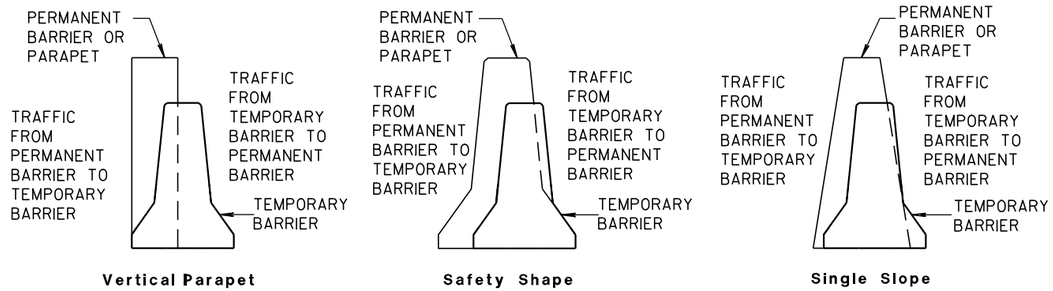
STATE OF WISCONSIN
DEPARTMENT OF TRANSPO...



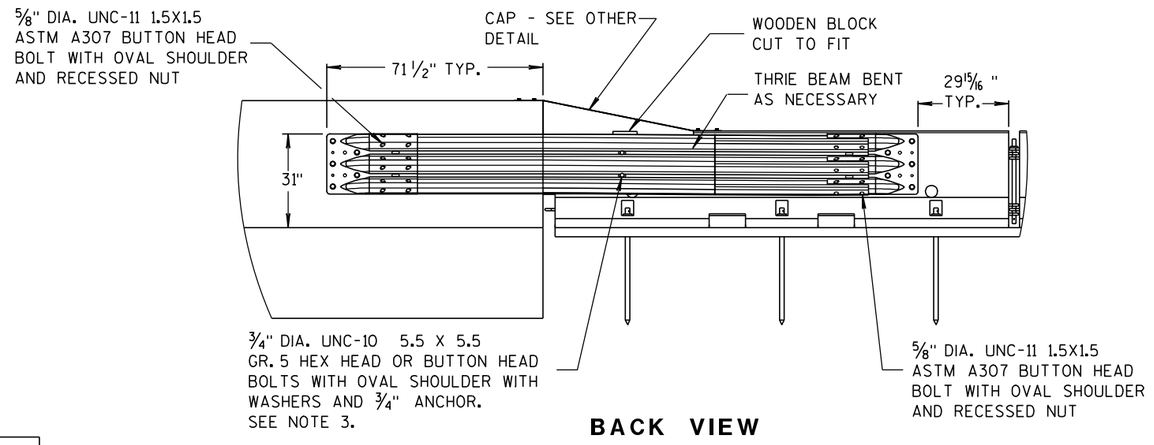
FRONT VIEW

NOTES

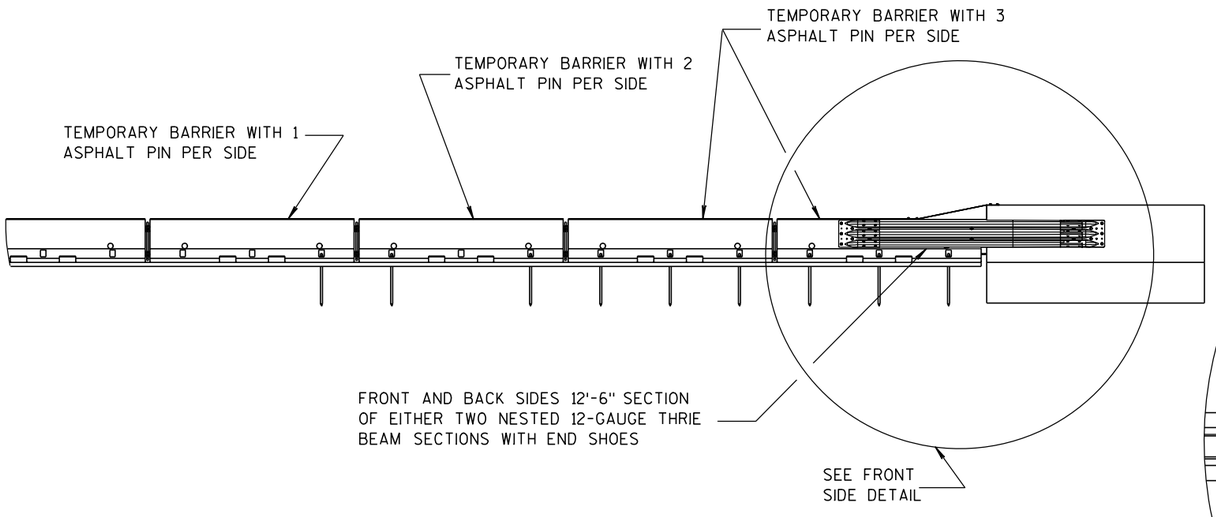
1. CAP END PLATE PLACED FLUSH WITH UPSTREAM END OF PERMANENT BARRIER OR PARAPET.
2. THRIE BEAM PIECES ARE OFFSET 15 1/4" TO PREVENT INTERFERENCE FROM THE ANCHORS ON OPPOSING SIDES.
3. MINIMUM MECHANICAL OR EPOXY ANCHOR STRENGTH REQUIREMENTS: ULTIMATE TENSILE LOAD 9.48 KIPS AND ULTIMATE SHEAR LOAD 10.48 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.



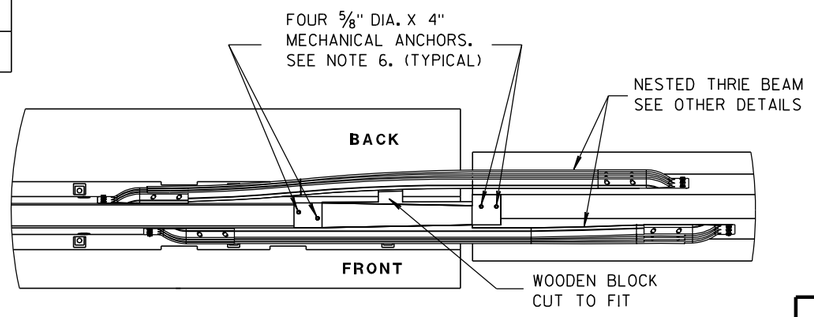
TEMPORARY BARRIER PLACEMENT FOR BI-DIRECTIONAL TRANSITION TO TIED-DOWN SYSTEM



BACK VIEW



FRONT VIEW



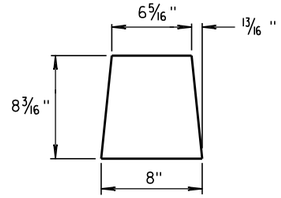
PLAN VIEW

BI-DIRECTIONAL TRANSITION TO TIED-DOWN SYSTEM

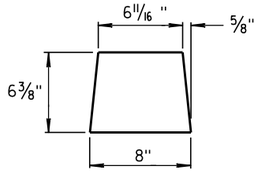
CONCRETE BARRIER TEMPORARY PRECAST, 12'-6"

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

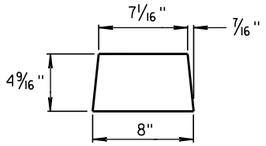
6
S.D.D. 14 B 7-13e



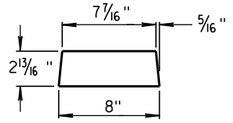
GUSSET 1



GUSSET 2

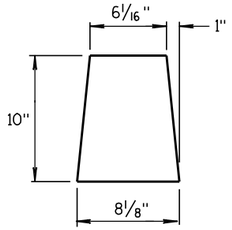


GUSSET 3

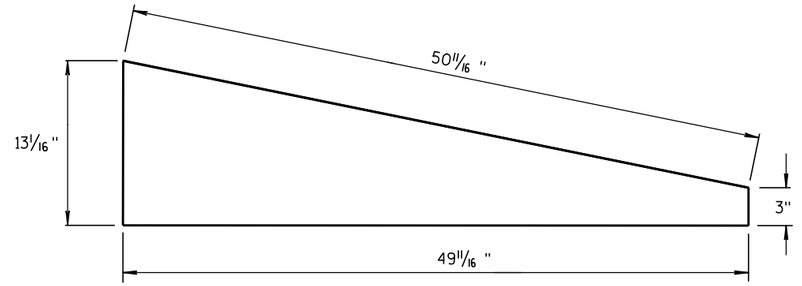


GUSSET 4

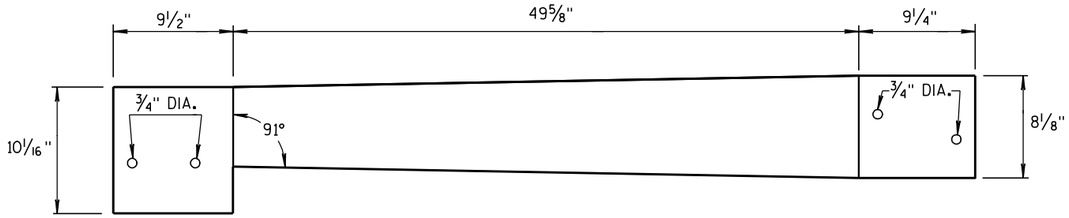
GUSSETS

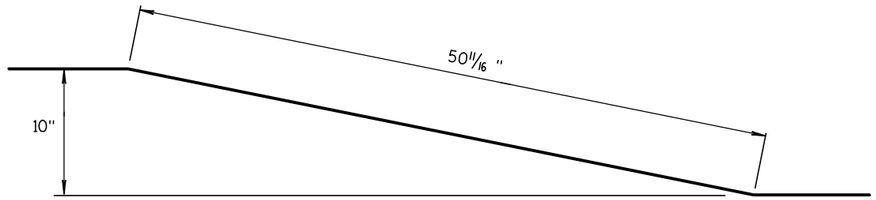


END PLATE

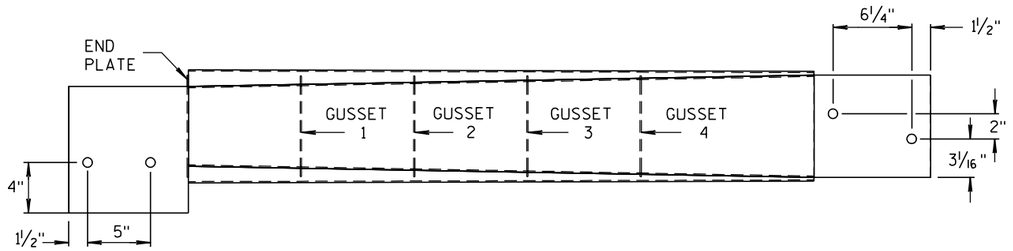


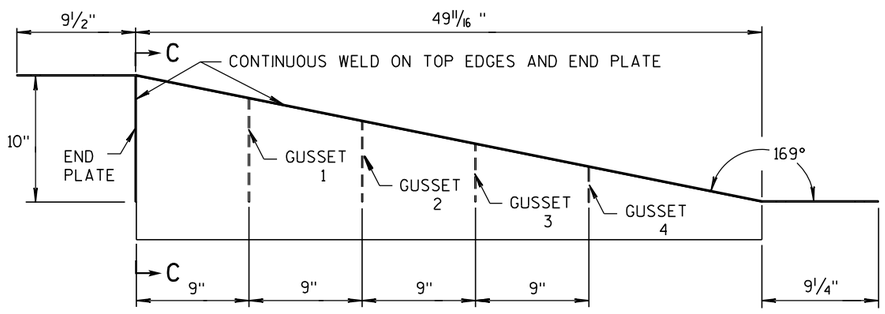
SIDE PLATE

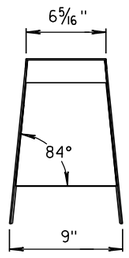




TOP PLATE







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

SIDE, TOP AND END PLATES FOR CAP FROM TEMPORARY CONCRETE BARRIER TO 42" PERMANENT CONCRETE BARRIER

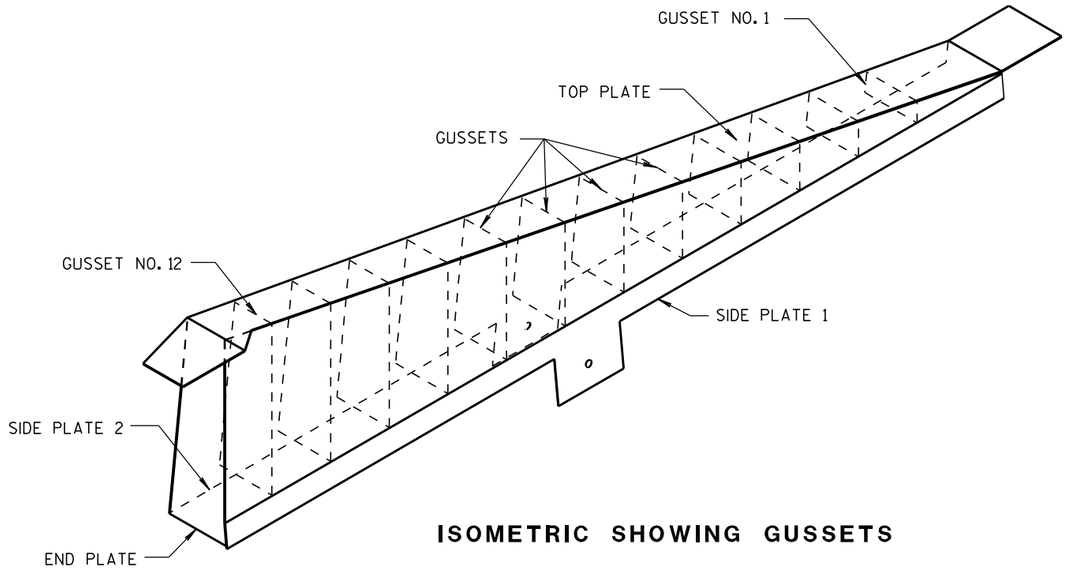
SIDE PLATES, TOP PLATE, END PLATE AND GUSSETS ARE 12 GAUGE ASTM A36 GALVANIZED STEEL.

CONCRETE BARRIER
TEMPORARY PRECAST, 12'-6"

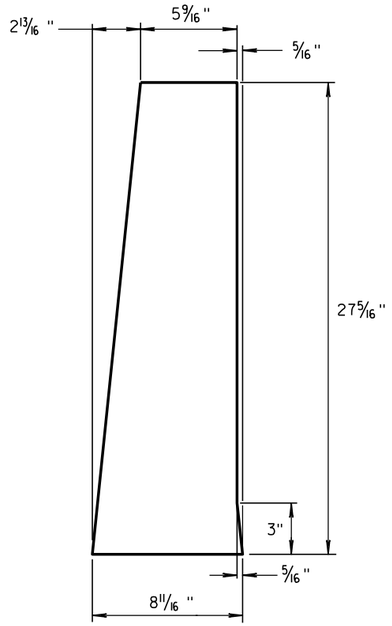
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

6

S.D.D. 14 B 7-13f

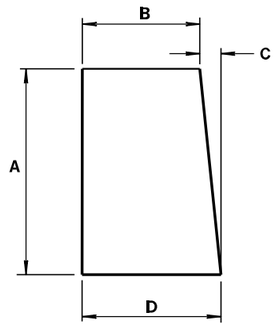


ISOMETRIC SHOWING GUSSETS



END PLATE

1/8" STEEL PLATE



GUSSETS 1 - 12

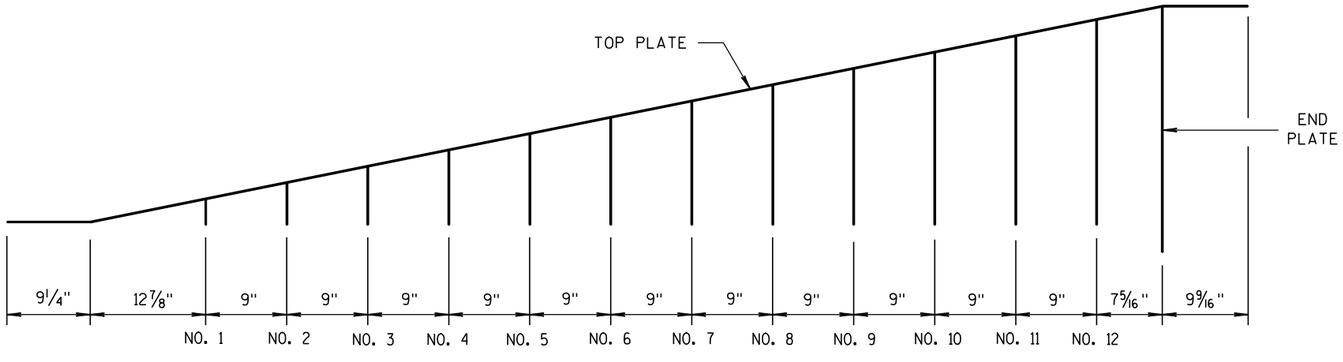
ALL GUSSETS 1/8" STEEL PLATE

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"

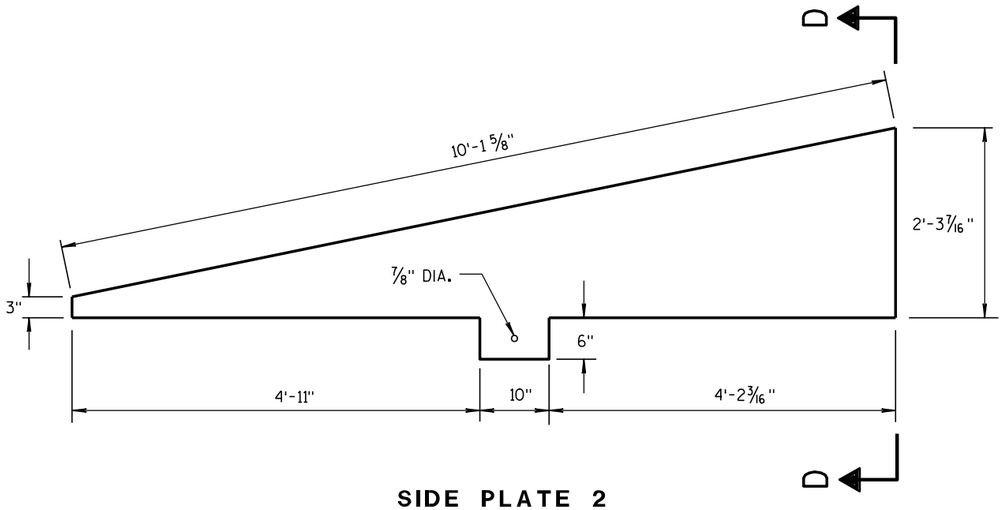
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

6

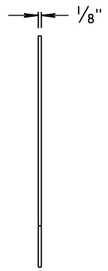
S.D.D. 14 B 7-13g

6

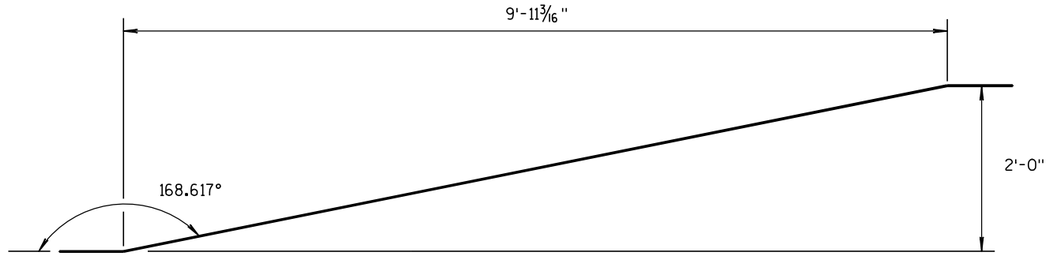
S.D.D. 14 B 7-13g



SIDE PLATE 2

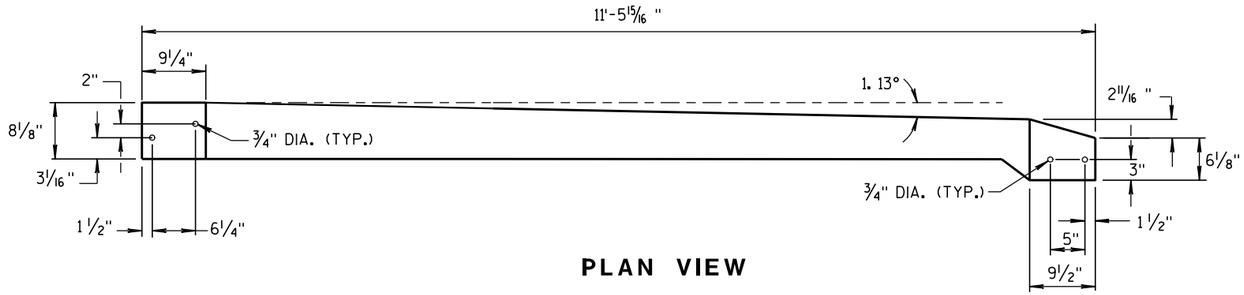


END VIEW



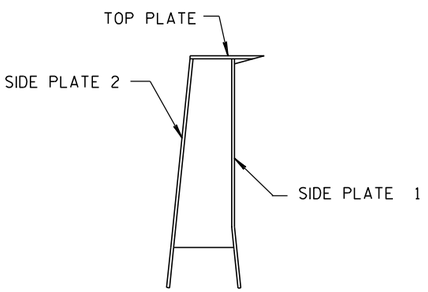
SIDE VIEW

TOP PLATE

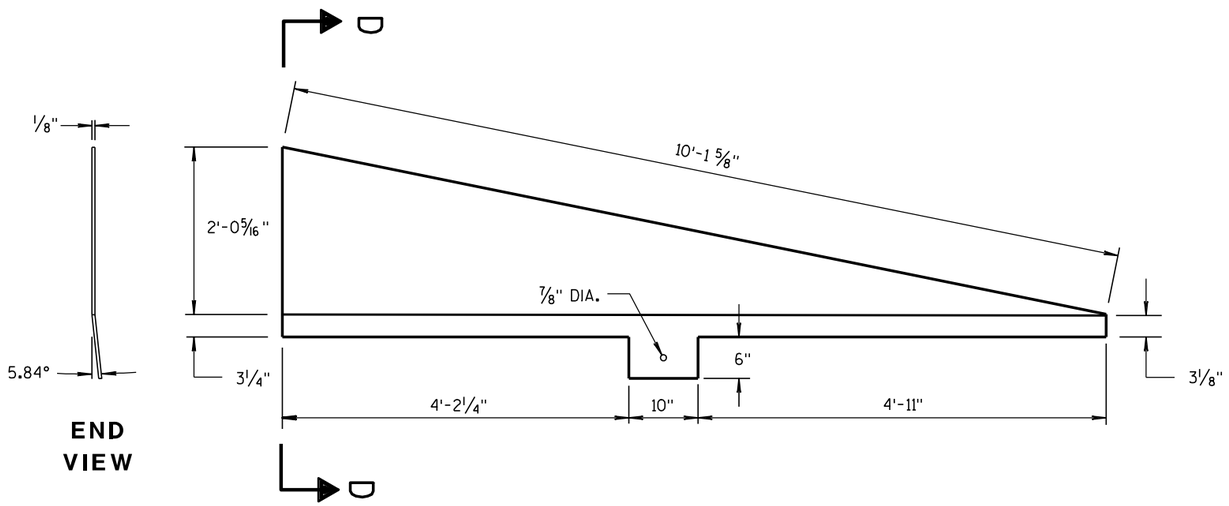


PLAN VIEW

TOP PLATE



SECTION D-D



END VIEW

SIDE PLATE 1

CAP DETAILS FOR TEMPORARY CONCRETE BARRIER TO 56" PERMANENT CONCRETE BARRIER

CONCRETE BARRIER
TEMPORARY PRECAST, 12'-6"

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

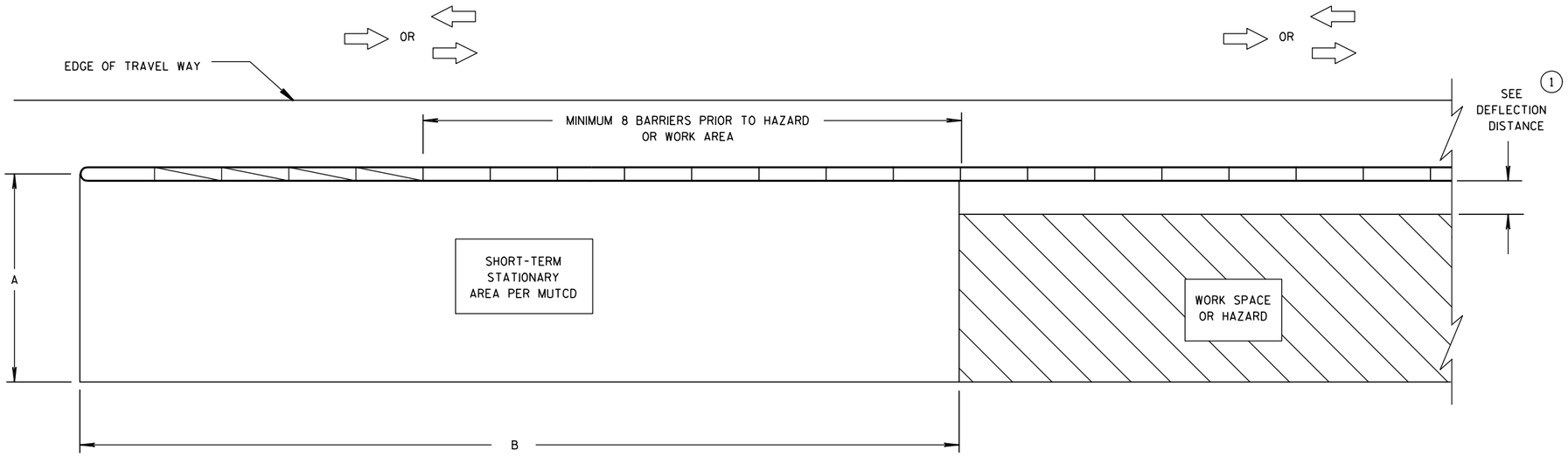
APPROVED
8/31/2012 DATE
/S/ Jerry H. ---- ROADWAY STANDARDS ENGINEER
269 ENT
FHWA

6

S.D.D. 14 B 7-13h

6

S.D.D. 14 B 7-13h



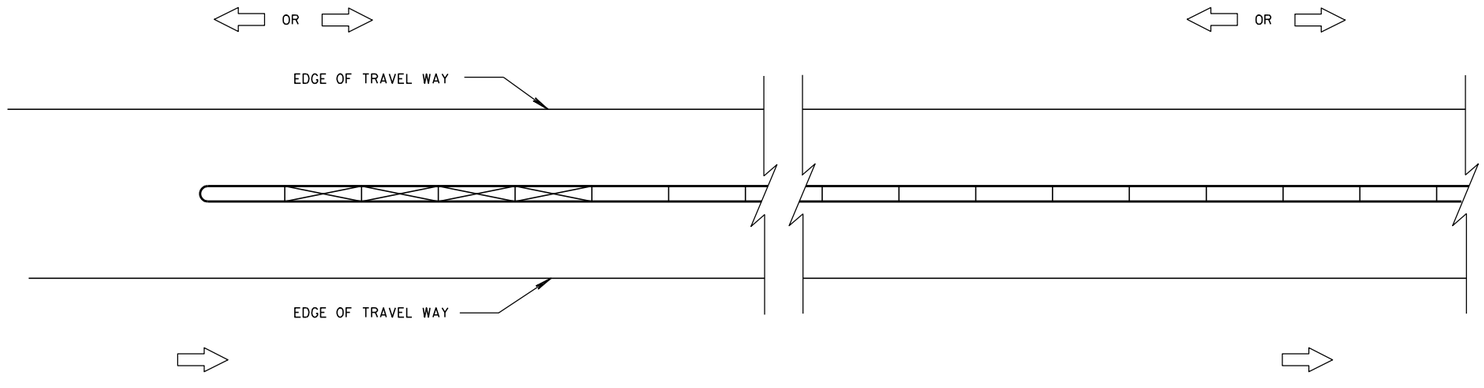
CRASH CUSHION/SAND BARREL ARRAY AND TEMPORARY BARRIER INSTALLATION FOR TRAFFIC ON ONE SIDE OF BARRIER

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



CRASH CUSHION/SAND BARREL ARRAY AND TEMPORARY BARRIER INSTALLATION FOR TRAFFIC ON BOTH SIDES OF 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

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.

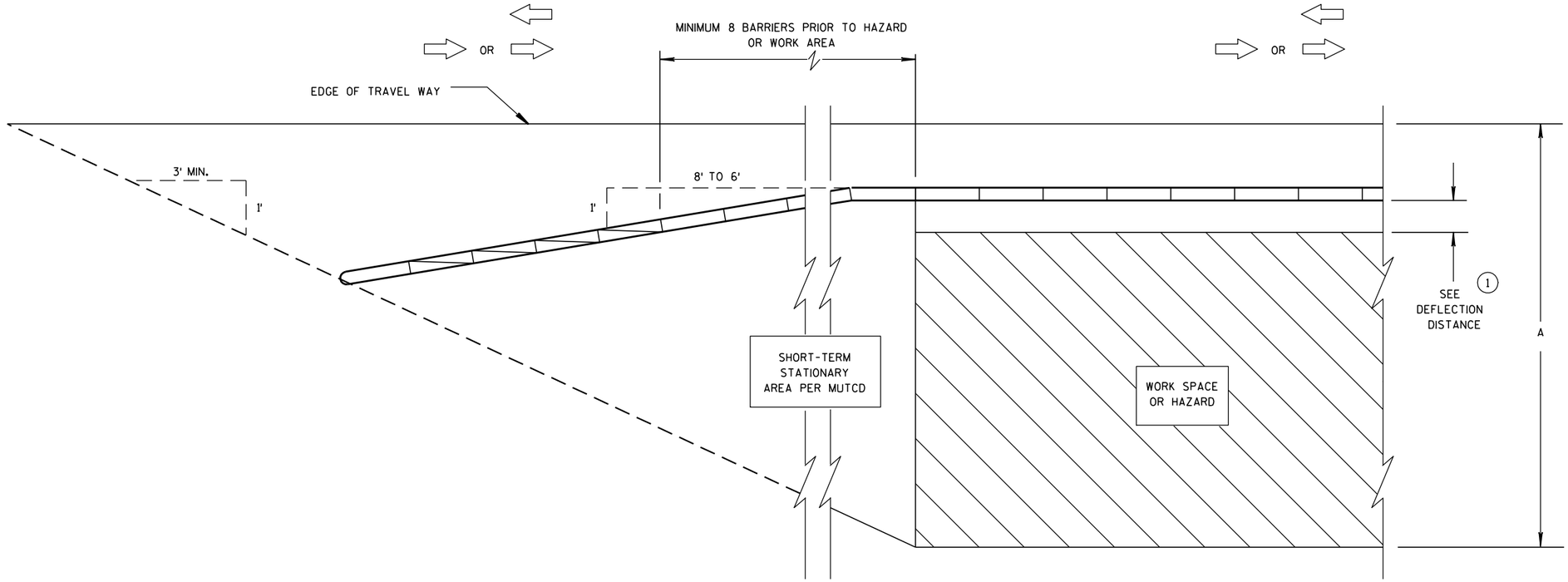
(2) VALUES PROVIDED MAY NOT FIT ALL POSSIBLE SITUATIONS OR SITE CONDITIONS. SEE OTHER SECTIONS OF THE CONTRACT OR PROJECT ENGINEER FOR MORE DETAILS.

CRASH CUSHION/SAND BARREL ARRAY AND OTHER TEMPORARY BARRIER LAYOUT DETAILS

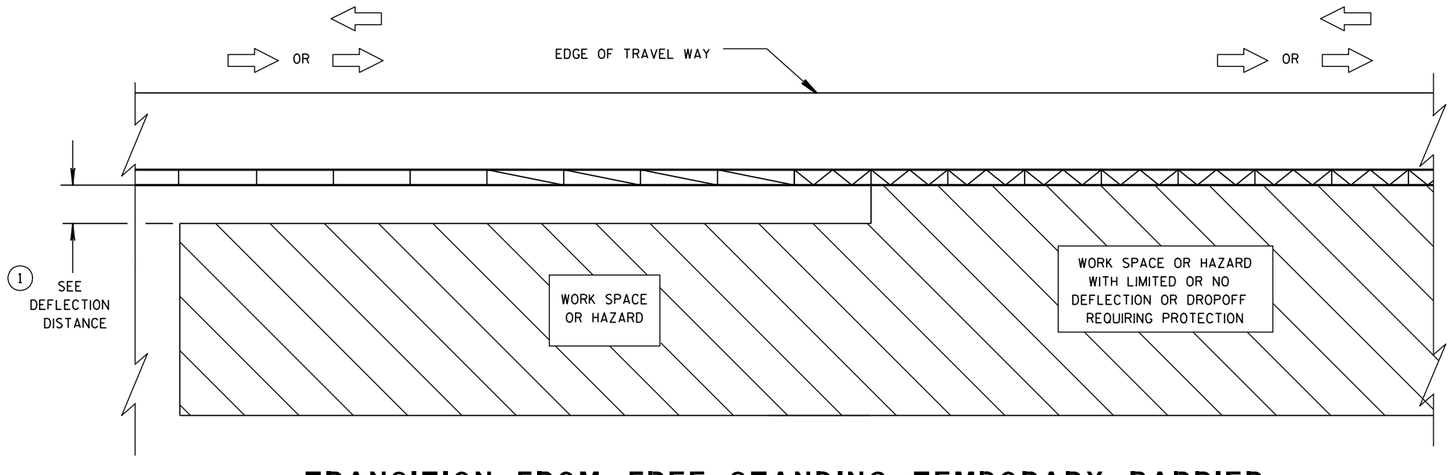
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

6

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

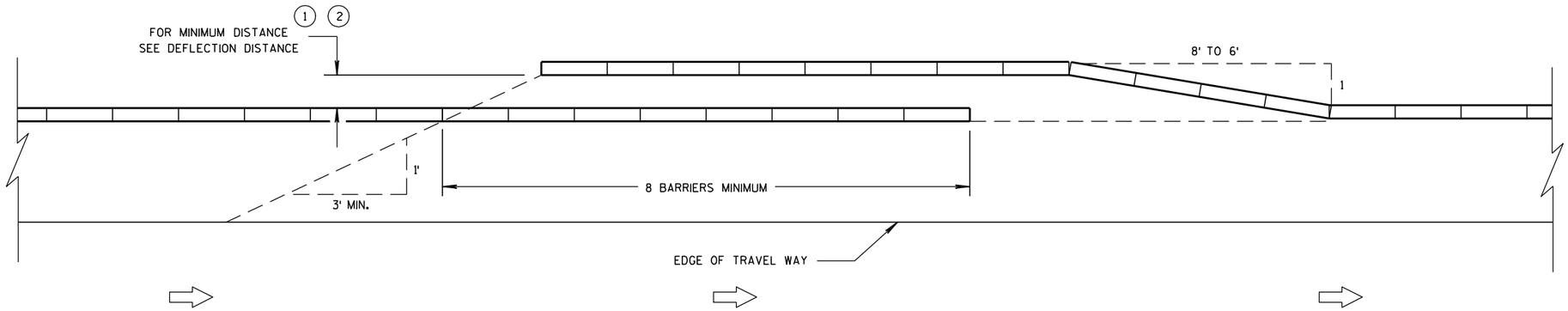
- DIRECTION OF TRAVEL
- CRASH CUSHION OR SAND BARREL ARRAY
- SEE FREE STANDING TRANSITION TO TIED-DOWN SYSTEM DETAILS
- SEE BI-DIRECTIONAL TRANSITION TO TIED-DOWN SYSTEM DETAILS
- 3 PINS PLACED ON TRAFFIC SIDE OF BARRIER
- PERMANENT CONCRETE BARRIER OR CONCRETE PARAPET
- FREE STANDING TEMPORARY BARRIER

CRASH CUSHION/SAND BARREL ARRAY AND OTHER TEMPORARY BARRIER LAYOUT DETAILS

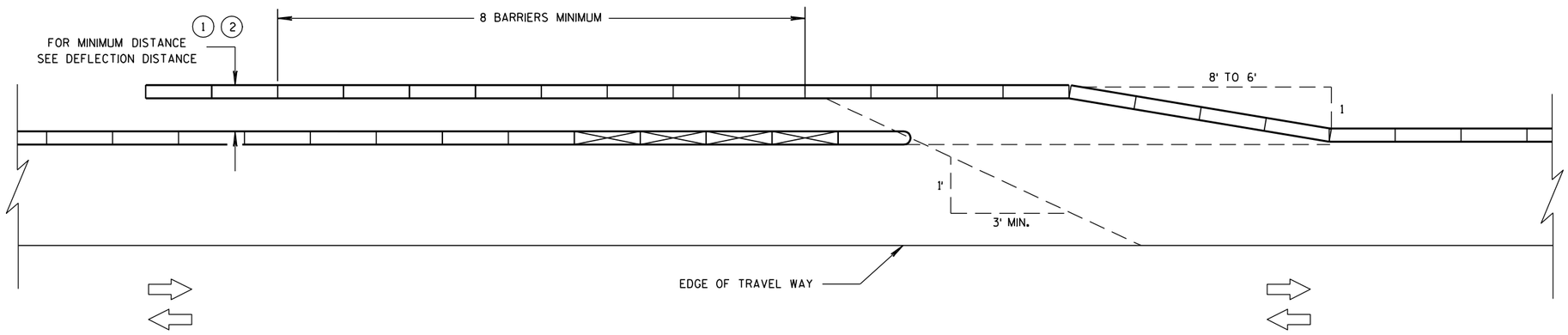
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

6

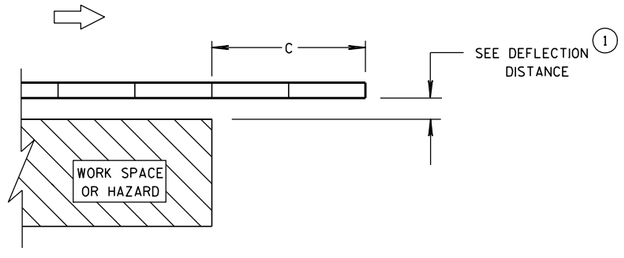
S.D.D. 14 B 8-1b



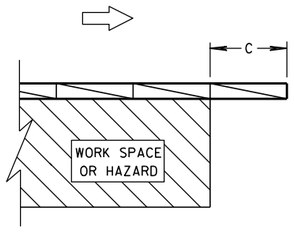
TEMPORARY BARRIER OVERLAP - ONE-WAY TRAFFIC



TEMPORARY BARRIER OVERLAP - TWO-WAY TRAFFIC



ENDING TEMPORARY BARRIER DOWNSTREAM - UNANCHORED



ENDING TEMPORARY BARRIER DOWNSTREAM - ANCHORED

LEGEND

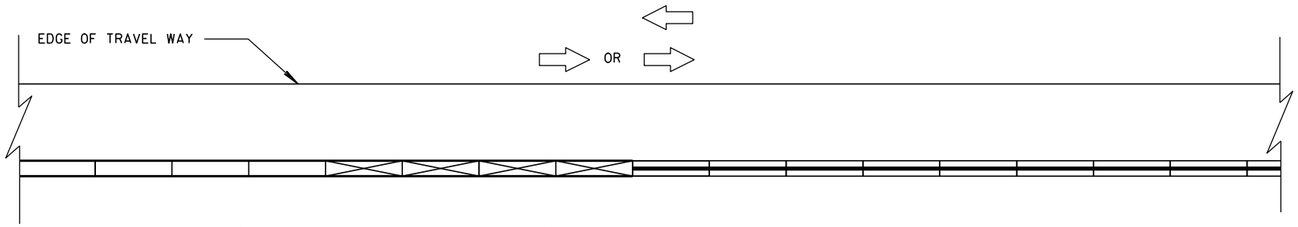
- DIRECTION OF TRAVEL
- CRASH CUSHION OR SAND BARREL ARRAY
- SEE FREE STANDING TRANSITION TO TIED-DOWN SYSTEM DETAILS
- SEE BI-DIRECTIONAL TRANSITION TO TIED-DOWN SYSTEM DETAILS
- 3 PINS PLACED ON TRAFFIC SIDE OF BARRIER
- PERMANENT CONCRETE BARRIER OR CONCRETE PARAPET
- FREE STANDING TEMPORARY BARRIER

CRASH CUSHION/SAND BARREL ARRAY AND OTHER TEMPORARY BARRIER LAYOUT DETAILS

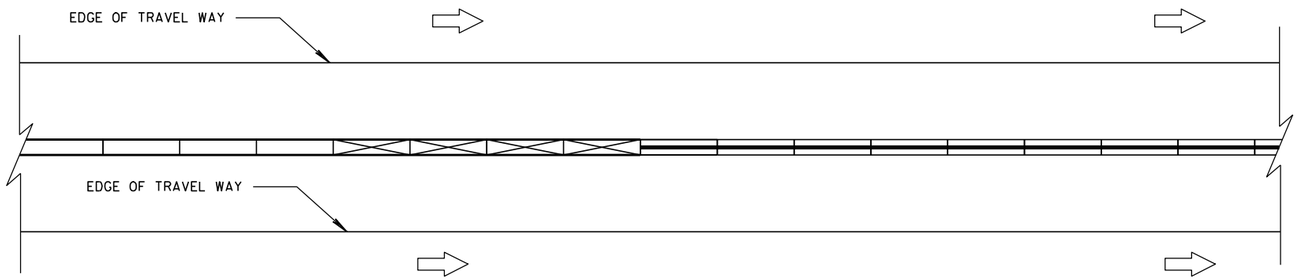
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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

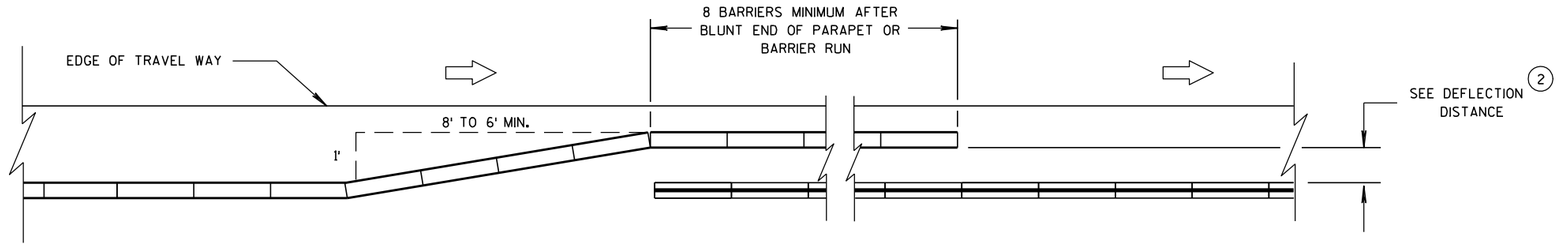
SEE FREE STANDING TRANSITION
TO TIED-DOWN SYSTEM DETAILS

SEE BI-DIRECTIONAL TRANSITION
TO TIED-DOWN SYSTEM DETAILS

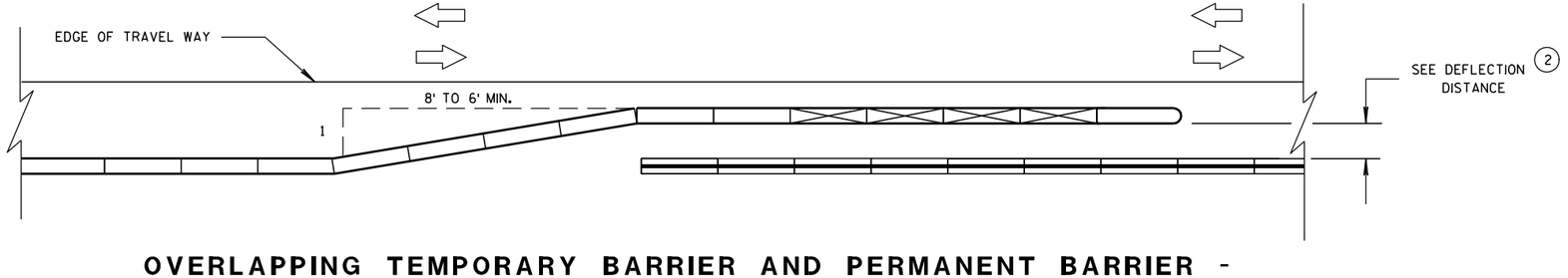
3 PINS PLACED ON
TRAFFIC SIDE OF BARRIER

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 TRANSPORTATION

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

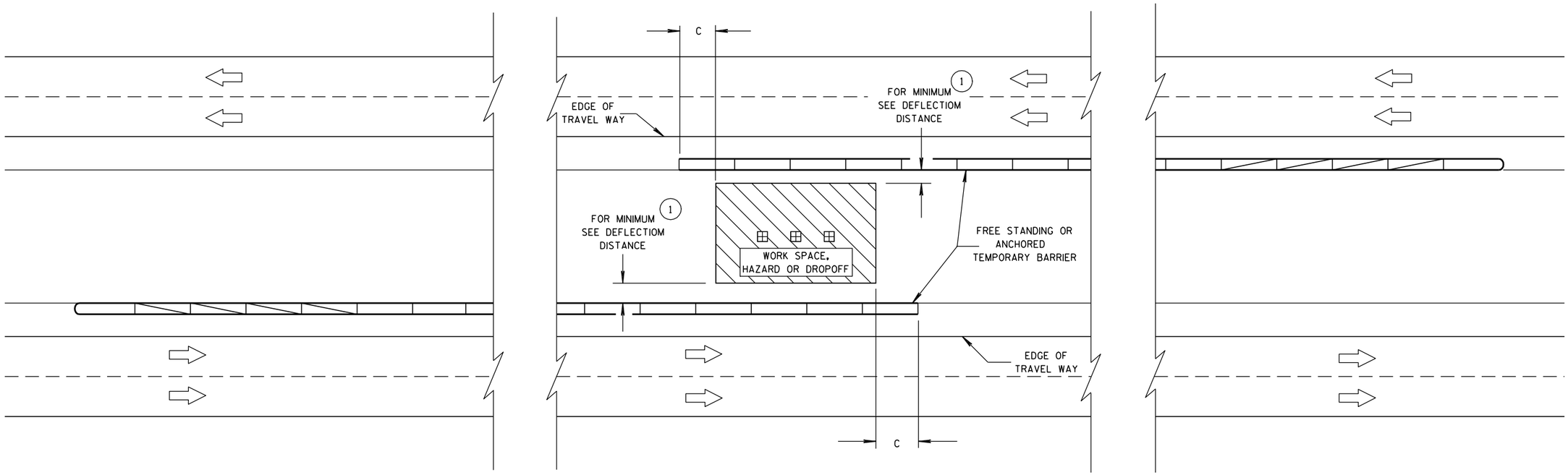
3 PINS PLACED ON TRAFFIC SIDE OF BARRIER

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

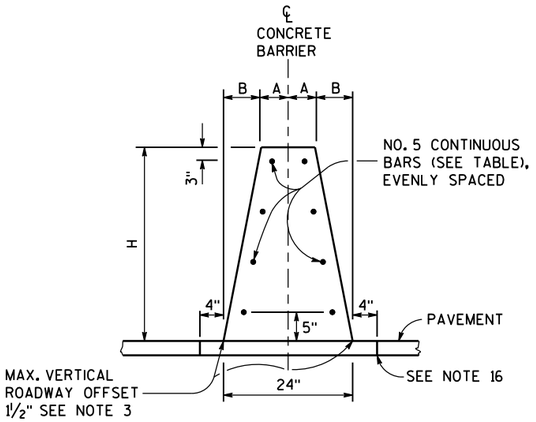
8/31/2012
DATE

/S/ Jerry H. Zogg
ROADWAY STANDARDS ENGINNER

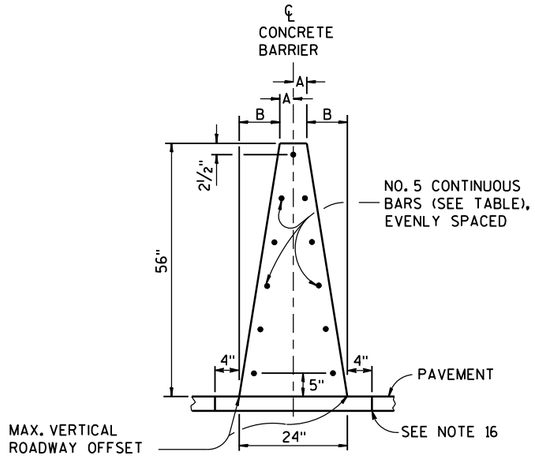
274

FHWA

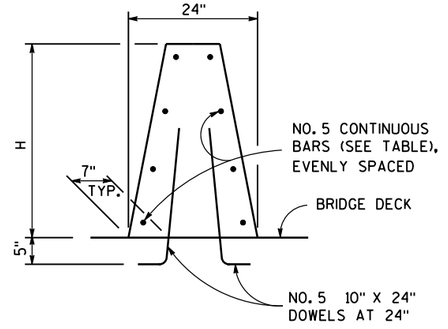
6
S.D.D. 14 B 8-1e



32-INCH, 36-INCH OR 42-INCH SINGLE SLOPE CONCRETE BARRIER (TYPE S32, TYPE S36, AND TYPE S42)



56-INCH SINGLE SLOPE CONCRETE BARRIER (TYPE S56)



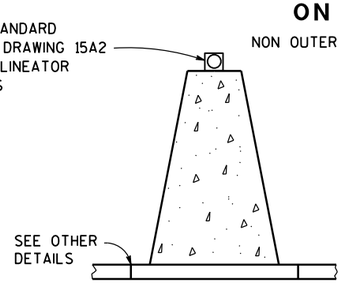
SINGLE SLOPE CONCRETE BARRIER ON BRIDGE

NON OUTER PARAPET APPLICATION

GENERAL NOTES

1. WHERE THE CONCRETE BARRIER IS ADDED TO THE FACE OF EXISTING CONCRETE STRUCTURE, MATCH EXISTING WEEP HOLES.
2. EXPANSION JOINTS IN CONCRETE BARRIER SHALL BE LOCATED AT ALL DECK, PAVEMENT AND PRINCIPAL WALL JOINTS. EXPANSION JOINT FILLER MATERIAL SHALL BE THE SAME SIZE AS JOINT OR ½" MINIMUM.
3. WHERE VERTICAL ROADWAY OFFSET IS GREATER THAN 1½", USE TYPE A
4. PLACE BARRIER PERPENDICULAR TO SHOULDER GRADE, UNLESS INDICATED IN PLAN.
5. EXCEPT IN ANCHORS, VERTICAL REINFORCING STIRRUP NOT REQUIRED FOR ROADWAY OFFSETS LESS THAN 1'-0".
6. FOR TYPE S32, TYPE S36, TYPE S42, AND S56 MONOLITHIC FOOTING OR DOWELED FOOTING WITH 2-#8 x 8" @ 2'-0".
7. STAGGER LAPPING OF LONGITUDINAL STEEL. MINIMUM OVERLAP OF STEEL 2 FEET. BARS AT LAPS TO BE FIRMLY TIED OR CONNECTED.
8. 4000 PSI CONCRETE AIR ENTRAINMENT PER STANDARD SPECIFICATION 501.
9. WHEN SWITCHING BETWEEN SLIP FORM AND CAST-IN-PLACE OPERATIONS, EXTEND LONGITUDINAL STEEL 3 FEET BEYOND SLIP-FORMING CUT OFF POINT. EXPOSED STEEL INTO NEXT POURS REINFORCEMENT. LAPS TO BE FIRMLY TIED.
10. USE ¾" BEVEL OR 1" RADIUS ON ALL EXPOSED SHARP EDGES UNLESS OTHERWISE NOTED.
11. 2" CLEAR COVER TYPICAL.
12. COLD-JOINTS MAY BE USED BETWEEN ANCHOR INSTALLATIONS. WHEN A COLD JOINT IS NEEDED, 3 FEET OF LAP OF LONGITUDINAL STEEL IS REQUIRED. LAPS TO BE FIRMLY TIED.
13. IN TYPE S32, TYPE S36, TYPE S42 AND TYPE S56 NO ADDITIONAL VERTICAL STEEL NEEDED. IN TYPE S32A, TYPE S36A, TYPE S42A AND TYPE S56A REQUIRES VERTICAL STEEL. SEE OTHER DETAIL.
14. IN TYPE S32, TYPE S36, TYPE S42 AND TYPE S56 DEPTH OF FOOTING 10". IN TYPE S32A, TYPE S36A, TYPE S42A AND TYPE S56A MATCH TOTAL HEIGHT OF SINGLE SLOPE BARRIER RETAINING WALL.
15. FOR ALL BARRIER TYPES SHOWN, ANCHOR IS REQUIRED AT CONCRETE BARRIER ENDS AND AT INTERRUPTIONS IN CONCRETE BARRIER. ANCHOR MAY BE AS SHOWN ON DRAWING OR DETAILS SHOWN ON S.D.D. 14B33. ANCHORS INCIDENTAL TO CBSS.
16. CONCRETE PAD UNDER CBSS MAY BE PLACED INTEGRAL WITH BARRIER, PLACED SEPARATELY OR PLACED WITH CONCRETE SHOULDER AND SAWED FULL DEPTH. SAWING OF CONCRETE SHOULDER IS INCIDENTAL TO CONCERET BARRIER BID ITEM. CONCRETE PAD MINIMUM DEPTH IS 6 INCHES, OR EQUAL TO THE DEPTH OF THE CONCRETE SHOULDER.

BARRIER HEIGHT H INCHES	A INCHES	B INCHES	NUMBER OF NO. 5 BARS EACH
32	7	5	8
36	6¼	5¾	8
42	5¼	6¾	10
56	3	9	11



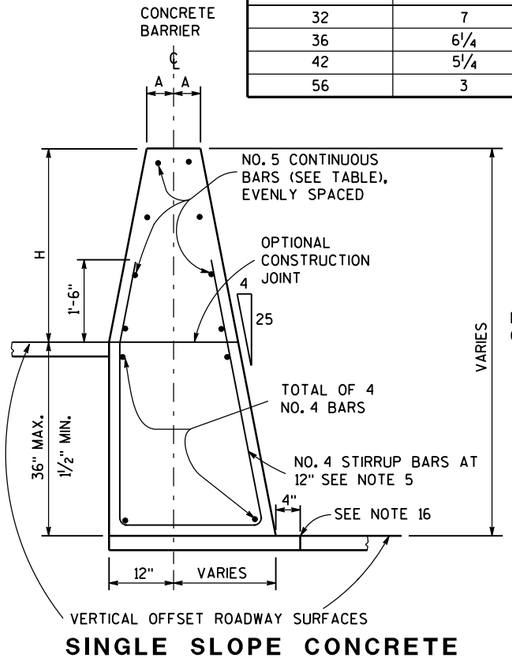
DELINEATION

DELINEATOR SPACING ON HORIZONTAL CURVES

RADIUS OF CURVE	APPROXIMATE SPACING ON CURVE
50 FEET	20 FEET
115 FEET	25 FEET
180 FEET	35 FEET
250 FEET	40 FEET
300 FEET	50 FEET
400 FEET	55 FEET
500 FEET	65 FEET
600 FEET	70 FEET
700 FEET	75 FEET
800 FEET	80 FEET
900 FEET	85 FEET
1000 FEET	90 FEET

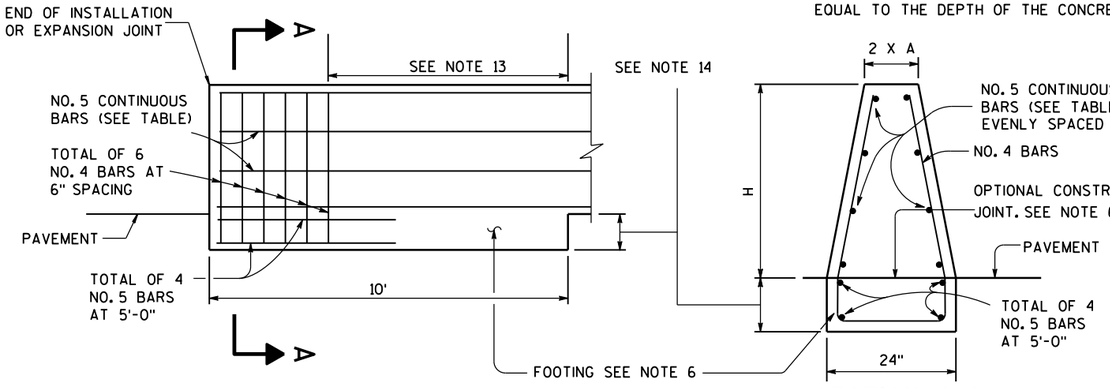
DELINEATOR SPACING ON RADIUS GREATER THAN 1000 FEET OR TANGENT SECTIONS

	LENGTH OF BARRIER	REFLECTOR SPACING	NO. SURFACES REFLECTORIZED	MIN. NO. REFLECTORS
ONE WAY TRAFFIC	< 200'	50' C-C	1	3
	> 200'	100' C-C	1	
TWO WAY TRAFFIC	< 200'	25' C-C	1	6
	> 200'	50' C-C	1	
TWO WAY TRAFFIC	< 200'	50' C-C	2	3
	> 200'	100' C-C	2	



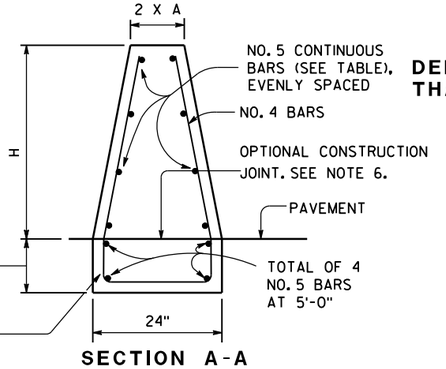
SINGLE SLOPE CONCRETE BARRIER AND RETAINING WALL (TYPE S32A, TYPE S36A, TYPE S42A, TYPE S56A)

(BETWEEN ADJACENT ROADWAYS)



END ANCHOR SINGLE SLOPE CONCRETE BARRIER

AT CONSTRUCTION JOINT



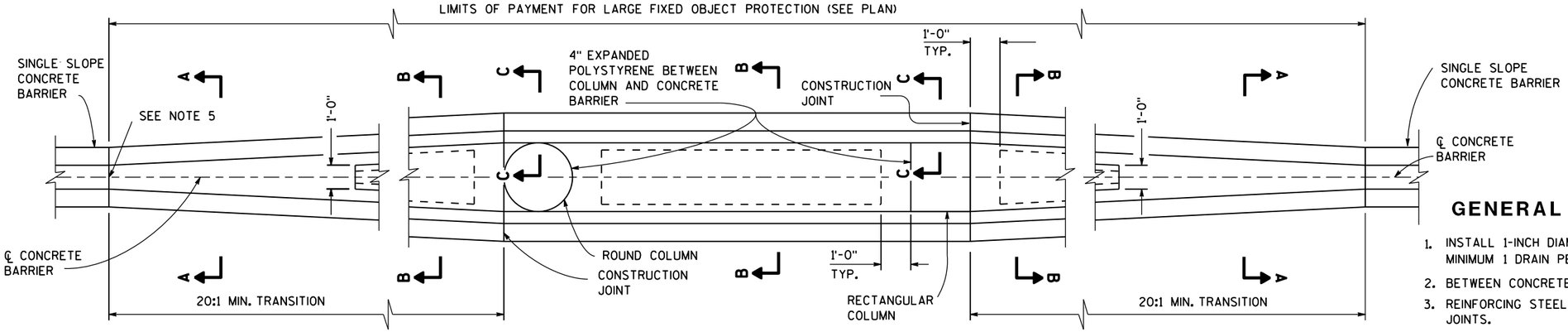
SECTION A-A

CONCRETE BARRIER SINGLE SLOPE (CBSS)

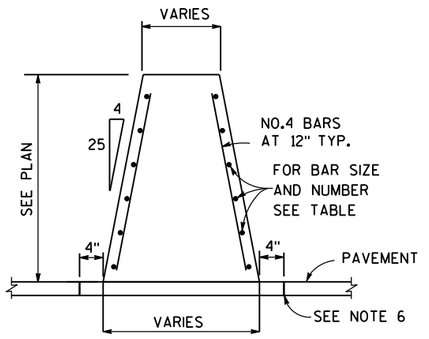
STATE OF WISCONSIN
DEPARTMENT OF TRANSPO

6

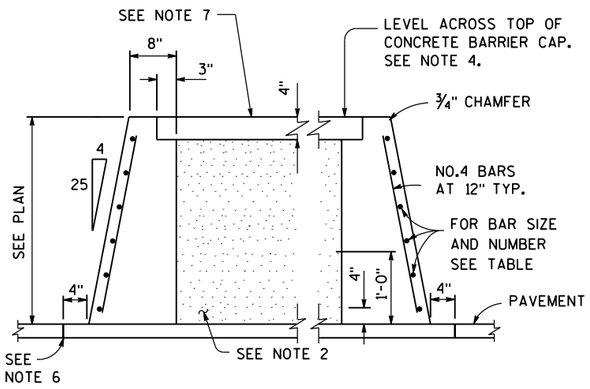
S.D.D. 14 B 32-2a



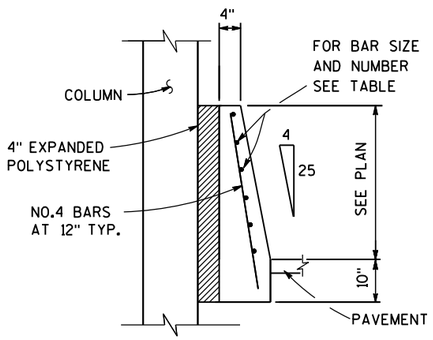
LARGE FIXED OBJECTS PROTECTION
TYPE S32, TYPE S36, TYPE S42, TYPE S56



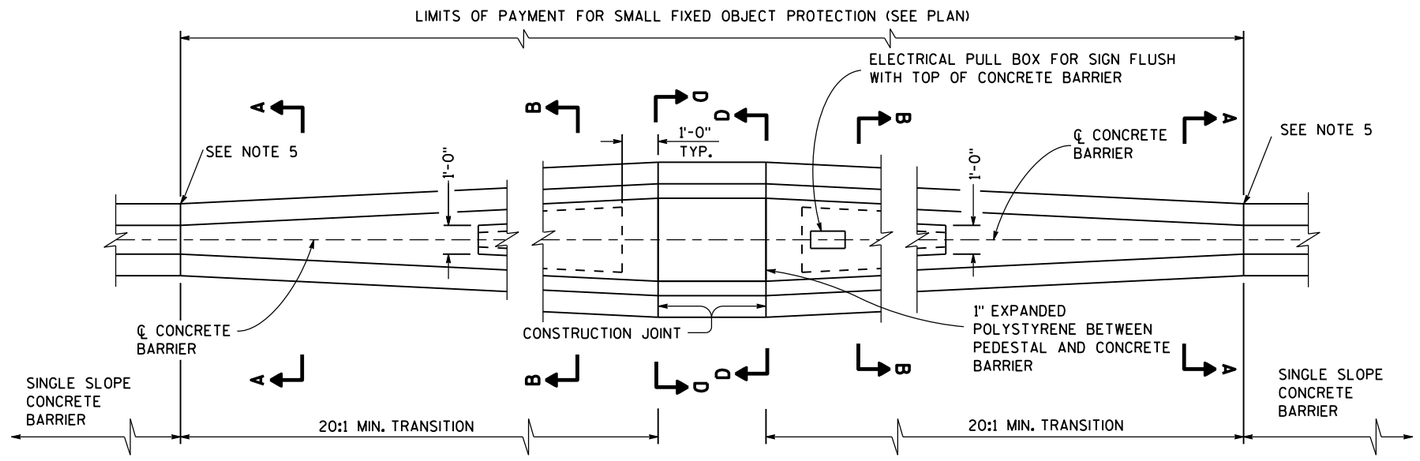
SECTION A-A



SECTION B-B



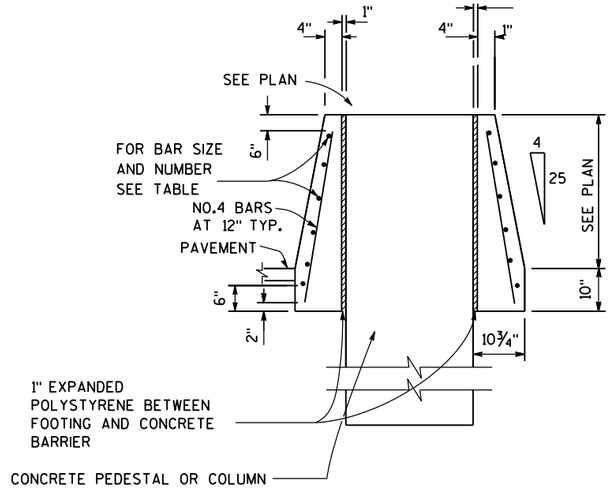
SECTION C-C



SMALL FIXED OBJECTS PROTECTION
TYPE S32, TYPE S36, TYPE S42, TYPE S56

GENERAL NOTES

1. INSTALL 1-INCH DIAMETER DRAIN PIPE EVERY 20 FEET OF CROSS SECTION B-B. MINIMUM 1 DRAIN PER CAVITY.
2. BETWEEN CONCRETE BARRIER WALLS FILL WITH GRANULAR BACKFILL GRADE 2
3. REINFORCING STEEL SHALL EXTEND CONTINUOUS THROUGH CONSTRUCTION JOINTS.
4. ADJUST HEIGHT OF CONCRETE BARRIER WALL ON LOW SIDE OF OFFSET OR SUPERELEVATED ROADWAYS TO PROVIDE LEVEL GRADE ACROSS TOP OF CONCRETE CAP.
5. IF FIXED OBJECT PROTECTION IS INSTALLED FIRST, USE COLD JOINTS. IF CBSS PLACED FIRST, USE EXPANSION JOINT.
6. CONCRETE PAD UNDER CBSS MAY BE PLACED INTEGRAL WITH BARRIER, PLACED SEPARATELY OR PLACED WITH CONCRETE SHOULDER AND SAWED FULL DEPTH. SAWING OF CONCRETE SHOULDER IS INCIDENTAL TO CONCRETE BARRIER BID ITEM. CONCRETE PAD MINIMUM DEPTH IS 6 INCHES, OR EQUAL TO THE DEPTH OF THE CONCRETE SHOULDER.
7. USE NO. 3 BAR SPACED 12 INCHES CENTER TO CENTER (PLACED IN EACH DIRECTION) OR EQUIVALENT WIRE MESH.



SECTION D-D

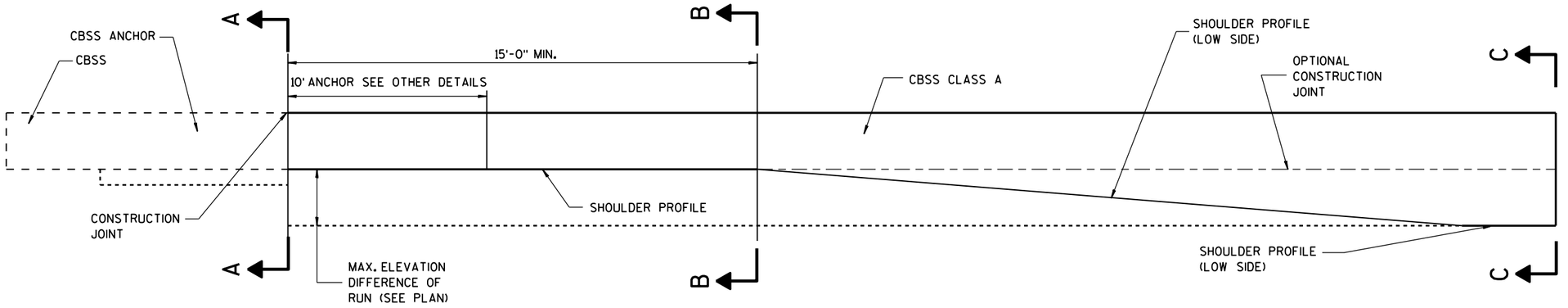
BARRIER HEIGHT H INCHES	BAR SIZE	NUMBER OF BARS EACH
32	4	6
36	4	6
42	5	6
56	5	9

CONCRETE BARRIER SINGLE SLOPE (CBSS)

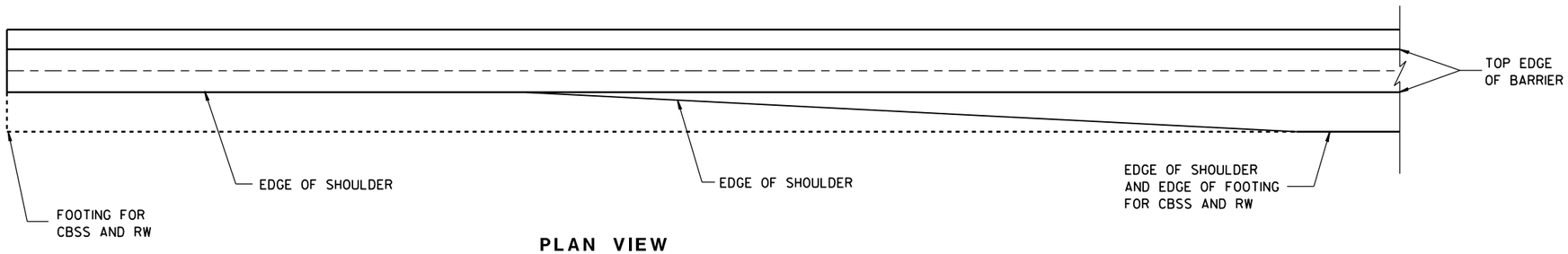
STATE OF WISCONSIN
DEPARTMENT OF TRANSPOI

6

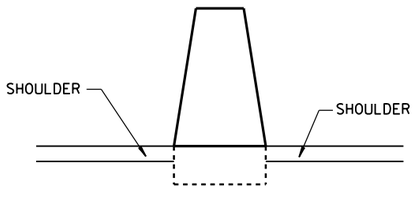
S.D.D. 14 B 32-2b



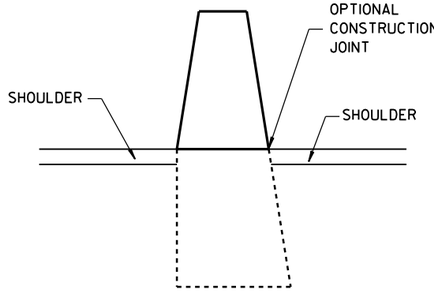
ELEVATION VIEW
TRANSITION TO CBSS CLASS A
(TYPE S32A, TYPE S36A, TYPE S42A, TYPE S56A)



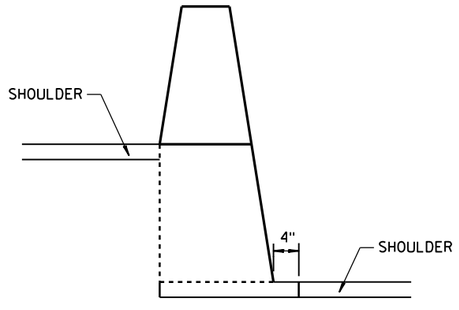
PLAN VIEW
TRANSITION TO CBSS CLASS A
(TYPE S32A, TYPE S36A, TYPE S42A, TYPE S56A)



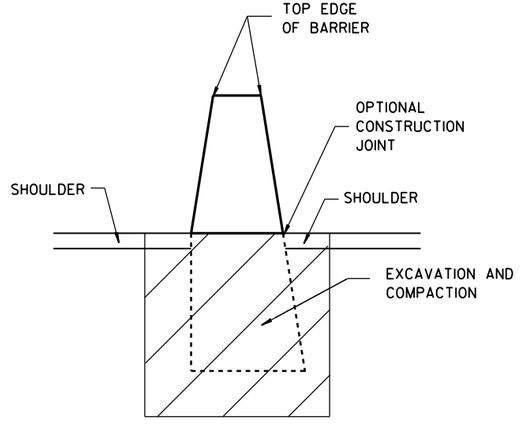
SECTION A-A



SECTION B-B



SECTION C-C

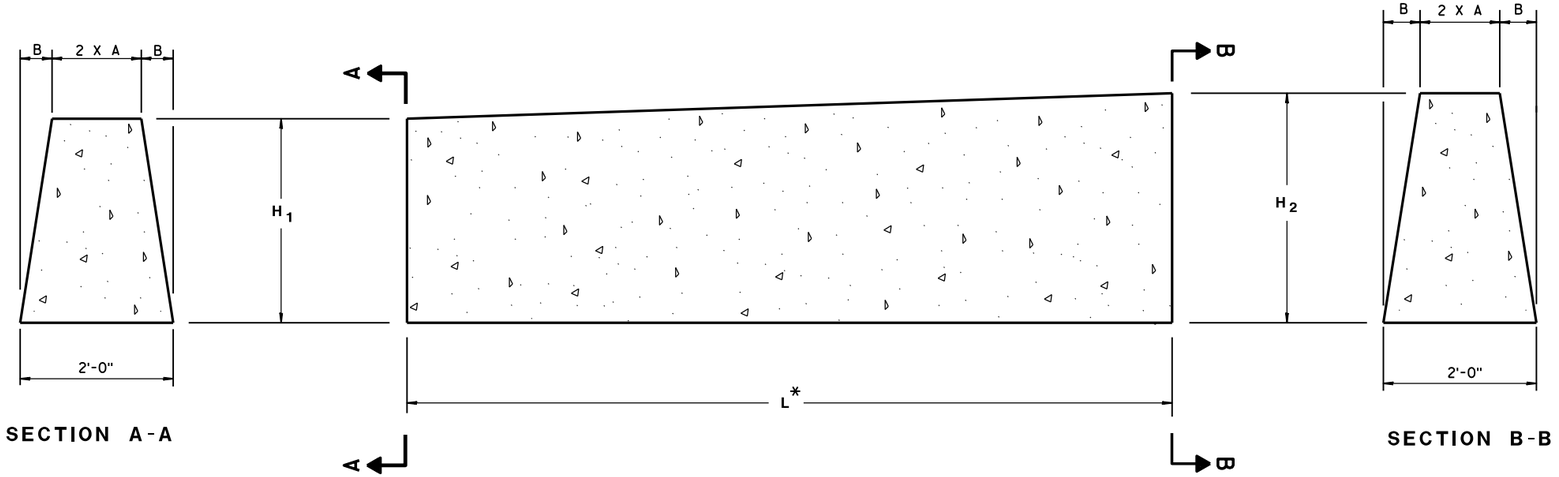


CONCRETE BARRIER SINGLE SLOPE (CBSS)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPOI

6

S.D.D. 14 B 32-2c



SECTION A-A

SECTION B-B

DOUBLE COLD JOINT HEIGHT TRANSITION

BARRIER DIMENSIONS

BARRIER HEIGHT INCHES	A INCHES	B INCHES
32	7	5
36	6 1/4	5 3/4
42	5 1/4	6 3/4
56	3	9

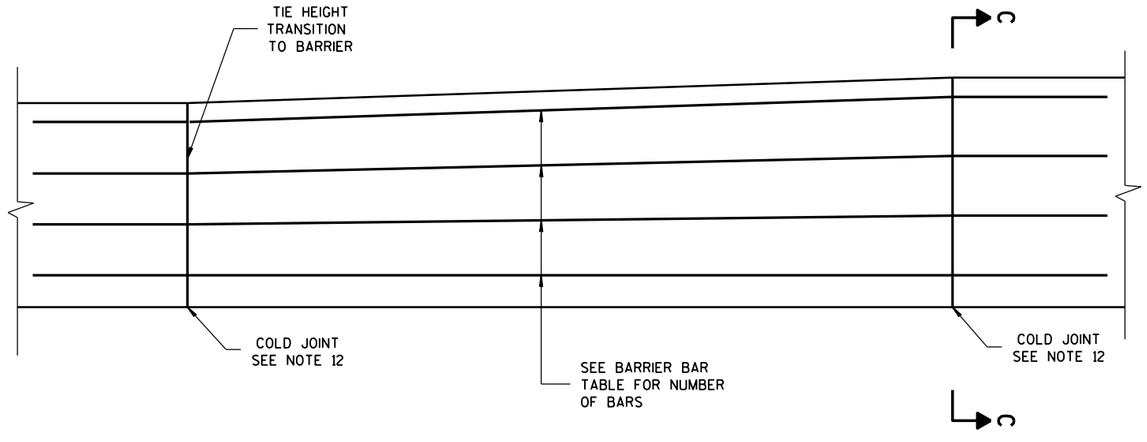
MULTIPLE HEIGHT TRANSITIONS MAY BE USED IN SEQUENCE TO GET TO APPROPRIATE HEIGHT.

USE COLD JOINT TO CONNECT MULTIPLE HEIGHT TRANSITIONS.

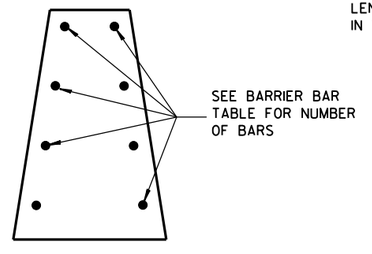
BARRIER BARS

H_1	H_2	L*	NUMBER OF NO. 5 BARS
32"	36"	10'-0"	8
36"	42"	10'-6"	10
42"	56"	24'-6"	11

* LENGTH OF DOUBLE COLD JOINT INCLUDED IN THE TOTAL LENGTH OF CBSS.



STEEL REINFORCEMENT DETAIL



SECTION C-C

CONCRETE BARRIER SINGLE SLOPE

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

5-10-2013
DATE

/S/ Jerry H. Zoda
ROADWAY STANDARDS DEVELOPMENT ENGINEER

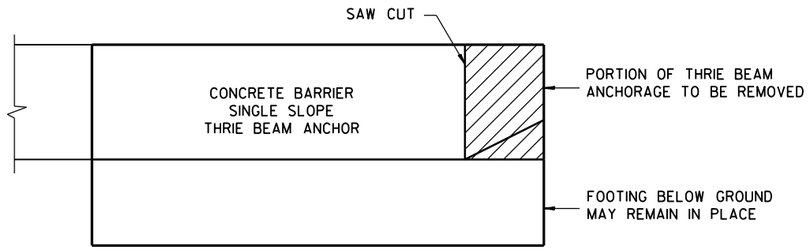
FHWA

6

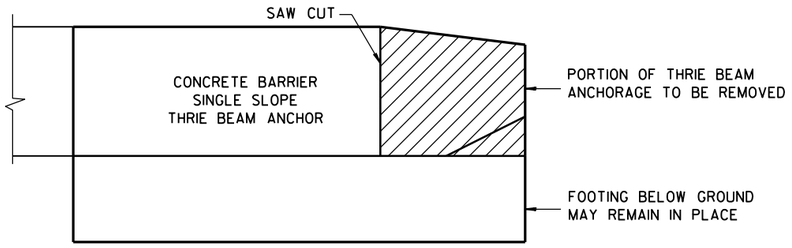
S.D.D. 14 B 32-2d

6

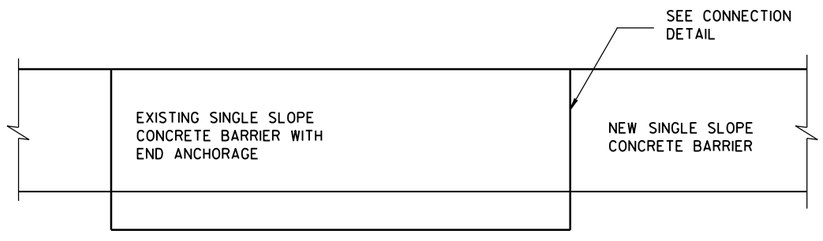
S.D.D. 14 B 32-2d



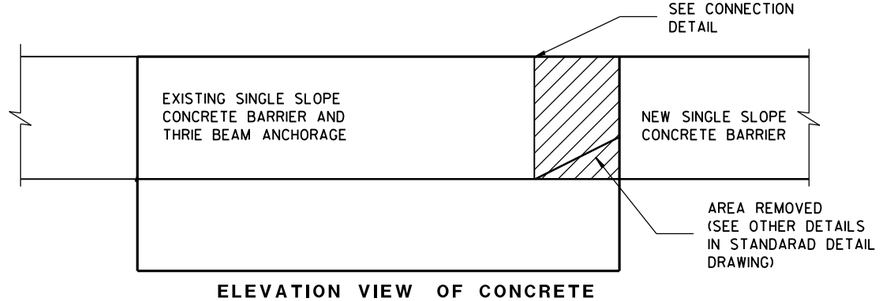
REMOVAL AREA OF
32" CONCRETE THRIE BEAM ANCHORAGE



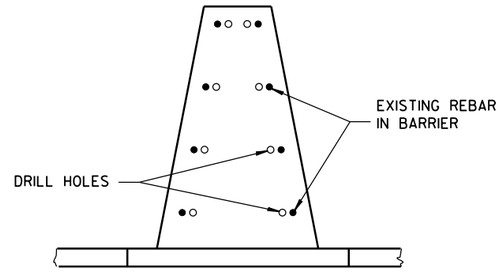
REMOVAL AREA OF CONCRETE THRIE BEAM
ANCHORAGE WITH HEIGHT GREATER THAN 32"



ELEVATION VIEW OF CONCRETE
BARRIER EXTENSION NEAR END ANCHORAGE



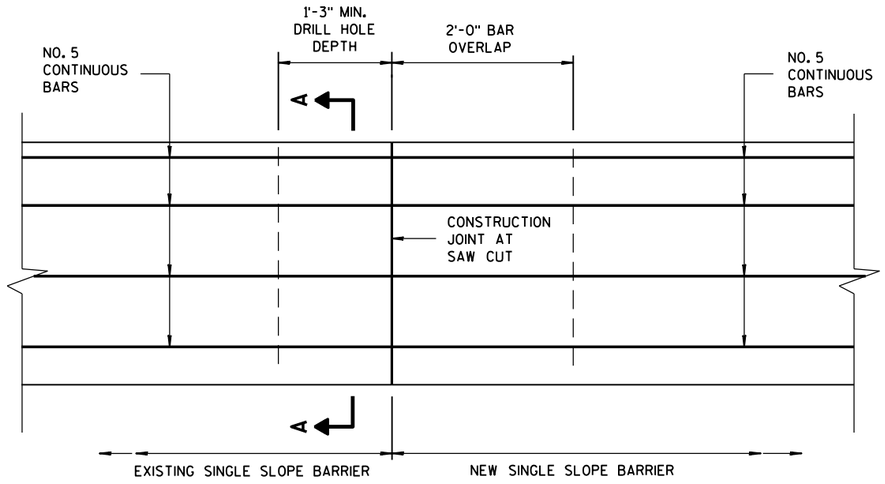
ELEVATION VIEW OF CONCRETE
BARRIER EXTENSION NEAR THRIE BEAM TERMINAL



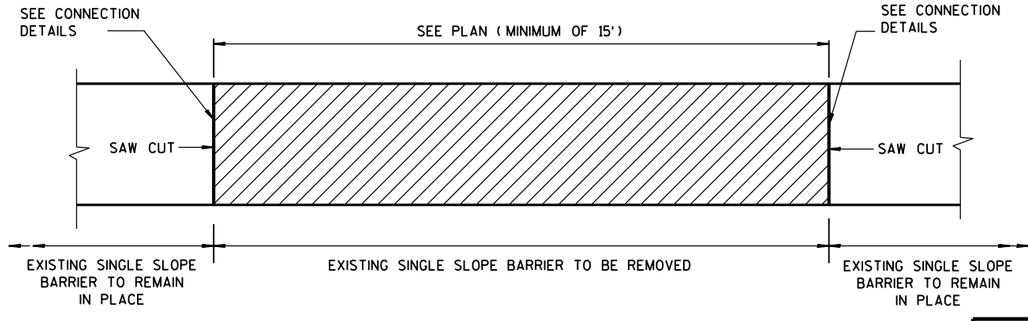
SECTION A-A

GENERAL NOTES

1. THE NUMBER OF DRILL HOLES IS EQUAL TO THE NUMBER OF REBAR IN BARRIER (SEE OTHER DETAILS).
2. MINIMUM DEPTH OF DRILL HOLES IS 1'-3".
3. DRILL HOLES TO BE A MINIMUM OF 4 INCHES FROM THE EDGE OF CONCRETE.
4. INSTALL EPOXY COATED NO. 5 BARS IN DRILL HOLES.
5. END ANCHORAGE MAY OR MAY NOT BE PRESENT ON EXISTING BARRIER.
6. REMOVE THRIE BEAM ANCHORAGE AS SHOWN.
7. ALL ITEMS INCLUDED WITH CONCRETE BARRIER ITEMS EXCEPT FOR REMOVAL.



CONNECTION OF EXISTING SINGLE SLOPE CONCRETE BARRIER TO
NEW SINGLE SLOPE CONCRETE BARRIER



ELEVATION FILE
BARRIER REMOVAL AND REPLACEMENT

CONCRETE BARRIER
SINGLE SLOPE

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

5-10-2013
DATE

/S/ Jerry H. Zoda
ROADWAY STANDARDS DEVELOPMENT ENGINEER

FHWA

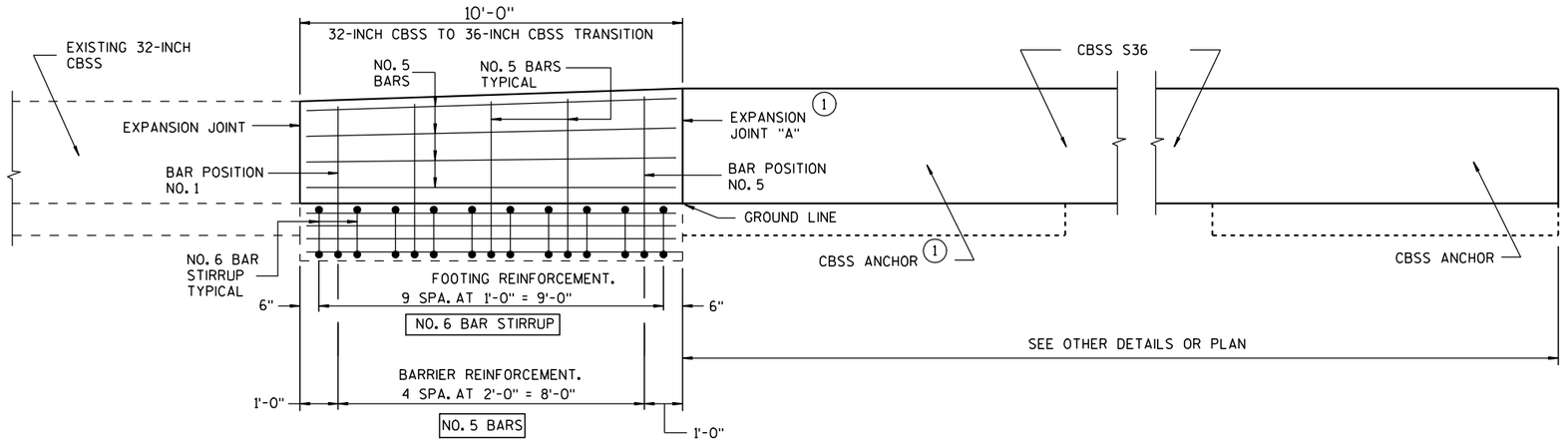
RETROFIT OR REPAIR SINGLE SLOPE CONCRETE BARRIER

6

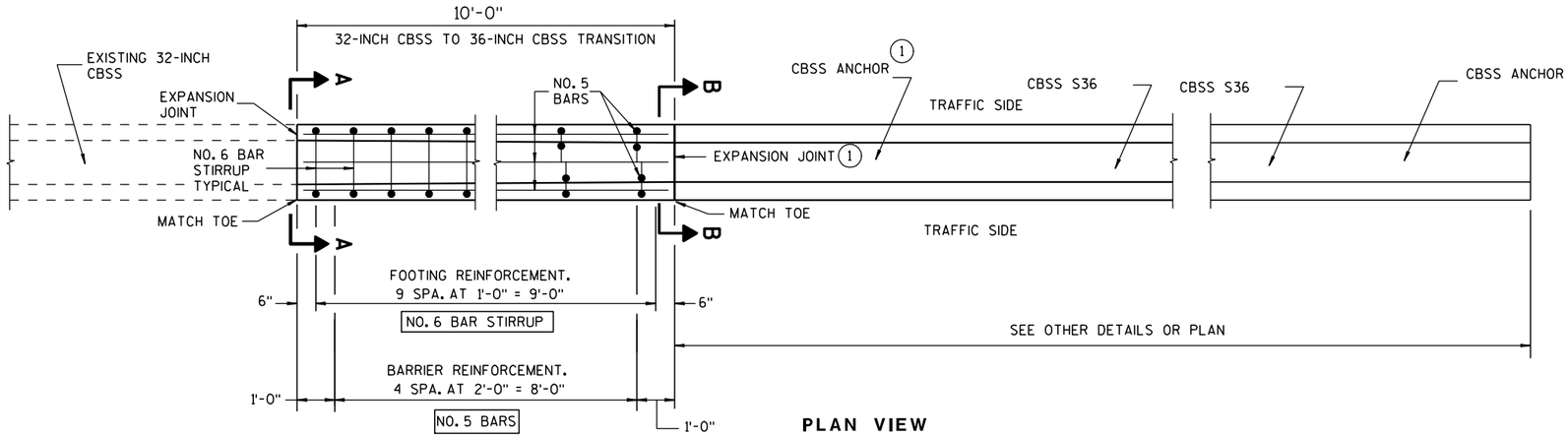
S.D.D. 14 B 32-2e

6

S.D.D. 14 B 32-2e



ELEVATION VIEW



PLAN VIEW

GENERAL NOTES

CONSTRUCT PER STANDARD SPECIFICATION 603.

SPLICES OF LONGITUDINAL BARS TO BE 2'LONG AND FIRMLY TIED AND FASTENED TOGETHER UNLESS NOTED OTHERWISE.

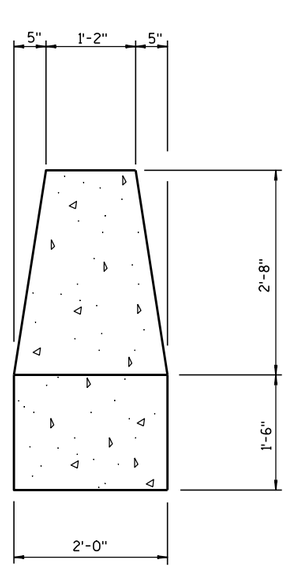
4000 PSICONCRETE AIR ENTRAINMENT PER STANDARD SPECIFICATIONS 501.

USE ¾" BEVEL OR 1" RADIUS ON ALL EXPOSED SHARP EDGES UNLESS NOTED OTHERWISE.

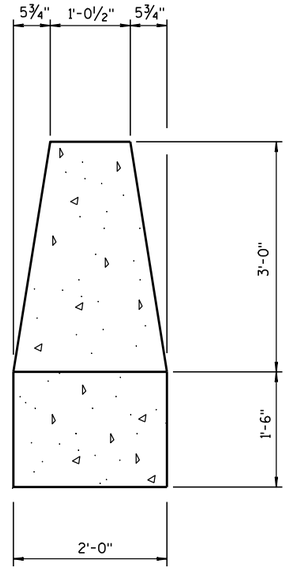
THE NUMBER IN BAR DESIGNATION REPRESENTS THE BARS LOCATION.

2" CLEAR COVER TYPICAL.

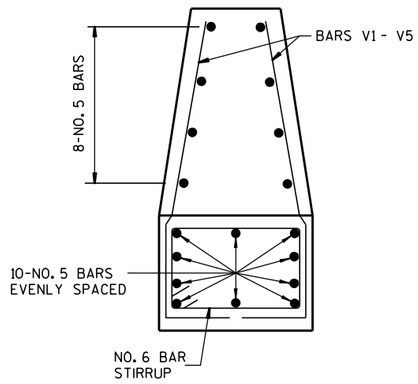
(1) EXPANSION JOINT "A" MAY BE REPLACED WITH A COLD-JOINT PROVIDED THAT 3 FEET OF LAP OF LONGITUDINAL STEEL IS PROVIDED. IF COLD-JOINT IS USED ANCHOR NOT REQUIRED.



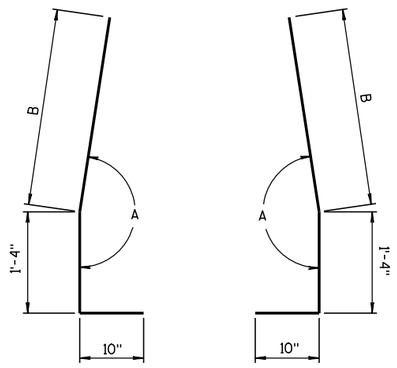
SECTION A-A



SECTION B-B



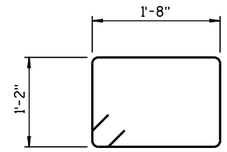
BAR DETAIL
BAR POSITION NO. 1 - NO. 5



BAR BENDING DETAIL
FOR BARS V1 - V5

BAR CHART
SECTIONS V1 - V5

BAR	A	B
V1	171°-10'	2'-6½"
V2	171°-05'	2'-8"
V3	170°-55'	2'-9"
V4	170°-40'	2'-9½"
V5	171°	2'-10"



STIRRUP BAR
BENDING DETAIL

32-INCH SINGLE SLOPE CONCRETE BARRIER TO 36-INCH SINGLE SLOPE CONCRETE BARRIER HEIGHT TRANSITION

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

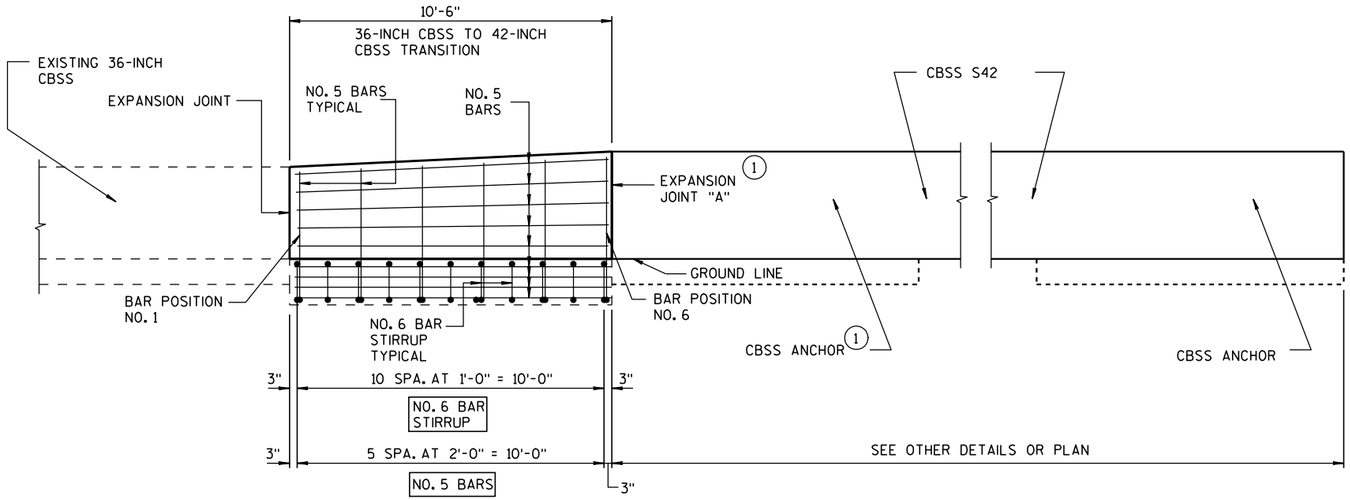
APPROVED
6-3-2010
DATE
/S/ Jerry H. [illegible]
ROADWAY STANDARDS I 280 ENGINEER
ENT
FHWA

6

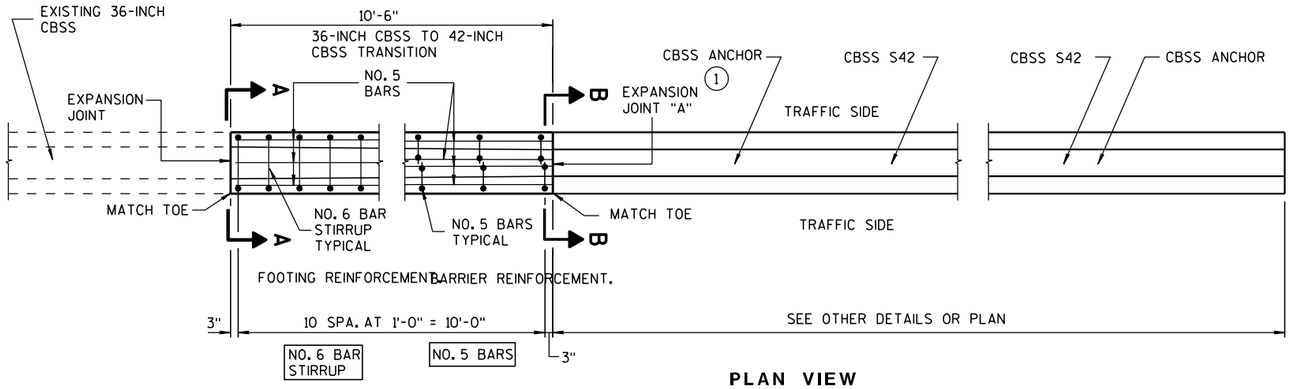
S.D.D. 14 B 39-1a

6

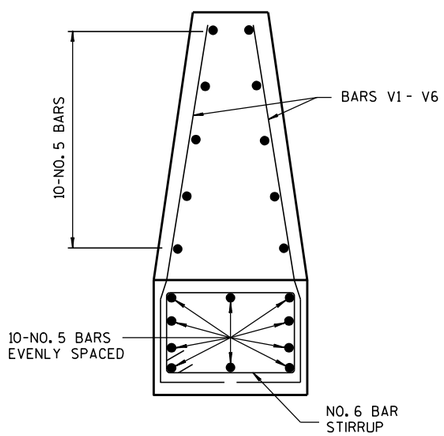
S.D.D. 14 B 39-1a



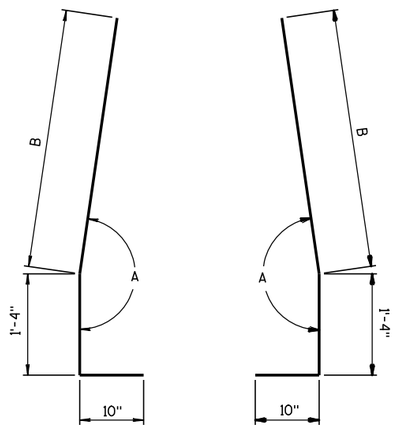
ELEVATION VIEW



PLAN VIEW



BAR DETAIL
BAR POSITION NO. 1 - NO. 6



BAR BENDING DETAIL
FOR BARS V1 - V6

GENERAL NOTES

CONSTRUCT PER STANDARD SPECIFICATION 603.

SPLICES OF LONGITUDINAL BARS TO BE 2'LONG AND FIRMLY TIED AND FASTENED TOGETHER UNLESS NOTED OTHERWISE.

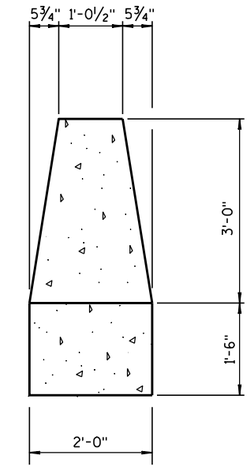
4000 PSI CONCRETE AIR ENTRAINMENT PER STANDARD SPECIFICATIONS 501.

USE ¾" BEVEL OR 1" RADIUS ON ALL EXPOSED SHARP EDGES UNLESS NOTED OTHERWISE.

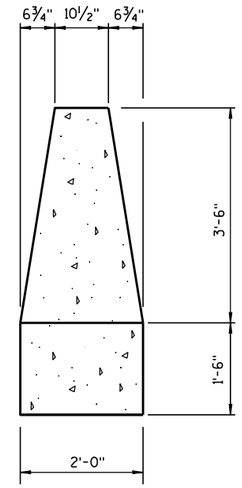
THE NUMBER IN BAR DESIGNATION REPRESENTS THE BARS LOCATION.

2" CLEAR COVER TYPICAL.

(1) EXPANSION JOINT "A" MAY BE REPLACED WITH A COLD-JOINT PROVIDED THAT 3 FEET OF LAP OF LONGITUDINAL STEEL IS PROVIDED. IF COLD-JOINT IS USED ANCHOR NOT REQUIRED.



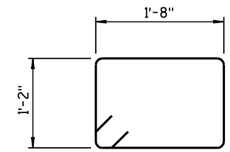
SECTION A-A



SECTION B-B

BAR CHART
SECTIONS V1 - V6

BAR	A	B
V1	170°-55'	2'-10½"
V2	171°-05'	3'-0"
V3	171°-20'	3'-1"
V4	171°-20'	3'-2"
V5	171°-35'	3'-3"
V6	171°-40'	3'-4½"



STIRRUP BAR
BENDING DETAIL

36-INCH SINGLE SLOPE CONCRETE BARRIER TO 42-INCH SINGLE SLOPE CONCRETE BARRIER HEIGHT TRANSITION

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
6-3-2010
DATE
/S/ Jerry H. Zoo
ROADWAY STANDARDS DEVELOPMENT ENGINEER
FHWA

6
S.D.D. 14 B 39-1c

GENERAL NOTES

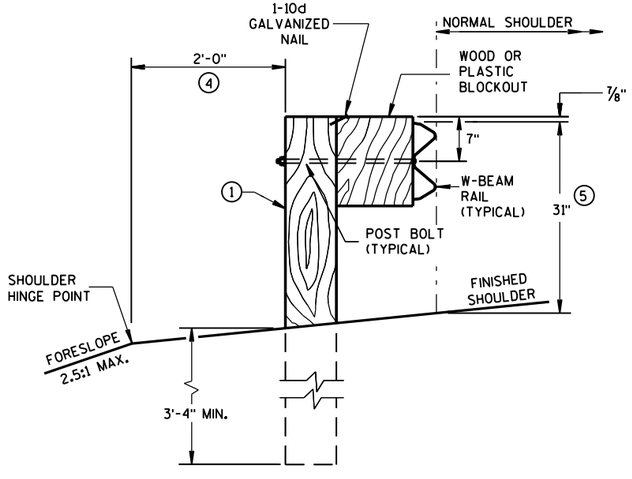
1. WOOD OR STEEL POSTS (w6X9 OR w6X8.5) MAY BE USED. DO NOT INTERMIX WOOD AND STEEL POSTS. INSTALL STEEL POSTS WITH HOLES ON APPROACHING TRAFFIC SIDE.

2. USE WOOD OR APPROVED PLASTIC BLOCKOUTS. WOOD BLOCKOUTS MAY BE CONSTRUCTED OUT OF TWO OR MORE WOOD BLOCKOUTS. SEE ALTERNATE WOOD BLOCKOUT DETAIL. DIMENSIONS OF APPROVED PLASTIC BLOCKOUTS MAY VARY.

3. IF ROCK IS ENCOUNTERED DURING EXCAVATION, PROVIDE A HOLE 12 INCHES IN DIAMETER EXTENDING 20 INCHES DEEP INTO THE ROCK. PLACE APPROXIMATELY 2½INCHES OF GRANULAR MATERIAL IN THE BOTTOM OF THE HOLE. CUT THE POSTS THE TO LENGTH AMD INSTALL. BACKFILL WITH EXCAVATED MATERIAL AND COMPACT. BACKFILL IS TO BE FREE OF LARGE ROCKS.

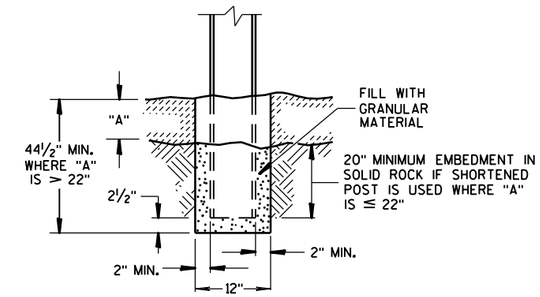
4. WHEN THE DISTANCE FROM BACK OF POST TO SHOULDER HINGE POINT IS LESS THAN 2 FEET INSTALL LONGER POST AT HALF POST SPACING (K).

5. FOR NEW MGS INSTALLATION TOP OF W-BEAM RAIL TOLERANCE IS ± 1". FOR EXISTING MGS INSTALLATION TOP OF W-BEAM IS BETWEEN 27¾" TO 32".



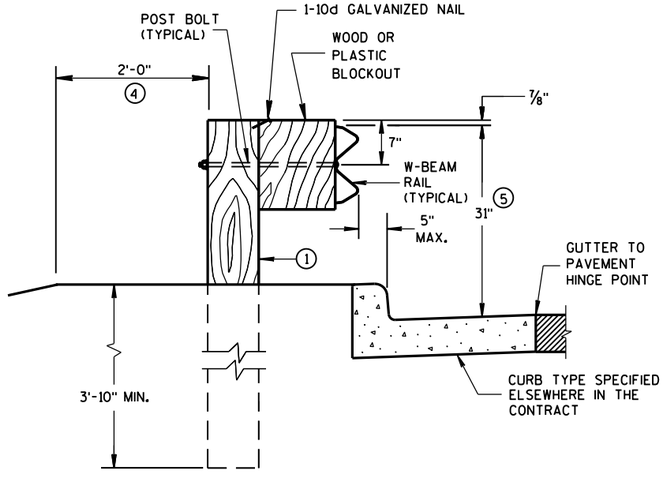
END VIEW

LOCATED ALONG A ROADWAY SHOULDER
STANDARD INSTALLATION



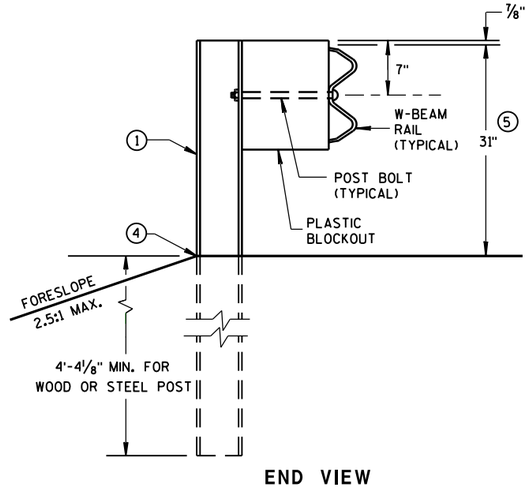
END VIEW

SETTING STEEL OR WOOD POST IN ROCK ③



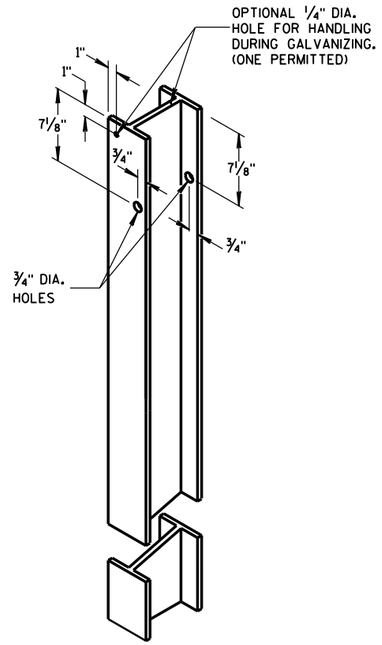
END VIEW

LOCATED ALONG A CURBED ROADWAY

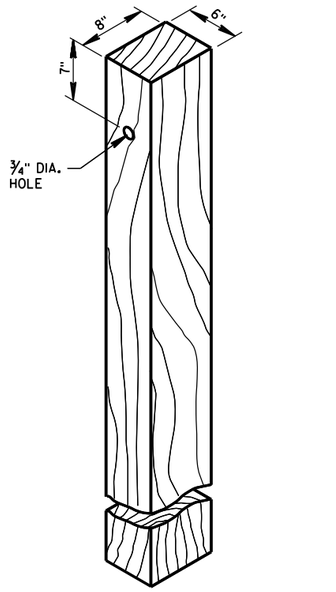


END VIEW

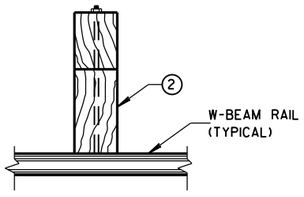
MGS LONGER POST AT HALFPOST SPACING W BEAM (K)



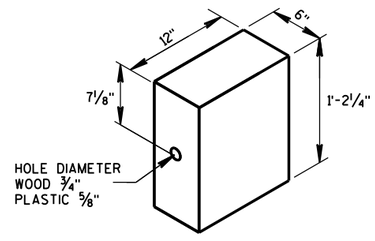
STEEL POST &
HOLE PUNCHING DETAIL
(w6X9) ①



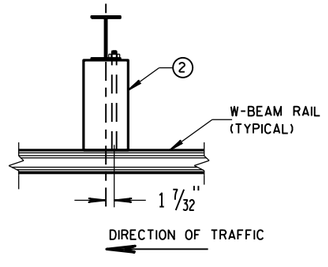
WOOD POST
(6" X 8") NOMINAL ①



PLAN VIEW
WOOD POST,
BLOCKOUT & BEAM



WOOD OR
PLASTIC BLOCKOUT ②

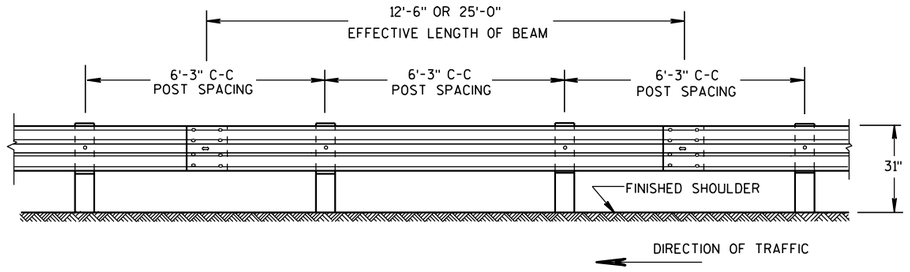


PLAN VIEW
STEEL POST,
PLASTIC BLOCKOUT & BEAM

MIDWEST GUARDRAIL SYSTEM
(MGS) GUARDRAIL

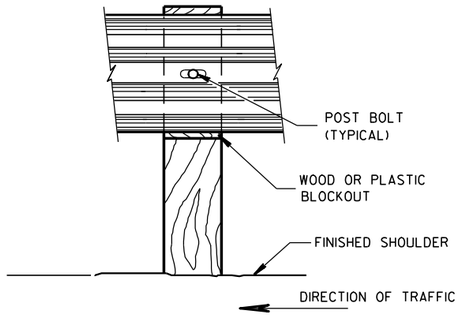
STATE OF WISCONSIN
DEPARTMENT OF TRANSPOI

6
S.D.D. 14 B 42-2a



FRONT VIEW

POST SPACING STANDARD INSTALLATION



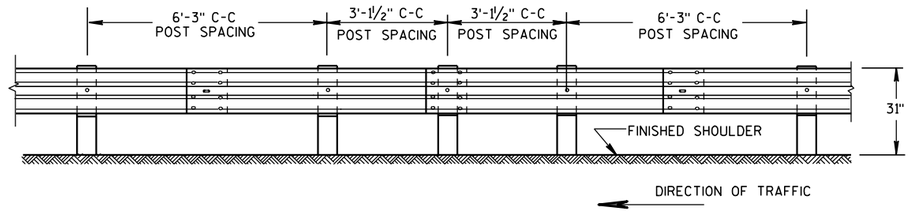
FRONT VIEW AT WOOD POST

GENERAL NOTES

1. PROVIDE TYPE "H" SILVER REFLECTIVE SHEETING ON ALL REFLECTORS EXCEPT THOSE LOCATED ALONG THE LEFT EDGE OF ONE-WAY ROADWAYS, WHICH SHALL BE PROVIDED WITH TYPE "H" YELLOW REFLECTIVE SHEETING.
2. DO NOT INSTALL REFLECTORS ON THE FIRST 50 FEET OF THE APPROACH END OF THE ENERGY ABSORBING TERMINAL. RAIL SPLICE LOCATIONS ARE THE ONLY ACCEPTABLE LOCATIONS FOR REFLECTORS.
3. REVERSE EVERY OTHER REFLECTOR FOR 2-WAY VISIBILITY. THE CONTRACTOR MAY FURNISH TWO-SIDED REFLECTORS IN LIEU OF ONE-SIDED REFLECTORS.
4. PROVIDE AN ANGLE OF BEND OF 90° ± 1° FOR TWO-SIDED REFLECTORS.
5. 25 FEET OF HALF POST SPACING IS REQUIRED ON APPROACH AND DEPARTURE ENDS OF QUARTER POST SPACING.

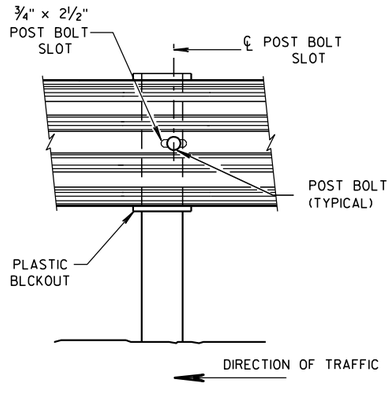
POST BOLTS ARE A 5/8" DIAMETER ASTM A307 GUARDRAIL BOLT. A POST BOLT REQUIRES 5/8" DIAMETER A563A DOUBLE RECESSED (DR) HEAVY HEX NUT AND 5/8" DIAMETER F844 FLAT WASHER. POST BOLTS MAY BE LONGER IF MULTIPLE BLOCKOUTS ARE BEING USED.

GUARD RAIL SPLICE BOLTS ARE A 5/8" DIAMETER ASTM A307 GUARDRAIL HEAD BOLT. A GUARDRAIL SPLICE BOLT REQUIRES 5/8" DIAMETER A563A DOUBLE RECESSED (DR) HEAVY HEX NUT.

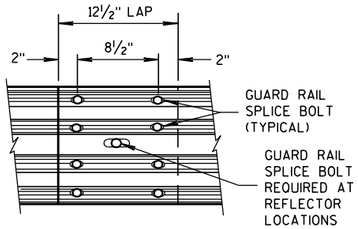


FRONT VIEW

HALF POST SPACING (HS) AND HALF POST SPACING WITH LONGER POSTS (K)

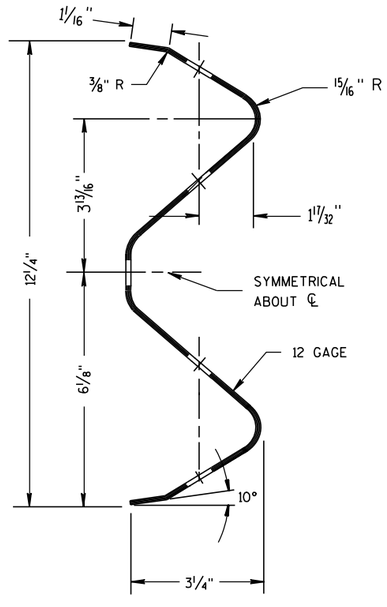


FRONT VIEW AT STEEL POST

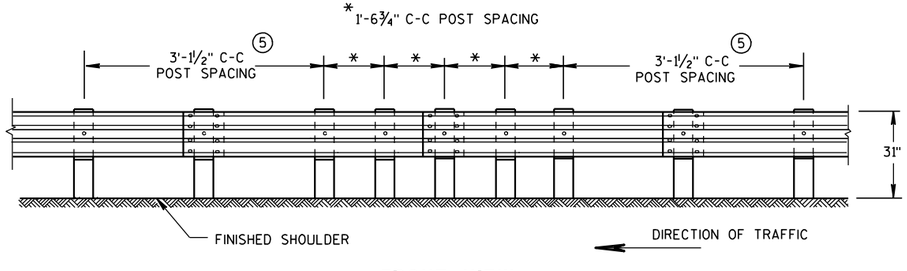


FRONT VIEW

MID-SPAN BEAM SPLICE

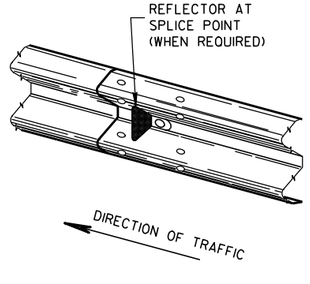


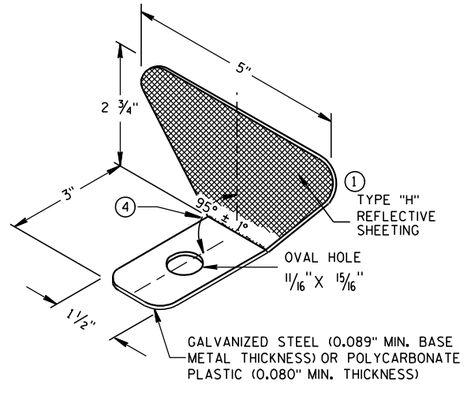
SECTION THRU W-BEAM RAIL



FRONT VIEW

QUARTER POST SPACING (QS)





ONE SIDED REFLECTOR DETAIL AND TYPICAL INSTALLATION (1)

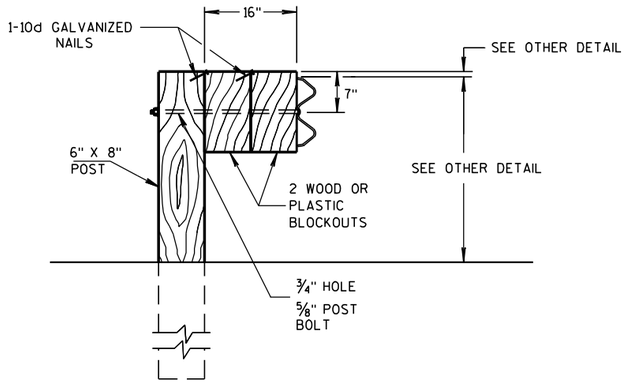
REFLECTOR SPACING (2)

	BEAM GUARD LENGTH	REFLECTOR SPACING	NO. SURFACES REFLECTORIZED	MIN. NO. REFLECTORS
ONE WAY TRAFFIC	< 200' > 200'	50' C-C 100' C-C	1 1	3
TWO WAY TRAFFIC	< 200' > 200'	25' C-C 50' C-C	1 (3) 1	6
TWO WAY TRAFFIC	< 200' > 200'	50' C-C 100' C-C	2 (4) 2	3

MIDWEST GUARDRAIL SYSTEM
(MGS) GUARDRAIL

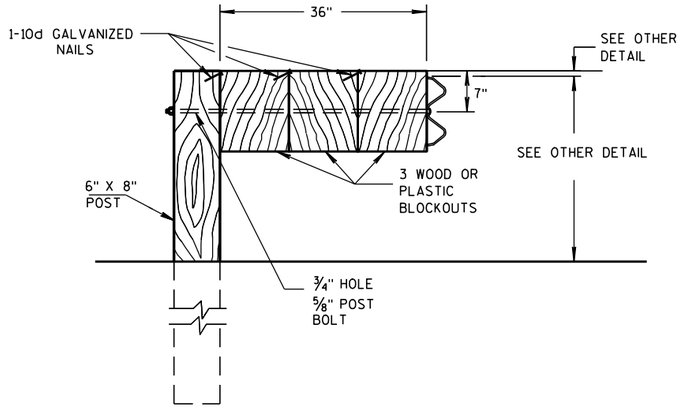
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

6
S.D.D. 14 B 42-2b



DETAIL FOR 16" BLOCKOUT DEPTH

IT IS ACCEPTABLE TO USE BLOCKOUTS UP TO 16" DEEP TO INCREASE THE POST OFFSET TO AVOID UNDERGROUND OBSTACLES. THERE IS NO LIMIT TO THE NUMBER OF POSTS THAT CAN HAVE ADDITIONAL BLOCKOUTS UP TO 16" DEEP.

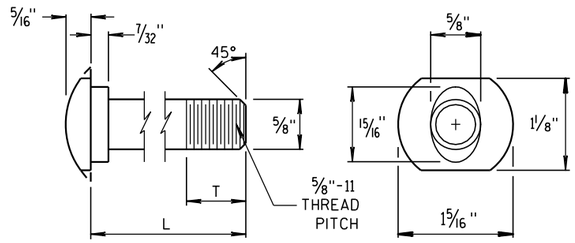


DETAIL FOR 36" BLOCKOUT DEPTH

NOTES: UNDER SPECIAL CIRCUMSTANCES, SUCH AS AVOIDING OBSTACLES THAT ARE NOT RELOCATED, IT IS ACCEPTABLE TO INSTALL ADDITIONAL BLOCKOUTS TO OBTAIN UP TO 36" DEPTH FOR ONE OR TWO POSTS IN A SECTION OF GUARDRAIL.

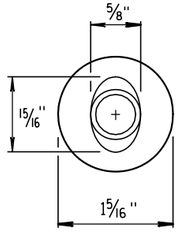
DO NOT USE 16" OR 36" BLOCKOUTS IF IT CAUSES THE POST TO BE DRIVEN BEYOND SHOULDER HINGE POINT OR CAUSES A FIXED OBJECT TO BE WITHIN THE DEFLECTION DISTANCE OF THE BARRIER.

NOTE: 1. ALL FILLETS SHALL HAVE A MINIMUM RADIUS OF 1/16".
2. IF THE BOLT EXTENDS MORE THAN 1/4" FROM THE NUT THE BOLT SHOULD BE TRIMMED BACK.

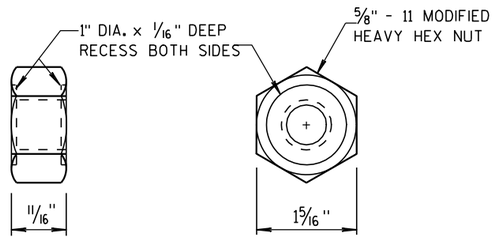


POST BOLT TABLE

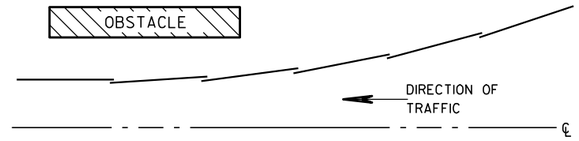
L	T (MIN.)
1 1/4"	1 1/8"
2"	1 3/4"
10"	4"
14"	4 1/16"
18"	4"
21"	4 1/16"
25"	4"



ALTERNATE BOLT HEAD

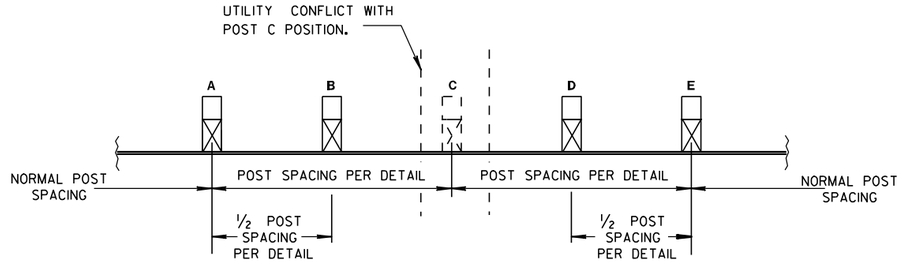


POST BOLT AND RECESS NUT

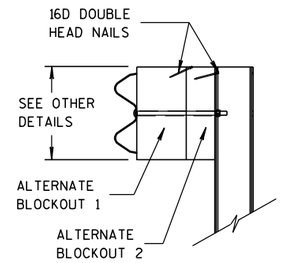


PLAN VIEW

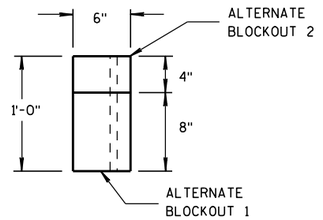
BEAM LAPPING DETAIL



POST DRIVING FOR CONTINUOUS UNDERGROUND OBSTRUCTION



SIDE VIEW



TOP VIEW

ALTERNATE WOOD BLOCKOUT DETAIL

MIDWEST GUARDRAIL SYSTEM (MGS) GUARDRAIL

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

11/15/2011
DATE

/S/ Jerry H. [illegible]
ROADWAY STANDARDS ENGINEER

FHWA

ENT

6

S.D.D. 14 B 42-2c

6

S.D.D. 14 B 42-2c

GENERAL NOTES

(A) THE SLOPE IN THE AREA BOUNDED BY THE EXTENDED VEHICLE RUNOUT PATH (EVRP), THE HINGE POINT LINE (HPL),AND THE CLEAR ZONE LIMITS (CZL) SHALL BE 4:1 OR FLATTER.

(B) AFTER FINAL ASSEMBLY, RECHECK CABLE TO BE SURE IT IS TAUT AND HAS NOT RELAXED.

(C) DIFFERENT MANUFACTURES REQUIRE DIFFERENT PERFORATED W-BEAM RAIL END PANELS. SEE MANUFACTURES INFORMATION.

(D) THE TOP OF THE STEEL TUBE ON POST 1 AND POST 2 SHALL NOT BE MORE THAN 3" ABOVE THE FINISH GROUND ELEVATION.

(F) SHEETING IS ATTACHED TO 0.040 ALUMINUM SHEET AND ATTACHED TO E.A.T. HEAD USING 4 STAINLESS STEEL SELF-TAPPING SCREWS. ONE SCREW PER CORNER OF E.A.T.

(G) ½" DIAMETER X 3" LONG LAG BOLT AND WASHER.

(H) HARDWARE VARIES BETWEEN DIFFERENT MANUFACTURES. SEE MANUFACTURE'S DRAWING FOR INFORMATION.

(I) DIMENSIONS MAY VARY. SEE MANUFACTURE'S INFORMATION.

SEE SDD 14B42 FOR MORE INFORMATION.

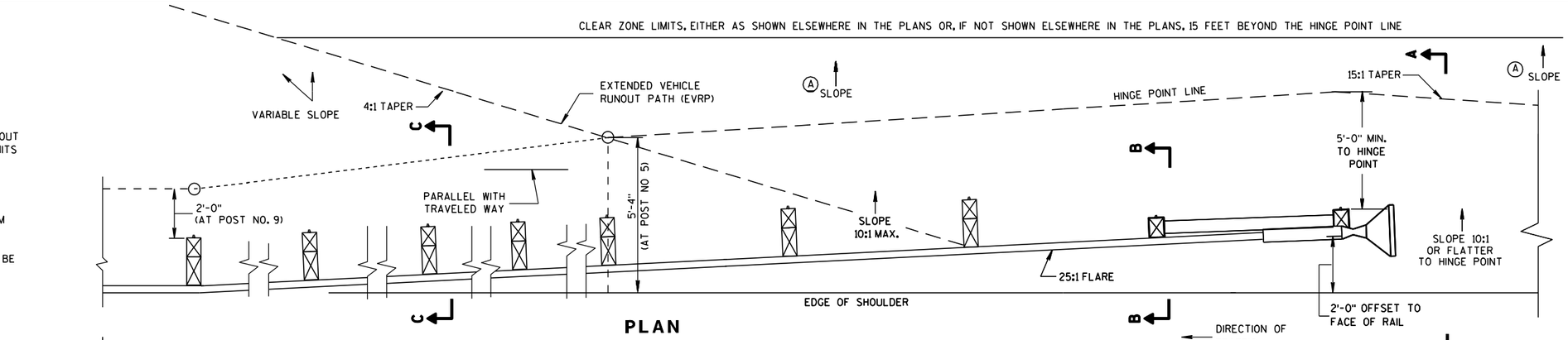
* DO NOT ATTACH BLOCKOUTS TO POSTS 1 AND 2.

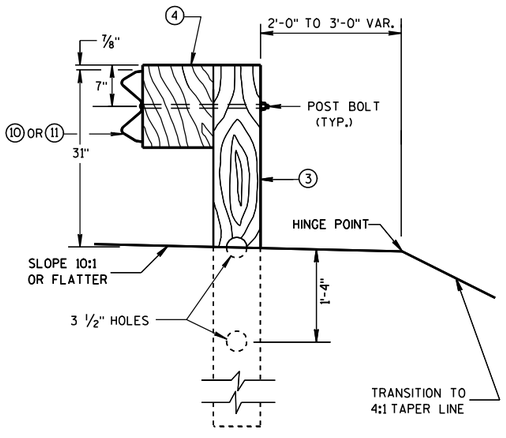
DO NOT INSTALL REFLECTORS ON THE FIRST 50 FEET OF THE APPROACH END OF THE ENERGY ABSORBING TERMINAL.

W-BEAM RAIL SPLICES ARE LOCATED AT POST NUMBER 3, AND BETWEEN POST 5 AND 6, BETWEEN POSTS 7 AND 8, AND MIDDLE OF THE SPAN AFTER POST 9.

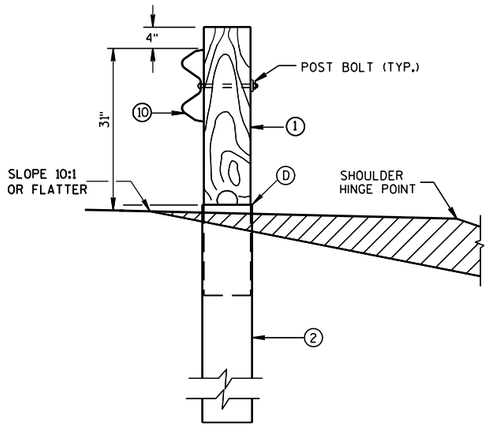
PATTERN AND COLORS ON REFLECTIVE SHEETING TYPE H ARE TO CONFORM TO OM3-L OR OM3-R OF THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES.

THE CENTER OF THE UPPER 3½" DIAMETER HOLE ON POST NUMBER 3 THROUGH POST 9 IS TO BE FLUSH WITH THE GROUND LINE (± ¾")

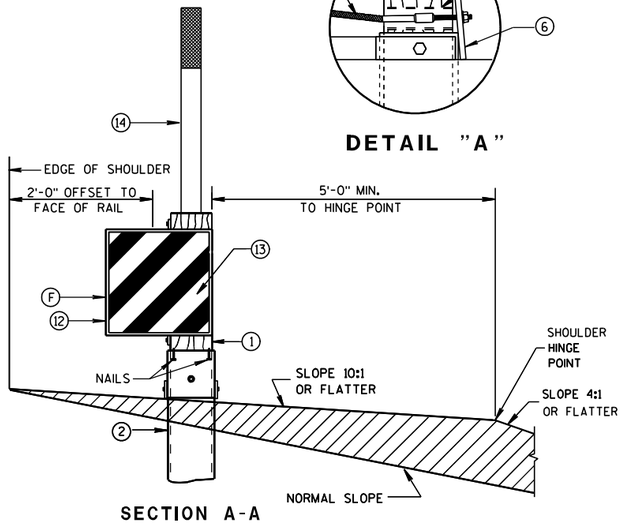




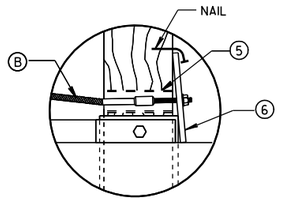
SECTION C-C
TYPICAL AT POST NOS. 3-9



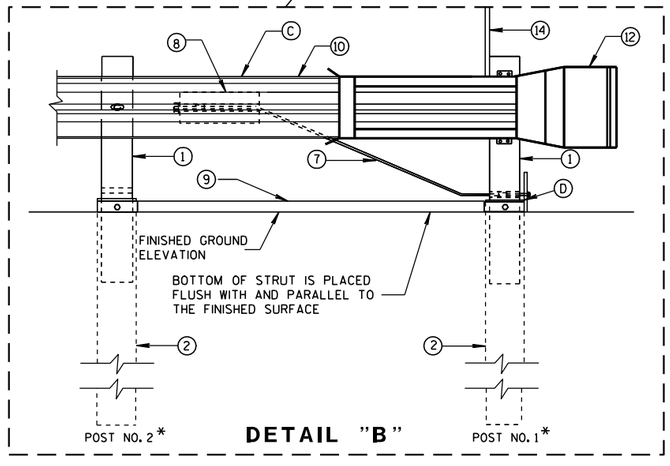
SECTION B-B
TYPICAL AT POST NO. 2*



SECTION A-A
TYPICAL AT POST NO. 1*



DETAIL "A"



DETAIL "B"

MIDWEST GUARDRAIL SYSTEM
ENERGY ABSORBING TERMINAL (MGS)

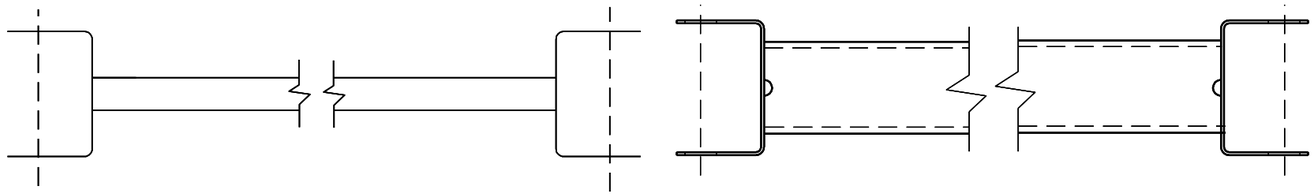
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

6

S.D.D. 14 B 44-1a

6

S.D.D. 14 B 44-1a

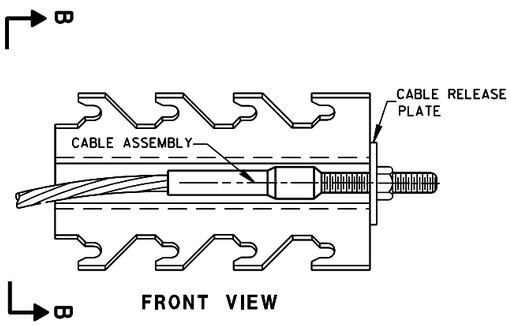


(9) (H)

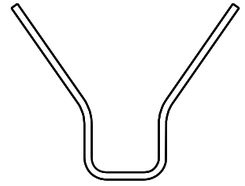
GENERIC GROUND STRUT

BILL OF MATERIALS

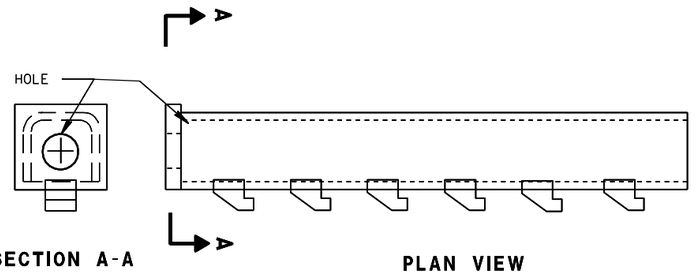
PART NO.	DESCRIPTION MATERIALS PROVIDED BY MGS EAT MANUFACTURER. SEE MANUFACTURER'S DETAILS FOR MORE INFORMATION.
(1)	WOOD BREAKAWAY POST
(2)	6" X 8" X 0.188", 6'-0" LONG FOUNDATION TUBE AT POSTS 1 AND 2
(3)	WOOD CRT
(4)	WOOD BLOCKOUT
(5)	PIPE SLEEVE
(6)	BEARING PLATE
(7)	BCT CABLE ASSEMBLY
(8)	ANCHOR CABLE BOX
(9)	GROUND STRUT
(10)	PERFORATED W-BEAM RAIL END PANEL, 12'-6" LONG.
(11)	STANDARD W-BEAM RAIL. MULTIPLE SECTIONS REQUIRED. SECTIONS VARY IN LENGTH.
(12)	END SECTION EAT
(13)	0.040" ALUMINUM SHEET WITH REFLECTIVE SHEETING TYPE H (ONLY THE SHEETING IS SUPPLIED BY THE MANUFACTURER)
(14)	EAT MARKER POST - YELLOW (SEE APPROVED PRODUCTS LIST)



FRONT VIEW



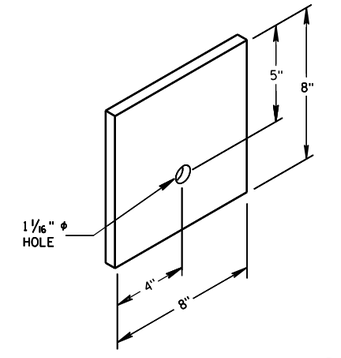
SECTION B-B



SECTION A-A

PLAN VIEW

GENERIC ANCHOR CABLE BOX (8) (H)



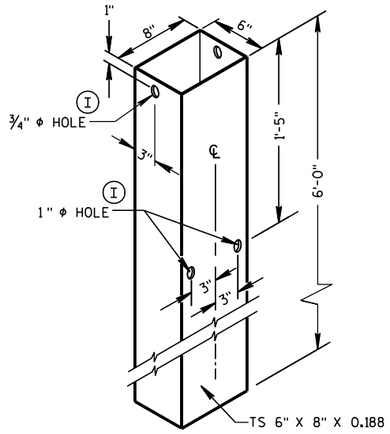
BEARING PLATE (6)

MIDWEST GUARDRAIL SYSTEM
ENERGY ABSORBING TERMINAL
(MGS)

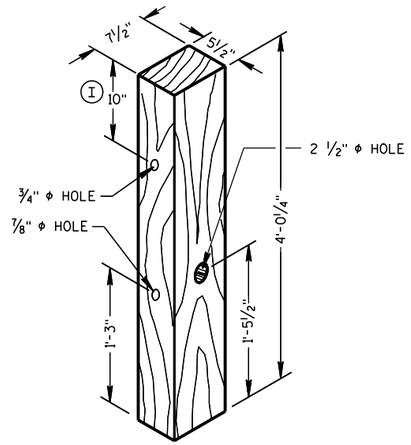
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

6

S.D.D. 14 B 44-1b

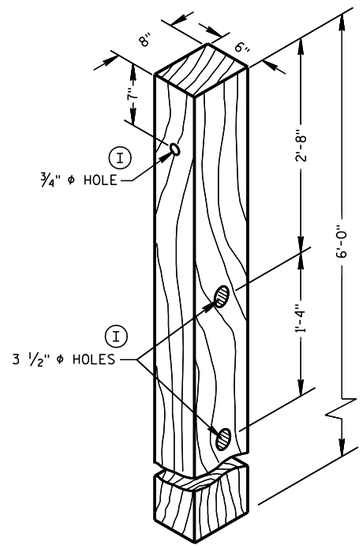


FOUNDATION TUBE (2)



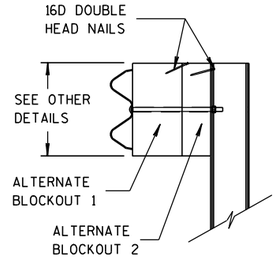
POSTS NUMBER 1 AND 2

WOOD BREAKAWAY POST (1)

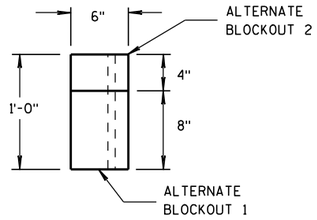


POSTS NUMBER 3-9

WOOD CRT POST (3)

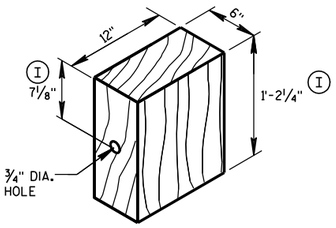


SIDE VIEW



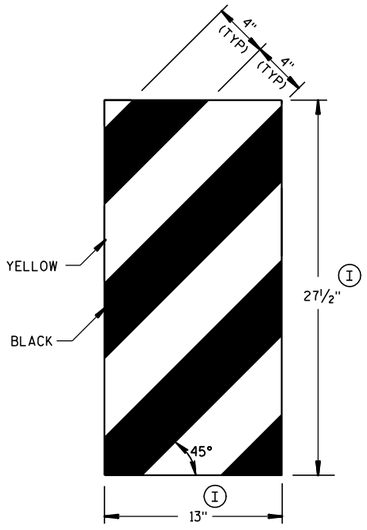
TOP VIEW

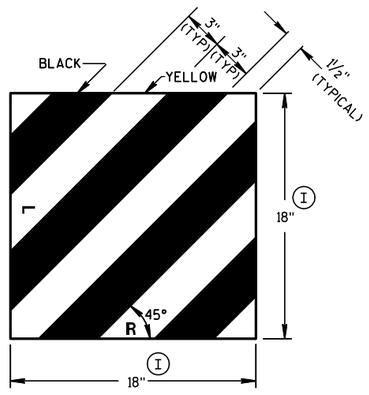
ALTERNATE WOOD BLOCKOUT DETAIL



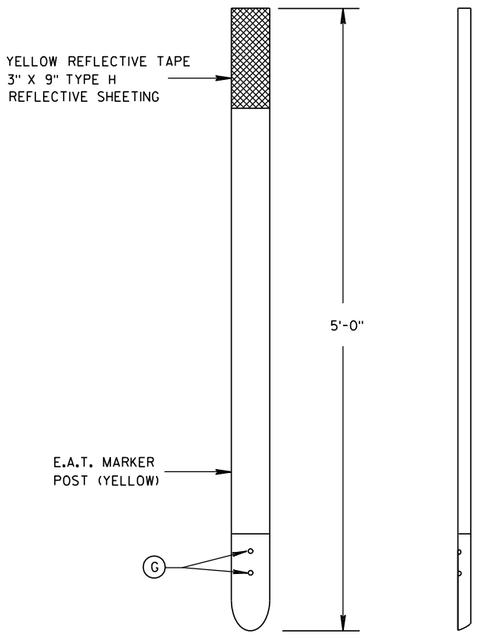
WOOD BLOCKOUT (4)

REQ'D. AT ALL POSTS EXCEPT POST NO'S 1 & 2





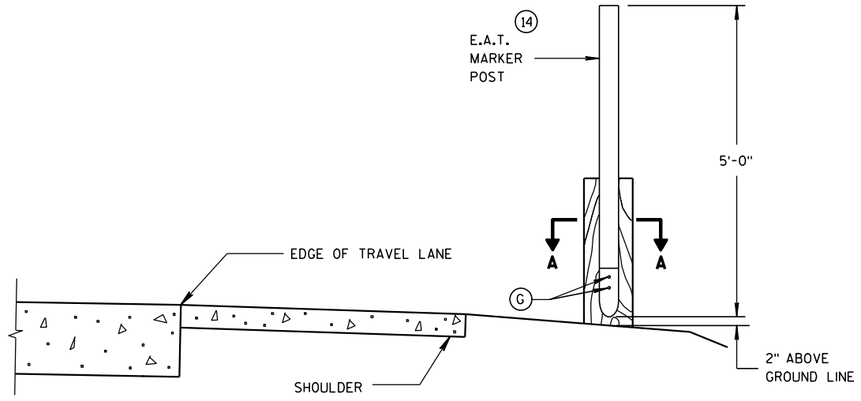
GENERIC REFLECTIVE SHEETING (13) (H)



FRONT VIEW

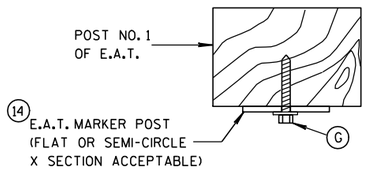
SIDE VIEW

E.A.T. MARKER POST (14)



TYPICAL INSTALLATION OF E.A.T. MARKER POST BACKSIDE OF POST NO. 1

(E.A.T. AND RAIL REMOVED FOR CLARITY)



SECTION A-A

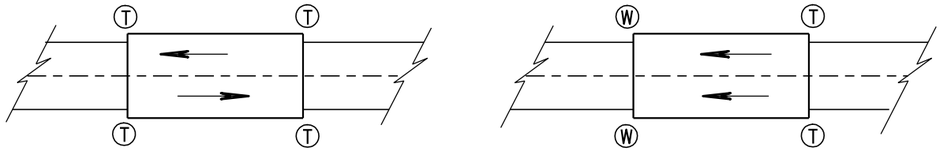
MIDWEST GUARDRAIL SYSTEM ENERGY ABSORBING TERMINAL (MGS)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
5/23/2011 — DATE
/S/ Jerry H. [illegible] — ROADWAY STANDARDS ENGINEER
FHWA

6

S.D.D. 14 B 44-1c



TWO WAY TRAFFIC

ONE WAY TRAFFIC

(T) THRIE BEAM CONNECTION

(W) W-BEAM CONNECTION WHEN REQUIRED

GENERAL NOTES

BOLT THE THRIE BEAM TO ALL POSTS AND BLOCKOUTS. DRILL OR PUNCH BOLT HOLES IN THE BEAM IF THE POST SPACING IS LESS THAN 6'-3.

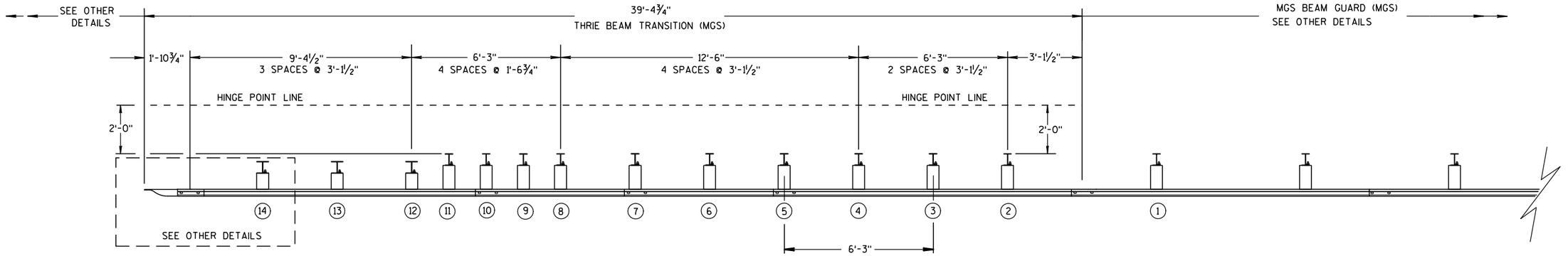
IF ROCK IS ENCOUNTERED, REMOVE ROCK TO FULL DEPTH OF POST PLUS 2½", AND 12" DIAMETER AROUND POST. SEE 14B42 FOR MORE DETAILS.

TRANSITION USES STEEL POSTS ONLY.

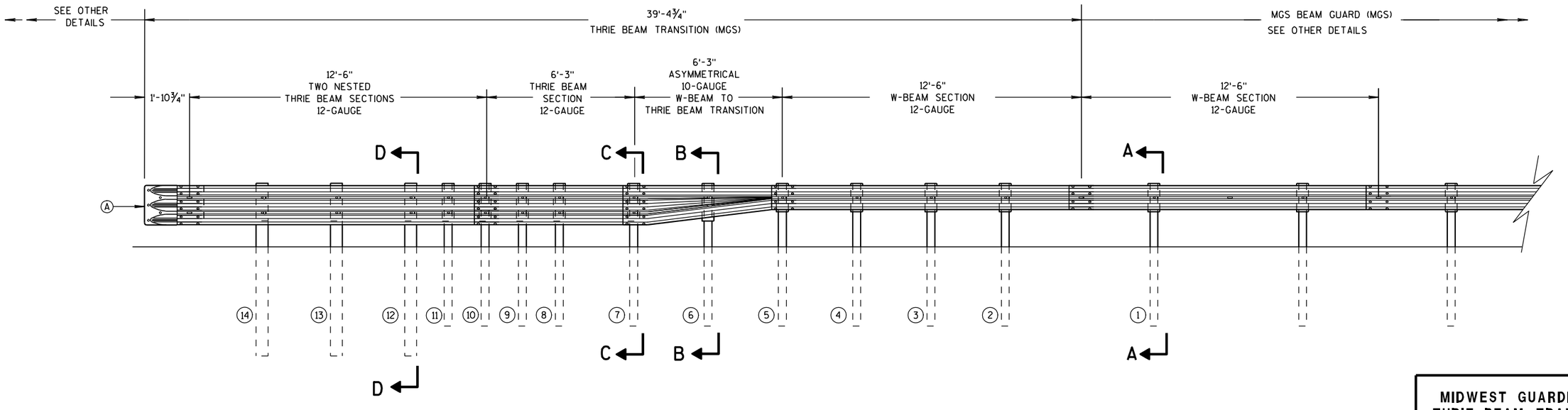
SEE STANDARD DETAIL DRAWING 14 B 42 FOR MORE INFORMATION.

(A) BRIDGE RAILING TYPE "W" DOES NOT REQUIRE A TERMINAL CONNECTOR.

TYPICAL LOCATIONS OF THRIE BEAM AND W-BEAM CONNECTIONS TO BRIDGE



PLAN VIEW



ELEVATION VIEW

MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION

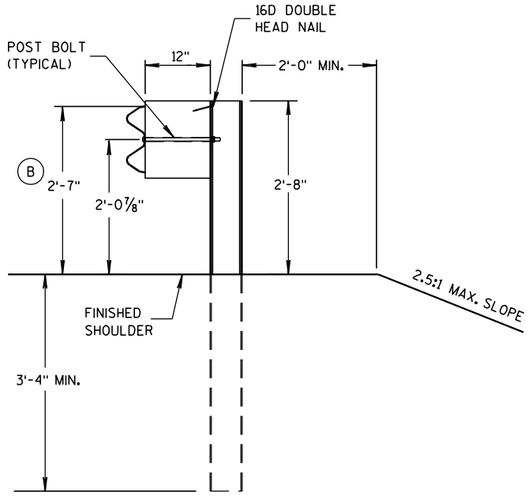
MIDWEST GUARDRAIL SYSTEM
THRIE BEAM TRANSITION (MGS)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPO...

6
S.D.D. 14 B 45-3a

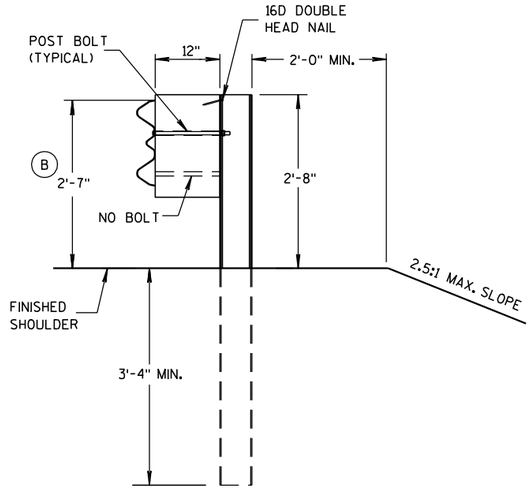
GENERAL NOTES

(B) TOLERANCE FOR TOP OF W-BEAM RAIL IS ± 1".



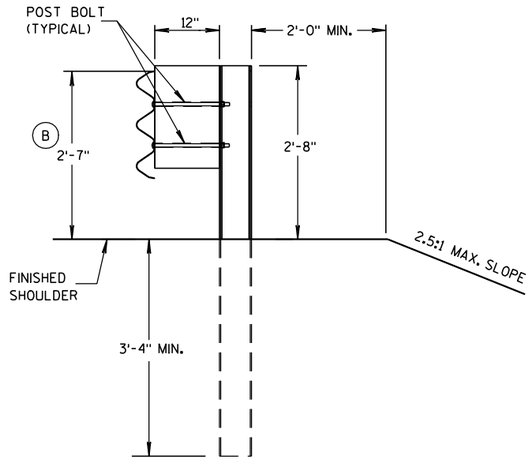
SECTION A-A

POSTS 1-5



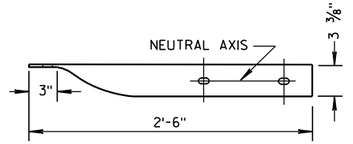
SECTION B-B

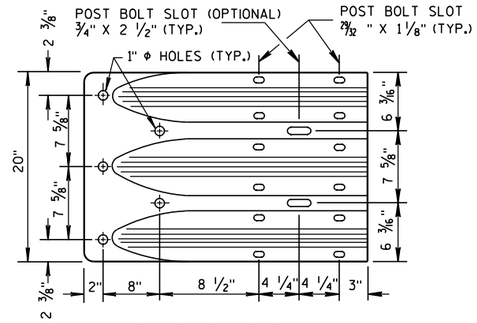
POST 6



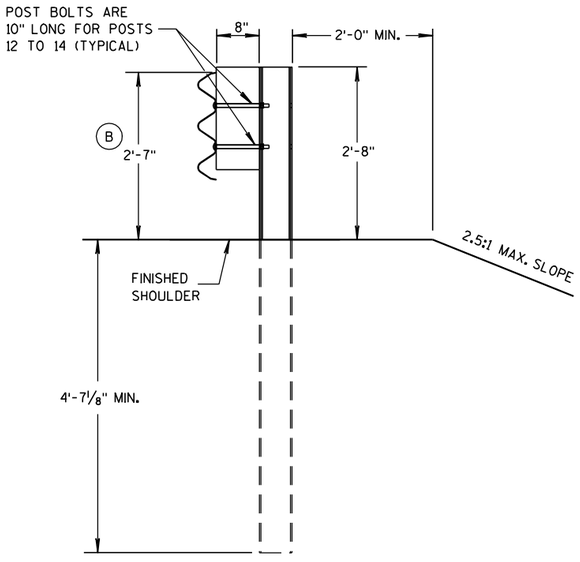
SECTION C-C

POSTS 7-11



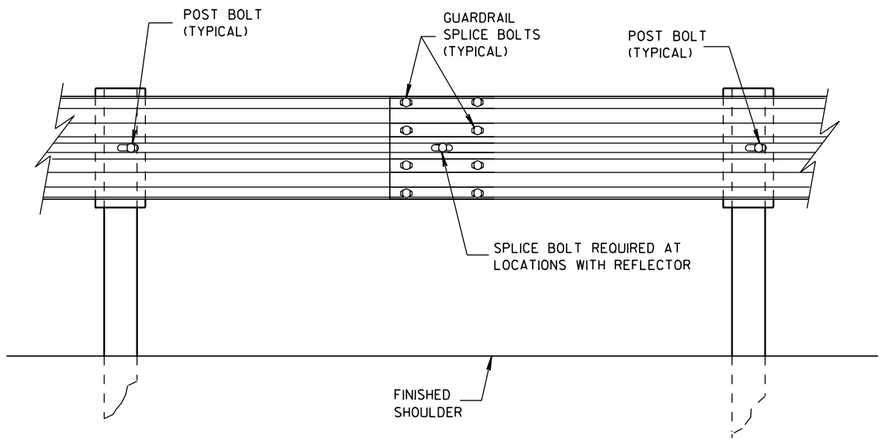


THRIE BEAM TERMINAL CONNECTOR



SECTION D-D

POSTS 12-14



SPLICE DETAIL

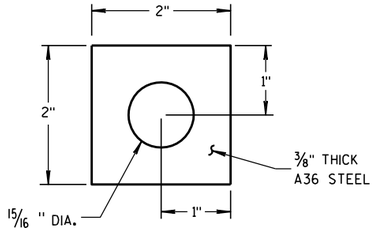
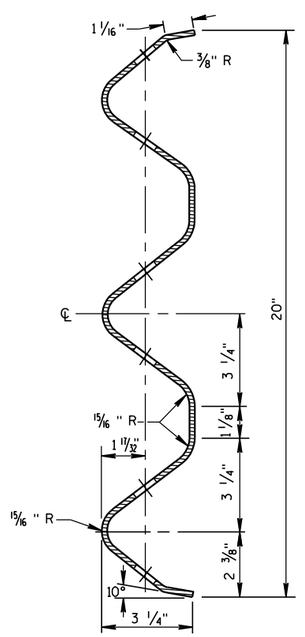


PLATE WASHER DETAIL

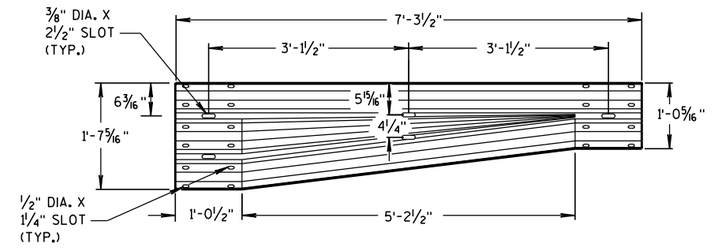


SECTION THRU THRIE BEAM RAIL ELEMENT

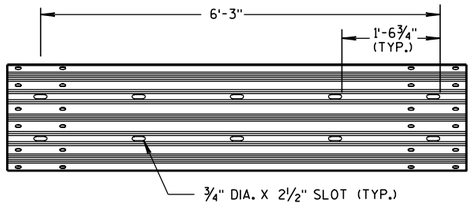
MIDWEST GUARDRAIL SYSTEM
THRIE BEAM TRANSITION (MGS)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

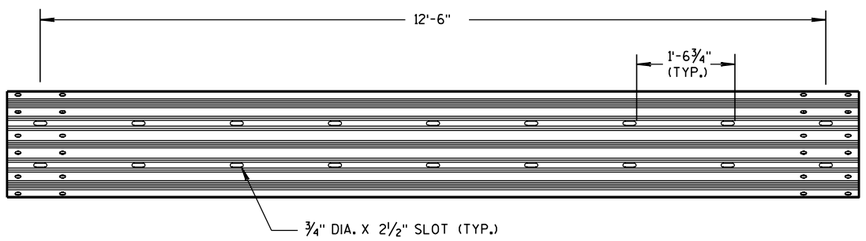
6
S.D.D. 14 B 45-3b



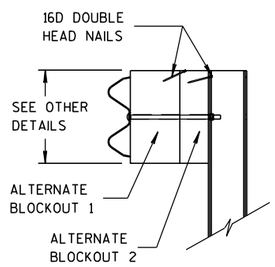
W-BEAM TO THRIE BEAM TRANSITION SECTION



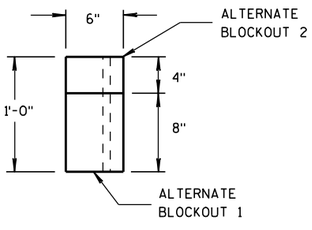
6'-3" THRIE BEAM SECTION



12'-6" THRIE BEAM SECTION

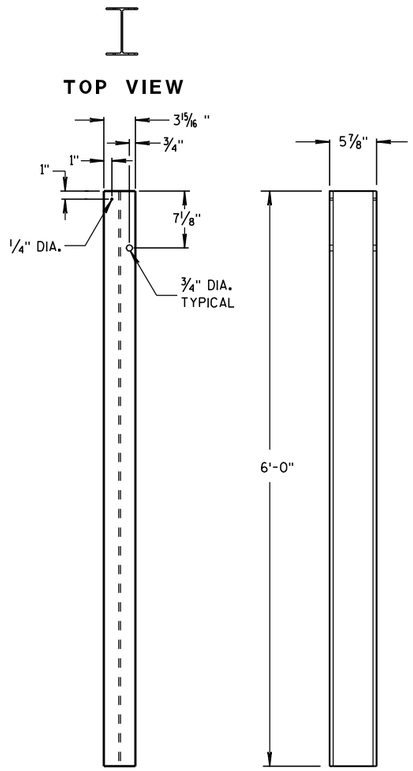


SIDE VIEW

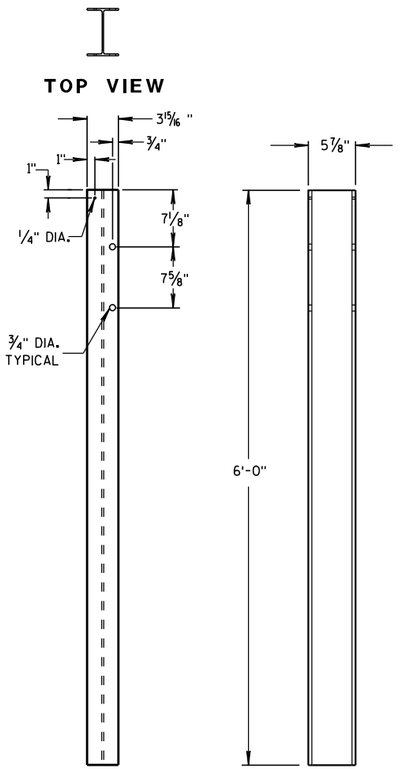


TOP VIEW

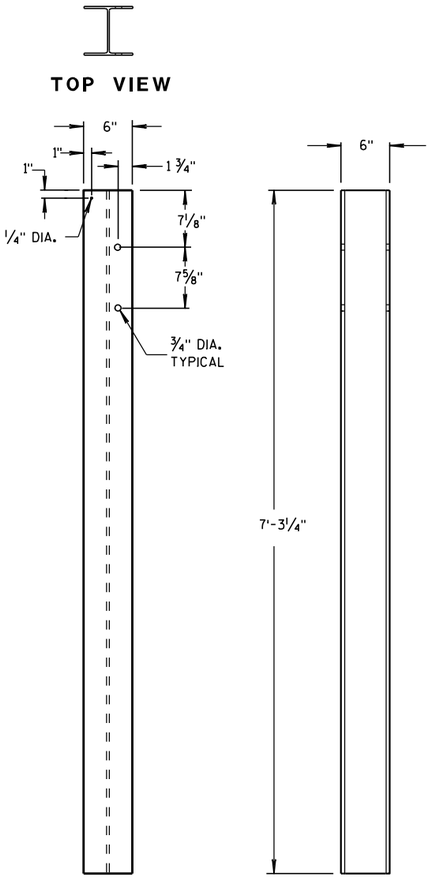
ALTERNATE WOOD BLOCKOUT DETAIL



STEEL POSTS 1-5

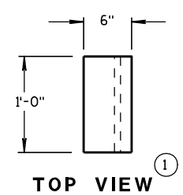


STEEL POSTS 6-11

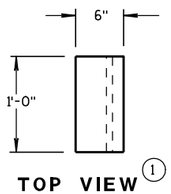


STEEL POSTS 12-14

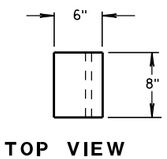
1 WOOD BLOCKS MAY BE CONSTRUCTED OUT OF 2 WOOD BLOCKS. SEE ALTERNATE WOOD BLOCK DETAIL.



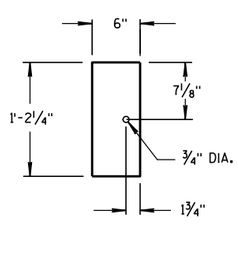
TOP VIEW (1)



TOP VIEW (1)

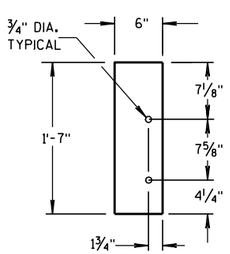


TOP VIEW



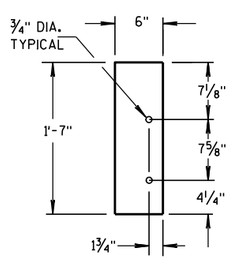
FRONT VIEW

BLOCKOUT POSTS 1-5



FRONT VIEW

BLOCKOUT POSTS 6-11



FRONT VIEW

BLOCKOUT POSTS 12-14

STEEL POST SIZES

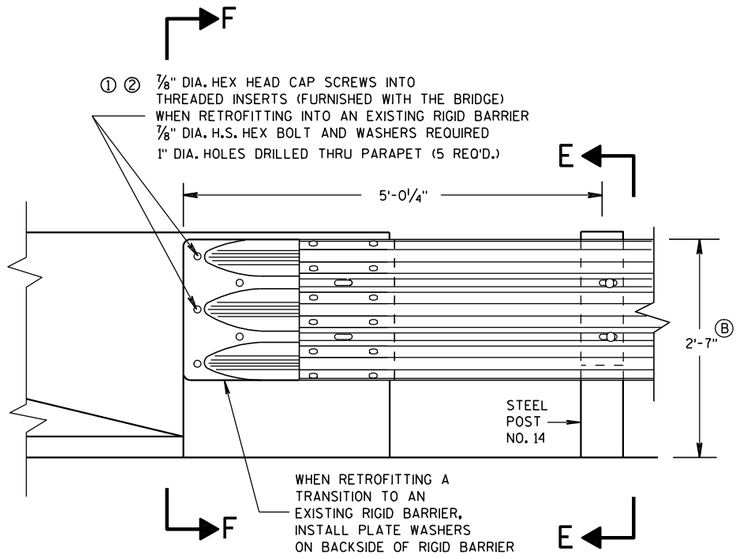
POST NUMBER	SECTION TYPE	LENGTH
1	W6x9	72"
2	W6x9	72"
3	W6x9	72"
4	W6x9	72"
5	W6x9	72"
6	W6x9	72"
7	W6x9	72"
8	W6x9	72"
9	W6x9	72"
10	W6x9	72"
11	W6x9	72"
12	W6x15	87 1/8"
13	W6x15	87 1/8"
14	W6x15	87 1/8"

MIDWEST GUARDRAIL SYSTEM
THRIE BEAM TRANSITION (MGS)

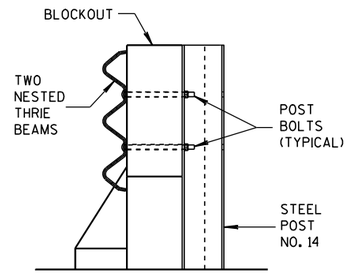
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

6

S.D.D. 14 B 45-3c



FRONT VIEW



SECTION E-E

THRIE BEAM CONNECTION TO BRIDGE PARAPET WITH SQUARE ENDS

GENERAL NOTES

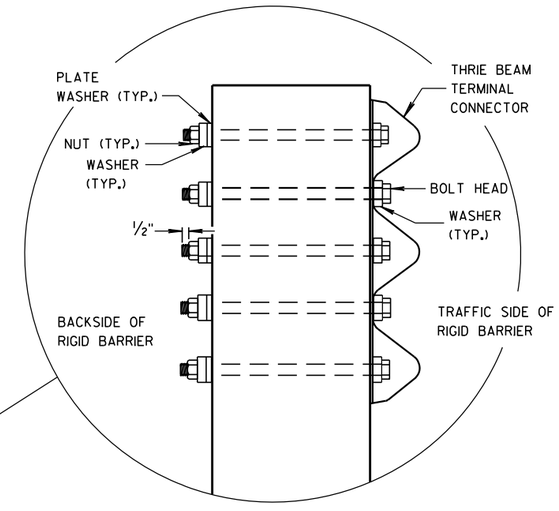
THESE ARE TYPICAL CONNECTION DETAILS. ADJUST THE POSTION OF CONNECTIONS TO EXISTING BRIDGES TO FIT THE ACTUAL BRIDGE AND SITE DIMENSIONS.

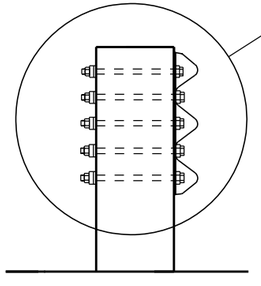
① DRILLING BOLT HOLES THROUGH THE PARAPET, BOLTS, NUTS, WASHERS AND REPAIRING DAMAGED CONCRETE ARE INCIDENTAL TO THE CONTRACT.

② BOLTS MAY BE A325 BOLTS OR A449 BOLTS. BOLT LENGTH AND THREADING LENGTH ARE TO ALLOW FOR A TIGHT CONNECTION BETWEEN RIGID BARRIER AND THRIE BEAM CONNECTION PLATE. CONTRACTOR IS TO FIELD VERIFY BOLT LENGTH AND THREAD LENGTH. ONE ROUND WASHER REQUIRED BETWEEN BOLT HEAD AND THRIE BEAM CONNECTOR PLATE. BOLTS THAT EXTEND THROUGH THE PARAPET AND OUT THE BACK FACE REQUIRE A HARDENED ROUND STEEL WASHER THAT IS 2" O.D. X 5/8" THICK AND ONE PLATE WASHER. REPAIR ANY DAMAGED CONCRETE FROM BOLT INSTALLATION.

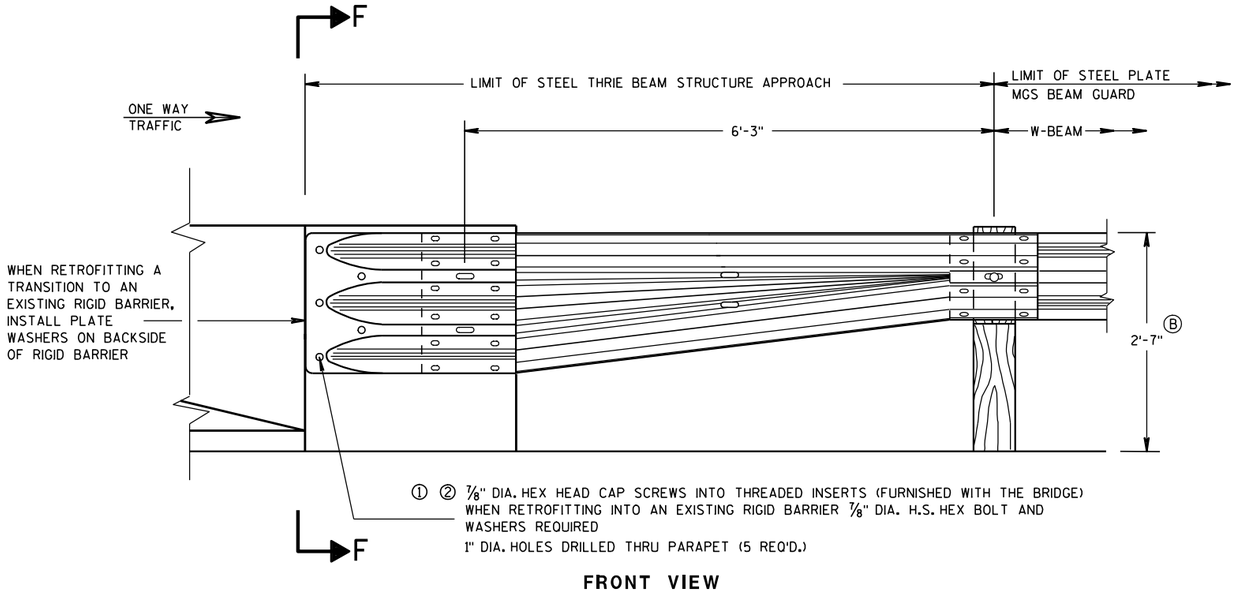
③ THE RECESS FOR A W-BEAM CONNECTION, WHICH EXISTS ON SOME PARAPETS OF THIS TYPE, SHALL BE FILLED WITH A TREATED TIMBER BLOCKOUT. BLOCKOUT SIZE IS 1'-6" X 2'-0" X 3 1/2".

Ⓑ TOLERANCE FOR TOP OF BEAM IS ± 1".





SECTION F-F



FRONT VIEW

W BEAM TRANSITION AND CONNECTION TO BRIDGE PARAPETS WITH SQUARE ENDS

(USE ONLY ON THE TRAFFIC EXIT END OF ONE WAY BRIDGES)

MIDWEST GUARDRAIL SYSTEM
THRIE BEAM TRANSITION (MGS)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

8/31/2012 — DATE

/S/ Jerry H. [illegible] — ROADWAY STANDARDS [illegible] ENGINEER

FHWA

6

S.D.D. 14 B 45-3d

GENERAL NOTES

THESE ARE TYPICAL CONNECTION DETAILS. ADJUST THE POSTION OF CONNECTIONS TO EXISTING BRIDGES TO FIT THE ACTUAL BRIDGE AND SITE DIMENSIONS.

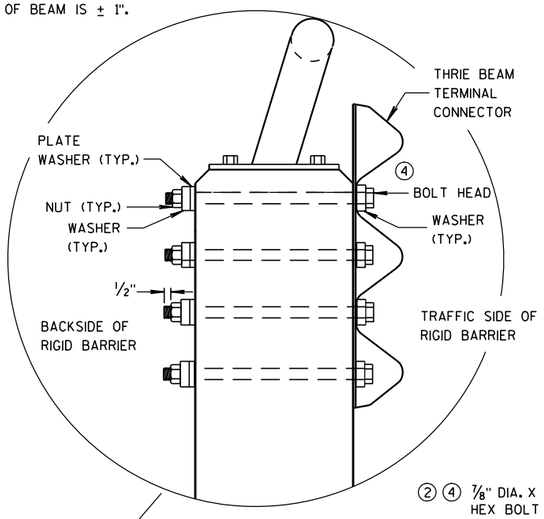
① DRILLING BOLT HOLES THROUGH THE PARAPET, BOLTS, NUTS, WASHERS AND REPAIRING DAMAGED CONCRETE ARE INCIDENTAL TO THE CONTRACT.

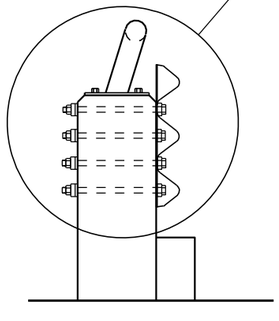
② BOLTS MAY BE A325 BOLTS OR A449 BOLTS. BOLT LENGTH AND THREADING LENGTH ARE TO ALLOW FOR A TIGHT CONNECTION BETWEEN RIGID BARRIER AND THRIE BEAM CONNECTION PLATE. CONTRACTOR IS TO FIELD VERIFY BOLT LENGTH AND THREAD LENGTH. ONE ROUND WASHER REQUIRED BETWEEN BOLT HEAD AND THRIE BEAM CONNECTOR PLATE. BOLTS THAT EXTEND THROUGH THE PARAPET AND OUT THE BACK FACE REQUIRE A HARDENED ROUND STEEL WASHER THAT IS 2" O.D. X 5/8" THICK AND ONE PLATE WASHER. REPAIR ANY DAMAGED CONCRETE FROM BOLT INSTALLATION.

③ THE RECESS FOR A W-BEAM CONNECTION, WHICH EXISTS ON SOME PARAPETS OF THIS TYPE, SHALL BE FILLED WITH A TREATED TIMBER BLOCKOUT. BLOCKOUT SIZE IS 1'-6" X 2'-0" X 3 1/2". BLOCK IS INCIDENTAL TO THE CONTRACT.

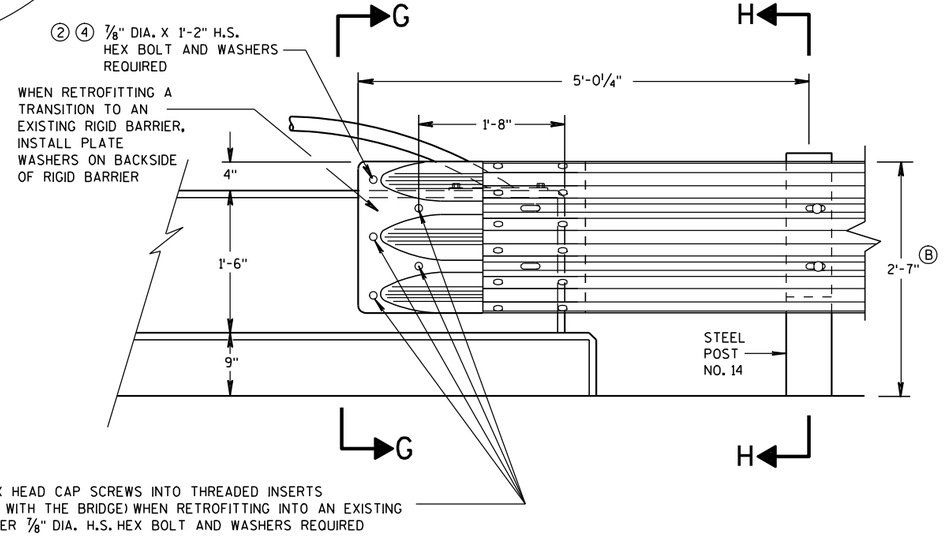
④ BOLT, NUT AND WASHERS NOT REQUIRED FOR THIS LOCATION WHEN RETROFITTING AN EXISTING PAPAPET AND THE HOLE IS EITHER ABOVE PARAPET OR WITHIN 4 INCHES OF THE EDGE OF PARAPET.

Ⓑ TOLERANCE FOR TOP OF BEAM IS ± 1".

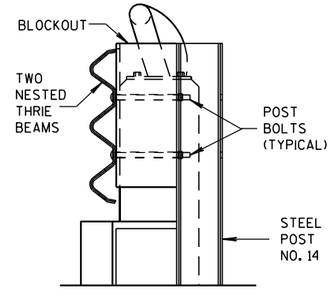




SECTION G-G

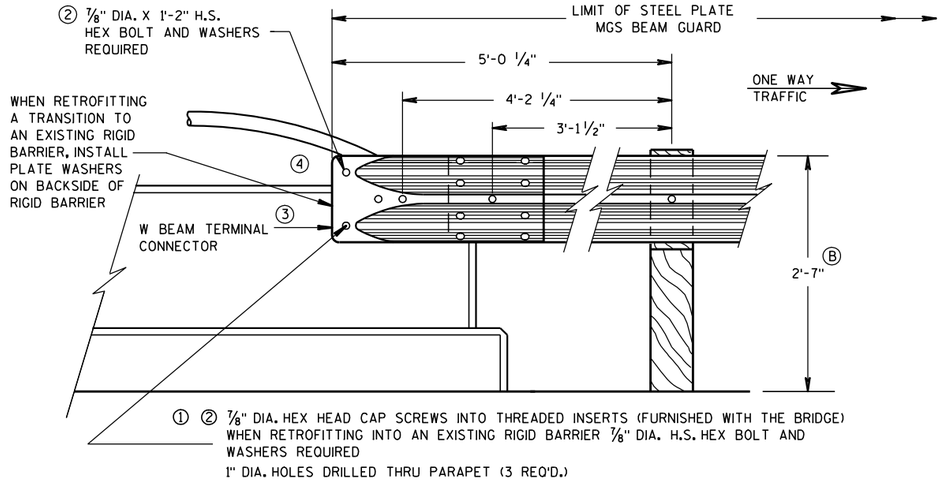


FRONT VIEW



SECTION H-H

THRIE BEAM CONNECTION TO VERTICAL FACED PARAPETS



FRONT VIEW

W BEAM CONNECTION TO VERTICAL FACE PARAPET

(USE ONLY ON THE TRAFFIC EXIT END OF ONE WAY BRIDGES)

MIDWEST GUARDRAIL SYSTEM
THRIE BEAM TRANSITION (MGS)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

8-31-2012
DATE

/S/ Jerry H. Zogg
ROADWAY STANDARDS DEVELOPMENT ENGINEER

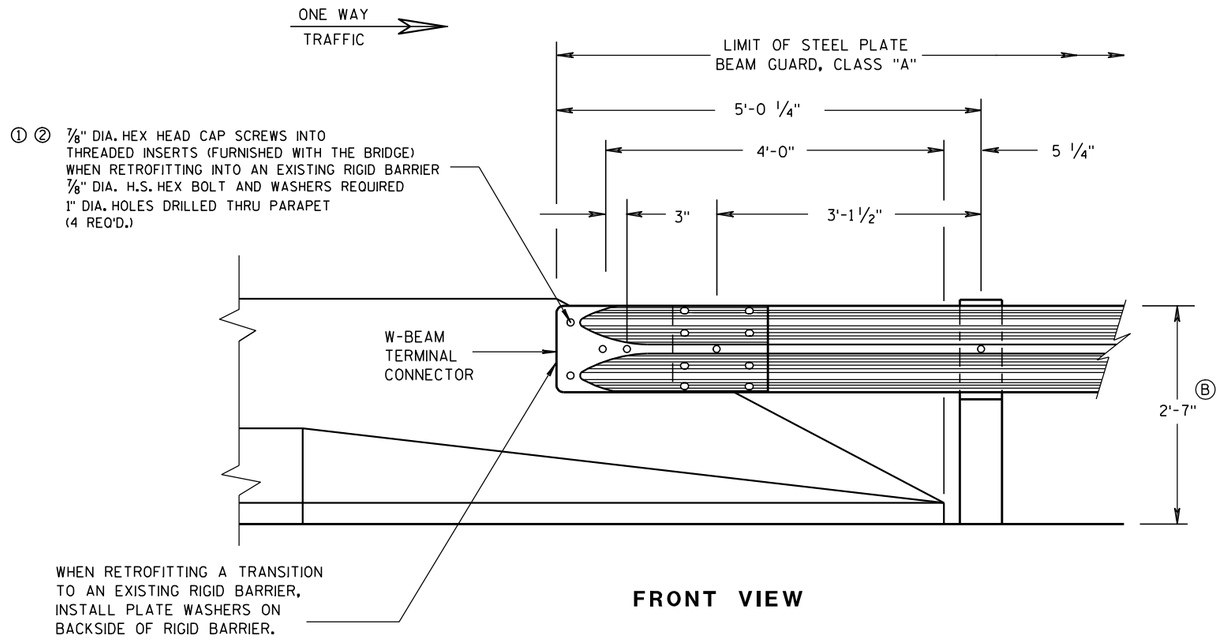
FHWA

6

S.D.D. 14 B 45-3e

6

S.D.D. 14 B 45-3e



FRONT VIEW

W BEAM CONNECTION TO PARAPETS WITH SLOPED ENDS

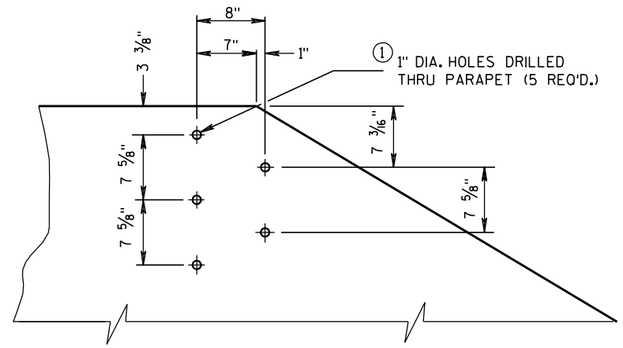
(USE ONLY AT TRAFFIC EXIT END OF ONE WAY BRIDGE)

GENERAL NOTES

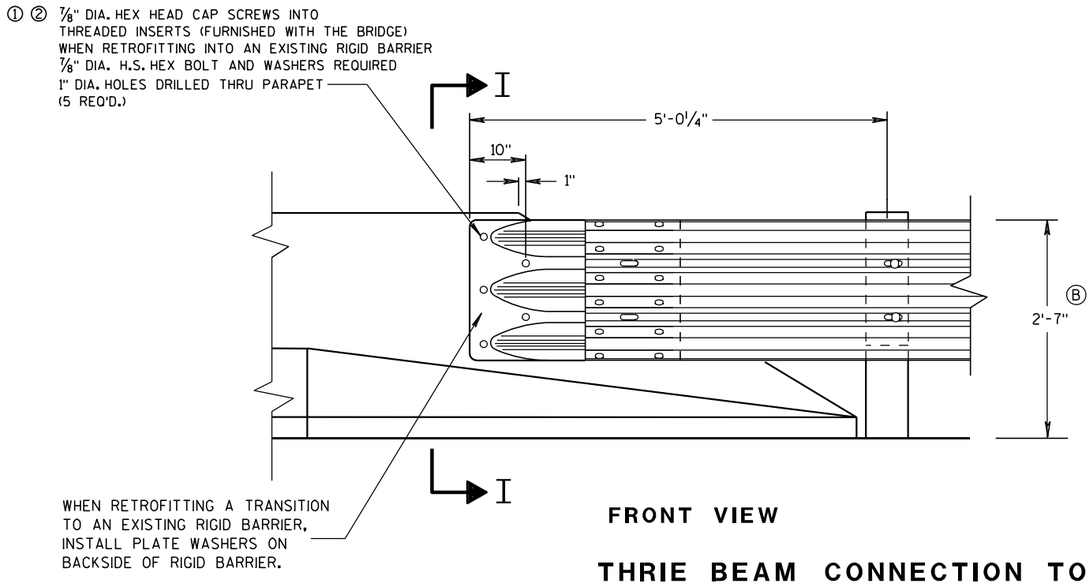
① DRILLING BOLT HOLES THROUGH THE PARAPET, BOLTS, NUTS, WASHERS AND REPAIRING DAMAGED CONCRETE ARE INCIDENTAL TO THE CONTRACT.

② BOLTS MAY BE A325 BOLTS OR A449 BOLTS. BOLT LENGTH AND THREADING LENGTH ARE TO ALLOW FOR A TIGHT CONNECTION BETWEEN RIGID BARRIER AND THRIE BEAM CONNECTION PLATE. CONTRACTOR IS TO FIELD VERIFY BOLT LENGTH AND THREAD LENGTH. ONE ROUND WASHER REQUIRED BETWEEN BOLT HEAD AND THRIE BEAM CONNECTOR PLATE. BOLTS THAT EXTEND THROUGH THE PARAPET AND OUT THE BACK FACE REQUIRE A HARDENED ROUND STEEL WASHER THAT IS 2" O.D. X 5/8" THICK AND ONE PLATE WASHER. REPAIR ANY DAMAGED CONCRETE FROM BOLT INSTALLATION.

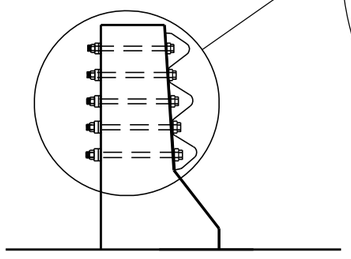
Ⓑ TOLERANCE FOR TOP OF BEAM IS ± 1".



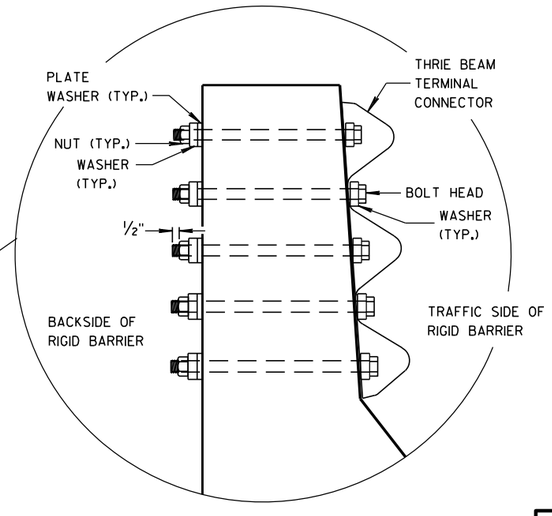
DRILL HOLE LOCATION AND PATTERN FOR THRIE BEAM CONNECTION



FRONT VIEW



SECTION I-I



THRIE BEAM CONNECTION TO BRIDGE PARAPETS WITH SLOPED ENDS

MIDWEST GUARDRAIL SYSTEM
THRIE BEAM TRANSITION (MGS)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

8/31/2012 — DATE

/S/ Jerry H. [illegible] — ROADWAY STANDARDS ENGINEER

293

ENT

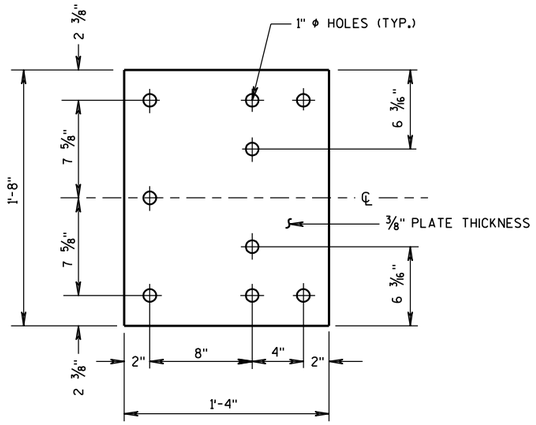
FHWA

6

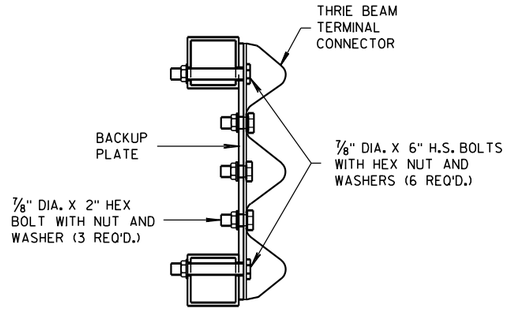
S.D.D. 14 B 45-3f

6

S.D.D. 14 B 45-3f



BACK-UP PLATE DETAIL

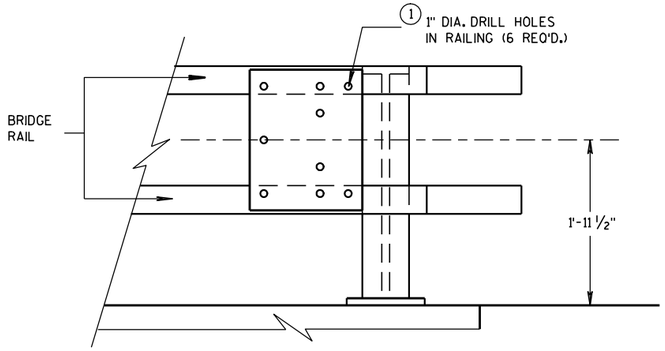


SECTION J-J

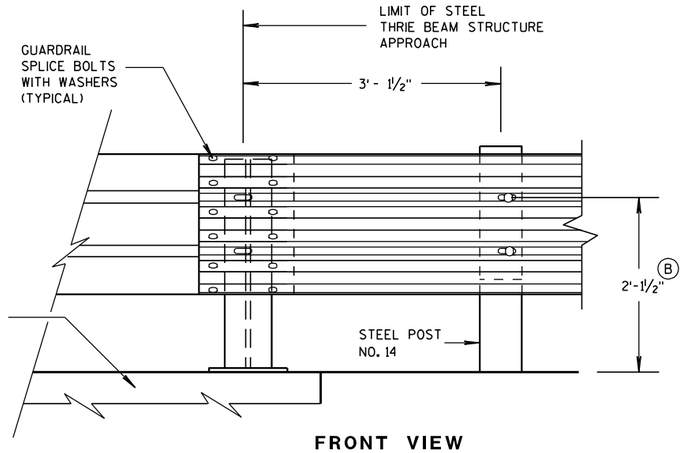
GENERAL NOTES

(1) DRILLING HOLES THROUGH THE PAPRPET, BOLTS, NUTS, WASHERS AND REPAIRING DAMAGED CONCRETE ARE INCIDENTAL TO THE CONTRACT.

(B) TOLERANCE FOR TOP OF BEAM IS ± 1".

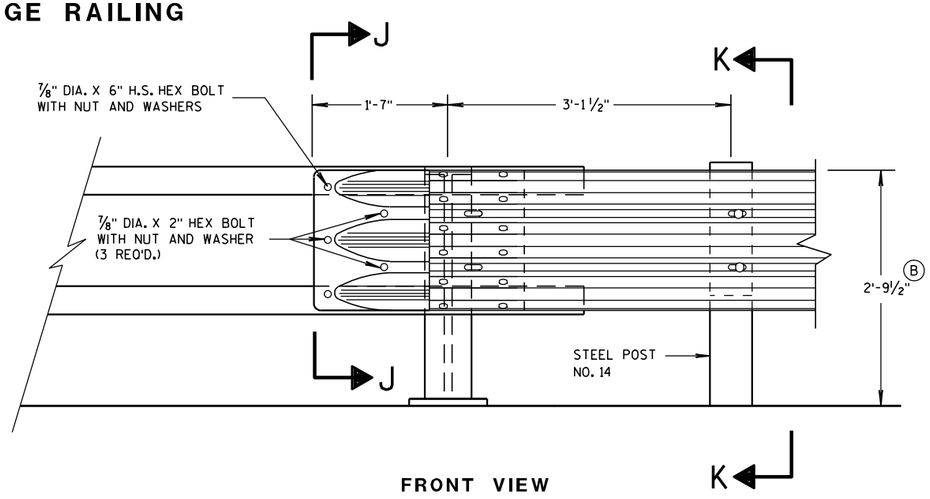


BACK-UP PLATE MOUNTING ONTO BRIDGE RAILING

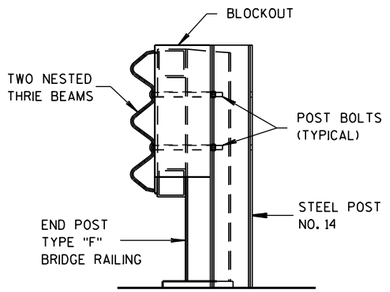


FRONT VIEW

THRIE BEAM CONNECTION TO STEEL RAILING TYPE "W"



FRONT VIEW



SECTION K-K

THRIE BEAM CONNECTION TO TUBULAR RAILING TYPE "F"

MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION
APPROVED 8/31/2012 DATE /S/ Jerry H. Zogg ROADWAY STANDARDS DEVELOPMENT ENGINEER FHWA

6

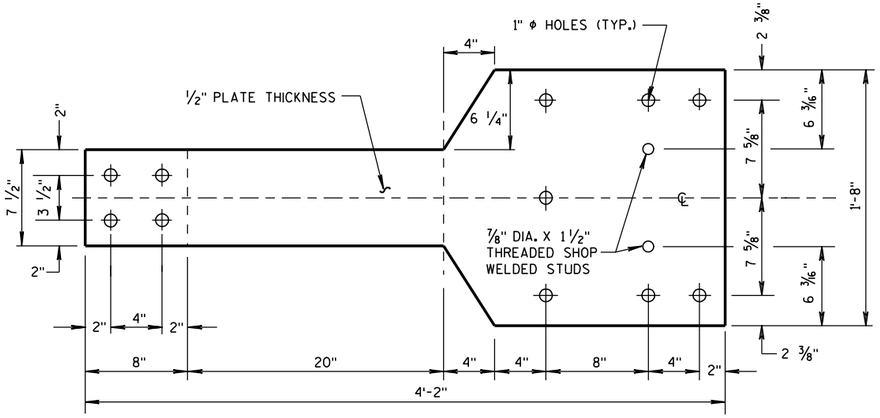
S.D.D. 14 B 45-3g

6

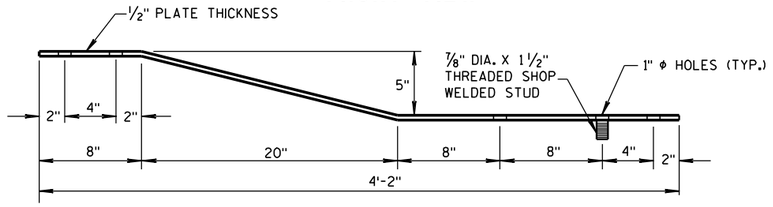
S.D.D. 14 B 45-3g

GENERAL NOTES

(B) TOLERANCE FOR TOP OF W-BEAM RAIL IS ± 1".

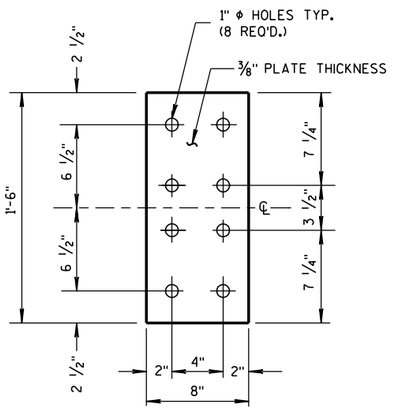


FRONT VIEW



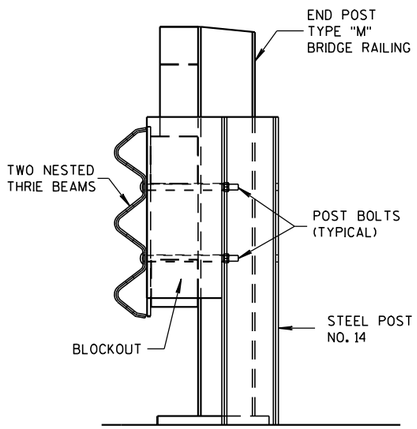
PLAN VIEW

BACK-UP PLATE DETAIL, TYPE "M"

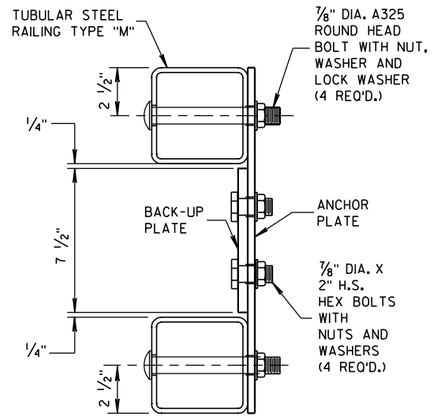


FRONT VIEW

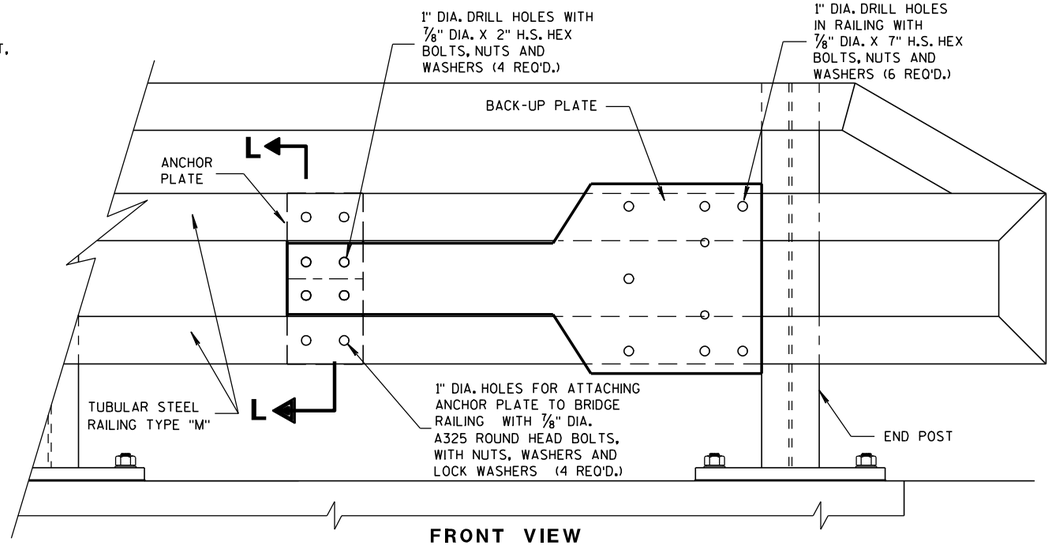
ANCHOR PLATE DETAIL, TYPE "M"



SECTION M-M

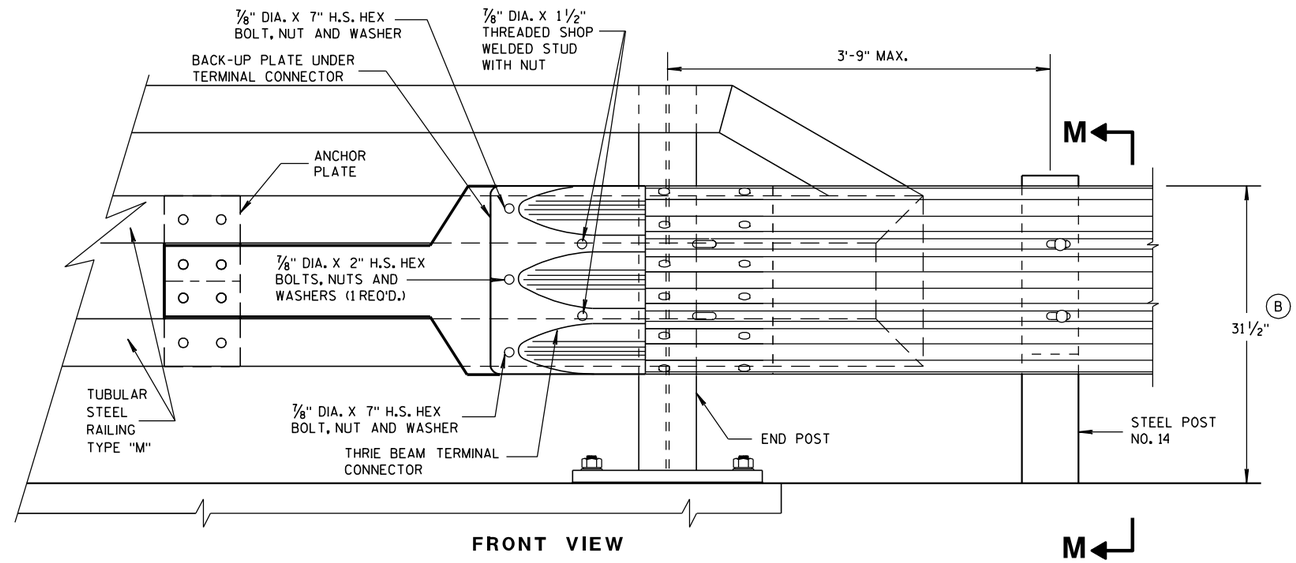


SECTION L-L

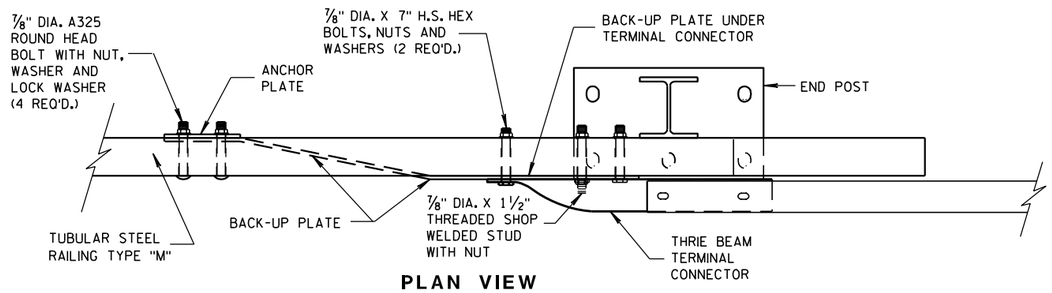


FRONT VIEW

ANCHOR AND BACK-UP PLATE MOUNTING TO BRIDGE RAILING, TYPE "M"



FRONT VIEW



PLAN VIEW

THRIE BEAM CONNECTION TO TUBULAR RAILING, TYPE "M"

MIDWEST GUARDRAIL SYSTEM
THRIE BEAM TRANSITION (MGS)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
8-31-2012 DATE
/S/ Jerry H. [illegible]
ROADWAY STANDARDS ENGINEER
295
ENT
FHWA

6

S.D. 14 B 45-3h

6

S.D. 14 B 45-3h

GENERAL NOTES

COVER PLATE PANELS ARE 3/16" THICK.

ALL STIFFENERS ARE 1/4" THICK.

CONNECTOR PLATE SHALL BE FABRICATED FROM ASTM GRADE A36 STEEL AND GALVANIZED.

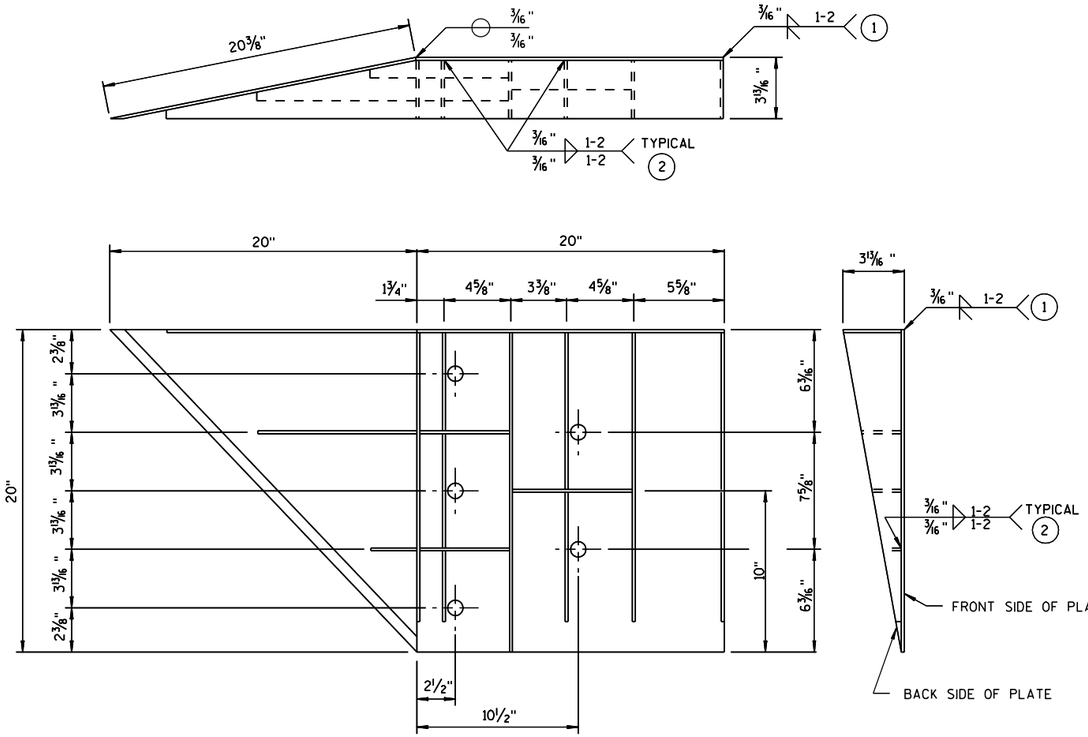
FOR GALVANIZED REQUIREMENTS, SEE SECTION 614 OF THE STANDARD SPECIFICATIONS.

ALL HOLE DIAMETERS SHALL BE 1".

FOR OPPOSITE SIDE INSTALLATION MIRROR DRAWINGS.

(1) STIFFENERS LOCATED AT THE OUTSIDE EDGES OF THE COVER PLATES SHALL BE WELDED AS FOLLOWS:
SINGLE BEVEL GROOVE WELD ON EXTERNAL SIDES AND 3/16" FILLET WELD BY 1" LONG SPACED AT 2" ON INTERNAL SIDES.

(2) STIFFENERS LOCATED ON THE INSIDE OF THE COVER PLATE SHALL BE WELDED AS FOLLOWS:
3/16" FILLET WELD BY 1" LONG SPACED AT 2".



WELDING INSTRUCTION

(VIEWED FROM BACK SIDE OF PLATE)

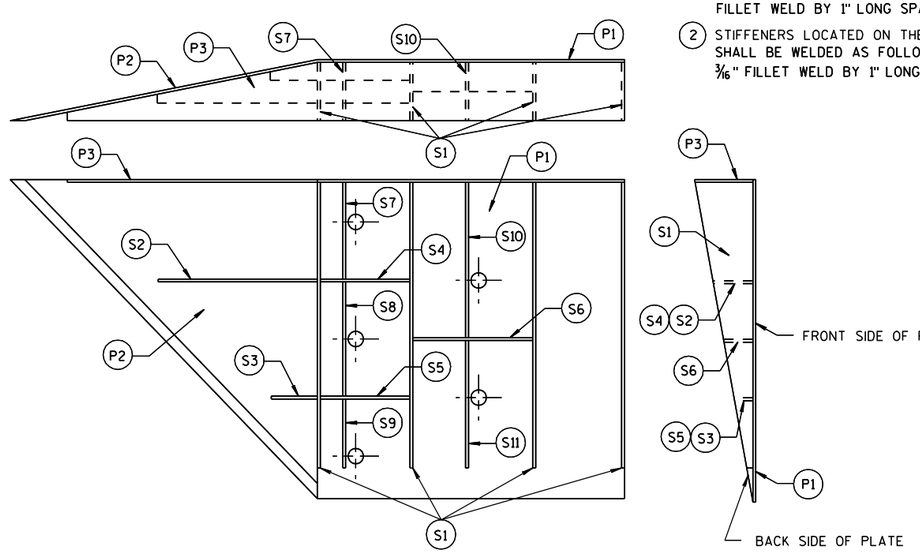


PLATE AND STIFFENER IDENTIFICATION

(VIEWED FROM BACK SIDE OF PLATE)

CONNECTOR PLATE DIMENSION (PER ASSEMBLY)

PLATE	QUANTITY	SHAPE	SIZE (A x B x C x D)	THICKNESS
P1	1		20" x 20"	3/16"
P2	1		20" x 20" x 28 9/16"	3/16"
P3	1		39" x 3 5/8" x 20" x 19 5/16"	3/16"
S1	4		18 7/16" x 3 5/8" x 18 3/4"	1/4"
S2	1		10 1/4" x 2 7/16" x 10 3/8" x 1/2"	1/4"
S3	1		3" x 1 1/16" x 3 1/8" x 1/2"	1/4"
S4	1		6 1/8" x 2 7/16"	1/4"
S5	1		6 1/8" x 1 1/16"	1/4"
S6	1		7 3/4" x 1 3/4"	1/4"
S7	1		2 9/16" x 6" x 3 5/8" x 5 7/8"	1/4"
S8	1		1 5/32" x 7 1/2" x 2 1/2" x 7 3/8"	1/4"
S9	1		6 1/16" x 6 3/16" x 1 3/32"	1/4"
S10	1		1 7/8" x 9 7/8" x 3 5/8" x 9 11/16"	1/4"
S11	1		8 1/2" x 8 3/4" x 1 13/16"	1/4"

SINGLE SLOPE CONNECTION PLATE

MIDWEST GUARDRAIL SYSTEM
THRIE BEAM TRANSITION (MGS)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

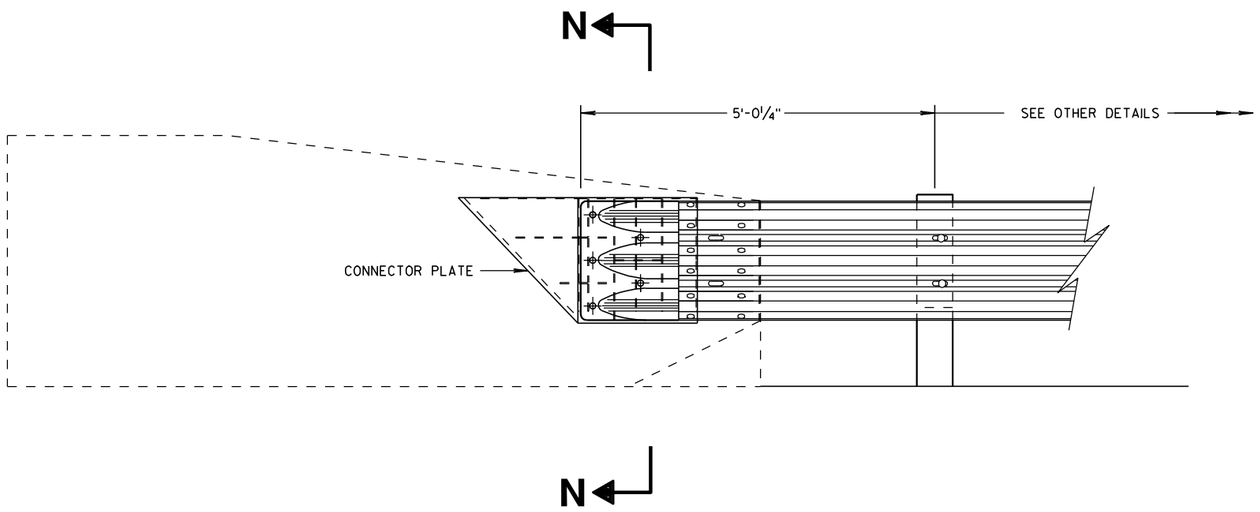
APPROVED
8/31/2012 DATE
/S/ Jerry H ...
ROADWAY STANDARDS ENGINEER
296
FHWA

6

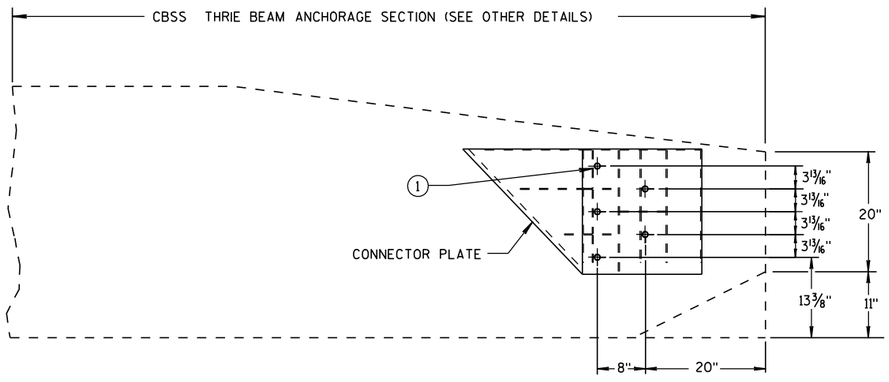
S.D.D. 14 B 45-3i

6

S.D.D. 14 B 45-3i



THRIE BEAM CONNECTION TO SINGLE SLOPE BARRIER

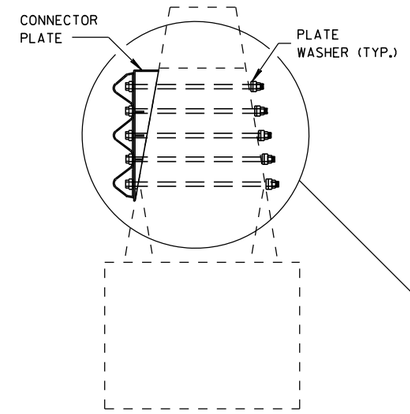


SINGLE SLOPE CONNECTION PLATE PLACEMENT

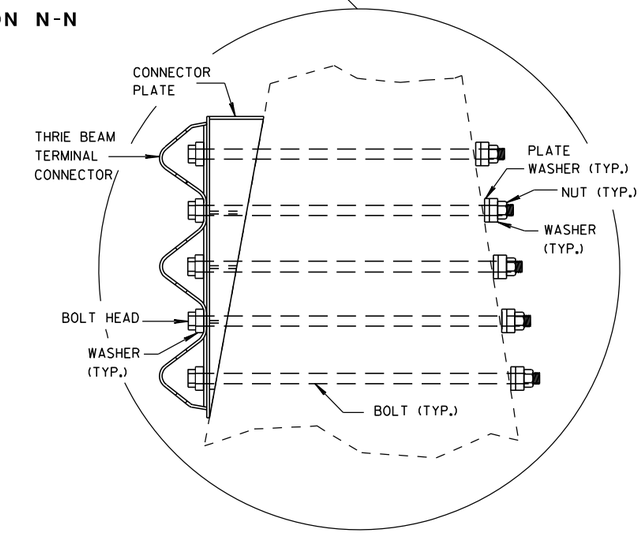
GENERAL NOTES

CONNECTOR PLATE, DRILLING BOLT HOLES THROUGH THE PARAPET, BOLTS, NUTS, WASHERS AND REPAIRING DAMAGED CONCRETE ARE INCIDENTAL TO THE CONTRACT.

(1) BOLTS MAY BE A325 BOLTS OR A449 BOLTS. BOLT LENGTH AND THREADING LENGTH ARE TO ALLOW FOR A TIGHT CONNECTION BETWEEN RIGID BARRIER AND THRIE BEAM CONNECTION PLATE. CONTRACTOR IS TO FIELD VERIFY BOLT LENGTH AND THREAD LENGTH. ONE ROUND WASHER REQUIRED BETWEEN BOLT HEAD AND THRIE BEAM CONNECTOR PLATE. BOLTS THAT EXTEND THROUGH THE PARAPET AND OUT THE BACK FACE REQUIRE A HARDENED ROUND STEEL WASHER THAT IS 2" O.D. X ⅝" THICK AND ONE PLATE WASHER. REPAIR ANY DAMAGED CONCRETE FROM BOLT INSTALLATION.



SECTION N-N



MIDWEST GUARDRAIL SYSTEM
THRIE BEAM TRANSITION (MGS)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

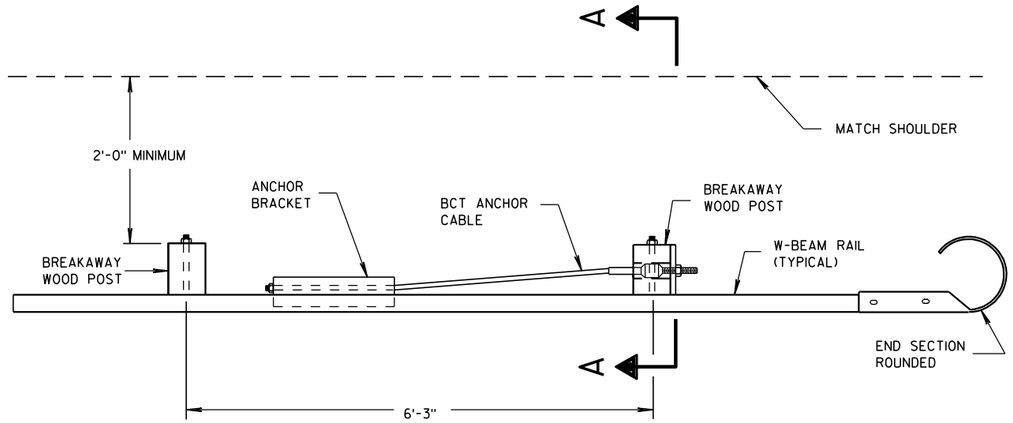
APPROVED
8/31/2012 — DATE
/S/ Jerry H. [illegible] — ROADWAY STANDARDS ENGINEER
FHWA

6

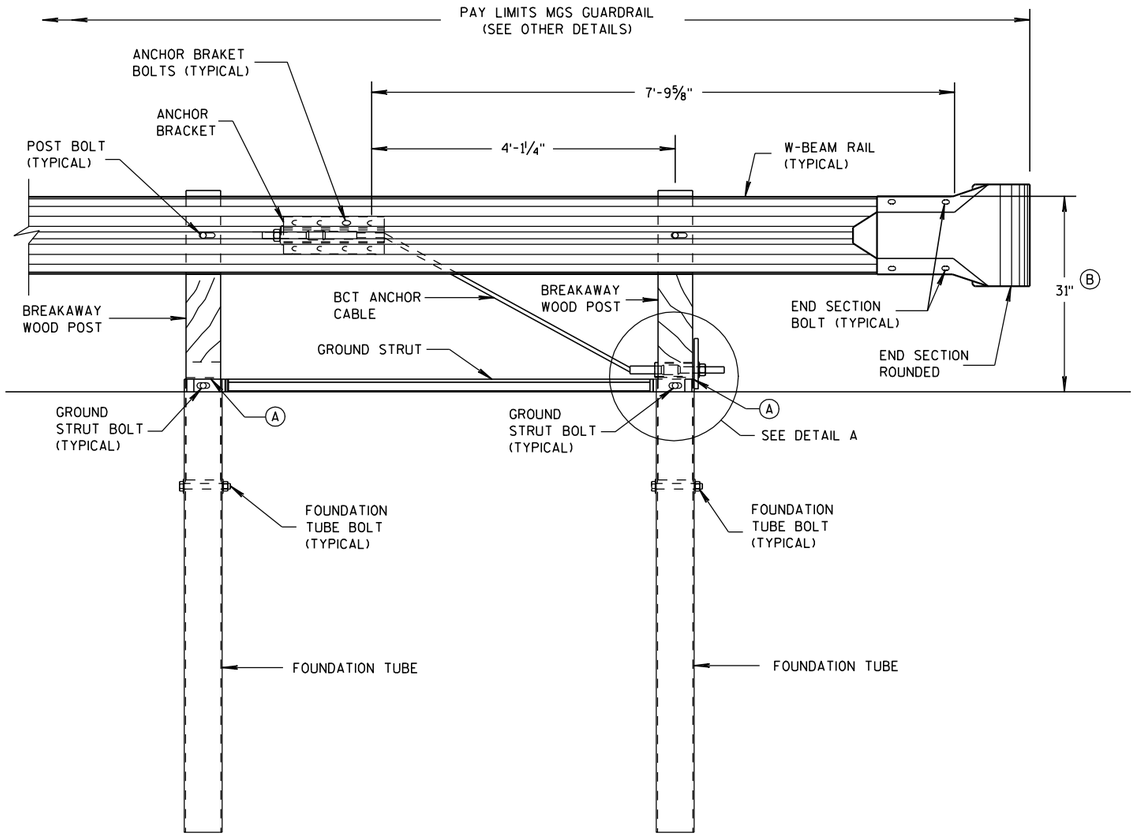
S.D.D. 14 B 45-3j

6

S.D.D. 14 B 45-3j

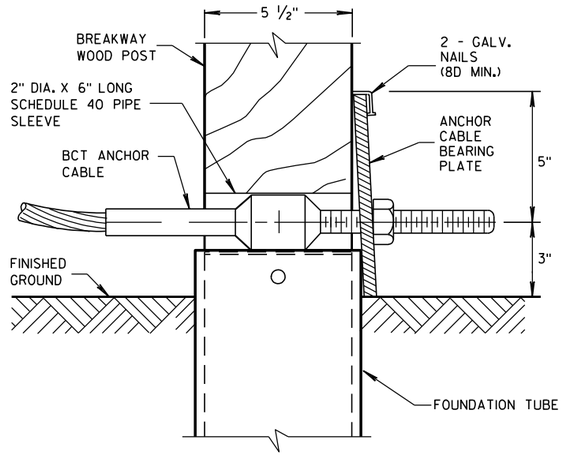


PLAN VIEW



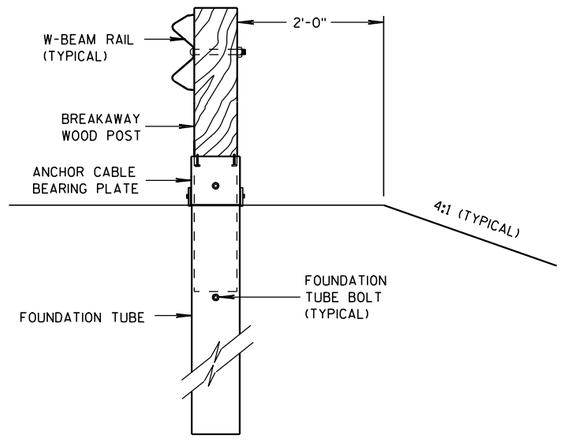
FRONT VIEW

END RAIL DETAIL



DETAIL A

POST NO. 1
GROUNG STRUT NOT SHOWN FOR CLARITY.



SECTION A-A

GENERAL NOTES

SEE SDD 14 B 42 FOR MORE INFORMATION.

POST BOLTS ARE A ⅝" DIAMETER X 10" LONG GUARDRAIL BOLT. A POST BOLT REQUIRES A ⅝" DIAMETER DH MODIFIED (RECESSED) HEAVY HEX NUT AND ⅝" DIAMETER FLAT WASHER.

FOUNDATION TUBE BOLTS ARE A ⅞" DIAMETER X 7½" LONG HEAVY HEX HEAD BOLT. A FOUNDATION TUBE BOLT REQUIRES A ⅞" DIAMETER DH HEAVY HEX NUT AND A ⅝" DIAMETER FLAT WASHER.

GROUND STRUT BOLTS ARE A ⅝" DIAMETER X 10" LONG HEAVY HEX HEAD BOLT. A GROUND STRUT BOLT REQUIRES A ⅝" DIAMETER DH HEAVY HEX NUT AND A ⅝" DIAMETER FLAT WASHER.

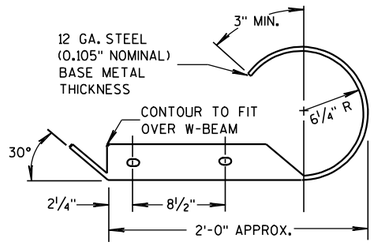
ANCHOR BRAKET BOLTS ARE A ⅝" DIAMETER X 1½" LONG HEAVY HEX HEAD BOLT. AN ANCHOR BRAKET BOLT REQUIRES A ⅝" DIAMETER DH HEAVY HEX NUT AND A FLAT WASHER.

END SECTION BOLTS ARE A ⅝" DIAMETER X 1½" HEAVY HEX HEAD BOLT. AN END SECTION BOLT REQUIRES ⅝" DIAMETER DH HEAVY HEX NUT AND A ⅝" DIAMETER FLAT WASHER.

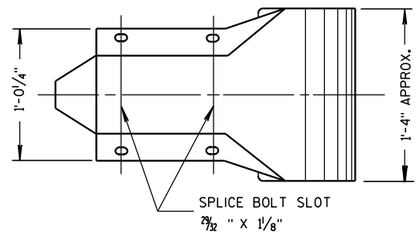
W-BEAM END SECTION ROUNDED HAS THE SAME MATERIAL PROPERTIES AS STANDARD STEEL RAIL.

(A) TOP OF FOUNDATION TUBE SHALL BE NO MORE THAN 3" ABOVE FINISHED GROUND.

(B) FOR NEW CONSTRUCTION TOP OF RAIL IS 31" ± 1".
FOR EXISTING INSTALLATIONS TOP OF RAIL IS BETWEEN 27¾" TO 32" ± 1".



PLAN VIEW



FRONT VIEW

W BEAM END SECTION ROUNDED

MIDWEST GUARDRAIL SYSTEM (MGS) TYPE 2 TERMINAL

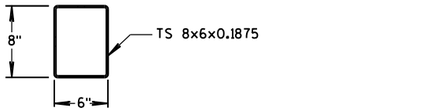
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

6

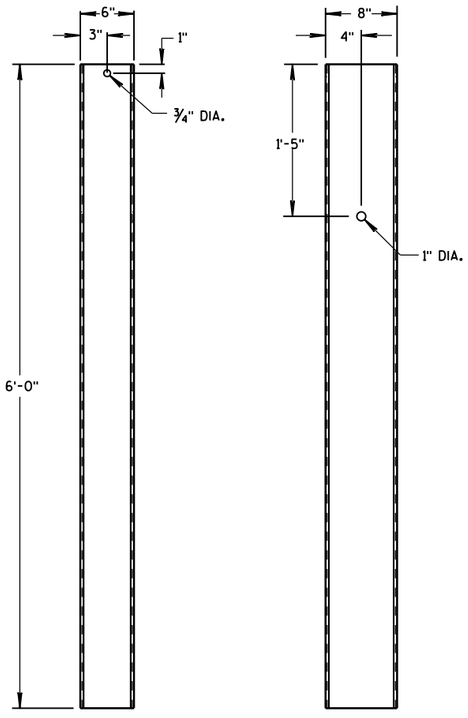
S.D.D. 14 B 47-1a

6

S.D.D. 14 B 47-1a



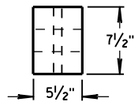
PLAN VIEW



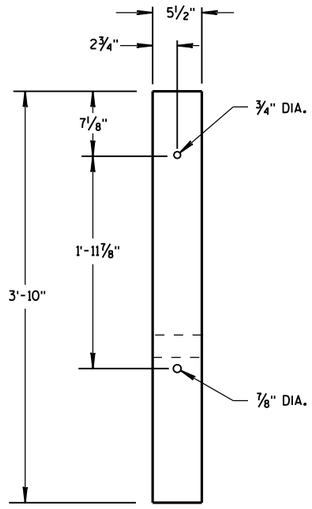
FRONT VIEW

SIDE VIEW

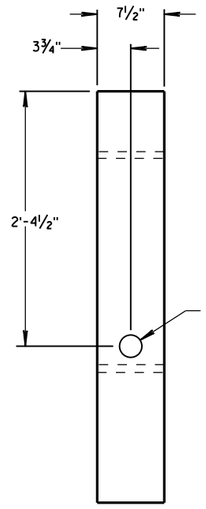
FOUNDATION TUBE



PLAN VIEW



FRONT VIEW



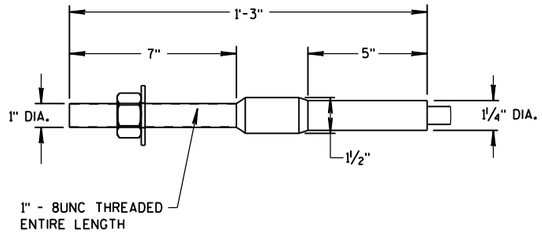
SIDE VIEW

BREAKAWAY WOOD POST

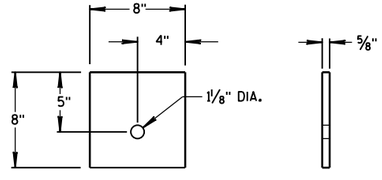
GENERAL NOTES

BCT ANCHOR CABLE IS A ⅜" DIAMETER 6X19 IWRC IPS GALVANIZED WIRE ROPE. THE SWAGED FITTINGS AND STUD ARE REQUIRED. THE END FITTING SHALL BE MACHINED FROM HOT-ROLLED CARBON STEEL CONFORMING TO ASTM A576 GRADE 1035 AND GALVANIZED ACCORDING TO ASTM A123. THE TREADED STUD SHOULD CONFORM TO ASTM A325 OR SAE GRADE 5. MINIMUM BREAKING STRENGTH OF WIRE ROPE IS 43,000 LB. WIRE ROPE IS TO BE TAUT.

BCT ANCHOR CABLE



DETAIL B



SIDE VIEW FRONT VIEW

ANCHOR CABLE
BEARING PLATE

MIDWEST GUARDRAIL
SYSTEM (MGS) TYPE 2 TERMINAL

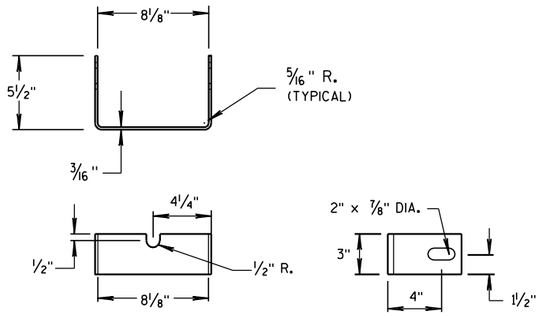
STATE OF WISCONSIN
DEPARTMENT OF TRANSPOI

6

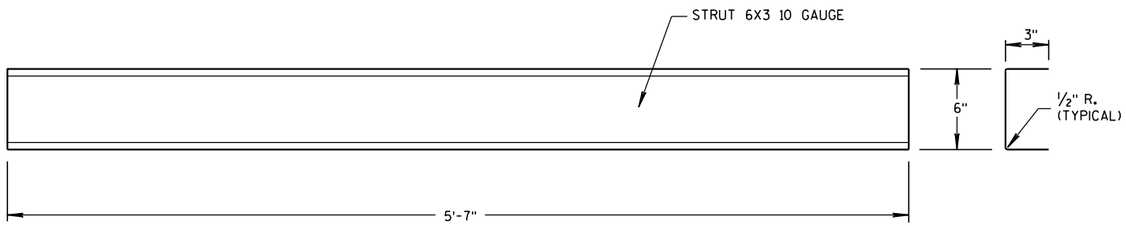
S.D.D. 14 B 47-1b

6

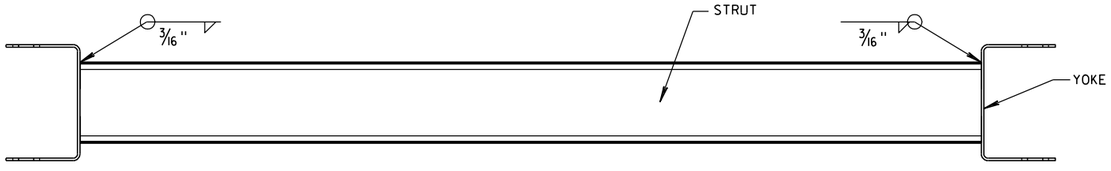
S.D.D. 14 B 47-1b



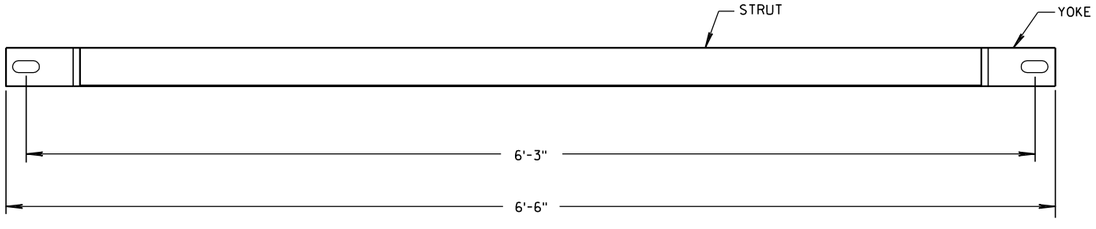
YOKE DETAIL



STRUT DETAIL

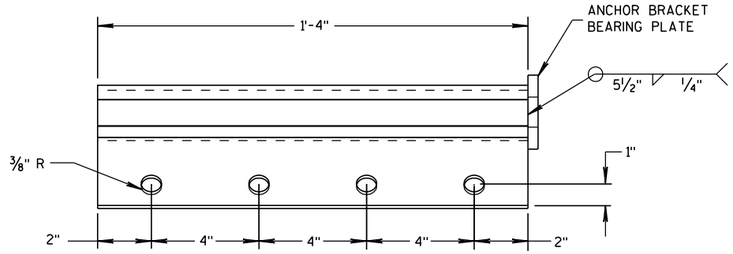


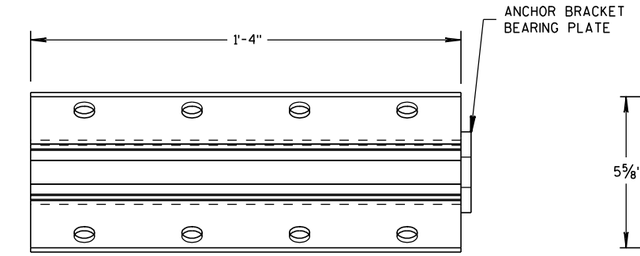
PLAN VIEW

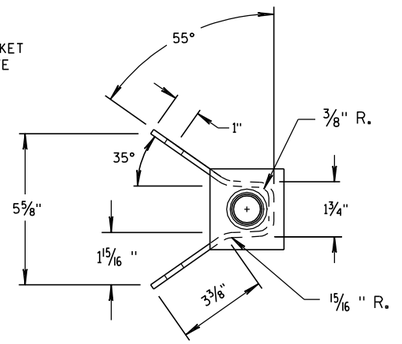


FRONT VIEW

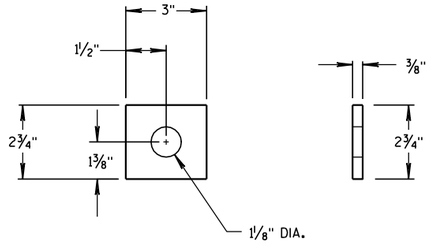
GROUND STRUT DETAIL







ANCHOR BRACKET



ANCHOR BRACKET BEARING PLATE

6

6

S.D.D. 14 B 47-1c

S.D.D. 14 B 47-1c

MIDWEST GUARDRAIL SYSTEM (MGS) TYPE 2 TERMINAL

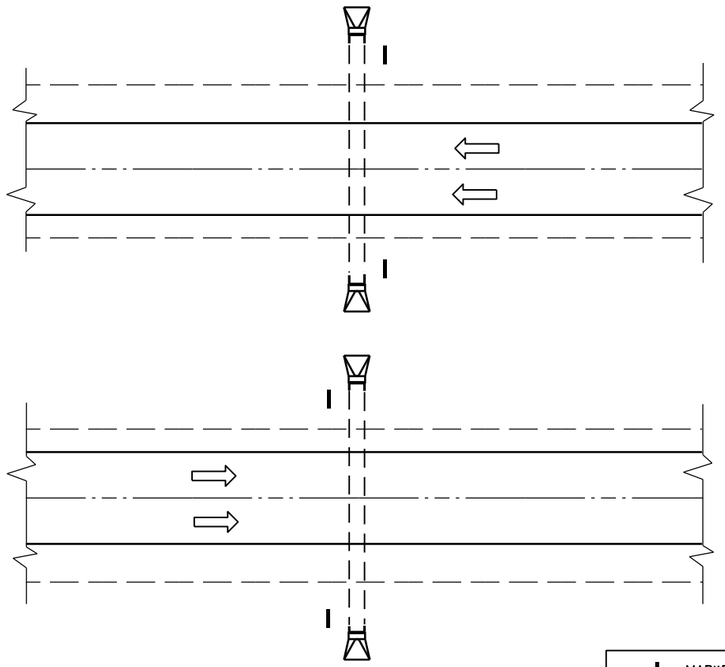
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

5/23/2011
DATE

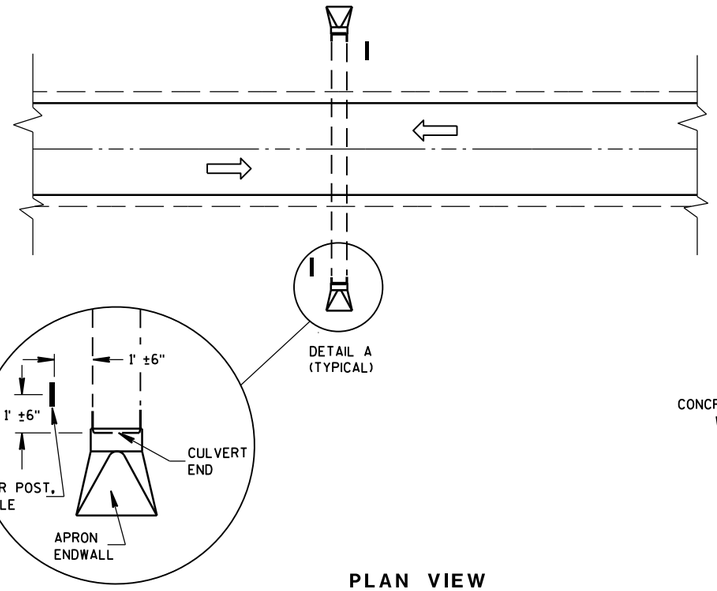
/S/ Jerry H. [illegible]
ROADWAY STANDARDS ENGINEER

FHWA



PLAN VIEW

DIVIDED HIGHWAY



DETAIL A
(TYPICAL)

PLAN VIEW

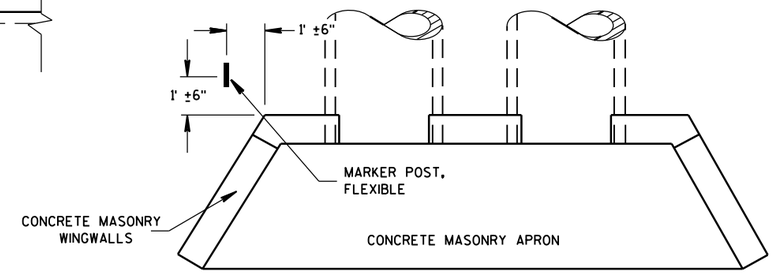
UNDIVIDED HIGHWAY

MARKER POST, FLEXIBLE

DIRECTION OF TRAFFIC FLOW

GENERAL NOTES

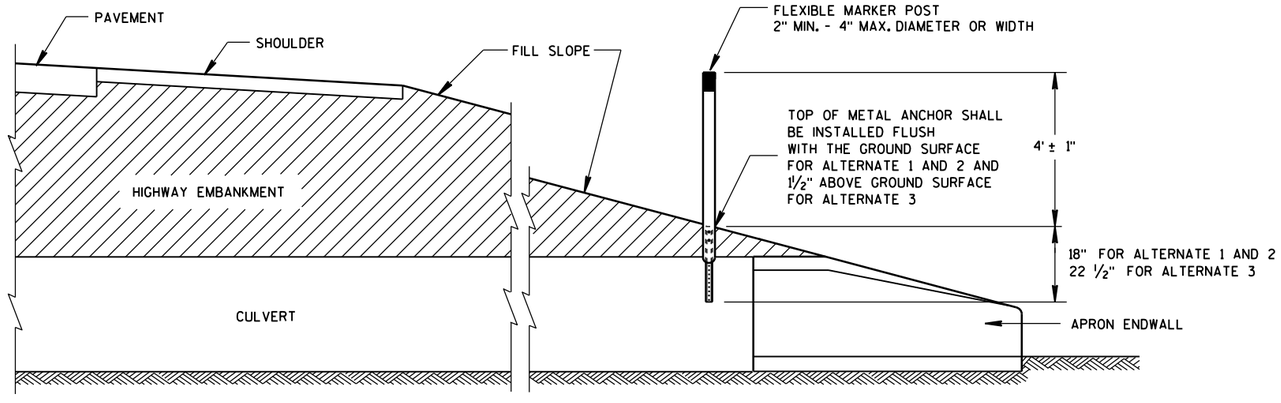
DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND THE APPLICABLE SPECIAL PROVISIONS.



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

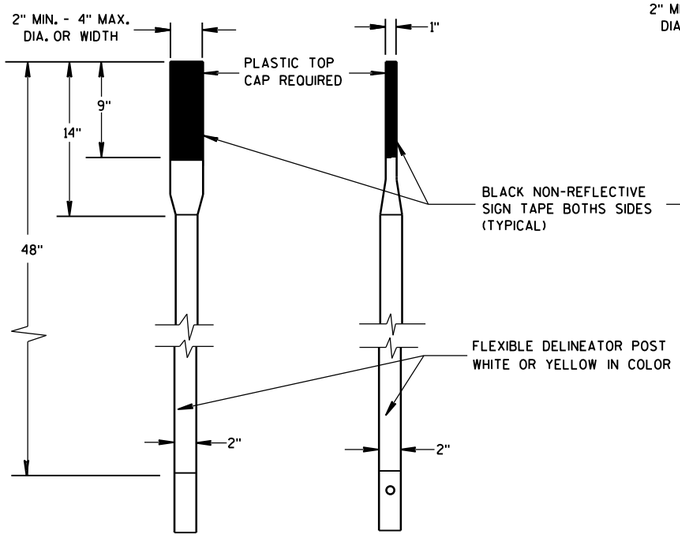
STATE OF WISCONSIN
DEPARTMENT OF TRANSPOI

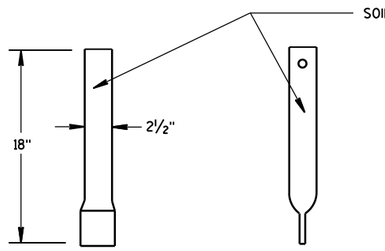
6

S.D.D. 15 A 3-2a

6

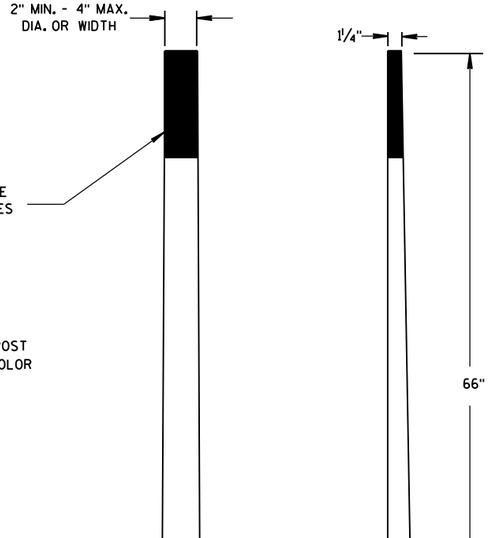
S.D.D. 15 A 3-2a





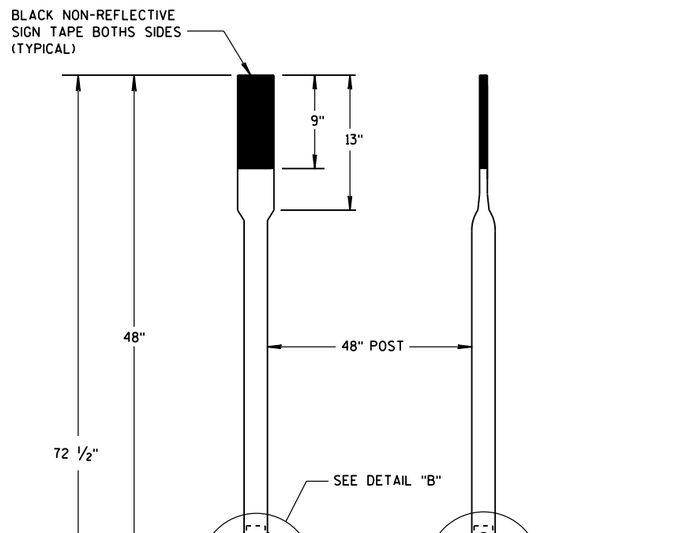
FRONT VIEW SIDE VIEW

ALTERNATE 1



FRONT VIEW SIDE VIEW

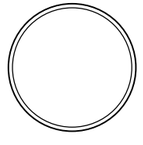
ALTERNATE 2



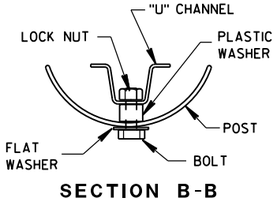
FRONT VIEW SIDE VIEW

ALTERNATE 3

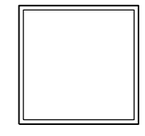
FLEXIBLE MARKER POSTS



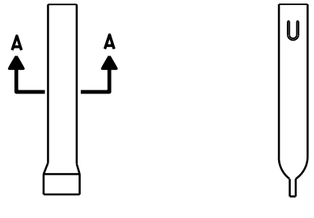
SECTION A-A



SECTION B-B

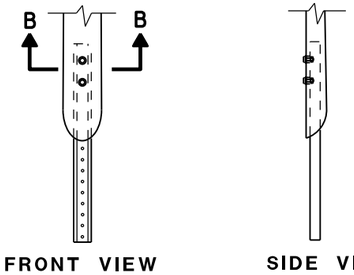


SECTION C-C



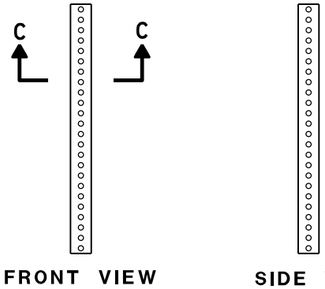
FRONT VIEW SIDE VIEW

ALTERNATE 1



FRONT VIEW SIDE VIEW

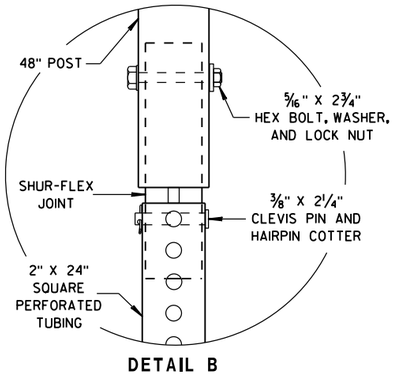
ALTERNATE 2



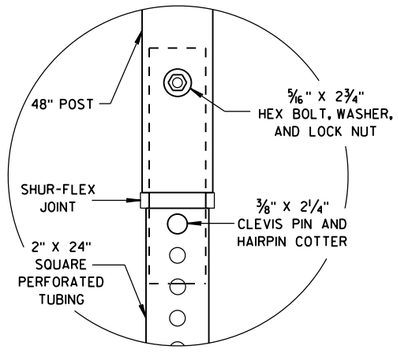
FRONT VIEW SIDE VIEW

ALTERNATE 3

FLEXIBLE MARKER POST ANCHORS



DETAIL B



DETAIL C

FLEXIBLE MARKER POST
FOR CULVERT END

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

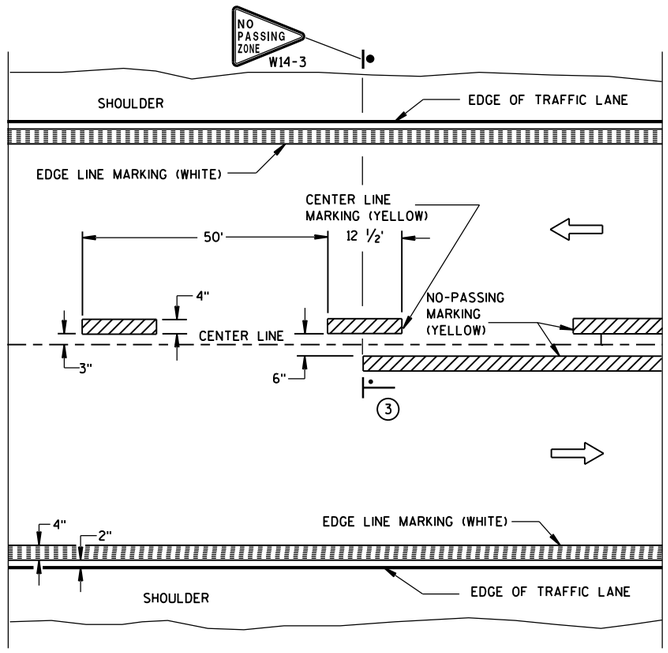
APPROVED
10/1/2012 — DATE
/S/ Travis Feltes — STATE TRAFFIC ENGINEER
FHWA

6

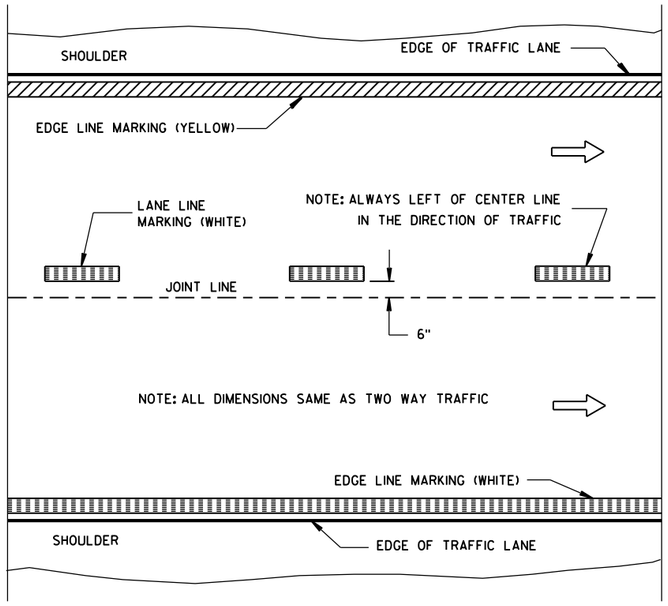
S.D.D. 15 A 3-2b

6

S.D.D. 15 A 3-2b

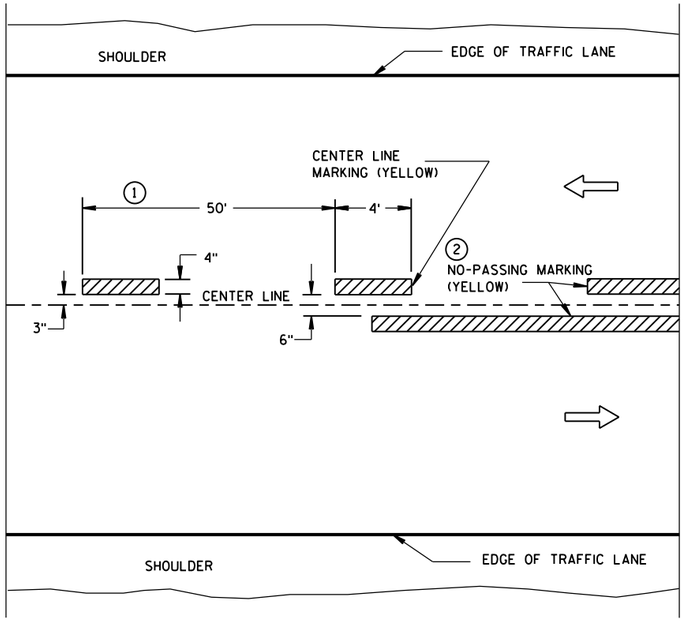


TWO WAY TRAFFIC

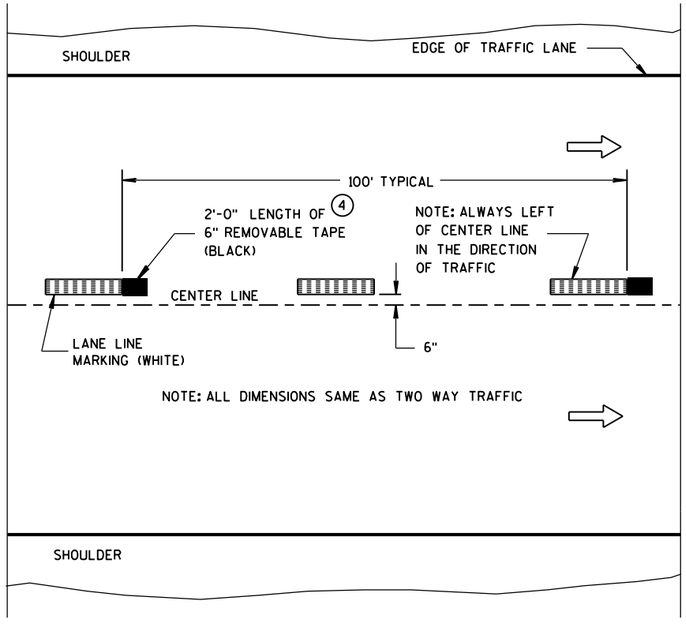


ONE WAY TRAFFIC

PERMANENT PAVEMENT MARKING



TWO WAY TRAFFIC



ONE WAY TRAFFIC

TEMPORARY (INTERMEDIATE) PAVEMENT MARKING

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

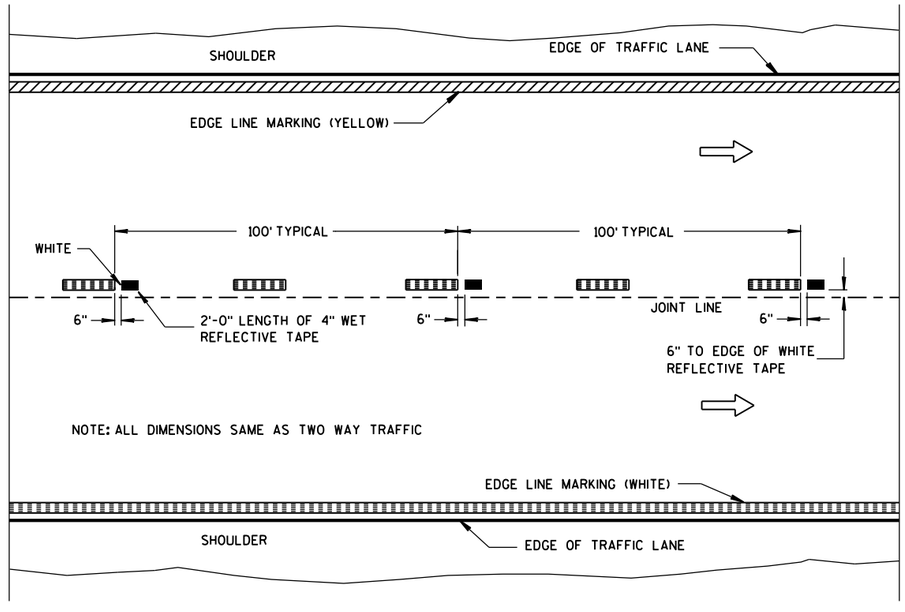
GENERAL NOTES

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

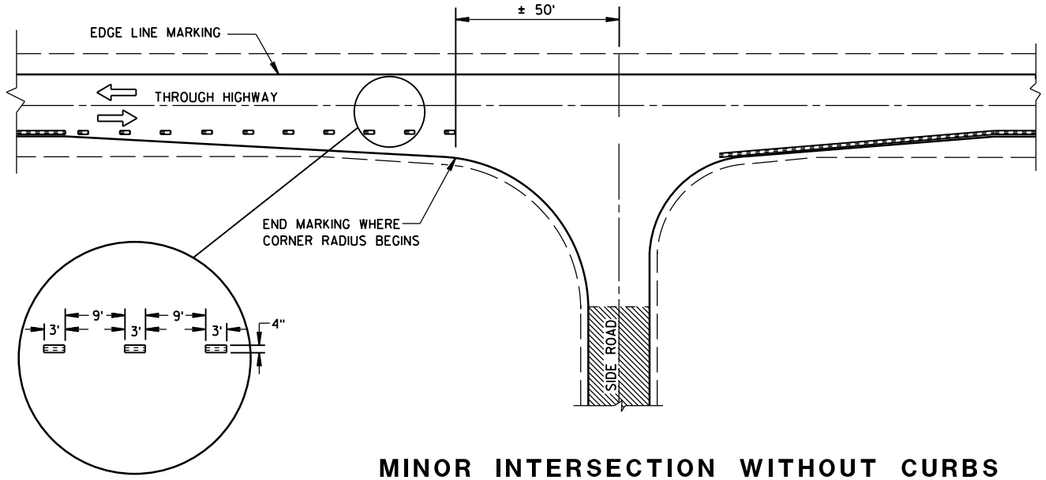
FHWA

6

S.D.D. 15 C 8-16a

6

S.D.D. 15 C 8-16a



MINOR INTERSECTION WITHOUT CURBS

GENERAL NOTES

EDGE LINES SHALL BE OMITTED THROUGH INTERSECTIONS. EDGE LINES SHALL BE CONTINUED THROUGH DRIVEWAYS.

(1) WHEN DISTANCE "A" IS LESS THAN 250 FEET, OMIT LANE LINE.

(2) WHEN DISTANCE "B" IS LESS THAN 100 FEET, OMIT CHANNELIZING LANE LINE.

(3) ALTERNATIVE MARKING SHALL BE PROVIDED WHEN SPECIFIED IN THE CONTRACT. TYPICAL SITUATIONS WHERE THIS MARKING MAY BE REQUIRED ARE WHERE THE INTERSECTION IS ON A SHARP HORIZONTAL CURVE OR CREST VERTICAL CURVE IN AN UNLIGHTED AREA SUCH THAT THE EDGE LINE MAY BE MISLEADING TO THE MOTORIST OR DISAPPEAR FROM SIGHT.

(4) THE EDGE LINE IN THE TAPER AREAS OF THE BYPASS LANE AND THE BYPASS LANE SHALL BE LOCATED 1-FOOT FROM EDGE OF PAVEMENT TO THE OUTSIDE EDGE OF EDGE LINE.

(5) BARRIER LINE ENDS AT SIDE ROAD PAVEMENT/SURFACE EDGE EXTENSION.

(6) BARRIER LINE STARTS 500 FEET PRIOR TO THE BYPASS TAPER.

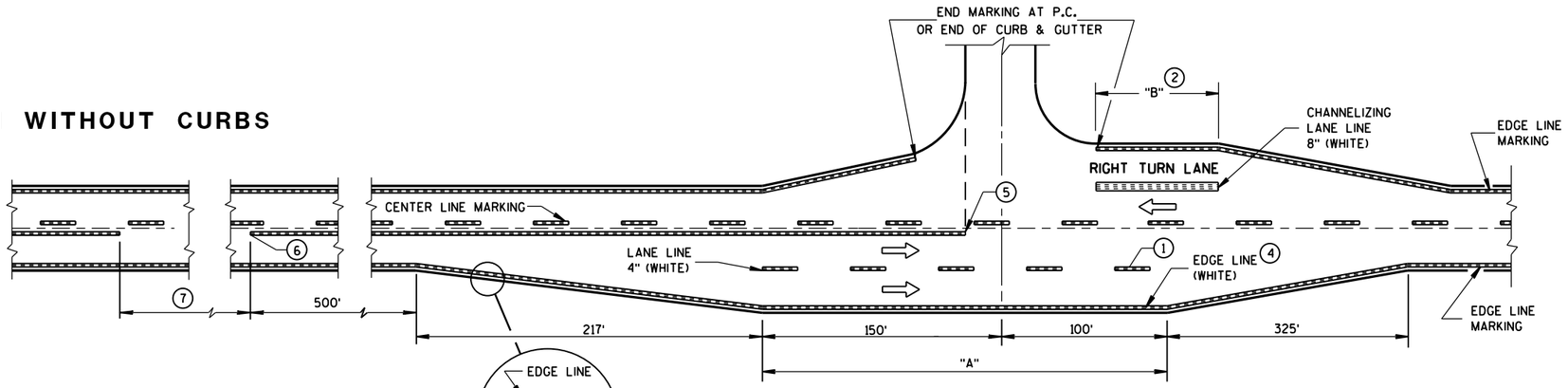
(7) IF THE DISTANCE BETWEEN 2 SUCCESSIVE NO-PASSING ZONES IS LESS THAN THE MINIMUM DISTANCE BETWEEN ZONES, CONNECT THE 2 ZONES.

(8) 3' LINE 9' GAP, EXCEPT RETRACE THE EXISTING LINE - GAP PATTERN WHERE EXISTING MARKINGS ARE IN PLACE.

ARROW SYMBOL (⇨) SHOWS DIRECTION OF TRAVEL

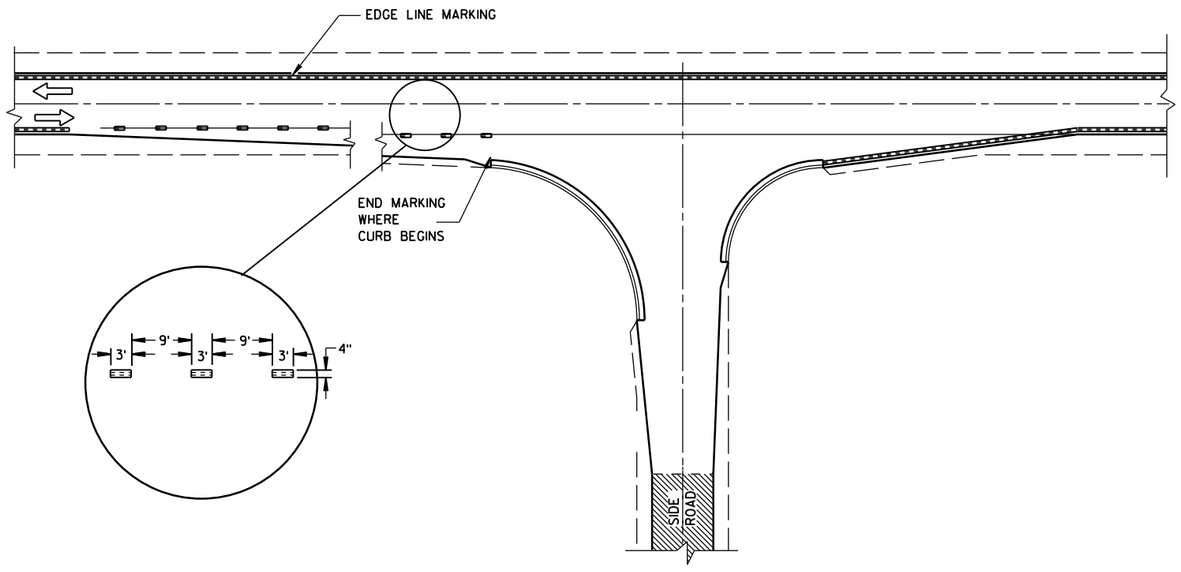
(7)

POSTED SPEED (MPH)	MINIMUM DISTANCE BETWEEN ZONES (FEET)
25 - 30	528
35 - 40	528
45 - 50	686
55	792



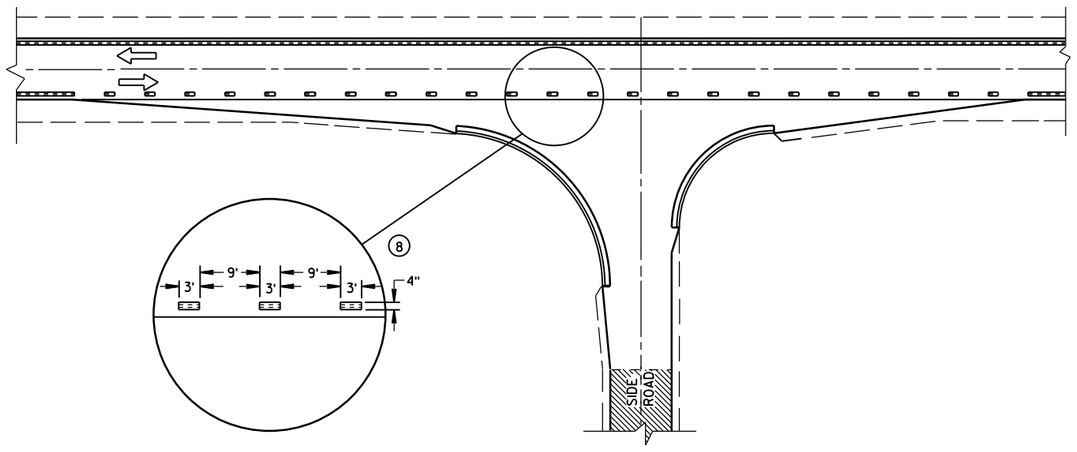
MAJOR INTERSECTIONS

(INTERSECTION WITH FULL RIGHT TURN LANE OR BYPASS LANES)



MINOR INTERSECTION WITH CURBS

(TYPICAL MARKING)



MINOR INTERSECTION WITH CURBS

(3) (FOR SPECIAL CONDITIONS AS SPECIFIED)

PAVEMENT MARKING
(INTERSECTIONS)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPOR

6

S.D.D. 15 C 8-16b

6

S.D.D. 15 C 8-16b

LEGEND

- TYPE III BARRICADE WITH ATTACHED SIGN
- SIGN ON PERMENENT SUPPORT
- POST WITH ATTACHED SIGN IN DRUM
- TRAFFIC CONTROL DRUM WITH TYPE "C" STEADY BURN LIGHT
- TRAFFIC CONTROL DRUM
- FLASHING ARROW BOARD
- (A) TYPE "A" WARNING LIGHT (FLASHING)
- REMOVING PAVEMENT MARKING
- DIRECTION OF TRAFFIC
- WORK AREA

GENERAL NOTES

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 SIGNS SHOULD BE ADJUSTED TO NOT CONFLICT WITH AND TO PROVIDE A MINIMUM OF 200 FEET, (500 FEET DESIREABLE) DISTANCE TO EXISTING SIGNS.

THIS LANE CLOSURE IS TYPICAL FOR CLOSING RIGHT LANE - REVERSE FOR CLOSING LEFT LANE.

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

"WO" IS THE SAME AS "W" 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. NO WARNING LIGHTS SHALL BE WORKING ON "COVERED" OR "DOWNED" SIGNS.

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

FOR A LANE CLOSURE THAT IS IN PLACE LESS THAN 7 CONTINUOUS DAYS AND NIGHTS, THE ADVANCED WARNING SIGNS MAY BE MOUNTED ON PORTABLE SUPPORTS.

REMOVE PAVEMENT MARKINGS IF LANE CLOSURE IS TO BE IN PLACE FOR LONGER THAN 4 OR MORE DAYS AND NIGHTS.

WARNING LIGHTS ARE NOT REQUIRED IF THE LANE CLOSURE IS A DAYTIME ONLY OPERATION.

IF THE HORIZONTAL ALIGNMENT IS SUCH THAT A CURVE MAY REQUIRE ADDITIONAL DELINEATION, THE DEVICE SPACING MAY BE DECREASED TO 50 FEET.

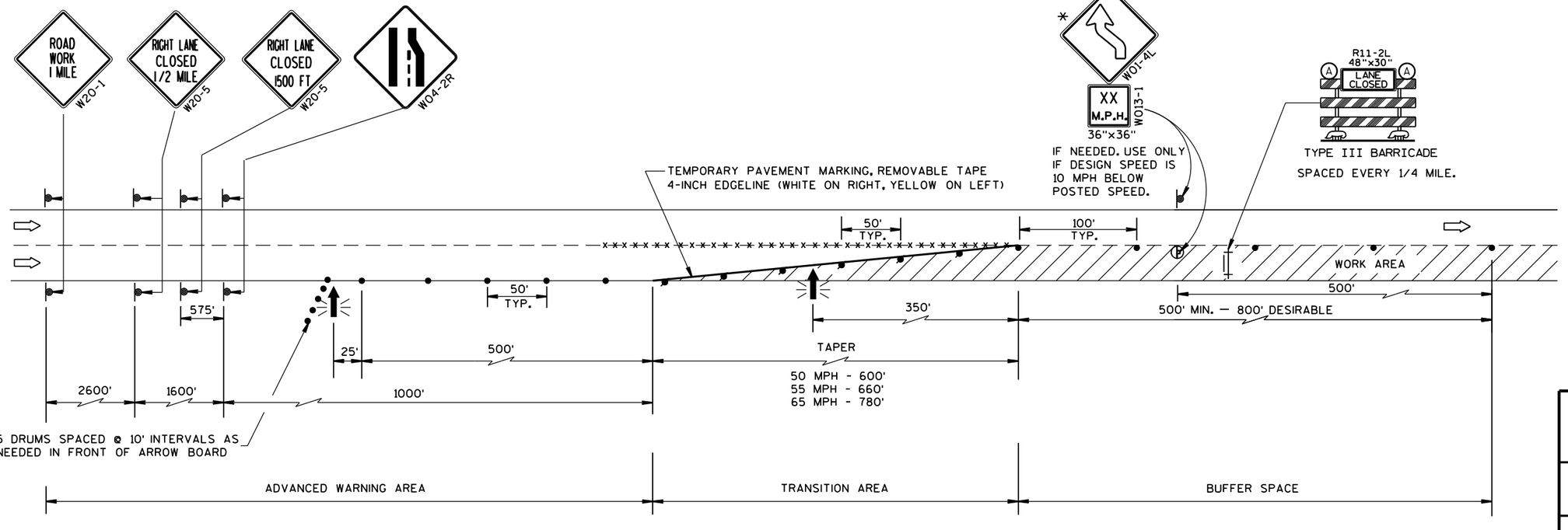
ADJUSTMENTS IN BUFFER SPACE NEED TO BE INCORPORATED WHEN THE LANE CLOSURE OCCURS NEAR AN INTERCHANGE EXIT OR ENTRANCE RAMP. THE LANE CLOSURE MUST MUST TAKE PLACE FAR ENOUGH IN ADVANCE OF AN EXIT OR ENTRANCE RAMP TO STILL ALLOW FOR ADEQUATE BUFFER SPACE. THE MINIMUM LENGTH OF THE BUFFER SPACE BEFORE AN EXIT RAMP SHOULD BE 1/2 THE LENGTH OF THE TRANSITION AREA. THE ENTRANCE RAMP SHOULD BE FOLLOWED BY THE ORIGINAL BUFFER SPACE LENGTH OF 800 FEET DESIRABLE PRIOR TO ANOTHER TRAFFIC CONTROL CHANGE SUCH AS A CROSSOVER MANEUVER.

* THE LEFT REVERSE CURVE SIGN (WO1-4L) IS ONLY REQUIRED WHEN THIS DETAIL IS USED IN COMBINATION WITH "SINGLE LANE CROSSOVER" DETAIL.

LOCATED 500 FEET IN ADVANCE OF R2-1 SIGN AND 500 FEET BEYOND THE "ROAD WORK 1 MILE" SIGN.

R2-1
48"×60"
(BLACK AND WHITE)

IF THE REGULATORY SPEED HAS BEEN REDUCED, A SPEED LIMIT SIGN SHALL BE LOCATED 1500 FEET BEYOND THE END OF THE ACCELERATION LANE OF EACH ENTRANCE RAMP. THERE SHOULD BE A SPEED LIMIT SIGN INCORPORATED A MINIMUM OF EVERY 2 OR 3 MILES.



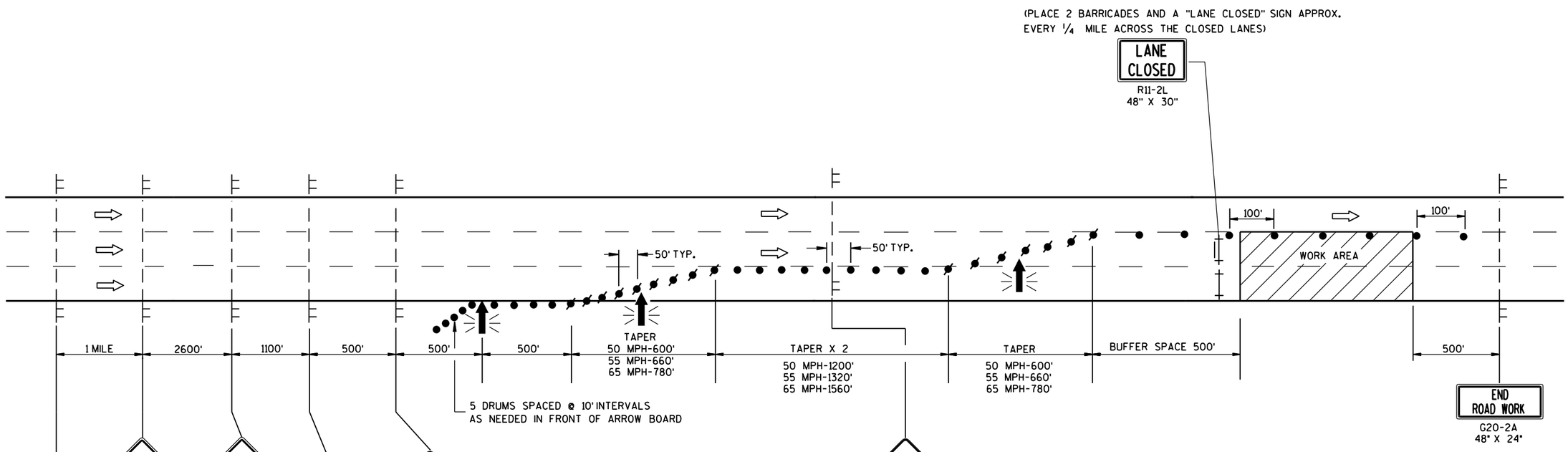
TRAFFIC CONTROL, LANE CLOSURE, SPEEDS GREATER THAN 40 M.P.H.

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
8/2013 — DATE
/S/ Travis Feltes — STATE TRAFFIC ENGINEER
FHWA

6
S.D.D. 15 D 12-3

(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.

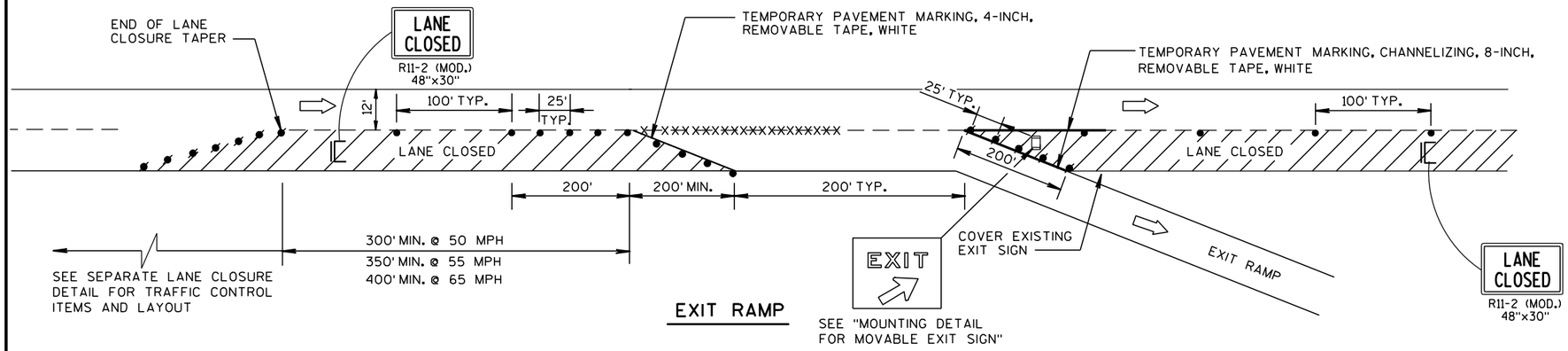
TRAFFIC CONTROL, TWO LANE CLOSURE ON FREEWAY OR EXPRESSWAY, SHORT TERM (LESS THAN 24 HOURS)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

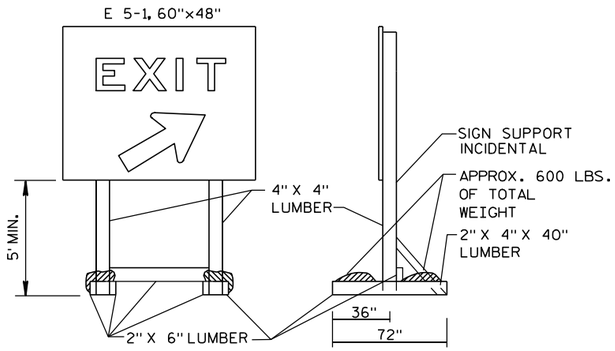
APPROVED
8/2013 — DATE
/S/ Travis Feltes — STATE TRAFFIC ENGINEER
FHWA

6

S.D.D. 15 D 14-2

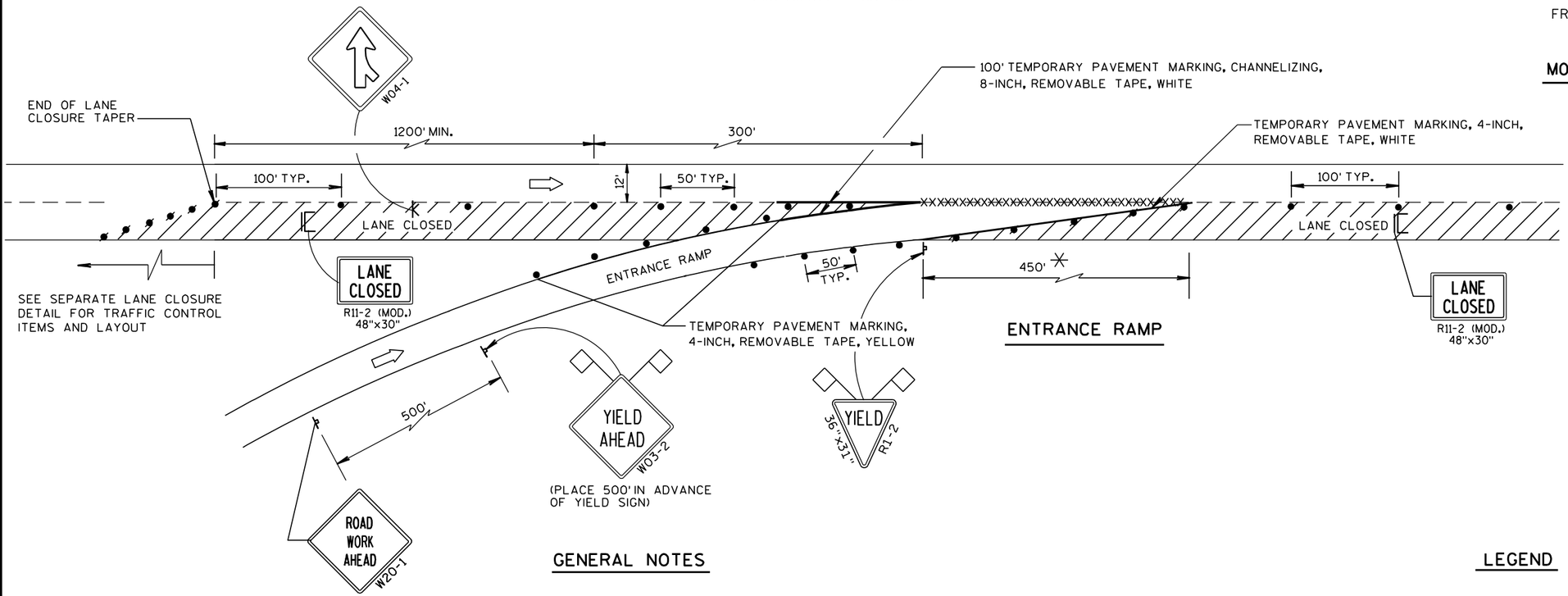


EXIT RAMP



NOTE: ALL LUMBER DIMENSIONS ARE NOMINAL

MOUNTING DETAIL FOR MOVABLE EXIT SIGN



ENTRANCE RAMP

GENERAL NOTES

THE INSTALLATIONS SHOWN ON THIS SHEET ARE TYPICAL EXAMPLES AND ARE NOT INTENDED TO REPRESENT ANY PARTICULAR RAMP. AT SPECIFIC FIELD LOCATIONS, SIMILAR INSTALLATIONS SHALL BE USED AND ADJUSTED TO THE GEOMETRICS OF THE RAMP AS COORDINATED WITH THE ENGINEER.

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"x48" UNLESS OTHERWISE NOTED.

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

SEE SEPARATE LANE CLOSURE DETAIL FOR TYPICAL SPACING OF TYPE III BARRICADES AND R11-2 (MOD.) "LANE CLOSED" SIGNS.

YIELD SIGN AND WARNING SIGNS ON ENTRANCE RAMP ARE ALSO APPROPRIATE FOR CLOSURE OF THE MAINLINE LEFT LANE. OMIT THE YIELD SIGN IF MORE THAN ONE LANE REMAINS OPEN ON THE MAINLINE AND THE RAMP TAPER IS AT LEAST AS LONG AS THE NORMAL ENTRANCE RAMP TAPER AT THE SITE.

SIGNS THAT WILL BE IN PLACE LESS THAN 7 CONTINUOUS DAYS AND NIGHTS, OR THAT WILL BE PLACED IN A CLOSED LANE, MAY BE MOUNTED ON PORTABLE SUPPORTS.

IF INDICATED IN MISCELLANEOUS QUANTITIES, SUBSTITUTE FLEXIBLE TUBULAR MARKERS FOR DRUMS IN THE GORE BETWEEN THE ENTRANCE RAMP AND MAINLINE TRAFFIC.

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.

REMOVE PAVEMENT MARKINGS AND PLACE TEMPORARY PAVEMENT MARKING, REMOVABLE TAPE IF LANE CLOSURE IS TO BE IN PLACE FOR 7 OR MORE CONTINUOUS DAYS AND NIGHTS.

WARNING LIGHTS ARE NOT REQUIRED IF THE LANE CLOSURE IS A DAYTIME ONLY OPERATION.

✳ LENGTH OF OPENING MAY BE REDUCED TO 150 FEET DURING STAGING OF WORK IN IMMEDIATE AREA OF RAMP TAPER.

LEGEND

- POST MOUNTED SIGN
- SIGN ON PORTABLE SUPPORT
- TRAFFIC CONTROL, DRUM
- TRAFFIC CONTROL, DRUM WITH WARNING LIGHT, TYPE C (STEADY-BURN)
- REMOVING PAVEMENT MARKING (SEE GENERAL NOTES)
- TYPE III BARRICADE (8' EQUIVALENT) WITH SIGN
- FLAGS, 16"x16" MIN., ORANGE
- DIRECTION OF TRAFFIC FLOW

TRAFFIC CONTROL, EXIT AND ENTRANCE RAMP WITHIN LANE CLOSURE

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
5/24/2000 DATE
/S/ Chester J. [illegible]
CHIEF SIGNS AND MARKING ENGINEER

FHWA

6
S.D.D. 15 D 15-1

LEGEND

TYPE III BARRICADE

TYPE III BARRICADE WITH ATTACHED SIGN

TRAFFIC CONTROL DRUM

SIGN ON PERMANENT SUPPORT

TYPE "A" WARNING LIGHT (FLASHING)

DIRECTION OF TRAFFIC

GENERAL NOTES

THIS RAMP CLOSURE DETAIL IS TYPICAL FOR CLOSING A RIGHT SIDE EXIT RAMP. FOR A LEFT SIDE EXIT RAMP, 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.

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.

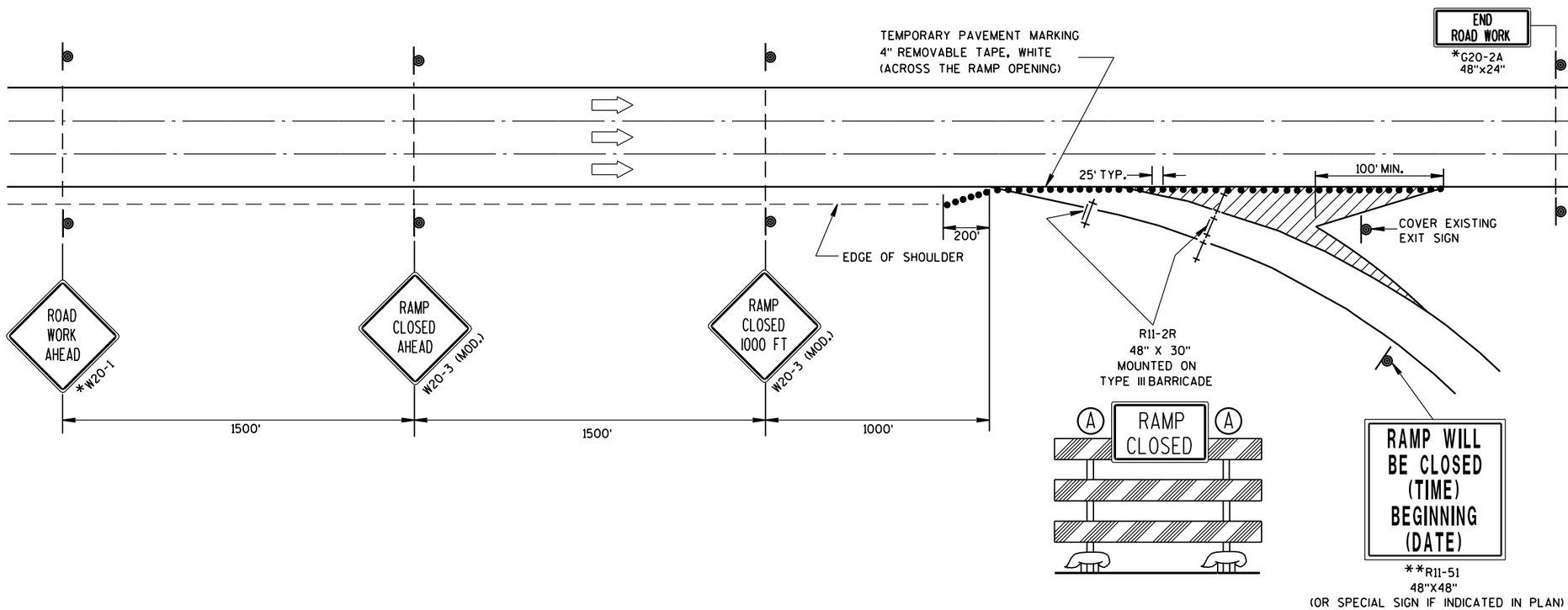
PLACE TEMPORARY PAVEMENT MARKING, REMOVABLE TAPE IF RAMP CLOSURE IS TO BE IN PLACE FOR 4 OR MORE CONTINUOUS DAYS AND NIGHTS.

WORK AREAS WITH A DROPOFF ALONG THE EDGE OF AN OPEN TRAVEL LANE SHALL BE LEVELED WITH TEMPORARY FILL WHEN THE CONTRACTOR IS NOT WORKING ADJACENT TO THE TRAVEL LANE. DRUMS SHALL BE PLACED ENTIRELY OUTSIDE THE TRAVEL LANE, ALLOWING THE FULL UNOBSTRUCTED LANE WIDTH, WHEN THE WORK IS NOT IN PROGRESS.

WHERE MEDIAN BARRIER IS IN PLACE, SIGNS SHOWN ON LEFT SIDE OF ROADWAY MAY BE OMITTED FOR RIGHT SIDE RAMP CLOSURES OF LESS THAN 12-HOUR DURATION.

*W20-1 AND G20-2A SIGNS ARE NOT REQUIRED IF THE RAMP CLOSURE IS WITHIN A LARGER WORK ZONE WHERE THESE SIGNS ARE ALREADY PRESENT.

** PLACE "RAMP WILL BE CLOSED" SIGN 10 CALENDAR DAYS PRIOR TO CLOSURE OR AS DIRECTED BY THE ENGINEER. SEE WISCONSIN STANDARD SIGN PLATES FOR SIGN LAYOUT.



TRAFFIC CONTROL,
EXIT RAMP CLOSURE

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
8/2013
DATE

/S/ Travis Feltes
STATE TRAFFIC ENGINEER

DESIGN

FHWA

6

S.D.D. 15 D 16-2

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.

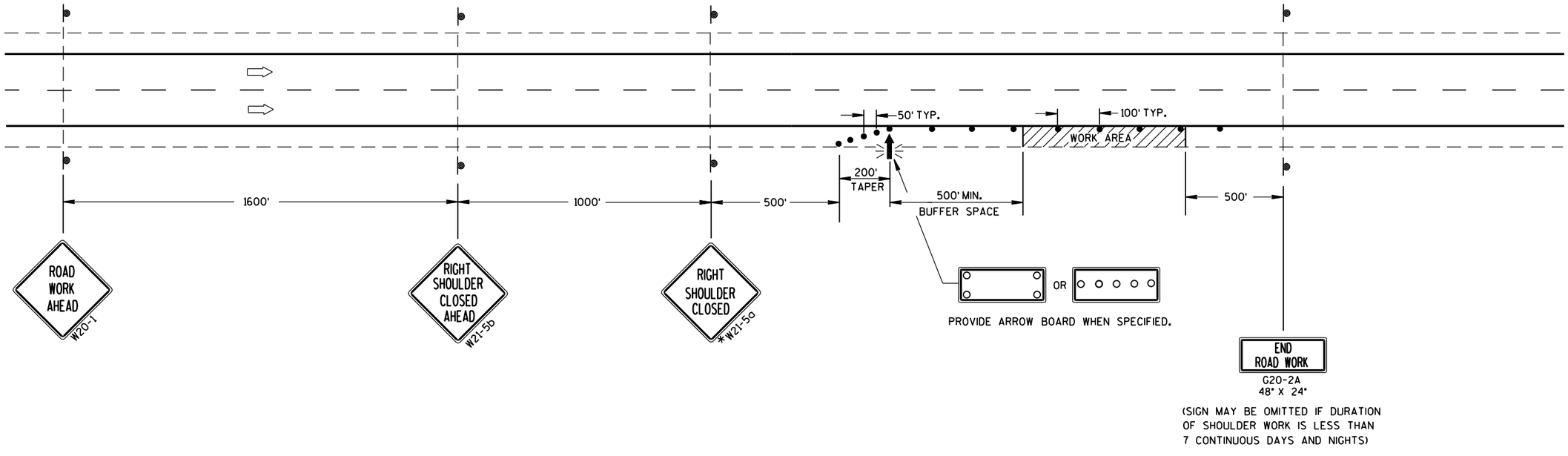
SIGNS THAT WILL BE IN PLACE LESS THAN 7 CONTINUOUS DAYS AND NIGHTS MAY BE MOUNTED ON PORTABLE SUPPORTS.

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

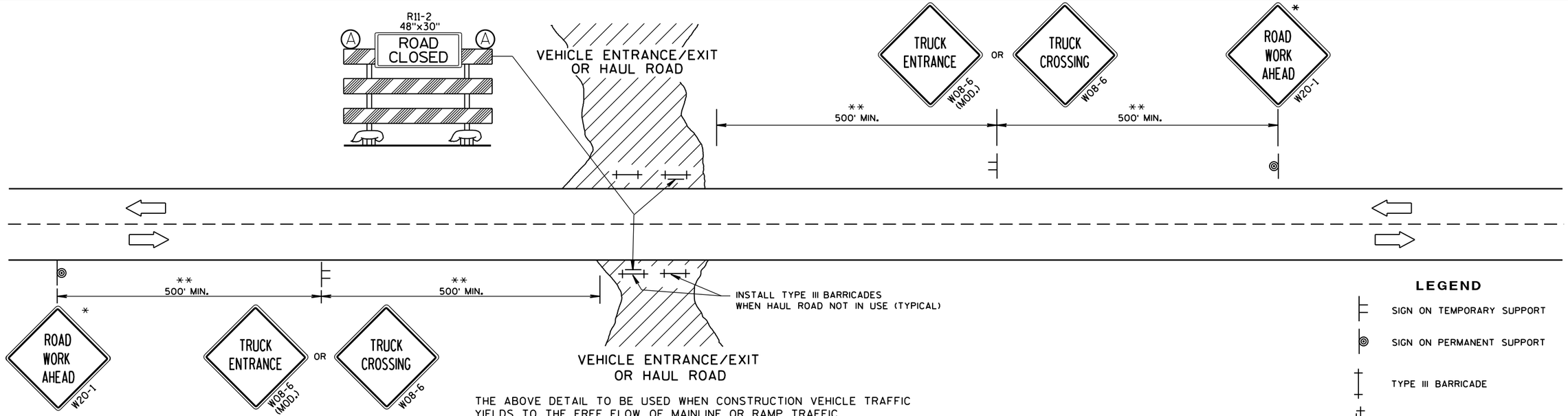
8/2013 — DATE

/S/ Travis Feltes — STATE TRAFFIC ENGINEER

FHWA

6

S.D.D. 15 D 27-2



THE ABOVE DETAIL TO BE USED WHEN CONSTRUCTION VEHICLE TRAFFIC YIELDS TO THE FREE FLOW OF MAINLINE OR RAMP TRAFFIC

LEGEND

- SIGN ON TEMPORARY SUPPORT
- SIGN ON PERMANENT SUPPORT
- TYPE III BARRICADE
- TYPE III BARRICADE WITH ATTACHED SIGN
- FLAGGER, EQUIPPED WITH STOP/SLOW PADDLE FASTENED ON SUPPORT STAFF
- (A) TYPE "A" WARNING LIGHT (FLASHING)
- DIRECTION OF TRAFFIC

GENERAL NOTES

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

WHEN ACTIVITY REFLECTED BY THE SIGN IS NOT CURRENTLY TAKING PLACE, THE HIGHWAY SHALL BE RESTORED TO NORMAL CONDITION AND THE SIGNS SHALL BE REMOVED, COVERED OR TURNED AWAY FROM TRAFFIC.

WHEN A SIDE ROAD OR RAMP INTERSECTS WITHIN THE ADVANCE SIGNING AREA, ADDITIONAL TRAFFIC CONTROLS SHALL BE PROVIDED AS SPECIFIED IN THE PLANS AND/OR THE SPECIAL PROVISIONS OR AS APPROVED BY THE ENGINEER.

* THESE SIGNS ARE TO BE USED ONLY WHEN VEHICLE ENTRANCE/EXIT CONDITIONS ARE SEPARATED BY MORE THAN 2 MILES FROM PREVIOUS WORK AREA OR SIGNING OR AS DIRECTED BY THE ENGINEER.

** 500 FEET SHOWN IS FOR ROADWAYS WITH A NON-CONSTRUCTION REGULATORY SPEED LIMIT OF 45 MPH OR MORE. FOR 35-40 MPH, USE 350 FEET. FOR 25-30 MPH, USE 200 FEET. USE 1000 FEET/1500 FEET FOR EXPRESSWAY/FREEWAY.

ALL SIGNS ARE 48"x48" UNLESS OTHERWISE NOTED.

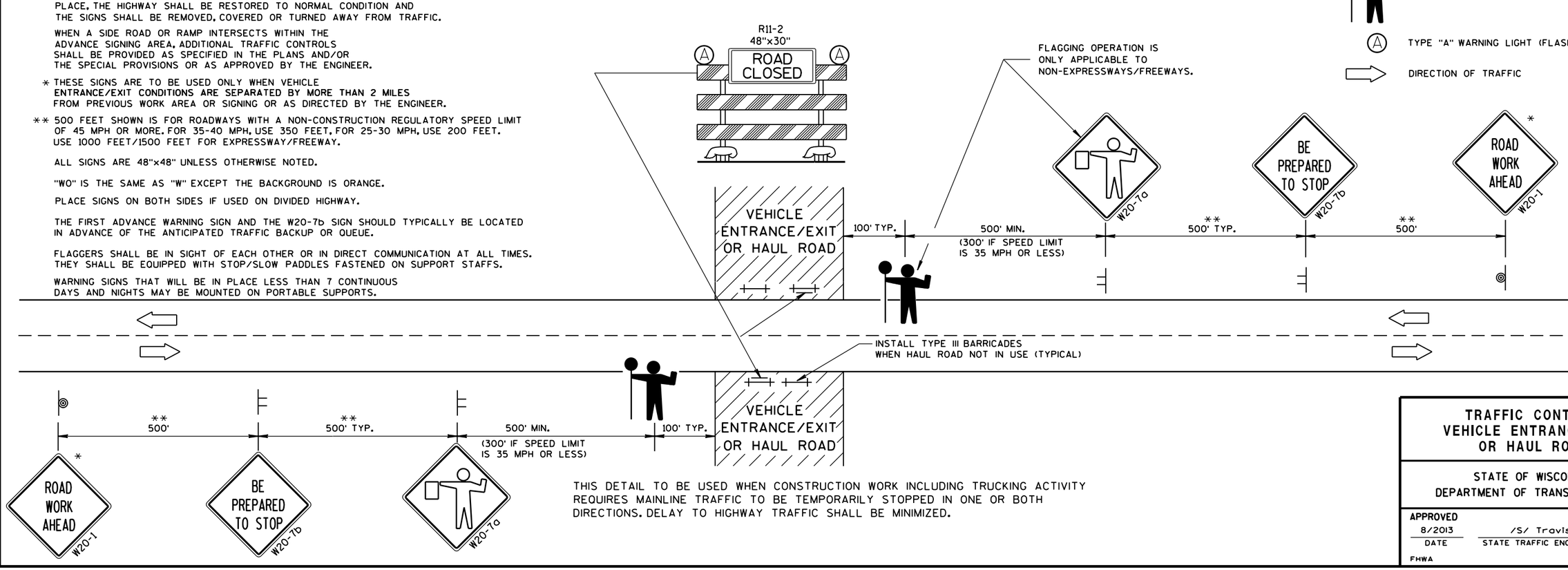
"WO" IS THE SAME AS "W" EXCEPT THE BACKGROUND IS ORANGE.

PLACE SIGNS ON BOTH SIDES IF USED ON DIVIDED HIGHWAY.

THE FIRST ADVANCE WARNING SIGN AND THE W20-7b SIGN SHOULD TYPICALLY BE LOCATED IN ADVANCE OF THE ANTICIPATED TRAFFIC BACKUP OR QUEUE.

FLAGGERS SHALL BE IN SIGHT OF EACH OTHER OR IN DIRECT COMMUNICATION AT ALL TIMES. THEY SHALL BE EQUIPPED WITH STOP/SLOW PADDLES FASTENED ON SUPPORT STAFFS.

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



THIS DETAIL TO BE USED WHEN CONSTRUCTION WORK INCLUDING TRUCKING ACTIVITY REQUIRES MAINLINE TRAFFIC TO BE TEMPORARILY STOPPED IN ONE OR BOTH DIRECTIONS. DELAY TO HIGHWAY TRAFFIC SHALL BE MINIMIZED.

TRAFFIC CONTROL, VEHICLE ENTRANCE/EXIT OR HAUL ROAD

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

8/2013	/S/ Travis Feltes	
DATE	STATE TRAFFIC ENGINEER	IGN

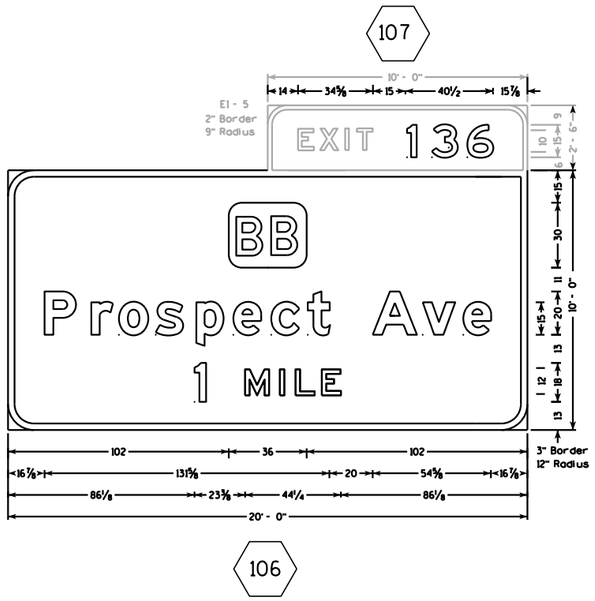
FHWA

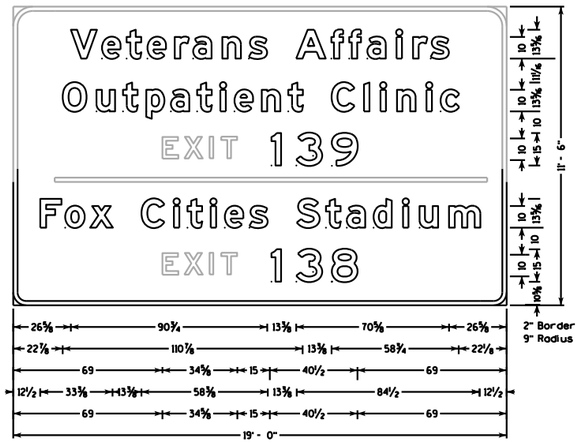
6

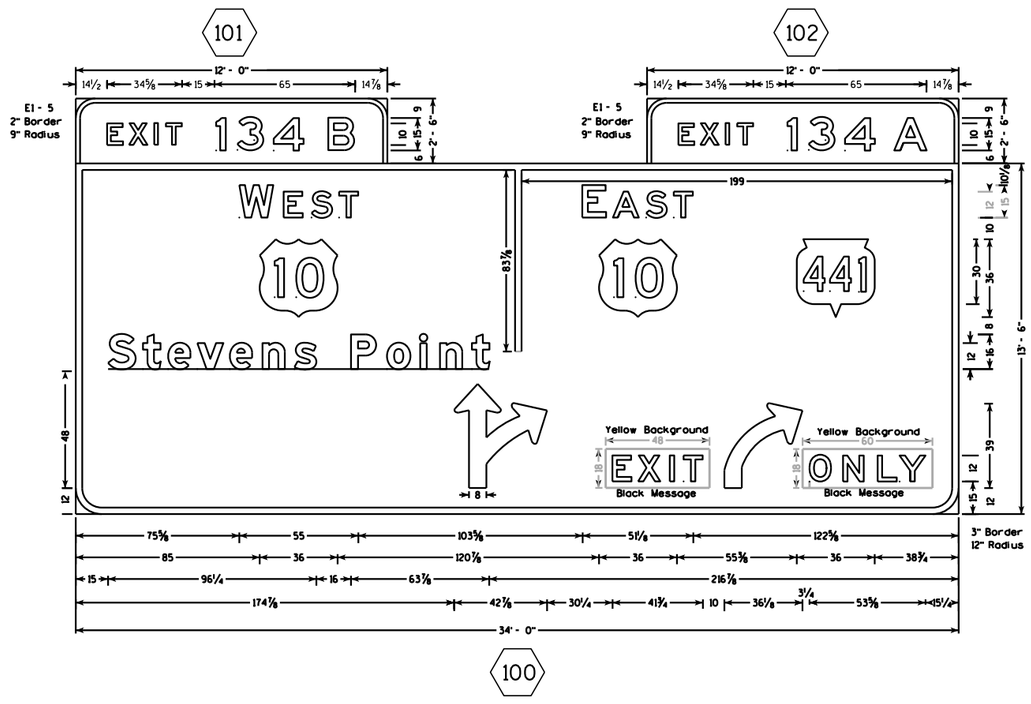
S.D.D. 15 D 29-3

NOTES

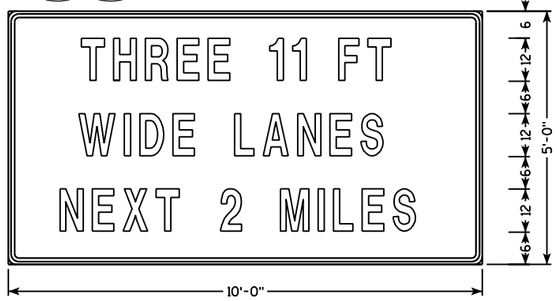
1. All Signs are Type I - Type SH Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
   Background - Green
   Message - White
3. Message Series - E Modified except all cap WORDS are Series E







200 201



NOTES:

1) ALL SIGNS TO HAVE STANDARD REFLECTIVE SHEETING - REFERENCE: "WISDOT STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION." LATEST EDITION.

2) AFTER SIGNS HAVE BEEN LOCATED IN THE FIELD, BUT BEFORE INSTALLATION, THE SIGNING AND MARKING SUPERVISOR SHALL VERIFY EACH SIGN LOCATION.

3) ALL FIXED MESSAGE SIGNS TO BE MOUNTED ON WOODEN SUPPORT POSTS (4"X6"). POSTS ARE INCIDENTAL TO ITEM "FIXED MESSAGE SIGN. STEEL POSTS (2"X2") MAY BE USED FOR SIGNS ON SURFACE STREETS.

4) SIGNS ON THIS SHEET TO BE PAID UNDER THE ITEM "FIXED MESSAGE SIGNS." OR "SPECIAL MESSAGE SIGNS"

5) SIGNS SHALL BE BLACK NON- REFLECTIVE MESSAGE ON ORANGE REFLECTIVE BACKGROUND UNLESS OTHERWISE NOTED.

6) ALL SIGNS SHALL HAVE CAPITAL LETTERS AND NUMERALS:

6-IN CAPES SHALL BE SERIES C
12-IN CAPS SHALL BE SERIES D

7) CONTRACTOR SHALL SUBMIT SHOP DRAWINGS TO ENGINEER FOR REVIEW PRIOR TO MANUFACTURING.

8) SIGN BASE MATERIAL SHALL BE ACCORDING TO SECTION 637.2.1.2.

9) SIGN NUMBERS SHOWN BY .... (XXX)

10) BEGIN XXX XX SIGNS TO BE IN PLACE 10 DAYS PRIOR TO CONSTRUCTION.

11) BEGIN XXX XX SIGNS SHALL BE SEPERATE 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 DIRECTED BY THE ENGINEER IN THE FIELD.

12) DO NOT SCALE.

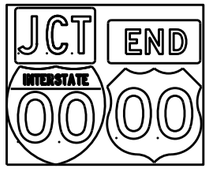
7

7

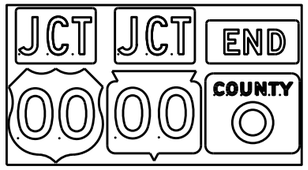
PROJECT NO: 1517-07-72	HWY: USH 10	COUNTY: WINNEBAGO	FIXED MESSAGE SIGN DETAILS	SHEET 312	E

TYPICAL ASSEMBLIES

J1-1

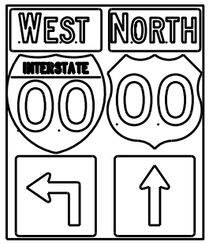


J1-2

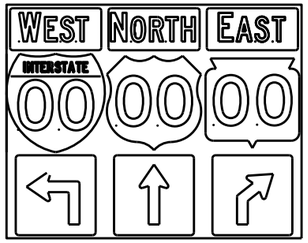


J1-3

J2-1



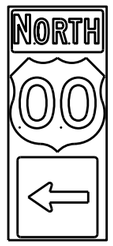
J2-2



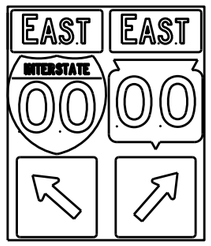
J2-3

JV

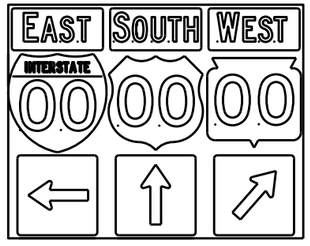
(Typical Vertical J-Assembly
See Note 10 and 11)



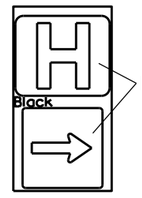
J3-1



J3-2



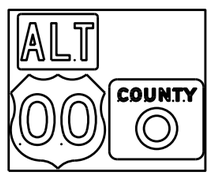
J3-3



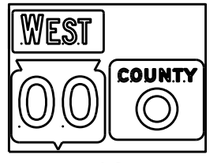
Blue Background

JH-1

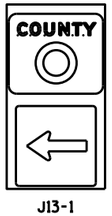
J4-1



J4-2



J4-2



J13-1

J12-1

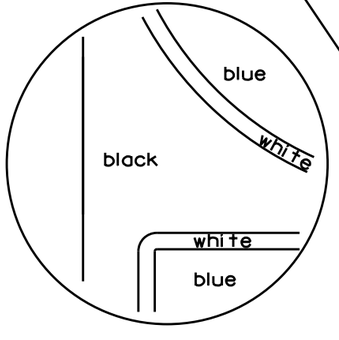
J32-1

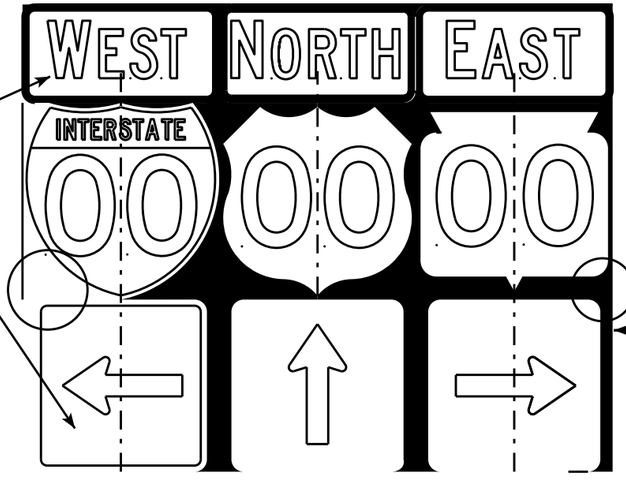
J33-1

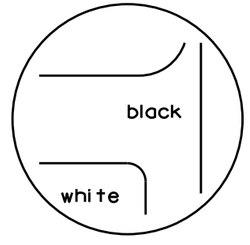
J23-1

J22-1

[blue background with interstate]







[black background]

NOTES

1. Signs are Type II - Type H Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
   Background - Black Non-reflective
   Message - see Note 5
3. Message Series - See Note 5
4. Corners shall be square or rounded if base material is plywood. If base material is metal the corners shall be rounded.
5. The colors and message spacing on each marker shall be according to the applicable route marker panel specifications.
6. Certain marker heads require the component pieces to be the same color. As an example, all the components used with an M1-1 Interstate marker shall be blue.
7. Single panel j-assemblies shall only be used with route marker shields that are same size. If the route marker shields are different size use multiple piece component.
8. Route assemblies that have 24 inch route shields and have dimensions greater than 48 inches (both vertical and horizontal) shall have one horizontal splice between the arrows and route shields. Vertical splices shall not be used on route assemblies with a horizontal dimension of 144 inches or less. The contractor shall not use more than one vertical joint per sign and the joint shall be between route shields.
9. Route assemblies that have 36 inch shields and have dimensions greater than 48 inchs (both vertical and horizontal) shall have two horizontal splices. One horizontal splice shall be between the cardinal direction and route shields and the other horizontal splice shall be between the arrows and route shields. Vertical splices shall not be used on route assemblies with a horizontal dimension of 144 or less. The contractor shall not use more than one vertical joint per sign and the joint shall be between route shields.
10. All Vertical J Assemblies are given a Sign Code of JV
11. For JV Assemblies that have a mixture of Interstate and non Interstate shields, arrows and cardinals shall be white on blue.

ROUTE MARKERS & COMPONENTS
IN TYPICAL ASSEMBLIES

WISCONSIN DEPT OF TRANSPORTATION

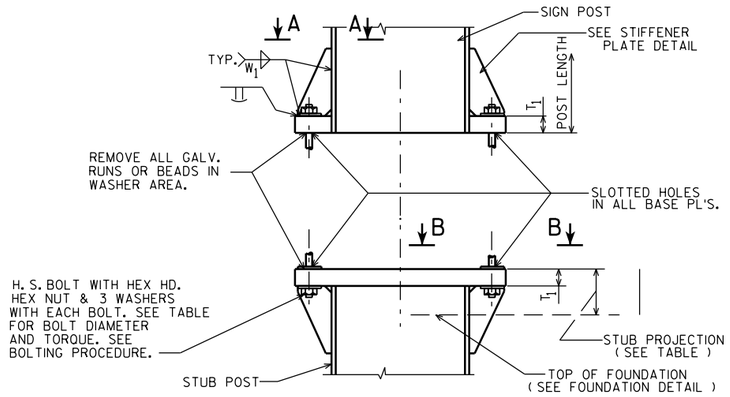
APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 2/06/14 PL... A2-1S.8

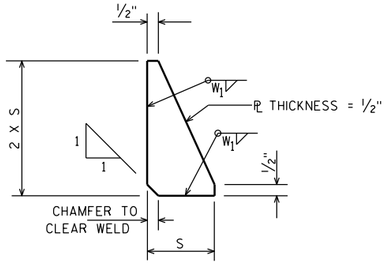
PROJECT NO: | SHEET NO: E

FILE NAME : C:\CAEFiles\Projects\tr_stdplate\A21S.DGN PLOT DATE : 06-FEB-2014 14:10 PLOT BY : mscsja PLOT NAME :

WISDOT/CADDS SHEET 42

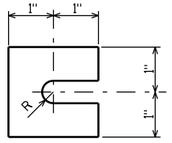


SIGN POST AND STUB POST ELEVATION



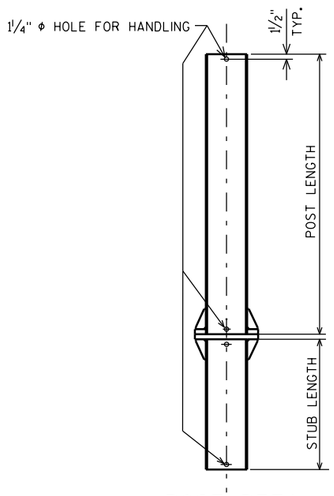
STIFFENER PLATE DETAIL

(SEE TABLE FOR DIMENSIONS)

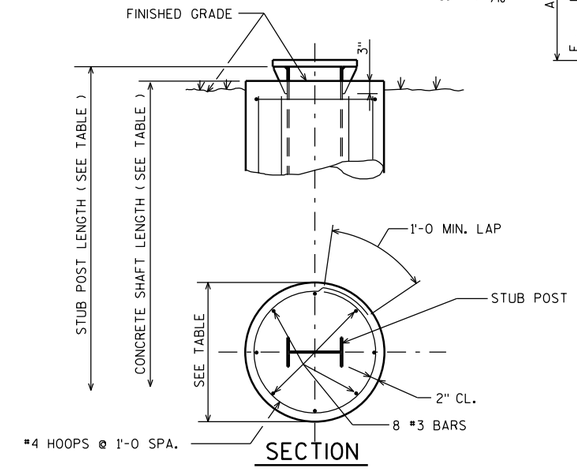


FURNISH 2 @ .012" ± THICK AND 2 @ .032" ± THICK SHIMS PER POST. SHIMS SHALL BE FABRICATED FROM BRASS SHIM STOCK OR STRIP CONFORMING TO A.S.T.M.- B36.

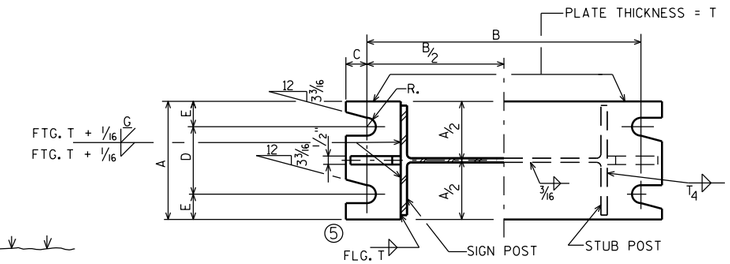
SHIM DETAIL



POST DETAIL

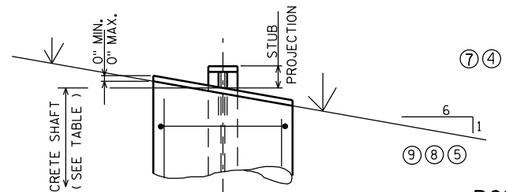


SECTION



SECTION A-A

SECTION B-B



SHAFT PLACEMENT

DESIGN DATA

WIND PRESSURE = 75 M.P.H.
WIND COMPONENTS - NORMAL = 1.0 TRANSVERSE = 0.0
ICE LOAD = 3 P.S.F.

GROUP LOADS	PERCENT OF ALLOWABLE STRESS
1. DEAD	100
2. DEAD & WIND	140
3. DEAD, ICE & ½ WIND[4]	140 [4]25 P.S.F. MIN.

ALLOWABLE SOIL PRESSURE = 1½T / SQ. FT.
WIND LOAD WAS APPLIED TO THE AREA OF THE SIGN AND TO THE SUPPORTING MEMBERS.
ICE LOAD WAS APPLIED TO ONE FACE OF THE SIGN AND AROUND THE SURFACE OF THE SUPPORTING MEMBERS.

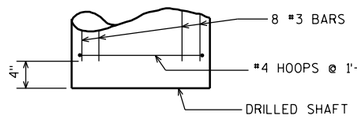
GENERAL NOTES

DRAWINGS SHALL NOT BE SCALED.
DESIGN CONFORMS WITH A.A.S.H.T.O. SPECIFICATIONS 1985.
ALL POSTS, POST STUBS & ATTACHMENTS SHALL BE A.S.T.M. A709 GRADE 50.
(9) THE POST, BASE PLATES, UPPER SIX INCHES OF STUB POST FLANGE SPLICE PLATE AND FUSE PLATE SHALL BE GALVANIZED AFTER FABRICATION.
H.S. BOLTS, WASHERS & NUTS SHALL BE A325 GALVANIZED WHEN POSTS, POST STUBS AND ATTACHMENTS ARE A709 GRADE 50 AND GALVANIZED.

BOLTING PROCEDURE - BASE CONNECTION

1. ASSEMBLE SIGN POST TO STUB POST WITH BOLTS AND ONE OF THE FLAT WASHERS ON EACH BOLT BETW. PLATES.
2. SHIM AS REQ'D. TO PLUMB POST.
3. PRIOR TO BOLT TIGHTENING LUBRICATE BASE CONNECTION BOLTS WITH BEESWAX OR OTHER HIGH-WAX LUBRICANT.
4. TIGHTEN ALL BOLTS THE MAXIMUM POSSIBLE WITH 12" OR 15" WRENCH TO BED WASHERS & SHIMS AND TO CLEAN BOLT THREADS, THEN LOOSEN EACH BOLT IN TURN AND RETIGHTEN IN A SYSTEMATIC ORDER TO THE PRESCRIBED TORQUE. (SEE TABLE)
5. BURR THREADS AT JUNCTION WITH NUT USING A CENTER PUNCH TO PREVENT NUT LOOSENING.

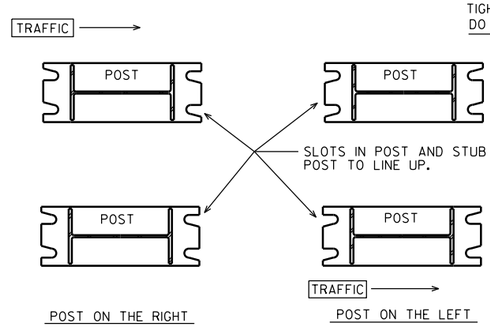
NOTE:
TIGHTEN THE HIGH STRENGTH BOLTS TO THE TORQUE SHOWN. DO NOT OVERTIGHTEN.



FOUNDATION DETAIL

QUANTITIES FOR 1 FOOTING		
	CONC. MASONRY C.Y.	REINF. STEEL LBS.
A	0.6	34
B	0.8	49
C	0.9	50
D	0.9	56
(7) E	1.0	62

REINF. TYPE	#3	#4
A	8 @ 4'-5	5 @ 6'-3
B	8 @ 6'-5	7 @ 6'-3
C	8 @ 6'-11	7 @ 6'-3
D	8 @ 7'-5	8 @ 6'-3
(7) E	8 @ 7'-11	9 @ 6'-3



POST SLOT ORIENTATION (7)

TYPE	POST SIZE	BOLT SIZE & TORQUE	A	B	C	D	E	T_1	T_4	W_1	R	S	STUB LENGTH	STUB PROJECTION	SHAFT DIAMETER	SHAFT LENGTH	K (2)
(4) A	W10"X12.0 #/FT.	¾" ϕ @ 75#-FT.	5¼"	1'-0⅜"	⅞"	3½"	⅞"	1"	3/16"	5/16"	13/32"	2⅛"	3'-6	3"	2'-0 ϕ	5'-0	76.0# (4)
(4) B	W12"X16.0 #/FT.	⅞" ϕ @ 85#-FT.	5½"	1'-4¼"	1"	3½"	1"	1¼"	¼"	5/16"	15/32"	3"	5'-6	3"	2'-0 ϕ	7'-0	146.5# (4)
C	W12"X19.0 #/FT.	⅞" ϕ @ 85#-FT.	5½"	1'-4¼"	1"	3½"	1"	1½"	5/16"	5/16"	15/32"	3"	6'-0	3"	2'-0 ϕ	7'-6	182.1#
D	W12"X22.0 #/FT.	⅞" ϕ @ 85#-FT.	5½"	1'-4¼"	1"	3½"	1"	1½"	3/8"	5/16"	15/32"	3"	6'-6	3"	2'-0 ϕ	8'-0	210.5#
(3) E	W12"X26.0 #/FT.	1" ϕ @ 90#-FT.	7"	1'-4¼"	1¼"	4"	1½"	1½"	3/8"	5/16"	17/32"	3"	7'-0	3"	2'-0 ϕ	8'-6	293.0# (3)

BASE CONNECTION DATA TABLE — FOUNDATION DATA

(1) (6) (1)

STRUCTURAL CARBON STEEL PAY WTS. (1 POST) = K+ (POST LENGTH X POST WT.)
" K " INCLUDES STUB, BASE PLATES, STIFFS., BOLTS, AND WASHERS.

WISCONSIN DEPT OF TRANSPORTATION
APPROVED Matthew R Rauch for State Traffic Engineer
DATE 2/06/14 PLATE NO. A3-1.14

NO.	DATE	REVISION
(10)	1-21-14	LUBRICATION OF BASE BOLTS
(9)	4-26-11	REMOVE NON-GALVANIZED
(8)	10-30-96	NOT GALVANIZED/GALVANIZED
(7)	10-30-92	QUANT., A588 EXCEPT., ADD SLOT VIEW
(6)	8-24-87	BASE CONN. WELD
(5)	10-13-81	BASE CONN. WELD & FUSE ℄ WASHERS
(4)	10-19-79	POST A & B, A572 GR. 50, & K
(2)	11-28-78	"K" (3) 4-23-79 TYPE "E"
(1)	5-4-78	T_1 , T_2 & W_1

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS

TYPE A, B, C, D, & E

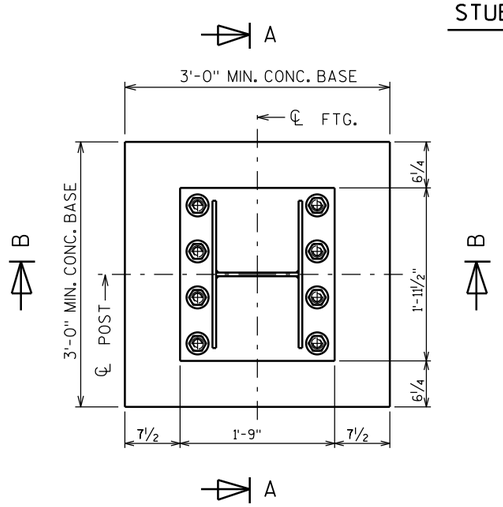
CONST. SPEC. 2011 | DRAWN BY JPH | PLANS CK'D.

FTG. & SIGN SUPPORT DETAILS GROUND MOUNT BREAK-AWAY SIGNS

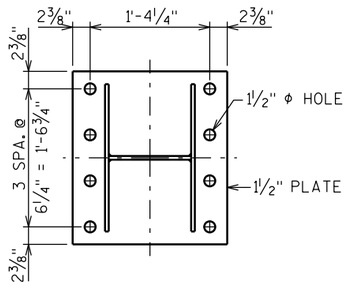
SHEET 314

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

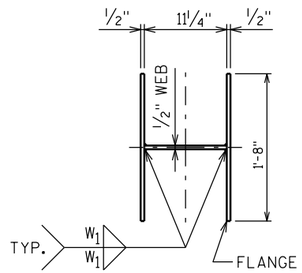
STUB AND MASONRY ANCHOR DETAILS



STUB SECTION



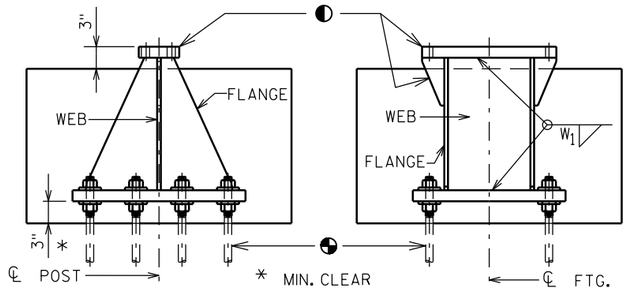
BASE PLATE



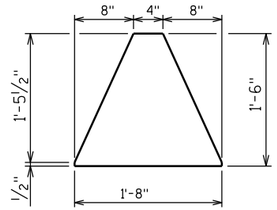
STUB

◐ SEE PLATE NO. A3-1 FOR DETAILS

◒ MASONRY ANCHORS TYPE S 1¼-INCHES (ADHESIVE). ALLOWABLE PULL OUT CAPACITY 14,995 KIPS. EMBED 1'-3" IN ROCK.



SECTION A SECTION B



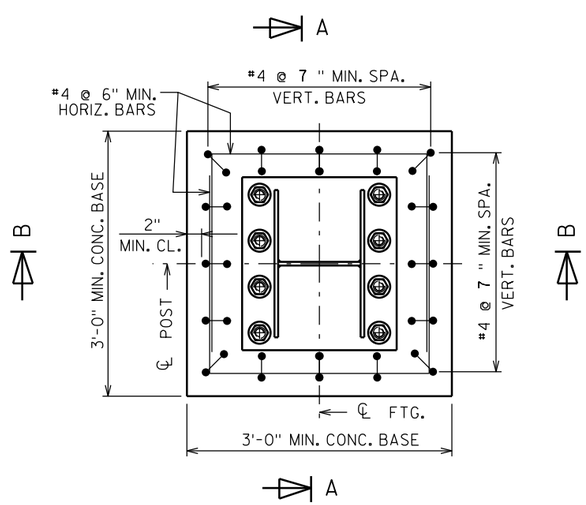
FLANGE

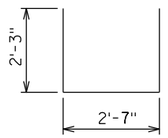
GENERAL NOTES

1. Quantities per Base:
   - REINFORCING BAR STEEL = 62 LBS
   - CONCRETE = 0.6 C.Y.
   - STEEL WEIGHT = 335 LBS
2. All materials, except anchor rod, nuts and washers, are to be A.S.T.M. A709 grade 50. All materials to be galvanized after fabrication.
3. If the contractor encounters rock before reaching the footing depth, per the A3-1 Sign Detail, determine the pull-out capacity of a test adhesive anchor installed in the rock. If the test result equals or exceeds the pull-out capacity of 14,995 KIPS, the contractor may install the breakaway stub for rock, according to this detail.

CONCRETE BASE AND REINFORCING STEEL DETAILS

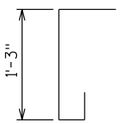
CONCRETE BASE SECTION





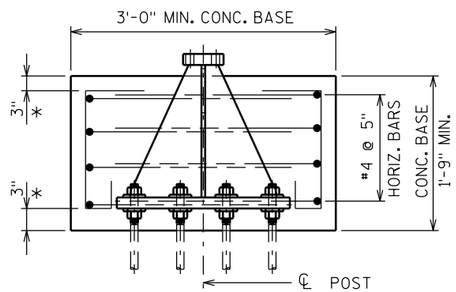
HORIZONTAL BAR

8 BARS @ 6'-11" LENGTH



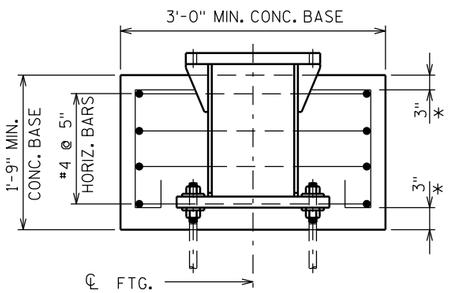
VERTICAL BARS

16 BARS @ 2'-4" LENGTH
MAY BE PLACED IN SKEW
FOR CLEARANCE NEED



SECTION A

* MIN. CLEAR



SECTION B

ALTERNATE BREAK-AWAY BASE ON ROCK
A3-1M

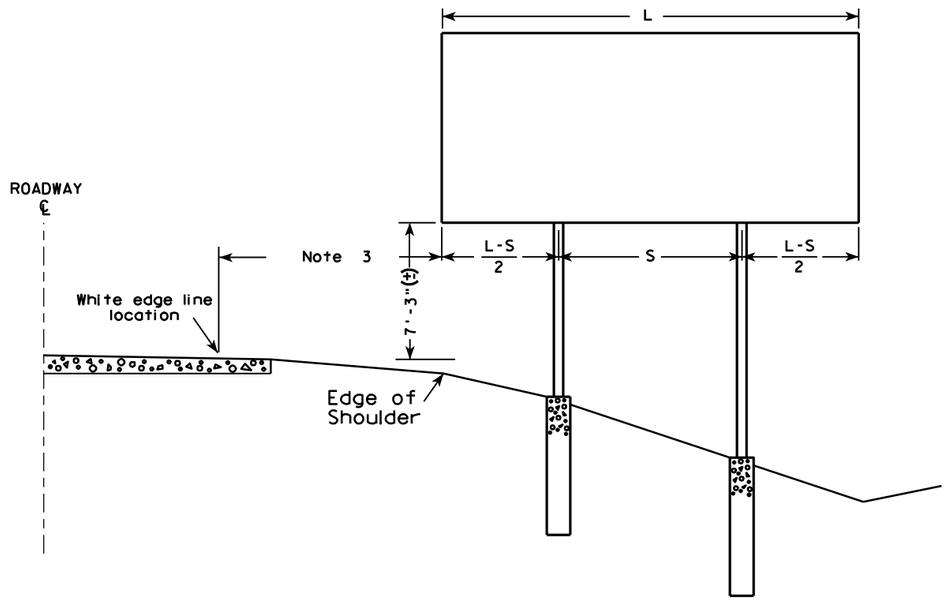
WISCONSIN DEPT OF TRANSPORTATION

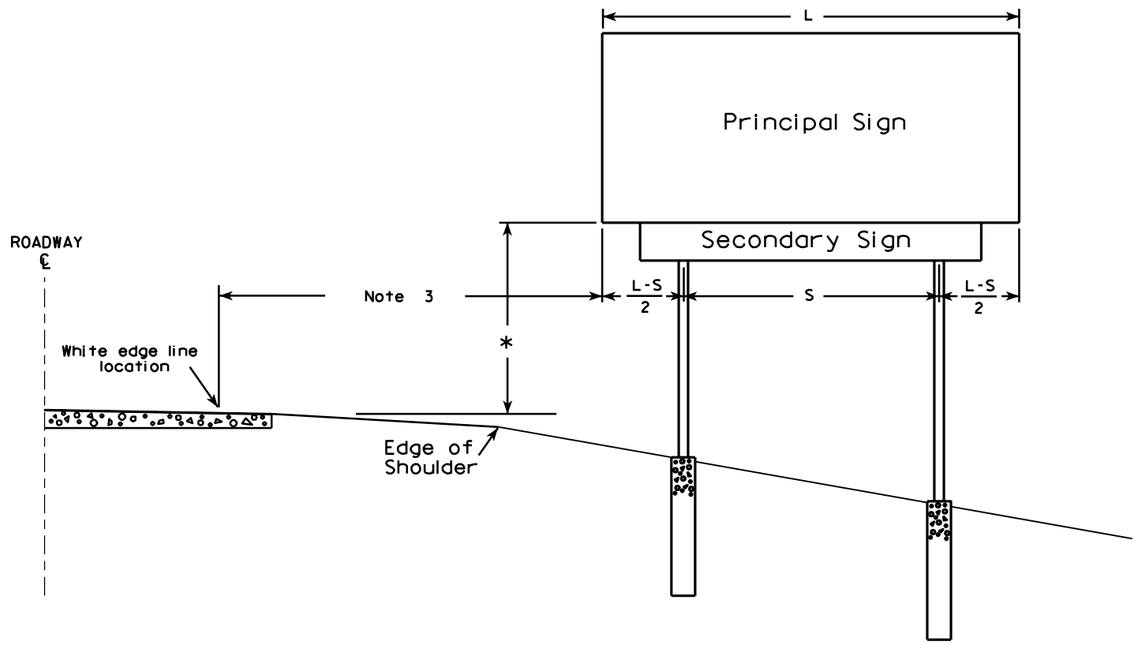
APPROVED Matthew R Rauch for State Traffic Engineer

DATE 2/06/2014 PLATE A3-1M.1

PROJECT NO:	HWY:	COUNTY:		SHEET NO:	E

FILE NAME : C:\CAEFiles\Projects\tr_stdplate\A31M.dgn PLOT DATE : 06-FEB-2014 13:46 PLOT BY : mscsja PLOT NAME : PLOT SCALE : 1.556674:1.000000 WISDOT/CADDS SHEET 42





GENERAL NOTES

1. For a 2 post installation, S equals 3L/5, but shall not be less than 9 ft.
2. For a 3 post installation, S equals 5L/7, but shall not be less than 18 ft., and the space between any two posts shall not be less than 9 ft.
3. Unless noted in the plan, the sign offset distance shall be a minimum of 17'-6", desirable 30'-0".
4. The (±) tolerance shown on this sheet is 3 in.
5. The vertical sign height clearance detailed is measured from the bottom of the sign to the near edge of pavement.
6. Post lengths shown in the miscellaneous quantities are estimated lengths. The contractor shall verify post lengths at the time of final grading.
7. Refer to the Traffic Guidelines Manual for further guidance on minimum vertical clearance requirements.

* Clearance is 8'-3"(±) when the secondary sign is 3 ft. or less in height. For secondary signs larger than 3 ft., the clearance to the bottom of the secondary sign shall be 5'-3"(±).

7

7

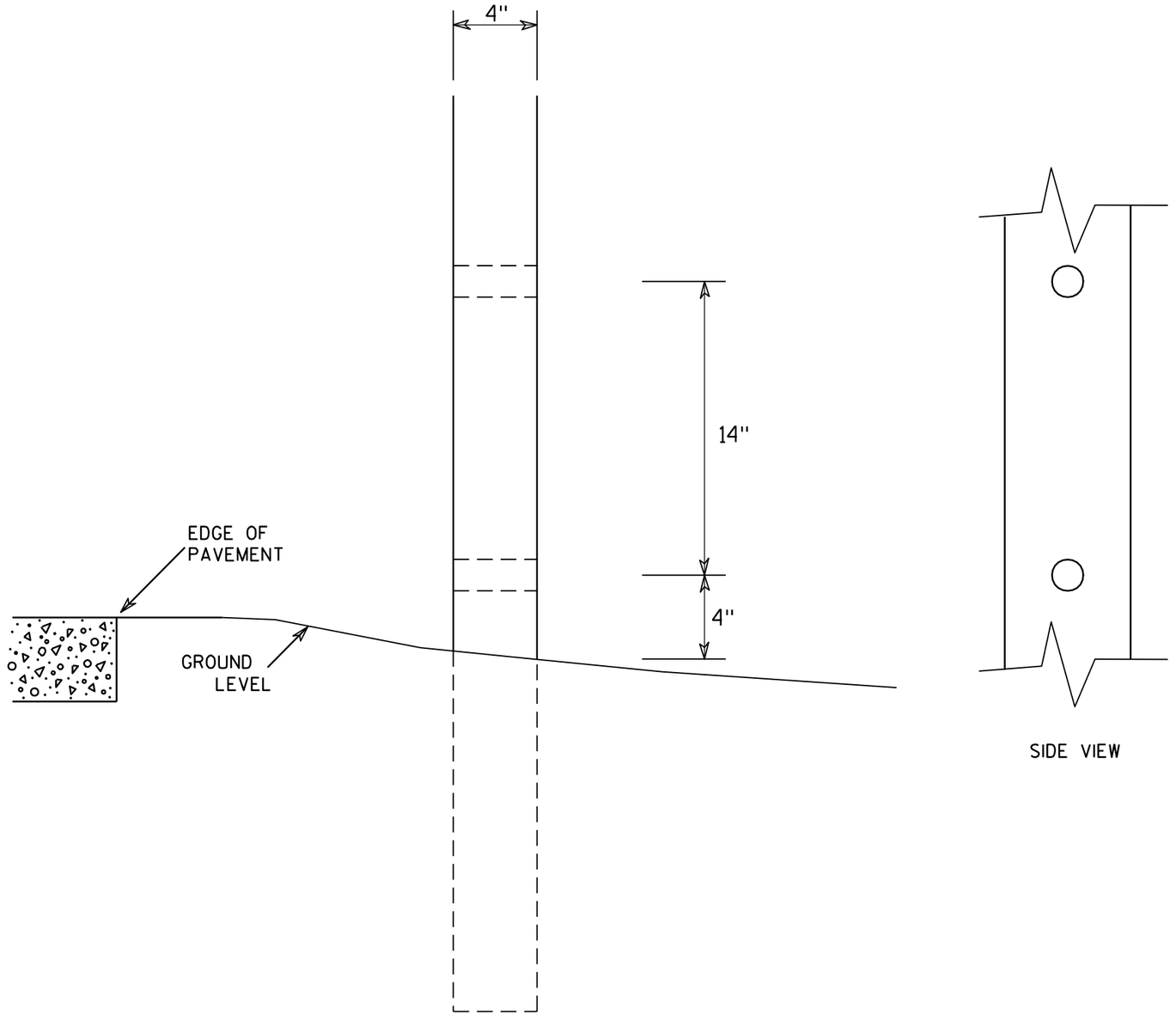
TYPICAL INSTALLATION
OF TYPE I SIGNS

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 4/02/08 PLATE NO. A4-1.9

PROJECT NO:				SHEET NO: 316	E



SIDE VIEW

GENERAL NOTES

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

7

7

4 X 6 WOOD POST MODIFICATIONS

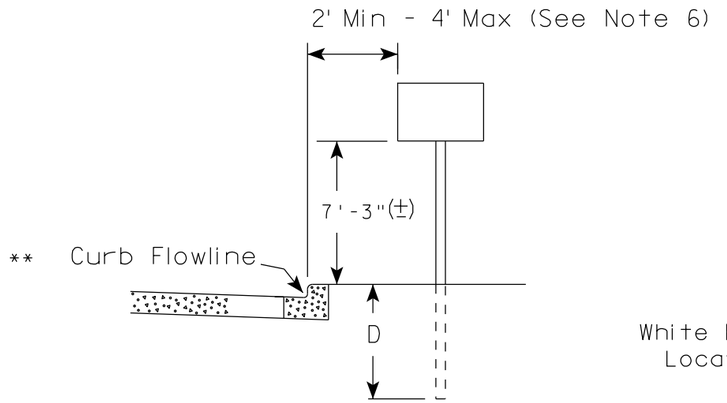
WISCONSIN DEPT OF TRANSPORTATION

APPROVED Chester J Spang for State Traffic Engineer

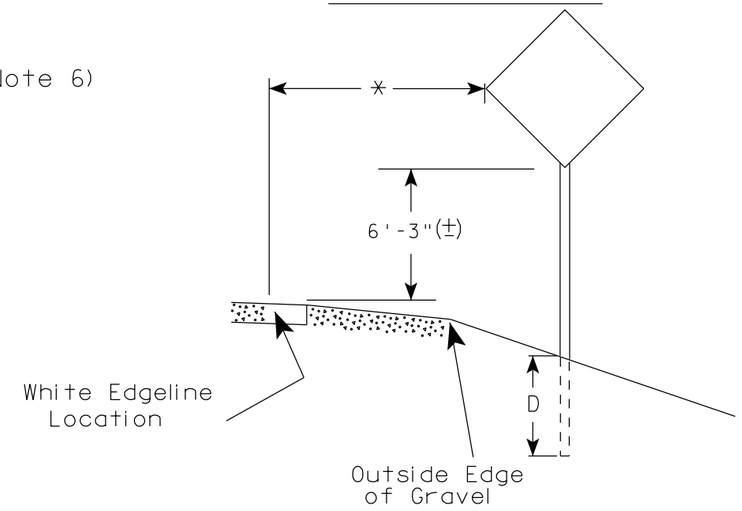
DATE 3/27/97 PLATE NO. A4-11.2

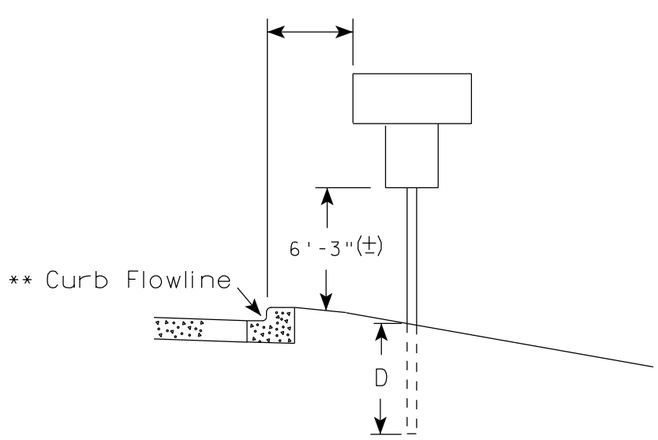
PROJECT NO:	HWY:	COUNTY:		SHEET NO: 317	E

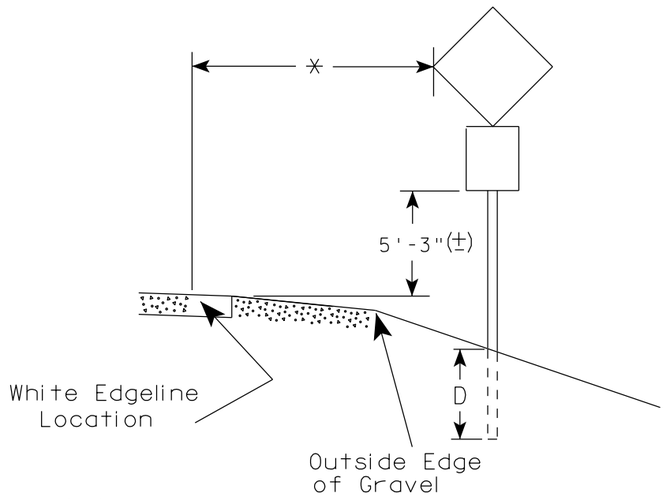
URBAN AREA



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.

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 (A4-5) 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 stop signs (R1-1F) shall be mounted at a height of 5'-3" (±) or as directed 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) & End of Rod Markers (W5-56 & W5-56A) shall be mounted at a height of 4'-3" (+).

POST EMBEDMENT DEPTH

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

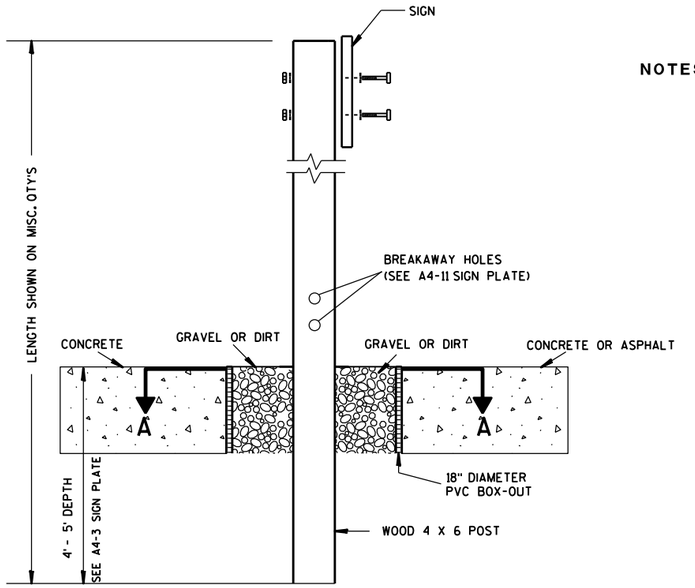
TYPICAL INSTALLATION OF PERMANENT TYPE II SIGNS ON SINGLE POSTS

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 9/30/13 PLATE NO. A4-3.18

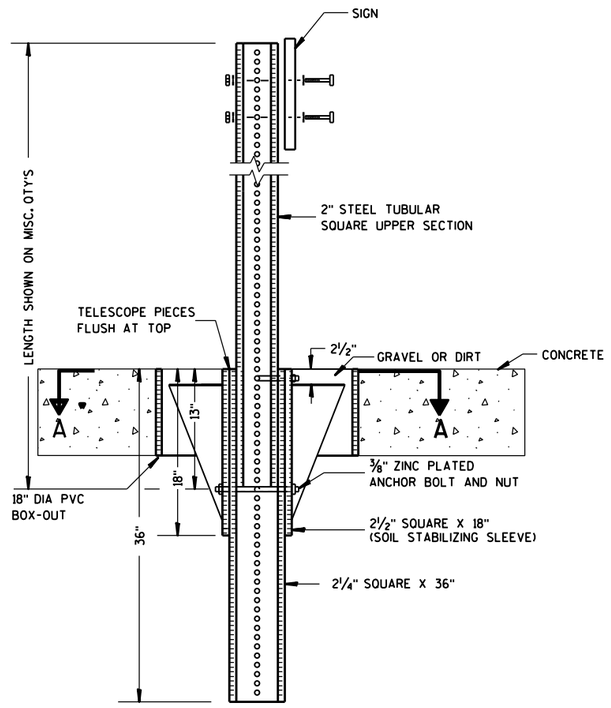
PROJECT NO:	HWY:	COUNTY:		SHEET NO:	E



ELEVATION VIEW

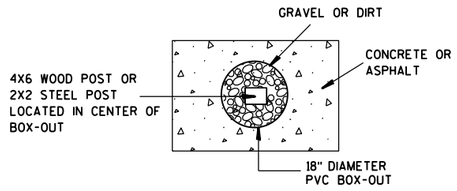
DETAIL OF WOOD 4 X 6 SIGN POST IN BOX-OUT

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

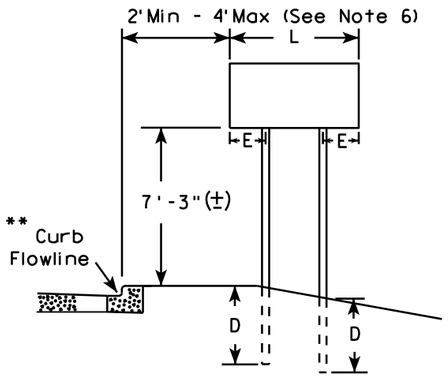
APPROVED Matthew R Rauch
for State Traffic Engineer

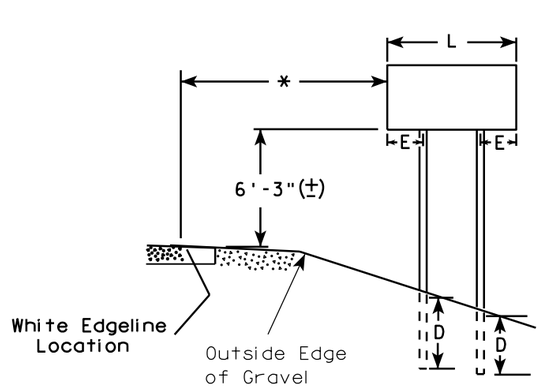
DATE 1/27/14 PLATE NO. A4-3B.1

PROJECT NO:	HWY:	COUNTY:		SHEET NO:	E

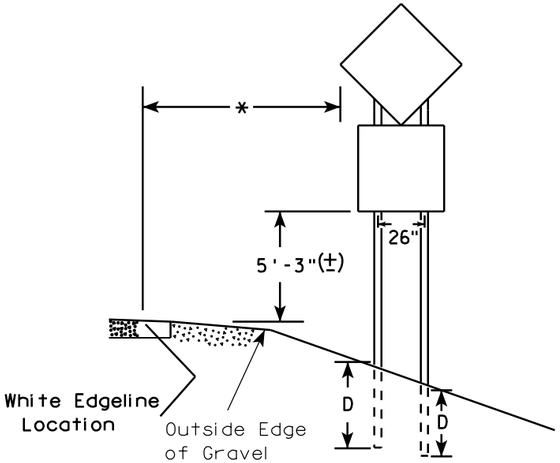
FILE NAME : C:\CAEFiles\Projects\tr_stdplate\A43B.DGN PLOT DATE : 27-JAN-2014 09:48 PLOT BY : mscsja PLOT NAME : PLOT SCALE : 13.659812:1.000000 WISDOT/CADDS SHEET 42

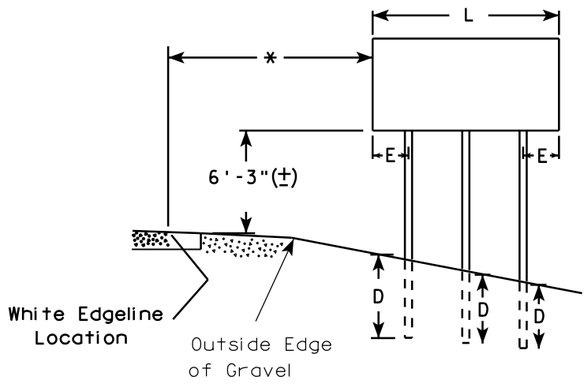
URBAN AREA





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 (A4-5) 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 stop signs (R1-1F) 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) & End of Road Markers (W5-56 & W5-56A) 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 20 S.F. or less 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

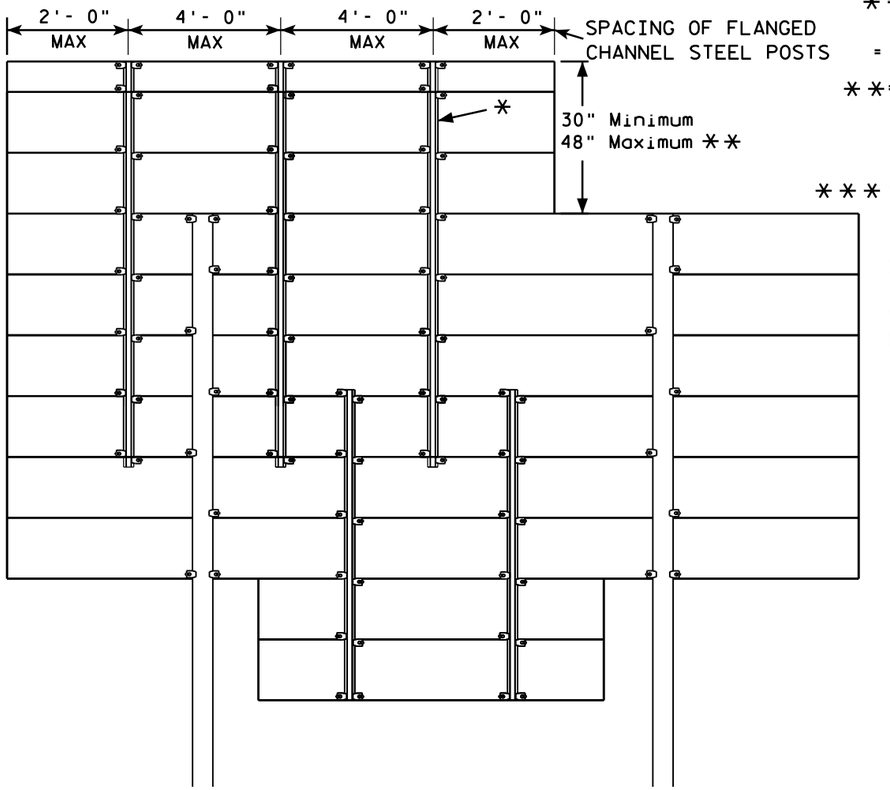
DATE 9/30/13 PLATE NO. A4-4 12
320

PROJECT NO:	HWY:	COUNTY:		SHEET NO:	E

FILE NAME : C:\CAEfiles\Projects\tr_stdplate\A44.DGN PLOT DATE : 30-SEP-2013 13:27 PLOT BY : mscj9h PLOT NAME : PLOT SCALE : 107.021305:1.000000

7 7

GROUND MOUNTED SIGN

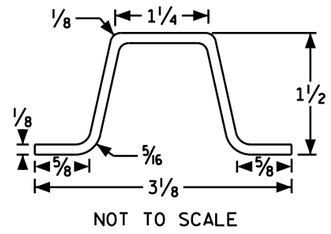


*=2.00 lb/ft FLANGED CHANNEL, MIN. YIELD STRENGTH = 60,000 PSI (GRADE 60) GALVANIZED

**=FOR 48" HEIGHT PANELS ON OVERHEAD STRUCTURES, ENTIRE SIGN SHALL BE CENTERED VERTICALLY ABOUT THE DEPTH OF THE TRUSS.

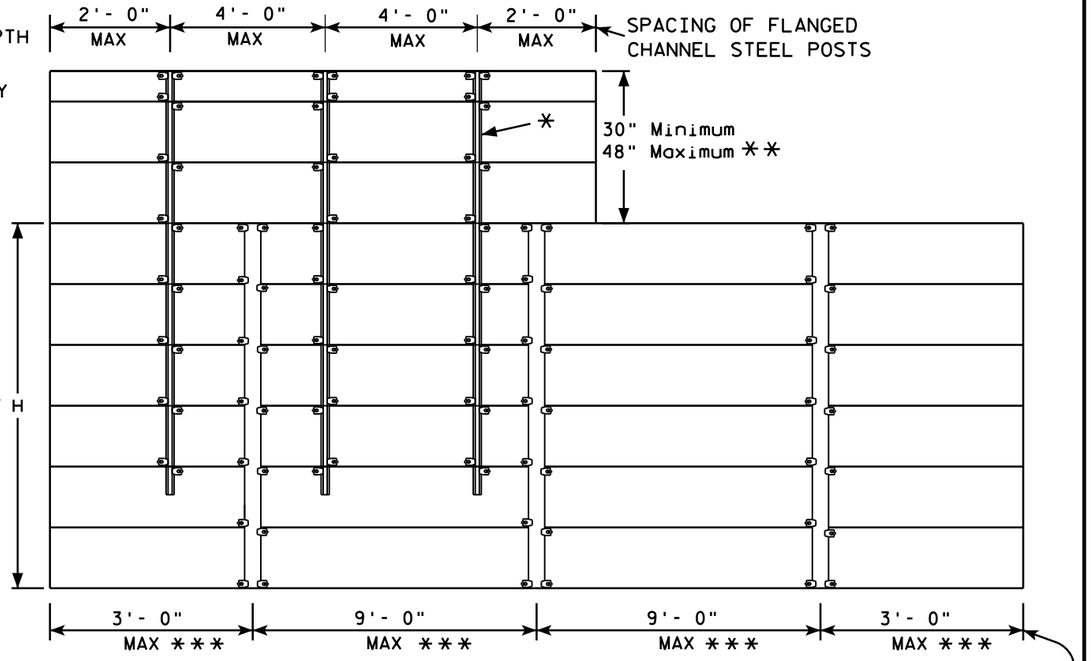
*** THESE SPACING DISTANCES SHALL ONLY BE USED WHEN THE MAIN SIGN HAS A MAXIMUM HEIGHT (DIMENSION H) OF 16 FT OR LESS. FOR SIGNS WITH A HEIGHT OF GREATER THAN 16 FT, STRUCTURAL CALCULATIONS SHALL BE PERFORMED.

FLANGE CHANNEL DETAIL



NOT TO SCALE

SIGN BRIDGE MOUNTED SIGN



SPACING OF ALUMINUM SIGN SUPPORTS
5" X 3.5" X 3.7 LBS./ft.

GENERAL NOTES

1. Flanged channel steel posts shall conform to size and material above, and shall be considered as incidental to other items in the contract.
2. Number of Flanged channel steel supports varies with length of panel and shall be spaced as shown:

   PANEL LENGTH 8'-0" OR LESS = 2 CHANNELS
   PANEL LENGTH 9'- 0" - 12'- 0" = 3 CHANNELS
   PANEL LENGTH 13'- 0" OR MORE = 4 CHANNELS

   If the flanged channel steel posts can not be horizontally spaced as shown, they can be moved so as to securely hold the sign.
3. The EXIT NUMBER PANEL shall normally be positioned above the guide sign aligned with the right edge of the guide sign. If the guide sign indicates a left exit, the EXIT NUMBER PANEL shall be aligned with the left edge of the guide sign.
4. If the bolt holes in the top panel (EXIT NUMBER), or sub panel (NEXT EXIT) line up with holes in main sign panel, stitch bolts shall be used in addition to the channels.
5. Provide post clips for each sign as shown. (Please note the differences between a ground mounted versus Sign bridge mounted sign as far as number of clips required on the main supports or beams)
6. Structural steel sign supports shall extend to the top of the main signs, as shown on the above details.

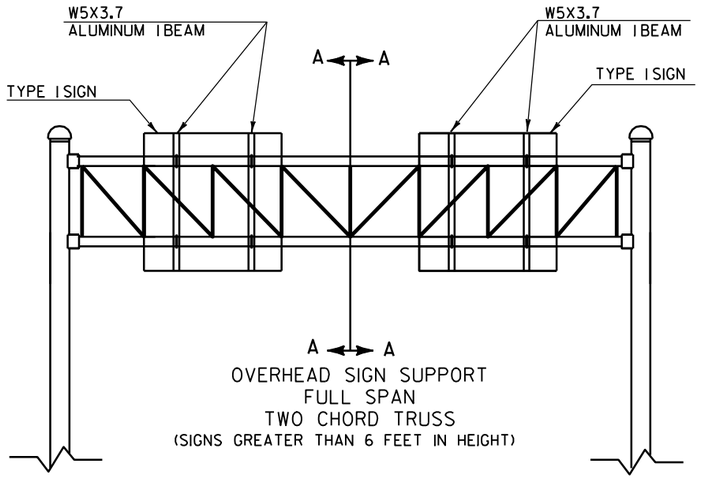
ATTACHMENT OF GUIDE SIGNS TO SUPPORTS

WISCONSIN DEPT OF TRANSPORTATION

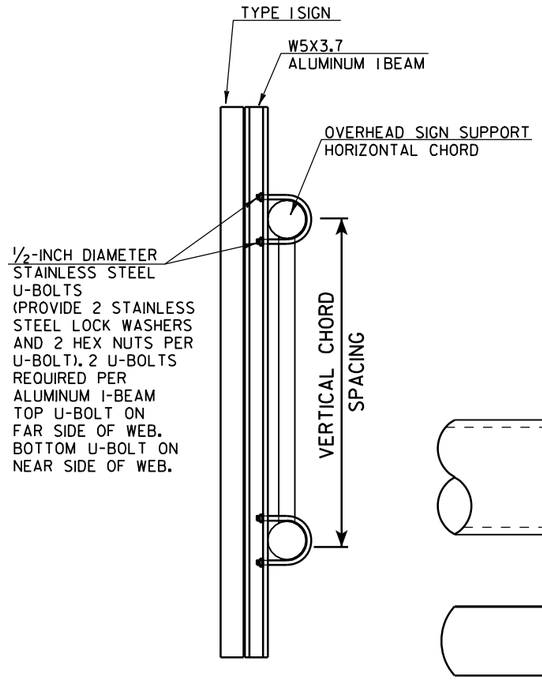
APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 12/05/13 PLAT 321 A4-6.12

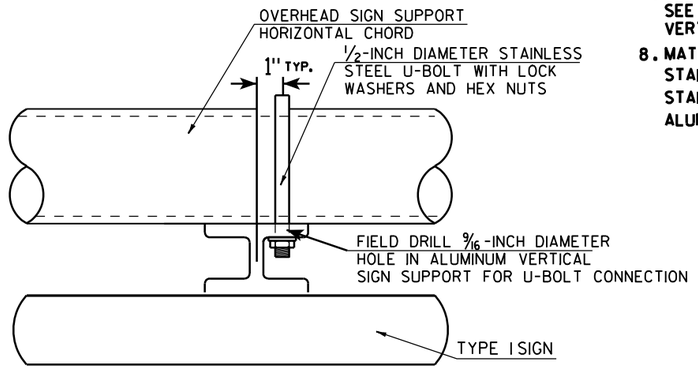
PROJECT NO: | SHEET NO: E



OVERHEAD SIGN SUPPORT
FULL SPAN
TWO CHORD TRUSS
(SIGNS GREATER THAN 6 FEET IN HEIGHT)



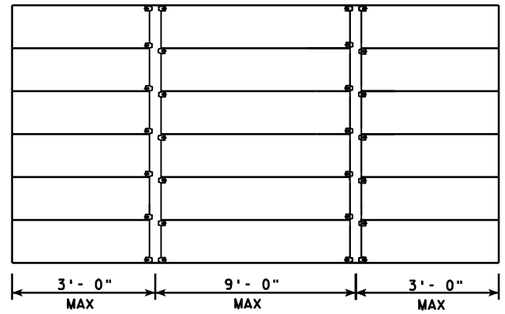
CUT SECTION A-A



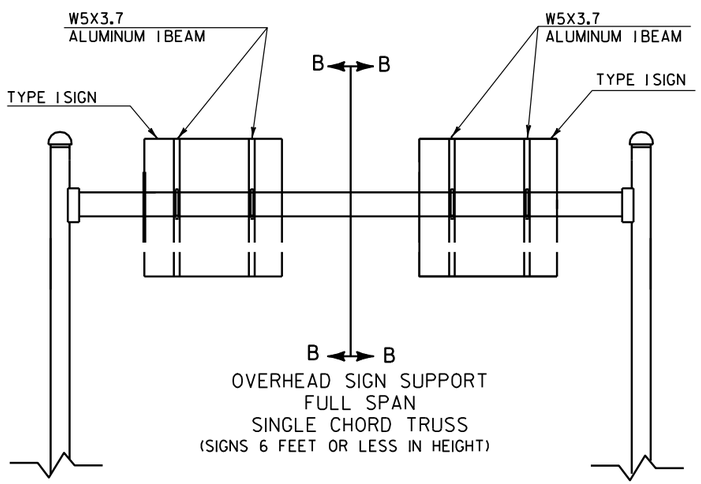
TYPICAL SIGN CONNECTION FOR
TWO CHORD TRUSS
PLAN VIEW

GENERAL NOTES

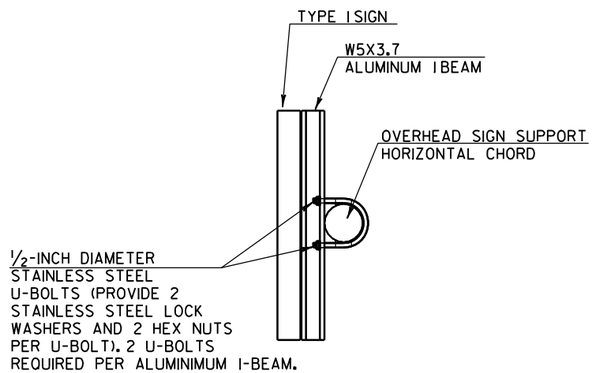
1. USE STAINLESS STEEL U-BOLTS, WASHERS, AND NUTS.
2. USE CLIPS ON EVERY EXTRUDED PANEL JOINT PER SIGN PLATE A4-6.
3. USE ALUMINUM VERTICAL SIGN SUPPORT BEAMS HAVING A 5 INCH BEAM DEPTH AND WEIGHT OF 3.7 LBS PER FOOT.
4. U-BOLTS SHALL BE STAINLESS STEEL AND MANUFACTURED TO THE PROPER SIZE TO FIT THE CHORDS OF THE OVERHEAD SIGN STRUCTURE.
5. DIAMETER OF U-BOLTS SHALL BE AS SHOWN.
6. THE LENGTH OF THE ALUMINUM VERTICAL SIGN SUPPORT BEAMS SHALL BE THE SAME AS THE HEIGHT OF THE SIGN THEY ARE SUPPORTING. BEAM LENGTHS MAY BE LONGER FOR PROPER ATTACHMENT TO CHORDS.
7. MINIMUM NUMBER OF BRACKETS PER SIGN IS TWO. SEE DETAIL BELOW FOR SPACING OF ALUMINUM VERTICAL SIGN SUPPORTS
8. MATERIAL NOTES:
   STAINLESS STEEL U-BOLTS AND LOCKWASHERS ASTM 304.
   STAINLESS STEEL HEX NUTS ASTM A276.
   ALUMINUM I-BEAMS ARE 6061-T6.



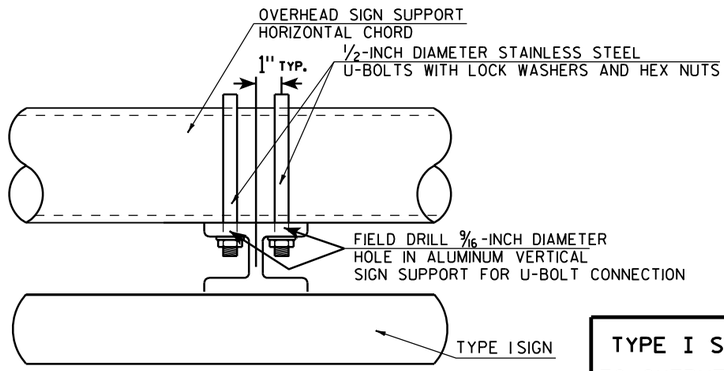
SPACING OF W5X3.7 ALUMINUM
VERTICAL SIGN SUPPORT



OVERHEAD SIGN SUPPORT
FULL SPAN
SINGLE CHORD TRUSS
(SIGNS 6 FEET OR LESS IN HEIGHT)



CUT SECTION B-B



TYPICAL SIGN CONNECTION FOR
SINGLE CHORD TRUSS
PLAN VIEW

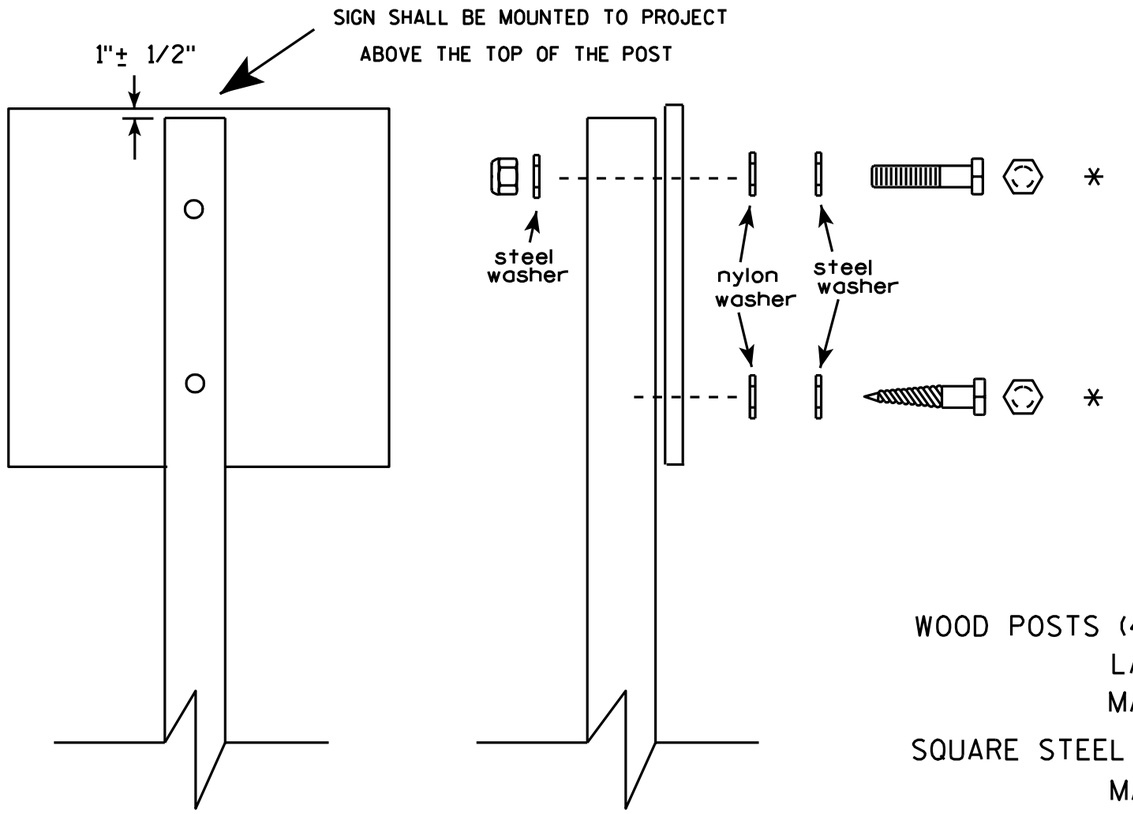
TYPE I SIGN CONNECTION TO OVERHEAD SIGN SUPPORT

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch for State Traffic Engineer

DATE 11/12/12 PLATE NO. A4-7.3

PROJECT NO:	HWY:	COUNTY:		SHEET NO: 322	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

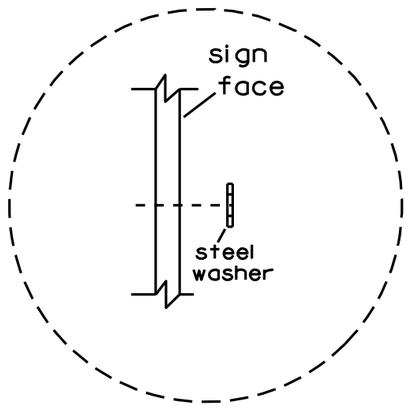
b. Electro-galvanized in accordance with ASTM Designation : B 633, TYPE III, SC 3.

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

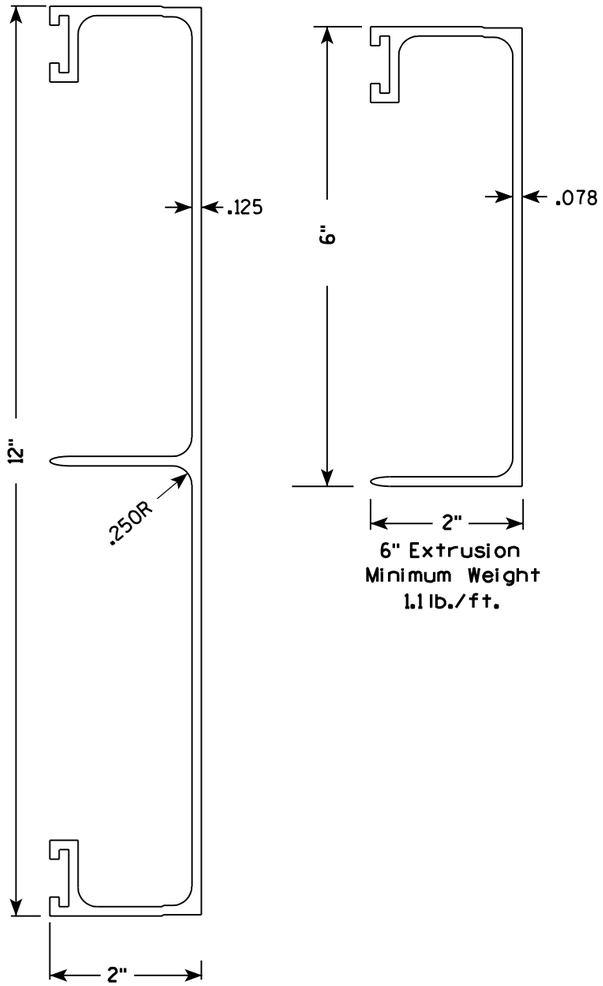
7

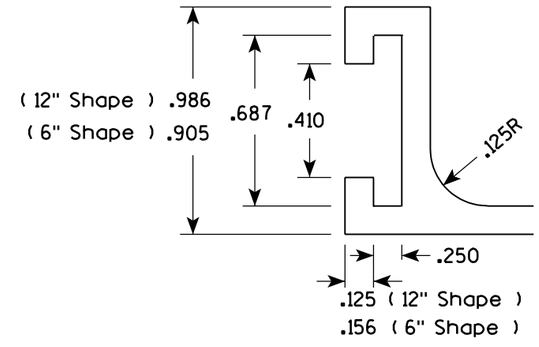
7

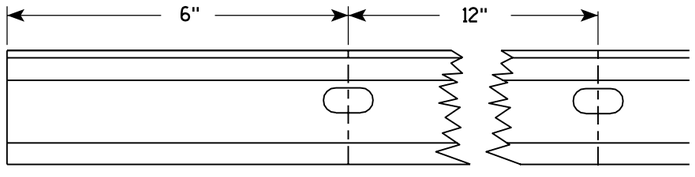
PROJECT NO:

SHEET NO: 323 E

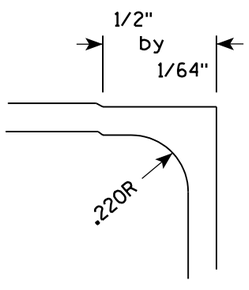
Extruded Shape







Punch 7/16" x 7/8" oval holes beginning 6" in from end of extrusion 12" CC on both edges of 6" and 12" panels.

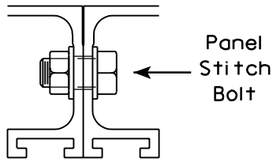


Hardware

STITCH BOLT, WASHER & NUT

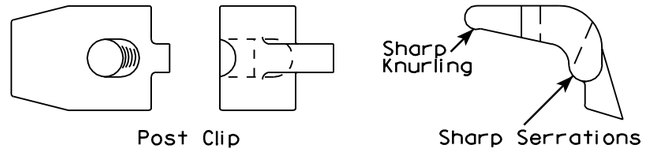
The hardware includes:

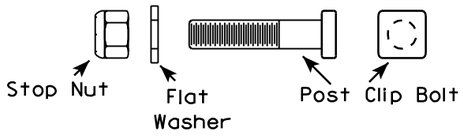
3/8 " - 16 X 3/4 " Economy Bolt 2024-T4 alloy
3/8 " - Stainless steel stop nut
3/8" X .064 Flat Washers, Alclad 2024-T4 alloy



POST CLIP, POST CLIP BOLT, WASHER & NUT

Post Clip shall be Alum. Alloy 356-T6
Post Clip Bolt shall be Stainless Steel.
Flat washer shall be 3/8" X .091, Stainless Steel.
Stop nut shall be stainless steel.





NOTES

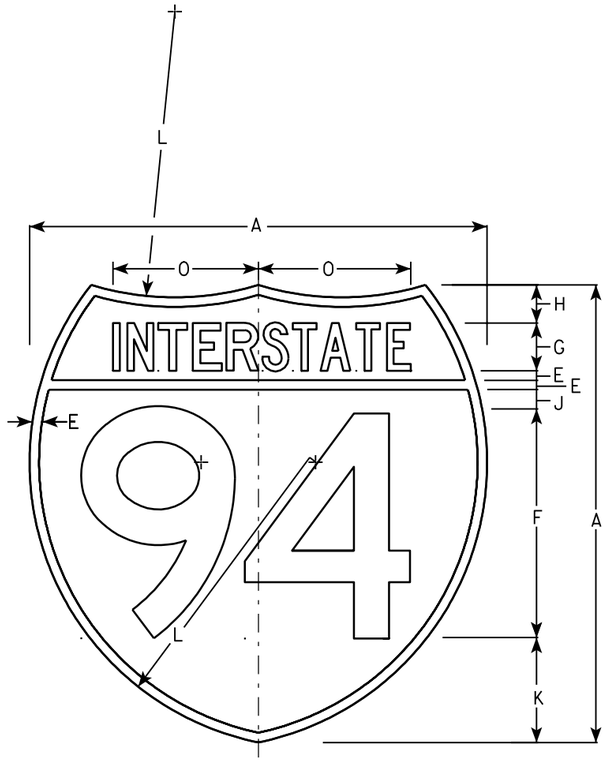
1. The contractor may select any brand of extrusion that conforms to the illustrations or meets with the approval of the engineer, but all extrusions used on this contract shall be of the same brand.
2. Panel Stitch Bolts shall be used to assemble adjacent panels. Maximum stitch bolt spacing shall be 24" C-C, and a minimum of 4 bolts shall be used to connect any two extrusions.
3. Post Clips shall be used to attach the sign panel to the sign support.

ALUMINUM EXTRUSIONS FOR TYPE I SIGNS

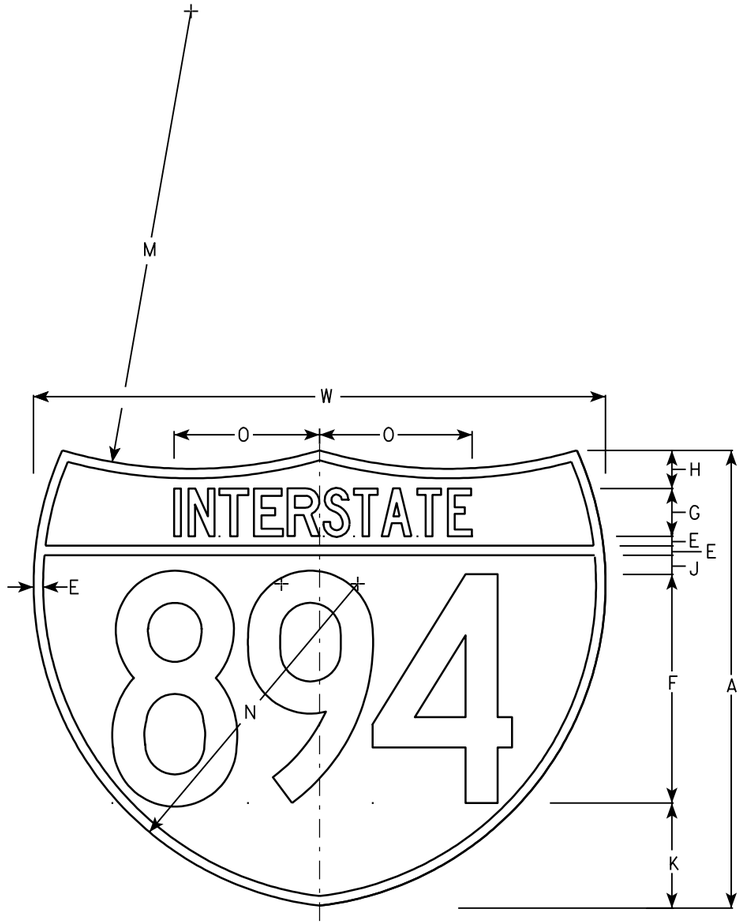
WISCONSIN DEPT OF TRANSPORTATION

APPROVED Chester J Spang
for State Traffic Engineer

DATE 11/18/99 PLATE NO. A5-2.9



M1-1



M1-1A

NOTES

1. Sign is Type II - See Note 6 - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
   Background - Top Red - Bottom Blue (See Note 6)
   Message - White - See Note 6
3. Message Series - See note 5
4. Substitute appropriate numerals & ajust spacing as per plate A10-1.
5. M1-1 - Numerals - D
   Interstate - C
   M1-1A - All copy - C
6. Permanent Signs
   Message - Type H Reflective
   Detour or other temporary signs
   Background - Reflective
   Message - Reflective

Metric equivalent for these signs are:

SIZE	M1-1	SIZE	M1-1A
1			
2	600 mm X 600 mm	2	600 mm X 750 mm
3	900 mm X 900 mm	3	900 mm X 1125 mm
4	900 mm X 900 mm	4	900 mm X 1125 mm
5	900 mm X 900 mm	5	900 mm X 1125 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	M1-1 Area sq. ft.	M1-1A Area sq. ft.	M1-1 Area m2	M1-1A Area m2
1																													
2	24				1/2	12	2 1/2	2		1	5 1/2	15	24	17	7 7/8								30			3.13	3.91	.36	.46
3	36				3/4	18	3 3/4	3		1 1/2	8 1/4	22 1/2	36	25 1/2	11 3/4								45			7.03	8.79	.81	1.05
4	36				3/4	18	3 3/4	3		1 1/2	8 1/4	22 1/2	36	25 1/2	11 3/4								45			7.03	8.79	.81	1.05
5	36				3/4	18	3 3/4	3		1 1/2	8 1/4	22 1/2	36	25 1/2	11 3/4								45			7.03	8.79	.81	1.05

INTERSTATE ROUTE MARKER
M1-1 FOR ASSEMBLIES

WISCONSIN DEPT OF TRANSPORTATION

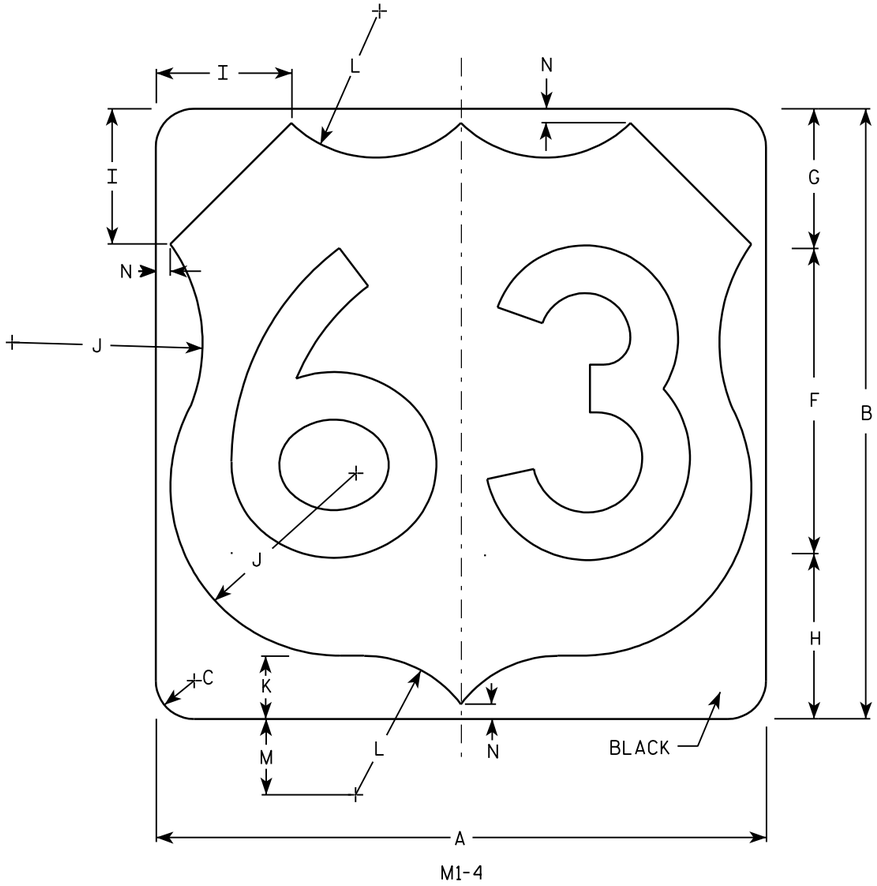
APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 08/23/05 PLATE NO. M1-1.8

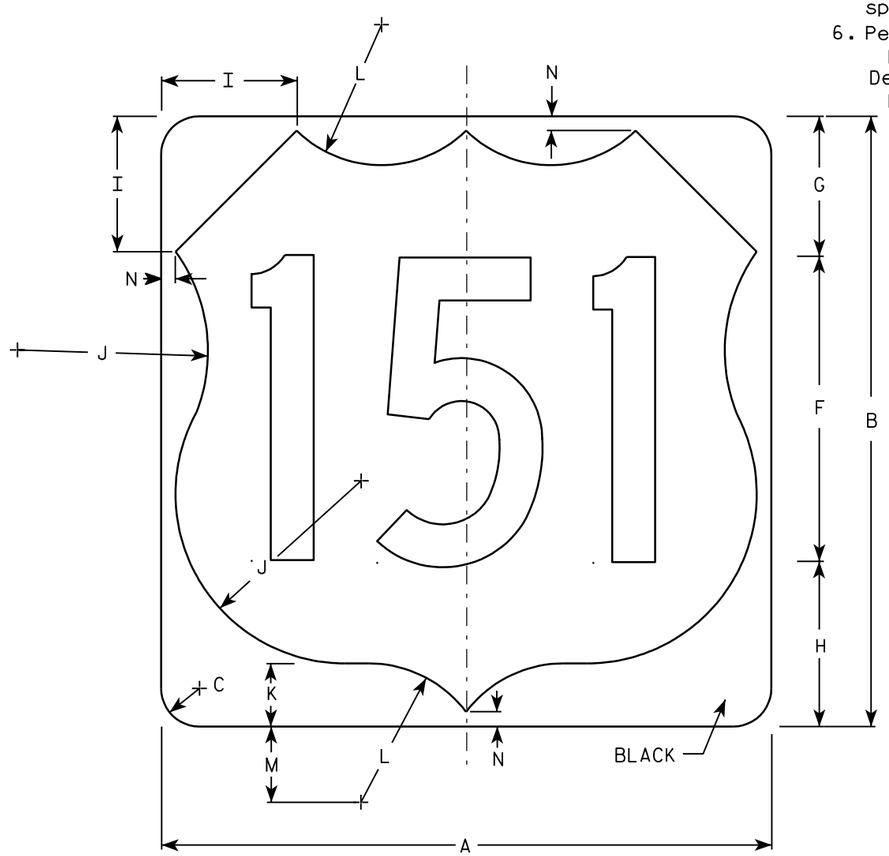
PROJECT NO:	HWY:	COUNTY:		SHEET NO: 325	E

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



M1-4



M1-4

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

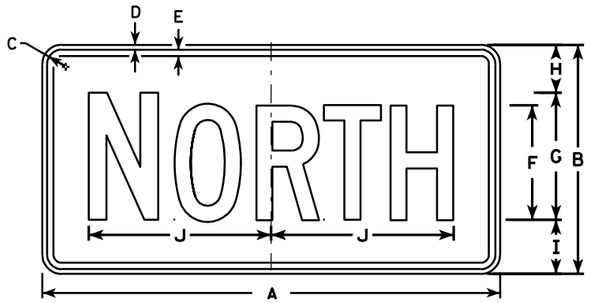
USH MARKER
M1-4 FOR ASSEMBLIES

WISCONSIN DEPT OF TRANSPORTATION

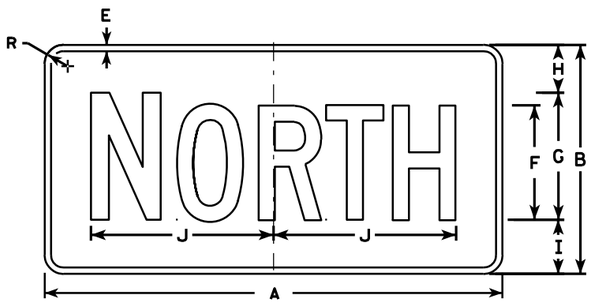
APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 08/25/05 PLATE NO. M1-4.9

PROJECT NO: | HWY: | COUNTY: | SHEET NO: 326 | E



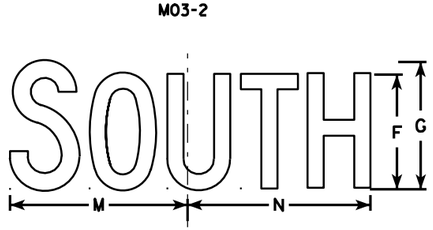
M3-1
MK3-1
MO3-1



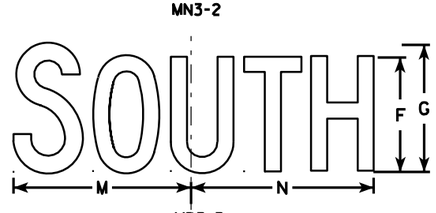
MB3-1
MG3-1
MM3-1
MN3-1

M3-2
MK3-2
MO3-2

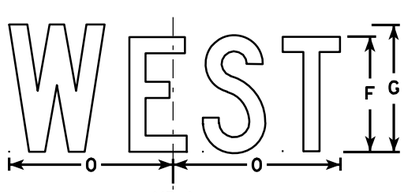
MB3-2
MG3-2
MM3-2
MN3-2



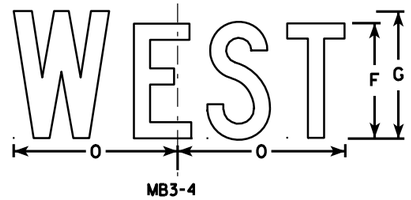
M3-3
MK3-3
MO3-3



MB3-3
MG3-3
MM3-3
MN3-3



M3-4
MK3-4
MO3-4



MB3-4
MG3-4
MM3-4
MN3-4

NOTES

1. All Signs Type II - See Note 5 - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
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 - Type H Reflective
   (Detour or temporary signs - Reflective)
   Message - Black
   MB3-1 thru MB3-4 Background - Blue
   Message - White - Type H Reflective
   (Detour or temporary signs - Reflective)
   MG3-1 thru MG3-4 Background - Green
   Message - White - Type H Reflective
   MK3-1 thru MK3-4 Background - Green
   Message - White - Type H Reflective
   MM3-1 thru MM3-4 Background - White - Type H Reflective
   Message - Green
   MN3-1 thru MN3-4 Background - Brown
   Message - White - Type H Reflective
   M03-1 thru M03-4 Background - Orange - Reflective
   Message - Black
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

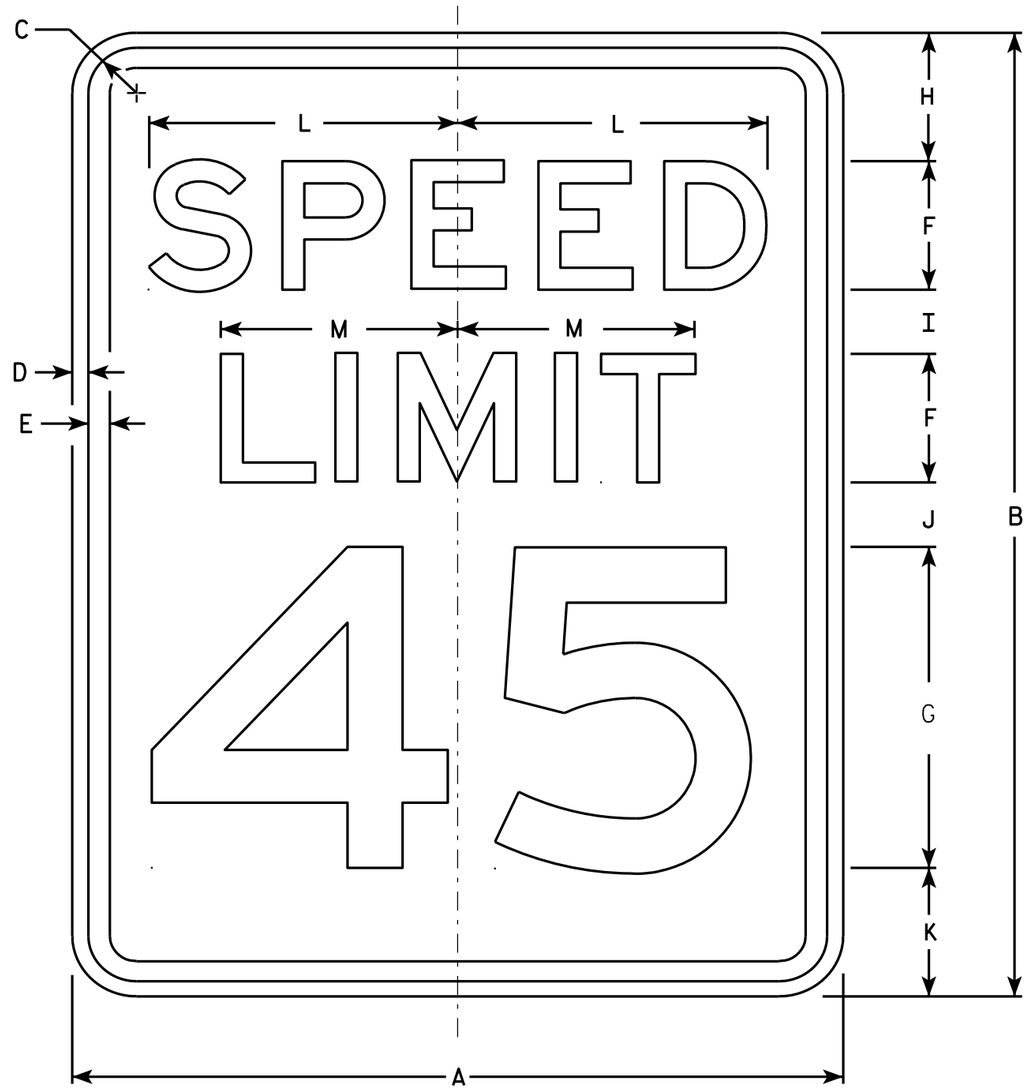
STANDARD SIGNS
M3-1 thur M3-4
SERIES

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch for State Traffic Engineer

DATE 11/10/10 PLATE NO. M3-1.12

PROJECT NO:	HWY:	COUNTY:		SHEET NO: 327	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

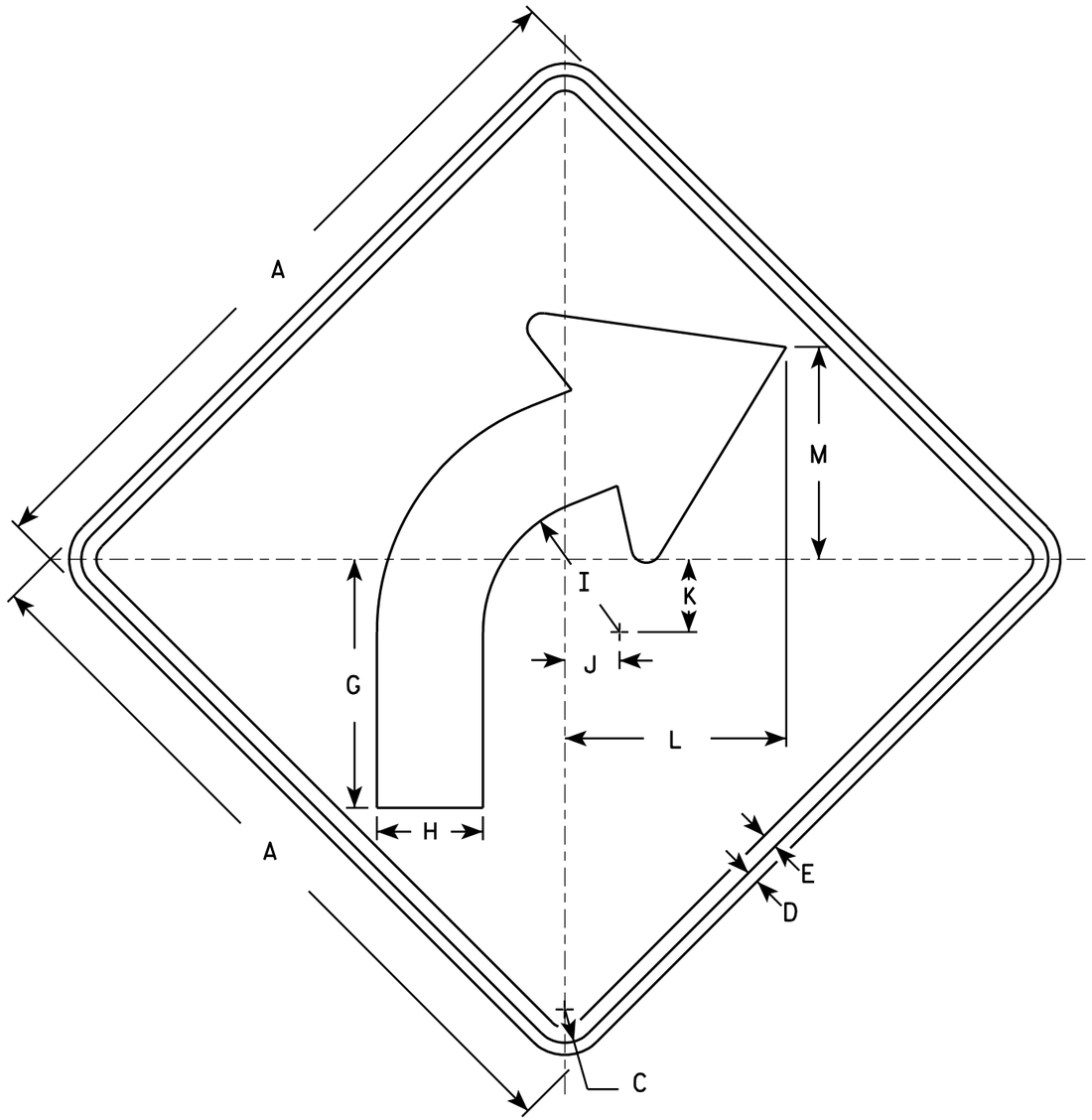
APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 5/26/10 PLATE NO. R2-1.13

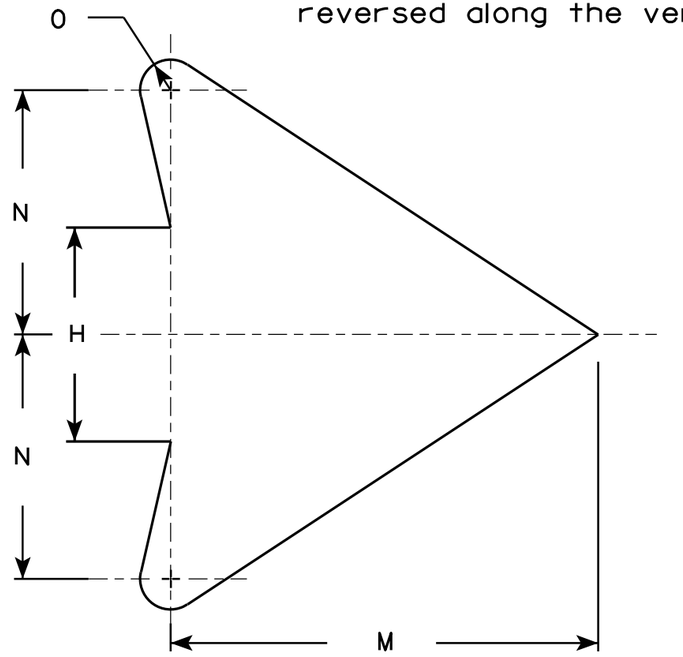
PROJECT NO: | HWY: | COUNTY: | SHEET NO: 328 | E

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. W1-2L is the same as W1-2R except the arrow is reversed along the vertical centerline.



W1-2R



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	24		1 1/8	3/8	1/2		8 1/4	3 1/2	4 1/2	1 3/4	2 3/8	7 1/4	7	4	1/2												4.0
2S	30		1 3/8	1/2	5/8		10 1/4	4 3/8	5 5/8	2 1/4	3	9 1/8	8 3/4	5	5/8												6.25
2M	36		1 5/8	5/8	3/4		12 3/8	5 1/4	6 3/4	2 5/8	3 1/2	10 7/8	10 1/2	6	3/4												9.0
3	36		1 5/8	5/8	3/4		12 3/8	5 1/4	6 3/4	2 5/8	3 1/2	10 7/8	10 1/2	6	3/4												9.0
4	36		1 5/8	5/8	3/4		12 3/8	5 1/4	6 3/4	2 5/8	3 1/2	10 7/8	10 1/2	6	3/4												9.0
5	48		2 1/4	3/4	1		16 1/2	7	9	3 1/2	4 5/8	14 1/2	14	8	1												16.0

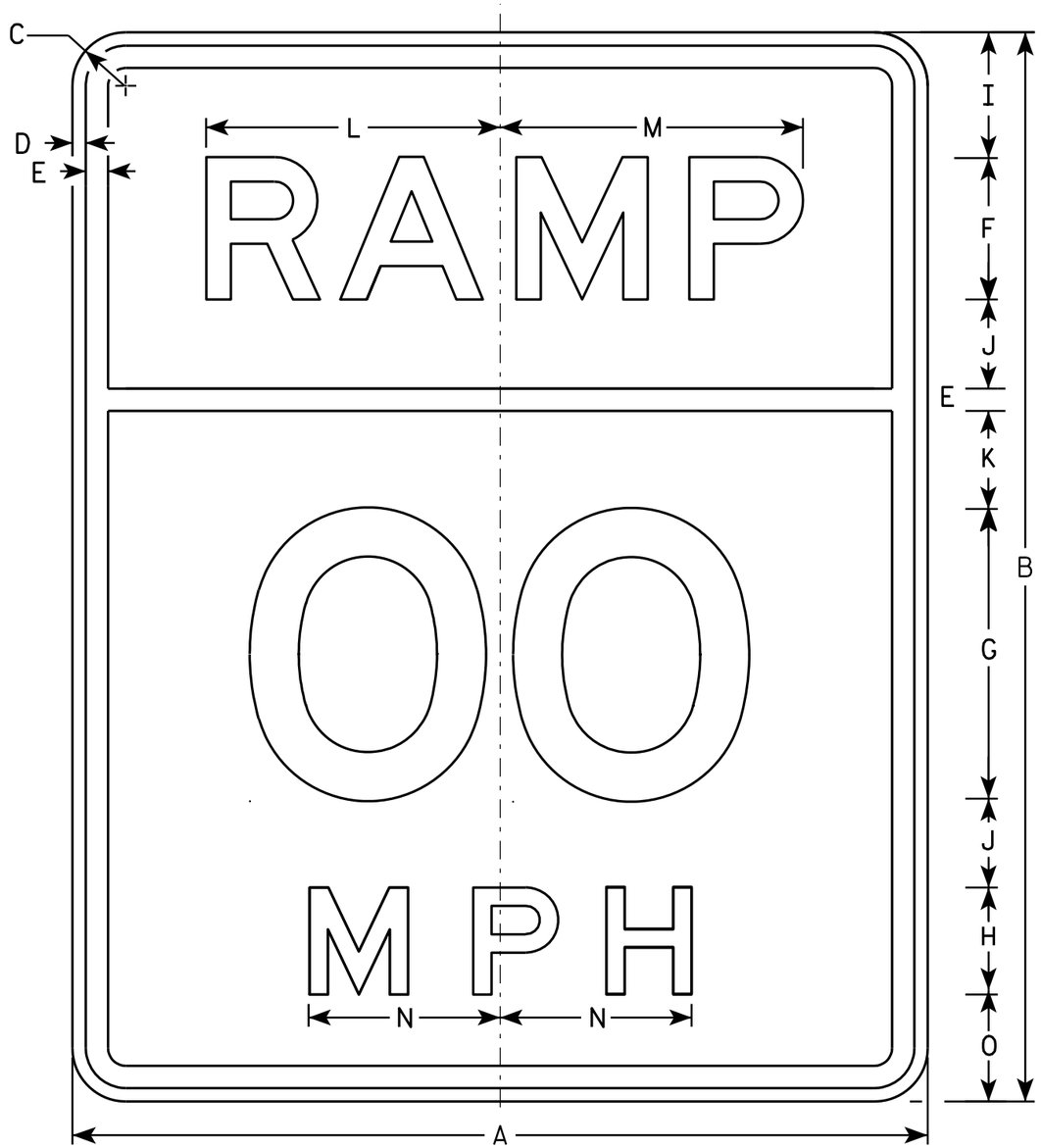
STANDARD SIGN
W1-2

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch for State Traffic Engineer

DATE 5/15/12 PLATE NO. W1-2.10

PROJECT NO:	HWY:	COUNTY:		SHEET NO: 329	E



W13-3

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 - 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 space about centerline 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	24	30	1 1/8	3/8	5/8	4	8	3	3 1/2	2 1/2	2 7/8	8 1/4	8 1/2	5 3/8	3												5.0
2S	24	30	1 1/8	3/8	5/8	4	8	3	3 1/2	2 1/2	2 7/8	8 1/4	8 1/2	5 3/8	3												5.0
2M	24	30	1 1/8	3/8	5/8	4	8	3	3 1/2	2 1/2	2 7/8	8 1/4	8 1/2	5 3/8	3												5.0
3																											
4	36	48	1 5/8	5/8	7/8	6	12	4	6	4 1/8	5 1/8	13 1/2	13 5/8	7 1/8	6												12.0
5	48	60	2 1/4	3/4	1 1/4	8	16	6	7	5	5 3/4	16 1/2	17	10 5/8	6												20.0

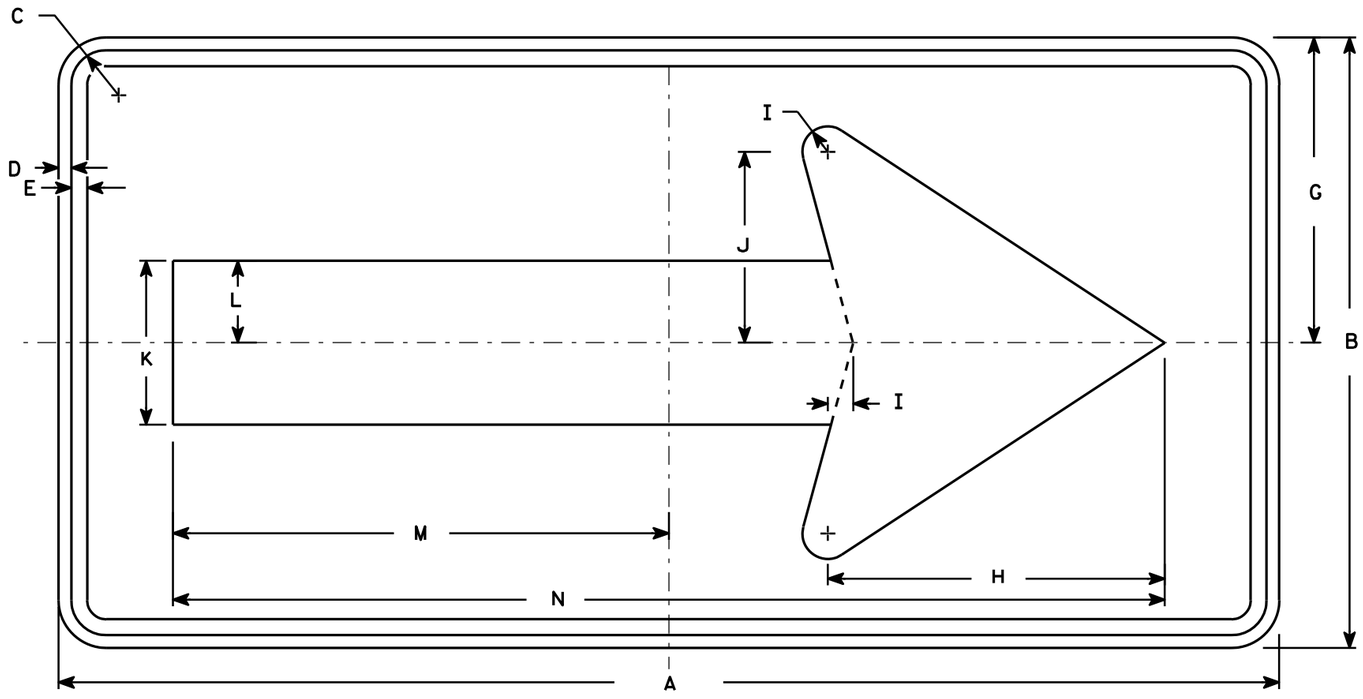
STANDARD SIGN
W13-3

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 6/13/13 PLATE NO. W13-3.9

PROJECT NO: | HWY: | COUNTY: | SHEET NO: 330 | E



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

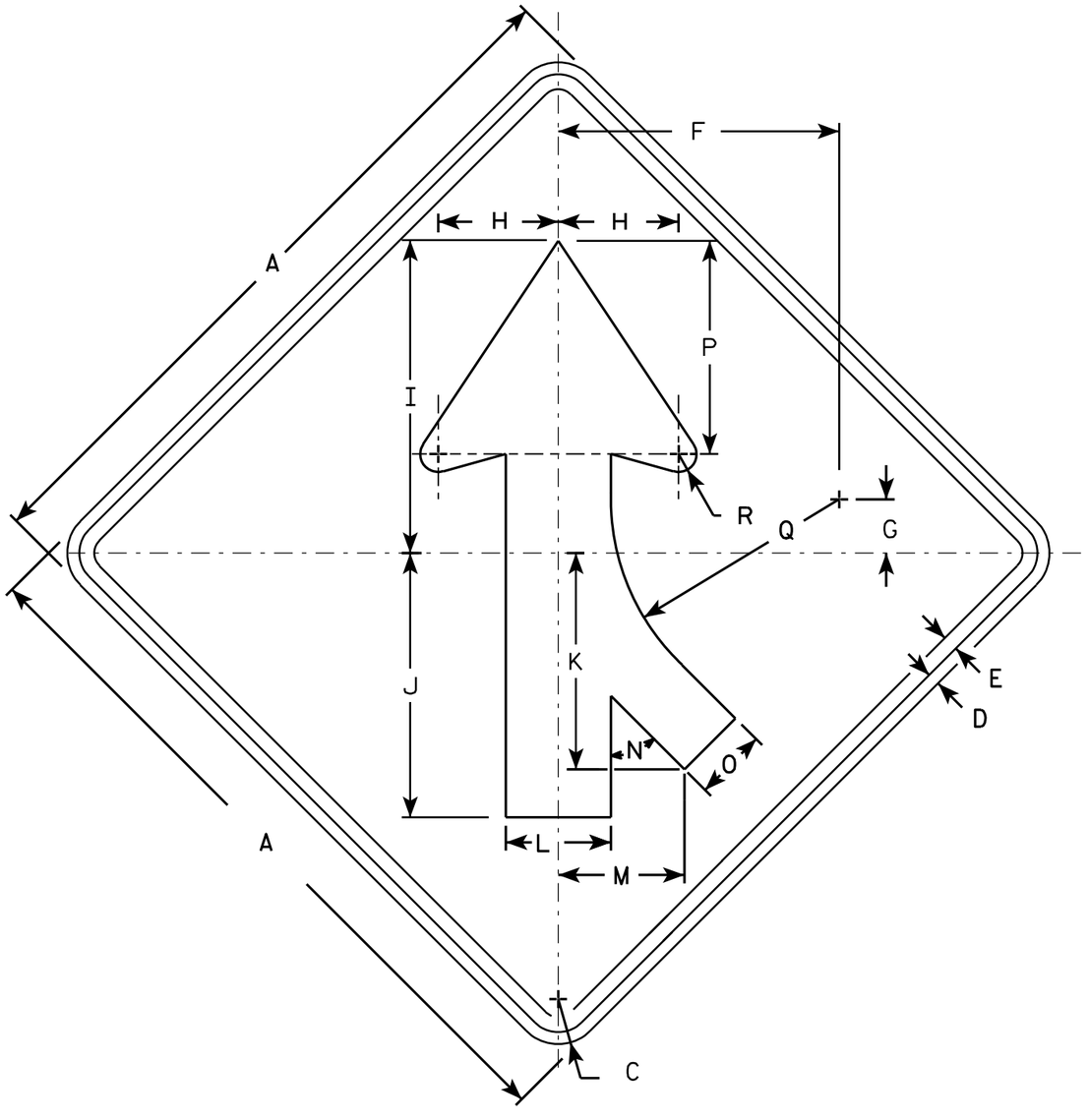
STANDARD SIGN
W1-6

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: 331



W4-1 R

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. W4-1L is the same as W4-1R 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	30		1 3/8	1/2	5/8	11 5/8	2 1/2	5	13	11	9	4 3/8	5 1/4	45°	3	8 7/8	9 1/2	3/4									6.25
2S	36		1 5/8	5/8	3/4	14	2 3/4	6	15 3/4	13 1/4	10 1/4	5 1/4	6 3/8	45°	3 5/8	10 5/8	11 3/8	7/8									9.0
2M	36		1 5/8	5/8	3/4	14	2 3/4	6	15 3/4	13 1/4	10 1/4	5 1/4	6 3/8	45°	3 5/8	10 5/8	11 3/8	7/8									9.0
3	36		1 5/8	5/8	3/4	14	2 3/4	6	15 3/4	13 1/4	10 1/4	5 1/4	6 3/8	45°	3 5/8	10 5/8	11 3/8	7/8									9.0
4	48		2 1/4	3/4	1	18 3/4	3 5/8	8	20 1/2	17 1/2	14 3/8	7	8 3/8	45°	4 3/4	14 1/4	15 1/4	1 1/4									16.0
5	48		2 1/4	3/4	1	18 3/4	3 5/8	8	20 1/2	17 1/2	14 3/8	7	8 3/8	45°	4 3/4	14 1/4	15 1/4	1 1/4									16.0

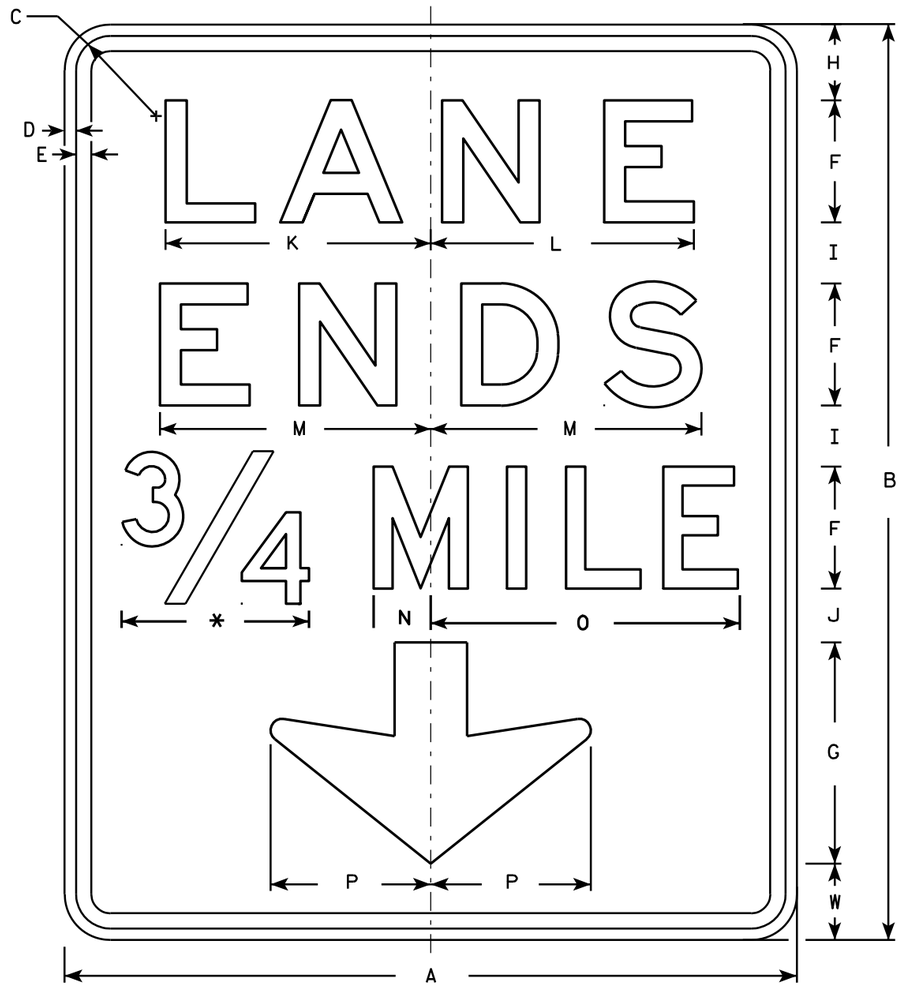
STANDARD SIGN
W4-1

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 03/12/13 PLATE NO. W4-1.14

PROJECT NO:	HWY:	COUNTY:		SHEET NO: 332	E

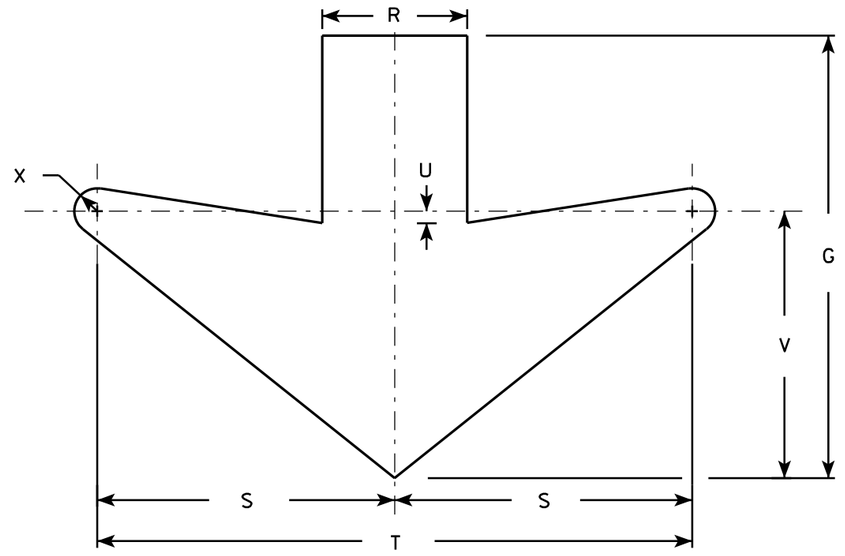


W9-63

* See Note 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 non-reflective
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 E, Line 3 is Series D.
6. Substitute appropriate numerals and optically adjust spacing to give proper balance.



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	48	60	2 1/4	3/4	1	8	14 1/2	5	4	3 1/2	17 3/8	17 1/4	17 3/4	3 3/4	20 1/4	10 1/2		4 3/4	9 3/4	19 1/2	3/4	8 3/4	5	3/4			20.0
2S	48	60	2 1/4	3/4	1	8	14 1/2	5	4	3 1/2	17 3/8	17 1/4	17 3/4	3 3/4	20 1/4	10 1/2		4 3/4	9 3/4	19 1/2	3/4	8 3/4	5	3/4			20.0
2M	48	60	2 1/4	3/4	1	8	14 1/2	5	4	3 1/2	17 3/8	17 1/4	17 3/4	3 3/4	20 1/4	10 1/2		4 3/4	9 3/4	19 1/2	3/4	8 3/4	5	3/4			20.0
3																											
4	72	90	6	1	1 1/2	12	22	8	6	5	26 1/8	26 1/8	26 5/8	5 5/8	30 3/8	16		6 1/2	15	30	2	15	7	1			45.0
5	72	90	6	1	1 1/2	12	22	8	6	5	26 1/8	26 1/8	26 5/8	5 5/8	30 3/8	16		6 1/2	15	30	2	15	7	1			45.0

STANDARD SIGN
W9-63

WISCONSIN DEPT OF TRANSPORTATION

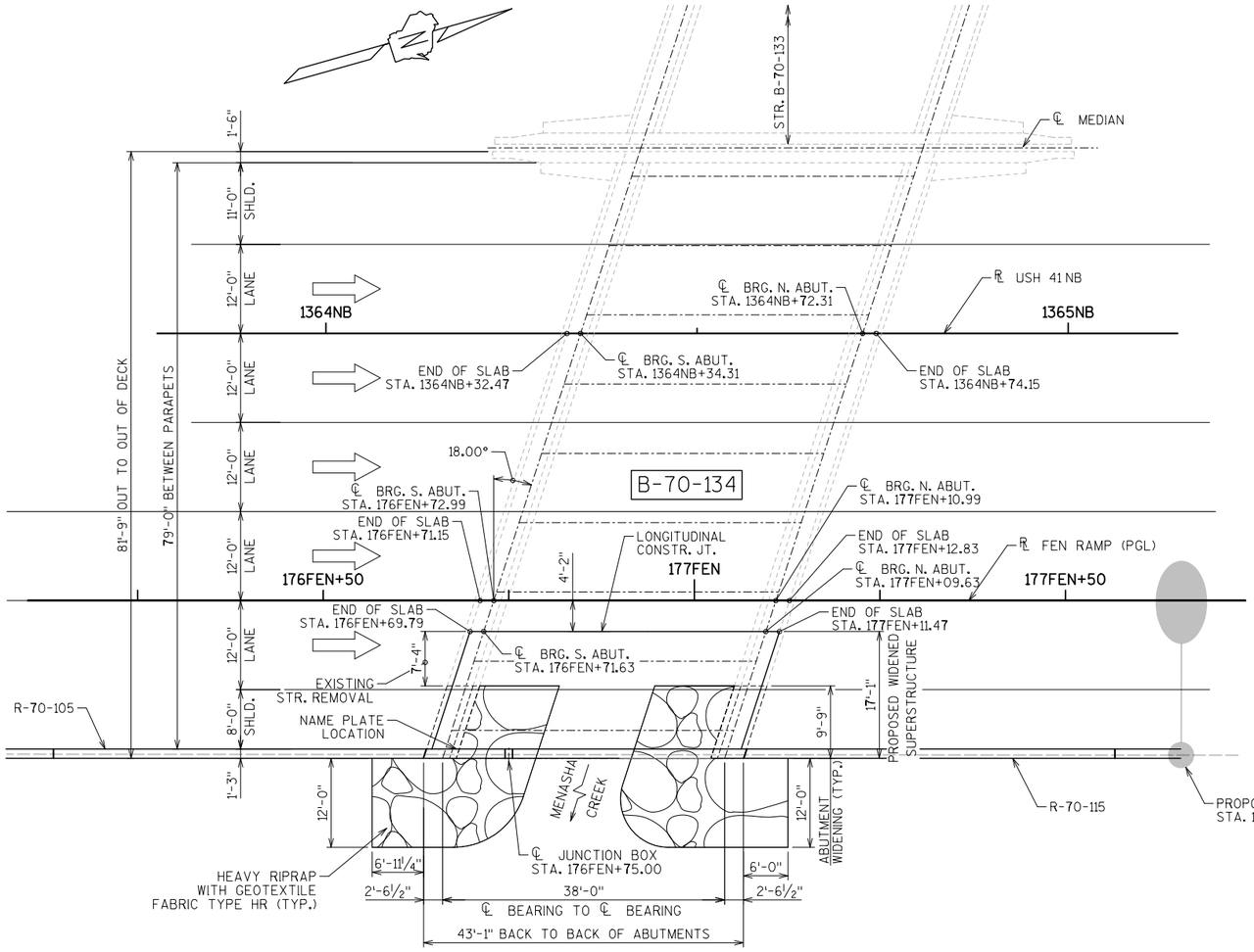
APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 6/7/10 PLATE NO. W9-63.4

PROJECT NO:

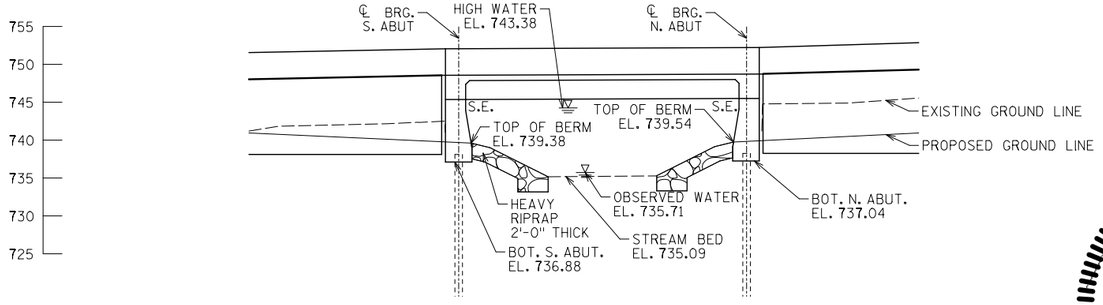
SHEET NO: 333 E

STATE PROJECT NUMBER
1517-07-72



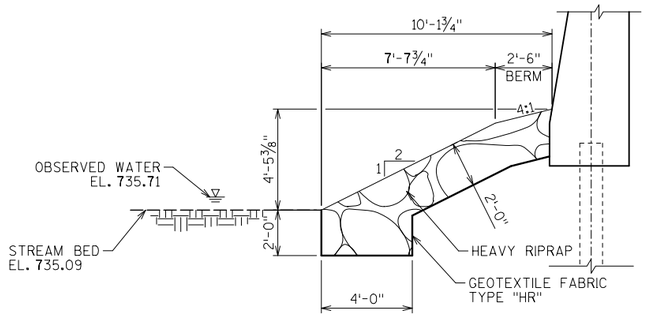
PLAN

SINGLE SPAN - 28" PRESTRESSED GIRDER



ELEVATION

(LOOKING WEST)



SLOPE PROTECTION DETAIL

DESIGN DATA

LIVE LOAD:

DESIGN RATING: HS-20
INVENTORY RATING FACTOR: HS23
OPERATING RATING FACTOR: HS39
MAXIMUM STANDARD PERMIT VEHICLE LOAD = 250 KIPS

THE DESIGN PROVIDES FOR AN ADDITIONAL LOAD DUE TO A FUTURE WEARING SURFACE EQUAL TO 20 PSF.

ULTIMATE DESIGN STRESSES:

CONCRETE MASONRY (HIGH PERFORMANCE CONCRETE)

SUPERSTRUCTURE ..... F'C = 4,000 PSI

ALL OTHER ..... F'C = 4,000 PSI

BAR STEEL REINFORCEMENT,
HIGH STRENGTH, GRADE 60 .....FY = 60,000 PSI

28-INCH PRESTRESSED GIRDERS,
CONCRETE MASONRY .....F'C = 6,000 PSI
.....F'CI = 4,800 PSI

0.5" DIA. PRESTRESSING STRANDS F'S = 270,000 PSI

FOUNDATION DATA

SUPPORT NORTH AND SOUTH ABUTMENTS ON PILING STEEL HP 10 X 42 WITH A REQUIRED DRIVING RESISTANCE OF 90 TONS* PER PILE AS DETERMINED BY THE MODIFIED GATES DYNAMIC FORMULA. ESTIMATED PILE LENGTH IS 53 FEET AT BOTH ABUTMENTS.

* 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 DATA:

USH 41:
A.D.T. = 76,000 (2010)
A.D.T. = 101,000 (2038)
R.D.S. = 70 M.P.H.

HYDRAULIC DATA

100 YEAR FREQUENCY:

DRAINAGE AREA ..... 6.3 SQ. MI.
Q_{100} ..... 1200 C.F.S.
VELOCITY ..... 7.86 F.P.S.
HIGH $WATER_{100}$ ELEV 743.38
WATERWAY AREA ..... 153 SQ. FT.
Q_2 ..... 220 C.F.S.
HIGH $WATER_2$ ELEV 738.82

ROAD OVERTOPPING NOT APPLICABLE
CRITICAL SCOUR CODE = 8

LIST OF DRAWINGS

1. GENERAL PLAN AND ELEVATION
2. TYPICAL SECTION AND QUANTITIES
3. SUBSURFACE EXPLORATION
4. SOUTH ABUTMENT
5. SOUTH ABUTMENT DETAILS
6. NORTH ABUTMENT
7. NORTH ABUTMENT DETAILS
8. 28" PRESTRESSED GIRDER DETAILS
9. SUPERSTRUCTURE
10. SUPERSTRUCTURE DETAILS 1
11. SUPERSTRUCTURE DETAILS 2
12. STEEL DIAPHRAGM
13. SINGLE SLOPE PARAPET 42SS
14. PARAPET 42SS ELECTRICAL WORK

WISCONSIN
MICHAEL J. ARNOLD
E-41717
GREENDALE
WI
12/23/2014
PROFESSIONAL ENGINEER

BENCHMARK

NO.	DESCRIPTION	ELEVATION
41E	WISDOT DISK IN SE PARAPET WALL OF NB 41 BRIDGE OVER CREEK	751.31
LA5	NE FLANGE BOLT HYDRANT ON EAST SIDE OF LAKE DR.	746.14

NE REGION CONTACT - SCOTT EBEL (920) 492-2240
BUREAU OF STRUCTURES CONTACT - WILLIAM DREHER (608) 266-8489
CONSULTANT CONTACT - MICHAEL ARNOLD (414) 831-4179

NO.	DATE	REVISION	BY

URS
342 North Water Street
7th Floor
Milwaukee, WI 53202
(414) 831-4100

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

ACCEPTED William C. Dreher 3/12/14
CHIEF STRUCTURES DESIGN ENGINEER — DATE

STRUCTURE B-70-134

USH 41 NB, RAMP 'FEN' OVER MENASHA CREEK

COUNTY	WINNEBAGO	TOWN/~~CITY/VILLAGE~~	MENASHA

DESIGN SPEC.
AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS

DESIGNED BY	JDL	DESIGN CK'D.	JDB	DRAWN BY	JDL	PLANS CK'D.	MJA

GENERAL PLAN AND ELEVATION

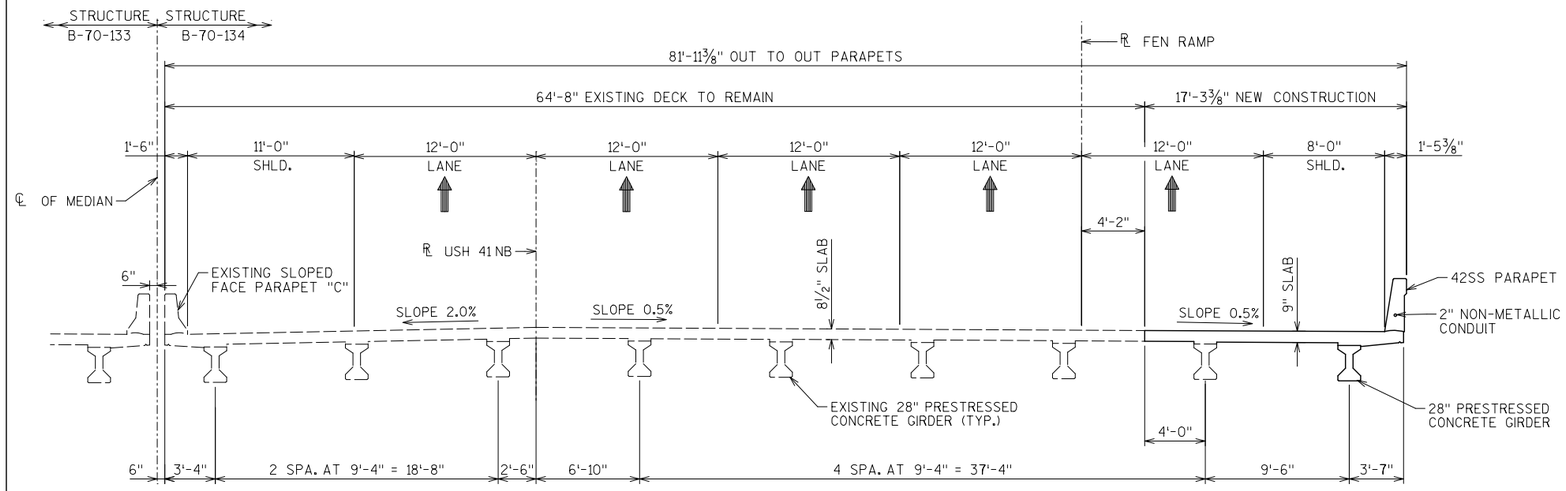
SHEET 1 OF 14
334

FILE= P:\Transportation\US 10 WIS 441\CADD\sheets\Structures\B-70-134\Sheets\FINAL\01 B-70-134 - Plan and Elevation.dgn
DATE: 2/28/2014
I.D.

8

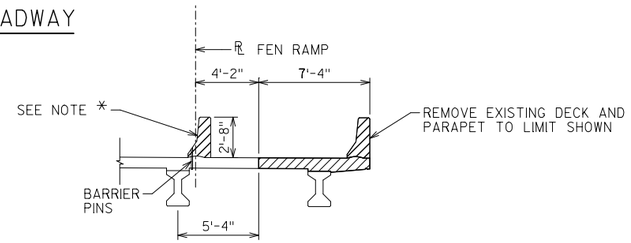
8

STATE PROJECT NUMBER
1517-07-72



CROSS SECTION THRU ROADWAY

(LOOKING NORTH)

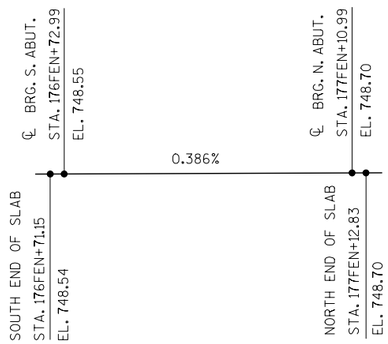


LIMITS OF STRUCTURE REMOVAL

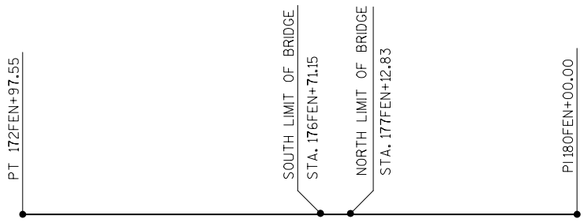
(LOOKING NORTH)

TOTAL ESTIMATED QUANTITIES

BID ITEM #	BID ITEM	UNIT	SUPER.	S. ABUT.	N. ABUT	TOTAL
203.0600.S	REMOVING OLD STRUCTURE OVER WATERWAY WITH MINIMAL DEBRIS STATION 176FEN+91.99	LS	--	--	--	1
206.1000	EXCAVATION FOR STRUCTURES BRIDGES B-70-134	LS	--	--	--	1
210.0100	BACKFILL STRUCTURE	CY	--	34	34	68
502.3200	PROTECTIVE SURFACE TREATMENT	SY	108	--	--	108
502.5010	MASONRY ANCHORS TYPE L NO. 6 BARS	EACH	--	30	30	60
503.0128	PRESTRESSED GIRDER TYPE I 28-INCH	LF	39	--	--	39
505.0605	BAR STEEL REINFORCEMENT HS COATED BRIDGES	LB	5,914	1,133	1,133	8,180
506.2605	BEARING PADS ELASTOMERIC NON-LAMINATED	EACH	2	--	--	2
506.4000	STEEL DIAPHRAGMS B-70-134	EACH	1	--	--	1
516.0500	RUBBERIZED MEMBRANE WATERPROOFING	SY	--	3	3	6
550.1100	PILING STEEL HP 10-INCH X 42 LB	LF	--	159	159	318
606.0300	RIPRAP HEAVY	CY	--	32	32	64
612.0406	PIPE UNDERDRAIN WRAPPED 6-INCH	LF	--	20	20	40
645.0120	GEOTEXTILE FABRIC TYPE HR	SY	--	193	197	390
652.0125	CONDUIT RIGID METALLIC 2-INCH	LF	6	3	3	12
652.0225	CONDUIT NONMETALLIC SCHEDULE 40 2-INCH	LF	37	--	--	37
653.0222	JUNCTION BOXES 18X12X6-INCH	EACH	1	--	--	1
SPV.0035.700	HIGH PERFORMANCE CONCRETE (HPC) MASONRY STRUCTURES	CY	33	10	10	53
	NON-BID ITEMS					
	FILLER	SIZE	--	--	--	1/2"
	FILLER	SIZE	--	--	--	1"
	NAME PLATE	EACH	--	--	--	1



■APPROX. PROFILE GRADE LINE - 'FEN' RAMP



HORIZONTAL ALIGNMENT - 'FEN' RAMP

GENERAL NOTES

DIMENSIONS SHOWN ARE ALONG ℄ 'FEN'.

SPAN LENGTH SHOWN MEASURED ALONG ℄ 'FEN'.

DO NOT SCALE DRAWING.

BAR REINFORCING SHALL BE EMBEDED 2" CLEAR UNLESS OTHERWISE SHOWN OR NOTED.

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

DIMENSIONS OF EXISTING ELEMENTS SHOWN ARE BASED ON THE ORIGINAL STRUCTURE PLANS.

PROTECTIVE SURFACE TREATMENT TO BE APPLIED TO THE ENTIRE TOP OF NEW DECK SURFACE AND THE FRONT FACE AND THE TOP OF THE PARAPET.

EXISTING GIRDERS MUST BE PROTECTED FROM DAMAGE DURING CONSTRUCTION.

ELEVATIONS ARE REFERENCED TO THE NAVD 88 DATUM.

AT ABUTMENTS ALL EXCAVATED VOLUME NOT OCCUPIED BY THE STRUCTURE SHALL BE BACKFILLED WITH "BACKFILL STRUCTURE".

THE MINIMUM CONCRETE HAUNCH WAS DESIGNED TO BE 2" AND THE HAUNCH CONCRETE QUANTITY IS BASED ON AN AVERAGE DEPTH OF 2½" WHICH IS THE MAXIMUM HAUNCH QUANTITY FOR WHICH THE CONTRACTOR WILL BE PAID.

MATERIALS AND EQUIPMENT SHALL NOT BE STOCKPILED/STORED ON THE BRIDGE DECK WITHOUT PRIOR APPROVAL FROM THE FIELD ENGINEER.

ORIGINAL PLANS OF EXISTING BRIDGE ARE AVAILABLE AT WISDOT BUREAU OF STRUCTURES HSI WEBSITE.

ALL CONCRETE REMOVAL SHALL BE DEFINED BY A 1 INCH DEEP SAW CUT.

UTILIZE EXISTING BAR STEEL REINFORCEMENT WHERE SHOWN AND EXTEND INTO NEW WORK AS SPECIFIED.

VARIATIONS TO THE NEW GRADE LINE OVER ¼" MUST BE SUBMITTED BY THE FIELD ENGINEER TO THE STRUCTURES DESIGN SECTION FOR REVIEW.

THE CONTRACTOR SHALL SUPPLY A NEW NAME PLATE IN ACCORDANCE WITH SECTION 502.3.11 OF THE STANDARD SPECIFICATIONS AND THE STANDARD DETAIL DRAWINGS. NAME PLATE TO SHOW ORIGINAL CONSTRUCTION YEAR.

* EXISTING PRECAST BARRIER IS LOCATED 12'-0" FROM EDGE OF DECK AND IS ANCHORED TO THE DECK BY 1" DIA. BOLTS. THIS BARRIER MAY REMAIN IN PLACE AND BE USED AS PROTECTION DURING CONTRUCTION. AFTER CONSTRUCTION IS COMPLETED THE CONTRACTOR IS TO REMOVE THE BARRIER TAKING CARE TO NOT DAMAGE THE DECK. FILL IN THE HOLES IN THE DECK LEFT BY THE ANCHOR BOLTS WITH EPOXY GROUT. THIS REMOVAL AND FILLING OF HOLES WILL BE PAID FOR BY "REMOVING OLD STRUCTURE STATION 176FEN+91.99."

■ THE PROFILE GRADE PROVIDED ON THE PLAN IS APPROXIMATED BASED ON SURVEY POINTS TAKEN AT THE ENDS OF THE BRIDGE.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-70-134

DRAWN BY JDL | PLANS CK'D. MJA

TYPICAL SECTION AND QUANTITIES

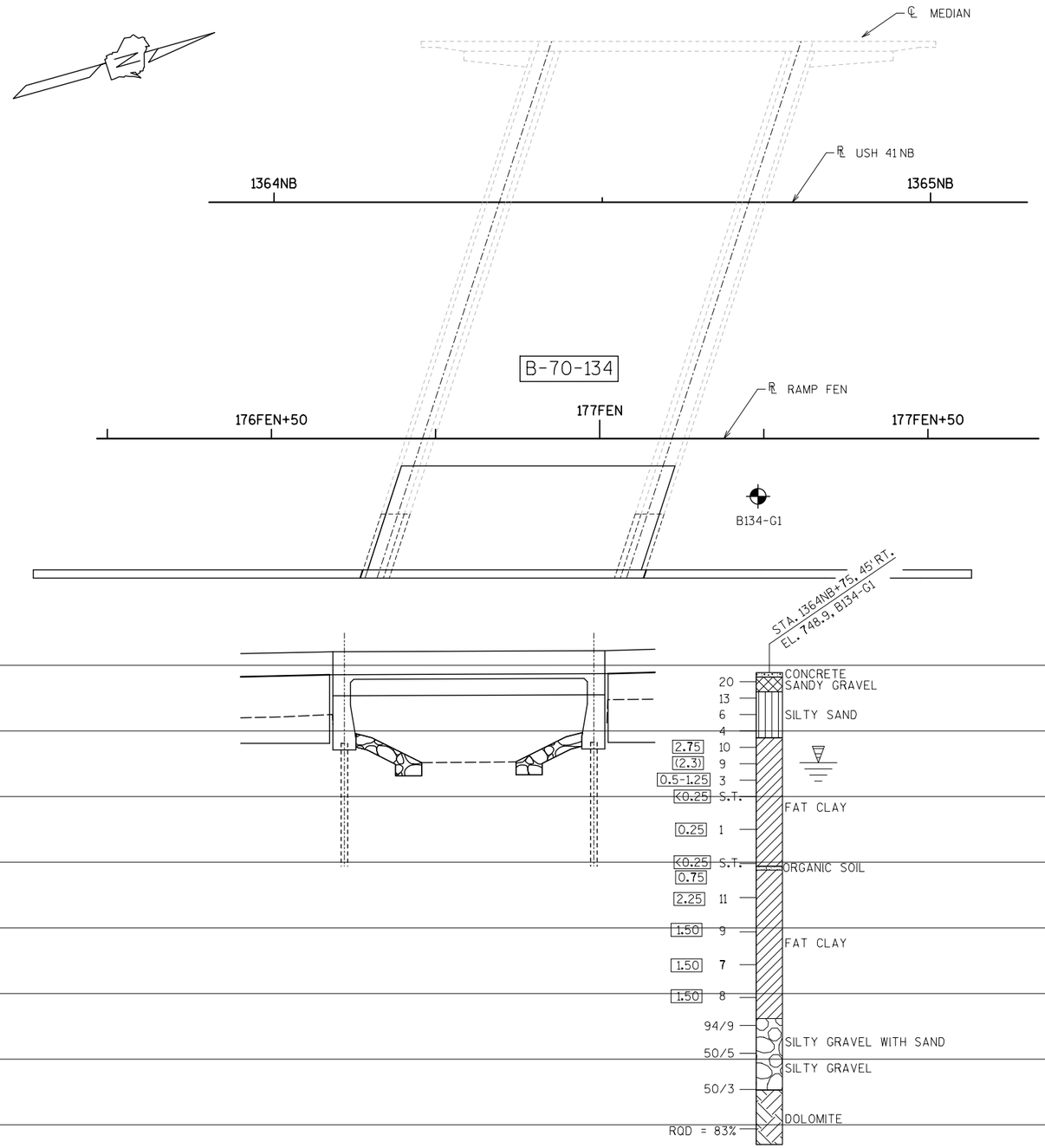
SHEET 2 OF 14
335

DATE: 2/28/2014
I.D.

FILE= P:\Transportation\US 10 WIS 441\CADD\sheets\Structures\B-70-134\Sheets\FINAL\02 B-70-134 - Cross Section, General Notes, & Quantities.dgn

8

8



STATE PROJECT NUMBER

1517-07-72

ABBREVIATIONS

F — FINE M — MEDIUM C — COARSE
WS — WEATHERED SO — SOUND

MATERIAL SYMBOLS

TOPSOIL, SILT, SANDSTONE
SAND, PEAT, LIMESTONE
GRAVEL, CLAY, IGNEOUS ROCK

LEGEND OF PROBING

95/6=95 BLOWS FOR 6" PENETRATION
PROBING TAKEN WITH A 350# WT. FALLING 18" ON A 2" O.D. POINT.

PROBING NO.
STA.
ELEVATION
7 AVERAGE BLOWS PER FOOT
REFUSAL 95/6

LEGEND OF BORING

BORING NO.
ELEV.
STA.
UNCONFINED STRENGTH → 7.7
7
BLOWS PER FT. USING 140# WT. FALLING 30"
WASH SAMPLE
SHELBY TUBE — S.T.
GROUND WATER ELEVATION
NO GROUND WATER OBSERVED ABOVE THIS ELEVATION
SANDY GRAVEL
F. BOULDERS OR COBBLES
SAND
SILTY CLAY
SO LIMESTONE

UNLESS OTHERWISE SPECIFIED, THE BLOWS PER FOOT AT THE LOCATIONS INDICATED ARE BASED ON DRIVING A 2" O.D. X 1.4" I.D. SPLIT SPOON SAMPLER WITH A 140# HAMMER HAVING A FREE FALL OF 30". THE BLOW COUNT IS TAKEN IN UNDISTURBED SOIL IMMEDIATELY BELOW A CASED OR OPEN HOLE ELIMINATING SIDE FRICTION ON THE DRIVE PIPE.

SUBSURFACE EXPLORATION FOR FOUNDATION DESIGN AND BIDDERS INFORMATION

TO OBTAIN RELATIVE DATA CONCERNING THE CHARACTER OF MATERIAL IN AND UPON WHICH THE FOUNDATION MIGHT BE BUILT, BORINGS AND/OR SOUNDINGS WERE MADE AT POINTS APPROXIMATELY AS INDICATED ON THIS DRAWING. THE DATA PRESENTED HEREIN REPRESENTS THE FINDINGS OF THE SUBSURFACE EXPLORATIONS MADE. HOWEVER, BECAUSE THE DEPTHS INVESTIGATED ARE LIMITED AND THE AREA OF THE BORINGS AND/OR SOUNDINGS IS VERY SMALL IN RELATION TO THE ENTIRE AREA, THE WISCONSIN DEPARTMENT OF TRANSPORTATION DOES NOT WARRANT CONDITIONS BELOW THE DEPTHS INVESTIGATED OR THAT THE CLASSIFICATION OF MATERIAL ENCOUNTERED IN THESE INVESTIGATIONS IS NECESSARILY TYPICAL OF THE ENTIRE SITE.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-70-134

DRAWN BY RHE PLANS CK'D. SHL

SUBSURFACE EXPLORATION

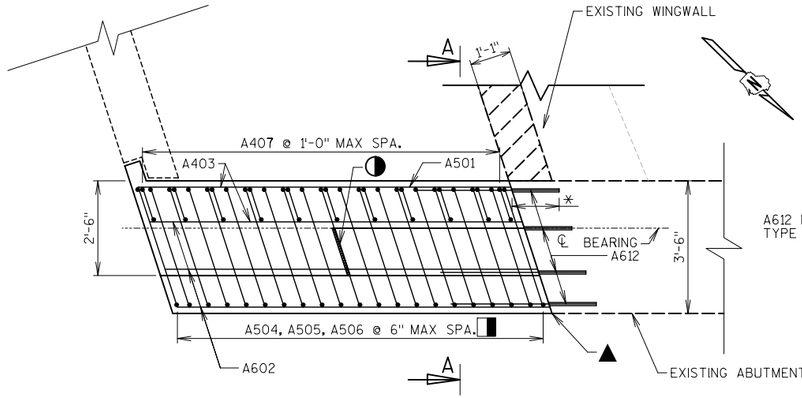
SHEET 3 OF 14
336

FILE=
SCALE =

8

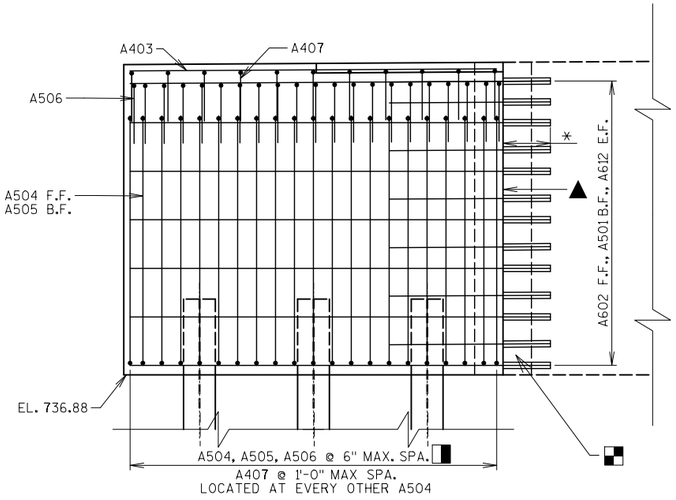
8

STATE PROJECT NUMBER
1517-07-72



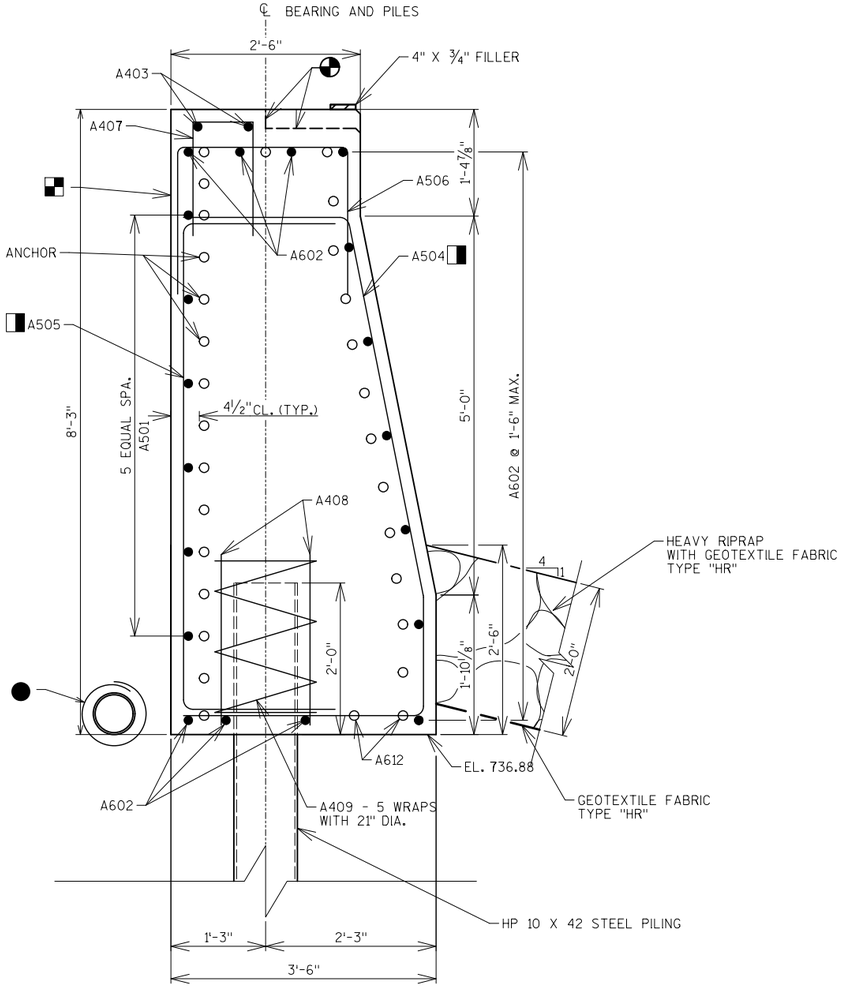
PLAN

(A408 AND A409 NOT SHOWN FOR CLARITY)



ELEVATION

(A408 AND A409 NOT SHOWN FOR CLARITY)



SECTION A-A

BILL OF BARS

(NUMBER REQUIRED IS TOTAL FOR BOTH ABUTMENTS)
DIMENSIONS IN BENDING DETAILS ARE OUT TO OUT OF BAR.
ALL REINFORCEMENT BARS IN THIS BILL SHALL BE EPOXY COATED.

BAR MARK	NO. REQ'D	LENGTH	BENT	LOCATION
A501	12	9'-10"		ABUT. HORIZ.
A602	26	9'-10"		ABUT. HORIZ.
A403	4	9'-8"		BEAM SEAT HORIZ.
A504	42	11'-8"	X	ABUT. VERT.
A505	42	10'-4"	X	ABUT. VERT.
A506	42	5'-1"	X	ABUT. VERT.
A407	22	3'-5"	X	BEAM SEAT VERT.
A408	12	2'-3"		VERT. AT PILE
A409	6	28'-0"	X	PILE WRAP
A410	8	5'-10"	X	BUMPOUT REINF.
A411	2	9'-0"		BUMPOUT REINF.
A612	60	3'-7"		MASONRY ANCHOR TYPE L

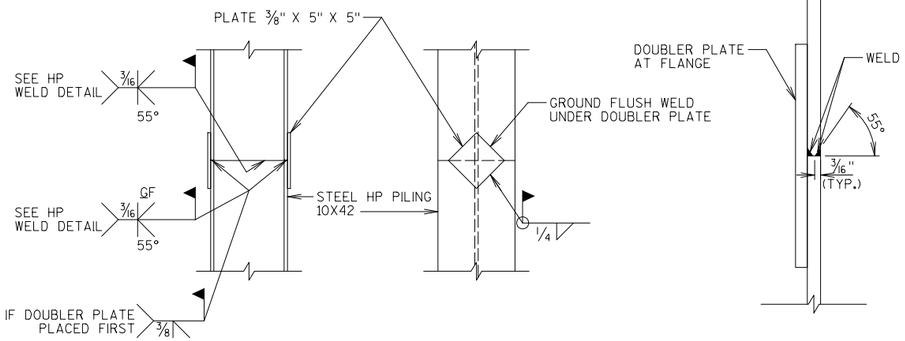
TOTAL WEIGHT = 2266 LBS

PILE NOTE

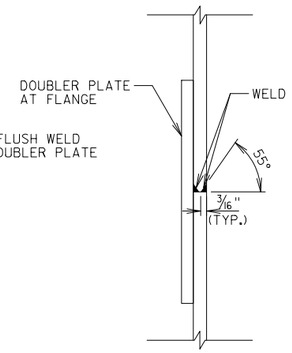
SUPPORT SOUTH ABUTMENT ON HP10X42 STEEL PILES WITH A REQUIRED DRIVING RESISTANCE OF 90 TONS PER PILE AS DETERMINED BY THE MODIFIED GATES DYNAMIC FORMULA. ESTIMATED PILE LENGTH 53 FEET.

NOTES

- ▲ CLEAN AND ROUGHEN EXISTING FACE OF ABUTMENT TO AN AMPLITUDE OF ⅛".
- ▨ REMOVE 2'-0" MIN. OF UPPER PORTION OF EXISTING WINGWALL.
- ◘ 18" RUBBERIZED MEMBRANE WATERPROOFING ALONG ALL HORIZONTAL AND VERTICAL CONSTRUCTION JOINTS ON BACK FACE.
- ◨ CUT STEEL OR ALTER SPACING OF A504 AND A505 BARS IN ORDER TO AVOID STEEL PILES.
- ● PIPE UNDERDRAIN WRAPPED (6-INCH). SLOPE 0.5% MIN.
- ◕ STEEL TROWEL TOP SURFACE OF ABUTMENTS. PLACE MULTIPLE LAYERS OF POLYETHYLENE SHEETS OVER ENTIRE ABUTMENT TOP BEFORE PLACING BEARING PADS AND/OR SUPERSTRUCTURE. TOTAL THICKNESS OF SHEETS SHALL BE AT LEAST 0.03".
- ◑ ¾" CORK FILLER ON VERTICAL BEAM SEAT FACES THAT RUN PARALLEL WITH GIRDERS.
- * EMBED A612 MASONRY ANCHOR TYPE 'L' BARS 6". SPACED AT HALF THE SPACING OF A501 AND A602 BARS.

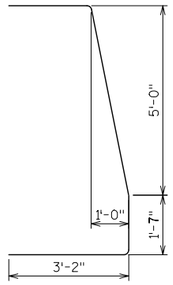


PILE SPLICE DETAIL

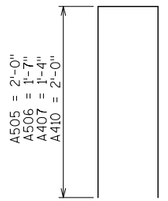


HP WELD DETAIL

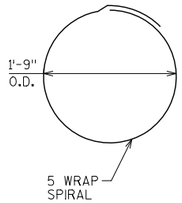
FLANGE SHOWN, WEB SIMILAR



A504



A505, A506, A407, AND A410



A409

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-70-134

DRAWN BY JDL | PLANS CK'D. MJA

SOUTH ABUTMENT

SHEET 4 OF 14
337

DATE: 2/28/2014
I.D.

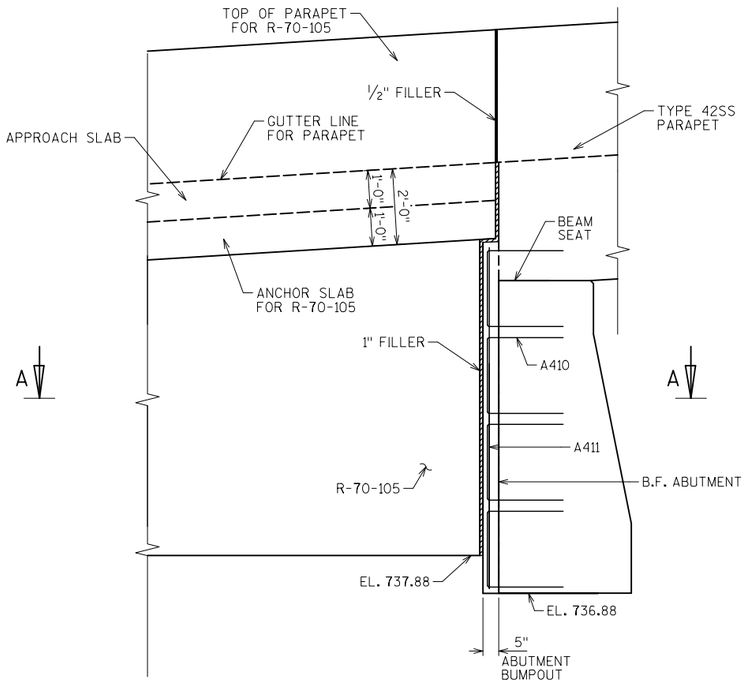
FILE= P:\Transportation\US 10 WIS 441\CADD\sheets\Structures\B-70-134\Sheets\FINAL\04 B-70-134 - South Abutment.dgn

8

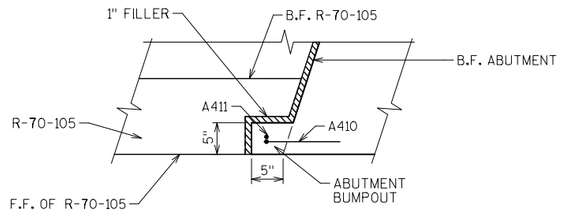
8

STATE PROJECT NUMBER

1517-07-72

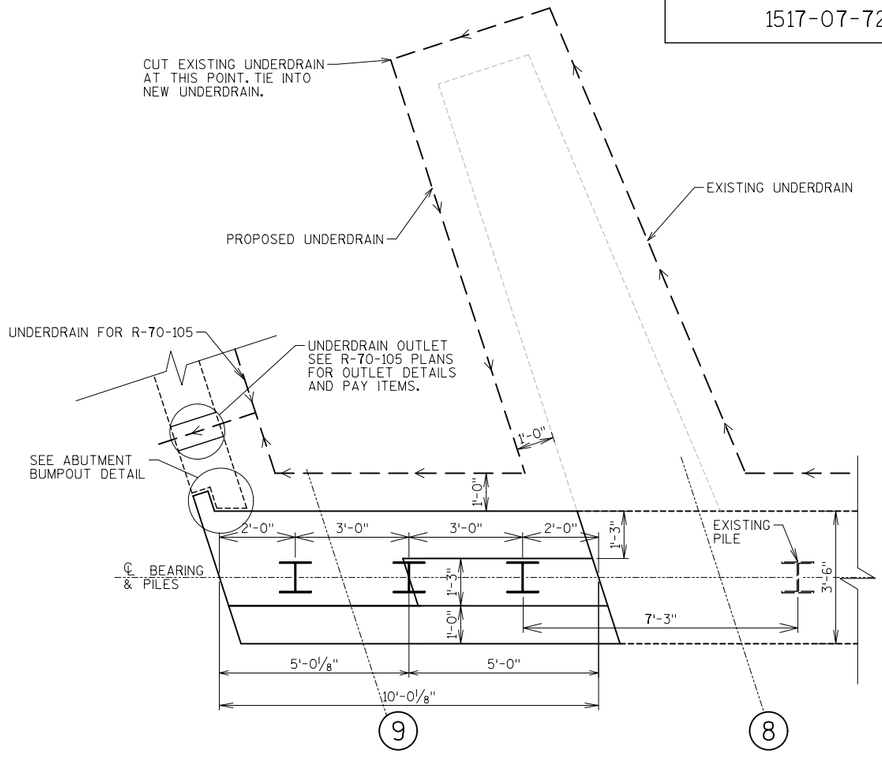


ELEVATION

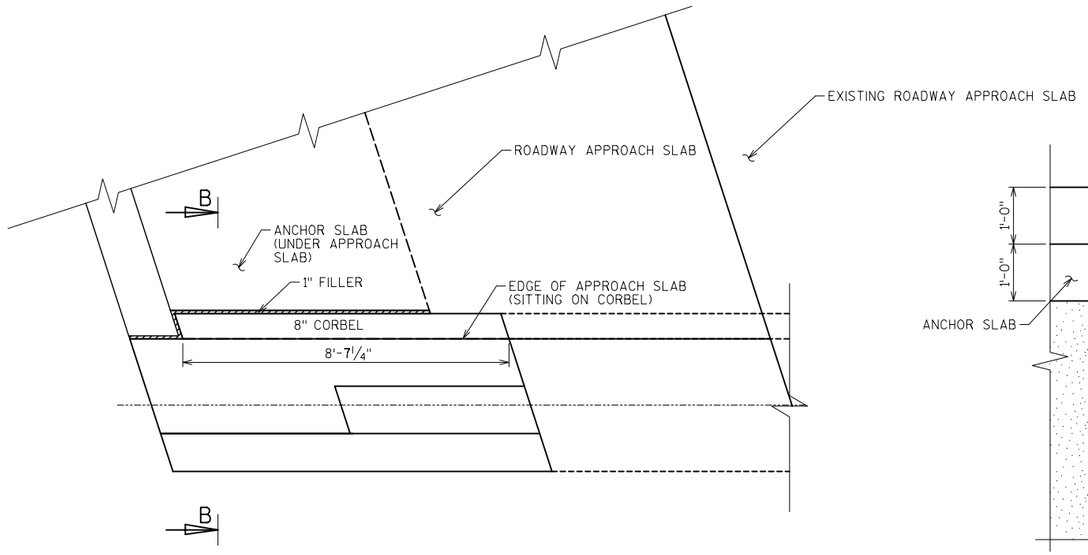


SECTION A-A

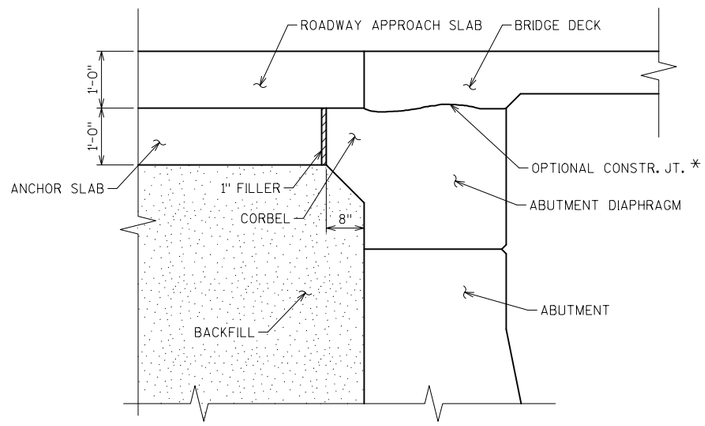
ABUTMENT BUMPOUT DETAIL



PROPOSED PILE PLAN



ANCHOR AND APPROACH SLAB PLAN



SECTION B-B

PILE NOTE

SUPPORT SOUTH ABUTMENT ON HP10X42 STEEL PILES WITH A REQUIRED DRIVING RESISTANCE OF 90 TONS PER PILE AS DETERMINED BY THE MODIFIED GATES DYNAMIC FORMULA. ESTIMATED PILE LENGTH 53 FEET.

NOTES

CONNECT A NEW PIPE UNDERDRAIN WRAPPED (6-INCH) TO EXISTING PIPE UNDERDRAIN AT END OF EXISTING WINGWALL. TIE NEW UNDERDRAIN INTO UNDERDRAIN OF R-70-105 AND OUTLET THROUGH R-70-105. SLOPE AT 0.5% MIN.

FOR BILL OF BARS SEE SHEET 4 (SOUTH ABUTMENT).

* IF OPTIONAL CONSTRUCTION JOINT IS USED, DECK POUR MUST OCCUR WITHIN 2 WEEKS FROM THE TIME OF THE DIAPHRAGM POUR.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-70-134

DRAWN BY JDL | PLANS CK'D. MJA

SOUTH ABUTMENT DETAILS

SHEET 5 OF 14

338

8

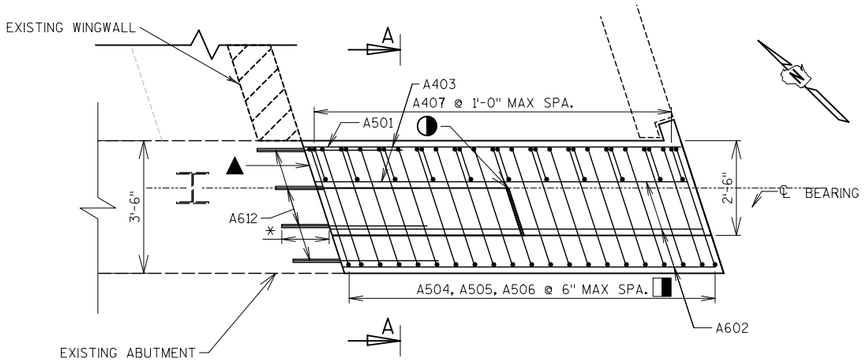
8

FILE= P:\Transportation\US 10 WIS 441\CADD\sheets\Structures\B-70-134\Sheets\FINAL\05 B-70-134 - SOUTH WINGWALL DETAILS.dgn

DATE: 2/28/2014

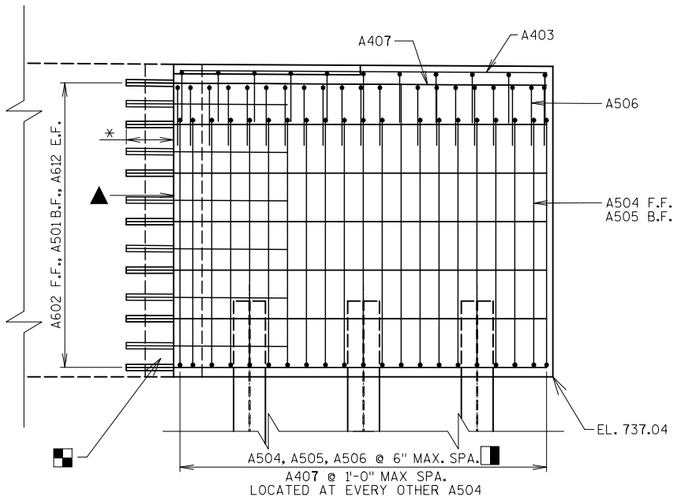
I.D.

STATE PROJECT NUMBER
1517-07-72



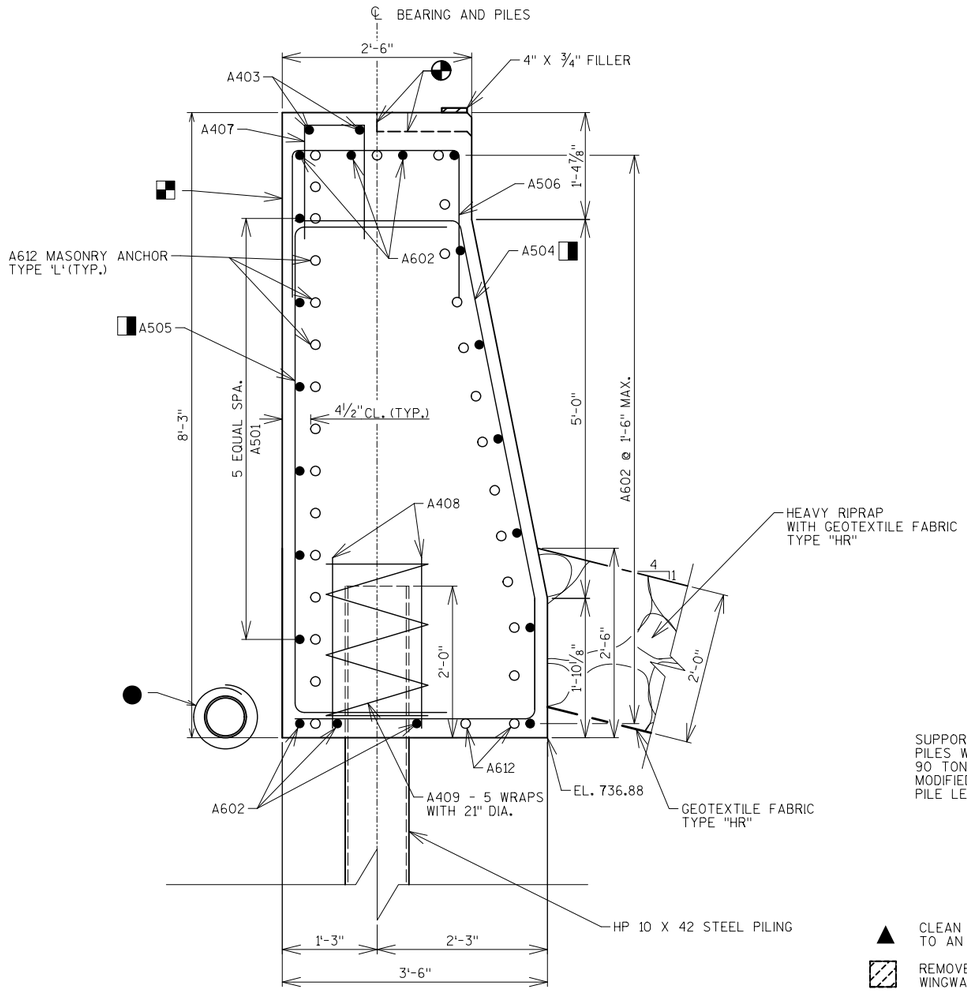
PLAN

(A408 AND A409 NOT SHOWN FOR CLARITY)



ELEVATION

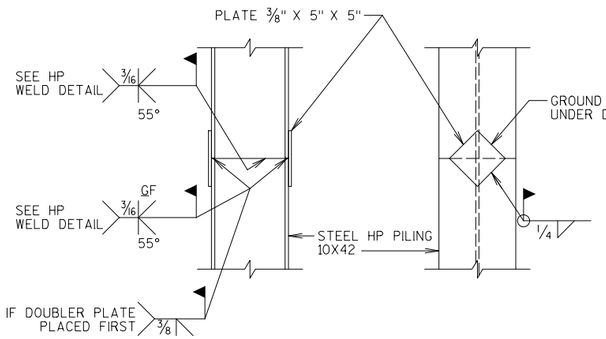
(A408 AND A409 NOT SHOWN FOR CLARITY)



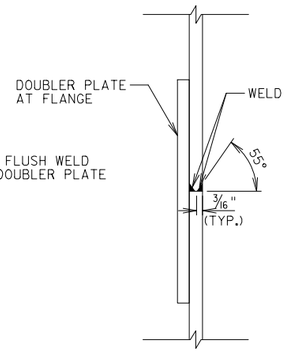
SECTION A-A

PILE NOTE

SUPPORT NORTH ABUTMENT ON HP10X42 STEEL PILES WITH A REQUIRED DRIVING RESISTANCE OF 90 TONS PER PILE AS DETERMINED BY THE MODIFIED GATES DYNAMIC FORMULA. ESTIMATED PILE LENGTH 53 FEET.



PILE SPLICE DETAIL



HP WELD DETAIL

FLANGE SHOWN, WEB SIMILAR

NOTES

- ▲ CLEAN AND ROUGHEN EXISTING FACE OF ABUTMENT TO AN AMPLITUDE OF ⅛".
- ▨ REMOVE 2'-0" MIN. OF UPPER PORTION OF EXISTING WINGWALL.
- ◪ 18" RUBBERIZED MEMBRANE WATERPROOFING ALONG ALL HORIZONTAL AND VERTICAL CONSTRUCTION JOINTS ON BACK FACE.
- ◨ CUT STEEL OR ALTER SPACING OF A504 AND A505 BARS IN ORDER TO AVOID STEEL PILES.
- ● PIPE UNDERDRAIN WRAPPED (6-INCH). SLOPE 0.5% MIN.
- ◕ STEEL TROWEL TOP SURFACE OF ABUTMENTS. PLACE MULTIPLE LAYERS OF POLYETHYLENE SHEETS OVER ENTIRE ABUTMENT TOP BEFORE PLACING BEARING PADS AND/OR SUPERSTRUCTURE. TOTAL THICKNESS OF SHEETS SHALL BE AT LEAST 0.03".
- ◑ ¾" CORK FILLER ON VERTICAL BEAM SEAT FACES THAT RUN PARALLEL WITH GIRDERS.
- * EMBED A612 MASONRY ANCHOR TYPE 'L' BARS 6", SPACED AT HALF THE SPACING OF A501 AND A602 BARS.

FOR BILL OF BARS SEE SH. 4 (SOUTH ABUTMENT)

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-70-134

DRAWN BY JDL | PLANS CK'D. MJA

NORTH ABUTMENT

SHEET 6 OF 14
339

FILE= P:\Transportation\US 10 WIS 441\CADD\sheets\Structures\B-70-134\Sheets\FINAL\06 B-70-134 - NORTH Abutment.dgn

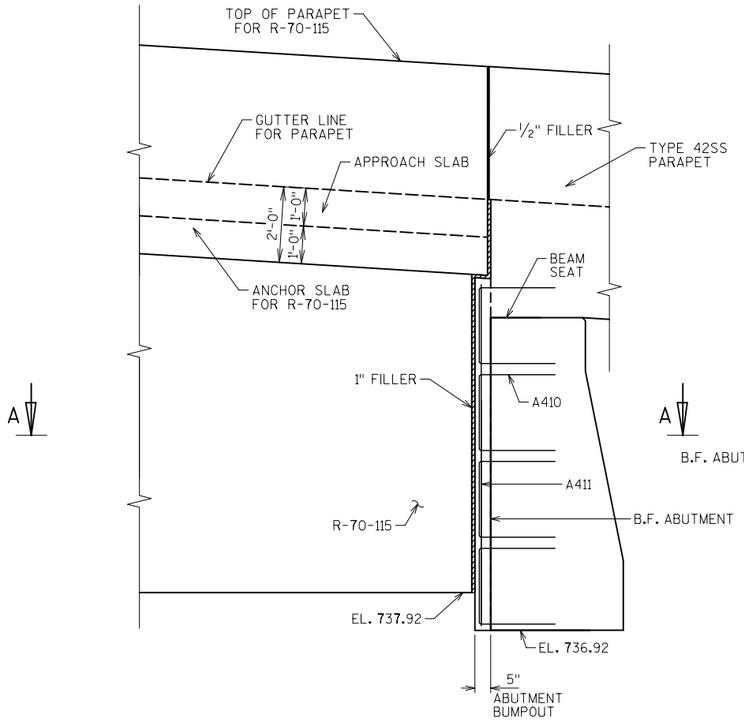
DATE: 2/28/2014
I.D.

8

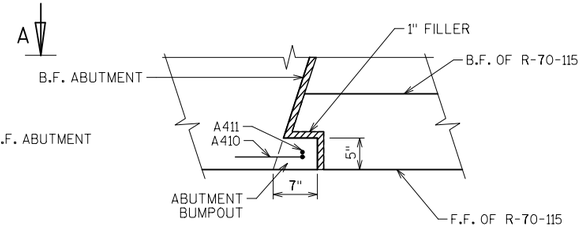
8

STATE PROJECT NUMBER

1517-07-72

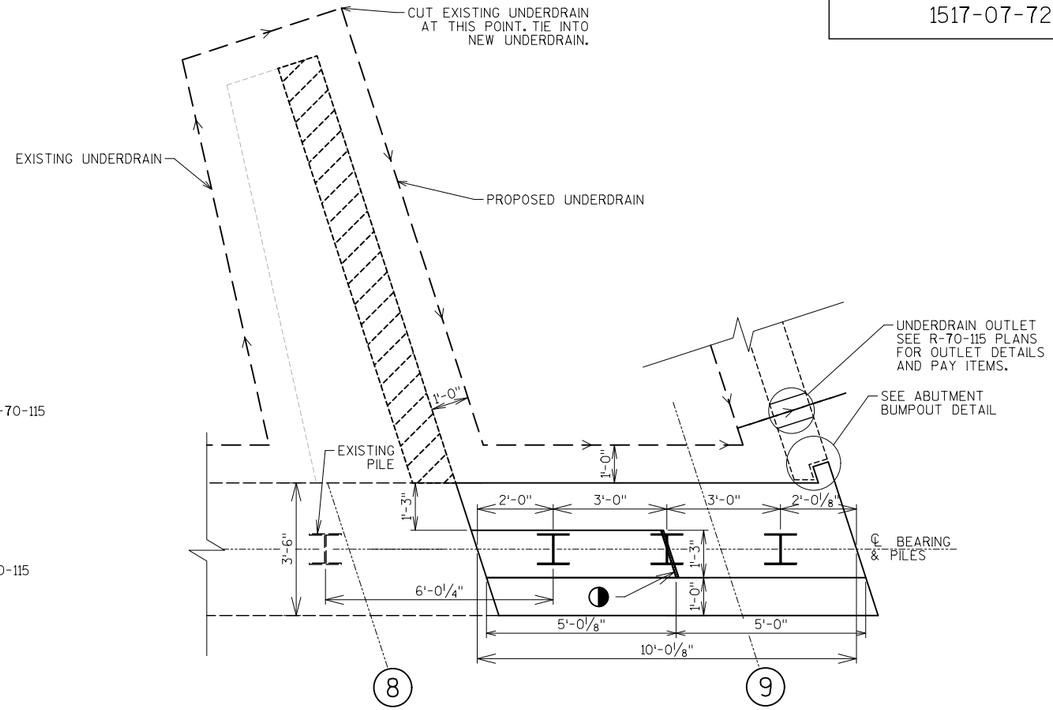


ELEVATION



SECTION A-A

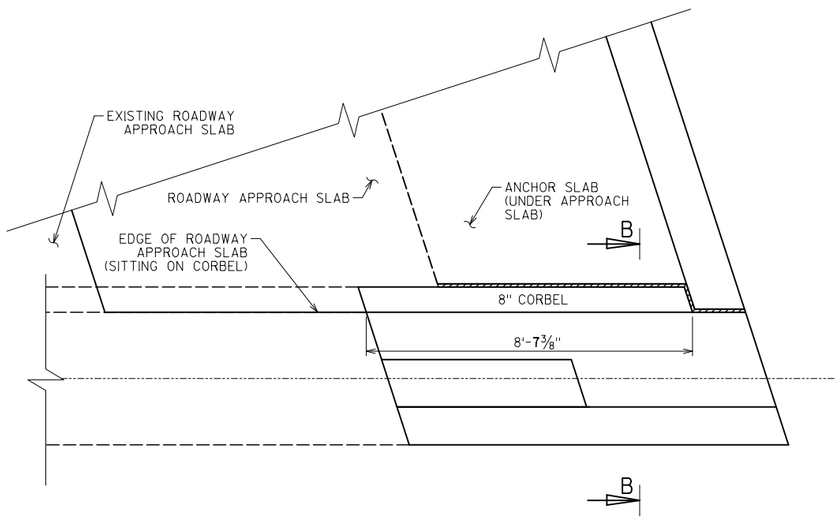
ABUTMENT BUMPOUT DETAIL



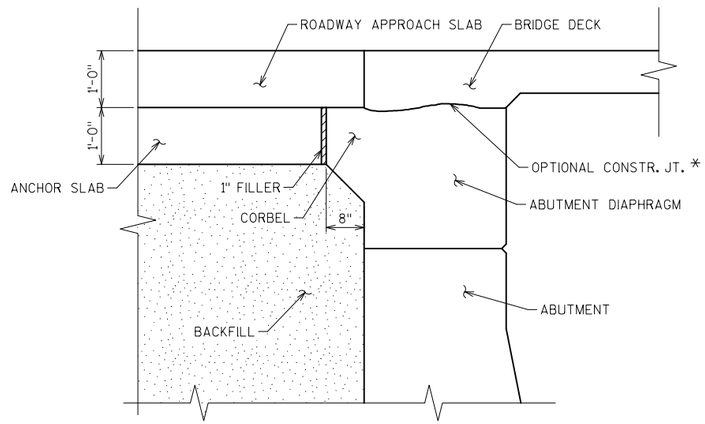
PROPOSED PILE PLAN

PILE NOTE

SUPPORT NORTH ABUTMENT ON HP10X42 STEEL PILES WITH A REQUIRED DRIVING RESISTANCE OF 90 TONS PER PILE AS DETERMINED BY THE MODIFIED GATES DYNAMIC FORMULA. ESTIMATED PILE LENGTH 53 FEET.



ANCHOR AND APPROACH SLAB PLAN



SECTION B-B

NOTES

CONNECT A NEW PIPE UNDERDRAIN WRAPPED (6-INCH) TO EXISTING PIPE UNDERDRAIN AT END OF EXISTING WINGWALL. TIE NEW UNDERDRAIN INTO UNDERDRAIN OF R-70-115 AND OUTLET THROUGH R-70-115. SLOPE AT 0.5% MIN.

FOR BILL OF BARS SEE SHEET 4 (SOUTH ABUTMENT).

* IF OPTIONAL CONSTRUCTION JOINT IS USED, DECK POUR MUST OCCUR WITHIN 2 WEEKS FROM THE TIME OF THE DIAPHRAGM POUR.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-70-134

DRAWN BY JDL | PLANS CK'D. MJA

NORTH ABUTMENT DETAILS

SHEET 7 OF 14
340

DATE: 2/28/2014
I.D.

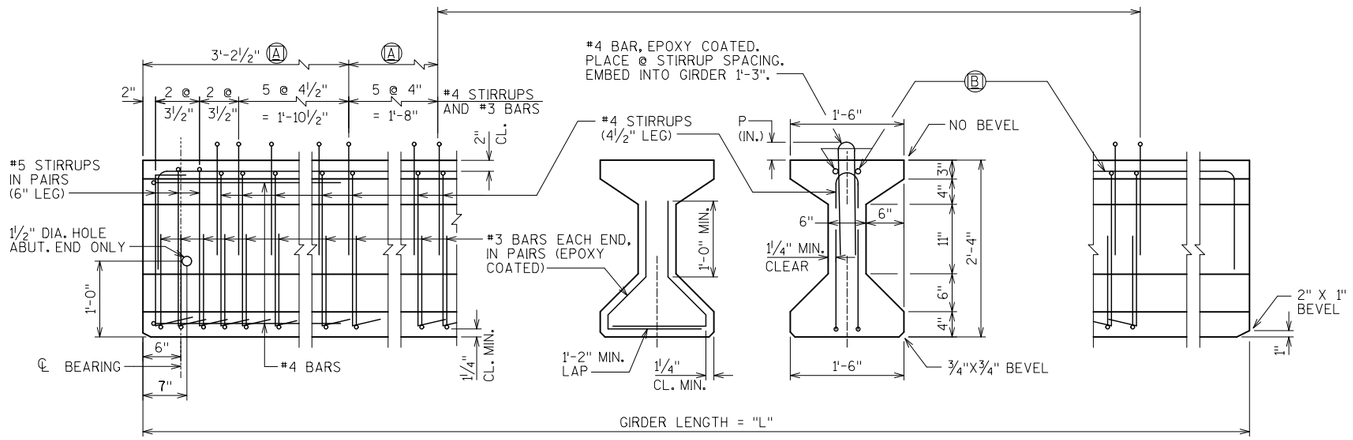
FILE= P:\Transportation\US 10 WIS 441\CADD\sheets\Structures\B-70-134\Sheets\FINAL\07 B-70-134 - NORTH WINGWALL DETAILS.dgn

8

8

STATE PROJECT NUMBER

1517-07-72



SIDE VIEW & TYPICAL SECTION IN SPAN

Ⓐ DETAIL TYP. AT EACH END

Ⓑ 2-#5 BARS BEND DOWN 16 BAR DIA. AT ENDS

STIPPUP SPACING

LOCATION	BAR SIZE	SPACING
END TO 4'-10"	AS SHOWN	AS SHOWN
4'-10" TO MIDSPAN	#4	6"

SPACING IS SYMMETRIC ABOUT MIDSPAN OF GIRDER
TOP OF BEAM WILL BE INTENTIONALLY ROUGHENED

NOTES

TOP OF GIRDER TO BE ROUGH FLOATED AND BROOMED TRANSVERSELY, EXCEPT THE OUTSIDE 2" OF GIRDER, WHICH SHALL RECEIVE A SMOOTH FINISH. AN APPROVED CONCRETE SEALER SHALL BE APPLIED TO ALL SMOOTH SURFACES INCLUDING THE OUTSIDE 2" OF THE TOP FLANGE.

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.

THE GIRDER SHALL BE CAST FULL LENGTH AS SHOWN.

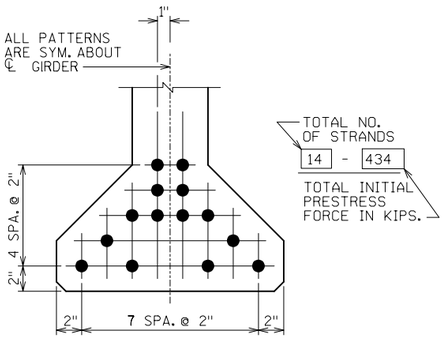
SPACING SHOWN FOR #4 STIRRUPS IS FOR GRADE 60 REINFORCEMENT.

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.

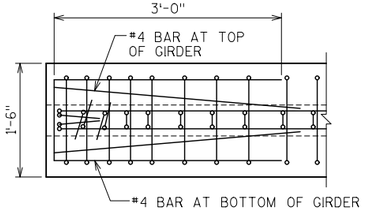
PRESTRESSING STRANDS SHALL BE (0.5" DIA.)-7 WIRE LOW-RELAXATION STRANDS WITH AN ULTIMATE STRENGTH OF 270,000 PSI.

BEND EACH END OF #4 STIRRUPS 4½" AND #5 STIRRUPS 6".

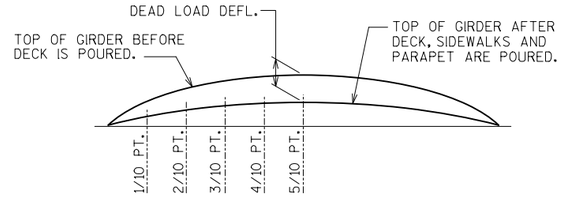
FOR DIAPHRAGM INSERT & CONNECTION DETAILS SEE "STEEL DIAPHRAGM" SHEET.



TYP. STRAND PATTERN



TOP VIEW OF GIRDER ENDS



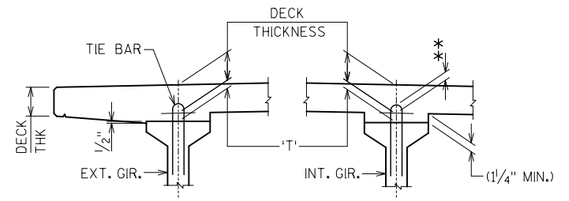
DEAD LOAD DEFLECTION DIAGRAM

*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	13/16 "

THESE VALUES ARE NOT TO BE USED IN DETERMINING 'T', USE ACTUAL GIRDER SHOTS.

THESE VALUES ARE FOR INFORMATIONAL PURPOSES ONLY.



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 ¼" 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 2" WAS USED IN THE QUANTITY "HIGH PERFORMANCE CONCRETE (HPC) MASONRY STRUCTURES".

* 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	9	39'-0"	1/8"	3/16"	1/4"	5/16"	5/16"	5/16"	1/4"	3/16"	1/8"	6000	6"	6"	6"	0.5	--	--	--	--	--	--	14	4800

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-70-134

DRAWN BY JDL | PLANS CK'D. MJA

28" PRESTRESSED GIRDER DETAILS

SHEET 8 OF 14
341

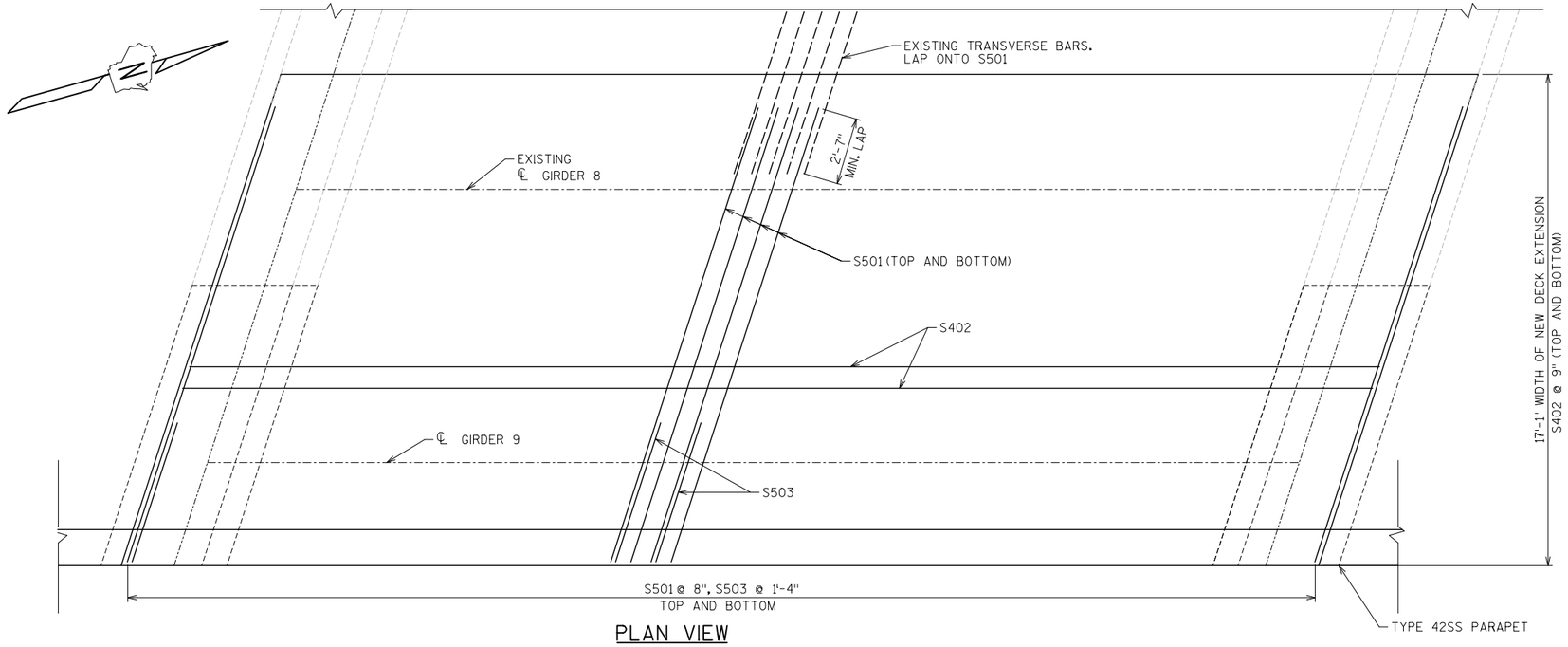
DATE: 2/28/2014
I.D.

FILE= P:\Transportation\US 10 WIS 441\CADD\sheets\Structures\B-70-134\Sheets\FINAL\08 B-70-134 - GIRDER DETAIL.dgn

8

8

STATE PROJECT NUMBER
1517-07-72



PLAN VIEW

BILL OF BARS

DIMENSIONS IN BENDING DETAILS ARE OUT TO OUT OF BAR.
ALL REINFORCEMENT BARS IN THIS BILL SHALL BE EPOXY COATED.

BAR MARK	NO. REQ'D	LENGTH	BENT	LOCATION
S501	126	16'-7"		TRANSVERSE DECK
S402	45	41'-4"		LONGITUDINAL DECK
S503	32	5'-8"	X	OVERHANG DECK
S504	34	4'-11"	X	CORBEL VERTICAL
S505	68	5'-7"	X	ABUT. DIAPHRAGM VERT.
S606	6	12'-10"		ABUT. DIAPHRAGM HORIZ.
S607	6	7'-8"		ABUT. DIAPHRAGM HORIZ.
S608	6	2'-6"		ABUT. DIAPHRAGM HORIZ.
S409	14	2'-1"	X	ABUT. DIAPHRAGM VERT.
S410	4	4'-2"		ABUT. DIAPHRAGM HORIZ.
S511	4	13'-3"		ABUT. DIAPHRAGM HORIZ.
S512	34	5'-9"	X	ABUT. DIAPHRAGM VERT.
S613	6	12'-0"		CORBEL HORIZONTAL
S614	4	3'-1"		ABUT. DIAPHRAGM HORIZ.

TOTAL WEIGHT = 4805 LBS

NOTES

THE BOTTOM TRANSVERSE BAR STEEL REINFORCEMENT SHALL BE SUPPORTED BY CONTINUOUS BAR CHAIRS WITH A CENTER TO CENTER SPACING NOT TO EXCEED 4'-0". ONE LINE OF CONTINUOUS BAR CHAIRS SHALL BE PLACED NEAR EACH EDGE OF THE SLAB TO SUPPORT THE ENDS OF THE BOTTOM TRANSVERSE BAR STEEL.

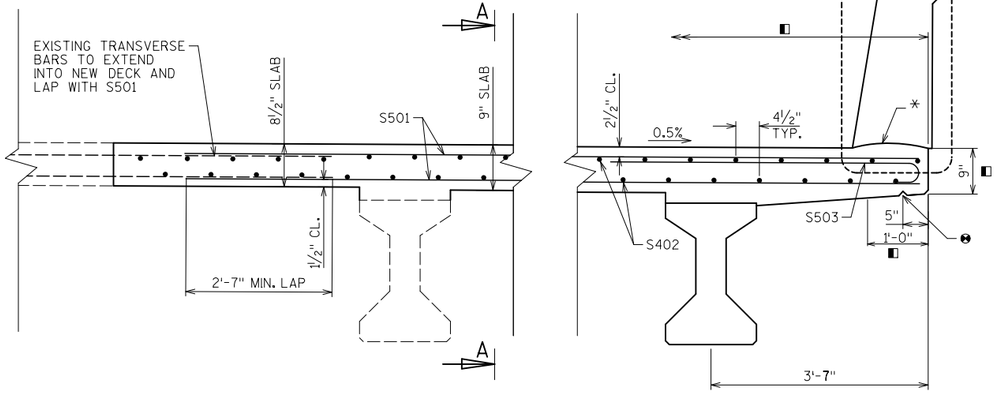
THE TOP LONGITUDINAL BAR STEEL REINFORCEMENT SHALL BE SUPPORTED BY CONTINUOUS BAR CHAIRS IN TRANSVERSE DIRECTION ON 4'-0" CENTERS.

THE CLEARANCE FOR THE TOP STEEL IS 2½", AND THE CLEARANCE FOR THE BOTTOM STEEL IS 1½". THE DEAD LOAD INCLUDES 20 PSF FOR FUTURE WEARING SURFACE.

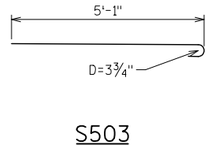
THE EXISTING DECK THICKNESS OF 8½" WILL EXTEND TO THE HAUNCH OF BEAM 8. THE DECK THICKNESS WILL TRANSITION TO 9" THICK IN THE HAUNCH OF BEAM 8.

EXERCISE CARE NOT TO DAMAGE EXISTING DECK STEEL DURING CONCRETE REMOVAL. IF DAMAGED, CONTRACTOR TO REPLACE ANY DAMAGED STEEL AT OWN EXPENSE.

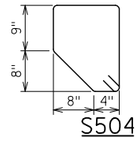
* CONTRUCTION JOINT-STRIKE OFF AS SHOWN AND LEAVE ROUGH.



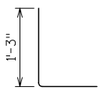
SECTION THRU DECK



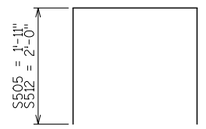
S503



S504



S409



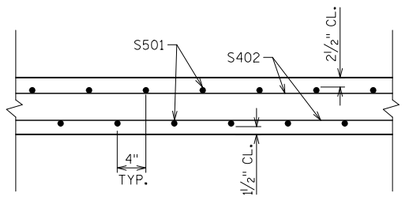
S505 AND S512

LEGEND

- ⊖ ¾" V-GROOVE. EXTEND V-GROOVE TO 3" FROM FRONT FACE OF ABUTMENT DIAPHRAGM.
- ◧ COAT WITH "PROTECTIVE SURFACE TREATMENT" AS PER STANDARD SPECIFICATIONS.

TOP OF DECK ELEVATIONS

	S. END OF DECK	CL BRG S. ABUT	0.1 L	0.2 L	0.3 L	0.4 L	0.5 L	0.6 L	0.7 L	0.8 L	0.9 L	CL BRG N. ABUT	N. END OF DECK
REFERENCE LINE (PGL)	748.54	748.55	748.56	748.58	748.59	748.61	748.62	748.64	748.65	748.67	748.68	748.70	748.70
LONGIT. CONST. JOINT	748.52	748.52	748.54	748.55	748.57	748.58	748.60	748.61	748.63	748.64	748.66	748.67	748.68
CL GIRDER 8	748.49	748.50	748.51	748.53	748.54	748.56	748.57	748.59	748.60	748.62	748.63	748.64	748.65
CL GIRDER 9	748.43	748.44	748.45	748.47	748.48	748.50	748.51	748.53	748.54	748.56	748.57	748.59	748.59
FACE OF BARRIER/EDG	748.42	748.42	748.44	748.45	748.47	748.48	748.50	748.51	748.53	748.54	748.56	748.57	748.58



SECTION A-A

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-70-134

DRAWN BY JDL | PLANS CK'D. MJA

SUPERSTRUCTURE

SHEET 9 OF 14
342

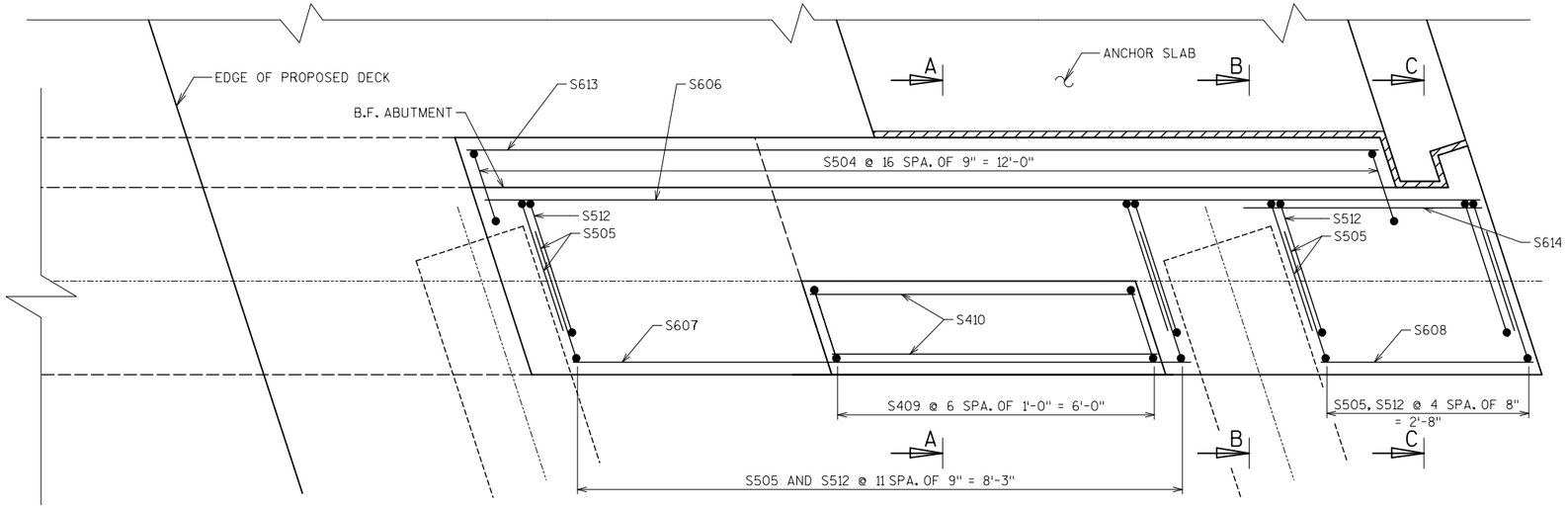
8

8

FILE= P:\Transportation\US 10 WIS 441\CADD\sheets\Structures\B-70-134\Sheets\FINAL\09 B-70-134 Superstructure.dgn

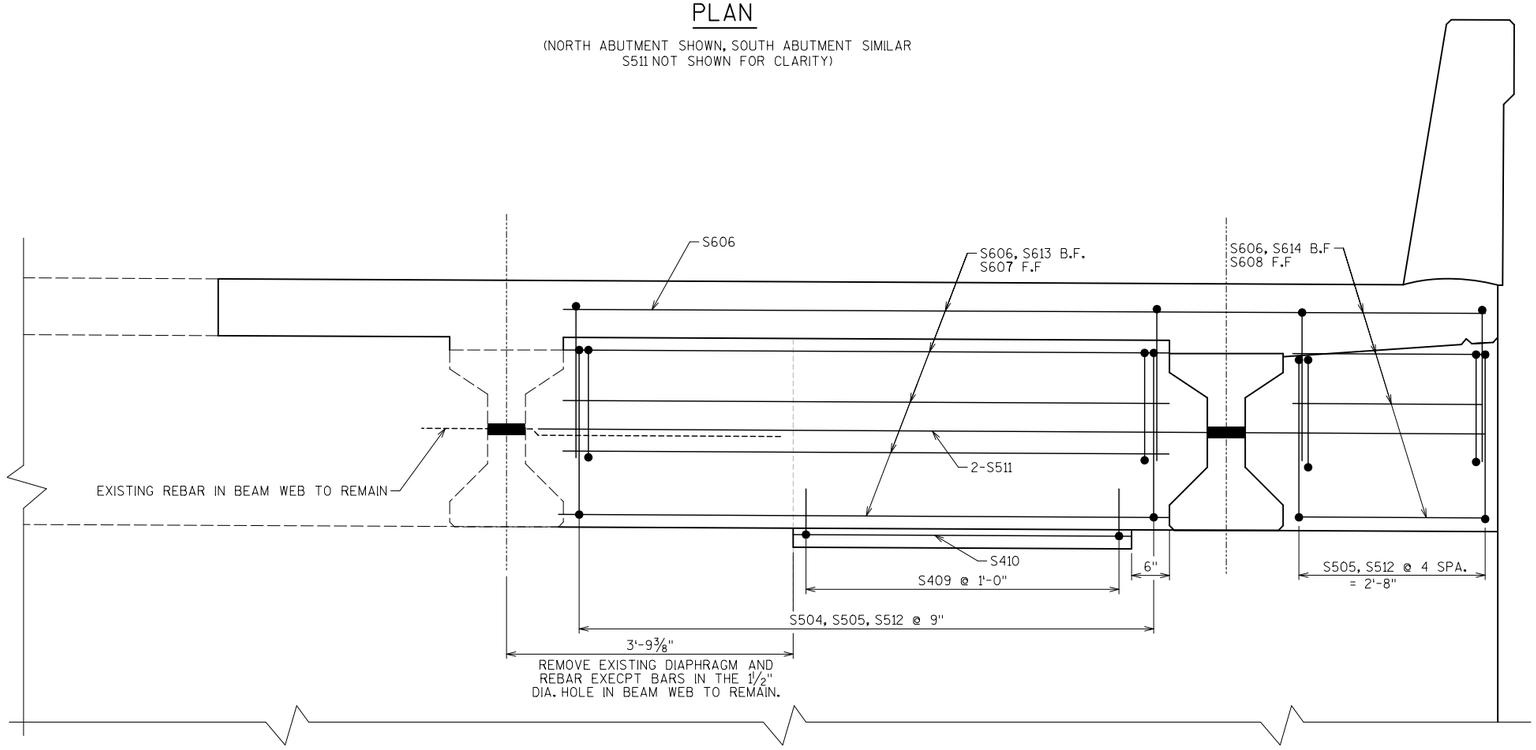
DATE: 2/28/2014
I.D.

STATE PROJECT NUMBER
1517-07-72

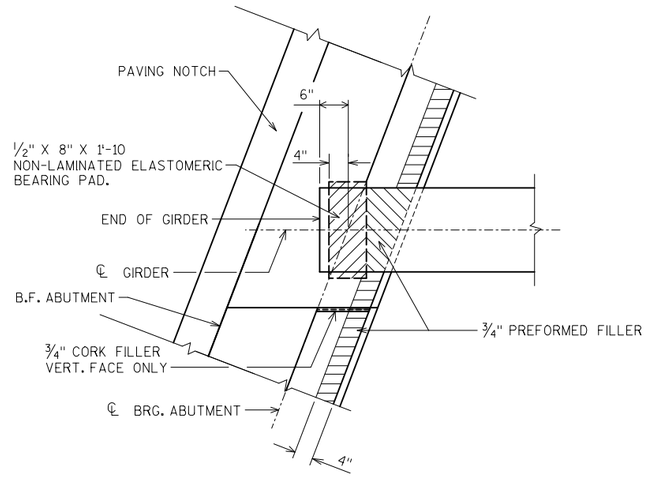


PLAN

(NORTH ABUTMENT SHOWN, SOUTH ABUTMENT SIMILAR S511 NOT SHOWN FOR CLARITY)



ELEVATION



BEARING PAD DETAIL

NOTES

FOR BILL OF BARS AND BENDING DIAGRAMS SEE SH. 9 (SUPERTRUCTURE).

FOR SECTIONS A-A, B-B, C-C SEE SH. 11 (SUPERSTRUCTURE DETAILS 2).

* DIMENSION IS TAKEN NORMAL TO ℄ SUBSTRUCTURE UNITS.

** BARS PLACED PARALLEL TO GIRDERS SPACING PERPENDICULAR TO ℄ GIRDERS

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-70-134

DRAWN BY JDL | PLANS CK'D. MJA

SUPERSTRUCTURE DETAILS 1

SHEET 10 OF 14
343

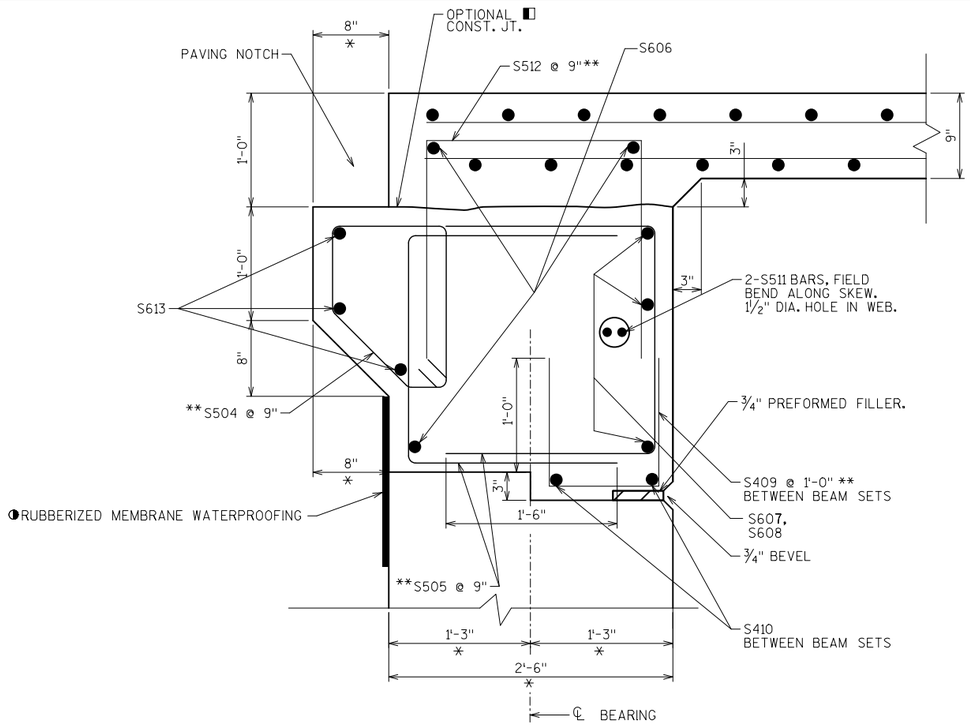
8

8

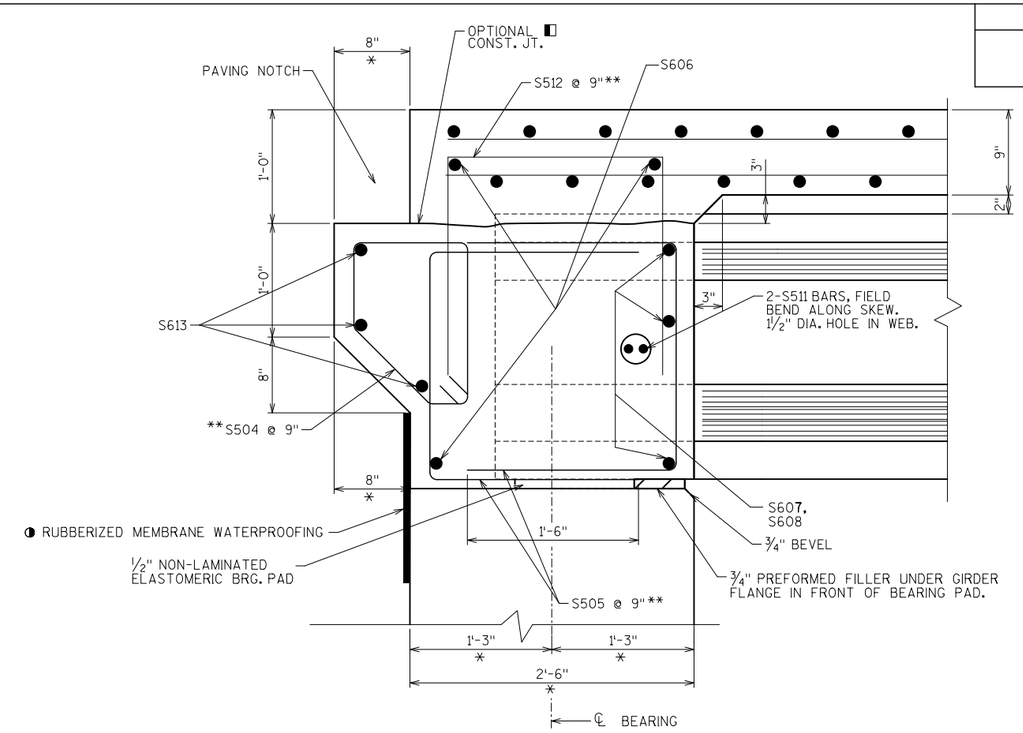
FILE= P:\Transportation\US 10 WIS 441\CADD\sheets\Structures\B-70-134\Sheets\FINAL\10 B-70-134 - ABUTMENT DIAPHRAGM.dgn

DATE: 2/28/2014

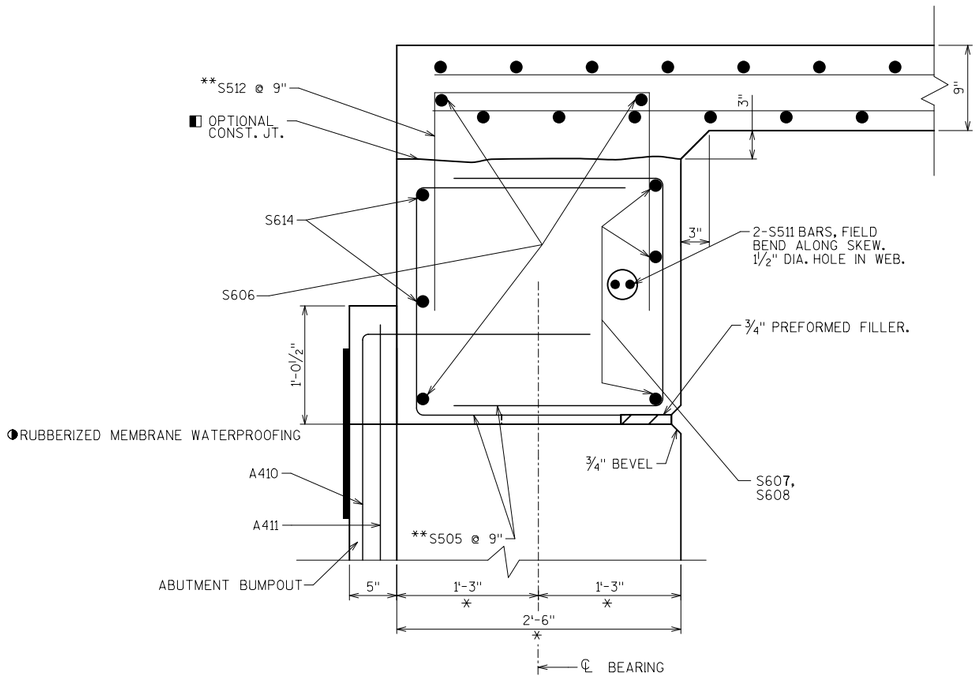
I.D.



SECTION A-A



SECTION B-B



SECTION C-C

NOTES

◑ 18" RUBBERIZED MEMBRANE WATERPROOFING PLACE ALONG HORIZONTAL AND VERTICAL CONSTRUCTIONS JOINTS AT THE BACK OF THE ABUTMENT.

FOR BILL OF BARS AND BENDING DIAGRAMS SEE SH. 9 (SUPERTRUCTURE).

◧ IF OPTIONAL CONSTRUCTION JOINT IS USED, DECK POUR MUST OCCURE WITHIN 2 WEEKS FROM THE TIME OF THE DIAPHRAGM POUR.

* DIMENSION IS TAKEN NORMAL TO ℄ SUBSTRUCTURE UNITS.

** BARS PLACED PARALLEL TO GIRDERS SPACING PERPENDICULAR TO ℄ GIRDERS

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-70-134

DRAWN BY JDL | PLANS CK'D. MJA

SUPERSTRUCTURE DETAILS 2

SHEET 11 OF 14
344

STATE PROJECT NUMBER
1517-07-72

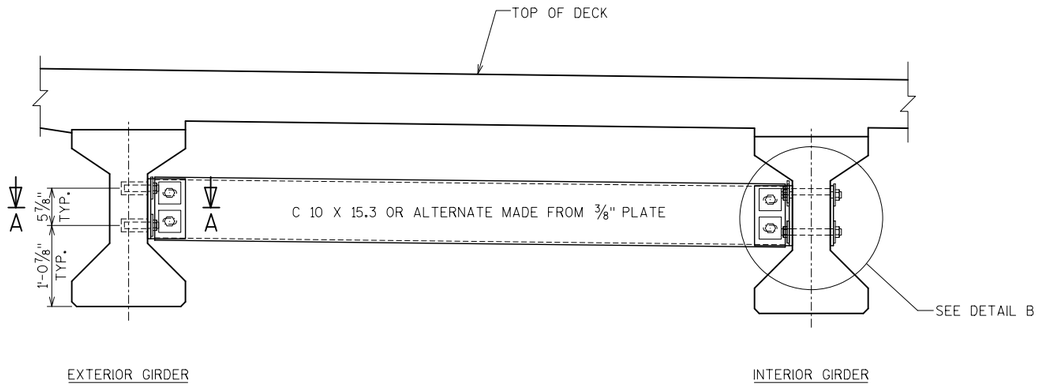
FILE= P:\Transportation\US 10 WIS 441\CADD\sheets\Structures\B-70-134\Sheets\FINAL\11 B-70-134 - ABUTMENT DIAPHRAGM 2.dgn

DATE: 2/28/2014
I.D.

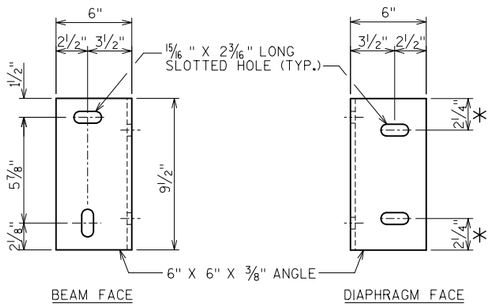
8

8

STATE PROJECT NUMBER
1517-07-72

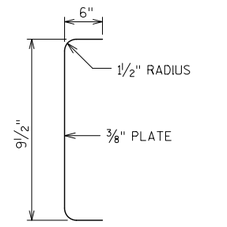


PART TRANSVERSE SECTION AT DIAPHRAGM

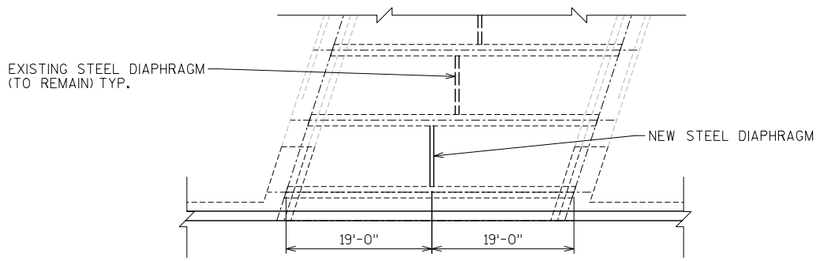


DIAPHRAGM SUPPORT

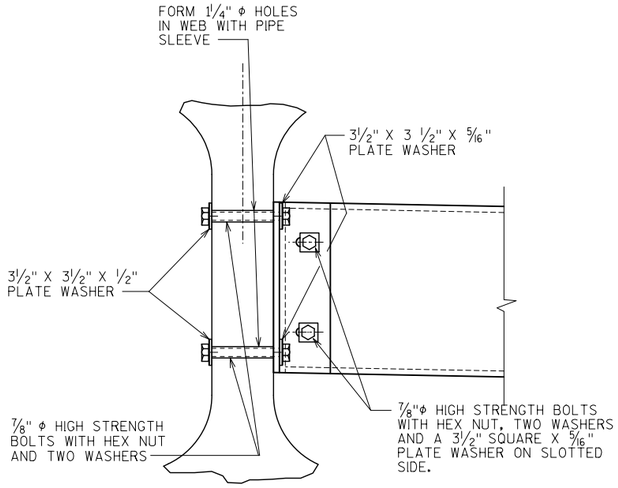
* 2½" FOR ALTERNATE PLATE DIAPHRAGM



SECTION THRU ALTERNATE DIAPHRAGM

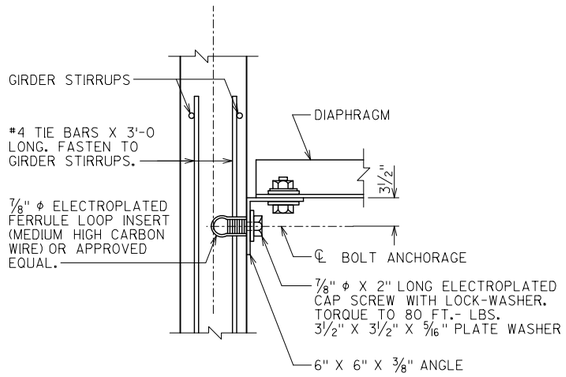


DIAPHRAGM PLAN



(FOR STAGGERED DIAPHRAGM)

DETAIL B



SECTION A-A

(FOR EXTERIOR ATTACHMENT)

NOTES

ALL DIAPHRAGM MATERIAL NOT EMBEDDED IN THE CONCRETE GIRDER SHALL BE PAID FOR AT THE UNIT PRICE BID FOR "STEEL DIAPHRAGMS B-70-134", 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 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.

ATTACHMENTS FOR STEEL DIAPHRAGM WILL NEED TO BE CORED THROUGH EXISTING GIRDER.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-70-134

DRAWN BY JDL | PLANS CK'D. MJA

STEEL DIAPHRAGM

SHEET 12 OF 14
345

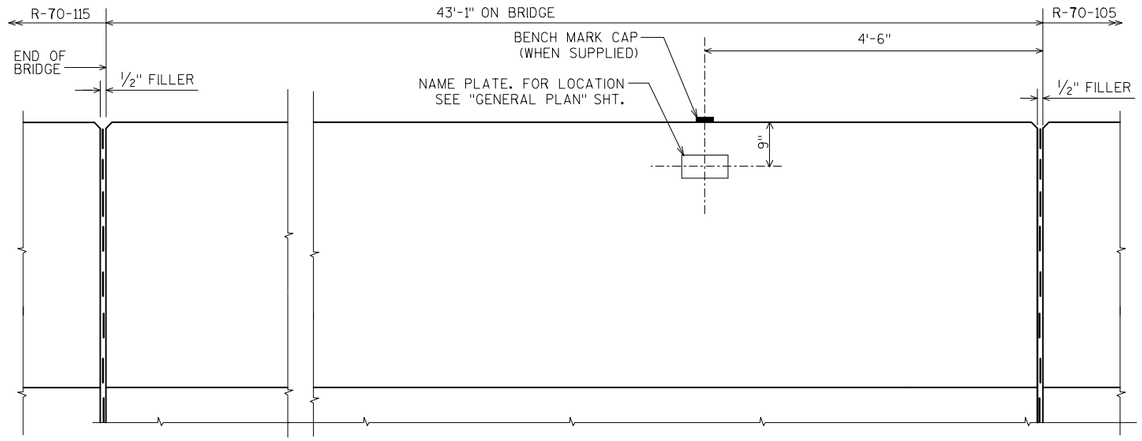
8

8

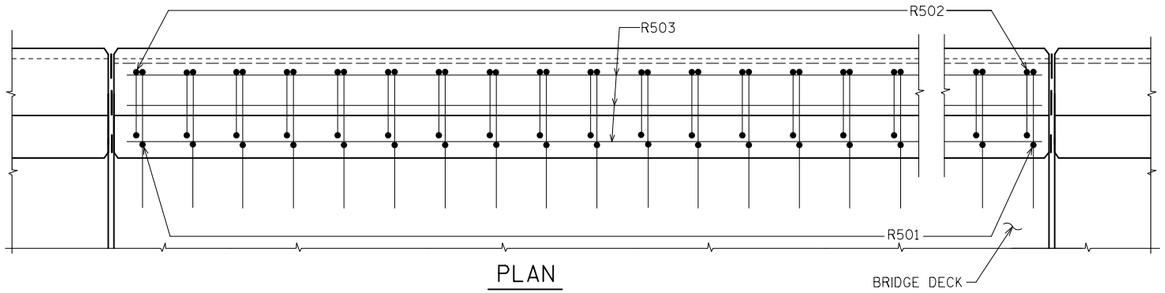
FILE= P:\Transportation\US 10 WIS 441\CADD\sheets\Structures\B-70-134\Sheets\FINAL\12 B-70-134 STEEL Diaphragms.dgn

DATE: 2/28/2014
I.D.

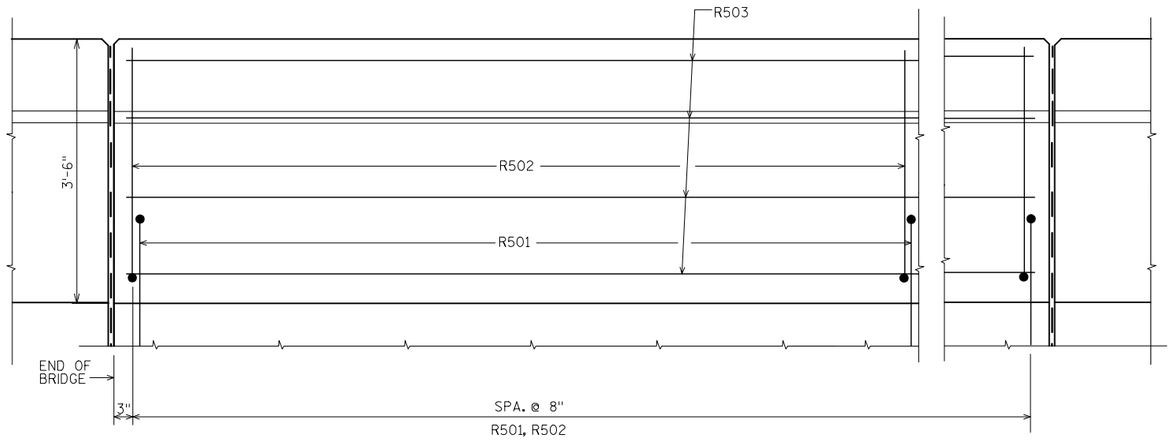
STATE PROJECT NUMBER
1517-07-72



INSIDE ELEVATION



PLAN



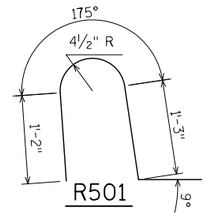
OUTSIDE ELEVATION

BILL OF BARS

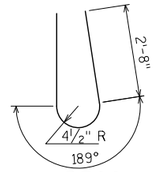
DIMENSIONS IN BENDING DETAILS ARE OUT TO OUT OF BAR.
ALL REINFORCEMENT BARS IN THIS BILL SHALL BE EPOXY COATED.

BAR MARK	NO. REQ'D	LENGTH	BENT	LOCATION
R501	65	4'-5"	X	PARAPET VERT.
R502	65	6'-8"	X	PARAPET VERT.
R503	8	42'-9"		PARAPET HORIZ.

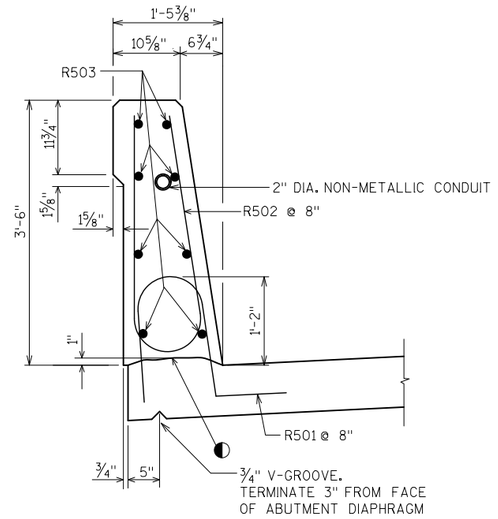
TOTAL WEIGHT = 1109 LBS



R501



R502



SECTION THRU PARAPET ON BRIDGE

◐ CONST. JOINT - STRIKE OFF AS SHOWN.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-70-134

DRAWN BY JDL | PLANS CK'D. MJA

SINGLE SLOPE
PARAPET 42SS

SHEET 13 OF 14
346

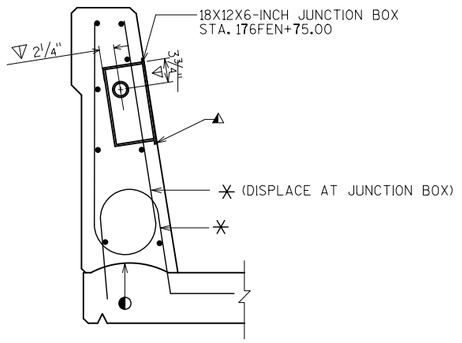
FILE= P:\Transportation\US 10 WIS 441\CADD\sheets\Structures\B-70-134\Sheets\FINAL\13 B-70-134 Single Slope Parapet 42SS.dgn

DATE: 2/28/2014
I.D.

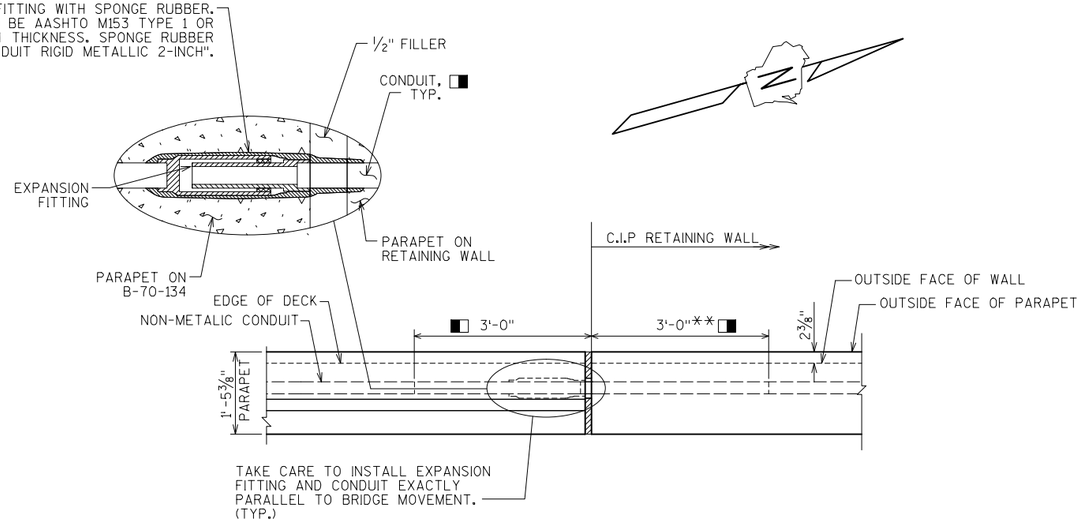
8

8

STATE PROJECT NUMBER
1517-07-72

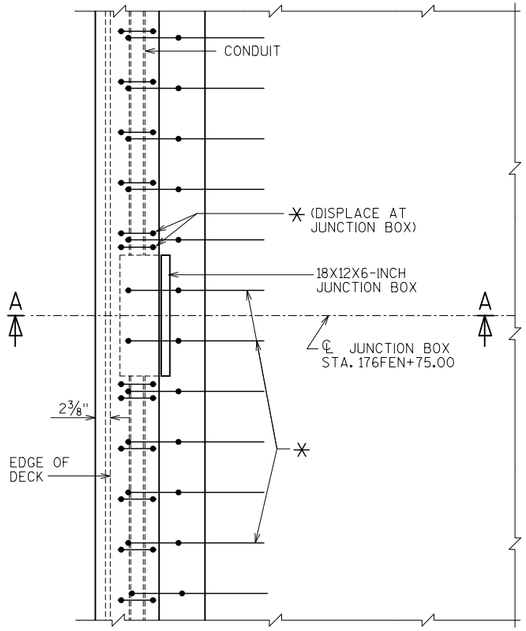


SECTION A-A

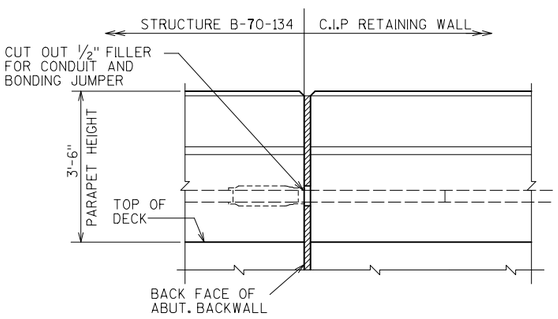


PLAN OF PARAPET AT NORTH END OF BRIDGE

(SOUTH END SIMILAR)



PLAN AT JUNCTION BOX



OUTSIDE ELEVATION OF PARAPET AT NORTH END OF BRIDGE

(SOUTH END SIMILAR)

NOTES

BID ITEMS SHALL BE:
"JUNCTION BOXES 18X12X6-INCH", EACH.

"CONDUIT RIGID NONMETALLIC SCHEDULE 40 2-INCH"
"CONDUIT RIGID METALLIC 2-INCH"

APPROVED MANUFACTURERS - JUNCTION BOXES:
SEE APPROVED MATERIAL LIST.

APPROVED MANUFACTURER OR EQUIVALENT - EXPANSION FITTING:
O-Z/GEDNEY TYPE AX-200 AND BONDING JUMPER (4" TOTAL CONDUIT MOVEMENT).

EXPANSION FITTINGS, ANGLES AND ADAPTER FITTINGS TO BE INCIDENTAL TO "CONDUIT RIGID METALLIC 2-INCH".

WHEN CONNECTING NONMETALLIC CONDUIT TO METALLIC CONDUIT, ONLY ADAPTER FITTINGS U.L. OR NRTL LISTED FOR ELECTRICAL USE SHALL BE USED.

- USE RIGID METALLIC CONDUIT 3'-0" INTO PARAPET ON DECK SIDE OF THE JOINT OPENING.
- CONSTR. JT. STRIKE OFF AS SHOWN
- CUT OUT ± 1" OF GASKET AT BOTTOM OF JUNCTION BOX COVER TO ALLOW FOR DRAINAGE.
- LOCATION OF CONDUIT IS MEASURED FROM OUTSIDE EDGE OF JUNCTION BOX.
- SEE SINGLE SLOPE PARAPET SHEET FOR ADDITIONAL BAR STEEL DETAILS.
- ** RIGID METALIC CONDUIT LOCATED IN END OF RETAINING WALLS SHALL BE PAID FOR UNDER RETAINING WALLS.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-70-134

DRAWN BY JDL | PLANS CK'D. MJA

PARAPET 42SS ELECTRICAL WORK

SHEET 14 OF 14
347

8

8

FILE= P:\Transportation\US 10 WIS 441\CADD\sheets\Structures\B-70-134\Sheets\FINAL\14 B-70-134 PARAPET SS42 ELECTRICAL WORK.dgn

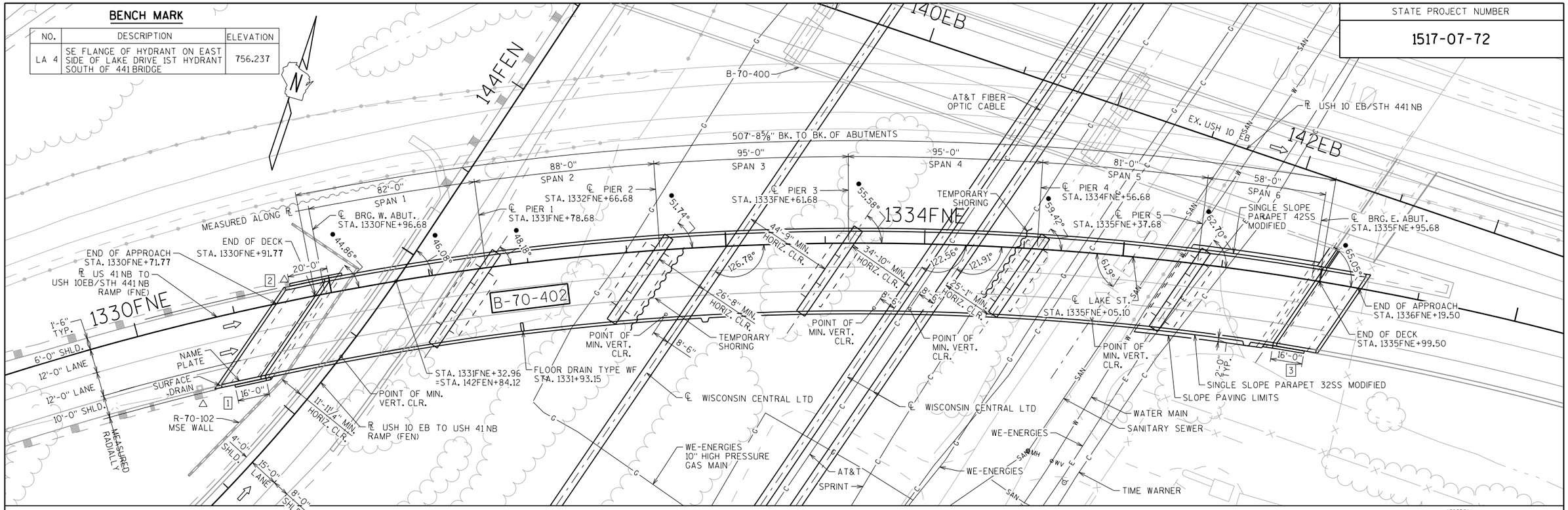
DATE: 2/28/2014
I.D.

BENCH MARK

NO.	DESCRIPTION	ELEVATION
LA 4	SE FLANGE OF HYDRANT ON EAST SIDE OF LAKE DRIVE 1ST HYDRANT SOUTH OF 441 BRIDGE	756.237

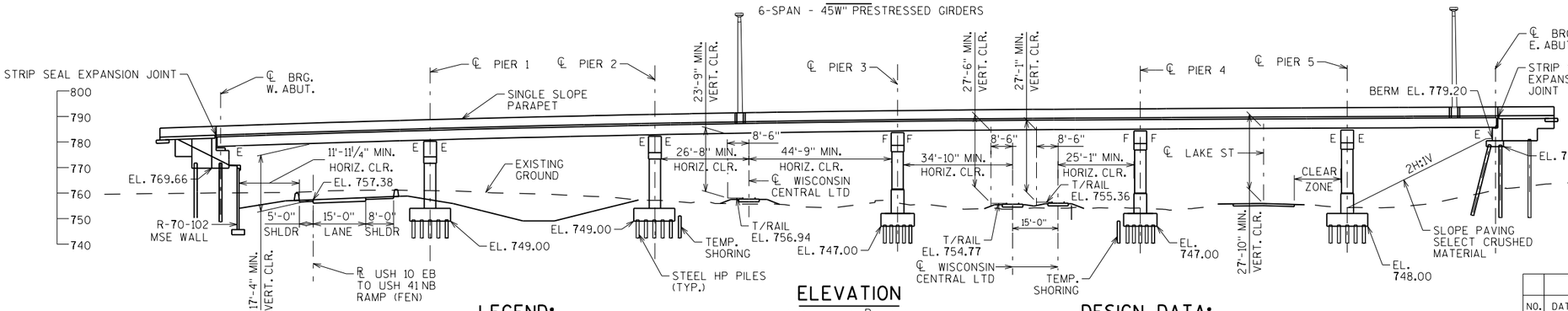
STATE PROJECT NUMBER

1517-07-72



PLAN

6-SPAN - 45W" PRESTRESSED GIRDERS



ELEVATION

(NORMAL TO ℄ FNE)

LOCATION	W. ABUT.	PIER 1	PIER 2	PIER 3	PIER 4	PIER 5	E. ABUT.
ESTIMATED DRIVEN PILES LENGTH (FEET)	38	19	18.6	15.5	12.5	14.5	45
ESTIMATED PRE BORED PILES LENGTH (FEET)	0	SEE SHEET 26 "FOOTING DETAILS"					0

LEGEND:

F - FIXED BEARING

E - EXPANSION BEARING

△ - ANCHOR ASSEMBLY FOR STEEL PLATE BEAMGUARD ATTACHMENT

● - ANGLE MEASURED TO T/L TO CURVE AT INTERSECTION

[1] - WING NUMBER

TRAFFIC VOLUME:

RAMP "FNE"
ADT (2038) = 19,000
R.D.S. = 55 M.P.H.

RAMP "FEN"
ADT (2038) = 2,600
R.D.S. = 50 M.P.H.

DESIGN DATA:

DESIGN LIVE LOAD:

DESIGN LIVE LOADING: HL-93
INVENTORY RATING FACTOR: 1.09
OPERATING RATING FACTOR: 1.81
WISCONSIN STANDARD PERMIT VECHICLE (WIS-SPV): 226 KIPS
SEE SHEET 2 "GENERAL NOTES, LIST OF DRAWINGS & QUANTITIES" FOR OTHER DESIGN LOADS

ULTIMATE DESIGN STRESSES:

CONCRETE MASONRY, HIGH PERFORMANCE CONCRETE
SLAB----------f'c = 4,000 P.S.I.
ALL OTHER----------f'c = 4,000 P.S.I.
BAR STEEL REINFORCEMENT, GRADE 60-------fy = 60,000 P.S.I.

45W" PRESTRESSED GIRDERS
CONCRETE MASONRY----------f'c = 8,000 P.S.I.
----------f'ci = 6,800 P.S.I.
STRANDS - 0.6"ϕ WITH ULTIMATE TENSILE STRENGTH OF 270,000 P.S.I.

NE REGION CONTACT:	SCOTT EBEL	(920) 492-2240
BUREAU OF STRUCTURES CONTACT:	WILLIAM DREHER	(608) 266-8489
CONSULTANT CONTACT:	MICHAEL ARNOLD	(414) 831-4179

NOTES:

DIMENSIONS SHOWN ARE ALONG ℄ FNE.

SPAN LENGTHS SHOWN ARE MEASURED ALONG ℄ FNE.

FOR CURVE DATA SEE SHEET 4 "ALIGNMENT, PROFILE & SUPERELEVATION".

EXISTING AND FUTURE UTILITIES ARE SHOWN FOR INFORMATION ONLY. THE CONTRACTOR IS RESPONSIBLE FOR IDENTIFYING ALL UTILITIES PRIOR TO EXCAVATION OR PILE DRIVING.

SEE SHEET 37 "LIGHT STANDARD" FOR LIGHT POLE LOCATIONS AND DETAILS.

RAMP "FEN" WILL NOT BE CONSTRUCTED UNDER THIS CONTRACT.

FOUNDATION DATA:

EAST ABUTMENT TO BE SUPPORTED ON HP12X53 STEEL PILING DRIVEN TO A REQUIRED DRIVING RESISTANCE OF 175* TONS PER PILE AS DETERMINED BY THE MODIFIED GATES DYNAMIC EQUATION. SEE TABLE ON THIS SHEET FOR ESTIMATED LENGTH OF PILES.

WEST ABUTMENT TO BE SUPPORTED ON HP14X73 STEEL PILING DRIVEN TO A REQUIRED DRIVING RESISTANCE OF 200* TONS PER PILE AS DETERMINED BY THE MODIFIED GATES DYNAMIC EQUATION. SEE TABLE ON THIS SHEET FOR ESTIMATED LENGTH OF PILES.

PIERS 1 THRU 5 TO BE SUPPORTED ON HP12X53 STEEL PILING DRIVEN TO A REQUIRED DRIVING RESISTANCE OF 220* TONS PER PILE AS DETERMINED BY THE MODIFIED GATES DYNAMIC EQUATION. SEE TABLE ON THIS SHEET FOR ESTIMATED LENGTH. PILES FOR PIERS 1 THRU 5 SUBJECT TO UPLIFT LOADS ARE PRE-BORED AND SOCKETED INTO SOLID ROCK A MINIMUM OF 3'-0".

* THE FACTORED AXIAL RESISTANCE OF PILES IN COMPRESSION USED FOR DESIGN IS THE REQUIRED DRIVING RESISTANCE MULTIPLIED BY A RESISTANCE FACTOR OF 0.5 USING THE MODIFIED GATES DYNAMIC EQUATION.

WISCONSIN
NARENDRA P. PATEL
38246-006
CHICAGO, IL
PROFESSIONAL ENGINEER
Narendra P. Patel
3-11-2014

NO.	DATE	REVISION	BY

URS
342 North Water Street
7th Floor
Milwaukee, WI 53202
(414) 831-4100

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

ACCEPTED William C. Dreher 3/12/14
CHIEF STRUCTURES DESIGN ENGINEER — DATE

STRUCTURE B-70-402

USH 41 NB TO USH 10 EB/STH 441 NB OVER WCL

COUNTY	TOWN/~~CITY/VILLAGE~~
WINNEBAGO	MENASHA

DESIGN SPEC. AASHTO LRFD DESIGN SPEC.

DESIGNED BY	DESIGN CK'D.	DRAWN BY	PLANS CK'D.
PMV	NPP	PMV	NPP

GENERAL PLAN

SHEET 1 OF 52
348

FILE= Q:\WisDOT_12345678_10-441\Plans\B-70-402\Control Copy\001-B-70-402 - General Plan .dgn

DATE: 3/11/2014
I.D.

8

8

STATE PROJECT NUMBER

1517-07-72

LIST OF DRAWINGS

1 GENERAL PLAN
2 GENERAL NOTES, LIST OF DRAWINGS & QUANTITES
3 CROSS SECTIONS
4 ALIGNMENT, PROFILES & SUPERELEVATION
5 SUBSURFACE EXPLORATION
6 WEST ABUTMENT PLAN & ELEVATION
7 WEST ABUTMENT LAYOUT
8 WEST ABUTMENT CROSS SECTION
9 WEST ABUTMENT WING 2
10 WEST ABUTMENT WING 3
11 EAST ABUTMENT PLAN & ELEVATION
12 EAST ABUTMENT LAYOUT
13 EAST ABUTMENT CROSS SECTIONS
14 EAST ABUTMENT WING 1
15 ABUTMENTS BILL OF BARS
16 PIER 1 LAYOUT DETAILS
17 PIER 2 LAYOUT DETAILS
18 PIER 3 LAYOUT DETAILS
19 PIER 4 LAYOUT DETAILS
20 PIER 5 LAYOUT DETAILS
21 PIER CAP DETAILS PIER 1
22 PIER CAP DETAILS PIERS 2 & 3
23 PIER CAP DETAILS PIERS 4 & 5
24 SHAFT DETAILS PIERS 1 & 2
25 SHAFT DETAILS PIERS 3 TO 5
26 FOOTING DETAILS
27 BILL OF BARS PIERS
28 BEARINGS FOR PRESTRESSED GIRDERS
29 45W" PRESTRESSED GIRDER DETAILS 1
30 45W" PRESTRESSED GIRDER DETAILS 2
31 INTERMEDIATE STEEL DIAPHRAGMS
32 FRAMING PLAN
33 LAYOUT LINE OFFSET DETAILS
34 DECK REINFORCEMENT
35 TYPICAL DECK REINF. CROSS SECTION
36 SUPERSTRUCTURE DETAILS
37 LIGHT STANDARD
38 SUPERSTRUCTURE BILL OF BARS
39 TOP OF DECK ELEVATIONS
40 SINGLE SLOPE PAPAPET "32SS" E. ABUT.
41 SINGLE SLOPE PAPAPET "32SS" W. ABUT.
42 SINGLE SLOPE PAPAPET "42SS" E. ABUT.
43 SINGLE SLOPE PAPAPET "42SS" W. ABUT.
44 STRUCTURAL APPROACH SLAB DETAILS W. ABUT.
45 STRUCTURAL APPROACH SLAB DETAILS E. ABUT.
46 STRIP SEAL EXP. JOINT DETAILS AT ABUTMENTS
47 STRIP SEAL COVER PLATE DETAILS
48 FLOOR DRAIN TYPE "WF"
49 AESTHETIC DETAILS
50 SLOPE PAVING SELECT CRUSHED MATERIAL
51 ALTERNATE CONSTRUCTION JOINT
52 PARAPET "32SS" ELECTRICAL WORK

GENERAL NOTES

DO NOT SCALE DRAWINGS.

ALL DIMENSIONS ARE IN SURVEY FEET AND SURVEY INCHES. ALL STATIONS ARE IN SURVEY FEET.

ELEVATIONS ON THIS PLAN ARE REFERENCED TO THE NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD 91).

THE UTILITY INFORMATION SHOWN ON THESE DRAWINGS CONCERNING TYPE AND LOCATION OF UNDERGROUND UTILITIES IS NOT GUARANTEED TO BE ACCURATE OR CONSIDERED ALL-INCLUSIVE. THE CONTRACTOR IS RESPONSIBLE FOR MAKING THEIR OWN DETERMINATION AS TO TYPE AND LOCATION OF UNDERGROUND UTILITIES.

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

THE EXISTING GROUND LINE IS THE UPPER LIMIT OF EXCAVATION FOR STRUCTURES.

AT ABUTMENTS AND PIERS, BACKFILL ALL EXCAVATED VOLUME NOT OCCUPIED BY NEW STRUCTURE WITH BACKFILL STRUCTURE.

THE GRADATION OF THE STRUCTURE BACKFILL SHALL MEET THE REQUIREMENTS OF SECTION 209.2.2 OF THE STANDARD SPECIFICATIONS FOR GRADE 1 MATERIAL.

ELASTOMERIC BEARING PADS NEED NOT BE INDIVIDUALLY MOLDED PROVIDED THE CUT EDGES ARE SMOOTH AND TRUE.

THE SLOPE OF THE FILL IN FRONT OF THE EAST ABUTMENT SHALL BE COVERED WITH SLOPE PAVING MATERIAL TO THE EXTENT SHOWN ON SHEET 1 "GENERAL PLAN AND ELEVATION".

REINFORCING STEEL

ALL REINFORCING BARS ARE ENGLISH AND THE FIRST OR THE FIRST TWO DIGITS OF THE BAR MARK SIGNIFY THE BAR SIZE.

REINFORCING STEEL SHALL BE HIGH STRENGTH, GRADE 60 WITH FY=60 KSI. AT APPROACH APRON CONNECTION TO ABUTMENT PROVIDE STAINLESS STEEL REINFORCEMENT CONFORMING TO ASTM A955, GRADE 60 REQUIREMENTS.

REINFORCING STEEL SHALL BE UNCOATED IN FOOTINGS (EXCEPT PIER SHAFT DOWELS) AND EPOXY COATED IN ALL OTHER LOCATIONS (INCLUDING PIER SHAFT DOWELS).

PLACE ALL REINFORCEMENT WITH A MINIMUM CLEAR COVER OF 2" UNLESS NOTED OTHERWISE.

PLACE REINFORCEMENT IN FOOTINGS AND PILECAPS WITH A MINIMUM CLEAR COVER OF 3" BOTTOM AND 2" TOP AND SIDES UNLESS NOTED OTHERWISE.

PLACE TOP LAYER OF REINFORCING STEEL IN THE DECK SURFACE WITH 2½" CLEAR COVER TO TOP OF SLAB.

PLACE BOTTOM LAYER OF REINFORCING STEEL IN THE DECK WITH 1½" CLEAR COVER TO BOTTOM OF SLAB.

ONLY REINFORCEMENT REQUIRED BY DESIGN IS SHOWN EXPLICITLY ON THE DRAWINGS. ADDITIONAL REINFORCEMENT MAY BE USED TO SIMPLIFY ASSEMBLY AND ERECTION OF THE REINFORCING STEEL AND MAY BE REQUIRED TO ENSURE STABILITY AND POSITIONING OF THE COMPLETED REINFORCEMENT CAGE. REINFORCEMENT IN ADDITION TO THAT SHOWN WILL NOT BE INCLUDED FOR PAYMENT.

LAP SPLICE LENGTHS SHALL BE CLASS C UNLESS NOTED OTHERWISE.

CONCRETE

CONCRETE QUANTITY IN THE HAUNCHES IS CALCULATED BASED ON AN AVERAGE HAUNCH DEPTH PROVIDED ON THE DRAWINGS. THIS IS THE MAXIMUM HAUNCH QUANTITY FOR WHICH PAYMENT WILL BE MADE.

CHAMFER ALL EXPOSED OUTSIDE CORNERS ¾" UNLESS NOTED OTHERWISE.

PROTECTIVE SURFACE TREATMENT TO BE APPLIED TO THE ENTIRE TOP OF DECK SURFACE AND THE FRONT FACE AND THE TOP OF THE PARAPET, INCLUDING PARAPETS ON ABUTMENT BACKWALLS AND STRUCTURAL APPROACH SLABS. DO NOT SEAL SURFACES WHERE THE PLANS OF SPECIAL PROVISIONS REQUIRE STAINING OR OTHER TREATMENT.

CONCRETE FOR ABUTMENT AND PIER DIAPHRAGMS SHALL BE PLACED WITH THE DECK CONCRETE. NO OPTIONAL CONSTRUCTION JOINT WILL BE PERMITTED.

OTHER DESIGN LOADS

THE STRUCTURE IS DESIGNED FOR THE DECK THICKNESS SHOWN. DEAD LOAD OF 5 PSF IS CONSIDERED FOR POLYMER OVERLAY AND AN ADDITIONAL LOAD OF 20 PSF FOR A FUTURE WEARING SURFACE IS CONSIDERED IN THE DESIGN.

TEMPERATURE CHANGE FOR DETERMINING THERMAL FORCES ON SUBSTRUCTURES = 45°F.

DESIGN ASSUMED 7.5 PSF FOR TEMPORARY FORMWORK.

PARAPETS WERE ASSUMED TO WEIGH 639 PLF AND 516 PLF FOR 42SS MODIFIED AND 32SS MODIFIED SECTIONS RESPECTIVELY.

ALL OTHER LOADS IN ACCORDANCE WITH AASHTO.

DESIGN CRITERIA

DESIGN IS IN ACCORDANCE WITH AMERICAN ASSOCIATION OF STATE HIGHWAY AND TRANSPORTATION OFFICIALS (AASHTO) LRFD BRIDGE DESIGN SPECIFICATIONS, AND THE WISDOT BRIDGE MANUAL.

ALL DETAILS, MATERIALS, AND FABRICATION SHALL CONFORM TO THE THE STATE OF WISCONSIN STANDARD SPECIFICATIONS FOR HIGHWAY AND STRUCTURE CONSTRUCTION. USE THE CURRENT EDITION OF THE STANDARD SPECIFICATIONS AT THE TIME OF CONSTRUCTION.

LIVE LOAD PLUS DYNAMIC LOAD DEFLECTION LIMIT = SPAN / 800 (HL93).

TOTAL ESTIMATED QUANTITIES

	BID ITEM #	BID ITEM	UNIT	W. STRUCTURAL APPROACH SLAB	W. ABUT.	SUPER. SPANS 1-6	PIER 1	PIER 2	PIER 3	PIER 4	PIER 5	E. ABUT	E. STRUCTURAL APPROACH SLAB	TOTAL
	206.1000	EXCAVATION FOR STRUCTURES BRIDGES B-70-402	LS	-	-	-	-	-	-	-	-	-	-	1
	206.6000.S	TEMPORARY SHORING	SF	-	-	-	-	306	-	306	-		-	612
	210.0100	BACKFILL STRUCTURE	CY	-	216	-	-	-	-	-	-	187	-	404
	305.0120	BASE AGGREGATE DENSE 1 1/4-INCH	TON	-	153	-	-	-	-	-	-	154	-	307
	502.3100	EXPANSION DEVICE B-70-402	LS	-	-	-	-	-	-	-	-	-	-	1
	502.3200	PROTECTIVE SURFACE TREATMENT	SY	109	-	2684	-	-	-	-	-	-	108	2,901
	503.0146	PRESTRESSED GIRDER TYPE I 45W-INCH	LF			2507								2,507
	505.0405	BAR STEEL REINFORCEMENT HS BRIDGES	LB		6,812		9,386	9,818	9,237	9,237	9,818	5,777		60,084
	505.0605	BAR STEEL REINFORCEMENT HS COATED BRIDGES	LB	9,379	3,609	200,228	38,931	38,489	40,981	39,876	39,352	2,719	8,714	422,279
	506.2605	BEARING PADS ELASTOMERIC NON-LAMINATED	EACH						10	10				20
	506.4000	STEEL DIAPHRAGMS B-70-402	EACH			48								48
	506.6000	BEARING ASSEMBLIES EXPANSION B-70-402	EACH		5		10	10	0	0	10	5		40
	509.5100.S	POLYMER OVERLAY	SY	100		2250							93	2,443
	514.0450	FLOOR DRAINS TYPE WF	EACH	-			1						-	1
	516.0500	RUBBERIZED MEMBRANE WATERPROOFING	SY	-	26	-		-		-		19	-	45
	517.1010.S.700	CONCRETE STAINING B-70-402	SF		689	13,599	1,921	1,892	2,053	1,994	1,956	479		24,583
	517.1050.S.700	ARCHITECTURAL SURFACE TREATMENT B-70-402	SF		676	2,294						473		3,444
*	550.0020	PRE-BORING ROCK OR CONSOLIDATED MATERIALS	LF				0	340	326	272	274			1,212
	550.0500	PILE POINTS	EACH		12		22	12	14	14	12	25		111
*	550.1120	PILING STEEL HP 12-INCH X 53 LB	LF				418	579	561	465	464	1,126		3,613
**	551.1140	PILING STEEL HP 14-INCH X 73 LB	LF		456									456
	604.0600	SLOPE PAVING SELECT CRUSHED MATERIAL	SY		33	-	-	-	-	-	-	386		419
	614.0150	ANCHOR ASSEMBLIES FOR STEEL PLATE BEAM GUARD	EACH	2	-		-	-	-	-	-	-	-	2
	652.0125	CONDUIT RIGID METALLIC 2-INCH	LF	35									35	70
	652.0225	CONDUIT RIGID NONMETALLIC SCHEDULE 40 2-INCH	LF	-	-	514	-	-	-	-	-	-	-	514
	653.0222	JUNCTION BOXES 18X12X6-INCH	EACH		1		1	1	-	1	-	1		5
	657.6005.S	ANCHOR ASSEMBLIES LIGHT POLES ON STRUCTURES	EACH			2								2
	SPV.0035.700	HIGH PERFORMANCE CONCRETE (HPC) MASONRY STRUCTURES	CY	65	140	981	239	236	227	224	242	139	62	2555
	SPV.0085.800	BAR STEEL REINFORCEMENT HS STAINLESS BRIDGES	LB	-	731	-		-		-		748	-	1,479
	SPV.0165.853	TEMPORARY SHORING LEFT IN PLACE	SF									189		189
	NON-BID ITEMS	BRIDGE SEAT PROTECTION AND FILLERS												

* BID ITEM "PRE-BORING ROCK OR CONSOLIDATED MATERIALS" INCLUDES DRILLING THE PRE-BORING HOLES, FOR FURNISHING, INSTALLING AND REMOVING CASING IF NECESSARY, FOR BACKFILLING AND DISPOSING OF EXCESS MATERIAL. PROVIDING PILES AND SETTING PILES IN PRE-BORED HOLES IS INCLUDED WITH BID ITEM "PILING STEEL HP 12-INCH X 53 LB".

** PILES PLACED IN PREBORED HOLES CORED INTO SOLID ROCK DO NOT REQUIRE DRIVING.

WISCONSIN
NARENDRA P. PATEL
38246-006
CHICAGO, IL
PROFESSIONAL ENGINEER

Narendra P. Patel
3-11-2014

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-70-402

DRAWN BY PMV | PLANS CK'D. NPP

GENERAL NOTES, LIST OF DRAWINGS & QUANTITIES

SHEET 2 OF 52
349

DATE: 3/11/2014
I.D.

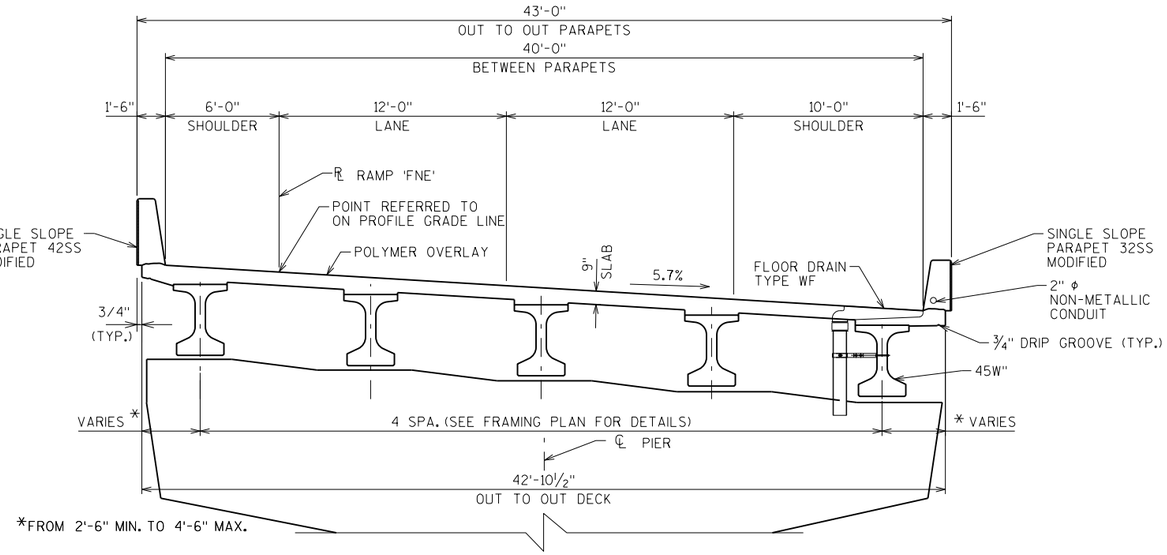
FILE= Q:\WisDOT_12345678_10-441\Plans\B-70-402\Control Copy\002-B-70-402 - General Notes, List of Drwg & Quantities.dgn

8

8

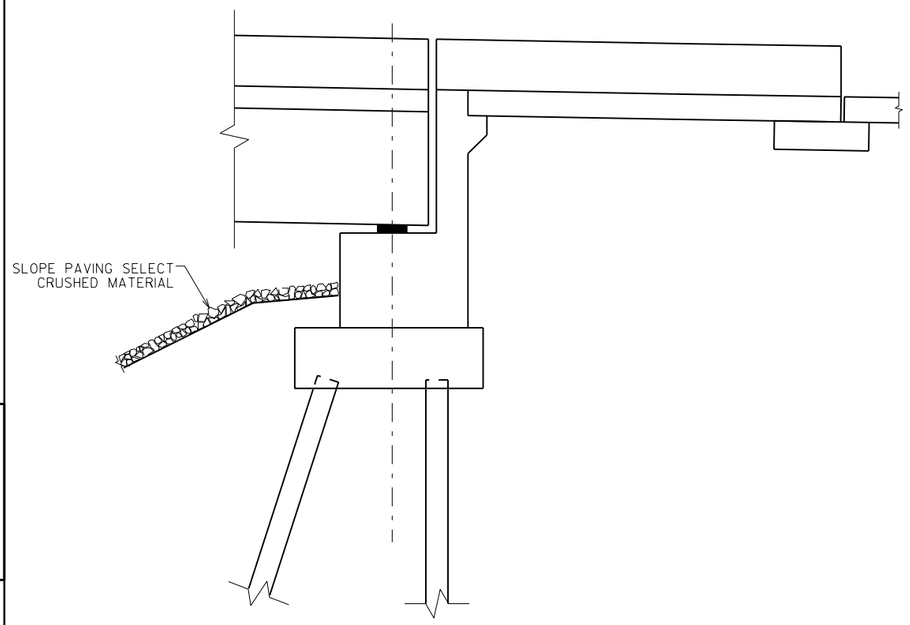
STATE PROJECT NUMBER

1517-07-72



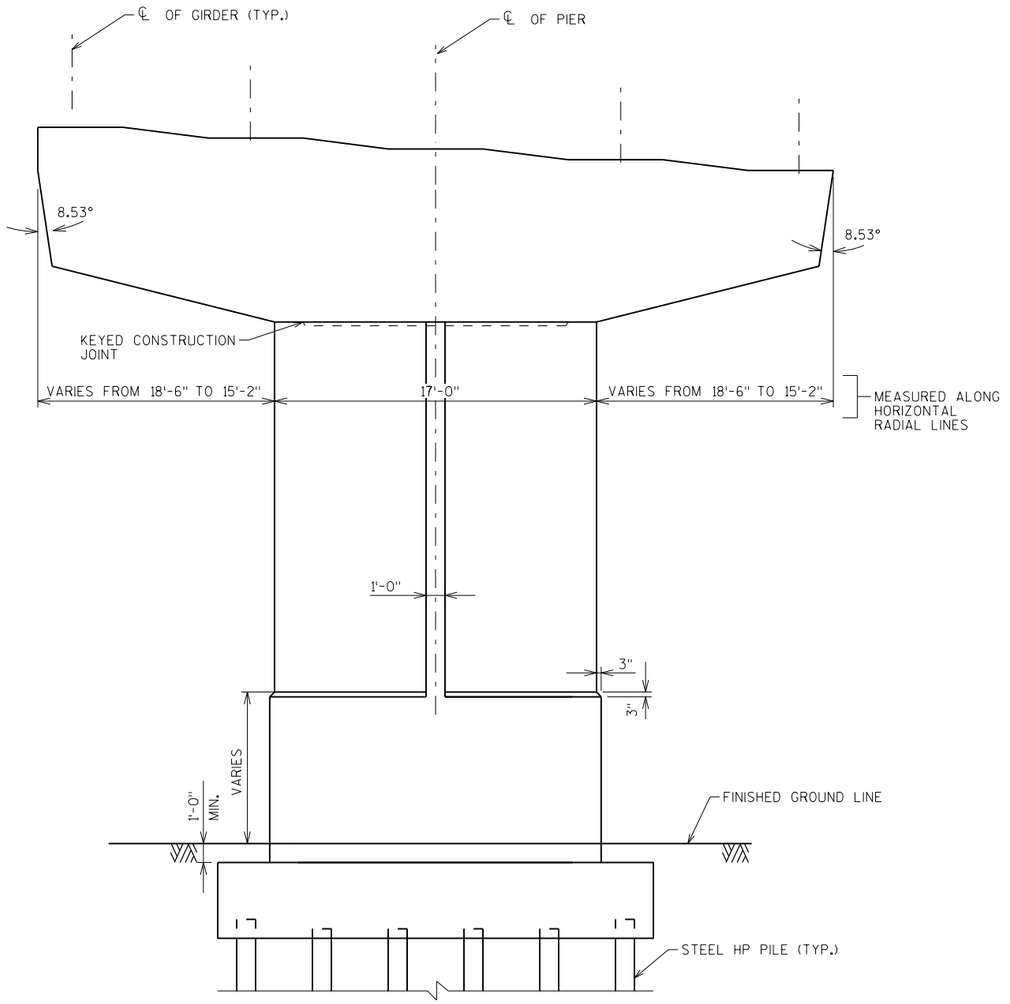
TYPICAL DECK SECTION

(LOOKING UPSTATION)
DIMENSIONS MEASURED ALONG HORIZONTAL RADIAL LINES AT ℄ RAMP FNE



SECTION AT EAST ABUTMENT

(LOOKING NORTH)



TYPICAL PIER ELEVATION

(LOOKING UPSTATION)
(PIER 2 SHOWN, OTHER PIERS SIMILAR)

8

8

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-70-402

DRAWN BY PMV | PLANS CK'D. NPP

CROSS SECTIONS

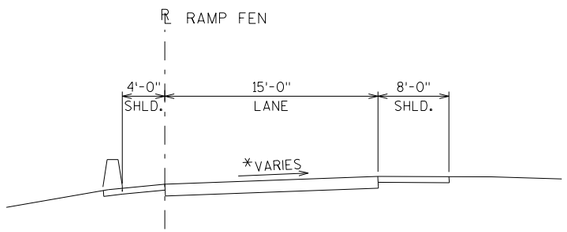
SHEET 3 OF 52
350

DATE: 3/11/2014
I.D.

FILE= Q:\WisDOT_12345678_10-441\Plans\B-70-402\Control Copy\003-B-70-402 - Cross Section.dgn

STATE PROJECT NUMBER

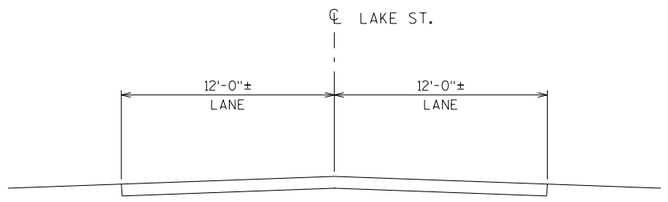
1517-07-72



*TRANSITIONS FROM 6% AT STA 142FEN+00 TO 3.9% AT STA 143FEN+00

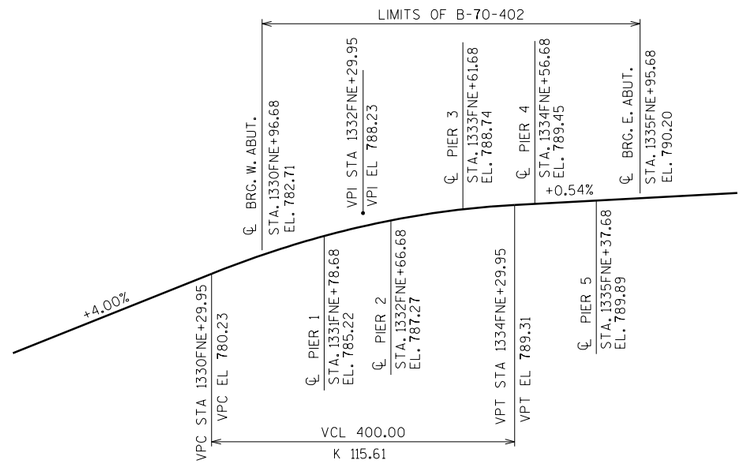
CROSS SECTION (FEN)

(LOOKING UP STATION)

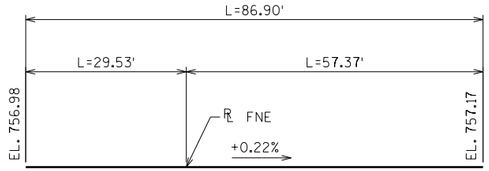


CROSS SECTION (LAKE ST.)

(LOOKING NORTH)

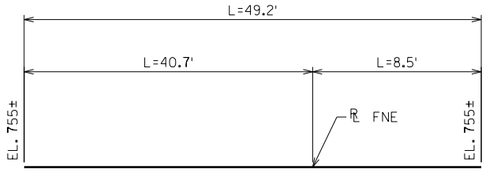


PROFILE GRADE LINE RAMP "FNE"
US 41 NB TO 10 EB/WIS 441 NB



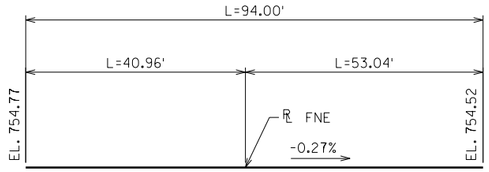
PROFILE GRADE LINE WISCONSIN LTD WEST TRACK

(INTERSECTS RAMP "FNE ℄" AT STA. 1333FNE+03.52)
NTS



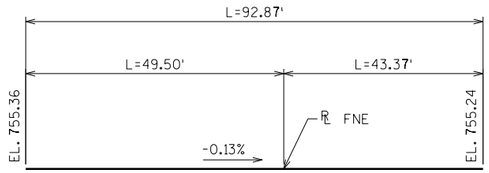
PROFILE GRADE LINE LAKE ST.

(BASED ON EXIST. CONTOUR)
NTS



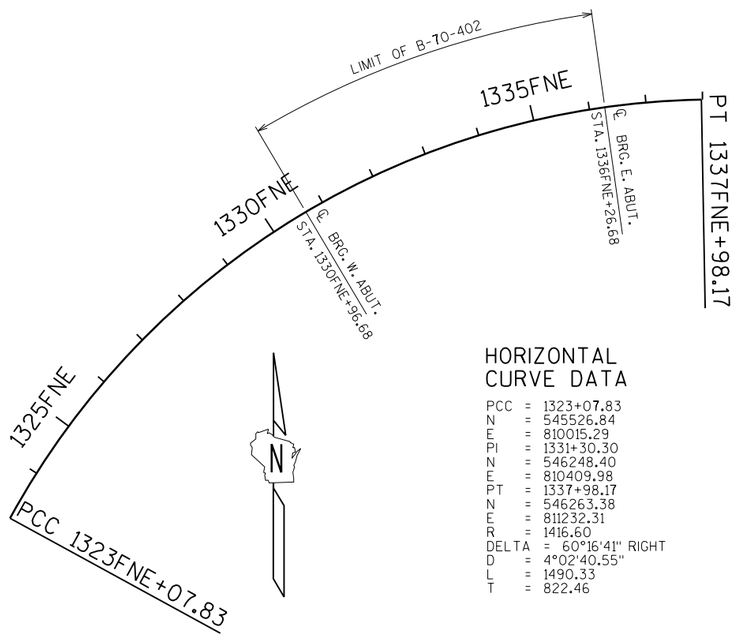
PROFILE GRADE LINE WISCONSIN LTD MIDDLE TRACK

(INTERSECTS RAMP "FNE ℄" AT STA. 1334FNE+06.58)
NTS



PROFILE GRADE LINE WISCONSIN LTD EAST TRACK

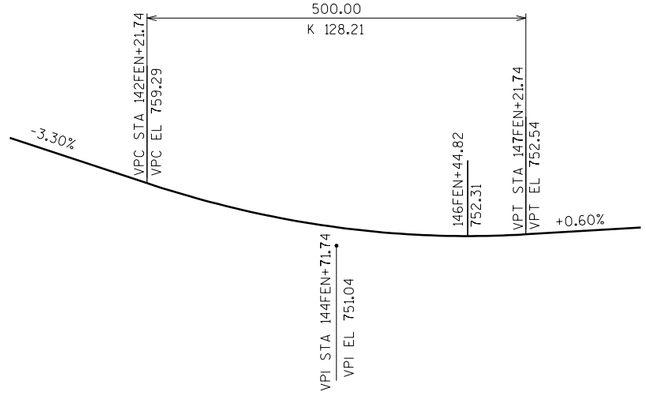
(INTERSECTS RAMP "FNE ℄" AT STA. 1334FNE+24.39)
NTS



HORIZONTAL CURVE DATA

PCC	=	1323+07.83
N	=	545526.84
E	=	810015.29
PI	=	1331+30.30
N	=	546248.40
E	=	810409.98
PT	=	1337+98.17
N	=	546263.38
E	=	811232.31
R	=	1416.60
DELTA	=	60°16'41" RIGHT
D	=	4°02'40.55"
L	=	1490.33
T	=	822.46

HORIZONTAL ALIGNMENT US 41 NB TO 10 EB/WIS 441 NB (RAMP "FNE")



PROFILE GRADE LINE - RAMP "FEN"
US 10 EB TO US 41 NB

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-70-402

DRAWN BY JZ | PLANS CK'D. NPP

ALIGNMENT, PROFILES & SUPERELEVATION

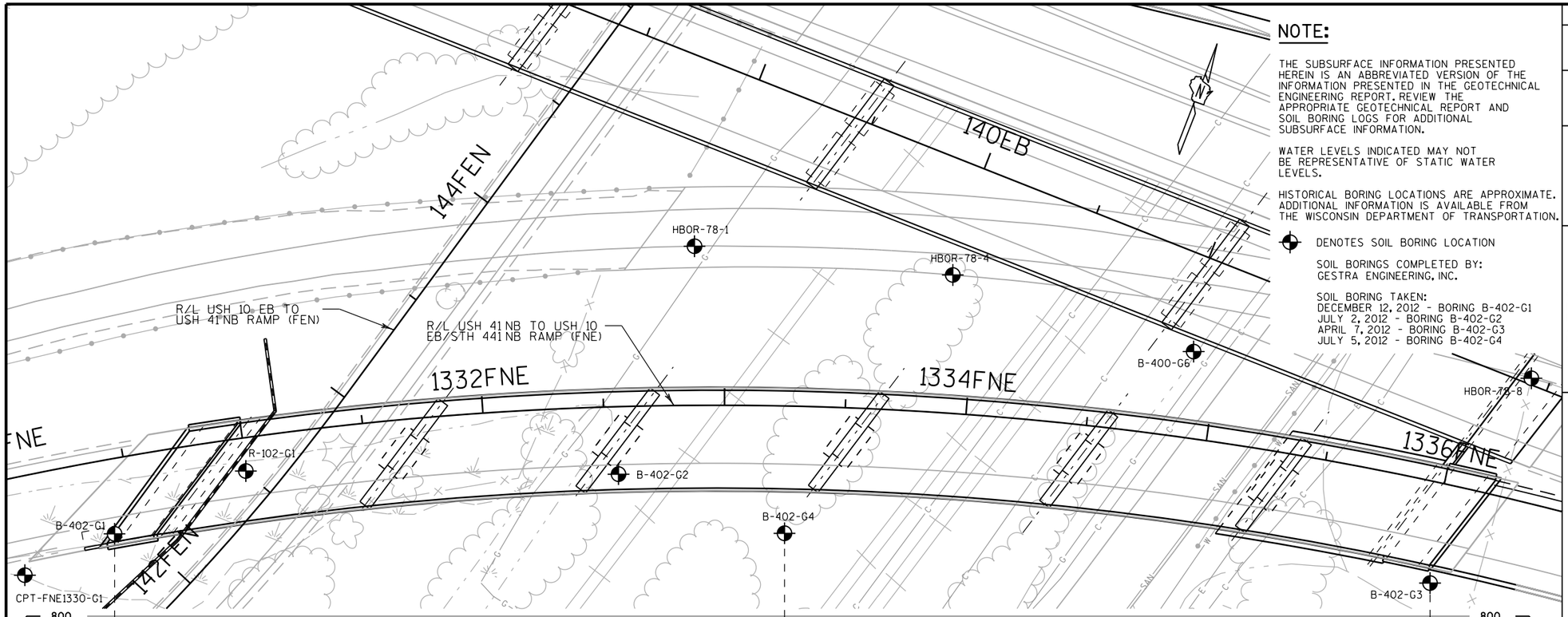
SHEET 4 OF 52
351

DATE: 3/11/2014
I.D.

FILE= Q:\WisDOT_12345678_10-441\Plans\B-70-402\Control Copy\004-B-70-402 - Alignment Layout And Superelevation.dgn

8

8



STATE PROJECT NUMBER

1517-07-72

ABBREVIATIONS

F — FINE M — MEDIUM C — COARSE
WS — WEATHERED SO — SOUND

MATERIAL SYMBOLS

TOPSOIL / FILL, SILT, SANDSTONE
SAND, PEAT, LIMESTONE
GRAVEL, CLAY, IGNEOUS ROCK

LEGEND OF PROBING

PROBING NO.
STA.
ELEVATION
7 AVERAGE BLOWS PER FOOT
REFUSAL 95/6
95/6=95 BLOWS FOR 6" PENETRATION
PROBING TAKEN WITH A 350# WT. FALLING 18" ON A 2" O.D. POINT.

LEGEND OF BORING

BORING NO.
ELEV.
STA.
UNCONFINED STRENGTH — 7.7 7
BLOWS PER FT. USING 140# WT. FALLING 30"
WASH SAMPLE
SHELBY TUBE — S.T.
GROUND WATER ELEVATION
NO GROUND WATER OBSERVED ABOVE THIS ELEVATION
SANDY GRAVEL
F. BOULDERS OR COBBLES
SAND
SILTY CLAY
SO LIMESTONE

UNLESS OTHERWISE SPECIFIED, THE BLOWS PER FOOT AT THE LOCATIONS INDICATED ARE BASED ON DRIVING A 2" O.D. X 1.4" I.D. SPLIT SPOON SAMPLER WITH A 140# HAMMER HAVING A FREE FALL OF 30". THE BLOW COUNT IS TAKEN IN UNDISTURBED SOIL IMMEDIATELY BELOW A CASED OR OPEN HOLE ELIMINATING SIDE FRICTION ON THE DRIVE PIPE.

SUBSURFACE EXPLORATION FOR FOUNDATION DESIGN AND BIDDERS INFORMATION

TO OBTAIN RELATIVE DATA CONCERNING THE CHARACTER OF MATERIAL IN AND UPON WHICH THE FOUNDATION MIGHT BE BUILT, BORINGS AND/OR SOUNDINGS WERE MADE AT POINTS APPROXIMATELY AS INDICATED ON THIS DRAWING. THE DATA PRESENTED HEREIN REPRESENTS THE FINDINGS OF THE SUBSURFACE EXPLORATIONS MADE. HOWEVER, BECAUSE THE DEPTHS INVESTIGATED ARE LIMITED AND THE AREA OF THE BORINGS AND/OR SOUNDINGS IS VERY SMALL IN RELATION TO THE ENTIRE AREA, THE WISCONSIN DEPARTMENT OF TRANSPORTATION DOES NOT WARRANT CONDITIONS BELOW THE DEPTHS INVESTIGATED OR THAT THE CLASSIFICATION OF MATERIAL ENCOUNTERED IN THESE INVESTIGATIONS IS NECESSARILY TYPICAL OF THE ENTIRE SITE.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-70-402

DRAWN BY DB | PLANS CK'D. BW

SUBSURFACE EXPLORATION

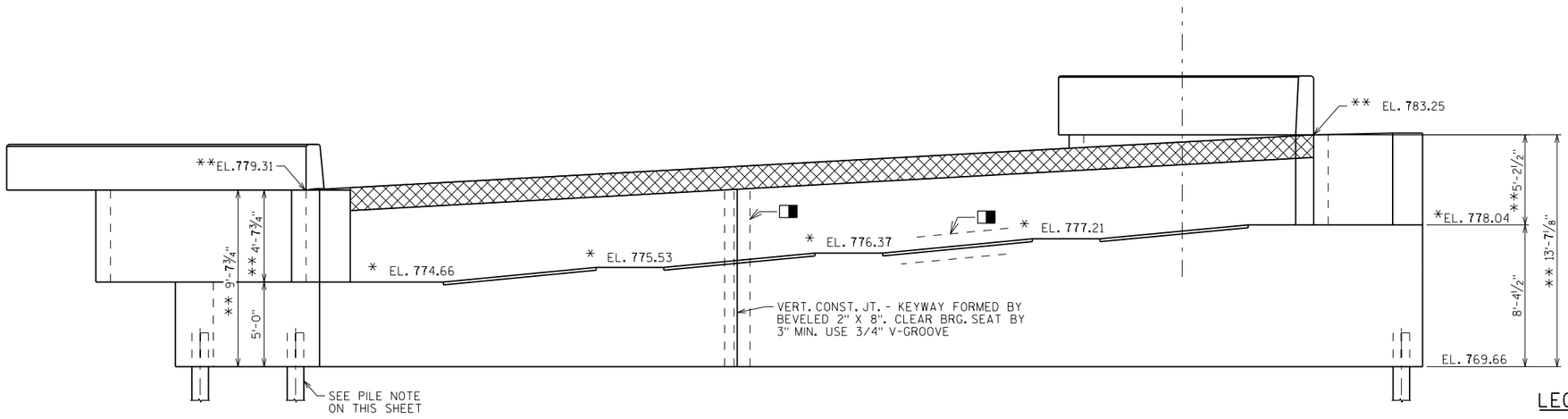
SHEET 5 OF 52

FILE NAME : I:\56537\AllContracts\2. Geotech\Subsurface Sheets\080207_se.dgn PLOT DATE : 2/24/2014 5:27:35 PM PLOT BY : dbaumann PLOT NAME : $FILE$ PLOT SCALE : 50:1

APPLY "BRIDGE SEAT PROTECTION" PER SECTION 502.2.12 TO THE TOP OF AUBTMENT SEATS AND BETWEEN SEATS.

STATE PROJECT NUMBER

1517-07-72



FRONT ELEVATION

LEGEND

- INDICATES CONCRETE AREA TO BE POURED AFTER SUPERSTRUCTURE CONCRETE IS IN PLACE.
- (1) INDICATES GIRDER NUMBER.
- [2] INDICATES WING NUMBER.
- ⟨1⟩ INDICATES PILE NUMBER.
- * ELEVATIONS ARE GIVEN AT THE TOP OF CONCRETE AT THE ℄ OF BEARING.
- ** DIMENSIONS AND ELEVATIONS ARE GIVEN AT THE F.F. OF ABUTMENT BACKWALL.
- 18" RUBBERIZED MEMBRANE WATERPROOFING. SEAL ALL HORIZONTAL AND VERTICAL JOINTS ON BACKFACE ABOVE FOOTING.
- KEYED CONST. JOINT FORMED BY BEVELED 2"X6".

NOTES

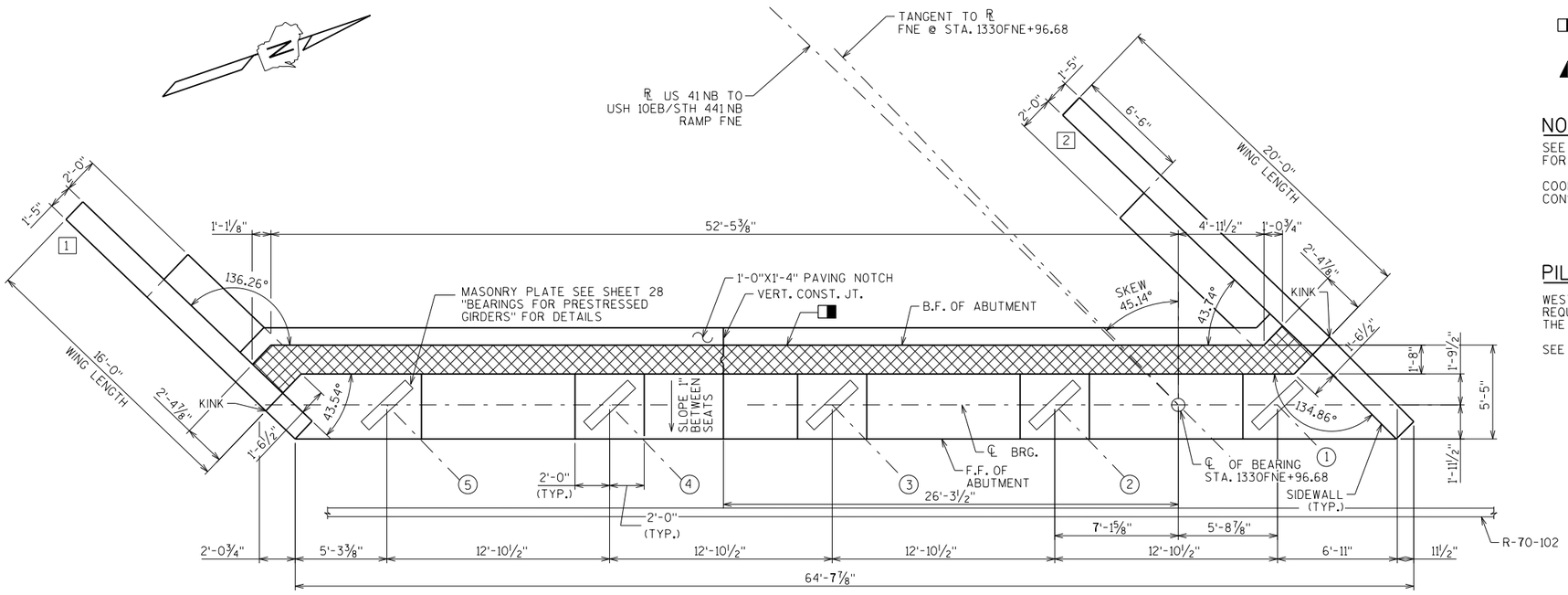
SEE SHEETS 9 "WEST ABUTMENT WING 1" AND 10 "WEST ABUTMENT WING 2" FOR WINGWALL DETAILS.

COORDINATE WITH MSE WALL MANUFACTURER FOR ABUTMENT AND MSE WALL CONSTRUCTION.

PILE NOTE

WEST ABUTMENT TO BE SUPPORTED ON HP14X73 STEEL PILING DRIVEN TO A REQUIRED DRIVING RESISTANCE OF 200 TONS PER PILE AS DETERMINED BY THE MODIFIED GATES DYNAMIC EQUATION. ESTIMATED LENGTH OF 38 FEET.

SEE SHEET 8 "WEST ABUTMENT CROSS SECTION" FOR PILE SPLICE DETAILS.



PLAN

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-70-402

DRAWN BY KJZ | PLANS CK'D. NPP

WEST ABUTMENT PLAN & ELEVATION

SHEET 6 OF 52
353

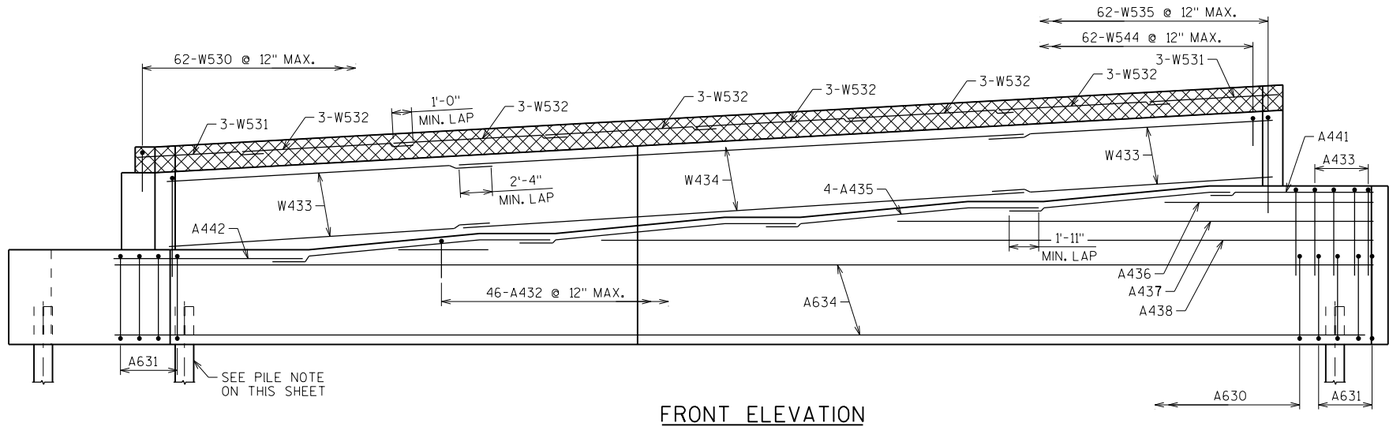
DATE: 3/11/2014
I.D.

FILE= G:\WisDOT_12345678_10-441\Plans\B-70-402\Control Copy\006-B-70-402 - West Abutment Plan & Elevation.dgn

8

8

STATE PROJECT NUMBER
1517-07-72



FRONT ELEVATION

PILE NOTE

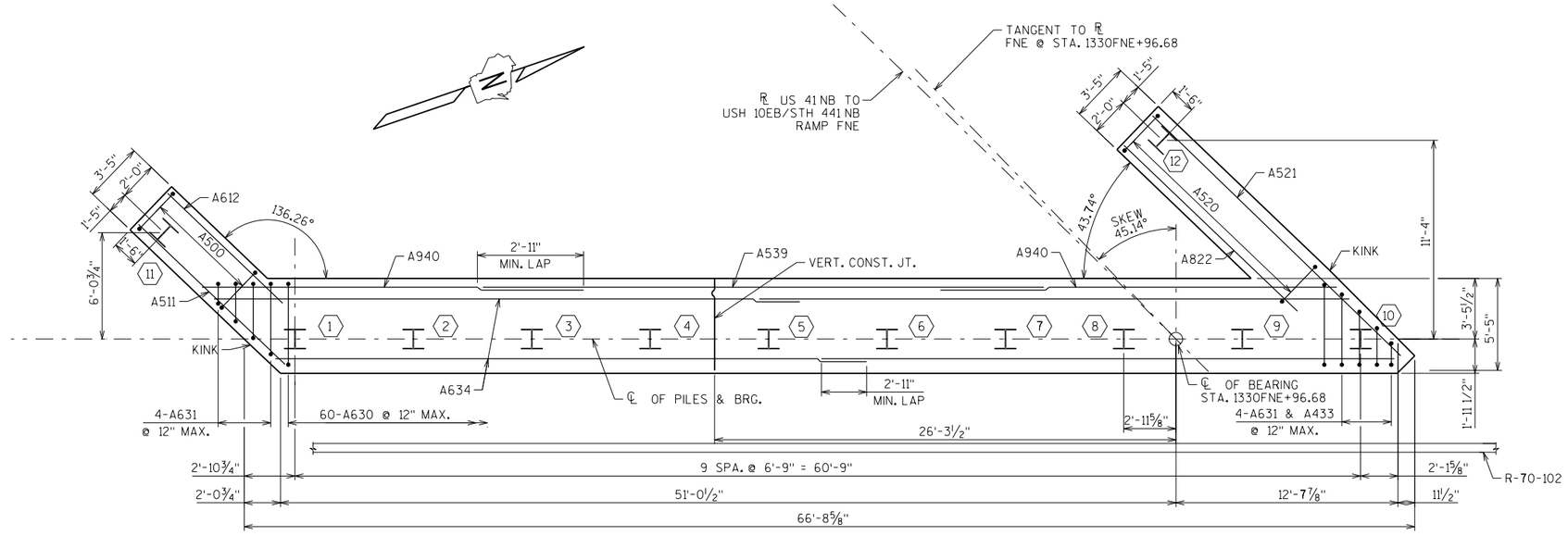
WEST ABUTMENT TO BE SUPPORTED ON HP14X73 STEEL PILING DRIVEN TO A REQUIRED DRIVING RESISTANCE OF 200 TONS PER PILE AS DETERMINED BY THE MODIFIED GATES DYNAMIC EQUATION. ESTIMATED LENGTH OF 38 FEET.

SEE SHEET 8 "WEST ABUTMENT CROSS SECTION" FOR PILE SPLICE DETAILS.

NOTES

SEE SHEETS 9 "WEST ABUTMENT WING 1" & 10 "WEST ABUTMENT WING 2" FOR WINGWALL DETAILS.

SEE SHEET 6 "WEST ABUTMENT PLAN & ELEVATION" FOR LEGENDS.



PLAN

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-70-402

DRAWN BY KJZ | PLANS CK'D. NPP

WEST ABUTMENT LAYOUT

SHEET 7 OF 52
354

FILE= G:\WisDOT_12345678_10-441\Plans\B-70-402\Control Copy\007-B-70-402 - West Abutment Pile Plan.dgn

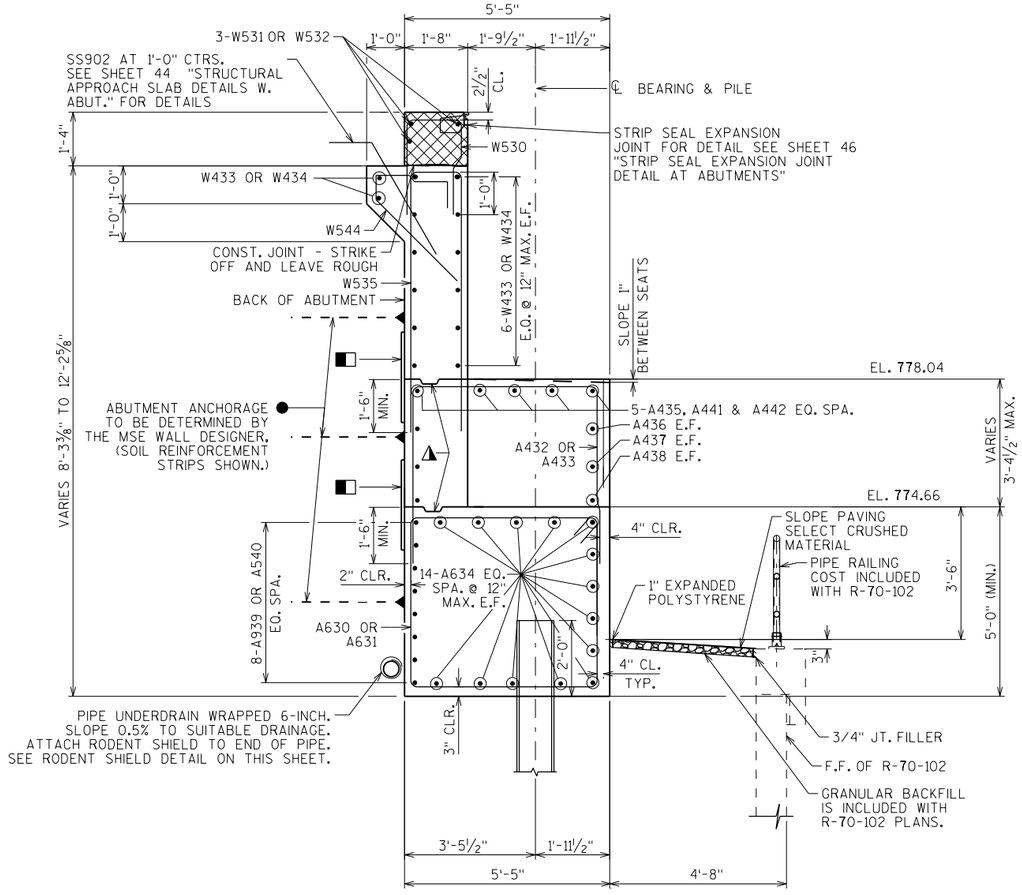
DATE: 3/11/2014
I.D.

8

8

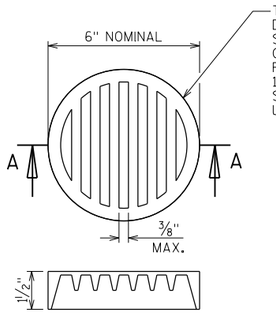
STATE PROJECT NUMBER

1517-07-72



TYPICAL SECTION THRU BODY

APPLY POLYMER OVERLAY AT THE PAVING BLOCK

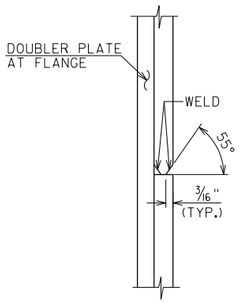


THE RODENT SHIELD SHALL BE A PVC GRATE SIMILAR TO THIS DETAIL. THE GRATE IS COMMERCIALLY AVAILABLE AS A FLOOR STRAINER. A PIPE COUPLING IS REQUIRED FOR THE ATTACHMENT OF THIS SHIELD TO THE OUTFALL PIPE. THE SHIELD SHALL BE FASTENED TO THE PIPE COUPLING WITH TWO OR MORE NO. 10 X 1-INCH STAINLESS STEEL SHEET METAL SCREWS. COST OF RODENT SHIELD AND ALL FITTINGS TO BE INCLUDED IN BID ITEM "PIPE UNDERDRAIN WRAPPED 6-INCH".

SECTION A-A

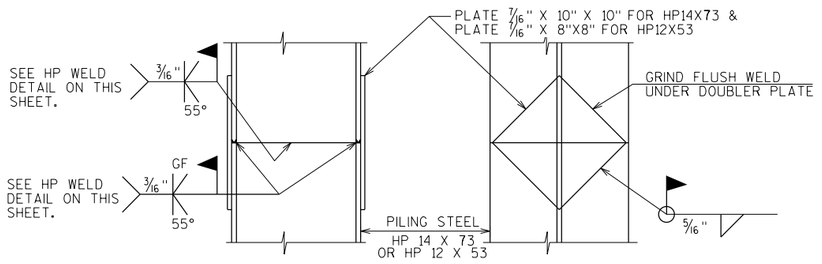
RODENT SHIELD DETAIL

ORIENT SHIELD SO SLOTS ARE VERTICAL AS SHOWN DIMENSIONS ARE APPROXIMATE. THE GRATE IS SIZED TO FIT INTO A PIPE COUPLING.



HP WELD DETAIL

(FLANGE SHOWN, WEB SIMILAR)



PILE SPLICE DETAIL

LEGEND

FOR LEGEND DESCRIPTIONS, SEE SHEET 6 "WEST ABUTMENT PLAN & ELEVATION"

● M. S. E. WALL REINFORCEMENT STRIPS TO BE DESIGNED BY MSE MANUFACTURER. THE REINFORCEMENT STRIPS, BACKFILL STRUCTURE AND CONNECTION TO THE ABUTMENT ARE TO BE PAID FOR UNDER STRUCTURE R-70-102.

UNFACTORED SUPERSTRUCTURE LATERAL LINE LOADS TRANSFERRED TO THE ABUTMENT, AS SHOWN BELOW, ARE TAKEN PER FOOT OF ABUTMENT LENGTH. THE VALUES ARE TO BE USED FOR THE LRFD DESIGN OF THE ABUTMENT ANCHORAGE BY THE MSE MANUFACTURER (MSE SYSTEM, DEAD MAN ANCHOR, OTHER). THE FOLLOWING AASHTO LINE LOADS SHALL BE:
BR = 0.6 KLF
WS = 0.1 KLF
WL = 0.1 KLF
CE = 0.5 KLF
TU = 0.6 KLF

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-70-402

DRAWN BY KJZ | PLANS CK'D. NPP

WEST ABUTMENT CROSS SECTION

SHEET 8 OF 52
355

8

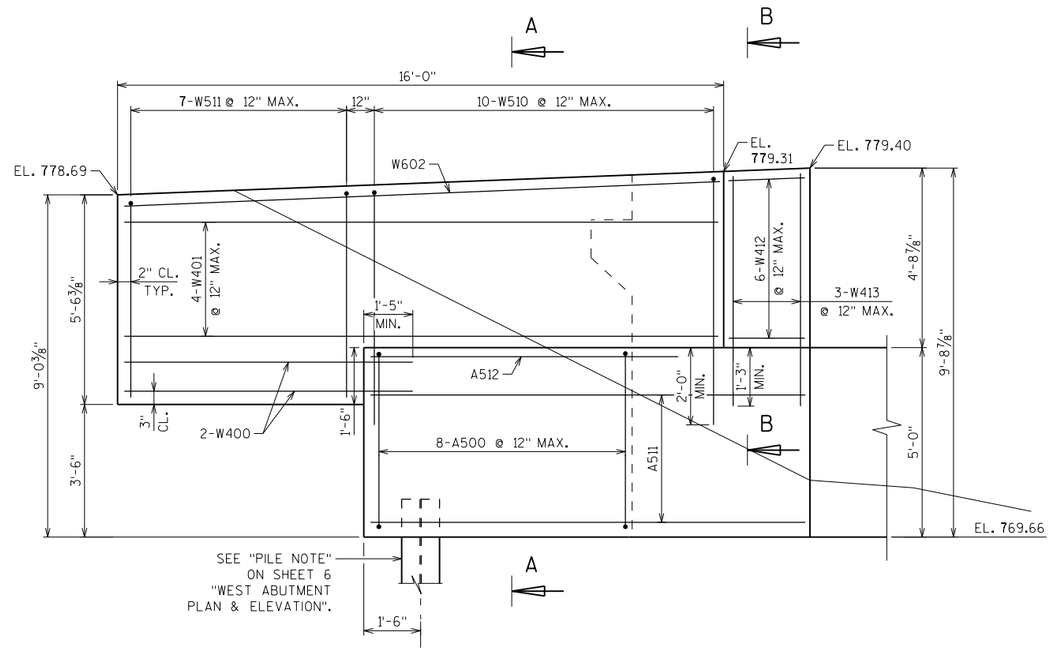
8

FILE= 0:\WisDOT_12345678_10-441\Plans\B-70-402\Control Copy\008-B-70-402 - West Abutment Cross Section.dgn

DATE: 3/11/2014
I.D.

STATE PROJECT NUMBER

1517-07-72



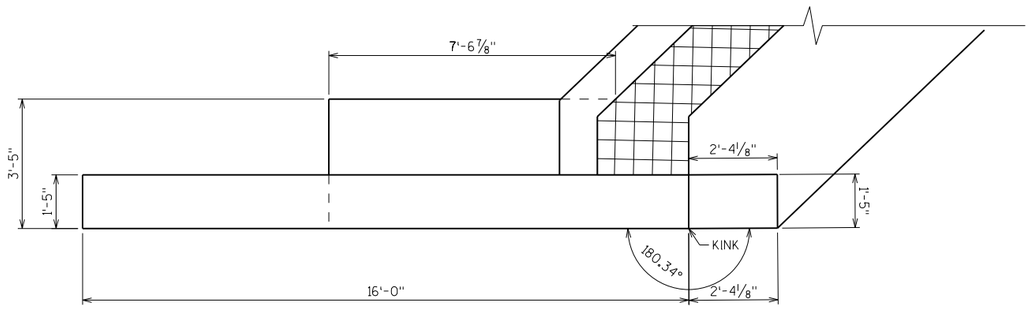
WING 1 ELEVATION

(FRONT FACE)

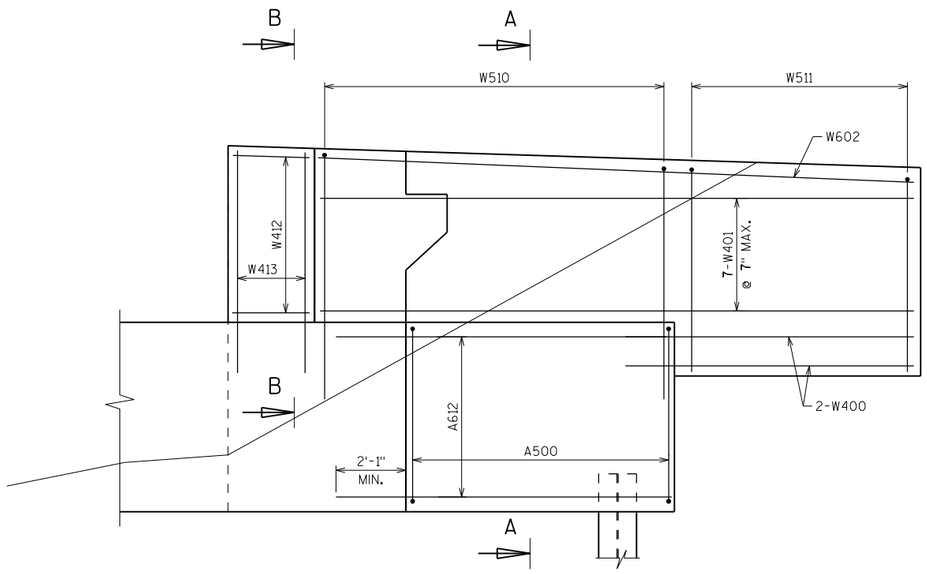
NOTES

FOR LEGEND DESCRIPTIONS, SEE SHEET 6 "WEST ABUTMENT PLAN & ELEVATION".

FOR AESTHETIC DETAILS, SEE SHEET 49 "AESTHETIC DETAILS".

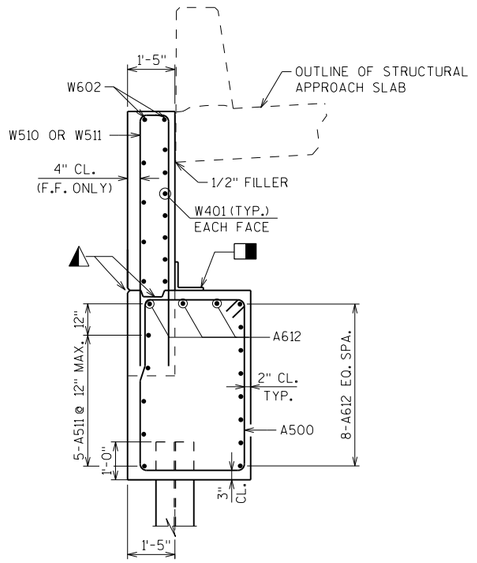


PLAN

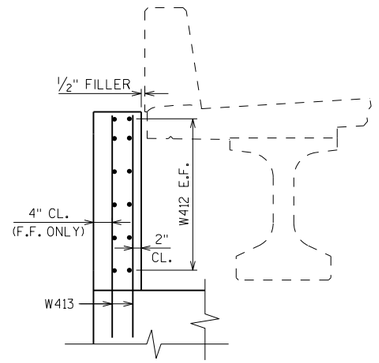


WING 1 ELEVATION

(BACK FACE)



SECTION A-A



SECTION B-B

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-70-402

DRAWN BY KJZ | PLANS CK'D. NPP

WEST ABUTMENT
WING 1

SHEET 9 OF 52
356

8

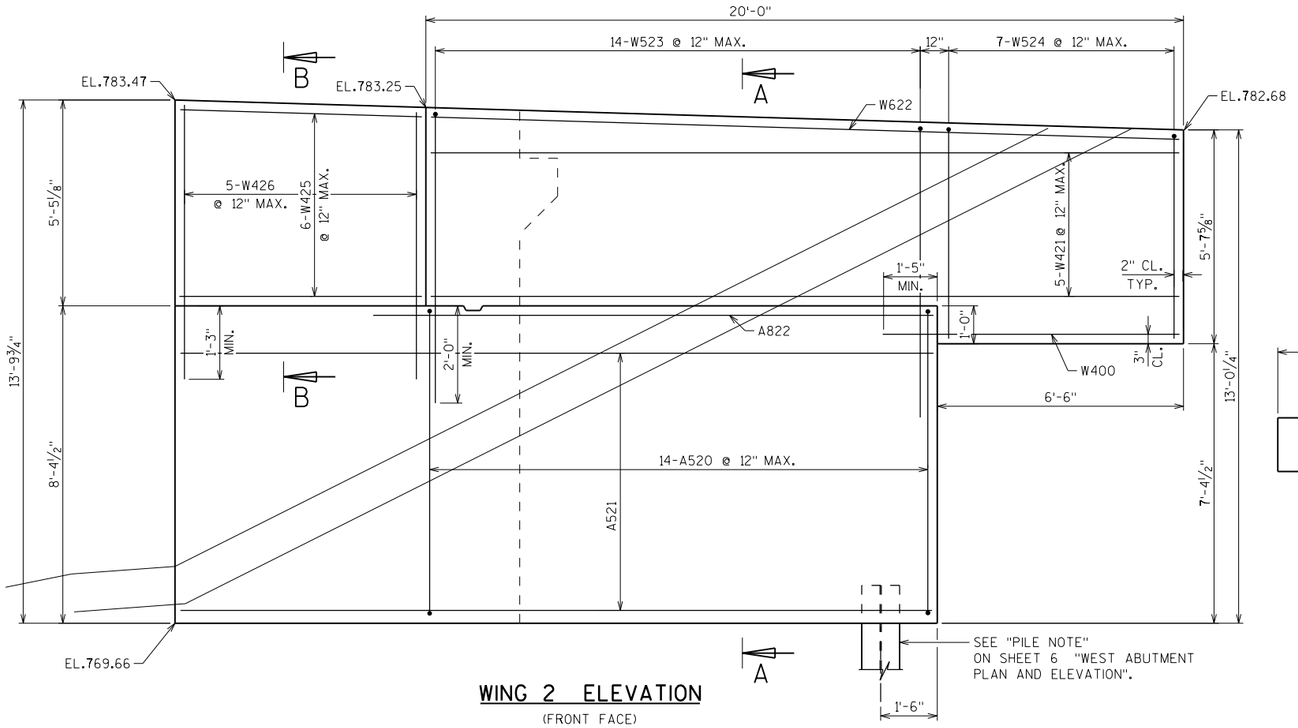
8

FILE= G:\WisDOT_12345678_10-441\Plans\B-70-402\Control Copy\009-B-70-402 - West Abutment Wing 2.dgn

DATE: 3/11/2014
I.D.

STATE PROJECT NUMBER

1517-07-72



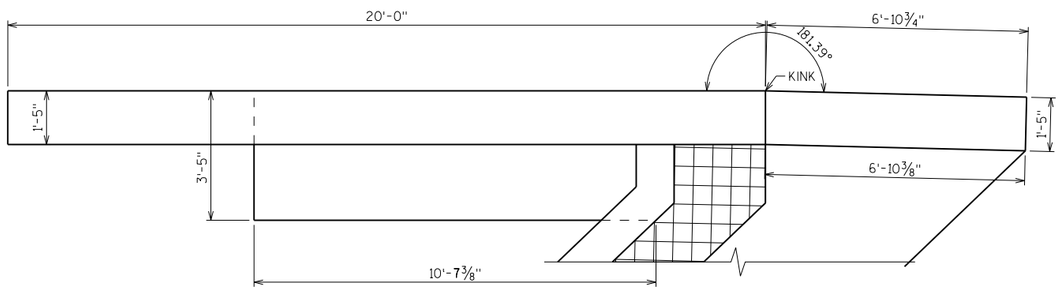
WING 2 ELEVATION

(FRONT FACE)

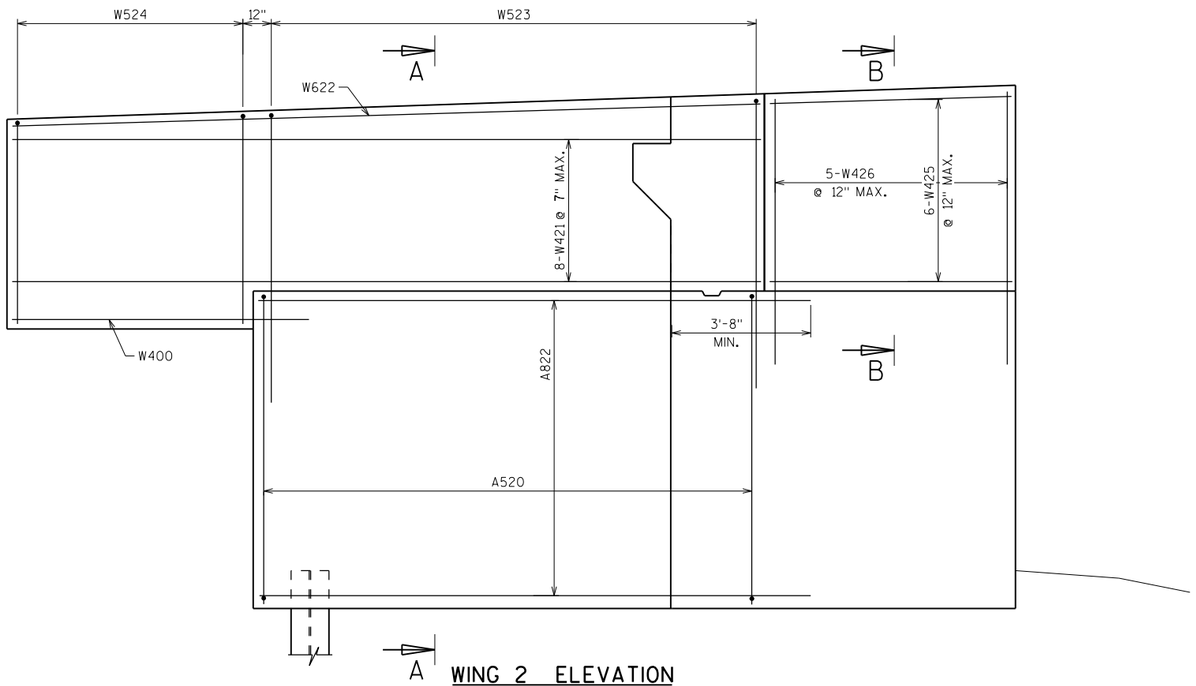
NOTES

FOR LEGEND DESCRIPTIONS, SEE SHEET 6 "WEST ABUTMENT PLAN & ELEVATION".

FOR AESTHETIC DETAILS, SEE SHEET 49 "AESTHETIC DETAILS".

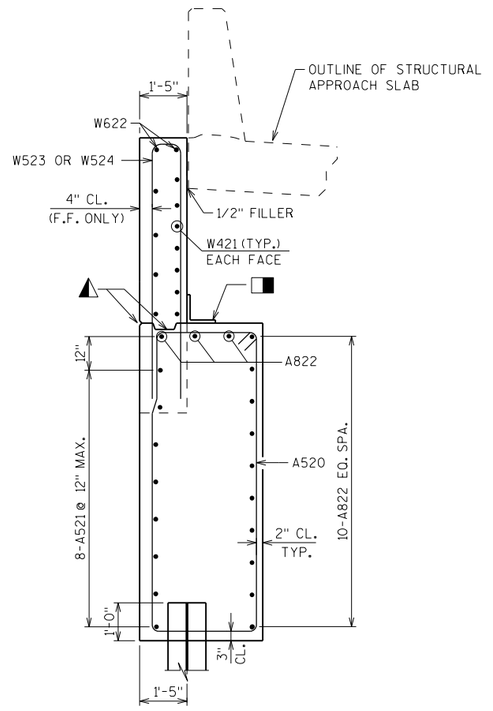


PLAN

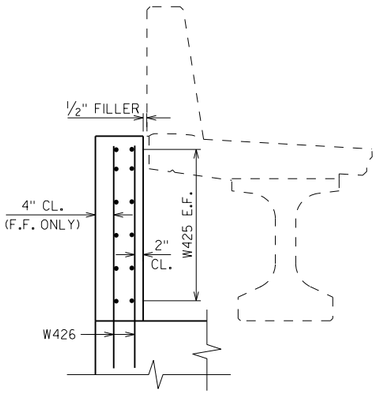


WING 2 ELEVATION

(BACK FACE)



SECTION A-A



SECTION B-B

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-70-402

DRAWN BY KJZ | PLANS CK'D. NPP

WEST ABUTMENT
WING 2

SHEET 10 OF 52
357

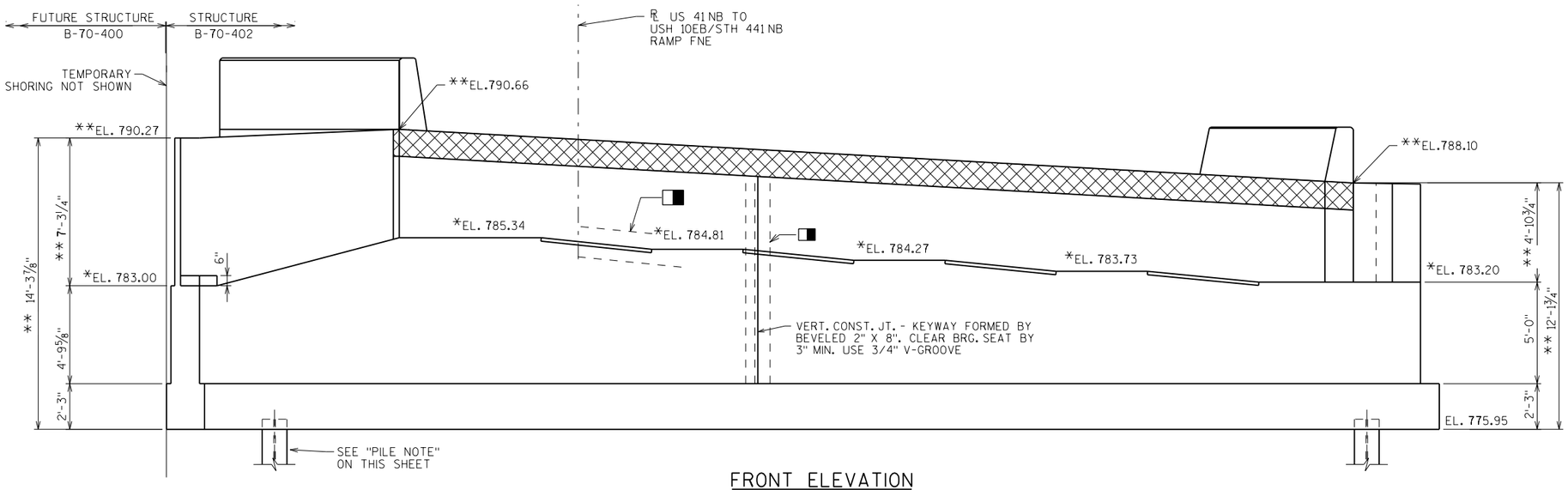
DATE: 3/11/2014
I.D.

FILE= Q:\WisDOT_12345678_10-441\Plans\B-70-402 - West Abutment Wing 3.dgn

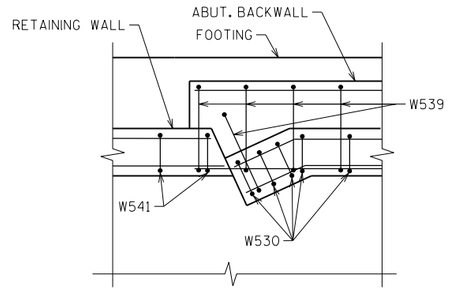
8

8

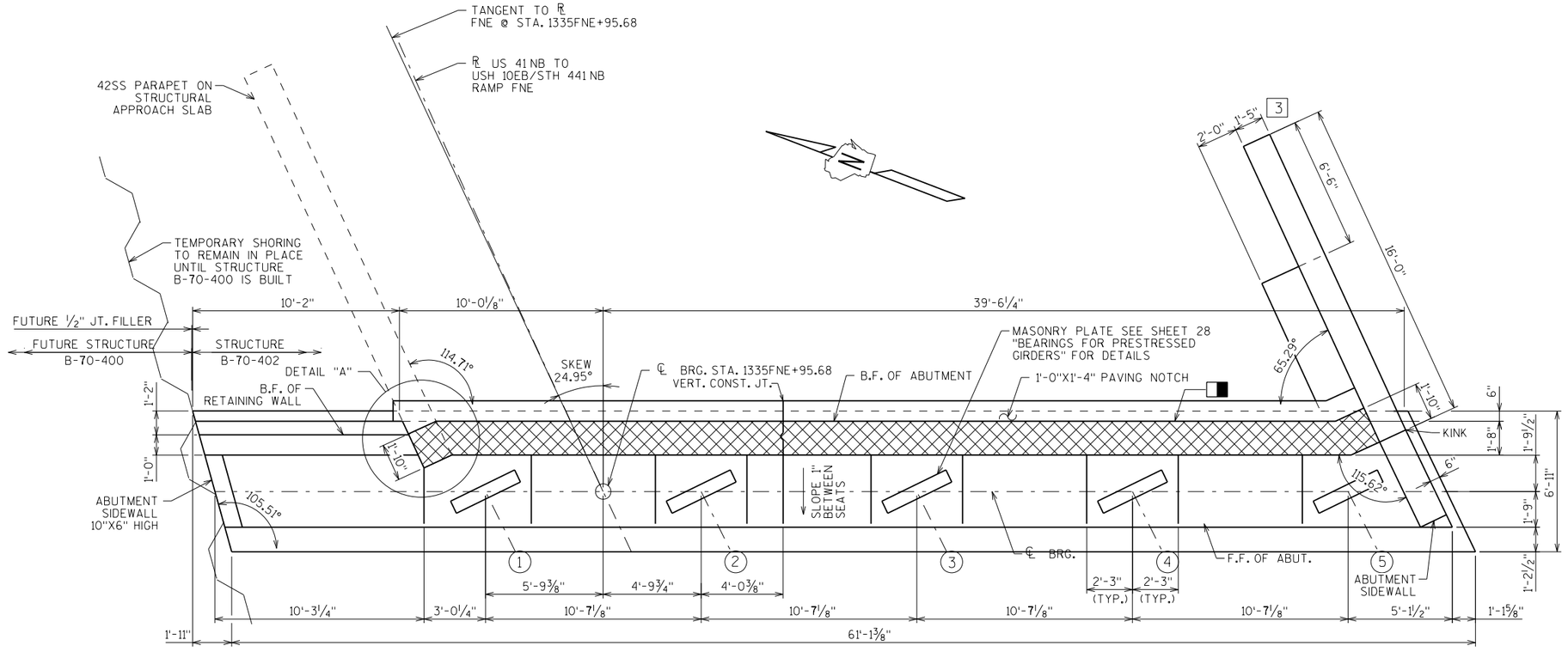
STATE PROJECT NUMBER
1517-07-72



FRONT ELEVATION



DETAIL A



PLAN

LEGEND

- INDICATES CONCRETE AREA TO BE POURED AFTER SUPERSTRUCTURE CONCRETE IS IN PLACE.
- (1) INDICATES GIRDER NUMBER.
- [1] INDICATES WING NUMBER.
- ⟨1⟩ INDICATES PILE NUMBER.
- * ELEVATIONS ARE GIVEN AT THE TOP OF CONCRETE AT THE ℄ OF BEARING.
- ** DIMENSIONS AND ELEVATIONS ARE GIVEN AT THE F.F. OF ABUTMENT BACKWALL.
- 18" RUBBERIZED MEMBRANE WATERPROOFING. SEAL ALL HORIZONTAL AND VERTICAL JOINTS ON BACK FACE ABOVE FOOTING.
- KEYED CONST. JOINT FORMED BY BEVELED 2"X6".

NOTES

SEE SHEET 14 "EAST ABUTMENT WING 3" FOR WINGWALL DETAILS.

PILE NOTE

EAST ABUTMENT TO BE SUPPORTED ON HP12X53 STEEL PILING DRIVEN TO A REQUIRED DRIVING RESISTANCE OF 175 TONS PER PILE AS DETERMINED BY THE MODIFIED GATES DYNAMIC EQUATION. ESTIMATED LENGTH OF 45.05 FEET.

SEE SHEET 8 "WEST ABUTMENT CROSS SECTION" FOR PILE SPLICE DETAILS.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-70-402

DRAWN BY KJZ | PLANS CK'D. NPP

EAST ABUTMENT PLAN & ELEVATION

SHEET 11 OF 52
358

8

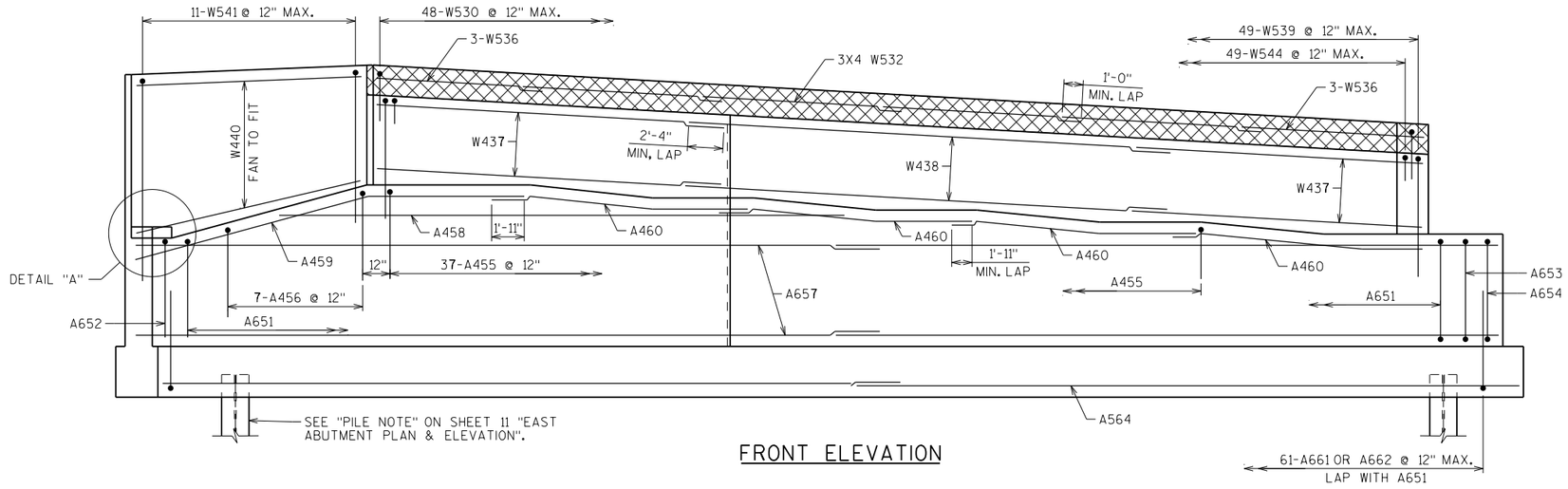
8

FILE= O:\WisDOT_12345678_10-441\Plans\B-70-402\Control Copy\011-B-70-402 - East Abutment Plan & Elevation.dgn

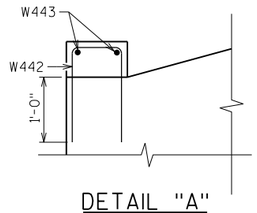
DATE: 3/11/2014
I.D.

STATE PROJECT NUMBER

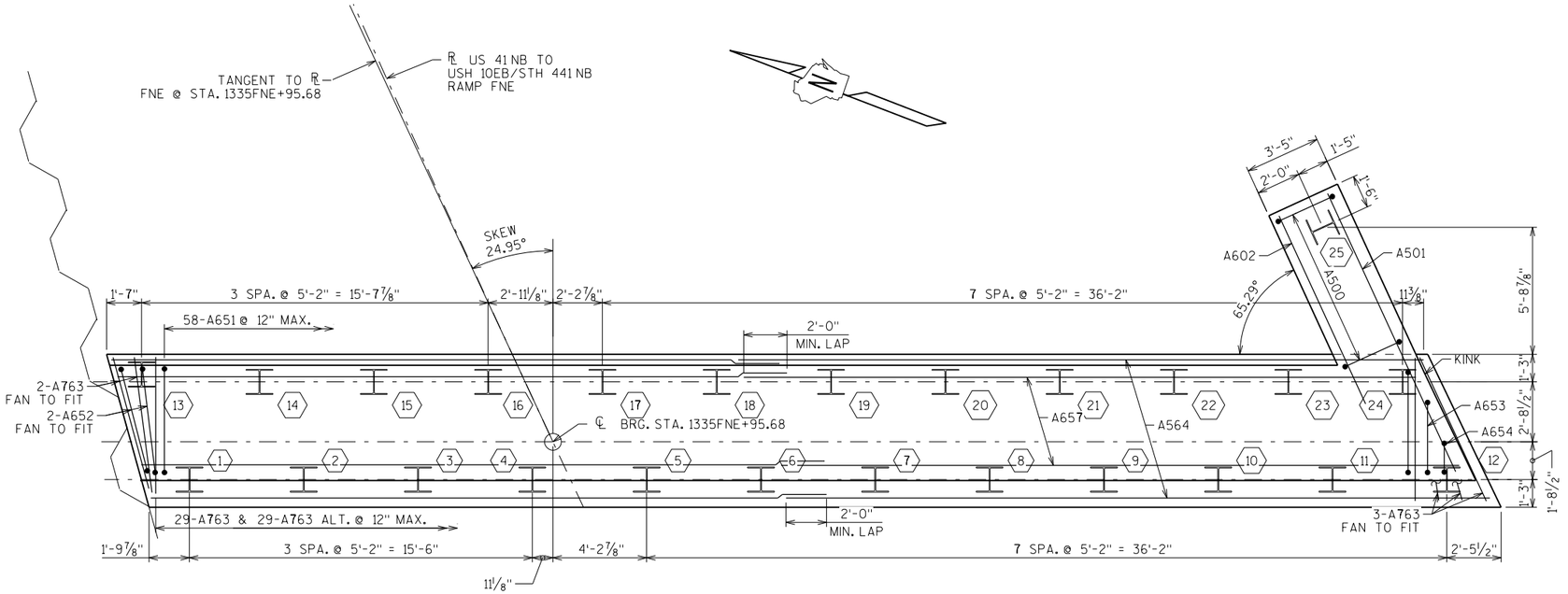
1517-07-72



FRONT ELEVATION



DETAIL "A"



PLAN

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-70-402

DRAWN BY KJZ | PLANS CK'D. NPP

EAST ABUTMENT LAYOUT

SHEET 12 OF 52
359

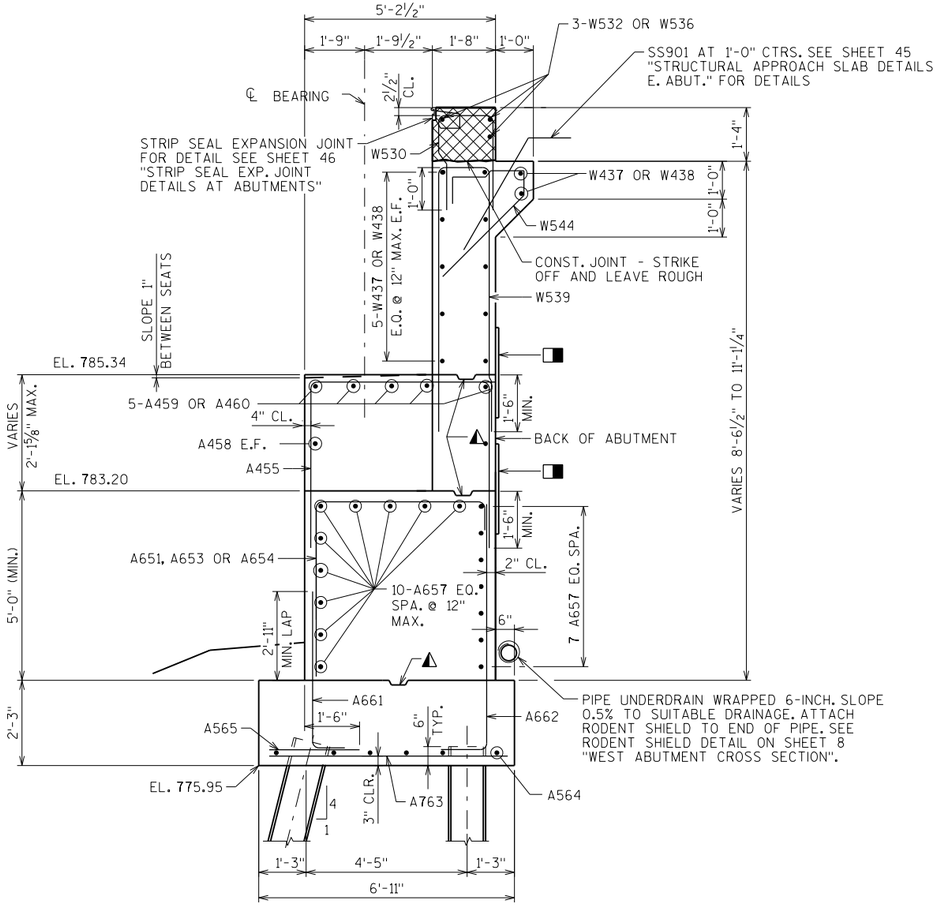
DATE: 3/11/2014
I.D.

FILE= G:\WisDOT_12345678_10-441\Plans\B-70-402\Control Copy\012-B-70-402 - East Abutment Pile Plan.dgn

8

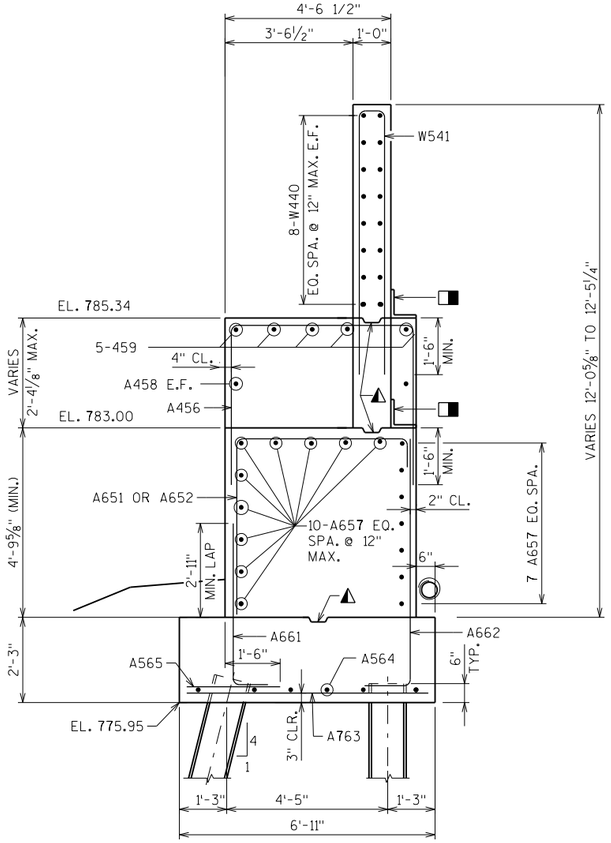
8

STATE PROJECT NUMBER
1517-07-72



TYPICAL SECTION THROUGH BODY

APPLY POLYMER OVERLAY AT THE PAVING BLOCK



TYPICAL SECTION THROUGH WALL

(DETAIL NOT SHOWN IS SIMILAR TO "TYPICAL SECTION THROUGH BODY")

NOTE

FOR MISC. DETAILS, SEE SHEET 8 "WEST ABUTMENT CROSS SECTION".
KEYED CONSTRUCTION JOINT FROM FOOTING TO ABUTMENT BODY IS MANDATORY.

LEGEND

FOR LEGEND DESCRIPTIONS, SEE SHEET 11 "EAST ABUTMENT PLAN & ELEVATION".

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-70-402

DRAWN BY KJZ | PLANS CK'D. NPP

EAST ABUTMENT CROSS SECTIONS

SHEET 13 OF 52
360

8

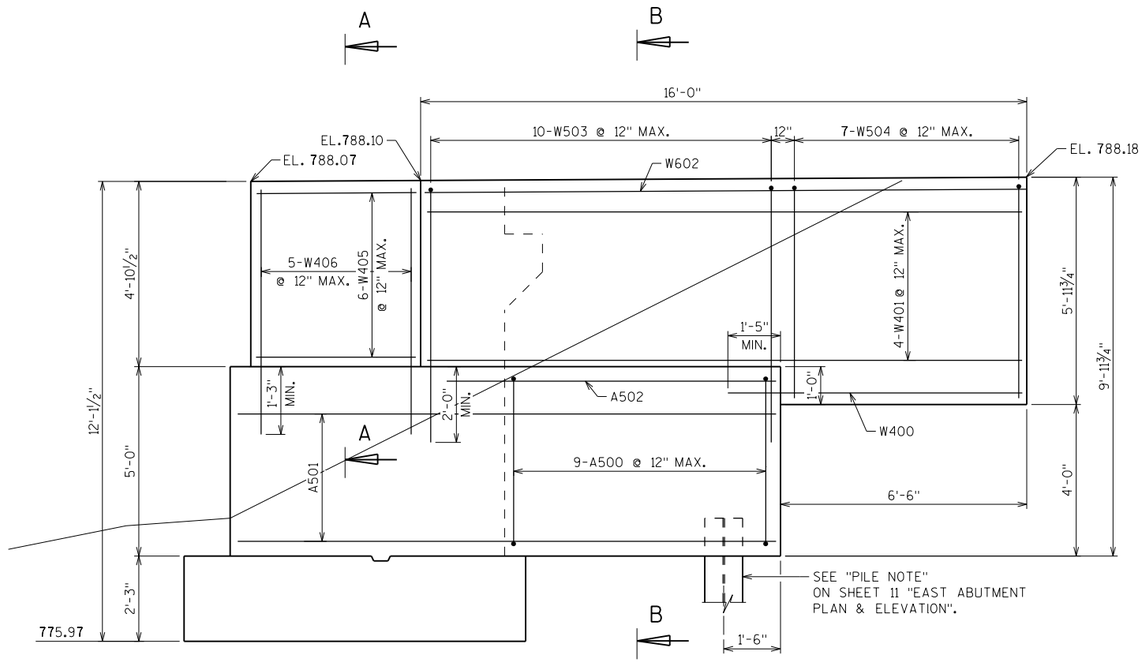
8

FILE= G:\WisDOT_12345678_10-441\Plans\B-70-402\Control Copy\013-B-70-402 - East Abutment Cross Section.dgn

DATE: 3/11/2014
I.D.

STATE PROJECT NUMBER

1517-07-72

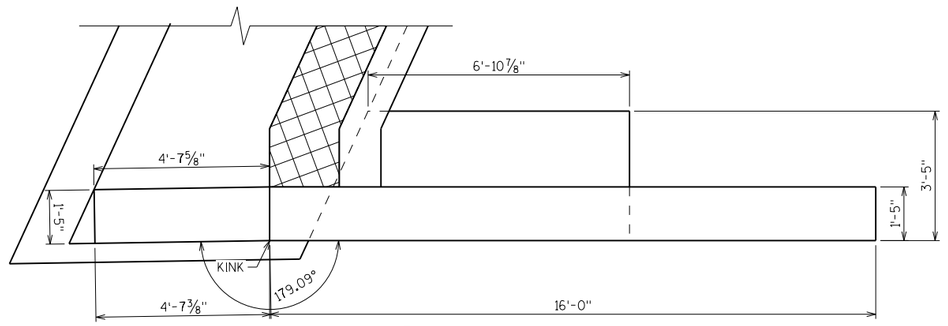


WING 3 ELEVATION

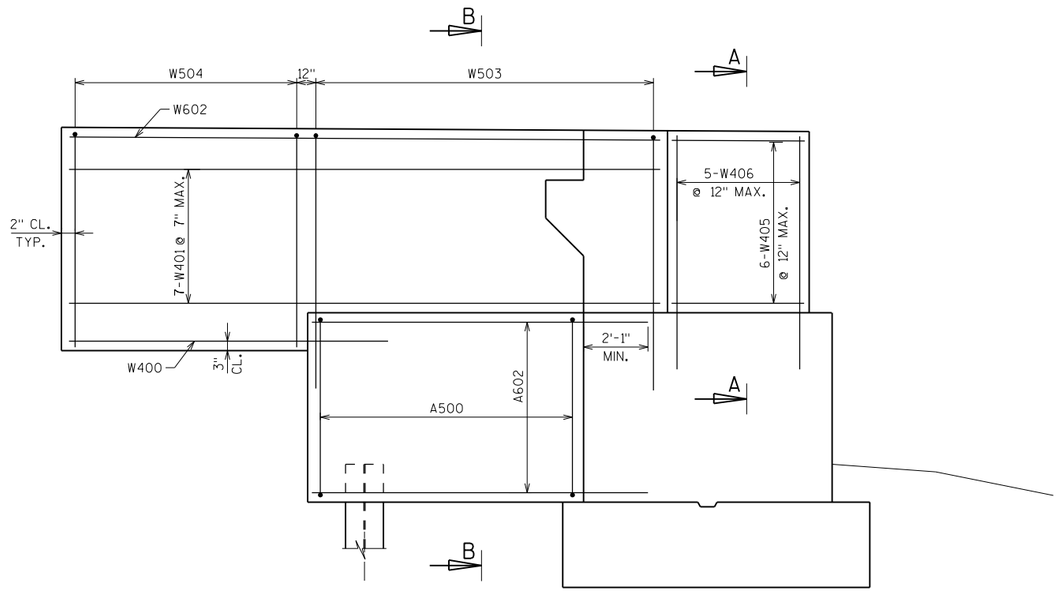
(FRONT FACE)

LEGEND

FOR LEGEND DESCRIPTIONS, SEE SHEET 11 "EAST ABUTMENT PLAN AND ELEVATION".

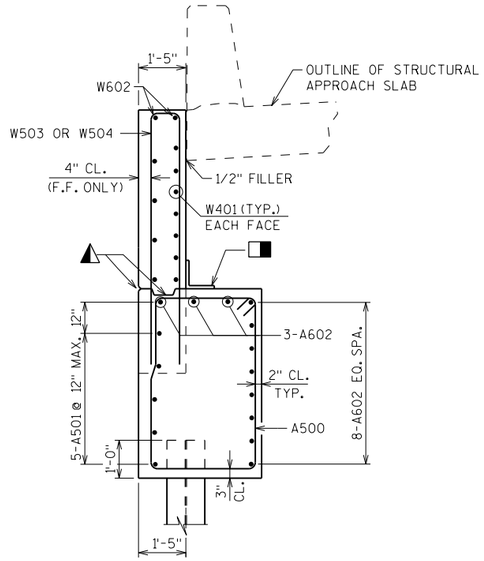


PLAN

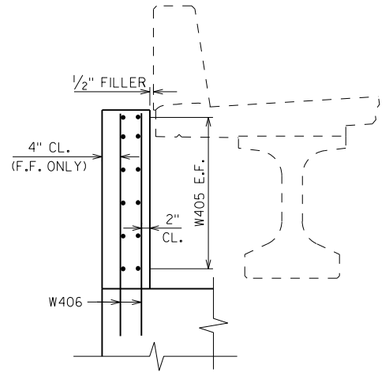


WING 3 ELEVATION

(BACK FACE)



SECTION A-A



SECTION B-B

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-70-402

DRAWN BY KJZ | PLANS CK'D. NPP

EAST ABUTMENT
WING 3

SHEET 14 OF 52
361

8

8

FILE= G:\WisDOT_12345678_10-441\Plans\B-70-402\Control Copy\014-B-70-402 - East Abutment Wing 1.dgn

DATE: 3/11/2014
I.D.

STATE PROJECT NUMBER

1517-07-72

BILL OF COATED BARS

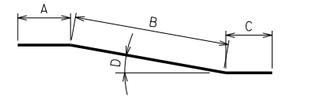
BAR MARK	NO. REQ'D	LENGTH	SERIES	LOCATION
COATED BARS				TOTAL WEIGHT: 6,328 LB
W400	8	7' - 9"		WINGS 1, 2 & 3 HORIZONTAL
W401	22	15' - 8"		WINGS 1 & 3 HORIZONTAL
W602	4	15' - 8"		WINGS 1 & 3 HORIZONTAL
W503	10	13' - 10"		WING 3 VERTICAL
W504	7	11' - 8"		WING 3 VERTICAL
W405	12	4' - 1"		SIDEWALL 3 HORIZONTAL
W406	10	5' - 11"		SIDEWALL 3 VERTICAL
W510	10	13' - 6"		WING 1 VERTICAL
W511	7	10' - 9"		WING 1 VERTICAL
W412	12	1' - 11"		SIDEWALL 1 HORIZONTAL
W413	6	5' - 10"		SIDEWALL 1 VERTICAL
W421	13	19' - 8"		WING 2 HORIZONTAL
W622	2	19' - 8"		WING 2 HORIZONTAL
W523	14	14' - 7"		WING 2 VERTICAL
W524	7	10' - 11"		WING 2 VERTICAL
W425	12	7' - 7"		SIDEWALL 2 HORIZONTAL
W426	10	6' - 6"		SIDEWALL 2 VERTICAL
W530	110	5' - 9"		PAVING NOTCH VERTICAL
W531	6	9' - 1"		PAVING NOTCH HORIZONTAL
W532	30	8' - 0"		PAVING NOTCH HORIZONTAL
W433	28	21' - 6"		W. ABUT. BACKWALL HORIZONTAL
W434	14	22' - 2"		W. ABUT. BACKWALL HORIZONTAL
W535	62	14' - 1"		W. ABUT. BACKWALL VERTICAL
W536	6	5' - 5"		PAVING NOTCH HORIZONTAL
W437	24	17' - 7"		E. ABUT. BACKWALL HORIZONTAL
W438	12	16' - 3"		E. ABUT. BACKWALL HORIZONTAL
W539	49	14' - 8"		E. ABUT. BACKWALL VERTICAL
W440	16	11' - 11"		E. ABUT. RETAINING WALL HORIZONTAL
W541	11	15' - 8"	X	E. ABUT. RETAINING WALL VERTICAL
W442	4	3' - 0"		E. ABUT. END WALL VERTICAL
W443	2	3' - 2"		E. ABUT. END WALL HORIZONTAL
W544	111	6' - 8"		ABUT. CORBEL

BAR SEQUENCE 7-9, 14-20, AND 27-29 NOT USED.

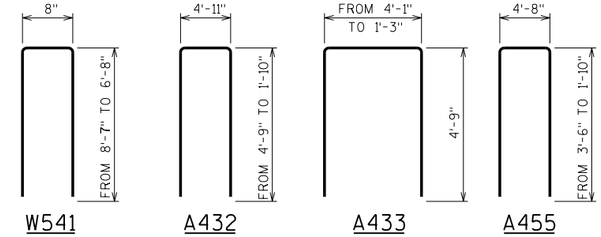
BILL OF UNCOATED BARS

BAR MARK	NO. REQ'D	LENGTH	SERIES	LOCATION
UNCOATED BARS				TOTAL WEIGHT: 12,588 LB
A500	17	15' - 3"		WINGS 1 & 3 STIRRUP
A501	6	14' - 2"		WING 3 HORIZONTAL FRONT FACE
A602	11	9' - 0"		WING 3 HORIZONTAL BACK FACE
A511	5	11' - 5"		WING 1 HORIZONTAL FRONT FACE
A612	11	9' - 2"		WING 1 HORIZONTAL BACK FACE
A520	14	21' - 11"		WING 2 STIRRUP
A521	8	19' - 10"		WING 2 HORIZONTAL FRONT FACE
A822	13	14' - 7"		WING 2 HORIZONTAL BACK FACE
A630	60	19' - 10"		WEST ABUTMENT STIRRUP
A631	8	15' - 4"	X	WEST ABUTMENT STIRRUP
A432	46	11' - 4"	X	WEST ABUTMENT STIRRUP
A433	4	12' - 0"	X	WEST ABUTMENT STIRRUP
A634	28	34' - 0"		WEST ABUTMENT HORIZONTAL
A435	20	14' - 9"		WEST ABUTMENT HORIZONTAL
A436	2	13' - 11"		WEST ABUTMENT HORIZONTAL
A437	2	28' - 6"		WEST ABUTMENT HORIZONTAL
A438	2	42' - 9"		WEST ABUTMENT HORIZONTAL
A539	8	30' - 11"		WEST ABUTMENT HORIZONTAL
A940	16	20' - 0"		WEST ABUTMENT HORIZONTAL
A441	5	5' - 10"	X	WEST ABUTMENT HORIZONTAL
A442	5	7' - 7"	X	WEST ABUTMENT HORIZONTAL
A651	58	11' - 6"		EAST ABUTMENT STIRRUP
A652	2	11' - 3"		EAST ABUTMENT STIRRUP
A653	1	9' - 11"		EAST ABUTMENT STIRRUP
A654	1	8' - 4"		EAST ABUTMENT STIRRUP
A455	37	9' - 10"	X	EAST ABUTMENT STIRRUP
A456	7	11' - 5"		EAST ABUTMENT STIRRUP
A657	34	31' - 4"		EAST ABUTMENT HORIZONTAL
A458	2	25' - 0"		EAST ABUTMENT HORIZONTAL
A459	5	17' - 10"		EAST ABUTMENT HORIZONTAL
A460	20	11' - 11"		EAST ABUTMENT HORIZONTAL
A661	61	5' - 9"		FOOTING DOWEL BAR
A662	61	7' - 4"		FOOTING DOWEL BAR
A763	34	6' - 5"		FOOTING TRANSVERSE
A564	12	31' - 8"		FOOTING LONGITUDINAL
A765	29	2' - 6"		FOOTING TRANSVERSE

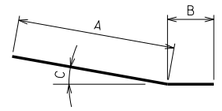
BAR SEQUENCE 3-10, 13-19, 23-29 AND 43-50 NOT USED.



MARK	A	B	C	D
A435	4'-0"	8'-10	1'-11"	5.41°
A460	1'-11"	5'-6"	4'-6"	5.65°



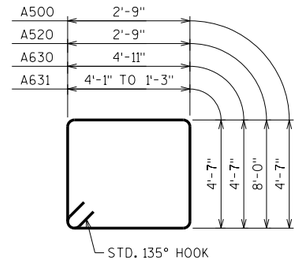
W541 A432 A433 A455



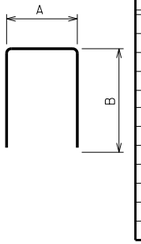
MARK	A	B	C
W531	7'-9"	1'-5"	46.26°
W433	20'-2"	1'-5"	46.26
W536	4'-2"	1'-5"	24.70°
W437	16'-3"	1'-5"	24.70°
A459	10'-7"	7'-3"	14.76°

BAR SERIES TABLE

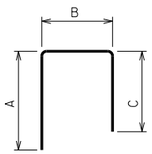
MARK	NO. REQUIRED	LENGTH
W541	1 SET OF 11	17'-10" TO 14'-0"
A631	2 SETS OF 4	18'-2" TO 12'-6"
A432	1 SET OF 46	14'-3" TO 8'-5"
A433	1 SET OF 4	13'-5" TO 10'-7"
A441	1 SET OF 5	3'-1" TO 8'-7"
A442	1 SET OF 5	7'-0" TO 8'-2"
A455	1 SET OF 37	11'-6" TO 8'-2"



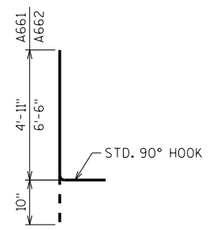
A500, A520, A630 & A631



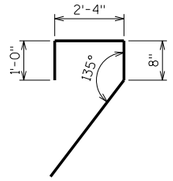
MARK	A	B
W503	9"	6'-8"
W504	9"	5'-6"
W510	9"	6'-5"
W511	9"	5'-0"
W523	9"	7'-0"
W524	9"	5'-1"
W530	1'-4"	2'-4"
W535	1'-4"	6'-6"
W539	1'-4"	6'-8"
W442	6"	1'-4"
A456	4'-8"	3'-6"



MARK	A	B	C
A651	4'-10"	4'-8"	2'-4"
A652	4'-7"	4'-8"	2'-4"
A653	4'-10"	3'-1"	2'-4"
A654	4'-10"	1'-6"	2'-4"



A661 & A662



W544

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-70-402

DRAWN BY KJZ | PLANS CK'D. NPP

ABUTMENTS
BILL OF BARS

SHEET 15 OF 52
362

8

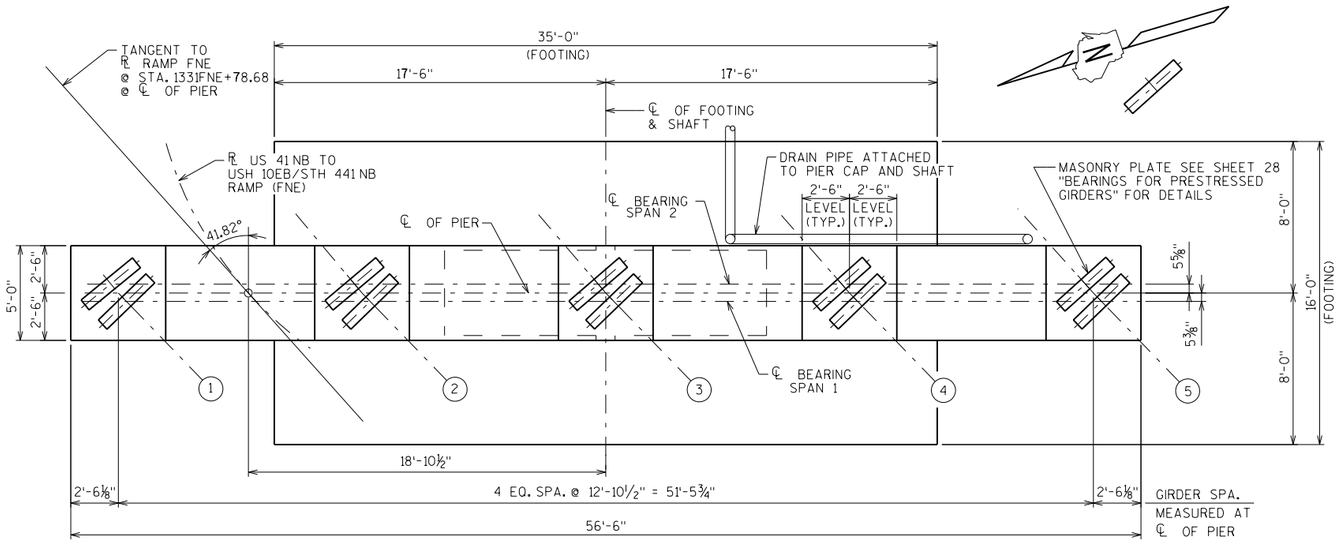
8

FILE= Q:\WisDOT_12345678_10-441\Plans\B-70-402\Control Copy\015-B-70-402 - Abutment Bill of Bars.dgn

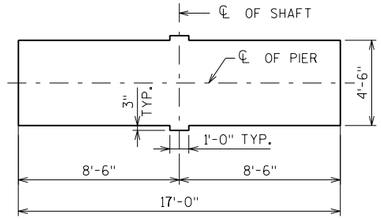
DATE: 3/11/2014
I.D.

STATE PROJECT NUMBER

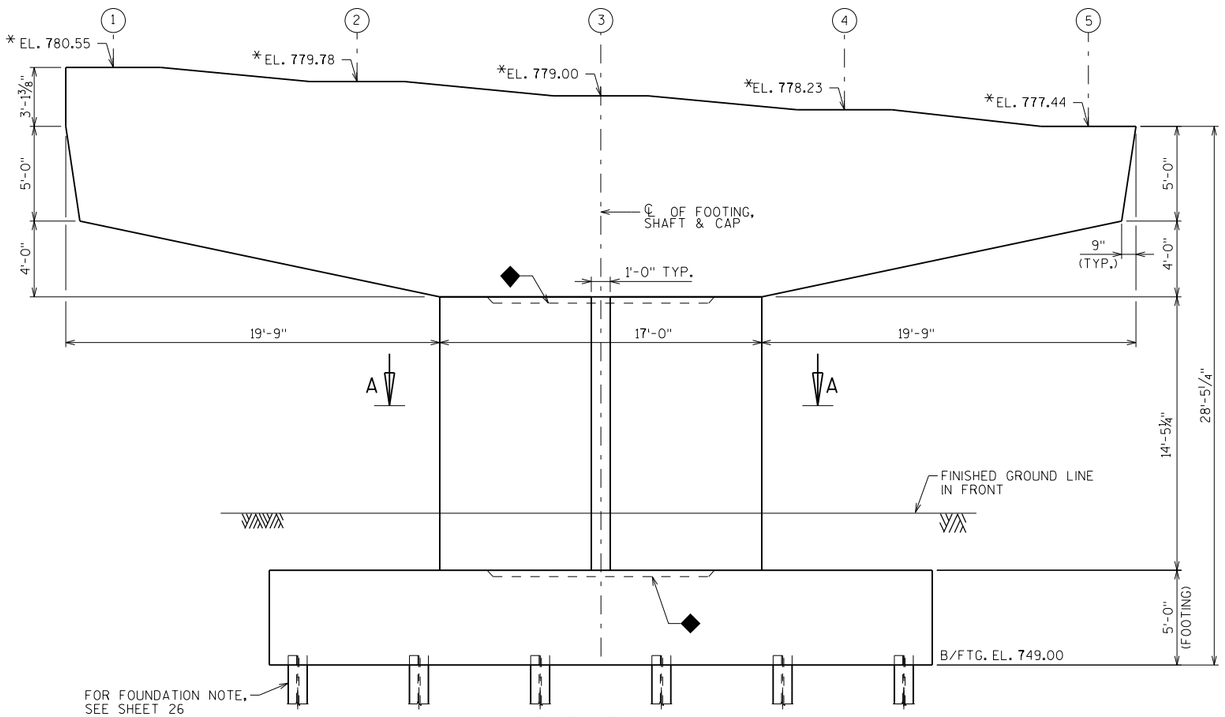
1517-07-72



PLAN

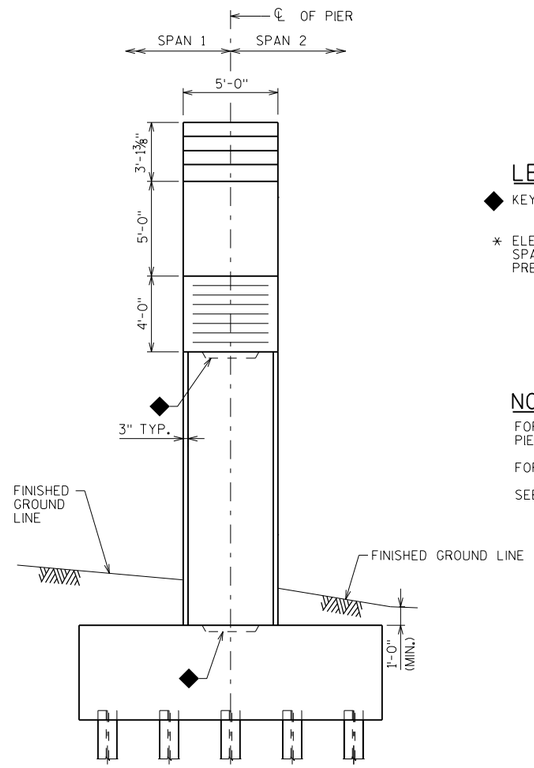


SECTION A-A



ELEVATION

(LOOKING UPSTATION)



END VIEW

(LOOKING NORTH)

LEGEND

◆ KEYED CONST. JOINT FORMED BY BEVELED 4" X 1'-6" X 13'-0".

* ELEVATIONS ARE GIVEN FOR PIER 1: SPAN 1 BEAM SEAT. BEARINGS AT PIER 1: SPAN 2 WILL REQUIRE FILL PLATES. SEE SHEET 28 "BEARINGS FOR PRESTRESSED GIRDERS" FOR DETAILS.

NOTES

FOR BAR STEEL REINFORCEMENT DETAILS, SEE SHEET 27 "BILL OF BARS PIERS".

FOR FOOTING LAYOUT DETAILS. SEE SHEET 26 "FOOTING DETAILS".

SEE SHEET 49 "AESTHETIC DETAILS" FOR PIER AESTHETIC TREATMENTS.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-70-402

DRAWN BY KJZ | PLANS CK'D. NPP

PIER 1 LAYOUT DETAILS

SHEET 16 OF 52
363

8

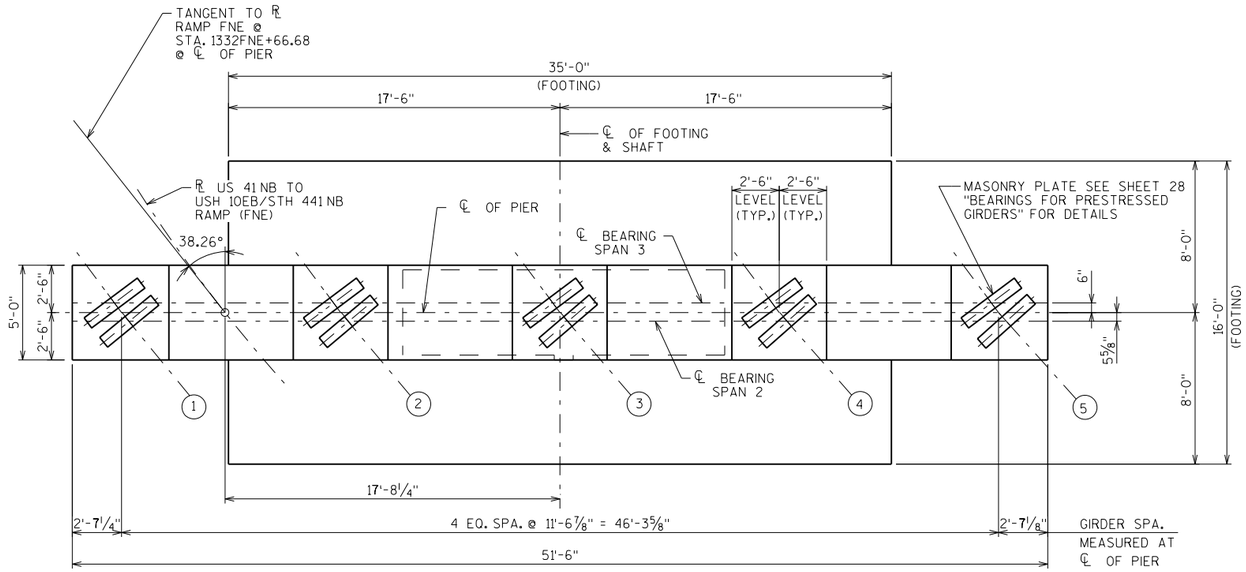
8

FILE= Q:\WisDOT_12345678_10-441\Plans\B-70-402\Control Copy\016-B-70-402 - Pier 1 Layout Details.dgn

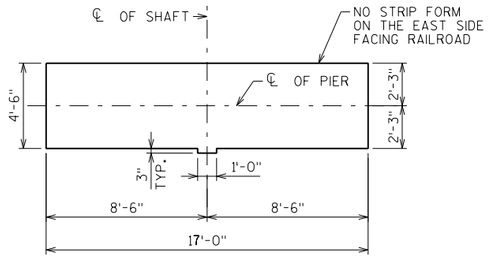
DATE: 3/11/2014

I.D.

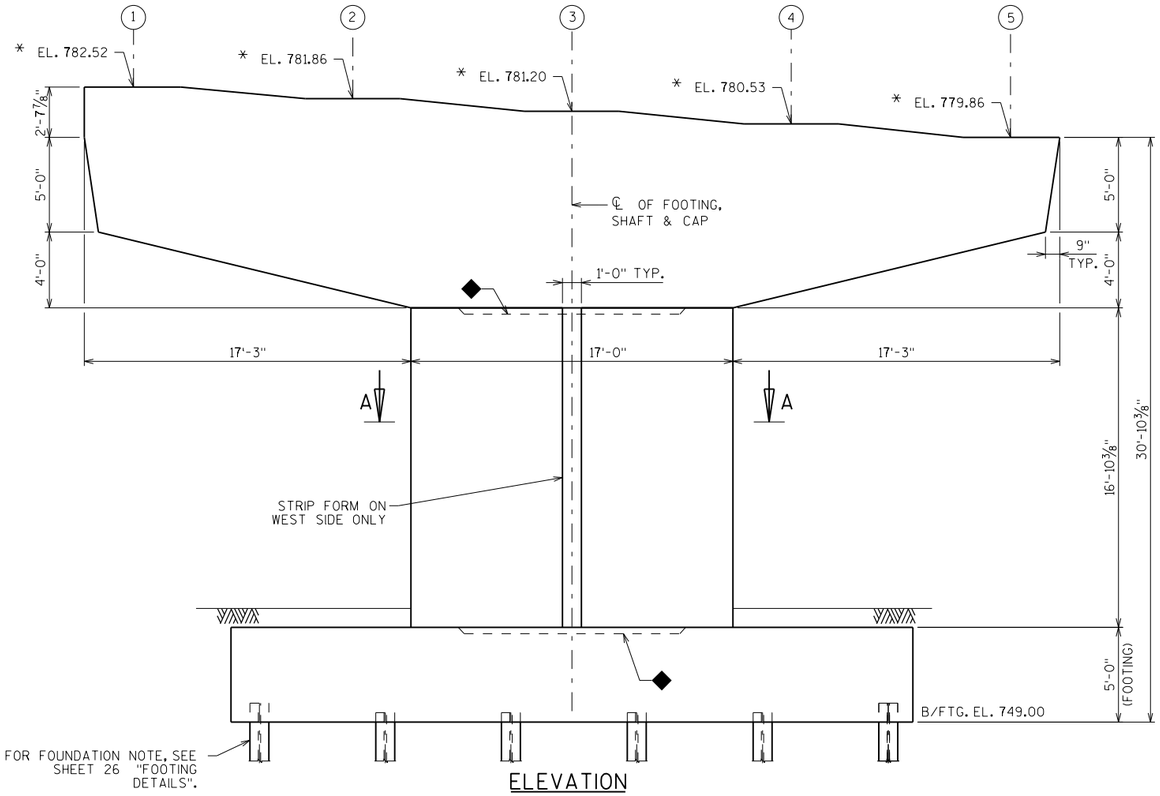
STATE PROJECT NUMBER
1517-07-72



PLAN

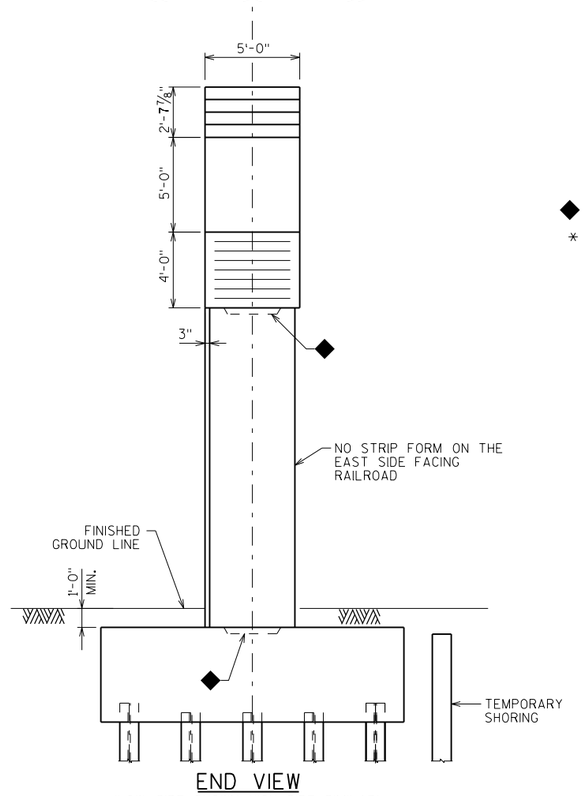


SECTION A-A



ELEVATION

(LOOKING UPSTATION)



END VIEW

(LOW SIDE SHOWN, HIGH SIDE SIMILAR)

LEGEND

◆ KEYED CONST. JOINT FORMED BY BEVELED 4" X 1'-6" X 13'-0".

* ELEVATIONS ARE GIVEN FOR PIER 2: SPAN 2 BEAM SEAT. BEARINGS AT PIER 2: SPAN 3 WILL REQUIRE FILL PLATES. SEE SHEET 28 "BEARINGS FOR PRESTRESSED GIRDERS" FOR DETAILS.

NOTES

FOR BAR STEEL REINFORCEMENT DETAILS, SEE SHEET 27 "BILL OF BARS PIERS".

FOR FOOTING LAYOUT DETAILS. SEE SHEET 26 "FOOTING DETAILS".

SEE SHEET 49 "AESTHETIC DETAILS" FOR PIER AESTHETIC.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-70-402

DRAWN BY	KJZ	PLANS CK'D.	NPP

PIER 2
LAYOUT DETAILS

SHEET 17 OF 52
364

DATE: 3/11/2014
I.D.

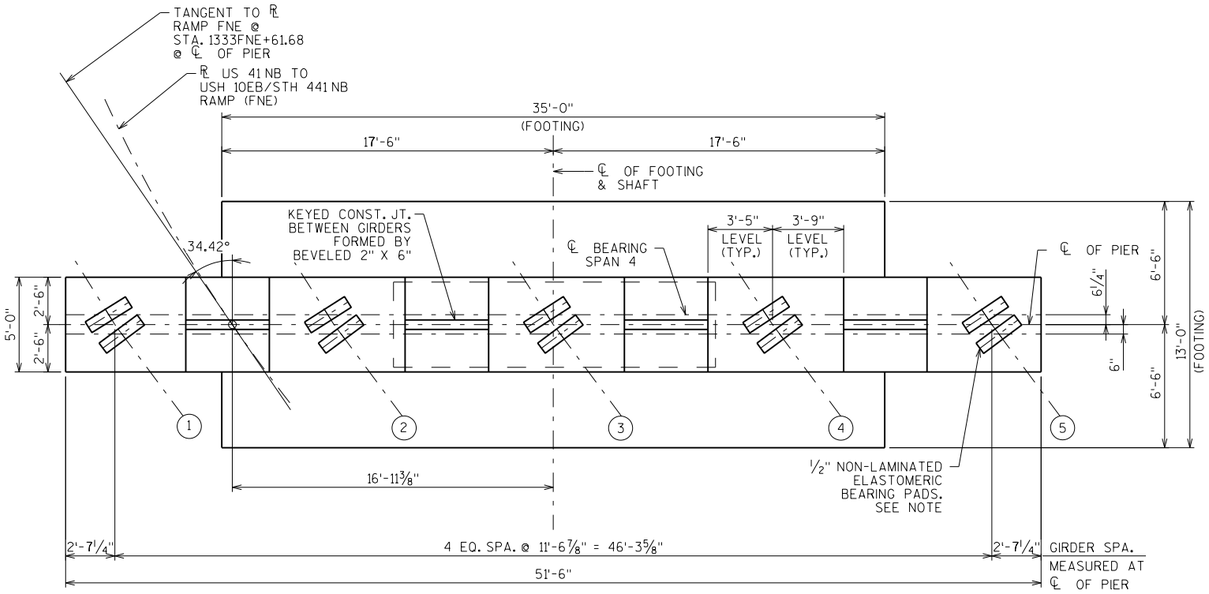
FILE= O:\WisDOT_12345678_10-441\Plans\B-70-402\Control Copy\017-B-70-402 - Pier 2 Layout Details.dgn

8

8

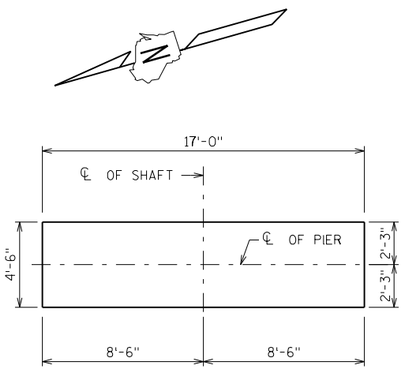
STATE PROJECT NUMBER

1517-07-72

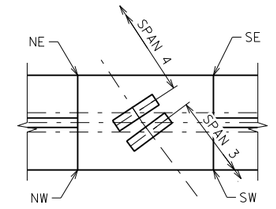


PLAN

ELEVATION
(LOOKING UPSTATION)



SECTION A-A



BEAM SEAT ELEVATION

	NE	NW	SE	SW
GIRDER 1	784.31	784.27	784.27	784.23
GIRDER 2	783.70	783.66	783.66	783.61
GIRDER 3	783.09	783.04	783.04	782.99
GIRDER 4	782.47	782.42	782.42	782.37
GIRDER 5	781.85	781.80	781.81	781.75

END VIEW
(LOW SIDE SHOWN, HIGH SIDE SIMILAR)

LEGEND

◆ KEYED CONST. JOINT FORMED BY BEVELED 4" X 1'-6" X 13'-0".

NOTES

FOR BAR STEEL REINFORCEMENT DETAILS, SEE SHEET 27 "BILL OF BARS PIERS."

FOR FOOTING LAYOUT DETAILS. SEE SHEET 26 "FOOTING DETAILS".

FINISH BEAM SEATS FLAT ACCODRING TO ELEVATIONS GIVEN ON "BEAM SEAT ELEVATION" TABLE.

SEE SHEET 36 "SUPERSTRUCTURE DETAILS" FOR DETAILS OF BEARING PADS AND PREFORM FILLER.

SEE SHEET 49 "AESTHETIC DETAILS" FOR PIER AESTHETIC TREATMENTS.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-70-402

DRAWN BY KJZ | PLANS CK'D. NPP

PIER 3
LAYOUT DETAILS

SHEET 18 OF 52
365

8

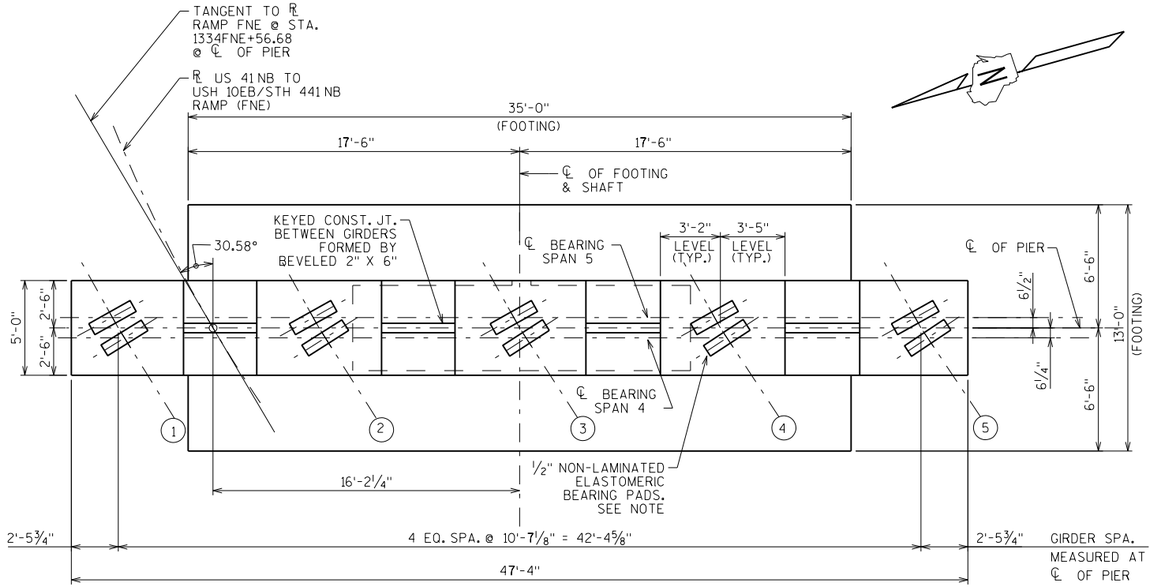
8

FILE= Q:\WisDOT_12345678_10-441\Plans\B-70-402\Control Copy\018-B-70-402 - Pier 3 Layout Details.dgn

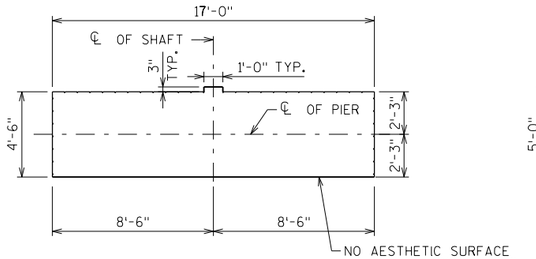
DATE: 3/11/2014
I.D.

STATE PROJECT NUMBER

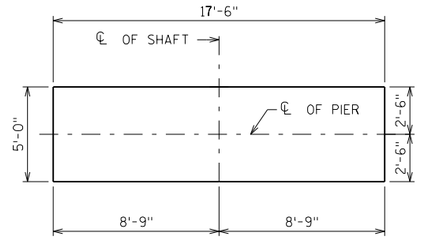
1517-07-72



PLAN

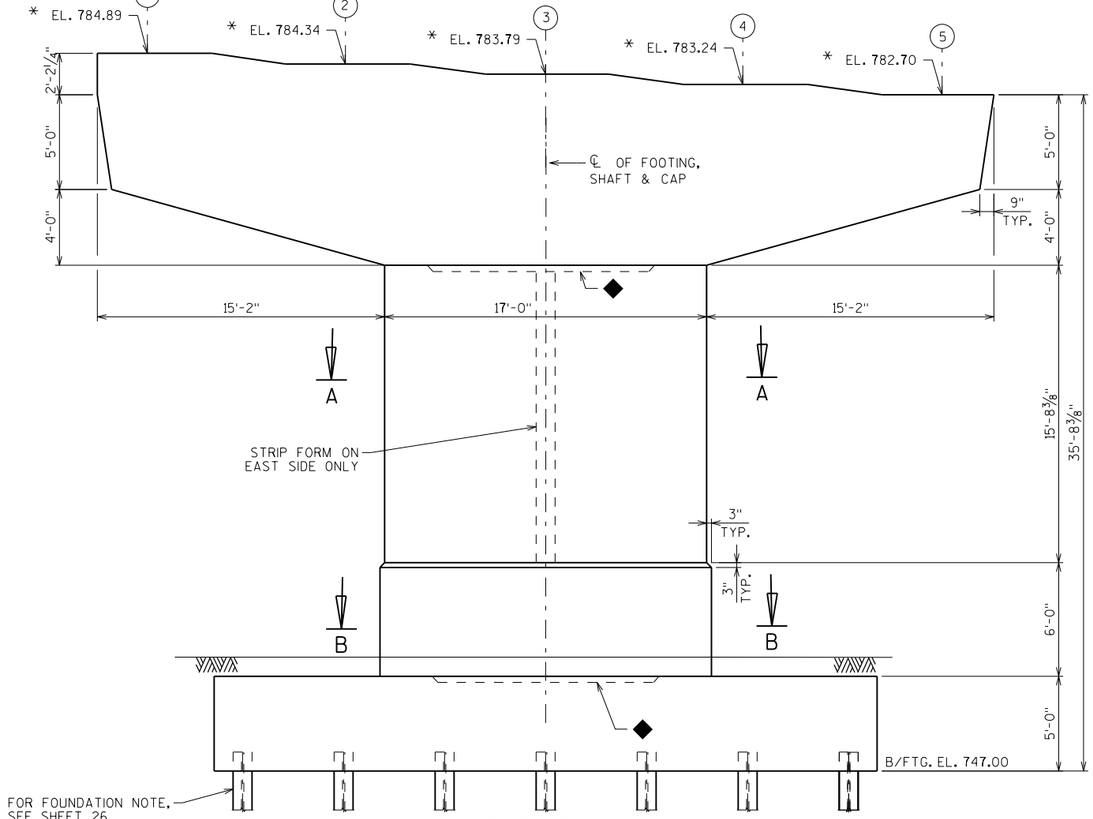


SECTION A-A



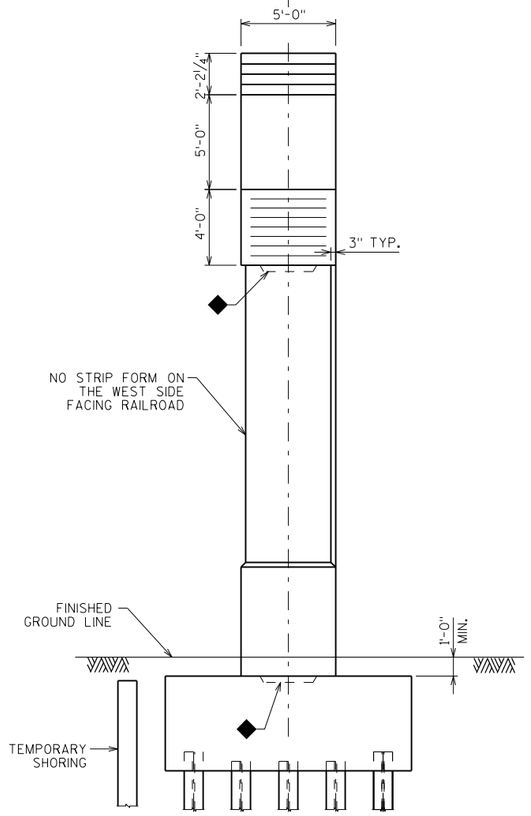
SECTION B-B

(AT PEDESTAL)



ELEVATION

(LOOKING UPSTATION)



END VIEW

(LOW SIDE SHOWN, HIGH SIDE SIMILAR)

LEGEND

◆ KEYED CONST. JOINT FORMED BY BEVELED 4" X 1'-6" X 13'-0".

NOTES

FOR BAR STEEL REINFORCEMENT DETAILS, SEE SHEET 27 "BILL OF BARS PIERS".

FOR FOOTING LAYOUT DETAILS. SEE SHEET 26 "FOOTING DETAILS".

* ELEVATIONS ARE GIVEN FOR PIER 4: SPAN 4 BEAM SEAT. AT PIER 4 SPAN 4 1/2" X 8" X 2'-6" NON-LAMINATED ELASTOMERIC BEARING PADS ARE REQUIRED FOR 1-5 GIRDERS. AT PIER 4 SPAN 5 GIRDERS 1-5, 1" X 8" X 2'-6" NON-LAMINATED ELASTOMERIC BEARING PADS ARE REQUIRED.

SEE SHEET 36 "SUPERSTRUCTURE DETAILS" FOR DETAILS OF BEARING PADS AND PREFORM FILLER.

SEE SHEET 49 "AESTHETIC DETAILS" FOR PIER AESTHETIC TREATMENTS.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-70-402

DRAWN BY KJZ | PLANS CK'D. NPP

PIER 4
LAYOUT DETAILS

SHEET 19 OF 52
366

DATE: 3/11/2014

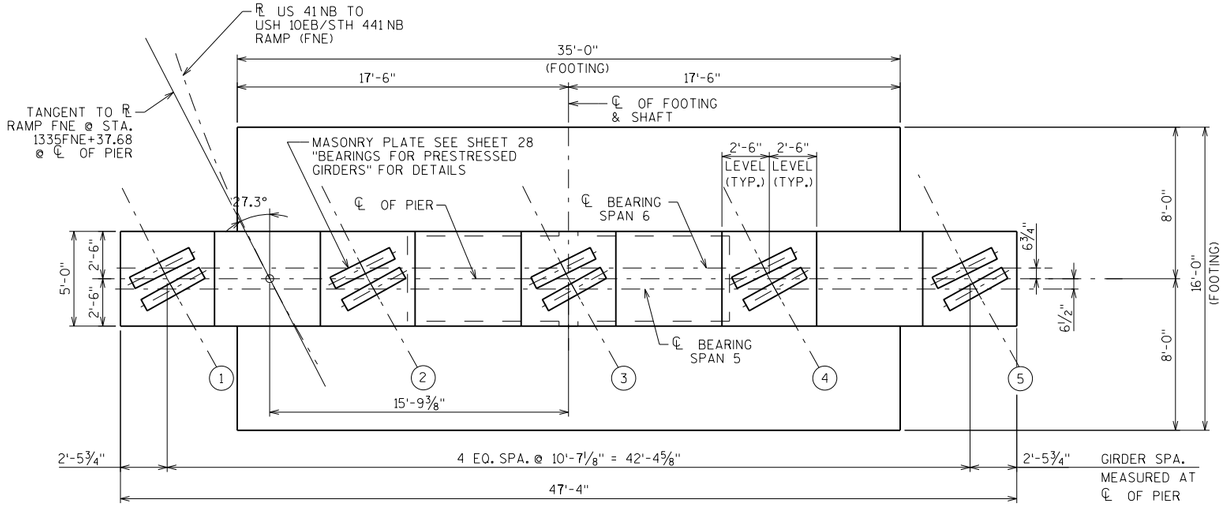
I.D.

8

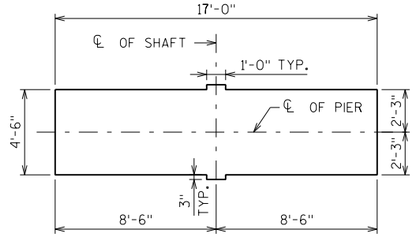
8

FILE= C:\WisDOT_12345678_10-441\Plans\B-70-402\Control Copy\019-B-70-402 - Pier 4 Layout Details.dgn

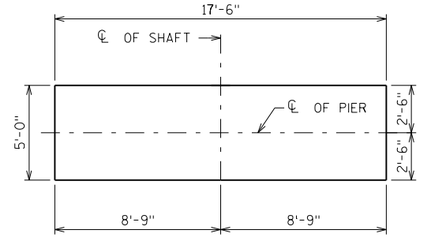
STATE PROJECT NUMBER
1517-07-72



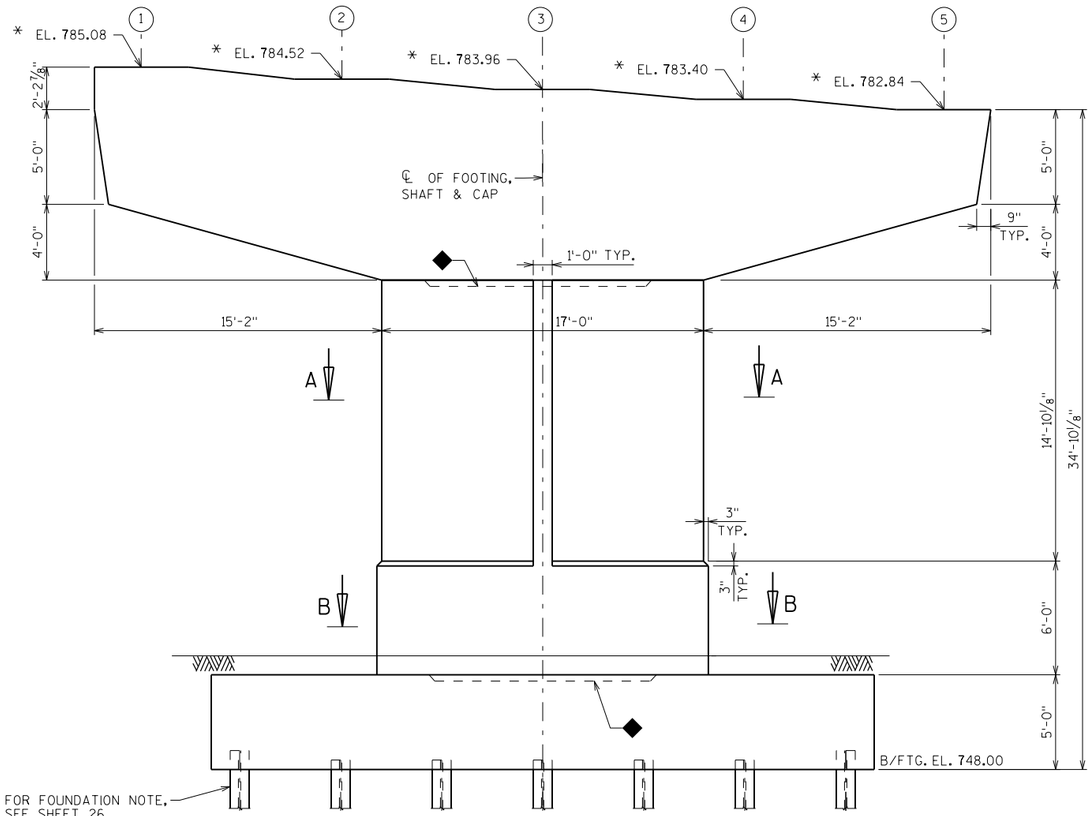
PLAN



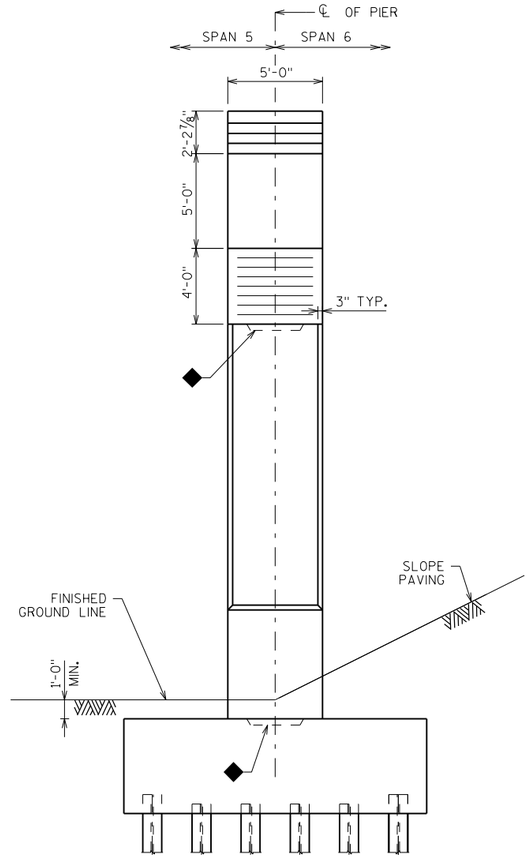
SECTION A-A



SECTION B-B
(AT PEDESTAL)



ELEVATION
(LOOKING UPSTATION)



END VIEW
(LOW SIDE SHOWN, HIGH SIDE SIMILAR)

LEGEND

◆ KEYED CONST. JOINT FORMED BY BEVELED 4" X 1'-6" X 13'-0".

* ELEVATIONS ARE GIVEN FOR PIER 5: SPAN 6 BEAM SEAT. BEARINGS AT PIER 5: SPAN 5 WILL REQUIRE FILL PLATES. SEE SHEET 28 "BEARINGS FOR PRESTRESSED GIRDERS" FOR DETAILS.

NOTES

FOR BAR STEEL REINFORCEMENT DETAILS. SEE SHEET 27 "BILL OF BARS PIERS".

FOR FOOTING LAYOUT DETAILS. SEE SHEET 26 "FOOTING DETAILS".

SEE SHEET 49 "AESTHETIC DETAILS" FOR PIER AESTHETIC TREATMENTS.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-70-402

DRAWN BY KJZ | PLANS CK'D. NPP

PIER 5
LAYOUT DETAILS

SHEET 20 OF 52
367

8

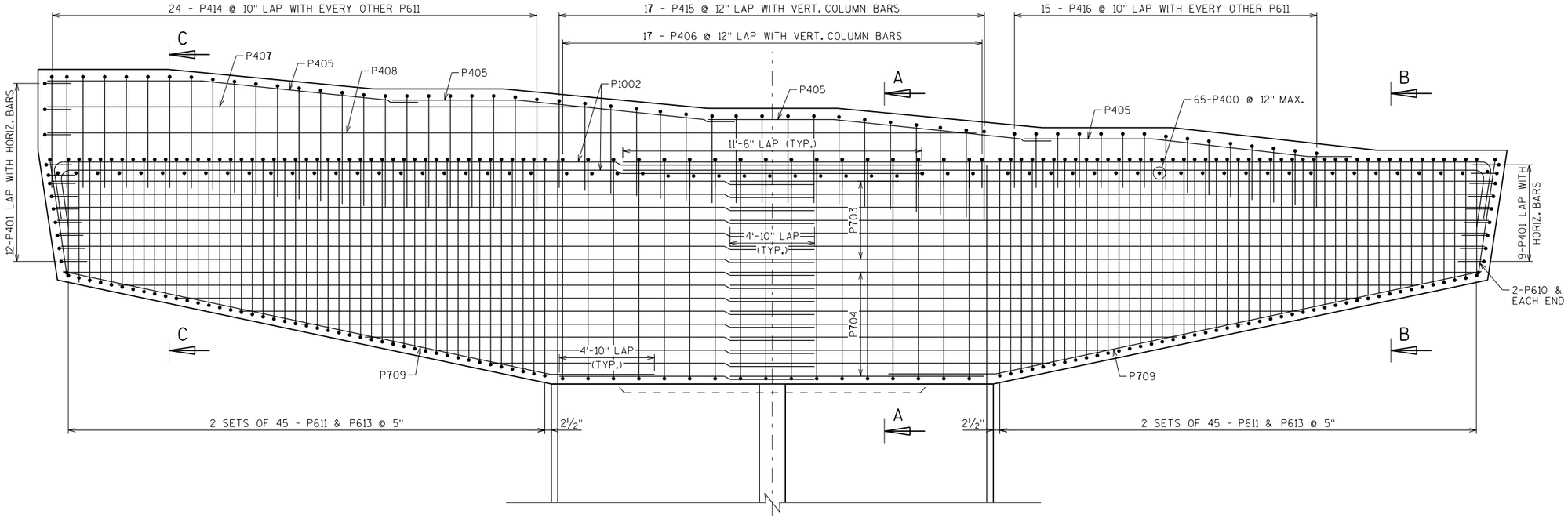
8

FILE= Q:\WisDOT_12345678_10-441\Plans\B-70-402\Control Copy\020-B-70-402 - Pier 5 Layout Details.dgn

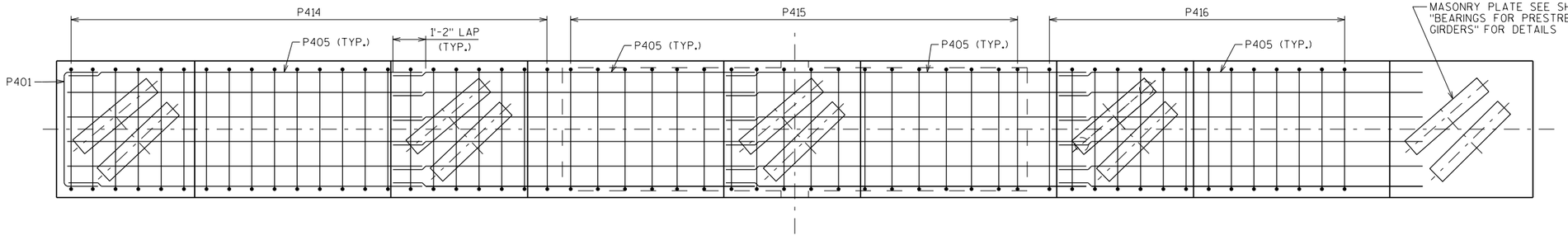
DATE: 3/11/2014
I.D.

STATE PROJECT NUMBER

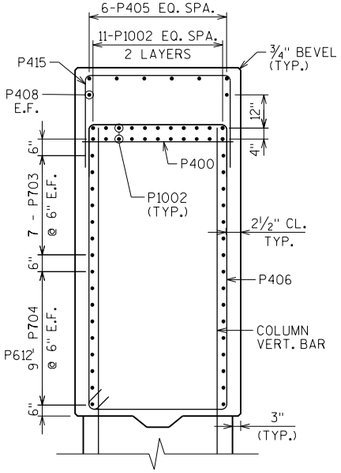
1517-07-72



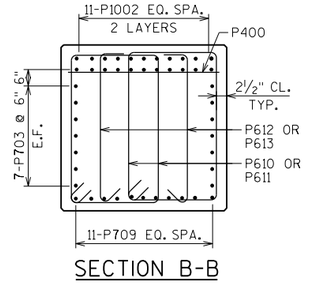
ELEVATION



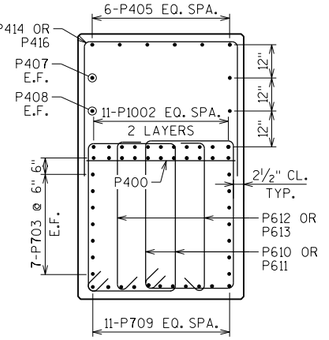
PLAN



SECTION A-A



SECTION B-B



SECTION C-C

NOTES

PLACE REINFORCEMENT STEEL BARS TO MISS ANCHOR BOLT.

LAP #10 BARS MIN. 1'-6".
LAP #7 BARS MIN. 4'-10".
LAP #4 BARS MIN. 1'-2".

SEE SHEET 16 "PIER 1 LAYOUT DETAILS" FOR PIER GEOMETRY AND ELEVATIONS.

SEE SHEET 27 "BILL OF BARS PIERS" FOR PIER CAP BAR STEEL REINFORCEMENT DETAILS.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-70-402

DRAWN BY KJZ | PLANS CK'D. NPP

PIER CAP DETAILS
PIER 1

SHEET 21 OF 52
368

8

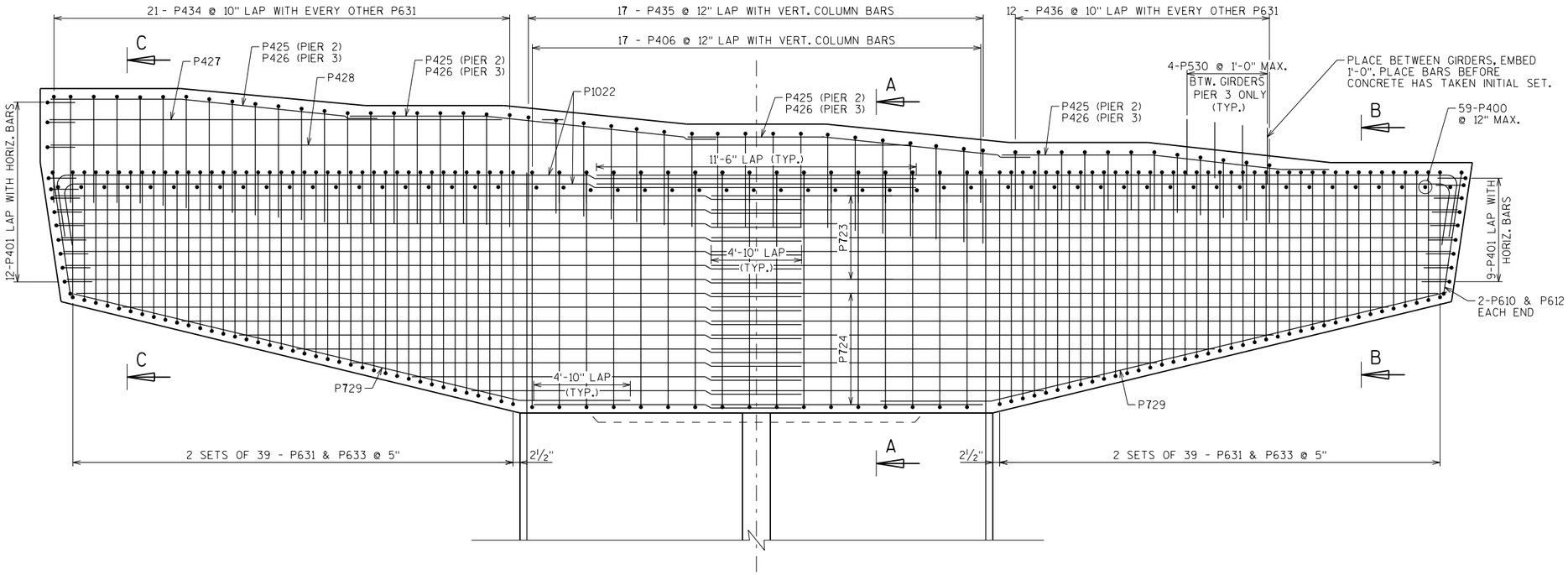
8

FILE= 0:\WisDOT_12345678_10-441\Plans\B-70-402\Control Copy\021-B-70-402 - Pier Cap Details - Pier 1.dgn

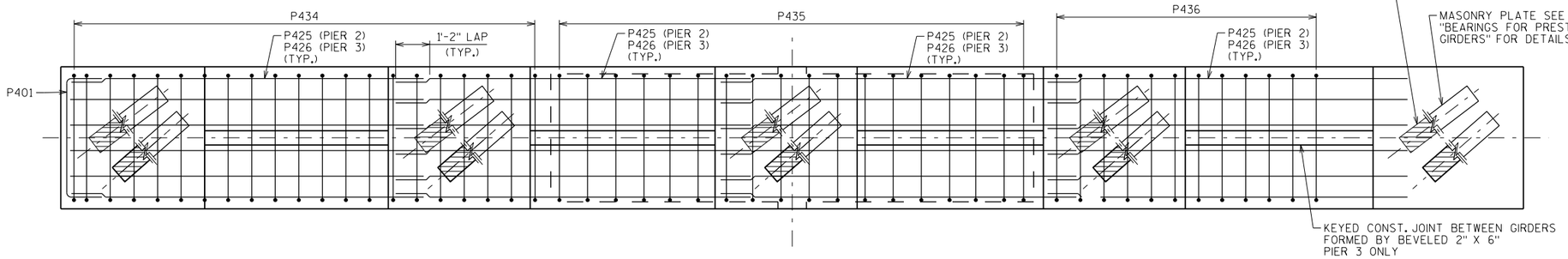
DATE: 3/11/2014
I.D.

STATE PROJECT NUMBER

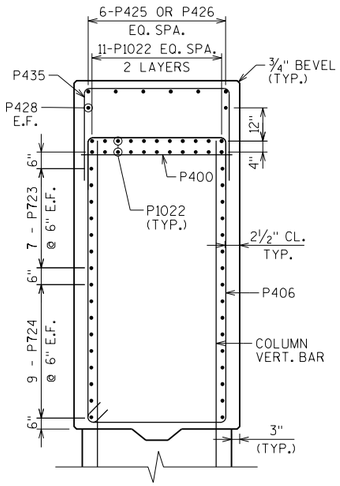
1517-07-72



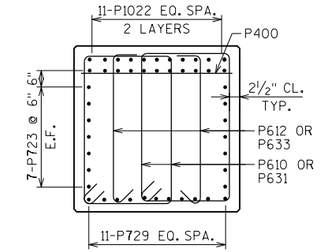
ELEVATION



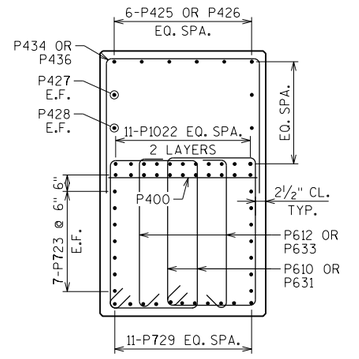
PLAN



SECTION A-A



SECTION B-B



SECTION C-C

NOTES

PLACE REINFORCEMENT STEEL BARS TO MISS ANCHOR BOLT.

LAP #10 BARS MIN. 11'-6".
LAP #7 BARS MIN. 4'-10".
LAP #4 BARS MIN. 1'-2".

SEE SHEETS 17 "PIER 2 LAYOUT DETAILS" & 18 "PIER 3 LAYOUT DETAILS" FOR PIER GEOMETRY AND ELEVATIONS.

SEE SHEET 27 "BILL OF BARS PIERS" FOR PIER CAP BAR STEEL REINFORCEMENT DETAILS.

SEE SHEET 36 "SUPERSTRUCTURE DETAILS" FOR DETAILS OF BEARING PADS AND PREFORM FILLER.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-70-402

DRAWN BY KJZ | PLANS CK'D. NPP

PIER CAP DETAILS
PIERS 2 & 3

SHEET 22 OF 52
369

DATE: 3/11/2014
I.D.

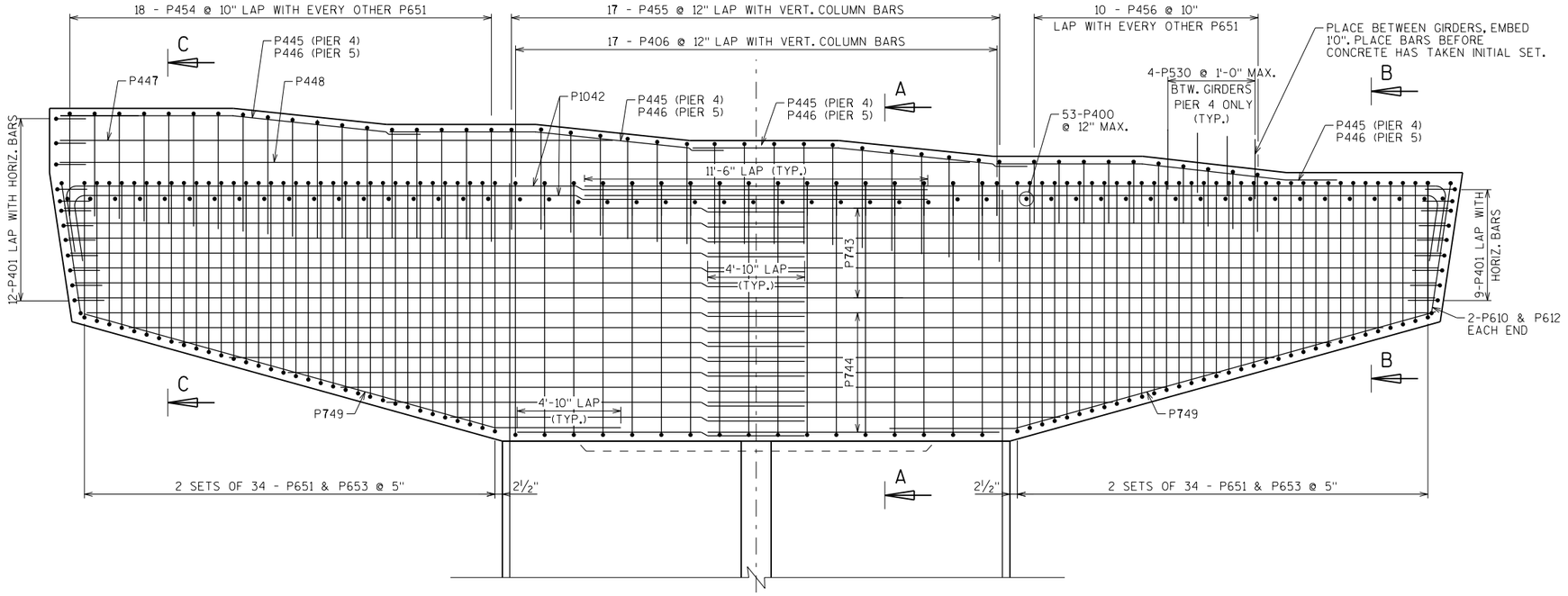
FILE= Q:\WisDOT_12345678_10-441\Plans\B-70-402\Control Copy\022-B-70-402 - Pier Cap Details - Pier 2 & 3.dgn

8

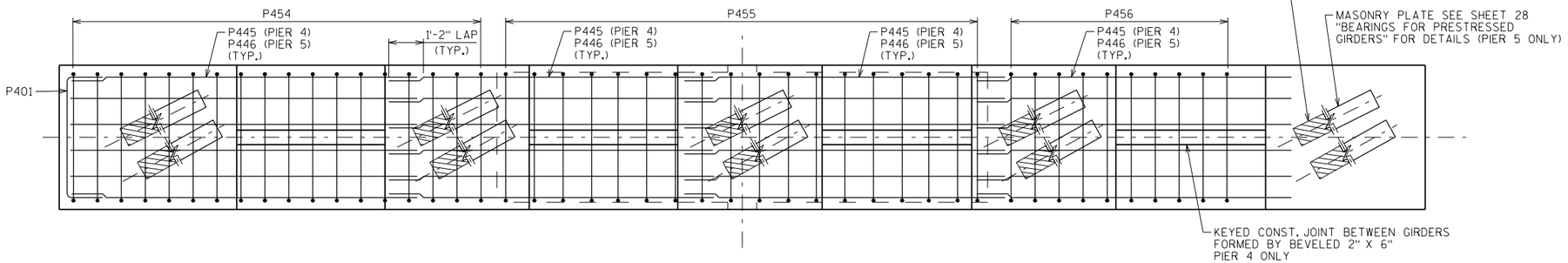
8

STATE PROJECT NUMBER

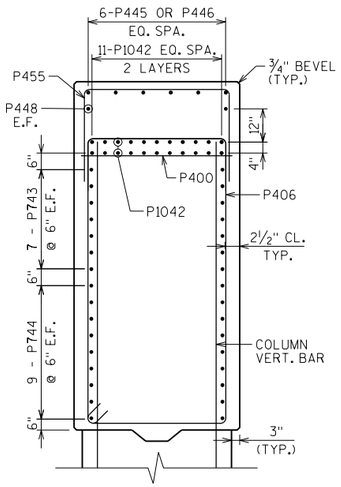
1517-07-72



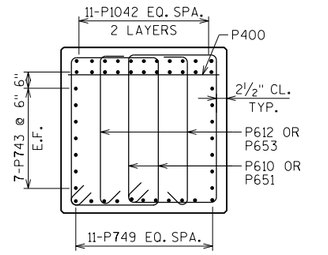
ELEVATION



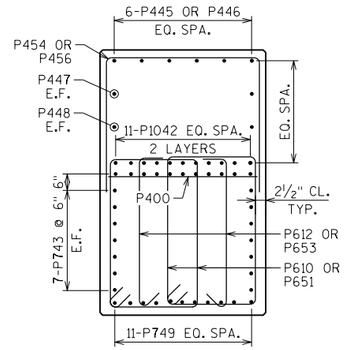
PLAN



SECTION A-A



SECTION B-B



SECTION C-C

NOTES

PLACE REINFORCEMENT STEEL BARS TO MISS ANCHOR BOLT.

LAP #10 BARS MIN. 11'-6".
LAP #7 BARS MIN. 4'-10".
LAP #4 BARS MIN. 1'-2".

SEE SHEETS 19 "PIER 4 LAYOUT DETAILS" & 20 "PIER 5 LAYOUT DETAILS" FOR PIER GEOMETRY AND ELEVATIONS.

SEE SHEET 27 "BILL OF BARS PIERS" FOR PIER CAP BAR STEEL REINFORCEMENT DETAILS.

SEE SHEET 36 "SUPERSTRUCTURE DETAILS" FOR DETAILS OF BEARING PADS AND PREFORM FILLER.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-70-402

DRAWN BY	KJZ	PLANS CK'D.	NPP

PIER CAP DETAILS
PIERS 4 & 5

SHEET 23 OF 52
370

8

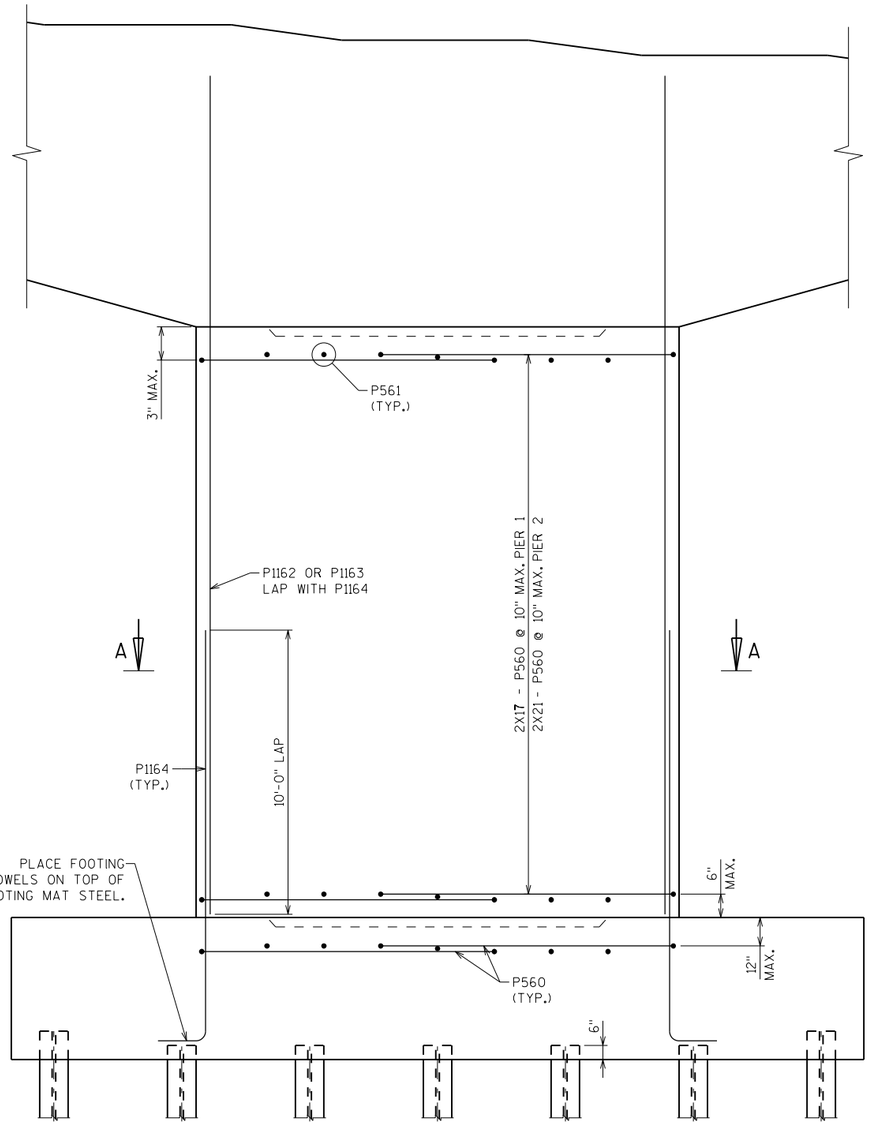
8

FILE= Q:\WisDOT_12345678_10-441\Plans\B-70-402\Control Copy\023-B-70-402 - Pier Cap Details - Pier 4 & 5.dgn

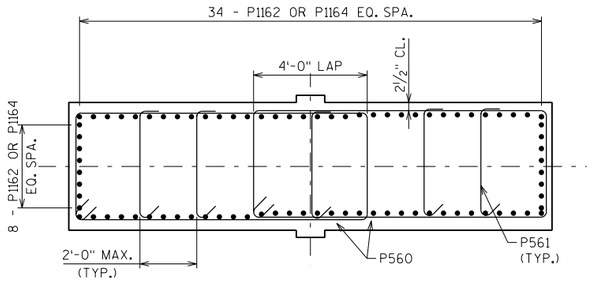
DATE: 3/11/2014
I.D.

STATE PROJECT NUMBER

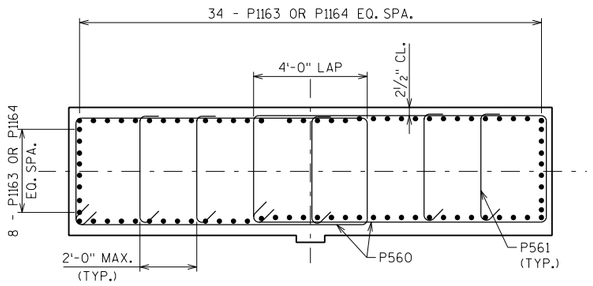
1517-07-72



PIERS 1 & 2 ELEVATION



PIER 1
SECTION A-A



PIER 2
SECTION A-A

NOTES

SEE SHEET 27 "BILL OF BARS PIERS" FOR BAR DETAILS & BILL OF BARS.

SEE SHEET 26 "FOOTING DETAILS" FOR DETAILS OF FOOTING.

SEE SHEETS 16 "PIER 1 LAYOUT DETAILS" AND 17 "PIER 2 LAYOUT DETAILS" FOR PIER DIMENSIONS.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-70-402

DRAWN BY KJZ | PLANS CK'D. NPP

SHAFT DETAILS
PIERS 1 & 2

SHEET 24 OF 52
371

8

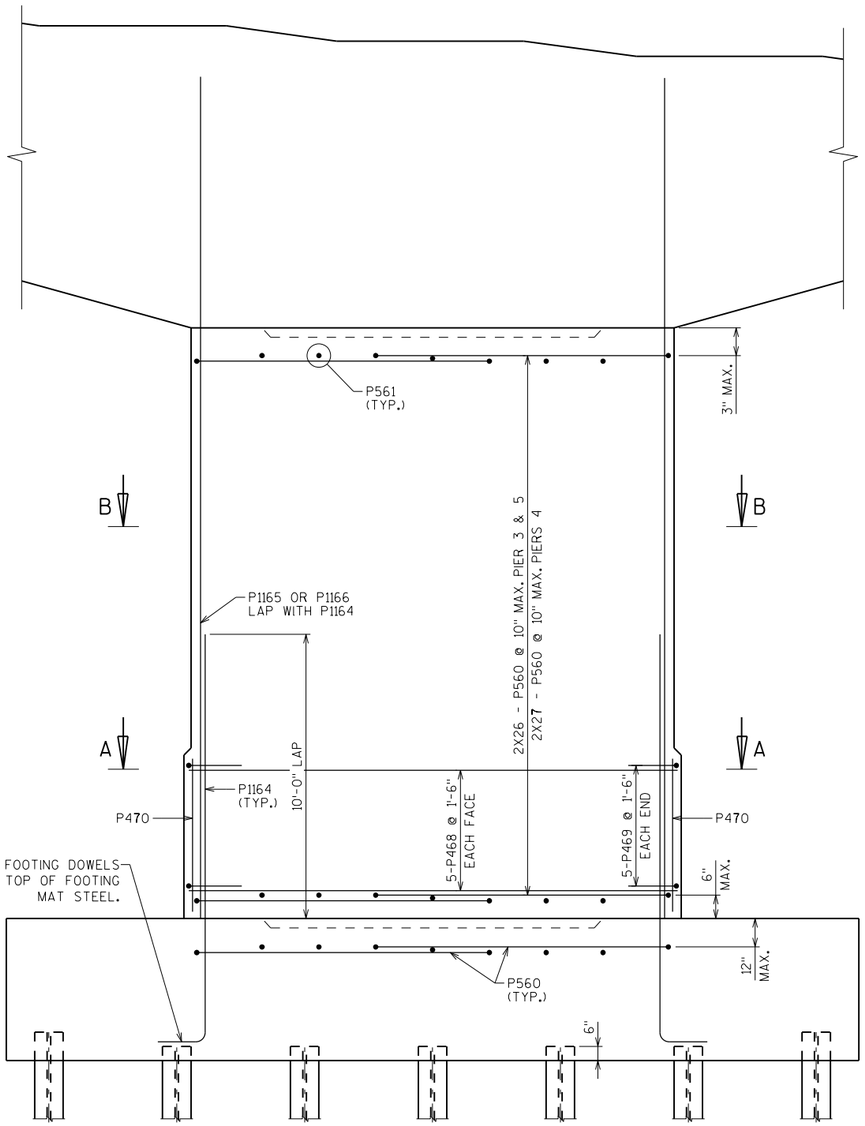
8

FILE= Q:\WisDOT_12345678_10-441\Plans\B-70-402\Control Copy\024-B-70-402 - Pier Shaft Piers 1 & 2.dgn

DATE: 3/11/2014
I.D.

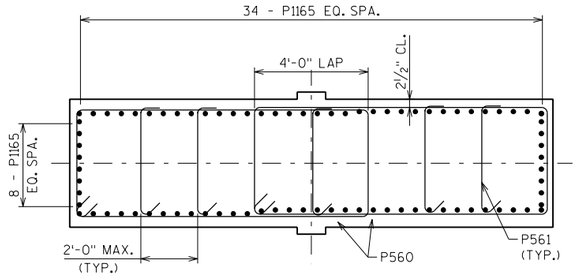
STATE PROJECT NUMBER

1517-07-72

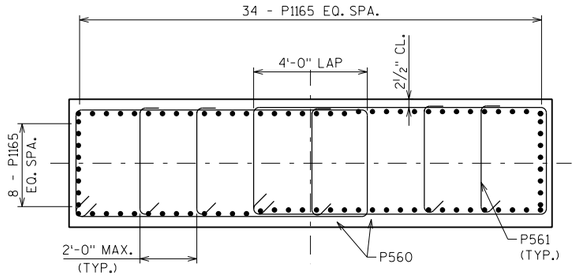


PIERS 3 TO 5 ELEVATION

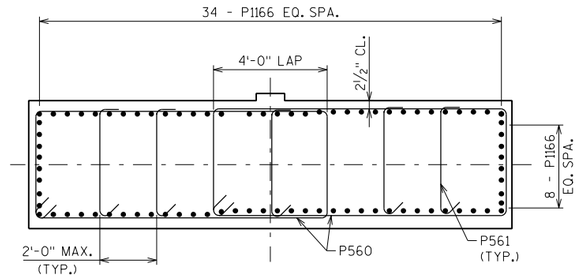
(LOOKING UPSTATION)



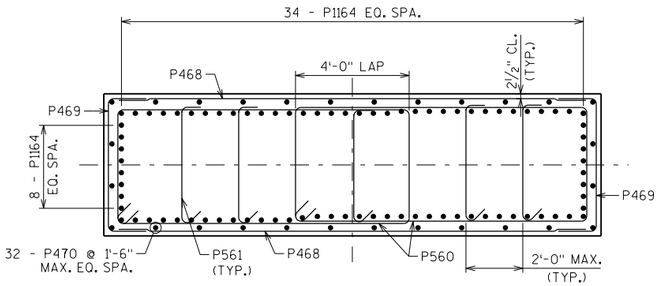
PIER 5
SECTION B-B



PIER 3
SECTION B-B



PIER 4
SECTION B-B



PIER 3 TO 5
SECTION A-A

VERTICAL BARS NOT SHOWN FOR CLARITY

NOTES

SEE SHEET 27 "BILL OF BARS PIERS" FOR BAR DETAILS & BILL OF BARS.

SEE SHEET 26 "FOOTING DETAILS" FOR DETAILS OF FOOTING.

SEE SHEETS 18 "PIER 3 LAYOUT DETAILS", 19 "PIER 4 LAYOUT DETAILS", AND 20 "PIER 5 LAYOUT DETAILS" FOR PIER DIMENSIONS.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-70-402

DRAWN BY KJZ | PLANS CK'D. NPP

SHAFT DETAILS
PIERS 3 TO 5

SHEET 25 OF 52
372

DATE: 3/11/2014
I.D.

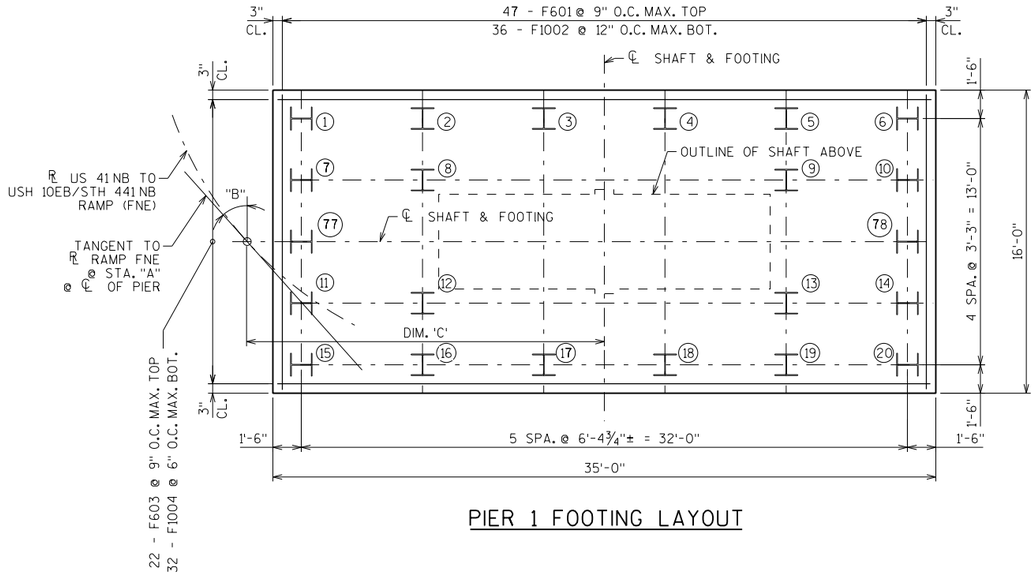
FILE= G:\WisDOT_12345678_10-441\Plans\B-70-402\Control Copy\025-B-70-402 - Pier Shaft Piers 3 to 5.dgn

8

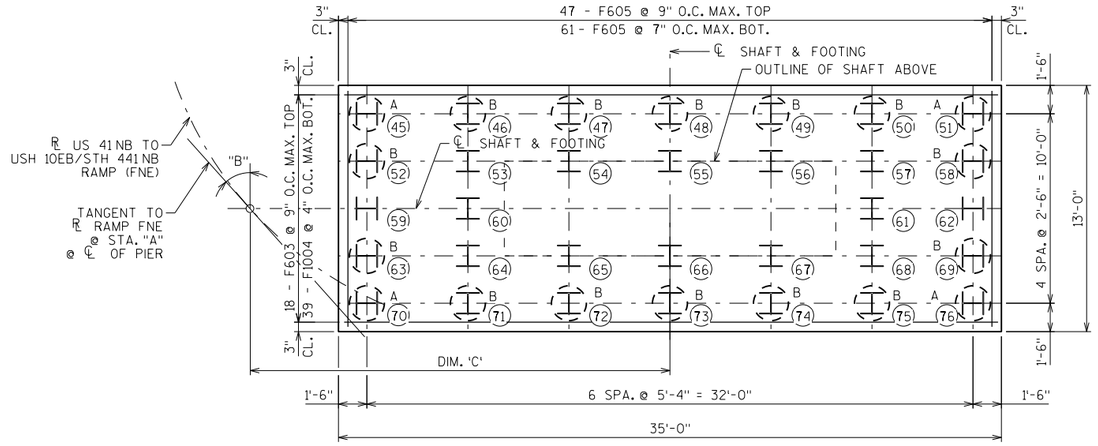
8

STATE PROJECT NUMBER

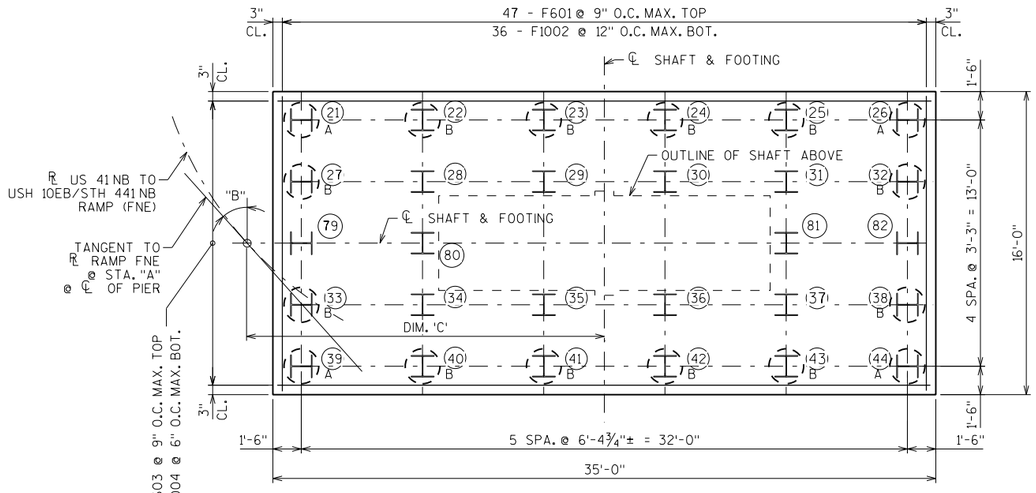
1517-07-72



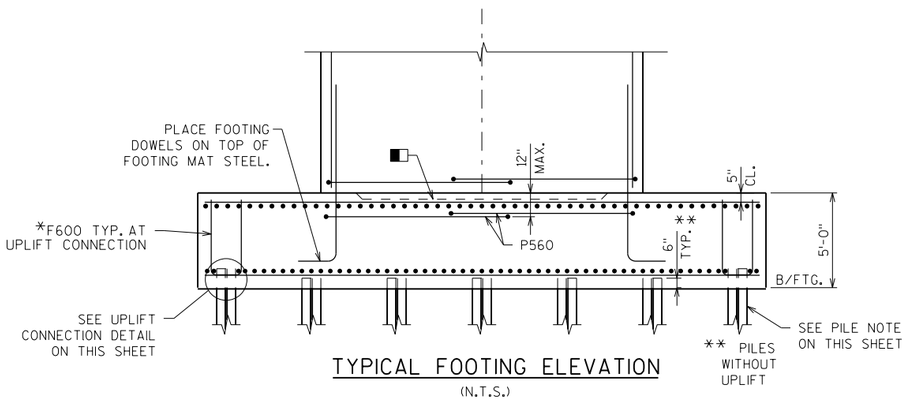
PIER 1 FOOTING LAYOUT



PIERS 3 & 4 FOOTING LAYOUT

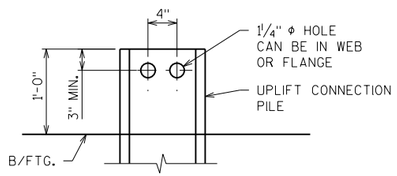


PIERS 2 & 5 FOOTING LAYOUT



TYPICAL FOOTING ELEVATION

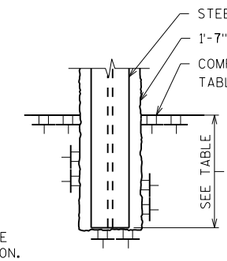
(N.T.S.)



UPLIFT CONNECTION DETAIL

PIER #	COMPETENT BEDROCK EL.
2	730.9
3	732.0
4	735.0
5	734.0

THE ESTIMATED ELEVATIONS OF BEDROCK ARE BASED ON THE AVAILABLE BORING INFORMATION. HARD PRE-BORING MAY BE REQUIRED ABOVE OR BELOW THE ESTIMATED COMPETENT BEDROCK ELEVATIONS BECAUSE OF VARIABILITY IN THE ELEVATION AND WEATHERING OF THE BEDROCK AND THE POSSIBILITY OF PRESENCE OF COBBLES OR BOULDERS.



DETAIL FOR PILE ANCHOR IN ROCK

MIN. PRE-BORING ROCK EMBEDMENT LENGTH	
UPLIFT PILE DESIGNATION	
A	3'-6"
B	3'-0"

LEGEND

- INDICATES PILE LOCATION WHERE UPLIFT CONNECTION, PRE-BORING AND PILE ANCHOR IN ROCK IS REQUIRED.
- * PLACE IN 1¼" DIA. HOLES BURNED INTO PILE. USE 2 BARS AT EACH UPLIFT PILE.
- 1'-6" X 13'-0" X 4" DEEP CONSTRUCTION JOINT IN SHAFT AND FOOTING FORMED BY BEVELED KEYWAY.
- A UPLIFT PILE DESIGNATION.
- (59) INDICATES PILE NUMBER.

NOTES

PIERS ARE TO BE SUPPORTED ON HP12X53 STEEL PILING DRIVEN TO A REQUIRED DRIVING RESISTANCE OF 220 TONS PER PILE AS DETERMINED BY THE MODIFIED GATES DYNAMIC EQUATION. PILES SUBJECT TO UPLIFT LOADS ARE PRE-BORED AND SOCKETED INTO SOLID ROCK. SEE TABLE ON THIS SHEET FOR ROCK EMBEDMENT LENGTHS.

SEE SHEET 27 "BILL OF BARS PIERS" FOR BAR BILL AND BAR BENT DETAILS.

SEE SHEET 24 "SHAFT DETAIL PIERS 1 & 2" & 25 "SHAFT DETAIL PIERS 3 TO 5" FOR FOOTING DOWEL BARS.

STATIONS & SKEW ANGLE TABLE

LOCATION	STA. A	SKEW ANGLE B°	DIM. 'C'
PIER 1	1331FNE+78.68	41.82°	18'-10½"
PIER 2	1332FNE+66.68	38.26°	17'-8¼"
PIER 3	1333FNE+61.68	34.42°	16'-11⅜"
PIER 4	1334FNE+56.68	30.58°	16'-2¼"
PIER 5	1335FNE+37.68	27.30°	15'-9⅜"

ESTIMATED PILE LENGTH

LOCATION	ESTIMATED DRIVEN PILE LENGTH (FEET)	ESTIMATED PRE BORED PILE LENGTH (FEET)	
		A	B
PIER 1	19.0	0.0	0.0
PIER 2	18.6	22.6	22.1
PIER 3	15.5	19.5	19.0
PIER 4	12.5	16.5	16.0
PIER 5	14.5	18.5	18.0

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-70-402

DRAWN BY KJZ | PLANS CK'D. NPP

FOOTING DETAILS

SHEET 26 OF 52
373

DATE: 3/11/2014
I.D.

FILE= G:\WisDOT_12345678_10-441\Plans\B-70-402\Control Copy\026-B-70-402 - Pier Footing.dgn

8

8

STATE PROJECT NUMBER

1517-07-72

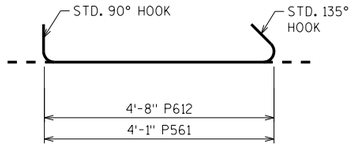
BILL OF COATED BARS

BAR MARK	NO. REQ'D	LENGTH	SERIES	LOCATION
COATED BARS				TOTAL WEIGHT: **** LB
P400	289	4' - 7"		PIER CAP HORIZ. BAR
P401	105	7' - 1"		PIER CAP END BAR
P1002	44	35' - 4"		HORIZ. TOP BAR - PIER 1
P703	28	30' - 0"	X	HORIZ. SIDE BAR - PIER 1
P704	36	20' - 7"	X	HORIZ. SIDE BAR - PIER 1
P405	24	6' - 9"		HORIZ. TOP BAR - PIER 1
P406	85	26' - 10"		STIRRUP
P407	2	22' - 4"		HORIZ. SIDE TOP. BAR - PIER 1
P408	2	38' - 5"		HORIZ. SIDE TOP. BAR - PIER 1
P709	22	24' - 11"		HORIZ. BOTM. BAR - PIER 1
P610	20	15' - 8"		STIRRUP - PIERS 1-5
P611	180	19' - 6"	X	STIRRUP - PIER 1
P612	20	6' - 2"		STIRRUP - PIERS 1-5
P613	180	8' - 1"	X	STIRRUP - PIER 1
P414	24	13' - 1"		TOP VERT. BAR - PIER 1
P415	17	10' - 11"		TOP VERT. BAR - PIER 1
P416	15	7' - 11"		TOP VERT. BAR - PIER 1
P1022	88	32' - 10"		HORIZ. TOP BAR - PIERS 2 & 3
P723	56	27' - 6"	X	HORIZ. SIDE BAR - PIERS 2 & 3
P724	72	18' - 11"	X	HORIZ. SIDE BAR - PIERS 2 & 3
P425	24	12' - 7"		HORIZ. TOP BAR - PIER 2
P426	24	12' - 6"		HORIZ. TOP BAR - PIER 3
P427	4	16' - 6"		HORIZ. SIDE TOP. BAR - PIERS 2 & 3
P428	4	31' - 10"		HORIZ. SIDE TOP. BAR - PIERS 2 & 3
P729	44	21' - 9"		HORIZ. BOTM. BAR - PIERS 2 & 3
P530	32	2' - 0"		FULL DEPTH DIAPH. VERT. BAR PIERS 3 & 4
P631	312	19' - 6"	X	STIRRUP - PIERS 2 & 3
P633	312	8' - 1"	X	STIRRUP - PIERS 2 & 3
P434	42	12' - 1"		TOP VERT. BAR - PIERS 2 & 3
P435	34	10' - 5"		TOP VERT. BAR - PIERS 2 & 3
P436	24	7' - 9"		TOP VERT. BAR - PIERS 2 & 3
P1042	88	30' - 9"		HORIZ. TOP BAR - PIERS 4 & 5
P743	56	25' - 5"	X	HORIZ. TOP BAR - PIERS 4 & 5
P744	72	17' - 11"	X	HORIZ. TOP BAR - PIERS 4 & 5
P445	24	11' - 7"		HORIZ. TOP BAR - PIER 4
P446	24	11' - 7"		HORIZ. TOP BAR - PIER 5
P447	4	10' - 7"		HORIZ. SIDE TOP. BAR - PIERS 4 & 5
P448	4	31' - 2"		HORIZ. SIDE TOP. BAR - PIERS 4 & 5
P749	44	19' - 9"		HORIZ. BOTM. BAR - PIERS 4 & 5
P651	272	19' - 6"	X	STIRRUP - PIERS 4 & 5
P653	272	8' - 1"	X	STIRRUP - PIERS 4 & 5
P454	36	11' - 1"		TOP VERT. BAR - PIERS 4 & 5
P455	34	10' - 1"		TOP VERT. BAR - PIERS 4 & 5
P456	20	7' - 11"		TOP VERT. BAR - PIERS 4 & 5
P560	244	29' - 4"		SHAFT TIES
P561	610	4' - 11"		SHAFT TIES
P1162	84	23' - 3"		VERTICAL BAR - PIER 1
P1163	84	25' - 8"		VERTICAL BAR - PIER 2
P1164	420	16' - 1"		DOWEL BAR - PIERS 1 TO 5
P1165	168	29' - 7"		VERTICAL BAR - PIERS 3 & 5
P1166	84	30' - 6"		VERTICAL BAR - PIER 4
P468	30	17' - 1"		PEDESTAL HORIZ. BAR
P469	30	6' - 9"		PEDESTAL HORIZ. BAR
P470	96	5' - 7"		PEDESTAL VERT. BAR

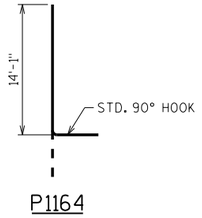
BAR SEQUENCE 17-21, 32, 37-41, 50, 52, 57-59 AND 67 NOT USED.

BILL OF UNCOATED BARS

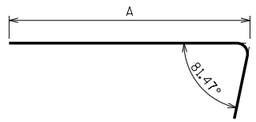
BAR MARK	NO. REQ'D	LENGTH	SERIES	LOCATION
UNCOATED BARS				TOTAL WEIGHT: 47,497 LB
F600	136	9' - 0"		PILE UPLIFT BAR
F601	141	15' - 6"		FOOTING LONG. TOP BAR - PIERS 1, 2 & 5
F1002	108	15' - 6"		FOOTING LONG. BOTTOM BAR - PIERS 1, 2 & 5
F603	102	34' - 6"		FOOTING TRANS. TOP BAR - PIERS 1 TO 5
F1004	174	34' - 6"		FOOTING TRANS. BOTTOM BAR - PIERS 1 TO 5
F605	216	12' - 6"		FOOTING LONG. TOP & BOTTOM BAR - PIERS 3 & 4



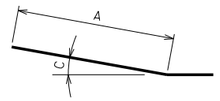
P612 & P561



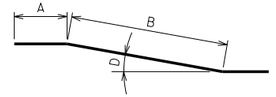
P1164



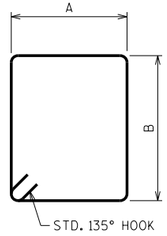
MARK	A
P1002	32'-7"
P1022	31'-4"
P1042	29'-3"



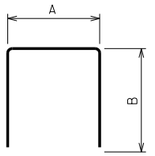
MARK	A	C
P709	20'-2"	12.70°
P729	17'-0"	13.63°
P749	14'-11"	15.51°



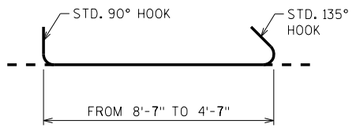
MARK	A	B	D
P405	4'-9"	7'-11"	5.58°
P425	4'-10"	6'-7"	5.71°
P426	6'-2"	4'-5"	8.01°
P445	5'-8"	4'-1"	7.81°
P446	4'-9"	5'-7"	5.72°



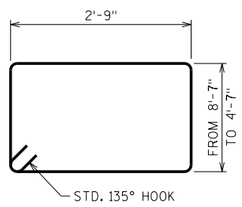
MARK	A	B
P406	4'-7"	8'-7"
P610	2'-9"	4'-8"
P560	10'-4"	4'-1"



MARK	A	B
P401	4'-7"	1'-4"
P414	4'-7"	4'-4"
P415	4'-7"	3'-3"
P416	4'-7"	1'-9"
P434	4'-7"	3'-10"
P435	4'-7"	3'-0"
P436	4'-7"	1'-8"
P454	4'-7"	3'-4"
P455	4'-7"	2'-10"
P456	4'-7"	1'-9"
P469	4'-7"	1'-2"
F600	1'-8"	3'-10"



P613, P633 & P653



P611, P631 & P651

BAR SERIES TABLE

MARK	NO. REQUIRED	LENGTH
P703	4 SETS OF 7	30'-3" TO 29'-9"
P704	4 SETS OF 9	30'-6" TO 10'-8"
P611	4 SETS OF 42	23'-6" TO 15'-6"
P613	4 SETS OF 42	10'-1" TO 6'-1"
P723	8 SETS OF 7	27'-9" TO 27'-4"
P724	8 SETS OF 9	27'-2" TO 10'-8"
P631	8 SETS OF 39	23'-6" TO 15'-6"
P633	8 SETS OF 39	10'-1" TO 6'-1"
P743	8 SETS OF 7	25'-8" TO 25'-3"
P744	8 SETS OF 9	25'-2" TO 10'-9"
P651	8 SETS OF 34	23'-6" TO 15'-6"
P653	8 SETS OF 34	10'-1" TO 6'-1"

NOTES

DIMENSIONS IN BENDING DETAILS ARE OUT TO OUT OF BAR.

FOR BARS IN SERIES: LENGTH SHOWN FOR BAR IS AN AVERAGE LENGTH AND SHOULD ONLY BE USED FOR BAR WEIGHT CALCULATION. SEE BAR SERIES TABLE FOR ACTUAL LENGTHS.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-70-402

DRAWN BY KJZ | PLANS CK'D. NPP

BILL OF BARS
PIERS

SHEET 27 OF 52
374

DATE: 3/11/2014
I.D.

FILE= Q:\WisDOT_12345678_10-441\Plans\B-70-402\Control Copy\027-B-70-402 - Pier Bill of Bars.dgn

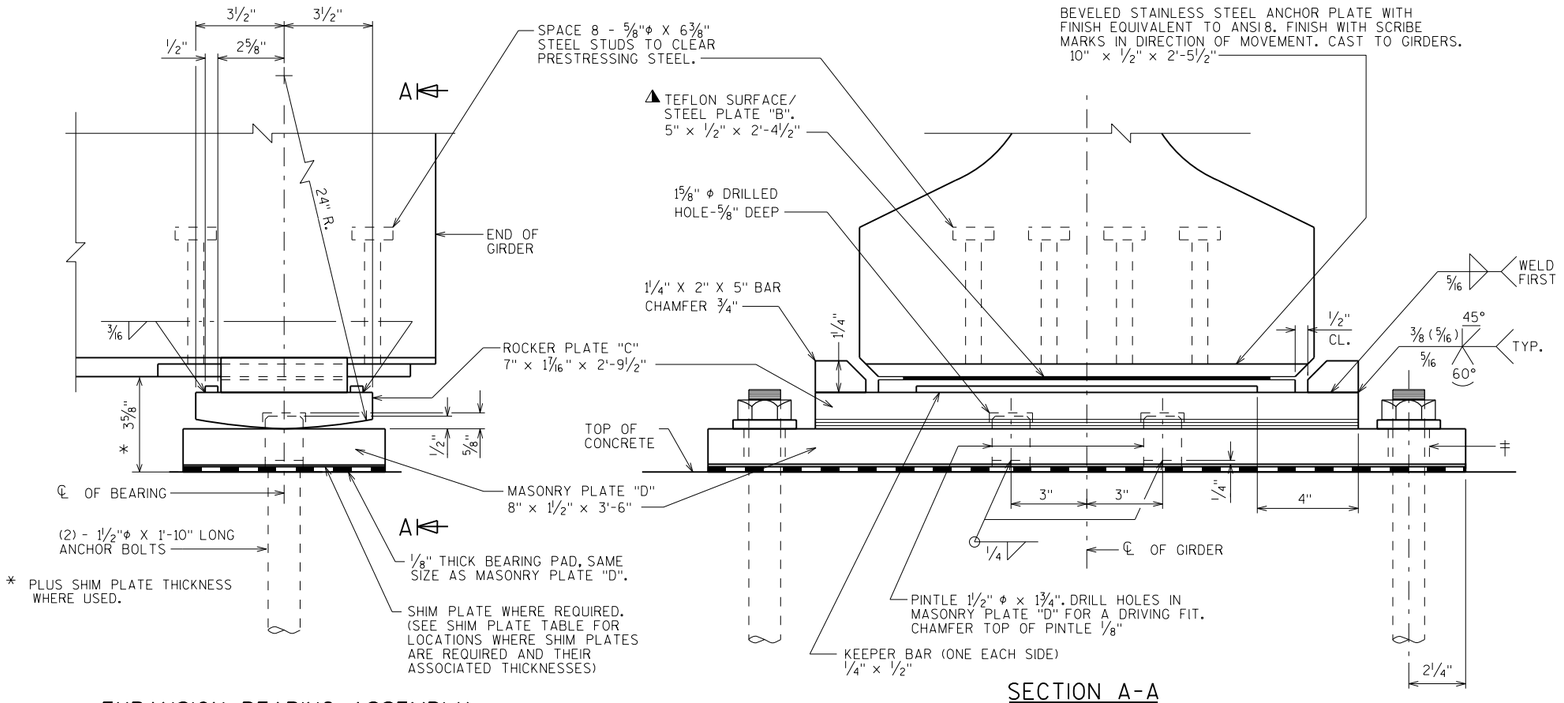
8

8

STATE PROJECT NUMBER

1517-07-72

EXPANSION BEARING ASSEMBLY



SECTION A-A

BEARING NOTES

ALL BEARINGS ARE SYMMETRICAL ABOUT ℄ OF GIRDER AND ℄ OF BEARING.

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.

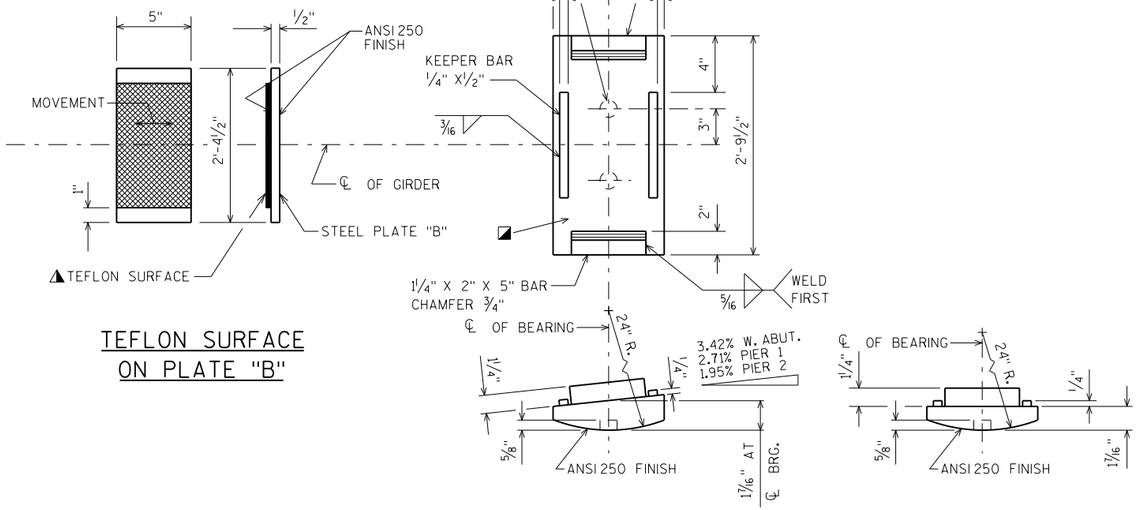
ALL MATERIAL IN "STEEL BEARINGS FOR PRESTRESSED CONCRETE GIRDERS", INCLUDING BEARING PADS, SHALL BE PAID FOR AT THE UNIT PRICE BID FOR "BEARING ASSEMBLIES EXPANSION B-70-402", EACH.

‡ DRILLED HOLES FOR ANCHOR BOLTS IN MASONRY PLATE "D" AND SHIM PLATE SHALL HAVE A DIAMETER ⅜" LARGER THAN ANCHOR BOLT.

▲ TEFLON SURFACE. USE UNFILLED WITH MINIMUM 1/16" THICKNESS. PLACE WITH SCRIBE 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.

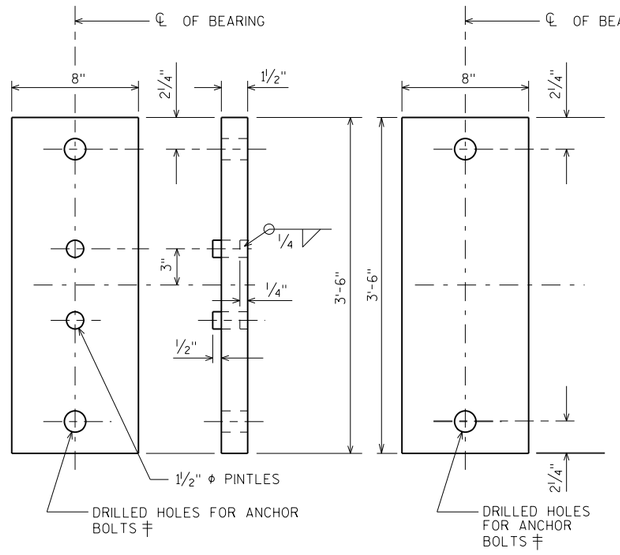


TEFLON SURFACE ON PLATE "B"

PIERS 1, 2 & W. ABUT.

PIER 5 & E. ABUT.

EXPANSION BEARING
(LOOKING NORTH)



MASONRY PLATE "D"

SHIM PLATE

SHIM PLATE TABLE

	PIER 1 SPAN 2	PIER 2 SPAN 3	PIER 5 SPAN 5
GIRDER 1	3/8"	5/16"	9/16"
GIRDER 2	7/16"	5/16"	9/16"
GIRDER 3	7/16"	5/16"	9/16"
GIRDER 4	7/16"	5/16"	9/16"
GIRDER 5	7/16"	5/16"	9/16"

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-70-402

DRAWN BY PMV | PLANS CK'D. NPP

BEARINGS FOR PRESTRESSED GIRDERS

SHEET 28 OF 52
375

DATE: 3/11/2014
I.D.

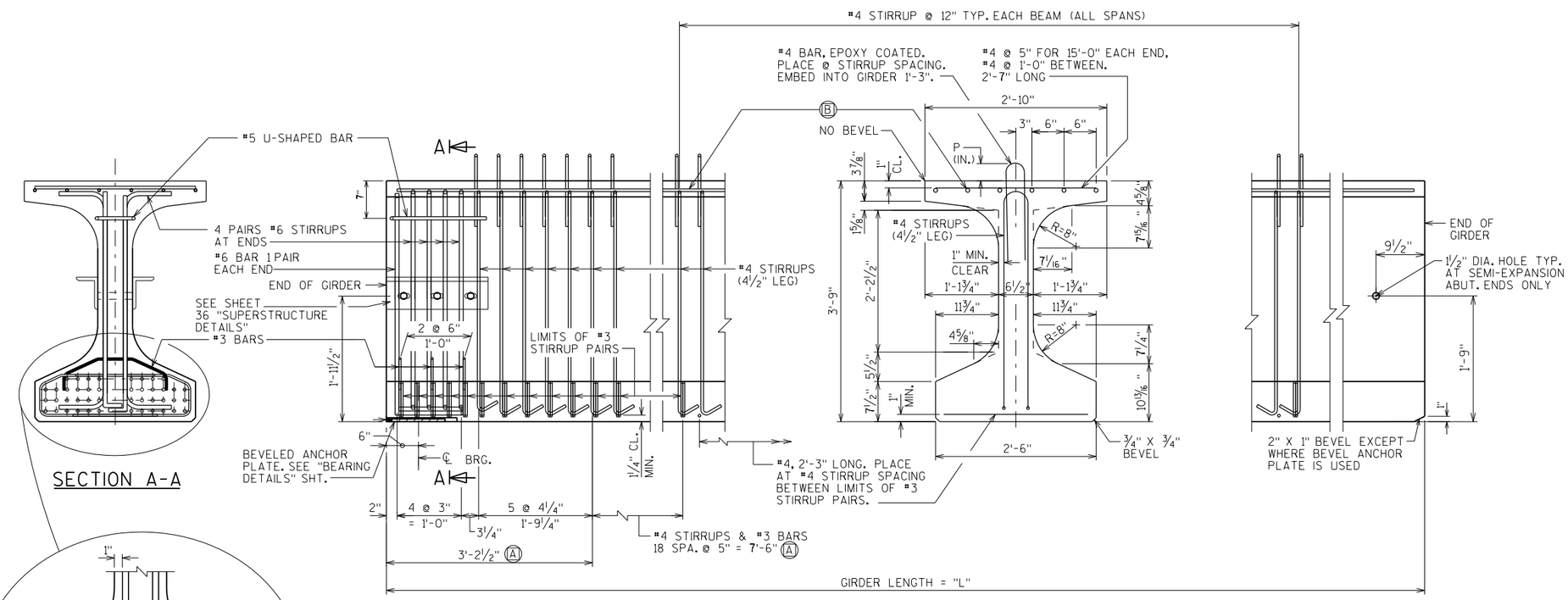
FILE= Q:\WisDOT_12345678_10-441\Plans\B-70-402 - Bearings for Prestressed Girders.dgn

8

8

STATE PROJECT NUMBER

1517-07-72

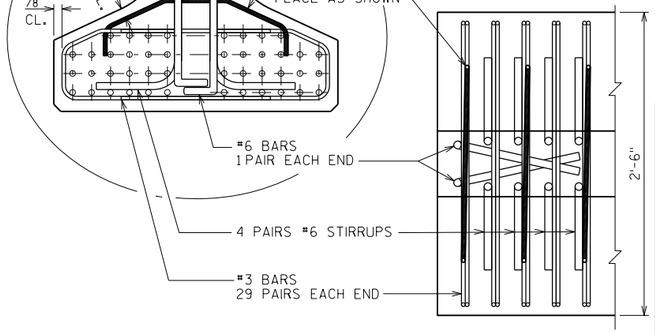


SECTION A-A

SIDE VIEW & TYP. SECTION IN SPAN

Ⓐ DETAIL TYP. AT EACH END

Ⓑ 6-#5 BARS, FULL LENGTH, MIN. LAP = 3'-8"



BOTTOM FLANGE

NOTES

TOP OF GIRDER TO BE ROUGH FLOATED AND BROOMED TRANSVERSELY, EXCEPT THE OUTSIDE 8" OF THE 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 THE END OF GIRDER. FOR GIRDER ENDS EMBEDDED COMPLETELY IN CONCRETE, ENDS 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, CLASS B OR C. THE EPOXY SHALL BE APPLIED AT LEAST 3 DAYS AFTER MOIST CURING HAS CEASED AND PRIOR TO 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 AND SHALL BE FLUSH WITH THE ENDS OF THE GIRDER.

FOR DIAPHRAGM INSERT & CONNECTION DETAILS SEE SHEET 31 "INTERMEDIATE STEEL DIAPHRAGMS".

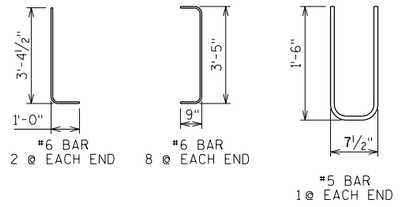
FOR FLOOR DRAIN BRACKET INSERT DETAILS SEE SHEET 48 "FLOOR DRAIN TYPE WF"

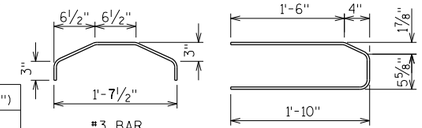
ALL ITEMS SHOWN SHALL BE INCLUDED IN THE BID ITEM "PRESTRESSED GIRDER TYPE I 45W-INCH"

✳ MINIMUM CYLINDER STRENGTH OF CONCRETE @ TIME OF TRANSFER OF PRESTRESS FORCE.

GIRDER DATA

SPAN	GIRDER NO.	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	ALL	SEE "GIRDER LENGTHS"	0.37	0.70	0.95	1.11	1.17	1.11	0.95	0.70	0.37	8,000	7"	7½"	7"	0.6	26	6,800	41	13.25	16.25	4		
2	ALL		0.49	0.92	1.26	1.48	1.55	1.48	1.26	0.92	0.49	8,000	7"	7½"	7"	0.6	26	6,800	41	13.25	16.25	4		
3	ALL		0.66	1.25	1.72	2.01	2.11	2.01	1.72	1.25	0.66	8,000	7"	7½"	7"	0.6	26	6,800	41	13.25	16.25	4		
4	ALL		0.66	1.25	1.72	2.01	2.11	2.01	1.72	1.25	0.66	8,000	7"	7½"	7"	0.6	26	6,800	41	13.25	16.25	4		
5	ALL		0.35	0.66	0.91	1.06	1.11	1.06	0.91	0.66	0.35	8,000	7"	7½"	7½"	0.6	26	6,800	41	13.25	16.25	4		
6	ALL		0.09	0.17	0.24	0.28	0.29	0.28	0.24	0.17	0.09	8,000	7½"	7"	7½"	0.6	-	-	-	-	-	-	16	6,800



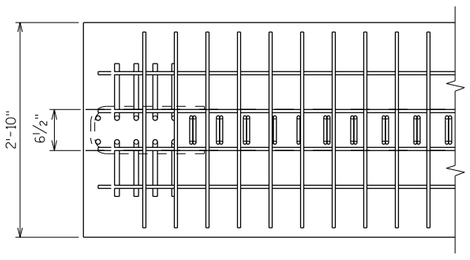


SEE SHEET 30 "45W" PRESTRESSED GIRDER DETAILS 2" FOR GIRDER LENGTH TABLE

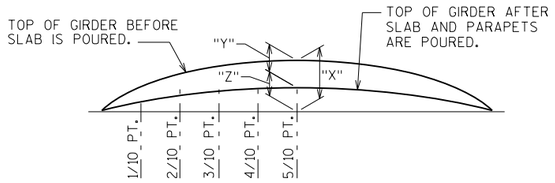
GIRDER LENGTHS TABLE

(END TO END OF CONCRETE GIRDER)

GIRDER	SPAN 1 (82'-0")	SPAN 2 (88'-0")	SPAN 3 (95'-0")	SPAN 4 (95'-0")	SPAN 5 (81'-0")	SPAN 6 (58'-0")
1	83' - 1 3/4"	86' - 10 1/8"	95' - 2 1/8"	94' - 1 1/8"	80' - 11 1/4"	58' - 6 3/8"
2	83' - 1 3/4"	87' - 8"	95' - 2 1/8"	94' - 7 3/8"	80' - 11 1/4"	58' - 6 3/8"
3	83' - 1 3/4"	88' - 6"	95' - 2 1/8"	95' - 1 3/4"	80' - 11 1/4"	58' - 6 3/8"
4	83' - 1 3/4"	89' - 4 1/4"	95' - 2 1/8"	95' - 8 1/8"	80' - 11 1/4"	58' - 6 3/8"
5	83' - 1 3/4"	90' - 2 1/2"	95' - 2 1/8"	96' - 2 5/8"	80' - 11 1/4"	58' - 6 3/8"

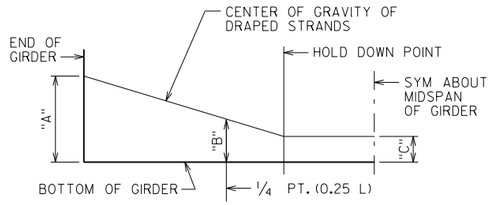


TOP FLANGE



DEAD LOAD DEFLECTION DIAGRAM

"X" = PRESTRESSED CAMBER
"Y" = DEAD LOAD DEFLECTION
"Z" = RESIDUAL CAMBER



LOCATION OF DRAPED STRANDS

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-70-402

DRAWN BY PMV | PLANS CK'D. NPP

45W" PRESTRESSED GIRDER DETAILS 1

SHEET 29 OF 52
376

DATE: 3/11/2014
I.D.

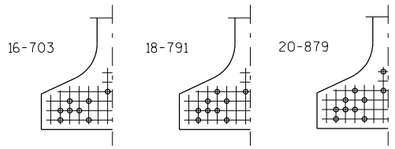
FILE= Q:\WisDOT_12345678_10-441\Plans\B-70-402\Control Copy\029-B-70-402 - 45W Prestressed Girder Details 1.dgn

8

8

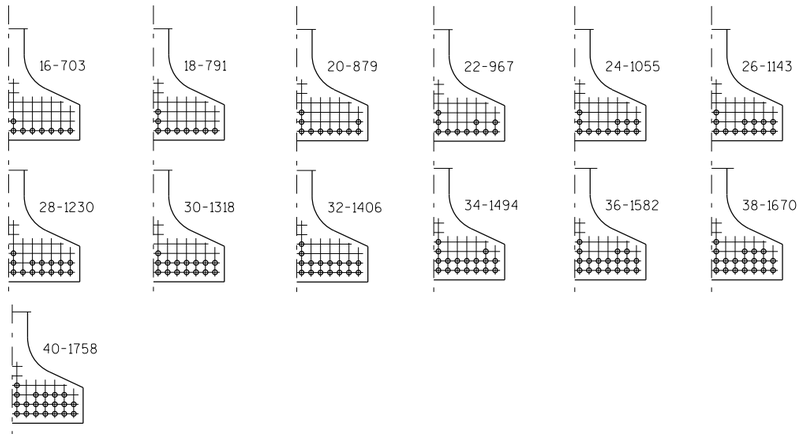
6

12



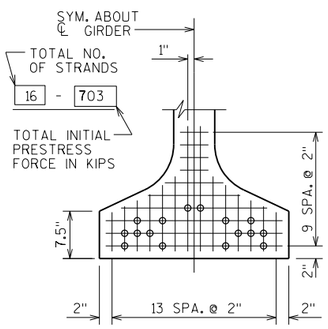
STANDARD ARRANGEMENTS TO RAISE CENTER OF GRAVITY TO AVOID DRAPING OF STRANDS

0.6"Φ STRANDS



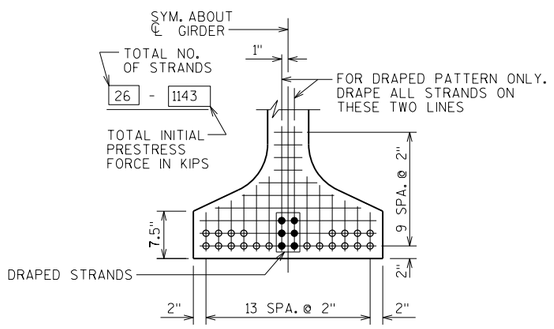
ARRANGEMENT AT ℄ SPAN - FOR GIRDERS WITH DRAPED STRANDS

0.6"Φ STRANDS



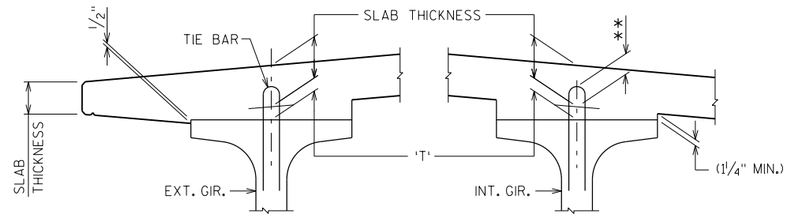
TYP. STRAND PATTERN

(SPAN 6)



TYP. STRAND PATTERN

(SPANS 1-5)



SLAB 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 SLAB 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
- SLAB THICKNESS
= HAUNCH HEIGHT 'T'

NOTE: AN AVERAGE HAUNCH ('T') OF 3⅜" WAS USED IN THE QUANTITY "CONCRETE MASONRY BRIDGES".

*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	2"
2	2⅛"
3	2¼"
4	2¼"
5	2"
6	⅝"

THESE VALUES ARE NOT TO BE USED IN DETERMINING 'T', USE ACTUAL GIRDER SHOTS.

THESE VALUES ARE FOR INFORMATIONAL PURPOSES ONLY.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-70-402

DRAWN BY PMV | PLANS CK'D. NPP

45W" PRESTRESSED GIRDER DETAILS 2

SHEET 30 OF 52
377

FILE= Q:\WisDOT_12345678_10-441\Plans\B-70-402 - 45W Prestressed Girder Details 2.dgn

DATE: 3/11/2014
I.D.

8

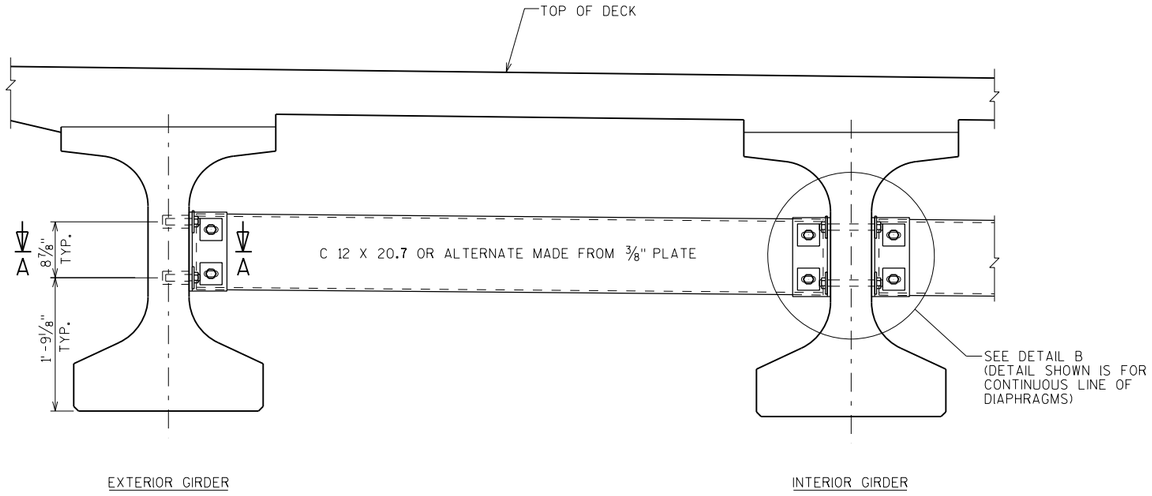
8

9

12

STATE PROJECT NUMBER

1517-07-72



PART TRANSVERSE SECTION AT DIAPHRAGM

(48 REQUIRED)

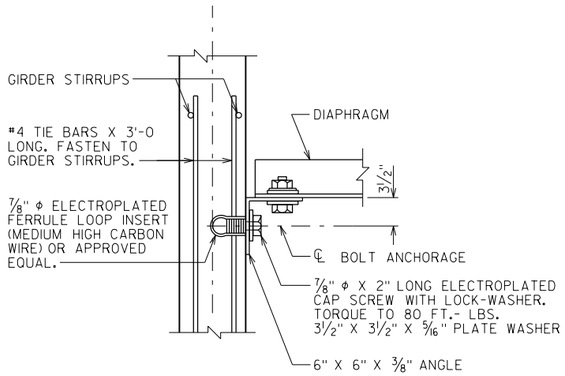
NOTES

ALL DIAPHRAGM MATERIAL NOT EMBEDDED IN THE CONCRETE GIRDER SHALL BE PAID FOR AT THE UNIT PRICE BID FOR "STEEL DIAPHRAGMS B-70-402", EACH.

EACH DIAPHRAGM BETWEEN GIRDERS SHALL CONSTITUTE ONE UNIT.

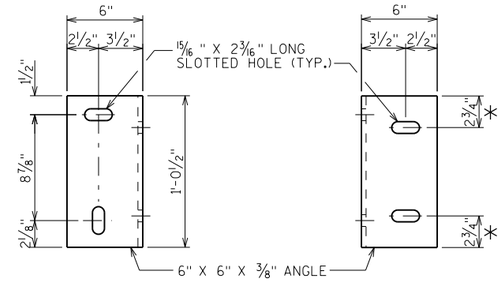
ALL DIAPHRAGM STRUCTURAL STEEL SHALL BE ASTM A709 GRADE 36. ALL BOLTS, NUTS AND WASHERS SHALL BE ASTM A325 TYPE 1.

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 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.



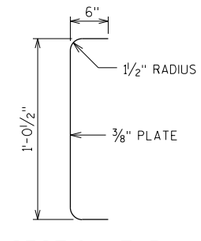
SECTION A-A

(FOR EXTERIOR ATTACHMENT)

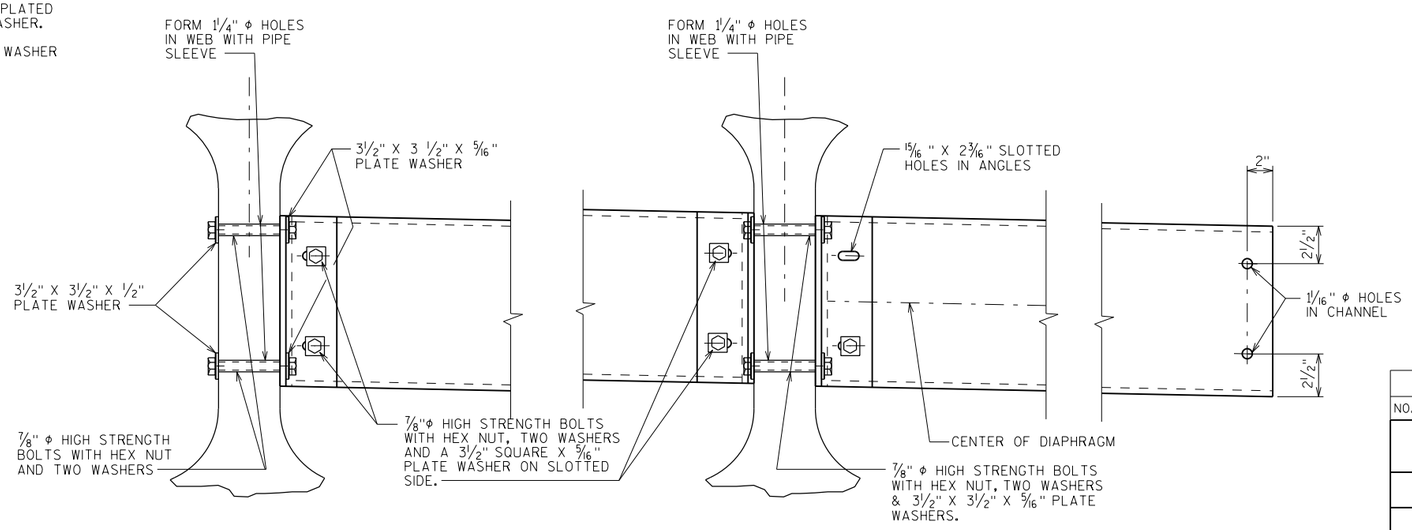


DIAPHRAGM SUPPORT

* 2½" FOR ALTERNATE PLATE DIAPHRAGM



SECTION THRU ALTERNATE DIAPHRAGM



(FOR STAGGERED DIAPHRAGM)

(FOR CONTINUOUS LINE OF DIAPHRAGMS)

DETAIL B

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-70-402

DRAWN BY PMV | PLANS CK'D. NPP

INTERMEDIATE STEEL DIAPHRAGMS

SHEET 31 OF 52
378

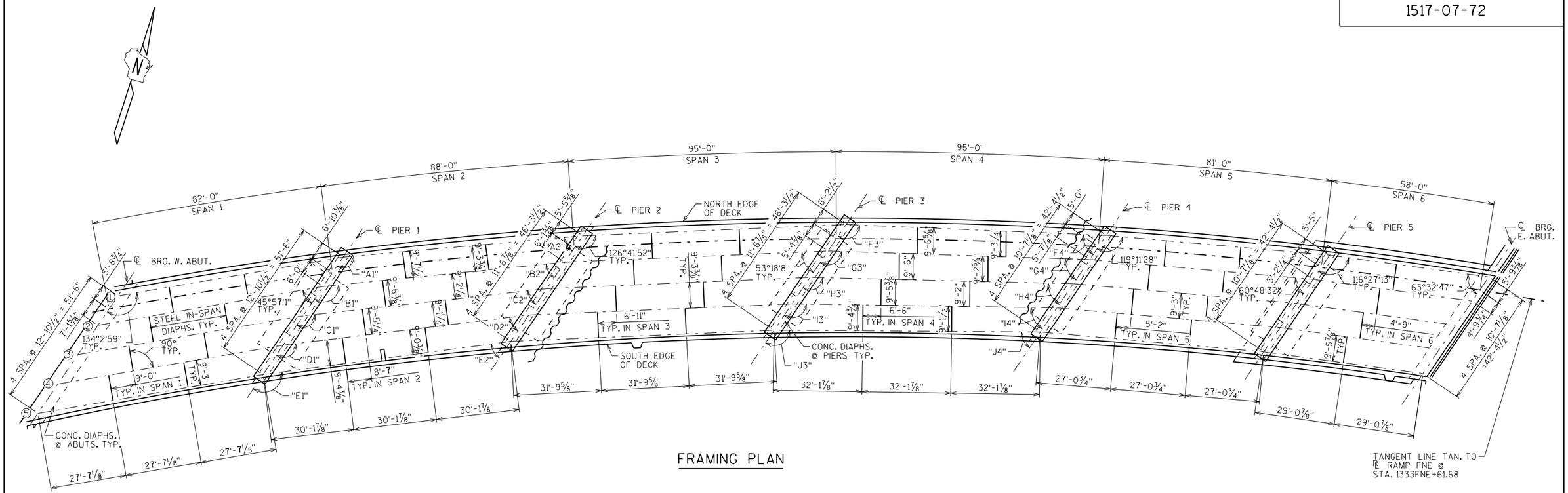
8

8

FILE= Q:\WisDOT_12345678_10-441\Plans\B-70-402\Control Copy\031-B-70-402 - Steel Diaphragm.dgn

DATE: 3/11/2014
I.D.

STATE PROJECT NUMBER
1517-07-72



FRAMING PLAN

SKEW ANGLES BETWEEN ℄ GIRDERS & ℄ PIERS

SPAN 2 PIER 1		SPAN 2 PIER 2		SPAN 4 PIER 3		SPAN 4 PIER 4	
ANGLE	SKEW	ANGLE	SKEW	ANGLE	SKEW	ANGLE	SKEW
"A1"	129°20'2"	"A2"	50°39'58"	"F3"	121°52'55"	"F4"	58°7'5"
"B1"	129°59'11"	"B2"	50°0'49"	"G3"	122°23'4"	"G4"	57°36'56"
"C1"	130°37'36"	"C2"	49°22'24"	"H3"	122°52'53"	"H4"	57°7'7"
"D1"	131°15'17"	"D2"	48°44'43"	"I3"	123°22'22"	"I4"	56°37'38"
"E1"	131°52'16"	"E2"	48°7'44"	"J3"	123°51'32"	"J4"	56°8'28"

LEGEND

(1) INDICATES GIRDER CENTER LINE

NOTES:

SEE SHEET 4 "ALIGNMENT, PROFILES & SUPERELEVATION" FOR DETAILS OF ALIGNMENT.
SEE SHEET 31 "INTERMEDIATE STEEL DIAPHRAGMS" FOR DIAPHRAGM DETAILS.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-70-402

DRAWN BY PMV | PLANS CK'D. NPP

FRAMING PLAN

SHEET 32 OF 52
379

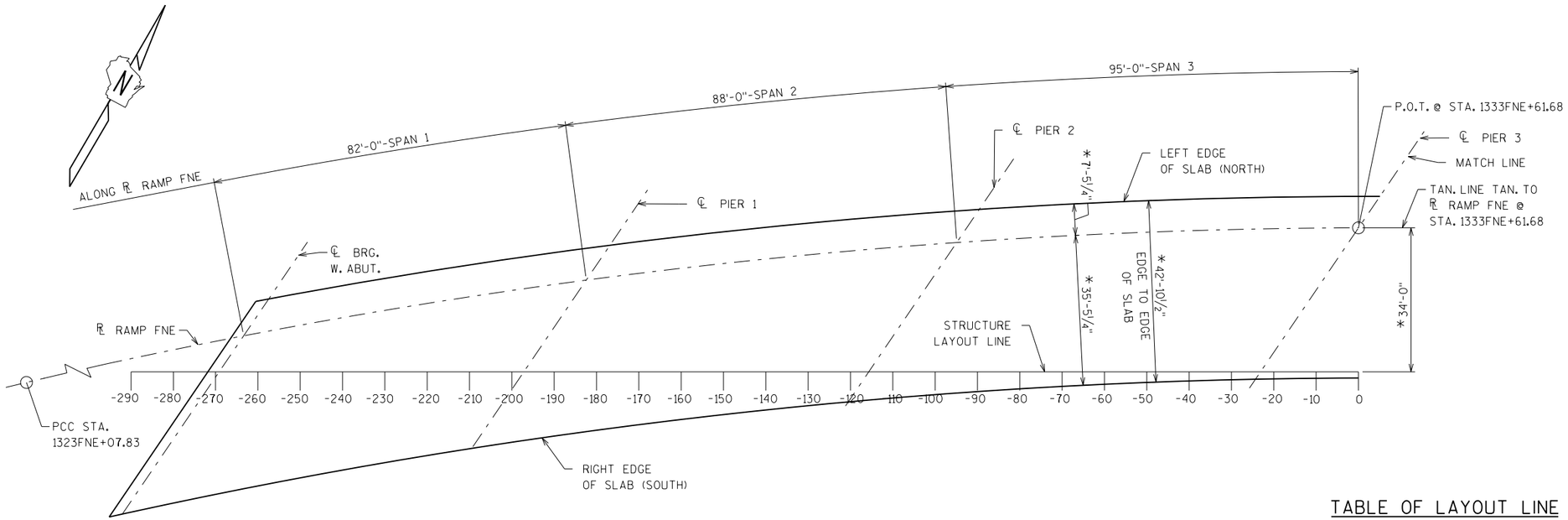
8

8

FILE= G:\WisDOT_12345678_10-441\Plans\B-70-402\Control Copy\032-B-70-402 - Framing Plan.dgn

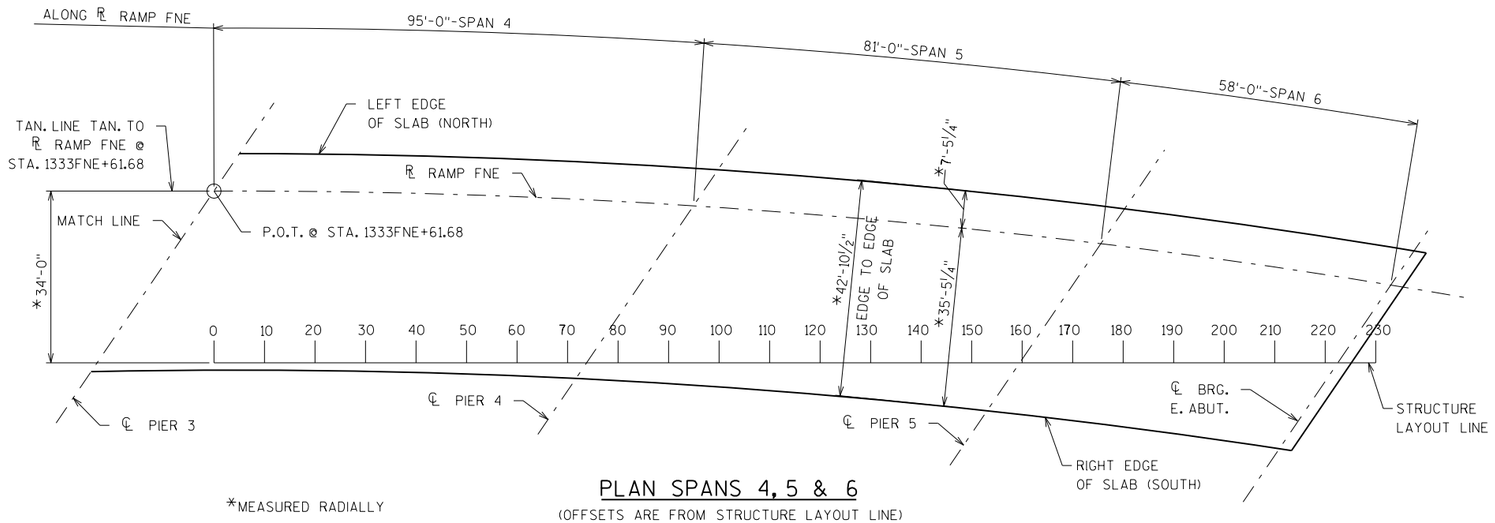
DATE: 3/11/2014
I.D.

STATE PROJECT NUMBER
1517-07-72



PLAN SPANS 1, 2 & 3

(OFFSETS ARE FROM STRUCTURE LAYOUT LINE)



*MEASURED RADIALLY

PLAN SPANS 4, 5 & 6

(OFFSETS ARE FROM STRUCTURE LAYOUT LINE)

TABLE OF LAYOUT LINE OFFSETS SPANS 1, 2 & 3

(OFFSETS ARE MEASURED FROM STRUCTURE LAYOUT LINE)

DISTANCE FROM P.O.T.	OFFSET TO ℄ RAMP FNE	OFFSET TO RT EDGE OF DECK	OFFSET TO LT EDGE OF DECK
0	34' - 0"	1' - 5 1/4"	41' - 5 1/4"
-10	33' - 11 5/8"	1' - 5 5/8"	41' - 4 7/8"
-20	33' - 10 1/4"	1' - 7"	41' - 3 5/8"
-30	33' - 8 1/4"	1' - 9 1/8"	41' - 1 1/2"
-40	33' - 5 1/4"	2' - 0 1/4"	40' - 10 1/2"
-50	33' - 1 3/8"	2' - 4 1/8"	40' - 6 3/4"
-60	32' - 8 3/4"	2' - 8 7/8"	40' - 2 1/8"
-70	32' - 3 1/4"	3' - 2 1/2"	39' - 8 5/8"
-80	31' - 8 7/8"	3' - 9 1/8"	39' - 2 1/4"
-90	31' - 1 5/8"	4' - 4 1/2"	38' - 7 1/8"
-100	30' - 5 5/8"	5' - 0 3/4"	37' - 11 1/8"
-110	29' - 8 5/8"	5' - 9 7/8"	37' - 2 1/4"
-120	28' - 10 7/8"	6' - 7 7/8"	36' - 4 1/2"
-130	28' - 0 1/4"	7' - 6 7/8"	35' - 5 7/8"
-140	27' - 0 3/4"	8' - 6 5/8"	34' - 6 1/2"
-150	26' - 0 3/8"	9' - 7 1/4"	33' - 6 1/8"
-160	24' - 11 1/4"	10' - 8 7/8"	32' - 5"
-170	23' - 9 1/8"	11' - 11 1/4"	31' - 3"
-180	22' - 6 1/4"	13' - 2 5/8"	30' - 0 1/8"
-190	21' - 2 3/8"	14' - 6 7/8"	28' - 8 1/2"
-200	19' - 9 3/4"	15' - 11 7/8"	27' - 3 7/8"
-210	18' - 4 1/8"	17' - 6"	25' - 10 3/8"
-220	16' - 9 3/4"	19' - 0 7/8"	24' - 4 1/8"
-230	15' - 2 1/2"	20' - 8 5/8"	22' - 8 7/8"
-240	13' - 6 1/4"	22' - 5 3/8"	21' - 0 3/4"
-250	11' - 9 1/4"	24' - 3"	19' - 3 7/8"
-260	9' - 11 1/4"	26' - 1 5/8"	17' - 6"
-270	8' - 0 3/8"	28' - 1"	-
-280	6' - 0 5/8"	30' - 1 3/8"	-
-290	4' - 0"	32' - 2 3/4"	-

TABLE OF LAYOUT LINE OFFSETS SPANS 4, 5 & 6

DISTANCE FROM P.O.T.	OFFSET TO ℄ RAMP FNE	OFFSET TO RT EDGE OF DECK	OFFSET TO LT EDGE OF DECK
0	34' - 0"	1' - 5 1/4"	41' - 5 1/4"
+10	33' - 11 5/8"	1' - 5 5/8"	41' - 4 7/8"
+20	33' - 10 1/4"	1' - 7"	41' - 3 5/8"
+30	33' - 8 1/4"	1' - 9 1/8"	41' - 1 1/2"
+40	33' - 5 1/4"	2' - 0 1/4"	40' - 10 1/2"
+50	33' - 1 3/8"	2' - 4 1/8"	40' - 6 3/4"
+60	32' - 8 3/4"	2' - 8 7/8"	40' - 2 1/8"
+70	32' - 3 1/4"	3' - 2 1/2"	39' - 8 5/8"
+80	31' - 8 7/8"	3' - 9 1/8"	39' - 2 1/4"
+90	31' - 1 5/8"	4' - 4 1/2"	38' - 7 1/8"
+100	30' - 5 5/8"	5' - 0 3/4"	37' - 11 1/8"
+110	29' - 8 5/8"	5' - 9 7/8"	37' - 2 1/4"
+120	28' - 10 7/8"	6' - 7 7/8"	36' - 4 1/2"
+130	28' - 0 1/4"	7' - 6 7/8"	35' - 5 7/8"
+140	27' - 0 3/4"	8' - 6 5/8"	34' - 6 1/2"
+150	26' - 0 3/8"	9' - 7 1/4"	33' - 6 1/8"
+160	24' - 11 1/4"	10' - 8 7/8"	32' - 5"
+170	23' - 9 1/8"	11' - 11 1/4"	31' - 3"
+180	22' - 6 1/4"	13' - 2 5/8"	30' - 0 1/8"
+190	21' - 2 3/8"	14' - 6 7/8"	28' - 8 1/2"
+200	19' - 9 3/4"	15' - 11 7/8"	27' - 3 7/8"
+210	18' - 4 1/8"	17' - 6"	25' - 10 3/8"
+220	16' - 9 3/4"	-	24' - 4 1/8"
+230	15' - 2 1/2"	-	22' - 8 7/8"

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-70-402

DRAWN BY PMV | PLANS CK'D. NPP

LAYOUT LINE OFFSET DETAILS

SHEET 33 OF 52
380

DATE: 3/11/2014
I.D.

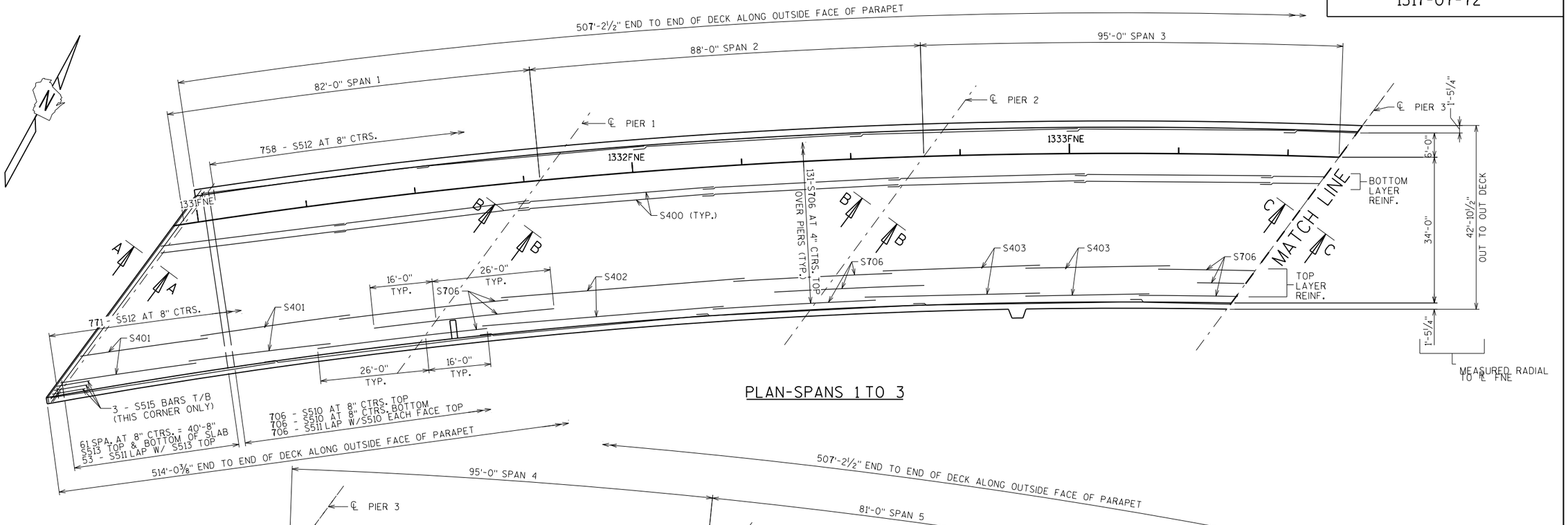
FILE= Q:\WisDOT_12345678_10-441\Plans\B-70-402\Control Copy\033-B-70-402 - Layout Line Offset Details.dgn

8

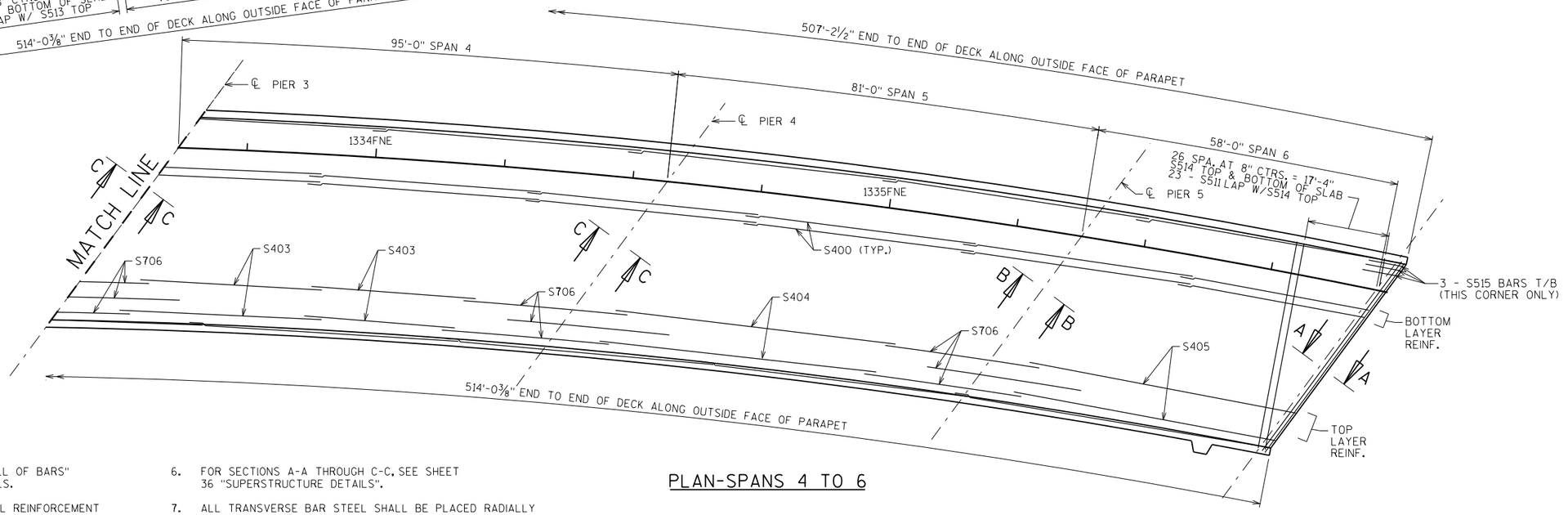
8

STATE PROJECT NUMBER

1517-07-72



PLAN-SPANS 1 TO 3



PLAN-SPANS 4 TO 6

NOTES

1. SEE SHEET 38 "SUPERSTRUCTURE BILL OF BARS" FOR BAR BILL AND BAR BENT DETAILS.
2. THE BOTTOM TRANSVERSE BAR STEEL REINFORCEMENT SHALL BE SUPPORTED BY CONTINUOUS BAR CHAIRS WITH A CENTER TO CENTER SPACING NOT TO EXCEED 4'-0". ONE LINE OF CONTINUOUS BAR CHAIRS SHALL BE PLACED NEAR EACH EDGE OF SLAB TO SUPPORT THE ENDS OF THE BOTTOM TRANSVERSE BAR STEEL.
3. THE TOP LONGITUDINAL BAR STEEL REINFORCEMENT SHALL BE SUPPORTED BY CONTINUOUS BAR CHAIRS IN TRANSVERSE DIRECTION ON 4'-0" CENTERS.
4. SEE SHEET 1 "GENERAL PLAN" FOR LOCATIONS OF FLOOR DRAINS. FOR FLOOR DRAIN DETAILS SEE SHEET 48 "FLOOR DRAIN TYPE WF".
5. FOR DECK REINFORCEMENT DETAILS AT LIGHT STANDARDS, SEE SHEET 37 "LIGHT STANDARD".
6. FOR SECTIONS A-A THROUGH C-C, SEE SHEET 36 "SUPERSTRUCTURE DETAILS".
7. ALL TRANSVERSE BAR STEEL SHALL BE PLACED RADIALLY TO THE RAMP FNE REFERENCE LINE.
8. ALL LONGITUDINAL BAR STEEL SHALL BE PLACED CONCENTRIC TO THE RAMP FNE REFERENCE LINE.
9. SEE SHEET 48 "FLOOR DRAIN TYPE WF" FOR LOCATIONS AND DETAILS OF CONCRETE INSERTS.
10. SEE SHEET 49 "AESTHETIC DETAILS" FOR AESTHETIC TREATMENT ON PARAPET.
11. FOR PARAPET REINFORCEMENT, SEE SHEETS:
    40 "SINGLE SLOPE PARAPET 32SS E. ABUT."
    41 "SINGLE SLOPE PARAPET 32SS W. ABUT."
    42 "SINGLE SLOPE PARAPET 42SS E. ABUT."
    43 "SINGLE SLOPE PARAPET 42SS W. ABUT."
12. USE MINIMUM LAP LENGTH FOR #4 BAR WHEN LAPPING #4 BAR WITH #7 BAR.

DECK BAR LAP LENGTH

BAR SIZE	MIN. LAP LENGTH
#4	1'-8"
#5	2'-7"

PARAPET BAR LAP LENGTH

BAR SIZE	MIN. LAP LENGTH
#5	2'-11"

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-70-402

DRAWN BY PMV | PLANS CK'D. NPP

DECK REINFORCEMENT

SHEET 34 OF 52
381

DATE: 3/11/2014
I.D.

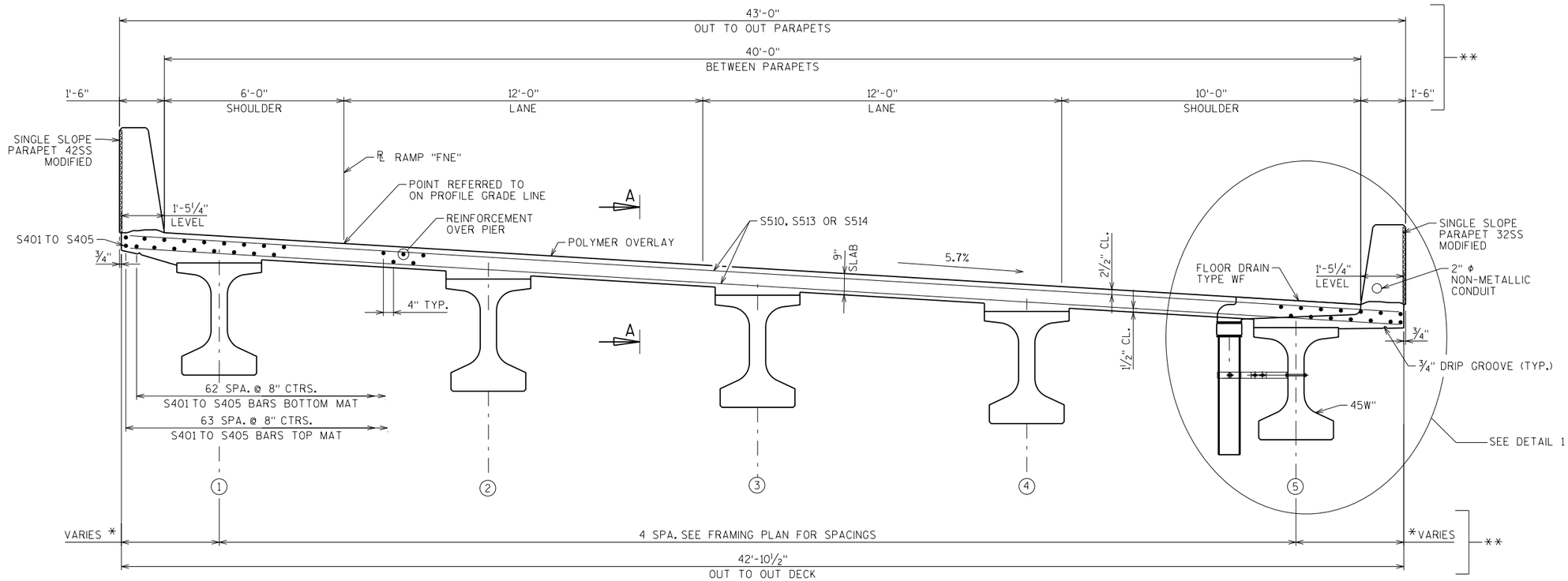
FILE= Q:\WisDOT_12345678_10-441\Plans\B-70-402 - Deck Reinforcement.dgn

8

8

STATE PROJECT NUMBER

1517-07-72

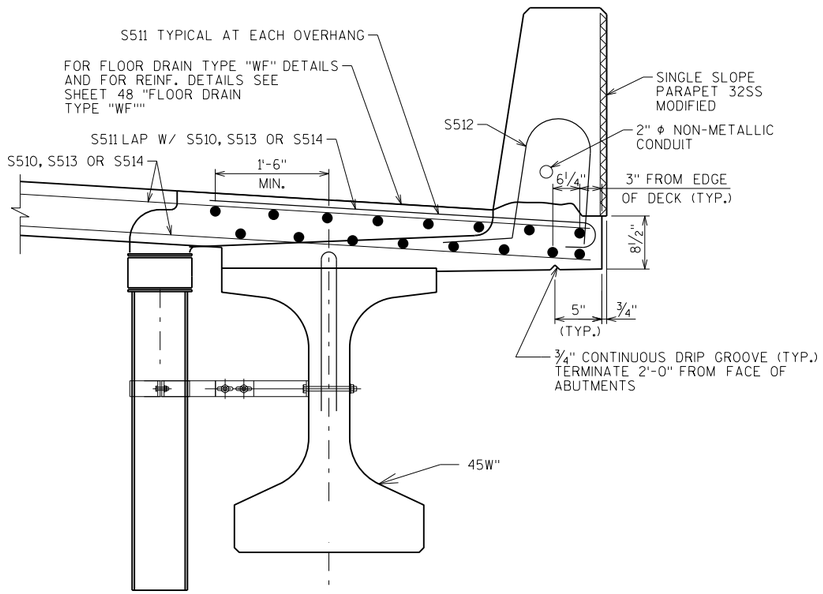


TYPICAL DECK SECTION

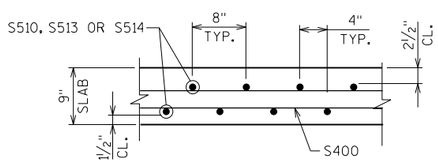
*FROM 2'-3" MIN. TO 3'-8" MAX.

(LOOKING UPSTATION)

** DIMENSIONS MEASURED ALONG HORIZONTAL LINES RADIAL TO ℄



DETAIL 1



SECTION A-A

NOTES:

SEE SHEET 34 "DECK REINFORCEMENT" FOR NOTES.

SEE SHEET 30 "45W" PRESTRESSED GIRDER DETAILS 2" FOR HAUNCH DETAILS.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-70-402

DRAWN BY PMV | PLANS CK'D. NPP

TYP. DECK REINF. CROSS SECTION

SHEET 35 OF 52
382

FILE= G:\WisDOT_12345678_10-441\Plans\B-70-402\Control Copy\035 B-70-402 - Typical Deck Reinf. Cross Section.dgn

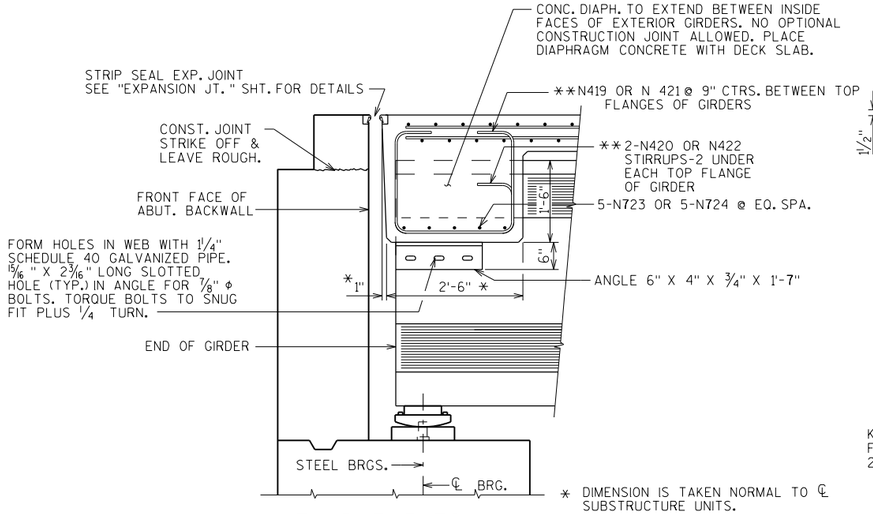
DATE: 3/11/2014
I.D.

8

8

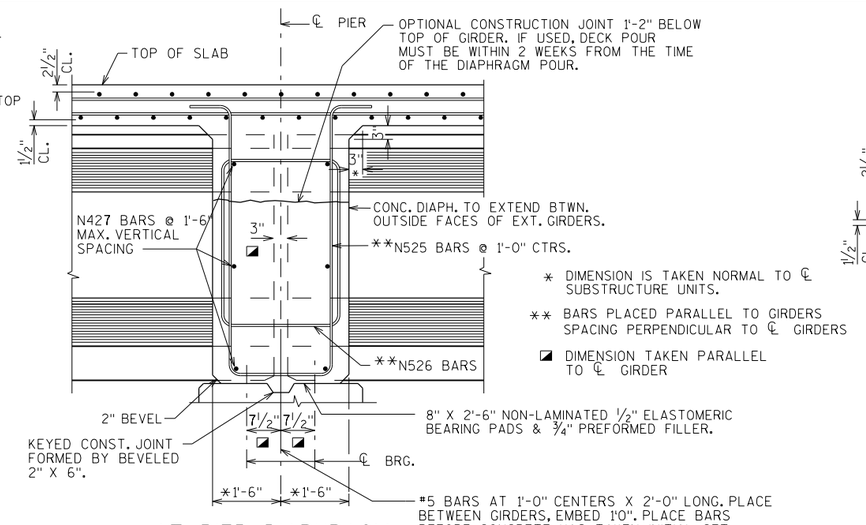
STATE PROJECT NUMBER

1517-07-72



AT ABUTMENTS

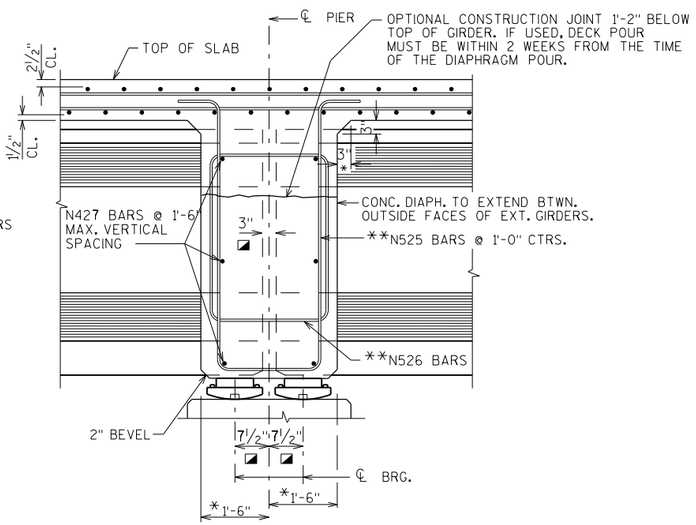
(SECTION A-A, SEE SHEET 34 "DECK REINFORCEMENT" FOR LOCATION)



AT PIER DIAPHRAGM

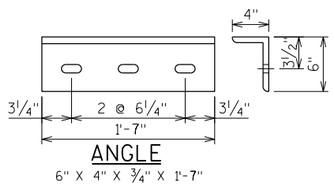
(FIXED)
(PIERS 3 & 4)
(SECTION C-C, SEE SHEET 34 "DECK REINFORCEMENT" FOR LOCATION)

PART LONGIT. SECTION



AT PIER DIAPHRAGM

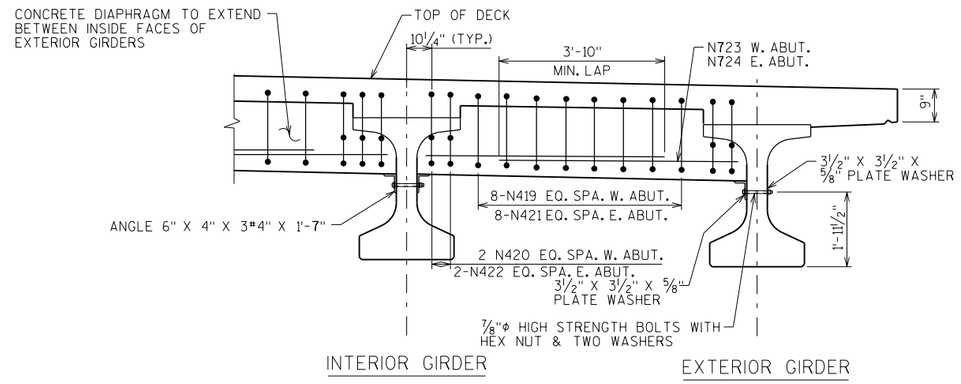
(EXPANSION)
(PIERS 1, 2 & 5)
(FORM DIAPHRAGM APPROXIMATELY ½" ABOVE BEARING KEEPER BARS)
(SECTION B-B, SEE SHEET 34 "DECK REINFORCEMENT" FOR LOCATION)



ANGLE

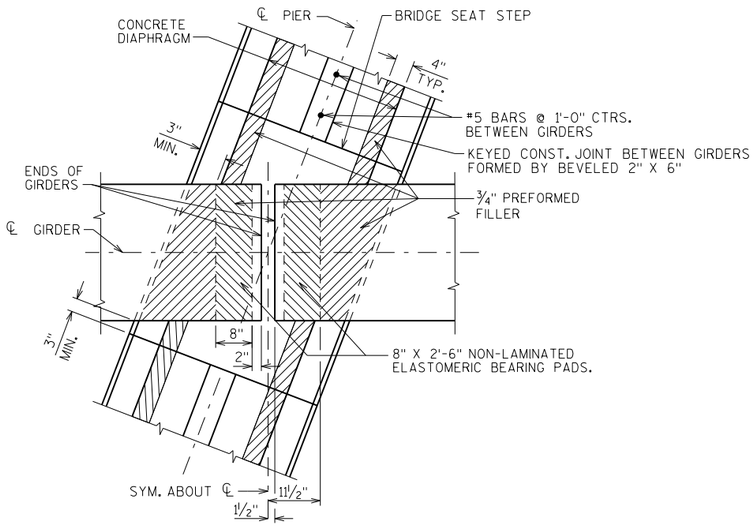
6" X 4" X ¾" X 1'-7"

PROVIDE 3½" × 3½" × 5/16" PLATE WASHERS AT ALL LOCATIONS EXCEPT AT EXTERIOR FACES OF EXTERIOR GIRDERS WHERE 3½" × 3½" × ½" PLATE WASHERS SHALL BE PROVIDED.



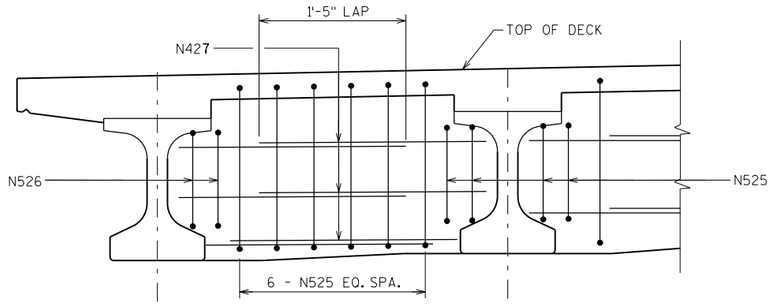
SECTION AT PARTIAL DEPTH DIAPHRAGM

(ABUTMENTS)



AT PIER

(PIERS 3 & 4)



SECTION AT FULL DEPTH DIAPHRAGM AT PIERS

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 "HIGH PERFORMANCE CONCRETE (HPC) MASONRY STRUCTURES".

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-70-402

DRAWN BY PMV | PLANS CK'D. NPP

SUPERSTRUCTURE DETAILS

SHEET 36 OF 52
383

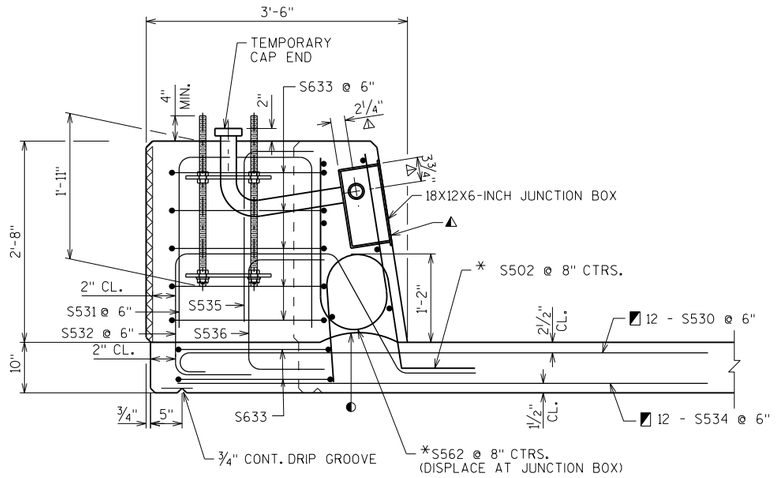
DATE: 3/11/2014
I.D.

FILE= G:\WisDOT_12345678_10-441\Plans\B-70-402\Control Copy\036-B-70-402 - Superstructure Details.dgn

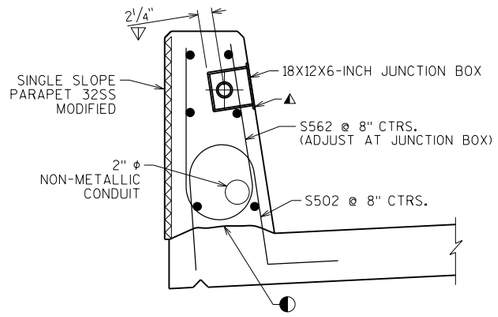
8

8

STATE PROJECT NUMBER
1517-07-72



SECTION A-A

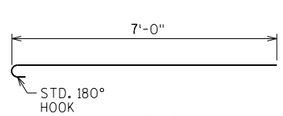


SECTION THRU PARAPET

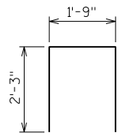
SHOWING 18X12X6-INCH JUNCTION BOX (SINGLE CONDUIT APPLICATION ONLY)

BAR MARK	NO. REQ'D	LENGTH	WEIGHT (LB)	BENT	LOCATION
S530	24	7'-8"	192	X	DECK TRANSVERSE AT LIGHT STD.
S531	8	6'-0"	50	X	PARAPET VERT. AT LIGHT STD.
S532	8	7'-0"	58	X	PARAPET VERT. AT LIGHT STD.
S633	14	10'-0"	210	X	PARAPET HORZ. AT LIGHT STD.
S534	24	7'-0"	175		DECK TRANSVERSE AT LIGHT STD.
S535	4	3'-2"	13	X	PARAPET VERT. AT LIGHT STD.
S536	4	3'-5"	14	X	PARAPET VERT. AT LIGHT STD.

ALL BARS ARE EPOXY COATED.

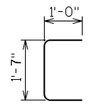


S530



S531

S535



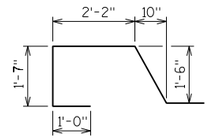
S536

JUNCTION BOX TABLE

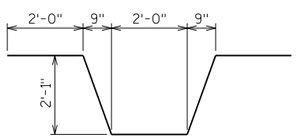
℄ JUNCTION BOX STATIONS
STA 1332+87.48
STA. 1330+72
STA. 1331+80
STA. 1334+25
STA 1335+67.80

LIGHT POLE TABLE

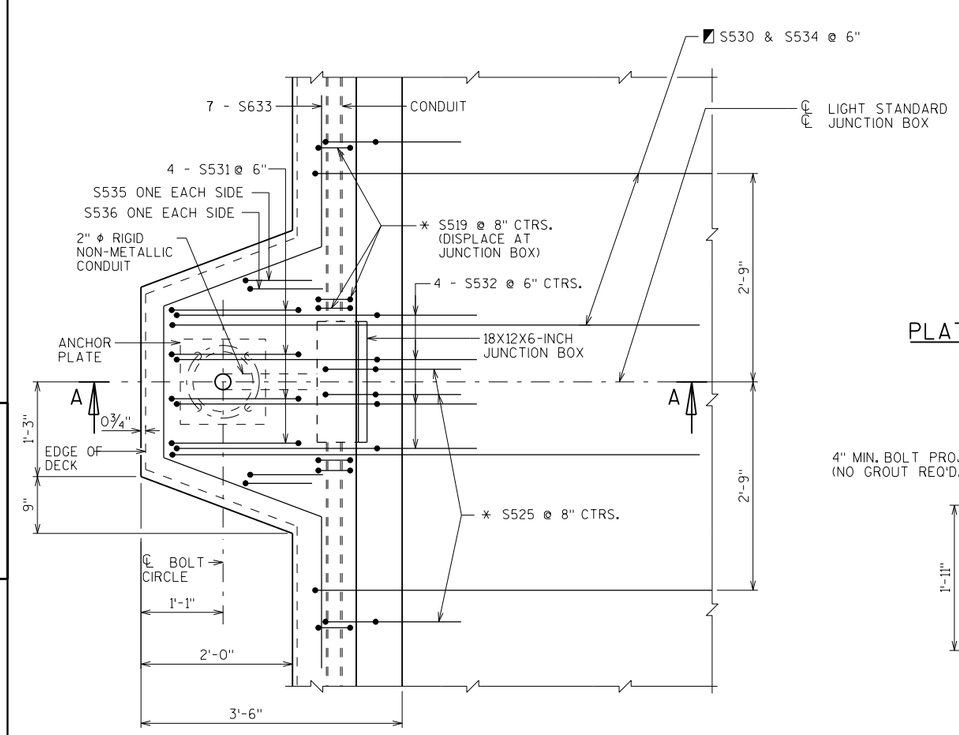
℄ LIGHT POLE STATIONS
STA 1332+87.00
STA 1335+67.00



S532



S633



PLAN AT LIGHT STANDARD

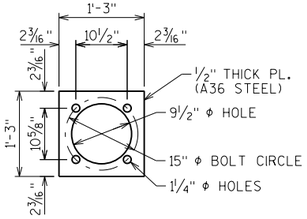
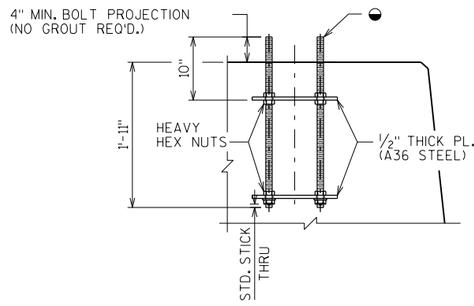


PLATE DETAIL FOR 15" ϕ BOLT CIRCLE

(2 REQ'D. FOR LIGHT STANDARDS)



ANCHORAGE DETAIL

(2 REQ'D.)

LEGEND

- ◐ CONSTR. JT. STRIKE OFF AS SHOWN
- ◭ CUT OUT ± 1" OF GASKET AT BOTTOM OF JUNCTION BOX COVER TO ALLOW FOR DRAINAGE.
- ▽ LOCATION OF CONDUIT IS MEASURED FROM OUTSIDE EDGE OF JUNCTION BOX.
- ◩ THESE BARS ARE IN ADDITION TO STANDARD TRANSVERSE BARS IN DECK.
- ◒ 1"ϕ THREADED ANCHOR BOLTS ASTM A449 OR AASHTO M 314-90 GR 55. HOT DIP ASTM A153, CLASS C, ENTIRE ANCHORAGE. PROVIDE ENLARGED THREAD ON NUTS FOR PROPER FIT AFTER GALVANIZING. PROVIDE DOUBLE FLAT WASHERS & NUTS.
- ✳ SEE SHEET 34 "DECK REINFORCEMENT" AND 35 "TYPICAL DECK REINFORCEMENT SECTION" FOR ADDITIONAL BAR STEEL DETAILS

NOTES

BID ITEMS SHALL BE:
"JUNCTION BOXES 18X12X6-INCH", EACH.
"ANCHOR ASSEMBLIES LIGHT POLES ON STRUCTURES", EACH.
"CONDUIT RIGID NONMETALLIC SCHEDULE 40 2-INCH"
"CONDUIT RIGID METALLIC 2-INCH"

APPROVED MANUFACTURERS - JUNCTION BOXES:
SEE APPROVED MATERIAL LIST.

APPROVED MANUFACTURER OR EQUIVALENT - EXPANSION FITTING:
O-Z/GEDNEY TYPE AXDX-200 AND BONDING JUMPER COMBINATION EXPANSION AND DEFLECTION FITTING. SEE SHEET 52 "PARAPET "32SS" ELECTRICAL WORK" FOR LOCATION OF EXPANSION FITTINGS.

EXPANSION FITTINGS, ANGLES AND ADAPTER FITTINGS TO BE INCIDENTAL TO "CONDUIT RIGID METALLIC 2-INCH".

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

JUNCTION BOX REQUIREMENTS
PLACE A 18"X12"X6" JUNCTION BOX AT EACH LIGHT STANDARAD (CENTERED ON LIGHT ℄)

USE A JUNCTION BOX TO KEEP A CONTINUOUS RUN OF CONDUIT (PULL LENGTH) TO A MAXIMUM OF 190 FT. CONTACT THE BUREAU OF HIGHWAY OPERATIONS, ELECTRICAL SECTION WHEN PULL LENGTH IS >190' BUT <200'.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-70-402

DRAWN BY KJZ | PLANS CK'D. NPP

LIGHT STANDARD

SHEET 37 OF 52
384

DATE: 3/11/2014
I.D.

FILE= G:\WisDOT_12345678_10-441\Plans\B-70-402\Control Copy\037-B-70-402 - Light Standard.dgn

8

8

STATE PROJECT NUMBER

1517-07-72

BILL OF BARS - DECK

	BAR MARK	COAT	NO. REQ'D	LENGTH	WEIGHT (LB)	BENT	LOCATION TOTAL WT. = 193,910 LBS.
	S400	X	780	44'-6"	23,186		BOTTOM LONGITUDINAL
	S401	X	130	32'-4"	2,808		TOP LONGITUDINAL
	S402	X	64	51'-0"	2,180		TOP LONGITUDINAL
	S403	X	256	29'-8"	5,073		TOP LONGITUDINAL
	S404	X	64	43'-0"	1,838		TOP LONGITUDINAL
	S405	X	64	45'-8"	1,952		TOP LONGITUDINAL
	S706	X	655	42'-0"	56,230		TOP LONGITUDINAL OVER PIERS
	S510	X	1412	42'-6"	62,652		TOP & BOTT. TRANSVERSE
	S511	X	1488	6'-1"	9,441	X	TOP TRANSVERSE AT OVERHANG
	S512	X	1529	4'-5"	7,043	X	STIRRUPS FROM PARAPET INTO DECK
*	S513	X	124	22'-6"	2,910		TOP & BOTT. TRANSVERSE WEST END
*	S514	X	54	22'-6"	1,267		TOP & BOTT. TRANSVERSE EAST END
	S515	X	19	5'-0"	99		T & B LONG. AT SW & NE DECK CORNERS & FLOOR DRAIN
	S562	X	771	5'-0"	4,021	X	32SS PARAPET VERT.
	S563	X	72	45'-7"	3,423		32SS PARAPET HORIZ.
	S572	X	758	6'-8"	5,271	X	42SS PARAPET VERT.
	S573	X	96	45'-1"	4,514		42SS PARAPET HORIZ.

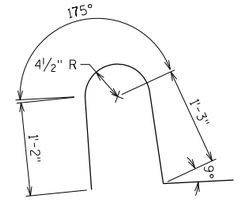
BAR SEQUENCE 7-9, 16-61, AND 64-71 NOT USED.

DIMENSIONS IN BENDING DETAILS ARE OUT TO OUT OF BAR.
ALL BAR STEEL REINFORCEMENT IN THIS BILL OF BARS SHALL BE EPOXY COATED.

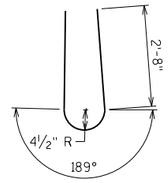
*LENGTH SHOWN FOR BAR IS AN AVERAGE LENGTH AND SHOULD ONLY BE USED FOR BAR WEIGHT CALCULATION. SEE BAR SERIES TABLE FOR ACTUAL LENGTHS.

BAR SERIES TABLE

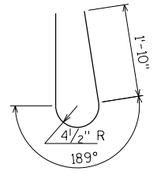
BAR MARK	NO. REQ'D	LENGTH
S513	2 SERIES OF 62	2'-6" TO 42'-6"
S514	2 SERIES OF 27	2'-6" TO 42'-6"
N525	5 SERIES OF 24	11'-11" TO 13'-1"
N526	5 SERIES OF 16	12'-4" TO 9'-6"



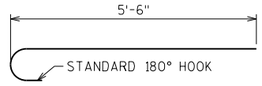
S512



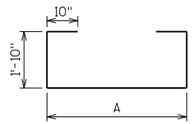
S572



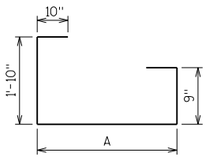
S562



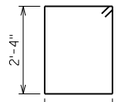
S511



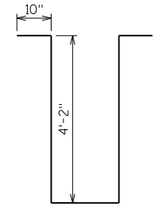
N419 & N421



N420 & N422



N526



N525

MARK	DIM. "A"	DIM. "B"
N419	3'-2"	
N421	2'-5"	
N420	3'-2"	
N422	2'-5"	
N525		2'-2" TO 3'-7"
N526		2'-2" TO 3'-7"

BILL OF BARS - DIAPHRAGMS

	BAR MARK	COAT	NO. REQ'D	LENGTH	WEIGHT (LB)	BENT	LOCATION TOTAL WT. = 5,604 LBS.
	N419	X	32	8'-2"	174	X	DIAPH. VERT. W. ABUT.
	N420	X	16	7'-1"	76	X	DIAPH. VERT. W. ABUT.
	N421	X	32	7'-5"	158	X	DIAPH. VERT. E. ABUT.
	N422	X	16	6'-4"	67	X	DIAPH. VERT. E. ABUT.
	N723	X	40	8'-0"	482		DIAPH. HORIZ. W. ABUT.
	N724	X	40	6'-10"	558		DIAPH. HORIZ. E. ABUT.
*	N525	X	120	12'-6"	1,565	X	DIAPH. VERT. PIERS 1-5
*	N526	X	80	10'-11"	1,316	X	DIAPH. VERT. PIERS 1-5
	N427	X	240	6'-10"	1,094		DIAPH. HORIZ. PIERS 1-5
	N428	X	8	11'-11"	63		STRIP SEAL JT. REINF. AT WEST END OF DECK
	N429	X	8	9'-7"	51		STRIP SEAL JT. REINF. AT EAST END OF DECK

BAR SEQUENCE 1-18 NOT USED.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-70-402

DRAWN BY PMV | PLANS CK'D. NPP

SUPERSTRUCTURE BILL OF BARS

SHEET 38 OF 52
385

FILE= G:\WisDOT_12345678_10-441\Plans\B-70-402\Control Copy\038 B-70-402 - Superstructure Bill of Bars.dgn

DATE: 3/11/2014
I.D.

8

8

STATE PROJECT NUMBER
1517-07-72

SPAN 1

LOCATION	℄ BRG. W. ABUT.	0.1 PT	0.2 PT	0.3 PT	0.4 PT	0.5 PT	0.6 PT	0.7 PT	0.8 PT	0.9 PT	℄ PIER 1
ALONG RL	782.71	782.98	783.26	783.52	783.78	784.04	784.29	784.53	784.77	785.00	785.22
LT. EDGE OF SLAB	783.30	783.57	783.83	784.09	784.34	784.59	784.83	785.07	785.30	785.52	785.74
GIRDER 1	783.07	783.34	783.61	783.87	784.13	784.39	784.65	784.90	785.15	785.39	785.63
GIRDER 2	782.24	782.52	782.79	783.06	783.33	783.59	783.85	784.10	784.36	784.61	784.85
GIRDER 3	781.40	781.68	781.96	782.24	782.51	782.78	783.04	783.30	783.56	783.82	784.07
GIRDER 4	780.56	780.84	781.13	781.41	781.68	781.96	782.23	782.49	782.76	783.02	783.28
GIRDER 5	779.70	780.00	780.28	780.57	780.85	781.13	781.41	781.68	781.95	782.21	782.48
RT. EDGE OF SLAB	779.44	779.76	780.07	780.38	780.68	780.97	781.26	781.54	781.81	782.08	782.34

SPAN 2

LOCATION	℄ PIER 1	0.1 PT	0.2 PT	0.3 PT	0.4 PT	0.5 PT	0.6 PT	0.7 PT	0.8 PT	0.9 PT	℄ PIER 2
ALONG RL	785.22	785.46	785.69	785.91	786.12	786.33	786.53	786.73	786.92	787.10	787.28
LT. EDGE OF SLAB	785.74	785.97	786.19	786.41	786.61	786.82	787.01	787.20	787.38	787.56	787.73
GIRDER 1	785.63	785.84	786.05	786.26	786.46	786.65	786.85	787.04	787.22	787.40	787.58
GIRDER 2	784.85	785.08	785.30	785.51	785.73	785.94	786.14	786.34	786.54	786.73	786.93
GIRDER 3	784.07	784.30	784.54	784.77	784.99	785.21	785.43	785.64	785.85	786.06	786.26
GIRDER 4	783.28	783.52	783.77	784.01	784.25	784.48	784.71	784.94	785.16	785.38	785.60
GIRDER 5	782.48	782.74	783.00	783.25	783.50	783.75	783.99	784.23	784.47	784.70	784.92
RT. EDGE OF SLAB	782.34	782.61	782.88	783.14	783.39	783.63	783.87	784.09	784.31	784.53	784.73

SPAN 3

LOCATION	℄ PIER 2	0.1 PT	0.2 PT	0.3 PT	0.4 PT	0.5 PT	0.6 PT	0.7 PT	0.8 PT	0.9 PT	℄ PIER 3
ALONG RL	787.28	787.46	787.63	787.80	787.95	788.11	788.25	788.38	788.51	788.63	788.74
LT. EDGE OF SLAB	787.73	787.90	788.07	788.23	788.38	788.53	788.67	788.80	788.92	789.03	789.14
GIRDER 1	787.58	787.75	787.91	788.07	788.23	788.38	788.53	788.67	788.81	788.94	789.07
GIRDER 2	786.93	787.10	787.26	787.43	787.59	787.74	787.89	788.04	788.18	788.32	788.45
GIRDER 3	786.26	786.44	786.61	786.78	786.94	787.10	787.26	787.41	787.55	787.69	787.83
GIRDER 4	785.60	785.78	785.95	786.12	786.29	786.46	786.61	786.77	786.92	787.06	787.21
GIRDER 5	784.92	785.11	785.29	785.47	785.64	785.81	785.97	786.13	786.28	786.43	786.58
RT. EDGE OF SLAB	784.73	784.95	785.15	785.35	785.54	785.72	785.89	786.05	786.21	786.35	786.49

SPAN 4

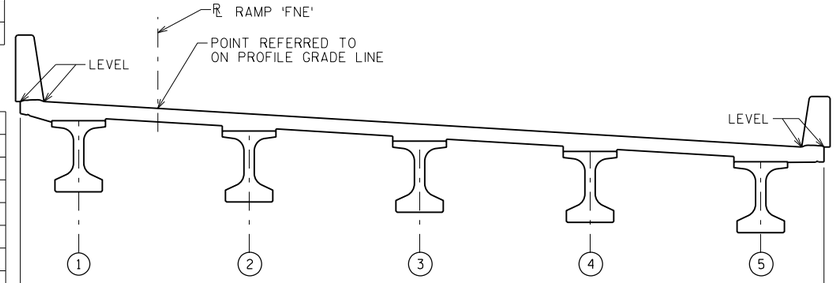
LOCATION	℄ PIER 3	0.1 PT	0.2 PT	0.3 PT	0.4 PT	0.5 PT	0.6 PT	0.7 PT	0.8 PT	0.9 PT	℄ PIER 4
ALONG RL	788.74	788.84	788.94	789.03	789.11	789.18	789.24	789.30	789.35	789.40	789.45
LT. EDGE OF SLAB	789.14	789.24	789.33	789.41	789.49	789.55	789.61	789.67	789.72	789.77	789.82
GIRDER 1	789.07	789.15	789.22	789.29	789.36	789.42	789.48	789.54	789.59	789.65	789.71
GIRDER 2	788.45	788.54	788.62	788.70	788.78	788.85	788.91	788.98	789.04	789.10	789.16
GIRDER 3	787.83	787.93	788.02	788.11	788.19	788.27	788.34	788.42	788.48	788.55	788.62
GIRDER 4	787.21	787.31	787.41	787.51	787.60	787.69	787.77	787.85	787.93	788.00	788.07
GIRDER 5	786.58	786.69	786.80	786.91	787.01	787.11	787.20	787.29	787.37	787.45	787.52
RT. EDGE OF SLAB	786.49	786.62	786.74	786.85	786.95	787.05	787.13	787.21	787.28	787.34	787.40

SPAN 5

LOCATION	℄ PIER 4	0.1 PT	0.2 PT	0.3 PT	0.4 PT	0.5 PT	0.6 PT	0.7 PT	0.8 PT	0.9 PT	℄ PIER 5
ALONG RL	789.45	789.50	789.54	789.59	789.63	789.67	789.72	789.76	789.80	789.85	789.89
LT. EDGE OF SLAB	789.82	789.86	789.91	789.95	789.99	790.04	790.08	790.12	790.17	790.21	790.25
GIRDER 1	789.71	789.75	789.78	789.82	789.87	789.91	789.96	790.01	790.06	790.12	790.18
GIRDER 2	789.16	789.20	789.23	789.27	789.31	789.36	789.40	789.45	789.50	789.56	789.62
GIRDER 3	788.62	788.65	788.68	788.72	788.76	788.80	788.85	788.89	788.94	789.00	789.05
GIRDER 4	788.07	788.10	788.13	788.17	788.21	788.25	788.29	788.34	788.39	788.44	788.49
GIRDER 5	787.52	787.55	787.58	787.62	787.65	787.69	787.73	787.78	787.83	787.88	787.93
RT. EDGE OF SLAB	787.40	787.44	787.49	787.53	787.58	787.62	787.67	787.71	787.76	787.81	787.85

SPAN 6

LOCATION	℄ PIER 5	0.1 PT	0.2 PT	0.3 PT	0.4 PT	0.5 PT	0.6 PT	0.7 PT	0.8 PT	0.9 PT	℄ BRG. E. ABUT.
ALONG RL	789.89	789.92	789.95	789.99	790.02	790.05	790.08	790.11	790.14	790.17	790.20
LT. EDGE OF SLAB	790.25	790.29	790.32	790.35	790.38	790.41	790.44	790.47	790.50	790.53	790.57
GIRDER 1	790.18	790.21	790.24	790.27	790.30	790.33	790.36	790.40	790.44	790.48	790.52
GIRDER 2	789.62	789.64	789.67	789.70	789.73	789.76	789.80	789.83	789.87	789.91	789.94
GIRDER 3	789.05	789.08	789.11	789.13	789.16	789.20	789.23	789.26	789.30	789.33	789.37
GIRDER 4	788.49	788.52	788.54	788.57	788.60	788.63	788.66	788.69	788.73	788.76	788.80
GIRDER 5	787.93	787.95	787.98	788.01	788.03	788.06	788.09	788.13	788.16	788.20	788.23
RT. EDGE OF SLAB	787.85	787.88	787.91	787.95	787.98	788.01	788.04	788.08	788.11	788.14	788.17



HORIZONTAL LOCATION KEY

LOOKING UPSTATION

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-70-402

DRAWN BY PMV | PLANS CK'D. NPP

TOP OF DECK ELEVATIONS

SHEET 39 OF 52
386

8

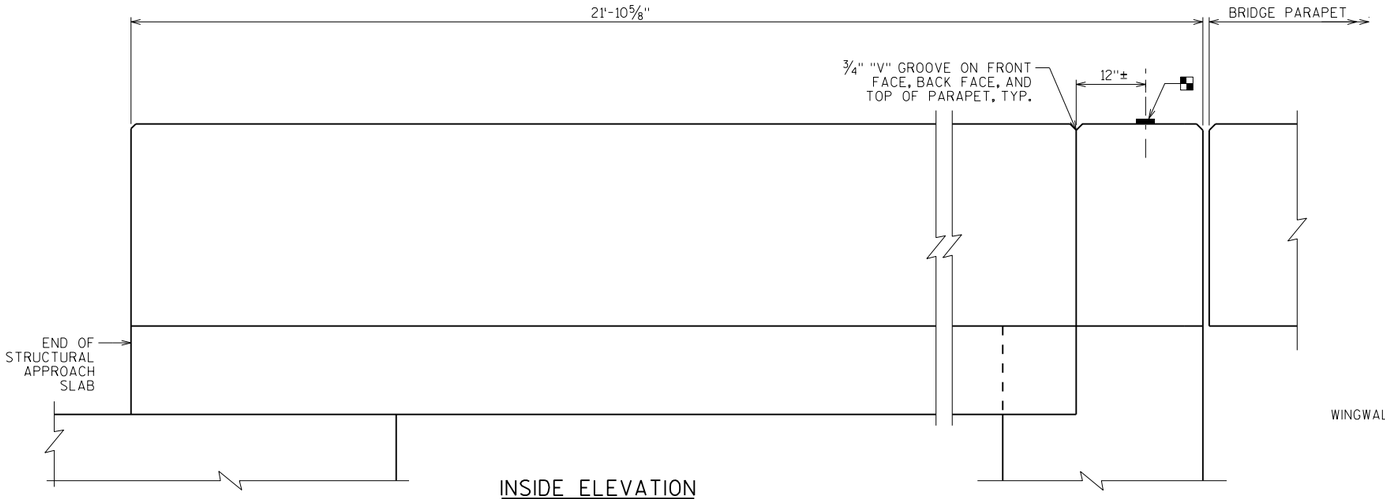
8

FILE= Q:\WisDOT_12345678_10-441\Plans\B-70-402\Control Copy\039-B-70-402 - Top of Deck Elevations.dgn

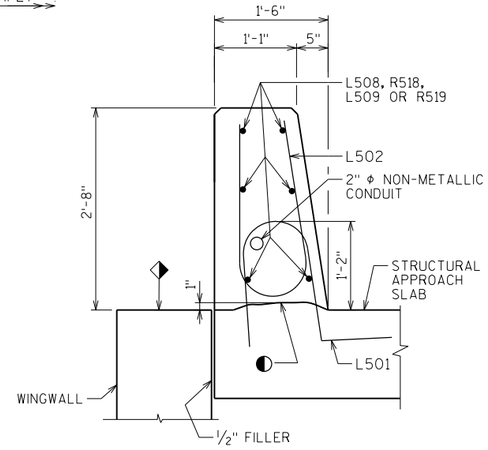
DATE: 3/11/2014

I.D.

STATE PROJECT NUMBER
1517-07-72



INSIDE ELEVATION

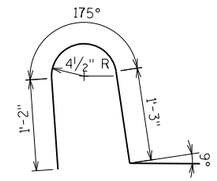


SECTION C-C

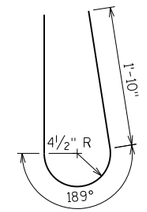
BILL OF BARS

FOR STRUCTURAL APPROACH SLAB PARAPET

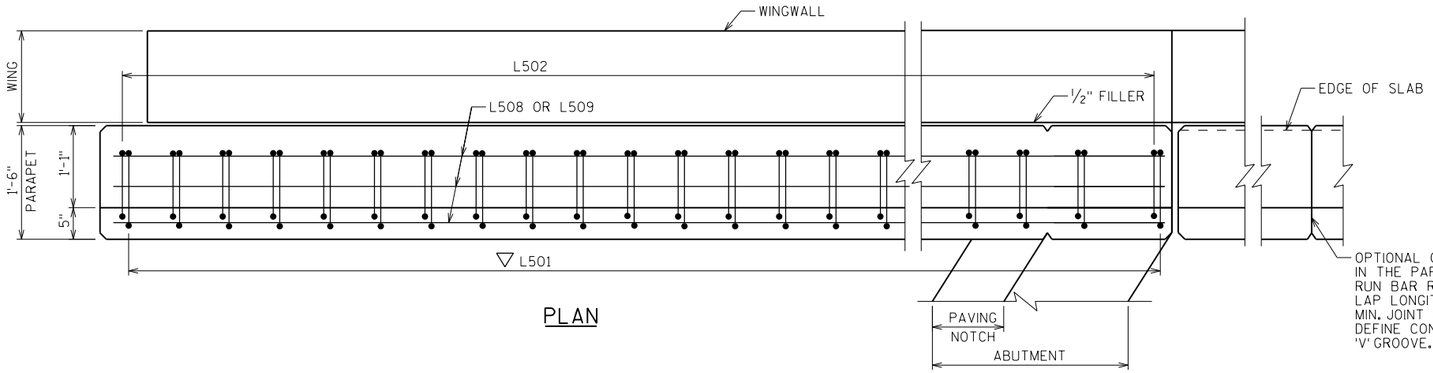
BAR MARK	NO. REQUIRED W. APPR.	NO. REQUIRED E. APPR.	LENGTH	BENT	LOCATION
EPOXY COATED					TOTAL = 454 LB
L501		33	4'-5"	X	PARAPET VERTICAL
L502		33	5'-0"	X	PARAPET VERTICAL
L509		6	20'-9"		PARAPET HORIZONTAL



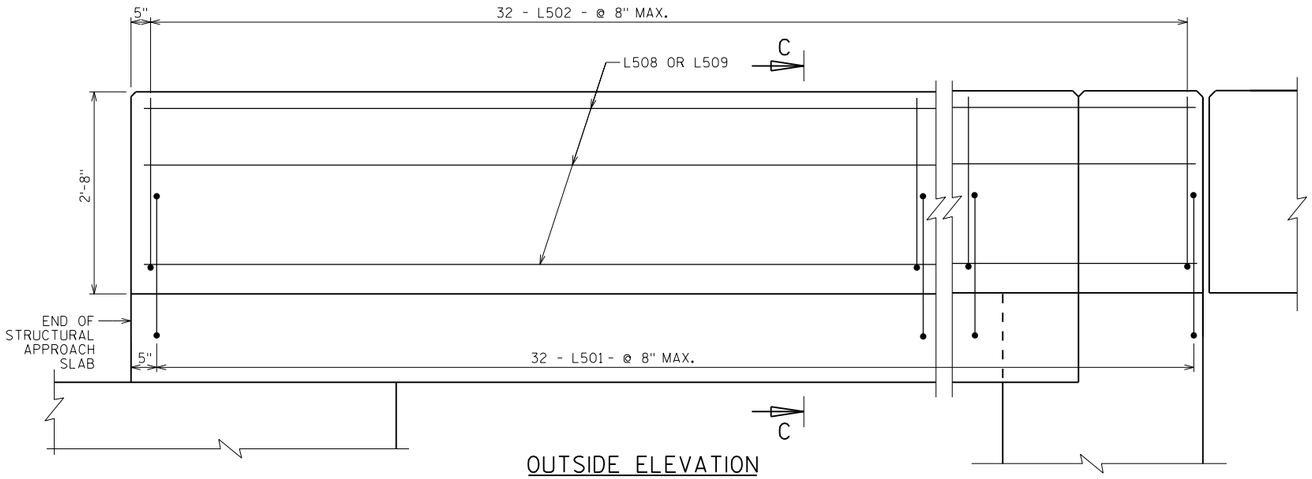
L501



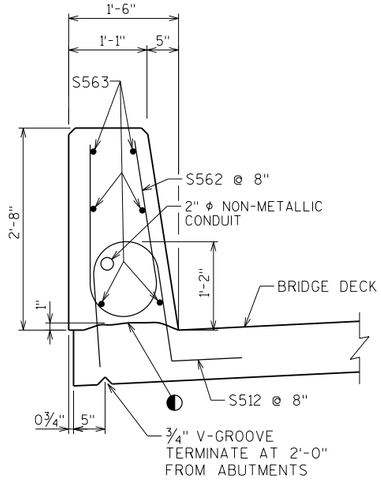
L502



PLAN



OUTSIDE ELEVATION



SECTION THROUGH PARAPET ON BRIDGE

NOTES:

THE FOLLOWING NOTES ARE APPLICABLE TO SHEET 52 "PARAPET 32SS ELECTRICAL WORK".

EXPANSION FITTINGS, ANGLES AND ADAPTER FITTINGS ARE INCIDENTAL TO "CONDUIT RIGID METALLIC 2-INCH".

APPROVED MANUFACTURER OR EQUIVALENT - EXPANSION FITTING: (HORIZ. AND VERT. MOVEMENT):

AT E. ABUTMENT USE: ELECTRICAL FITTING - AX/DX CONNECTION AND BONDING JUMPER (8 ¾" TOTAL CONDUIT MOVEMENT). SEE SHEET 52 "PARAPET '32SS' ELECTRICAL WORK" FOR DETAIL.

LEGEND

- ◐ CONST. JOINT - STRIKE OFF AS SHOWN.
- ▽ L501 BARS TO BE TIED TO APPROACH SLAB STEEL BEFORE APPROACH SLAB IS POURED.
- ◆ SLOPE FOR DRAINAGE
- ▪ BENCH MARK CAP (WHEN SUPPLIED). AVOID PLACING A BENCH MARK CAP BELOW A RAIL OR FENCE SYSTEM THAT IS ATTACHED TO THE TOP OF THE PARAPET.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-70-402

DRAWN BY KJZ | PLANS CK'D. NPP

SINGLE SLOPE PARAPET 32SS E. ABUT

SHEET 40 OF 52
387

DATE: 3/11/2014
I.D.

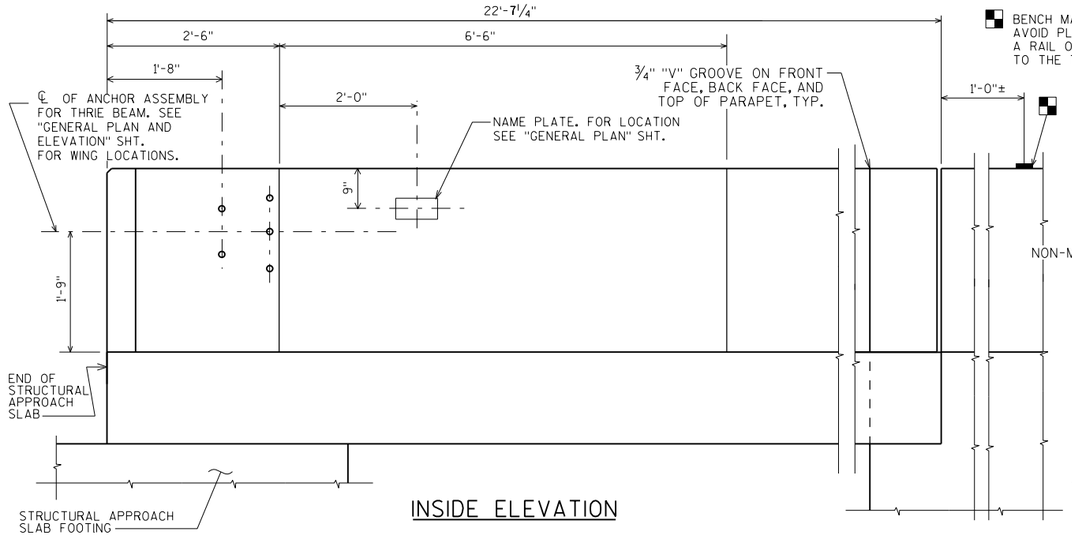
FILE= G:\WisDOT_12345678_10-441\Plans\B-70-402\Control Copy\040-B-70-402 - Single Slope parapet 32SS E. Abut..dgn

8

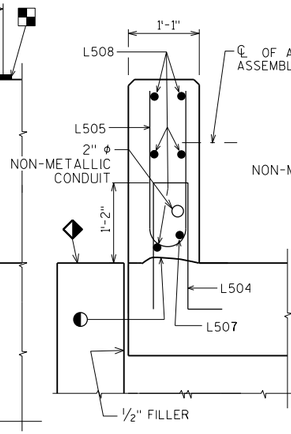
8

STATE PROJECT NUMBER

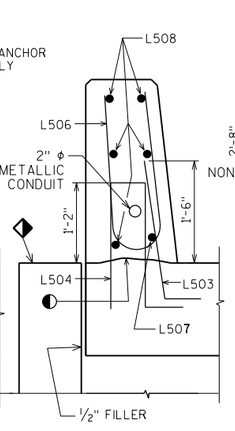
1517-07-72



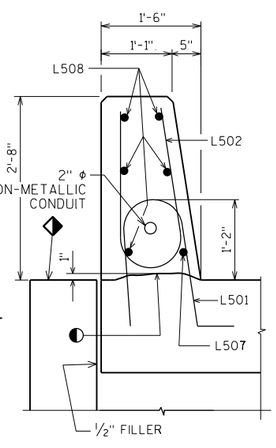
INSIDE ELEVATION



SECTION A



SECTION B

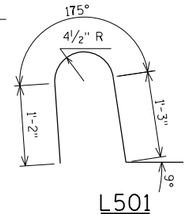


SECTION C

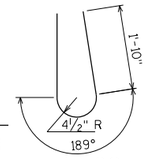
BILL OF BARS

FOR STRUCTURAL APPROACH SLAB PARAPETS W. ABUT.

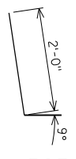
BAR MARK	NO. REQUIRED W. APPR.	NO. REQUIRED E. APPR.	LENGTH	BENT	LOCATION
EPOXY COATED					TOTAL = 507 LB
L501	18		4'-5"	X	PARAPET VERTICAL
L502	18		5'-0"	X	PARAPET VERTICAL
L503	12		2'-9"	X	PARAPET VERTICAL
L504	17		4'-4"	X	PARAPET VERTICAL
L505	11		4'-9"	X	PARAPET VERTICAL
L506	6		4'-10"	X	PARAPET VERTICAL
L507	1		21'-6"	X	PARAPET HORIZONTAL
L508	5		21'-3"		PARAPET HORIZONTAL



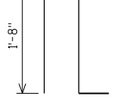
L501



L502

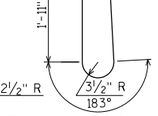


L503



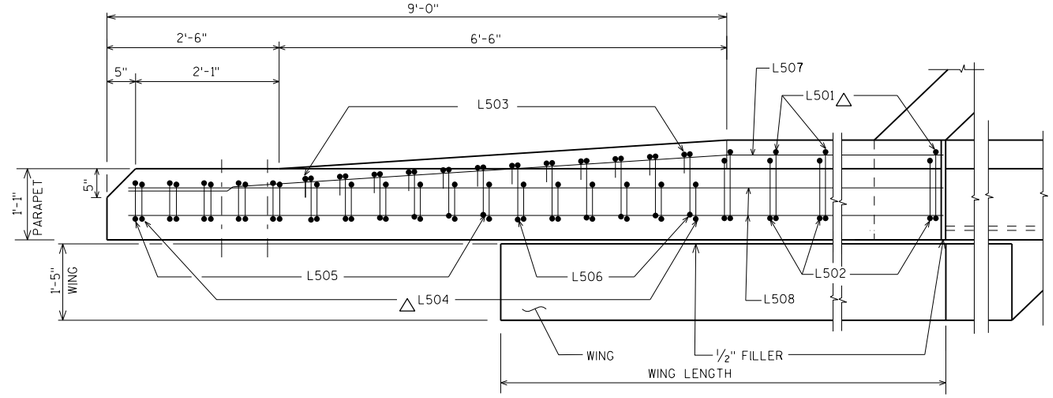
L504

L505



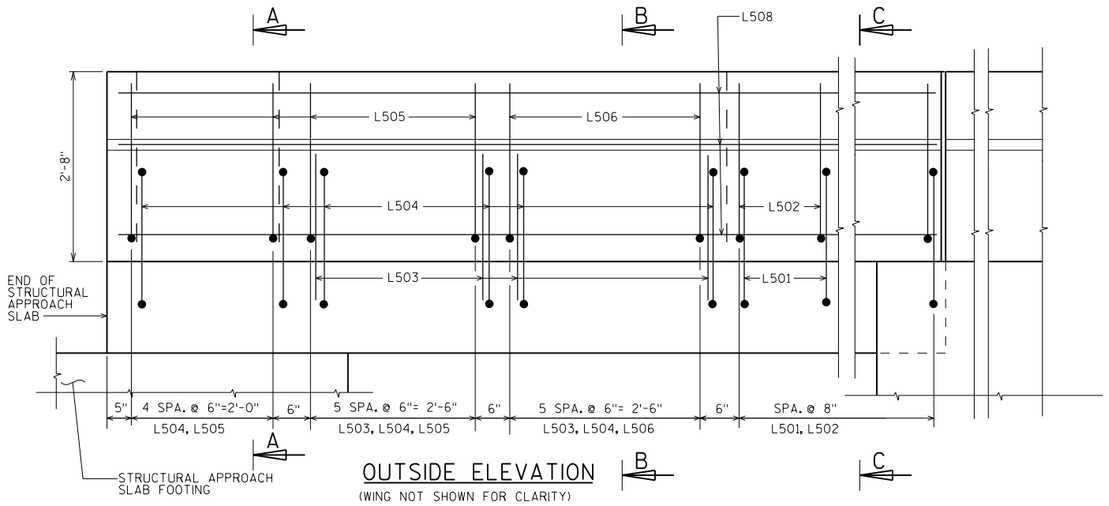
L506

L507



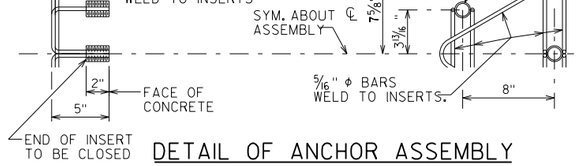
PLAN

OPTIONAL CONSTRUCTION JOINTS IN THE PARAPETS MAY BE USED. RUN BAR REINF. THROUGH THE JOINT. LAP LONGITUDINAL BARS A MIN. OF 1'-9". MIN. JOINT SPACING OF 80'-0". DEFINE CONST. JOINT WITH A ¾" - 'V' GROOVE.



OUTSIDE ELEVATION

(WING NOT SHOWN FOR CLARITY)



DETAIL OF ANCHOR ASSEMBLY

NOTE: HEX HEAD CAP SCREWS & WASHERS TO BE GALVANIZED IN ACCORDANCE WITH AASHTO M232 CLASS C.

ASSEMBLY SHALL BE BID ITEM "ANCHOR ASSEMBLIES FOR STEEL PLATE BEAM GUARD", EACH.

NOTES

THE FOLLOWING NOTES ARE APPLICABLE TO SHEET 52 "PARAPET 32SS ELECTRICAL WORK".

EXPANSION FITTINGS, ANGLES AND ADAPTER FITTINGS ARE INCIDENTAL TO "CONDUIT RIGID METALLIC 2-INCH".

APPROVED MANUFACTURER OR EQUIVALENT - EXPANSION FITTING: (HORIZ. AND VERT. MOVEMENT):

AT W. ABUTMENT USE ELECTRICAL FITTING - AX/DX CONNECTION AND BONDING JUMPER (8¾" TOTAL CONDUIT MOVEMENT). SEE SHEET 52 "PARAPET '32SS' ELECTRICAL WORK" FOR DETAIL.

LEGEND

◆ SLOPE FOR DRAINAGE

◐ CONST. JOINT - STRIKE OFF AS SHOWN.

▽ L501 AND L504 BARS TO BE TIED TO STRUCTURAL APPROACH SLAB STEEL BEFORE STRUCTURAL APPROACH SLAB IS POURED.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-70-402

DRAWN BY KJZ | PLANS CK'D. NPP

SINGLE SLOPE PARAPET 32SS W. ABUT.

SHEET 41 OF 52
388

DATE: 3/11/2014
I.D.

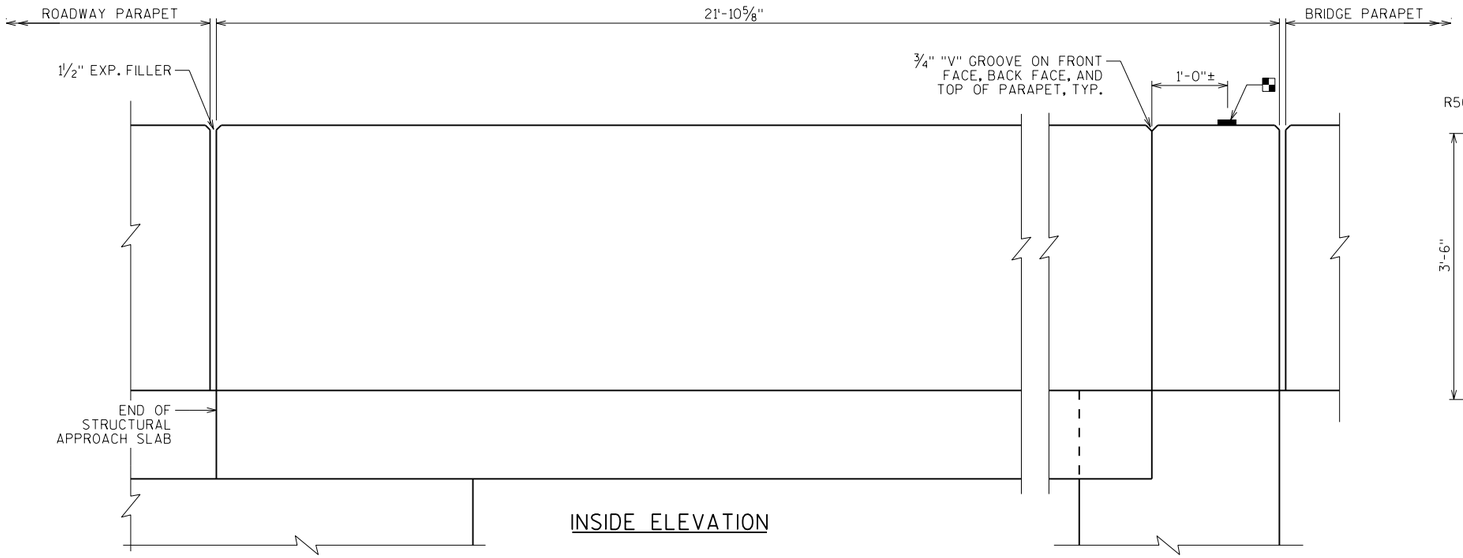
FILE= Q:\WisDOT_12345678_10-441\Plans\B-70-402\Control Copy\041-B-70-402 - Single Slope Parapet 32SS W. Abut..dgn

8

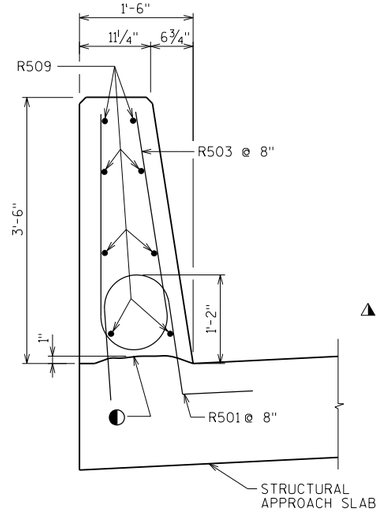
8

STATE PROJECT NUMBER

1517-07-72



INSIDE ELEVATION



SECTION C-C

BILL OF BARS

FOR STRUCTURAL APPROACH SLAB PARAPET

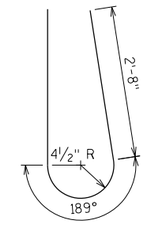
BAR MARK	NO. REQUIRED W. APPR.	NO. REQUIRED E. APPR.	LENGTH	BENT	LOCATION
EPOXY					TOTAL = 1239 LB
R501	21	33	4'-5"	X	PARAPET VERTICAL
R503	21	33	6'-8"	X	PARAPET VERTICAL
R504	17	0	4'-4"	X	PARAPET VERTICAL
R505	5	0	6'-5"	X	PARAPET VERTICAL
R506	6	0	6'-6"	X	PARAPET VERTICAL
R508	5	0	21'-3"		PARAPET HORIZONTAL
R509	0	8	20'-9"		PARAPET HORIZONTAL
R510	2	0	20'-11"	X	PARAPET HORIZONTAL
R511	6	0	5'-5"	X	PARAPET VERTICAL
R512	1	0	21'-2"	X	PARAPET HORIZONTAL
R513	11	0	2'-9"	X	PARAPET VERTICAL

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

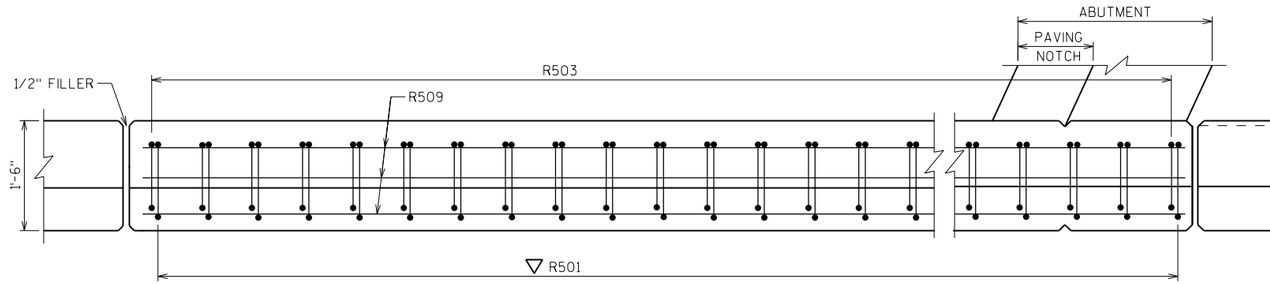
BAR SERIES TABLE

MARK	NO. REQ'D.	LENGTH
R511	1 SERIES OF 6	4'-9" TO 6'-1"

R501

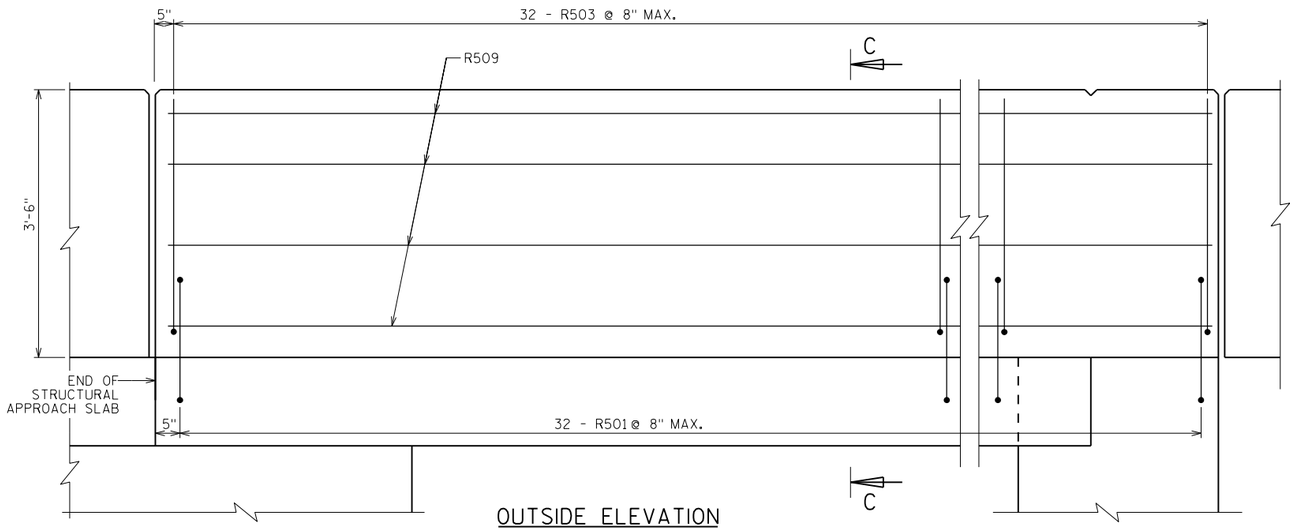


R503

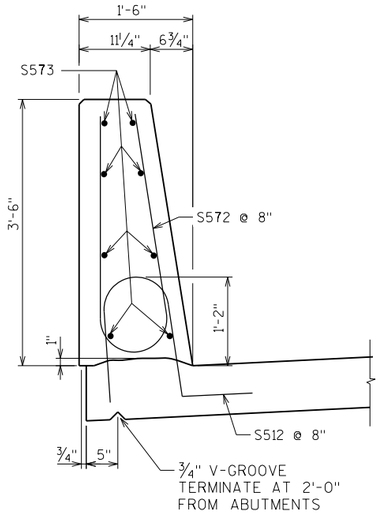


PLAN

OPTIONAL CONSTRUCTION JOINTS IN THE PARAPETS MAY BE USED. RUN BAR REINF. THRU THE JOINT. LAP LONGITUDINAL BARS A MIN. OF 1'-9". MIN. JOINT SPACING OF 80'-0". DEFINE CONST. JOINT WITH A ¾" - 'V' GROOVE.



OUTSIDE ELEVATION



SECTION THROUGH PARAPET ON BRIDGE

NOTES

SEE SHEET 45 "STRUCTURAL APPROACH SLAB DETAILS - E. ABUT." FOR STRUCTURAL APPROACH SLAB INFORMATION.

LEGEND

- ◐ CONST. JOINT - STRIKE OFF AS SHOWN.
- ▽ R501 BARS TO BE TIED TO APPROACH SLAB STEEL BEFORE APPROACH SLAB IS POURED.
- ◆ SLOPE FOR DRAINAGE
- ▪ BENCH MARK CAP (WHEN SUPPLIED). AVOID PLACING A BENCH MARK CAP BELOW A RAIL OR FENCE SYSTEM THAT IS ATTACHED TO THE TOP OF THE PARAPET.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-70-402

DRAWN BY KJZ | PLANS CK'D. NPP

SINGLE SLOPE PARAPET 42SS E. ABUT.

SHEET 42 OF 52
389

8

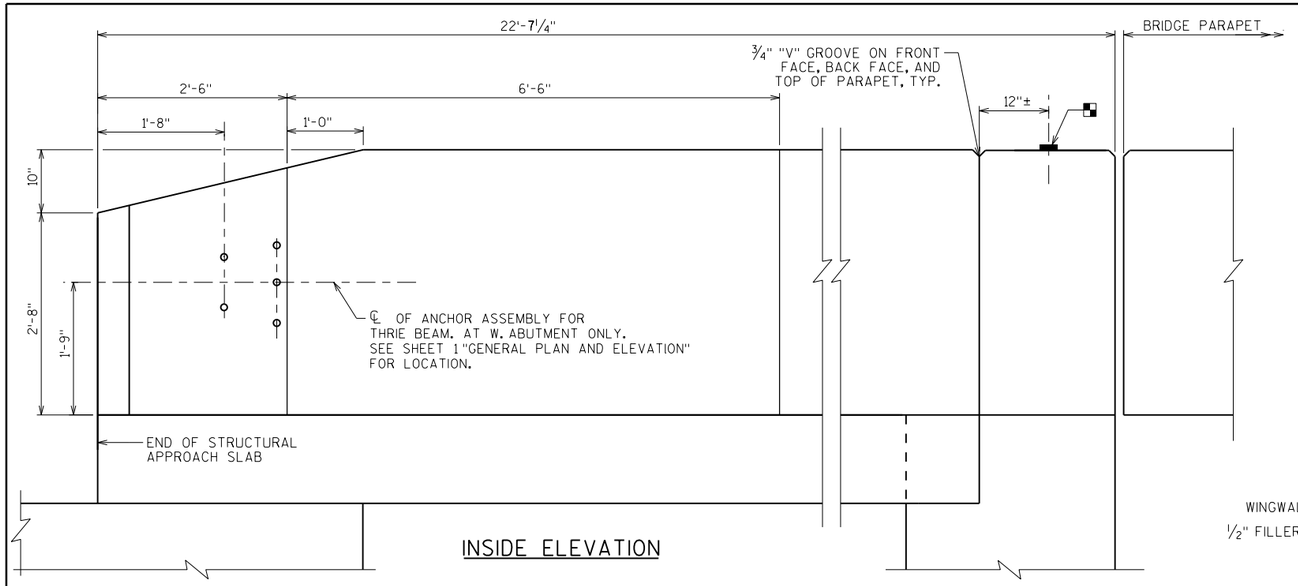
8

FILE= Q:\WisDOT_12345678_10-441\Plans\B-70-402\Control Copy\042-B-70-402 - Single Slope parapet 42SS E. Abut..dgn

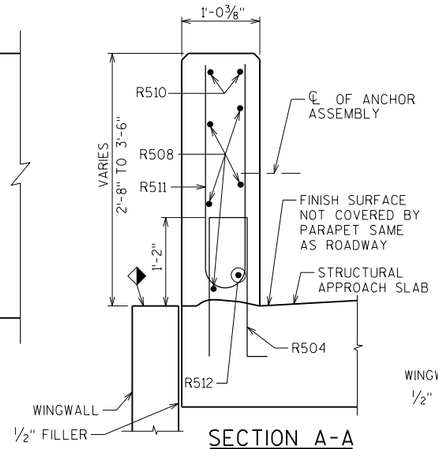
DATE: 3/11/2014
I.D.

STATE PROJECT NUMBER

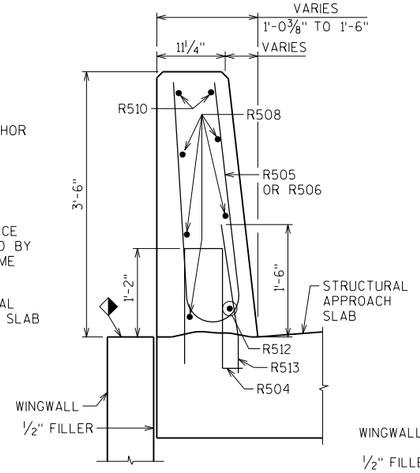
1517-07-72



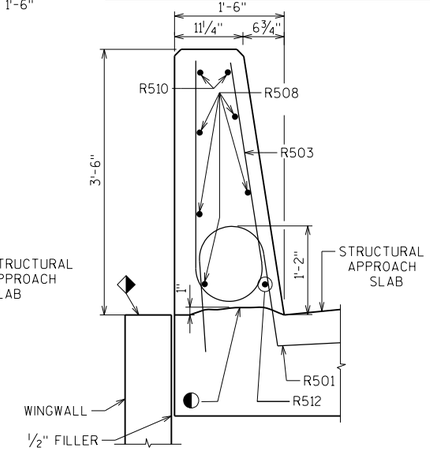
INSIDE ELEVATION



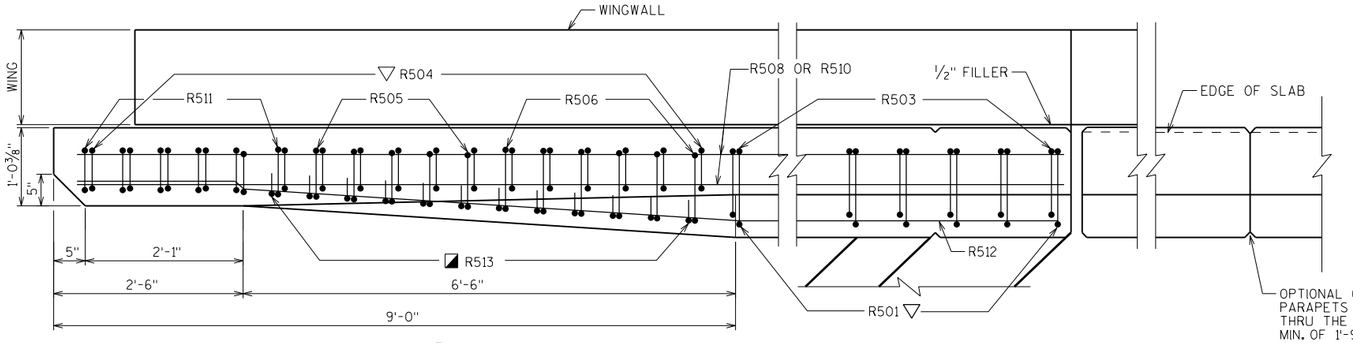
SECTION A-A



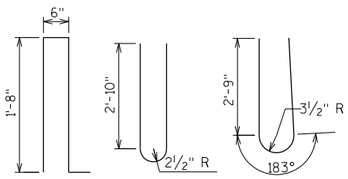
SECTION B-B



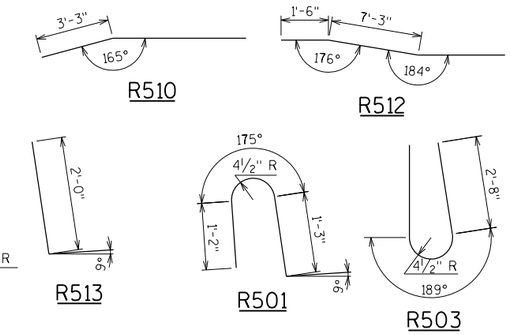
SECTION C-C



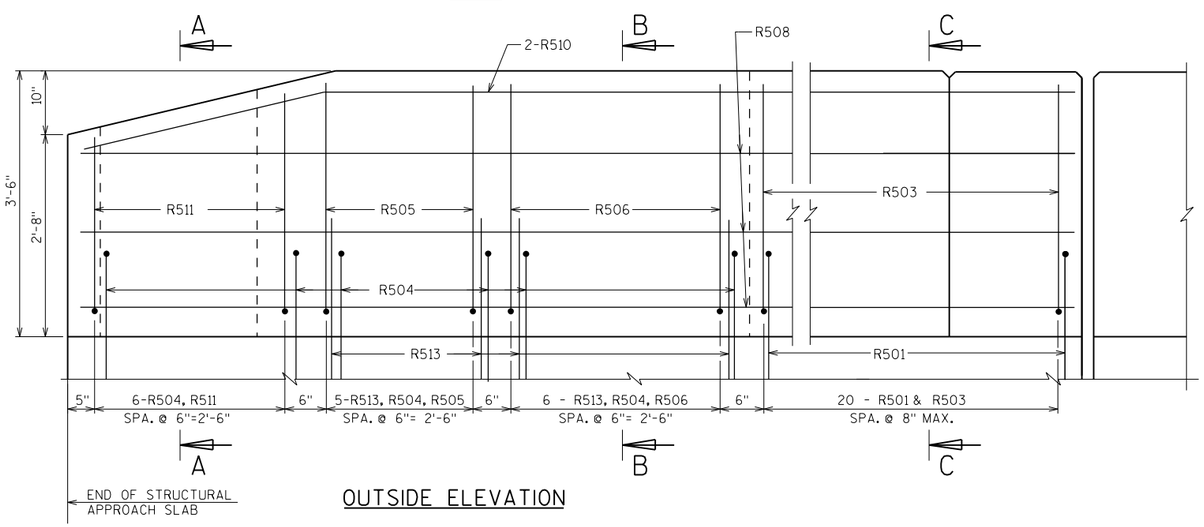
PLAN



R504 R505 R506

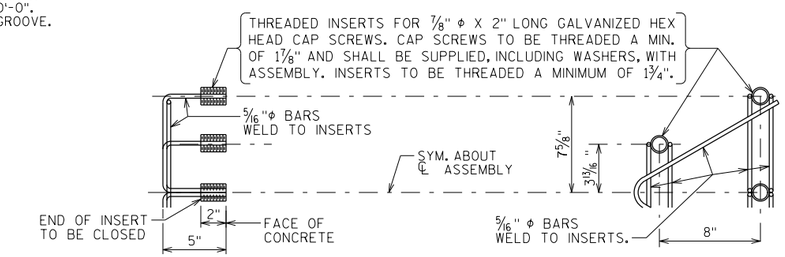


R510 R512 R511 R513 R501 R503



OUTSIDE ELEVATION

OPTIONAL CONSTRUCTION JOINTS IN THE PARAPETS MAY BE USED. RUN BAR REINF. THRU THE JOINT. LAP LONGITUDINAL BARS A MIN. OF 1'-9". MIN. JOINT SPACING OF 80'-0". DEFINE CONST. JOINT WITH A ¾" - 'V' GROOVE.



BILL OF BARS

FOR BILL OF BARS, SEE SHEET 42 "SINGLE SLOPE PARAPET 42SS E. ABUT."

LEGEND

- ◐ CONST. JOINT - STRIKE OFF AS SHOWN.
- ▽ R501 BARS TO BE TIED TO APPROACH SLAB STEEL BEFORE APPROACH SLAB IS POURED.
- ◆ SLOPE FOR DRAINAGE
- ■ BENCH MARK CAP (WHEN SUPPLIED). AVOID PLACING A BENCH MARK CAP BELOW A RAIL OR FENCE SYSTEM THAT IS ATTACHED TO THE TOP OF THE PARAPET.

NOTES

FOR SECTION THRU PARAPET ON BRIDGE, SEE SHEET 42 "SINGLE SLOPE PARAPET 42SS E. ABUT."

SEE SHEET 44 "STRUCTURAL APPROACH SLAB DETAILS - W. ABUT." FOR STRUCTURAL APPROACH SLAB INFORMATION.

DETAIL OF ANCHOR ASSEMBLY

NOTE: HEX HEAD CAP SCREWS & WASHERS TO BE GALVANIZED IN ACCORDANCE WITH AASHTO M232 CLASS C.

ASSEMBLY SHALL BE BID ITEM "ANCHOR ASSEMBLIES FOR STEEL PLATE BEAM GUARD", EACH.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-70-402

DRAWN BY KJZ | PLANS CK'D. NPP

SINGLE SLOPE PARAPET 42SS W. ABUT.

SHEET 43 OF 52
390

8

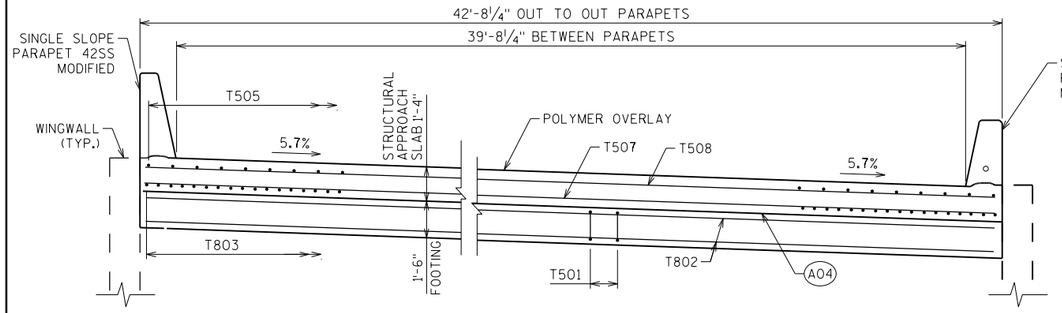
8

FILE= G:\WisDOT_12345678_10-441\Plans\B-70-402\Control Copy\043-B-70-402 - Single Slope parapet 42SS W. Abut..dgn

DATE: 3/11/2014
I.D.

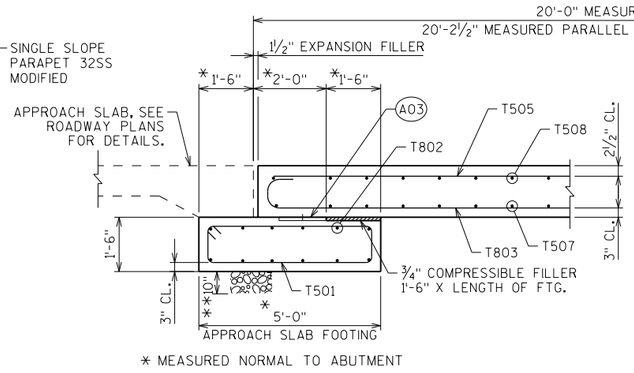
STATE PROJECT NUMBER

1517-07-72



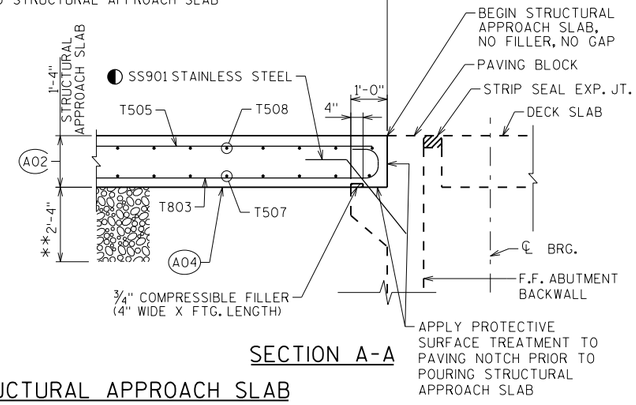
CROSS SECTION THRU STRUCTURAL APPROACH SLAB

(LOOKING UPSTATION)



* MEASURED NORMAL TO ABUTMENT

SECTION B-B



SECTION A-A

TRANSVERSE SECTION THRU STRUCTURAL APPROACH SLAB

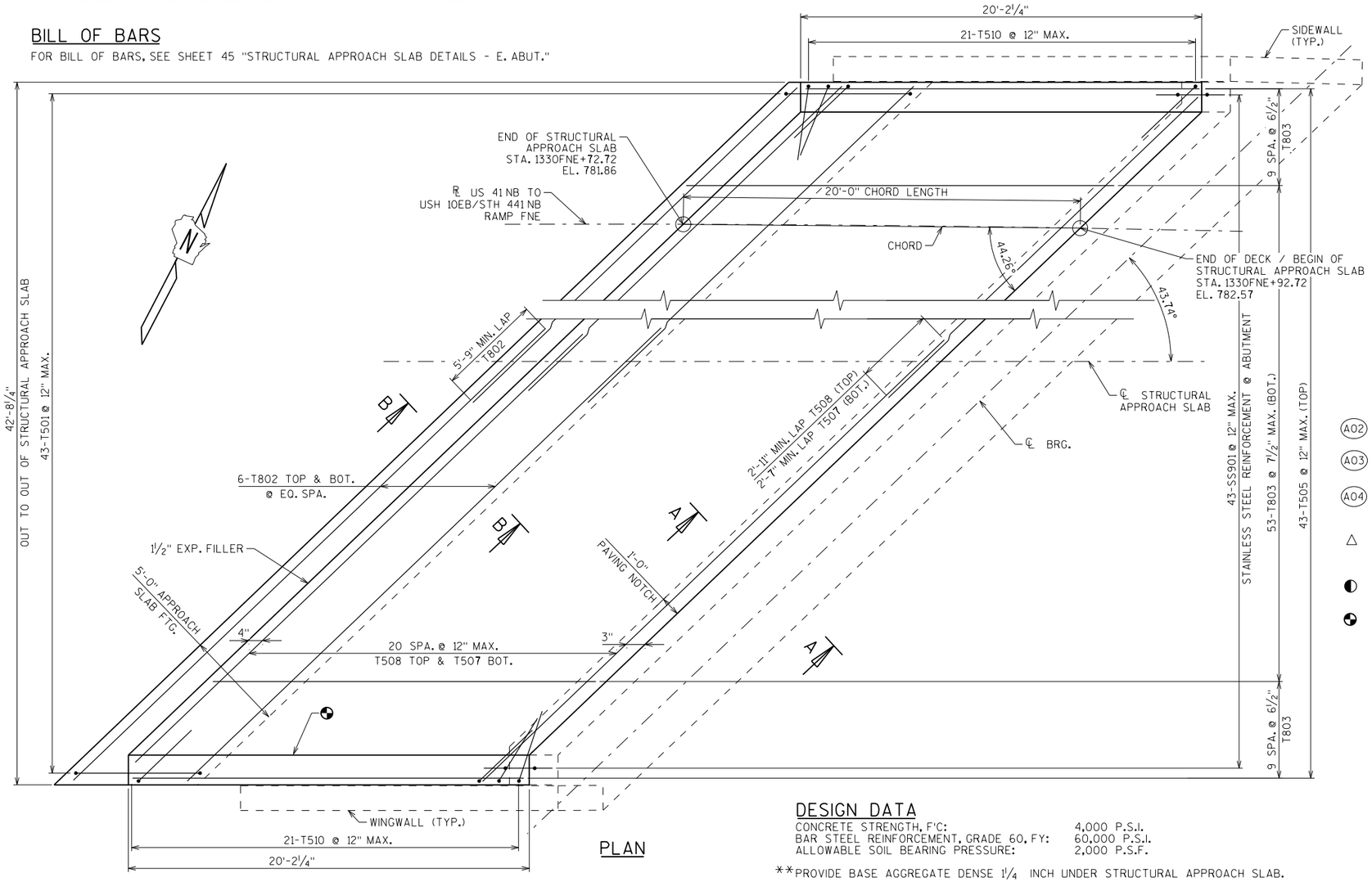
NOTES

SEE SHEET 49 "AESTHETIC DETAILS" FOR STRUCTURAL APPROACH SLAB PARAPET STAIN COLOR.

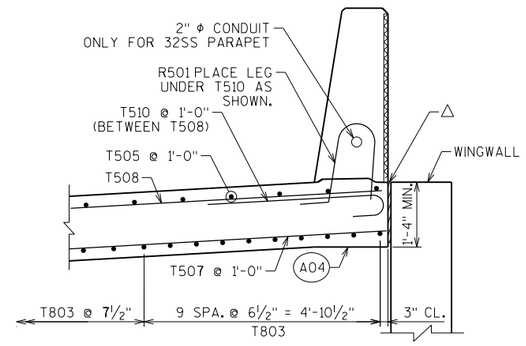
FOR SUPERELEVATION DETAILS SEE SHEET 4 "ALIGNMENT AND SUPERELEVATION".

BILL OF BARS

FOR BILL OF BARS, SEE SHEET 45 "STRUCTURAL APPROACH SLAB DETAILS - E. ABUT."



PLAN



DETAIL AT WALL

"42SS" PARAPET SHOWN, "32SS" PARAPET SIMILAR

LEGEND

- (A02) STRUCTURAL APPROACH SLAB AND STRUCTURAL APPROACH SLAB PAPAPETS SHALL BE "HIGH PERFORMANCE CONCRETE (HPC) MASONRY STRUCTURES".
- (A03) STEEL TROWEL TOP SURFACE OF FOOTING AND PLACE MULTIPLE LAYERS (0.03" MIN. TOTAL THK.) OF POLYETHELENE SHEETS OVER THE ENTIRE LENGTH OF THE FOOTING.
- (A04) PLACE MULTIPLE LAYERS (0.03" MIN. TOTAL THK.) OF POLYETHELENE SHEETS OVER THE ENTIRE LENGTH AND WIDTH OF THE SUBGRADE. POLYETHELENE SHEETS SHALL BE INCIDENTAL TO HIGH PERFORMANCE CONCRET (HPC) MASONRY STRUCTURES.
- △ SEAL ALL EXPOSED HORIZONTAL AND VERTICAL SURFACES OF ½" FILLER WITH NON-STAINING GRAY NON-BITUMINOUS JOINT SEALER. (1" DEEP AND HOLD ⅛" BELOW SURFACE OF CONCRETE. EXTEND SEALER 3" BELOW GUTTER LINE AT INSIDE FACE.
- ◐ THE COST OF STAINLESS STEEL BARS SS901 IS INCLUDED WITH BID ITEM "SPV.0085.800 BAR STEEL REINFORCEMENT HS STAINLESS STEEL BRIDGES".
- ◕ SEE SHEET 41 "SINGLE SLOPE PARAPET 32SS W. ABUT." FOR LOCATION OF NAME PLATE AND BENCH MARK.

DESIGN DATA

CONCRETE STRENGTH, F'C:	4,000 P.S.I.
BAR STEEL REINFORCEMENT, GRADE 60, FY:	60,000 P.S.I.
ALLOWABLE SOIL BEARING PRESSURE:	2,000 P.S.F.

**PROVIDE BASE AGGREGATE DENSE 1¼ INCH UNDER STRUCTURAL APPROACH SLAB.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-70-402

DRAWN BY KJZ | PLANS CK'D. NPP

STRUCTURAL APPROACH SLAB DETAILS - W. ABUT.

SHEET 44 OF 52
391

DATE: 3/11/2014
I.D.

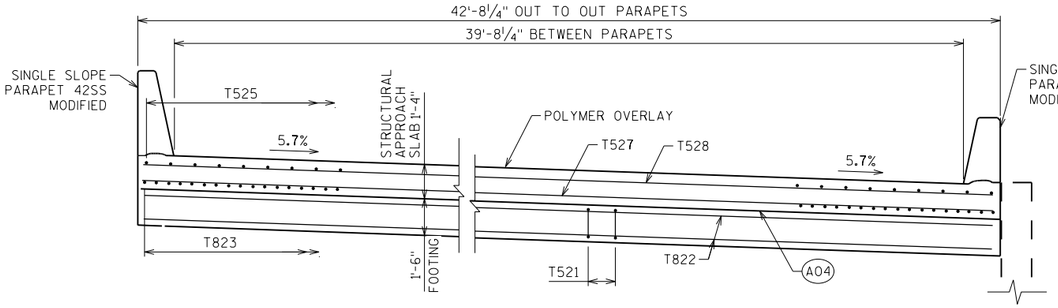
FILE= Q:\WisDOT_12345678_10-441\Plans\B-70-402 - Approach Apron Details - West Abutment.dgn

8

8

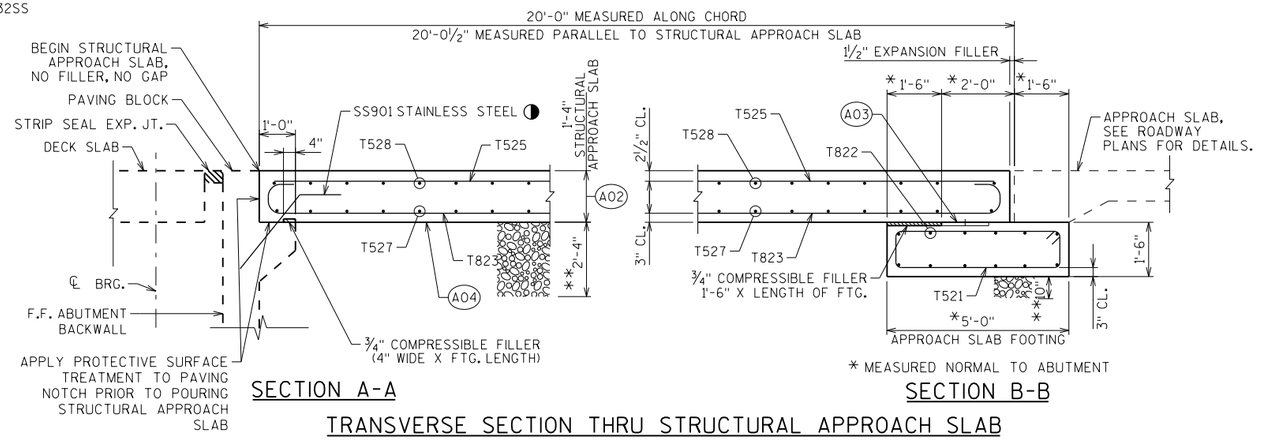
STATE PROJECT NUMBER

1517-07-72



CROSS SECTION THRU STRUCTURAL APPROACH SLAB

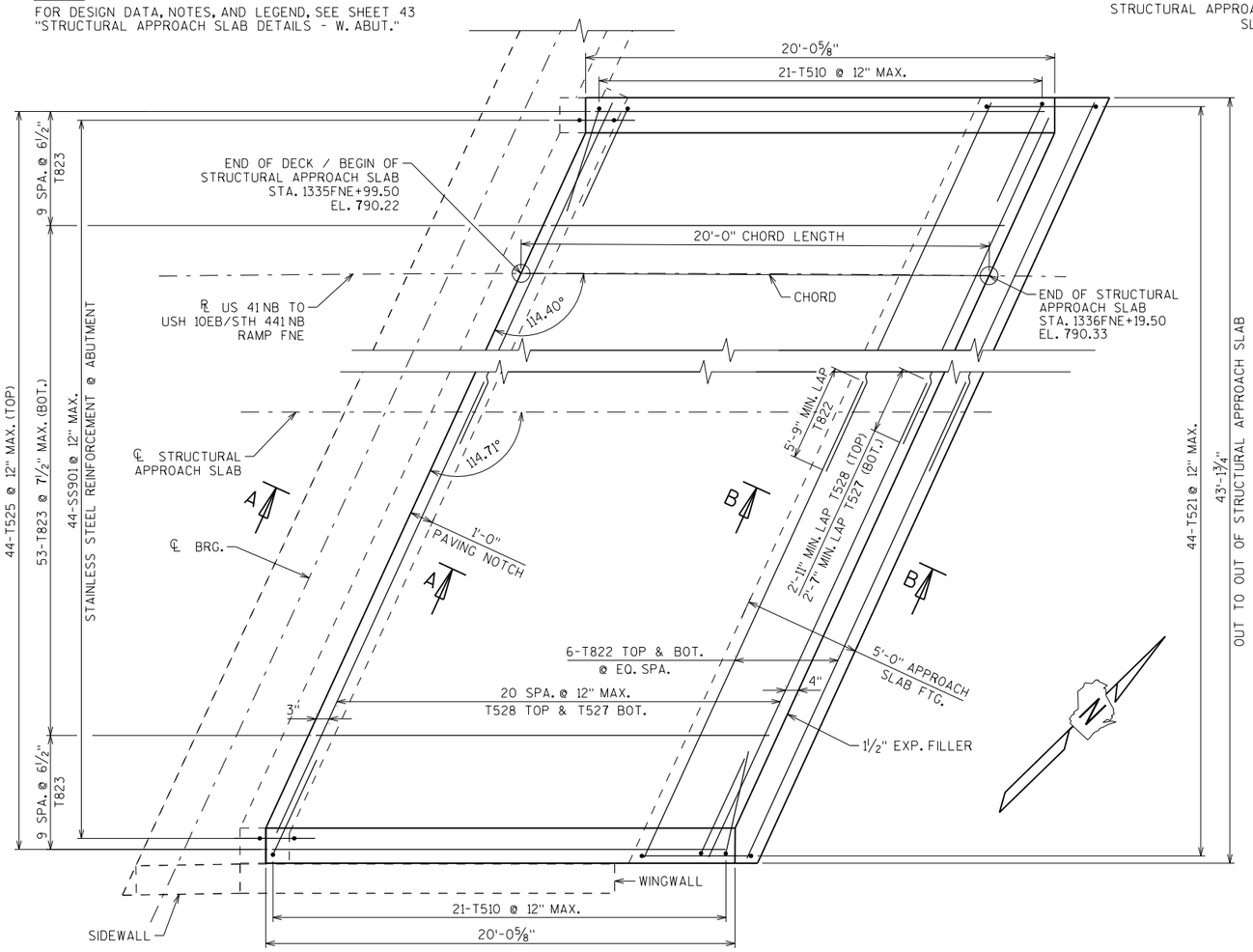
(LOOKING UPSTATION)



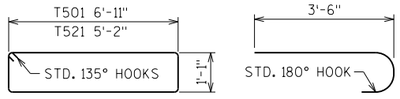
TRANSVERSE SECTION THRU STRUCTURAL APPROACH SLAB

NOTE

FOR DESIGN DATA, NOTES, AND LEGEND, SEE SHEET 43 "STRUCTURAL APPROACH SLAB DETAILS - W. ABUT."

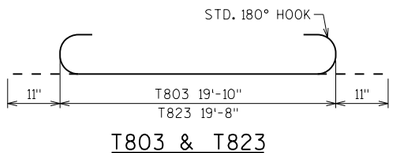


PLAN

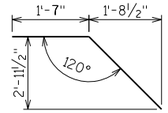


T501 & T521

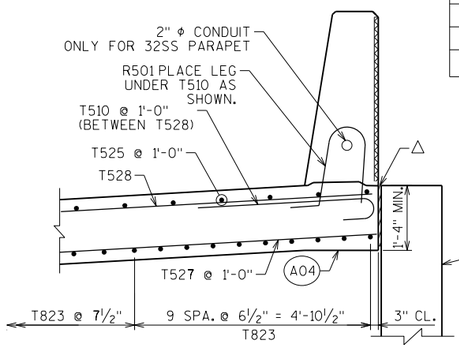
T510



T803 & T823



SS901



DETAIL AT WALL

"42SS" PARAPET SHOWN, "32SS" PARAPET SIMILAR.

BILL OF BARS

BAR MARK	NO. REQUIRED W. APPR.	NO. REQUIRED E. APPR.	LENGTH	BENT	LOCATION
EPOXY COATED					TOTAL = 16113 LB
T501	43	-	16' - 6"	X	FOOTING - STIRRUP (WEST)
T802	12	-	33' - 7"		FOOTING - TRANS. (WEST)
T803	71	-	21' - 8"	X	LONG. - BOT. (WEST)
T505	43	-	19' - 11"		LONG. - TOP (WEST)
T507	21	-	32' - 0"		TRANS. - BOT. (WEST)
T508	21	-	32' - 2"		TRANS. - TOP (WEST)
T510	42	42	4' - 1"	X	TRANS. - EDGE
T521	-	44	13' - 0"	X	FOOTING - STIRRUP (EAST)
T822	-	12	26' - 5"		FOOTING - TRANS. (EAST)
T823	-	71	21' - 7"	X	LONG. - BOT. (EAST)
T525	-	44	19' - 8"		LONG. - TOP (EAST)
T527	-	21	24' - 10"		TRANS. - BOT. (EAST)
T528	-	21	25' - 0"		TRANS. - TOP (EAST)
STAINLESS STEEL					TOTAL = 1479 LB
SS901	43	44	5' - 0"	X	ABUT. BACKWALL

**PROVIDE BASE AGGREGATE DENSE 1¼ INCH UNDER STRUCTURAL APPROACH SLAB.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-70-402

DRAWN BY KJZ | PLANS CK'D. NPP

STRUCTURAL APPROACH SLAB DETAILS - E. ABUT.

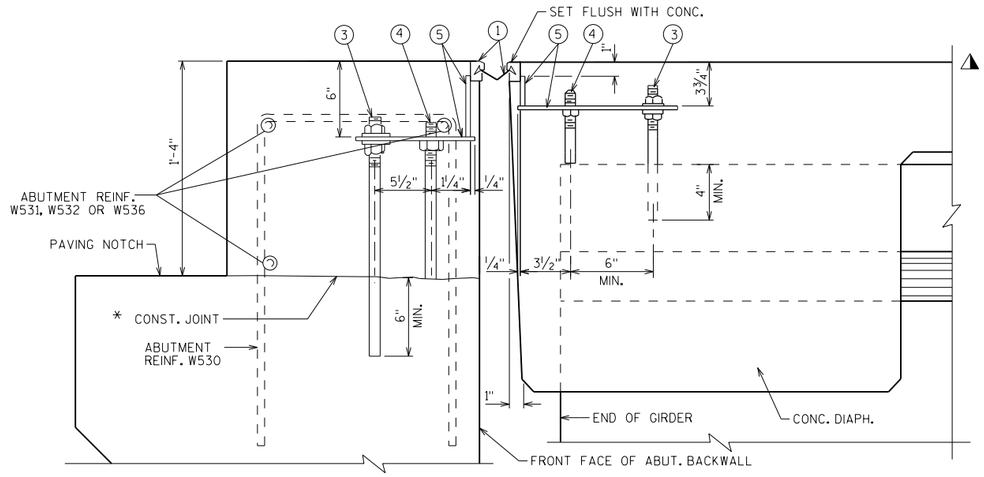
SHEET 45 OF 52
392

8

8

FILE= G:\WisDOT_12345678_10-441\Plans\B-70-402\Control Copy\045-B-70-402 - Approach Apron Details - East Abutment.dgn

DATE: 3/11/2014
I.D.



* POUR CONC. ABOVE THIS JOINT AFTER SUPERSTRUCTURE IS IN PLACE. STRIKE OFF AND LEAVE ROUGH

PART SECTION THRU JOINT AT WEST ABUTMENT

NORMAL TO ℄ SUBSTRUCTURE
(AT EAST ABUTMENT SIMILAR)
(SEE SHEET 36 "SUPERSTRUCTURE DETAILS" FOR REINF.)

LEGEND

⚠ (1) NEOPRENE STRIP SEAL (5 INCH) AT ABUTMENTS & STEEL EXTRUSIONS. SEE THE TEMPERATURE TABLE BELOW. JOINT OPENINGS GIVEN NORMAL TO JOINT.

(2) STUDS 5/8" Φ X 6 3/8" LONG AT 6" ALTERNATE CENTERS. WELD TO EXTRUSIONS AND BEND AS SHOWN AFTER WELDING.

(2A) 1/2" THICK ANCHOR PLATE WITH 5/8" Φ ROD (OR ALTERNATE STRIP SEAL ANCHOR). WELD ROD TO ANCHOR PLATE, WELD ANCHOR PL. TO NO. 1 AT 1'-6" CTRS. BETWEEN GIRDERS.

(3) 3/4" Φ THREADED ROD WITH 2 NUTS AND WASHERS. FOR PRESTRESSED GIRDERS. GROUT THREADED ROD INTO FIELD DRILLED HOLES ON ℄ OF GIRDERS. FOR STEEL GIRDERS. WELD THREADED ROD TO TOP FLANGE OR ATTACH BY BOLTING THRU FLANGE. ON ABUTMENT SIDE, GROUT THREADED ROD INTO FIELD DRILLED HOLES IN ABUTMENT BACKWALL AS SHOWN.

(4) 3/4" Φ THREADED ROD WITH NUT. TACK WELD NUT TO NO. 5.

(5) FABRICATE SUPPORT FROM 3" X 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 1/2" Φ HOLE FOR NO. 3 & 1" Φ HOLE FOR NO. 4.

(6) GALVANIZED PLATE 3/8" X 10" X 2'-2" LONG WITH HOLES FOR NO. 7.

(7) 3/4" Φ X 1 1/2" STAINLESS STEEL SOCKET FLAT HEAD SCREWS WITH ANTI-SEIZE LUBRICANT. PLACE IN COUNTERSUNK HOLE. RECESS 1/16" BELOW PLATE SURFACE.

(8) 3/4" Φ X 4" GALVANIZED HEX HEAD BOLT. BEND 45°.

(9) 3/4" Φ X 2 1/4" GALVANIZED THREADED COUPLING.

(10) 1" X 5" SLOTTED COUNTERSUNK HOLE FOR NO. 7. SLOT PARALLEL TO DIRECTION OF MOVEMENT.

GENERAL 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 & SWEEP.

FABRICATOR SHALL PROVIDE MEANS OF KEEPING GALVANIZED EXTRUSIONS CLEAN & SMOOTH DURING SHIPMENT AND PRIOR TO APPLYING LUBRICANT ADHESIVE FOR NEOPRENE GLAND INSTALLATION.

SANDBLAST PLATES AND EXTRUSIONS AFTER FABRICATION IN ACCORDANCE WITH SSPC SP. #6 "COMMERCIAL BLAST CLEANING". AFTER BLAST CLEANING, THE PROTECTION ANGLE, PLATES AND EXTRUSIONS SHALL BE HOT DIPPED GALVANIZED. SLIP RESISTANT SURFACE IS APPLIED TO SIDEWALK COVER PLATES BY THE MANUFACTURER AND THEN HOT DIPPED GALVANIZED TO THEIR RECOMMENDATIONS TO MAINTAIN THE INTEGRITY OF THIS SURFACE.

ANCHOR SYSTEM NO. 8 AND NO. 9 SHALL CONFORM TO ASTM A307 AND SHALL BE GALVANIZED IN ACCORDANCE WITH ASTM A153 CLASS C & D.

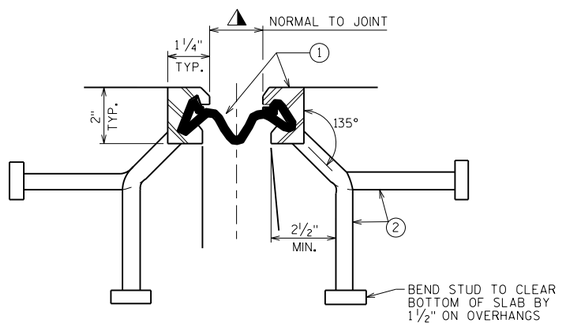
STRIP SEAL EXPANSION JOINT ASSEMBLY, INCLUDING ANCHOR STUDS & HARDWARE WILL BE PAID FOR AT THE LUMP SUM PRICE BID FOR "EXPANSION DEVICE B-70-402".

TEMP. TABLE

TEMPERATURE TABLE FOR SETTING JOINT OPENINGS TO BE DETERMINED BY JOINT MANUFACTURER WITH THE FOLLOWING DESIGN DATA:

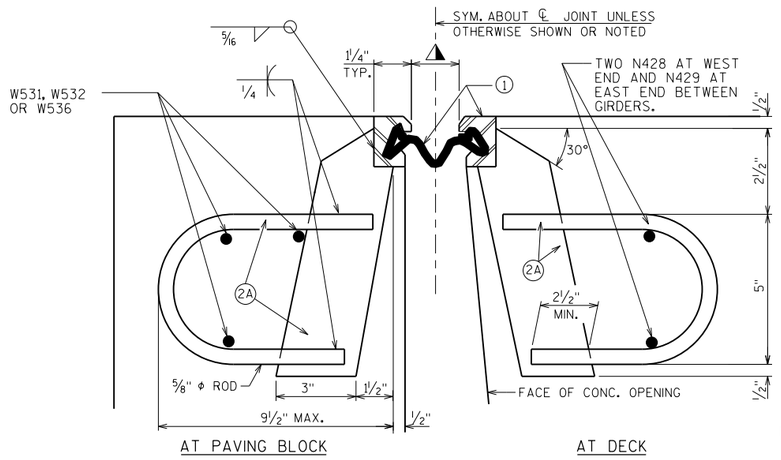
1. MOVEMENT PER 10° F
   3/16" W. ABUT.
   1/8" E. ABUT.
2. MEDIAN TEMPERATURE OF 45° F
3. TEMP. RANGE IN TABLE FROM (+5° F TO +85° F)
4. ADJUST INITIAL JOINT OPENINGS BY A REDUCTION, WHICH ACCOUNTS FOR SHRINKAGE (CREEP) OF THE SUPERSTRUCTURE OVER TIME, TO PRODUCE FINAL JOINT OPENINGS FOR TABLE:
   13/16" W. ABUT.
   9/16" E. ABUT.

A TABLE OF JOINT OPENINGS BASED ON ABOVE DATA SHALL BE SUBMITTED TO THE ENGINEER FOR APPROVAL.



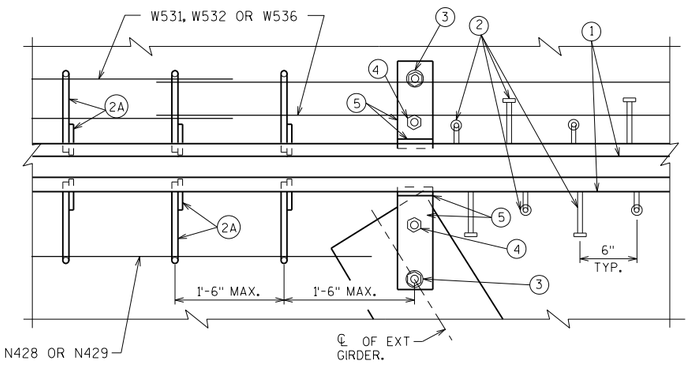
SECTION THRU JOINT

EXTERIOR GIRDER TO EDGE OF SLAB & AT PARAPETS

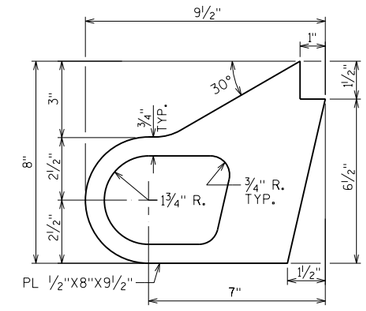


SECTION THRU JOINT

ROADWAY TRAFFIC AREA BETWEEN EXTERIOR GIRDERS.



PART PLAN



ALTERNATE STRIP SEAL ANCHOR

⚠ TEMPERATURE TABLE

SHADED UNDERSIDE DECK TEMP. (°F)	FINAL JOINT OPENING (INCHES)	FINAL JOINT OPENING (INCHES)
	W. ABUT.	E. ABUT.
85°	1 11/16"	1 5/8"
75°	1 13/16"	1 3/4"
65°	2"	1 7/8"
55°	2 1/8"	2"
45°	2 5/16"	2 1/16"
35°	2 1/2"	2 3/16"
25°	2 5/8"	2 5/16"
15°	2 13/16"	2 7/16"
5°	2 15/16"	2 9/16"

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.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-70-402

DRAWN BY PMV | PLANS CK'D. NPP

STRIP SEAL EXP. JOINT DETAILS AT ABUTMENTS

SHEET 46 OF 52
393

8

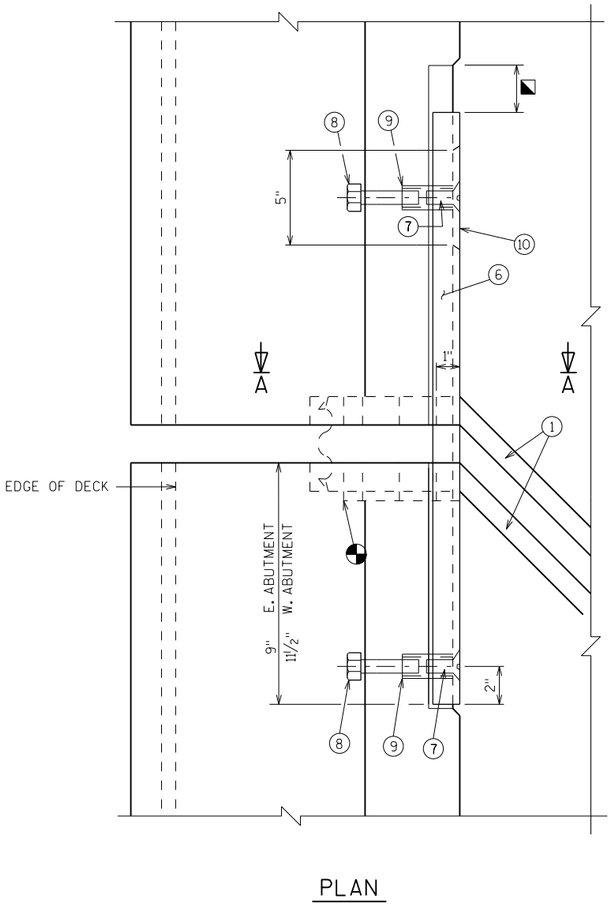
8

FILE= Q:\WisDOT_12345678_10-441\Plans\B-70-402\Control Copy\046-B-70-402 - Strip Seal Expa Jt Details at Abuts..dgn

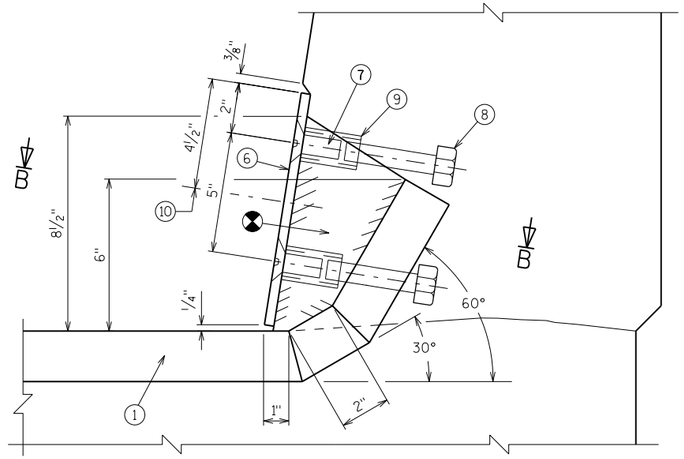
DATE: 3/11/2014
I.D.

STATE PROJECT NUMBER

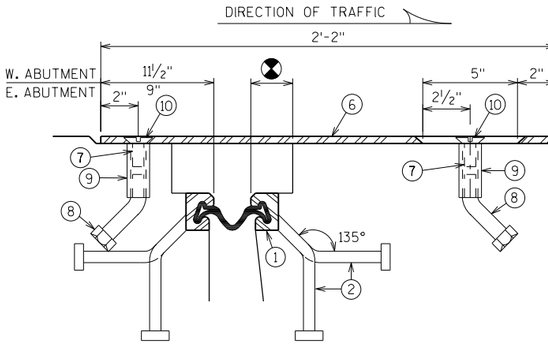
1517-07-72



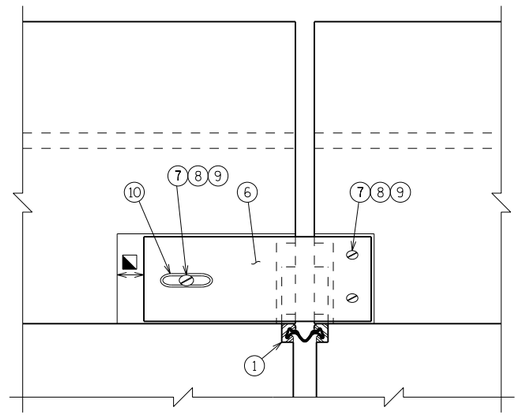
PLAN



SECTION A-A



SECTION B-B



VIEW OF PARAPET PLATE FROM ROADWAY

LEGEND

◪ JOINT OPENING DIM. ALONG SKEW PLUS 1/2".

⊠ BLOCK OUT CONCRETE 2" EACH SIDE OF JOINT OPENING.

SEE SHEET 46 "STRIP SEAL EXP. JOINT DETAILS AT ABUTMENTS" FOR LEGENDS.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-70-402

DRAWN BY KJZ | PLANS CK'D. NPP

STRIP SEAL COVER PLATE DETAILS

SHEET 47 OF 52
394

8

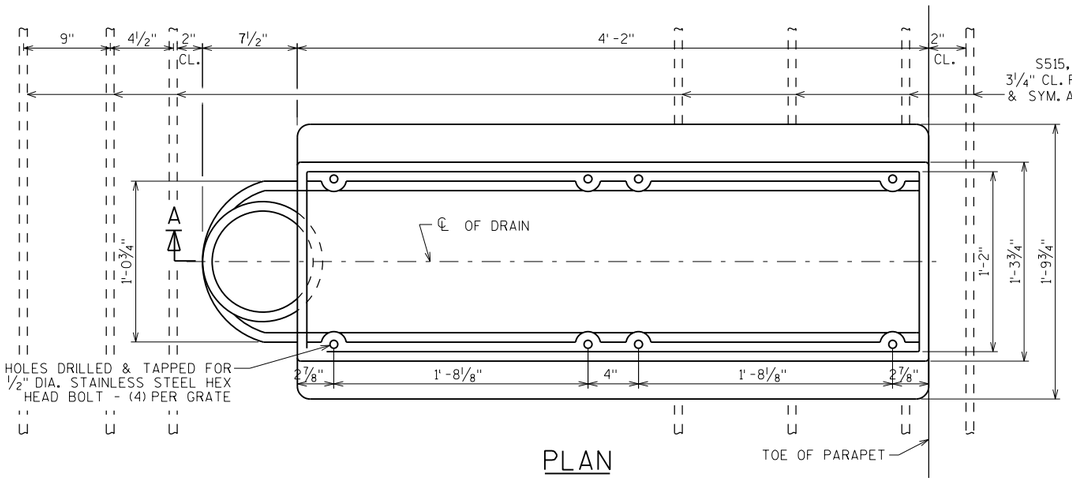
8

FILE= G:\WisDOT_12345678_10-441\Plans\B-70-402\Control Copy\047-B-70-402 - Strip Seal Cover PL Details.dgn

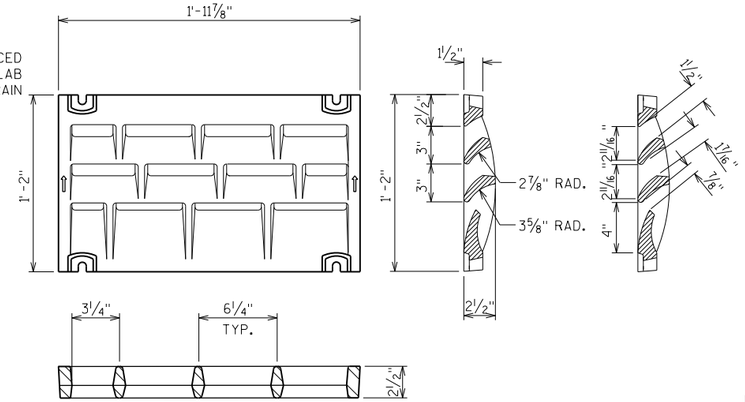
DATE: 3/11/2014
I.D.

STATE PROJECT NUMBER

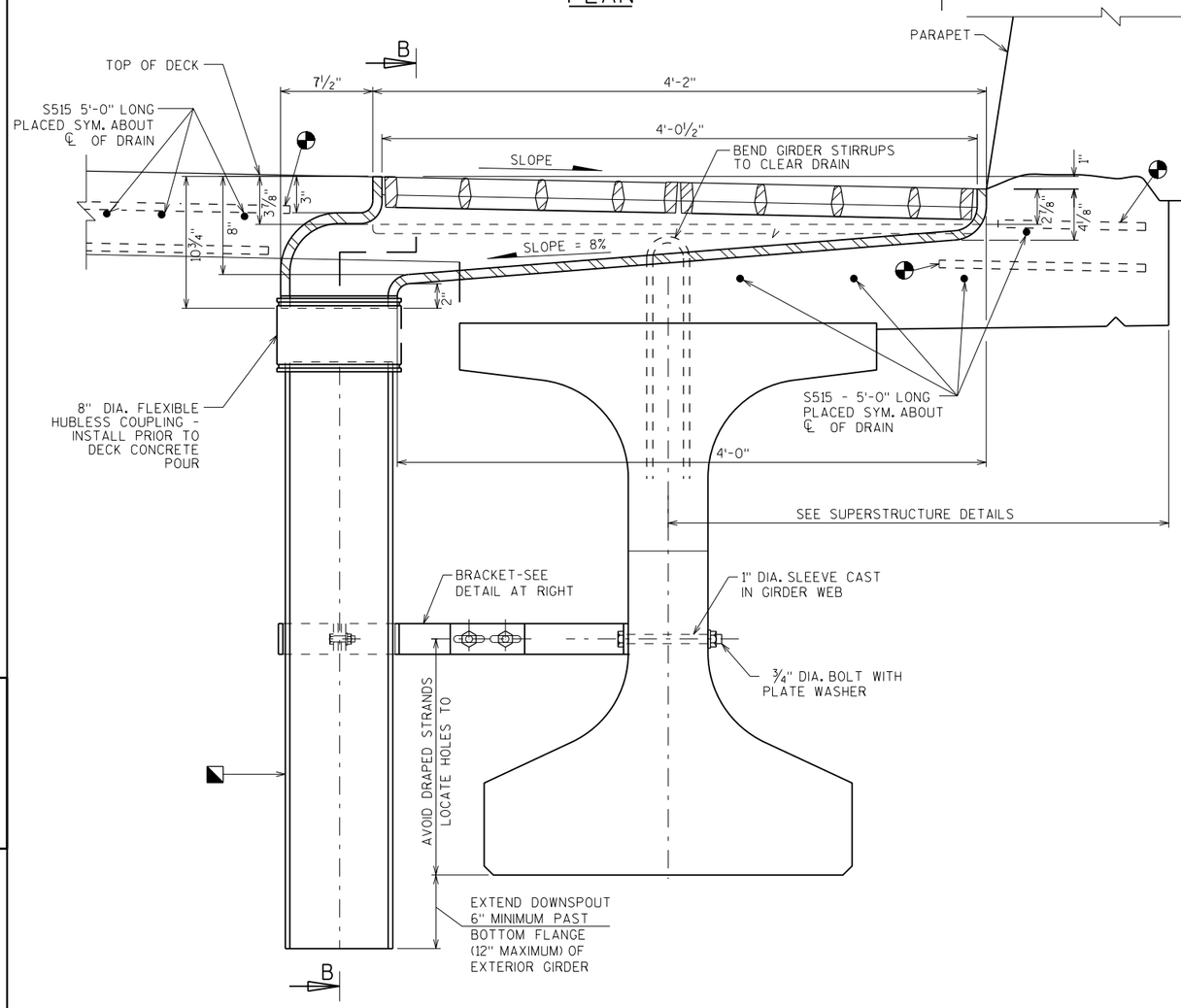
1517-07-72



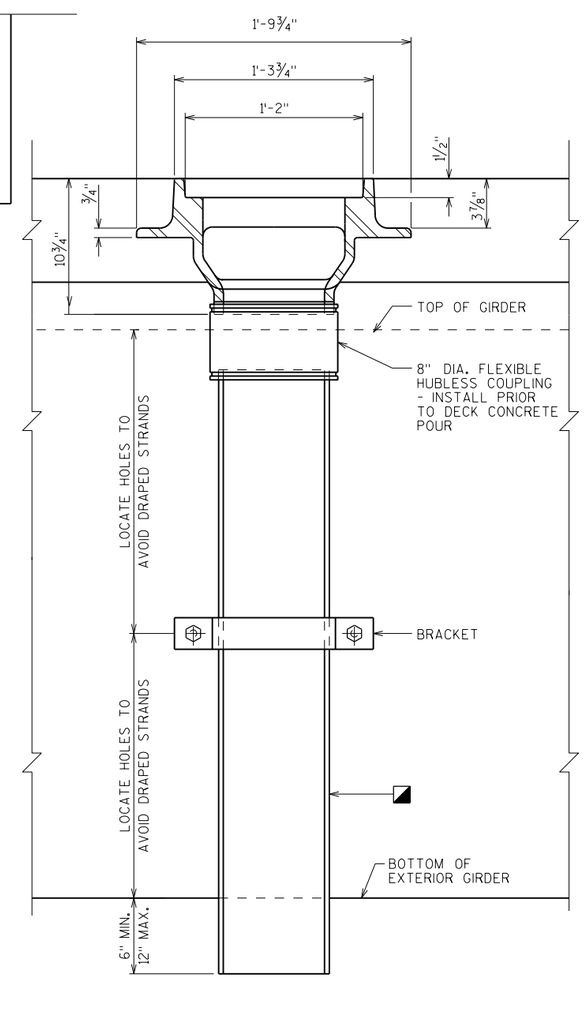
PLAN



GRATE CASTING DETAILS



SECTION A-A



SECTION B-B

GENERAL NOTES

ALL MATERIAL FOR TYPE "WF" CASTING AND 8" DIA. CONNECTION PIPE, EXCLUDING GRATE HOLD DOWN SCREWS, SHALL BE GRAY IRON CONFORMING TO ASTM A48, CLASS 30.

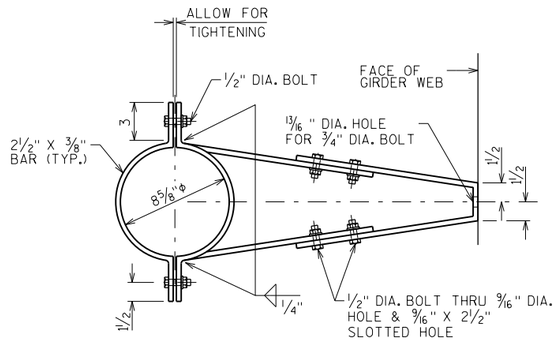
MATERIAL FOR BRACKETS SHALL CONFORM TO ASTM A36.

THE CONTRACTOR MAY PROPOSE AN ALTERNATE TYPE OF BRACKET. THE PROPOSED ALTERNATE DETAILS SHALL BE SUBMITTED AND SUBJECT TO THE APPROVAL OF THE ENGINEER.

DOWNSPOUT TO RECEIVE SAME STAIN AS GIRDER FACE. SEE SHEET 49 "AESTHETIC DETAILS" FOR DETAILS.

◪ 8" DIA. DOWNSPOUTS SHALL BE REINFORCED THERMOSETTING RESIN PIPE CONFORMING TO SECTION 514 OF THE STANDARD SPECIFICATIONS.

◓ TRANSVERSE & LONGITUDINAL SLAB BAR REINFORCEMENT TO BE CUT A MAXIMUM OF 1" CLEAR FROM DRAIN FRAME. DISPLACE BARS WHERE POSSIBLE.



BRACKET DETAIL

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-70-402

DRAWN BY PMV | PLANS CK'D. NPP

FLOOR DRAIN TYPE "WF"

SHEET 48 OF 52
395

8

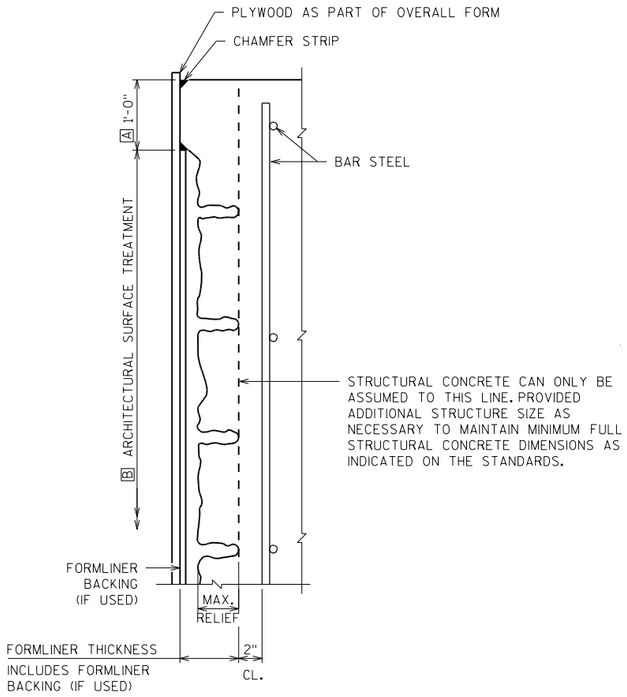
8

FILE= Q:\WisDOT_12345678_10-441\Plans\B-70-402\Control Copy\048-B-70-402 - Floor Drain Type WF.dgn

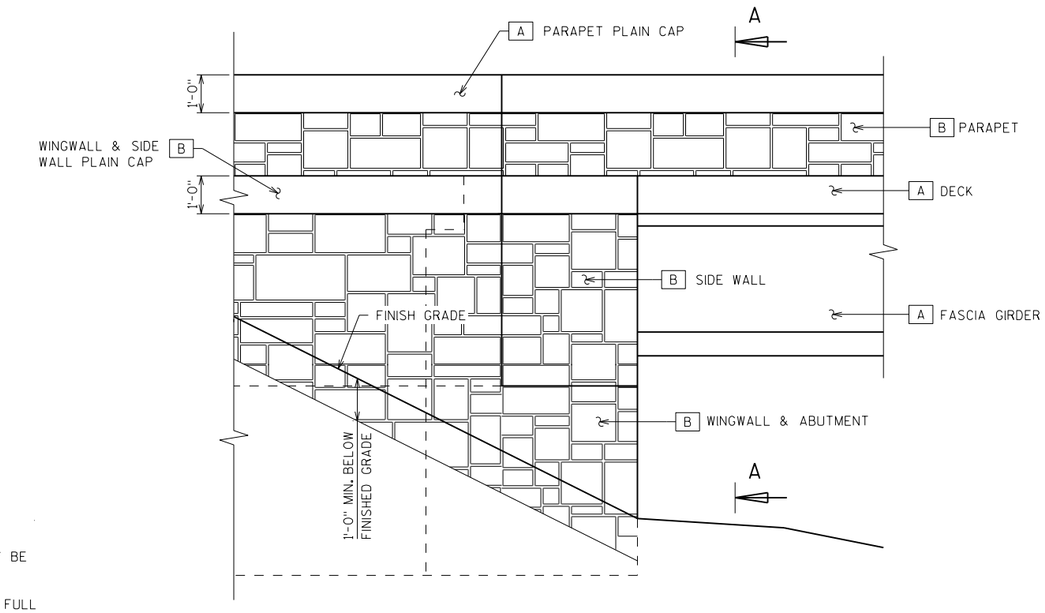
DATE: 3/11/2014
I.D.

STATE PROJECT NUMBER

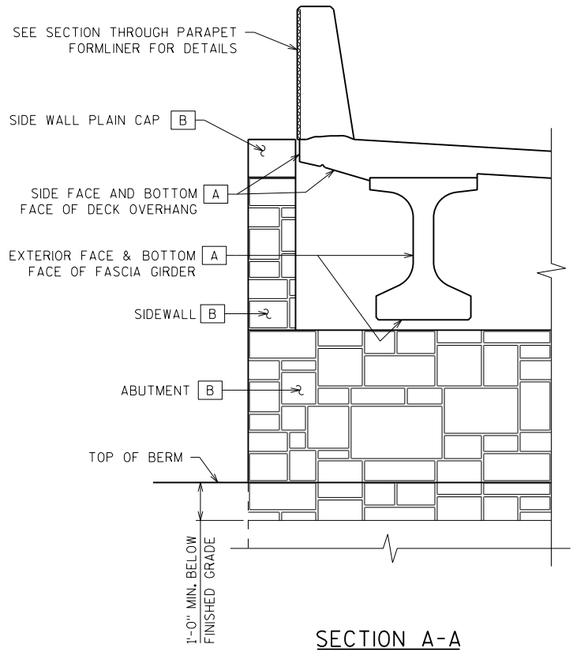
1517-07-72



SECTION THROUGH PARAPET FORMLINER



ABUTMENT STAINING DETAIL



SECTION A-A

CONCRETE STAINING SCHEDULE

MARK	COLOR	FED. COLOR NO.	LOCATION
A	BASKET BEIGE	33564	BRIDGES, PARAPETS PLAIN CAP
B	LATTE	33522	WALLS, PARAPETS

NOTE: 1. FINISH ON COLORS IS FLAT (LUSTERLESS)

NOTES

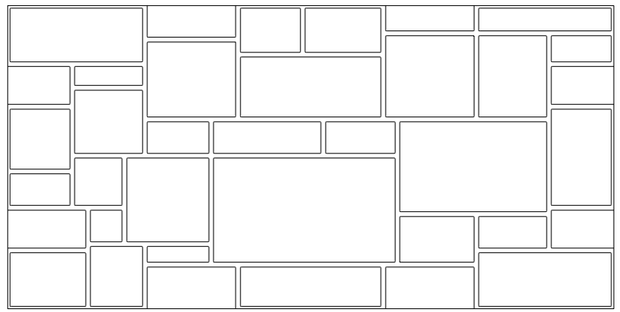
FORMLINER COURSING ON ABUTMENTS AND WINGS SHALL BE LEVEL.

THE FORMLINER COURSING ON THE WINGS SHALL BE VERTICALLY ALIGNED WITH THE FORMLINER COURSING ON THE FRONT OF THE ABUTMENT.

THE FORMLINER PATTERN SHALL BE CONTINUOUS ACROSS CONSTRUCTION JOINTS.

WRAPAROUND/MATCH FORMLINER PATTERN AT CORNERS.

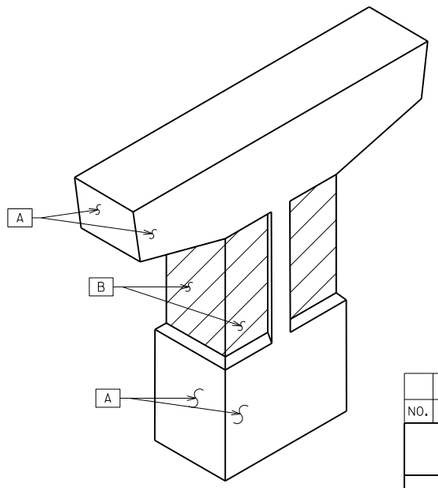
FORMLINER COURSING ON PARAPET SHALL BE PARALLEL TO TOP OF PARAPET.



ASHLAR

MAXIMUM RELIEF: 1⅝"
AVERAGE RELIEF: 1¼"
LINER THICKNESS*: 2½"
STONE SIZE: H: 3" - 17"
W: 5"-29"

* INCLUDES INTERNAL PLYWOOD BACKING



PIER STAINING DETAIL

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-70-402

DRAWN BY KJZ | PLANS CK'D. NPP

AESTHETIC DETAILS

SHEET 49 OF 52
396

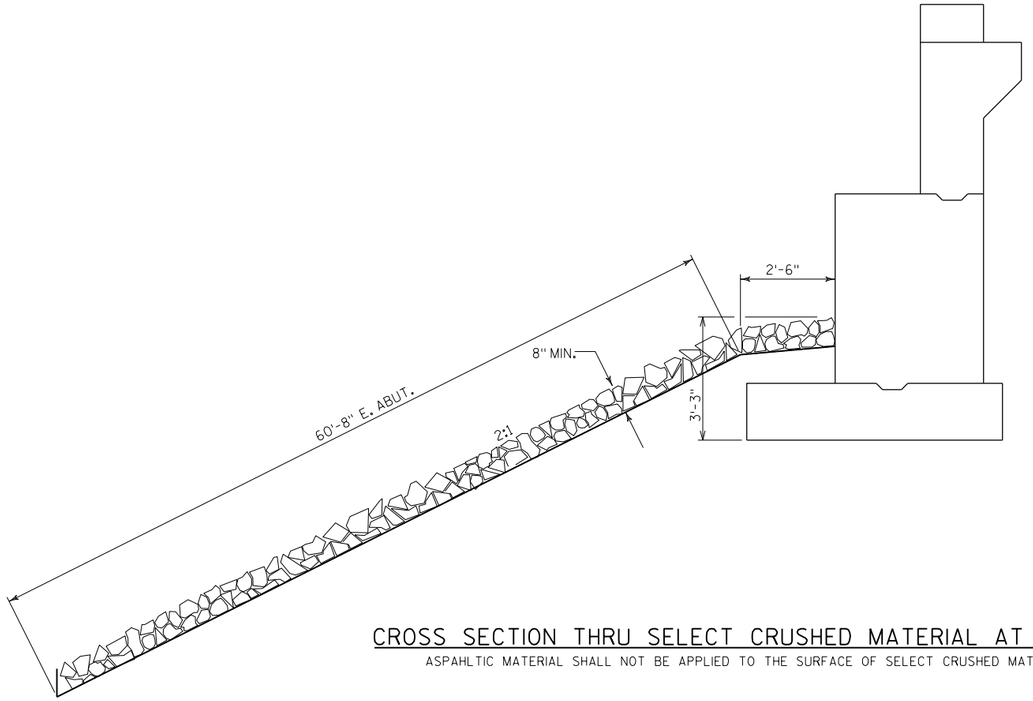
DATE: 3/11/2014
I.D.

FILE= Q:\WisDOT_12345678_10-441\Plans\B-70-402 - Aesthetic Details.dgn

8

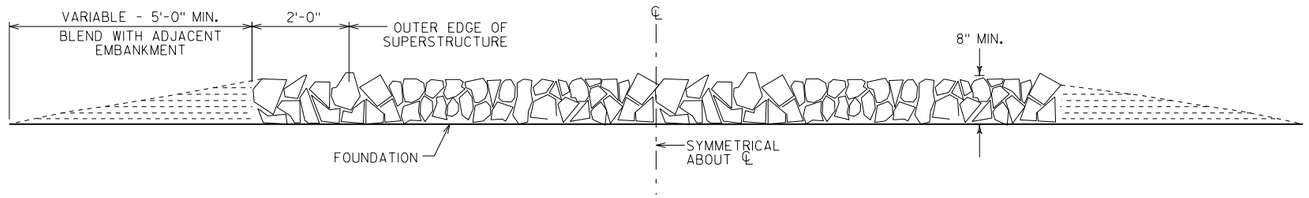
8

STATE PROJECT NUMBER
1517-07-72

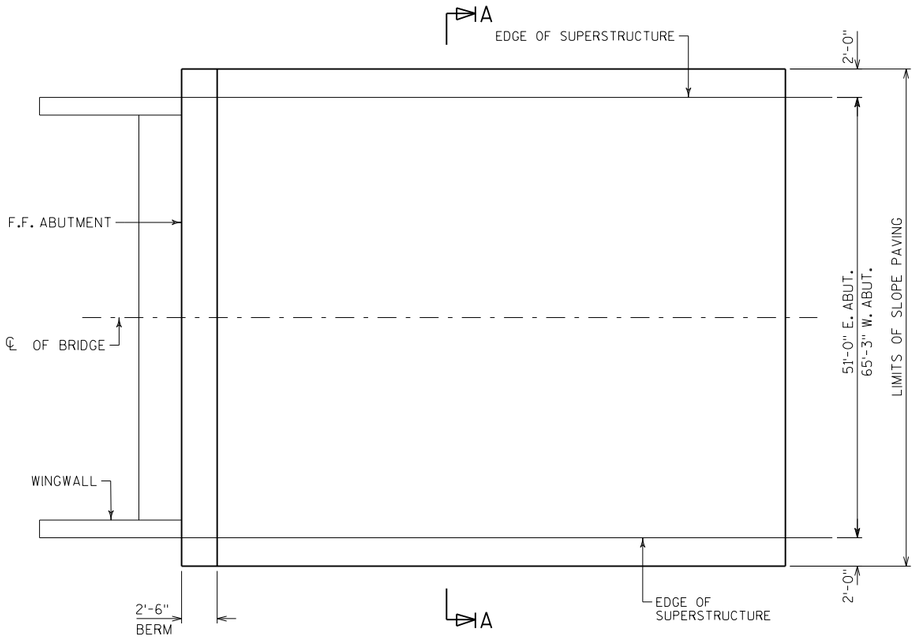


CROSS SECTION THRU SELECT CRUSHED MATERIAL AT E. ABUT.

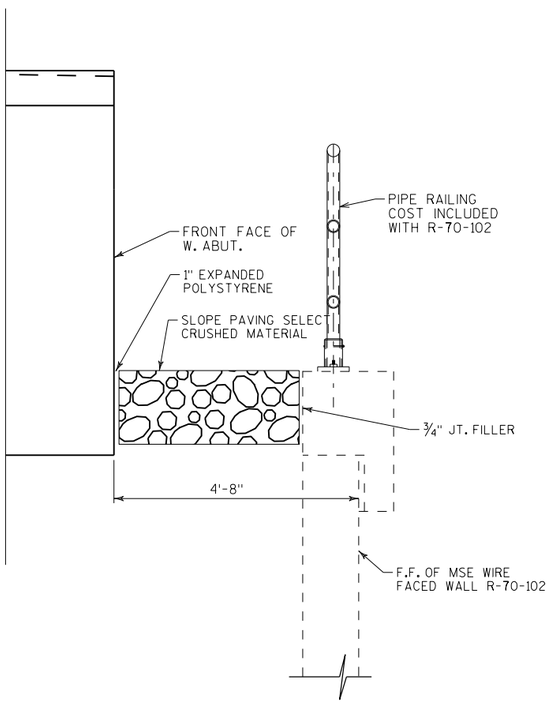
ASPAHLTIC MATERIAL SHALL NOT BE APPLIED TO THE SURFACE OF SELECT CRUSHED MATERIAL.



SECTION A-A



PLAN



CROSS SECTION THRU SELECT CRUSHED MATERIAL AT W. ABUT.

GENERAL NOTES

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

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-70-402

DRAWN BY PMV | PLANS CK'D. NPP

SLOPE PAVING SELECT CRUSHED MATERIAL

SHEET 50 OF 52
397

FILE= G:\WisDOT_12345678_10-441\Plans\B-70-402\Control Copy\050-B-70-402 - Slope Paving Select Crushed Aggregate.dgn

DATE: 3/11/2014
I.D.

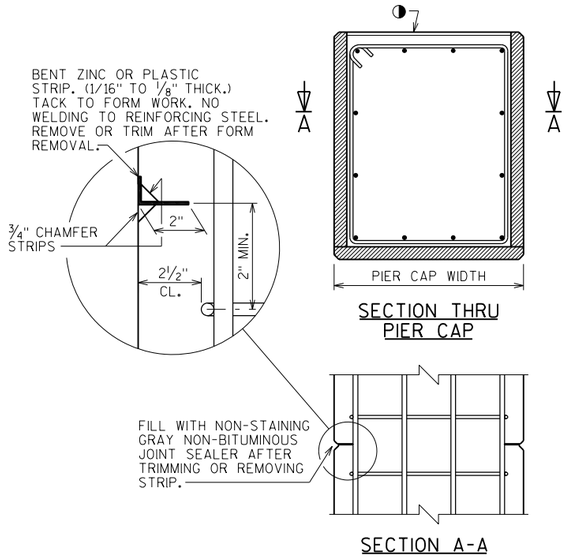
8

8

1 2 6 10

STATE PROJECT NUMBER

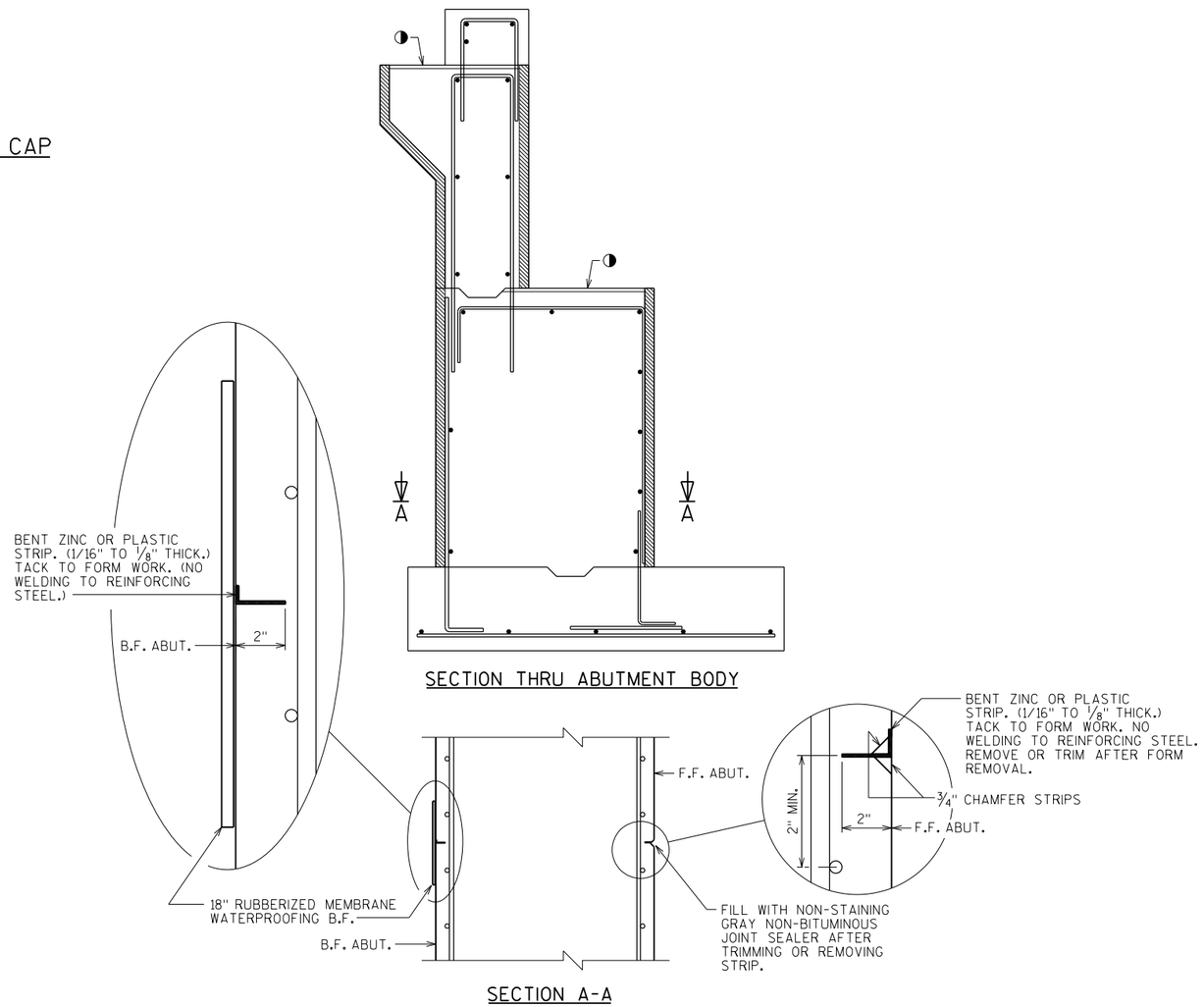
1517-07-72



SECTION THRU PIER CAP

SECTION A-A

ALTERNATE CONSTRUCTION JOINT AT PIER CAP



SECTION THRU ABUTMENT BODY

SECTION A-A

ALTERNATE CONSTRUCTION JOINT AT ABUTMENT

NOTES

PARTIAL ZINC OR PLASTIC BULKHEAD MAY BE USED AS ALTERNATE CONSTRUCTION JOINT, WITH THE PERMISSION OF THE ENGINEER, AT THE CONTRACTOR'S EXPENSE.

VERTICAL CONSTRUCTION JOINT KEYWAY IS NOT REQUIRED WHEN USING ALTERNATE CONSTRUCTION JOINT.

CARE IS TO BE USED IN CASTING CONCRETE AROUND BULKHEAD TO PREVENT DISLOCATION OR MISALIGNMENT OF THE BULKHEAD.

◑ USE A JOINT TOOL TO CONSTRUCT A CONTRACTION JOINT APPROXIMATELY 1/2" DEEP.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-70-402

DRAWN BY | PLANS CK'D. NPP

ALTERNATE CONSTRUCTION JOINT

SHEET 51 OF 52
398

8

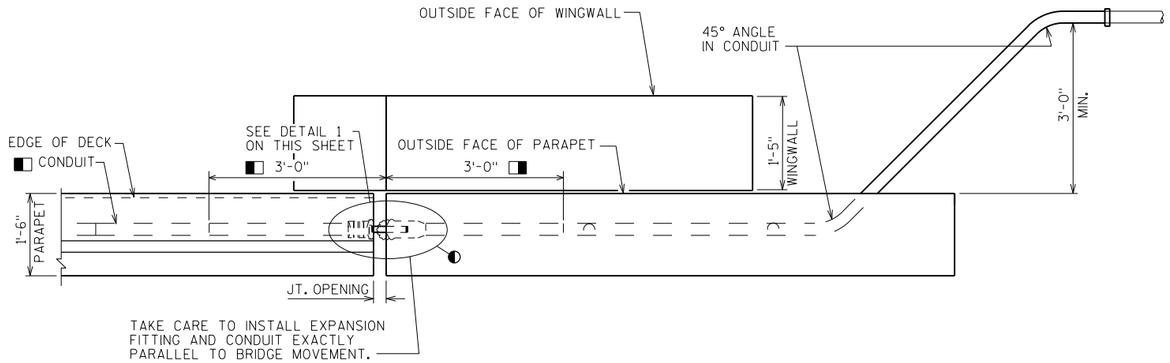
8

FILE= Q:\WisDOT_12345678_10-441\Plans\B-70-402\Control Copy\051-B-70-402 - alt_joint.dgn

DATE: 3/11/2014
I.D.

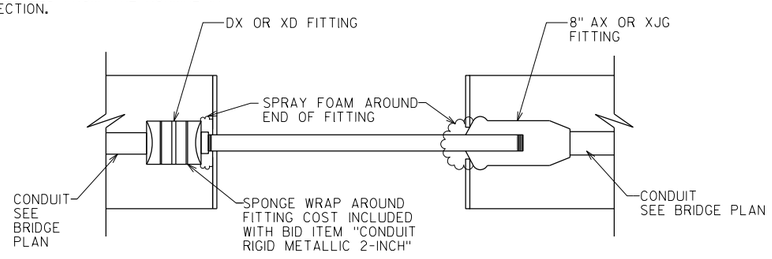
STATE PROJECT NUMBER

1517-07-72



PLAN OF PARAPET AT APPROACH SLAB

XD FITTING IS GOOD FOR 3/4" MOVEMENT IN ANY DIRECTION. THE XD FITTING WILL ALLOW FOR ANGULAR MOVEMENT WITH A DEFLECTION OF UP TO 30 DEGREES FROM THE NORMAL IN ANY DIRECTION.

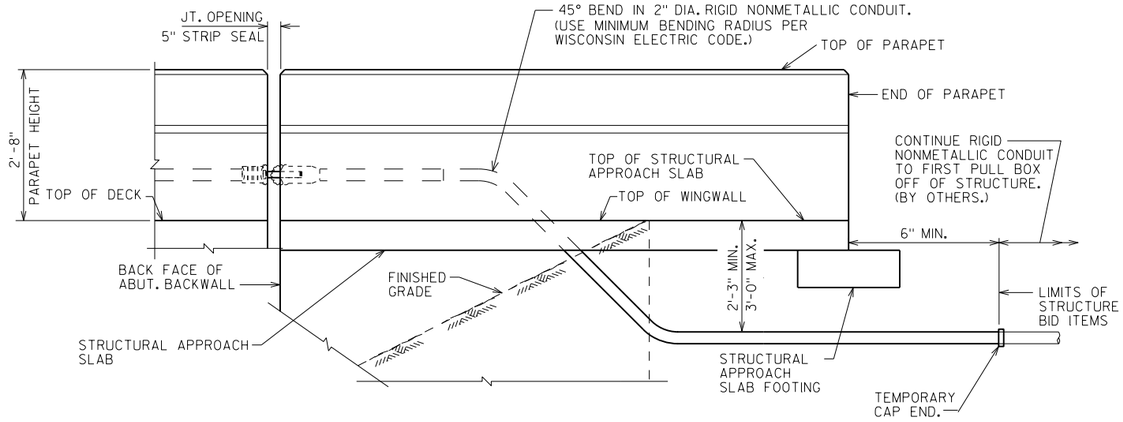


DETAIL 1

ELECTRICAL FITTING - AX/DX CONNECTION

PARAPET STRIP SEAL BRIDGE JOINT

THIS ARRANGEMENT ACCOMMODATES UP TO 8 3/4" OF TOTAL MOVEMENT AT A JOINT.



INSIDE ELEVATION OF PARAPET AT APPROACH SLAB

■ USE 2" ϕ RIGID NONMETALLIC CONDUIT EXCEPT AT EXPANSION FITTING. AT EXPANSION FITTING USE RIGID METALLIC CONDUIT 3'-0" INTO PARAPET ON DECK AND APPROACH SLAB SIDES OF THE JOINT OPENING.

◐ 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 IN PLACE IN THE DECK BELOW IT. TAKE CARE TO INSTALL EXPANSION FITTING AND CONDUIT EXACTLY PARALLEL TO BRIDGE MOVEMENT.

NOTES

BID ITEMS SHALL BE:

"CONDUIT RIGID NONMETALLIC SCHEDULE 40 2-INCH"
"CONDUIT RIGID METALLIC 2-INCH"

APPROVED MANUFACTURERS - JUNCTION BOXES:
SEE APPROVED MATERIAL LIST.

ELECTRICAL FITTING - AX/DX CONNECTION SEE DETAIL 1 ON THIS SHEET

APPROVED MANUFACTURER OR EQUIVALENT - EXPANSION FITTING:

EXPANSION FITTINGS, ANGLES AND ADAPTER FITTINGS TO BE INCIDENTAL TO "CONDUIT RIGID METALLIC 2-INCH".

WHEN CONNECTING NONMETALLIC CONDUIT TO METALLIC CONDUIT, ONLY ADAPTER FITTINGS U.L. OR NRTL LISTED FOR ELECTRICAL USE SHALL BE USED.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-70-402

DRAWN BY KJZ | PLANS CK'D. NPP

PARAPET "32SS" ELECTRICAL WORK

SHEET 52 OF 52
399

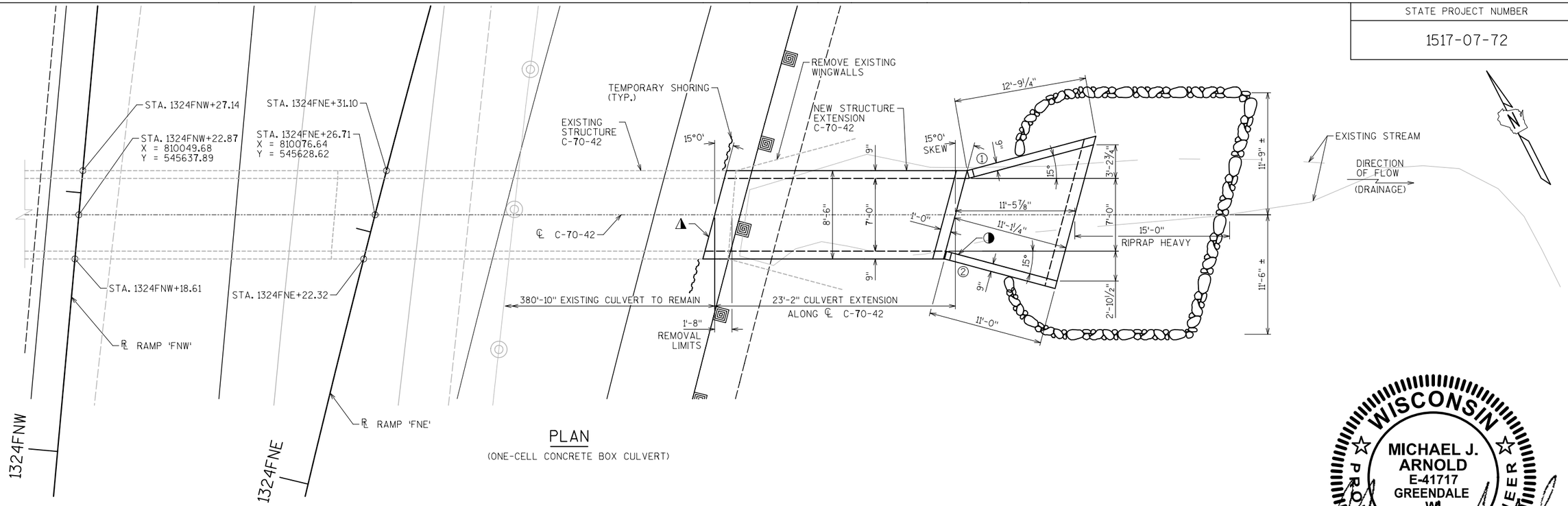
DATE: 3/11/2014
I.D.

FILE= G:\WisDOT_12345678_10-441\Plans\B-70-402\Control Copy\052-B-70-402 - SS32ELEC.dgn

8

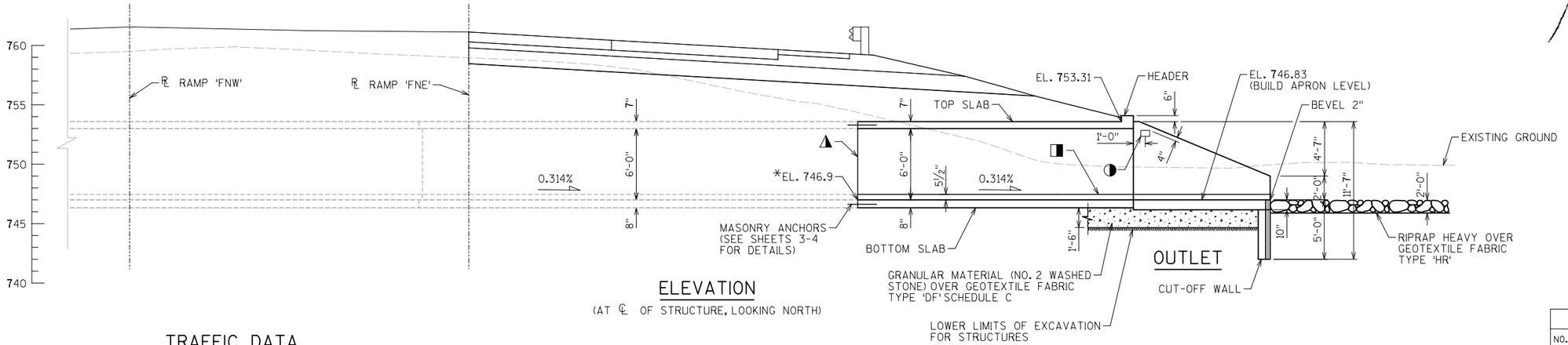
8

STATE PROJECT NUMBER
1517-07-72



PLAN

(ONE-CELL CONCRETE BOX CULVERT)



ELEVATION

(AT ℄ OF STRUCTURE, LOOKING NORTH)

TRAFFIC DATA

A.D.T RAMP 'FNE' (2010)	16,300	A.D.T RAMP 'FNW' (2038)	1,700
A.D.T RAMP 'FNE' (2038)	19,300	DESIGN SPEED	45 M.P.H
DESIGN SPEED	55 M.P.H		

DESIGN DATA

LIVE LOAD:
- DESIGN LOADING: HL-93
- INVENTORY RATING FACTOR: 1.05
- OPERATING RATING FACTOR: 1.35
- MAX. STANDARD PERMIT VEHICLE LOAD: 255 KIPS
  - NOTE: RATING ONLY APPLIES TO NEW BOX CULVERT EXTENSION

EARTH LOAD:
- DESIGNED FOR 6 FT OF FILL — UNIT WT. = 120 PCF
  - NOTE: IN AREAS WITH FILL LESS THAN 2', RESTRICT SOIL COMPACTION METHODS TO HAND EQUIPMENT ONLY.

LIVE LOAD SURCHARGE:
- SOIL EQUIVALENT HEIGHT: 2.7 FT

ULTIMATE DESIGN STRESSES:
- CONCRETE MASONRY CULVERTS — F'C = 3,500 P.S.I
- HIGH-STRENGTH BAR STEEL REINFORCEMENT — FY = 60,000 P.S.I

HYDRAULIC DATA

100 YEAR FREQUENCY	
DRAINAGE AREA	0.675 SQ. MI.
Q100 TOTAL	311 C.F.S.
THROUGH STRUCTURE	311 C.F.S.
OVERTOPPING ROADWAY	N/A
VELOCITY - THROUGH STRUCTURE	7.40 F.P.S.
WATERWAY AREA	42 SQ. FT.
HIGH WATER 100 ELEVATION	757.16
SCOUR CODE	8
EROSION CONTROL	
Q2	65 C.F.S.
HIGH WATER2 ELEVATION	750.66

BENCHMARK

NO.	DESCRIPTION	ELEVATION
41-D	SIGN BRIDGE NORTH OF 441 BRIDGE OVER ON AND OFF RAMP LANES, NW CORNER OF CONCRETE BASE BETWEEN ON OFF RAMP LANES AND SOUTH BOUND 41	761.25
LA8	EAST RIM OF WATER VALVE IN LAKE DRIVE +/- 800' SOUTH OF 441 BRIDGE; 100' NORTH OF LAST DWY AND LAST HOUSE BEFORE BRIDGE ON WEST SIDE OF ROAD	750.14

LEGEND

- ◑ NAME PLATE LOCATION
- ◭ VERT. CONST. JOINT. 18" MIN. WIDTH RUBBERIZED MEMBRANE WATER-PROOFING UP WALLS AND ACROSS TOP SLAB.
- ◨ HORIZ. CONST. JOINT (TYP.). 18" MIN. WIDTH RUBBERIZED MEMBRANE WATER-PROOFING ALONG OUTSIDE OF HORIZ. JOINT IN BOX AND WINGWALLS.
- * ELEVATIONS SHOWN WERE CONVERTED FROM NAD29 TO NAVD88 FROM THE ELEVATIONS TAKEN OFF THE ORIGINAL STRUCTURE PLANS.

LIST OF DRAWINGS

1. GENERAL PLAN & ELEVATION
2. GENERAL NOTES & QUANTITIES
3. REINFORCEMENT DETAILS
4. REINFORCEMENT DETAILS 2
5. APRON & WINGWALL DETAILS
6. CULVERT DETAILS
7. SUBSURFACE EXPLORATION

NO.	DATE	REVISION	BY

URS
342 North Water Street
7th Floor
Milwaukee, WI 53202
(414) 831-4100

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

ACCEPTED William C. Dreher KAR 02/19/14
CHIEF STRUCTURES DESIGN ENGINEER — DATE

STRUCTURE C-70-42

BOX CULVERT EXTENSION UNDER USH 41

COUNTY	TOWN/~~CITY/VILLAGE~~
WINNEBAGO	MENASHA

DESIGN SPEC. AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS

DESIGNED BY	DESIGN CK'D.	DRAWN BY	PLANS CK'D.
MRL	MJA	MRL	MJA

GENERAL PLAN AND ELEVATION

SHEET 1 OF 7
400

NE REGION CONTACT - SCOTT EBEL (920) 492-2240
BUREAU OF STRUCTURES CONTACT - WILLIAM DREHER (608) 266-8489
CONSULTANT CONTACT - MICHAEL ARNOLD (414) 831-4179

8

8

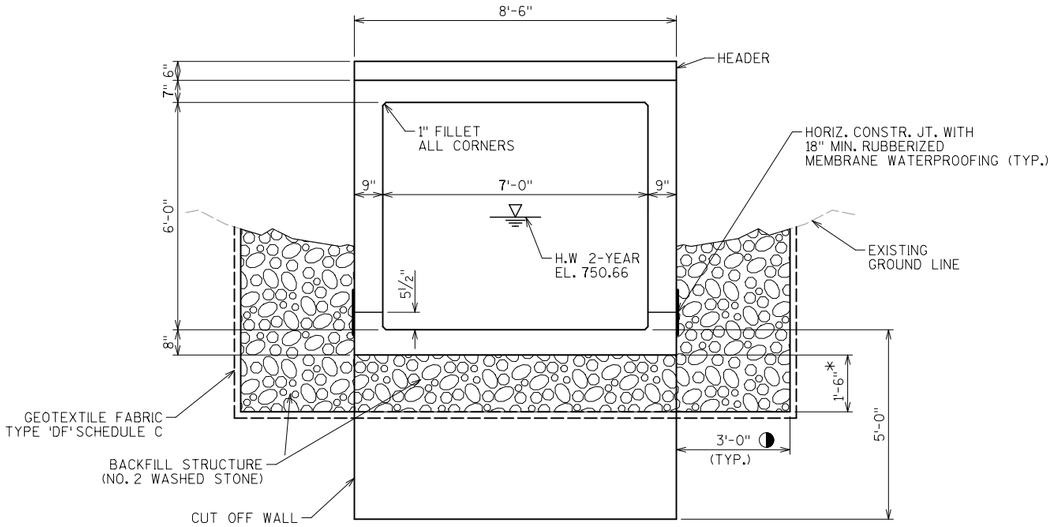
FILE= P:\Transportation\US 10 WIS 441\CADD\sheets\Structures\C-70-42\Sheets\Final\01-C-70-42_gp.dgn

DATE: 1/23/2014

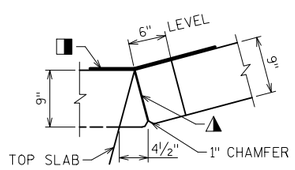
I.D.

STATE PROJECT NUMBER

1517-07-72

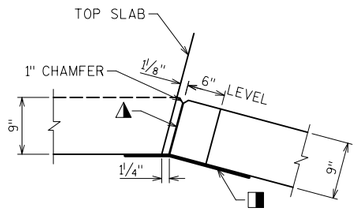


SECTION THRU BOX



CORNER DETAIL

CORNER 1



CORNER DETAIL

CORNER 2

TOTAL ESTIMATED QUANTITIES

BID ITEM #	BID ITEM	UNIT	TOTAL
203.0200	REMOVING OLD STRUCTURE STA. 1324FNE+25	LS	**1**
206.2000	EXCAVATION FOR STRUCTURES CULVERTS C-70-42	LS	**1**
206.6000.S	TEMPORARY SHORING	SF	**115**
210.0100	BACKFILL STRUCTURE	CY	**40**
502.5002	MASONRY ANCHORS TYPE L NO. 4 BARS	EACH	**34**
504.0100	CONCRETE MASONRY CULVERTS	CY	**25**
505.0410	BAR STEEL REINFORCEMENT HS CULVERTS	LB	**3,050**
505.0610	BAR STEEL REINFORCEMENT HS COATED CULVERTS	LB	**900**
516.0500	RUBBERIZED MEMBRANE WATERPROOFING	SY	**26**
606.0300	RIPRAP HEAVY	CY	**31**
645.0113	GEOTEXTILE FABRIC TYPE DF SCHEDULE C	SY	**64**
645.0120	GEOTEXTILE FABRIC TYPE HR	SY	**46**
	NON BID ITEMS		
	FILLER	SIZE	**3/4" & 1"**

LEGEND

▲ ¾" JOINT FILLER TO EXTEND FROM TOP OF CONSTRUCTION JOINT TO TOP OF WINGWALL.

◨ 18" MIN. WIDTH RUBBERIZED MEMBRANE WATERPROOFING FROM HORIZ. CONSTR. JT. TO TOP OF WINGWALL.

◑ EXCAVATION TO EXTEND A MIN. OF 3'-0" BEYOND THE LIMITS OF THE OUTSIDE OF CULVERT WALL AND WINGWALLS.

* MAY EXTEND DEEPER SHOULD UNSUITABLE SOIL BE ENCOUNTERED DURING CONSTRUCTION. VERIFY WITH ENGINEER.

GENERAL NOTES

ALL DIMENSIONS ARE GIVEN IN SURVEY FEET AND SURVEY INCHES.

ALL ELEVATIONS ARE REFERENCED TO NAVD88 DATUM.

EXISTING STRUCTURE C-70-42 IS A ONE CELL CAST-IN-PLACE CONCRETE BOX CULVERT. REMOVE EXISTING WINGWALLS AND APRON AT THE EAST END. CONSTRUCT CAST-IN-PLACE CONCRETE BOX EXTENSION AT EAST END OF EXISTING STRUCTURE.

REMOVE EXISTING WINGWALLS ALONG ORIGINAL CONSTRUCTION JOINTS. EXERCISE CARE NOT TO DAMAGE BOX CULVERT WALLS OR APRON.

DRAWINGS SHALL NOT BE SCALED.

THE UPPER LIMITS OF EXCAVATION FOR STRUCTURES CULVERTS C-70-42 SHALL BE THE EXISTING GROUNDLINE.

ALL SPACES EXCAVATED AND NOT OCCUPIED BY THE NEW STRUCTURE SHALL BE BACKFILLED WITH STRUCTURE BACKFILL TO THE ELEVATION AND SECTION EXISTING PRIOR TO EXCAVATION.

LOCATE NAME PLATE ON WINGWALL. IF NAME PLATE IS ON WINGWALL BEING REMOVED, REUSE EXISTING NAMEPLATE IF IT IS IN GOOD CONDITION AFTER EXISTING WINGWALL REMOVAL.

THE CONCRETE IN THE CUT OFF WALL MAY BE PLACED UNDERWATER IF THE EXCAVATION CANNOT BE DEWATERED.

THE CONTRACTOR MAY FURNISH A PRECAST CONCRETE BOX CULVERT IN LIEU OF THE CAST-IN-PLACE BOX CULVERT WITH APPROVAL OF THE STRUCTURES DESIGN SECTION. MATERIALS, FABRICATION, AND DESIGN OF PRECAST BOXES SHALL BE IN ACCORDANCE WITH AASHTO STANDARD SPECIFICATIONS FOR TRANSPORTATION MATERIALS, M259 OR M273, AND AASHTO STANDARD SPECIFICATIONS FOR HIGHWAY BRIDGES, DIVISION 2, SECTION 27, EXCEPT THE CONCRETE MIXTURE SHALL CONTAIN NOT LESS THAN 565 POUNDS OF CEMENTITIOUS MATERIALS PER CUBIC YARD.

CHAMFER ALL EXPOSED CORNERS ¾".

PLACE APRON AND BOX CULVERT FLOOR MONOLITHICALLY.

THOROUGHLY CLEAN ALL CONSTRUCTION JOINTS BEFORE FRESH CONCRETE IS PLACED.

CONTRACTOR IS RESPONSIBLE TO MAINTAIN THE STABILITY OF THE STRUCTURE DURING CONSTRUCTION.

LOCATION OF TEMPORARY SHORING TO BE APPROVED BY THE FIELD ENGINEER.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE C-70-42

DRAWN BY MRL | PLANS CK'D. MJA

GENERAL NOTES & QUANTITIES

SHEET 2 OF 7

401

FILE= P:\Transportation\US 10 WTS 441\CADD\sheets\Structures\C-70-42\Sheets\Final\02-C-70-42_ts.dgn

DATE: 1/23/2014

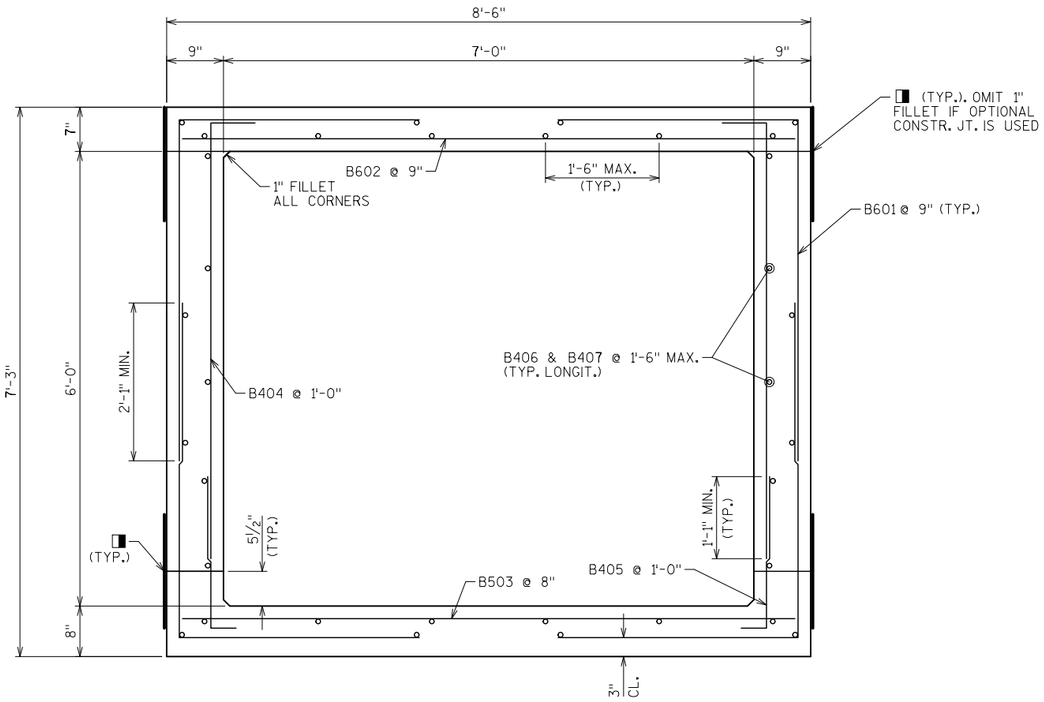
I.D.

8

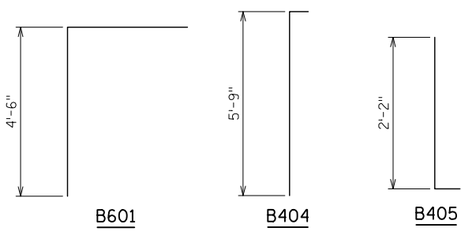
8

STATE PROJECT NUMBER

1517-07-72



SECTION THRU BOX



BAR DETAILS

BILL OF BARS

ALL BARS IN THIS TABLE SHALL BE UNCOATED

	BAR MARK	NO. REQ'D	LENGTH	BENT	LOCATION
	B601	128	7'-7"	X	CORNER
	B602	32	8'-5"		TOP SLAB TRAN.
	B503	36	8'-5"		BOTTOM SLAB TRAN.
	B404	48	6'-4"	X	WALL VERT.
	B405	48	2'-9"	X	WALL VERT. DOWELS
	B406	34	22'-10"		LONGITUDINAL
*	B407	34	2'-5"		LONGIT. ANCHOR

LEGEND

◨ HORIZ. CONST. JOINT (TYP.). 18" MIN. WIDTH RUBBERIZED MEMBRANE WATER-PROOFING ALONG OUTSIDE OF HORIZ. JOINT IN BOX.

* MASONRY ANCHORS TYPE L NO. 4 BARS. EMBED 10" INTO EXISTING CULVERT. PLACE WITH A MINIMUM EDGE DISTANCE OF 3".

◭ DURING CONSTRUCTION, SHEETING AND SAND BAGS MAY BE USED TO HOLD BACKWATER. PROVIDE OVERFLOW PIPE TO LIMIT BACKWATER INCREASE TO ELEVATION 757.16' TO AVOID FLOODING UPSTREAM.

NOTES

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

TENSION LAP SPLICE LENGTHS FOR UNCOATED BARS SHALL BE CLASS "C" LAPS:
1'-5" FOR #4 BARS
1'-9" FOR #5 BARS
2'-1" FOR #6 BARS

UNCOATED DOWEL BARS IN THE BOX SHALL BE CLASS "B" LAPS:
1'-1" FOR #4 BARS

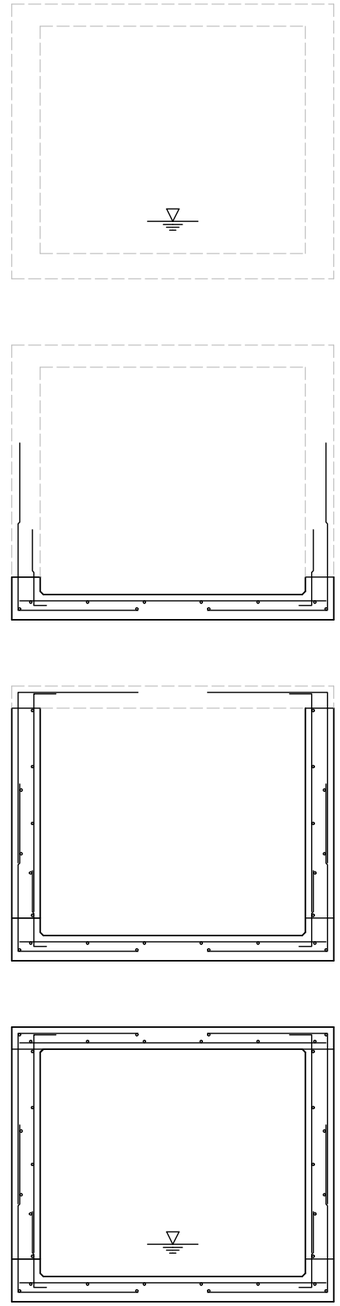
STRUCTURE BACKFILL IS REQUIRED BEHIND ALL WINGWALLS.

EXISTING BOX

◭ STAGE 1

◭ STAGE 2

STAGE 3



POUR SEQUENCE

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE C-70-42

DRAWN BY MRL | PLANS CK'D. MJA

REINFORCEMENT DETAILS

SHEET 3 OF 7
402

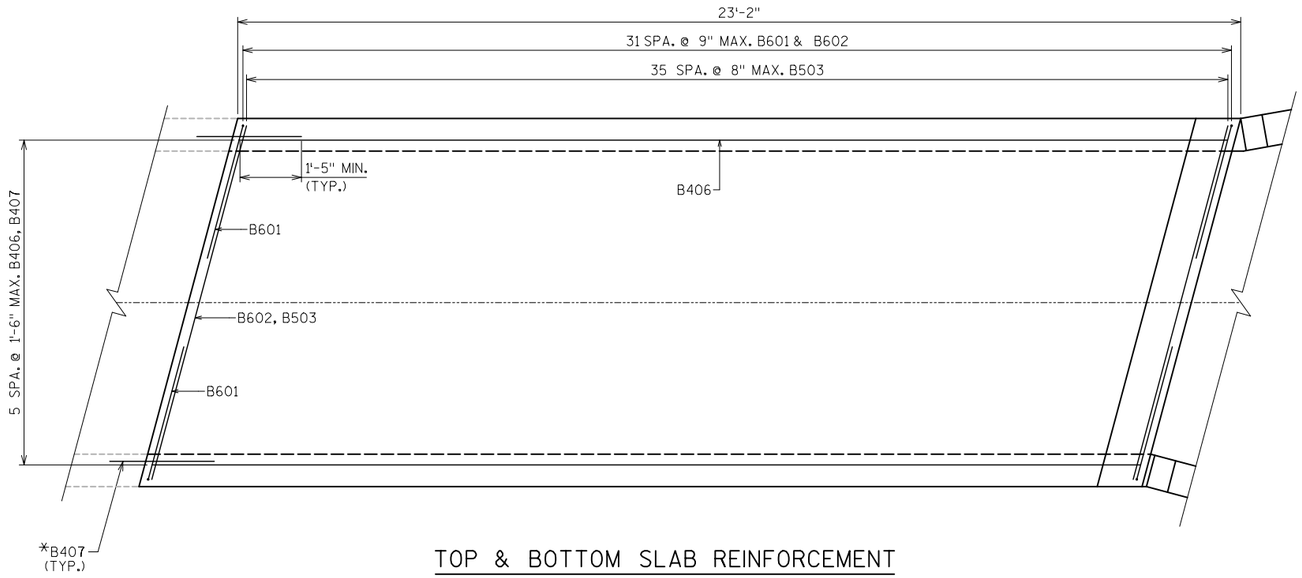
FILE= P:\Transportation\US 10 WIS 441\CADD\sheets\Structures\C-70-42\Sheets\Final\03-C-70-42_Reinforcement.dgn

DATE: 1/23/2014
I.D.

8

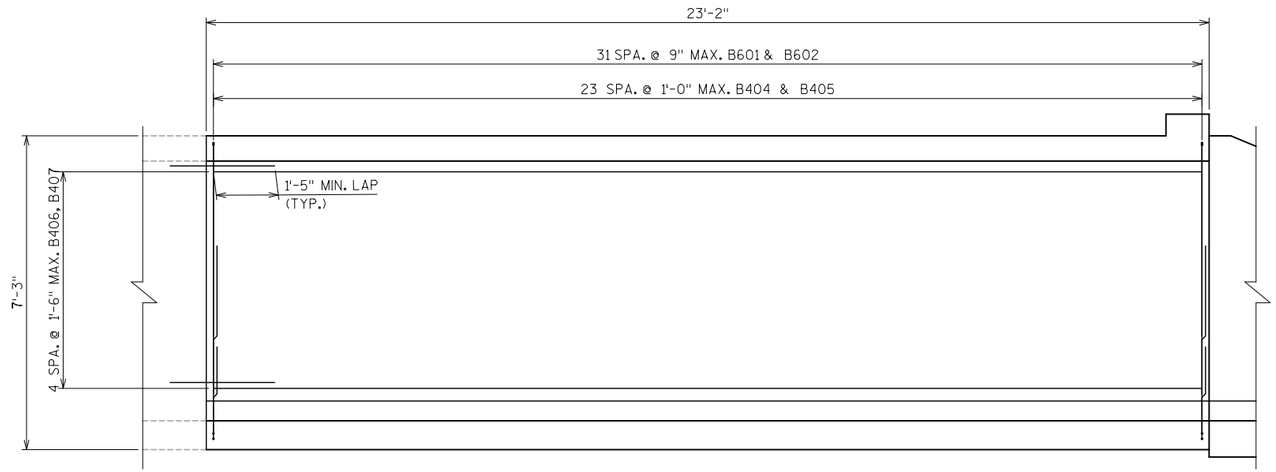
8

STATE PROJECT NUMBER
1517-07-72



TOP & BOTTOM SLAB REINFORCEMENT

PLAN VIEW



WALL REINFORCEMENT

ELEVATION VIEW- LOOKING NORTH

LEGEND

* MASONRY ANCHORS TYPE L NO. 4 BARS.

SEE "REINFORCEMENT DETAILS" SHEET FOR BILL OF BARS.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE C-70-42

DRAWN BY	MRL	PLANS CK'D.	MJA

REINFORCEMENT DETAILS 2

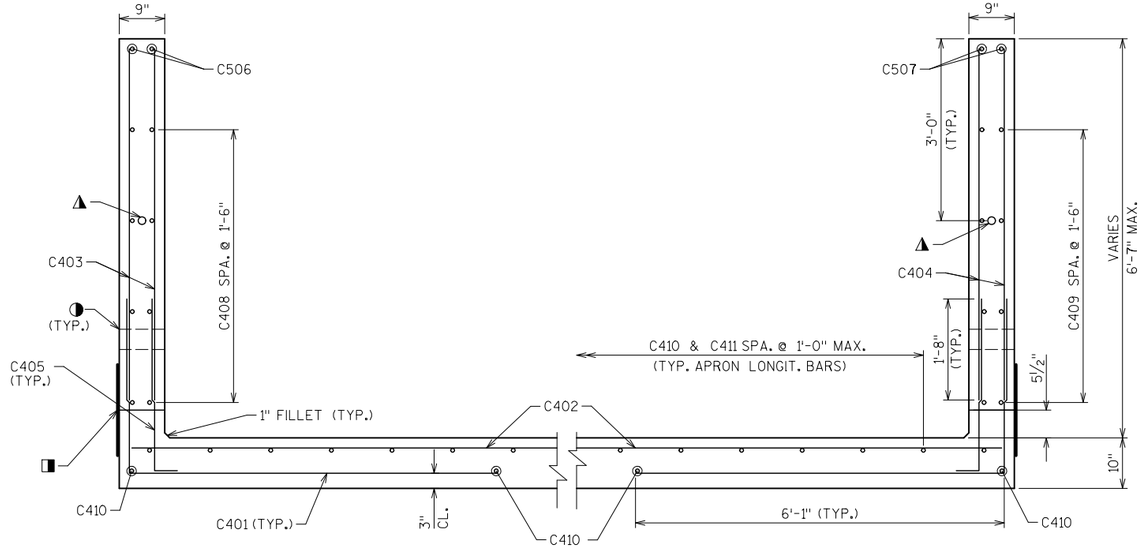
SHEET 4 OF 7
403

8

8

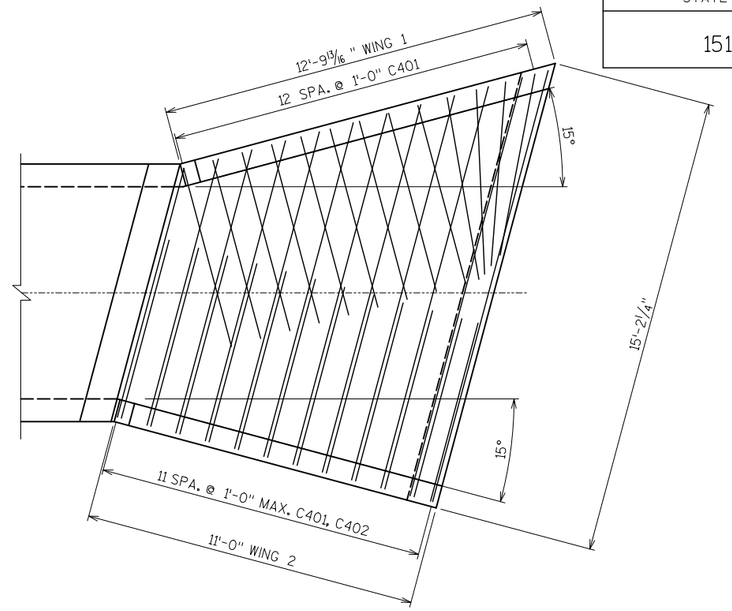
FILE= P:\Transportation\US 10 WIS 441\CADD\sheets\Structures\C-70-42\Sheets\Final\04-C-70-42_Reinforcement2.dgn

DATE: 1/23/2014
I.D.



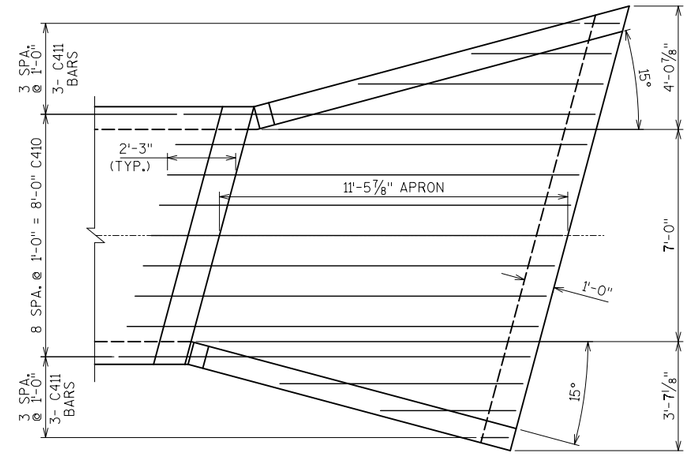
WING 1 WING 2

SECTION THRU WINGWALLS



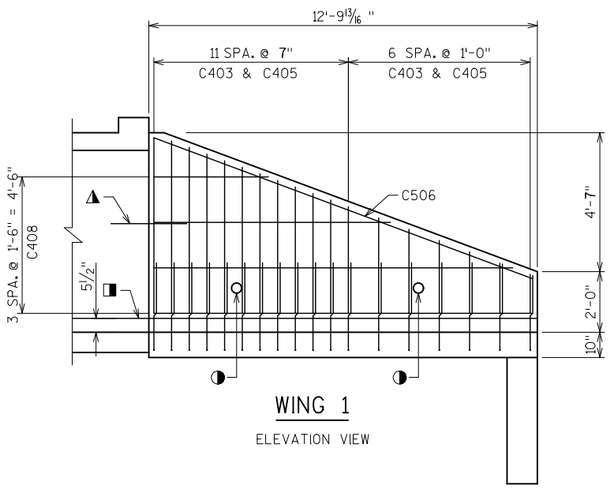
PLAN VIEW - APRON

TRANSVERSE BARS



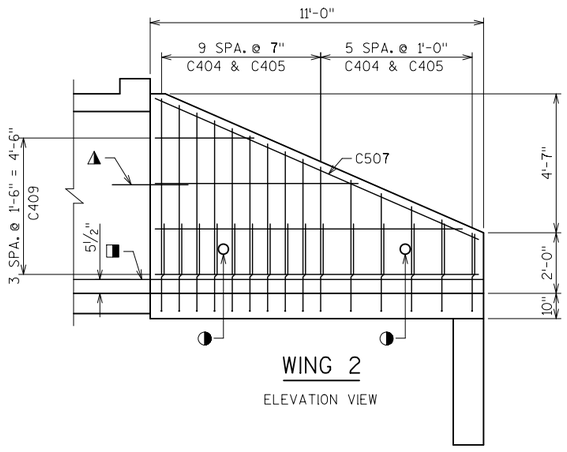
PLAN VIEW - APRON

LONGITUDINAL BARS



WING 1

ELEVATION VIEW



WING 2

ELEVATION VIEW

LEGEND

◨ 18" MIN. WIDTH RUBBERIZED MEMBRANE WATER-PROOFING FROM HORIZ. CONSTR. JT. TO TOP OF WINGWALL & ALONG HORIZ. CONSTR. JT. IN WING.

▲ 1" ϕ PLAIN (SMOOTH) ROUND DOWEL BAR, 2'-6" LONG, BETWEEN BARREL AND WINGS. EMBED 1'-3" INTO BARREL WALL. USE DEBONDER ON EXTENSION INTO WINGWALL. BEND AS REQUIRED ON BOX CELL WALL SIDE. ASTM A36 MATERIAL MAY BE SUBSTITUTED FOR AASHTO M31. INCIDENTAL TO BID ITEM "CONCRETE MASONRY CULVERTS."

◑ 4" DIA. WEEP HOLES @ APPROX. 6'-0" CTRS LOCATE AT APPROX. 1'-0" ABOVE NORMAL WATER LEVEL OR CONSTR. JT., WHICHEVER IS HIGHER. PLACE A SMALL PIECE OF GEOTEXTILE OVER WEEP HOLES TO PREVENT MIGRATION OF FINES.

NOTES

SEE "CULVERT DETAILS" FOR BILL OF BARS

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

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE C-70-42

DRAWN BY MRL | PLANS CK'D. MJA

APRON & WINGWALL DETAILS

SHEET 5 OF 7
404

STATE PROJECT NUMBER
1517-07-72

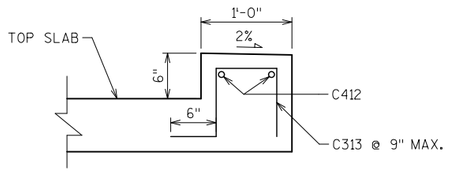
FILE= P:\Transportation\US 10 WIS 441\CADD\sheets\Structures\C-70-42\Sheets\Final\05-C-70-42_Apron.dgn

DATE: 1/23/2014
I.D.

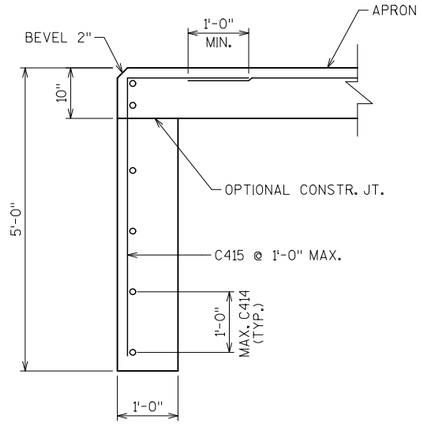
8

8

STATE PROJECT NUMBER
1517-07-72



HEADER DETAIL



CUT-OFF WALL DETAIL

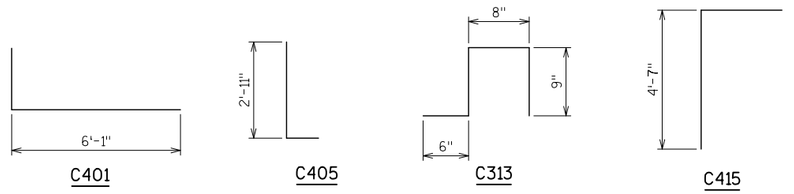
BILL OF BARS

ALL BARS IN THIS TABLE SHALL BE EPOXY COATED

BAR MARK	NO. REQ'D	LENGTH	BENT	BAR SERIES	LOCATION
C401	25	8'-11"	X		APRON CORNER
C402	12	11'-8"		X	APRON HORIZ.
C403	36	3'-6"		X	WING 1 VERT.
C404	30	3'-6"		X	WING 2 VERT.
C405	33	3'-6"	X		WINGS VERT. DOWELS
C506	2	13'-3"			WING 1 HORIZ.
C507	2	11'-7"			WING 2 HORIZ.
C408	8	8'-1"		X	WING 1 LONGIT.
C409	8	7'-0"		X	WING 2 LONGIT.
C410	13	13'-7"			APRON LONGIT.
C411	6	5'-7"		X	APRON LONGIT. @ ENDS
C412	2	8'-5"			HEADER HORIZ.
C313	13	2'-5"	X		HEADER VERT.
C414	6	14'-10"			CUT-OFF WALL HORIZ.
C415	16	6'-6"	X		CUT-OFF WALL VERT.

BAR SERIES

BAR MARK	NO. REQ'D	LENGTH
C402	1 SERIES OF 12	8'-5" TO 14'-10"
C403	2 SERIES OF 18	1'-2" TO 5'-9"
C404	2 SERIES OF 15	1'-2" TO 5'-9"
C408	2 SERIES OF 4	3'-9" TO 12'-5"
C409	2 SERIES OF 4	3'-4" TO 10'-8"
C411	2 SERIES OF 3	2'-7" TO 8'-6"



BAR DETAILS

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE C-70-42

DRAWN BY MRL | PLANS CK'D. MJA

CULVERT DETAILS

SHEET 6 OF 7
405

8

8

FILE= P:\Transportation\US 10 WIS 441\CADD\sheets\Structures\C-70-42\Sheets\Final\06-C-70-42_Culvert Details.dgn

DATE: 1/23/2014
I.D.

STATE PROJECT NUMBER

1517-07-72

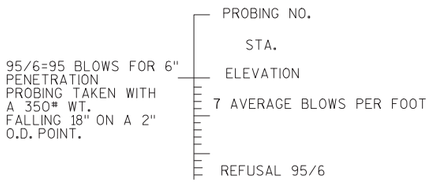
ABBREVIATIONS

F — FINE M — MEDIUM C — COARSE
WS — WEATHERED SO — SOUND

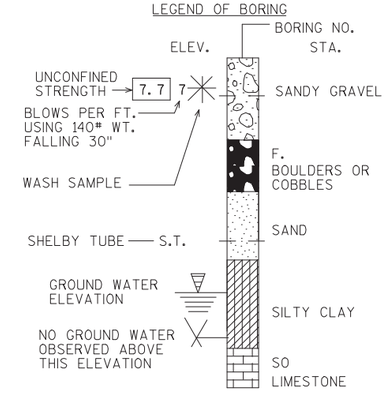
MATERIAL SYMBOLS

TOPSOIL SILT FAT CLAY
SAND PEAT DOLOMITE
GRAVEL CLAY FILL

LEGEND OF PROBING



LEGEND OF BORING



UNLESS OTHERWISE SPECIFIED, THE BLOWS PER FOOT AT THE LOCATIONS INDICATED ARE BASED ON DRIVING A 2" O.D. X 1.4" I.D. SPLIT SPOON SAMPLER WITH A 140# HAMMER HAVING A FREE FALL OF 30". THE BLOW COUNT IS TAKEN IN UNDISTURBED SOIL IMMEDIATELY BELOW A CASED OR OPEN HOLE ELIMINATING SIDE FRICTION ON THE DRIVE PIPE.

SUBSURFACE EXPLORATION FOR FOUNDATION DESIGN AND BIDDERS INFORMATION

TO OBTAIN RELATIVE DATA CONCERNING THE CHARACTER OF MATERIAL IN AND UPON WHICH THE FOUNDATION MIGHT BE BUILT, BORINGS AND/OR SOUNDINGS WERE MADE AT POINTS APPROXIMATELY AS INDICATED ON THIS DRAWING. THE DATA PRESENTED HEREIN REPRESENTS THE FINDINGS OF THE SUBSURFACE EXPLORATIONS MADE. HOWEVER, BECAUSE THE DEPTHS INVESTIGATED ARE LIMITED AND THE AREA OF THE BORINGS AND/OR SOUNDINGS IS VERY SMALL IN RELATION TO THE ENTIRE AREA, THE WISCONSIN DEPARTMENT OF TRANSPORTATION DOES NOT WARRANT CONDITIONS BELOW THE DEPTHS INVESTIGATED OR THAT THE CLASSIFICATION OF MATERIAL ENCOUNTERED IN THESE INVESTIGATIONS IS NECESSARILY TYPICAL OF THE ENTIRE SITE.

NOTE:
THE SUBSURFACE INFORMATION PRESENTED HEREIN IS AN ABBREVIATED VERSION OF THE INFORMATION PRESENTED IN THE GEOTECHNICAL ENGINEERING REPORT. REVIEW THE APPROPRIATE GEOTECHNICAL REPORT AND SOIL BORING LOGS FOR ADDITIONAL SUBSURFACE INFORMATION.

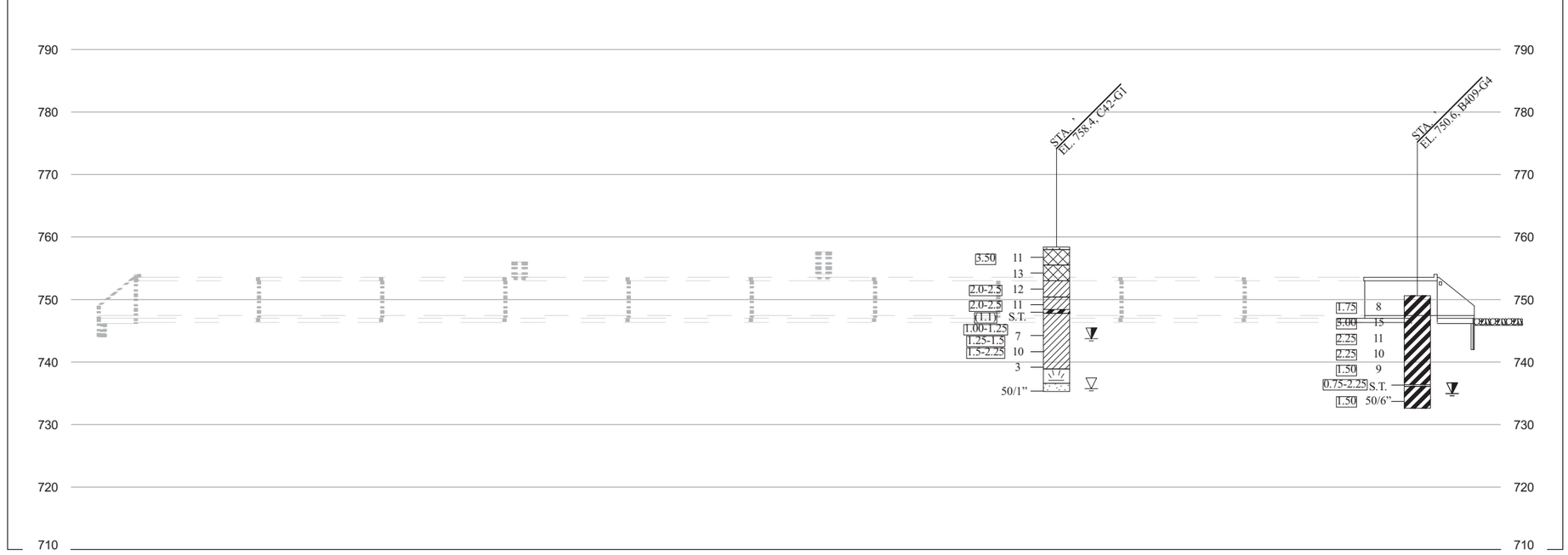
BORING STATIONS AND OFFSETS ARE BASED OF R/L nB

DENOTES SOIL BORING LOCATION

SOIL BORINGS COMPLETED BY:
GESTRA ENGINEERING INC.

SOIL BORING TAKEN:

12.10.2012 - BORING C42-G1
03.15.2012 - BORING B409-G4



NOTE: ▽ -WATER LEVEL DURING DRILLING ▼ -WATER LEVEL AFTER 0 HOURS

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE C-70-42

DRAWN BY RHE PLANS CK'D. DB

SUBSURFACE EXPLORATION

SHEET 7 OF 7
406

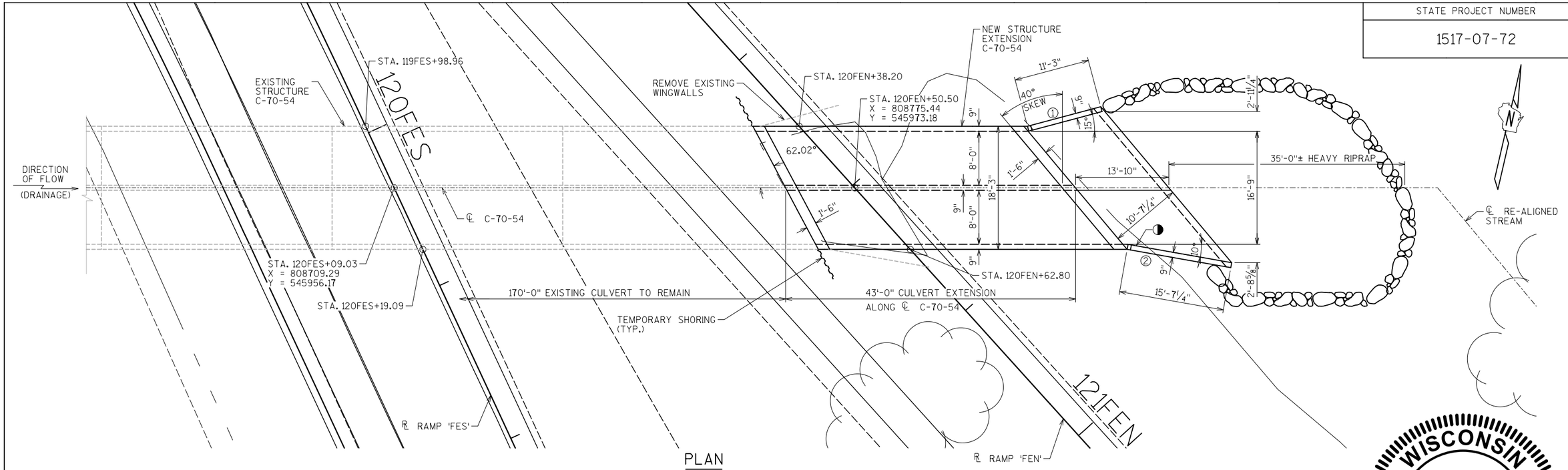
SCALE 1"=40'

FILE= P:\Transportation\US 10 WIS 441\CADD\sheets\Structures\C-70-42\Sheets\03-C-70-42_se.dgn

8

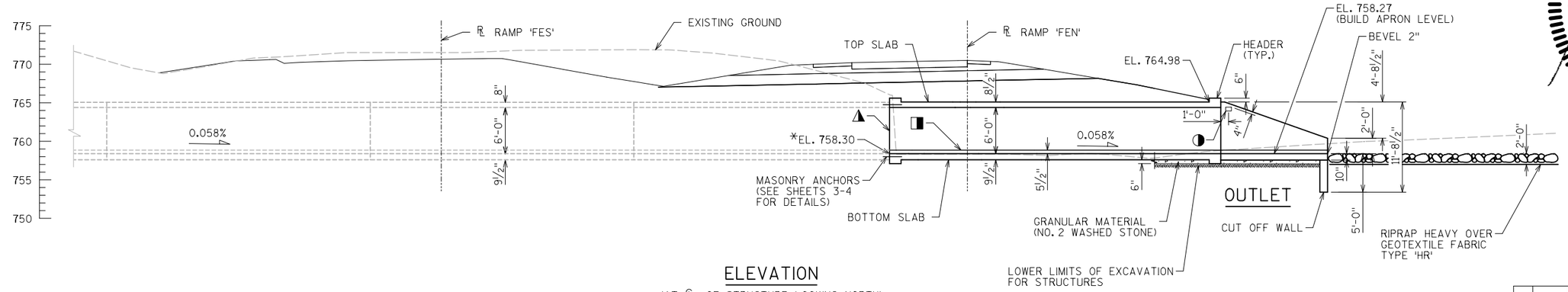
8

STATE PROJECT NUMBER
1517-07-72



PLAN

(TWO-CELL CONCRETE BOX CULVERT)



ELEVATION

(AT ℄ OF STRUCTURE, LOOKING NORTH)

LIST OF DRAWINGS

1. GENERAL PLAN & ELEVATION
2. GENERAL NOTES & QUANTITIES
3. REINFORCEMENT DETAILS
4. REINFORCEMENT DETAILS 2
5. APRON & WINGWALL DETAILS
6. CULVERT DETAILS
7. SUBSURFACE EXPLORATION

TRAFFIC DATA

A.D.T RAMP 'FES' (2010)	2,900	A.D.T RAMP 'FEN' (2038)	2,600
A.D.T RAMP 'FES' (2038)	3,500	DESIGN SPEED	50 M.P.H
DESIGN SPEED	50 M.P.H		

DESIGN DATA

LIVE LOAD:
- DESIGN LOADING: HL-93
- INVENTORY RATING FACTOR: 1.05
- OPERATING RATING FACTOR: 1.35
- MAX. STANDARD PERMIT VEHICLE LOAD: 255 KIPS
  - NOTE: RATING ONLY APPLIES TO NEW BOX CULVERT EXTENSION

EARTH LOAD:
- DESIGNED FOR 6 FT OF FILL — UNIT WT. = 120 PCF
  - NOTE: IN AREAS WITH FILL LESS THAN 2', RESTRICT SOIL COMPACTION METHODS TO HAND EQUIPMENT ONLY.

LIVE LOAD SURCHARGE:
- SOIL EQUIVALENT HEIGHT: 2.7 FT

ULTIMATE DESIGN STRESSES:
- CONCRETE MASONRY CULVERTS — F'C = 3,500 P.S.I
- HIGH-STRENGTH BAR STEEL REINFORCEMENT — FY = 60,000 P.S.I

HYDRAULIC DATA

100 YEAR FREQUENCY	
DRAINAGE AREA	0.50 SQ. MI.
Q100 TOTAL	451 C.F.S.
THROUGH STRUCTURE	451 C.F.S.
OVERTOPPING ROADWAY	N/A
VELOCITY - THROUGH STRUCTURE	5.02 F.P.S.
WATERWAY AREA	90 SQ. FT.
HIGH WATER100 ELEVATION	764.71
SCOUR CODE	8
EROSION CONTROL	
Q2	91 C.F.S.
HIGH WATER2 ELEVATION	760.90

BENCHMARK

NO.	DESCRIPTION	ELEVATION
41-D	SIGN BRIDGE NORTH OF 441 BRIDGE OVER ON AND OFF RAMP LANES, NW CORNER OF CONCRETE BASE BETWEEN ON OFF RAMP LANES AND SOUTH BOUND 41	761.25
CS-1	NW FLANGE BOLT ON HYD IN SE QUAD OF COLDSPRING ROAD AND WESTFIELD	772.51

LEGEND

- ◑ NAME PLATE LOCATION
- ◭ VERT. CONST. JOINT. 18" MIN. WIDTH RUBBERIZED MEMBRANE WATER-PROOFING UP WALLS AND ACROSS TOP SLAB.
- ◨ HORIZ. CONST. JOINT (TYP.). 18" MIN. WIDTH RUBBERIZED MEMBRANE WATER-PROOFING ALONG OUTSIDE OF HORIZ. JOINT IN BOX AND WINGWALLS.
- * ELEVATIONS SHOWN WERE CONVERTED FROM NAD29 TO NAVD88 FROM THE ELEVATIONS TAKEN OFF THE ORIGINAL STRUCTURE PLANS.

WISCONSIN PROFESSIONAL ENGINEER
MICHAEL J. ARNOLD
E-41717
GREENDALE WI
01/22/2014

NE REGION CONTACT - SCOTT EBEL (920) 492-2240
BUREAU OF STRUCTURES CONTACT - WILLIAM DREHER (608) 266-8489
CONSULTANT CONTACT - MICHAEL ARNOLD (414) 831-4179

NO.	DATE	REVISION	BY

URS
342 North Water Street
7th Floor
Milwaukee, WI 53202
(414) 831-4100

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

ACCEPTED William C. Dreher 1/24/14
CHIEF STRUCTURES DESIGN ENGINEER — DATE

STRUCTURE C-70-54

BOX CULVERT EXTENSION UNDER RAMP 'FEN' & 'FES'

COUNTY	TOWN/~~CITY/VILLAGE~~
WINNEBAGO	MENASHA

DESIGN SPEC.
AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS

DESIGNED BY	DESIGN CK'D.	DRAWN BY	PLANS CK'D.
MRL	MJA	MRL	MJA

GENERAL PLAN AND ELEVATION

SHEET 1 OF 7
407

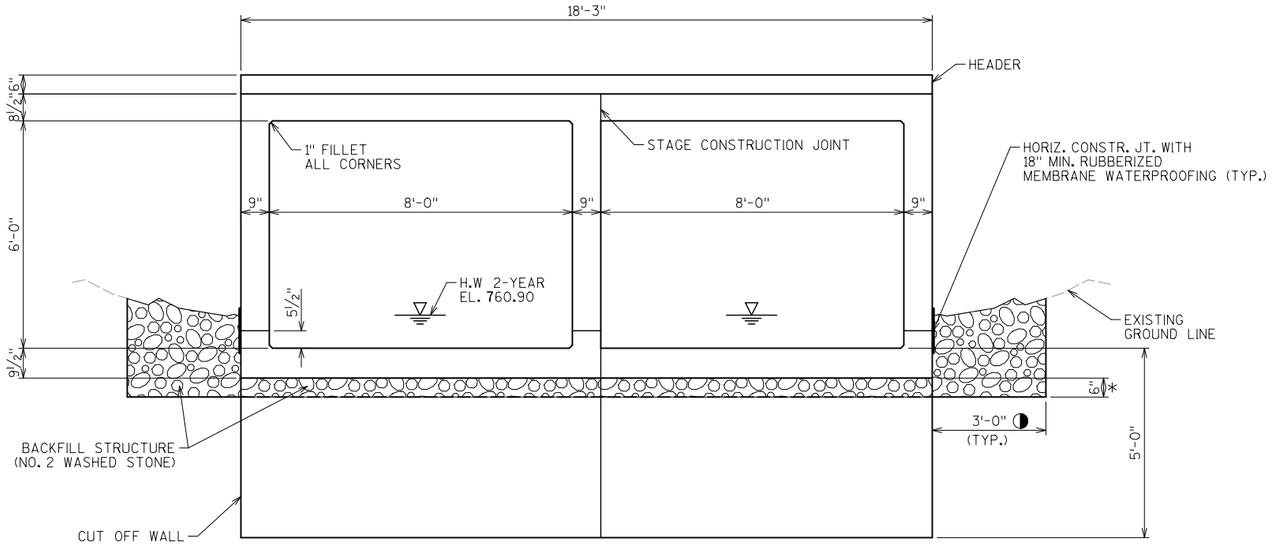
DATE: 1/22/2014
I.D.

FILE= P:\Transportation\US 10 WIS 441\CADD\sheets\Structures\C-70-54\Sheets\Final\01-C-70-54_gp.dgn

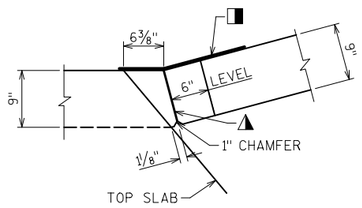
8

8

STATE PROJECT NUMBER
1517-07-72

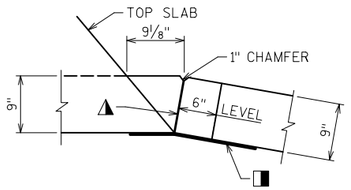


SECTION THRU BOX



CORNER DETAIL

CORNER 1



CORNER DETAIL

CORNER 2

TOTAL ESTIMATED QUANTITIES

BID ITEM #	BID ITEM	UNIT	TOTAL
203.0200	REMOVING OLD STRUCTURE STA. 120FEN+50	LS	1
206.2000	EXCAVATION FOR STRUCTURES CULVERTS C-70-54	LS	1
206.6000.S	TEMPORARY SHORING	SF	100
210.0100	BACKFILL STRUCTURE	CY	35
502.5002	MASONRY ANCHORS TYPE L NO. 4 BARS	EACH	82
504.0100	CONCRETE MASONRY CULVERTS	CY	83
505.0410	BAR STEEL REINFORCEMENT HS CULVERTS	LB	12,180
505.0610	BAR STEEL REINFORCEMENT HS COATED CULVERTS	LB	3,100
516.0500	RUBBERIZED MEMBRANE WATERPROOFING	SY	45
606.0300	RIPRAP HEAVY	CY	73
645.0120	GEOTEXTILE FABRIC TYPE HR	SY	149
	NON BID ITEMS		
	FILLER	SIZE	3/4" & 1"

LEGEND

- ◭ ¾" JOINT FILLER TO EXTEND FROM TOP OF CONSTRUCTION JOINT TO TOP OF WINGWALL.
- ◨ 18" MIN. WIDTH RUBBERIZED MEMBRANE WATERPROOFING FROM HORIZ. CONSTR. JT. TO TOP OF WINGWALL.
- ◑ EXCAVATION TO EXTEND A MIN. OF 3'-0" BEYOND THE LIMITS OF THE OUTSIDE OF CULVERT WALL AND WINGWALLS.
- * AN ADDITIONAL 1'-0" OF OVEREXCAVATION IS ALLOWED SHOULD UNSUITABLE SOIL BE ENCOUNTERED DURING CONSTRUCTION. VERIFY WITH ENGINEER.

GENERAL NOTES

ALL DIMENSIONS ARE GIVEN IN SURVEY FEET AND SURVEY INCHES.

ALL ELEVATIONS ARE REFERENCED TO NAVD88 DATUM.

EXISTING STRUCTURE C-70-54 IS A TWO CELL CAST-IN-PLACE CONCRETE BOX CULVERT. REMOVE EXISTING WINGWALLS AND APRON AT THE EAST END. CONSTRUCT CAST-IN-PLACE CONCRETE BOX EXTENSION AT EAST END OF EXISTING STRUCTURE.

REMOVE EXISTING WINGWALLS AND APRON ALONG ORIGINAL CONSTRUCTION JOINTS. EXERCISE CARE NOT TO DAMAGE BOX CULVERT WALLS.

DRAWINGS SHALL NOT BE SCALED.

THE UPPER LIMITS OF EXCAVATION FOR STRUCTURES CULVERTS C-70-54 SHALL BE THE EXISTING GROUNDLINE.

ALL SPACES EXCAVATED AND NOT OCCUPIED BY THE NEW STRUCTURE SHALL BE BACKFILLED WITH STRUCTURE BACKFILL TO THE ELEVATION AND SECTION EXISTING PRIOR TO EXCAVATION.

LOCATE NAME PLATE ON WINGWALL AS SHOWN. REUSE EXISTING NAMEPLATE IF IT IS IN GOOD CONDITION AFTER EXISTING WINGWALL REMOVAL.

THE CONCRETE IN THE CUT OFF WALL MAY BE PLACED UNDERWATER IF THE EXCAVATION CANNOT BE DEWATERED.

THE CONTRACTOR MAY FURNISH A PRECAST CONCRETE BOX CULVERT IN LIEU OF THE CAST-IN-PLACE BOX CULVERT WITH APPROVAL OF THE STRUCTURES DESIGN SECTION. MATERIALS, FABRICATION, AND DESIGN OF PRECAST BOXES SHALL BE IN ACCORDANCE WITH AASHTO STANDARD SPECIFICATIONS FOR TRANSPORTATION MATERIALS, M259 OR M273, AND AASHTO STANDARD SPECIFICATIONS FOR HIGHWAY BRIDGES, DIVISION 2, SECTION 27, EXCEPT THE CONCRETE MIXTURE SHALL CONTAIN NOT LESS THAN 565 POUNDS OF CEMENTITIOUS MATERIALS PER CUBIC YARD.

CHAMFER ALL EXPOSED CORNERS ¾".

PLACE APRON AND BOX CULVERT FLOOR MONOLITHICALLY.

THOROUGHLY CLEAN ALL CONSTRUCTION JOINTS BEFORE FRESH CONCRETE IS PLACED.

CONTRACTOR IS RESPONSIBLE TO MAINTAIN THE STABILITY OF THE STRUCTURE DURING CONSTRUCTION.

LOCATION OF TEMPORARY SHORING TO BE APPROVED BY THE FIELD ENGINEER.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE C-70-54

DRAWN BY MRL | PLANS CK'D. MJA

GENERAL NOTES & QUANTITIES

SHEET 2 OF 7
408

FILE= P:\Transportation\US 10 WIS 441\CADD\sheets\Structures\C-70-54\Sheets\Final\02-C-70-54_ts.dgn

DATE: 1/22/2014
I.D.

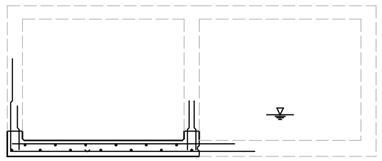
8

8

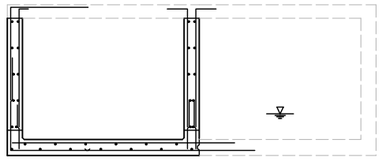
STATE PROJECT NUMBER

1517-07-72

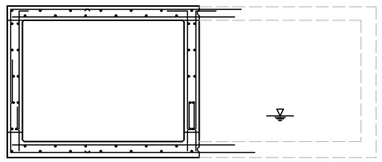
EXISTING BOX



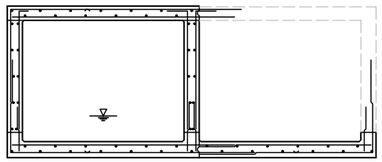
STAGE 1 ◭



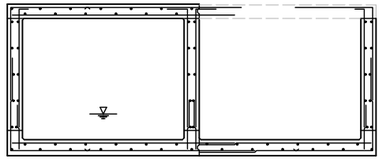
STAGE 2 ◭



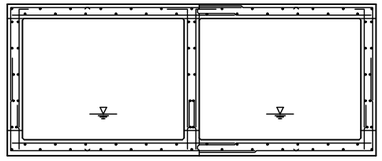
STAGE 3 ◭



STAGE 4



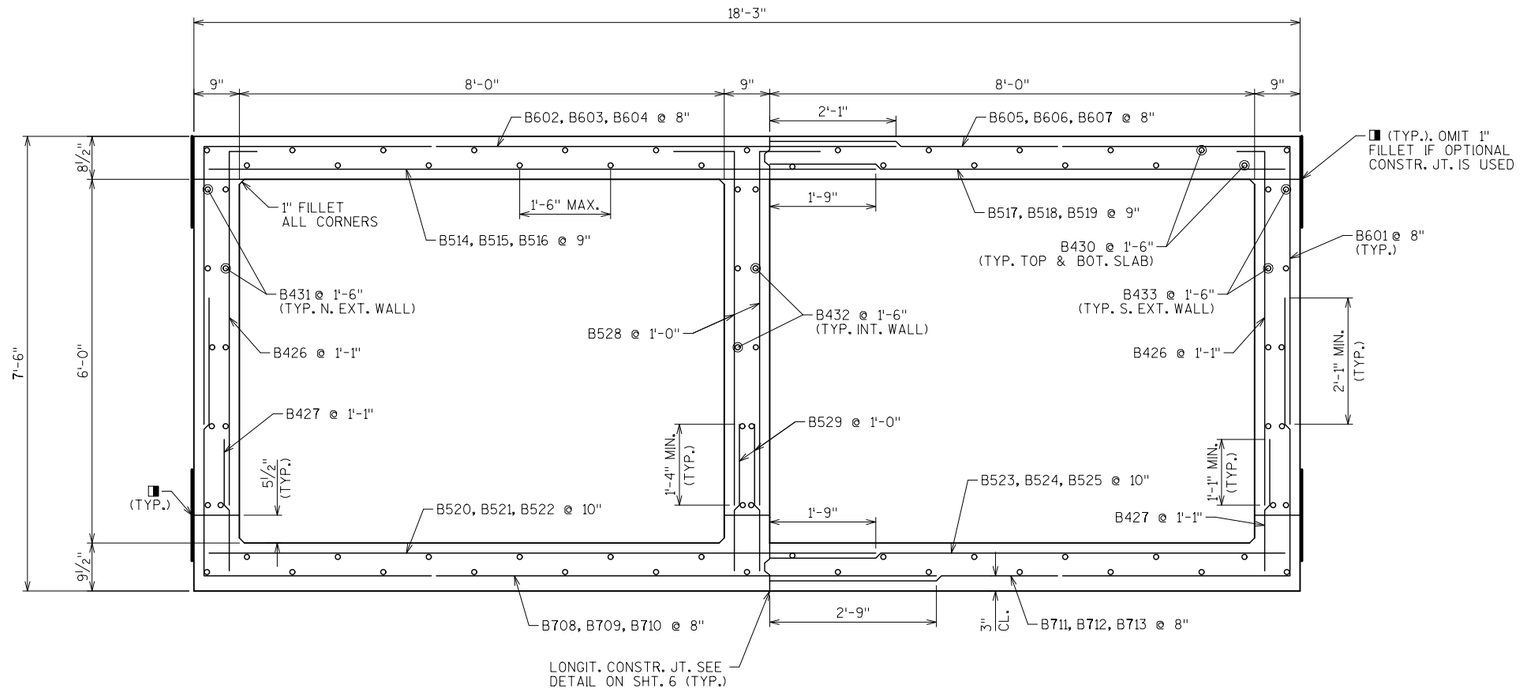
STAGE 5



STAGE 6

OPTIONAL POUR SEQUENCE

LOOKING EAST



SECTION THRU BOX

LOOKING EAST

BILL OF BARS

ALL BARS IN THIS TABLE SHALL BE UNCOATED

	BAR MARK	NO. REQ'D	LENGTH	BENT	BAR SERIES	LOCATION
	B601	258	8'-3"	X		CORNER
	B602	56	7'-8"			TOP SLAB TOP MAT N
	B603	6	4'-6"		X	TOP SLAB TOP MAT NW
	B604	6	5'-3"		X	TOP SLAB TOP MAT NE
	B605	61	4'-10"			TOP SLAB TOP MAT S
	B606	4	3'-0"		X	TOP SLAB TOP MAT SW
	B607	6	3'-0"		X	TOP SLAB TOP MAT SE
	B708	55	8'-4"			BOT SLAB TOP MAT N
	B709	7	5'-0"		X	BOT SLAB BOT MAT NW
	B710	6	5'-11"		X	BOT SLAB BOT MAT NE
	B711	61	4'-10"			BOT SLAB BOT MAT S
	B712	4	3'-3"		X	BOT SLAB BOT MAT SW
	B713	6	3'-3"		X	BOT SLAB BOT MAT SE
	B514	46	11'-1"			TOP SLAB BOT MAT N
	B515	7	6'-1"		X	TOP SLAB BOT MAT NW
	B516	9	6'-10"		X	TOP SLAB BOT MAT NE
	B517	51	8'-7"			TOP SLAB BOT MAT S
	B518	6	4'-10"		X	TOP SLAB BOT MAT SW
	B519	9	4'-10"		X	TOP SLAB BOT MAT SE
	B520	42	11'-1"			BOT SLAB TOP MAT N
	B521	6	6'-1"		X	BOT SLAB TOP MAT NW
	B522	8	6'-10"		X	BOT SLAB TOP MAT NE
	B523	46	8'-7"			BOT SLAB TOP MAT S
	B524	5	4'-10"		X	BOT SLAB TOP MAT SW
	B525	8	4'-10"		X	BOT SLAB TOP MAT SE
	B426	81	6'-6"	X		EXTERIOR WALL
	B427	81	2'-3"			EXT. WALL DOWEL
	B528	88	6'-8"	X		INTERIOR WALL
	B529	88	2'-6"			INT. WALL DOWEL
	B430	52	42'-5"		X	LONGITUDINAL SLABS
	B431	10	39'-11"			LONGIT. N. EXT. WALL
	B432	10	42'-8"			LONGIT. INT. WALL
	B433	10	45'-4"			LONGIT. S. EXT. WALL
*	B434	82	2'-5"			LONGIT. ANCHOR

BAR SERIES

BAR MARK	NO. REQ'D	LENGTH
B603	1 SERIES OF 6	1'-3" TO 7'-8"
B604	1 SERIES OF 6	2'-10" TO 7'-8"
B606	1 SERIES OF 4	1'-3" TO 4'-10"
B607	1 SERIES OF 6	1'-3" TO 4'-10"
B709	1 SERIES OF 7	1'-8" TO 8'-4"
B710	1 SERIES OF 6	3'-6" TO 8'-4"
B712	1 SERIES OF 4	1'-8" TO 4'-10"
B713	1 SERIES OF 6	1'-8" TO 4'-10"
B515	1 SERIES OF 7	1'-0" TO 11'-1"
B516	1 SERIES OF 9	2'-6" TO 11'-1"
B518	1 SERIES OF 6	1'-0" TO 8'-7"
B519	1 SERIES OF 9	1'-0" TO 8'-7"
B521	1 SERIES OF 6	1'-0" TO 11'-1"
B522	1 SERIES OF 8	2'-6" TO 11'-1"
B524	1 SERIES OF 5	1'-0" TO 8'-7"
B525	1 SERIES OF 8	1'-0" TO 8'-7"
B430	4 SERIES OF 13	39'-10" TO 45'-0"

BAR DETAILS

NOTES

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

TENSION LAP SPLICE LENGTHS FOR UNCOATED BARS SHALL BE CLASS "C" LAPS:
1'-5" FOR #4 BARS
1'-9" FOR #5 BARS
2'-1" FOR #6 BARS
2'-9" FOR #7 BARS

UNCOATED DOWEL BARS IN THE BOX SHALL BE CLASS "B" LAPS:
1'-1" FOR #4 BARS
1'-4" FOR #5 BARS

STRUCTURE BACKFILL IS REQUIRED BEHIND ALL WINGWALLS.

LEGEND

◨ HORIZ. CONST. JOINT (TYP.). 18" MIN. WIDTH RUBBERIZED MEMBRANE WATER-PROOFING ALONG OUTSIDE OF HORIZ. JOINT IN BOX.

* MASONRY ANCHORS TYPE L NO. 4 BARS. EMBED 10" INTO EXISTING CULVERT. PLACE WITH A MINIMUM EDGE DISTANCE OF 3".

◭ PROVIDE A TEMPORARY BARRIER TO DIVERT THE WATER THROUGH THE SOUTH CELL AROUND THE EXPOSED BARS OF THE BOTTOM SLAB.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE C-70-54

DRAWN BY MRL | PLANS CK'D. MJA

REINFORCEMENT DETAILS

SHEET 3 OF 7

409

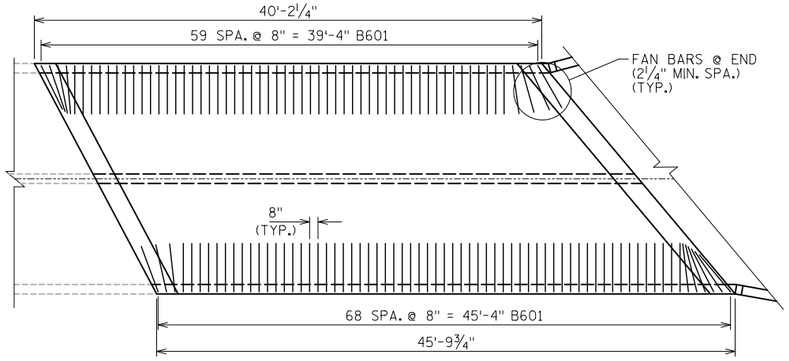
FILE= P:\Transportation\US 10 WIS 441\CADD\sheets\Structures\C-70-54\Sheets\Final\03-C-70-54_Reinforcement.dgn

DATE: 1/22/2014

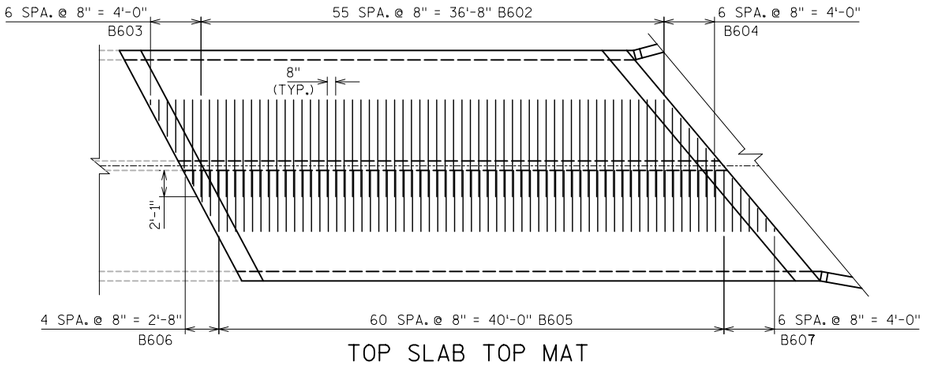
I.D.

8

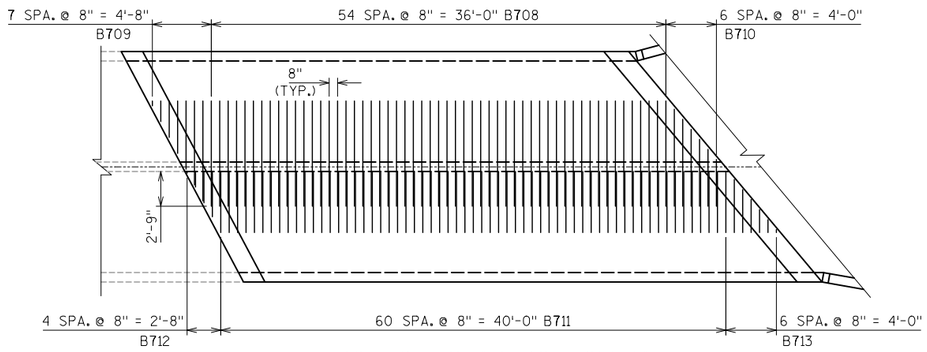
8



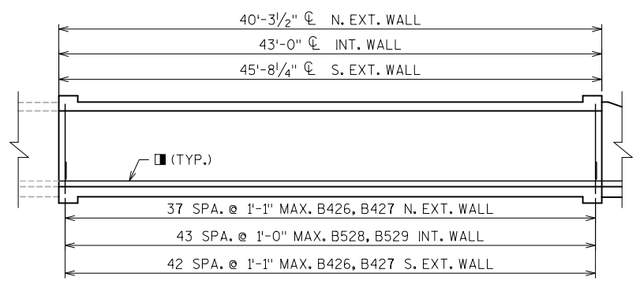
CORNER BARS
PLAN VIEW



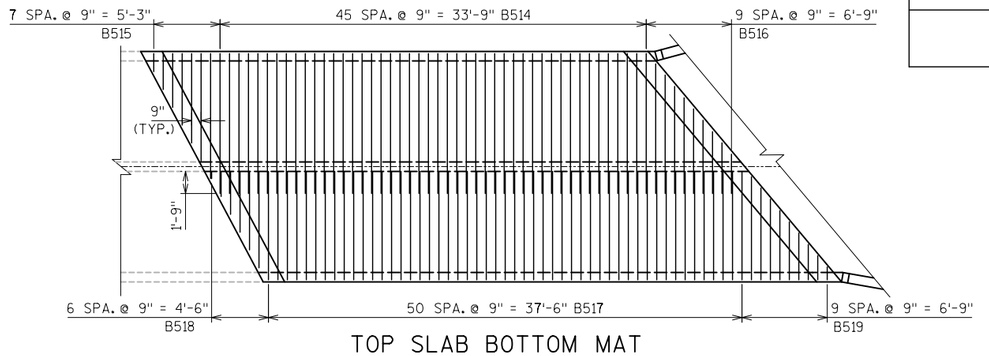
TOP SLAB TOP MAT
PLAN VIEW



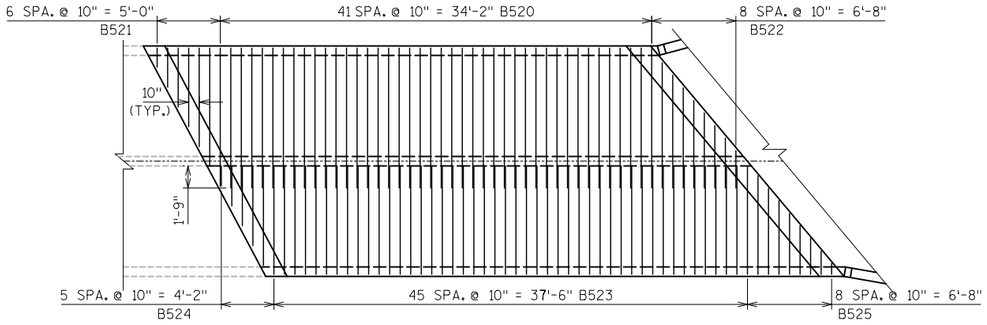
BOTTOM SLAB BOTTOM MAT
PLAN VIEW



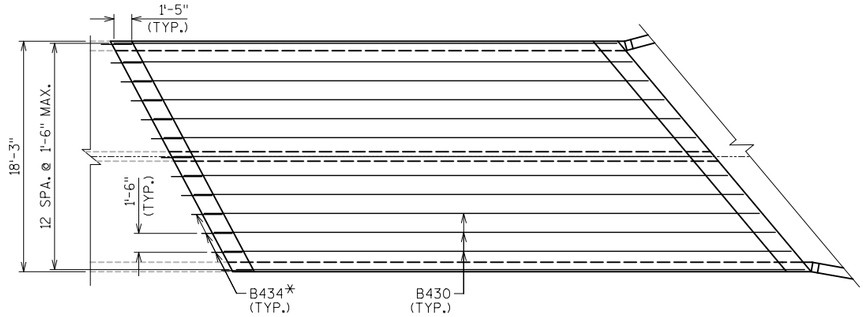
WALL BARS
ELEVATION VIEW- LOOKING NORTH



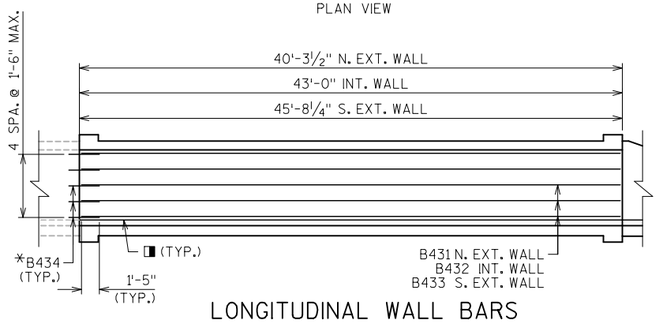
TOP SLAB BOTTOM MAT
PLAN VIEW



BOTTOM SLAB TOP MAT
PLAN VIEW



LONGITUDINAL BARS-
TOP & BOTTOM SLABS
PLAN VIEW



LONGITUDINAL WALL BARS
ELEVATION VIEW- LOOKING NORTH

LEGEND

* MASONRY ANCHORS TYPE L NO. 4 BARS.

◨ HORIZ. CONST. JOINT (TYP.). 18" MIN. WIDTH RUBBERIZED MEMBRANE WATER-PROOFING ALONG OUTSIDE OF HORIZ. JOINT IN BOX.

SEE "REINFORCEMENT DETAILS" SHEET FOR BILL OF BARS.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE C-70-54

DRAWN BY: MRL | PLANS CK'D.: MJA

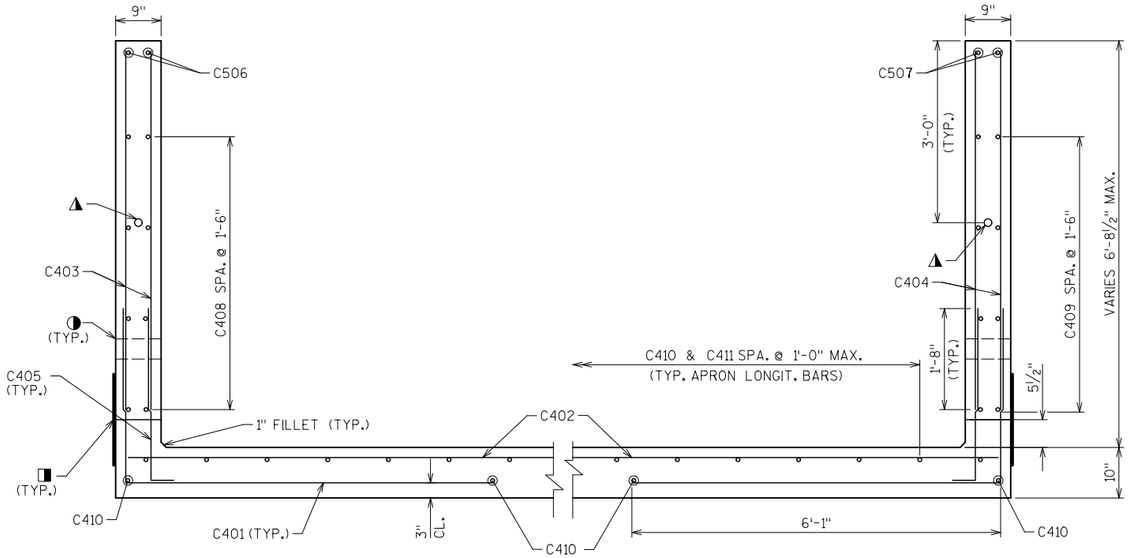
REINFORCEMENT DETAILS 2

SHEET 4 OF 7
410

FILE= P:\Transportation\US 10 WIS 441\CADD\sheets\Structures\C-70-54\Sheets\Final\04-C-70-54_Reinforcement 2.dgn
DATE:1-22-2014
I.D.

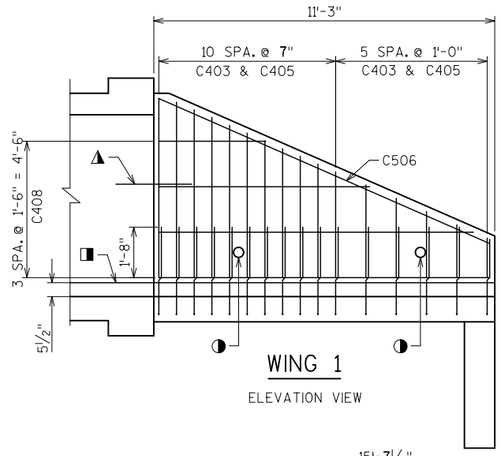
STATE PROJECT NUMBER

1517-07-72



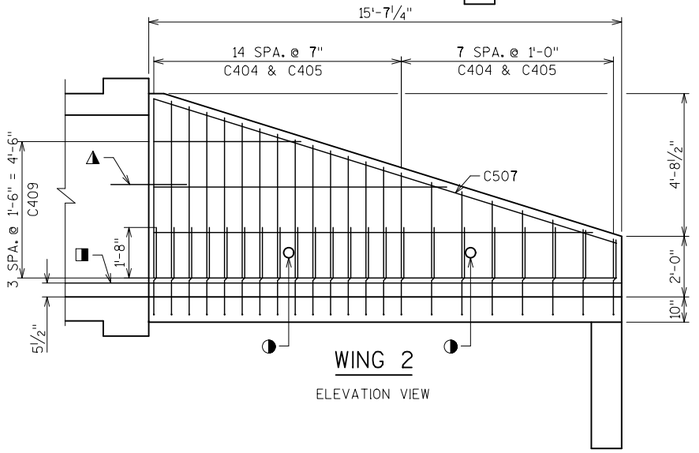
WING 1 WING 2

SECTION THRU WINGWALLS



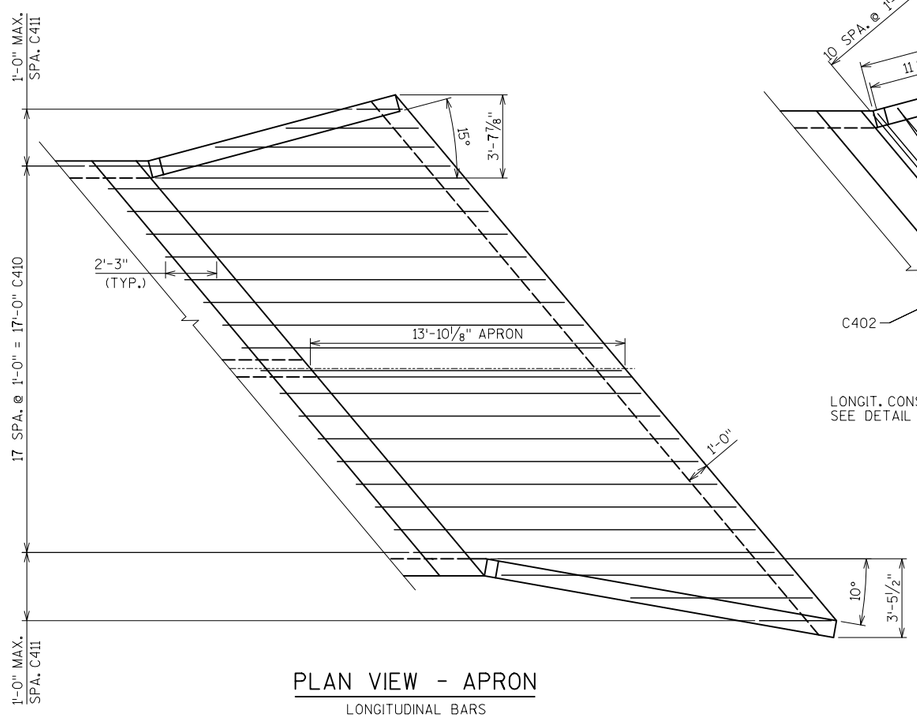
WING 1

ELEVATION VIEW



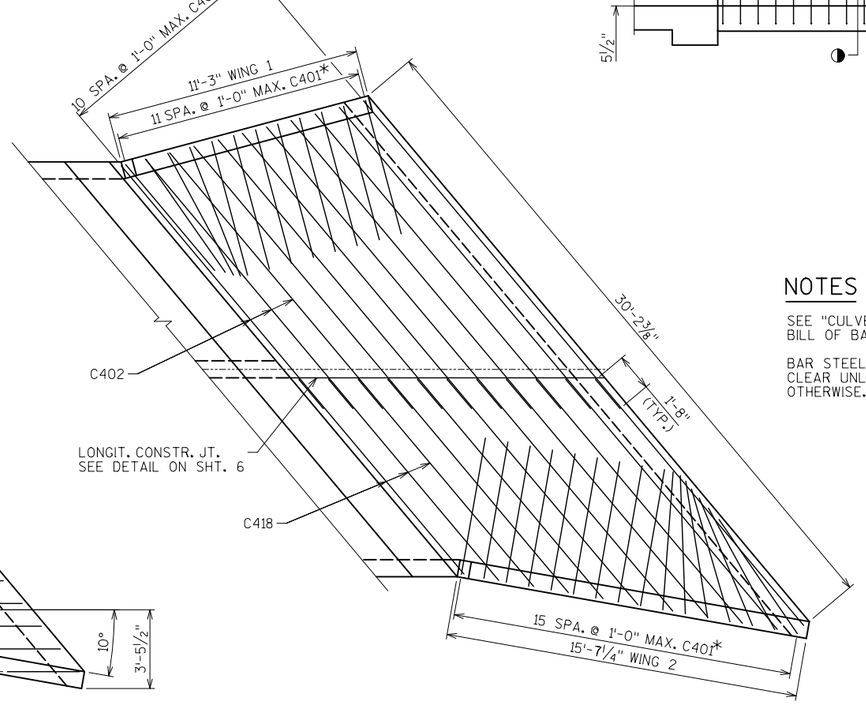
WING 2

ELEVATION VIEW



PLAN VIEW - APRON

LONGITUDINAL BARS



PLAN VIEW - APRON

TRANSVERSE BARS

NOTES

SEE "CULVERT DETAILS" SHEET FOR BILL OF BARS.

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

LEGEND

◨ 18" MIN. WIDTH RUBBERIZED MEMBRANE WATER-PROOFING FROM HORIZ. CONSTR. JT. TO TOP OF WINGWALL & ALONG HORIZ. CONSTR. JT. IN WING.

◭ 1" φ PLAIN (SMOOTH) ROUND DOWEL BAR, 2'-6" LONG, BETWEEN BARREL AND WINGS. EMBED 1'-3" INTO BARREL WALL. USE DEBONDER ON EXTENSION INTO WINGWALL. BEND AS REQUIRED ON BOX CELL WALL SIDE. ASTM A36 MATERIAL MAY BE SUBSTITUTED FOR AASHTO M31. INCIDENTAL TO BID ITEM "CONCRETE MASONRY CULVERTS."

* SPACE FANNED C401 BARS A MIN. OF 2¼".

◑ 4" DIA. WEEP HOLES @ APPROX. 6'-0" CTRS LOCATE AT APPROX. 1'-0" ABOVE NORMAL WATER LEVEL OR CONSTR. JT., WHICHEVER IS HIGHER. PLACE A SMALL PIECE OF GEOTEXTILE OVER WEEP HOLES TO PREVENT MIGRATION OF FINES.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE C-70-54

DRAWN BY MRL | PLANS CK'D. MJA

APRON & WINGWALL DETAILS

SHEET 5 OF 7
411

DATE: 1-22-2014
I.D.

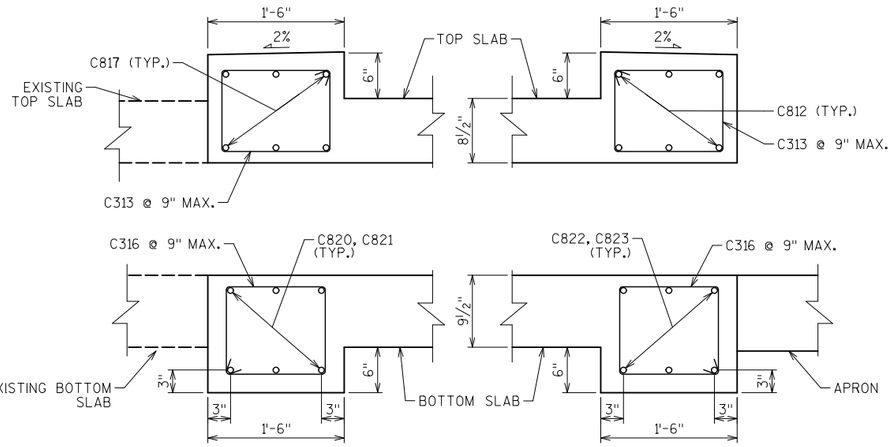
FILE= P:\Transportation\US 10 WIS 441\CADD\sheets\Structures\C-70-54\Sheets\Final\05-C-70-54_Apron.dgn

8

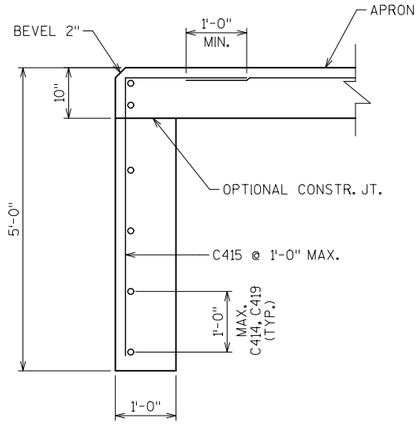
8

STATE PROJECT NUMBER

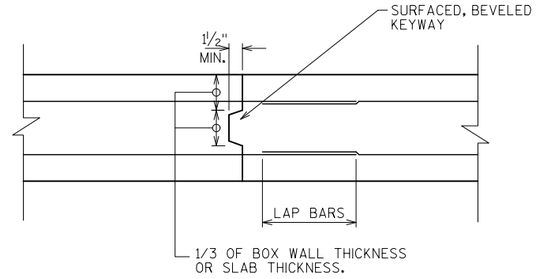
1517-07-72



HEADER DETAIL



CUT-OFF WALL DETAIL



CONSTRUCTION JOINT DETAIL

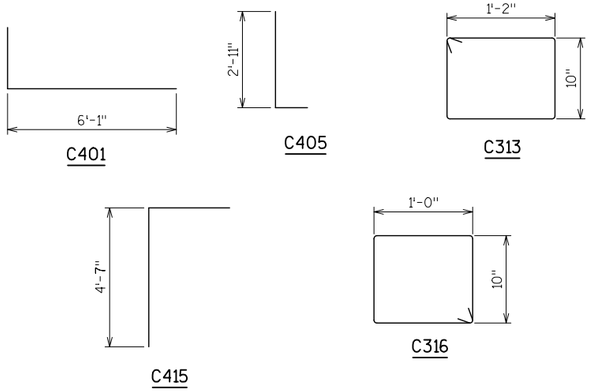
BILL OF BARS

ALL BARS IN THIS TABLE SHALL BE EPOXY COATED

BAR MARK	NO. REQ'D	LENGTH	BENT	BAR SERIES	LOCATION
C401	28	8'-11"	X		APRON CORNER
C402	11	15'-8"		X	APRON HORIZ.
C403	32	3'-7"		X	WING 1 VERT.
C404	44	3'-7"		X	WING 2 VERT.
C405	38	3'-6"	X		WINGS VERT. DOWELS
C506	2	11'-11"			WING 1 HORIZ.
C507	2	15'-11"			WING 2 HORIZ.
C408	8	7'-3"		X	WING 1 LONGIT.
C409	8	10'-0"		X	WING 2 LONGIT.
C410	22	15'-11"			APRON LONGIT.
C411	6	7'-5"		X	APRON LONGIT. @ ENDS
C812	6	23'-5"			HEADER HORIZ. TOP
C313	62	4'-5"	X		HEADER TOP SLAB VERT.
C414	6	17'-8"			CUT-OFF WALL HORIZ.
C415	31	6'-6"	X		CUT-OFF WALL VERT.
C316	62	4'-1"	X		HEADER BOT SLAB VERT.
C817	6	20'-4"			HEADER HORIZ. TOP
C418	11	12'-9"		X	APRON HORIZ.
C419	6	13'-10"			CUT-OFF WALL HORIZ.
C820	6	16'-0"			HEADER HORIZ. BOT
C821	6	9'-8"			HEADER HORIZ. BOT
C822	6	17'-7"			HEADER HORIZ. BOT
C823	6	11'-3"			HEADER HORIZ. BOT

BAR SERIES

BAR MARK	NO. REQ'D	LENGTH
C402	1 SERIES OF 11	13'-10" TO 17'-7"
C403	2 SERIES OF 16	1'-3" TO 5'-11"
C404	2 SERIES OF 22	1'-3" TO 5'-11"
C408	2 SERIES OF 4	3'-6" TO 10'-11"
C409	2 SERIES OF 4	4'-10" TO 15'-3"
C411	2 SERIES OF 3	2'-0" TO 12'-10"
C418	1 SERIES OF 11	11'-2" TO 14'-4"



BAR DETAILS

NOTES

* MASONRY ANCHORS TYPE L NO. 4 BARS

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE C-70-54

DRAWN BY MRL | PLANS CK'D. MJA

CULVERT DETAILS

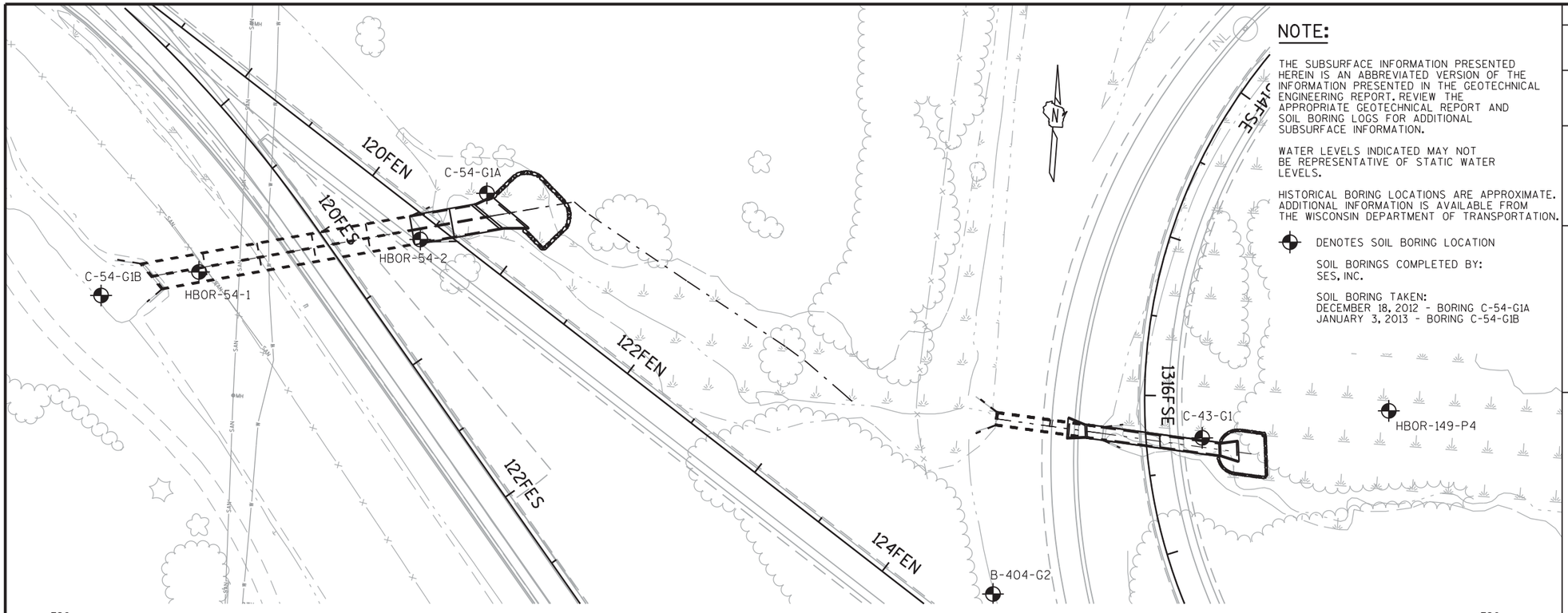
SHEET 6 OF 7
412

FILE= P:\Transportation\US 10 WIS 441\CADD\sheets\Structures\C-70-54\Sheets\Final\06-C-70-54_Culvert Details.dgn

DATE: 1/22/2014
I.D.

8

8



NOTE:

THE SUBSURFACE INFORMATION PRESENTED HEREIN IS AN ABBREVIATED VERSION OF THE INFORMATION PRESENTED IN THE GEOTECHNICAL ENGINEERING REPORT. REVIEW THE APPROPRIATE GEOTECHNICAL REPORT AND SOIL BORING LOGS FOR ADDITIONAL SUBSURFACE INFORMATION.

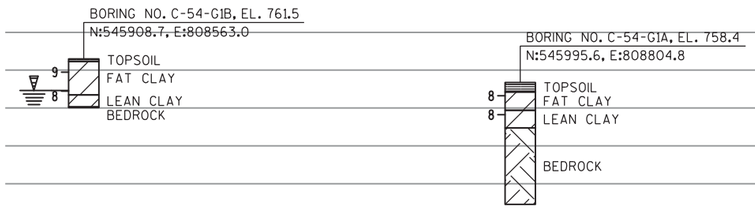
WATER LEVELS INDICATED MAY NOT BE REPRESENTATIVE OF STATIC WATER LEVELS.

HISTORICAL BORING LOCATIONS ARE APPROXIMATE. ADDITIONAL INFORMATION IS AVAILABLE FROM THE WISCONSIN DEPARTMENT OF TRANSPORTATION.

⊕ DENOTES SOIL BORING LOCATION

SOIL BORINGS COMPLETED BY:
SES, INC.

SOIL BORING TAKEN:
DECEMBER 18, 2012 - BORING C-54-G1A
JANUARY 3, 2013 - BORING C-54-G1B



STATE PROJECT NUMBER

1517-07-72

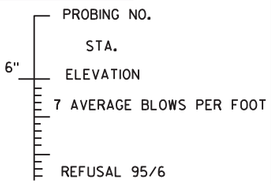
ABBREVIATIONS

F — FINE M — MEDIUM C — COARSE
WS — WEATHERED SO — SOUND

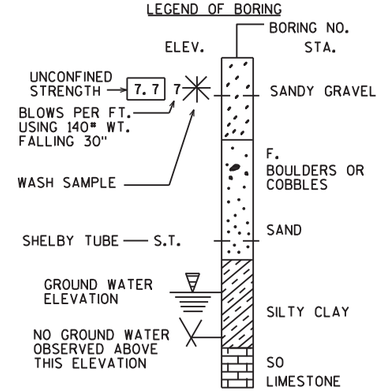
MATERIAL SYMBOLS

TOPSOIL / FILL, SILT, SANDSTONE
SAND, PEAT, LIMESTONE
GRAVEL, CLAY, IGNEOUS ROCK

LEGEND OF PROBING



LEGEND OF BORING



UNLESS OTHERWISE SPECIFIED, THE BLOWS PER FOOT AT THE LOCATIONS INDICATED ARE BASED ON DRIVING A 2" O.D. X 1.4" I.D. SPLIT SPOON SAMPLER WITH A 140# HAMMER HAVING A FREE FALL OF 30". THE BLOW COUNT IS TAKEN IN UNDISTURBED SOIL IMMEDIATELY BELOW A CASED OR OPEN HOLE ELIMINATING SIDE FRICTION ON THE DRIVE PIPE.

SUBSURFACE EXPLORATION FOR FOUNDATION DESIGN AND BIDDERS INFORMATION

TO OBTAIN RELATIVE DATA CONCERNING THE CHARACTER OF MATERIAL IN AND UPON WHICH THE FOUNDATION MIGHT BE BUILT, BORINGS AND/OR SOUNDINGS WERE MADE AT POINTS APPROXIMATELY AS INDICATED ON THIS DRAWING. THE DATA PRESENTED HEREIN REPRESENTS THE FINDINGS OF THE SUBSURFACE EXPLORATIONS MADE. HOWEVER, BECAUSE THE DEPTHS INVESTIGATED ARE LIMITED AND THE AREA OF THE BORINGS AND/OR SOUNDINGS IS VERY SMALL IN RELATION TO THE ENTIRE AREA, THE WISCONSIN DEPARTMENT OF TRANSPORTATION DOES NOT WARRANT CONDITIONS BELOW THE DEPTHS INVESTIGATED OR THAT THE CLASSIFICATION OF MATERIAL ENCOUNTERED IN THESE INVESTIGATIONS IS NECESSARILY TYPICAL OF THE ENTIRE SITE.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE C-70-54

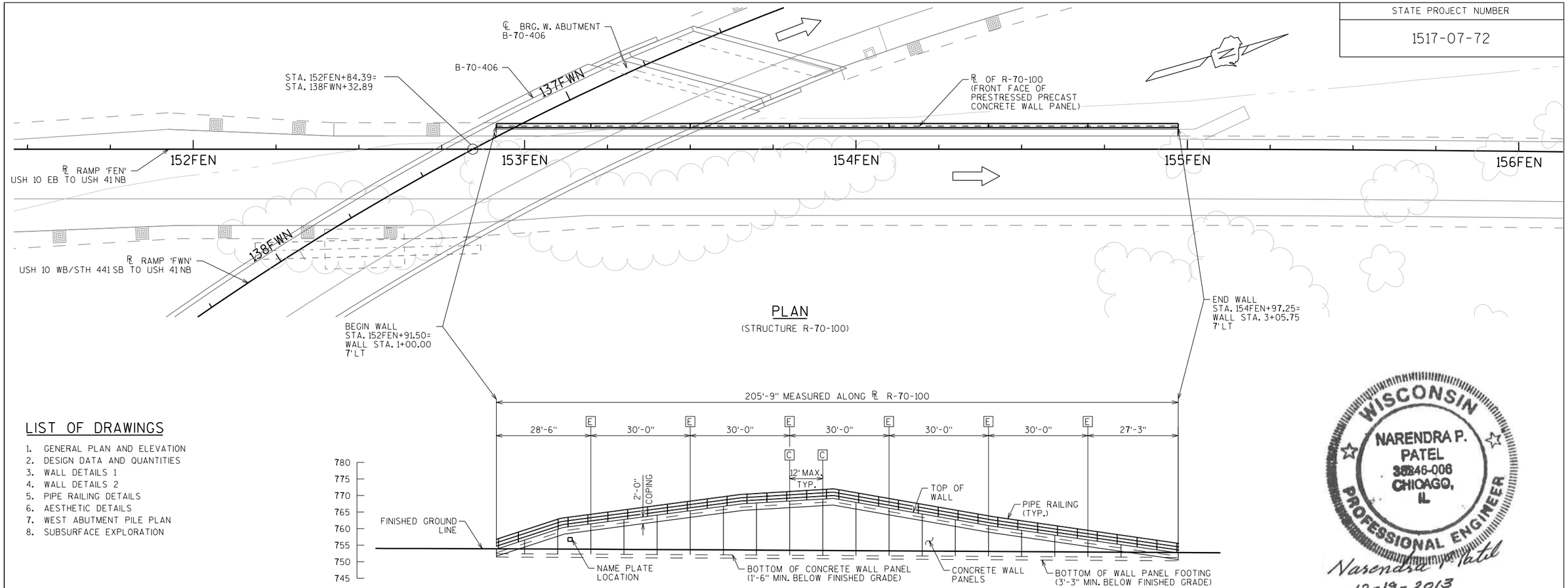
DRAWN BY DB | PLANS CK'D. BW

SUBSURFACE EXPLORATION

SHEET 7 OF 7

FILE NAME : I:\56537\AllContracts\2. Geotech\Subsurface Sheets\080227_se.dgn PLOT DATE : 8/26/2013 PLOT BY : dbaumann PLOT NAME : $FILE$ PLOT SCALE : 75:1

STATE PROJECT NUMBER
1517-07-72



PLAN
(STRUCTURE R-70-100)

LIST OF DRAWINGS

1. GENERAL PLAN AND ELEVATION
2. DESIGN DATA AND QUANTITIES
3. WALL DETAILS 1
4. WALL DETAILS 2
5. PIPE RAILING DETAILS
6. AESTHETIC DETAILS
7. WEST ABUTMENT PILE PLAN
8. SUBSURFACE EXPLORATION

GENERAL NOTES

DRAWINGS SHALL NOT BE SCALED.

ALL STATIONS AND ELEVATIONS ARE IN FEET. ELEVATIONS ARE REFERENCED TO THE NAVD 88 DATUM.

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

BAR STEEL REINFORCEMENT TO BE EPOXY COATED.

PROVIDE COMPLETE DESIGN, PLANS, DETAILS, SPECIFICATIONS, AND SHOP DRAWINGS FOR THE RETAINING WALL, AND MSE WALL REINFORCEMENT 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 SHALL BE INCLUDED IN THE BID ITEMS "WALL WIRE FACED MECHANICALLY STABILIZED EARTH LRFD/QMP PILOT" AND "PRESTRESSED PRECAST CONCRETE WALL PANEL".

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 RETAINING WALL IS TO BE DESIGNED USING THE ELEVATIONS GIVEN IN THE GEOMETRY TABLE.

DESIGN FOR RETAINING WALL TO PROVIDE FOR A FINISHED GRADE SLOPE BEHIND THE WALL AS SHOWN IN THE ROADWAY CROSS SECTIONS.

DESIGN RETAINING WALL FOR A LIVE LOAD SURCHARGE OF 240 PSF.

THE FIRST DIGIT OF A THREE DIGIT BAR NO. AND THE FIRST TWO DIGITS OF A FOUR DIGIT BAR NO. SIGNIFIES THE BAR SIZE.

JOINT FILLER SHALL CONFORM TO THE REQUIREMENTS OF A.A.S.H.T.O. DESIGNATION M 153, TYPE I, II OR III OR A.A.S.H.T.O. DESIGNATION M 213.

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.

BEVEL EXPOSED EDGES OF CONCRETE 3/4" UNLESS NOTED OTHERWISE.

HOT DIP GALVANIZE ALL STRUCTURAL STEEL CARBON IN ACCORDANCE WITH ASTM A123 WHERE SHOWN.

AT THE ENDS OF WALL SEAL CAVITY BETWEEN WIRE FACE WALL AND PRECAST CONCRETE WALL PANEL WITH COLUMN OF CONCRETE 1'-6" WIDE. INCIDENTAL TO "PRESTRESSED PRECAST CONCRETE WALL PANELS".

ELEVATION
(LOOKING WEST AT FRONT FACE OF WALL)

PROVIDE A RUBBED SURFACE TREATMENT IN ACCORDANCE WITH SECTION 502.3.7.3 TO ALL PERMANENTLY EXPOSED SURFACES OF CONCRETE MASONRY RETAINING WALLS THAT ARE NOT PROVIDED WITH A FORMLINER PRODUCED PATTERN.

THE SUBSURFACE CONDITIONS AT THE BASE OF THE WALL SHALL BE REVIEWED BY THE NORTHEAST REGION SOILS ENGINEER TO DETERMINE IF THE MATERIALS HAVE ADEQUATE STRENGTH TO SUPPORT THE MSE WALL WITH PRESTRESSED PRECAST CONCRETE TILT-UP PANEL FACING.

THE COST OF FURNISHING AND PLACING THE FOOTING UNDER THE PRESTRESSED PRECAST WALL PANELS IS INCLUDED IN THE BID ITEM "PRESTRESSED PRECAST CONCRETE WALL PANEL."

THE COST OF CONCRETE AND REINFORCEMENT IN COPING IS INCLUDED IN THE BID ITEM "PRESTRESSED PRECAST CONCRETE WALL PANEL".

ALL STATIONS ARE ALONG THE ℄ FOR R-70-100 AND ARE ALONG THE FRONT FACE OF WALL UNLESS SHOWN OTHERWISE.

SEE SPECIAL PROVISIONS AND AESTHETIC DETAILS SHEET FOR AESTHETIC TREATMENTS TO THE WALL.

DO NOT ALLOW CONCRETE OR FILL TO DROP OR ACCUMULATE INTO WALL PANEL CAVITY.

DESIGN MSE WALL FOR A SUCTION LOAD OF 20 PSF ACTING ON THE CONCRETE WALL PANELS.

SEE SHEET "DESIGN DATA AND QUANTITIES" FOR GEOMETRY TABLE.

ALLOW THE UNDERLYING NATIVE SOILS TO CONSOLIDATE UNDERNEATH THE MSE REINFORCED FILL PRIOR TO CONSTRUCTING THE WALL FACE. PROVIDE A WAITING PERIOD OF 3 MONTHS BEFORE PLACEMENT OF THE CONCRETE PANELS.

SEE ROADWAY PLANS FOR SETTLEMENT MONITORING DETAILS.

SEE SHEET "PIPE RAILING DETAILS" FOR PIPE RAILING DETAILS.

BASED ON CONTRACTOR MEANS AND METHODS, ANY GAPS BETWEEN THE WALL PANELS AND FOOTING THAT EXPOSE THE MSE WALL SHALL BE FILLED WITH MASONRY MATERIAL OR AS APPOVED BY THE ENGINEER. ALL LABOR AND MATERIALS NECESSARY TO COMPLETE THIS WORK ARE CONSIDERED INCIDENTAL TO THE WALL CONSTRUCTION.

WALL PANELS UNDER 7'-0" IN HEIGHT DO NOT REQUIRE PRESTRESSING.

DESIGN DATA

LIVE LOAD
LIVE LOAD SURCHARGE (ROADWAY).....240 PSF

MATERIAL PROPERTIES
CONCRETE MASONRY RETAINING WALL.....F'C = 3,500 PSI

PRESTRESSED PRECAST CONCRETE WALL PANELS.....F'C = 5,000 PSI
BAR STEEL REINFORCEMENT.....F'C = 60,000 PSI

FOUNDATION DATA
FACTORED SOIL BEARING RESISTANCE MSE WALL.....4,400 PSF

NOTE: THE WALL HAS BEEN DESIGNED FOR TRAFFIC LOADING ONLY. IF DURING CONSTRUCTION HEAVY EQUIPMENT IS OPERATING IN CLOSE PROXIMITY TO THE WALL OR IF MATERIAL IS STOCKPILED NEAR THE WALL, THE RELIABILITY FOR THIS WALL WILL SIGNIFICANTLY DECREASE.

LEGEND

[C] = CONTRACTION JOINT

[E] = EXPANSION JOINT IN CIP COPING

⇨ = DIRECTION OF TRAFFIC

WISCONSIN
NARENDRA P. PATEL
38246-006
CHICAGO, IL
PROFESSIONAL ENGINEER
Narendra P. Patel
12-19-2013

NO.	DATE	REVISION	BY

URS
342 North Water Street
7th Floor
Milwaukee, WI 53202
(414) 831-4100

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

ACCEPTED William C. Dreher KAR 02/21/14
CHIEF STRUCTURES DESIGN ENGINEER DATE

STRUCTURE R-70-100

RETAINING WALL AT WEST ABUTMENT OF B-70-406

COUNTY	TOWN/~~CITY/VILLAGE~~
WINNEBAGO	MENASHA

DESIGN SPEC.
AASHTO LRFD DESIGN SPEC.

DESIGNED BY	DESIGN CK'D.	DRAWN BY	PLANS CK'D.
KJZ	NPP	KJZ	NPP

GENERAL PLAN AND ELEVATION

SHEET 1 OF 8
414

NE REGION CONTACT - SCOTT EBEL (920) 492-2240
BUREAU OF STRUCTURES CONTACT - WILLIAM DREHER (608) 266-8489
CONSULTANT CONTACT - MICHAEL ARNOLD (414) 831-4179

8

8

FILE= Q:\WisDOT_12345678_10-441\Plans\R-70-100\Sheets\01-R-70-100_gp.dgn
DATE: 12/19/2013
I.D.

STATE PROJECT NUMBER

1517-07-72

GEOMETRY TABLE

WALL STATION	RAMP FEN STATION	OFFSET TO R/L OF WALL	TOP OF WALL	FINISHED GRADE
1+00.00	152+91.50	7.0' LT	753.77	753.77
1+08.50	153+00.00	7.0' LT	756.60	753.74
1+18.50	153+10.00	7.0' LT	759.80	753.70
1+28.50	153+20.00	7.0' LT	761.44	753.65
1+38.50	153+30.00	7.0' LT	762.77	753.61
1+48.50	153+40.00	7.0' LT	764.09	753.56
1+58.50	153+50.00	7.0' LT	765.41	753.51
1+68.50	153+60.00	7.0' LT	766.73	753.45
1+78.50	153+70.00	7.0' LT	767.74	753.40
1+88.50	153+80.00	7.0' LT	768.33	753.34
1+98.50	153+90.00	7.0' LT	768.93	753.28
2+08.50	154+00.00	7.0' LT	767.93	753.22
2+18.50	154+10.00	7.0' LT	766.18	753.16
2+28.50	154+20.00	7.0' LT	764.43	753.11
2+38.50	154+30.00	7.0' LT	762.81	753.05
2+48.50	154+40.00	7.0' LT	761.21	752.99
2+58.50	154+50.00	7.0' LT	759.60	752.93
2+68.50	154+60.00	7.0' LT	758.03	752.87
2+78.50	154+70.00	7.0' LT	756.59	752.82
2+88.50	154+80.00	7.0' LT	755.15	752.76
2+98.50	154+90.00	7.0' LT	753.70	752.70
3+05.75	154+97.25	7.0' LT	752.66	752.66

WALL EXTERNAL AND OVERALL STABILITY EVALUATION

WALL DIMENSIONS			
WALL HEIGHT [1] (FEET)	10.0	14.7	17.7
EXPOSED WALL HEIGHT (FEET)	8.5	13.2	16.2
LENGTH OF REINFORCEMENT (FEET)	10.0	14.7	14.2
LENGTH OF REIN./WALL HEIGHT	1.0	1.0	0.8
DESIGN SLOPE ANGLE AT FRONT (DEGREE)	0	0	0
DESIGN SLOPE ANGLE AT BACK (DEGREE)	26.5	26.5	20
WALL SECTION FOR ANALYSIS	153FEN+25.00	153FEN+60.00	153FEN+90.00
APPLICABLE WALL STATION RANGE	1+00.00 TO 1+68.50	1+68.50 TO 1+80.00	1+80.00 TO 3+05.74
APPLIED BORING LOG	B406-G7	R100-G1	R100-G1
CAPACITY TO DEMAND RATIO [3] (>= 1.0) AND FACTORED BEARING RESISTANCE [3] (PSF)			
GLOBAL STABILITY	NOT ANALYZED	1.0*	1.01 *
ECCENTRICITY	2.21	2.04	1.01 *
SLIDING	1.50	1.47	1.17
BEARING RESISTANCE	1.92 *	1.46	1.07
FACTORED BEARING RESISTANCE (PSF)	4400	4400	4400

NOTES

1. THE WALL HEIGHT INCLUDES AN EMBEDMENT OF 1.5 FEET

3. SELECTION OF THE LOWER VALUE BETWEEN DRAINED AND UNDRAINED ANALYSIS RESULTS

* CONTROLLING DESIGN ISSUE

THE LENGTHS PROVIDED IN THE TABLE ARE THE MINIMUM REQUIRED REINFORCEMENT LENGTHS BASED UPON THE MINIMUM DESCRIBED IN THE WALL SYSTEM SPECIAL PROVISIONS OR EXTERNAL AND OVERALL STABILITY AT THE DESIGNATED LOCATIONS. THESE DESIGNATED LOCATIONS REPRESENT TYPICAL AND CRITICAL WALL LOCATIONS, BUT SHALL NOT BE CONSIDERED ALL INCLUSIVE. THE CONTRACTOR DESIGN LENGTHS SHALL MEET OR EXCEED THE MINIMUM VALUES REPRESENTED IN THE TABLE AT THESE DESIGNATED LOCATIONS. FINAL DESIGN FOR INTERNAL STABILITY AND EXTERNAL SLIDING & ECCENTRICITY AT OTHER WALL LOCATIONS IS THE RESPONSIBILITY OF THE CONTRACTOR'S WALL DESIGNER.

SOIL PARAMETERS

STRATUM LOCATION & SOIL DESCRIPTIONS	UNIT WEIGHT (PCF)	UNDRAINED PARAMETERS		DRAINED PARAMETERS	
		COHESION, C PSF	FRICTION ANGLE, ϕ DEGREES	COHESION, C' PSF	FRICTION ANGLE, ϕ ' DEGREES
GRANULAR BACKFILL (WITHIN REINFORCING ZONE)	120	NA	NA	0	30
FILL BEHIND AND BELOW THE REINFORCING ZONE	120	NA	NA	0	31
EMBANKMENT FILL	130	1500	0	0	30
STRUCTURAL FILL	132	NA	NA	0	32
R-100-G1 (ROADWAY STATION 153FEN+48.80; APPROXIMATELY 7 FEET WEST OF FEN R/L)					
STRATUM LOCATION & SOIL DESCRIPTIONS	UNIT WEIGHT (PCF)	UNDRAINED PARAMETERS		DRAINED PARAMETERS	
		COHESION, C PSF	FRICTION ANGLE, ϕ DEGREES	COHESION, C' PSF	FRICTION ANGLE, ϕ ' DEGREES
M. STIFF TO STIFF FAT CLAY (EL. 752.4 - EL. 746.4 FT)	120	1500	0	50	26
V. STIFF TO HARD FAT CLAY (EL. 746.4 - EL. 739.4 FT)	125	2000	0	10	30
M. STIFF FAT CLAY (EL. 739.4 - 733.4 FT)	119	1500	0	50	26
DOLOMITE BEDROCK	150	NA	NA	NA	NA
ASSUMED DESIGN GROUNDWATER ELEVATION = 745					
B406-G7 (APPROXIMATE ROADWAY STATION 153FEN+25; APPROXIMATELY 7.5 FEET WEST OF FEN R/L)					
STRATUM LOCATION & SOIL DESCRIPTIONS	UNIT WEIGHT (PCF)	UNDRAINED PARAMETERS		DRAINED PARAMETERS	
		COHESION, C PSF	FRICTION ANGLE, ϕ DEGREES	COHESION, C' PSF	FRICTION ANGLE, ϕ ' DEGREES
FILL-LEAN CLAY (EL. 752.5 - EL. 749.8 FT)	130	2000	0	0	30
V. STIFF TO HARD LEAN CLAY (EL. 749.8 - EL. 744.7 FT)	125	2000	0	10	30
V. SOFT TO SOFT FAT CLAY (EL. 744.7 - EL. 738.0 FT)	105	350	0	50	24
PEAT (EL. 738.0 - 737.5 FT)	90	350	0	50	24
V. STIFF LEAN CLAY (EL. 737.5 - 733.5 FT)	125	1500	0	50	28
ASSUMED DESIGN GROUNDWATER ELEVATION = 745					

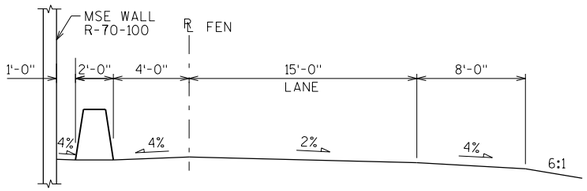
NOTES: NA = NOT APPLICABLE
PSF = POUNDS PER SQUARE FOOT
PCF = POUNDS PER CUBIC FOOT
MOIST UNIT WEIGHT AND SATURATED UNIT WEIGHT ASSUMED ABOVE AND BELOW THE ASSUMED GROUNDWATER TABLE, RESPECTIVELY.

BENCHMARK

	NO.	LOCATION	DESCRIPTION	ELEVATION
EXIST.	LA6	N: 547470.613 E: 811311.339	NE FLANGE BOLT HYD ON EAST SIDE OF LAKE DRIVE BETWEEN DWYS #1644 & 1637	747.78
	LA7	N: 547049.834 E: 811198.560	NE TAG BOLT HYD ON EAST SIDE OF LAKE DRIVE JUST NORTH OF DWY #1583	749.45
NEW	41-D	STA 1331SB+95.23, 89.7'LT	SIGN BRIDGE NORTH OF 441 BRIDGE OVER ON & OFF RAMP LANES, NW CORNER OF CONCRETE BASE BETWEEN ON OFF RAMP LANES	761.25
	41-E	STA 1364NB+4.11, 47.1'RT	WIS DOT DISK IN SE PARAPET WALL OF 41 BRIDGE OVER CREEK, NORTH OF 441 BRIDGE, B-70-134-92 PLATE; DISK STAMPED 751.31	751.32

TOTAL ESTIMATED QUANTITIES

ITEM NUMBER	BID ITEM	UNIT	QUANTITY
513.2000	RAILING PIPE R-70-100	LS	1
516.0500	RUBBERIZED MEMBRANE WATERPROOFING	SY	12
517.1010.S.701	CONCRETE STAINING R-70-100	SF	2,132
517.1050.S.701	ARCHITECTURAL SURFACE TREATMENT R-70-100	SF	1,714
550.1120	PILING STEEL HP 12 - INCH X 53 LB	LF	407
612.0406	PIPE UNDERDRAIN WRAPPED 6-INCH	LF	206
SPV.0165.850	PRESTRESSED PRECAST CONCRETE WALL PANEL	SF	1,823
SPV.0165.852	WALL WIRE FACED MECHANICALLY STABILIZED EARTH LRFD/QMP PILOT	SF	1,823
	NON BID ITEM		
	FILLER	SIZE	1/2", 3/4" & 1"
	NAME PLATE	EACH	0
	EXPANDED POLYSTYRENE	SIZE	1"

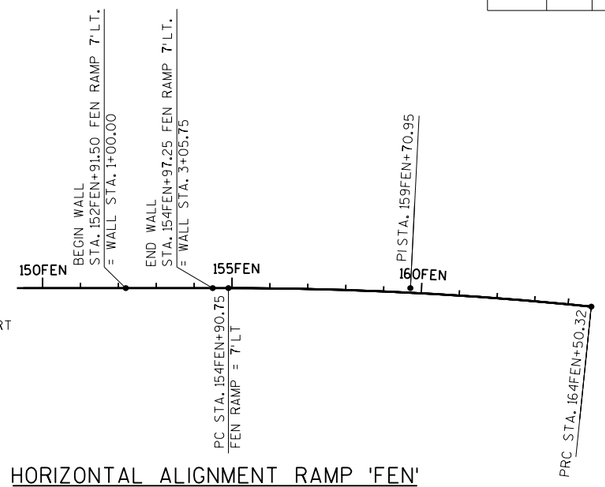


TYPICAL SECTION - RAMP 'FEN'

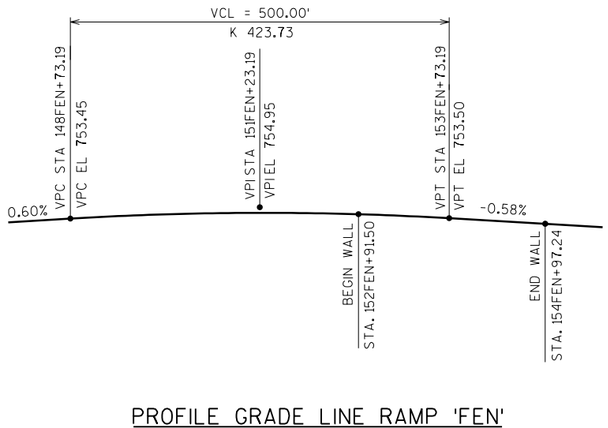
(LOOKING UP STATION)

CURVE FEN4

PC = 154FEN+90.75
X = 810906.93
Y = 547263.79
PI = 159FEN+70.95
X = 811031.35
Y = 547727.60
PRC = 164FEN+50.32
X = 811202.33
Y = 548176.33
R = 9410.00
DELTA = 5°50'34" RT
D = 0°36'32"
L = 959.58
T = 480.20
BK = N 15°01'00" E
AH = N 20°51'33" E



HORIZONTAL ALIGNMENT RAMP 'FEN'



PROFILE GRADE LINE RAMP 'FEN'

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE R-70-100

DRAWN BY KJZ | PLANS CK'D. NPP

DESIGN DATA AND QUANTITIES

SHEET 2 OF 8
415

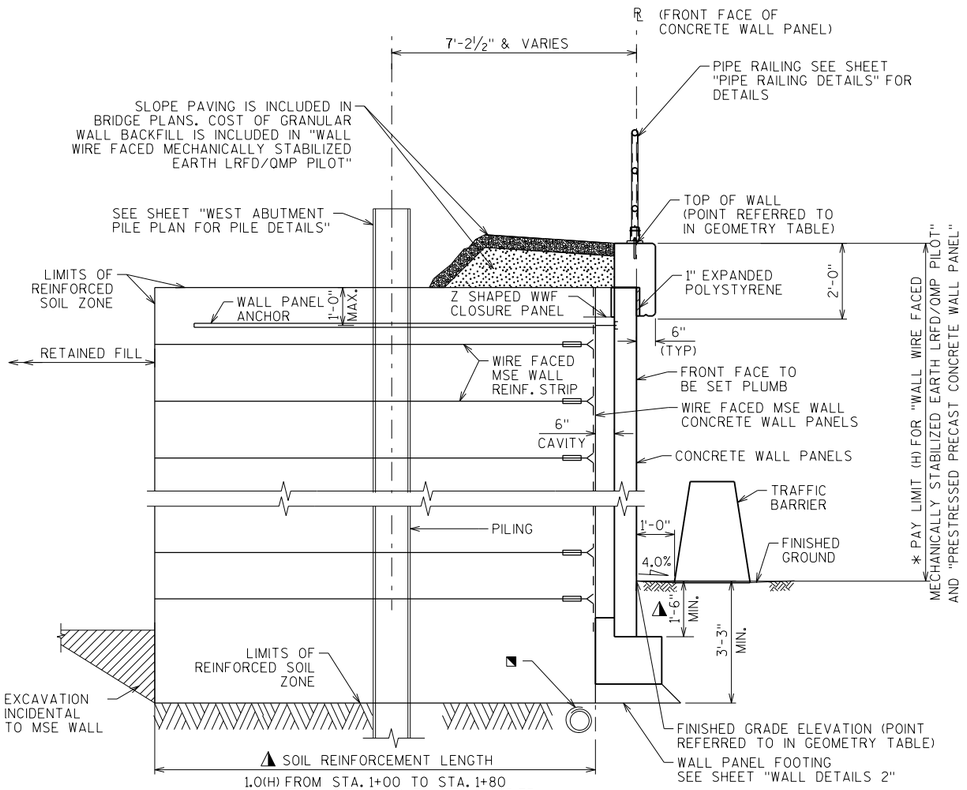
DATE: 12/19/2013
I.D.

FILE= 0:\WisDOT_12345678_10-441\Plans\R-70-100\Sheets\02-R-70-100_qu.dgn

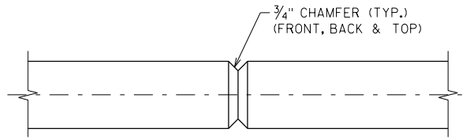
8

8

STATE PROJECT NUMBER
1517-07-72

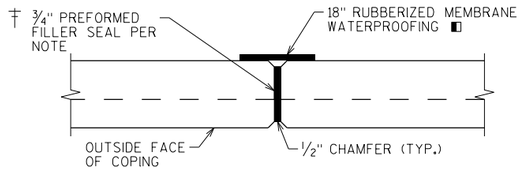


WALL SECTION AT WEST ABUTMENT



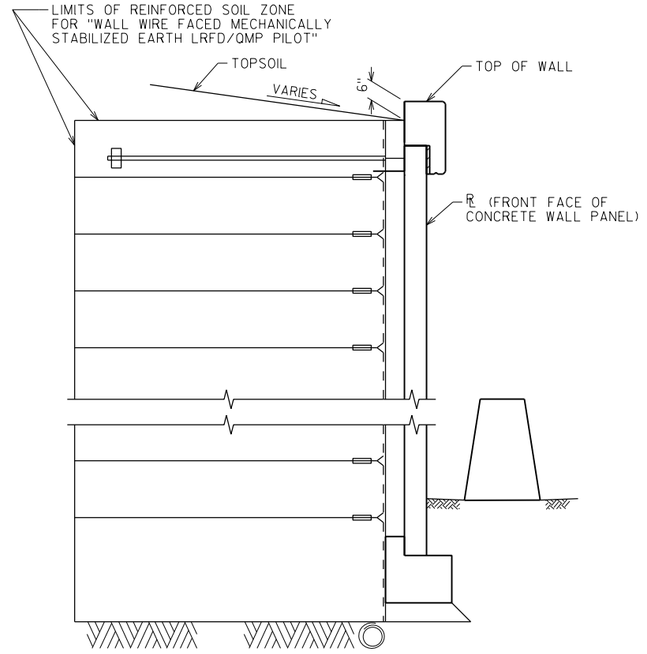
COPING CONTRACTION JOINT

DO NOT RUN BAR STEEL THRU JOINT.
MAX. SPACING OF JOINT = 12'



COPING EXPANSION JOINT

EXPANSION JOINTS TO BE SPACED AS SHOWN ON SHEET 1. MAX. SPACING 50'-0". LOCATE EXPANSION JOINTS OVER WALL JOINTS. DO NOT RUN BAR STEEL THRU JOINT, EXCEPT FOR DOWEL BARS. JOINT TO EXTEND FULL DEPTH OF COPING.



WALL SECTION BEYOND ABUTMENT AREA

(DETAILS NOT SHOWN ARE SIMILAR TO "WALL SECTION AT WEST ABUTMENT")

LEGEND

* THE PLAN QUANTITY FOR THE BID ITEM "WALL WIRE FACED MECHANICALLY STABILIZED EARTH LRFD/QMP PILOT" IS BASED ON A WALL HEIGHT MEASURED FROM THE FINISHED GRADE ELEVATION TO THE TOP OF THE WALL AS SHOWN. LEVELING PAD CONCRETE AND REINFORCEMENT TO BE INCLUDED IN THE BID ITEM "PRESTRESSED PRECAST CONCRETE WALL PANEL". COST OF COPING CONCRETE AND REINFORCEMENT TO BE INCLUDED WITH BID ITEM "WALL WIRE FACED MECHANICALLY STABILIZED EARTH LRFD/QMP PILOT".

◥ PIPE UNDERDRAIN WRAPPED (6-INCH) SLOPE 0.5% MIN. TO SUITABLE DRAINAGE. ATTACH RODENT SHIELDS AT EXPOSED ENDS OF PIPE UNDERDRAIN. SEE RODENT SHIELD DETAIL.

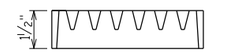
◭ MINIMUM EMBEDMENT BASED ON SITE SPECIFIC PARAMETERS. FIELD EMBEDMENTS SHALL MEET OR EXCEED THE MINIMUM EMBEDMENT. FIELD EMBEDMENTS BELOW MINIMUM EMBEDMENT SHALL NOT BE INCLUDED IN THE PAY LIMITS.

† SEAL ALL EXPOSED HORIZ. & VERT. SURFACES OF FILLER WITH NON-STAINING, NON-BITUMINOUS JOINT SEALER. COLOR TO MATCH STAIN. (1" DEEP AND HOLD ⅛" BELOW SURFACE OF CONC.)

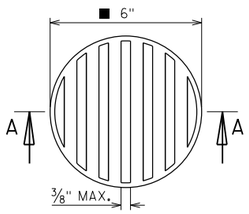
◧ RUBBERIZED MEMBRANE WATERPROOFING TO EXTEND FROM TOP OF COPING TO 6" BELOW TOP OF PANELS.

■ DIMENSIONS ARE APPROXIMATE, THE GRATE IS SIZED TO FIT INTO A PIPE COUPLING. FASTEN TO THE PIPE COUPLING WITH TWO OR MORE NO. 10 X 1-INCH STAINLESS STEEL SHEET METAL SCREWS.

☆ ALL JOINTS SHALL COINCIDE WITH PANEL JOINT ON FRONT FACE.



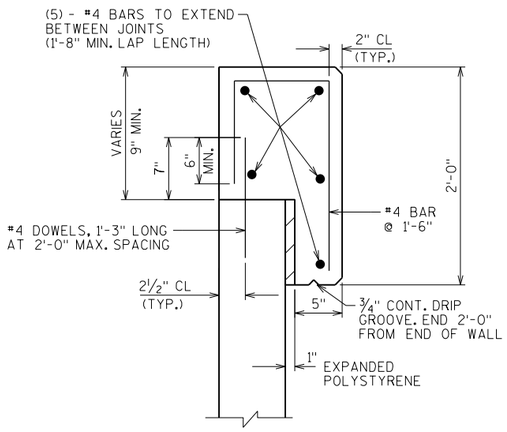
SECTION A-A



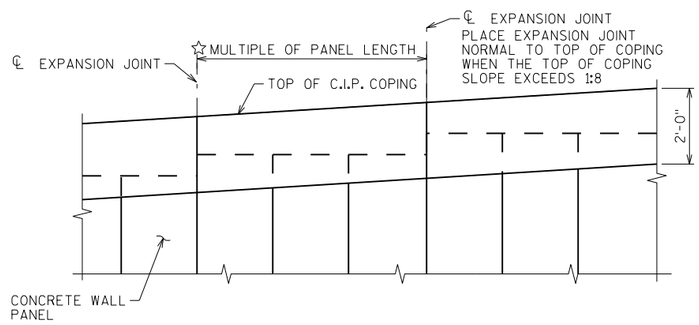
RODENT SHIELD

ORIENT SHIELD SO SLOTS ARE VERTICAL.

COST OF RODENT SHIELD AND ALL FITTINGS TO BE INCLUDED IN THE BID ITEM "PIPE UNDERDRAIN WRAPPED 6-INCH".



CONCRETE COPING DETAIL



C.I.P. COPING PARTIAL ELEVATION

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE R-70-100

DRAWN BY KJZ | PLANS CK'D. NPP

WALL DETAILS 1

SHEET 3 OF 8
416

8

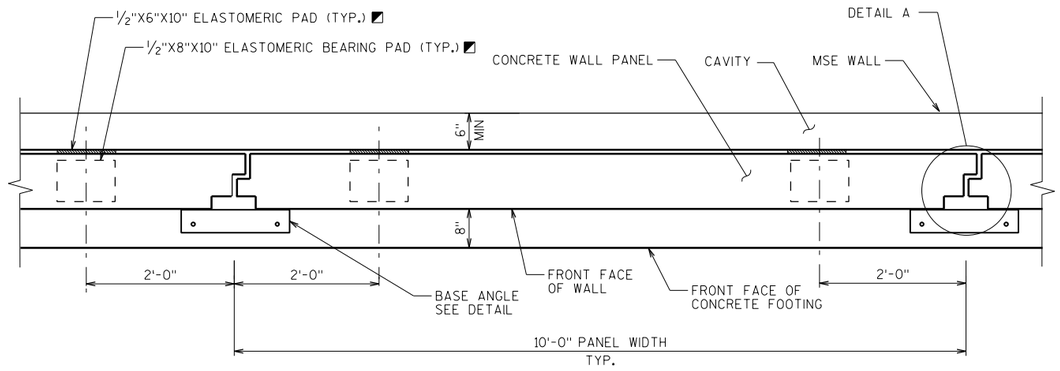
8

FILE= O:\WisDOT_12345678_10-441\Plans\R-70-100\Sheets\03_R-70-100_ts.dgn

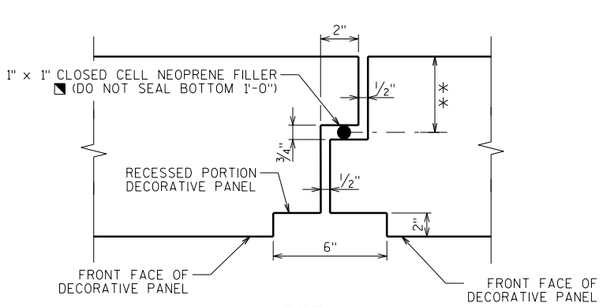
DATE: 12/19/2013
I.D.

STATE PROJECT NUMBER

1517-07-72

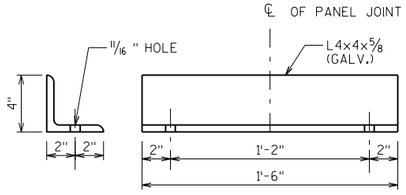


TYPICAL WALL PANEL CONNECTION



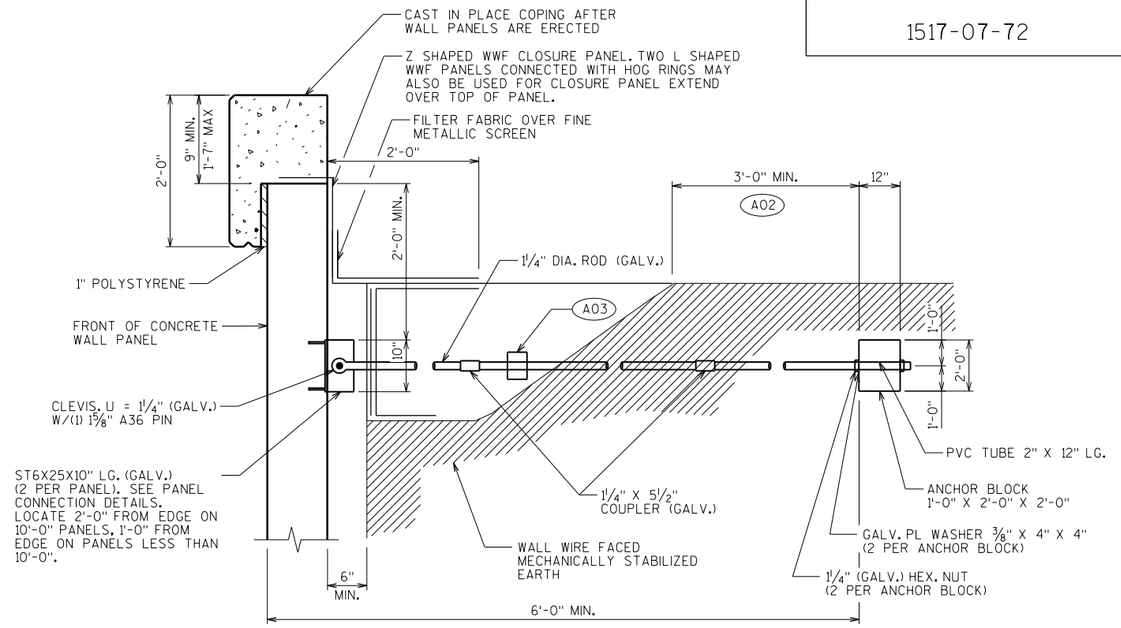
DETAIL A

** 4" FOR 9½" PANEL
3" FOR 7½" PANEL



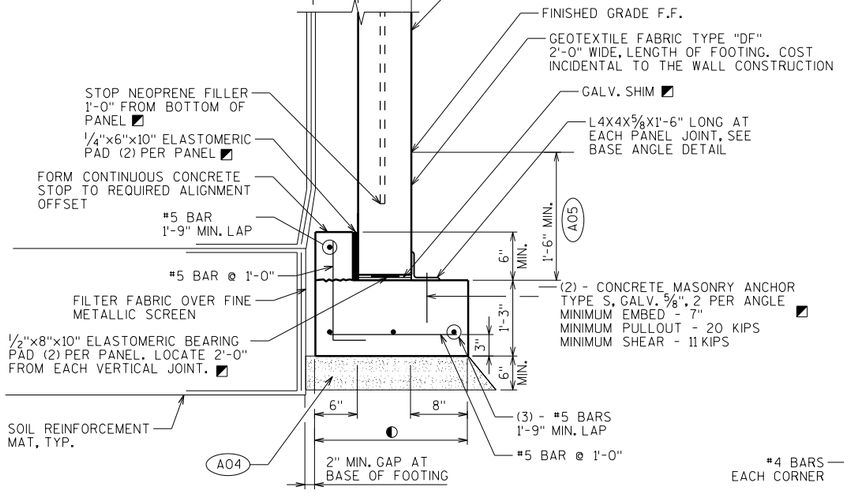
BASE ANGLE DETAIL

(1 AT EACH PANEL JOINT) ◩



WALL PANEL ANCHOR DETAIL

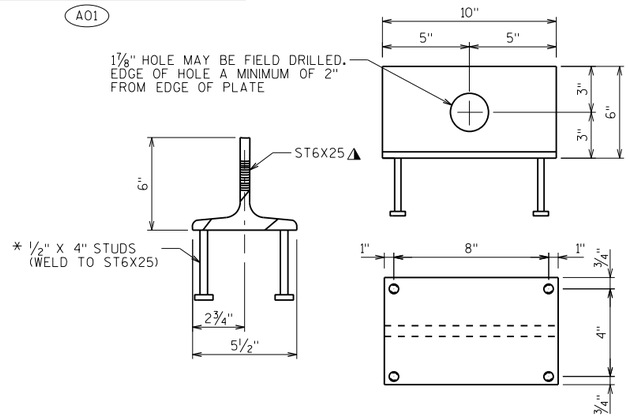
A01



WALL PANEL FOOTING DETAIL

CONCRETE AND REINFORCEMENT INCLUDED IN THE BID ITEM "PRESTRESSED PRECAST CONCRETE WALL PANEL"

ANCHOR BLOCK DETAIL



PANEL CONNECTION DETAILS

(2 PER PANEL)

◭ S12X50 (GALV.) CUT IN ½ TO FORM "T" SECTION. BF = 5.477" TW = 0.687".

* AS AN ALTERNATE, ½" TYPE "S" ANCHORS MAY BE USED IN PLACE OF THE 4" STUDS.

ST6X25 MAY BE WELDED TO ¾" THICK PLATE WITH (4) ½" X 4" STUDS ANCHORED IN PRECAST PANEL. RESTORE ZINC COATING AROUND ANY WELDED AREAS. SUBMIT DETAILS FOR APPROVAL BY ENGINEER.

LEGEND

(A01) WALL PANEL ANCHOR SYSTEM INCLUDES ANCHOR BLOCK, ANCHOR BLOCK COUPLER, 1¼" DIA. ANCHOR ROD, CLEVIS, AND OTHER PANEL CONNECTION COMPONENTS. DESIGN, DETAILING, AND FURNISHING OF THESE ITEMS IS INCLUDED IN THE BID ITEM "PRESTRESSED PRECAST CONCRETE WALL PANEL."

INSTALLATION OF THESE ITEMS IS INCLUDED IN THE BID ITEM "WALL WIRE FACED MECHANICALLY STABILIZED EARTH LRFD/OMP PILOT."

(A02) DESIGN LENGTH TO PROVIDE REQUIRED HORIZONTAL CAPACITY OF ANCHOR ASSEMBLY. MINIMUM OF 3'-0" OF COMPACTED FILL IN FRONT OF ANCHOR BLOCK PRIOR TO WALL PANEL ERECTION. ROD MIN. 2'-0" BELOW FINISH GRADE.

(A03) OPTIONAL MULTIDIRECTIONAL CONNECTOR MAY BE USED TO FACILITATE ALIGNMENT AT THE CONNECTION. CONNECTOR TO BE CORROSION RESISTANT AND DEVELOP 100% OF THE ULTIMATE STRENGTH OF 1¼" DIA. BAR)

(A04) BASE AGGREGATE OPEN GRADED, 6" MIN. INCIDENTAL TO BID ITEM "WALL CONCRETE PANEL MECHANICALLY STABILIZED EARTH LRFD/OMP PILOT".

(A05) MINIMUM DIMENSION FROM FINISHED GRADE AT FRONT FACE OF WALL TO BOTTOM OF WALL PANEL FOOTING IS SHOWN. THE FOOTING MAY BE CONSTRUCTED ON A SLOPE PARALLEL TO THE PROPOSED GRADE, OR MAY BE STEPPED. THE CONTRACTOR SHALL COORDINATE CONSTRUCTION OF THE WALL PANEL FOOTING WITH FABRICATION OF THE CONCRETE PANELS.

◩ INCLUDED IN THE BID ITEM "PRESTRESSED PRECAST CONCRETE WALL PANEL"

◐ FOOTING DIMENSION EQUALS PANEL THICKNESS PLUS 1'-2"

NOTES

AN ALTERNATE WALL PANEL ANCHOR AND PANEL CONSTRUCTION SYSTEM MAY BE SUBMITTED FOR REVIEW AND POSSIBLE ACCEPTANCE BY THE ENGINEER.

TILT UP PANEL ANCHOR SYSTEM MAY BE TRENCHED IN IF THE GEOMETRY OF THE ANCHOR SYSTEM LOCATION ALLOWS.

OPTIONAL TRANSVERSE CONSTRUCTION JOINTS ARE PERMITTED IN THE FOOTING WITH A MINIMUM SPACING OF TWO PANEL LENGTHS. FOOTING JOINTS SHOULD BE OFFSET A MINIMUM OF 1'-0" FROM WALL JOINTS. RUN BAR STEEL THROUGH FOOTING JOINTS.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE R-70-100

DRAWN BY KJZ | PLANS CK'D. NPP

WALL DETAILS 2

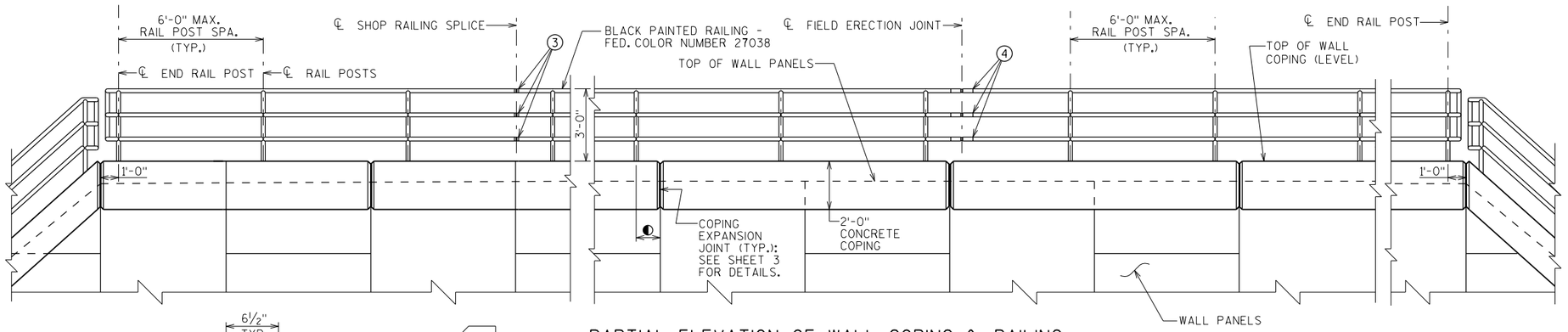
SHEET 4 OF 8
417

DATE: 12/19/2013
I.D.

FILE= O:\WisDOT_12345678_10-441\Plans\R-70-100\Sheets\04-R-70-100 - Till Up Panel Detail.dgn

8

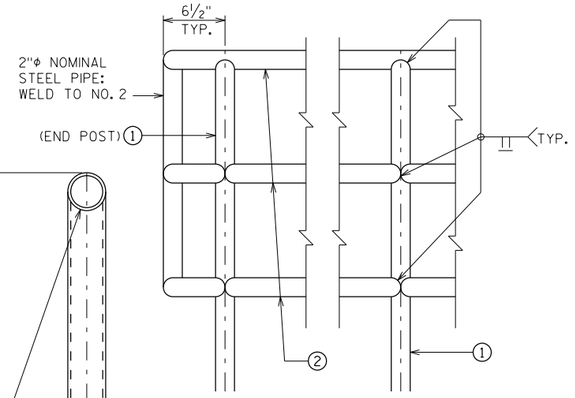
8



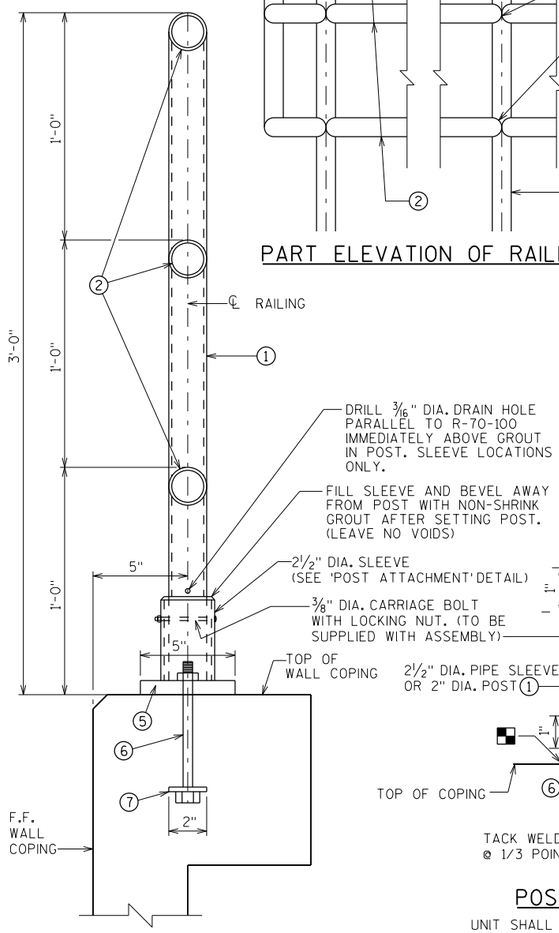
PARTIAL ELEVATION OF WALL COPING & RAILING

LOOKING NORTH AT F.F. WALL

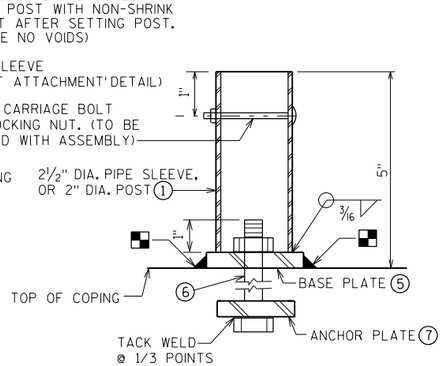
◐ 1'-0" MIN. DISTANCE REQUIRED BETWEEN THE ℄ OF COPING EXPANSION JOINTS AND THE ℄ OF RAIL POSTS



PART ELEVATION OF RAILING



SECTION THRU RAILING

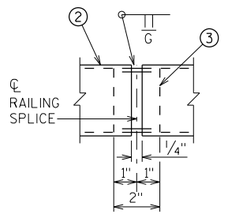


ELEVATION

POST ATTACHMENT

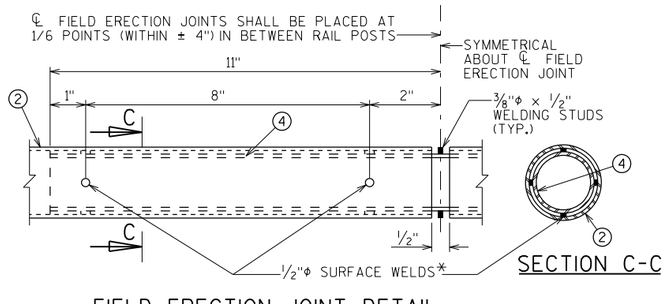
UNIT SHALL BE GALV. AFTER FABRICATION

NOTE:
IN LIEU OF USING THE 2½"Φ SLEEVE, THE 2"Φ RAIL POST MAY BE WELDED TO THE BASE PLATE.



SHOP RAILING SPLICE detail

(LOCATION MUST BE SHOWN ON THE SHOP DRAWINGS)



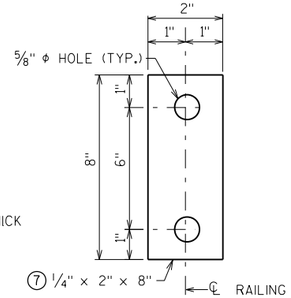
◪ FIELD ERECTION JOINT DETAIL

*MIN. ⅝" FLAT SURFACE DIA. PUNCHINGS OR STUDS MAY BE USED AS AN ALTERNATE.

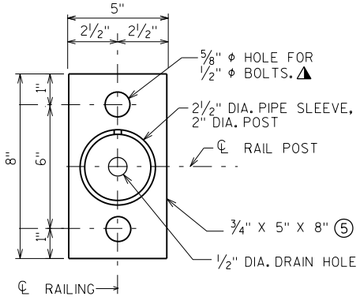
SECTION C-C

POST SHIM DETAILS

SHIMS REQUIRED ONLY WHEN POSTS ARE WELDED TO BASE PLATES. PROVIDE 4 SHIMS PER POST.



ANCHOR PLATE



BASE PLATE

STATE PROJECT NUMBER

1517-07-72

LEGEND

① 2"Φ NOMINAL STEEL PIPE FOR POSTS: CUT BOTTOM OF POST TO MATCH TOP OF CONCRETE. POSTS ARE TO BE SET VERTICAL.

② 2"Φ NOMINAL STEEL PIPE FOR RAILS: WELD TO NO. 1

③ 1½"Φ PIPE SLEEVE FOR NO. 2. PROVIDE "SLIDING FIT" WITH A MINIMUM OUT TO OUT DIMENSION OF 2 1/16".

④ 1½"Φ PIPE SLEEVE x 1'-10" LONG FOR NO. 2. PROVIDE ½"Φ SURFACE WELDS ON ALL SIDES AS SHOWN. GRIND WELDS TO FIT FREE INTO I.D. OF NO. 2. PROVIDE ⅜"Φ x ½" WELDING STUDS ON TOP AND BOTTOM SURFACES AT CENTERLINE.

⑤ PLATE ¾" x 5" x 8", WITH ⅝"Φ HOLE FOR ANCHOR BOLTS NO. 6. WELD TO NO. 1. OR PIPE SLEEVE AS SHOWN.

⑥ ½"Φ x 6⅜" LONG HEX BOLTS (GALVANIZED) WITH NUT AND WASHER. 2 REQ'D. PER POST. THREAD 3" AND PLACE NORMAL TO PLATE NO. 5. CHAMFER TOP OF BOLTS BEFORE THREADING. TYPE S, ½" CONCRETE MASONRY ANCHORS MAY BE SUBSTITUTED FOR ½" BOLTS. ANCHOR PLATE NOT REQUIRED WHEN TYPE S ANCHORS ARE USED. SEE NOTE

☆ ½" DIA. CONCRETE MASONRY ANCHOR, TYPE "S", 6" MIN. EMBEDMENT (EPOXY ANCHORED) INTO CONCRETE AND MINIMUM PULLOUT CAPACITY OF 10 KIPS. ANCHOR, WASHER AND NUT SHALL BE GALVANIZED.

⑦ ¼" x 2" x 8" FLAT BAR, WITH ⅝"Φ HOLES FOR ANCHOR BOLTS NO. 6.

GENERAL NOTES

BID ITEM SHALL BE "RAILING PIPE R-70-100", WHICH INCLUDES ALL ITEMS SHOWN.

RAILING SHALL BE FABRICATED IN LENGTHS THAT INCLUDE 3 OR 4 POSTS.

FIELD ERECTION JOINTS MUST BE PLACED IN BETWEEN RAIL POSTS WHERE THERE IS ALSO A CONCRETE COPING EXPANSION JOINT IN BETWEEN RAIL POSTS.

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.

ALL MATERIAL EXCEPT ANCHORAGE DETAIL (NO. 7) SHALL BE GALVANIZED AFTER FABRICATION. PRIOR TO GALVANIZING, ALL STEEL RAILING POSTS AND STEEL TUBING SHALL BE GIVEN A NO. 6 BLAST CLEANING BY S.S.P.C. SPECIFICATIONS. AFTER GALVANIZING, PAINT ALL SURFACES OF RAILING BLACK (FEDERAL COLOR NUMBER 27038).

DRILL DRAIN HOLES PRIOR TO GALVANIZING.

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

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

ALL RAILS, POSTS AND SLEEVES ARE STANDARD WEIGHT PIPE, SCHEDULE 40.

PLACE ALL NUTS ON OUTSIDE OF POSTS.

ANCHORAGES SHALL BE ACCURATELY PLACED TO PROVIDE CORRECT ALIGNMENT OF RAILING.

◪ CAULK AROUND PERIMETER OF BASE PLATES AND FILL PORTION OF SLOTTED HOLES AROUND ANCHOR BOLTS IN POST SHIMS AND BASE PLATES WITH NON-STAINING, GRAY, NON-BITUMINOUS JOINT SEALER.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE R-70-100

DRAWN BY KJZ | PLANS CK'D. NPP

PIPE RAILING DETAILS

SHEET 5 OF 8
418

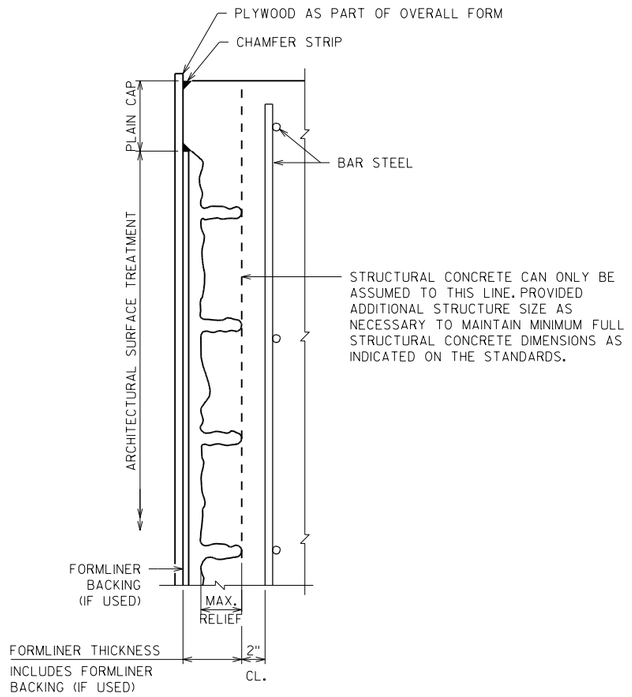
8

8

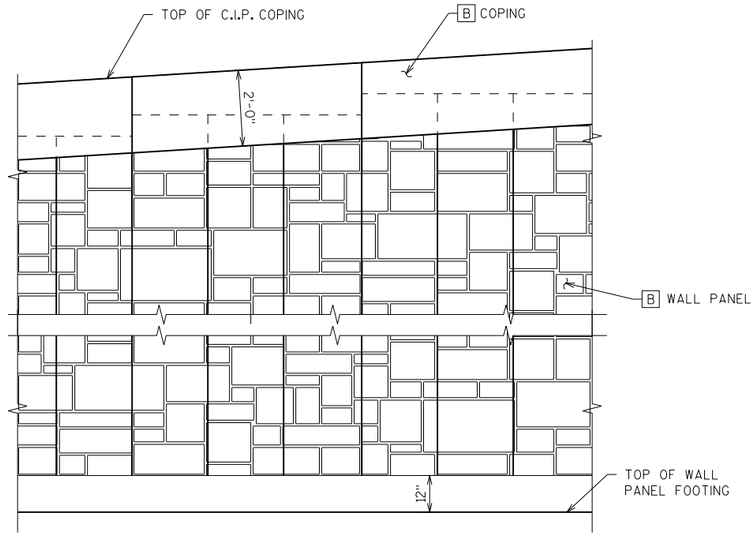
FILE= Q:\WisDOT_12345678_10-441\Plans\R-70-100\Sheets\05_R-70-100_Rail Details.DGN

DATE: 12/19/2013
I.D.

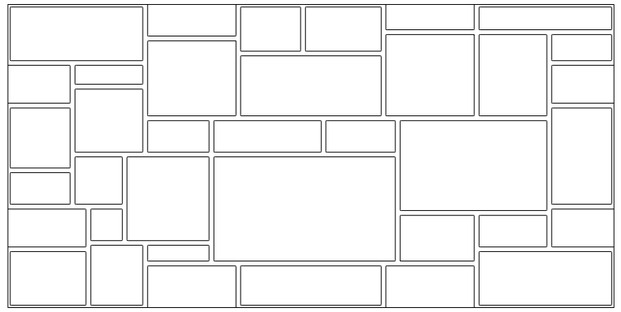
STATE PROJECT NUMBER
1517-07-72



SECTION THROUGH FORMLINER



CONCRETE STAINING DETAIL



ASHLAR

MAXIMUM RELIEF:	1⅝"
AVERAGE RELIEF:	1¼"
LINER THICKNESS*:	2½"
STONE SIZE:	H: 3" - 17"
	W: 5"-29"

* INCLUDES INTERNAL PLYWOOD BACKING

CONCRETE STAINING SCHEDULE

MARK	COLOR	FED. COLOR NO.	LOCATION
B	LATTE	33522	WALLS, PARAPETS

NOTE: 1. FINISH ON COLORS IS FLAT (LUSTERLESS)

NOTES

FORMLINER COURSING ON RETAINING WALLS SHALL BE LEVEL.

8

8

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE R-70-100

DRAWN BY KJZ | PLANS CK'D. NPP

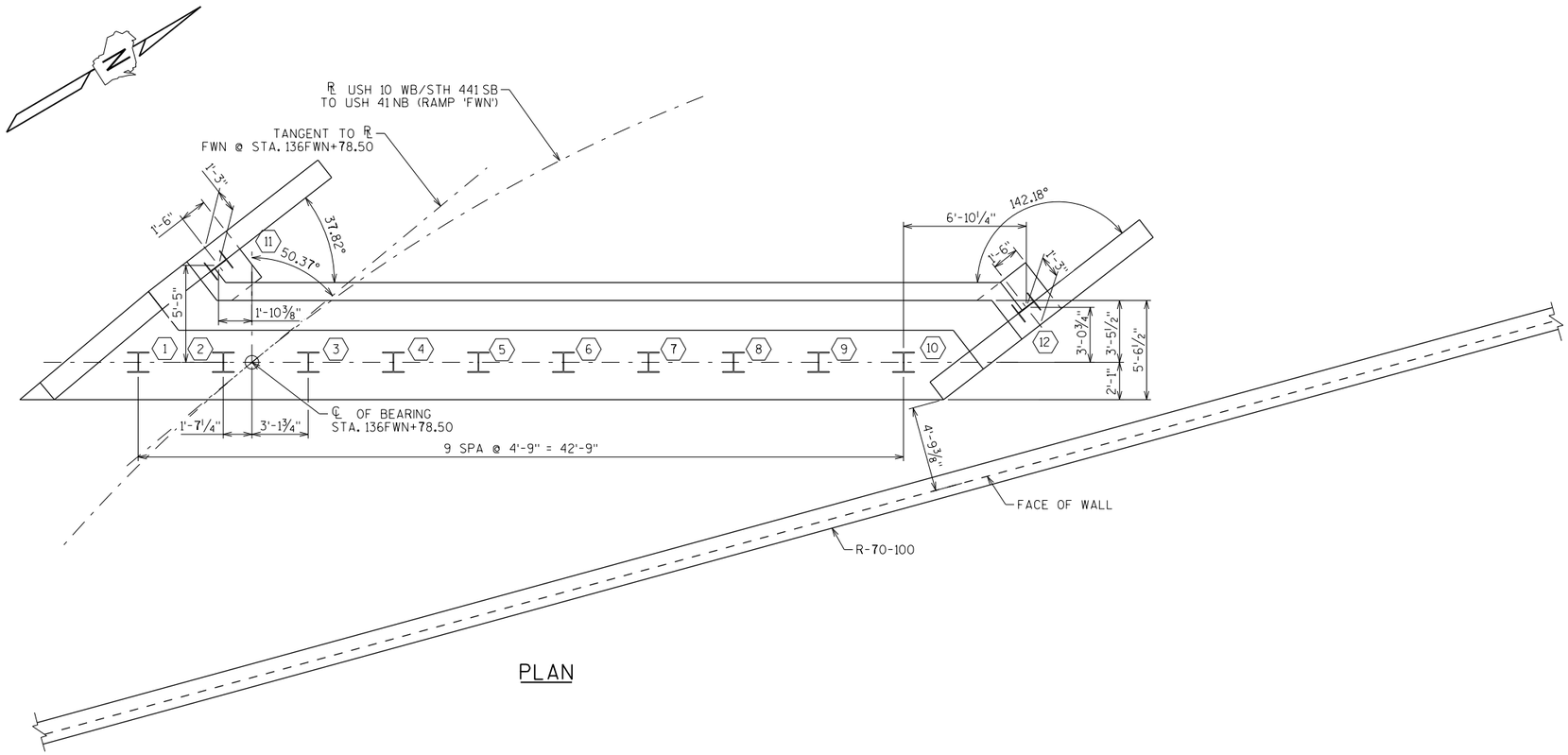
AESTHETIC DETAILS

SHEET 6 OF 8
419

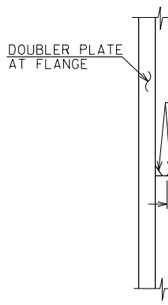
FILE= G:\WisDOT_12345678_10-441\Plans\R-70-100\Sheets\06-R-70-100_Aesthetic Details.dgn

DATE: 12/19/2013
I.D.

STATE PROJECT NUMBER
1517-07-72

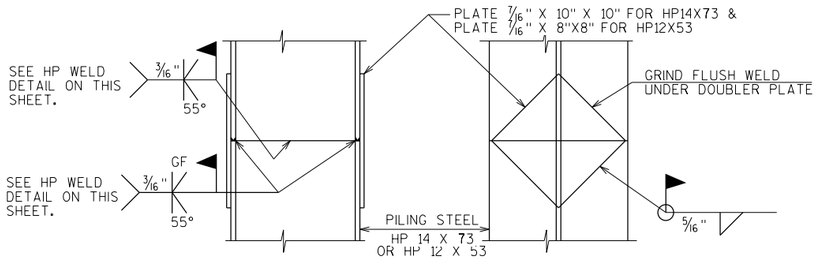


PLAN



HP WELD DETAIL

(FLANGE SHOWN, WEB SIMILAR)



PILE SPLICE DETAIL

NOTE: STEEL "HP" PILE MATERIAL SHALL BE A.S.T.M. DESIGNATION A36.

PILE NOTE

B-70-406 WEST ABUTMENT TO BE SUPPORTED ON HP12X53 STEEL PILING DRIVEN TO A REQUIRED DRIVING RESISTANCE OF 430* TONS PER PILE AS DETERMINED BY THE MODIFIED GATES DYNAMIC EQUATION. ESTIMATED LENGTH OF 35 FEET.

* 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 THE MODIFIED GATES DYNAMIC EQUATION.

NOTES

MSE RETAINING WALL R-70-100 IS IN FRONT OF WEST ABUTMENT OF STRUCTURE B-70-406. CONSTRUCTION OF STRUCTURE B-70-406 IS NOT PART OF THIS CONTRACT, HOWEVER IN ORDER TO CONNSTRUCT RETAINING WALL STRUCTURE R-70-100, THE PILES FOR WEST ABUTMENT OF STRUCTURE B-70-406 WILL BE REQUIRED AND MADE PART OF THIS CONTRACT. THE CUT OFF ELEVATION OF THESE PILES IS EL. 767.00.

PROVIDE ADEQUATE PROTECTION, AS DIRECTED BY THE ENGINEER, AGAINST DAMAGE TO THESE PILES PRIOR TO CONSTRUCTION OF STRUCTURE B-70-406.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE R-70-100

DRAWN BY KJZ | PLANS CK'D. NPP

WEST ABUTMENT
PILE PLAN

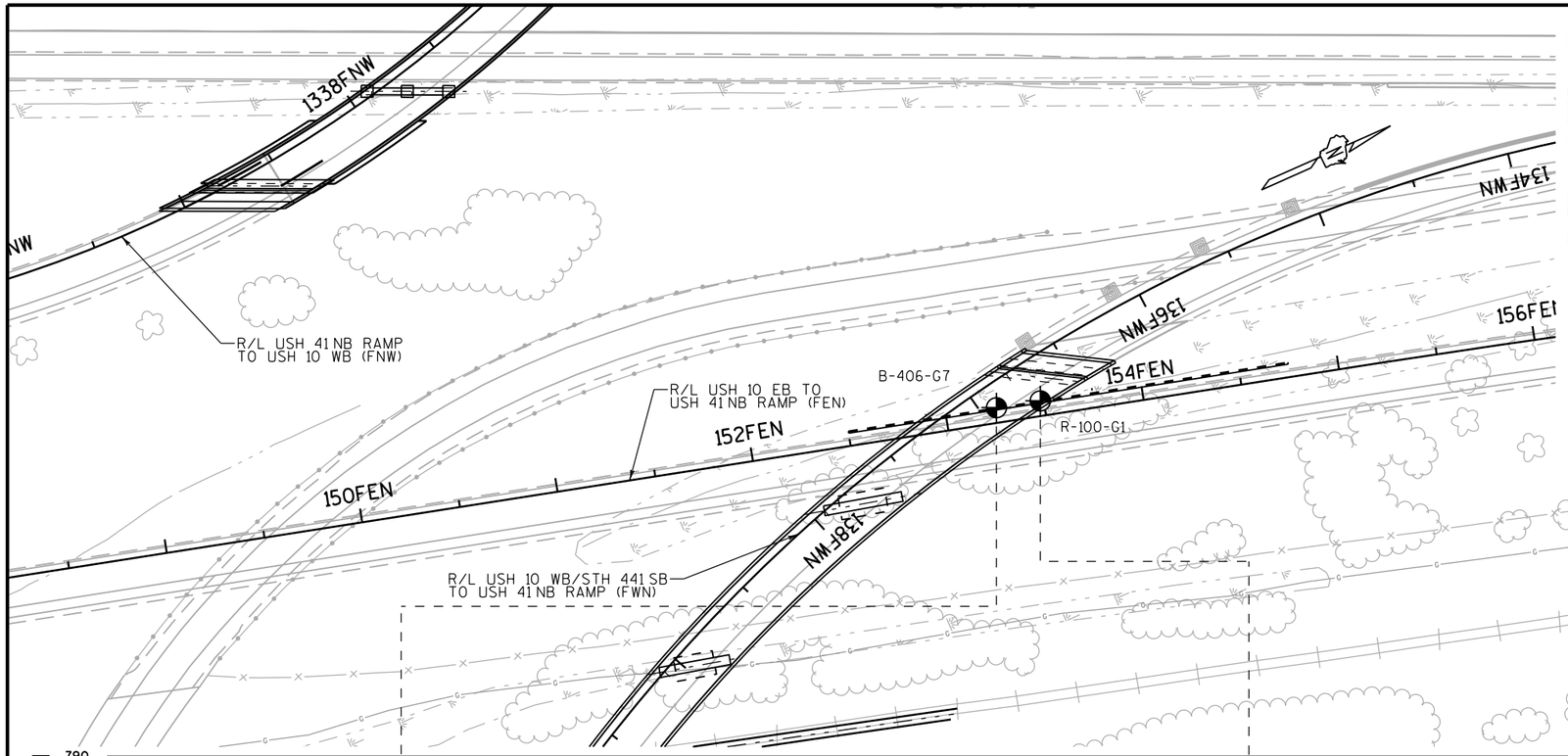
SHEET 7 OF 8
420

8

8

FILE= G:\WisDOT_12345678_10-441\Plans\R-70-100\Sheets\07-B-70-100 - West Abutment Pile Plan.dgn

DATE: 12/20/2013
I.D.



NOTE:

THE SUBSURFACE INFORMATION PRESENTED HEREIN IS AN ABBREVIATED VERSION OF THE INFORMATION PRESENTED IN THE GEOTECHNICAL ENGINEERING REPORT. REVIEW THE APPROPRIATE GEOTECHNICAL REPORT AND SOIL BORING LOGS FOR ADDITIONAL SUBSURFACE INFORMATION.

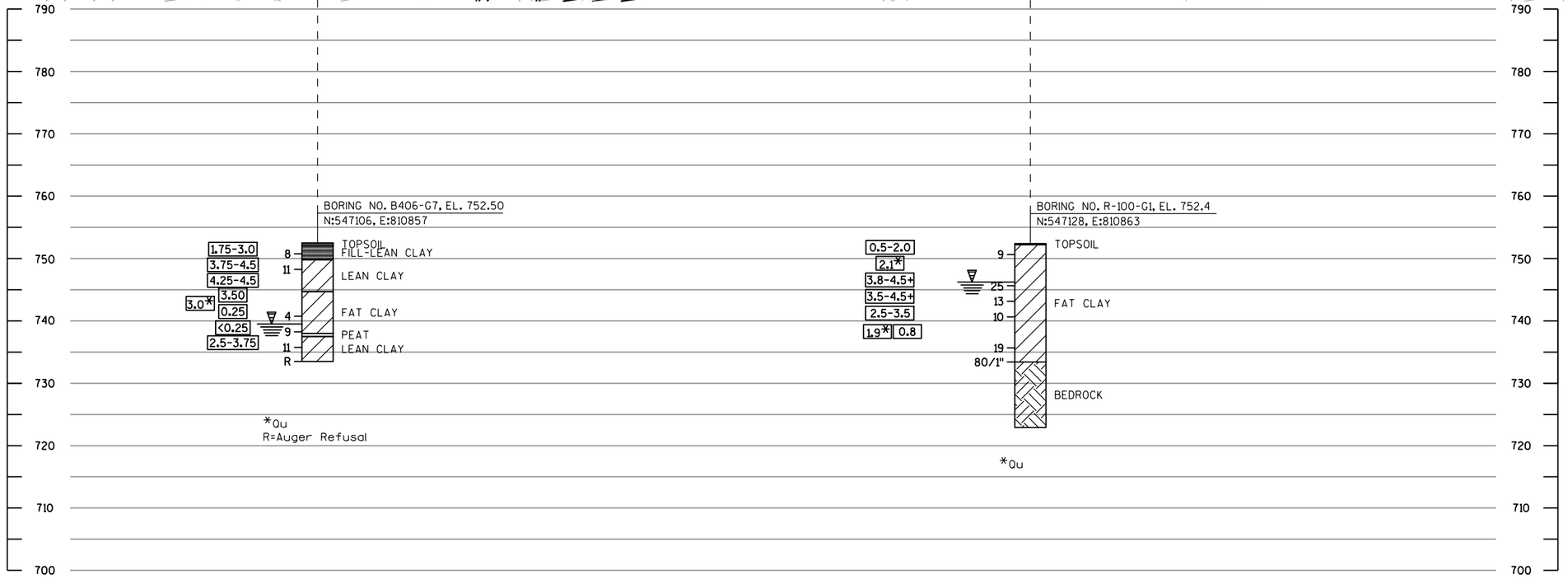
WATER LEVELS INDICATED MAY NOT BE REPRESENTATIVE OF STATIC WATER LEVELS.

HISTORICAL BORING LOCATIONS ARE APPROXIMATE. ADDITIONAL INFORMATION IS AVAILABLE FROM THE WISCONSIN DEPARTMENT OF TRANSPORTATION.

DENOTES SOIL BORING LOCATION

SOIL BORINGS COMPLETED BY:
GESTRA ENGINEERING, INC.
SES, INC.

SOIL BORING TAKEN:
DECEMBER 13, 2012 - BORING B-406-G7
JANUARY 9, 2013 - BORING R-100-G1



STATE PROJECT NUMBER

1517-07-72

ABBREVIATIONS

F — FINE M — MEDIUM C — COARSE
WS — WEATHERED SO — SOUND

MATERIAL SYMBOLS

TOPSOIL / FILL, SILT, SANDSTONE
SAND, PEAT, LIMESTONE
GRAVEL, CLAY, IGNEOUS ROCK

LEGEND OF PROBING

PROBING NO.
STA.
ELEVATION
7 AVERAGE BLOWS PER FOOT
REFUSAL 95/6

95/6=95 BLOWS FOR 6" PENETRATION PROBING TAKEN WITH A 350# WT. FALLING 18" ON A 2" O.D. POINT.

LEGEND OF BORING

BORING NO.
ELEV.
STA.
UNCONFINED STRENGTH — 7.7 7
BLOWS PER FT. USING 140# WT. FALLING 30"
WASH SAMPLE
SHELBY TUBE — S.T.
GROUND WATER ELEVATION
NO GROUND WATER OBSERVED ABOVE THIS ELEVATION
SANDY GRAVEL
F. BOULDERS OR COBBLES
SAND
SILTY CLAY
SO
LIMESTONE

UNLESS OTHERWISE SPECIFIED, THE BLOWS PER FOOT AT THE LOCATIONS INDICATED ARE BASED ON DRIVING A 2" O.D. X 1.4" I.D. SPLIT SPOON SAMPLER WITH A 140# HAMMER HAVING A FREE FALL OF 30". THE BLOW COUNT IS TAKEN IN UNDISTURBED SOIL IMMEDIATELY BELOW A CASED OR OPEN HOLE ELIMINATING SIDE FRICTION ON THE DRIVE PIPE.

SUBSURFACE EXPLORATION FOR FOUNDATION DESIGN AND BIDDERS INFORMATION

1 TO OBTAIN RELATIVE DATA CONCERNING THE CHARACTER OF MATERIAL IN AND UPON WHICH THE FOUNDATION MIGHT BE BUILT, BORINGS AND/OR SOUNDINGS WERE MADE AT POINTS APPROXIMATELY AS INDICATED ON THIS DRAWING. THE DATA PRESENTED HEREIN REPRESENTS THE FINDINGS OF THE SUBSURFACE EXPLORATIONS MADE. HOWEVER, BECAUSE THE DEPTHS INVESTIGATED ARE LIMITED AND THE AREA OF THE BORINGS AND/OR SOUNDINGS IS VERY SMALL IN RELATION TO THE ENTIRE AREA, THE WISCONSIN DEPARTMENT OF TRANSPORTATION DOES NOT WARRANT CONDITIONS BELOW THE DEPTHS INVESTIGATED OR THAT THE CLASSIFICATION OF MATERIAL ENCOUNTERED IN THESE INVESTIGATIONS IS NECESSARILY TYPICAL OF THE ENTIRE SITE.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

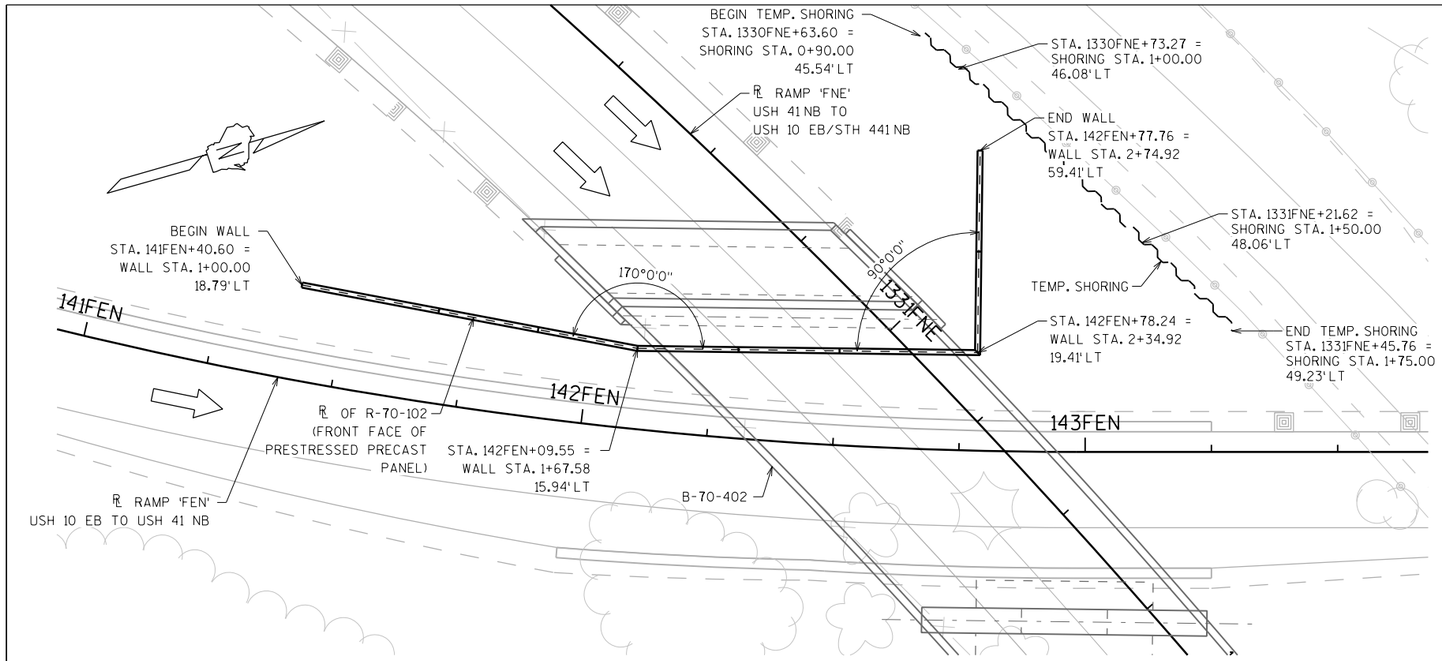
STRUCTURE R-70-100

DRAWN BY DB | PLANS CK'D. BW

SUBSURFACE EXPLORATION

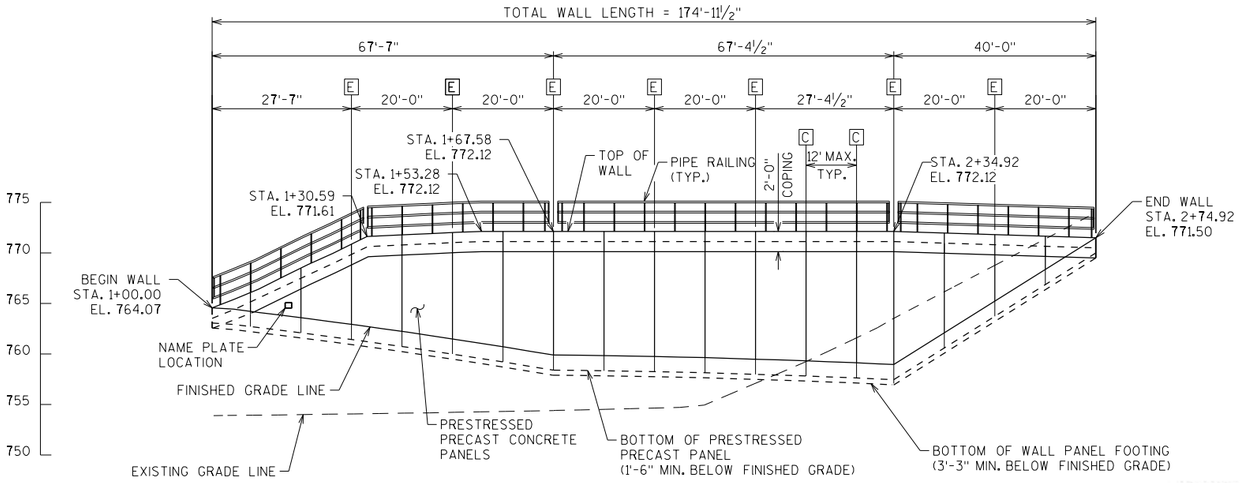
SHEET 8 OF 8

FILE NAME : I:\56537\AllContracts\2. Geotech\Subsurface Sheets\080218_se.dgn
PLOT DATE : 6/20/2013
PLOT BY : dbaumann
PLOT NAME : $FILE$
PLOT SCALE : 75:1



PLAN

(STRUCTURE R-70-102)



ELEVATION

(UNFOLDED ELEVATION LOOKING AT FRONT FACE OF WALL)

LIST OF DRAWINGS

1. GENERAL PLAN AND ELEVATION
2. DESIGN DATA AND QUANTITIES
3. WALL DETAILS 1
4. WALL DETAILS 2
5. PIPE RAILING DETAILS
6. AESTHETIC DETAILS
7. SUBSURFACE EXPLORATION

LEGEND

C = CONTRACTION JOINT

E = EXPANSION JOINT IN CIP COPING

⇨ = DIRECTION OF TRAFFIC

DESIGN DATA

LIVE LOAD

LIVE LOAD SURCHARGE (ROADWAY).....240 PSF

MATERIAL PROPERTIES

CONCRETE MASONRY RETAINING WALL.....F'C = 3,500 PSI

PRESTRESSED PRECAST CONCRETE WALL PANELS.....F'C = 5,000 PSI

BAR STEEL REINFORCEMENT.....F'C = 60,000 PSI

FOUNDATION DATA

ALLOWABLE SOIL BEARING CAPACITY MSE WALL.....4,600 PSF

NOTE: THE WALL HAS BEEN DESIGNED FOR TRAFFIC LOADING ONLY. IF DURING CONSTRUCTION HEAVY EQUIPMENT IS OPERATING IN CLOSE PROXIMITY TO THE WALL OR IF MATERIAL IS STOCKPILED NEAR THE WALL, THE SAFETY FACTOR FOR THIS WALL WILL SIGNIFICANTLY DECREASE.

STATE PROJECT NUMBER

1517-07-72

GENERAL NOTES

DRAWINGS SHALL NOT BE SCALED.

ALL STATIONS AND ELEVATIONS ARE IN FEET. ELEVATIONS ARE REFERENCED TO THE NAVD 88 DATUM.

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

BAR STEEL REINFORCEMENT TO BE EPOXY COATED.

PROVIDE COMPLETE DESIGN, PLANS, DETAILS, SPECIFICATIONS, AND SHOP DRAWINGS FOR THE RETAINING WALL, AND MSE WALL REINFORCEMENT 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 SHALL BE INCLUDED IN THE BID ITEMS "WALL WIRE FACED MECHANICALLY STABILIZED EARTH LRFD/OMP PILOT" AND "PRESTRESSED PRECAST CONCRETE WALL PANEL".

PROVIDE DESIGN AND FURNISH & INSTALL REINFORCEMENT STRIPS FOR THE ABUTMENT AND BACKWALL.

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 RETAINING WALL IS TO BE DESIGNED USING THE ELEVATIONS GIVEN IN THE GEOMETRY TABLE.

DESIGN FOR RETAINING WALL TO PROVIDE FOR A FINISHED GRADE SLOPE BEHIND THE WALL AS SHOWN IN THE ROADWAY CROSS SECTIONS.

DESIGN RETAINING WALL FOR A LIVE LOAD SURCHARGE OF 240 PSF.

THE FIRST DIGIT OF A THREE DIGIT BAR NO. AND THE FIRST TWO DIGITS OF A FOUR DIGIT BAR NO. SIGNIFIES THE BAR SIZE.

JOINT FILLER SHALL CONFORM TO THE REQUIREMENTS OF A.A.S.H.T.O. DESIGNATION M 153, TYPE I, II OR III OR A.A.S.H.T.O. DESIGNATION M 213.

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.

BEVEL EXPOSED EDGES OF CONCRETE 3/4" UNLESS NOTED OTHERWISE.

HOT DIP GALVANIZE ALL STRUCTURAL STEEL CARBON IN ACCORDANCE WITH ASTM A123 WHERE SHOWN.

PROVIDE A RUBBED SURFACE TREATMENT IN ACCORDANCE WITH SECTION 502.3.7.3 TO ALL PERMANENTLY EXPOSED SURFACES OF CONCRETE MASONRY RETAINING WALLS THAT ARE NOT PROVIDED WITH A FORMLINER PRODUCED PATTERN.

THE SUBSURFACE CONDITIONS AT THE BASE OF THE WALL SHALL BE REVIEWED BY THE NORTHEAST REGION SOILS ENGINEER TO DETERMINE IF THE SOILS HAVE ADEQUATE STRENGTH TO SUPPORT THE MSE WALL WITH "PRESTRESSED PRECAST CONCRETE WALL PANEL".

THE COST OF FURNISHING AND PLACING THE FOOTING UNDER THE PRESTRESSED PRECAST WALL PANELS IS INCLUDED IN THE BID ITEM "PRESTRESSED PRECAST CONCRETE WALL PANEL".

THE COST OF CONCRETE AND REINFORCEMENT FOR COPING IS INCLUDED WITH THE BID ITEM "PRESTRESSED PRECAST CONCRETE WALL PANEL".

ALL STATIONS ARE ALONG THE ℄ FOR R-70-102 ALONG THE FRONT FACE OF WALL UNLESS SHOWN OTHERWISE.

SEE SPECIAL PROVISIONS AND AESTHETIC DETAILS SHEET FOR AESTHETIC TREATMENTS TO THE WALL.

COORDINATE THE CONSTRUCTION OF RETAINING WALL R-70-102 WITH BRIDGE STRUCTURE B-70-402.

DO NOT ALLOW CONCRETE OR FILL TO DROP OR ACCUMULATE INTO WALL PANEL CAVITY.

DESIGN MSE WALL FOR A SUCTION LOAD OF 20 PSF ACTING ON THE PRESTRESSED PRECAST WALL PANELS.

SEE SHEET "DESIGN DATA AND QUANTITIES" FOR GEOMETRY TABLE.

ALLOW THE UNDERLYING NATIVE SOILS TO CONSOLIDATE UNDERNEATH THE MSE REINFORCED FILL PRIOR TO CONSTRUCTING THE WALL FACE. PLACE REINFORCED FILL IN TWO STAGES WITH A MINIMUM WAITING PERIOD OF ONE MONTH BETWEEN THE STAGES. PLACE THE FIRST STAGE UPTO BOTTOM OF ABUTMENT ELEVATION. ERECT THE WALL PANELS ONE MONTH AFTER THE ABUTMENT FILL IS PLACED SO THAT REMAINING SETTLEMENT IS WITHIN THE SETTLEMENT GUIDELINES LISTED ON TABLE 14.4-3 OF THE WISDOT BRIDGE MANUAL.

SEE ROADWAY PLANS FOR SETTLEMENT MONITORING DETAILS.

SEE SHEET "PIPE RAILING DETAILS" FOR PIPE RAILING DETAILS

BASED ON CONTRACTOR MEANS AND METHODS, ANY GAPS BETWEEN THE WALL PANELS AND FOOTING THAT EXPOSE THE MSE WALL SHALL BE FILLED WITH MASONRY MATERIAL OR AS APPROVED BY THE ENGINEER. ALL LABOR AND MATERIALS NECESSARY TO COMPLETE THIS WORK ARE CONSIDERED INCIDENTAL TO THE WALL CONSTRUCTION.

AT THE ENDS OF WALL SEAL CAVITY BETWEEN WIRE FACE WALL AND PRECAST CONCRETE WALL PANEL WITH COLUMN OF CONCRETE 1'-6" WIDE. INCIDENTAL TO "PRESTRESSED PRECAST CONCRETE WALL PANELS".

WALL PANELS UNDER 7'-0" IN HEIGHT DO NOT REQUIRE PRESTRESSING.

NE REGION CONTACT - SCOTT EBEL (920) 492-2240
BUREAU OF STRUCTURES CONTACT - WILLIAM DREHER (608) 266-8489
CONSULTANT CONTACT - MICHAEL ARNOLD (414) 831-4179

NO.	DATE	REVISION	BY

URS
342 North Water Street
7th Floor
Milwaukee, WI 53202
(414) 831-4100

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

ACCEPTED William C. Dreher KAR 03/13/14
CHIEF STRUCTURES DESIGN ENGINEER DATE

STRUCTURE R-70-102

RETAINING WALL AT WEST ABUTMENT OF B-70-402

COUNTY	TOWN/~~CITY/VILLAGE~~
WINNEBAGO	MENASHA

DESIGN SPEC.
AASHTO LRFD DESIGN SPEC.

DESIGNED BY	DESIGN CK'D.	DRAWN BY	PLANS CK'D.
KJZ	NPP	KJZ	NPP

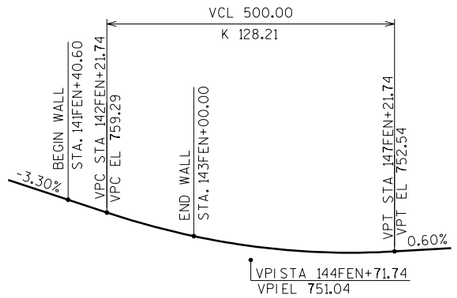
GENERAL PLAN AND ELEVATION

SHEET 1 OF 7
422

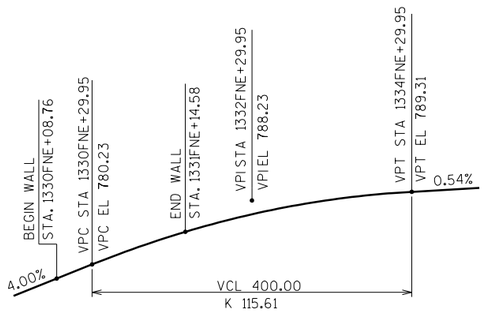
FILE= O:\WisDOT_12345678_10-441\Plans\R-70-102\Sheets\01-R-70-102_gp.dgn
DATE: 2/27/2014
I.D.

8

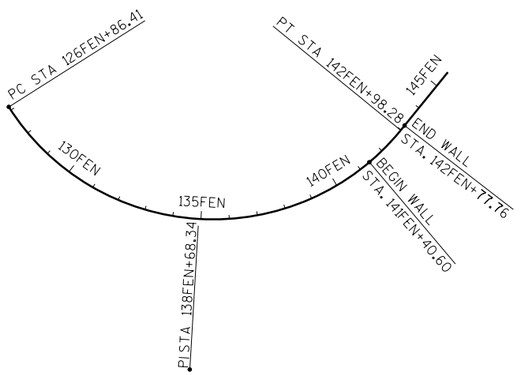
8



PROFILE GRADE LINE RAMP 'FEN'



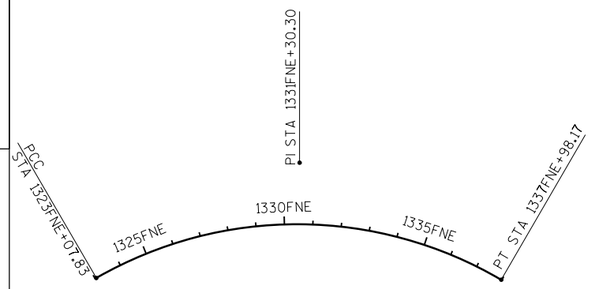
PROFILE GRADE LINE RAMP 'FNE'



CURVE FEN3

PC = 126FEN+86.41
X = 809305.86
Y = 545622.42
PI = 138FEN+68.34
X = 810291.73
Y = 544970.48
PT = 142FEN+98.28
X = 810597.96
Y = 546112.05
R = 851.50
DELTA = 108°27'34" LT
D = 6°43'43"
L = 1611.87
T = 1181.93
BK = S 56°31'26" E
AH = N 15°01'00" E

HORIZONTAL ALIGNMENT RAMP 'FEN'



CURVE FNE2

PC = 1323FNE+07.83
X = 810015.29
Y = 545526.84
PI = 1331FNE+30.30
X = 810409.98
Y = 546248.40
PT = 1337FNE+98.17
X = 811232.31
Y = 546263.38
R = 1416.60
DELTA = 60°16'41" RT
D = 4°02'41"
L = 1490.33
T = 822.46
BK = N 28°40'43" E
AH = N 88°57'24" E

HORIZONTAL ALIGNMENT RAMP 'FNE'

WALL EXTERNAL AND OVERALL STABILITY EVALUATION

WALL DIMENSIONS	
WALL HEIGHT [1] (FEET)	15.21
EXPOSED WALL HEIGHT (FEET)	13.71
LENGTH OF REINFORCEMENT (FEET)	22.8
LENGTH OF REIN./WALL HEIGHT	1.5
DESIGN SLOPE ANGLE AT FRONT (DEGREE)	0
DESIGN SLOPE ANGLE AT BACK (DEGREE)	0
WALL SECTION FOR ANALYSIS	142FEN+77.94
APPLIED BORING LOG	R102-G1
CAPACITY TO DEMAND RATIO [3] (>=1.0) AND FACTORED BEARING RESISTANCE [3] (PSF)	
GLOBAL STABILITY	1.02 *
ECCENTRICITY	2.7
SLIDING	1.62
BEARING RESISTANCE	1.01 *
FACTORED BEARING RESISTANCE (PSF)	4600

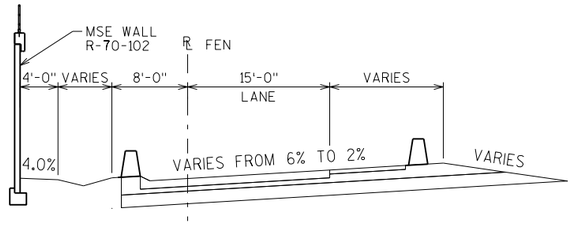
NOTES

1. THE WALL HEIGHT INCLUDES AN EMBEDMENT OF 1.5 FEET AND IS THE DIFFERENCE BETWEEN THE TOP OF WALL COPING AND LEVELING PAD

3. SELECTION OF THE LOWER VALUE BETWEEN DRAINED AND UNDRAINED ANALYSIS RESULTS

* CONTROLLING DESIGN ISSUE

THE LENGTHS PROVIDED IN THE TABLE ARE THE MINIMUM REQUIRED REINFORCEMENT LENGTHS BASED UPON THE MINIMUM DESCRIBED IN THE WALL SYSTEM SPECIAL PROVISIONS OR EXTERNAL AND OVERALL STABILITY AT THE DESIGNATED LOCATIONS. THESE DESIGNATED LOCATIONS REPRESENT TYPICAL AND CRITICAL WALL LOCATIONS, BUT SHALL NOT BE CONSIDERED ALL INCLUSIVE. THE CONTRACTOR DESIGN LENGTHS SHALL MEET OR EXCEED THE MINIMUM VALUES REPRESENTED IN THE TABLE AT THESE DESIGNATED LOCATIONS. FINAL DESIGN FOR INTERNAL STABILITY AND EXTERNAL SLIDING & ECCENTRICITY AT OTHER WALL LOCATIONS IS THE RESPONSIBILITY OF THE CONTRACTOR'S WALL DESIGNER.



TYPICAL SECTION - RAMP 'FEN'

(LOOKING UP STATION)
SEE ROADWAY PLANS FOR VARIATION

TOTAL ESTIMATED QUANTITIES

ITEM NUMBER	BID ITEM	UNIT	QUANTITY
206.6000.S	TEMPORARY SHORING	SF	417
513.2000	RAILING PIPE R-70-102	LS	1
516.0500	RUBBERIZED MEMBRANE WATERPROOFING	SY	16
517.1010.S.702	CONCRETE STAINING R-70-102	SF	2,216
517.1050.S.702	ARCHITECTURAL SURFACE TREATMENT R-70-102	SF	1,866
612.0406	PIPE UNDERDRAIN WRAPPED 6-INCH	LF	175
SPV.0165.850	PRESTRESSED PRECAST CONCRETE WALL PANEL	SF	1,924
SPV.0165.852	WALL WIRE FACED MECHANICALLY STABILIZED EARTH LRFD/QMP PILOT	SF	1,924
	NON BID ITEM		
	FILLER	SIZE	1/2", 3/4" & 1"
	NAME PLATE	EACH	1
	EXPANDED POLYSTYRENE	SIZE	1"

SOIL PARAMETERS

STRATUM LOCATION & SOIL DESCRIPTIONS	UNIT WEIGHT (PCF)	UNDRAINED PARAMETERS		DRAINED PARAMETERS	
		COHESION, C PSF	FRICTION ANGLE, Φ DEGREES	COHESION, C' PSF	FRICTION ANGLE, Φ' DEGREES
GRANULAR BACKFILL (WITHIN REINFORCING ZONE)	120	NA	NA	0	30
EMBANKMENT FILL	130	1500	0	0	30
STRUCTURAL FILL	132	NA	NA	0	32
R102-G1 (APPROXIMATE ROADWAY STATION 142FEN+50; APPROXIMATELY 14 FEET WEST OF FEN R/L)					
STRATUM LOCATION & SOIL DESCRIPTIONS	UNIT WEIGHT (PCF)	UNDRAINED PARAMETERS		DRAINED PARAMETERS	
		COHESION, C PSF	FRICTION ANGLE, Φ DEGREES	COHESION, C' PSF	FRICTION ANGLE, Φ' DEGREES
TOPSOIL (EL. 756.2 - EL. 754.9 FT) [1]					
STIFF TO V. STIFF FAT CLAY (EL. 754.9 - EL. 743.7 FT)	124	2500	0	50	30
V. SOFT TO STIFF FAT CLAY (EL. 743.7 - 738.0 FT)	117	800	0	50	26
M. STIFF TO STIFF SANDY LEAN CLAY (EL. 738.0 - 733.7 FT)	107	1500	0	50	28
WEATHERED BEDROCK (EL. 733.7 - 733.3 FT) [2]					
ASSUMED DESIGN GROUNDWATER ELEVATION = 747 FT					
B402-G1 (ROADWAY STATION 1330FNE+40.86; APPROXIMATELY 35 FEET WEST OF FEN R/L AT 142FEN+00)					
STRATUM LOCATION & SOIL DESCRIPTIONS	UNIT WEIGHT (PCF)	UNDRAINED PARAMETERS		DRAINED PARAMETERS	
		COHESION, C PSF	FRICTION ANGLE, Φ DEGREES	COHESION, C' PSF	FRICTION ANGLE, Φ' DEGREES
TOPSOIL (EL. 754.2 - EL. 753.8 FT) [1]					
STIFF TO HARD LEAN CLAY (EL. 753.8 - EL. 743.7 FT)	119	2500	0	50	30
V. SOFT TO M. STIFF LEAN CLAY (EL. 743.7 - EL. 741.0 FT)	113	400	0	50	24
VERY SOFT FAT CLAY (EL. 741.0 - 737.9 FT)	105	400	0	50	24
PEAT (EL. 737.9 - 737.7 FT)	90	350	0	50	24
STIFF TO V. STIFF SILTY CLAY (EL. 737.7 - 735.7 FT)	132	1500	0	50	26
VERY DENSE CLAYEY SAND WITH GRAVEL (EL. 737.5 - 734.2 FT)	120	0	32	0	32
BEDROCK (EL. 734.2 - 728.2 FT) [2]					
ASSUMED DESIGN GROUNDWATER ELEVATION = 747 FT					

NOTES: NA = NOT APPLICABLE
PSF = POUNDS PER SQUARE FOOT
PCF = POUNDS PER CUBIC FOOT
1. MATERIAL EXPECTED TO BE REMOVED
2. ASSUMED IMPENETRABLE

BENCHMARK

	NO.	LOCATION	DESCRIPTION	ELEVATION
EXIST.	LA4	N: 546108.745 E: 810945.493	SE FLANGE BOLT OF HYD ON EAST SIDE OF LAKE DRIVE 1ST HYD SOUTH OF STH 441 BRIDGE	756.237
EXIST.	LA8	N: 545448.249 E: 810886.284	EAST RIM OF WATER VALVE IN LAKE DRIVE +/- 800' SOUTH OF STH 441 BRIDGE	750.137
NEW	41-C	STA 1304NB+78.44, 53.5'RT	SIGN BRIDGE JUST SOUTH OF JACOBSON RD ON EAST SIDE OF 41 FOR NORTH BOUND LANES; NW CORNER OF CONCRETE BASE	776.4
NEW	41-D	STA 1331SB+95.23, 89.7'LT	SIGN BRIDGE NORTH OF 441 BRIDGE OVER ON & OFF RAMP LANES, NW CORNER OF CONCRETE BASE BETWEEN ON OFF RAMP LANES	761.25

GEOMETRY TABLE

WALL STATION	RAMP FEN STATION	OFFSET TO R/L OF	TOP OF WALL	FINISHED GRADE	EXISTING GRADE
1+00.00	141+40.60	18.79' LT	764.07	764.07	753.80
1+27.58	141+68.80	18.29' LT	770.87	762.38	753.97
1+29.06	141+71.86	18.18' LT	771.35	762.17	753.99
1+47.58	141+89.20	17.35' LT	772.01	760.94	754.13
1+51.71	141+95.00	17.00' LT	772.12	760.50	754.18
1+67.58	142+09.55	15.94' LT	772.12	759.34	754.31
1+87.58	142+29.89	17.54' LT	772.12	759.21	754.54
2+07.58	142+50.29	18.66' LT	772.12	758.94	756.98
2+34.92	142+78.24	19.41' LT	772.12	758.42	763.54
2+54.92	142+78.00	39.41' LT	771.81	764.96	768.77
2+74.92	142+77.76	59.41' LT	771.50	771.50	774.00

STATE PROJECT NUMBER
1517-07-72

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE R-70-102

DRAWN BY KJZ | PLANS CK'D. NPP

DESIGN DATA AND QUANTITIES

SHEET 2 OF 7
423

DATE: 2-27-2014
I.D.

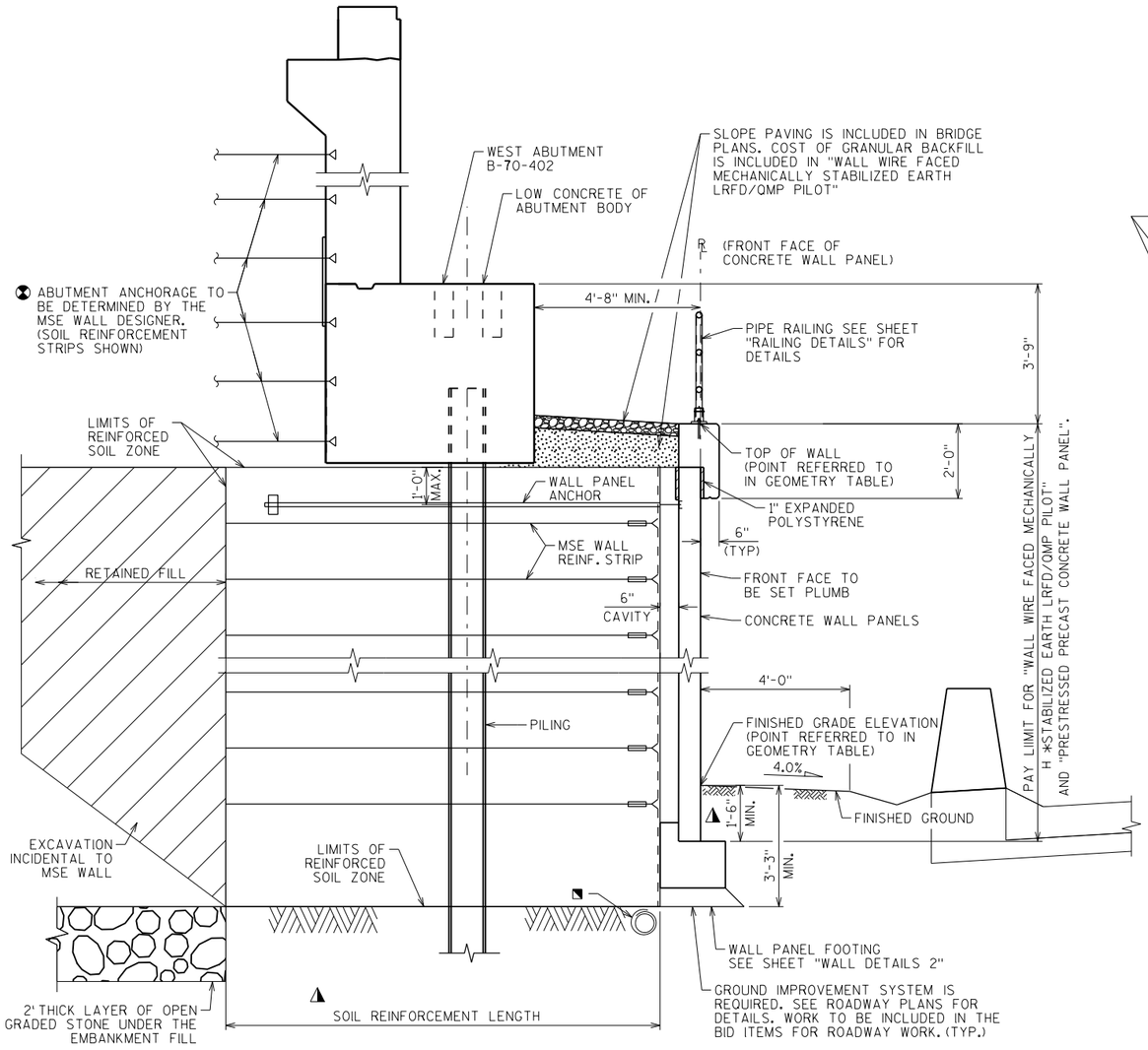
FILE= Q:\WisDOT_12345678_10-441\Plans\R-70-102\Sheets\02-R-70-102_qu.dgn

8

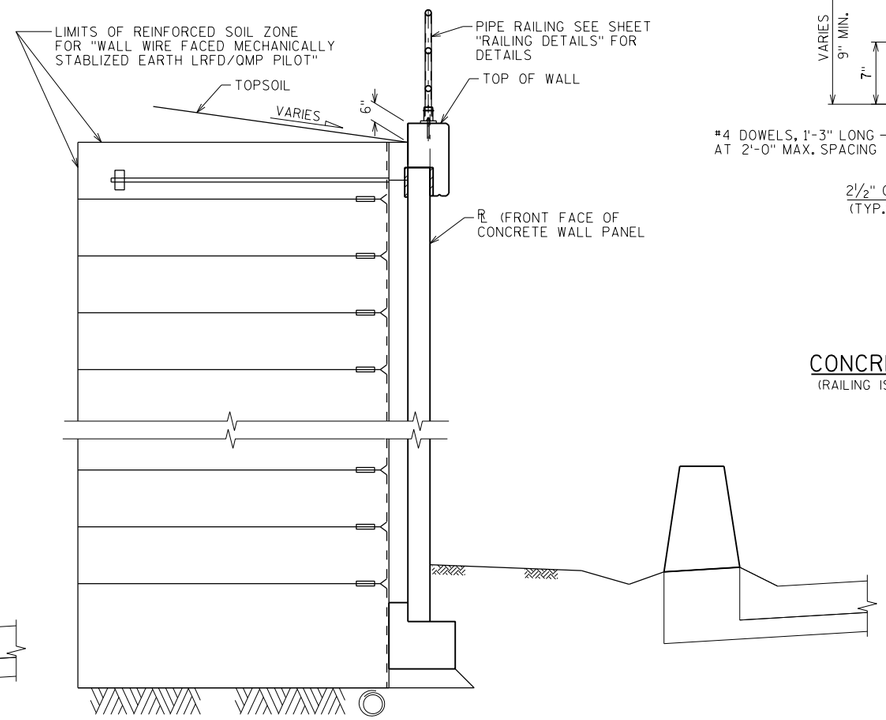
8

STATE PROJECT NUMBER

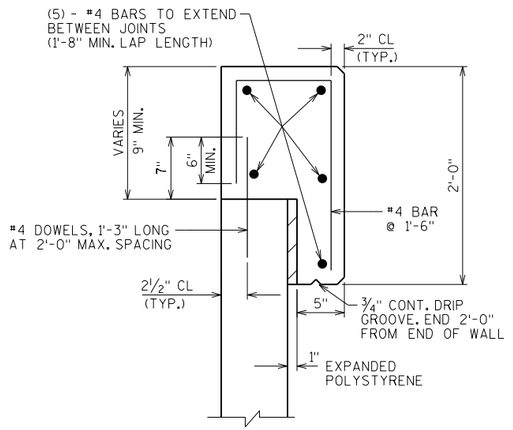
1517-07-72



WALL SECTION AT ABUTMENT

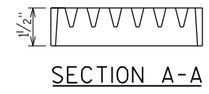


TYPICAL WALL SECTION

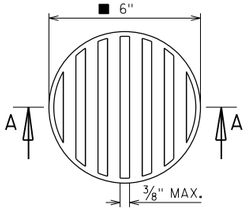


CONCRETE COPING DETAIL

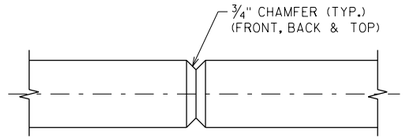
(RAILING IS NOT SHOWN FOR CLARITY)



SECTION A-A

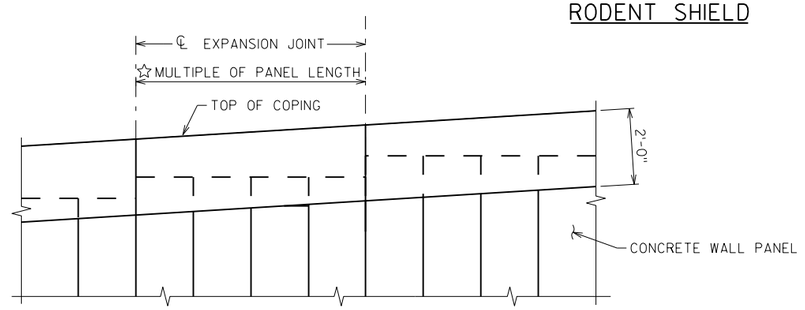


RODENT SHIELD

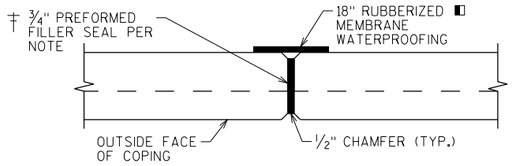


COPING CONTRACTION JOINT

DO NOT RUN BAR STEEL THRU JOINT.
MAX. SPACING OF JOINT = 12'



C.I.P. COPING PARTIAL ELEVATION



COPING EXPANSION JOINT

EXPANSION JOINTS TO BE SPACED AS SHOWN ON SHEET 1. MAX. SPACING 50'-0". LOCATE EXPANSION JOINTS OVER WALL JOINTS. DO NOT RUN BAR STEEL THRU JOINT, EXCEPT FOR DOWEL BARS. JOINT TO EXTEND FULL DEPTH OF COPING.

LEGEND

■ DIMENSIONS ARE APPROXIMATE, THE GRATE IS SIZED TO FIT INTO A PIPE COUPLING. FASTEN TO THE PIPE COUPLING WITH TWO OR MORE NO. 10 X 1-INCH STAINLESS STEEL SHEET METAL SCREWS. ORIENT SHIELD SO SLOTS ARE VERTICAL. COST OF RODENT SHIELD AND ALL FITTINGS TO BE INCLUDED IN THE BID ITEM "PIPE UNDERDRAIN WRAPPED 6-INCH."

☆ ALL JOINTS SHALL COINCIDE WITH PANEL JOINT ON FRONT FACE.

‡ SEAL ALL EXPOSED HORIZ. & VERT. SURFACES OF FILLER WITH NON-STAINING, NON-BITUMINOUS JOINT SEALER. COLOR TO MATCH STAIN. (1" DEEP AND HOLD ⅛" BELOW SURFACE OF CONC.)

◧ RUBBERIZED MEMBRANE WATERPROOFING TO EXTEND FROM TOP OF COPING TO 6" BELOW SURFACE OF CONCRETE.

* THE PLAN QUANTITY FOR THE BID ITEM "WALL WIRE FACED MECHANICALLY STABILIZED EARTH LRFD/QMP PILOT" IS BASED ON A WALL HEIGHT MEASURED FROM THE TOP OF LEVELING PAD TO THE TOP OF THE WALL AS SHOWN. LEVELING PAD CONCRETE IS TO BE INCLUDED IN THE BID ITEM "PRESTRESSED PRECAST CONCRETE WALL PANEL" COPING CONCRETE AND REINFORCEMENT IS TO BE INCLUDED IN THE BID ITEM "WALL WIRE FACED MECHANICALLY STABILIZED EARTH LRFD/QMP PILOT".

◥ PIPE UNDERDRAIN WRAPPED (6-INCH) SLOPE 0.5% MIN. TO SUITABLE DRAINAGE. ATTACH RODENT SHIELDS AT EXPOSED ENDS OF PIPE UNDERDRAIN. SEE RODENT SHIELD DETAIL.

◭ MINIMUM EMBEDMENT BASED ON SITE SPECIFIC PARAMETERS. FIELD EMBEDMENTS SHALL MEET OR EXCEED THE MINIMUM EMBEDMENT. FIELD EMBEDMENTS BELOW MINIMUM EMBEDMENT SHALL NOT BE INCLUDED IN THE PAY LIMITS.

⊠ UNFACTORED SUPERSTRUCTURE LATERAL LOADS TRANSFERRED TO THE ABUTMENT ARE TAKEN TO BE KIPS PER FOOT OF ABUTMENT LENGTH. THE VALUES ARE TO BE USED FOR THE DESIGN OF THE ABUTMENT ANCHORAGE BY THE MSE WALL DESIGNER. THE FOLLOWING ARE THE UNFACTORED BRIDGE SUPERSTRUCTURE LATERAL LOADS. ABUTMENT ANCHORAGE TO BE DESIGNED FOR LL SURCHARGE, HORIZONTAL EARTH PRESSURE AND SUPERSTRUCTURE LATERAL LOADS:
BR = 0.6 KLF WS = 0.1 KLF
WL = 0.1 KLF CE = 0.5 KLF
TU = 0.6 KLF

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE R-70-102

DRAWN BY KJZ | PLANS CK'D. NPP

WALL DETAILS 1

SHEET 3 OF 7
424

FILE= 0:\WisDOT_12345678_10-441\Plans\R-70-102\Sheets\03-R-70-102_Wall Dets.dgn

DATE: 2/27/2014

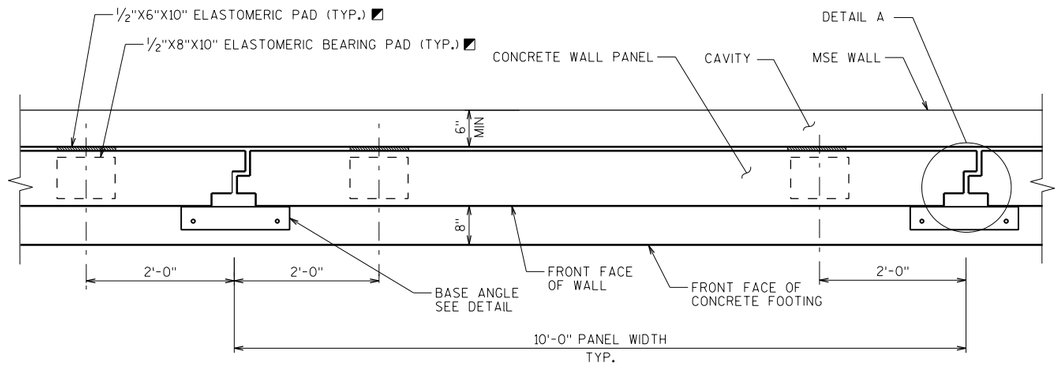
I.D.

8

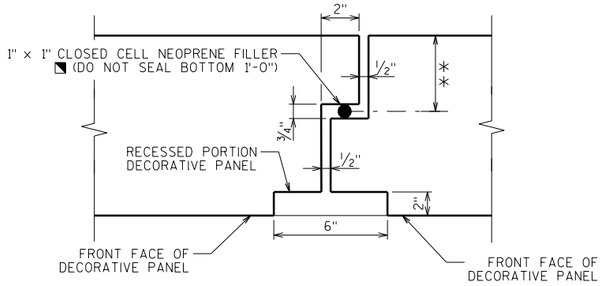
8

STATE PROJECT NUMBER

1517-07-72

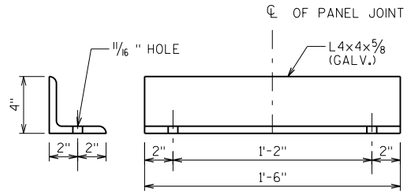


TYPICAL WALL PANEL CONNECTION



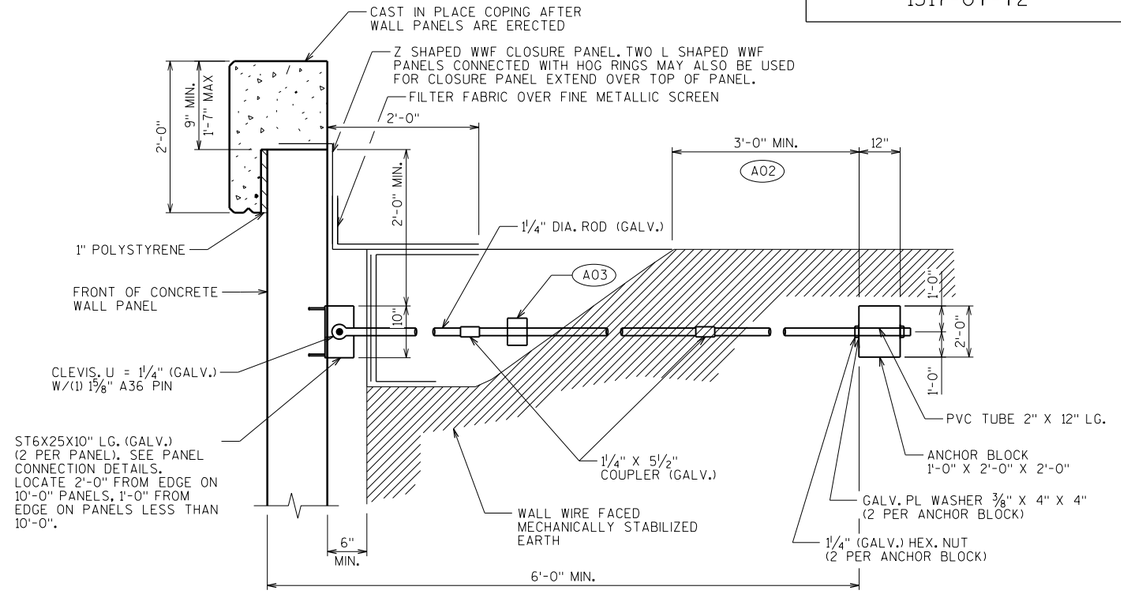
DETAIL A

** 4" FOR 9½" PANEL
3" FOR 7½" PANEL



BASE ANGLE DETAIL

(1 AT EACH PANEL JOINT) ◩



WALL PANEL ANCHOR DETAIL

LEGEND

(A01) WALL PANEL ANCHOR SYSTEM INCLUDES ANCHOR BLOCK, ANCHOR BLOCK COUPLER, 1¼" DIA. ANCHOR ROD, CLEVIS, AND OTHER PANEL CONNECTION COMPONENTS. DESIGN, DETAILING, AND FURNISHING OF THESE ITEMS IS INCLUDED IN THE BID ITEM "PRESTRESSED PRECAST CONCRETE WALL PANEL."

INSTALLATION OF THESE ITEMS IS INCLUDED IN THE BID ITEM "WALL WIRE FACED MECHANICALLY STABILIZED EARTH LRFD/QMP PILOT."

(A02) DESIGN LENGTH TO PROVIDE REQUIRED HORIZONTAL CAPACITY OF ANCHOR ASSEMBLY. MINIMUM OF 3'-0" OF COMPACTED FILL IN FRONT OF ANCHOR BLOCK PRIOR TO WALL PANEL ERECTION. ROD MIN. 2'-0" BELOW FINISH GRADE.

(A03) OPTIONAL MULTIDIRECTIONAL CONNECTOR MAY BE USED TO FACILITATE ALIGNMENT AT THE CONNECTION. CONNECTOR TO BE CORROSION RESISTANT AND DEVELOP 100% OF THE ULTIMATE STRENGTH OF 1¼" DIA. BAR)

(A04) BASE AGGREGATE OPEN GRADED, 6" MIN. INCIDENTAL TO BID ITEM "PRESTRESSED PRECAST CONCRETE WALL PANEL".

(A05) MINIMUM DIMENSION FROM FINISHED GRADE AT FRONT FACE OF WALL TO BOTTOM OF WALL PANEL FOOTING IS SHOWN. THE FOOTING MAY BE CONSTRUCTED ON A SLOPE PARALLEL TO THE PROPOSED GRADE, OR MAY BE STEPPED. THE CONTRACTOR SHALL COORDINATE CONSTRUCTION OF THE WALL PANEL FOOTING WITH FABRICATION OF THE CONCRETE PANELS.

◐ FOOTING DIMENSION EQUALS PANEL THICKNESS PLUS 1'-2"

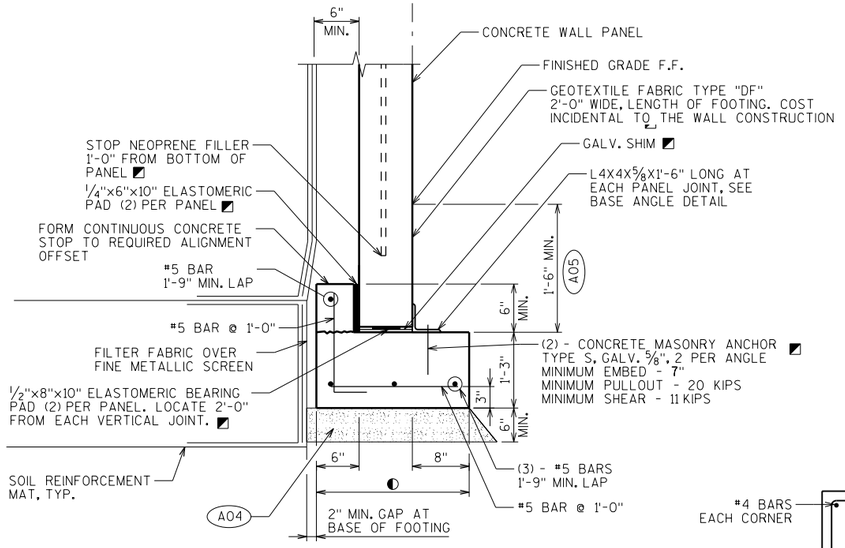
◩ INCLUDED IN THE BID ITEM "PRESTRESSED PRECAST CONCRETE WALL PANEL".

NOTES

AN ALTERNATE WALL PANEL ANCHOR AND PANEL CONSTRUCTION SYSTEM MAY BE SUBMITTED FOR REVIEW AND POSSIBLE ACCEPTANCE BY THE ENGINEER.

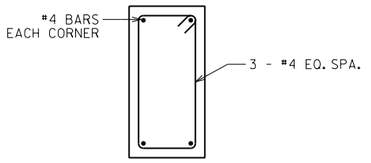
TILT UP PANEL ANCHOR SYSTEM MAY BE TRENCHED IN IF THE GEOMETRY OF THE ANCHOR SYSTEM LOCATION ALLOWS.

OPTIONAL TRANSVERSE CONSTRUCTION JOINTS ARE PERMITTED IN THE FOOTING WITH A MINIMUM SPACING OF TWO PANEL LENGTHS. FOOTING JOINTS SHOULD BE OFFSET A MINIMUM OF 1'-0" FROM WALL JOINTS. RUN BAR STEEL THROUGH FOOTING JOINTS.



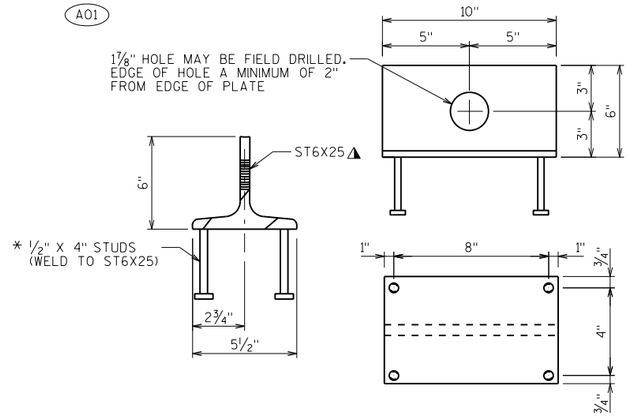
WALL PANEL FOOTING DETAIL

CONCRETE AND REINFORCEMENT INCLUDED IN THE BID ITEM "PRESTRESSED PRECAST CONCRETE WALL PANEL."



ANCHOR BLOCK DETAIL

A01



PANEL CONNECTION DETAILS

(2 PER PANEL)

◭ S12X50 (GALV.) CUT IN ½ TO FORM "T" SECTION. BF = 5.477" TW = 0.687".

* AS AN ALTERNATE, ½" TYPE "S" ANCHORS MAY BE USED IN PLACE OF THE 4" STUDS.

ST6X25 MAY BE WELDED TO ¾" THICK PLATE WITH (4) ½" X 4" STUDS ANCHORED IN PRECAST PANEL. RESTORE ZINC COATING AROUND ANY WELDED AREAS. SUBMIT DETAILS FOR APPROVAL BY ENGINEER.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE R-70-102

DRAWN BY KJZ | PLANS CK'D. NPP

WALL DETAILS 2

SHEET 4 OF 7
425

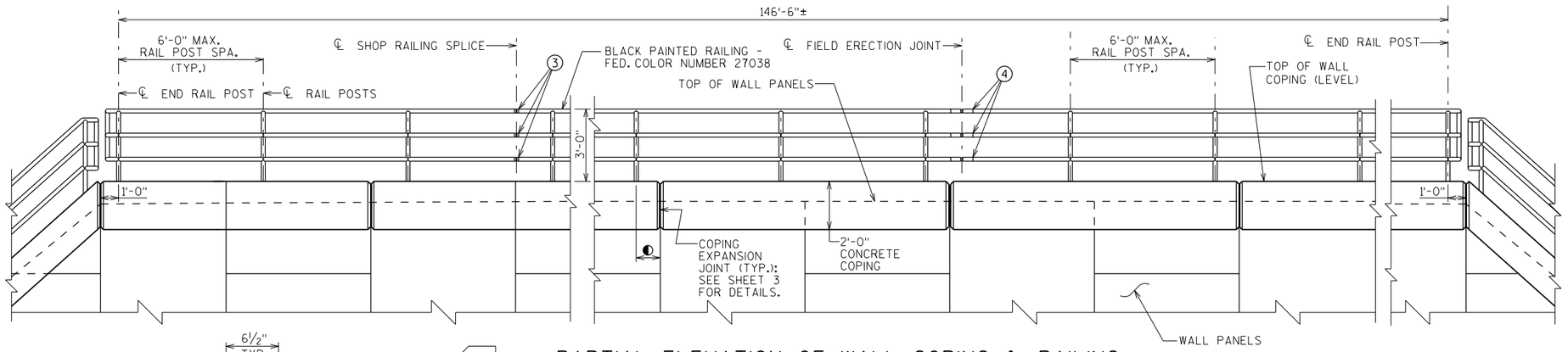
DATE: 2-27-2014
I.D.

FILE= O:\WisDOT_12345678_10-441\Plans\R-70-102\Sheets\04-R-70-102 - Tilt Up Panel Detail.dgn

8

8

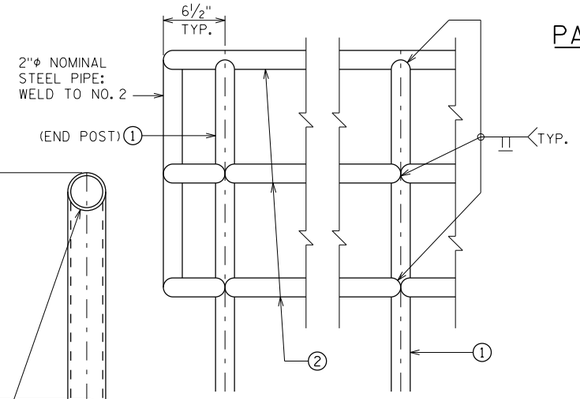
STATE PROJECT NUMBER
1517-07-72



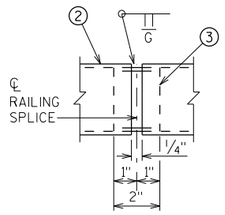
PARTIAL ELEVATION OF WALL COPING & RAILING

LOOKING NORTH AT F.F. WALL

◐ 1'-0" MIN. DISTANCE REQUIRED BETWEEN THE ℄ OF COPING EXPANSION JOINTS AND THE ℄ OF RAIL POSTS

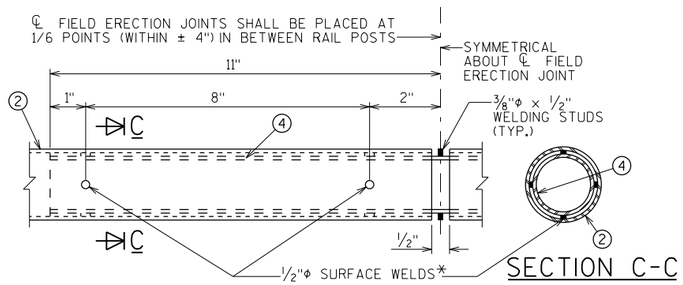


PART ELEVATION OF RAILING



SHOP RAILING SPLICE DETAIL

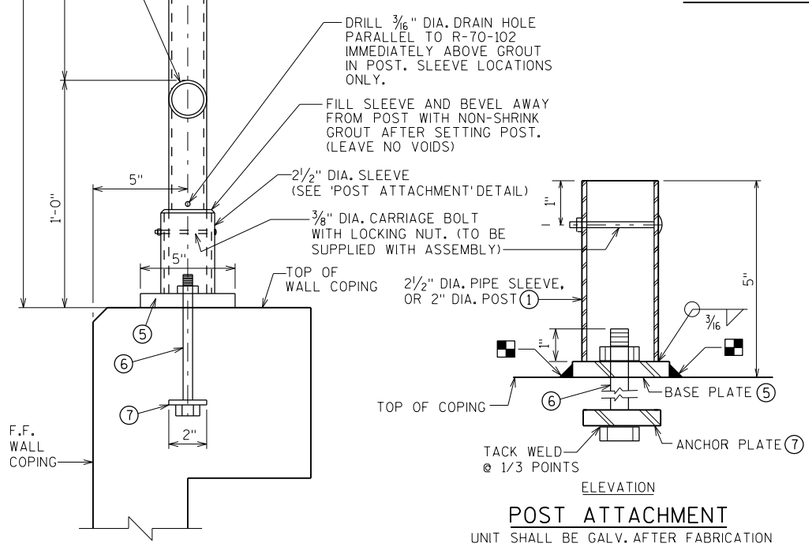
(LOCATION MUST BE SHOWN ON THE SHOP DRAWINGS)



FIELD ERECTION JOINT DETAIL

*MIN. ⅝" FLAT SURFACE DIA. PUNCHINGS OR STUDS MAY BE USED AS AN ALTERNATE.

SECTION C-C



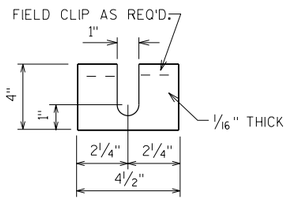
SECTION THRU RAILING

ELEVATION

POST ATTACHMENT

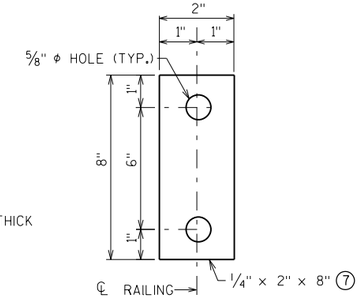
UNIT SHALL BE GALV. AFTER FABRICATION

NOTE:
IN LIEU OF USING THE 2½"Φ SLEEVE, THE 2"Φ RAIL POST MAY BE WELDED TO THE BASE PLATE.

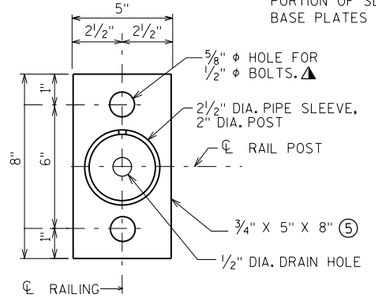


POST SHIM DETAILS

SHIMS REQUIRED ONLY WHEN POSTS ARE WELDED TO BASE PLATES. PROVIDE 4 SHIMS PER POST.



ANCHOR PLATE



BASE PLATE

LEGEND

① 2"Φ NOMINAL STEEL PIPE FOR POSTS: CUT BOTTOM OF POST TO MATCH TOP OF CONCRETE. POSTS ARE TO BE SET VERTICAL.

② 2"Φ NOMINAL STEEL PIPE FOR RAILS: WELD TO NO. 1

③ 1½"Φ PIPE SLEEVE FOR NO. 2. PROVIDE "SLIDING FIT" WITH A MINIMUM OUT TO OUT DIMENSION OF 2 1/16".

④ 1½"Φ PIPE SLEEVE × 1'-10" LONG FOR NO. 2. PROVIDE ½"Φ SURFACE WELDS ON ALL SIDES AS SHOWN. GRIND WELDS TO FIT FREE INTO I.D. OF NO. 2. PROVIDE ⅜"Φ × ½" WELDING STUDS ON TOP AND BOTTOM SURFACES AT CENTERLINE.

⑤ PLATE ¾" × 5" × 8", WITH ⅝"Φ HOLE FOR ANCHOR BOLTS NO. 6. WELD TO NO. 1. OR PIPE SLEEVE AS SHOWN.

⑥ ½"Φ × 6⅞" LONG HEX BOLTS (GALVANIZED) WITH NUT AND WASHER. 2 REQ'D. PER POST. THREAD 3" AND PLACE NORMAL TO PLATE NO. 5. CHAMFER TOP OF BOLTS BEFORE THREADING. TYPE S, ½" CONCRETE MASONRY ANCHORS MAY BE SUBSTITUTED FOR ½" BOLTS. ANCHOR PLATE NOT REQUIRED WHEN TYPE S ANCHORS ARE USED. SEE NOTE ☆

☆ ½" DIA. CONCRETE MASONRY ANCHOR, TYPE "S", 6" MIN. EMBEDMENT (EPOXY ANCHORED) INTO CONCRETE AND MINIMUM PULLOUT CAPACITY OF 10 KIPS. ANCHOR, WASHER AND NUT SHALL BE GALVANIZED.

⑦ ¼" × 2" × 8" FLAT BAR, WITH ⅝"Φ HOLES FOR ANCHOR BOLTS NO. 6.

GENERAL NOTES

BID ITEM SHALL BE "RAILING PIPE R-70-102", WHICH INCLUDES ALL ITEMS SHOWN.

RAILING SHALL BE FABRICATED IN LENGTHS THAT INCLUDE 3 OR 4 POSTS.

FIELD ERECTION JOINTS MUST BE PLACED IN BETWEEN RAIL POSTS WHERE THERE IS ALSO A CONCRETE COPING EXPANSION JOINT IN BETWEEN RAIL POSTS.

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.

ALL MATERIAL EXCEPT ANCHORAGE DETAIL (NO. 7) SHALL BE GALVANIZED AFTER FABRICATION. PRIOR TO GALVANIZING, ALL STEEL RAILING POSTS AND STEEL TUBING SHALL BE GIVEN A NO. 6 BLAST CLEANING BY S.S.P.C. SPECIFICATIONS. AFTER GALVANIZING, PAINT ALL SURFACES OF RAILING BLACK (FEDERAL COLOR NUMBER 27038).

DRILL DRAIN HOLES PRIOR TO GALVANIZING.

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

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

ALL RAILS, POSTS AND SLEEVES ARE STANDARD WEIGHT PIPE, SCHEDULE 40.

PLACE ALL NUTS ON OUTSIDE OF POSTS.

ANCHORAGES SHALL BE ACCURATELY PLACED TO PROVIDE CORRECT ALIGNMENT OF RAILING.

◪ CAULK AROUND PERIMETER OF BASE PLATES AND FILL PORTION OF SLOTTED HOLES AROUND ANCHOR BOLTS IN POST SHIMS AND BASE PLATES WITH NON-STAINING, GRAY, NON-BITUMINOUS JOINT SEALER.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE R-70-102

DRAWN BY	KJZ	PLANS CK'D.	NPP

PIPE RAILING DETAILS

SHEET 5 OF 7
426

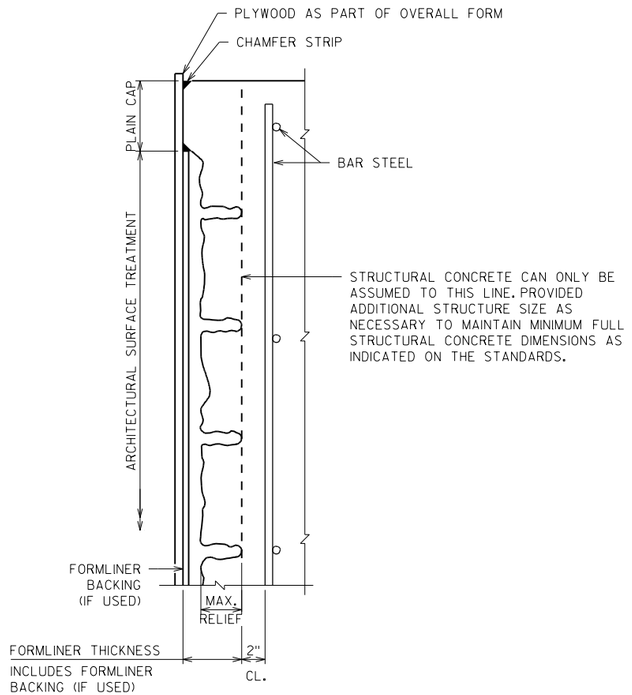
DATE: 2/27/2014
I.D.

FILE= Q:\WisDOT_12345678_10-441\Plans\R-70-102\Sheets\05_R-70-102_Rail Details.DGN

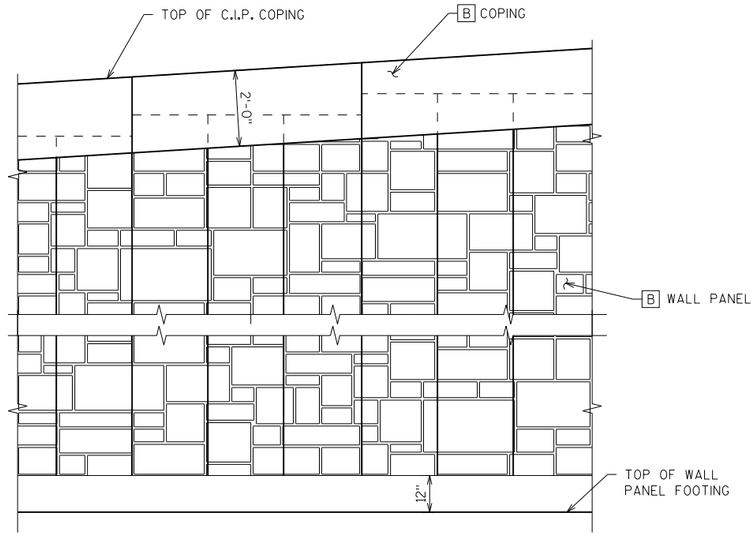
8

8

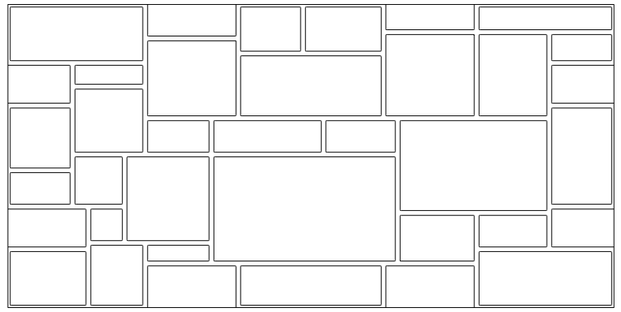
STATE PROJECT NUMBER
1517-07-72



SECTION THROUGH FORMLINER



CONCRETE STAINING DETAIL
(PIPE RAILING NOT SHOWN FOR CLARITY)



ASHLAR

MAXIMUM RELIEF:	1⅝"
AVERAGE RELIEF:	1¼"
LINER THICKNESS*:	2½"
STONE SIZE:	H: 3" - 17"
	W: 5"-29"

* INCLUDES INTERNAL PLYWOOD BACKING

CONCRETE STAINING SCHEDULE

MARK	COLOR	FED. COLOR NO.	LOCATION
B	LATTE	33522	WALLS, PARAPETS

NOTE: 1. FINISH ON COLORS IS FLAT (LUSTERLESS)

NOTES

FORMLINER COURSING ON RETAINING WALLS SHALL BE LEVEL.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE R-70-102

DRAWN BY KJZ | PLANS CK'D. NPP

AESTHETIC DETAILS

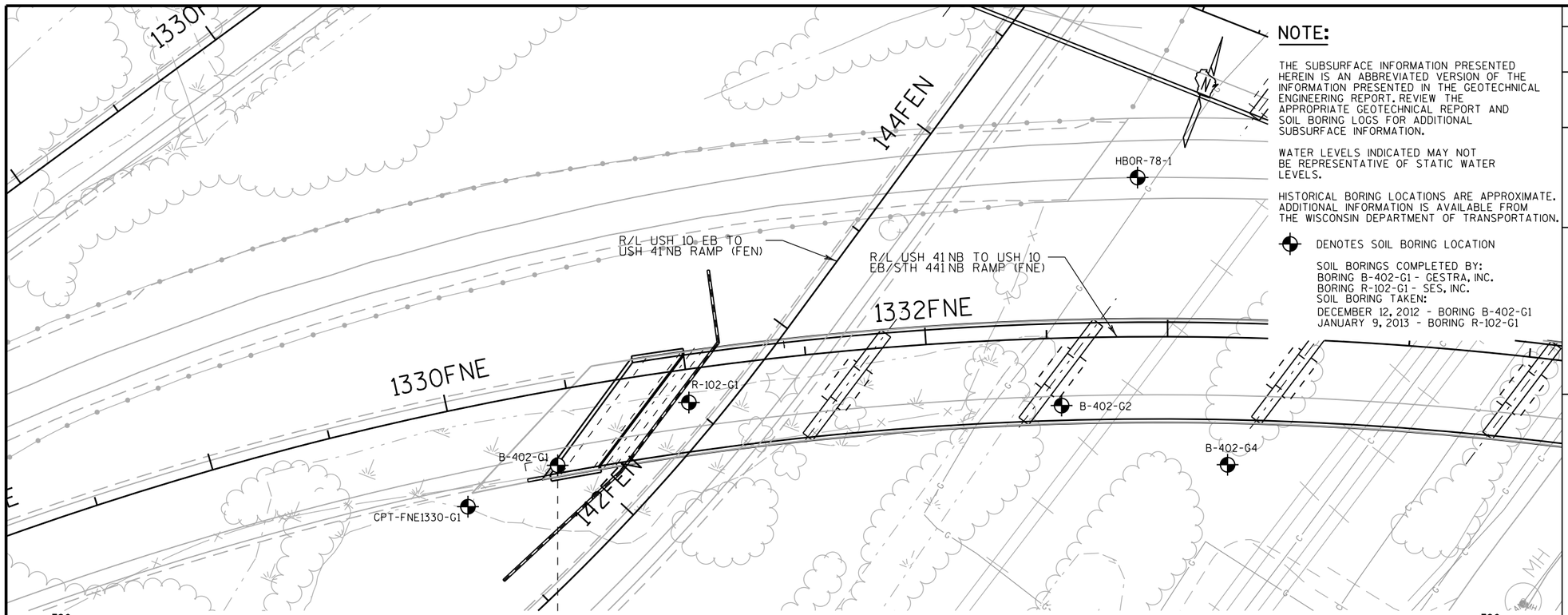
SHEET 6 OF 7
427

8

8

FILE= G:\WisDOT_12345678_10-441\Plans\R-70-102\Sheets\06-R-70-100_Aesthetic Details.dgn

DATE: 2/27/2014
I.D.



NOTE:

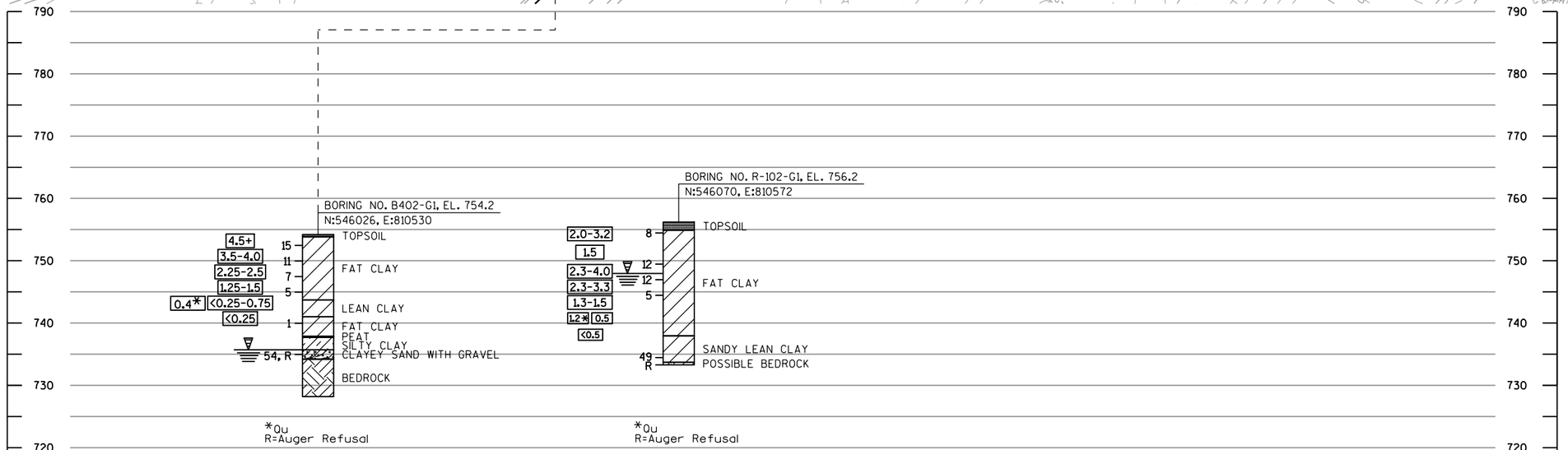
THE SUBSURFACE INFORMATION PRESENTED HEREIN IS AN ABBREVIATED VERSION OF THE INFORMATION PRESENTED IN THE GEOTECHNICAL ENGINEERING REPORT. REVIEW THE APPROPRIATE GEOTECHNICAL REPORT AND SOIL BORING LOGS FOR ADDITIONAL SUBSURFACE INFORMATION.

WATER LEVELS INDICATED MAY NOT BE REPRESENTATIVE OF STATIC WATER LEVELS.

HISTORICAL BORING LOCATIONS ARE APPROXIMATE. ADDITIONAL INFORMATION IS AVAILABLE FROM THE WISCONSIN DEPARTMENT OF TRANSPORTATION.

⊕ DENOTES SOIL BORING LOCATION

SOIL BORINGS COMPLETED BY:
BORING B-402-G1 - GESTRA, INC.
BORING R-102-G1 - SES, INC.
SOIL BORING TAKEN:
DECEMBER 12, 2012 - BORING B-402-G1
JANUARY 9, 2013 - BORING R-102-G1



STATE PROJECT NUMBER

1517-07-72

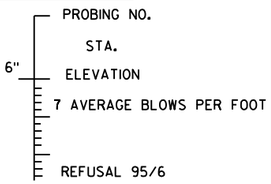
ABBREVIATIONS

F — FINE M — MEDIUM C — COARSE
WS — WEATHERED SO — SOUND

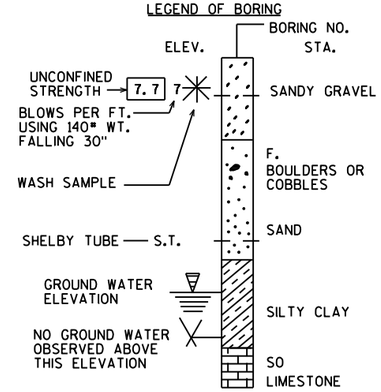
MATERIAL SYMBOLS

TOPSOIL / FILL, SILT, SANDSTONE
SAND, PEAT, LIMESTONE
GRAVEL, CLAY, IGNEOUS ROCK

LEGEND OF PROBING



LEGEND OF BORING



UNLESS OTHERWISE SPECIFIED, THE BLOWS PER FOOT AT THE LOCATIONS INDICATED ARE BASED ON DRIVING A 2" O.D. X 1.4" I.D. SPLIT SPOON SAMPLER WITH A 140# HAMMER HAVING A FREE FALL OF 30". THE BLOW COUNT IS TAKEN IN UNDISTURBED SOIL IMMEDIATELY BELOW A CASED OR OPEN HOLE ELIMINATING SIDE FRICTION ON THE DRIVE PIPE.

SUBSURFACE EXPLORATION FOR FOUNDATION DESIGN AND BIDDERS INFORMATION

TO OBTAIN RELATIVE DATA CONCERNING THE CHARACTER OF MATERIAL IN AND UPON WHICH THE FOUNDATION MIGHT BE BUILT, BORINGS AND/OR SOUNDINGS WERE MADE AT POINTS APPROXIMATELY AS INDICATED ON THIS DRAWING. THE DATA PRESENTED HEREIN REPRESENTS THE FINDINGS OF THE SUBSURFACE EXPLORATIONS MADE. HOWEVER, BECAUSE THE DEPTHS INVESTIGATED ARE LIMITED AND THE AREA OF THE BORINGS AND/OR SOUNDINGS IS VERY SMALL IN RELATION TO THE ENTIRE AREA, THE WISCONSIN DEPARTMENT OF TRANSPORTATION DOES NOT WARRANT CONDITIONS BELOW THE DEPTHS INVESTIGATED OR THAT THE CLASSIFICATION OF MATERIAL ENCOUNTERED IN THESE INVESTIGATIONS IS NECESSARILY TYPICAL OF THE ENTIRE SITE.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE R-70-102

DRAWN BY DB | PLANS CK'D. BW

SUBSURFACE EXPLORATION

SHEET 7 OF 7

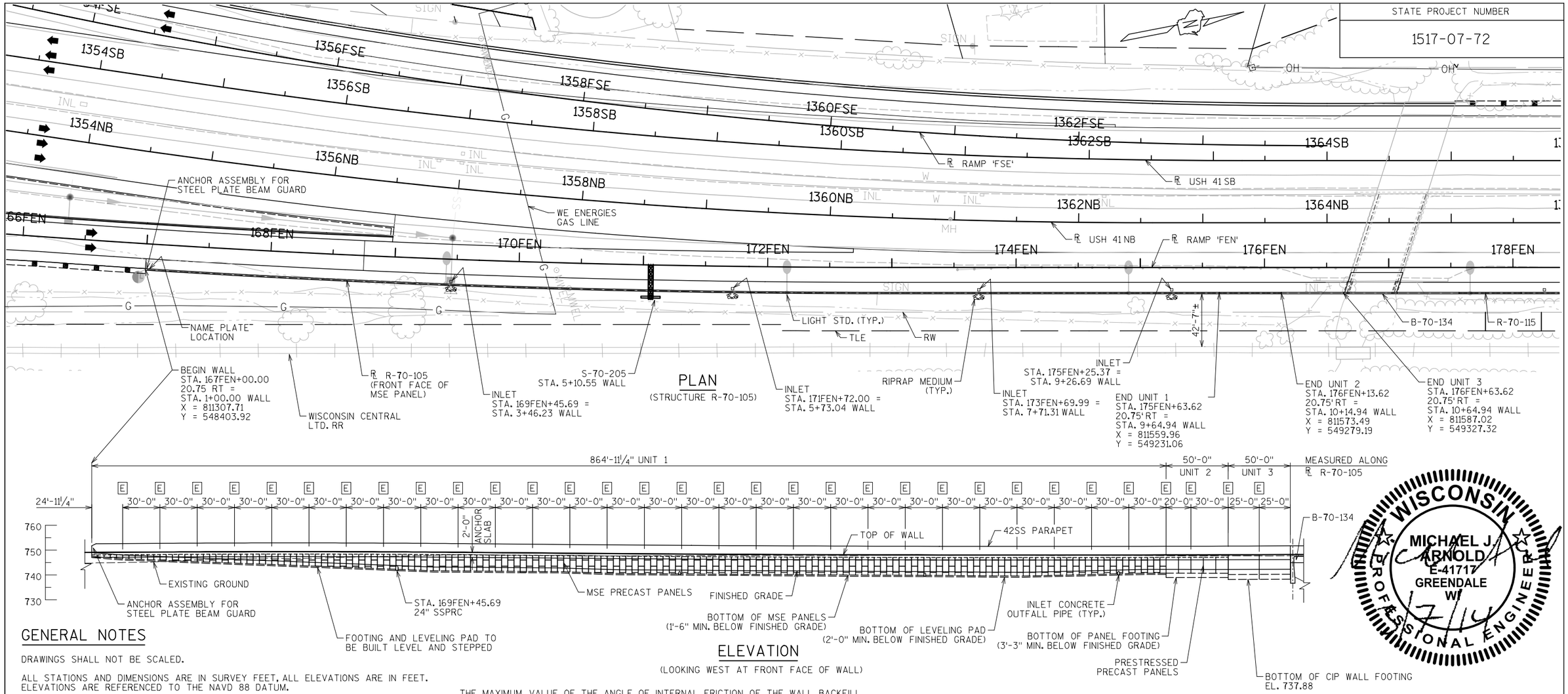
8

8

FILE NAME : I:\56537\AllContracts\2. Geotech\Subsurface Sheets\080217_se.dgn PLOT DATE : 9/9/2013 PLOT BY : dbaumann PLOT NAME : $FILE$ PLOT SCALE : 50:1

STATE PROJECT NUMBER

1517-07-72



PLAN

(STRUCTURE R-70-105)

ELEVATION

(LOOKING WEST AT FRONT FACE OF WALL)

GENERAL NOTES

DRAWINGS SHALL NOT BE SCALED.

ALL STATIONS AND DIMENSIONS ARE IN SURVEY FEET, ALL ELEVATIONS ARE IN FEET. ELEVATIONS ARE REFERENCED TO THE NAVD 88 DATUM.

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

THE CONTRACTOR SHALL PROVIDE COMPLETE DESIGN, PLANS, DETAILS, SPECIFICATIONS, AND SHOP DRAWINGS FOR THE RETAINING WALL, AND MSE WALL REINFORCEMENT IN ACCORDANCE WITH THE SPECIAL PROVISIONS. THE RETAINING WALL SUPPLIER SHALL PROVIDE TECHNICAL ASSISTANCE TO THE CONTRACTOR DURING CONSTRUCTION. THE COST OF FURNISHING THESE ITEMS SHALL BE INCLUDED IN THE BID ITEM "WALL CONCRETE PANEL MECHANICALLY STABILIZED EARTH LRFD/QMP PILOT" AND "WALL WIRE FACED MECHANICALLY STABILIZED EARTH LRFD/QMP PILOT."

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 RETAINING WALL IS TO BE DESIGNED USING THE ELEVATIONS GIVEN IN THE GEOMETRY TABLE.

DESIGN FOR RETAINING WALL TO PROVIDE FOR A FINISHED GRADE SLOPE BEHIND THE WALL AS SHOWN IN THE ROADWAY CROSS SECTIONS.

DESIGN RETAINING WALL FOR A LIVE LOAD SURCHARGE OF 240 PSF.

THE FIRST DIGIT OF A THREE DIGIT BAR NO. AND THE FIRST TWO DIGITS OF A FOUR DIGIT BAR NO. SIGNIFIES THE BAR SIZE.

PROVIDE A RUBBED SURFACE TREATMENT IN ACCORDANCE WITH SECTION 502.3.7.3 TO ALL PERMANENTLY EXPOSED SURFACES OF CONCRETE MASONRY RETAINING WALLS.

BEVEL EXPOSED EDGES OF CONCRETE ¾" UNLESS NOTED OTHERWISE.

JOINT FILLER SHALL CONFORM TO THE REQUIREMENTS OF A.A.S.H.T.O. DESIGNATION M 153, TYPE I, II OR III OR A.A.S.H.T.O. DESIGNATION M 213.

CONSTRUCTION OF UNIT 2 REQUIRES SETTLEMENT PERIOD. SEE SHEET 4 FOR 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.

HOT DIP GALVANIZE ALL STRUCTURAL STEEL CARBON IN ACCORDANCE WITH ASTM A123 WHERE SHOWN.

APPLY PROTECTIVE SURFACE TREATMENT TO THE TOP AND INSIDE FACES OF PARAPETS AND EXPOSED PORTION OF ANCHOR SLAB.

THE COST OF FURNISHING AND PLACING THE LEVELING PAD UNDER THE PRECAST WALL PANELS IS INCLUDED IN THE BID ITEM "WALL CONCRETE PANEL MECHANICALLY STABILIZED EARTH LRFD/QMP PILOT."

THE COST OF FURNISHING AND PLACING THE FOOTING UNDER THE PRESTRESSED PRECAST WALL PANELS IS INCLUDED IN THE BID ITEM "PRESTRESSED PRECAST CONCRETE WALL PANEL."

THE QUANTITY OF CONCRETE MASONRY FOR THE CAST-IN-PLACE ANCHOR SLAB, COPING, AND PARAPETS IS PAID FOR UNDER THE ITEM "CONCRETE MASONRY RETAINING WALLS."

THE QUANTITY OF CONCRETE MASONRY FOR THE CAST-IN-PLACE WALL AND FOOTING IN UNIT 3 IS PAID FOR UNDER THE ITEM "CONCRETE MASONRY RETAINING WALLS."

ALL STATIONS ARE ALONG THE ℄ FOR R-70-105 ALONG THE FRONT FACE OF WALL UNLESS SHOWN OTHERWISE.

THE CONTRACTOR MUST COORDINATE THE CONSTRUCTION OF RETAINING WALL R-70-105 WITH BRIDGE B-70-134 AND S-70-205. STRUCTURES ARE TO BE BUILT CONCURRENTLY.

THE SOILS AT THE BASE OF THE WALL SHALL BE REVIEWED BY THE NORTHEAST REGION SOILS ENGINEER TO DETERMINE IF THE SOILS HAVE ADEQUATE STRENGTH TO SUPPORT THE MSE WALL.

ANY GAPS DUE TO STEPPING OF THE FOOTING OR LEVELING PAD LARGER THAN 6" X 6" SHALL BE REINFORCED BY BRICKS AND MORTAR, INCIDENTAL TO BID ITEM "WALL CONCRETE PANEL MECHANICALLY STABILIZED EARTH LRFD/QMP PILOT" OR "PRESTRESSED PRECAST CONCRETE WALL PANEL."

LEGEND

E = EXPANSION JOINT

⬅ = DIRECTION OF TRAFFIC

DESIGN DATA

LIVE LOAD
LIVE LOAD SURCHARGE (ROADWAY).....240 PSF

MATERIAL PROPERTIES
CONCRETE MASONRY RETAINING WALL.....F'C = 3,500 PSI
PRECAST CONCRETE WALL PANELS.....F'C = 4,000 PSI
PRESTRESSED PRECAST CONCRETE WALL PANELS.....F'C = 5,000 PSI
BAR STEEL REINFORCEMENT.....F'C = 60,000 PSI

FOUNDATION DATA - ALLOWABLE SOIL BEARING CAPACITY
RETAINING WALL.....VARIES

NOTE: THE WALL HAS BEEN DESIGNED FOR TRAFFIC LOADING ONLY. IF DURING CONSTRUCTION HEAVY EQUIPMENT IS OPERATING IN CLOSE PROXIMITY TO THE WALL OR IF MATERIAL IS STOCKPILED NEAR THE WALL, THE SAFETY FACTOR FOR THIS WALL WILL SIGNIFICANTLY DECREASE.

NE REGION CONTACT - SCOTT EBEL (920) 492-2240
BUREAU OF STRUCTURES CONTACT - WILLIAM DREHER (608) 266-8489
CONSULTANT CONTACT - MICHAEL ARNOLD (414) 831-4179

LIST OF DRAWINGS

1. GENERAL PLAN AND ELEVATION
2. DESIGN DATA AND QUANTITIES
3. WALL DETAILS 1
4. WALL DETAILS 2
5. WALL DETAILS 3
6. WALL DETAILS 4
7. CIP WALL DETAILS
8. SINGLE SLOPE PARAPET 42SS
9. ANCHOR SLAB AT INLET
10. LIGHT STANDARD
11. SUBSURFACE EXPLORATION

WISCONSIN PROFESSIONAL ENGINEER
MICHAEL J. ARNOLD
E-41717
GREENDALE
WI

NO.	DATE	REVISION	BY

URS
342 North Water Street
7th Floor
Milwaukee, WI 53202
(414) 831-4100

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

ACCEPTED William C. Dreher KAR 03/12/14
CHIEF STRUCTURES DESIGN ENGINEER DATE

STRUCTURE R-70-105

RETAINING WALL ALONG RAMP 'FEN', S. OF B-70-134

COUNTY	TOWN/~~CITY/VILLAGE~~
WINNEBAGO	MENASHA

DESIGN SPEC.
AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS

DESIGNED BY	MRL	DESIGN CK'D.	JDB	DRAWN BY	MRL	PLANS CK'D.	JDB

GENERAL PLAN AND ELEVATION

SHEET 1 OF 11
429

DATE: 3/10/2014
I.D.

FILE= P:\Transportation\US 10 WIS 441\CADD\sheets\Structures\R-70-105\Sheets\Final\01-R-70-105_gp.dgn

STATE PROJECT NUMBER
1517-07-72

GEOMETRY TABLE

WALL STATION	RAMP FEN STATION	OFFSET TO R/L OF WALL	TOP OF WALL	FINISHED GRADE	
1+00.00	167+00.00	20.75	749.04	748.96	UNIT 1
1+25.00	167+24.95	20.75	749.10	747.99	
1+50.00	167+49.89	20.75	749.15	747.04	
1+75.00	167+74.84	20.75	749.18	746.54	
2+00.00	167+99.78	20.75	749.22	746.08	
2+25.00	168+24.73	20.75	749.33	745.62	
2+50.00	168+49.67	20.75	749.18	745.16	
2+75.00	168+74.62	20.75	749.17	744.70	
3+00.00	168+99.56	20.75	749.09	744.24	
3+25.00	169+24.51	20.75	749.00	743.78	
3+50.00	169+49.45	20.75	748.93	743.32	
3+75.00	169+74.40	20.75	748.84	742.86	
4+00.00	169+99.34	20.75	748.77	742.79	
4+25.00	170+24.29	20.75	748.69	742.72	
4+50.00	170+49.23	20.75	748.62	742.65	
4+75.00	170+74.18	20.75	748.54	742.58	
5+00.00	170+99.12	20.75	748.46	742.22	
5+25.00	171+24.07	20.75	748.38	741.93	
5+50.00	171+49.01	20.75	748.30	741.88	
5+75.00	171+73.96	20.75	748.22	741.79	
6+00.00	171+98.90	20.75	748.26	741.50	
6+25.00	172+23.85	20.75	748.34	741.46	
6+50.00	172+48.79	20.75	748.40	741.43	
6+75.00	172+73.74	20.75	748.43	741.39	
7+00.00	172+98.68	20.75	748.43	741.36	
7+25.00	173+23.68	20.75	748.34	741.32	
7+50.00	173+48.68	20.75	748.28	741.29	
7+75.00	173+73.68	20.75	748.20	741.25	
8+00.00	173+98.68	20.75	748.28	741.22	
8+25.00	174+23.68	20.75	748.37	741.18	
8+50.00	174+48.68	20.75	748.27	741.15	
8+75.00	174+73.68	20.75	748.16	741.17	
9+00.00	174+98.68	20.75	748.05	741.20	
9+25.00	175+23.68	20.75	747.98	741.22	
9+50.00	175+48.68	20.75	748.04	741.25	
9+64.94	175+63.62	20.75	748.10	741.76	
9+75.00	175+73.68	20.75	748.14	742.10	UNIT 2
10+00.00	175+98.68	20.75	748.24	742.05	
10+14.94	176+13.62	20.75	748.29	742.01	
10+25.00	176+23.68	20.75	748.34	741.98	
10+50.00	176+48.68	20.75	748.45	741.92	
10+64.94	176+63.62	20.75	748.52	741.88	UNIT 3

TOTAL ESTIMATED QUANTITIES

BID ITEM #	BID ITEM	UNIT	TOTAL
206.3000	EXCAVATION FOR STRUCTURES RETAINING WALLS R-70-105	LS	1
210.0100	BACKFILL STRUCTURE	CY	198
502.3200	PROTECTIVE SURFACE TREATMENT	SY	545
504.0500	CONCRETE MASONRY RETAINING WALLS	CY	495
505.0615	BAR STEEL REINFORCEMENT HS COATED RETAINING WALLS	LB	58,380
516.0500	RUBBERIZED MEMBRANE WATERPROOFING	SY	43
550.1100	PILING STEEL HP 10-INCH X 42 LB	LF	560
612.0406	PIPE UNDERDRAIN WRAPPED 6-INCH	LF	975
614.0150	ANCHOR ASSEMBLIES FOR STEEL PLATE BEAM GUARD	EACH	1
652.0125	CONDUIT RIGID METALLIC 2-INCH	LF	192
652.0225	CONDUIT RIGID NONMETALLIC SCHEDULE 40 2-INCH	LF	776
653.0222	JUNCTION BOXES 18X12X6-INCH	EACH	7
657.6005.S	ANCHOR ASSEMBLIES LIGHT POLES ON STRUCTURES	EACH	3
SPV.0165.850	PRESTRESSED PRECAST CONCRETE WALL PANEL	SF	385
SPV.0165.851	WALL CONCRETE PANEL MECHANICALLY STABILIZED EARTH LRFD/QMP PILOT	SF	6,230
SPV.0165.852	WALL WIRE FACED MECHANICALLY STABILIZED EARTH LRFD/QMP PILOT	SF	385
	NON BID ITEMS		
	FILLER	SIZE	1/2" & 1"
	NAME PLATE	EACH	1
	EXPANDED POLYSTYRENE	SIZE	1"

BENCHMARK

NO.	DESCRIPTION	ELEVATION
41E	WIS DOT DISK IN SE PARAPET WALL OF 41 BRIDGE OVER CREEK, NORTH OF 441 BRIDGE	751.32
LA5	NE FLANGE BOLT HYD ON EAST SIDE OF LAKE DRIVE BETWEEN HSE#'S 1761 & 1749	746.14

WALL EXTERNAL AND OVERALL STABILITY EVALUATION

WALL DIMENSIONS				
MAX. WALL HEIGHT [1] (FEET)	7.5	8.3	8.5	8.3
MAX. EXPOSED WALL HEIGHT (FEET)	6.0	6.8	7.0	6.8
** MIN. LENGTH OF REINFORCEMENT (FEET)	8.0 [2]	10.0	10.0	10.0
RATIO OF REIN./WALL HEIGHT	N/A [2]	1.2	1.2	1.2
DESIGN SLOPE ANGLE AT FRONT (DEGREE)	0	0	0	0
DESIGN SLOPE ANGLE AT BACK (DEGREE)	0	0	0	0
WALL SECTION FOR ANALYSIS	4+00	7+50	8+50	9+50
APPLICABLE WALL STATION RANGE	1+00 TO 4+00	4+00 TO 7+50	7+50 TO 9+25	9+25 TO 10+15
APPLIED BORING LOG [4]	R105-G1A	R105-G3	R105-G3	R105-G3
CAPACITY TO DEMAND RATIO [3] (≥1.0) AND FACTORED BEARING RESISTANCE [3] (PSF)				
GLOBAL STABILITY	1.2	1.0*	1.0*	1.0*
ECCENTRICITY	1.6	2.3	2.3	2.3
SLIDING	1.3	1.5	1.5	1.5
BEARING CAPACITY	1.0*	1.0*	1.0*	1.0*
FACTORED BEARING RESISTANCE (PSF)	3,700	2,400	2,400	2,400

NOTES
1. THE WALL HEIGHT INCLUDES AN EMBEDMENT OF 1.5 FEET
2. THE LENGTH OF REINFORCEMENT IS THE MINIMUM LENGTH (8 FEET) REQUIRED BY WISDOT
3. SELECTION OF THE LOWER VALUE BETWEEN DRAINED AND UNDRAINED ANALYSIS RESULTS
4. APPLICATION OF THE WORST SOIL PROFILE (R105-G3) FROM 4+00 TO 10+15 DUE TO NONUNIFORM ELEVATIONS OF WEAK SOIL LAYER

* CONTROLLING DESIGN ISSUE
** FINAL DESIGN FOR INTERNAL STABILITY IS THE RESPONSIBILITY OF THE CONTRACTOR'S WALL DESIGNER

SOIL PARAMETERS

BORING R105-G1A (STATION NO. FEN169+00)

STRATUM LOCATION & SOIL DESCRIPTIONS	UNIT WEIGHT (PCF)	UNDRAINED PARAMETERS		DRAINED PARAMETERS	
		COHESION, C PSF	FRICTION ANGLE, DEGREES	COHESION, C' PSF	FRICTION ANGLE, DEGREES
GRANULAR BACKFILL (WITHIN REINFORCING ZONE)	120	NA	NA	0	30
FILL BEHIND AND BELOW THE REINFORCING ZONE	125	1000	0	0	30
LEAN CLAY (EL. 728 TO EL. 742)	110	1000	0	0	26
FAT CLAY (EL. 714 TO EL. 728)	110	750	0	0	24
FAT/LEAN CLAY (BELOW EL. 714)	115	1500	0	0	28
ASSUMED DESIGN GROUNDWATER ELEVATION = 738.0					

BORING R105-G2 (STATION NO. FEN172+00)

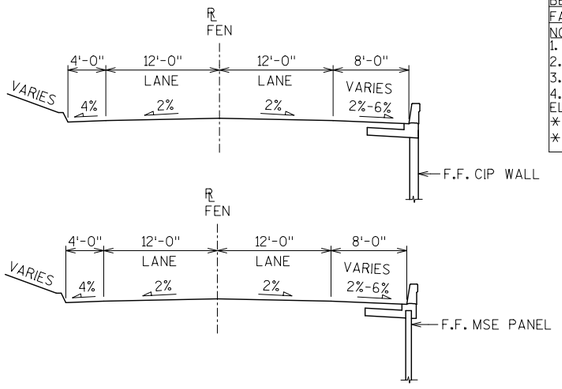
STRATUM LOCATION & SOIL DESCRIPTIONS	UNIT WEIGHT (PCF)	UNDRAINED PARAMETERS		DRAINED PARAMETERS	
		COHESION, C PSF	FRICTION ANGLE, DEGREES	COHESION, C' PSF	FRICTION ANGLE, DEGREES
GRANULAR BACKFILL (WITHIN REINFORCING ZONE)	120	NA	NA	0	30
FILL BEHIND AND BELOW THE REINFORCING ZONE	125	1000	0	0	30
LEAN CLAY (EL. 731 TO EL. 740)	110	1000	0	0	26
FAT CLAY (EL. 715 TO EL. 731)	100	750	0	0	24
FAT/LEAN CLAY (EL. 685 TO EL. 715)	115	1500	0	0	28
SILTY SAND (BELOW EL. 685)	120	NA	NA	0	28
ASSUMED DESIGN GROUNDWATER ELEVATION = 738.0					

BORING R105-G3 (STATION NO. FEN174+50)

STRATUM LOCATION & SOIL DESCRIPTIONS	UNIT WEIGHT (PCF)	UNDRAINED PARAMETERS		DRAINED PARAMETERS	
		COHESION, C PSF	FRICTION ANGLE, DEGREES	COHESION, C' PSF	FRICTION ANGLE, DEGREES
GRANULAR BACKFILL (WITHIN REINFORCING ZONE)	120	NA	NA	0	30
FILL BEHIND AND BELOW THE REINFORCING ZONE	125	1000	0	0	30
LEAN CLAY (EL. 732 TO EL. 744)	110	1000	0	0	26
FAT CLAY (EL. 720 TO EL. 732)	100	500	0	0	24
LEAN CLAY (EL. 7699 TO EL. 722)	125	1500	0	0	28
SILTY SAND (EL. 677 TO EL. 699)	120	NA	NA	0	28
ASSUMED DESIGN GROUNDWATER ELEVATION = 738.0					

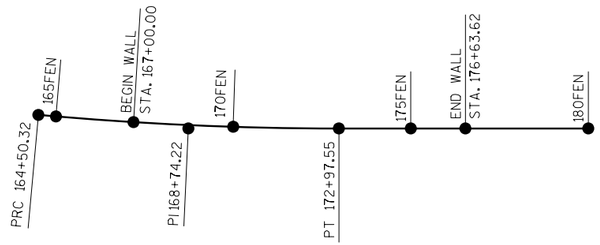
BORING R105-G4 (STATION NO. FEN176+10)

STRATUM LOCATION & SOIL DESCRIPTIONS	UNIT WEIGHT (PCF)	UNDRAINED PARAMETERS		DRAINED PARAMETERS	
		COHESION, C PSF	FRICTION ANGLE, DEGREES	COHESION, C' PSF	FRICTION ANGLE, DEGREES
GRANULAR BACKFILL (WITHIN REINFORCING ZONE)	120	NA	NA	0	30
FILL BEHIND AND BELOW THE REINFORCING ZONE	125	1000	0	0	30
LEAN CLAY (EL. 723 TO EL. 740)	125	1500	0	0	28
SOFT FAT CLAY (EL. 715 TO EL. 723)	100	500	0	0	24
M. STIFF FAT CLAY (BELOW EL. 715)	115	1000	0	0	26
ASSUMED DESIGN GROUNDWATER ELEVATION = 738.0					

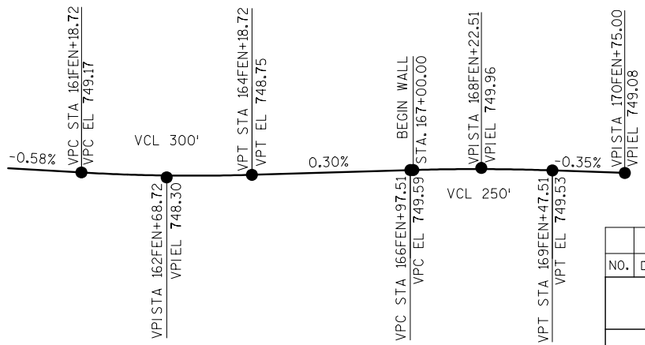


TYPICAL SECTION - RAMP 'FEN'

(LOOKING UP STATION)



HORIZONTAL ALIGNMENT RAMP 'FEN'



PROFILE GRADE LINE RAMP 'FEN'

RAMP 'FEN' HORIZONTAL CURVE DATA

PRC = 164+50.32
X = 811202.33
Y = 548176.33
PI = 168+74.22
X = 811353.27
Y = 548572.45
PT = 172+97.55
X = 811467.98
Y = 548980.53
R = 9410.00
DELTA = 5°09'31" LT
D = 0°36'32"
L = 847.23

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE R-70-105

DRAWN BY: MRL | PLANS CK'D.: JDB

DESIGN DATA AND QUANTITIES

SHEET 2 OF 11
430

DATE: 3/10/2014
I.D.

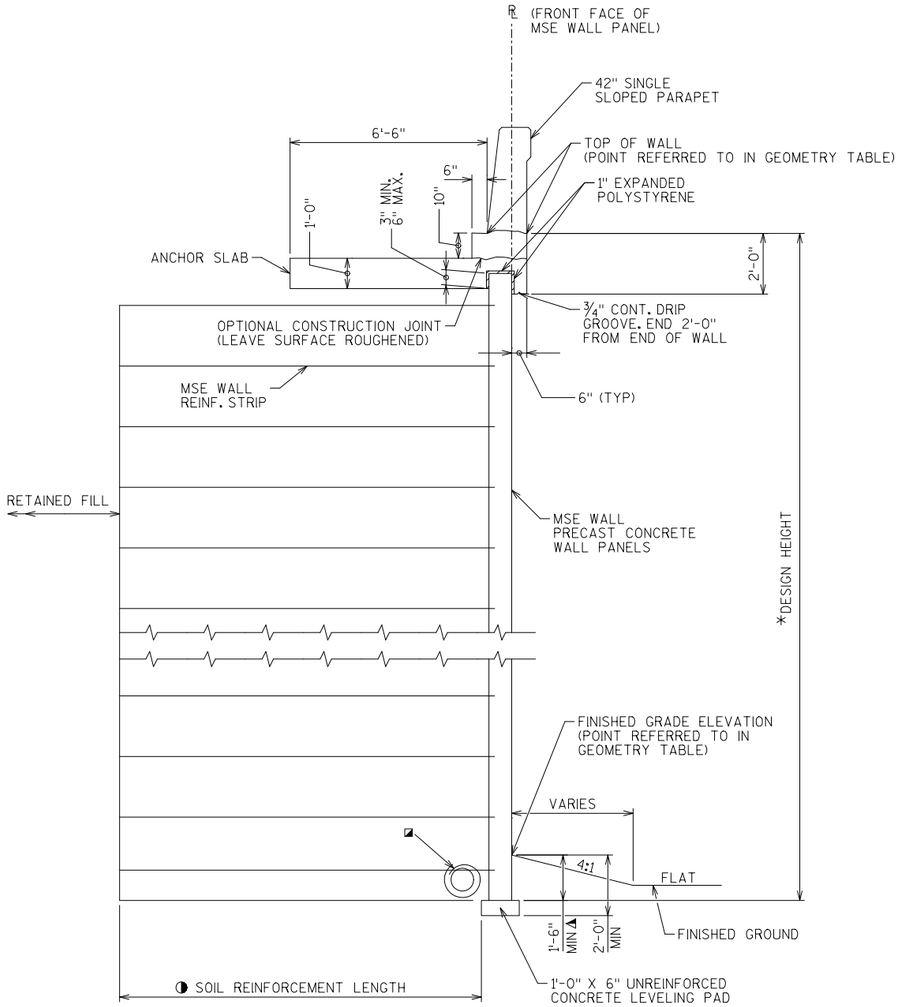
FILE= P:\Transportation\US 10 WIS 441\CADD\sheets\Structures\R-70-105\Sheets\Final\02-R-70-105_qu.dgn

8

8

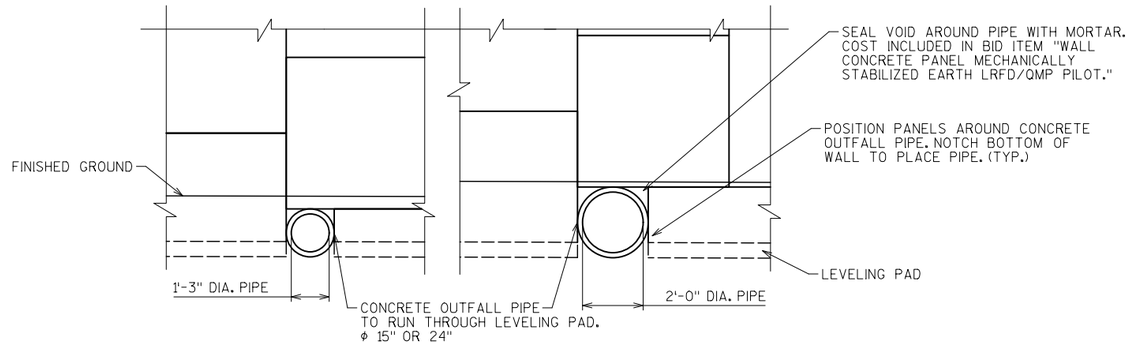
STATE PROJECT NUMBER

1517-07-72

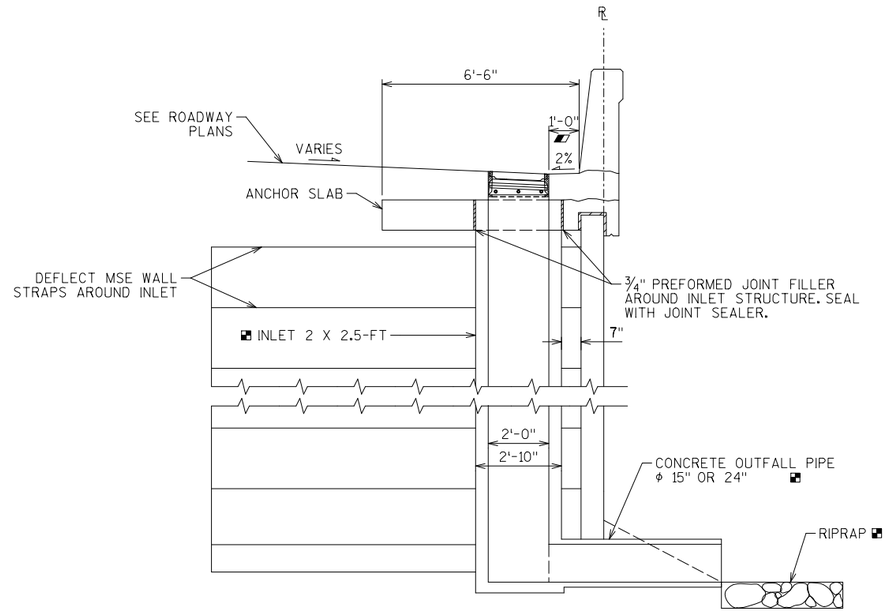


TYPICAL WALL SECTION - UNIT 1

(MSE PRECAST PANEL WALL)



MSE PANELS AT OUTFALL PIPE



TYPICAL WALL SECTION AT INLET STRUCTURE

◰ TRANSITION PAN AND SLOPE OVER 10'-0" ON EACH SIDE OF THE INLET.

⚹ THE PLAN QUANTITY FOR THE BID ITEM "WALL CONCRETE PANEL MECHANICALLY STABILIZED EARTH LRFD/QMP PILOT" IS BASED ON A WALL HEIGHT MEASURED FROM THE TOP OF LEVELING PAD TO THE TOP OF THE WALL AS SHOWN. LEVELING PAD CONCRETE IS TO BE INCLUDED IN THE BID ITEM "WALL CONCRETE PANEL MECHANICALLY STABILIZED EARTH LRFD/QMP PILOT."

◭ MINIMUM EMBEDMENT BASED ON SITE SPECIFIC PARAMETERS. FIELD EMBEDMENTS SHALL MEET OR EXCEED THE MINIMUM EMBEDMENT. FIELD EMBEDMENTS BELOW MINIMUM EMBEDMENT SHALL NOT BE INCLUDED IN THE PAY LIMITS.

◑ SEE "WALL EXTERNAL AND OVERALL STABILITY EVALUATION" TABLE ON SHEET 2 FOR SOIL REINFORCEMENT LENGTH.

◪ PIPE UNDERDRAIN WRAPPED (6-INCH) SLOPE 0.5% MIN. TO SUITABLE DRAINAGE. ATTACH RODENT SHIELDS AT EXPOSED ENDS OF PIPE UNDERDRAIN. SEE RODENT SHIELD DETAIL.

◘ RIPRAP AND CONCRETE AND STEEL REQUIRED FOR THE INLET AND OUTFALL PIPE ARE PAID FOR IN THE ROADWAY ITEMS. SEE STORM SEWER PLANS FOR INVERT ELEVATIONS.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE R-70-105

DRAWN BY MRL | PLANS CK'D. JDB

WALL DETAILS 1

SHEET 3 OF 11
431

DATE: 3/10/2014
I.D.

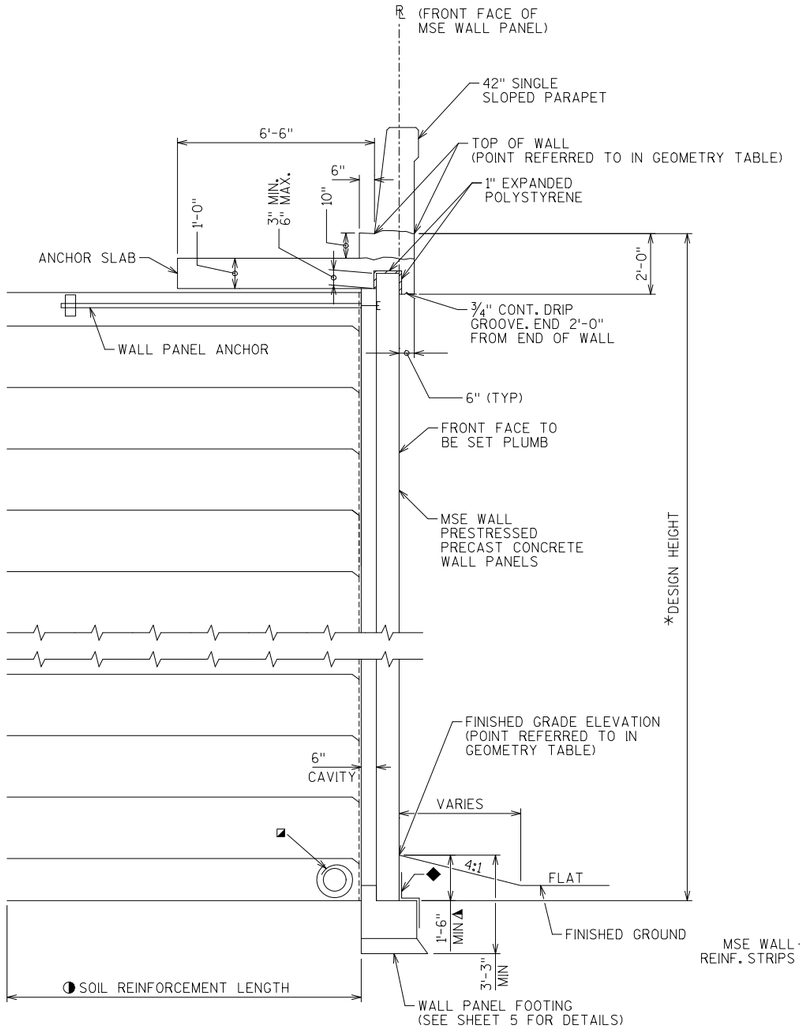
FILE= P:\Transportation\US 10 WIS 441\CADD\sheets\Structures\R-70-105\Sheets\Final\03-R-70-105_wall details.dgn

8

8

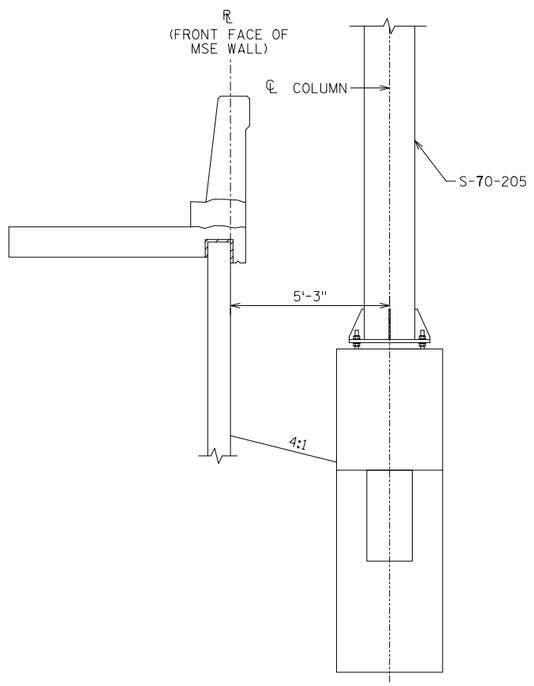
STATE PROJECT NUMBER

1517-07-72

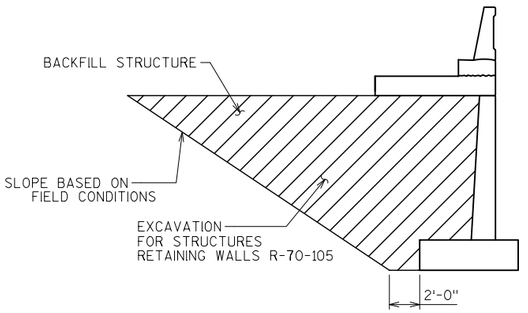


TYPICAL WALL SECTION - UNIT 2

(PRESTRESSED PRECAST TILT-UP PANEL WALL)

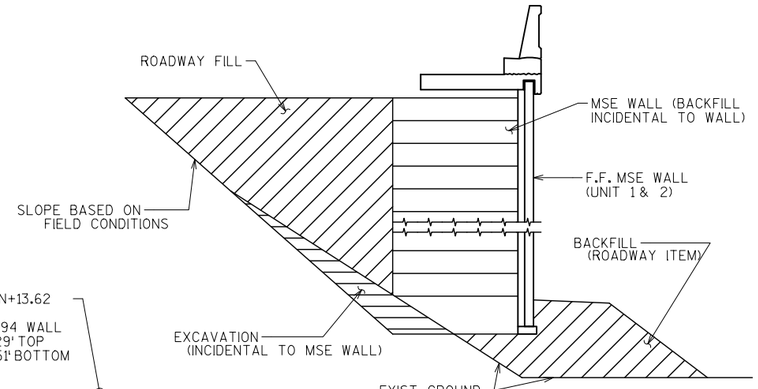


TYPICAL WALL SECTION AT SIGN STRUCTURE



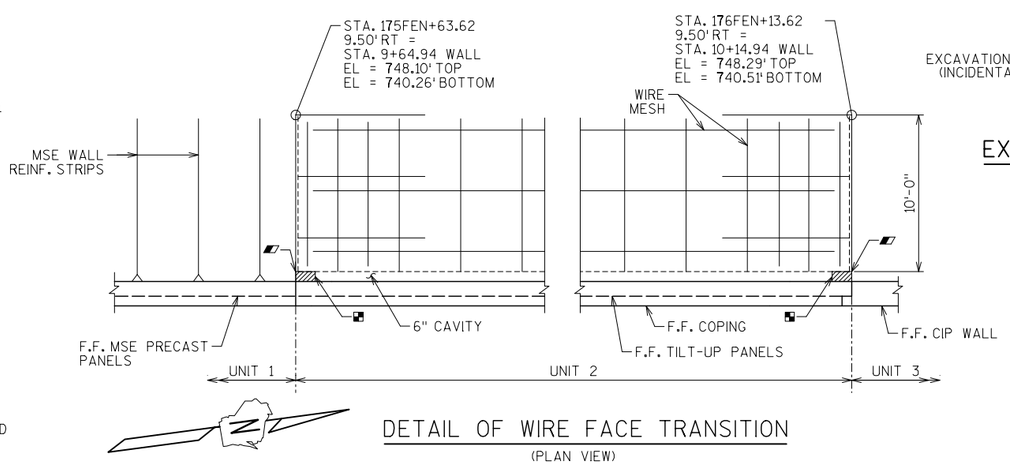
EXCAVATION/BACKFILL DETAIL

(AT CIP WALL)



EXCAVATION/BACKFILL DETAIL

(AT MSE WALL)



DETAIL OF WIRE FACE TRANSITION

(PLAN VIEW)

⚹ THE PLAN QUANTITY FOR THE BID ITEM "WALL WIRE FACED MECHANICALLY STABILIZED EARTH LRFD/QMP PILOT" AND "PRESTRESSED PRECAST CONCRETE WALL PANEL" IS BASED ON A WALL HEIGHT MEASURED FROM THE TOP OF FOOTING TO THE TOP OF THE WALL AS SHOWN. FOOTING CONCRETE AND REINFORCEMENT ARE TO BE INCLUDED IN THE BID ITEM "PRESTRESSED PRECAST CONCRETE WALL PANEL."

◭ MINIMUM EMBEDMENT BASED ON SITE SPECIFIC PARAMETERS. FIELD EMBEDMENTS SHALL MEET OR EXCEED THE MINIMUM EMBEDMENT. FIELD EMBEDMENTS BELOW MINIMUM EMBEDMENT SHALL NOT BE INCLUDED IN THE PAY LIMITS.

◑ SEE "WALL EXTERNAL AND OVERALL STABILITY EVALUATION" TABLE ON SHEET 2 FOR SOIL REINFORCEMENT LENGTH.

◪ PIPE UNDERDRAIN WRAPPED (6-INCH) SLOPE 0.5% MIN. TO SUITABLE DRAINAGE. ATTACH RODENT SHIELDS AT EXPOSED ENDS OF PIPE UNDERDRAIN. SEE RODENT SHIELD DETAIL.

◆ GEOTEXTILE FABRIC TYPE DF, LENGTH OF FOOTING, TO BE INCLUDED IN THE BID ITEM "PRESTRESSED PRECAST CONCRETE WALL PANEL."

NOTES - STAGED CONSTRUCTION

A MINIMUM THREE MONTH WAITING PERIOD IS REQUIRED AFTER CONSTRUCTION OF THE WIRE-FACED MSE WALL AND BEFORE CONSTRUCTION OF THE FOOTING AND PLACEMENT OF THE PRESTRESSED, PRECAST WALL PANELS.

ONE SETTLEMENT GUAGE IS TO BE INSTALLED 15 FEET SOUTH OF THE CIP WALL AND 5 FEET BACK FROM THE WALL FACING.

◩ PROVIDE WELDED WIRE FABRIC CLOSURE PANEL TO RETAIN ADJACENT FILL UNTIL CONCRETE COLUMN IS CONSTRUCTED. COST INCLUDED IN "WALL WIRE FACED MECHANICALLY STABILIZED EARTH LRFD/QMP PILOT."

◘ 6" X 1'-0" UNREINF. CONCRETE COLUMN TO RETAIN FILL FROM BEHIND UNITS 1 & 3. INCIDENTAL TO "PRESTRESSED PRECAST CONCRETE WALL PANEL."

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE R-70-105

DRAWN BY MRL | PLANS CK'D. JDB

WALL DETAILS 2

SHEET 4 OF 11

432

DATE: 3/10/2014
I.D.

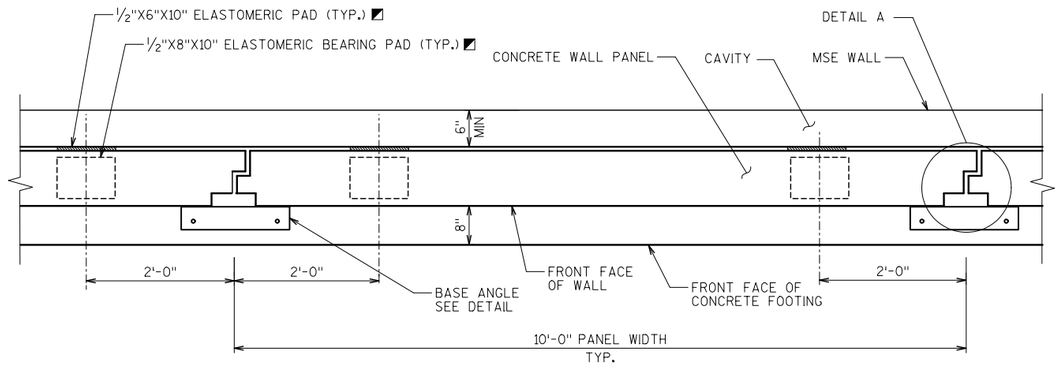
FILE= P:\Transportation\US 10 WIS 441\CADD\sheets\Structures\R-70-105\Sheets\Final\04-R-70-105_ts.dgn

8

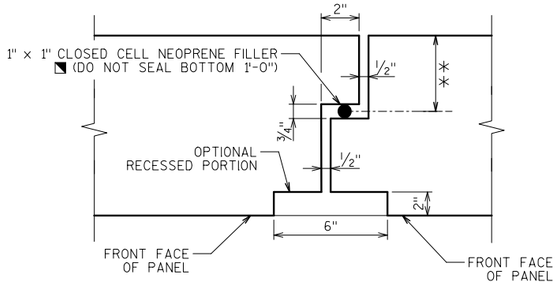
8

STATE PROJECT NUMBER

1517-07-72

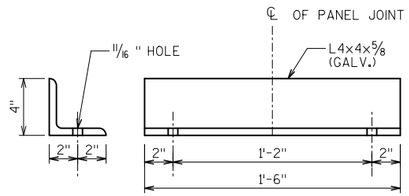


TYPICAL WALL PANEL CONNECTION



DETAIL A

** 4" FOR 9½" PANEL
3" FOR 7½" PANEL



BASE ANGLE DETAIL

(1 AT EACH PANEL JOINT) ◩

LEGEND

(A01) WALL PANEL ANCHOR SYSTEM INCLUDES ANCHOR BLOCK, ANCHOR BLOCK COUPLER, 1¼" DIA. ANCHOR ROD, CLEVIS, AND OTHER PANEL CONNECTION COMPONENTS. DESIGN, DETAILING, AND FURNISHING OF THESE ITEMS IS INCLUDED IN THE BID ITEM "PRESTRESSED PRECAST CONCRETE WALL PANEL."

INSTALLATION OF THESE ITEMS IS INCLUDED IN THE BID ITEM "WALL WIRE FACED MECHANICALLY STABILIZED EARTH LRFD/QMP PILOT."

(A02) DESIGN LENGTH TO PROVIDE REQUIRED HORIZONTAL CAPACITY OF ANCHOR ASSEMBLY. MINIMUM OF 3'-0" OF COMPACTED FILL IN FRONT OF ANCHOR BLOCK PRIOR TO WALL PANEL ERECTION. ROD MIN. 2'-0" BELOW FINISH GRADE.

(A03) OPTIONAL MULTIDIRECTIONAL CONNECTOR MAY BE USED TO FACILITATE ALIGNMENT AT THE CONNECTION. CONNECTOR TO BE CORROSION RESISTANT AND DEVELOP 100% OF THE ULTIMATE STRENGTH OF 1¼" DIA. BAR)

(A04) BASE AGGREGATE OPEN GRADED, 6" MIN. INCIDENTAL TO BID ITEM "PRESTRESSED PRECAST CONCRETE WALL PANEL".

(A05) MINIMUM DIMENSION FROM FINISHED GRADE AT FRONT FACE OF WALL TO BOTTOM OF WALL PANEL FOOTING IS SHOWN. THE FOOTING MAY BE CONSTRUCTED ON A SLOPE PARALLEL TO THE PROPOSED GRADE, OR MAY BE STEPPED. THE CONTRACTOR SHALL COORDINATE CONSTRUCTION OF THE WALL PANEL FOOTING WITH FABRICATION OF THE CONCRETE PANELS.

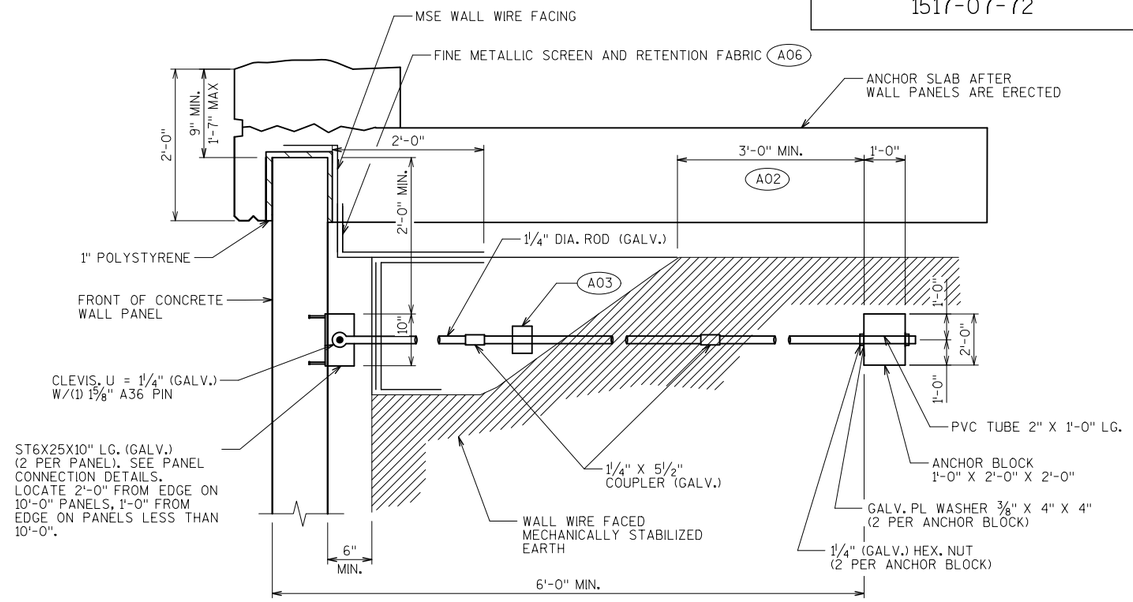
(A06) ALTERNATE METHODS OF SEALING OFF THE 6" VOID IN FRONT OF THE MSE WALL MAY BE SUBMITTED TO WISDOT FOR CONSIDERATION.

◩ INCLUDED IN THE BID ITEM "PRESTRESSED PRECAST CONCRETE WALL PANEL".

NOTES

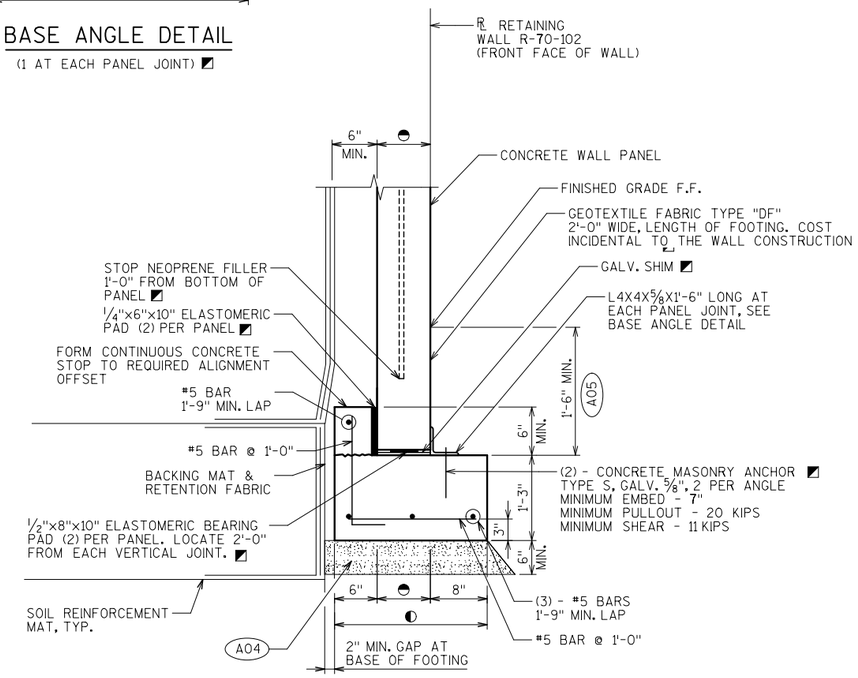
AN ALTERNATE WALL PANEL ANCHOR AND PANEL CONSTRUCTION SYSTEM MAY BE SUBMITTED FOR REVIEW AND POSSIBLE ACCEPTANCE BY THE ENGINEER.

TILT UP PANEL ANCHOR SYSTEM MAY BE TRENCHED IN IF THE GEOMETRY OF THE ANCHOR SYSTEM LOCATION ALLOWS.



WALL PANEL ANCHOR DETAIL

(A01)

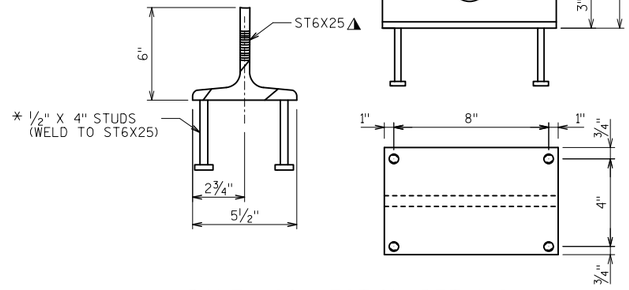


WALL PANEL FOOTING DETAIL

CONCRETE AND REINFORCEMENT INCLUDED IN THE BID ITEM "PRESTRESSED PRECAST CONCRETE WALL PANEL."

◓ = 7½" OR 9½"

◐ FOOTING DIMENSION EQUALS PANEL THICKNESS PLUS 1'-2"



PANEL CONNECTION DETAILS

(2 PER PANEL)

◭ S12X50 (GALV.) CUT IN ½ TO FORM "T" SECTION. BF = 5.477" TW = 0.687".

* AS AN ALTERNATE, ½" TYPE "S" ANCHORS MAY BE USED IN PLACE OF THE 4" STUDS.

ST6X25 MAY BE WELDED TO ¾" THICK PLATE WITH (4) ½" X 4" STUDS ANCHORED IN PRECAST PANEL. RESTORE ZINC COATING AROUND ANY WELDED AREAS. SUBMIT DETAILS FOR APPROVAL BY ENGINEER.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE R-70-105

DRAWN BY MRL | PLANS CK'D. JDB

WALL DETAILS 3

SHEET 5 OF 11
433

FILE= P:\Transportation\US 10 WIS 441\CADD\sheets\Structures\R-70-105\Sheets\Final\05-R-70-105_panel details.dgn

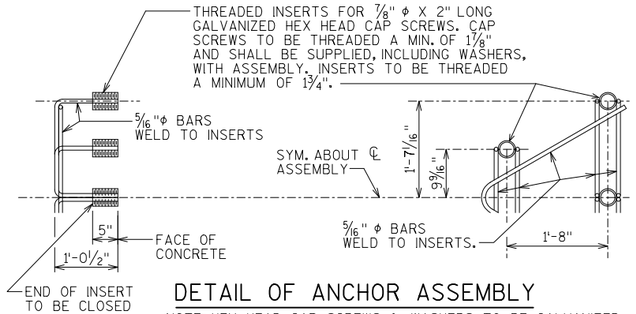
DATE: 3/10/2014
I.D.

8

8

STATE PROJECT NUMBER

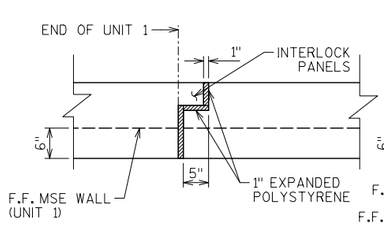
1517-07-72



DETAIL OF ANCHOR ASSEMBLY

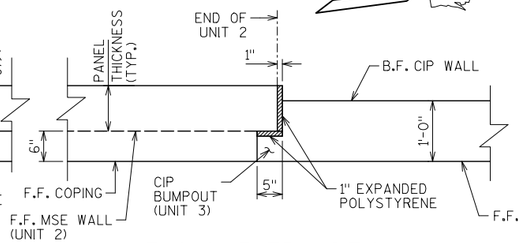
NOTE: HEX HEAD CAP SCREWS & WASHERS TO BE GALVANIZED IN ACCORDANCE WITH AASHTO M232 CLASS C.

ASSEMBLY SHALL BE BID ITEM "ANCHOR ASSEMBLIES FOR STEEL PLATE BEAM GUARD", EACH.



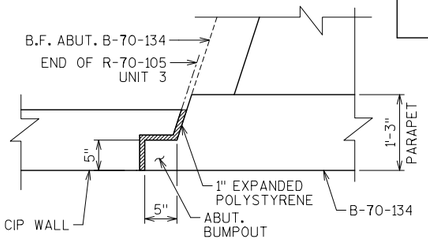
UNIT 1 & 2 TRANSITION

(PLAN VIEW)



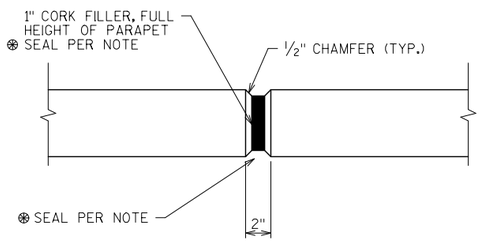
UNIT 2 & 3 TRANSITION

(PLAN VIEW)

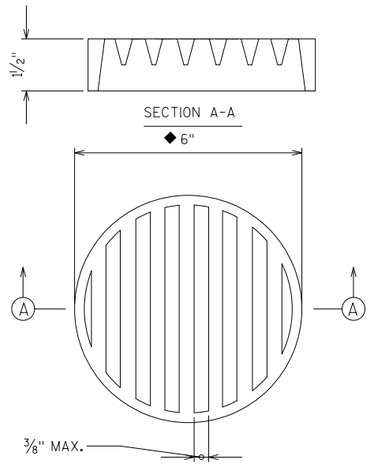


DETAIL AT ABUT.

(PLAN VIEW)



TRAFFIC BARRIER EXPANSION JOINT DETAIL

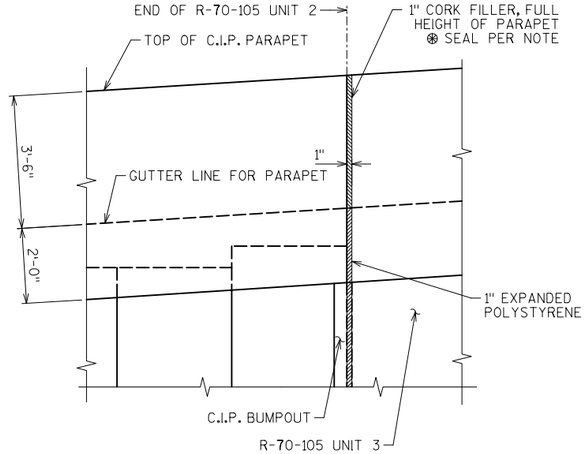


RODENT SHIELD

◆ DIMENSIONS ARE APPROXIMATE. THE GRATE IS SIZED TO FIT INTO A PIPE COUPLING. FASTEN TO THE PIPE COUPLING WITH TWO OR MORE NO. 10 X 1-INCH STAINLESS STEEL SHEET METAL SCREWS.

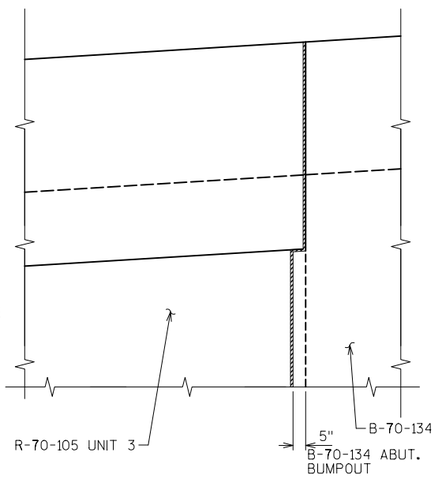
ORIENT SHIELD SO SLOTS ARE VERTICAL.

COST OF RODENT SHIELD AND ALL FITTINGS TO BE INCLUDED IN THE BID ITEM "PIPE UNDERDRAIN WRAPPED 6-INCH."



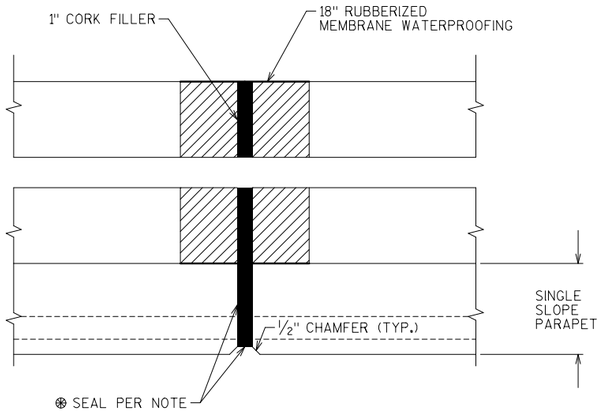
UNIT 2 & 3 TRANSITION

(ELEVATION VIEW)



DETAIL AT ABUT.

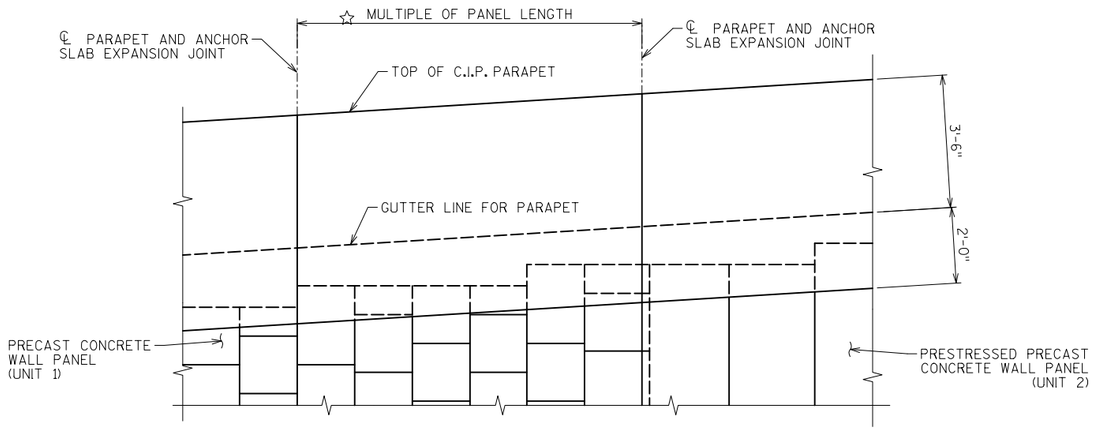
(ELEVATION VIEW)



ANCHOR SLAB EXPANSION JOINT DETAIL

EXPANSION JOINTS TO BE SPACED AT A MINIMUM OF 20' AND A MAXIMUM OF 30'. LOCATE EXPANSION JOINTS OVER MSE AND CIP WALL JOINTS. DO NOT RUN BAR STEEL THRU JOINT. EXCEPT FOR DOWEL BARS. JOINT TO EXTEND FULL DEPTH OF PARAPET AND ANCHOR SLAB.

⊛ SEAL ALL EXPOSED HORIZ. & VERT. SURFACES OF FILLER WITH NON-STAINING, NON-BITUMINOUS JOINT SEALER. COLOR TO MATCH STAIN. (1" DEEP AND HOLD 1/8" BELOW SURFACE OF CONC.)



C.I.P. PARAPET PARTIAL ELEVATION

☆ ALL JOINTS SHALL COINCIDE WITH PANEL JOINT ON FRONT FACE.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE R-70-105

DRAWN BY	MRL	PLANS CK'D.	JDB

WALL DETAILS 4

SHEET 6 OF 11

434

8

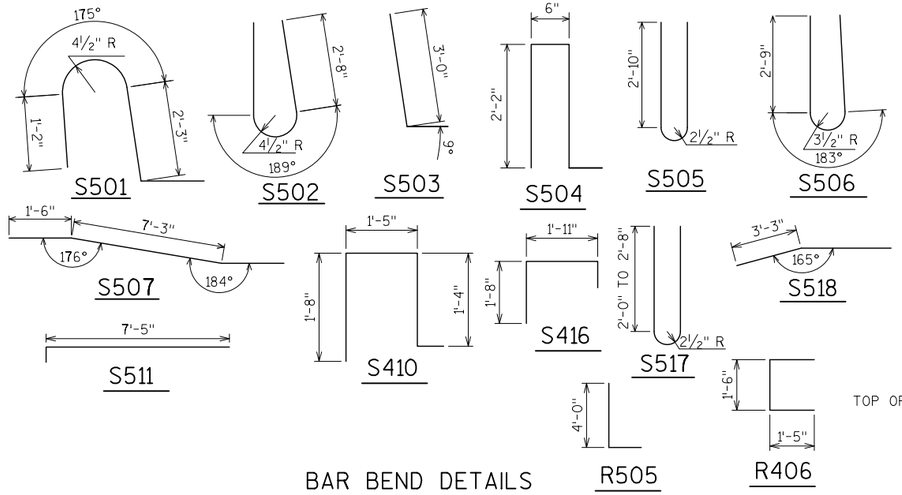
8

FILE= P:\Transportation\US 10 WIS 441\CADD\sheets\Structures\R-70-105\Sheets\Final\06-R-70-105_ts 2.dgn

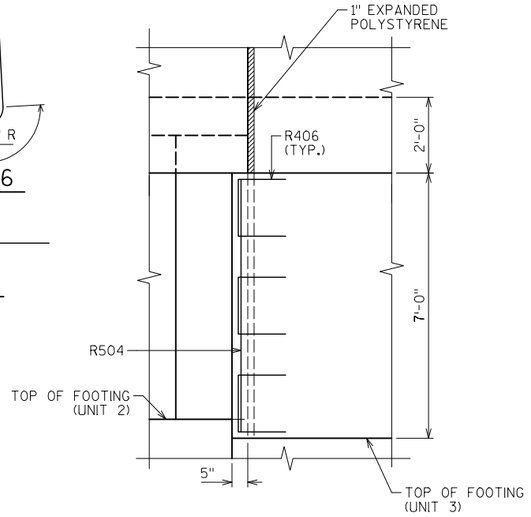
DATE: 3/10/2014

I.D.

STATE PROJECT NUMBER
1517-07-72



BAR BEND DETAILS



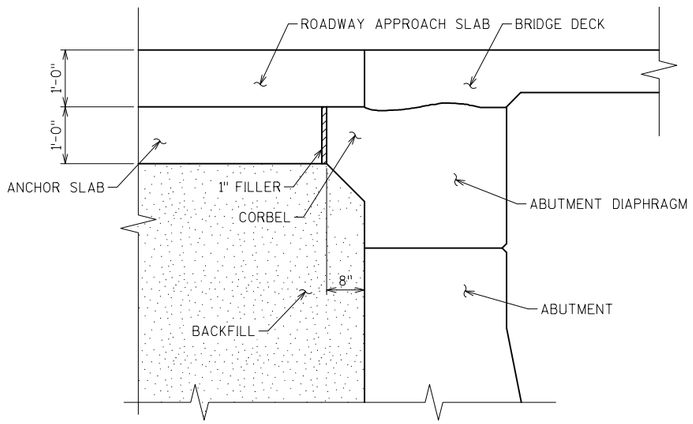
CIP BUMP-OUT DETAIL

(ELEVATION VIEW)

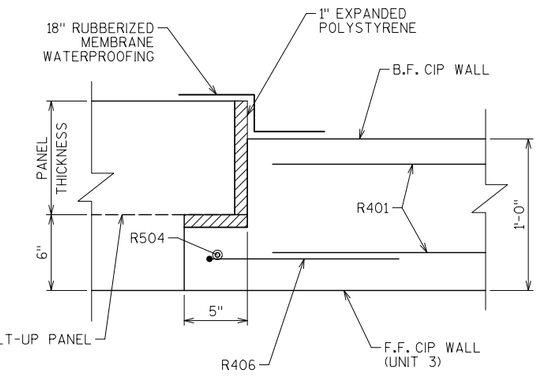
BILL OF BARS

ALL BARS IN THIS TABLE SHALL BE EPOXY COATED

BAR MARK	NO. REQ'D	LENGTH	BENT	LOCATION
R401	24	25'-8"		CIP WALL LONGIT. STEM
R402	36	25'-8"		CIP WALL LONGIT. FOOTING
R503	102	6'-2"		CIP WALL TRANSV. FOOTING
R504	123	6'-10"		CIP WALL VERT. STEM
R505	92	4'-9"	X	CIP WALL VERT. STEM DOWEL
R406	3	4'-2"	X	CIP WALL BUMP-OUT HORIZ.

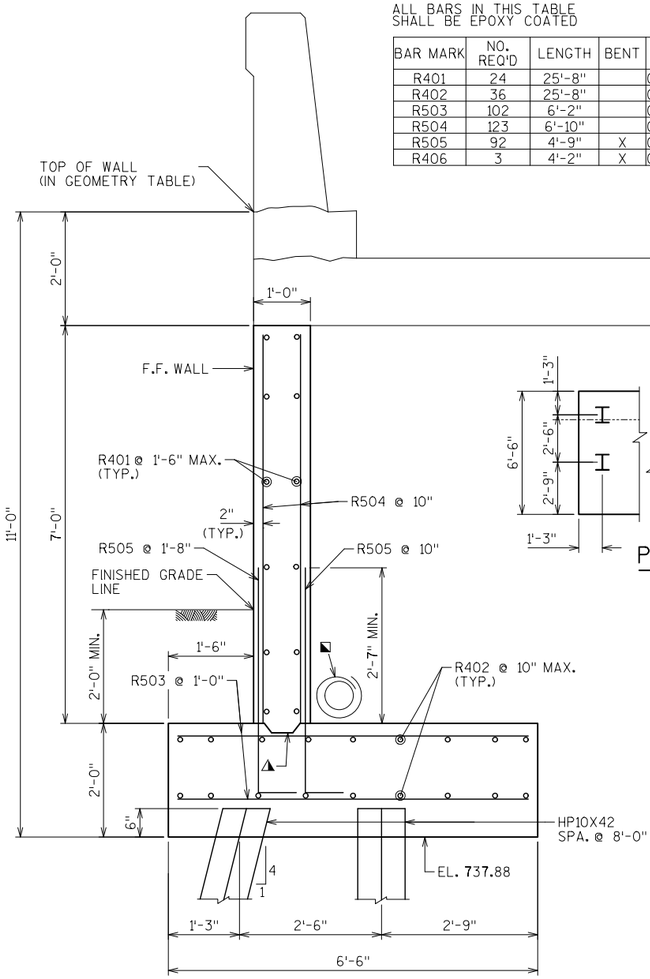


SECTION VIEW



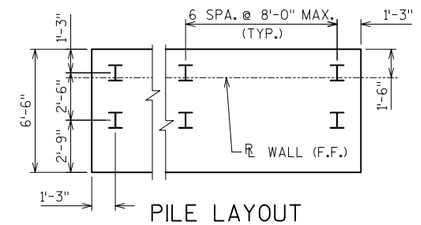
CIP BUMP-OUT DETAIL

(PLAN VIEW)

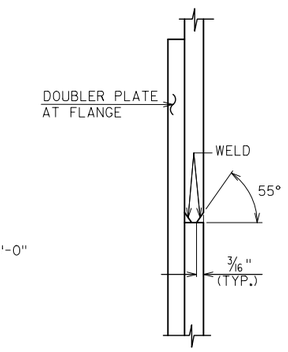


TYPICAL WALL SECTION - UNIT 3

(CAST-IN-PLACE CONCRETE RETAINING WALL)
(LOOKING SOUTH)

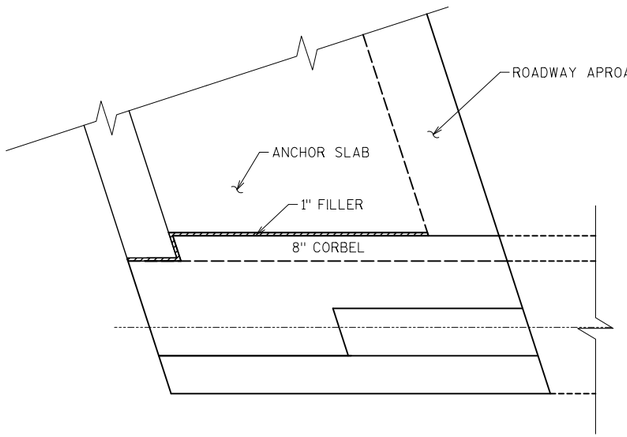


PILE LAYOUT

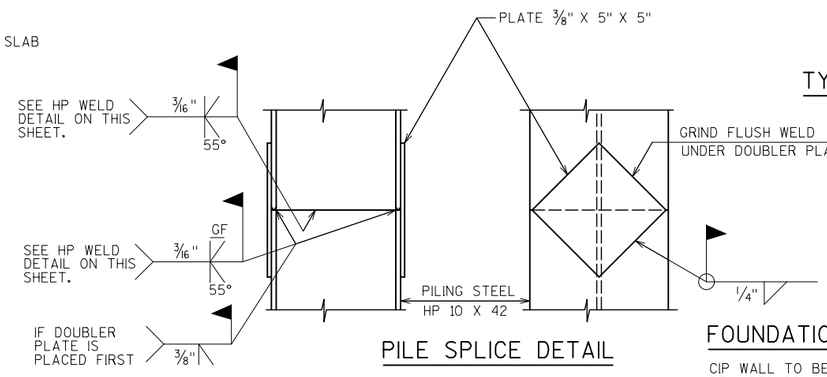


HP WELD DETAIL

(FLANGE SHOWN, WEB SIMILAR)



ANCHOR SLAB DETAIL AT ABUT.



PILE SPLICE DETAIL

FOUNDATION DATA

CIP WALL TO BE SUPPORTED ON HP10X42 STEEL PILING DRIVEN TO A REQUIRED DRIVING RESISTANCE OF 29* TONS PER PILE AS DETERMINED BY THE MODIFIED GATES DYNAMIC EQUATION. ESTIMATED PILE LENGTH IS 40'.

* 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 THE MODIFIED GATES DYNAMIC EQUATION.

▲ KEYWAY. SURFACED, BEVELED 2" X 6"

◪ PIPE UNDERDRAIN WRAPPED (6-INCH) SLOPE 0.5% MIN. TO SUITABLE DRAINAGE. ATTACH RODENT SHIELDS AT EXPOSED ENDS OF PIPE UNDERDRAIN. SEE RODENT SHIELD DETAIL. PROVIDE AN OUTFALL THROUGH THE FACE OF THE CIP WALL 1'-6" FROM THE END OF UNIT 3.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE R-70-105

DRAWN BY: MRL | PLANS CK'D.: JDB

CIP WALL DETAILS

SHEET 7 OF 11
435

DATE: 3/10/2014
I.D.

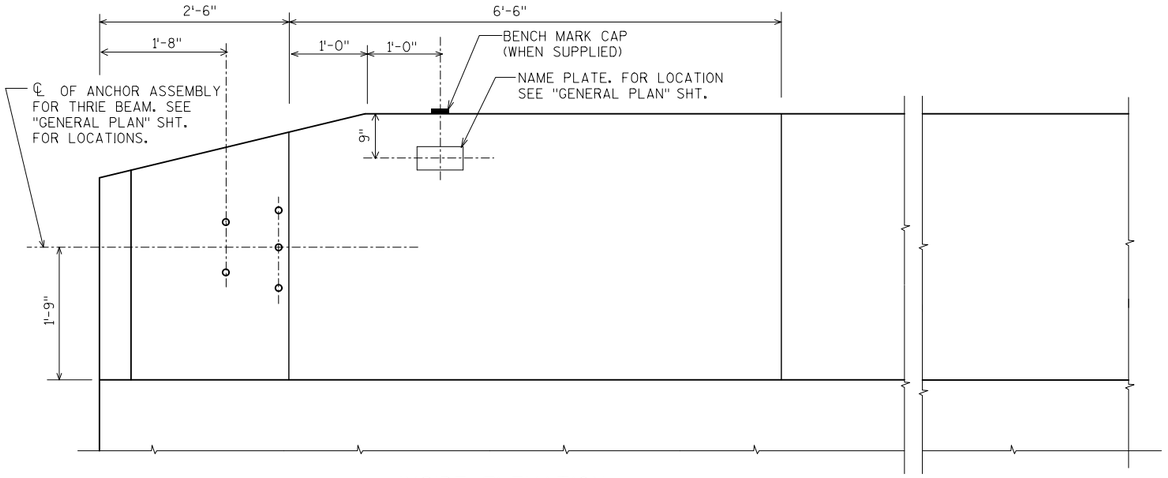
FILE= P:\Transportation\US 10 WIS 441\CADD\sheets\Structures\R-70-105\Sheets\Final\07_R-70-105_CIP Wall Details.dgn

8

8

STATE PROJECT NUMBER

1517-07-72

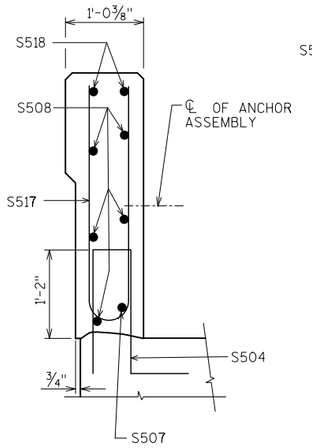


INSIDE ELEVATION

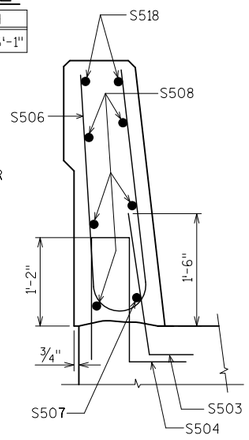
* FIGURE SHOWN IN THE 'NO.' AND 'LENGTH' COLUMNS OF THE TABLE SHOULD BE USED FOR BAR WEIGHT CALCULATIONS ONLY. INDIVIDUAL BAR LENGTHS TO BE DETERMINED BY THE CONTRACTOR BASED ON THE ACTUAL DISTANCE BETWEEN ANCHOR SLAB EXPANSION JOINTS.

BAR SERIES TABLE

MARK	NO. REQ'D	LENGTH
S517	1 SERIES OF 6	4'-9" TO 6'-1"



SECTION A



SECTION B

BILL OF BARS

ALL BARS IN THIS TABLE SHALL BE EPOXY COATED

	BAR MARK	NO. REQ'D	LENGTH	BENT	BAR SERIES	LOCATION
	S501	1435	5'-5"	X		PARAPET VERT.
	S502	1435	6'-8"	X		PARAPET VERT.
	S503	11	3'-9"	X		PARAPET VERT.
	S504	17	5'-4"	X		PARAPET VERT.
	S505	5	6'-5"	X		PARAPET VERT.
	S506	6	6'-6"	X		PARAPET VERT.
	S507	1	10'-3"	X		PARAPET HORIZ.
	S508	5	60'-0"			PARAPET HORIZ.
*	S509	8	904'-11"			PARAPET HORIZ.
	S410	757	4'-7"	X		ANCHOR SLAB VERT.
	S511	1424	8'-2"	X		ANCHOR SLAB HORIZ.
	S412	733	6'-2"			ANCHOR SLAB HORIZ. UNIT 1
*	S413	15	964'-11"			ANCHOR SLAB LONGIT.
	S514	24	9'-0"			ANCHOR SLAB LONGIT. @ INLET
	S515	16	6'-2"			ANCHOR SLAB HORIZ. @ INLET
	S416	32	3'-10"	X		ANCHOR SLAB VERT. @ INLET
	S517	6	5'-5"	X	X	PARAPET VERT.
	S518	2	60'-0"	X		PARAPET HORIZ.
	S419	41	7'-5"			ANCHOR SLAB HORIZ. UNIT 2

◧ (3) - 3/4" ϕ SMOOTH DOWEL BARS, 1'-6" LONG, AT EXPANSION JOINT. EMBED 9". USE APPROVED DEBONDER ON 1/2 OF BAR LENGTH. COST INCLUDED IN "CONCRETE MASONRY RETAINING WALLS".

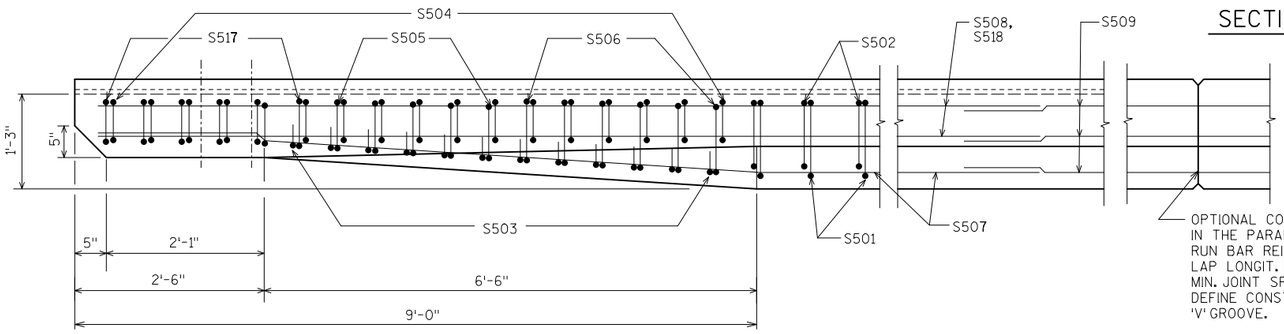
◆ 18" RUBBERIZED MEMBRANE WATERPROOFING TO BE PLACED ON THESE SURFACES AT EACH JOINT.

◐ CONST. JOINT - STRIKE OFF AS SHOWN.

▲ PROVIDE RUSTICATION IF OPT. CONST. JOINT IS USED.

▼ 10" UNDER ROADWAY
1'-0" UNDER ROADWAY APPROACH SLAB

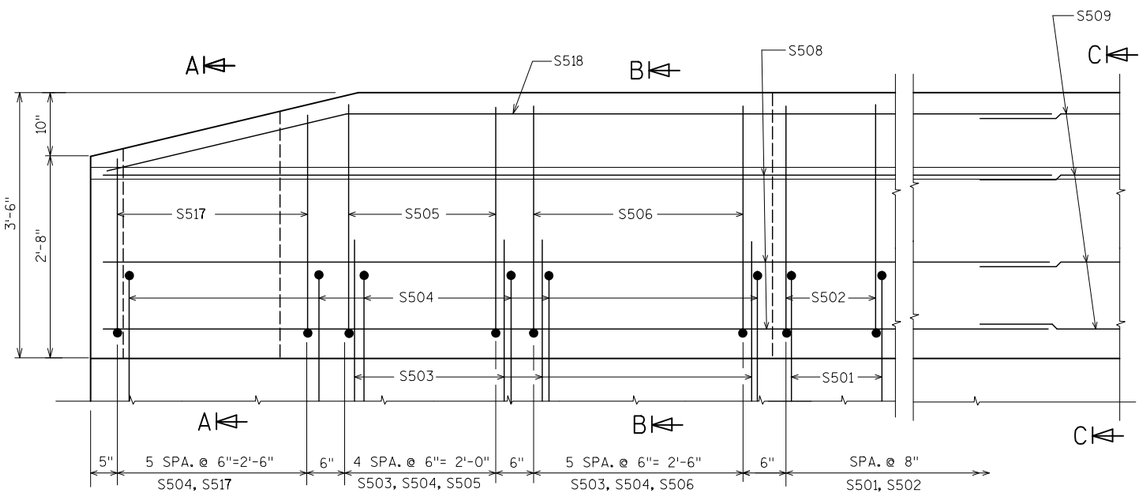
▭ 1'-2" UNDER ROADWAY
1'-0" UNDER ROADWAY APPROACH SLAB



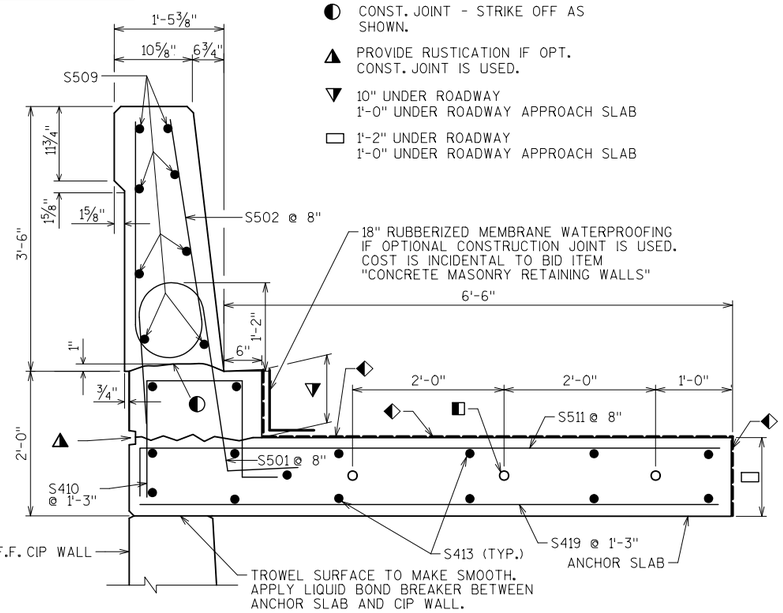
PLAN

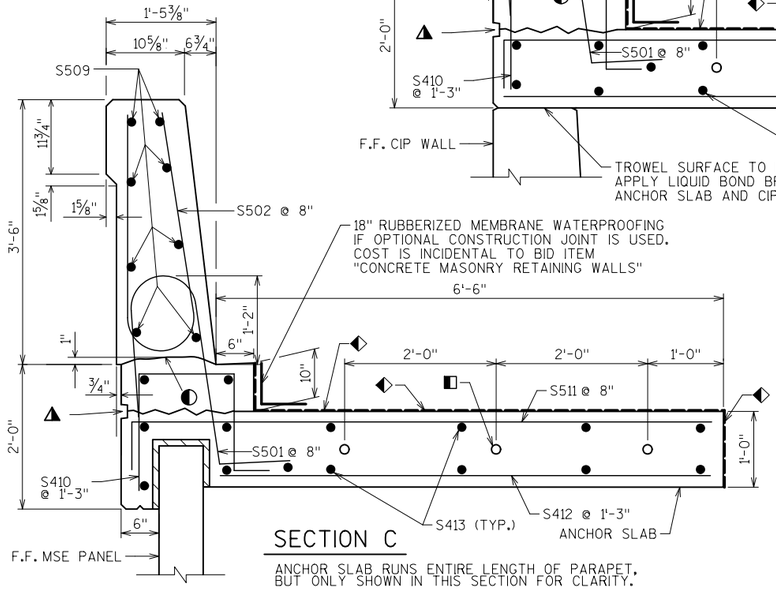
(TRANSITION AT SOUTH END OF PARAPET ONLY)

OPTIONAL CONSTRUCTION JOINTS IN THE PARAPETS MAY BE USED. RUN BAR REINF. THRU THE JOINT. LAP LONGIT. BARS A MIN. OF 1'-9". MIN. JOINT SPACING OF 80'-0". DEFINE CONST. JOINT WITH A 3/4" - 'V' GROOVE.



OUTSIDE ELEVATION





SECTION C

ANCHOR SLAB RUNS ENTIRE LENGTH OF PARAPET. BUT ONLY SHOWN IN THIS SECTION FOR CLARITY.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE R-70-105

DRAWN BY: MRL | PLANS CK'D.: JDB

SINGLE SLOPE PARAPET 42SS

SHEET 8 OF 11
436

8

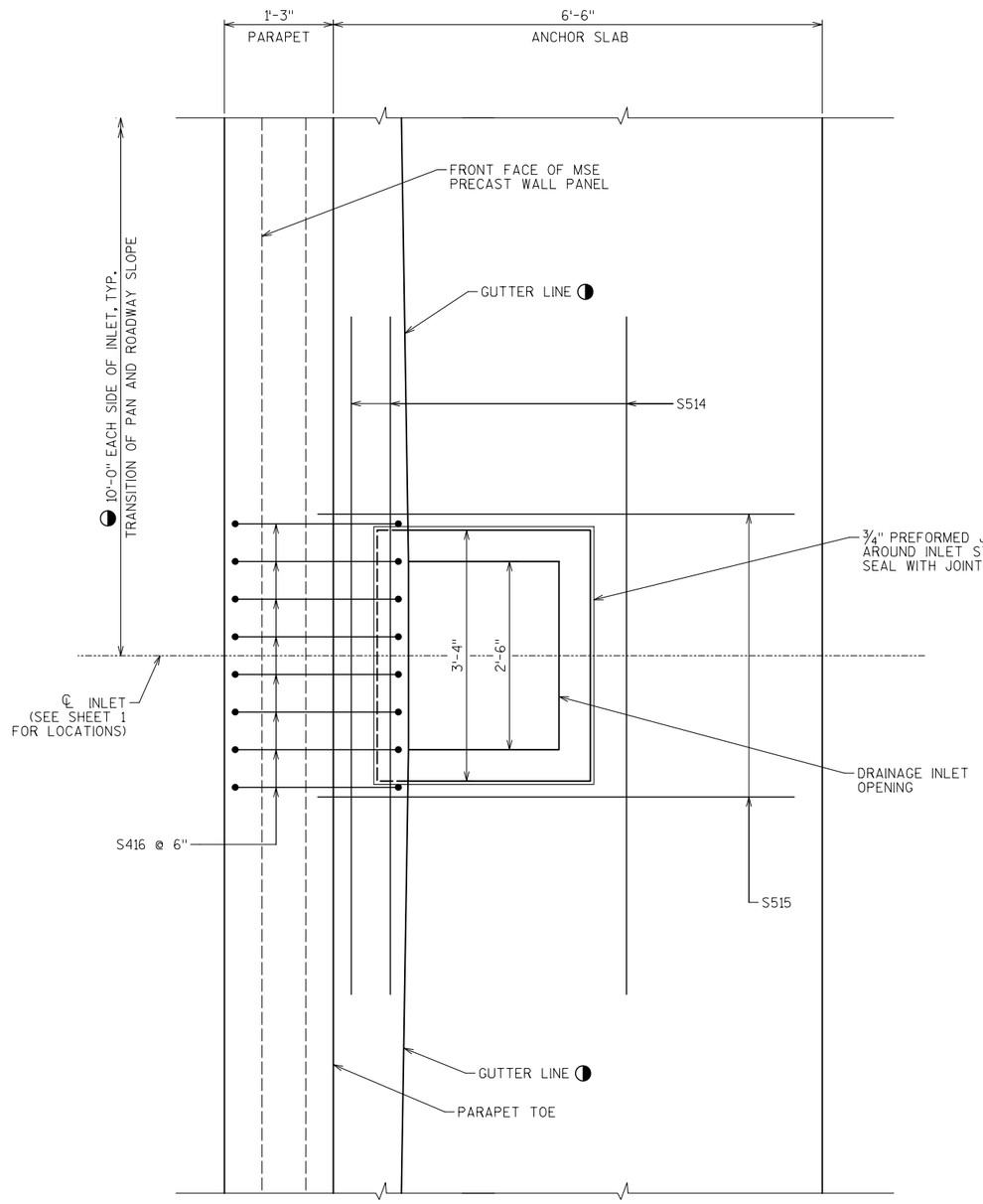
8

FILE= P:\Transportation\US 10 WIS 441\CADD\sheets\Structures\R-70-105\Sheets\Find1\08-R-70-105_pp.dgn

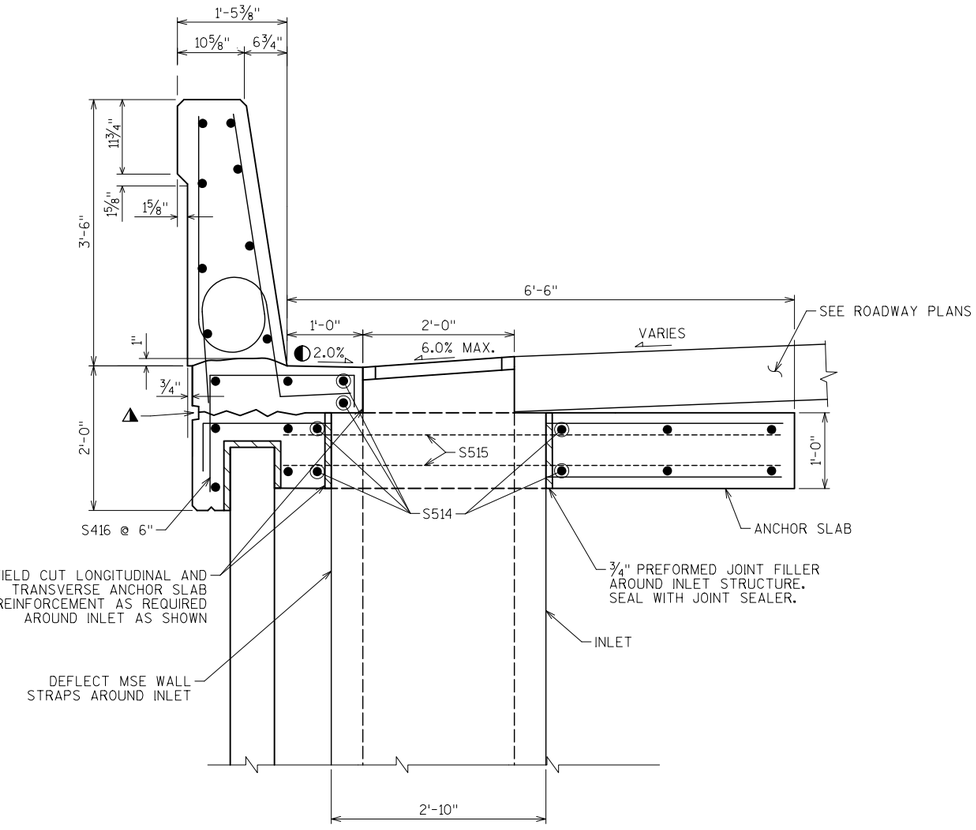
DATE: 3/10/2014
I.D.

STATE PROJECT NUMBER

1517-07-72

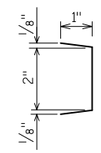


PARAPET AND ANCHOR SLAB AT INLET STRUCTURE



SECTION AT INLET STRUCTURE

(LOOKING SOUTH)
SEE ROADWAY PLANS FOR INLET AND PIPE DETAILS



RUSTICATION DETAIL

NOTES

CUT, BEND, OR DISPLACE REINFORCEMENT 2" CLEAR OF INLET STRUCTURE AS REQUIRED.

AT THE INLET, 4-S410 BARS ARE OMITTED, AND REPLACED WITH 8-S416 BARS, AS SHOWN ON THIS SHEET.

SEE SHEET 5 FOR BILL OF BARS.

LEGEND

◐ TRANSITION PAN AND SLOPE OVER 10'-0" ON EACH SIDE OF THE INLET.

▲ PROVIDE RUSTICATION IF OPT. CONST. JOINT IS USED.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE R-70-105

DRAWN BY MRL | PLANS CK'D. JDB

ANCHOR SLAB AT INLET

SHEET 9 OF 11
437

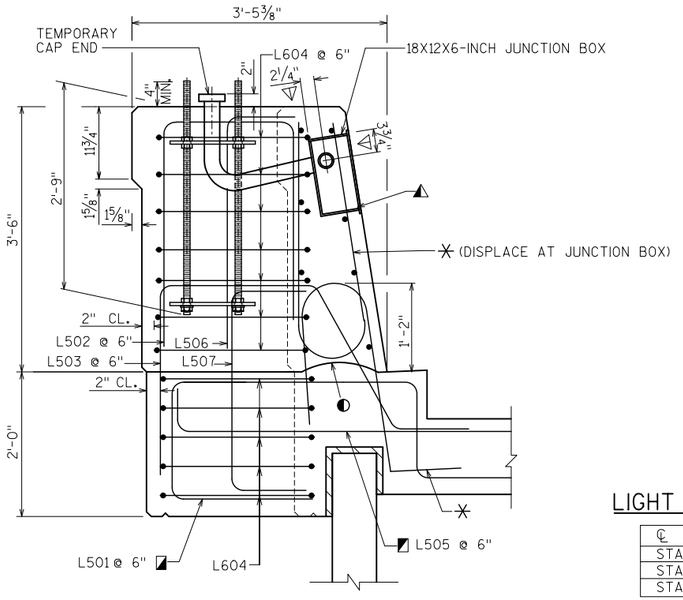
8

8

FILE= P:\Transportation\US 10 WIS 441\CADD\sheets\Structures\R-70-105\Sheets\Final\09_R-70-105_Anchor Slab at Inlet.dgn

DATE: 3/10/2014
I.D.

STATE PROJECT NUMBER
1517-07-72



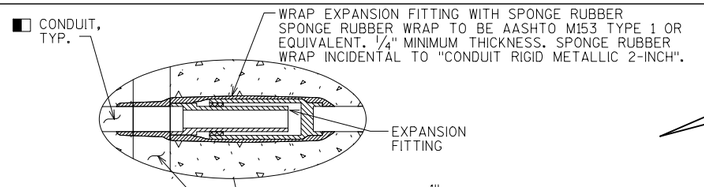
SECTION A-A

JUNCTION BOX TABLE

℄ JUNCTION BOX
STA. 1+51.93
STA. 3+41.93
STA. 4+79.41
STA. 6+16.89
STA. 7+54.40
STA. 8+91.91
STA. 10+81.91

LIGHT POLE TABLE

℄ LIGHT POLE
STA. 3+41.93
STA. 6+16.89
STA. 8+91.91



PLAN OF PARAPET AT S. END OF WALL

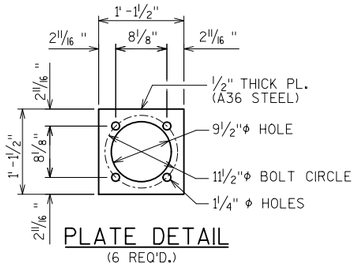
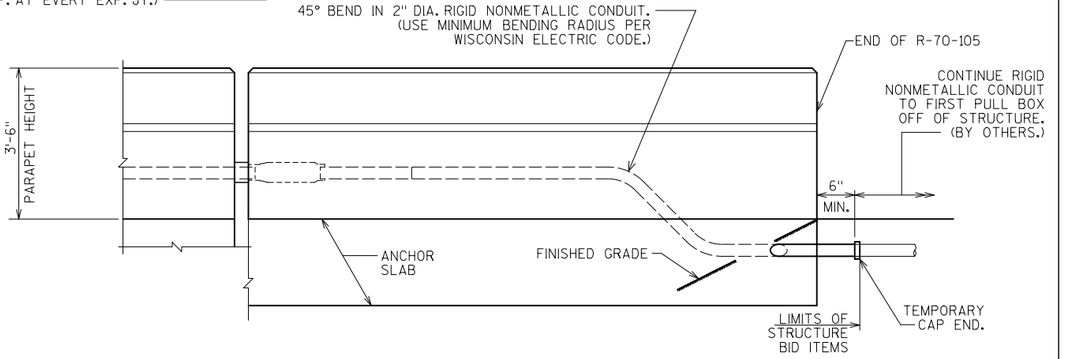
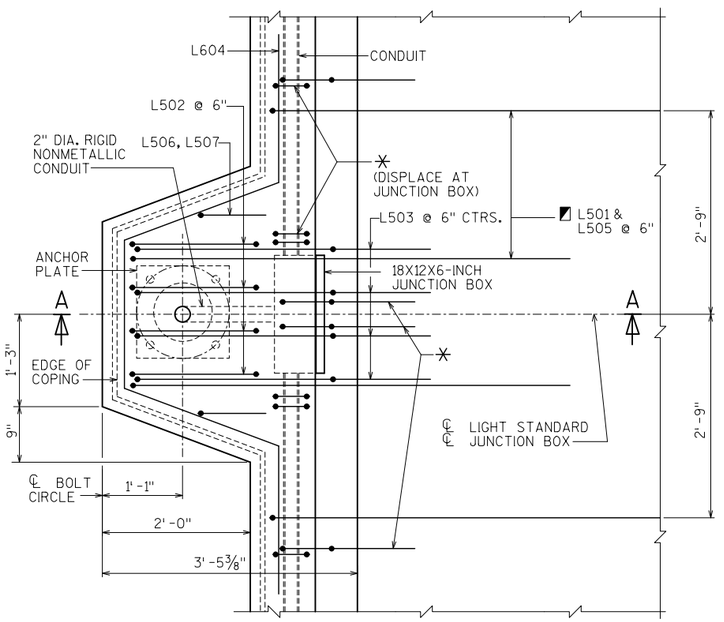


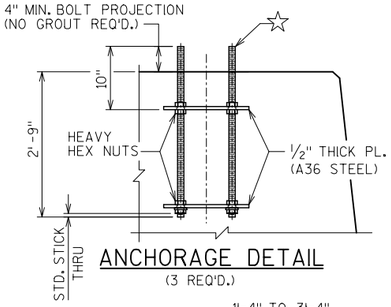
PLATE DETAIL
(6 REQ'D.)



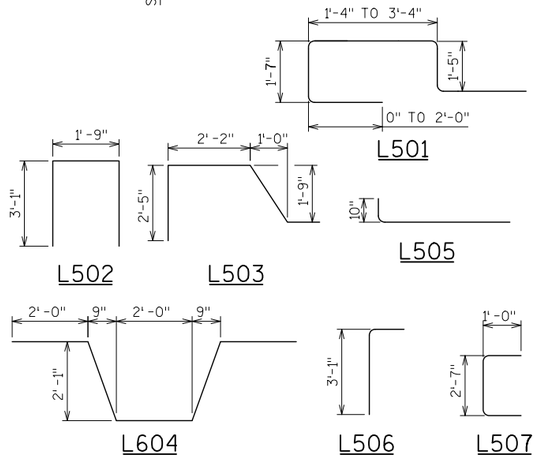
OUTSIDE ELEVATION OF PARAPET AT S. END OF WALL



PLAN AT LIGHT STANDARD



ANCHORAGE DETAIL
(3 REQ'D.)



- ■ USE RIGID METALLIC CONDUIT 3'-0" INTO PARAPET EITHER SIDE OF THE EXPANSION JOINT OPENING.
- ◐ CONSTR. JT. STRIKE OFF AS SHOWN
- ◭ CUT OUT ± 1" OF GASKET AT BOTTOM OF JUNCTION BOX COVER TO ALLOW FOR DRAINAGE.
- ▽ LOCATION OF CONDUIT IS MEASURED FROM OUTSIDE EDGE OF JUNCTION BOX.
- ◩ THESE BARS ARE IN ADDITION TO BARS IN ANCHOR SLAB.
- ✳ SEE SINGLE SLOPE PARAPET SHEET FOR ADDITIONAL BAR STEEL DETAILS.
- ☆ 1"φ THREADED ANCHOR BOLTS ASTM A449 OR AASHTO M 314-90 GR 55. HOT DIP ASTM A153, CLASS C, UPPER 8" OF BOLT INCLUDING NUTS & WASHERS. PROVIDE ENLARGED THREAD ON NUTS FOR PROPER FIT AFTER GALVANIZING. PROVIDE DOUBLE FLAT WASHERS & NUTS.

NOTES

BID ITEMS SHALL BE:
"JUNCTION BOXES 18X12X6-INCH", EACH.
"ANCHOR ASSEMBLIES LIGHT POLES ON STRUCTURE", EACH.
"CONDUIT RIGID NONMETALLIC SCHEDULE 40 2-INCH"
"CONDUIT RIGID METALLIC 2-INCH"

APPROVED MANUFACTURERS - JUNCTION BOXES:
SEE APPROVED MATERIAL LIST.

APPROVED MANUFACTURER OR EQUIVALENT - EXPANSION FITTING:
O-Z/GEDNEY TYPE AX-200 AND BONDING JUMPER (4" TOTAL CONDUIT MOVEMENT).

EXPANSION FITTINGS, ANGLES AND ADAPTER FITTINGS TO BE INCIDENTAL TO "CONDUIT RIGID METALLIC 2-INCH".

WHEN CONNECTING NONMETALLIC CONDUIT TO METALLIC CONDUIT, ONLY ADAPTER FITTINGS U.L. OR NRTL LISTED FOR ELECTRICAL USE SHALL BE USED.

BAR SERIES

BAR MARK	NO. REQ'D	LENGTH
L501	6 SERIES OF 6	5'-5" TO 9'-5"

BILL OF BARS

ALL BARS IN THIS TABLE SHALL BE EPOXY COATED

BAR MARK	NO. REQ'D	LENGTH	BENT	BAR SERIES	LOCATION
L501	36	7'-5"	X	X	ANCHOR SLAB TRANSV. @ LIGHT STD.
L502	12	7'-8"	X		PARAPET VERT. @ LIGHT STD.
L503	12	7'-4"	X		PARAPET VERT. @ LIGHT STD.
L604	36	10'-0"	X		PARAPET HORIZ. @ LIGHT STD.
L505	36	5'-9"	X		ANCHOR SLAB TRANSV. @ LIGHT STD.
L506	6	4'-0"	X		PARAPET VERT. @ LIGHT STD.
L507	6	3'-4"	X		PARAPET VERT. @ LIGHT STD.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE R-70-105

DRAWN BY	MRL	PLANS CK'D.	JDB

LIGHT STANDARD

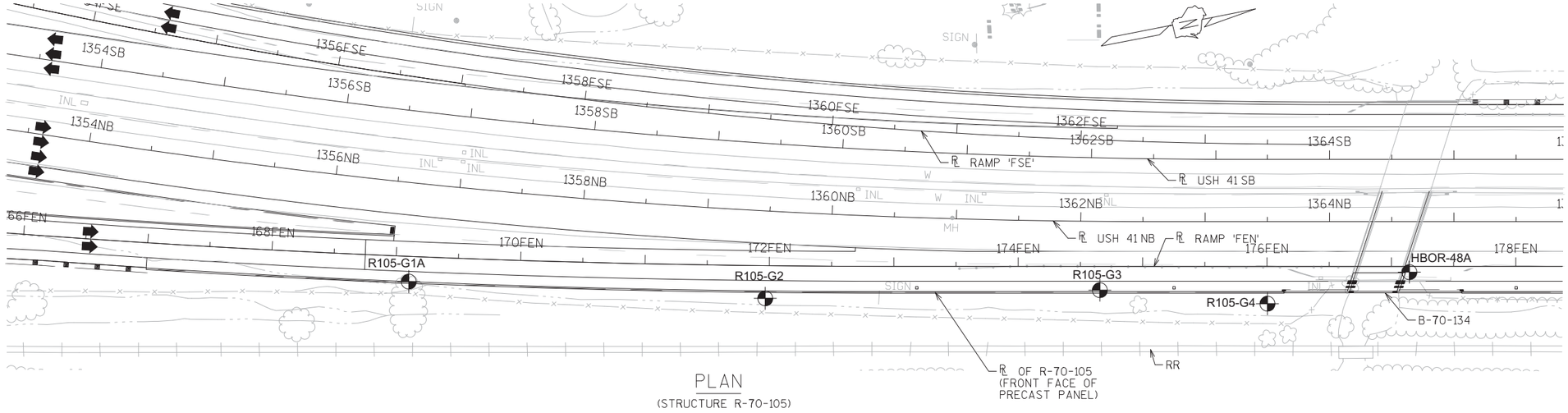
SHEET 10 OF 11
438

DATE: 3/10/2014
I.D.

FILE= P:\Transportation\US 10 WIS 441\CADD\sheets\Structures\R-70-105\Sheets\Final\10-R-70-105_Light std.DGN

8

8



PLAN

(STRUCTURE R-70-105)

NOTE:

THE SUBSURFACE INFORMATION PRESENTED HEREIN IS AN ABBREVIATED VERSION OF THE INFORMATION PRESENTED IN THE GEOTECHNICAL ENGINEERING REPORT. REVIEW THE APPROPRIATE GEOTECHNICAL REPORT AND SOIL BORING LOGS FOR ADDITIONAL SUBSURFACE INFORMATION.

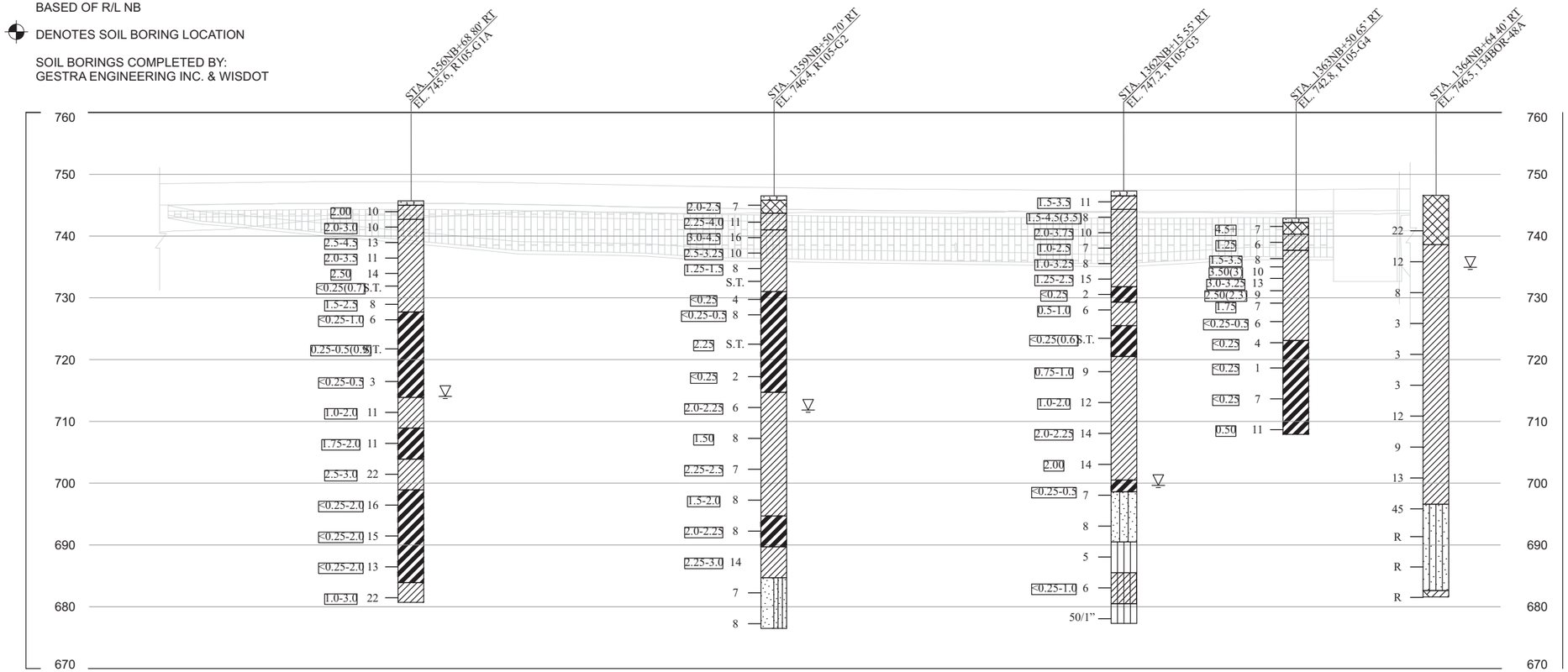
BORING STATIONS AND OFFSETS ARE BASED OF R/L NB

⊕ DENOTES SOIL BORING LOCATION

SOIL BORINGS COMPLETED BY:
GESTRA ENGINEERING INC. & WISDOT

SOIL BORING TAKEN:

2.12.2013 - BORING R105-G1A
2.13.2013 - BORING R105-G2
2.13.2013 - BORING R105-G3
7.23.2013 - BORING R105-G4
7.02.1991 - BORING HBOR-48A



NOTE: ▽ -WATER LEVEL DURING DRILLING

NOTE: BORING HBOR-48A WAS COMPLETED BY WISDOT IN 1991

STATE PROJECT NUMBER

1517-07-72

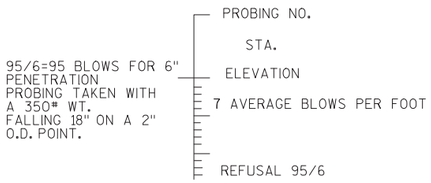
ABBREVIATIONS

F — FINE M — MEDIUM C — COARSE
WS — WEATHERED SO — SOUND

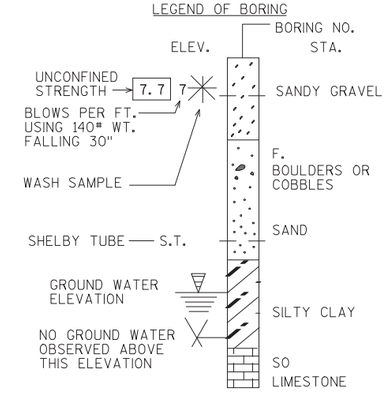
MATERIAL SYMBOLS

TOPSOIL SILT FAT CLAY
SAND PEAT DOLOMITE
GRAVEL CLAY FILL

LEGEND OF PROBING



LEGEND OF BORING



UNLESS OTHERWISE SPECIFIED, THE BLOWS PER FOOT AT THE LOCATIONS INDICATED ARE BASED ON DRIVING A 2" O.D. X 1.4" I.D. SPLIT SPOON SAMPLER WITH A 140# HAMMER HAVING A FREE FALL OF 30". THE BLOW COUNT IS TAKEN IN UNDISTURBED SOIL IMMEDIATELY BELOW A CASED OR OPEN HOLE ELIMINATING SIDE FRICTION ON THE DRIVE PIPE.

SUBSURFACE EXPLORATION FOR FOUNDATION DESIGN AND BIDDERS INFORMATION

TO OBTAIN RELATIVE DATA CONCERNING THE CHARACTER OF MATERIAL IN AND UPON WHICH THE FOUNDATION MIGHT BE BUILT, BORINGS AND/OR SOUNDINGS WERE MADE AT POINTS APPROXIMATELY AS INDICATED ON THIS DRAWING. THE DATA PRESENTED HEREIN REPRESENTS THE FINDINGS OF THE SUBSURFACE EXPLORATIONS MADE. HOWEVER, BECAUSE THE DEPTHS INVESTIGATED ARE LIMITED AND THE AREA OF THE BORINGS AND/OR SOUNDINGS IS VERY SMALL IN RELATION TO THE ENTIRE AREA, THE WISCONSIN DEPARTMENT OF TRANSPORTATION DOES NOT WARRANT CONDITIONS BELOW THE DEPTHS INVESTIGATED OR THAT THE CLASSIFICATION OF MATERIAL ENCOUNTERED IN THESE INVESTIGATIONS IS NECESSARILY TYPICAL OF THE ENTIRE SITE.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE R-70-105

DRAWN BY RHE | PLANS CK'D. SL

SUBSURFACE EXPLORATION

SHEET 11 OF 11
439

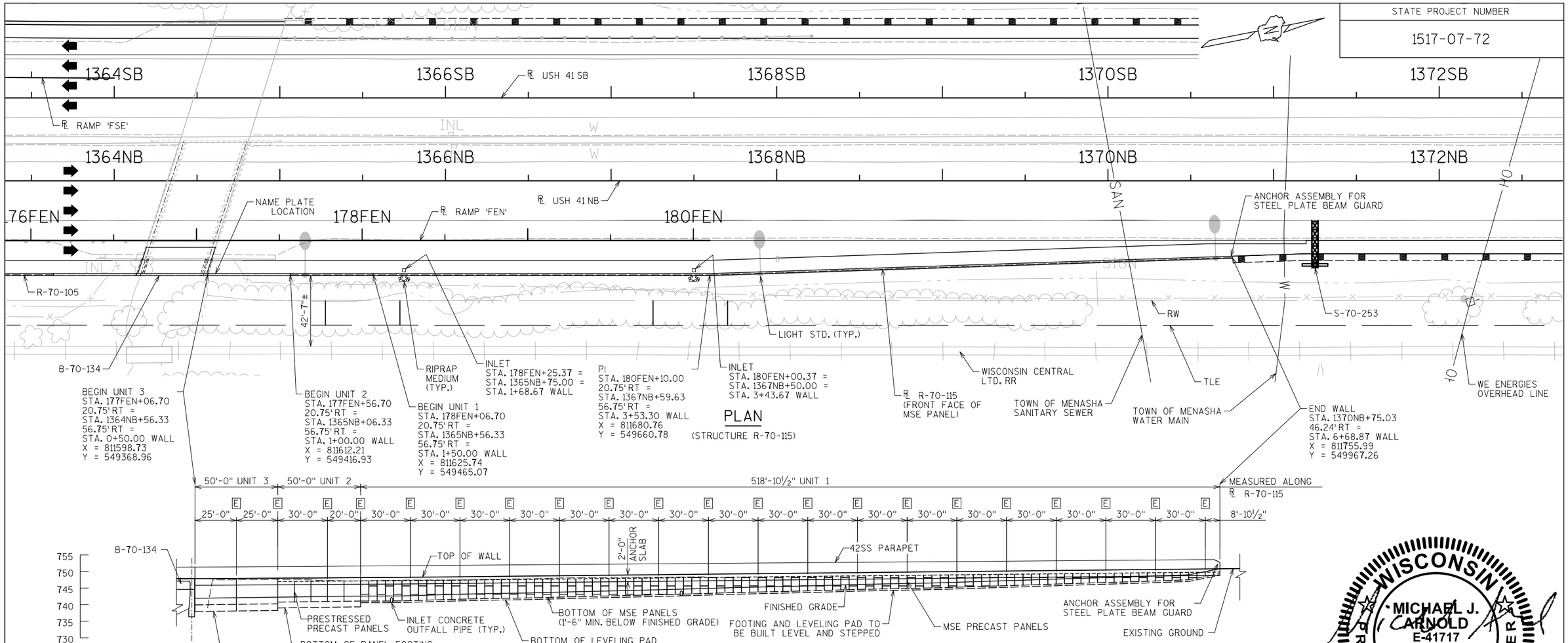
SCALE 1"=100'

FILE= P:\Transportation\US 10 WIS 441\CADD\sheets\Structures\R-70-105\Sheets\04-R-70-105_se.dgn

8

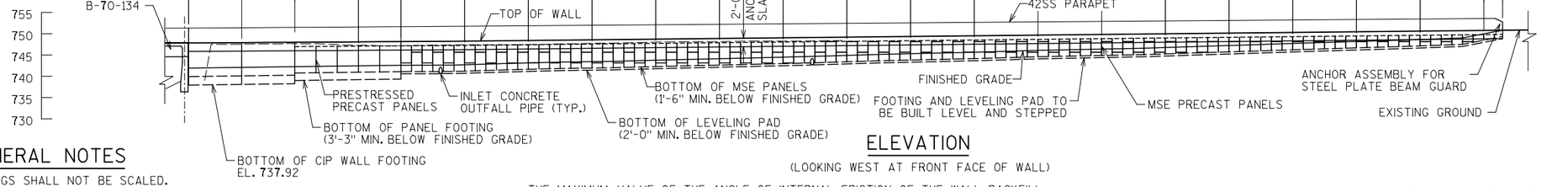
8

STATE PROJECT NUMBER
1517-07-72



PLAN

(STRUCTURE R-70-115)



ELEVATION

(LOOKING WEST AT FRONT FACE OF WALL)

GENERAL NOTES

DRAWINGS SHALL NOT BE SCALED.

ALL STATIONS AND DIMENSIONS ARE IN SURVEY FEET, ALL ELEVATIONS ARE IN FEET. ELEVATIONS ARE REFERENCED TO THE NAVD 88 DATUM.

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

THE CONTRACTOR SHALL PROVIDE COMPLETE DESIGN, PLANS, DETAILS, SPECIFICATIONS, AND SHOP DRAWINGS FOR THE RETAINING WALL, AND MSE WALL REINFORCEMENT IN ACCORDANCE WITH THE SPECIAL PROVISIONS. THE RETAINING WALL SUPPLIER SHALL PROVIDE TECHNICAL ASSISTANCE TO THE CONTRACTOR DURING CONSTRUCTION. THE COST OF FURNISHING THESE ITEMS SHALL BE INCLUDED IN THE BID ITEM "WALL CONCRETE PANEL MECHANICALLY STABILIZED EARTH LRFD/QMP PILOT" AND "WALL WIRE FACED MECHANICALLY STABILIZED EARTH LRFD/QMP PILOT."

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 RETAINING WALL IS TO BE DESIGNED USING THE ELEVATIONS GIVEN IN THE GEOMETRY TABLE.

DESIGN FOR RETAINING WALL TO PROVIDE FOR A FINISHED GRADE SLOPE BEHIND THE WALL AS SHOWN IN THE ROADWAY CROSS SECTIONS.

DESIGN RETAINING WALL FOR A LIVE LOAD SURCHARGE OF 240 PSF.

THE FIRST DIGIT OF A THREE DIGIT BAR NO. AND THE FIRST TWO DIGITS OF A FOUR DIGIT BAR NO. SIGNIFIES THE BAR SIZE.

PROVIDE A RUBBED SURFACE TREATMENT IN ACCORDANCE WITH SECTION 502.3.7.3 TO ALL PERMANENTLY EXPOSED SURFACES OF CONCRETE MASONRY RETAINING WALLS.

BEVEL EXPOSED EDGES OF CONCRETE ¾" UNLESS NOTED OTHERWISE.

JOINT FILLER SHALL CONFORM TO THE REQUIREMENTS OF A.A.S.H.T.O. DESIGNATION M 153, TYPE I, II OR III OR A.A.S.H.T.O. DESIGNATION M 213.

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.

HOT DIP GALVANIZE ALL STRUCTURAL STEEL CARBON IN ACCORDANCE WITH ASTM A123 WHERE SHOWN.

APPLY PROTECTIVE SURFACE TREATMENT TO THE TOP AND INSIDE FACES OF PARAPETS AND EXPOSED PORTION OF ANCHOR SLAB.

THE COST OF FURNISHING AND PLACING THE LEVELING PAD UNDER THE PRECAST WALL PANELS IS INCLUDED IN THE BID ITEM "WALL CONCRETE PANEL MECHANICALLY STABILIZED EARTH LRFD/QMP PILOT."

THE COST OF FURNISHING AND PLACING THE FOOTING UNDER THE PRESTRESSED PRECAST WALL PANELS IS INCLUDED IN THE BID ITEM "PRESTRESSED PRECAST CONCRETE WALL PANEL."

THE QUANTITY OF CONCRETE MASONRY FOR THE CAST-IN-PLACE ANCHOR SLAB, COPING, AND PARAPETS IS PAID FOR UNDER THE ITEM "CONCRETE MASONRY RETAINING WALLS."

THE QUANTITY OF CONCRETE MASONRY FOR THE CAST-IN-PLACE WALL AND FOOTING IN UNIT 3 IS PAID FOR UNDER THE ITEM "CONCRETE MASONRY RETAINING WALLS."

ALL STATIONS ARE ALONG THE ℄ FOR R-70-115 ALONG THE FRONT FACE OF WALL UNLESS SHOWN OTHERWISE.

THE CONTRACTOR MUST COORDINATE THE CONSTRUCTION OF RETAINING WALL R-70-115 WITH BRIDGE B-70-134. STRUCTURES ARE TO BE BUILT CONCURRENTLY.

THE SOILS AT THE BASE OF THE WALL SHALL BE REVIEWED BY THE NORTHEAST REGION SOILS ENGINEER TO DETERMINE IF THE SOILS HAVE ADEQUATE STRENGTH TO SUPPORT THE MSE WALL.

ANY GAPS DUE TO STEPPING OF THE FOOTING OR LEVELING PAD LARGER THAN 6" X 6" SHALL BE REINFORCED BY BRICKS AND MORTAR, INCIDENTAL TO BID ITEM "WALL CONCRETE PANEL MECHANICALLY STABILIZED EARTH LRFD/QMP PILOT" OR "PRESTRESSED PRECAST CONCRETE WALL PANEL."

LEGEND

E = EXPANSION JOINT

◀ = DIRECTION OF TRAFFIC

LIST OF DRAWINGS

1. GENERAL PLAN AND ELEVATION
2. DESIGN DATA AND QUANTITIES
3. WALL DETAILS 1
4. WALL DETAILS 2
5. WALL DETAILS 3
6. WALL DETAILS 4
7. CIP WALL DETAILS
8. SINGLE SLOPE PARAPET 42SS
9. ANCHOR SLAB AT INLET
10. LIGHT STANDARD
11. SUBSURFACE EXPLORATION

DESIGN DATA

LIVE LOAD
LIVE LOAD SURCHARGE (ROADWAY).....240 PSF

MATERIAL PROPERTIES
CONCRETE MASONRY RETAINING WALL.....F'C = 3,500 PSI
PRECAST CONCRETE WALL PANELS.....F'C = 4,000 PSI
PRESTRESSED PRECAST CONCRETE WALL PANELS.....F'C = 5,000 PSI
BAR STEEL REINFORCEMENT.....F'C = 60,000 PSI

FOUNDATION DATA - ALLOWABLE SOIL BEARING CAPACITY
RETAINING WALL.....VARIES

NOTE: THE WALL HAS BEEN DESIGNED FOR TRAFFIC LOADING ONLY. IF DURING CONSTRUCTION HEAVY EQUIPMENT IS OPERATING IN CLOSE PROXIMITY TO THE WALL OR IF MATERIAL IS STOCKPILED NEAR THE WALL, THE SAFETY FACTOR FOR THIS WALL WILL SIGNIFICANTLY DECREASE.

NE REGION CONTACT - SCOTT EBEL (920) 492-2240
BUREAU OF STRUCTURES CONTACT - WILLIAM DREHER (608) 266-8489
CONSULTANT CONTACT - MICHAEL ARNOLD (414) 831-4179

WISCONSIN
MICHAEL J. ARNOLD
E-41717
GREENDALE
WI
PROFESSIONAL ENGINEER

NO.	DATE	REVISION	BY

URS
342 North Water Street
7th Floor
Milwaukee, WI 53202
(414) 831-4100

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

ACCEPTED William C. Dreher KAR 03/12/14
CHIEF STRUCTURES DESIGN ENGINEER DATE

STRUCTURE R-70-115

RETAINING WALL ALONG RAMP 'FEN', N. OF B-70-134

COUNTY	TOWN/~~CITY/VILLAGE~~
WINNEBAGO	MENASHA

DESIGN SPEC.
AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS

DESIGNED BY	DESIGN CK'D.	DRAWN BY	PLANS CK'D.
MRL	JDB	MRL	JDB

GENERAL PLAN AND ELEVATION

SHEET 1 OF 11
440

DATE: 3/10/2014
I.D.

FILE= P:\Transportation\US 10 WIS 441\CADD\sheets\Structures\R-70-115\Sheets\Final\01-R-70-115_gp.dgn

8

8

STATE PROJECT NUMBER
1517-07-72

GEOMETRY TABLE

WALL STATION	USH 41 NB STATION	OFFSET TO R/L OF WALL	TOP OF WALL	FINISHED GRADE
0+50.00	1364+56.33	56.75	748.69	741.92
0+75.00	1364+81.33	56.75	748.53	742.24
1+00.00	1365+06.33	56.75	748.45	742.37
1+25.00	1365+31.33	56.75	748.37	742.49
1+50.00	1365+56.33	56.75	748.31	742.62
1+75.00	1365+81.33	56.75	748.29	742.79
2+00.00	1366+06.33	56.75	748.36	743.13
2+25.00	1366+31.33	56.75	748.51	743.46
2+50.00	1366+56.33	56.75	748.67	743.80
2+75.00	1366+81.33	56.75	748.82	744.13
3+00.00	1367+06.33	56.75	748.98	744.47
3+25.00	1367+31.33	56.75	749.15	744.80
3+50.00	1367+56.33	56.75	749.32	745.14
3+53.30	1367+59.63	56.75	749.33	745.18
3+75.00	1367+81.32	56.03	749.44	745.47
4+00.00	1368+06.30	55.19	749.59	745.81
4+25.00	1368+31.29	54.36	749.73	746.14
4+50.00	1368+56.28	53.53	749.88	746.48
4+75.00	1368+81.26	52.69	750.01	746.81
5+00.00	1369+06.25	51.86	750.10	747.14
5+25.00	1369+31.24	51.03	750.19	747.47
5+50.00	1369+56.22	50.20	750.31	747.82
5+75.00	1369+81.21	49.36	750.46	748.21
6+00.00	1370+06.20	48.53	750.61	748.60
6+25.00	1370+31.18	47.70	750.76	748.98
6+50.00	1370+56.17	46.86	750.91	749.70
6+68.87	1370+75.03	46.24	751.02	751.02

UNIT 3, UNIT 2, UNIT 1

TOTAL ESTIMATED QUANTITIES

BID ITEM #	BID ITEM	UNIT	TOTAL
206.3000	EXCAVATION FOR STRUCTURES RETAINING WALLS R-70-115	LS	1
210.0100	BACKFILL STRUCTURE	CY	198
502.3200	PROTECTIVE SURFACE TREATMENT	SY	350
504.0500	CONCRETE MASONRY RETAINING WALLS	CY	334
505.0615	BAR STEEL REINFORCEMENT HS COATED RETAINING WALLS	LB	38,900
516.0500	RUBBERIZED MEMBRANE WATERPROOFING	SY	29
550.1100	PILING STEEL HP 10-INCH X 42 LB	LF	560
612.0406	PIPE UNDERDRAIN WRAPPED 6-INCH	LF	630
614.0150	ANCHOR ASSEMBLIES FOR STEEL PLATE BEAM GUARD	EACH	1
652.0125	CONDUIT RIGID METALLIC 2-INCH	LF	126
652.0225	CONDUIT RIGID NONMETALLIC SCHEDULE 40 2-INCH	LF	496
653.0222	JUNCTION BOXES 18X12X6-INCH	EACH	6
657.6005.S	ANCHOR ASSEMBLIES LIGHT POLES ON STRUCTURES	EACH	3
SPV.0165.850	PRESTRESSED PRECAST CONCRETE WALL PANEL	SF	370
SPV.0165.851	WALL CONCRETE PANEL MECHANICALLY STABILIZED EARTH LRFD/QMP PILOT	SF	2,640
SPV.0165.852	WALL WIRE FACED MECHANICALLY STABILIZED EARTH LRFD/QMP PILOT	SF	370
	NON BID ITEMS		
	FILLER	SIZE	1/2" & 1"
	NAME PLATE	EACH	1
	EXPANDED POLYSTYRENE	SIZE	1"

SOIL PARAMETERS

BORING R115-G1 (STATION NO. NB1367+00)					
STRATUM LOCATION & SOIL DESCRIPTIONS	UNIT WEIGHT (PCF)	UNDRAINED PARAMETERS		DRAINED PARAMETERS	
		COHESION, C PSF	FRICTION ANGLE, DEGREES	COHESION, C' PSF	FRICTION ANGLE, DEGREES
GRANULAR BACKFILL (WITHIN REINFORCING ZONE)	120	NA	NA	0	30
FILL BEHIND AND BELOW THE REINFORCING ZONE	125	1000	0	0	30
LEAN/FAT CLAY (EL. 735 TO EL. 745)	120	1000	0	0	26
FAT CLAY (EL. 731 TO EL. 735)	110	600	0	0	24
SILTY SAND (EL. 692 TO EL. 731)	125	NA	NA	0	30
GRAVEL WITH SAND (BELOW EL. 692)	140	NA	NA	0	36
ASSUMED DESIGN GROUNDWATER ELEVATION = 738.0					

BORING R115-G2 (STATION NO. NB1370+00)					
STRATUM LOCATION & SOIL DESCRIPTIONS	UNIT WEIGHT (PCF)	UNDRAINED PARAMETERS		DRAINED PARAMETERS	
		COHESION, C PSF	FRICTION ANGLE, DEGREES	COHESION, C' PSF	FRICTION ANGLE, DEGREES
GRANULAR BACKFILL (WITHIN REINFORCING ZONE)	120	NA	NA	0	30
FILL BEHIND AND BELOW THE REINFORCING ZONE	125	1000	0	0	30
LEAN CLAY (EL. 741 TO EL. 745)	120	1500	0	0	28
M. STIFF FAT CLAY (EL. 734 TO EL. 741)	115	1000	0	0	26
SOFT FAT CLAY (EL. 725 TO EL. 734)	100	500	0	0	24
SILTY SAND (BELOW EL. 725)	120	NA	NA	0	30
ASSUMED DESIGN GROUNDWATER ELEVATION = 738.0					

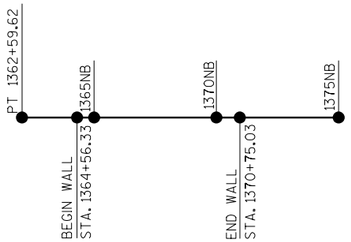
BENCHMARK

NO.	DESCRIPTION	ELEVATION
41E	WIS DOT DISK IN SE PARAPET WALL OF 41 BRIDGE OVER CREEK, NORTH OF 441 BRIDGE	751.32
LA5	NE FLANGE BOLT HYD ON EAST SIDE OF LAKE DRIVE BETWEEN HSE#'S 1761 & 1749	746.14

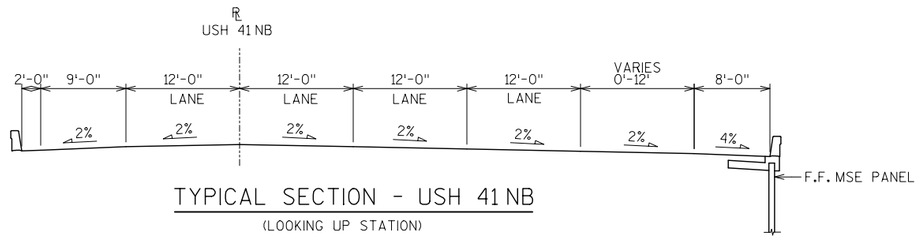
WALL EXTERNAL AND OVERALL STABILITY EVALUATION

WALL DIMENSIONS		
MAX. WALL HEIGHT [1] (FEET)	7.5	4.5
MAX. EXPOSED WALL HEIGHT (FEET)	6.0	3.0
** MIN. LENGTH OF REINFORCEMENT (FEET)	10.0	8.0 [2]
RATIO OF REIN./WALL HEIGHT	1.33	N/A [2]
DESIGN SLOPE ANGLE AT FRONT (DEGREE)	0	0
DESIGN SLOPE ANGLE AT BACK (DEGREE)	0	0
WALL SECTION FOR ANALYSIS	1+25	5+00
APPLICABLE WALL STATION RANGE	1+00 TO 5+00	5+00 TO 6+69
APPLIED BORING LOG	R115-G1	R115-G2
CAPACITY TO DEMAND RATIO [3] (*1.0) AND FACTORED BEARING RESISTANCE [3] (PSF)		
GLOBAL STABILITY	1.0*	1.2
ECCENTRICITY	2.8	3.3
SLIDING	1.6	1.7
BEARING CAPACITY	1.2	2.8
FACTORED BEARING RESISTANCE (PSF)	2,500	4,000

NOTES
1. THE WALL HEIGHT INCLUDES AN EMBEDMENT OF 1.5 FEET
2. THE LENGTH OF REINFORCEMENT IS THE MINIMUM LENGTH (8 FEET) REQUIRED BY WISDOT
3. SELECTION OF THE LOWER VALUE BETWEEN DRAINED AND UNDRAINED ANALYSIS RESULTS
* CONTROLLING DESIGN ISSUE
** FINAL DESIGN FOR INTERNAL STABILITY IS THE RESPONSIBILITY OF THE CONTRACTOR'S WALL DESIGNER



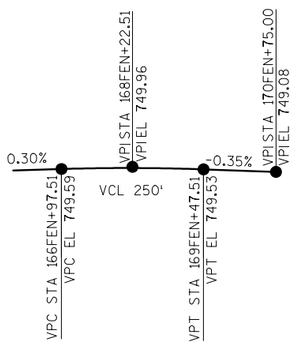
HORIZONTAL ALIGNMENT USH 41 NB



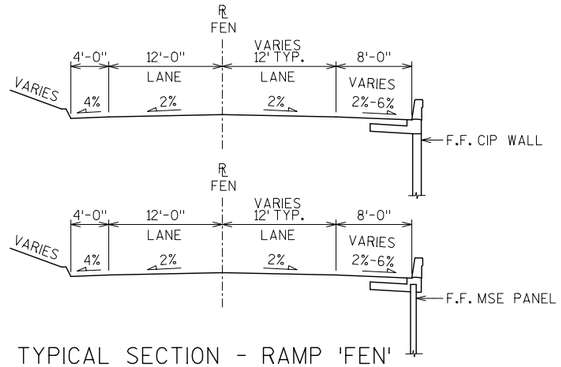
TYPICAL SECTION - USH 41 NB

(LOOKING UP STATION)

HORIZONTAL ALIGNMENT RAMP 'FEN'



PROFILE GRADE LINE RAMP 'FEN'



TYPICAL SECTION - RAMP 'FEN'

(LOOKING UP STATION)

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE R-70-115

DRAWN BY MRL | PLANS CK'D. JDB

DESIGN DATA AND QUANTITIES

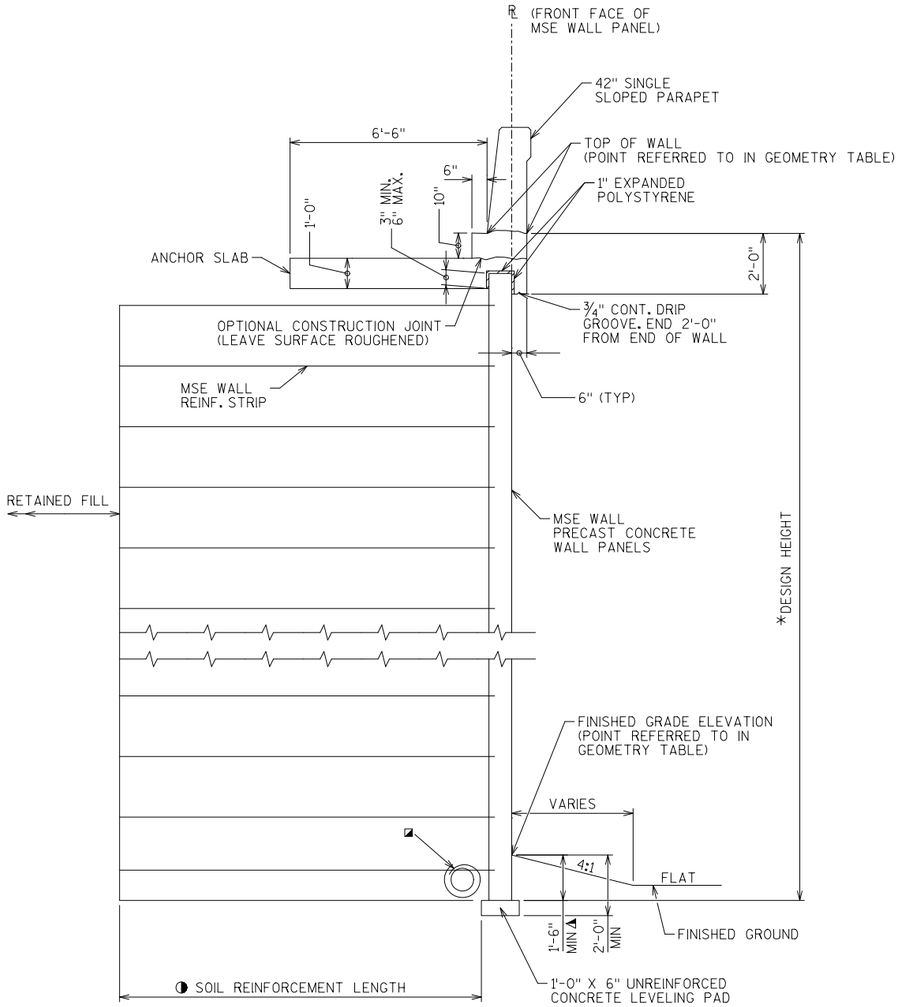
SHEET 2 OF 11
441

DATE: 3/10/2014
I.D.

FILE= P:\Transportation\US 10 WIS 441\CADD\sheets\Structures\R-70-115\Sheets\Final\02-R-70-115_qu.dgn

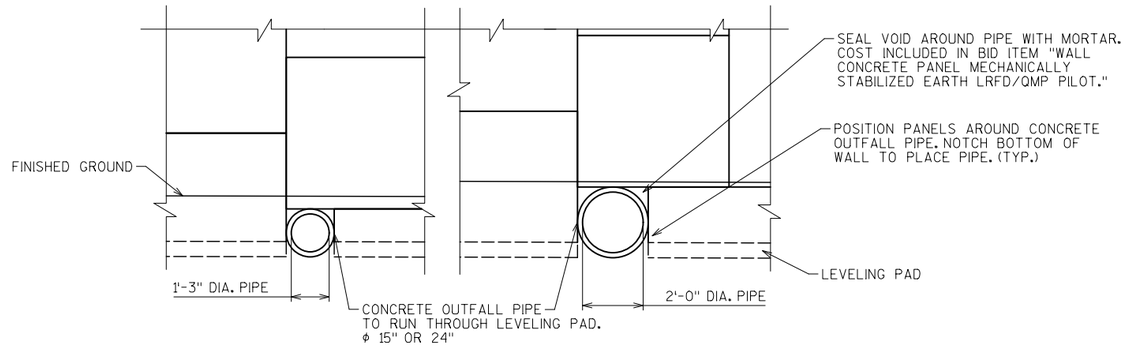
8

8

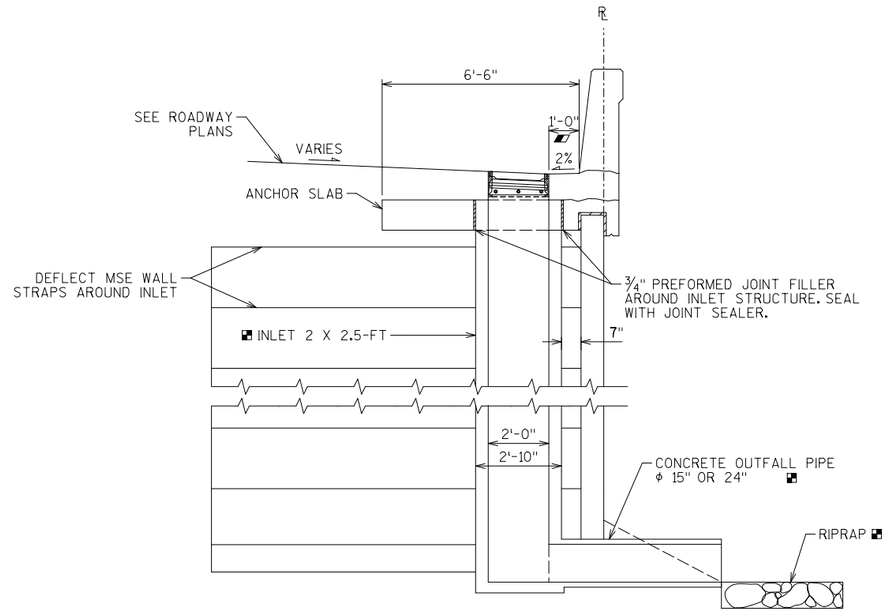


TYPICAL WALL SECTION - UNIT 1

(MSE PRECAST PANEL WALL)



MSE PANELS AT OUTFALL PIPE



TYPICAL WALL SECTION AT INLET STRUCTURE

◩ TRANSITION PAN AND SLOPE OVER 10'-0" ON EACH SIDE OF THE INLET.

⚹ THE PLAN QUANTITY FOR THE BID ITEM "WALL CONCRETE PANEL MECHANICALLY STABILIZED EARTH LRFD/QMP PILOT" IS BASED ON A WALL HEIGHT MEASURED FROM THE TOP OF LEVELING PAD TO THE TOP OF THE WALL AS SHOWN. LEVELING PAD CONCRETE IS TO BE INCLUDED IN THE BID ITEM "WALL CONCRETE PANEL MECHANICALLY STABILIZED EARTH LRFD/QMP PILOT."

▲ MINIMUM EMBEDMENT BASED ON SITE SPECIFIC PARAMETERS. FIELD EMBEDMENTS SHALL MEET OR EXCEED THE MINIMUM EMBEDMENT. FIELD EMBEDMENTS BELOW MINIMUM EMBEDMENT SHALL NOT BE INCLUDED IN THE PAY LIMITS.

◑ SEE "WALL EXTERNAL AND OVERALL STABILITY EVALUATION" TABLE ON SHEET 2 FOR SOIL REINFORCEMENT LENGTH.

◪ PIPE UNDERDRAIN WRAPPED (6-INCH) SLOPE 0.5% MIN. TO SUITABLE DRAINAGE. ATTACH RODENT SHIELDS AT EXPOSED ENDS OF PIPE UNDERDRAIN. SEE RODENT SHIELD DETAIL.

◘ RIPRAP AND CONCRETE AND STEEL REQUIRED FOR THE INLET AND OUTFALL PIPE ARE PAID FOR IN THE ROADWAY ITEMS. SEE STORM SEWER PLANS FOR INVERT ELEVATIONS.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE R-70-115

DRAWN BY MRL | PLANS CK'D. JDB

WALL DETAILS 1

SHEET 3 OF 11
442

FILE= P:\Transportation\US 10 WIS 441\CADD\sheets\Structures\R-70-115\Sheets\Final\03-R-70-115_wall details.dgn

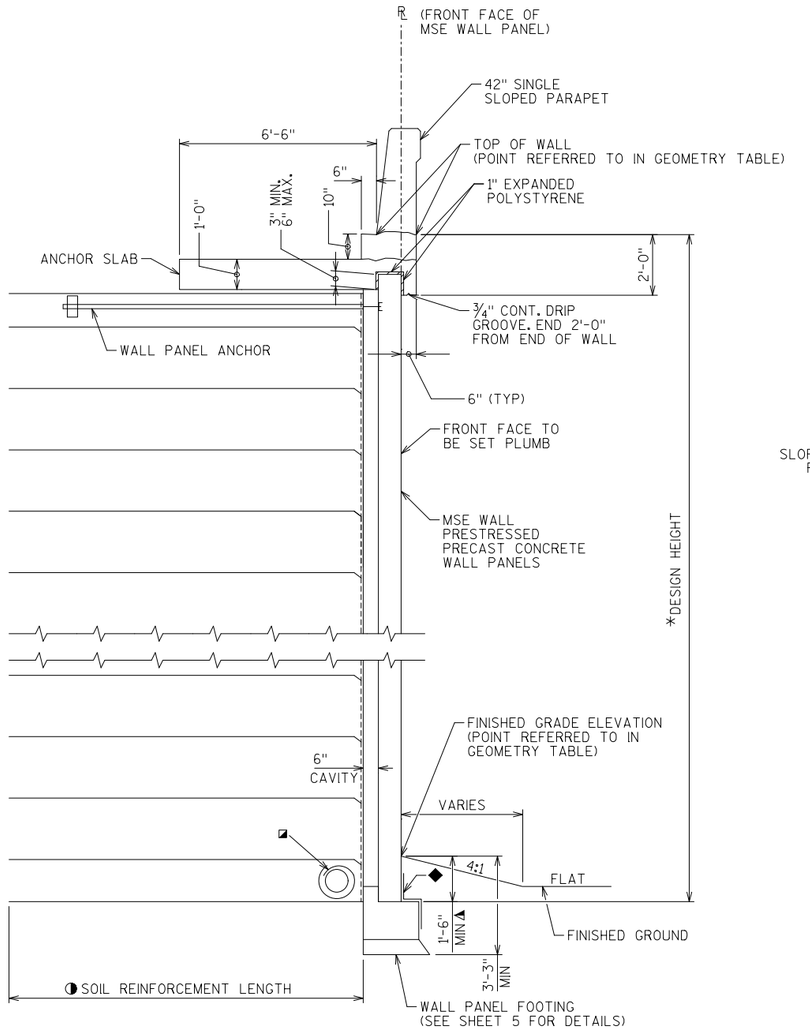
DATE: 3/10/2014
I.D.

8

8

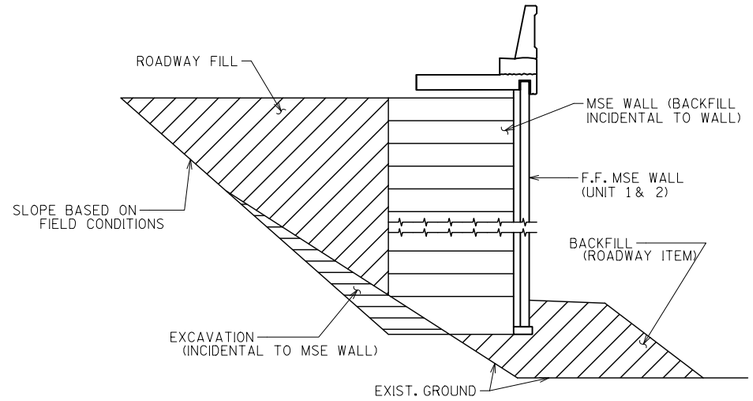
STATE PROJECT NUMBER

1517-07-72



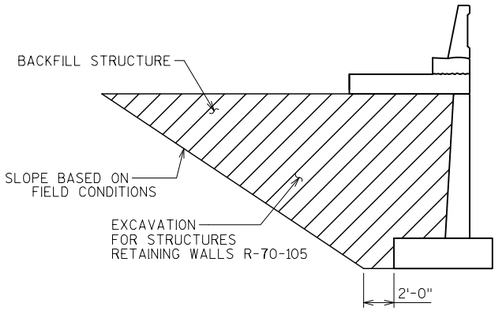
TYPICAL WALL SECTION - UNIT 2

(PRESTRESSED PRECAST TILT-UP PANEL WALL)



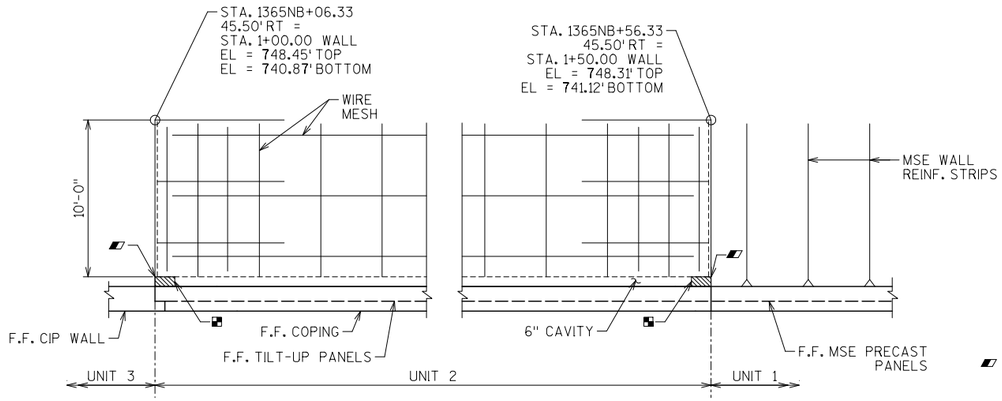
EXCAVATION/BACKFILL DETAIL

(AT MSE WALL)



EXCAVATION/BACKFILL DETAIL

(AT CIP WALL)



DETAIL OF WIRE FACE TRANSITION

(PLAN VIEW)

⚹ THE PLAN QUANTITY FOR THE BID ITEM "WALL WIRE FACED MECHANICALLY STABILIZED EARTH LRFD/QMP PILOT" AND "PRESTRESSED PRECAST CONCRETE WALL PANEL" IS BASED ON A WALL HEIGHT MEASURED FROM THE TOP OF FOOTING TO THE TOP OF THE WALL AS SHOWN. FOOTING CONCRETE AND REINFORCEMENT ARE TO BE INCLUDED IN THE BID ITEM "PRESTRESSED PRECAST CONCRETE WALL PANEL."

▲ MINIMUM EMBEDMENT BASED ON SITE SPECIFIC PARAMETERS. FIELD EMBEDMENTS SHALL MEET OR EXCEED THE MINIMUM EMBEDMENT. FIELD EMBEDMENTS BELOW MINIMUM EMBEDMENT SHALL NOT BE INCLUDED IN THE PAY LIMITS.

◑ SEE "WALL EXTERNAL AND OVERALL STABILITY EVALUATION" TABLE ON SHEET 2 FOR SOIL REINFORCEMENT LENGTH.

◪ PIPE UNDERDRAIN WRAPPED (6-INCH) SLOPE 0.5% MIN. TO SUITABLE DRAINAGE. ATTACH RODENT SHIELDS AT EXPOSED ENDS OF PIPE UNDERDRAIN. SEE RODENT SHIELD DETAIL.

◆ GEOTEXTILE FABRIC TYPE DF, LENGTH OF FOOTING, TO BE INCLUDED IN THE BID ITEM "PRESTRESSED PRECAST CONCRETE WALL PANEL."

◩ PROVIDE WELDED WIRE FABRIC CLOSURE PANEL TO RETAIN ADJACENT FILL UNTIL CONCRETE COLUMN IS CONSTRUCTED. COST INCLUDED IN "WALL WIRE FACED MECHANICALLY STABILIZED EARTH LRFD/QMP PILOT."

◪ 6" X 1'-0" UNREINF. CONCRETE COLUMN TO RETAIN FILL FROM BEHIND UNITS 1 & 3. INCIDENTAL TO "PRESTRESSED PRECAST CONCRETE WALL PANEL."

NOTES - STAGED CONSTRUCTION

A MINIMUM THREE MONTH WAITING PERIOD IS REQUIRED AFTER CONSTRUCTION OF THE WIRE-FACED MSE WALL AND BEFORE CONSTRUCTION OF THE FOOTING AND PLACEMENT OF THE PRESTRESSED, PRECAST WALL PANELS.

ONE SETTLEMENT GUAGE IS TO BE INSTALLED 15 FEET SOUTH OF THE CIP WALL AND 5 FEET BACK FROM THE WALL FACING.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE R-70-115

DRAWN BY MRL | PLANS CK'D. JDB

WALL DETAILS 2

SHEET 4 OF 11
443

DATE: 3/10/2014
I.D.

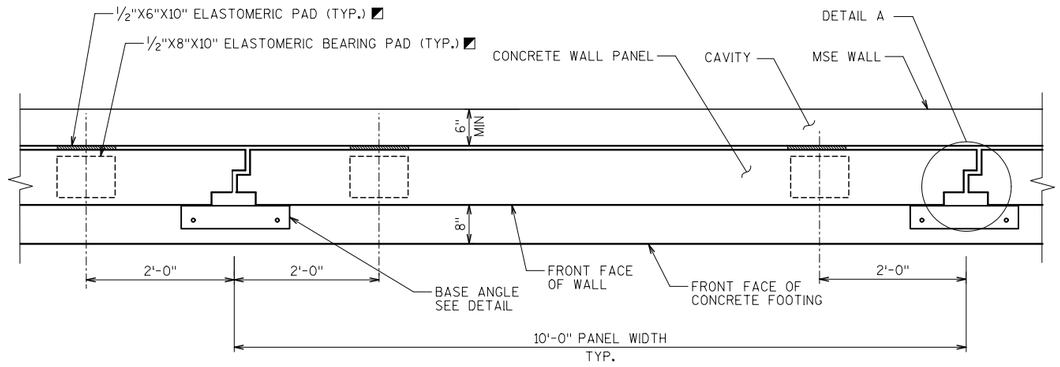
FILE= P:\Transportation\US 10 WIS 441\CADD\sheets\Structures\R-70-115\Sheets\Final\04-R-70-115_ts.dgn

8

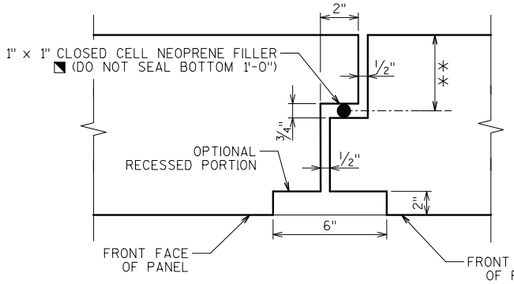
8

STATE PROJECT NUMBER

1517-07-72

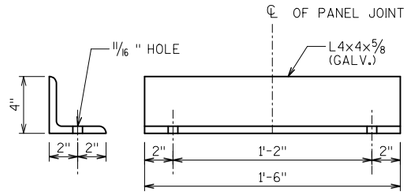


TYPICAL WALL PANEL CONNECTION



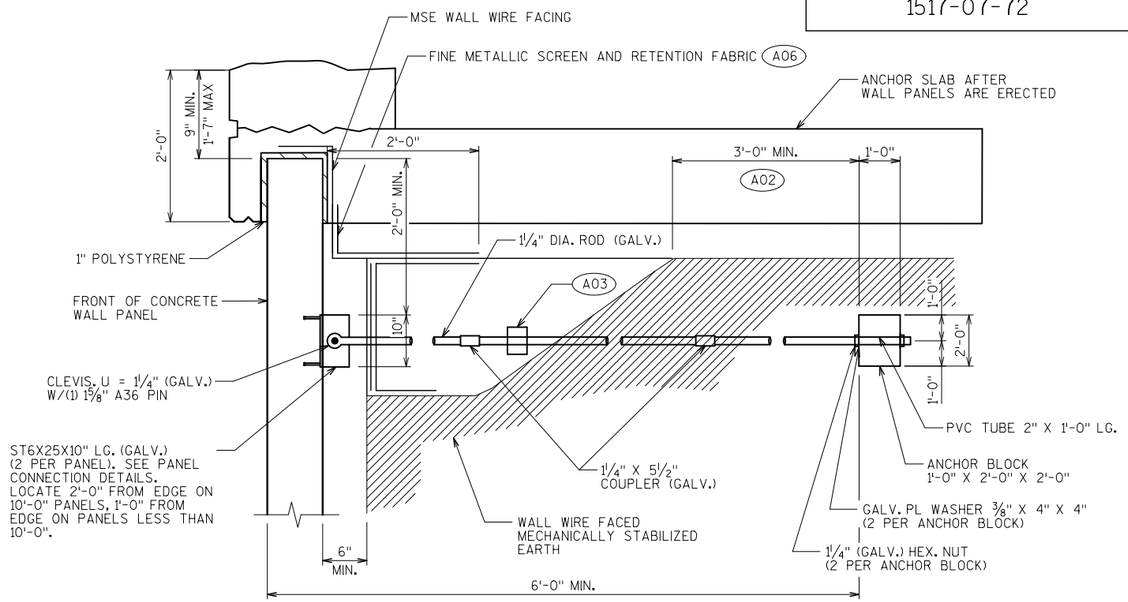
DETAIL A

** 4" FOR 9 1/2" PANEL
3" FOR 7 1/2" PANEL



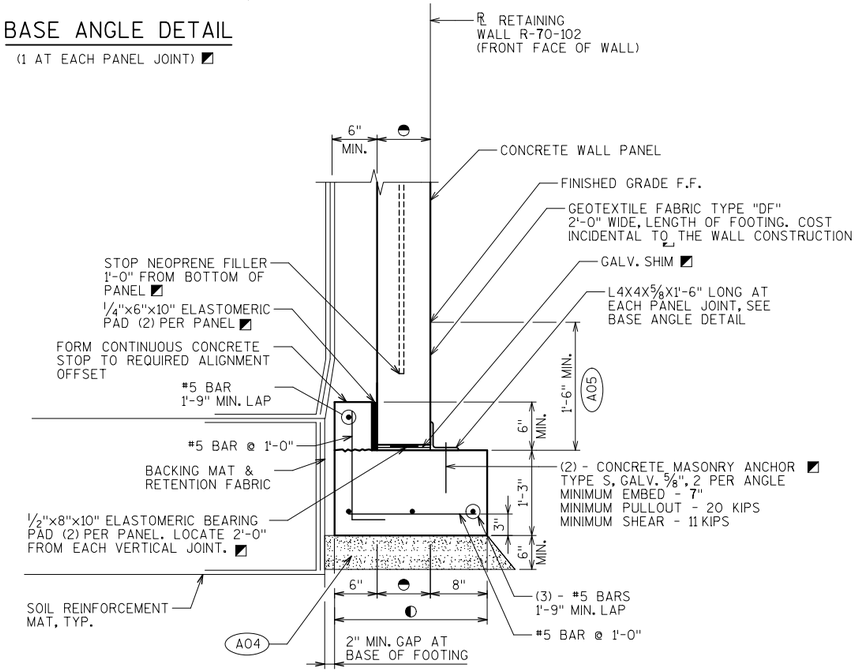
BASE ANGLE DETAIL

(1 AT EACH PANEL JOINT) ◩



WALL PANEL ANCHOR DETAIL

A01

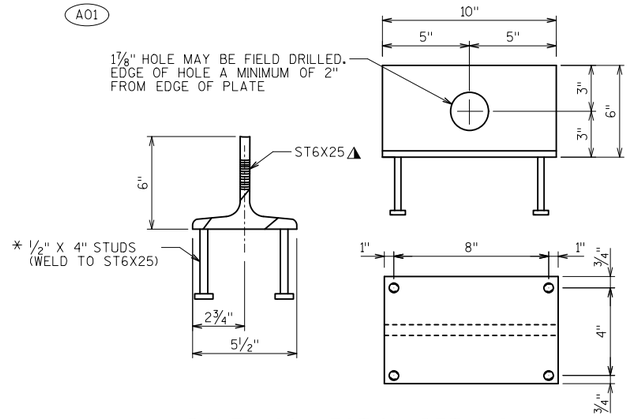


WALL PANEL FOOTING DETAIL

CONCRETE AND REINFORCEMENT INCLUDED IN THE BID ITEM "PRESTRESSED PRECAST CONCRETE WALL PANEL."

◓ = 7 1/2" OR 9 1/2"

◐ FOOTING DIMENSION EQUALS PANEL THICKNESS PLUS 1'-2"



PANEL CONNECTION DETAILS

(2 PER PANEL)

◭ S12X50 (GALV.) CUT IN 1/2 TO FORM "T" SECTION. BF = 5.477" TW = 0.687".

* AS AN ALTERNATE, 1/2" TYPE "S" ANCHORS MAY BE USED IN PLACE OF THE 4" STUDS.

ST6X25 MAY BE WELDED TO 3/4" THICK PLATE WITH (4) 1/2" X 4" STUDS ANCHORED IN PRECAST PANEL. RESTORE ZINC COATING AROUND ANY WELDED AREAS. SUBMIT DETAILS FOR APPROVAL BY ENGINEER.

LEGEND

(A01) WALL PANEL ANCHOR SYSTEM INCLUDES ANCHOR BLOCK, ANCHOR BLOCK COUPLER, 1 1/4" DIA. ANCHOR ROD, CLEVIS, AND OTHER PANEL CONNECTION COMPONENTS. DESIGN, DETAILING, AND FURNISHING OF THESE ITEMS IS INCLUDED IN THE BID ITEM "PRESTRESSED PRECAST CONCRETE WALL PANEL."

INSTALLATION OF THESE ITEMS IS INCLUDED IN THE BID ITEM "WALL WIRE FACED MECHANICALLY STABILIZED EARTH LRFD/OMP PILOT."

(A02) DESIGN LENGTH TO PROVIDE REQUIRED HORIZONTAL CAPACITY OF ANCHOR ASSEMBLY. MINIMUM OF 3'-0" OF COMPACTED FILL IN FRONT OF ANCHOR BLOCK PRIOR TO WALL PANEL ERECTION. ROD MIN. 2'-0" BELOW FINISH GRADE.

(A03) OPTIONAL MULTIDIRECTIONAL CONNECTOR MAY BE USED TO FACILITATE ALIGNMENT AT THE CONNECTION. CONNECTOR TO BE CORROSION RESISTANT AND DEVELOP 100% OF THE ULTIMATE STRENGTH OF 1 1/4" DIA. BAR)

(A04) BASE AGGREGATE OPEN GRADED, 6" MIN. INCIDENTAL TO BID ITEM "PRESTRESSED PRECAST CONCRETE WALL PANEL".

(A05) MINIMUM DIMENSION FROM FINISHED GRADE AT FRONT FACE OF WALL TO BOTTOM OF WALL PANEL FOOTING IS SHOWN. THE FOOTING MAY BE CONSTRUCTED ON A SLOPE PARALLEL TO THE PROPOSED GRADE, OR MAY BE STEPPED. THE CONTRACTOR SHALL COORDINATE CONSTRUCTION OF THE WALL PANEL FOOTING WITH FABRICATION OF THE CONCRETE PANELS.

(A06) ALTERNATE METHODS OF SEALING OFF THE 6" VOID IN FRONT OF THE MSE WALL MAY BE SUBMITTED TO WISDOT FOR CONSIDERATION.

◩ INCLUDED IN THE BID ITEM "PRESTRESSED PRECAST CONCRETE WALL PANEL".

NOTES

AN ALTERNATE WALL PANEL ANCHOR AND PANEL CONSTRUCTION SYSTEM MAY BE SUBMITTED FOR REVIEW AND POSSIBLE ACCEPTANCE BY THE ENGINEER.

TILT UP PANEL ANCHOR SYSTEM MAY BE TRENCHED IN IF THE GEOMETRY OF THE ANCHOR SYSTEM LOCATION ALLOWS.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE R-70-115

DRAWN BY MRL | PLANS CK'D. JDB

WALL DETAILS 3

SHEET 5 OF 11
444

DATE: 3/10/2014
I.D.

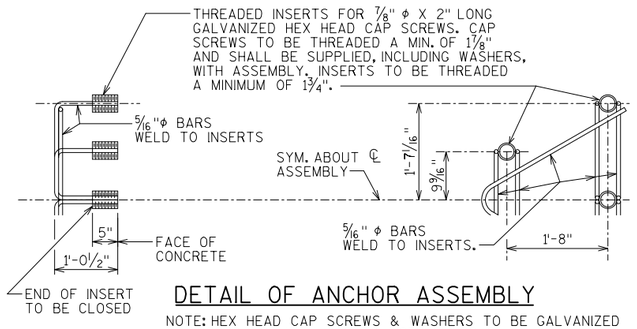
FILE= P:\Transportation\US 10 WIS 441\CADD\sheets\Structures\R-70-115\Sheets\Final\05-R-70-115_panel details.dgn

8

8

STATE PROJECT NUMBER

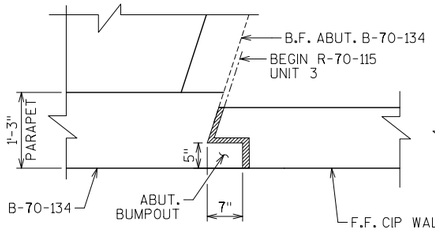
1517-07-72



DETAIL OF ANCHOR ASSEMBLY

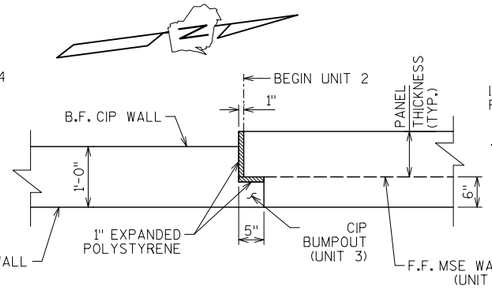
NOTE: HEX HEAD CAP SCREWS & WASHERS TO BE GALVANIZED IN ACCORDANCE WITH AASHTO M232 CLASS C.

ASSEMBLY SHALL BE BID ITEM "ANCHOR ASSEMBLIES FOR STEEL PLATE BEAM GUARD", EACH.



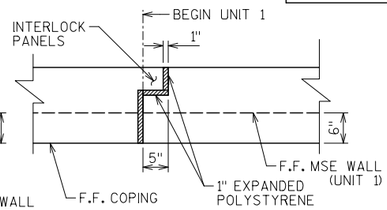
DETAIL AT ABUT.

(PLAN VIEW)



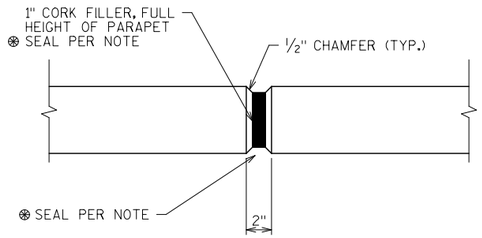
UNIT 2 & 3 TRANSITION

(PLAN VIEW)

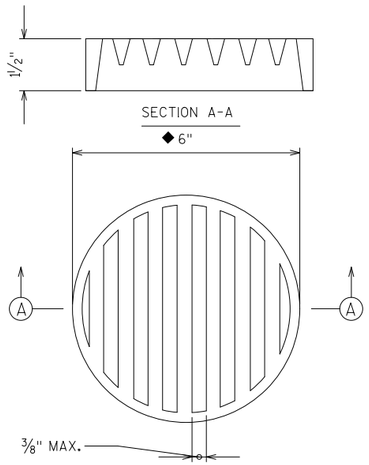


UNIT 1& 2 TRANSITION

(PLAN VIEW)



TRAFFIC BARRIER EXPANSION JOINT DETAIL

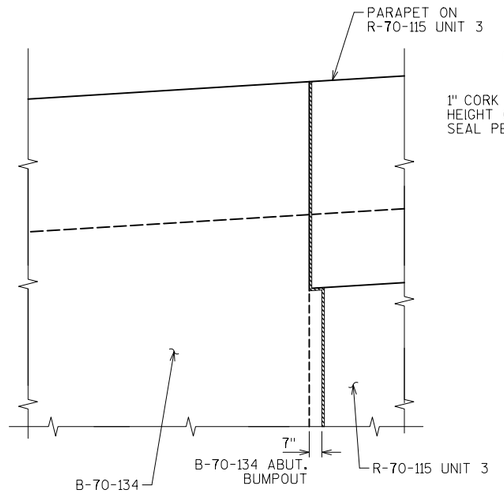


RODENT SHIELD

◆ DIMENSIONS ARE APPROXIMATE. THE GRATE IS SIZED TO FIT INTO A PIPE COUPLING. FASTEN TO THE PIPE COUPLING WITH TWO OR MORE NO. 10 X 1-INCH STAINLESS STEEL SHEET METAL SCREWS.

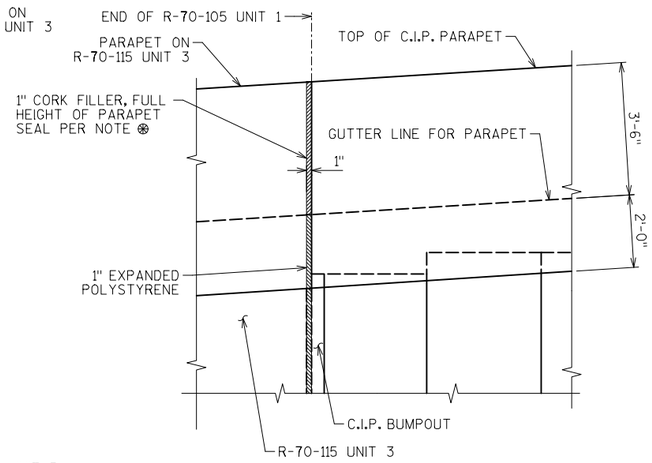
ORIENT SHIELD SO SLOTS ARE VERTICAL.

COST OF RODENT SHIELD AND ALL FITTINGS TO BE INCLUDED IN THE BID ITEM "PIPE UNDERDRAIN WRAPPED 6-INCH."



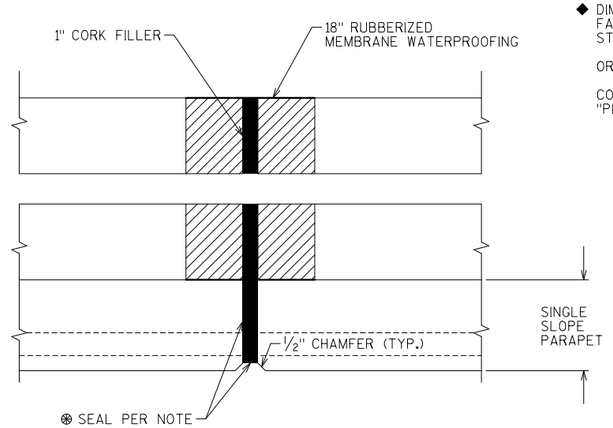
DETAIL AT ABUT.

(ELEVATION VIEW)



DETAIL AT UNIT TRANSITION

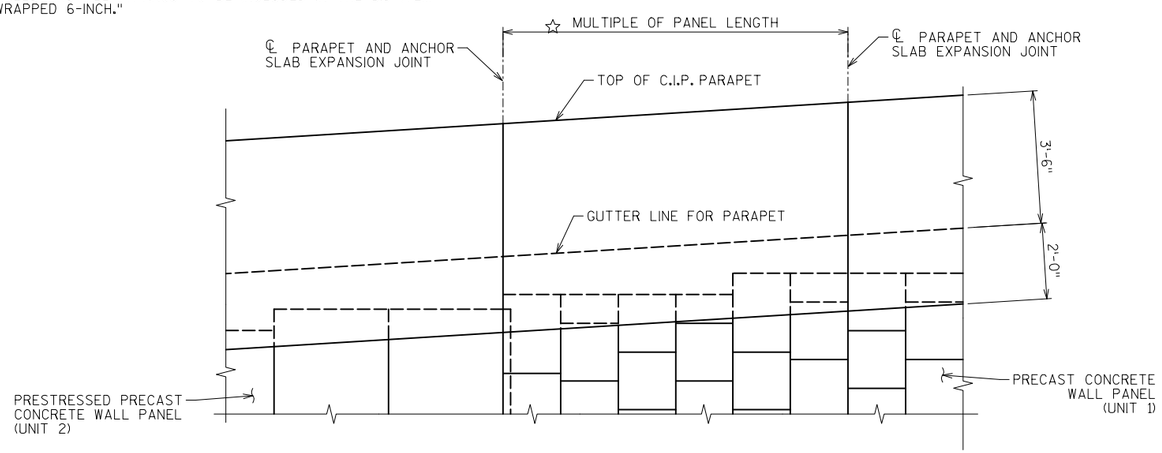
(ELEVATION VIEW)
(DETAIL AT ABUT. SIMILAR - BY OTHERS)



ANCHOR SLAB EXPANSION JOINT DETAIL

EXPANSION JOINTS TO BE SPACED AT A MINIMUM OF 20' AND A MAXIMUM OF 30'. LOCATE EXPANSION JOINTS OVER WALL JOINTS. DO NOT RUN BAR STEEL THRU JOINT. EXCEPT FOR DOWEL BARS. JOINT TO EXTEND FULL DEPTH OF PARAPET AND ANCHOR SLAB.

⊛ SEAL ALL EXPOSED HORIZ. & VERT. SURFACES OF FILLER WITH NON-STAINING, NON-BITUMINOUS JOINT SEALER. COLOR TO MATCH STAIN. (1" DEEP AND HOLD 1/8" BELOW SURFACE OF CONC.)



☆ ALL JOINTS SHALL COINCIDE WITH PANEL JOINT ON FRONT FACE.

C.I.P. PARAPET PARTIAL ELEVATION

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE R-70-115

DRAWN BY MRL | PLANS CK'D. JDB

WALL DETAILS 4

SHEET 6 OF 11

445

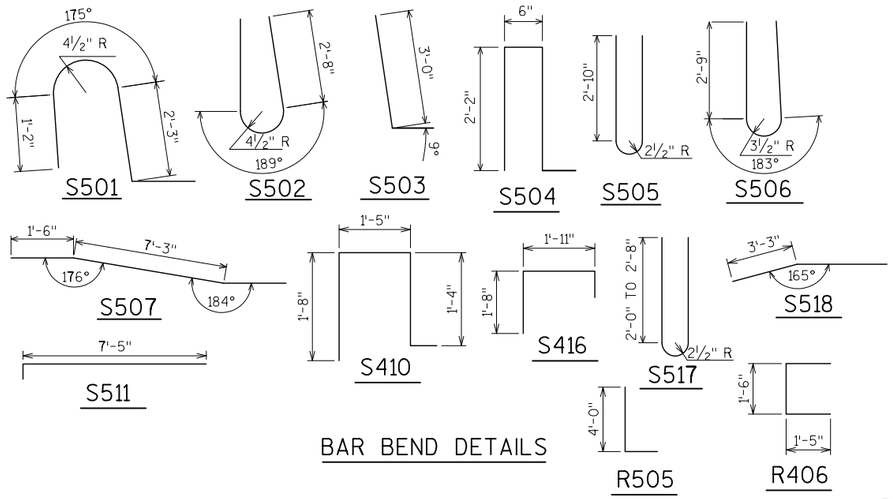
8

8

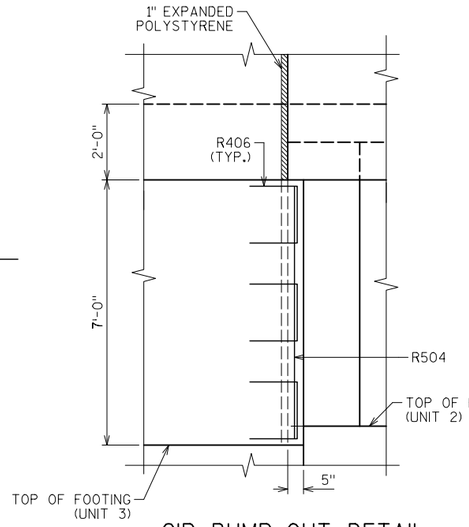
FILE= P:\Transportation\US 10 WIS 441\CADD\sheets\Structures\R-70-115\Sheets\Final\06-R-70-115_ts 2.dgn

DATE: 3/10/2014
I.D.

STATE PROJECT NUMBER
1517-07-72



BAR BEND DETAILS



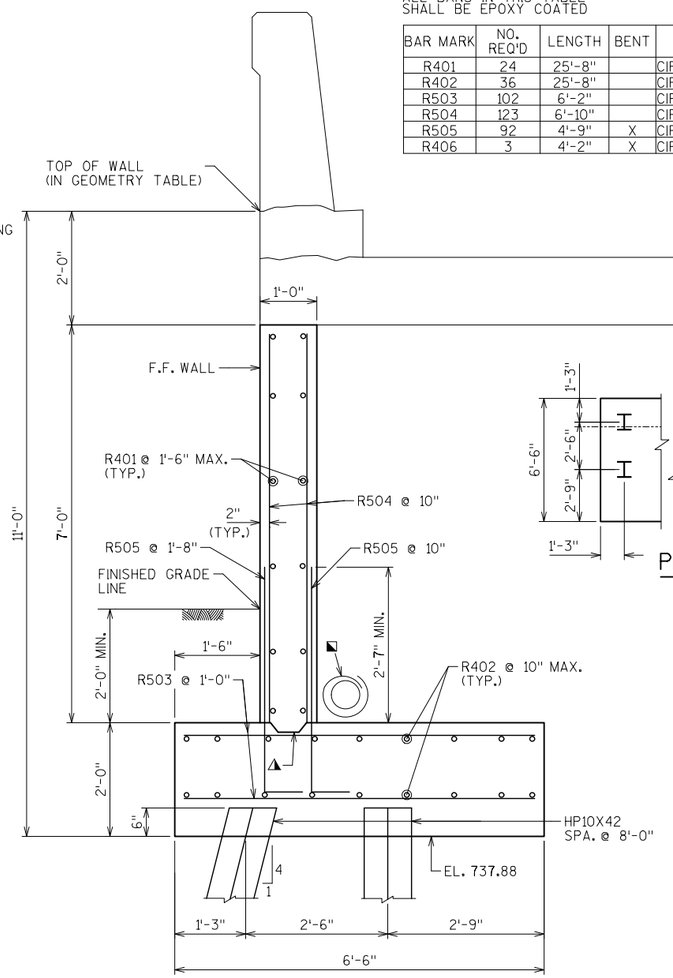
CIP BUMP-OUT DETAIL

(ELEVATION VIEW)

BILL OF BARS

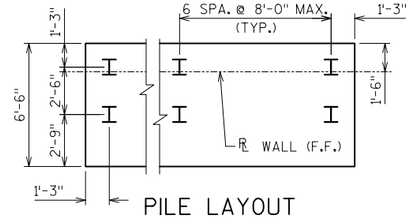
ALL BARS IN THIS TABLE SHALL BE EPOXY COATED

BAR MARK	NO. REQ'D	LENGTH	BENT	LOCATION
R401	24	25'-8"		CIP WALL LONGIT. STEM
R402	36	25'-8"		CIP WALL LONGIT. FOOTING
R503	102	6'-2"		CIP WALL TRANSV. FOOTING
R504	123	6'-10"		CIP WALL VERT. STEM
R505	92	4'-9"	X	CIP WALL VERT. STEM DOWEL
R406	3	4'-2"	X	CIP WALL BUMP-OUT HORIZ.

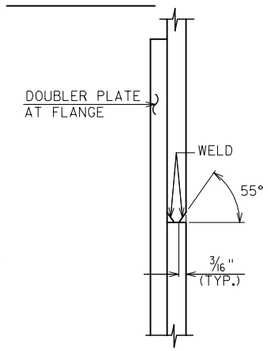


TYPICAL WALL SECTION - UNIT 3

(CAST-IN-PLACE CONCRETE RETAINING WALL)
(LOOKING SOUTH)

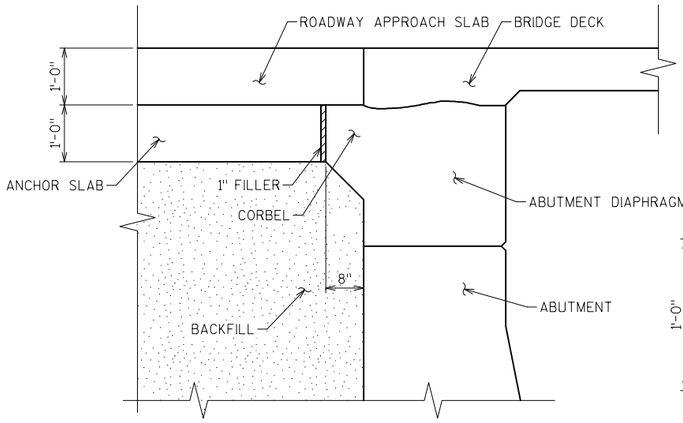


PILE LAYOUT

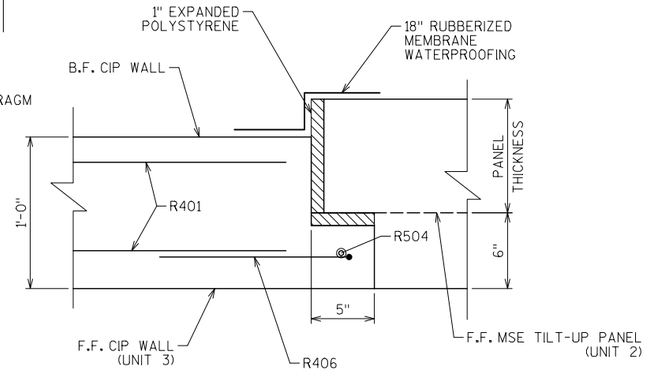


HP WELD DETAIL

(FLANGE SHOWN, WEB SIMILAR)

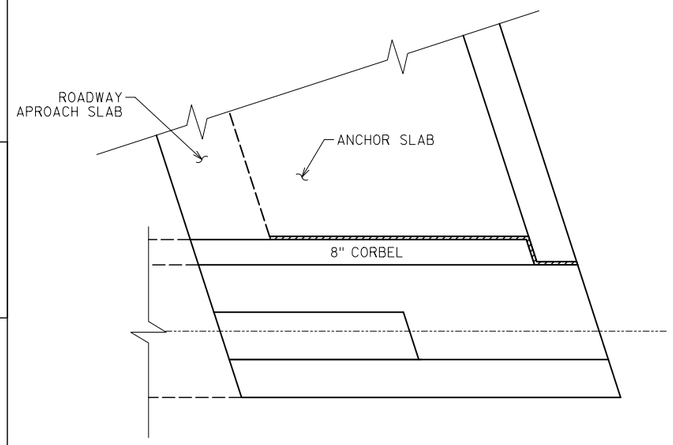


SECTION VIEW

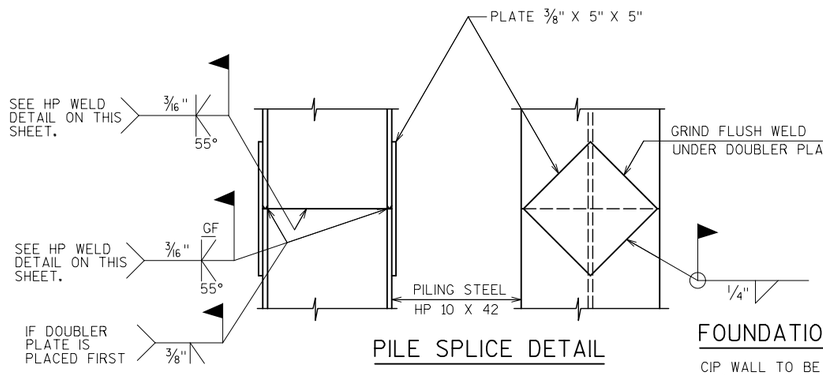


CIP BUMP-OUT DETAIL

(PLAN VIEW)



ANCHOR SLAB DETAIL AT ABUT.



PILE SPLICE DETAIL

FOUNDATION DATA

CIP WALL TO BE SUPPORTED ON HP10X42 STEEL PILING DRIVEN TO A REQUIRED DRIVING RESISTANCE OF 29* TONS PER PILE AS DETERMINED BY THE MODIFIED GATES DYNAMIC EQUATION. ESTIMATED PILE LENGTH IS 40'.

* 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 THE MODIFIED GATES DYNAMIC EQUATION.

▲ KEYWAY. SURFACED, BEVELED 2" X 6"

◪ PIPE UNDERDRAIN WRAPPED (6-INCH) SLOPE 0.5% MIN. TO SUITABLE DRAINAGE. ATTACH RODENT SHIELDS AT EXPOSED ENDS OF PIPE UNDERDRAIN. SEE RODENT SHIELD DETAIL. PROVIDE AN OUTFALL THROUGH THE FACE OF THE CIP WALL 1'-6" FROM THE END OF UNIT 3.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE R-70-115

DRAWN BY: MRL | PLANS CK'D.: JDB

CIP WALL DETAILS

SHEET 7 OF 11
446

DATE: 3/10/2014
I.D.

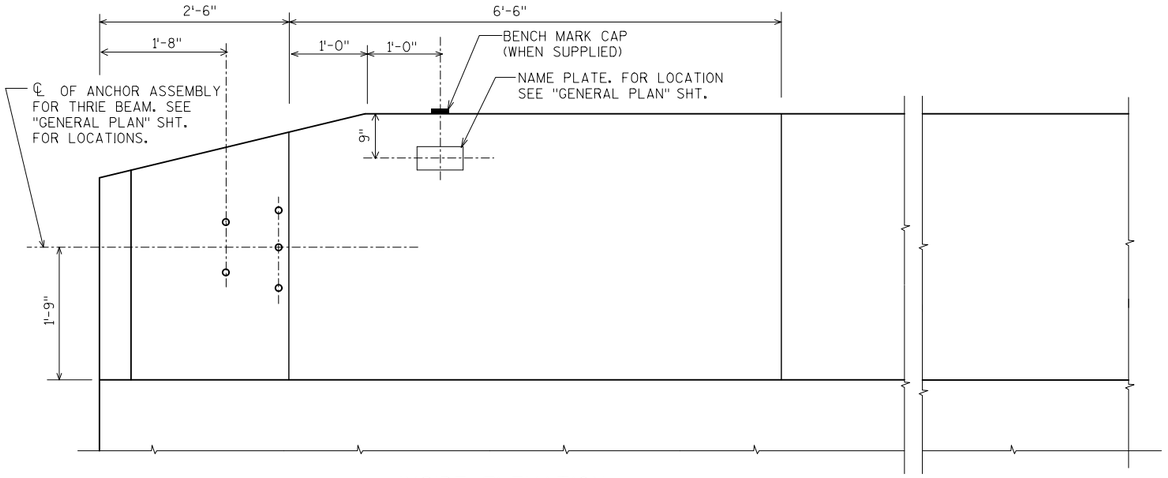
FILE= P:\Transportation\US 10 WIS 441\CADD\sheets\Structures\R-70-115\Sheets\Final\07_R-70-115_CIP Wall Details.dgn

8

8

STATE PROJECT NUMBER

1517-07-72

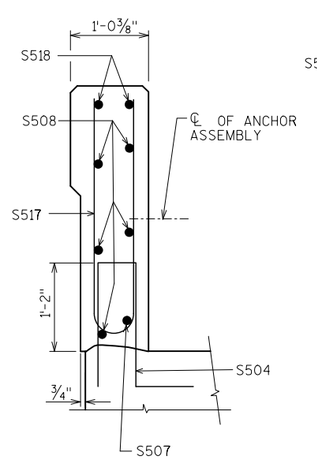


INSIDE ELEVATION

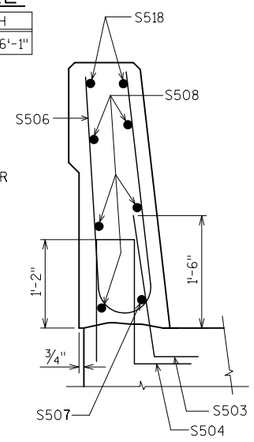
* FIGURE SHOWN IN THE 'NO.' AND 'LENGTH' COLUMNS OF THE TABLE SHOULD BE USED FOR BAR WEIGHT CALCULATIONS ONLY. INDIVIDUAL BAR LENGTHS TO BE DETERMINED BY THE CONTRACTOR BASED ON THE ACTUAL DISTANCE BETWEEN ANCHOR SLAB EXPANSION JOINTS.

BAR SERIES TABLE

MARK	NO. REQ'D	LENGTH
S517	1 SERIES OF 6	4'-9" TO 6'-1"



SECTION A



SECTION B

BILL OF BARS

ALL BARS IN THIS TABLE SHALL BE EPOXY COATED

	BAR MARK	NO. REQ'D	LENGTH	BENT	BAR SERIES	LOCATION
	S501	916	5'-5"	X		PARAPET VERT.
	S502	916	6'-8"	X		PARAPET VERT.
	S503	11	3'-9"	X		PARAPET VERT.
	S504	17	5'-4"	X		PARAPET VERT.
	S505	5	6'-5"	X		PARAPET VERT.
	S506	6	6'-6"	X		PARAPET VERT.
	S507	1	10'-3"	X		PARAPET HORIZ.
	S508	5	60'-0"			PARAPET HORIZ.
*	S509	8	558'-11"			PARAPET HORIZ.
	S410	488	4'-7"	X		ANCHOR SLAB VERT.
	S511	905	8'-2"	X		ANCHOR SLAB HORIZ.
	S412	456	6'-2"			ANCHOR SLAB HORIZ. UNIT 1
*	S413	15	618'-11"			ANCHOR SLAB LONGIT.
	S514	12	9'-0"			ANCHOR SLAB LONGIT. @ INLET
	S515	8	6'-2"			ANCHOR SLAB HORIZ. @ INLET
	S416	16	3'-10"	X		ANCHOR SLAB VERT. @ INLET
	S517	6	5'-5"	X	X	PARAPET VERT.
	S518	2	60'-0"	X		PARAPET HORIZ.
	S419	41	7'-5"			ANCHOR SLAB HORIZ. UNIT 2

◆ 18" RUBBERIZED MEMBRANE WATERPROOFING TO BE PLACED ON THESE SURFACES AT EACH JOINT.

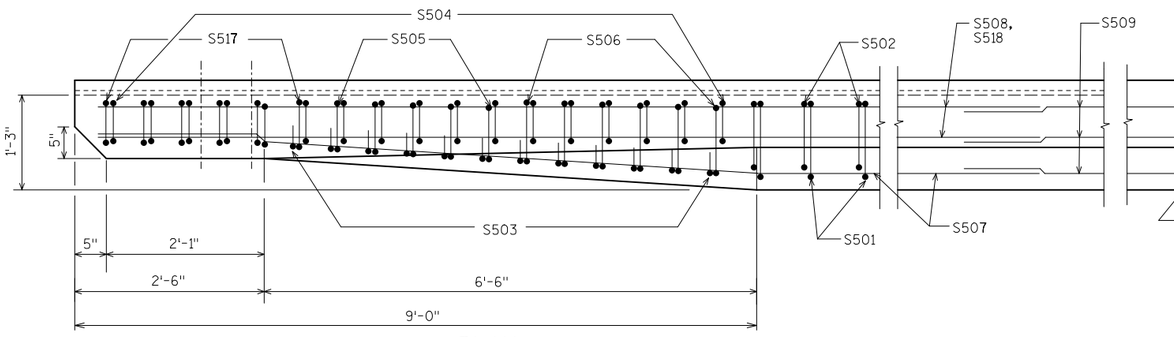
◧ (3) - 3/4" ϕ SMOOTH DOWEL BARS, 1'-6" LONG, AT EXPANSION JOINT. EMBED 9". USE APPROVED DEBONDER ON 1/2 OF BAR LENGTH. COST INCLUDED IN "CONCRETE MASONRY RETAINING WALLS".

◐ CONST. JOINT - STRIKE OFF AS SHOWN.

▲ PROVIDE RUSTICATION IF OPT. CONST. JOINT IS USED.

▼ 10" UNDER ROADWAY
1'-0" UNDER ROADWAY APPROACH SLAB

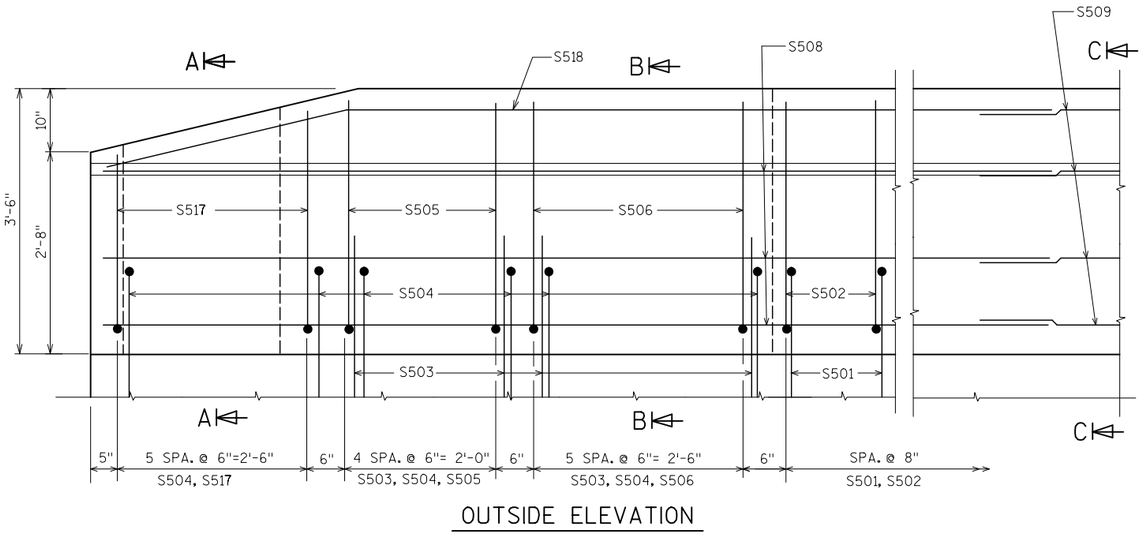
▭ 1'-2" UNDER ROADWAY
1'-0" UNDER ROADWAY APPROACH SLAB



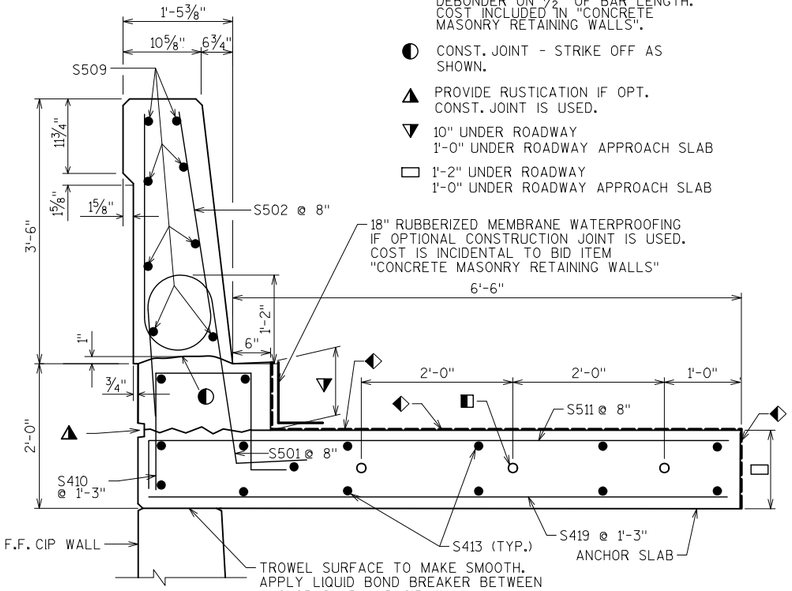
PLAN

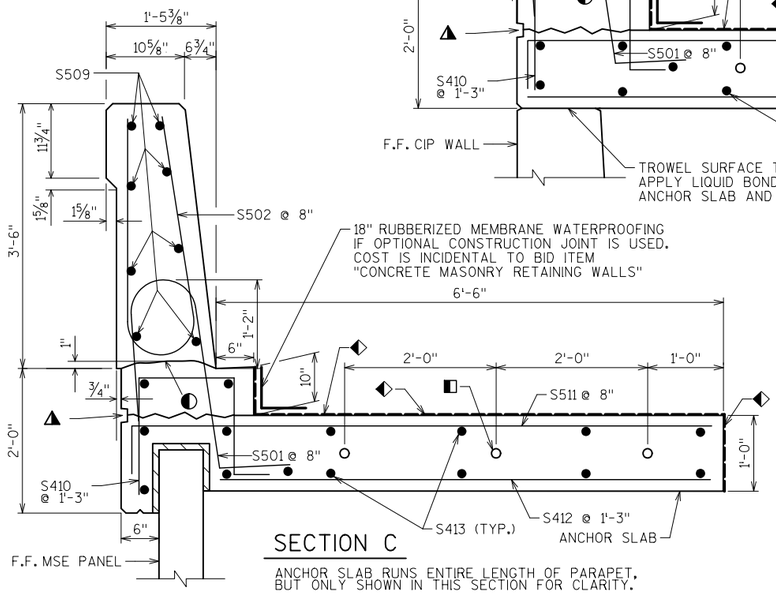
(TRANSITION AT NORTH END OF PARAPET ONLY)

OPTIONAL CONSTRUCTION JOINTS IN THE PARAPETS MAY BE USED. RUN BAR REINF. THRU THE JOINT. LAP LONGIT. BARS A MIN. OF 1'-9". MIN. JOINT SPACING OF 80'-0". DEFINE CONST. JOINT WITH A 3/4" - 'V' GROOVE.



OUTSIDE ELEVATION





SECTION C

ANCHOR SLAB RUNS ENTIRE LENGTH OF PARAPET. BUT ONLY SHOWN IN THIS SECTION FOR CLARITY.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE R-70-115

DRAWN BY MRL | PLANS CK'D. JDB

SINGLE SLOPE PARAPET 42SS

SHEET 8 OF 11
447

DATE: 3/10/2014
I.D.

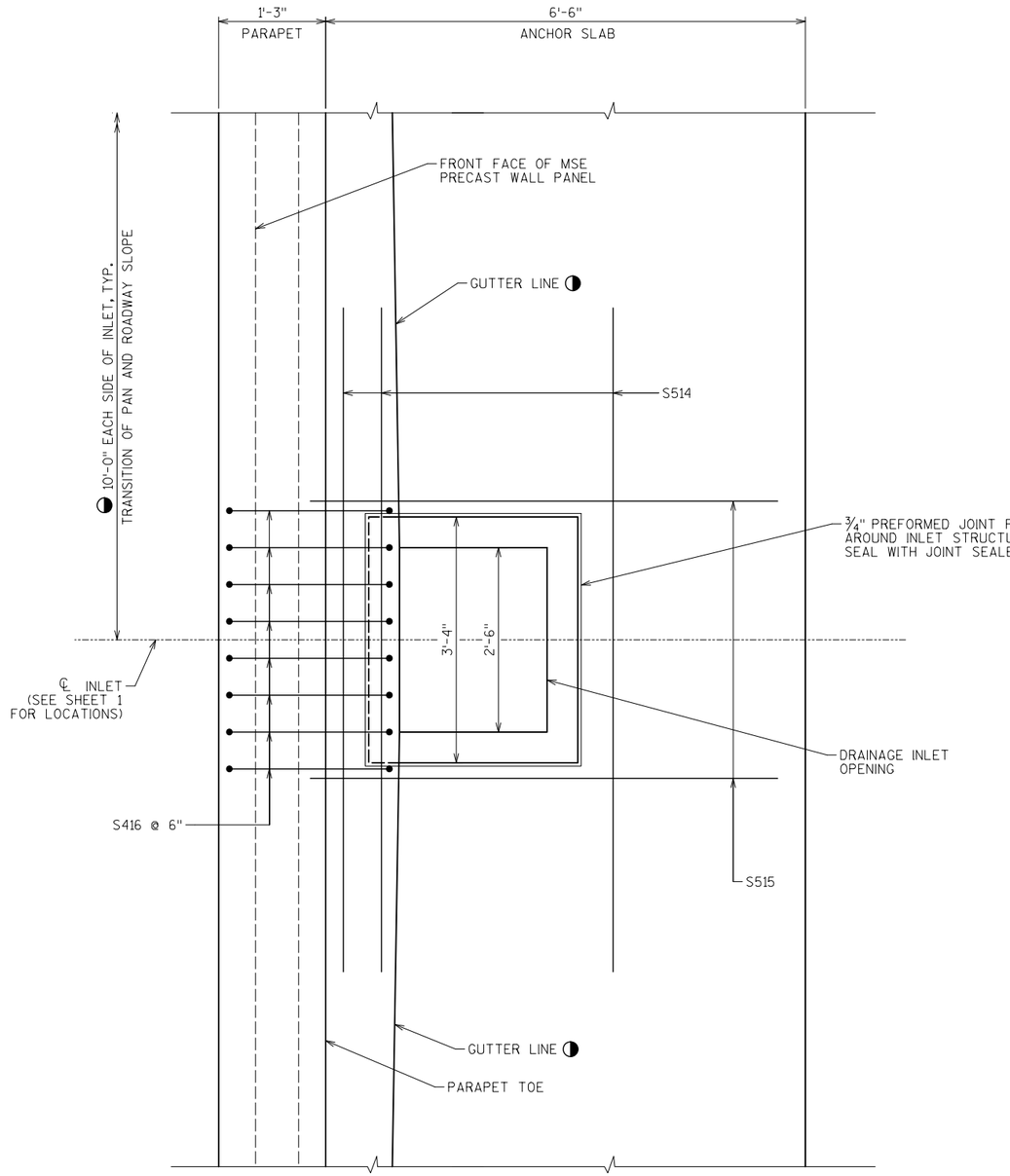
FILE= P:\Transportation\US 10 WIS 441\CADD\sheets\Structures\R-70-115\Sheets\Final\08-R-70-115_pp.dgn

8

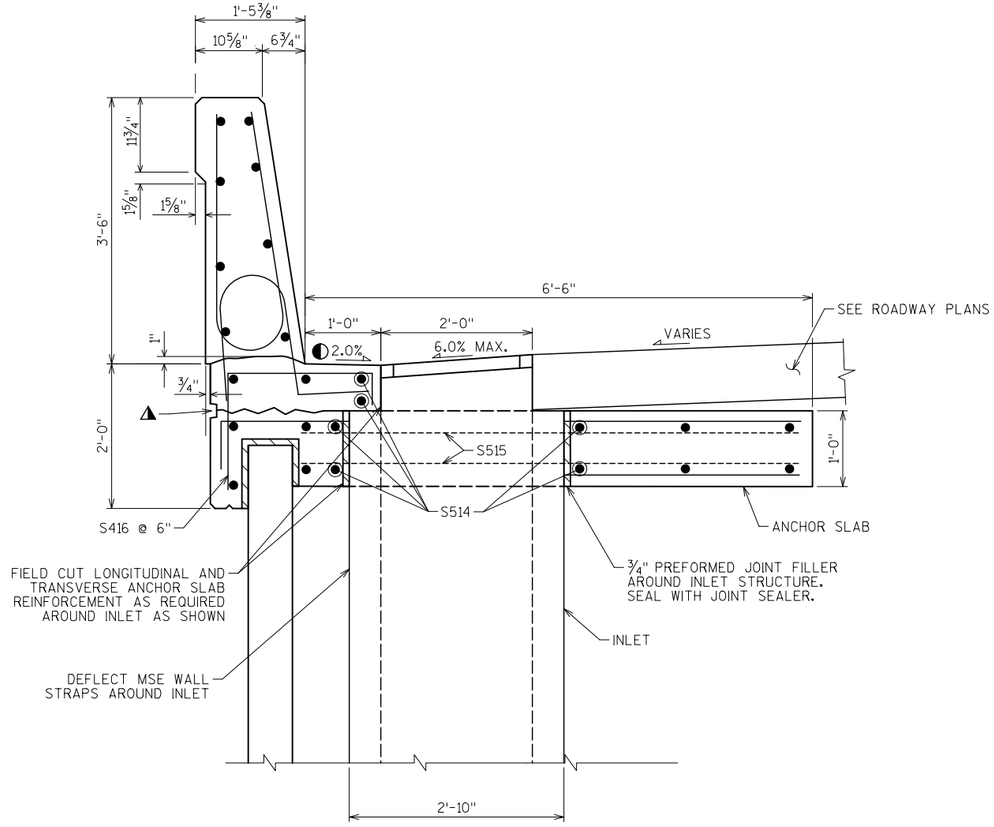
8

STATE PROJECT NUMBER

1517-07-72

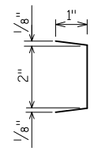


PARAPET AND ANCHOR SLAB AT INLET STRUCTURE



SECTION AT INLET STRUCTURE

(LOOKING SOUTH)
SEE ROADWAY PLANS FOR INLET AND PIPE DETAILS



RUSTICATION DETAIL

NOTES

CUT, BEND, OR DISPLACE REINFORCEMENT 2" CLEAR OF INLET STRUCTURE AS REQUIRED.

AT THE INLET, 4-S410 BARS ARE OMITTED, AND REPLACED WITH 8-S416 BARS, AS SHOWN ON THIS SHEET.

SEE SHEET 5 FOR BILL OF BARS.

LEGEND

◐ TRANSITION PAN AND SLOPE OVER 10'-0" ON EACH SIDE OF THE INLET.

▲ PROVIDE RUSTICATION IF OPT. CONST. JOINT IS USED.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE R-70-115

DRAWN BY	MRL	PLANS CK'D.	JDB

ANCHOR SLAB AT INLET

SHEET 9 OF 11

448

8

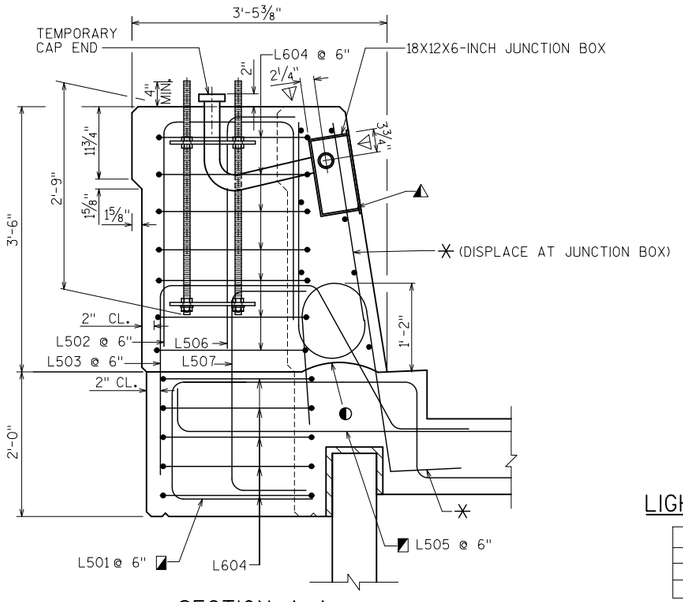
8

FILE= P:\Transportation\US 10 WIS 441\CADD\sheets\Structures\R-70-115\Sheets\Final\09_R-70-115_Anchor Slab at Inlet.dgn

DATE: 3/10/2014

I.D.

STATE PROJECT NUMBER
1517-07-72



SECTION A-A

JUNCTION BOX TABLE

℄ JUNCTION BOX
STA. 0+58.72
STA. 1+08.72
STA. 2+46.22
STA. 3+83.72
STA. 5+21.22
STA. 6+58.71

LIGHT POLE TABLE

℄ LIGHT POLE
STA. 1+08.72
STA. 3+83.72
STA. 6+58.71

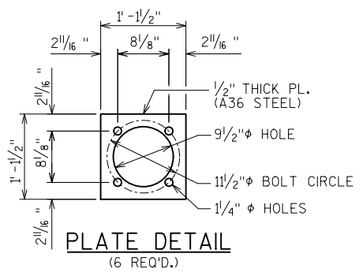
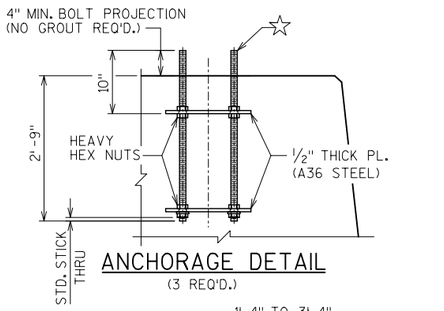
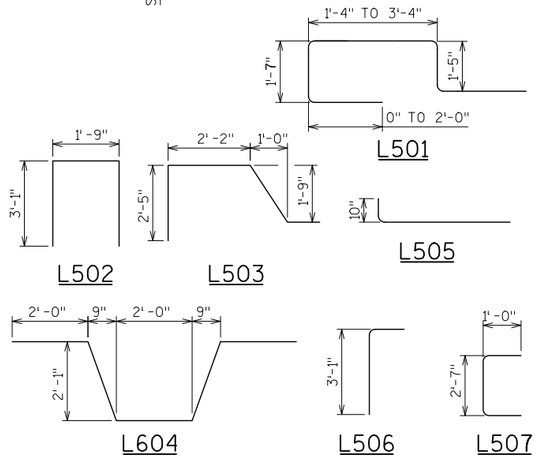
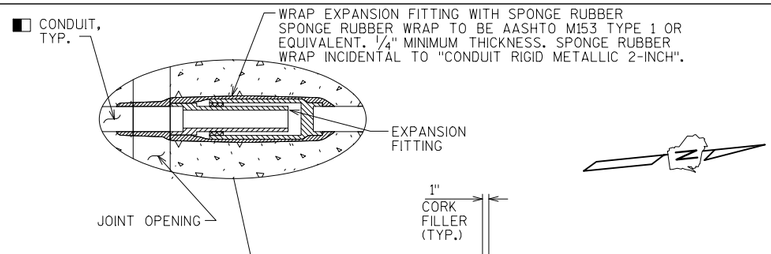


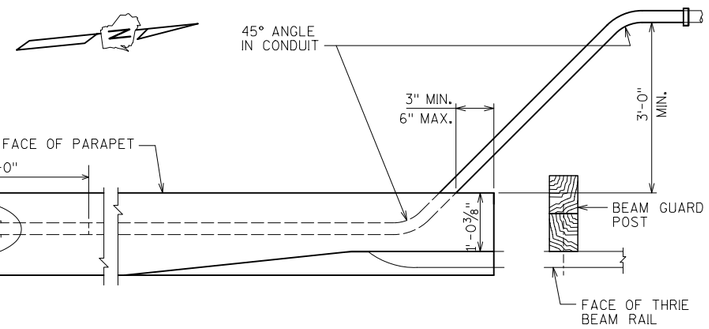
PLATE DETAIL
(6 REQ'D.)



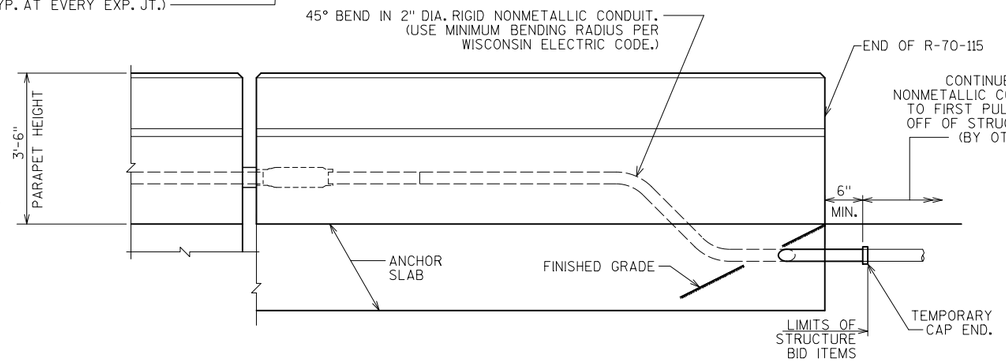
ANCHORAGE DETAIL
(3 REQ'D.)



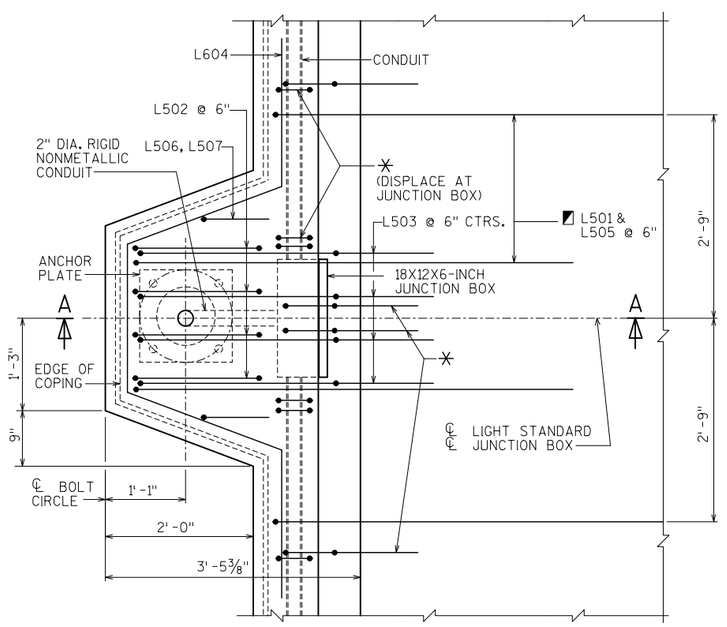




PLAN OF PARAPET AT N. END OF WALL



OUTSIDE ELEVATION OF PARAPET AT N. END OF WALL



PLAN AT LIGHT STANDARD

- ■ USE RIGID METALLIC CONDUIT 3'-0" INTO PARAPET EITHER SIDE OF THE EXPANSION JOINT OPENING.
- ◐ CONSTR. JT. STRIKE OFF AS SHOWN
- ◭ CUT OUT ± 1" OF GASKET AT BOTTOM OF JUNCTION BOX COVER TO ALLOW FOR DRAINAGE.
- ▽ LOCATION OF CONDUIT IS MEASURED FROM OUTSIDE EDGE OF JUNCTION BOX.
- ◩ THESE BARS ARE IN ADDITION TO BARS IN ANCHOR SLAB.
- ✳ SEE SINGLE SLOPE PARAPET SHEET FOR ADDITIONAL BAR STEEL DETAILS.
- ☆ 1"ϕ THREADED ANCHOR BOLTS ASTM A449 OR AASHTO M 314-90 GR 55. HOT DIP ASTM A153, CLASS C, UPPER 8" OF BOLT INCLUDING NUTS & WASHERS. PROVIDE ENLARGED THREAD ON NUTS FOR PROPER FIT AFTER GALVANIZING. PROVIDE DOUBLE FLAT WASHERS & NUTS.

NOTES

BID ITEMS SHALL BE:
"JUNCTION BOXES 18X12X6-INCH", EACH.
"ANCHOR ASSEMBLIES LIGHT POLES ON STRUCTURE", EACH.
"CONDUIT RIGID NONMETALLIC SCHEDULE 40 2-INCH"
"CONDUIT RIGID METALLIC 2-INCH"

APPROVED MANUFACTURERS - JUNCTION BOXES:
SEE APPROVED MATERIAL LIST.

APPROVED MANUFACTURER OR EQUIVALENT - EXPANSION FITTING:
O-Z/GEDNEY TYPE AX-200 AND BONDING JUMPER (4" TOTAL CONDUIT MOVEMENT).

EXPANSION FITTINGS, ANGLES AND ADAPTER FITTINGS TO BE INCIDENTAL TO "CONDUIT RIGID METALLIC 2-INCH".

WHEN CONNECTING NONMETALLIC CONDUIT TO METALLIC CONDUIT, ONLY ADAPTER FITTINGS U.L. OR NRTL LISTED FOR ELECTRICAL USE SHALL BE USED.

BAR SERIES

BAR MARK	NO. REQ'D	LENGTH
L501	6 SERIES OF 6	5'-5" TO 9'-5"

BILL OF BARS

ALL BARS IN THIS TABLE SHALL BE EPOXY COATED

BAR MARK	NO. REQ'D	LENGTH	BENT	BAR SERIES	LOCATION
L501	36	7'-5"	X	X	ANCHOR SLAB TRANSV. @ LIGHT STD.
L502	12	7'-8"	X		PARAPET VERT. @ LIGHT STD.
L503	12	7'-4"	X		PARAPET VERT. @ LIGHT STD.
L604	36	10'-0"	X		PARAPET HORIZ. @ LIGHT STD.
L505	36	5'-9"	X		ANCHOR SLAB TRANSV. @ LIGHT STD.
L506	6	4'-0"	X		PARAPET VERT. @ LIGHT STD.
L507	6	3'-4"	X		PARAPET VERT. @ LIGHT STD.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE R-70-115

DRAWN BY MRL | PLANS CK'D. JDB

LIGHT STANDARD

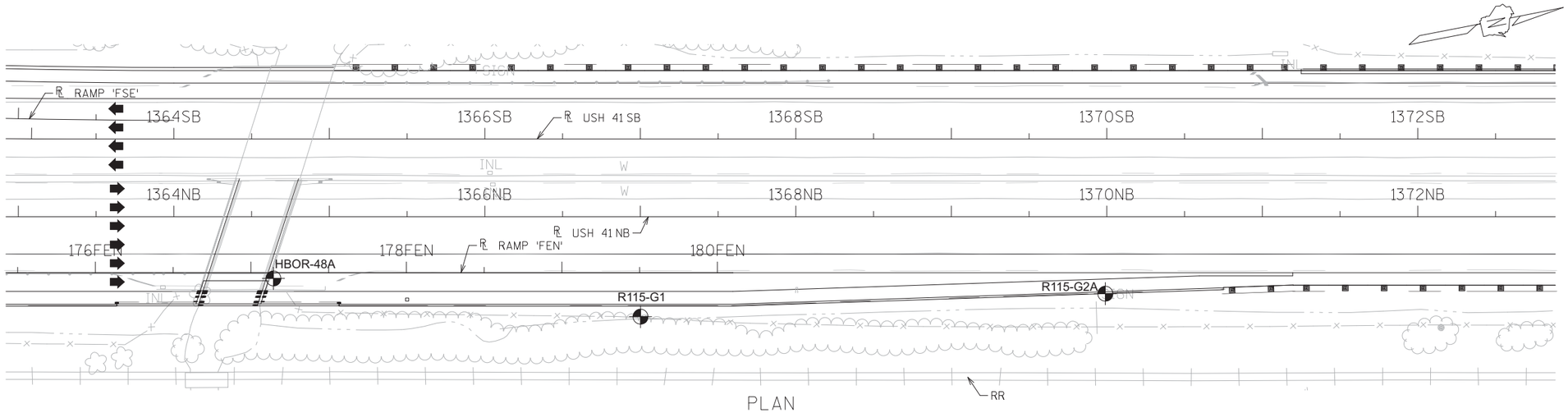
SHEET 10 OF 11
449

DATE: 3/10/2014
I.D.

FILE= P:\Transportation\US 10 WIS 441\CADD\sheets\Structures\R-70-115\Sheets\Final\10_R-70-115_Light std.DGN

8

8



PLAN

(STRUCTURE R-70-115)

NOTE:

THE SUBSURFACE INFORMATION PRESENTED HEREIN IS AN ABBREVIATED VERSION OF THE INFORMATION PRESENTED IN THE GEOTECHNICAL ENGINEERING REPORT. REVIEW THE APPROPRIATE GEOTECHNICAL REPORT AND SOIL BORING LOGS FOR ADDITIONAL SUBSURFACE INFORMATION.

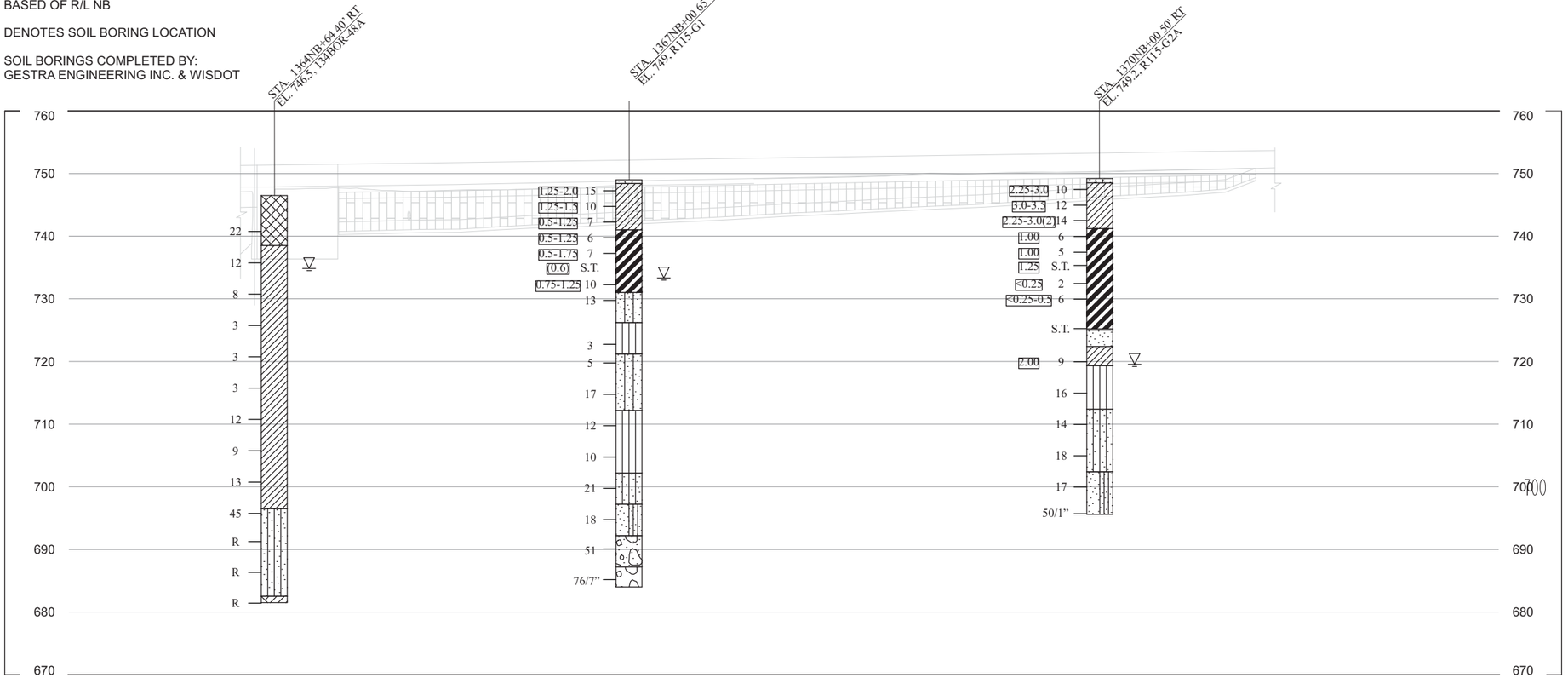
BORING STATIONS AND OFFSETS ARE BASED OF R/L NB

⊕ DENOTES SOIL BORING LOCATION

SOIL BORINGS COMPLETED BY:
GESTRA ENGINEERING INC. & WISDOT

SOIL BORING TAKEN:

2.14.2013 - BORING R115-G1
2.15.2013 - BORING R115-G2A
7.02.1991 - BORING HBOR-48A



NOTE: ▽ -WATER LEVEL DURING DRILLING

NOTE: BORING HBOR-48A WAS COMPLETED BY WISDOT IN 1991

STATE PROJECT NUMBER

1517-07-72

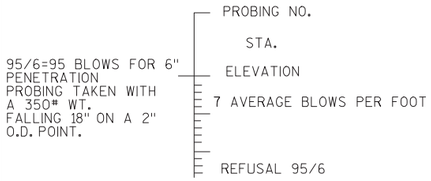
ABBREVIATIONS

F — FINE M — MEDIUM C — COARSE
WS — WEATHERED SO — SOUND

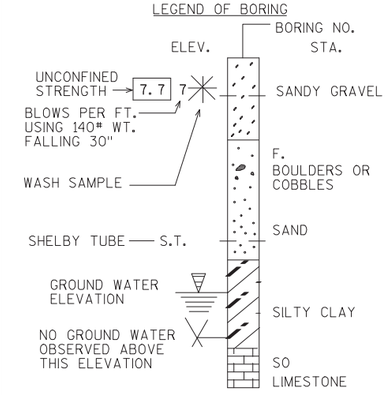
MATERIAL SYMBOLS

TOPSOIL, SILT, FAT CLAY, SAND, PEAT, DOLOMITE, GRAVEL, CLAY, FILL

LEGEND OF PROBING



LEGEND OF BORING



UNLESS OTHERWISE SPECIFIED, THE BLOWS PER FOOT AT THE LOCATIONS INDICATED ARE BASED ON DRIVING A 2" O.D. X 1.4" I.D. SPLIT SPOON SAMPLER WITH A 140# HAMMER HAVING A FREE FALL OF 30". THE BLOW COUNT IS TAKEN IN UNDISTURBED SOIL IMMEDIATELY BELOW A CASED OR OPEN HOLE ELIMINATING SIDE FRICTION ON THE DRIVE PIPE.

SUBSURFACE EXPLORATION FOR FOUNDATION DESIGN AND BIDDERS INFORMATION

TO OBTAIN RELATIVE DATA CONCERNING THE CHARACTER OF MATERIAL IN AND UPON WHICH THE FOUNDATION MIGHT BE BUILT, BORINGS AND/OR SOUNDINGS WERE MADE AT POINTS APPROXIMATELY AS INDICATED ON THIS DRAWING. THE DATA PRESENTED HEREIN REPRESENTS THE FINDINGS OF THE SUBSURFACE EXPLORATIONS MADE. HOWEVER, BECAUSE THE DEPTHS INVESTIGATED ARE LIMITED AND THE AREA OF THE BORINGS AND/OR SOUNDINGS IS VERY SMALL IN RELATION TO THE ENTIRE AREA, THE WISCONSIN DEPARTMENT OF TRANSPORTATION DOES NOT WARRANT CONDITIONS BELOW THE DEPTHS INVESTIGATED OR THAT THE CLASSIFICATION OF MATERIAL ENCOUNTERED IN THESE INVESTIGATIONS IS NECESSARILY TYPICAL OF THE ENTIRE SITE.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE R-70-115

DRAWN BY RHE | PLANS CK'D. SL

SUBSURFACE EXPLORATION

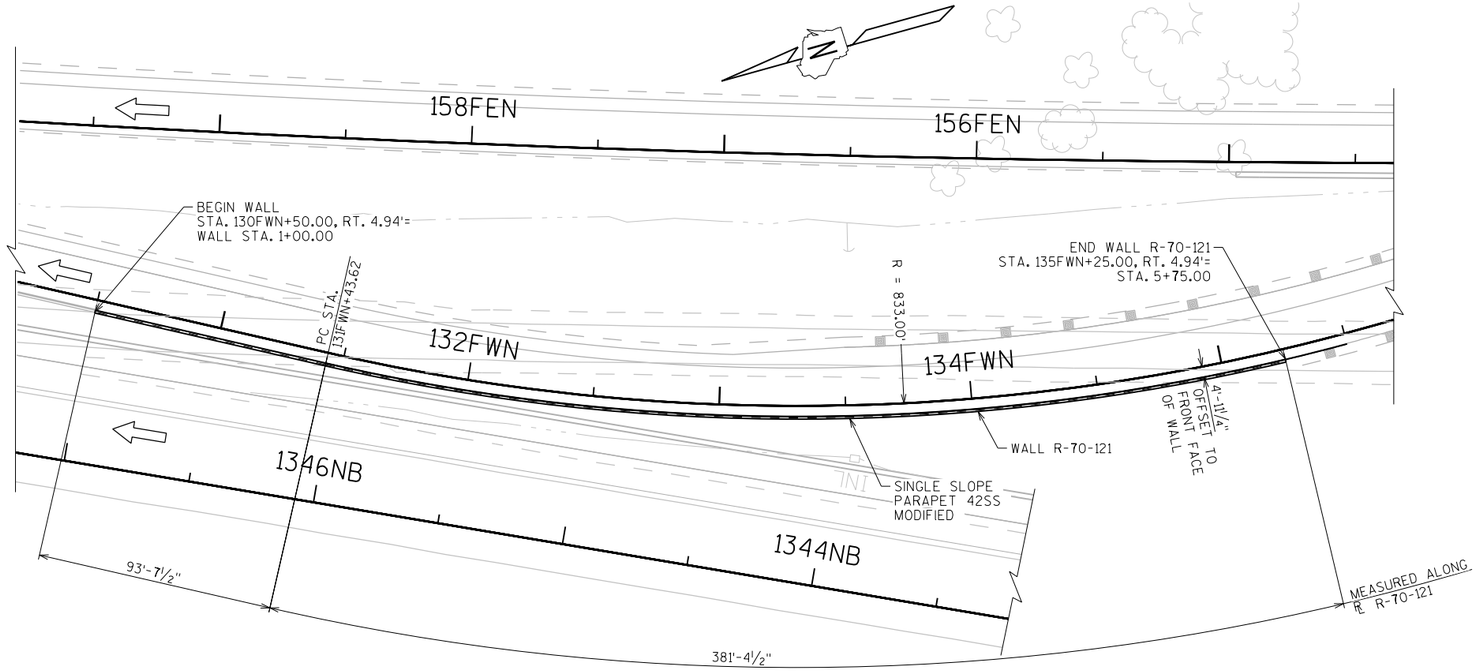
SHEET 11 OF 11
450

SCALE 1"=80'

FILE= P:\Transportation\US 10 WIS 441\CADD\sheets\Structures\R-70-115\Sheets\04-R-70-115_se.dgn

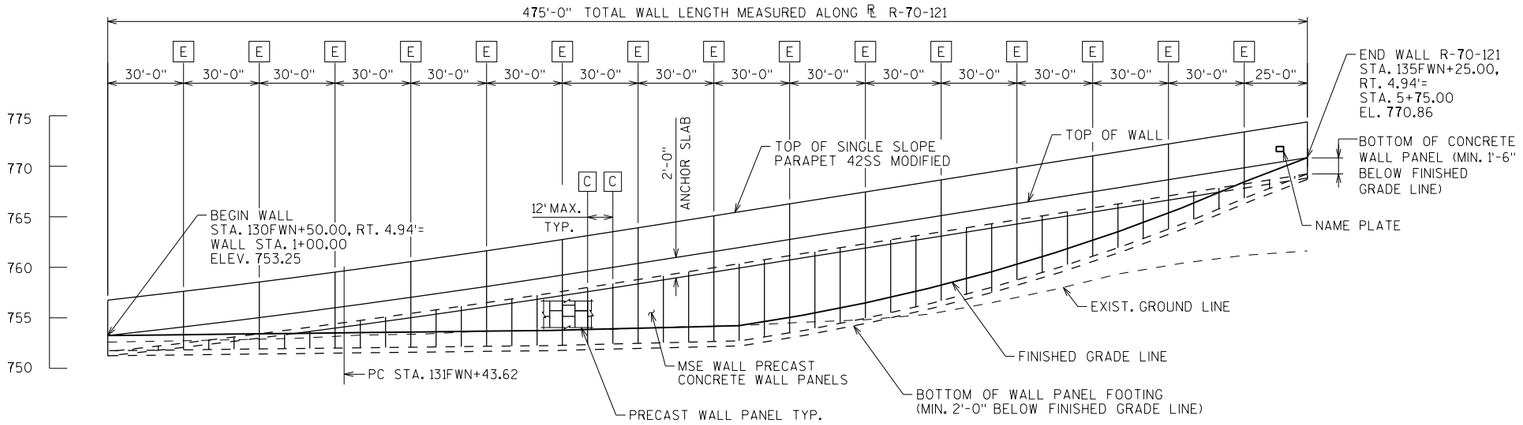
8

8



PLAN

(STRUCTURE R-70-121)



ELEVATION

(LOOKING NORTHEAST AT FRONT FACE OF WALL)

DESIGN DATA

LIVE LOAD
LIVE LOAD SURCHARGE (ROADWAY).....240 PSF

MATERIAL PROPERTIES
CONCRETE MASONRY RETAINING WALL ..... F'C = 3,500 PSI
PRECAST CONCRETE WALL PANELS, PARAPET & ANCHOR SLAB..... F'C = 4,000 PSI
BAR STEEL REINFORCEMENT..... F'C = 60,000 PSI
STRUCTURAL STEEL CARBON (ASTM A709 GRADE 36)..... FY = 36,000 PSI

FOUNDATION DATA
FACTORED SOIL BEARING RESISTANCE MSE WALL.....3,500 PSF

NOTE: THE WALL HAS BEEN DESIGNED FOR TRAFFIC LOADING ONLY. IF DURING CONSTRUCTION HEAVY EQUIPMENT IS OPERATING IN CLOSE PROXIMITY TO THE WALL OR IF MATERIAL IS STOCKPILED NEAR THE WALL, THE RELIABILITY FOR THIS WALL WILL SIGNIFICANTLY DECREASE.

LEGEND

[C] = CONTRACTION JOINT
[E] = EXPANSION JOINT IN ANCHOR SLAB
⇨ = DIRECTION OF TRAFFIC

LIST OF DRAWINGS

1. GENERAL PLAN AND ELEVATION
2. DESIGN DATA AND QUANTITIES
3. WALL DETAILS
4. SINGLE SLOPE PARAPET 42SS
5. AESTHETIC DETAILS
6. SUBSURFACE EXPLORATION

GENERAL NOTES

DRAWINGS SHALL NOT BE SCALED.

ALL STATIONS AND ELEVATIONS ARE IN SURVEY FEET. ELEVATIONS ARE REFERENCED TO THE NAVD 88 DATUM.

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

BAR STEEL REINFORCEMENT TO BE EPOXY COATED.

THE CONTRACTOR SHALL PROVIDE COMPLETE DESIGN, PLANS, DETAILS, SPECIFICATIONS, AND SHOP DRAWINGS FOR THE RETAINING WALL, AND MSE WALL REINFORCEMENT 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 SHALL BE INCLUDED IN THE BID ITEMS "WALL CONCRETE PANEL MECHANICALLY STABILIZED EARTH LRFD/QMP PILOT".

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 RETAINING WALL IS TO BE DESIGNED USING THE ELEVATIONS GIVEN IN THE GEOMETRY TABLE.

DESIGN FOR RETAINING WALL TO PROVIDE FOR A FINISHED GRADE SLOPE BEHIND THE WALL AS SHOWN IN THE ROADWAY CROSS SECTIONS.

DESIGN RETAINING WALL FOR A LIVE LOAD SURCHARGE OF 240 PSF.

THE FIRST DIGIT OF A THREE DIGIT BAR NO. AND THE FIRST TWO DIGITS OF A FOUR DIGIT BAR NO. SIGNIFIES THE BAR SIZE.

JOINT FILLER SHALL CONFORM TO THE REQUIREMENTS OF A.A.S.H.T.O. DESIGNATION M 153, TYPE I, II OR III OR A.A.S.H.T.O. DESIGNATION M 213.

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.

BEVEL EXPOSED EDGES OF CONCRETE 3/4" UNLESS NOTED OTHERWISE.

HOT DIP GALVANIZE ALL STRUCTURAL STEEL CARBON IN ACCORDANCE WITH ASTM A123 WHERE SHOWN.

PROVIDE A RUBBED SURFACE TREATMENT IN ACCORDANCE WITH SECTION 502.3.7.3 TO ALL PERMANENTLY EXPOSED SURFACES OF CONCRETE MASONRY RETAINING WALLS.

THE SUBSURFACE CONDITIONS AT THE BASE OF THE WALL SHALL BE REVIEWED BY THE NORTHEAST REGION SOILS ENGINEER TO DETERMINE IF THE MATERIALS HAVE ADEQUATE STRENGTH TO SUPPORT THE MSE WALL WITH "MSE WALL PRECAST CONCRETE WALL PANEL".

APPLY PROTECTIVE SURFACE TREATMENT TO THE TOP AND ROADWAY FACE OF PARAPET AND EXPOSED SURFACE OF ANCHOR SLAB.

ALL STATIONS ARE ALONG THE ℄ FOR R-70-121 ALONG THE FRONT FACE OF WALL UNLESS SHOWN OTHERWISE.

SEE SHEET "DESIGN DATA AND QUANTITIES" FOR GEOMETRY TABLE".

MONITOR SETTLEMENT DURING AND AFTER CONSTRUCTION TO MEASURE THE ACTUAL MAGNITUDES AND RATES OF SETTLEMENT.

SEE ROADWAY PLANS FOR SETTLEMENT MONITORING DETAILS.

BASED ON CONTRACTOR MEANS AND METHODS, ANY GAPS BETWEEN THE WALL PANELS AND FOOTING THAT EXPOSE THE MSE WALL SHALL BE FILLED WITH MASONRY MATERIAL OR AS APPROVED BY THE ENGINEER. ALL LABOR AND MATERIALS NECESSARY TO COMPLETE THIS WORK ARE CONSIDERED INCIDENTAL TO THE WALL CONSTRUCTION.

WISCONSIN
NARENDRA P. PATEL
38246-006
CHICAGO, IL
PROFESSIONAL ENGINEER
Narendra P. Patel
3-03-2014

NE REGION CONTACT - SCOTT EBEL (920) 492-2240
BUREAU OF STRUCTURES CONTACT - WILLIAM DREHER (608) 266-8489
CONSULTANT CONTACT - MICHAEL ARNOLD (414) 831-4179

NO.	DATE	REVISION	BY

URS
342 North Water Street
7th Floor
Milwaukee, WI 53202
(414) 831-4100

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

ACCEPTED William C. Dreher KAR 03/13/14
CHIEF STRUCTURES DESIGN ENGINEER DATE

STRUCTURE R-70-121

WALL AT RAMP FWN, RIGHT

COUNTY	TOWN ~~CITY/ VILLAGE~~
WINNEBAGO	MENASHA

DESIGN SPEC.
AASHTO LRFD DESIGN SPEC.

DESIGNED BY	DESIGN CK'D.	DRAWN BY	PLANS CK'D.
KJZ	NPP	KJZ	NPP

GENERAL PLAN AND ELEVATION

SHEET 1 OF 6
451

STATE PROJECT NUMBER
1517-07-72

FILE= G:\WisDOT_12345678_10-441\Plans\R-70-121\Control Copy\001-R-70-121_Wall_GPE.dgn
DATE: 3/3/2014
I.D.

8

STATE PROJECT NUMBER
1517-07-72

GEOMETRY TABLE

WALL STATION	RAMP FWN STATION	OFFSET TO R/L OF WALL	TOP OF WALL	FINISHED GRADE	EXISTING GRADE
1+00.00	130+50.00	4'-11 1/4" RT	753.25	753.25	752.62
1+30.00	130+80.00	4'-11 1/4" RT	754.11	753.34	752.74
1+60.00	131+10.00	4'-11 1/4" RT	755.03	753.42	752.90
1+90.00	131+40.00	4'-11 1/4" RT	756.00	753.51	753.11
2+20.00	131+70.00	4'-11 1/4" RT	757.04	753.60	753.40
2+50.00	132+00.00	4'-11 1/4" RT	758.12	753.69	753.69
2+80.00	132+30.00	4'-11 1/4" RT	759.23	753.79	753.83
3+10.00	132+60.00	4'-11 1/4" RT	760.39	753.98	754.03
3+40.00	132+90.00	4'-11 1/4" RT	761.57	753.86	754.18
3+70.00	133+20.00	4'-11 1/4" RT	762.76	754.28	754.49
4+00.00	133+50.00	4'-11 1/4" RT	763.94	755.32	754.83
4+30.00	133+80.00	4'-11 1/4" RT	765.13	756.69	755.59
4+60.00	134+10.00	4'-11 1/4" RT	766.31	758.36	756.87
4+90.00	134+40.00	4'-11 1/4" RT	767.50	760.31	758.74
5+20.00	134+70.00	4'-11 1/4" RT	768.68	762.59	760.32
5+50.00	135+00.00	4'-11 1/4" RT	769.87	765.21	761.19
5+75.00	135+25.00	4'-11 1/4" RT	770.86	770.86	761.64

BENCHMARK

	NO.	LOCATION	DESCRIPTION	ELEVATION
EXIST.	LA6	N: 547470.613 E: 811311.339	NE FLANGE BOLT HYD ON EAST SIDE OF LAKE DRIVE BETWEEN DWYS #1644 & 1637	747.78
EXIST.	LA7	N: 547049.834 E: 811198.560	NE TAG BOLT HYD ON EAST SIDE OF LAKE DRIVE JUST NORTH OF DWY #1583	749.45
NEW	41-D	STA 1331SB+95.23, 89.7'LT	SIGN BRIDGE NORTH OF 441 BRIDGE OVER ON & OFF RAMP LANES, NW CORNER OF CONCRETE BASE BETWEEN ON OFF RAMP LANES	761.25
NEW	41-E	STA 1364NB+4.11, 47.1'RT	WIS DOT DISK IN SE PARAPET WALL OF 41 BRIDGE OVER CREEK, NORTH OF 441 BRIDGE, B-70-134-92 PLATE; DISK STAMPED 751.31	751.32

TOTAL ESTIMATED QUANTITIES

ITEM NUMBER	BID ITEM	UNIT	QUANTITY
502.3200	PROTECTIVE SURFACE TREATMENT	SY	260
504.0500	CONCRETE MASONRY RETAINING WALLS	CY	308
505.0615	BAR STEEL REINFORCEMENT HS COATED RETAINING WALLS	LB	24,950
516.0500	RUBBERIZED MEMBRANE WATERPROOFING	SY	18
517.1010.S.703	CONCRETE STAINING R-70-121	SF	4,894
517.1050.S.703	ARCHITECTURAL SURFACE TREATMENT R-70-121	SF	3,464
612.0406	PIPE UNDERDRAIN WRAPPED 6-INCH	LF	475
614.0150	ANCHOR ASSEMBLIES FOR STEEL PLATE BEAM GUARD	EACH	1
SPV.0165.851	WALL CONCRETE PANEL MECHANICALLY STABILIZED EARTH LRFD/QMP PILOT	SF	3,213
	NON BID ITEM		
	FILLER	SIZE	1/2", 3/4" & 1"
	NAME PLATE	EACH	0
	EXPANDED POLYSTYRENE	SIZE	1"

SOIL PARAMETERS

STRATUM LOCATION & SOIL DESCRIPTIONS	UNIT WEIGHT (PCF)	UNDRAINED PARAMETERS		DRAINED PARAMETERS	
		COHESION, C PSF	FRICTION ANGLE, ϕ DEGREES	COHESION, C' PSF	FRICTION ANGLE, ϕ ' DEGREES
GRANULAR BACKFILL (WITHIN REINFORCING ZONE)	120	NA	NA	0	30
EMBANKMENT FILL	130	1500	0	0	30
STRUCTURAL FILL	132	NA	NA	0	32
R121-G1 (APPROXIMATE ROADWAY STATION 133FWN+87; APPROXIMATELY 11 FEET EAST OF FWN R/L)					
STRATUM LOCATION & SOIL DESCRIPTIONS	UNIT WEIGHT (PCF)	UNDRAINED PARAMETERS		DRAINED PARAMETERS	
		COHESION, C PSF	FRICTION ANGLE, ϕ DEGREES	COHESION, C' PSF	FRICTION ANGLE, ϕ ' DEGREES
FILL (EL. 757.8 - 753.3 FT)	130	1500	0	0	30
V. STIFF TO HARD FAT CLAY (EL. 753.3 - 745.3 FT)	126	2000	0	50	30
STIFF FAT CLAY (EL. 745.3 - 742.8 FT)	118	1000	0	50	28
V. SOFT TO SOFT FAT CLAY (EL. 742.8 - 734.3 FT)	110	350	0	50	24
WEATHERED BEDROCK (EL. 734.3 - 733.4 FT) [2]					
ASSUMED DESIGN GROUNDWATER ELEVATION = 745					
R121-G2 (APPROXIMATE ROADWAY STATION 130FWN+83; APPROXIMATELY 42 FEET EAST OF FWN R/L)					
STRATUM LOCATION & SOIL DESCRIPTIONS	UNIT WEIGHT (PCF)	UNDRAINED PARAMETERS		DRAINED PARAMETERS	
		COHESION, C PSF	FRICTION ANGLE, ϕ DEGREES	COHESION, C' PSF	FRICTION ANGLE, ϕ ' DEGREES
TOPSOIL (EL. 748.5 - 747.7 FT) [1]					
V. STIFF FAT CLAY (EL. 747.7 - 740.5 FT)	126	2000	0	50	30
M. STIFF FAT CLAY (EL. 740.5 - 737.5 FT)	118	1000	0	50	28
SOFT FAT CLAY (EL. 737.5 - 731.5 FT)	110	350	0	50	24
WEATHERED BEDROCK (EL. 731.5 - 730.2 FT)					
BEDROCK (EL. 730.2 - 720.2 FT) [2]					
ASSUMED DESIGN GROUNDWATER ELEVATION = 745					
NB1344-G1 (APPROXIMATE ROADWAY STATION 132FWN+40; APPROXIMATELY 17 FEET WEST OF FWN R/L)					
STRATUM LOCATION & SOIL DESCRIPTIONS	UNIT WEIGHT (PCF)	UNDRAINED PARAMETERS		DRAINED PARAMETERS	
		COHESION, C PSF	FRICTION ANGLE, ϕ DEGREES	COHESION, C' PSF	FRICTION ANGLE, ϕ ' DEGREES
TOPSOIL (EL. 752.9 - 752.2 FT) [1]					
V. STIFF TO HARD FAT CLAY (EL. 752.2 - 745.4 FT)	126	2000	0	50	30
STIFF FAT CLAY (EL. 745.4 - 742.9 FT)	118	1000	0	50	28
SOFT TO VERY SOFT FAT CLAY (EL. 742.9 - 733.6 FT	110	350	0	50	24
ASSUMED DESIGN GROUNDWATER ELEVATION = 745					

NOTES: NA = NOT APPLICABLE
PSF = POUNDS PER SQUARE FOOT
PCF = POUNDS PER CUBIC FOOT
1. MATERIAL EXPECTED TO BE REMOVED
2. ASSUMED IMPENETRABLE

WALL EXTERNAL AND OVERALL STABILITY EVALUATION

WALL DIMENSIONS	
WALL HEIGHT [1] (FEET)	10.1
EXPOSED WALL HEIGHT (FEET)	8.6
LENGTH OF REINFORCEMENT (FEET)	8.0
LENGTH OF REIN./WALL HEIGHT	0.79
DESIGN SLOPE ANGLE AT FRONT (DEGREE)	0
DESIGN SLOPE ANGLE AT BACK (DEGREE)	0
WALL SECTION FOR ANALYSIS	4+00 (133FWN+50)
APPLIED BORING LOG	R121-G1
CAPACITY TO DEMAND RATIO [3] (>= 1.0) AND FACTORED BEARING RESISTANCE [3](PSF)	
GLOBAL STABILITY	1.26
ECCENTRICITY	1.53
SLIDING	1.36
BEARING RESISTANCE	1.14 *
FACTORED BEARING RESISTANCE (PSF)	3500

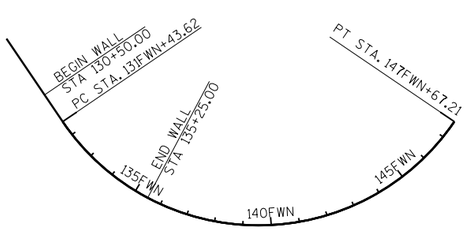
NOTES

1. THE WALL HEIGHT INCLUDES AN EMBEDMENT OF 1.5 FEET AND EXTENDS TO THE ROADWAY ELEVATION OF RAMP FNE

3. SELECTION OF THE LOWER VALUE BETWEEN DRAINED AND UNDRAINED ANALYSIS RESULTS

* CONTROLLING DESIGN ISSUE

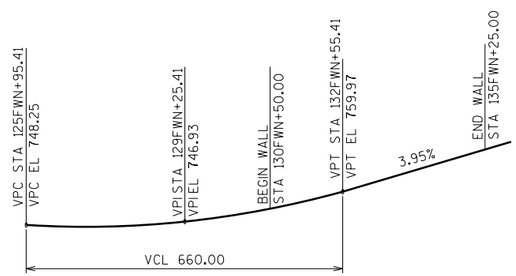
■ THE LENGTHS PROVIDED IN THE TABLE ARE THE MINIMUM REQUIRED REINFORCEMENT LENGTHS BASED UPON THE MINIMUM DESCRIBED IN THE WALL SYSTEM SPECIAL PROVISIONS OR EXTERNAL AND OVERALL STABILITY AT THE DESIGNATED LOCATIONS. THESE DESIGNATED LOCATIONS REPRESENT TYPICAL AND CRITICAL WALL LOCATIONS, BUT SHALL NOT BE CONSIDERED ALL INCLUSIVE. THE CONTRACTOR DESIGN LENGTHS SHALL MEET OR EXCEED THE MINIMUM VALUES REPRESENTED IN THE TABLE AT THESE DESIGNATED LOCATIONS. FINAL DESIGN FOR INTERNAL STABILITY AND EXTERNAL SLIDING & ECCENTRICITY AT OTHER WALL LOCATIONS IS THE RESPONSIBILITY OF THE CONTRACTOR'S WALL DESIGNER.



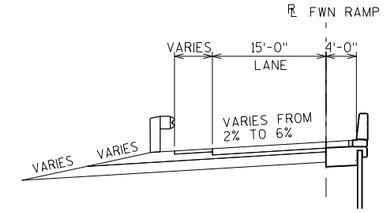
CURVE FWN2

PC = 131FWN+43.62
X = 810926.10
Y = 547636.94
PI = 143FWN+71.06
X = 810359.38
Y = 546548.16
PT = 147FWN+67.21
X = 811580.49
Y = 546423.64
R = 833.00
DELTA = 111°40'29" LT
D = 6°52'42"
L = 1623.59
T = 1227.44
BK = S 27°29'49" W
AH = S 84°10'39" E

HORIZONTAL ALIGNMENT RAMP - FWN



PROFILE GRADE LINE - RAMP 'FWN', RIGHT



TYPICAL SECTION - RAMP "FWN"

(LOOKING UP STATION)
(SEE ROADWAY PLANS FOR VARIATION)

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE R-70-121

DRAWN BY KJZ | PLANS CK'D. NPP

DESIGN DATA AND QUANTITIES

SHEET 2 OF 6
452

DATE: 3/3/2014
I.D.

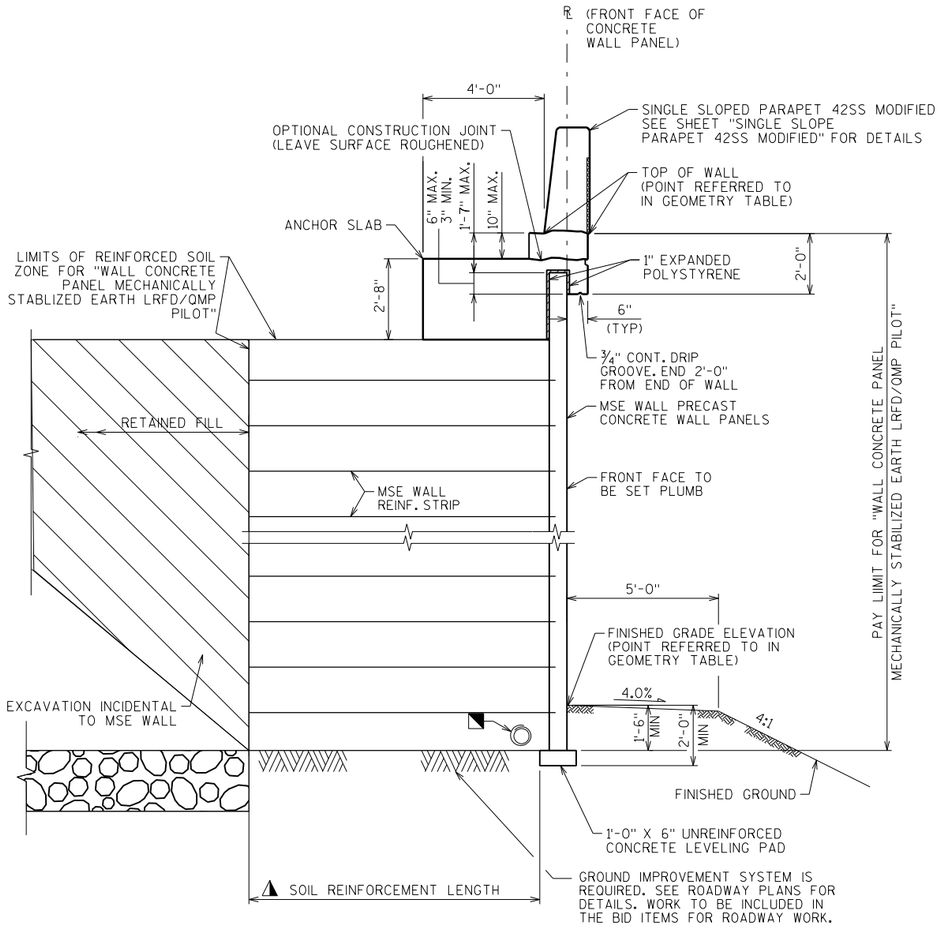
FILE= Q:\WisDOT_12345678_10-441\Plans\R-70-121\Control Copy\002-R-70-121_Design Data and Quantities.dgn

8

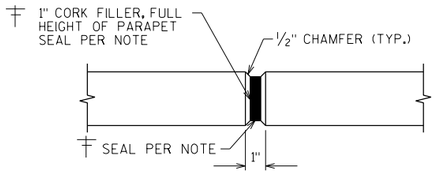
8

STATE PROJECT NUMBER

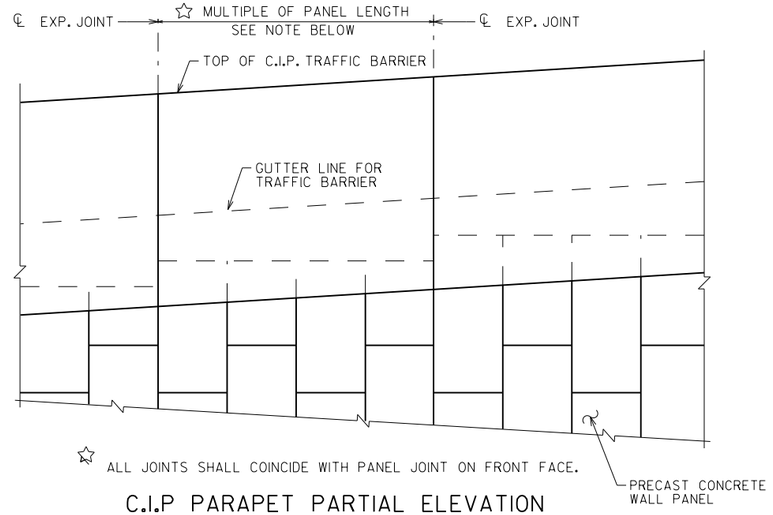
1517-07-72



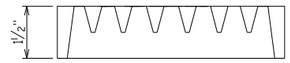
TYPICAL WALL SECTION



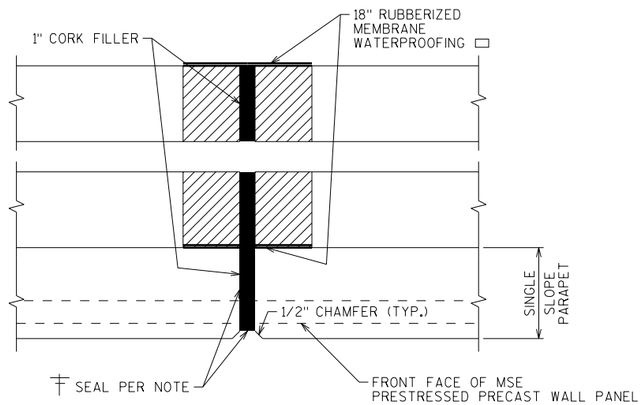
TRAFFIC BARRIER EXPANSION JOINT DETAIL



C.I.P PARAPET PARTIAL ELEVATION

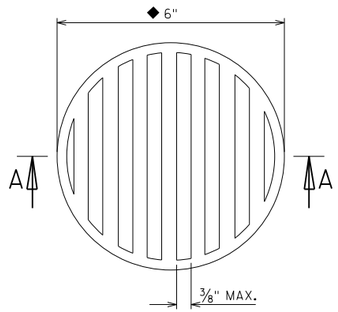


SECTION A-A



ANCHOR SLAB EXPANSION JOINT DETAIL

EXPANSION JOINTS TO BE SPACED AS SHOWN ON SHEET 1. LOCATE EXPANSION JOINTS OVER WALL JOINTS. DO NOT RUN BAR STEEL THRU JOINT, EXCEPT FOR DOWEL BARS. JOINT TO EXTEND FULL DEPTH OF PARAPET AND ANCHOR SLAB.



RODENT SHIELD

◆ DIMENSIONS ARE APPROXIMATE. THE GRATE IS SIZED TO FIT INTO A PIPE COUPLING. FASTEN TO THE PIPE COUPLING WITH TWO OR MORE NO. 10 X 1-INCH STAINLESS STEEL SHEET METAL SCREWS.

ORIENT SHIELD SO SLOTS ARE VERTICAL.

COST OF RODENT SHIELD AND ALL FITTINGS TO BE INCLUDED IN THE BID ITEM "PIPE UNDERDRAIN WRAPPED 6-INCH."

LEGEND

* THE PLAN QUANTITY FOR THE BID ITEM "WALL CONCRETE PANEL MECHANICALLY STABILIZED EARTH LRFD/QMP PILOT" IS BASED ON A WALL HEIGHT MEASURED FROM THE TOP OF LEVELING PAD TO TOP OF THE WALL AS SHOWN. LEVELING PAD CONCRETE IS INCLUDED IN THE BID ITEM "WALL CONCRETE PANEL MECHANICALLY STABILIZED EARTH LRFD/QMP PILOT". THE COST OF PARAPET AND ANCHOR SLAB CONCRETE IS TO BE INCLUDED WITH "CONCRETE MASONRY RETAINING WALLS" AND PARAPET AND ANCHOR SLAB REINFORCEMENT IS TO BE INCLUDED WITH "BAR STEEL REINFORCEMENT HS COATED RETAINING WALLS".

◥ PIPE UNDERDRAIN WRAPPED (6-INCH) SLOPE 0.5% MIN. TO SUITABLE DRAINAGE. ATTACH RODENT SHIELDS AT EXPOSED ENDS OF PIPE UNDERDRAIN. SEE RODENT SHIELD DETAIL.

▲ PER WISDOT, MINIMUM LENGTH OF MSE WALL REINFORCING STRIPS MUST BE 70% OF THE TOTAL WALL HEIGHT (EXPOSED HEIGHT PLUS EMBEDMENT DEPTH) OR 8.0 FEET, WHICHEVER IS GREATER. SOIL REINFORCEMENT MUST EXTEND A MINIMUM OF 3.0 FEET BEYOND THE FAILURE PLANE FOR INTERNAL STABILITY AS DEFINED BY AASHTO SPECIFICATIONS.

⊣ SEAL ALL EXPOSED HORIZ. & VERT. SURFACES OF FILLER WITH NON-STAINING, NON-BITUMINOUS JOINT SEALER. COLOR TO MATCH STAIN. (1" DEEP AND HOLD ⅛" BELOW SURFACE OF CONC.)

▭ RUBBERIZED MEMBRANE WATERPROOFING TO EXTEND FROM 6" ABOVE TOP OF ANCHOR SLAB TO BOTTOM OF ANCHOR SLAB.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE R-70-121

DRAWN BY KJZ | PLANS CK'D. NPP

WALL DETAILS

SHEET 3 OF 6
453

8

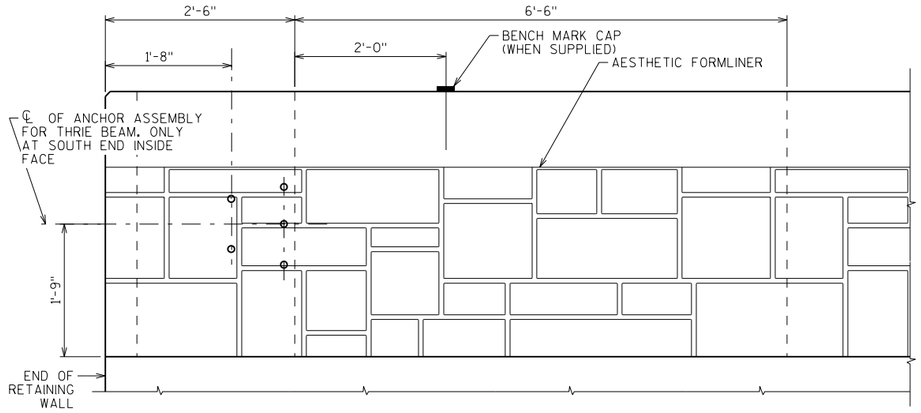
8

FILE= Q:\WisDOT_12345678_10-441\Plans\R-70-121\Control Copy\003-R-70-121_Wall Details.dgn

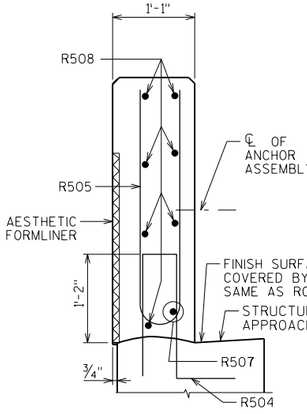
DATE: 3/3/2014
I.D.

STATE PROJECT NUMBER

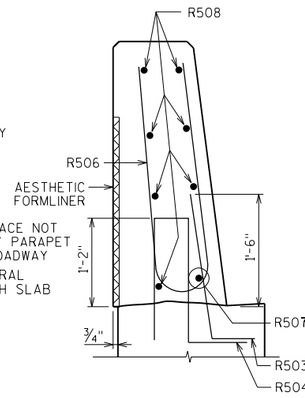
1517-07-72



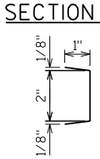
OUTSIDE ELEVATION



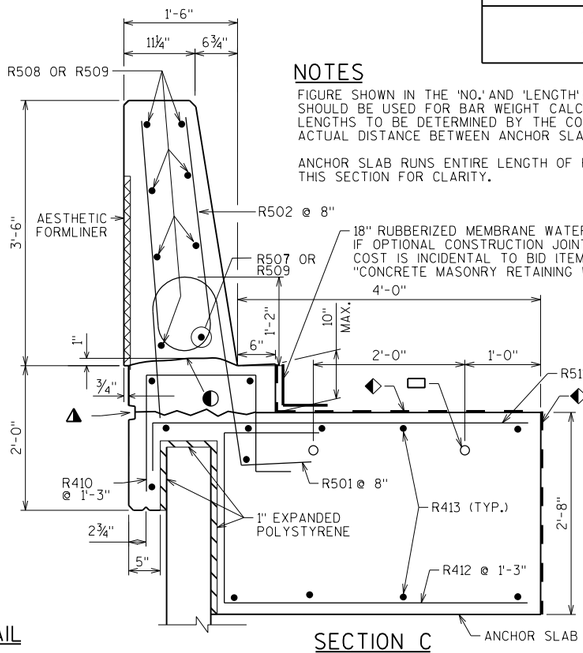
SECTION A



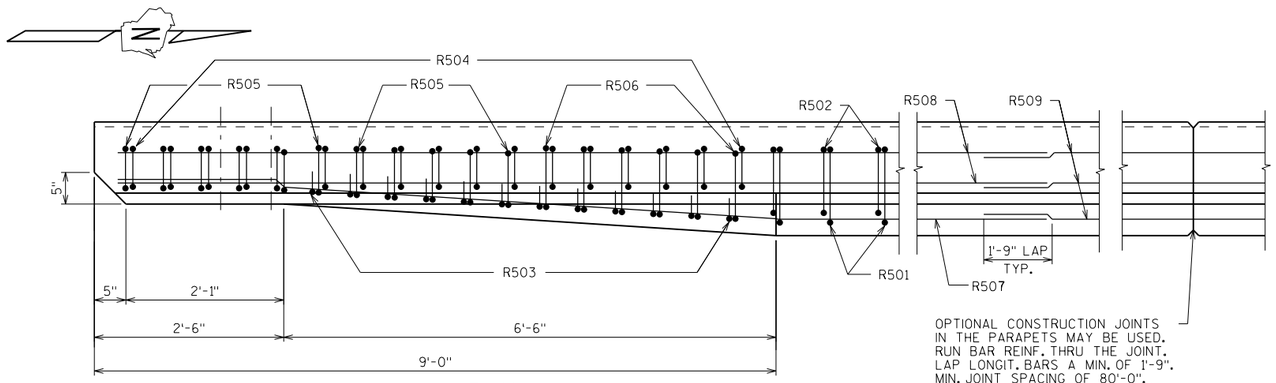
SECTION B



RUSTICATION DETAIL



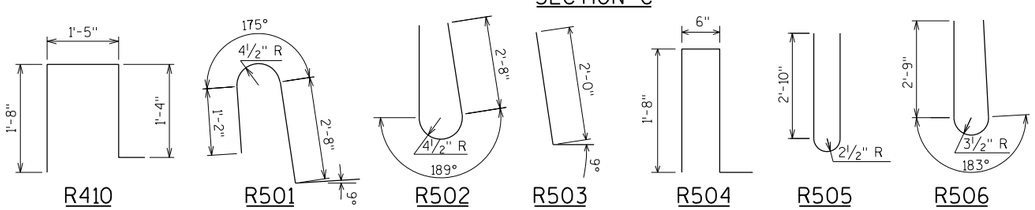
SECTION C

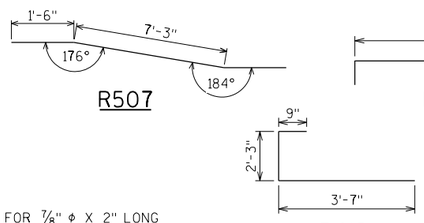


PLAN

(TRANSITION AT SOUTH END OF PARAPET ONLY)

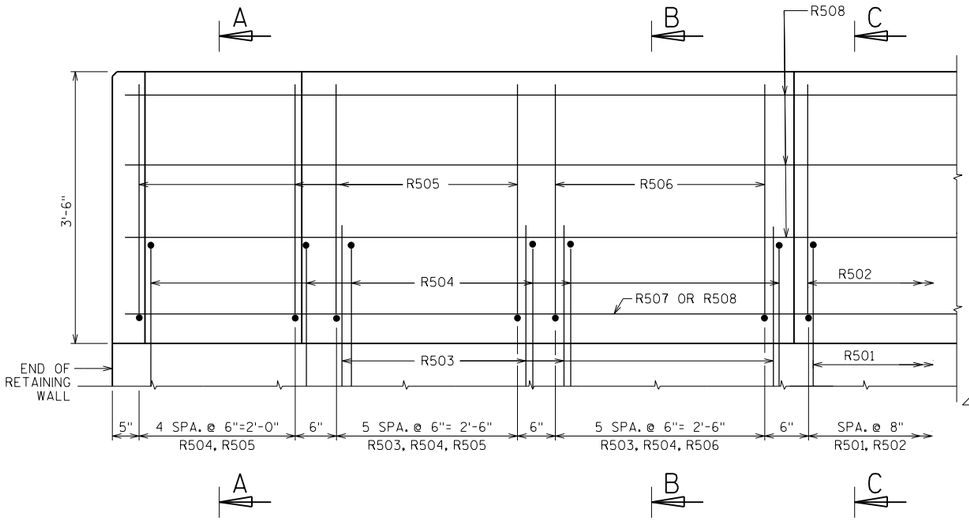
OPTIONAL CONSTRUCTION JOINTS IN THE PARAPETS MAY BE USED. RUN BAR REINF. THRU THE JOINT. LAP LONGIT. BARS A MIN. OF 1'-9". MIN. JOINT SPACING OF 80'-0". DEFINE CONST. JOINT WITH A ¾" - 'V' GROOVE.



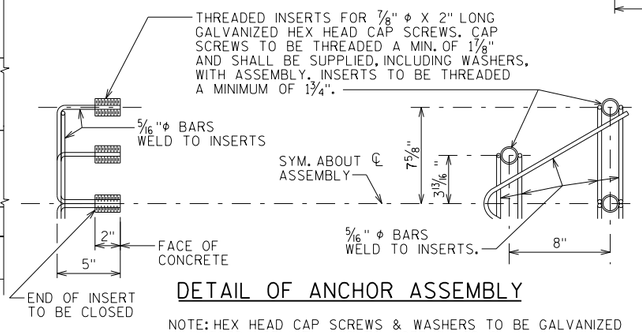


BAR MARK	NO. REQUIRED	LENGTH	BENT	LOCATION
EPOXY COATED				TOTAL = 24950 LB
R501	700	5'-10"	X	PARAPET VERTICAL
R502	700	6'-8"	X	PARAPET VERTICAL
R503	12	2'-9"	X	PARAPET VERTICAL
R504	17	4'-4"	X	PARAPET VERTICAL
R505	11	6'-5"	X	PARAPET VERTICAL
R506	6	6'-6"	X	PARAPET VERTICAL
R507	1	9'-8"	X	PARAPET HORIZONTAL
R508	7	19'-8"		PARAPET HORIZONTAL
R509	88	44'-0"		PARAPET HORIZONTAL
R410	381	4'-10"	X	MOMENT SLAB VERT.
R511	713	5'-9"	X	MOMENT SLAB HORIZ. TOP
R412	381	6'-5"	X	MOMENT SLAB HORIZ. BOT.
R413	143	44'-6"		MOMENT SLAB LONGIT. T/B

MIN. LAP #4 LONGITUDINAL BARS IS 1'-0"



INSIDE ELEVATION



DETAIL OF ANCHOR ASSEMBLY

NOTE: HEX HEAD CAP SCREWS & WASHERS TO BE GALVANIZED IN ACCORDANCE WITH AASHTO M232 CLASS C.

ASSEMBLY SHALL BE BID ITEM "ANCHOR ASSEMBLIES FOR STEEL PLATE BEAM GUARD", EACH.

LEGEND

- ◆ 18" RUBBERIZED MEMBRANE WATERPROOFING TO BE PLACED ON THESE SURFACES AT EACH JOINT.
- ▭ (3) -¾" Φ SMOOTH DOWEL BARS, 1'-6" LONG, AT EXPANSION JOINT. EMBED 9". USE APPROVED DEBONDER ON ½ OF BAR LENGTH. COST INCLUDED IN "CONCRETE MASONRY RETAINING WALLS".
- ◐ CONST. JOINT - STRIKE OFF AS SHOWN.
- ▲ PROVIDE RUSTICATION IF OPT. CONST. JOINT IS USED.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE R-70-121

DRAWN BY KJZ | PLANS CK'D. NPP

SINGLE SLOPE PARAPET 42SS MODIFIED

SHEET 4 OF 6
454

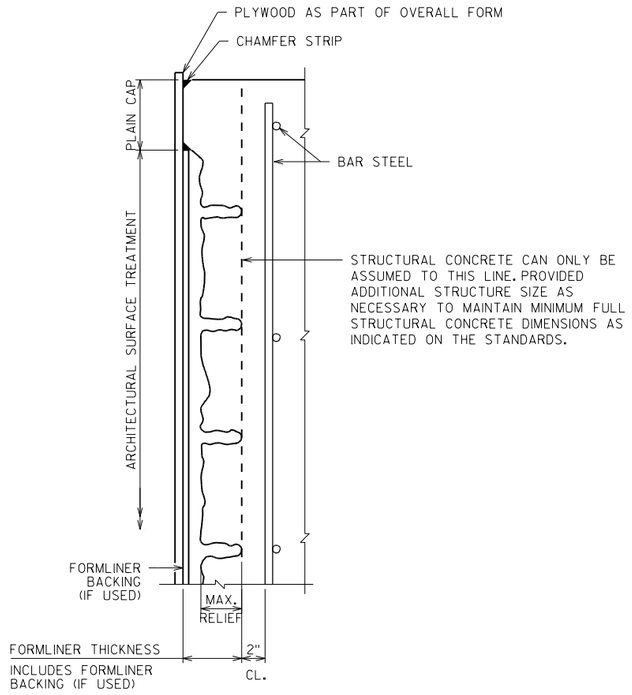
FILE= Q:\WisDOT_12345678_10-441\Plans\R-70-121\Control Copy\004_R-70-121_Parapet Details SS42.dgn

DATE: 3/3/2014
I.D.

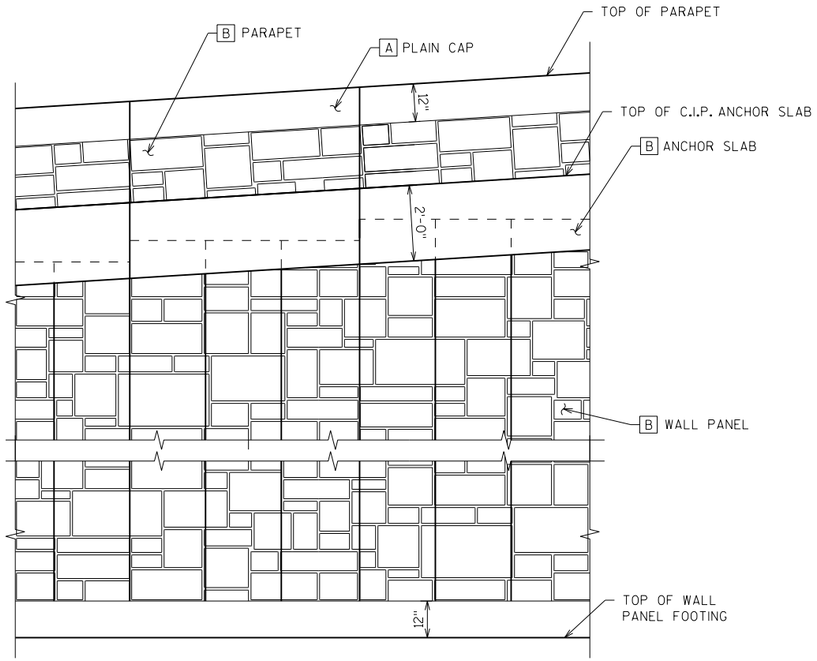
8

8

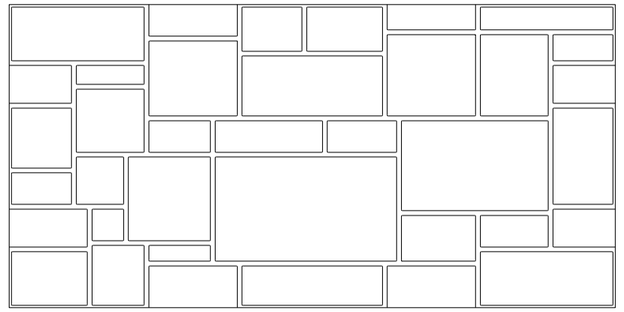
STATE PROJECT NUMBER
1517-07-72



SECTION THROUGH FORMLINER



CONCRETE FORMLINER STAINING DETAIL



ASHLAR

MAXIMUM RELIEF:	1⅝"
AVERAGE RELIEF:	1¼"
LINER THICKNESS*:	2½"
STONE SIZE:	H: 3" - 17" W: 5"-29"

* INCLUDES INTERNAL PLYWOOD BACKING

CONCRETE STAINING SCHEDULE

MARK	COLOR	FED. COLOR NO.	LOCATION
A	BASKET BEIGE	33564	PARAPETS PLAIN CAP
B	LATTE	33522	WALLS, PARAPETS

NOTE: 1. FINISH ON COLORS IS FLAT (LUSTERLESS)

NOTES

FORMLINER COURSING ON PARAPET SHALL BE PARALLEL TO TOP OF PARAPET.

FORMLINER COURSING ON RETAINING WALL SHALL BE LEVEL.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE R-70-121

DRAWN BY KJZ | PLANS CK'D. NPP

AESTHETIC DETAILS

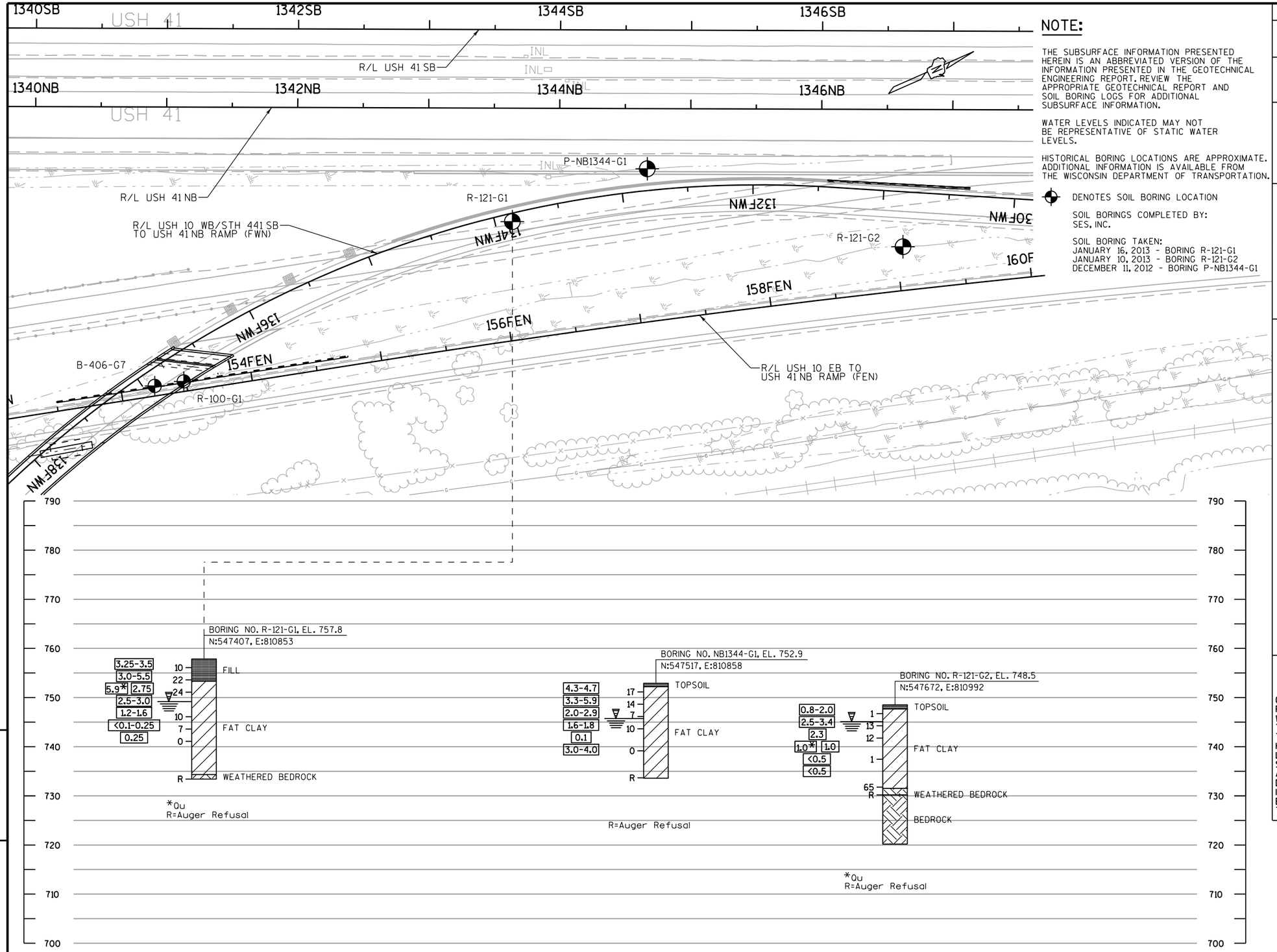
SHEET 5 OF 6
455

FILE= Q:\WisDOT_12345678_10-441\Plans\R-70-121\Control Copy\005_R-70-121_Aesthetic Details.dgn

DATE: 3/3/2014
I.D.

8

8



NOTE:

THE SUBSURFACE INFORMATION PRESENTED HEREIN IS AN ABBREVIATED VERSION OF THE INFORMATION PRESENTED IN THE GEOTECHNICAL ENGINEERING REPORT. REVIEW THE APPROPRIATE GEOTECHNICAL REPORT AND SOIL BORING LOGS FOR ADDITIONAL SUBSURFACE INFORMATION.

WATER LEVELS INDICATED MAY NOT BE REPRESENTATIVE OF STATIC WATER LEVELS.

HISTORICAL BORING LOCATIONS ARE APPROXIMATE. ADDITIONAL INFORMATION IS AVAILABLE FROM THE WISCONSIN DEPARTMENT OF TRANSPORTATION.

DENOTES SOIL BORING LOCATION

SOIL BORINGS COMPLETED BY:
SES, INC.

SOIL BORING TAKEN:
JANUARY 16, 2013 - BORING R-121-G1
JANUARY 10, 2013 - BORING R-121-G2
DECEMBER 11, 2012 - BORING P-NB1344-G1

STATE PROJECT NUMBER

1517-07-72

ABBREVIATIONS

F — FINE M — MEDIUM C — COARSE
WS — WEATHERED SO — SOUND

MATERIAL SYMBOLS

TOPSOIL / FILL, SILT, SANDSTONE
SAND, PEAT, LIMESTONE
GRAVEL, CLAY, IGNEOUS ROCK

LEGEND OF PROBING

PROBING NO.
STA.
ELEVATION
7 AVERAGE BLOWS PER FOOT
REFUSAL 95/6

95/6=95 BLOWS FOR 6" PENETRATION
PROBING TAKEN WITH A 350# WT. FALLING 18" ON A 2" O.D. POINT.

LEGEND OF BORING

BORING NO.
ELEV.
STA.
UNCONFINED STRENGTH — 7.7 7
SANDY GRAVEL
BLOWS PER FT. USING 140# WT. FALLING 30"
WASH SAMPLE
F. BOULDERS OR COBBLES
SHELBY TUBE — S.T.
SAND
GROUND WATER ELEVATION
SILTY CLAY
NO GROUND WATER OBSERVED ABOVE THIS ELEVATION
SO LIMESTONE

UNLESS OTHERWISE SPECIFIED, THE BLOWS PER FOOT AT THE LOCATIONS INDICATED ARE BASED ON DRIVING A 2" O.D. X 1.4" I.D. SPLIT SPOON SAMPLER WITH A 140# HAMMER HAVING A FREE FALL OF 30". THE BLOW COUNT IS TAKEN IN UNDISTURBED SOIL IMMEDIATELY BELOW A CASED OR OPEN HOLE ELIMINATING SIDE FRICTION ON THE DRIVE PIPE.

SUBSURFACE EXPLORATION FOR FOUNDATION DESIGN AND BIDDERS INFORMATION

TO OBTAIN RELATIVE DATA CONCERNING THE CHARACTER OF MATERIAL IN AND UPON WHICH THE FOUNDATION MIGHT BE BUILT, BORINGS AND/OR SOUNDINGS WERE MADE AT POINTS APPROXIMATELY AS INDICATED ON THIS DRAWING. THE DATA PRESENTED HEREIN REPRESENTS THE FINDINGS OF THE SUBSURFACE EXPLORATIONS MADE. HOWEVER, BECAUSE THE DEPTHS INVESTIGATED ARE LIMITED AND THE AREA OF THE BORINGS AND/OR SOUNDINGS IS VERY SMALL IN RELATION TO THE ENTIRE AREA, THE WISCONSIN DEPARTMENT OF TRANSPORTATION DOES NOT WARRANT CONDITIONS BELOW THE DEPTHS INVESTIGATED OR THAT THE CLASSIFICATION OF MATERIAL ENCOUNTERED IN THESE INVESTIGATIONS IS NECESSARILY TYPICAL OF THE ENTIRE SITE.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE R-70-121

DRAWN BY DB | PLANS CK'D. BW

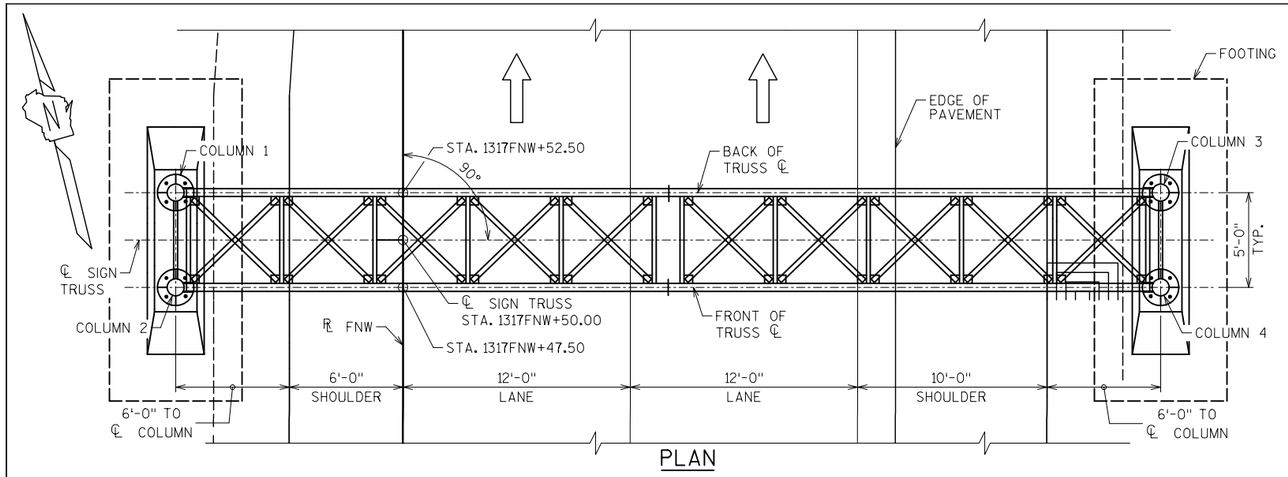
SUBSURFACE EXPLORATION

SHEET 6 OF 6

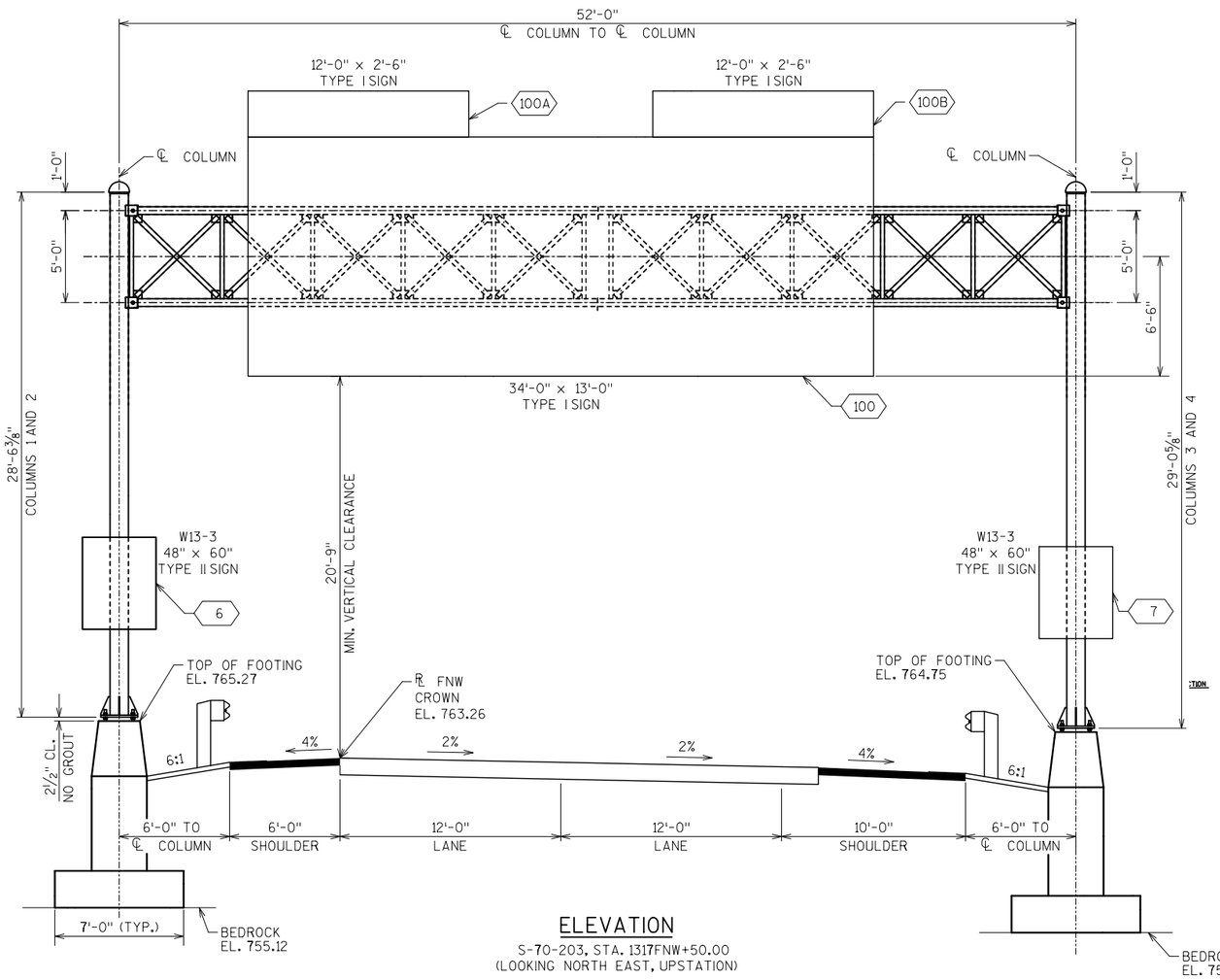
8

8

FILE NAME : I:\56537\AllContracts\2. Geotech\Subsurface Sheets\080219_se.dgn PLOT DATE : 6/24/2013 PLOT BY : dbaumann PLOT NAME : $FILE$ PLOT SCALE : 75:1



PLAN



ELEVATION

S-70-203, STA. 1317FNW+50.00
(LOOKING NORTH EAST, UPSTATION)

DESIGN DATA

DESIGN SIGN AREA = 696 SF
MAX. SIGN DEPTH = 18'-0" (TYPE I SIGN)

DEAD LOAD - WEIGHT OF SIGN AND SUPPORTING STRUCTURE. NO PROVISIONS HAVE BEEN INCLUDED FOR A CATWALK OR LIGHTING.

LIVE LOAD - NONE.

ICE LOAD - 3 PSF TO ONE FACE OF SIGN & AROUND SURFACE OF MEMBERS.

WIND PRESSURE - 90 MPH (3-SECOND GUST SPEED) TO SIGN AREA & EXPOSED MEMBERS.

WIND COMPONENTS	NORMAL	TRANSVERSE
COMBINATION 1	1.0	0.2
COMBINATION 2	0.6	0.3

GROUP LOADS	% OF ALLOWABLE STRESS
1. DEAD	100
2. DEAD + WIND	133
3. DEAD + ICE + ½(WIND*)	133
4. FATIGUE	**

* MIN. VALUE OF 25 PSF FOR GROUP 3.
** SEE SECTION 11 OF AASHTO SIGN SPECIFICATIONS FOR FATIGUE LOADS AND STRESS RANGE LIMITS.

CURVE FNW2

PC = 1314FNW+22.44
X = 809629.33
Y = 544730.34
PI = 1315FNW+84.73
X = 809707.21
Y = 544872.71
PT = 1317FNW+46.84
X = 809773.51
Y = 545020.83
R = 4070.00
DELTA = 4°34'00" LT
D = 1°24'28"
L = 324.39
T = 162.28
BK = N 28°40'43" E
AH = N 24°06'43" E

FOUNDATION DATA

FRICTION ANGLE = 30°
SOIL UNIT WEIGHT = 120 PSF

GENERAL NOTES

DRAWINGS SHALL NOT BE SCALED.

ELEVATIONS SHOWN ON THE PLAN ARE REFERENCED TO THE NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD88).

ELEVATIONS ARE IN FEET UNLESS OTHERWISE SHOWN OR NOTED.

ALL STRUCTURAL STEEL MEMBERS SHALL BE GALVANIZED.

CENTER TYPE I SIGNS VERTICALLY ON CHORD/TRUSS.

ALTERNATE DESIGNS ARE NOT ALLOWED.

HANDHOLES ARE NOT REQUIRED.

EXACT LOCATION OF SIGN BRIDGE SHALL BE DETERMINED BY THE DISTRICT TRAFFIC ENGINEER.

EXCAVATION REQUIRED TO CONSTRUCT THE CONCRETE FOOTING SHALL BE CONSIDERED INCIDENTAL TO THE BID ITEM "SIGN SUPPORTS CONCRETE MASONRY".

LEGEND

(##) REPRESENTS THE SIGN NO. REFER TO THE PERMANENT SIGNING SHEET.

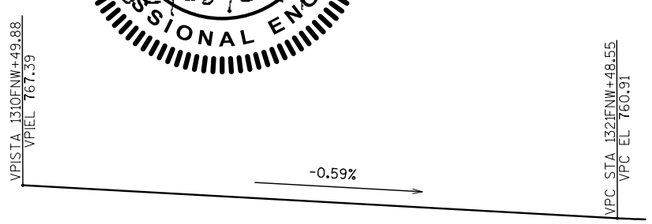
LIST OF DRAWINGS

1. PLAN AND ELEVATION
2. 4-CHORD GALVANIZED STEEL SIGN BRIDGE
3. 4-CHORD SIGN BRIDGE DETAILS
4. FOOTING TYPE "F1"
5. SUBSURFACE EXPLORATION

WISCONSIN
MICHAEL J. ARNOLD
E-41717
GREENDALE
WI
PROFESSIONAL ENGINEER
12/28/2013

ESTIMATED QUANTITIES

BID ITEM #	BID ITEM	UNIT	TOTAL
636.0100	SIGN SUPPORTS CONCRETE MASONRY	CY	38
636.1000	SIGN SUPPORTS STEEL REINFORCEMENT HS	LB	700
636.1500	SIGN SUPPORTS STEEL COATED REINFORCEMENT HS	LB	910
641.6600.800	SIGN BRIDGE S-70-203	LS	1



PROFILE GRADE LINE RAMP 'FNW'

NE REGION CONTACT - SCOTT EBEL (920) 492-2240
BUREAU OF STRUCTURES CONTACT - BILL DREHER (608) 266-8489
CONSULTANT CONTACT - MICHAEL ARNOLD (414) 831-4179

NO.	DATE	REVISION	BY

URS
342 North Water Street
7th Floor
Milwaukee, WI 53202
(414) 831-4100

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

ACCEPTED William C. Dreher KAR 03/13/14
CHIEF STRUCTURES DESIGN ENGINEER DATE

STRUCTURE S-70-203

RAMP FNW

COUNTY	TOWN/~~CITY/VILLAGE~~
WINNEBAGO	MENASHA

DESIGN SPEC.	LOAD
AASHTO STANDARD SIGN SPEC. 6th EDITION	90 MPH 3 SEC. SPEED

DESIGNED BY	DESIGN CK'D.	DRAWN BY	PLANS CK'D.
NLD	JDB	KNW	NLD

PLAN AND ELEVATION

SHEET 1 OF 5
457

STATE PROJECT NUMBER
1517-07-72

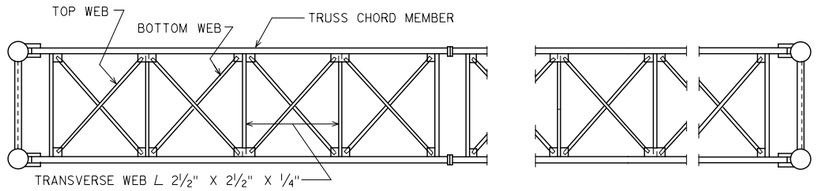
DATE: 3/10/2014
I.D.

FILE= P:\Transportation\US 10 WIS 441\CADD\sheets\Structures\S-70-203\Sheets\01-S-70-203_gp.dgn

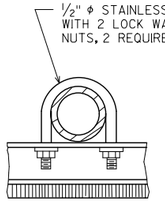
8

8

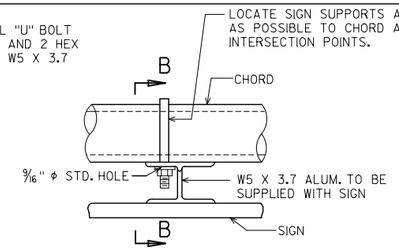
STATE PROJECT NUMBER
1517-07-72

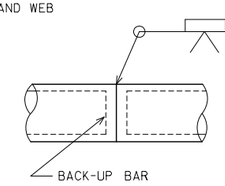


PLAN

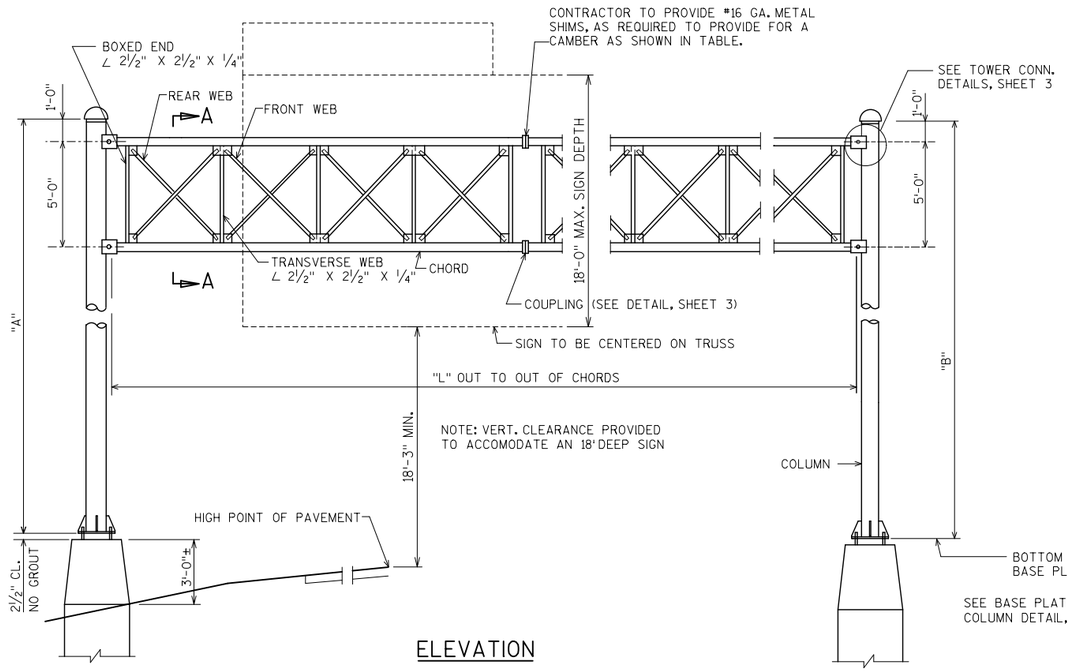


SECTION B





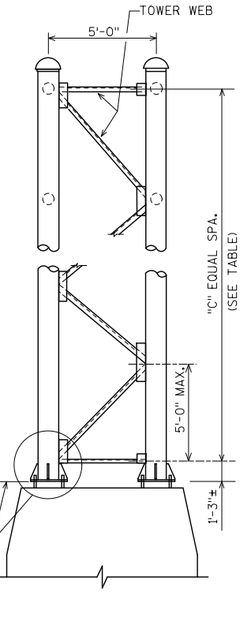
CHORD SPLICE



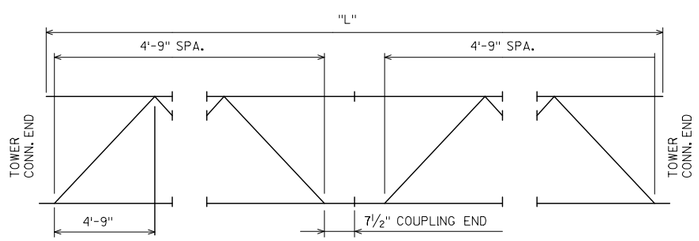
ELEVATION

TYPICAL SIGN CONNECTION*

*THIS TYPICAL SIGN CONNECTION IS FOR SIGNS UP TO 16'-0" DEEP. FOR DEEPER SIGNS, THE SIGN CONNECTION MUST BE DESIGNED.

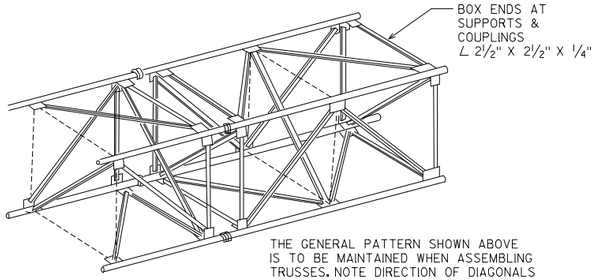


END VIEW

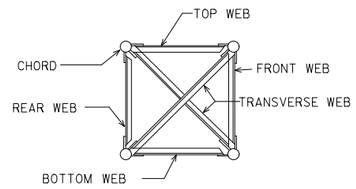


TRUSS ARRANGEMENT

FABRICATOR MAY MAKE TRUSSES ANY LENGTH KEEPING A SECTION A MINIMUM OF 20'-0" & A MULTPLE OF 5'-0". CHORD FIELD SPLICES SHALL BE MADE WITH COUPLINGS. CHORD SHOP SPLICE SHALL BE THE WELDED SPLICE SHOWN ABOVE.



TYPICAL TRUSS SECTION



SECTION A

NOTES

DRAWINGS SHALL NOT BE SCALED.

STEEL COLUMN PIPE SHALL BE A.P.I. SPEC. 5L GRADE X42 Fy = 42,000 P.S.I.
ALL STEEL PIPE MEMBERS OF TRUSS SHALL BE A.P.I. SPEC. 5L GRADE X42 Fy = 42,000 P.S.I.
PLATES, BARS, STRUCTURAL ANGLES SHALL BE A.S.T.M. A709 GRADE 36 Fy = 36,000 P.S.I.
ALL STRUCTURAL STEEL MEMBERS SHALL BE GALVANIZED.

ALL BOLTED CONNECTIONS SHALL BE MADE WITH ¾" ϕ A325 BOLTS, GALVANIZED A.S.T.M. A153, CLASS C.

WELDED CONNECTIONS CAN BE USED IN LIEU OF BOLTED CONNECTIONS, IF UNIT CAN BE GALVANIZED IN ONE PIECE.

STEEL ANCHOR BOLTS SHALL BE A.A.S.H.T.O. M314-90 GRADE 55. Fy = 55,000 P.S.I.

SIGNS OR BLANKS SHALL BE INSTALLED ON TRUSS AT TIME OF ERECTION. BLANKS SHALL BE ¼ THE LENGTH OF THE BRIDGE, 2'-0" DEEPER THAN C TO C OF CHORDS & SHALL BE CENTERED ON THE BRIDGE. SIGNS SHALL BE AS DESIGNATED IN PLANS.

THE UPPER 12" OF ANCHOR BOLTS, NUTS AND WASHERS SHALL BE GALVANIZED IN ACCORDANCE WITH THE A.A.S.H.T.O. SPECIFICATION AS STATED IN SECTION 641. OF THE WIS. D.O.T. STANDARD SPECIFICATIONS.

WELD TEST AS PER AWS D1.1.

TABLE

STRUCTURE	A	B	C	CHORDS O.D. X THK.	TOP & BOTTOM WEB	FRONT & REAR WEB	COUPLING PLATE "D1" & "T"	BOLT CIRCLE DIA. "D2"	NO. OF BOLTS IN COUPLING	CAMBER	COLUMN O.D. X THK.	TOWER WEBS	"L"
S-70-203	28'-6⅜"	29'-0⅝"	5	5"x0.250"	L3"x3"x¼"	L3"x3"x¼"	10.25"x1"	7.75"	6	0.75"	10.75"x0.365"	L3"x3"x5/16"	50'-10¼"

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE S-70-203

DRAWN BY KNW | PLANS CK'D. NLD

4-CHORD GALVANIZED STEEL SIGN BRIDGE

SHEET 2 OF 5
458

DATE: 2/28/2014
I.D.

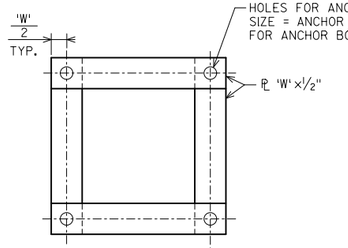
FILE= P:\Transportation\US 10 WIS 441\CADD\sheets\Structures\S-70-203\Sheets\02-S-70-203_details_1.dgn

8

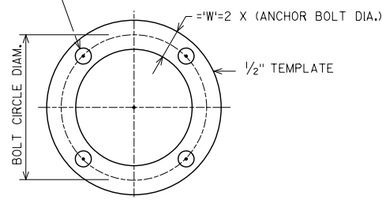
8

STATE PROJECT NUMBER

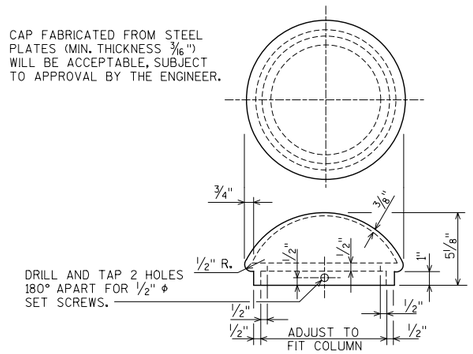
1517-07-72



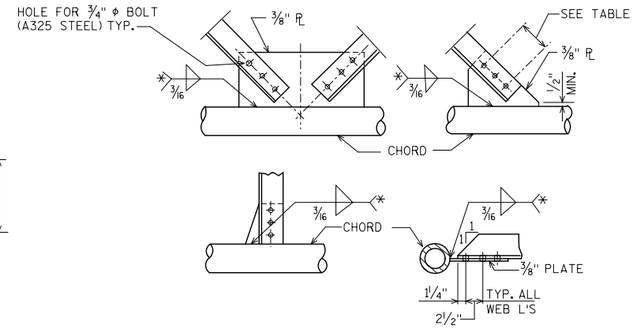
ALTERNATE
ANCHOR PLATE/TEMPLATE PLAN



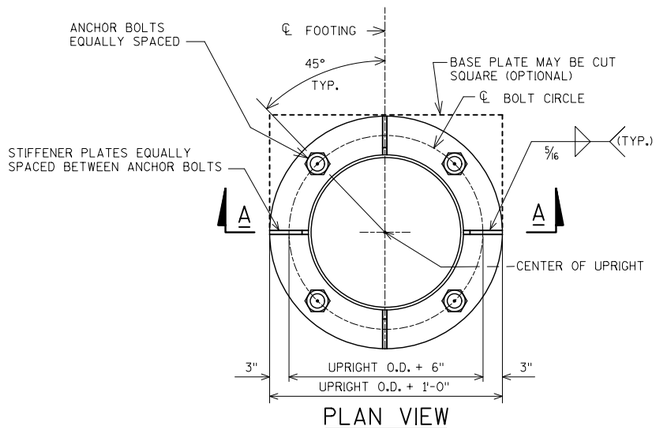
ANCHOR PLATE/TEMPLATE PLAN



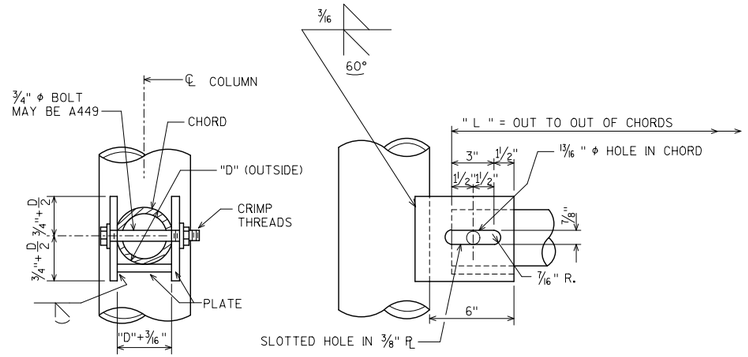
TOWER CAP DETAIL



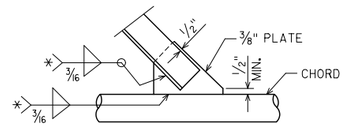
TYPICAL TRUSS CONNECTION DETAILS



PLAN VIEW
(BASE PLATE)



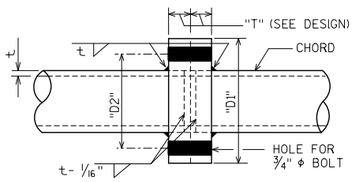
TOWER CONNECTION DETAIL



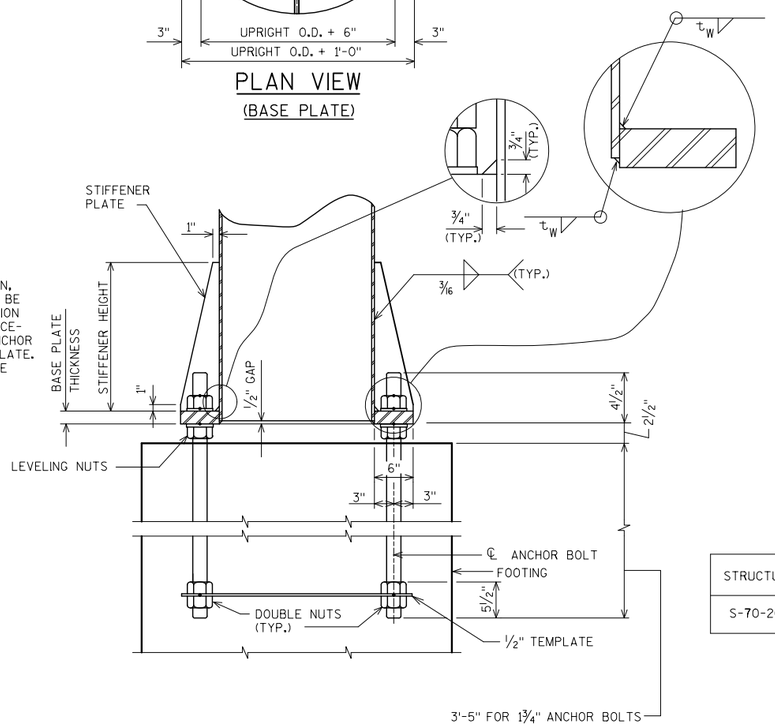
TYPICAL WELDED ALTERNATE

*ANGLE	WELD LENGTH	NO. OF BOLTS
● 2 1/2"×2 1/2"×1/4"	11"	3
3"×3"×3/16"	10"	3
3"×3"×1/4"	13"	4
3"×3"×5/16"	16 1/2"	5
3"×3"×3/8"	19 1/2"	6
4"×4"×1/4"	18"	5
4"×4"×5/16"	22"	6
4"×4"×3/8"	26"	8
4"×4"×7/16"	30"	9
4"×4"×1/2"	34"	10

● ONLY USED FOR BOXED END AND TRANSVERSE BRACING.



COUPLING DETAIL



SECTION A-A

BASE PLATE & UPRIGHT COLUMN DETAILS

STRUCTURE	COLUMN O.D. X THK.	ANCHOR BOLTS	BASE PLATE THICKNESS (IN.)	STIFFENER PLATE THICKNESS (IN.)	STIFFENER PLATE HEIGHT (IN.)	t_W (IN.)
S-70-203	10.750"x0.365"	4 - 1 3/4"	1 3/4"	1/2"	12"	3/16"

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE S-70-203

DRAWN BY KNW | PLANS CK'D. NLD

4-CHORD
SIGN BRIDGE DETAILS

SHEET 3 OF 5
459

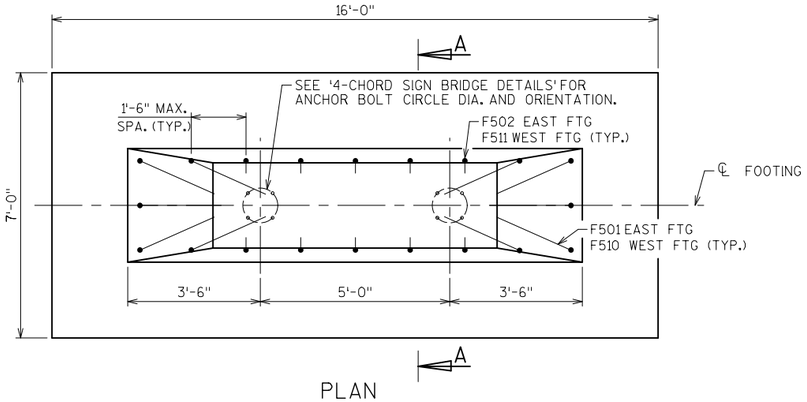
DATE: 2/28/2014
I.D.

FILE= P:\Transportation\US 10 WIS 441\CADD\sheets\Structures\S-70-203\Sheets\03-S-70-203_details_2.dgn

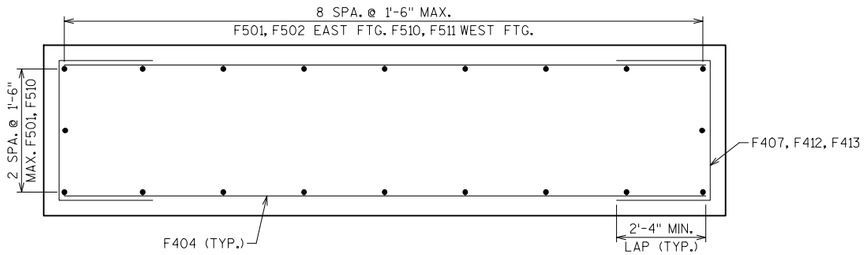
8

8

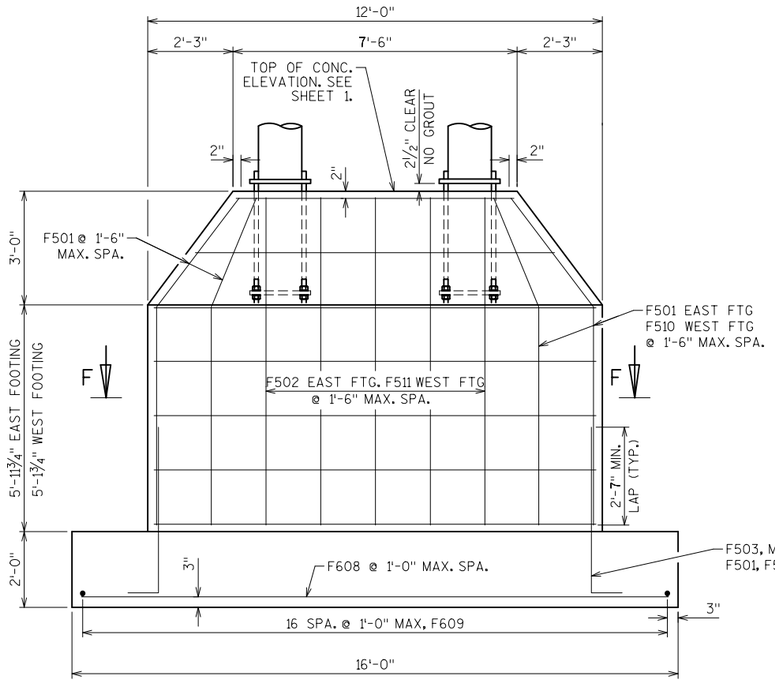
STATE PROJECT NUMBER
1517-07-72



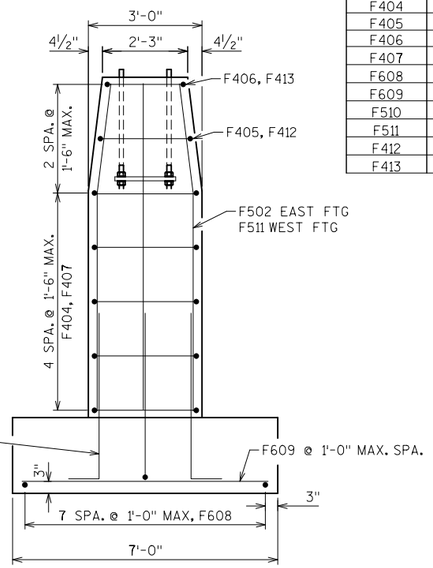
PLAN



SECTION F-F



ELEVATION

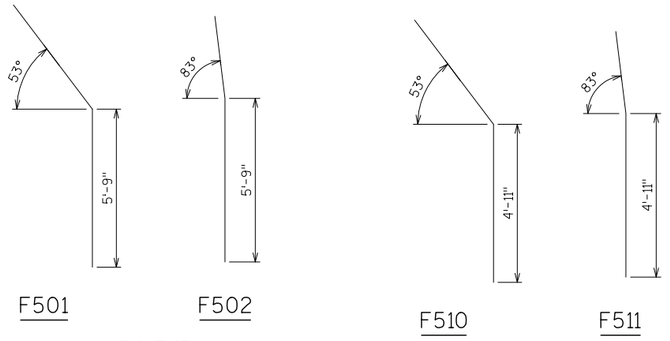


SECTION A-A

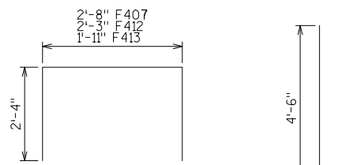
NOTE: THE FIRST OR FIRST TWO DIGITS OF A BAR MARK SIGNIFIES THE BAR SIZE.

S-70-203 SIGN SUPPORTS - BILL OF BARS — EPOXY COATED STEEL TOTAL WEIGHT = 910 LBS; UNCOATED STEEL TOTAL WEIGHT = 700 LBS

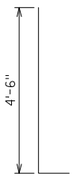
MARK	COAT	NO. REQ'D	LENGTH	BAR SERIES	BENT	LOCATION
F501	X	10	9'-4"		X	SHAFT VERTICAL EAST FTG
F502	X	10	8'-7"		X	SHAFT VERTICAL EAST FTG
F503	X	40	5'-3"		X	FOOTING VERTICAL DOWEL
F404	X	20	11'-8"			SHAFT HORIZONTAL
F405	X	4	9'-5"			SHAFT HORIZONTAL
F406	X	4	7'-2"			SHAFT HORIZONTAL
F407	X	20	7'-2"		X	SHAFT HORIZONTAL
F608		16	15'-6"			FOOTING HORIZONTAL
F609		34	6'-6"			FOOTING HORIZONTAL
F510	X	10	8'-6"			SHAFT VERTICAL WEST FTG
F511	X	10	7'-9"			SHAFT VERTICAL WEST FTG
F412	X	4	6'-9"		X	SHAFT HORIZONTAL
F413	X	4	6'-5"		X	SHAFT HORIZONTAL



F501 F502 F510 F511



F407, F412, F413



F503

GENERAL NOTES

BAR STEEL REINFORCEMENT SHALL BE EMBEDDED 2" CL. EXCEPT BOTTOM AND SIDES OF FOOTING SHALL BE 3" CL.

CONCRETE MASONRY.....f'c = 3,500 PSI

BAR STEEL REINFORCEMENT, GRADE 60....., fy = 60,000 PSI

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE S-70-203

DRAWN BY KNW | PLANS CK'D. NLD

FOOTING TYPE "F1"

SHEET 4 OF 5
460

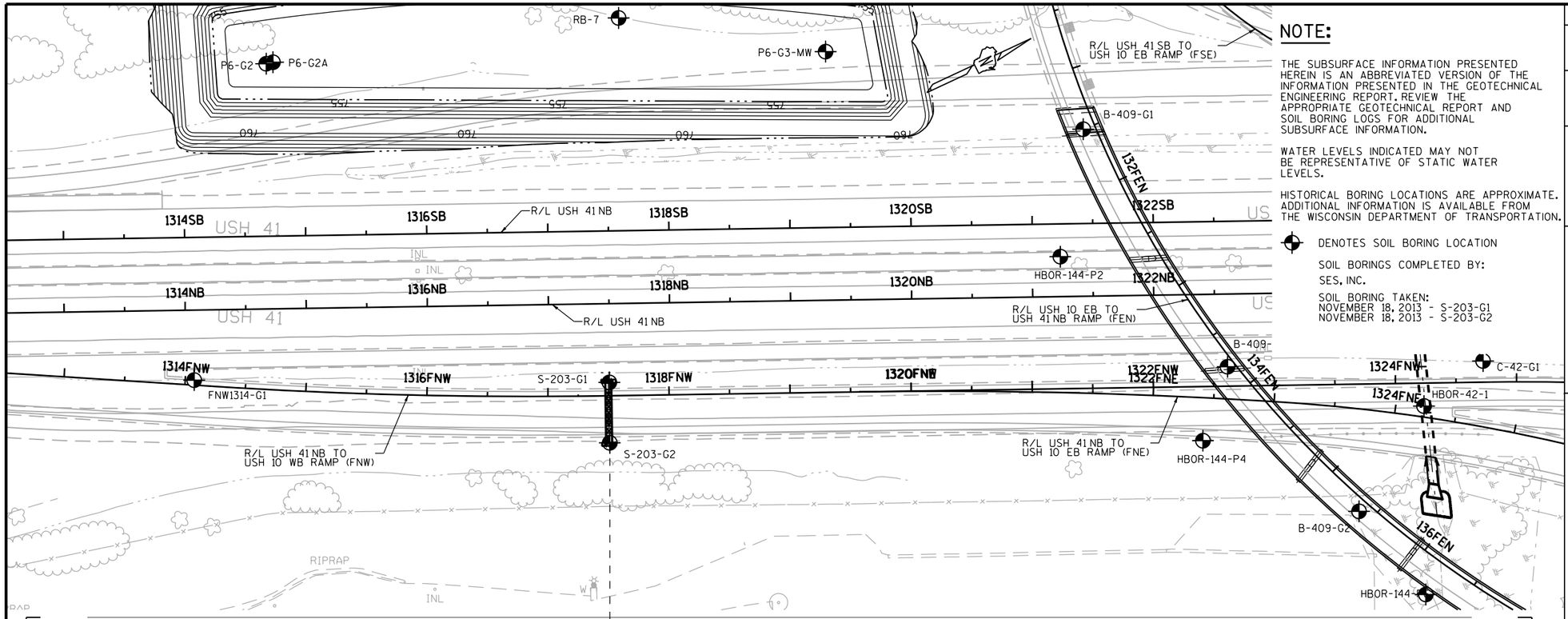
8

8

FILE= P:\Transportation\US 10 WIS 441\CADD\sheets\Structures\S-70-203\Sheets\04-S-70-203_footing.dgn

DATE: 2/28/2014

I.D.



NOTE:

THE SUBSURFACE INFORMATION PRESENTED HEREIN IS AN ABBREVIATED VERSION OF THE INFORMATION PRESENTED IN THE GEOTECHNICAL ENGINEERING REPORT. REVIEW THE APPROPRIATE GEOTECHNICAL REPORT AND SOIL BORING LOGS FOR ADDITIONAL SUBSURFACE INFORMATION.

WATER LEVELS INDICATED MAY NOT BE REPRESENTATIVE OF STATIC WATER LEVELS.

HISTORICAL BORING LOCATIONS ARE APPROXIMATE. ADDITIONAL INFORMATION IS AVAILABLE FROM THE WISCONSIN DEPARTMENT OF TRANSPORTATION.

DENOTES SOIL BORING LOCATION

SOIL BORINGS COMPLETED BY:
SES, INC.

SOIL BORING TAKEN:
NOVEMBER 18, 2013 - S-203-G1
NOVEMBER 18, 2013 - S-203-G2

STATE PROJECT NUMBER

1517-07-72

ABBREVIATIONS

F — FINE M — MEDIUM C — COARSE
WS — WEATHERED SO — SOUND

MATERIAL SYMBOLS

TOPSOIL / FILL, SILT, SANDSTONE
SAND, PEAT, LIMESTONE
GRAVEL, CLAY, IGNEOUS ROCK

LEGEND OF PROBING

PROBING NO.
STA.
ELEVATION
7 AVERAGE BLOWS PER FOOT
REFUSAL 95/6

95/6=95 BLOWS FOR 6" PENETRATION PROBING TAKEN WITH A 350# WT. FALLING 18" ON A 2" O.D. POINT.

LEGEND OF BORING

BORING NO.
ELEV.
STA.
UNCONFINED STRENGTH → 7.7 7
SANDY GRAVEL
BLOWS PER FT. USING 140# WT. FALLING 30"
WASH SAMPLE
F. BOULDERS OR COBBLES
SHELBY TUBE — S.T.
SAND
GROUND WATER ELEVATION
SILTY CLAY
NO GROUND WATER OBSERVED ABOVE THIS ELEVATION
SO
LIMESTONE

UNLESS OTHERWISE SPECIFIED, THE BLOWS PER FOOT AT THE LOCATIONS INDICATED ARE BASED ON DRIVING A 2" O.D. X 1.4" I.D. SPLIT SPOON SAMPLER WITH A 140# HAMMER HAVING A FREE FALL OF 30". THE BLOW COUNT IS TAKEN IN UNDISTURBED SOIL IMMEDIATELY BELOW A CASED OR OPEN HOLE ELIMINATING SIDE FRICTION ON THE DRIVE PIPE.

SUBSURFACE EXPLORATION FOR FOUNDATION DESIGN AND BIDDERS INFORMATION

TO OBTAIN RELATIVE DATA CONCERNING THE CHARACTER OF MATERIAL IN AND UPON WHICH THE FOUNDATION MIGHT BE BUILT, BORINGS AND/OR SOUNDINGS WERE MADE AT POINTS APPROXIMATELY AS INDICATED ON THIS DRAWING. THE DATA PRESENTED HEREIN REPRESENTS THE FINDINGS OF THE SUBSURFACE EXPLORATIONS MADE. HOWEVER, BECAUSE THE DEPTHS INVESTIGATED ARE LIMITED AND THE AREA OF THE BORINGS AND/OR SOUNDINGS IS VERY SMALL IN RELATION TO THE ENTIRE AREA, THE WISCONSIN DEPARTMENT OF TRANSPORTATION DOES NOT WARRANT CONDITIONS BELOW THE DEPTHS INVESTIGATED OR THAT THE CLASSIFICATION OF MATERIAL ENCOUNTERED IN THESE INVESTIGATIONS IS NECESSARILY TYPICAL OF THE ENTIRE SITE.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE S-70-203

DRAWN BY DB | PLANS CK'D. BW

SUBSURFACE EXPLORATION

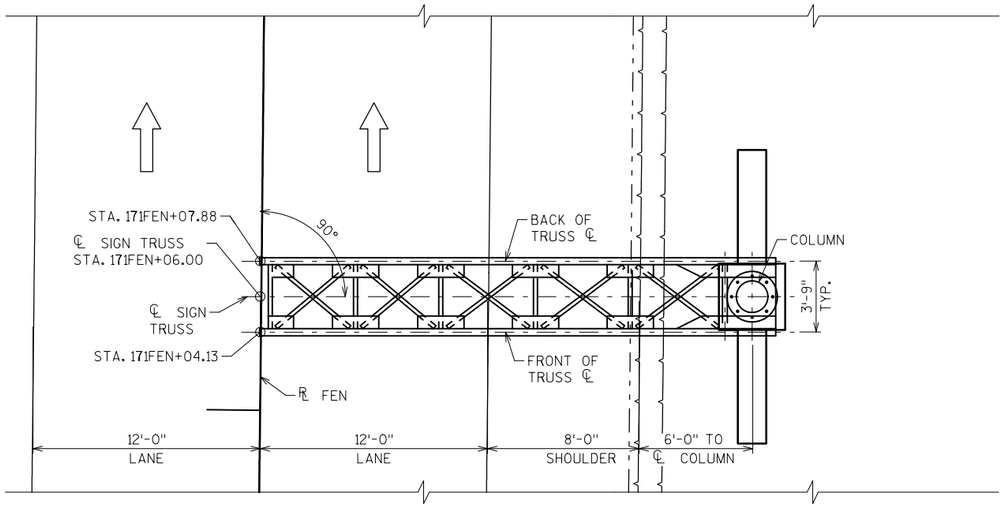
SHEET 5 OF 5

8

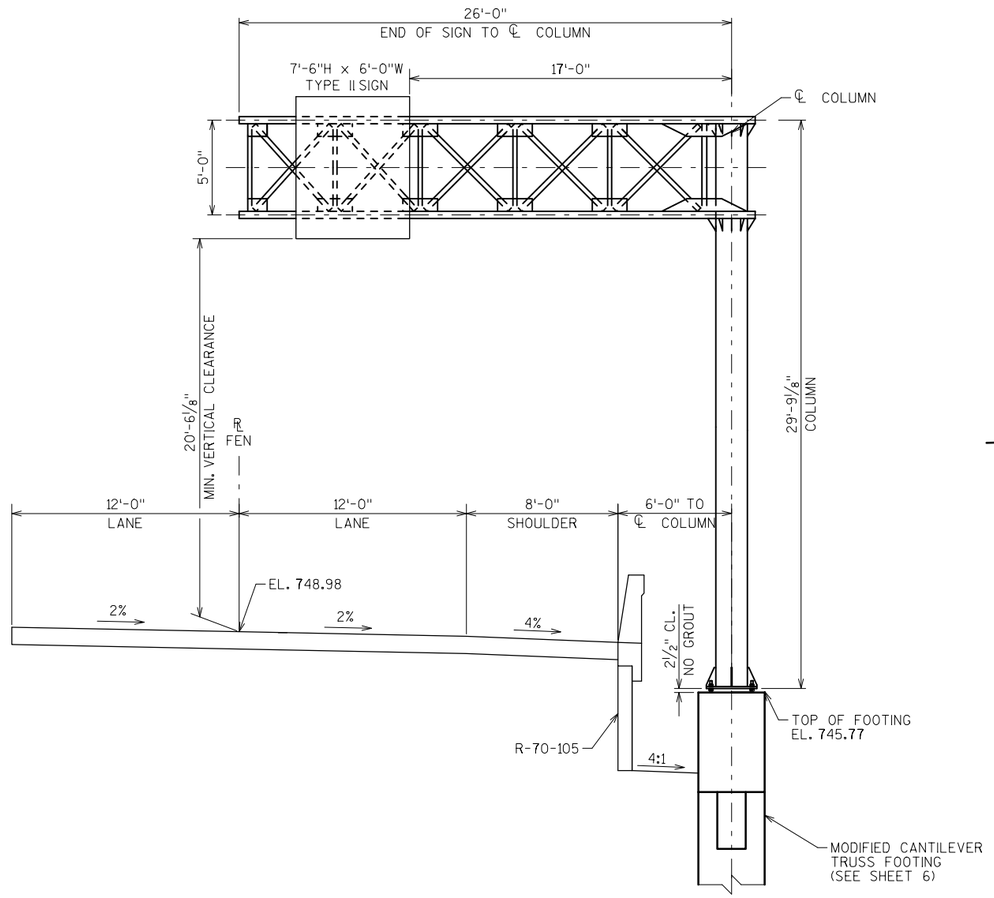
8

FILE NAME : I:\56537\AllContracts\2. Geotech\Subsurface Sheets\080230_se.dgn
PLOT DATE : 11/25/2013
PLOT BY : dbaumann
PLOT NAME : $FILE$
PLOT SCALE : 100:1

STATE PROJECT NUMBER
1517-07-72



PLAN



S-70-205
STA. 171FEN+06.00
(LOOKING NORTH EAST, UPSTATION)

DESIGN DATA

SIGN STRUCTURE	DESIGN SIGN AREA	MAX. SIGN DEPTH
S-70-205	264 SF	12'-0"
S-70-253	264 SF	12'-0"

WIND VELOCITY = 90 M.P.H. (3-SECOND GUST SPEED)

LIST OF DRAWINGS

1. GENERAL PLAN AND ELEVATION S-70-205
2. GENERAL PLAN AND ELEVATION S-70-253
3. GALVANIZED STEEL CANTILEVER SIGN TRUSS
4. GALVANIZED STEEL CANTILEVER SIGN TRUSS DETAILS
5. CANTILEVER TRUSS FOOTING S-70-253
6. MODIFIED CANTILEVER TRUSS FOOTING S-70-205
7. SUBSURFACE EXPLORATION

GENERAL NOTES

DRAWINGS SHALL NOT BE SCALED.

ELEVATIONS SHOW ON THE PLAN ARE REFERENCED TO THE NORTH AMERICAN VERTICAL DATUM 1988 (NAVD88).

ELEVATIONS ARE IN FEET UNLESS OTHERWISE SHOWN OR NOTED.

ALL STRUCTURAL STEEL MEMBERS SHALL BE GALVANIZED.

CENTER SIGNS VERTICALLY ON CHORD/TRUSS.

CENTER SIGNS HORIZONTALLY OVER LANES.

ALTERNATE DESIGNS ARE NOT ALLOWED.

HANDHOLES ARE NOT REQUIRED.

EXACT LOCATION OF SIGN BRIDGE SHALL BE DETERMINED BY THE DISTRICT TRAFFIC ENGINEER.

EXCAVATION REQUIRED TO CONSTRUCT THE CONCRETE FOOTING ABOVE THE DRILLED SHAFTS SHALL BE CONSIDERED INCIDENTAL TO THE BID ITEM "SIGN SUPPORTS CONCRETE MASONRY".

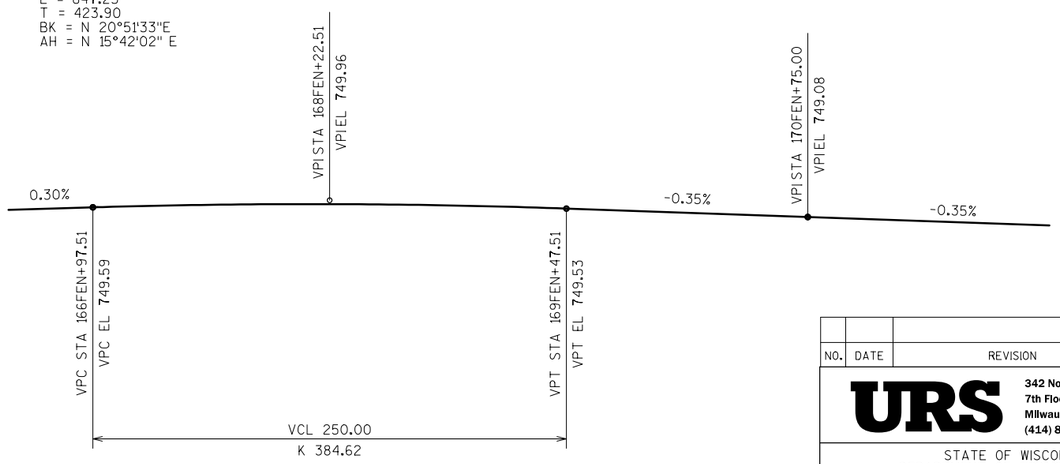
CURVE FEN5

PC = 164FEN+50.32
X = 81202.33
Y = 548176.33
PI = 168FEN+74.22
X = 811353.27
Y = 54872.45
PT = 172FEN+97.55
X = 811467.98
Y = 548980.53
R = 9410.00
DELTA = 5°09'31" LT
D = 0°36'32"
L = 847.23
T = 423.90
BK = N 20°51'33"E
AH = N 15°42'02" E

WISCONSIN
MICHAEL J. ARNOLD
E-41717
GREENDALE
WI
PROFESSIONAL ENGINEER
01/21/2014

ESTIMATED QUANTITIES

BID ITEM #	BID ITEM	UNIT	TOTAL
636.0100	SIGN SUPPORTS CONCRETE MASONRY	CY	17
636.1000	SIGN SUPPORTS STEEL REINFORCEMENT HS	LB	2,040
641.1200.801	SIGN BRIDGE CANTILEVERED S-70-205	LS	1
641.1200.802	SIGN BRIDGE CANTILEVERED S-70-253	LS	1



PROFILE GRADE LINE RAMP 'FEN'

NE REGION CONTACT - SCOTT EBEL (920) 492-2240
BUREAU OF STRUCTURES CONTACT - BILL DREHER (608) 266-8489
CONSULTANT CONTACT - MICHAEL ARNOLD (414) 831-4179

NO.	DATE	REVISION	BY

URS
342 North Water Street
7th Floor
Milwaukee, WI 53202
(414) 831-4100

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

ACCEPTED William C. Dreher KAR 03/13/14
CHIEF STRUCTURES DESIGN ENGINEER DATE

STRUCTURES S-70-205, 253

RAMP FEN, USH 41 NB

COUNTY	TOWN ~~CITY/VILLAGE~~
WINNEBAGO	MENASHA

DESIGN SPEC.	LOAD 90 MPH
AASHTO STANDARD SIGN SPEC. 6TH EDITION	3 SEC. SPEED

DESIGNED BY	DESIGN CK'D.	DRAWN BY	PLANS CK'D.
NLD	JDB	KNW	NLD

GENERAL PLAN AND ELEVATION S-70-205

SHEET 1 OF 7
462

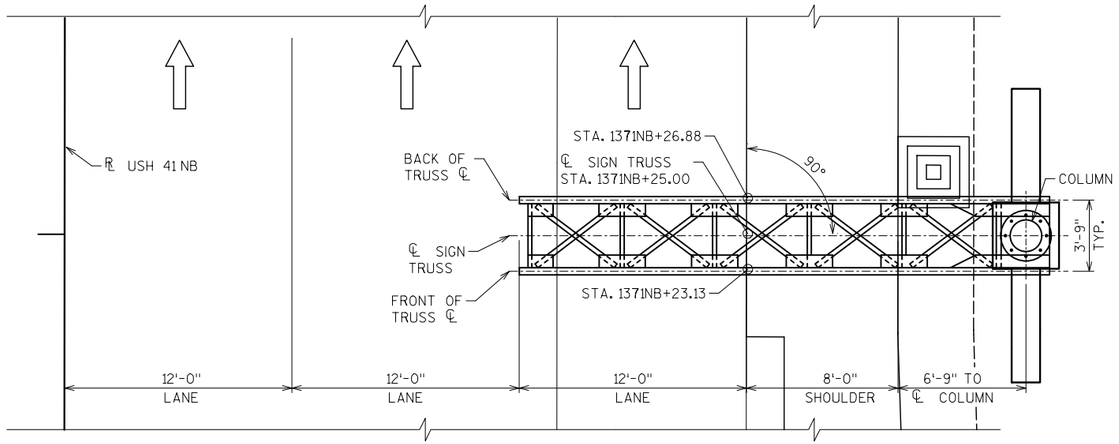
DATE: 3/10/2014
I.D.

FILE= P:\Transportation\US 10 WIS 441\CADD\sheets\Structures\S-70-205&253\Sheets\01-S-70-205_gp.dgn

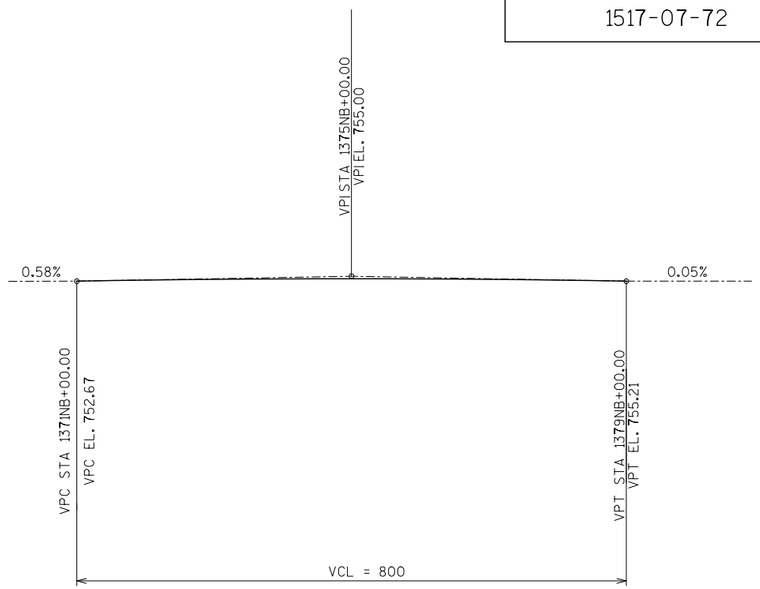
8

8

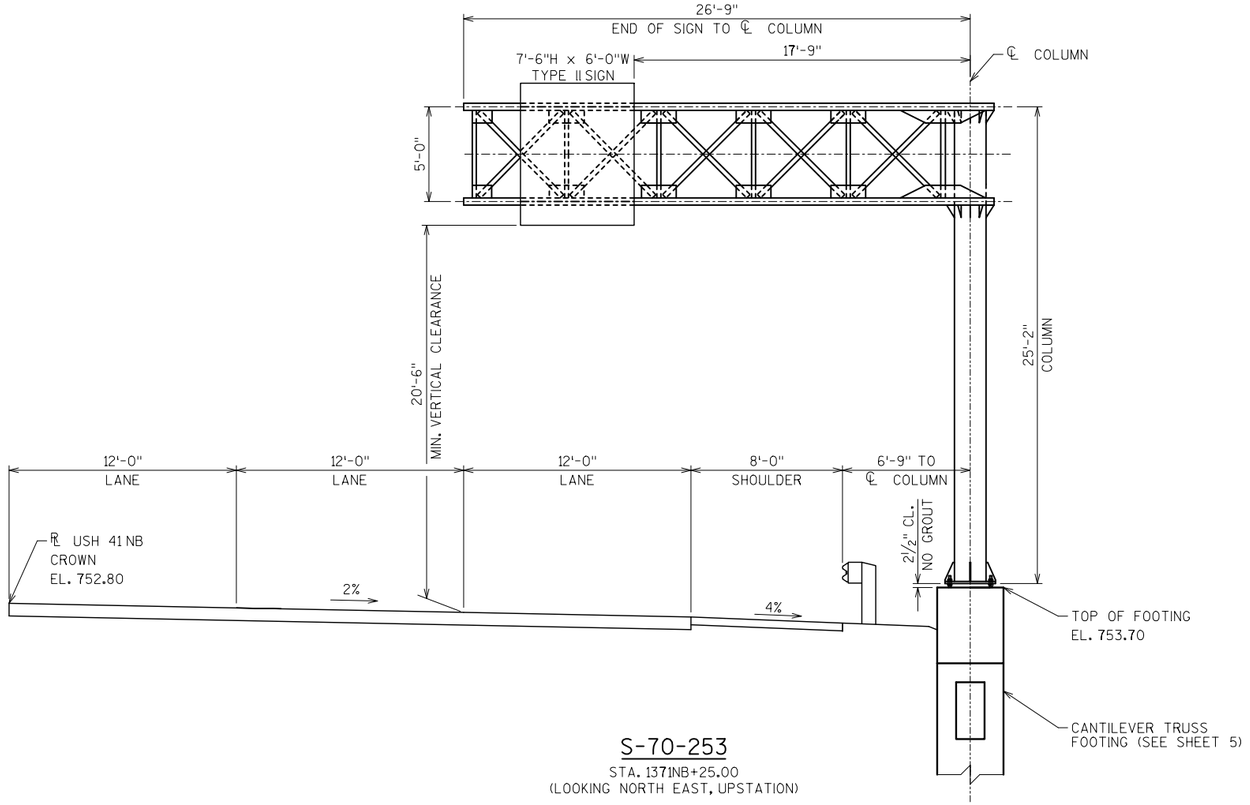
STATE PROJECT NUMBER
1517-07-72



PLAN



PROFILE GRADE LINE USH 41 NB



S-70-253
STA. 137INB+25.00
(LOOKING NORTH EAST, UPSTATION)

CURVE NB4

PC = 1354NB+18.48
X = 811204.68
Y= 548404.62
PI= 1358NB+39.81
X = 811376.80
Y = 548789.18
PT = 1362NB+59.62
X = 811490.82
Y = 549194.79
R = 5729.58
DELTA = 8°24'41" LT
D = 1°00'00"
L = 841.14
T = 421.32
BK = N 24°06'43" E
AH = N 15°42'02" E

CURVE NB5

PC = 1384NB+42.57
X = 812081.55
Y = 551296.29
PI= 1388NB+31.38
X = 812186.76
Y = 551670.59
PT = 1392NB+15.46
X = 812188.41
Y = 552059.39
R = 2864.79
DELTA = 15°27'28" LT
D = 2°00'00"
L = 772.89
T = 388.80
BK = N 15°42'02" E
AH = N 0°14'34" E

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURES S-70-205, 253

DRAWN BY KNW | PLANS CK'D. NLD

GENERAL PLAN AND ELEVATION S-70-253

SHEET 2 OF 7
463

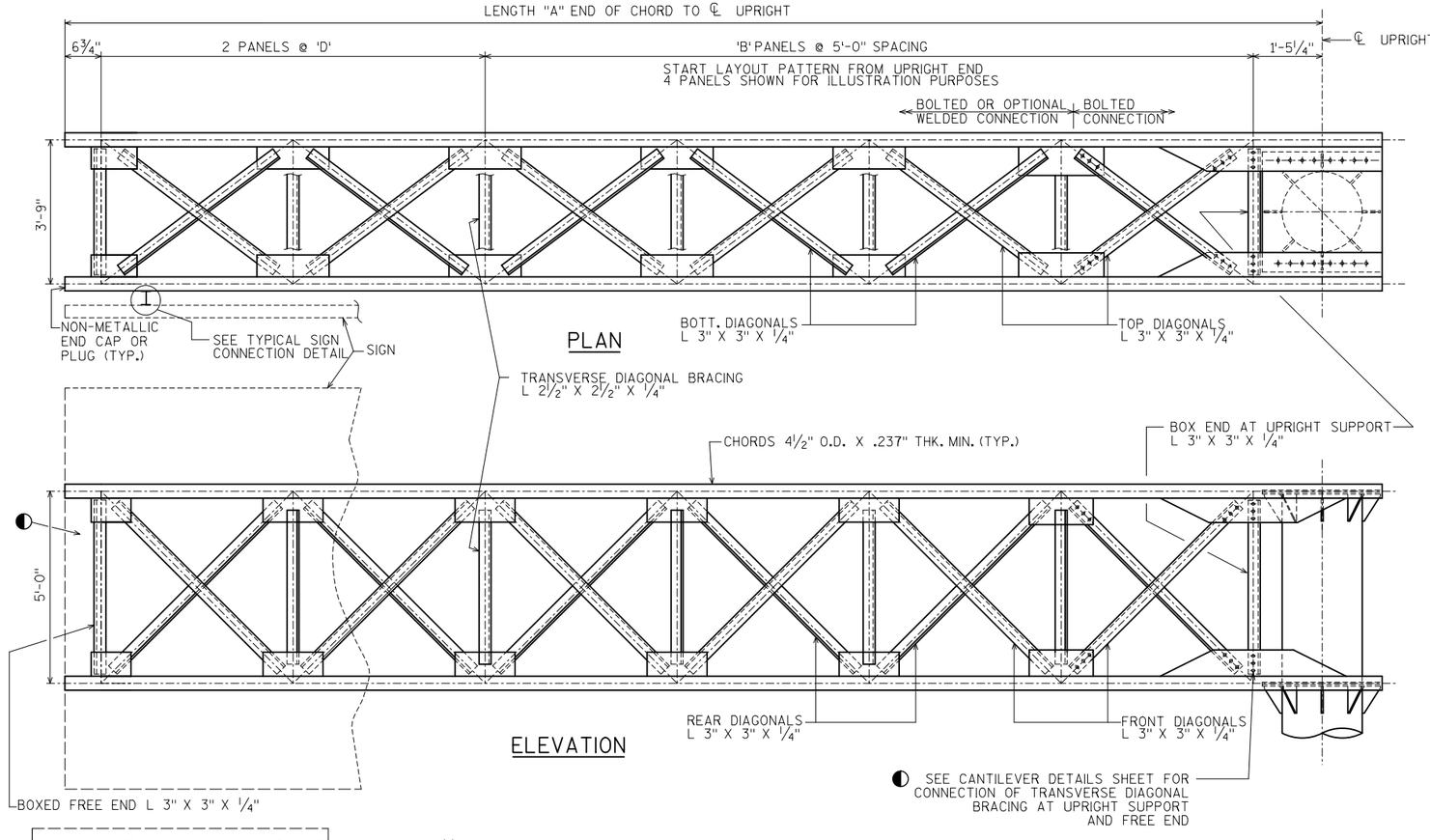
FILE= P:\Transportation\US 10 WIS 441\CADD\sheets\Structures\S-70-205&253\Sheets\02-S-70-253_gp.dgn

DATE: 1/21/2014
I.D.

8

8

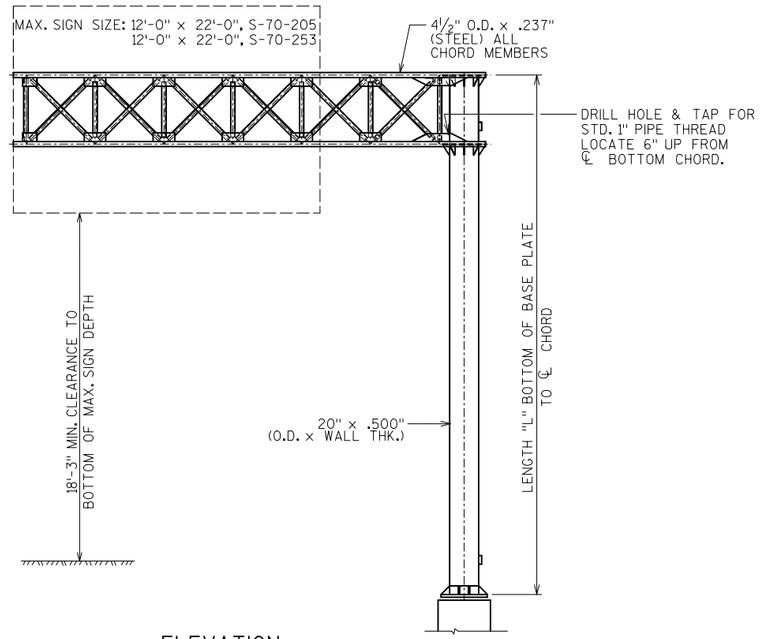
STATE PROJECT NUMBER
1517-07-72



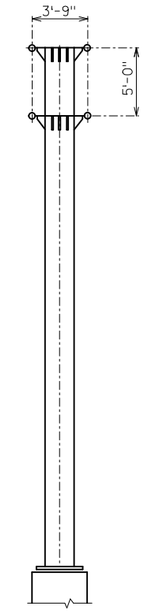
ALLOWABLE DESIGN STRESSES

CHORDS & COLUMN (INCLD. HANDHOLE) — API-5L-X42 — fy=42,000 P.S.I.
STRUCTURAL ANGLES — A.S.T.M. A709 GRADE 36 — fy=36,000 P.S.I.
PLATES & BARS — A.S.T.M. A709 GRADE 36 — fy=36,000 P.S.I.
ANCHOR BOLTS — A.A.S.H.T.O. M314 — fy=55,000 P.S.I.
HIGH STRENGTH BOLTS – A325 — fy=92,000 P.S.I.
STRUCTURAL MEMBERS GALVANIZED A123
HARDWARE GALVANIZED — A153 CLASS C

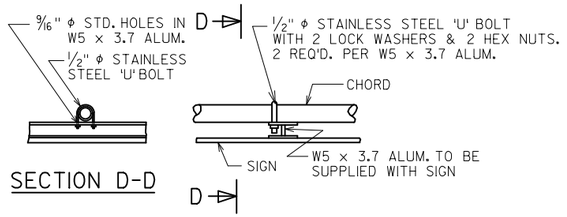
STRUCTURE	"A"	"L"	"B"	"D"	"Y"
S-70-205	26'-0"	29'-9⅛"	3	4'-6"	1¾"
S-70-253	26'-3"	25'-2"	3	4'-10½"	1¾"



ELEVATION

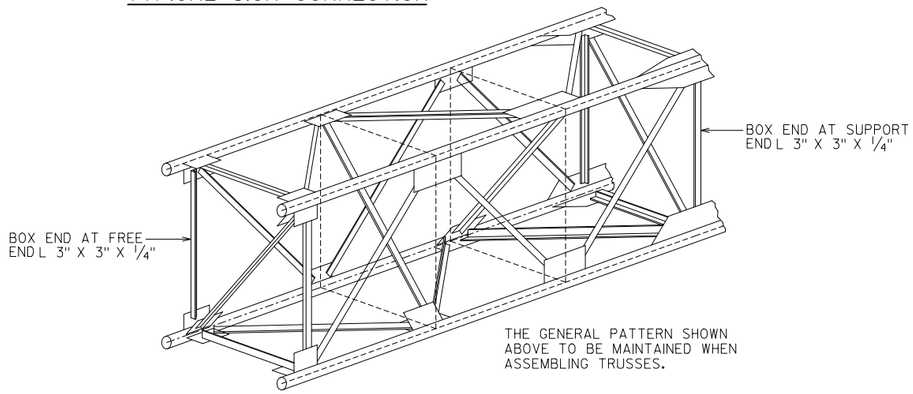


END VIEW



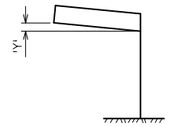
SECTION D-D

TYPICAL SIGN CONNECTION



THE GENERAL PATTERN SHOWN ABOVE TO BE MAINTAINED WHEN ASSEMBLING TRUSSES.

TYPICAL TRUSS SECTION



CAMBER DIAGRAM

PREFABRICATE CAMBER INTO THE HORIZONTAL SUPPORT PROVIDING AN AMOUNT "Y" AT END OF TRUSS SHOWN IN "CAMBER DIAGRAM". DO NOT RAKE VERTICAL UPRIGHT BY ADJUSTMENT OF LEVELING NUTS.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURES S-70-205, 253

DRAWN BY KNW | PLANS CK'D. NLD

GALVANIZED STEEL CANTILEVER SIGN TRUSS

SHEET 3 OF 7
464

8

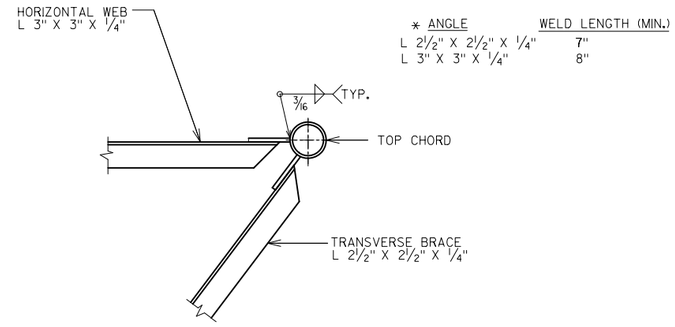
8

FILE= P:\Transportation\US 10 WIS 441\CADD\sheets\Structures\S-70-205&253\Sheets\03-S-70-205_253_details_1.dgn

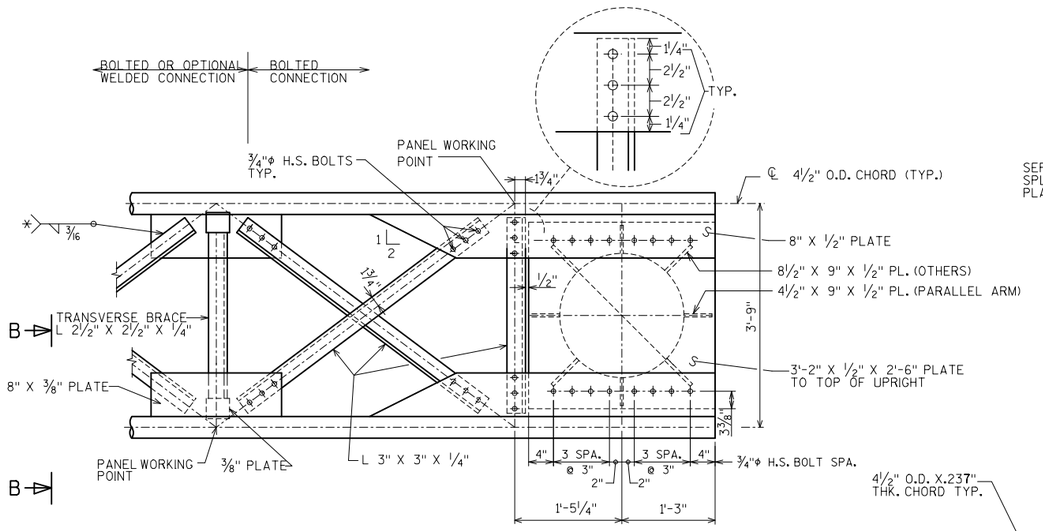
DATE: 1/21/2014
I.D.

STATE PROJECT NUMBER

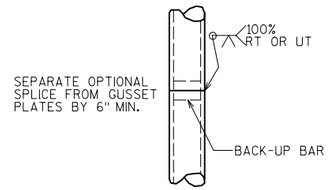
1517-07-72



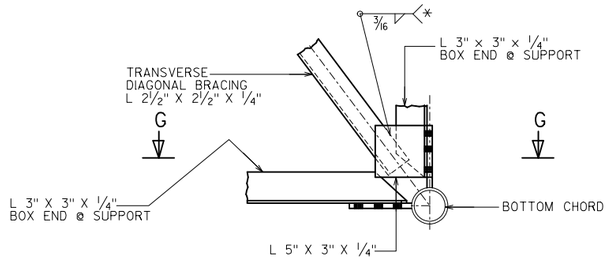
SECTION B-B



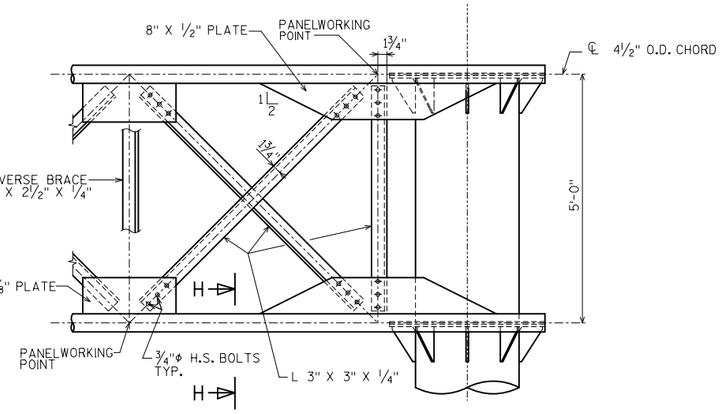
PLAN TRUSS TO UPRIGHT



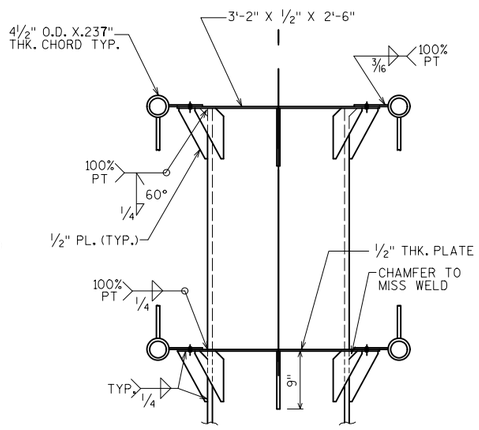
OPTIONAL COLUMN OR CHORD SPLICE DETAIL



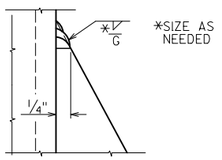
SECTION H-H



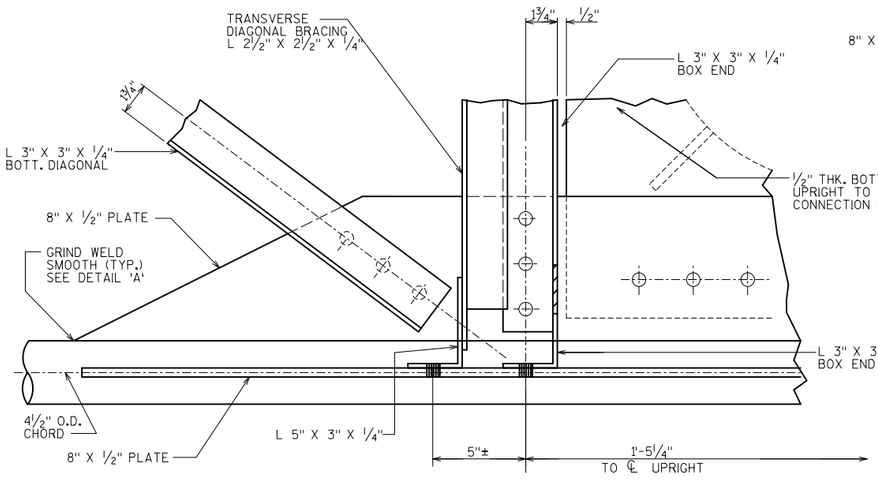
ELEVATION TRUSS TO UPRIGHT



END VIEW TRUSS TO UPRIGHT

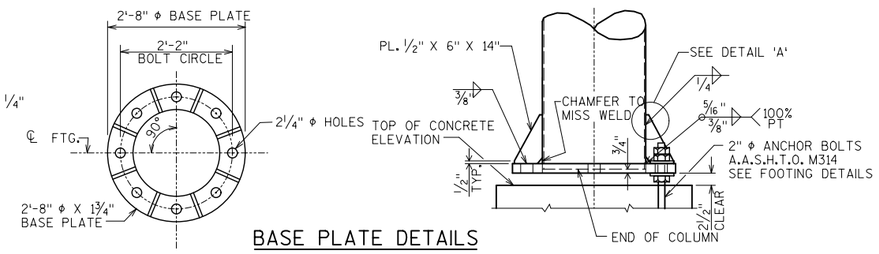


DETAIL 'A'



SECTION G-G

(LOOKING DOWN @ BOTT. HORIZ. PLANE @ FRONT CHORD)



BASE PLATE DETAILS

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURES S-70-205, 253

DRAWN BY KNW | PLANS CK'D. NLD

GALVANIZED STEEL CANTILEVER SIGN TRUSS DETAILS

SHEET 465 OF 7

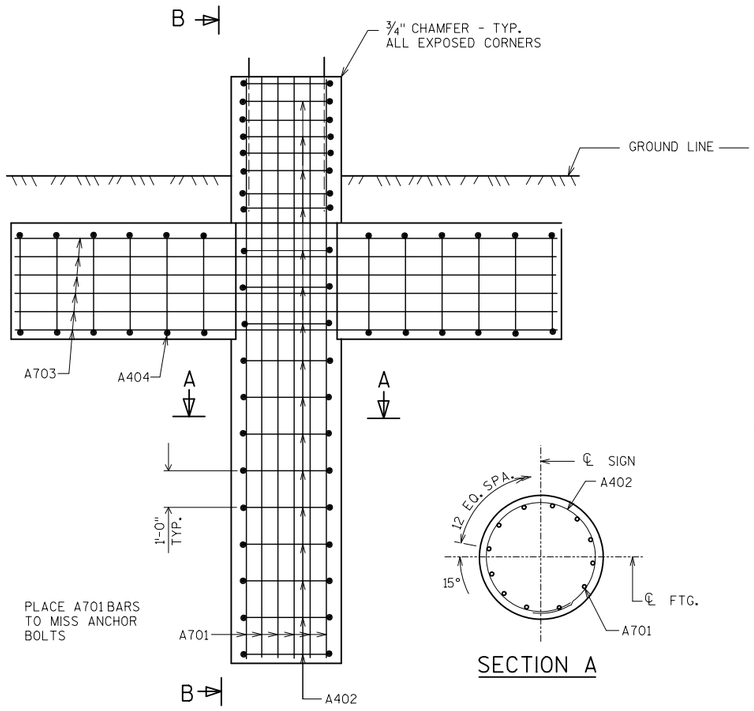
DATE:1/21/2014
I.D.

FILE= P:\Transportation\US 10 WIS 441\CADD\sheets\Structures\S-70-205&253\Sheets\04-S-70-205,253_details_2.dgn

8

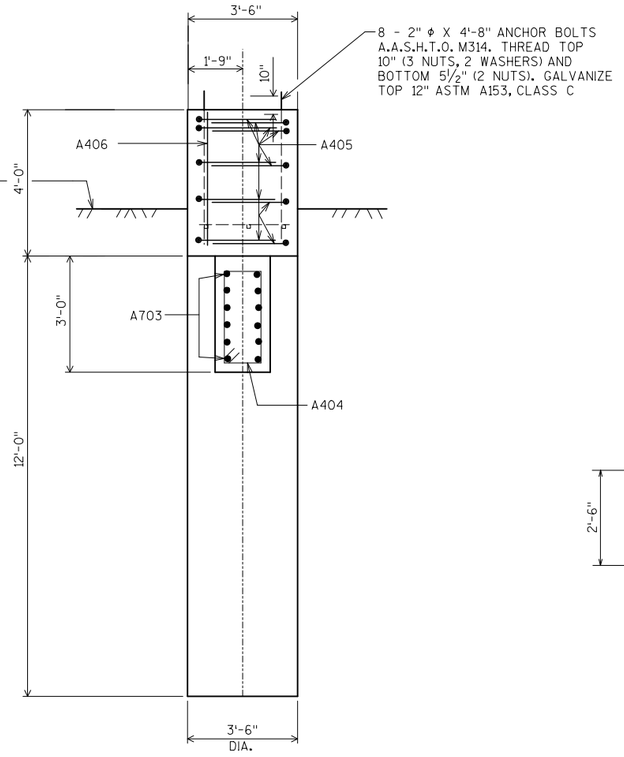
8

STATE PROJECT NUMBER
1517-07-72

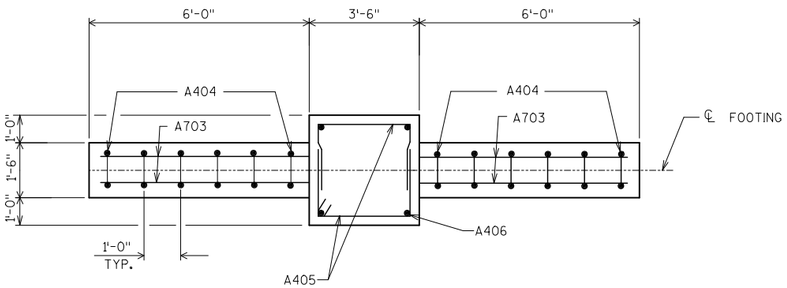


ELEVATION
(8 C.Y.)

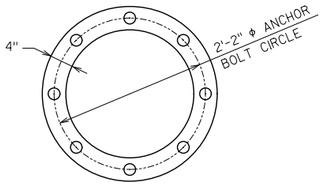
SECTION A



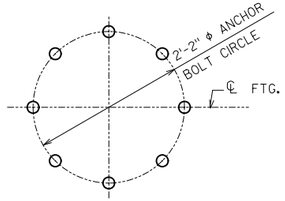
SECTION B

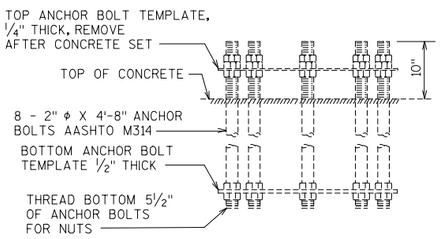


PLAN



TOP VIEW OF TOP &
BOTTOM TEMPLATES





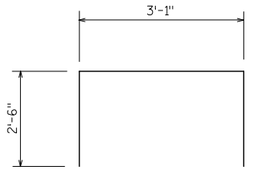
ANCHOR BOLT DETAILS

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

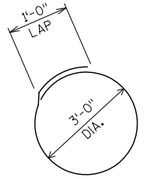
BILL OF BARS

980 LB.

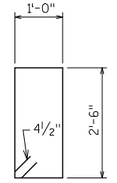
BAR MARK	COAT	NO. REQ'D	LENGTH	BENT	CUT. DIAG.	BUN-DLE	LOCATION
A701		12	15'-6"				FOOTING - COLUMN/TOP
A402		16	10'-6"	X			FOOTING - COLUMN/TOP
A703		12	15'-0"				FOOTING - WINGS
A404		12	7'-6"	X			FOOTING - WINGS
A405		10	7'-11"	X			FOOTING - TOP
A406		4	3'-6"				FOOTING - TOP - COLUMNS



A405



A402



A404
(STIRRUP)

GENERAL NOTES

DRAWINGS SHALL NOT BE SCALED.
BAR STEEL REINFORCEMENT SHALL
BE EMBEDDED 3" CLEAR UNLESS
DETAILED OTHERWISE.

ALLOWABLE DESIGN STRESSES

CONCRETE MASONRY ——— f'c=3,500 P.S.I.
HIGH STRENGTH BAR STEEL REINFORCEMENT,
GRADE 60 ——— fy=60,000 P.S.I.
ANCHOR BOLTS A.A.S.H.T.O. M314 ——— fy=55,000 P.S.I.

FOUNDATION DATA

ALLOWABLE SOIL BEARING PRESSURE = 2T/SF

TOTAL ESTIMATED QUANTITIES (1 FTG.)

SIGN SUPPORTS CONCRETE MASONRY ——— 8 C.Y.
SIGN SUPPORTS STEEL REINFORCEMENT HS ——— 980 LB.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURES S-70-205, 253

DRAWN BY KNW | PLANS CK'D. NLD

CANTILEVER
TRUSS FOOTING
S-70-253

SHEET 5 OF 7
466

FILE= P:\Transportation\US 10 WIS 441\CADD\sheets\Structures\S-70-205&253\Sheets\05-S-70-205,253_details_3.dgn

DATE: 1/21/2014
I.D.

8

8

STATE PROJECT NUMBER

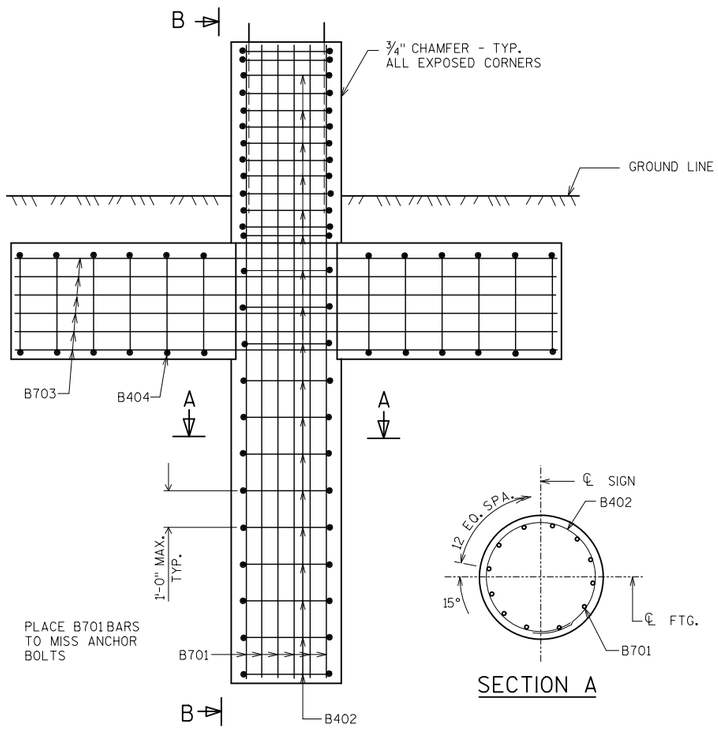
1517-07-72

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

BILL OF BARS

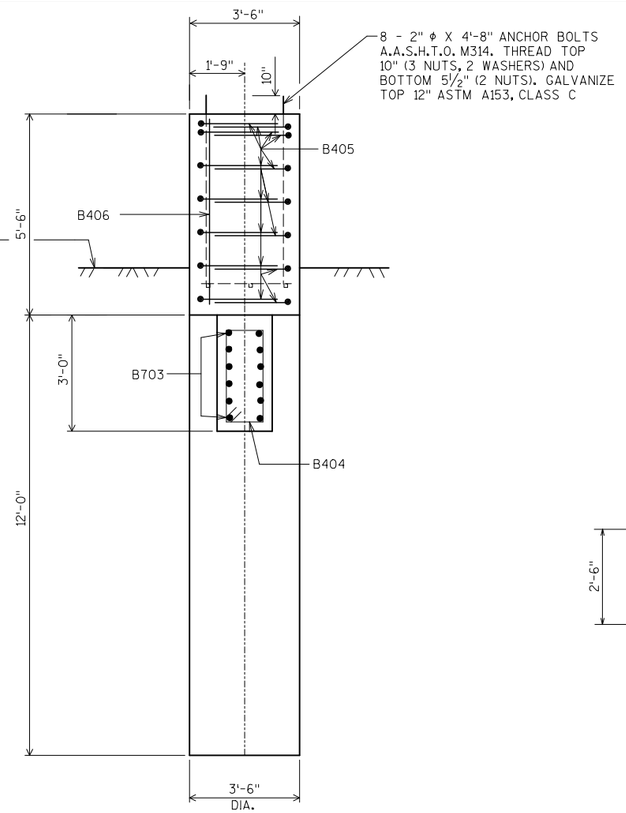
1060 LB.

BAR MARK	COAT	NO. REQ'D	LENGTH	BENT	CUT. DIAG.	BUN-DLE	LOCATION
B701		12	17'-0"				FOOTING - COLUMN/TOP
B402		18	10'-6"	X			FOOTING - COLUMN/TOP
B703		12	15'-0"				FOOTING - WINGS
B404		12	7'-6"	X			FOOTING - WINGS
B405		14	7'-11"	X			FOOTING - TOP
B406		4	5'-0"				FOOTING - TOP - COLUMNS

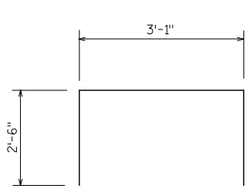


ELEVATION
(9 C.Y.)

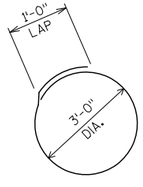
SECTION A



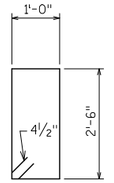
SECTION B



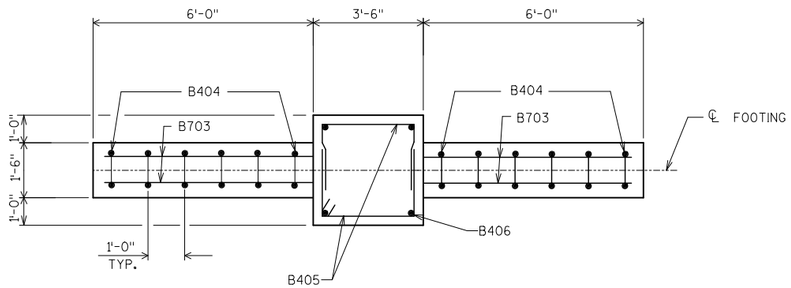
B405



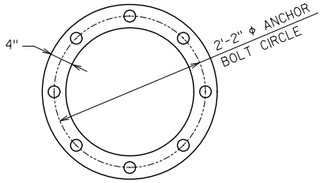
B402



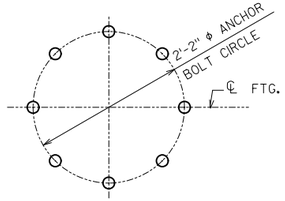
B404
(STIRRUP)

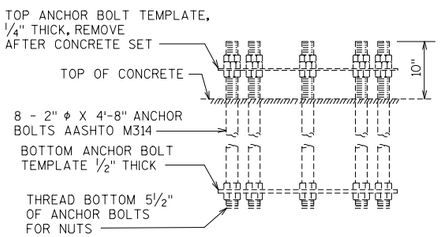


PLAN



TOP VIEW OF TOP & BOTTOM TEMPLATES





ANCHOR BOLT DETAILS

GENERAL NOTES

DRAWINGS SHALL NOT BE SCALED.
BAR STEEL REINFORCEMENT SHALL BE EMBEDDED 3" CLEAR UNLESS DETAILED OTHERWISE.

ALLOWABLE DESIGN STRESSES

CONCRETE MASONRY ——— f'c=3,500 P.S.I.
HIGH STRENGTH BAR STEEL REINFORCEMENT, GRADE 60 ——— fy=60,000 P.S.I.
ANCHOR BOLTS A.A.S.H.T.O. M314 ——— fy=55,000 P.S.I.

FOUNDATION DATA

ALLOWABLE SOIL BEARING PRESSURE = 2T/SF

TOTAL ESTIMATED QUANTITIES (1 FTG.)

SIGN SUPPORTS CONCRETE MASONRY ——— 9 C.Y.
SIGN SUPPORTS STEEL REINFORCEMENT HS ——— 1060 LB.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURES S-70-205, 253

DRAWN BY KNW | PLANS CK'D. NLD

MODIFIED CANTILEVER TRUSS FOOTING S-70-205

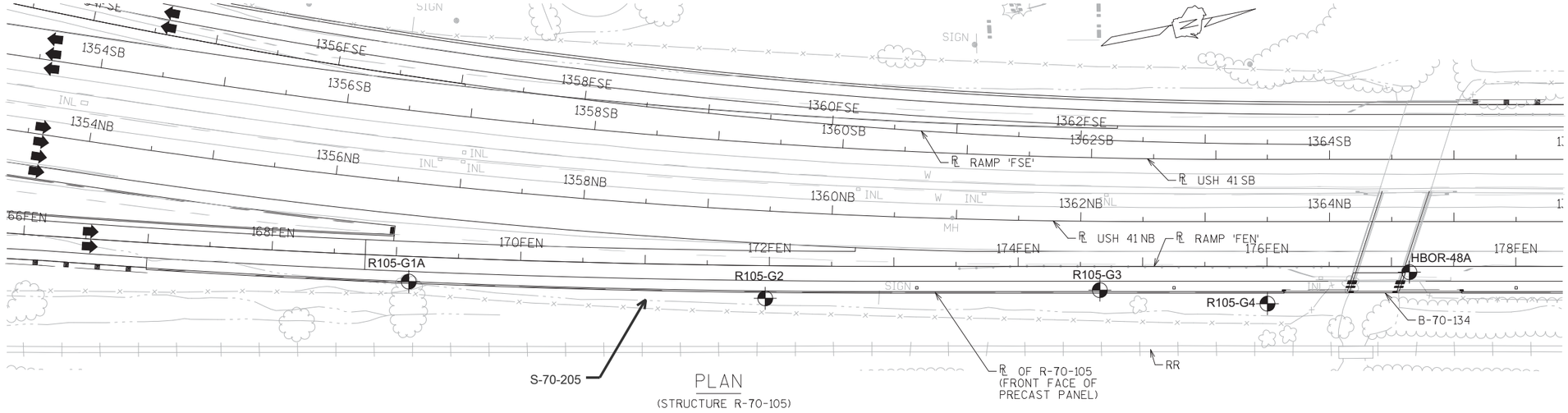
SHEET 6 OF 7

8

8

FILE= P:\Transportation\US 10 WIS 441\CADD\sheets\Structures\S-70-205&253\Sheets\06-S-70-205,253_details_4.dgn

DATE: 1/21/2014
I.D.



PLAN

(STRUCTURE R-70-105)

NOTE:

THE SUBSURFACE INFORMATION PRESENTED HEREIN IS AN ABBREVIATED VERSION OF THE INFORMATION PRESENTED IN THE GEOTECHNICAL ENGINEERING REPORT. REVIEW THE APPROPRIATE GEOTECHNICAL REPORT AND SOIL BORING LOGS FOR ADDITIONAL SUBSURFACE INFORMATION.

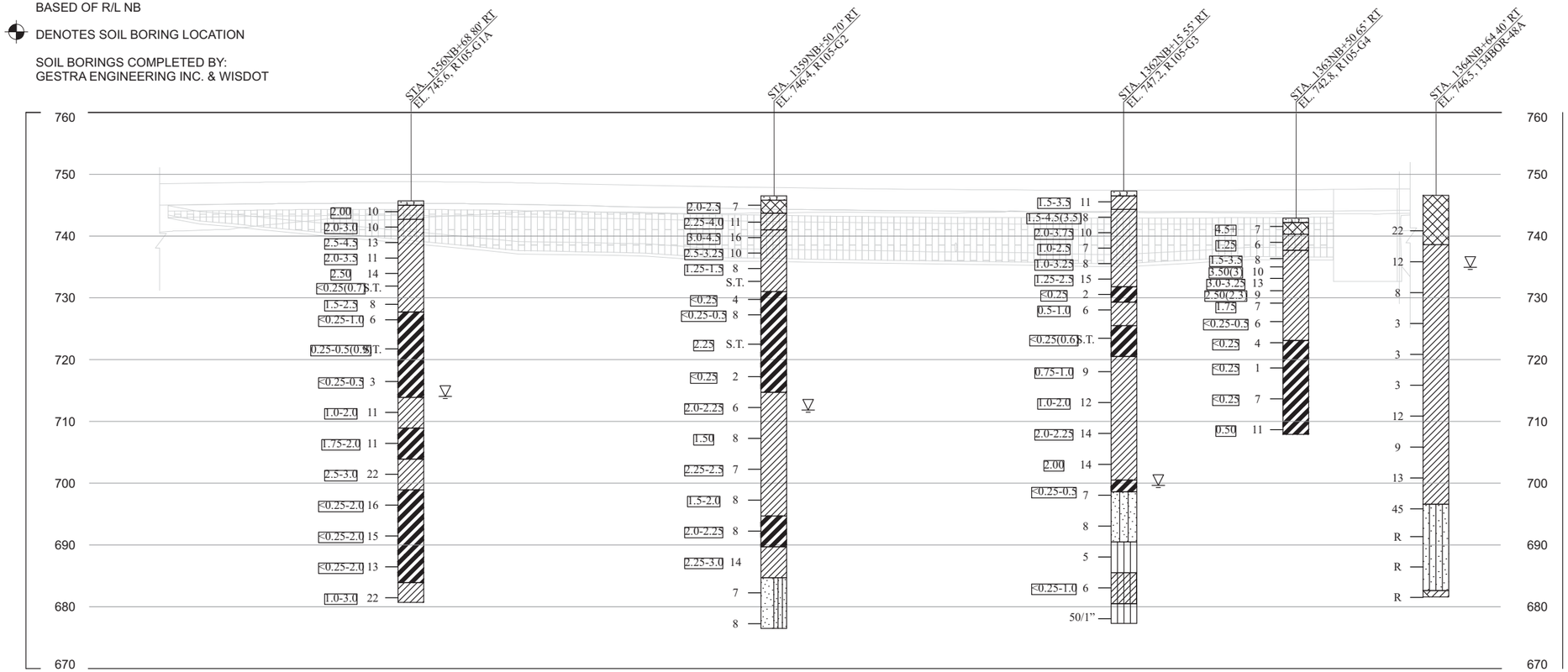
BORING STATIONS AND OFFSETS ARE BASED OF R/L NB

⊕ DENOTES SOIL BORING LOCATION

SOIL BORINGS COMPLETED BY:
GESTRA ENGINEERING INC. & WISDOT

SOIL BORING TAKEN:

2.12.2013 - BORING R105-G1A
2.13.2013 - BORING R105-G2
2.13.2013 - BORING R105-G3
7.23.2013 - BORING R105-G4
7.02.1991 - BORING HBOR-48A



NOTE: ▽ -WATER LEVEL DURING DRILLING

NOTE: BORING HBOR-48A WAS COMPLETED BY WISDOT IN 1991

STATE PROJECT NUMBER

1517-07-72

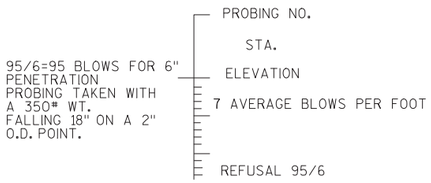
ABBREVIATIONS

F — FINE M — MEDIUM C — COARSE
WS — WEATHERED SO — SOUND

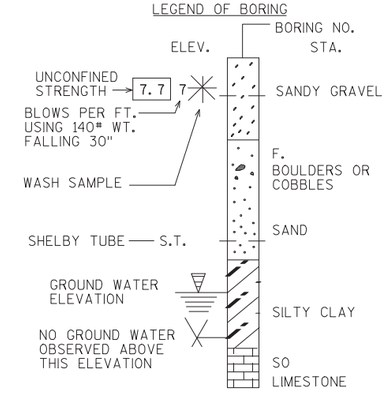
MATERIAL SYMBOLS

TOPSOIL | SILT | FAT CLAY
SAND | PEAT | DOLOMITE
GRAVEL | CLAY | FILL

LEGEND OF PROBING



LEGEND OF BORING



UNLESS OTHERWISE SPECIFIED, THE BLOWS PER FOOT AT THE LOCATIONS INDICATED ARE BASED ON DRIVING A 2" O.D. X 1.4" I.D. SPLIT SPOON SAMPLER WITH A 140# HAMMER HAVING A FREE FALL OF 30". THE BLOW COUNT IS TAKEN IN UNDISTURBED SOIL IMMEDIATELY BELOW A CASED OR OPEN HOLE ELIMINATING SIDE FRICTION ON THE DRIVE PIPE.

SUBSURFACE EXPLORATION FOR FOUNDATION DESIGN AND BIDDERS INFORMATION

TO OBTAIN RELATIVE DATA CONCERNING THE CHARACTER OF MATERIAL IN AND UPON WHICH THE FOUNDATION MIGHT BE BUILT, BORINGS AND/OR SOUNDINGS WERE MADE AT POINTS APPROXIMATELY AS INDICATED ON THIS DRAWING. THE DATA PRESENTED HEREIN REPRESENTS THE FINDINGS OF THE SUBSURFACE EXPLORATIONS MADE. HOWEVER, BECAUSE THE DEPTHS INVESTIGATED ARE LIMITED AND THE AREA OF THE BORINGS AND/OR SOUNDINGS IS VERY SMALL IN RELATION TO THE ENTIRE AREA, THE WISCONSIN DEPARTMENT OF TRANSPORTATION DOES NOT WARRANT CONDITIONS BELOW THE DEPTHS INVESTIGATED OR THAT THE CLASSIFICATION OF MATERIAL ENCOUNTERED IN THESE INVESTIGATIONS IS NECESSARILY TYPICAL OF THE ENTIRE SITE.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE S-70-205

DRAWN BY RHE | PLANS CK'D. SL

SUBSURFACE EXPLORATION

SHEET 7 OF 7
468

SCALE 1"=100'

FILE= P:\Transportation\US 10 WIS 441\CADD\sheets\Structures\R-70-105\Sheets\04-R-70-105_se.dgn

8

8

USH 10 WB

STATION		Distance	AREA (SF) Cut	AREA (SF) Fill	Incremental Vol (CY) (Unadjusted) Cut	Incremental Vol (CY) (Unadjusted) Fill	EBS	Structure Fill	Structure Excavation	Cumulative Vol (CY) Cut	Cumulative Vol (CY) Fill	Mass Ordinate
114+50	AH	0.00	3.70	43.60	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
115+00		50.00	14.70	88.20	17.04	122.04	0.00	0.00	0.00	17.04	122.04	-105.00
115+50		50.00	30.00	119.90	41.39	192.69	0.00	0.00	0.00	58.43	314.72	-256.30
116+00		50.00	48.80	157.70	72.96	257.04	0.00	0.00	0.00	131.39	571.76	-440.37
116+50		50.00	62.00	206.10	102.59	336.85	0.00	0.00	0.00	233.98	908.61	-674.63
117+00		50.00	70.70	258.50	122.87	430.19	0.00	0.00	0.00	356.85	1338.80	-981.94
117+50		50.00	68.10	276.50	128.52	495.37	0.00	0.00	0.00	485.37	1834.17	-1348.80
118+00		50.00	46.40	326.10	106.02	557.96	0.00	0.00	0.00	591.39	2392.13	-1800.74
118+50		50.00	79.50	371.40	116.57	645.83	0.00	0.00	0.00	707.96	3037.96	-2330.00
119+00		50.00	47.20	516.10	117.31	821.76	0.00	0.00	0.00	825.28	3859.72	-3034.44
119+50		50.00	66.10	657.90	104.91	1087.04	0.00	0.00	0.00	930.19	4946.76	-4016.57
120+00		50.00	75.50	797.50	131.11	1347.59	0.00	0.00	0.00	1061.30	6294.35	-5233.06
120+50		50.00	78.50	974.60	142.59	1640.83	0.00	0.00	0.00	1203.89	7935.19	-6731.30
121+00		50.00	92.40	1170.40	158.24	1986.11	0.00	0.00	0.00	1362.13	9921.30	-8559.17
121+50		50.00	93.40	1388.10	172.04	2368.98	0.00	0.00	0.00	1534.17	12290.28	-10756.11
122+00		50.00	70.40	1632.20	151.67	2796.57	0.00	0.00	0.00	1685.83	15086.85	-13401.02
122+50		50.00	47.70	1894.00	109.35	3265.00	0.00	0.00	0.00	1795.19	18351.85	-16556.67
123+00		50.00	26.00	2137.60	68.24	3732.96	0.00	0.00	0.00	1863.43	22084.81	-20221.39
123+50		50.00	23.80	2221.90	46.11	4036.57	0.00	0.00	0.00	1909.54	26121.39	-24211.85
124+00		50.00	134.80	2207.50	146.85	4101.30	0.00	0.00	0.00	2056.39	30222.69	-28166.30
124+50		50.00	3.50	2963.40	128.06	4787.87	0.00	0.00	0.00	2184.44	35010.56	-32826.11
125+00		50.00	3.10	3180.80	6.11	5689.07	0.00	0.00	0.00	2190.56	40699.63	-38509.07
125+50		50.00	0.40	3634.40	3.24	6310.37	0.00	0.00	0.00	2193.80	47010.00	-44816.20
126+00		50.00	0.00	4061.00	0.37	7125.37	0.00	0.00	0.00	2194.17	54135.37	-51941.20
126+50		50.00	0.90	3657.60	0.83	7146.85	0.00	0.00	0.00	2195.00	61282.22	-59087.22
127+00		50.00	0.90	1779.40	1.67	5034.26	0.00	0.00	0.00	2196.67	66316.48	-64119.81
127+50		50.00	1.60	1207.30	2.31	2765.46	0.00	0.00	0.00	2198.98	69081.94	-66882.96
128+00		50.00	1.20	2059.50	2.59	3024.81	0.00	0.00	0.00	2201.57	72106.76	-69905.19
128+50		50.00	1.00	3144.70	2.04	4818.70	0.00	0.00	0.00	2203.61	76925.46	-74721.85
129+00		50.00	0.00	4433.10	0.93	7016.48	0.00	0.00	0.00	2204.54	83941.94	-81737.41
129+50		50.00	0.00	5647.80	0.00	9334.17	0.00	0.00	0.00	2204.54	93276.11	-91071.57
130+00		50.00	0.00	6467.60	0.00	11217.96	0.00	0.00	0.00	2204.54	104494.07	-102289.54
130+50		50.00	0.00	7145.00	0.00	12604.26	0.00	0.00	0.00	2204.54	117098.33	-114893.80
131+00		50.00	0.00	7580.50	0.00	13634.72	0.00	0.00	0.00	2204.54	130733.06	-128528.52
131+50		50.00	0.00	7780.10	0.00	14222.78	0.00	0.00	0.00	2204.54	144955.83	-142751.30
132+00		50.00	0.00	5585.30	0.00	12375.37	0.00	0.00	0.00	2204.54	157331.20	-155126.67
132+50		50.00	0.00	2259.80	0.00	7263.98	0.00	0.00	0.00	2204.54	164595.19	-162390.65
133+00	BK	50.00	0.50	2.80	0.46	2095.00	0.00	0.00	0.00	2205.00	166690.19	-164485.19
				Column totals	2205.00	166690.19	0.00	0.00	0.00			

9

9

USH 41 NB 1

STATION	Distance	AREA (SF)		Incremental Vol (CY) (Unadjusted)					Cumulative Vol (CY)		Mass Ordinate
		Cut	Fill	Cut	Fill	EBS	Structure Fill	Structure Excavation	Cut	Fill	
1310+79 AH	0.00	35.30	0.10	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1311+00	20.76	34.90	0.20	26.99	0.12	0.00	0.00	0.00	26.99	0.12	26.87
1311+50	50.00	33.80	0.70	63.61	0.83	0.00	0.00	0.00	90.60	0.95	89.65
1312+00	50.00	33.50	1.30	62.31	1.85	0.00	0.00	0.00	152.91	2.80	150.11
1312+50	50.00	33.00	1.60	61.57	2.69	0.00	0.00	0.00	214.49	5.49	209.00
1313+00	50.00	33.90	1.10	61.94	2.50	0.00	0.00	0.00	276.43	7.99	268.45
1313+50	50.00	33.90	1.30	62.78	2.22	0.00	0.00	0.00	339.21	10.21	329.00
1314+00	50.00	36.00	0.70	64.72	1.85	0.00	0.00	0.00	403.93	12.06	391.87
1314+50	50.00	35.80	0.40	66.48	1.02	0.00	0.00	0.00	470.41	13.08	457.34
1315+00	50.00	35.10	0.70	65.65	1.02	0.00	0.00	0.00	536.06	14.10	521.97
1315+50	50.00	35.90	0.90	65.74	1.48	0.00	0.00	0.00	601.80	15.58	586.22
1316+00	50.00	35.10	0.70	65.74	1.48	0.00	0.00	0.00	667.54	17.06	650.48
1316+50	50.00	36.10	0.80	65.93	1.39	0.00	0.00	0.00	733.47	18.45	715.02
1317+00	50.00	36.10	0.90	66.85	1.57	0.00	0.00	0.00	800.32	20.02	780.30
1317+50	50.00	35.40	0.90	66.20	1.67	0.00	0.00	0.00	866.53	21.69	844.84
1318+00	50.00	35.10	0.60	65.28	1.39	0.00	0.00	0.00	931.80	23.08	908.72
1318+50	50.00	35.00	1.20	64.91	1.67	0.00	0.00	0.00	996.71	24.74	971.97
1319+00	50.00	33.40	1.10	63.33	2.13	0.00	0.00	0.00	1060.04	26.87	1033.17
1319+50	50.00	34.30	1.00	62.69	1.94	0.00	0.00	0.00	1122.73	28.82	1093.91
1320+00	50.00	34.60	1.20	63.80	2.04	0.00	0.00	0.00	1186.53	30.86	1155.67
1320+50	50.00	34.40	1.50	63.89	2.50	0.00	0.00	0.00	1250.41	33.36	1217.06
1320+66 BK	16.49	34.30	1.60	20.98	0.95	0.00	0.00	0.00	1271.39	34.30	1237.09
Column totals				1271.39	34.30	0.00	0.00	0.00			

USH 41 NB 2

STATION	Distance	AREA (SF)		Incremental Vol (CY) (Unadjusted)					Cumulative Vol (CY)		Mass Ordinate
		Cut	Fill	Cut	Fill	EBS	Structure Fill	Structure Excavation	Cut	Fill	
1356+52 AH	0.00	67.90	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1357+00	48.45	58.90	0.00	113.77	0.00	0.00	0.00	0.00	113.77	0.00	113.77
1357+50	50.00	49.80	0.00	100.65	0.00	0.00	0.00	0.00	214.42	0.00	214.42
1358+00	50.00	40.40	0.00	83.52	0.00	0.00	0.00	0.00	297.93	0.00	297.93
1358+50	50.00	111.30	3.60	140.46	3.33	0.00	0.00	0.00	438.40	3.33	435.06
1359+00	50.00	107.50	1.30	202.59	4.54	0.00	0.00	0.00	640.99	7.87	633.12
1359+50	50.00	107.10	0.70	198.70	1.85	0.00	0.00	0.00	839.69	9.72	829.97
1360+00	50.00	104.70	0.20	196.11	0.83	0.00	0.00	0.00	1035.80	10.56	1025.25
1360+50	50.00	100.60	0.50	190.09	0.65	0.00	0.00	0.00	1225.90	11.20	1214.69
1361+00	50.00	108.00	0.00	193.15	0.46	0.00	0.00	0.00	1419.05	11.67	1407.38
1361+50	50.00	100.70	0.00	193.24	0.00	0.00	0.00	0.00	1612.29	11.67	1600.62
1362+00	50.00	103.40	0.00	188.98	0.00	0.00	0.00	0.00	1801.27	11.67	1789.60
1362+50	50.00	101.40	0.10	189.63	0.09	0.00	0.00	0.00	1990.90	11.76	1979.14
1363+00	50.00	101.10	0.10	187.50	0.19	0.00	0.00	0.00	2178.40	11.94	2166.45
1363+50	50.00	97.80	0.30	184.17	0.37	0.00	0.00	0.00	2362.56	12.31	2350.25
1364+00	50.00	72.20	3.70	157.41	3.70	0.00	0.00	0.00	2519.97	16.02	2503.95
1364+14 BK	14.26	50.90	53.80	32.51	15.18	0.00	0.00	0.00	2552.48	31.20	2521.28
			Column totals	2552.48	31.20	0.00	23.37	1266.10			

USH 41 NB 3

STATION	Distance	AREA (SF)		Incremental Vol (CY) (Unadjusted)					Cumulative Vol (CY)		Mass Ordinate
		Cut	Fill	Cut	Fill	EBS	Structure Fill	Structure Excavation	Cut	Fill	
1364+74 AH	0.00	66.30	6.50	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1365+00	25.85	73.60	3.30	66.97	4.69	0.00	0.00	0.00	66.97	4.69	62.28
1365+50	50.00	52.90	4.90	117.13	7.59	0.00	0.00	0.00	184.10	12.28	171.82
1366+00	50.00	54.80	3.10	99.72	7.41	0.00	0.00	0.00	283.82	19.69	264.13
1366+50	50.00	51.60	4.00	98.52	6.57	0.00	0.00	0.00	382.34	26.27	356.08
1367+00	50.00	61.00	1.30	104.26	4.91	0.00	0.00	0.00	486.60	31.17	455.43
1367+50	50.00	58.30	0.60	110.46	1.76	0.00	0.00	0.00	597.06	32.93	564.13
1368+00	50.00	59.40	0.10	108.98	0.65	0.00	0.00	0.00	706.04	33.58	672.46
1368+50	50.00	61.10	0.00	111.57	0.09	0.00	0.00	0.00	817.62	33.67	783.95
1369+00	50.00	62.50	0.00	114.44	0.00	0.00	0.00	0.00	932.06	33.67	898.39
1369+50	50.00	71.60	0.00	124.17	0.00	0.00	0.00	0.00	1056.23	33.67	1022.56
1370+00	50.00	75.80	0.00	136.48	0.00	0.00	0.00	0.00	1192.71	33.67	1159.04
1370+50	50.00	69.50	0.70	134.54	0.65	0.00	0.00	0.00	1327.25	34.32	1292.93
1371+00	50.00	79.30	1.30	137.78	1.85	0.00	0.00	0.00	1465.03	36.17	1428.85
1371+50	50.00	86.80	3.40	153.80	4.35	0.00	0.00	0.00	1618.82	40.52	1578.30
1372+00	50.00	77.30	1.70	151.94	4.72	0.00	0.00	0.00	1770.77	45.25	1725.52
1372+50	50.00	68.20	1.20	134.72	2.69	0.00	0.00	0.00	1905.49	47.93	1857.56
1373+00	50.00	69.60	0.30	127.59	1.39	0.00	0.00	0.00	2033.08	49.32	1983.76
1373+50	50.00	68.30	0.10	127.69	0.37	0.00	0.00	0.00	2160.77	49.69	2111.08
1374+00	50.00	70.00	0.00	128.06	0.09	0.00	0.00	0.00	2288.82	49.78	2239.04
1374+50	50.00	65.60	0.00	125.56	0.00	0.00	0.00	0.00	2414.38	49.78	2364.59
1375+00	50.00	60.90	0.00	117.13	0.00	0.00	0.00	0.00	2531.51	49.78	2481.72
1375+50	50.00	61.10	0.00	112.96	0.00	0.00	0.00	0.00	2644.47	49.78	2594.69
1376+00	50.00	66.60	0.00	118.24	0.00	0.00	0.00	0.00	2762.71	49.78	2712.93
1376+50	50.00	68.40	0.00	125.00	0.00	0.00	0.00	0.00	2887.71	49.78	2837.93
1377+00	50.00	62.00	0.00	120.74	0.00	0.00	0.00	0.00	3008.45	49.78	2958.67
1377+50	50.00	61.20	0.00	114.07	0.00	0.00	0.00	0.00	3122.53	49.78	3072.74
1378+00	50.00	66.10	0.00	117.87	0.00	0.00	0.00	0.00	3240.40	49.78	3190.61
1378+50	50.00	66.10	0.00	122.41	0.00	0.00	0.00	0.00	3362.80	49.78	3313.02
1379+00	50.00	61.10	0.00	117.78	0.00	0.00	0.00	0.00	3480.58	49.78	3430.80
1379+50	50.00	56.20	0.00	108.61	0.00	0.00	0.00	0.00	3589.19	49.78	3539.41
1380+00	50.00	55.70	0.00	103.61	0.00	0.00	0.00	0.00	3692.80	49.78	3643.02
1380+50	50.00	59.90	0.00	107.04	0.00	0.00	0.00	0.00	3799.84	49.78	3750.06
1381+00	50.00	61.50	0.10	112.41	0.09	0.00	0.00	0.00	3912.25	49.88	3862.37
1381+50	50.00	60.80	0.10	113.24	0.19	0.00	0.00	0.00	4025.49	50.06	3975.43
1382+00	50.00	57.70	0.30	109.72	0.37	0.00	0.00	0.00	4135.21	50.43	4084.78
1382+50	50.00	60.00	0.70	108.98	0.93	0.00	0.00	0.00	4244.19	51.36	4192.83
1383+00	50.00	57.00	0.80	108.33	1.39	0.00	0.00	0.00	4352.53	52.75	4299.78
1383+50	50.00	53.70	1.10	102.50	1.76	0.00	0.00	0.00	4455.03	54.51	4400.52
1384+00	50.00	57.00	3.30	102.50	4.07	0.00	0.00	0.00	4557.53	58.58	4498.95
1384+50	50.00	53.90	6.20	102.69	8.80	0.00	0.00	0.00	4660.21	67.38	4592.83
1385+00	50.00	52.30	1.40	98.33	7.04	0.00	0.00	0.00	4758.54	74.41	4684.13
1385+50	50.00	59.30	0.00	103.33	1.30	0.00	0.00	0.00	4861.88	75.71	4786.17
1386+00	50.00	66.10	32.40	116.11	30.00	0.00	0.00	0.00	4977.99	105.71	4872.28
1386+50	50.00	68.20	17.80	124.35	46.48	0.00	0.00	0.00	5102.34	152.19	4950.15
1387+00	50.00	52.00	10.30	111.30	26.02	0.00	0.00	0.00	5213.64	178.21	5035.43
1387+40 BK	39.79	54.20	5.10	78.25	11.35	0.00	0.00	0.00	5291.89	189.56	5102.33
Column totals				5291.89	189.56	0.00	33.65	828.20			

FEN RAMP 1

STATION	Distance	AREA (SF) Cut	AREA (SF) Fill	Incremental Vol (CY) (Unadjusted) Cut	Incremental Vol (CY) (Unadjusted) Fill	EBS	Structure Fill	Structure Excavation	Cumulative Vol (CY) Cut	Cumulative Vol (CY) Fill	Mass Ordinate
118+50 AH	0.00	10.70	11.60	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
119+00	50.00	30.80	37.50	38.43	45.46	0.00	0.00	0.00	38.43	45.46	-7.04
119+50	50.00	38.30	82.30	63.98	110.93	0.00	0.00	0.00	102.41	156.39	-53.98
120+00	50.00	31.60	194.90	64.72	256.67	0.00	0.00	0.00	167.13	413.06	-245.93
120+50	50.00	130.60	446.20	150.19	593.61	0.00	0.00	0.00	317.31	1006.67	-689.35
121+00	50.00	180.30	386.40	287.87	770.93	0.00	0.00	0.00	605.19	1777.59	-1172.41
121+50	50.00	265.80	403.90	413.06	731.76	0.00	0.00	0.00	1018.24	2509.35	-1491.11
122+00	50.00	243.60	501.40	471.67	838.24	0.00	0.00	0.00	1489.91	3347.59	-1857.69
122+50	50.00	202.00	705.30	412.59	1117.31	0.00	0.00	0.00	1902.50	4464.91	-2562.41
123+00	50.00	84.70	864.00	265.46	1453.06	0.00	0.00	0.00	2167.96	5917.96	-3750.00
123+50	50.00	0.00	856.70	78.43	1593.24	0.00	0.00	0.00	2246.39	7511.20	-5264.81
124+00	50.00	0.00	770.30	0.00	1506.48	0.00	0.00	0.00	2246.39	9017.69	-6771.30
124+50	50.00	0.00	735.10	0.00	1393.89	0.00	0.00	0.00	2246.39	10411.57	-8165.19
125+00	50.00	0.00	638.10	0.00	1271.48	0.00	0.00	0.00	2246.39	11683.06	-9436.67
125+50	50.00	0.00	384.20	0.00	946.57	0.00	0.00	0.00	2246.39	12629.63	-10383.24
125+65 BK	15.00	0.00	327.70	0.00	197.75	0.00	0.00	0.00	2246.39	12827.38	-10580.99
	Column totals			2246.39	12827.38	0.00	0.00	0.00			

FEN RAMP 2

STATION	Distance	AREA (SF) Cut	AREA (SF) Fill	Incremental Vol (CY) (Unadjusted) Cut	Incremental Vol (CY) (Unadjusted) Fill	EBS	Structure Fill	Structure Excavation	Cumulative Vol (CY) Cut	Cumulative Vol (CY) Fill	Mass Ordinate
136+66 AH	0.00	0.00	2.64	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
137+00	34.00	0.00	1305.98	0.00	823.95	0.00	0.00	0.00	0.00	823.95	-823.95
137+50	50.00	16.80	2835.80	15.56	3834.98	0.00	0.00	0.00	15.56	4658.93	-4643.37
138+00	50.00	20.56	2389.55	34.59	4838.29	0.00	0.00	0.00	50.15	9497.21	-9447.07
138+50	50.00	38.04	2007.69	54.26	4071.52	0.00	0.00	0.00	104.41	13568.73	-13464.33
139+00	50.00	57.58	1689.76	88.54	3423.56	0.00	0.00	0.00	192.94	16992.30	-16799.35
139+50	50.00	77.48	1380.63	125.06	2842.95	0.00	0.00	0.00	318.00	19835.25	-19517.25
140+00	50.00	88.64	1096.92	153.81	2294.03	0.00	0.00	0.00	471.81	22129.28	-21657.46
140+50	50.00	90.25	802.81	165.64	1759.01	0.00	0.00	0.00	637.45	23888.29	-23250.83
141+00	50.00	82.37	578.49	159.83	1278.98	0.00	0.00	0.00	797.29	25167.27	-24369.98
141+50	50.00	67.59	442.39	138.85	945.26	0.00	0.00	0.00	936.14	26112.53	-25176.39
142+00	50.00	65.30	277.81	123.05	666.85	0.00	0.00	0.00	1059.19	26779.38	-25720.20
142+50 BK	50.00	67.24	128.79	122.72	376.48	0.00	0.00	0.00	1181.91	27155.86	-25973.96
	Column totals			1181.91	27155.86	0.00	0.00	0.00			

FEN RAMP 3

STATION	Distance	AREA (SF)		Incremental Vol (CY) (Unadjusted)					Cumulative Vol (CY)		Mass Ordinate
		Cut	Fill	Cut	Fill	EBS	Structure Fill	Structure Excavation	Cut	Fill	
152+92 AH	0.00	415.10	1.80	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
153+00	8.00	415.70	8.60	123.08	1.54	0.00	0.00	0.00	123.08	1.54	121.54
153+50	50.00	432.40	32.10	785.28	37.69	0.00	0.00	0.00	908.36	39.23	869.13
154+00	50.00	473.30	38.80	838.61	65.65	0.00	0.00	0.00	1746.97	104.87	1642.10
154+50	50.00	468.10	18.00	871.67	52.59	0.00	0.00	0.00	2618.64	157.47	2461.17
155+00	50.00	473.40	0.00	871.76	16.67	0.00	0.00	0.00	3490.40	174.13	3316.26
155+50	50.00	431.20	0.00	837.59	0.00	0.00	0.00	0.00	4327.99	174.13	4153.86
156+00	50.00	363.60	0.00	735.93	0.00	0.00	0.00	0.00	5063.91	174.13	4889.78
156+50	50.00	272.00	0.90	588.52	0.83	0.00	0.00	0.00	5652.43	174.97	5477.47
157+00	50.00	228.10	0.20	463.06	1.02	0.00	0.00	0.00	6115.49	175.99	5939.50
157+50	50.00	216.70	0.00	411.85	0.19	0.00	0.00	0.00	6527.34	176.17	6351.17
158+00	50.00	188.00	0.00	374.72	0.00	0.00	0.00	0.00	6902.06	176.17	6725.89
158+50	50.00	171.30	0.00	332.69	0.00	0.00	0.00	0.00	7234.75	176.17	7058.58
159+00	50.00	170.10	0.00	316.11	0.00	0.00	0.00	0.00	7550.86	176.17	7374.69
159+50	50.00	161.00	0.00	306.57	0.00	0.00	0.00	0.00	7857.43	176.17	7681.26
160+00	50.00	147.80	0.00	285.93	0.00	0.00	0.00	0.00	8143.36	176.17	7967.19
160+50	50.00	134.80	0.00	261.67	0.00	0.00	0.00	0.00	8405.03	176.17	8228.86
161+00	50.00	117.70	0.00	233.80	0.00	0.00	0.00	0.00	8638.82	176.17	8462.65
161+50	50.00	112.60	0.00	213.24	0.00	0.00	0.00	0.00	8852.06	176.17	8675.89
162+00	50.00	153.60	2.40	246.48	2.22	0.00	0.00	0.00	9098.54	178.39	8920.15
162+50	50.00	144.20	1.70	275.74	3.80	0.00	0.00	0.00	9374.29	182.19	9192.10
163+00	50.00	132.80	1.80	256.48	3.24	0.00	0.00	0.00	9630.77	185.43	9445.34
163+50	50.00	101.40	6.80	216.85	7.96	0.00	0.00	0.00	9847.62	193.39	9654.23
164+00	50.00	88.50	18.50	175.83	23.43	0.00	0.00	0.00	10023.45	216.82	9806.63
164+50	50.00	94.30	20.70	169.26	36.30	0.00	0.00	0.00	10192.71	253.11	9939.60
165+00	50.00	89.80	31.00	170.46	47.87	0.00	0.00	0.00	10363.17	300.99	10062.19
165+50	50.00	77.10	45.10	154.54	70.46	0.00	0.00	0.00	10517.71	371.45	10146.26
166+00	50.00	60.10	51.80	127.04	89.72	0.00	0.00	0.00	10644.75	461.17	10183.58
166+50	50.00	48.80	66.50	100.83	109.54	0.00	0.00	0.00	10745.58	570.71	10174.87
167+00	50.00	42.20	71.80	84.26	128.06	0.00	0.00	0.00	10829.84	698.76	10131.08
167+50	50.00	49.60	49.10	85.00	111.94	0.00	0.00	0.00	10914.84	810.71	10104.13
168+00	50.00	63.20	44.20	104.44	86.39	0.00	0.00	0.00	11019.29	897.10	10122.19
168+50	50.00	65.80	35.40	119.44	73.70	0.00	0.00	0.00	11138.73	970.80	10167.93
169+00	50.00	50.50	25.30	107.69	56.20	0.00	0.00	0.00	11246.41	1027.00	10219.41
169+50	50.00	61.00	15.70	103.24	37.96	0.00	0.00	0.00	11349.66	1064.97	10284.69
170+00	50.00	68.50	11.20	119.91	24.91	0.00	0.00	0.00	11469.56	1089.87	10379.69
170+50	50.00	76.50	7.60	134.26	17.41	0.00	0.00	0.00	11603.82	1107.28	10496.54
170+75 BK	25.00	78.30	5.10	71.67	5.88	0.00	0.00	0.00	11675.49	1113.16	10562.33
Column totals				11675.49	1113.16	1400.00	190.15	389.23			

NOTE: EBS IS ANTICIPATED BUT MAY NOT BE REQUIRED.
COORDINATE EBS WITH ENGINEER.

FNE RAMP 1

STATION	Distance	AREA (SF)		Incremental Vol (CY) (Unadjusted)					Cumulative Vol (CY)		Mass Ordinate
		Cut	Fill	Cut	Fill	EBS	Structure Fill	Structure Excavation	Cut	Fill	
1323+20 AH	0.00	171.90	23.50	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1323+50	30.00	126.90	40.90	166.00	35.78	0.00	0.00	0.00	166.00	35.78	130.22
1324+00	50.00	68.40	84.40	180.83	116.02	0.00	0.00	0.00	346.83	151.80	195.04
1324+50	50.00	5.70	238.70	68.61	299.17	0.00	0.00	0.00	415.44	450.96	-35.52
1325+00	50.00	5.30	402.40	10.19	593.61	0.00	0.00	0.00	425.63	1044.57	-618.94
1325+50	50.00	10.70	500.90	14.81	836.39	0.00	0.00	0.00	440.44	1880.96	-1440.52
1326+00	50.00	0.00	581.20	9.91	1001.94	0.00	0.00	0.00	450.35	2882.91	-2432.56
1326+50	50.00	0.00	644.50	0.00	1134.91	0.00	0.00	0.00	450.35	4017.81	-3567.46
1327+00	50.00	0.00	709.80	0.00	1253.98	0.00	0.00	0.00	450.35	5271.80	-4821.44
1327+50	50.00	0.00	864.90	0.00	1458.06	0.00	0.00	0.00	450.35	6729.85	-6279.50
1328+00	50.00	0.00	1068.50	0.00	1790.19	0.00	0.00	0.00	450.35	8520.04	-8069.69
1328+50	50.00	0.00	1320.80	0.00	2212.31	0.00	0.00	0.00	450.35	10732.35	-10282.00
1329+00	50.00	0.00	1685.70	0.00	2783.80	0.00	0.00	0.00	450.35	13516.15	-13065.80
1329+50	50.00	0.00	1846.90	0.00	3270.93	0.00	0.00	0.00	450.35	16787.07	-16336.72
1330+00	50.00	0.00	1773.00	0.00	3351.76	0.00	0.00	0.00	450.35	20138.83	-19688.48
1330+50	50.00	0.00	1477.90	0.00	3010.09	0.00	0.00	0.00	450.35	23148.93	-22698.57
1331+00	50.00	0.00	270.50	0.00	1618.89	0.00	0.00	0.00	450.35	24767.81	-24317.46
1331+10 BK	10.00	0.00	75.50	0.00	64.07	0.00	0.00	0.00	450.35	24831.89	-24381.54
Column totals				450.35	24831.89	0.00	1373.97	289.97			

FNE RAMP 2

STATION	Distance	AREA (SF)		Incremental Vol (CY) (Unadjusted)					Cumulative Vol (CY)		Mass Ordinate
		Cut	Fill	Cut	Fill	EBS	Structure Fill	Structure Excavation	Cut	Fill	
1335+25 AH	0.00	0.00	299.60	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1335+50	25.00	0.00	1442.10	0.00	806.34	0.00	0.00	0.00	0.00	806.34	-806.34
1336+00	50.00	0.00	3499.10	0.00	4575.19	0.00	0.00	0.00	0.00	5381.53	-5381.53
1336+50	50.00	0.00	3868.40	0.00	6821.76	0.00	0.00	0.00	0.00	12203.29	-12203.29
1337+00	50.00	0.00	3851.30	0.00	7147.87	0.00	0.00	0.00	0.00	19351.16	-19351.16
1337+50	50.00	0.00	3927.10	0.00	7202.22	0.00	0.00	0.00	0.00	26553.38	-26553.38
1338+00	50.00	0.00	4083.00	0.00	7416.76	0.00	0.00	0.00	0.00	33970.14	-33970.14
1338+50	50.00	0.00	3486.30	0.00	7008.61	0.00	0.00	0.00	0.00	40978.75	-40978.75
1339+00	50.00	0.00	2819.50	0.00	5838.70	0.00	0.00	0.00	0.00	46817.45	-46817.45
1339+50	50.00	0.00	3030.40	0.00	5416.57	0.00	0.00	0.00	0.00	52234.03	-52234.03
1340+00	50.00	0.00	3326.70	0.00	5886.20	0.00	0.00	0.00	0.00	58120.23	-58120.23
1340+50	50.00	0.00	3234.20	0.00	6074.91	0.00	0.00	0.00	0.00	64195.14	-64195.14
1341+00	50.00	0.00	2640.40	0.00	5439.44	0.00	0.00	0.00	0.00	69634.58	-69634.58
1341+50	50.00	14.80	1347.60	13.70	3692.59	0.00	0.00	0.00	13.70	73327.18	-73313.47
1342+00	50.00	123.30	370.20	127.87	1590.56	0.00	0.00	0.00	141.57	74917.73	-74776.16
1342+50	50.00	388.50	0.00	473.89	342.78	0.00	0.00	0.00	615.46	75260.51	-74645.05
1342+70 BK	20.00	313.00	0.00	259.81	0.00	0.00	0.00	0.00	875.28	75260.51	-74385.23
			Column totals	875.28	75260.51	0.00	0.00	0.00			

FNW RAMP 1

STATION	Distance	AREA (SF)		Incremental Vol (CY) (Unadjusted)					Cumulative Vol (CY)		Mass Ordinate
		Cut	Fill	Cut	Fill	EBS	Structure Fill	Structure Excavation	Cut	Fill	
1307+90 AH	0.00	426.70	4.20	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1308+00	9.79	430.70	0.00	155.44	0.76	0.00	0.00	0.00	155.44	0.76	154.68
1308+50	50.00	437.10	0.00	803.52	0.00	0.00	0.00	0.00	958.96	0.76	958.20
1309+00	50.00	465.10	0.00	835.37	0.00	0.00	0.00	0.00	1794.33	0.76	1793.57
1309+50	50.00	480.30	0.00	875.37	0.00	0.00	0.00	0.00	2669.70	0.76	2668.94
1310+00	50.00	481.30	0.00	890.37	0.00	0.00	0.00	0.00	3560.07	0.76	3559.31
1310+50	50.00	492.30	0.00	901.48	0.00	0.00	0.00	0.00	4461.55	0.76	4460.79
1311+00	50.00	445.50	0.00	868.33	0.00	0.00	0.00	0.00	5329.89	0.76	5329.13
1311+50	50.00	494.70	0.00	870.56	0.00	0.00	0.00	0.00	6200.44	0.76	6199.68
1312+00	50.00	544.80	0.00	962.50	0.00	0.00	0.00	0.00	7162.94	0.76	7162.18
1312+50	50.00	561.40	0.00	1024.26	0.00	0.00	0.00	0.00	8187.20	0.76	8186.44
1313+00	50.00	548.90	0.00	1028.06	0.00	0.00	0.00	0.00	9215.26	0.76	9214.50
1313+50	50.00	508.60	0.00	979.17	0.00	0.00	0.00	0.00	10194.42	0.76	10193.66
1314+00	50.00	489.10	4.00	923.80	3.70	0.00	0.00	0.00	11118.22	4.47	11113.76
1314+50	50.00	452.60	0.00	871.94	3.70	0.00	0.00	0.00	11990.17	8.17	11982.00
1315+00	50.00	398.30	0.00	787.87	0.00	0.00	0.00	0.00	12778.04	8.17	12769.87
1315+50	50.00	386.90	0.00	727.04	0.00	0.00	0.00	0.00	13505.07	8.17	13496.90
1316+00	50.00	356.20	0.00	688.06	0.00	0.00	0.00	0.00	14193.13	8.17	14184.96
1316+50	50.00	340.00	0.00	644.63	0.00	0.00	0.00	0.00	14837.76	8.17	14829.59
1317+00	50.00	347.40	0.00	636.48	0.00	0.00	0.00	0.00	15474.24	8.17	15466.07
1317+50	50.00	336.00	0.00	632.78	0.00	0.00	0.00	0.00	16107.02	8.17	16098.85
1318+00	50.00	318.70	0.00	606.20	0.00	0.00	0.00	0.00	16713.22	8.17	16705.05
1318+50	50.00	312.60	0.00	584.54	0.00	0.00	0.00	0.00	17297.76	8.17	17289.59
1319+00	50.00	316.20	0.00	582.22	0.00	0.00	0.00	0.00	17879.98	8.17	17871.81
1319+50	50.00	302.80	0.00	573.15	0.00	0.00	0.00	0.00	18453.13	8.17	18444.96
1320+00	50.00	314.10	0.00	571.20	0.00	0.00	0.00	0.00	19024.33	8.17	19016.16
1320+50	50.00	326.60	0.00	593.24	0.00	0.00	0.00	0.00	19617.57	8.17	19609.40
1321+00	50.00	327.70	0.00	605.83	0.00	0.00	0.00	0.00	20223.41	8.17	20215.24
1321+50	50.00	319.80	0.00	599.54	0.00	0.00	0.00	0.00	20822.94	8.17	20814.77
1322+00	50.00	307.70	0.00	581.02	0.00	0.00	0.00	0.00	21403.96	8.17	21395.79
1322+50	50.00	267.10	13.20	532.22	12.22	0.00	0.00	0.00	21936.18	20.39	21915.79
1323+00	50.00	241.00	24.10	470.46	34.54	0.00	0.00	0.00	22406.65	54.93	22351.72
1323+50	50.00	45.00	0.70	264.81	22.96	0.00	0.00	0.00	22671.46	77.89	22593.57
1324+00	50.00	39.30	4.10	78.06	4.44	0.00	0.00	0.00	22749.52	82.34	22667.18
1324+50 BK	50.00	15.50	3.40	50.74	6.94	0.00	0.00	0.00	22800.26	89.28	22710.98
Column totals				22800.26	89.28	0.00	0.00	0.00			

FNW RAMP 2

STATION	Distance	AREA (SF)		Incremental Vol (CY) (Unadjusted)					Cumulative Vol (CY)			Mass Ordinate
		Cut	Fill	Cut	Fill	EBS	Structure Fill	Structure Excavation	Cut	Fill	Structure Excavation	
1334+00 AH	0.00	1264.10	57.90	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1334+50	50.00	1468.70	102.90	2530.37	148.89	0.00	0.00	0.00	2530.37	148.89	0.00	2381.48
1335+00	50.00	1308.00	150.80	2571.02	234.91	0.00	0.00	0.00	5101.39	383.80	0.00	4717.59
1335+50	50.00	1067.40	250.70	2199.44	371.76	0.00	0.00	0.00	7300.83	755.56	0.00	6545.28
1336+00	50.00	921.20	402.30	1841.30	604.63	0.00	0.00	0.00	9142.13	1360.19	0.00	7781.94
1336+50	50.00	484.70	650.60	1301.76	974.91	0.00	0.00	0.00	10443.89	2335.09	0.00	8108.80
1337+00	50.00	0.00	961.30	448.80	1492.50	0.00	0.00	0.00	10892.69	3827.59	0.00	7065.09
1337+50	50.00	0.00	656.70	0.00	1498.15	0.00	0.00	0.00	10892.69	5325.74	0.00	5566.94
1338+00 BK	50.00	0.00	37.30	0.00	642.59	0.00	0.00	0.00	10892.69	5968.33	0.00	4924.35
			Column totals	10892.69	5968.33	0.00	0.00	0.00				

FWN RAMP

STATION	Distance	AREA (SF) Cut	AREA (SF) Fill	Incremental Vol (CY) (Unadjusted) Cut	Fill	EBS	Structure Fill	Structure Excavation	Cumulative Vol (CY) Cut	Fill	Mass Ordinate
128+01 AH	0.00	21.70	7.30	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
128+50	48.82	21.50	19.00	39.06	23.78	0.00	0.00	0.00	39.06	23.78	15.28
129+00	50.00	23.30	12.30	41.48	28.98	0.00	0.00	0.00	80.54	52.76	27.78
129+50	50.00	26.40	16.30	46.02	26.48	0.00	0.00	0.00	126.56	79.24	47.32
130+00	50.00	30.80	29.30	52.96	42.22	0.00	0.00	0.00	179.52	121.46	58.06
130+50	50.00	28.70	45.90	55.09	69.63	0.00	0.00	0.00	234.61	191.09	43.52
131+00	50.00	27.30	60.90	51.85	98.89	0.00	0.00	0.00	286.46	289.98	-3.52
131+50	50.00	21.30	36.40	45.00	90.09	0.00	0.00	0.00	331.46	380.07	-48.61
132+00	50.00	14.40	47.00	33.06	77.22	0.00	0.00	0.00	364.52	457.30	-92.78
132+50	50.00	7.60	88.60	20.37	125.56	0.00	0.00	0.00	384.89	582.85	-197.96
133+00	50.00	9.30	131.40	15.65	203.70	0.00	0.00	0.00	400.54	786.55	-386.02
133+50	50.00	4.90	181.60	13.15	289.81	0.00	0.00	0.00	413.69	1076.37	-662.68
134+00	50.00	2.10	219.10	6.48	371.02	0.00	0.00	0.00	420.17	1447.39	-1027.22
134+50	50.00	2.60	283.70	4.35	465.56	0.00	0.00	0.00	424.52	1912.94	-1488.42
135+00	50.00	3.50	411.20	5.65	643.43	0.00	0.00	0.00	430.17	2556.37	-2126.20
135+50	50.00	2.30	696.10	5.37	1025.28	0.00	0.00	0.00	435.54	3581.65	-3146.11
136+00	50.00	6.10	806.30	7.78	1391.11	0.00	0.00	0.00	443.32	4972.76	-4529.44
136+50	50.00	17.40	798.80	21.76	1486.20	0.00	0.00	0.00	465.07	6458.96	-5993.89
136+82 BK	31.76	0.00	355.30	10.23	678.78	0.00	0.00	0.00	475.31	7137.74	-6662.44
	Column totals			475.31	7137.74	0.00	1203.41	641.22			

FWS RAMP

STATION	Distance	AREA (SF) Cut	AREA (SF) Fill	Incremental Vol (CY) (Unadjusted) Cut	Fill	EBS	Structure Fill	Structure Excavation	Cumulative Vol (CY) Cut	Fill	Mass Ordinate
113+00 AH	0.00	0.00	23.40	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
113+50	50.00	0.00	70.80	0.00	87.22	0.00	0.00	0.00	0.00	87.22	-87.22
114+00	50.00	0.00	124.80	0.00	181.11	0.00	0.00	0.00	0.00	268.33	-268.33
114+50	50.00	0.00	214.50	0.00	314.17	0.00	0.00	0.00	0.00	582.50	-582.50
115+00	50.00	0.00	342.30	0.00	515.56	0.00	0.00	0.00	0.00	1098.06	-1098.06
115+50	50.00	0.00	537.80	0.00	814.91	0.00	0.00	0.00	0.00	1912.96	-1912.96
116+00	50.00	0.00	610.60	0.00	1063.33	0.00	0.00	0.00	0.00	2976.30	-2976.30
116+50	50.00	0.00	648.00	0.00	1165.37	0.00	0.00	0.00	0.00	4141.67	-4141.67
117+00	50.00	2.60	921.00	2.41	1452.78	0.00	0.00	0.00	2.41	5594.44	-5592.04
117+50	50.00	9.80	1220.40	11.48	1982.78	0.00	0.00	0.00	13.89	7577.22	-7563.33
118+00	50.00	0.00	2519.40	9.07	3462.78	0.00	0.00	0.00	22.96	11040.00	-11017.04
118+50	50.00	0.00	3455.60	0.00	5532.41	0.00	0.00	0.00	22.96	16572.41	-16549.44
119+00	50.00	0.00	1978.80	0.00	5031.85	0.00	0.00	0.00	22.96	21604.26	-21581.30
119+45 BK	44.57	0.00	7.20	0.00	1639.19	0.00	0.00	0.00	22.96	23243.44	-23220.48
	Column totals			22.96	23243.44	0.00	0.00	0.00			

DITCH 1

STATION		Distance	AREA (SF)		Incremental Vol (CY) (Unadjusted)					Cumulative Vol (CY)		Mass Ordinate
			Cut	Fill	Cut	Fill	EBS	Structure Fill	Structure Excavation	Cut	Fill	
10+00	AH	0.00	33.90	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
10+25		25.00	107.31	0.00	65.38	0.00	0.00	0.00	0.00	65.38	0.00	65.38
10+50		25.00	110.23	0.00	100.71	0.00	0.00	0.00	0.00	166.09	0.00	166.09
10+75		25.00	114.17	0.00	103.89	0.00	0.00	0.00	0.00	269.98	0.00	269.98
11+00		25.00	121.89	0.00	109.29	0.00	0.00	0.00	0.00	379.26	0.00	379.26
11+25		25.00	124.24	0.00	113.95	0.00	0.00	0.00	0.00	493.21	0.00	493.21
11+50		25.00	121.99	0.00	114.00	0.00	0.00	0.00	0.00	607.21	0.00	607.21
11+67	BK	17.00	37.09	0.00	50.08	0.00	0.00	0.00	0.00	657.29	0.00	657.29
				Column totals	657.29	0.00	0.00	0.00	0.00			

DITCH 2

STATION		Distance	AREA (SF)		Incremental Vol (CY) (Unadjusted)					Cumulative Vol (CY)		Mass Ordinate
			Cut	Fill	Cut	Fill	EBS	Structure Fill	Structure Excavation	Cut	Fill	
20+00	AH	0.00	219.19	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
20+50		50.00	222.60	0.00	409.06	0.00	0.00	0.00	0.00	409.06	0.00	409.06
21+00		50.00	222.63	0.00	412.25	0.00	0.00	0.00	0.00	821.31	0.00	821.31
21+50		50.00	220.90	0.00	410.68	0.00	0.00	0.00	0.00	1231.99	0.00	1231.99
22+00		50.00	218.94	0.00	407.26	0.00	0.00	0.00	0.00	1639.25	0.00	1639.25
22+50		50.00	218.08	0.00	404.65	0.00	0.00	0.00	0.00	2043.90	0.00	2043.90
23+00		50.00	210.77	0.00	397.08	0.00	0.00	0.00	0.00	2440.98	0.00	2440.98
23+50		50.00	214.76	0.00	394.01	0.00	0.00	0.00	0.00	2834.99	0.00	2834.99
24+00		50.00	234.35	0.00	415.84	0.00	0.00	0.00	0.00	3250.83	0.00	3250.83
24+50		50.00	247.91	0.00	446.54	0.00	0.00	0.00	0.00	3697.37	0.00	3697.37
25+00		50.00	251.98	0.00	462.86	0.00	0.00	0.00	0.00	4160.23	0.00	4160.23
25+50		50.00	255.24	0.00	469.65	0.00	0.00	0.00	0.00	4629.88	0.00	4629.88
26+00		50.00	275.40	0.00	491.33	0.00	0.00	0.00	0.00	5121.21	0.00	5121.21
26+09	BK	9.33	282.28	0.00	96.35	0.00	0.00	0.00	0.00	5217.57	0.00	5217.57
				Column totals	5217.57	0.00	0.00	0.00	0.00			

TNE RAMP

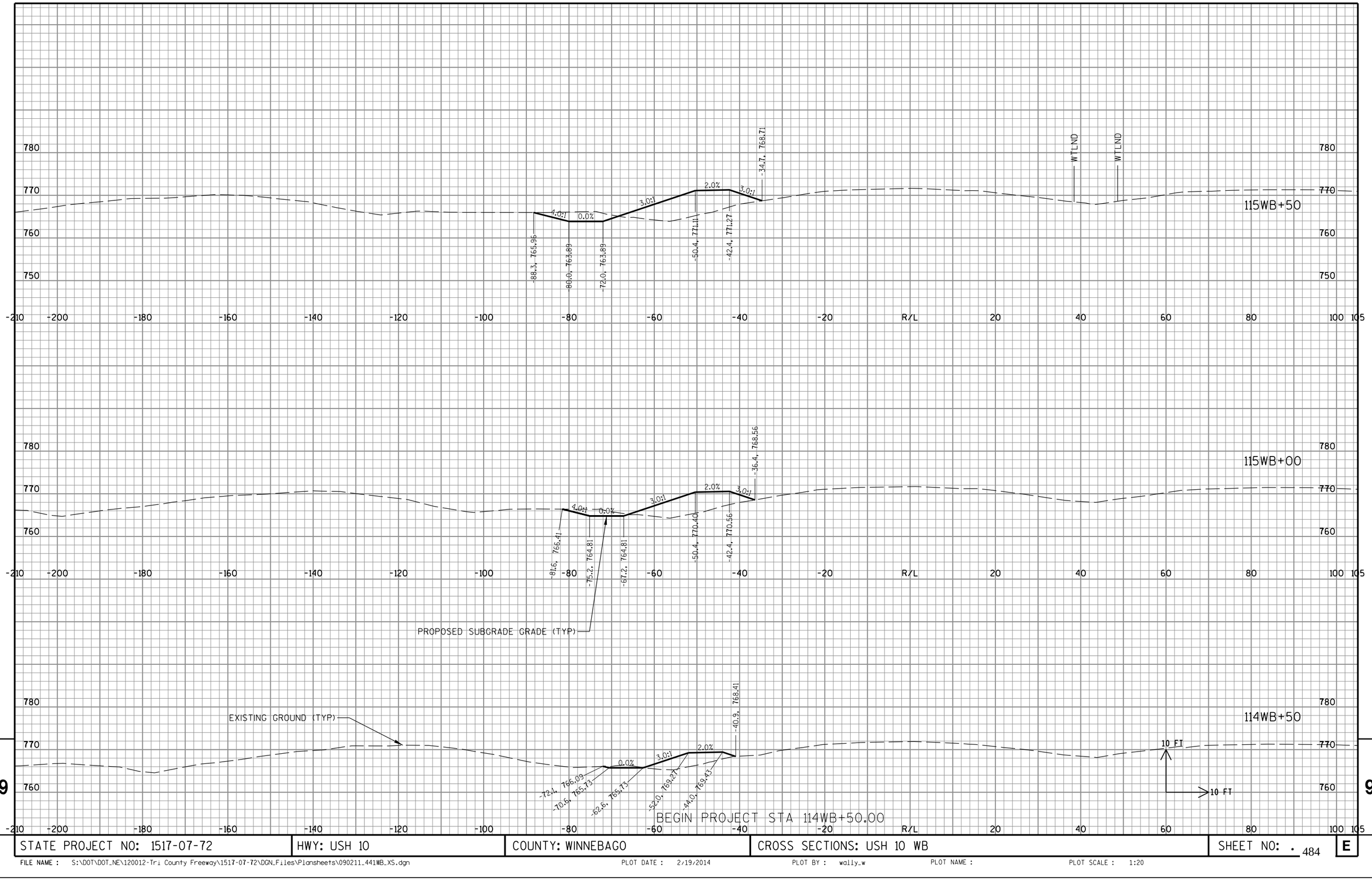
STATION	Distance	AREA (SF)		Incremental Vol (CY) (Unadjusted)					Cumulative Vol (CY)		Mass Ordinate
		Cut	Fill	Cut	Fill	EBS	Structure Fill	Structure Excavation	Cut	Fill	
20+66 AH	0.00	34.50	1.60	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
21+00	34.25	37.70	2.60	45.79	2.66	0.00	0.00	0.00	45.79	2.66	43.13
21+50	50.00	42.80	2.90	74.54	5.09	0.00	0.00	0.00	120.33	7.76	112.57
22+00	50.00	46.00	3.20	82.22	5.65	0.00	0.00	0.00	202.55	13.40	189.15
22+50	50.00	43.70	2.30	83.06	5.09	0.00	0.00	0.00	285.61	18.50	267.11
23+00	50.00	42.30	1.50	79.63	3.52	0.00	0.00	0.00	365.24	22.02	343.22
23+50	50.00	57.80	0.40	92.69	1.76	0.00	0.00	0.00	457.92	23.78	434.15
24+00	50.00	74.40	0.30	122.41	0.65	0.00	0.00	0.00	580.33	24.42	555.91
24+50	50.00	43.10	0.90	108.80	1.11	0.00	0.00	0.00	689.13	25.53	663.59
25+00	50.00	40.70	0.80	77.59	1.57	0.00	0.00	0.00	766.72	27.11	739.61
25+50	50.00	27.80	2.30	63.43	2.87	0.00	0.00	0.00	830.15	29.98	800.17
26+00	50.00	16.40	8.80	40.93	10.28	0.00	0.00	0.00	871.07	40.26	830.81
26+50	50.00	14.70	31.40	28.80	37.22	0.00	0.00	0.00	899.87	77.48	822.39
27+00	50.00	8.80	89.70	21.76	112.13	0.00	0.00	0.00	921.63	189.61	732.02
27+50	50.00	12.80	187.60	20.00	256.76	0.00	0.00	0.00	941.63	446.37	495.26
28+00	50.00	25.90	265.70	35.83	419.72	0.00	0.00	0.00	977.46	866.09	111.37
28+50	50.00	27.60	247.20	49.54	474.91	0.00	0.00	0.00	1027.00	1341.00	-314.00
29+00	50.00	26.80	71.30	50.37	294.91	0.00	0.00	0.00	1077.37	1635.90	-558.54
29+33 BK	32.57	29.50	0.00	33.96	43.00	0.00	0.00	0.00	1111.32	1678.91	-567.58
Column totals				1111.32	1678.91	0.00	0.00	0.00			

TWN RAMP

STATION		Distance	AREA (SF) Cut	AREA (SF) Fill	Incremental Vol (CY) (Unadjusted) Cut	Fill	EBS	Structure Fill	Structure Excavation	Cumulative Vol (CY) Cut	Fill	Mass Ordinate
35+57	AH	0.00	24.20	199.50	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
36+00		42.52	21.80	195.30	36.22	310.87	0.00	0.00	0.00	36.22	310.87	-274.65
36+50		50.00	22.40	185.00	40.93	352.13	0.00	0.00	0.00	77.15	663.00	-585.85
37+00		50.00	6.00	50.50	26.30	218.06	0.00	0.00	0.00	103.44	881.05	-777.61
37+50		50.00	47.90	1.30	49.91	47.96	0.00	0.00	0.00	153.35	929.02	-775.67
38+00		50.00	52.90	84.70	93.33	79.63	0.00	0.00	0.00	246.68	1008.65	-761.96
38+50		50.00	18.40	451.50	66.02	496.48	0.00	0.00	0.00	312.70	1505.13	-1192.43
39+00		50.00	0.70	564.00	17.69	940.28	0.00	0.00	0.00	330.39	2445.41	-2115.02
39+50		50.00	1.50	495.60	2.04	981.11	0.00	0.00	0.00	332.42	3426.52	-3094.09
40+00		50.00	2.30	371.60	3.52	802.96	0.00	0.00	0.00	335.94	4229.48	-3893.54
40+50		50.00	2.80	288.30	4.72	611.02	0.00	0.00	0.00	340.67	4840.50	-4499.83
41+00		50.00	4.90	203.50	7.13	455.37	0.00	0.00	0.00	347.79	5295.87	-4948.07
41+50		50.00	9.50	129.40	13.33	308.24	0.00	0.00	0.00	361.13	5604.11	-5242.98
42+00		50.00	11.50	75.50	19.44	189.72	0.00	0.00	0.00	380.57	5793.83	-5413.26
42+50		50.00	12.60	40.90	22.31	107.78	0.00	0.00	0.00	402.89	5901.61	-5498.72
43+00		50.00	11.90	13.30	22.69	50.19	0.00	0.00	0.00	425.57	5951.79	-5526.22
43+50		50.00	13.90	2.30	23.89	14.44	0.00	0.00	0.00	449.46	5966.24	-5516.78
44+00		50.00	39.10	1.50	49.07	3.52	0.00	0.00	0.00	498.54	5969.76	-5471.22
44+50		50.00	38.70	1.10	72.04	2.41	0.00	0.00	0.00	570.57	5972.16	-5401.59
45+00		50.00	36.90	0.80	70.00	1.76	0.00	0.00	0.00	640.57	5973.92	-5333.35
45+50		50.00	33.20	0.70	64.91	1.39	0.00	0.00	0.00	705.48	5975.31	-5269.83
46+00		50.00	34.70	0.60	62.87	1.20	0.00	0.00	0.00	768.35	5976.52	-5208.17
46+50		50.00	37.50	0.30	66.85	0.83	0.00	0.00	0.00	835.20	5977.35	-5142.15
47+00		50.00	37.30	4.60	69.26	4.54	0.00	0.00	0.00	904.46	5981.89	-5077.43
47+50	BK	50.00	44.30	0.00	75.56	4.26	0.00	0.00	0.00	980.02	5986.15	-5006.13
				Column totals	980.02	5986.15	0.00	0.00	0.00			

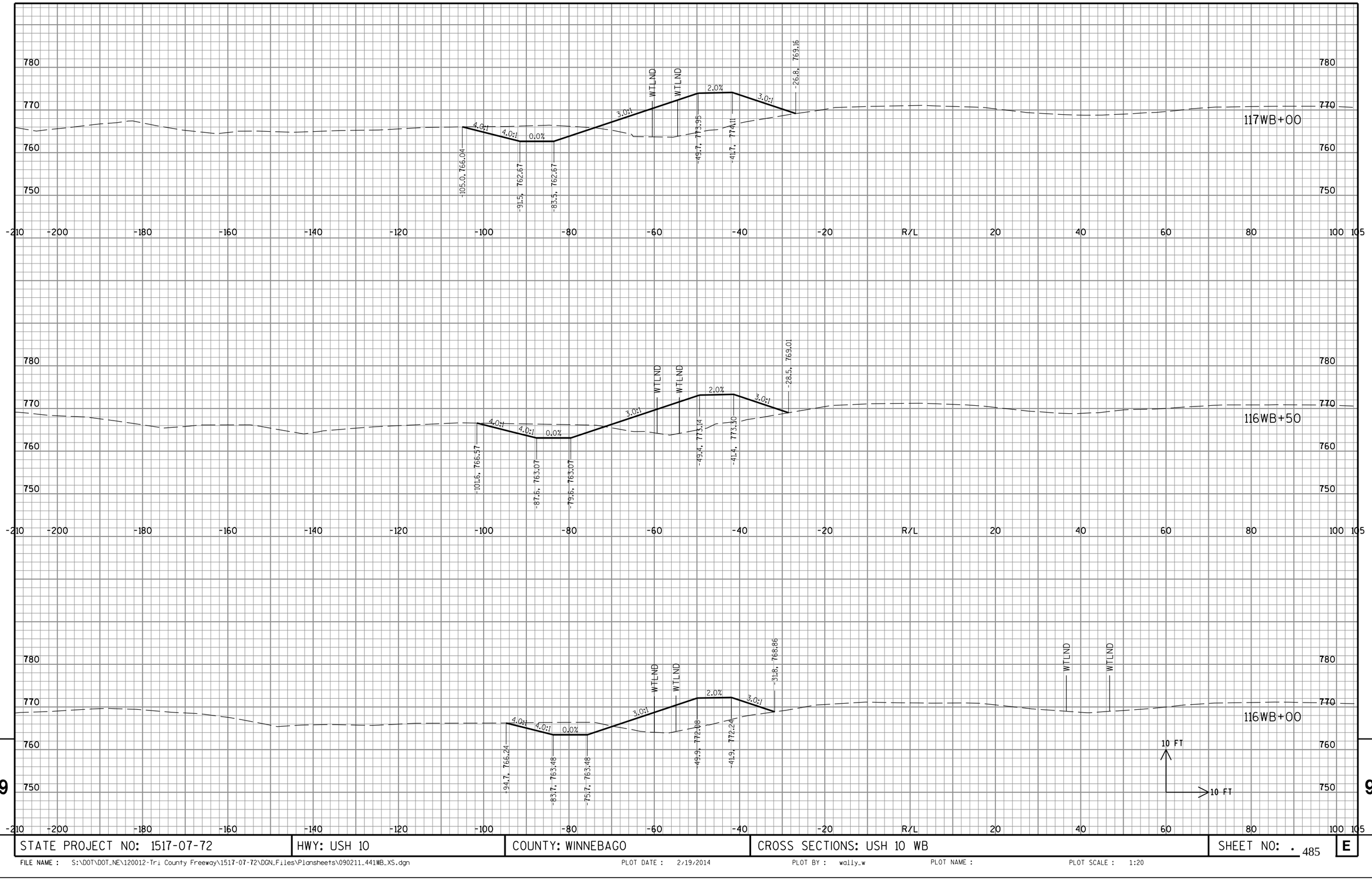
DIVISION 1 - Early Fill

STATION	Real Station	Distance	AREA (SF) Cut	AREA (SF) Fill	AREA (SF) EBS (In Cross Sections)	AREA (SF) Structure Excavation (In Cross Sections)	Incremental Vol (CY) (Unadjusted) Cut	Incremental Vol (CY) (Unadjusted) Fill	Incremental Vol (CY) (Unadjusted) EBS	Incremental Vol (CY) (Unadjusted) Structure Excavation	Cumulative Vol (CY) Cut	Cumulative Vol (CY) Fill	Cumulative Vol (CY) EBS	Cumulative Vol (CY) Structure Excavation	Mass Ordinate
179+63 AH	17963.00	0.00	28.83	63.98	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
179+75	17975.00	12.00	91.69	69.32	0.00	0.00	26.78	29.62	0.00	0.00	26.78	29.62	0.00	0.00	-2.84
180+00	18000.00	25.00	58.71	117.17	0.00	0.00	69.63	77.31	0.00	0.00	96.41	106.93	0.00	0.00	-10.52
180+25	18025.00	25.00	63.62	221.26	0.00	0.00	56.63	109.20	0.00	0.00	153.05	216.12	0.00	0.00	-63.08
180+50	18050.00	25.00	88.03	289.27	0.00	0.00	70.21	140.93	0.00	0.00	223.25	357.05	0.00	0.00	-133.80
180+75	18075.00	25.00	70.57	332.33	0.00	0.00	73.43	168.72	0.00	0.00	296.68	525.77	0.00	0.00	-229.09
181+00	18100.00	25.00	39.87	329.83	0.00	0.00	51.13	188.25	0.00	0.00	347.81	714.02	0.00	0.00	-366.21
181+25	18125.00	25.00	79.12	516.66	0.00	0.00	55.09	224.52	0.00	0.00	402.90	938.54	0.00	0.00	-535.64
181+50	18150.00	25.00	98.46	471.90	0.00	0.00	82.21	457.67	0.00	0.00	485.11	1396.21	0.00	0.00	-911.09
181+75	18175.00	25.00	157.98	490.82	0.00	0.00	118.72	445.70	0.00	0.00	603.83	1841.91	0.00	0.00	-1238.08
182+00	18200.00	25.00	73.67	546.82	0.00	0.00	107.25	480.39	0.00	0.00	711.08	2322.30	0.00	0.00	-1611.22
182+25	18225.00	25.00	77.89	513.50	0.00	0.00	70.17	490.89	0.00	0.00	781.25	2813.19	0.00	0.00	-2031.94
182+50	18250.00	25.00	119.23	830.90	0.00	0.00	91.26	622.41	0.00	0.00	872.50	3435.59	0.00	0.00	-2563.09
182+75	18275.00	25.00	165.39	1274.24	0.00	0.00	131.77	974.60	0.00	0.00	1004.27	4410.20	0.00	0.00	-3405.92
183+00	18300.00	25.00	155.60	1144.94	0.00	0.00	148.61	1119.99	0.00	0.00	1152.88	5530.19	0.00	0.00	-4377.31
183+25	18325.00	25.00	130.52	633.34	0.00	0.00	132.46	823.28	0.00	0.00	1285.34	6353.47	0.00	0.00	-5068.12
183+50	18350.00	25.00	131.85	209.98	0.00	0.00	121.47	390.43	0.00	0.00	1406.81	6743.89	0.00	0.00	-5337.08
183+75 BK	18375.00	25.00	119.55	146.22	0.00	0.00	116.39	164.91	0.00	0.00	1523.20	6908.80	0.00	0.00	-5385.60
						Column totals	1523.20	6908.80	0.00	0.00					



STATE PROJECT NO: 1517-07-72	HWY: USH 10	COUNTY: WINNEBAGO	CROSS SECTIONS: USH 10 WB	SHEET NO: . 484	E

FILE NAME : S:\DOT\DOT_NE\120012-Tri County Freeway\1517-07-72\DGN_Files\Plansheets\090211_441WB_XS.dgn PLOT DATE : 2/19/2014 PLOT BY : wally_w PLOT NAME : PLOT SCALE : 1:20

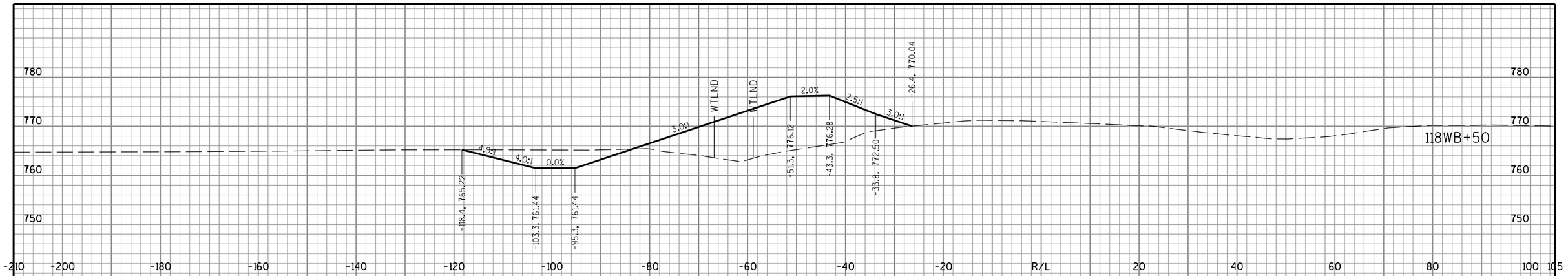


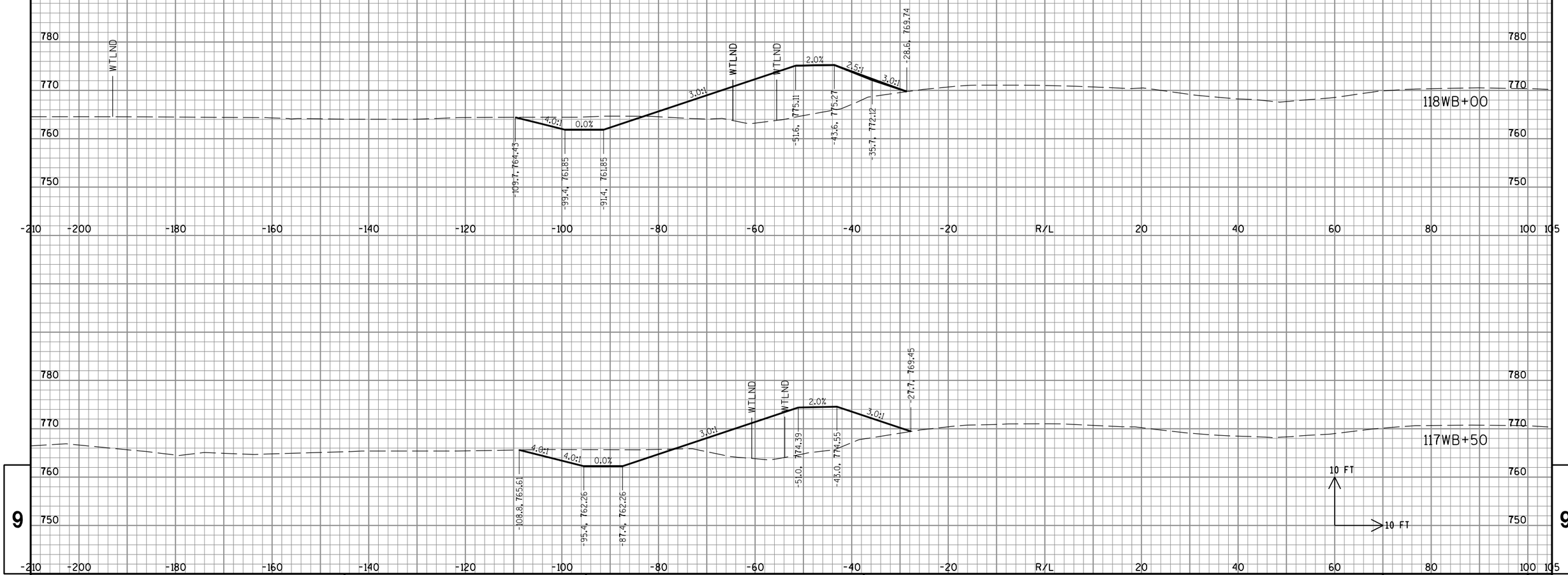
9

9

STATE PROJECT NO: 1517-07-72	HWY: USH 10	COUNTY: WINNEBAGO	CROSS SECTIONS: USH 10 WB	SHEET NO: . 485	E

FILE NAME : S:\DOT\DOT_NE\120012-Tri County Freeway\1517-07-72\DGN_Files\Plansheets\090211_441WB_XS.dgn PLOT DATE : 2/19/2014 PLOT BY : wally_w PLOT NAME : PLOT SCALE : 1:20



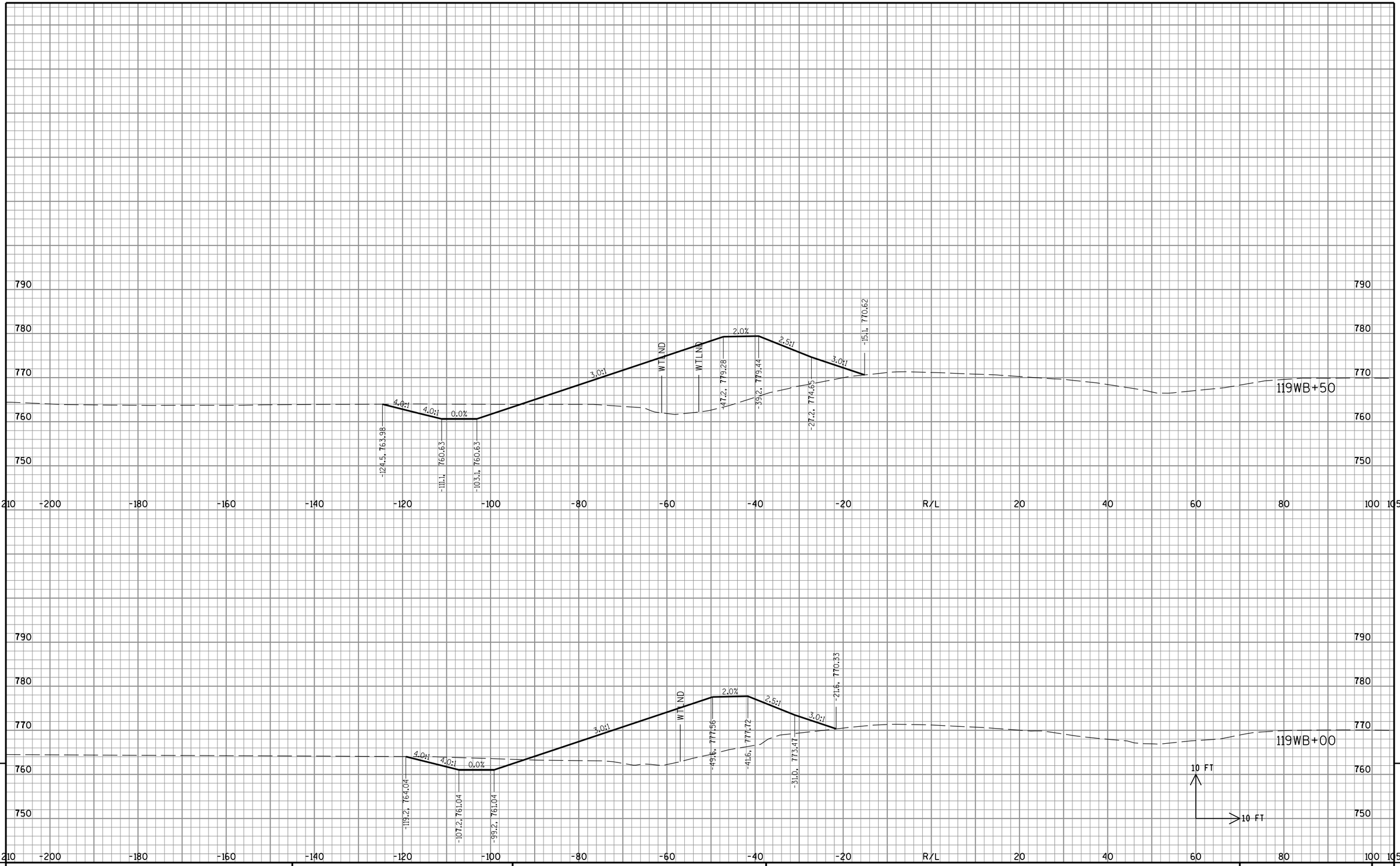


9

9

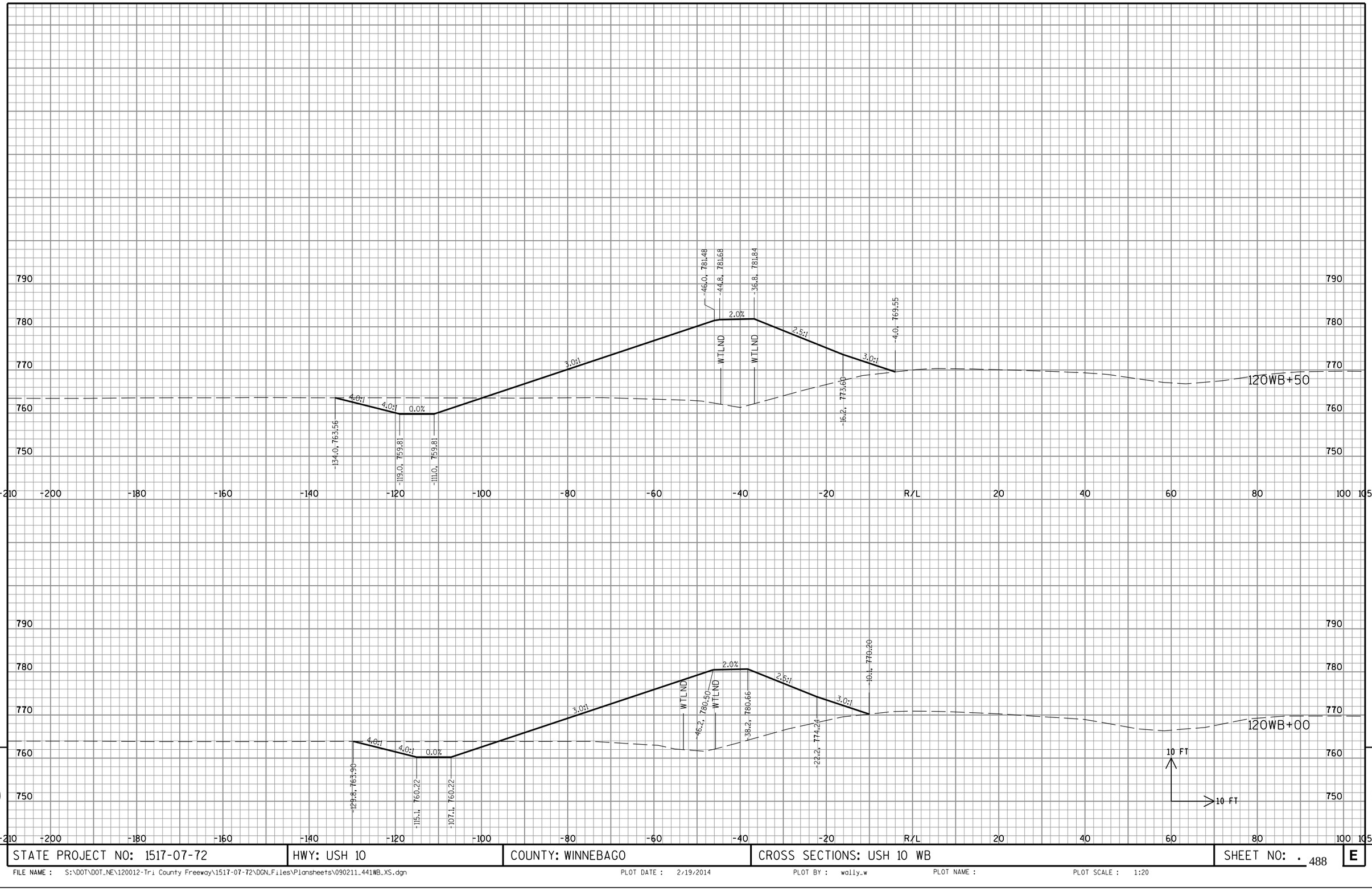
STATE PROJECT NO: 1517-07-72	HWY: USH 10	COUNTY: WINNEBAGO	CROSS SECTIONS: USH 10 WB	SHEET NO: . 486	E

FILE NAME : S:\DOT\DOT_NE\120012-Tri County Freeway\1517-07-72\DGN_Files\Plansheets\090211_441WB_XS.dgn PLOT DATE : 2/19/2014 PLOT BY : wally_w PLOT NAME : PLOT SCALE : 1:20



STATE PROJECT NO: 1517-07-72	HWY: USH 10	COUNTY: WINNEBAGO	CROSS SECTIONS: USH 10 WB	SHEET NO: . 487	E

FILE NAME : S:\DOT\DOT_NE\120012-Tri County Freeway\1517-07-72\DGN_Files\Plansheets\090211_441WB_XS.dgn PLOT DATE : 2/19/2014 PLOT BY : wally_w PLOT NAME : PLOT SCALE : 1:20

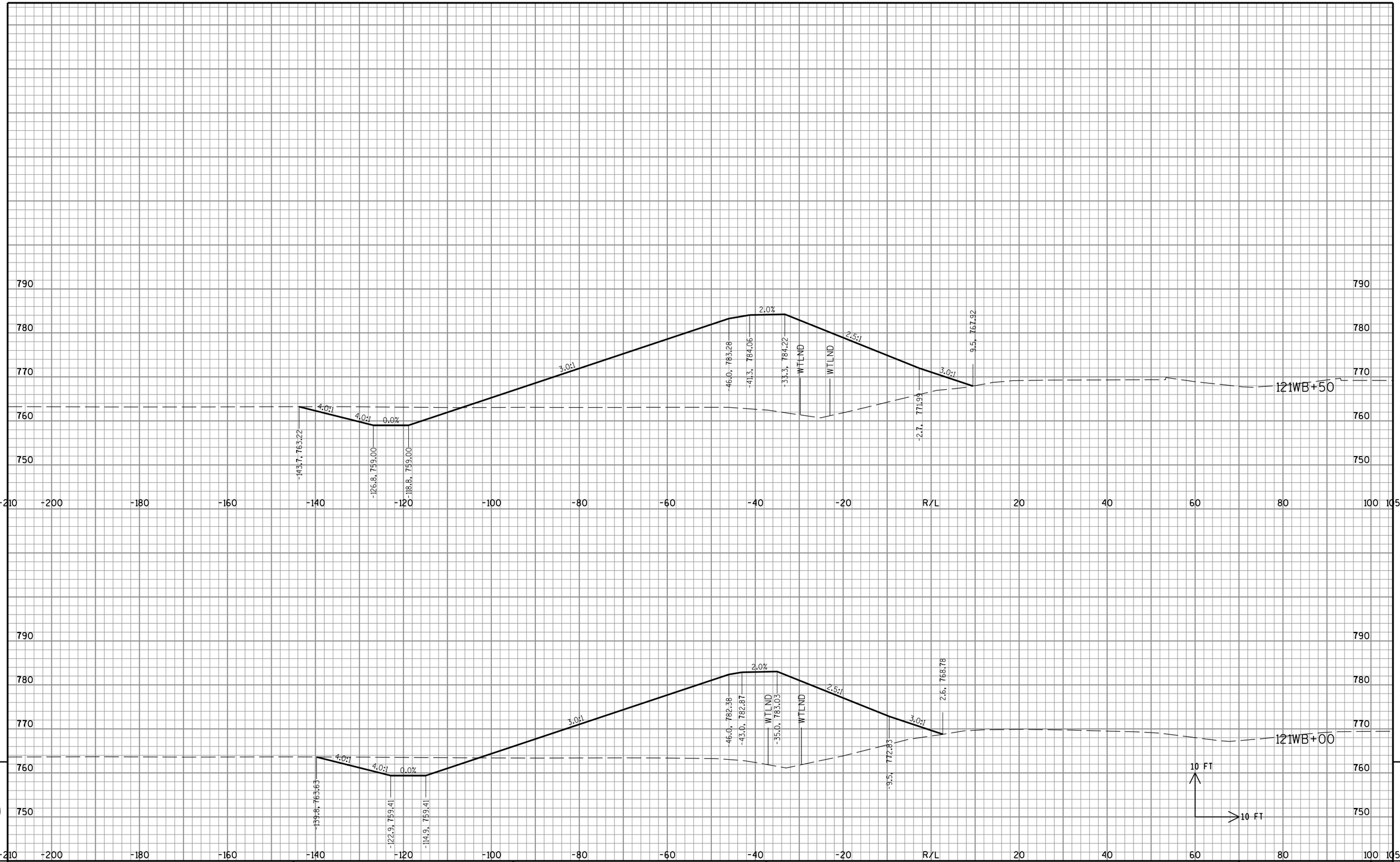


9

9

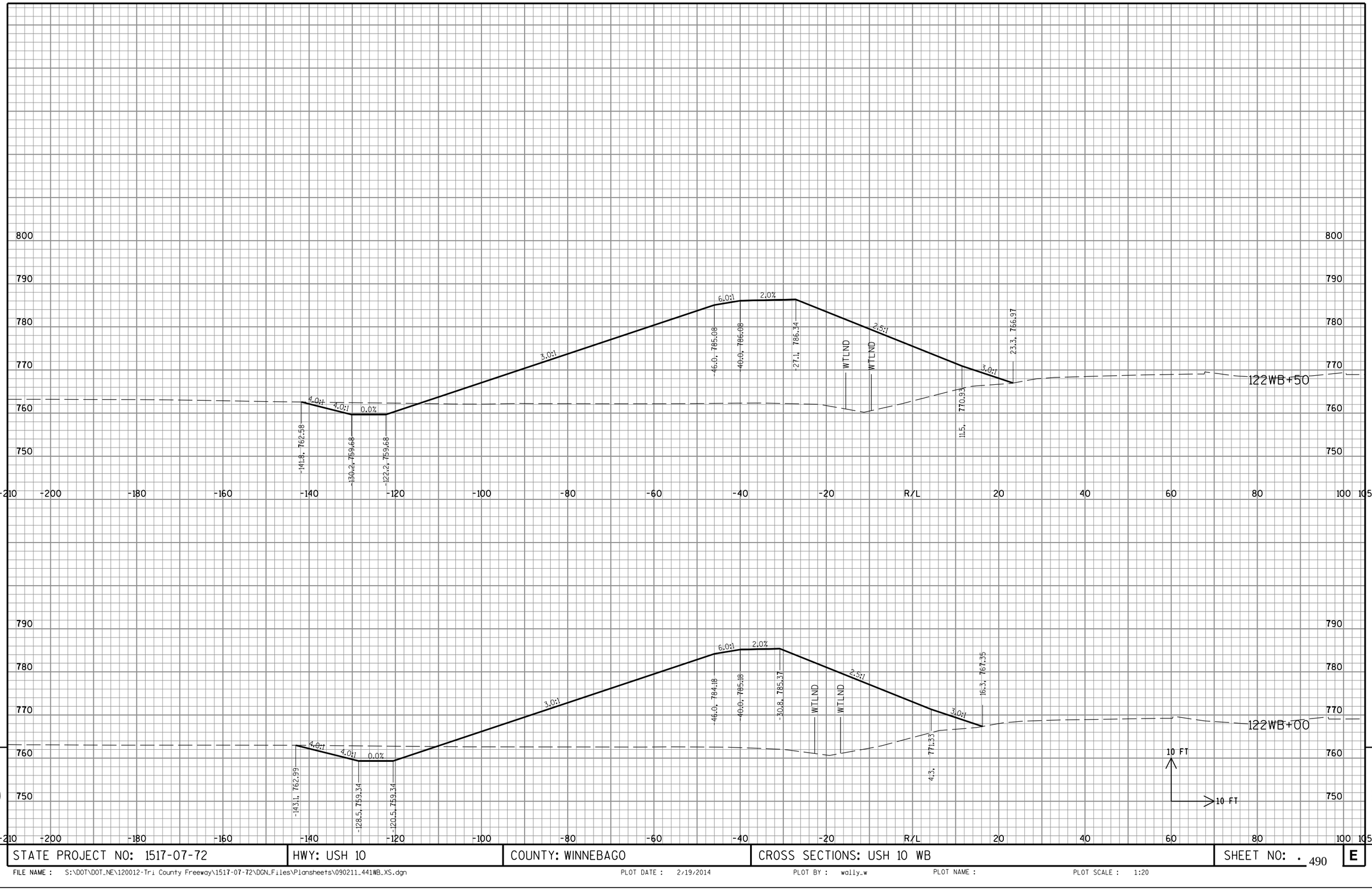
STATE PROJECT NO: 1517-07-72	HWY: USH 10	COUNTY: WINNEBAGO	CROSS SECTIONS: USH 10 WB	SHEET NO: . 488	E

FILE NAME : S:\DOT\DOT_NE\120012-Tri County Freeway\1517-07-72\DGN_Files\Plansheets\090211_441WB_XS.dgn PLOT DATE : 2/19/2014 PLOT BY : wally_w PLOT NAME : PLOT SCALE : 1:20



STATE PROJECT NO: 1517-07-72	HWY: USH 10	COUNTY: WINNEBAGO	CROSS SECTIONS: USH 10 WB	SHEET NO: . 489	E

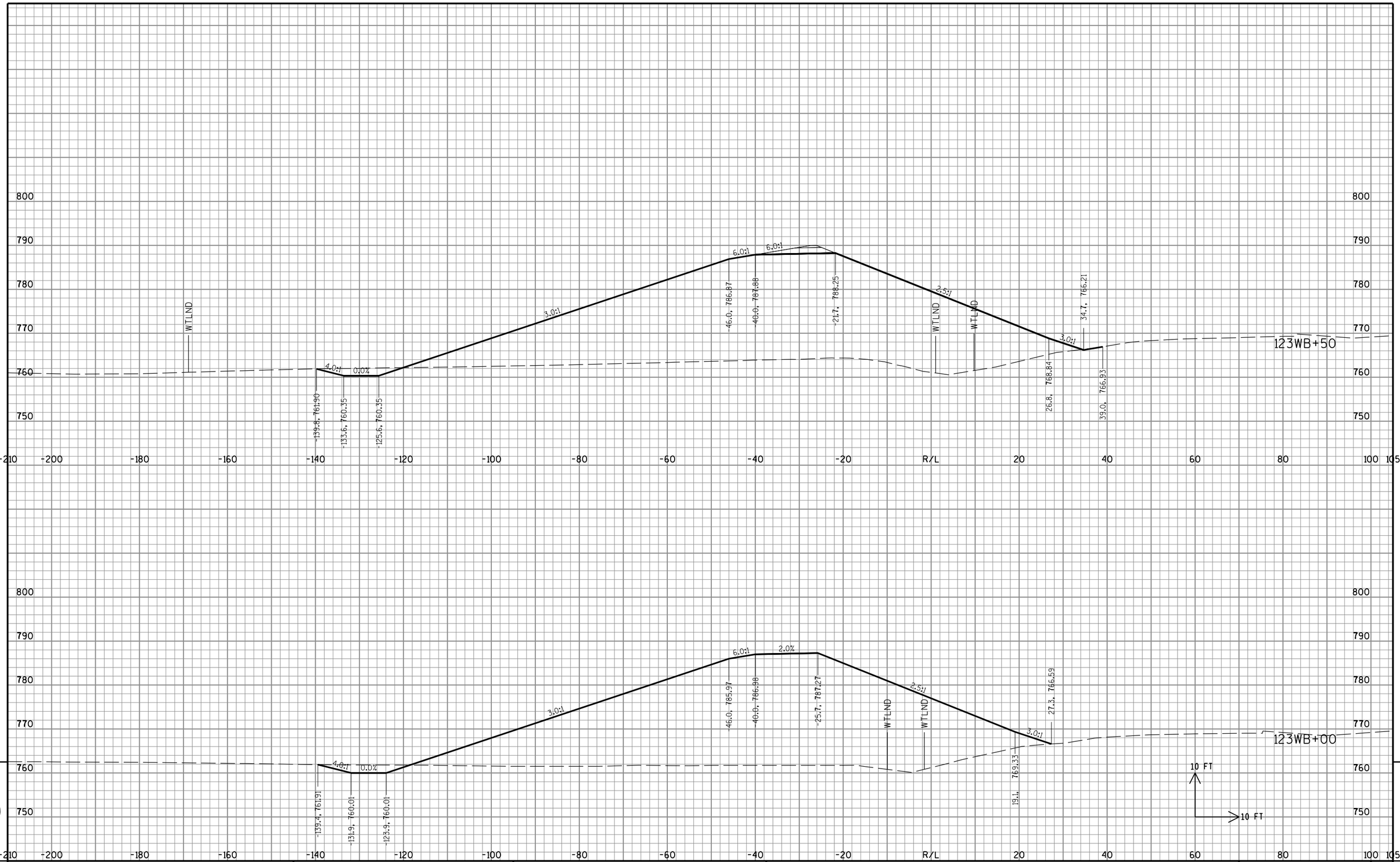
FILE NAME : S:\DOT\DOT_NE\120012-Tri County Freeway\1517-07-72\DGN_Files\Plansheets\090211_441WB_XS.dgn PLOT DATE : 2/19/2014 PLOT BY : wally_w PLOT NAME : PLOT SCALE : 1:20



STATE PROJECT NO: 1517-07-72	HWY: USH 10	COUNTY: WINNEBAGO	CROSS SECTIONS: USH 10 WB	SHEET NO: . 490	E

FILE NAME : S:\DOT\DOT_NE\120012-Tri County Freeway\1517-07-72\DGN_Files\Plansheets\090211_441WB_XS.dgn PLOT DATE : 2/19/2014 PLOT BY : wally_w PLOT NAME : PLOT SCALE : 1:20

9

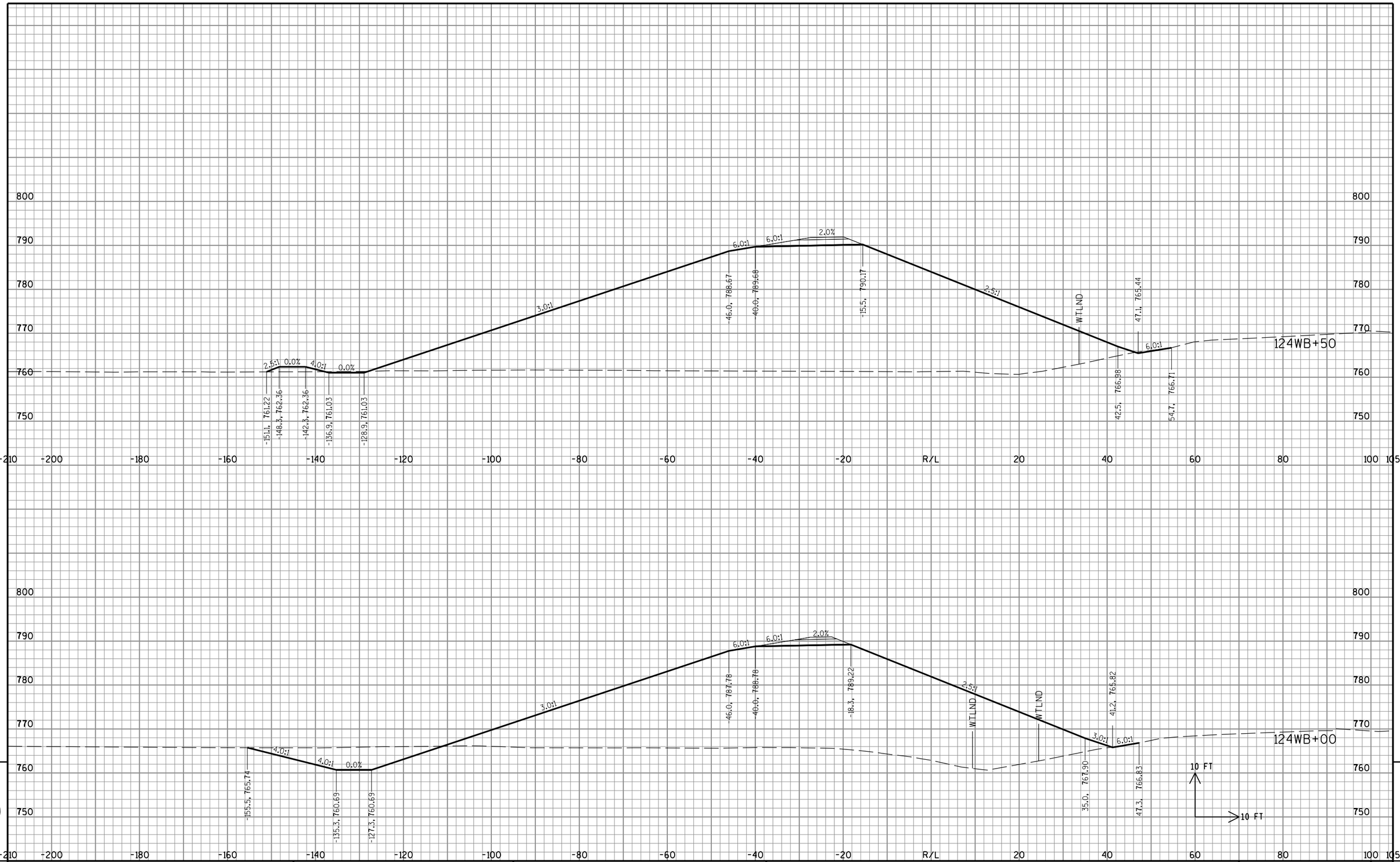


9

9

STATE PROJECT NO: 1517-07-72	HWY: USH 10	COUNTY: WINNEBAGO	CROSS SECTIONS: USH 10 WB	SHEET NO: . 491	E

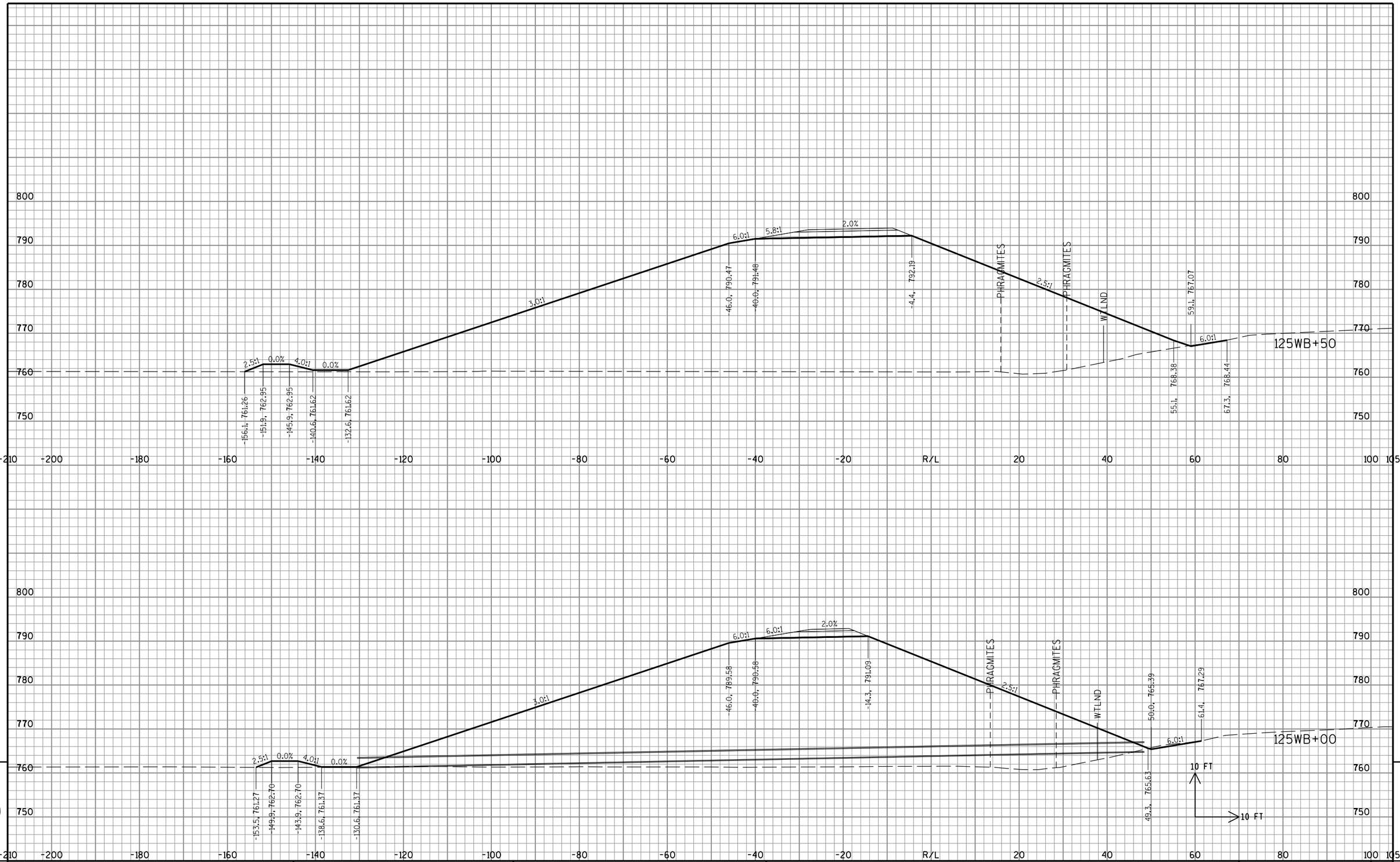
FILE NAME : S:\DOT\DOT_NE\120012-Tri County Freeway\1517-07-72\DGN_Files\Plansheets\090211_441WB_XS.dgn PLOT DATE : 2/19/2014 PLOT BY : wally_w PLOT NAME : PLOT SCALE : 1:20



STATE PROJECT NO: 1517-07-72	HWY: USH 10	COUNTY: WINNEBAGO	CROSS SECTIONS: USH 10 WB	SHEET NO: . 492

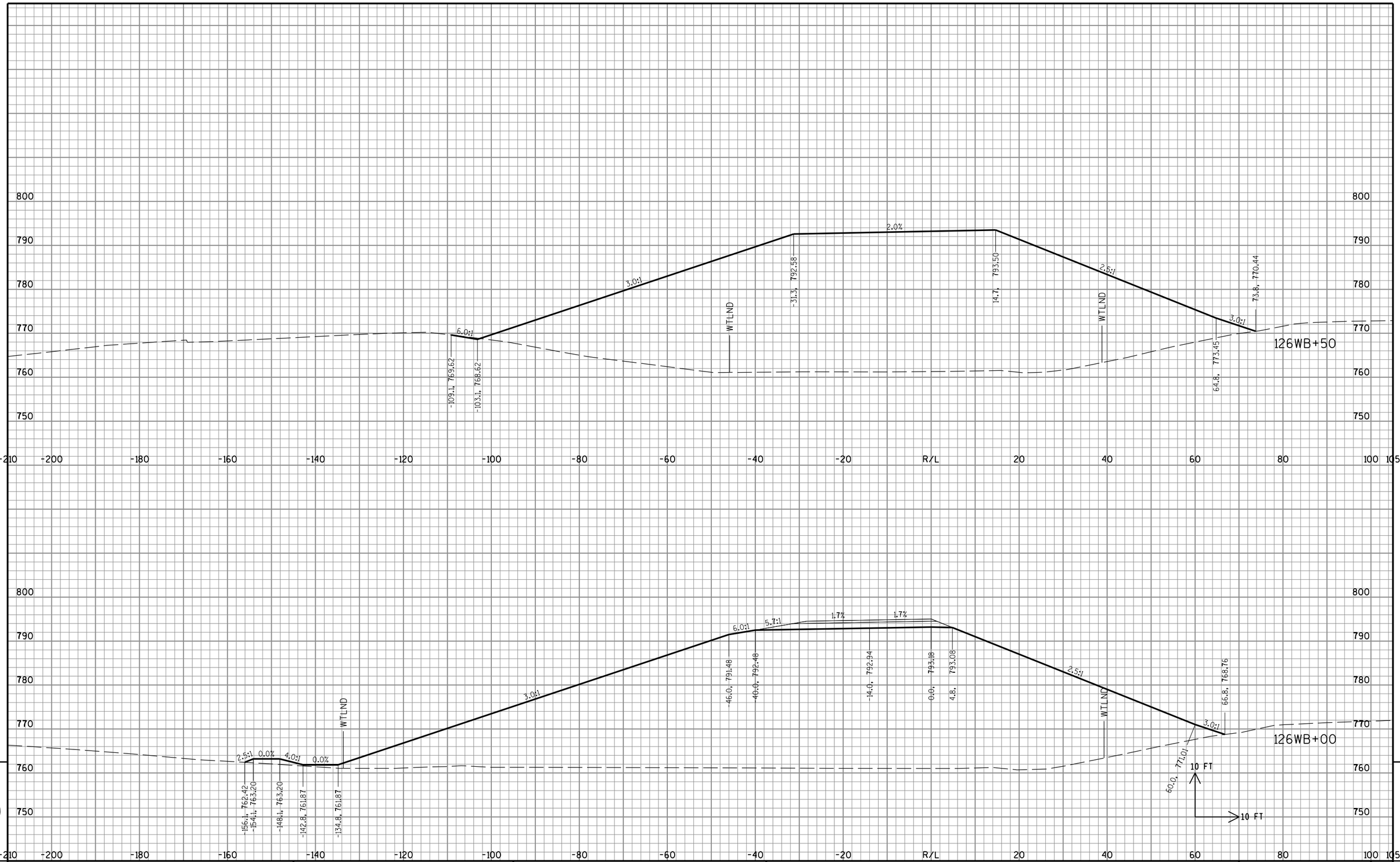
FILE NAME : S:\DOT\DOT_NE\120012-Tri County Freeway\1517-07-72\DGN_Files\Plansheets\090211_441WB_XS.dgn PLOT DATE : 2/19/2014 PLOT BY : wally_w PLOT NAME : PLOT SCALE : 1:20

9 9 E



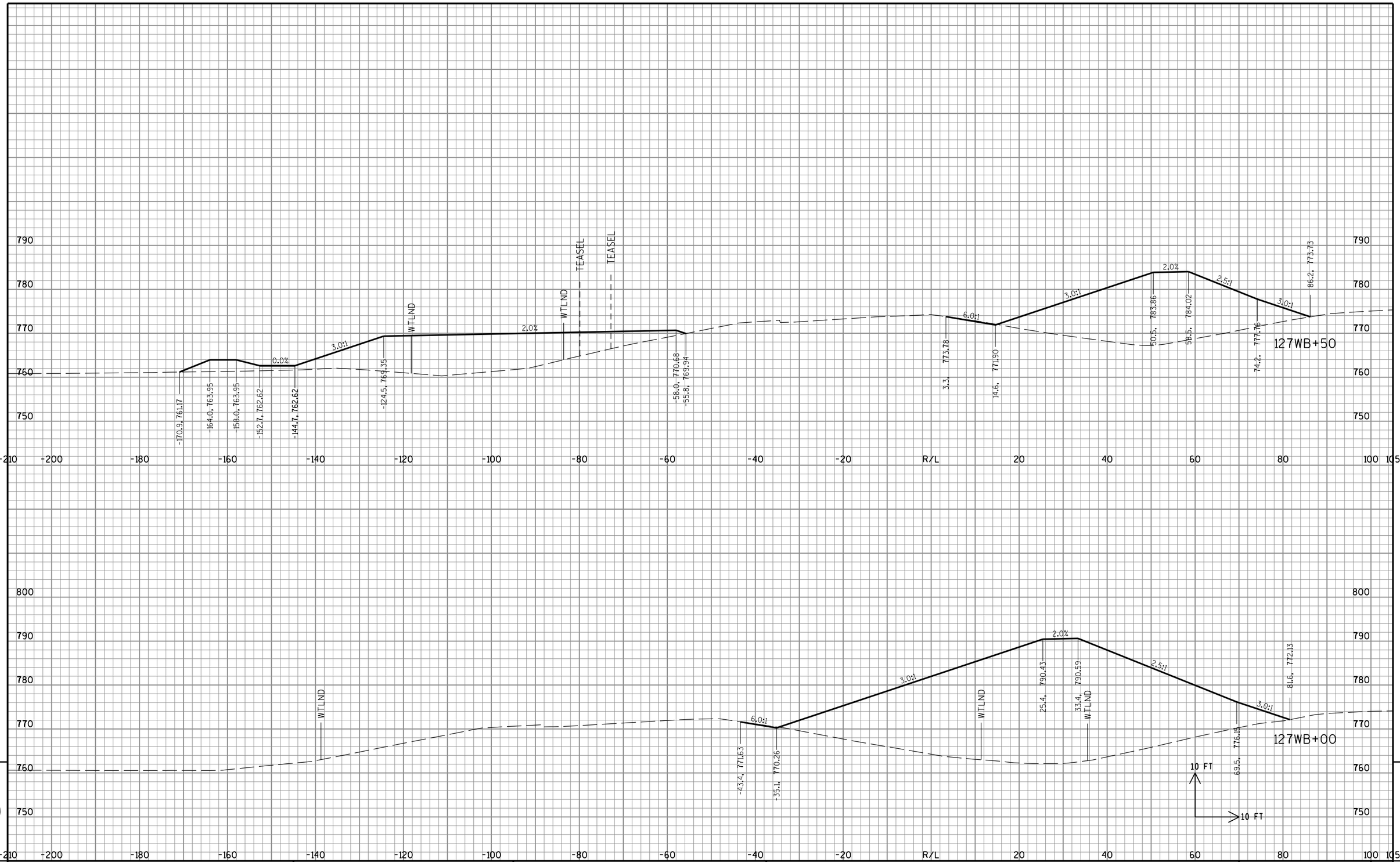
STATE PROJECT NO: 1517-07-72	HWY: USH 10	COUNTY: WINNEBAGO	CROSS SECTIONS: USH 10 WB	SHEET NO: . 493	E

FILE NAME : S:\DOT\DOT_NE\120012-Tri County Freeway\1517-07-72\DGN_Files\Plansheets\090211_441WB_XS.dgn PLOT DATE : 2/19/2014 PLOT BY : wally_w PLOT NAME : PLOT SCALE : 1:20



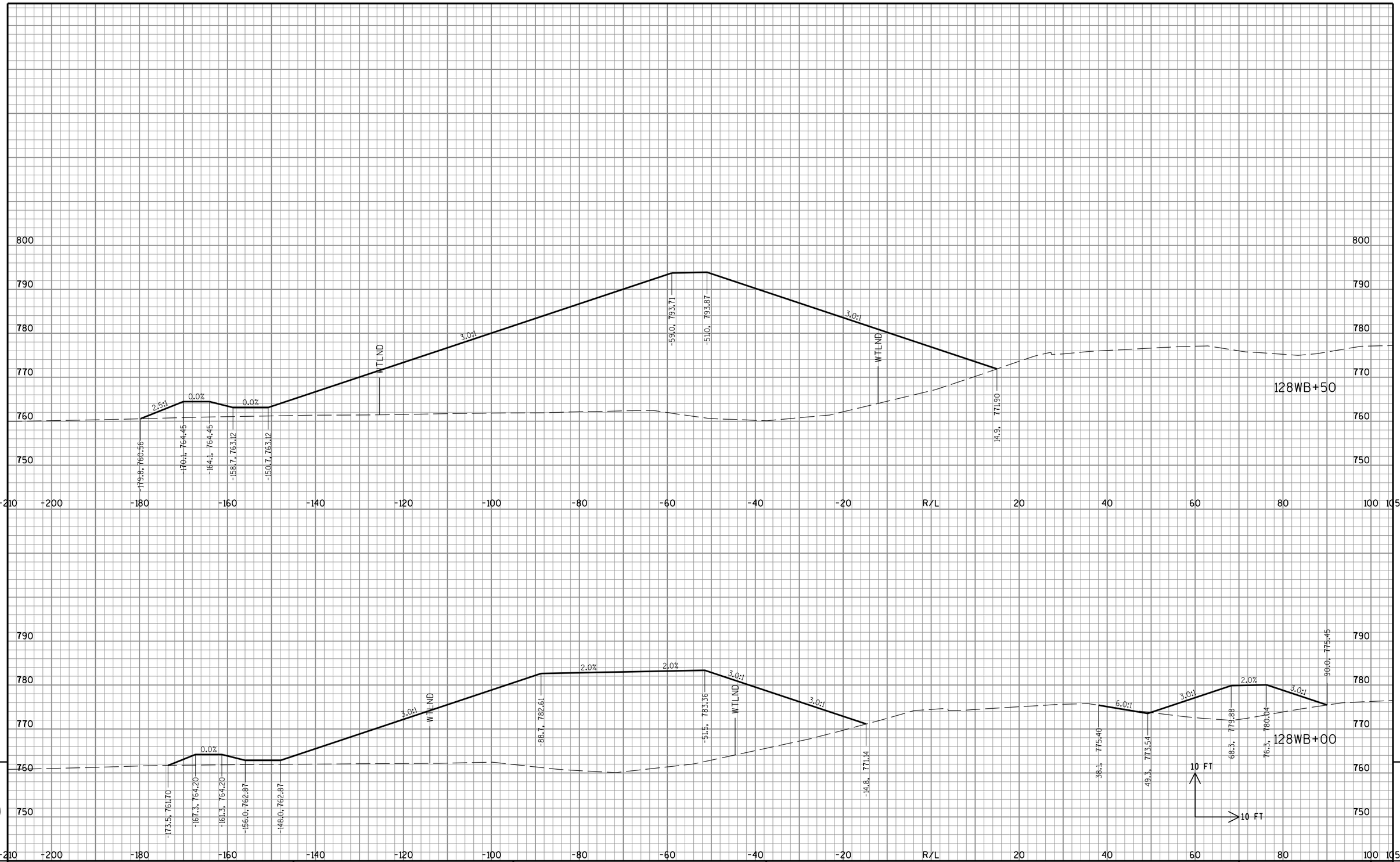
STATE PROJECT NO: 1517-07-72	HWY: USH 10	COUNTY: WINNEBAGO	CROSS SECTIONS: USH 10 WB	SHEET NO: . 494	E

FILE NAME : S:\DOT\DOT_NE\120012-Tri County Freeway\1517-07-72\DGN_Files\Plansheets\090211_441WB_XS.dgn PLOT DATE : 2/19/2014 PLOT BY : wally_w PLOT NAME : PLOT SCALE : 1:20



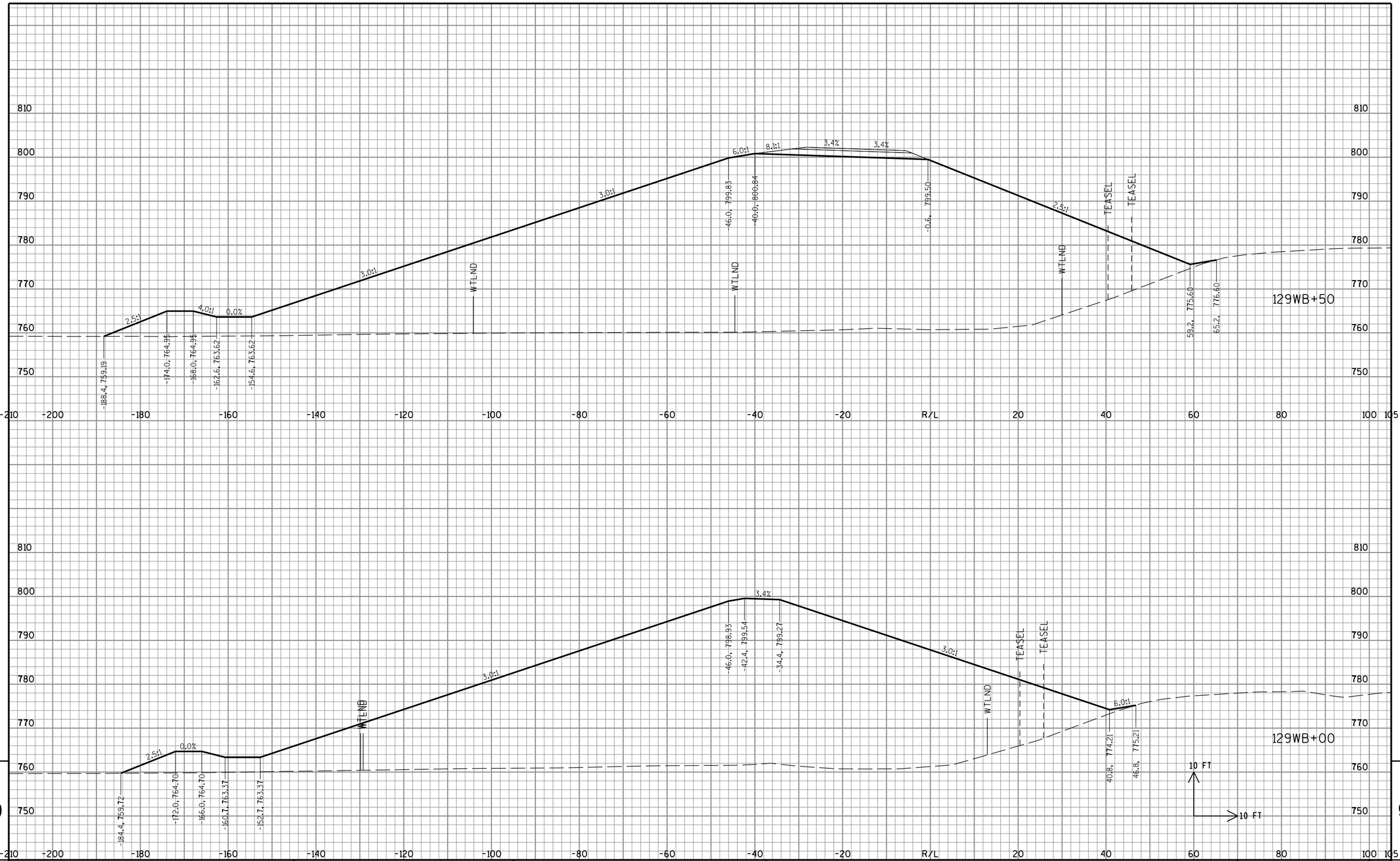
STATE PROJECT NO: 1517-07-72	HWY: USH 10	COUNTY: WINNEBAGO	CROSS SECTIONS: USH 10 WB	SHEET NO: . 495	E

FILE NAME : S:\DOT\DOT_NE\120012-Tri County Freeway\1517-07-72\DGN_Files\Plansheets\090211_441WB_XS.dgn PLOT DATE : 2/19/2014 PLOT BY : wally_w PLOT NAME : PLOT SCALE : 1:20



STATE PROJECT NO: 1517-07-72	HWY: USH 10	COUNTY: WINNEBAGO	CROSS SECTIONS: USH 10 WB	SHEET NO: . 496 E

FILE NAME : S:\DOT\DOT_NE\120012-Tri County Freeway\1517-07-72\DGN_Files\Plansheets\090211_441WB_XS.dgn PLOT DATE : 2/19/2014 PLOT BY : wally_w PLOT NAME : PLOT SCALE : 1:20

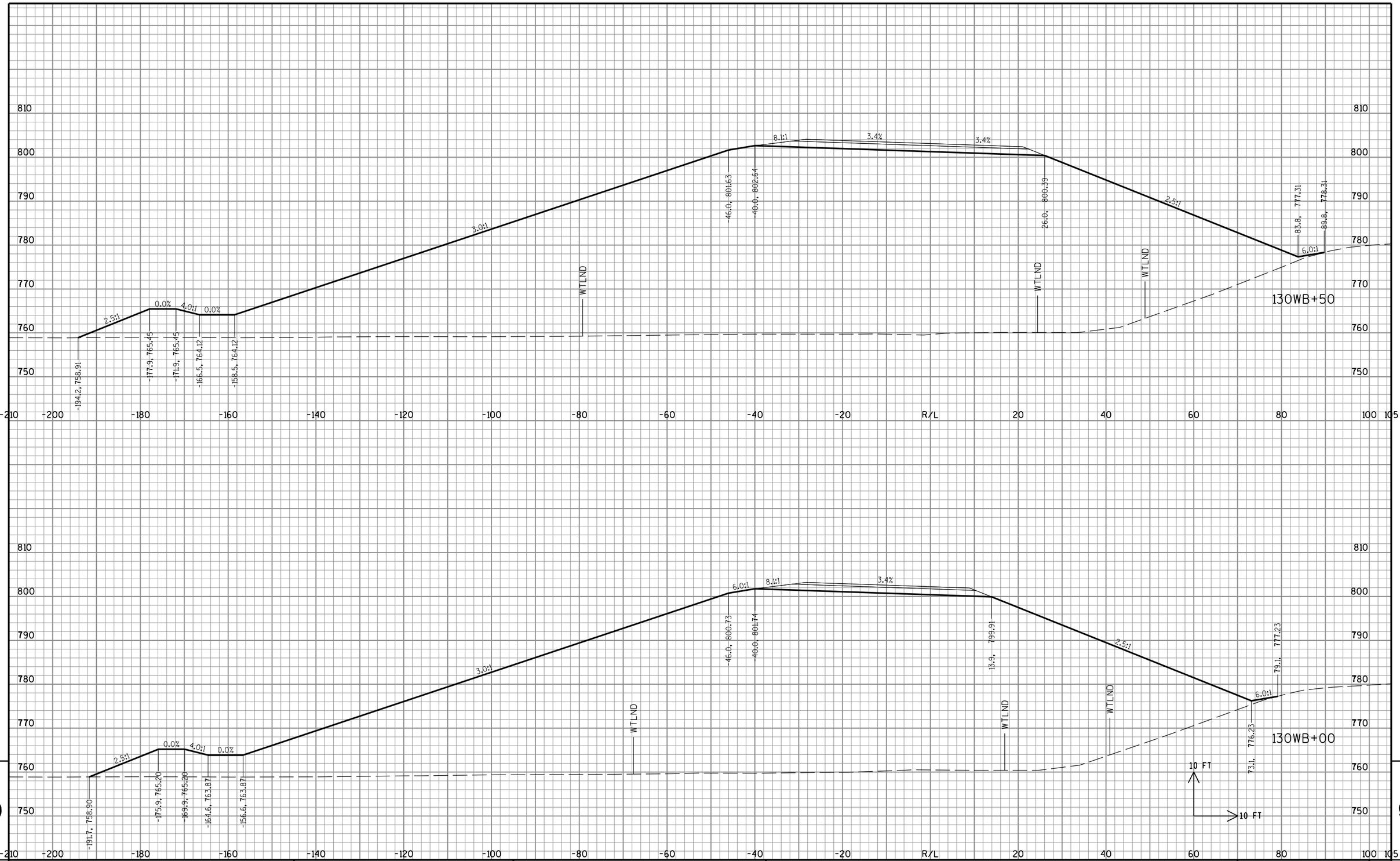


9

9

STATE PROJECT NO: 1517-07-72	HWY: USH 10	COUNTY: WINNEBAGO	CROSS SECTIONS: USH 10 WB	SHEET NO: . 497	E

FILE NAME : S:\DOT\DOT_NE\120012-Tri County Freeway\1517-07-72\DGN_Files\Plansheets\090211_441WB_XS.dgn PLOT DATE : 2/19/2014 PLOT BY : wally_w PLOT NAME : PLOT SCALE : 1:20

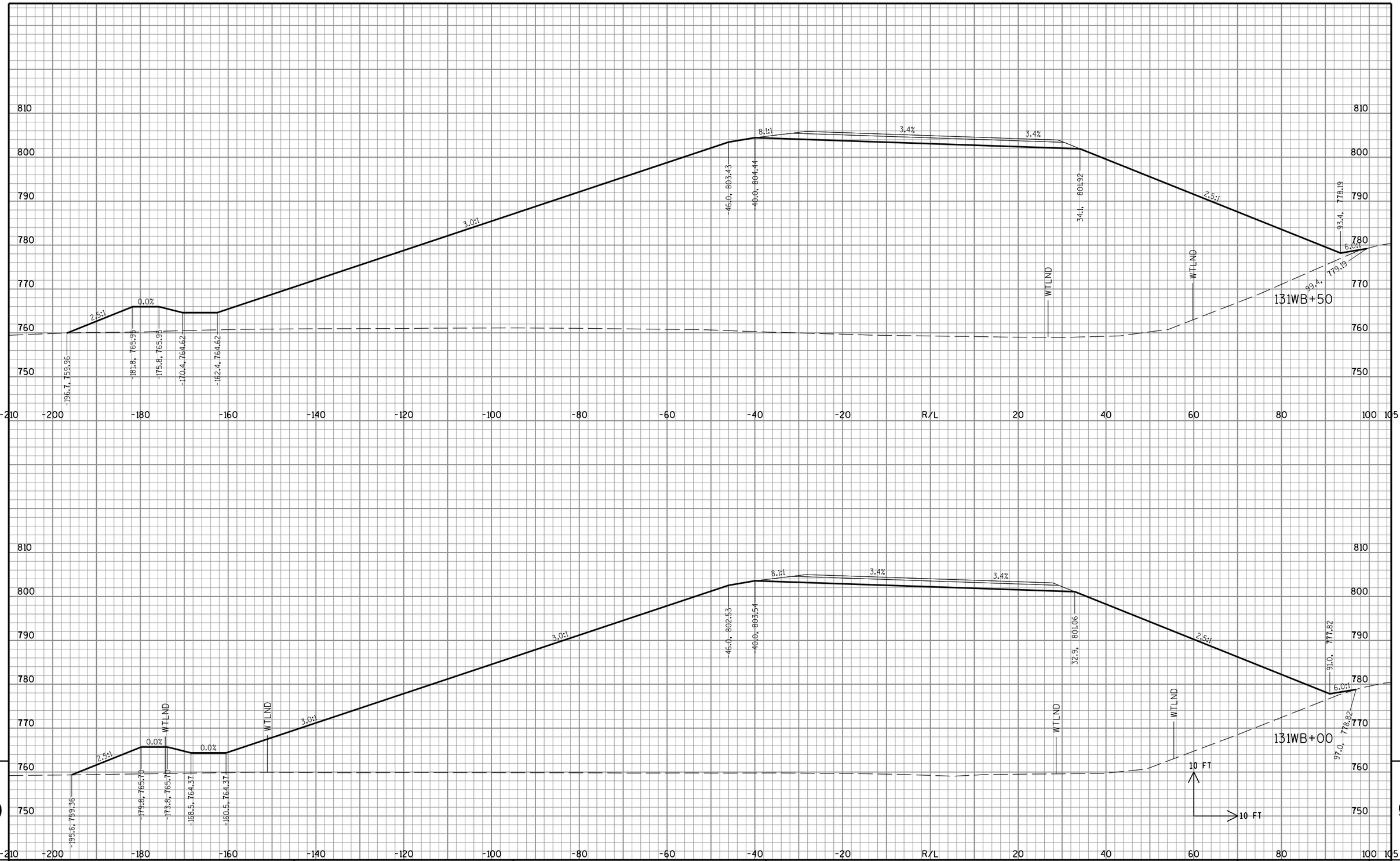


9

9

STATE PROJECT NO: 1517-07-72	HWY: USH 10	COUNTY: WINNEBAGO	CROSS SECTIONS: USH 10 WB	SHEET NO: . 498	E

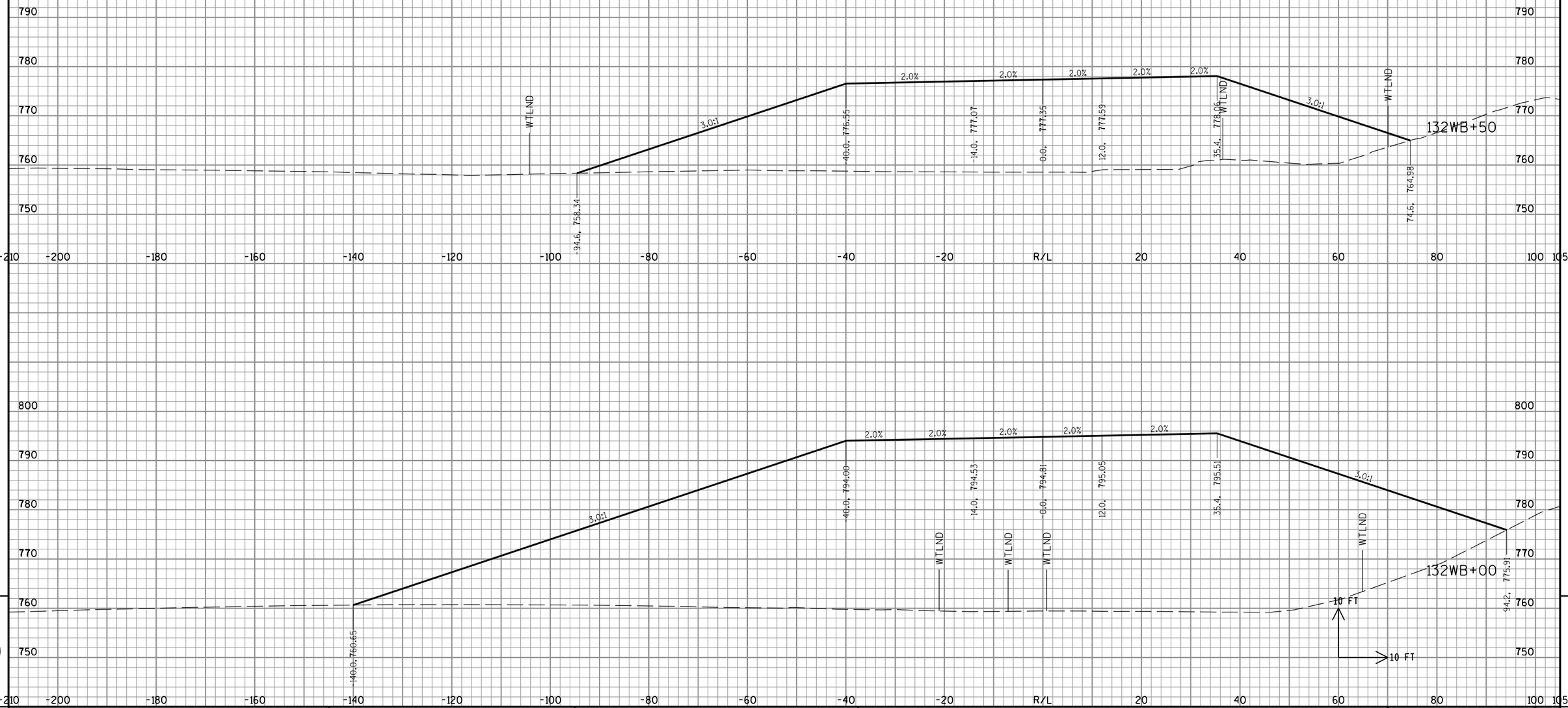
FILE NAME : S:\DOT\DOT_NE\120012-Tri County Freeway\1517-07-72\DGN_Files\Plansheets\090211_441WB_XS.dgn PLOT DATE : 2/19/2014 PLOT BY : wally_w PLOT NAME : PLOT SCALE : 1:20



STATE PROJECT NO: 1517-07-72	HWY: USH 10	COUNTY: WINNEBAGO	CROSS SECTIONS: USH 10 WB	SHEET NO: . 499	E

FILE NAME : S:\DOT\DOT_NE\120012-Tri County Freeway\1517-07-72\DGN_Files\Plansheets\090211_441WB_XS.dgn PLOT DATE : 2/19/2014 PLOT BY : wally_w PLOT NAME : PLOT SCALE : 1:20

STRUCTURE B-70-401
STA 132WB+36.44 TO STA 146WB+34.79
(NOT IN CONTRACT)



9

9

STATE PROJECT NO: 1517-07-72	HWY: USH 10	COUNTY: WINNEBAGO	CROSS SECTIONS: USH 10 WB	SHEET NO: . 500	E

FILE NAME : S:\DOT\DOT_NE\120012-Tri County Freeway\1517-07-72\DGN_Files\Plansheets\090211_441WB_XS.dgn PLOT DATE : 2/19/2014 PLOT BY : wally_w PLOT NAME : PLOT SCALE : 1:20

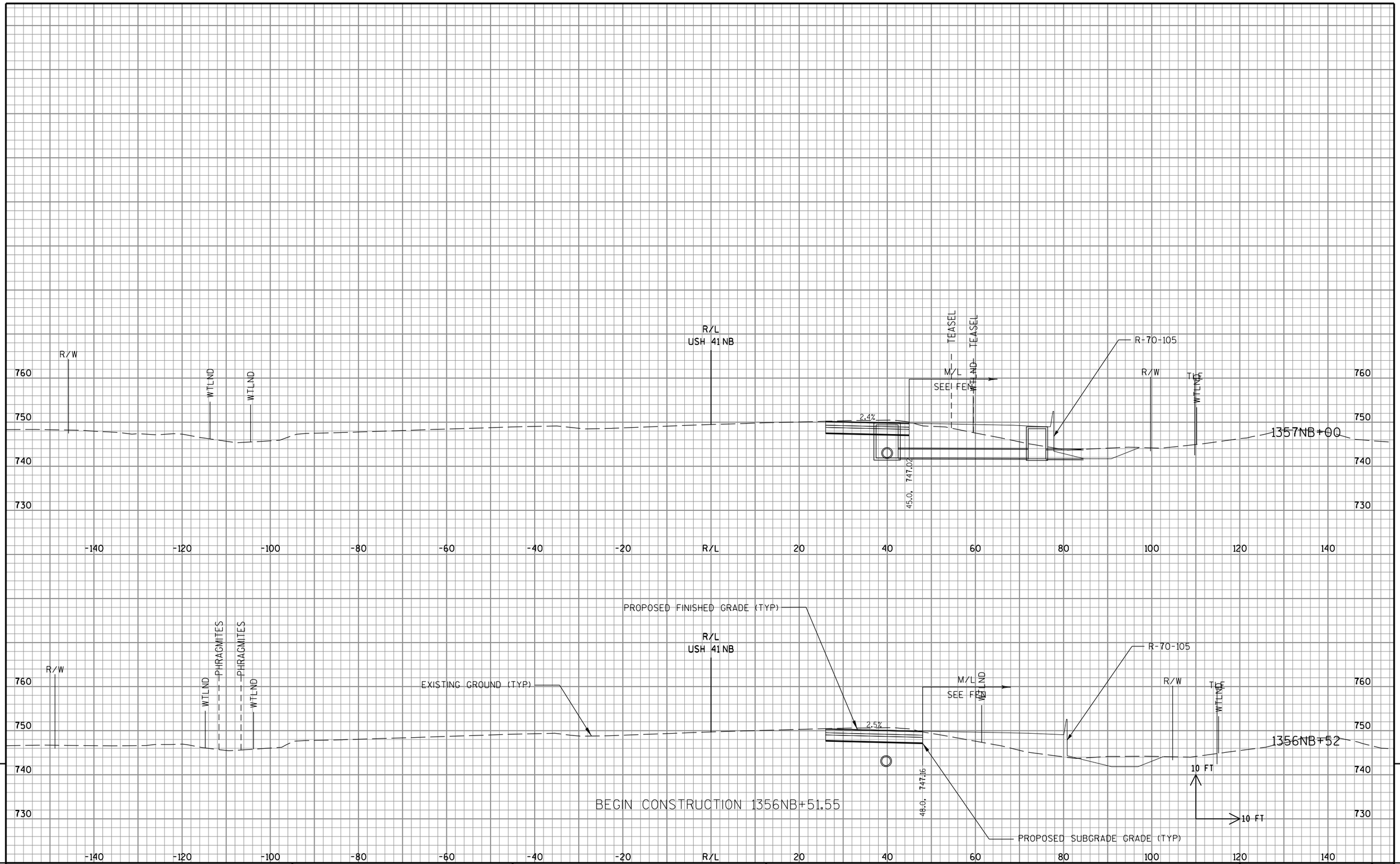
END PROJECT STA 133+00.00

9

9

STATE PROJECT NO: 1517-07-72	HWY: USH 10	COUNTY: WINNEBAGO	CROSS SECTIONS: USH 10 WB	SHEET NO: . 501	E

FILE NAME : S:\DOT\DOT_NE\120012-Tri County Freeway\1517-07-72\DGN_Files\Plansheets\090211_441WB_XS.dgn PLOT DATE : 2/19/2014 PLOT BY : wally_w PLOT NAME : PLOT SCALE : 1:20

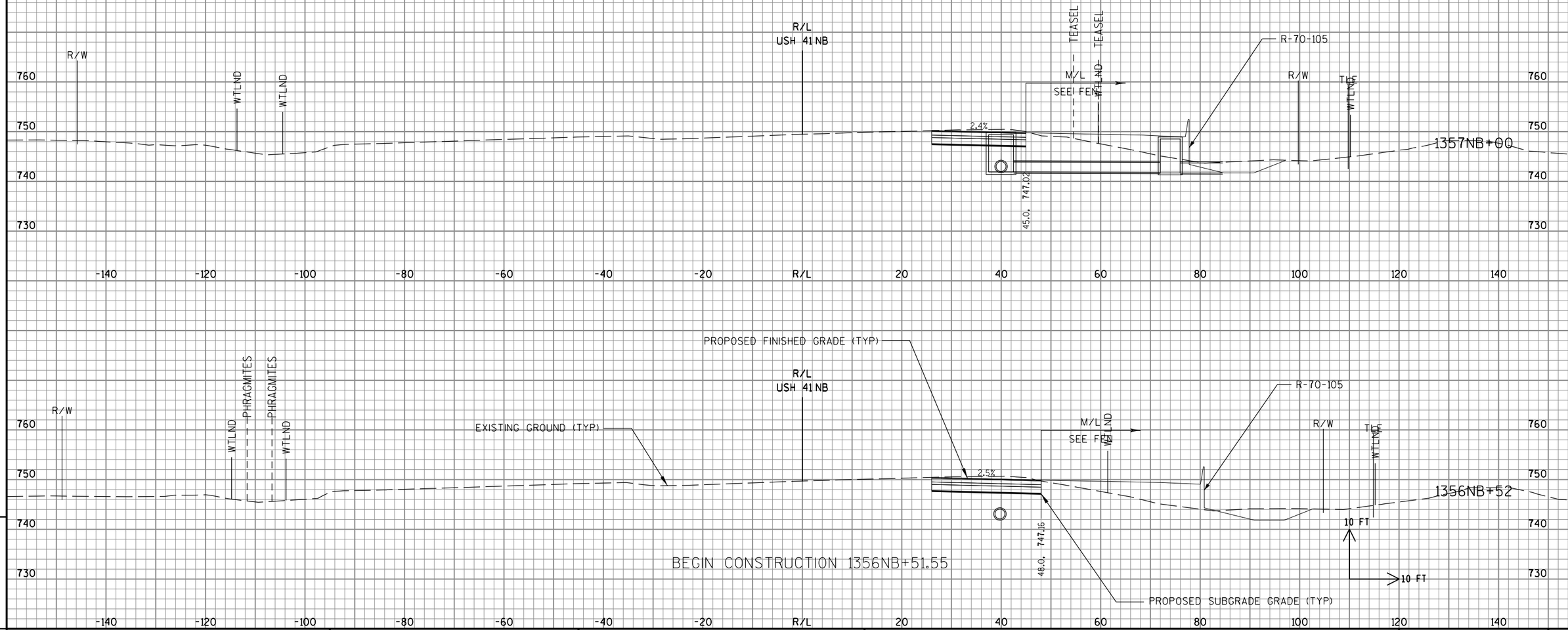


9

9

STATE PROJECT NO: 1517-07-72	HWY: USH 10	COUNTY: WINNEBAGO	CROSS SECTIONS: USH 41 NB	SHEET NO: . 502	E

FILE NAME : S:\DOT\DOT_NE\120012-Tri County Freeway\1517-07-72\DGN_Files\Plansheets\090221_41NB_XS.dgn PLOT DATE : 2/19/2014 PLOT BY : wally_w PLOT NAME : PLOT SCALE : 1:20

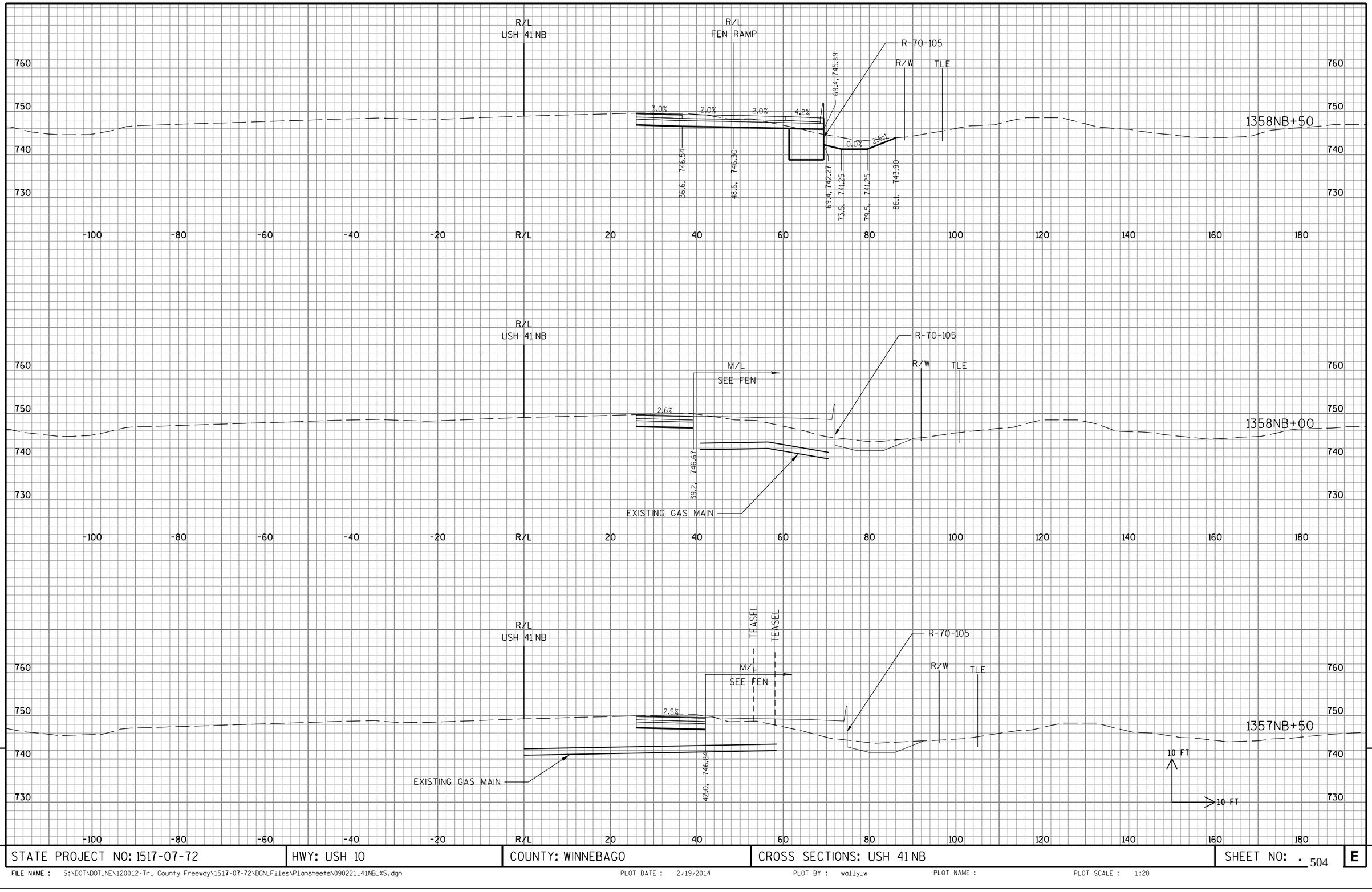


9

9

STATE PROJECT NO: 1517-07-72	HWY: USH 10	COUNTY: WINNEBAGO	CROSS SECTIONS: USH 41 NB	SHEET NO: . 503	E

FILE NAME : S:\DOT\DOT_NE\120012-Tri County Freeway\1517-07-72\DGN_Files\Plansheets\090221_41NB_XS.dgn PLOT DATE : 2/19/2014 PLOT BY : wally_w PLOT NAME : PLOT SCALE : 1:20

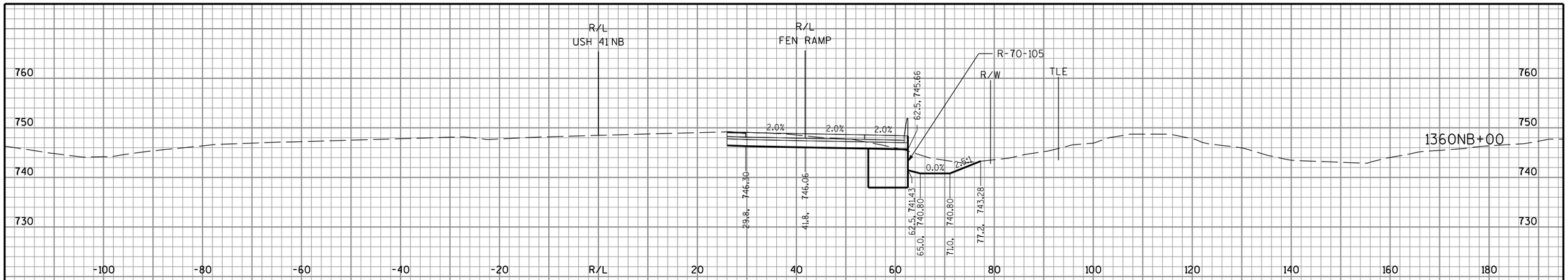


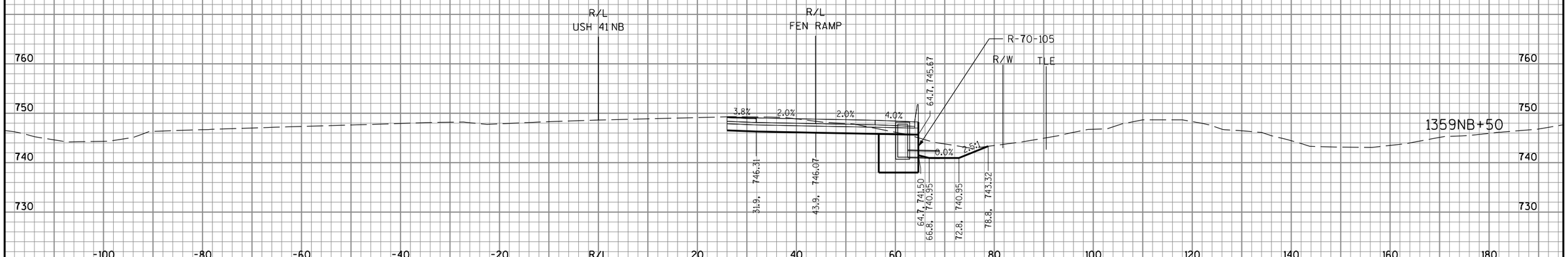
9

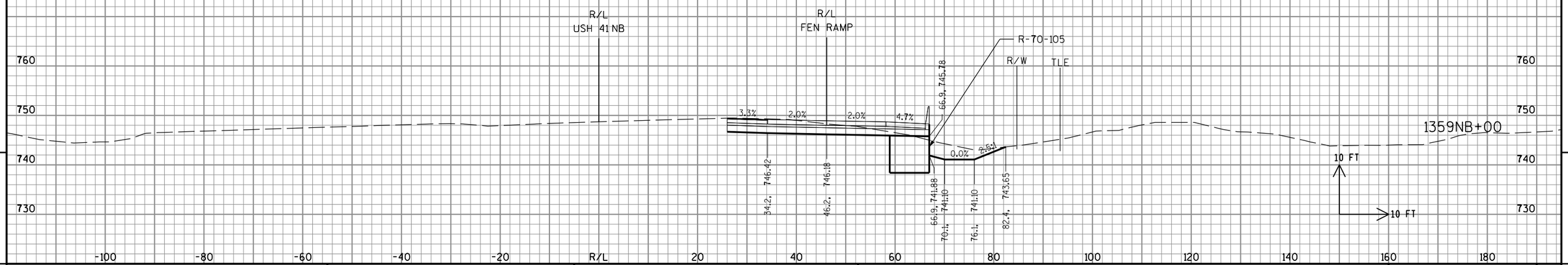
9

STATE PROJECT NO: 1517-07-72	HWY: USH 10	COUNTY: WINNEBAGO	CROSS SECTIONS: USH 41 NB	SHEET NO: 504	E

FILE NAME : S:\DOT\DOT_NE\120012-Tri County Freeway\1517-07-72\DGN_Files\Plansheets\090221_41NB_XS.dgn PLOT DATE : 2/19/2014 PLOT BY : wally_w PLOT NAME : PLOT SCALE : 1:20





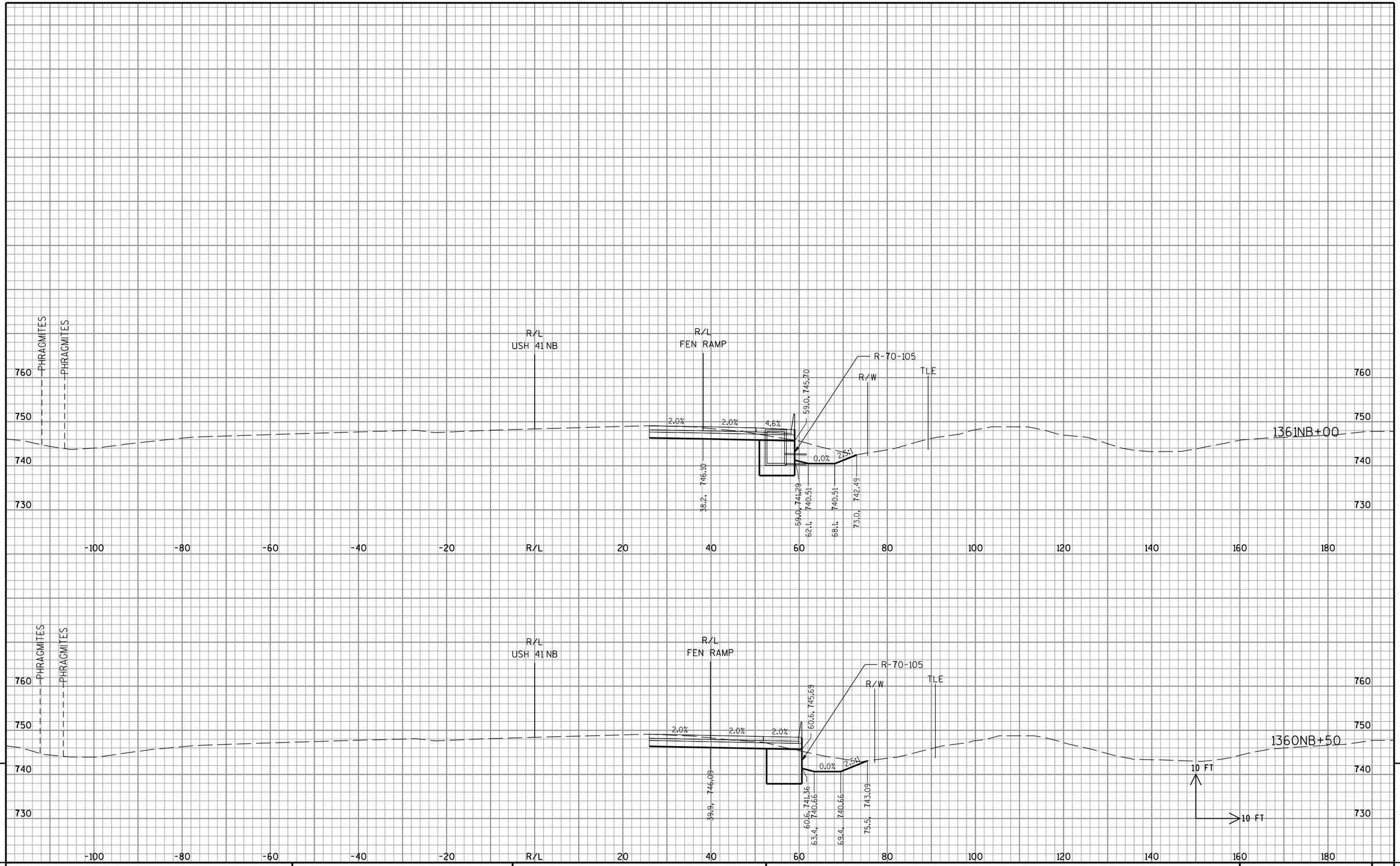


9

9

STATE PROJECT NO: 1517-07-72	HWY: USH 10	COUNTY: WINNEBAGO	CROSS SECTIONS: USH 41 NB	SHEET NO: . 505	E

FILE NAME : S:\DOT\DOT_NE\120012-Tri County Freeway\1517-07-72\DGN_Files\Plansheets\090221_41NB_XS.dgn PLOT DATE : 2/19/2014 PLOT BY : wally_w PLOT NAME : PLOT SCALE : 1:20

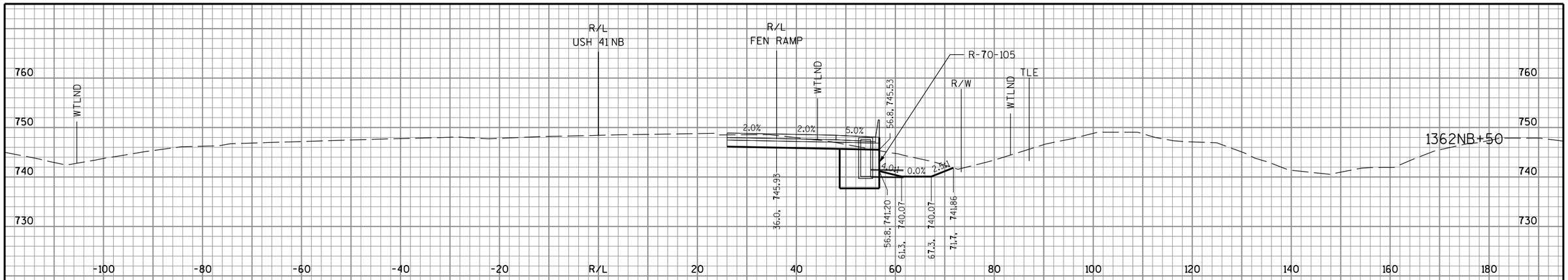


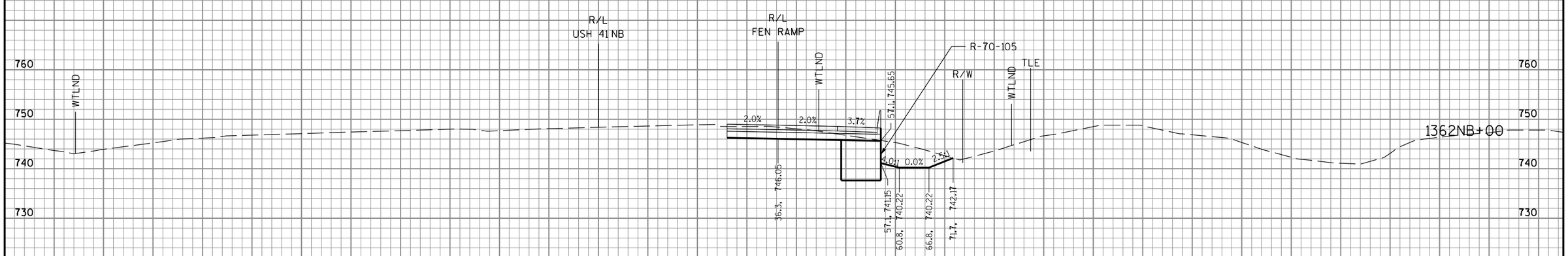
9

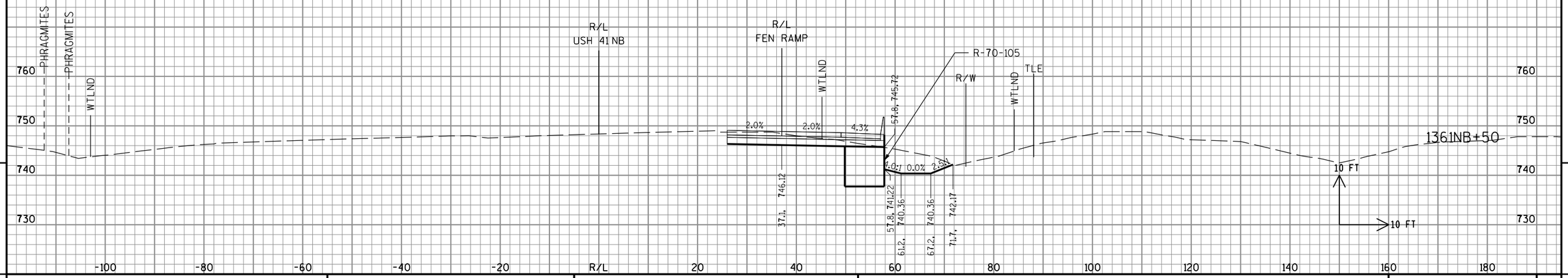
9

STATE PROJECT NO: 1517-07-72	HWY: USH 10	COUNTY: WINNEBAGO	CROSS SECTIONS: USH 41 NB	SHEET NO: . 506	E

FILE NAME : S:\DOT\DOT_NE\120012-Tri County Freeway\1517-07-72\DGN_Files\Plansheets\090221_41NB_XS.dgn PLOT DATE : 2/19/2014 PLOT BY : wally_w PLOT NAME : PLOT SCALE : 1:20





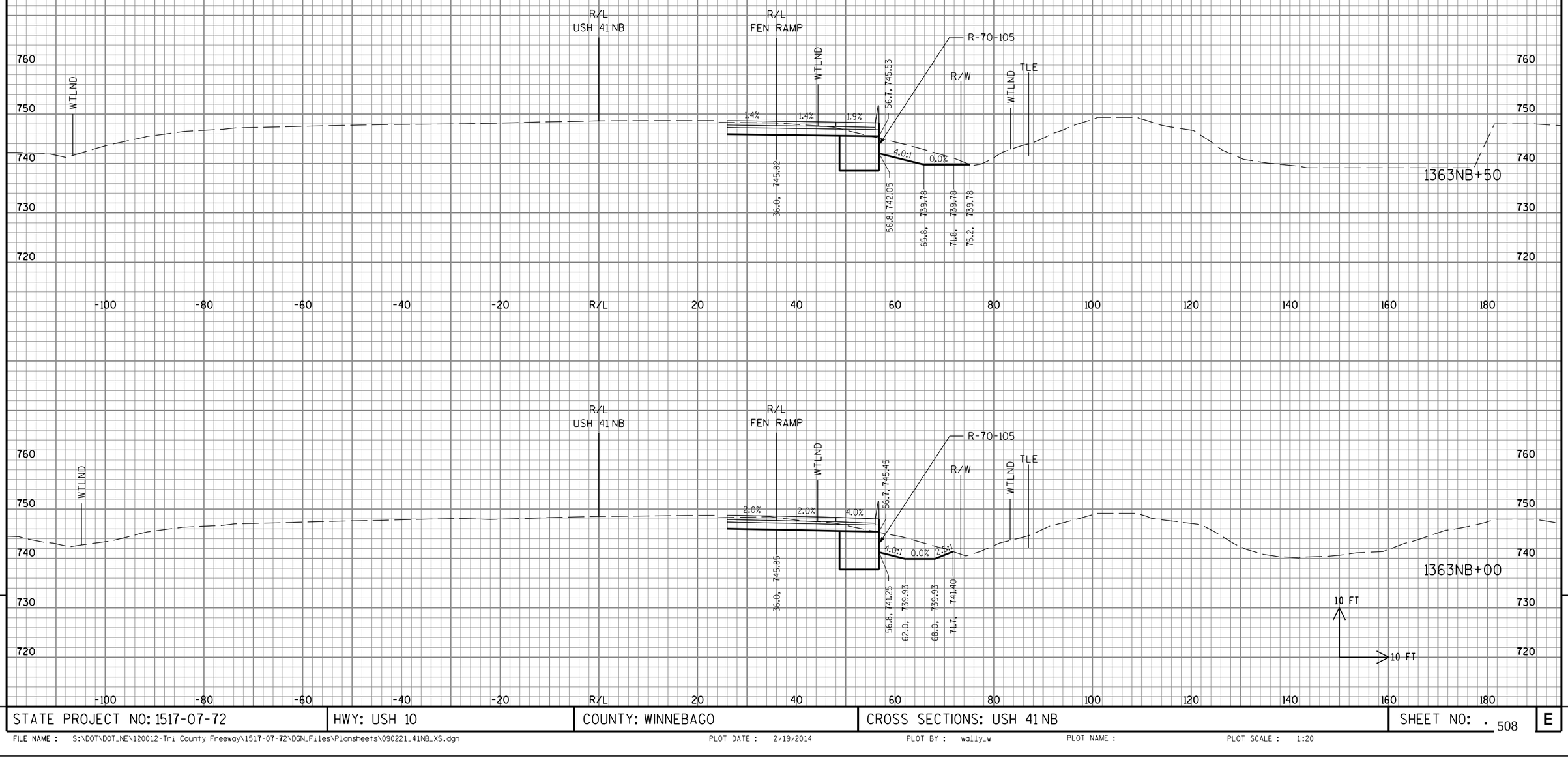


9

9

STATE PROJECT NO: 1517-07-72	HWY: USH 10	COUNTY: WINNEBAGO	CROSS SECTIONS: USH 41 NB	SHEET NO: . 507	E

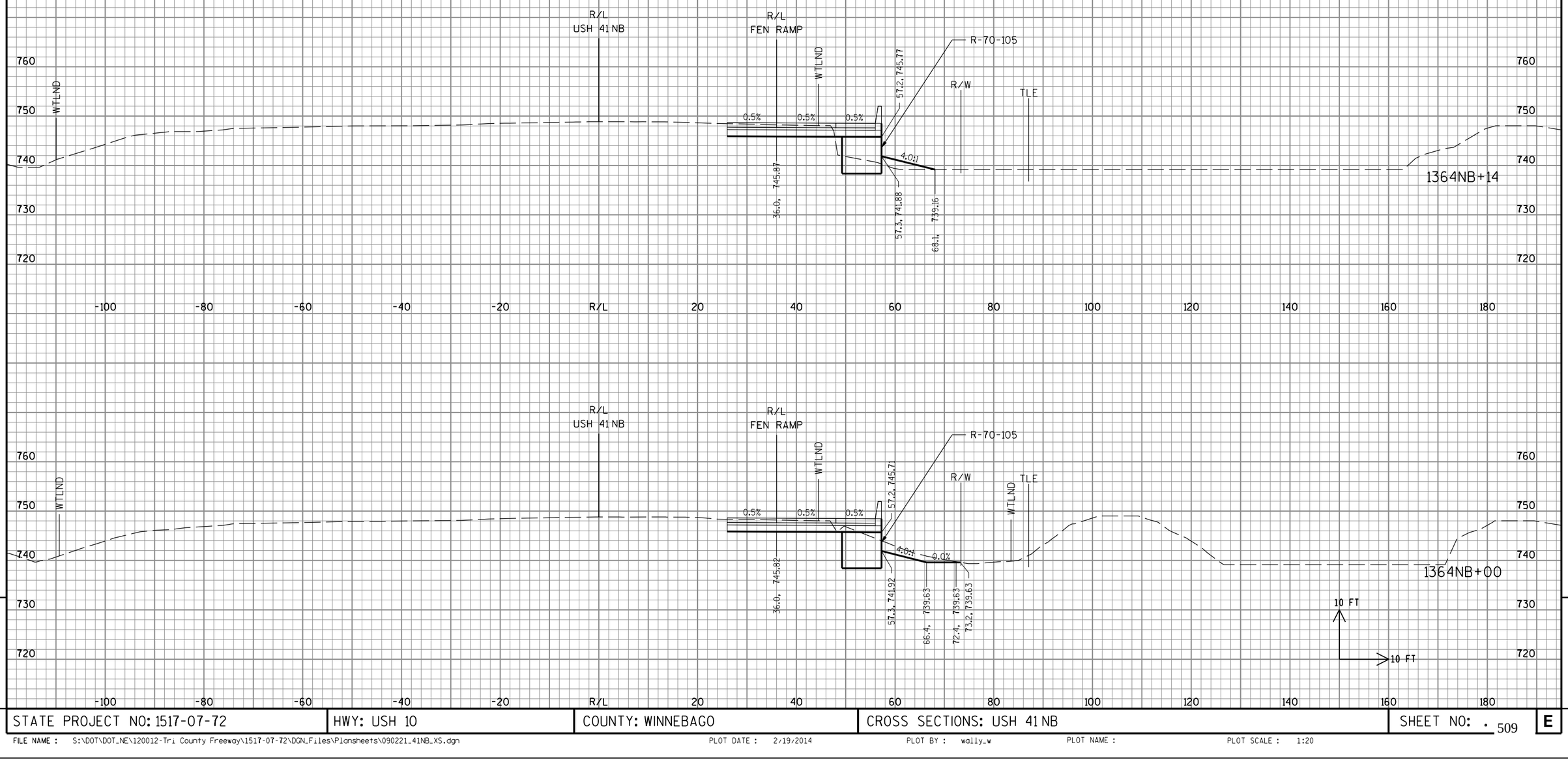
FILE NAME : S:\DOT\DOT_NE\120012-Tri County Freeway\1517-07-72\DGN_Files\Plansheets\090221_41NB_XS.dgn PLOT DATE : 2/19/2014 PLOT BY : wally_w PLOT NAME : PLOT SCALE : 1:20



STATE PROJECT NO: 1517-07-72	HWY: USH 10	COUNTY: WINNEBAGO	CROSS SECTIONS: USH 41 NB	SHEET NO: . 508	E

FILE NAME : S:\DOT\DOT_NE\120012-Tri County Freeway\1517-07-72\DGN_Files\Plansheets\090221_41NB_XS.dgn PLOT DATE : 2/19/2014 PLOT BY : wally_w PLOT NAME : PLOT SCALE : 1:20

BEGIN STRUCTURE B-70-134
STA 1364NB+14.27

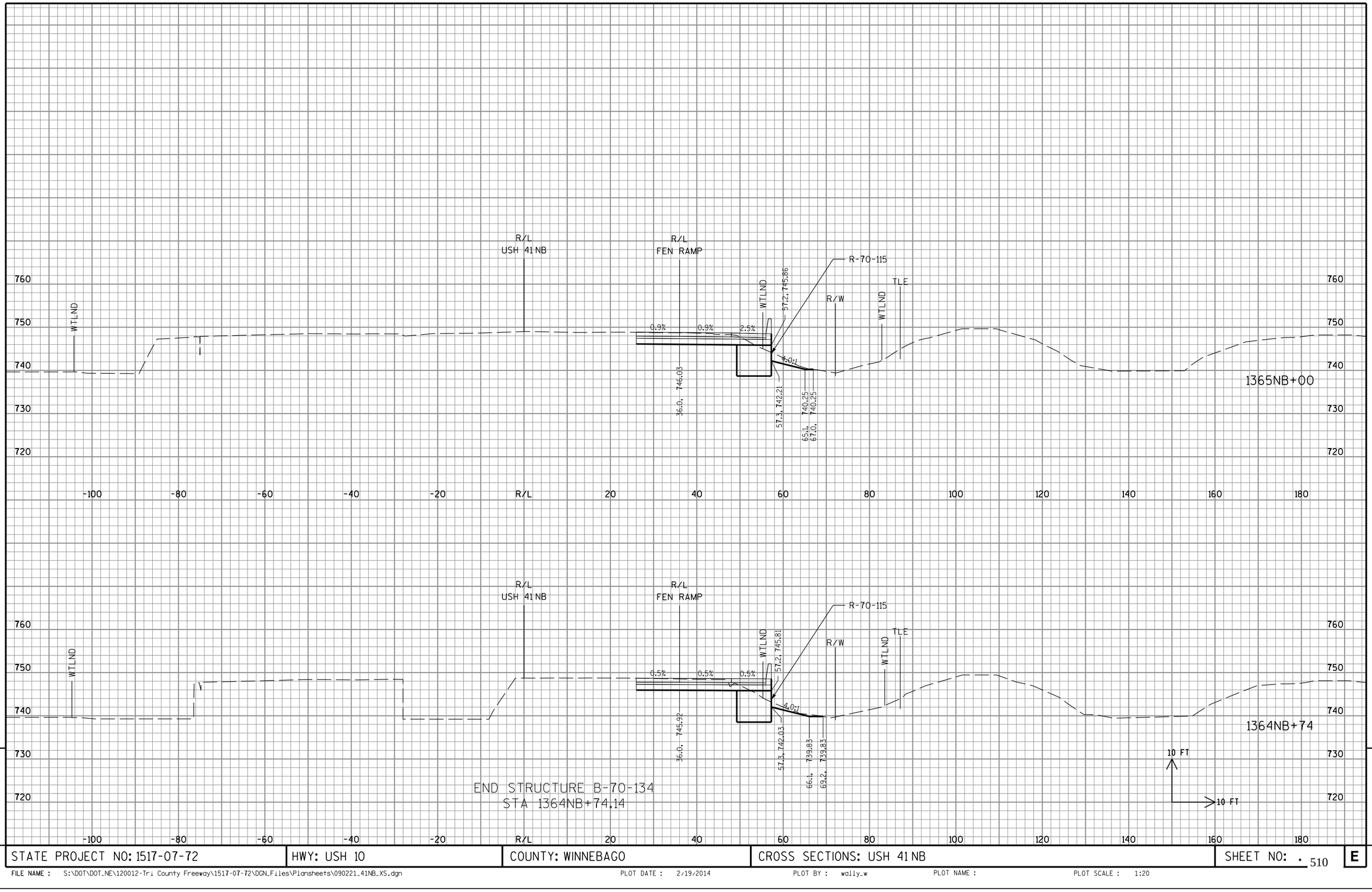


9

9

STATE PROJECT NO: 1517-07-72	HWY: USH 10	COUNTY: WINNEBAGO	CROSS SECTIONS: USH 41 NB	SHEET NO: . 509	E

FILE NAME : S:\DOT\DOT_NE\120012-Tri County Freeway\1517-07-72\DGN_Files\Plansheets\090221_41NB_XS.dgn PLOT DATE : 2/19/2014 PLOT BY : wally_w PLOT NAME : PLOT SCALE : 1:20

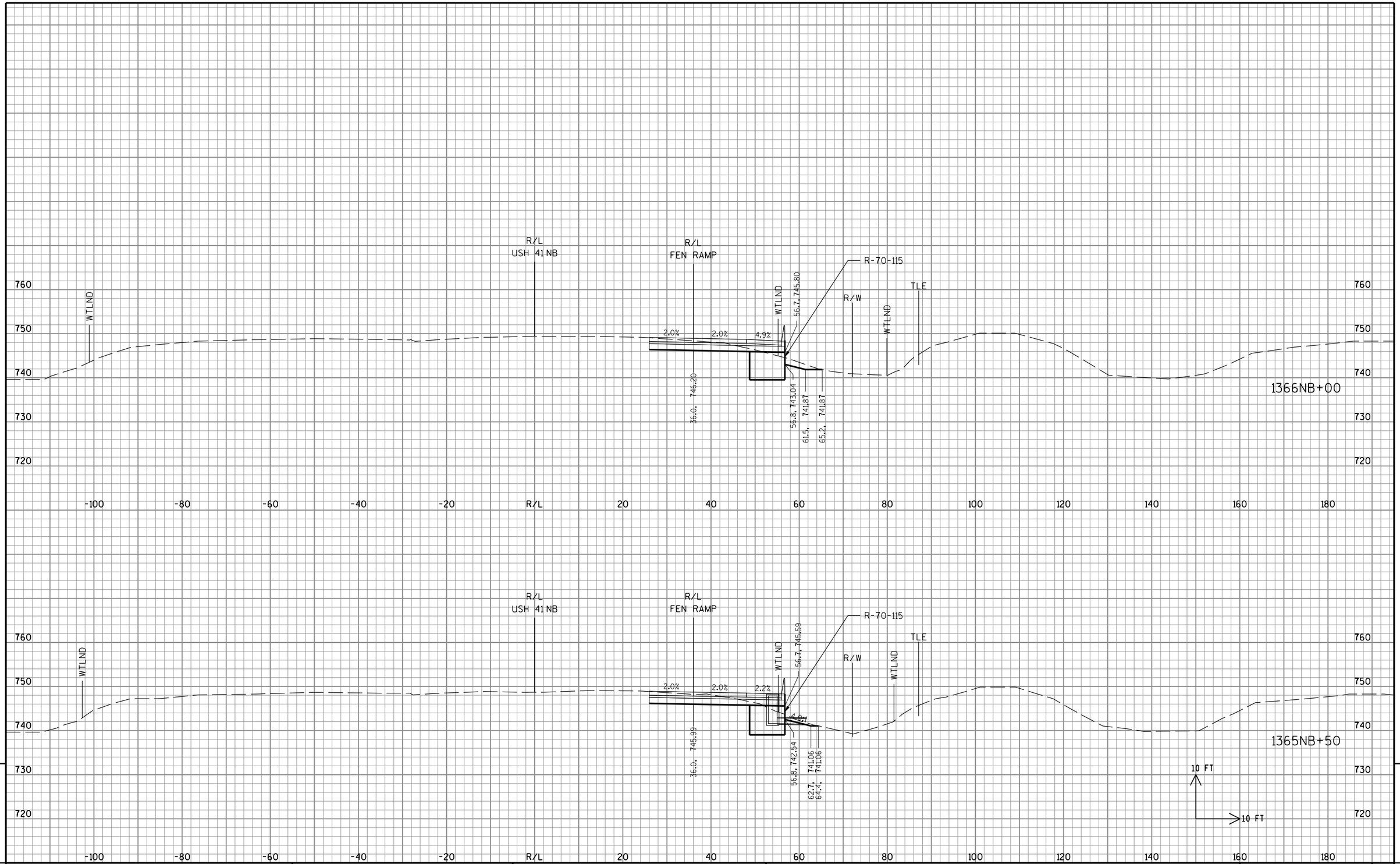


END STRUCTURE B-70-134
STA 1364NB+74.14

9 9

STATE PROJECT NO: 1517-07-72	HWY: USH 10	COUNTY: WINNEBAGO	CROSS SECTIONS: USH 41 NB	SHEET NO: 510	E

FILE NAME : S:\DOT\DOT_NE\120012-Tri County Freeway\1517-07-72\DGN_Files\Plansheets\090221_41NB_XS.dgn PLOT DATE : 2/19/2014 PLOT BY : wally_w PLOT NAME : PLOT SCALE : 1:20

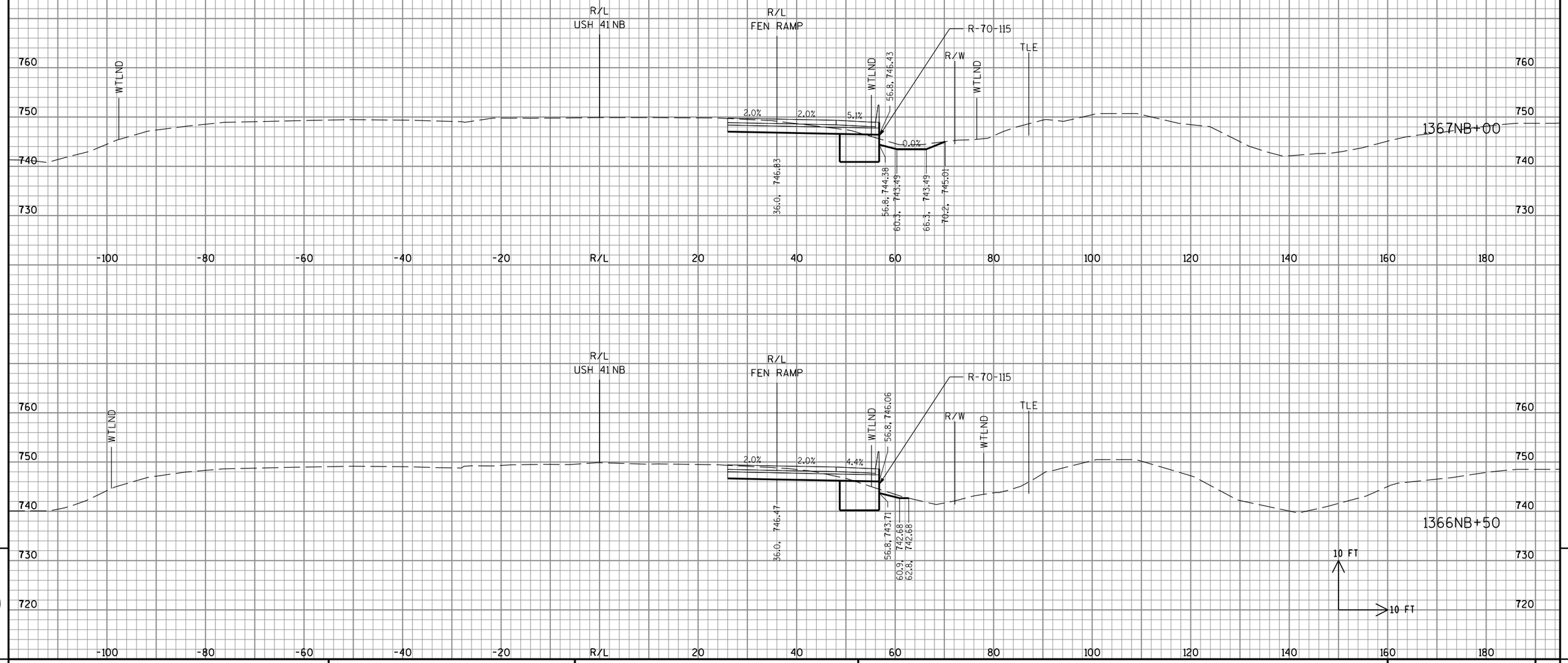


9

9

STATE PROJECT NO: 1517-07-72	HWY: USH 10	COUNTY: WINNEBAGO	CROSS SECTIONS: USH 41 NB	SHEET NO: . 511	E

FILE NAME : S:\DOT\DOT_NE\120012-Tri County Freeway\1517-07-72\DGN_Files\Plansheets\090221_41NB_XS.dgn PLOT DATE : 2/19/2014 PLOT BY : wally_w PLOT NAME : PLOT SCALE : 1:20

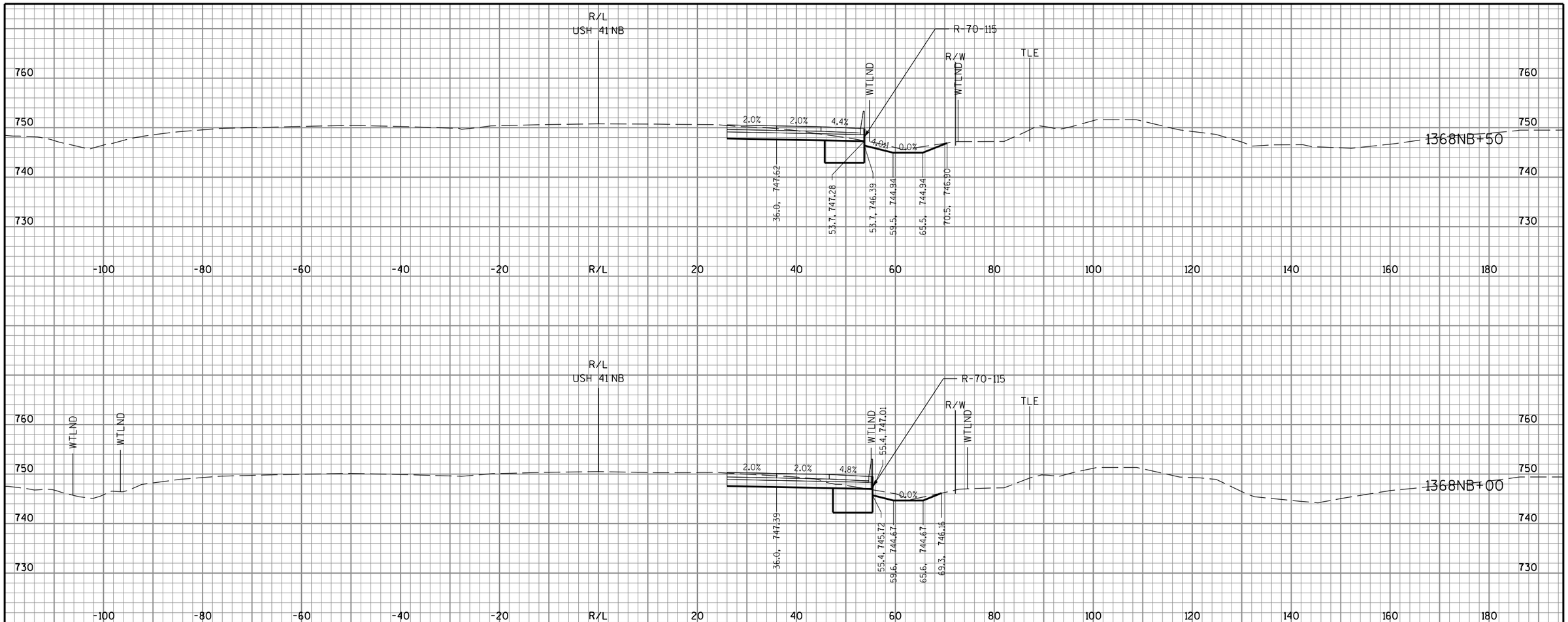


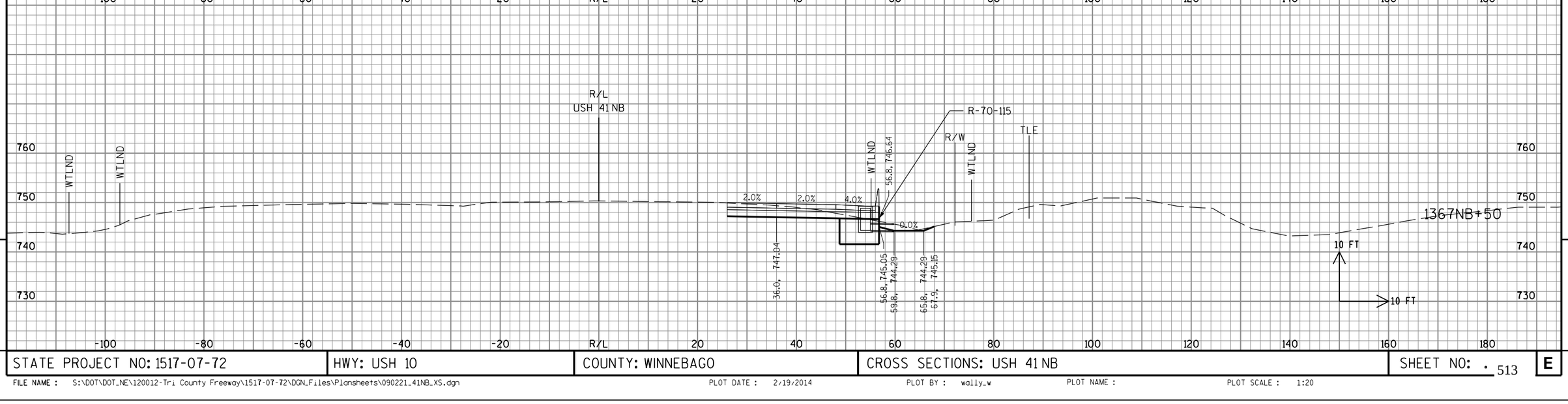
9

9

STATE PROJECT NO: 1517-07-72	HWY: USH 10	COUNTY: WINNEBAGO	CROSS SECTIONS: USH 41 NB	SHEET NO: . 512	E

FILE NAME : S:\DOT\DOT_NE\120012-Tri County Freeway\1517-07-72\DGN_Files\Plansheets\090221_41NB_XS.dgn PLOT DATE : 2/19/2014 PLOT BY : wally_w PLOT NAME : PLOT SCALE : 1:20



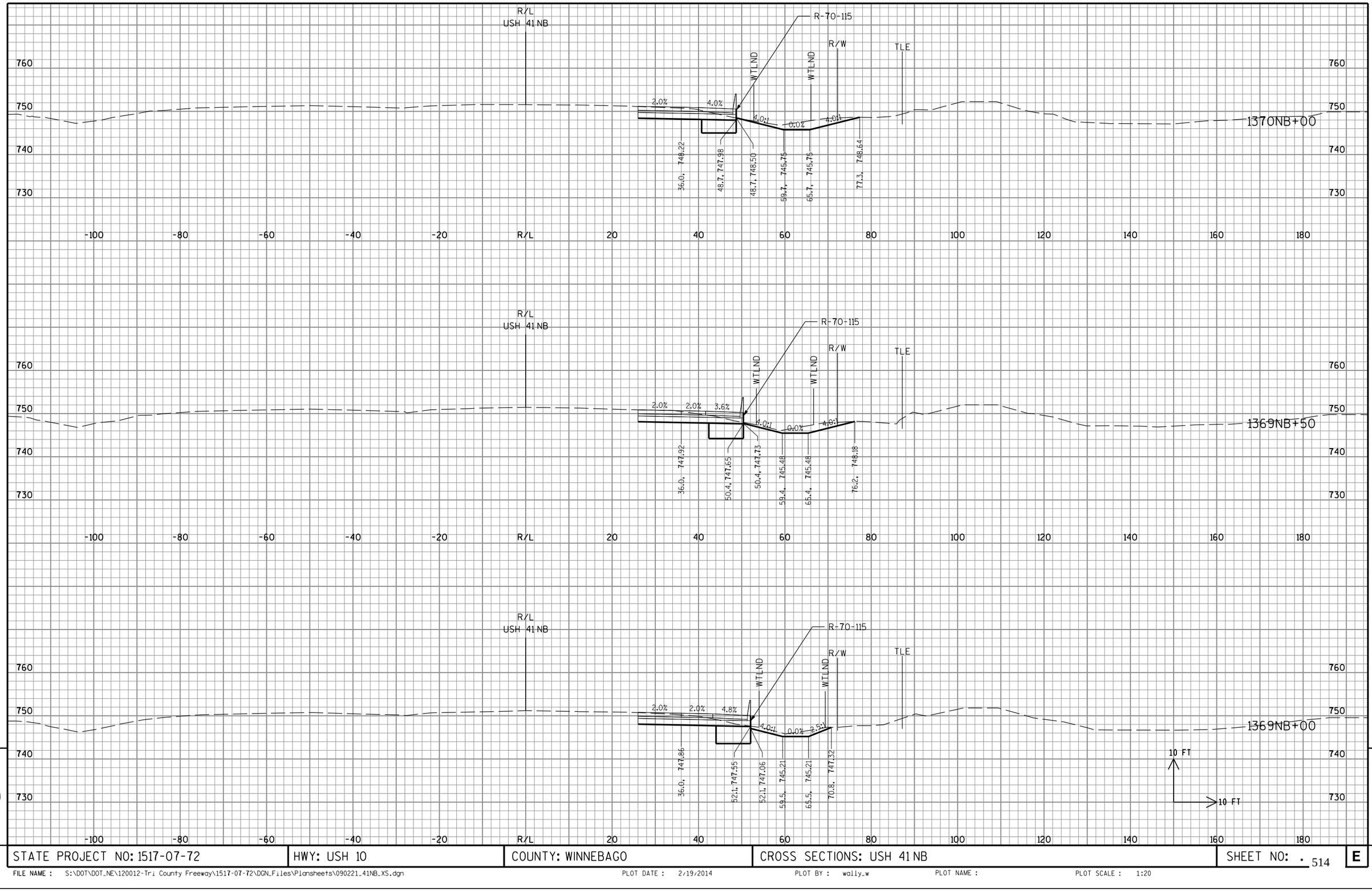


9

9

STATE PROJECT NO: 1517-07-72	HWY: USH 10	COUNTY: WINNEBAGO	CROSS SECTIONS: USH 41 NB	SHEET NO: . 513	E

FILE NAME : S:\DOT\DOT_NE\120012-Tri County Freeway\1517-07-72\DGN_Files\Plansheets\090221_41NB_XS.dgn PLOT DATE : 2/19/2014 PLOT BY : wally_w PLOT NAME : PLOT SCALE : 1:20

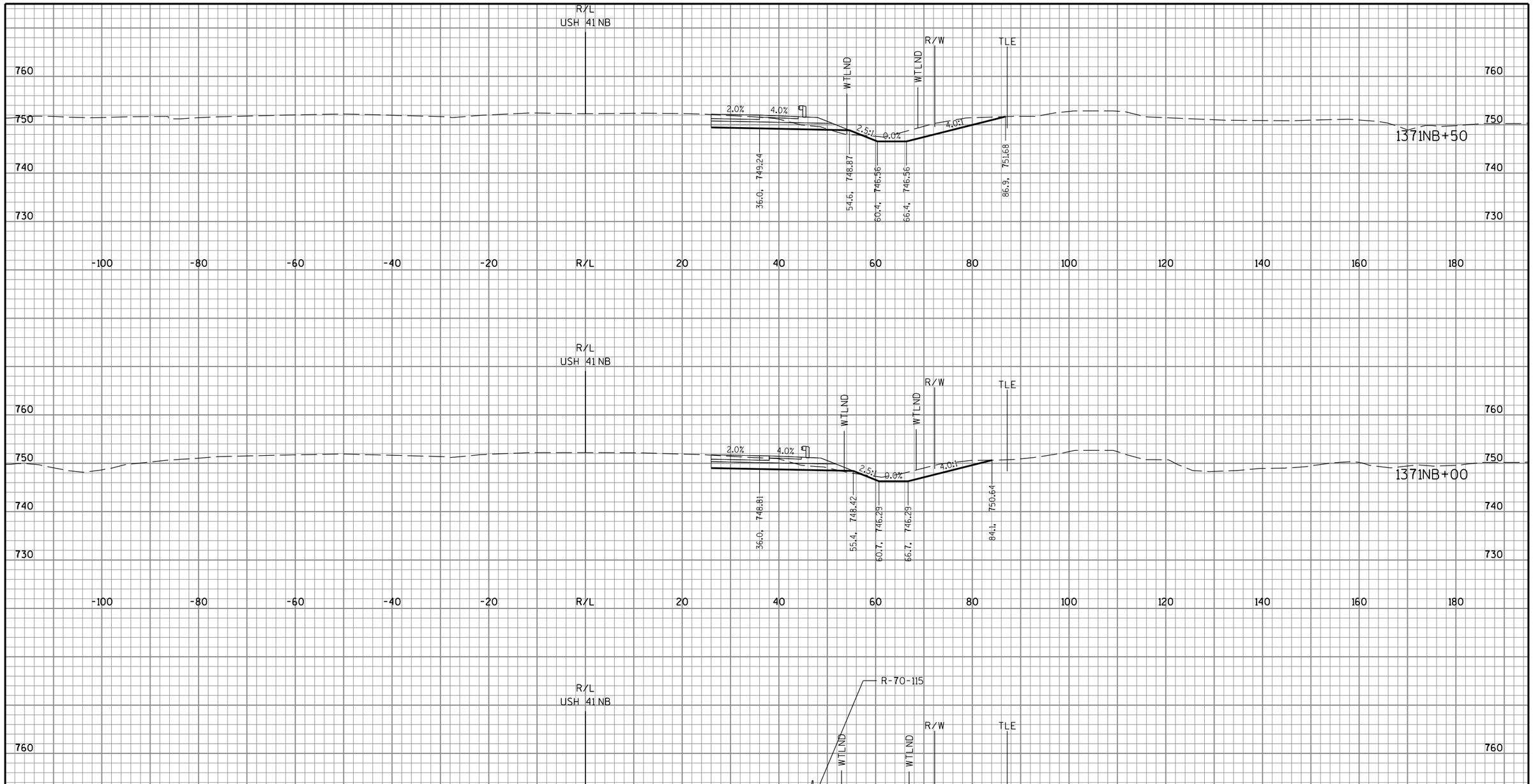


9

9

STATE PROJECT NO: 1517-07-72	HWY: USH 10	COUNTY: WINNEBAGO	CROSS SECTIONS: USH 41 NB	SHEET NO: . 514	E

FILE NAME : S:\DOT\DOT_NE\120012-Tri County Freeway\1517-07-72\DGN_Files\Plansheets\090221_41NB_XS.dgn PLOT DATE : 2/19/2014 PLOT BY : wally_w PLOT NAME : PLOT SCALE : 1:20

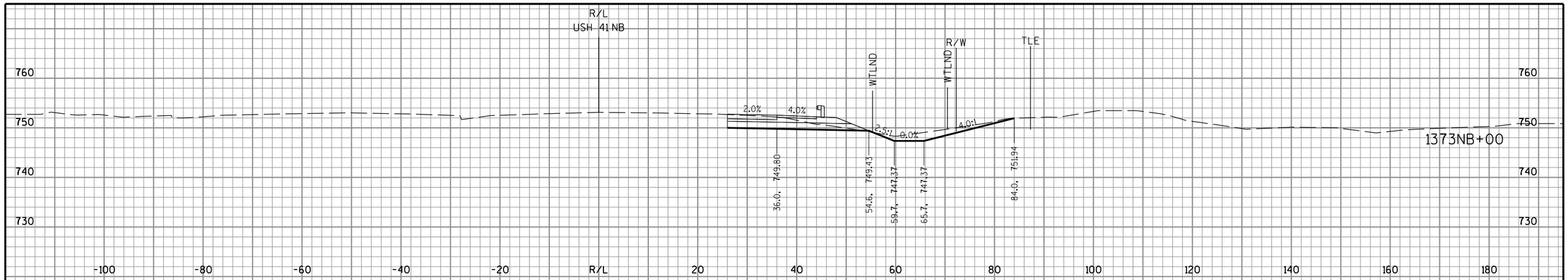


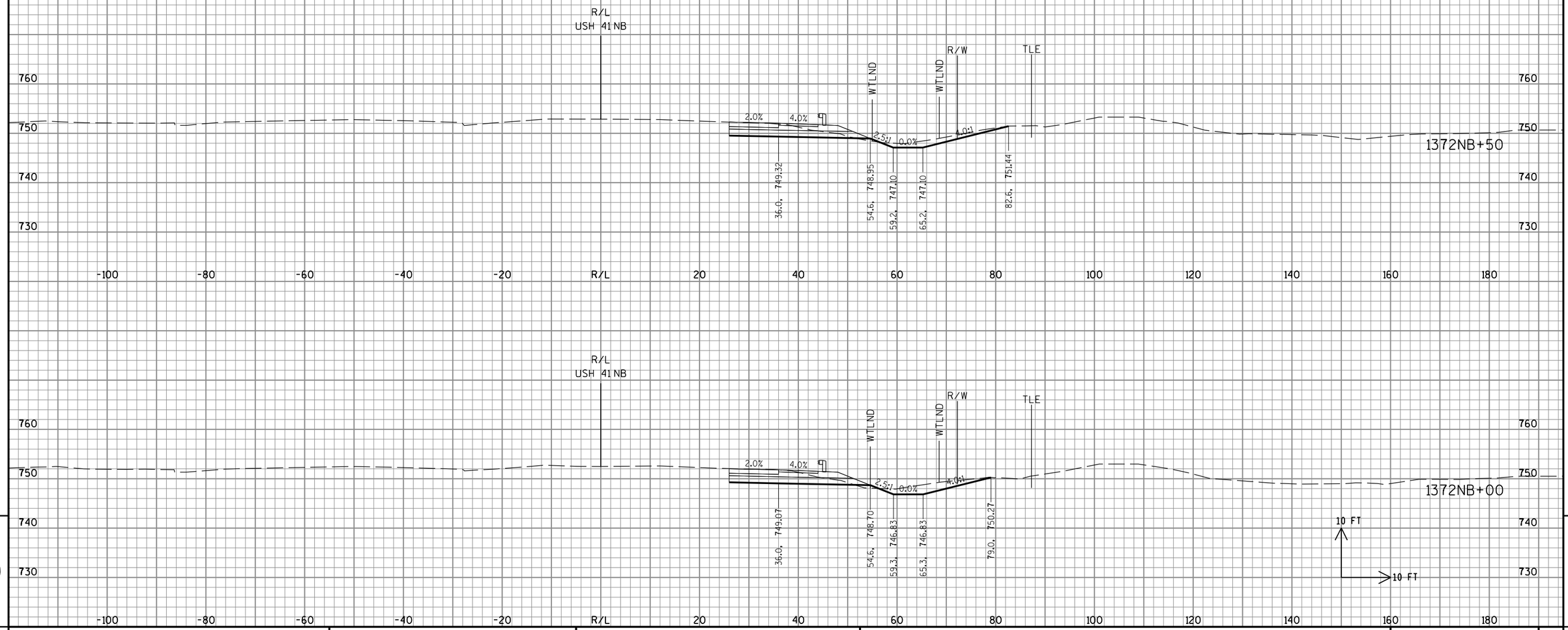
9

9

STATE PROJECT NO: 1517-07-72	HWY: USH 10	COUNTY: WINNEBAGO	CROSS SECTIONS: USH 41 NB	SHEET NO: . 515	E

FILE NAME : S:\DOT\DOT_NE\120012-Tri County Freeway\1517-07-72\DGN_Files\Plansheets\090221_41NB_XS.dgn PLOT DATE : 2/19/2014 PLOT BY : wally_w PLOT NAME : PLOT SCALE : 1:20



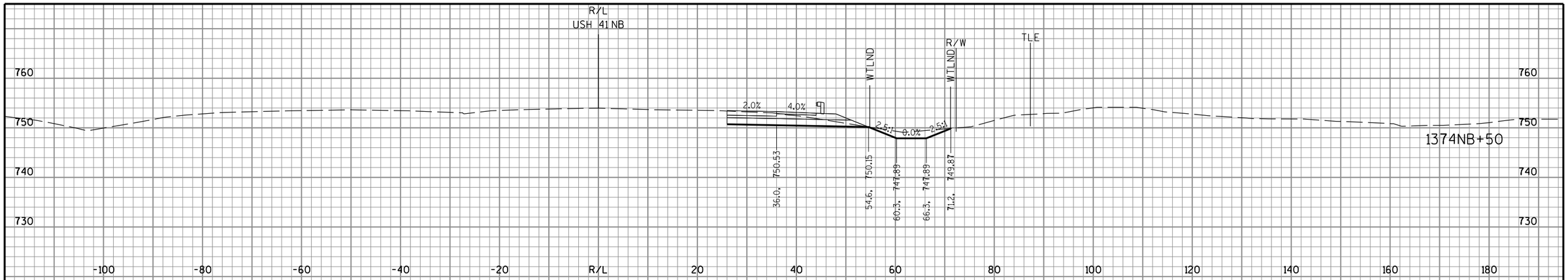


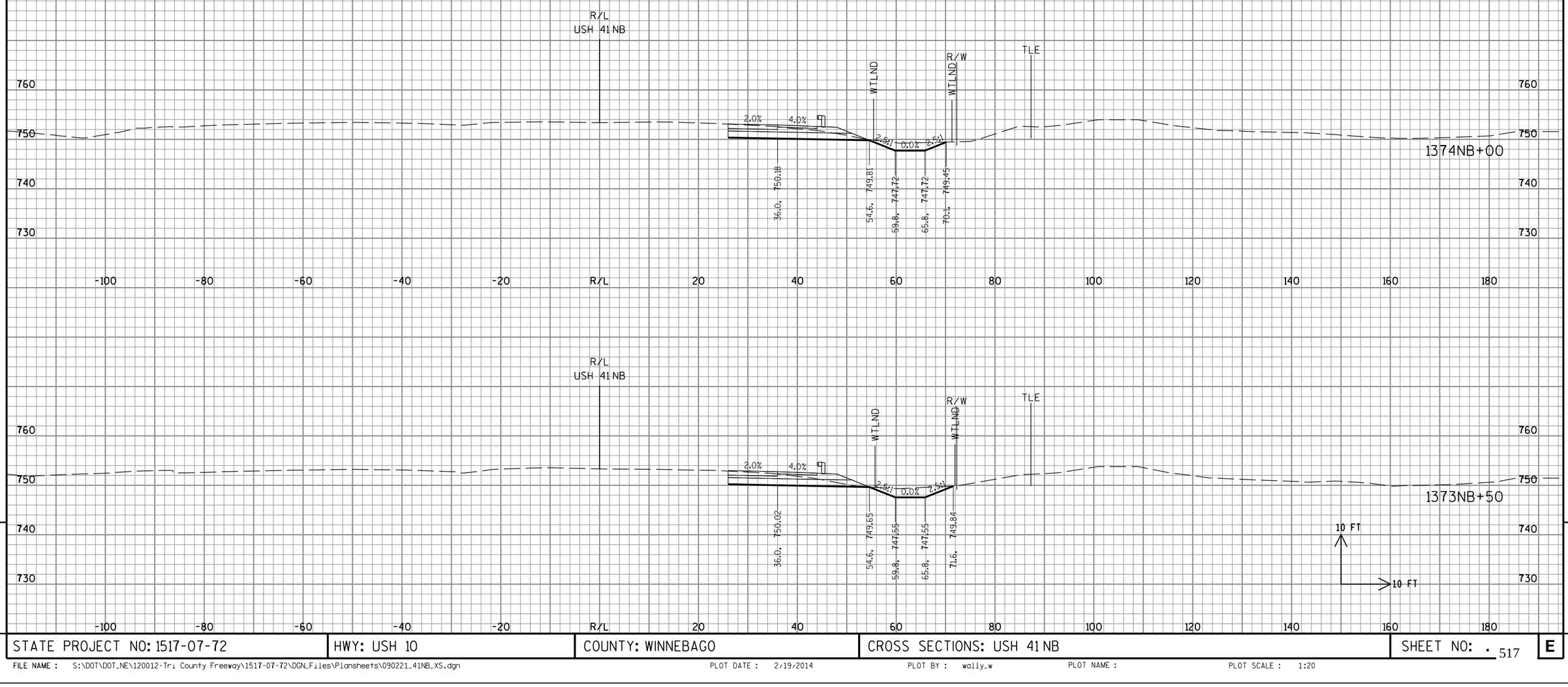
9

9

STATE PROJECT NO: 1517-07-72	HWY: USH 10	COUNTY: WINNEBAGO	CROSS SECTIONS: USH 41 NB	SHEET NO: . 516	E

FILE NAME : S:\DOT\DOT_NE\120012-Tri County Freeway\1517-07-72\DGN_Files\Plansheets\090221_41NB_XS.dgn PLOT DATE : 2/19/2014 PLOT BY : wally_w PLOT NAME : PLOT SCALE : 1:20



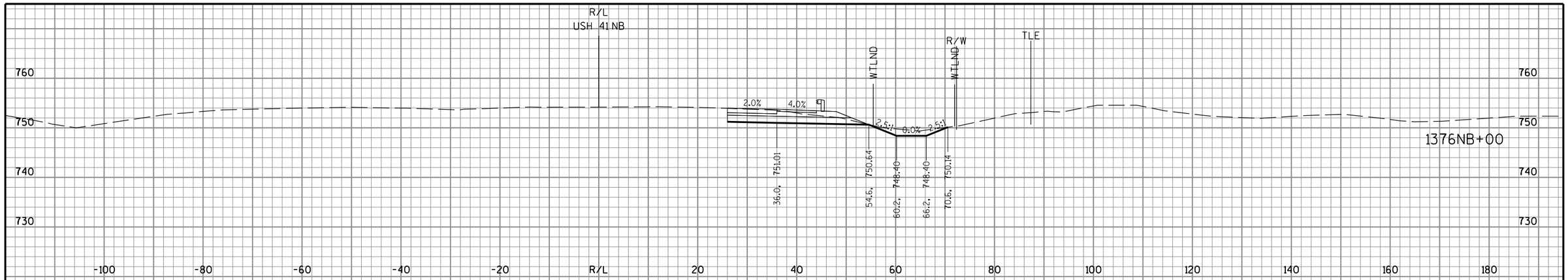


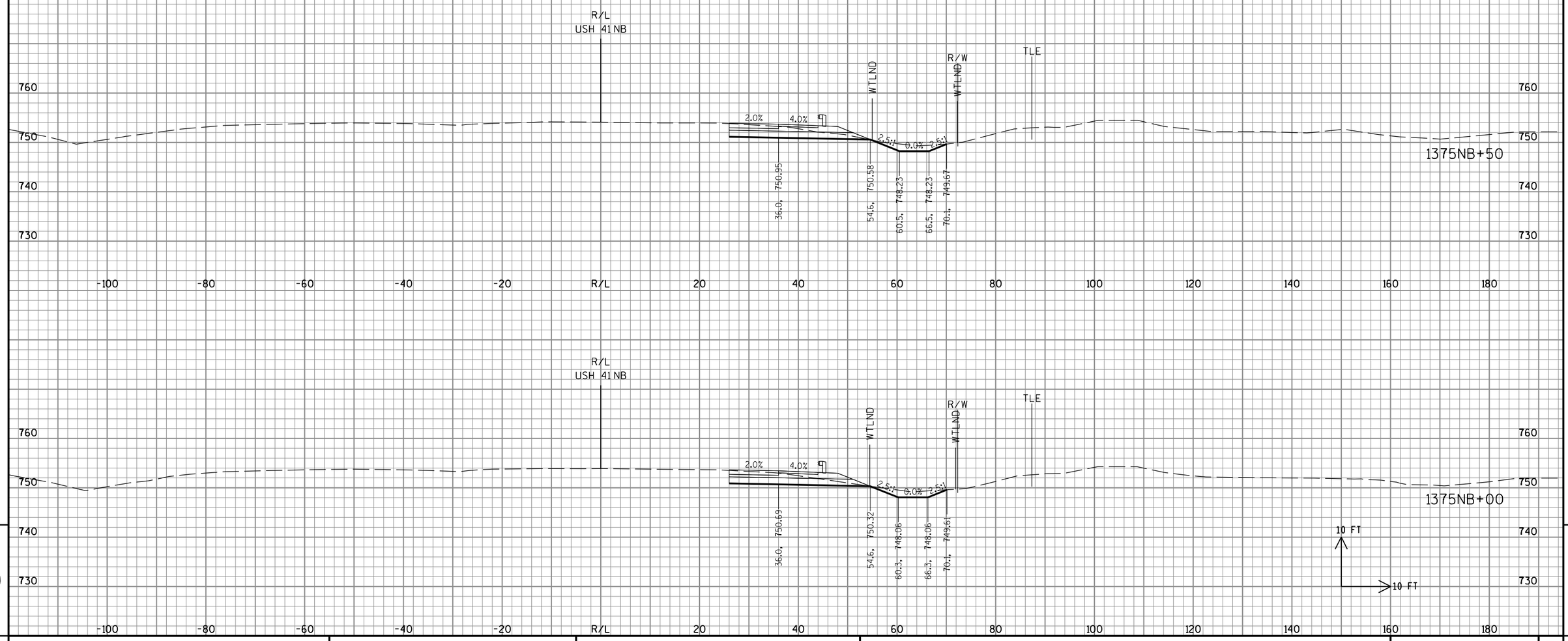
9

9

STATE PROJECT NO: 1517-07-72	HWY: USH 10	COUNTY: WINNEBAGO	CROSS SECTIONS: USH 41 NB	SHEET NO: . 517	E

FILE NAME : S:\DOT\DOT_NE\120012-Tri County Freeway\1517-07-72\DGN_Files\Plansheets\090221_41NB_XS.dgn PLOT DATE : 2/19/2014 PLOT BY : wally_w PLOT NAME : PLOT SCALE : 1:20



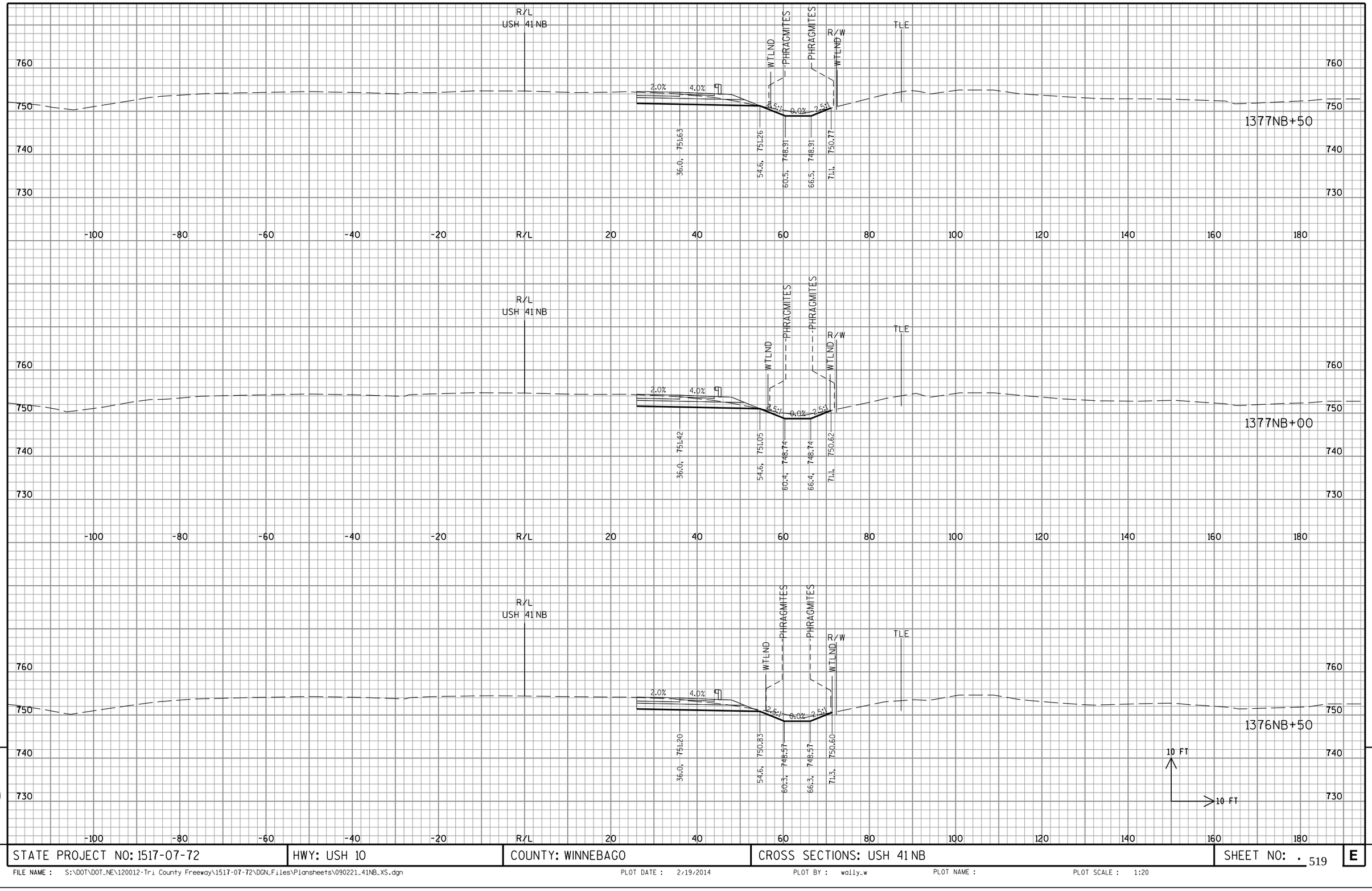


9

9

STATE PROJECT NO: 1517-07-72	HWY: USH 10	COUNTY: WINNEBAGO	CROSS SECTIONS: USH 41 NB	SHEET NO: . 518	E

FILE NAME : S:\DOT\DOT_NE\120012-Tri County Freeway\1517-07-72\DGN_Files\Plansheets\090221_41NB_XS.dgn PLOT DATE : 2/19/2014 PLOT BY : wally_w PLOT NAME : PLOT SCALE : 1:20

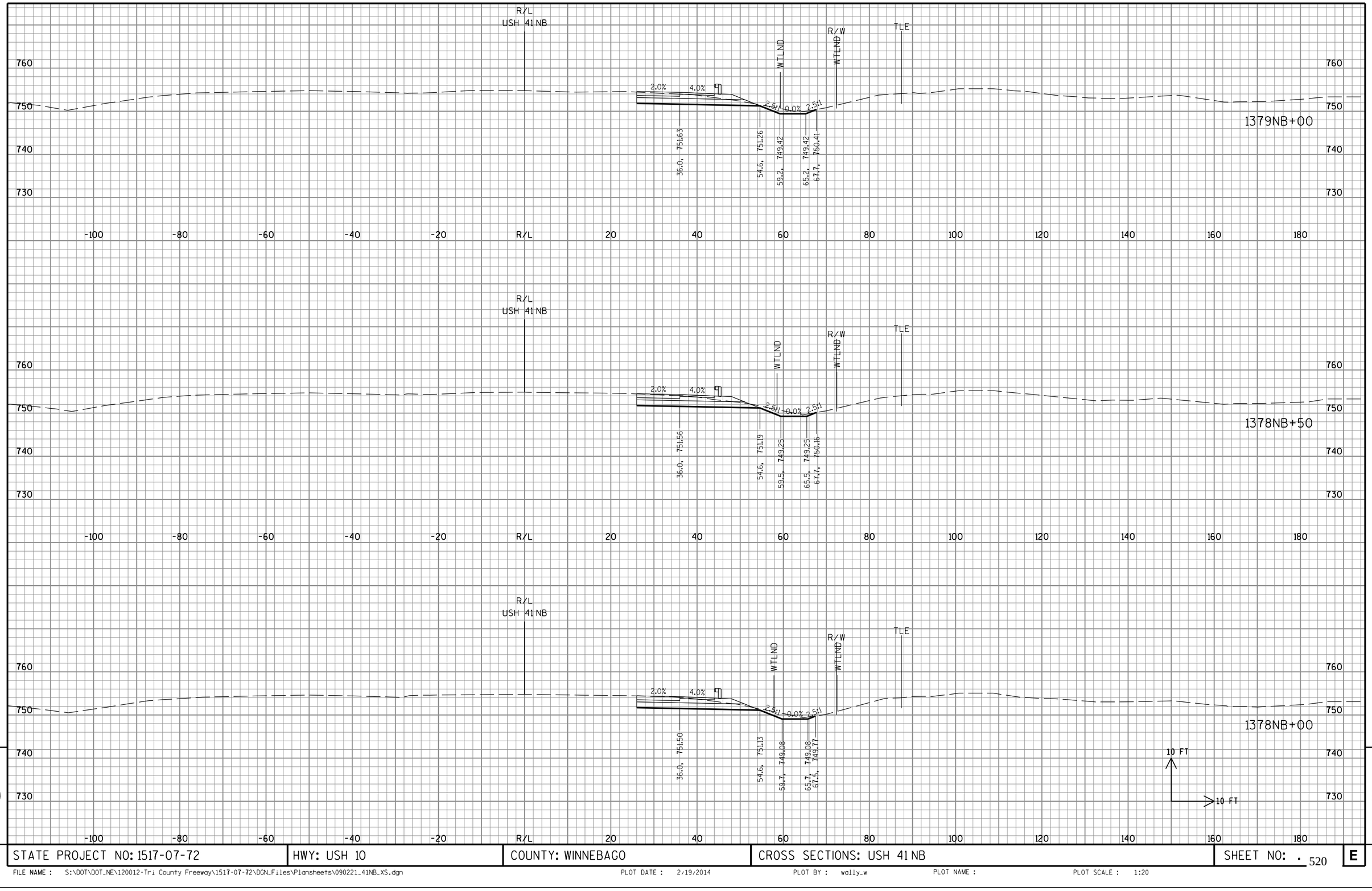


9

9

STATE PROJECT NO: 1517-07-72	HWY: USH 10	COUNTY: WINNEBAGO	CROSS SECTIONS: USH 41 NB	SHEET NO: 519	E

FILE NAME : S:\DOT\DOT_NE\120012-Tri County Freeway\1517-07-72\DGN_Files\Plansheets\090221_41NB_XS.dgn PLOT DATE : 2/19/2014 PLOT BY : wally_w PLOT NAME : PLOT SCALE : 1:20

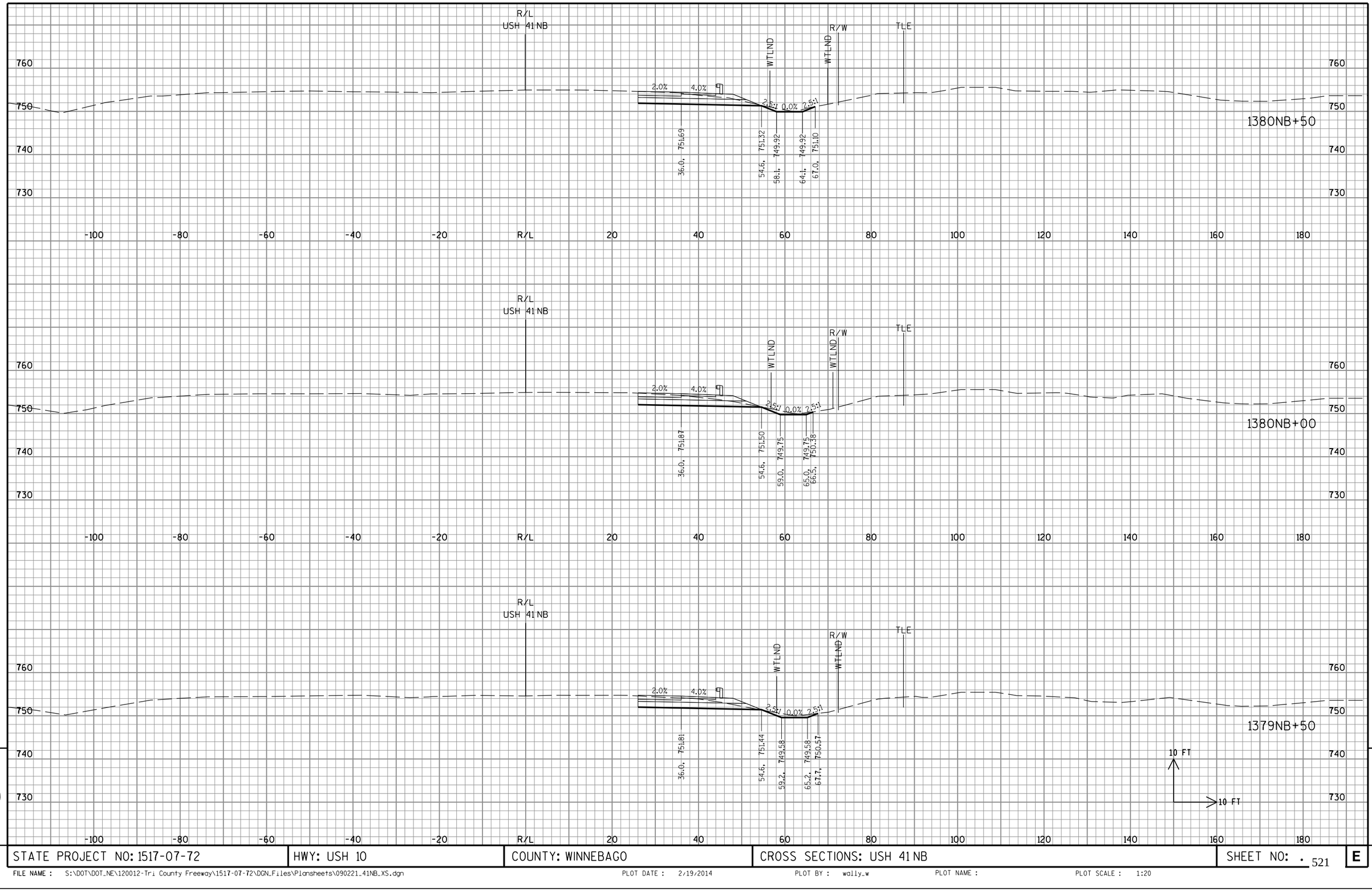


9

9

STATE PROJECT NO: 1517-07-72	HWY: USH 10	COUNTY: WINNEBAGO	CROSS SECTIONS: USH 41 NB	SHEET NO: . 520	E

FILE NAME : S:\DOT\DOT_NE\120012-Tri County Freeway\1517-07-72\DGN_Files\Plansheets\090221_41NB_XS.dgn PLOT DATE : 2/19/2014 PLOT BY : wally_w PLOT NAME : PLOT SCALE : 1:20

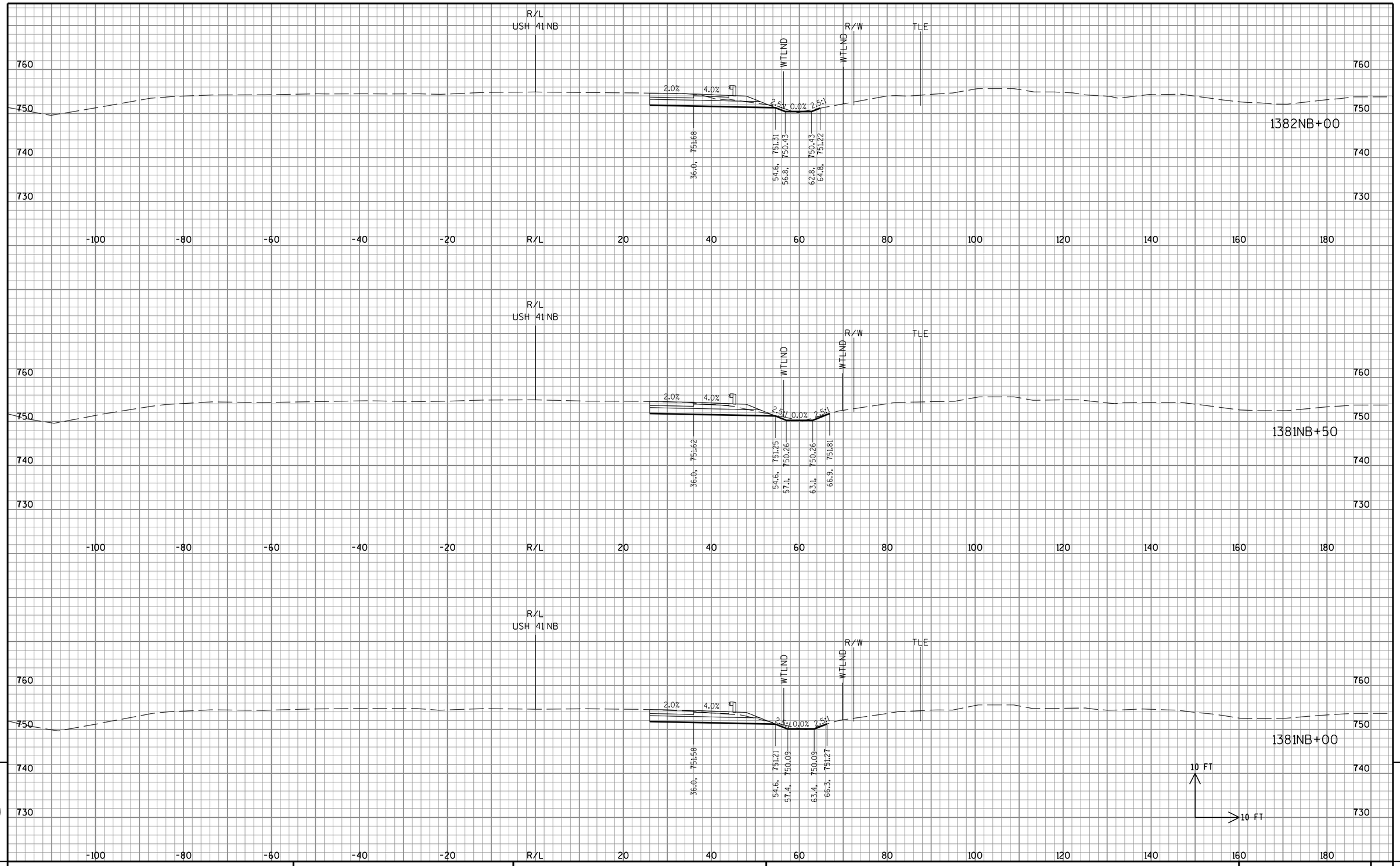


9

9

STATE PROJECT NO: 1517-07-72	HWY: USH 10	COUNTY: WINNEBAGO	CROSS SECTIONS: USH 41 NB	SHEET NO: . 521	E

FILE NAME : S:\DOT\DOT_NE\120012-Tri County Freeway\1517-07-72\DGN_Files\Plansheets\090221_41NB_XS.dgn PLOT DATE : 2/19/2014 PLOT BY : wally_w PLOT NAME : PLOT SCALE : 1:20

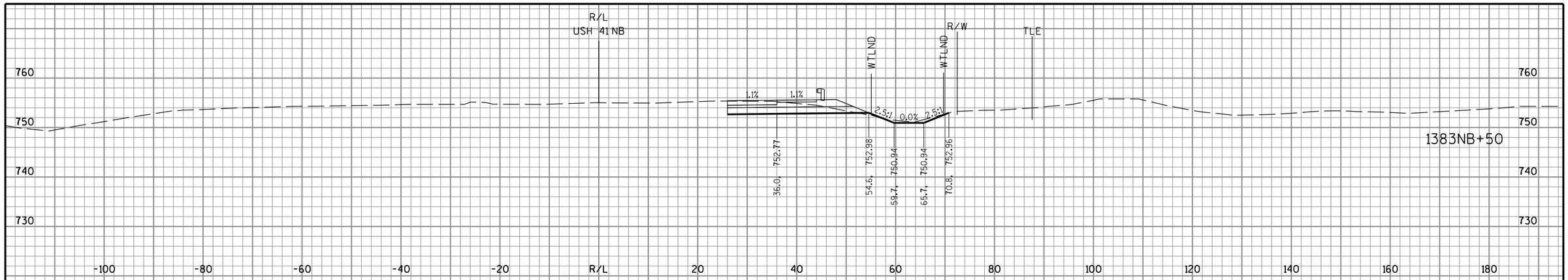


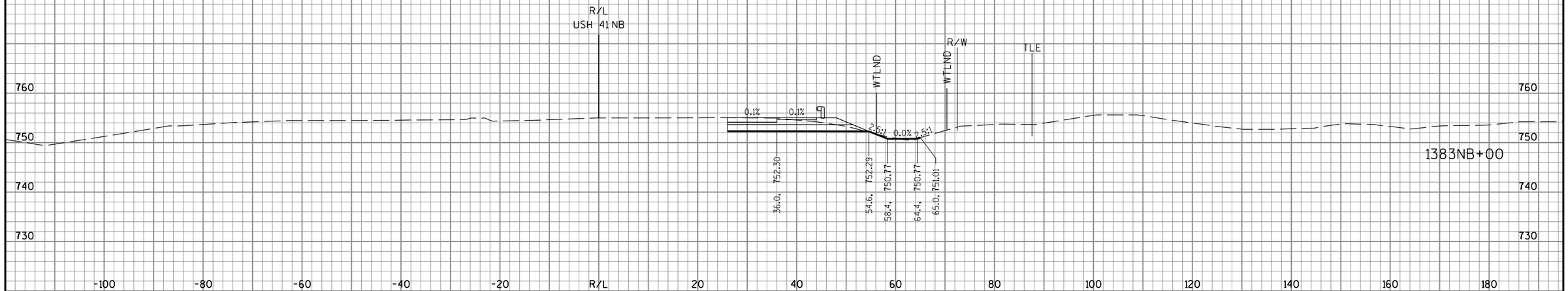
9

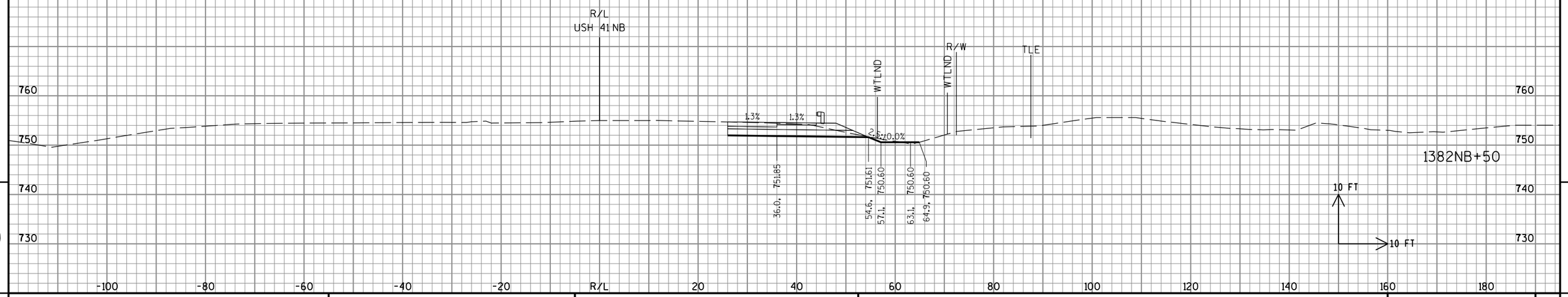
9

STATE PROJECT NO: 1517-07-72	HWY: USH 10	COUNTY: WINNEBAGO	CROSS SECTIONS: USH 41 NB	SHEET NO: . 522	E

FILE NAME : S:\DOT\DOT_NE\120012-Tri County Freeway\1517-07-72\DGN_Files\Plansheets\090221_41NB_XS.dgn PLOT DATE : 2/19/2014 PLOT BY : wally_w PLOT NAME : PLOT SCALE : 1:20





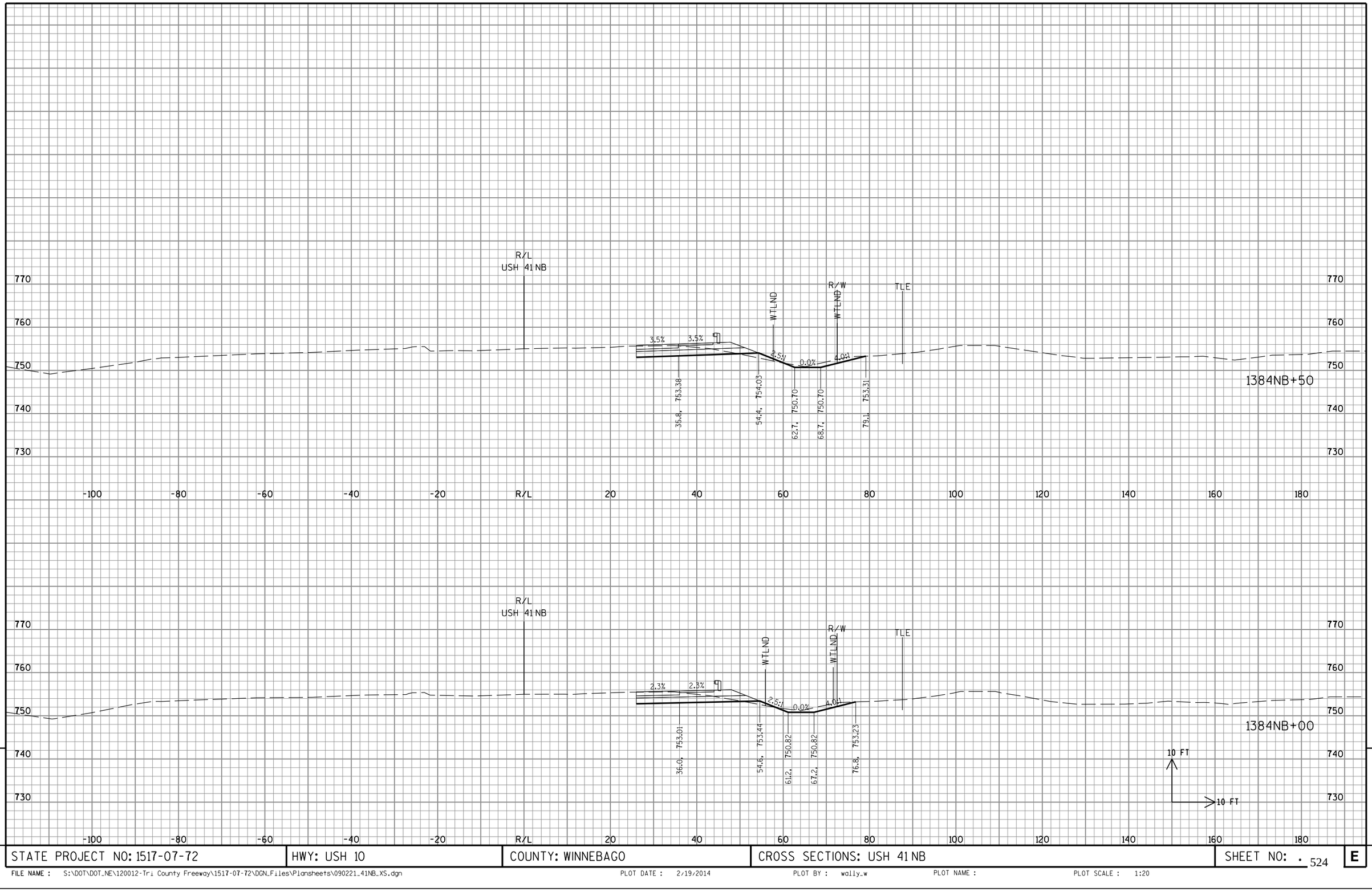


9

9

STATE PROJECT NO: 1517-07-72	HWY: USH 10	COUNTY: WINNEBAGO	CROSS SECTIONS: USH 41 NB	SHEET NO: . 523	E

FILE NAME : S:\DOT\DOT_NE\120012-Tri County Freeway\1517-07-72\DGN_Files\Plansheets\090221_41NB_XS.dgn PLOT DATE : 2/19/2014 PLOT BY : wally_w PLOT NAME : PLOT SCALE : 1:20

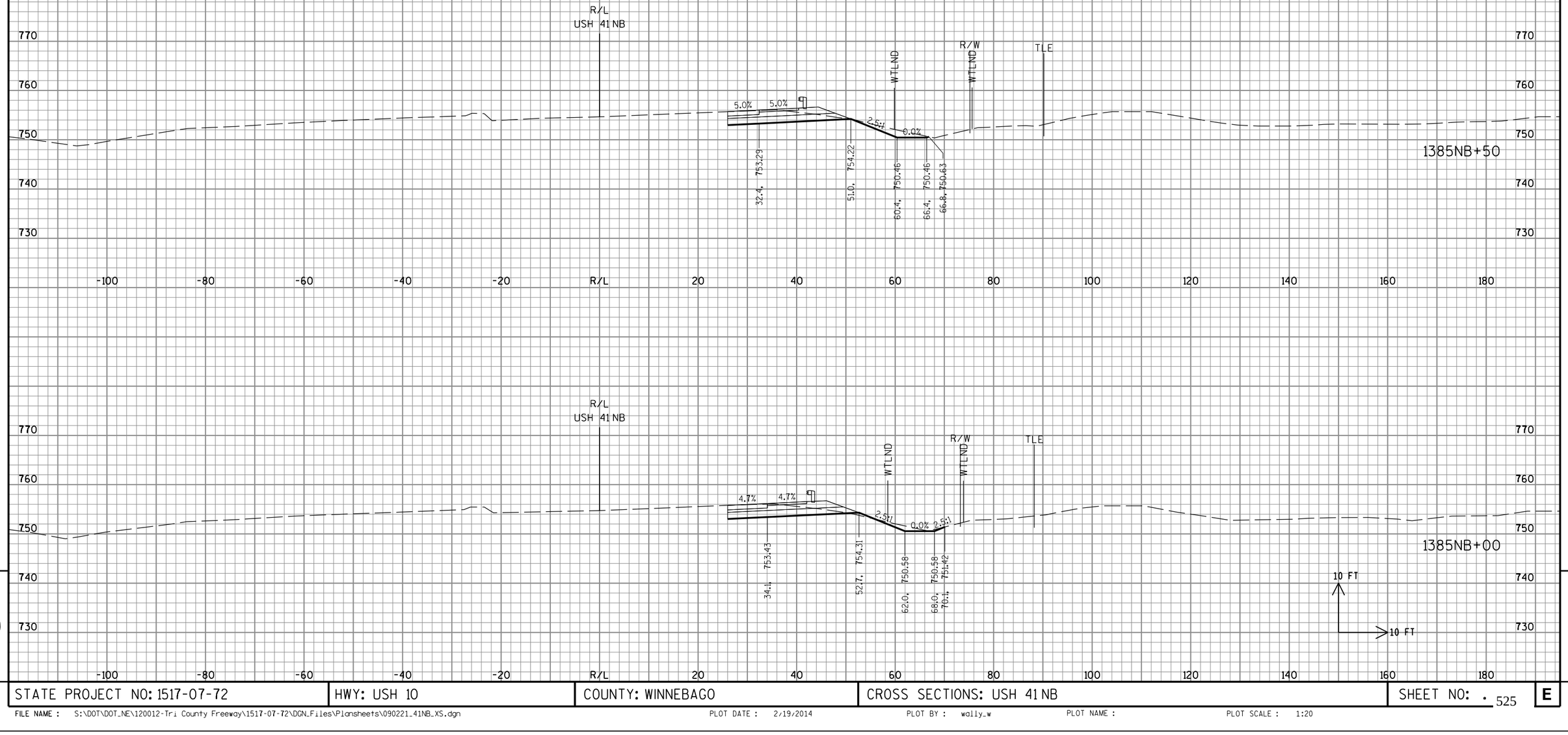


9

9

STATE PROJECT NO: 1517-07-72	HWY: USH 10	COUNTY: WINNEBAGO	CROSS SECTIONS: USH 41 NB	SHEET NO: . 524	E

FILE NAME : S:\DOT\DOT_NE\120012-Tri County Freeway\1517-07-72\DGN_Files\Plansheets\090221_41NB_XS.dgn PLOT DATE : 2/19/2014 PLOT BY : wally_w PLOT NAME : PLOT SCALE : 1:20

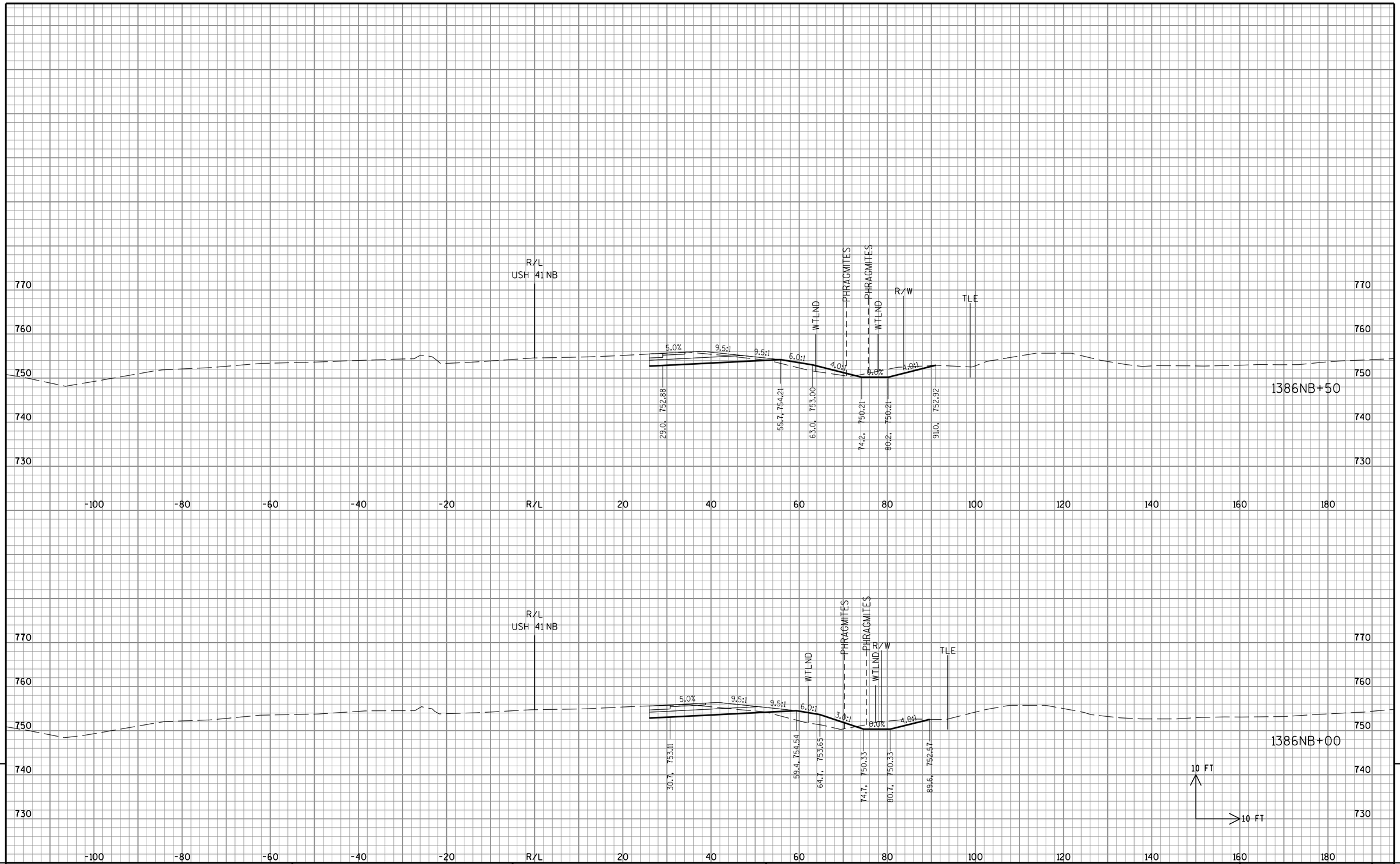


9

9

STATE PROJECT NO: 1517-07-72	HWY: USH 10	COUNTY: WINNEBAGO	CROSS SECTIONS: USH 41 NB	SHEET NO: . 525	E

FILE NAME : S:\DOT\DOT_NE\120012-Tri County Freeway\1517-07-72\DGN_Files\Plansheets\090221_41NB_XS.dgn PLOT DATE : 2/19/2014 PLOT BY : wally_w PLOT NAME : PLOT SCALE : 1:20



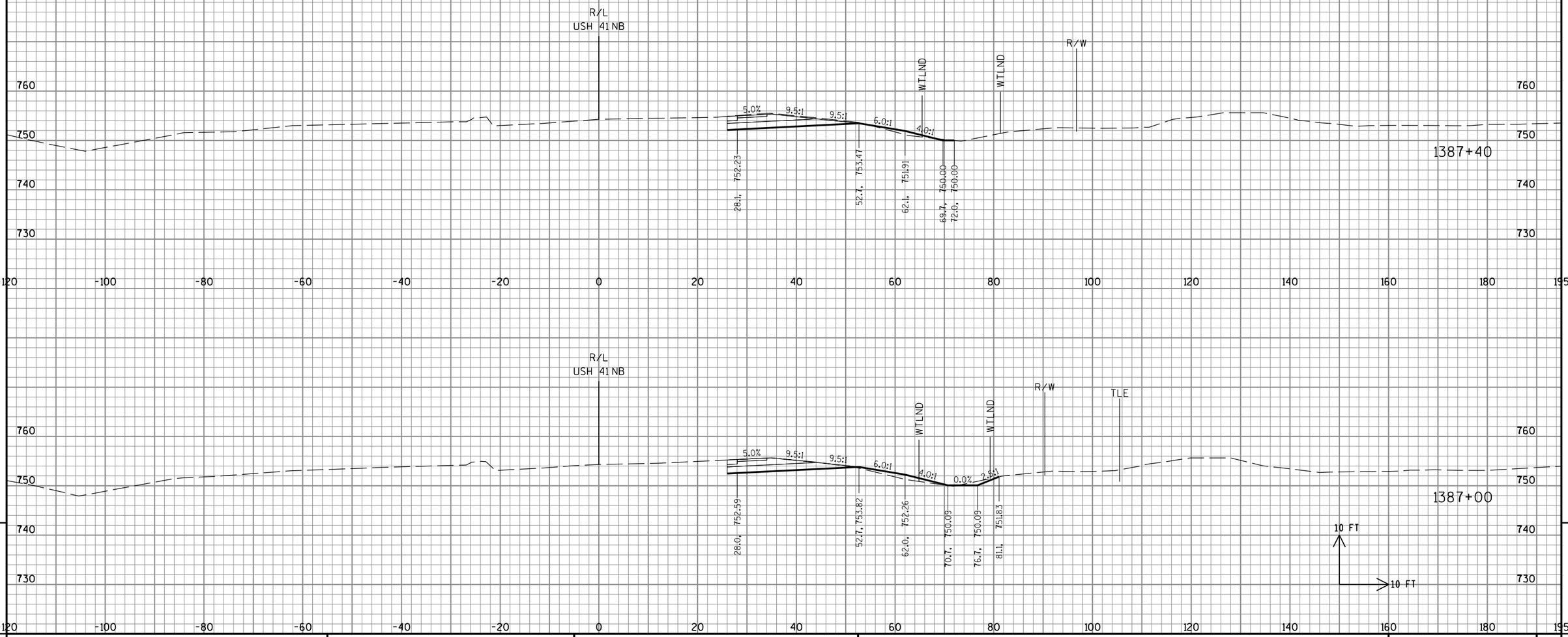
9

9

STATE PROJECT NO: 1517-07-72	HWY: USH 10	COUNTY: WINNEBAGO	CROSS SECTIONS: USH 41 NB	SHEET NO: . 526	E

FILE NAME : S:\DOT\DOT_NE\120012-Tri County Freeway\1517-07-72\DGN_Files\Plansheets\090221_41NB_XS.dgn PLOT DATE : 2/19/2014 PLOT BY : wally_w PLOT NAME : PLOT SCALE : 1:20

END CONSTRUCTION STA 1387NB+39.79

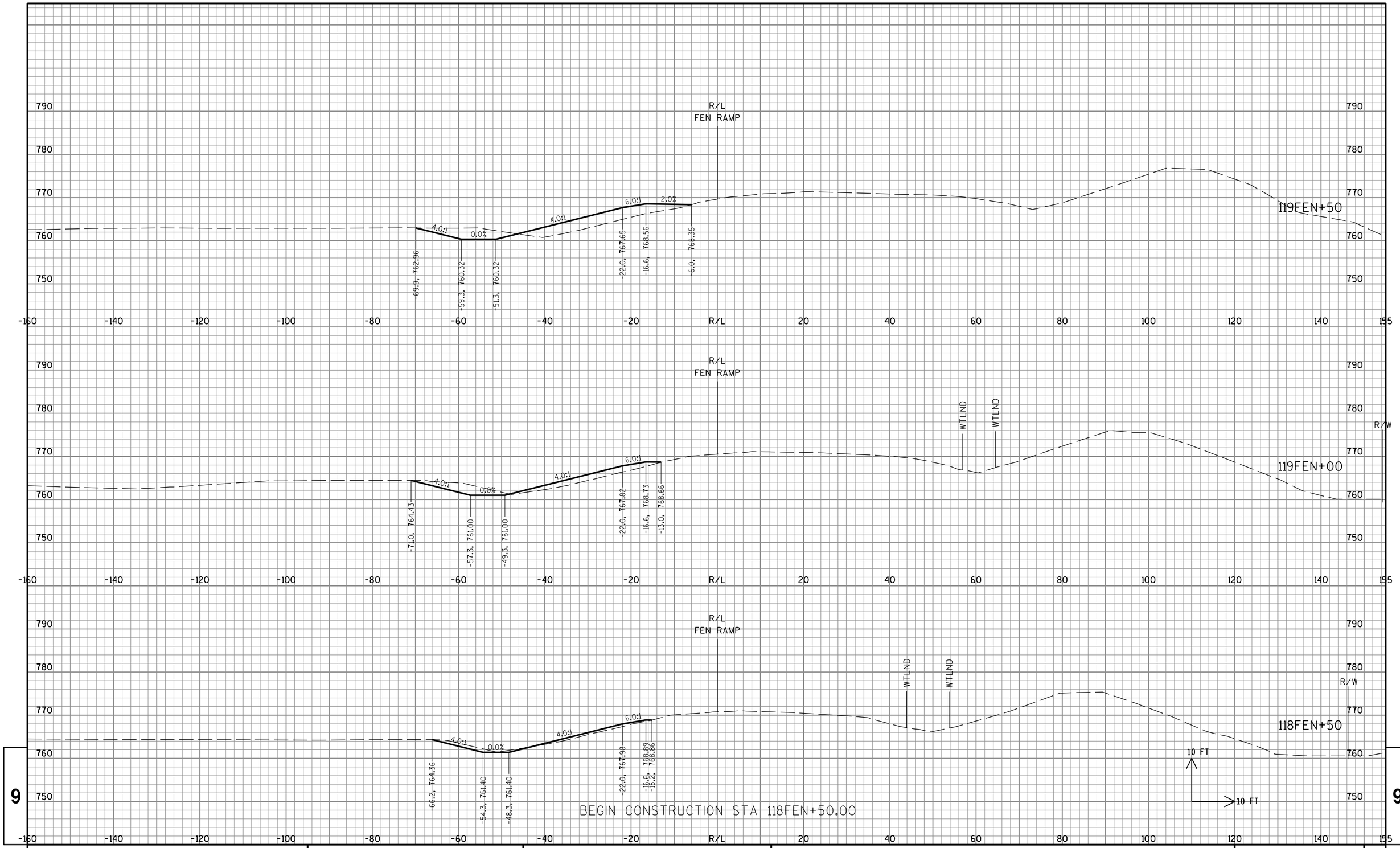


9

9

STATE PROJECT NO: 1517-07-72	HWY: USH 10	COUNTY: WINNEBAGO	CROSS SECTIONS: USH 41 NB	SHEET NO: . 527	E

FILE NAME : S:\DOT\DOT_NE\120012-Tri County Freeway\1517-07-72\DGN_Files\Plansheets\090221_41NB_XS.dgn PLOT DATE : 2/19/2014 PLOT BY : wally_w PLOT NAME : PLOT SCALE : 1:20

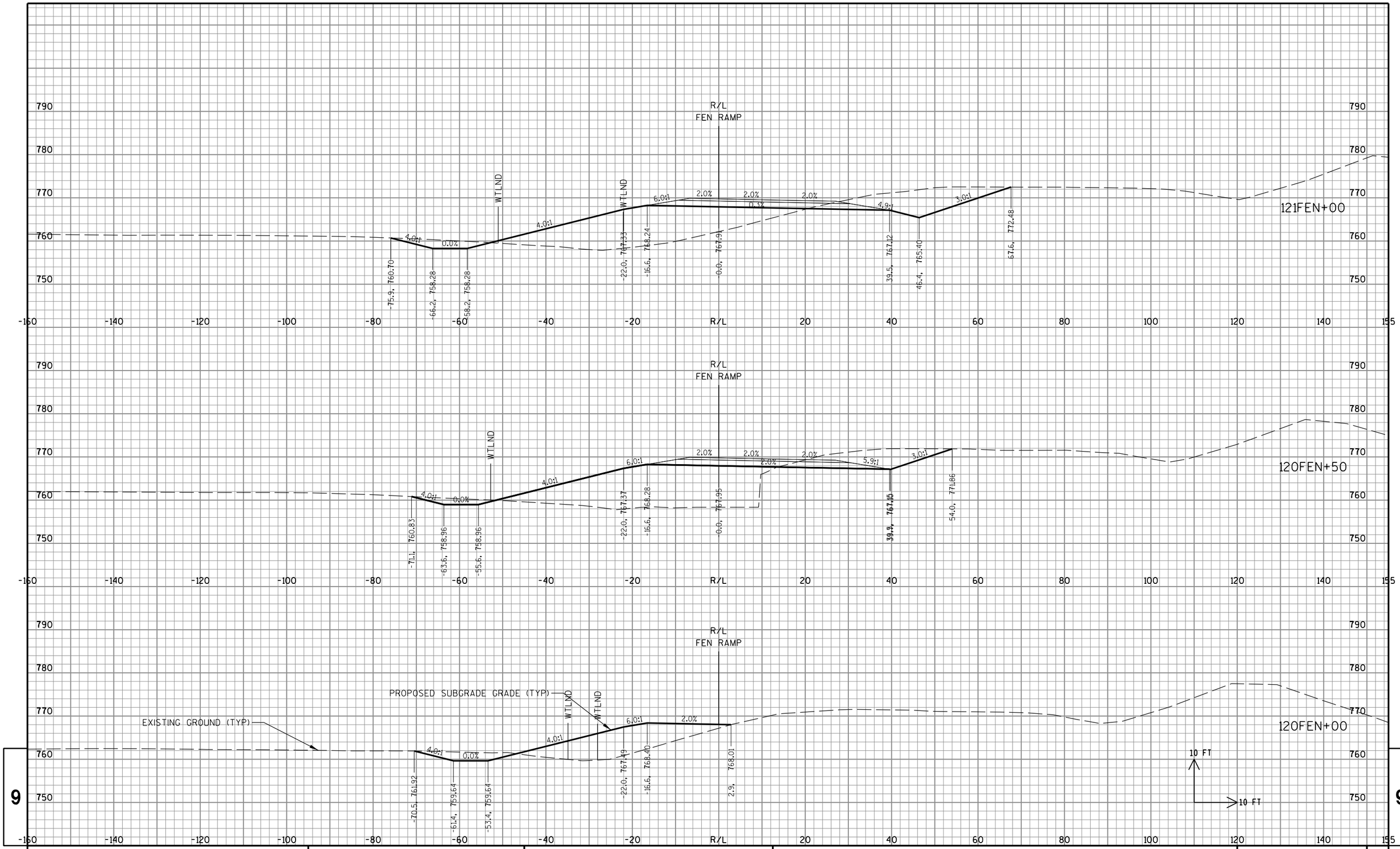


9

9

STATE PROJECT NO: 1517-07-72	HWY: USH 10	COUNTY: WINNEBAGO	CROSS SECTIONS: FEN RAMP	SHEET NO: . 528	E

FILE NAME : S:\DOT\DOT_NE\120012-Tri County Freeway\1517-07-72\DGN_Files\Plansheets\090231_FEN_XS.dgn PLOT DATE : 2/19/2014 PLOT BY : wally_w PLOT NAME : PLOT SCALE : 1:20

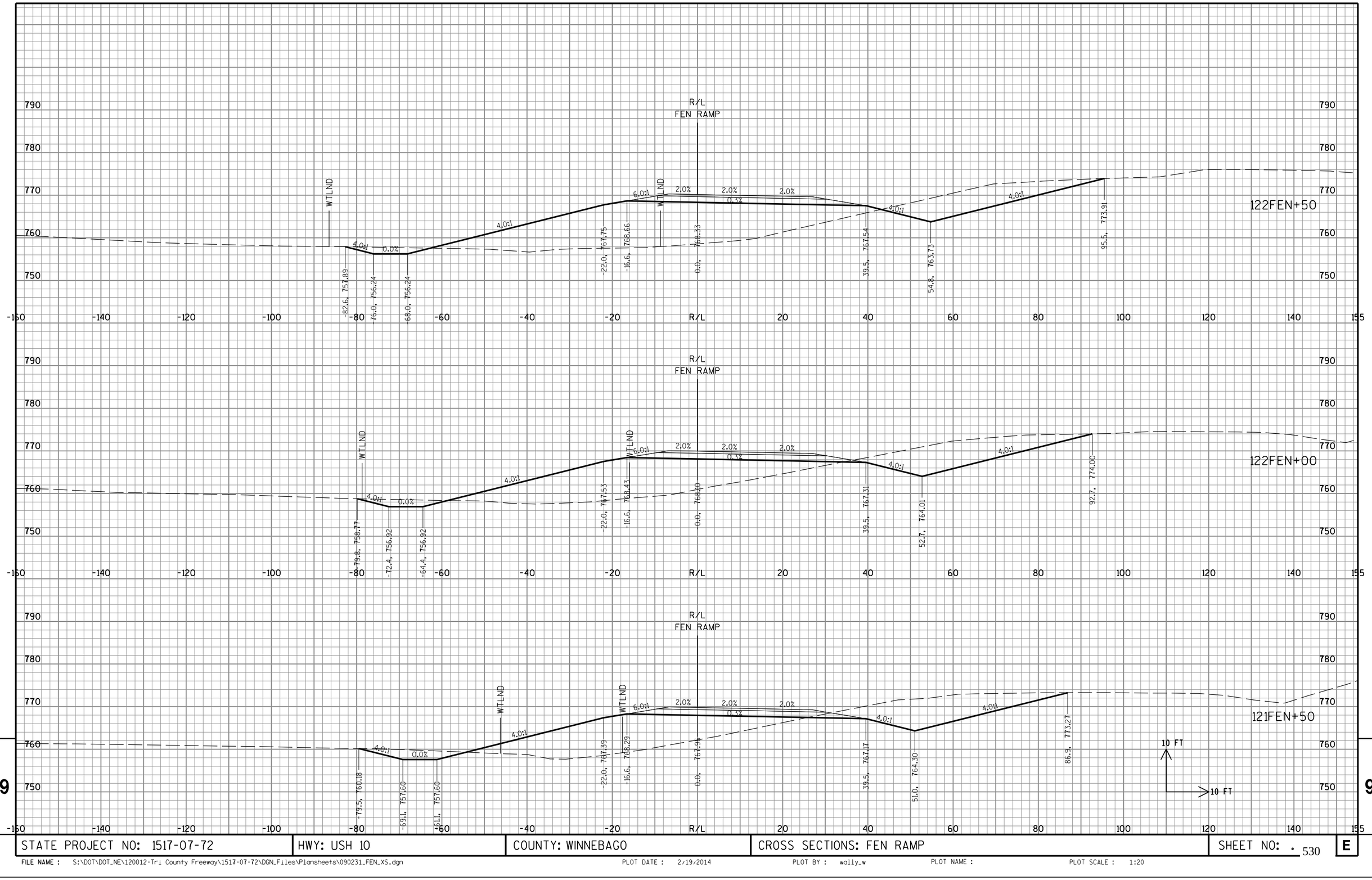


9

9

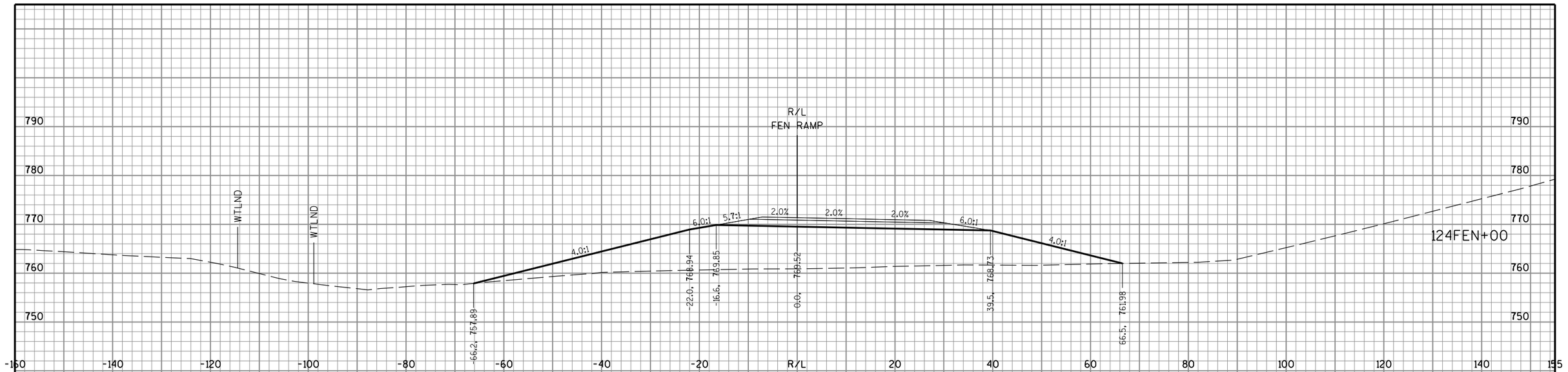
STATE PROJECT NO: 1517-07-72	HWY: USH 10	COUNTY: WINNEBAGO	CROSS SECTIONS: FEN RAMP	SHEET NO: . 529	E

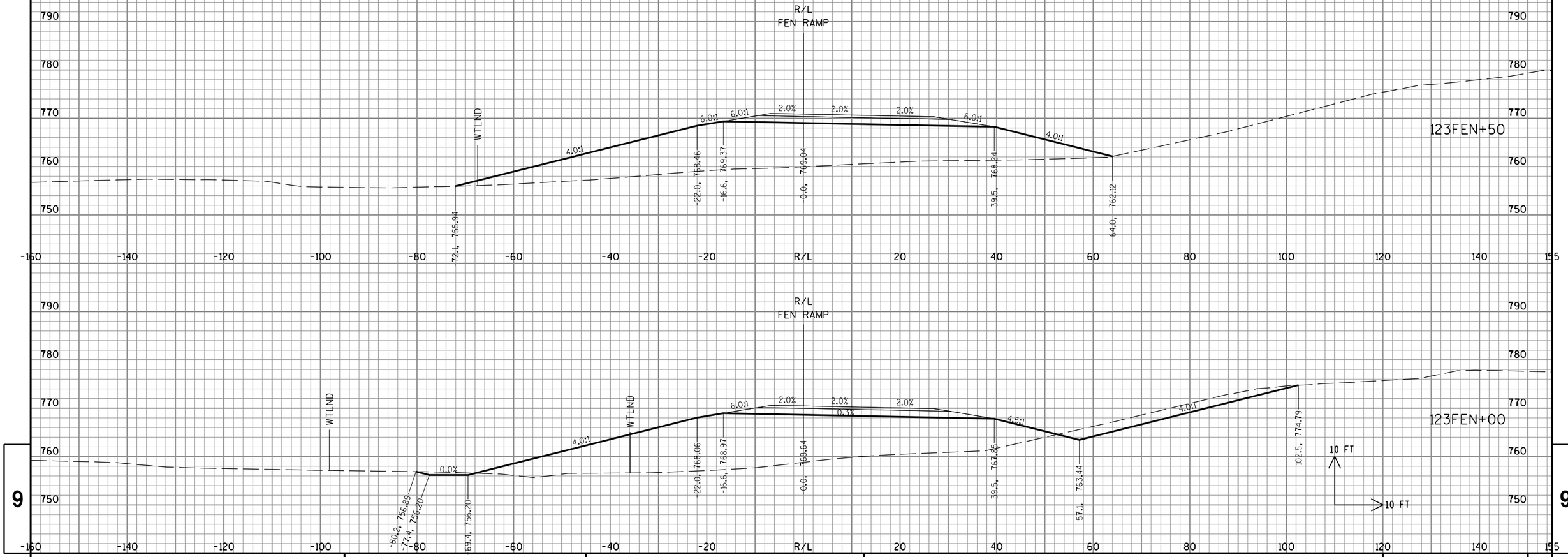
FILE NAME : S:\DOT\DOT_NE\120012-Tri County Freeway\1517-07-72\DGN_Files\Plansheets\090231_FEN_XS.dgn PLOT DATE : 2/19/2014 PLOT BY : wally_w PLOT NAME : PLOT SCALE : 1:20



STATE PROJECT NO: 1517-07-72	HWY: USH 10	COUNTY: WINNEBAGO	CROSS SECTIONS: FEN RAMP	SHEET NO: . 530 E

FILE NAME : S:\DOT\DOT_NE\120012-Tri County Freeway\1517-07-72\DGN_Files\Plansheets\090231_FEN_XS.dgn PLOT DATE : 2/19/2014 PLOT BY : wally_w PLOT NAME : PLOT SCALE : 1:20



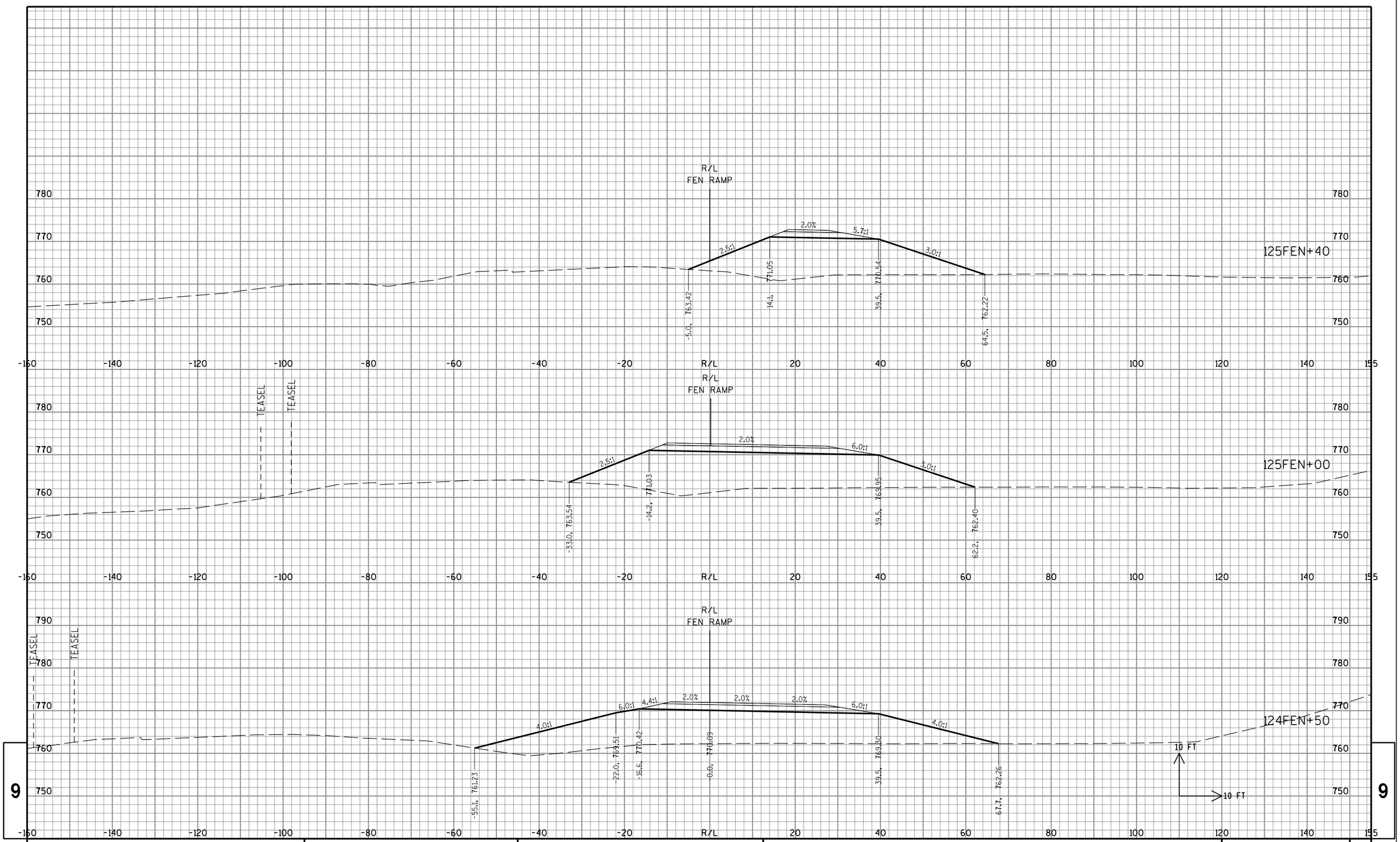


9

9

STATE PROJECT NO: 1517-07-72	HWY: USH 10	COUNTY: WINNEBAGO	CROSS SECTIONS: FEN RAMP	SHEET NO: . 531	E

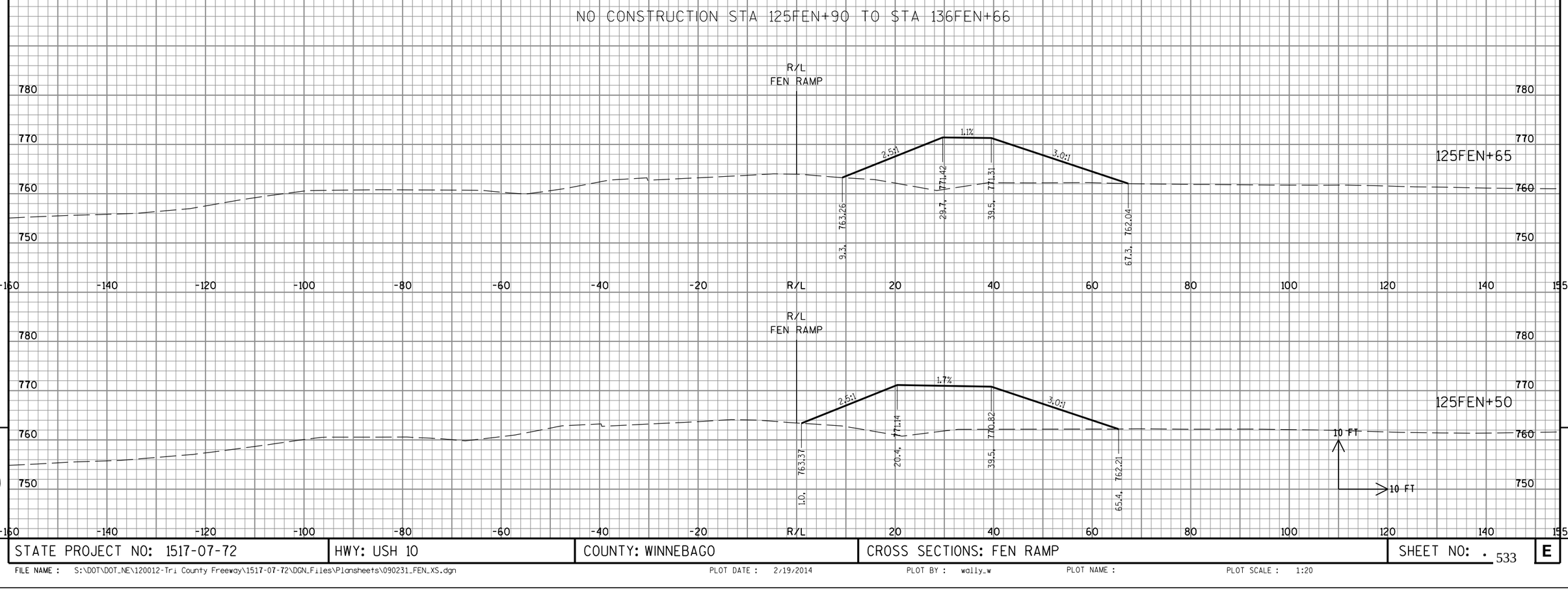
FILE NAME : S:\DOT\DOT_NE\120012-Tri County Freeway\1517-07-72\DGN_Files\Plansheets\090231_FEN_XS.dgn PLOT DATE : 2/19/2014 PLOT BY : wally_w PLOT NAME : PLOT SCALE : 1:20



STATE PROJECT NO: 1517-07-72	HWY: USH 10	COUNTY: WINNEBAGO	CROSS SECTIONS: FEN RAMP	SHEET NO: . 532

FILE NAME : S:\DOT\DOT_NE\120012-Tri County Freeway\1517-07-72\DGN_Files\Plansheets\090231_FEN_XS.dgn PLOT DATE : 2/19/2014 PLOT BY : wally_w PLOT NAME : PLOT SCALE : 1:20

NO CONSTRUCTION STA 125FEN+90 TO STA 136FEN+66

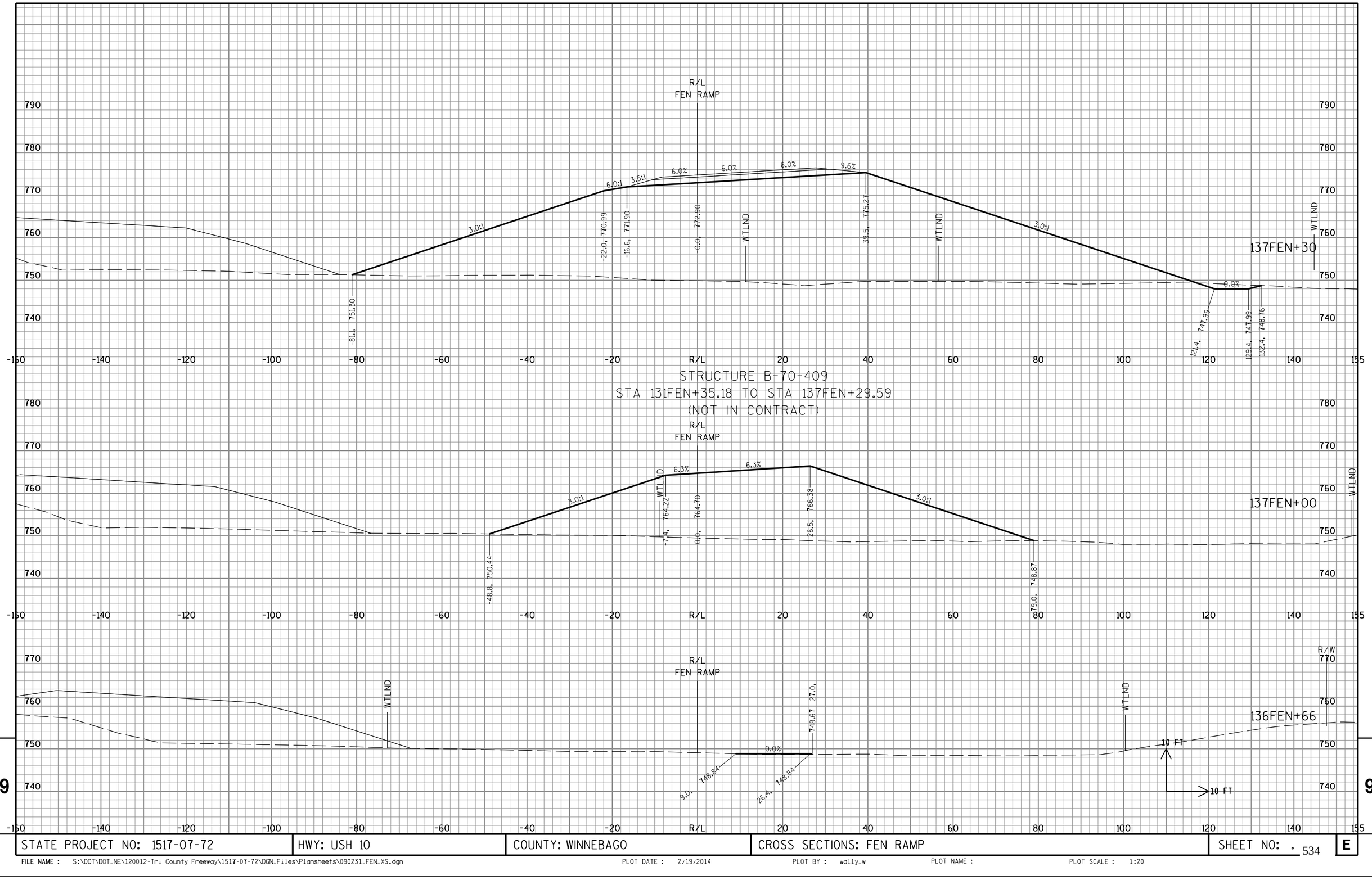


9

9

STATE PROJECT NO: 1517-07-72	HWY: USH 10	COUNTY: WINNEBAGO	CROSS SECTIONS: FEN RAMP	SHEET NO: . 533	E

FILE NAME : S:\DOT\DOT_NE\120012-Tri County Freeway\1517-07-72\DGN_Files\Plansheets\090231_FEN_XS.dgn PLOT DATE : 2/19/2014 PLOT BY : wally_w PLOT NAME : PLOT SCALE : 1:20

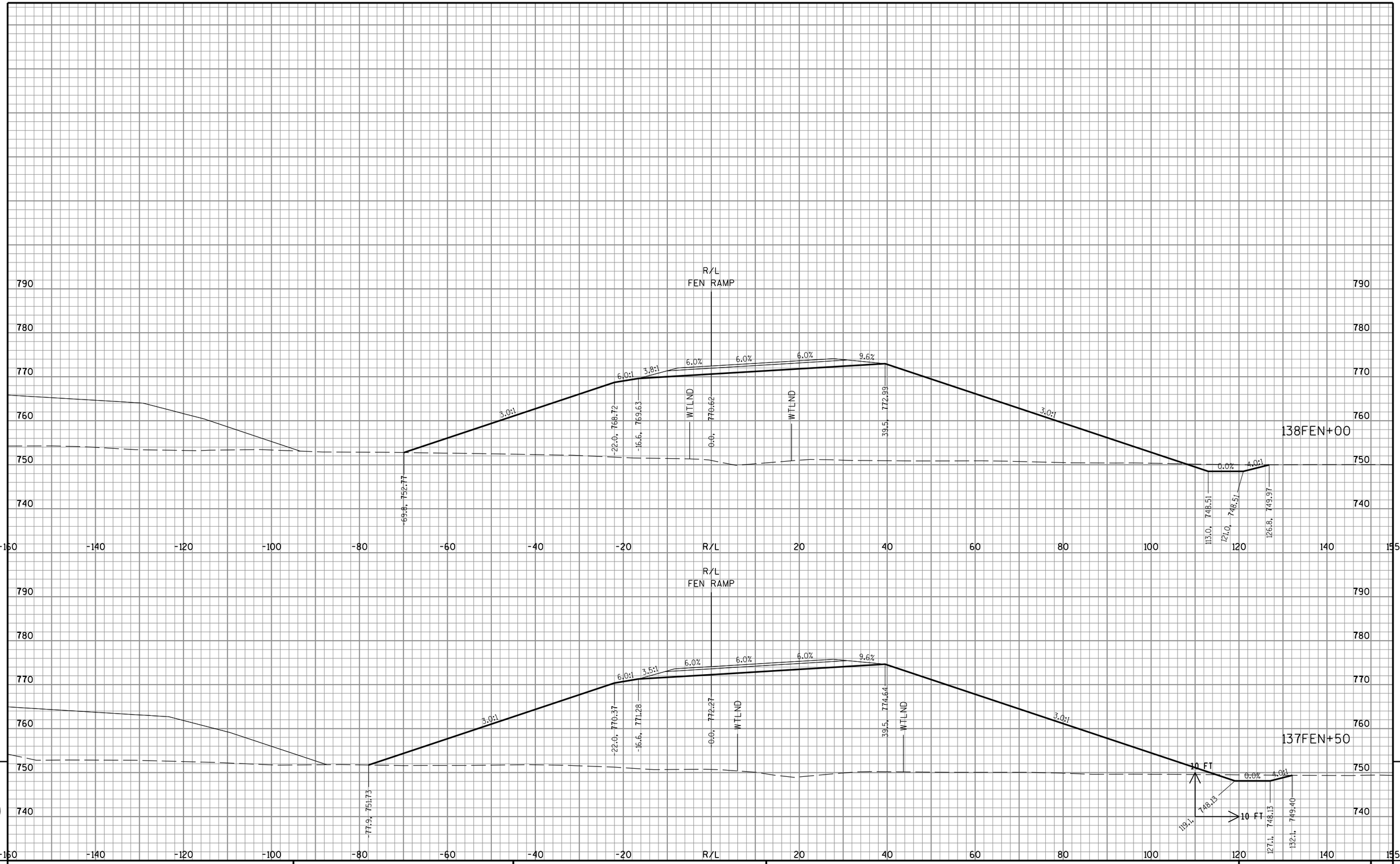


9

9

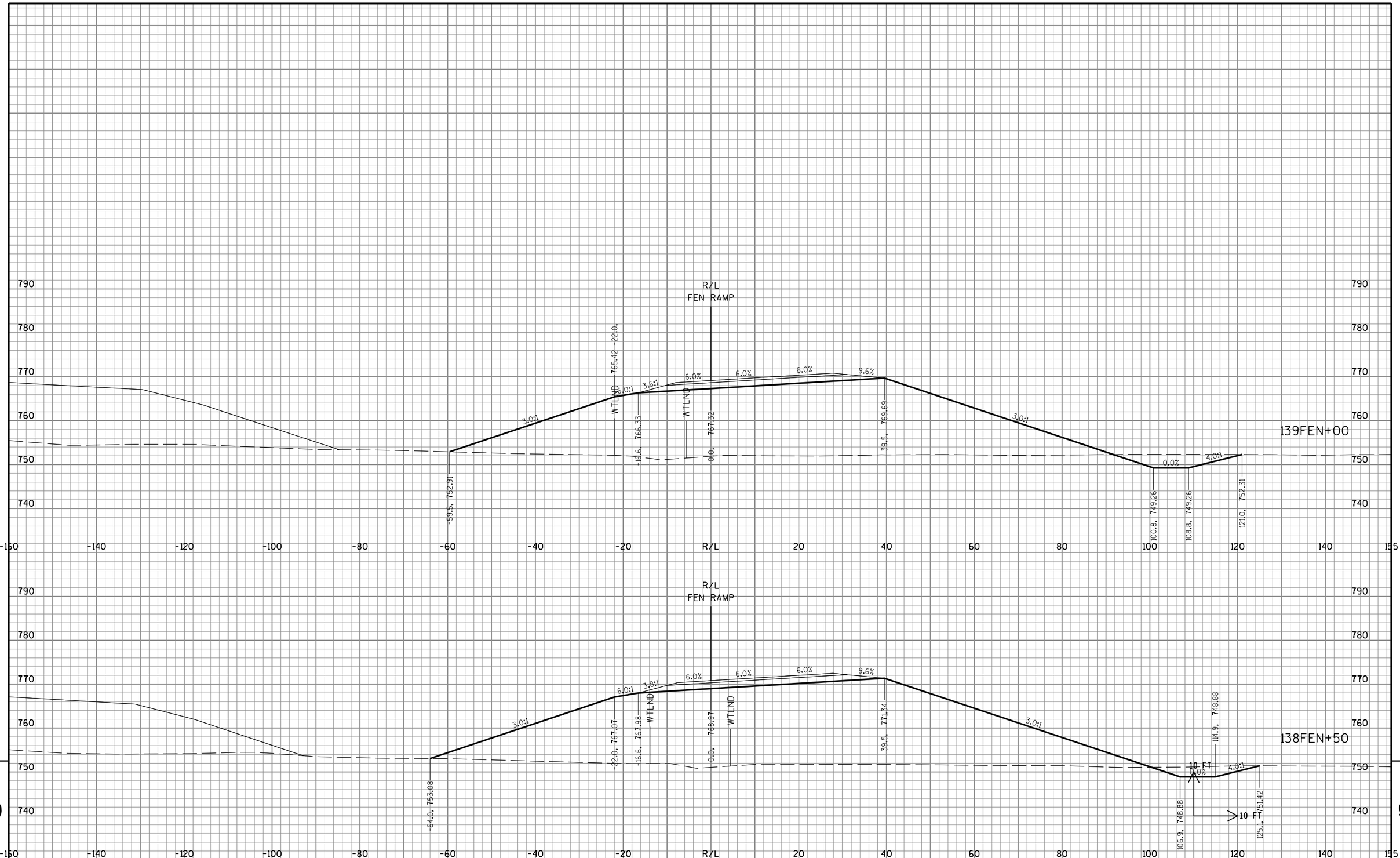
STATE PROJECT NO: 1517-07-72	HWY: USH 10	COUNTY: WINNEBAGO	CROSS SECTIONS: FEN RAMP	SHEET NO: 534	E

FILE NAME : S:\DOT\DOT_NE\120012-Tri County Freeway\1517-07-72\DGN_Files\Plansheets\090231_FEN_XS.dgn PLOT DATE : 2/19/2014 PLOT BY : wally_w PLOT NAME : PLOT SCALE : 1:20



STATE PROJECT NO: 1517-07-72	HWY: USH 10	COUNTY: WINNEBAGO	CROSS SECTIONS: FEN RAMP	SHEET NO: . 535	E

FILE NAME : S:\DOT\DOT_NE\120012-Tri County Freeway\1517-07-72\DGN_Files\Plansheets\090231_FEN_XS.dgn PLOT DATE : 2/19/2014 PLOT BY : wally_w PLOT NAME : PLOT SCALE : 1:20

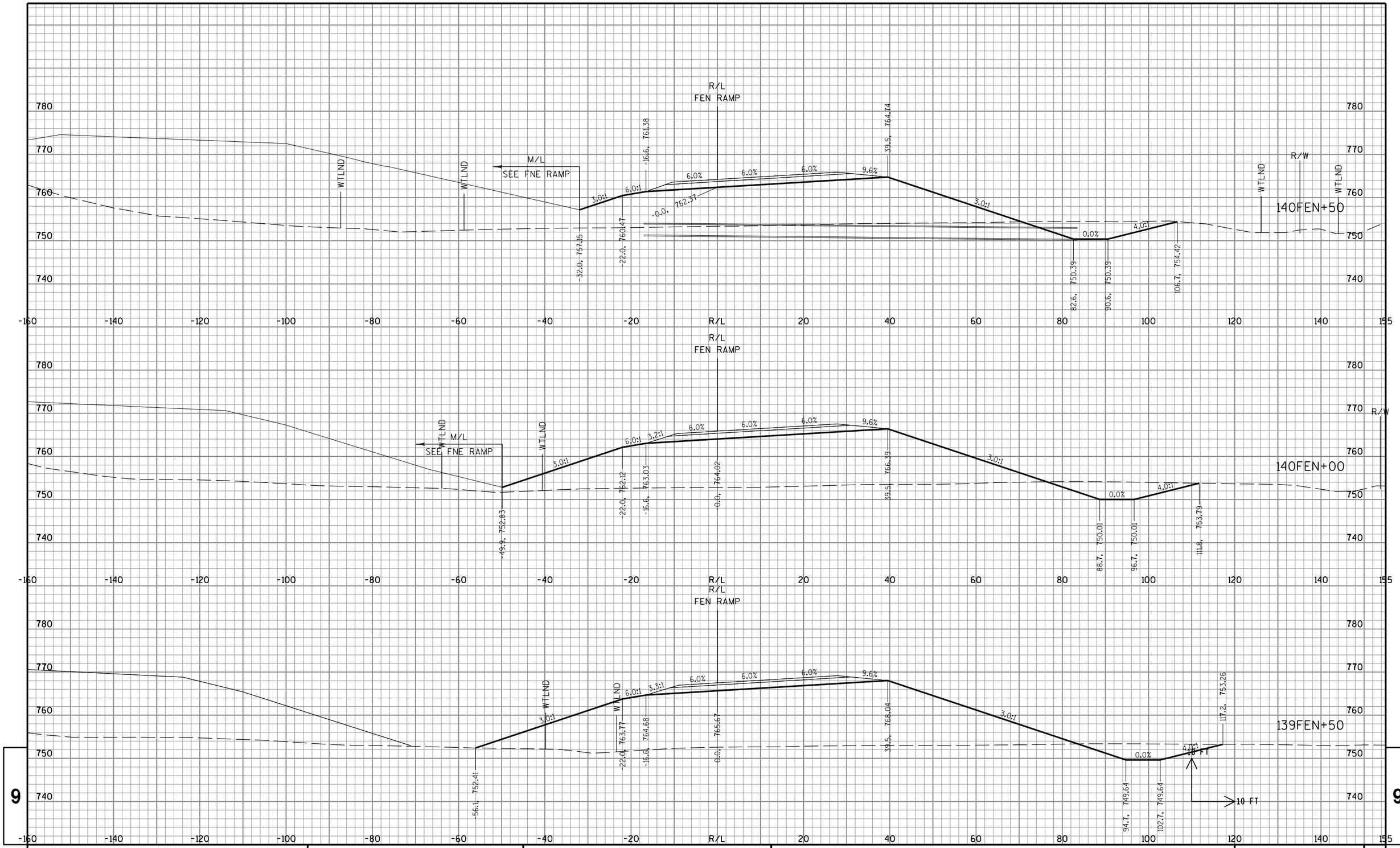


9

9

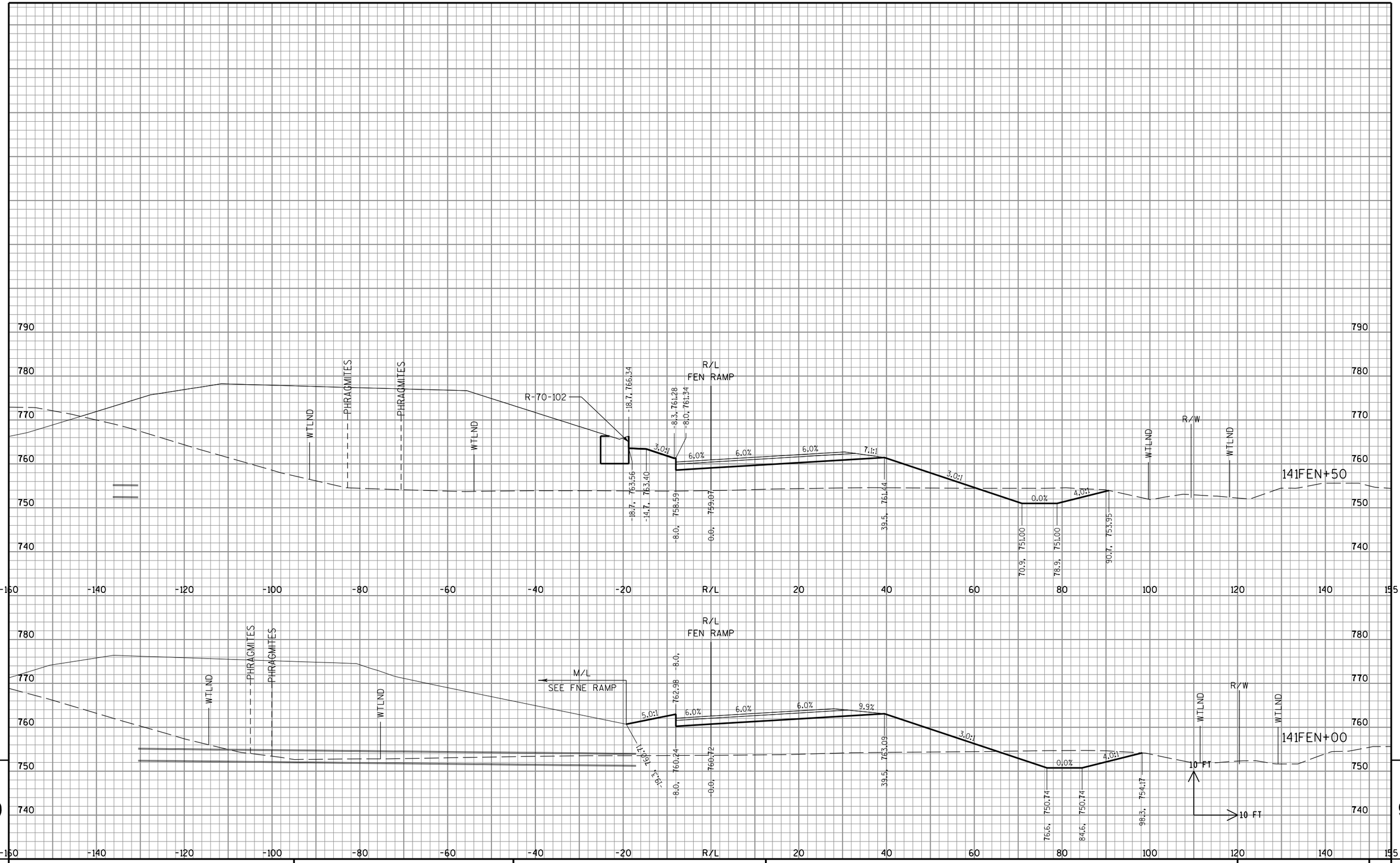
STATE PROJECT NO: 1517-07-72	HWY: USH 10	COUNTY: WINNEBAGO	CROSS SECTIONS: FEN RAMP	SHEET NO: . 536	E

FILE NAME : S:\DOT\DOT_NE\120012-Tri County Freeway\1517-07-72\DGN_Files\Plansheets\090231_FEN_XS.dgn PLOT DATE : 2/19/2014 PLOT BY : wally_w PLOT NAME : PLOT SCALE : 1:20



STATE PROJECT NO: 1517-07-72	HWY: USH 10	COUNTY: WINNEBAGO	CROSS SECTIONS: FEN RAMP	SHEET NO: . 537	E

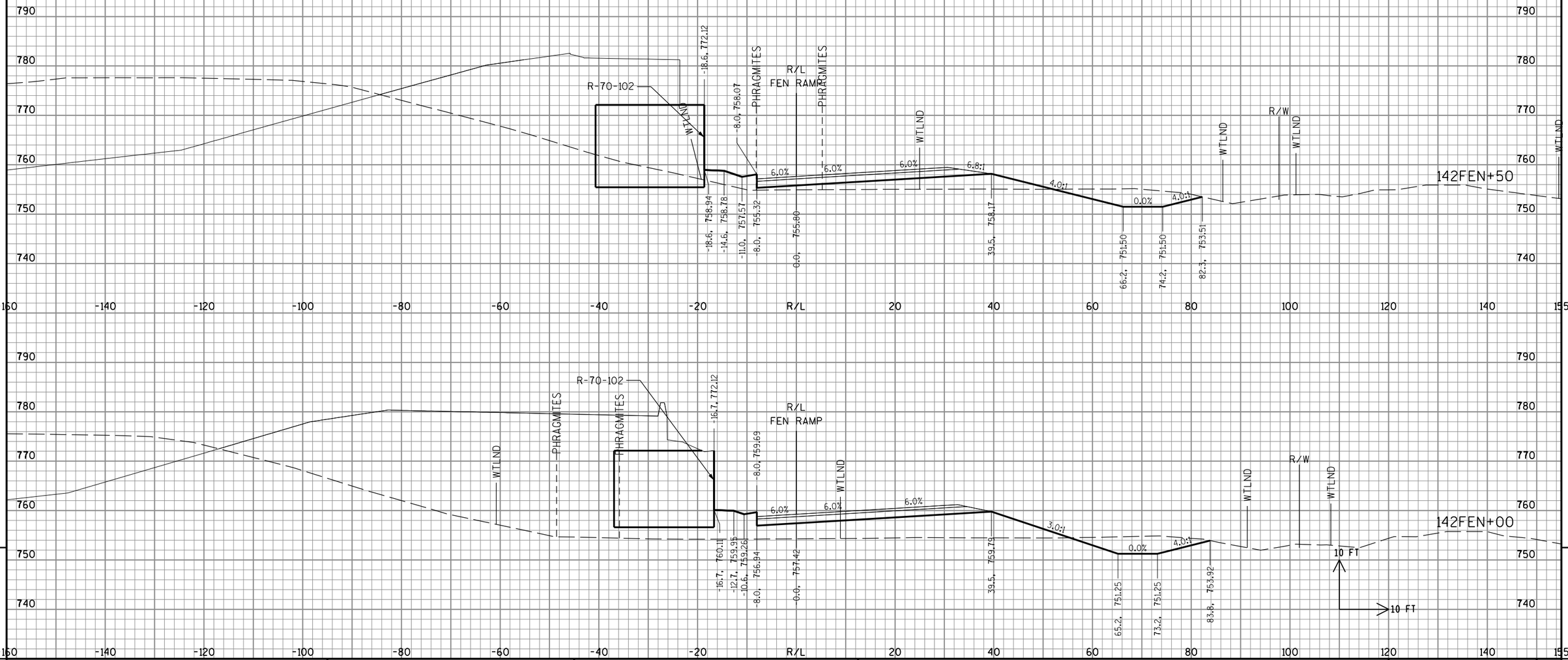
FILE NAME : S:\DOT\DOT_NE\120012-Tri County Freeway\1517-07-72\DGN_Files\Plansheets\090231_FEN_XS.dgn PLOT DATE : 2/19/2014 PLOT BY : wally_w PLOT NAME : PLOT SCALE : 1:20



STATE PROJECT NO: 1517-07-72	HWY: USH 10	COUNTY: WINNEBAGO	CROSS SECTIONS: FEN RAMP	SHEET NO: . 538

FILE NAME : S:\DOT\DOT_NE\120012-Tri County Freeway\1517-07-72\DGN_Files\Plansheets\090231_FEN_XS.dgn PLOT DATE : 2/19/2014 PLOT BY : wally_w PLOT NAME : PLOT SCALE : 1:20

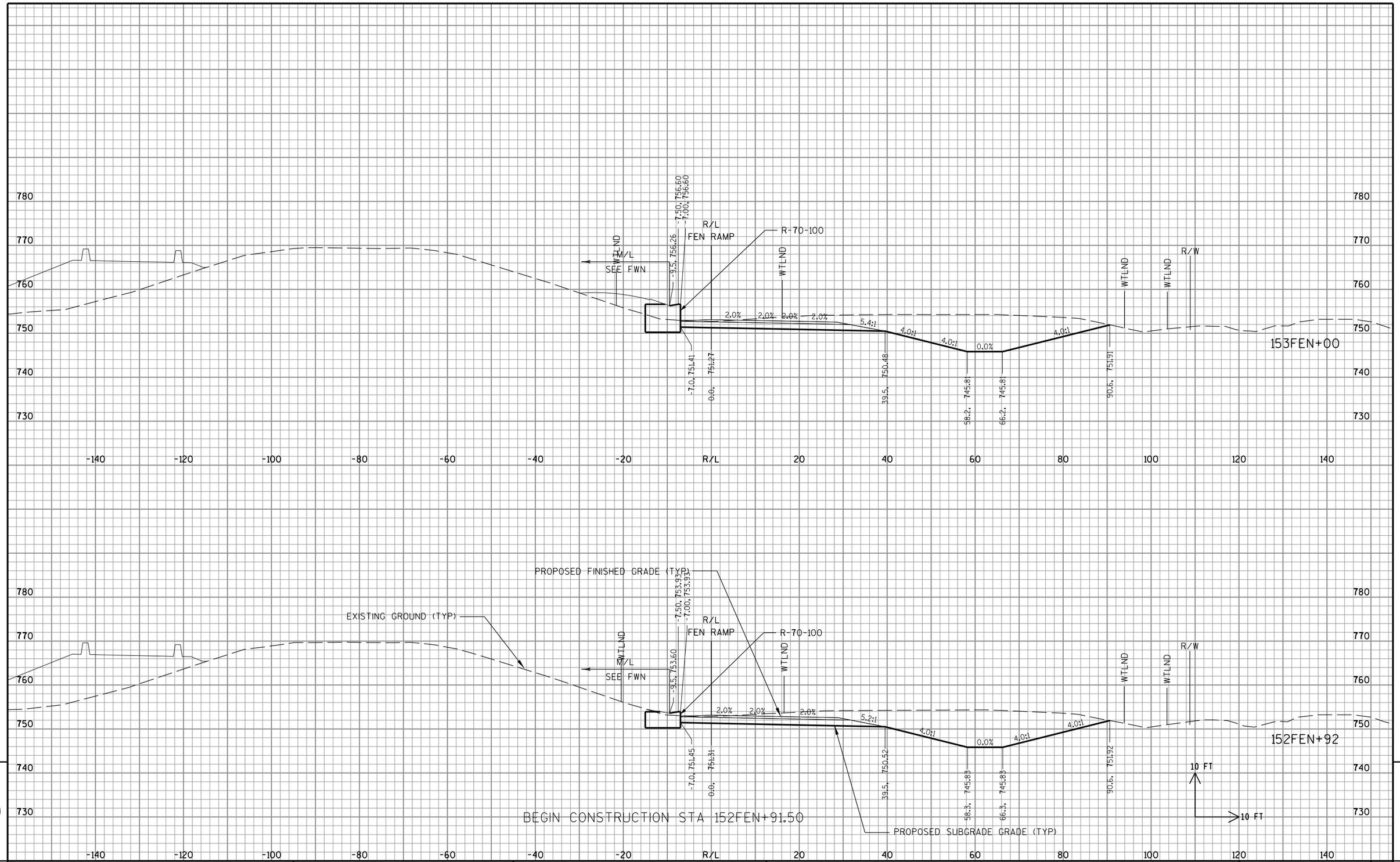
NO CONSTRUCTION STA 142FEN+50.00 TO STA 152FEN+91.50



9 9

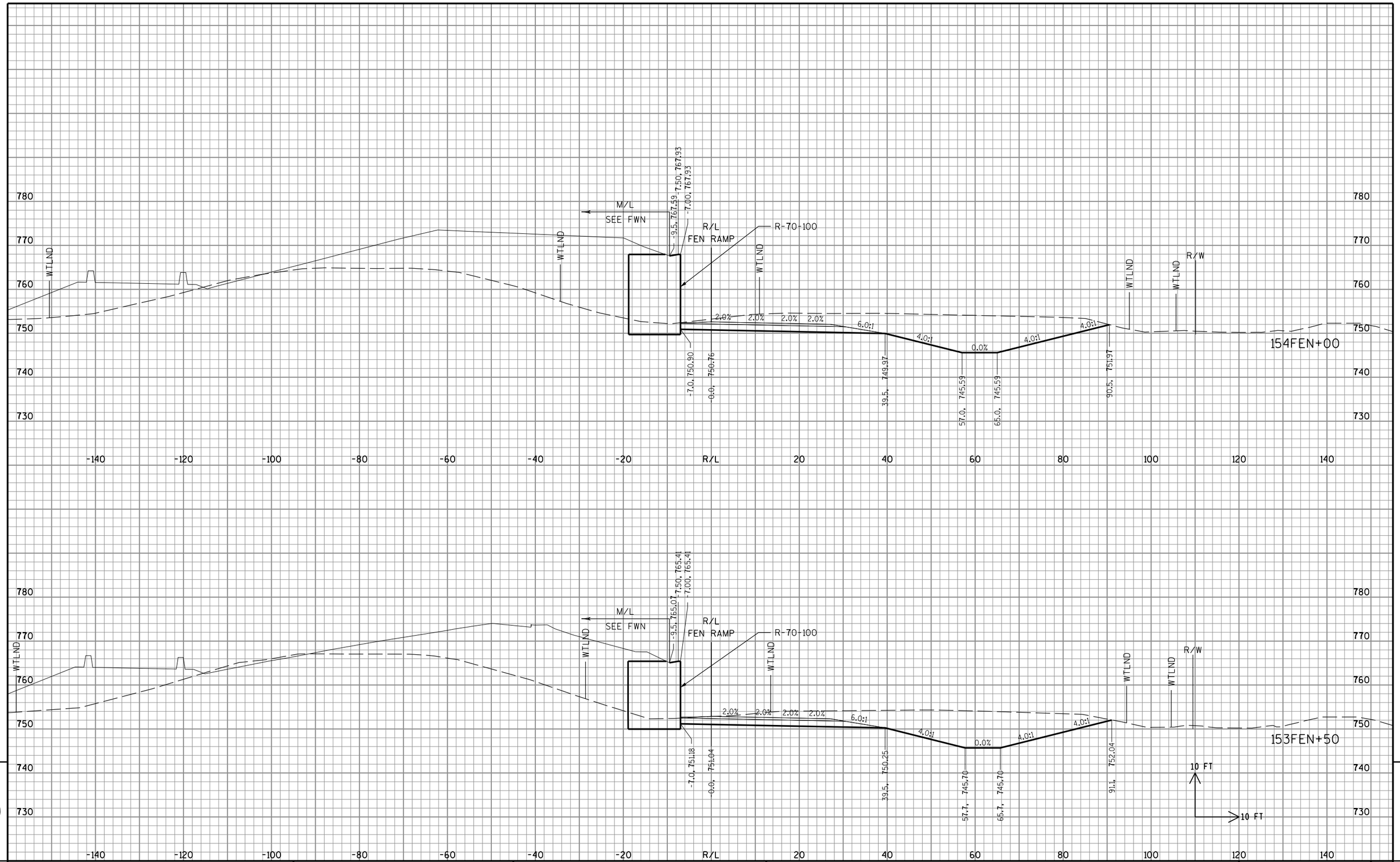
STATE PROJECT NO: 1517-07-72	HWY: USH 10	COUNTY: WINNEBAGO	CROSS SECTIONS: FEN RAMP	SHEET NO: 539	E

FILE NAME : S:\DOT\DOT_NE\120012-Tri County Freeway\1517-07-72\DGN_Files\Plansheets\090231_FEN_XS.dgn PLOT DATE : 2/19/2014 PLOT BY : wally_w PLOT NAME : PLOT SCALE : 1:20



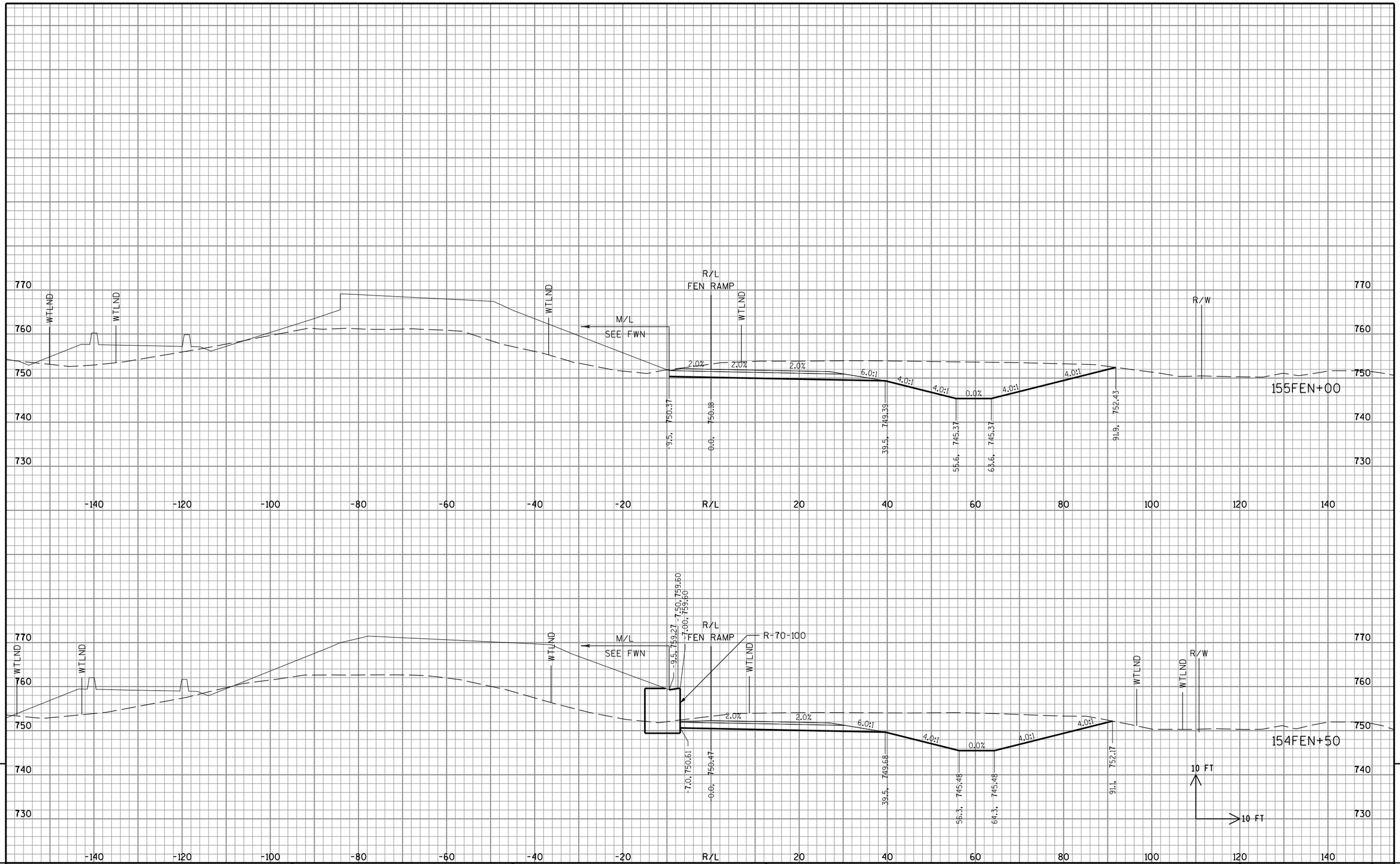
STATE PROJECT NO: 1517-07-72	HWY: USH 10	COUNTY: WINNEBAGO	CROSS SECTIONS: FEN RAMP	SHEET NO: 540	E

FILE NAME : S:\DOT\DOT_NE\120012-Tri County Freeway\1517-07-72\DGN_Files\Plansheets\090232_FEN2_XS.dgn PLOT DATE : 2/19/2014 PLOT BY : wally_w PLOT NAME : PLOT SCALE : 1:20



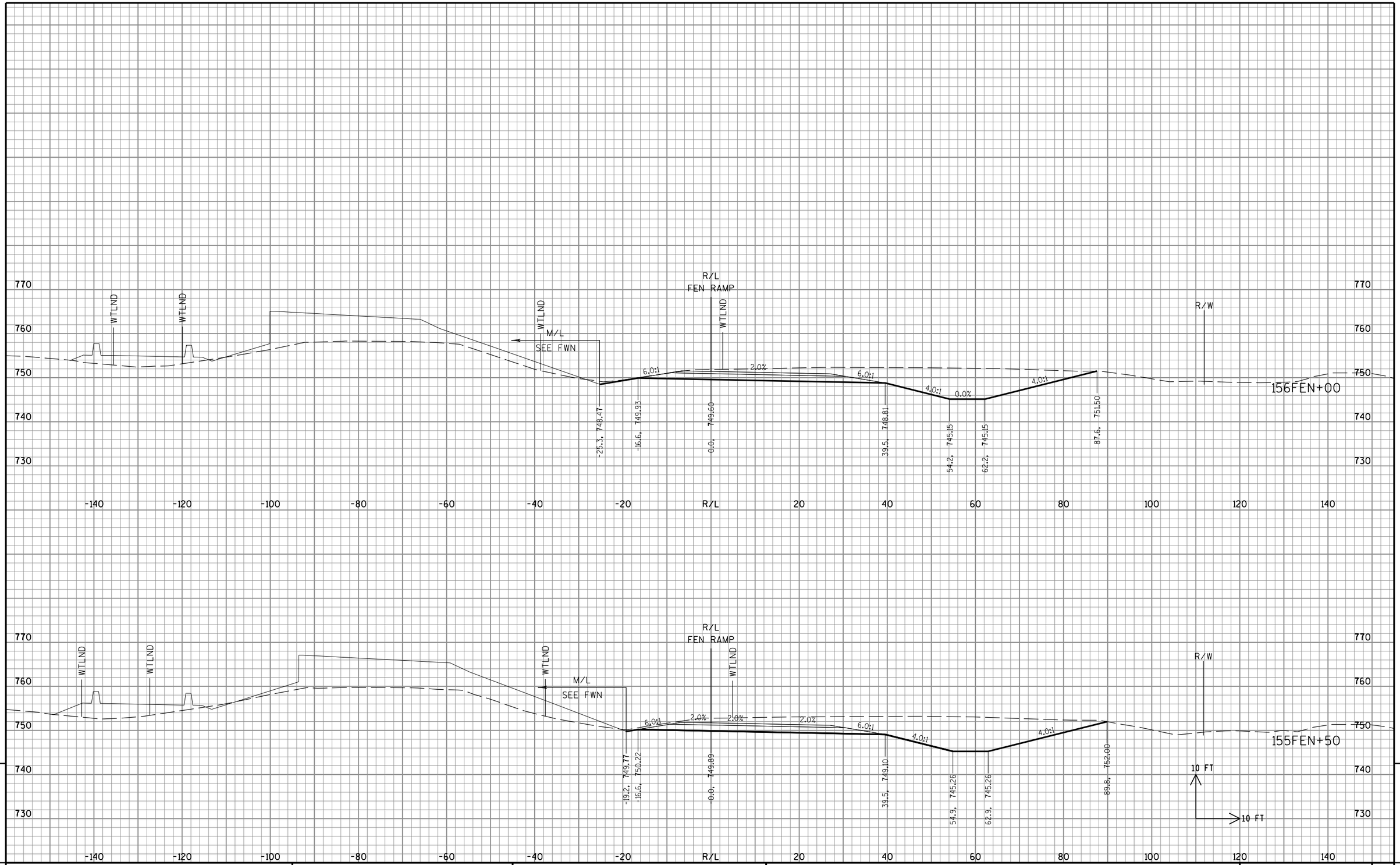
STATE PROJECT NO: 1517-07-72	HWY: USH 10	COUNTY: WINNEBAGO	CROSS SECTIONS: FEN RAMP	SHEET NO: 541	E

FILE NAME : S:\DOT\DOT_NE\120012-Tri County Freeway\1517-07-72\DGN_Files\Plansheets\090232_FEN2_XS.dgn PLOT DATE : 2/19/2014 PLOT BY : wally_w PLOT NAME : PLOT SCALE : 1:20



STATE PROJECT NO: 1517-07-72	HWY: USH 10	COUNTY: WINNEBAGO	CROSS SECTIONS: FEN RAMP	SHEET NO: 542	E

FILE NAME : S:\DOT\DOT_NE\120012-Tri County Freeway\1517-07-72\DGN_Files\Plansheets\090232_FEN2_XS.dgn PLOT DATE : 2/19/2014 PLOT BY : wally_w PLOT NAME : PLOT SCALE : 1:20

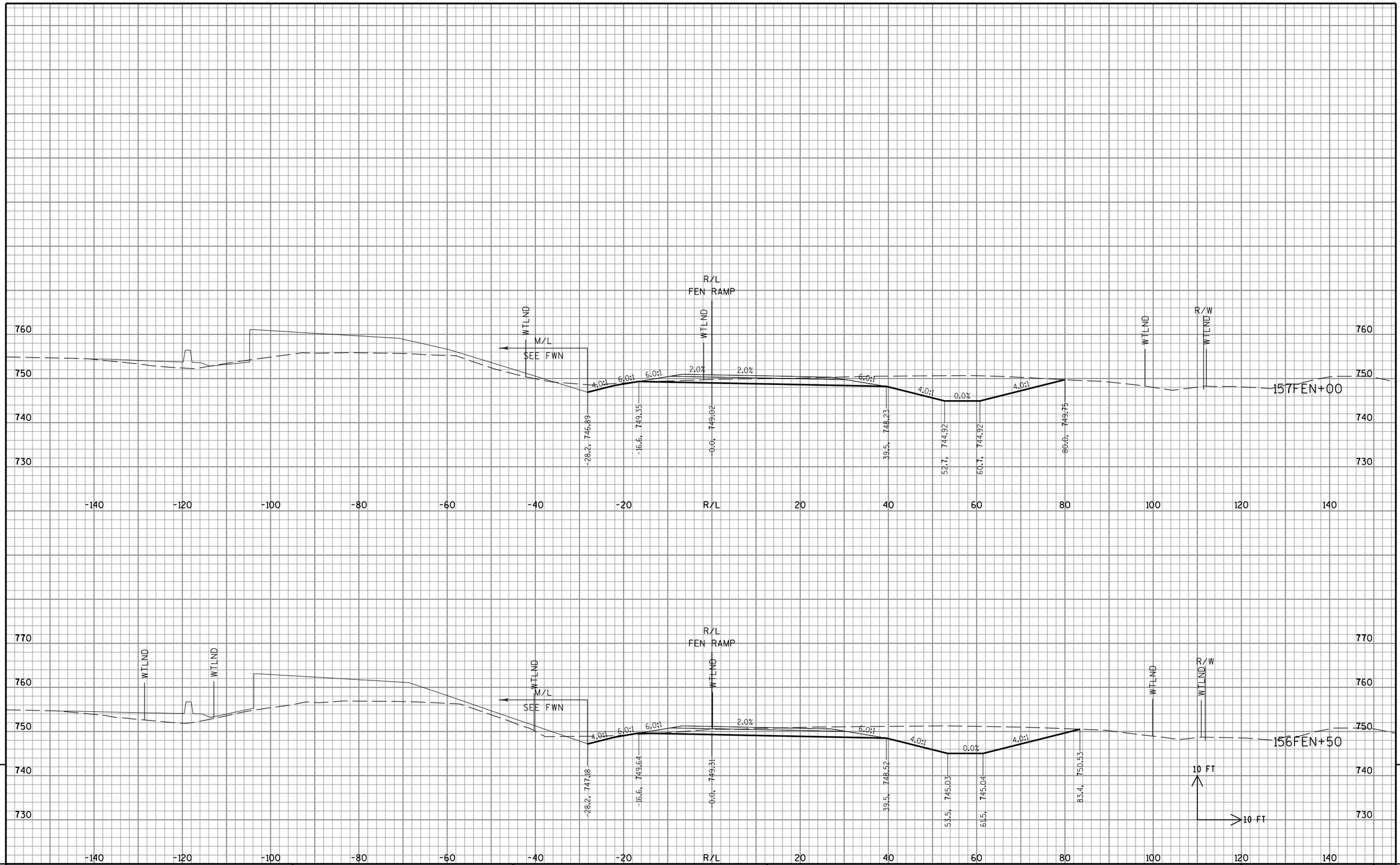


9

9

STATE PROJECT NO: 1517-07-72	HWY: USH 10	COUNTY: WINNEBAGO	CROSS SECTIONS: FEN RAMP	SHEET NO: . 543	E

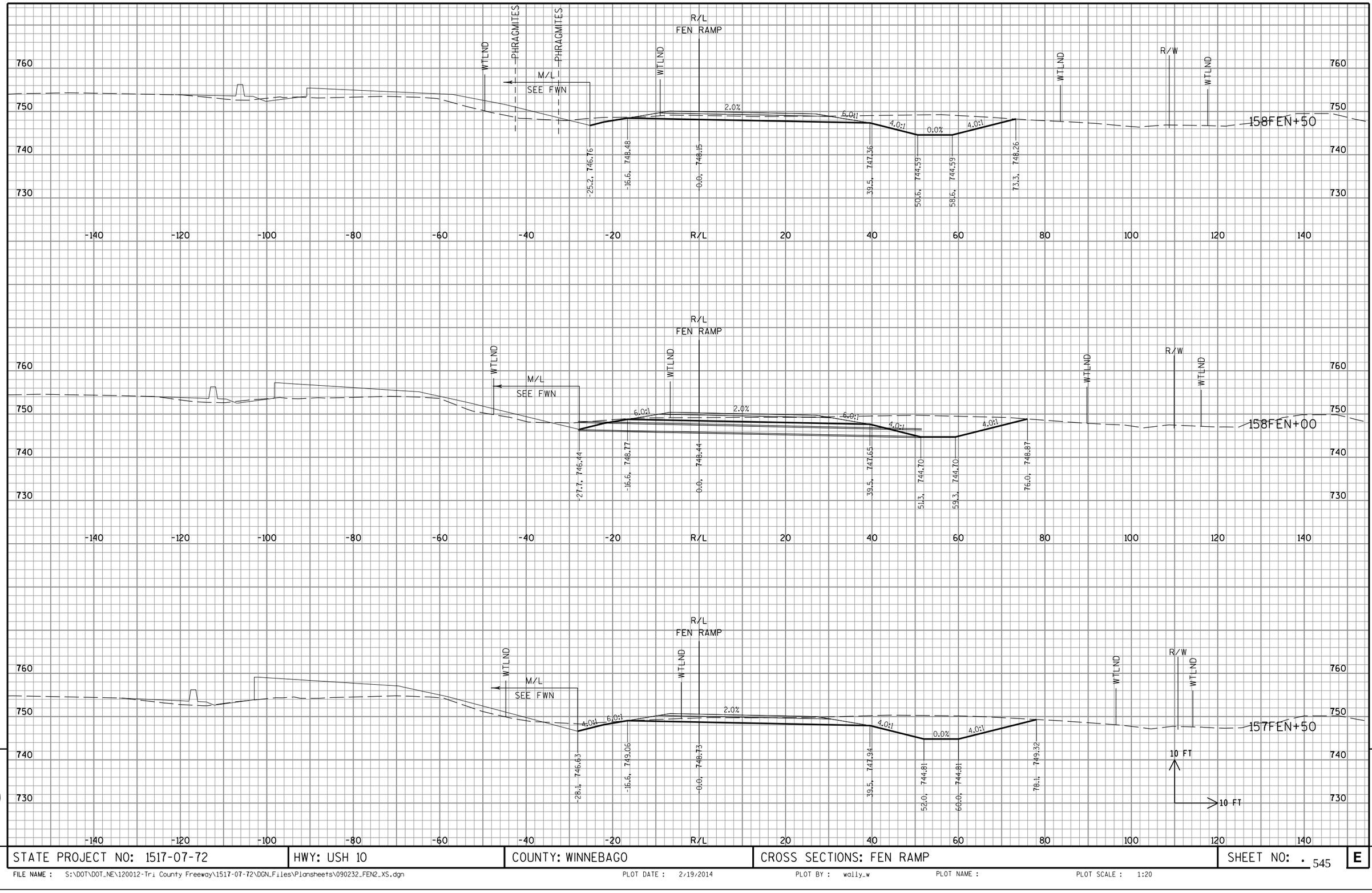
FILE NAME : S:\DOT\DOT_NE\120012-Tri County Freeway\1517-07-72\DGN_Files\Plansheets\090232_FEN2_XS.dgn PLOT DATE : 2/19/2014 PLOT BY : wally_w PLOT NAME : PLOT SCALE : 1:20



STATE PROJECT NO: 1517-07-72	HWY: USH 10	COUNTY: WINNEBAGO	CROSS SECTIONS: FEN RAMP	SHEET NO: 544	E

FILE NAME : S:\DOT\DOT_NE\120012-Tri County Freeway\1517-07-72\DGN_Files\Plansheets\090232_FEN2_XS.dgn PLOT DATE : 2/19/2014 PLOT BY : wally_w PLOT NAME : PLOT SCALE : 1:20

9

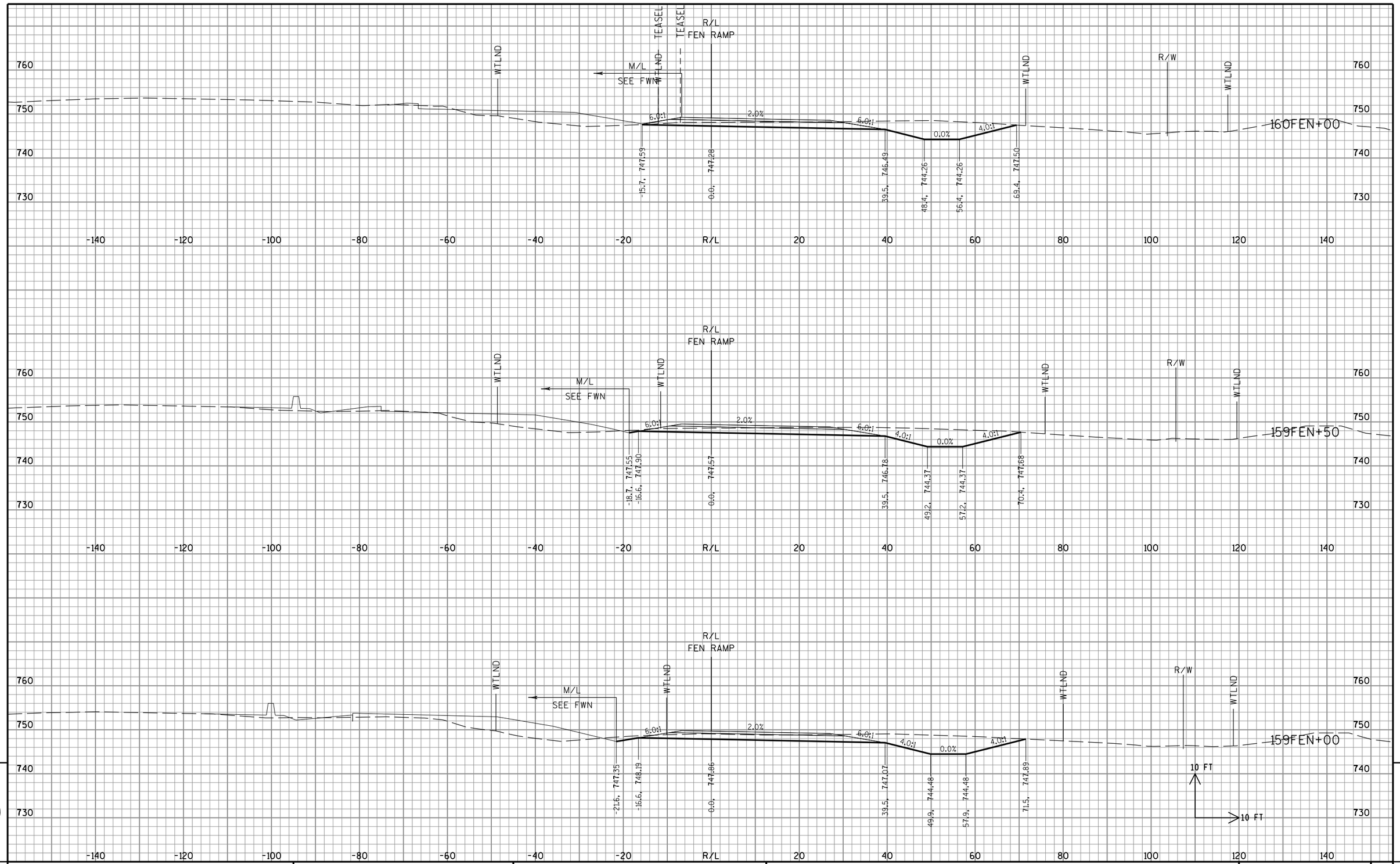


9

9

STATE PROJECT NO: 1517-07-72	HWY: USH 10	COUNTY: WINNEBAGO	CROSS SECTIONS: FEN RAMP	SHEET NO: 545	E

FILE NAME : S:\DOT\DOT_NE\120012-Tri County Freeway\1517-07-72\DGN_Files\Plansheets\090232_FEN2_XS.dgn PLOT DATE : 2/19/2014 PLOT BY : wally_w PLOT NAME : PLOT SCALE : 1:20

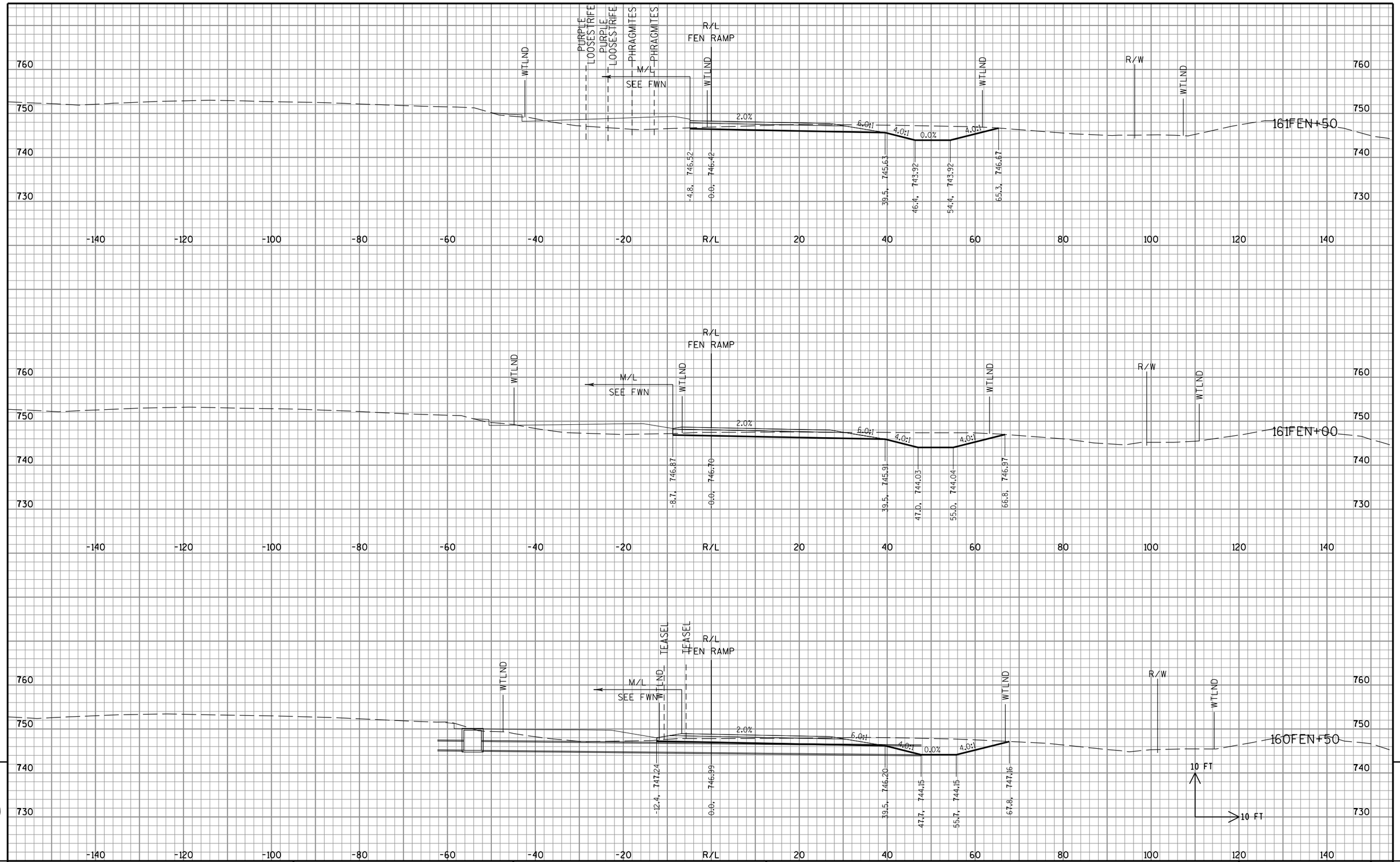


9

9

STATE PROJECT NO: 1517-07-72	HWY: USH 10	COUNTY: WINNEBAGO	CROSS SECTIONS: FEN RAMP	SHEET NO: . 546	E

FILE NAME : S:\DOT\DOT_NE\120012-Tri County Freeway\1517-07-72\DGN_Files\Plansheets\090232_FEN2_XS.dgn PLOT DATE : 2/19/2014 PLOT BY : wally_w PLOT NAME : PLOT SCALE : 1:20

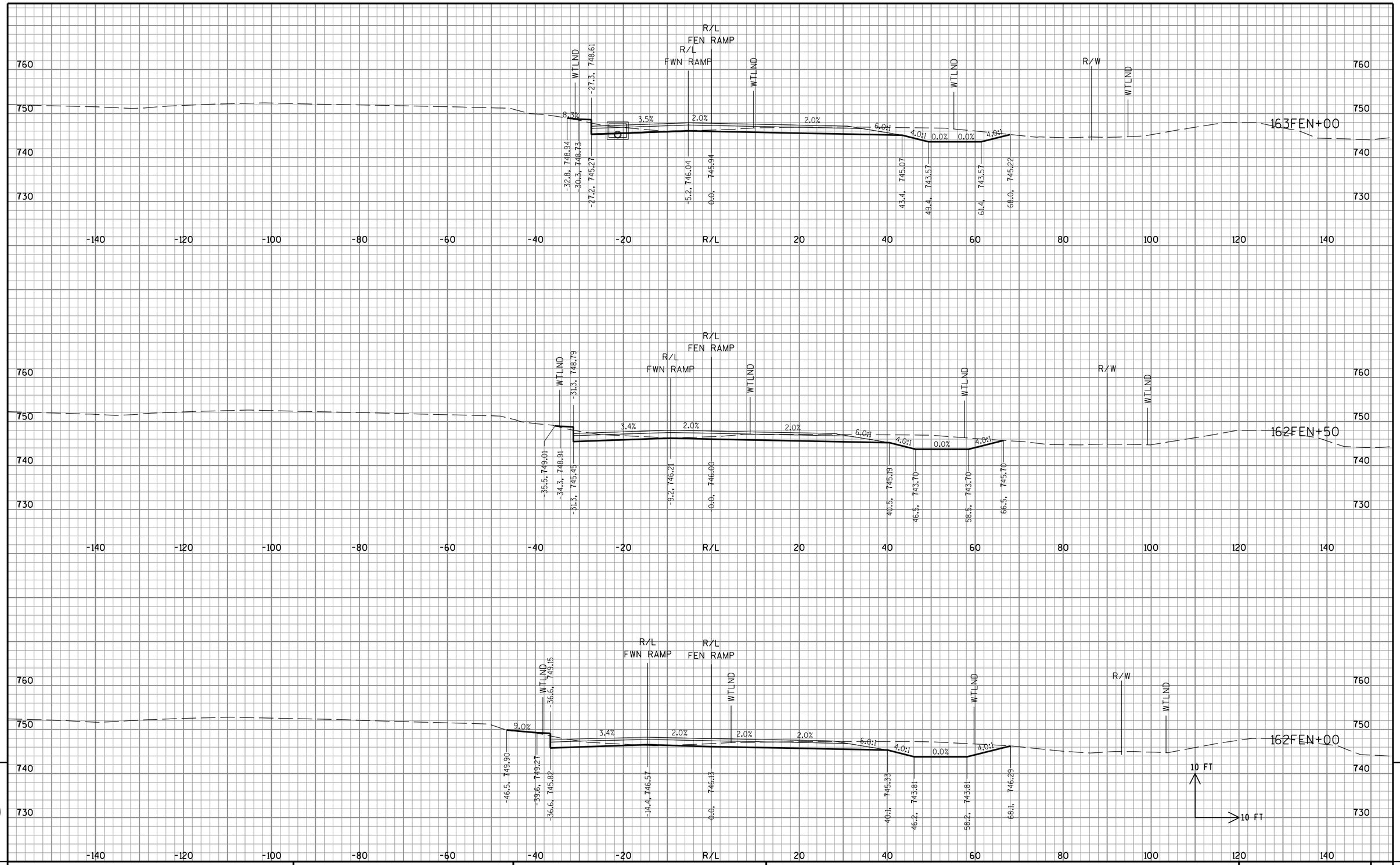


9

9

STATE PROJECT NO: 1517-07-72	HWY: USH 10	COUNTY: WINNEBAGO	CROSS SECTIONS: FEN RAMP	SHEET NO: . 547	E

FILE NAME : S:\DOT\DOT_NE\120012-Tri County Freeway\1517-07-72\DGN_Files\Plansheets\090232_FEN2_XS.dgn PLOT DATE : 2/19/2014 PLOT BY : wally_w PLOT NAME : PLOT SCALE : 1:20

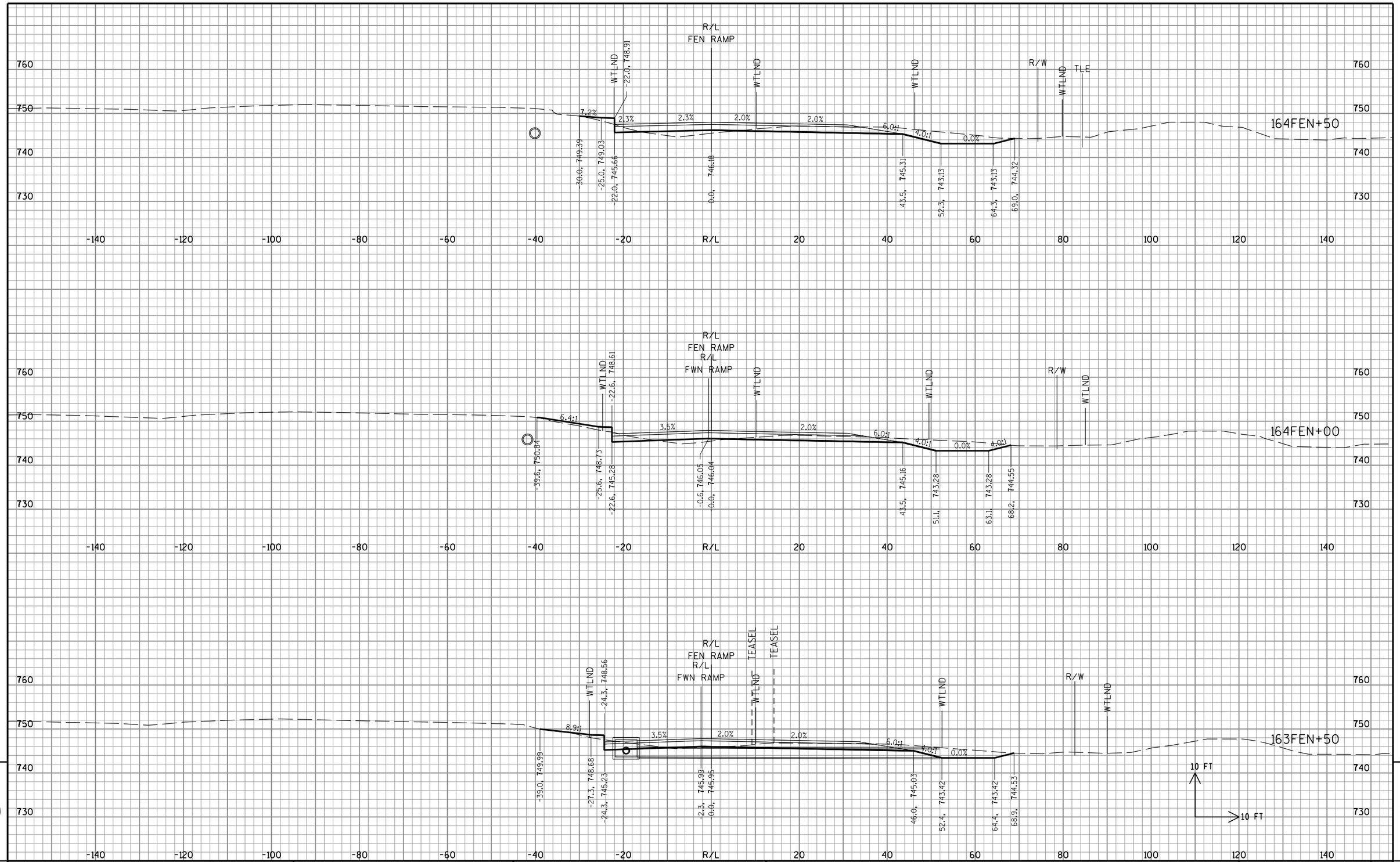


9

9

STATE PROJECT NO: 1517-07-72	HWY: USH 10	COUNTY: WINNEBAGO	CROSS SECTIONS: FEN RAMP	SHEET NO: . 548	E

FILE NAME : S:\DOT\DOT_NE\120012-Tri County Freeway\1517-07-72\DGN_Files\Plansheets\090232_FEN2_XS.dgn PLOT DATE : 2/19/2014 PLOT BY : wally_w PLOT NAME : PLOT SCALE : 1:20

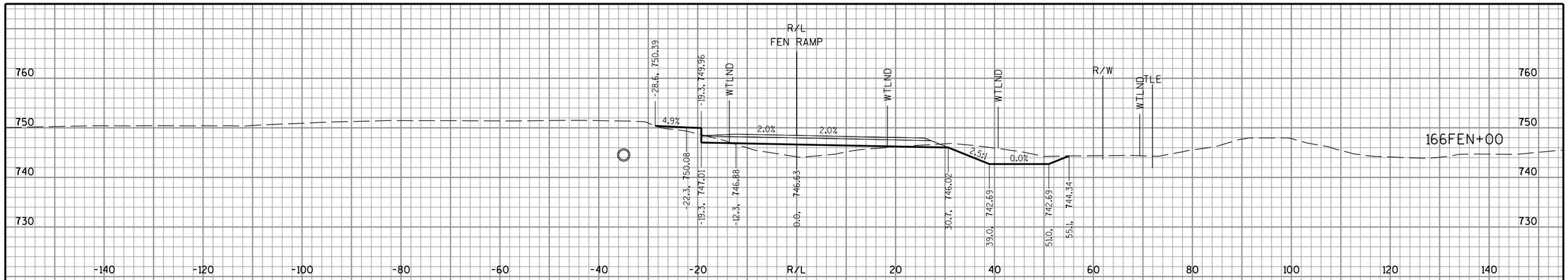


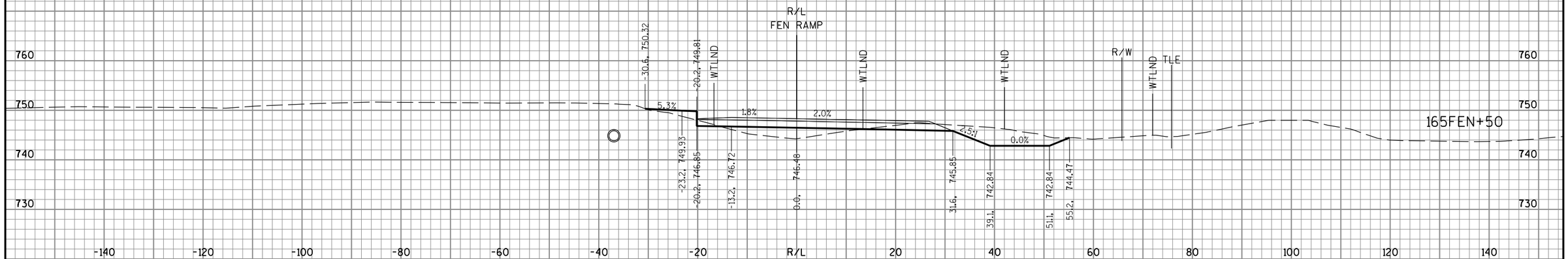
9

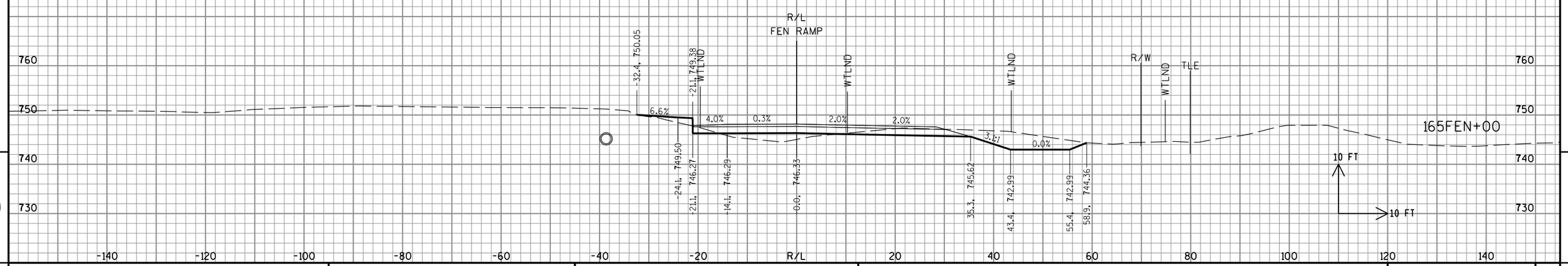
STATE PROJECT NO: 1517-07-72	HWY: USH 10	COUNTY: WINNEBAGO	CROSS SECTIONS: FEN RAMP	SHEET NO: 549	E

FILE NAME : S:\DOT\DOT_NE\120012-Tri County Freeway\1517-07-72\DGN_Files\Plansheets\090232_FEN2_XS.dgn PLOT DATE : 2/19/2014 PLOT BY : wally_w PLOT NAME : PLOT SCALE : 1:20

9





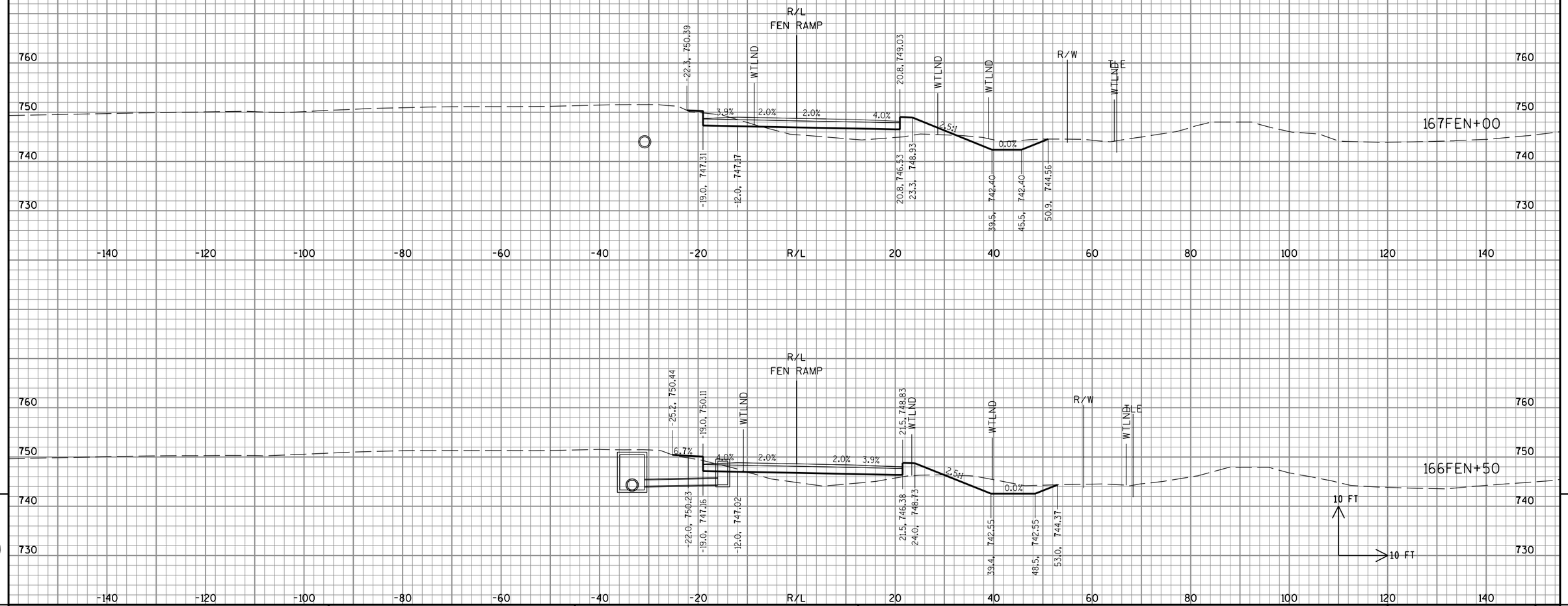


9

9

STATE PROJECT NO: 1517-07-72	HWY: USH 10	COUNTY: WINNEBAGO	CROSS SECTIONS: FEN RAMP	SHEET NO: . 550	E

FILE NAME : S:\DOT\DOT_NE\120012-Tri County Freeway\1517-07-72\DGN_Files\Plansheets\090232_FEN2_XS.dgn PLOT DATE : 2/19/2014 PLOT BY : wally_w PLOT NAME : PLOT SCALE : 1:20

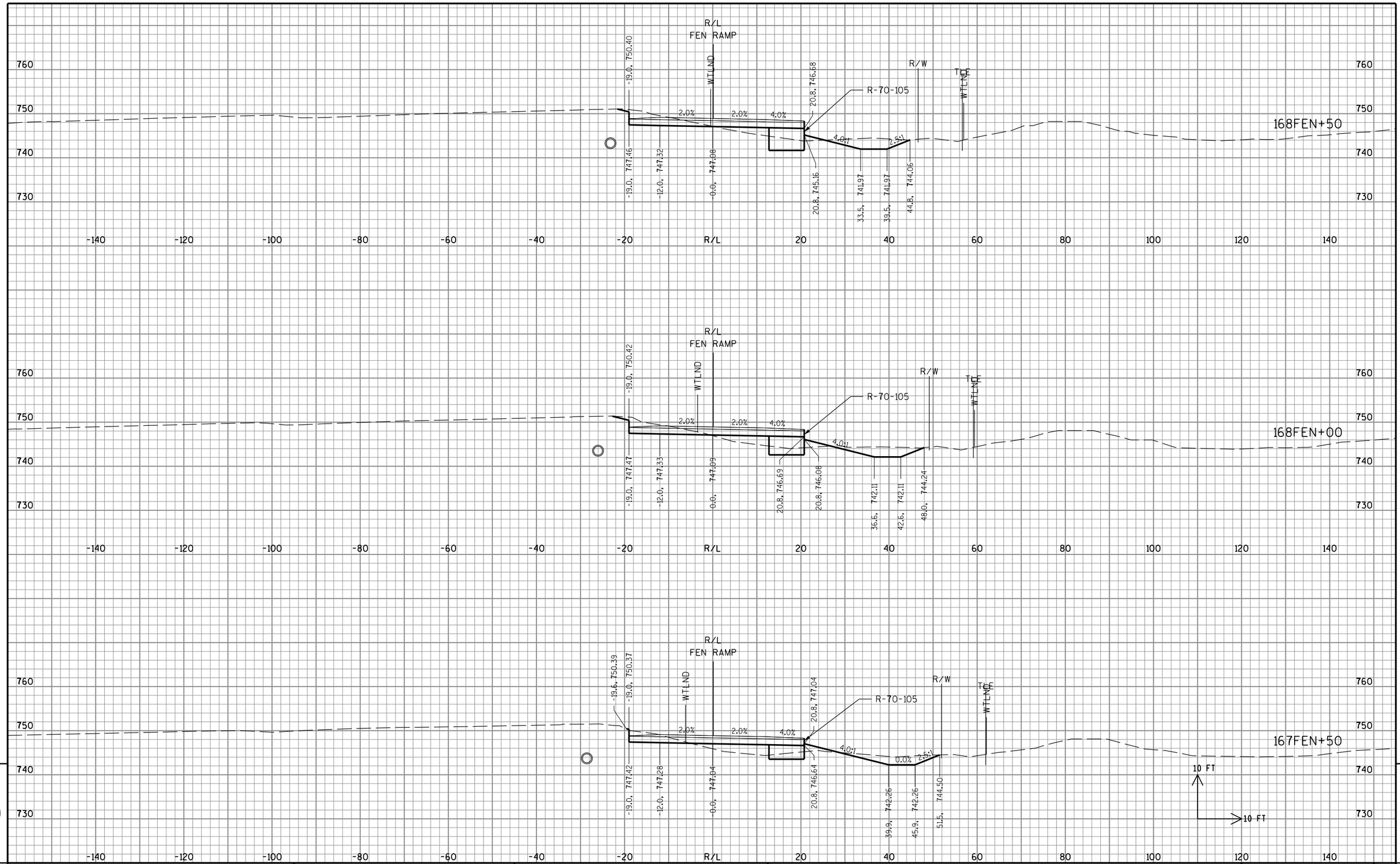


9

9

STATE PROJECT NO: 1517-07-72	HWY: USH 10	COUNTY: WINNEBAGO	CROSS SECTIONS: FEN RAMP	SHEET NO: . 551	E

FILE NAME : S:\DOT\DOT_NE\120012-Tri County Freeway\1517-07-72\DGN_Files\Plansheets\090232_FEN2_XS.dgn PLOT DATE : 2/19/2014 PLOT BY : wally_w PLOT NAME : PLOT SCALE : 1:20

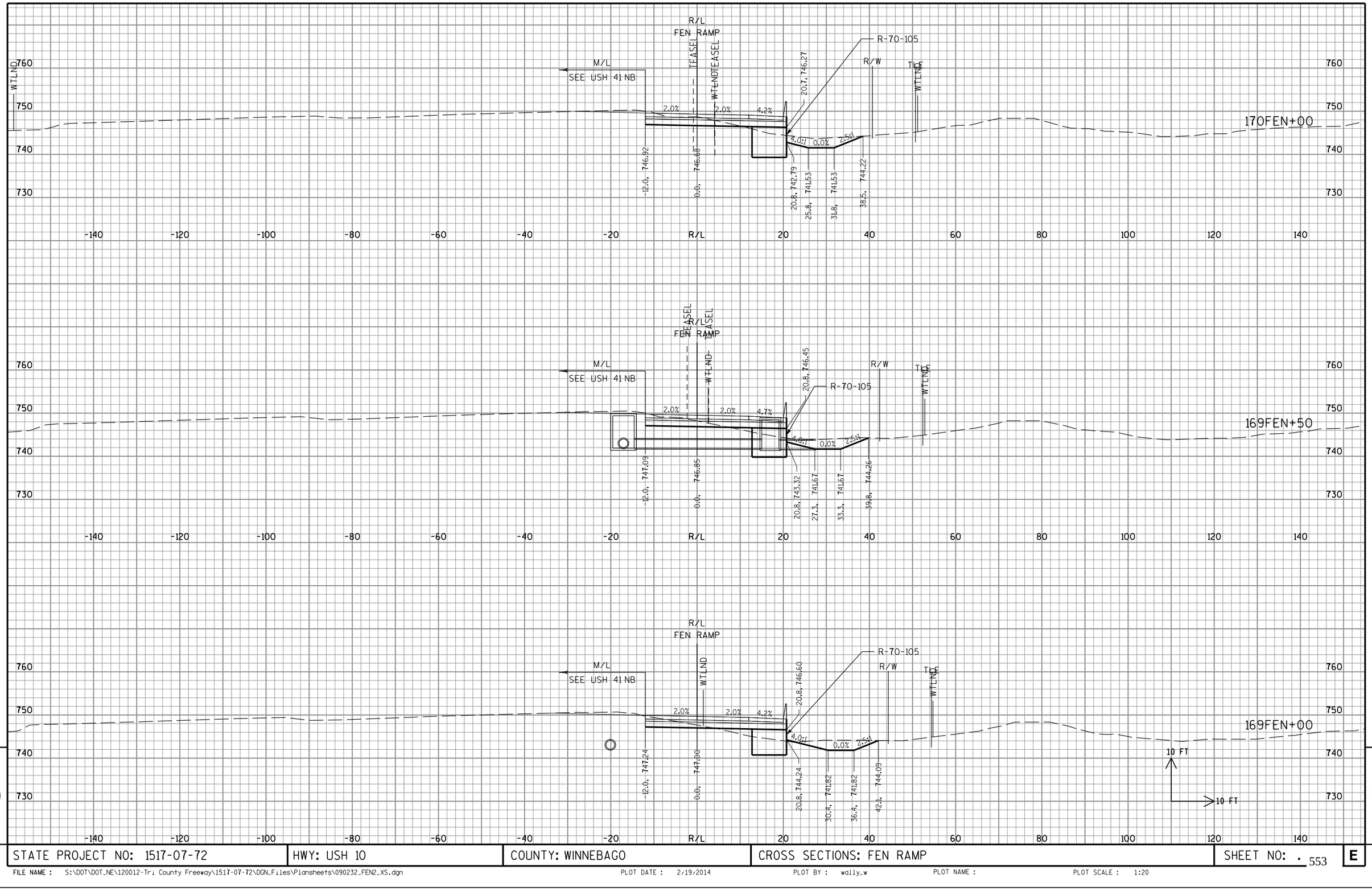


9

9

STATE PROJECT NO: 1517-07-72	HWY: USH 10	COUNTY: WINNEBAGO	CROSS SECTIONS: FEN RAMP	SHEET NO: . 552	E

FILE NAME : S:\DOT\DOT_NE\120012-Tri County Freeway\1517-07-72\DGN_Files\Plansheets\090232_FEN2_XS.dgn PLOT DATE : 2/19/2014 PLOT BY : wally_w PLOT NAME : PLOT SCALE : 1:20



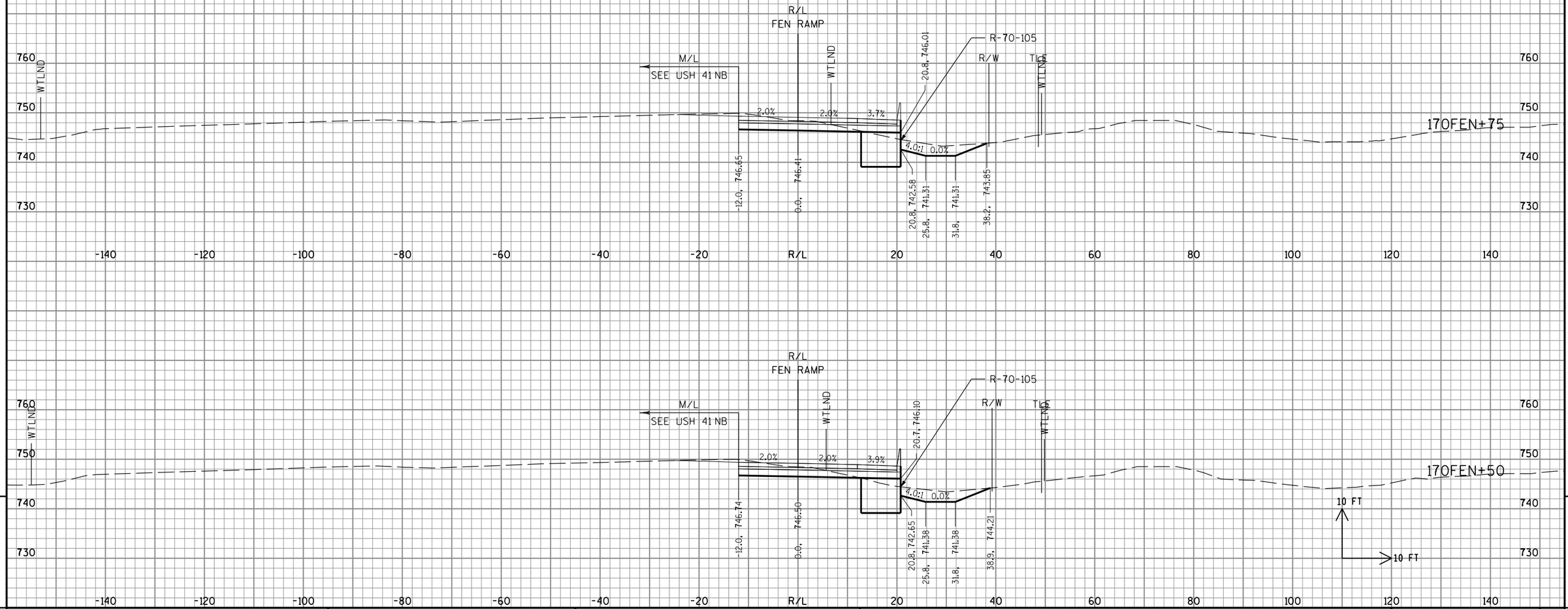
9

9

STATE PROJECT NO: 1517-07-72	HWY: USH 10	COUNTY: WINNEBAGO	CROSS SECTIONS: FEN RAMP	SHEET NO: . 553	E

FILE NAME : S:\DOT\DOT_NE\120012-Tri County Freeway\1517-07-72\DGN_Files\Plansheets\090232_FEN2_XS.dgn PLOT DATE : 2/19/2014 PLOT BY : wally_w PLOT NAME : PLOT SCALE : 1:20

END CONSTRUCTION STA 170FEN+75.00

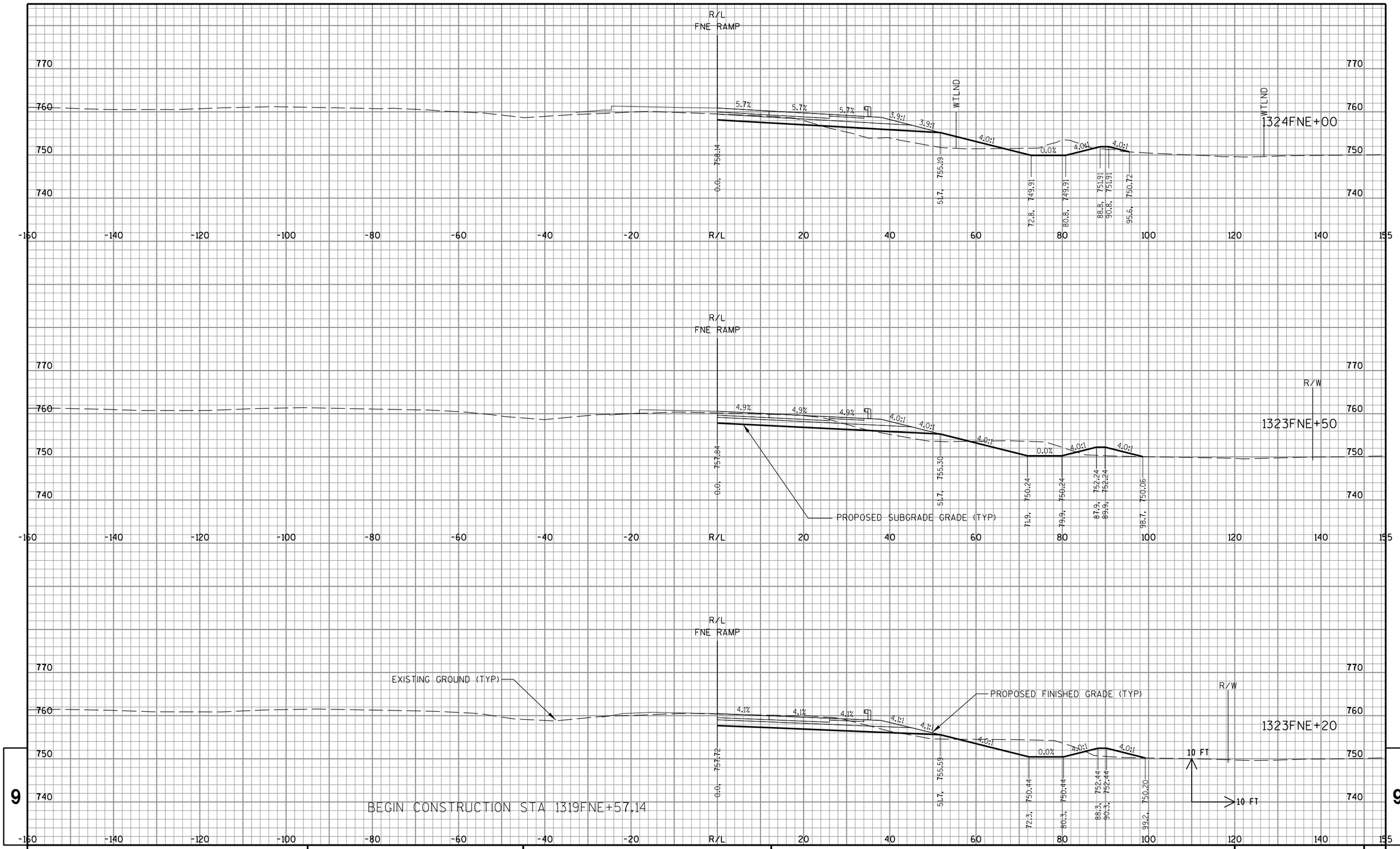


9

9

STATE PROJECT NO: 1517-07-72	HWY: USH 10	COUNTY: WINNEBAGO	CROSS SECTIONS: FEN RAMP	SHEET NO: . 554	E

FILE NAME : S:\DOT\DOT_NE\120012-Tri County Freeway\1517-07-72\DGN_Files\Plansheets\090232_FEN2_XS.dgn PLOT DATE : 2/19/2014 PLOT BY : wally_w PLOT NAME : PLOT SCALE : 1:20

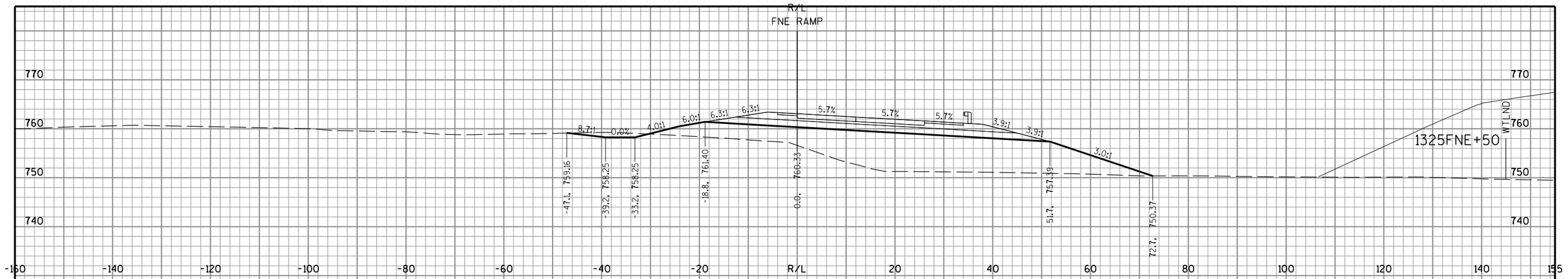


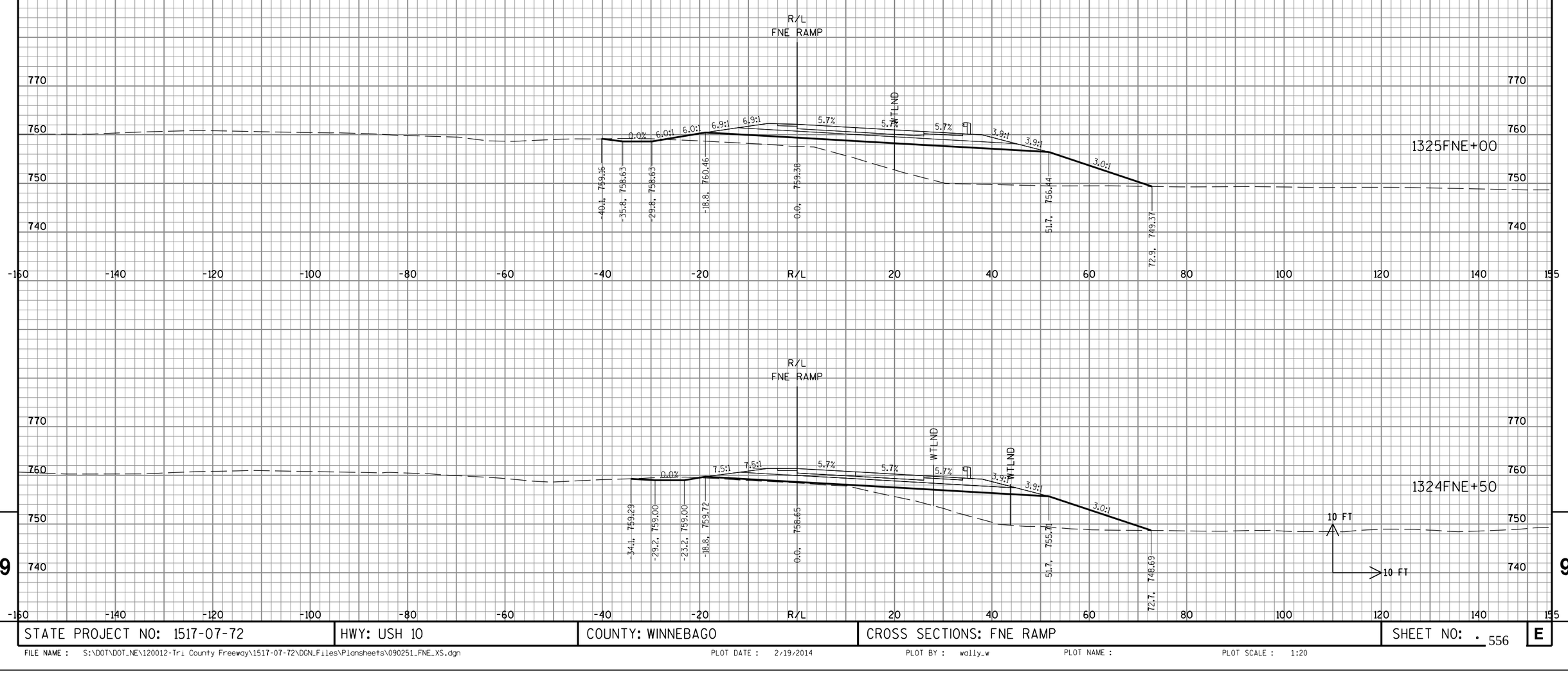
9

9

STATE PROJECT NO: 1517-07-72	HWY: USH 10	COUNTY: WINNEBAGO	CROSS SECTIONS: FNE RAMP	SHEET NO: . 555	E

FILE NAME : S:\DOT\DOT_NE\120012-Tri County Freeway\1517-07-72\DGN_Files\Plansheets\090251_FNE_XS.dgn PLOT DATE : 2/19/2014 PLOT BY : wally_w PLOT NAME : PLOT SCALE : 1:20



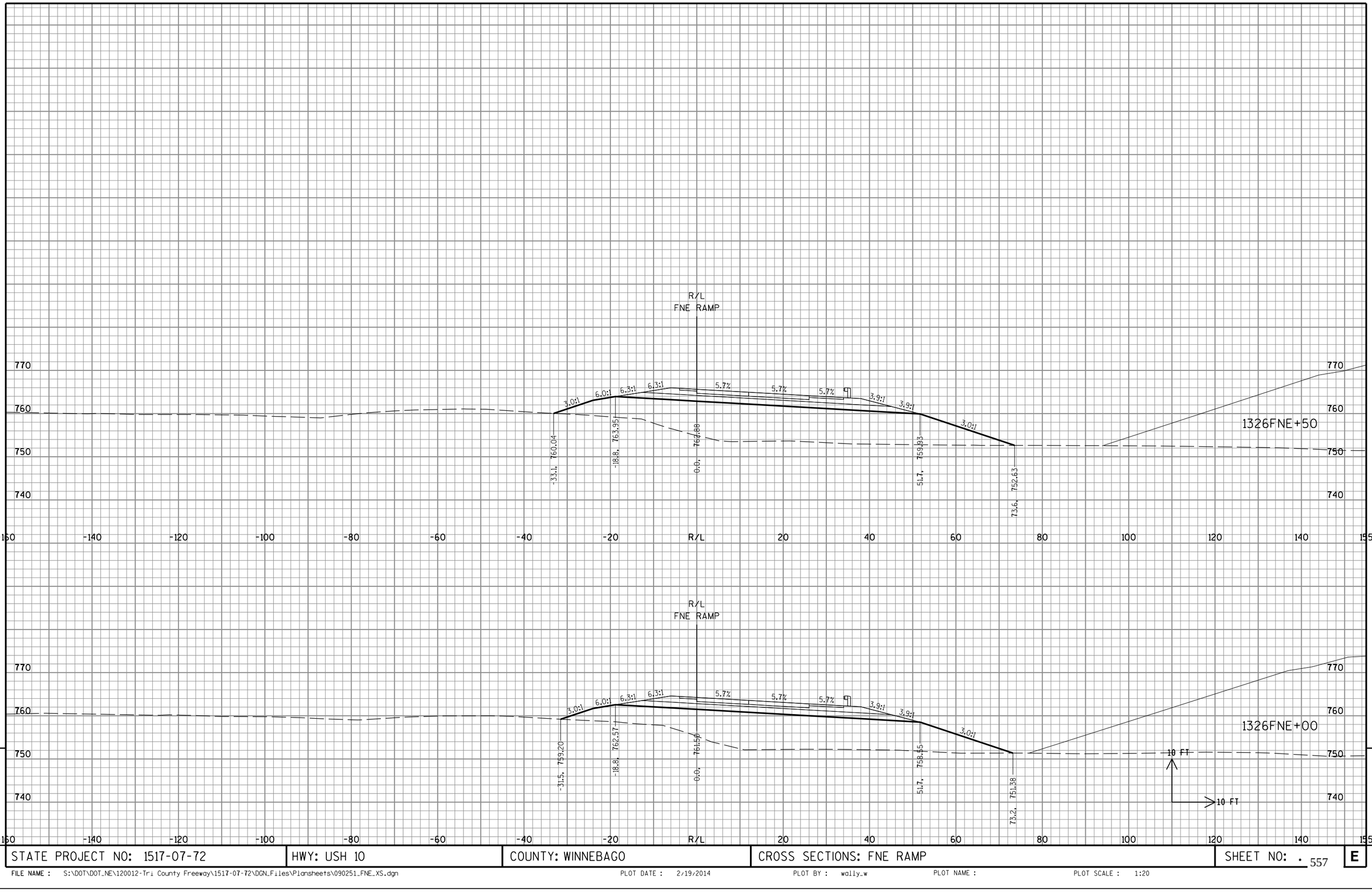


9

9

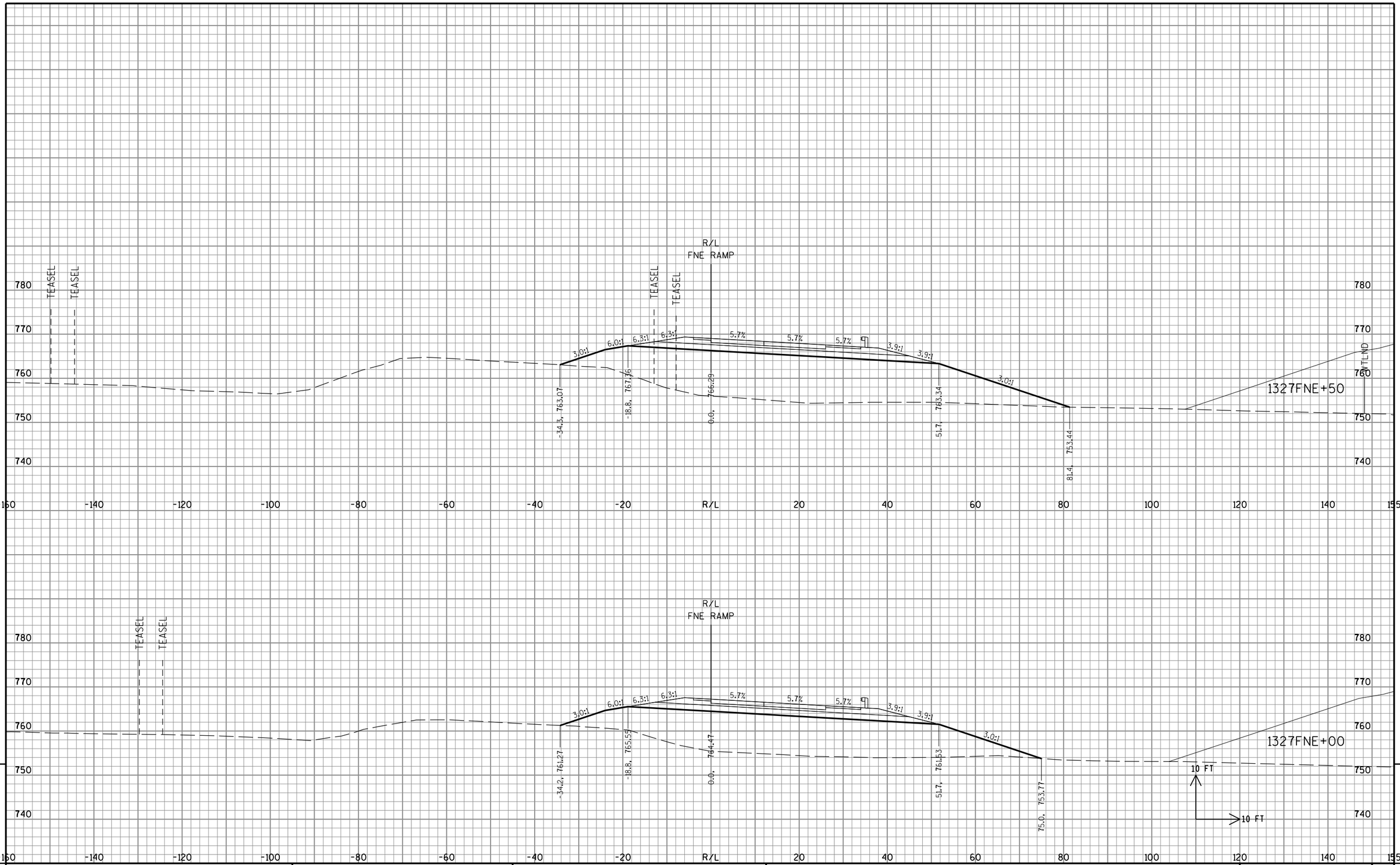
STATE PROJECT NO: 1517-07-72	HWY: USH 10	COUNTY: WINNEBAGO	CROSS SECTIONS: FNE RAMP	SHEET NO: . 556	E

FILE NAME : S:\DOT\DOT_NE\120012-Tri County Freeway\1517-07-72\DGN_Files\Plansheets\090251_FNE_XS.dgn PLOT DATE : 2/19/2014 PLOT BY : wally_w PLOT NAME : PLOT SCALE : 1:20



STATE PROJECT NO: 1517-07-72	HWY: USH 10	COUNTY: WINNEBAGO	CROSS SECTIONS: FNE RAMP	SHEET NO: . 557	E

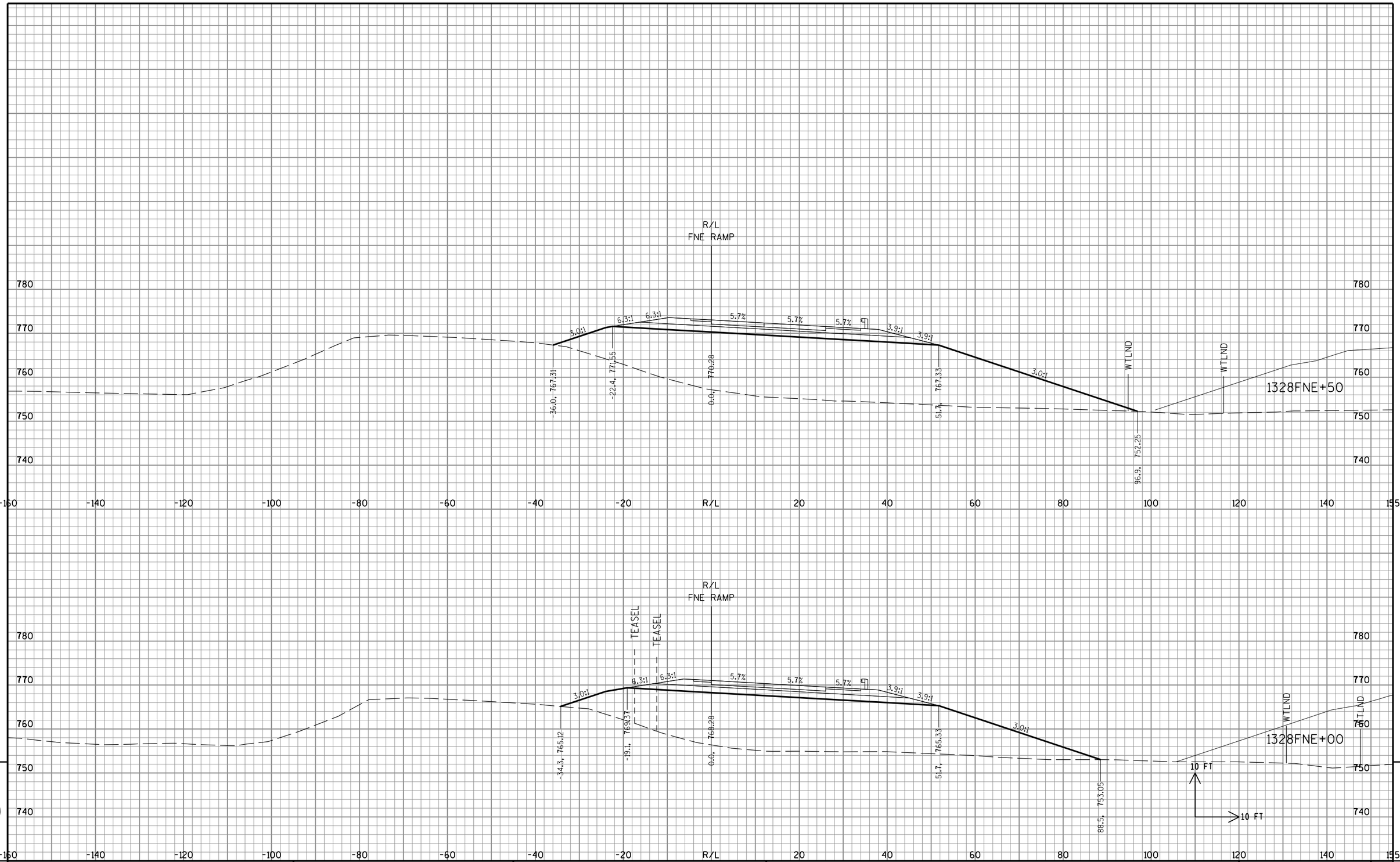
FILE NAME : S:\DOT\DOT_NE\120012-Tri County Freeway\1517-07-72\DGN_Files\Plansheets\090251_FNE_XS.dgn PLOT DATE : 2/19/2014 PLOT BY : wally_w PLOT NAME : PLOT SCALE : 1:20



9

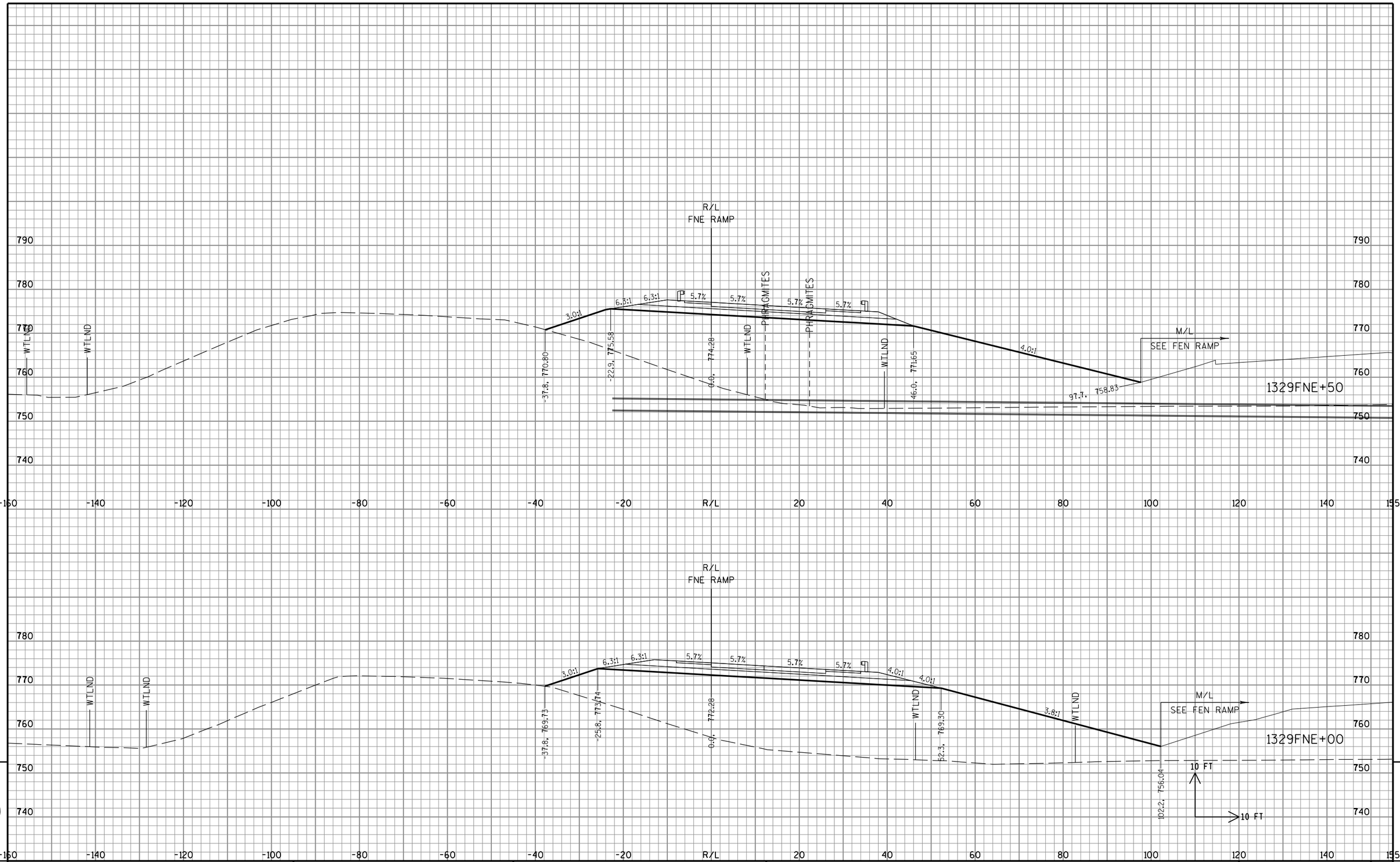
STATE PROJECT NO: 1517-07-72	HWY: USH 10	COUNTY: WINNEBAGO	CROSS SECTIONS: FNE RAMP	SHEET NO: . 558	E

FILE NAME : S:\DOT\DOT_NE\120012-Tri County Freeway\1517-07-72\DGN_Files\Plansheets\090251_FNE_XS.dgn PLOT DATE : 2/19/2014 PLOT BY : wally_w PLOT NAME : PLOT SCALE : 1:20



STATE PROJECT NO: 1517-07-72	HWY: USH 10	COUNTY: WINNEBAGO	CROSS SECTIONS: FNE RAMP	SHEET NO: . 559	E

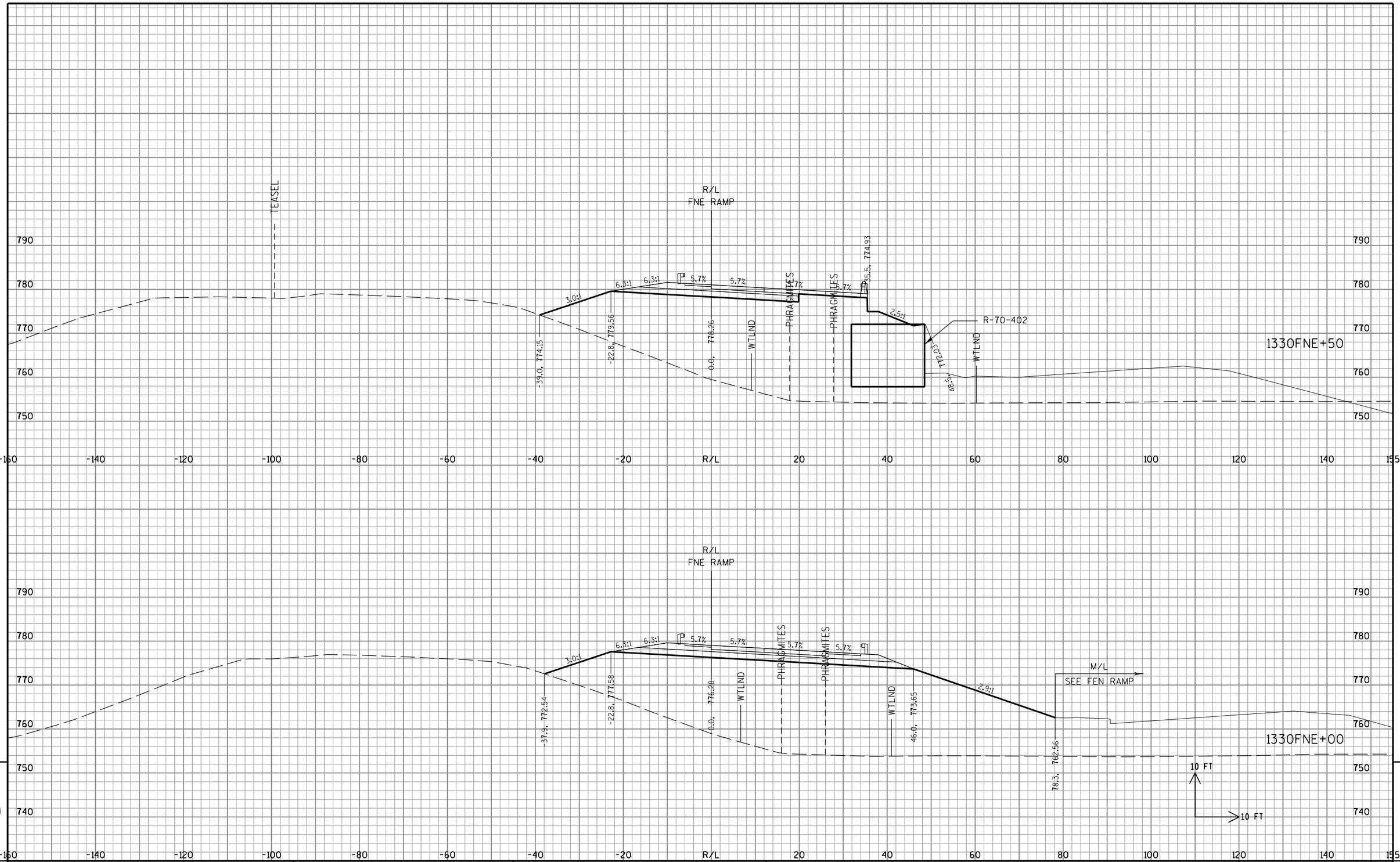
FILE NAME : S:\DOT\DOT_NE\120012-Tri County Freeway\1517-07-72\DGN_Files\Plansheets\090251_FNE_XS.dgn PLOT DATE : 2/19/2014 PLOT BY : wally_w PLOT NAME : PLOT SCALE : 1:20



STATE PROJECT NO: 1517-07-72	HWY: USH 10	COUNTY: WINNEBAGO	CROSS SECTIONS: FNE RAMP	SHEET NO: . 560	E

FILE NAME : S:\DOT\DOT_NE\120012-Tri County Freeway\1517-07-72\DGN_Files\Plansheets\090251_FNE_XS.dgn PLOT DATE : 2/19/2014 PLOT BY : wally_w PLOT NAME : PLOT SCALE : 1:20

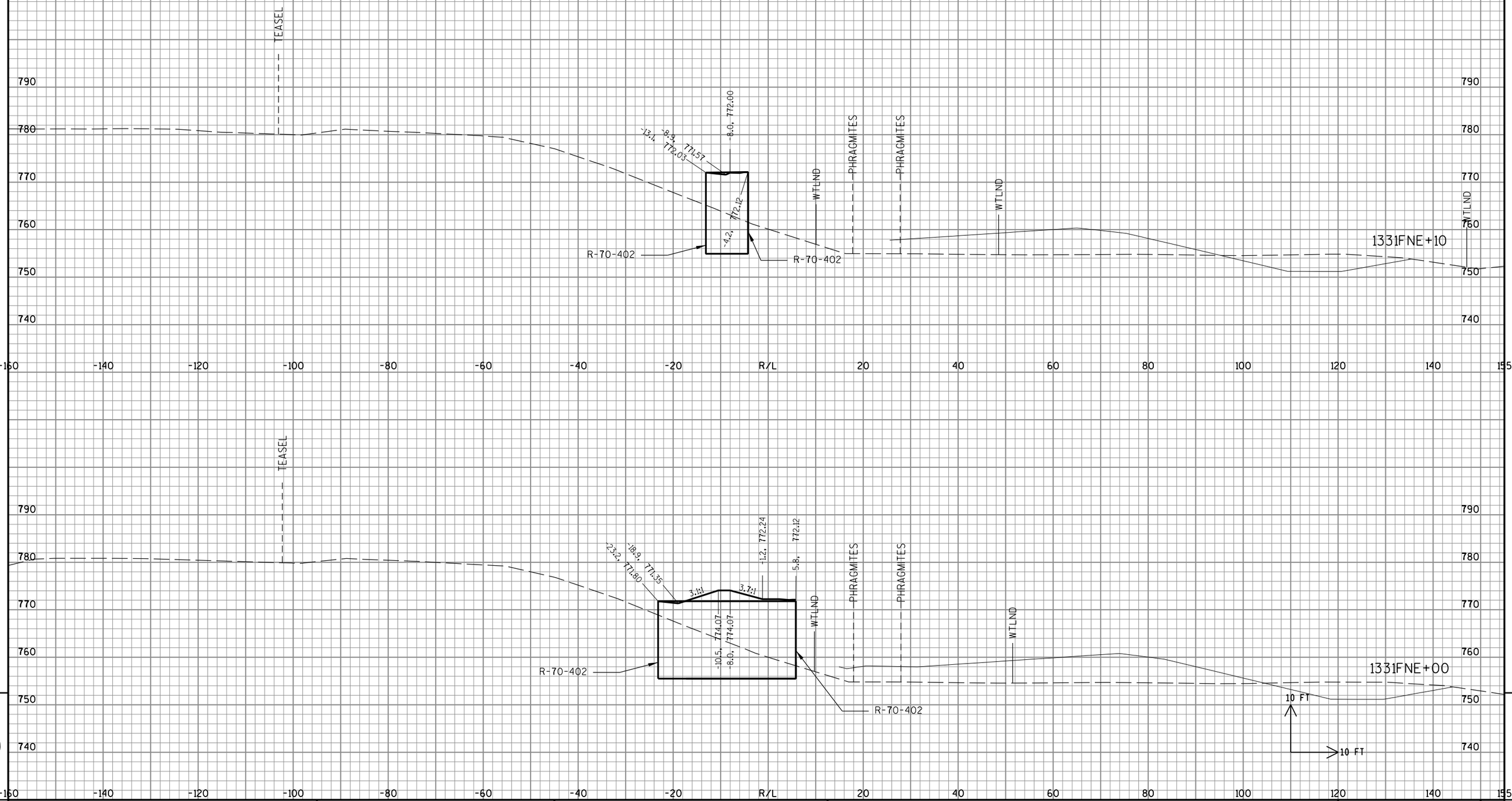
9



STATE PROJECT NO: 1517-07-72	HWY: USH 10	COUNTY: WINNEBAGO	CROSS SECTIONS: FNE RAMP	SHEET NO: . 561	E

FILE NAME : S:\DOT\DOT_NE\120012-Tri County Freeway\1517-07-72\DGN_Files\Plansheets\090251_FNE_XS.dgn PLOT DATE : 2/19/2014 PLOT BY : wally_w PLOT NAME : PLOT SCALE : 1:20

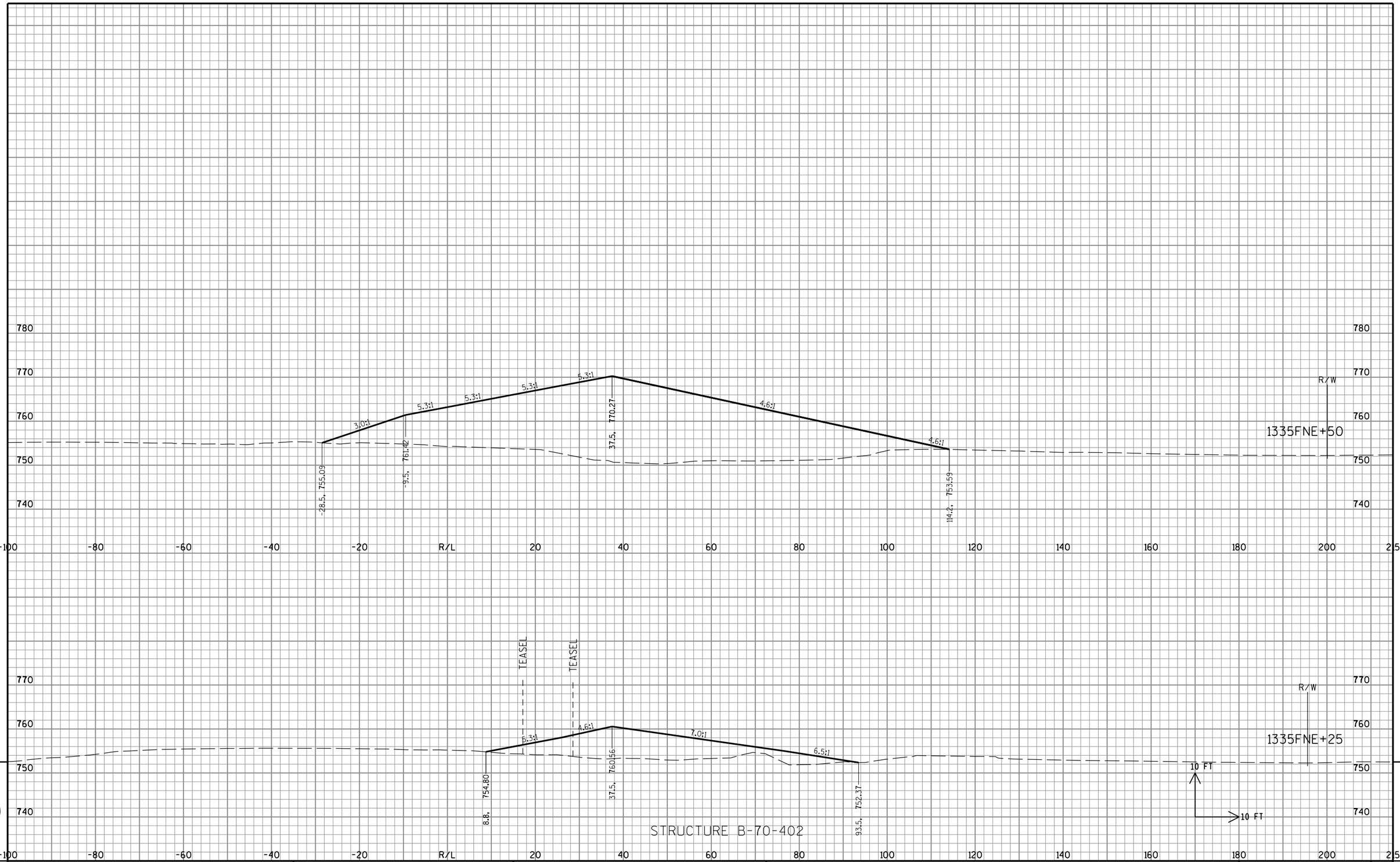
STRUCTURE B-70-402
STA 1330FNE+72.72 TO STA 1336FNE+18.76



9 9

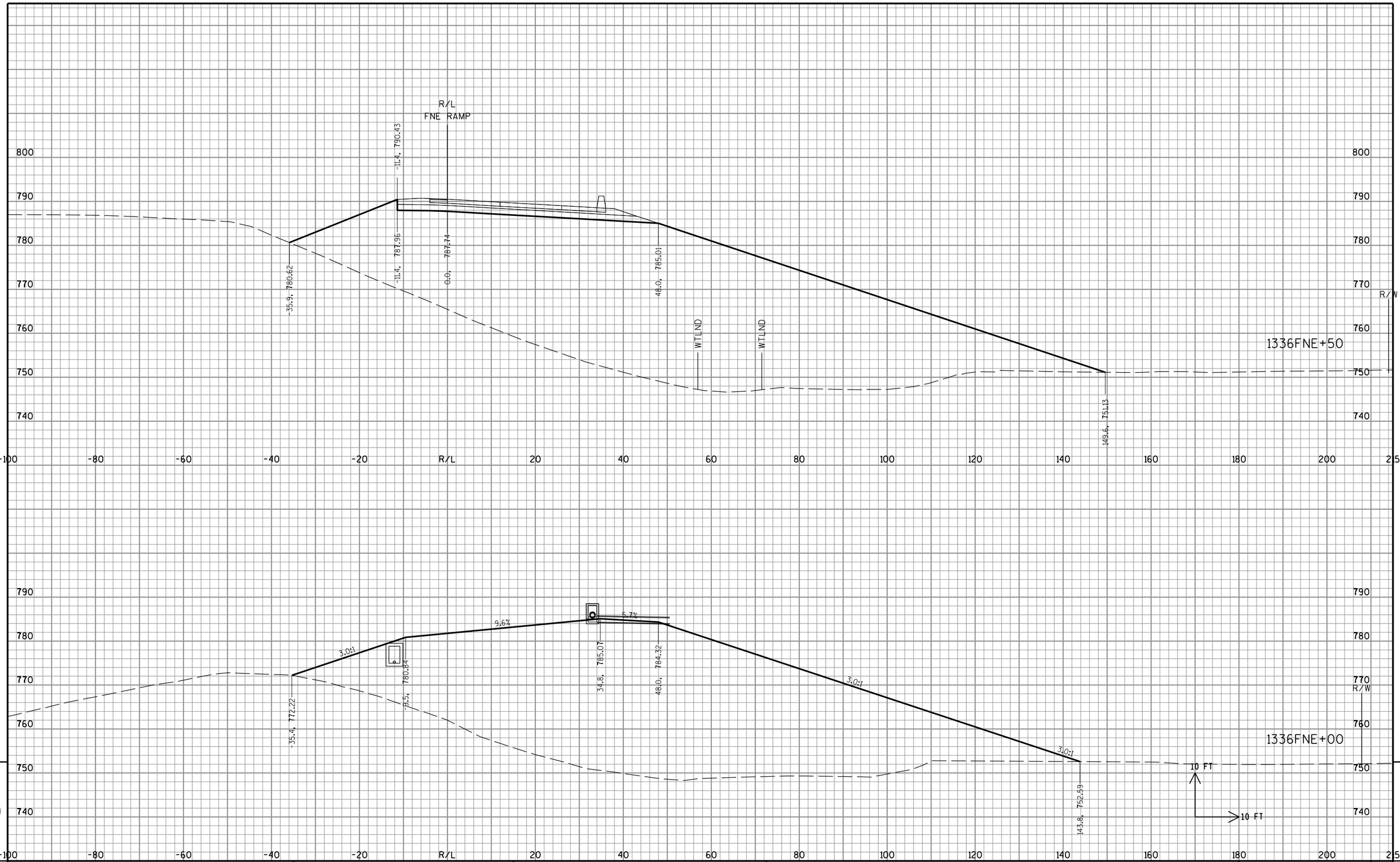
STATE PROJECT NO: 1517-07-72	HWY: USH 10	COUNTY: WINNEBAGO	CROSS SECTIONS: FNE RAMP	SHEET NO: . 562	E

FILE NAME : S:\DOT\DOT_NE\120012-Tri County Freeway\1517-07-72\DGN_Files\Plansheets\090251_FNE_XS.dgn PLOT DATE : 2/19/2014 PLOT BY : wally_w PLOT NAME : PLOT SCALE : 1:20



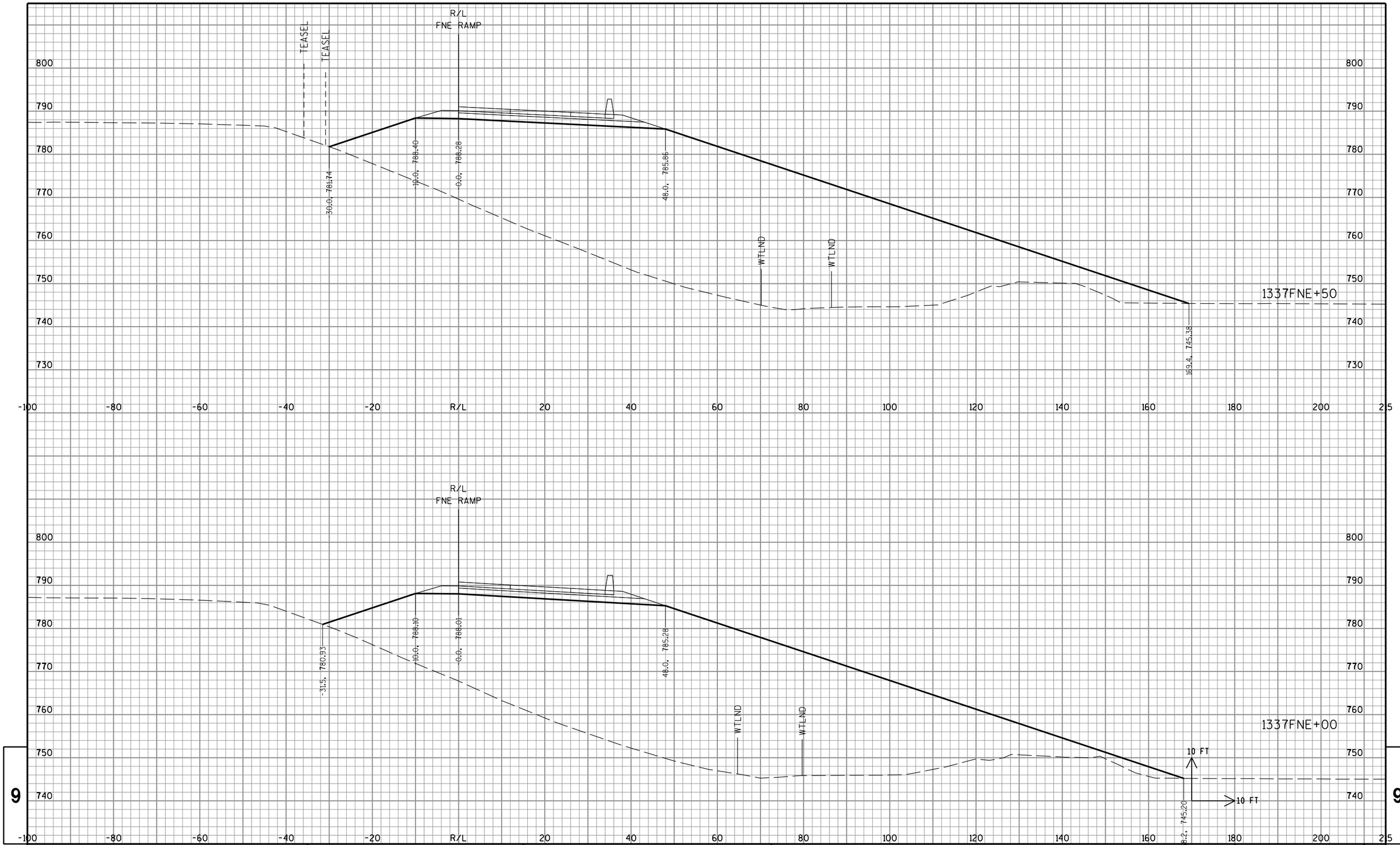
STATE PROJECT NO: 1517-07-72	HWY: USH 10	COUNTY: WINNEBAGO	CROSS SECTIONS: FNE RAMP	SHEET NO: . 563	E

FILE NAME : S:\DOT\DOT_NE\120012-Tri County Freeway\1517-07-72\DGN_Files\Plansheets\090251_FNE_XS.dgn PLOT DATE : 2/19/2014 PLOT BY : wally_w PLOT NAME : PLOT SCALE : 1:20



STATE PROJECT NO: 1517-07-72	HWY: USH 10	COUNTY: WINNEBAGO	CROSS SECTIONS: FNE RAMP	SHEET NO: 564	E

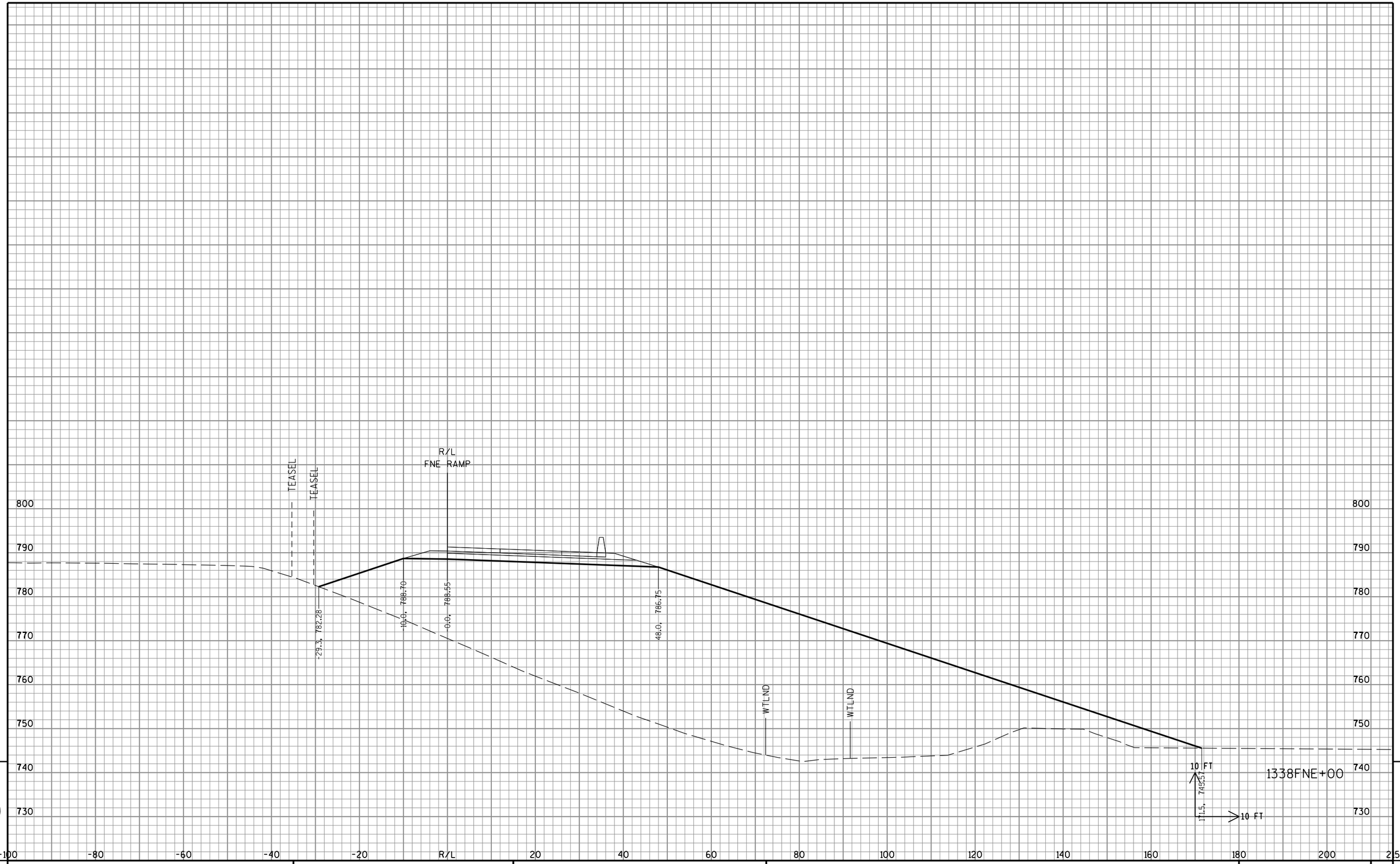
FILE NAME : S:\DOT\DOT_NE\120012-Tri County Freeway\1517-07-72\DGN_Files\Plansheets\090251_FNE_XS.dgn PLOT DATE : 2/19/2014 PLOT BY : wally_w PLOT NAME : PLOT SCALE : 1:20



9 9

STATE PROJECT NO: 1517-07-72	HWY: USH 10	COUNTY: WINNEBAGO	CROSS SECTIONS: FNE RAMP	SHEET NO: . 565	E

FILE NAME : S:\DOT\DOT_NE\120012-Tri County Freeway\1517-07-72\DGN_Files\Plansheets\090251_FNE_XS.dgn PLOT DATE : 2/19/2014 PLOT BY : wally_w PLOT NAME : PLOT SCALE : 1:20



9

9

STATE PROJECT NO: 1517-07-72	HWY: USH 10	COUNTY: WINNEBAGO	CROSS SECTIONS: FNE RAMP	SHEET NO: . 566	E

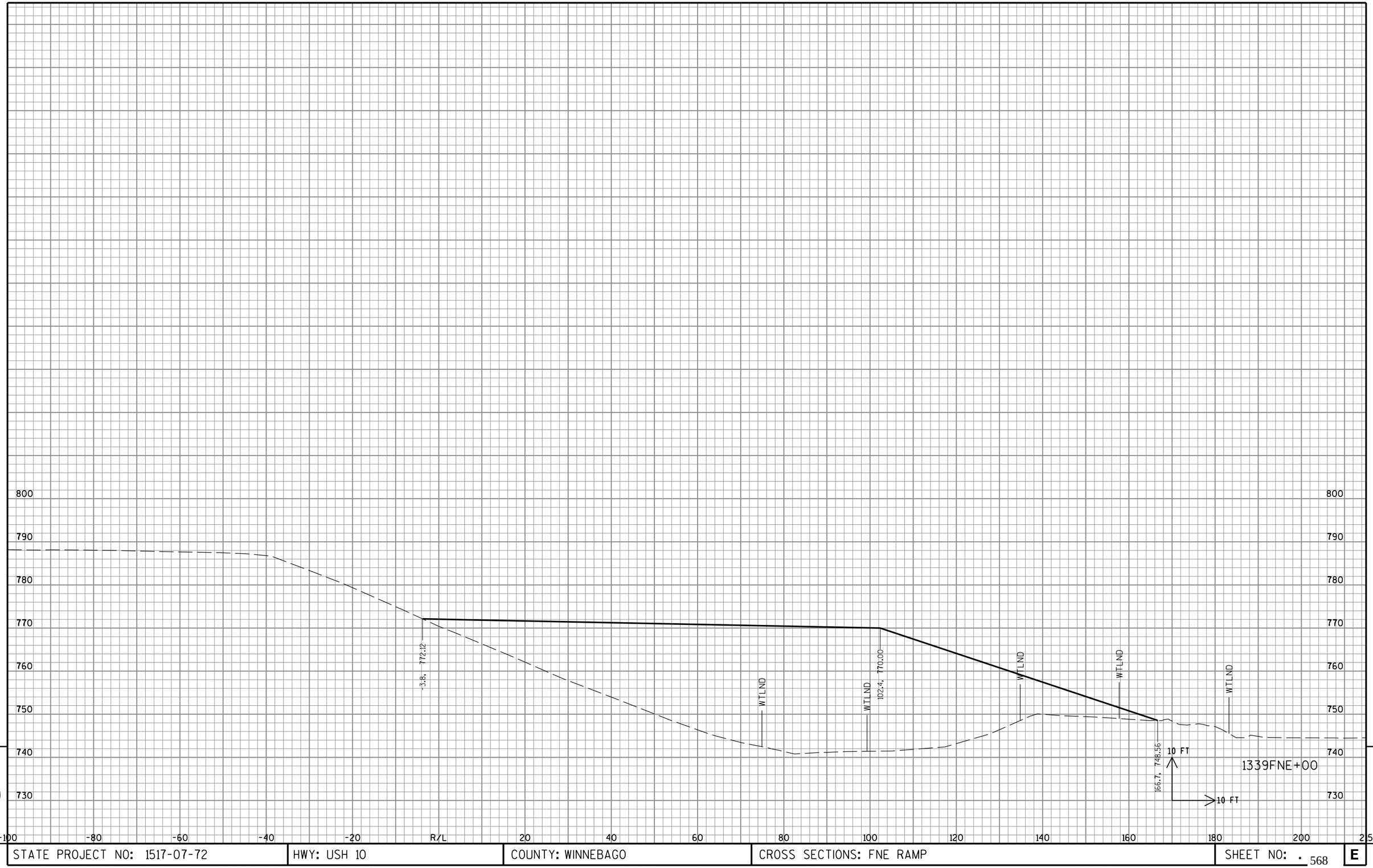
FILE NAME : S:\DOT\DOT_NE\120012-Tri County Freeway\1517-07-72\DGN_Files\Plansheets\090251_FNE_XS.dgn PLOT DATE : 2/19/2014 PLOT BY : wally_w PLOT NAME : PLOT SCALE : 1:20

9

9

STATE PROJECT NO: 1517-07-72	HWY: USH 10	COUNTY: WINNEBAGO	CROSS SECTIONS: FNE RAMP	SHEET NO: . 567	E

FILE NAME : S:\DOT\DOT_NE\120012-Tri County Freeway\1517-07-72\DGN_Files\Plansheets\090251_FNE_XS.dgn PLOT DATE : 2/19/2014 PLOT BY : wally_w PLOT NAME : PLOT SCALE : 1:20



9

9

STATE PROJECT NO: 1517-07-72	HWY: USH 10	COUNTY: WINNEBAGO	CROSS SECTIONS: FNE RAMP	SHEET NO: . 568	E

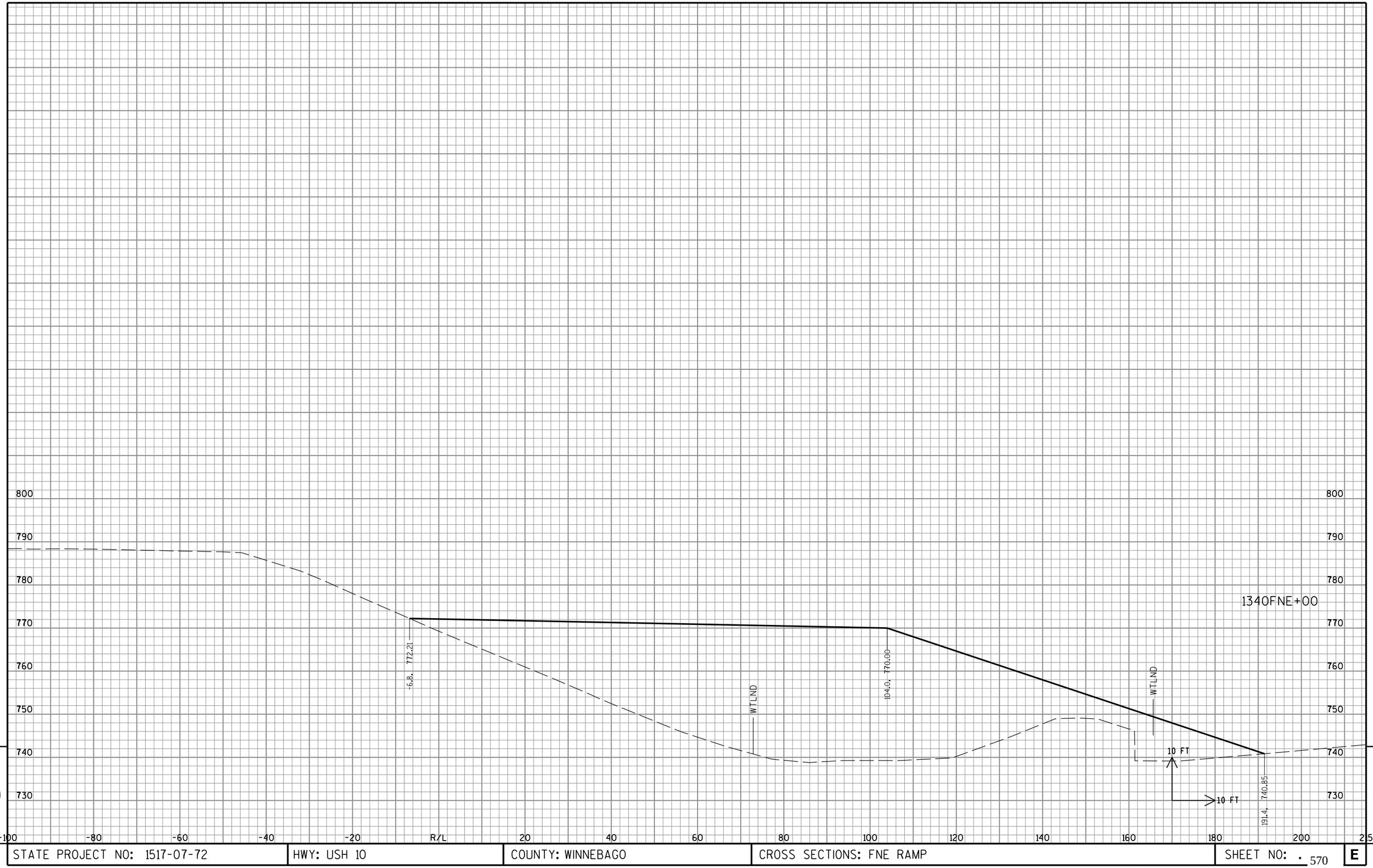
FILE NAME : S:\DOT\DOT_NE\120012-Tri County Freeway\1517-07-72\DGN_Files\Plansheets\090251_FNE_XS.dgn PLOT DATE : 2/19/2014 PLOT BY : wally_w PLOT NAME : PLOT SCALE : 1:20

9

9

STATE PROJECT NO: 1517-07-72	HWY: USH 10	COUNTY: WINNEBAGO	CROSS SECTIONS: FNE RAMP	SHEET NO: . 569	E

FILE NAME : S:\DOT\DOT_NE\120012-Tri County Freeway\1517-07-72\DGN_Files\Plansheets\090251_FNE_XS.dgn PLOT DATE : 2/19/2014 PLOT BY : wally_w PLOT NAME : PLOT SCALE : 1:20



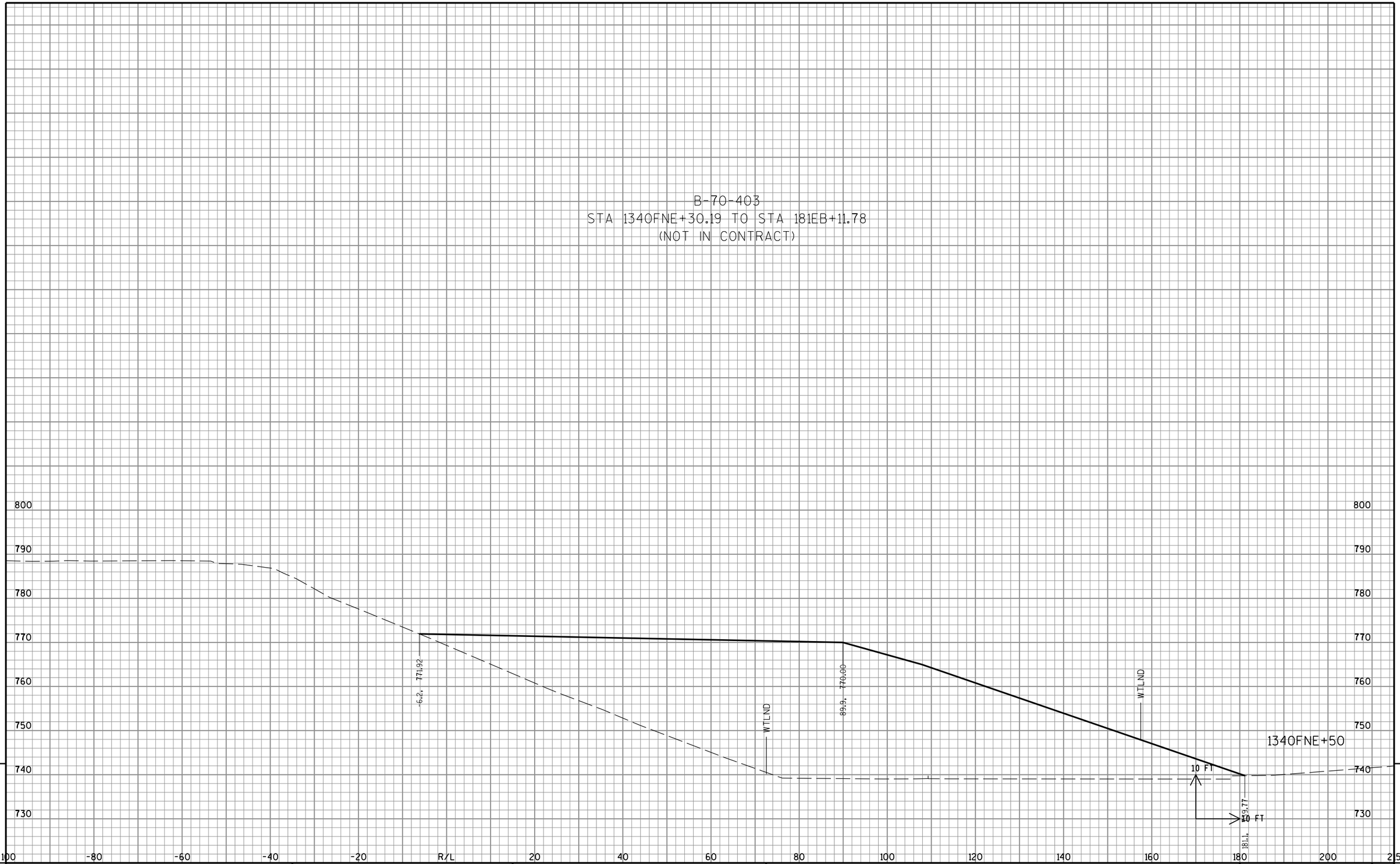
9

9

STATE PROJECT NO: 1517-07-72	HWY: USH 10	COUNTY: WINNEBAGO	CROSS SECTIONS: FNE RAMP	SHEET NO: . 570	E

FILE NAME : S:\DOT\DOT_NE\120012-Tri County Freeway\1517-07-72\DGN_Files\Plansheets\090251_FNE_XS.dgn PLOT DATE : 2/19/2014 PLOT BY : wally_w PLOT NAME : PLOT SCALE : 1:20

B-70-403
STA 1340FNE+30.19 TO STA 181EB+11.78
(NOT IN CONTRACT)

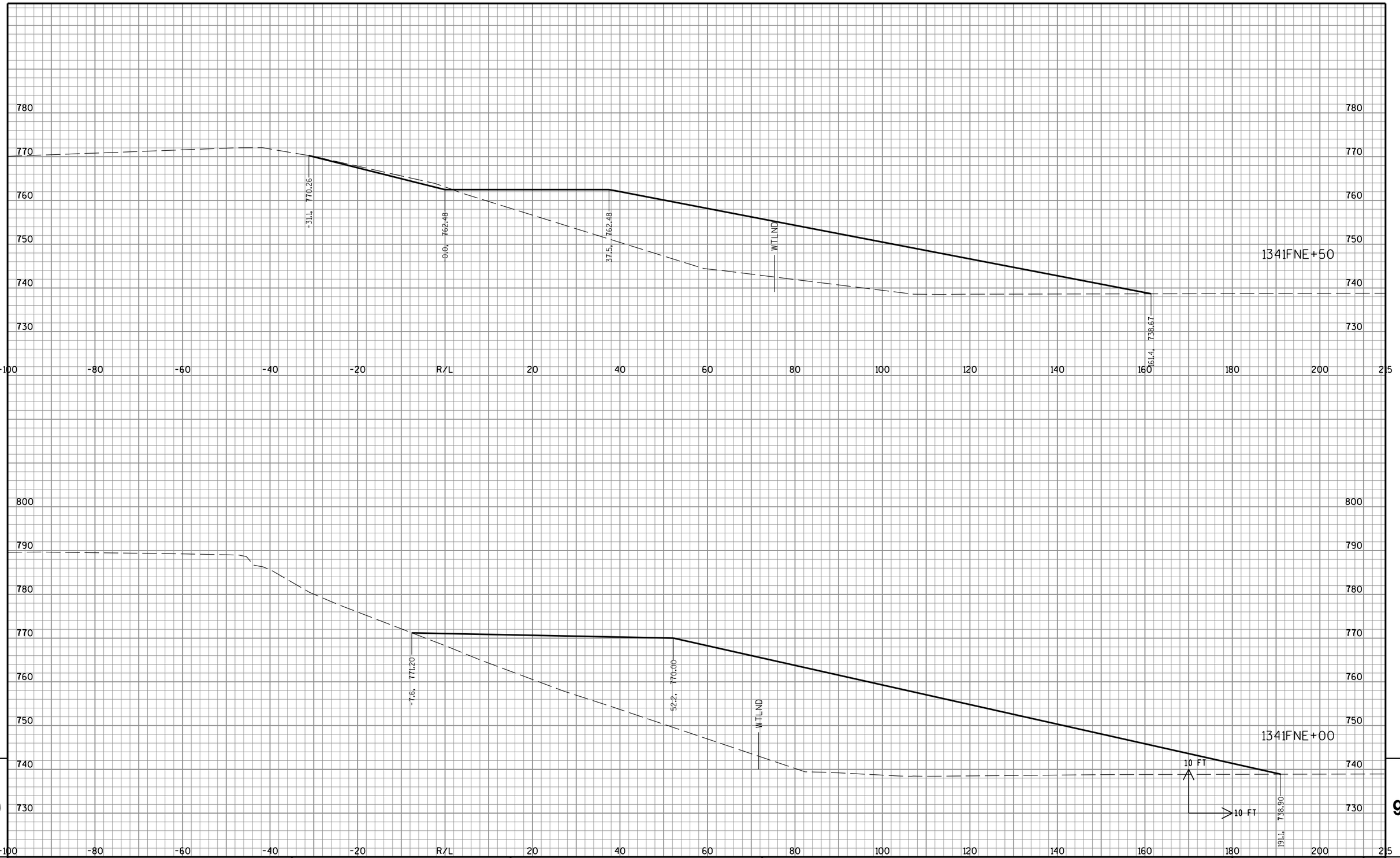


9

9

STATE PROJECT NO: 1517-07-72	HWY: USH 10	COUNTY: WINNEBAGO	CROSS SECTIONS: FNE RAMP	SHEET NO: . 571	E

FILE NAME : S:\DOT\DOT_NE\120012-Tri County Freeway\1517-07-72\DGN_Files\Plansheets\090251_FNE_XS.dgn PLOT DATE : 2/19/2014 PLOT BY : wally_w PLOT NAME : PLOT SCALE : 1:20

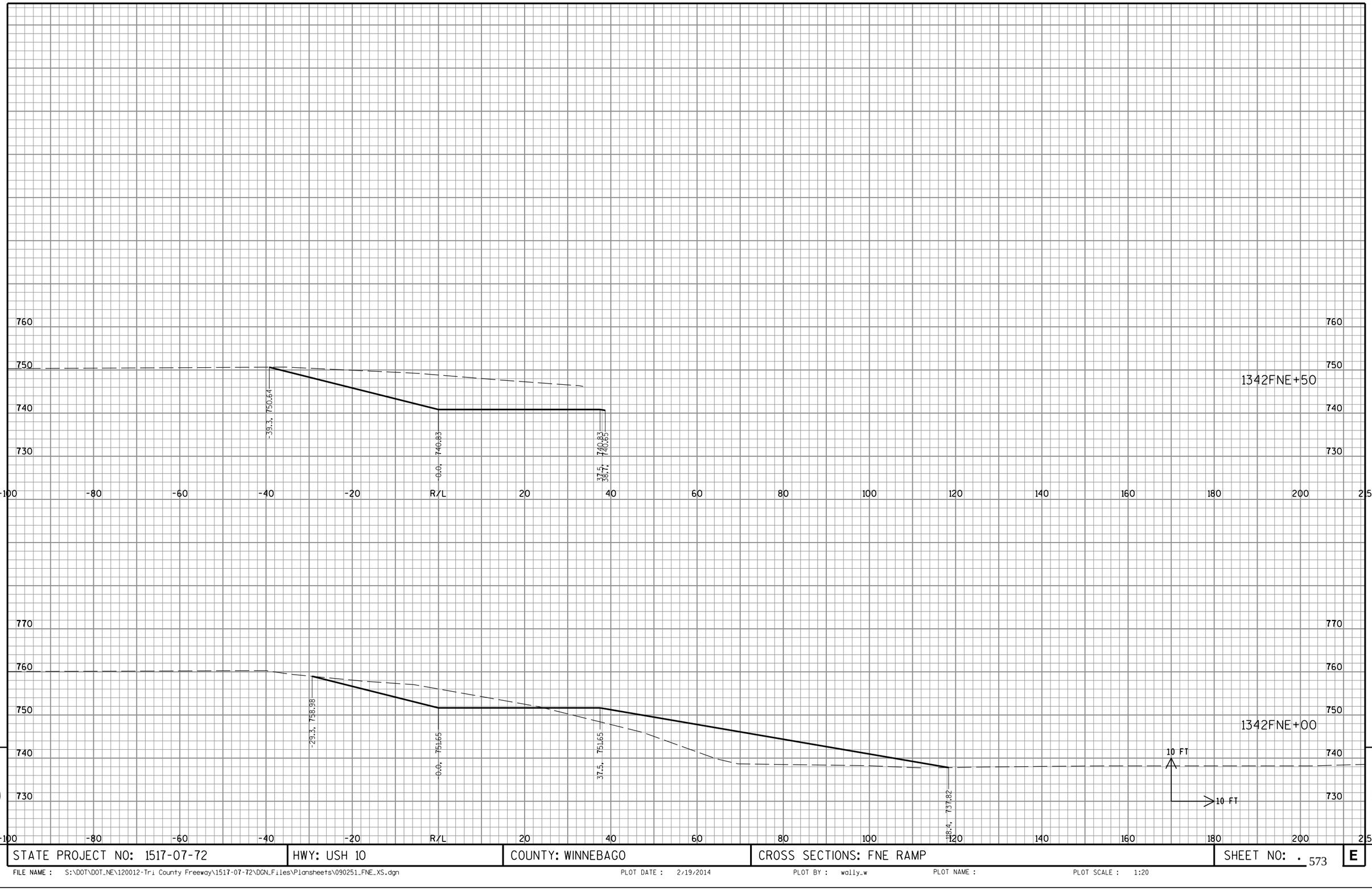


9

9

STATE PROJECT NO: 1517-07-72	HWY: USH 10	COUNTY: WINNEBAGO	CROSS SECTIONS: FNE RAMP	SHEET NO: . 572	E

FILE NAME : S:\DOT\DOT_NE\120012-Tri County Freeway\1517-07-72\DGN_Files\Plansheets\090251_FNE_XS.dgn PLOT DATE : 2/19/2014 PLOT BY : wally_w PLOT NAME : PLOT SCALE : 1:20



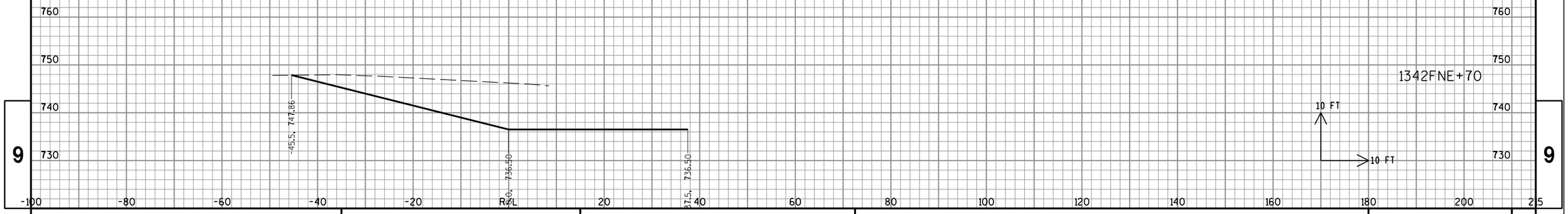
9

9

STATE PROJECT NO: 1517-07-72	HWY: USH 10	COUNTY: WINNEBAGO	CROSS SECTIONS: FNE RAMP	SHEET NO: . 573	E

FILE NAME : S:\DOT\DOT_NE\120012-Tri County Freeway\1517-07-72\DGN_Files\Plansheets\090251_FNE_XS.dgn PLOT DATE : 2/19/2014 PLOT BY : wally_w PLOT NAME : PLOT SCALE : 1:20

END CONSTRUCTION STA 1342FNE+70.00

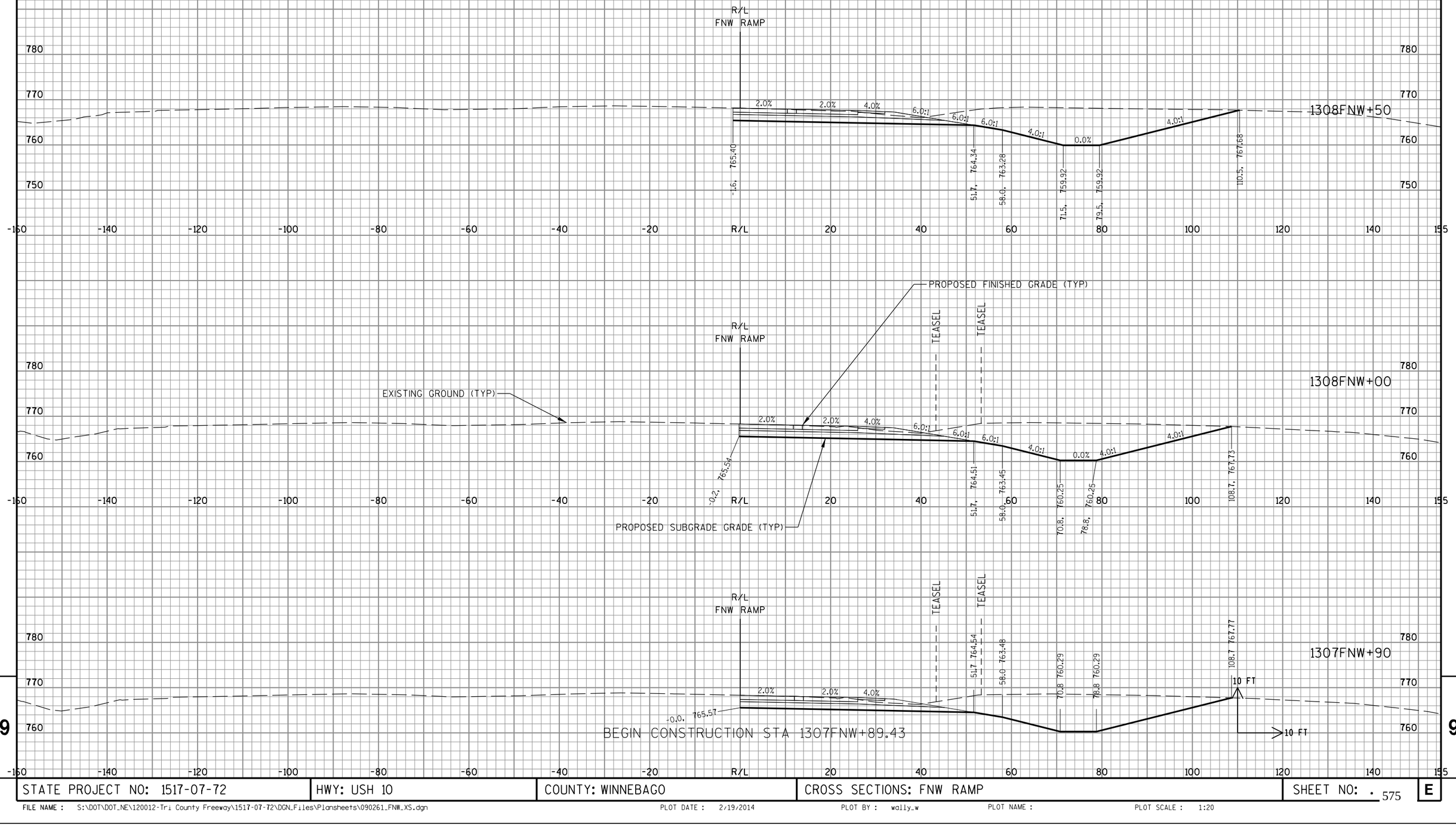


9

9

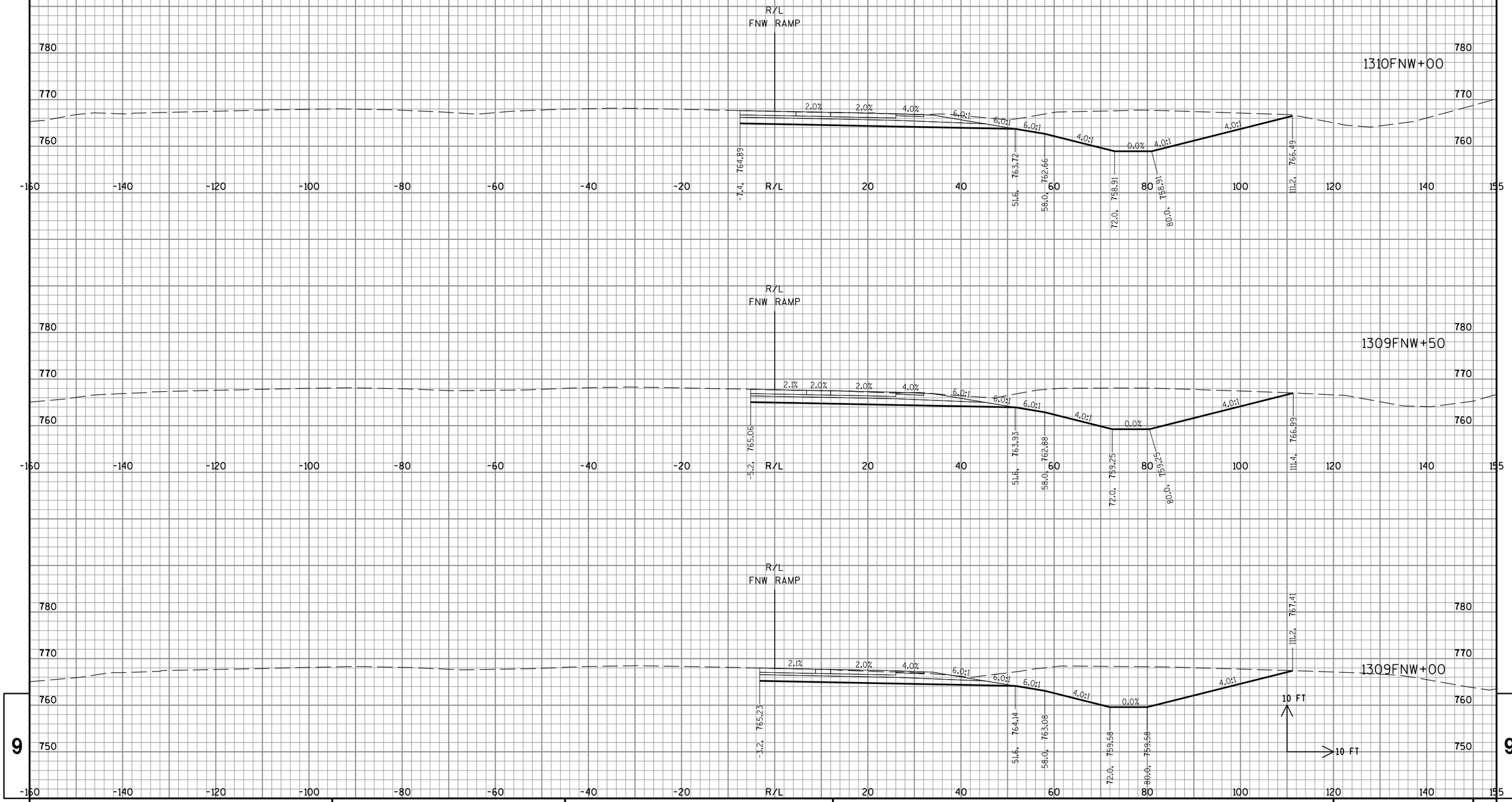
STATE PROJECT NO: 1517-07-72	HWY: USH 10	COUNTY: WINNEBAGO	CROSS SECTIONS: FNE RAMP	SHEET NO: . 574	E

FILE NAME : S:\DOT\DOT_NE\120012-Tri County Freeway\1517-07-72\DGN_Files\Plansheets\090251_FNE_XS.dgn PLOT DATE : 2/19/2014 PLOT BY : wally_w PLOT NAME : PLOT SCALE : 1:20



STATE PROJECT NO: 1517-07-72	HWY: USH 10	COUNTY: WINNEBAGO	CROSS SECTIONS: FNW RAMP	SHEET NO: . 575	E

FILE NAME : S:\DOT\DOT_NE\120012-Tri County Freeway\1517-07-72\DGN_Files\Plansheets\090261_FNW_XS.dgn PLOT DATE : 2/19/2014 PLOT BY : wally_w PLOT NAME : PLOT SCALE : 1:20

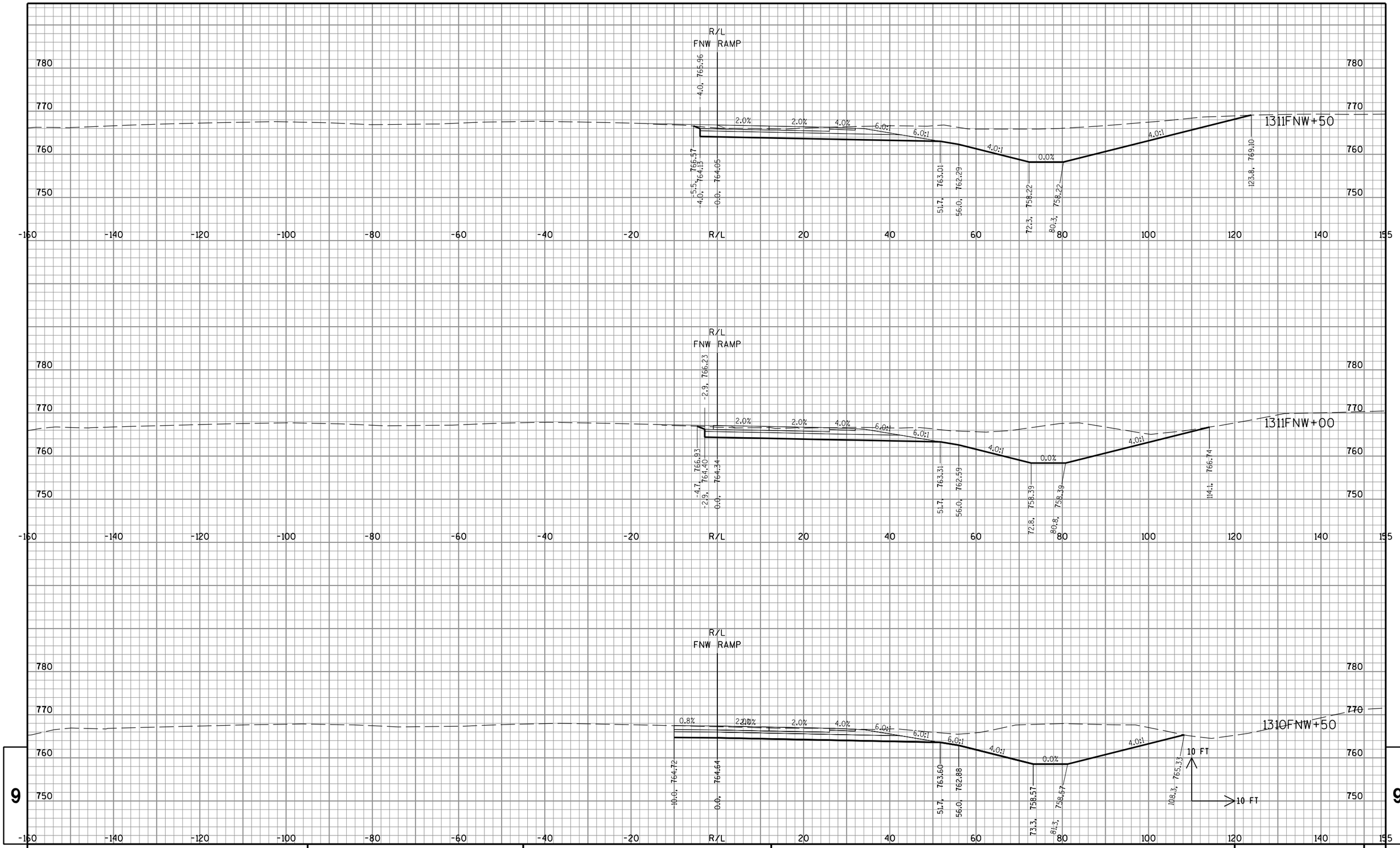


9

9

STATE PROJECT NO: 1517-07-72	HWY: USH 10	COUNTY: WINNEBAGO	CROSS SECTIONS: FNW RAMP	SHEET NO: . 576	E

FILE NAME : S:\DOT\DOT_NE\120012-Tri County Freeway\1517-07-72\DGN_Files\Plansheets\090261_FNW_XS.dgn PLOT DATE : 2/19/2014 PLOT BY : wally_w PLOT NAME : PLOT SCALE : 1:20

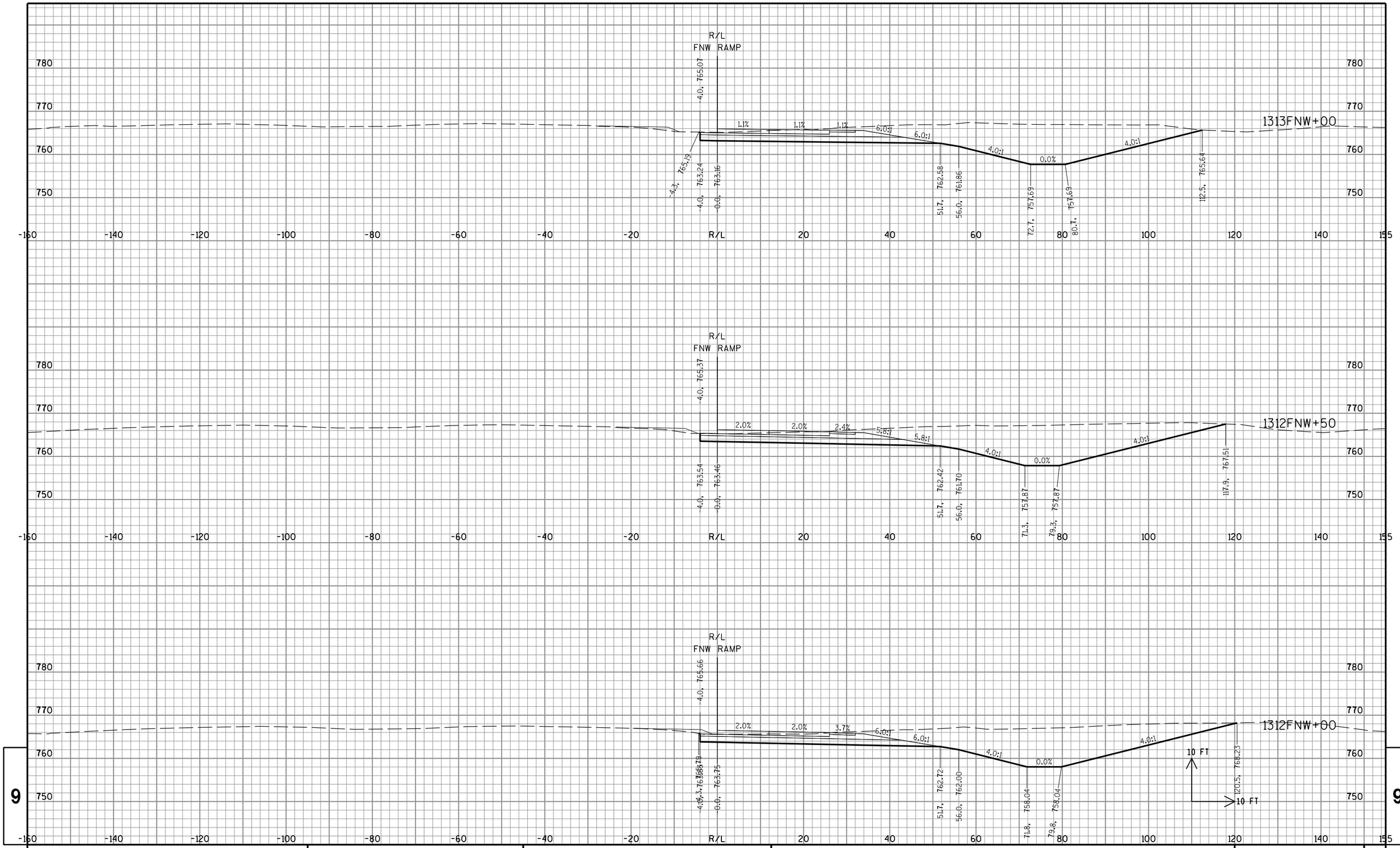


9

9

STATE PROJECT NO: 1517-07-72	HWY: USH 10	COUNTY: WINNEBAGO	CROSS SECTIONS: FNW RAMP	SHEET NO: . 577	E

FILE NAME : S:\DOT\DOT_NE\120012-Tri County Freeway\1517-07-72\DGN_Files\Plansheets\090261_FNW_XS.dgn PLOT DATE : 2/19/2014 PLOT BY : wally_w PLOT NAME : PLOT SCALE : 1:20

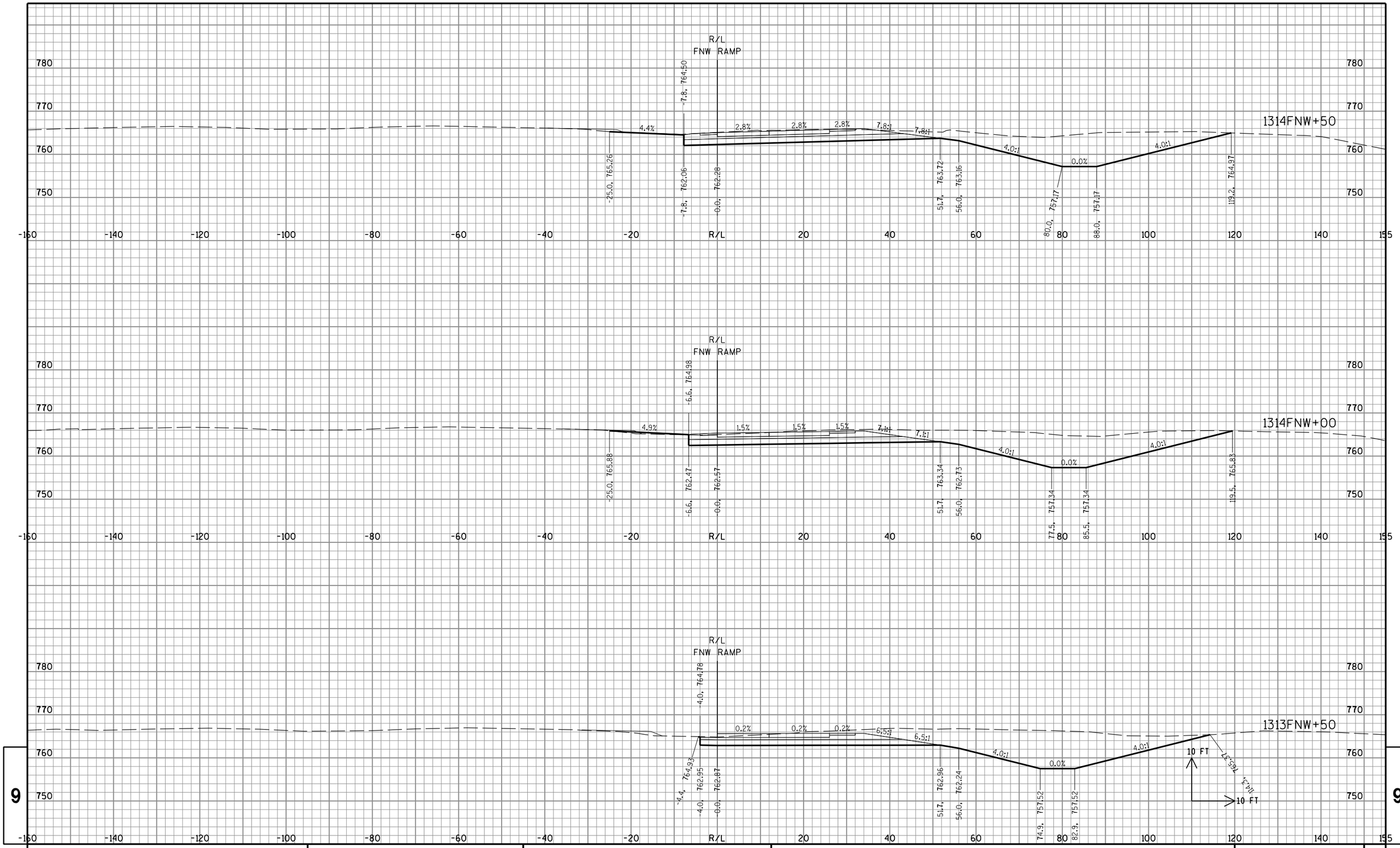


9

9

STATE PROJECT NO: 1517-07-72	HWY: USH 10	COUNTY: WINNEBAGO	CROSS SECTIONS: FNW RAMP	SHEET NO: . 578	E

FILE NAME : S:\DOT\DOT_NE\120012-Tri County Freeway\1517-07-72\DGN_Files\Plansheets\090261_FNW_XS.dgn PLOT DATE : 2/19/2014 PLOT BY : wally_w PLOT NAME : PLOT SCALE : 1:20

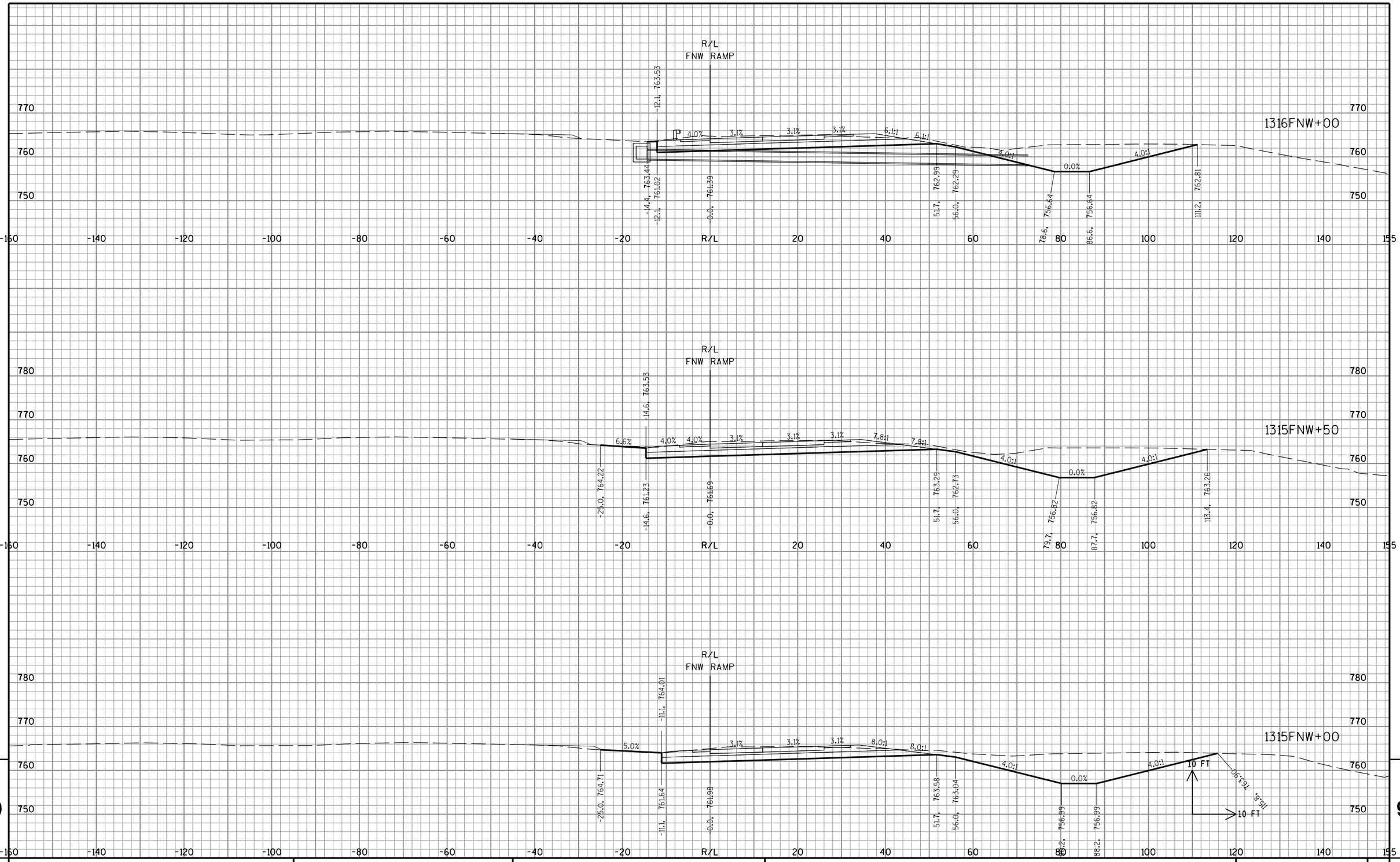


9

9

STATE PROJECT NO: 1517-07-72	HWY: USH 10	COUNTY: WINNEBAGO	CROSS SECTIONS: FNW RAMP	SHEET NO: . 579	E

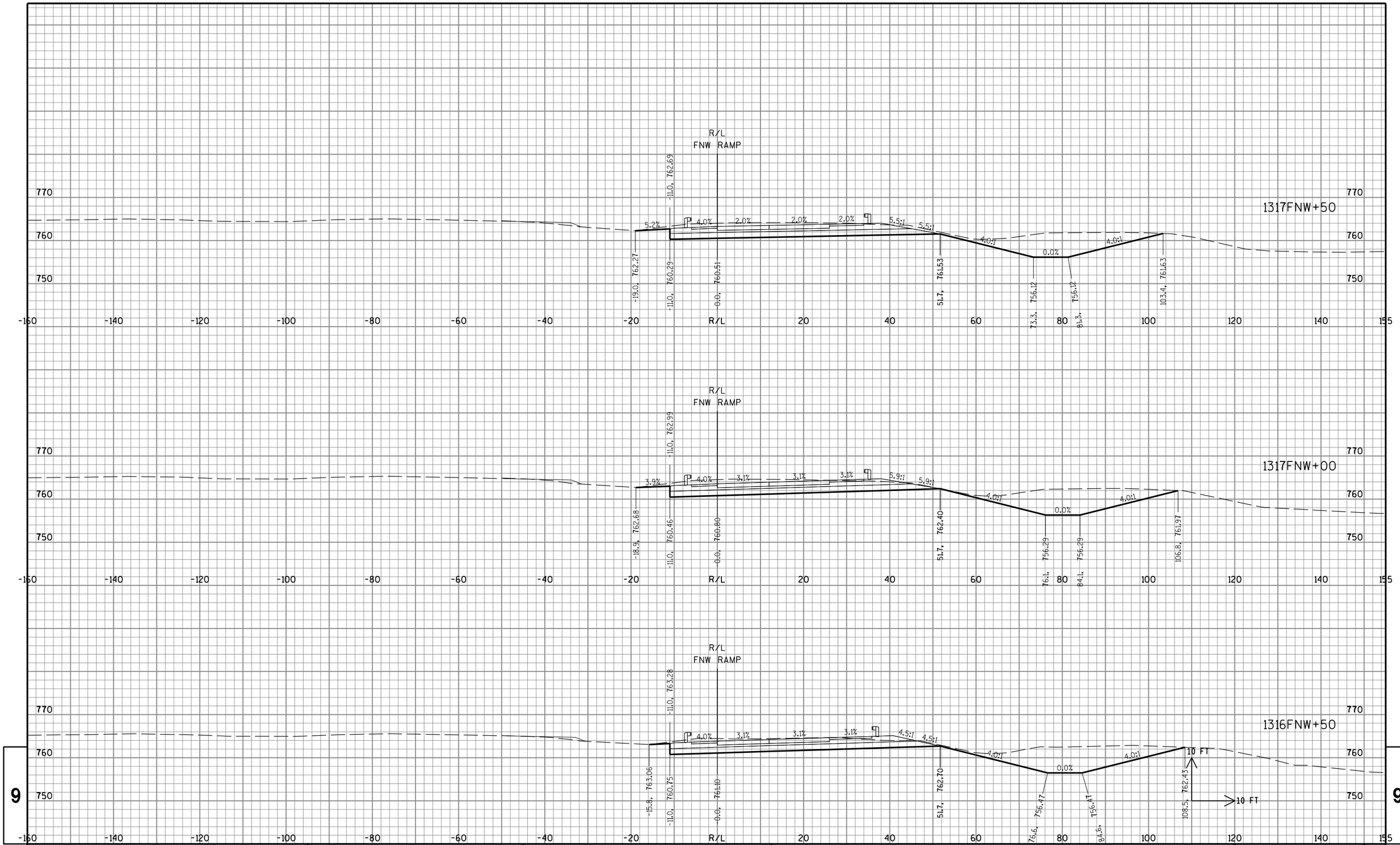
FILE NAME : S:\DOT\DOT_NE\120012-Tri County Freeway\1517-07-72\DGN_Files\Plansheets\090261_FNW_XS.dgn PLOT DATE : 2/19/2014 PLOT BY : wally_w PLOT NAME : PLOT SCALE : 1:20



STATE PROJECT NO: 1517-07-72	HWY: USH 10	COUNTY: WINNEBAGO	CROSS SECTIONS: FNW RAMP	SHEET NO: . 580	E

FILE NAME : S:\DOT\DOT_NE\120012-Tri County Freeway\1517-07-72\DGN_Files\Plansheets\090261_FNW_XS.dgn PLOT DATE : 2/19/2014 PLOT BY : wally_w PLOT NAME : PLOT SCALE : 1:20

9



9

STATE PROJECT NO: 1517-07-72	HWY: USH 10	COUNTY: WINNEBAGO	CROSS SECTIONS: FNW RAMP	SHEET NO: . 581	E

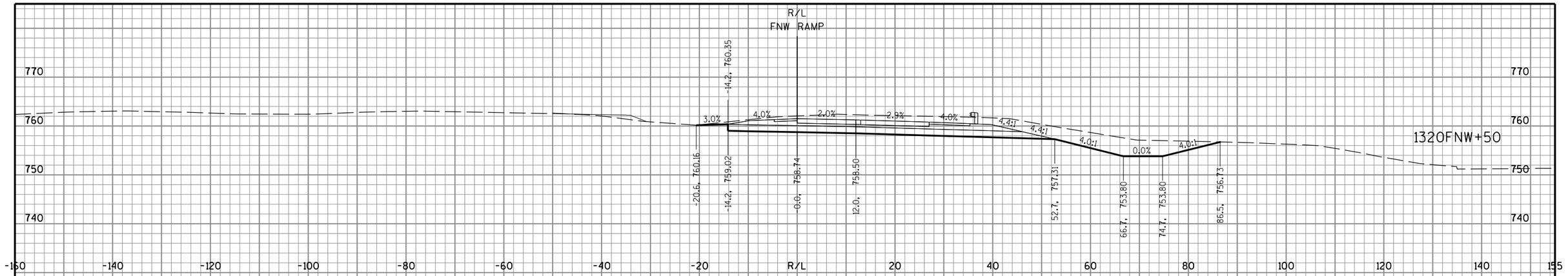
9

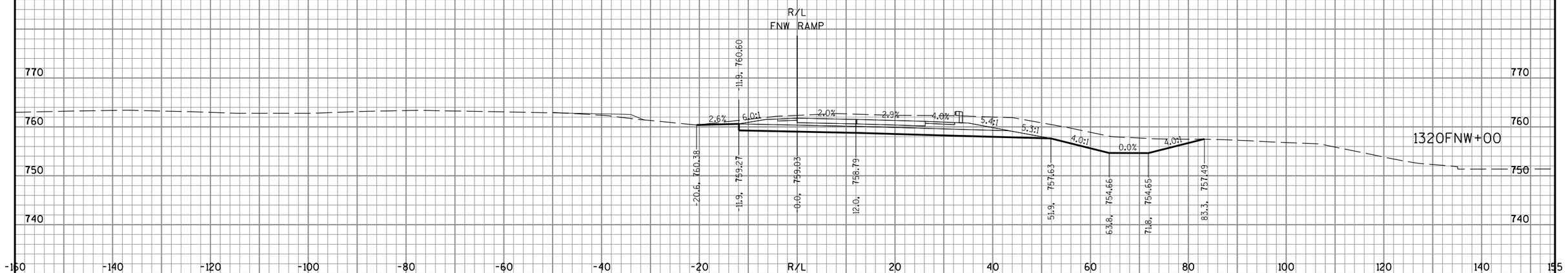
FILE NAME : S:\DOT\DOT_NE\120012-Tri County Freeway\1517-07-72\DGN_Files\Plansheets\090261_FNW_XS.dgn PLOT DATE : 2/19/2014 PLOT BY : wally_w PLOT NAME : PLOT SCALE : 1:20

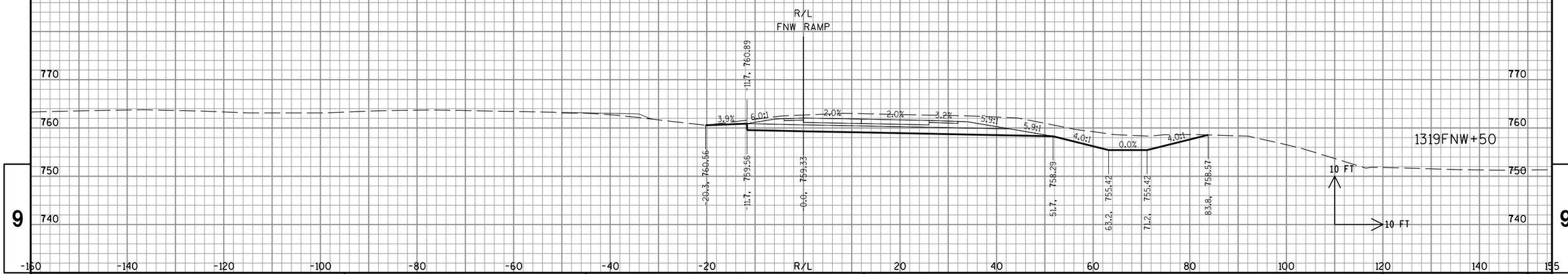
STATE PROJECT NO: 1517-07-72	HWY: USH 10	COUNTY: WINNEBAGO	CROSS SECTIONS: FNW RAMP	SHEET NO: . 582 E

FILE NAME : S:\DOT\DOT_NE\120012-Tri County Freeway\1517-07-72\DGN_Files\Plansheets\090261_FNW_XS.dgn PLOT DATE : 2/19/2014 PLOT BY : wally_w PLOT NAME : PLOT SCALE : 1:20

9





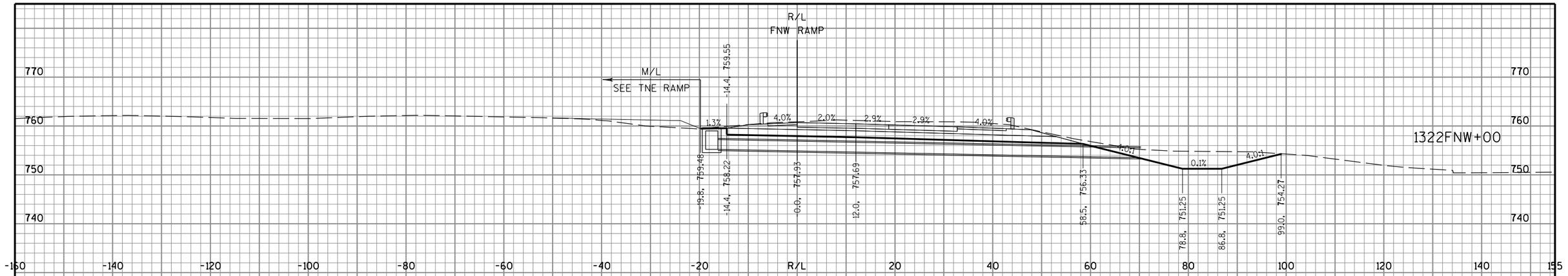


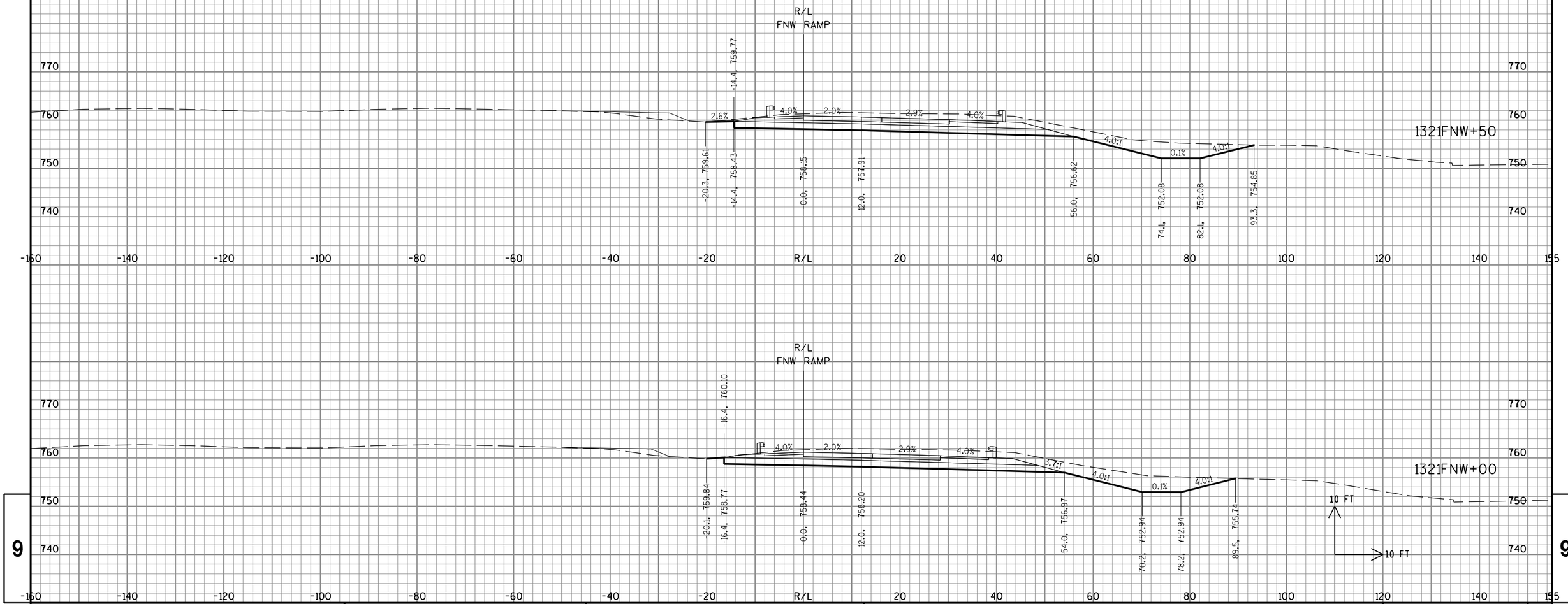
9

9

STATE PROJECT NO: 1517-07-72	HWY: USH 10	COUNTY: WINNEBAGO	CROSS SECTIONS: FNW RAMP	SHEET NO: . 583	E

FILE NAME : S:\DOT\DOT_NE\120012-Tri County Freeway\1517-07-72\DGN_Files\Plansheets\090261_FNW_XS.dgn PLOT DATE : 2/19/2014 PLOT BY : wally_w PLOT NAME : PLOT SCALE : 1:20



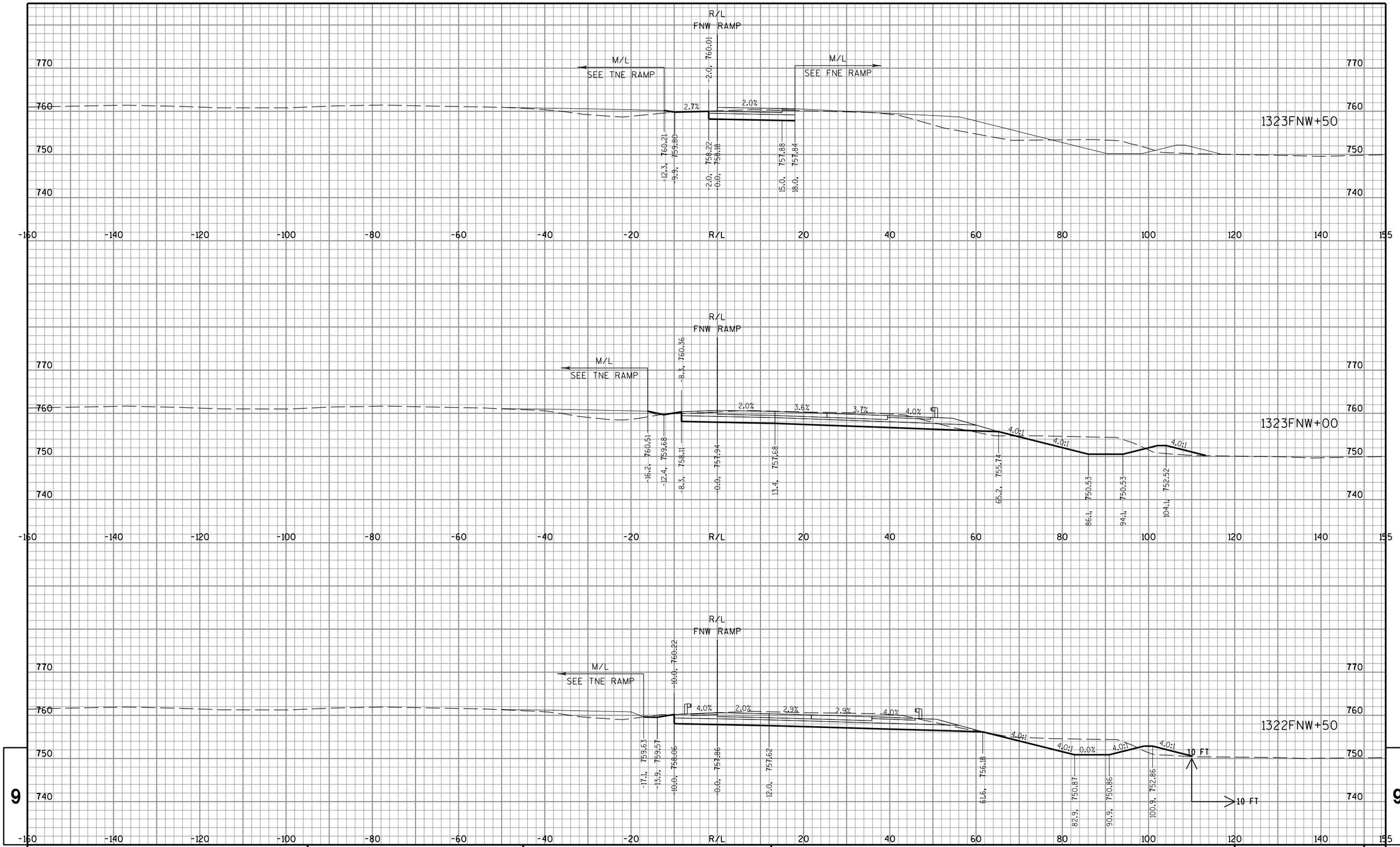


9

9

STATE PROJECT NO: 1517-07-72	HWY: USH 10	COUNTY: WINNEBAGO	CROSS SECTIONS: FNW RAMP	SHEET NO: . 584	E

FILE NAME : S:\DOT\DOT_NE\120012-Tri County Freeway\1517-07-72\DGN_Files\Plansheets\090261_FNW_XS.dgn PLOT DATE : 2/19/2014 PLOT BY : wally_w PLOT NAME : PLOT SCALE : 1:20



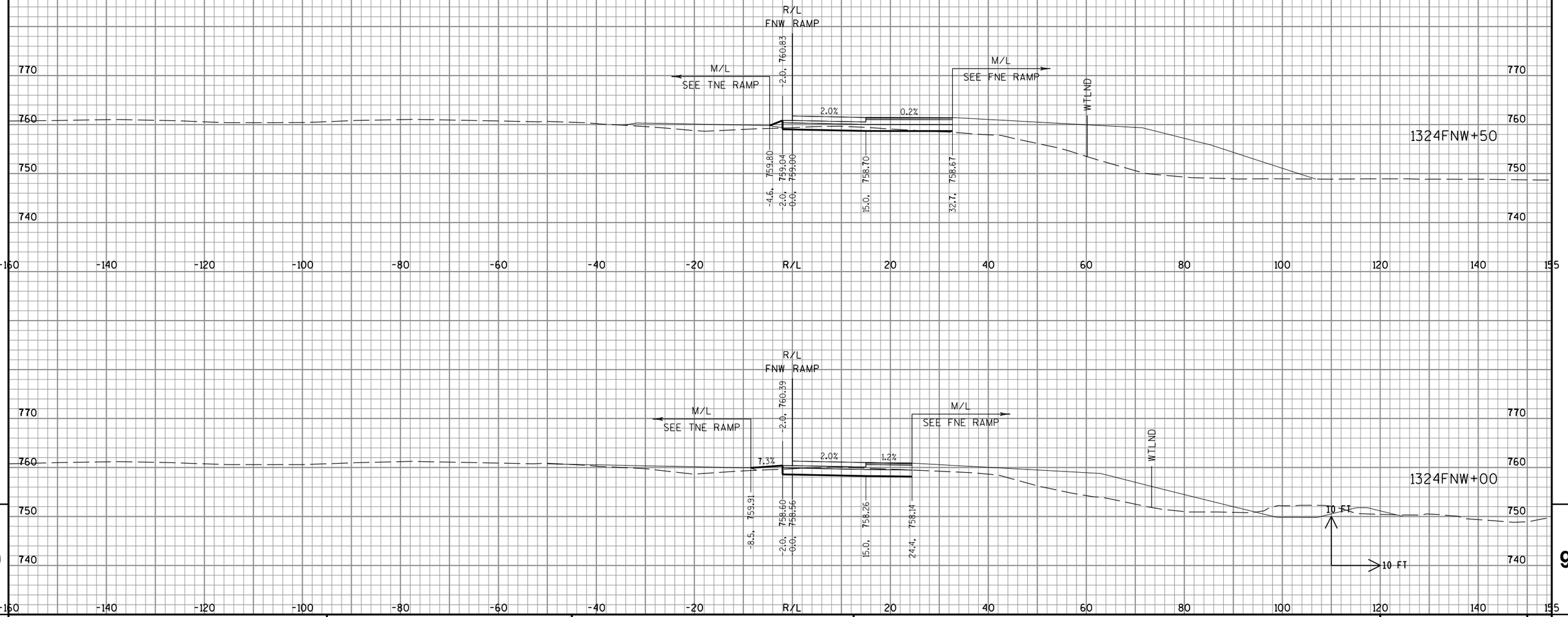
9

9

STATE PROJECT NO: 1517-07-72	HWY: USH 10	COUNTY: WINNEBAGO	CROSS SECTIONS: FNW RAMP	SHEET NO: . 585	E

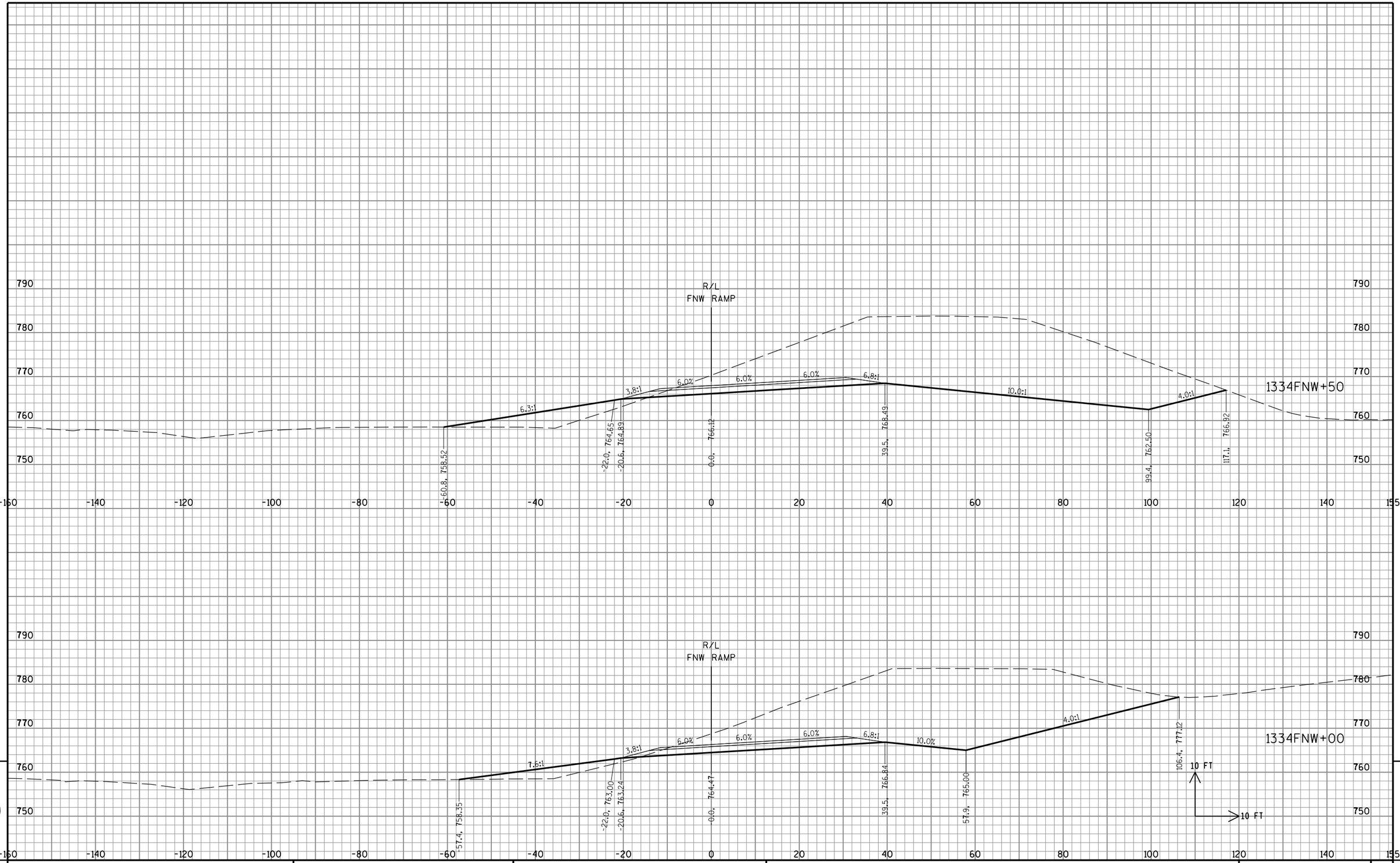
FILE NAME : S:\DOT\DOT_NE\120012-Tri County Freeway\1517-07-72\DGN_Files\Plansheets\090261_FNW_XS.dgn PLOT DATE : 2/19/2014 PLOT BY : wally_w PLOT NAME : PLOT SCALE : 1:20

NO CONSTRUCTION STA 1324FNW+50 TO STA 1334FNW+00



STATE PROJECT NO: 1517-07-72	HWY: USH 10	COUNTY: WINNEBAGO	CROSS SECTIONS: FNW RAMP	SHEET NO: . 586	E

FILE NAME : S:\DOT\DOT_NE\120012-Tri County Freeway\1517-07-72\DGN_Files\Plansheets\090261_FNW_XS.dgn PLOT DATE : 2/19/2014 PLOT BY : wally_w PLOT NAME : PLOT SCALE : 1:20

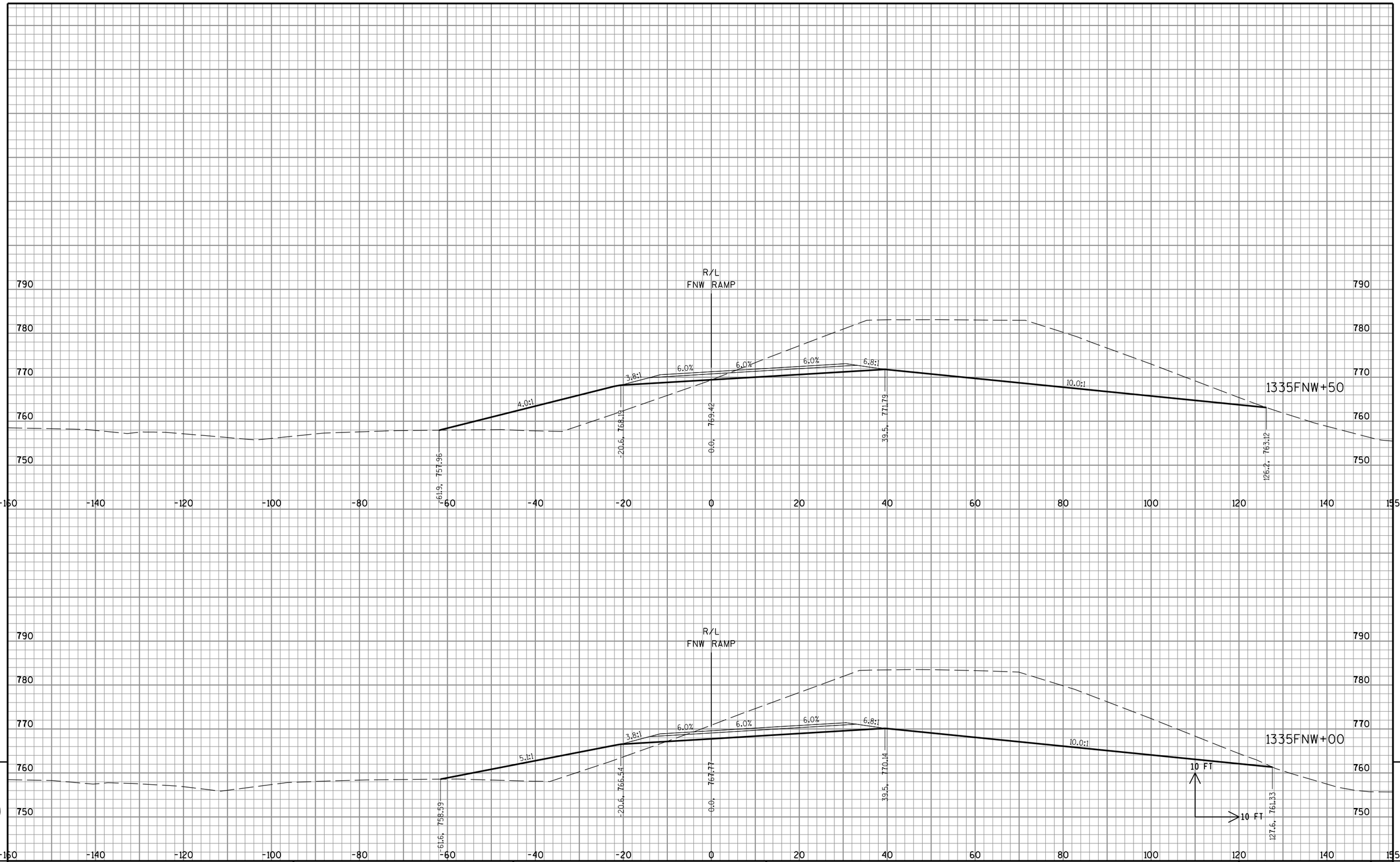


9

9

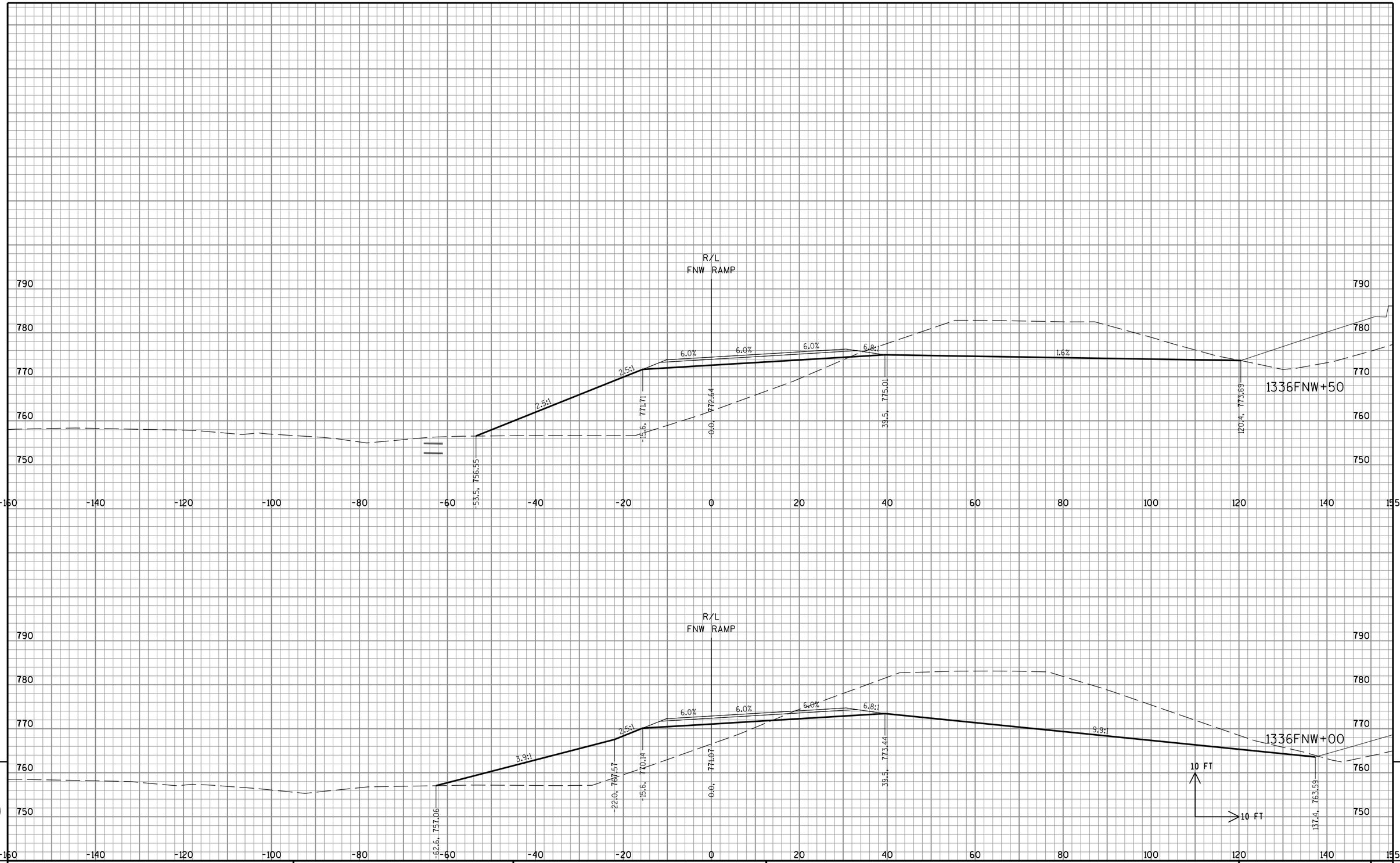
STATE PROJECT NO: 1517-07-72	HWY: USH 10	COUNTY: WINNEBAGO	CROSS SECTIONS: FNW RAMP	SHEET NO: . 587	E

FILE NAME : S:\DOT\DOT_NE\120012-Tri County Freeway\1517-07-72\DGN_Files\Plansheets\090261_FNW_XS.dgn PLOT DATE : 2/19/2014 PLOT BY : wally_w PLOT NAME : PLOT SCALE : 1:20



STATE PROJECT NO: 1517-07-72	HWY: USH 10	COUNTY: WINNEBAGO	CROSS SECTIONS: FNW RAMP	SHEET NO: . 588	E

FILE NAME : S:\DOT\DOT_NE\120012-Tri County Freeway\1517-07-72\DGN_Files\Plansheets\090261_FNW_XS.dgn PLOT DATE : 2/19/2014 PLOT BY : wally_w PLOT NAME : PLOT SCALE : 1:20

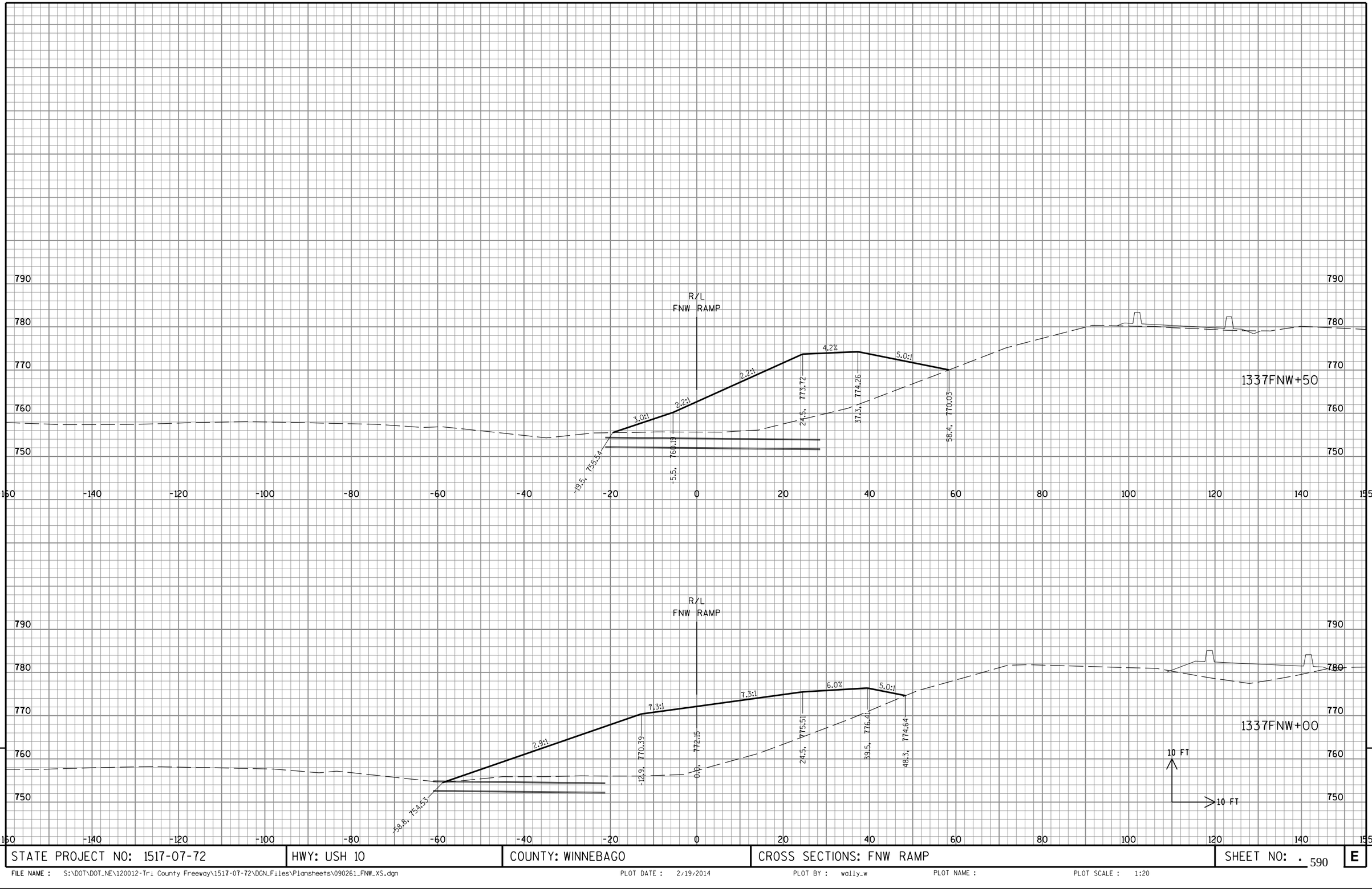


9

9

STATE PROJECT NO: 1517-07-72	HWY: USH 10	COUNTY: WINNEBAGO	CROSS SECTIONS: FNW RAMP	SHEET NO: . 589	E

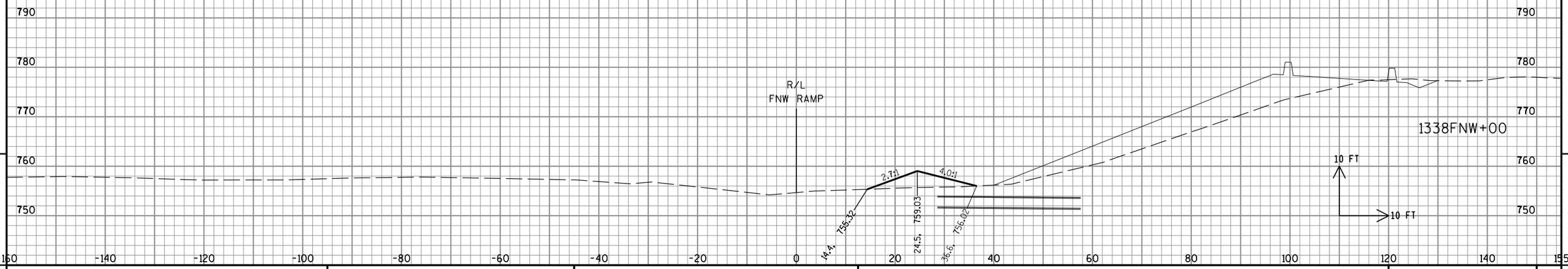
FILE NAME : S:\DOT\DOT_NE\120012-Tri County Freeway\1517-07-72\DGN_Files\Plansheets\090261_FNW_XS.dgn PLOT DATE : 2/19/2014 PLOT BY : wally_w PLOT NAME : PLOT SCALE : 1:20



STATE PROJECT NO: 1517-07-72	HWY: USH 10	COUNTY: WINNEBAGO	CROSS SECTIONS: FNW RAMP	SHEET NO: 590	E

FILE NAME : S:\DOT\DOT_NE\120012-Tri County Freeway\1517-07-72\DGN_Files\Plansheets\090261_FNW_XS.dgn PLOT DATE : 2/19/2014 PLOT BY : wally_w PLOT NAME : PLOT SCALE : 1:20

END CONSTRUCTION STA 1338FNW+13.68

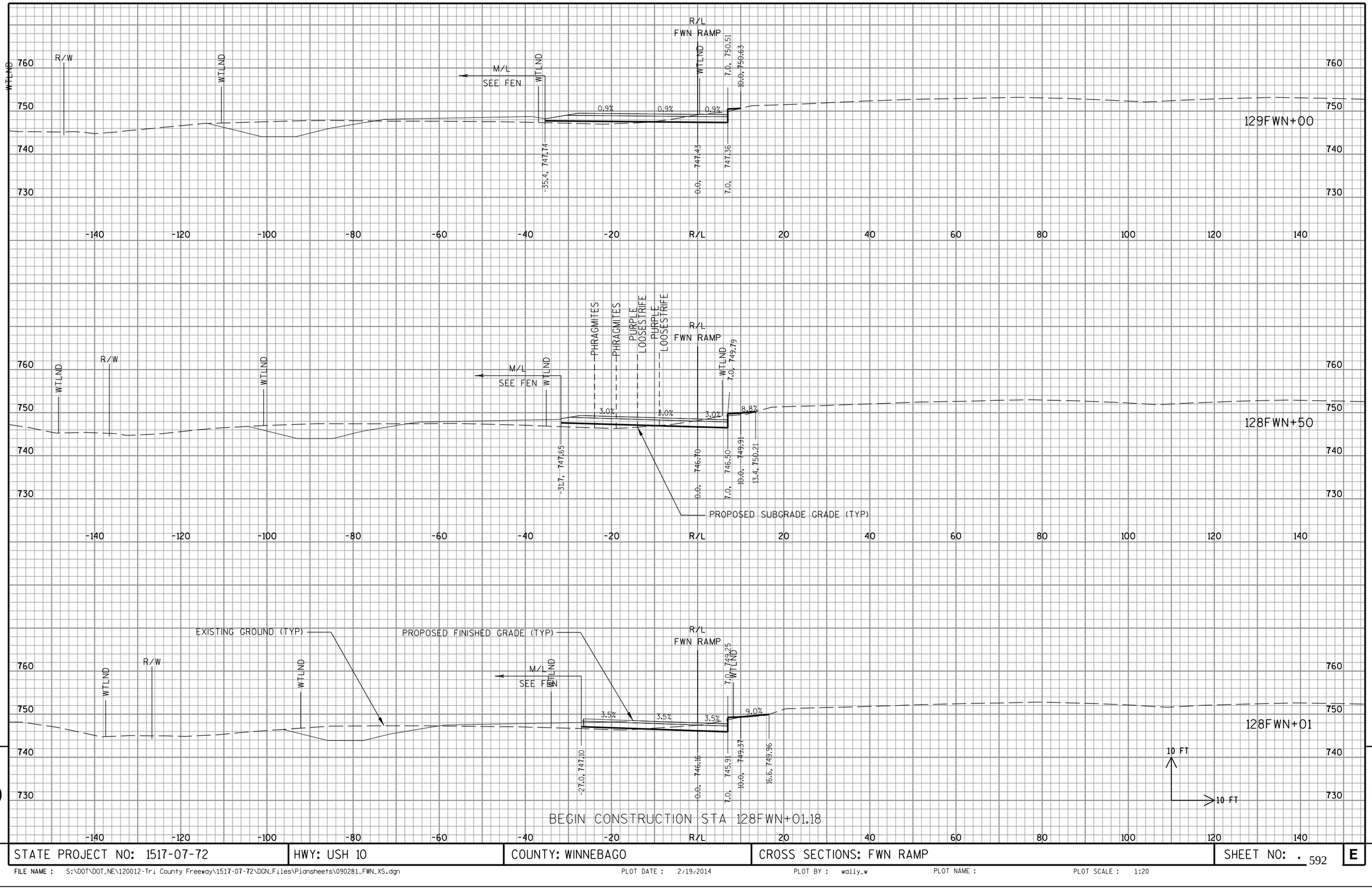


9

9

STATE PROJECT NO: 1517-07-72	HWY: USH 10	COUNTY: WINNEBAGO	CROSS SECTIONS: FNW RAMP	SHEET NO: . 591	E

FILE NAME : S:\DOT\DOT_NE\120012-Tri County Freeway\1517-07-72\DGN_Files\Plansheets\090261_FNW_XS.dgn PLOT DATE : 2/19/2014 PLOT BY : wally_w PLOT NAME : PLOT SCALE : 1:20

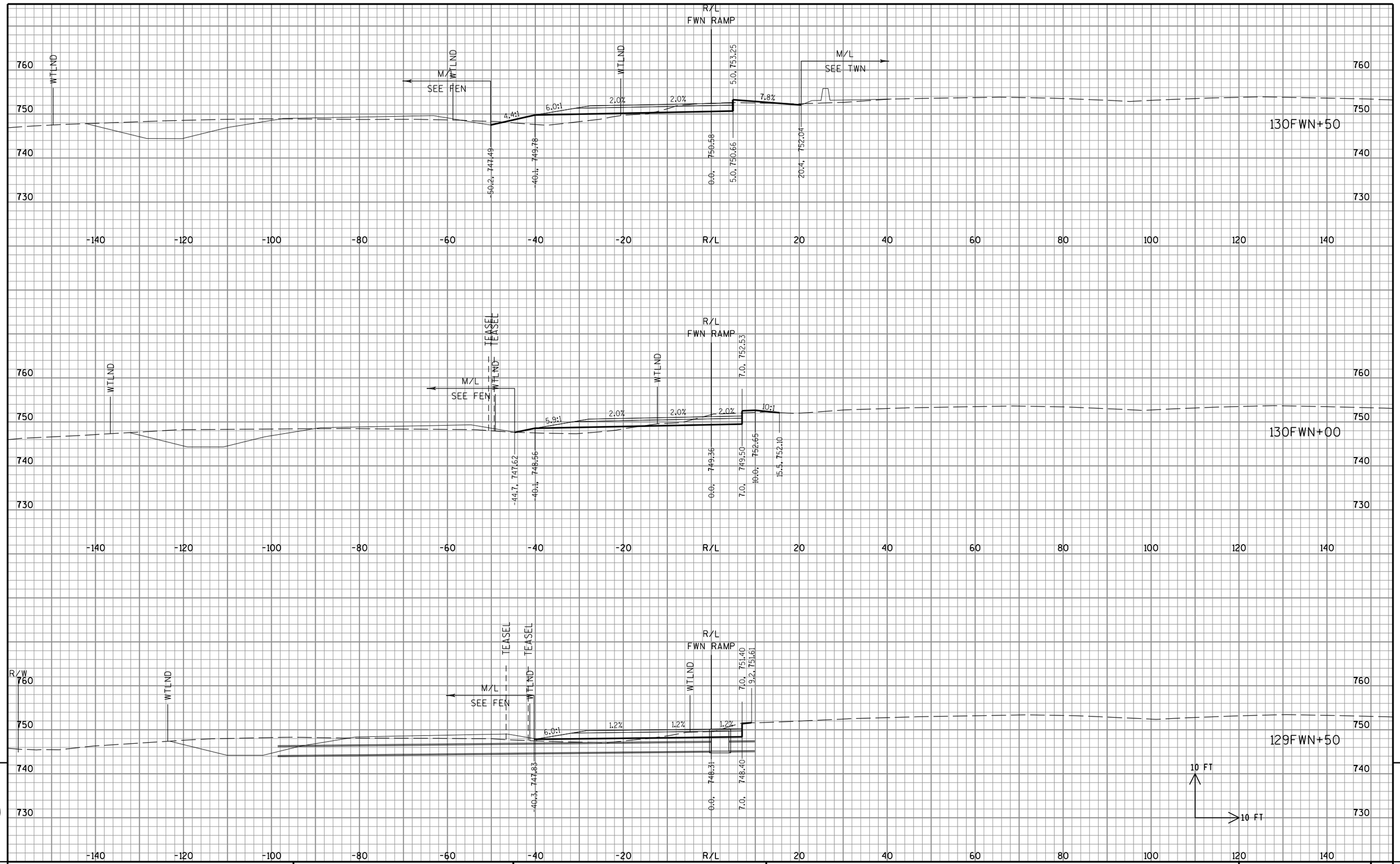


9

9

STATE PROJECT NO: 1517-07-72	HWY: USH 10	COUNTY: WINNEBAGO	CROSS SECTIONS: FWN RAMP	SHEET NO: . 592	E

FILE NAME : S:\DOT\DOT_NE\120012-Tri County Freeway\1517-07-72\DGN_Files\Plansheets\090281_FWN_XS.dgn PLOT DATE : 2/19/2014 PLOT BY : wally_w PLOT NAME : PLOT SCALE : 1:20

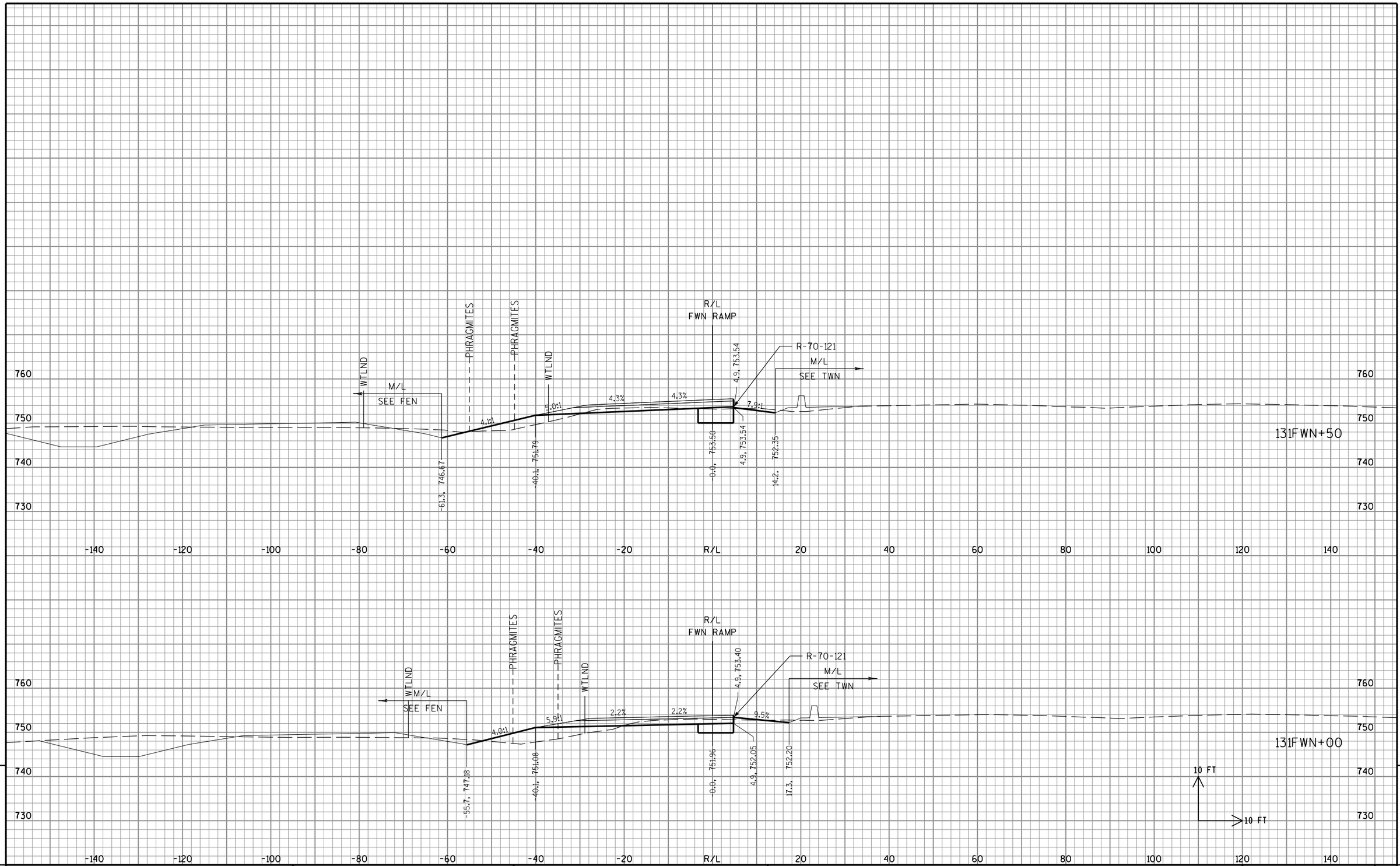


9

9

STATE PROJECT NO: 1517-07-72	HWY: USH 10	COUNTY: WINNEBAGO	CROSS SECTIONS: FWN RAMP	SHEET NO: . 593	E

FILE NAME : S:\DOT\DOT_NE\120012-Tri County Freeway\1517-07-72\DGN_Files\Plansheets\090281_FWN_XS.dgn PLOT DATE : 2/19/2014 PLOT BY : wally_w PLOT NAME : PLOT SCALE : 1:20

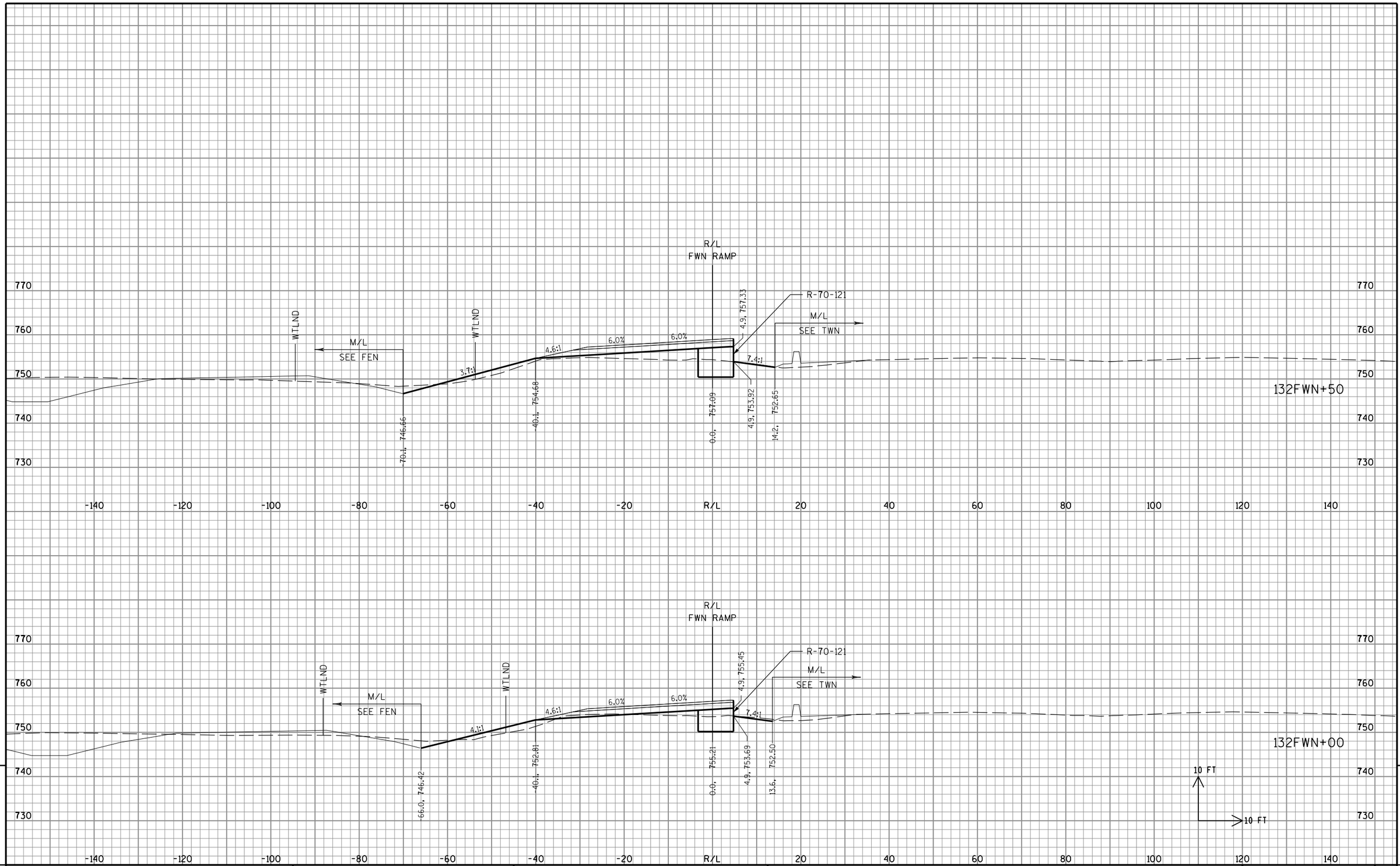


9

STATE PROJECT NO: 1517-07-72	HWY: USH 10	COUNTY: WINNEBAGO	CROSS SECTIONS: FWN RAMP	SHEET NO: 594	E

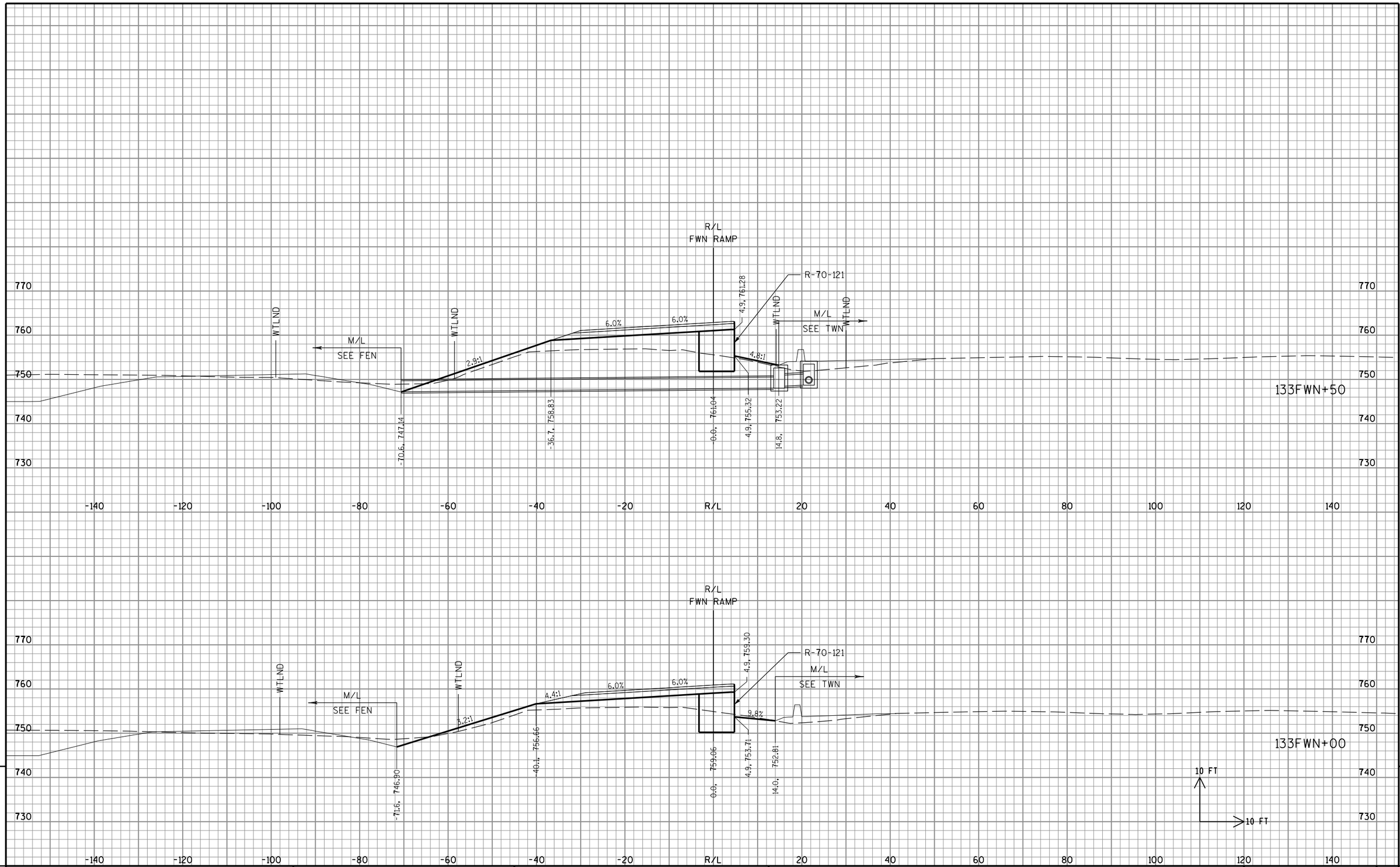
9

FILE NAME : S:\DOT\DOT_NE\120012-Tri County Freeway\1517-07-72\DGN_Files\Plansheets\090281_FWN_XS.dgn PLOT DATE : 2/19/2014 PLOT BY : wally_w PLOT NAME : PLOT SCALE : 1:20



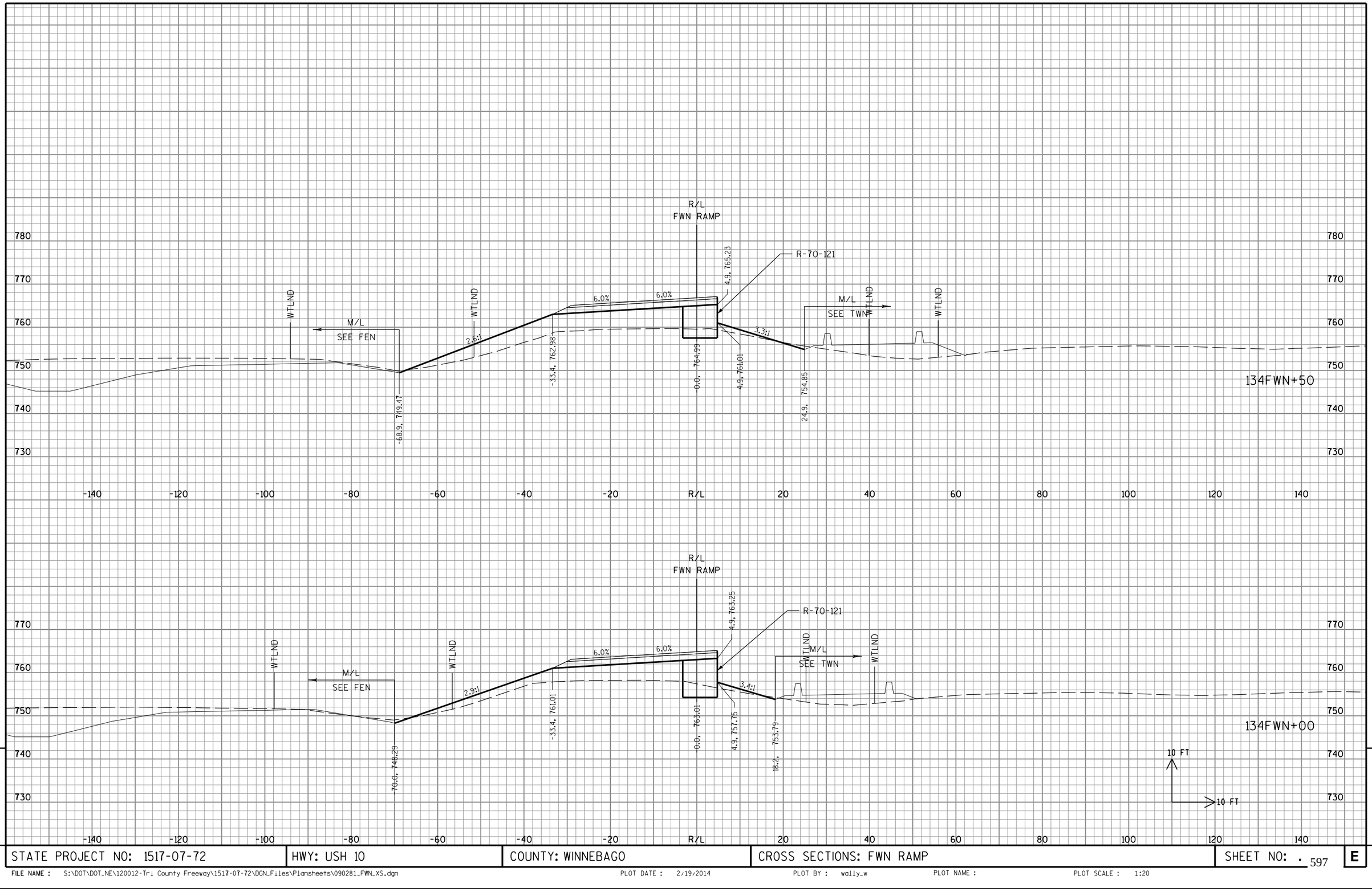
STATE PROJECT NO: 1517-07-72	HWY: USH 10	COUNTY: WINNEBAGO	CROSS SECTIONS: FWN RAMP	SHEET NO: . 595	E

FILE NAME : S:\DOT\DOT_NE\120012-Tri County Freeway\1517-07-72\DGN_Files\Plansheets\090281_FWN_XS.dgn PLOT DATE : 2/19/2014 PLOT BY : wally_w PLOT NAME : PLOT SCALE : 1:20



STATE PROJECT NO: 1517-07-72	HWY: USH 10	COUNTY: WINNEBAGO	CROSS SECTIONS: FWN RAMP	SHEET NO: . 596	E

FILE NAME : S:\DOT\DOT_NE\120012-Tri County Freeway\1517-07-72\DGN_Files\Plansheets\090281_FWN_XS.dgn PLOT DATE : 2/19/2014 PLOT BY : wally_w PLOT NAME : PLOT SCALE : 1:20

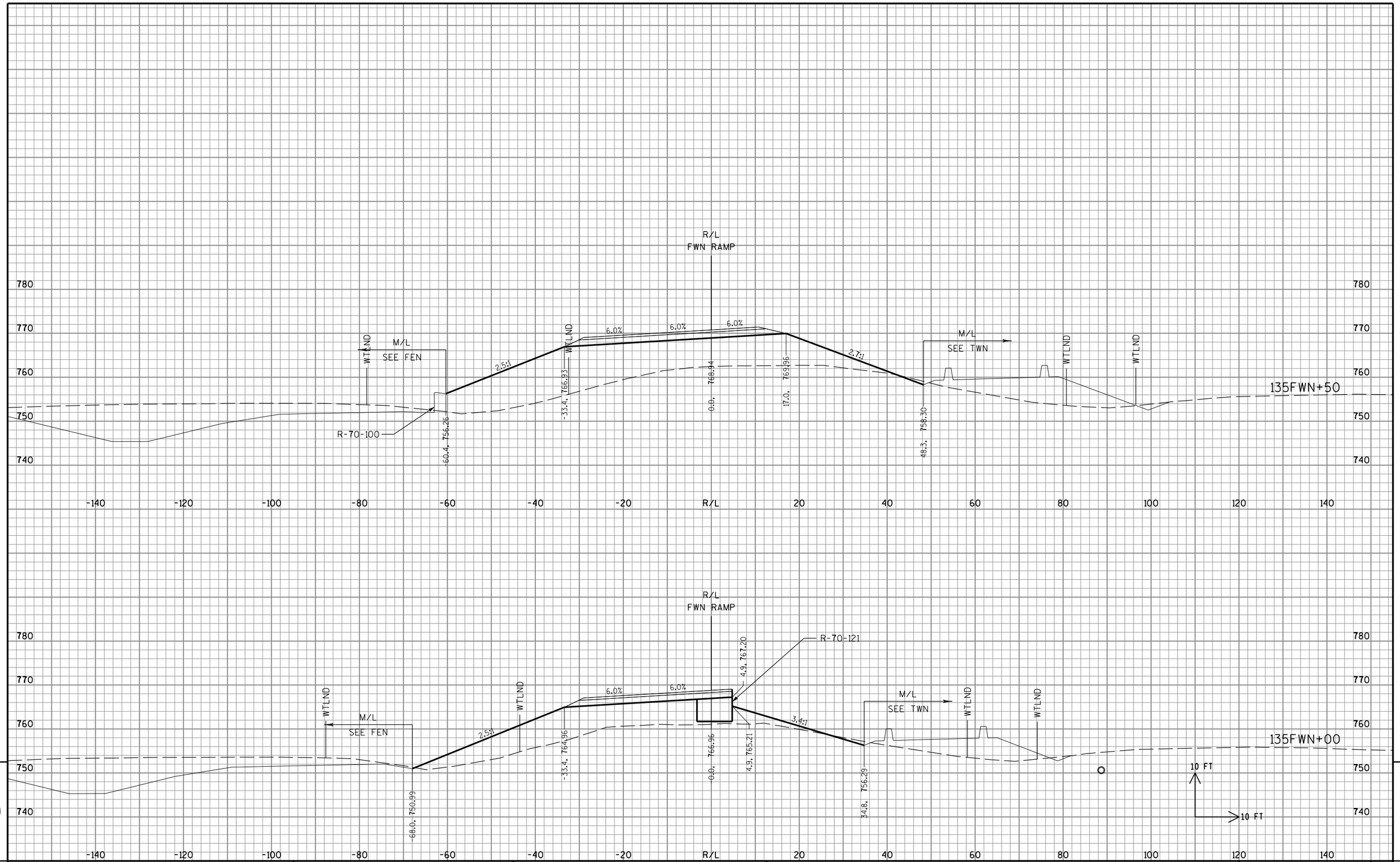


9

9

STATE PROJECT NO: 1517-07-72	HWY: USH 10	COUNTY: WINNEBAGO	CROSS SECTIONS: FWN RAMP	SHEET NO: . 597	E

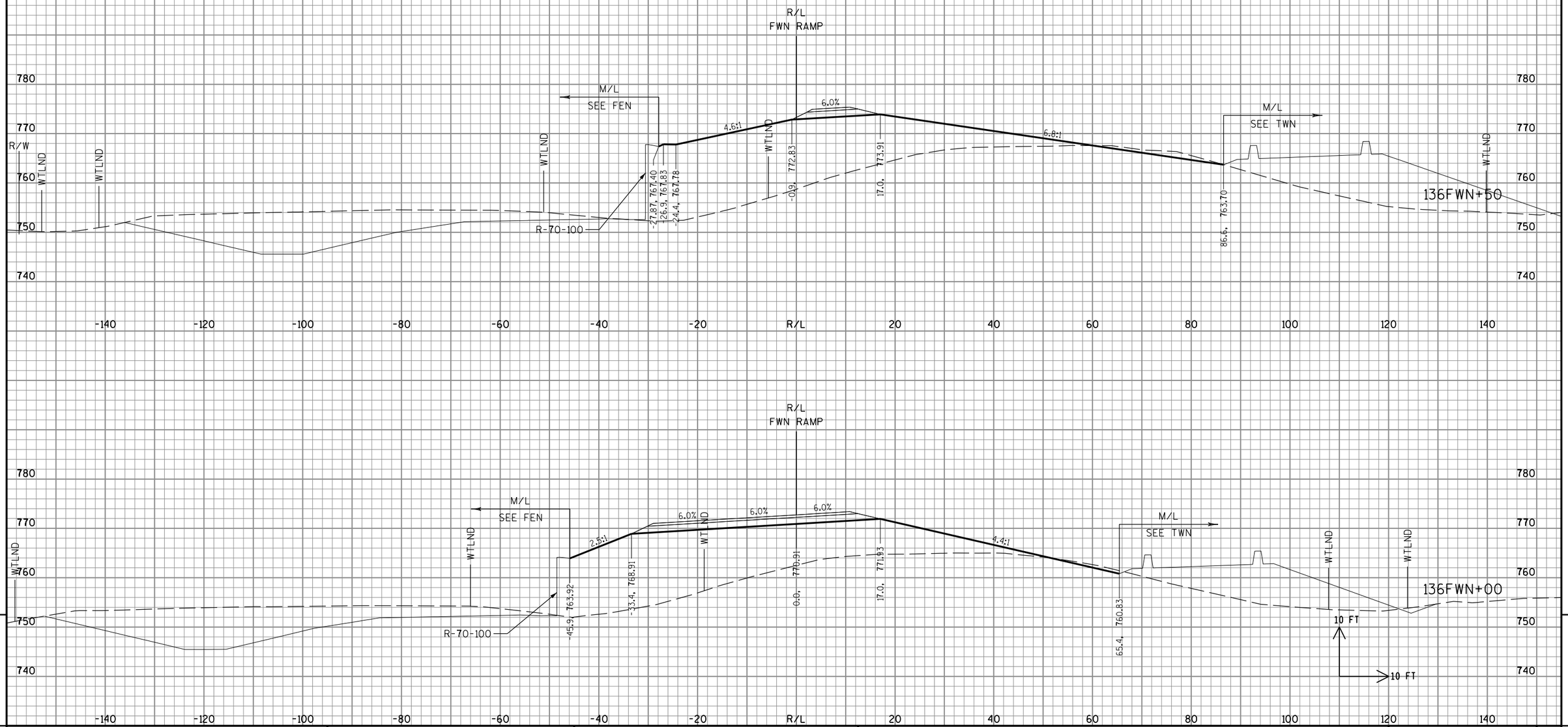
FILE NAME : S:\DOT\DOT_NE\120012-Tri County Freeway\1517-07-72\DGN_Files\Plansheets\090281_FWN_XS.dgn PLOT DATE : 2/19/2014 PLOT BY : wally_w PLOT NAME : PLOT SCALE : 1:20



STATE PROJECT NO: 1517-07-72	HWY: USH 10	COUNTY: WINNEBAGO	CROSS SECTIONS: FWN RAMP	SHEET NO: . 598	E

FILE NAME : S:\DOT\DOT_NE\120012-Tri County Freeway\1517-07-72\DGN_Files\Plansheets\090281_FWN_XS.dgn PLOT DATE : 2/19/2014 PLOT BY : wally_w PLOT NAME : PLOT SCALE : 1:20

STRUCTURE B-70-406
STA 136FWN+51.33 TO STA 146FWN+25.17
(NOT IN CONTRACT)

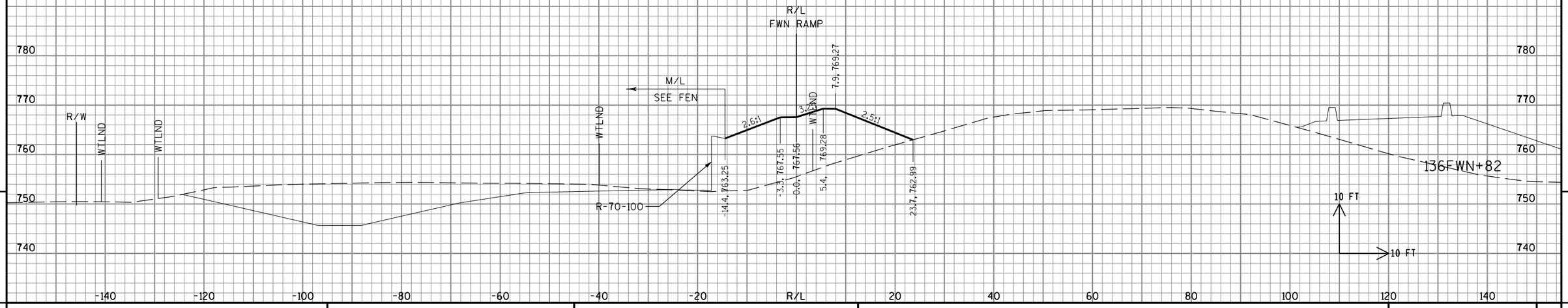


9 9

STATE PROJECT NO: 1517-07-72	HWY: USH 10	COUNTY: WINNEBAGO	CROSS SECTIONS: FWN RAMP	SHEET NO: . 599	E

FILE NAME : S:\DOT\DOT_NE\120012-Tri County Freeway\1517-07-72\DGN_Files\Plansheets\090281_FWN_XS.dgn PLOT DATE : 2/19/2014 PLOT BY : wally_w PLOT NAME : PLOT SCALE : 1:20

END CONSTRUCTION STA 137FWN+24.85

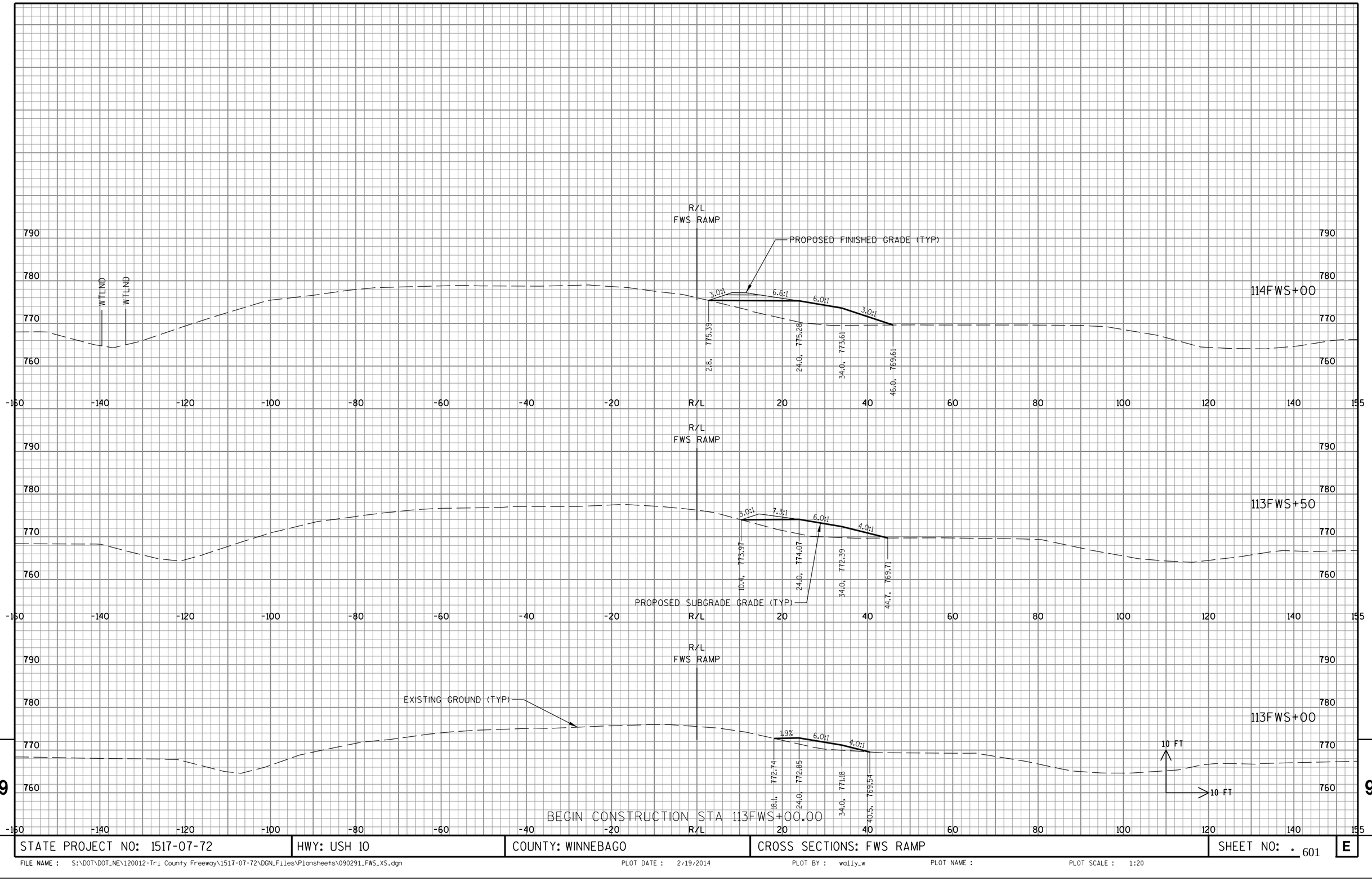


9

9

STATE PROJECT NO: 1517-07-72	HWY: USH 10	COUNTY: WINNEBAGO	CROSS SECTIONS: FWN RAMP	SHEET NO: . 600	E

FILE NAME : S:\DOT\DOT_NE\120012-Tri County Freeway\1517-07-72\DGN_Files\Plansheets\090281_FWN_XS.dgn PLOT DATE : 2/19/2014 PLOT BY : wally_w PLOT NAME : PLOT SCALE : 1:20

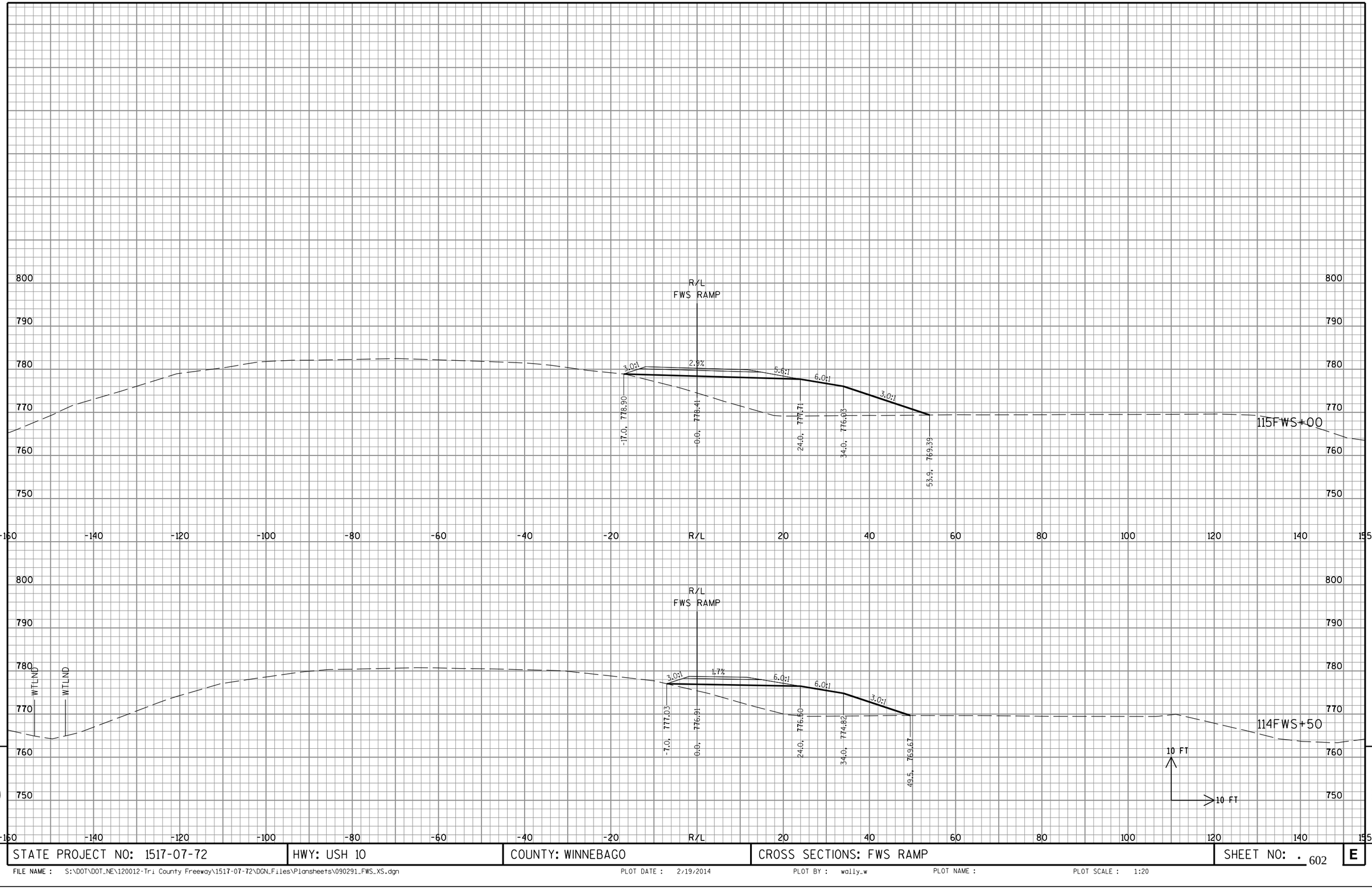


9

9

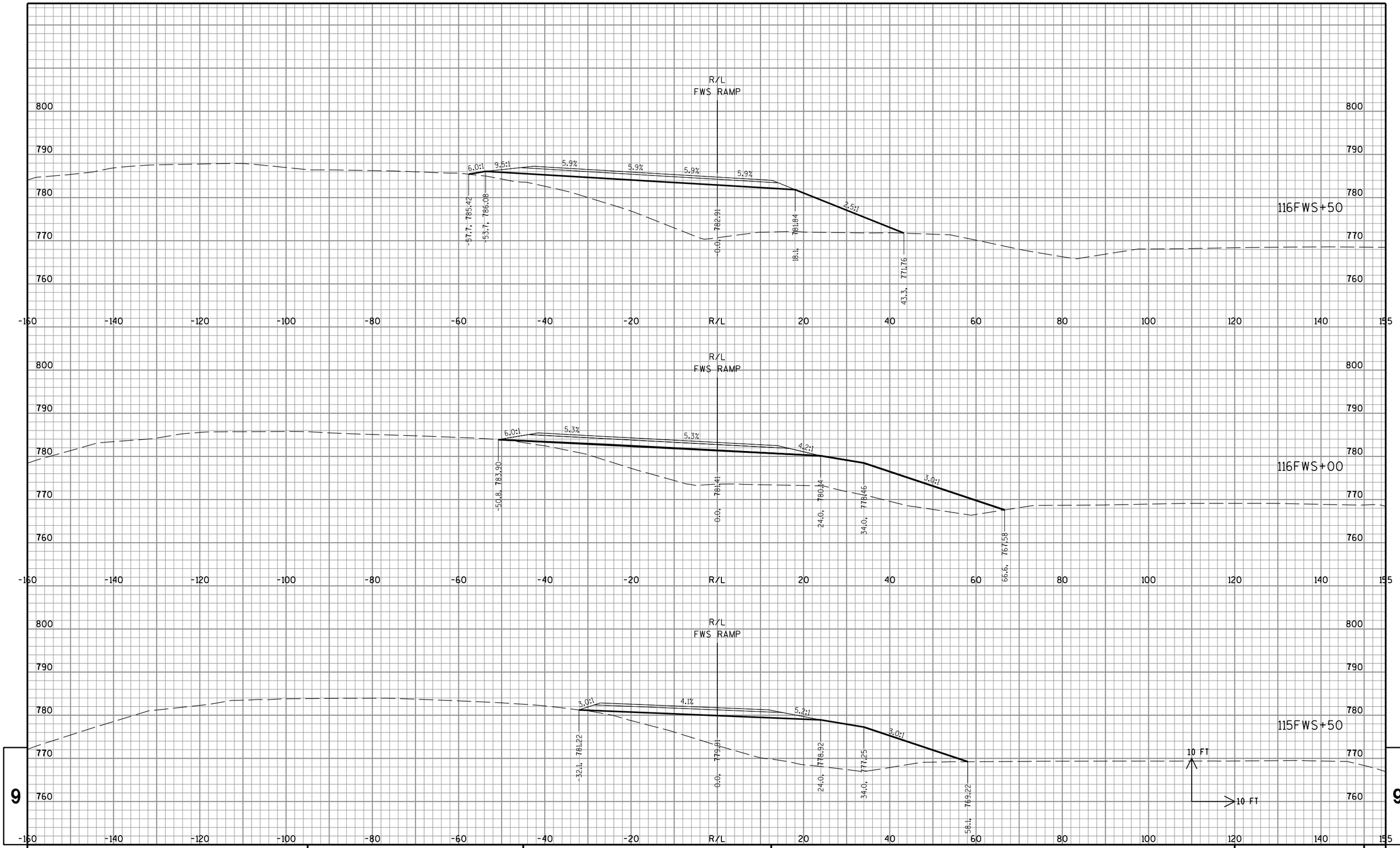
STATE PROJECT NO: 1517-07-72	HWY: USH 10	COUNTY: WINNEBAGO	CROSS SECTIONS: FWS RAMP	SHEET NO: . 601	E

FILE NAME : S:\DOT\DOT_NE\120012-Tri County Freeway\1517-07-72\DGN_Files\Plansheets\090291_FWS_XS.dgn PLOT DATE : 2/19/2014 PLOT BY : wally_w PLOT NAME : PLOT SCALE : 1:20



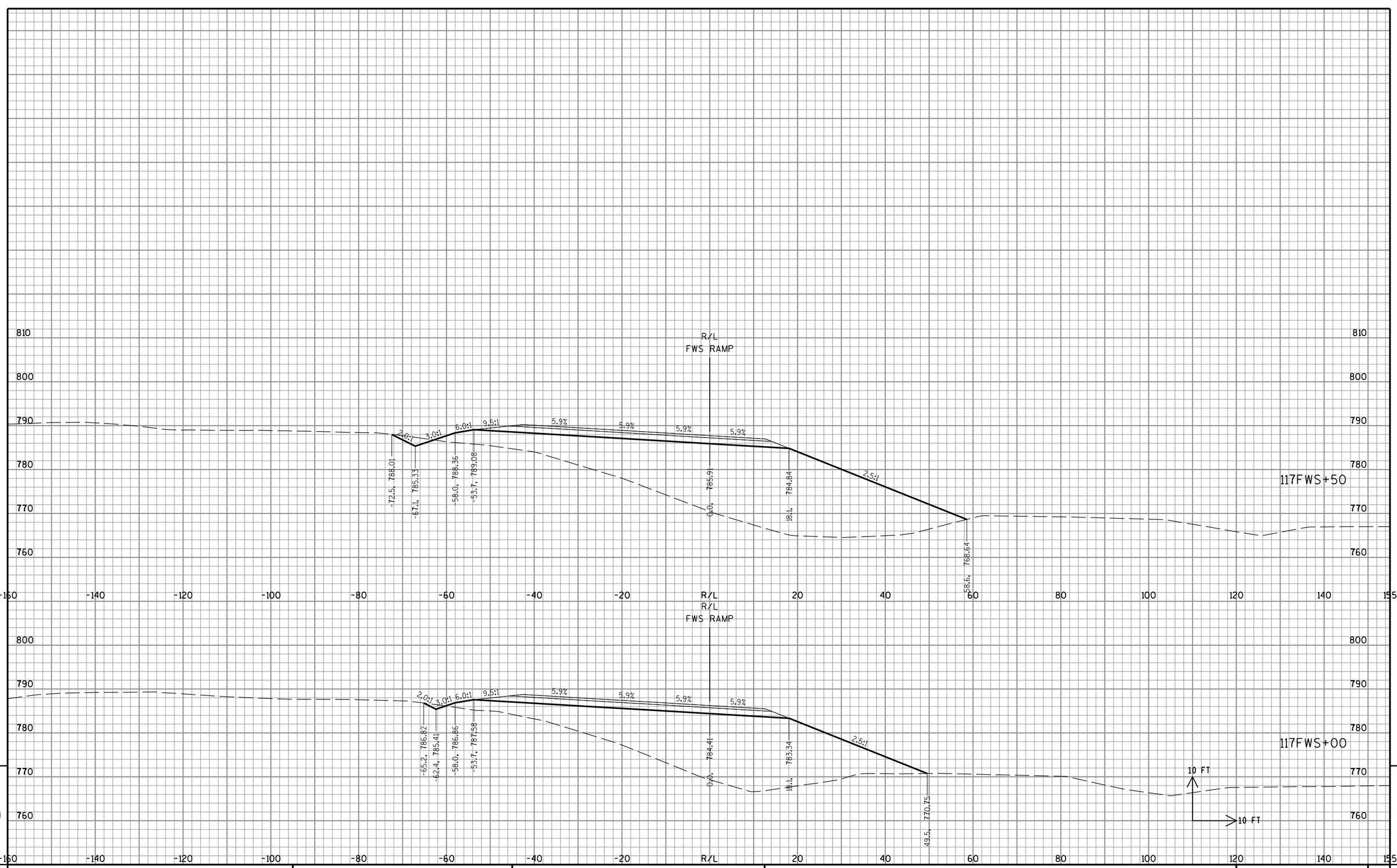
STATE PROJECT NO: 1517-07-72	HWY: USH 10	COUNTY: WINNEBAGO	CROSS SECTIONS: FWS RAMP	SHEET NO: . 602	E

FILE NAME : S:\DOT\DOT_NE\120012-Tri County Freeway\1517-07-72\DGN_Files\Plansheets\090291_FWS_XS.dgn PLOT DATE : 2/19/2014 PLOT BY : wally_w PLOT NAME : PLOT SCALE : 1:20



STATE PROJECT NO: 1517-07-72	HWY: USH 10	COUNTY: WINNEBAGO	CROSS SECTIONS: FWS RAMP	SHEET NO: . 603

FILE NAME : S:\DOT\DOT_NE\120012-Tri County Freeway\1517-07-72\DGN_Files\Plansheets\090291_FWS_XS.dgn PLOT DATE : 2/19/2014 PLOT BY : wally_w PLOT NAME : PLOT SCALE : 1:20

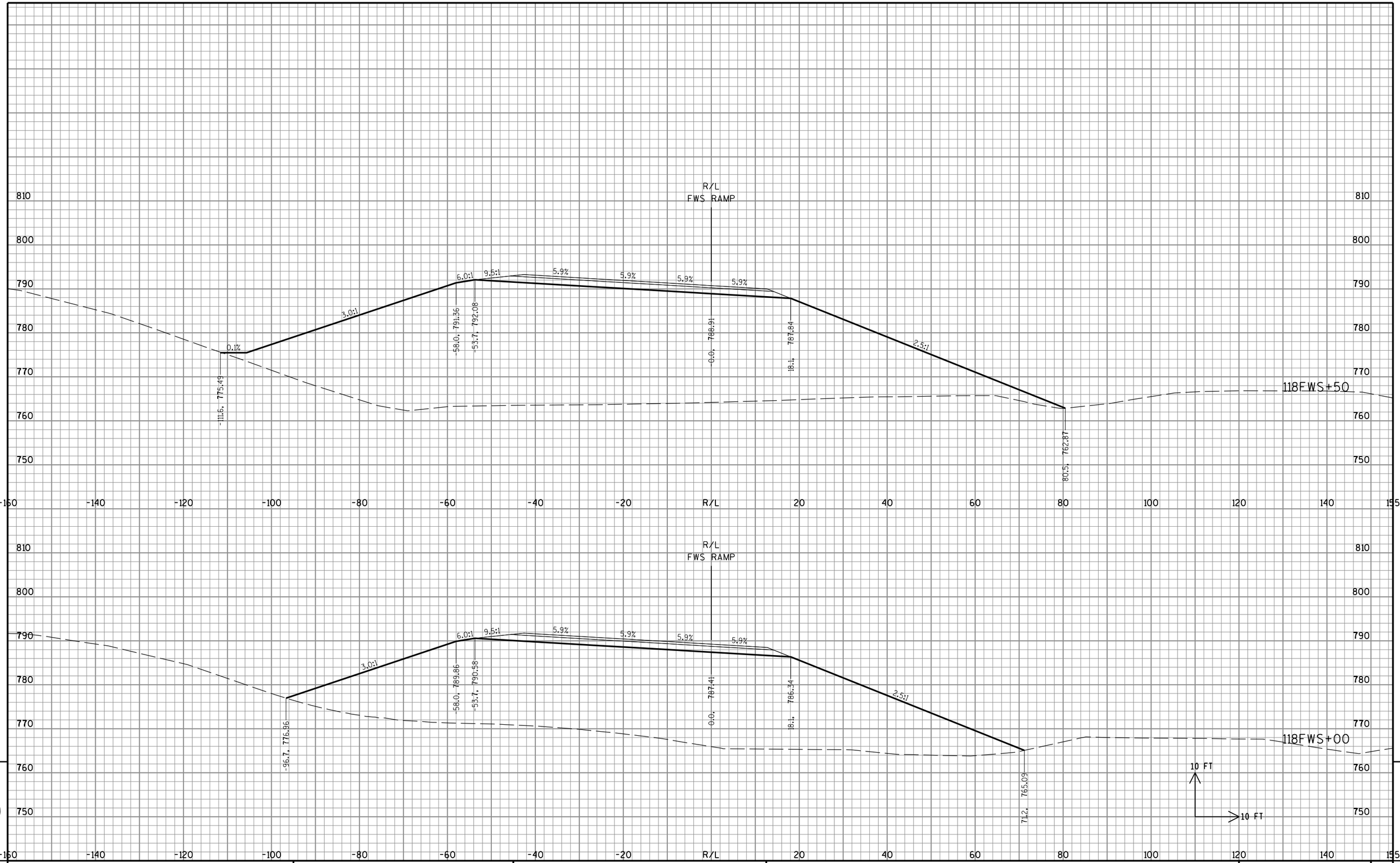


9

9

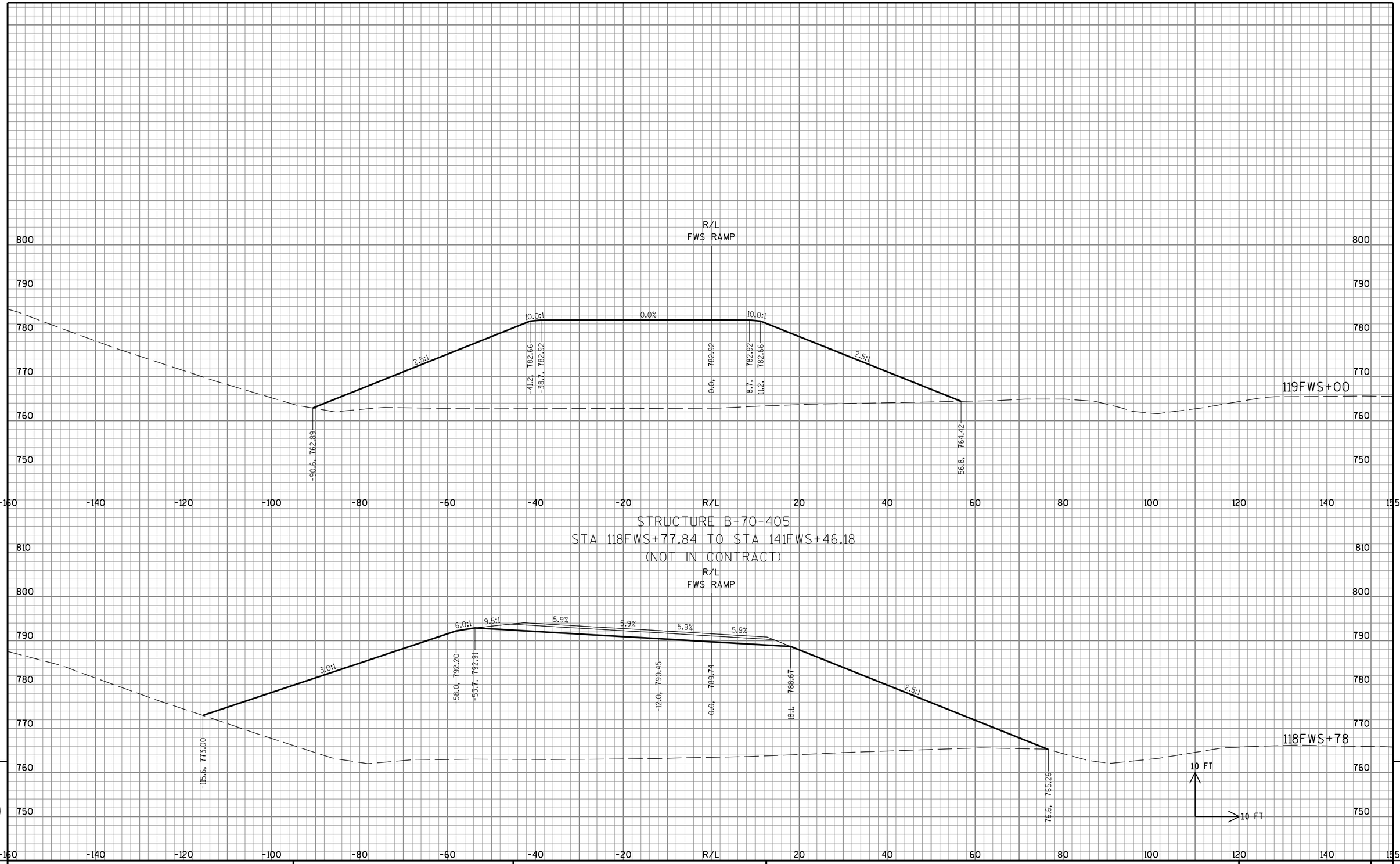
STATE PROJECT NO: 1517-07-72	HWY: USH 10	COUNTY: WINNEBAGO	CROSS SECTIONS: FWS RAMP	SHEET NO: . 604	E

FILE NAME : S:\DOT\DOT_NE\120012-Tri County Freeway\1517-07-72\DGN_Files\Plansheets\090291_FWS_XS.dgn PLOT DATE : 2/19/2014 PLOT BY : wally_w PLOT NAME : PLOT SCALE : 1:20



STATE PROJECT NO: 1517-07-72	HWY: USH 10	COUNTY: WINNEBAGO	CROSS SECTIONS: FWS RAMP	SHEET NO: . 605	E

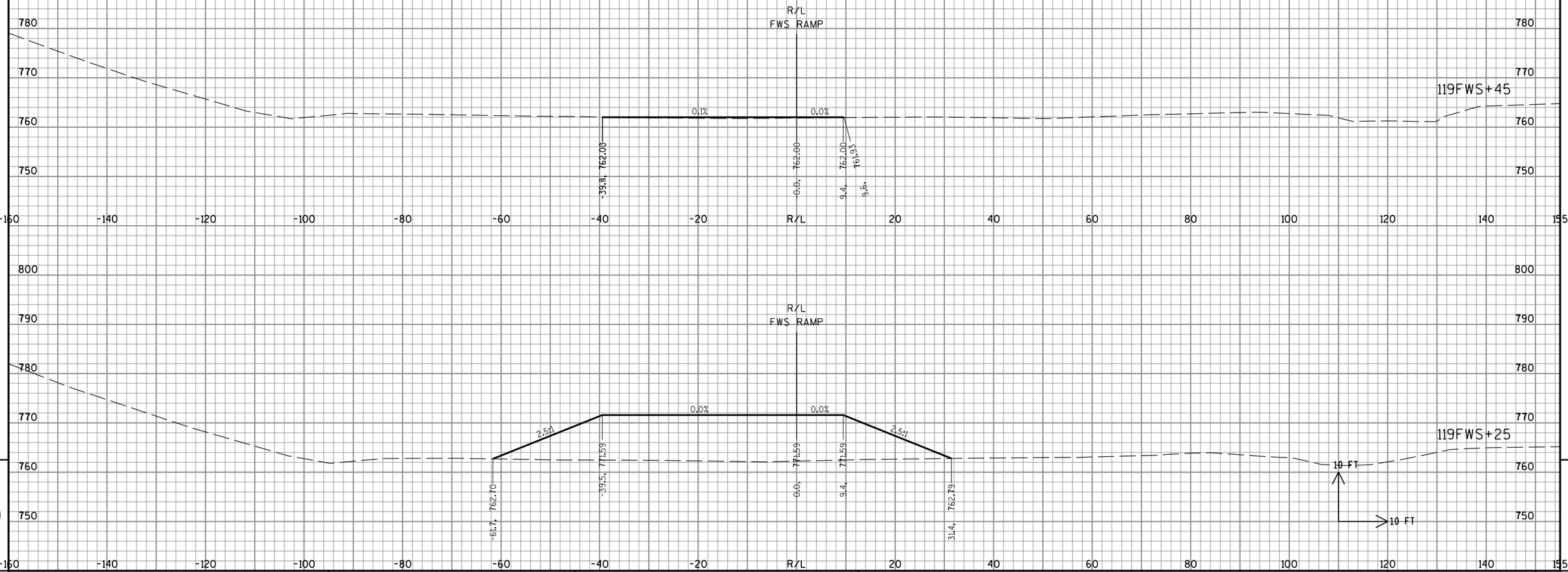
FILE NAME : S:\DOT\DOT_NE\120012-Tri County Freeway\1517-07-72\DGN_Files\Plansheets\090291_FWS_XS.dgn PLOT DATE : 2/19/2014 PLOT BY : wally_w PLOT NAME : PLOT SCALE : 1:20



STATE PROJECT NO: 1517-07-72	HWY: USH 10	COUNTY: WINNEBAGO	CROSS SECTIONS: FWS RAMP	SHEET NO: . 606	E

FILE NAME : S:\DOT\DOT_NE\120012-Tri County Freeway\1517-07-72\DGN_Files\Plansheets\090291_FWS_XS.dgn PLOT DATE : 2/19/2014 PLOT BY : wally_w PLOT NAME : PLOT SCALE : 1:20

END CONSTRUCTION STA 119FWS+44.57

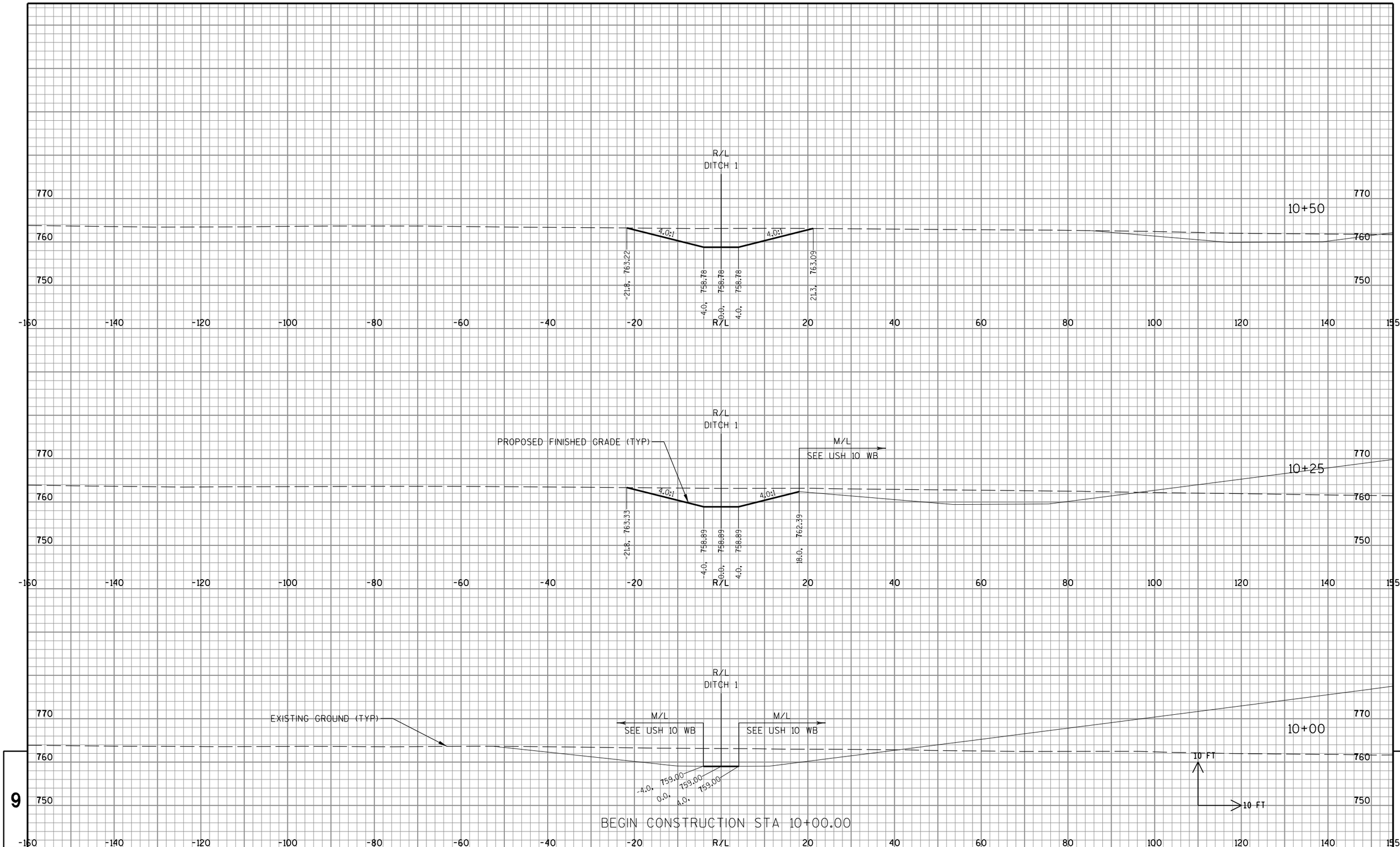


9

9

STATE PROJECT NO: 1517-07-72	HWY: USH 10	COUNTY: WINNEBAGO	CROSS SECTIONS: FWS RAMP	SHEET NO: . 607	E

FILE NAME : S:\DOT\DOT_NE\120012-Tri County Freeway\1517-07-72\DGN_Files\Plansheets\090291_FWS_XS.dgn PLOT DATE : 2/19/2014 PLOT BY : wally_w PLOT NAME : PLOT SCALE : 1:20

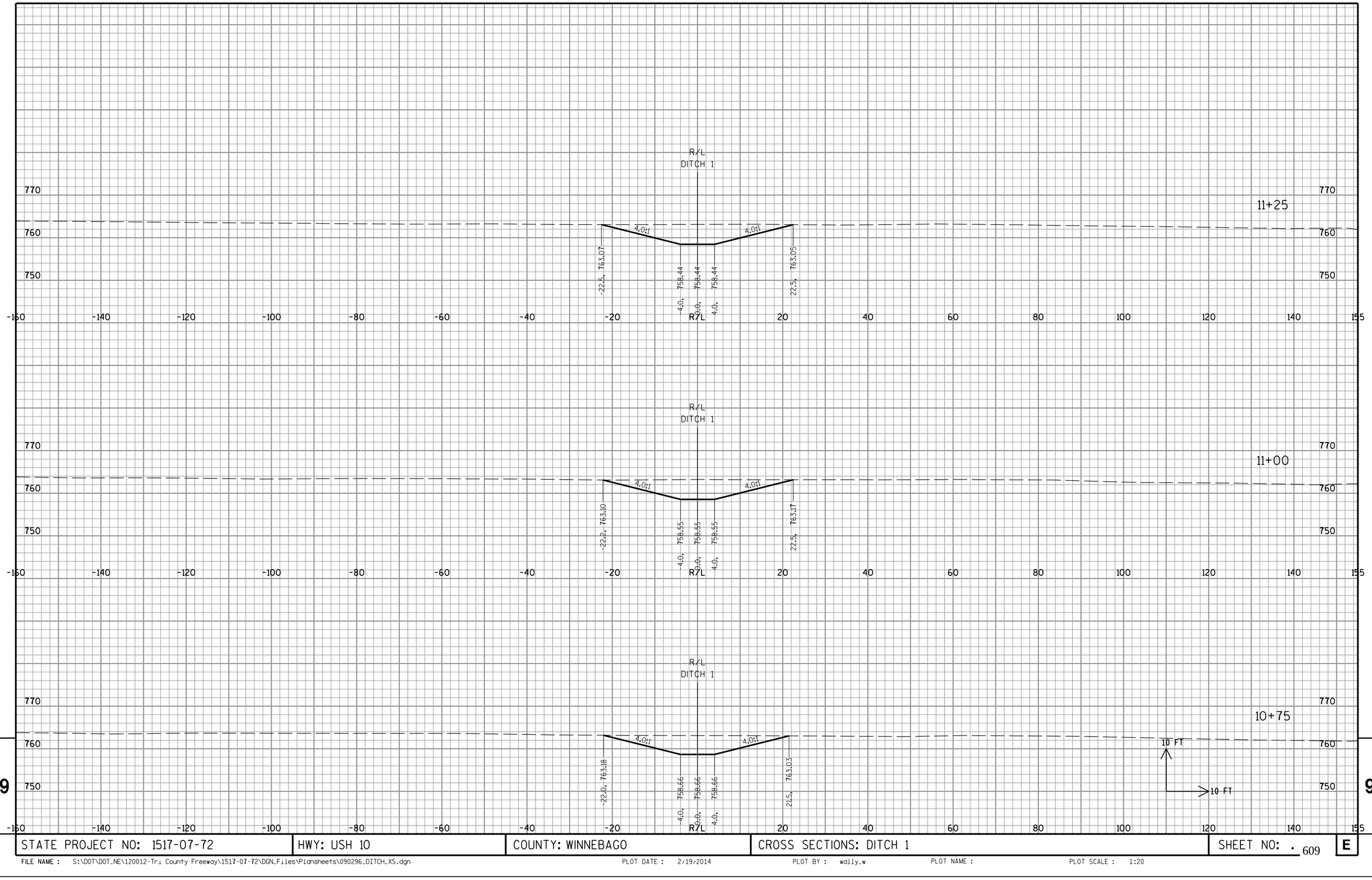


9

9

STATE PROJECT NO: 1517-07-72	HWY: USH 10	COUNTY: WINNEBAGO	CROSS SECTIONS: DITCH 1	SHEET NO: . 608	E

FILE NAME : S:\DOT\DOT_NE\120012-Tri County Freeway\1517-07-72\DGN_Files\Plansheets\090296_DITCH_XS.dgn PLOT DATE : 2/19/2014 PLOT BY : wally_w PLOT NAME : PLOT SCALE : 1:20



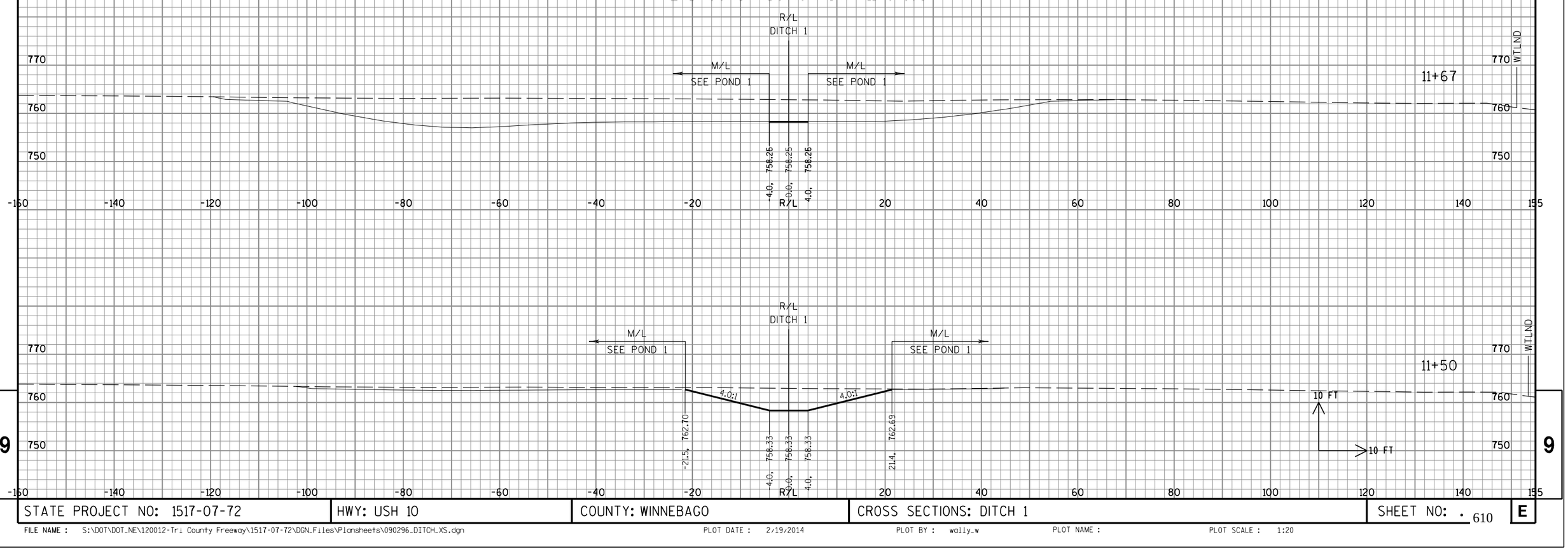
9

9

STATE PROJECT NO: 1517-07-72	HWY: USH 10	COUNTY: WINNEBAGO	CROSS SECTIONS: DITCH 1	SHEET NO: . 609	E

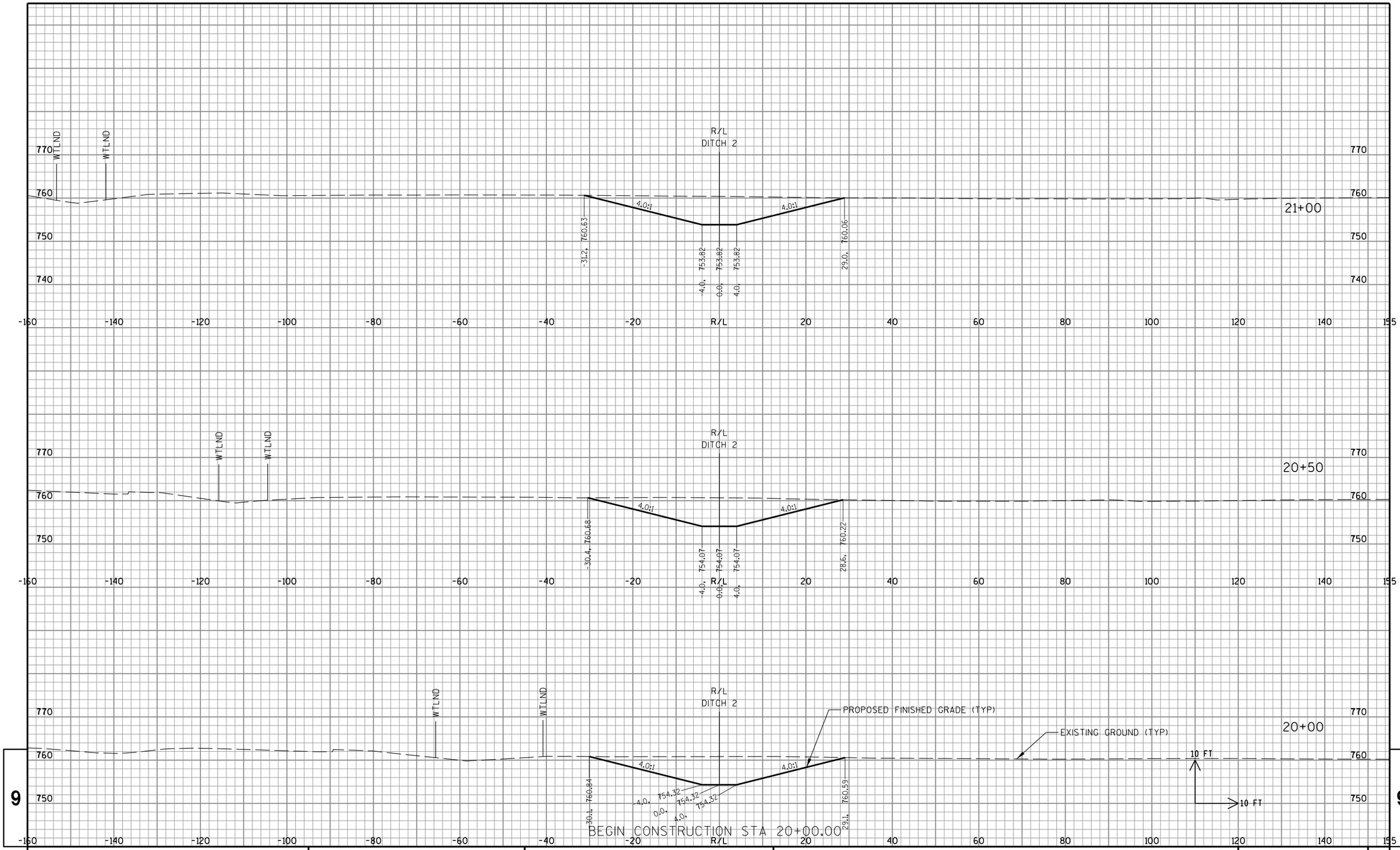
FILE NAME : S:\DOT\DOT_NE\120012-Tri County Freeway\1517-07-72\DGN_Files\Plansheets\090296_DITCH_XS.dgn PLOT DATE : 2/19/2014 PLOT BY : wally_w PLOT NAME : PLOT SCALE : 1:20

END CONSTRUCTION STA 11+67.03



STATE PROJECT NO: 1517-07-72	HWY: USH 10	COUNTY: WINNEBAGO	CROSS SECTIONS: DITCH 1	SHEET NO: . 610	E

FILE NAME : S:\DOT\DOT_NE\120012-Tri County Freeway\1517-07-72\DGN_Files\Plansheets\090296_DITCH_XS.dgn PLOT DATE : 2/19/2014 PLOT BY : wally_w PLOT NAME : PLOT SCALE : 1:20

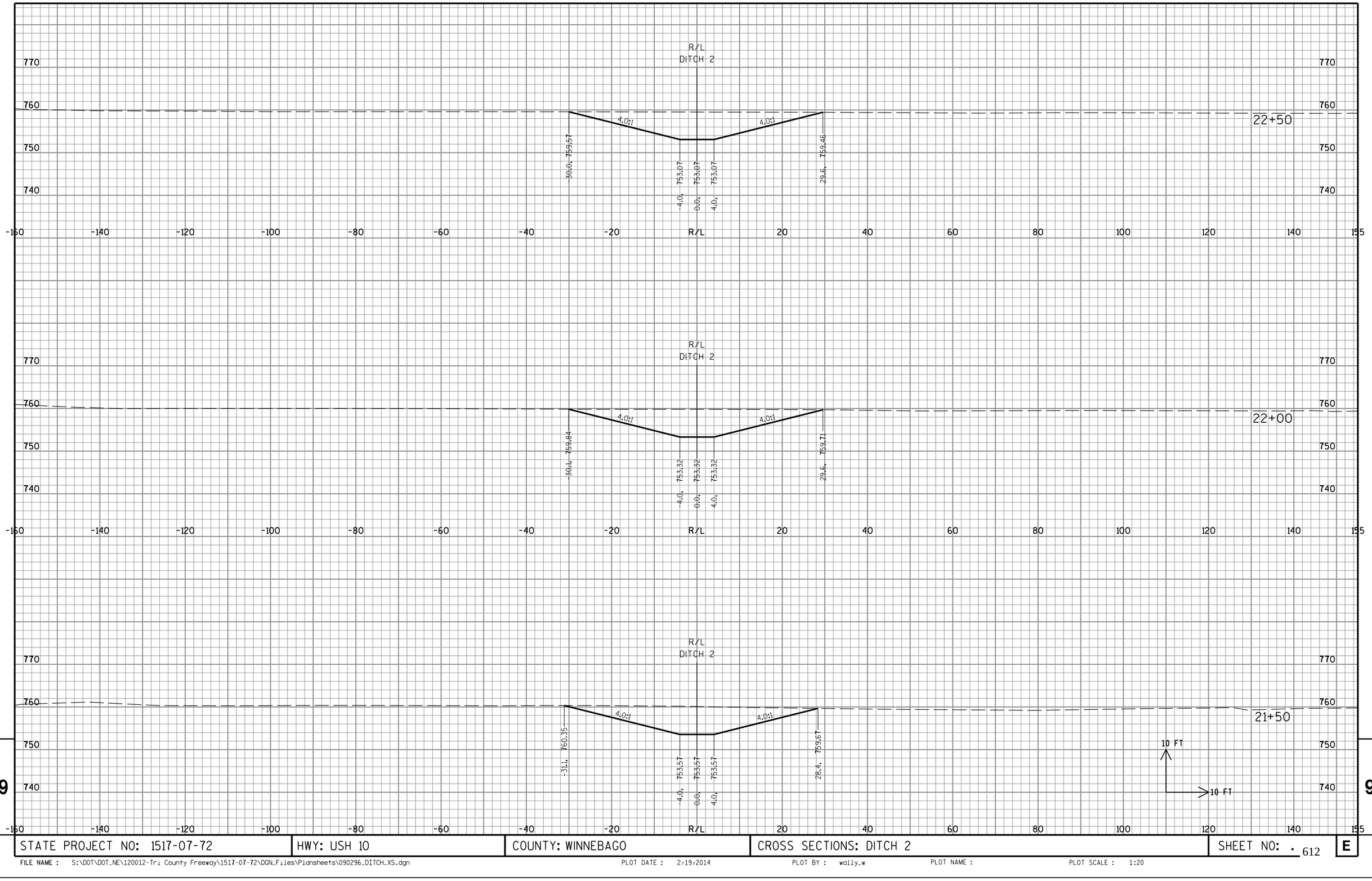


9

9

STATE PROJECT NO: 1517-07-72	HWY: USH 10	COUNTY: WINNEBAGO	CROSS SECTIONS: DITCH 2	SHEET NO: . 611	E

FILE NAME : S:\DOT\DOT_NE\120012-Tri County Freeway\1517-07-72\DGN_Files\Plansheets\090296_DITCH_XS.dgn PLOT DATE : 2/19/2014 PLOT BY : wally_w PLOT NAME : PLOT SCALE : 1:20

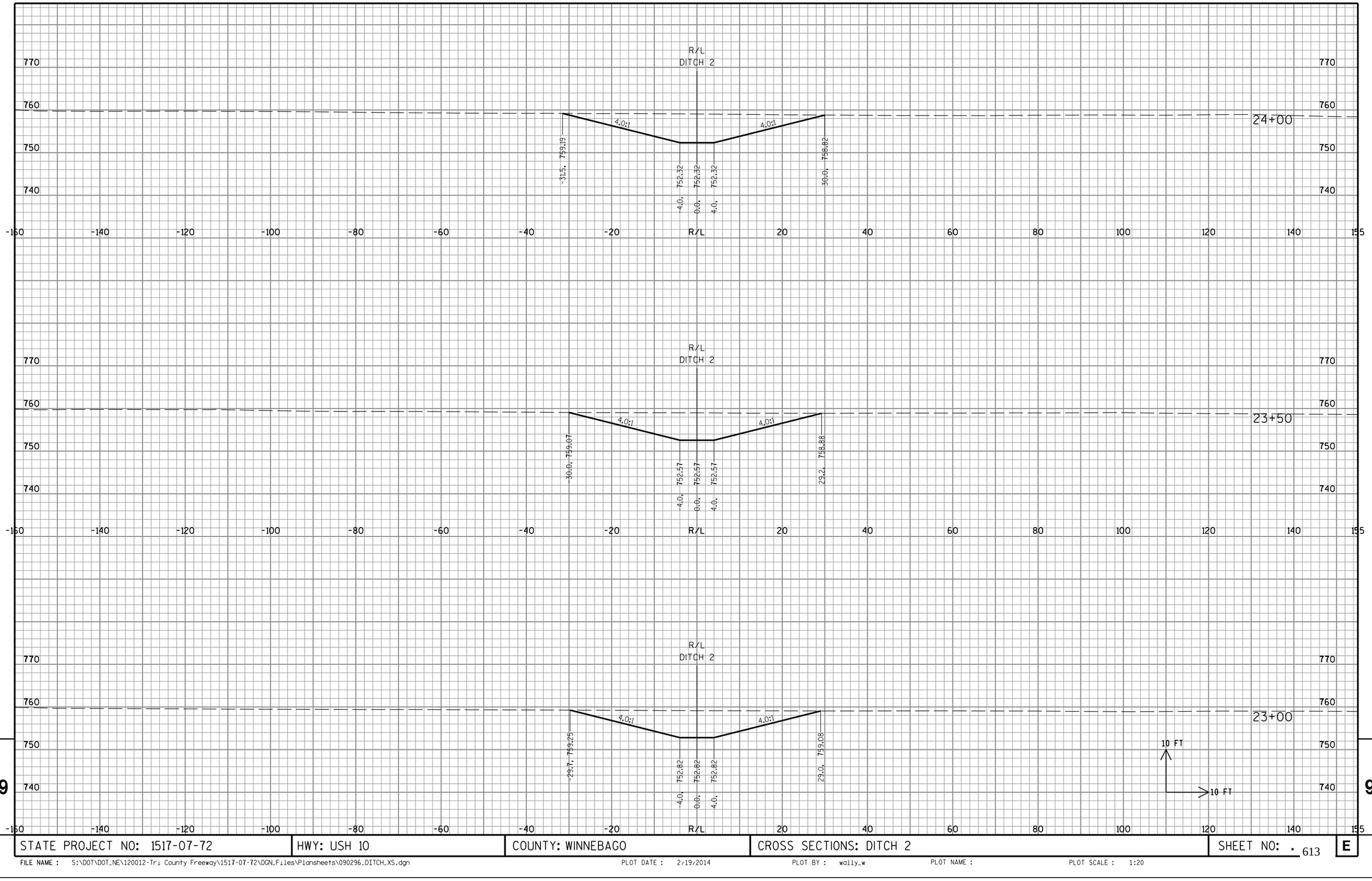


STATE PROJECT NO: 1517-07-72	HWY: USH 10	COUNTY: WINNEBAGO	CROSS SECTIONS: DITCH 2	SHEET NO: . 612	E

FILE NAME : S:\DOT\DOT_NE\120012-Tri County Freeway\1517-07-72\DGN_Files\Plansheets\090296_DITCH_XS.dgn PLOT DATE : 2/19/2014 PLOT BY : wally_w PLOT NAME : PLOT SCALE : 1:20

9

9

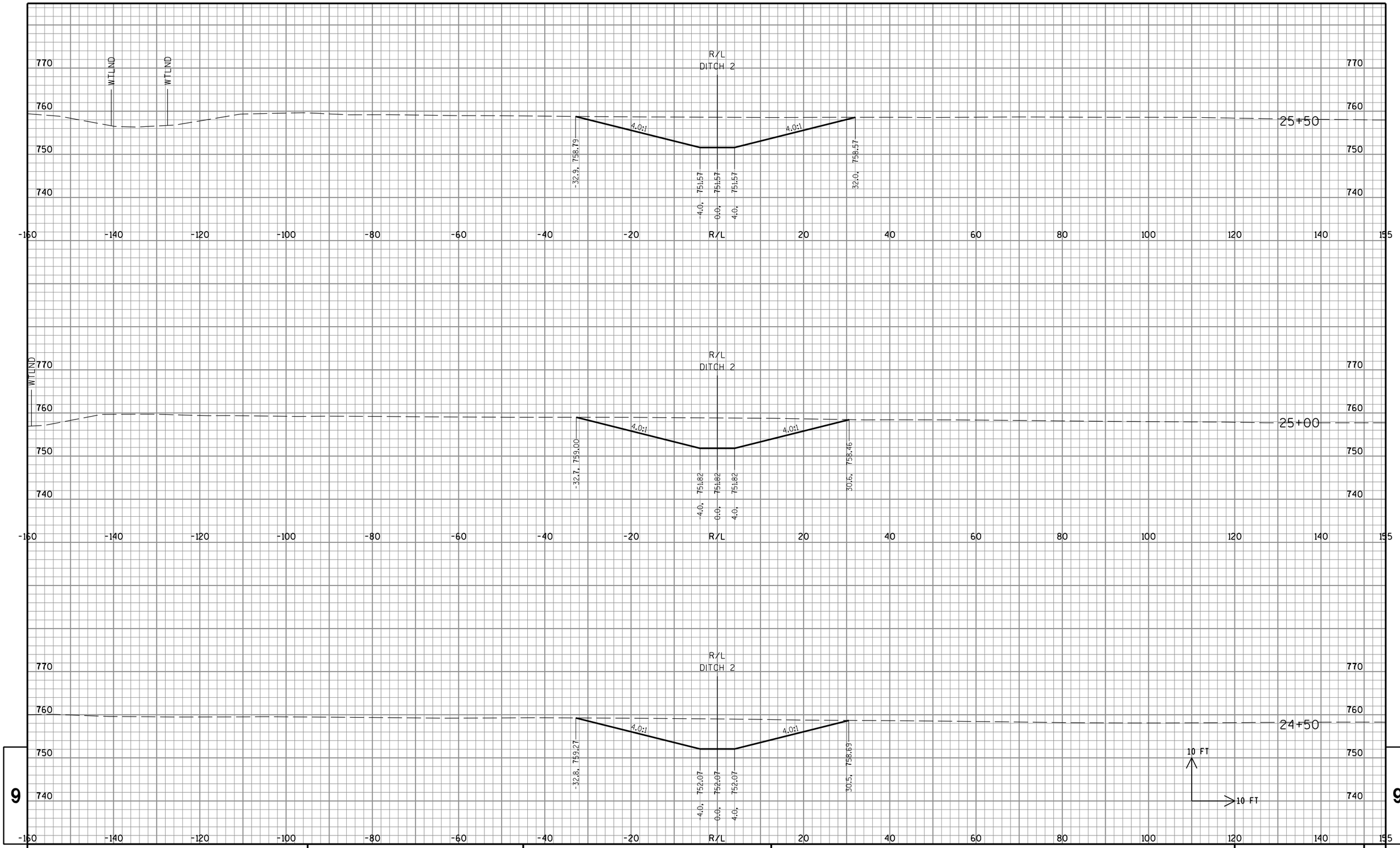


9

9

STATE PROJECT NO: 1517-07-72	HWY: USH 10	COUNTY: WINNEBAGO	CROSS SECTIONS: DITCH 2	SHEET NO: . 613	E

FILE NAME : S:\DOT\DOT_NE\120012-Tri County Freeway\1517-07-72\DGN_Files\Plansheets\090296_DITCH_XS.dgn PLOT DATE : 2/19/2014 PLOT BY : wally_w PLOT NAME : PLOT SCALE : 1:20



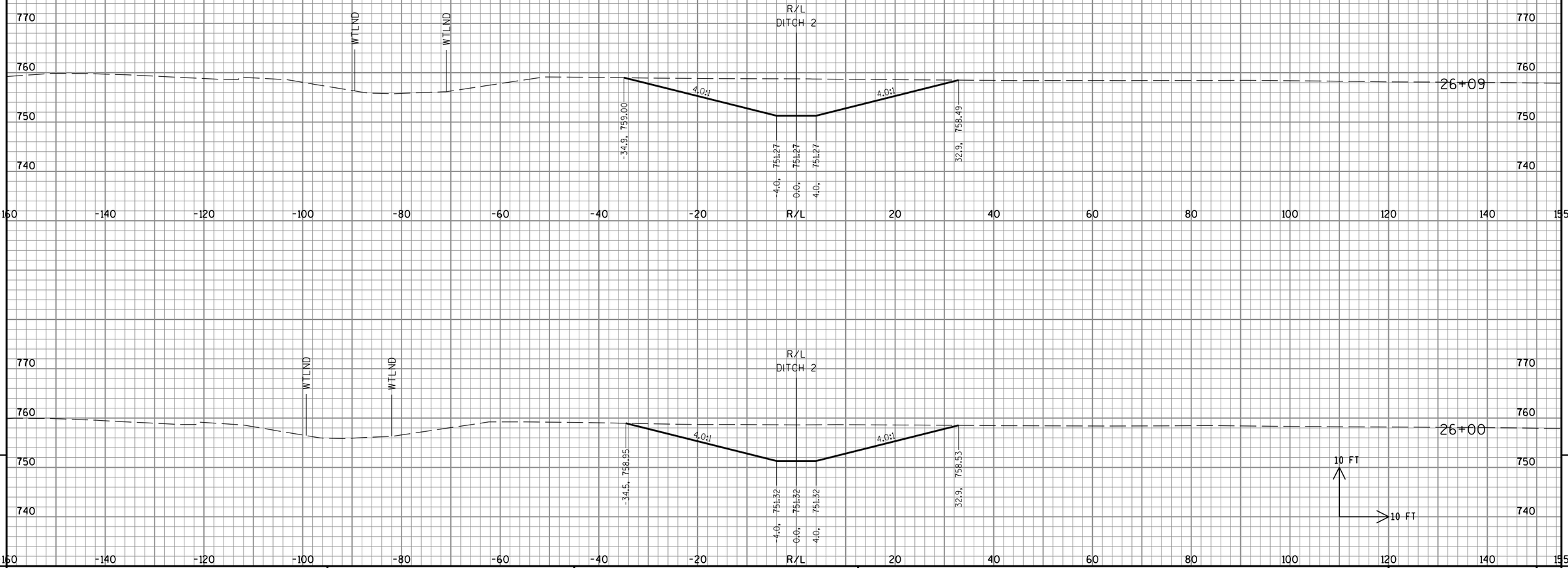
9

STATE PROJECT NO: 1517-07-72	HWY: USH 10	COUNTY: WINNEBAGO	CROSS SECTIONS: DITCH 2	SHEET NO: . 614	E

9

FILE NAME : S:\DOT\DOT_NE\120012-Tri County Freeway\1517-07-72\DGN_Files\Plansheets\090296_DITCH_XS.dgn PLOT DATE : 2/19/2014 PLOT BY : wally_w PLOT NAME : PLOT SCALE : 1:20

END CONSTRUCTION STA 26+09.34

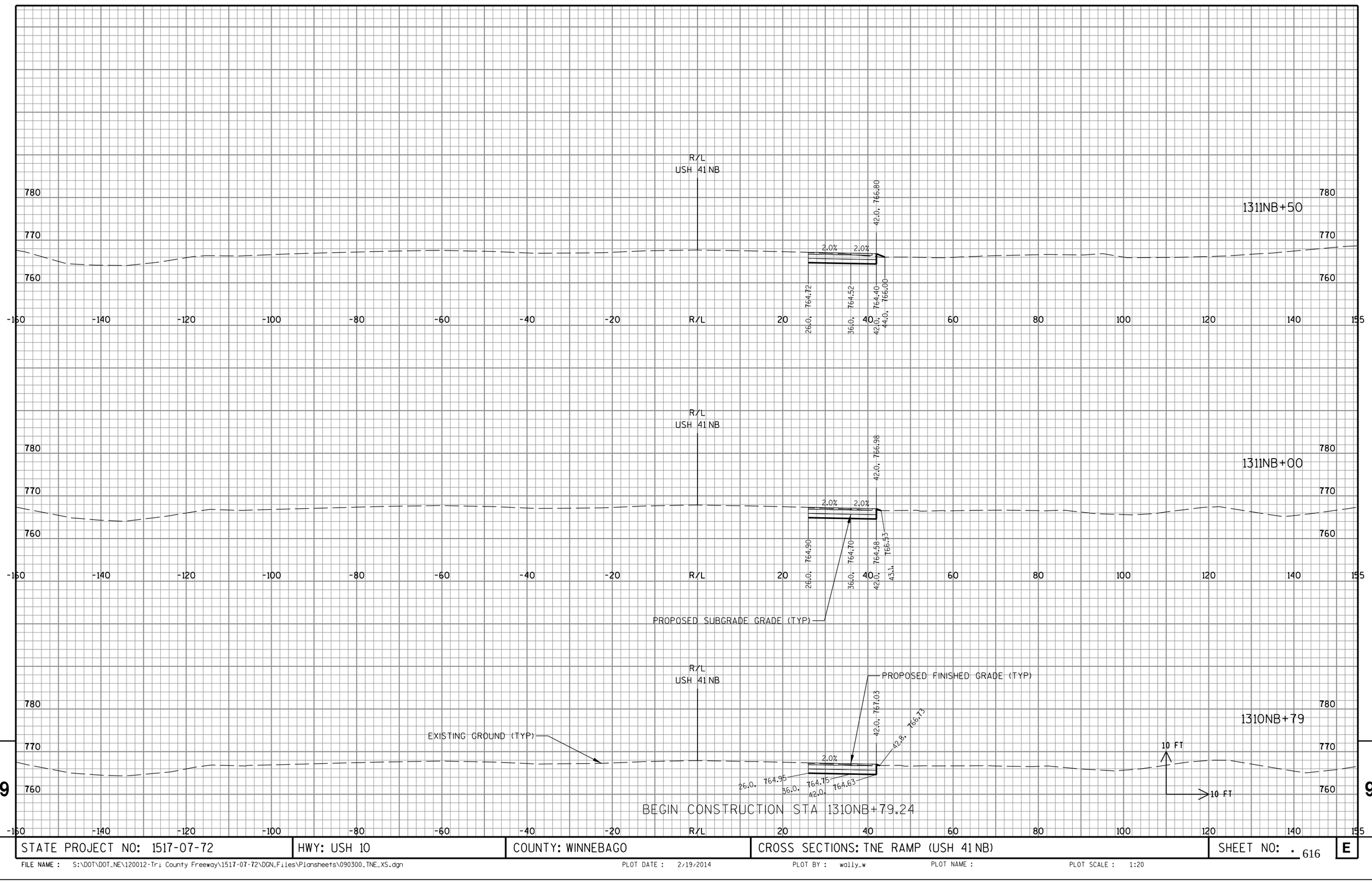


9

9

STATE PROJECT NO: 1517-07-72	HWY: USH 10	COUNTY: WINNEBAGO	CROSS SECTIONS: DITCH 2	SHEET NO: . 615	E

FILE NAME : S:\DOT\DOT_NE\120012-Tri County Freeway\1517-07-72\DGN_Files\Plansheets\090296_DITCH_XS.dgn PLOT DATE : 2/19/2014 PLOT BY : wally_w PLOT NAME : PLOT SCALE : 1:20

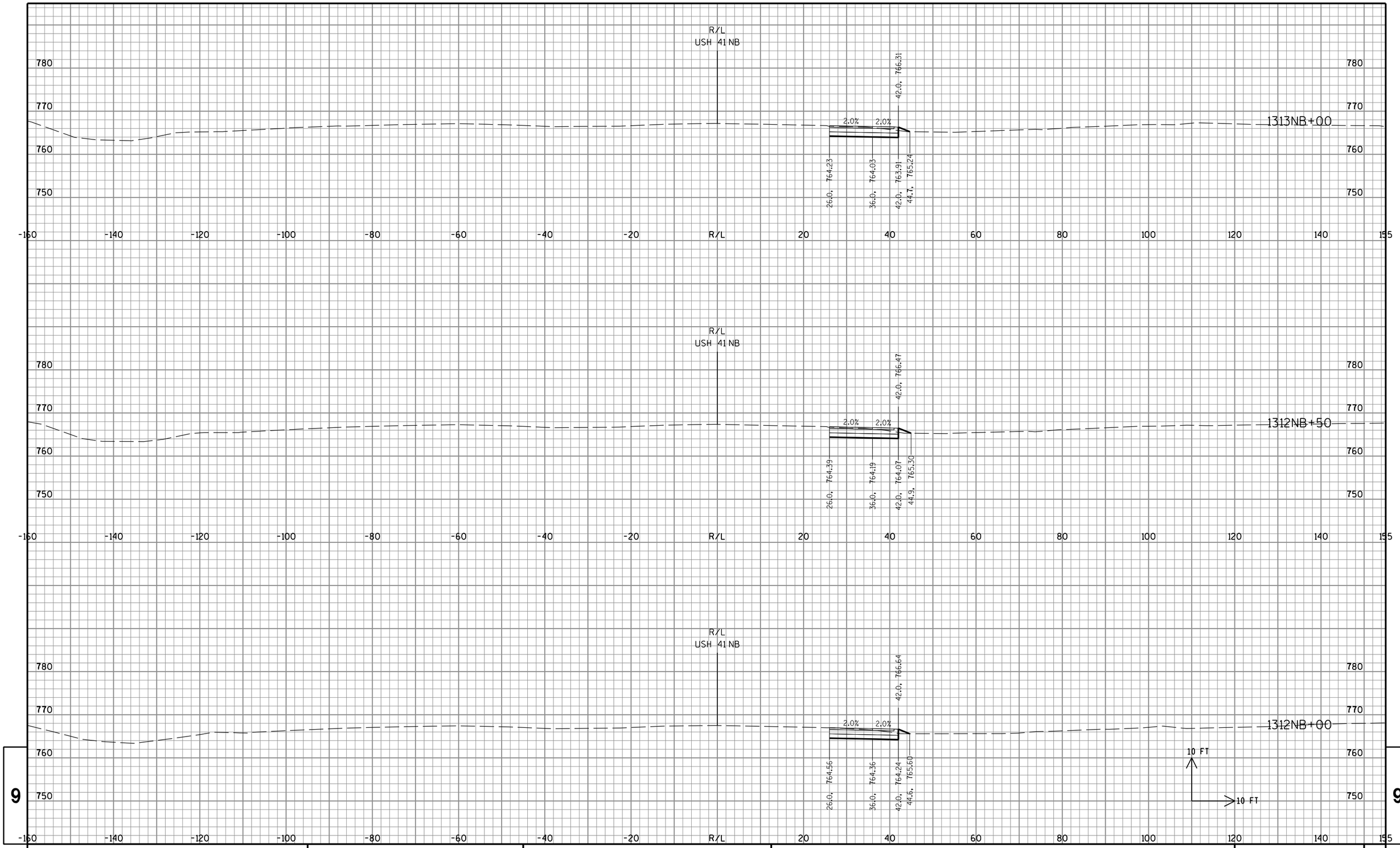


9

9

STATE PROJECT NO: 1517-07-72	HWY: USH 10	COUNTY: WINNEBAGO	CROSS SECTIONS: TNE RAMP (USH 41 NB)	SHEET NO: . 616	E

FILE NAME : S:\DOT\DOT_NE\120012-Tri County Freeway\1517-07-72\DGN_Files\Plansheets\090300_TNE_XS.dgn PLOT DATE : 2/19/2014 PLOT BY : wally_w PLOT NAME : PLOT SCALE : 1:20

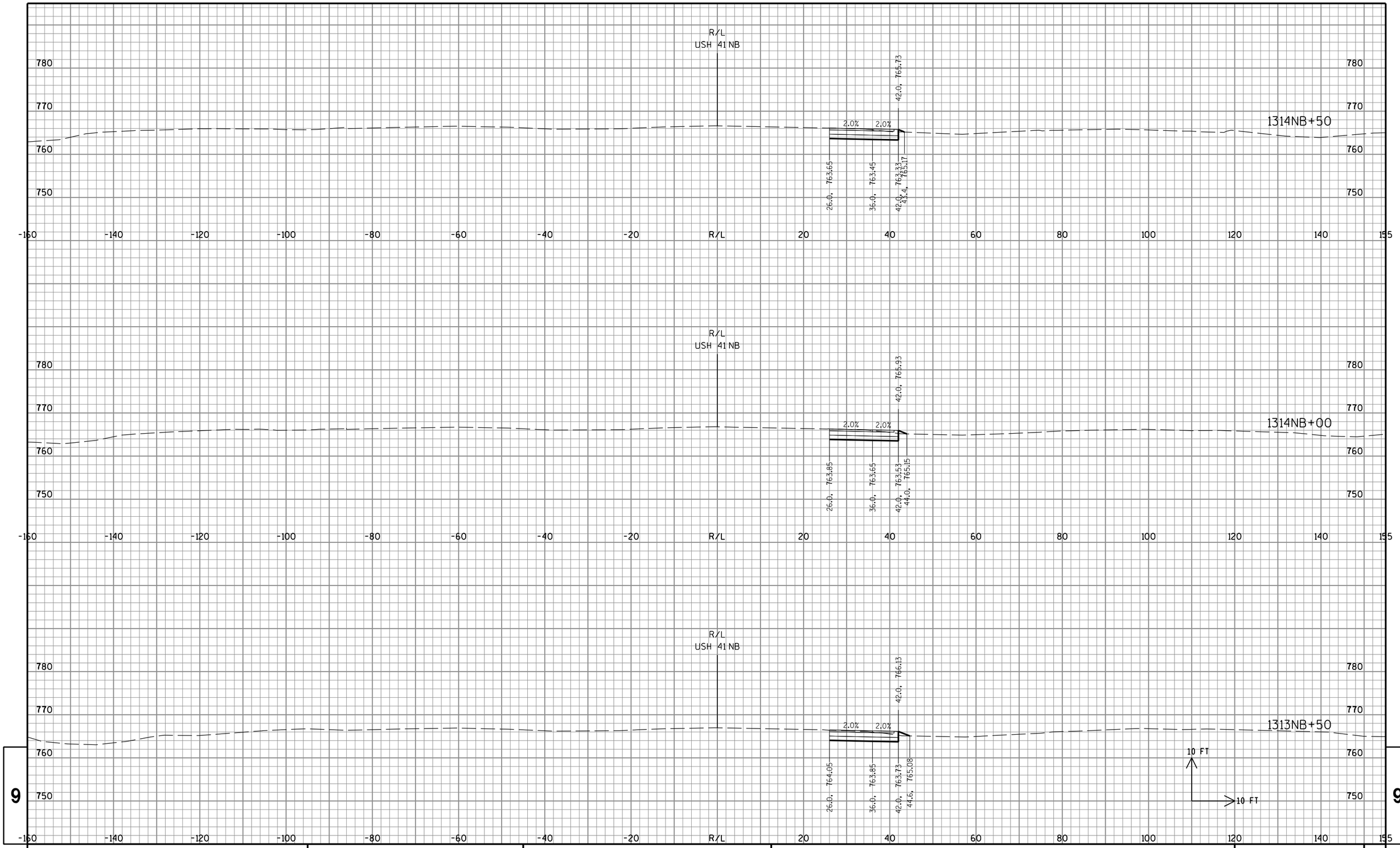


9

9

STATE PROJECT NO: 1517-07-72	HWY: USH 10	COUNTY: WINNEBAGO	CROSS SECTIONS: TNE RAMP (USH 41 NB)	SHEET NO: . 617	E

FILE NAME : S:\DOT\DOT_NE\120012-Tri County Freeway\1517-07-72\DGN_Files\Plansheets\090300_TNE_XS.dgn PLOT DATE : 2/19/2014 PLOT BY : wally_w PLOT NAME : PLOT SCALE : 1:20

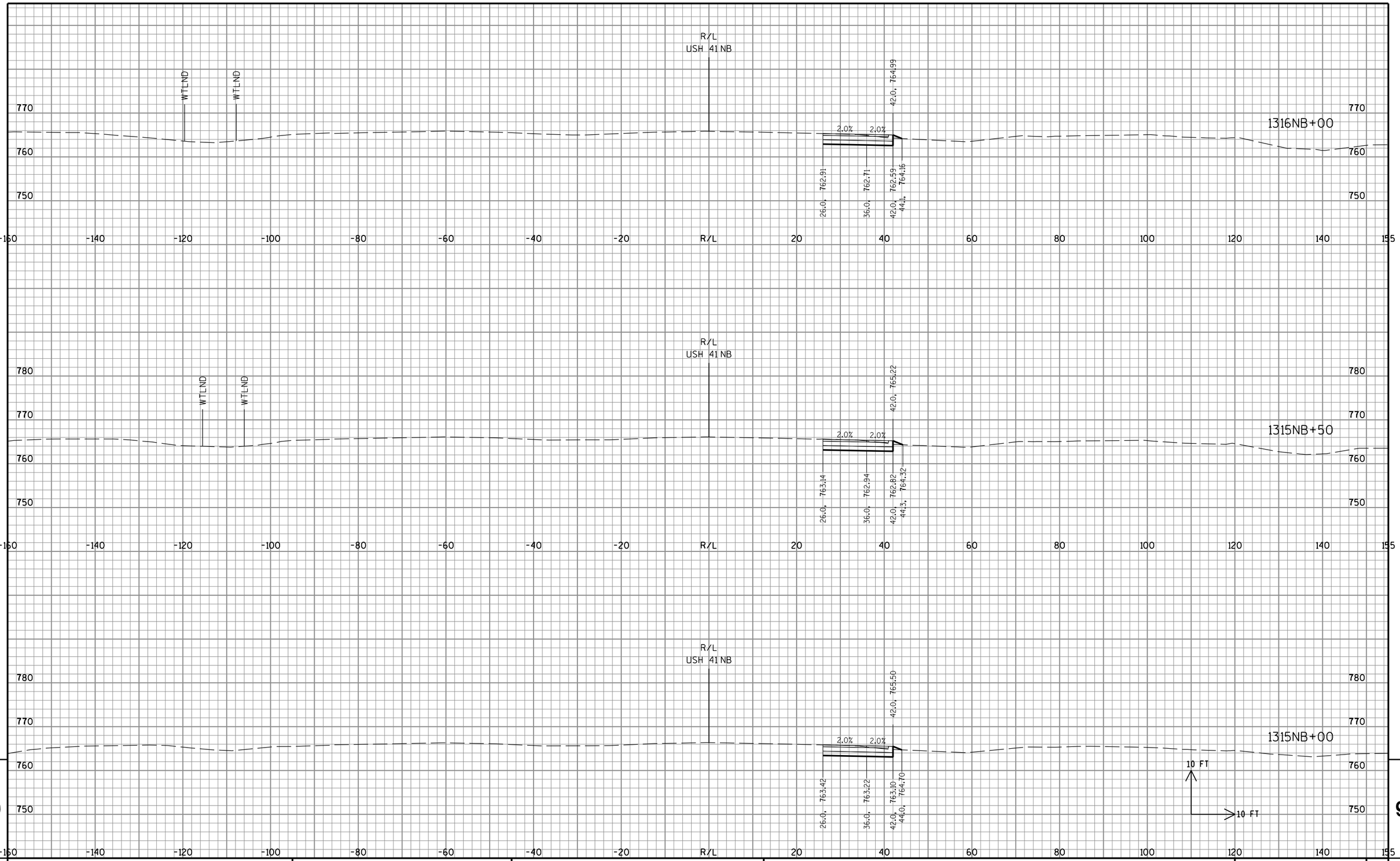


9

9

STATE PROJECT NO: 1517-07-72	HWY: USH 10	COUNTY: WINNEBAGO	CROSS SECTIONS: TNE RAMP (USH 41 NB)	SHEET NO: . 618	E

FILE NAME : S:\DOT\DOT_NE\120012-Tri County Freeway\1517-07-72\DGN_Files\Plansheets\090300_TNE_XS.dgn PLOT DATE : 2/19/2014 PLOT BY : wally_w PLOT NAME : PLOT SCALE : 1:20



9

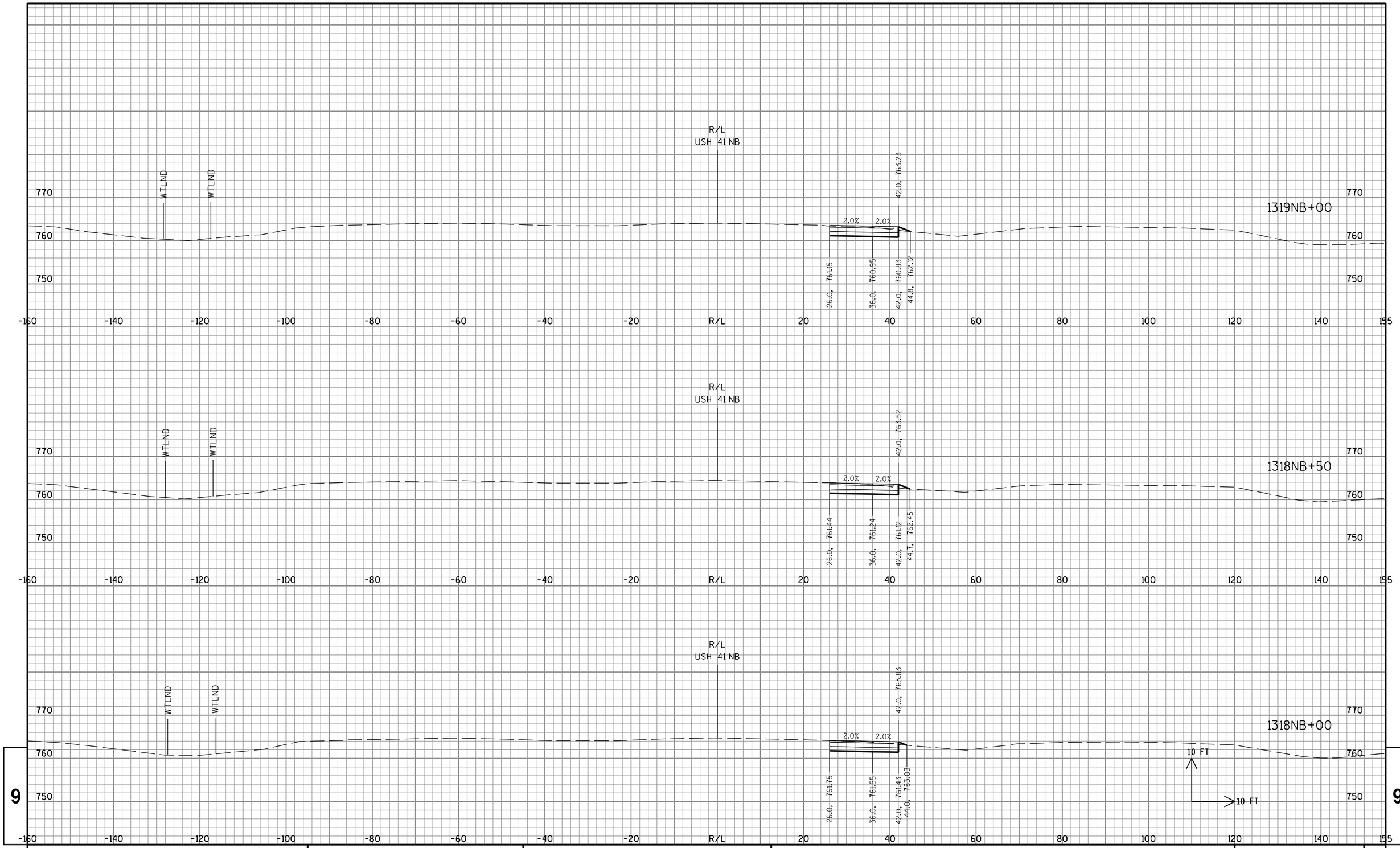
9

STATE PROJECT NO: 1517-07-72	HWY: USH 10	COUNTY: WINNEBAGO	CROSS SECTIONS: TNE RAMP (USH 41 NB)	SHEET NO: . 619	E

FILE NAME : S:\DOT\DOT_NE\120012-Tri County Freeway\1517-07-72\DGN_Files\Plansheets\090300_TNE_XS.dgn PLOT DATE : 2/19/2014 PLOT BY : wally_w PLOT NAME : PLOT SCALE : 1:20

STATE PROJECT NO: 1517-07-72	HWY: USH 10	COUNTY: WINNEBAGO	CROSS SECTIONS: TNE RAMP (USH 41 NB)	SHEET NO: 620	E

FILE NAME : S:\DOT\DOT_NE\120012-Tri County Freeway\1517-07-72\DGN_Files\Plansheets\090300_TNE_XS.dgn PLOT DATE : 2/19/2014 PLOT BY : wally_w PLOT NAME : PLOT SCALE : 1:20



9

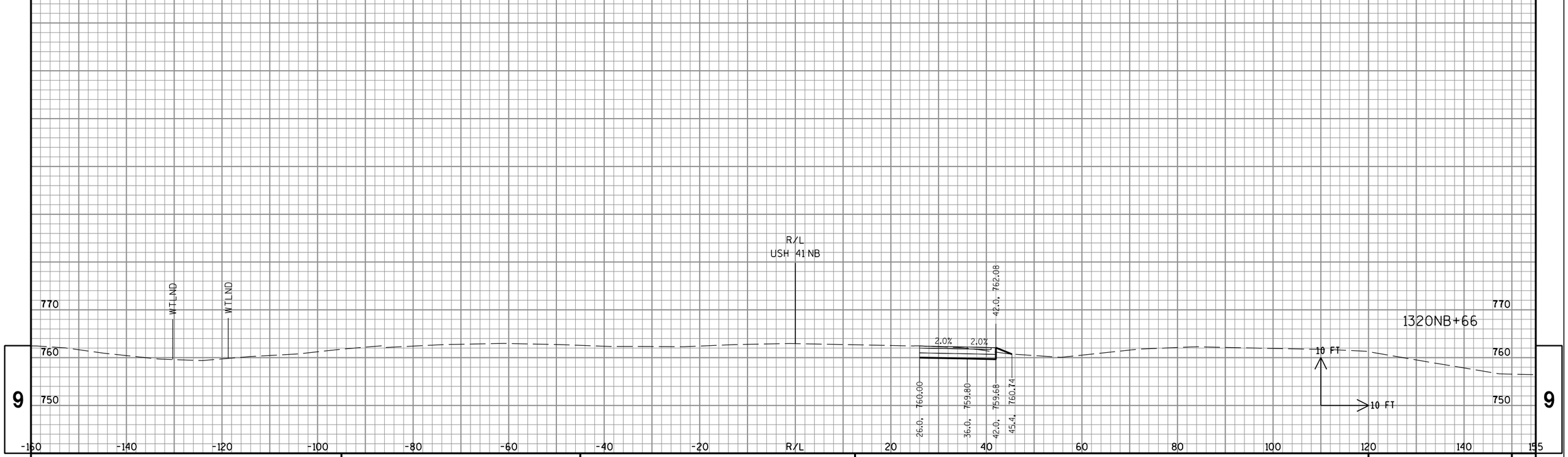
9

STATE PROJECT NO: 1517-07-72	HWY: USH 10	COUNTY: WINNEBAGO	CROSS SECTIONS: TNE RAMP (USH 41 NB)	SHEET NO: . 621	E

FILE NAME : S:\DOT\DOT_NE\120012-Tri County Freeway\1517-07-72\DGN_Files\Plansheets\090300_TNE_XS.dgn PLOT DATE : 2/19/2014 PLOT BY : wally_w PLOT NAME : PLOT SCALE : 1:20

STATE PROJECT NO: 1517-07-72	HWY: USH 10	COUNTY: WINNEBAGO	CROSS SECTIONS: TNE RAMP (USH 41 NB)	SHEET NO: . 622	E

FILE NAME : S:\DOT\DOT_NE\120012-Tri County Freeway\1517-07-72\DGN_Files\Plansheets\090300_TNE_XS.dgn PLOT DATE : 2/19/2014 PLOT BY : wally_w PLOT NAME : PLOT SCALE : 1:20

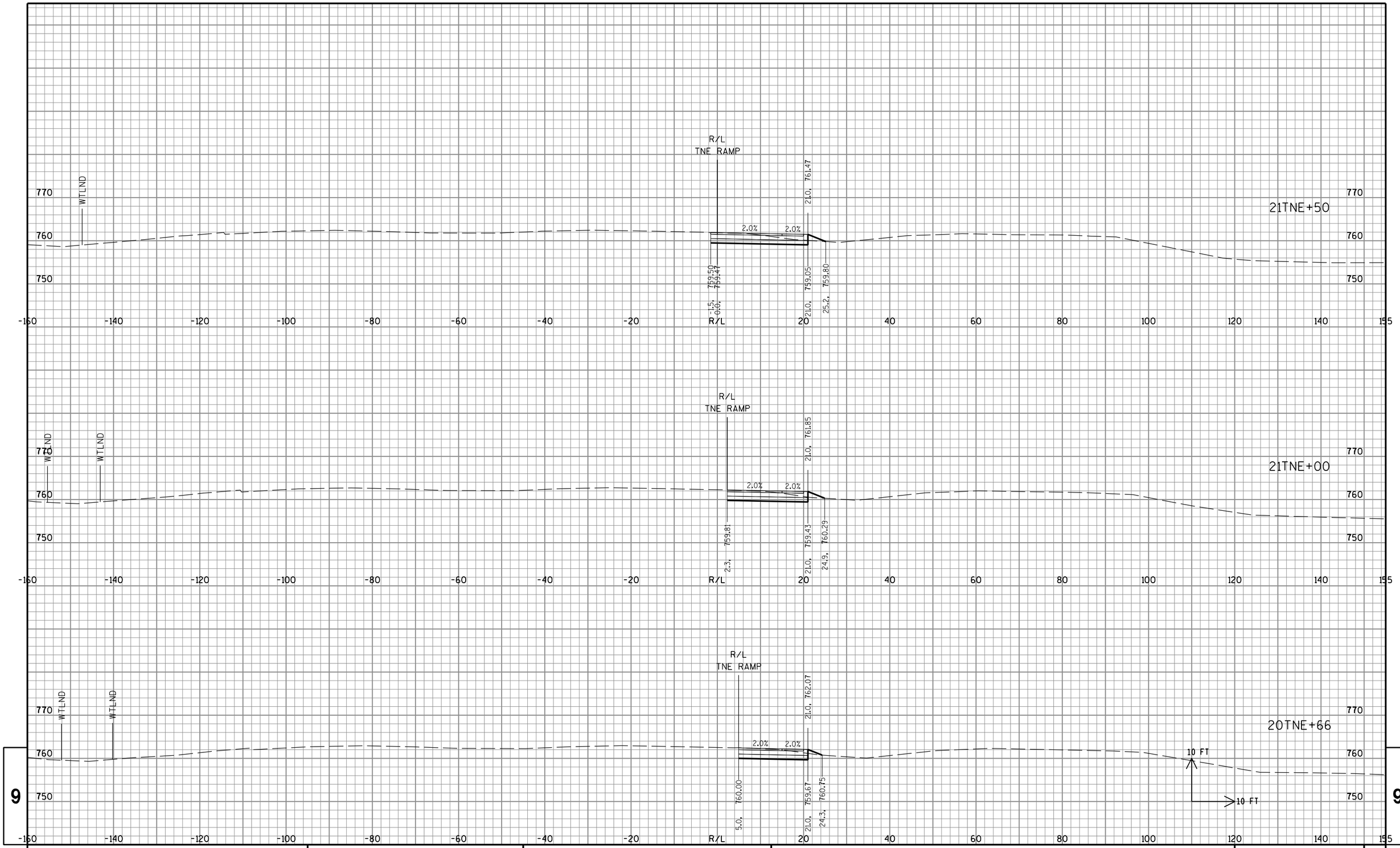


9

9

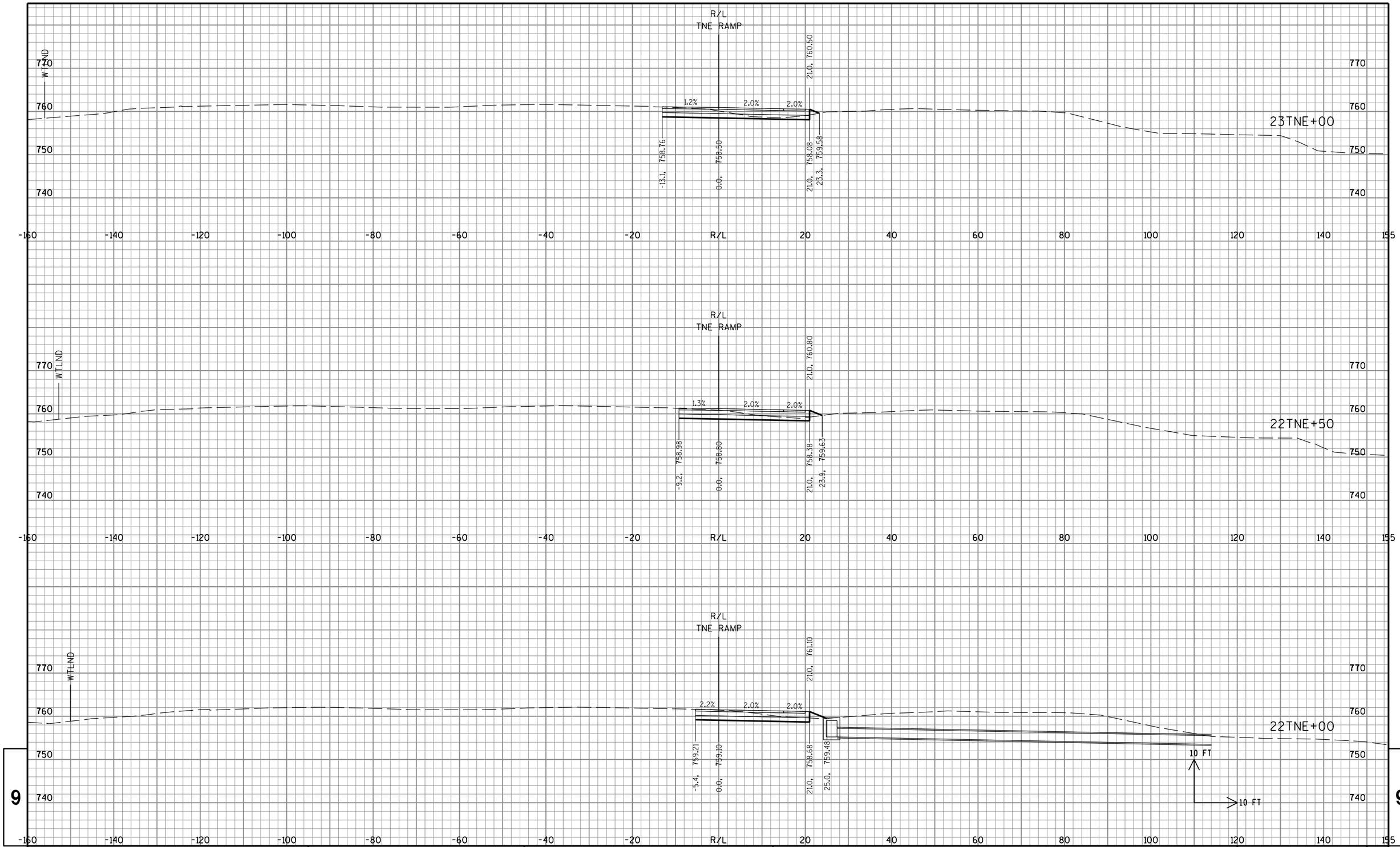
STATE PROJECT NO: 1517-07-72	HWY: USH 10	COUNTY: WINNEBAGO	CROSS SECTIONS: TNE RAMP (USH 41 NB)	SHEET NO: . 623	E

FILE NAME : S:\DOT\DOT_NE\120012-Tri County Freeway\1517-07-72\DGN_Files\Plansheets\090300_TNE_XS.dgn PLOT DATE : 2/19/2014 PLOT BY : wally_w PLOT NAME : PLOT SCALE : 1:20



STATE PROJECT NO: 1517-07-72	HWY: USH 10	COUNTY: WINNEBAGO	CROSS SECTIONS: TNE RAMP	SHEET NO: . 624	E

FILE NAME : S:\DOT\DOT_NE\120012-Tri County Freeway\1517-07-72\DGN_Files\Plansheets\090300_TNE_XS.dgn PLOT DATE : 2/19/2014 PLOT BY : wally_w PLOT NAME : PLOT SCALE : 1:20

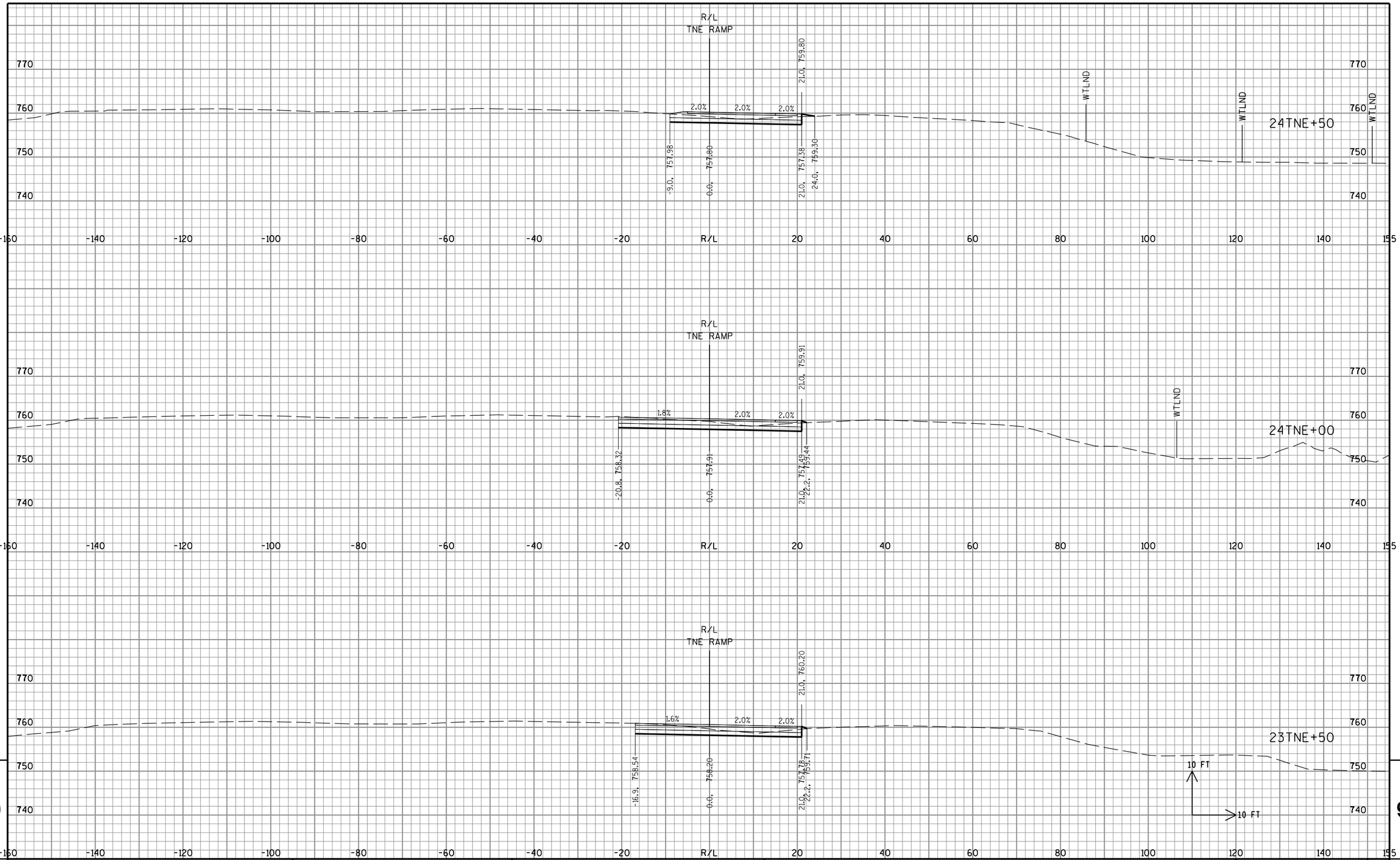


9

9

STATE PROJECT NO: 1517-07-72	HWY: USH 10	COUNTY: WINNEBAGO	CROSS SECTIONS: TNE RAMP	SHEET NO: . 625	E

FILE NAME : S:\DOT\DOT_NE\120012-Tri County Freeway\1517-07-72\DGN_Files\Plansheets\090300_TNE_XS.dgn PLOT DATE : 2/19/2014 PLOT BY : wally_w PLOT NAME : PLOT SCALE : 1:20

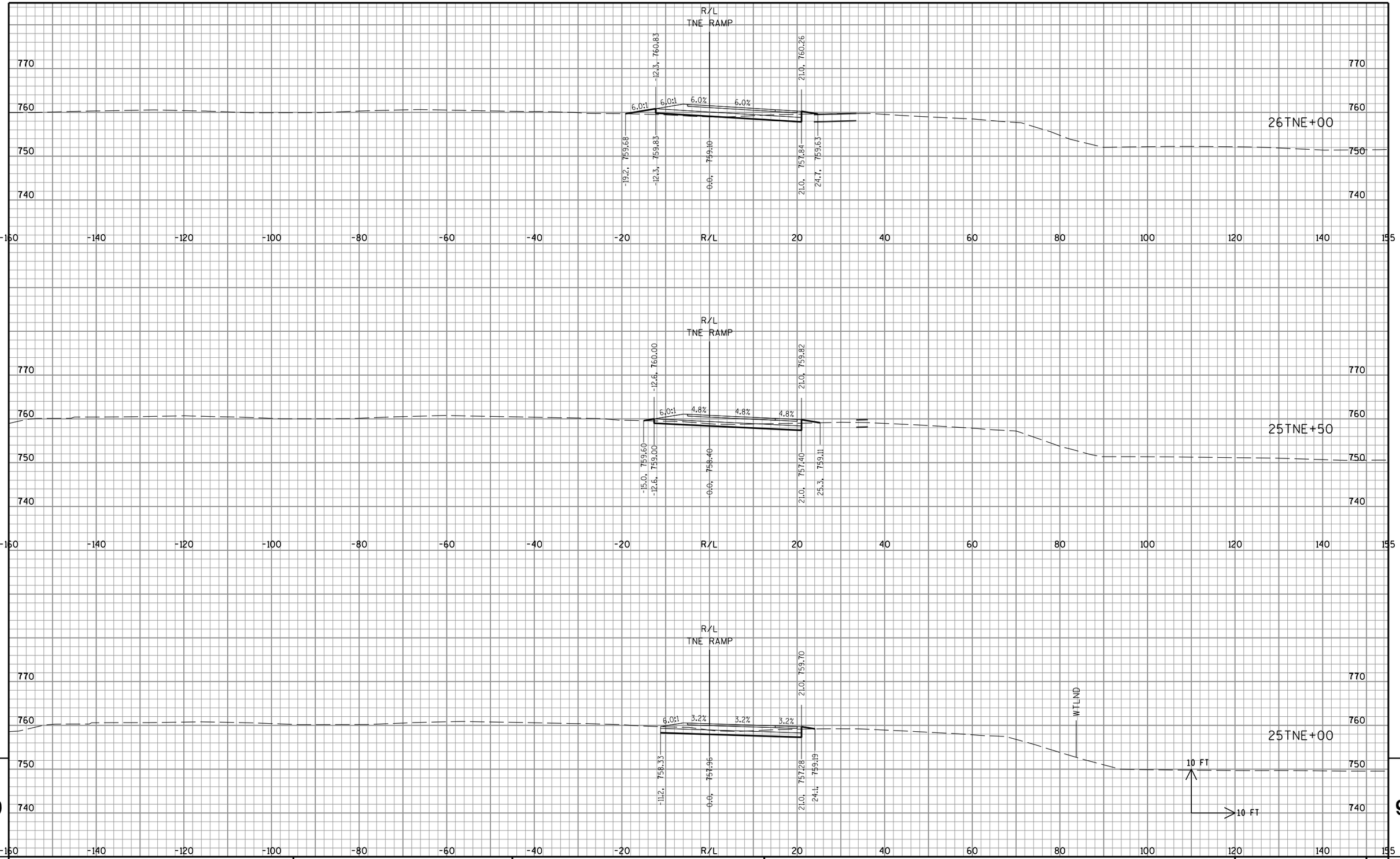


9

9

STATE PROJECT NO: 1517-07-72	HWY: USH 10	COUNTY: WINNEBAGO	CROSS SECTIONS: TNE RAMP	SHEET NO: . 626	E

FILE NAME : S:\DOT\DOT_NE\120012-Tri County Freeway\1517-07-72\DGN_Files\Plansheets\090300_TNE_XS.dgn PLOT DATE : 2/19/2014 PLOT BY : wally_w PLOT NAME : PLOT SCALE : 1:20

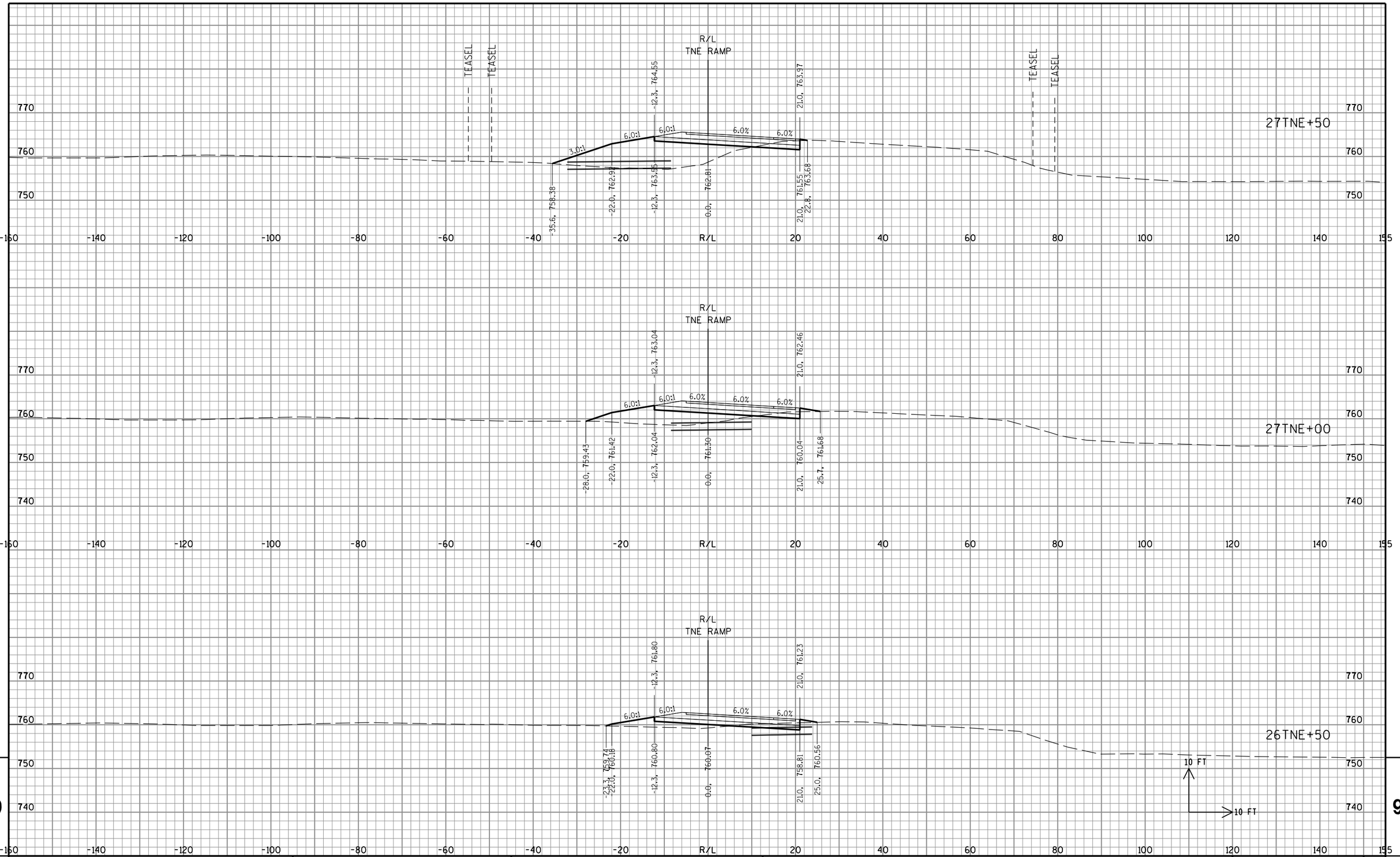


9

9

STATE PROJECT NO: 1517-07-72	HWY: USH 10	COUNTY: WINNEBAGO	CROSS SECTIONS: TNE RAMP	SHEET NO: . 627	E

FILE NAME : S:\DOT\DOT_NE\120012-Tri County Freeway\1517-07-72\DGN_Files\Plansheets\090300_TNE_XS.dgn PLOT DATE : 2/19/2014 PLOT BY : wally_w PLOT NAME : PLOT SCALE : 1:20

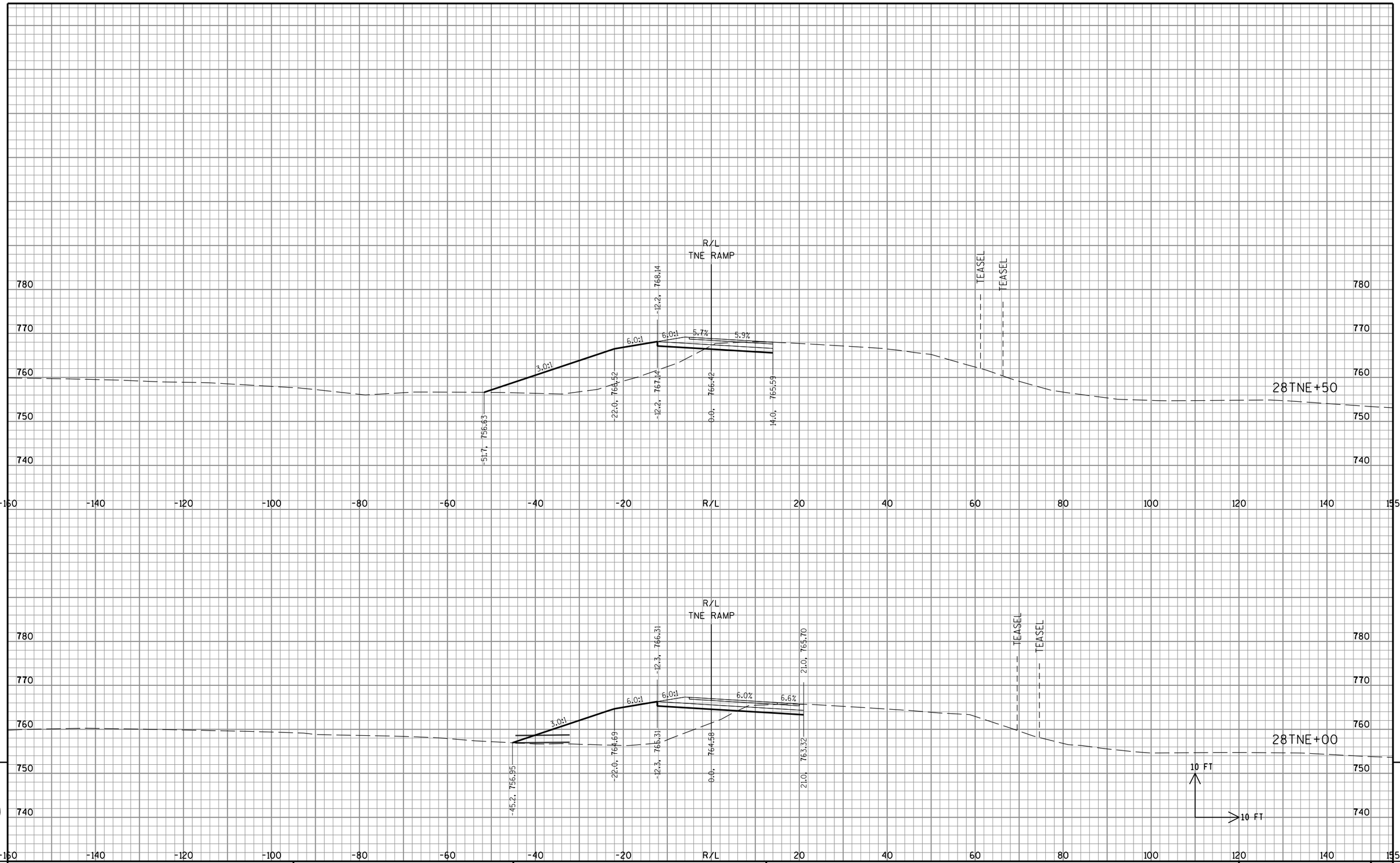


9

9

STATE PROJECT NO: 1517-07-72	HWY: USH 10	COUNTY: WINNEBAGO	CROSS SECTIONS: TNE RAMP	SHEET NO: . 628	E

FILE NAME : S:\DOT\DOT_NE\120012-Tri County Freeway\1517-07-72\DGN_Files\Plansheets\090300_TNE_XS.dgn PLOT DATE : 2/19/2014 PLOT BY : wally_w PLOT NAME : PLOT SCALE : 1:20



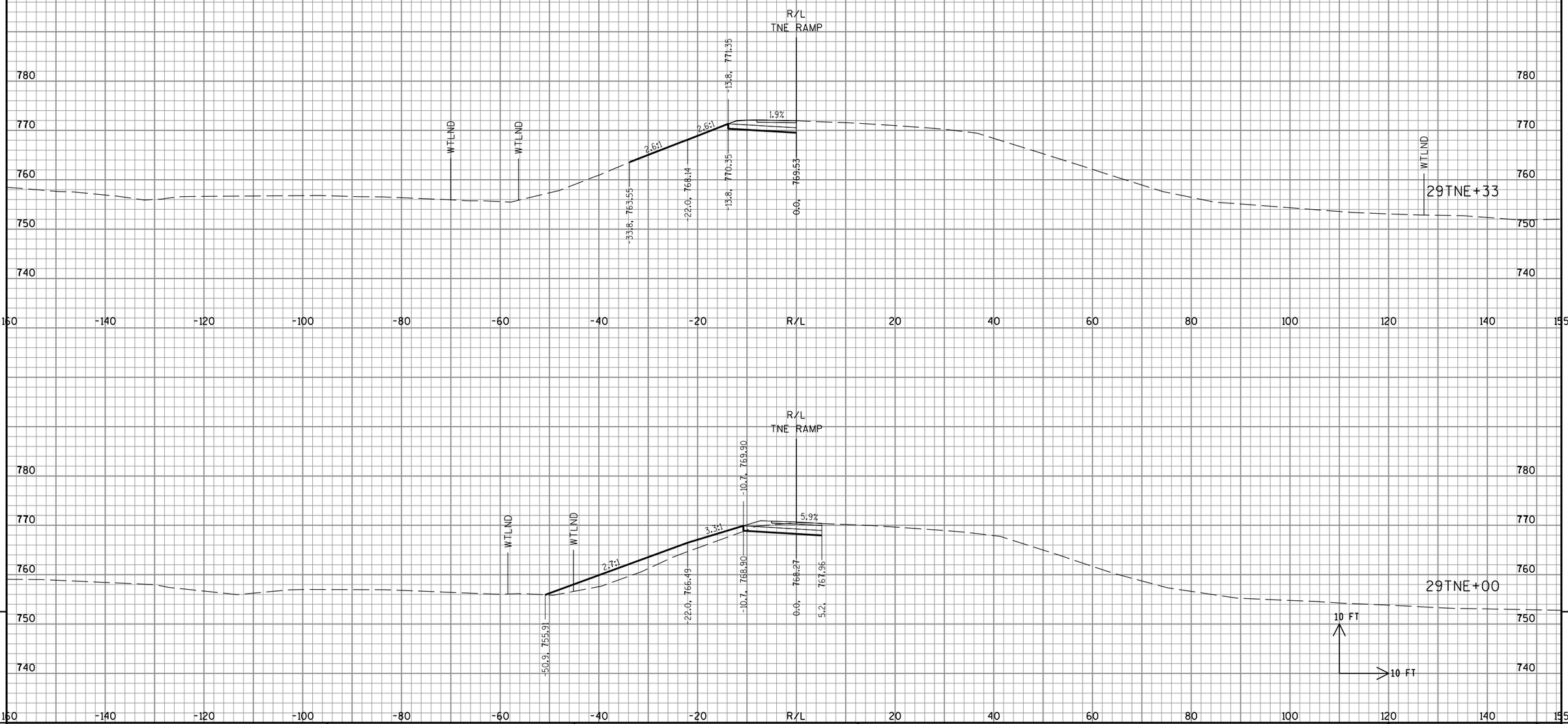
9

9

STATE PROJECT NO: 1517-07-72	HWY: USH 10	COUNTY: WINNEBAGO	CROSS SECTIONS: TNE RAMP	SHEET NO: . 629	E

FILE NAME : S:\DOT\DOT_NE\120012-Tri County Freeway\1517-07-72\DGN_Files\Plansheets\090300_TNE_XS.dgn PLOT DATE : 2/19/2014 PLOT BY : wally_w PLOT NAME : PLOT SCALE : 1:20

END CONSTRUCTION STA 29TNE+32.57

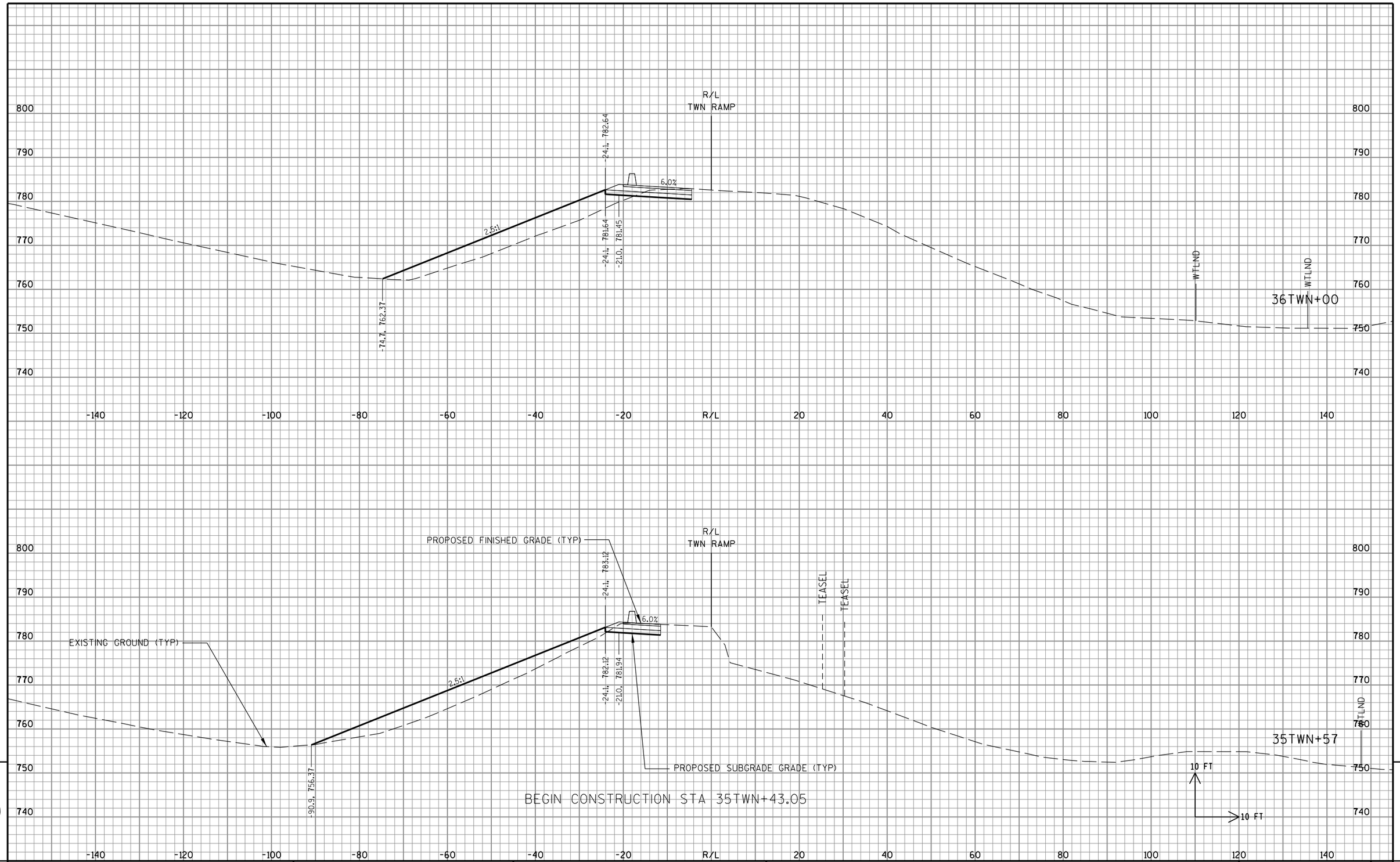


9

9

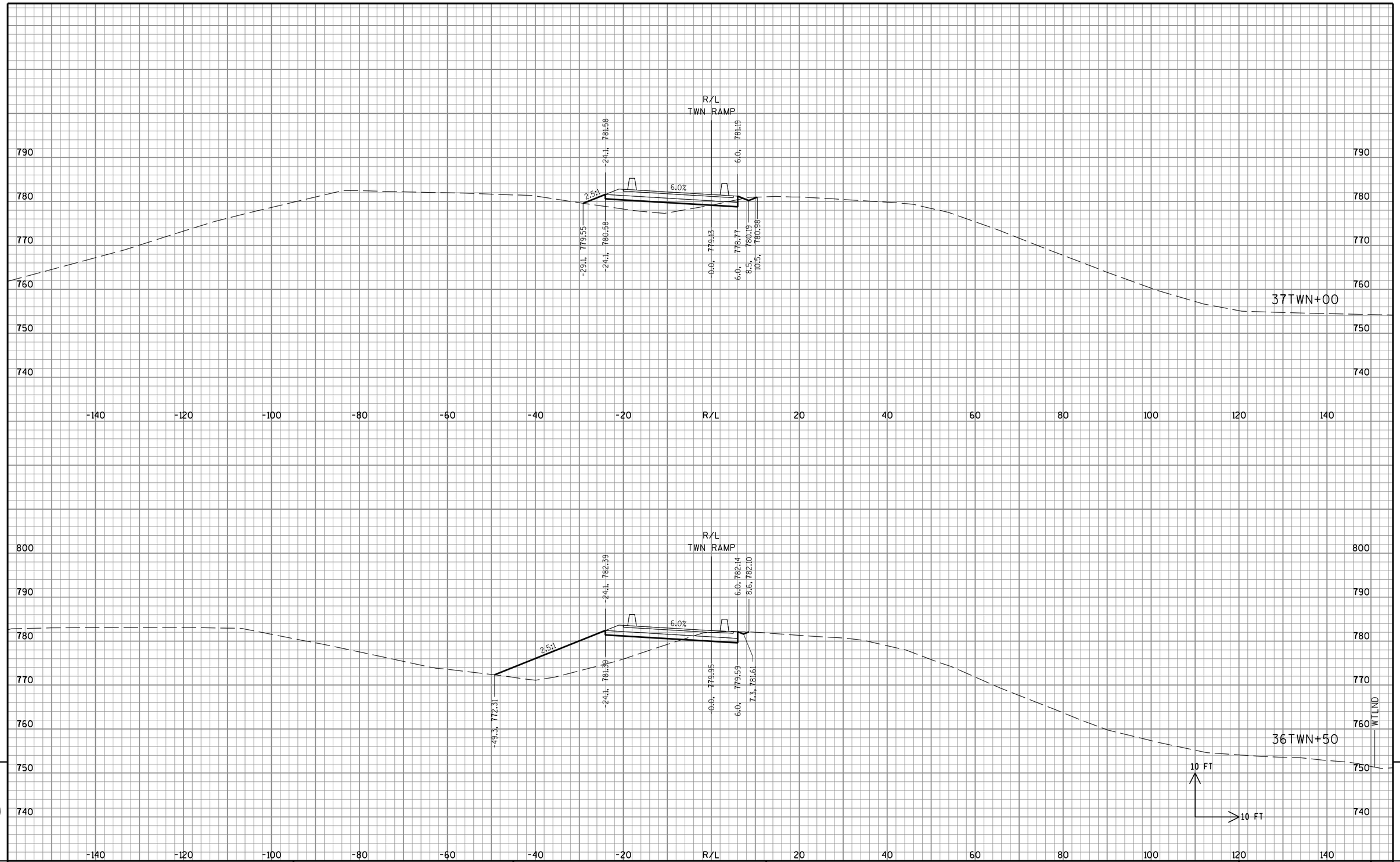
STATE PROJECT NO: 1517-07-72	HWY: USH 10	COUNTY: WINNEBAGO	CROSS SECTIONS: TNE RAMP	SHEET NO: . 630	E

FILE NAME : S:\DOT\DOT_NE\120012-Tri County Freeway\1517-07-72\DGN_Files\Plansheets\090300_TNE_XS.dgn PLOT DATE : 2/19/2014 PLOT BY : wally_w PLOT NAME : PLOT SCALE : 1:20



STATE PROJECT NO: 1517-07-72	HWY: USH 10	COUNTY: WINNEBAGO	CROSS SECTIONS: TWN RAMP	SHEET NO: . 631	E

FILE NAME : S:\DOT\DOT_NE\120012-Tri County Freeway\1517-07-72\DGN_Files\Plansheets\090301_TWN_XS.dgn PLOT DATE : 2/19/2014 PLOT BY : wally_w PLOT NAME : PLOT SCALE : 1:20

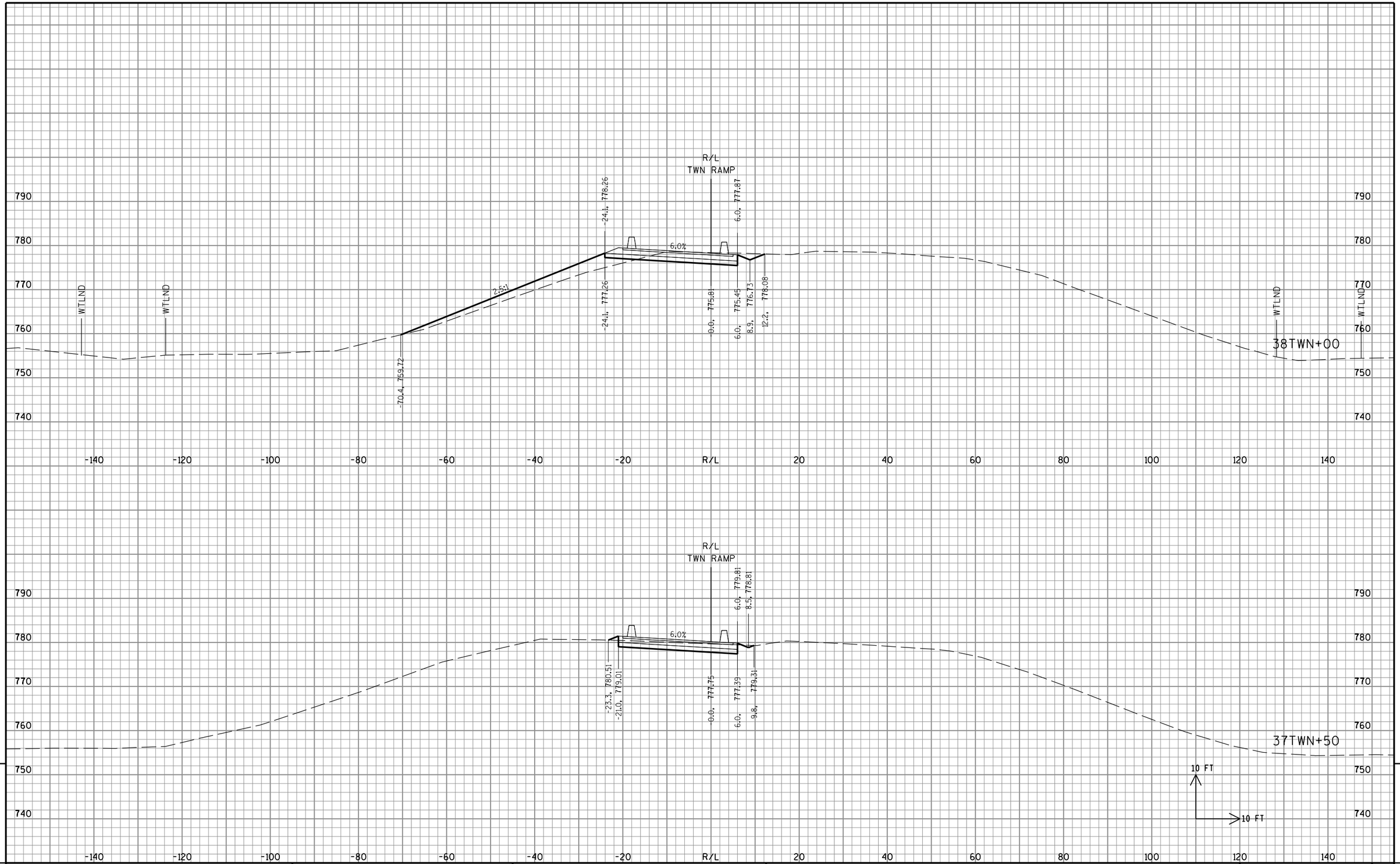


9

9

STATE PROJECT NO: 1517-07-72	HWY: USH 10	COUNTY: WINNEBAGO	CROSS SECTIONS: TWN RAMP	SHEET NO: . 632	E

FILE NAME : S:\DOT\DOT_NE\120012-Tri County Freeway\1517-07-72\DGN_Files\Plansheets\090301_TWN_XS.dgn PLOT DATE : 2/19/2014 PLOT BY : wally_w PLOT NAME : PLOT SCALE : 1:20

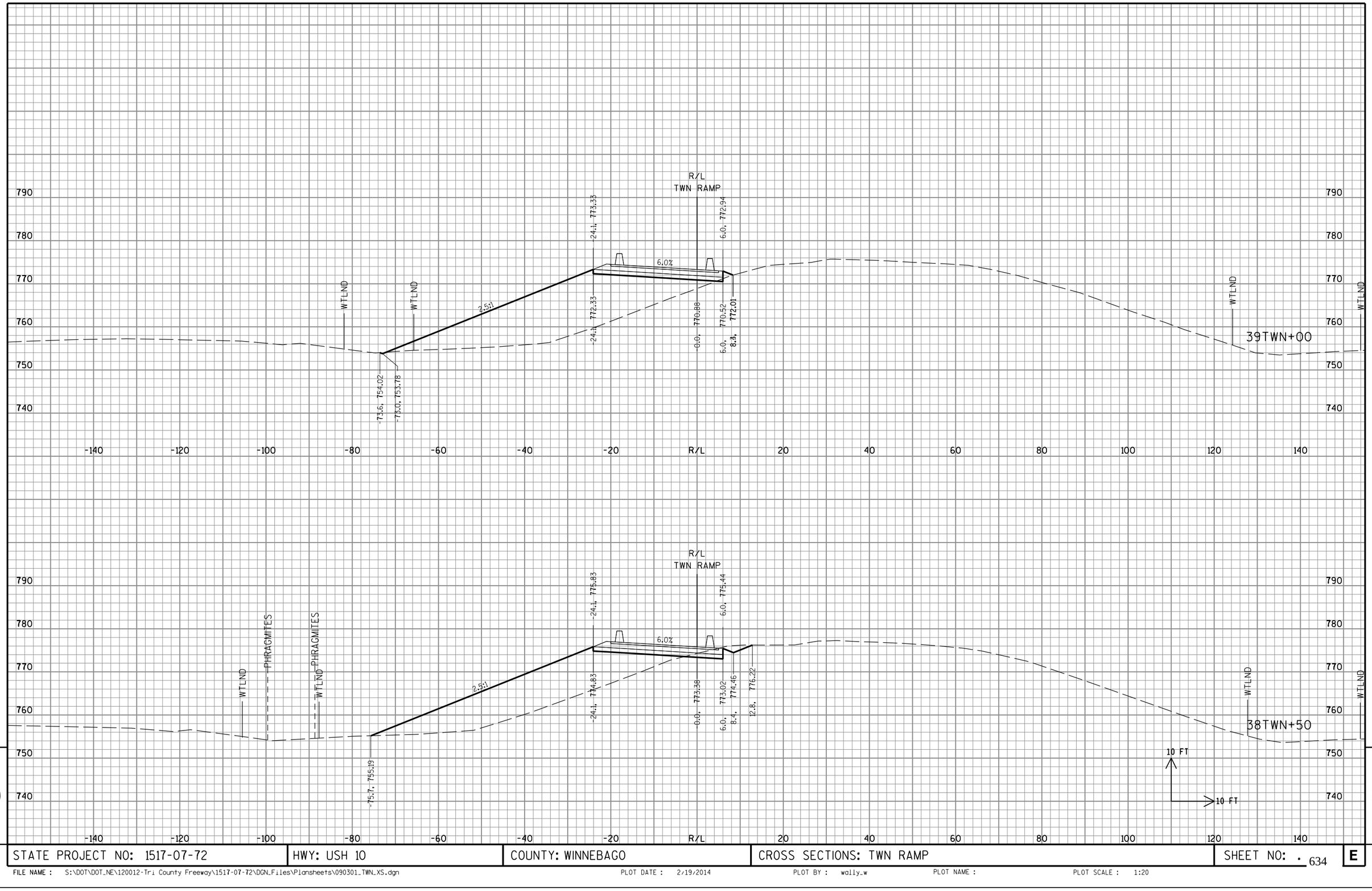


9

9

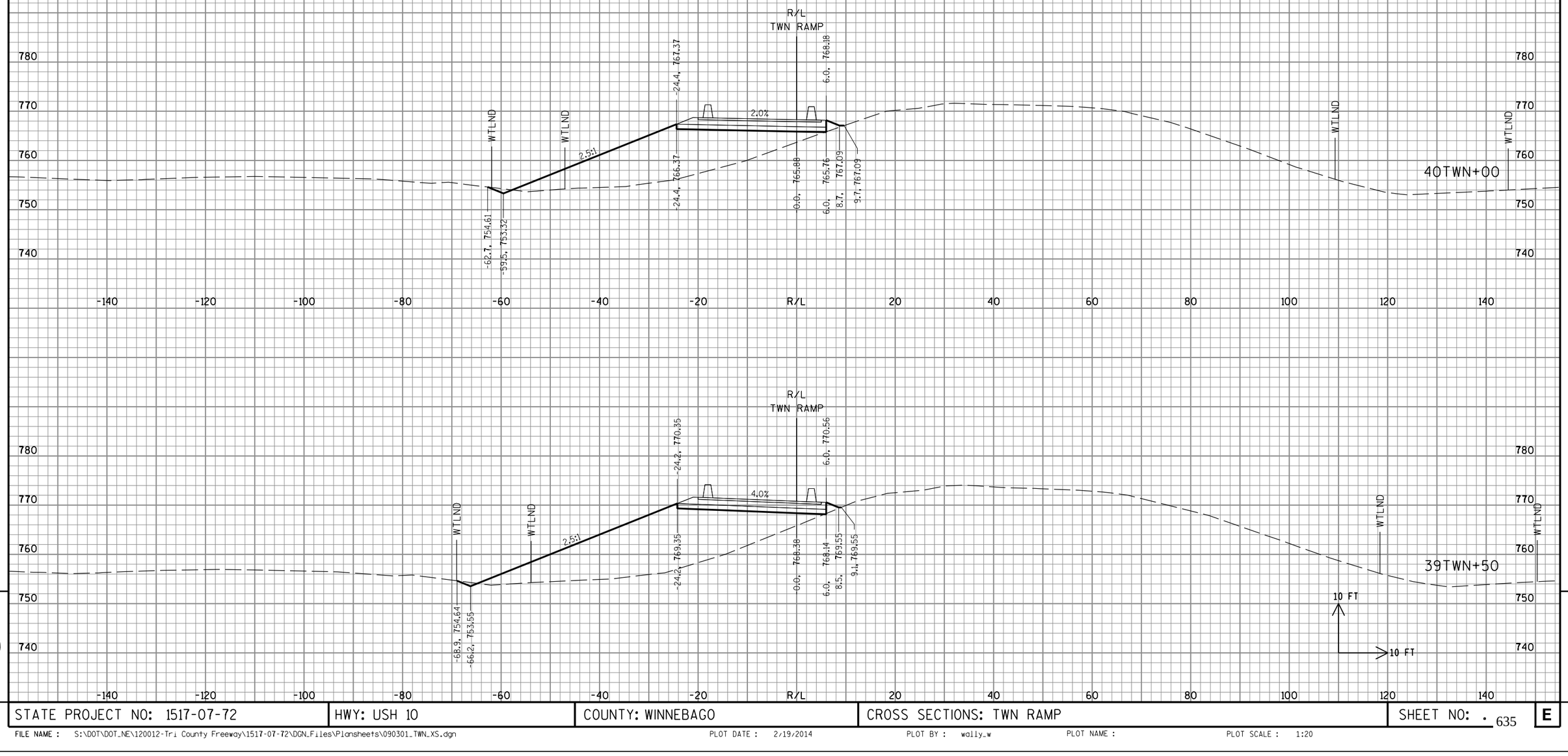
STATE PROJECT NO: 1517-07-72	HWY: USH 10	COUNTY: WINNEBAGO	CROSS SECTIONS: TWN RAMP	SHEET NO: . 633	E

FILE NAME : S:\DOT\DOT_NE\120012-Tri County Freeway\1517-07-72\DGN_Files\Plansheets\090301_TWN_XS.dgn PLOT DATE : 2/19/2014 PLOT BY : wally_w PLOT NAME : PLOT SCALE : 1:20



STATE PROJECT NO: 1517-07-72	HWY: USH 10	COUNTY: WINNEBAGO	CROSS SECTIONS: TWN RAMP	SHEET NO: 634	E

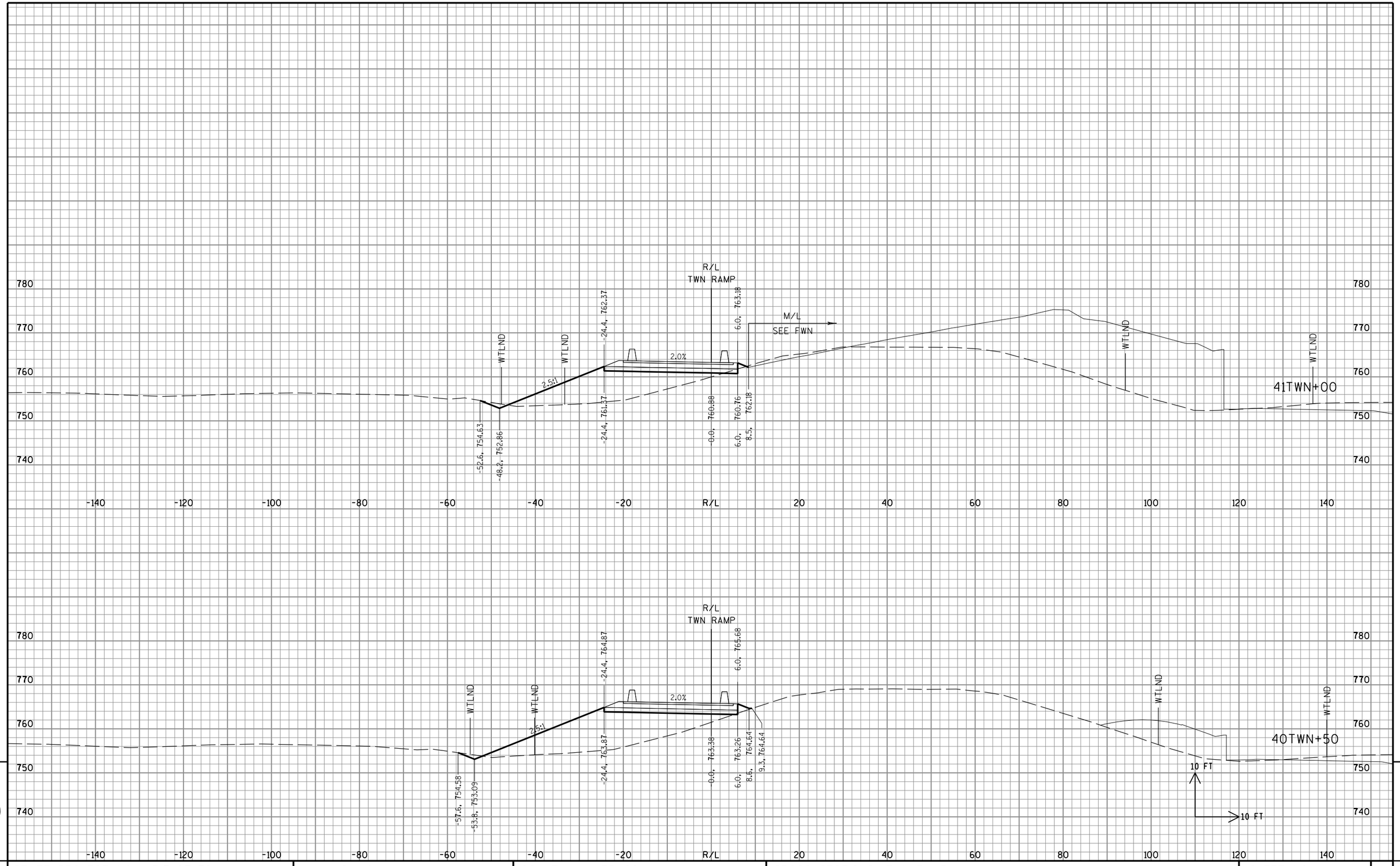
FILE NAME : S:\DOT\DOT_NE\120012-Tri County Freeway\1517-07-72\DGN_Files\Plansheets\090301_TWN_XS.dgn PLOT DATE : 2/19/2014 PLOT BY : wally_w PLOT NAME : PLOT SCALE : 1:20



STATE PROJECT NO: 1517-07-72	HWY: USH 10	COUNTY: WINNEBAGO	CROSS SECTIONS: TWN RAMP	SHEET NO: . 635

FILE NAME : S:\DOT\DOT_NE\120012-Tri County Freeway\1517-07-72\DGN_Files\Plansheets\090301_TWN_XS.dgn PLOT DATE : 2/19/2014 PLOT BY : wally_w PLOT NAME : PLOT SCALE : 1:20

9 E 9

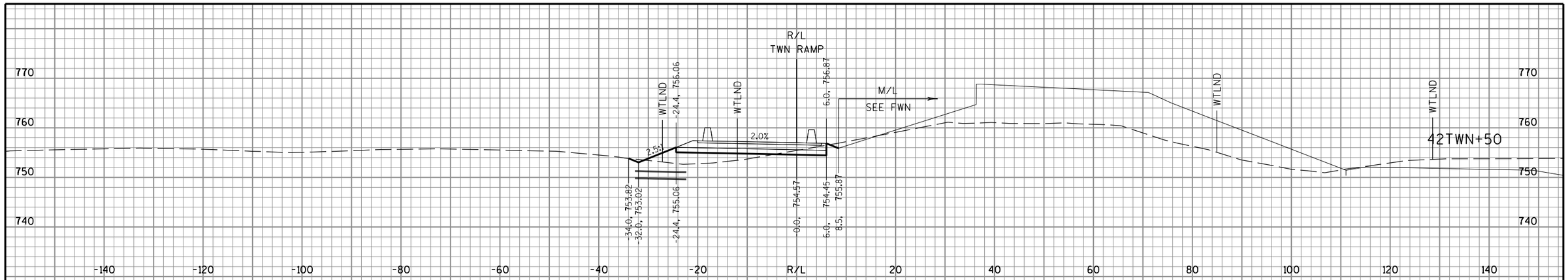


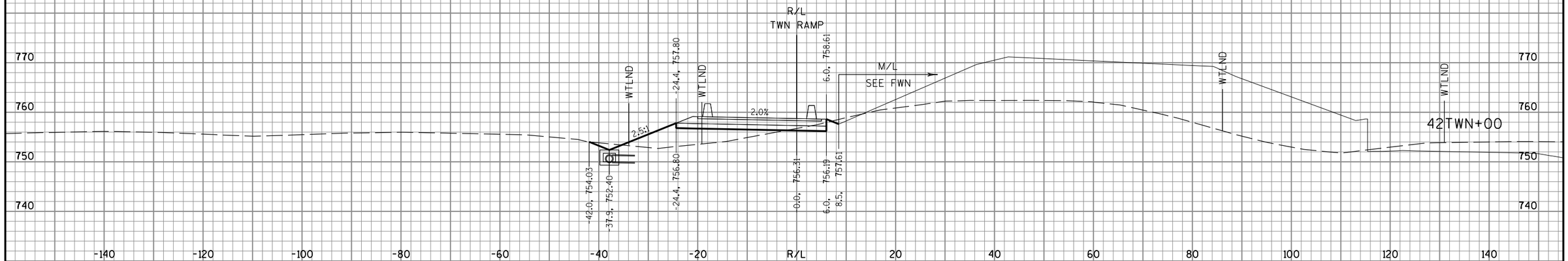
STATE PROJECT NO: 1517-07-72	HWY: USH 10	COUNTY: WINNEBAGO	CROSS SECTIONS: TWN RAMP	SHEET NO: . 636	E

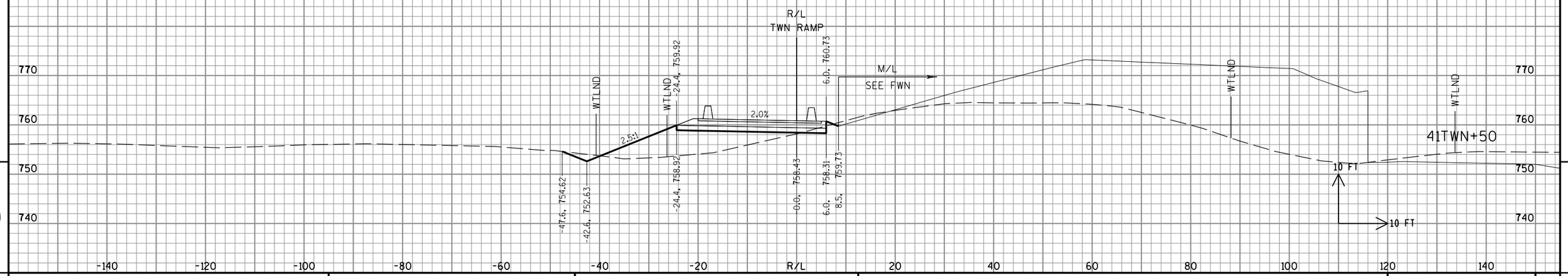
FILE NAME : S:\DOT\DOT_NE\120012-Tri County Freeway\1517-07-72\DGN_Files\Plansheets\090301_TWN_XS.dgn PLOT DATE : 2/19/2014 PLOT BY : wally_w PLOT NAME : PLOT SCALE : 1:20

9

9





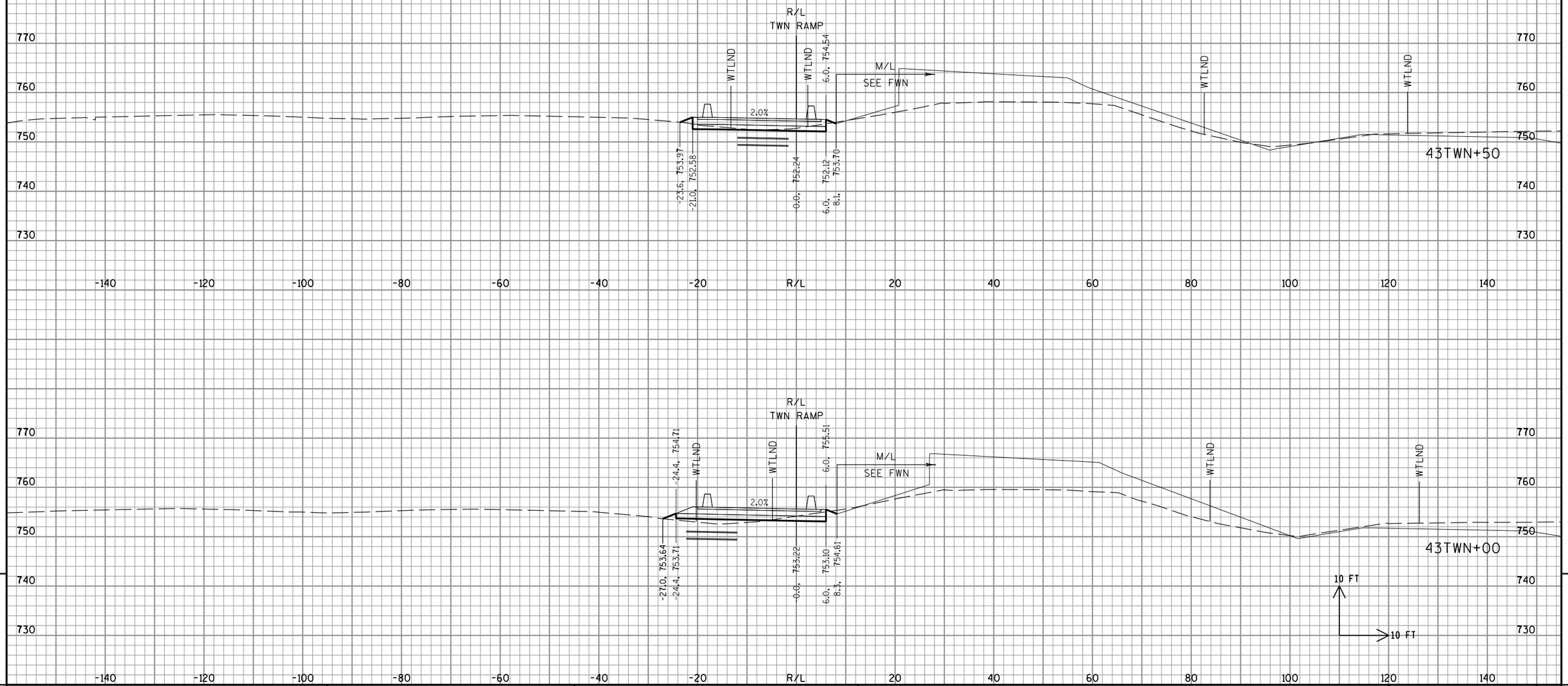


9

9

STATE PROJECT NO: 1517-07-72	HWY: USH 10	COUNTY: WINNEBAGO	CROSS SECTIONS: TWN RAMP	SHEET NO: . 637	E

FILE NAME : S:\DOT\DOT_NE\120012-Tri County Freeway\1517-07-72\DGN_Files\Plansheets\090301_TWN_XS.dgn PLOT DATE : 2/19/2014 PLOT BY : wally_w PLOT NAME : PLOT SCALE : 1:20

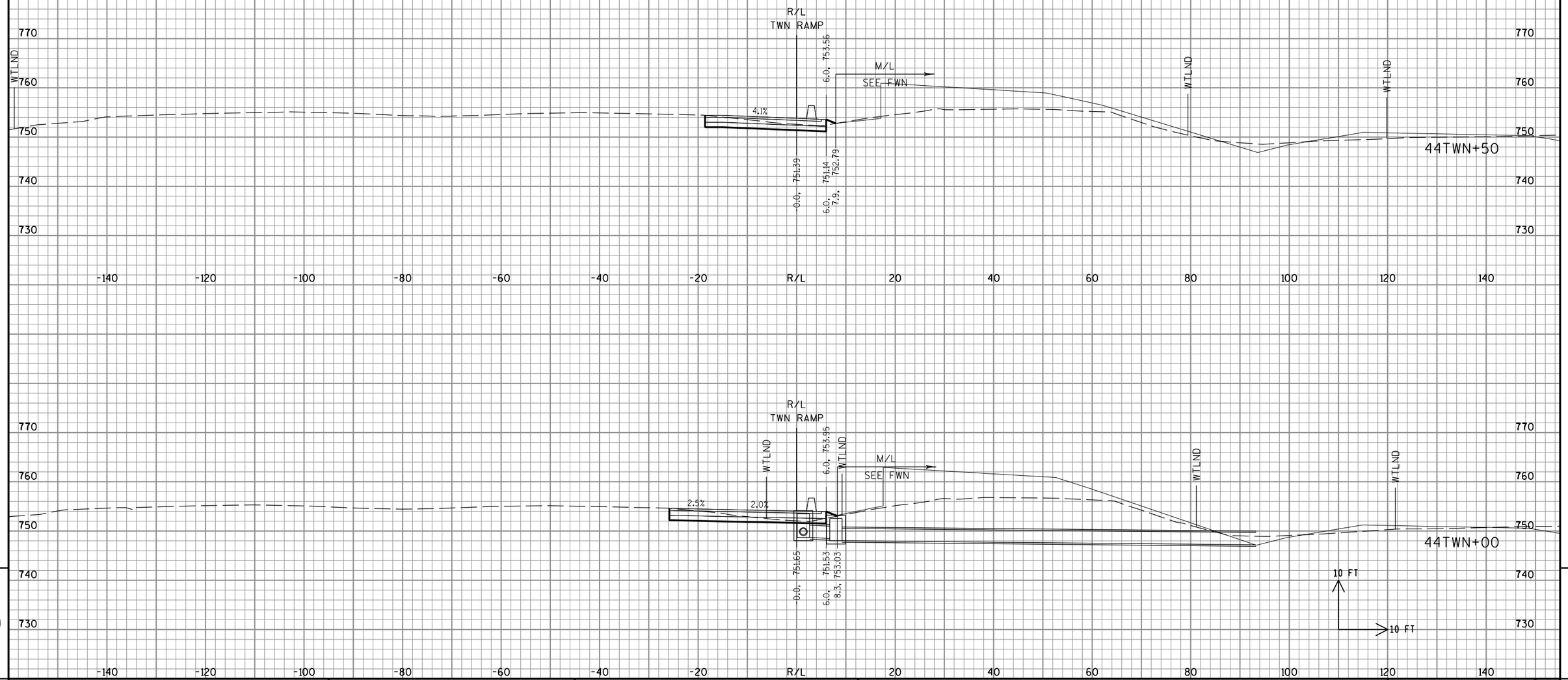


9

9

STATE PROJECT NO: 1517-07-72	HWY: USH 10	COUNTY: WINNEBAGO	CROSS SECTIONS: TWN RAMP	SHEET NO: . 638	E

FILE NAME : S:\DOT\DOT_NE\120012-Tri County Freeway\1517-07-72\DGN_Files\Plansheets\090301_TWN_XS.dgn PLOT DATE : 2/19/2014 PLOT BY : wally_w PLOT NAME : PLOT SCALE : 1:20

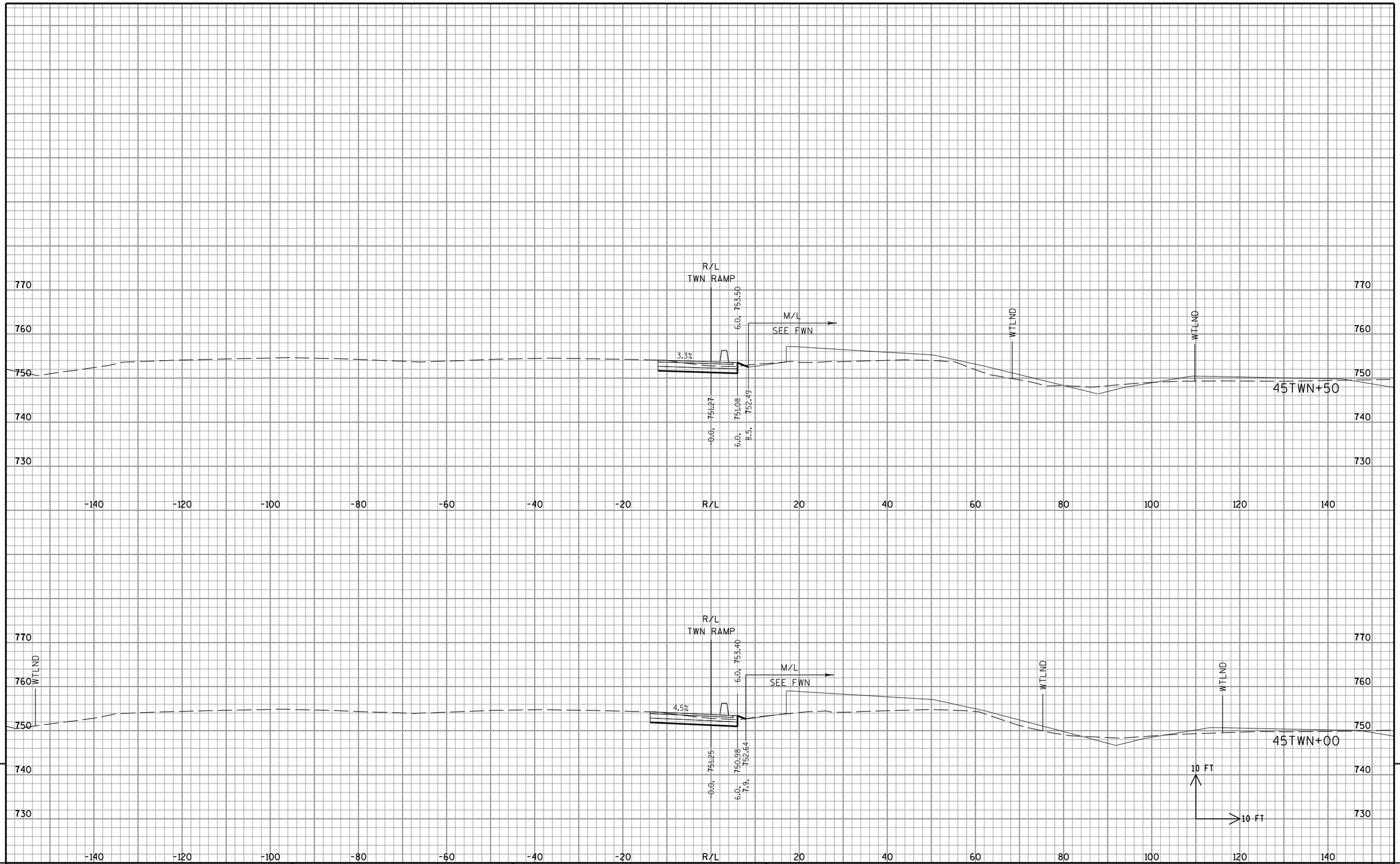


9

9

STATE PROJECT NO: 1517-07-72	HWY: USH 10	COUNTY: WINNEBAGO	CROSS SECTIONS: TWN RAMP	SHEET NO: . 639	E

FILE NAME : S:\DOT\DOT_NE\120012-Tri County Freeway\1517-07-72\DGN_Files\Plansheets\090301_TWN_XS.dgn PLOT DATE : 2/19/2014 PLOT BY : wally_w PLOT NAME : PLOT SCALE : 1:20

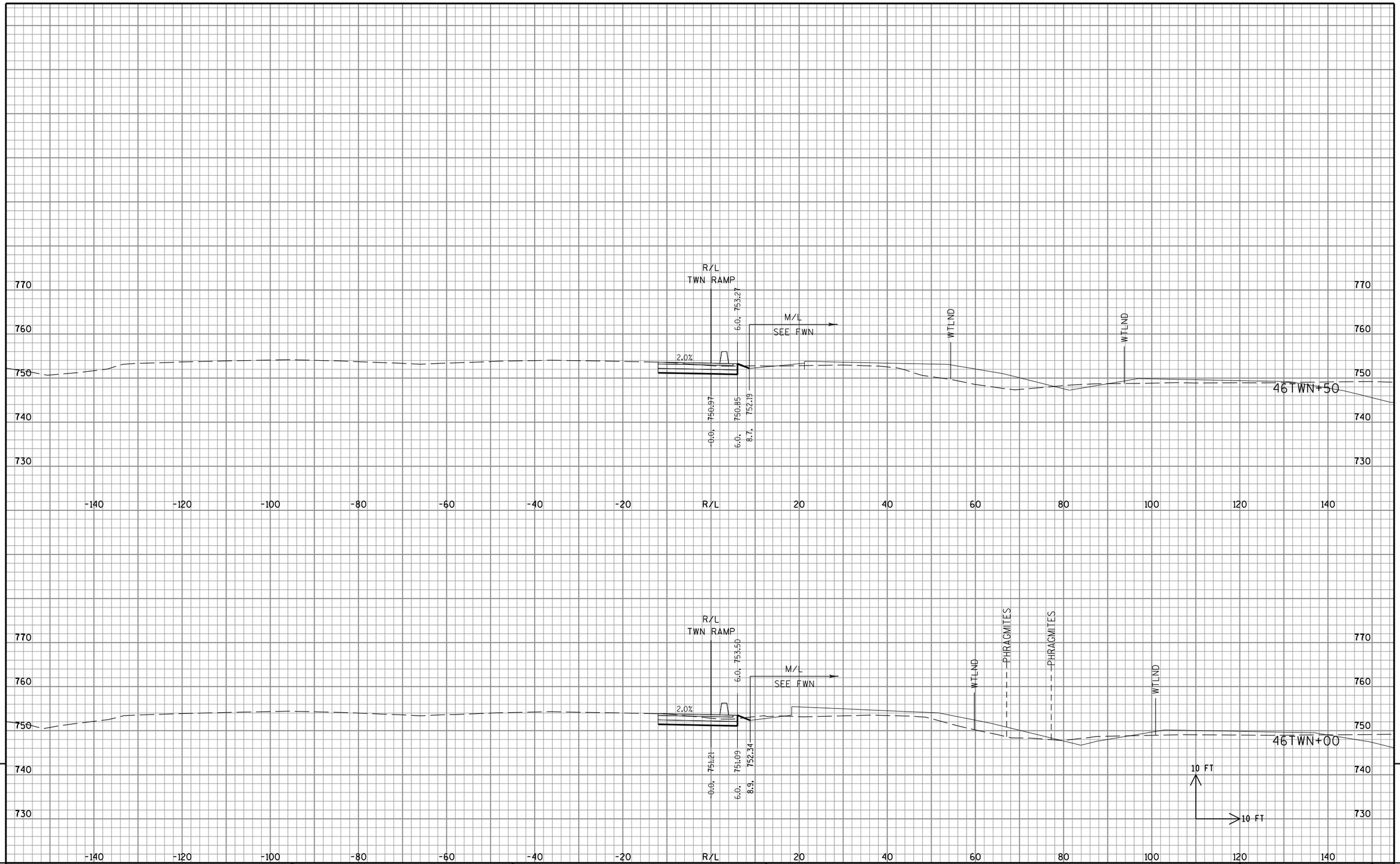


9

STATE PROJECT NO: 1517-07-72	HWY: USH 10	COUNTY: WINNEBAGO	CROSS SECTIONS: TWN RAMP	SHEET NO: . 640	E

FILE NAME : S:\DOT\DOT_NE\120012-Tri County Freeway\1517-07-72\DGN_Files\Plansheets\090301_TWN_XS.dgn PLOT DATE : 2/19/2014 PLOT BY : wally_w PLOT NAME : PLOT SCALE : 1:20

9



9

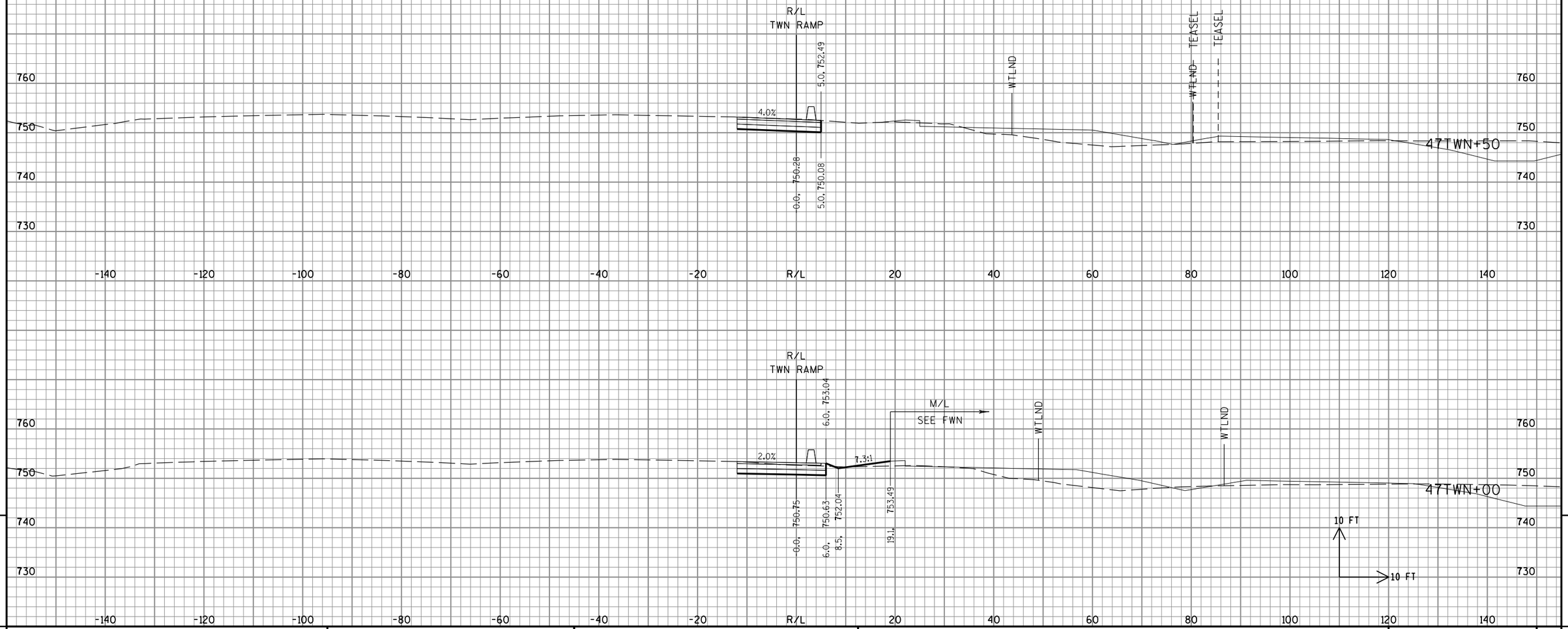
9

STATE PROJECT NO: 1517-07-72	HWY: USH 10	COUNTY: WINNEBAGO	CROSS SECTIONS: TWN RAMP	SHEET NO: . 641	E

FILE NAME : S:\DOT\DOT_NE\120012-Tri County Freeway\1517-07-72\DGN_Files\Plansheets\090301_TWN_XS.dgn PLOT DATE : 2/19/2014 PLOT BY : wally_w PLOT NAME : PLOT SCALE : 1:20

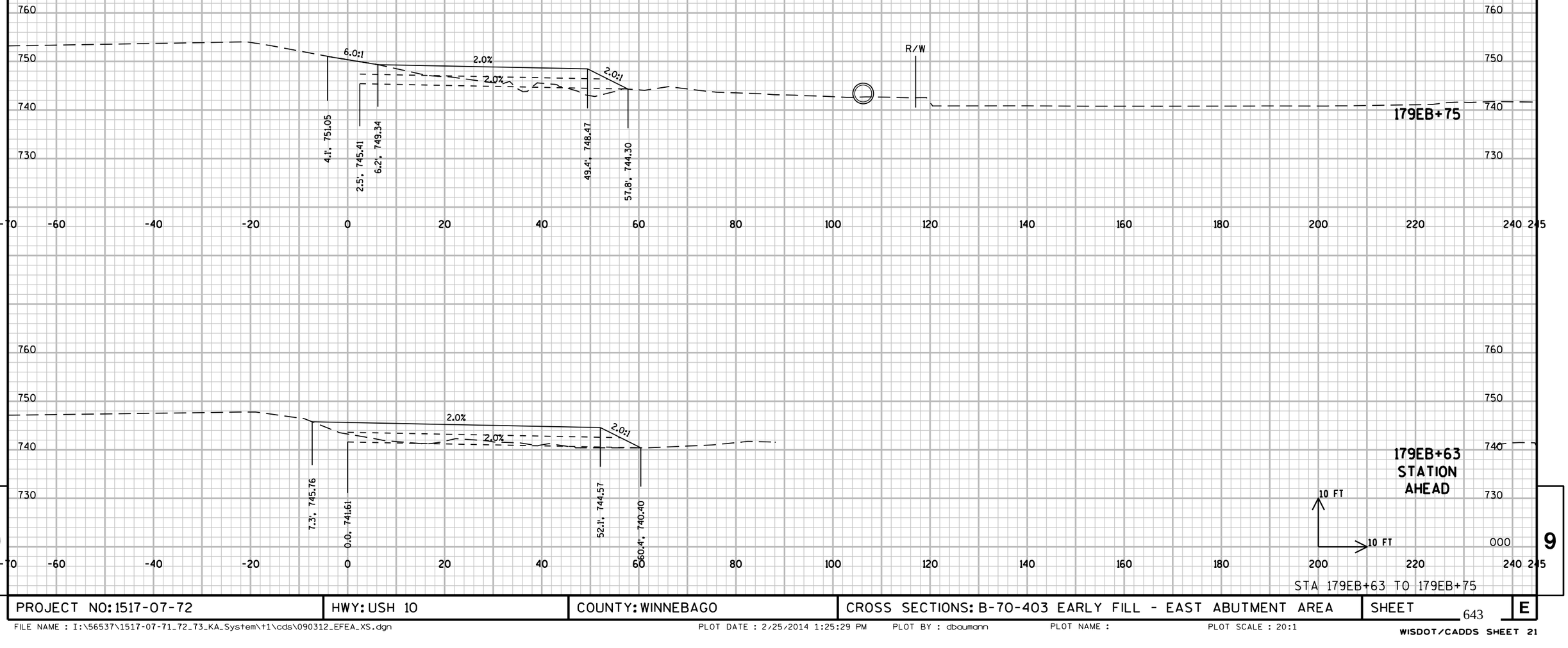
END CONSTRUCTION STA 54TWN+26.53

PAVING ONLY STA 47TWN+49.71 TO STA 54TWN+26.53



STATE PROJECT NO: 1517-07-72	HWY: USH 10	COUNTY: WINNEBAGO	CROSS SECTIONS: TWN RAMP	SHEET NO: . 642	E

FILE NAME : S:\DOT\DOT_NE\120012-Tri County Freeway\1517-07-72\DGN_Files\Plansheets\090301_TWN_XS.dgn PLOT DATE : 2/19/2014 PLOT BY : wally_w PLOT NAME : PLOT SCALE : 1:20



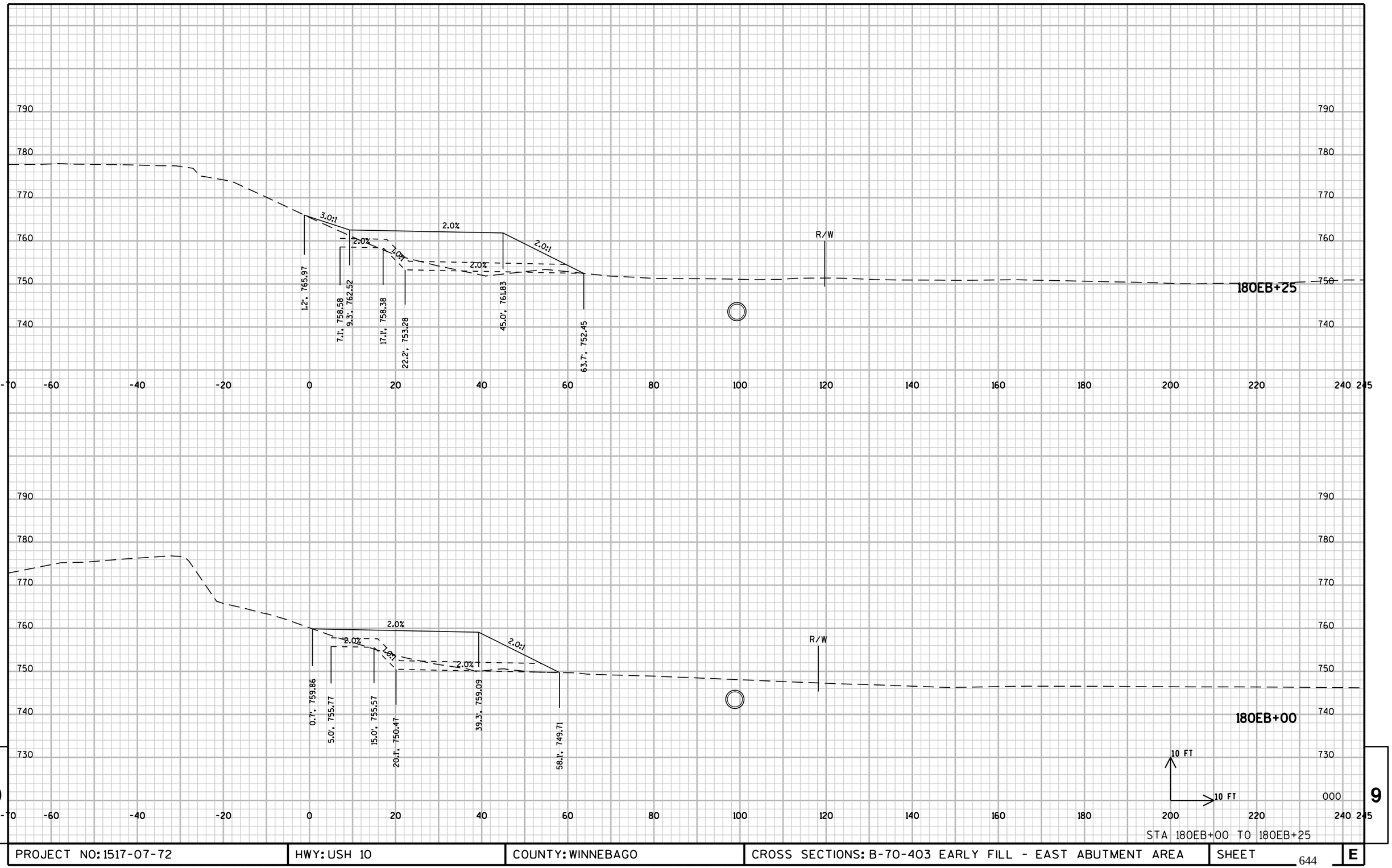
9

9

PROJECT NO: 1517-07-72	HWY: USH 10	COUNTY: WINNEBAGO	CROSS SECTIONS: B-70-403 EARLY FILL - EAST ABUTMENT AREA	SHEET 643	E

FILE NAME : I:\56537\1517-07-71_72_73_KA_System\t1\cds\090312_EFEA_XS.dgn PLOT DATE : 2/25/2014 1:25:29 PM PLOT BY : dbaumann PLOT NAME : PLOT SCALE : 20:1

WISDOT/CADDS SHEET 21

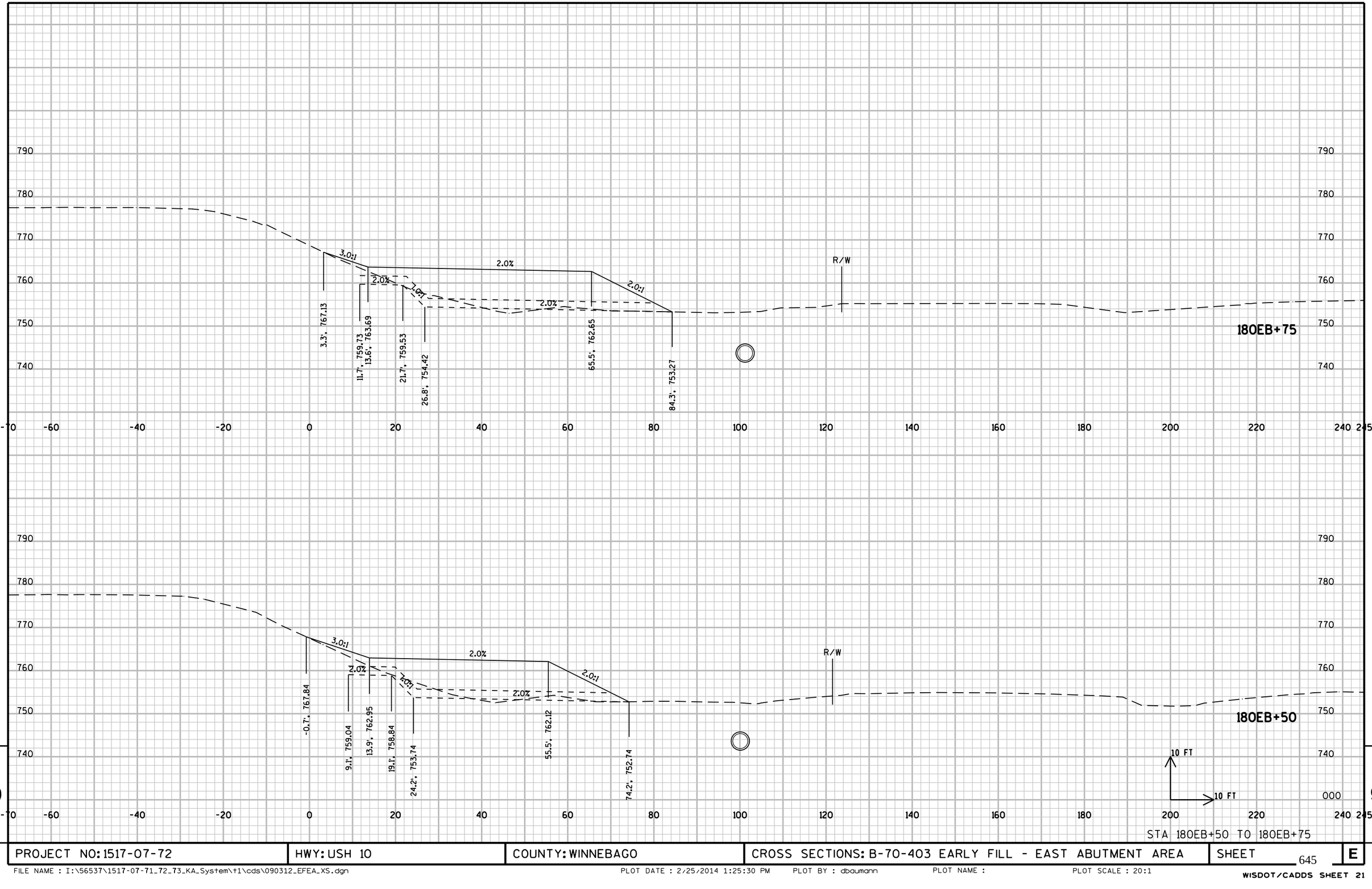


STA 180EB+00 TO 180EB+25

PROJECT NO: 1517-07-72	HWY: USH 10	COUNTY: WINNEBAGO	CROSS SECTIONS: B-70-403 EARLY FILL - EAST ABUTMENT AREA	SHEET 644	E

FILE NAME : I:\56537\1517-07-71_72_73_KA_System\t1\cds\090312_EFEA_XS.dgn PLOT DATE : 2/25/2014 1:25:30 PM PLOT BY : dbaumann PLOT NAME : PLOT SCALE : 20:1

WISDOT/CADDS SHEET 21



9

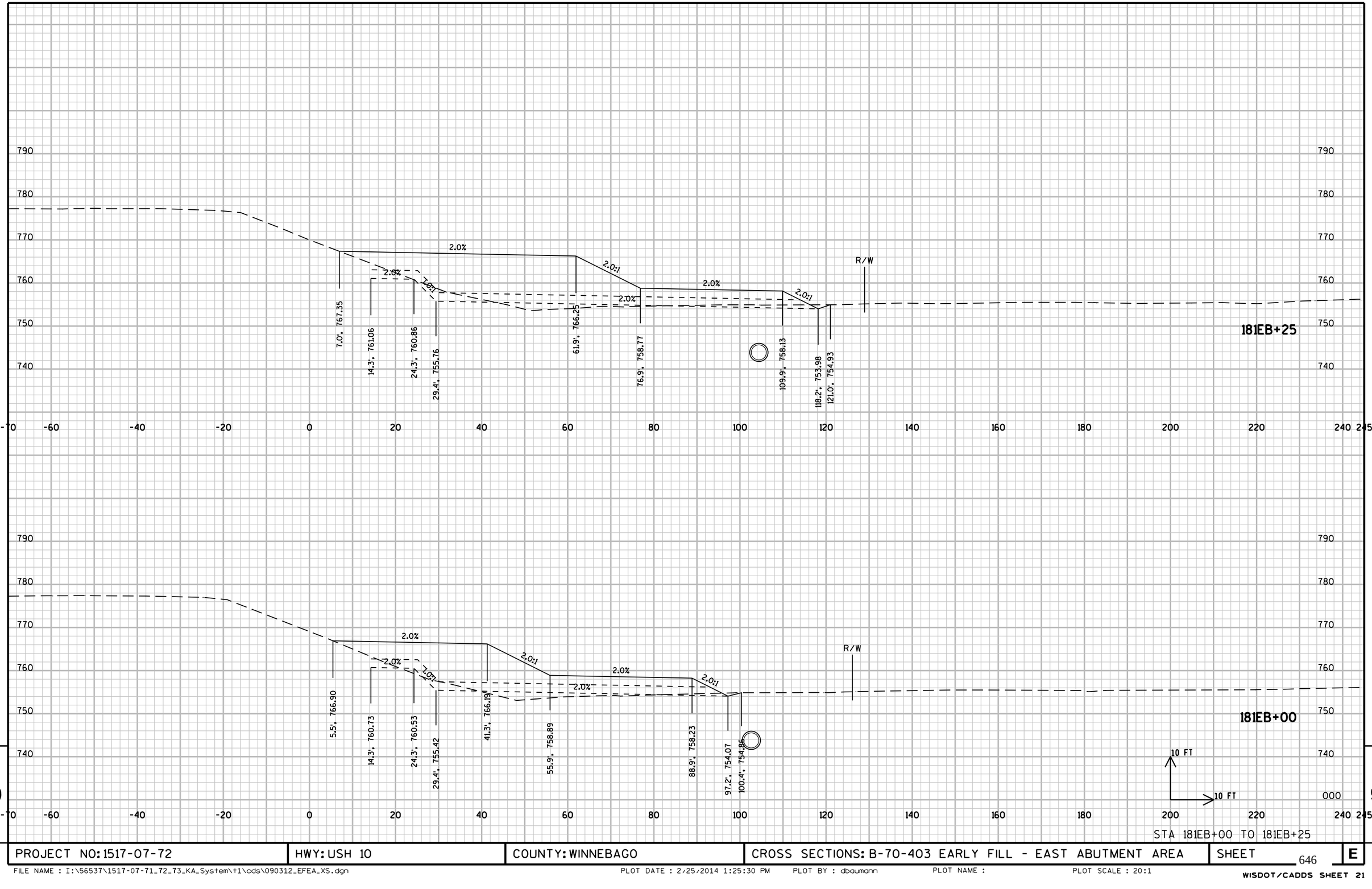
9

STA 180EB+50 TO 180EB+75

PROJECT NO: 1517-07-72	HWY: USH 10	COUNTY: WINNEBAGO	CROSS SECTIONS: B-70-403 EARLY FILL - EAST ABUTMENT AREA	SHEET 645	E

FILE NAME : I:\56537\1517-07-71_72_73_KA_System\t1\cds\090312_EFEA_XS.dgn PLOT DATE : 2/25/2014 1:25:30 PM PLOT BY : dbaumann PLOT NAME : PLOT SCALE : 20:1

WISDOT/CADDS SHEET 21



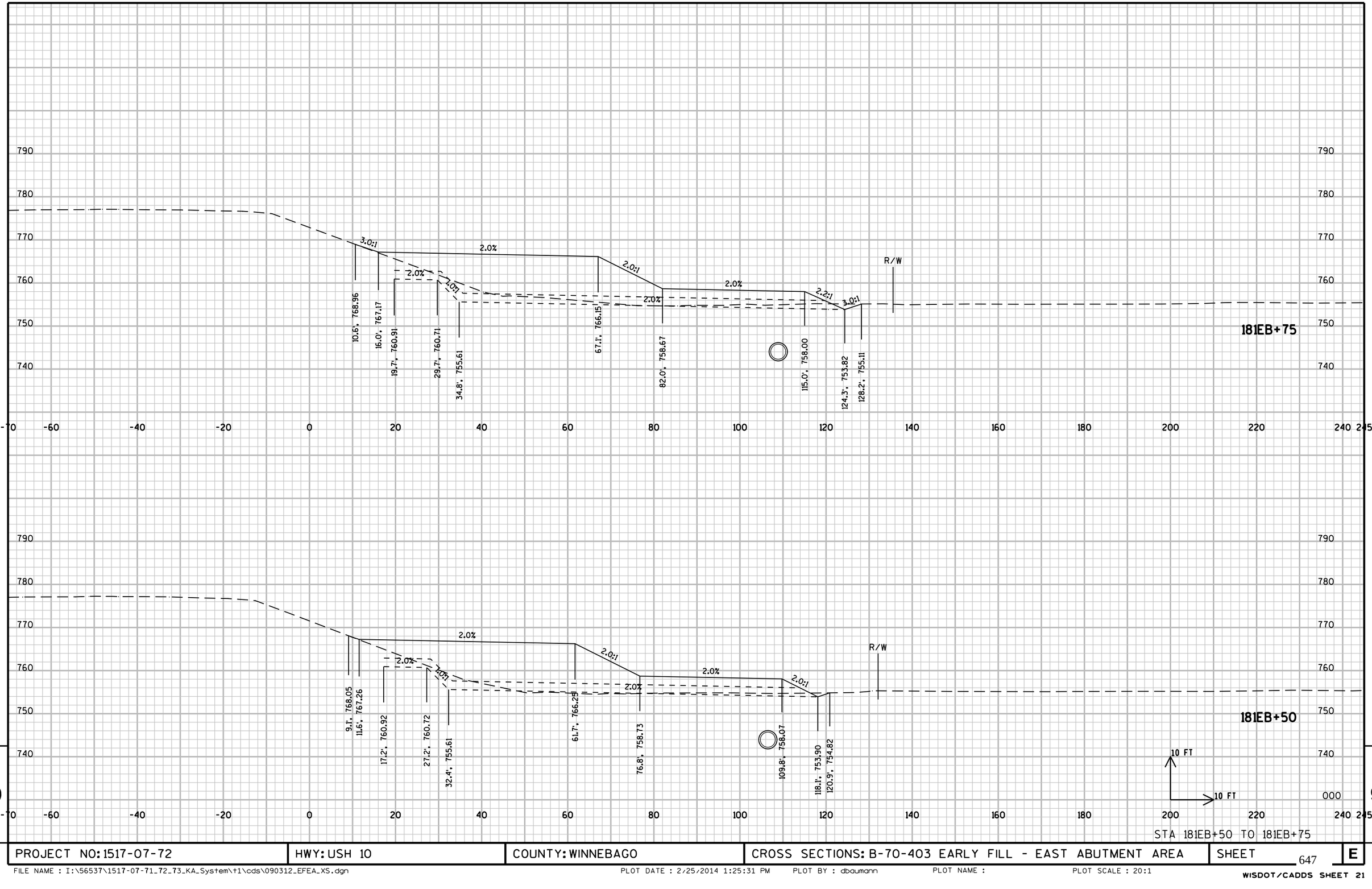
9

9

PROJECT NO: 1517-07-72	HWY: USH 10	COUNTY: WINNEBAGO	CROSS SECTIONS: B-70-403 EARLY FILL - EAST ABUTMENT AREA	SHEET 646	E

FILE NAME : I:\56537\1517-07-71_72_73_KA_System\t1\cds\090312_EFEA_XS.dgn PLOT DATE : 2/25/2014 1:25:30 PM PLOT BY : dbaumann PLOT NAME : PLOT SCALE : 20:1

WISDOT/CADDS SHEET 21

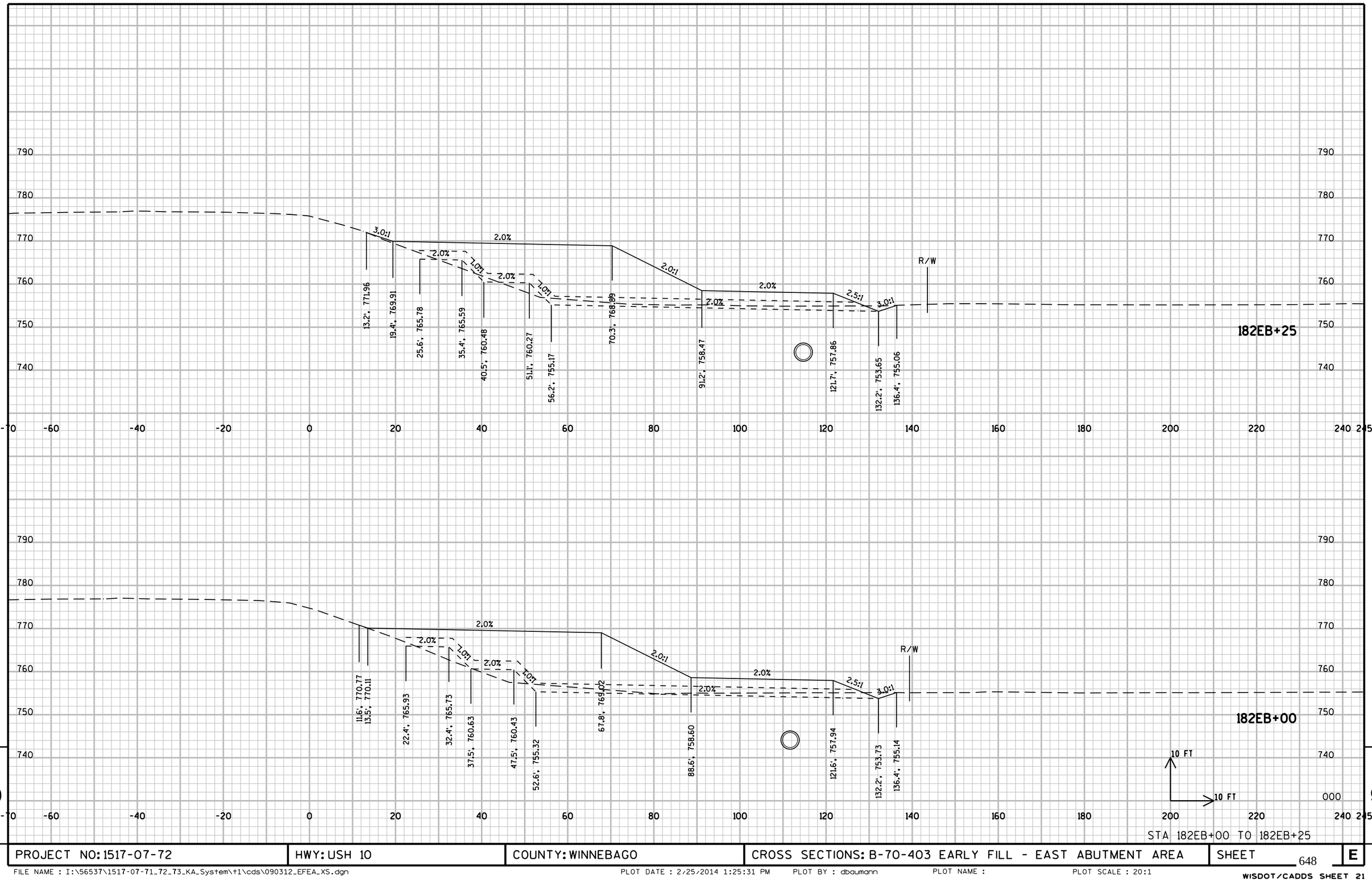


STA 181EB+50 TO 181EB+75

PROJECT NO: 1517-07-72	HWY: USH 10	COUNTY: WINNEBAGO	CROSS SECTIONS: B-70-403 EARLY FILL - EAST ABUTMENT AREA	SHEET	E

FILE NAME : I:\56537\1517-07-71_72_73_KA_System\t1\cds\090312_EFEA_XS.dgn PLOT DATE : 2/25/2014 1:25:31 PM PLOT BY : dbaumann PLOT NAME : PLOT SCALE : 20:1

WISDOT/CADDS SHEET 21

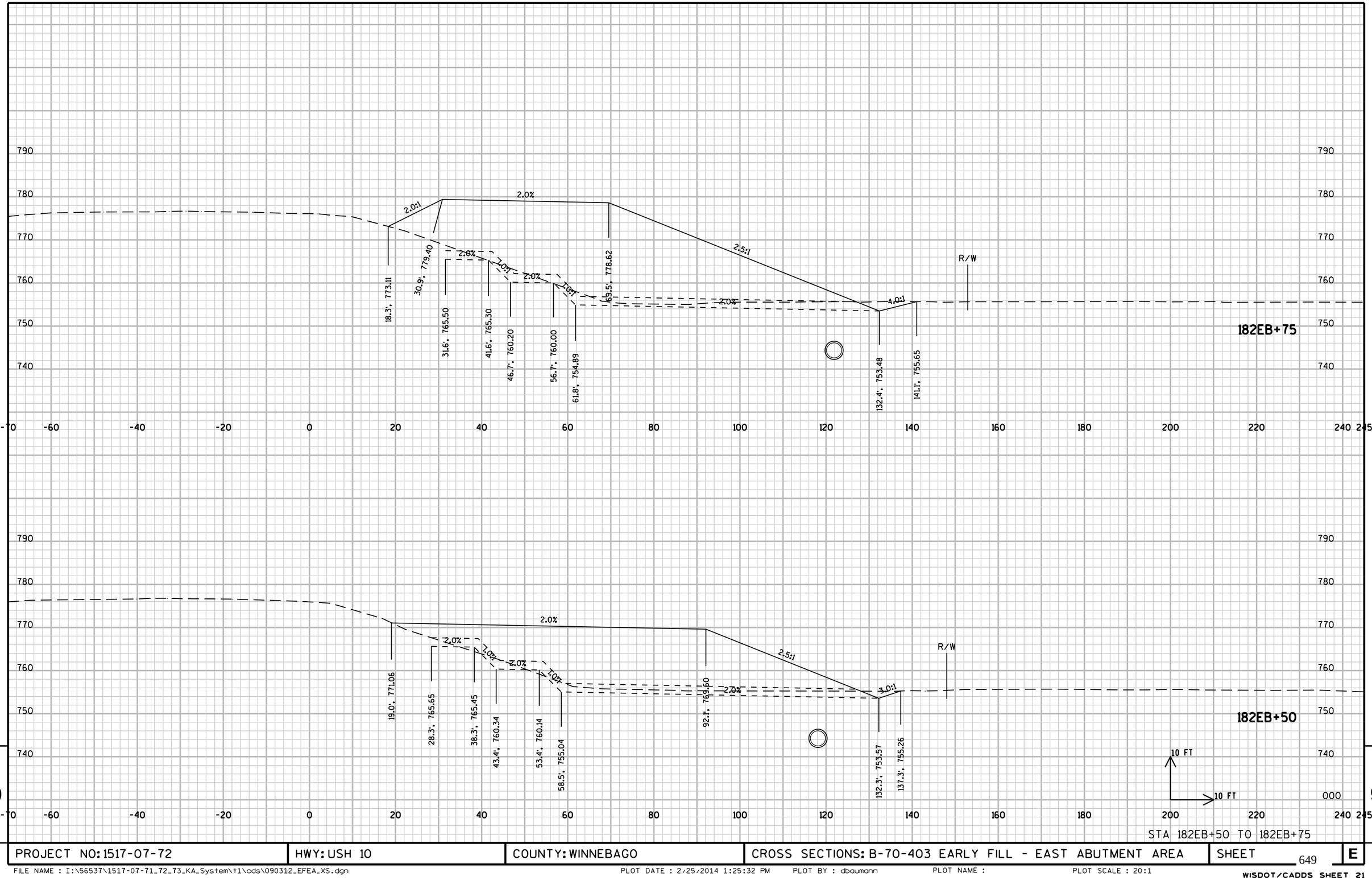


STA 182EB+00 TO 182EB+25

PROJECT NO: 1517-07-72	HWY: USH 10	COUNTY: WINNEBAGO	CROSS SECTIONS: B-70-403 EARLY FILL - EAST ABUTMENT AREA	SHEET 648	E

FILE NAME : I:\56537\1517-07-71_72_73_KA_System\t1\cds\090312_EFEA_XS.dgn PLOT DATE : 2/25/2014 1:25:31 PM PLOT BY : dbaumann PLOT NAME : PLOT SCALE : 20:1

WISDOT/CADDS SHEET 21

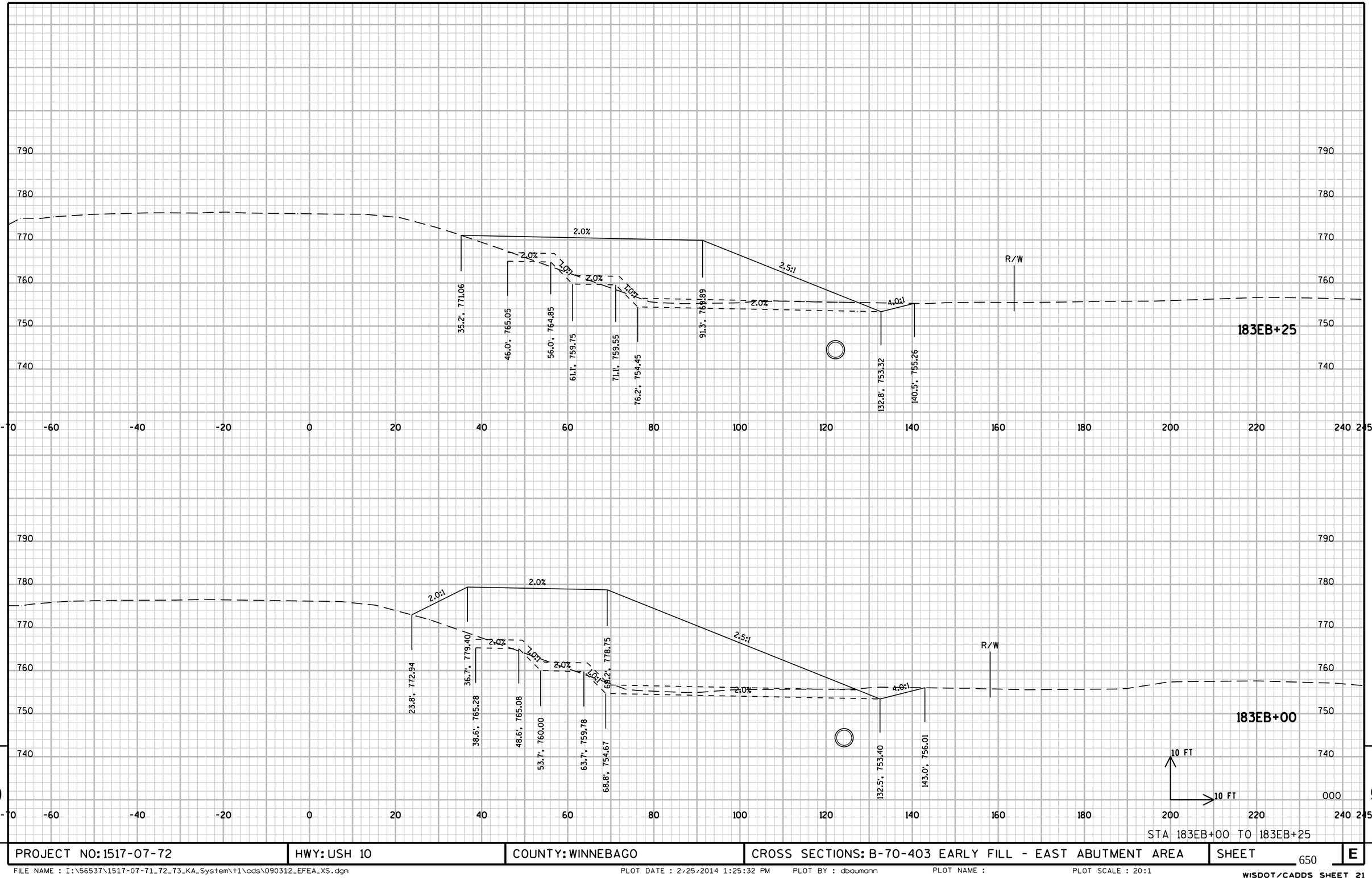


STA 182EB+50 TO 182EB+75

PROJECT NO: 1517-07-72	HWY: USH 10	COUNTY: WINNEBAGO	CROSS SECTIONS: B-70-403 EARLY FILL - EAST ABUTMENT AREA	SHEET	E

FILE NAME : I:\56537\1517-07-71_72_73_KA_System\t1\cds\090312_EFEA_XS.dgn PLOT DATE : 2/25/2014 1:25:32 PM PLOT BY : dbaumann PLOT NAME : PLOT SCALE : 20:1

WISDOT/CADDS SHEET 21



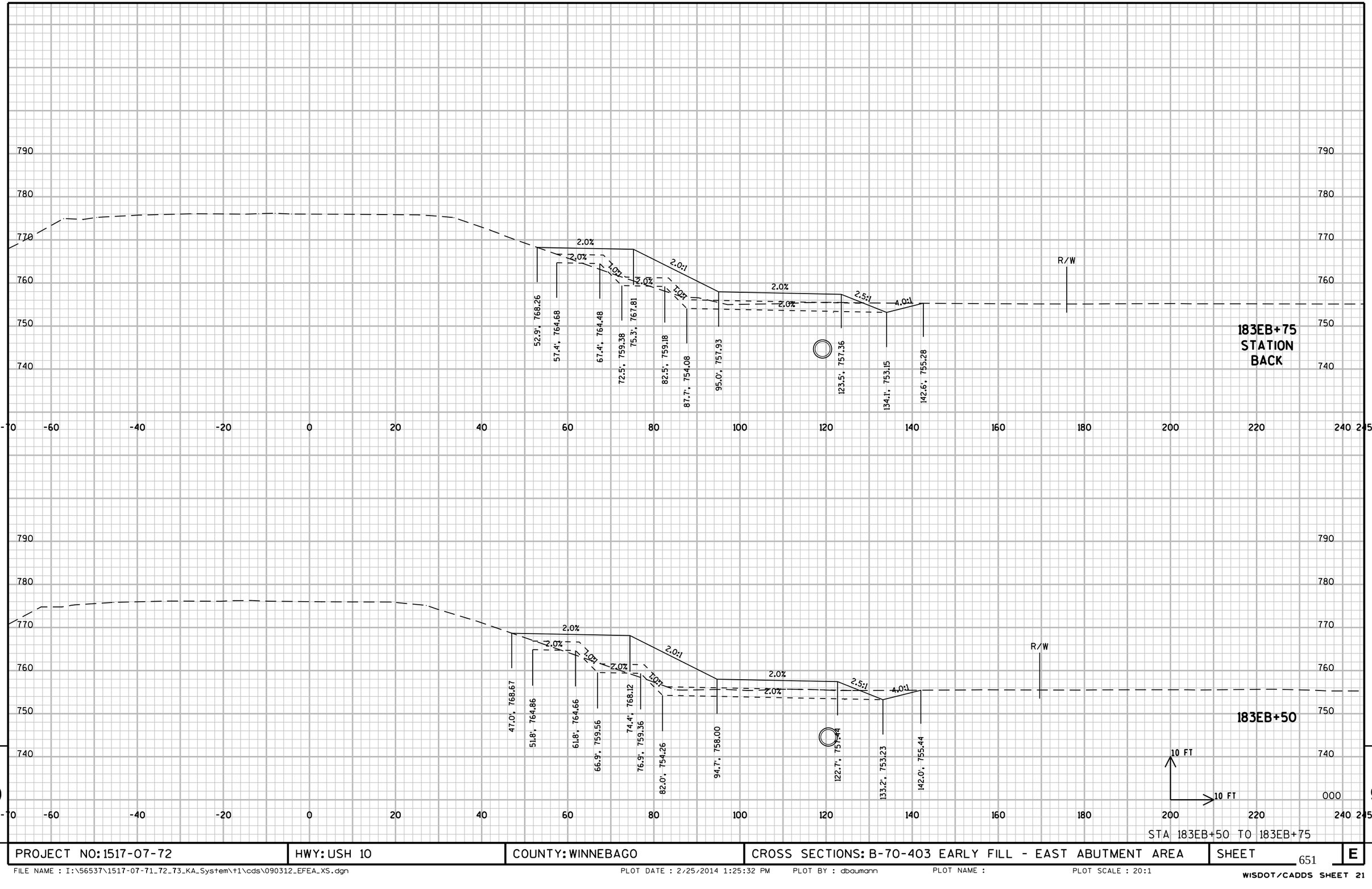
9

9

PROJECT NO: 1517-07-72	HWY: USH 10	COUNTY: WINNEBAGO	CROSS SECTIONS: B-70-403 EARLY FILL - EAST ABUTMENT AREA	SHEET 650	E

FILE NAME : I:\56537\1517-07-71_72_73_KA_System\t1\cds\090312_EFEA_XS.dgn PLOT DATE : 2/25/2014 1:25:32 PM PLOT BY : dbaumann PLOT NAME : PLOT SCALE : 20:1

WISDOT/CADDS SHEET 21



STA 183EB+50 TO 183EB+75

9

9

PROJECT NO: 1517-07-72	HWY: USH 10	COUNTY: WINNEBAGO	CROSS SECTIONS: B-70-403 EARLY FILL - EAST ABUTMENT AREA	SHEET 651	E

FILE NAME : I:\56537\1517-07-71_72_73_KA_System\t1\cds\090312_EFEA_XS.dgn PLOT DATE : 2/25/2014 1:25:32 PM PLOT BY : dbaumann PLOT NAME : PLOT SCALE : 20:1

WISDOT/CADDS SHEET 21

Wisconsin Department of Transportation

Dedicated people creating transportation solutions
through innovation and exceptional service.

http://www.dot.wisconsin.gov