LAX MARCH 2014

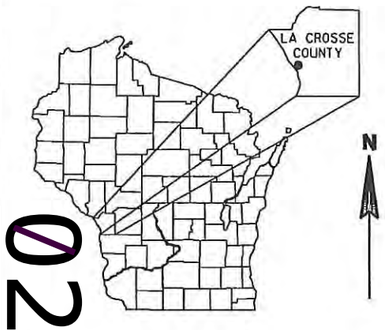
PROJECT ID: 1071-06-80
WITH: 1071-06-86

COUNTY: LA CROSSE

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 = 408



02

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

PLAN OF PROPOSED IMPROVEMENT

USH 53/35 - THEATER RD

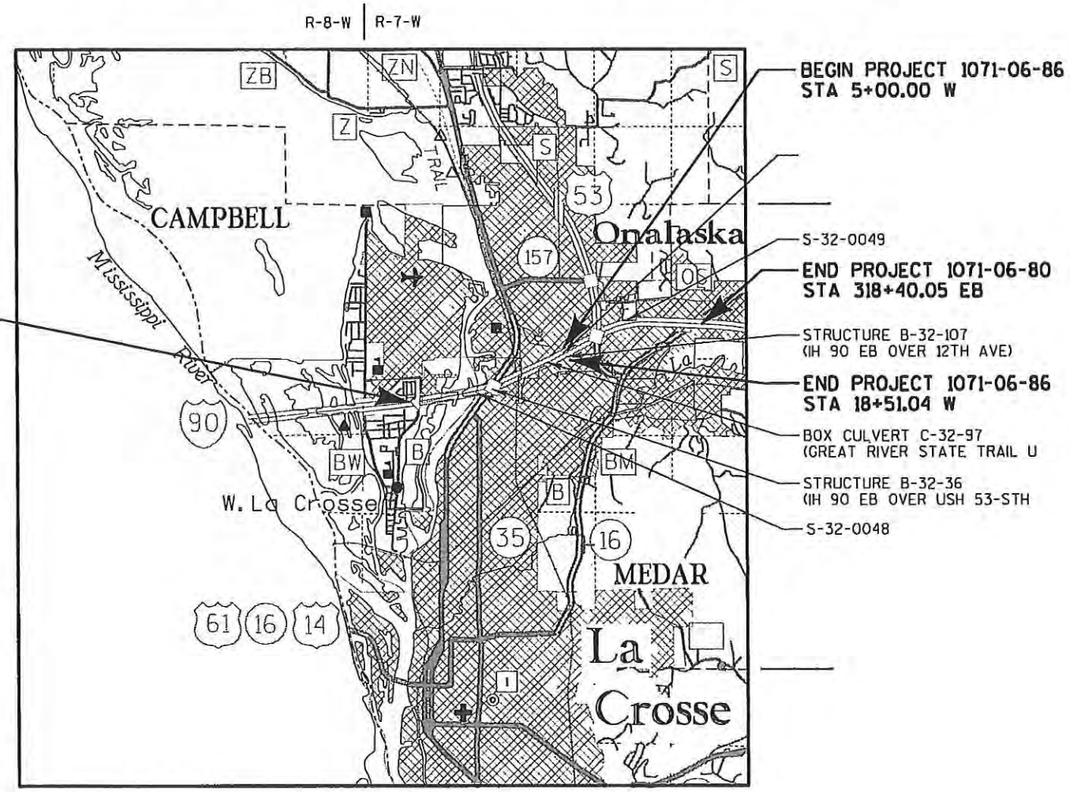
(BLACK RIVER BR TO THEATER ROAD/PREP)
IH 90
LA CROSSE COUNTY

STATE PROJECT NUMBER
1071-06-80

(BLACK RIVER BR TO THEATER ROAD)
IH 90
LA CROSSE COUNTY

STATE PROJECT
1071-06 86

STATE PROJECT	FEDERAL PROJECT	
	PROJECT	CONTRACT
1071-06-80	WISC 2014062	1
1071-06-86	———	—



BEGIN PROJECT 1071-06-80
STA 120+46.90 EB
N 149312.79
E 441811.95

LAYOUT
SCALE 0 1 MI.

TOTAL NET LENGTH OF CENTERLINE = 3.749 MI.

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

DESIGN DESIGNATION

		IH 90
A.A.D.T. (2016)	=	43,700
A.A.D.T. (2036)	=	56,700
D.H.V.	=	---
D.D.	=	60/40
T.	=	16.6%
DESIGN SPEED	=	70 MPH (75 MPH)
ESALS	=	27,637,800

CONVENTIONAL SYMBOLS

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

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

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

ACCEPTED FOR
City of Onalaska

10-29-2013 (Date) (Signature)

ORIGINAL PLANS PREPARED BY
AYRES ASSOCIATES
WISCONSIN
MARK R. PETERSEN
E-36785
EAU CLAIRE
WI
PROFESSIONAL ENGINEER

DATE: 10/28/13

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

PREPARED BY

Surveyor	WISDOT / K SINGH
Designer	AYRES ASSOCIATES
Project Manager	ANTHONY VANDER WIELEN
Regional Examiner	ANTHONY VANDER WIELEN
Regional Supervisor	JOE GREGAS

APPROVED FOR THE DEPARTMENT

DATE: 10/29/13 (Signature)

E

2

UTILITIES

* CHARTER COMMUNICATIONS - COMMUNICATION LINE
2701 DANIELS STREET
MADISON, WI 53718
ATTN: PERRY MCCLELLAN
(715) 370-7140
perry.mcclellan@chartercom.com

* XCEL ENERGY - ELECTRIC
3215 COMMERCE STREET
LA CROSSE, WI 53718
ATTN: ALEX LUECK
(715) 789-3625
alex.j.lueck@xcelenergy.com

* XCEL ENERGY - GAS/PETROLEUM
3215 COMMERCE STREET
LA CROSSE, WI 53718
ATTN: DAN MARTI
(608) 789-3629
daniel.r.marti@xcelenergy.com

* XCEL ENERGY - ELECTRICAL TRANSMISSION
414 NICOLLET MALL, MP8-C
MINNEAPOLIS, MN 55401
ATTN: RONALD ZEMKE
(612) 337-2341
ronald.p.zemke@xcelenergy.com

* CENTURYLINK - COMMUNICATION LINE
333 NORTH FRONT STREET
P.O. BOX 4800
LA CROSSE, WI 54602
ATTN: STEVE BLADO
(608) 796-5543
steve.blado@centurytel.com

* DAIRYLAND POWER COOPERATIVE - ELECTRIC
3200 EAST AVENUE SOUTH
P.O. BOX 817
LA CROSSE, WI 54602
ATTN: KURT CHILDS
(608) 787-1241
kdc@dairynet.com

CITY OF LA CROSSE - WASTEWATER
400 LA CROSSE STREET
LA CROSSE, WI 54601
ATTN: RANDY TURTENWALD
(608) 789-7505
turtenwaldr@cityoflacrosse.org

CITY OF ONALASKA - WATER/SEWER
415 MAIN STREET
ONALASKA, WI 54650
ATTN: JARROD HOLTER
(608) 781-9537
jholter@cityofonalaska.com

WISCONSIN DOT RWIS PROGRAM - COMMUNICATION TOWER
P.O. BOX 7986
ROOM 501
MADISON, WI 53707
ATTN: MIKE ADAMS
(608) 266-5004
Michael.Adams@dot.wi.gov

* WISCONSIN INDEPENDENT NETWORK - COMMUNICATION LINE
3086 VOYAGER DRIVE, SUITE 3
GREEN BAY, WI 54311
ATTN: DICK HAMMETTER
(715) 838-4406
hammetter@wins.net

* WINDSTREAM KDL, INC - COMMUNICATION LINE
13935 BISHOPS DRIVE
BROOKFIELD, WI 53005
ATTN: JIM KOSTUCH
(262) 792-7938
James.Kostuch@windstream.com

* MEMBER OF DIGGERS HOTLINE

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

ENVIRONMENTAL COORDINATOR

WISCONSIN DEPARTMENT OF NATURAL RESOURCES
LA CROSSE SERVICE CENTER
3550 MORMON COULEE ROAD
LA CROSSE, WI 54601
ATTN: KAREN KALVELAGE
(608) 785-9115

GENERAL NOTES

REMOVALS
NO TREES OR SHRUBS ARE TO BE REMOVED UNLESS INDICATED FOR REMOVAL BY THE ENGINEER.

GRADING/EROSION CONTROL
EXCAVATION BELOW SUBGRADE (EBS) IS NOT USED TO BALANCE YARDAGE AND IS NOT SHOWN ON THE CROSS SECTIONS BUT IS MEASURED AND PAID FOR AS COMMON EXCAVATION. THE LOCATION FOR EBS WILL BE DETERMINED BY THE ENGINEER.

SEED, INSTALL EROSION MAT, AND FERTILIZE ALL SALVAGED TOPSOILED AREAS WITHIN 7 WORKING DAYS AFTER GRADING WORK IS COMPLETED.

DO NOT APPLY FERTILIZER WITHIN 20 FEET OF A WATER BODY OR WETLAND.

MISCELLANEOUS
A SAWED JOINT WILL BE REQUIRED WHERE NEW PAVEMENT IS TO MEET AN EXISTING PAVED SURFACE.

DETAILS OF CONSTRUCTION NOT SHOWN SHALL BE IN ACCORDANCE WITH THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS.

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

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.

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

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

HMA PAVEMENT WEIGHT CALCULATIONS ARE BASED ON 112 LB/SY/IN.

DOT CONTACT

SOUTHWEST REGION - LA CROSSE OFFICE
3550 MORMON COULEE ROAD
LA CROSSE, WI 54601
ATTN: ANTHONY VANDER WIELEN, PE - PROJECT MANAGER
(608) 789-7878
anthony.vanderwielen@dot.wi.gov

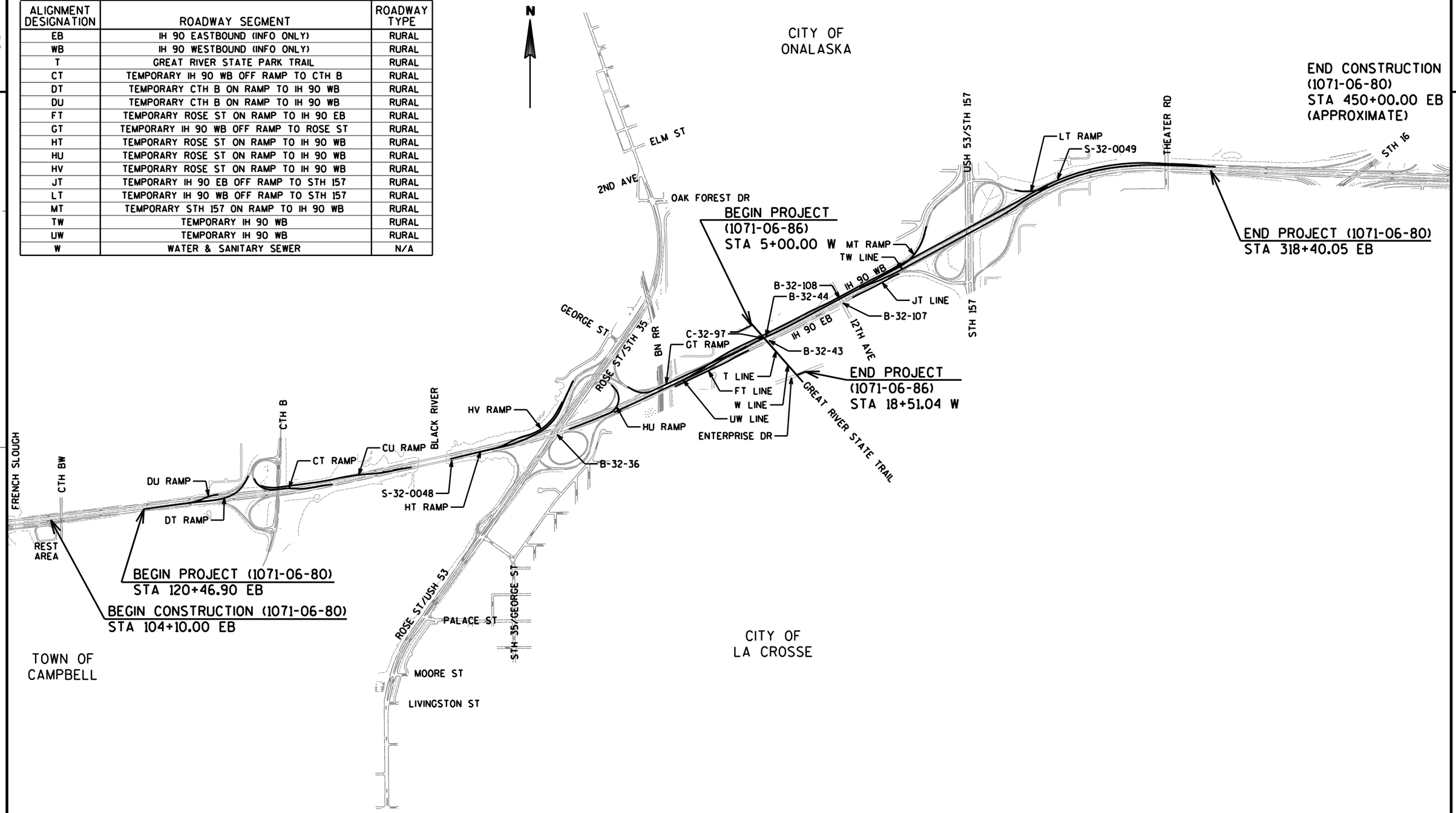
DESIGN CONTACT

AYRES ASSOCIATES
3433 OAKWOOD HILLS PARKWAY
EAU CLAIRE, WI 54701
ATTN: MARK PETERSEN, PE
(715) 831-3161
petersenm@ayresassociates.com

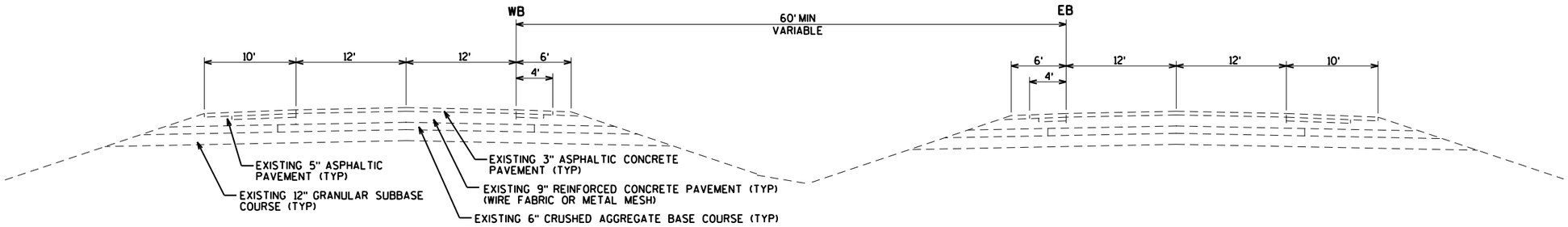
TOTAL LAYER THICKNESS	LAYERS	ASPHALTIC MATERIAL
3 1/2"	3.5" UPPER LAYER	PG 58-28
4"	4" UPPER LAYER	PG 58-28
5"	5" UPPER LAYER	PG 58-28

2

ALIGNMENT DESIGNATION	ROADWAY SEGMENT	ROADWAY TYPE
EB	IH 90 EASTBOUND (INFO ONLY)	RURAL
WB	IH 90 WESTBOUND (INFO ONLY)	RURAL
T	GREAT RIVER STATE PARK TRAIL	RURAL
CT	TEMPORARY IH 90 WB OFF RAMP TO CTH B	RURAL
DT	TEMPORARY CTH B ON RAMP TO IH 90 WB	RURAL
DU	TEMPORARY CTH B ON RAMP TO IH 90 WB	RURAL
FT	TEMPORARY ROSE ST ON RAMP TO IH 90 EB	RURAL
GT	TEMPORARY IH 90 WB OFF RAMP TO ROSE ST	RURAL
HT	TEMPORARY ROSE ST ON RAMP TO IH 90 WB	RURAL
HU	TEMPORARY ROSE ST ON RAMP TO IH 90 WB	RURAL
HV	TEMPORARY ROSE ST ON RAMP TO IH 90 WB	RURAL
JT	TEMPORARY IH 90 EB OFF RAMP TO STH 157	RURAL
LT	TEMPORARY IH 90 WB OFF RAMP TO STH 157	RURAL
MT	TEMPORARY STH 157 ON RAMP TO IH 90 WB	RURAL
TW	TEMPORARY IH 90 WB	RURAL
UW	TEMPORARY IH 90 WB	RURAL
W	WATER & SANITARY SEWER	N/A

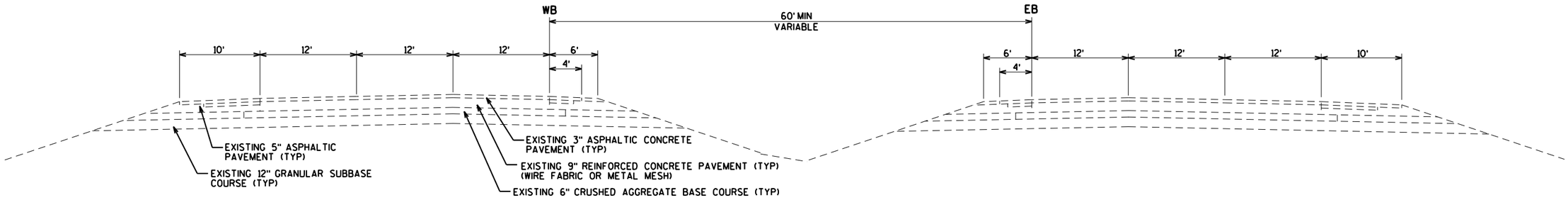


PROJECT NO: 1071-06-80/86	HWY: IH 90	COUNTY: LA CROSSE	PROJECT OVERVIEW	SHEET 3	E



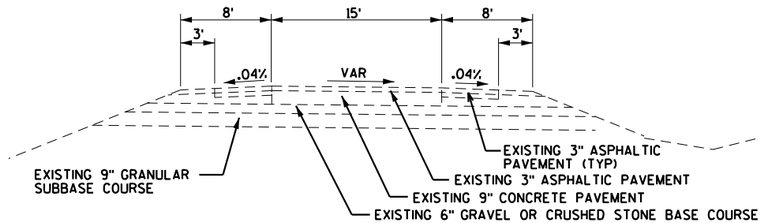
TYPICAL EXISTING SECTION - IH 90

BEGINNING OF CONSTRUCTION - EXIT 4
EXIT 5 - END OF CONSTRUCTION

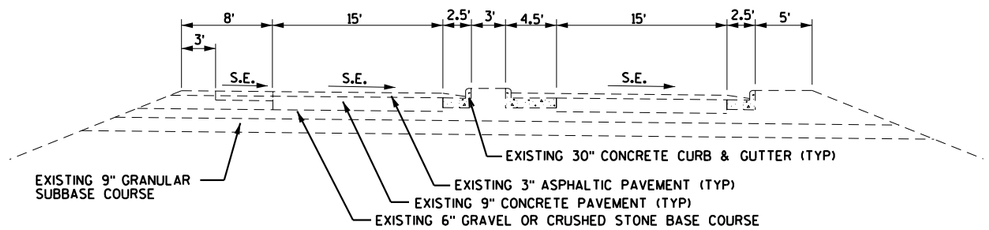


TYPICAL EXISTING SECTION - IH 90

EXIT 4 - EXIT 5

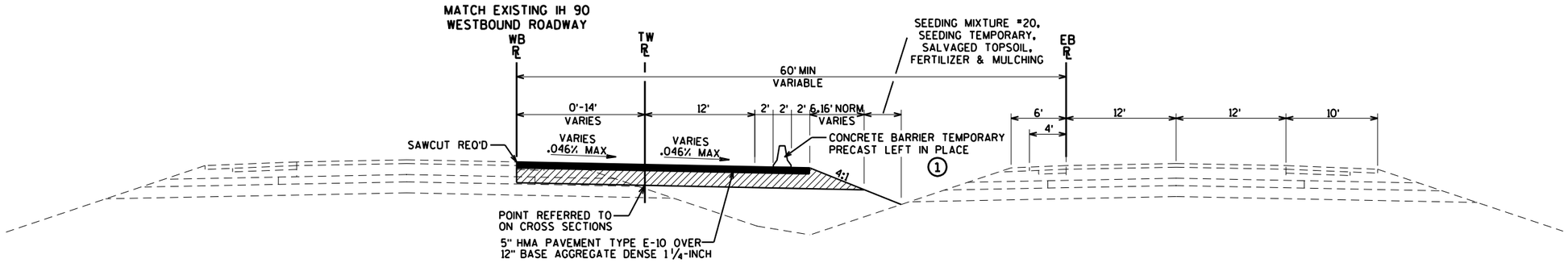


TYPICAL EXISTING SECTION - RAMPS



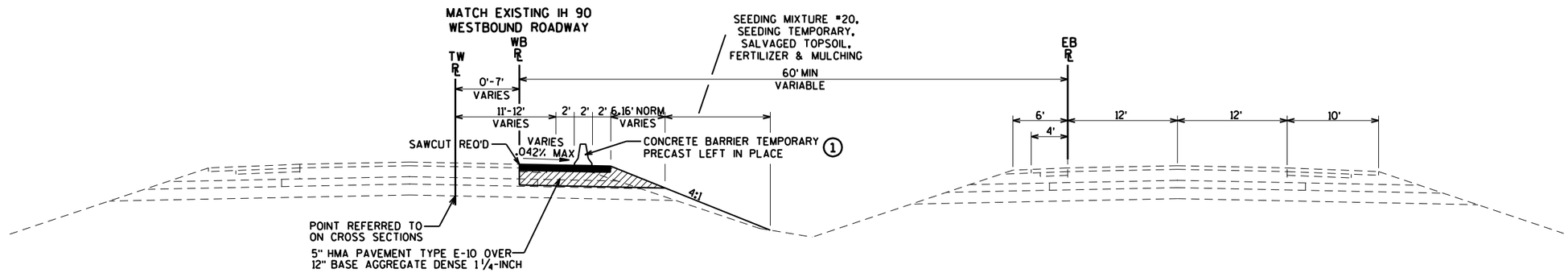
TYPICAL EXISTING SECTION - COMBINED RAMP-LOOP

PROJECT NO: 1071-06-80	HWY: IH 90	COUNTY: LACROSSE	TYPICAL SECTIONS - EXISTING	SHEET 4	E



TYPICAL FINISHED SECTION - 'TW' LINE (IH 90 WB WIDENING)

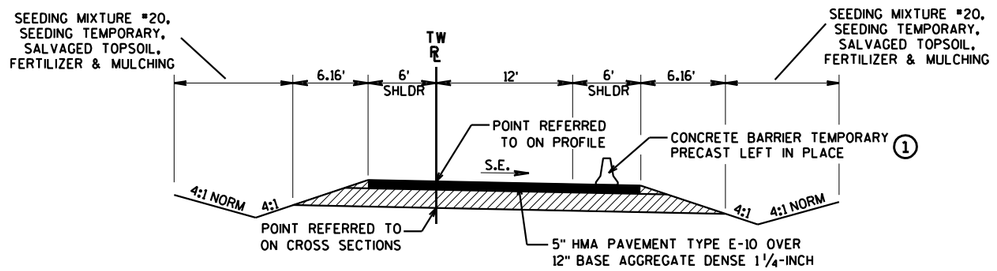
STA 226+61.00 TW - STA 230+65.00 TW
STA 288+50.00 TW - STA 307+38.00 TW



TYPICAL FINISHED SECTION - 'TW' LINE (IH 90 WB WIDENING)

STA 230+65.00 TW - STA 251+50.00 TW
STA 307+00.00 TW - STA 318+72.07 TW

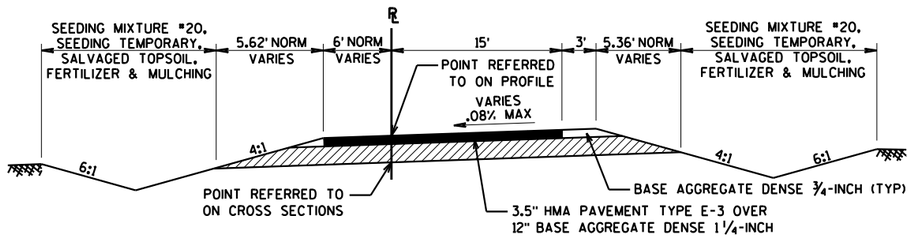
① CONCRETE BARRIER TEMPORARY PRECAST
SEE MISCELLANEOUS QUANTITIES FOR
STATIONING.



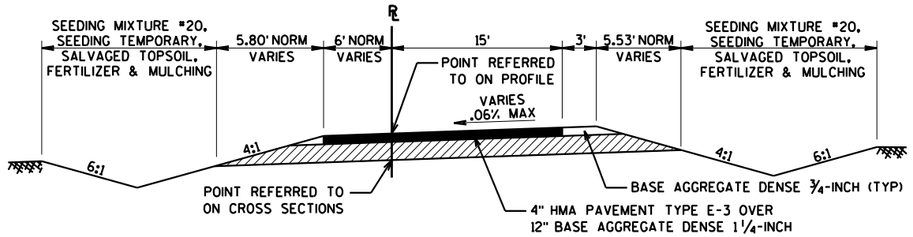
TYPICAL FINISHED SECTION - 'TW' LINE (CROSSOVER)

STA 251+50.00 TW - STA 260+18.86 TW
STA 279+17.49 TW - STA 288+50.00 TW

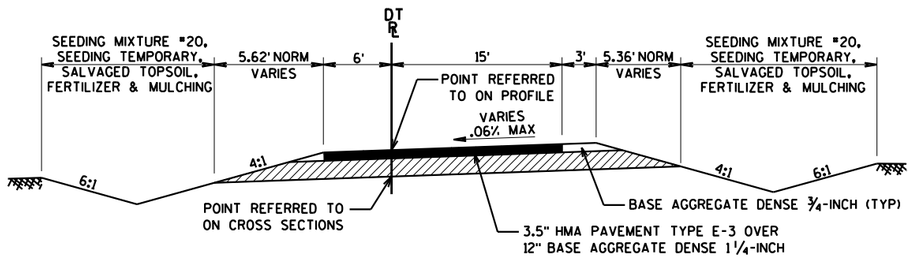
PROJECT NO: 1071-06-80	HWY: IH 90	COUNTY: LACROSSE	TYPICAL SECTIONS	SHEET 5	E



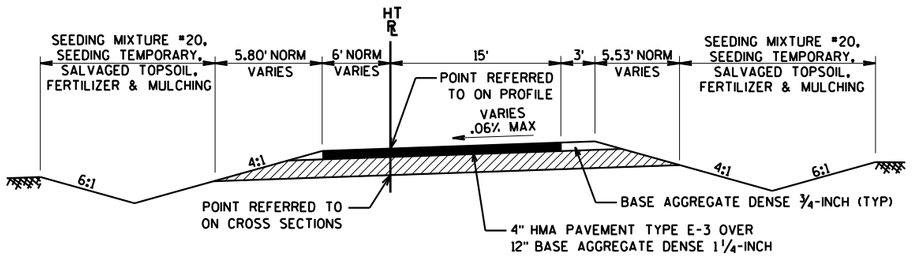
TYPICAL FINISHED SECTION - TEMPORARY RAMP
'CT' RAMP
'CU' RAMP



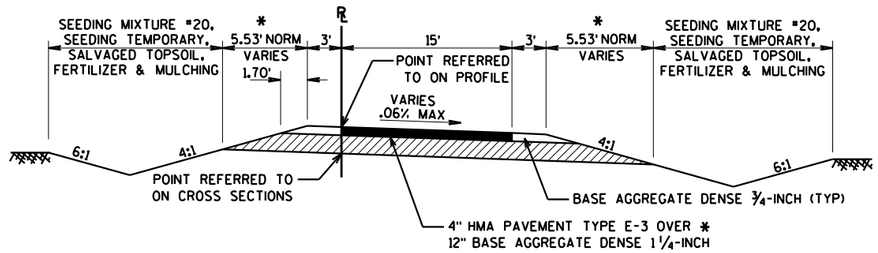
TYPICAL FINISHED SECTION - TEMPORARY RAMPS
'GT' RAMP
'LT' RAMP



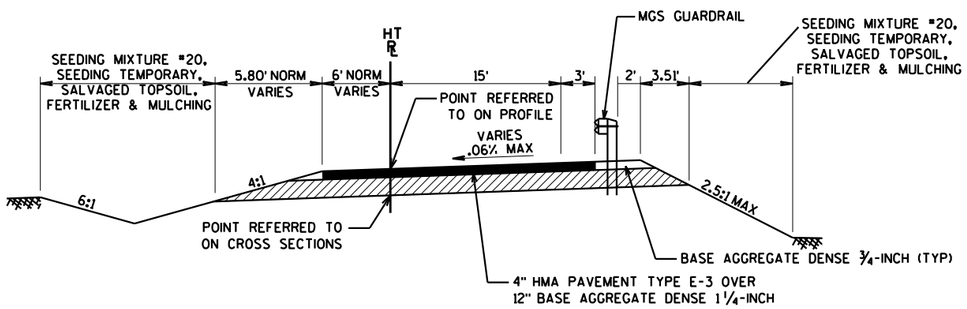
TYPICAL FINISHED SECTION - TEMPORARY RAMPS
'DT' RAMP



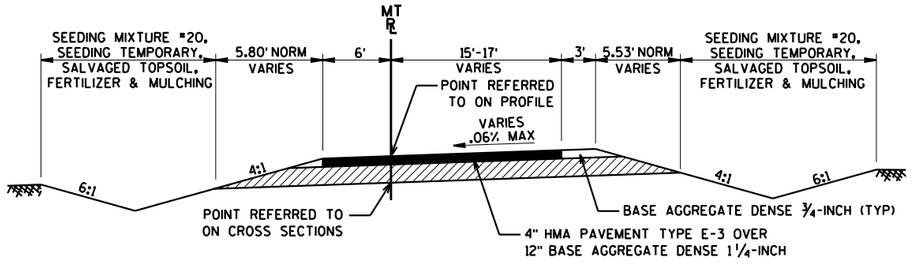
TYPICAL FINISHED SECTION - 'HT' TEMPORARY RAMP



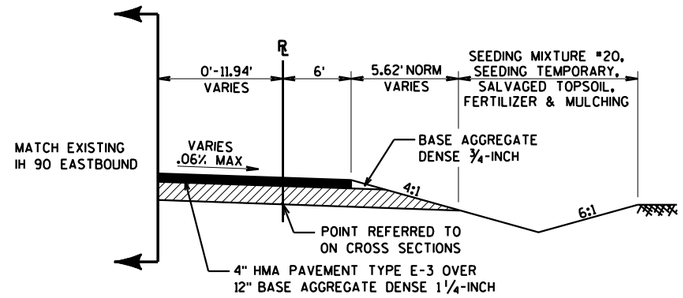
TYPICAL FINISHED SECTION - TEMPORARY RAMPS
'DU' RAMP (3.5" HMA/5.36' GRAVEL RUNOUT) *
'HU' RAMP
'HV' RAMP



TYPICAL FINISHED SECTION - 'HT' TEMPORARY RAMP W/MGS

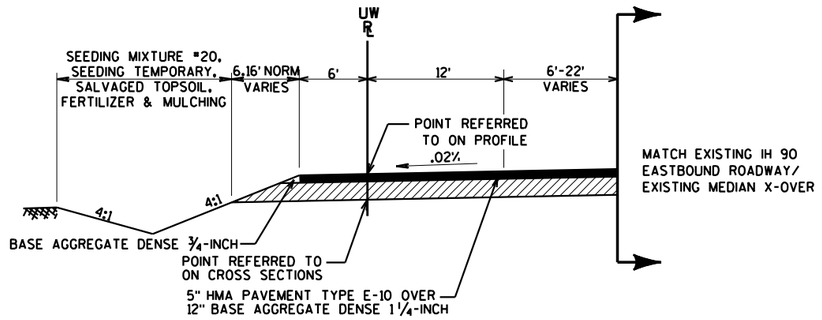


TYPICAL FINISHED SECTION - 'MT' TEMPORARY RAMP

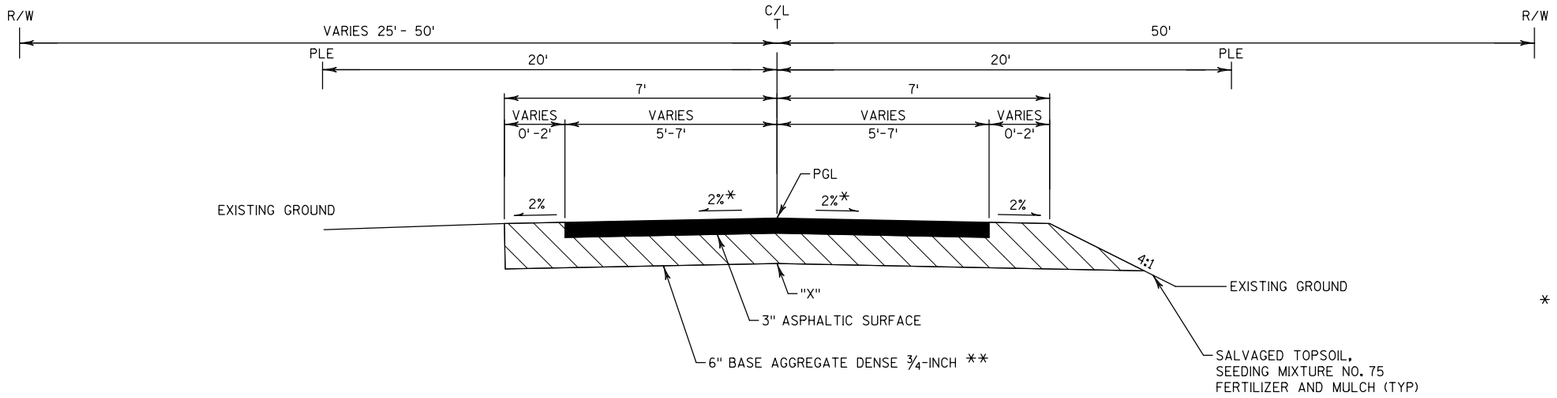


TYPICAL FINISHED SECTION - TEMPORARY WIDENING

'FT' RAMP
'JT' RAMP



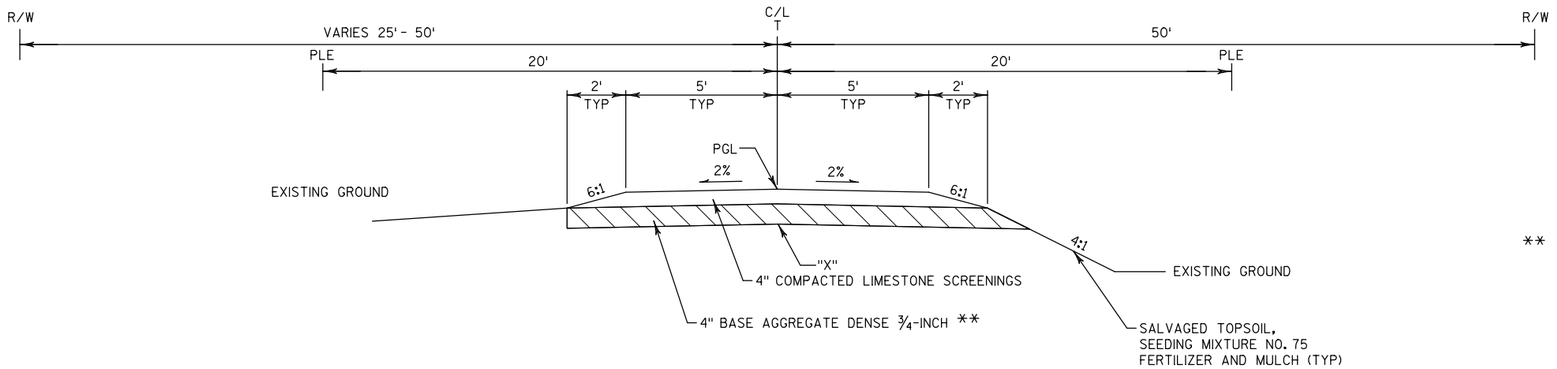
TYPICAL FINISHED SECTION - 'UW' LINE (TEMPORARY CROSSOVER)



* TRANSITION CROSS SLOPE FROM 2% TO 0% IN 10' TO MATCH C-32-97.

TYPICAL FINISHED SECTION 'T' LINE
GREAT RIVER STATE TRAIL

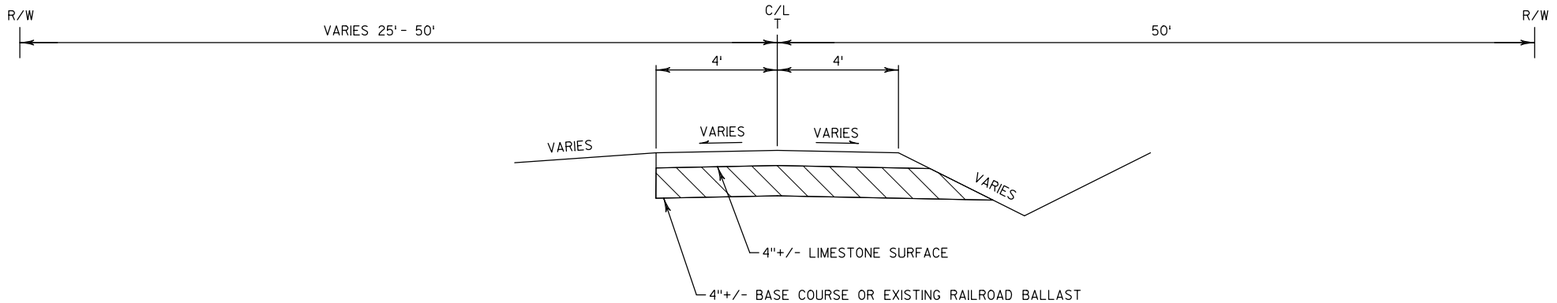
STA 25+90.68 T TO STA 26+25.00 T
STA 32+00.00 T TO STA 32+68.47 T
STA 35+28.47 T TO STA 35+75.00 T



** REMOVAL OF EXISTING BASE COURSE NOT REQUIRED IF IN STABLE CONDITION AND NOT DISTURBED BY CONSTRUCTION OPERATIONS, AS DIRECTED BY THE ENGINEER.

TYPICAL FINISHED SECTION 'T' LINE
GREAT RIVER STATE TRAIL

STA 26+25.00 T TO STA 32+00.00 T
STA 35+75.00 T TO STA 36+50.00 T



TYPICAL EXISTING SECTION
GREAT RIVER STATE TRAIL

STA 25+90 T TO STA 36+50 T

"X" = POINT REFERRED TO ON CROSS SECTIONS

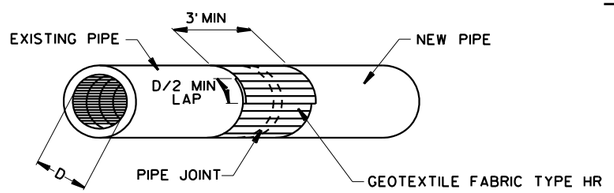
PROJECT NO: 1071-06-80	HWY: IH 90	COUNTY: LA CROSSE	TYPICAL SECTIONS	SHEET 8	E

2

RUNOFF COEFFICIENT TABLE

	HYDROLOGIC SOIL GROUP											
	A			B			C			D		
	SLOPE RANGE (PERCENT)			SLOPE RANGE (PERCENT)			SLOPE RANGE (PERCENT)			SLOPE RANGE (PERCENT)		
LAND USE:	0-2	2-6	6 & OVER	0-2	2-6	6 & OVER	0-2	2-6	6 & OVER	0-2	2-6	6 & OVER
ROW CROPS	.08 .22	.16 .30	.22 .38	.12 .26	.20 .34	.27 .44	.15 .30	.24 .37	.33 .50	.19 .34	.28 .41	.38 .56
MEDIAN STRIP-TURF	.19 .24	.20 .26	.24 .30	.19 .25	.22 .28	.26 .33	.20 .26	.23 .30	.30 .37	.20 .27	.25 .32	.30 .40
SIDE SLOPE-TURF			.25 .32			.27 .34			.28 .36			.30 .38
PAVEMENT:												
ASPHALT	.70 - .95											
CONCRETE	.80 - .95											
BRICK	.70 - .80											
DRIVES, WALKS	.75 - .85											
ROOFS	.75 - .95											
GRAVEL ROADS, SHOULDERS	.40 - .60											

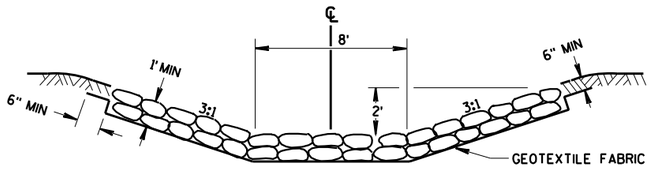
TOTAL PROJECT AREA = 230.7 ACRES
TOTAL AREA EXPECTED TO BE DISTURBED BY CONSTRUCTION ACTIVITIES = 14.2 ACRES



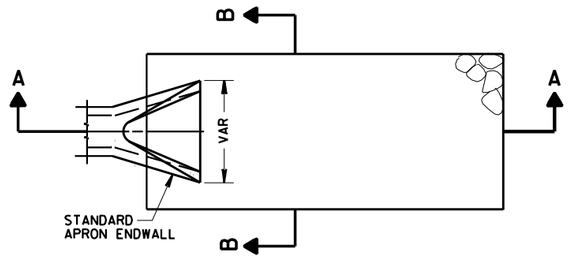
GEOTEXTILE FABRIC REQUIRED FOR PIPE JOINTS

PIPE DIA. (IN)	PIPE O.D. (IN)	FABRIC/JOINT (SY)
18	23	2.3
21	26.5	2.6
24	30	3.0
27	33.5	3.3
30	37	3.6
36	44	4.3
42	51	5.0
48	58	5.7
54	65	6.4
60	72	7.1
66	79	7.8
72	86	8.5

DETAIL OF WRAPPED PIPE JOINT
WRAP ALL JOINTS

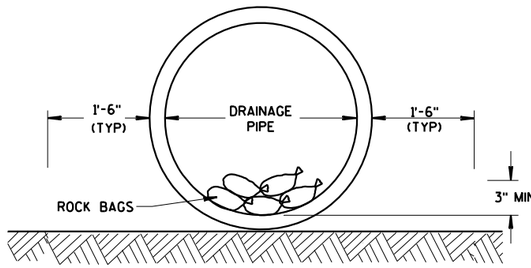


SECTION B-B

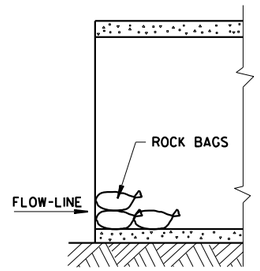


SECTION A-A

RIPRAP AND GEOTEXTILE FABRIC DETAIL
NOTE: SEE MISCELLANEOUS QUANTITIES FOR TYPE OF RIPRAP AND GEOTEXTILE FABRIC TO BE USED.



FRONT VIEW



SECTION VIEW

CULVERT PIPE CHECKS
(PLACE AT ALL INLET ENDS OF ALL PIPES)

2

STA 247+57 WB - STA 247+77 WB, LT
SAWCUT REQ'D

STA 249+37 TW, LT
STA 249+39 TW (EB LANES)
REMOVING SURFACE DRAINS
REMOVE INLETS

STA 249+06 WB - STA 249+26 WB, LT
SAWCUT REQ'D

ASPHALTIC FLUME REQ'D

MGS GUARDRAIL

STA 249+85 WB, 48'LT

STA 250+35 WB, 50'LT

A

A

MATCH EXISTING
SHOULDER PAVEMENT

IH 90 WB

245+00WB

246+00WB

247+00WB

248+00WB

249+00WB

250+00WB

251+00WB

ASPHALTIC FLUME REQ'D

CONCRETE BARRIER TEMPORARY
PRECAST LEFT IN PLACE

STA 245+25 EB, 12'LT

STA 245+75 EB, 10'LT

A

A

MGS GUARDRAIL

IH 90 EB

MATCH EXISTING
SHOULDER PAVEMENT

A

A

STA 245+96 EB, 48'RT

STA 245+46 EB, 50'RT

REMOVE AND REINSTALL
GUARDRAIL

ASPHALTIC FLUME REQ'D

STA 247+80 EB - STA 248+00 EB, LT/RT
SAWCUT REQ'D

STA 249+29 EB - STA 249+48 EB, LT/RT
SAWCUT REQ'D

12TH AVE

2' 2' VARIES

GUARDRAIL

EXISTING
ASPHALT

2.5:1 MAX

3.5" HMA PAVEMENT
TYPE E-3

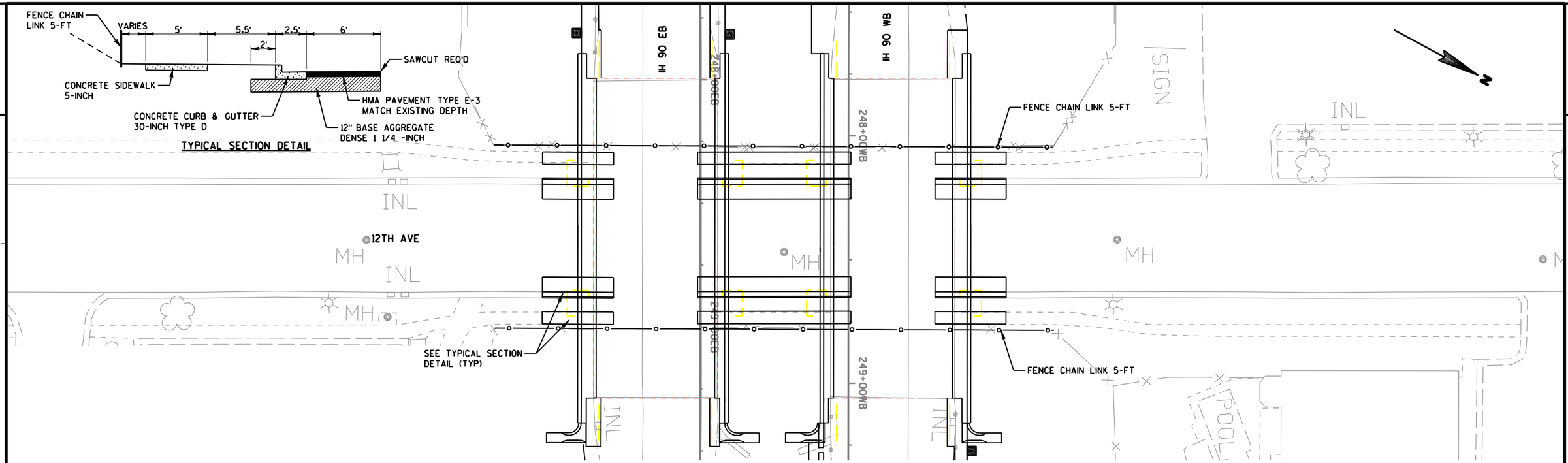
12" BASE AGGREGATE
DENSE 1 1/4 -INCH

SECTION A-A

WIDENING AT 12TH AVENUE STRUCTURES

PROJECT NO: 1071-06-80	HWY: IH 90	COUNTY: LA CROSSE	CONSTRUCTION DETAIL	SHEET	E

FILE NAME : T:\410627\DGN-DWG\1_0680_PREP_BLUE\aa_0680_021002_cd.dgn PLOT DATE : 1/7/2014 PLOT BY : AYRES-EC PLOT NAME : PLOT SCALE : 1:40
WISDOT/CADDS SHEET 42



DETAIL FOR 12TH AVENUE IMPACTED BY PIER CONSTRUCTION

PROJECT NO: 1071-06-80	HWY: IH 90	COUNTY: LA CROSSE	CONSTRUCTION DETAIL	SHEET 11	E

2

FTMS STANDARD ABBREVIATIONS

CCTV	CLOSED CIRCUIT TELEVISION SITE
CB	CONTROLLER CABINET
PB	PULL BOX
V	COMMUNICATIONS VAULT
MD	MICROWAVE DETECTOR
MB	METER BREAKER

LEGEND	PROPOSED	EXISTING
JUNCTION BOX	▬	▬
VIDEO SENSOR	▶▬	▶▬
CAMERA SITE	◀▬	◀▬
CONTROL BOX	⊠	⊠
24" PULL BOX	◑	◑
12" PULL BOX	⊗	⊗
ANTENNA POLE	⊢●	⊢●
ETHERNET RADIO ANTENNA	⊣	⊣
METER BREAKER	⊠	⊠
MANHOLE	Ⓜ	Ⓜ
MICROWAVE DETECTOR	◆	◆
CCTV CAMERA	Ⓒ	Ⓒ
CONDUIT	----	----

FTMS CONTACTS

WISCONSIN DOT
SOUTHWEST REGION
MR. KYLE HEMP
2101 WRIGHT ST.
MADISON, WI 53704
608-246-5367

WISCONSIN DOT
STATEWIDE TRAFFIC OPERATIONS CENTER
MR. DON SCHELL
433 W. ST. PAUL AVE., SUITE 300
MILWAUKEE, WI 53203
414-227-2148

WISCONSIN
THOMAS J. JENSEN
E-39710
MINNEAPOLIS, MN
PROFESSIONAL ENGINEER

FTMS GENERAL NOTES

THESE PLANS AND THE ASSOCIATED SPECIAL PROVISIONS REFLECT CONDITIONS KNOWN DURING THE DEVELOPMENT OF THE PLANS AND TECHNICAL SPECIAL PROVISIONS. ALL SCALES, DIMENSIONS AND LOCATIONS SHOWN IN THESE PLANS ARE APPROXIMATE. ACTUAL PHYSICAL FIELD CONDITIONS SHALL PROVIDE THE BASIS FOR THE APPLICATION OF WORK SHOWN IN THE PLANS. THE CONTRACTOR IS FULLY RESPONSIBLE FOR THE APPLICATION OF ALL WORK SHOWN IN THE PLANS TO THE ACTUAL PHYSICAL FIELD CONDITIONS TO PROVIDE A COMPLETE AND ACCEPTED PROJECT. IN THE EVENT THAT ACTUAL PHYSICAL FIELD CONDITIONS AFFECT OR PREVENT THE APPLICATION OR PROGRESSION OF ANY WORK SHOWN IN THE PLANS OR TECHNICAL SPECIAL PROVISIONS, THE CONTRACTOR SHALL NOTIFY THE ENGINEER IMMEDIATELY, AND PRIOR TO ANY FURTHER WORK ACTIVITY. THE CONTRACTOR SHALL IMMEDIATELY NOTIFY THE ENGINEER OF ANY LOCATION CHANGES OTHER THAN MINOR ADJUSTMENTS.

BE AWARE THAT ALL EXISTING UNDERGROUND AND ABOVE GROUND STRUCTURES AND FACILITIES WITHIN THE SCOPE OF THIS PROJECT MAY NOT BE LOCATED IN THE PLANS. THE CONTRACTOR IS FULLY RESPONSIBLE FOR LOCATING AND AVOIDING ALL UNDERGROUND AND ABOVE GROUND STRUCTURES AND FACILITIES.

BE AWARE THAT NO TEST BORING WERE MADE WHERE CONDUITS, PULL BOXES, POLES, CABINET FOUNDATIONS, OR OTHER EQUIPMENT IS TO BE INSTALLED. THE CONTRACTOR IS FULLY RESPONSIBLE FOR EXAMINING THE JOB SITE CONDITIONS BEFORE SUBMITTING BID PROPOSALS.

NO TREES (AND/OR SHRUBS) ARE TO BE REMOVED WITHOUT THE APPROVAL OF THE ENGINEER.

AREAS WITHIN THE RIGHT-OF-WAY DISTURBED SPECIFICALLY FOR FTMS CONSTRUCTION ARE TO BE RESTORED TO THE ORIGINAL CONDITION WITH TOPSOIL, FERTILIZER AND SEED, AND MULCH. RESTORATION FOR AREAS DISTURBED FOR OTHER CONSTRUCTION OPERATIONS BUT ALSO CONTAINING FTMS CONSTRUCTION WILL BE DONE ACCORDING TO REQUIREMENTS AND PAYMENT PROVISIONS FOR THE OTHER CONSTRUCTION OPERATIONS. NO PAYMENT WILL BE MADE FOR RESTORING AREAS DISTURBED FOR FTMS CONSTRUCTION OPERATIONS.

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

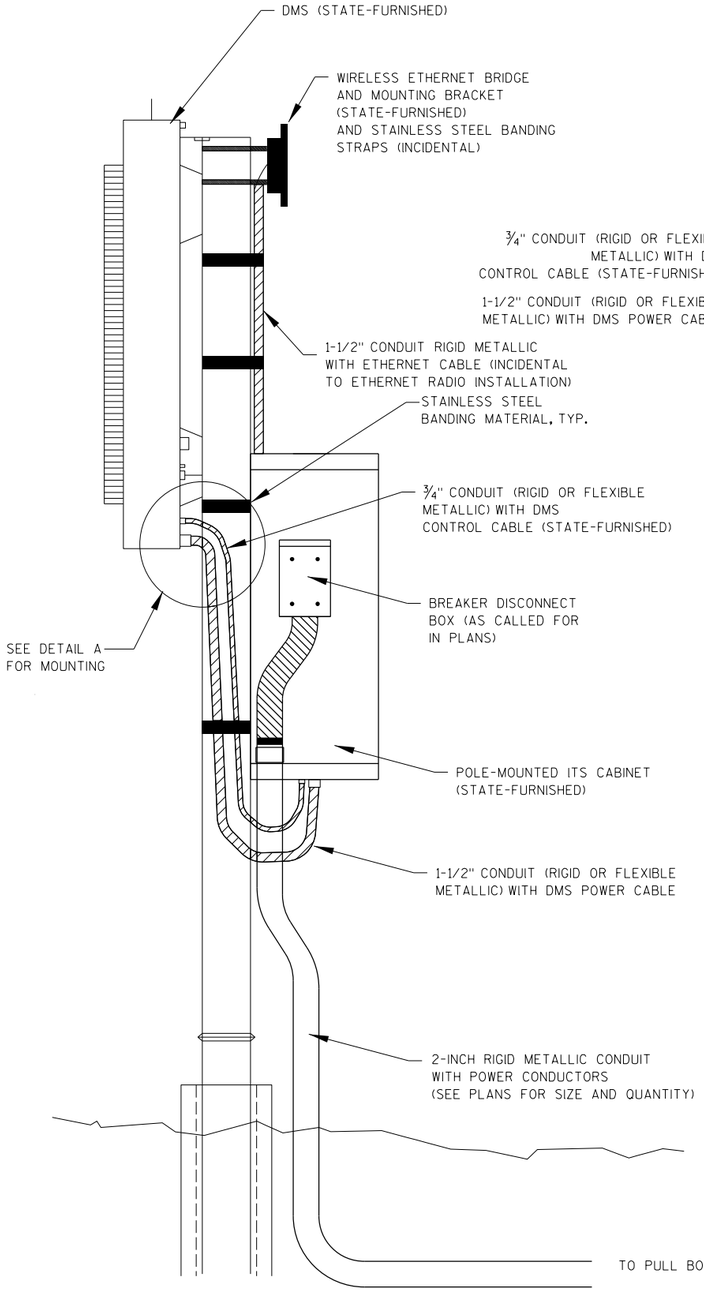
BE ADVISED THAT DUE TO RAMP, LANE, AND SHOULDER CLOSURE RESTRICTIONS, AND WORK UNDER OTHER CONTRACTS, SOME WORK MAY BE REQUIRED TO BE PERFORMED AT NIGHT.

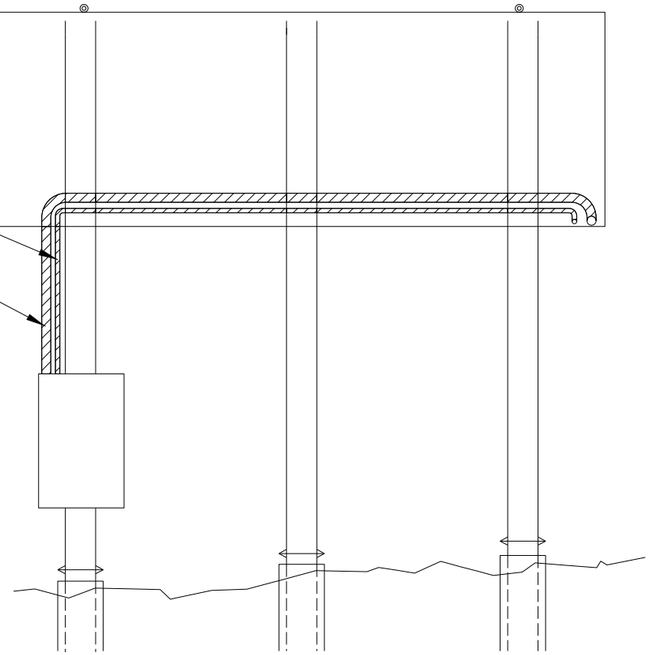
THE CONTRACTOR IS RESPONSIBLE FOR COORDINATING RAMP, LANE, SHOULDER, AND ROADWAY CLOSURES WITH OTHER CONTRACTS IN THE AREA.

CONTACT THE WISDOT STATEWIDE TRAFFIC OPERATIONS CENTER AT (414) 227-2166 FIVE (5) WORKING DAYS PRIOR TO ENTERING ANY EXISTING WISDOT FTMS OR ITS CABINET.

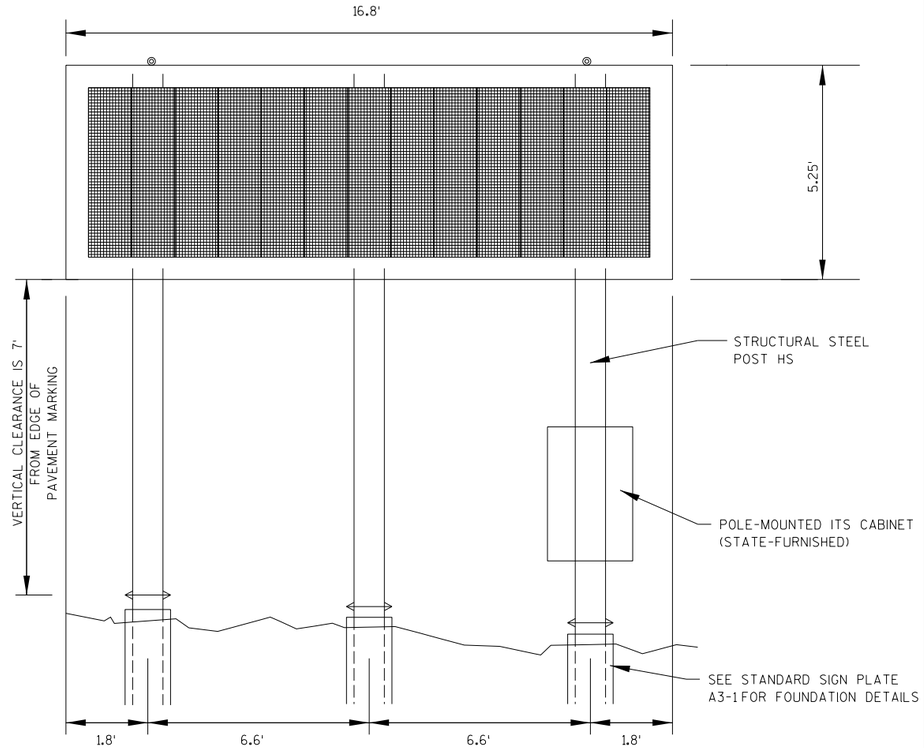
HAND DIG TRENCHES CROSSING EXISTING CONDUIT CONTAINING FIBER OPTIC CABLE.

VISUALLY VERIFY DEPTHS OF EXISTING CONDUITS CONTAINING FIBER OPTIC CABLE PRIOR TO CROSSING BY DIRECTIONAL BORE OR SPECIAL METHOD.





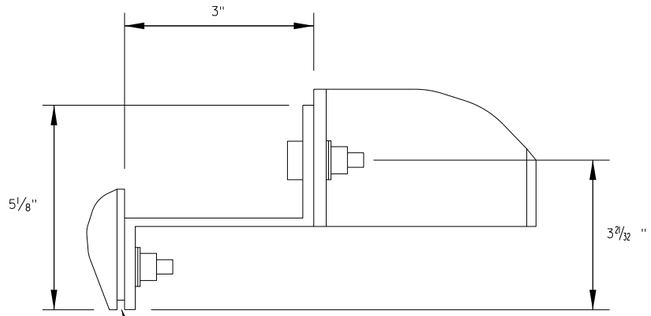
DMS-32-0052 WB IH-90 EAST OF CTH BW
DMS-32-0053 EB IH-90 WEST OF CTH BW
ELEVATION VIEW (REAR)



DMS-32-0052 WB IH-90 EAST OF CTH BW
DMS-32-0053 EB IH-90 WEST OF CTH BW
ELEVATION VIEW (FRONT)

NOTES:

1) CONTRACTOR SHALL FIELD VERIFY ALL DMS DIMENSIONS AND SPACING BETWEEN STRUCTURAL SUPPORTS PRIOR TO CONSTRUCTION.

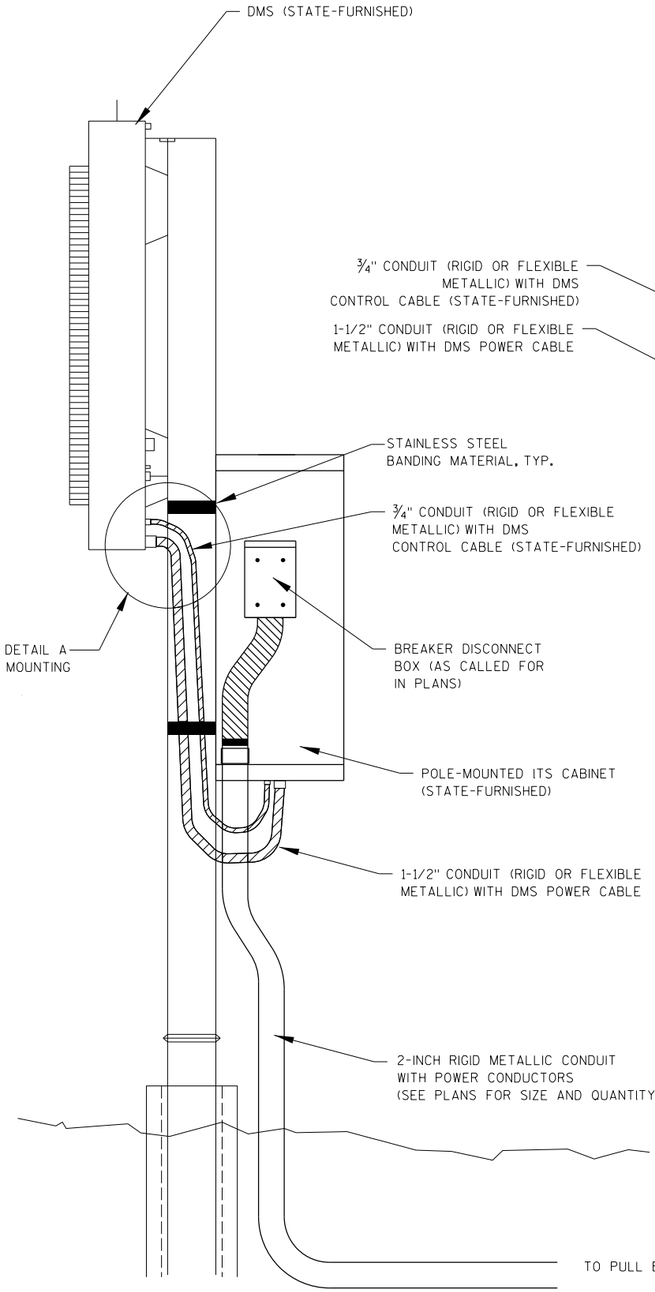


TWO Z-BRACKETS AND HARDWARE FOR ATTACHING THE Z-BRACKETS TO THE REAR OF THE DISPLAY ARE SHIPPED WITH THE SIGN BUT NOT ATTACHED TO THE SIGN. THE VERTICAL SUPPORTS SHOWN ARE STRUCTURAL STEEL SIGN SUPPORTS.

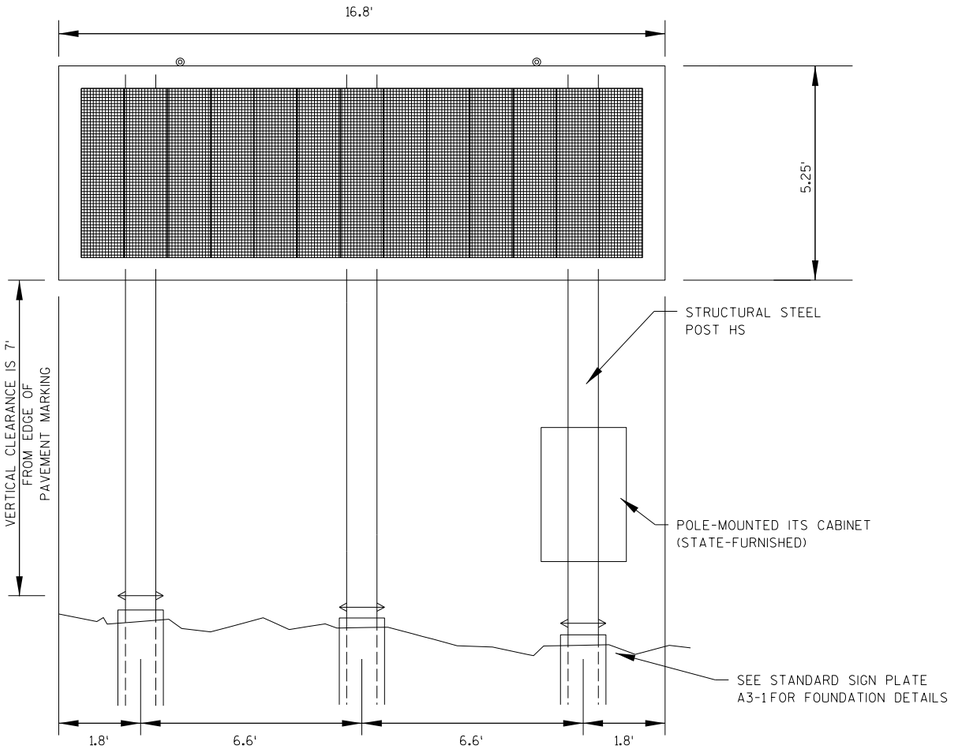
Z-BRACKETS ARE
3" X 2 11/16 " X 1/4"
WEB X FLANGE X THICKNESS
ALUMINUM 6061-T6-ALLOY

DETAIL A

PROJECT NO: 1071-06-80	HWY: IH 90	COUNTY: LA CROSSE	FTMS CONSTRUCTION DETAILS	SHEET 13	E



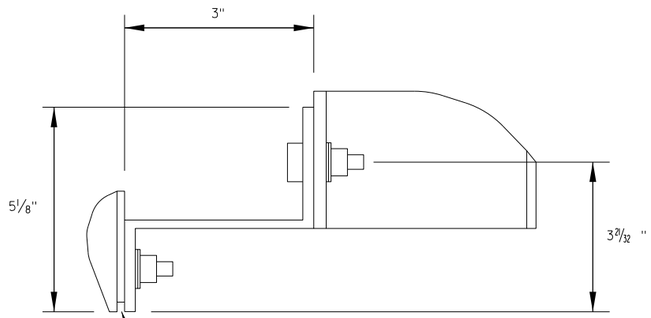
DMS-32-0054 WB IH-90 EAST OF STH16
ELEVATION VIEW (REAR)



DMS-32-0054 WB IH-90 EAST OF STH16
ELEVATION VIEW (FRONT)

NOTES:

1) CONTRACTOR SHALL FIELD VERIFY ALL DMS DIMENSIONS AND SPACING BETWEEN STRUCTURAL SUPPORTS PRIOR TO CONSTRUCTION.

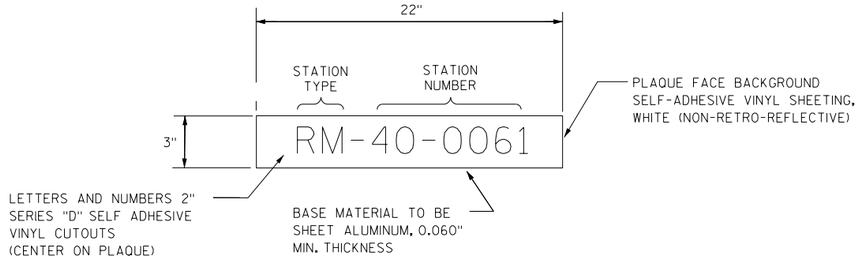


TWO Z-BRACKETS AND HARDWARE FOR ATTACHING THE Z-BRACKETS TO THE REAR OF THE DISPLAY ARE SHIPPED WITH THE SIGN BUT NOT ATTACHED TO THE SIGN. THE VERTICAL SUPPORTS SHOWN ARE STRUCTURAL STEEL SIGN SUPPORTS.

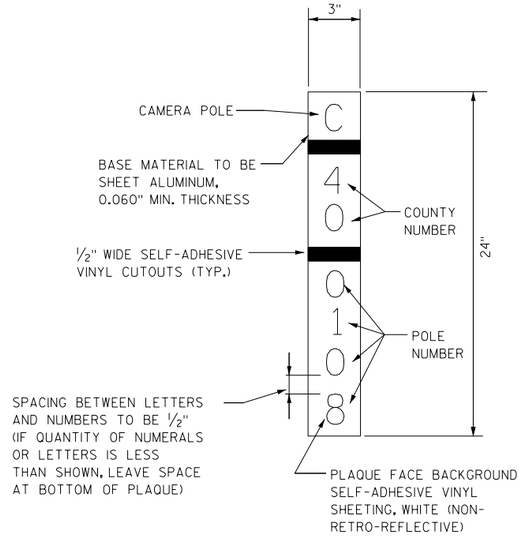
Z-BRACKETS ARE
3" X 2 11/16 " X 1/4"
WEB X FLANGE X THICKNESS
ALUMINUM 6061-T6-ALLOY

DETAIL A

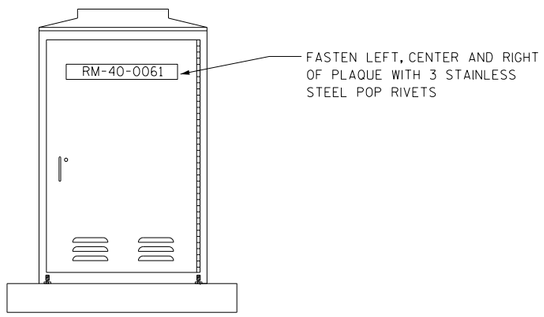
PROJECT NO:1071-06-80	HWY:IH 90	COUNTY:LA CROSSE	FTMS CONSTRUCTION DETAILS	SHEET 14	E



ITS FIELD CABINET IDENTIFICATION PLAQUE DETAIL



POLE IDENTIFICATION PLAQUE DETAIL



ITS FIELD CABINET IDENTIFICATION PLAQUE REQUIREMENTS AND PLACEMENTS

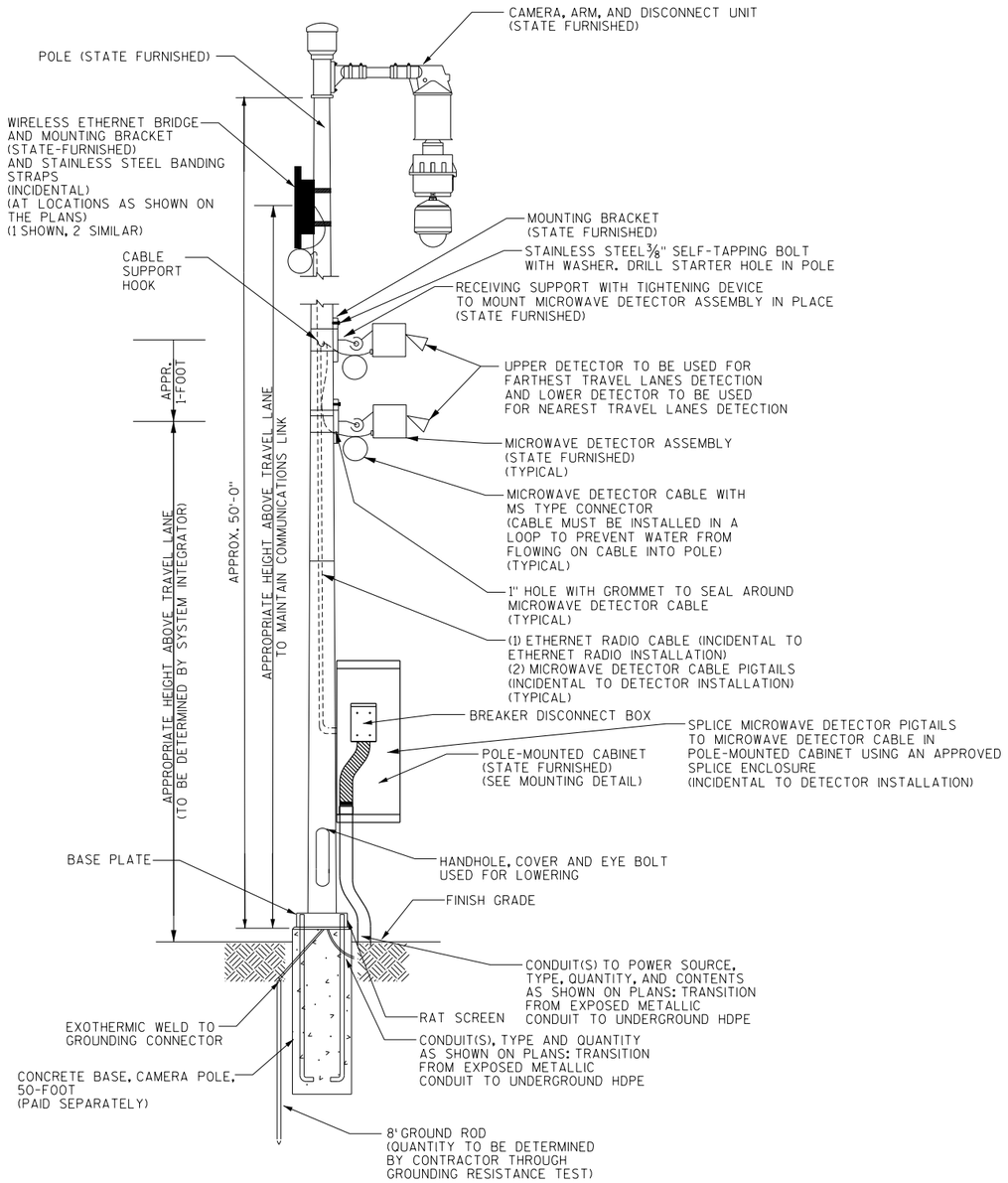
(TYPICAL ALL CONTROL CABINETS)

LEGEND STATION TYPE

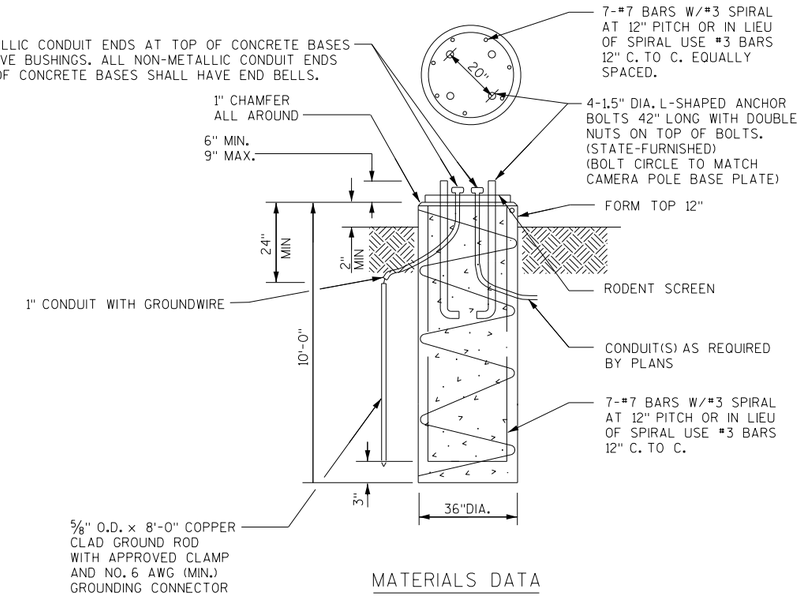
RM - RAMP METER
CCTV - CLOSED CIRCUIT TELEVISION
ATR - AUTOMATIC TRAFFIC RECORDER
SDS - SYSTEM DETECTOR STATION
MD - MICROWAVE DETECTOR

NOTES:

1) TWO PLAQUES PER CABINET REQUIRED ON CONTROL CABINET.
2) FASTEN ONE PLAQUE ON FRONT DOOR, UPPER HALF.
3) FASTEN ONE PLAQUE ON SIDE FACING LOCAL STREET. IF NO LOCAL STREET NEARBY, OR IF SUCH LOCATION COINCIDES WITH LOCATION OF PLAQUE IN NOTE 2, FASTEN PLAQUE ON REAR OF CABINET, UPPER HALF.
4) COUNTY NUMBER NOT REQUIRED ON RAMP METER CABINETS.



50-FT CAMERA POLE WITH CAMERA LOWERING HARDWARE

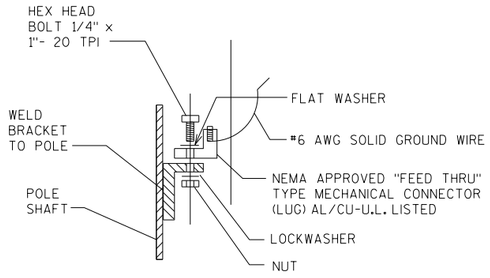


MATERIALS DATA

CONCRETE	f'c=3,500 psi
HIGH STRENGTH BAR STEEL REINFORCEMENT	fy = 60,000 psi

CONCRETE BASE, 50' CAMERA POLE

NOT TO SCALE

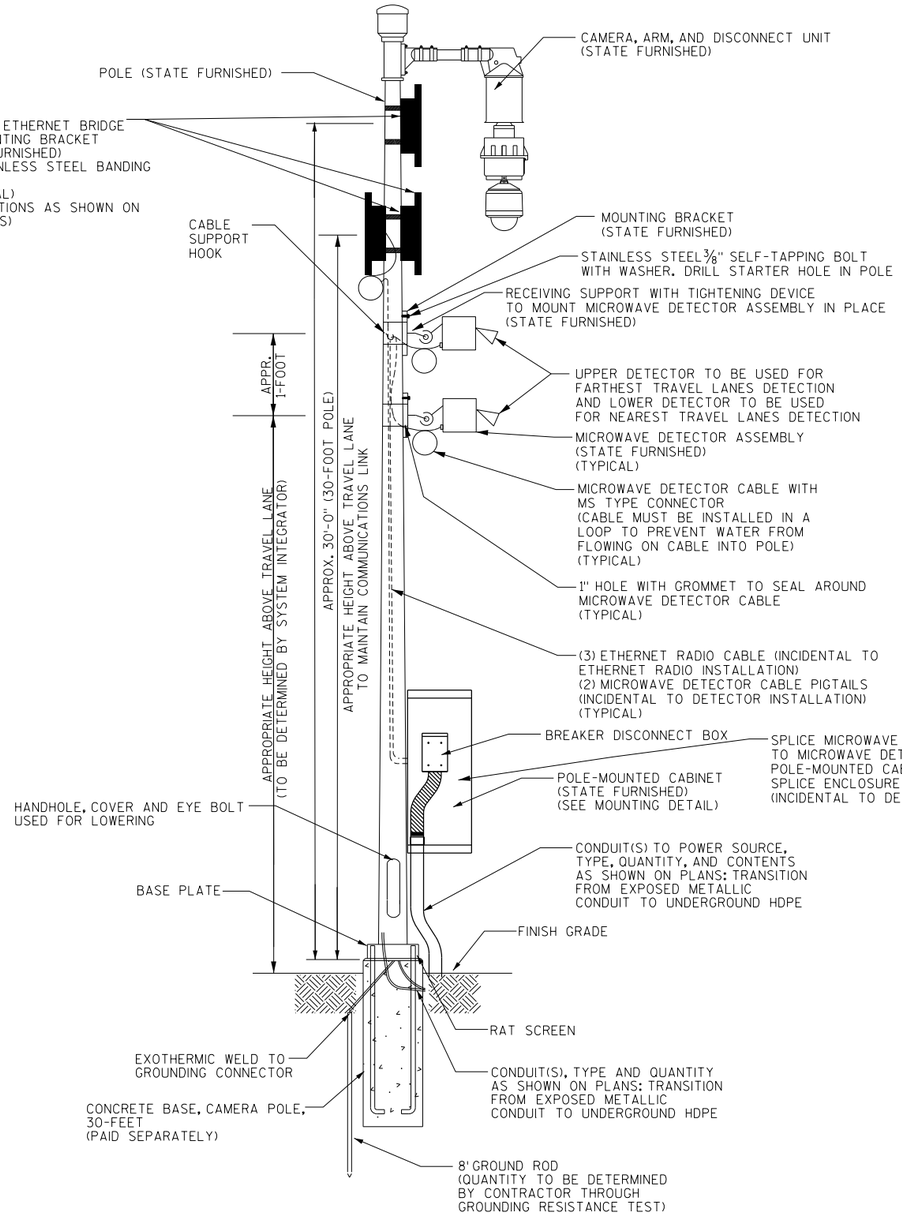


FIELD INSTALLED GROUNDING LUG

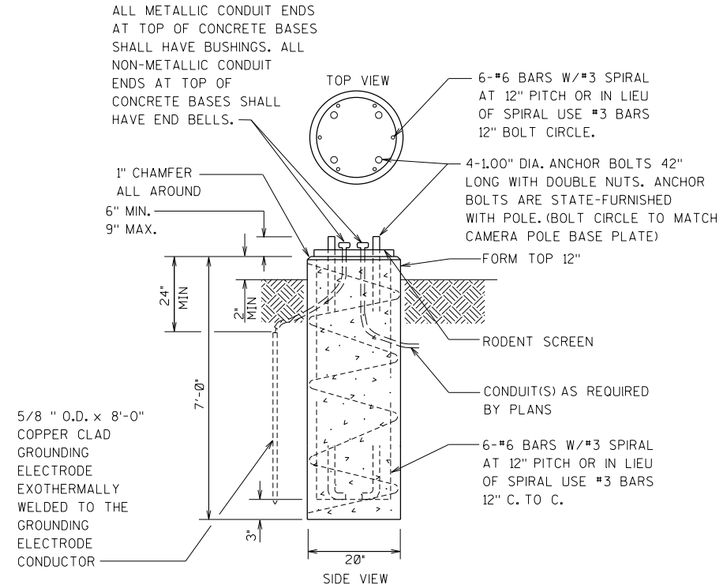
NOTES:

1) ALL HARDWARE AND FASTENERS SHALL BE STAINLESS STEEL
2) POLE DRAWINGS SHOWN FOR BIDDING INFORMATION PURPOSES ONLY. POLES WILL BE STATE FURNISHED. BASE TO BE CONTRACTOR DESIGNED.
3) CONTRACTOR SHALL CONFIRM BOLT PATTERN OF CAMERA POLE PRIOR TO CONSTRUCTION OF CONCRETE BASE.
4) CONTRACTOR SHALL INSTALL GROUNDING LUG AS SHOWN

50-FT CAMERA POLES & FOUNDATIONS



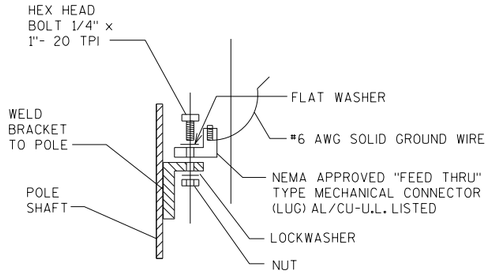
30-FT CAMERA POLE WITH CAMERA LOWERING HARDWARE



MATERIALS DATA

CONCRETE	f'c=3,500 psi
HIGH STRENGTH BAR STEEL REINFORCEMENT	fy = 60,000 psi

CONCRETE BASE, 30' CAMERA POLE



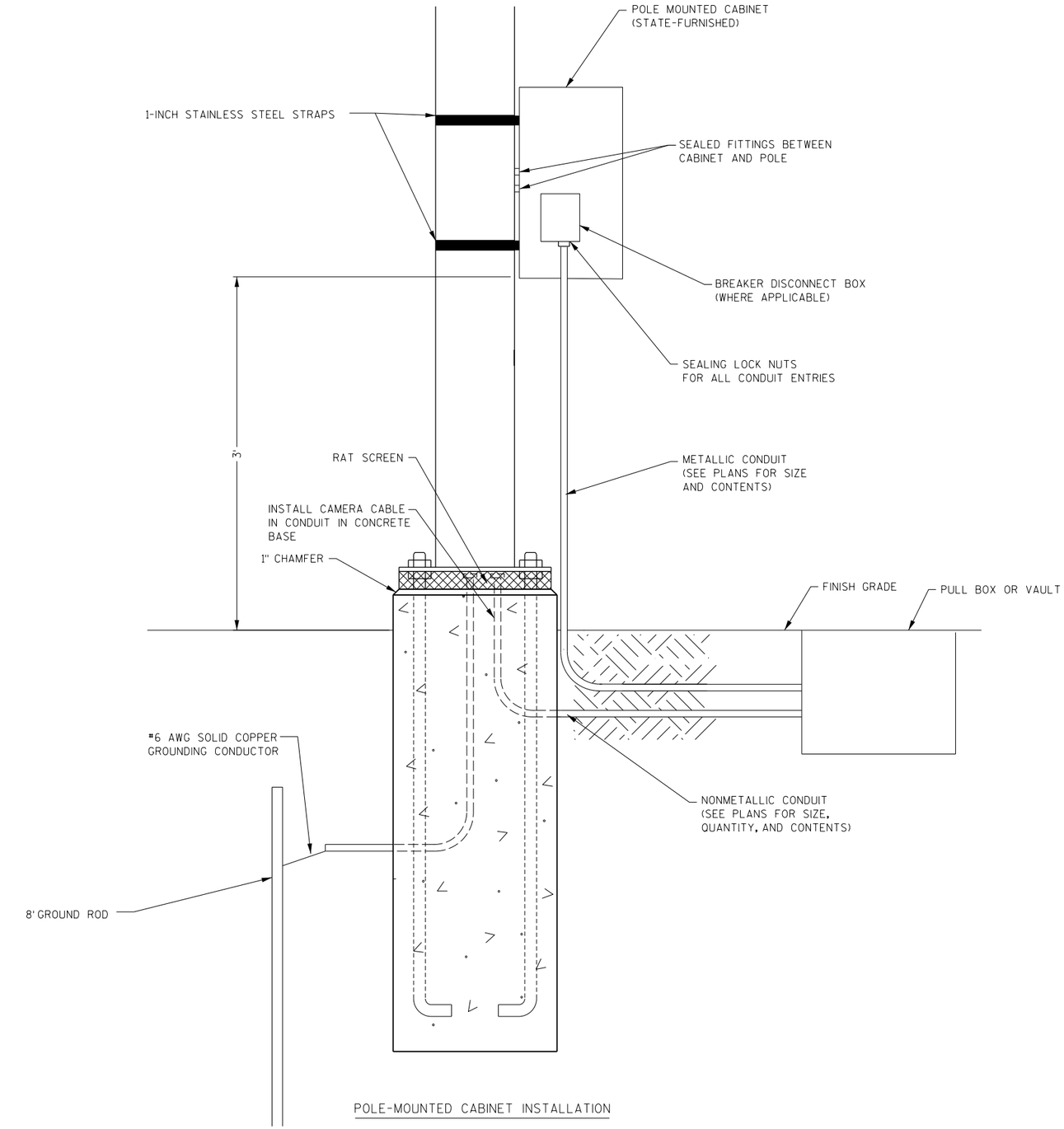
FIELD INSTALLED GROUNDING LUG

NOTES:

1) ALL HARDWARE AND FASTENERS SHALL BE STAINLESS STEEL
2) POLE DRAWINGS SHOWN FOR BIDDING INFORMATION PURPOSES ONLY. POLES WILL BE STATE FURNISHED. BASE TO BE CONTRACTOR DESIGNED.
3) CONTRACTOR SHALL CONFIRM BOLT PATTERN OF CAMERA POLE PRIOR TO CONSTRUCTION OF CONCRETE BASE.
4) CONTRACTOR SHALL INSTALL GROUNDING LUG AS SHOWN

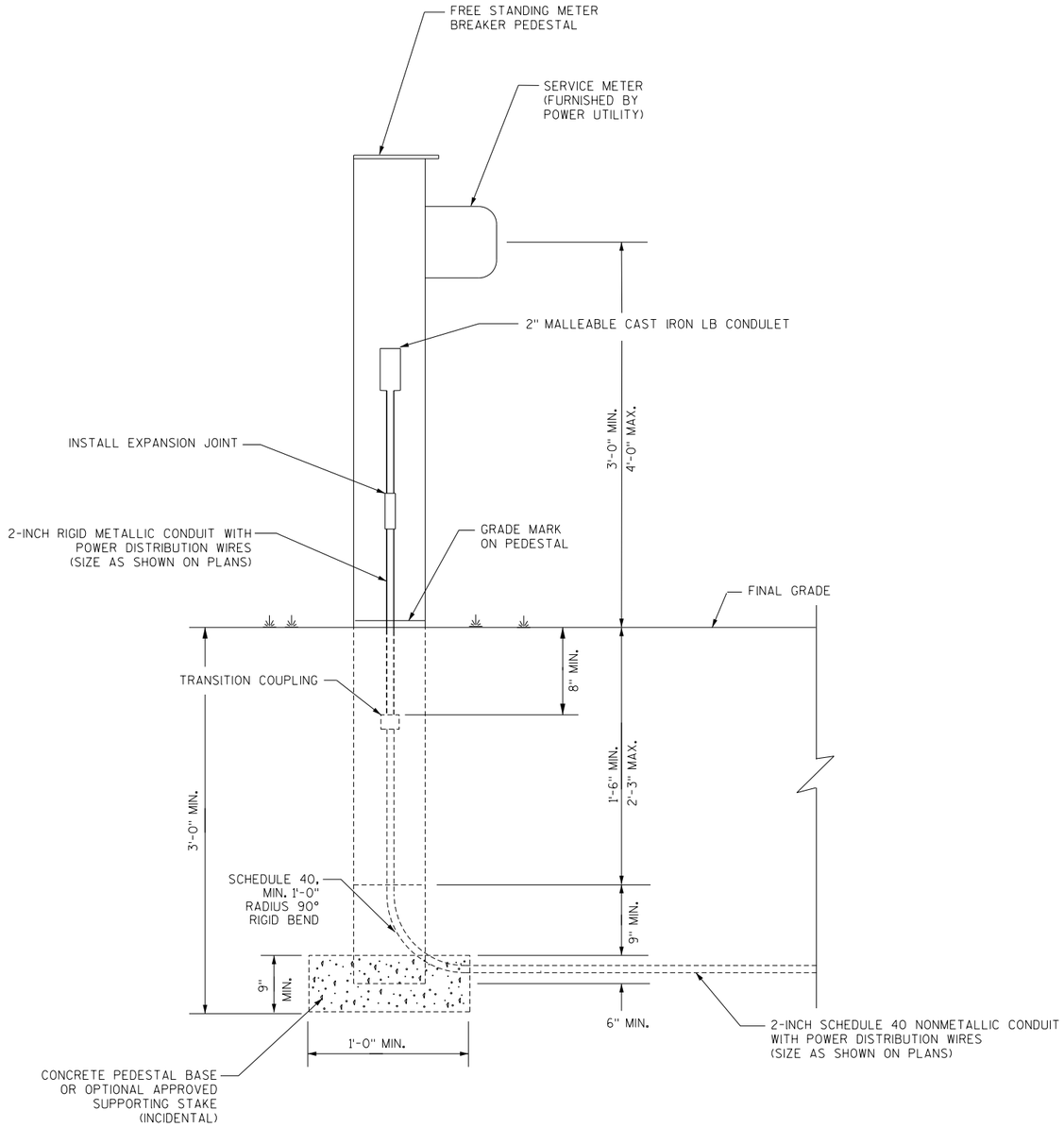
30-FT CAMERA POLES & FOUNDATIONS

2



POLE-MOUNTED CABINET INSTALLATION

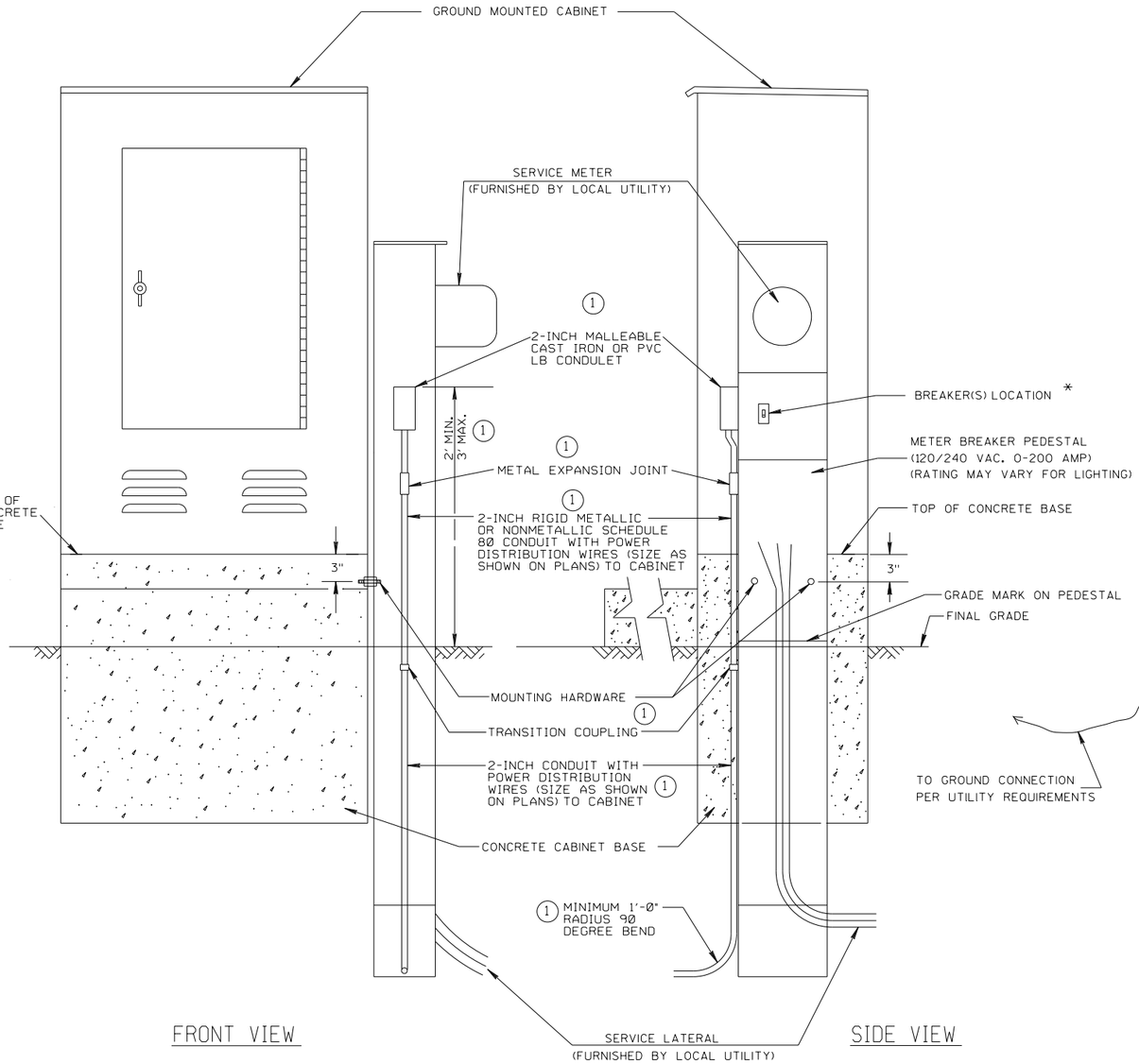
2



ELECTRICAL SERVICE METER BREAKER PEDESTAL

NOTES:

1) MINIMUM REQUIREMENT SHOWN. ADDITIONAL BREAKERS MAY BE REQUIRED.



TYPICAL CABINET SERVICE INSTALLATION
FOR SHARED FTMS FACILITIES

GENERAL NOTES

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

THE EXACT LOCATION OF THE METER BREAKER PEDESTAL SHALL BE DETERMINED BY THE ENGINEER IN THE FIELD.

THE TYPE OF CONCRETE CABINET BASE TO BE INSTALLED SHALL BE AS CALLED FOR IN THE PLANS.

TO FACILITATE FLUSH MOUNTING OF THE METER BREAKER PEDESTAL AGAINST THE SIDE OF THE CABINET BASE (IF FLUSH MOUNTING POSSIBLE. CONFER WITH THE LOCAL UTILITY TO DETERMINE WHICH SIDE OF THE CONCRETE BASE THE ELECTRICAL SERVICE LATERAL WILL APPROACH. THEN FORM THAT INDICATED SIDE FOR FULL SIDE DEPTH.

WHILE FLUSH MOUNTING IS THE MOST DESIRABLE MOUNTING CONFIGURATION UTILITY REQUIREMENTS MAY PRECLUDE THIS OPTION. CONTRACTOR MUST PROVIDE UTILITY APPROVED PEDESTAL AND INSTALL PER UTILITY AND MANUFACTURERS REQUIREMENTS.

SERVICE CONDUCTOR ENTRANCES SHALL BE RIGID METALLIC CONDUIT, NIPPLES AND/OR CONDULETS AS REQUIRED.

SERVICE CONDUCTOR ENTRANCES SHALL BE SIZED AND LOCATED AS REQUIRED BY THE LOCAL UTILITY AND IN ACCORDANCE WITH APPROPRIATE ARTICLES OF THE LATEST ACCEPTED NATIONAL ELECTRICAL CODE.

IF MORE THAN ONE GROUNDING ELECTRODE IS REQUIRED, THE DISTANCE APART SHALL BE 6 FEET OR PER LOCAL UTILITY REGULATIONS.

* SOME PEDESTAL LIGHTING PLANS SHOW MAIN LUGS ONLY.

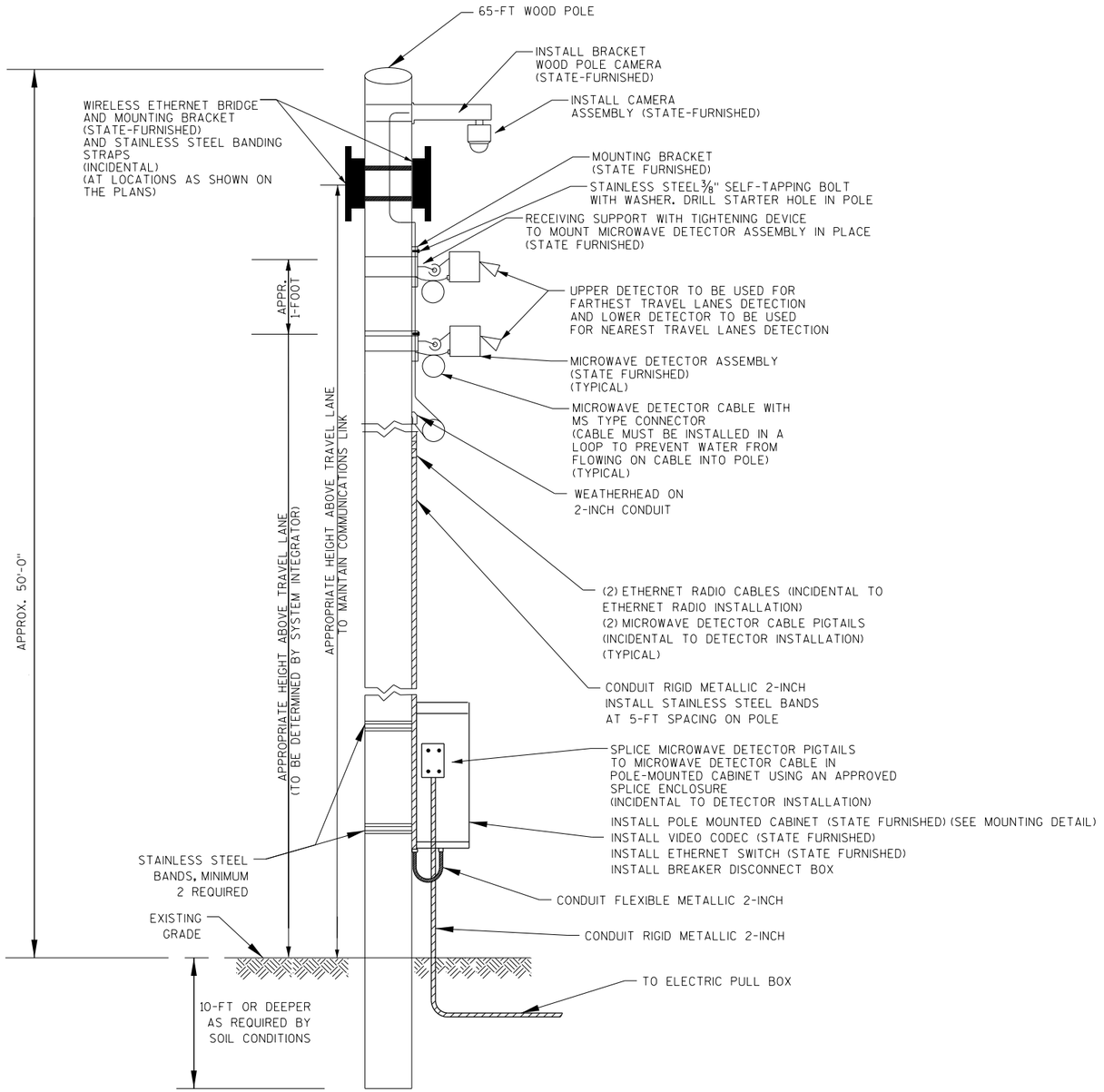
SPECIFIC NOTES:

(1) TO BE COMPLETED BY CONTRACTOR. ALL OTHER ASPECTS OF METER BREAKER PEDESTAL ARE INPLACE.

CABINET SERVICE INSTALLATION (METER BREAKER PEDESTAL)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

PROJECT NO:1071-06-80	HWY:IH 90	COUNTY:LA CROSSE	FTMS CONSTRUCTION DETAILS	SHEET 20	E



NOTES:

1) SECURE LOOSE CABLES TO POLE AT 5-FT INTERVALS.
2) INSTALL DRIP LOOPS ON LOOSE CABLES TO PREVENT WATER FROM FLOWING ON CABLE AND ENTERING POLES/ENCLOSURES.
3) MOUNT EQUIPMENT UTILIZING STAINLESS STEEL BANDS OR METHOD APPROVED BY THE ENGINEER.
4) CONDUIT FLEXIBLE METALLIC SHALL BE LIQUID TIGHT.

CCTV-32-0071
I-90

PROJECT NO: 1071-06-80	HWY: IH 90	COUNTY: LA CROSSE	FTMS CONSTRUCTION DETAILS	SHEET 21	E

SCHEDULING NOTES:

NOTIFY THE REGIONAL TRAFFIC UNIT CONTACT KYLE HEMP AT ((608) 246-5367) A MINIMUM OF 2-WEEKS PRIOR TO THE NEED TO STAKE THE FOLLOWING ITEMS:
DMS BASES; CONDUIT; PULL BOXES; AND COMMUNICATION VAULTS.

COMMUNICATIONS NOTES:

5.8 GHZ WIRELESS ETHERNET BRIDGE RADIO AT DMS-32-0052 TO BE LINKED TO 5.8 GHZ WIRELESS ETHERNET BRIDGE RADIO AT CCTV-32-0070

5.8 GHZ WIRELESS ETHERNET BRIDGE RADIO AT DMS-32-0053 TO BE LINKED TO 5.8 GHZ WIRELESS ETHERNET BRIDGE RADIO AT CCTV-32-0070

INSTALL 1-2" NON-METALLIC CONDUIT WITH (6) NO. 6 AWG TRAFFIC SIGNAL CONDUCTORS

INSTALL 1-2" NON-METALLIC CONDUIT WITH (3) NO. 6 AWG TRAFFIC SIGNAL CONDUCTORS

INSTALL 1-2" NON-METALLIC CONDUIT SPECIAL WITH, (3) NO. 6 AWG TRAFFIC SIGNAL CONDUCTORS

INSTALL 1-2" METALLIC CONDUIT WITH (3) NO. 6 AWG TRAFFIC SIGNAL CONDUCTORS

INSTALL ON HS STRUCTURAL STEEL POSTS
(1) GROUND MOUNT DMS (STATE FURNISHED)
(1) POLE-MOUNT CABINET (STATE FURNISHED)
(1) 5.8 GHZ ETHERNET BRIDGE (STATE FURNISHED)
(1) BREAKER DISCONNECT BOX
(COORDINATE STRUCTURE AND DMS INSTALLATION WITH BEAMGUARD DEPLOYMENT)

MB01
PB01
PB02
PB03
PB04
DMS-32-0053
DMS-32-0052

STA. 100+73.50 - STA. 104+23.50
BEAM GUARD REQ'D

STA. 108+41 - STA. 111+99.50
BEAM GUARD REQ'D

INSTALL ON HS STRUCTURAL STEEL POSTS
(1) GROUND MOUNT DMS (STATE FURNISHED)
(1) POLE-MOUNT CABINET (STATE FURNISHED)
(1) 5.8 GHZ ETHERNET BRIDGE (STATE FURNISHED)
(1) BREAKER DISCONNECT BOX
(COORDINATE STRUCTURE AND DMS INSTALLATION WITH BEAMGUARD DEPLOYMENT)

SPECIFIC NOTES:

① SALVAGE EXISTING END TREATMENT.
INSTALL NEW BEAM GUARD.
INSTALL SALVAGED END TREATMENT.

NOT TO SCALE

NOT TO SCALE

SCALE, FEET 0 50 100

PROJECT NO:1071-06-80	HWY:IH 90	COUNTY:LA CROSSE	FTMS PLANS - IH 90 NEAR CTH BW OVERPASS	SHEET 22	E

FILE NAME : P:\Alliant\WisDOT\080078\DESIGN\SHEETS\AE_0680_fm_01.dgn PLOT DATE : 10/28/2013 PLOT BY : atutewohl PLOT NAME : PLOT SCALE : 1:100

WISDOT/CADDS SHEET 42

SCHEDULING NOTES:

NOTIFY THE REGIONAL TRAFFIC UNIT CONTACT KYLE HEMP AT ((608) 246-5367) A MINIMUM OF 2-WEEKS PRIOR TO THE NEED TO STAKE THE FOLLOWING ITEMS:
DMS BASES; CONDUIT; PULL BOXES; AND COMMUNICATION VAULTS.

COMMUNICATIONS NOTES:

5.8 GHZ WIRELESS ETHERNET BRIDGE RADIO AT CCTV-32-0070 TO BE LINKED TO 5.8 GHZ WIRELESS ETHERNET BRIDGE RADIO AT CCTV-32-0071

5.8 GHZ WIRELESS ETHERNET BRIDGE RADIO AT CCTV-32-0070 TO BE LINKED TO 5.8 GHZ WIRELESS ETHERNET BRIDGE RADIO AT DMS-32-0052

5.8 GHZ WIRELESS ETHERNET BRIDGE RADIO AT CCTV-32-0070 TO BE LINKED TO 5.8 GHZ WIRELESS ETHERNET BRIDGE RADIO AT DMS-32-0053

RAMP D
RAMP C
RAMP A
RAMP B
C.T.H. B
I-90 WB
I-90 EB
136D
138D
140D
140DT
142C
142CT
144C
144CT
146CT
148CT
136WB
138WB
140WB
142WB
144WB
146WB
148WB
136EB
138EB
140EB
142EB
144EB
146EB
148EB
146B
142B
144B
140B
136A
138A
140A
136B
138B
140G
140GCT
138BS
138BN
140BS
140BN
142BS
142BN
144BS
144BN
146BS
146BN
148BS
148BN
MH
SIGN
INL
W

CCTV-32-0070
MD101
MD102
PB104
PB103
PB102
PB101
MB100

INSTALL 2-2" NON-METALLIC CONDUITS
FROM PB104 TO THE 30-FOOT CAMERA POLE BASE
(1) FOR FUTURE USE
(1) FOR FUTURE USE

INSTALL 1-2" METALLIC CONDUIT
FROM PB104 TO THE POLE-MOUNT CABINET WITH
(3) NO. 6 AWG TRAFFIC SIGNAL CONDUCTORS

CCTV-32-0070
(1) 30-FOOT CAMERA POLE BASE
(1) 30-FOOT CAMERA POLE (STATE-FURNISHED)
(1) CCTV POLE-MOUNT CABINET (STATE-FURNISHED)
(1) BREAKER DISCONNECT BOX
(1) VIDEO CODEC (STATE-FURNISHED)
(1) ETHERNET SWITCH (STATE-FURNISHED)
(3) 5.8 GHZ ETHERNET BRIDGE (STATE-FURNISHED)
(1) CAMERA ASSEMBLY (STATE-FURNISHED)
(2) MICROWAVE DETECTOR ASSEMBLIES (STATE-FURNISHED)

INSTALL 2-3" NON-METALLIC CONDUITS
(1) WITH (3) NO. 6 AWG TRAFFIC SIGNAL CONDUCTORS
(1) FOR FUTURE USE

INSTALL 1-2" NON-METALLIC CONDUIT WITH
(3) NO. 6 AWG TRAFFIC SIGNAL CONDUCTORS

INSTALL 2-3" NON-METALLIC CONDUITS
(1) WITH (3) NO. 6 AWG TRAFFIC SIGNAL CONDUCTORS
(1) FOR FUTURE USE

INSTALL 2-3" NON-METALLIC CONDUITS SPECIAL
(1) WITH (3) NO. 6 AWG TRAFFIC SIGNAL CONDUCTORS
(1) FOR FUTURE USE

SCALE, FEET 0 50 100

PROJECT NO:1071-06-80	HWY:IH 90	COUNTY:LA CROSSE	FTMS PLANS - IH 90 / CTH B INTERCHANGE	SHEET 23	E

2

I-90 WB

I-90 EB

RAMP H

S.T.H. 35 SB

S.T.H. 35 NB

U.S.H. 53/S.T.H. 35 SB

U.S.H. 53/S.T.H. 35 NB

RAMP F

WITTENBERG PL

MD201

MD202

CCTV-32-0071

PB205

CCTV-32-0071
(1) WOOD POLE
(1) CCTV POLE-MOUNT CABINET (STATE-FURNISHED)
(1) BREAKER DISCONNECT BOX
(1) VIDEO CODEC (STATE-FURNISHED)
(1) ETHERNET SWITCH (STATE-FURNISHED)
(2) 5.8 GHZ ETHERNET BRIDGE (STATE-FURNISHED)
(1) CAMERA ASSEMBLY (STATE-FURNISHED)
(2) MICROWAVE DETECTOR ASSEMBLIES (STATE-FURNISHED)

PB204

INSTALL 2-3" NON-METALLIC CONDUITS
(1) WITH (3) NO. 6 AWG TRAFFIC SIGNAL CONDUCTORS
(1) FOR FUTURE USE

INSTALL 2-2" NON-METALLIC CONDUITS
FROM PB205 TO THE 50-FOOT CAMERA POLE BASE
(1) FOR FUTURE USE
(1) FOR FUTURE USE

INSTALL 1-2" METALLIC CONDUIT
FROM PB205 TO THE POLE-MOUNT CABINET WITH
(3) NO. 6 AWG TRAFFIC SIGNAL CONDUCTORS

PB203

INSTALL 2-3" NON-METALLIC CONDUITS SPECIAL
(1) WITH (3) NO. 6 AWG TRAFFIC SIGNAL CONDUCTORS
(1) FOR FUTURE USE

PB202

INSTALL 1-2" NON-METALLIC CONDUIT SPECIAL WITH
(3) NO. 6 AWG TRAFFIC SIGNAL CONDUCTORS

PB201

INSTALL 2-3" NON-METALLIC CONDUITS
(1) WITH (3) NO. 6 AWG TRAFFIC SIGNAL CONDUCTORS
(1) FOR FUTURE USE

PB200

MB200

SCALE, FEET 0 50 100

SCHEDULING NOTES:

NOTIFY THE REGIONAL TRAFFIC UNIT CONTACT KYLE HEMP AT ((608) 246-5367) A MINIMUM OF 2-WEEKS PRIOR TO THE NEED TO STAKE THE FOLLOWING ITEMS:
DMS BASES; CONDUIT; PULL BOXES; AND COMMUNICATION VAULTS.

COMMUNICATION NOTES:

5.8 GHZ WIRELESS ETHERNET BRIDGE RADIO AT CCTV-32-0070 TO BE LINKED TO 5.8 GHZ WIRELESS ETHERNET BRIDGE RADIO AT CCTV-32-0071
5.8 GHZ WIRELESS ETHERNET BRIDGE RADIO AT CCTV-32-0071 TO BE LINKED TO 5.8 GHZ WIRELESS ETHERNET BRIDGE RADIO AT CCTV-32-0072

PROJECT NO:1071-06-80	HWY:IH 90	COUNTY:LA CROSSE	FTMS PLANS - IH 90 / USH 53 / STH 35 INTERCHANGE	SHEET 24	E

EXPB300

(1) INSTALL PROPOSED CONDUIT INTO EXISTING HANDHOLE
(4) FIBER OPTIC SPLICES IN SPLICE ENCLOSURE (STATE-FURNISHED)

INSTALL 2-3" NON-METALLIC CONDUIT SPECIAL
(1) WITH (1) 6-COUNT FIBER OPTIC CABLE (STATE-FURNISHED)
(1) FOR FUTURE USE

SCALE, FEET 0 50 100

USE EXISTING SIGNAL SYSTEM AS SOURCE OF POWER
INSTALL (1) CONDUIT INTO EXISTING METER BREAKER PEDESTAL WITH (3) NO. 6 AWG TRAFFIC SIGNAL CONDUCTORS

EXMB300

INSTALL 1-2" NON-METALLIC CONDUIT WITH (3) NO. 6 AWG TRAFFIC SIGNAL CONDUCTORS

PB301

INSTALL 2-3" NON-METALLIC CONDUITS
(1) WITH (3) NO. 6 AWG TRAFFIC SIGNAL CONDUCTORS
(1) WITH (1) 6-COUNT FIBER OPTIC CABLE (STATE-FURNISHED)

PB302

INSTALL 2-3" NON-METALLIC CONDUITS SPECIAL
(1) WITH (3) NO. 6 AWG TRAFFIC SIGNAL CONDUCTORS
(1) WITH (1) 6-COUNT FIBER OPTIC CABLE (STATE-FURNISHED)

PB303

SCHEDULING NOTES:

NOTIFY THE REGIONAL TRAFFIC UNIT CONTACT KYLE HEMP AT ((608) 246-5367) A MINIMUM OF 2-WEEKS PRIOR TO THE NEED TO STAKE THE FOLLOWING ITEMS:
DMS BASES; CONDUIT; PULL BOXES; AND COMMUNICATION VAULTS.

COMMUNICATION NOTES:

5.8 GHZ WIRELESS ETHERNET BRIDGE RADIO AT CCTV-32-0071 TO BE LINKED TO 5.8 GHZ WIRELESS ETHERNET BRIDGE RADIO AT CCTV-32-0072
CCTV-32-0072 TO BE LINKED TO EXISTING FIBER OPTIC CABLE

INSTALL 2-3" NON-METALLIC CONDUITS
(1) WITH (1) 6-COUNT FIBER OPTIC CABLE (STATE-FURNISHED)
(1) WITH (3) NO. 6 AWG TRAFFIC SIGNAL CONDUCTORS

PB304

INSTALL 2-2" NON-METALLIC CONDUITS
FROM PB305 TO THE 50-FOOT CAMERA POLE BASE
(1) WITH (1) 6-COUNT FIBER OPTIC CABLE (STATE-FURNISHED)
(1) FOR FUTURE USE

INSTALL 1-2" METALLIC CONDUIT
FROM PB305 TO THE POLE-MOUNT CABINET WITH
(3) NO. 6 AWG TRAFFIC SIGNAL CONDUCTORS

CCTV-32-0072
(1) 50-FOOT CAMERA POLE BASE
(1) 50-FOOT CAMERA POLE WITH LOWERING SYSTEM (STATE-FURNISHED)
(1) CCTV POLE-MOUNT CABINET (STATE-FURNISHED)
(1) BREAKER DISCONNECT BOX
(1) VIDEO CODEC (STATE-FURNISHED)
(1) ETHERNET SWITCH (STATE-FURNISHED)
(1) 5.8 GHZ ETHERNET BRIDGE (STATE-FURNISHED)
(1) CAMERA ASSEMBLY (STATE-FURNISHED)
(1) 12-COUNT FIBER OPTIC TERMINATION PANEL (STATE-FURNISHED)
(6) FIBER OPTIC TERMINATIONS
(2) MICROWAVE DETECTOR ASSEMBLIES (STATE-FURNISHED)

PB305
CCTV-32-0072
MD301
MD302

U.S.H. 53/S.T.H. 157 SB
U.S.H. 53/S.T.H. 157 NB
RAMP P
RAMP L
I-90 WB
I-90 EB

PROJECT NO:1071-06-80	HWY:IH 90	COUNTY:LA CROSSE	FTMS PLAN - IH 90 / USH 53 / STH 157 INTERCHANGE	SHEET 25	E

FILE NAME : P:\Alliant\WisDOT\080078\DESIGN\SHEETS\AE_0680_fm_07.dgn
PLOT DATE : 10/28/2013
PLOT BY : comer
PLOT NAME :
PLOT SCALE : 1:100
WISDOT/CADDS SHEET 42

2

SCHEDULING NOTES:

NOTIFY THE REGIONAL TRAFFIC UNIT CONTACT KYLE HEMP AT ((608) 246-5367) A MINIMUM OF 2-WEEKS PRIOR TO THE NEED TO STAKE THE FOLLOWING ITEMS:
DMS BASES; CONDUIT; PULL BOXES; AND COMMUNICATION VAULTS.

COMMUNICATION NOTES:

CCTV-32-0073 TO BE LINKED TO EXISTING FIBER OPTIC CABLE

N

SCALE, FEET 0 50 100

INSTALL 2-3" NON-METALLIC CONDUITS
(1) WITH (1) 6-COUNT FIBER OPTIC CABLE (STATE-FURNISHED)
(1) FOR FUTURE USE

(1) INSTALL PROPOSED CONDUIT INTO EXISTING HANDHOLE
(4) FIBER OPTIC SPLICES IN SPLICE ENCLOSURE (STATE-FURNISHED)

EXPB400

INSTALL 2-3" NON-METALLIC CONDUITS SPECIAL
(1) WITH (3) NO. 6 AWG TRAFFIC SIGNAL CONDUCTORS
(1) WITH (1) 6-COUNT FIBER OPTIC CABLE (STATE-FURNISHED)

USE EXISTING SIGNAL SYSTEM AS SOURCE OF POWER
INSTALL (1) CONDUIT INTO EXISTING METER BREAKER PEDESTAL WITH (3) NO. 6 AWG TRAFFIC SIGNAL CONDUCTORS

EXMB400

PB401

INSTALL 1-2" NON-METALLIC CONDUIT WITH
(3) NO. 6 AWG TRAFFIC SIGNAL CONDUCTORS

PB402

INSTALL 2-3" NON-METALLIC CONDUITS SPECIAL
(1) WITH (3) NO. 6 AWG TRAFFIC SIGNAL CONDUCTORS
(1) WITH (1) 6-COUNT FIBER OPTIC CABLE (STATE-FURNISHED)

PB403

PB404

INSTALL 2-3" NON-METALLIC CONDUITS
(1) WITH (1) 6 COUNT FIBER OPTIC CABLE (STATE-FURNISHED)
(1) WITH (3) NO. 6 AWG TRAFFIC SIGNAL CONDUCTORS

PB405

CCTV-32-0073
(1) 50-FOOT CAMERA POLE BASE
(1) 50-FOOT CAMERA POLE WITH LOWERING SYSTEM (STATE-FURNISHED)
(1) CCTV POLE-MOUNT CABINET (STATE-FURNISHED)
(1) BREAKER DISCONNECT BOX
(1) VIDEO CODEC (STATE-FURNISHED)
(1) ETHERNET SWITCH (STATE-FURNISHED)
(1) CAMERA ASSEMBLY (STATE-FURNISHED)
(1) 12-COUNT FIBER OPTIC TERMINATION PANEL (STATE-FURNISHED)
(6) FIBER OPTIC TERMINATIONS
(2) MICROWAVE DETECTOR ASSEMBLIES (STATE-FURNISHED)

S.T.H. 16 SB

S.T.H. 16 NB

PB406

INSTALL 2-3" NON-METALLIC CONDUITS
(1) WITH (1) 6 COUNT FIBER OPTIC CABLE (STATE-FURNISHED)
(1) WITH (3) NO. 6 AWG TRAFFIC SIGNAL CONDUCTORS

INSTALL 2-2" NON-METALLIC CONDUITS
FROM PB404 TO THE 50-FOOT CAMERA POLE BASE
(1) WITH (1) 6-COUNT FIBER OPTIC CABLE (STATE-FURNISHED)
(1) FOR FUTURE USE

MD401
MD402
CCTV-32-0073

PB407

INSTALL 1-2" METALLIC CONDUIT
FROM PB404 TO THE POLE-MOUNT CABINET
(3) NO. 6 AWG TRAFFIC SIGNAL CONDUCTORS

SIGN

I-90 WB

I-90 EB

2

PROJECT NO:1071-06-80	HWY:IH 90	COUNTY:LA CROSSE	FTMS PLAN - IH 90 / STH 16 INTERCHANGE	SHEET 26	E

FILE NAME : P:\Alliant\WisDOT\080078\DESIGN\SHEETS\AE_0680_fm_09.dgn PLOT DATE : 10/28/2013 PLOT BY : comer PLOT NAME : PLOT SCALE : 1:100

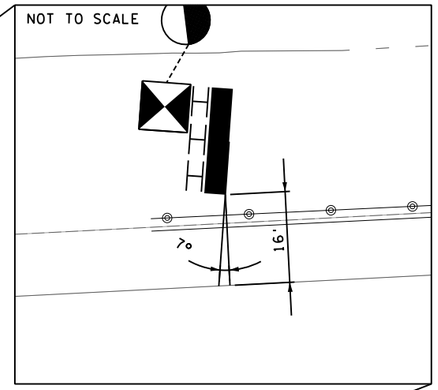
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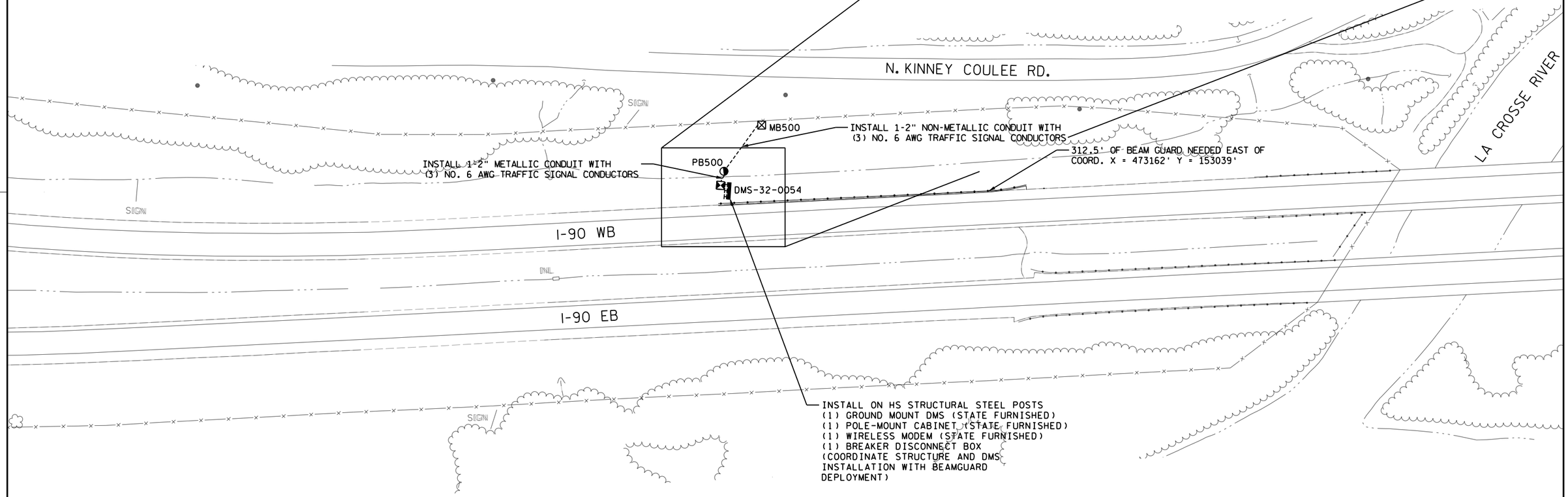
SCHEDULING NOTES:

NOTIFY THE REGIONAL TRAFFIC UNIT CONTACT KYLE HEMP AT ((608) 246-5367) A MINIMUM OF 2-WEEKS PRIOR TO THE NEED TO STAKE THE FOLLOWING ITEMS:
DMS BASES; CONDUIT; PULL BOXES; AND COMMUNICATION VAULTS.

COMMUNICATION NOTES:

COMMUNICATION TO DMS-32-0054 WILL BE ACCOMPLISHED THROUGH THE USE OF THE STATE FURNISHED WIRELESS MODEM.





PROJECT NO:1071-06-80	HWY:IH 90	COUNTY:LA CROSSE	FTMS PLAN - IH 90	SHEET 27	E

2

2

FOUND

FOUND

U/C

U/C

SIGN

SIGN

106WB

108WB

110WB

112WB

IH 90 WB

114WB

116WB

118WB

120WB

I 90

I 90

I 90

IH 90 EB

I 90

CTH "BW"

INL

SIGN

N

SIGN

MH

SIGN

LEGEND

- EROSION MAT CLASS I, TYPE B
- TEMPORARY DITCH CHECK
- SILT FENCE
- INLET PROTECTION TYPE A (UNLESS OTHERWISE NOTED)
- CULVERT PIPE CHECKS
- RIPRAP LIGHT (UNLESS OTHERWISE NOTED)
- SURFACE WATER FLOW

N

I 90

122WB

124WB

126WB

IH 90 WB

128WB

I 90

130WB

132DU

132WB

134WB

136WB

I 90

122DT

124DT

126DT

128DT

130DT

132DT

134DT

I 90

IH 90 EB

I 90

I 90

I 90

SIGN

SIGN

SIGN

SIGN

SIGN

SIGN

OVERHEAD

PROJECT NO: 1071-06-80	HWY: IH 90	COUNTY: LA CROSSE	EROSION CONTROL	SHEET	E

FILE NAME : T:\410627\DGN-DWG\1_0680_PREP_BLUE\aa_0680_022001_ec.dgn PLOT DATE : 10/31/2013 PLOT BY : AYRES-EC PLOT NAME : PLOT SCALE : 1:100

WISDOT/CADDS SHEET 42

2

2

N

CTH "B"

CTH B

IH 90 WB

IH 90 EB

I 90

136CT

136WB

138WB

138DT

140WB

140DT

140CT

142WB

142CT

144CT

144WB

146CT

146WB

148WB

148CT

150WB

150CT

SIGN

INL

LEGEND

EROSION MAT CLASS I, TYPE B

TEMPORARY DITCH CHECK

SILT FENCE

INLET PROTECTION TYPE A (UNLESS OTHERWISE NOTED)

CULVERT PIPE CHECKS

RIPRAP LIGHT (UNLESS OTHERWISE NOTED)

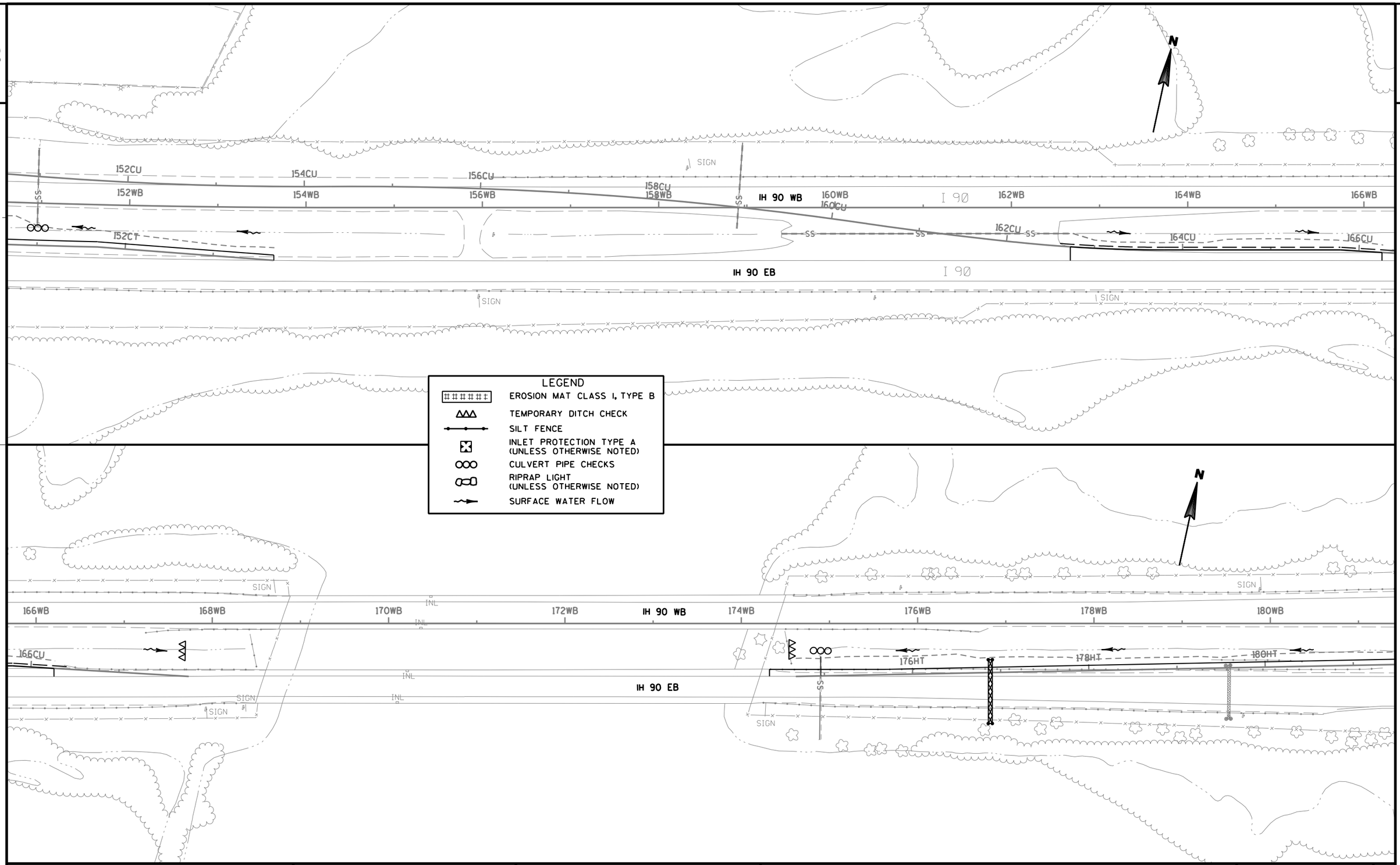
SURFACE WATER FLOW

PROJECT NO: 1071-06-80	HWY: IH 90	COUNTY: LA CROSSE	EROSION CONTROL	SHEET 29	E

FILE NAME : T:\410627\DGN-DWG\1_0680_PREP_BLUE\ao_0680_022002_ec.dgn PLOT DATE : 10/31/2013 PLOT BY : AYRES-EC PLOT NAME : PLOT SCALE : 1:100

WISDOT/CADDS SHEET 42

2



LEGEND

- EROSION MAT CLASS I, TYPE B
- TEMPORARY DITCH CHECK
- SILT FENCE
- INLET PROTECTION TYPE A (UNLESS OTHERWISE NOTED)
- CULVERT PIPE CHECKS
- RIPRAP LIGHT (UNLESS OTHERWISE NOTED)
- SURFACE WATER FLOW

PROJECT NO: 1071-06-80	HWY: IH 90	COUNTY: LA CROSSE	EROSION CONTROL	SHEET 30	E

FILE NAME : T:\410627\DGN-DWG\1_0680_PREP_BLUE\aa_0680_022003_ec.dgn PLOT DATE : 12/19/2013 PLOT BY : AYRES-EC PLOT NAME : PLOT SCALE : 1:100

WISDOT/CADDS SHEET 42

2

LEGEND

- EROSION MAT CLASS I, TYPE B
- TEMPORARY DITCH CHECK
- SILT FENCE
- INLET PROTECTION TYPE A (UNLESS OTHERWISE NOTED)
- CULVERT PIPE CHECKS
- RIPRAP LIGHT (UNLESS OTHERWISE NOTED)
- SURFACE WATER FLOW

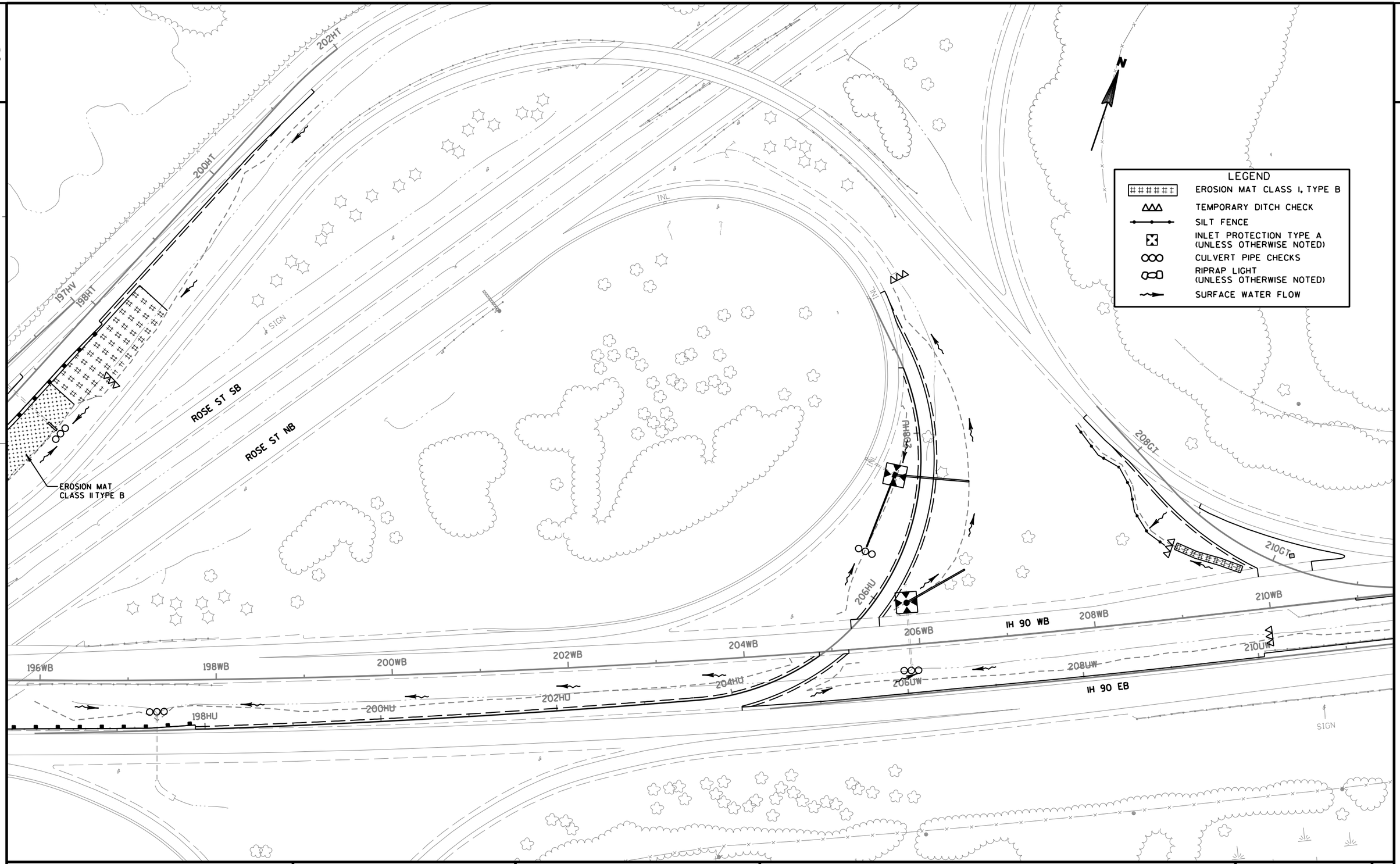
N

197HV
198HT
196HV
196HT
194HV
194HT
192HV
192HT
190HV
190HT
188HV
188HT
186HV
186WB
188WB
190WB
192WB
194WB
196WB
182WB
IH 90 WB
184WB
182HV
IH 90 EB
EROSION MAT CLASS II TYPE B
ROSE ST SB
ROSE ST NB
SIGN

PROJECT NO: 1071-06-80	HWY: IH 90	COUNTY: LA CROSSE	EROSION CONTROL	SHEET	E

FILE NAME : T:\410627\DGN-DWG\1_0680_PREP_BLUE\ao_0680_022004_ec.dgn PLOT DATE : 10/31/2013 PLOT BY : AYRES-EC PLOT NAME : PLOT SCALE : 1:100

WISDOT/CADDS SHEET 42



PROJECT NO: 1071-06-80	HWY: IH 90	COUNTY: LA CROSSE	EROSION CONTROL	SHEET 32	E

FILE NAME : T:\410627\DGN-DWG\1_0680_PREP_BLUE\aa_0680_022005_ec.dgn PLOT DATE : 12/19/2013 PLOT BY : AYRES-EC PLOT NAME : PLOT SCALE : 1:100

WISDOT/CADDS SHEET 42

2

2

BURLINGTON NORTHERN

BNSF RR

OAK ST

GREAT RIVER STATE TRAIL

IH 90 WB

IH 90 EB

I 90/USH 53

212GT 214GT 216GT 218GT 220GT 222GT 224GT 226GT

212UW 214UW 216UW 218UW 220UW 222UW 224UW 226UW

218FT 220FT 222FT 224FT 226FT

226TW 228TW 230TW 232TW 234TW 236TW 238TW 240TW

226FT 228FT 230FT

SIGN

INL

WALLS

MH

N

LEGEND

######	EROSION MAT CLASS I, TYPE B
ΔΔΔ	TEMPORARY DITCH CHECK
	SILT FENCE
	INLET PROTECTION TYPE A (UNLESS OTHERWISE NOTED)
OOO	CULVERT PIPE CHECKS
	RIPRAP LIGHT (UNLESS OTHERWISE NOTED)
	SURFACE WATER FLOW

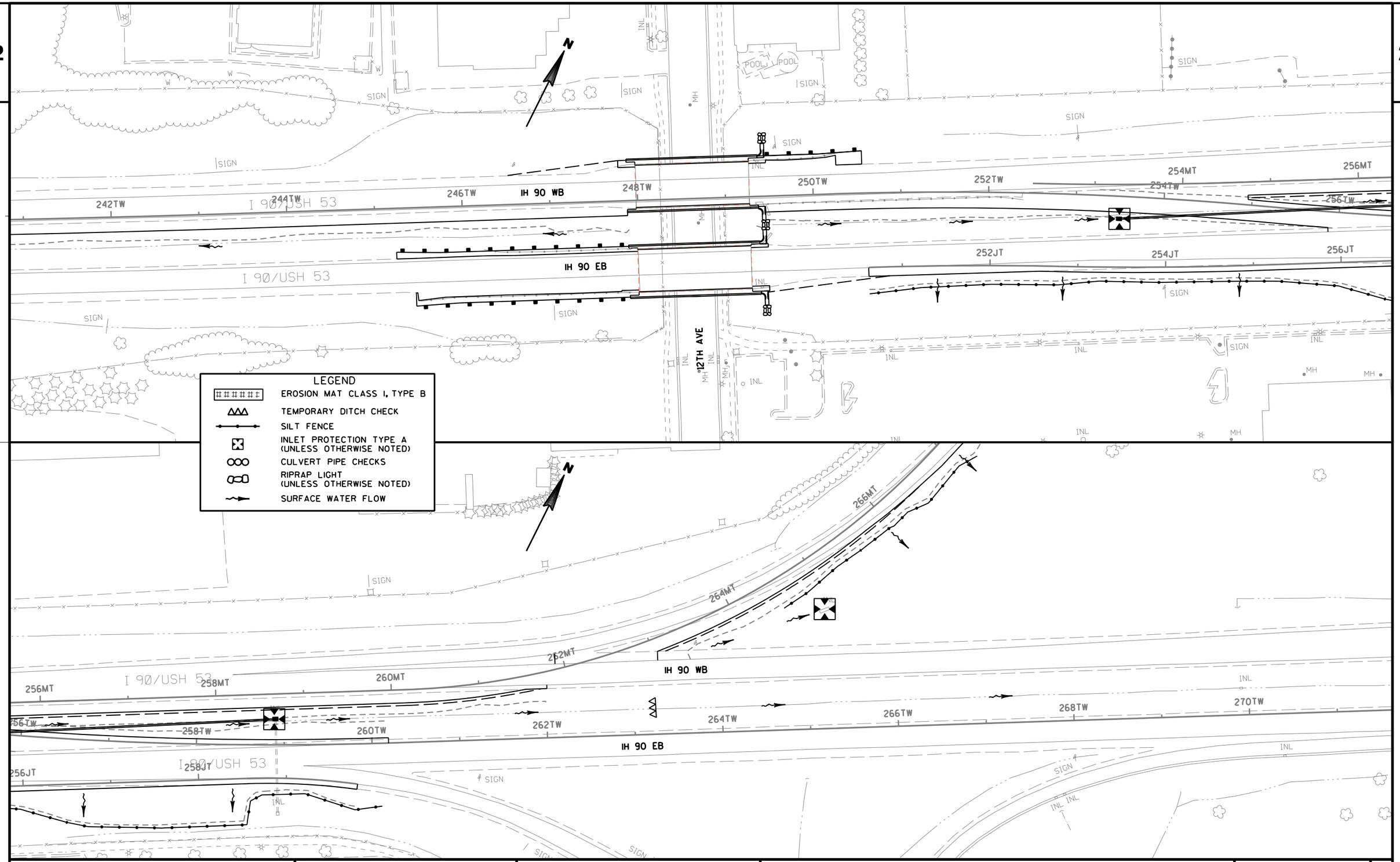
PROJECT NO: 1071-06-80	HWY: IH 90	COUNTY: LA CROSSE	EROSION CONTROL	SHEET 33	E

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WISDOT/CADDS SHEET 42

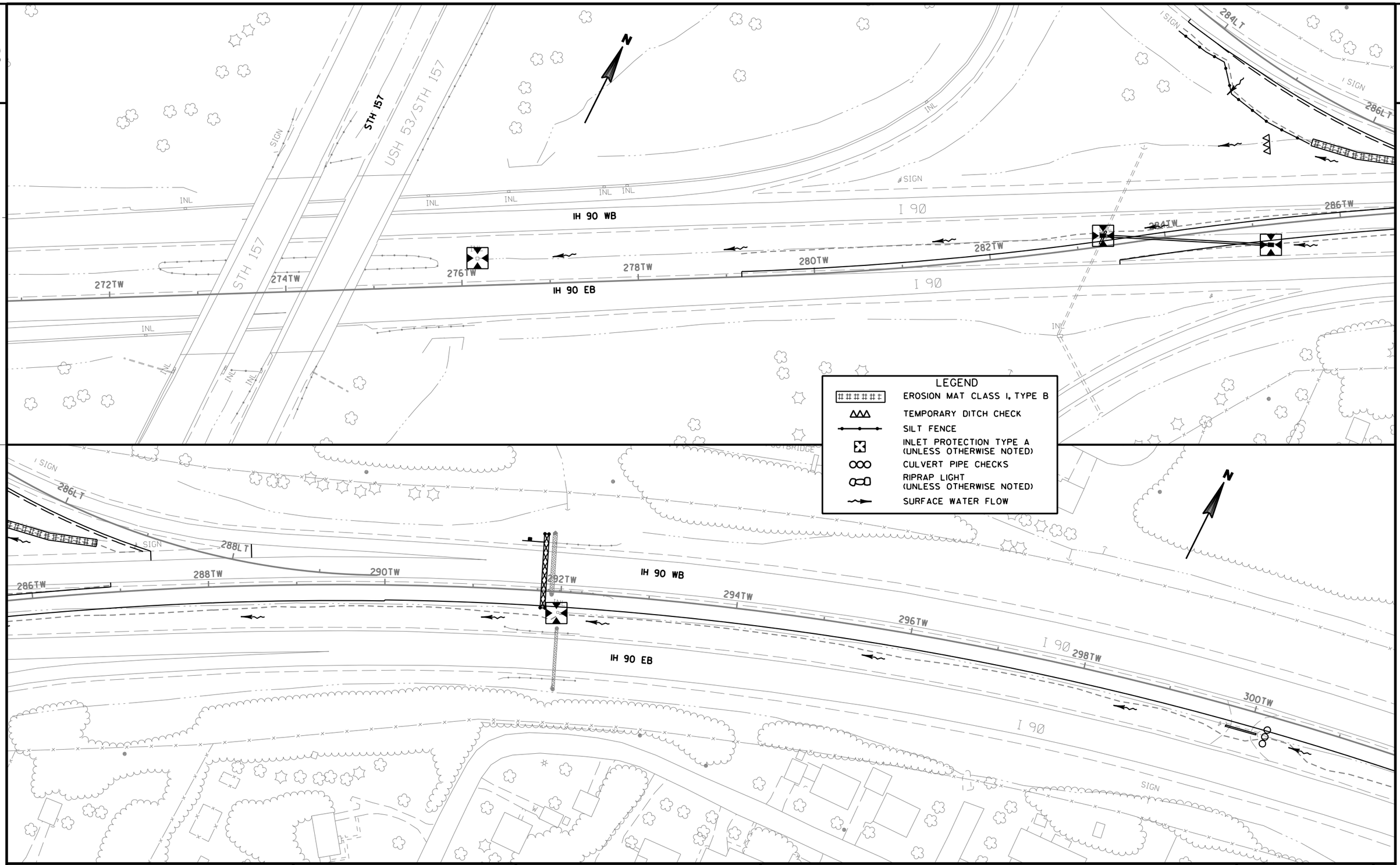
2

2



PROJECT NO: 1071-06-80	HWY: IH 90	COUNTY: LA CROSSE	EROSION CONTROL	SHEET	E

FILE NAME : T:\410627\DGN-DWG\1_0680_PREP_BLUE\aa_0680_022007_ec.dgn PLOT DATE : 10/31/2013 PLOT BY : AYRES-EC PLOT NAME : PLOT SCALE : 1:100



PROJECT NO: 1071-06-80	HWY: IH 90	COUNTY: LA CROSSE	EROSION CONTROL	SHEET 35	E

FILE NAME : T:\410627\DGN-DWG\1_0680_PREP_BLUE\aa_0680_022008_ec.dgn PLOT DATE : 10/31/2013 PLOT BY : AYRES-EC PLOT NAME : PLOT SCALE : 1:100

WISDOT/CADDS SHEET 42

2

2

N

IH 90 WB

IH 90 EB

I 90

302TW

304TW

306TW

308TW

310TW

312TW

314TW

316TW

318TW

318TW

THEATER RD

SIGN

MH

INL

W

LEGEND

- EROSION MAT CLASS I, TYPE B
- TEMPORARY DITCH CHECK
- SILT FENCE
- INLET PROTECTION TYPE A (UNLESS OTHERWISE NOTED)
- CULVERT PIPE CHECKS
- RIPRAP LIGHT (UNLESS OTHERWISE NOTED)
- SURFACE WATER FLOW

PROJECT NO: 1071-06-80	HWY: IH 90	COUNTY: LA CROSSE	EROSION CONTROL	SHEET	E

FILE NAME : T:\410627\DGN-DWG\1_0680_PREP_BLUE\aa_0680_022009_ec.dgn PLOT DATE : 10/31/2013 PLOT BY : AYRES-EC PLOT NAME : PLOT SCALE : 1:100

WISDOT/CADDS SHEET 42

LEGEND

- EROSION MAT CLASS I, TYPE B
- SILT FENCE
- INLET PROTECTION TYPE C (UNLESS OTHERWISE NOTED)
- CULVERT PIPE DITCH CHECK
- SURFACE WATER FLOW

SCALE, FEET 0 50 100

CAUTION

SLOPE INTERCEPT

C/L GREAT RIVER STATE TRAIL

PROPOSED C-32-97

24T 26T 28T 30T 32T 34T 36T 38T

GREAT RIVER STATE TRAIL

SLOPE INTERCEPT

ENTERPRISE AVENUE

230EB 230WB 232EB 232WB 234EB 234WB 236EB 236WB 238EB 238WB

IH-90 EB

IH-90 WB

STA 32+50 T TO STA 35+25 T
SPREAD PLAN QUANTITY OF TOPSOIL FOR THIS STATION RANGE OVER C-32-97 BACKFILL; FERTILIZE, SEED AND MULCH.

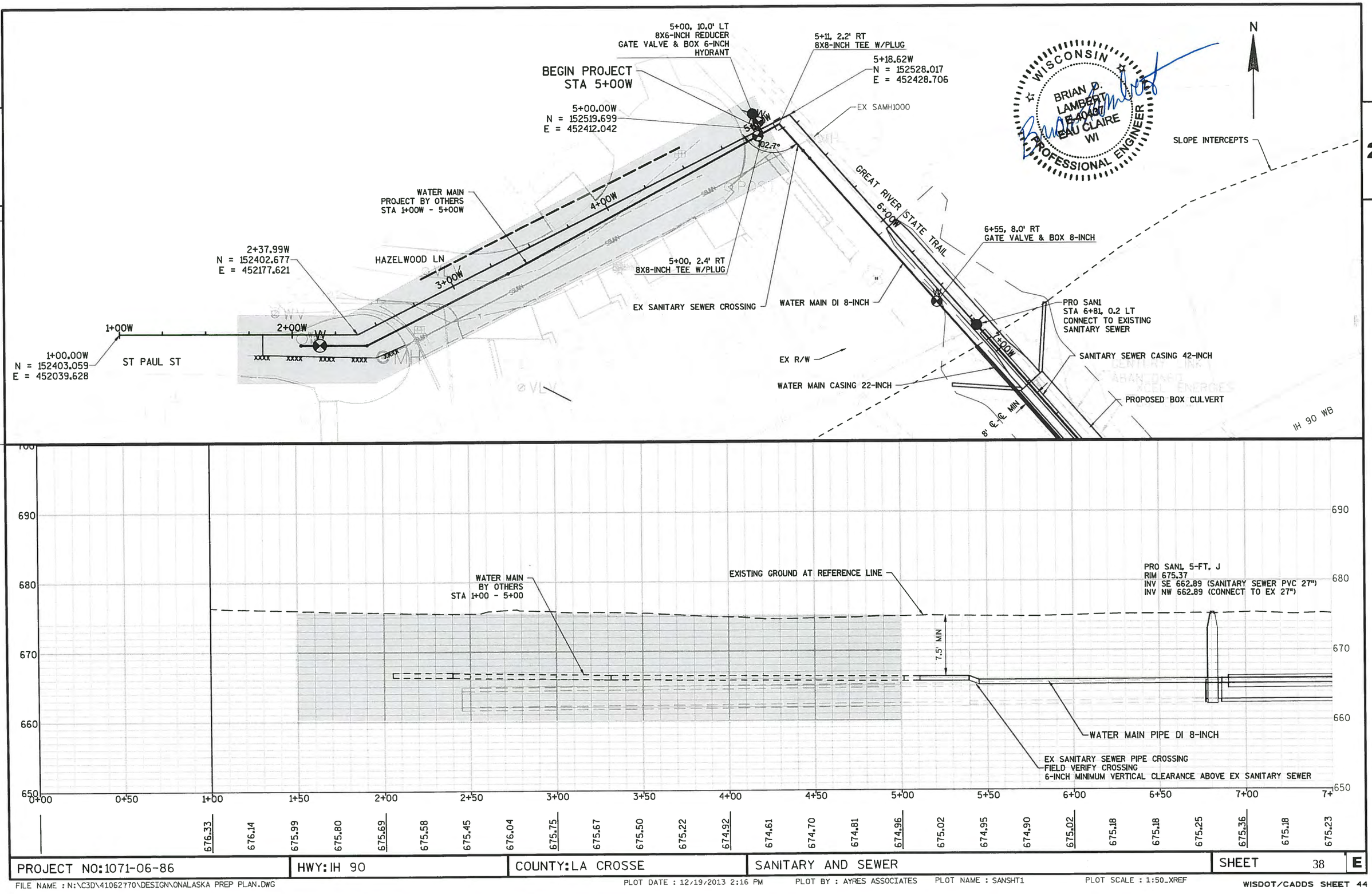
R/L IH-90 EB
TO BE CONSTRUCTED UNDER
PROJECT ID 1071-06-79

R/L IH-90 WB
TO BE CONSTRUCTED UNDER
PROJECT ID 1071-06-78

NOTE:

SEEDING OVER C-32-97 TO INCLUDE SEEDING MIXTURE NO. 20 AND SEEDING TEMPORARY

PROJECT NO: 1071-06-80	HWY: IH 90	COUNTY: LA CROSSE	EROSION CONTROL: GREAT RIVER STATE TRAIL	SHEET 37	E



PROJECT NO:1071-06-86	HWY: IH 90	COUNTY:LA CROSSE	SANITARY AND SEWER	SHEET 38 E

2

9+58, 0.4' LT
REMOVING MANHOLES

EX BRIDGE COLUMNS TO REMAIN
IN SERVICE DURING INSTALLATION

SANITARY SEWER STEEL CASING 42-INCH

8' C-C MIN

EX SAMH1001

10+70, 33.7' LT
REMOVING MANHOLES

EX SAMH1003

REMOVING SANITARY SEWER

PRO SAN3
STA 11+28, 33.9 LT

CONNECT TO EXISTING
SANITARY SEWER

11+57, 24.1' LT

8' C-C MIN

EX SAMH1002

WATER MAIN DI 8-INCH

8+00W

27" SAN

9+00W

10+00W

11+00W

45°

27" SAN

45°

GREAT RIVER STATE TRAIL

12+00W

13+00W

14+00W

15+00W

EX BRIDGE COLUMNS TO REMAIN
IN SERVICE DURING INSTALLATION

WATER MAIN STEEL CASING 22-INCH

XCEL ENERGY

11+25, 8.0' RT

11+10, 8.0' RT
GATE VALVE & BOX 8-INCH

CENTURYLINK
(ABANDONED)

PROPOSED BOX CULVERT

IH 90 WB

IH 90 EB

PRO SAN2
STA 10+82, 0.2 LT

11+00, 21.0' RT
8X6-INCH TEE
GATE VALVE & BOX 6-INCH
HYDRANT

690
680
670
660
650

PROPOSED TRAIL PROFILE

EXISTING GROUND AT REFERENCE LINE

PRO SAN2, 6-FT, J
RIM 673.68
INV E 663.66 (SANITARY SEWER RCP 27")
INV NW 663.56 (SANITARY SEWER PVC 27")

PRO SAN3, 6-FT, J
RIM 673.00
INV SE 663.86 (CONNECT TO EX 27")
INV W 663.76 (SANITARY SEWER RCP 27")

7.5' MIN

343 LF OF WATER MAIN CASING PIPE STEEL 22-INCH

WATER MAIN PIPE DI 8-INCH -PLACED IN STEEL CASING

402 LF OF SANITARY SEWER PVC 27-INCH @ 0.17%

392 LF OF SANITARY SEWER CASING PIPE STEEL 42-INCH

57 LF OF SANITARY SEWER RCP 27-INCH @ 0.18%

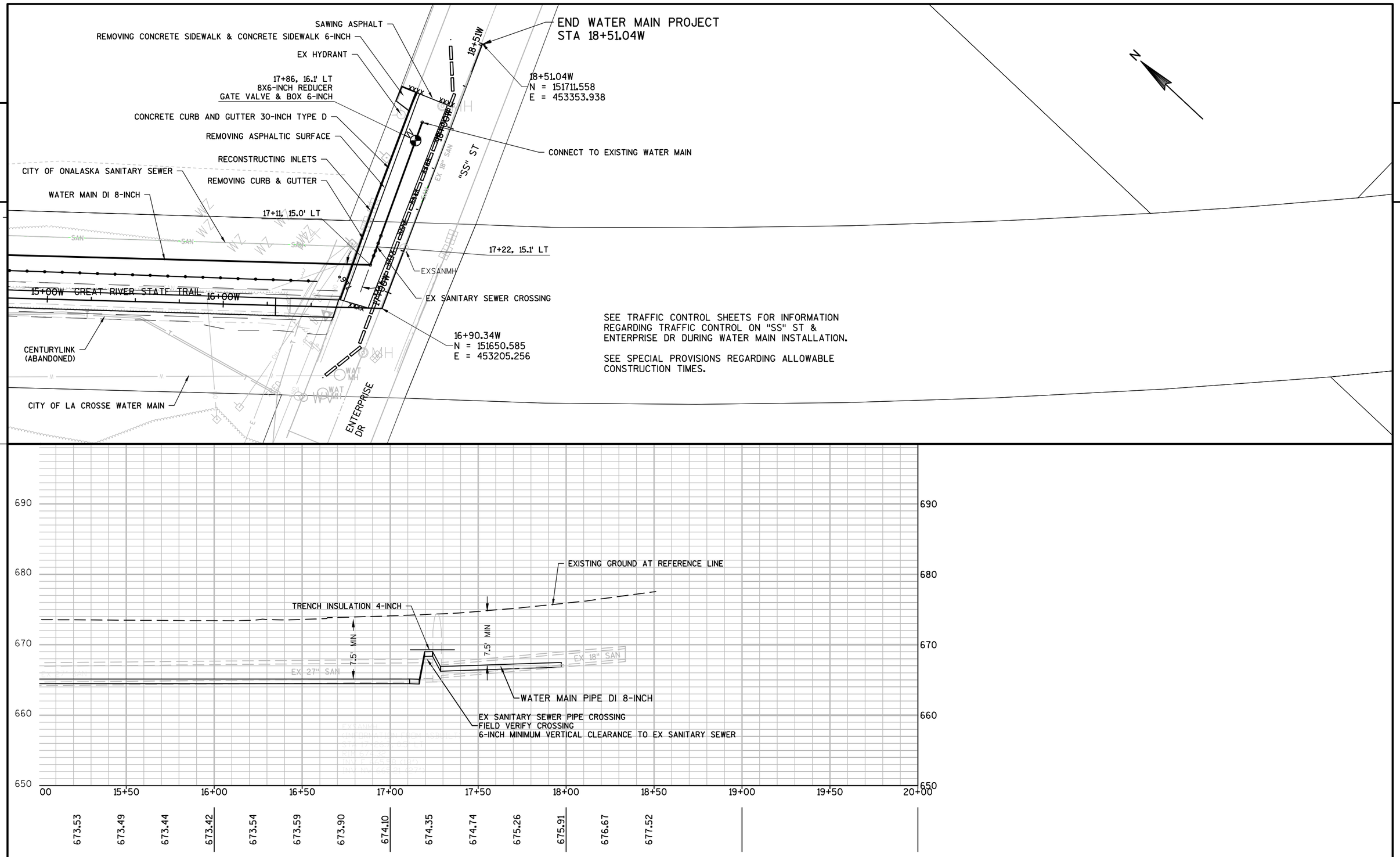
WATER MAIN PIPE DI 8-INCH

50 8+00 8+50 9+00 9+50 10+00 10+50 11+00 11+50 12+00 12+50 13+00 13+50 14+00 14+50 15+

675.33 675.38 675.47 675.38 675.24 675.13 674.98 675.12 675.27 675.04 674.54 674.50 673.91 673.71 674.17 674.35 674.21 674.12 674.09 674.05 673.98 673.91 673.92 673.93 673.92 673.83 673.70 673.58 673.57 673.58

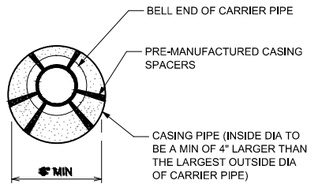
PROJECT NO: 1071-06-86	HWY: IH 90	COUNTY: LA CROSSE	SANITARY AND WATER	SHEET	E

FILE NAME : N:\C3D\41062770\DESIGN\ONALASKA PREP PLAN.DWG PLOT DATE : 11/14/2013 1:30 PM PLOT BY : AYRES ASSOCIATES PLOT NAME : SANSHT2 PLOT SCALE : 1:50_XREF



PROJECT NO: 1071-06-86	HWY: IH 90	COUNTY: LA CROSSE	SANITARY AND WATER	SHEET 40	E

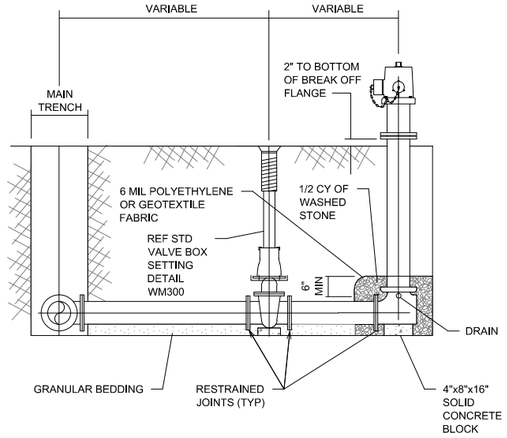
FILE NAME : N:\C3D\41062770\DESIGN\ONALASKA PREP PLAN.DWG
PLOT DATE : 10/29/2013 11:32 AM PLOT BY : AYRES ASSOCIATES PLOT NAME : SANSHT3 PLOT SCALE : 1:50_XREF
WISDOT/CADDS SHEET 44



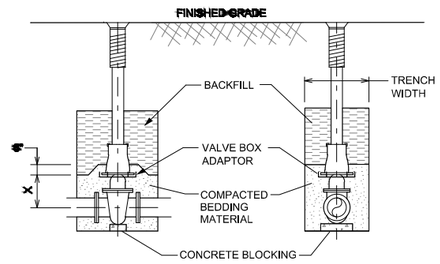
STEEL CASING PIPE FOR E72 LOADING	
MIN THICKNESS (INCHES) FOR PIPE NOT CATHODICALLY PROTECTED	CASING PIPE DIAMETER (INCHES)
0.250	UNDER 14
0.282	14 AND 16
0.312	18
0.344	20
0.375	22
0.406	24
0.438	26
0.469	28 AND 30
0.500	32
0.531	34 AND 36
0.563	38, 40 AND 42

NOTE:
WALL THICKNESS FOR STEEL CASING PIPE W/ 35,000 P.S.I. MIN YIELD STRENGTH.
FOR MATERIAL OF LOWER YIELD STRENGTH, INCREASE THICKNESS AN ADDITIONAL $_{16}^{1}$"

CASING PIPE
NTS GN300



STANDARD HYDRANT SETTING
NTS WM100



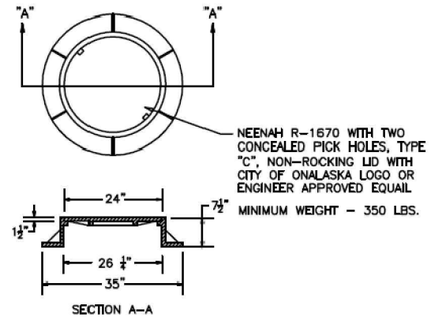
SIDE VIEW

PIPE DIA (INCHES)	X=SETTING (INCHES)
2	6
3	7
4	8
6	12
8	13

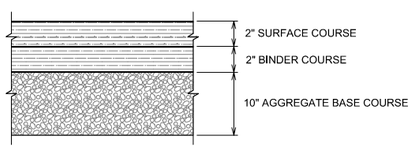
FRONT VIEW

PIPE DIA (INCHES)	X=SETTING (INCHES)
10	17
12	21
14	25
16	30

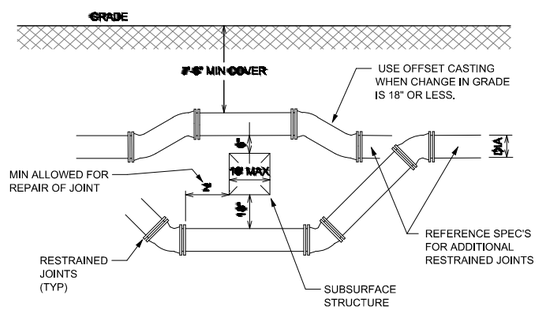
STANDARD VALVE BOX SETTING
NTS WM300



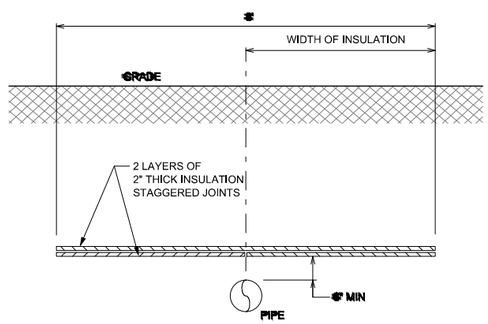
DETAIL OF MANHOLE FRAME AND COVER



"SS" ST PAVEMENT SECTION
NTS ST301



OFFSET W/RESTRAINED JOINTS (WATER MAIN AND FORCE MAIN)
NTS WM700



TRENCH INSULATION
NTS WM703

2

2

FOUND

FOUND

U/C

U/C

SIGN

SIGN

106WB

108WB

110WB

112WB

I 90 IH 90 WB

114WB

116WB

118WB

120WB

I 90

I 90 IH 90 EB

I 90

CTH "BW"

INL

N

SIGN

SIGN

MH

SIGN

PAVEMENT MARKING EPOXY
4-INCH (YELLOW)

N

PAVEMENT MARKING EPOXY
4-INCH (WHITE)

PAVEMENT MARKING EPOXY
4-INCH (YELLOW)

PED OVERHEAD

I 90

122WB

124WB

126WB

IH 90 WB

128WB

I 90

130WB

132WB

134WB

136WB

I 90

I 90

IH 90 EB

I 90

I 90

PAVEMENT MARKING EPOXY
4-INCH (YELLOW)

FLEXIBLE TUBULAR
MARKERS (5' SPACING)

SIGN

SIGN FLEXIBLE TUBULAR
MARKERS (5' SPACING)

SIGN

SIGN

SIGN

PROJECT NO: 1071-06-80	HWY: IH 90	COUNTY: LA CROSSE	PERMANENT SIGNING/PAVEMENT MARKING	SHEET	E

FILE NAME : T:\410627\DGN-DWG\1_0680_PREP_BLUE\aa_0680_024501_pm.dgn PLOT DATE : 10/31/2013 PLOT BY : AYRES-EC PLOT NAME : PLOT SCALE : 1:100

WISDOT/CADDS SHEET 42

2

2

100
REMOVING SIGNS TYPE II

PAVEMENT MARKING EPOXY 4-INCH (YELLOW)

FLEXIBLE TUBULAR MARKERS (5' SPACING)

PAVEMENT MARKING EPOXY 4-INCH (WHITE)

101
MOVING SIGNS TYPE II

102
EXIT 2
MOVING SIGNS TYPE II

PAVEMENT MARKING EPOXY 8-INCH (WHITE)

PAVEMENT MARKING EPOXY 4-INCH (YELLOW)

PAVEMENT MARKING EPOXY 4-INCH (YELLOW)

PAVEMENT MARKING EPOXY 4-INCH (YELLOW)

N

CTH "B"

IH 90 WB

IH 90 EB

CTH B

PROJECT NO: 1071-06-80	HWY: IH 90	COUNTY: LA CROSSE	PERMANENT SIGNING/PAVEMENT MARKING	SHEET 43	E

FILE NAME : T:\410627\DGN-DWG\1_0680_PREP_BLUE\aa_0680_024502_pm.dgn PLOT DATE : 10/31/2013 PLOT BY : AYRES-EC PLOT NAME : PLOT SCALE : 1:100

WISDOT/CADDS SHEET 42

2

2

N

SIGN

152WB 154WB 156WB 158WB IH 90 WB 160WB I 90 162WB 164WB 166WB

IH 90 EB I 90

SIGN

SIGN

PAVEMENT MARKING EPOXY
4-INCH (YELLOW)

PAVEMENT MARKING EPOXY
4-INCH (YELLOW)

N

SIGN

SIGN

166WB 168WB 170WB 172WB IH 90 WB 174WB 176WB 178WB 180WB

INL

INL

INL

IH 90 EB

SIGN

SIGN

PAVEMENT MARKING EPOXY
4-INCH (YELLOW)

PAVEMENT MARKING EPOXY
4-INCH (YELLOW)

103

EXIT 3B

NORTH
53
AHEAD

NORTH
35
Onalaska
1/4 MILE

EXIT 3A

SOUTH
53 35
La Crosse

S-32-0048

MOVING SIGNS TYPE I

PROJECT NO: 1071-06-80	HWY: IH 90	COUNTY: LA CROSSE	PERMANENT SIGNING/PAVEMENT MARKING	SHEET 44	E

FILE NAME : T:\410627\DGN-DWG\1_0680_PREP_BLUE\aa_0680_024503_pm.dgn PLOT DATE : 12/19/2013 PLOT BY : AYRES-EC PLOT NAME : PLOT SCALE : 1:100

WISDOT/CADDS SHEET 42

2

2

N

FLEXIBLE TUBULAR MARKERS (10' SPACING)

PAVEMENT MARKING EPOXY 4-INCH (YELLOW)

PAVEMENT MARKING EPOXY 8-INCH (WHITE)

PAVEMENT MARKING EPOXY 4-INCH (WHITE)

FLEXIBLE TUBULAR MARKERS (5' SPACING)

PAVEMENT MARKING EPOXY 4-INCH (YELLOW)

198HT

194HT

192HT

190HT

196WB

194WB

192WB

190WB

188WB

186WB

184WB

182WB

IH 90 WB

188HT

186HT

182HT

PAVEMENT MARKING EPOXY 4-INCH (YELLOW)

IH 90 EB

PAVEMENT MARKING EPOXY 4-INCH (YELLOW)

FLEXIBLE TUBULAR MARKERS (5' SPACING)

PAVEMENT MARKING EPOXY 4-INCH (YELLOW)

SIGN

ROSE ST SB

ROSE ST NB

PROJECT NO: 1071-06-80	HWY: IH 90	COUNTY: LA CROSSE	PERMANENT SIGNING/PAVEMENT MARKING	SHEET	E

FILE NAME : T:\410627\DGN-DWG\1_0680_PREP_BLUE\aa_0680_024504_pm.dgn PLOT DATE : 10/31/2013 PLOT BY : AYRES-EC PLOT NAME : PLOT SCALE : 1:100

2

2

N

202HT

200HT

198HT

INL

SIGN

PAVEMENT MARKING EPOXY
4-INCH (YELLOW)

FLEXIBLE TUBULAR
MARKERS (10' SPACING)

ROSE ST SB

ROSE ST NB

PAVEMENT MARKING EPOXY
4-INCH (YELLOW)

FLEXIBLE TUBULAR
MARKERS (5' SPACING)

208HU

Historic Downtown
La Crosse
Amtrak Station

Tourist Info

MOVING SIGNS TYPE II

105

PAVEMENT MARKING EPOXY
8-INCH (WHITE)

SIS
TO BE REMOVED
BY OTHERS

EXIT
3

MOVING SIGNS TYPE II

104

208GT

210GT

PAVEMENT MARKING EPOXY
4-INCH (YELLOW)

PAVEMENT MARKING EPOXY
4-INCH (WHITE)

206HU

210WB

208WB

IH 90 WB

206WB

204WB

202WB

200WB

198WB

196WB

PAVEMENT MARKING EPOXY
4-INCH (YELLOW)

PAVEMENT MARKING EPOXY
4-INCH (YELLOW)

210UW

208UW

206UW

IH 90 EB

204HU

202HU

200HU

198HU

SIGN

PAVEMENT MARKING EPOXY
4-INCH (YELLOW)

FLEXIBLE TUBULAR
MARKERS (5' SPACING)

PROJECT NO: 1071-06-80	HWY: IH 90	COUNTY: LA CROSSE	PERMANENT SIGNING/PAVEMENT MARKING	SHEET	E

FILE NAME : T:\410627\DGN-DWG\1_0680_PREP_BLUE\aa_0680_024505_pm.dgn PLOT DATE : 12/19/2013 PLOT BY : AYRES-EC PLOT NAME : PLOT SCALE : 1:100

2

2

PAVEMENT MARKING EPOXY
8-INCH (WHITE)

PAVEMENT MARKING EPOXY
4-INCH (YELLOW)

BURLINGTON NORTHERN

SIGN

INL

212WB

214WB

216WB

218WB

IH 90 WB

220WB

222WB

I 90/USH 53

224WB

226WB

PAVEMENT MARKING EPOXY
4-INCH (YELLOW)

IH 90 EB

FLEXIBLE TUBULAR
MARKERS (5' SPACING)

I 90/USH 53

SIGN

PAVEMENT MARKING EPOXY
4-INCH (WHITE)

BNSF RR

SIGN

OAK ST

WALLS

W

INL

MH

MH

MH

N

GREAT RIVER STATE TRAIL

FLEXIBLE TUBULAR
MARKERS (5' SPACING)

SIGN

PAVEMENT MARKING EPOXY
4-INCH (YELLOW)

226WB

228WB

230WB

IH 90 WB

232WB

234WB

236WB

238WB

240WB

INL

H

IH 90 EB

INL

PAVEMENT MARKING EPOXY
4-INCH (WHITE)

MOVING SIGNS TYPE II

106

MH

SIGN

MOVING SIGNS
TYPE II

107

PROJECT NO: 1071-06-80	HWY: IH 90	COUNTY: LA CROSSE	PERMANENT SIGNING/PAVEMENT MARKING	SHEET	E

FILE NAME : T:\410627\DGN-DWG\1_0680_PREP_BLUE\gg_0680_024506_pm.dgn PLOT DATE : 12/19/2013 PLOT BY : AYRES-EC PLOT NAME : PLOT SCALE : 1:100

WISDOT/CADDS SHEET 42

2

2

N

112

Amtrak Station
EXIT 3

REMOVING SIGN TYPE II

MOVING SIGN TYPE II

110

111

PAVEMENT MARKING EPOXY
4-INCH (WHITE)

242WB

244WB

246WB

248WB

250WB

252WB

IH 90 WB

254WB

256WB

I 90/USH 53

PAVEMENT MARKING EPOXY
4-INCH (WHITE LANE LINES)

PAVEMENT MARKING EPOXY
4-INCH (YELLOW)

IH 90 EB

PAVEMENT MARKING EPOXY
4-INCH (WHITE)

PAVEMENT MARKING EPOXY
4-INCH (YELLOW)

108

109

SIS
TO BE REMOVED
BY OTHERS

REMOVING SIGN TYPE II

12TH AVE

EXIT 4

NORTH
53
157
La Crosse
Onalaska

EXISTING TO REMAIN

SIGN

INL

MH

N

266MT

PAVEMENT MARKING EPOXY
4-INCH (YELLOW)

FLEXIBLE TUBULAR
MARKERS (5' SPACING)

264MT

113

PAVEMENT MARKING EPOXY
8-INCH (WHITE)

PAVEMENT MARKING EPOXY
4-INCH (YELLOW)

MOVING SIGN TYPE II

256WB

I 90/USH 53

258WB

260WB

262WB

264WB

266WB

IH 90 WB

268WB

270WB

PAVEMENT MARKING EPOXY
4-INCH (WHITE)

PAVEMENT MARKING EPOXY
4-INCH (YELLOW)

IH 90 EB

I 90/USH 53

PAVEMENT MARKING EPOXY
4-INCH (WHITE)

SIGN

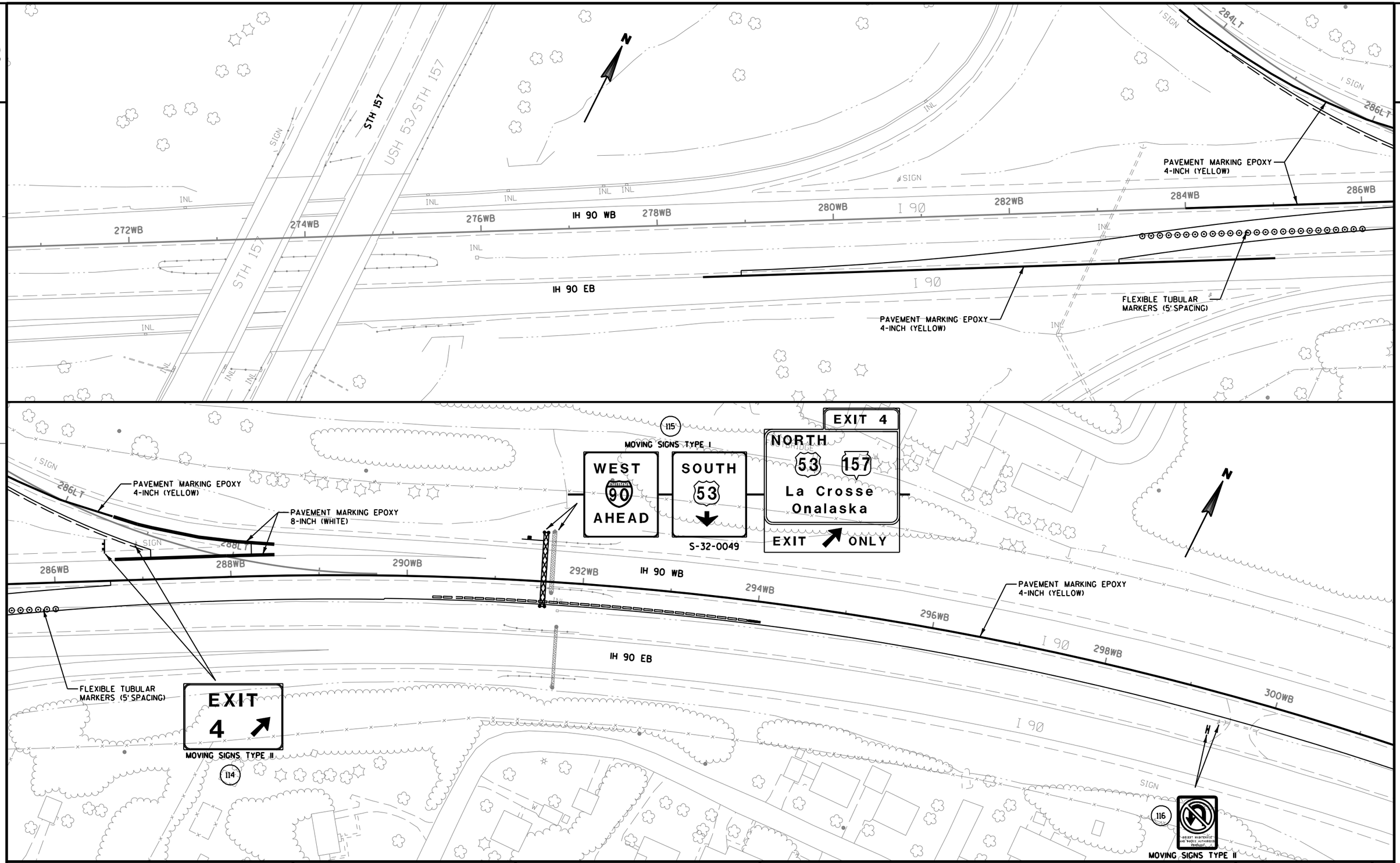
INL

PROJECT NO: 1071-06-80	HWY: IH 90	COUNTY: LA CROSSE	PERMANENT SIGNING/PAVEMENT MARKING	SHEET 48	E

FILE NAME : T:\410627\DGN-DWG\1_0680_PREP_BLUE\aa_0680_024507_pm.dgn PLOT DATE : 12/19/2013 PLOT BY : AYRES-EC PLOT NAME : PLOT SCALE : 1:100

WISDOT/CADDS SHEET 42

2



PROJECT NO: 1071-06-80	HWY: IH 90	COUNTY: LA CROSSE	PERMANENT SIGNING/PAVEMENT MARKING	SHEET 49	E

FILE NAME : T:\410627\DGN-DWG\1_0680_PREP_BLUE\aa_0680_024508_pm.dgn PLOT DATE : 10/31/2013 PLOT BY : AYRES-EC PLOT NAME : PLOT SCALE : 1:100

2

2

N

IH 90 WB

302WB 304WB 306WB 308WB 310WB 312WB 314WB 316WB

I 90

PAVEMENT MARKING EPOXY
4-INCH (YELLOW)

IH 90 EB

I 90

THEATER RD

MOVING SIGNS
TYPE II
117

SIGN

INL

MH

W

N

316WB 318WB 320WB 322WB 324WB 326WB 328WB 330WB

IH 90 WB

PAVEMENT MARKING EPOXY
4-INCH (YELLOW)

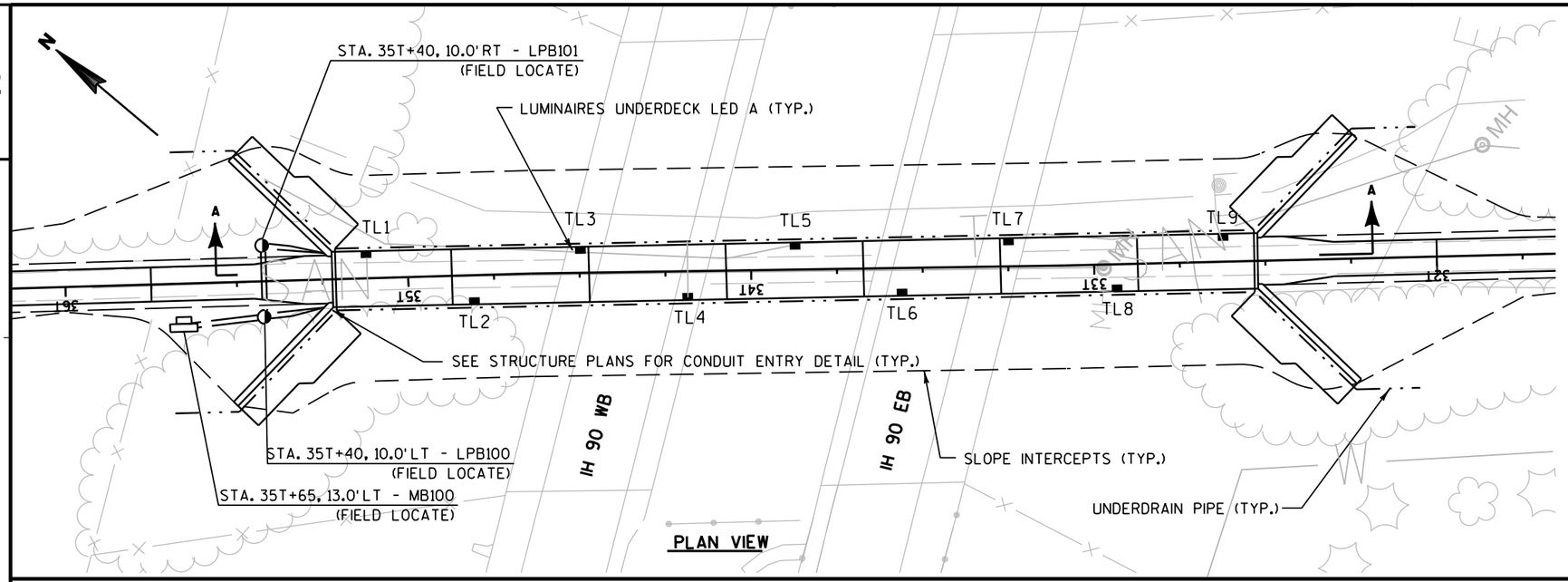
IH 90 EB

I 90

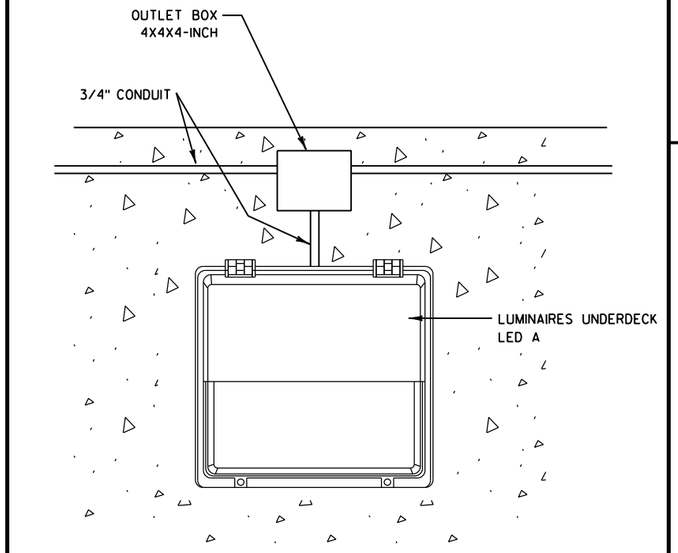
PROJECT NO: 1071-06-80	HWY: IH 90	COUNTY: LA CROSSE	PERMANENT SIGNING/PAVEMENT MARKING	SHEET 50	E

FILE NAME : T:\410627\DGN-DWG\1_0680_PREP_BLUE\aa_0680_024509_pm.dgn PLOT DATE : 10/31/2013 PLOT BY : AYRES-EC PLOT NAME : PLOT SCALE : 1:100

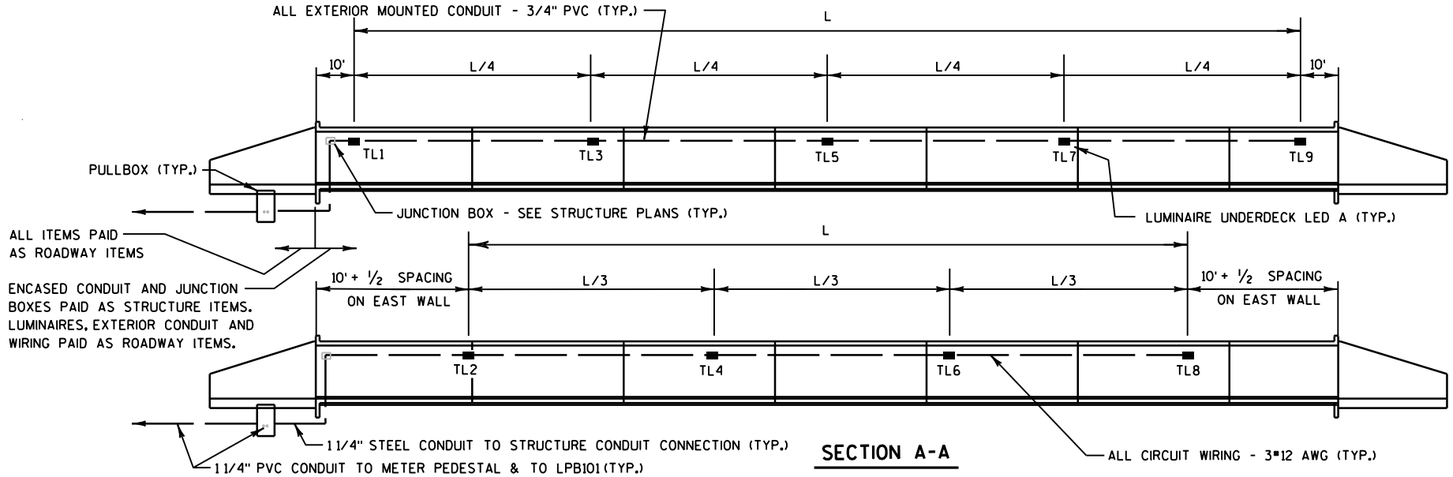
WISDOT/CADDS SHEET 42



PLAN VIEW



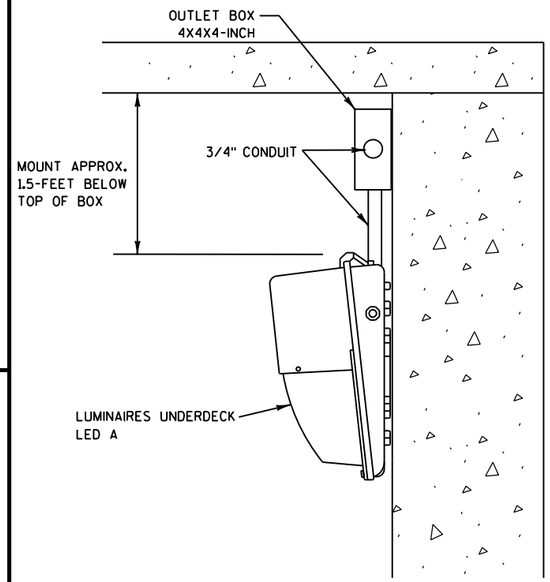
FACING VIEW



EAST SIDE

WEST SIDE

SECTION A-A

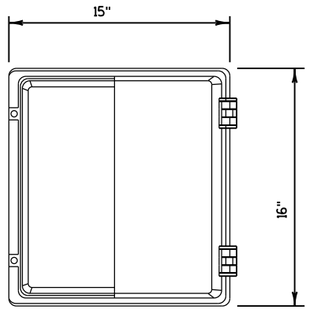


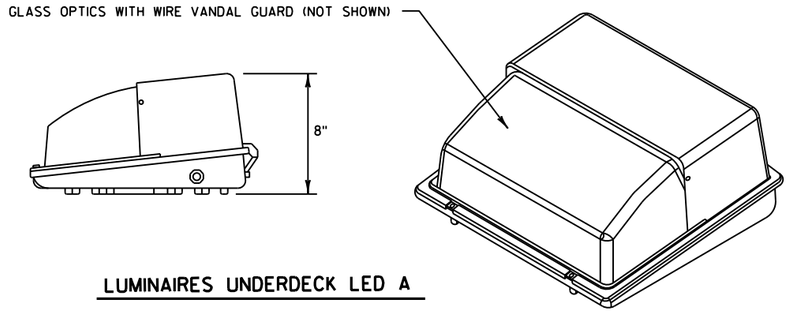
CROSS SECTION

LIGHTING PLANS PREPARED BY



11-1-13
(DATE)
(SIGNATURE)





LUMINAIRES UNDERDECK LED A

PROJECT NO: 1071-06-80	HWY: IH 90	COUNTY: LaCROSSE	PEDESTRIAN TUNNEL LIGHTING	SHEET 51	E

GENERAL NOTES FOR TRAFFIC CONTROL

DRAWINGS SHOW TRAFFIC CONTROL FOR A TYPICAL SITUATION. ADDITIONAL TRAFFIC CONTROL DEVICES MAY BE REQUIRED AND/OR LAYOUT DETAILS MODIFIED DEPENDING ON CONTRACTOR METHODS OR SEQUENCE OF OPERATION.

ADJUST SIGN SPACING TO AVOID CONFLICT WITH AND TO PROVIDE A MINIMUM SPACING OF 200 FEET (500 FEET DESIRABLE) TO EXISTING SIGNS.

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

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

REMOVE OR COVER ANY TEMPORARY OR EXISTING SIGNS THAT CONFLICT WITH "IN USE" TRAFFIC CONTROL.

ALL TRAFFIC CONTROL SIGNING WILL CONFORM TO PART VI OF THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES, 2009 EDITION, & THE WISCONSIN SUPPLEMENT, DATED MAY 25, 2011.

CONSIDER GEOMETRICS WHEN LOCATING SIGNS AND ARROW BOARDS SO THE DRIVER HAS A CLEAR VIEW OF THE ARROW BOARD AND LANE CLOSURE DRUMS FOR A MINUMUM OF 1500 FEET IN FRONT OF DRUMS.

IF LANE CLOSURES ARE IN PLACE LESS THAN 7 CONTINUOUS DAYS AND NIGHTS THE ADVANCED WARNING SIGNS MAY BE MOUNTED ON PORTABLE SUPPORTS.

INSTALL THE LANE CLOSURE SERIES AS A COMPLETE UNIT THAT INCLUDES ALL ADVANCE WARNING SIGNING, DRUMS, AND ARROW BOARDS.

WARNING LIGHTS SHALL NOT BE WORKING ON "COVERED" OR "DOWNED" SIGNS OR BARRICADES.

DURING HOURS OF DARKNESS, ALL BARRICADES USED TO SHIELD A HAZARD SHALL BE EQUIPPED WITH TYPE "A" LIGHTS.

ALL TYPE III BARRICADES SHALL HAVE AN EQUIVALENT WIDTH OF 8 FEET.

REMOVE ALL EXISTING PAVEMENT MARKINGS CONFLICTING WITH THE TRAFFIC CONTROL OR NOT APPROPRIATE TO THE TRAVEL PATH.

TEMPORARY ALIGNMENT DESIGNATION	ROADWAY SEGMENT
CT	TEMPORARY 'CT' RAMP
DT	TEMPORARY 'DT' RAMP
DU	TEMPORARY 'DU' RAMP
FT	WIDENING EB LANES (ALIGNMENT ONLY)
GT	TEMPORARY 'GT' RAMP
HT	TEMPORARY 'HT' RAMP
HU	TEMPORARY 'HU' RAMP
HV	TEMPORARY 'HV' RAMP
JT	WIDENING EB LANES (ALIGNMENT ONLY)
LT	TEMPORARY 'LT' RAMP
MT	TEMPORARY 'MT' RAMP
TW	TEMPORARY WIDENING FOR WB TRAFFIC
UW	TEMPORARY 'UW' X-OVER

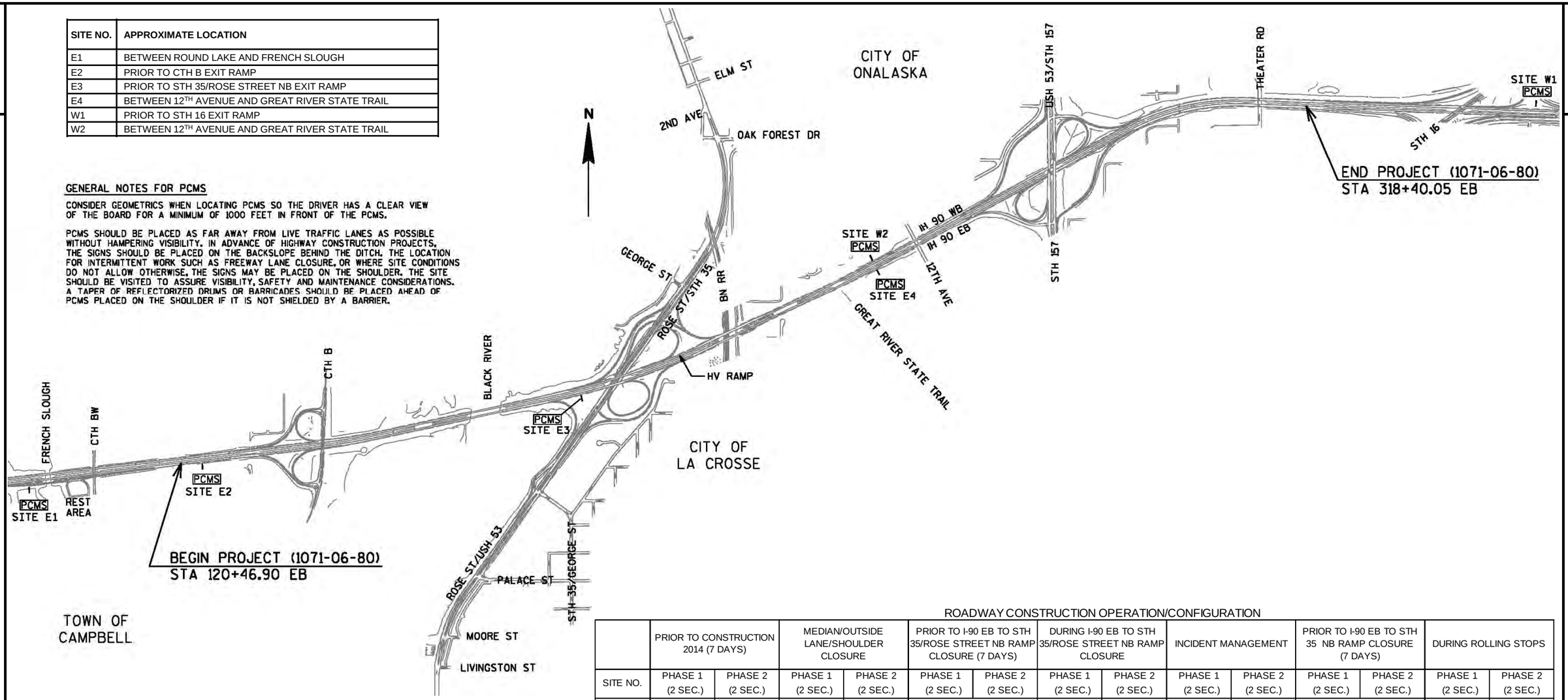
2

SITE NO.	APPROXIMATE LOCATION
E1	BETWEEN ROUND LAKE AND FRENCH SLOUGH
E2	PRIOR TO CTH B EXIT RAMP
E3	PRIOR TO STH 35/ROSE STREET NB EXIT RAMP
E4	BETWEEN 12TH AVENUE AND GREAT RIVER STATE TRAIL
W1	PRIOR TO STH 16 EXIT RAMP
W2	BETWEEN 12TH AVENUE AND GREAT RIVER STATE TRAIL

GENERAL NOTES FOR PCMS

CONSIDER GEOMETRICS WHEN LOCATING PCMS SO THE DRIVER HAS A CLEAR VIEW OF THE BOARD FOR A MINIMUM OF 1000 FEET IN FRONT OF THE PCMS.

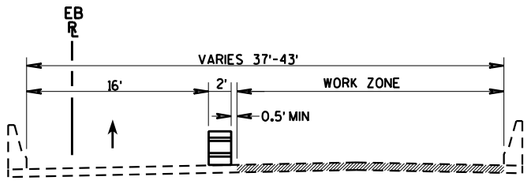
PCMS SHOULD BE PLACED AS FAR AWAY FROM LIVE TRAFFIC LANES AS POSSIBLE WITHOUT HAMPERING VISIBILITY. IN ADVANCE OF HIGHWAY CONSTRUCTION PROJECTS, THE SIGNS SHOULD BE PLACED ON THE BACKSLOPE BEHIND THE DITCH. THE LOCATION FOR INTERMITTENT WORK SUCH AS FREEWAY LANE CLOSURE, OR WHERE SITE CONDITIONS DO NOT ALLOW OTHERWISE, THE SIGNS MAY BE PLACED ON THE SHOULDER. THE SITE SHOULD BE VISITED TO ASSURE VISIBILITY, SAFETY AND MAINTENANCE CONSIDERATIONS. A TAPER OF REFLECTORIZED DRUMS OR BARRICADES SHOULD BE PLACED AHEAD OF PCMS PLACED ON THE SHOULDER IF IT IS NOT SHIELDED BY A BARRIER.



THE FIELD ENGINEER WILL MAKE THE FINAL DETERMINATION TO THE PLACEMENT OF PCMS BOARDS BASED UPON EXISTING CONDITIONS AND STAGING

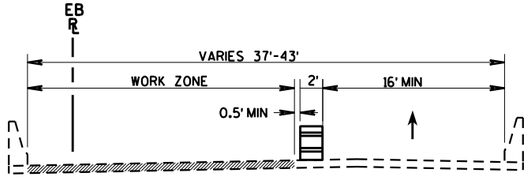
ROADWAY CONSTRUCTION OPERATION/CONFIGURATION

	PRIOR TO CONSTRUCTION 2014 (7 DAYS)		MEDIAN/OUTSIDE LANE/SHOULDER CLOSURE		PRIOR TO I-90 EB TO STH 35/ROSE STREET NB RAMP CLOSURE (7 DAYS)		DURING I-90 EB TO STH 35/ROSE STREET NB RAMP CLOSURE		INCIDENT MANAGEMENT		PRIOR TO I-90 EB TO STH 35 NB RAMP CLOSURE (7 DAYS)		DURING ROLLING STOPS	
SITE NO.	PHASE 1 (2 SEC.)	PHASE 2 (2 SEC.)	PHASE 1 (2 SEC.)	PHASE 2 (2 SEC.)	PHASE 1 (2 SEC.)	PHASE 2 (2 SEC.)	PHASE 1 (2 SEC.)	PHASE 2 (2 SEC.)	PHASE 1 (2 SEC.)	PHASE 2 (2 SEC.)	PHASE 1 (2 SEC.)	PHASE 2 (2 SEC.)	PHASE 1 (2 SEC.)	PHASE 2 (2 SEC.)
SITE E1	I 90 WORK STARTS	"DATE"	LANE/SHLDR CLOSED	XX MILES AHEAD	NO MESSAGE BOARD USED		LANE/SHLDR CLOSED	XX MILES AHEAD	TRAFFIC STOPPED AHEAD	BE PREPARED TO STOP	NO MESSAGE BOARD USED		TEMP CLOSURE AHEAD	EXPECT DELAYS
SITE E2	NO MESSAGE BOARD USED		NO MESSAGE BOARD USED		NO MESSAGE BOARD USED		HWY 35 NB RAMP CLOSED	DETOUR AHEAD	NO MESSAGE BOARD USED		NO MESSAGE BOARD USED		NO MESSAGE BOARD USED	
SITE E3	NO MESSAGE BOARD USED		NO MESSAGE BOARD USED		RAMP CLOSED FROM	DATE TO DATE	RAMP CLOSED	USE DETOUR	NO MESSAGE BOARD USED		HWY 35 NB RAMP	CLOSES DATE	NO MESSAGE BOARD USED	
SITE E4	I 90 WORK STARTS	"DATE"	NO MESSAGE BOARD USED		NO MESSAGE BOARD USED		NO MESSAGE BOARD USED		NO MESSAGE BOARD USED		NO MESSAGE BOARD USED		NO MESSAGE BOARD USED	
SITE W1	I 90 WORK STARTS	"DATE"	LANE/SHLDR CLOSED	XX MILES AHEAD	NO MESSAGE BOARD USED		NO MESSAGE BOARD USED		TRAFFIC STOPPED AHEAD	BE PREPARED TO STOP	NO MESSAGE BOARD USED		TEMP CLOSURE AHEAD	EXPECT DELAYS
SITE W2	I 90 WORK STARTS	"DATE"	NO MESSAGE BOARD USED		NO MESSAGE BOARD USED		NO MESSAGE BOARD USED		NO MESSAGE BOARD USED		NO MESSAGE BOARD USED		NO MESSAGE BOARD USED	



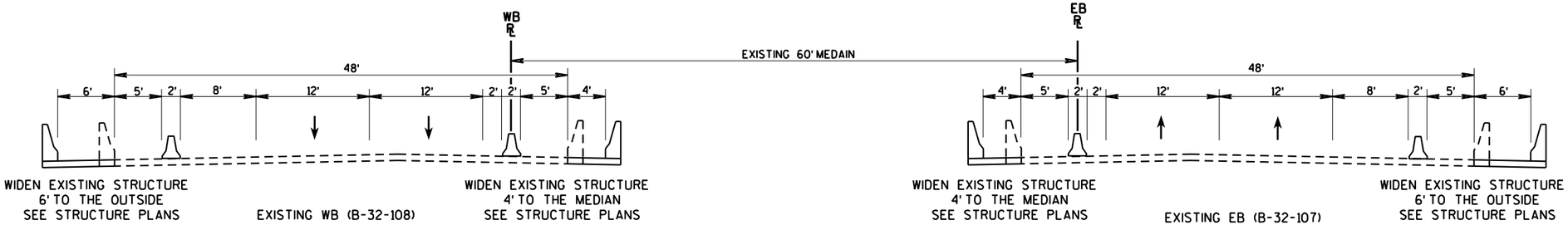
EXISTING EB (B-32-36)

EB ROSE ST STRUCTURE
(OUTSIDE CLOSURE)



EXISTING EB (B-32-36)

EB ROSE ST STRUCTURE
(MEDIAN CLOSURE)



12TH AVE STRUCTURES
(LOOKING EAST)

2

WORK:
CONSTRUCT FT, JT, AND LT RAMPS. ALSO CONSTRUCT OUTSIDE PORTION OF DT, CT, HT, HU, GT, AND MT RAMPS.

TRAFFIC:
CLOSE OUTSIDE SHOULDER ON EB & WB IH 90. USE OFF PEAK LANE CLOSURES FOR WORK REQUIRING MORE ROOM THAN SHOULDER CLOSURE.

SEE "PERMANENT SIGNING AND PAVEMENT MARKING" SHEETS FOR PERMANENT SIGNS, PAVEMENT MARKING AND OTHER DEVICES TO BE PLACED ALONG ANY PREVIOUSLY CONSTRUCTED RAMPS.

N

106WB 108WB 110WB 112WB IH 90 WB 114WB 116WB 118WB 120WB

IH 90 EB

CTH "BW"

ROAD WORK 1 MILE W20-1

PLACE 2 ADDITIONAL "ROAD WORK 1 MILE" SIGNS APPROX 250' BEFORE CTH BW STRUCTURE.

SEE SDD "TRAFFIC CONTROL SHOULDER CLOSURE ON DIVIDED ROADWAY, SPEEDS GREATER THAN 40 M.P.H." FOR WORK ONLY REQUIRING A SHOULDER CLOSURE.

SEE SDD "TRAFFIC CONTROL, LANE CLOSURE, SPEEDS GREATER THAN 40 M.P.H." & "TRAFFIC CONTROL, EXIT AND ENTRANCE RAMP WITHIN LANE CLOSURE" FOR ADDITIONAL INFORMATION.

LEGEND

- TRAFFIC DIRECTION
- TRAFFIC CONTROL DRUMS WITH/WITHOUT TYPE "C" STEADY BURN LIGHT
- TRAFFIC CONTROL BARRICADES TYPE III WITH/WITHOUT SIGN
- WORK ZONE
- CONCRETE BARRIER TEMPORARY PRECAST
- FLASHING ARROW BOARD IN CAUTION MODE (UNLESS OTHERWISE NOTED)
- POST WITH ATTACHED SIGN

N

W04-3R 30" X 30"

W04-3 36" X 36"

100' (TYP)

25' (TYP)

PED OVERHEAD

122WB 124WB 126WB IH 90 WB 128WB 130WB 132WB 134WB 136WB

IH 90 EB

RIGHT LANE CLOSED 1/2 MILE W20-5

2

PROJECT NO: 1071-06-80	HWY: IH 90	COUNTY: LA CROSSE	TRAFFIC CONTROL - OUTSIDE LANE CLOSURE (OFF PEAK)	SHEET 55	E

FILE NAME : T:\410627\DGN-DWG\1_0680_PREP_BLUE\gg_0680_026001_s1a.dgn PLOT DATE : 10/31/2013 PLOT BY : AYRES-EC PLOT NAME : PLOT SCALE : 1:100

WISDOT/CADDS SHEET 42

2

ROAD WORK AHEAD
W20-1

LANE CLOSED
R11-2(MOD)
48" X 30"

EXIT
E5-1
60" X 48"

RIGHT LANE CLOSED 1500 FT
W20-5

ROAD WORK AHEAD
W20-1

W04-2R

N

CTH "B"

CTH B

IH 90 WB

IH 90 EB

140DT

140CT

148CT

150CT

25' (TYP)

100' (TYP)

136WB

138WB

140WB

142WB

144WB

146WB

148WB

150WB

SIGN

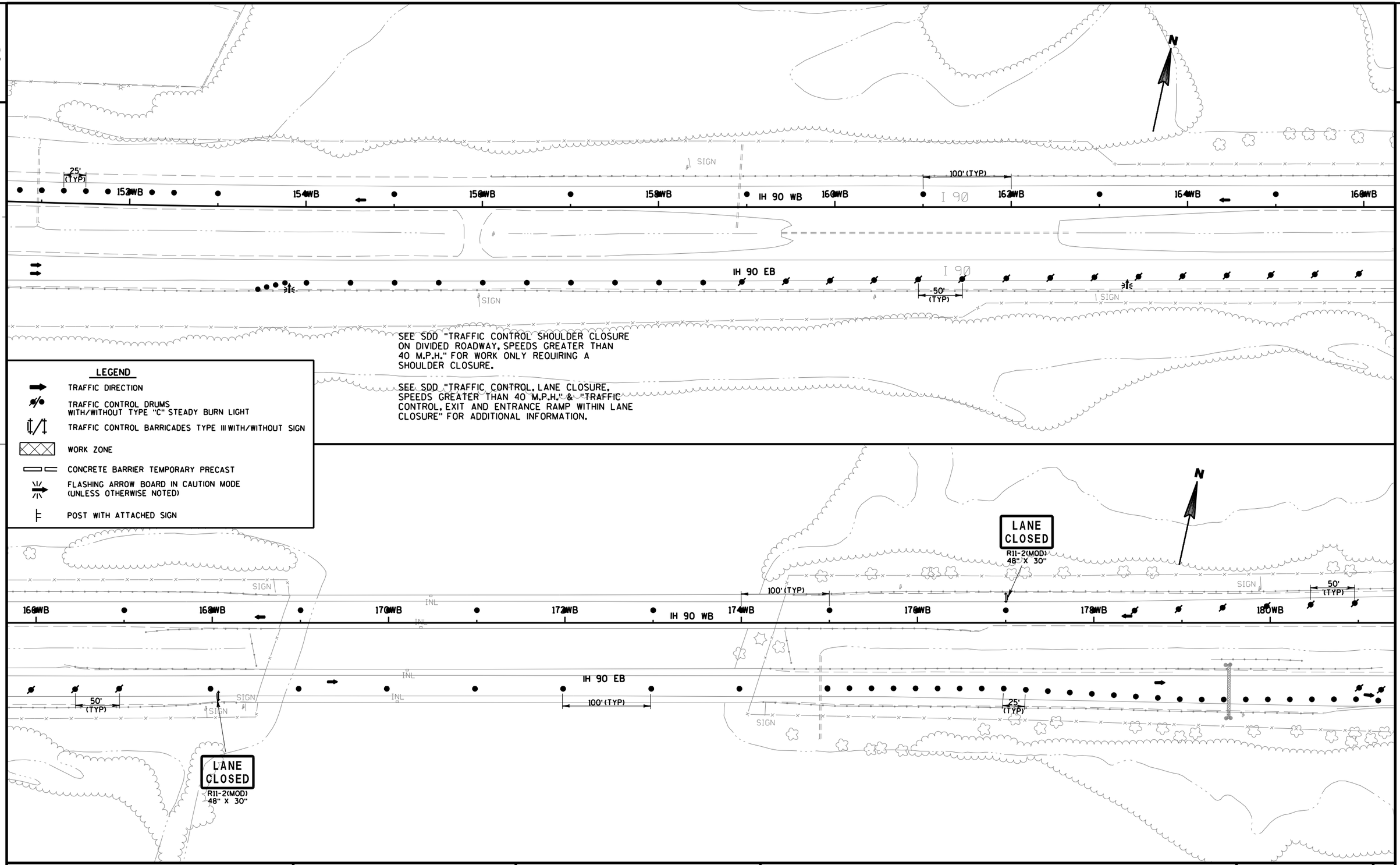
INL

LEGEND

- TRAFFIC DIRECTION
- TRAFFIC CONTROL DRUMS WITH/WITHOUT TYPE "C" STEADY BURN LIGHT
- TRAFFIC CONTROL BARRICADES TYPE III WITH/WITHOUT SIGN
- WORK ZONE
- CONCRETE BARRIER TEMPORARY PRECAST
- FLASHING ARROW BOARD IN CAUTION MODE (UNLESS OTHERWISE NOTED)
- POST WITH ATTACHED SIGN

PROJECT NO: 1071-06-80	HWY: IH 90	COUNTY: LA CROSSE	TRAFFIC CONTROL - OUTSIDE LANE CLOSURE (OFF PEAK)	SHEET 56	E

2



SEE SDD "TRAFFIC CONTROL SHOULDER CLOSURE ON DIVIDED ROADWAY, SPEEDS GREATER THAN 40 M.P.H." FOR WORK ONLY REQUIRING A SHOULDER CLOSURE.

SEE SDD "TRAFFIC CONTROL, LANE CLOSURE, SPEEDS GREATER THAN 40 M.P.H." & "TRAFFIC CONTROL, EXIT AND ENTRANCE RAMP WITHIN LANE CLOSURE" FOR ADDITIONAL INFORMATION.

PROJECT NO: 1071-06-80	HWY: IH 90	COUNTY: LA CROSSE	TRAFFIC CONTROL - OUTSIDE LANE CLOSURE (OFF PEAK)	SHEET 57	E

2

2

LEGEND

- TRAFFIC DIRECTION
- TRAFFIC CONTROL DRUMS WITH/WITHOUT TYPE "C" STEADY BURN LIGHT
- TRAFFIC CONTROL BARRICADES TYPE III WITH/WITHOUT SIGN
- WORK ZONE
- CONCRETE BARRIER TEMPORARY PRECAST
- FLASHING ARROW BOARD IN CAUTION MODE (UNLESS OTHERWISE NOTED)
- POST WITH ATTACHED SIGN

N

R1-2
36" X 31"

W04-1

W03-2

50' (TYP)

25' (TYP)

100' (TYP)

182WB

IH 90 WB

184WB

186WB

188WB

190WB

192WB

194WB

198WB

182HT

184HT

186HT

188HT

192HT

194HT

198HT

IH 90 EB

EXIT
E5-1
60" X 48"

ROSE ST SB

ROSE ST NB

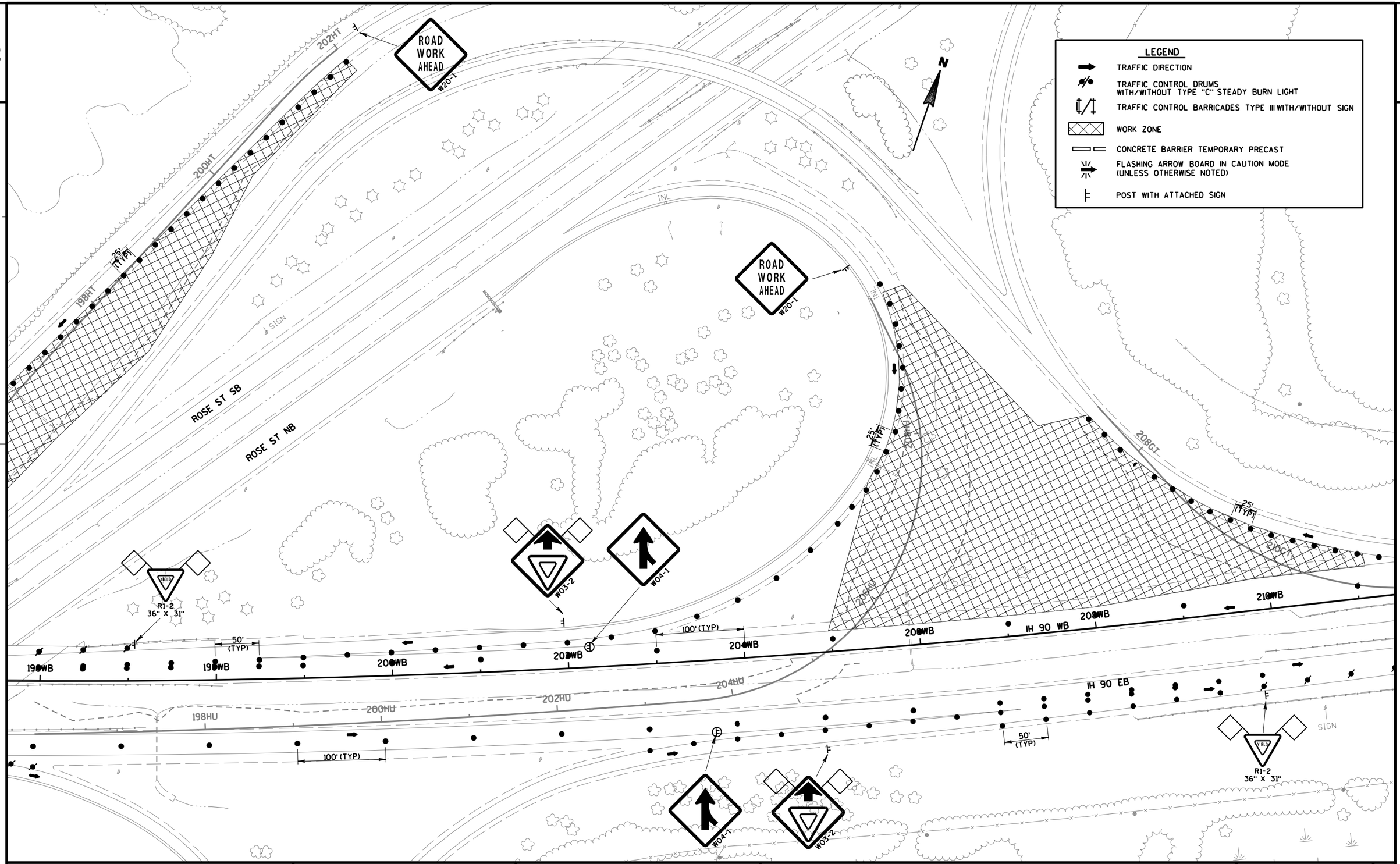
EXIT
E5-1
60" X 48"

PROJECT NO: 1071-06-80	HWY: IH 90	COUNTY: LA CROSSE	TRAFFIC CONTROL - OUTSIDE LANE CLOSURE (OFF PEAK)	SHEET	E

FILE NAME : T:\410627\DGN-DWG\1_0680_PREP_BLUE\aa_0680_026004_sla.dgn PLOT DATE : 10/31/2013 PLOT BY : AYRES-EC PLOT NAME : PLOT SCALE : 1:100

WISDOT/CADDS SHEET 42

2



PROJECT NO: 1071-06-80	HWY: IH 90	COUNTY: LA CROSSE	TRAFFIC CONTROL - OUTSIDE LANE CLOSURE (OFF PEAK)	SHEET 59	E

2

2

EXIT

E5-1
60" X 48"

SIGN

INL

212GT 214GT 216GT 218GT 220GT 222GT 224GT 226GT

25' (TYP)

100' (TYP)

IH 90 WB

I 90/USH 53

IH 90 EB

218FT 220FT 222FT 224FT 226FT

50' (TYP)

100' (TYP)

BNSF RR

OAK ST

WALLS

MH

W

N

GREAT RIVER STATE TRAIL

361

341

321

226WB 228WB 230WB 232WB 234WB 236WB 238WB 240WB

226FT 228FT

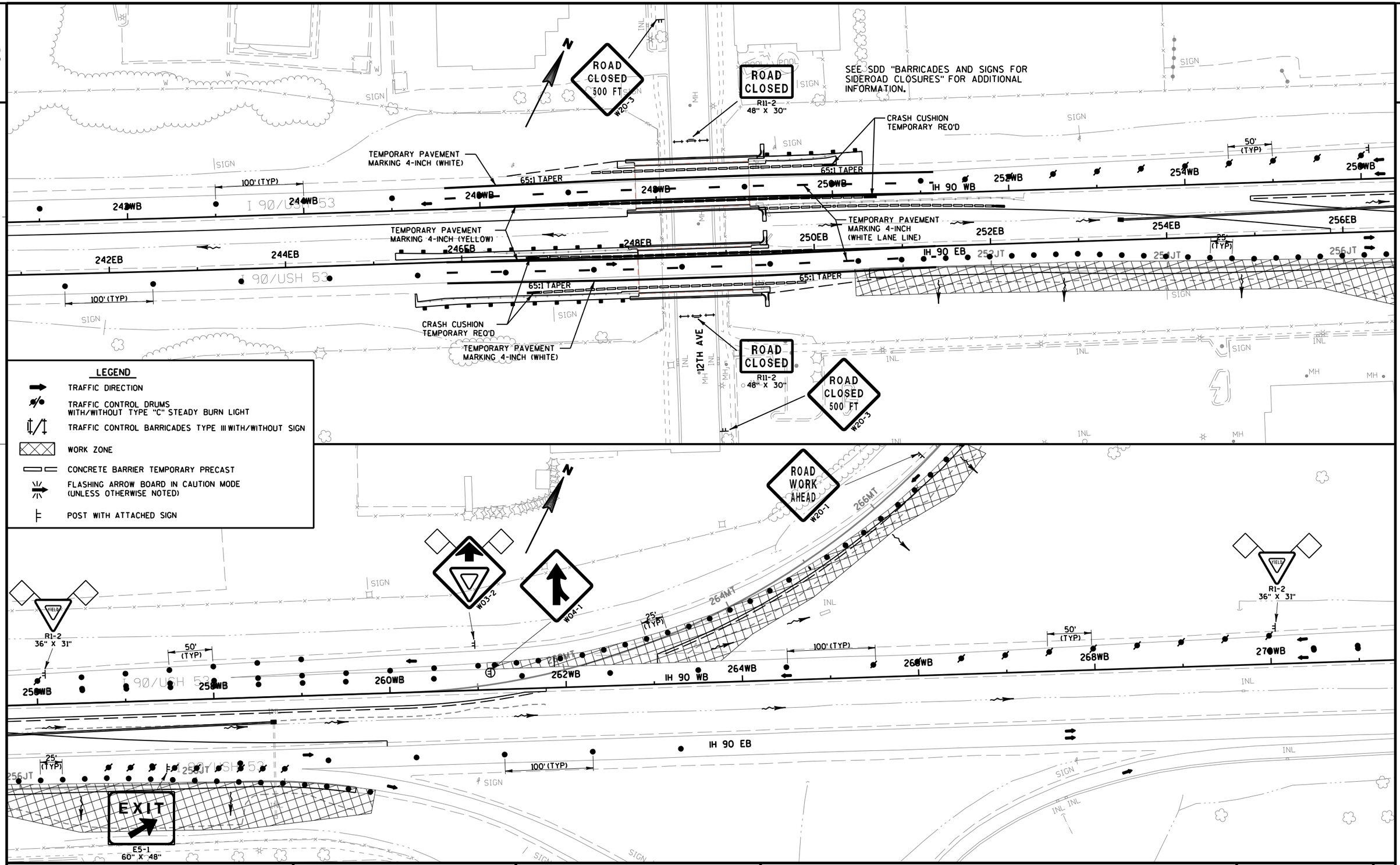
LEGEND

- TRAFFIC DIRECTION
- TRAFFIC CONTROL DRUMS WITH/WITHOUT TYPE "C" STEADY BURN LIGHT
- TRAFFIC CONTROL BARRICADES TYPE III WITH/WITHOUT SIGN
- WORK ZONE
- CONCRETE BARRIER TEMPORARY PRECAST
- FLASHING ARROW BOARD IN CAUTION MODE (UNLESS OTHERWISE NOTED)
- POST WITH ATTACHED SIGN

PROJECT NO: 1071-06-80	HWY: IH 90	COUNTY: LA CROSSE	TRAFFIC CONTROL - OUTSIDE LANE CLOSURE (OFF PEAK)	SHEET	E

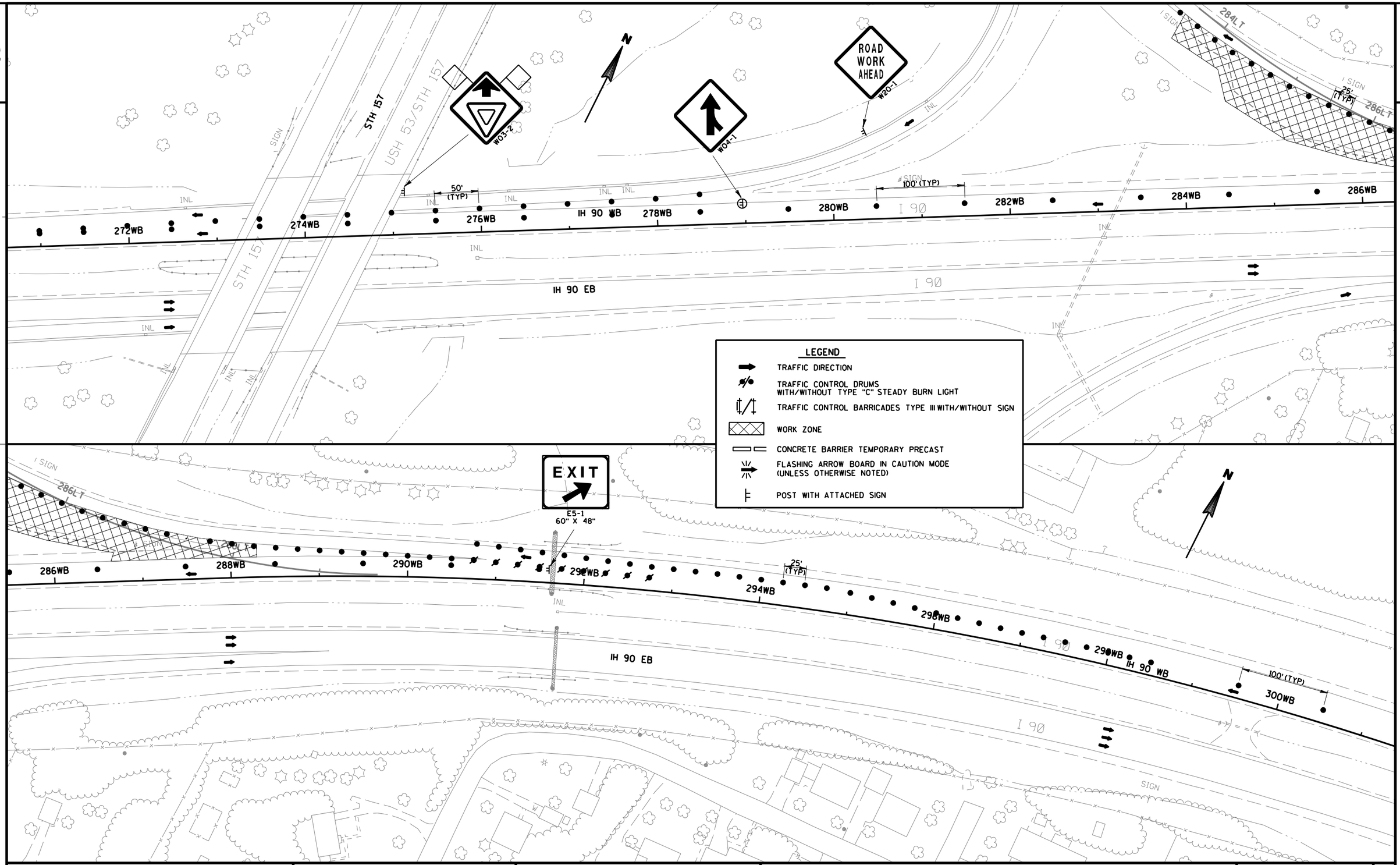
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WISDOT/CADDS SHEET 42



PROJECT NO: 1071-06-80	HWY: IH 90	COUNTY: LA CROSSE	TRAFFIC CONTROL - OUTSIDE LANE CLOSURE (OFF PEAK)	SHEET	E

FILE NAME : T:\410627\DGN-DWG\1_0680_PREP_BLUE\aa_0680_026007_s1a.dgn PLOT DATE : 12/19/2013 PLOT BY : AYRES-EC PLOT NAME : PLOT SCALE : 1:100
WISDOT/CADDS SHEET 42



PROJECT NO: 1071-06-80	HWY: IH 90	COUNTY: LA CROSSE	TRAFFIC CONTROL - OUTSIDE LANE CLOSURE (OFF PEAK)	SHEET 62	E

2

EXIT 4
NORTH
53 157
La Crosse
Onalaska
EXIT ONLY

COVER

50' (TYP)

302WB 304WB 306WB 308WB IH 90 WB 310WB 312WB 314WB 316WB

IH 90 EB

I 90

THEATER RD

SIGN

INL

MH

W

N

LEGEND

- TRAFFIC DIRECTION
- TRAFFIC CONTROL DRUMS WITH/WITHOUT TYPE "C" STEADY BURN LIGHT
- TRAFFIC CONTROL BARRICADES TYPE III WITH/WITHOUT SIGN
- WORK ZONE
- CONCRETE BARRIER TEMPORARY PRECAST
- FLASHING ARROW BOARD IN CAUTION MODE (UNLESS OTHERWISE NOTED)
- POST WITH ATTACHED SIGN

SEE SDD "TRAFFIC CONTROL, LANE CLOSURE, SPEEDS GREATER THAN 40 M.P.H." & "TRAFFIC CONTROL, EXIT AND ENTRANCE RAMP WITHIN LANE CLOSURE" FOR WORK REQUIRING MORE THAN A SHOULDER CLOSURE.

W04-2R

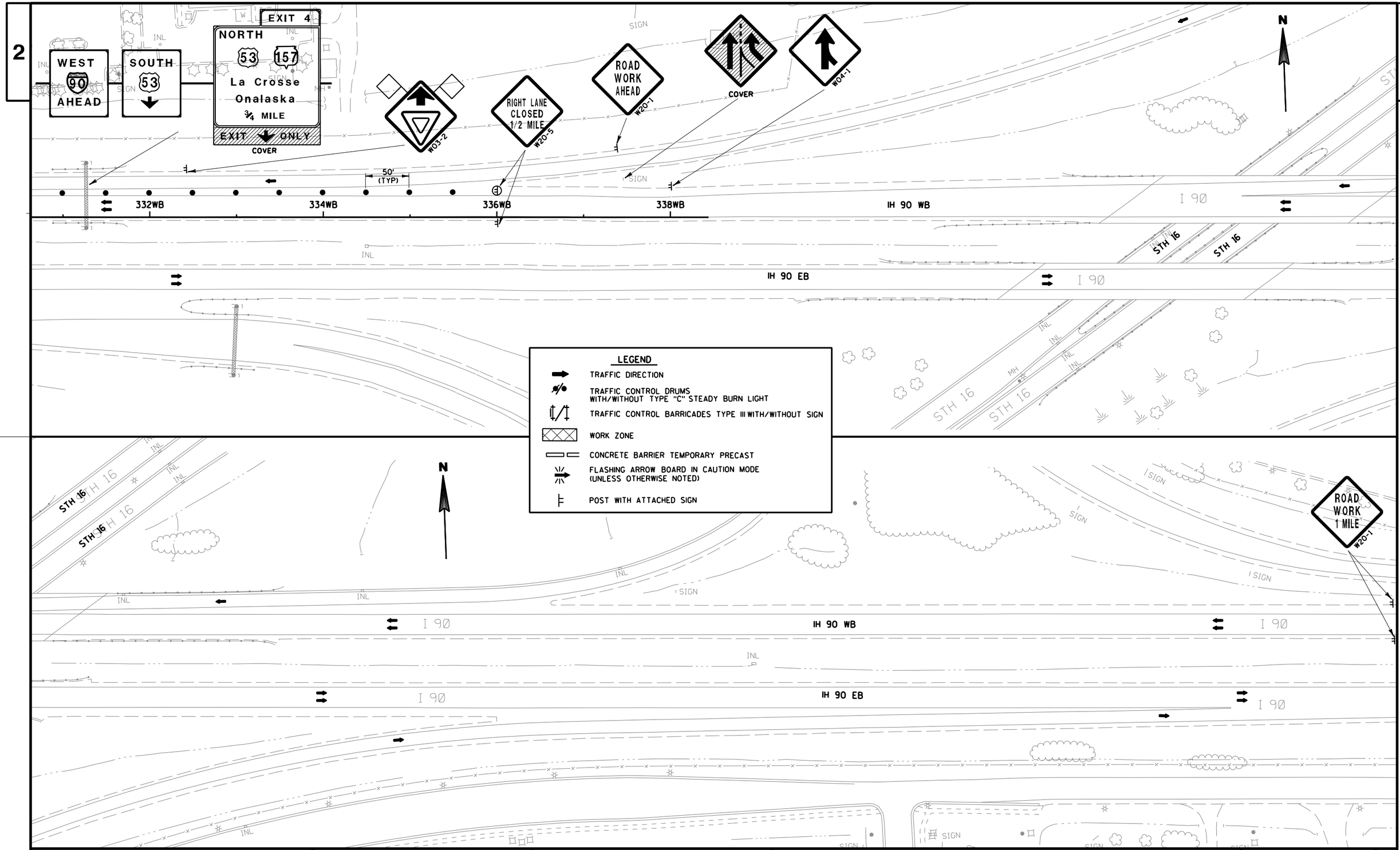
RIGHT LANE CLOSED 1500 FT W20-5

R1-2 36" X 31"

316WB 318WB 320WB 322WB IH 90 WB 324WB 326WB 328WB 330WB

IH 90 EB

PROJECT NO: 1071-06-80	HWY: IH 90	COUNTY: LA CROSSE	TRAFFIC CONTROL - OUTSIDE LANE CLOSURE (OFF PEAK)	SHEET 63	E



PROJECT NO: 1071-06-80	HWY: IH 90	COUNTY: LA CROSSE	TRAFFIC CONTROL - OUTSIDE LANE CLOSURE (OFF PEAK)	SHEET 64	E

WORK:
CONSTRUCT DU & HV RAMPS, UW CROSSOVER, AND TW WIDENING AND CROSSOVERS. ALSO CONSTRUCT MEDIAN PORTION OF DT, CT, CU, HT, HU, GT, AND MT RAMPS.

TRAFFIC:
CLOSE MEDIAN SHOULDER ON EB & WB IH 90. USE OFF PEAK LANE CLOSURES FOR WORK REQUIRING MORE ROOM THAN SHOULDER CLOSURE.

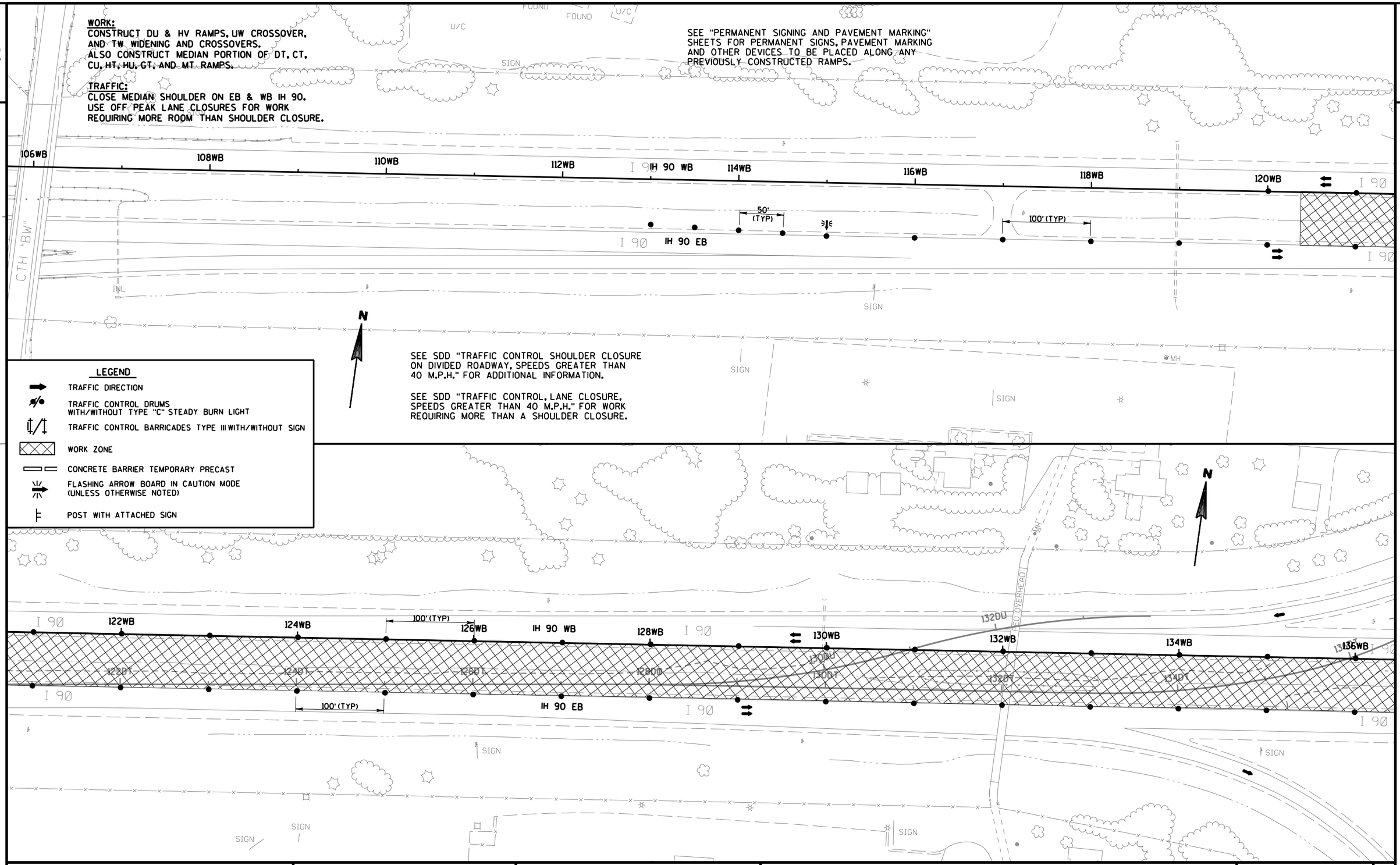
SEE "PERMANENT SIGNING AND PAVEMENT MARKING" SHEETS FOR PERMANENT SIGNS, PAVEMENT MARKING AND OTHER DEVICES TO BE PLACED ALONG ANY PREVIOUSLY CONSTRUCTED RAMPS.

LEGEND

- TRAFFIC DIRECTION
- TRAFFIC CONTROL DRUMS WITH/WITHOUT TYPE "C" STEADY BURN LIGHT
- TRAFFIC CONTROL BARRICADES TYPE III WITH/WITHOUT SIGN
- WORK ZONE
- CONCRETE BARRIER TEMPORARY PRECAST
- FLASHING ARROW BOARD IN CAUTION MODE (UNLESS OTHERWISE NOTED)
- POST WITH ATTACHED SIGN

SEE SDD "TRAFFIC CONTROL SHOULDER CLOSURE ON DIVIDED ROADWAY, SPEEDS GREATER THAN 40 M.P.H." FOR ADDITIONAL INFORMATION.

SEE SDD "TRAFFIC CONTROL, LANE CLOSURE, SPEEDS GREATER THAN 40 M.P.H." FOR WORK REQUIRING MORE THAN A SHOULDER CLOSURE.

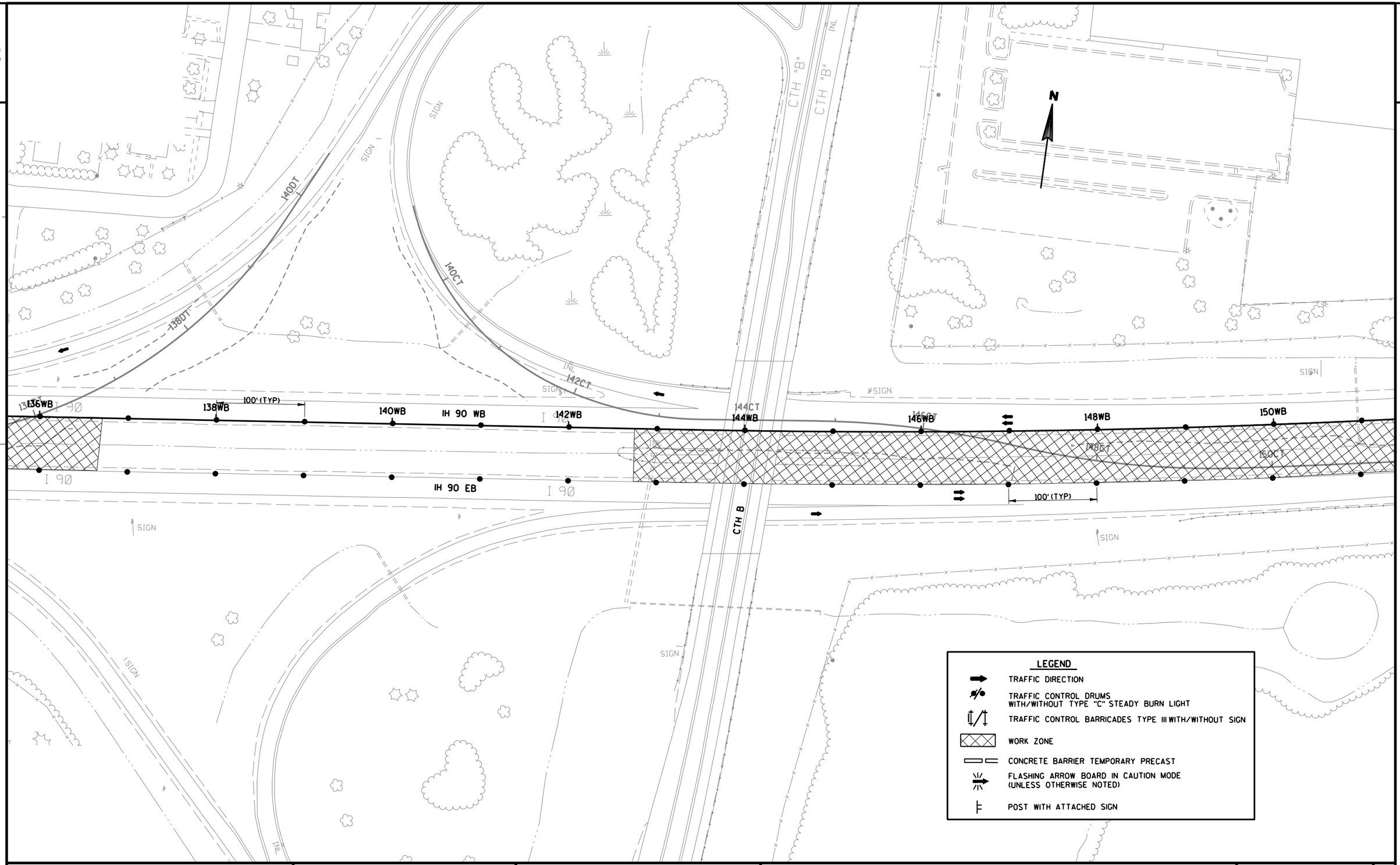


PROJECT NO: 1071-06-80	HWY: IH 90	COUNTY: LA CROSSE	TRAFFIC CONTROL - MEDIAN SHOULDER CLOSURE	SHEET 65	E

FILE NAME : T:\410627\DGN-DWG\1_0680_PREP_BLUE\aa_0680_026101_s1b.dgn PLOT DATE : 12/19/2013 PLOT BY : AYRES-EC PLOT NAME : PLOT SCALE : 1:100

WISDOT/CADDS SHEET 42

2

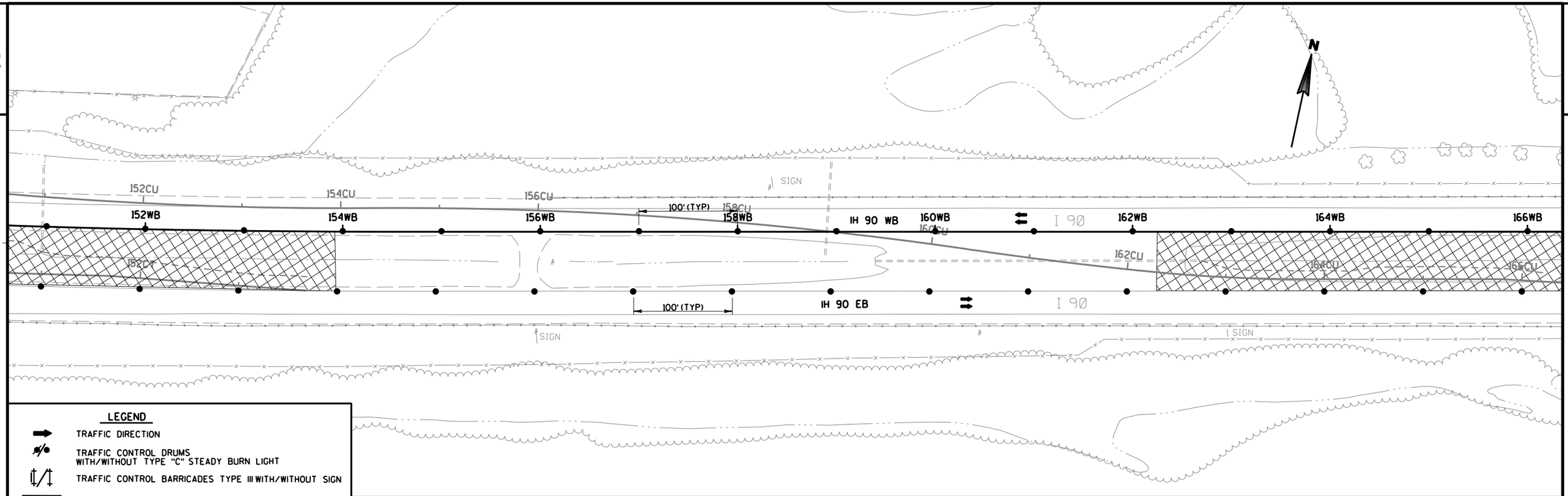


PROJECT NO: 1071-06-80	HWY: IH 90	COUNTY: LA CROSSE	TRAFFIC CONTROL - MEDIAN SHOULDER CLOSURE	SHEET 66	E

FILE NAME : T:\410627\DGN-DWG\1_0680_PREP_BLUE\aa_0680_026102_s1b.dgn PLOT DATE : 10/31/2013 PLOT BY : AYRES-EC PLOT NAME : PLOT SCALE : 1:100

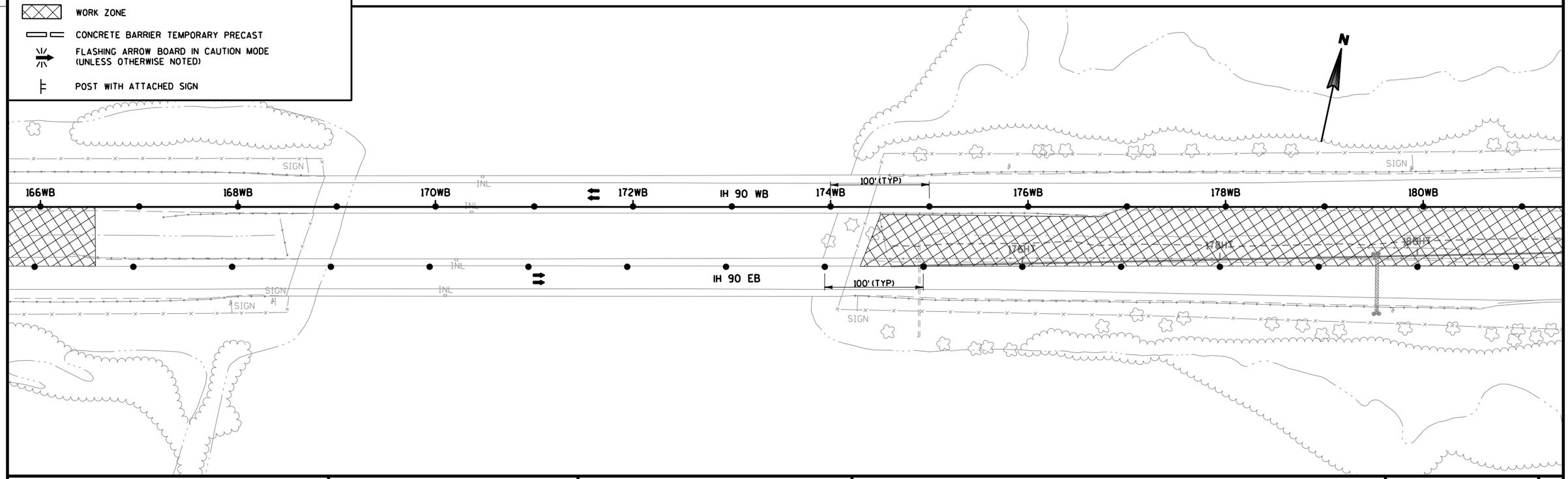
WISDOT/CADDS SHEET 42

2



LEGEND

- TRAFFIC DIRECTION
- TRAFFIC CONTROL DRUMS WITH/WITHOUT TYPE "C" STEADY BURN LIGHT
- TRAFFIC CONTROL BARRICADES TYPE III WITH/WITHOUT SIGN
- WORK ZONE
- CONCRETE BARRIER TEMPORARY PRECAST
- FLASHING ARROW BOARD IN CAUTION MODE (UNLESS OTHERWISE NOTED)
- POST WITH ATTACHED SIGN



PROJECT NO: 1071-06-80	HWY: IH 90	COUNTY: LA CROSSE	TRAFFIC CONTROL - MEDIAN SHOULDER CLOSURE	SHEET	E

FILE NAME : T:\410627\DGN-DWG\1_0680_PREP_BLUE\aa_0680_026103_s1b.dgn PLOT DATE : 12/19/2013 PLOT BY : AYRES-EC PLOT NAME : PLOT SCALE : 1:100

2

2

LEGEND

- TRAFFIC DIRECTION
- TRAFFIC CONTROL DRUMS WITH/WITHOUT TYPE "C" STEADY BURN LIGHT
- TRAFFIC CONTROL BARRICADES TYPE III WITH/WITHOUT SIGN
- WORK ZONE
- CONCRETE BARRIER TEMPORARY PRECAST
- FLASHING ARROW BOARD IN CAUTION MODE (UNLESS OTHERWISE NOTED)
- POST WITH ATTACHED SIGN

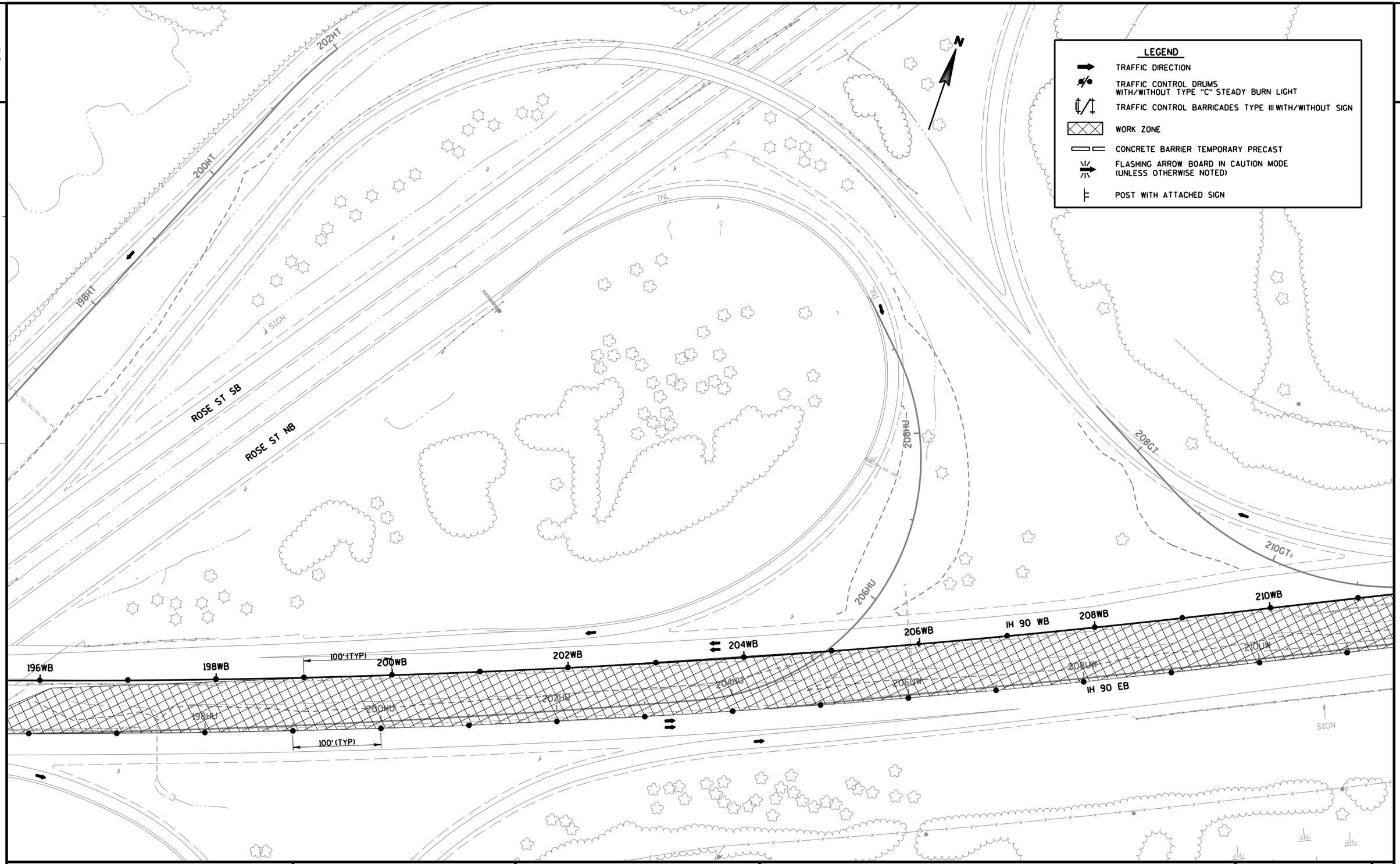
N

182WB
IH 90 WB
184WB
186WB
188WB
190WB
192WB
194WB
196WB
198HT
197HV
196HV
196HT
194HV
194HT
192HV
192HT
190HV
190HT
188HV
186HV
186HT
184HV
184HT
182WB2HV
IH 90 EB
100' (TYP)
100' (TYP)
SIGN
ROSE ST SB
ROSE ST NB

PROJECT NO: 1071-06-80	HWY: IH 90	COUNTY: LA CROSSE	TRAFFIC CONTROL - MEDIAN SHOULDER CLOSURE	SHEET	E

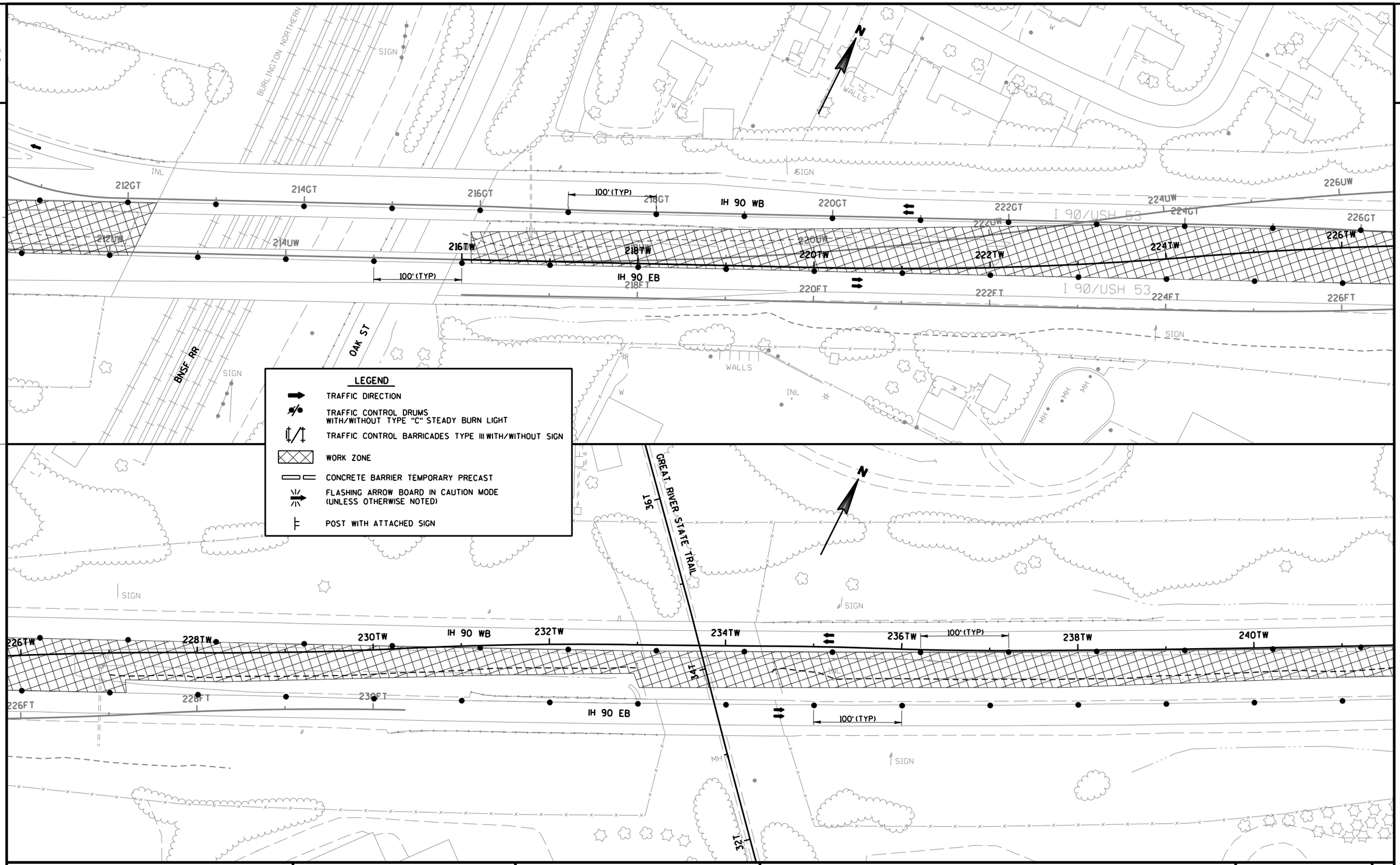
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WISDOT/CADDS SHEET 42

2



PROJECT NO: 1071-06-80	HWY: IH 90	COUNTY: LA CROSSE	TRAFFIC CONTROL - MEDIAN SHOULDER CLOSURE	SHEET 69	E

2

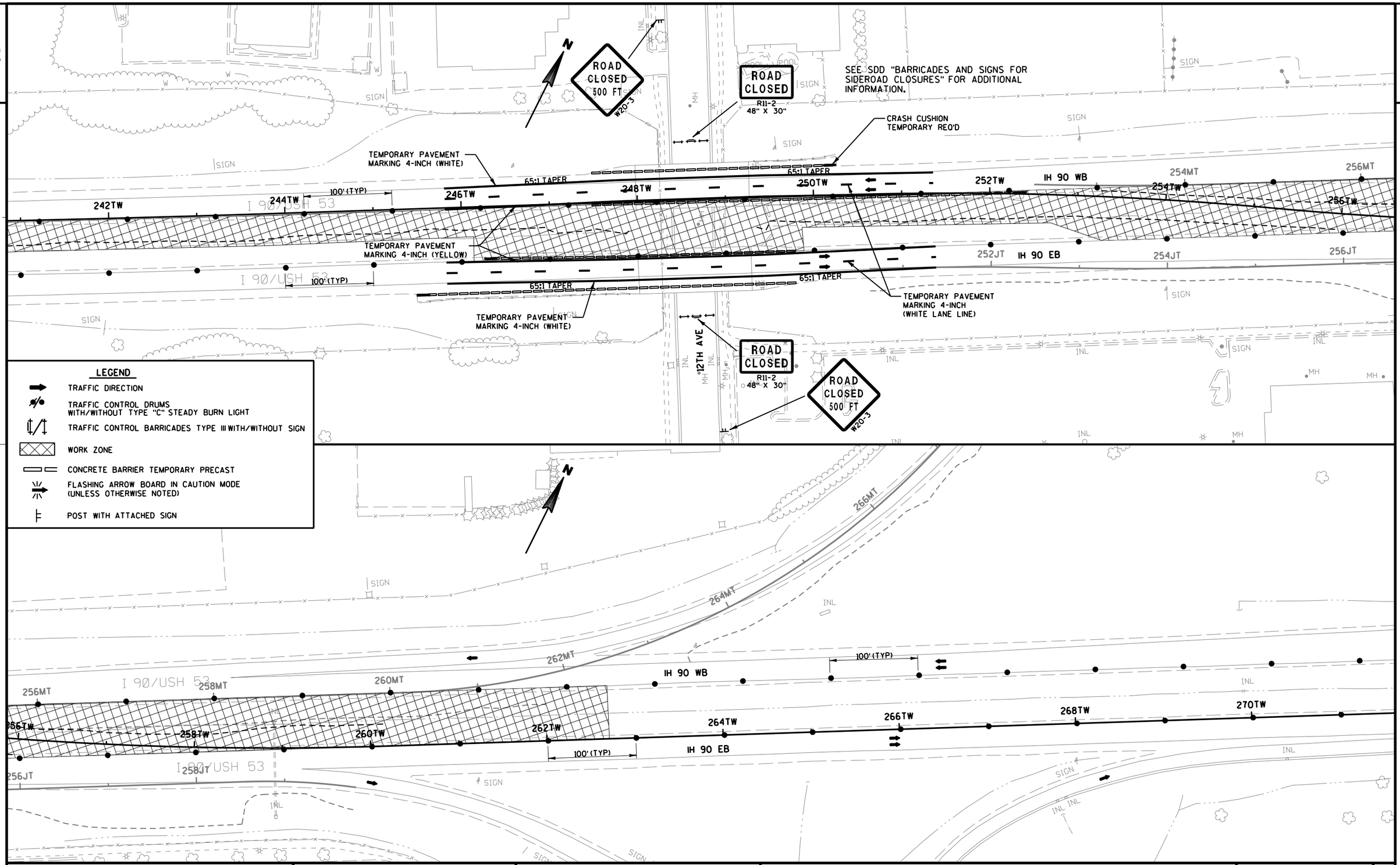


LEGEND

- TRAFFIC DIRECTION
- TRAFFIC CONTROL DRUMS WITH/WITHOUT TYPE "C" STEADY BURN LIGHT
- TRAFFIC CONTROL BARRICADES TYPE III WITH/WITHOUT SIGN
- WORK ZONE
- CONCRETE BARRIER TEMPORARY PRECAST
- FLASHING ARROW BOARD IN CAUTION MODE (UNLESS OTHERWISE NOTED)
- POST WITH ATTACHED SIGN

PROJECT NO: 1071-06-80	HWY: IH 90	COUNTY: LA CROSSE	TRAFFIC CONTROL - MEDIAN SHOULDER CLOSURE	SHEET	E

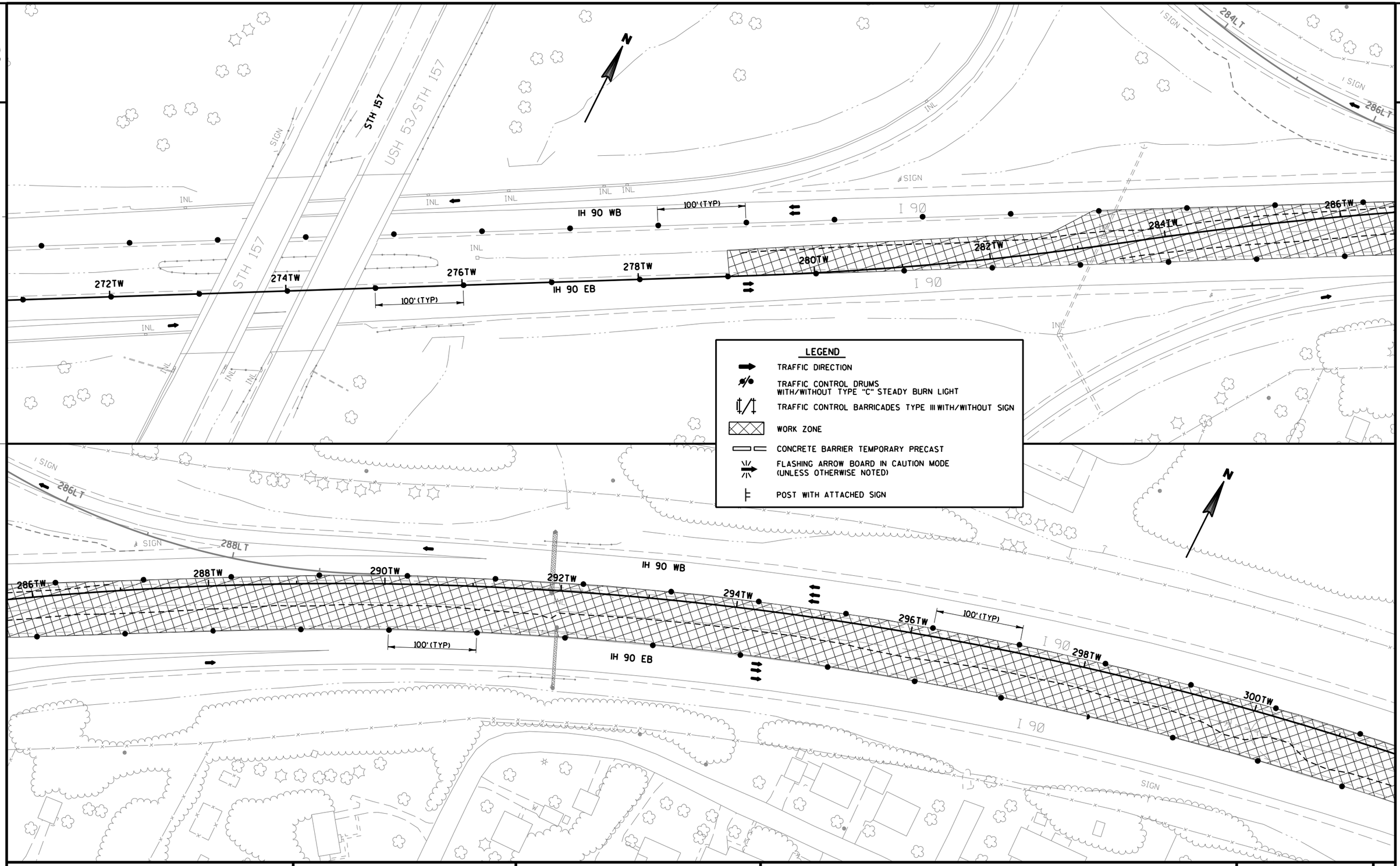
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WISDOT/CADDS SHEET 42



PROJECT NO: 1071-06-80	HWY: IH 90	COUNTY: LA CROSSE	TRAFFIC CONTROL - MEDIAN SHOULDER CLOSURE	SHEET	E

FILE NAME : T:\410627\DGN-DWG\1_0680_PREP_BLUE\aa_0680_026107_s1b.dgn PLOT DATE : 12/19/2013 PLOT BY : AYRES-EC PLOT NAME : PLOT SCALE : 1:100

2



PROJECT NO: 1071-06-80	HWY: IH 90	COUNTY: LA CROSSE	TRAFFIC CONTROL - MEDIAN SHOULDER CLOSURE	SHEET	E

FILE NAME : T:\410627\DGN-DWG\1_0680_PREP_BLUE\aa_0680_026108_s1b.dgn PLOT DATE : 10/31/2013 PLOT BY : AYRES-EC PLOT NAME : PLOT SCALE : 1:100

2

N

302TW
304TW
306TW
308TW
310TW
312TW
314TW
316TW
100' (TYP)
100' (TYP)
IH 90 WB
IH 90 EB
I 90
I 90
THEATER RD
SIGN
SIGN
SIGN
MH
MH
MH
INL
INL
INL
INL
W
W
W

LEGEND

- TRAFFIC DIRECTION
- TRAFFIC CONTROL DRUMS WITH/WITHOUT TYPE "C" STEADY BURN LIGHT
- TRAFFIC CONTROL BARRICADES TYPE III WITH/WITHOUT SIGN
- WORK ZONE
- CONCRETE BARRIER TEMPORARY PRECAST
- FLASHING ARROW BOARD IN CAUTION MODE (UNLESS OTHERWISE NOTED)
- POST WITH ATTACHED SIGN

N

SEE SDD "TRAFFIC CONTROL SHOULDER CLOSURE ON DIVIDED ROADWAY, SPEEDS GREATER THAN 40 M.P.H." FOR ADDITIONAL INFORMATION.

316TW
318TW
318TW
100' (TYP)
100' (TYP)
IH 90 WB
IH 90 EB
50' (TYP)
I 90
I 90
SIGN
SIGN
SIGN
SIGN
SIGN
MH
MH
INL
INL
INL
W
W
W

PROJECT NO: 1071-06-80	HWY: IH 90	COUNTY: LA CROSSE	TRAFFIC CONTROL - MEDIAN SHOULDER CLOSURE	SHEET 73	E

WORK:

CONSTRUCT OUTSIDE PORTION OF DT AND CT RAMPS.

TRAFFIC:

CLOSE OUTSIDE SHOULDER ON WB IH 90. USE OF PEAK HOUR LANE CLOSURES FOR WORK REQUIRING MORE ROOM THAN SHOULDER CLOSURE IS ALLOWED.

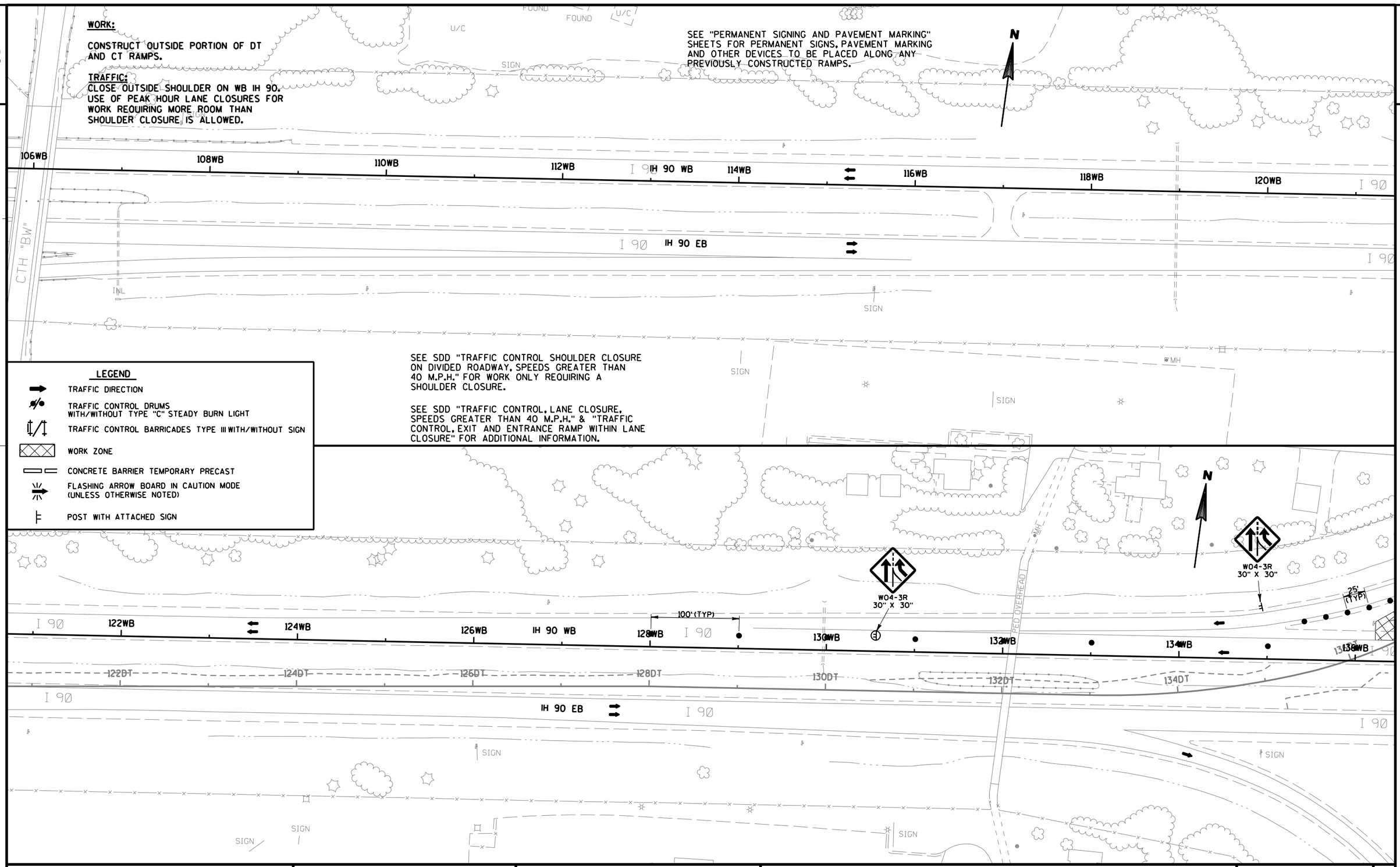
SEE "PERMANENT SIGNING AND PAVEMENT MARKING" SHEETS FOR PERMANENT SIGNS, PAVEMENT MARKING AND OTHER DEVICES TO BE PLACED ALONG ANY PREVIOUSLY CONSTRUCTED RAMPS.

LEGEND

- TRAFFIC DIRECTION
- TRAFFIC CONTROL DRUMS WITH/WITHOUT TYPE "C" STEADY BURN LIGHT
- TRAFFIC CONTROL BARRICADES TYPE III WITH/WITHOUT SIGN
- WORK ZONE
- CONCRETE BARRIER TEMPORARY PRECAST
- FLASHING ARROW BOARD IN CAUTION MODE (UNLESS OTHERWISE NOTED)
- POST WITH ATTACHED SIGN

SEE SDD "TRAFFIC CONTROL SHOULDER CLOSURE ON DIVIDED ROADWAY, SPEEDS GREATER THAN 40 M.P.H." FOR WORK ONLY REQUIRING A SHOULDER CLOSURE.

SEE SDD "TRAFFIC CONTROL, LANE CLOSURE, SPEEDS GREATER THAN 40 M.P.H." & "TRAFFIC CONTROL, EXIT AND ENTRANCE RAMP WITHIN LANE CLOSURE" FOR ADDITIONAL INFORMATION.



PROJECT NO: 1071-06-80	HWY: IH 90	COUNTY: LA CROSSE	TRAFFIC CONTROL - OUTSIDE LANE CLOSURE (PEAK HOUR)	SHEET 74	E

FILE NAME : T:\410627\DGN-DWG\1_0680_PREP_BLUE\aa_0680_026201_s1c.dgn PLOT DATE : 10/31/2013 PLOT BY : AYRES-EC PLOT NAME : PLOT SCALE : 1:100

WISDOT/CADDS SHEET 42

2

ROAD WORK AHEAD
W20-1

LANE CLOSED
R11-2(MOD)
48" X 30"

EXIT
E5-1
60" X 48"

N

CTH "B"

CTH B

IH 90 WB

IH 90 EB

I 90

140DT

140CT

148CT

150CT

25' (TYP)

100' (TYP)

136WB

138WB

140WB

142WB

144WB

146WB

148WB

150WB

SIGN

INL

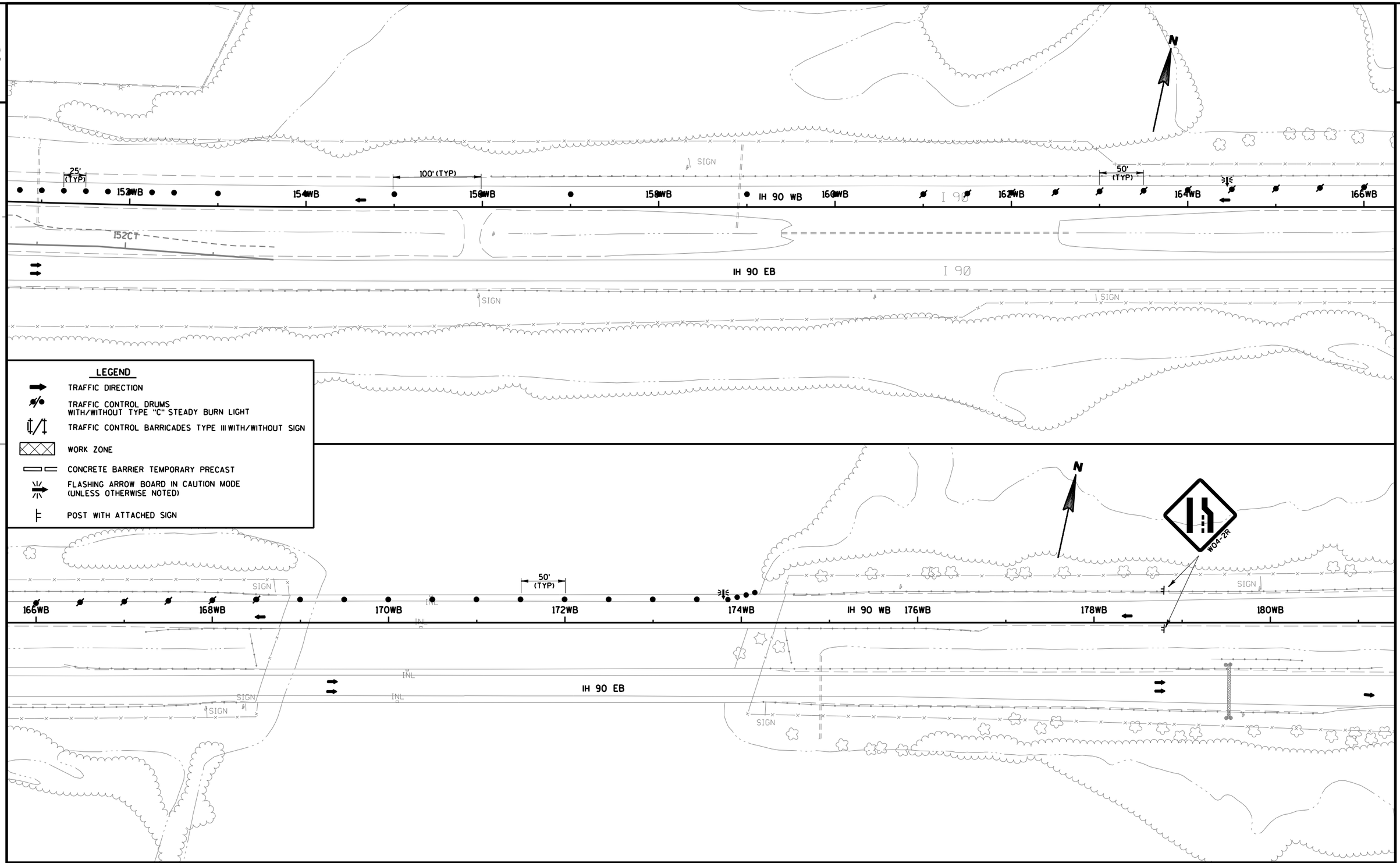
LEGEND

- TRAFFIC DIRECTION
- TRAFFIC CONTROL DRUMS WITH/WITHOUT TYPE "C" STEADY BURN LIGHT
- TRAFFIC CONTROL BARRICADES TYPE III WITH/WITHOUT SIGN
- WORK ZONE
- CONCRETE BARRIER TEMPORARY PRECAST
- FLASHING ARROW BOARD IN CAUTION MODE (UNLESS OTHERWISE NOTED)
- POST WITH ATTACHED SIGN

PROJECT NO: 1071-06-80	HWY: IH 90	COUNTY: LA CROSSE	TRAFFIC CONTROL - OUTSIDE LANE CLOSURE (PEAK HOUR)	SHEET 75	E

FILE NAME : T:\410627\DGN-DWG\1_0680_PREP_BLUE\aa_0680_026202_s1c.dgn PLOT DATE : 10/31/2013 PLOT BY : AYRES-EC PLOT NAME : PLOT SCALE : 1:100

2



PROJECT NO: 1071-06-80	HWY: IH 90	COUNTY: LA CROSSE	TRAFFIC CONTROL - OUTSIDE LANE CLOSURE (PEAK HOUR)	SHEET 76 E

FILE NAME : T:\410627\DGN-DWG\1_0680_PREP_BLUE\aa_0680_026203_s1c.dgn PLOT DATE : 10/31/2013 PLOT BY : AYRES-EC PLOT NAME : PLOT SCALE : 1:100

WISDOT/CADDS SHEET 42

2

2

LEGEND

- TRAFFIC DIRECTION
- TRAFFIC CONTROL DRUMS WITH/WITHOUT TYPE "C" STEADY BURN LIGHT
- TRAFFIC CONTROL BARRICADES TYPE III WITH/WITHOUT SIGN
- WORK ZONE
- CONCRETE BARRIER TEMPORARY PRECAST
- FLASHING ARROW BOARD IN CAUTION MODE (UNLESS OTHERWISE NOTED)
- POST WITH ATTACHED SIGN

N

ROAD WORK AHEAD W20-1

RIGHT LANE CLOSED 1500 FT W20-5

RIGHT LANE CLOSED 1/2 MILE W20-5

ROAD WORK 1 MILE W20-1

182WB

IH 90 WB

184WB

186WB

188WB

190WB

192WB

194WB

196WB

IH 90 EB

SIGN

ROSE ST SB

ROSE ST NB

PROJECT NO: 1071-06-80	HWY: IH 90	COUNTY: LA CROSSE	TRAFFIC CONTROL - OUTSIDE LANE CLOSURE (PEAK HOUR)	SHEET 77	E

FILE NAME : T:\410627\DGN-DWG\1_0680_PREP_BLUE\aa_0680_026304_s1c.dgn PLOT DATE : 10/31/2013 PLOT BY : AYRES-EC PLOT NAME : PLOT SCALE : 1:100

WISDOT/CADDS SHEET 42

2

2

WORK:
SETTING AND REMOVING FORMS AND DEBRIS CONTAINMENT SYSTEM OVER IH 90 WB RAMP TO ROSE STREET SB.
PHASE 1 WORK DURING IH 90 EB MEDIAN LANE CLOSURE.
PHASE 2 WORK DURING IH 90 EB OUTSIDE LANE CLOSURE.

DESIGN NOTE:
CONCRETE GORE APPEARS IN GOOD SHAPE. ASPHALT GORE APPEARS TO BE IN ROUGH SHAPE. CONSIDER OUTSIDE LANE CLOSURE ON ROSE STREET SB TO BRING RAMP INTO ITS OWN LANE.

186EB
188EB
190EB
192EB
194EB
196EB
198EB
200EB

LANE CLOSED
R11-2(MOD)
48" X 30"

R1-2
36" X 31"

W3-2
36" X 36"

PHASE 1 WORK
PHASE 2 WORK
25' (TYP)
50' (TYP)
400' TAPER

ROSE ST SB
ROSE ST NB

RAMP CLOSED

SIGN
INL
W INL

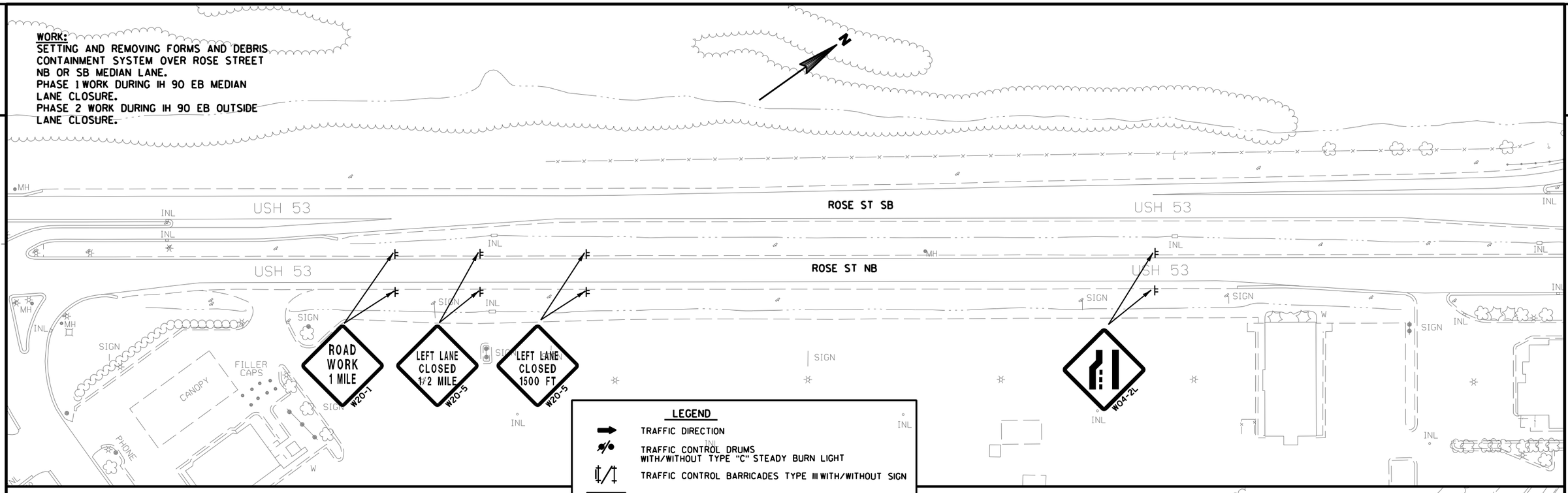
IH 90 WB
IH 90 EB

LEGEND

- TRAFFIC DIRECTION
- TRAFFIC CONTROL DRUMS WITH/WITHOUT TYPE "C" STEADY BURN LIGHT
- TRAFFIC CONTROL BARRICADES TYPE III WITH/WITHOUT SIGN
- WORK ZONE
- FLASHING ARROW BOARD IN CAUTION MODE (UNLESS OTHERWISE NOTED)
- POST WITH ATTACHED SIGN

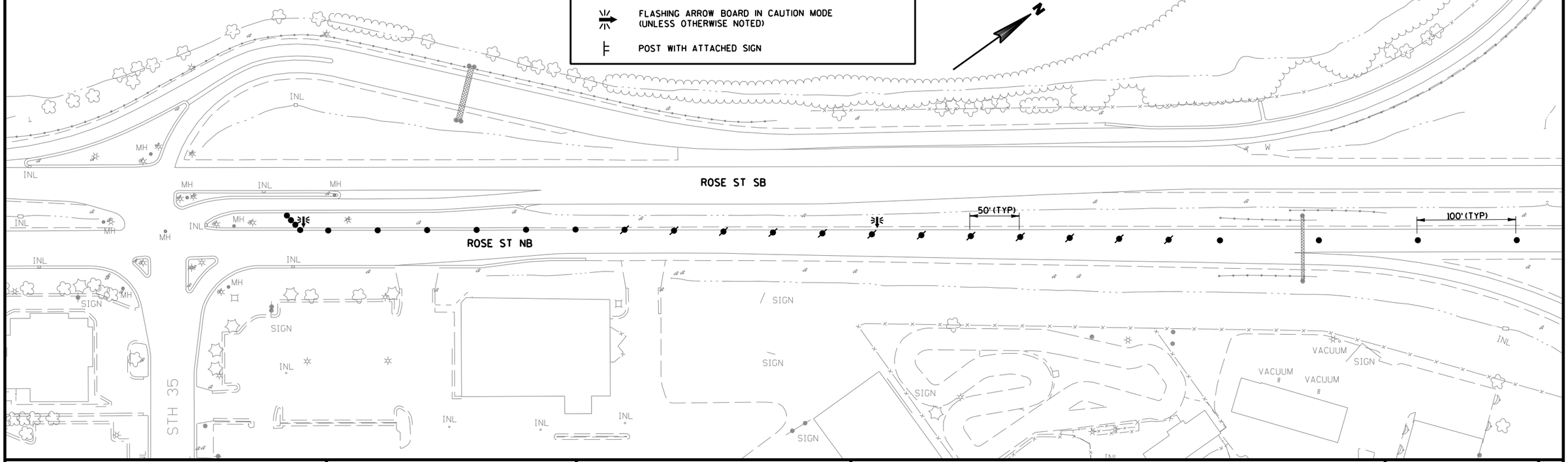
PROJECT NO: 1071-06-80	HWY: IH 90	COUNTY: LA CROSSE	TRAFFIC CONTROL - ROSE STREET - WORK OVER RAMP	SHEET 78	E

WORK:
SETTING AND REMOVING FORMS AND DEBRIS CONTAINMENT SYSTEM OVER ROSE STREET NB OR SB MEDIAN LANE.
PHASE 1 WORK DURING IH 90 EB MEDIAN LANE CLOSURE.
PHASE 2 WORK DURING IH 90 EB OUTSIDE LANE CLOSURE.



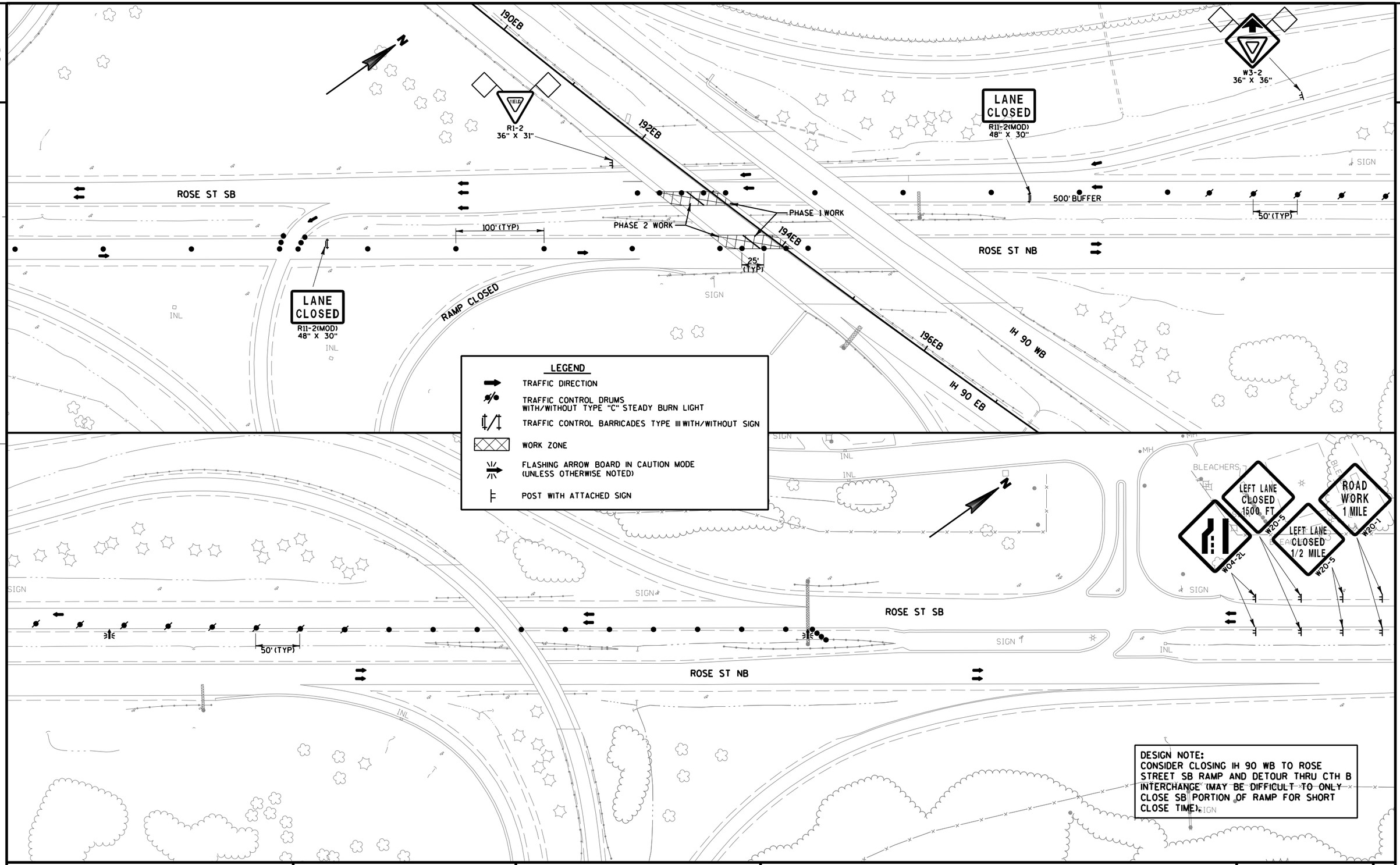
LEGEND

- TRAFFIC DIRECTION
- TRAFFIC CONTROL DRUMS WITH/WITHOUT TYPE "C" STEADY BURN LIGHT
- TRAFFIC CONTROL BARRICADES TYPE III WITH/WITHOUT SIGN
- WORK ZONE
- FLASHING ARROW BOARD IN CAUTION MODE (UNLESS OTHERWISE NOTED)
- POST WITH ATTACHED SIGN



PROJECT NO: 1071-06-80	HWY: IH 90	COUNTY: LA CROSSE	TRAFFIC CONTROL - ROSE STREET - WORK OVER MEDIAN LANES	SHEET 79	E

FILE NAME : T:\410627\DGN-DWG\1_0680_PREP_BLUE\aa_0680_026501_s1R.dgn PLOT DATE : 10/31/2013 PLOT BY : AYRES-EC PLOT NAME : PLOT SCALE : 1:100

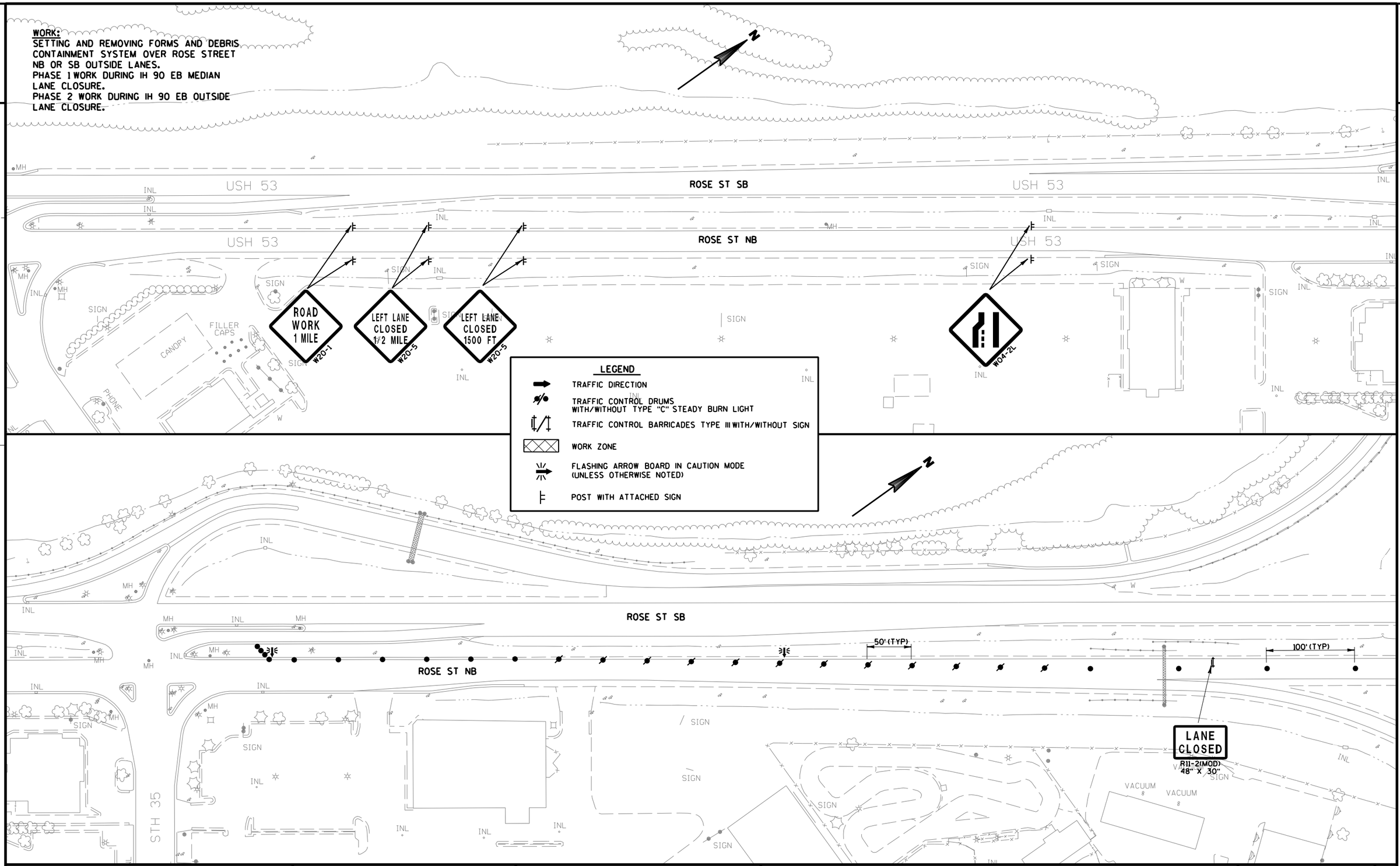


PROJECT NO: 1071-06-80	HWY: IH 90	COUNTY: LA CROSSE	TRAFFIC CONTROL - ROSE STREET - WORK OVER MEDIAN LANES	SHEET 80	E

FILE NAME : T:\410627\DGN-DWG\1_0680_PREP_BLUE\ag_0680_026502_s1R.dgn PLOT DATE : 10/31/2013 PLOT BY : AYRES-EC PLOT NAME : PLOT SCALE : 1:100

WISDOT/CADDS SHEET 42

WORK:
SETTING AND REMOVING FORMS AND DEBRIS CONTAINMENT SYSTEM OVER ROSE STREET NB OR SB OUTSIDE LANES.
PHASE 1 WORK DURING IH 90 EB MEDIAN LANE CLOSURE.
PHASE 2 WORK DURING IH 90 EB OUTSIDE LANE CLOSURE.



PROJECT NO: 1071-06-80	HWY: IH 90	COUNTY: LA CROSSE	TRAFFIC CONTROL - ROSE STREET - WORK OVER OUTSIDE LANES	SHEET	E

FILE NAME : T:\410627\DGN-DWG\1_0680_PREP_BLUE\aa_0680_026601_s1R.dgn PLOT DATE : 10/31/2013 PLOT BY : AYRES-EC PLOT NAME : PLOT SCALE : 1:100

WISDOT/CADDS SHEET 42

2

2

190EB

192EB

194EB

196EB

IH 90 WB

IH 90 EB

N

W04-3R
30" X 30"

PHASE 2 WORK

PHASE 1 WORK

25'
(TYP)

ROSE ST SB

100' (TYP)

W01-6
48" X 24"

RAMP CLOSED

LANE
CLOSED
R11-2(MOD)
48" X 30"

PHASE 2 WORK

PHASE 1 WORK

LANE
CLOSED
R11-2(MOD)
48" X 30"

50' (TYP)

500' BUFFER

100' (TYP)

50' (TYP)

ROSE ST NB

SIGN

INL

LEGEND

- TRAFFIC DIRECTION
- TRAFFIC CONTROL DRUMS WITH/WITHOUT TYPE "C" STEADY BURN LIGHT
- TRAFFIC CONTROL BARRICADES TYPE III WITH/WITHOUT SIGN
- WORK ZONE
- FLASHING ARROW BOARD IN CAUTION MODE (UNLESS OTHERWISE NOTED)
- POST WITH ATTACHED SIGN

N

MH

BLEACHERS

W04-2R

RIGHT LANE
CLOSED
1500 FT
W20-5

RIGHT LANE
CLOSED
1/2 MILE
W20-5

ROAD
WORK
1 MILE
W20-1

50' (TYP)

ROSE ST SB

ROSE ST NB

PROJECT NO: 1071-06-80	HWY: IH 90	COUNTY: LA CROSSE	TRAFFIC CONTROL - ROSE STREET - WORK OVER OUTSIDE LANES	SHEET	E

FILE NAME : T:\410627\DGN-DWG\1_0680_PREP_BLUE\aa_0680_026602_s1R.dgn PLOT DATE : 10/31/2013 PLOT BY : AYRES-EC PLOT NAME : PLOT SCALE : 1:100

WISDOT/CADDS SHEET 42

2

2

SEE S.D.D. 15C5-2, TRAFFIC CONTROL, ADVANCE WARNING SIGNS 40 M.P.H. OR LESS, TWO WAY UNDIVIDED ROAD OPEN TO TRAFFIC FOR ADDITIONAL INFORMATION.

ENTERPRISE AVE

TEMPORARY PAVEMENT MARKING REFLECTIVE TAPE 4-INCH (CENTERLINE YELLOW)

TEMPORARY PAVEMENT MARKING REFLECTIVE TAPE 4-INCH (CENTERLINE YELLOW)

TEMPORARY PAVEMENT MARKING REFLECTIVE TAPE 4-INCH (CENTERLINE DOUBLE YELLOW)

GREAT RIVER STATE TRAIL

ENTERPRISE AVE

17+00W

18+00W

18+51W

155'

"SS" ST

W1-6
48" X 24"

TEMPORARY PAVEMENT MARKING REFLECTIVE TAPE 4-INCH (EDGELINE WHITE)

TEMPORARY PAVEMENT MARKING REFLECTIVE TAPE 4-INCH (CENTERLINE DOUBLE YELLOW)

SEE S.D.D. 15C5-2, TRAFFIC CONTROL, ADVANCE WARNING SIGNS 40 M.P.H. OR LESS, TWO WAY UNDIVIDED ROAD OPEN TO TRAFFIC FOR ADDITIONAL INFORMATION.

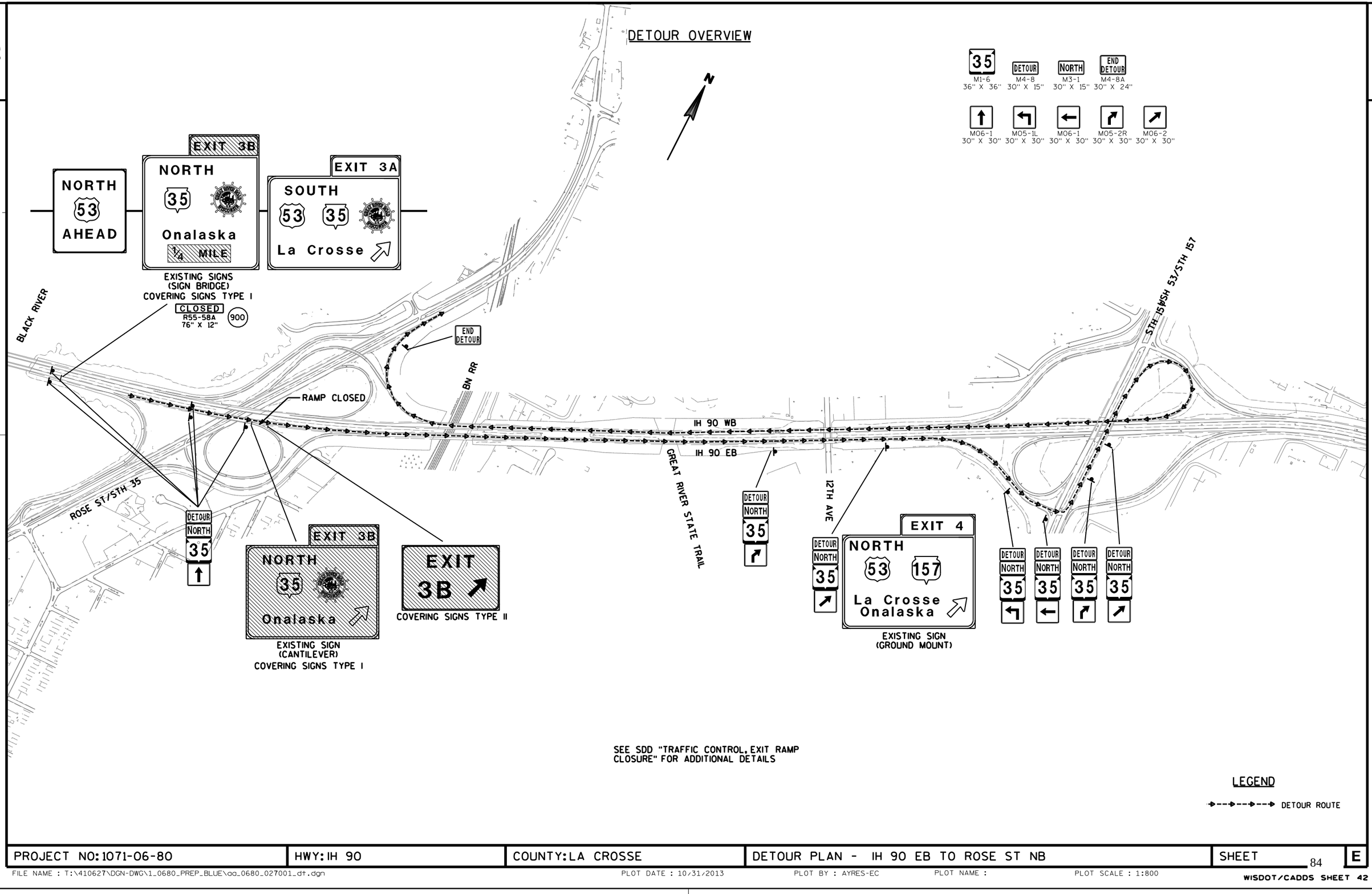
PROJECT NO: 1071-06-86	HWY: IH 90	COUNTY: LA CROSSE	TRAFFIC CONTROL: ENTERPRISE AVE & "SS" ST	SHEET	E

FILE NAME : T:\410627\DGN-DWG\1_0680_PREP_BLUE\Onalaska Prep Plan TC.dgn PLOT DATE : 10/31/2013 PLOT BY : lambertb PLOT NAME : PLOT SCALE : 1:40

WISDOT/CADDS SHEET 42

2

DETOUR OVERVIEW



35 M1-6 36" X 36" | DETOUR M4-8 30" X 15" | NORTH M3-1 30" X 15" | END DETOUR M4-8A 30" X 24"

M06-1 30" X 30" | M05-1L 30" X 30" | M06-1 30" X 30" | M05-2R 30" X 30" | M06-2 30" X 30"

SEE SDD "TRAFFIC CONTROL, EXIT RAMP CLOSURE" FOR ADDITIONAL DETAILS

LEGEND

DETOUR ROUTE

PROJECT NO: 1071-06-80	HWY: IH 90	COUNTY: LA CROSSE	DETOUR PLAN - IH 90 EB TO ROSE ST NB	SHEET 84	E

FILE NAME : T:\410627\DGN-DWG\1_0680_PREP_BLUE\da_0680_027001_dt.dgn PLOT DATE : 10/31/2013 PLOT BY : AYRES-EC PLOT NAME : PLOT SCALE : 1:800

WISDOT/CADDS SHEET 42

2

2

ROSE STREET (USH 53/STH 35)

ROSE STREET (STH 35)

OAK FOREST DRIVE

3rd AVE

HILLTOPPER DRIVE

WILSON STREET

OAK FOREST DRIVE

12th AVENUE

OAK AVENUE

COMMERCE STREET

IH-90

ENTERPRISE AVENUE

HAUSER STREET

GREAT RIVER STATE TRAIL

DETOUR
M4-9a
30" X 24"

SIDEWALK CLOSED
R5-8
24" X 12"

END DETOUR
M4-8A
24" X 18"

SIDEWALK CLOSED
R5-8
24" X 12"

DETOUR
M4-9a
30" X 24"

DETOUR
M4-9a
30" X 24"

END DETOUR
M4-8A
24" X 18"

SIDEWALK CLOSED
R5-8
24" X 12"

DETOUR
M4-9a
30" X 24"

LEGEND

= PROPOSED DETOUR ROUTE

= WORK ZONE

= TYPE III BARRICADE WITH SIGN

PROJECT NO: 1071-06-80	HWY: IH 90	COUNTY: LA CROSSE	DETOUR PLAN: GREAT RIVER STATE TRAIL	SHEET 85	E

P.I. DATA
P.I. 18+30.87 EB
N 148149.14
E 431662.63

CURVE DATA
P.I. 50+00.01 EB
N 148517.94
E 434810.24
△ = 1°30'00"
D = 0°15'00"
T = 300.02'
L = 600.00'
E = 1.96'
R = 22918.39'
P.C. 47+00.00 EB
P.T. 53+00.00 EB

CURVE DATA
P.I. 59+68.24 EB
N 148605.40
E 435774.54
△ = 1°30'00"
D = 0°11'00"
T = 409.12'
L = 818.18'
E = 2.68'
R = 31252.33'
P.C. 55+59.12 EB
P.T. 63+77.31 EB

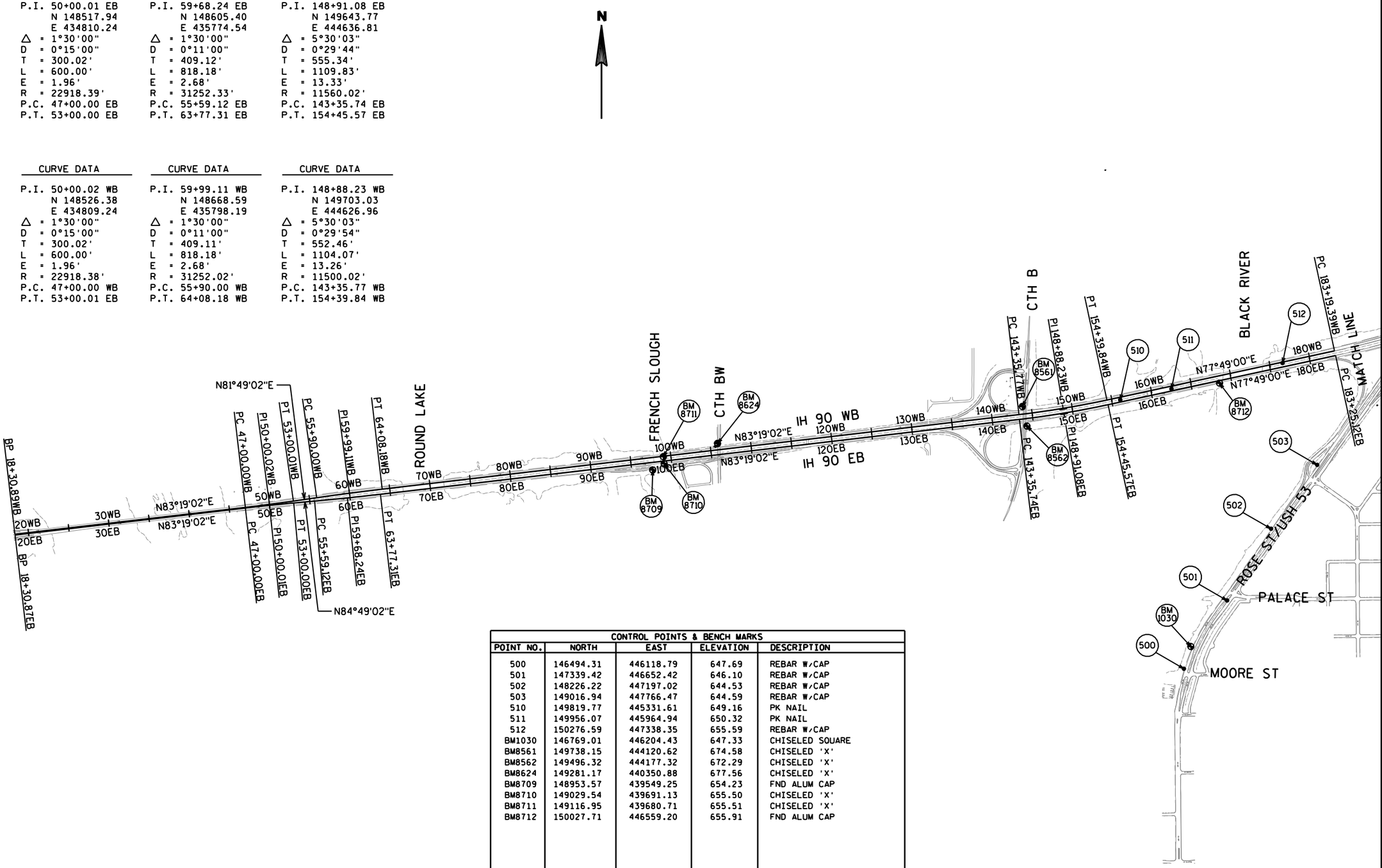
CURVE DATA
P.I. 148+91.08 EB
N 149643.77
E 444636.81
△ = 5°30'03"
D = 0°29'44"
T = 555.34'
L = 1109.83'
E = 13.33'
R = 11560.02'
P.C. 143+35.74 EB
P.T. 154+45.57 EB

P.I. DATA
P.I. 18+30.89 WB
N 148157.58
E 431661.64

CURVE DATA
P.I. 50+00.02 WB
N 148526.38
E 434809.24
△ = 1°30'00"
D = 0°15'00"
T = 300.02'
L = 600.00'
E = 1.96'
R = 22918.38'
P.C. 47+00.00 WB
P.T. 53+00.01 EB

CURVE DATA
P.I. 59+99.11 WB
N 148668.59
E 435798.19
△ = 1°30'00"
D = 0°11'00"
T = 409.11'
L = 818.18'
E = 2.68'
R = 31252.02'
P.C. 55+90.00 WB
P.T. 64+08.18 WB

CURVE DATA
P.I. 148+88.23 WB
N 149703.03
E 444626.96
△ = 5°30'03"
D = 0°29'54"
T = 552.46'
L = 1104.07'
E = 13.26'
R = 11500.02'
P.C. 143+35.77 WB
P.T. 154+39.84 WB

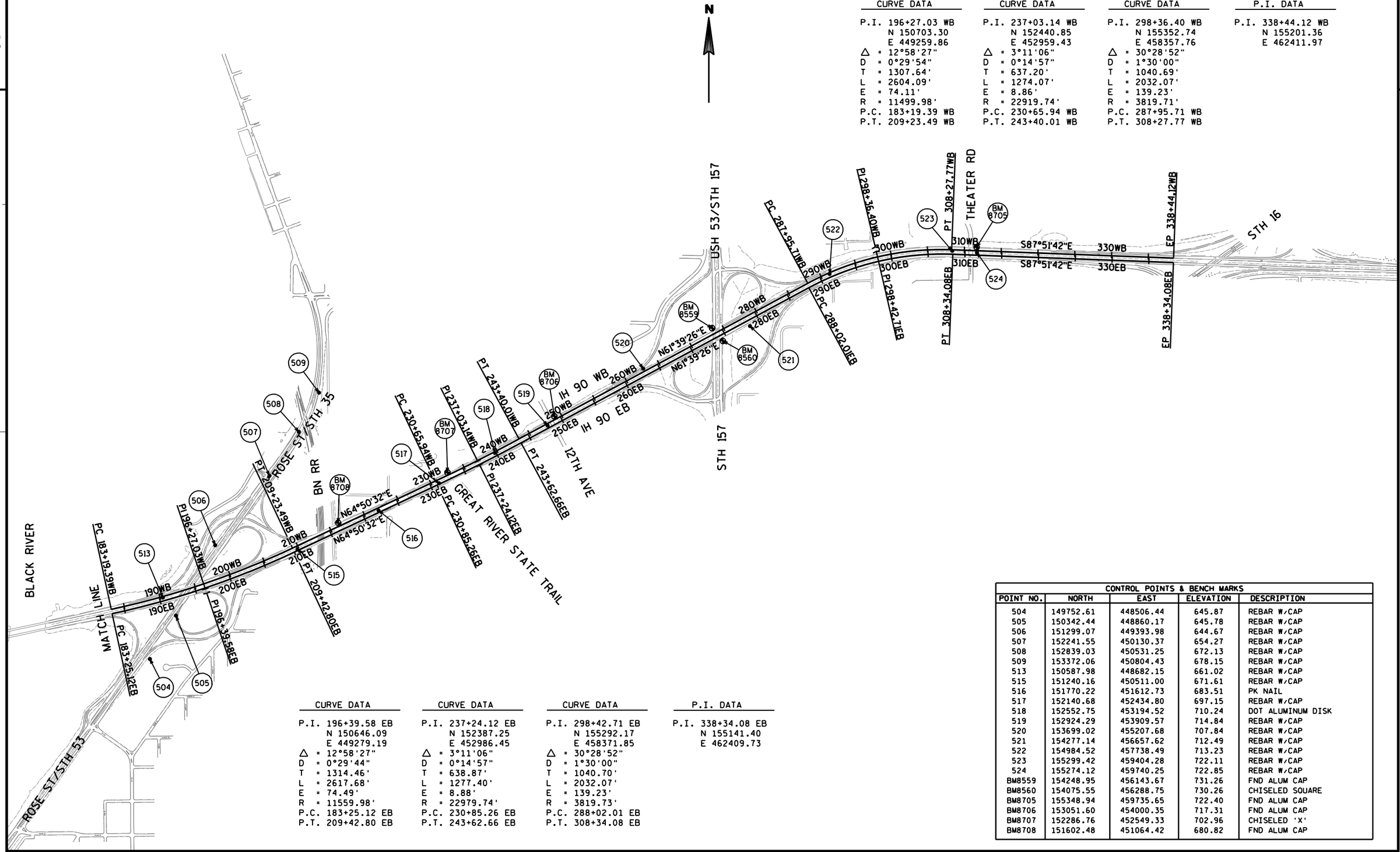


CONTROL POINTS & BENCH MARKS				
POINT NO.	NORTH	EAST	ELEVATION	DESCRIPTION
500	146494.31	446118.79	647.69	REBAR W/CAP
501	147339.42	446652.42	646.10	REBAR W/CAP
502	148226.22	447197.02	644.53	REBAR W/CAP
503	149016.94	447766.47	644.59	REBAR W/CAP
510	149819.77	445331.61	649.16	PK NAIL
511	149956.07	445964.94	650.32	PK NAIL
512	150276.59	447338.35	655.59	REBAR W/CAP
BM1030	146769.01	446204.43	647.33	CHISELED SQUARE
BM8561	149738.15	444120.62	674.58	CHISELED 'X'
BM8562	149496.32	444177.32	672.29	CHISELED 'X'
BM8624	149281.17	440350.88	677.56	CHISELED 'X'
BM8709	148953.57	439549.25	654.23	FND ALUM CAP
BM8710	149029.54	439691.13	655.50	CHISELED 'X'
BM8711	149116.95	439680.71	655.51	CHISELED 'X'
BM8712	150027.71	446559.20	655.91	FND ALUM CAP

PROJECT NO: 1071-06-80	HWY: IH 90	COUNTY: LA CROSSE	ALIGNMENT DIAGRAM	SHEET 86	E

FILE NAME : T:\410627\DGN-DWG\1_0680_PREP_BLUE\aa_0680_027201_ad.dgn PLOT DATE : 10/31/2013 PLOT BY : AYRES-EC PLOT NAME : PLOT SCALE : 1:1200

WISDOT/CADDS SHEET 42



CURVE DATA	
P.I.	196+27.03 WB
	N 150703.30
	E 449259.86
△	= 12°58'27"
D	= 0°29'54"
T	= 1307.64'
L	= 2604.09'
E	= 74.11'
R	= 11499.98'
P.C.	183+19.39 WB
P.T.	209+23.49 WB

CURVE DATA	
P.I.	237+03.14 WB
	N 152440.85
	E 452959.43
△	= 3°11'06"
D	= 0°14'57"
T	= 637.20'
L	= 1274.07'
E	= 8.86'
R	= 22919.74'
P.C.	230+65.94 WB
P.T.	243+40.01 WB

CURVE DATA	
P.I.	298+36.40 WB
	N 155352.74
	E 458357.76
△	= 30°28'52"
D	= 1°30'00"
T	= 1040.69'
L	= 2032.07'
E	= 139.23'
R	= 3819.71'
P.C.	287+95.71 WB
P.T.	308+27.77 WB

P.I. DATA	
P.I.	338+44.12 WB
	N 155201.36
	E 462411.97

CURVE DATA	
P.I.	196+39.58 EB
	N 150646.09
	E 449279.19
△	= 12°58'27"
D	= 0°29'44"
T	= 1314.46'
L	= 2617.68'
E	= 74.49'
R	= 11559.98'
P.C.	183+25.12 EB
P.T.	209+42.80 EB

CURVE DATA	
P.I.	237+24.12 EB
	N 152387.25
	E 452986.45
△	= 3°11'06"
D	= 0°14'57"
T	= 638.87'
L	= 1277.40'
E	= 8.88'
R	= 22979.74'
P.C.	230+85.26 EB
P.T.	243+62.66 EB

CURVE DATA	
P.I.	298+42.71 EB
	N 155292.17
	E 458371.85
△	= 30°28'52"
D	= 1°30'00"
T	= 1040.70'
L	= 2032.07'
E	= 139.23'
R	= 3819.73'
P.C.	288+02.01 EB
P.T.	308+34.08 EB

P.I. DATA	
P.I.	338+34.08 EB
	N 155141.40
	E 462409.73

CONTROL POINTS & BENCH MARKS				
POINT NO.	NORTH	EAST	ELEVATION	DESCRIPTION
504	149752.61	448506.44	645.87	REBAR W/CAP
505	150342.44	448860.17	645.78	REBAR W/CAP
506	151299.07	449393.98	644.67	REBAR W/CAP
507	152241.55	450130.37	654.27	REBAR W/CAP
508	152839.03	450531.25	672.13	REBAR W/CAP
509	153372.06	450804.43	678.15	REBAR W/CAP
513	150587.98	448682.15	661.02	REBAR W/CAP
515	151240.16	450511.00	671.61	REBAR W/CAP
516	151770.22	451612.73	683.51	PK NAIL
517	152140.68	452434.80	697.15	REBAR W/CAP
518	152552.75	453194.52	710.24	DOT ALUMINUM DISK
519	152924.29	453909.57	714.84	REBAR W/CAP
520	153699.02	455207.68	707.84	REBAR W/CAP
521	154277.14	456657.62	712.49	REBAR W/CAP
522	154984.52	457738.49	713.23	REBAR W/CAP
523	155299.42	459404.28	722.11	REBAR W/CAP
524	155274.12	459740.25	722.85	REBAR W/CAP
BM8559	154248.95	456143.67	731.26	FND ALUM CAP
BM8560	154075.55	456288.75	730.26	CHISELED SQUARE
BM8705	155348.94	459735.65	722.40	FND ALUM CAP
BM8706	153051.60	454000.35	717.31	FND ALUM CAP
BM8707	152286.76	452549.33	702.96	CHISELED 'X'
BM8708	151602.48	451064.42	680.82	FND ALUM CAP

PROJECT NO: 1071-06-80	HWY: IH 90	COUNTY: LA CROSSE	ALIGNMENT DIAGRAM	SHEET 87	E

DATE 10JAN14 — 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	1071-06-80 QUANTITY	1071-06-86 QUANTITY
0010	201.0105	CLEARING	STA	16.000	15.000	1.000
0020	201.0205	GRUBBING	STA	16.000	15.000	1.000
0030	203.0100	REMOVING SMALL PIPE CULVERTS	EACH	12.000	12.000	
0040	203.0200	REMOVING OLD STRUCTURE (STATION) 21. STA 248+64.12 EB	LS	1.000	1.000	
0050	203.0200	REMOVING OLD STRUCTURE (STATION) 22. STA 248+41.1 WB	LS	1.000	1.000	
0060	203.0225.S	DEBRIS CONTAINMENT (STRUCTURE) 01. B-32-36	LS	1.000	1.000	
0070	204.0110	REMOVING ASPHALTIC SURFACE	SY	502.000	213.000	289.000
0080	204.0120	REMOVING ASPHALTIC SURFACE MILLING	SY	123.000	123.000	
0090	204.0150	REMOVING CURB & GUTTER	LF	370.000	240.000	130.000
0100	204.0155	REMOVING CONCRETE SIDEWALK	SY	144.000	133.000	11.000
0110	204.0165	REMOVING GUARDRAIL	LF	2,810.000	2,810.000	
0120	204.0170	REMOVING FENCE	LF	545.000	545.000	
0130	204.0180	REMOVING DELINEATORS AND MARKERS	EACH	31.000	31.000	
0140	204.0190	REMOVING SURFACE DRAINS	EACH	2.000	2.000	
0150	204.0210	REMOVING MANHOLES	EACH	2.000		2.000
0160	204.0220	REMOVING INLETS	EACH	5.000	5.000	
0170	205.0100	EXCAVATION COMMON	CY	12,012.000	12,012.000	
0180	206.1000	EXCAVATION FOR STRUCTURES BRIDGES (STRUCTURE) 21. B-32-107	LS	1.000	1.000	
0190	206.1000	EXCAVATION FOR STRUCTURES BRIDGES (STRUCTURE) 22. B-32-108	LS	1.000	1.000	
0200	206.2000	EXCAVATION FOR STRUCTURES CULVERTS (STRUCTURE) 40. C-32-97	LS	1.000	1.000	
0210	206.6000.S	TEMPORARY SHORING	SF	2,280.000	2,280.000	
0220	208.0100	BORROW	CY	15,851.000	15,851.000	
0230	210.0100	BACKFILL STRUCTURE	CY	6,580.000	6,580.000	
0240	213.0100	FINISHING ROADWAY (PROJECT) 01. 1071-06-80	EACH	1.000	1.000	
0250	305.0110	BASE AGGREGATE DENSE 3/4-INCH	TON	1,394.000	1,363.000	31.000
0260	305.0120	BASE AGGREGATE DENSE 1 1/4-INCH	TON	24,983.000	24,790.000	193.000
0270	455.0105	ASPHALTIC MATERIAL PG58-28	TON	515.400	511.400	4.000
0280	455.0605	TACK COAT	GAL	7.500	7.500	
0290	460.1100	HMA PAVEMENT TYPE E-0.3	TON	64.000		64.000
0300	460.1103	HMA PAVEMENT TYPE E-3	TON	4,163.000	4,163.000	
0310	460.1110	HMA PAVEMENT TYPE E-10	TON	5,114.000	5,114.000	
0320	460.2000	INCENTIVE DENSITY HMA PAVEMENT	DOL	5,620.000	5,620.000	
0330	465.0105	ASPHALTIC SURFACE	TON	33.000	33.000	
0340	465.0315	ASPHALTIC FLUMES	SY	56.000	56.000	
0350	502.0100	CONCRETE MASONRY BRIDGES	CY	480.000	480.000	
0360	502.3200	PROTECTIVE SURFACE TREATMENT	SY	584.000	584.000	
0370	502.5002	MASONRY ANCHORS TYPE L NO. 4 BARS	EACH	192.000	192.000	
0380	502.5005	MASONRY ANCHORS TYPE L NO. 5 BARS	EACH	308.000	308.000	
0390	502.5010	MASONRY ANCHORS TYPE L NO. 6 BARS	EACH	80.000	80.000	
0400	502.5015	MASONRY ANCHORS TYPE L NO. 7 BARS	EACH	64.000	64.000	
0410	502.5020	MASONRY ANCHORS TYPE L NO. 8 BARS	EACH	56.000	56.000	
0420	504.0100	CONCRETE MASONRY CULVERTS	CY	1,087.000	1,087.000	
0430	505.0405	BAR STEEL REINFORCEMENT HS BRIDGES	LB	30,320.000	30,320.000	
0440	505.0410	BAR STEEL REINFORCEMENT HS CULVERTS	LB	138,420.000	138,420.000	
0450	505.0605	BAR STEEL REINFORCEMENT HS COATED BRIDGES	LB	70,980.000	70,980.000	
0460	505.0610	BAR STEEL REINFORCEMENT HS COATED CULVERTS	LB	31,140.000	31,140.000	

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LINE NUMBER	ITEM	ITEM DESCRIPTION	UNIT	TOTAL	1071-06-80 QUANTITY	1071-06-86 QUANTITY
0470	509.0301	PREPARATION DECKS TYPE 1	SY	140.000	140.000	
0480	509.0302	PREPARATION DECKS TYPE 2	SY	56.000	56.000	
0490	509.2000	FULL-DEPTH DECK REPAIR	SY	28.000	28.000	
0500	509.5100.S	POLYMER OVERLAY	SY	405.000	405.000	
0510	509.9010.S	REMOVING ASPHALTIC CONCRETE DECK OVERLAY (STRUCTURE) 01. B-32-36	SY	1,368.000	1,368.000	
0520	516.0500	RUBBERIZED MEMBRANE WATERPROOFING	SY	266.000	266.000	
0530	517.1010.S	CONCRETE STAINING (STRUCTURE) 40. C-32-97	SF	2,800.000	2,800.000	
0540	517.1050.S	ARCHITECTURAL SURFACE TREATMENT (STRUCTURE) 40. C-32-97	SF	1,670.000	1,670.000	
0550	520.0118	CULVERT PIPE CLASS III 18-INCH	LF	36.000	36.000	
0560	520.1018	APRON ENDWALLS FOR CULVERT PIPE 18-INCH	EACH	2.000	2.000	
0570	522.0112	CULVERT PIPE REINFORCED CONCRETE CLASS III 12-INCH	LF	88.000	88.000	
0580	522.0118	CULVERT PIPE REINFORCED CONCRETE CLASS III 18-INCH	LF	153.000	153.000	
0590	522.0124	CULVERT PIPE REINFORCED CONCRETE CLASS III 24-INCH	LF	390.000	390.000	
0600	522.0312	CULVERT PIPE REINFORCED CONCRETE CLASS IV 12-INCH	LF	116.000	116.000	
0610	522.0315	CULVERT PIPE REINFORCED CONCRETE CLASS IV 15-INCH	LF	204.000	204.000	
0620	522.0318	CULVERT PIPE REINFORCED CONCRETE CLASS IV 18-INCH	LF	1,158.000	1,158.000	
0630	522.1012	APRON ENDWALLS FOR CULVERT PIPE REINFORCED CONCRETE 12-INCH	EACH	3.000	3.000	
0640	522.1015	APRON ENDWALLS FOR CULVERT PIPE REINFORCED CONCRETE 15-INCH	EACH	2.000	2.000	
0650	522.1018	APRON ENDWALLS FOR CULVERT PIPE REINFORCED CONCRETE 18-INCH	EACH	4.000	4.000	
0660	522.1024	APRON ENDWALLS FOR CULVERT PIPE REINFORCED CONCRETE 24-INCH	EACH	5.000	5.000	
0670	550.0010	PRE-BORING UNCONSOLIDATED MATERIALS	LF	400.000	400.000	
0680	550.2104	PILING CIP CONCRETE 10 3/4 X 0.25-INCH	LF	2,950.000	2,950.000	
0690	601.0411	CONCRETE CURB & GUTTER 30-INCH TYPE D	LF	370.000	240.000	130.000
0700	602.0410	CONCRETE SIDEWALK 5-INCH	SF	1,197.000	1,197.000	
0710	602.0415	CONCRETE SIDEWALK 6-INCH	SF	100.000		100.000
0720	603.8000	CONCRETE BARRIER TEMPORARY PRECAST DELIVERED	LF	3,092.000	2,837.000	255.000
0730	603.8125	CONCRETE BARRIER TEMPORARY PRECAST INSTALLED	LF	3,092.000	2,837.000	255.000
0740	604.0500	SLOPE PAVING CRUSHED AGGREGATE	SY	184.000	184.000	
0750	604.9010.S	SLOPE PAVING REPAIR CRUSHED AGGREGRATE	CY	9.000	9.000	
0760	604.9015.S	RESEAL CRUSHED AGGREGATE SLOPE PAVING	SY	720.000	720.000	
0770	606.0100	RIPRAP LIGHT	CY	10.000	10.000	
0780	611.0430	RECONSTRUCTING INLETS	EACH	2.000		2.000
0790	611.0530	MANHOLE COVERS TYPE J	EACH	2.000	2.000	
0800	611.0612	INLET COVERS TYPE C	EACH	4.000	4.000	
0810	611.0642	INLET COVERS TYPE MS	EACH	4.000	4.000	
0820	611.0651	INLET COVERS TYPE S	EACH	1.000	1.000	
0830	611.2004	MANHOLES 4-FT DIAMETER	EACH	1.000	1.000	
0840	611.2005	MANHOLES 5-FT DIAMETER	EACH	3.000	3.000	
0850	611.3004	INLETS 4-FT DIAMETER	EACH	2.000	2.000	
0860	611.3225	INLETS 2X2.5-FT	EACH	1.000	1.000	
0870	611.3901	INLETS MEDIAN 1 GRATE	EACH	4.000	4.000	

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LINE NUMBER	ITEM	ITEM DESCRIPTION	UNIT	TOTAL	1071-06-80 QUANTITY	1071-06-86 QUANTITY
0880	612.0406	PIPE UNDERDRAIN WRAPPED 6-INCH	LF	1,080.000	1,080.000	
0890	614.0150	ANCHOR ASSEMBLIES FOR STEEL PLATE BEAM GUARD	EACH	8.000	8.000	
0900	614.0230	STEEL THRIE BEAM	LF	771.000	771.000	
0910	614.0305	STEEL PLATE BEAM GUARD CLASS A	LF	25.000	25.000	
0920	614.0370	STEEL PLATE BEAM GUARD ENERGY ABSORBING TERMINAL	EACH	2.000	2.000	
0930	614.0905	CRASH CUSHIONS TEMPORARY	EACH	4.000	4.000	
0940	614.0925	SALVAGED GUARDRAIL END TREATMENTS	EACH	1.000	1.000	
0950	614.2300	MGS GUARDRAIL 3	LF	1,500.000	1,500.000	
0960	614.2500	MGS THRIE BEAM TRANSITION	LF	195.000	195.000	
0970	614.2610	MGS GUARDRAIL TERMINAL EAT	EACH	7.000	7.000	
0980	614.2620	MGS GUARDRAIL TERMINAL TYPE 2	EACH	2.000	2.000	
0990	616.0205	FENCE CHAIN LINK 5-FT	LF	818.000	818.000	
1000	618.0100	MAINTENANCE AND REPAIR OF HAUL ROADS (PROJECT) 01. 1071-06-80	EACH	1.000	1.000	
1010	619.1000	MOBILIZATION	EACH	1.000	1.000	
1020	624.0100	WATER	MGAL	600.000	600.000	
1030	625.0100	TOPSOIL	SY	1,300.000	1,300.000	
1040	625.0500	SALVAGED TOPSOIL	SY	29,133.000	27,000.000	2,133.000
1050	627.0200	MULCHING	SY	34,147.000	31,800.000	2,347.000
1060	628.1504	SILT FENCE	LF	4,868.000	4,268.000	600.000
1070	628.1520	SILT FENCE MAINTENANCE	LF	7,235.000	6,635.000	600.000
1080	628.1905	MOBILIZATIONS EROSION CONTROL	EACH	5.000	5.000	
1090	628.1910	MOBILIZATIONS EMERGENCY EROSION CONTROL	EACH	5.000	5.000	
1100	628.2004	EROSION MAT CLASS I TYPE B	SY	3,150.000	3,150.000	
1110	628.2023	EROSION MAT CLASS II TYPE B	SY	2,800.000	2,800.000	
1120	628.7005	INLET PROTECTION TYPE A	EACH	21.000	21.000	
1130	628.7015	INLET PROTECTION TYPE C	EACH	3.000	3.000	
1140	628.7504	TEMPORARY DITCH CHECKS	LF	100.000	100.000	
1150	628.7555	CULVERT PIPE CHECKS	EACH	38.000	38.000	
1160	628.7560	TRACKING PADS	EACH	1.000	1.000	
1170	629.0210	FERTILIZER TYPE B	CWT	43.300	42.000	1.300
1180	630.0120	SEEDING MIXTURE NO. 20	LB	890.000	890.000	
1190	630.0130	SEEDING MIXTURE NO. 30	LB	42.000		42.000
1200	630.0175	SEEDING MIXTURE NO. 75	LB	75.000	75.000	
1210	630.0200	SEEDING TEMPORARY	LB	460.000	460.000	
1220	630.0300	SEEDING BORROW PIT	LB	30.000	30.000	
1230	635.0200	SIGN SUPPORTS STRUCTURAL STEEL HS	LB	4,374.900	4,374.900	
1240	636.0100	SIGN SUPPORTS CONCRETE MASONRY	CY	56.100	56.100	
1250	636.0500	SIGN SUPPORTS STEEL REINFORCEMENT	LB	450.000	450.000	
1260	636.1000	SIGN SUPPORTS STEEL REINFORCEMENT HS	LB	6,000.000	6,000.000	
1270	638.2101	MOVING SIGNS TYPE I	EACH	6.000	6.000	
1280	638.2102	MOVING SIGNS TYPE II	EACH	15.000	15.000	
1290	638.2602	REMOVING SIGNS TYPE II	EACH	5.000	5.000	
1300	638.3000	REMOVING SMALL SIGN SUPPORTS	EACH	5.000	5.000	
1310	638.4000	MOVING SMALL SIGN SUPPORTS	EACH	19.000	19.000	
1320	641.6600	SIGN BRIDGE (STRUCTURE) 20. S-32-48	LS	1.000	1.000	
1330	641.6600	SIGN BRIDGE (STRUCTURE) 21. S-32-49	LS	1.000	1.000	
1340	642.5201	FIELD OFFICE TYPE C	EACH	1.000	1.000	
1350	643.0100	TRAFFIC CONTROL (PROJECT) 81. 1071-06-86	EACH	1.000		1.000
1360	643.0200	TRAFFIC CONTROL SURVEILLANCE AND MAINTENANCE (PROJECT) 01. 1071-06-80	DAY	147.000	147.000	
1370	643.0300	TRAFFIC CONTROL DRUMS	DAY	57,390.000	57,200.000	190.000

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LINE NUMBER	ITEM	ITEM DESCRIPTION	UNIT	TOTAL	1071-06-80 QUANTITY	1071-06-86 QUANTITY
1380	643.0420	TRAFFIC CONTROL BARRICADES TYPE III	DAY	1,605.000	1,600.000	5.000
1390	643.0705	TRAFFIC CONTROL WARNING LIGHTS TYPE A	DAY	2,445.000	2,325.000	120.000
1400	643.0715	TRAFFIC CONTROL WARNING LIGHTS TYPE C	DAY	6,175.000	6,175.000	
1410	643.0800	TRAFFIC CONTROL ARROW BOARDS	DAY	285.000	285.000	
1420	643.0900	TRAFFIC CONTROL SIGNS	DAY	4,245.000	4,200.000	45.000
1430	643.0910	TRAFFIC CONTROL COVERING SIGNS TYPE I	EACH	64.000	64.000	
1440	643.0920	TRAFFIC CONTROL COVERING SIGNS TYPE II	EACH	32.000	32.000	
1450	643.1000	TRAFFIC CONTROL SIGNS FIXED MESSAGE	SF	6.330	6.330	
1460	643.1050	TRAFFIC CONTROL SIGNS PCMS	DAY	715.000	715.000	
1470	643.2000	TRAFFIC CONTROL DETOUR (PROJECT) 01. 1071-06-80	EACH	1.000	1.000	
1480	643.3000	TRAFFIC CONTROL DETOUR SIGNS	DAY	2,135.000	2,135.000	
1490	645.0105	GEOTEXTILE FABRIC TYPE C	SY	655.000	655.000	
1500	645.0120	GEOTEXTILE FABRIC TYPE HR	SY	25.000	25.000	
1510	645.0130	GEOTEXTILE FABRIC TYPE R	SY	40.000	40.000	
1520	646.0106	PAVEMENT MARKING EPOXY 4-INCH	LF	26,697.000	26,697.000	
1530	646.0126	PAVEMENT MARKING EPOXY 8-INCH	LF	1,686.000	1,686.000	
1540	647.0746	PAVEMENT MARKING DIAGONAL EPOXY 24-INCH	LF	75.000	75.000	
1550	649.0100	TEMPORARY PAVEMENT MARKING 4-INCH	LF	2,500.000	2,500.000	
1560	649.0300	TEMPORARY PAVEMENT MARKING REFLECTIVE TAPE 4-INCH	LF	1,865.000		1,865.000
1570	650.4000	CONSTRUCTION STAKING STORM SEWER	EACH	15.000	15.000	
1580	650.4500	CONSTRUCTION STAKING SUBGRADE	LF	22,320.000	22,320.000	
1590	650.5000	CONSTRUCTION STAKING BASE	LF	22,320.000	22,320.000	
1600	650.6000	CONSTRUCTION STAKING PIPE CULVERTS	EACH	3.000	3.000	
1610	650.6500	CONSTRUCTION STAKING STRUCTURE LAYOUT (STRUCTURE) 20. B-32-107	LS	1.000	1.000	
1620	650.6500	CONSTRUCTION STAKING STRUCTURE LAYOUT (STRUCTURE) 21. B-32-108	LS	1.000	1.000	
1630	650.6500	CONSTRUCTION STAKING STRUCTURE LAYOUT (STRUCTURE) 22. S-32-48	LS	1.000	1.000	
1640	650.6500	CONSTRUCTION STAKING STRUCTURE LAYOUT (STRUCTURE) 23. S-37-49	LS	1.000	1.000	
1650	650.6500	CONSTRUCTION STAKING STRUCTURE LAYOUT (STRUCTURE) 40. C-32-97	LS	1.000	1.000	
1660	650.8500	CONSTRUCTION STAKING ELECTRICAL INSTALLATIONS (PROJECT) 01. 1071-06-80	LS	1.000	1.000	
1670	650.8500	CONSTRUCTION STAKING ELECTRICAL INSTALLATIONS (PROJECT) 02. 1071-06-80	LS	1.000	1.000	
1680	650.9910	CONSTRUCTION STAKING SUPPLEMENTAL CONTROL (PROJECT) 01. 1071-06-80	LS	1.000	1.000	
1690	650.9920	CONSTRUCTION STAKING SLOPE STAKES	LF	21,520.000	21,520.000	
1700	652.0115	CONDUIT RIGID METALLIC 1 1/4-INCH	LF	170.000	170.000	
1710	652.0125	CONDUIT RIGID METALLIC 2-INCH	LF	104.000	104.000	
1720	652.0215	CONDUIT RIGID NONMETALLIC SCHEDULE 40 1 1/4-INCH	LF	90.000	90.000	
1730	652.0225	CONDUIT RIGID NONMETALLIC SCHEDULE 40 2-INCH	LF	610.000	610.000	
1740	652.0235	CONDUIT RIGID NONMETALLIC SCHEDULE 40 3-INCH	LF	4,048.000	4,048.000	
1750	652.0305	CONDUIT RIGID NONMETALLIC SCHEDULE 80 3/4-INCH	LF	480.000	480.000	
1760	652.0605	CONDUIT SPECIAL 2-INCH	LF	137.000	137.000	
1770	652.0615	CONDUIT SPECIAL 3-INCH	LF	1,478.000	1,478.000	
1780	652.0700.S	INSTALL CONDUIT INTO EXISTING ITEM	EACH	4.000	4.000	
1790	653.0135	PULL BOXES STEEL 24X36-INCH	EACH	14.000	14.000	

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LINE NUMBER	ITEM	ITEM DESCRIPTION	UNIT	TOTAL	1071-06-80 QUANTITY	1071-06-86 QUANTITY
1800	653.0140	PULL BOXES STEEL 24X42-INCH	EACH	15.000	15.000	
1810	653.0208	JUNCTION BOXES 8X8X8-INCH	EACH	2.000	2.000	
1820	655.0525	ELECTRICAL WIRE TRAFFIC SIGNALS 6 AWG	LF	9,567.000	9,567.000	
1830	655.0610	ELECTRICAL WIRE LIGHTING 12 AWG	LF	2,500.000	2,500.000	
1840	656.0200	ELECTRICAL SERVICE METER BREAKER PEDESTAL (LOCATION) 01. MB100	LS	1.000	1.000	
1850	656.0200	ELECTRICAL SERVICE METER BREAKER PEDESTAL (LOCATION) 02. IH 90 AT CTH B	LS	1.000	1.000	
1860	656.0200	ELECTRICAL SERVICE METER BREAKER PEDESTAL (LOCATION) 03. IH 90 EAST OF STH 16	LS	1.000	1.000	
1870	656.0200	ELECTRICAL SERVICE METER BREAKER PEDESTAL (LOCATION) 04. IH 90 AT USH 53/STH 35	LS	1.000	1.000	
1880	656.0500	ELECTRICAL SERVICE BREAKER DISCONNECT BOX (LOCATION) 01. IH 90 AT CTH BW	LS	1.000	1.000	
1890	656.0500	ELECTRICAL SERVICE BREAKER DISCONNECT BOX (LOCATION) 02. IH 90 AT CTH B	LS	1.000	1.000	
1900	656.0500	ELECTRICAL SERVICE BREAKER DISCONNECT BOX (LOCATION) 03. IH 90 AT USH 53/STH 35	LS	1.000	1.000	
1910	656.0500	ELECTRICAL SERVICE BREAKER DISCONNECT BOX (LOCATION) 04. IH 90 AT USH 53/STH 157	LS	1.000	1.000	
1920	656.0500	ELECTRICAL SERVICE BREAKER DISCONNECT BOX (LOCATION) 05. IH 90 AT STH 16	LS	1.000	1.000	
1930	656.0500	ELECTRICAL SERVICE BREAKER DISCONNECT BOX (LOCATION) 06. IH 90 EAST OF STH 16	LS	1.000	1.000	
1940	659.0802	PLAQUES SEQUENCE IDENTIFICATION	EACH	18.000	18.000	
1950	659.1205	LUMINAIRES UNDERDECK LED A	EACH	9.000	9.000	
1960	670.0100	FIELD SYSTEM INTEGRATOR	LS	1.000	1.000	
1970	670.0200	ITS DOCUMENTATION	LS	1.000	1.000	
1980	671.0300	FIBER OPTIC CABLE MARKER	EACH	30.000	30.000	
1990	672.0230	BASE CAMERA POLE 30-FT	EACH	1.000	1.000	
2000	672.0250	BASE CAMERA POLE 50-FT	EACH	2.000	2.000	
2010	673.0225.S	INSTALL POLE MOUNTED CABINET	EACH	7.000	7.000	
2020	675.0300	INSTALL MOUNTED CONTROLLER MICROWAVE DETECTOR ASSEMBLY	EACH	8.000	8.000	
2030	675.0400.S	INSTALL ETHERNET SWITCH	EACH	4.000	4.000	
2040	677.0100	INSTALL CAMERA POLE	EACH	4.000	4.000	
2050	677.0200	INSTALL CAMERA ASSEMBLY	EACH	4.000	4.000	
2060	677.0300.S	INSTALL VIDEO ENCODER	EACH	4.000	4.000	
2070	678.0006	INSTALL FIBER OPTIC CABLE OUTDOOR PLANT 6-CT	LF	2,025.000	2,025.000	
2080	678.0300	FIBER OPTIC SPLICE	EACH	8.000	8.000	
2090	678.0400	FIBER OPTIC TERMINATION	EACH	12.000	12.000	
2100	678.0500	COMMUNICATION SYSTEM TESTING	LS	1.000	1.000	
2110	690.0150	SAWING ASPHALT	LF	17,046.000	16,876.000	170.000
2120	690.0250	SAWING CONCRETE	LF	246.000	221.000	25.000
2130	715.0502	INCENTIVE STRENGTH CONCRETE STRUCTURES	DOL	9,582.000	9,582.000	
2140	ASP.1T0A	ON-THE-JOB TRAINING APPRENTICE AT $5.00/HR	HRS	2,400.000	2,400.000	
2150	ASP.1T0G	ON-THE-JOB TRAINING GRADUATE AT $5.00/HR	HRS	2,160.000	2,160.000	
2160	SPV.0035	SPECIAL 01. CONCRETE MASONRY DECK PATCHING	CY	12.000	12.000	

DATE 10JAN14 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	1071-06-80 QUANTITY	1071-06-86 QUANTITY
2170	SPV.0060	SPECIAL 02. REMOVE AND REINSTALL STEEL PLATE BEAM GUARD ENERGY ABSORBING TERMINAL	EACH	1.000	1.000	
2180	SPV.0060	SPECIAL 03. REMOVE AND REINSTALL ANCHORAGE TYPE 2	EACH	1.000	1.000	
2190	SPV.0060	SPECIAL 04. CRASH CUSHION TEMPORARY LEFT IN PLACE	EACH	4.000	4.000	
2200	SPV.0060	SPECIAL 05. FLEXIBLE TUBULAR MARKER BASES LEFT IN PLACE	EACH	450.000	450.000	
2210	SPV.0060	SPECIAL 06. FLEXIBLE TUBULAR MARKER POSTS LEFT IN PLACE	EACH	550.000	550.000	
2220	SPV.0060	SPECIAL 20. BAR COUPLERS NO. 9 SPECIAL	EACH	160.000	160.000	
2230	SPV.0060	SPECIAL 40. JUNCTION BOX 4" X 4" X 4"	EACH	11.000	11.000	
2240	SPV.0060	SPECIAL 45. EXPOSING EXISTING UTILITY	EACH	2.000	2.000	
2250	SPV.0060	SPECIAL 62. INSTALL GROUND MOUNT DYNAMIC MESSAGE SIGN	EACH	3.000	3.000	
2260	SPV.0060	SPECIAL 63. INSTALL WIRELESS ETHERNET BRIDGE	EACH	8.000	8.000	
2270	SPV.0060	SPECIAL 65. TWO CIRCUIT METER BREAKER PEDESTAL	EACH	1.000	1.000	
2280	SPV.0060	SPECIAL 66. GROUND ROD	EACH	7.000	7.000	
2290	SPV.0060	SPECIAL 67. INSTALL WIRELESS MODEM	EACH	1.000	1.000	
2300	SPV.0060	SPECIAL 68. 50-F00T WOOD POLE	EACH	1.000	1.000	
2310	SPV.0060	SPECIAL 81. GATE VALVE AND BOX 6-INCH	EACH	3.000		3.000
2320	SPV.0060	SPECIAL 82. GATE VALVE AND BOX 8-INCH	EACH	2.000		2.000
2330	SPV.0060	SPECIAL 83. HYDRANT	EACH	2.000		2.000
2340	SPV.0060	SPECIAL 84. CONNECT TO EXISTING WATER MAIN	EACH	1.000		1.000
2350	SPV.0060	SPECIAL 85. SANITARY MANHOLES 60-INCH DIAMETER	EACH	1.000		1.000
2360	SPV.0060	SPECIAL 86. SANITARY MANHOLES 72-INCH DIAMETER	EACH	2.000		2.000
2370	SPV.0060	SPECIAL 87. SANITARY MANHOLE COVERS	EACH	3.000		3.000
2380	SPV.0060	SPECIAL 88. CONNECT TO EXISTING SANITARY	EACH	2.000		2.000
2390	SPV.0085	SPECIAL 81. WATER MAIN FITTINGS DUCTILE IRON	LB	1,170.000		1,170.000
2400	SPV.0090	SPECIAL 02. REMOVE AND REINSTALL GUARDRAIL	LF	242.000	242.000	
2410	SPV.0090	SPECIAL 03. CONCRETE BARRIER TEMPORARY PRECAST LEFT IN PLACE	LF	1,562.000	1,562.000	
2420	SPV.0090	SPECIAL 81. WATER MAIN CASING PIPE STEEL 22-INCH	LF	343.000		343.000
2430	SPV.0090	SPECIAL 82. SANITARY SEWER CASING PIPE STEEL 42-INCH	LF	392.000		392.000
2440	SPV.0090	SPECIAL 83. WATER MAIN PIPE DUCTILE IRON 6-INCH	LF	23.000		23.000
2450	SPV.0090	SPECIAL 84. WATER MAIN PIPE DUCTILE IRON 8-INCH	LF	941.000		941.000
2460	SPV.0090	SPECIAL 85. WATER MAIN PIPE DUCTILE IRON 8-INCH - PLACED IN STEEL CASING	LF	343.000		343.000
2470	SPV.0090	SPECIAL 86. SANITARY SEWER PIPE RCP 27-INCH	LF	67.000		67.000
2480	SPV.0090	SPECIAL 87. SANITARY SEWER PIPE PVC 27-INCH	LF	402.000		402.000
2490	SPV.0090	SPECIAL 88. REMOVING SANITARY SEWER	LF	173.000		173.000
2500	SPV.0105	SPECIAL 01. ADJUST CONSTRUCTION STAKING	LS	1.000	1.000	

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DATE 10JAN14 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	1071-06-80 QUANTITY	1071-06-86 QUANTITY
2510	SPV.0105	SPECIAL 20. REMOVING SIGN BRIDGE S-32-0022	LS	1.000	1.000	
2520	SPV.0105	SPECIAL 21. REMOVING SIGN BRIDGE S-32-0028	LS	1.000	1.000	
2530	SPV.0105	SPECIAL 22. TEMPORARY PEDESTRIAN AND BICYCLIST PASSAGEWAY B-32-107	LS	1.000	1.000	
2540	SPV.0105	SPECIAL 23. TEMPORARY PEDESTRIAN AND BICYCLIST PASSAGEWAY B-32-108	LS	1.000	1.000	
2550	SPV.0105	SPECIAL 81. SANITARY SEWER BYPASS PUMPING	LS	1.000		1.000
2560	SPV.0165	SPECIAL 81. TRENCH INSULATION 4-INCH	SF	200.000		200.000
2570	SPV.0195	SPECIAL 40. LIMESTONE SCREENINGS	TON	351.000	325.000	26.000

CLEARING AND GRUBBING

STATION TO STATION	201.0105 CLEARING STA	201.0205 GRUBBING STA
193+00 HT - 196+00 HT	3	3
207+00 HU - 208+00 HU	2	2
26+00 T - 33+00 T	7	7
34+00 T - 37+00 T	3	3
CATEGORY TOTALS	**15**	**15**

REMOVING DELINEATORS AND MARKERS

LOCATION	204.0180 EACH
HU RAMP	5
HT RAMP	10
CT RAMP	2
DT RAMP	2
DU RAMP	1
TW LINE	2
LT RAMP	4
MT RAMP	5
CATEGORY TOTAL	**31**

REMOVING CURB & GUTTER

LOCATION	204.0150 LF
12TH AVENUE	240
CATEGORY TOTAL	**240**

REMOVING GUARDRAIL

STATION TO STATION	LOCATION	204.0165 LF
246+25 EB - 247+92 EB	LT	167
249+16 WB - 250+05 WB	LT	89
131+06 DT - 133+10 DT	LT	447
174+38 HT - 181+33 HT	LT/RT	696
179+39 HT - 180+43 HT	LT	104
195+24 HU - 197+33 HU	LT	209
234+53 TW - 236+58 TW	RT	206
249+34 TW - 252+40 TW	RT	305
291+72 TW - 292+60 TW	LT	88
308+45 TW - 310+29 TW	RT	184
311+87 TW - 313+69 TW	RT	182
216+11 UW - 217+44 UW	LT	133
CATEGORY TOTAL		**2810**

BASE AGGREGATE DENSE

STATION TO STATION	305.0110 3/4-INCH TON	305.0120 1 1/4-INCH TON	SPV.0195.40 LIMESTONE SCREENINGS TON
120+47 DT - 136+34 DT	40	1942	---
136+45 DT - 140+42 DT	50	475	---
127+97 DU - 130+50 DU	30	201	---
139+08 CT - 142+77 CT	40	530	---
142+98 CT - 153+69 CT	80	1117	---
162+72 CU - 166+26 CU	38	482	
174+68 HT - 189+73 HT	70	1791	---
189+88 HT - 201+47 HT	60	1665	---
182+18 HV - 184+75 HV	30	213	---
196+06 HU - 205+39 HU	120	735	---
205+57 HU - 209+64 HU	100	420	---
207+31 GT - 210+89 GT	40	552	---
261+90 MT - 267+22 MT	50	450	---
283+63 LT - 288+21 LT	50	434	---
219+00 FT - 228+40 FT	---	1070	---
250+62 JT - 259+82 JT	---	700	---
226+61 TW - 233+00 TW	---	961	---
234+53 TW - 247+98 TW	---	1461	---
249+27 TW - 260+19 TW	---	1610	---
279+17 TW - 310+29 TW	---	5131	---
311+87 TW - 318+72 TW	---	433	---
204+42 UW - 212+15 UW	---	644	
216+00 UW - 222+23 UW	---	851	---
254+74 MT - 261+75 MT	100	749	---
25+90.68 T - 26+25.00 T	25	---	---
26+25.00 T - 32+00.00 T	200	---	256
32+00.00 T - 32+68.47 T	45	---	---
35+28.47 T - 35+75.00 T	35	---	---
35+75.00 T - 36+50.00 T	25	---	33
12TH AVENUE	---	173	---
UNDISTRIBUTED	135	---	36
CATEGORY TOTALS	**1363**	**24790**	**325**

REMOVING SMALL PIPE CULVERTS

STATION	LOCATION	SIZE	MATERIAL	LENGTH	203.0100 EACH	COMMENTS
129+97 DT	LT	24"	CPRC	---	1	ENDWALL ONLY
138+34 DT	RT	24"	CPRC	---	1	ENDWALL ONLY
140+59 CT	RT	24"	CPRC	---	1	ENDWALL ONLY
183+98 HV	LT	18"	CMCP	6'	1	
196+65 HT	RT	24"	CMCP	---	1	ENDWALL ONLY
206+15 HU	RT	18"	CPRC	20'	1	
207+50 HU	LT	18"	CPRC	6'	1	
226+89 FT	RT	24"	CPRC	---	1	ENDWALL ONLY
226+90 TW	RT	24"	CPRC	8'	1	
249+37 TW	LT	24"	CPRC	20'	1	DROP INLET
249+39 TW	EB LANES	24"	CPRC	20'	1	DROP INLET
299+90 TW	RT	18"	CMCP	36'	1	
CATEGORY TOTAL					**12**	

REMOVING FENCE

STATION	LOCATION	204.0170 LF
35+57 T	RT	22
35+57 T	LT	71
	12th AVENUE	452
CATEGORY TOTAL		**545**

REMOVING ASPHALTIC SURFACE MILLING

STATION TO STATION	LOCATION	204.0120 SY	COMMENT
210+75 WB - 212+10 WB	RT	30	MILL EXISTING RUMBLE STRIPS
216+08 WB - 220+25 WB	RT	93	MILL EXISTING RUMBLE STRIPS
CATEGORY TOTAL		**123**	

REMOVING CONCRETE SIDEWALK

LOCATION	204.0155 SY
12TH AVENUE	133
CATEGORY TOTAL	**133**

REMOVING INLETS

STATION	LOCATION	204.0220 EACH	COMMENTS
226+90 TW	RT	1	
249+37 TW	LT	1	DROP INLET
249+39 TW	EB LANES	1	DROP INLET
258+90 TW	LT	1	
283+31 TW	LT	1	
CATEGORY TOTAL		**5**	

REMOVING ASPHALTIC SURFACE

STATION TO STATION	LOCATION	204.0110 SY
174+32 WB - 174+62 WB (EB SHLDR)	HT LINE	35
195+12 WB - 195+94 WB (EB SHLDR)	HU LINE	19
12TH AVENUE		159
CATEGORY TOTAL		**213**

REMOVING SURFACE DRAINS

STATION	LOCATION	204.0190 EACH
249+37 TW	LT	1
249+39 TW	EB LANES	1
CATEGORY TOTAL		**2**

FINISHING ROADWAY

LOCATION	213.0100 EACH
01. 1071-06-80	1
CATEGORY TOTAL	**1**

ALL ITEMS ON THIS SHEET
ARE CATEGORY 0010
UNLESS OTHERWISE NOTED

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EARTHWORK SUMMARY

DIVISION	STATION TO STATION	LOCATION	205.0100 EXCAVATION COMMON CY	UNEXPANDED FILL CY	(2) (4) EXPANDED FILL CY	(5) MASS ORDINATE +/- CY	(1) WASTE CY	(3) 208.0100 BORROW CY
	120+47 DT - 136+34 DT	DT MEDIAN	799	117	146	653		
	127+97 DU - 130+50 DU	DU LINE	22	93	116	-94		
	142+98 CT - 153+69 CT	CT MEDIAN	600	230	288	312		
	162+72 CU - 166+26 CU	CU MEDIAN	156	30	37	119		
	174+68 HT - 189+73 HT	HT MEDIAN	694	715	894	-200		
	182+18 HV - 184+75 HV	HV LINE	12	138	173	-161		
	196+06 HU - 205+39 HU	HU MEDIAN	339	407	509	-170		
	254+74 MT - 261+75 MT	MT MEDIAN	289	122	152	137		
	226+61 TW - 318+72 TW	TW LINE	4680	1600	2000	2680		
	204+42 UW - 222+23 UW	UW LINE	836	290	362	474		
	243+77 EB - 250+85 EB	EB LINE	376	302	378	-2		
	25+90.68 T - 36+50 T	T LINE	184	12	15	169		
DIVISION 1 SUBTOTAL			8987	4056	5070	3748	3748	---
	139+08 CT - 142+77 CT	CT OUTSIDE	192	125	156	36		
	136+45 DT - 140+42 DT	DT OUTSIDE	155	912	1140	-985		
	219+00 FT - 228+40 FT	FT LINE	519	1500	1875	-1356		
	207+31 GT - 210+89 GT	GT LINE	181	442	552	-371		
	189+88 HT - 202+00 HT	HT OUTSIDE	544	6831	8539	-7995		
	205+57 HU - 209+64 HU	HU OUTSIDE	58	4294	5368	-5310		
	250+62 JT - 259+82 JT	JT LINE	447	323	404	43		
	261+90 MT - 267+22 MT	MT OUTSIDE	447	60	75	372		
	283+63 LT - 288+21 LT	LT LINE	280	452	565	-285		
	246+27 WB - 252+71 WB	WB LINE	202	114	142	60		
DIVISION 2 SUBTOTAL			3025	14939	18816	-15851	---	15851
CATEGORY TOTALS			**12012**					**15851**

(1) WASTE = EXPANDED FILL - EXCAVATION COMMON (FOR INFORMATION ONLY - NOT A BID ITEM)
(2) EXPANSION FACTOR = 1.25
(3) BORROW = EXPANDED FILL -AVAILABLE MATERIAL
(4) EXPANDED FILL = UNEXPANDED FILL * EXPANSION FACTOR
(5) THE MASS ORDINATE + OR - QTY CALCULATED FOR THE DIVISION. PLUS QUANTITY INDICATES AN EXCESS OF MATERIAL WITHIN
(8) EBS PAID FOR AS EXCAVATION COMMON.
(9) AVAILABLE MATERIAL = COMMON EXCAVATION - SALVAGED/UNUSABLE MATERIAL.

ALL ITEMS ON THIS SHEET
ARE CATEGORY 0010
UNLESS OTHERWISE NOTED

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HMA PAVEMENT ITEMS

STATION TO STATION	460.1103 HMA PAVEMENT TYPE E-3 TON	460.1110 HMA PAVEMENT TYPE E-10 TON	455.0105 ASPHALTIC MATERIAL PG58-28 TON	455.0605 TACK COAT GAL
120+47 DT - 136+34 DT	590	---	32.5	---
136+45 DT - 140+42 DT	152	---	8.4	---
127+97 DU - 130+50 DU	61	---	3.4	---
139+08 CT - 142+77 CT	99	---	5.4	---
142+98 CT - 153+69 CT	339	---	18.6	---
162+72 CU - 166+26 CU	97	---	5.3	---
174+68 HT - 189+73 HT	618	---	34.0	---
189+88 HT - 201+47 HT	568	---	31.2	---
182+18 HV - 184+75 HV	73	---	4.0	---
196+06 HU - 205+39 HU	254	---	14.0	---
205+57 HU - 209+64 HU	145	---	8.0	---
207+31 GT - 210+89 GT	191	---	10.5	---
211+00 GT - 212+28 GT	4	---	0.2	1.0
216+12 GT - 220+00 GT	11	---	0.6	2.5
261+90 MT - 267+22 MT	155	---	8.5	---
283+63 LT - 288+21 LT	150	---	8.3	---
219+00 FT - 228+40 FT	377	---	20.7	---
250+62 JT - 259+82 JT	242	---	13.3	---
226+61 TW - 233+00 TW	---	411	22.6	---
234+53 TW - 247+98 TW	---	610	33.6	---
249+27 TW - 260+19 TW	---	688	37.8	---
279+17 TW - 310+29 TW	---	2194	120.7	---
311+87 TW - 318+72 TW	---	185	10.2	---
204+42 UW - 212+15 UW	---	164	9.0	---
216+00 UW - 222+23 UW	---	364	20.0	---
254+74 MT - 261+75 MT	---	258	14.2	---
12TH AVENUE	37	---	2.0	4.0
CATEGORY TOTALS	**4163**	**4874**	**497**	**7.5**

ASPHALTIC SURFACE

STATION TO STATION	465.0105 TON
25+90.68 T - 26+25.00 T	7
32+00.00 T - 32+52.25 T	15
35+22.25 T - 35+75.00 T	11
CATEGORY TOTAL	**33**

ASPHALTIC FLUMES

STATION	LOCATION	465.0315 SY
249+22 WB	RT	14
249+22 WB	LT	14
249+22 WB	EB LANES, RT	14
249+22 WB	EB LANES, LT	14
CATEGORY TOTAL		**56**

CULVERT PIPES REINFORCED CONCRETE

STATION	522.0124 CLASS III 24-INCH LF	522.0312 12-INCH LF	522.0315 CLASS IV 15-INCH LF	522.0318 18-INCH LF	522.1012 APRON ENDWALLS 12-INCH EACH	522.1015 APRON ENDWALLS 15-INCH EACH	522.1018 APRON ENDWALLS 18-INCH EACH	522.1024 APRON ENDWALLS 24-INCH EACH	INVERT ELEV	DISCHARGE ELEV	SLOPE %
134+94 DT	---	---	---	208	---	2	---	---	651.02	649.35	0.80%
137+31 DT	---	116	---	---	2	---	---	---	649.93	647.74	1.89%
138+37 DT	30	---	---	---	---	---	---	1	---	---	---
140+56 CT	8	---	---	---	---	---	---	1	---	---	---
147+54 CT	---	---	204	---	---	---	2	---	647.16	646.50	0.32%
196+65 HT	10	---	---	---	---	---	---	1	---	---	---
226+89 FT	8	---	---	---	---	---	---	1	---	---	---
TOTALS	**56**	**116**	**204**	**208**	**2**	**2**	**2**	**4**			
CATEGORY TOTALS	**390***	**116**	**204**	**1158***	**3***	**2**	**4***	**5***			

NOTES
- ALL SUBSURFACE ELEVATIONS ARE PIPE FLOWLINES
- FINAL LOCATION TO BE DETERMINED BY ENGINEER

CULVERT PIPE CLASS III 18-INCH & APRON ENDWALLS FOR CULVERT PIPE 18-INCH

STATION	LOCATION	520.0118 PIPE LF	520.1018 ENDWALL EACH	THICKNESS STEEL IN	THICKNESS ALUM IN
299+90 TW	RT	36	2	0.064	0.060
CATEGORY TOTALS		**36**	**2**		

CONCRETE CURB & GUTTER 30-INCH TYPE D

LOCATION	601.0411 LF
12TH AVENUE	240
CATEGORY TOTAL	**240**

CONCRETE SIDEWALK 5-INCH

LOCATION	602.0410 SF
12TH AVENUE	1197
CATEGORY TOTAL	**1197**

*** OTHER QUANTITIES LOCATED ELSEWHERE IN PLAN**

ALL ITEMS ON THIS SHEET ARE CATEGORY 0010 UNLESS OTHERWISE NOTED

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STEEL PLATE BEAM GUARD CLASS A

STATION TO STATION	LOCATION	614.0305 LF
291+52 TW - 291+77 TW	LT	25
CATEGORY TOTAL		**25**

MGS GUARDRAIL ITEMS

STATION TO STATION	LOCATION	614.2300 MGS GUARDRAIL 3 LF	614.2500 MGS THRIE BEAM TRANSITION LF	614.2610 MGS GUARDRAIL TERMINAL EAT EACH	614.2620 TERMINAL TYPE 2 EACH
131+65 DT - 135+31 DT	RT	313	---	1	1
192+75 HT - 197+78 HT	RT	461	---	1	1
195+21 HU - 197+89 HU	LT	175	39	1	---
311+87 TW - 314+77 TW	RT	200	39	1	---
216+11 UW - 218+38 UW	LT	138	39	1	---
245+25 EB - 247+91 EB	LT	175	39	1	---
249+16 WB - 250+35 WB	LT	38	39	1	---
CATEGORY TOTALS		**1500**	**195**	**7**	**2**

CRASH CUSHION TEMPORARY

STATION	LOCATION	614.0905 EACH	LEFT IN PLACE SPV.0060.04 EACH
130+20 DT	LT	---	1
237+53 TW	RT	---	1
252+17 TW	RT	---	1
294+30 TW	RT	---	1
250+00 WB	LT	1	---
250+50 WB	RT	1	---
246+50 WB	EB LANES, LT	1	---
246+50 WB	EB LANES, RT	1	---
CATEGORY TOTAL		**4**	**4**

FENCE CHAIN LINK 5-FT

STATION	LOCATION	616.0205 LF
32+40 T	RT	38
32+40 T	LT	74
35+57 T	RT	6
35+57 T	LT	56
	12th AVENUE	452
CATEGORY TOTAL		**626**

MAINTENANCE AND REPAIR OF HAUL ROAD

LOCATION	618.0100 EACH
1071-06-80	1
CATEGORY TOTAL	**1**

MOBILIZATION

LOCATION	619.1000 EACH
1071-06-80	1
CATEGORY TOTAL	**1**

WATER

LOCATION	624.0100 MGAL
BASE COMPACTION	450
DUST CONTROL	150
CATEGORY TOTAL	**600**

REMOVE AND REINSTALL GUARDRAIL ITEMS

STATION TO STATION	LOCATION	SPV.0060.02 STEEL PLATE BEAM GUARD EAT EACH	SPV.0060.03 ANCHORAGE TYPE 2 EACH	SPV.0090.02 GUARDRAIL LF
245+49 TW - 247+91 TW	EB LANES	1	---	242
291+52 TW	LT	---	1	---
CATEGORY TOTALS		**1**	**1**	**242**

ALL ITEMS ON THIS SHEET
ARE CATEGORY 0010
UNLESS OTHERWISE NOTED

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STORM SEWER SCHEDULE

STRUCTURE NUMBER	**** STATION	**** OFFSET	611.0530 MANHOLE COVERS TYPE J EACH	611.0612 INLET COVERS TYPE C EACH	611.0642 INLET COVERS TYPE MS EACH	611.0651 INLET COVERS TYPE S EACH	611.2004 MANHOLES 4-FT DIA EACH	611.2005 MANHOLES 5-FT DIA EACH	611.3004 INLETS 4-FT EACH	611.3225 INLETS 2x2.5-FT EACH	611.3901 INLETS MEDIAN 1 GRATE EACH	* FLOWLINE ELEV	** BOX ELEV	DEPTH	INVERT ELEV	DISCHARGE FROM	DISCHARGE ELEV	DISCHARGE TO
P113	128+68 DU	15.4 LT	---	---	---	---	---	---	---	---	---				653.36	INVERT	652.53	S109
S109	130+00 DU	10.5 LT	1	---	---	---	---	1	---	---	---	656.77	656.03	3.50	652.53	P113	652.53	EX P116
S100	253+50 TW	25.6 RT	---	---	---	1	---	---	---	1	---	710.50	710.00	3.00			707.00	S103
S103	258+89 TW	29.7 LT	---	1	---	---	---	---	1	---	---	707.40	706.66	3.76	702.90	S100	702.90	EX P102
S101	285+18 TW	23.0 RT	---	---	1	---	---	---	---	---	1	710.21	710.21	5.59			704.62	S102
EX P118			---	---	---	---	---	---	---	---	---				702.10	INVERT	701.52	S102
S102	283+30 TW	12.1 LT	---	1	---	---	---	1	---	---	---	709.74	709.00	7.50	701.50	S101	701.50	
EX P117			---	---	---	---	---	---	---	---	---				701.50	S102	701.50	INVERT
S105	206+14 HU	31.0 RT	1	---	---	---	---	1	---	---	---	665.42	664.68	6.44	659.73	EX P108	658.24	P115
P115	206+69 HU	73.1 RT	---	---	---	---	---	---	---	---	---				658.24	S105	657.94	INVERT
P101	206+50 HU	39.3 LT	---	---	---	---	---	---	---	---	---				658.24	INVERT	657.65	S106
S106	207+50 HU	29.0 LT	---	1	---	---	---	---	1	---	---	661.39	660.65	3.00	657.65	P101	657.65	P109
			---	---	---	---	---	---	---	---	---				657.70	EX P102		
P109	207+49 HU	55.5 RT	---	---	---	---	---	---	---	---	---				657.65	S106	656.97	INVERT
S107	188+04 HT	28.0 RT	---	---	1	---	---	---	---	---	1	657.66	657.66	4.00		INVERT	653.66	P105
S108	185+84 HT	15.7 LT	---	---	1	---	---	---	---	---	1	655.51	655.51	2.25	653.26	P105	653.26	P106
S110	183+99 HV	10.3 LT	---	---	1	---	---	---	---	---	1	655.69	655.69	2.75	653.26	P106	652.94	EX P111
EX P11	183+99 HV	10.3 LT	---	---	---	---	---	---	---	---	---				652.94	S110		
S111	226+90 TW	27.0 RT	---	1	---	---	1	---	---	---	---	688.13	687.39	4.97		S111	682.42	EX P12
TOTALS			**2**	**4**	**4**	**1**	**1**	**3**	**2**	**1**	**4**							
CATEGORY TOTALS			**2**	**4**	**4**	**1**	**1**	**3**	**2**	**1**	**4**							

NOTES:
* FLOWLINE ELEVATIONS FOR INLETS IN CURB AND GUTTER AREAS ARE AT THE FLOWLINE OF THE GUTTER.
** FOR NEW STRUCTURES, TOP OF BOX ELEVATIONS ARE TYPICALLY FLOWLINE/RIM ELEVATIONS MINUS CASTING DEPTH AND 6" FOR ADJUSTING RINGS. DEPTH FOR ADJUSTMENT MAY VARY.
*** FOR INFORMATION ONLY. JOINT TIES ARE INCIDENTAL TO SSPRC.
**** STRUCTURE STATION AND OFFSET MEASURED TO CENTER OF STRUCTURE.
***** SPECIAL MH LID REQUIRED FOR TYPE V INLET COVERS

1.) ALL SUBSURFACE ELEVATIONS ARE PIPE FLOWLINES.
2.) CALCULATED DEPTH = DISTANCE FROM TOP OF BOX TO DISCHARGE ELEVATION.
3.) PIPE LENGTHS MEASURED FROM CENTER OF STRUCTURE TO CENTER OF STRUCTURE.
4.) STORM SEWER PIPE IS REINFORCED, CLASS III, UNLESS NOTED OTHERWISE.
5.) ALL STRUCTURES HAVE THE STATUS "NEW".
6.) SLOPE IS CALCULATED BETWEEN INSIDE WALLS OF STRUCTURES. LENGTH LISTED IS BETWEEN CENTER OF STRUCTURES.

ALL ITEMS ON THIS SHEET ARE CATEGORY 0010 UNLESS OTHERWISE NOTED

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STORM SEWER SCHEDULE

STRUCTURE NUMBER	**** STATION	**** OFFSET	SLOPE %	522.0112 CULVERT PIPE REINFORCED CONCRETE CLASS III 12-INCH LF	522.0118 CULVERT PIPE REINFORCED CONCRETE CLASS III 18-INCH LF	522.0124 CULVERT PIPE REINFORCED CONCRETE CLASS III 24-INCH LF	522.0318 CULVERT PIPE REINFORCED CONCRETE CLASS IV 18-INCH LF	522.1012 APRON ENDWALLS 12-INCH EACH	522.1018 APRON ENDWALLS 18-INCH EACH	522.1024 APRON ENDWALLS 24-INCH EACH
P113	128+68 DU	15.4 LT	0.65%	---	---	128	---	---	---	1
S109	130+00 DU	10.5 LT		---	---	---	---	---	---	---
S100	253+50 TW	25.6 RT	0.76%	---	---	---	539	---	---	---
S103	258+89 TW	29.7 LT		---	---	---	---	---	---	---
S101	285+18 TW	23.0 RT	1.63%	---	---	190	---	---	---	---
EX P118				---	---	---	---	---	---	---
S102	283+30 TW	12.1 LT		---	---	16	---	---	---	---
EX P117				---	---	---	---	---	---	---
S105	206+14 HU	31.0 RT		---	---	---	---	---	---	---
P115	206+69 HU	73.1 RT	0.39%	---	77	---	---	---	1	---
P101	206+50 HU	39.3 LT	0.67%	88	---	---	---	1	---	---
S106	207+50 HU	29.0 LT		---	---	---	---	---	---	---
				---	---	---	---	---	---	---
P109	207+49 HU	55.5 RT	0.89%	---	76	---	---	---	1	---
S107	188+04 HT	28.0 RT	0.18%	---	---	---	225	---	---	---
S108	185+84 HT	15.7 LT	0.17%	---	---	---	186	---	---	---
S110	183+99 HV	10.3 LT		---	---	---	---	---	---	---
EX P11	183+99 HV	10.3 LT		---	---	---	---	---	---	---
S111	226+90 TW	27.0 RT		---	---	---	---	---	---	---
TOTALS				**88**	**153**	**334**	**950**	**1**	**2**	**1**
CATEGORY TOTALS				**88**	**153**	**390***	**1158***	**3***	**4***	**5***

*** OTHER QUANTITIES LOCATED ELSEWHERE IN PLAN**

ALL ITEMS ON THIS SHEET
ARE CATEGORY 0010
UNLESS OTHERWISE NOTED

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TOPSOIL, SALVAGED TOPSOIL, MULCHING, FERTILIZER, & SEEDING

STATION TO STATION	LOCATION	625.0100 TOPSOIL SY	625.0500 SALVAGED TOPSOIL SY	627.0200 MULCHING SY	629.0210 FERTILIZER TYPE B CWT	630.0120 SEEDING MIXTURE NO. 20 LB	630.0175 SEEDING MIXTURE NO. 75 LB	630.0200 SEEDING TEMPORARY LB
139+08 CT - 153+69 CT	RT/LT	---	1594	1594	2.0	43	---	22
162+72 CU - 166+26 CU	LT	---	86	86	0.1	2	---	1
120+47 DT - 140+42 DT	LT/RT	---	1162	1162	1.5	31	---	16
127+97 DU - 130+50 DU	LT	---	188	188	0.2	5	---	3
219+00 FT - 228+40 FT	RT	---	2643	2643	3.3	71	---	36
207+31 GT - 210+89 GT	RT	---	339	274	0.4	9	---	5
174+68 HT - 202+00 HT	LT/RT	---	4502	337	5.7	122	---	61
196+06 HU - 209+64 HU	LT/RT	---	2624	2624	3.3	71	---	35
182+18 HV - 184+75 HV	LT	---	125	125	0.2	3	---	2
250+62 JT - 259+82 JT	RT	---	1321	1321	1.7	36	---	18
283+63 LT - 288+21 LT	RT	---	901	811	1.1	24	---	12
261+90 MT - 267+22 MT	RT	---	775	775	1.0	21	---	10
221+61 TW - 260+19 TW	RT/LT	---	1589	1589	2.0	43	---	21
279+17 TW - 318+72 TW	LT/RT	---	1975	1975	2.5	53	---	27
204+42 UW - 222+23 UW	LT	---	862	862	1.1	23	---	12
IH 90 EB	LT/RT	---	1024	1024	1.3	28	---	14
IH 90 WB	LT	---	280	280	0.4	8	---	4
GREAT RIVER STATE TRAIL	TRAIL RESTORATION	---	1000	1000	1.3	27	---	14
26+00 T - 32+50 T	TRAIL	---	1877	1877	1.2	---	52	11
32+50 T - 35+25 T	TRAIL	1053	---	1054	0.7	58	---	7
35+25 T - 36+50 T	TRAIL	---	353	353	0.2	---	10	12
BORROW SITE		---	---	3500	2.2	32	---	24
UNDISTRIBUTED		247	1780	6346	8.6	180	13	93
CATEGORY TOTALS		**1300**	**27000**	**31800**	**42.0**	**890**	**75**	**460**

EROSION MAT

STATION TO STATION	LOCATION	628.2004 CLASS I TYPE B SY	628.2023 CLASS II TYPE B SY
192+20 HT - 198+50 HT	RT	1940	2225
209+00 GT - 209+75 GT	RT	65	---
285+50 LT - 286+50 LT	RT	90	---
GREAT RIVER STATE TRAIL		415	---
UNDISTRIBUTED		640	575
CATEGORY TOTALS		**3150**	**2800**

TEMPORARY DITCH CHECKS

STATION	LOCATION	628.7504 LF
167+75 CU	LT	10
174+60 HT	LT	10
195+00 HT	RT	10
197+50 HT	RT	10
209+00 GT	RT	10
210+00 WB	RT	10
285+00 LT	RT	10
318+70 TW	RT	10
UNDISTRIBUTED		20
CATEGORY TOTAL		**100**

CULVERT PIPE CHECKS

STATION	LOCATION	628.7555 EACH
128+69 DU	LT	3
134+00 DT	LT	4
137+14 DT	LT	2
140+60 CT	RT	3
146+40 CT	RT	2
151+00 CT	LT	2
174+96 HT	LT	2
196+65 HT	RT	3
197+45 HU	LT	2
205+89 WB	RT	2
206+50 HU	LT	2
300+10 TW	RT	2
26+05 T	RT	3
UNDISTRIBUTED		6
CATEGORY TOTAL		**38**

INLET PROTECTION

STATION	LOCATION	628.7005 TYPE A EACH	628.7015 TYPE C EACH
130+00 DU	LT	1	---
142+97 WB	RT	1	---
183+99 HV	LT	1	---
185+84 HT	LT	1	---
188+04 HT	RT	1	---
206+14 HU	RT	1	---
207+50 HU	LT	1	---
216+58 GT	RT	1	---
226+89 TW	RT	1	---
235+23 TW	RT	1	---
253+50 TW	RT	1	---
258+88 TW	LT	1	---
264+95 MT	RT	1	---
276+18 TW	LT	1	---
283+30 TW	LT	1	---
285+18 TW	RT	1	---
291+98 TW	RT	1	---
ENTERPRISE AVE		---	2
UNDISTRIBUTED		4	1
CATEGORY TOTALS		**21**	**3**

SILT FENCE

STATION TO STATION	LOCATION	628.1504 LF	628.1520 MAINTENANCE LF
207+31 GT - 209+00 GT	RT	169	338
219+00 FT - 228+23 FT	RT	923	1846
250+62 JT - 260+00 JT	RT	938	1876
264+50 MT - 267+22 MT	RT	272	544
283+63 LT - 285+50 LT	RT	187	374
26+00 T - 32+00 T	RT	653	327
31+00 T - 32+50 T	LT	102	51
35+75 T - 36+50 T	RT	125	63
35+75 T - 36+50 T	LT	114	57
UNDISTRIBUTED		785	1159
CATEGORY TOTALS		**4268**	**6635**

SEEDING BORROW PIT

LOCATION	630.0300 LB
BORROW PIT	30
CATEGORY TOTAL	**30**

FIELD OFFICE TYPE C

PROJECT	642.5201 EACH
1071-06-80	1

GEOTEXTILE FABRIC TYPE HR

STATION	LOCATION	645.0120 FABRIC SY
140+56 CT	RT	3.0
138+37 DT	RT	3.0
196+65 HT	RT	3.0
207+15 HU	LT	2.3
226+89 FT	RT	3.0
283+32 TW	LT	6.0
UNDISTRIBUTED		4.7
CATEGORY TOTALS		**25**

RIPRAP LIGHT & GEOTEXTILE FABRIC TYPE R

STATION	LOCATION	606.0100 RIPRAP LIGHT CY	645.0130 FABRIC SY
249+22 WB	RT	2	8
249+22 WB	LT	2	8
249+22 WB	EB LANES, RT	2	8
249+22 WB	EB LANES, LT	2	8
UNDISTRIBUTED		2	8
CATEGORY TOTALS		**10**	**40**

MOBILIZATIONS EROSION CONTROL

LOCATION	628.1905 EACH
1071-06-80	5
CATEGORY TOTAL	**5**

MOBILIZATIONS EMERGENCY EROSION CONTROL

LOCATION	628.1910 EACH
1071-06-80	5
CATEGORY TOTAL	**5**

ALL ITEMS ON THIS SHEET
ARE CATEGORY 0010
UNLESS OTHERWISE NOTED

TRACKING PADS

STATION	LOCATION	628.7560 EACH
26+00 T	TRAIL @ ENTERPRISE AVE	1
CATEGORY TOTAL		**1**

MOVING SIGNS TYPE I

SIGN NUMBER	EXISTING STATION	NEW STATION	638.2101 EACH
103	179+60 EB	176+88 EB	3
115	291+75 WB	291+65 WB	3
CATEGORY TOTAL			**6**

TRAFFIC CONTROL SIGNS FIXED MESSAGE

SIGN NUMBER	LOCATION	SIGN CODE	SIZE	643.1000 SF
900	I-90 EB	R55-58A	76"x12"	6.33
CATEGORY TOTAL				**6.33**

MOVING SIGNS TYPE II

SIGN NUMBER	EXISTING STATION	NEW STATION	638.2102 MOVING SIGNS TYPE II EACH	638.4000 MOVING SMALL SIGN SUPPORTS EACH
101	141+00 CT	141+00 CT	1	1
102	141+50 CT	142+80 CT	1	2
104	210+20 GT	210+20 GT	1	2
105	208+20 GT	208+00 GT	1	2
106	226+70 WB	227+10 WB	2	1
107	234+50 WB	234+50 WB	1	1
112	249+40 WB	249+40 WB	1	2
113	263+40 MT	263+70 MT	1	2
114	286+95 LT	286+50 LT	1	2
116	299+50 WB	299+40 WB	2	1
117	312+00 WB	312+00 WB	1	1
	26+05 T	26+05 T	1	1
	26+05 T	26+05 T	1	1
CATEGORY TOTALS			**15**	**19**

CONCRETE BARRIER TEMPORARY

STATION TO STATION	LOCATION	LEFT IN PLACE SPV.0090.03 LF	603.8000 DELIVERED LF	603.8125 INSTALLED LF
247+25 WB - 250+00 WB	WB LANES, LT	---	275	275
247+00 WB - 250+50 WB	WB LANES, RT	---	350	350
246+50 WB - 249+75 WB	EB LANES, LT	---	325	325
246+50 WB - 249+75 WB	EB LANES, RT	---	325	325
130+20 EB - 133+15 EB	LT	300	300	300
174+38 HT - 177+88 HT	LT	362	362	362
234+53 TW - 237+53 TW	RT	400	400	400
249+17 TW - 252+17 TW	RT	300	300	300
290+55 TW - 294+30 TW	RT	200	200	200
CATEGORY TOTALS		**1562**	**2837**	**2837**

TRAFFIC CONTROL FLEXIBLE TUBULAR MARKER LEFT IN PLACE

STATION TO STATION	LOCATION	SPACING	SPV.0060.06 POSTS EACH	SPV.0060.05 BASES EACH
129+75 WB - 130+35 WB	DU TEMP	5'	14	12
134+40 WB - 135+40 WB	DT TEMP	5'	24	20
138+60 DT - 139+50 DT	DT TEMP	5'	22	18
183+95 WB - 184+55 WB	HV TEMP	5'	14	12
186+00 WB - 187+70 WB	HT TEMP	5'	41	34
190+50 HT - 198+25 HT	HT TEMP	10'	92	77
204+35 WB - 204+65 WB	HU TEMP	5'	7	6
208+75 HU - 209+10 HU	HU TEMP	5'	8	7
220+40 WB - 226+40 WB	TW X-OVER	5'	144	120
262+55 MT - 264+75 MT	MT TEMP	5'	53	44
283+50 WB - 286+00 WB	TW X-OVER	5'	60	50
UNDISTRIBUTED			71	50
CATEGORY TOTALS			**550**	**450**

TRAFFIC CONTROL

LOCATION	643.0300 DRUMS EACH	643.0300 DRUMS DAYS	643.0420 BARRICADES TYPE III EACH	643.0420 BARRICADES TYPE III DAYS	643.0705 WARNING LIGHTS TYPE A EACH	643.0705 WARNING LIGHTS TYPE A DAYS	643.0715 WARNING LIGHTS TYPE C EACH	643.0715 WARNING LIGHTS TYPE C DAYS	643.0800 ARROW BOARDS EACH	643.0800 ARROW BOARDS DAYS	643.3000 DETOUR SIGNS EACH	643.3000 DETOUR SIGNS DAYS	643.0900 SIGNS EACH	643.0900 SIGNS DAYS	643.1050 SIGNS PCMS EACH	643.1050 SIGNS PCMS DAYS
OUTSIDE LANE CLOSURE (OFF PEAK)	872	26160	12	360	24	720	148	4440	2	60	0	0	56	1680	6	180
OUTSIDE LANE CLOSURE (PEAK HOUR)	126	2520	1	20	2	40	25	500	2	40	0	0	17	340	6	120
MEDIAN SHOULDER CLOSURE	418	16720	12	480	24	960	0	0	2	80	0	0	21	840	6	240
DETOUR ROUTE I-90 EB TO ROSE ST NB	16	384	4	96	6	144	0	0	2	48	45	1080	7	168	1	24
GREAT RIVER STATE TRAIL	0	0	3	315	0	0	0	0	0	0	6	630	3	315	0	0
UNDISTRIBUTED	0	11416	0	329	0	461	0	1235	0	57	0	425	0	857	0	151
CATEGORY TOTALS		**57200**		**1600**		**2325**		**6175**		**285**		**2135**		**4200**		**715**

REMOVING SIGNS TYPE II

SIGN NUMBER	EXISTING STATION	638.2602 REMOVING SIGNS TYPE II EACH	638.3000 REMOVING SMALL SIGN SUPPORTS EACH
100	138+80 DT	1	1
108	247+80 EB	1	1
109	247+80 EB	1	1
110	249+20 WB	1	1
111	249+20 WB	1	1
CATEGORY TOTALS		**5**	**5**

TRAFFIC CONTROL COVERING SIGNS

LOCATION	NUMBER OF SIGNS	CYCLES	643.0910 TYPE I EACH	NUMBER OF SIGNS	CYCLES	643.0920 TYPE II EACH
MEDIAN LANE CLOSURE (OFF-PEAK)	2	15	30	1	15	15
OUTSIDE LANE CLOSURE (OFF-PEAK)	2	15	30	1	15	15
DETOUR ROUTE	2	2	4	1	2	2
CATEGORY TOTAL			**64**			**32**

TRAFFIC CONTROL DETOUR (1071-06-80)

PROJECT	643.2000 EACH
01. 1071-06-80	1

TRAFFIC CONTROL SURVEILLANCE AND MAINENANCE (1071-06-80)

PROJECT	643.0200 DAY
01. 1071-06-80	147

ALL ITEMS ON THIS SHEET ARE CATEGORY 0010 UNLESS OTHERWISE NOTED

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CONSTRUCTION STAKING STORM SEWER

STATION	STRUCTURE NUMBER	650.4000 EACH
128+68 DU	P113	1
130+00 DU	S109	1
183+99 HV	S110	1
185+84 HT	S108	1
188+04 HT	S107	1
206+15 HU	S105	1
206+69 HU	P115	1
206+77 HU	P101	1
207+49 HU	P109	1
207+50 HU	S106	1
226+90 TW	S111	1
253+50 TW	S100	1
258+88 TW	S103	1
283+30 TW	S102	1
285+18 TW	S101	1
CATEGORY TOTAL		**15**

TEMPORARY PAVEMENT MARKING

STATION TO STATION	LOCATION	DESCRIPTION	649.0100 4-INCH WHITE LF	649.0100 4-INCH YELLOW LF
245+60 WB - 251+15 WB	WB LANES	EDGELINE	555	---
245+60 WB - 251+15 WB	WB LANES	CENTERLINE	140	---
245+60 WB - 251+15 WB	WB LANES	EDGELINE	---	555
245+60 WB - 251+15 WB	EB LANES	EDGELINE	---	555
245+60 WB - 251+15 WB	EB LANES	CENTERLINE	140	---
245+60 WB - 251+15 WB	EB LANES	EDGELINE	555	---
SUB TOTALS			1390	1110
CATEGORY TOTALS				**2500**

CONSTRUCTION STAKING

STATION TO STATION	LOCATION	650.4500 SUBGRADE LF	650.5000 BASE LF	650.9920 SLOPE STAKES LF
139+27 CT - 153+69 CT	CT RAMP	1442	1442	1442
162+72 CU - 166+26 CU	CU RAMP	354	354	354
120+47 DT - 140+43 DT	DT RAMP	1996	1996	1996
127+97 DU - 130+50 DU	DU RAMP	253	253	253
219+00 FT - 228+40 FT	FT WIDENING	940	940	940
207+31 GT - 210+79 GT	GT RAMP	348	348	348
174+68 HT - 202+00 HT	HT RAMP	2732	2732	2732
196+06 HU - 209+64 HU	HU RAMP	1358	1358	1358
182+17 HV - 184+75 HV	HV RAMP	258	258	258
250+62 JT - 259+82 JT	JT WIDENING	920	920	920
283+63 LT - 288+21 LT	LT RAMP	458	458	458
254+57 MT - 267+22 MT	MT RAMP	1265	1265	1265
226+60 TW - 260+19 TW	TW LINE	3359	3359	3359
279+17 TW - 318+73 TW	TW LINE	3956	3956	3956
204+42 UW - 222+23 UW	UW LINE	1881	1881	1881
25+90.68 T - 32+68.47 T	TRAIL	678	678	---
35+28.47 T - 36+50.00 T	TRAIL	122	122	---
CATEGORY TOTALS		**22320**	**22320**	**21520**

CONSTRUCTION STAKING PIPE CULVERTS

STATION	LOCATION	650.6000 EACH
134+94 DT	MEDIAN	1
137+31 DT	DT TEMP	1
147+54 CT	MEDIAN	1
CATEGORY TOTAL		**3**

CONSTRUCTION STAKING STRUCTURE LAYOUT

CATEGORY	LOCATION	650.6500 LS
0020	.40 C-32-97	1
0030	.20 B-32-107	1
0040	.21 B-32-108	1
0060	.22 S-37-48	1
0070	.23 S-37-49	1

CONSTRUCTION STAKING SUPPLEMENTAL CONTROL

PROJECT	650.9910 LS
01. 1071-06-80	1

PAVEMENT MARKING EPOXY

STATION TO STATION	LOCATION	DESCRIPTION	646.0106 4-INCH WHITE LF	646.0106 4-INCH YELLOW LF	646.0126 8-INCH WHITE LF	647.0746 DIAGONAL 24-INCH LF
120+00 WB - 136+00 WB	EB LANES	EDGELINE	---	1600	---	---
129+00 WB - 137+00 WB	WB LANES	EDGELINE	---	800	---	---
135+72 WB - 141+90 WB	WB LANES	EDGELINE	618	---	---	---
137+60 DT - 150+00 DT	D RAMP	EDGELINE	---	340	---	---
139+00 CT - 140+45 CT	C RAMP	EDGELINE	---	154	---	---
140+45 CT - 143+46 CT	C RAMP	GORE	---	---	294	---
141+90 WB - 143+48 WB	C RAMP	GORE	---	---	159	---
142+00 WB - 148+50 WB	WB LANES	EDGELINE	---	650	---	---
146+50 WB - 154+25 WB	EB LANES	EDGELINE	---	775	---	---
162+50 EB - 166+50 EB	EB LANES	EDGELINE	---	400	---	---
174+25 WB - 188+00 WB	EB LANES	EDGELINE	---	1375	---	---
183+25 WB - 191+00 WB	WB LANES	EDGELINE	---	775	---	---
189+00 WB - 190+83 WB	H RAMP	GORE	---	---	183	---
189+15 HT - 191+00 HT	H RAMP	GORE	---	---	184	---
191+00 HT - 202+00 HT	H RAMP	EDGELINE	---	1098	---	---
190+83 WB - 192+00 WB	WB LANES	EDGELINE	117	---	---	---
195+75 WB - 212+00 WB	EB LANES	EDGELINE	---	1625	---	---
204+00 WB - 206+00 WB	WB LANES	EDGELINE	---	200	---	---
204+00 WB - 210+21 WB	WB LANES	EDGELINE	621	---	---	---
210+00 WB - 212+33 WB	WB LANES	EDGELINE	---	233	---	---
210+21 WB - 211+50 WB	G RAMP	GORE	---	---	129	---
208+14 HU - 209+96 HU	HU RAMP	EDGELINE	---	185	---	---
207+21 GT - 209+81 GT	G RAMP	EDGELINE	---	257	---	---
	G RAMP	DIAGONALS	---	---	---	75
215+75 WB - 222+50 WB	EB LANES	EDGELINE	---	675	---	---
216+00 WB - 263+00 WB	WB LANES	EDGELINE	---	4700	---	---
218+50 WB - 228+50 WB	EB LANES	EDGELINE	1000	---	---	---
245+60 WB - 251+15 WB	WB LANES	EDGELINE	555	---	---	---
245+60 WB - 251+15 WB	EB LANES	EDGELINE	---	555	---	---
245+60 WB - 260+00 WB	EB LANES	EDGELINE	1440	---	---	---
245+60 WB - 251+15 WB	WB LANES	LANE LINE	140	---	---	---
245+60 WB - 251+15 WB	EB LANES	LANE LINE	140	---	---	---
254+00 WB - 260+50 WB	EB LANES	EDGELINE	---	650	---	---
261+00 WB - 262+82 WB	M RAMP	GORE	---	---	182	---
261+00 MT - 262+88 MT	M RAMP	GORE	---	---	188	---
262+88 MT - 267+25 MT	M RAMP	EDGELINE	---	440	---	---
262+82 WB - 263+50 WB	WB LANES	EDGELINE	68	---	---	---
278+50 WB - 285+00 WB	EB LANES	EDGELINE	---	700	---	---
284+00 WB - 319+00 WB	WB LANES	EDGELINE	---	3500	---	---
283+50 LT - 286+56 LT	L RAMP	EDGELINE	---	311	---	---
286+56 LT - 288+45 LT	L RAMP	GORE	---	---	186	---
286+69 WB - 288+50 WB	L RAMP	GORE	---	---	181	---
SUB TOTALS			4699	21998	1686	75
CATEGORY TOTALS				**26697**	**1686**	**75**

ALL ITEMS ON THIS SHEET
ARE CATEGORY 0010
UNLESS OTHERWISE NOTED

3

SAWING ASPHALT

STATION TO STATION	LOCATION	690.0150 LF
120+47 DT	SHLDR	4
120+47 DT - 133+96 DT	EB PVMT EDGE	1350
133+96 DT	SHLDR	4
135+65 DT	SHLDR	4
135+65 DT - 136+34 DT	WB PVMT EDGE	72
136+34 DT	SHLDR	4
136+45 DT	SHLDR	10
136+45 DT - 137+01 DT	WB PVMT EDGE	64
137+01 DT	SHLDR	10
138+60 DT	RAMP SHLDR	5
138+60 DT - 140+43 DT	RAMP PVMT EDGE	182
140+43 DT	RAMP SHLDR	5
139+27 CT	RAMP SHLDR	5
139+27 CT - 142+75 CT	RAMP PVMT EDGE	350
141+75 CT	SHLDR	10
141+75 CT - 142+75 CT	WB PVMT EDGE	103
142+75 CT	GORE	12
142+99 CT	SHLDR	4
142+99 CT - 146+82 CT	WB PVMT EDGE	385
146+82 CT	SHLDR	4
148+40 CT	SHLDR	4
148+40 CT - 153+69 CT	EB PVMT EDGE	532
153+69 CT	SHLDR	4
162+72 CU	SHLDR	16
166+26 CU	SHLDR	9
174+38 HT - 185+24 HT	EB PVMT EDGE	1087
185+24 HT	SHLDR	4
188+25 HT	SHLDR	4
188+25 HT - 189+73 HT	WB PVMT EDGE	150
189+73 HT	SHLDR	4
189+38 HT - 190+45 HT	GORE	107
189+38 HT - 191+36 HT	WB PVMT EDGE	154
191+36 HT	SHLDR	10
196+84 HT	RAMP SHLDR	5
196+84 HT - 202+00 HT	RAMP PVMT EDGE	514
202+00 HT	RAMP SHLDR	5
195+24 HU - 204+07 HU	EB PVMT EDGE	887
204+07 HU	SHLDR	4
205+11 HU	SHLDR	4
205+11 HU - 205+40 HU	WB PVMT EDGE	34
205+40 HU	SHLDR	4
205+57 HU	SHLDR	10
205+57 HU - 205+80 HU	WB PVMT EDGE	33
205+80 HU	SHLDR	10
208+78 HU	RAMP SHLDR	5
208+78 HU - 209+64 HU	RAMP PVMT EDGE	88
209+64 HU	RAMP SHLDR	5
207+31 GT	RAMP SHLDR	5
207+31 GT - 208+95 GT	RAMP PVMT EDGE	165
208+95 GT	RAMP SHLDR	5
210+00 GT	SHLDR	8
210+46 GT	SHLDR	8
219+00 FT	SHLDR	18
220+00 FT - 228+40 FT	EB PVMT EDGE	830
228+40 FT	SHLDR	10

SAWING ASPHALT

STATION TO STATION	LOCATION	690.0150 LF
228+62 TW	SHLDR	4
228+00 TW - 233+00 TW	WB PVMT EDGE	500
234+53 TW - 247+98 TW	WB PVMT EDGE	1345
249+27 TW - 261+75 MT	WB PVMT EDGE	1260
250+62 JT	SHLDR	10
250+62 JT - 259+82 JT	EB PVMT EDGE	920
259+82 JT	RAMP SHLDR	5
255+89 TW	SHLDR	4
255+89 TW - 260+19 TW	EB PVMT EDGE	432
260+19 TW	SHLDR	4
261+75 MT	SHLDR	4
261+90 MT	GORE	12
261+90 MT - 267+22 MT	RAMP PVMT EDGE	532
261+90 MT - 263+02 MT	WB PVMT EDGE	117
263+02 MT	SHLDR	10
267+22 MT	RAMP SHLDR	5
279+18 TW	SHLDR	4
279+18 TW - 283+45 TW	EB PVMT EDGE	429
283+45 TW	SHLDR	4
283+63 LT	RAMP SHLDR	5
283+63 LT - 288+17 LT	RAMP SHLDR	455
287+13 LT - 288+21 LT	WB PVMT EDGE	114
288+21 LT	GORE	15
286+90 TW	SHLDR	4
286+90 TW - 310+21 TW	WB PVMT EDGE	2331
311+90 TW - 318+72 TW	WB PVMT EDGE	682
318+72 TW	SHLDR	4
299+90 TW	MAINTENANCE X-OVER	25
12TH AVENUE		311
CATEGORY TOTAL		**16876**

SAWING CONCRETE

STATION TO STATION	LOCATION	690.0250 LF
247+57 WB - 247+77 WB	LT	21
249+06 WB - 249+26 WB	LT	23
247+80 EB - 248+00 EB	LT/RT	43
249+29 EB - 249+48 EB	LT/RT	44
	12th AVENUE	90
CATEGORY TOTAL		**221**

ADJUST CONSTRUCTION STAKING

PROJECT	SPV.0105.01 LS
1071-06-80	1

EXPOSING EXISTING UTILITY

LOCATION	SPV.0060.45 EACH
GREAT RIVER STATE TRAIL	2
CATEGORY TOTAL	**2**

ALL ITEMS ON THIS SHEET
ARE CATEGORY 0010
UNLESS OTHERWISE NOTED

STREET LIGHTS

LIGHT NUMBER	R/L	JUNCTION BOX 4"X4"X4" SPV.0060.40 EACH	LUMINAIRES UNDERDECK LED A 659.1205 EACH
TL-01	RT	1	1
TL-02	LT	1	1
TL-03	RT	1	1
TL-04	LT	1	1
TL-05	RT	1	1
TL-06	LT	1	1
TL-07	RT	1	1
TL-08	LT	1	1
TL-09	RT	1	1
NORTH END - EAST SIDE	RT	1	--
NORTH END - WEST SIDE	LT	1	--
CATEGORY 0020 TOTAL		**11**	**9**

LIGHTING CONDUIT AND WIRE

FROM		TO	CONDUIT RIGID METALLIC 1 1/4-INCH 652.0115 LF	CONDUIT RIGID NONMETALLIC SCHEDULE 40 1 1/4-INCH 652.0215 LF	CONDUIT RIGID NONMETALLIC SCHEDULE 80 3/4-INCH 652.0305 LF	ELECTRICAL WIRE LIGHTING 12 AWG 655.0610 LF	REMARKS
PEDESTAL	-	LPB100	--	25	--	111	--
PEDESTAL	-	LPB100	--	25	--	111	--
LPB100	-	STR	20	--	--	96	--
LPB100	-	STR	20	--	--	--	SPARE CONDUIT
LPB100	-	LPB101	--	20	--	96	--
LPB100	-	LPB101	--	20	--	--	SPARE CONDUIT
LPB101	-	STR	20	--	--	96	--
LPB101	-	STR	20	--	--	--	SPARE CONDUIT
J-BOX	-	TL-01	--	--	6	54	--
TL-01	-	TL-03	--	--	62	222	--
TL-03	-	TL-05	--	--	62	222	--
TL-05	-	TL-07	--	--	62	222	--
TL-07	-	TL-09	--	--	62	222	--
J-BOX	-	TL-02	--	--	40	156	--
TL-02	-	TL-04	--	--	62	222	--
TL-04	-	TL-06	--	--	62	222	--
TL-06	-	TL-08	--	--	62	222	--
STRUCTURE CONDUIT WIRING			--	--	--	226	--
SUBTOTAL			**80**	**90**	**480**	**2,500**	
CATEGORY 0020 TOTALS			**170***	**90**	**480**	**2,500**	

LIGHTING PULLBOXES

PULLBOX NUMBER	STATION	OFFSET	R/L	PULLBOXES STEEL 24X36-INCH 653.0135 EACH
LPB100	35T+40	10.0'	LT	1
LPB101	35T+40	10.0'	RT	1
CATEGORY 0020 TOTAL				**2**

LIGHTING CONTROL AND LUMP SUM ITEMS

CABINET NUMBER	STATION	OFFSET	R/L	ELECTRICAL SERVICE METER BREAKER PEDESTAL 656.0200.01 LS	CONSTRUCTION STAKING ELECTRICAL INSTALLATIONS 650.8500.01 LS
MB100	35T+65	13.0'	LT	1	--
	1071-06-80			--	1
CATEGORY 0020 TOTAL				**1**	**1**

* Other quantities located elsewhere in plan.

ITS PULL BOXES STEEL

LOCATION	CHAIN	STATION OR X COORDINATE	OFFSET OR Y COORDINATE	ITEM ID	653.0135 24" X 36" EACH	653.0140 24" X 42" EACH
I.H. 90 AT C.T.H. BW	I-90 EB	104+28	38 LT	PB01	--	1
I.H. 90 AT C.T.H. BW	I-90 EB	104+29	97 LT	PB02	--	1
I.H. 90 AT C.T.H. BW	I-90 EB	105+54	170 LT	PB03	1	--
I.H. 90 AT C.T.H. BW	I-90 EB	107+42	121 LT	PB04	1	--
I.H. 90 AT C.T.H. B	I-90 EB	144+82	183 RT	PB101	1	--
I.H. 90 AT C.T.H. B	I-90 EB	144+09	171 RT	PB102	--	1
I.H. 90 AT C.T.H. B	I-90 EB	143+36	159 RT	PB103	--	1
I.H. 90 AT C.T.H. B	I-90 EB	143+08	111 RT	PB104	1	--
I.H. 90 AT U.S.H. 53 / S.T.H. 35	I-90 EB	195+52	626 RT	PB200	--	1
I.H. 90 AT U.S.H. 53 / S.T.H. 35	I-90 EB	195+42	566 RT	PB201	--	1
I.H. 90 AT U.S.H. 53 / S.T.H. 35	I-90 EB	195+36	531 RT	PB202	--	1
I.H. 90 AT U.S.H. 53 / S.T.H. 35	I-90 EB	195+40	386 RT	PB203	--	1
I.H. 90 AT U.S.H. 53 / S.T.H. 35	I-90 EB	194+75	253 RT	PB204	--	1
I.H. 90 AT U.S.H. 53 / S.T.H. 35	I-90 EB	194+72	60 RT	PB205	1	--
I.H. 90 AT U.S.H. 53 / S.T.H. 157	I-90 EB	278+86	709 LT	PB301	1	--
I.H. 90 AT U.S.H. 53 / S.T.H. 157	I-90 EB	279+11	633 LT	PB302	--	1
I.H. 90 AT U.S.H. 53 / S.T.H. 157	I-90 EB	279+16	605 LT	PB303	--	1
I.H. 90 AT U.S.H. 53 / S.T.H. 157	I-90 EB	277+08	408 LT	PB304	1	--
I.H. 90 AT U.S.H. 53 / S.T.H. 157	I-90 EB	275+63	153 LT	PB305	1	--
I.H. 90 AT S.T.H. 16		463999	155735	PB401	--	1
I.H. 90 AT S.T.H. 16		463945	155695	PB402	--	1
I.H. 90 AT S.T.H. 16		463831	155670	PB403	--	1
I.H. 90 AT S.T.H. 16		463751	155615	PB404	--	1
I.H. 90 AT S.T.H. 16		463593	155506	PB405	1	--
I.H. 90 AT S.T.H. 16		463405	155378	PB406	1	--
I.H. 90 AT S.T.H. 16		463282	155246	PB407	1	--
I.H. 90 EAST OF S.T.H. 16		473168	153072	PB500	1	--
CATEGORY TOTALS					**12**	**15**

ITS CABINETS ITEMS

ITEM I.D.	LOCATION	CHAIN	STATION OR X COORDINATE	OFFSET OR Y COORDINATE	659.0802 * PLAQUES SEQUENCE IDENTIFICATION EACH	673.0225.S INSTALL POLE MOUNTED CABINET EACH	675.0400.S INSTALL ETHERNET SWITCH EACH	677.0300.S INSTALL VIDEO ENCODER EACH	SPV.0060.63 INSTALL WIRELESS ETHERNET BRIDGE EACH	SPV.0060.67 INSTALL WIRELESS MODEM EACH
DMS-32-0052	I.H. 90 AT C.T.H. BW	I-90 EB	107+62	105 LT	2	1	--	--	1	--
DMS-32-0053	I.H. 90 AT C.T.H. BW	I-90 EB	104+11	15 LT	2	1	--	--	1	--
CCTV-32-0070	I.H. 90 AT C.T.H. B	I-90 EB	143+19	111 RT	2	1	1	1	3	--
CCTV-32-0071	I.H. 90 AT U.S.H. 53 / S.T.H. 35	I-90 EB	194+79	49 RT	2	1	1	1	2	--
CCTV-32-0072	I.H. 90 AT U.S.H. 53 / S.T.H. 157	I-90 EB	275+66	140 LT	2	1	1	1	1	--
CCTV-32-0073	I.H. 90 AT S.T.H. 16		463273	155231	2	1	1	1	--	--
DMS-32-0054	I.H. 90 EAST OF S.T.H. 16		473174	153043	2	1	--	--	--	1
CATEGORY SUB-TOTALS					14	7	4	4	8	1
CATEGORY TOTALS					**18**	**7**	**4**	**4**	**8**	**1**

*** OTHER QUANTITIES LOCATED ELSEWHERE IN PLAN**

ALL ITEMS ON THIS SHEET ARE CATEGORY 0080 UNLESS OTHERWISE NOTED

ELECTRICAL SERVICE BREAKER DISCONNECT BOX

ITEM I.D.	LOCATION	656.0500.01 (IH 90 AT CTH BW) LS	656.0500.02 (IH 90 AT CTH B) LS	656.0500.03 (IH 90 AT USH 53/STH 35) LS	656.0500.04 (IH 90 AT USH 53/STH 157) LS	656.0500.05 (IH 90 AT STH 16) LS	656.0500.06 (IH 90 EAST OF STH 16) LS
DMS-32-0052	IH 90 AT CTH BW	0.5	--	--	--	--	--
DMS-32-0053	IH 90 AT CTH BW	0.5	--	--	--	--	--
CCTV-32-0070	IH 90 AT CTH B	--	1	--	--	--	--
CCTV-32-0071	IH 90 AT USH 53 / STH 35	--	--	1	--	--	--
CCTV-32-0072	IH 90 AT USH 53 / STH 157	--	--	--	1	--	--
CCTV-32-0073	IH 90 AT STH 16	--	--	--	--	1	--
DMS-32-0054	IH 90 EAST OF STH 16	--	--	--	--	--	1
CATEGORY TOTALS		**1**	**1**	**1**	**1**	**1**	**1**

METER BREAKER PEDESTAL

ITEM I.D.	LOCATION	SPV.0060.65 TWO CIRCUIT METER BREAKER PEDESTAL EACH	656.0200.02 (IH 90 AT CTH B) LS	656.0200.03 METER BREAKER PEDESTAL (IH 90 EAST OF STH 16) LS	656.0200.04 (IH 90 AT USH 53 / STH 35) LS
MB01	IH 90 AT CTH BW	1	--	--	--
MB100	IH 90 AT CTH B	--	1	--	--
MB200	IH 90 AT USH 53 / STH 35	--	--	--	1
MB500	IH 90 EAST OF STH 16	--	--	1	--
CATEGORY TOTALS		**1**	**1**	**1**	**1**

ITS CCTV ITEMS

ITEM I.D.	LOCATION	CHAIN	STATION OR X COORDINATE	OFFSET OR Y COORDINATE	659.0802 * PLAQUES SEQUENCE IDENTIFICATION EACH	672.0250 BASE CAMERA POLE 50-FT EACH	672.0230 POLE 30-FT EACH	675.0300 INSTALL MOUNTED CONTROLLER MICROWAVE DETECTOR ASSEMBLY EACH	SPV.0060.68 50-FT WOOD POLE EACH	677.0100 INSTALL POLE EACH	677.0200 CAMERA ASSEMBLY EACH	SPV.0060.66* GROUND ROD EACH
CCTV-32-0070	IH 90 AT CTH B	I-90 EB	143+19	111 RT	1	--	1	2	--	1	1	1
CCTV-32-0071	IH 90 AT USH 53/STH 35	I-90 EB	194+79	49 RT	1	--	--	2	1	1	1	1
CCTV-32-0072	IH 90 AT USH 53/STH 157	I-90 EB	275+66	140 LT	1	1	--	2	--	1	1	1
CCTV-32-0073	IH 90 AT STH 16		463273	155231	1	1	--	2	--	1	1	1
CATEGORY SUB-TOTALS					4	2	1	8	1	4	4	4
CATEGORY TOTALS					**18**	**2**	**1**	**8**	**1**	**4**	**4**	**7**

*** OTHER QUANTITIES LOCATED ELSEWHERE IN PLAN**

ALL ITEMS ON THIS SHEET ARE CATEGORY 0080 UNLESS OTHERWISE NOTED

3

ITS CONDUIT

FROM	TO	LINEAR DISTANCE	652.0225 CONDUIT RIGID NONMETALLIC 2-INCH LF	652.0235 CONDUIT RIGID SCHEDULE 40 3-INCH LF	652.0125 CONDUIT RIGID METALLIC 2-INCH LF	652.0605 CONDUIT SPECIAL 2-INCH LF	652.0615 CONDUIT SPECIAL 3-INCH LF	652.0700.S INSTALL CONDUIT INTO EXISTING ITEM EACH
MB01	PB03	56	56	--	--	--	--	--
PB03	PB02	128	128	--	--	--	--	--
PB02	PB01	58	--	--	--	58	--	--
PB01	DMS-32-0053	22	--	--	22	--	--	--
PB03	PB04	189	189	--	--	--	--	--
PB04	DMS-32-0052	12	--	--	12	--	--	--
MB100	PB101	12	12	--	--	--	--	--
PB101	PB102	75	--	150	--	--	--	--
PB102	PB103	75	--	--	--	--	150	--
PB103	PB104	56	--	112	--	--	--	--
PB104	CCTV-32-0070	11	22	--	11	--	--	--
MB200	PB200	79	--	--	--	79	--	--
PB200	PB201	61	--	122	--	--	--	--
PB201	PB202	35	--	--	--	--	70	--
PB202	PB203	145	--	290	--	--	--	--
PB203	PB204	149	--	--	--	--	298	--
PB204	PB205	194	--	388	--	--	--	--
PB205	CCTV-32-0071	12	24	--	12	--	--	--
EXPB300	PB301	285	--	--	--	--	570	1
EXMB300	PB301	35	35	--	--	--	--	1
PB301	PB302	81	--	162	--	--	--	--
PB302	PB303	30	--	--	--	--	60	--
PB303	PB304	295	--	590	--	--	--	--
PB304	MD305	294	--	588	--	--	--	--
PB305	CCTV-32-0072	14	28	--	14	--	--	--
EXPB400	PB401	86	--	172	--	--	--	1
EXMD400	PB401	20	20	--	--	--	--	1
PB401	PB402	68	--	--	--	--	136	--
PB402	PB403	117	--	234	--	--	--	--
PB403	PB404	97	--	--	--	--	194	--
PB404	PB405	192	--	384	--	--	--	--
PB405	PB406	227	--	454	--	--	--	--
PB406	PB407	201	--	402	--	--	--	--
PB407	CCTV-32-0073	18	36	--	18	--	--	--
MB500	PB500	60	60	--	--	--	--	--
PB500	DMS-32-0054	15	--	--	15	--	--	--
CATEGORY TOTALS			**610**	**4048**	**104**	**137**	**1478**	**4**

ALL ITEMS ON THIS SHEET
ARE CATEGORY 0080
UNLESS OTHERWISE NOTED

3

ITS CABLING ITEMS

FROM	TO	LINEAR DISTANCE	655.0525 ELECTRICAL WIRE TRAFFIC SIGNALS 6 AWG LF	(1) FIBER OPTIC CABLE SLACK LF	671.0300 FIBER OPTIC CABLE MARKER EACH	678.0006 INSTALL FIBER OPTIC CABLE OUTDOOR PLANT 6-COUNT LF	678.0300 FIBER OPTIC SPLICE EACH	678.0400 FIBER OPTIC TERMINATION EACH
MB01	PB03	56	336	--	--	--	--	--
PB03	PB02	128	384	--	--	--	--	--
PB02	PB01	58	174	--	--	--	--	--
PB01	DMS-32-0053	12	36	--	--	--	--	--
PB03	PB04	189	567	--	--	--	--	--
PB04	DMS-32-0052	22	66	--	--	--	--	--
MB100	PB101	12	36	--	--	--	--	--
PB101	PB102	75	225	--	--	--	--	--
PB102	PB103	75	225	--	--	--	--	--
PB103	PB104	56	168	--	--	--	--	--
PB104	CCTV-32-0070	11	33	--	--	--	--	--
MB200	PB200	79	237	--	--	--	--	--
PB200	PB201	61	183	--	--	--	--	--
PB201	PB202	35	105	--	--	--	--	--
PB202	PB203	145	435	--	--	--	--	--
PB203	PB204	149	447	--	--	--	--	--
PB204	PB205	194	582	--	--	--	--	--
PB205	CCTV-32-0071	12	36	--	--	--	--	--
EXPB300	PB301	285	--	12	4	285	4	--
EXMB300	PB301	35	105	--	--	--	--	--
PB301	PB302	81	243	6	2	81	--	--
PB302	PB303	30	90	6	2	30	--	--
PB303	PB304	295	885	6	2	295	--	--
PB304	MD305	294	882	6	2	294	--	--
PB305	CCTV-32-0072	14	42	6	--	14	--	6
EXPB400	PB401	86	--	12	4	86	4	--
EXMD400	PB401	20	60	--	--	20	--	--
PB401	PB402	68	204	6	2	68	--	--
PB402	PB403	117	351	6	2	117	--	--
PB403	PB404	97	291	6	2	97	--	--
PB404	PB405	192	576	6	2	192	--	--
PB405	PB406	227	681	6	2	227	--	--
PB406	PB407	201	603	6	4	201	--	--
PB407	CCTV-32-0073	18	54	6	--	18	--	6
MB500	PB500	60	180	--	--	--	--	--
PB500	DMS-32-0054	15	45	--	--	--	--	--
CATEGORY TOTALS			**9567**		**30**	**2025**	**8**	**12**

(1) FOR INFORMATION ONLY. NOT A BID ITEM.

ALL ITEMS ON THIS SHEET
ARE CATEGORY 0080
UNLESS OTHERWISE NOTED

3

ITS SIGNING ITEMS

ITEM I.D.	LOCATION	CHAIN	STATION OR X COORDINATE	OFFSET OR Y COORDINATE	STEEL POST TYPE	635.0200 STRUCTURAL STEEL HS LB	636.0100 SIGN SUPPORTS CONCRETE MASONRY CY	636.0500 STEEL REINFORCEMENT LB	SPV.0060.62 INSTALL GROUND MOUNT DMS EACH	SPV.0060.66* GROUND ROD EACH	INFO ONLY - POST LENGTHS TO BE VERIFIED BY CONTRACTOR POST NO. 1 LENGTH FT	POST NO. 2 LENGTH FT	POST NO. 3 LENGTH FT	OFFSET DISTANCE FT
DMS-32-0052	IH 90 AT CTH BW	I-90 EB	107+62	105 LT	C	1458.3	2.7	150	1	1	15.5	16.0	16.5	15
DMS-32-0053	IH 90 AT CTH BW	I-90 EB	104+11	15 LT	C	1458.3	2.7	150	1	1	15.5	16.0	16.5	15
DMS-32-0054	IH 90 EAST OF STH 16		473174	153043	C	1458.3	2.7	150	1	1	15.5	16.0	16.5	15
CATEGORY SUB-TOTALS						4374.9	8.1	450	3	3				
CATEGORY TOTALS						**4374.9**	**8.1**	**450**	**3**	**7**				

ITS ITEMS

ITEM ID	670.0100 FIELD SYSTEM INTEGRATOR LS	670.0200 ITS DOCUMENTATION LS	678.0500 COMMUNICATION SYSTEM TESTING LS	650.8500.02 CONSTRUCTION STAKING ELECTRICAL INSTALLATIONS LS
PROJECT	1	1	1	1
CATEGORY TOTALS	**1**	**1**	**1**	**1**

STEEL PLATE BEAM GUARD ITEMS

STATION TO STATION	LOCATION	614.0230 STEEL THRIE BEAM LF	614.0370 STEEL PLATE BEAM GUARD ENERGY ABSORBING TERMINAL EACH	614.0925 SALVAGED GUARDRAIL END TREATMENTS EACH
108+41.00 - 110+99.50	LT, I-90 WB	208.5	--	1
100+73.50 - 104+23.50	LT, I-90 EB	300	1	--
X = 473162, Y = 153039 TO EAST	LT, I-90 WB	262.5	1	--
CATEGORY TOTALS		**771**	**2**	**1**

*** OTHER QUANTITIES LOCATED ELSEWHERE IN PLAN**

ALL ITEMS ON THIS SHEET ARE CATEGORY 0080 UNLESS OTHERWISE NOTED

3

REMOVING MANHOLES

204.0210

STATION	OFFSET	EACH	CATEGORY
9+58W	0.4 RT	1	0010
10+70W	33.7 LT	1	0010
CATEGORY 0010 TOTAL		2	

SANITARY SEWER BYPASS PUMPING

SPV.0105.81

LOCATION	LS	CATEGORY
PROJECT	1	0010
CATEGORY 0010 TOTAL	1	

SANITARY MANHOLES AND COVERS

MH NAME	STATION	OFFSET	MANHOLES 60-INCH DIAMETER SPV.0060.85 EACH	MANHOLES 72-INCH DIAMETER SPV.0060.86 EACH	SANITARY MANHOLE COVERS SPV.0060.87 EACH	CATEGORY
PRO SAN1	6+81W	0.2 LT	1		1	0010
PRO SAN2	10+82W	0.2 LT		1	1	0010
PRO SAN3	11+28W	33.9 LT		1	1	0010
CATEGORY 0010 TOTAL			1	2	3	

REMOVING SANITARY SEWER

SPV.0090.88

STATION	LOCATION	LF	CATEGORY
9+58W - 10+70	EX SAMH1001 - EX SAMH1003	115	0010
10+70W - 11+28	EX SAMH1003 - PRO SAN3	58	0010
CATEGORY 0010 TOTAL		173	

CONNECT TO EXISTING SANITARY

SPV.0060.88

STATION	OFFSET	EACH	CATEGORY
6+81W	0.2 LT	1	0010
11+28W	33.9 LT	1	0010
CATEGORY 0010 TOTAL		2	

SANITARY SEWER PIPE & CASING

LOCATION	STATION	RCP 27-INCH SPV.0090.86 LF	PVC 27-INCH SPV.0090.87 LF	CASING PIPE STEEL 42-INCH SPV.0090.82 LF	CATEGORY
PRO SAN1 - CASING START	6+81W -6+91	10			0010
CASING START - CASING END	6+91W - 10+72		343	336	0010
CASING START - CASING END	6+91W - 10+72			56	0010
CASING END - PRO SAN2	10+72W - 10-82		59		0010
PRO SAN2 - PRO SAN3	10+82W - 11+28	57			0010
CATEGORY 0010 TOTAL		67	402	392	

RECONSTRUCTING INLETS

611.0430

STATION	LOCATION	EACH	CATEGORY
17+30W	"SS" ST LEFT	2	0020
CATEGORY 0020 TOTAL		2	

WATER MAIN PIPE DUCTILE IRON 8-INCH

SPV.0090.84

STATION	OFFSET	LF	CATEGORY
5+00W - 6+75	8.0 RT	166	0020
10+35W - 17+11	8.0 RT - 24.1 LT	690	0020
17+11W - 17+96	15.0 LT	85	0020
CATEGORY 0020 TOTAL		941	

GATE VALVE & BOX 6-INCH

SPV.0060.81

STATION	OFFSET	EACH	CATEGORY
5+00W	7.0 LT	1	0020
11+00W	18.0 RT	1	0020
17+86W	16.1 LT	1	0020
CATEGORY 0020 TOTAL		3	

GATE VALVE & BOX 8-INCH

SPV.0060.82

STATION	OFFSET	EACH	CATEGORY
6+55W	8.0 RT	1	0020
11+10W	8.0 RT	1	0020
CATEGORY 0020 TOTAL		2	

HYDRANT

SPV.0060.83

STATION	OFFSET	EACH	CATEGORY
5+00W	10.0 LT	1	0020
11+00W	21.0 RT	1	0020
CATEGORY 0020 TOTAL		2	

TRENCH INSULATION 4-INCH

SPV.0165.81

STATION	OFFSET	SF	CATEGORY
17+22W	15.1 LT	200	0020
CATEGORY 0020 TOTAL		200	

WATER MAIN PIPE DUCTILE IRON 6-INCH

SPV.0090.83

STATION	OFFSET	LF	CATEGORY
5+00W	10.0 LT	10	0020
11+00W	21.0 RT	13	0020
CATEGORY 0020 TOTAL		23	

WATER MAIN PIPE DUCTILE IRON 8-INCH -PLACED IN STEEL CASING

SPV.0090.85

STATION	OFFSET	LF	CATEGORY
6+75W - 10+35	8.0 RT	343	0020
CATEGORY 0020 TOTAL		343	

WATER MAIN CASING PIPE STEEL 22-INCH

SPV.0090.81

STATION	OFFSET	LF	CATEGORY
6+75W - 10+35	8.0 RT	343	0020
CATEGORY 0020 TOTAL		343	

WATER MAIN FITTINGS DUCTILE IRON

SPV.0085.81

INDIVIDUAL FITTINGS LISTED IN TABLE ARE FOR INFORMATION ONLY.

STATION	OFFSET	8X6-INCH TEE	8X8-INCH TEE	8X6-INCH REDUCER	8-INCH 45° BEND	8-INCH 22.5° BEND	8-INCH PLUG	CATEGORY
5+00W	2.0 RT		1				1	0020
5+00W	10.0 LT			1				0020
5+25W	8.0 RT		1		2		1	0020
11+00W	8.0 RT	1						0020
11+25W	8.0 RT				1			0020
11+57W	24.1 LT				1			0020
17+11W	15.0 LT				1	1		0020
17+22W	15.1 LT				4			0020
17+86W	16.1 LT	1		1				0020
SUBTOTAL EACH		2	2	2	9	1	2	
LB/EACH		94	101	50	58	58	50	
SUBTOTAL LB		188	202	100	522	58	100	0020
WATER MAIN FITTINGS DUCTILE IRON CATEGORY 0020 TOTAL							1170	SPV.0085.81

REMOVALS

STATION	LOCATION	REMOVING ASPHALTIC SURFACE 204.0110 SY	REMOVING CURB AND GUTTER 204.0150 LF	REMOVING CONCRETE SIDEWALK 204.0155 SF	CATEGORY
16+80W - 18+10	"SS" ST	289	130	0	0020
18+10	DRIVEWAY LT	0	0	11	0020
CATEGORY 0020 TOTAL		289	130	11	

CLEARING AND GRUBBING

STATION	LOCATION	CLEARING 201.0105 STA	GRUBBING 201.0205 STA	CATEGORY
11+00W - 12+00	WATER MAIN	1	1	0020
CATEGORY 0020 TOTAL		1	1	

BASE AGGREGATE DENSE 3/4-INCH

STATION	LOCATION	305.0110 TON	CATEGORY
5+00W - 6+05	BIKE TRAIL	31	0020
CATEGORY 0020 TOTAL		31	

CONNECT TO EXISTING WATER MAIN

SPV.0060.84

STATION	OFFSET	EACH	CATEGORY
17+90W	16.1 LT	1	0020
CATEGORY 0020 TOTAL		1	

LIMESTONE SCREENINGS

SPV.0195.40

STATION	LOCATION	TON	CATEGORY
5+00W - 6+05	BIKE TRAIL	26	0020
CATEGORY 0020 TOTAL		26	

BASE AGGREGATE DENSE 1 1/4-INCH

STATION	LOCATION	305.0120 TON	CATEGORY
16+80W - 18+10	"SS" ST	193	0020
CATEGORY 0020 TOTAL		193	

PAVEMENT

STATION	LOCATION	ASPHALTIC MATERIAL PG58-28 455.0105 TON	HMA PAVEMENT TYPE E-0.3 460.1100 TON	CATEGORY
16+80W - 18+10	"SS" ST	4	64	0020
CATEGORY 0020 TOTAL		4	64	

3

TRAFFIC CONTROL

LOCATION	643.0300 DRUMS EACH	643.0300 DRUMS DAYS	643.0420 BARRICADES TYPE III EACH	643.0420 BARRICADES TYPE III DAYS	643.0705 WARNING LIGHTS TYPE A EACH	643.0705 WARNING LIGHTS TYPE A DAYS	643.0900 SIGNS EACH	643.0900 SIGNS DAYS	CATEGORY
ENTERPRISE AVE & "SS" ST	38	190	1	5	24	120	9	45	0020
CATEGORY 0020 TOTALS		**190**		**5**		**120**		**45**	

CONCRETE SIDEWALK 6-INCH

STATION	LOCATION	602.0415 SF	CATEGORY
18+10	DRIVEWAY LT	100	0020
CATEGORY 0020 TOTAL		100	

CONCRETE CURB AND GUTTER 30-INCH TYPE D

STATION	LOCATION	601.0411 LF	CATEGORY
17+00W - 18+10	"SS" ST	130	0020
CATEGORY 0020 TOTAL		130	

SILT FENCE

STATION	LOCATION	SILT FENCE 628.1504 LF	SILT FENCE MAINTENANCE 628.1520 LF	CATEGORY
11+00W - 17+00	WATER MAIN	600	600	0020
CATEGORY 0020 TOTAL		600	600	

SALVAGED TOPSOIL, MULCHING, FERTILIZER, SEEDING

STATION	LOCATION	SALVAGED TOPSOIL 625.0500 SY	MULCHING 627.0200 SY	FERTILIZER TYPE B 629.0210 CWT	SEEDING MIXTURE NO. 30 630.0130 LB	CATEGORY
5+00W - 6+05	BIKE TRAIL LT & RT	467	467	0.4	8	0020
11+00W - 17+00	WATER MAIN	1667	1667	0.8	30	0020
UNDISTRIBUTED	PROJECT	0	213	0.1	4	0020
CATEGORY 0020 TOTAL		2133	2347	1.3	42	

CONCRETE BARRIER TEMPORARY PRECAST

LOCATION	DESCRIPTION	603.8000 INSTALLED LF	603.8125 DELIVERED LF	CATEGORY
"SS" ST	WORK ZONE PROTECTION	255	255	0020
CATEGORY 0020 TOTAL		255	255	

TEMPORARY PAVEMENT MARKING REFLECTIVE TAPE 4-INCH

LOCATION	649.0300 WHITE LF	649.0300 YELLOW LF	CATEGORY
ENTERPRISE AVE & "SS" ST	140	1725	0020
CATEGORY 0020 SUB-TOTALS	140	1725	
CATEGORY 0020 TOTALS		**1865**	

SAWING ASPHALT

STATION	LOCATION	690.0150 LF	CATEGORY
16+80W - 18+10	"SS" ST	170	0020
CATEGORY 0020 TOTAL		170	

SAWING CONCRETE

LOCATION	DESCRIPTION	690.0250 LF	CATEGORY
"SS" ST	CURB AND GUTTER	12	0020
"SS" ST	DRIVEWAY	13	0020
CATEGORY 0020 TOTAL		25	

CURVE DATA	CURVE DATA	CURVE DATA	CURVE DATA	CURVE DATA	P.I. DATA
P.I. 140+61.13 CT	P.I. 142+70.85 CT	P.I. 145+91.22 CT	P.I. 148+35.97 CT	P.I. 150+68.57 CT	P.I. 153+68.83 CT
N 149704.71	N 149642.61	N 149682.29	N 149658.90	N 149698.84	N 149745.03
E 443788.37	E 444012.70	E 444332.68	E 444577.21	E 444807.97	E 445104.57
△ = 54°03'23"	△ = 22°32'33"	△ = 12°32'02"	△ = 15°17'04"	△ = 0°59'32"	
D = 19°05'55"	D = 17°19'26"	D = 5°38'42"	D = 5°43'46"	D = 0°29'46"	
T = 153.04'	T = 79.72'	T = 111.46'	T = 134.18'	T = 100.01'	
L = 283.04'	L = 157.38'	L = 222.04'	L = 266.76'	L = 200.01'	
E = 36.78'	E = 7.87'	E = 6.10'	E = 8.96'	E = 0.43'	
R = 300.00'	R = 400.00'	R = 1015.00'	R = 1000.00'	R = 11548.02'	
P.C. 139+08.09 CT	P.C.C141+91.13 CT	P.C. 144+79.76 CT	P.R.C147+01.80 CT	P.C.C149+68.56 CT	
N 149848.09	P.T. 143+48.51 CT	P.R.C147+01.80 CT	P.C.C149+68.56 CT	P.T. 151+68.57 CT	
E 443734.85	S.E. RC	S.E. RC	S.E. RC	S.E. RC	
P.C.C141+91.13 CT	L.R. ***	L.R. ***	L.R. ***	L.R. ***	
S.E. 8.0%					
L.R. ***					

*** TRANSITIONS MODIFIED (SEE CROSS SECTIONS)

BP 139+08.09CT
140DT
140CT
142CT
144CT
146CT
148CT
150CT
152CT
PI 140+61.13CT
PCC 141+91.13CT
PT 143+48.50CT
PC 144+79.76CT
PI 145+91.22CT
PRC 147+01.80CT
IPCC 149+68.56CT
PT 151+68.57CT
EP 153+68.83CT
PI 142+70.85CT
148+35.97CT
150+68.57CT
STA 140+59 CT, RT
REMOVING SMALL PIPE CULVERTS
(ENDWALL ONLY)
SLOPE INTERCEPT
STA 140+56 CT, RT
1-24" CPRC CL.III EXTENSION
CITY OF LA CROSSE - WATER
CTH B
I 90
IH 90 WB
IH 90 EB
N82°55'52"E
N82°07'40"E
STA 148+50 CT,
18.4'LT
STA 146+50 CT,
28'RT
XCEL ENERGY - ELECTRIC
SIGN
INL
OH
SS
W
N

VCL = 100.00
K = 54.15
VCL = 80.00
K = 123.67
VCL = 80.00
K = 110.91

STA 139+08.09
EL 651.63
-1.45%
VPC STA 139+65.00
VPC EL 650.80
VPI STA 140+15.00
VPI EL 650.08
0.40%
VPT STA 140+65.00
VPT EL 650.28
VPC STA 140+80.00
VPC EL 650.34
VPI STA 141+20.00
VPI EL 650.50
-0.25%
VPT STA 141+60.00
VPT EL 650.41
STA 142+00.00
EL 650.31
-0.00%
STA 143+25.00
EL 650.30
-0.35%
STA 145+00.00
EL 649.69
0.02%
STA 146+50.00
EL 649.72
-0.36%
VPC STA 147+10.00
VPC EL 649.50
VPI STA 147+50.00
VPI EL 649.36
VPT STA 147+90.00
VPT EL 649.50
STA 147+54 CT
1- 15" CPRC CL IV
FINISHED PROFILE
EXISTING PROFILE
0.36%
STA 148+50.00
EL 649.72
0.11%
STA 150+00.00
EL 649.88
0.00%
STA 151+00.00
EL 649.88
-0.07%
STA 152+00.00
EL 649.82
-0.03%
STA 153+68.83
EL 649.76

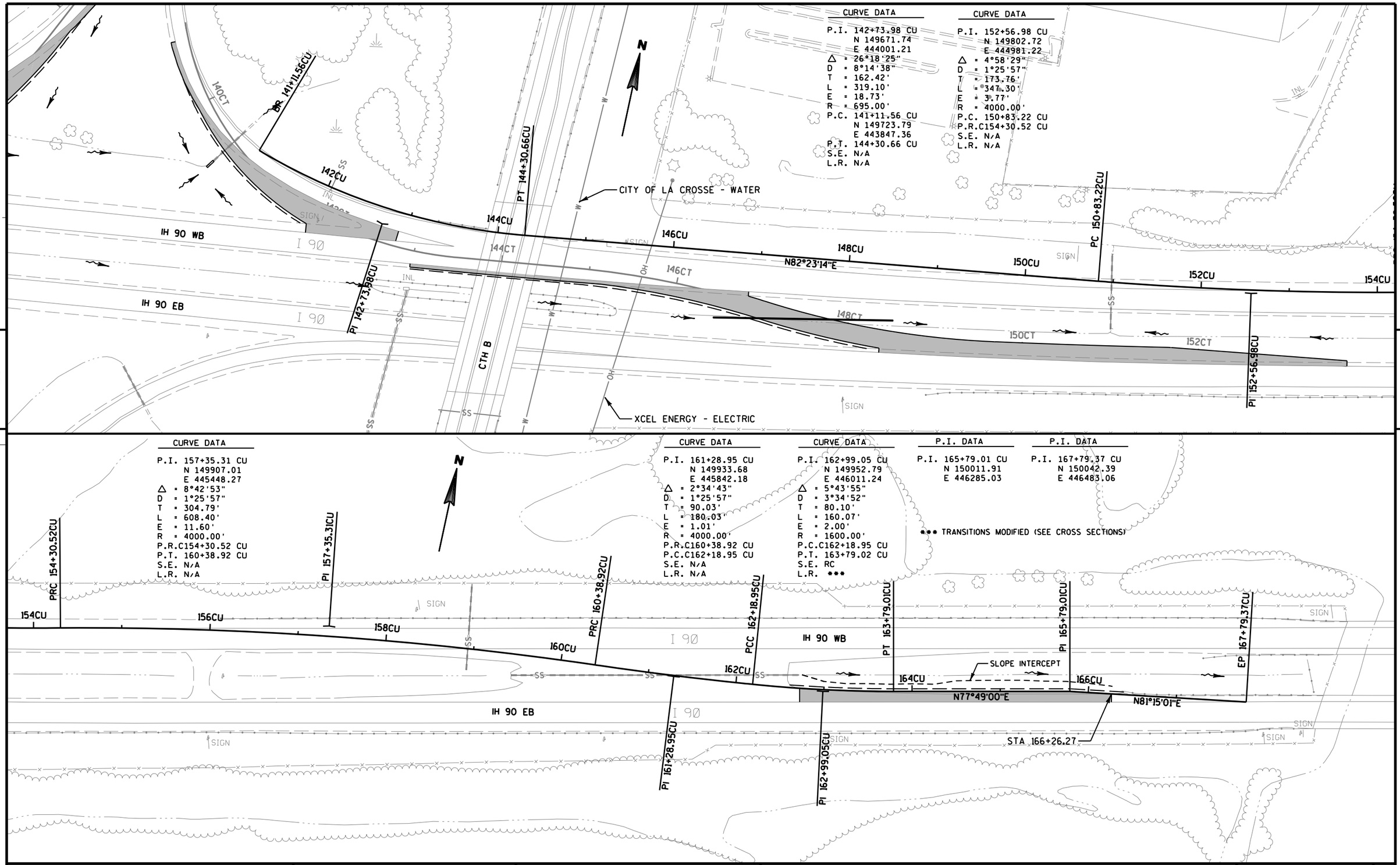
665 660 655 650 645 640 635 630

650.99 651.02 | 650.34 650.41 | 650.09 650.24 | 650.38 650.41 | 649.77 650.43 | 649.91 650.31 | 650.38 650.31 | 650.39 650.30 | 650.15 650.22 | 649.98 650.04 | 649.83 649.87 | 649.73 649.69 | 649.74 649.70 | 649.77 649.71 | 649.71 649.72 | 648.31 649.54 | 647.12 649.43 | 647.48 649.54 | 648.16 649.72 | 648.51 649.77 | 648.87 649.83 | 649.01 649.88 | 648.95 649.88 | 648.86 649.88 | 648.69 649.85 | 648.84 649.82 | 649.24 649.80 | 649.55 649.79 | 649.76 649.77

139 140 141 142 143 144 145 146 147 148 149 150 151 152 153 154

PROJECT NO: 1071-06-80	HWY: IH 90	COUNTY: LA CROSSE	PLAN & PROFILE - CT TEMPORARY	SHEET E

FILE NAME : T:\410627\DGN-DWG\1_0680_PREP_BLUE\aa_0680_050101_pptmpct.dgn PLOT DATE : 1/7/2014 PLOT BY : AYRES-EC PLOT NAME : PLOT SCALE : 1:100
WISDOT/CADDS SHEET 40



5

5

PROJECT NO: 1071-06-80	HWY: IH 90	COUNTY: LA CROSSE	PLAN - CU TEMPORARY	SHEET	E

FILE NAME : T:\410627\DGN-DWG\1_0680_PREP_BLUE\gg_0680_050102_pptmpcu.dgn PLOT DATE : 12/19/2013 PLOT BY : AYRES-EC PLOT NAME : PLOT SCALE : 1:100

WISDOT/CADDS SHEET 44

P.I. DATA
P.I. 120+46.90 DT
N 149312.79
E 441811.95

P.I. DATA
P.I. 127+97.05 DT
N 149414.97
E 442555.11

STA 129+97 DT, LT
REMOVING SMALL PIPE CULVERTS
(ENDWALL ONLY)

BP 120+46.90DT

PI 127+97.05DT

IH 90 WB

IH 90 EB

SLOPE INTERCEPT

122DT

124DT

126DT

128DT

130DT

132DT

N82°10'17"E

N83°19'02"E

STA 131+65 WB - STA 135+31 WB
MGS GUARDRAIL REO'D

S109

P113

CRASH CUSHION
TEMPORARY LEFT
IN PLACE REO'D

CONCRETE BARRIER TEMPORARY
PRECAST LEFT IN PLACE
STA 130+20 EB - STA 133+15 EB

XCEL ENERGY - GAS

STA 131+06 DT - STA 133+10 DT, LT
REMOVING GUARDRAIL

CENTURYLINK

XCEL ENERGY - ELECTRIC

BUILD DT OFF EXISTING EB LANES
STA 120+46.90 DT - STA 133+00.16 DT

EXISTING PROFILE

119	120	121	122	123	124	125	126	127	128	129	130	131	132
660.67	660.44	660.23	660.00	659.69	659.24	659.00	658.70	658.17	657.81	657.41	656.99	656.72	656.45	656.25	655.64	655.34	655.02	654.89	654.71	654.65	654.48	654.08	654.00

670 665 660 655 650 645 640 635

PROJECT NO: 1071-06-80	HWY: IH 90	COUNTY: LA CROSSE	PLAN & PROFILE - DT TEMPORARY	SHEET E

FILE NAME : T:\410627\DGN-DWG\1_0680_PREP_BLUE\gg_0680_050102_pptmpdt.dgn PLOT DATE : 10/31/2013 PLOT BY : AYRES-EC PLOT NAME : PLOT SCALE : 1:100

WISDOT/CADDS SHEET 40

CURVE DATA	CURVE DATA	P.I. DATA
P.I. 134+19.74 DT	P.I. 137+60.58 DT	P.I. 140+58.11 DT
N 149487.43	N 149606.19	N 149894.33
E 443173.57	E 443494.25	E 443632.61
△ = 13°38'21"	△ = 44°01'44"	
D = 5°43'46"	D = 10°25'03"	
T = 119.59'	T = 222.38'	
L = 238.05'	L = 422.65'	
E = 7.13'	E = 43.26'	
R = 1000.00'	R = 550.00'	
P.C. 133+00.15 DT	P.C.C135+38.20 DT	
P.C.C135+38.20 DT	P.T. 139+60.85 DT	
S.E. RC	S.E. 6.0%	
L.R. ***	L.R. ***	

*** TRANSITIONS MODIFIED (SEE CROSS SECTIONS)

N

PT 139+60.85DT

140DT

N25°38'57"E

STA 138+39 DT, RT
REMOVING SMALL PIPE CULVERTS
(ENDWALL ONLY)

STA 138+37 DT, RT
1-24" CPRC CL.III EXTENSION

SLOPE INTERCEPT

STA 138+00 DT,
40.7' RT

STA 137+00 DT,
14.5' LT

138DT

140CT

142CT

144CT

146CT

CITY OF LA CROSSE - WATER

CTH B

STA 131+65 WB - STA 135+31 WB
MGS GUARDRAIL REO'D

PCC 135+38.20DT

PC 133+00.15DT

SLOPE INTERCEPT

STA 134+00 DT,
16.1' LT

136DT

134DT

132DT

IH 90 WB

IH 90 EB

PI 137+60.58DT

STA 136+00 DT,
31.8' RT

SLOPE INTERCEPT

PI 134+19.74DT

CONCRETE BARRIER TEMPORARY
PRECAST LEFT IN PLACE
STA 130+20 EB - STA 133+15 EB

XCEL ENERGY - GAS

XCEL ENERGY - ELECTRIC

CENTURYLINK

XCEL ENERGY - ELECTRIC

STA 131+06 DT - STA 133+10 DT, LT
REMOVING GUARDRAIL

5

5

VCL = 120.00
K = 120.25

VCL = 100.00
K = 29.15

VCL = 100.00
K = 123.13

FINISHED PROFILE

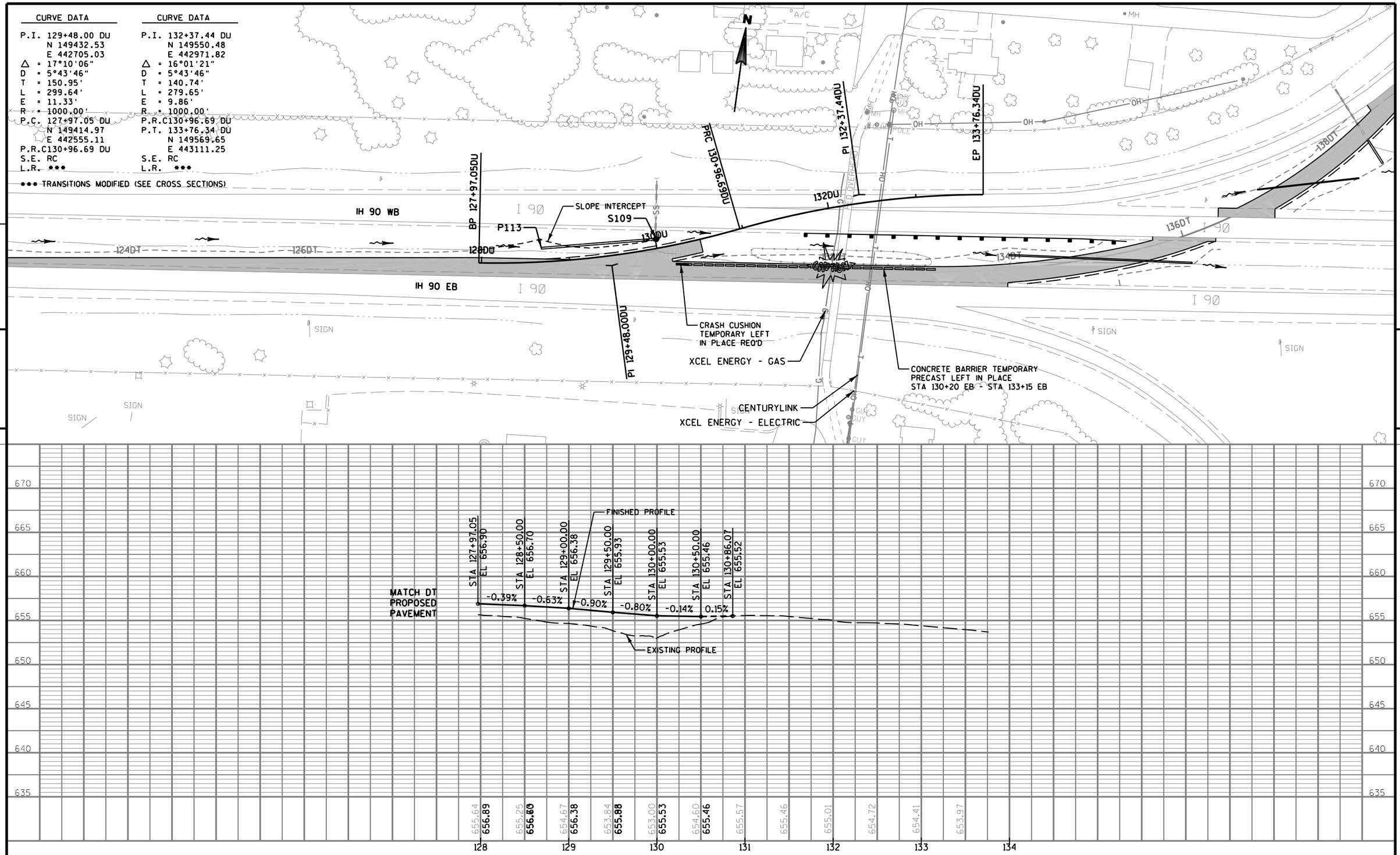
EXISTING PROFILE

-0.57%
-0.75%
0.25%
-0.31%
-2.50%
0.93%
0.06%
0.26%
-0.55%

| | | |

CURVE DATA	CURVE DATA
P.I. 129+48.00 DU	P.I. 132+37.44 DU
N 149432.53	N 149550.48
E 442705.03	E 442971.82
△ = 17°10'06"	△ = 16°01'21"
D = 5°43'46"	D = 5°43'46"
T = 150.95'	T = 140.74'
L = 299.64'	L = 279.65'
E = 11.33'	E = 9.86'
R = 1000.00'	R = 1000.00'
P.C. 127+97.05 DU	P.R.C130+96.69 DU
N 149414.97	P.T. 133+76.34 DU
E 442555.11	N 149569.65
P.R.C130+96.69 DU	E 443111.25
S.E. RC	S.E. RC
L.R. ***	L.R. ***

*** TRANSITIONS MODIFIED (SEE CROSS SECTIONS)



PROJECT NO: 1071-06-80	HWY: IH 90	COUNTY: LA CROSSE	PLAN & PROFILE - DU TEMPORARY	SHEET 118	E

P.I. DATA
P.I. 207+31.08 GT
N 151446.16
E 450252.33

CURVE DATA
P.I. 210+33.47 GT
N 151299.03
E 450516.52
△ = 54°16'18"
D = 16°22'13"
T = 179.38'
L = 331.53'
E = 43.29'
R = 350.00'
P.C. 208+54.09 GT
P.R.C211+85.62 GT
S.E. 6.0%
L.R. ***

P.I. DATA
P.I. 216+12.25 GT
N 151556.65
E 451065.04

P.I. DATA
P.I. 217+26.84 GT
N 151603.55
E 451169.60

P.I. DATA
P.I. 224+48.91 GT
N 151910.51
E 451823.18

*** TRANSITIONS MODIFIED (SEE CROSS SECTIONS)

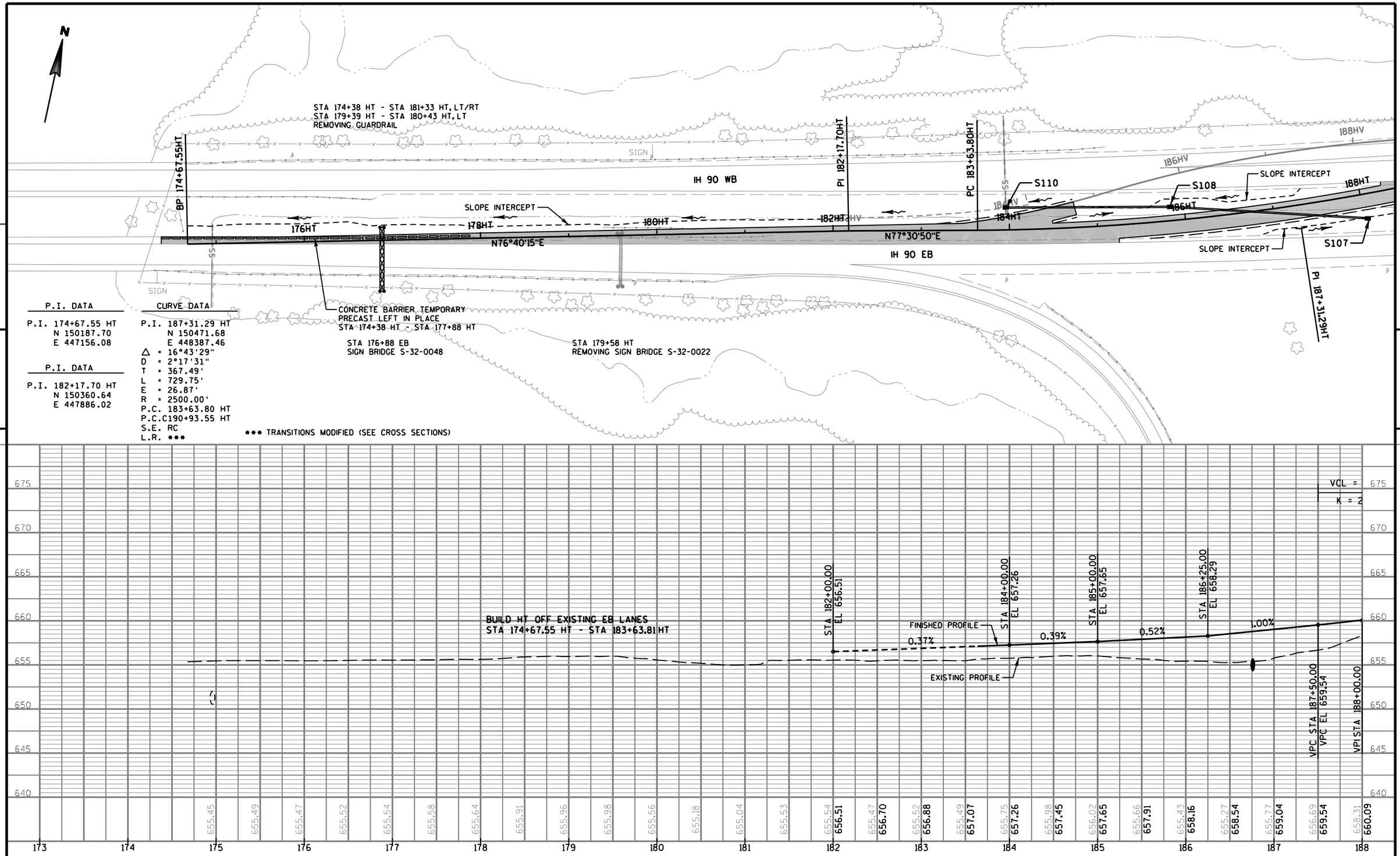
BP 207+31.08GT
S50°53'10"E
208GT
PC 208+54.09GT
SLOPE INTERCEPT
210GT
PT 211+85.62GT
212GT
214GT
N64°50'32"E
IH 90 WB
216GT
PI 216+12.25GT
N65°50'33"E
PI 217+26.84GT
218GT
220GT
222GT
N64°50'32"E
PI 210+33.47GT
IH 90 EB
XCEL ENERGY - ELECTRIC
MILL EXISTING RUMBLE STRIPS AND REPAVE
CITY OF ONALASKA - WATER
XCEL ENERGY - ELECTRIC
MILL EXISTING RUMBLE STRIPS AND REPAVE
XCEL ENERGY - ELECTRIC
BURLINGTON NORTHERN - SANTA FE
SIGN
WALLS
208UW
210UW
212UW
214UW
216UW
218UW
220UW
222UW

VCL = 100.00
K = 53.91
FINISHED PROFILE
EXISTING PROFILE
VPC STA 207+50.00
VPC EL 666.56
STA 207+31.08
EL 666.48
0.40%
VPI STA 208+00.00
VPI EL 666.76
STA 208+00.00
EL 666.99
2.26%
VPT STA 208+50.00
VPT EL 667.89
STA 209+00.00
EL 669.02
2.05%
STA 210+00.00
EL 671.07
2.43%
VPC STA 210+50.00
VPC EL 672.39
STA 210+50.00
EL 672.28
2.21%
VPI STA 211+05.00
VPI EL 673.50
VPT STA 211+55.00
VPT EL 673.98
VCL = 100.00
K = 80.10

PROJECT NO: 1071-06-80	HWY: IH 90	COUNTY: LA CROSSE	PLAN & PROFILE - GT TEMPORARY	SHEET E

FILE NAME : T:\410627\DGN-DWG\1_0680_PREP_BLUE\aa_0680_050106_pptmpgt.dgn PLOT DATE : 12/19/2013 PLOT BY : AYRES-EC PLOT NAME : PLOT SCALE : 1:100

WISDOT/CADDS SHEET 40



PROJECT NO: 1071-06-80	HWY: IH 90	COUNTY: LA CROSSE	PLAN & PROFILE - HT TEMPORARY	SHEET 120 E

CURVE DATA	CURVE DATA	CURVE DATA
P.I. 187+31.29 HT	P.I. 193+89.11 HT	P.I. 201+57.35 HT
N 150471.68	N 150795.26	N 151518.28
E 448387.46	E 448966.19	E 449282.36
△ = 16°43'29"	△ = 37°10'12"	△ = 09°47'53"
D = 2°17'31"	D = 6°31'06"	D = 11°27'33"
T = 367.49'	T = 295.56'	T = 42.86'
L = 729.75'	L = 570.24'	L = 85.51'
E = 26.87'	E = 48.36'	E = 1.83'
R = 2500.00'	R = 879.00'	R = 500.00'
P.C. 183+63.80 HT	P.C.C190+93.55 HT	P.C. 201+14.50 HT
P.C.C190+93.55 HT	P.T. 196+63.79 HT	P.T. 202+00.00 HT
S.E. RC	S.E. 6.0%	N 151554.05
L.R. ***	L.R. ***	E 449305.96
		S.E. NC
		L.R. ***

*** TRANSITIONS MODIFIED (SEE CROSS SECTIONS)

N

MH

PC 201+14.50HT

PI 201+57.35HT

EP 202+00.00HT

202HT

200HT

PT 196+63.79HT

198HT

N23°37'09"E

PCC 190+93.55HT

188HT

190HT

192HT

194HT

196HT

S107

IH 90 EB

IH 90 WB

STA 196+65 HT, RT
REMOVING SMALL PIPE CULVERTS
(ENDWALL ONLY)

SIGN

STA 196+65 HT, RT
1-24" CPRC CL.III EXTENSION

ROSE ST SB

ROSE ST NB

SLOPE INTERCEPT

STA 192+75 HT - STA 197+78 HT
MGS GUARDRAIL REQ'D

PI 193+89.11HT

5

5

100.00

81.65

VPI EL 660.04

VPT STA 188+50.00
VPT EL 660.72

STA 189+00.00
EL 661.40

VPC STA 190+00.00
VPC EL 662.22

VPI STA 190+50.00
VPI EL 662.63

STA 191+00.00
EL 662.00

VPC STA 193+50.00
VPC EL 662.18

VPI STA 194+50.00
VPI EL 662.26

VPT STA 195+40.00
VPT EL 661.15

STA 196+50.00
EL 659.08

VPC STA 197+00.00
VPC EL 657.95

VPI STA 197+50.00
VPI EL 656.82

VPT STA 198+00.00
VPT EL 656.25

STA 199+00.00
EL 654.72

1.35%

0.82%

-0.97%

-0.30%

0.09%

-1.23%

-1.94%

-2.26%

-1.16%

-1.53%

FINISHED PROFILE

EXISTING PROFILE

VCL = 100.00
K = 55.82

VCL = 180.00
K = 136.62

VCL = 100.00
K = 90.64

BUILD HT OFF EXISTING H RAMP
STA 198+78.73 HT - STA 202+00.00 HT

675 670 665 660 655 650 645 640

658.31 660.09 | 660.57 660.72 | 661.42 661.40 | 661.83 661.81 | 662.17 662.22 | 662.41 662.41 | 662.29 662.15 | 661.79 662.00 | 661.79 662.04 | 661.66 662.08 | 661.70 662.13 | 661.59 662.17 | 661.45 662.15 | 661.25 661.96 | 660.49 661.58 | 659.54 661.02 | 658.83 660.05 | 657.89 659.08 | 657.36 657.95 | 656.81 656.96 | 656.34 656.25 | 655.55 655.48 | 654.90 654.72 | 654.18 | 653.40 | 652.50 | 651.73 | 651.07 | 650.11

188 189 190 191 192 193 194 195 196 197 198 199 200 201 202 203

PROJECT NO: 1071-06-80	HWY: IH 90	COUNTY: LA CROSSE	PLAN & PROFILE - HT TEMPORARY	SHEET	E

FILE NAME : T:\410627\DGN-DWG\1_0680_PREP_BLUE\aa_0680_050107_pptmpht.dgn PLOT DATE : 10/31/2013 PLOT BY : AYRES-EC PLOT NAME : PLOT SCALE : 1:100

WISDOT/CADDS SHEET 40

CURVE DATA	CURVE DATA	P.I. DATA
P.I. 199+81.16 HU	P.I. 207+66.55 HU	P.I. 209+63.95 HU
N 150834.07	N 151138.48	N 151479.57
E 449582.10	E 450306.34	E 449969.54
△ = 3°43'08"	△ = 112°23'14"	
D = 00°29'46"	D = 20°50'05"	
T = 374.96'	T = 410.69'	
L = 749.66'	L = 539.42'	
E = 6.09'	E = 219.26'	
R = 11550.17'	R = 275.00'	
P.C. 196+06.20 HU	P.C.C203+55.86 HU	
N 150707.81	P.T. 208+95.28 HU	
E 449229.04	S.E. 6.0%	
P.C.C203+55.86 HU	L.R. ***	
S.E. NC		
L.R. ***		

*** TRANSITIONS MODIFIED (SEE CROSS SECTIONS)

ROSE ST NB

BP 196+06.20HU

STA 195+21EB - STA 197+89 EB
MGS GUARDRAIL REQ'D

IH 90 WB

IH 90 EB

198HU

SLOPE INTERCEPT

200HU

202HU

PI 199+81.16HU

PCC 203+55.86HU

204HU

STA 195+24 HU - STA 197+33 HU, LT
REMOVING GUARDRAIL

CITY OF LA CROSSE - SANITARY

STA 207+50 HU, LT
REMOVING SMALL PIPE CULVERTS

EP 209+63.95HU

N44°38'15"W

PT 208+95.28HU

S106

208HU

P101

P109

SLOPE INTERCEPT

206HU

SLOPE INTERCEPT

P115

S105

206UW

208GT

BUILD HU OFF EXISTING EB LANES
STA 196+06.20 HU - STA 203+55.86 HU

FINISHED PROFILE

EXISTING PROFILE

STA 203+55.86HU
EL 668.40

VPI STA 203+50.00
VPI EL 668.77

VPT STA 204+00.00
VPT EL 668.73

VCL = 90.00
K = 142.19

VPC STA 204+05.00
VPC EL 668.72

VPI STA 204+50.00
VPI EL 668.69

VPC STA 204+95.00
VPC EL 668.96

VPI STA 205+00.00
VPI EL 669.13

VPT STA 205+30.00
VPT EL 668.93

VPC STA 205+60.00
VPC EL 668.71

VPT STA 205+60.00
VPT EL 668.71

VPC STA 206+50.00
VPC EL 667.45

VPI STA 207+00.00
VPI EL 666.74

VPT STA 207+50.00
VPT EL 665.27

VPC STA 207+50.00
VPC EL 665.27

VPI STA 208+00.00
VPI EL 663.79

VPT STA 208+50.00
VPT EL 660.21

STA 209+63.95
EL 652.06

0.74%
-0.08%
0.56%
-1.40%
-2.95%
7.16%

VCL = 100.00
K = 120.93

VCL = 60.00
K = 30.78

VCL = 100.00
K = 64.41

VCL = 100.00
K = 23.79

680 675 670 665 660 655 650 645

666.77 666.87 667.04 667.00 667.04 667.00 667.13 667.13 666.93 666.82 666.97 666.85 666.77 666.74 668.40 666.77 668.67 666.46 668.73 664.90 668.76 668.45 668.96 668.90 668.83 663.38 668.15 657.62 667.45 656.64 666.55 656.28 665.27 656.23 663.27 657.89 660.21 656.53 656.63 652.79 653.06

196 197 198 199 200 201 202 203 204 205 206 207 208 209 210 211

PROJECT NO: 1071-06-80	HWY: IH 90	COUNTY: LA CROSSE	PLAN & PROFILE - HU TEMPORARY	SHEET E

FILE NAME : T:\410627\DGN-DWG\1_0680_PREP_BLUE\gg_0680_050109_pptmphu.dgn PLOT DATE : 12/19/2013 PLOT BY : AYRES-EC PLOT NAME : PLOT SCALE : 1:100

CURVE DATA	CURVE DATA
P.I. 183+65.30 HV	P.I. 186+94.25 HV
N 150391.79	N 150552.17
E 448030.30	E 448319.17
△ = 16°47'31"	△ = 13°56'51"
D = 5°45'00"	D = 3°49'45"
T = 147.60'	T = 183.48'
L = 293.07'	L = 365.14'
E = 10.83'	E = 11.18'
R = 1000.00'	R = 1500.00'
P.C. 182+17.70 HV	P.R.C185+10.77 HV
N 150360.64	P.R.C188+75.92 HV
E 447886.02	N 150599.75
P.R.C185+12.42 HV	E 448497.13
S.E. RC	S.E. RC
L.R. ***	L.R. ***

*** TRANSITIONS MODIFIED (SEE CROSS SECTIONS)

STA 183+98 HV, LT
REMOVING SMALL PIPE CULVERTS

N

BP 182+17.70HV

PRC 185+10.77HV

PI 186+94.25HV

PRC 188+75.92HV

PI 192+37.71HV

PI 183+65.30HV

SLOPE INTERCEPT

S110

S108

S107

182HV

184HV

186HV

188HV

190HV

192HV

194HV

182HT

184HT

186HT

188HT

190HT

192HT

194HT

SS

IH 90 WB

IH 90 EB

ROSE ST SB

ROSE ST NB

SIGN

5

5

FINISHED PROFILE

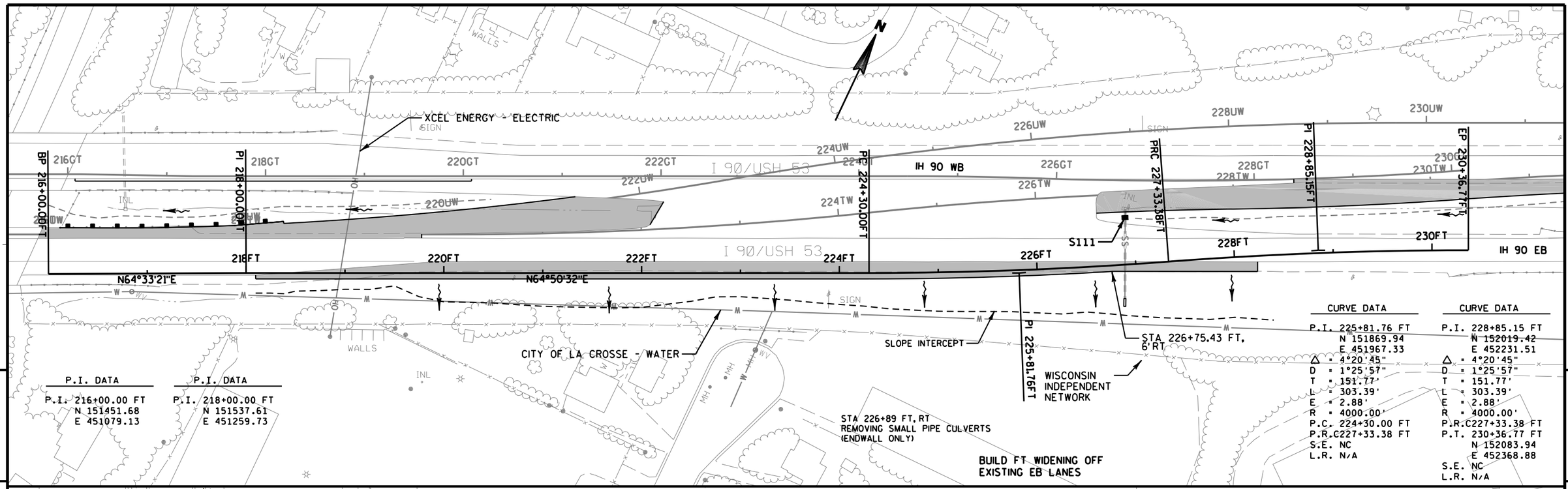
EXISTING PROFILE

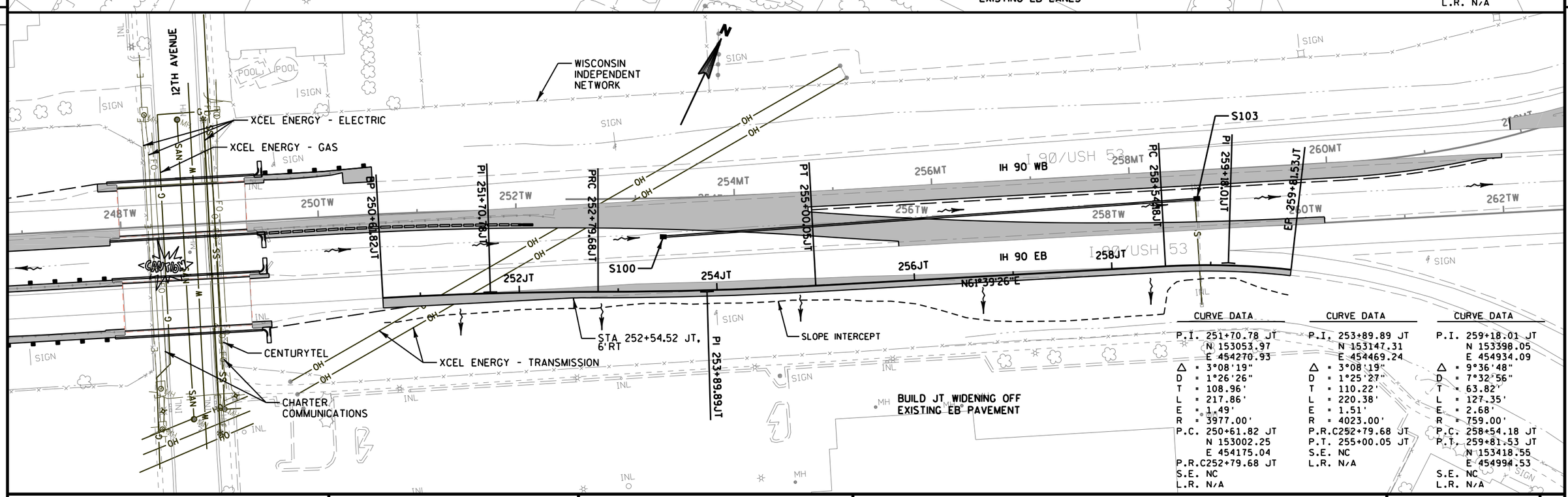
MATCH HT PROPOSED PAVEMENT

STA 182+17.70	STA 183+00.00	STA 183+50.00	STA 184+00.00	STA 184+50.00	STA 185+00.00	STA 185+60.85
EL 656.57	EL 656.78	EL 656.90	EL 656.95	EL 657.13	EL 657.57	EL 658.24

0.26% 0.24% 0.09% 0.37% 0.86% 1.11%

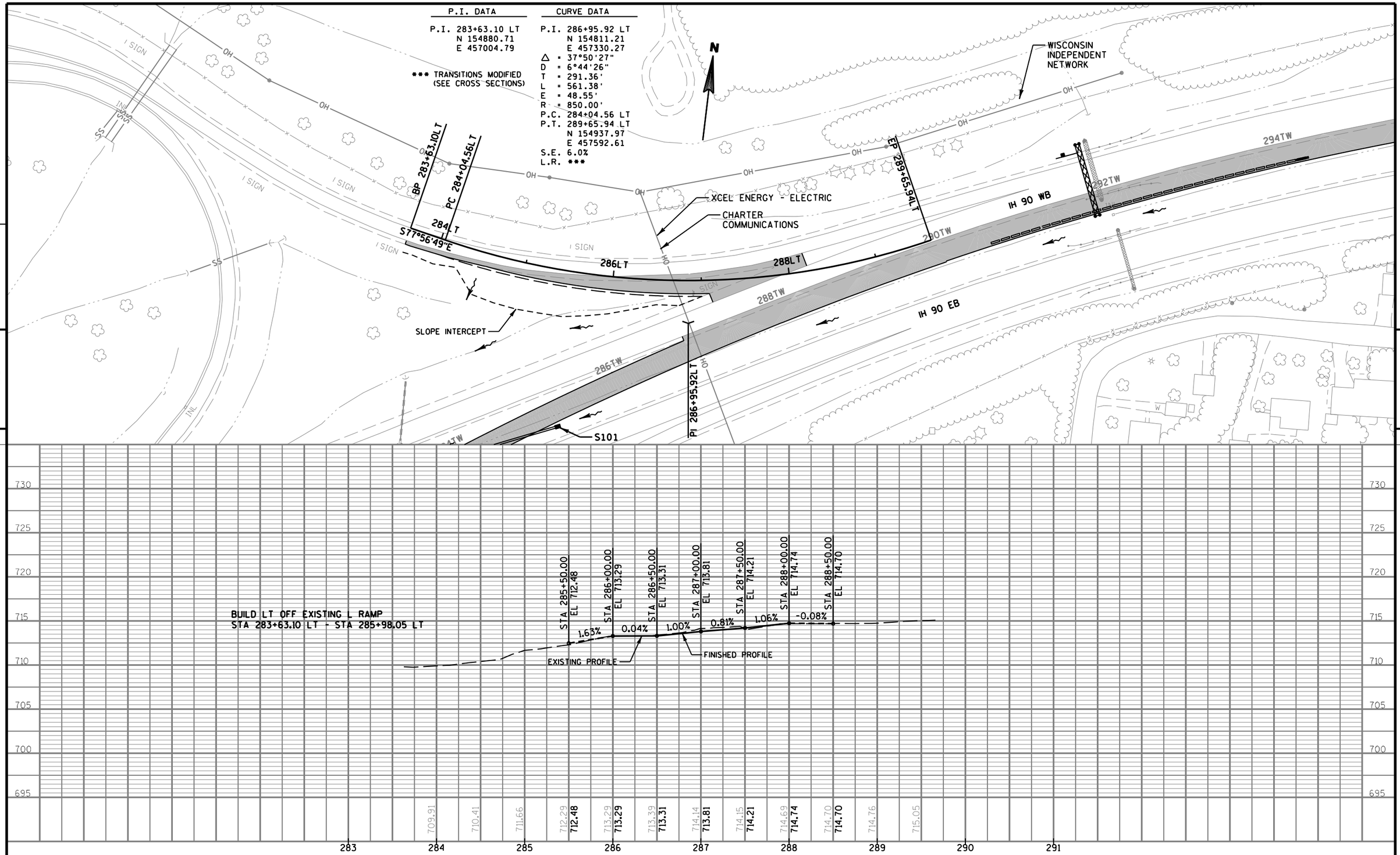
| | | |





PROJECT NO: 1071-06-80	HWY: IH 90	COUNTY: LA CROSSE	PLAN - FT TEMPORARY & JT TEMPORARY	SHEET 124	E

P.I. DATA	CURVE DATA
P.I. 283+63.10 LT	P.I. 286+95.92 LT
N 154880.71	N 154811.21
E 457004.79	E 457330.27
	△ = 37°50'27"
*** TRANSITIONS MODIFIED (SEE CROSS SECTIONS)	D = 6°44'26"
	T = 291.36'
	L = 561.38'
	E = 48.55'
	R = 850.00'
	P.C. 284+04.56 LT
	P.T. 289+65.94 LT
	N 154937.97
	E 457592.61
	S.E. 6.0%
	L.R. ***



PROJECT NO: 1071-06-80	HWY: IH 90	COUNTY: LA CROSSE	PLAN & PROFILE - LT TEMPORARY	SHEET	E

FILE NAME : T:\410627\DGN-DWG\1_0680_PREP_BLUE\gg_0680_050111_pptmplt.dgn PLOT DATE : 10/31/2013 PLOT BY : AYRES-EC PLOT NAME : PLOT SCALE : 1:100

P.T. DATA	CURVE DATA	P.T. DATA
P.T. 254+57.13 MT N 153273.65 E 454503.35	P.I. 263+89.49 MT N 153716.28 E 455323.94 △ = 46°53'46" D = 6°37'26" T = 375.18' L = 708.00' E = 77.86' R = 865.00' P.C. 260+14.31 MT P.T. 267+22.30 MT S.E. 6.0% L.R. ***	P.T. 269+00.00 MT N 154250.91 E 455464.81

*** TRANSITIONS MODIFIED (SEE CROSS SECTIONS)

XCEL ENERGY - TRANSMISSION

WISCONSIN INDEPENDENT NETWORK

CENTURYLINK

SLOPE INTERCEPT

SLOPE INTERCEPT

S100

S103

PI 253+43.2MT

PT 254+57.13MT

PC 260+14.31MT

EP 269+00.00MT

PT 267+22.30MT

254MT

256MT

258MT

260MT

262MT

264MT

266MT

268MT

269MT

N61°39'26"E

N14°45'40"E

254JT

256JT

258JT

256TW

258TW

260TW

262TW

264TW

I 90/USH 53

IH 90 WB

IH 90 EB

SIGN

INL

MH

OH

5

5

BUILD MT OFF EXISTING WB LANES
STA 254+73.74 MT - STA 262+18.75 MT

BUILD MT OFF EXISTING M RAMP
STA 264+02+52 MT - STA 267+22.30 MT

EXISTING PROFILE

FINISHED PROFILE

	STA	EL
VPC	261+50.00	709.33
VPI	262+00.00	709.35
VPT	262+50.00	708.46
	263+00.00	707.58
VPC	263+50.00	707.48
VPI	264+50.00	706.73
VPT	265+50.00	706.19
VPC	266+00.00	705.92

VCL = 100.00
K = 54.65

VCL = 200.00
K = 935.15

0.04%
1.79%
-1.75%
-0.20%
-0.75%
-0.54%

| | | |

P.I. DATA	CURVE DATA	CURVE DATA	CURVE DATA	CURVE DATA	CURVE DATA
P.I. 216+00.00 TW	P.I. 221+21.33 TW	P.I. 226+14.42 TW	P.I. 229+15.01 TW	P.I. 231+59.06 TW	P.I. 233+70.27 TW
N 151487.78	N 151751.92	N 151955.57	N 152087.07	N 152206.46	N 152297.94
E 451061.91	E 451624.30	E 451960.97	E 452231.56	E 452444.48	E 452634.95
	△ = 6°00'43"	△ = 5°15'04"	△ = 3°21'46"	△ = 3°37'42"	△ = 0°25'23"
	D = 1°25'57"	D = 1°25'57"	D = 1°25'57"	D = 1°25'57"	D = 0°15'00"
	T = 210.05'	T = 183.42'	T = 117.42'	T = 126.69'	T = 84.60'
	L = 419.72'	L = 366.59'	L = 234.77'	L = 253.30'	L = 169.20'
	E = 5.51'	E = 4.20'	E = 1.72'	E = 2.01'	E = 0.16'
	R = 4000.00'	R = 4000.00'	R = 4000.00'	R = 4000.00'	R = 22912.74'
	P.C. 220+11.28 TW	P.R.C224+31.00 TW	P.R.C227+97.59 TW	P.R.C230+32.36 TW	P.R.C232+85.67 TW
	P.R.C224+31.00 TW	P.R.C227+97.59 TW	P.R.C230+32.36 TW	P.R.C232+85.67 TW	P.R.C234+54.87 TW
	S.E. RC	S.E. RC	S.E. NC	S.E. NC	S.E. NC
	L.R. ***	L.R. ***	L.R. ***	L.R. ***	L.R. ***

*** TRANSITIONS MODIFIED (SEE CROSS SECTIONS)

N64°50'32"E

PC 220+11.28TW
PI 222+21.33TW
PRC 224+31.00TW
PI 226+14.42TW
PRC 227+97.59TW
PRC 230+32.36TW
PI 231+59.06TW
PRC 232+85.67TW
PI 233+70.27TW
PI 229+15.01TW

220UW 220GT 220TW 220FT
222UW 222GT 222TW 222FT
224UW 224GT 224TW 224FT
226GT 226TW 226FT
228UW 228GT 228TW 228FT
230UW 230GT 230TW 230FT
232UW 232TW
234UW 234TW

I 90/USH 53
IH 90 WB
IH 90 EB

S111
SLOPE INTERCEPT
GREAT RIVER STATE TRAIL

XCEL ENERGY - ELECTRIC
CITY OF LA CROSSE - WATER
STA 226+90 TW
REMOVING INLETS, LT
REMOVING SMALL PIPE CULVERTS, RT
WISCONSIN INDEPENDENT NETWORK
CITY OF ONALASKA - SEWER
CENTURYLINK
XCEL ENERGY - ELECTRIC

MATCH EXISTING CROSSOVER PAVEMENT
EXISTING PROFILE
BUILD TW OFF EXISTING CROSSOVER/WB LANES
STA 226+50.00 TW - STA 249+89.53 TW

705 700 695 690 685 680 675 670

681.94 682.35 682.77 683.36 683.87 684.40 684.89 685.37 685.75 686.19 687.13 688.04 688.89 689.75 689.67 689.71 691.22 692.46 693.50 694.66 696.02 697.14 698.13 698.99 699.83 700.69 701.44 677.93 683.89

219 220 221 222 223 224 225 226 227 228 229 230 231 232 233 234

PROJECT NO: 1071-06-80	HWY: IH 90	COUNTY: LA CROSSE	PLAN & PROFILE - TW TEMPORARY	SHEET	E

FILE NAME : T:\410627\DGN-DWG\1_0680_PREP_BLUE\aa_0680_050114_pptmptw.dgn PLOT DATE : 12/19/2013 PLOT BY : AYRES-EC PLOT NAME : PLOT SCALE : 1:100

WISDOT/CADDS SHEET 40

CURVE DATA	CURVE DATA	CURVE DATA	CURVE DATA
P.I. 233+70.27 TW	P.I. 235+14.16 TW	P.I. 236+57.80 TW	P.I. 240+51.80 TW
N 152297.94	N 152361.19	N 152420.48	N 152598.10
E 452634.95	E 452764.19	E 452895.03	E 453246.75
△ = 0°25'23"	△ = 1°41'54"	△ = 2°24'59"	△ = 1°32'54"
D = 0°15'00"	D = 1°25'57"	D = 1°25'57"	D = 0°15'00"
T = 84.60'	T = 59.29'	T = 84.36'	T = 309.67'
L = 169.20'	L = 118.57'	L = 168.70'	L = 619.29'
E = 0.16'	E = 0.44'	E = 0.89'	E = 2.09'
R = 22912.74'	R = 4000.00'	R = 4000.00'	R = 22917.74'
P.R.C232+85.67 TW	P.R.C234+54.87 TW	P.R.C235+73.44 TW	P.C.C237+42.13 TW
P.R.C234+54.87 TW	P.R.C235+73.44 TW	P.C.C237+42.13 TW	P.T. 243+61.43 TW
S.E. NC	S.E. NC	S.E. NC	S.E. NC
L.R. ***	L.R. ***	L.R. ***	L.R. ***

*** TRANSITIONS MODIFIED (SEE CROSS SECTIONS)

CONCRETE BARRIER TEMPORARY PRECAST LEFT IN PLACE
STA 234+53 TW - STA 237+53 TW

PRC 234+54.87TW
PI 235+14.16TW
PRC 235+73.44TW
PCC 237+42.13TW
PT 243+61.43TW

234TW 236TW 238TW 240TW 242TW 244TW 246TW 248TW

IH 90 WB
I 90/USH 53
I 90/USH 53 IH 90 EB
N61°39'26"E

WISCONSIN INDEPENDENT NETWORK

12TH AVENUE

XCEL ENERGY - GAS
XCEL ENERGY - ELECTRIC

CAUTION

SLOPE INTERCEPT

CRASH CUSHION TEMPORARY LEFT IN PLACE REQ'D

PI 233+70.27TW
PI 236+57.80TW
PI 240+51.80TW

XCEL ENERGY - ELECTRIC
CITY OF ONALASKA - SEWER
CENTURYLINK

STA 234+53 TW - STA 236+58 TW, RT
REMOVING GUARDRAIL

STA 246+25 EB - STA 247+92 EB, LT
REMOVING GUARDRAIL

STA 245+49 EB - STA 247+91 EB, RT
REMOVE AND REINSTALL GUARDRAIL

STA 245+25 EB - STA 247+91 EB, LT
MGS GUARDRAIL

CHARTER COMMUNICATIONS
CENTURYLINK

WISCONSIN INDEPENDENT NETWORK

EXISTING PROFILE
FINISHED PROFILE

BUILD TW OFF EXISTING CROSSOVER/WB LANES
STA 226+50.00 TW - STA 249+89.53 TW

725 720 715 710 705 700 695 690

683.89 704.02 705.02 705.88 706.82 707.78 708.64 709.46 710.19 710.90 711.70 712.33 712.88 713.37 713.97 714.44 714.95 715.24 715.41 715.83 715.86 715.87 716.11 716.19 716.29 716.26 715.94 715.74 713.69 698.04 698.93

234 235 236 237 238 239 240 241 242 243 244 245 246 247 248 249

PROJECT NO: 1071-06-80	HWY: IH 90	COUNTY: LA CROSSE	PLAN & PROFILE - TW TEMPORARY	SHEET E

FILE NAME : T:\410627\DGN-DWG\1_0680_PREP_BLUE\gg_0680_050114_pptmptw.dgn PLOT DATE : 10/31/2013 PLOT BY : AYRES-EC PLOT NAME : PLOT SCALE : 1:100

STA 249+16 WB - STA 250+35 WB
MGS GUARDRAIL REO'D

STA 249+34 TW - STA 252+40 TW, RT
STA 249+16 WB - STA 250+05 WB, LT
REMOVING GUARDRAIL

STA 249+37 TW, LT
REMOVING CONCRETE SURFACE DRAINS
REMOVING INLETS
REMOVING SMALL PIPE CULVERTS

CURVE DATA

P.I. 252+71.71 TW
N 153177.27
E 454320.46
△ = 7°08'16"
D = 1°25'27"
T = 249.48'
L = 498.32'
E = 7.77'
R = 4000.00'
P.C. 250+22.23 TW
P.R.C255+20.55 TW
S.E. RC
L.R. ***

CURVE DATA

P.I. 257+70.03 TW
N 153357.74
E 454785.64
△ = 7°08'16"
D = 1°25'27"
T = 249.48'
L = 498.32'
E = 7.77'
R = 4000.00'
P.R.C255+20.55 TW
P.T. 260+18.86 TW
S.E. RC
L.R. ***

STA 258+90 TW
STA 247+37 TW
STA 247+39 TW (EB LANES)
REMOVING INLETS

STA 247+37 TW, LT
STA 247+37 TW (EB LANES)
REMOVING SURFACE DRAINS

XCEL ENERGY - ELECTRIC

*** TRANSITIONS MODIFIED (SEE CROSS SECTIONS)

WISCONSIN INDEPENDENT NETWORK

PC 250+22.23TW

PI 252+71.71TW

PRC 255+20.55TW

PT 260+18.86TW

CONCRETE BARRIER TEMPORARY PRECAST LEFT IN PLACE
STA 249+17 TW - STA 252+17 TW

CRASH CUSHION TEMPORARY LEFT IN PLACE REO'D

SLOPE INTERCEPT

S100

S103

IH 90 WB

IH 90 EB

I-90/USH 53

250TW 252TW 254TW 256TW 258TW 260TW 262TW 264TW

252JT 254JT 256JT 258JT

250MT 252MT 254MT 256MT 258MT 260MT 262MT 264MT

CHARTER COMMUNICATIONS

CENTURYLINK

XCEL ENERGY - TRANSMISSION

12TH AVE

STA 249+39 TW, EB LANES
REMOVING CONCRETE SURFACE DRAINS
REMOVING INLETS
REMOVING SMALL PIPE CULVERTS

FINISHED PROFILE

EXISTING PROFILE

MATCH EXISTING EB PAVEMENT

STA	EL	grade
STA 249+50.00	EL 714.87	
		-0.76%
STA 250+00.00	EL 714.49	
		-0.52%
STA 250+50.00	EL 714.23	
		-0.49%
STA 251+00.00	EL 713.98	
		-0.35%
STA 251+50.00	EL 713.81	
		-0.52%
STA 252+00.00	EL 713.55	
		-0.60%
STA 252+50.00	EL 713.25	
		-0.55%
STA 253+00.00	EL 712.98	
		-0.91%
STA 253+50.00	EL 712.52	
		-0.22%
STA 254+00.00	EL 712.41	
		-0.70%
STA 254+50.00	EL 712.06	
		-1.09%
STA 255+50.00	EL 710.97	
		-0.70%
STA 256+00.00	EL 710.62	
		-0.20%
STA 256+50.00	EL 710.52	
		-0.57%
STA 257+00.00	EL 710.24	
		-0.17%
STA 257+50.00	EL 710.15	
		-0.22%
STA 258+00.00	EL 710.04	
		-0.42%
STA 258+50.00	EL 709.83	
		-0.33%
STA 259+00.00	EL 709.66	
		-0.29%
STA 259+50.00	EL 709.52	
		-0.34%
STA 260+00.00	EL 709.35	

| | | |

WISCONSIN INDEPENDENT NETWORK

CENTURYLINK

266MT

264MT

CURVE DATA

P.I. 281+43.69 TW
N 154484.93
E 456875.33
△ = 06°27'49"
D = 1°25'49"
T = 226.21'
L = 451.93'
E = 6.38'
R = 4006.00'
P.C. 279+17.49 TW
P.R.C283+69.42 TW
S.E. RC
L.R. ***

*** TRANSITIONS MODIFIED (SEE CROSS SECTIONS)

N

INL

IH 90 WB

IH 90 EB

N61°39'26"E

264TW

266TW

268TW

270TW

272TW

274TW

276TW

278TW

PC 279+17.49TW

SLOPE INTERCEPT

USH 53/STH 157

STH 157

SIGN

XCEL ELECTRIC - ELECTRIC

EXISTING PROFILE

720
715
710
705
700
695
690
685

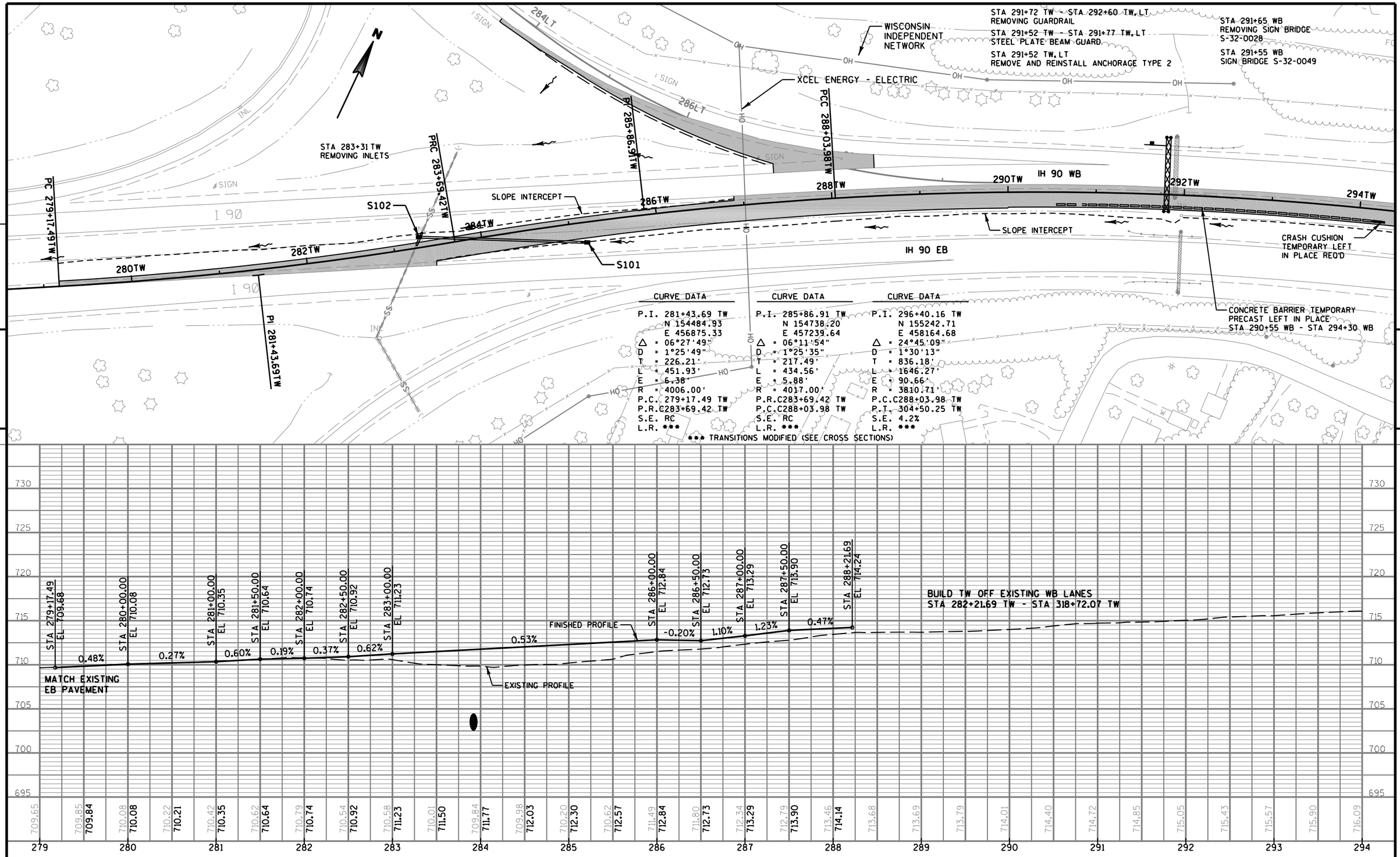
707.36 707.08 706.65 706.37 706.08 705.90 705.82 705.81 705.86 705.90 705.77 705.68 705.74 705.82 705.95 706.12 706.24 706.46 706.81 707.14 707.46 707.52 707.58 707.77 708.16 708.43 708.75 709.06 709.03 709.35 709.65

264 265 266 267 268 269 270 271 272 273 274 275 276 277 278 279

PROJECT NO: 1071-06-80	HWY: IH 90	COUNTY: LA CROSSE	PLAN & PROFILE - TW TEMPORARY	SHEET 130	E

FILE NAME : T:\410627\DGN-DWG\1_0680_PREP_BLUE\aa_0680_050116_pptmptw.dgn PLOT DATE : 10/31/2013 PLOT BY : AYRES-EC PLOT NAME : PLOT SCALE : 1:100

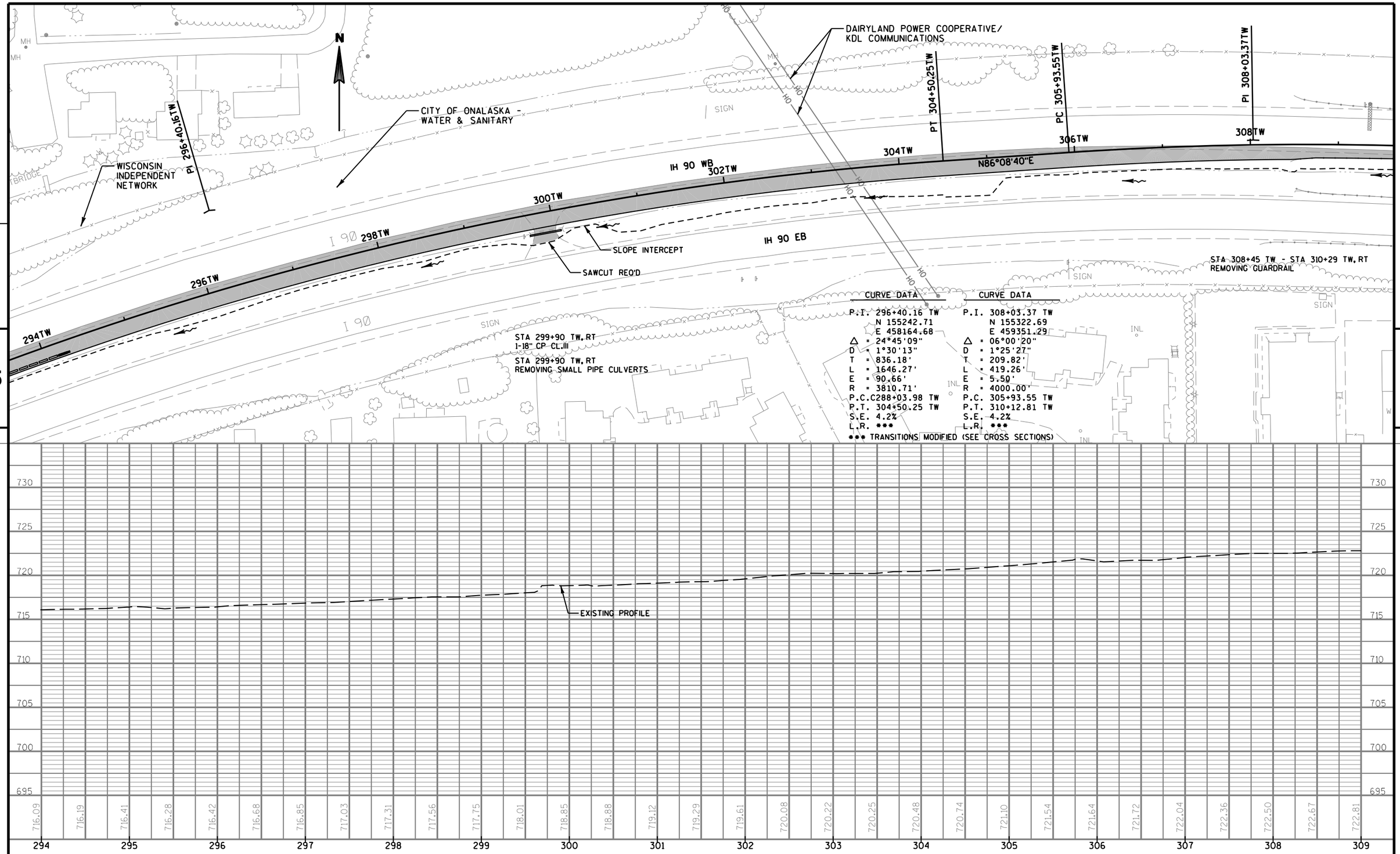
WISDOT/CADDS SHEET 40



PROJECT NO: 1071-06-80	HWY: IH 90	COUNTY: LA CROSSE	PLAN & PROFILE - TW TEMPORARY	SHEET 131 E

FILE NAME : T:\410627\DGN-DWG\1_0680_PREP_BLUE\aa_0680_050117_pptmptw.dgn PLOT DATE : 10/31/2013 PLOT BY : AYRES-EC PLOT NAME : PLOT SCALE : 1:100

WISDOT/CADDS SHEET 40



PROJECT NO: 1071-06-80	HWY: IH 90	COUNTY: LA CROSSE	PLAN & PROFILE - TW TEMPORARY	SHEET 132	E

FILE NAME : T:\410627\DGN-DWG\1_0680_PREP_BLUE\gg_0680_050118_pptmptw.dgn PLOT DATE : 10/31/2013 PLOT BY : AYRES-EC PLOT NAME : PLOT SCALE : 1:100

WISDOT/CADDS SHEET 40

STA 308+45 TW - STA 310+29 TW, RT
STA 311+87 TW - STA 313+69 TW, RT
REMOVING GUARDRAIL

N

CENTURYLINK

XCEL ENERGY - ELECTRIC

WISCONSIN INDEPENDENT NETWORK

PT 310+12.81TW

PI 314+64.82TW

EP 318+72.07TW

310TW 312TW 314TW 316TW 318TW 318TW

IH 90 WB

S87°51'01"E

S88°34'40"E

STA 311+87 TW - STA 314+77 TW
MGS GUARDRAIL REQ'D

SLOPE INTERCEPT

IH 90 EB

I 90

I 90

THEATER RD

SIGN

SIGN

SIGN

SIGN

MH

MH

W

W

W

W

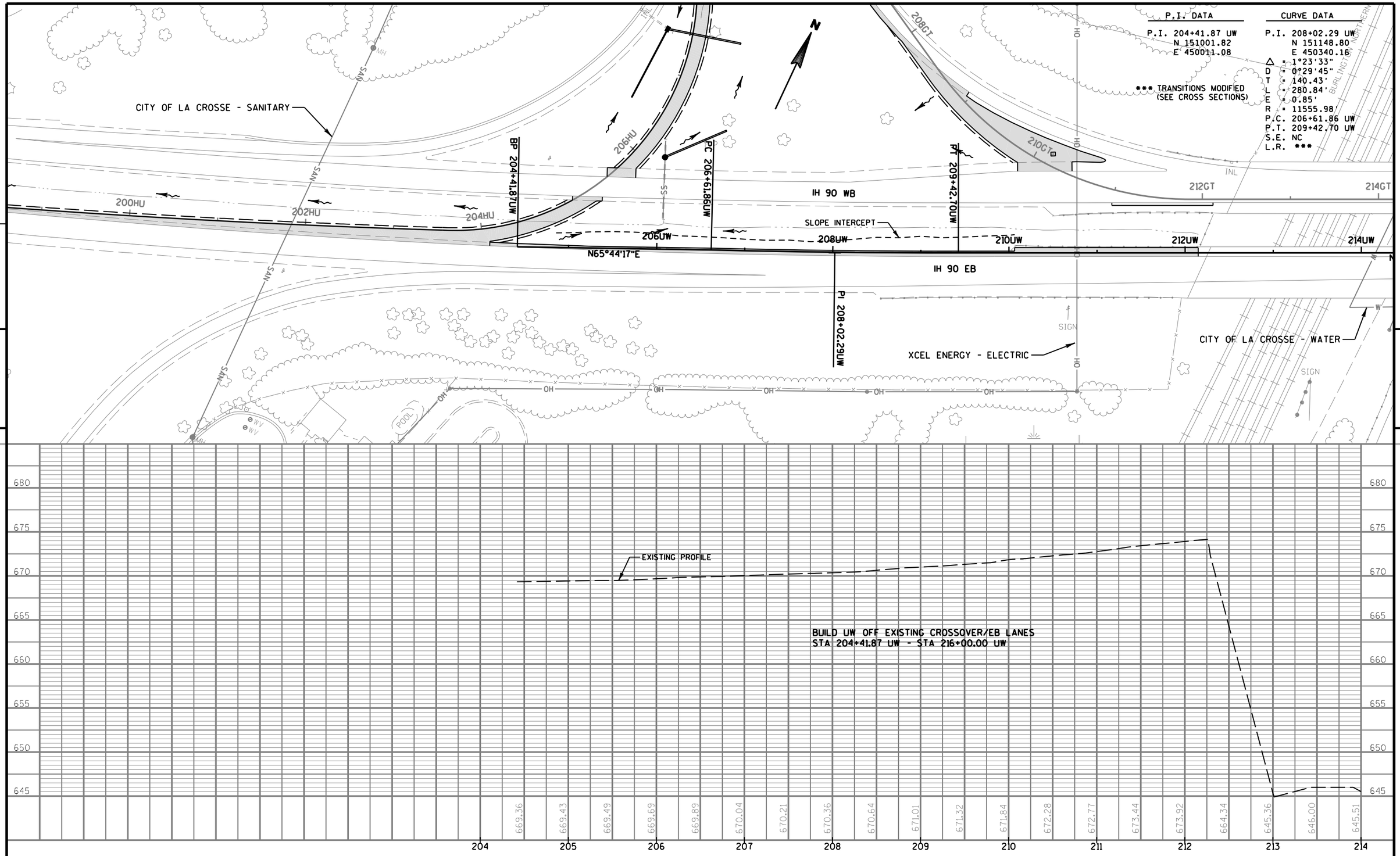
W

E

INL

INL

INL



PROJECT NO: 1071-06-80	HWY: IH 90	COUNTY: LA CROSSE	PLAN & PROFILE - UW TEMPORARY	SHEET 134	E

FILE NAME : T:\410627\DGN-DWG\1_0680_PREP_BLUE\qq_0680_050121_pptmpuw.dgn PLOT DATE : 12/20/2013 PLOT BY : AYRES-EC PLOT NAME : PLOT SCALE : 1:100

WISDOT/CADDS SHEET 40

CURVE DATA	CURVE DATA
P.I. 219+64.38 UW	P.I. 226+29.93 UW
N 151642.83	N 152024.61
E 451392.03	E 451939.10
△ = 9°45'08"	△ = 9°45'08"
D = 1°30'00"	D = 1°25'57"
T = 325.88'	T = 341.24'
L = 650.19'	L = 680.83'
E = 13.88'	E = 14.53'
R = 3820.00'	R = 4000.00'
P.C. 216+38.50 UW	P.R.C 222+88.69 UW
P.R.C 222+88.69 UW	P.T. 229+69.51 UW
S.E. NC	N 152169.68
L.R. ***	E 452247.97
	S.E. NC
	L.R. ***

*** TRANSITIONS MODIFIED (SEE CROSS SECTIONS)

STA 222+00 UW, RT
REMOVE EXISTING ASPHALTIC FLUME
(INCIDENTAL TO COMMON EXCAVATION)

PC 216+38.50 UW

PRC 222+88.69 UW

PI 226+29.93 UW

PI 219+64.38 UW

214UW 216UW 218UW 220UW 222UW 224UW 226UW 228UW

214GT 216GT 218GT 220GT 222GT 224GT 226GT 228GT

224TW 226TW 228TW

218FT 220FT 222FT 224FT 226FT 228FT

IH 90 WB

IH 90 EB

I 90/USH 53

N64°50'32"E

SLOPE INTERCEPT

SAWCUT REQ'D

S111

XCEL ENERGY - ELECTRIC

XCEL ENERGY - ELECTRIC

STA 216+11 EB - STA 218+38 EB
MGS GUARDRAIL REQ'D

STA 216+11 UW - STA 217+44 UW, LT
REMOVING GUARDRAIL

CITY OF LA CROSSE - WATER

WISCONSIN INDEPENDENT NETWORK

BURLINGTON NORTHERN

WALLS

SIGN

INL

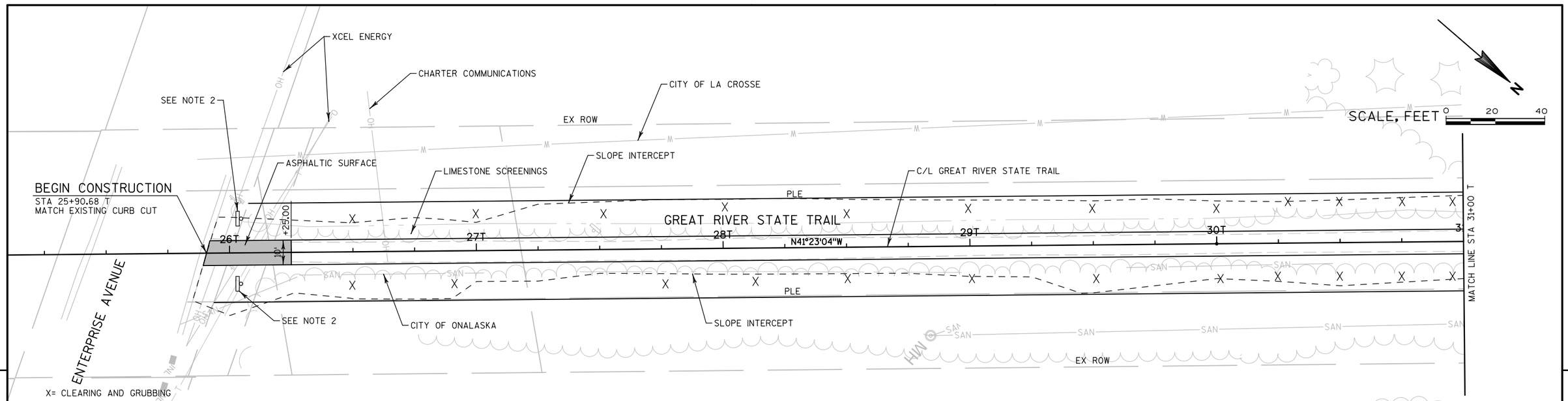
STA	EL
216+00.00	678.10
216+50.00	678.49
217+00.00	679.00
217+50.00	679.26
218+00.00	679.78
218+50.00	680.15
219+00.00	680.58
219+50.00	681.17
220+00.00	681.55
220+50.00	681.92
221+00.00	682.26
221+50.00	682.74
222+00.00	683.44
223+50.00	685.88

0.77% 1.04% 0.52% 1.04% 0.73% 0.86% 1.18% 0.76% 0.74% 0.68% 0.96% 1.41% 1.63%

FINISHED PROFILE

EXISTING PROFILE

| | | |



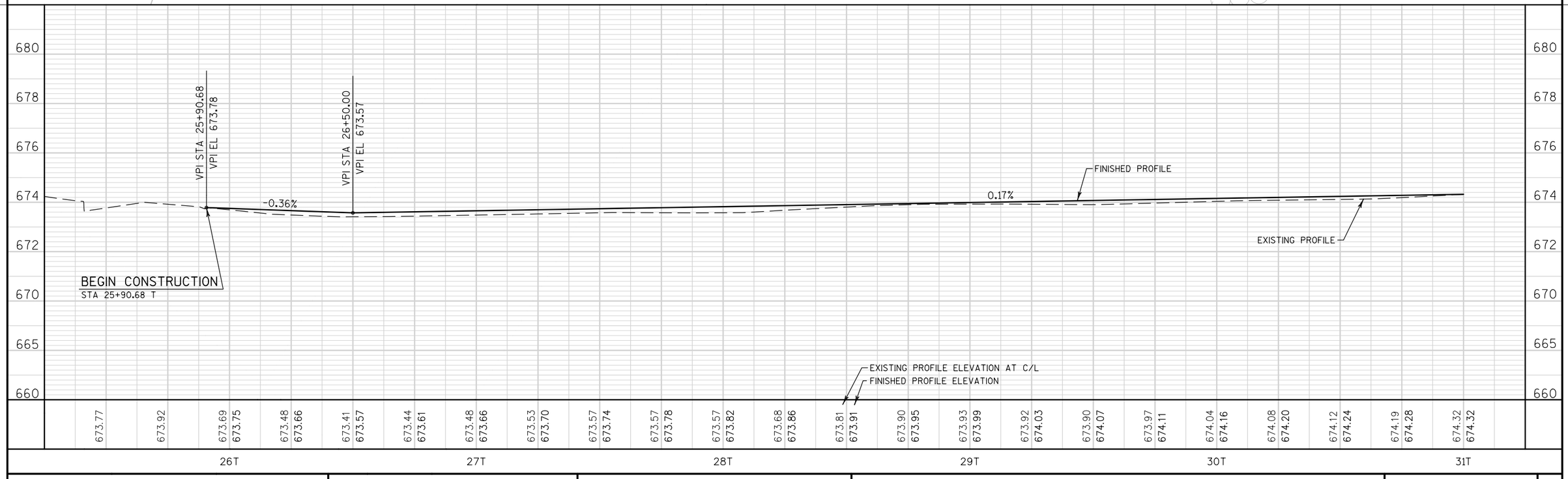
X= CLEARING AND GRUBBING

NOTES:
1) CLEARING AND GRUBBING FROM STA 26+00 T TO STA 32+00 T, WIDTH 20'LT & RT.

2) MOVE SIGNS LOCATED NEAR THE TRAIL ENTRANCE AT ENTERPRISE AVENUE AS NEEDED FOR SITE ACCESS DURING CONSTRUCTION. RELOCATE SIGNS TO EXISTING LOCATION AFTER THE TRAIL IS NO LONGER IN USE FOR VEHICLE SITE ACCESS, AS DIRECTED BY THE ENGINEER.

P.I. DATA

P.I. 24+00.00 T
N 151526.59
E 4533313.27



PROJECT NO: 1071-06-80	HWY: IH 90	COUNTY: LA CROSSE	PLAN & PROFILE: GREAT RIVER STATE TRAIL	SHEET 136	E

CITY OF LA CROSSE
XCEL ENERGY
FENCE CHAIN LINK 5-FT MATCH EXISTING
EX ROW
SLOPE INTERCEPT
LIMESTONE SCREENINGS
CITY OF ONALASKA
PLE
CAUTION
WIN
EXISTING STRUCTURE B-32-43 TO REMAIN
EXISTING STRUCTURE B-32-44 TO REMAIN
C/L GREAT RIVER STATE TRAIL
PROPOSED C-32-97
REMOVE FENCE
SCALE, FEET 0 20 40
MATCH LINE STA 31+00 T
GREAT RIVER STATE TRAIL
N41°23'04"W
N40°51'02"W
N41°38'56"W
31T
32T
33T
34T
35T
36T
PI STA 33T+08.58
PI STA 34T+64.19
233+00EB
234+00EB
233+00WB
234+00WB
+00.00
+45.00
+60.00
+40.00
+75.00
+55.00
14'
10'
ASPHALTIC SURFACE
EX ROW
FENCE CHAIN LINK 5-FT MATCH EXISTING
R/L IH-90 EB TO BE CONSTRUCTED UNDER PROJECT ID 1071-06-79
IH-90 EB
IH-90 WB
R/L IH-90 WB TO BE CONSTRUCTED UNDER PROJECT ID 1071-06-78
XCEL ENERGY
CENTURYLINK
END CONSTRUCTION
STA 36+50.00 T
MATCH EXISTING

X= CLEARING AND GRUBBING

NOTES:
1) CLEARING AND GRUBBING FROM STA 26+00 T TO STA 32+00 T, WIDTH 20'LT & RT.

P.I. DATA	P.I. DATA	P.I. DATA
P.I. 33+08.58 T	P.I. 34+64.19 T	P.I. 38+00.00 T
N 152208.29	N 152236.00	N 152576.93
E 452712.60	E 452610.81	E 452387.65

680 678 676 674 672 670 665 660

VPC STA 31+75.00
VPC EL 674.45
VPT STA 32+25.00
VPT STA 674.76
VPI STA 33+78.47
VPI EL 676.41
VPI STA 36+50.00
VPI EL 675.05
VPI STA 32+00.00
VPI EL 674.49
VCL = 50'
K = 55
1.08%
-0.50%
FINISHED PROFILE
EXISTING PROFILE
C-32-97
END CONSTRUCTION
STA 36+50.00 T
MATCH EXISTING
EXISTING PROFILE ELEVATION AT C/L
FINISHED PROFILE ELEVATION

| | | |

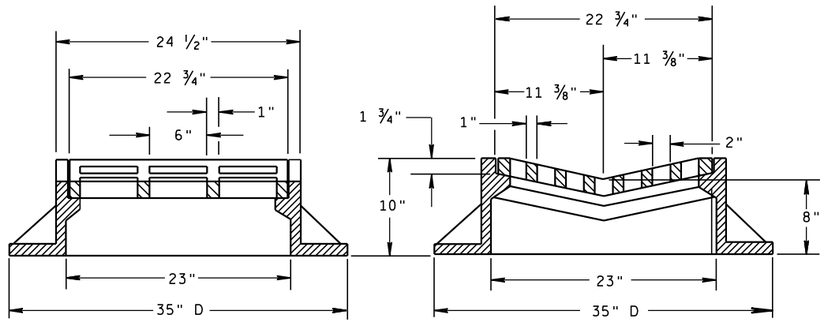
Standard Detail Drawing List

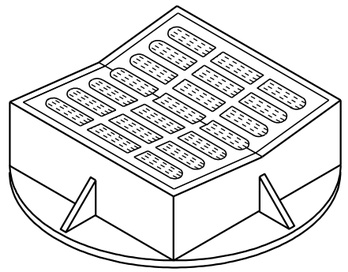
08A05-18B	INLET COVERS TYPE B, B-A, C, MS, MS-A, & WM
08A05-18C	INLET COVERS TYPE F, HM, HM-S, S, T, V, HM-GJ, & HM-GJ-S
08A05-18D	INLET COVER, TYPE BW, Z MANHOLE COVERS, TYPE K, J, J-S, L & M
08B09-01	MANHOLES 3-FT, 4-FT, 5-FT, 6-FT, 7-FT AND 8-FT DIAMETER
08C06-01	INLETS 3-FT AND 4-FT DIAMETER
08C07-01	INLETS 2X2-FT, 2X2.5-FT, 2X3-FT AND 2.5X3-FT
08C08-01	INLETS MEDIAN 1 AND 2 GRATE
08D01-17	CONCRETE CURB, CONCRETE CURB AND GUTTER AND TIES
08D04-05	CONCRETE SURFACE DRAINS & ASPHALTIC FLUMES
08E08-03	TYPICAL INSTALLATIONS OF EROSION BALES / TEMPORARY DITCH CHECKS
08E09-06	SILT FENCE
08E10-02	INLET PROTECTION TYPE A, B, C AND D
08E14-01	TRACKING PAD
08F01-11	APRON ENDWALLS FOR CULVERT PIPE
08F04-07	JOINT TIES FOR CONCRETE PIPE AND CONCRETE COLLAR DETAIL
09B02-07	CONDUIT
09B04-10	PULL BOX
09D01-04	CABINET SERVICE INSTALLATION (METER BREAKER PEDESTAL)
10A15-03A	ELECTRICAL DETAILS UNDERDECK LIGHTING
10A15-03B	ELECTRICAL DETAILS UNDERDECK LIGHTING
11A01-05	MAINTENANCE CROSSOVER FOR FREEWAYS
12A03-10	NAME PLATE (STRUCTURES)
12A04-03	STRUCTURE IDENTIFICATION PLAQUES, RAMP GATES, SIGN BRIDGES & OVERHEAD SIGN SUPPORTS & TRAFFIC SIGNALS
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"
14B15-07A	STEEL PLATE BEAM GUARD, CLASS "A" INSTALLATION & ELEMENTS
14B15-07B	STEEL PLATE BEAM GUARD, CLASS "A" INSTALLATION & ELEMENTS
14B15-07C	STEEL PLATE BEAM GUARD, CLASS "A", INSTALLATION & ELEMENTS
14B16-04A	ANCHORAGE FOR STEEL PLATE BEAM GUARD TYPE 2
14B16-04B	ANCHORAGE FOR STEEL PLATE BEAM GUARD TYPE 2
14B18-06A	STEEL PLATE BEAM GUARD, CLASS "A" (AT BRIDGES, OBSTACLES AND SIDEROADS/DRIVEWAYS)
14B18-06B	STEEL PLATE BEAM GUARD, CLASS "A" AT MEDIAN APPROACH TO BRIDGES
14B20-11A	STEEL THRIE BEAM STRUCTURE APPROACH
14B20-11B	STEEL THRIE BEAM STRUCTURE APPROACH, CONNECTION TO SQUARE END PARAPETS
14B20-11C	STEEL THRIE BEAM STRUCTURE APPROACH, CONNECTION TO VERTICAL FACED PARAPETS
14B20-11D	STEEL THRIE BEAM STRUCTURE APPROACH, CONNECTION TO SLOPED END PARAPETS
14B20-11E	STEEL THRIE BEAM STRUCTURE APPROACH, CONNECTION TO BRIDGE RAILING TYPES "F" AND "W"
14B20-11F	STEEL THRIE BEAM STRUCTURE APPROACH, CONNECTION TO BRIDGE RAILING TYPE "M"
14B20-11G	STEEL THRIE BEAM STRUCTURE APPROACH, CONNECTOR PLATE DETAIL
14B20-11H	STEEL THRIE BEAM STRUCTURE APPROACH, SINGLE SLOPE ATTACHMENT
14B24-07A	STEEL PLATE BEAM GUARD ENERGY ABSORBING TERMINAL
14B24-07B	STEEL PLATE BEAM GUARD ENERGY ABSORBING TERMINAL
14B24-07C	STEEL PLATE BEAM GUARD ENERGY ABSORBING TERMINAL
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)
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

6

Standard Detail Drawing List

15B03-13A	FENCE CHAIN LINK
15B03-13B	FENCE CHAIN LINK
15C03-02	BARRICADES AND SIGNS FOR SIDEROAD CLOSURES
15C05-02	TRAFFIC CONTROL, ADVANCE WARNING SIGNS 40 M.P.H. OR LESS
15C08-16A	PAVEMENT MARKING (MAINLINE)
15C11-05	FLEXIBLE TUBULAR MARKER POST, ANCHOR & BASES
15C31-01A	PAVEMENT MARKING (RAMPS AND GORES)
15D12-03	TRAFFIC CONTROL, LANE CLOSURE, SPEEDS GREATER THAN 40 M.P.H.
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

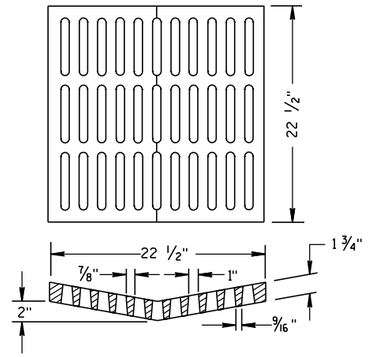




TYPE "B"

(APPROXIMATE WEIGHT 405 LBS.)

FRAME..... 294 LBS.
GRATE..... 111 LBS.

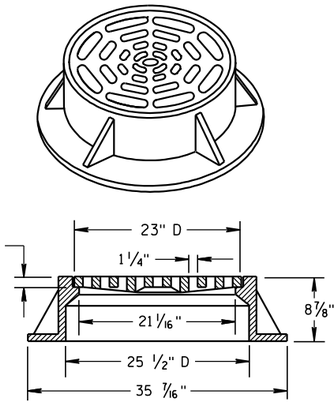


ALTERNATIVE GRATE FOR TYPE "B" COVER

(APPROXIMATE GRATE WEIGHT 134 LBS.)

USE WHERE PEDESTRIAN OR BICYCLE TRAFFIC IS POSSIBLE.

NOTED AS TYPE B-A ON THE DRAINAGE TABLE



TYPE "C"

(APPROXIMATE WEIGHT 259 LBS.)

FRAME..... 152 LBS.
GRATE..... 107 LBS.

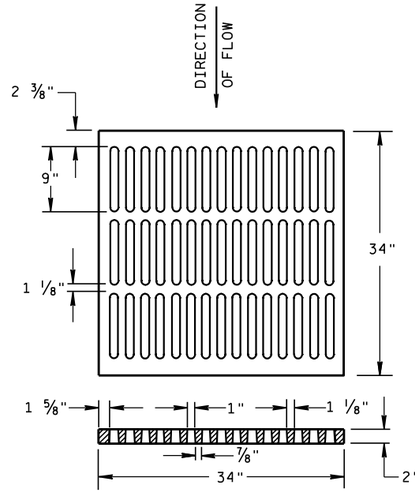
GENERAL NOTES

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

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

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

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

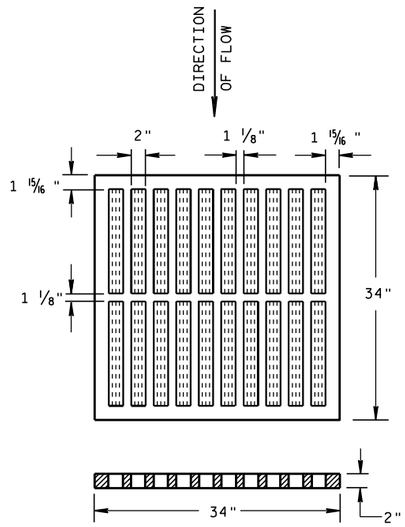


ALTERNATIVE TYPE "MS"

(APPROXIMATE GRATE WEIGHT 329 LBS.)

USE WHERE PEDESTRIAN OR BICYCLE TRAFFIC IS PERMITTED

NOTED AS TYPE MS-A ON THE DRAINAGE TABLE

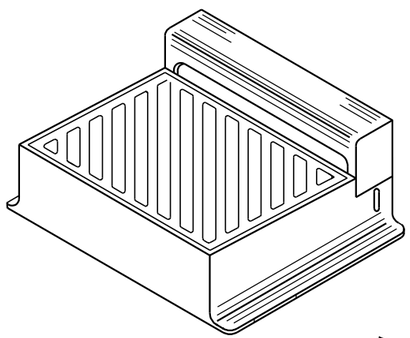


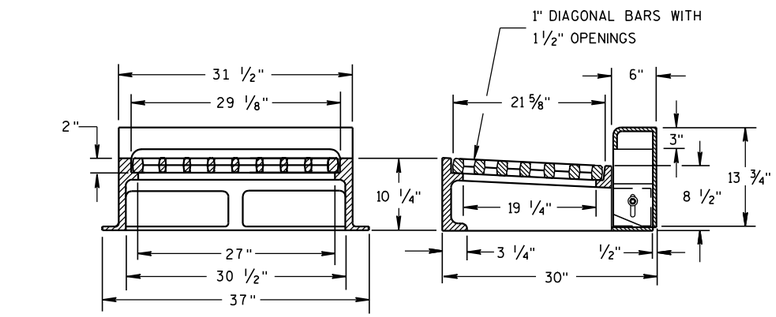
TYPE "MS"

(APPROXIMATE GRATE WEIGHT 268 LBS.)

USE ON FREEWAYS AND EXPRESSWAYS

NOTED AS TYPE MS ON DRAINAGE TABLE





NOTE: CURB BOX HEIGHT ADJUSTABLE 6" TO 9"

DIRECTION OF FLOW

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

TYPE "WM"

(APPROXIMATE WEIGHT 648 LBS.)

FRAME..... 355 LBS.
GRATE..... 156 LBS.
CURB BOX..... 137 LBS.

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

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

6/5/2012
DATE

/S/ Jerry H. Zaas
ROADWAY STANDARDS ENGINEER

140

ENT

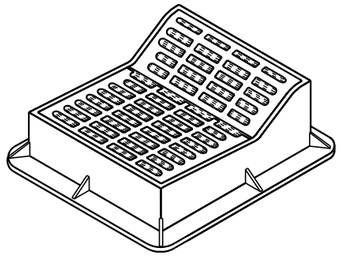
FHWA

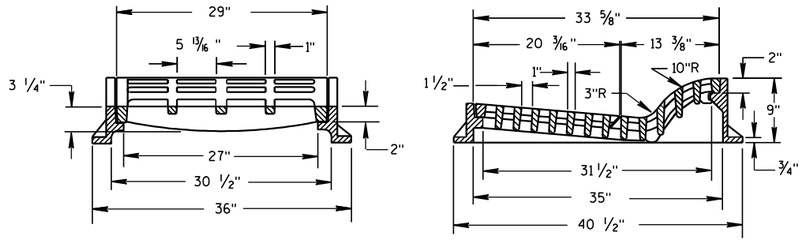
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S.D.D. 8 A 5-18b

6

S.D.D. 8 A 5-18b



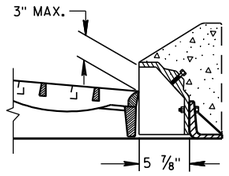


TYPE "F"

(APPROXIMATE WEIGHT 644 LBS.)

FRAME.....302 LBS.
GRATE.....160 LBS.
GRATE.....182 LBS.

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



ALTERNATIVE CURB BOX FOR TYPE "HM" COVER

(APPROXIMATE WEIGHT CURB BOX 68 LBS.)

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

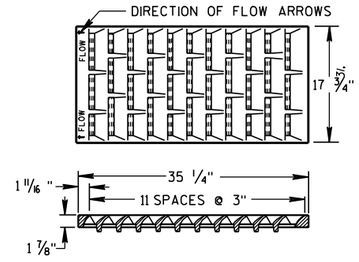
NOTE:
SPECIAL GRATE FOR THE
TYPE "H" COVER MAY ALSO BE
USED FOR THE TYPE "HM-GJ" COVER
NOTED AS TYPE HM-GJ-S ON DRAINAGE TABLE

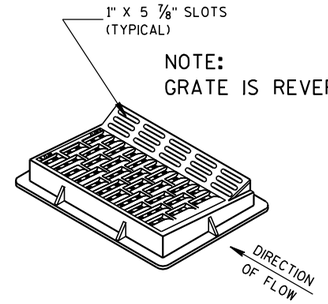
GENERAL NOTES

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.

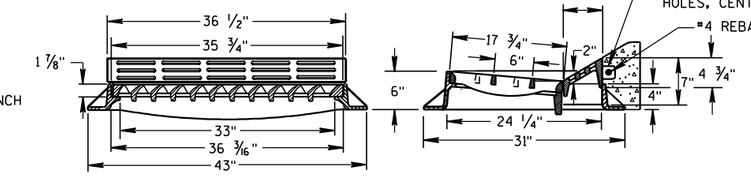
DETAIL DRAWINGS FOR PROPOSED ALTERNATE DESIGNS FOR INLET COVERS SHALL BE SUBMITTED TO THE ENGINEER FOR APPROVAL PROVIDING THAT SUCH ALTERNATE DESIGNS MAKE PROVISION FOR EQUIVALENT CAPACITY AND STRENGTH.

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





NOTE:
GRATE IS REVERSIBLE.

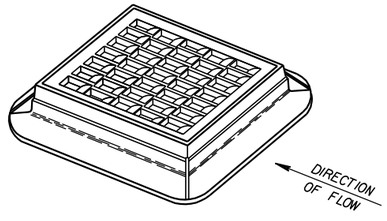


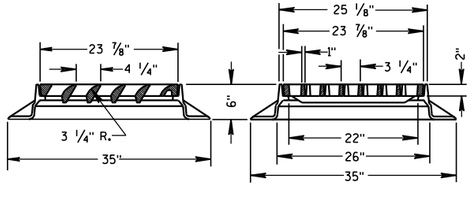
TYPE "HM"

(APPROXIMATE WEIGHT 414 LBS.)
FRAME..... 181 LBS.
GRATE..... 159 LBS.
CURB BOX..... 74 LBS.

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

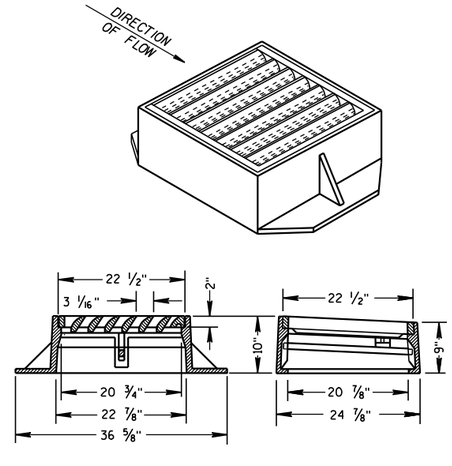




TYPE "S"

(APPROXIMATE WEIGHT 333 LBS.)

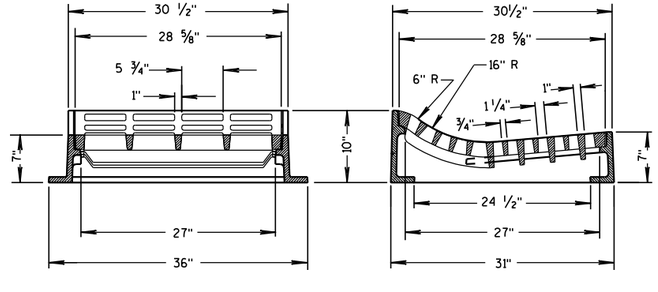
FRAME.....164 LBS.
GRATE..... 169 LBS.



TYPE "V"

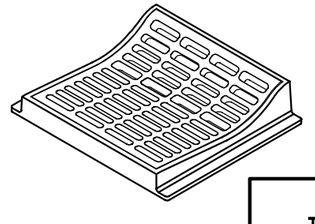
(APPROXIMATE WEIGHT 410 LBS.)

FRAME..... 269 LBS.
GRATE..... 136 LBS.
SAFETY BAR..... 5 LBS.



TYPE "T"

(APPROXIMATE WEIGHT 530 LBS.)
FRAME.....270 LBS.
GRATE.....260 LBS.
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

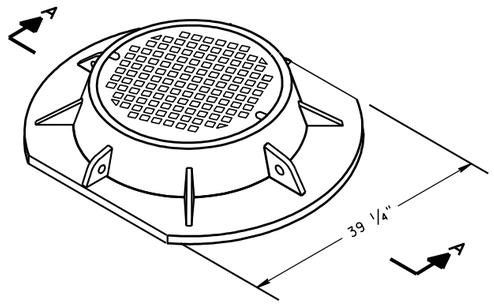
APPROVED
6/5/2012 — DATE
/S/ Jerry H. Zogg — ROADWAY STANDARDS ENGINEER
FHWA

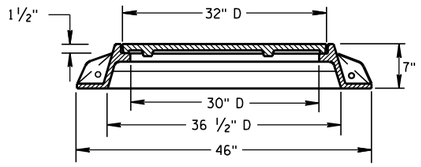
6

S.D.D. 8 A 5-18c

6

S.D.D. 8 A 5-18c



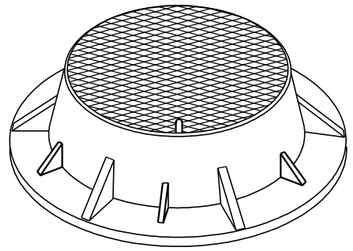


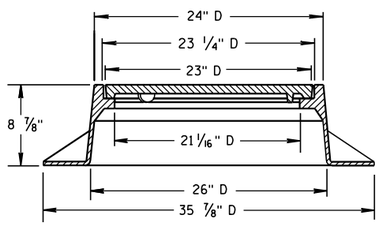
SECTION A-A

TYPE "K"

(APPROXIMATE WEIGHT 439 LBS.)

FRAME.....216 LBS.
LID.....223 LBS.

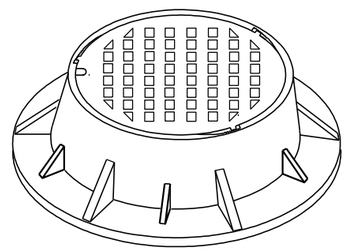


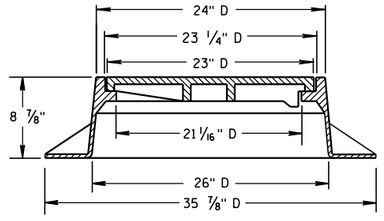


TYPE "J"

(APPROXIMATE WEIGHT 267 LBS.)

FRAME.....152 LBS.
LID.....115 LBS.





TYPE "J" SPECIAL

TYPE "B" NON-ROCKING SELF-SEAL LID

(APPROXIMATE WEIGHT 267 LBS.)

FRAME.....158 LBS.
LID.....109 LBS.

(NOTED AS TYPE J-S ON THE DRAINAGE TABLE)

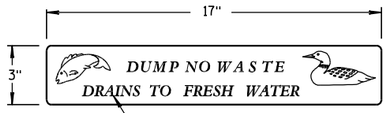
GENERAL NOTES

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.

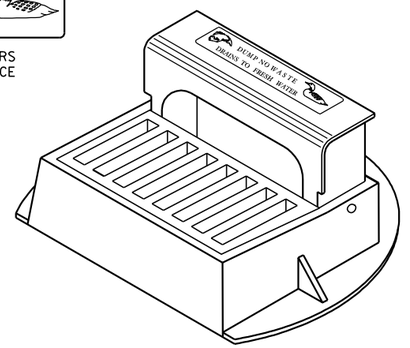
DETAIL DRAWINGS FOR PROPOSED ALTERNATE DESIGNS FOR MANHOLE COVERS SHALL BE SUBMITTED TO THE ENGINEER FOR APPROVAL PROVIDING THAT SUCH ALTERNATE DESIGNS MAKE PROVISION FOR EQUIVALENT CAPACITY AND STRENGTH.

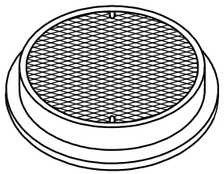
ROUND FRAMES AND COVERS SHALL HAVE CONTINUOUSLY MACHINED BEARING SURFACES TO PREVENT ROCKING AND RATTLING.

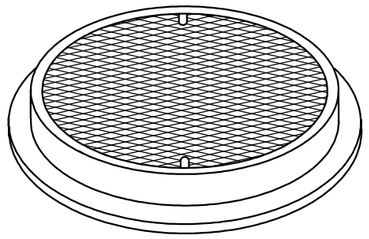
THE ACTUAL WEIGHT OF COVERS MAY VARY WITHIN 5 PERCENT, PLUS OR MINUS, OF THE APPROXIMATE WEIGHT.

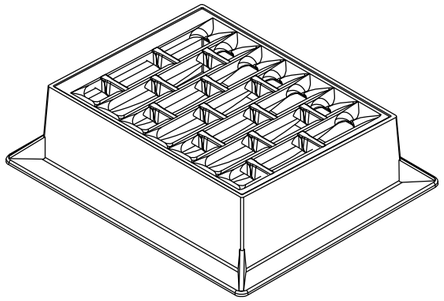


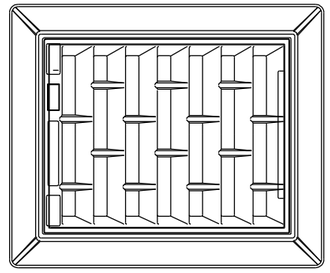
LOGO DETAIL

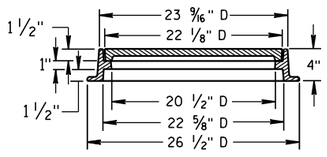








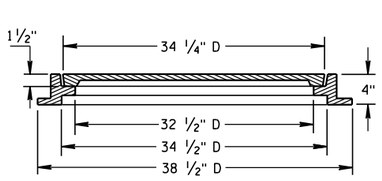




TYPE "L"

(APPROXIMATE WEIGHT 158 LBS.)

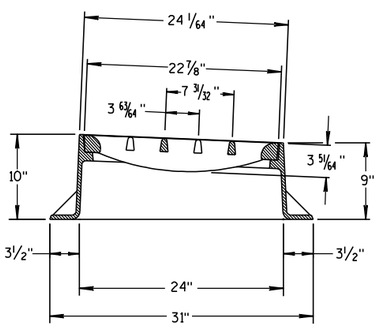
FRAME.....81 LBS.
LID.....77 LBS.

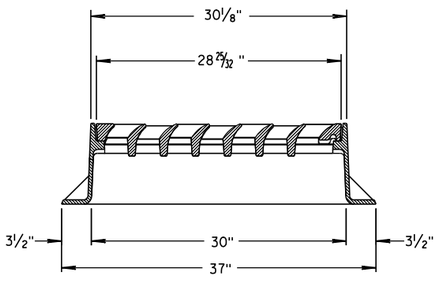


TYPE "M"

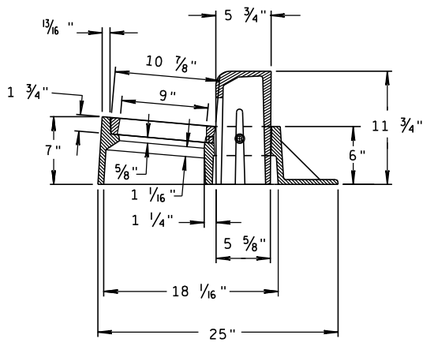
(APPROXIMATE WEIGHT 377 LBS.)

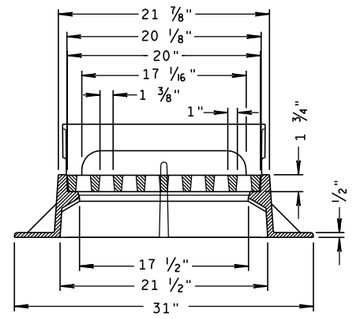
FRAME..... 125 LBS.
LID..... 252 LBS.





INLET COVER TYPE "BW"





INLET COVER TYPE "Z"

(APPROXIMATE WEIGHT 344 LBS.)

FRAME.....206 LBS.
GRATE..... 46 LBS.
CURB BOX..... 92 LBS.

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

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

6/5/2012
DATE

/S/ Jerry H. Zogg
ROADWAY STANDARDS ENGINEER

FHWA

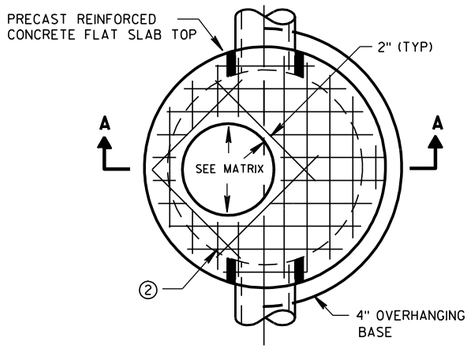
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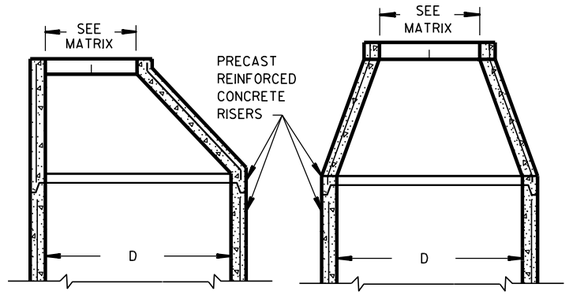
S.D.D. 8 A 5-18d

6

S.D.D. 8 A 5-18d

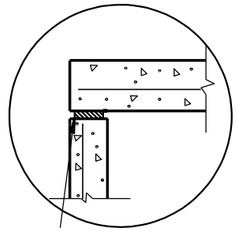


PLAN VIEW CIRCULAR OPENING

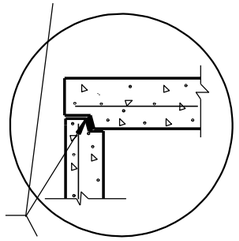


OPTIONAL PRECAST REINFORCED CONCRETE ECCENTRIC TOP

OPTIONAL PRECAST REINFORCED CONCRETE CONCENTRIC TOP

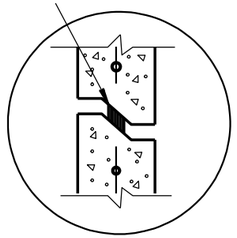


TOP WITH PLAIN END JOINT



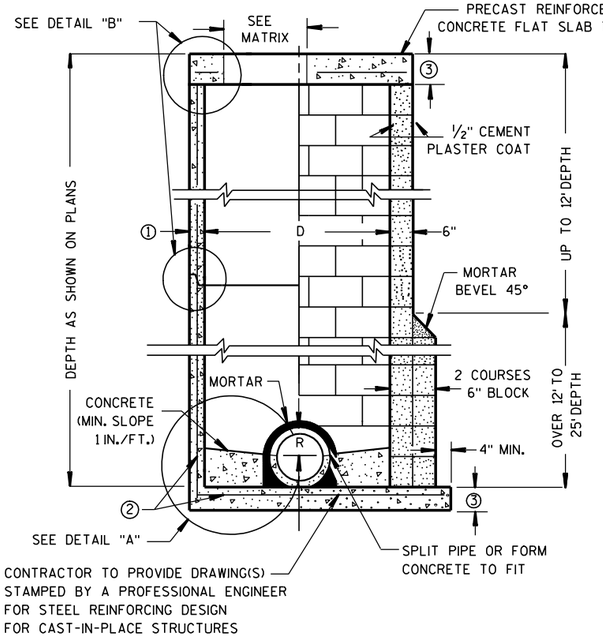
JOINTS TO BE SEALED WITH A BUTYL RUBBER SEAL PER SEALANT MANUFACTURERS RECOMMENDATIONS CONFORMING TO ASTM C990 (TYP)

TOP WITH TONGUE AND GROOVE JOINT



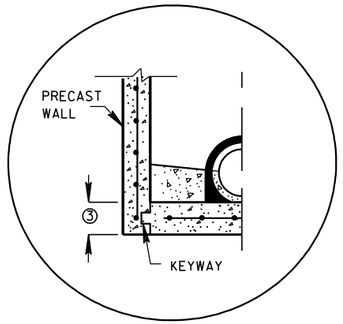
RISER WITH TONGUE AND GROOVE JOINT

DETAIL "B"

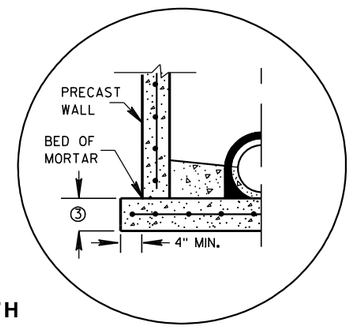


PRECAST REINFORCED CONCRETE WITH MONOLITHIC BASE

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

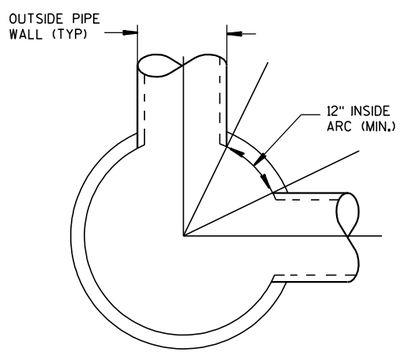


PRECAST REINFORCED CONCRETE WITH INTEGRAL BASE OPTION



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

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

① MINIMUM WALL THICKNESS SHALL BE 4 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

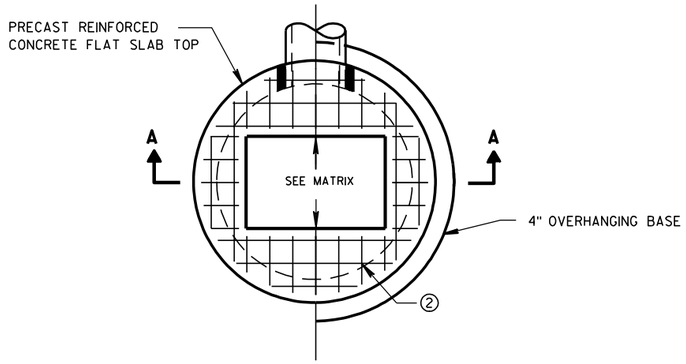
6/5/2012
DATE

/S/ Jerry H. Zogg
ROADWAY STANDARDS DEVELOPMENT ENGINEER

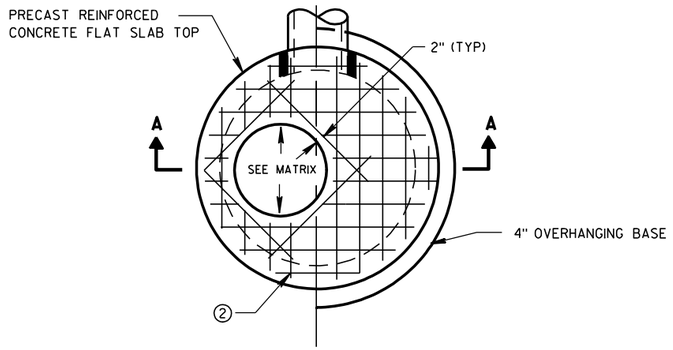
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MANHOLES 3-FT, 4-FT, 5-FT, 6-FT, 7-FT AND 8-FT DIAMETER

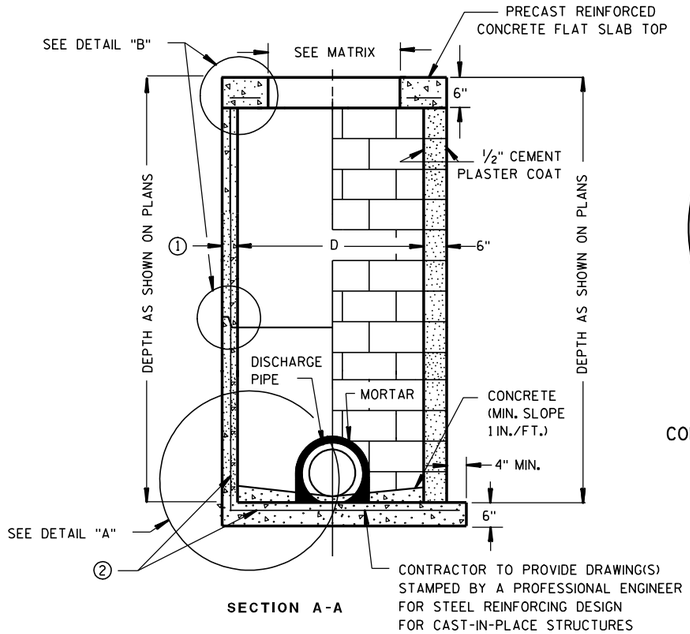
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PLAN VIEW RECTANGULAR OPENING



PLAN VIEW CIRCULAR OPENING

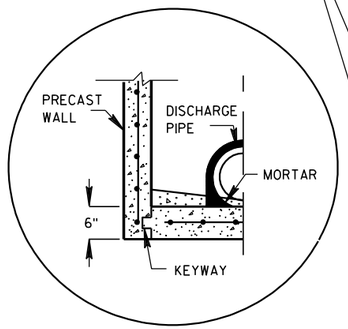


SECTION A-A

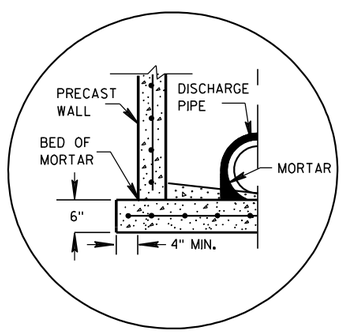
PRECAST REINFORCED CONCRETE WITH MONOLITHIC BASE

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

CIRCULAR INLETS W/ FLAT TOP

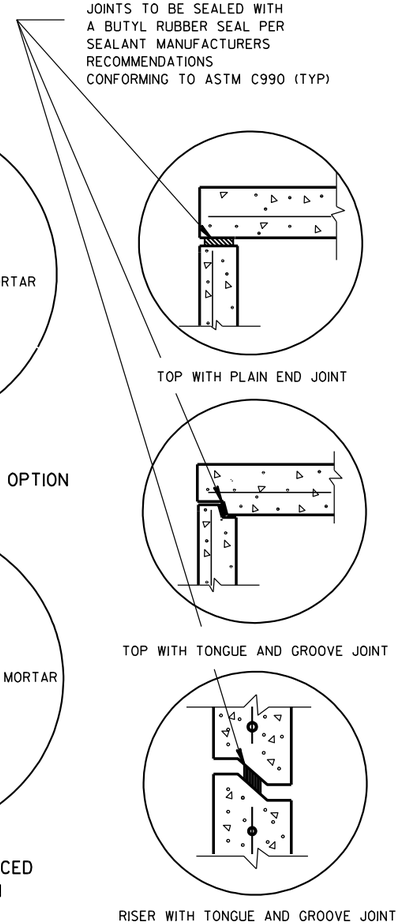


PRECAST REINFORCED CONCRETE WITH INTEGRAL BASE OPTION



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

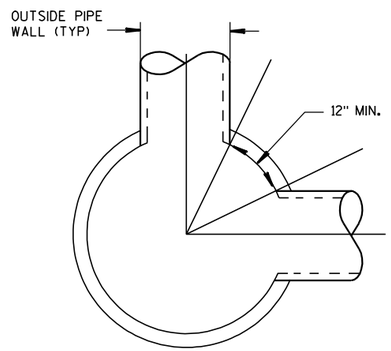
FOR ADDITIONAL CONFIGURATIONS, MAINTAIN A MINIMUM OF 12 INCHES AS MEASURED FROM THE INSIDE OF THE STRUCTURE WALL BETWEEN THE OUTSIDE PIPE WALLS OF ADJACENT PIPES. SEE DETAIL "C".

① MINIMUM WALL THICKNESS SHALL BE 4-IN FOR 3-FT DIAMETER AND 5-IN FOR 4-FT DIAMETER PRECAST INLETS.

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

INLET COVER OPENING MATRIX

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



DETAIL "C"

PIPE MATRIX

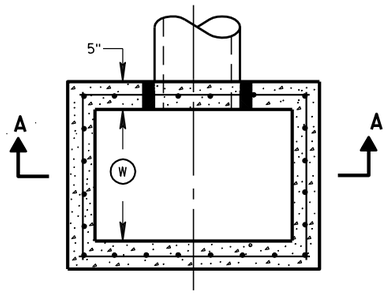
INLET SIZE	MAXIMUM INSIDE PIPE DIAMETER FOR TWO PIPES	
	180° SEPARATION (IN)	90° SEPARATION (IN)
3-FT	15	12
4-FT	24	18

INLETS 3-FT AND 4-FT DIAMETER

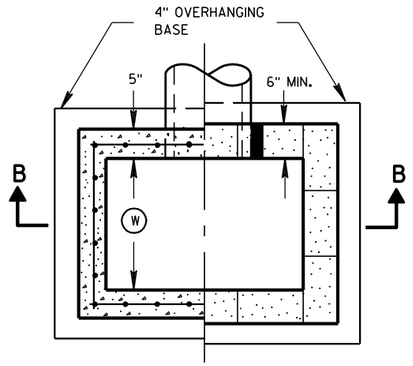
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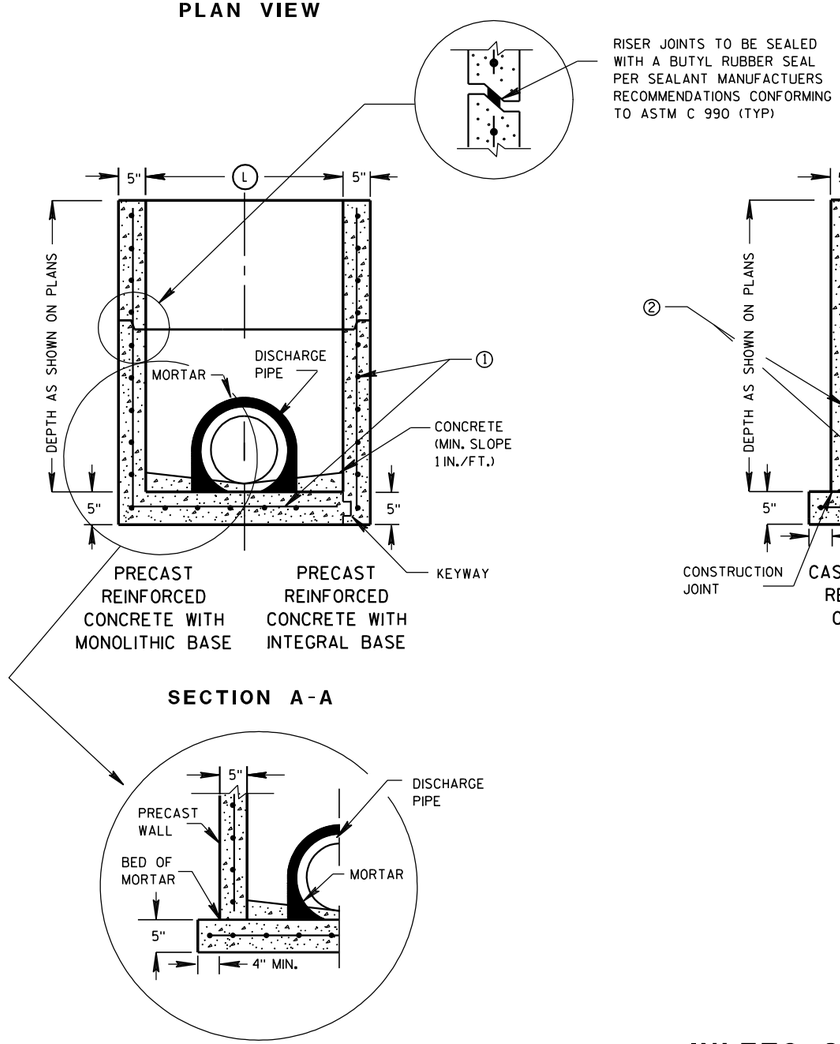
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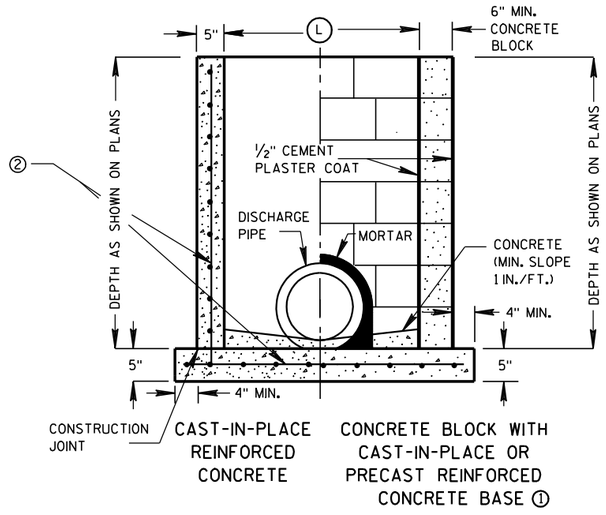
PLAN VIEW



PLAN VIEW



SECTION A-A



SECTION B-B

SEPERATE 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 SEPERATE 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.

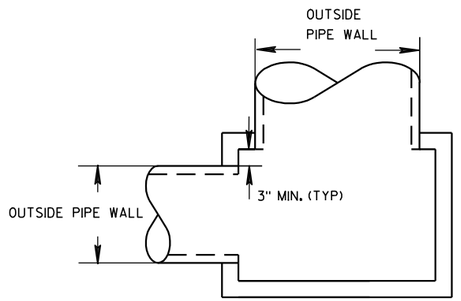
② CONTRACTOR TO PROVIDE DRAWING(S) STAMPED BY A PROFESSIONAL ENGINEER FOR STEEL REINFORCING DESIGN FOR CAST-IN-PLACE STRUCTURES.

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

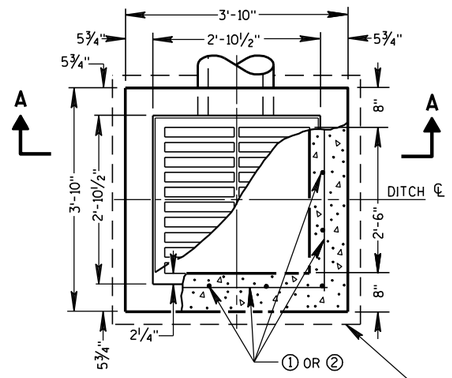
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6/5/2012 — DATE
/S/ Jerry H. Zoda — ROADWAY STANDARDS D ENGINEER
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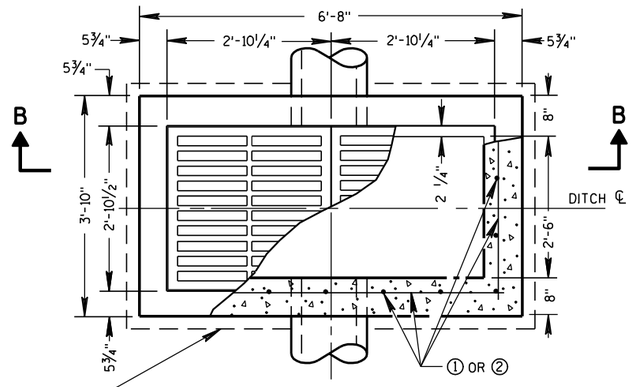
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S.D.D. 8 C 7-1

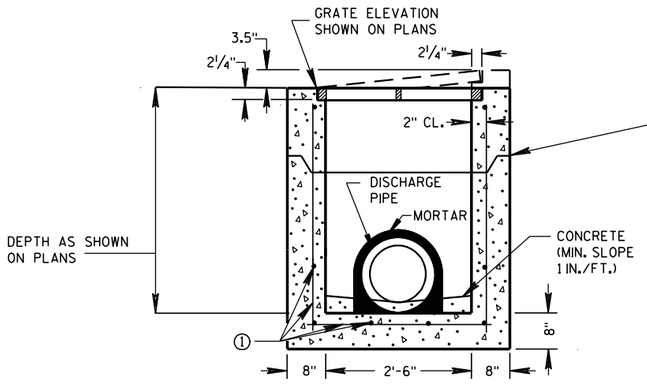


PLAN VIEW

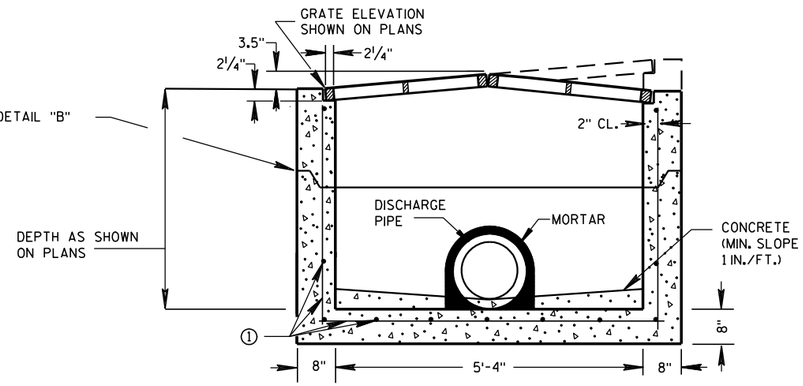


PLAN VIEW

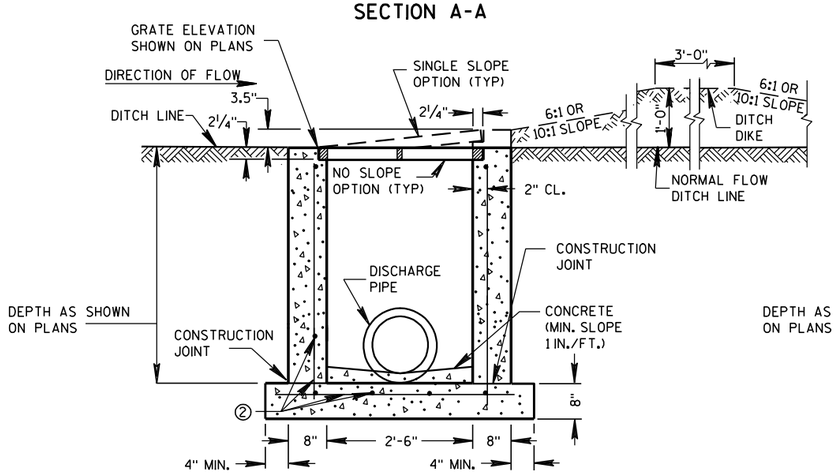
4" OVERHANGING BASE ON REINFORCED CAST-IN-PLACE CONCRETE INLETS



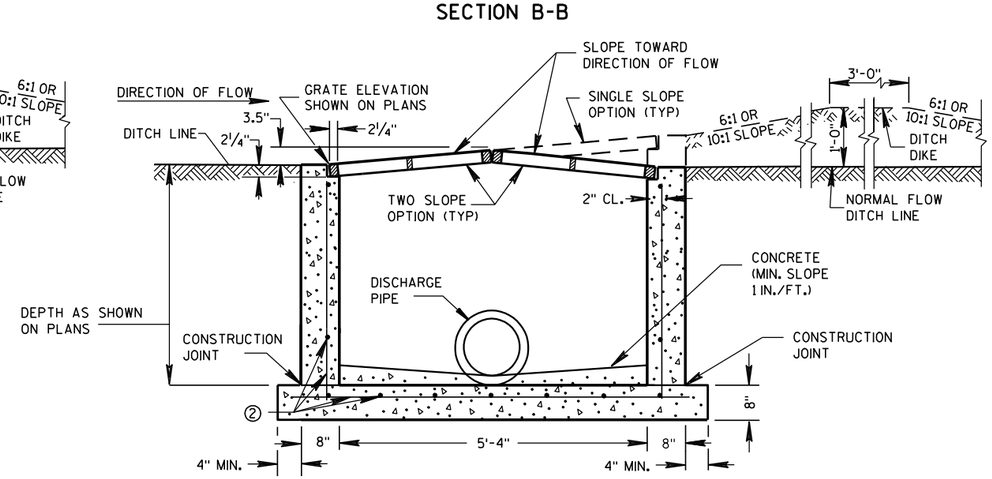
PRECAST REINFORCED CONCRETE SECTION A-A



PRECAST REINFORCED CONCRETE SECTION B-B



REINFORCED CAST-IN-PLACE CONCRETE SECTION A-A



REINFORCED CAST-IN-PLACE CONCRETE SECTION B-B

GENERAL NOTES

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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.

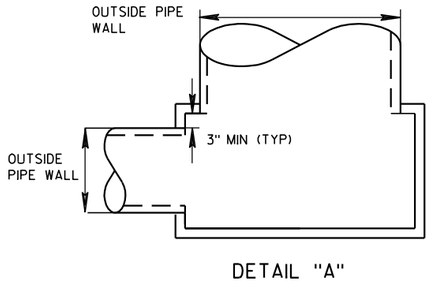
MAXIMUM INSIDE PIPE DIAMETER DETERMINED BY 3" CLEARANCE ON EACH SIDE OF THE OUTSIDE WALL OF THE PIPE. SEE DETAIL "A". ASSUMES PIPE ENTERS PERPENDICULAR TO THE STRUCTURE.

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.

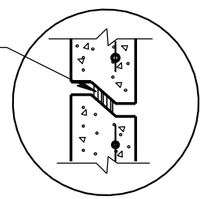
PIPE MATRIX

	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 GRATE

INLETS MEDIAN 2 GRATE

INLETS MEDIAN 1 AND 2 GRATE

STATE OF WISCONSIN
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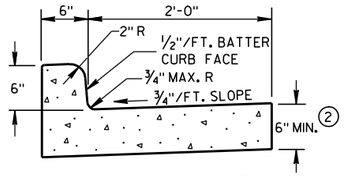
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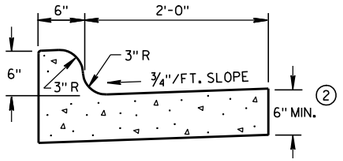
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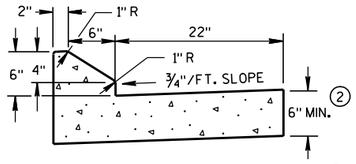
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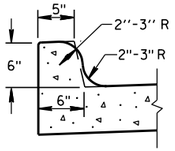
TYPES A & D (1)



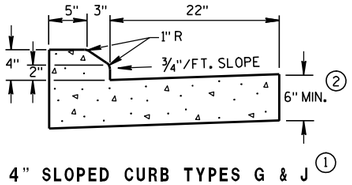
TYPES K & L (1)



6" SLOPED CURB TYPES G & J (1)

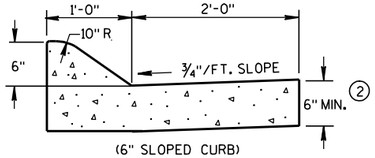


OPTIONAL CURB SHAPE FOR TYPES K & L (1)

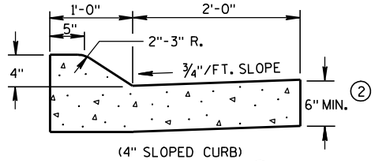


4" SLOPED CURB TYPES G & J (1)

CONCRETE CURB & GUTTER 30"

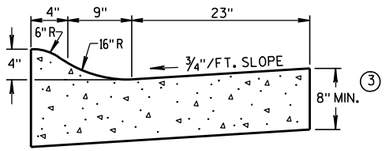


(6" SLOPED CURB)



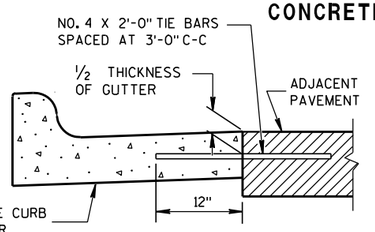
(4" SLOPED CURB)

TYPES A & D (1)

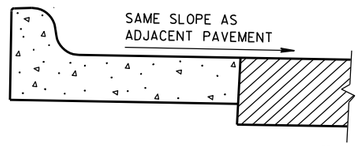


4" SLOPED CURB TYPES R & T (1) (4)

CONCRETE CURB & GUTTER 36"



TYPICAL TIE BAR LOCATION (1)



REVERSE SLOPE GUTTER (5)
(TYPICAL FOR ALL CURB & GUTTER TYPES)

GENERAL NOTES

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

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

INTEGRAL CURB & GUTTER SHALL CONFORM TO THE DETAILS SHOWN FOR CONCRETE CURB & GUTTER INCLUDING THE TRANSVERSE GUTTER SLOPE. A LONGITUDINAL CONSTRUCTION JOINT IS NOT REQUIRED WITH INTEGRAL CURB AND GUTTER.

WHERE THE TRANSVERSE JOINTS IN THE PAVEMENT ARE REQUIRED TO BE SEALED, THE JOINTS IN THE INTEGRAL CURB AND GUTTER SHALL BE SEALED TO THE FACE OF CURB WITH THE SAME TYPE OF SEALANT. THE COST OF FURNISHING AND INSTALLING THIS SEALANT SHALL BE INCIDENTAL TO THE ITEM CONCRETE CURB AND GUTTER.

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

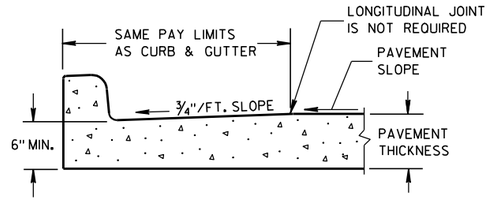
(1) TIE BARS ARE REQUIRED FOR CURB AND GUTTER TYPES A, G, K AND R.

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

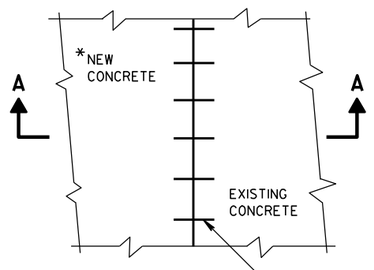
(3) THE BOTTOM OF CURB AND GUTTER MAY BE CONSTRUCTED EITHER LEVEL OR PARALLEL TO THE SLOPE OF THE SUBGRADE OR BASE AGGREGATE PROVIDED A 8" MINIMUM GUTTER THICKNESS IS MAINTAINED.

(4) THE FACE OF CURB IS 6" FROM THE BACK OF CURB.

(5) WHEN REVERSE SLOPE GUTTER IS REQUIRED, THE LOCATION(S) WILL BE SHOWN ELSEWHERE IN THE PLAN.

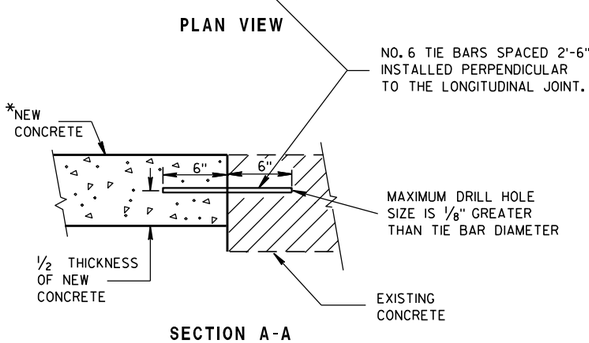


PARTIAL SECTION OF PAVEMENT WITH INTEGRAL CURB & GUTTER



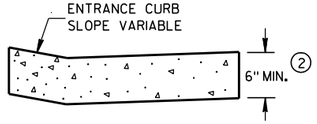
PLAN VIEW

*NEW CURB & GUTTER, SURFACE DRAINS, CONCRETE PAVEMENT OR OTHER NEW CONCRETE.

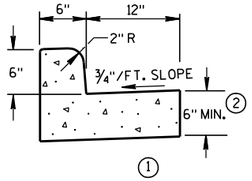


SECTION A-A

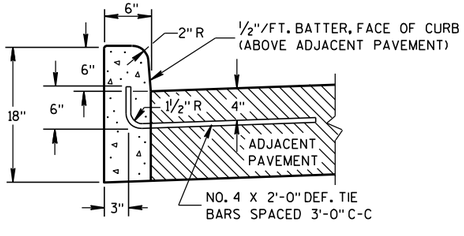
TIE BARS DRILLED INTO EXISTING PAVEMENT



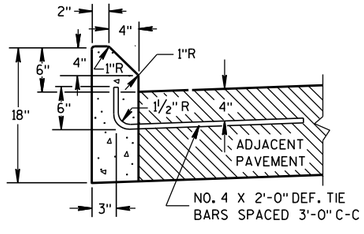
DRIVEWAY ENTRANCE CURB
(WHEN DIRECTED BY THE ENGINEER)



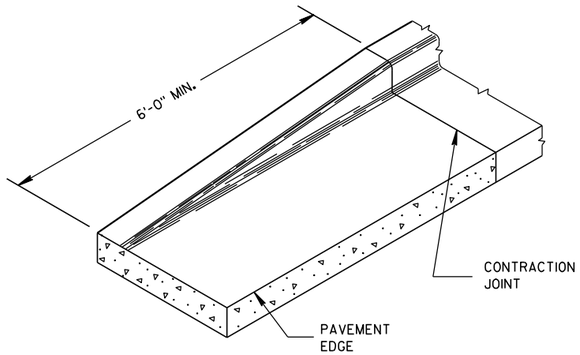
(1)
TYPES A & D
CONCRETE CURB & GUTTER 18"



(1)
TYPES A & D



(1)
TYPES G & J



END SECTION CURB & GUTTER

CONCRETE CURB

CONCRETE CURB, CONCRETE CURB & GUTTER AND TIES

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
9/4/08 DATE
/S/ Jerry H. [illegible]
ROADWAY STANDARDS ENGINEER

FHWA ENT

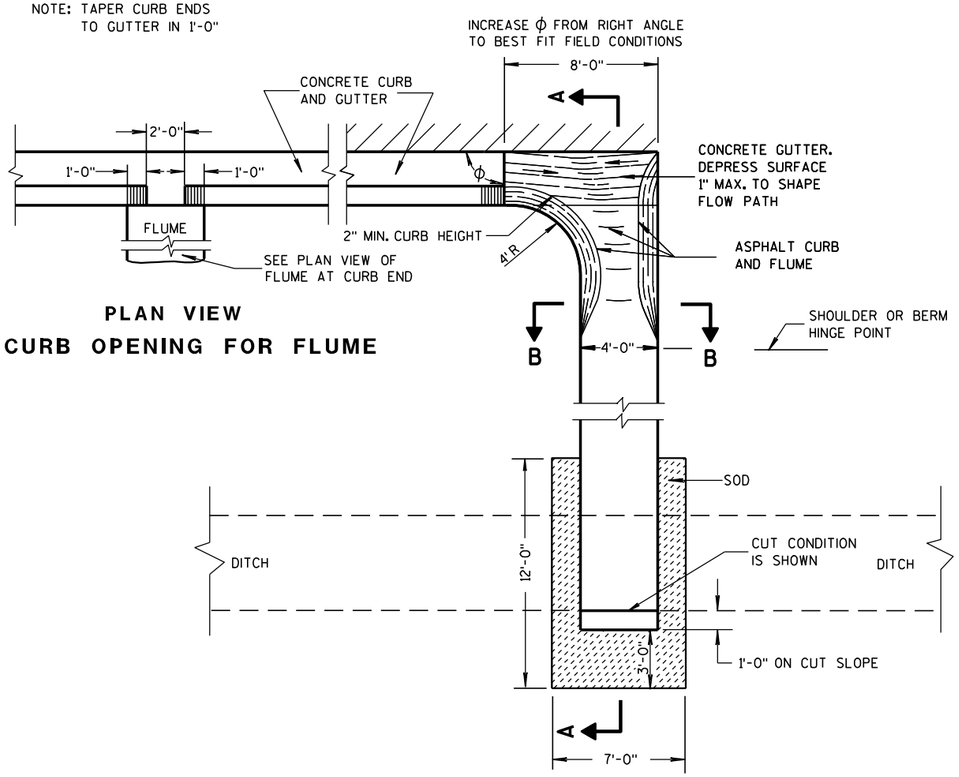
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S.D.D. 8 D 1-17

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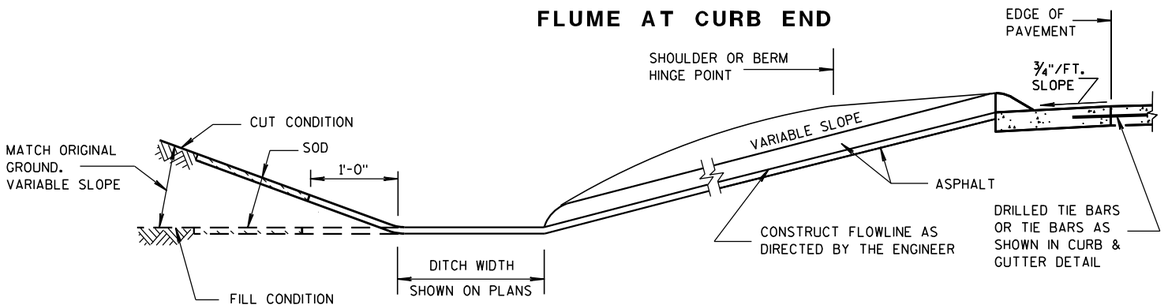
S.D.D. 8 D 1-17

ASPHALTIC FLUME

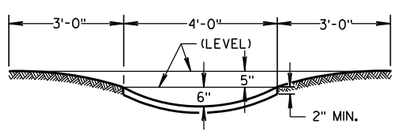


PLAN VIEW
CURB OPENING FOR FLUME

PLAN VIEW
FLUME AT CURB END



SECTION A-A



SECTION B-B

GENERAL NOTES

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

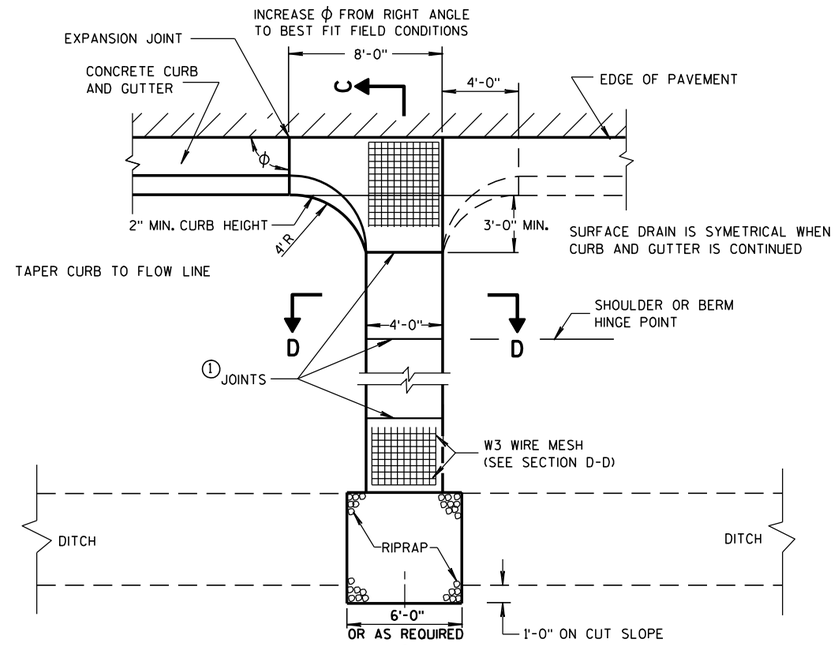
WELDED STEEL WIRE FABRIC SHALL BE IN ACCORDANCE WITH AASHTO SPECIFICATION M55.

① JOINTS SHALL BE $\frac{1}{8}$ TO $\frac{1}{4}$ INCH WIDE BY $1\frac{1}{2}$ INCHES DEEP AND SPACED AT UNIFORM INTERVALS OF APPROXIMATELY 4 FEET.

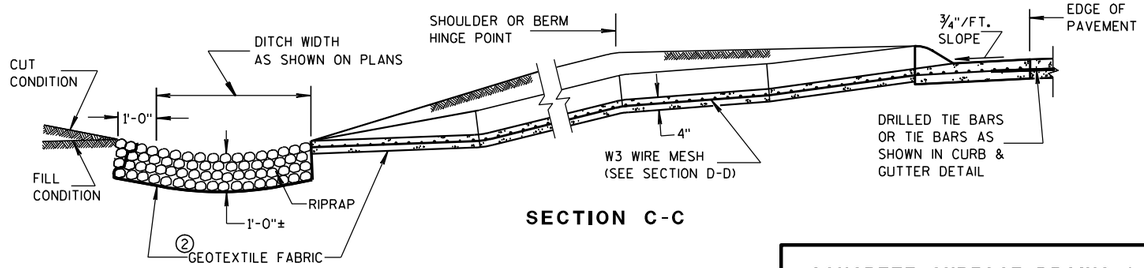
② GEOTEXTILE FABRIC TYPE "R" SHALL UNDERLAY THE FULL LENGTH AND WIDTH OF THE CONCRETE SURFACE DRAIN AND RIPRAP.

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

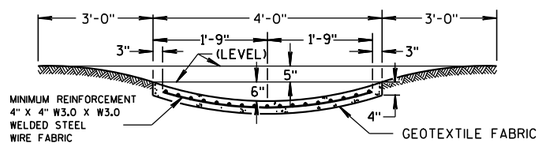
③ CONCRETE SURFACE DRAIN



PLAN VIEW



SECTION C-C



SECTION D-D

CONCRETE SURFACE DRAINS & ASPHALTIC FLUMES

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

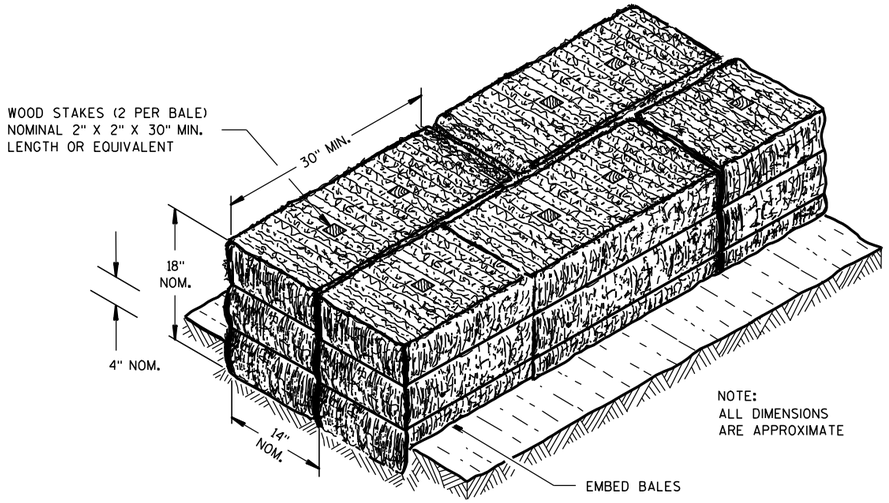
APPROVED
9-4-08 DATE
/S/ Jerry H. Zogg
ROADWAY STANDARDS ENGINEER
148
MENT
FHWA

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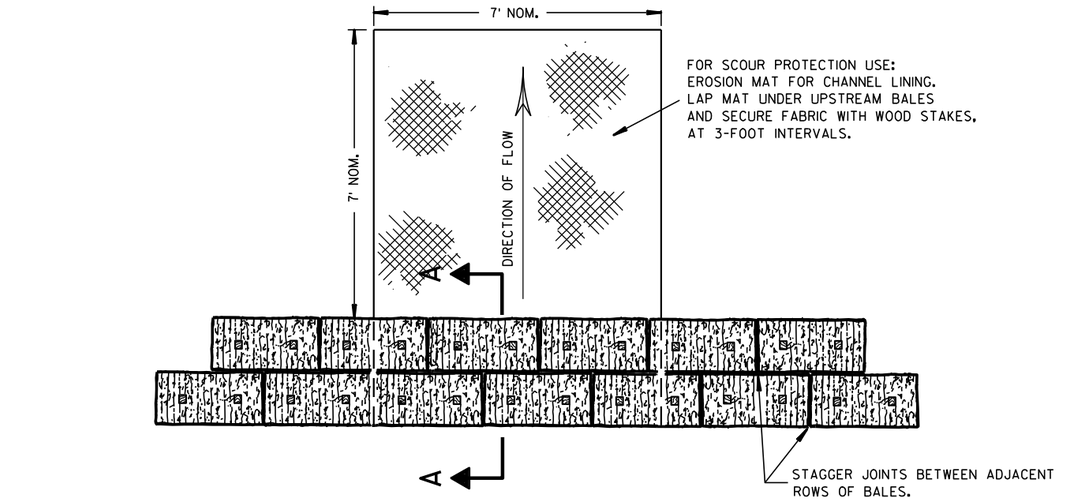
S.D.D. 8 D 4-5

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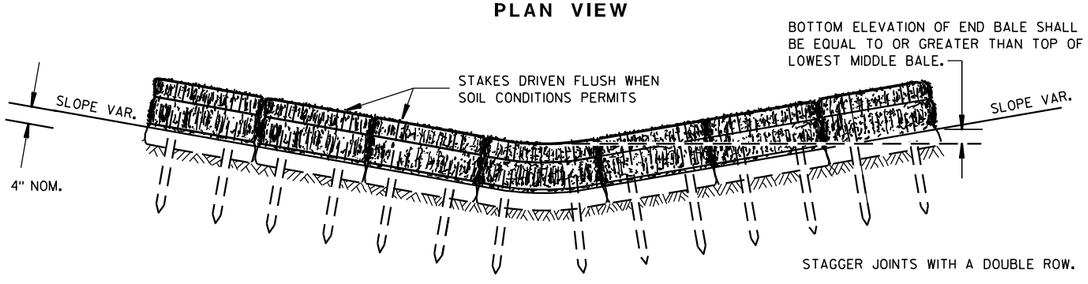
S.D.D. 8 D 4-5



SECTION A-A



PLAN VIEW



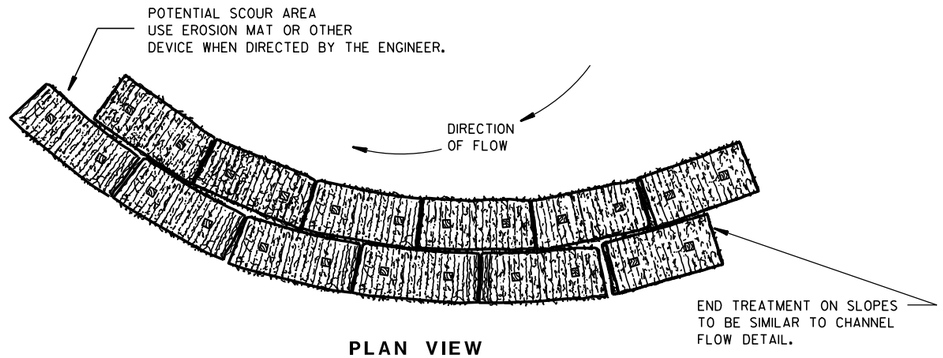
FRONT ELEVATION

TEMPORARY DITCH CHECK USING EROSION BALES (1)

GENERAL NOTES

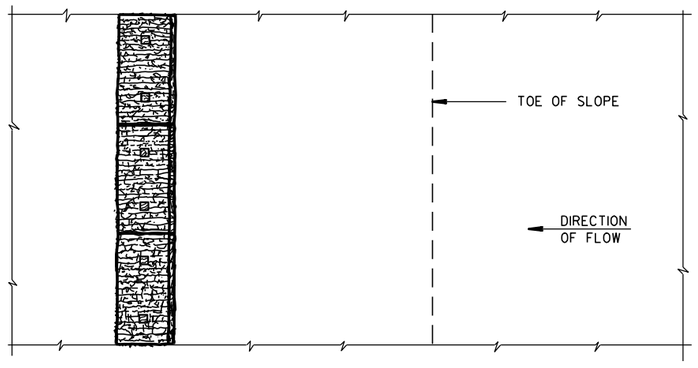
DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND THE APPLICABLE SPECIAL PROVISIONS.

(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.

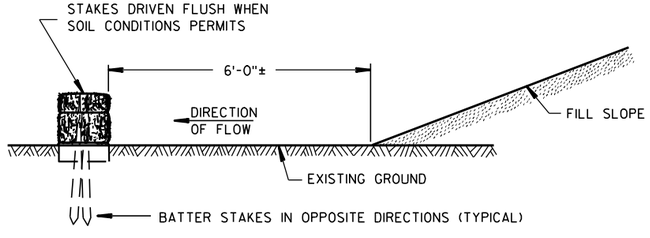


PLAN VIEW

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

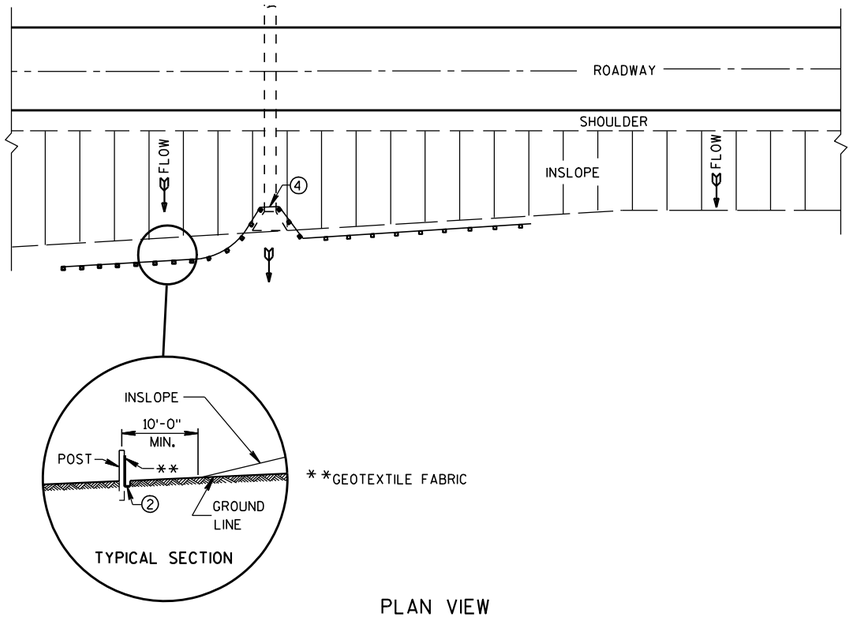
FHWA

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S.D.D. 8 E 8-3

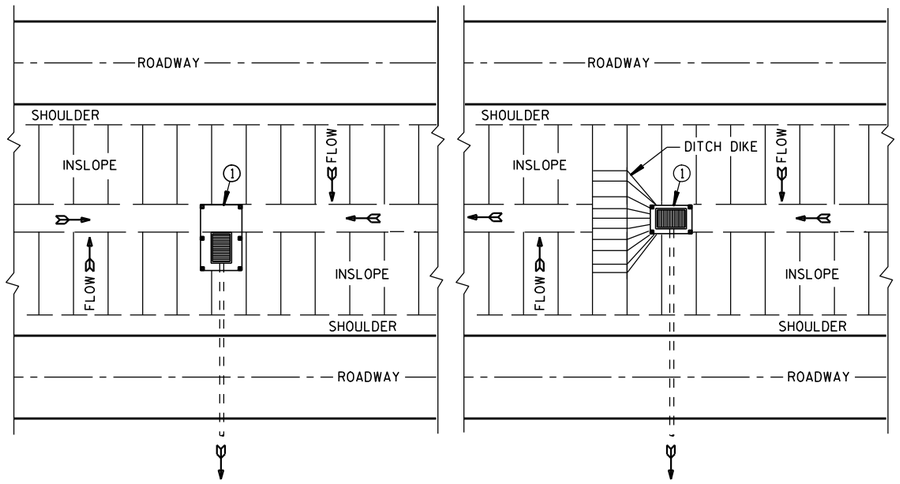
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S.D.D. 8 E 8-3



PLAN VIEW

TYPICAL APPLICATION OF SILT FENCE



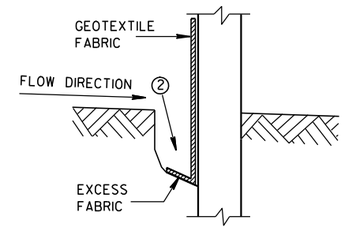
PLAN VIEW

SILT FENCE AT MEDIAN SURFACE DRAINS

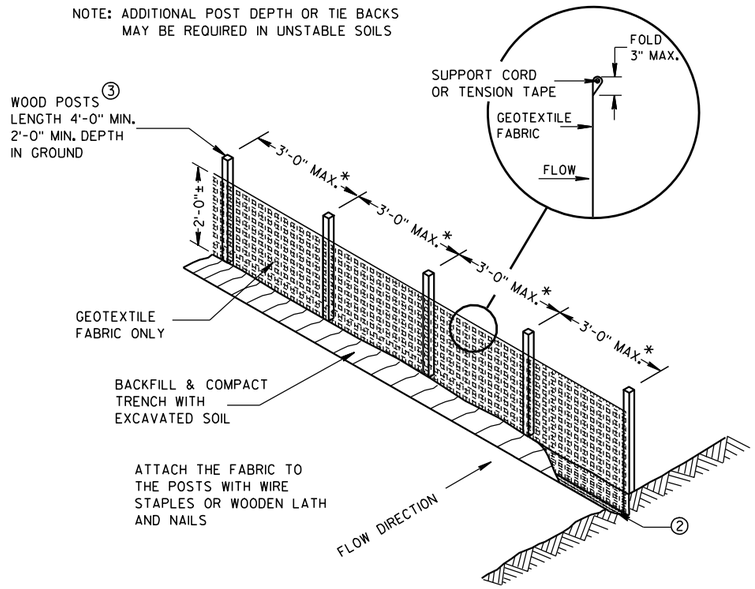
GENERAL NOTES

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

1. HORIZONTAL BRACE REQUIRED WITH 2" X 4" WOODEN FRAME OR EQUIVALENT AT TOP OF POSTS.
2. FOR MANUAL INSTALLATIONS THE TRENCH SHALL BE A MINIMUM OF 4" WIDE & 6" DEEP TO BURY AND ANCHOR THE GEOTEXTILE FABRIC. FOLD MATERIAL TO FIT TRENCH AND BACKFILL & COMPACT TRENCH WITH EXCAVATED SOIL.
3. WOOD POSTS SHALL BE A MINIMUM SIZE OF 1⅛" X 1⅛" OF OAK OR HICKORY.
4. SILT FENCE TO EXTEND ACROSS THE TOP OF THE PIPE.
5. CONSTRUCT SILT FENCE FROM A CONTINUOUS ROLL IF POSSIBLE BY CUTTING LENGTHS TO AVOID JOINTS. IF A JOINT IS NECESSARY USE ONE OF THE FOLLOWING TWO METHODS; A) OVERLAP THE END POSTS AND TWIST, OR ROTATE, AT LEAST 180 DEGREES, B) HOOK THE END OF EACH SILT FENCE LENGTH.

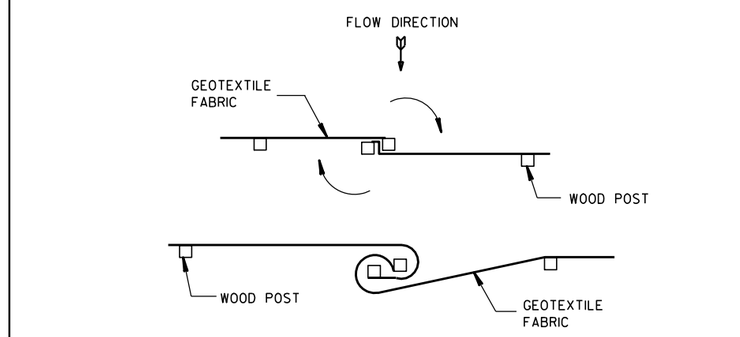


TRENCH DETAIL

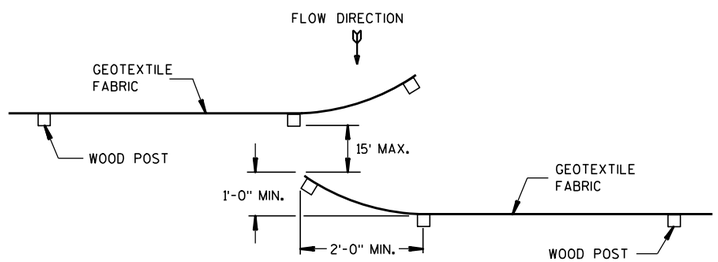


*NOTE: 8'-0" POST SPACING ALLOWED IF A WOVEN GEOTEXTILE FABRIC IS USED.

SILT FENCE

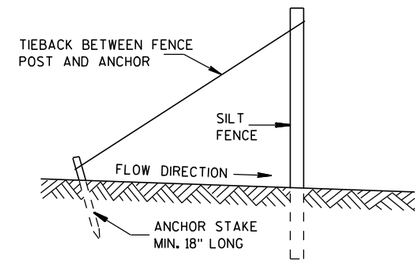


TWIST METHOD



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

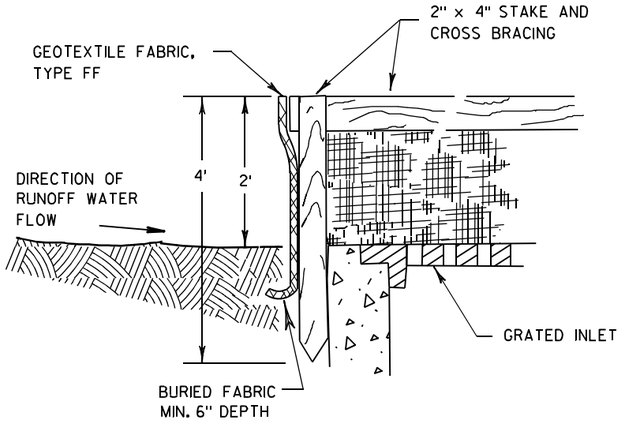
APPROVED
4-29-05 DATE
/S/ Beth Cannestra
CHIEF ROADWAY DEVELOPMENT ENGINEER
FHWA

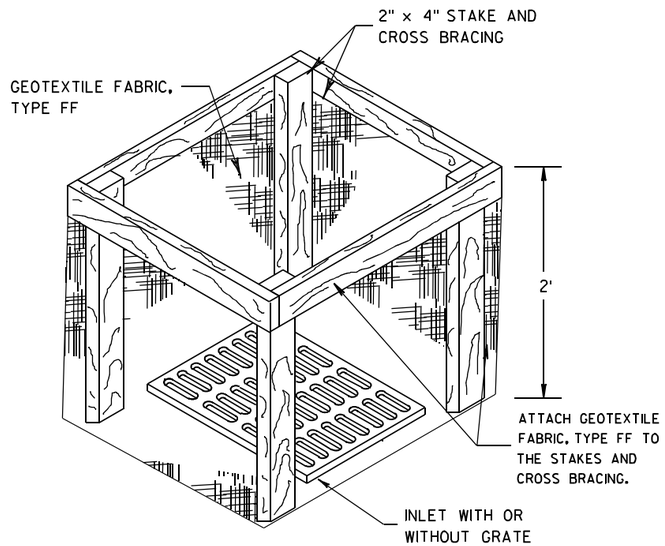
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S.D.D. 8 E 9-6

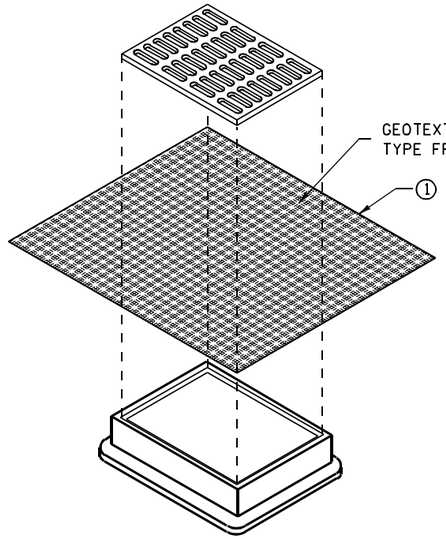
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S.D.D. 8 E 9-6



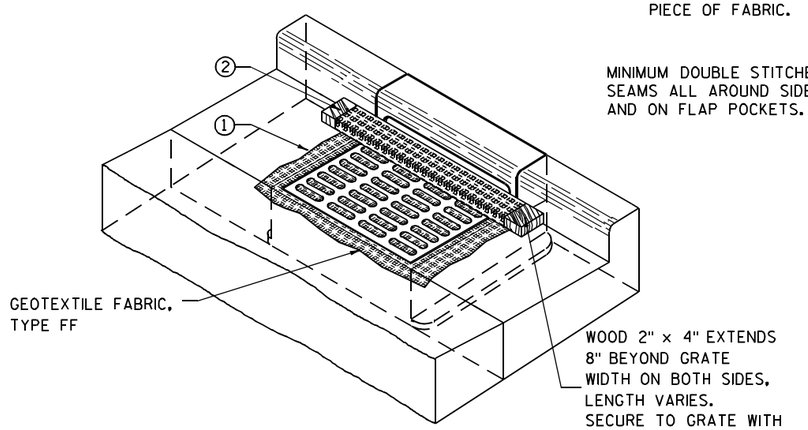


INLET PROTECTION, TYPE A

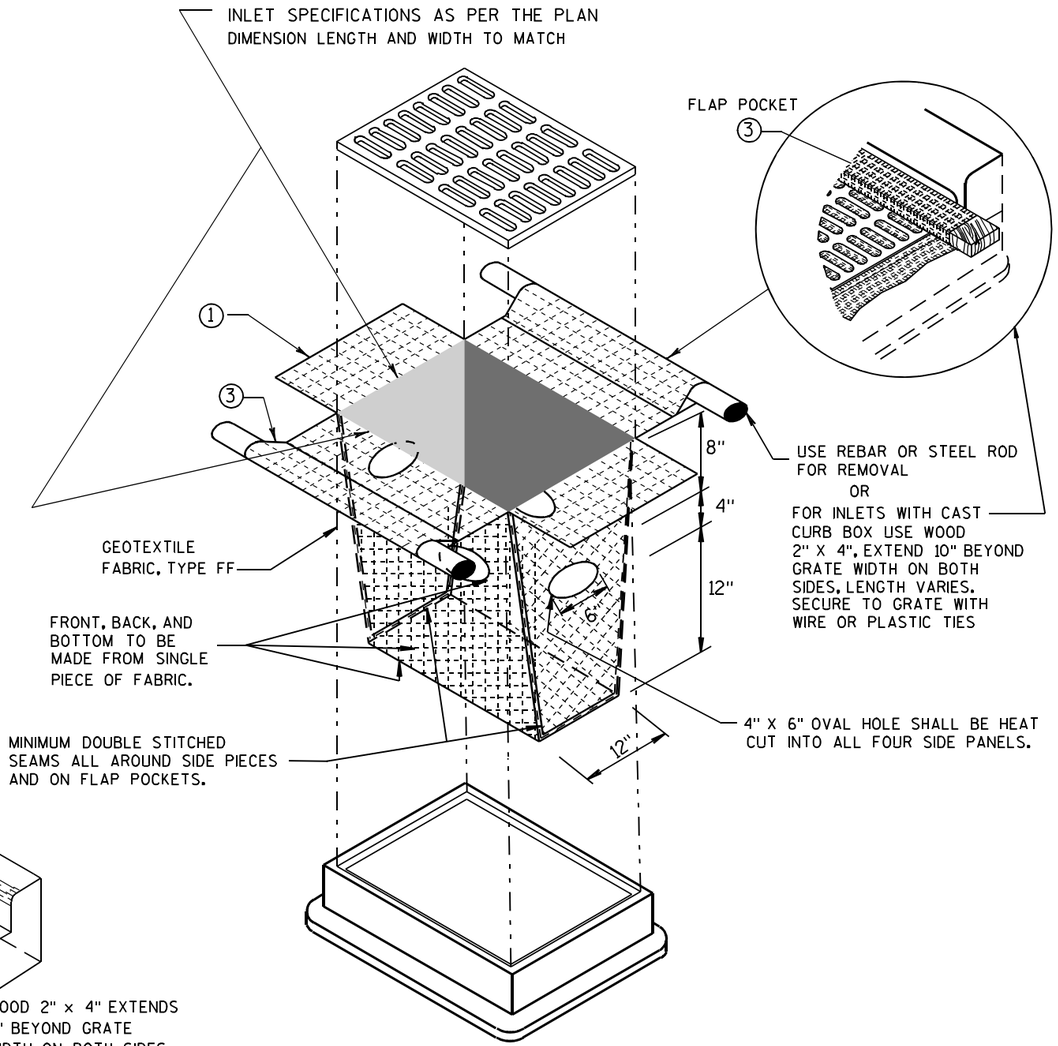


INLET PROTECTION, TYPE B
(WITHOUT CURB BOX)

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



INLET PROTECTION, TYPE C (WITH CURB BOX)



INLET PROTECTION, TYPE D

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

GENERAL NOTES

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

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

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

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

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

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

INSTALLATION NOTES

TYPE B & C

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

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

TYPE D

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

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

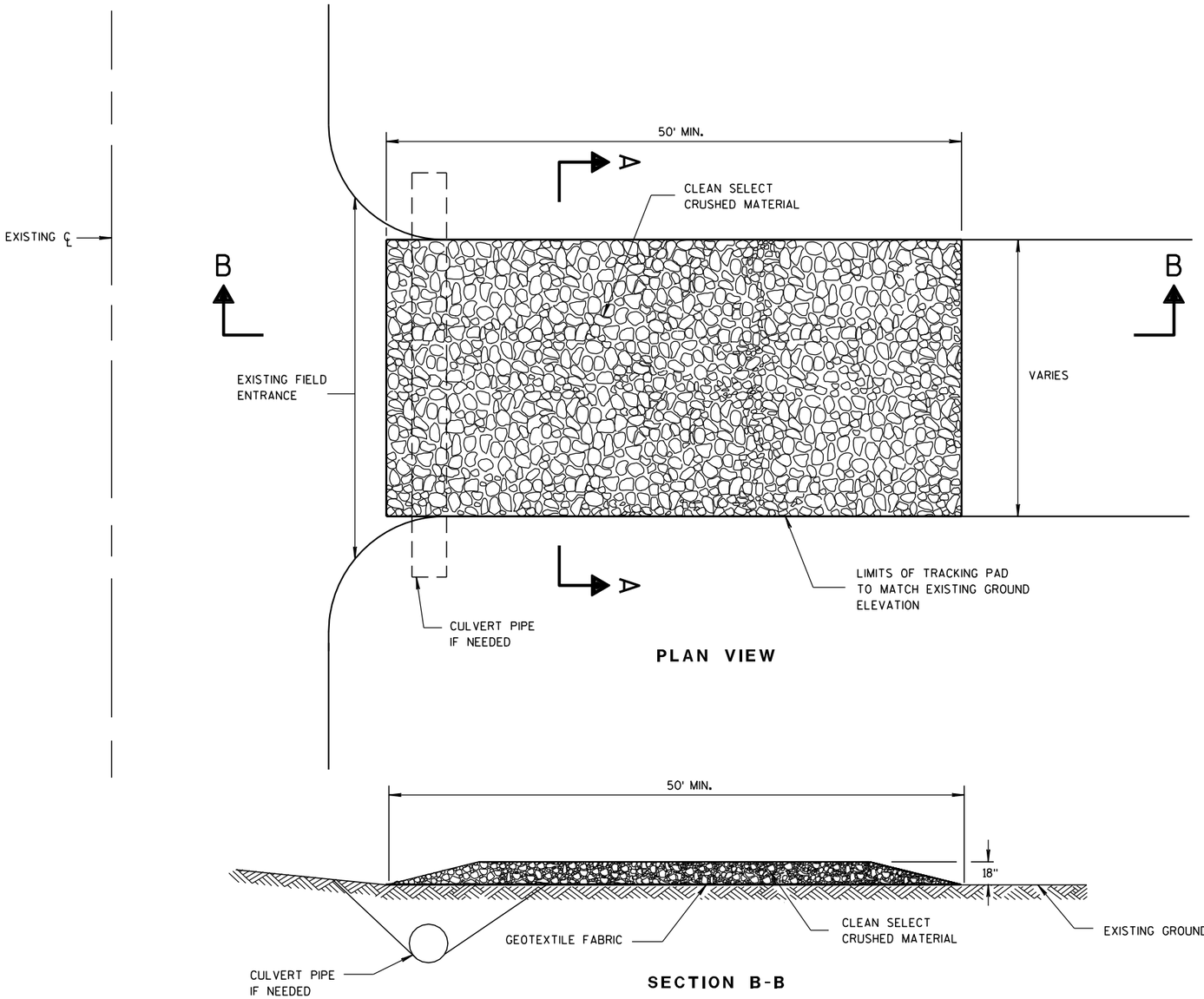
THE INSTALLED BAG SHALL HAVE A MINIMUM SIDE CLEARANCE, BETWEEN THE INLET WALLS AND THE BAG, MEASURED AT THE BOTTOM OF THE OVERFLOW HOLES, OF 3". WHERE NECESSARY THE CONTRACTOR SHALL CINCH THE BAG, USING PLASTIC ZIP TIES, TO ACHIEVE THE 3" CLEARANCE. THE TIES SHALL BE PLACED AT A MAXIMUM OF 4" FROM THE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

INLET PROTECTION
TYPE A, B, C, AND D

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
10/16/02
DATE
/S/ Beth Cannestra
CHIEF ROADWAY DEVELOPMENT ENGINEER
FHWA

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



PLAN VIEW

SECTION B-B

GENERAL NOTES

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

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

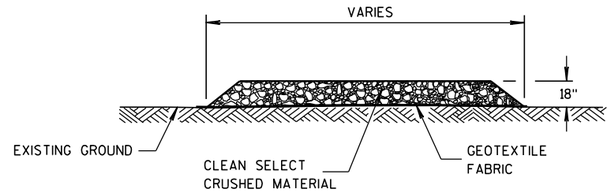
TRACKING PAD TO BE REMOVED AFTER CONSTRUCTION IS COMPLETED.

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

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

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

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



SECTION A-A

TRACKING PAD

6

S.D.D. 8 E 14-1

TRACKING PAD

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

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

FHWA

6

S.D.D. 8 E 14-1

METAL APRON ENDWALLS

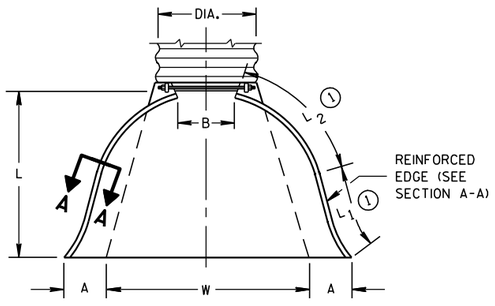
PIPE DIA. (IN.)	MIN. THICK. (Inches) STEEL	MIN. THICK. (Inches) ALUM.	DIMENSIONS (Inches) A (±1")	B (MAX.)	H (±1")	L (±1 1/2")	L1 ①	L2 ①	W (±2")	APPROX. SLOPE	BODY
12	.064	.060	6	6	6	21	12	17 1/2	24	2 1/2 to 1	1 Pc.
15	.064	.060	7	8	6	26	14	21 3/4	30	2 1/2 to 1	1 Pc.
18	.064	.060	8	10	6	31	15	28 1/4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

× EXCEPT CENTER PANEL SEE GENERAL NOTES

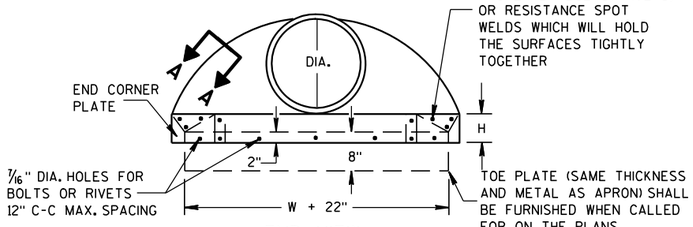
REINFORCED CONCRETE APRON ENDWALLS

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

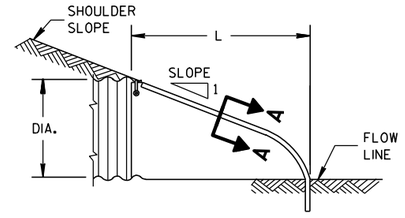
*MINIMUM
**MAXIMUM



PLAN VIEW

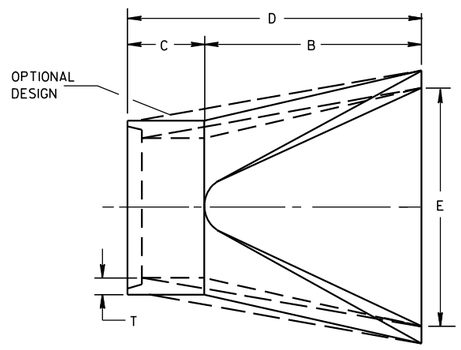


END VIEW

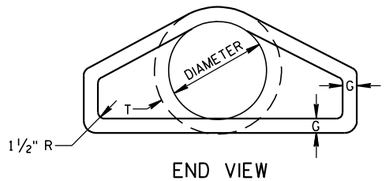


SIDE ELEVATION

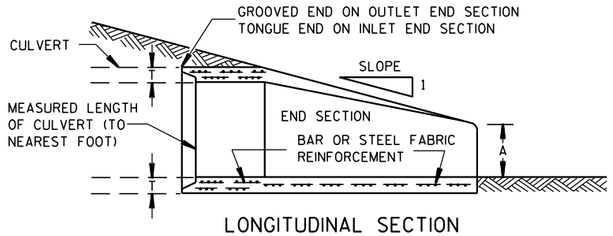
METAL ENDWALLS



PLAN

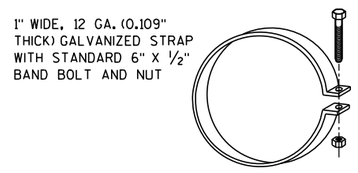


END VIEW



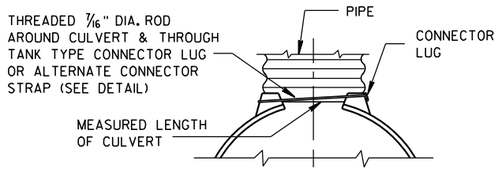
LONGITUDINAL SECTION

CONCRETE ENDWALLS

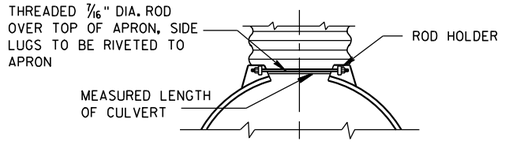


ALTERNATE FOR TYPE 1 CONNECTION

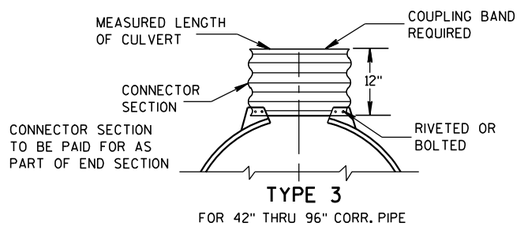
END SECTION CONNECTOR STRAP



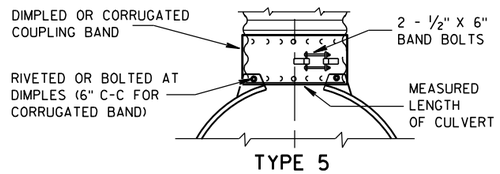
TYPE 1
FOR 12" THRU 24" CORR. PIPE



TYPE 2
FOR 30" THRU 96" CORR. PIPE



TYPE 3
FOR 42" THRU 96" CORR. PIPE



TYPE 5
ALTERNATE FOR:
ALL SIZES CORRUGATED CIRCULAR PIPE

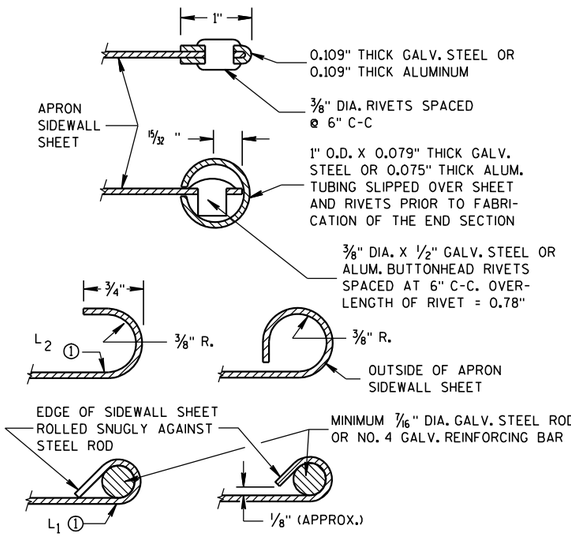
NOTE: DIMPLED BAND FITS OVER OUTSIDE OF ENDWALL. AND CORRUGATED BAND FITS INSIDE ENDWALL. DIMPLED BAND MAY BE USED WITH HELICALLY CORRUGATED PIPE.

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

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

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

CONNECTION DETAILS



SECTION A-A

GENERAL NOTES

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

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

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

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

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

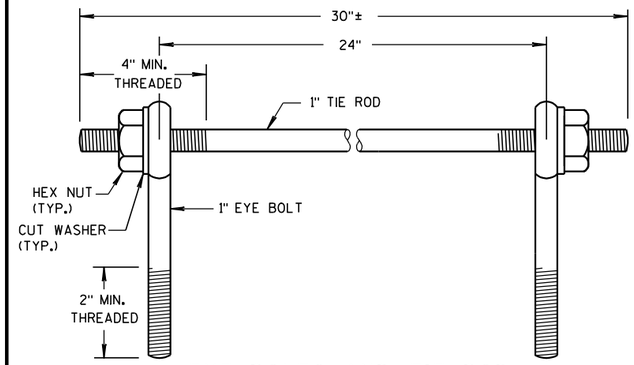
① FOR PIPE SIZES UP TO 60" DIAMETER, A 180° ROLLED EDGE MAY BE USED INSTEAD OF STEEL ROD REINFORCEMENT. SEE SECTION A-A.

APRON ENDWALLS FOR CULVERT PIPE

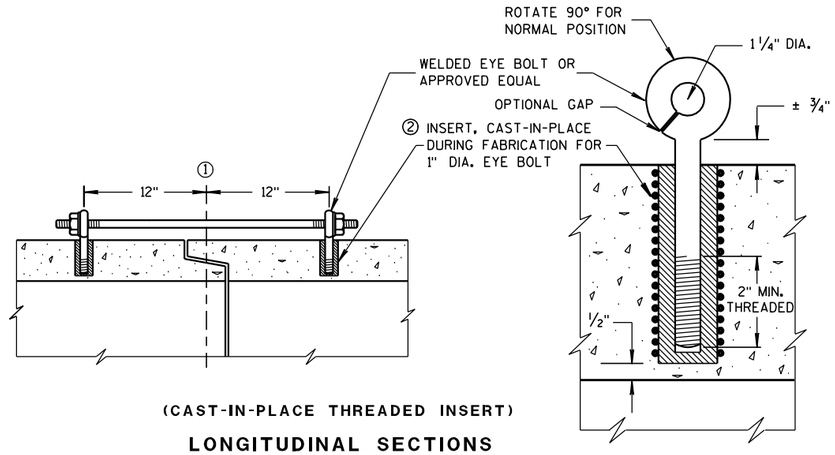
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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

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



EYE BOLTS AND TIE ROD



(CAST-IN-PLACE THREADED INSERT)

LONGITUDINAL SECTIONS

EYE BOLT AND TIE ROD ASSEMBLY (ALTERNATE NO. 1)

GENERAL NOTES

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

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

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

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

① ℄ OF TONGUE AND GROOVE OR BELL AND SPIGOT JOINTS.

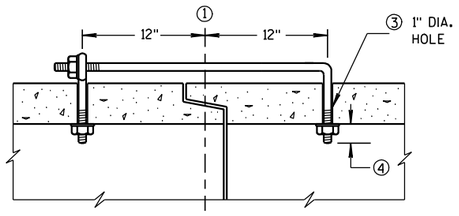
② THE INSIDE OF THE THREADED INSERTS SHALL BE CLEAN TO ALLOW THE INSERTION OF THREADED EYE BOLTS.

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

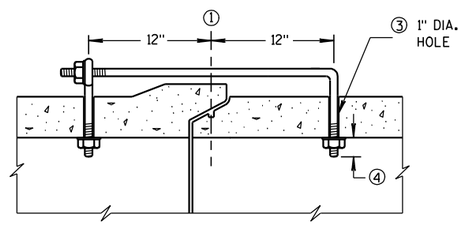
④ BOLT PROJECTION INSIDE OF PIPE SHALL NOT EXCEED 2 INCHES.

⑤ OPENING TO BE ROD DIAMETER PLUS 1 INCH.

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



(TONGUE & GROOVE PIPE)

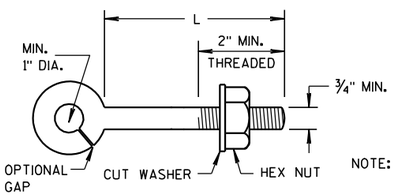


(MODIFIED BELL PIPE)

LONGITUDINAL SECTION

EYE BOLT DIMENSION TABLE

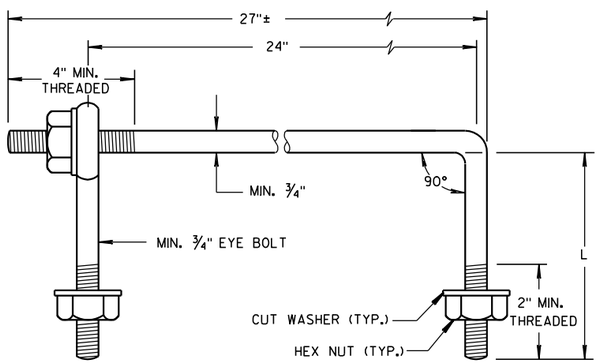
PIPE SIZE	L = LENGTH	
	TONGUE & GROOVE PIPE	MODIFIED BELL PIPE
18" TO 24"	4 1/2"	6 1/4"
30"	5"	7"
36"	5 1/2"	7"
42"	6"	
48"	6 1/2"	
60"	7 1/2"	
66"	8"	



NOTE:

EYE BOLT

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



EYE BOLT AND TIE ROD

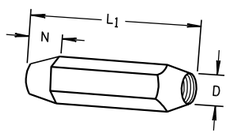
(JOINT TIES FOR 18" TO 66" DIA. CONCRETE PIPE)

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

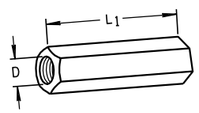
ADJUSTABLE TIE ROD TABLE

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

DIMENSIONS SHOWN ARE IN INCHES



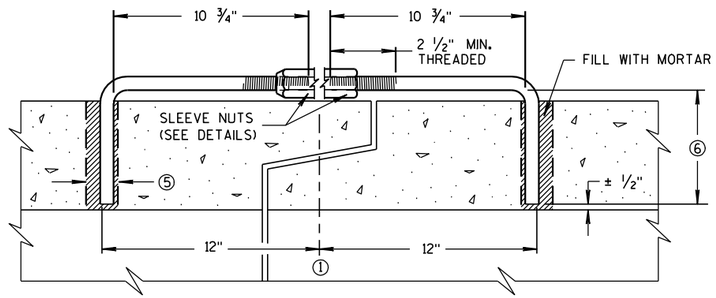
TAPERED



PLAIN

RIGHT AND LEFT THREADS

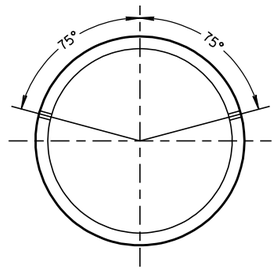
SLEEVE NUTS



LONGITUDINAL SECTION

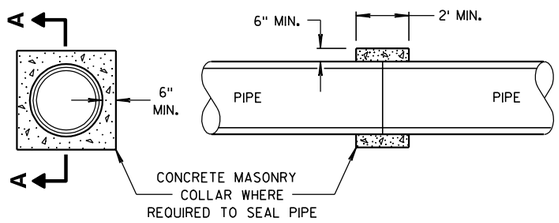
(JOINT TIES FOR 12" TO 108" DIA. CONCRETE PIPE)

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

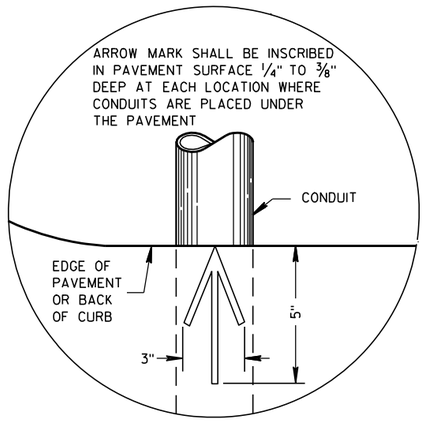
APPROVED
6/5/2012 — DATE
/S/ Jerry H. Zogg — ROADWAY STANDARDS ENGINEER
FHWA

6

S.D.D. 8 F 4-7

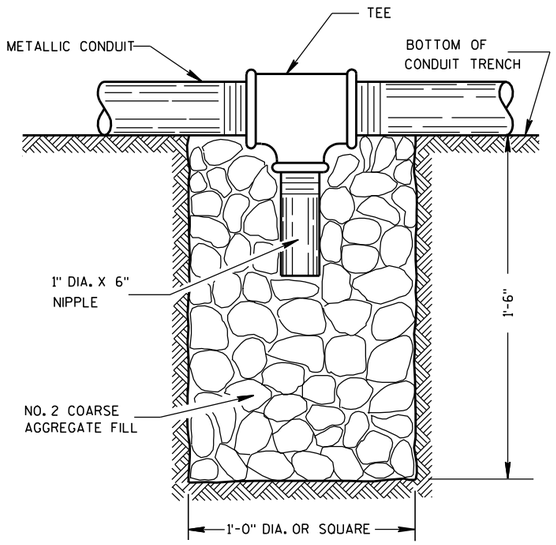
6

S.D.D. 8 F 4-7



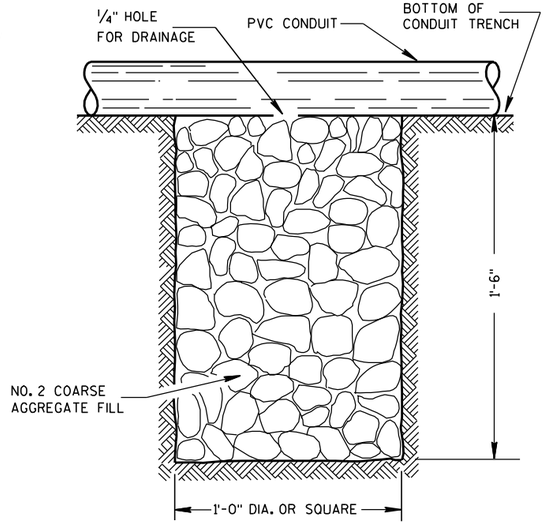
PLAN VIEW

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.

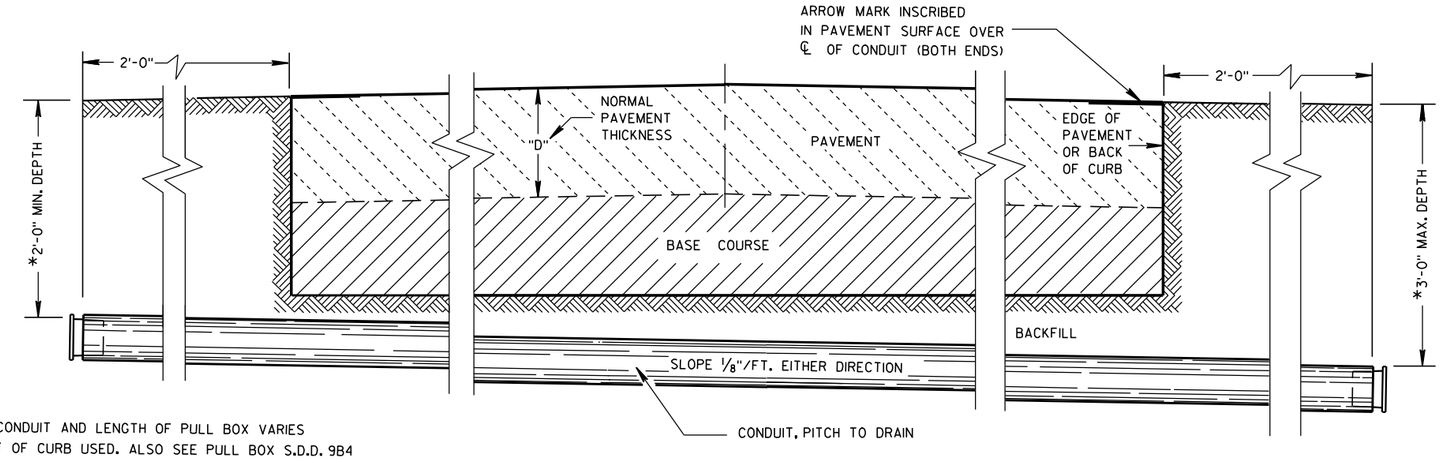
PRIOR TO CONDUIT ACCEPTANCE, CONDUIT CAPS OR PLUGS SHALL BE REMOVED, AND THE CAPS, PLUGS AND CONDUIT ENDS SHALL BE THOROUGHLY CLEANED AND THEN THE CAPS OR PLUGS REINSTALLED TO ENSURE THAT THE CAPS OR PLUGS CAN BE EASILY REMOVED IN THE FUTURE.

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

155

HWYS

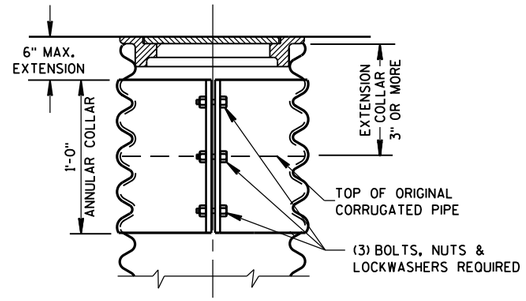
FHWA

TABLE OF NOMINAL DIMENSIONS AND WEIGHTS

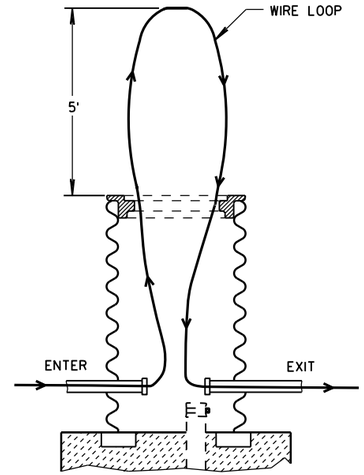
DIMENSION IN INCHES		CORRUGATED STEEL PIPE								
PIPE DIAMETER (INSIDE)	A	12	12	12	18	18	18	24	24	24
PIPE LENGTH **	B	24	30	36	24	30	36	36	42	48
WALL THICKNESS	C	0.064	0.064	0.064	0.064	0.064	0.064	0.064	0.064	0.064
COVER	D	10 1/4	10 1/4	10 1/4	16 1/4	16 1/4	16 1/4	22 1/4	22 1/4	22 1/4
FRAME	E	14 1/2	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.

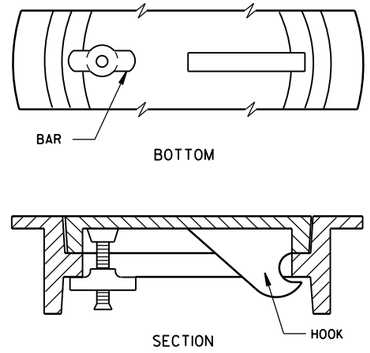
** NORMALLY USED LENGTHS. THE PROJECT ENGINEER SHALL DETERMINE IF PIPE LENGTHS, OTHER THAN THOSE SPECIFIED, SHALL BE USED, TO A MAXIMUM OF 48" (CONTINUOUS LENGTH, NON-SPLICED). THE ADDITIONAL LENGTH SHALL BE INCIDENTAL TO THE PULL BOX BID PRICE.



CORRUGATED PIPE EXTENDER

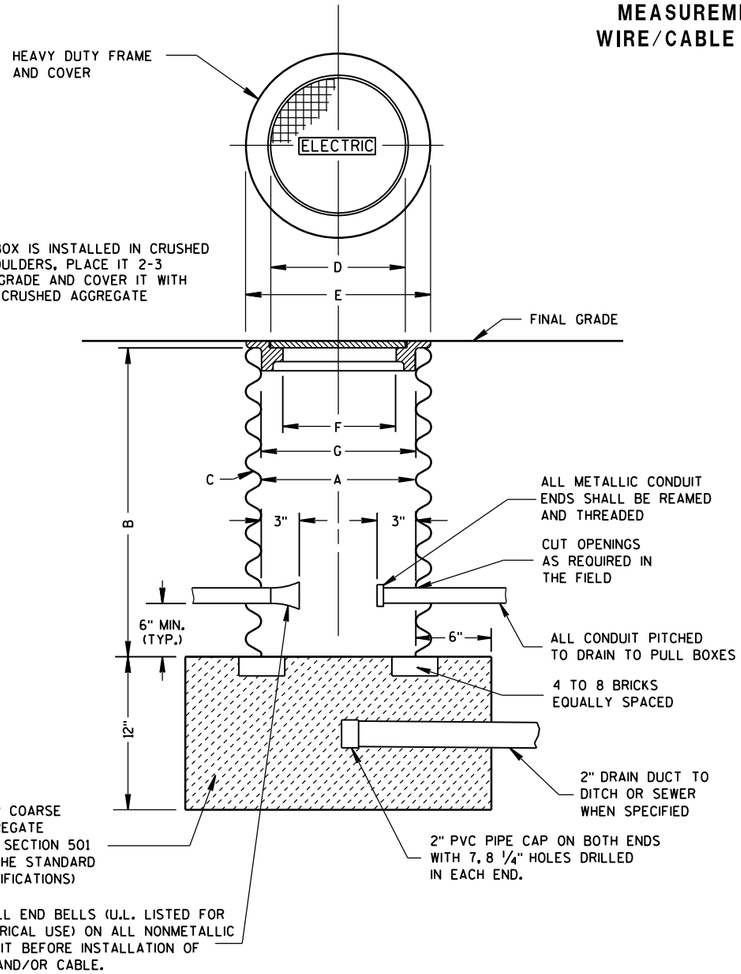


MEASUREMENT DETAIL FOR WIRE/CABLE IN THE PULL BOX



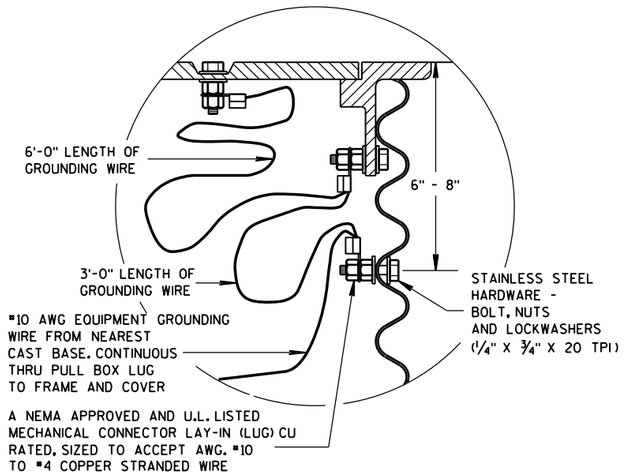
ALTERNATE COVER (LOCKING)

TIGHTENING BAR TYPE

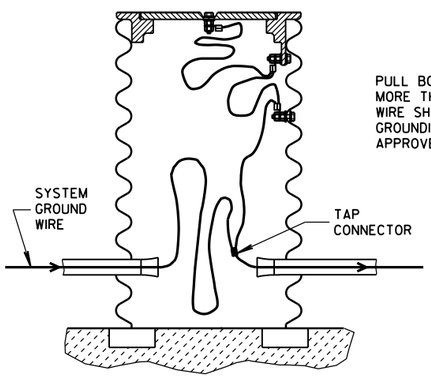


WHEN A PULL BOX IS INSTALLED IN CRUSHED AGGREGATE SHOULDERS, PLACE IT 2-3 INCHES BELOW GRADE AND COVER IT WITH 2-3 INCHES OF CRUSHED AGGREGATE

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

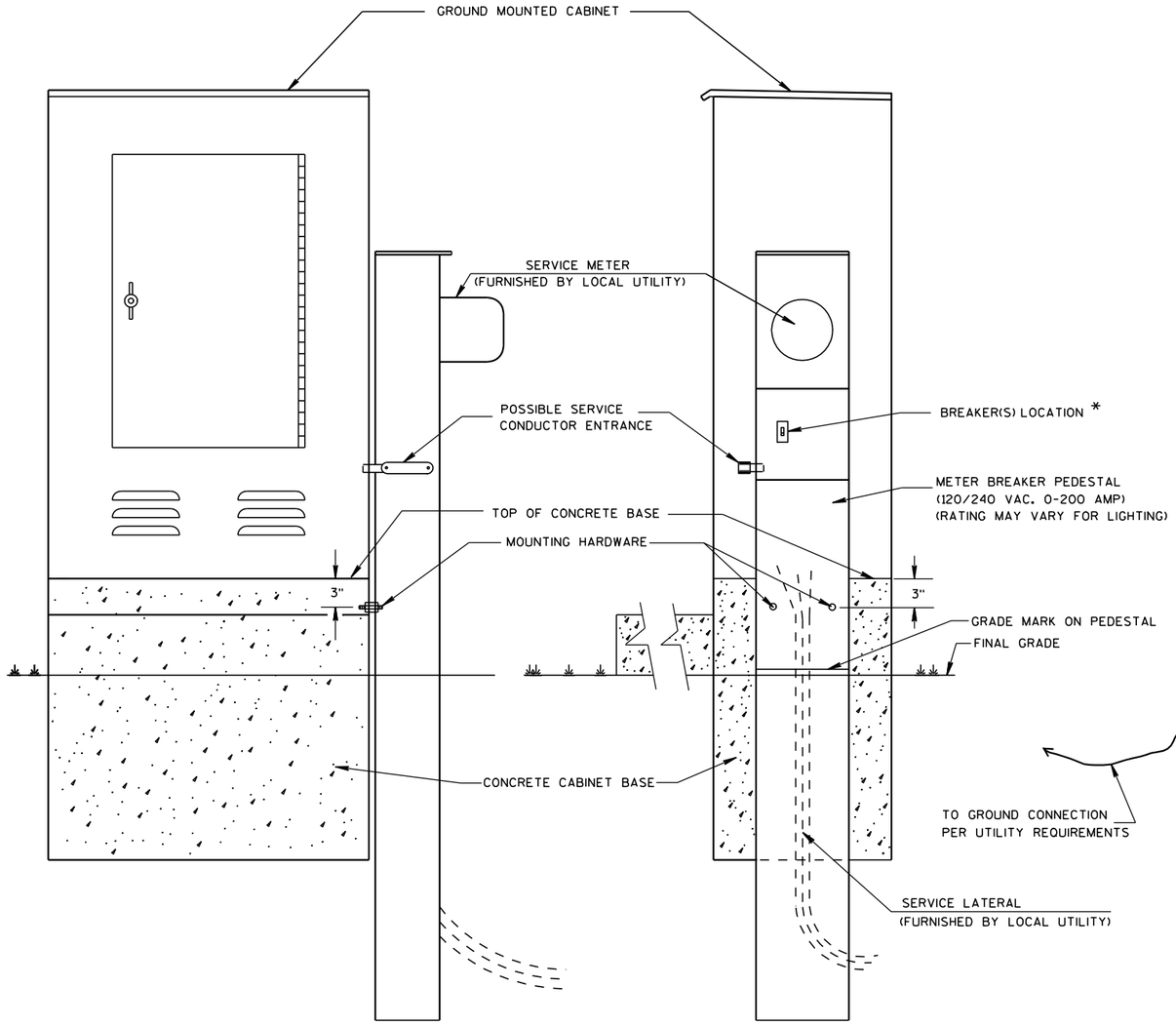
FHWA

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S.D.D. 9 B 4-10

6

S.D.D. 9 B 4-10



TYPICAL CABINET SERVICE INSTALLATION

GENERAL NOTES

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

THE EXACT LOCATION OF THE METER BREAKER PEDESTAL SHALL BE DETERMINED BY THE ENGINEER IN THE FIELD.

THE TYPE OF CONCRETE CABINET BASE TO BE INSTALLED SHALL BE AS CALLED FOR IN THE PLANS.

TO FACILITATE FLUSH MOUNTING OF THE METER BREAKER PEDESTAL AGAINST THE SIDE OF THE CABINET BASE (IF FLUSH MOUNTING POSSIBLE. CONFER WITH THE LOCAL UTILITY TO DETERMINE WHICH SIDE OF THE CONCRETE BASE THE ELECTRICAL SERVICE LATERAL WILL APPROACH. THEN FORM THAT INDICATED SIDE FOR FULL SIDE DEPTH.

WHILE FLUSH MOUNTING IS THE MOST DESIRABLE MOUNTING CONFIGURATION UTILITY REQUIREMENTS MAY PRECLUDE THIS OPTION. CONTRACTOR MUST PROVIDE UTILITY APPROVED PEDESTAL AND INSTALL PER UTILITY AND MANUFACTURERS REQUIREMENTS.

SERVICE CONDUCTOR ENTRANCES SHALL BE RIGID METALLIC CONDUIT, NIPPLES AND/OR CONDULETS AS REQUIRED.

SERVICE CONDUCTOR ENTRANCES SHALL BE SIZED AND LOCATED AS REQUIRED BY THE LOCAL UTILITY AND IN ACCORDANCE WITH APPROPRIATE ARTICLES OF THE LATEST ACCEPTED NATIONAL ELECTRICAL CODE.

IF MORE THAN ONE GROUNDING ELECTRODE IS REQUIRED, THE DISTANCE APART SHALL BE 6 FEET OR PER LOCAL UTILITY REGULATIONS.

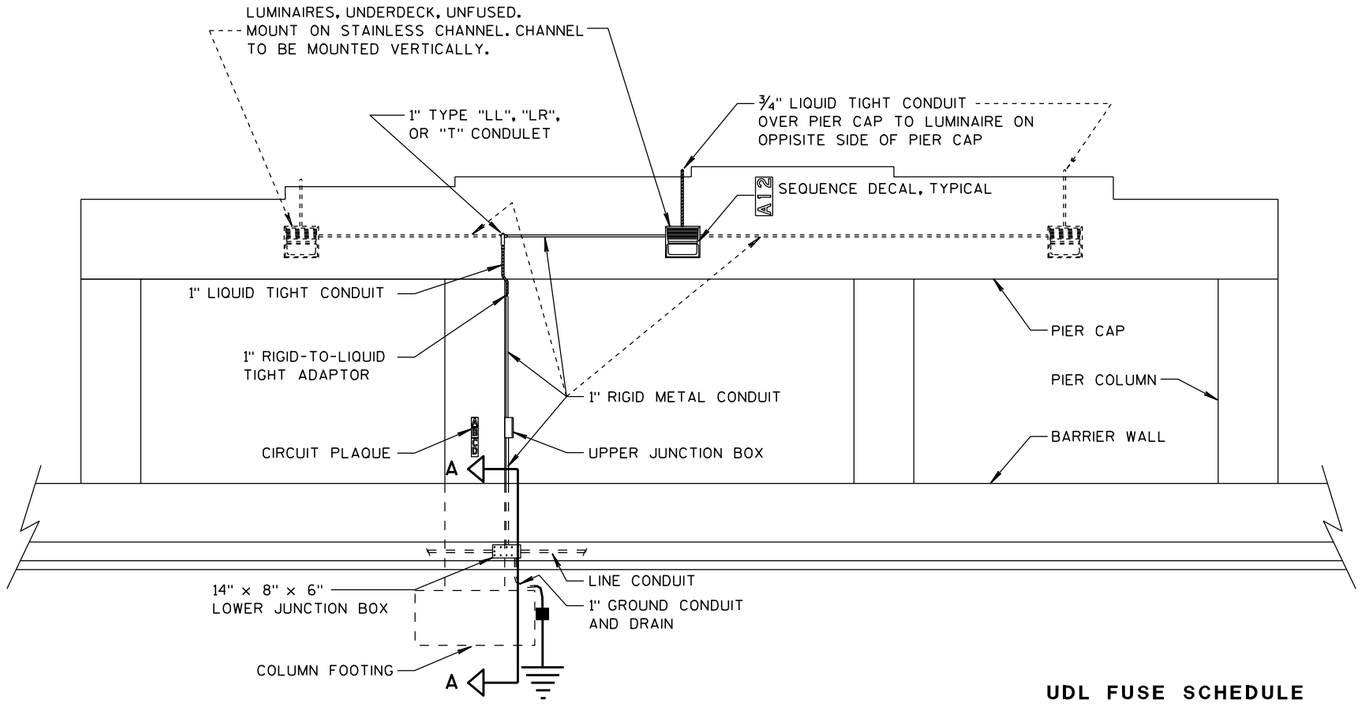
* SOME PEDESTAL LIGHTING PLANS SHOW MAIN LUGS ONLY.

CABINET SERVICE INSTALLATION (METER BREAKER PEDESTAL)

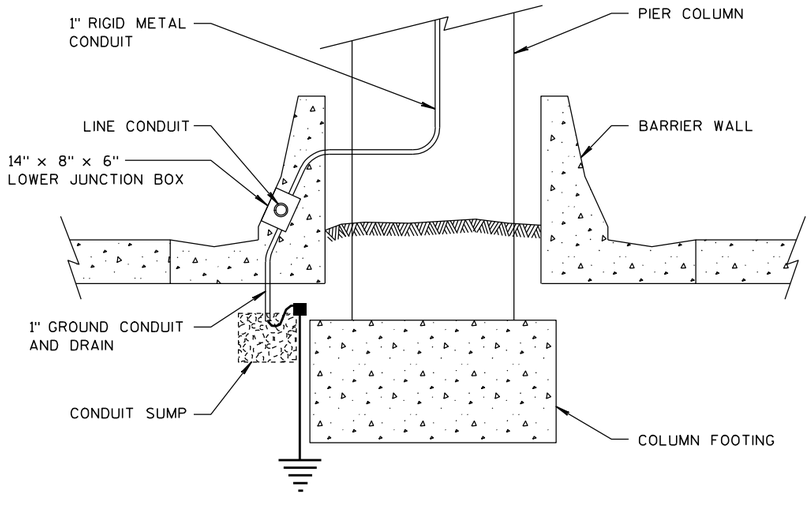
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
10/27/09 DATE
/S/ Joanna L. Bush STATE ELECTRICAL ENGI
157
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FHWA

6
S.D.D. 9 D 1-4



TYPICAL UNDERDECK LIGHTING INSTALLATION



SECTION "A-A"

UDL FUSE SCHEDULE

LINE VOLTAGE ϕ-GROUND	TOP JUNCTION BOX FUSES
120VAC	5 A
208VAC	5 A
240VAC	5 A
480VAC	3 A

GENERAL NOTES

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

USE THIS DETAIL IN CONJUNCTION WITH THE DETAIL FOR ELECTRICAL HANDHOLE WIRING, SUBSTITUTING THE LOWER JUNCTION BOX FOR THE HANDHOLE SHOWN IN THAT DETAIL.

THE GROUNDING ELECTRODE CONDUCTOR SHALL BE CONTINUOUS WITHOUT SPLICES FROM THE GROUNDING ELECTRODE THROUGH THE LUG OF THE LOWER JUNCTION BOX TO THE SPLICE.

THE PLANS WILL SHOW WHICH CIRCUIT LEGS(S) ARE CONNECTED TO EACH INSTALLATION AND THE REQUIRED NUMBER OF LUMINAIRES.

THE UPPER JUNCTION BOX (FOR FUSE ASSEMBLIES) SHALL CONFORM TO THE APPLICABLE PROVISIONS OF SECTION 653.2.2 OF THE STANDARD SPECIFICATIONS; SHALL BE SUITABLE FOR SURFACE MOUNTING WITH EXTERNAL MOUNTING LUGS; AND SHALL HAVE A HINGED COVER, WING-NUT FASTENERS, AND PADLOCK HASP. ALL HARDWARE SHALL BE STAINLESS STEEL. FURNISH O-Z/GEDNEY YW-120603, SPRING CITY HC-12-06-04, CROUSE-HINDS WTB-120604, OR APPROVED EQUAL.

MEDIAN CONFIGURATIONS VARY; NOT ALL CASES CAN BE SHOWN IN THIS DETAIL.

WIRING FOR THE FIRST LUMINAIRE PAIR IS SHOWN IN SOLID LINES. WIRING FOR ADDITIONAL LUMINAIRE PAIRS, WHERE REQUIRED, IS SHOWN IN DOTTED LINES.

LEGEND

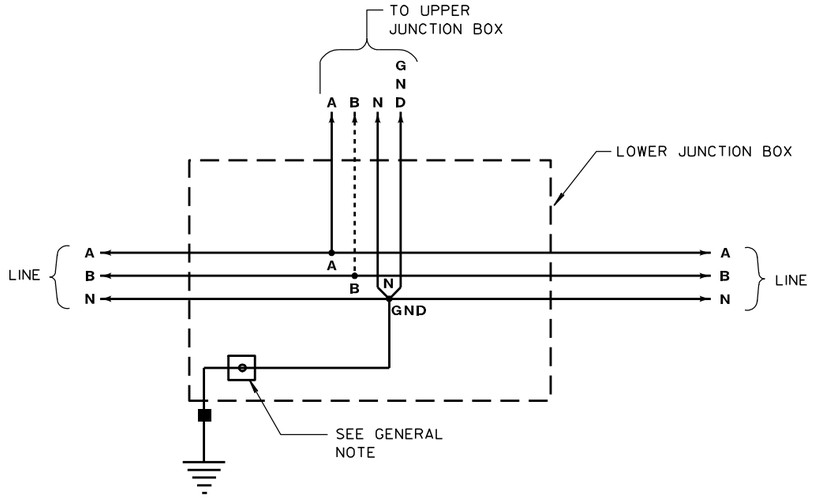
A,B,X,Y,Z	UNGROUNDED CIRCUIT CONDUCTORS
N	GROUNDED CIRCUIT CONDUCTORS
GND	EQUIPMENT GROUNDING CONDUCTOR
P	POLE (ELECTRICAL CIRCUIT)
ϕ	PHASE (ELECTRICAL CURRENT)
	HANDHOLE GROUND LUG
	UNFUSED LUMINAIRE
	SINGLE POLE (1P) FUSE ASSEMBLY
	EQUIPMENT GROUNDING ELECTRODE
	TERMINAL
	SPLICE
	CONDUCTOR
	EXOTHERMIC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

ELECTRICAL DETAILS
UNDERDECK LIGHTING

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

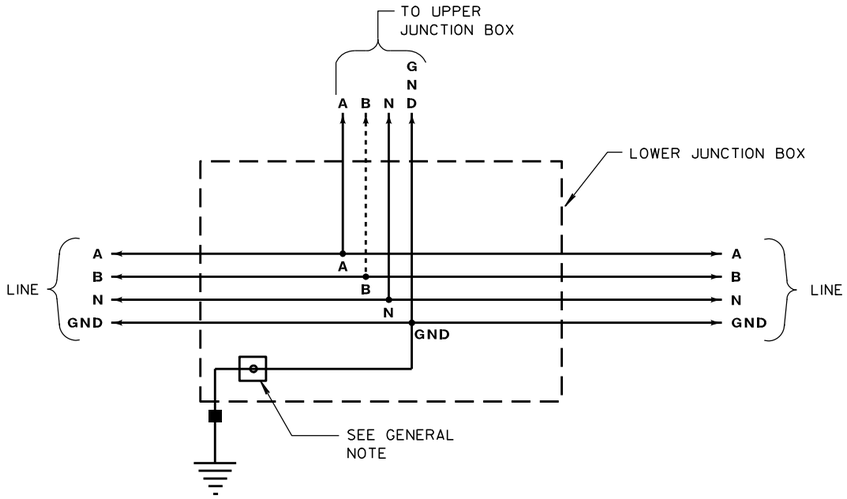
6

S.D.D. 10 A 15-3a



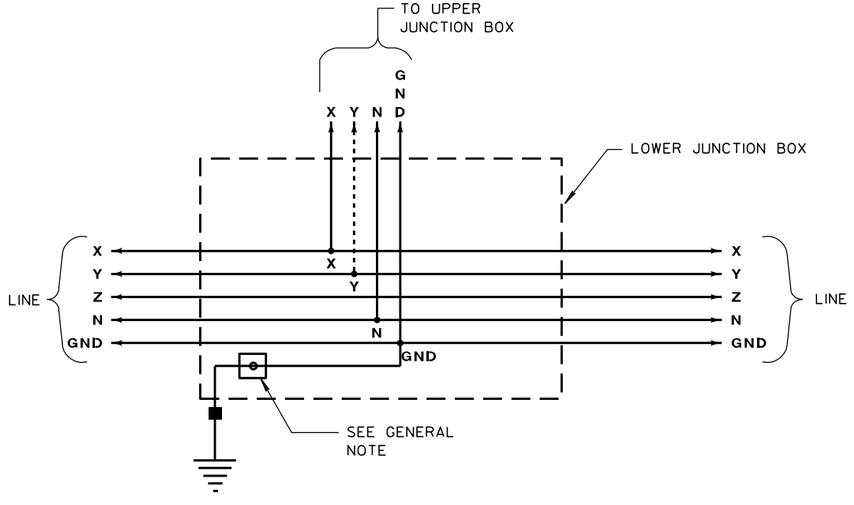
TYPICAL WIRING DIAGRAM, LOWER JUNCTION BOX

GROUNDED NEUTRAL SYSTEM
1-ϕ 240/480VAC OR 3 WIRE OR 480VAC 2 WIRE



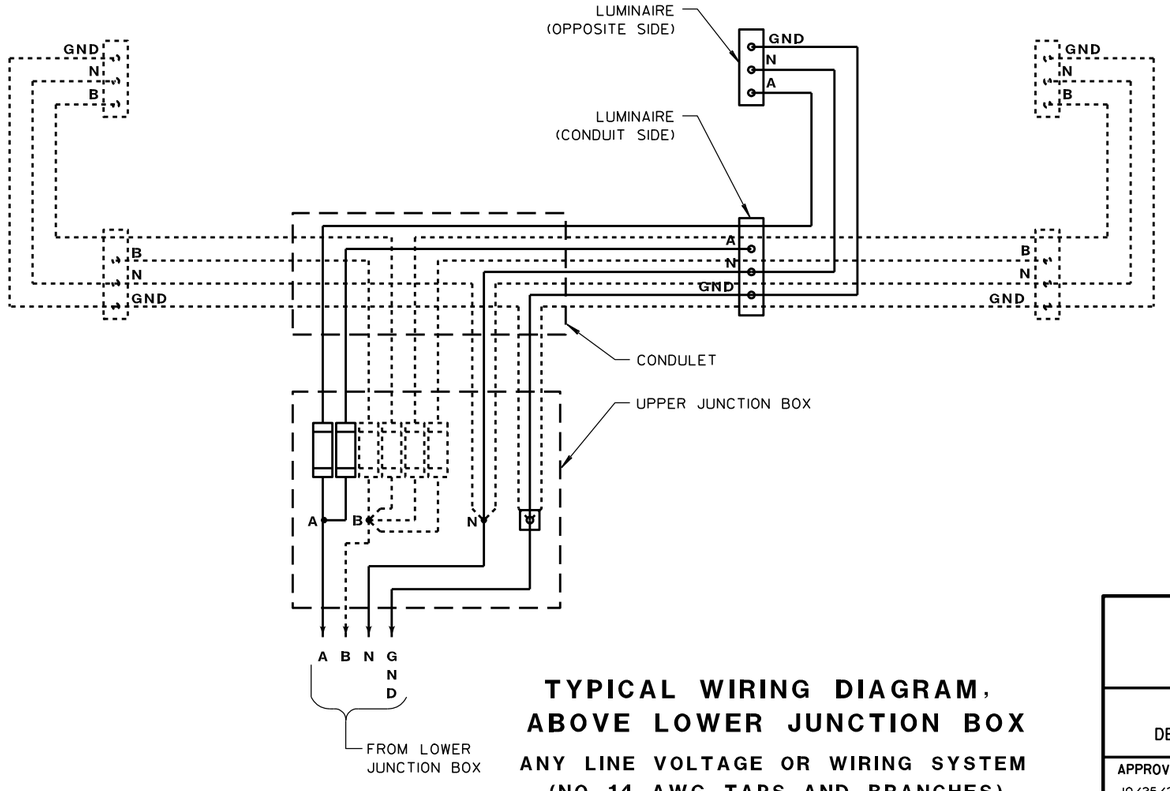
TYPICAL WIRING DIAGRAM, LOWER JUNCTION BOX

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



TYPICAL WIRING DIAGRAM, LOWER JUNCTION BOX

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



TYPICAL WIRING DIAGRAM, ABOVE LOWER JUNCTION BOX

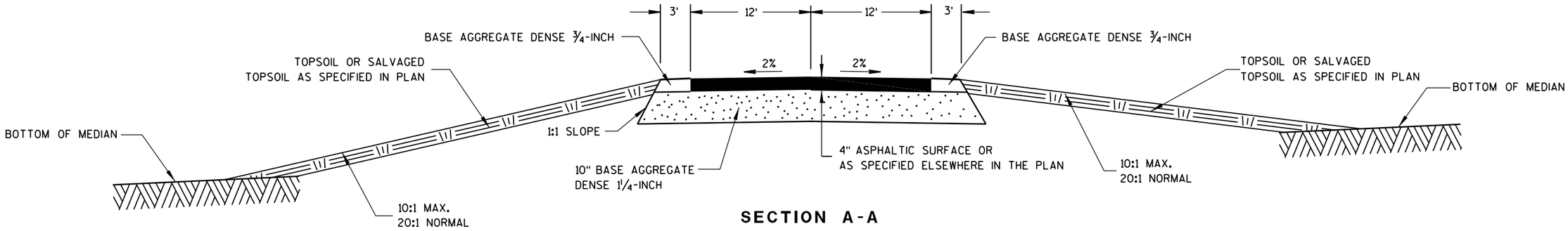
ANY LINE VOLTAGE OR WIRING SYSTEM
(NO. 14 AWG TAPS AND BRANCHES)

ELECTRICAL DETAILS
UNDERDECK LIGHTING

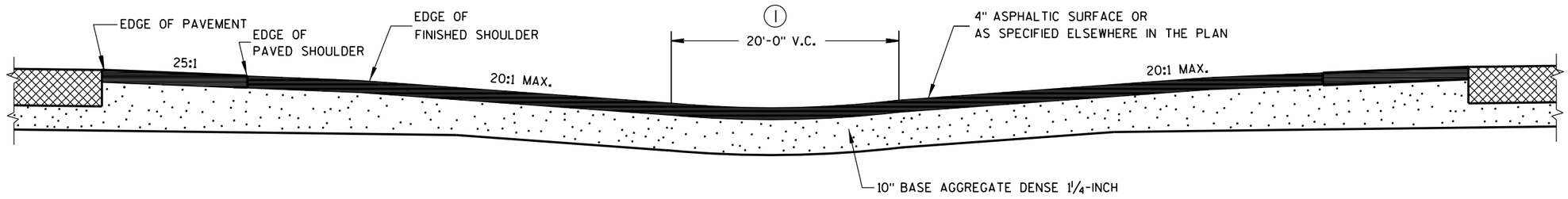
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
10/25/2010 DATE
/S/ John Cc-hle
STATE ELECTRICAL ENGI
159
HWYS
FHWA

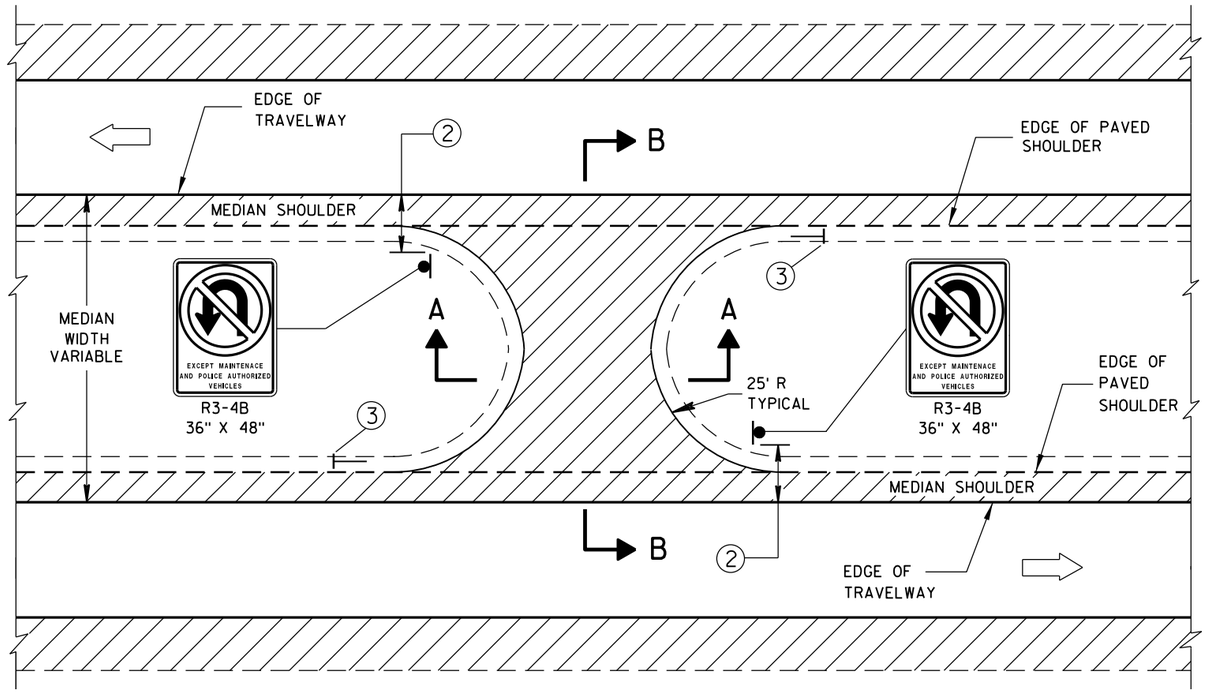
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S.D.D. 10 A 15-3b



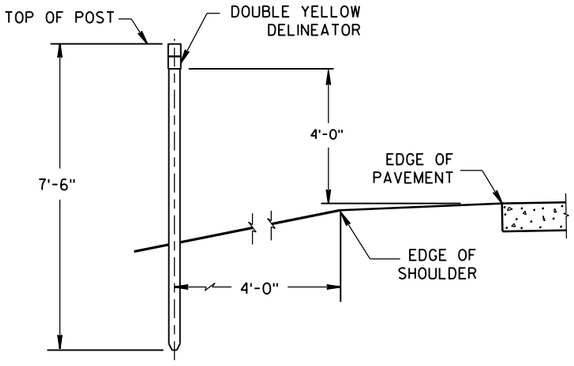
SECTION A-A



SECTION B-B



PLAN VIEW



DOUBLE YELLOW DELINEATOR INSTALLATION

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) ADJUST VERTICAL CURVE LOCATION LATERALLY TO MAINTAIN 20:1 MAX.

(2) SIGNING DETAILS AND SPECIFICATIONS ARE PROVIDED ELSEWHERE IN THE CONTRACT.

(3) INSTALL DOUBLE YELLOW DELINEATOR. SEE STANDARD DETAIL DRAWING 15A2.

MAINTENANCE CROSSOVER FOR FREEWAYS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

8/2013 — DATE

/S/ Jerry H. Zogg — ROADWAY STANDARDS DEVELOPMENT ENGINEER

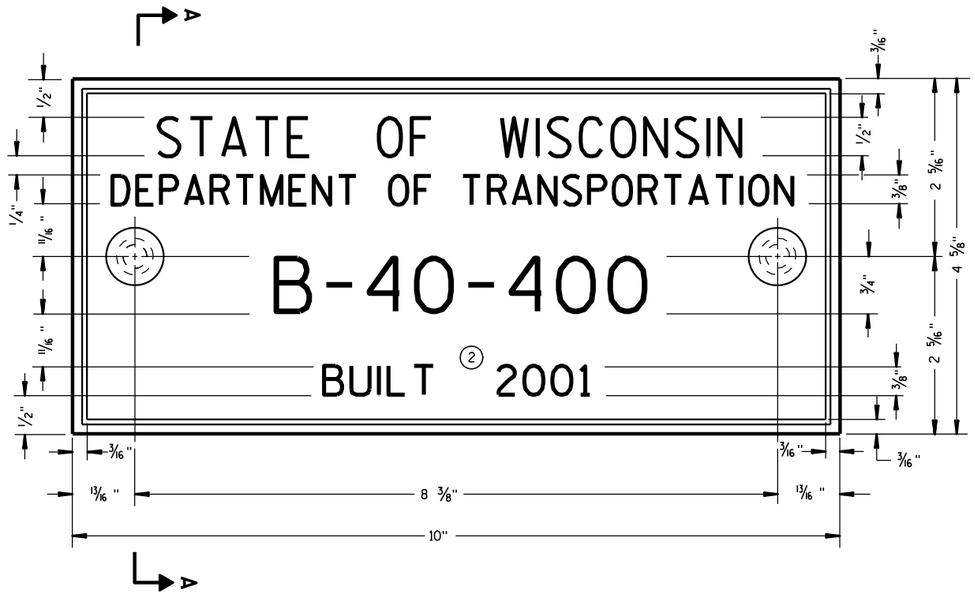
FHWA

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S.D.D. 11 A 1-5

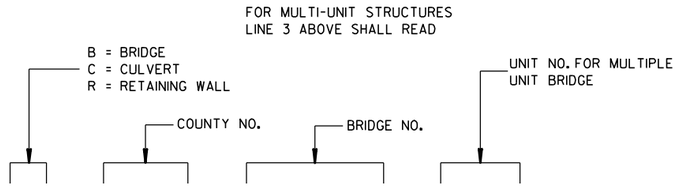
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S.D.D. 11 A 1-5



TYPICAL NAME PLATE

(BRIDGES, CULVERTS, AND RETAINING WALLS)



NUMBERING DESIGNATION
MULTI-UNIT STRUCTURES

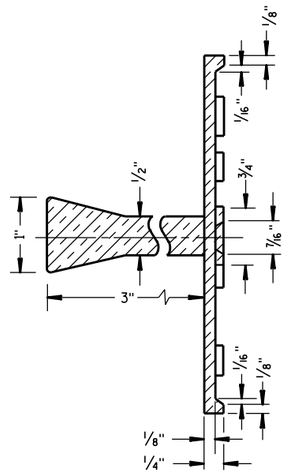
GENERAL NOTES

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

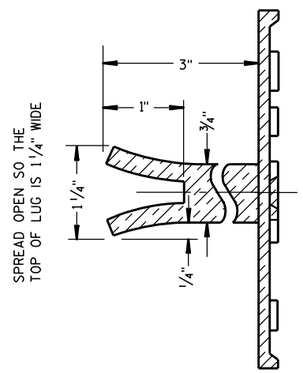
THE BRIDGE NUMBER AND YEAR BUILT SHOWN ON THIS DRAWING ARE EXAMPLES ONLY. SEE CONSTRUCTION PLANS FOR INDIVIDUAL NUMBERING AND YEAR BUILT.

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

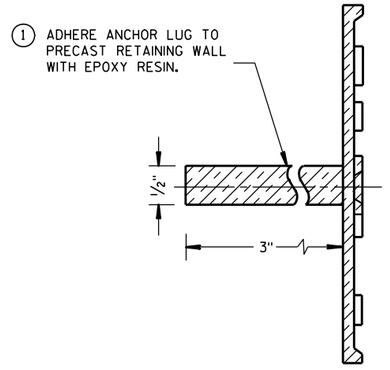
(2) REHABILITATION OF AN EXISTING STRUCTURE SHOULD USE THE DATE OF ORIGINAL STRUCTURE CONSTRUCTION.



SECTION A-A



ALTERNATE LUG



ALTERNATE LUG

(FOR ATTACHMENT TO PRECAST STRUCTURES)

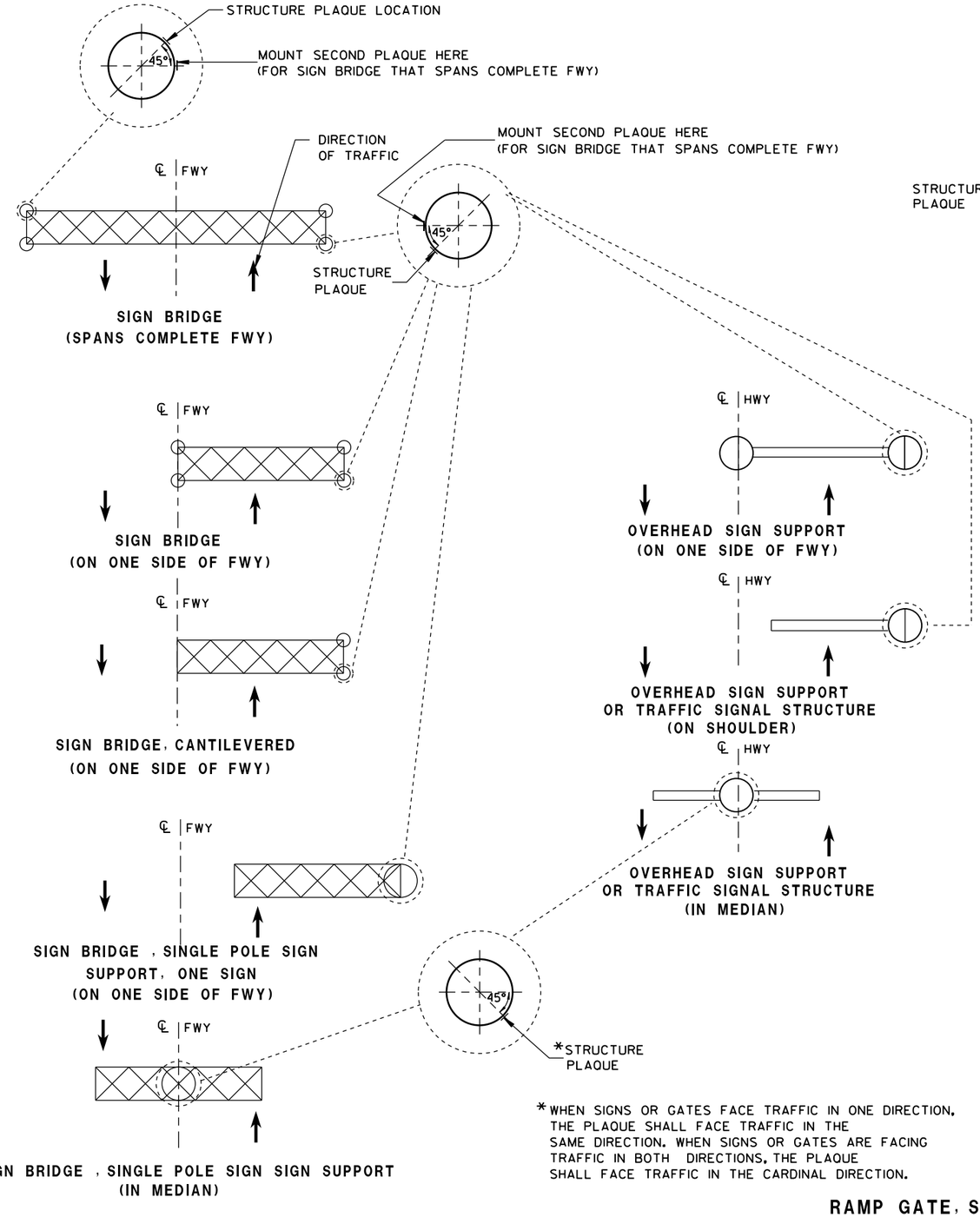
NAME PLATE (STRUCTURES)	
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
APPROVED	
3/26/10 DATE	/S/ Scot Beck -- CHIEF STRUCTURAL DEVELOP ENGINEER
FHWA	

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S.D.D. 12 A 3-10

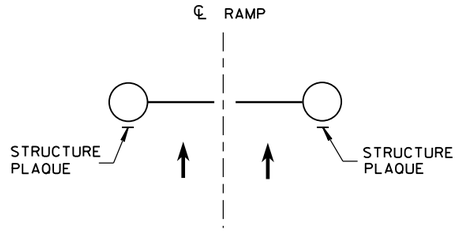
6

S.D.D. 12 A 3-10

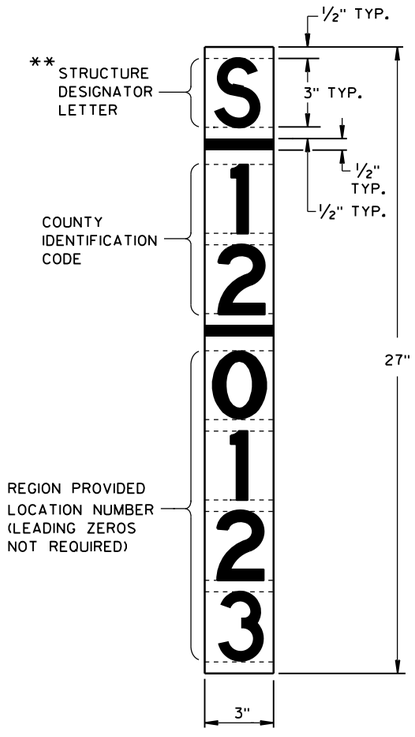


*WHEN SIGNS OR GATES FACE TRAFFIC IN ONE DIRECTION, THE PLAQUE SHALL FACE TRAFFIC IN THE SAME DIRECTION. WHEN SIGNS OR GATES ARE FACING TRAFFIC IN BOTH DIRECTIONS, THE PLAQUE SHALL FACE TRAFFIC IN THE CARDINAL DIRECTION.

LOCATION OF RAMP GATE, SIGN BRIDGE, OVERHEAD SIGN SUPPORT & TRAFFIC SIGNAL STRUCTURE PLAQUES



RAMP GATE
(ACROSS FWY ON-RAMP)



** LETTER "G" UTILIZED FOR RAMP GATES. LETTER "S" UTILIZED FOR SIGN BRIDGES, OVERHEAD SIGN SUPPORTS, AND TRAFFIC SIGNALS.

RAMP GATE, SIGN BRIDGE, OVERHEAD SIGN SUPPORT AND TRAFFIC SIGNAL STRUCTURE PLAQUE FOR SIGN BRIDGES AND OVERHEAD SIGN SUPPORT WHICH ARE NOT STRUCTURE MOUNTED

GENERAL NOTES

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

PLAQUES SHALL BE INCIDENTAL TO ALL NEW INSTALLATIONS.

IF THE PROPOSED SIGN BRIDGE OR OVERHEAD SIGN SUPPORT IS REPLACING AN EXISTING SIGN BRIDGE OR OVERHEAD SIGN SUPPORT, A NEW IDENTIFICATION PLAQUE WILL BE REQUIRED.

FASTEN TOP, CENTER AND BOTTOM OF PLAQUE TO POLE OR OTHER LOCATION AS FOLLOWS:

GALVANIZED STEEL SHAFT - 3 STAINLESS STEEL POP RIVETS

A588 STEEL SHAFT - SHIM FOR DRAINAGE WITH STAINLESS WASHERS; FASTEN WITH STAINLESS SELF-TAPPING SCREWS

ALUMINUM SHAFTS - 3 ALUMINUM POP RIVETS

MOUNTING HEIGHT SHALL BE APPROXIMATELY 5.0' ABOVE CURB OR SHOULDER. ADJUST IF IT IS KNOWN THAT REQUIRED TRAFFIC SIGNS WILL OBSTRUCT.

PLAQUE MATERIALS:

BASE - SHEET ALUMINUM, 0.060" THICK.

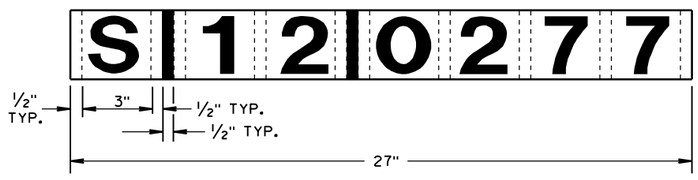
FACE - WHITE, SELF-ADHESIVE VINYL SHEETING, NON-RETROREFLECTIVE

LINES - BLACK, ½" WIDE, SELF-ADHESIVE

CHARACTERS:- BLACK, SELF ADHESIVE, SERIES "D", SIZE AS SHOWN.

FOR SIGN BRIDGES, STRUCTURE MOUNTED, THE STRUCTURE PLAQUE SHALL BE MOUNTED HORIZONTALLY AS SHOWN ON THE DRAWING. THE STRUCTURE PLAQUE SHALL BE MOUNTED HORIZONTALLY TO THE BACK OF THE SIGN, BETWEEN THE ALUMINUM EXTRUSIONS, NEAR THE TOP LEFT HAND CORNER OF THE SIGN. THE BASE MATERIAL SHALL BE OMITTED AND THE FACE ADHERED DIRECTLY TO THE ALUMINUM SURFACE. PRIOR TO ADHERING THE MATERIAL, THE ALUMINUM SURFACE SHALL BE SMOOTH, CLEAN AND DRY.

WHERE SIGN BRIDGE ILLUMINATION IS PROVIDED, THE STRUCTURE MUST ALSO HAVE A SIGN BRIDGE CIRCUIT PLAQUE AS SHOWN IN THE ELECTRICAL DETAILS.

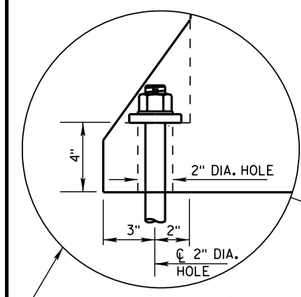


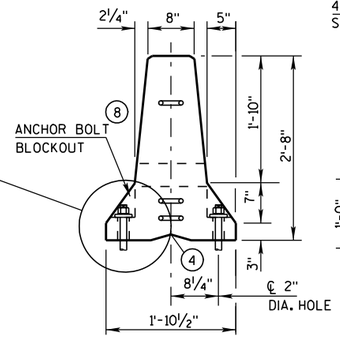
IDENTIFICATION PLAQUE FOR SIGN BRIDGE, STRUCTURE MOUNTED

STRUCTURE IDENTIFICATION PLAQUES, RAMP GATES, SIGN BRIDGES, OVERHEAD SIGN SUPPORTS, & TRAFFIC SIGNALS

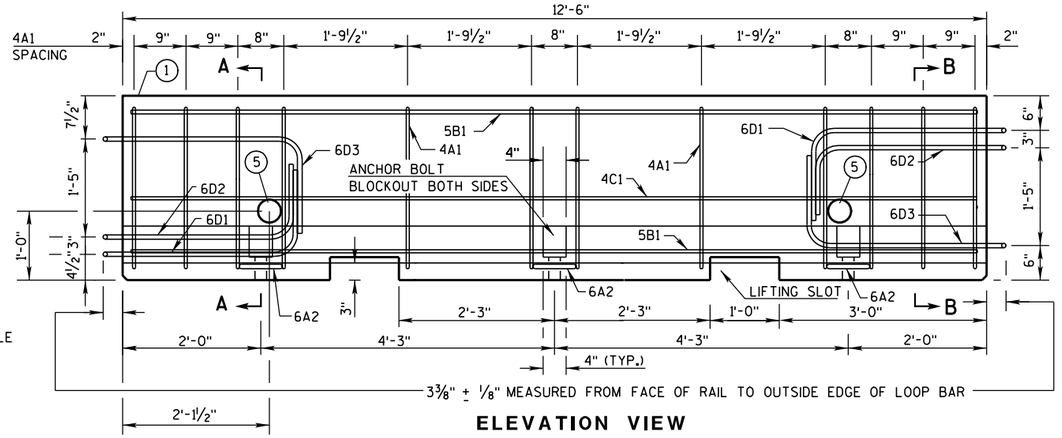
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
12/4/2012 DATE
/S/ Travis Feltes STATE TRAFFIC ENGINEER
FHWA

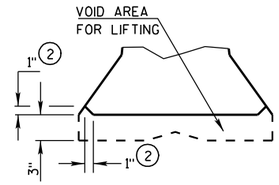




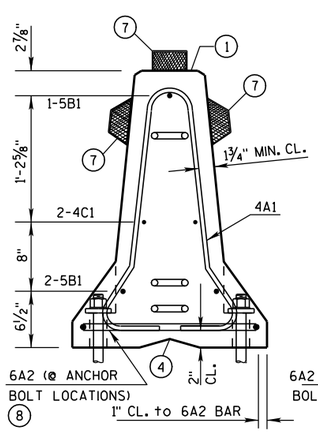
END VIEW



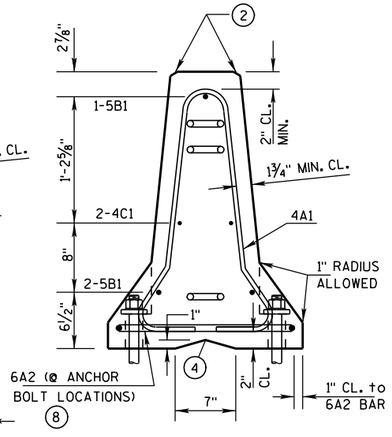
ELEVATION VIEW



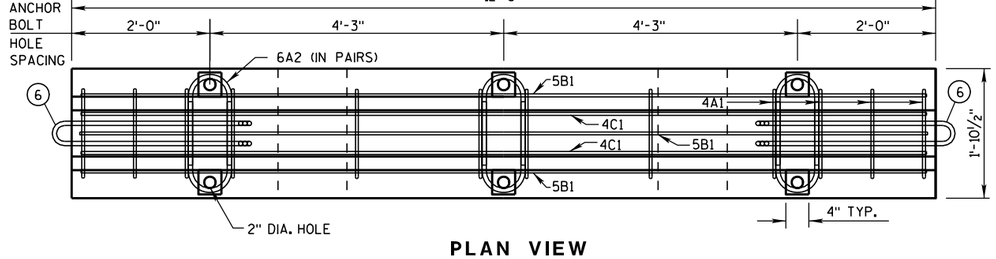
DETAIL "B"
LIFTING SLOT DETAIL



SECTION A-A
(STIRRUP PLACEMENT)



SECTION B-B
(STIRRUP PLACEMENT)



PLAN VIEW

DETAILS OF BARRIER SECTION

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.

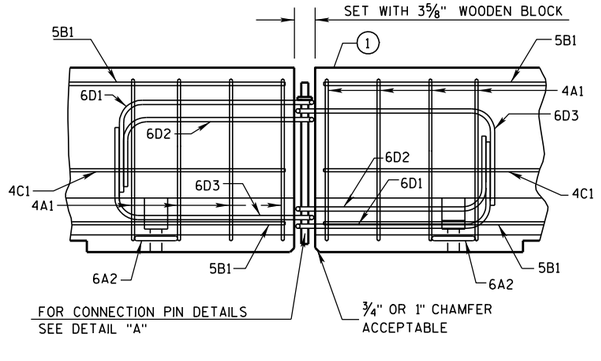
(5) THE 4" DIAMETER, 11 GAUGE STEEL, ROUND MECHANICAL TUBING SLEEVE FOR LIFTING (OPTIONAL).

(6) NEVER USE LOOP BARS (6D1, 6D2 OR 6D3) TO LIFT, MOVE OR REPOSITION THE BARRIER.

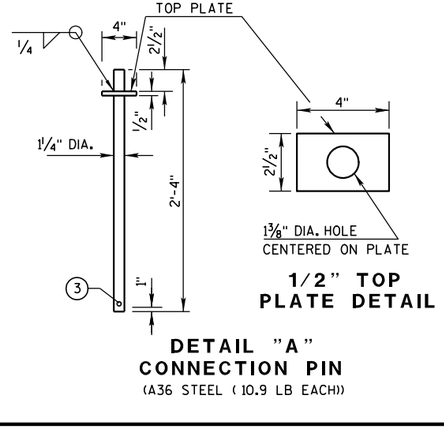
(7) USE DELINEATORS CONFORMING TO SECTION 633 OF THE STANDARD SPECIFICATIONS. CONTRACTOR MAY USE ALTERNATE SHAPES AND HOUSING. INSTALL DELINEATORS ACCORDING TO MANUFACTURES INSTRUCTION. INSTALL YELLOW REFLECTORS WHEN BARRIER IS LOCATED TO THE LEFT OF TRAFFIC AND WHITE REFLECTORS WHEN BARRIER IS LOCATED 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.

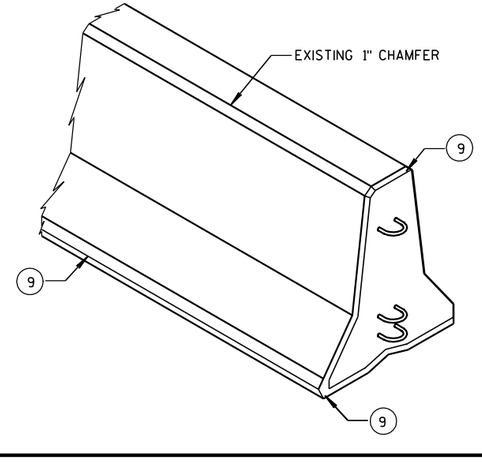


DETAILS OF BARRIER CONNECTION



1/2" TOP PLATE DETAIL

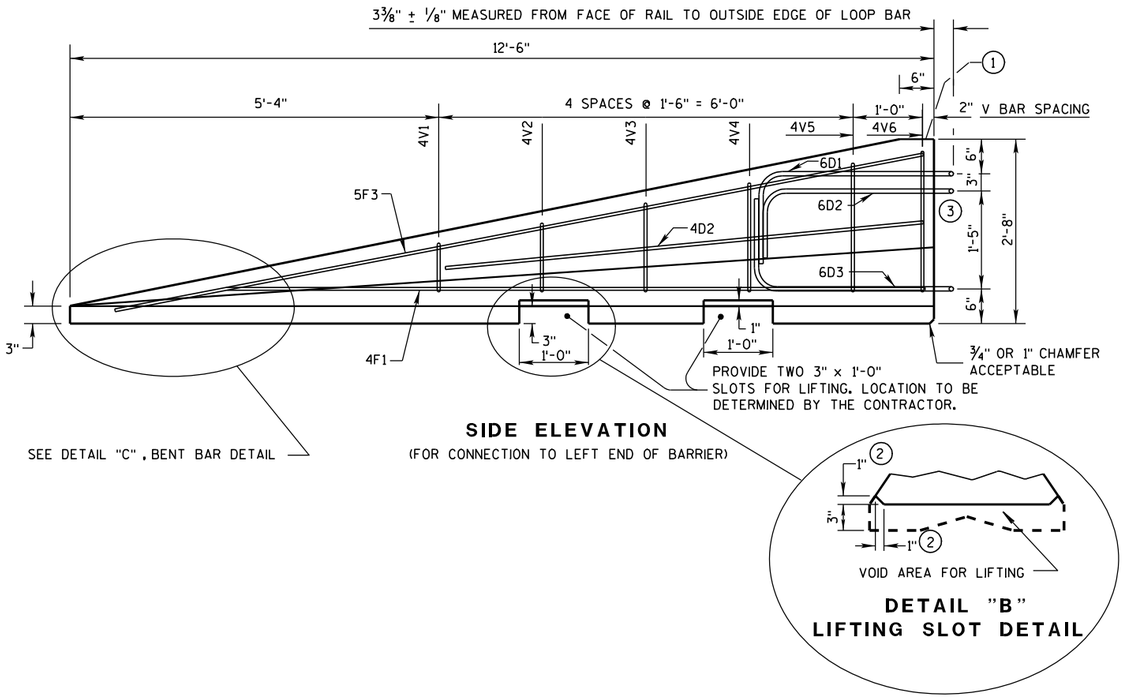
DETAIL "A"
CONNECTION PIN
(A36 STEEL (10.9 LB EACH))



CONCRETE BARRIER TEMPORARY PRECAST, 12'-6"

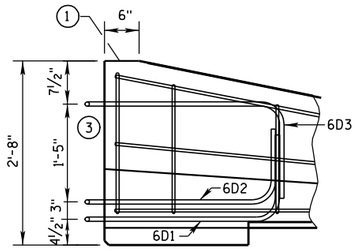
STATE OF WISCONSIN
DEPARTMENT OF TRANSPO...

6
S.D.D. 14 B 7-13a



SIDE ELEVATION
(FOR CONNECTION TO LEFT END OF BARRIER)

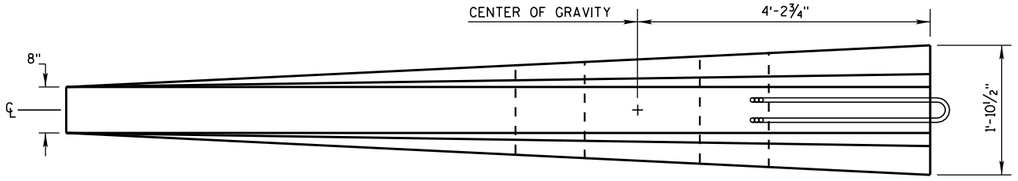
DETAIL "B"
LIFTING SLOT DETAIL



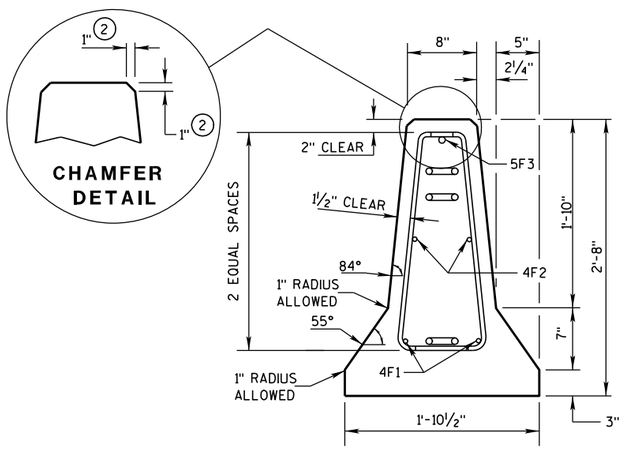
SIDE ELEVATION
LOOP BAR ASSEMBLY INVERTED FOR OPPOSITE END.
(FOR CONNECTION TO RIGHT END OF BARRIER)

GENERAL NOTES

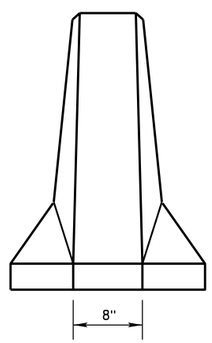
1. MARK ONE END OF EACH BARRIER PERMANENTLY BY FORMING INTO THE BARRIER THE FOLLOWING INFORMATION:
   a. TYPE WICBTP
   b. MANUFACTURER
   c. DATE MANUFACTURED (MONTH AND YEAR)
2. 1" CHAMFER TO PREVENT SPALLING.
3. NEVER USE LOOP BARS (6D1, 6D2 OR 6D3) TO LIFT, MOVE OR REPOSITION THE BARRIER.



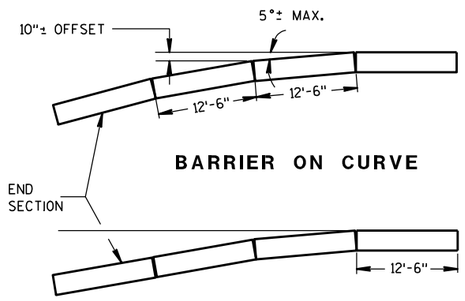
PLAN VIEW



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

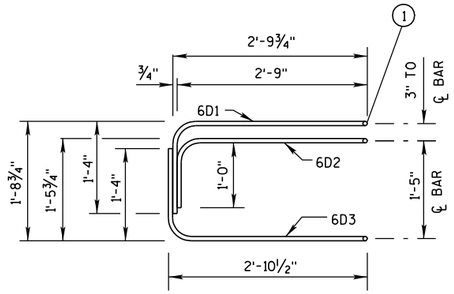
6

S.D.D. 14 B 7-13b

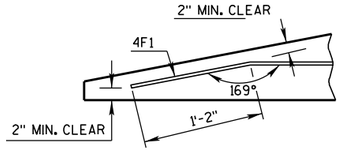
BARRIER TAPER SECTION BILL OF MATERIALS

(PER 12'-6" BARRIER TAPER SECTION)

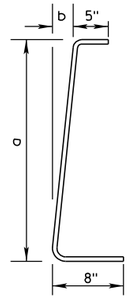
BAR	BAR SIZE	NO. OF BARS	LENGTH FT.
4V1	4	2	1'-11"
4V2	4	2	2'-2"
4V3	4	2	2'-6"
4V4	4	2	2'-9"
4V5	4	2	3'-2"
4V6	4	2	3'-4"
4F1	4	2	12'-0"
4F2	4	2	7'-6"
5F3	5	1	11'-9"
LOOP ASSEMBLY			
6D1	6	1	8'-5"
6D2	6	1	7'-7"
6D3	6	1	8'-6"



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

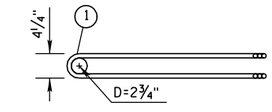
GENERAL NOTES

(1) NEVER USE LOOP BARS (6D1, 6D2 OR 6D3) TO LIFT, MOVE OR REPOSITION THE BARRIER.

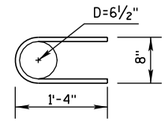
BARRIER SECTION BILL OF MATERIALS

(PER 12'-6" BARRIER SECTION)

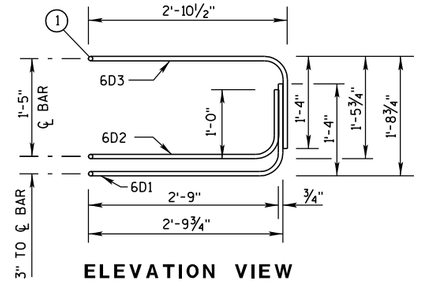
BAR	BAR SIZE	NO. OF BARS	LENGTH FT.
4A1	4	12	6'-0"
6A2	6	6	2'-11"
5B1	5	3	12'-2"
4C1	4	2	12'-2"
LOOP ASSEMBLY			
6D1	6	2	8'-5"
6D2	6	2	7'-7"
6D3	6	2	8'-6"



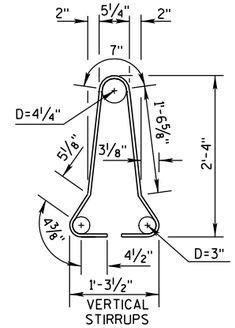
PLAN VIEW
LOOP BAR ASSEMBLY
(MARKED END SHOWN, INVERT FOR OTHER END)



6A2



ELEVATION VIEW



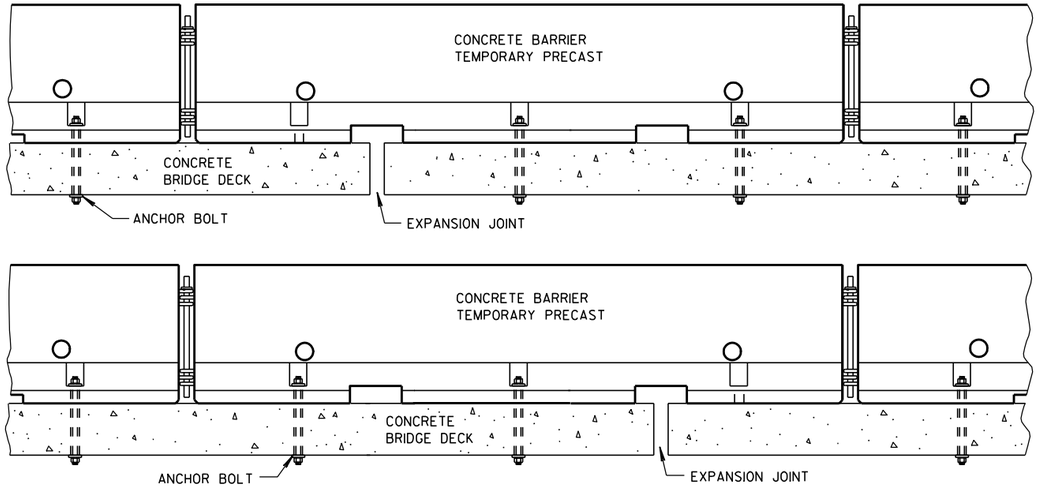
4A1

BARRIER SECTION

CONCRETE BARRIER
TEMPORARY PRECAST, 12'-6"

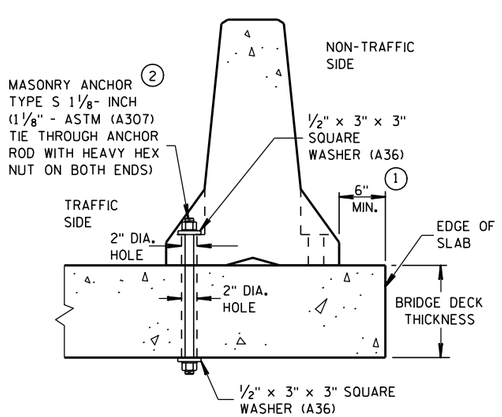
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

6
S.D.D. 14 B 7-13c



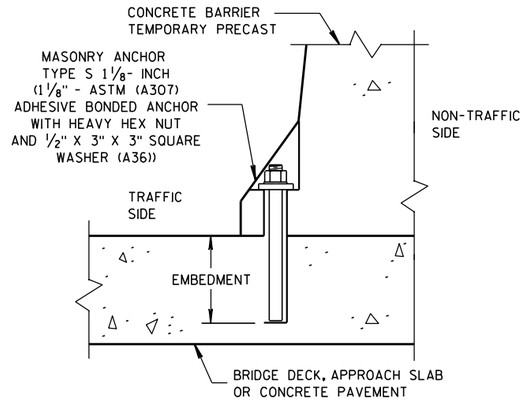
TREATMENT AT BRIDGE DECK EXPANSION JOINTS

(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

2

(DO NOT USE ON CONCRETE WITH AN ASPHALTIC OVERLAY)

GENERAL NOTES

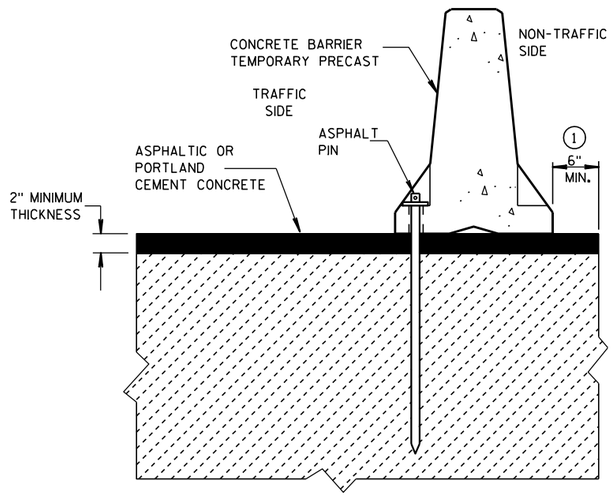
1. CONCRETE BARRIER TEMPORARY PRECAST, 12'-6" SHALL BE ANCHORED IF:
   THE DISTANCE TO A 2 FOOT OR GREATER DROPOFF THAT IS STEEPER THAN 3H : 1V, FOR EXAMPLE THE EDGE OF A BRIDGE DECK OR A DROPOFF AT THE EDGE OF PAVEMENT, IS LESS THAN 4 FEET FROM THE SIDE OF THE BARRIER CLOSEST TO THE DROPOFF AND THE 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.

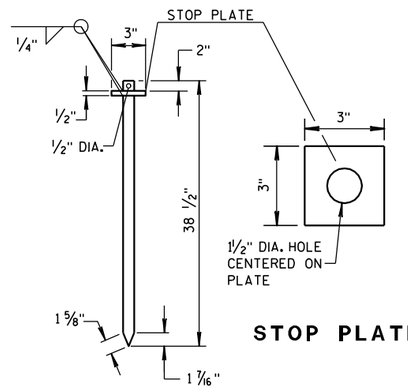
   WITH THE APPROVAL OF THE ENGINEER, REMOVABLE ADHESIVE BONDED (EPOXY) ANCHOR BOLT INSTALLATION MAY BE USED IN LIEU OF THROUGH BOLTED ANCHOR INSTALLATION. THE ADHESIVE BONDED ANCHOR BOLT MUST BE REMOVABLE. USE ASTM (A307) MASONRY ANCHORS TYPE S 1⅛-INCH, EMBEDDED TO A DEPTH SUFFICIENT TO DEVELOP THE ULTIMATE 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

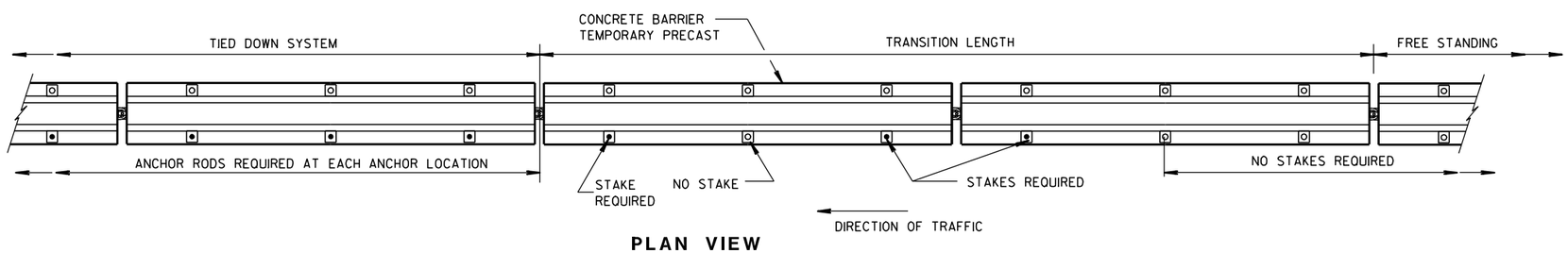
(STAKING IS INCIDENTAL TO CONCRETE BARRIER TEMPORARY PRECAST)



STOP PLATE

ASPHALT PIN

(ASTM A36 STEEL)



PLAN VIEW

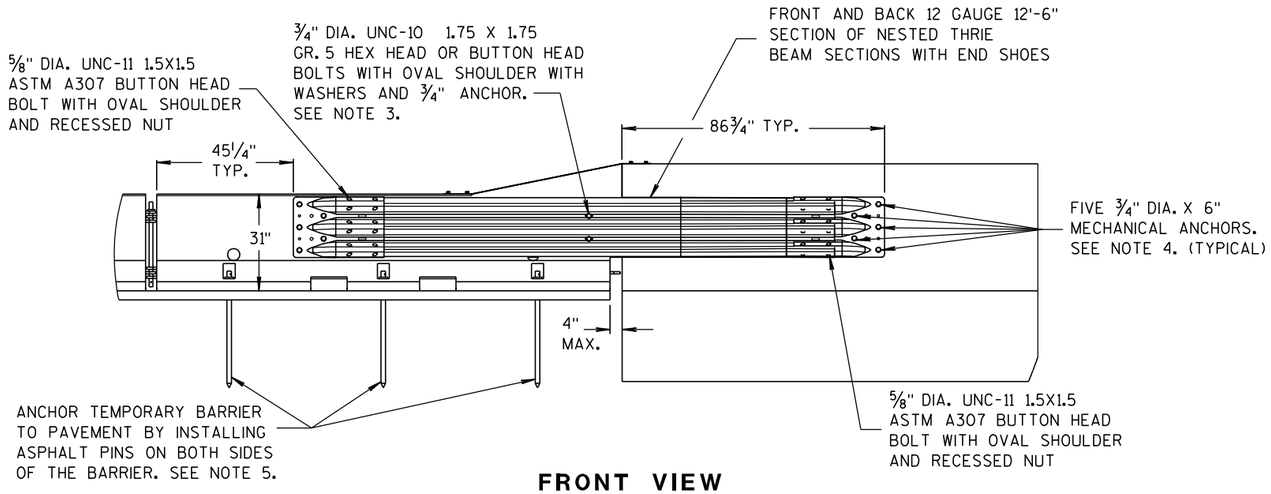
FREE STANDING TRANSITION TO TIED-DOWN SYSTEM

(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...

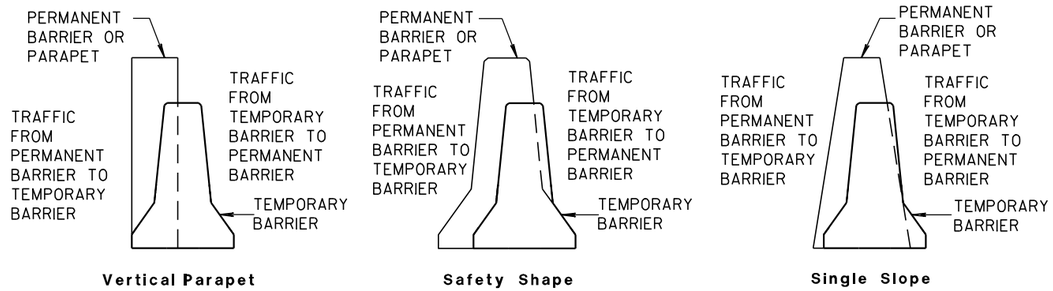
6
S.D.D. 14 B 7-13d

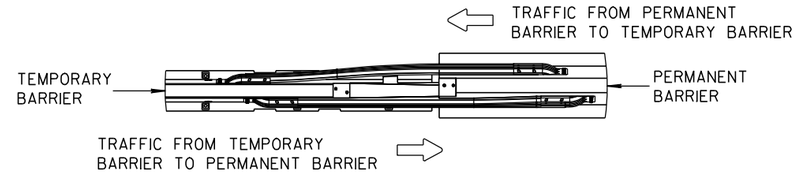


FRONT VIEW

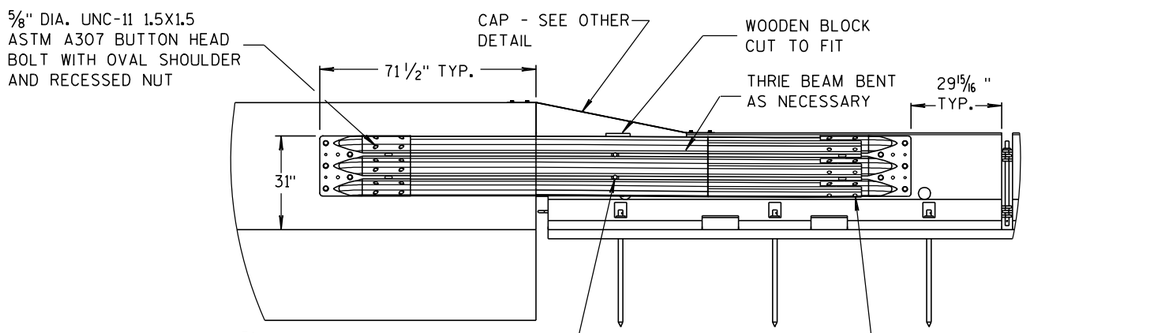
NOTES

1. CAP END PLATE PLACED FLUSH WITH UPSTREAM END OF PERMANENT BARRIER OR PARAPET.
2. THRIE BEAM PIECES ARE OFFSET 15¼" 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.

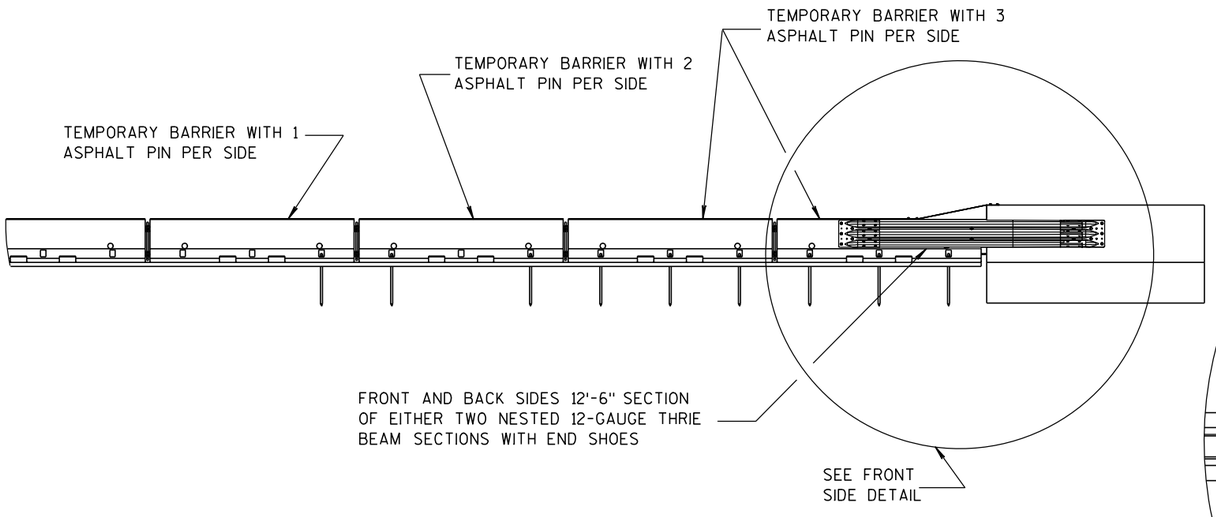




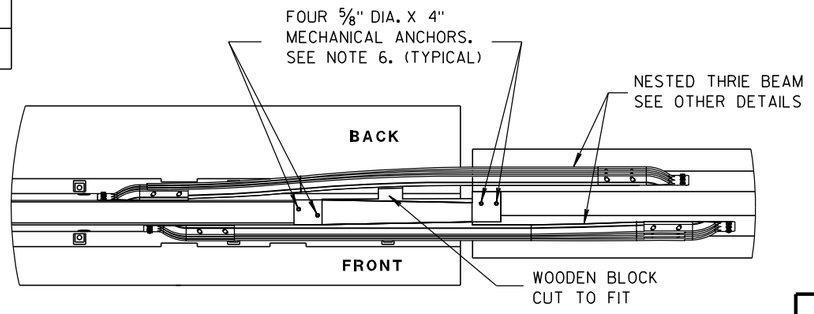
TEMPORARY BARRIER PLACEMENT FOR BI-DIRECTIONAL TRANSITION TO TIED-DOWN SYSTEM



BACK VIEW



FRONT VIEW



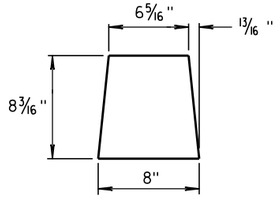
PLAN VIEW

BI-DIRECTIONAL TRANSITION TO TIED-DOWN SYSTEM

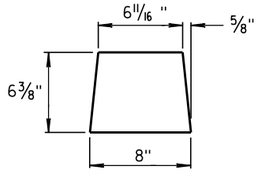
CONCRETE BARRIER TEMPORARY PRECAST, 12'-6"

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

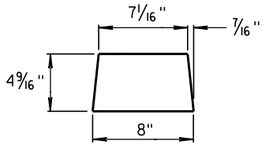
6
S.D.D. 14 B 7-13e



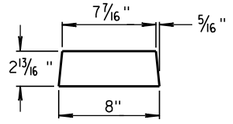
GUSSET 1



GUSSET 2

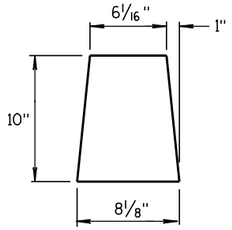


GUSSET 3

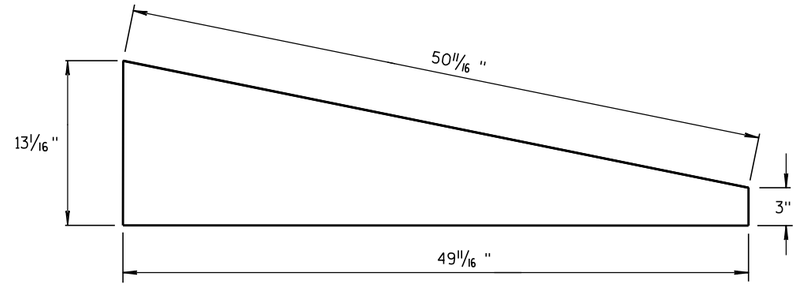


GUSSET 4

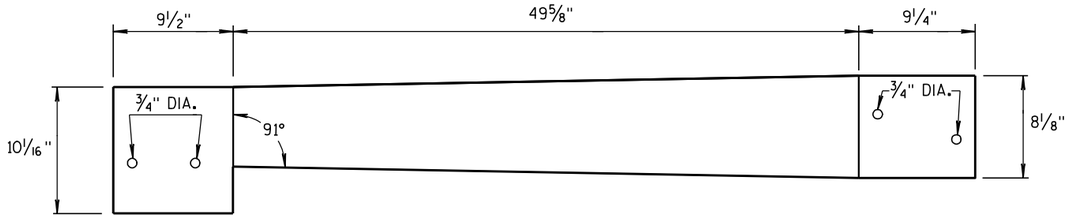
GUSSETS

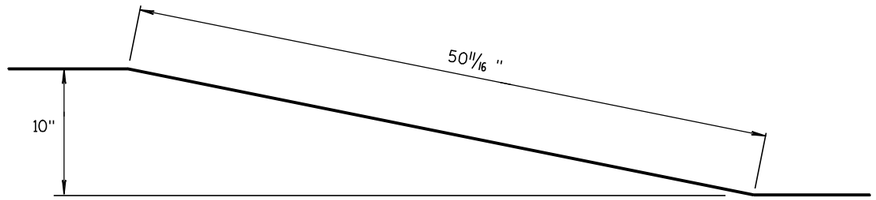


END PLATE

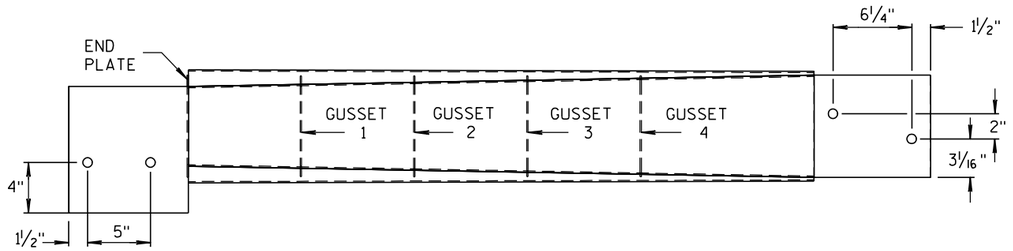


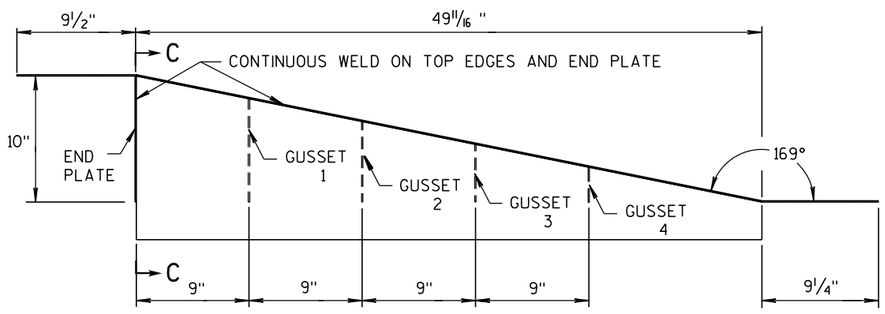
SIDE PLATE

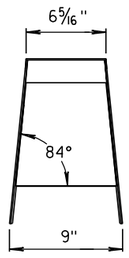




TOP PLATE







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

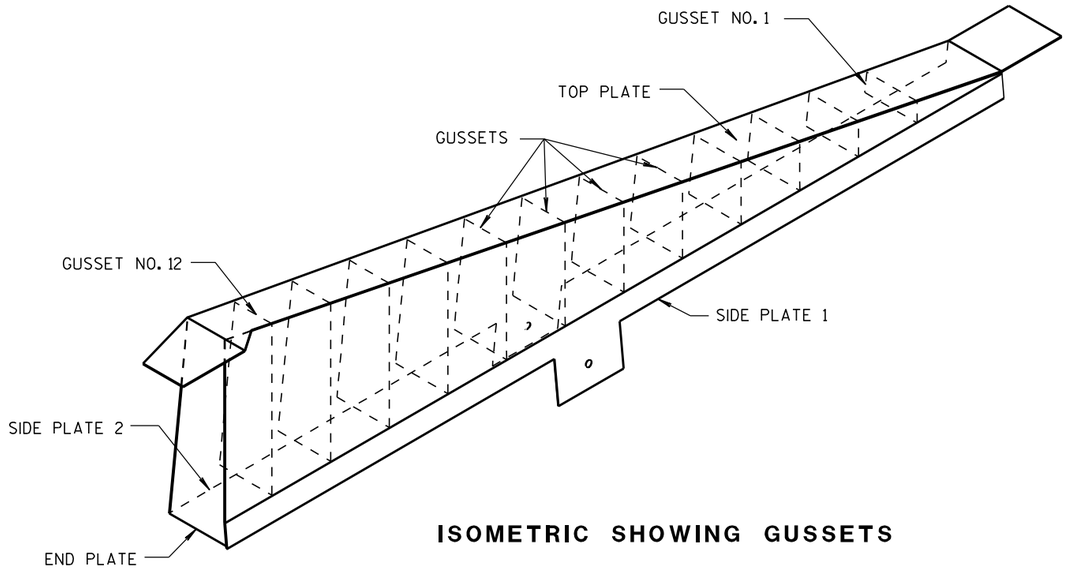
SIDE PLATES, TOP PLATE, END PLATE AND GUSSETS ARE 12 GAUGE ASTM A36 GALVANIZED STEEL.

CONCRETE BARRIER
TEMPORARY PRECAST, 12'-6"

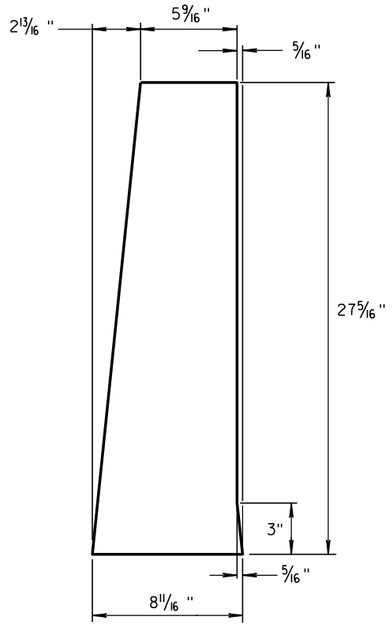
STATE OF WISCONSIN
DEPARTMENT OF TRANSPO...

6

S.D.D. 14 B 7-13f

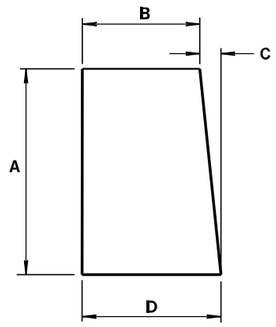


ISOMETRIC SHOWING GUSSETS



END PLATE

1/8" STEEL PLATE



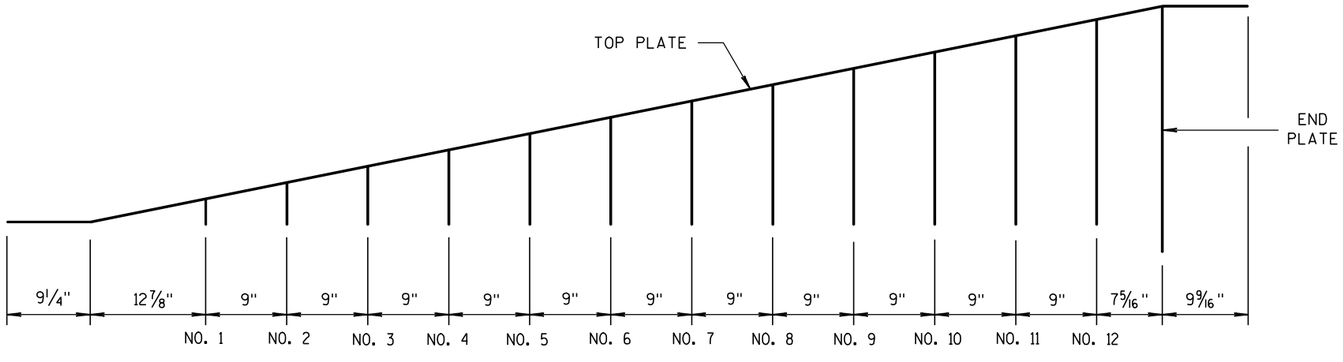
GUSSETS 1 - 12

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

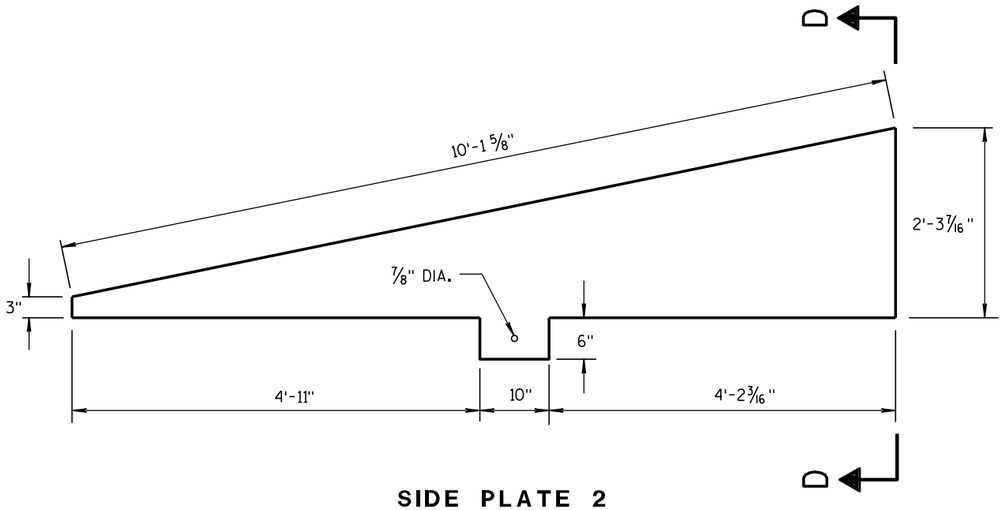
CAP DETAILS FOR TEMPORARY CONCRETE BARRIER TO 56" PERMANENT CONCRETE BARRIER

CONCRETE BARRIER TEMPORARY PRECAST, 12'-6"

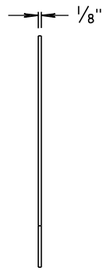
STATE OF WISCONSIN
DEPARTMENT OF TRANSPO...

6

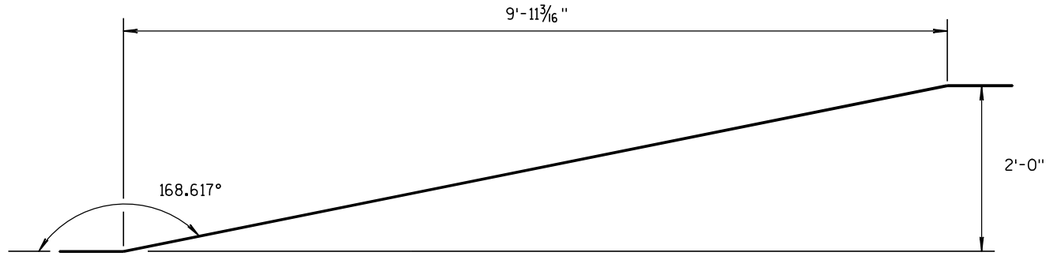
S.D.D. 14 B 7-13g



SIDE PLATE 2

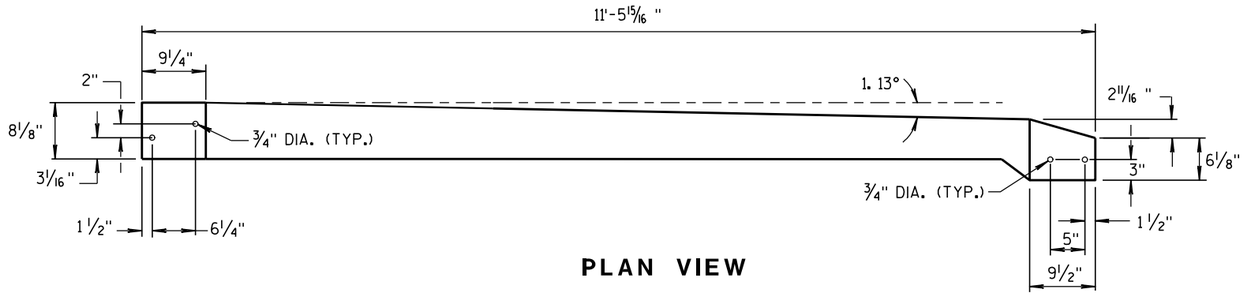


END VIEW



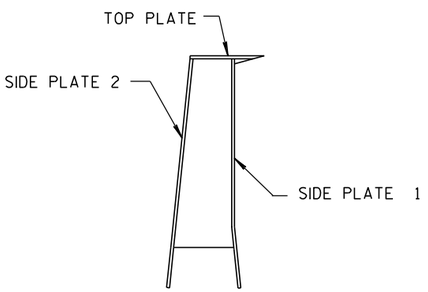
SIDE VIEW

TOP PLATE

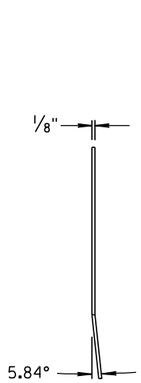


PLAN VIEW

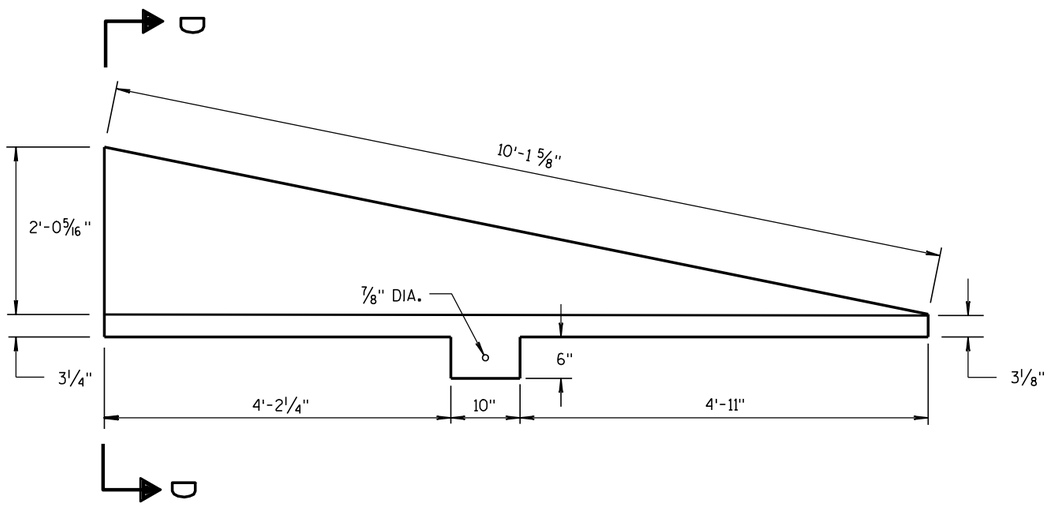
TOP PLATE



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 170 ENT
FHWA

6

S.D.D. 14 B 7-13h

6

S.D.D. 14 B 7-13h

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) W6 X 9 OR W6 X 8.5 STEEL POSTS AND NOTCHED PLASTIC BLOCKOUTS ARE ACCEPTABLE ALTERNATIVES FOR 6" X 8" WOOD POSTS WITH WOOD OR PLASTIC BLOCKOUTS. USE APPROVED NOTCHED PLASTIC BLOCKOUTS WITH STEEL POSTS. APPROVED PLASTIC BLOCKOUT DESIGNS MAY VARY FROM THIS TYPICAL DETAIL WHEN USED IN CONJUNCTION WITH STEEL POSTS.

DO NOT MIX STEEL POSTS AND WOOD POSTS IN A SINGLE INSTALLATION.

(2) USE STRUCTURAL STEEL POSTS CONFORMING TO ASTM A 36. GALVANIZED POSTS ACCORDING TO AASHTO M 111. EITHER SET THE POSTS IN DRILLED HOLES OR DRIVE TO GRADE. REMOVE MUSHROOMING CAUSED BY DRIVING AND REPAIR DAMAGED SPELTER COATING ON GALVANIZED POSTS.

(3) INSTALL STEEL POSTS WITH HOLES ON APPROACHING TRAFFIC SIDE.

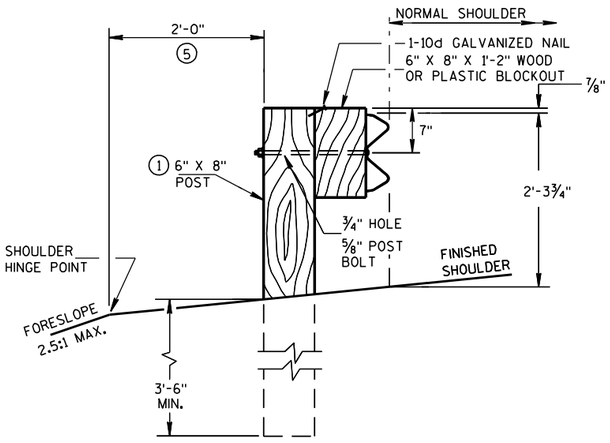
(4) USE EITHER WOOD OR APPROVED PLASTIC BLOCKOUTS ON WOOD POSTS.

(5) IF THE DISTANCE FROM BACK OF POST TO SHOULDER HINGE POINT IS LESS THAN 2 FEET INSTALL LONGER POST AT HALF POST SPACING, W BEAM (LHW).

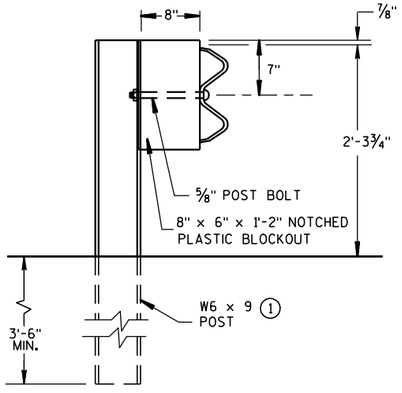
(6) IF ROCK IS ENCOUNTERED DURING EXCAVATION, THE ENGINEER MAY APPROVE USING A 12 INCH DIAMETER POST HOLE EXTENDING 20 INCHES DEEP INTO THE ROCK. PLACE GRANULAR MATERIAL IN THE BOTTOM OF THE HOLE APPROXIMATELY 2½ INCHES DEEP. CUT THE POSTS TO LENGTH AND PLACE IN YHE HOLE. BACKFILL WITH MATERIAL EXCAVATED FROM THE HOLE AND COMPACT ADEQUATEY.

INSTALL BEAM GUARD SECTIONS AND ALL NECESSARY HARDWARE ACCORDING TO THE APPLICABLE PLAN AND CURRENT STANDARD AND SUPPLEMENTAL SPECIFICATIONS.

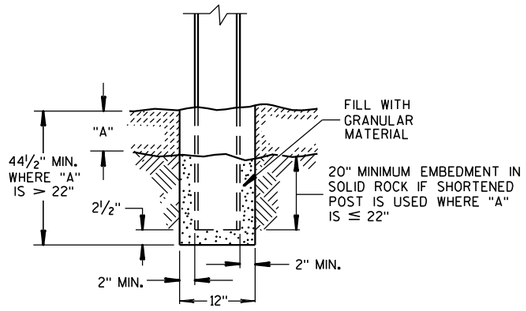
ALL DIMENSIONS ARE SUBJECT TO MANUFACTURER'S TOLERANCES EXCEPT WHERE ALLOWABLE TOLERANCES ARE SHOWN.



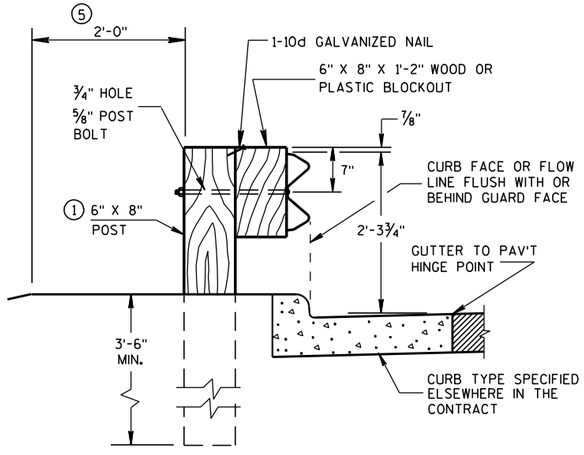
END VIEW
LOCATED ALONG A ROADWAY SHOULDER
STANDARD INSTALLATION



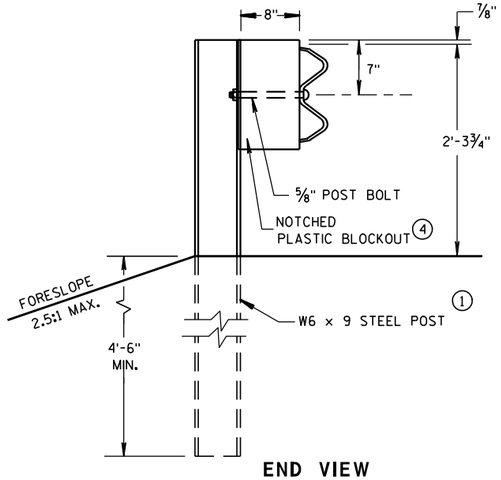
END VIEW
STEEL POST & NOTCHED
PLASTIC BLOCKOUT ALTERNATIVE
STANDARD INSTALLATION



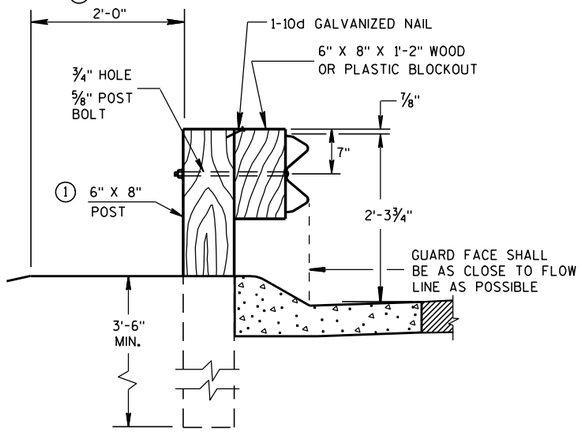
END VIEW
SETTING STEEL OR WOOD POST IN ROCK (6)



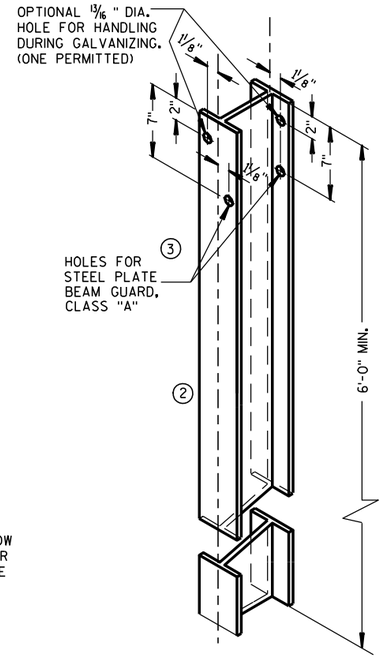
END VIEW
LOCATED ALONG A CURBED ROADWAY



END VIEW
LONGER POST AT HALF
POST SPACING W BEAM
(LHW)

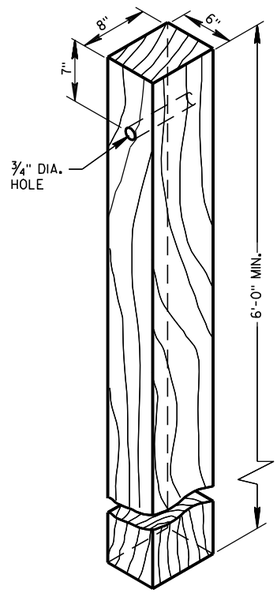


END VIEW
LOCATED ALONG A
MOUNTABLE CURBED ROADWAY

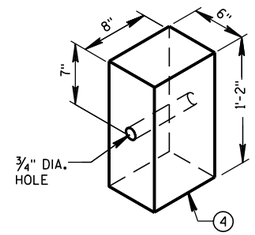


STEEL POST &
HOLE PUNCHING DETAIL
(W6 X 9) (1)

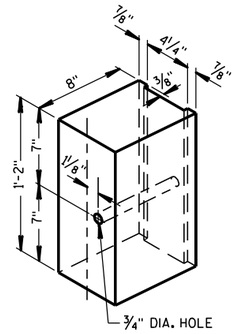
ALL HOLES 13/16" DIAMETER EXCEPT AS NOTED



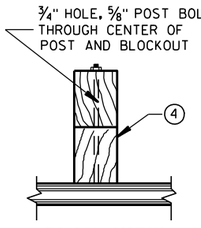
WOOD POST
(6"X8") NOMINAL



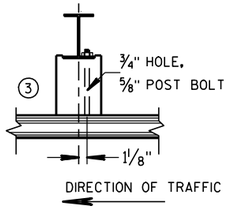
WOOD OR PLASTIC
BLOCKOUT FOR
WOOD POSTS



(1)
TYPICAL NOTCHED
PLASTIC BLOCKOUT
FOR STEEL POSTS



PLAN VIEW
WOOD POST,
BLOCKOUT & BEAM



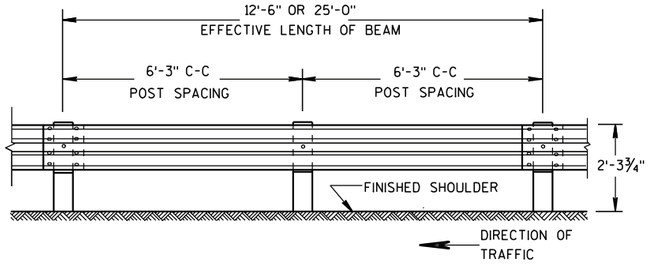
PLAN VIEW
STEEL POST, NOTCHED
PLASTIC BLOCKOUT & BEAM

TYPICAL INSTALLATION OF STEEL PLATE BEAM GUARD

STEEL PLATE BEAM GUARD,
CLASS "A"
INSTALLATION & ELEMENTS

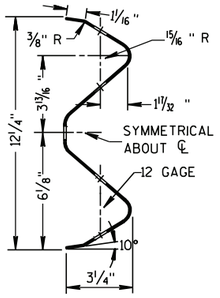
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

6
S.D.D. 14 B 15-7a

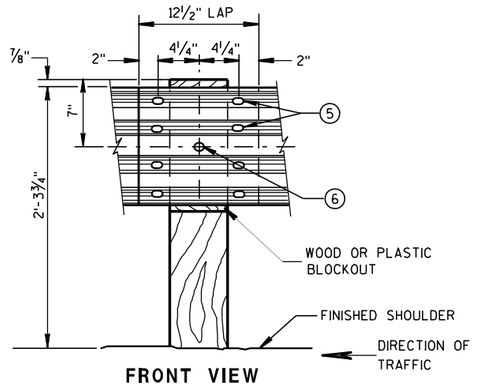


FRONT VIEW

POST SPACING STANDARD INSTALLATION



SECTION THRU W BEAM

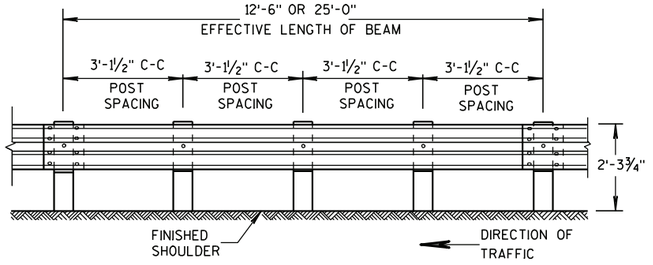


FRONT VIEW

BEAM SPLICE AT WOOD POST AND POST MOUNTING DETAIL

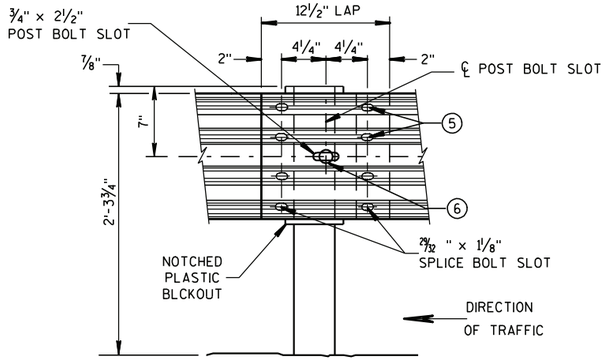
GENERAL NOTES

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.
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. 8 - 5/8" ϕ X 2 " BUTTON HEAD BOLTS WITH OVAL SHOULDERS & RECESS NUTS.
6. 5/8" ϕ X 1'-6" BUTTON HEAD BOLT AND AND RECESS NUT WITH ROUND WASHER UNDER NUT.



FRONT VIEW

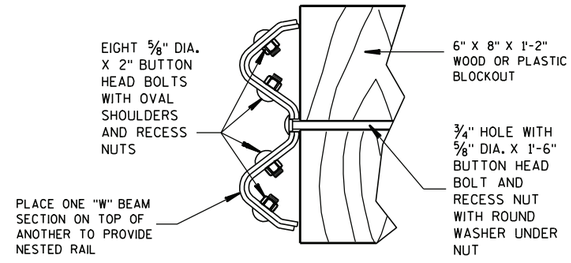
POST SPACING FOR LONGER POST AT HALF POST SPACING W BEAM (LHW)



FRONT VIEW

BEAM SPLICE AT STEEL POST

TYPICAL SPLICING DETAILS OF STEEL PLATE BEAM GUARD

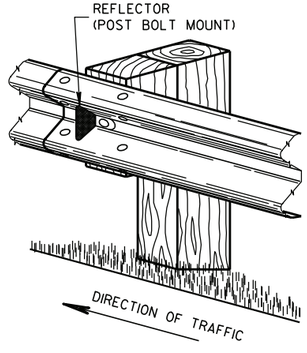


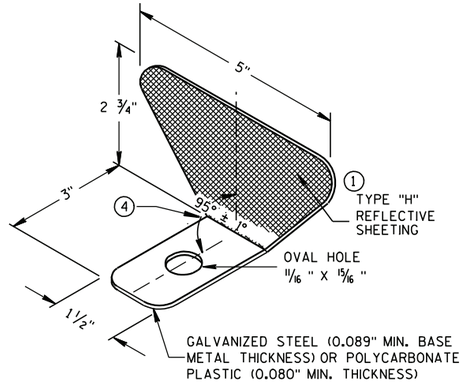
NESTED W BEAM (NW)

USE ALL OTHER STANDARD BEAM GUARD DETAILS FOR CONSTRUCTING NESTED W BEAM (NW)

REFLECTOR SPACING (2)

	BEAM GUARD LENGTH	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 (3)	6
	> 200'	50' C-C	1	
TWO WAY TRAFFIC	< 200'	50' C-C	2	3
	> 200'	100' C-C	2 (4)	



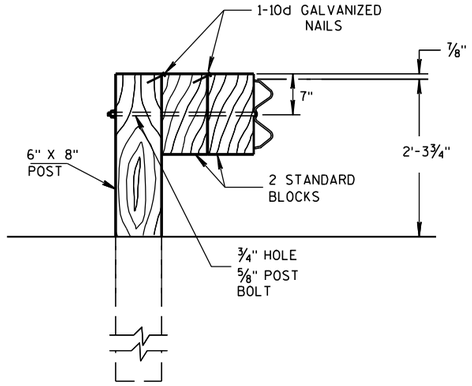


ONE SIDED REFLECTOR DETAIL AND TYPICAL INSTALLATION (1)

STEEL PLATE BEAM GUARD, CLASS "A", INSTALLATION & ELEMENTS

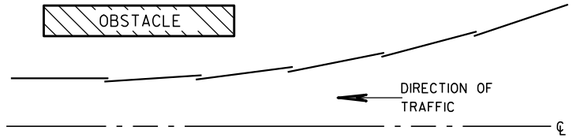
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

6
S.D.D. 14 B 15-7b

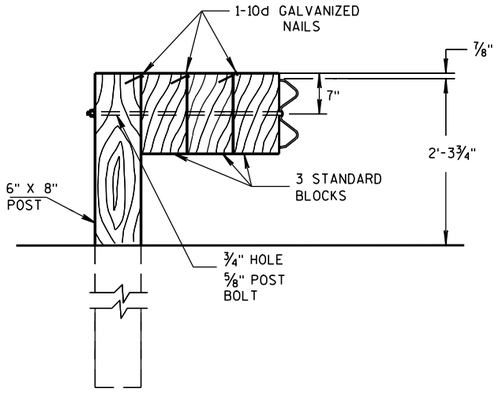


DETAIL FOR DOUBLE BLOCKS

THE NUMBER OF DOUBLE BLOCK POSTS WITHIN A BARRIER RUN IS UNLIMITED

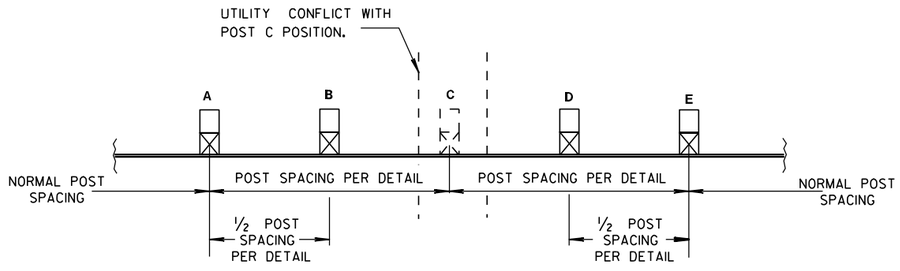


PLAN VIEW
BEAM LAPPING DETAIL



DETAIL FOR TRIPLE BLOCKS

TRIPLE BLOCK DETAIL IS LIMITED TO ONE LOCATION WITHIN A BEAM GUARD RUN.



POST DRIVING FOR CONTINUOUS UNDERGROUND OBSTRUCTION

NOTES: USE DOUBLE OR TRIPLE BLOCKS WHEN UNDERGROUND OBSTACLES PREVENT THE POST FROM BEING INSTALLED.

DO NOT USE EXTRA 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.

STEEL PLATE BEAM GUARD, CLASS "A", INSTALLATION & ELEMENTS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

5/23/11 — DATE

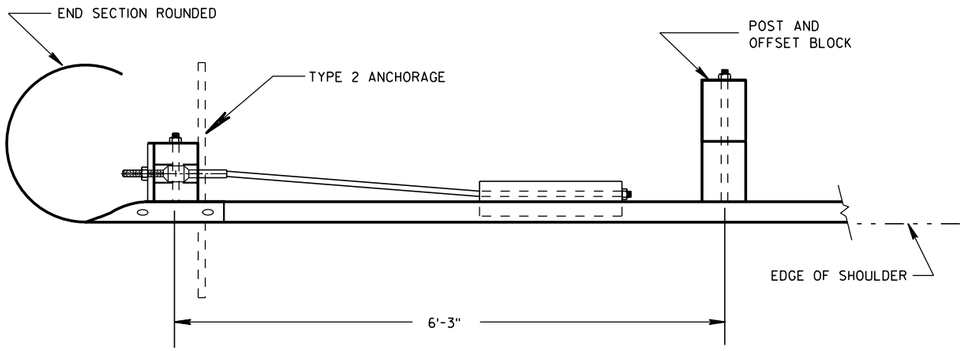
/S/ Jerry H. Zogg — ROADWAY STANDARDS ENGINEER

FHWA

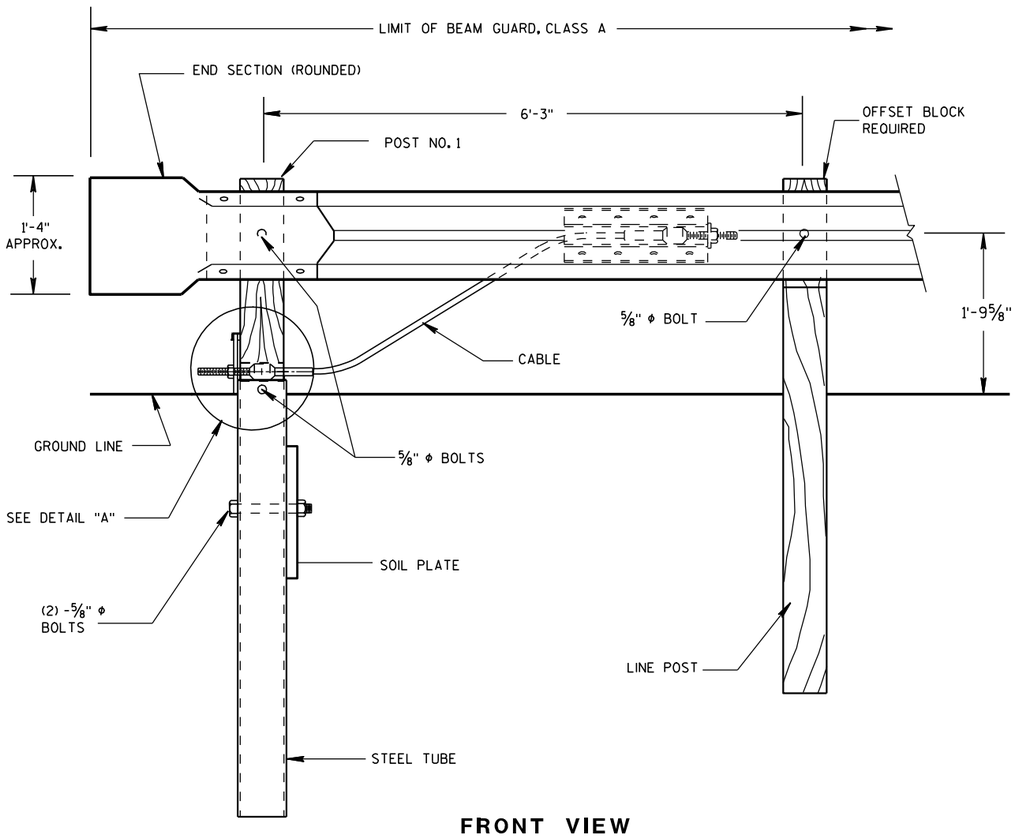
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S.D.D. 14 B 15-7c



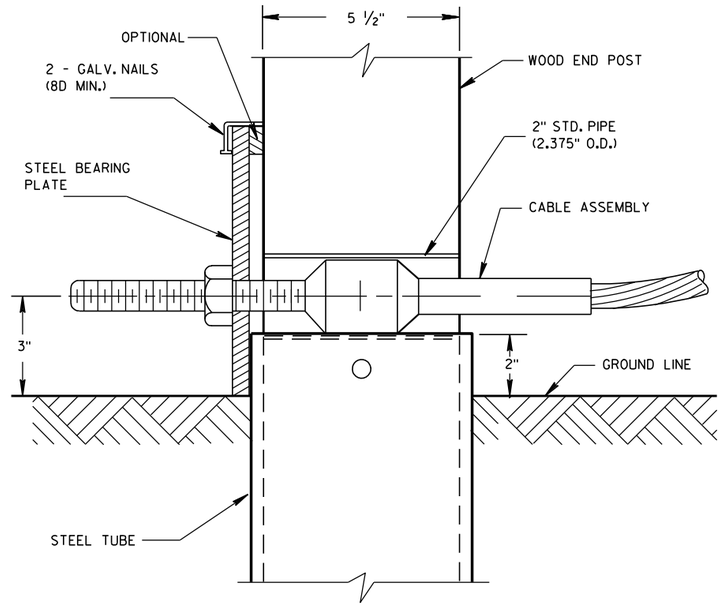
PLAN VIEW



FRONT VIEW

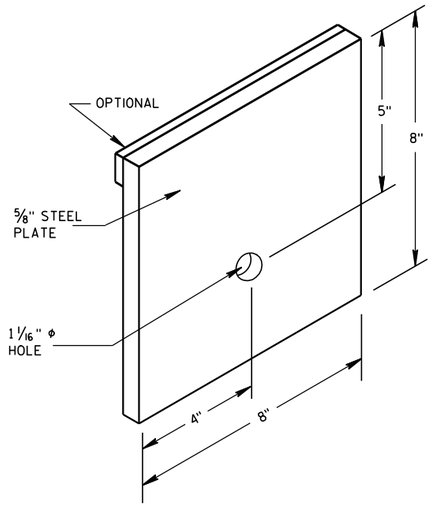
END TREATMENT WITH TYPE 2 ANCHORAGE

(USE ON ONE-WAY ROADWAYS ONLY - DEPARTING END)



DETAIL "A"

POST NO. 1



STEEL BEARING PLATE

ANCHORAGE FOR STEEL
PLATE BEAM GUARD
TYPE 2

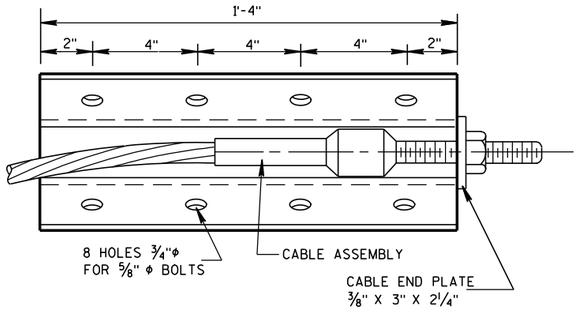
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

6

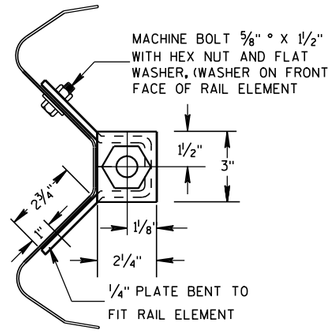
S.D.D. 14 B 16-4a

6

S.D.D. 14 B 16-4a

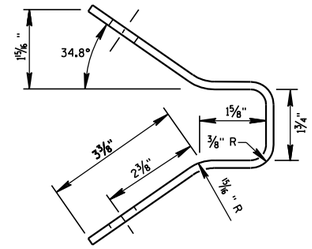


FRONT VIEW

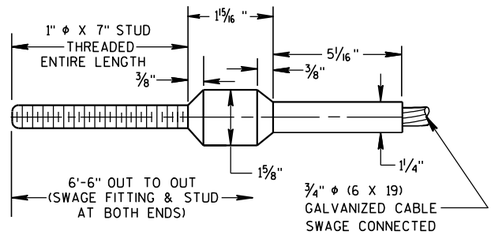


END VIEW

ANCHOR PLATE DETAIL



END VIEW OF BRACKET



CABLE ASSEMBLY

CABLE, SWAGE FITTING, STUD AND NUT SHALL DEVELOP A MINIMUM BREAKING STRENGTH OF 40,000 LB (TIGHTEN UNTIL TAUT)

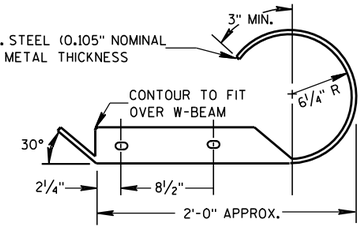
GENERAL NOTES

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

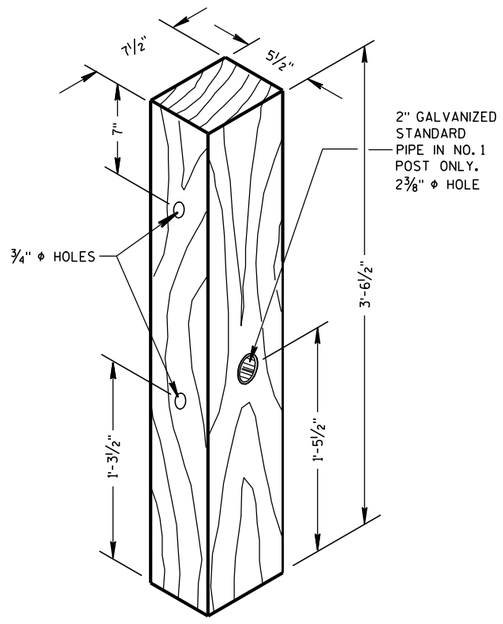
STRUCTURAL TUBING SHALL CONFORM TO THE REQUIREMENTS OF ASTM A-500 GRADE B OR ASTM A-501.

POST NO. 1 SHALL BE WOOD BREAKAWAY POST INSERTED AND BOLTED INTO STEEL TUBE.

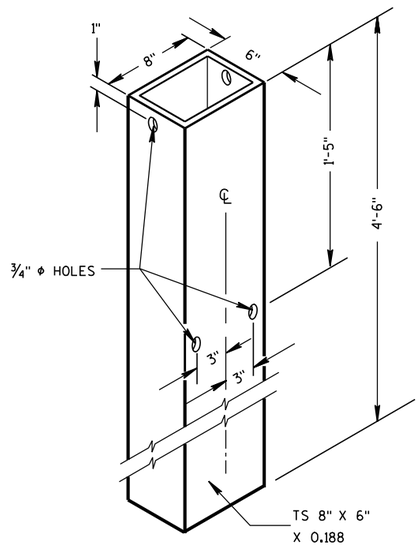
TYPE 2 ANCHORAGE SHALL CONSIST OF A STEEL TUBE, SOIL PLATE WOOD BREAKAWAY POST, BEARING PLATE, ANCHOR PLATE, CABLE ASSEMBLY AND ALL ASSOCIATED HARDWARE, ALL STEEL PARTS SHALL BE GALVANIZED.



PLAN VIEW

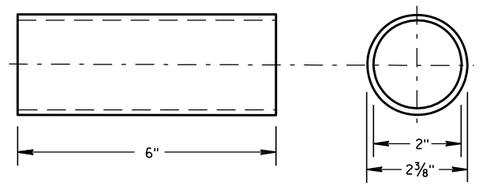


WOOD BREAKAWAY POST



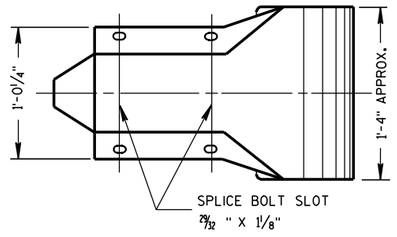
STEEL TUBE

STEEL TUBE SHALL CONFORM TO REQUIREMENTS OF ASTM A500

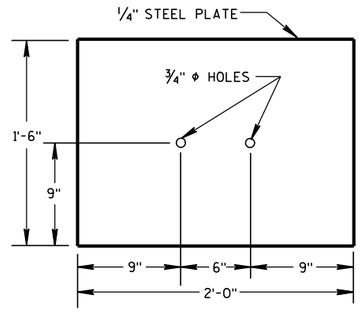


BREAKAWAY TERMINAL POST SLEEVE

GALVANIZED STANDARD STRENGTH STEEL PIPE, ASTM 53 GRADE "B"



FRONT VIEW
W BEAM END SECTION ROUNDED



SOIL PLATE

ANCHORAGE FOR STEEL PLATE BEAM GUARD TYPE 2

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

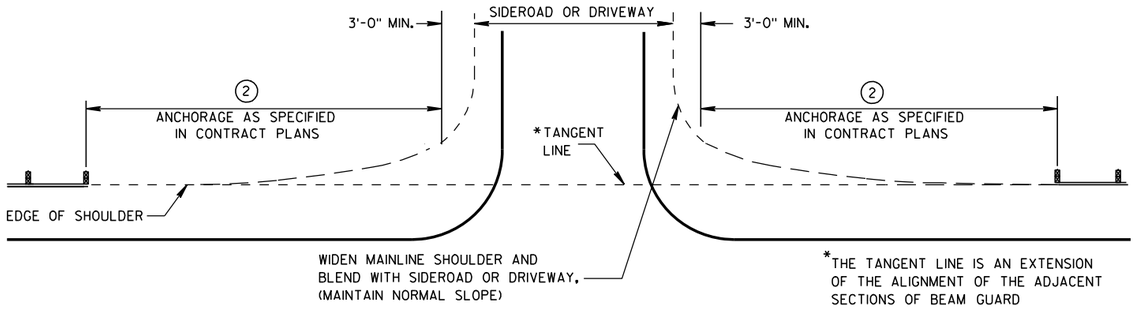
APPROVED
8/21/2007 DATE
/S/ Jerry H. [illegible]
ROADWAY STANDARDS ENGINEER
175
FHWA

6

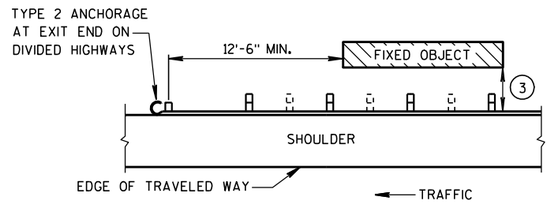
S.D.D. 14 B 16-4b

6

S.D.D. 14 B 16-4b



BEAM GUARD AT SIDEROADS OR DRIVEWAYS



BEAM GUARD AT OBSTACLES EXIT END - ONE WAY TRAFFIC

GENERAL NOTES

DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP SHALL CONFORM TO THE PERTINENT STANDARD SPECIFICATIONS AND THE APPLICABLE SPECIAL PROVISIONS.

W6 X 9 OR W6 X 8.5 STEEL POSTS WITH NOTCHED PLASTIC BLOCKOUTS ARE ACCEPTABLE ALTERNATIVES FOR 6" X 8" WOOD POSTS WITH WOOD OR PLASTIC BLOCKOUTS. USE APPROVED NOTCHED PLASTIC BLOCKOUTS WITH STEEL POSTS.

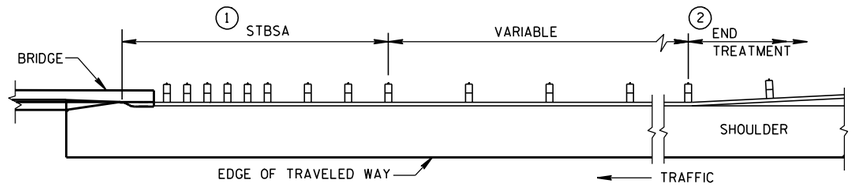
THE LOCATIONS AND LENGTHS OF BEAM GUARD ARE SHOWN ELSEWHERE IN THE PLAN.

(1) STEEL THRIE BEAM STRUCTURAL APPROACH (STBSA) - SEE CURRENT SDD 14B20.

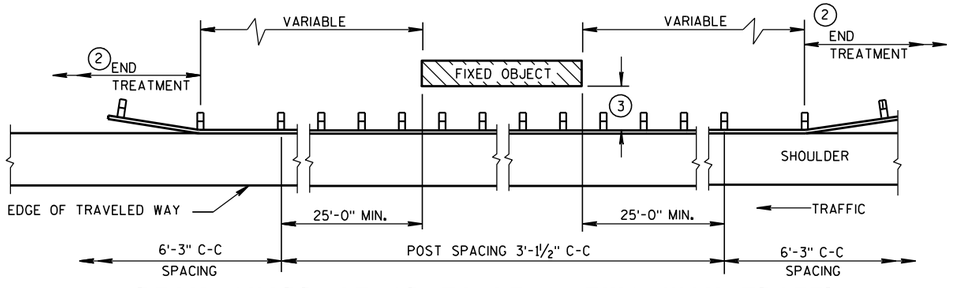
(2) USE AN APPROVED END TREATMENT FOR THE TRAFFIC APPROACH SIDE OF BRIDGE/OBSTACLES. USE TYPE 2 ANCHORAGE ONLY AT THE DOWNSTREAM ENDS OF BEAM GUARD LOCATED ALONG ROADWAYS WITH ONE WAY TRAFFIC.

(3)

MINIMUM LATERAL DISTANCE FROM FACE OF BEAM GUARD TO FIXED OBJECT	POST SPACING
3'-6"	3' - 1½"
4'-6"	6' - 3"

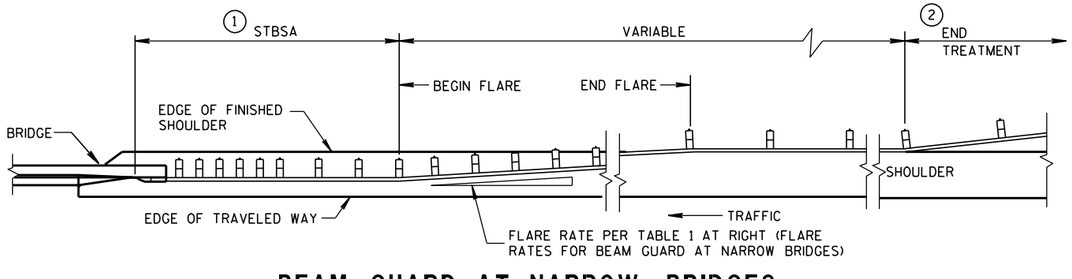


BEAM GUARD AT FULL WIDTH BRIDGES



BEAM GUARD AT OBSTACLES - TWO WAY TRAFFIC

(RAIL TO OBSTACLE CLEARANCE 3'-6" TO 4'-6")



BEAM GUARD AT NARROW BRIDGES
(FLARED TO SHOULDER EDGE, THEN PARALLEL TO ROADWAY)

TABLE 1
FLARE RATES FOR BEAM GUARD AT NARROW BRIDGES

POSTED SPEED (MPH)	FLARE RATE
25	13:1
30	15:1
35	16:1
40	18:1
45	21:1
50	24:1
55	26:1
65	30:1

STEEL PLATE BEAM GUARD CLASS "A" AT BRIDGES, OBSTACLES AND SIDEROADS/DRIVEWAYS

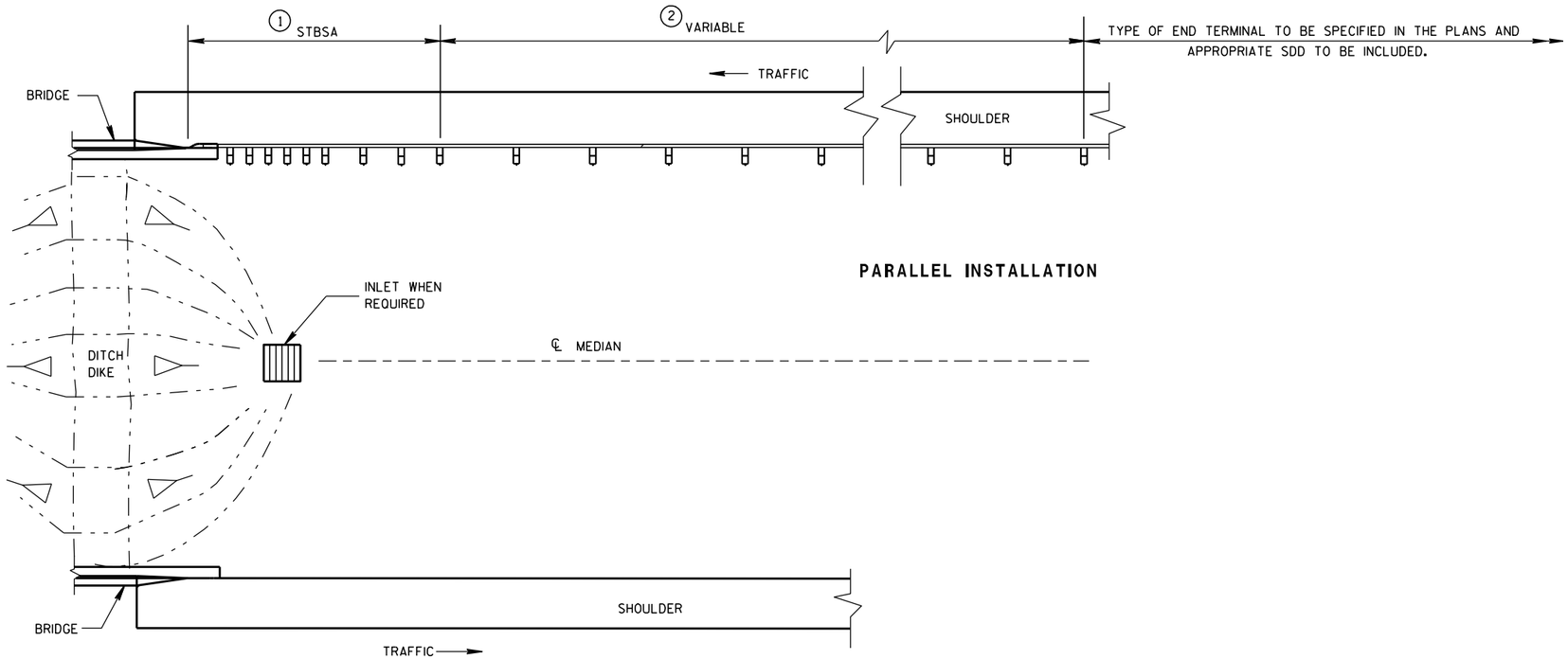
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
8-21-07 DATE
/S/ Jerry H. Zogg
ROADWAY STANDARDS DEVELOPMENT ENGINEER
FHWA

6
S.D.D. 14 B 18-6a

GENERAL NOTES

1. STEEL THRIE BEAM STRUCTURAL APPROACH (STBSA) - SEE CURRENT SDD 14B20.
2. LOCATIONS AND LENGTHS OF BEAM GUARD ARE SHOWN ELSEWHERE IN THE PLAN.



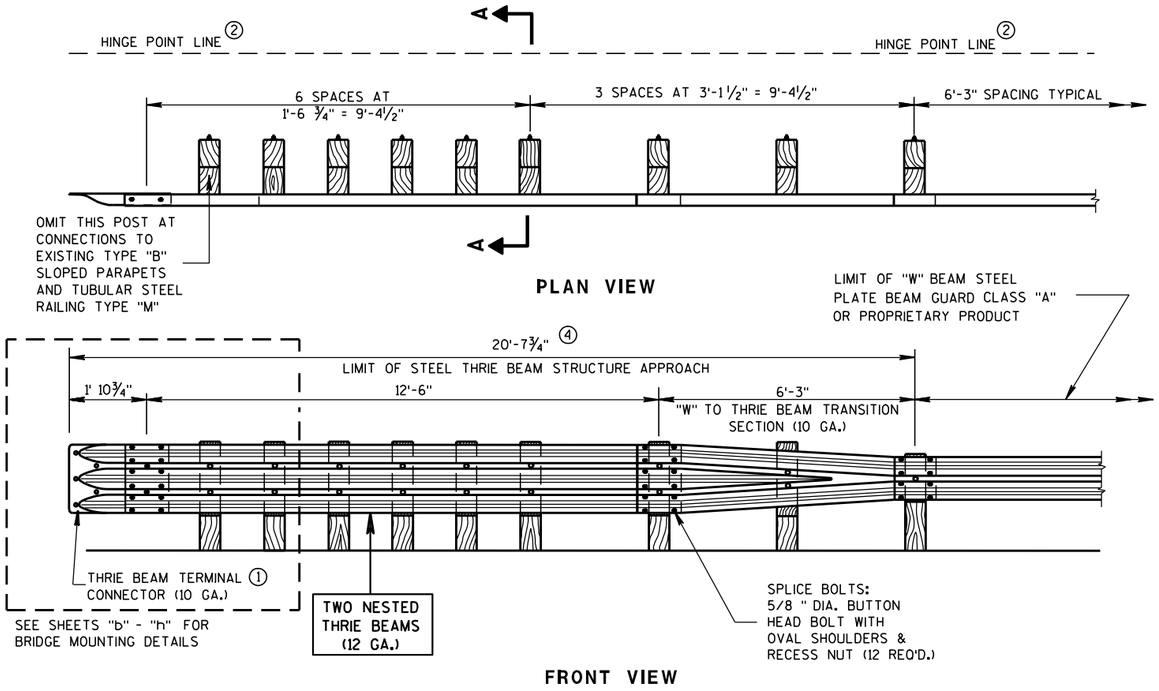
PARALLEL INSTALLATION

BEAM GUARD AT MEDIAN APPROACH TO BRIDGES

STEEL PLATE BEAM GUARD CLASS "A" AT MEDIAN APPROACH TO BRIDGES	
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
APPROVED	
8-21-07 DATE	/S/ Jerry H. Zogg ROADWAY STANDARDS DEVELOPMENT ENGINEER
FHWA	

6

S.D.D. 14 B 18-6b



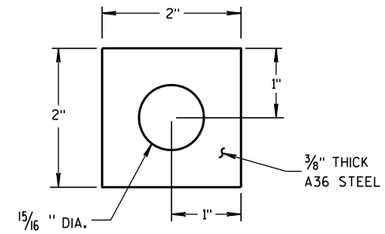


PLATE WASHER DETAIL

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".

DO NOT USE STEEL POSTS AND NOTCHED PLASTIC BLOCKOUTS IN THE STEEL THRIE BEAM STRUCTURAL APPROACH AND THE TRANSITION SECTION OF STEEL PLATE BEAM GUARD, CLASS "A" INSTALLATIONS.

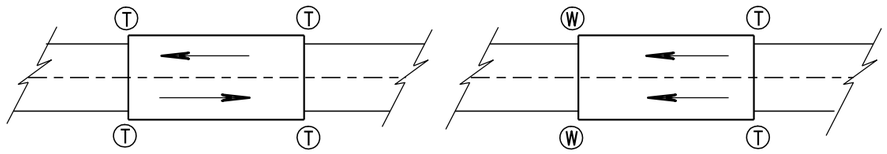
IF ROCK IS ENCOUNTERED, REMOVE ROCK TO FULL DEPTH OF POST PLUS 2 1/2" , AND 12" DIAMETER AROUND POST. SEE 14B15 FOR MORE DETAILS.

① BRIDGE RAILING TYPE "W" DOES NOT REQUIRE A TERMINAL CONNECTOR.

② MINIMUM EMBEDMENT SHALL BE 4'-0". WHERE EXISTING CONDITIONS DO NOT PERMIT THE APPROPRIATE EARTHWORK SHOWN ON THE PLAN TYPICAL SECTIONS OR DETAILS, THE ENGINEER MAY ALLOW THE REDUCTION OR ELIMINATION OF THE 2 FOOT DISTANCE TO THE HINGE POINT. OTHERWISE BUILD AS THE PLAN SHOWS OR AS THE ENGINEER DIRECTS. IF THE 2 FOOT DISTANCE TO THE HINGE POINT IS REDUCED OR ELIMINATED, INCREASE THE POST EMBEDMENT DEPTH TO 4'-6" OR MORE.

③ POST BOLTS ARE 5/8" DIAMETER ASTM A307 BUTTON HEAD BOLT. A POST BOLT REQUIRES A 5/8" DIAMETER A563A DOUBLE RECESSED (DR) HEAVY HEX AND A 5/8" DIAMETER F844 FLAT WASHER. LENGTH OF POST BOLT MAY VARY.

④ ALL WOOD POSTS MUST BE 6" X 8" AND AT LEAST 7'-0" LONG.



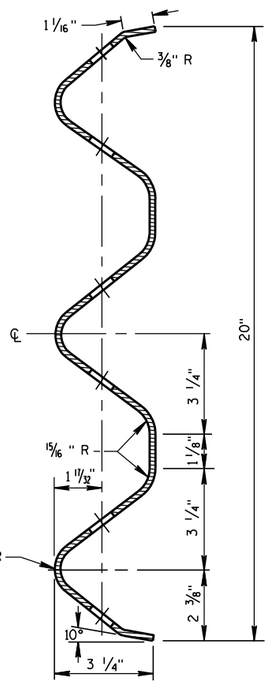
TWO WAY TRAFFIC

ONE WAY TRAFFIC

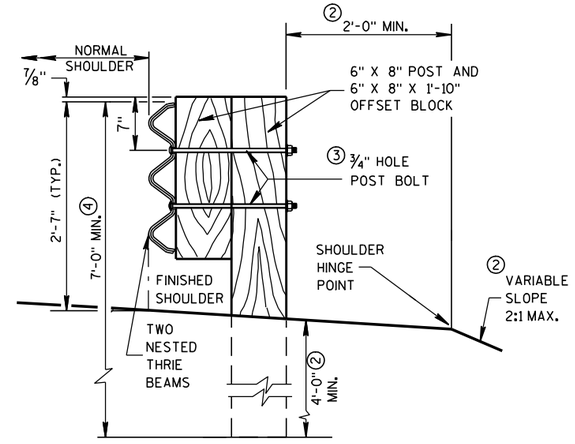
(T) THRIE BEAM CONNECTION

(W) W-BEAM CONNECTION WHEN REQUIRED

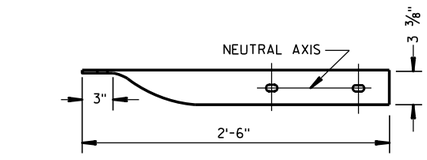
TYPICAL LOCATIONS OF THRIE BEAM AND W-BEAM CONNECTIONS TO BRIDGE

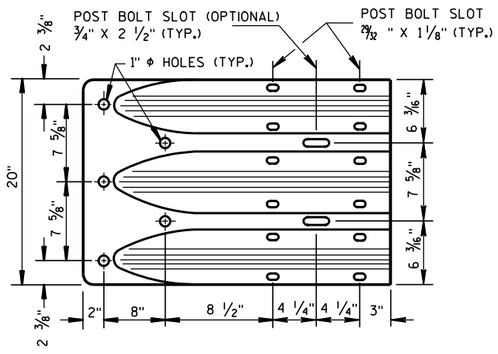


SECTION THRU THRIE BEAM RAIL ELEMENT

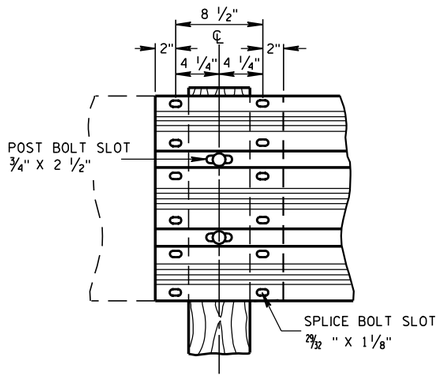


SECTION A-A





THRIE BEAM TERMINAL CONNECTOR



THRIE BEAM SPLICE

STEEL THRIE BEAM STRUCTURE APPROACH

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

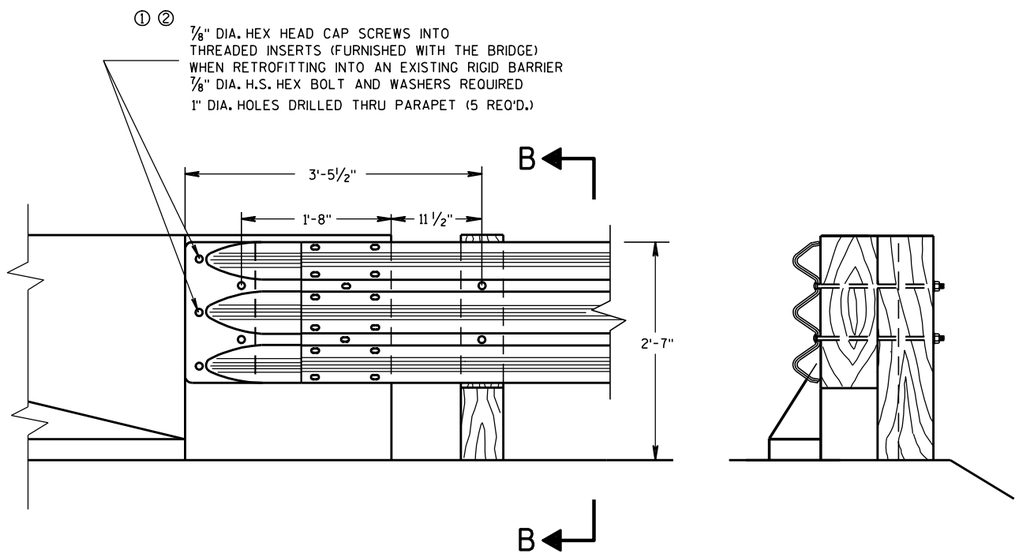
APPROVED

8/31/2012 — DATE

/S/ Jerry H. Zogg — ROADWAY STANDARDS DEVELOPMENT ENGINEER

FHWA

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S.D.D. 14 B 20-11a



FRONT VIEW

SECTION B-B

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.

BOLTS, NUTS AND WASHERS SHALL CONFORM TO ASTM A325, A449 AND GALVANIZED PER STANDARD SPECIFICATIONS 614.

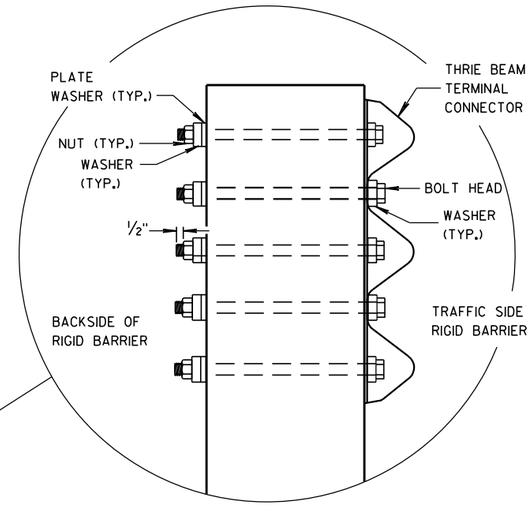
① DRILLING BOLT HOLES THROUGH THE PARAPET, BOLTS, NUTS, WASHERS AND REPAIRING DAMAGED CONCRETE ARE INCIDENTAL TO THE CONTRACT.

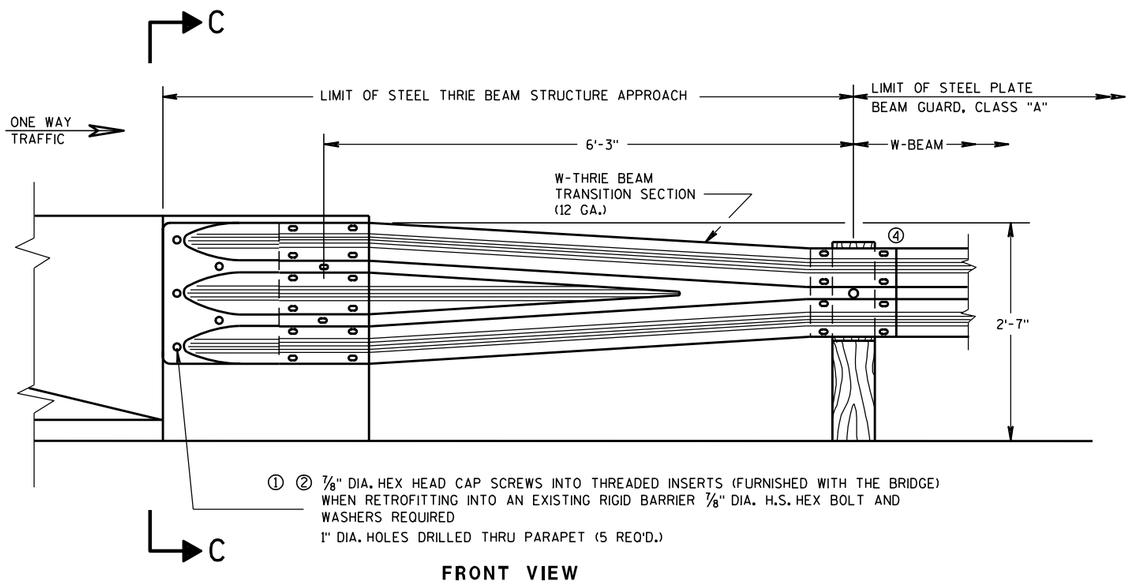
② BOLTS MAY BE A325 BOLTS OR A449 BOLTS. BOLT LENGTH AND THREADING LENGTH ARE TO ALLOW FOR A TIGHT CONNECTION BETWEEN RIGID BARRIER AND THRIE BEAM CONNECTION PLATE. CONTRACTOR IS TO FIELD VERIFY BOLT LENGTH AND THREAD LENGTH. ONE ROUND WASHER REQUIRED BETWEEN BOLT HEAD AND THRIE BEAM TERMINAL CONNECTOR. 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.

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 ½".

④ W6 X 9 OR W6 X 8.5 STEEL POSTS AND NOTCHED PLASTIC BLOCKOUTS ARE ACCEPTABLE ALTERNATIVES FOR 6" X 8" WOOD POST WITH WOOD OR PLASTIC BLOCKOUTS. USE APPROVED NOTCHED PLASTIC BLOCKOUTS WITH STEEL POSTS.

DO NOT USE STEEL POSTS AND NOTCHED PLASTIC BLOCKOUTS IN THE STEEL THRIE BEAM STRUCTURAL APPROACH AND THE TRANSITION SECTION OF STEEL PLATE BEAM GUARD, CLASS "A" INSTALLATIONS.



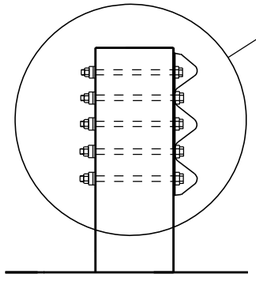


① ② ⅞" DIA. HEX HEAD CAP SCREWS INTO THREADED INSERTS (FURNISHED WITH THE BRIDGE) WHEN RETROFITTING INTO AN EXISTING RIGID BARRIER ⅞" DIA. H.S. HEX BOLT AND WASHERS REQUIRED
1" DIA. HOLES DRILLED THRU PARAPET (5 REQ'D.)

FRONT VIEW

W BEAM TRANSITION AND CONNECTION TO BRIDGE PARAPETS WITH SQUARE ENDS

(USE ONLY ON THE TRAFFIC EXIT END OF ONE WAY BRIDGES)



SECTION C-C

STEEL THRIE BEAM STRUCTURE APPROACH, CONNECTION TO SQUARE END PARAPETS	
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
APPROVED 8/31/2012 DATE FHWA	/S/ Jerry H. [illegible] ROADWAY STANDARDS [illegible] ENGINEER

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S.D.D. 14 B 20-11b

GENERAL NOTES

THESE ARE TYPICAL CONNECTION DETAILS. ADJUST THE POSTION OF CONNECTIONS TO EXISTING BRIDGES TO FIT THE ACTUAL BRIDGE AND SITE DIMENSIONS.

BOLTS, NUTS AND WASHERS SHALL CONFORM TO ASTM A325, A449 AND GALVANIZED PER STANDARD SPECIFICATIONS 614.

① DRILLING BOLT HOLES THROUGH THE PARAPET, BOLTS, NUTS, WASHERS AND REPAIRING DAMAGED CONCRETE ARE INCIDENTAL TO THE CONTRACT.

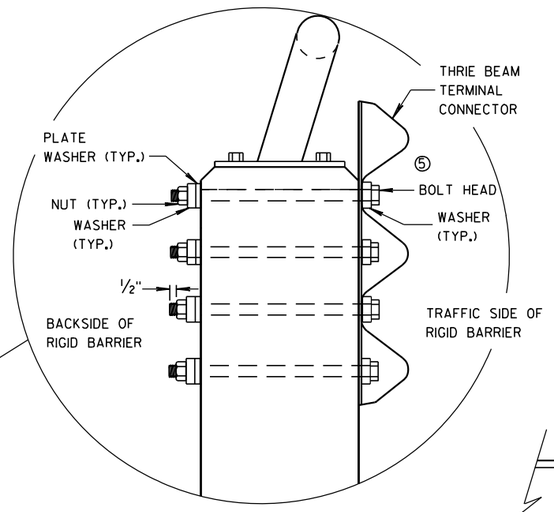
② BOLTS MAY BE A325 BOLTS OR A449 BOLTS. BOLT LENGTH AND THREADING LENGTH ARE TO ALLOW FOR A TIGHT CONNECTION BETWEEN RIGID BARRIER AND THRIE BEAM CONNECTION PLATE. CONTRACTOR IS TO FIELD VERIFY BOLT LENGTH AND THREAD LENGTH. ONE ROUND WASHER REQUIRED BETWEEN BOLT HEAD AND THRIE BEAM TERMINAL CONNECTOR. 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.

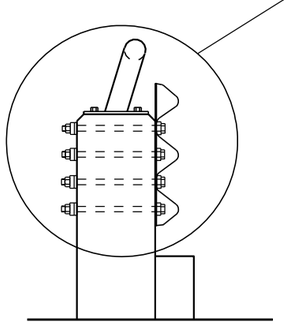
③ THE RECESS FOR A W-BEAM CONNECTION, WHICH EXISTS ON SOME PARAPETS OF THIS TYPE, SHALL BE FILLED WITH A TREATED TIMBER BLOCKOUT. BLOCKOUT SIZE IS 1'-6" X 2'-0" X 3 ½".

④ W6 X 9 OR W6 X 8.5 STEEL POSTS AND NOTCHED PLASTIC BLOCKOUTS ARE ACCEPTABLE ALTERNATIVES FOR 6" X 8" WOOD POST WITH WOOD OR PLASTIC BLOCKOUTS. USE APPROVED NOTCHED PLASTIC BLOCKOUTS WITH STEEL POSTS.

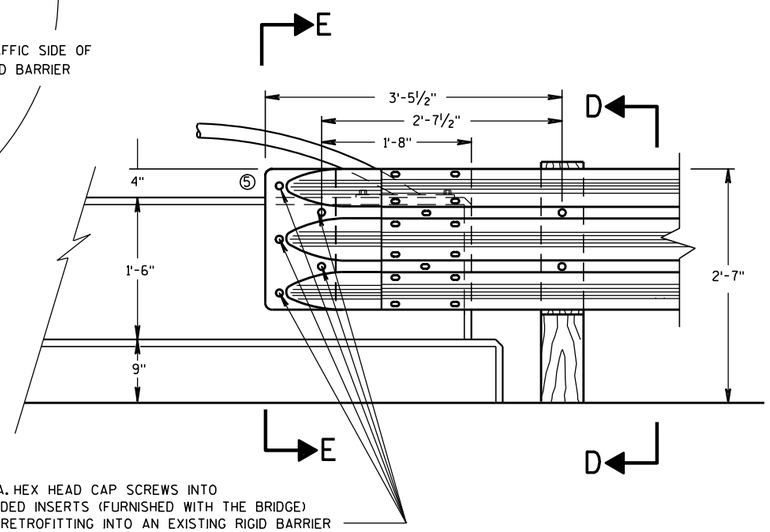
⑤ BOLT, NUT AND WASHERS NOT REQUIRED FOR THIS LOCATION WHEN RETROFITTING AN EXISTING PAPAPET AND THE HOLE IS EITHER ABOVE PARAPET OR WITHIN 4 INCHES OF THE EDGE OF PARAPET.

DO NOT USE STEEL POSTS AND NOTCHED PLASTIC BLOCKOUTS IN THE STEEL THRIE BEAM STRUCTURAL APPROACH AND THE TRANSITION SECTION OF STEEL PLATE BEAM GUARD, CLASS "A" INSTALLATIONS.



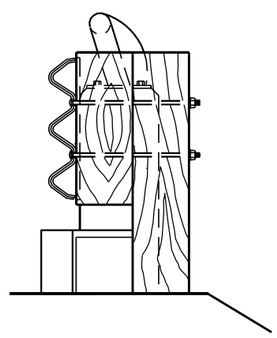


SECTION E-E



① ② ⅞" DIA. HEX HEAD CAP SCREWS INTO THREADED INSERTS (FURNISHED WITH THE BRIDGE) WHEN RETROFITTING INTO AN EXISTING RIGID BARRIER
⅞" DIA. H.S. HEX BOLT AND WASHERS REQUIRED
1" DIA. HOLES DRILLED THRU PARAPET (4 REQ'D.)

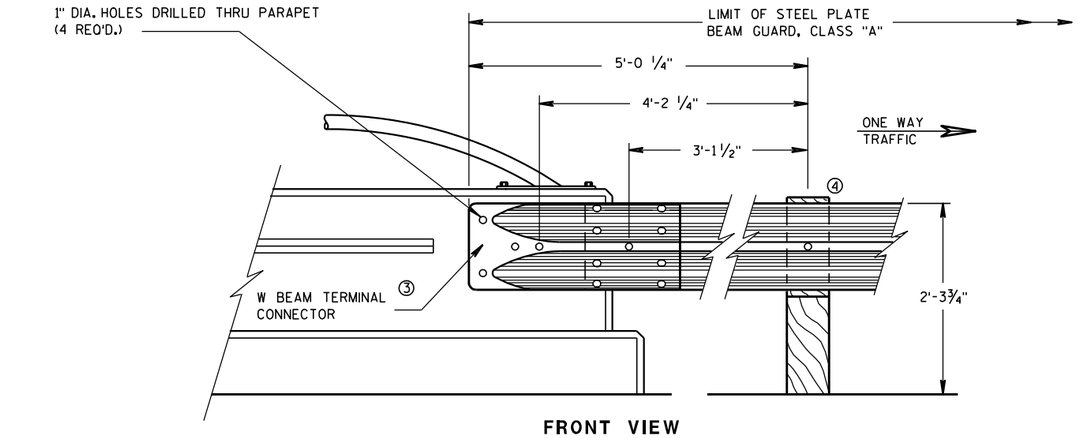
FRONT VIEW



SECTION D-D

THRIE BEAM CONNECTION TO VERTICAL FACED PARAPETS

① ② ⅞" DIA. HEX HEAD CAP SCREWS INTO THREADED INSERTS (FURNISHED WITH THE BRIDGE) WHEN RETROFITTING INTO AN EXISTING RIGID BARRIER
⅞" DIA. HEX HEAD CAP SCREWS INTO THREADED INSERTS (FURNISHED WITH THE BRIDGE) WHEN RETROFITTING INTO AN EXISTING RIGID BARRIER
⅞" DIA. H.S. HEX BOLT AND WASHERS REQUIRED
1" DIA. HOLES DRILLED THRU PARAPET (4 REQ'D.)



FRONT VIEW

W BEAM CONNECTION TO VERTICAL FACE PARAPET
(USE ONLY ON THE TRAFFIC EXIT END OF ONE WAY BRIDGES)

STEEL THRIE BEAM STRUCTURE APPROACH, CONNECTION TO VERTICAL FACED PARAPETS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

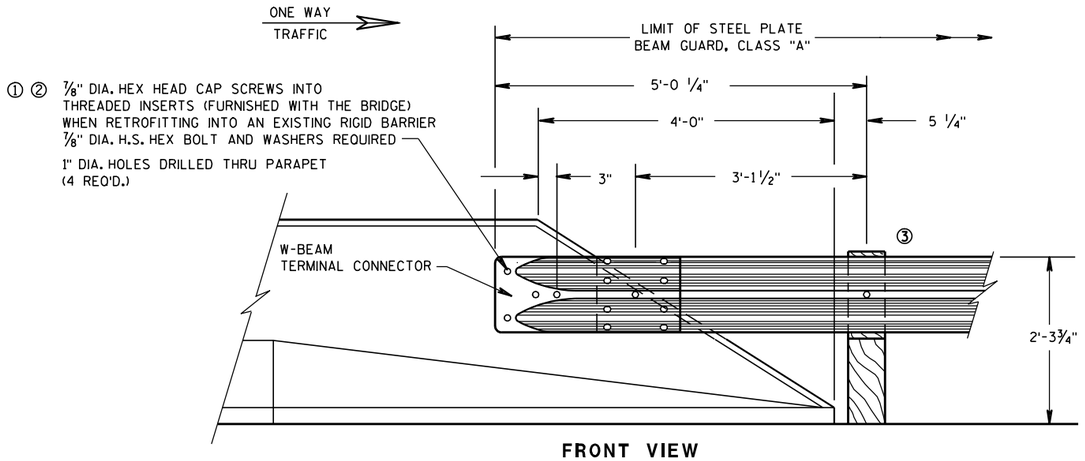
APPROVED
8/31/2012 — DATE
/S/ Jerry H. Zogg — ROADWAY STANDARDS DEVELOPMENT ENGINEER
FHWA

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FRONT VIEW

W BEAM CONNECTION TO PARAPETS WITH SLOPED ENDS

(USE ONLY AT TRAFFIC EXIT END OF ONE WAY BRIDGE)

GENERAL NOTES

THESE ARE TYPICAL CONNECTION DETAILS. ADJUST THE POSTION OF CONNECTIONS TO EXISTING BRIDGES TO FIT THE ACTUAL BRIDGE AND SITE DIMENSIONS.

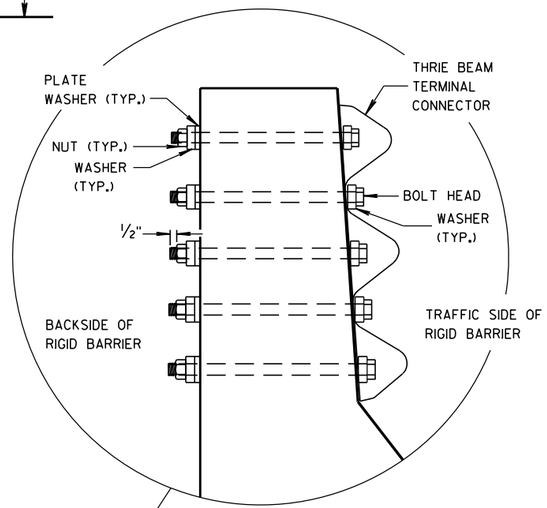
BOLTS, NUTS AND WASHERS SHALL CONFORM TO ASTM A325, A449 AND GALVANIZED PER STANDARD SPECIFICATIONS 614.

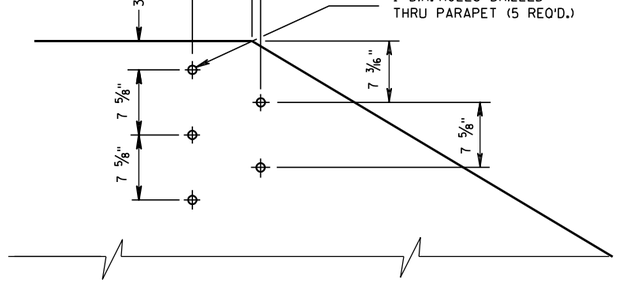
① DRILLING BOLT HOLES THROUGH THE PARAPET, BOLTS, NUTS, WASHERS AND REPAIRING DAMAGED CONCRETE ARE INCIDENTAL TO THE CONTRACT.

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 TERMINAL CONNECTOR. 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.

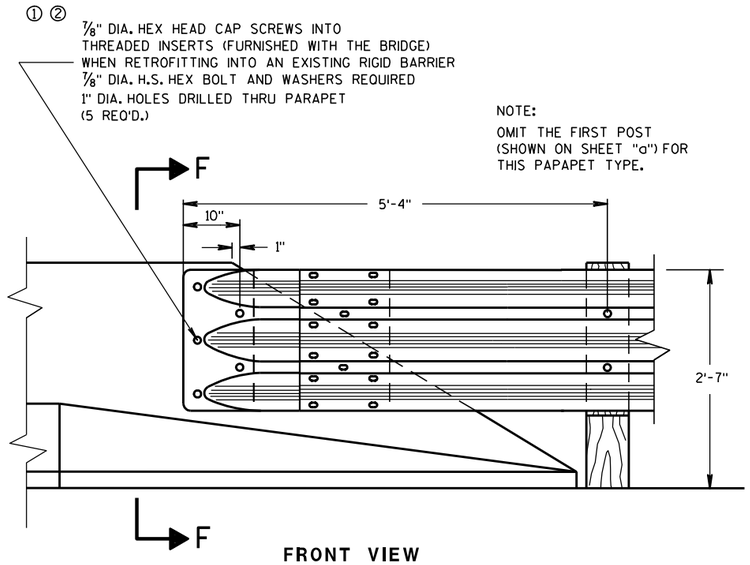
③ W6 X 9 OR W6 X 8.5 STEEL POSTS AND NOTCHED PLASTIC BLOCKOUTS ARE ACCEPTABLE ALTERNATIVES FOR 6" X 8" WOOD POST WITH WOOD OR PLASTIC BLOCKOUTS. USE APPROVED NOTCHED PLASTIC BLOCKOUTS WITH STEEL POSTS.

DO NOT USE STEEL POSTS AND NOTCHED PLASTIC BLOCKOUTS IN THE STEEL THRIE BEAM STRUCTURAL APPROACH AND THE TRANSITION SECTION OF STEEL PLATE BEAM GUARD, CLASS "A" INSTALLATIONS.

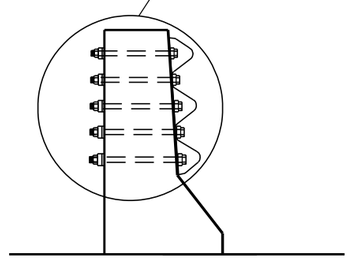




DRILL HOLE LOCATION AND PATTERN FOR THRIE BEAM CONNECTION



FRONT VIEW



SECTION F-F

THRIE BEAM CONNECTION TO BRIDGE PARAPETS WITH SLOPED ENDS

STEEL THRIE BEAM STRUCTURE APPROACH, CONNECTION TO SLOPED END PARAPETS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

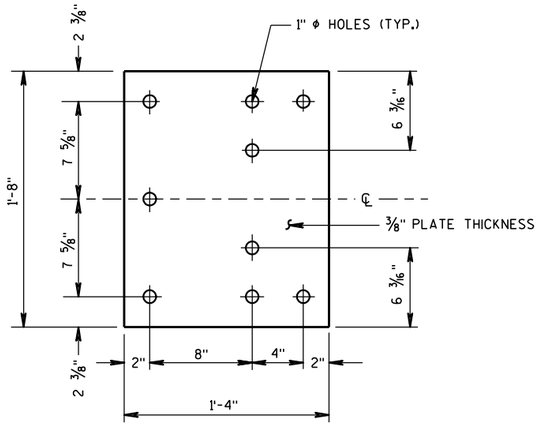
APPROVED
8/31/2012 — DATE
/S/ Jerry H. [illegible] — ROADWAY STANDARDS [illegible] ENGINEER
FHWA

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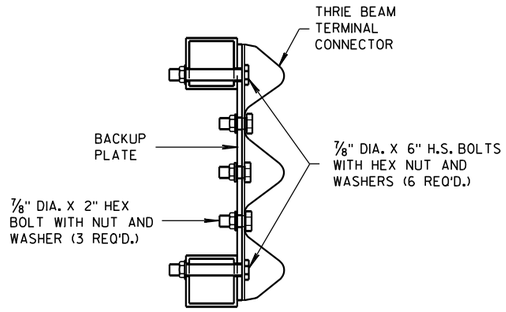
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S.D.D. 14 B 20-11d



BACK-UP PLATE DETAIL



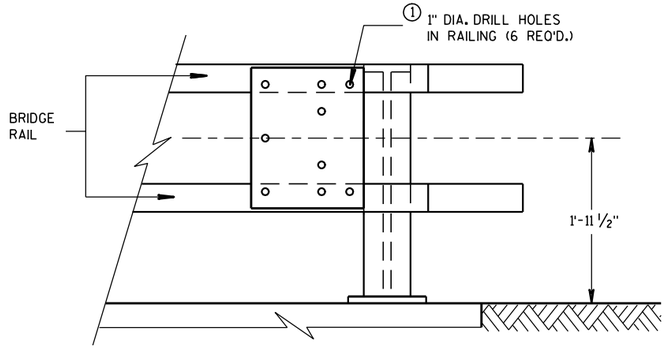
SECTION G-G

GENERAL NOTES

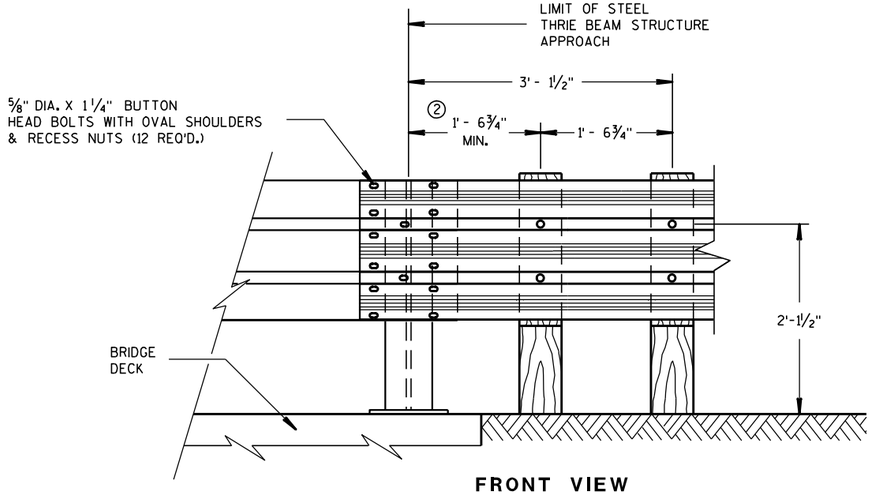
BOLTS, PLATES, NUTS AND WASHERS SHALL CONFORM TO THE REQUIREMENTS OF ASTM SPECIFICATION A 325 AND BE GALVANIZED IN ACCORDANCE WITH ASTM A 153.

① DRILLING BOLT HOLES THROUGH THE PARAPET, BOLTS, NUTS, WASHERS AND REPAIRING DAMAGED CONCRETE ARE INCIDENTAL TO THE CONTRACT.

② VARY THIS DIMENSION DEPENDING ON ABUTMENT TYPE, WINGWALL DETAILS, AND ANGLE OF SKEW. PLACE THE FIRST WOOD POST OFF THE BRIDGE SHALL AS CLOSE AS FEASIBLE TO THE STEEL END POST.

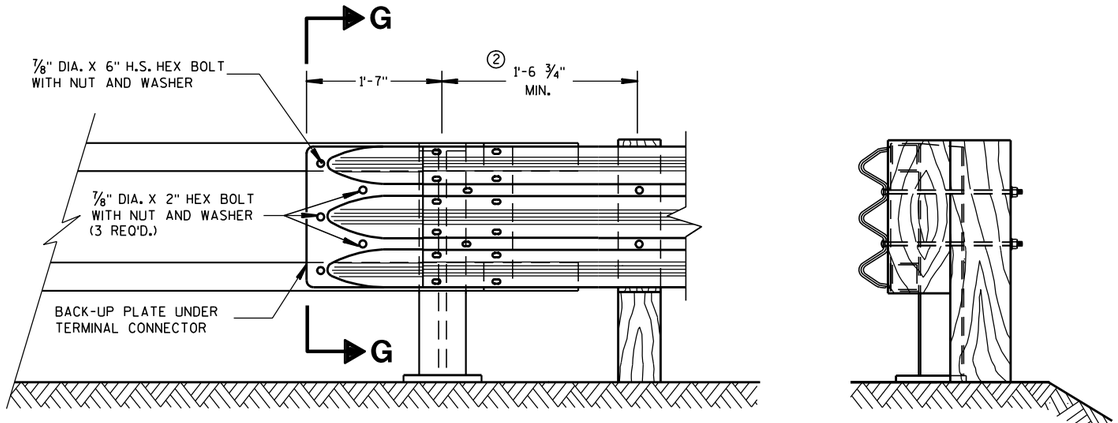


BACK-UP PLATE MOUNTING ONTO BRIDGE RAILING



FRONT VIEW

THRIE BEAM CONNECTION TO STEEL RAILING TYPE "W"



FRONT VIEW

END VIEW

THRIE BEAM CONNECTION TO TUBULAR RAILING TYPE "F"

STEEL THRIE BEAM STRUCTURE APPROACH, CONNECTION TO BRIDGE RAILING TYPES "F" AND "W"

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

8/31/2012
DATE

/S/ Jerry H ...
ROADWAY STANDARDS ENGINEER

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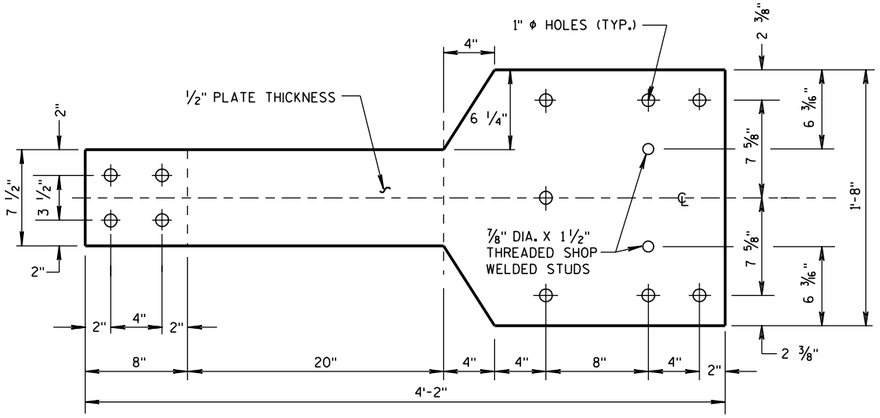
FHWA

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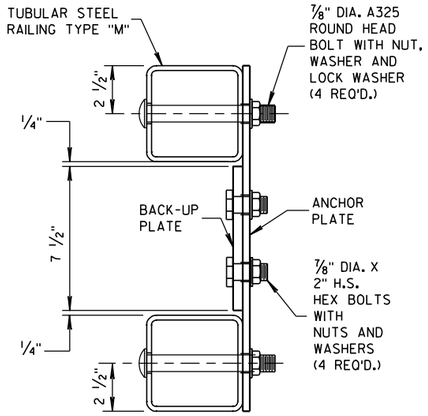
S.D.D. 14 B 20-11e

GENERAL NOTES

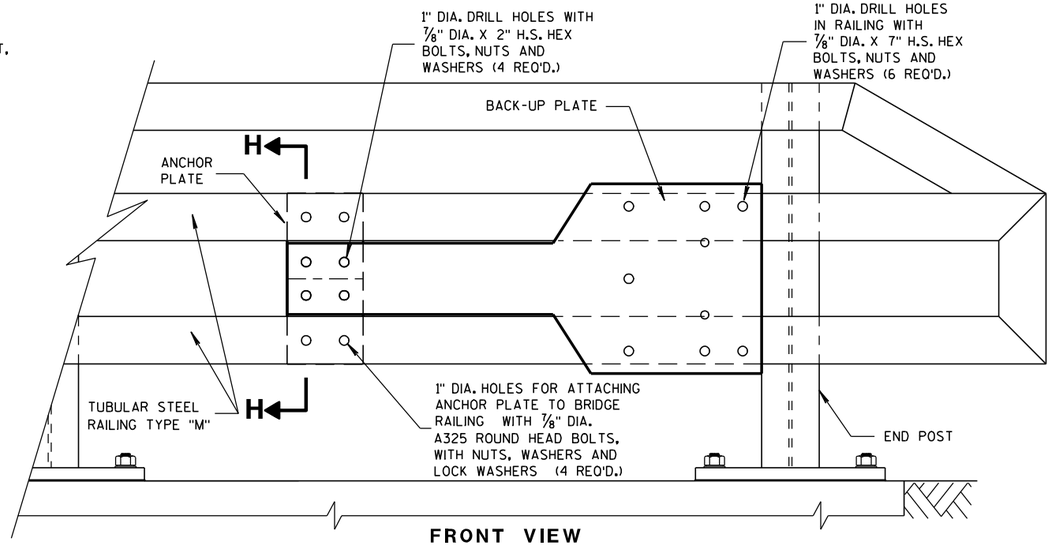
① VARY THIS DIMENSION DEPENDING ON ABUTMENT TYPE, WINGWALL DETAILS, AND ANGLE OF SKEW. PLACE THE FIRST WOOD POST OFF THE BRIDGE SHALL BE AS CLOSE AS FEASIBLE TO THE STEEL END POST.



FRONT VIEW

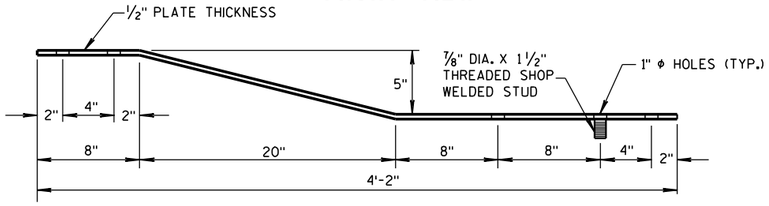


SECTION H-H



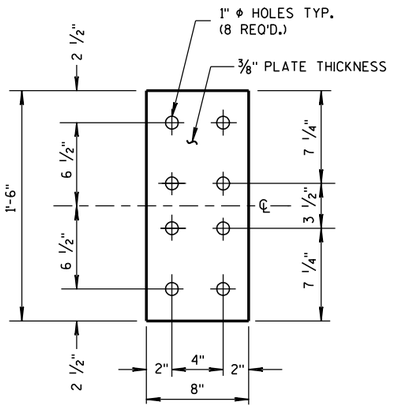
FRONT VIEW

ANCHOR AND BACK-UP PLATE MOUNTING TO BRIDGE RAILING, TYPE "M"



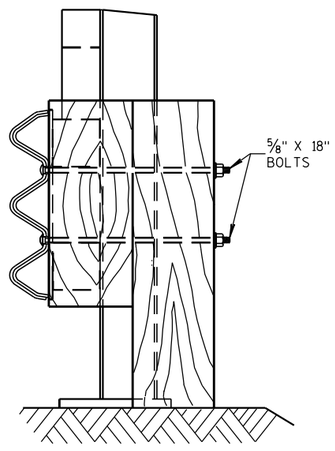
PLAN VIEW

BACK-UP PLATE DETAIL, TYPE "M"

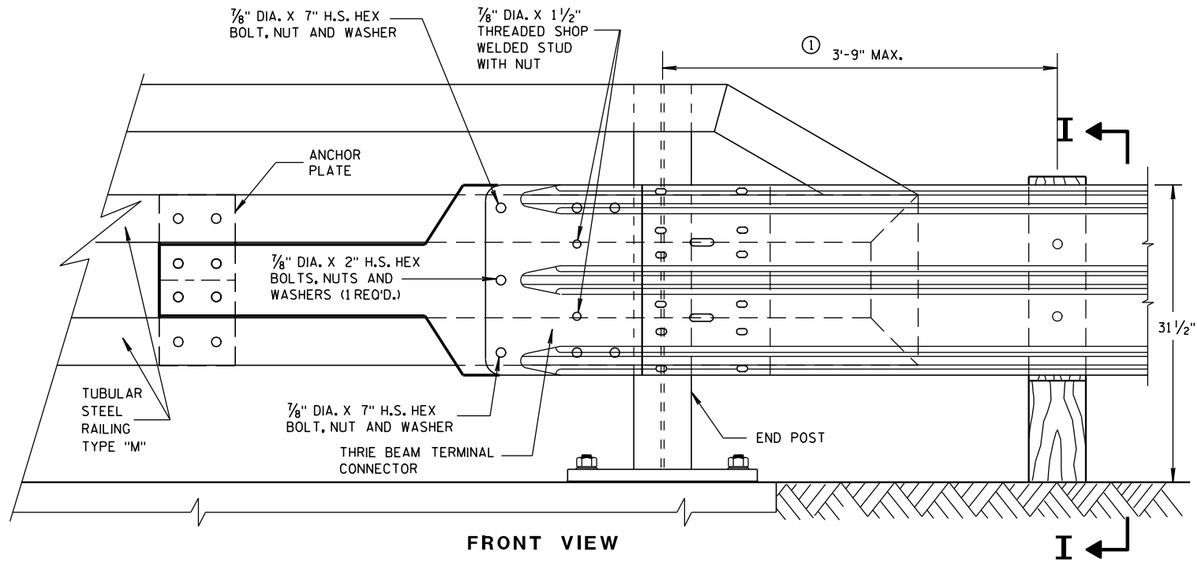


FRONT VIEW

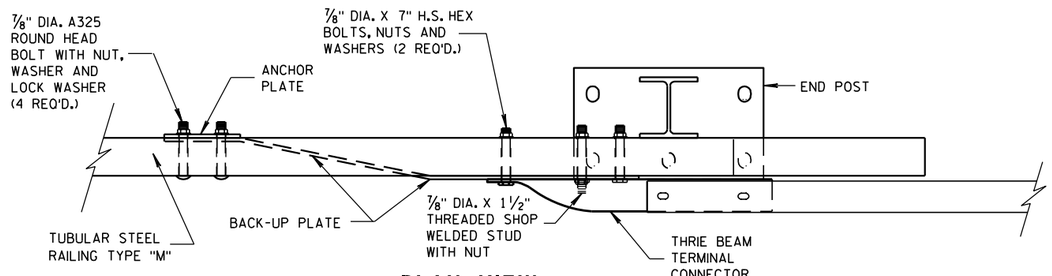
ANCHOR PLATE DETAIL, TYPE "M"



SECTION I-I



FRONT VIEW



PLAN VIEW

THRIE BEAM CONNECTION TO TUBULAR RAILING, TYPE "M"

STEEL THRIE BEAM STRUCTURE APPROACH, CONNECTION TO BRIDGE RAILING TYPE "M"

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
8/31/2012 — DATE
/S/ Jerry H. [illegible] — ROADWAY STANDARDS ENGINEER

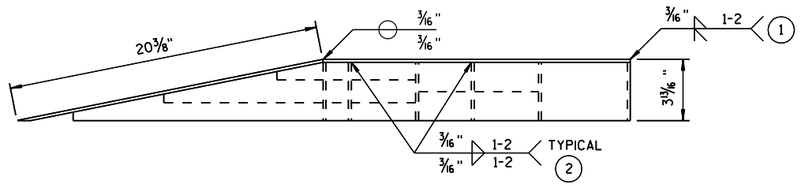
FHWA ENT

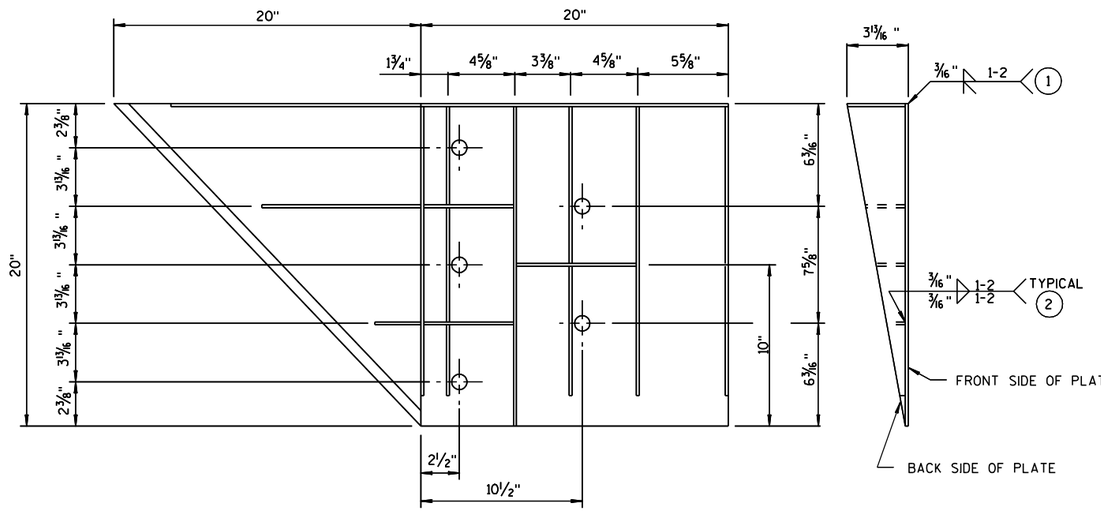
6

S.D.D. 14 B 20-11f

6

S.D.D. 14 B 20-11f





WELDING INSTRUCTION

(VIEWED FROM BACK SIDE OF PLATE)

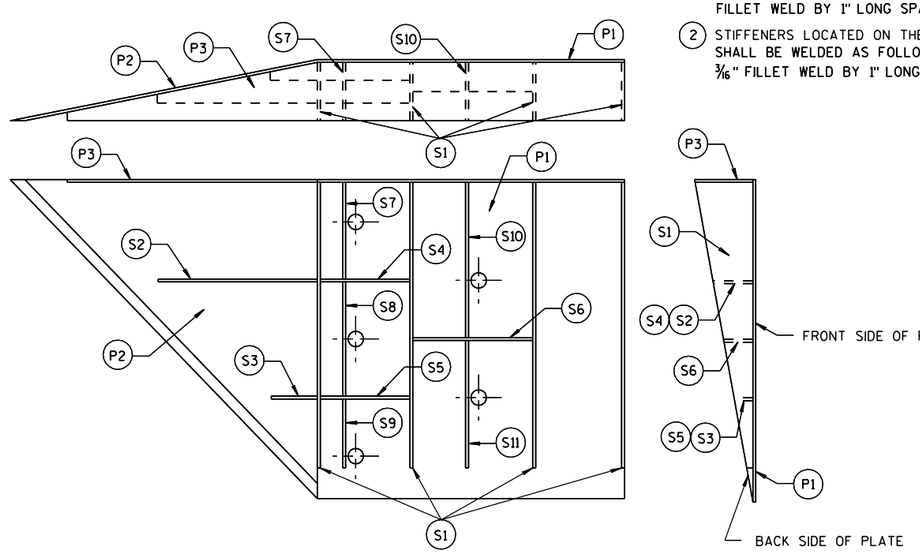


PLATE AND STIFFENER IDENTIFICATION

(VIEWED FROM BACK SIDE OF PLATE)

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".

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"

STEEL THRIE BEAM STRUCTURE APPROACH

STEEL THRIE BEAM STRUCTURE APPROACH, CONNECTOR PLATE DETAIL

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

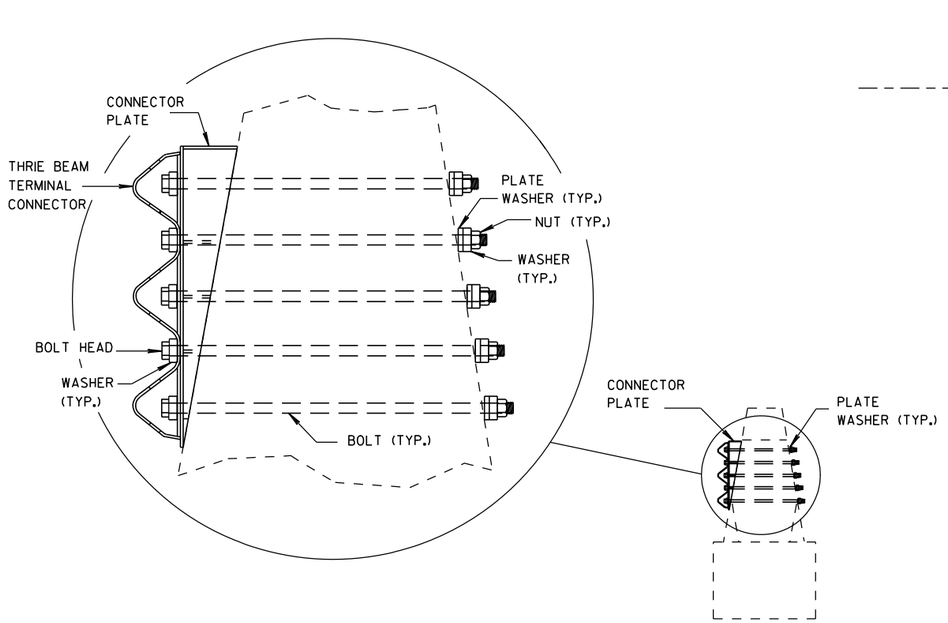
APPROVED
8/31/2012 — DATE
/S/ Jerry H. Zogg — ROADWAY STANDARDS ENGINEER
FHWA

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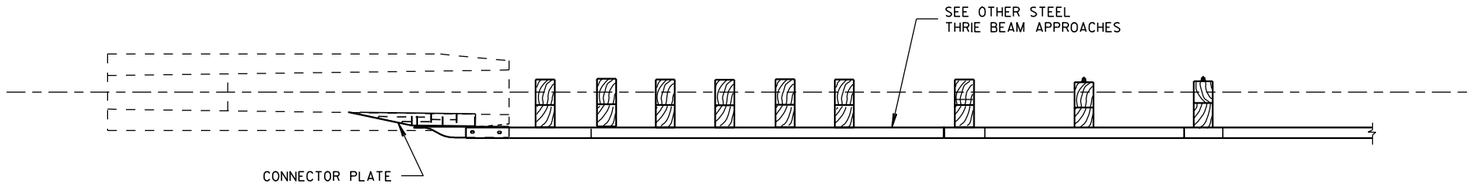
S.D.D. 14 B 20-11g

6

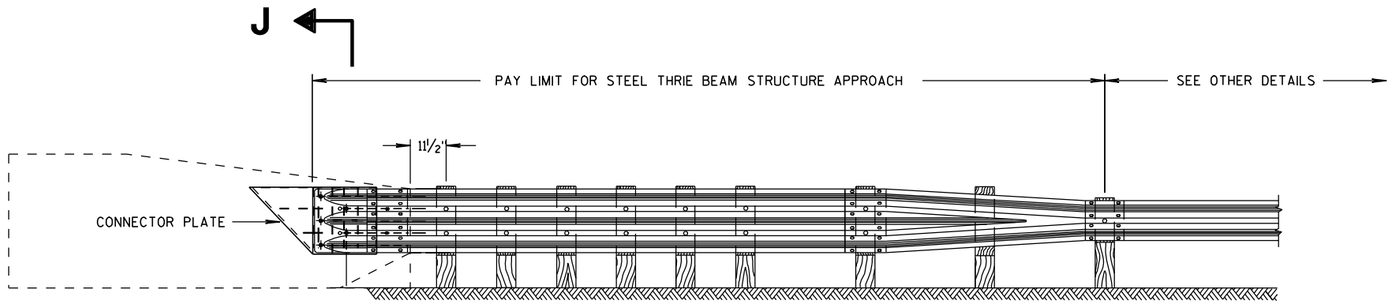
S.D.D. 14 B 20-11g



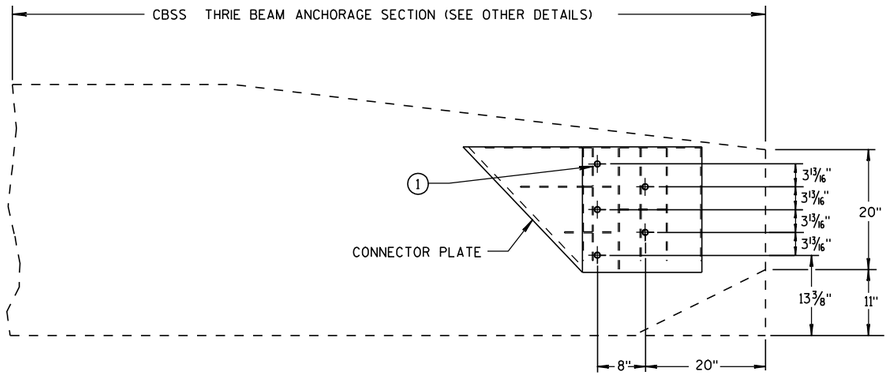
SECTION J-J



PLAN VIEW



FRONT VIEW



CONNECTOR PLATE LOCATION

GENERAL NOTES

CONSTRUCT PER STANDARD SPECIFICATION 614.

CONNECTOR PLATE, DRILLING HOLES THROUGH 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 TERMINAL CONNECTOR. 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.

STEEL THRIE BEAM STRUCTURE APPROACH

STEEL THRIE BEAM STRUCTURE APPROACH, SINGLE SLOPE ATTACHMENT

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

8/31/2012
DATE

/S/ Jerry H. Zogg
ROADWAY STANDARDS ENGINEER

FHWA

6

S.D.D. 14 B 20-11h

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S.D.D. 14 B 20-11h

BILL OF MATERIALS

NOTE NO.	QTY.	DESCRIPTION
(1)	4	WOOD BREAKAWAY TERMINAL POST: 5½" X 7½" X 3'-9"
(2)	**	STEEL TUBE: OPTION 1 - QUANITY OF 4 TS 8" X 6" X 0.188", 4'-6" LONG OR OPTION 2 - QUANITY OF 2 TS 8" X 6" X 0.188", 6'-0" AND 2 TS 8" X 6" X 0.188", 4'-6" LONG
(3)	2	SOIL PLATE: 2'-0" X 1'-6" X ¼" **
(4)	4	WOOD BREAKAWAY CRT POST: 6" X 8" X 6'-0"
(5)	6	WOOD OFFSET BLOCKS: 6' X 8" X 1'-2"
(6)	1	PIPE SLEEVE: 2" X 5 ½" STANDARD PIPE
(7)	1	BEARING PLATE
(8)	1	BCT CABLE ASSEMBLY
(9)	1	CABLE ANCHOR BOX
(10)	1	STRUT & YOKE
(11)	1	STEEL PLATE BEAM, END PANEL 12 GA. 13'-6½" LONG FOR SKT-350, ET-2000 AND ET-2000 PLUS
(12)	3	STEEL PLATE BEAM: 12 GA. 13'-6½"
(13)	1	ET-2000/ET-2000 PLUS GUARDRAIL EXTRUDER OR SKT-350 IMPACT HEAD: AS FURNISHED BY MANUFACTURER
(14)	1	REFLECTIVE SHEETING TYPE H: 18" X 18"
(15)	1	E.A.T. MARKER POST

GENERAL NOTES

FOLLOW MANUFACTURE'S BOLTING RECOMMENDATIONS. IF NONE ARE AVAILABLE, INSTALL ⅝" ϕ X 1'-6" BUTTON HEAD BOLTS AT ALL POSTS EXCEPT FOR POST 1.

(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) THE 13 SLOT FIRST RAIL PANEL MAY BE USED IN LIEU OF THE 3 SLOT RAIL PANEL ON SKT-350 ONLY.

(D) THE TOP OF THE STEEL TUBE ON POSTS 1 THROUGH 4 SHALL NOT BE MORE THAN 3" ABOVE THE FINISH GROUND ELEVATION.

(E) THE CENTER OF THE UPPER 3½" DIAMETER HOLE ON POST 5 THROUGH 8 SHALL BE ¾" ABOVE THE FINISHED GROUND LINE.

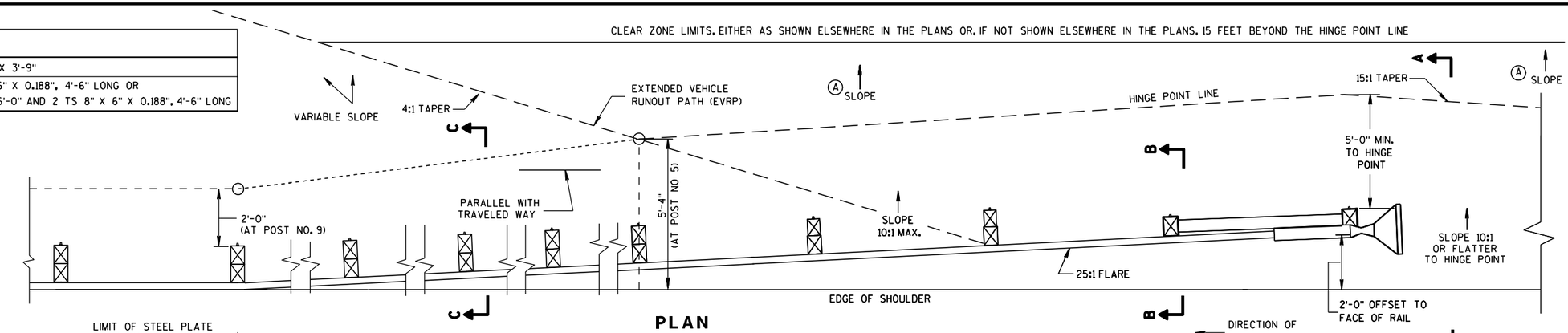
(F) SHEETING IS ATTACHED TO 0.040 ALUMINUM SHEET AND ATTACHED TO E.A.T. HEAD USING 4 STAINLESS STEEL SELF-TAPPING SCREWS. ONE SCREW PER CORNER OF E.A.T.

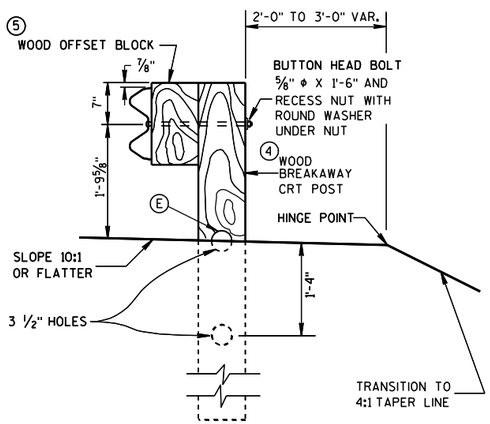
STEEL POSTS SHALL NOT BE ALLOWED FOR USE WITH ENERGY ABSORBING TERMINALS.

DO NOT INSTALL REFLECTORS ON THE FIRST 50 FEET OF THE APPROACH END OF THE ENERGY ABSORBING TERMINAL.

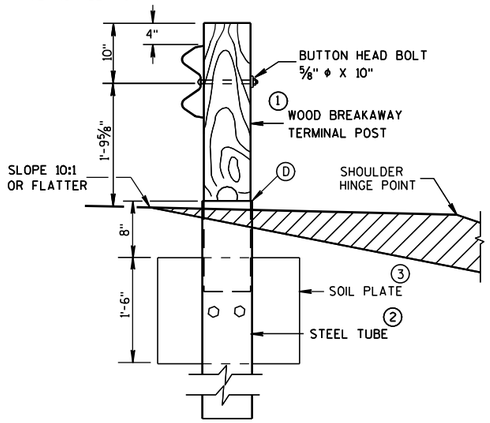
* DO NOT ATTACH BLOCKOUTS TO POSTS 1 AND 2.

** SDD SHOWS 4 - 54 INCH STEEL TUBES WITH SOIL PLATES INSTALLED ON POST 1 AND POST 2. POST 3 AND 4 DO NOT NEED SOIL PLATES. AN ALTERNATIVE INSTALLATION WOULD CONSIST OF 2 - 72 INCH STEEL TUBES ON POST 1 AND POST 2 AND 54 INCH SOIL TUBES ON POSTS 3 AND 4. THE ALTERNATIVE INSTALLATION DOES NOT REQUIRE SOIL PLATES.

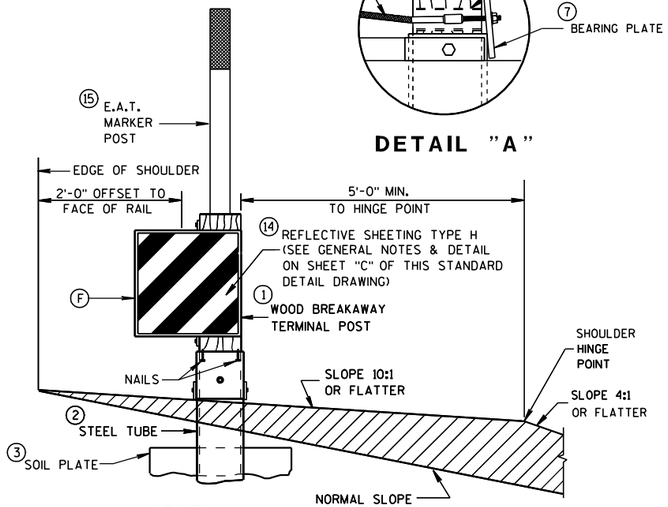




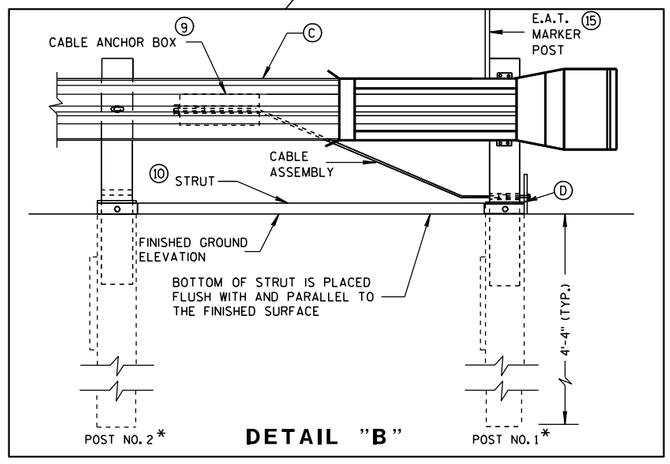
SECTION C-C
TYPICAL AT POST NOS. 6, 8



SECTION B-B
TYPICAL AT POST NO. 2*

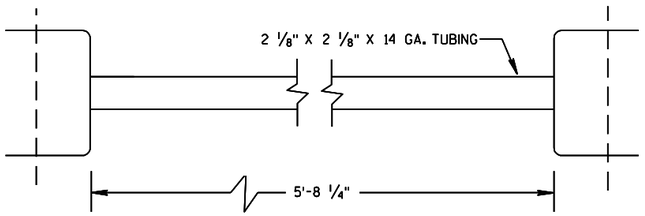


SECTION A-A
TYPICAL AT POST NO. 1*

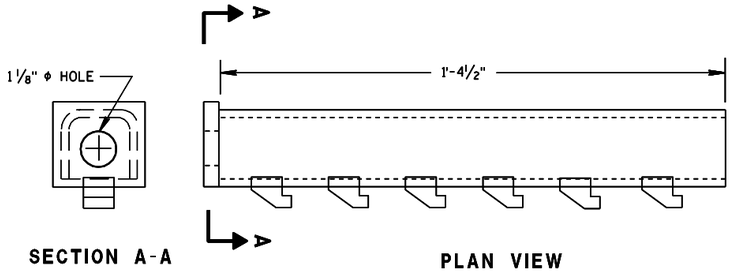


STEEL PLATE BEAM GUARD ENERGY ABSORBING TERMINAL

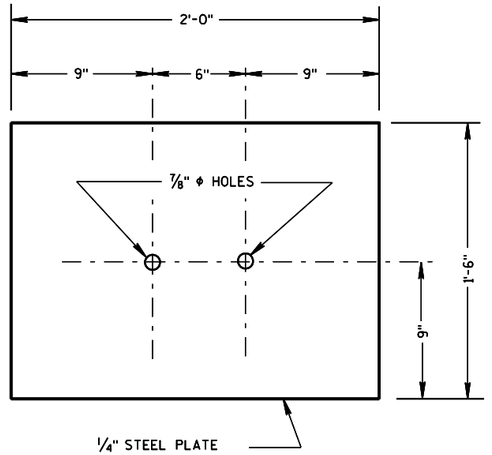
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION



⑩ STRUT DETAIL (SKT-350)

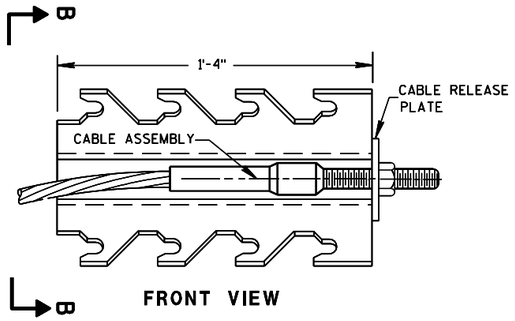


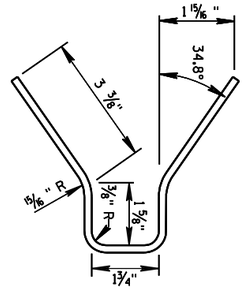
⑨ CABLE ANCHOR BOX (ET-2000/ET-2000 PLUS)



③ SOIL PLATE

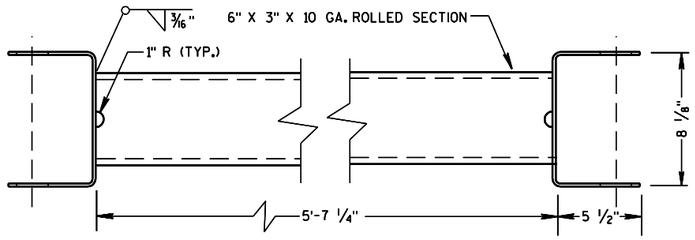
(SKT-350, ET-2000/ET-2000 PLUS)





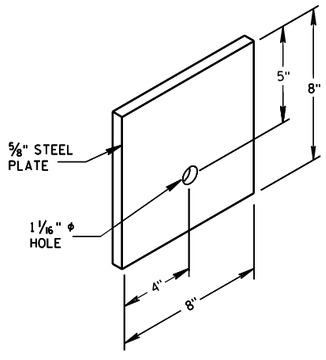
⑨ CABLE ANCHOR BOX (SKT-350)

(SKT-350)



⑩ STRUT DETAIL (ET-2000/ET-2000 PLUS)

(ET-2000/ET-2000 PLUS)



⑦ STEEL BEARING PLATE

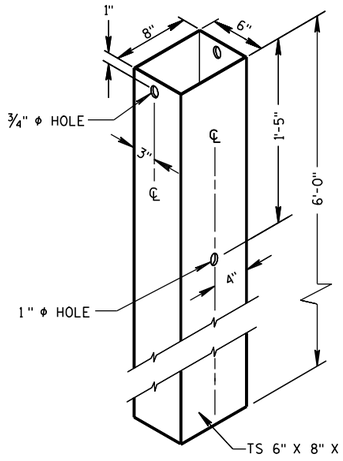
(SKT-350, ET-2000/ET-2000 PLUS)

STEEL PLATE BEAM GUARD
ENERGY ABSORBING TERMINAL

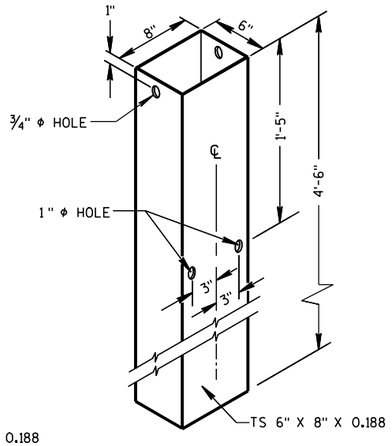
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

6

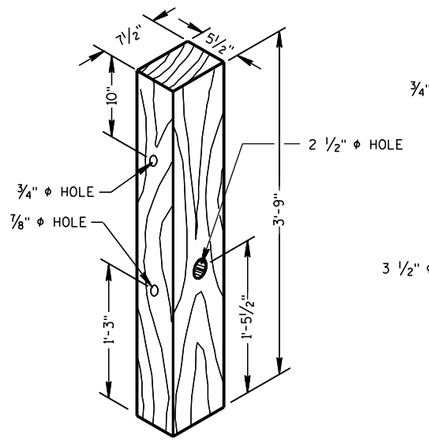
S.D.D. 14 B 24-7b



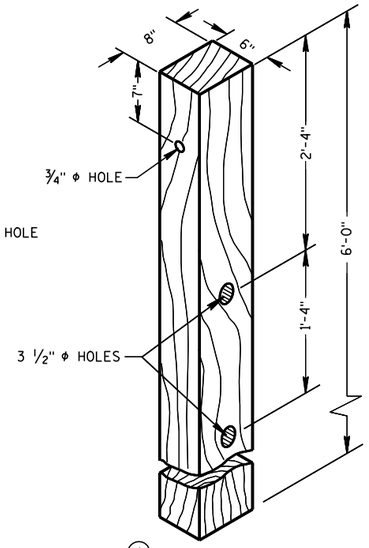
② 72" STEEL TUBE
(POSTS NO. 1-4



② 54" STEEL TUBE
(POSTS NO. 1-4



① TERMINAL POST
(POSTS NO. 1-4



④ CRT POST
(POSTS NO'S 5-8

WOOD BREAKAWAY POSTS

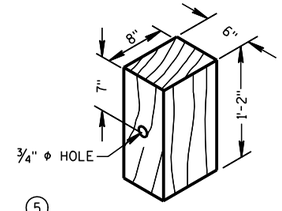
GENERAL NOTES

STEEL PLATE BEAM GUARD, ENERGY ABSORBING TERMINAL SHALL BE PAID FOR AT THE CONTRACT UNIT PRICE EACH, WHICH SHALL INCLUDE HARDWARE, STEEL PLATE BEAM GUARD, POSTS, REFLECTIVE SHEETING AND INSTALLATION AS SHOWN.

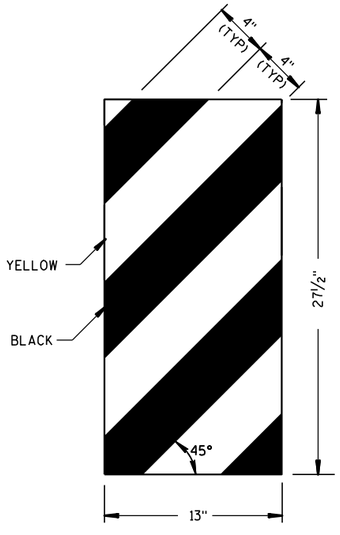
WHEN ROCK IS ENCOUNTERED DURING EXCAVATION, A 12 INCH DIA. POST HOLE EXTENDING 20 INCHES DEEP INTO THE ROCK MAY BE USED IF APPROVED BY THE ENGINEER. GRANULAR MATERIAL SHALL BE PLACED IN THE BOTTOM OF THE HOLE APPROXIMATELY 2 ½" INCHES DEEP TO PROVIDE DRAINAGE. THE SOIL TUBES SHALL BE FIELD CUT TO LENGTH, PLACED IN THE HOLE AND BACKFILLED WITH ADEQUATELY COMPACTED MATERIAL EXCAVATED FROM THE HOLE.

SEE APPROVED PRODUCTS LIST FOR ACCEPTABLE E. A. T. MARKER POST.

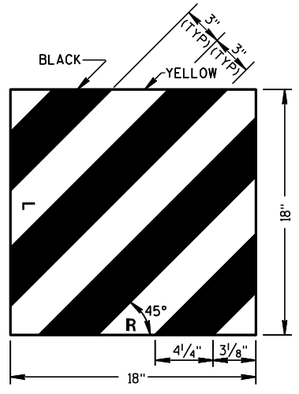
(G) ½" DIA. X 3" LAG BOLT WITH WASHER.



⑤ WOOD OFFSET BLOCK
REQ'D. AT ALL POSTS EXCEPT POST NO'S 1 & 2

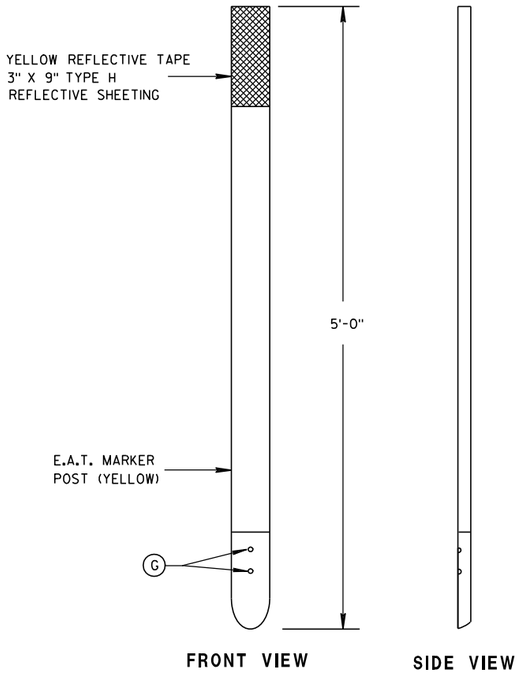


ET-2000 PLUS ONLY



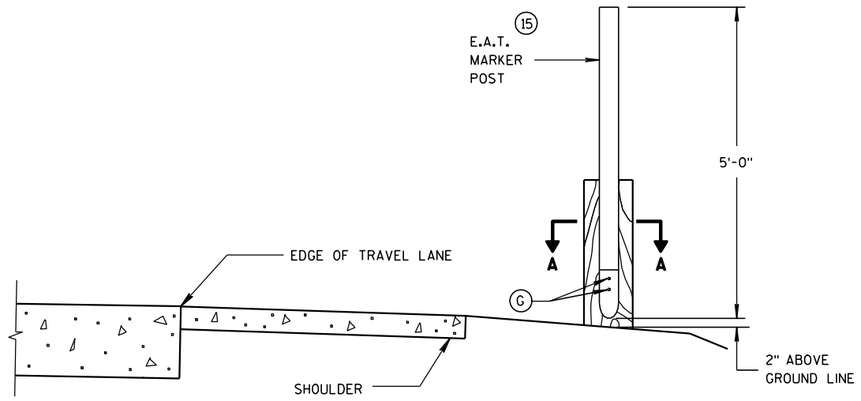
ET-2000 AND SKT-350

⑭ REFLECTIVE SHEETING DETAILS

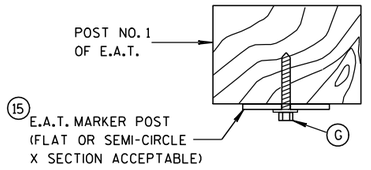


FRONT VIEW SIDE VIEW

⑮ E.A.T. MARKER POST



TYPICAL INSTALLATION OF E.A.T.
MARKER POST BACKSIDE OF POST NO. 1
(E.A.T. AND RAIL REMOVED FOR CLARITY)



SECTION A-A

STEEL PLATE BEAM GUARD
ENERGY ABSORBING TERMINAL

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
4-12-10 DATE
/S/ Jerry H. [illegible]
ROADWAY STANDARDS ENGINEER
FHWA

6

S.D.D. 14 B 24-7c

6

S.D.D. 14 B 24-7c

GENERAL NOTES

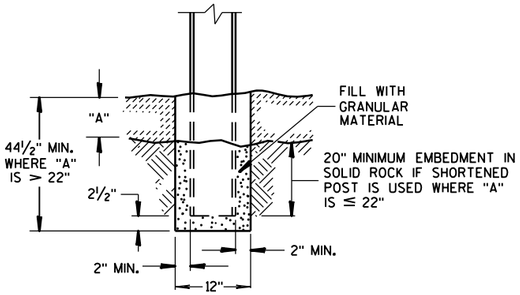
1. WOOD OR STEEL POSTS (w6X9 OR w6X8.5) MAY BE USED. DO NOT INTERMIX WOOD AND STEEL POSTS. INSTALL STEEL POSTS WITH HOLES ON APPROACHING TRAFFIC SIDE.

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.

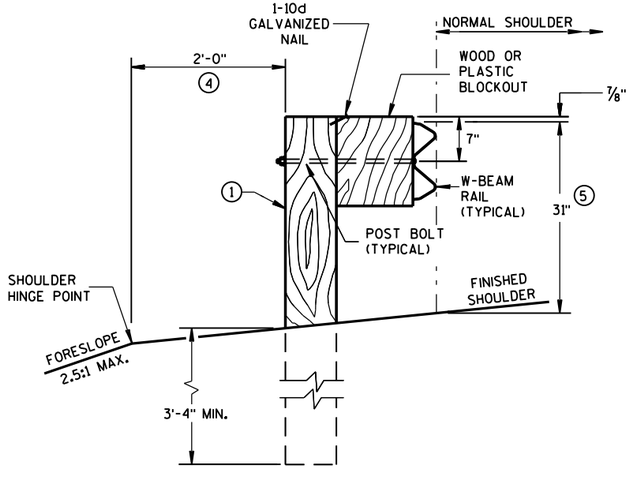
3. IF ROCK IS ENCOUNTERED DURING EXCAVATION, PROVIDE A HOLE 12 INCHES IN DIAMETER EXTENDING 20 INCHES DEEP INTO THE ROCK. PLACE APPROXIMATELY 2½ INCHES OF GRANULAR MATERIAL IN THE BOTTOM OF THE HOLE. CUT THE POSTS THE TO LENGTH AMD INSTALL. BACKFILL WITH EXCAVATED MATERIAL AND COMPACT. BACKFILL IS TO 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).

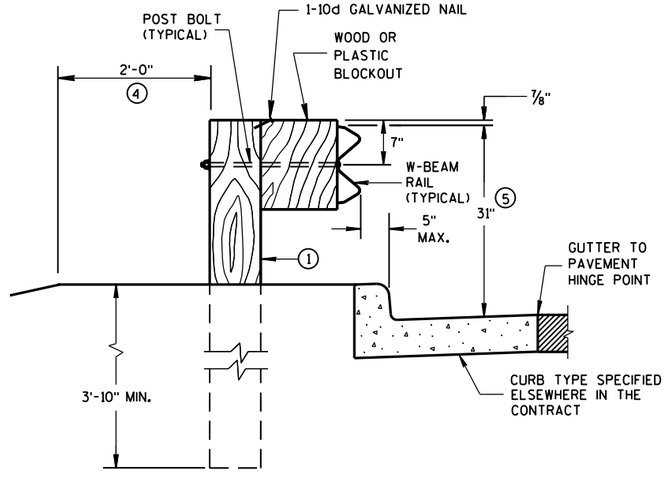
5. FOR NEW MGS INSTALLATION TOP OF W-BEAM RAIL TOLERANCE IS ± 1". FOR EXISTING MGS INSTALLATION TOP OF W-BEAM IS BETWEEN 27¾" TO 32".



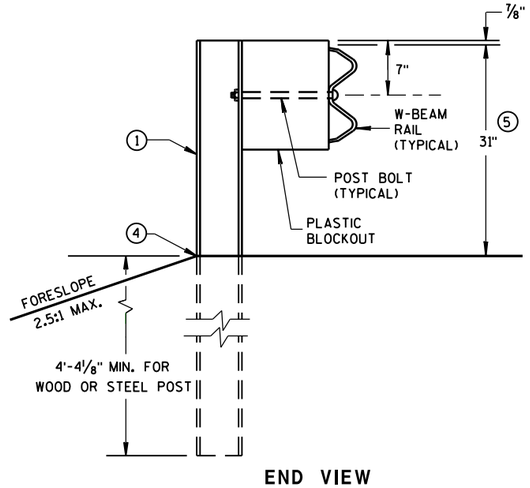
END VIEW
SETTING STEEL OR WOOD POST IN ROCK (3)



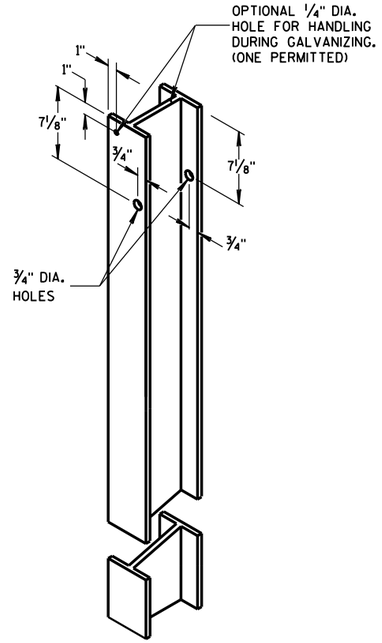
END VIEW
LOCATED ALONG A ROADWAY SHOULDER
STANDARD INSTALLATION



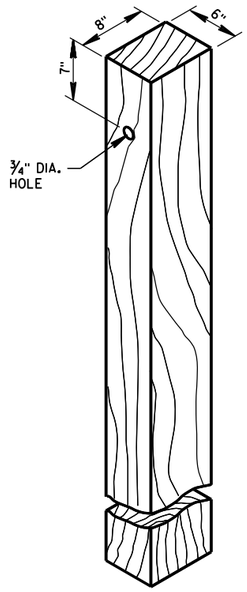
END VIEW
LOCATED ALONG A CURBED ROADWAY



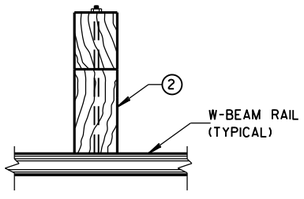
END VIEW
MGS LONGER POST AT HALFPOST SPACING W BEAM (K)



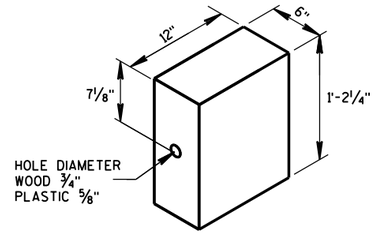
STEEL POST &
HOLE PUNCHING DETAIL
(w6X9) (1)



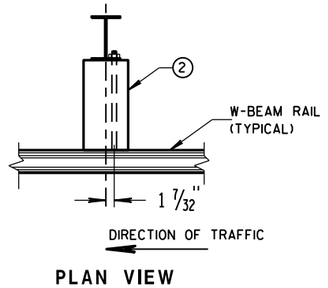
WOOD POST
(6" X 8") NOMINAL (1)



PLAN VIEW
WOOD POST,
BLOCKOUT & BEAM



WOOD OR
PLASTIC BLOCKOUT (2)

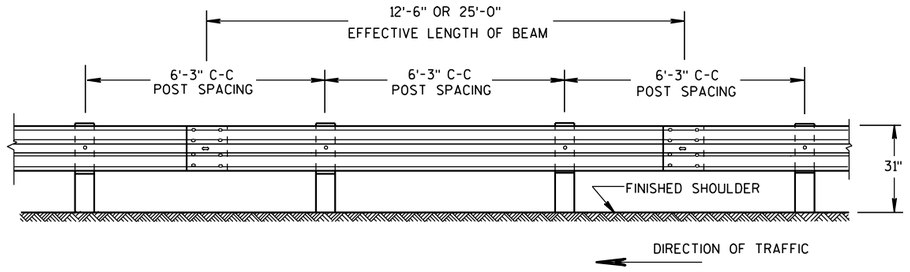


PLAN VIEW
STEEL POST,
PLASTIC BLOCKOUT & BEAM

MIDWEST GUARDRAIL SYSTEM
(MGS) GUARDRAIL

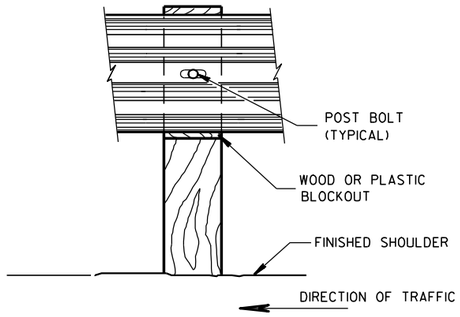
STATE OF WISCONSIN
DEPARTMENT OF TRANSPOI

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FRONT VIEW

POST SPACING STANDARD INSTALLATION



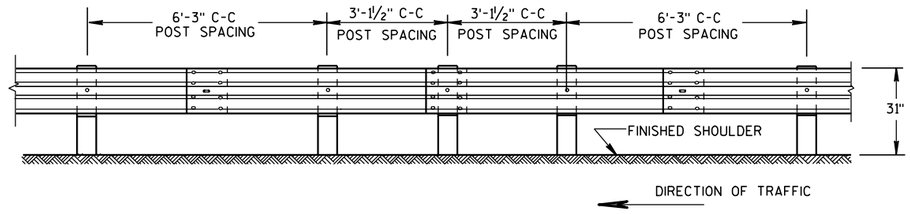
FRONT VIEW AT WOOD POST

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.

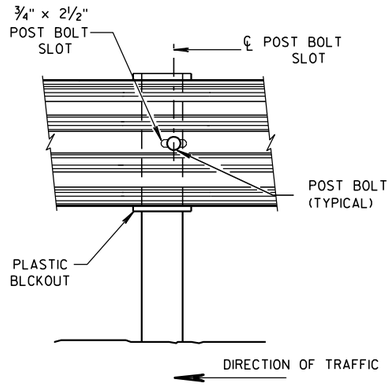
POST BOLTS ARE A 5/8" DIAMETER ASTM A307 GUARDRAIL BOLT. A POST BOLT REQUIRES 5/8" DIAMETER A563A DOUBLE RECESSED (DR) HEAVY HEX NUT AND 5/8" DIAMETER F844 FLAT WASHER. POST BOLTS MAY BE LONGER IF MULTIPLE BLOCKOUTS ARE BEING USED.

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.

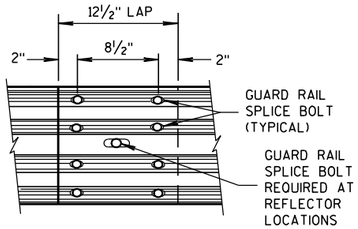


FRONT VIEW

HALF POST SPACING (HS) AND HALF POST SPACING WITH LONGER POSTS (K)

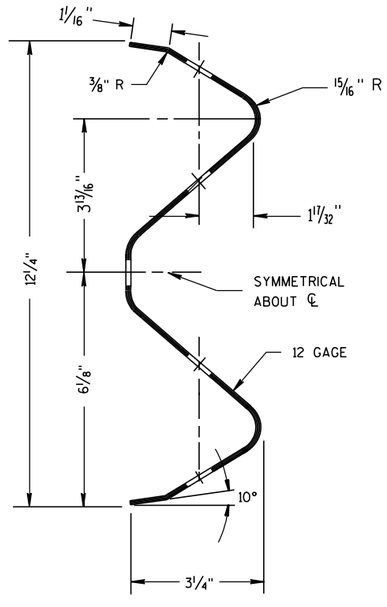


FRONT VIEW AT STEEL POST

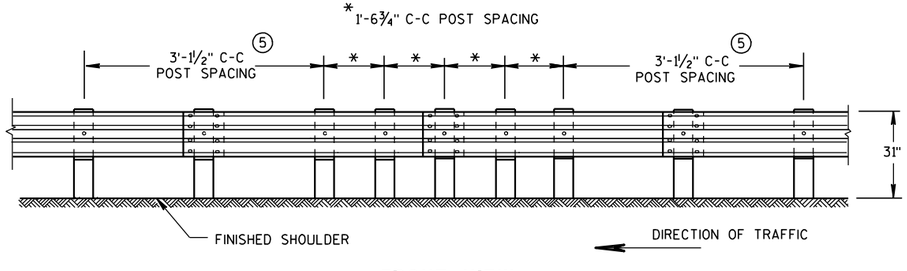


FRONT VIEW

MID-SPAN BEAM SPLICE

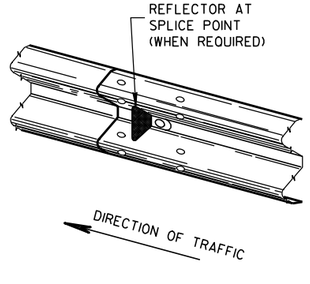


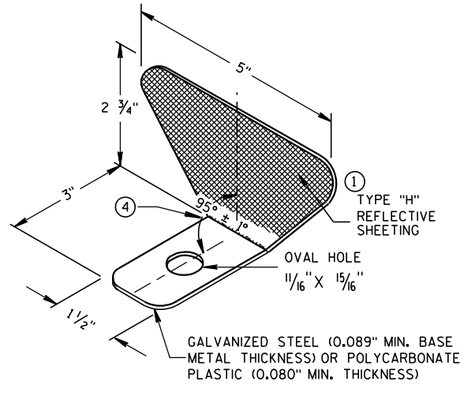
SECTION THRU W-BEAM RAIL



FRONT VIEW

QUARTER POST SPACING (QS)





ONE SIDED REFLECTOR DETAIL AND TYPICAL INSTALLATION (1)

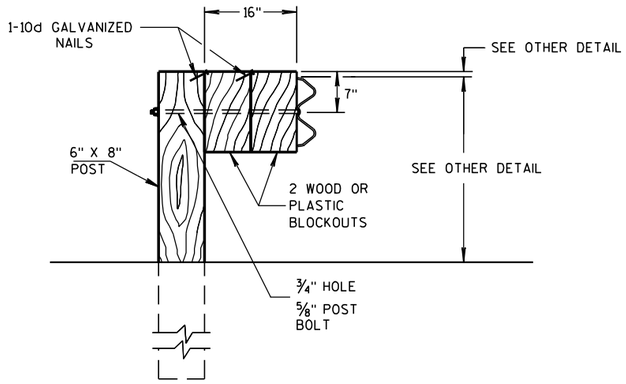
REFLECTOR SPACING (2)

	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

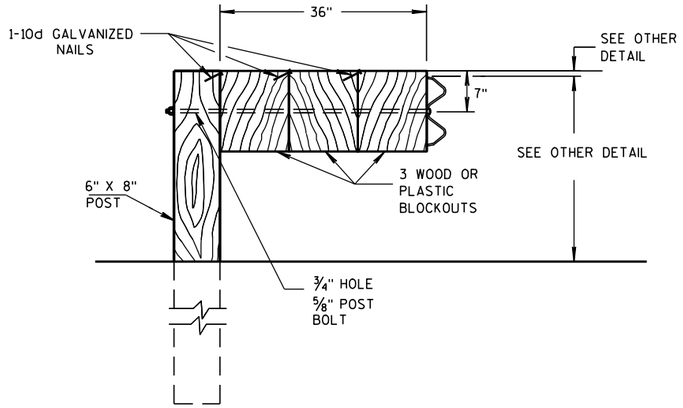
STATE OF WISCONSIN
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DETAIL FOR 16" BLOCKOUT DEPTH

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.

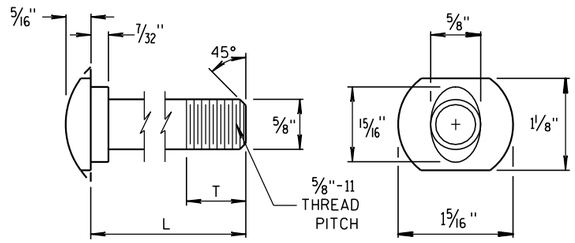


DETAIL FOR 36" BLOCKOUT DEPTH

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.

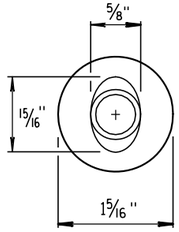
DO NOT USE 16" OR 36" BLOCKOUTS IF IT CAUSES THE POST TO BE DRIVEN BEYOND SHOULDER HINGE POINT OR CAUSES A FIXED OBJECT TO BE WITHIN THE DEFLECTION DISTANCE OF THE BARRIER.

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.

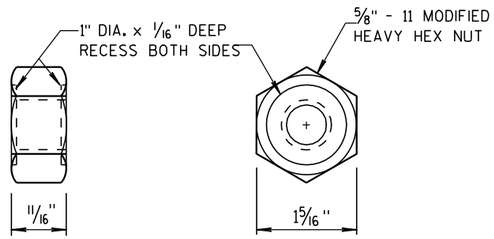


POST BOLT TABLE

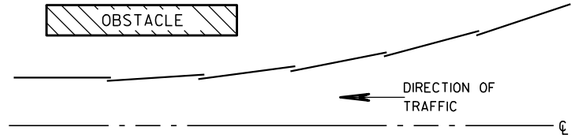
L	T (MIN.)
1 1/4"	1 1/8"
2"	1 3/4"
10"	4"
14"	4 1/16"
18"	4"
21"	4 1/16"
25"	4"



ALTERNATE BOLT HEAD

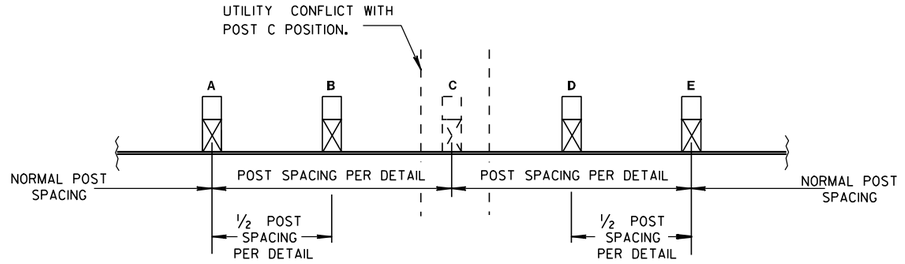


POST BOLT AND RECESS NUT

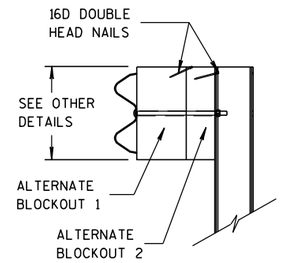


PLAN VIEW

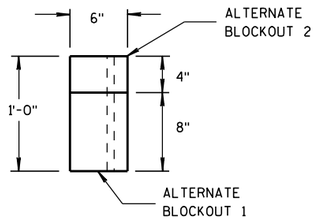
BEAM LAPPING DETAIL



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.

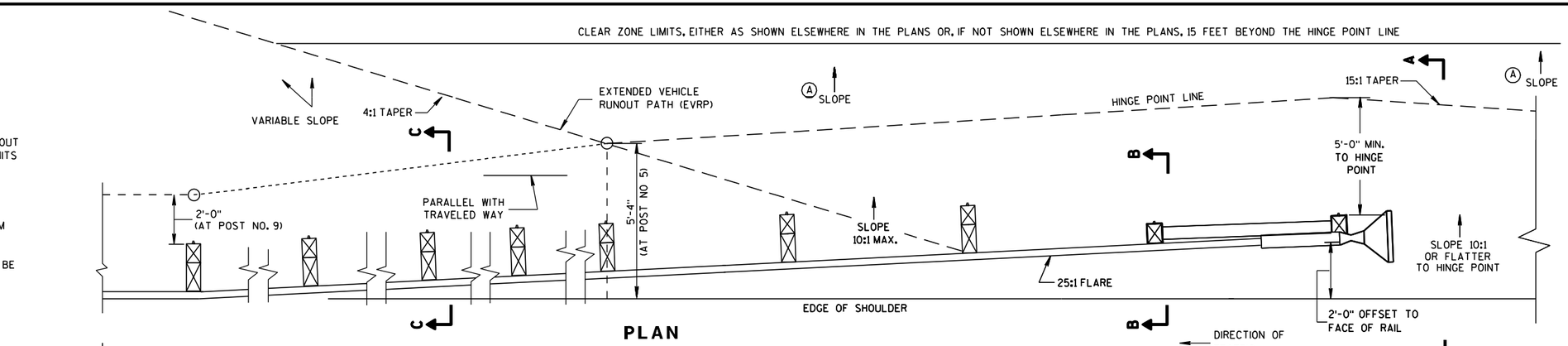
* DO NOT ATTACH BLOCKOUTS TO POSTS 1 AND 2.

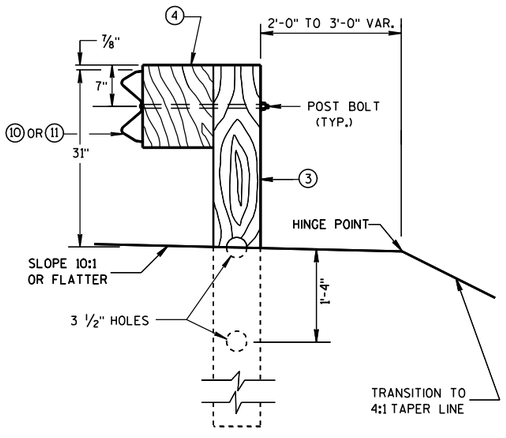
DO NOT INSTALL REFLECTORS ON THE FIRST 50 FEET OF THE APPROACH END OF THE ENERGY ABSORBING TERMINAL.

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.

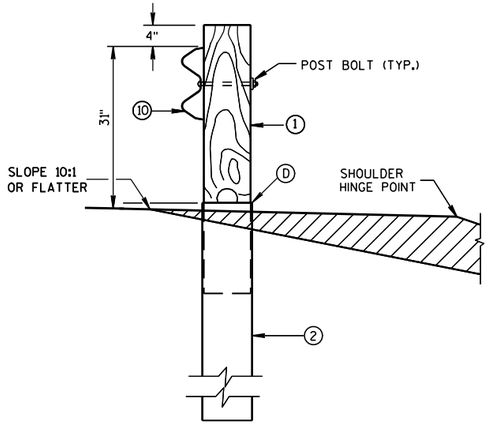
PATTERN AND COLORS ON REFLECTIVE SHEETING TYPE H ARE TO CONFORM TO OM3-L OR OM3-R OF THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES.

THE CENTER OF THE UPPER 3½" DIAMETER HOLE ON POST NUMBER 3 THROUGH POST 9 IS TO BE FLUSH WITH THE GROUND LINE (± ¾")

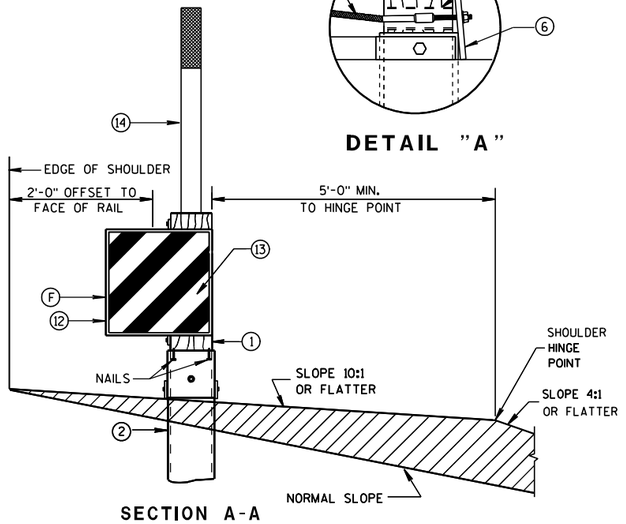




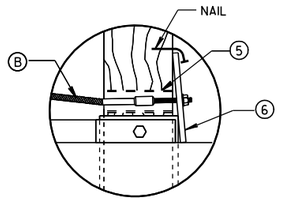
SECTION C-C
TYPICAL AT POST NOS. 3-9



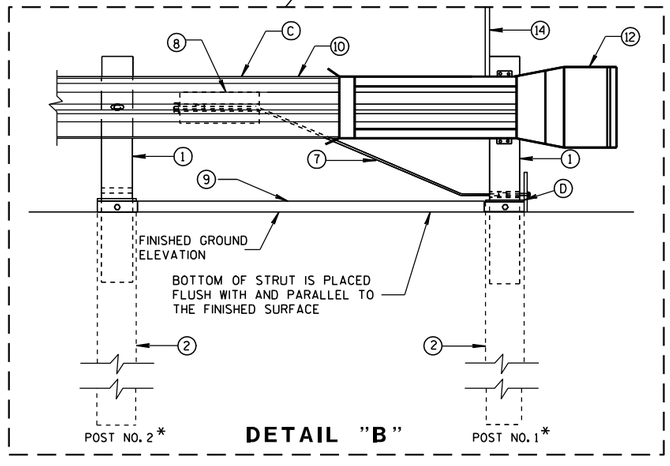
SECTION B-B
TYPICAL AT POST NO. 2*



SECTION A-A
TYPICAL AT POST NO. 1*



DETAIL "A"



DETAIL "B"

MIDWEST GUARDRAIL SYSTEM
ENERGY ABSORBING TERMINAL (MGS)

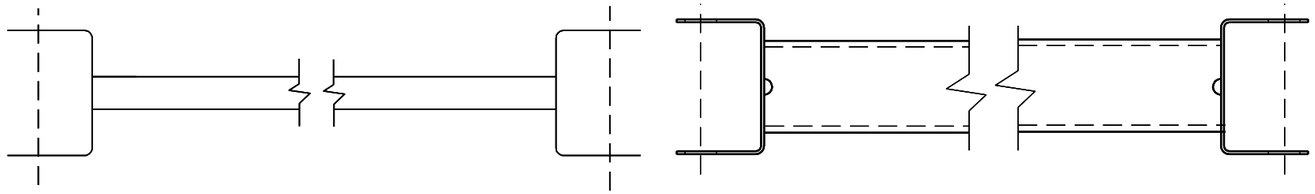
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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S.D.D. 14 B 44-1a

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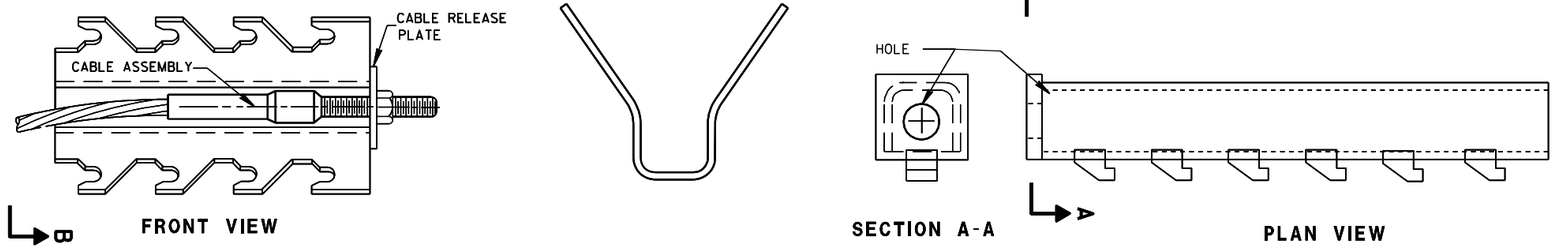
S.D.D. 14 B 44-1a



GENERIC GROUND STRUT (9) (H)

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)



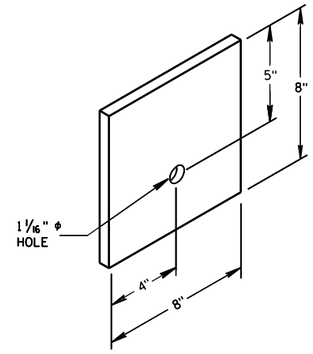
FRONT VIEW

SECTION B-B

SECTION A-A

PLAN VIEW

GENERIC ANCHOR CABLE BOX (8) (H)



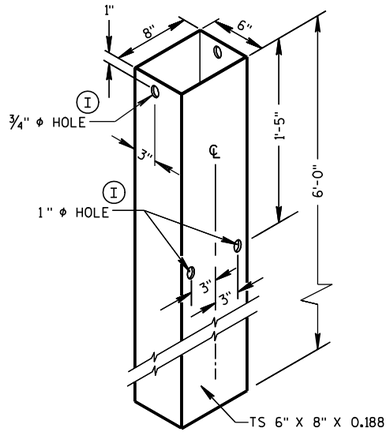
BEARING PLATE (6)

MIDWEST GUARDRAIL SYSTEM
ENERGY ABSORBING TERMINAL
(MGS)

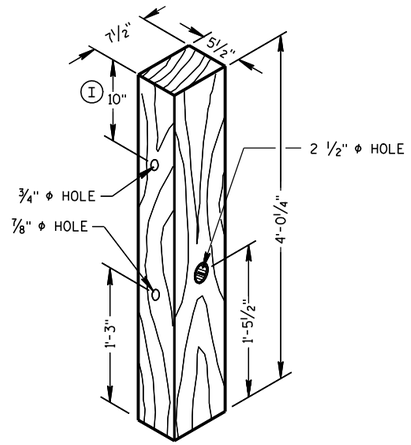
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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S.D.D. 14 B 44-1b

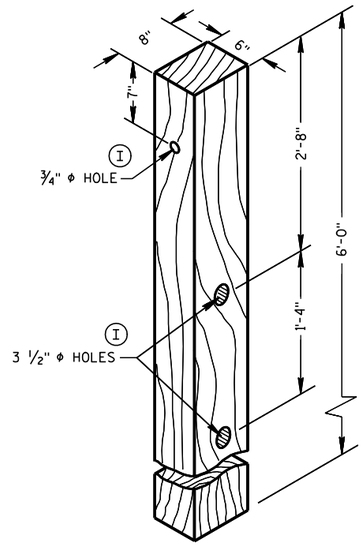


FOUNDATION TUBE (2)



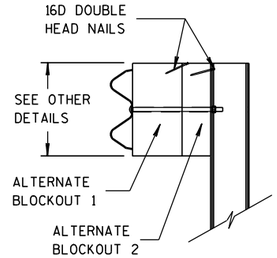
POSTS NUMBER 1 AND 2

WOOD BREAKAWAY POST (1)

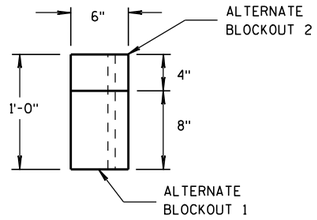


POSTS NUMBER 3-9

WOOD CRT POST (3)

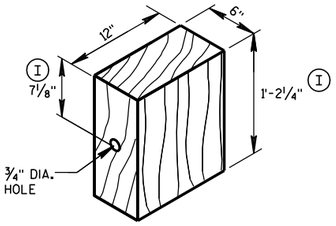


SIDE VIEW



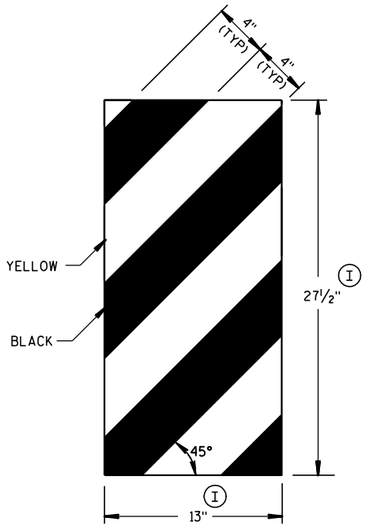
TOP VIEW

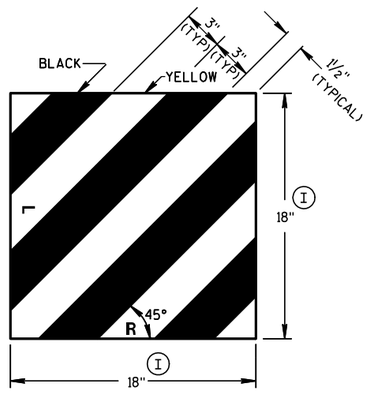
ALTERNATE WOOD BLOCKOUT DETAIL



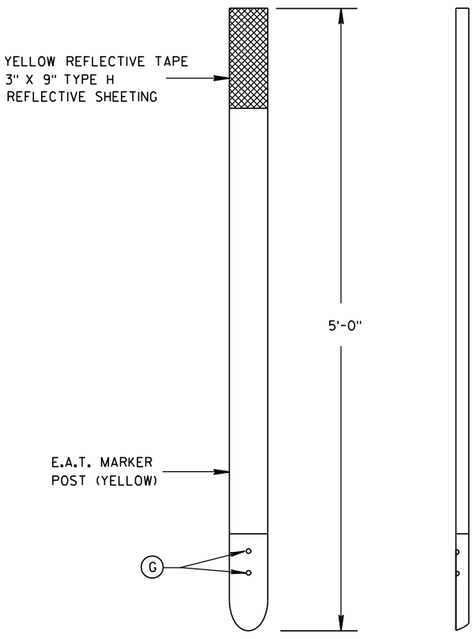
WOOD BLOCKOUT (4)

REQ'D. AT ALL POSTS EXCEPT POST NO'S 1 & 2





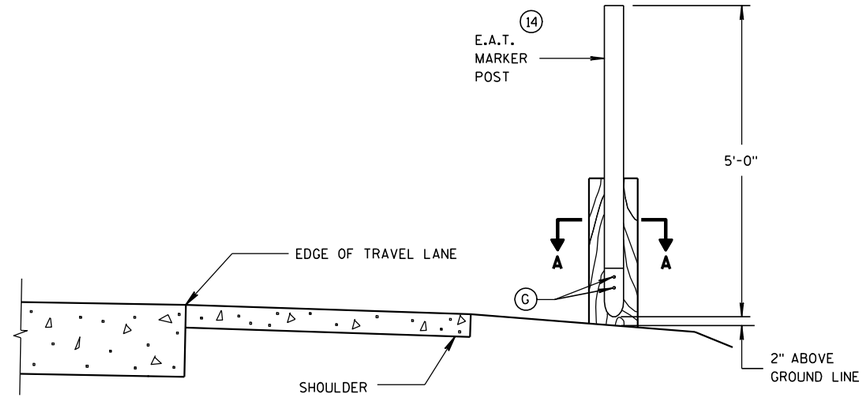
GENERIC REFLECTIVE SHEETING (13) (H)



FRONT VIEW

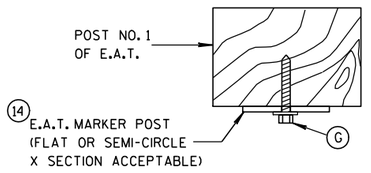
SIDE VIEW

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

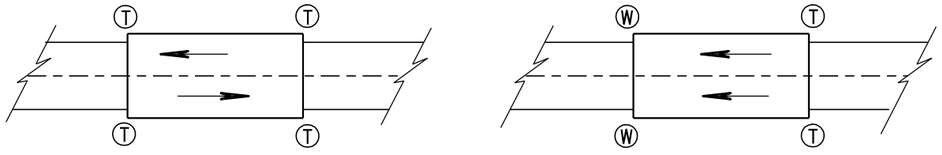
MIDWEST GUARDRAIL SYSTEM ENERGY ABSORBING TERMINAL (MGS)

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

Ⓣ THRIE BEAM CONNECTION

Ⓦ W-BEAM CONNECTION WHEN REQUIRED

TYPICAL LOCATIONS OF THRIE BEAM AND W-BEAM CONNECTIONS TO BRIDGE

GENERAL NOTES

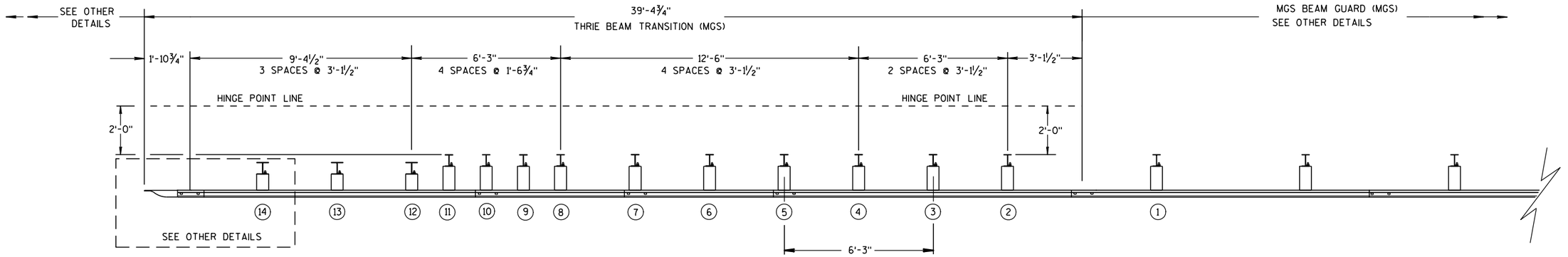
BOLT THE THRIE BEAM TO ALL POSTS AND BLOCKOUTS. DRILL OR PUNCH BOLT HOLES IN THE BEAM IF THE POST SPACING IS LESS THAN 6'-3.

IF ROCK IS ENCOUNTERED, REMOVE ROCK TO FULL DEPTH OF POST PLUS 2½", AND 12" DIAMETER AROUND POST. SEE 14B42 FOR MORE DETAILS.

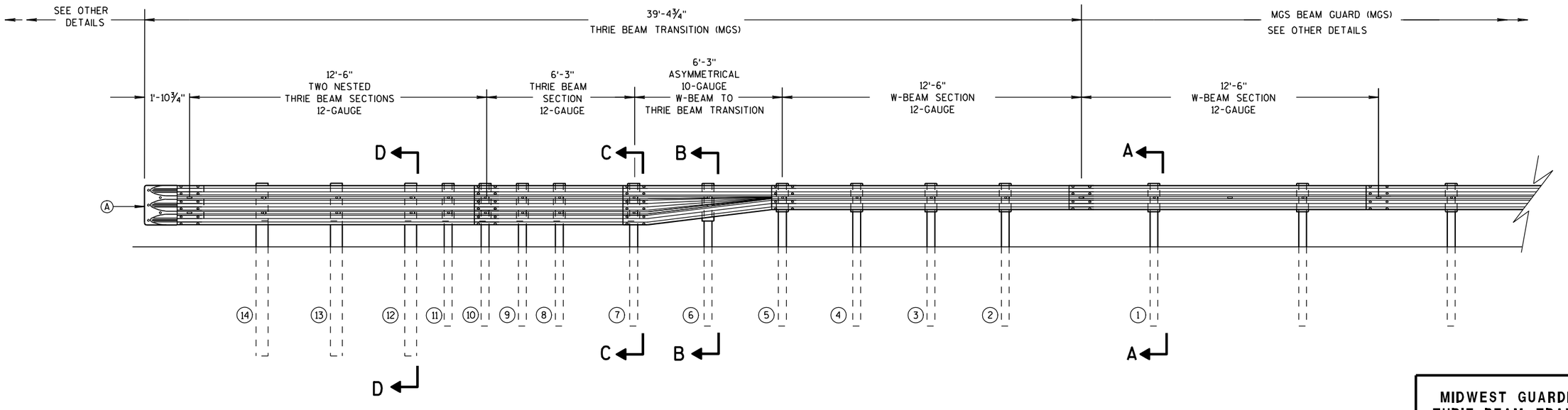
TRANSITION USES STEEL POSTS ONLY.

SEE STANDARD DETAIL DRAWING 14 B 42 FOR MORE INFORMATION.

Ⓐ BRIDGE RAILING TYPE "W" DOES NOT REQUIRE A TERMINAL CONNECTOR.



PLAN VIEW



ELEVATION VIEW

MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION

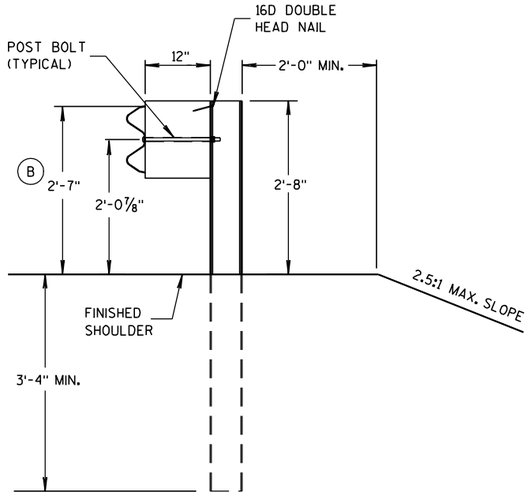
MIDWEST GUARDRAIL SYSTEM
THRIE BEAM TRANSITION (MGS)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

6
S.D.D. 14 B 45-3a

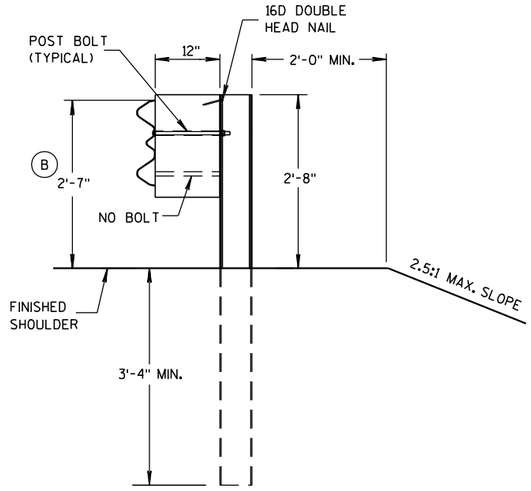
GENERAL NOTES

(B) TOLERANCE FOR TOP OF W-BEAM RAIL IS ± 1".



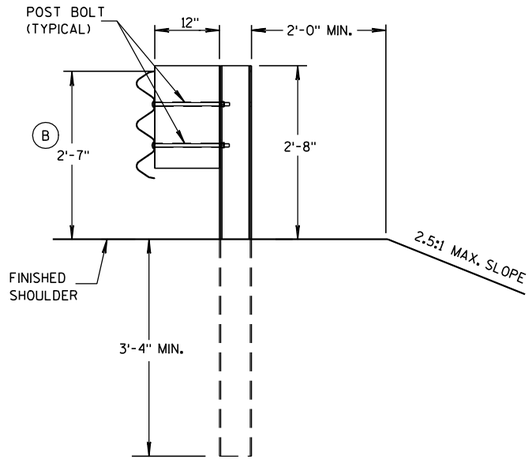
SECTION A-A

POSTS 1-5



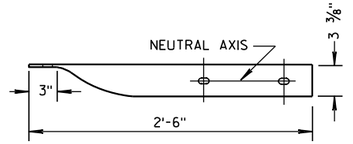
SECTION B-B

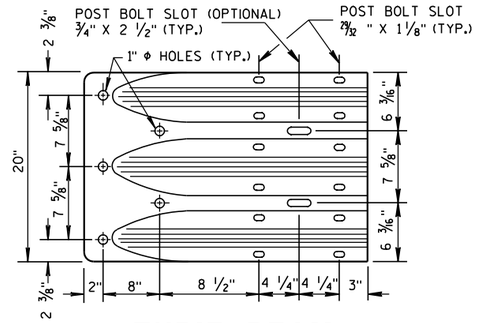
POST 6



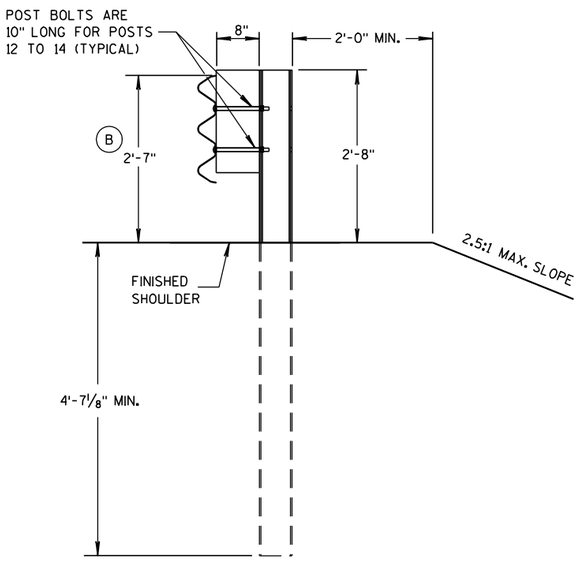
SECTION C-C

POSTS 7-11





THRIE BEAM TERMINAL CONNECTOR



SECTION D-D

POSTS 12-14

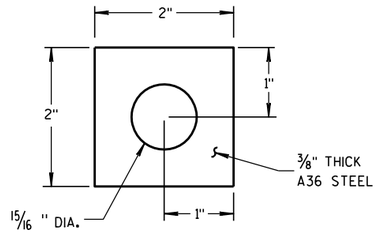
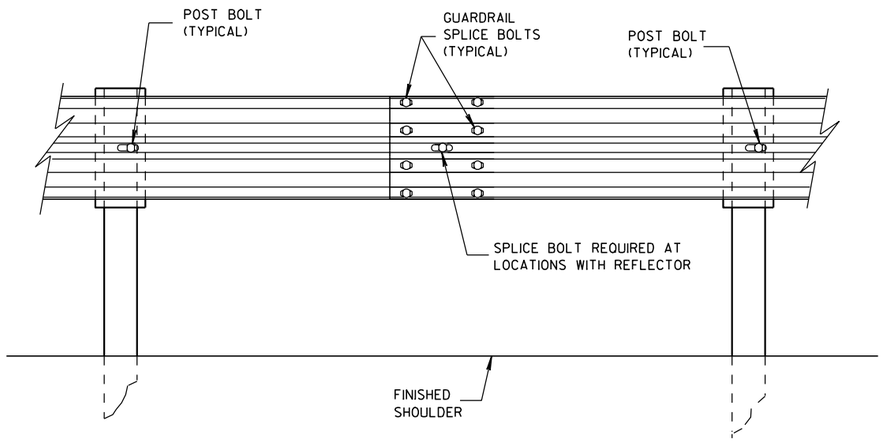
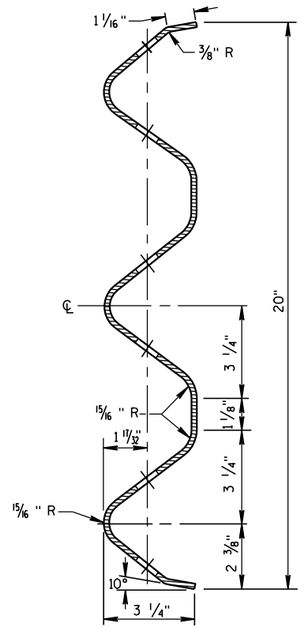


PLATE WASHER DETAIL



SPLICE DETAIL



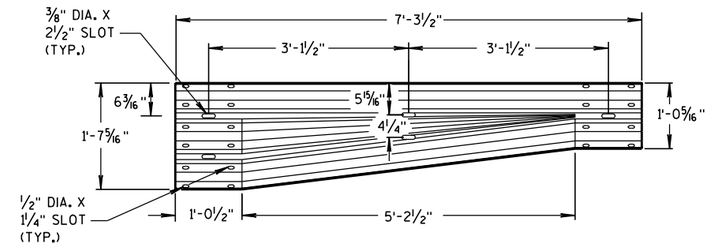
SECTION THRU THRIE BEAM RAIL ELEMENT

MIDWEST GUARDRAIL SYSTEM
THRIE BEAM TRANSITION (MGS)

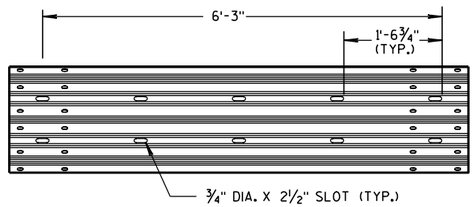
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

6

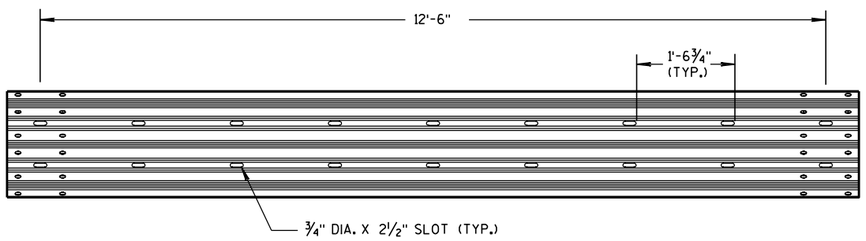
S.D.D. 14 B 45-3b



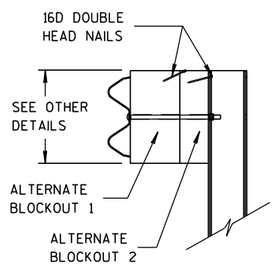
W-BEAM TO THRIE BEAM TRANSITION SECTION



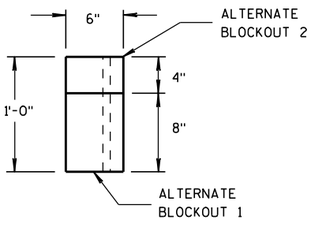
6'-3" THRIE BEAM SECTION



12'-6" THRIE BEAM SECTION

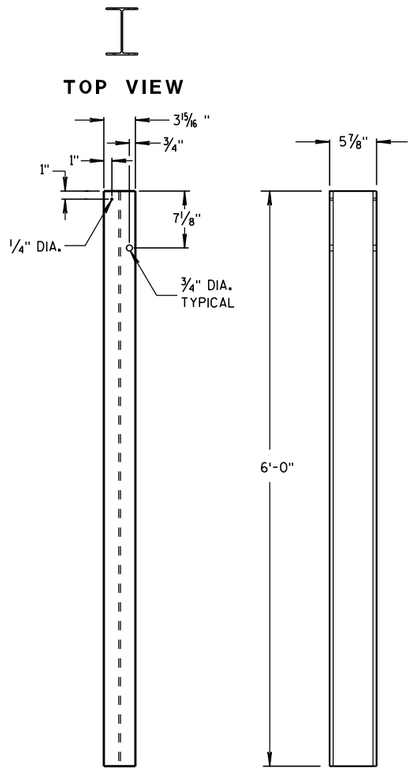


SIDE VIEW

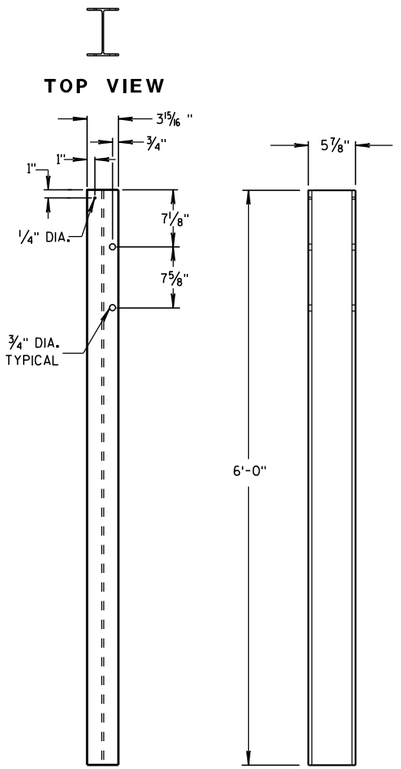


TOP VIEW

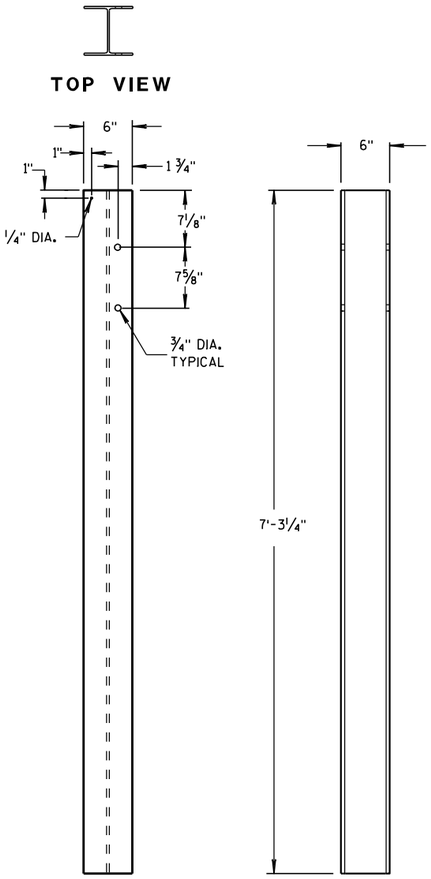
ALTERNATE WOOD BLOCKOUT DETAIL



STEEL POSTS 1-5

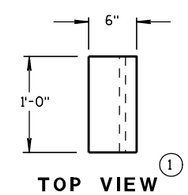


STEEL POSTS 6-11

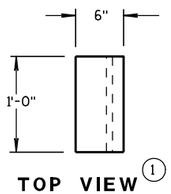


STEEL POSTS 12-14

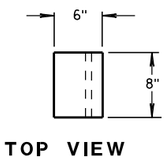
(1) WOOD BLOCKS MAY BE CONSTRUCTED OUT OF 2 WOOD BLOCKS. SEE ALTERNATE WOOD BLOCK DETAIL.



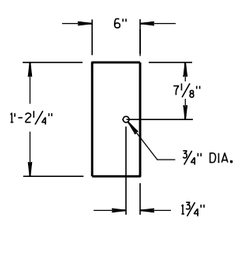
TOP VIEW (1)



TOP VIEW (1)

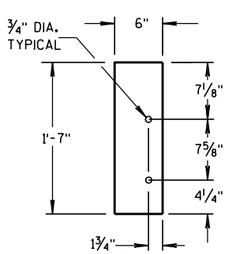


TOP VIEW



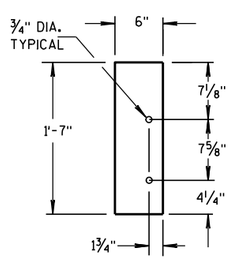
FRONT VIEW

BLOCKOUT POSTS 1-5



FRONT VIEW

BLOCKOUT POSTS 6-11



FRONT VIEW

BLOCKOUT POSTS 12-14

STEEL POST SIZES

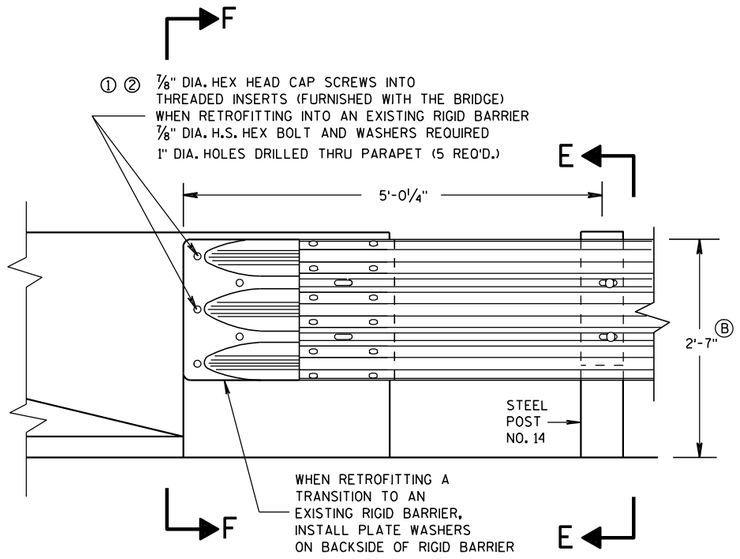
POST NUMBER	SECTION TYPE	LENGTH
1	W6x9	72"
2	W6x9	72"
3	W6x9	72"
4	W6x9	72"
5	W6x9	72"
6	W6x9	72"
7	W6x9	72"
8	W6x9	72"
9	W6x9	72"
10	W6x9	72"
11	W6x9	72"
12	W6x15	87 1/8"
13	W6x15	87 1/8"
14	W6x15	87 1/8"

MIDWEST GUARDRAIL SYSTEM
THRIE BEAM TRANSITION (MGS)

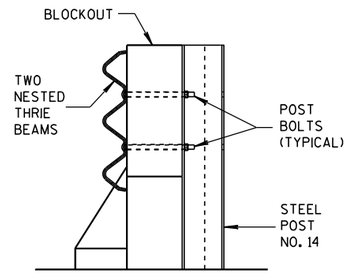
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

6

S.D.D. 14 B 45-3c



FRONT VIEW



SECTION E-E

GENERAL NOTES

THESE ARE TYPICAL CONNECTION DETAILS. ADJUST THE POSTION OF CONNECTIONS TO EXISTING BRIDGES TO FIT THE ACTUAL BRIDGE AND SITE DIMENSIONS.

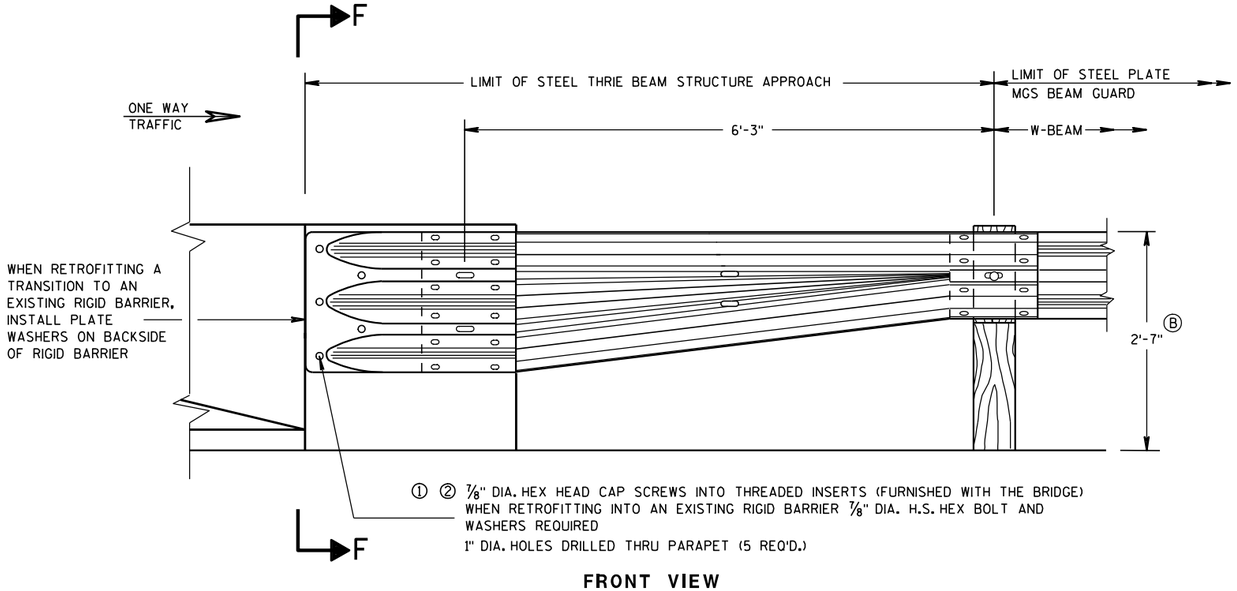
① DRILLING BOLT HOLES THROUGH THE PARAPET, BOLTS, NUTS, WASHERS AND REPAIRING DAMAGED CONCRETE ARE INCIDENTAL TO THE CONTRACT.

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.

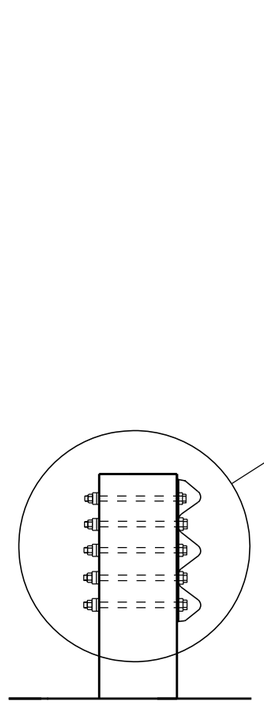
③ THE RECESS FOR A W-BEAM CONNECTION, WHICH EXISTS ON SOME PARAPETS OF THIS TYPE, SHALL BE FILLED WITH A TREATED TIMBER BLOCKOUT. BLOCKOUT SIZE IS 1'-6" X 2'-0" X 3 1/2".

Ⓑ TOLERANCE FOR TOP OF BEAM IS ± 1".

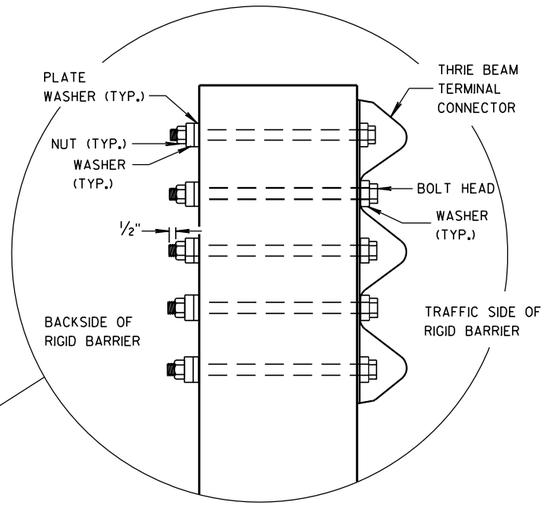
THRIE BEAM CONNECTION TO BRIDGE PARAPET WITH SQUARE ENDS



FRONT VIEW



SECTION F-F



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

198

6

S.D.D. 14 B 45-3d

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.

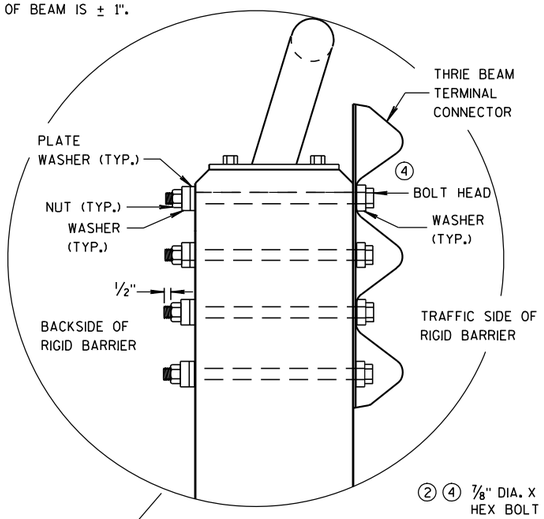
① DRILLING BOLT HOLES THROUGH THE PARAPET, BOLTS, NUTS, WASHERS AND REPAIRING DAMAGED CONCRETE ARE INCIDENTAL TO THE CONTRACT.

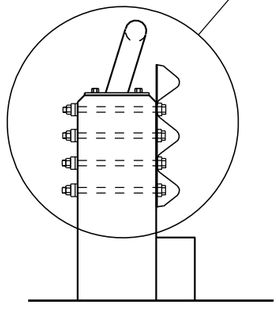
② BOLTS MAY BE A325 BOLTS OR A449 BOLTS. BOLT LENGTH AND THREADING LENGTH ARE TO ALLOW FOR A TIGHT CONNECTION BETWEEN RIGID BARRIER AND THRIE BEAM CONNECTION PLATE. CONTRACTOR IS TO FIELD VERIFY BOLT LENGTH AND THREAD LENGTH. ONE ROUND WASHER REQUIRED BETWEEN BOLT HEAD AND THRIE BEAM CONNECTOR PLATE. 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.

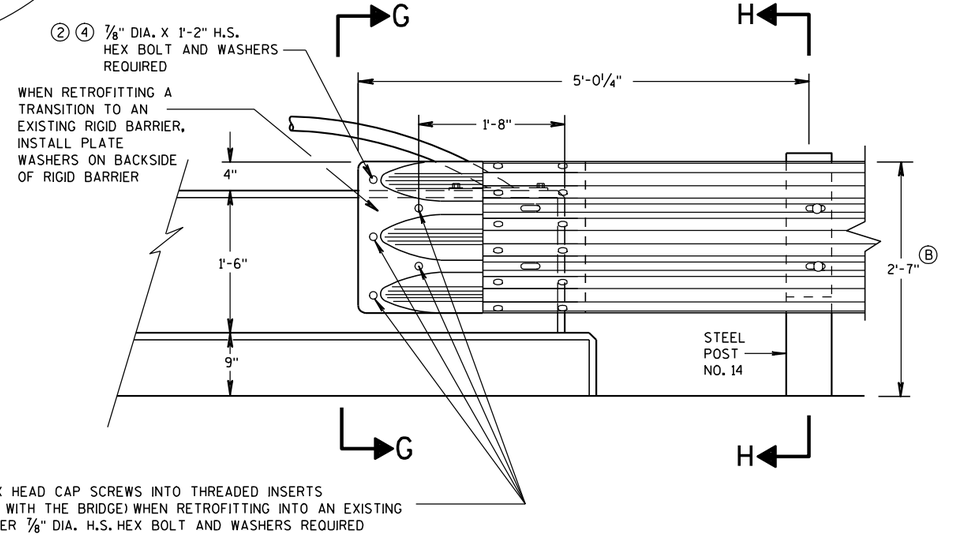
④ BOLT, NUT AND WASHERS NOT REQUIRED FOR THIS LOCATION WHEN RETROFITTING AN EXISTING PAPAPET AND THE HOLE IS EITHER ABOVE PARAPET OR WITHIN 4 INCHES OF THE EDGE OF PARAPET.

Ⓑ TOLERANCE FOR TOP OF BEAM IS ± 1".

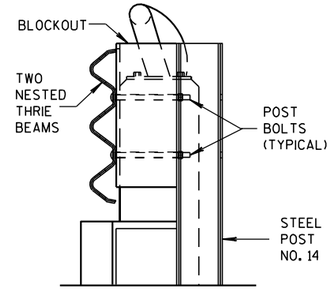




SECTION G-G

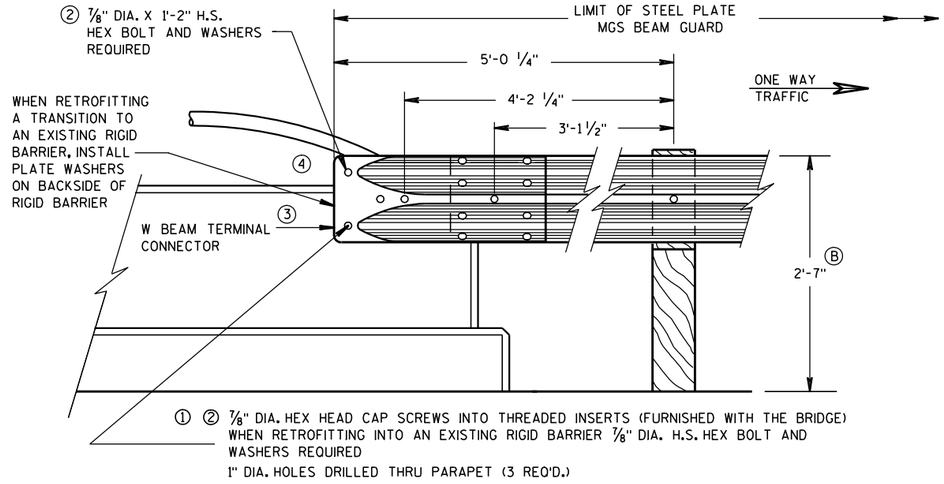


FRONT VIEW



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

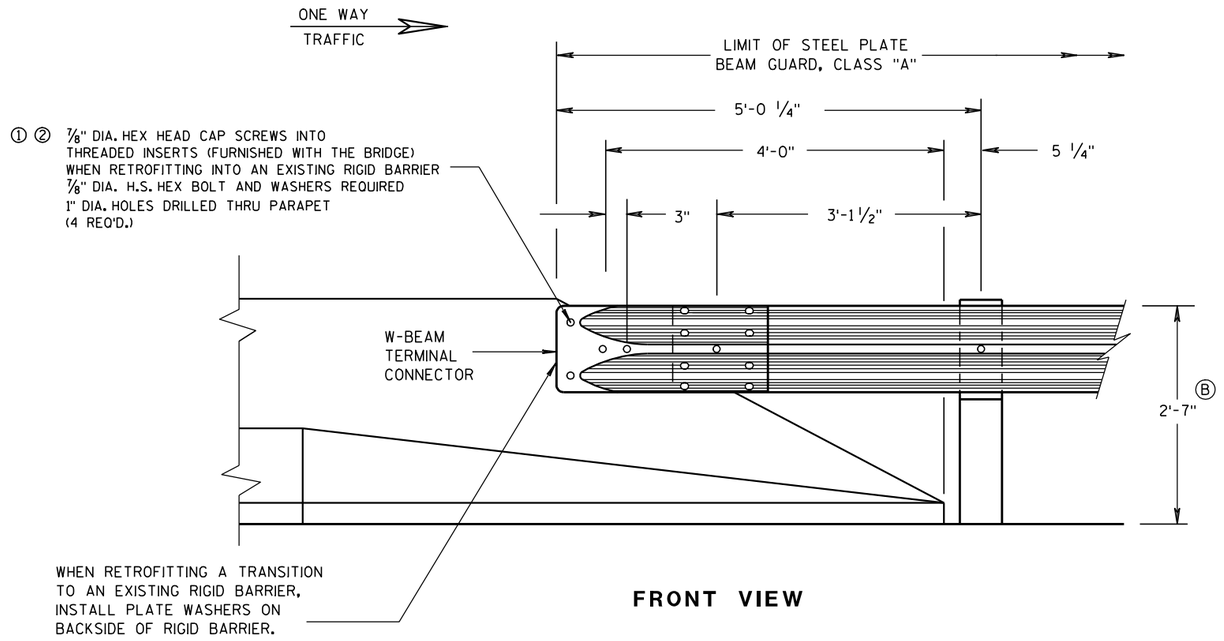
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8-31-2012 — DATE

/S/ Jerry H. Zogg — ROADWAY STANDARDS DEVELOPMENT ENGINEER

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S.D.D. 14 B 45-3e



FRONT VIEW

W BEAM CONNECTION TO PARAPETS WITH SLOPED ENDS

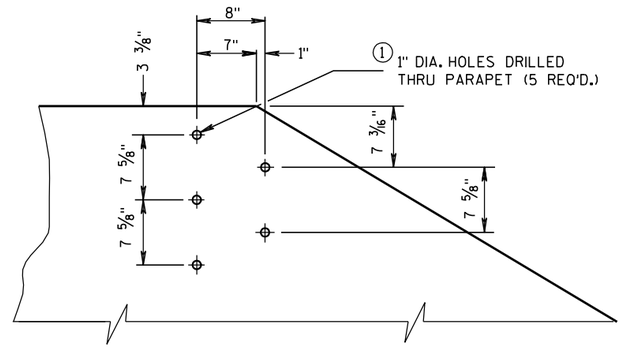
(USE ONLY AT TRAFFIC EXIT END OF ONE WAY BRIDGE)

GENERAL NOTES

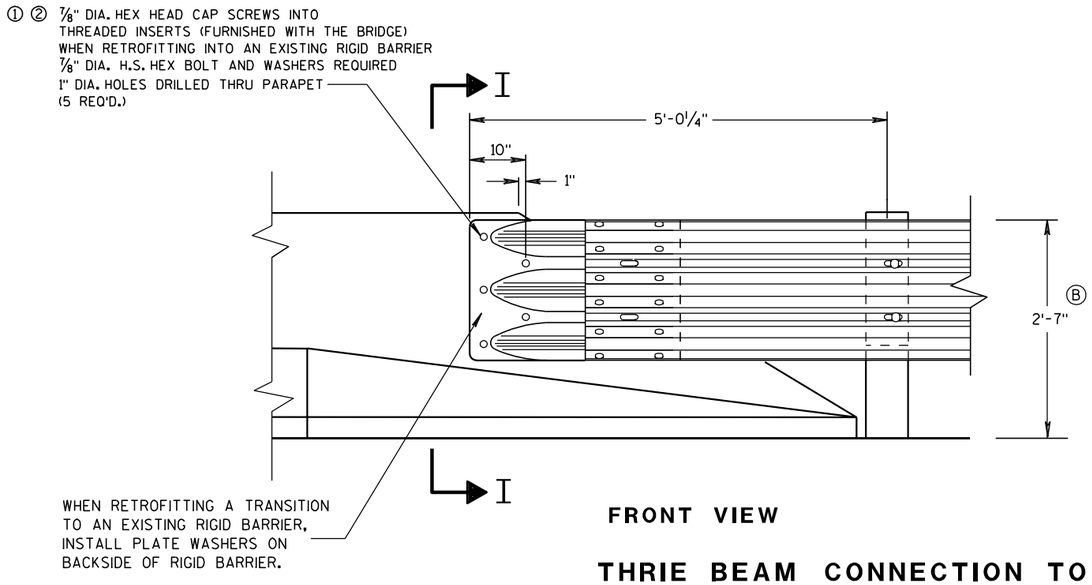
① DRILLING BOLT HOLES THROUGH THE PARAPET, BOLTS, NUTS, WASHERS AND REPAIRING DAMAGED CONCRETE ARE INCIDENTAL TO THE CONTRACT.

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.

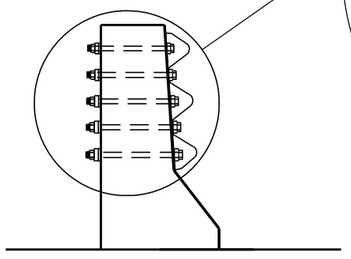
Ⓑ TOLERANCE FOR TOP OF BEAM IS ± 1".



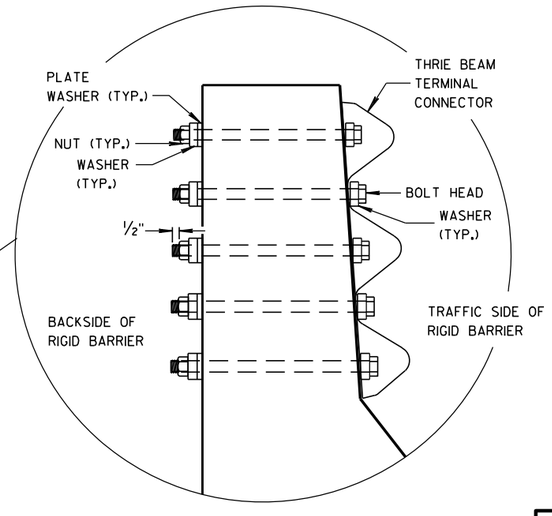
DRILL HOLE LOCATION AND PATTERN FOR THRIE BEAM CONNECTION



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. Zogg — ROADWAY STANDARDS ENGINEER

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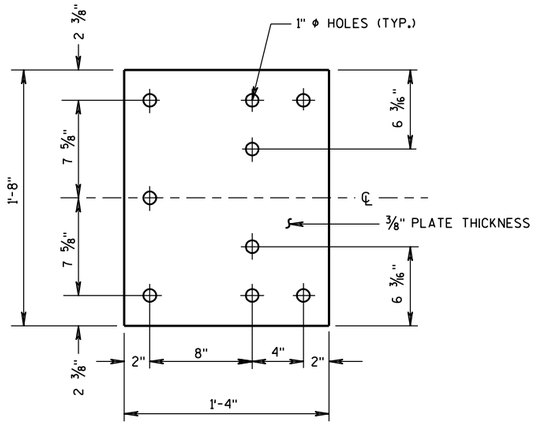
FHWA

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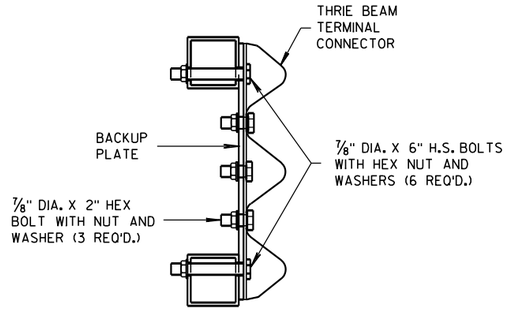
S.D.D. 14 B 45-3f

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S.D.D. 14 B 45-3f



BACK-UP PLATE DETAIL

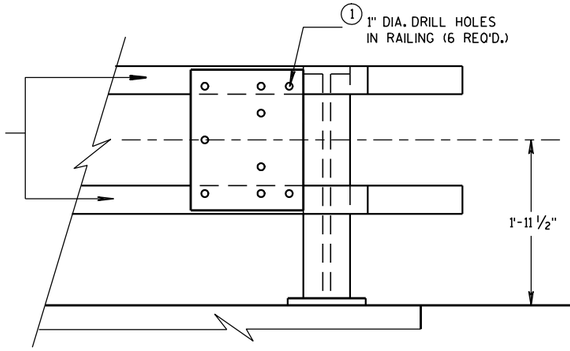


SECTION J-J

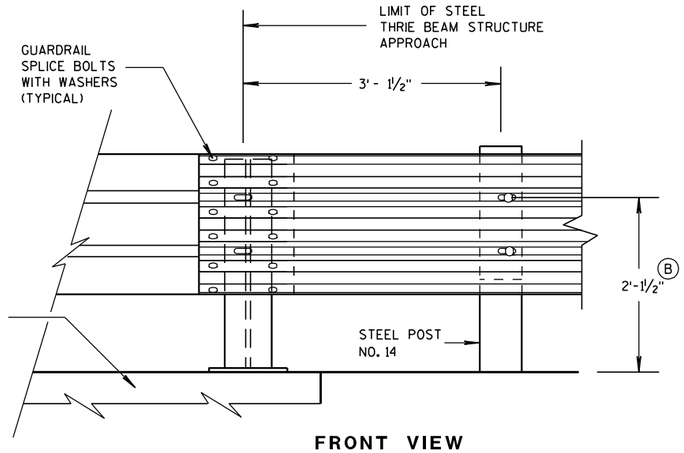
GENERAL NOTES

(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".

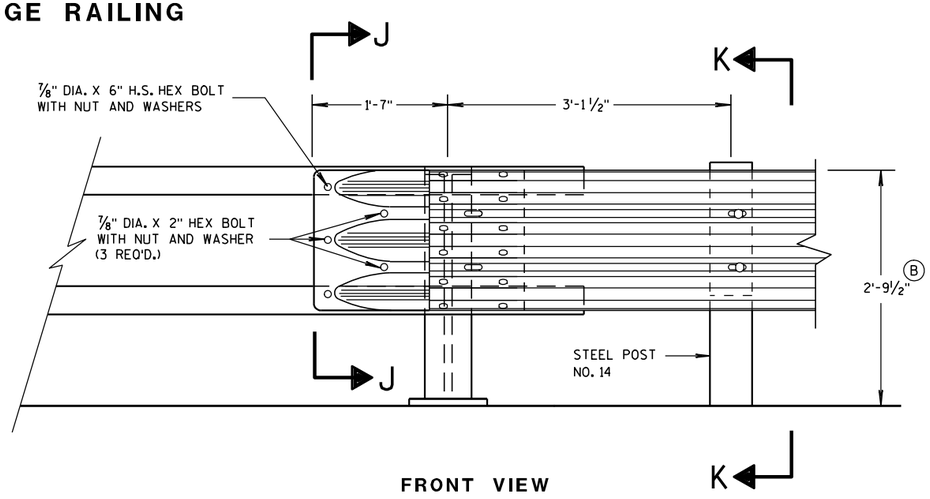


BACK-UP PLATE MOUNTING ONTO BRIDGE RAILING

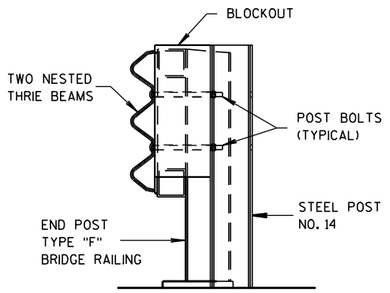


FRONT VIEW

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)

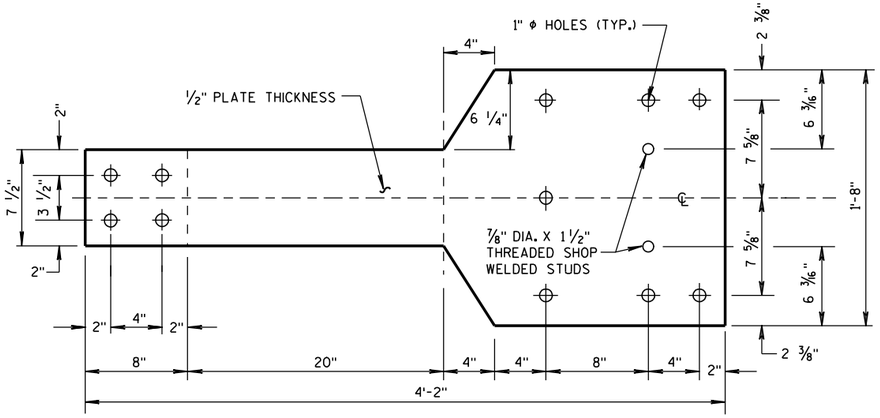
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8/31/2012
DATE
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ROADWAY STANDARDS DEVELOPMENT ENGINEER
FHWA

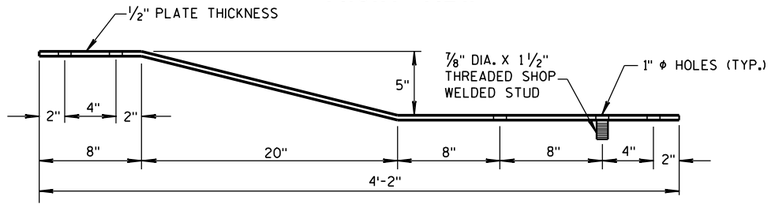
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S.D.D. 14 B 45-3g

GENERAL NOTES

(B) TOLERANCE FOR TOP OF W-BEAM RAIL IS ± 1".

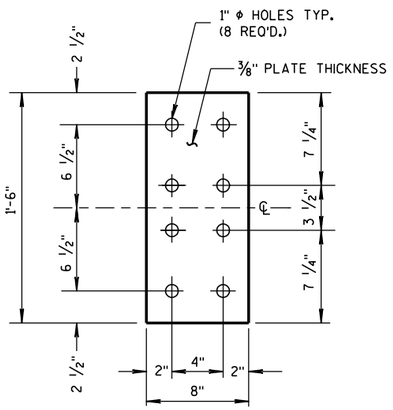


FRONT VIEW



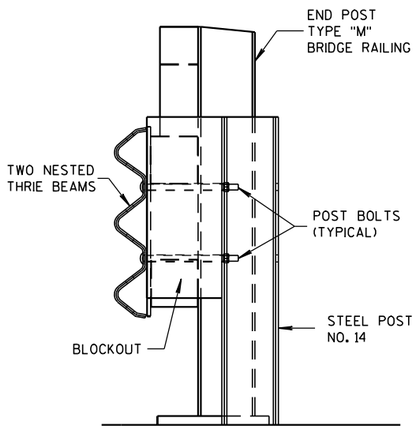
PLAN VIEW

BACK-UP PLATE DETAIL, TYPE "M"

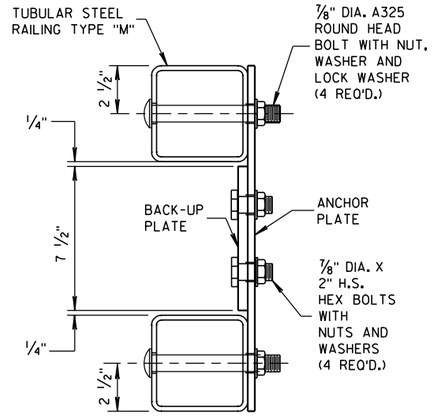


FRONT VIEW

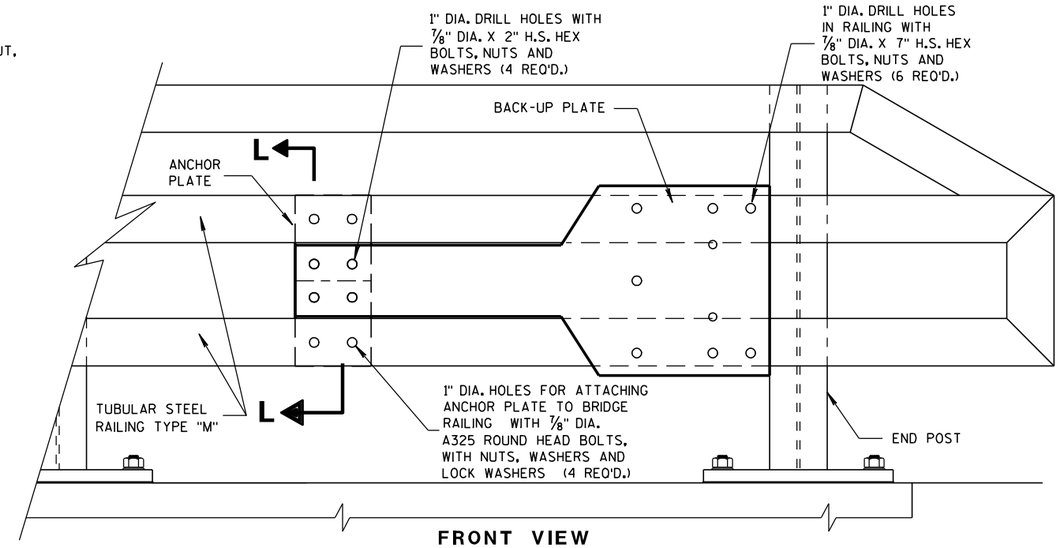
ANCHOR PLATE DETAIL, TYPE "M"



SECTION M-M

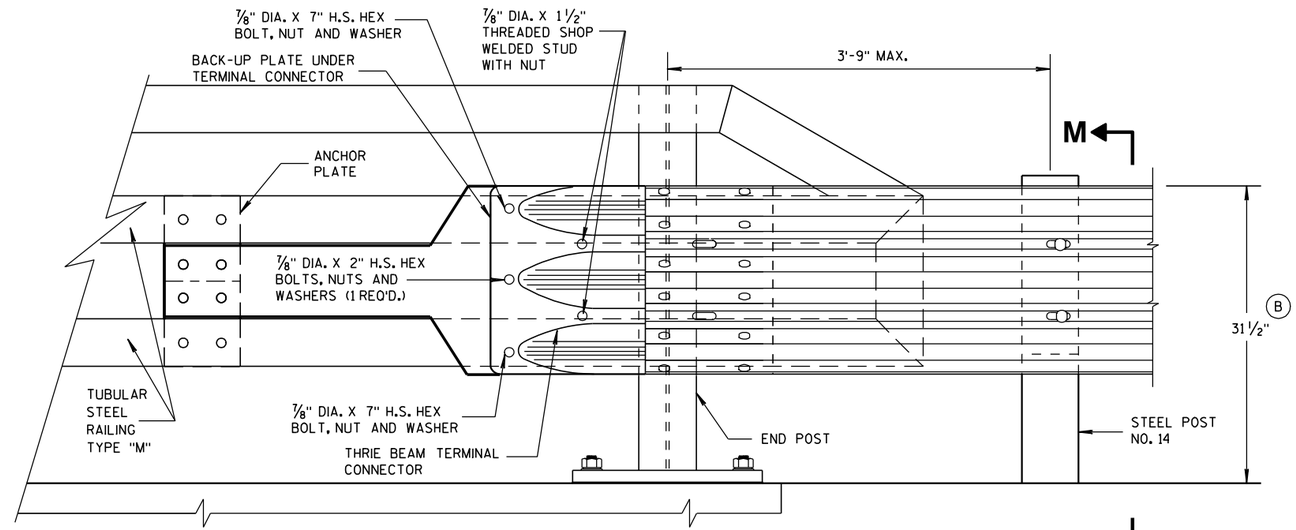


SECTION L-L

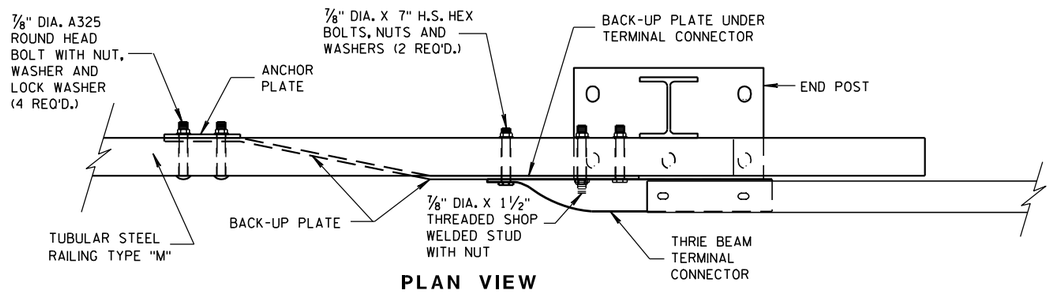


FRONT VIEW

ANCHOR AND BACK-UP PLATE MOUNTING TO BRIDGE RAILING, TYPE "M"



FRONT VIEW



PLAN VIEW

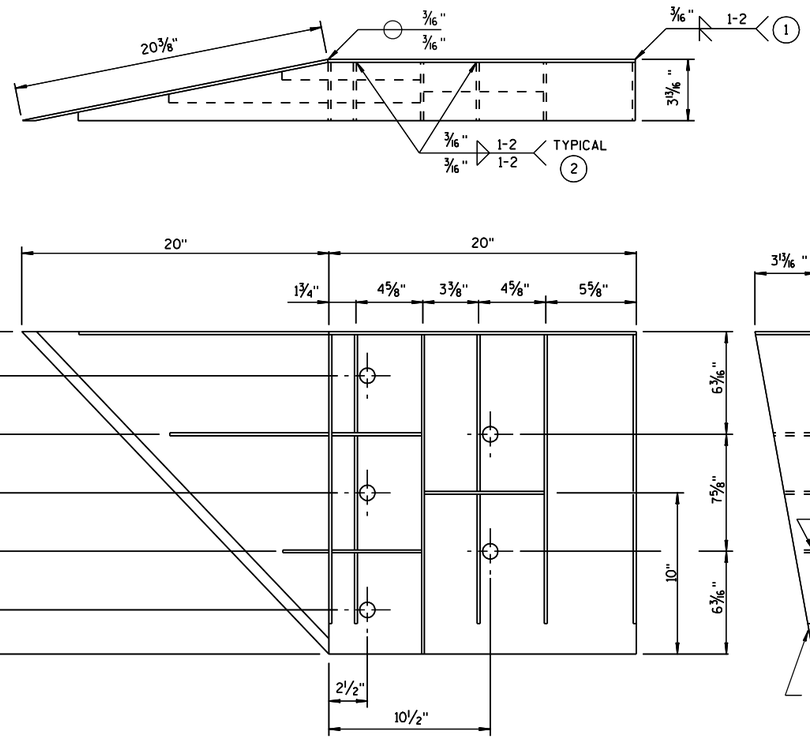
THRIE BEAM CONNECTION TO TUBULAR RAILING, TYPE "M"

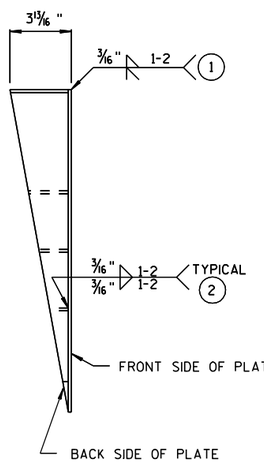
MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
8-31-2012 DATE
/S/ Jerry H. [illegible]
ROADWAY STANDARDS ENGINEER
FHWA

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S.D.D. 14 B 45-3h





WELDING INSTRUCTION

(VIEWED FROM BACK SIDE OF PLATE)

GENERAL NOTES

COVER PLATE PANELS ARE ⅜" THICK.

ALL STIFFENERS ARE ¼" 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 ⅜" 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:
⅜" FILLET WELD BY 1" LONG SPACED AT 2".

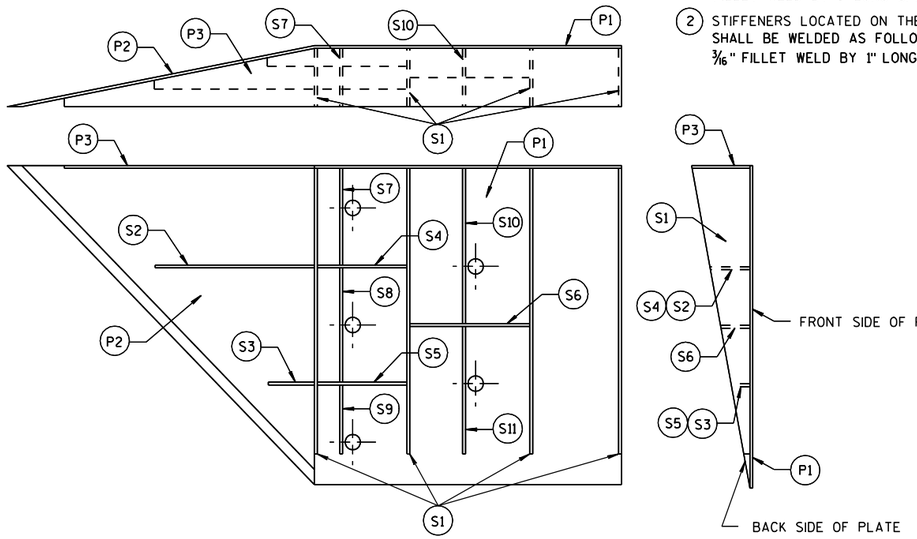


PLATE AND STIFFENER IDENTIFICATION

(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"	⅜"
P2	1		20" x 20" x 28⁹⁄₁₆"	⅜"
P3	1		39" x 3⅝" x 20" x 19⁵⁄₁₆"	⅜"
S1	4		18⁷⁄₁₆" x 3⅝" x 18¾"	¼"
S2	1		10¼" x 2⁷⁄₁₆" x 10⅜" x ½"	¼"
S3	1		3" x 1¹⁄₁₆" x 3⅛" x ½"	¼"
S4	1		6⅛" x 2⁷⁄₁₆"	¼"
S5	1		6⅛" x 1¹⁄₁₆"	¼"
S6	1		7¾" x 1¾"	¼"
S7	1		2⁹⁄₁₆" x 6" x 3⅝" x 5⅞"	¼"
S8	1		1³²⁄₃₂" x 7½" x 2½" x 7⅜"	¼"
S9	1		6¹⁄₁₆" x 6⅜" x 1³²⁄₃₂"	¼"
S10	1		1⅞" x 9⅞" x 3⅝" x 9¹¹⁄₁₆"	¼"
S11	1		8½" x 8¾" x 1¹³⁄₁₆"	¼"

SINGLE SLOPE CONNECTION PLATE

MIDWEST GUARDRAIL SYSTEM
THRIE BEAM TRANSITION (MGS)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

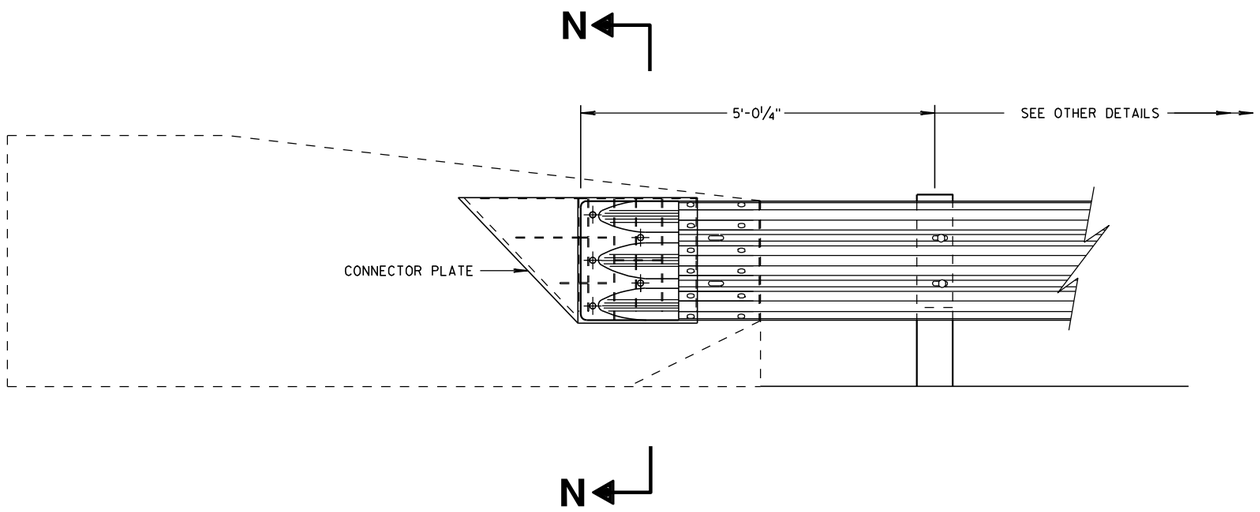
APPROVED
8/31/2012 DATE
/S/ Jerry H ____
ROADWAY STANDARDS ENGINEER
FHWA

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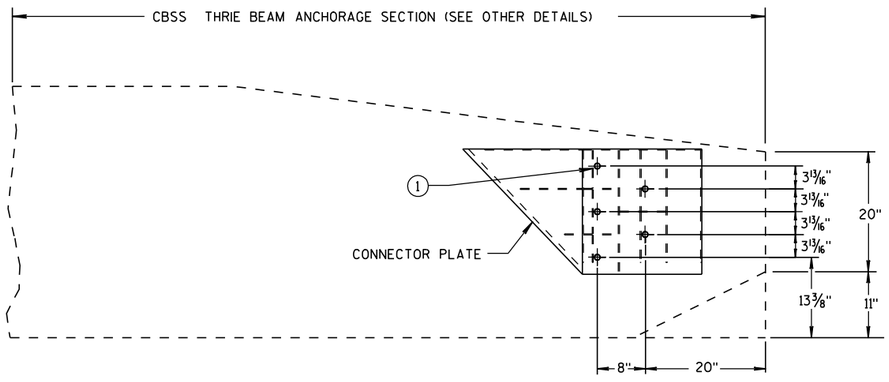
S.D.D. 14 B 45-3i

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S.D.D. 14 B 45-3i



THRIE BEAM CONNECTION TO SINGLE SLOPE BARRIER

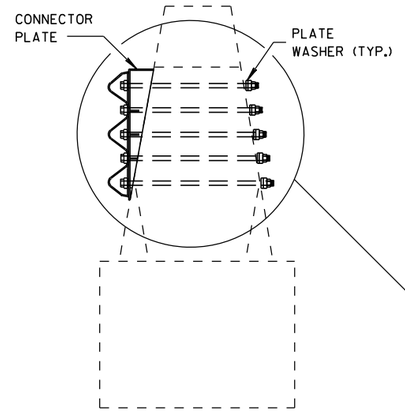


SINGLE SLOPE CONNECTION PLATE PLACEMENT

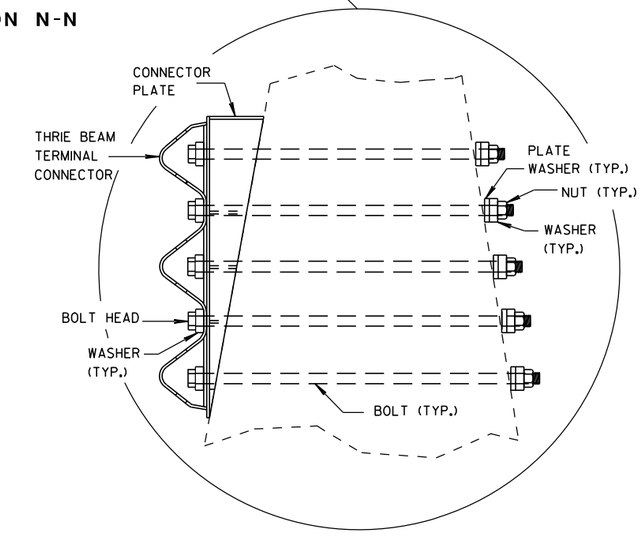
GENERAL NOTES

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

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8/31/2012 — DATE

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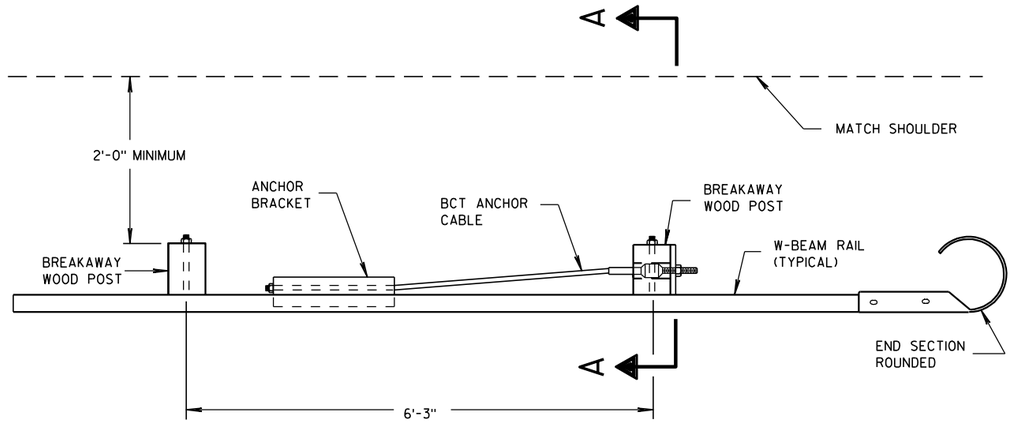
FHWA

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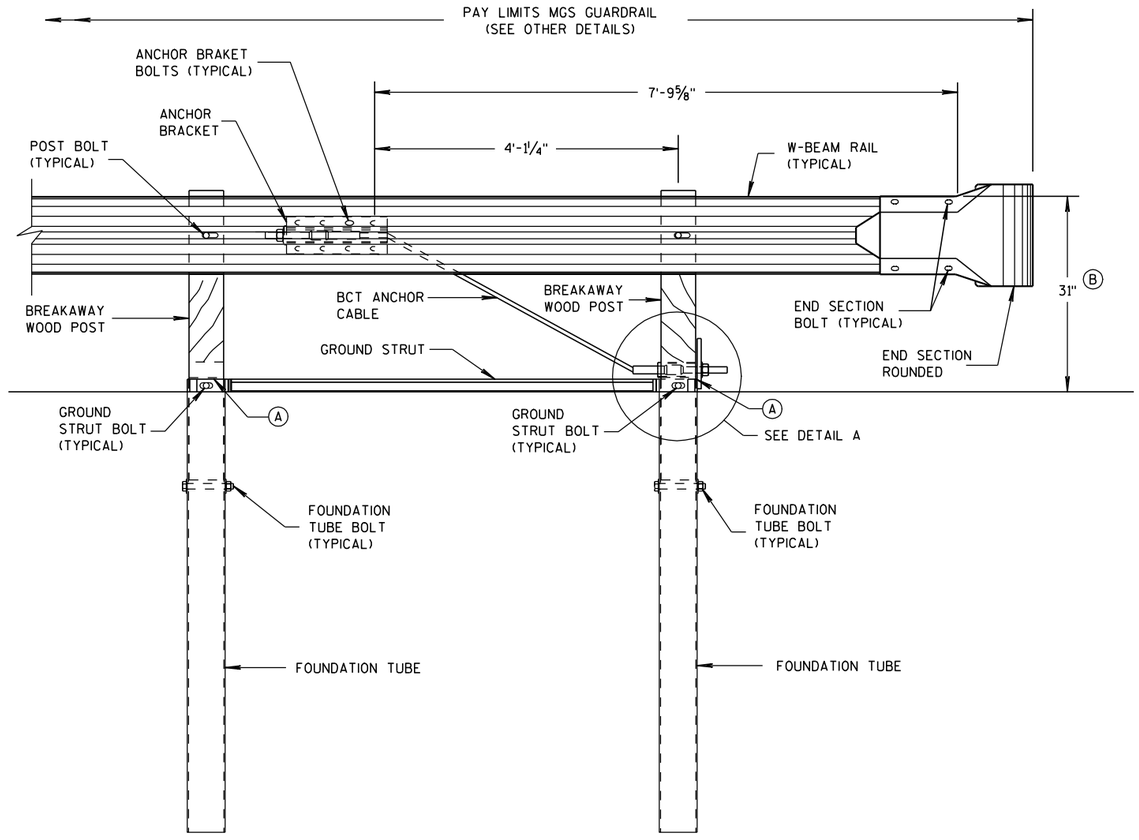
S.D.D. 14 B 45-3j

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S.D.D. 14 B 45-3j

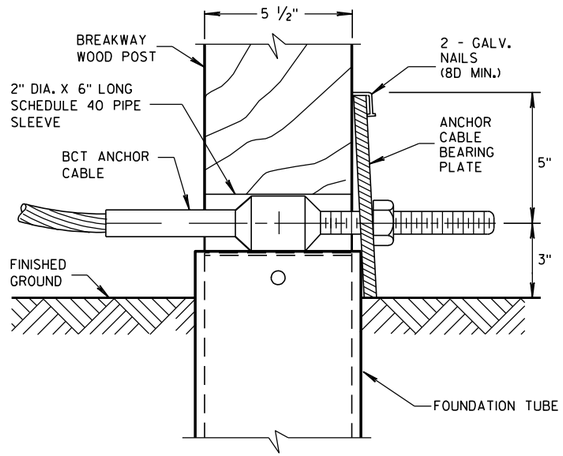


PLAN VIEW



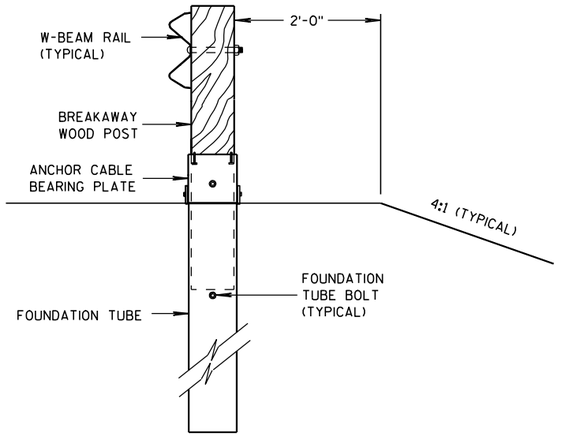
FRONT VIEW

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.

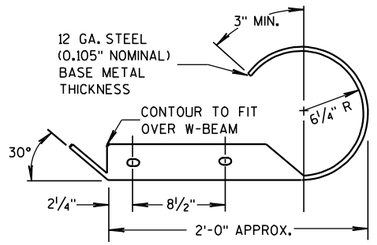
ANCHOR BRAKET BOLTS ARE A ⅝" DIAMETER X 1½" LONG HEAVY HEX HEAD BOLT. AN ANCHOR BRAKET BOLT REQUIRES A ⅝" DIAMETER DH HEAVY HEX NUT AND A FLAT WASHER.

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.

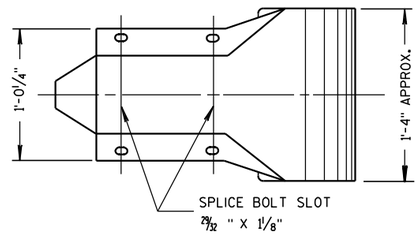
W-BEAM END SECTION ROUNDED HAS THE SAME MATERIAL PROPERTIES AS STANDARD STEEL RAIL.

(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

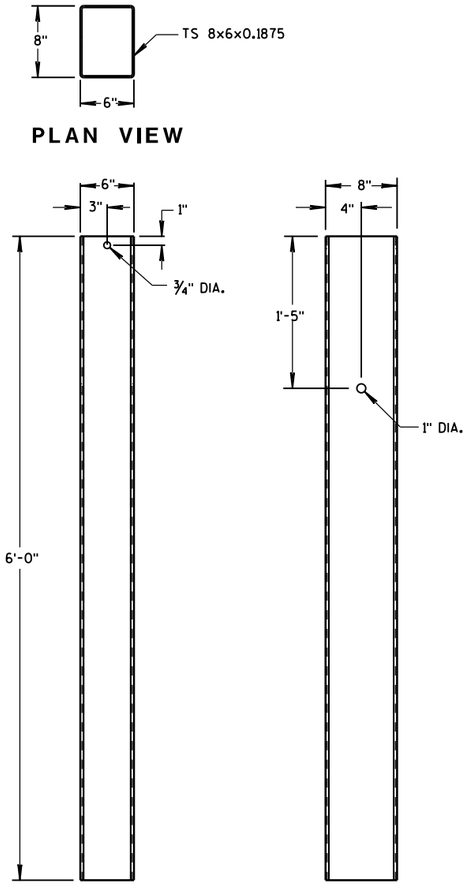
STATE OF WISCONSIN
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S.D.D. 14 B 47-1a

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S.D.D. 14 B 47-1a

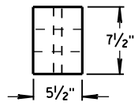


PLAN VIEW

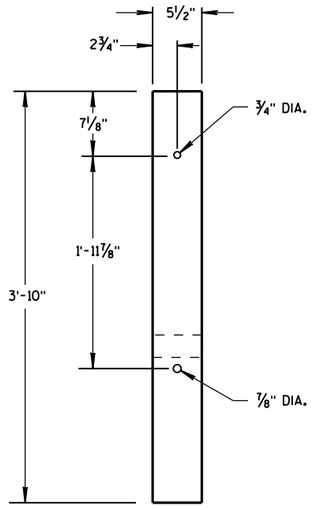
FRONT VIEW

SIDE VIEW

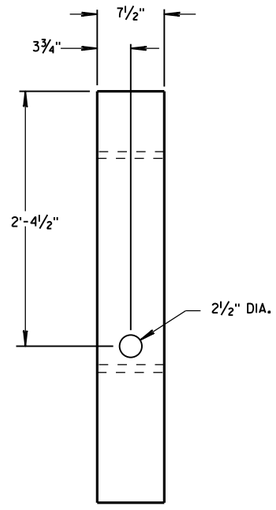
FOUNDATION TUBE



PLAN VIEW



FRONT VIEW



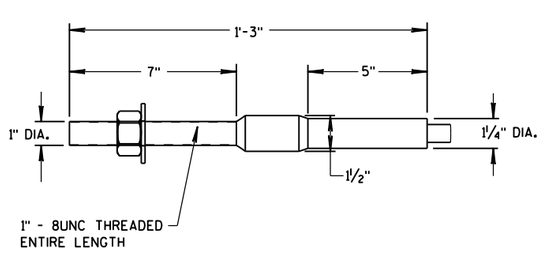
SIDE VIEW

BREAKAWAY WOOD POST

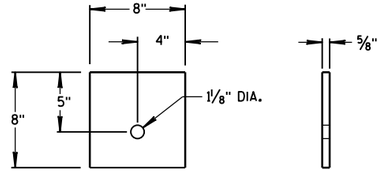
BCT ANCHOR CABLE

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.



DETAIL B



SIDE VIEW FRONT VIEW

ANCHOR CABLE
BEARING PLATE

MIDWEST GUARDRAIL
SYSTEM (MGS) TYPE 2 TERMINAL

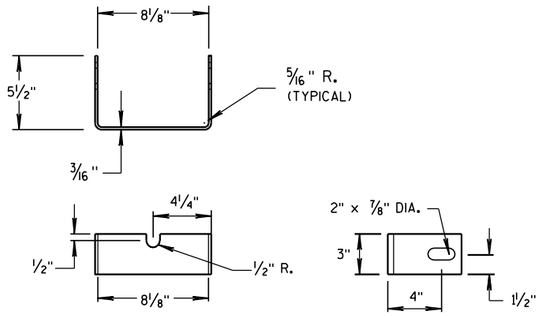
STATE OF WISCONSIN
DEPARTMENT OF TRANSPOI

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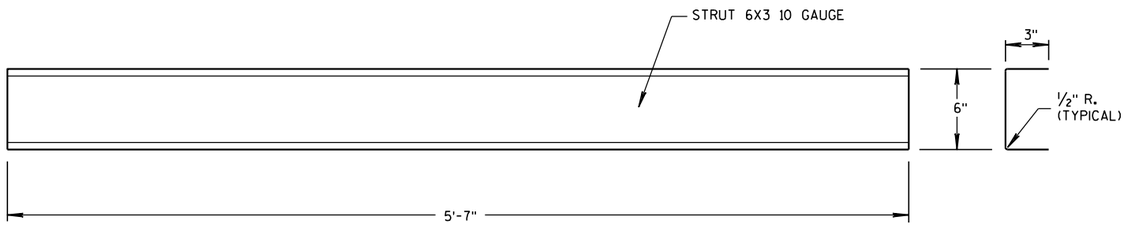
S.D.D. 14 B 47-1b

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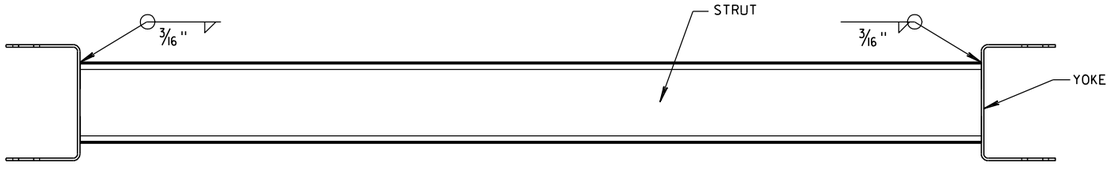
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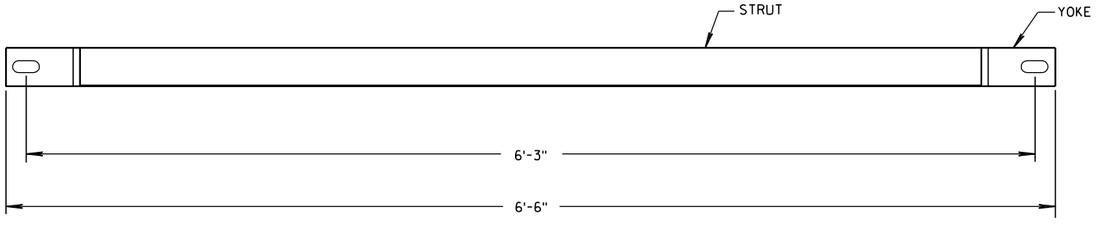
YOKE DETAIL



STRUT DETAIL

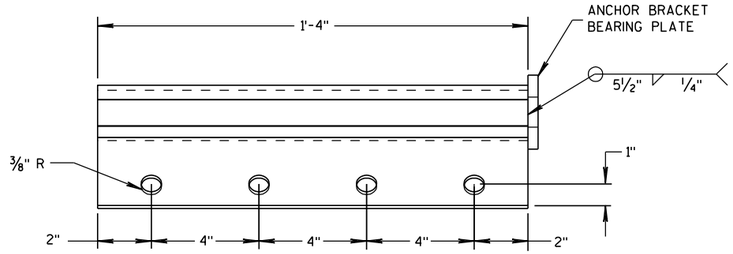


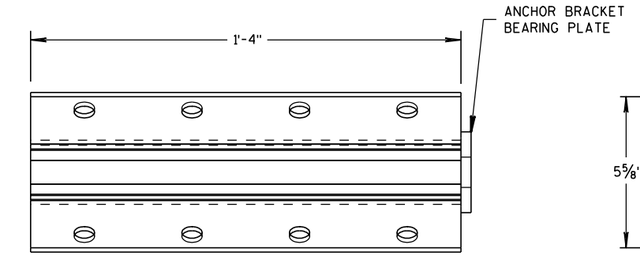
PLAN VIEW

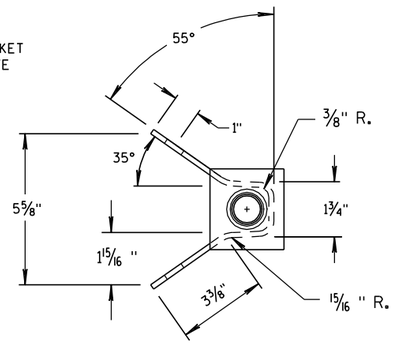


FRONT VIEW

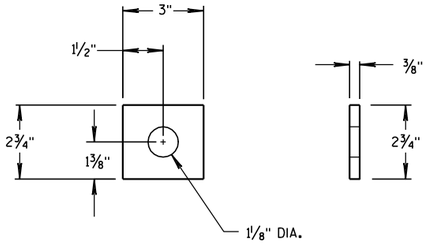
GROUND STRUT DETAIL







ANCHOR BRACKET



ANCHOR BRACKET BEARING PLATE

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S.D.D. 14 B 47-1c

S.D.D. 14 B 47-1c

MIDWEST GUARDRAIL SYSTEM (MGS) TYPE 2 TERMINAL

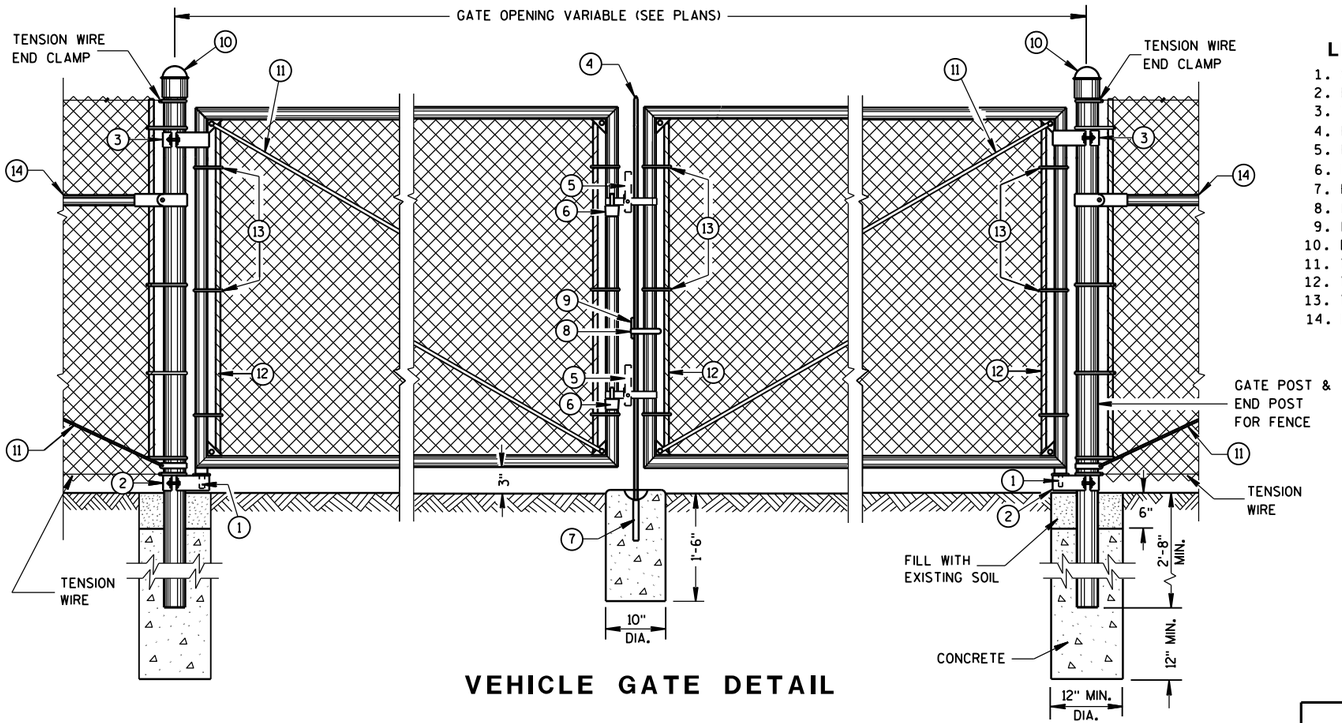
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

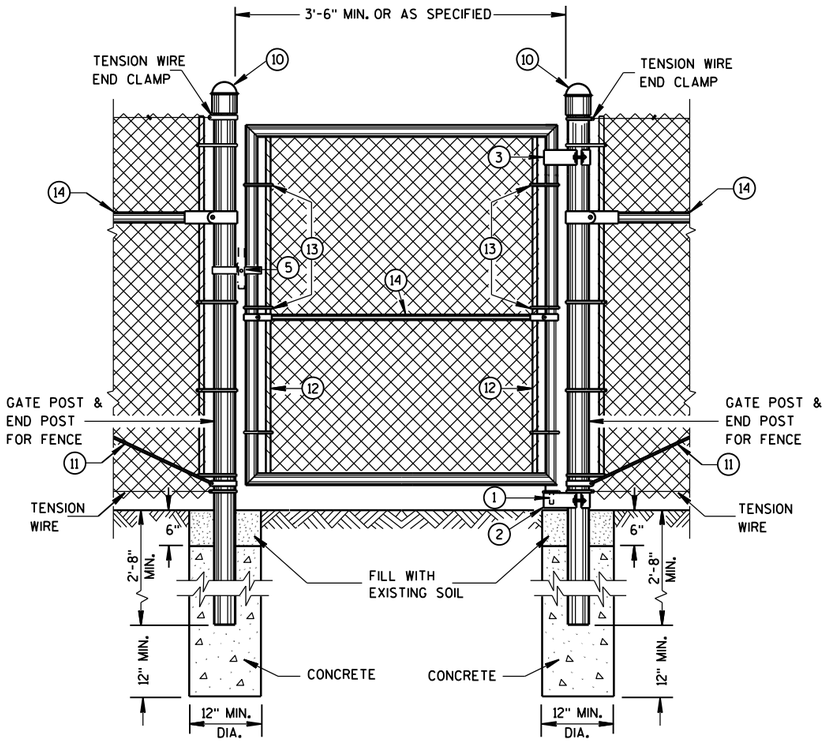
5/23/2011
DATE

/S/ Jerry H. [illegible]
ROADWAY STANDARDS ENGINEER

FHWA



VEHICLE GATE DETAIL



PEDESTRIAN GATE DETAIL

LEGEND

1. STRAIGHT PLUG
2. BOTTOM HINGE
3. TOP HINGE
4. PLUNGER ROD
5. FULCRUM LATCH
6. FORK CATCH *
7. PLUNGER ROD CATCH
8. LOCK KEEPER GUIDE
9. LOCK KEEPER
10. DOME TOPS
11. TRUSS RODS
12. TENSION BAR
13. TENSION BANDS
14. BRACE RAIL

*NOT REQUIRED ON SINGLE SWING PEDESTRIAN GATE

GENERAL NOTES

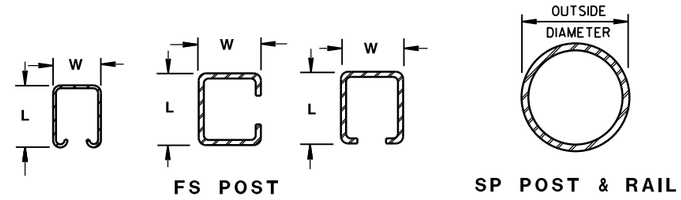
FENCE POSTS INSTALLED ON CONCRETE WALLS SHALL BE ANCHORED INTO EMBEDDED METAL SLEEVES OR CORED HOLE BY FILLING THE ANNULAR SPACE WITH PEA GRAVEL FOLLOWED BY AN EPOXY RESIN ADHESIVE. THE EPOXY RESIN ADHESIVE SHALL CONFORM TO THE REQUIREMENTS OF AASHTO M 235, CLASS A, B OR C.

USE FENCE FABRIC KNUCKLED AT BOTH SELVAGES.

FOR LEAF GATES GREATER THAN 8 FEET WIDE, INSTALL INTERIOR VERTICAL BRACE RAIL AT 8 FOOT INTERVALS.

FOR FABRIC HEIGHTS GREATER THAN 8 FEET, INSTALL INTERIOR HORIZONTAL BRACE RAILS TO LEAF GATE.

MAXIMUM SAG FOR OUTER GATE MEMBER SHALL NOT EXCEED THE GREATER OF 1% OF THE LEAF GATE WIDTH OR 2 INCHES.



FS POST

SP POST & RAIL

CROSS SECTIONS OF POSTS AND RAILS

REQUIRED FENCE POST SIZES

USE	FABRIC HEIGHTS FEET	POST TYPE
TERMINAL POSTS **	LESS THAN OR EQUAL TO 6 FT.	SP3
	GREATER THAN OR EQUAL TO 6 FT.	SP4
LINE POSTS	LESS THAN OR EQUAL TO 6 FT.	SP2
	LESS THAN OR EQUAL TO 8 FT.	SP3
	GREATER THAN OR EQUAL TO 8 FT.	SP4
	LESS THAN OR EQUAL TO 8 FT.	FS2 OR FS2†
	GREATER THAN OR EQUAL TO 8 FT.	FS3

BRACE RAIL TYPES

USE		TYPE
BRACE RAIL		SP1 OR FS1

** INCLUDES END, CORNER, ANGLE, INTERSECTION AND INTERMEDIATE BRACED POSTS

SHAPE, SIZE AND WEIGHT REQUIREMENTS FOR FORMED STEEL FENCE POST

POST TYPE	LENGTH (L) INCH	WIDTH (W) INCH	WEIGHT LBS/FT
FS1	1.625	1.25	1.35
FS2†	1.875	1.625	1.850
FS2	1.875	1.625	2.400
FS3	2.250	1.700	2.780

REQUIRED POST SIZE FOR GATES

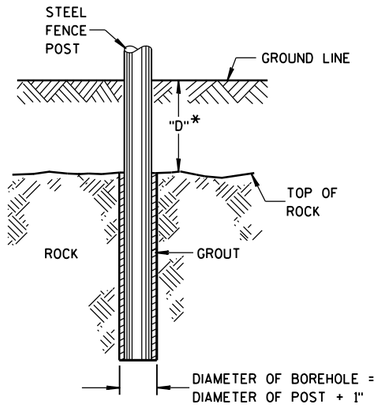
USE	LEAF WIDTHS FEET	POST TYPE
GATES	LESS THAN OR EQUAL TO 6 FT.	SP4
	LESS THAN OR EQUAL TO 13 FT.	SP5
	LESS THAN OR EQUAL TO 18 FT.	SP6
	LESS THAN OR EQUAL TO 23 FT.	SP7

SHAPE, SIZE AND WEIGHT REQUIREMENTS FOR ROUND STEEL FENCE POST

POST TYPE	OUTSIDE DIMENSION INCH	WALL THICKNESS INCH	WEIGHT LBS/FT
SP1	1.660	0.140	2.270
SP2	1.900	0.145	2.720
SP3	2.375	0.154	3.650
SP4	2.875	0.203	5.800
SP5	4.000	0.226	9.120
SP6	6.625	0.280	18.990
SP7	8.625	0.322	28.580

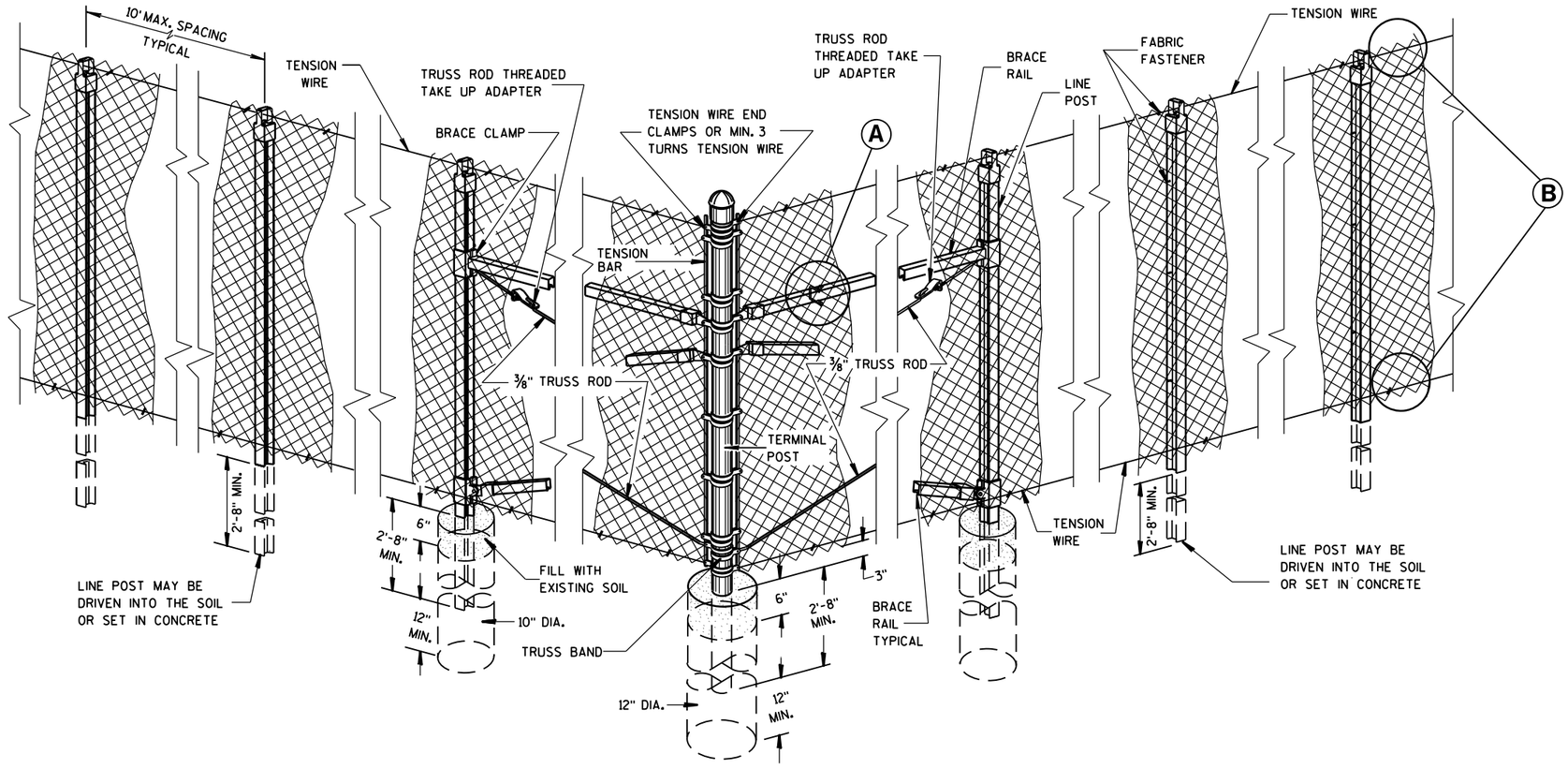
FENCE CHAIN LINK

STATE OF WISCONSIN
DEPARTMENT OF TRANSPOR

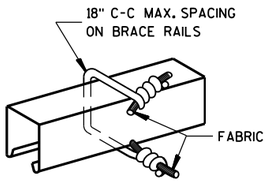


*IF "D" IS LESS THAN 2'-6", DRILL ROCK AND INSTALL GROUT

ROCK INSTALLATION OF LINE POST



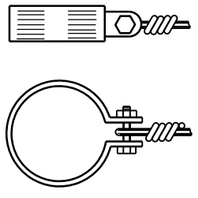
END, CORNER, ANGLE INTERSECTION & INTERMEDIATE BRACED POSTS



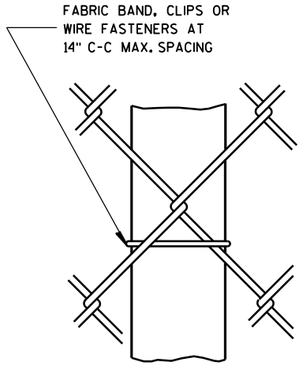
BRACE RAIL

FABRIC FASTENER

Ⓐ



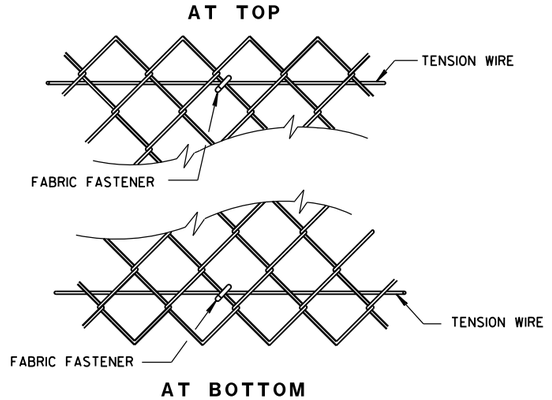
TENSION WIRE END CLAMP



LINE POST

FABRIC FASTENER

AT TOP



AT BOTTOM

SELVAGES

Ⓑ

FENCE CHAIN LINK

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

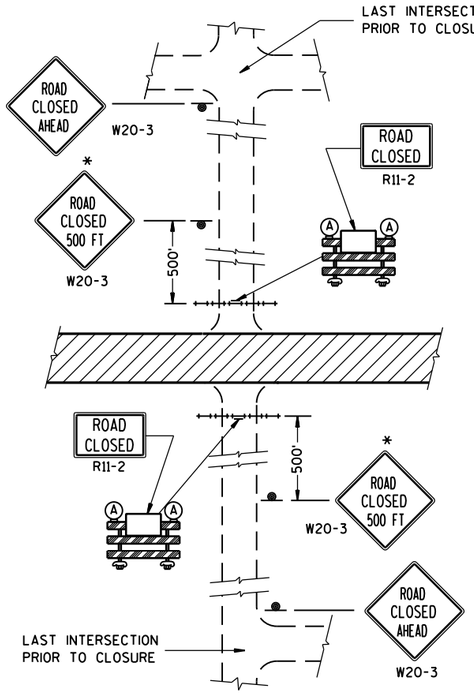
APPROVED
7/16/2013
DATE
/S/ Jerry H. Zogg
ROADWAY STANDARDS DEVELOPMENT ENGINEER
FHWA

6

S.D.D. 15 B 3-13b

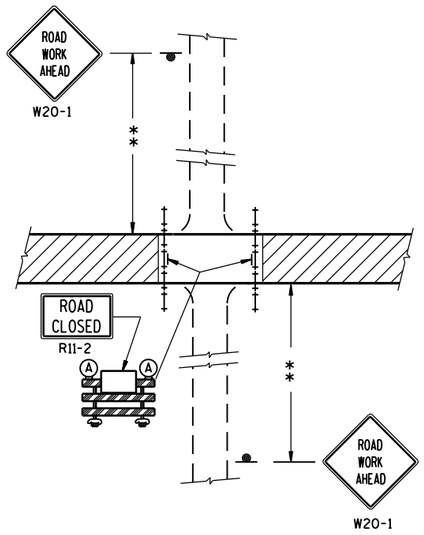
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S.D.D. 15 B 3-13b



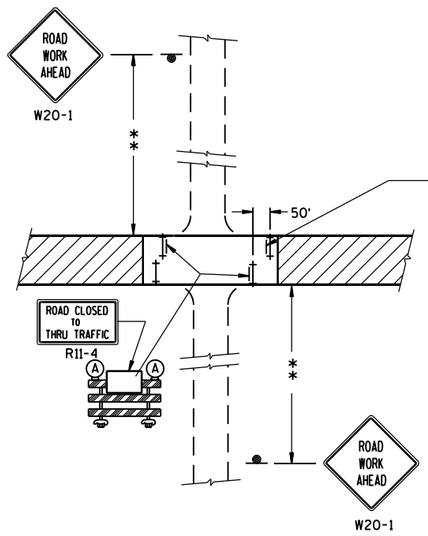
DETAIL 1

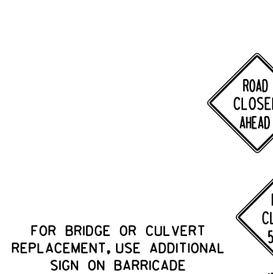
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DETAIL 2

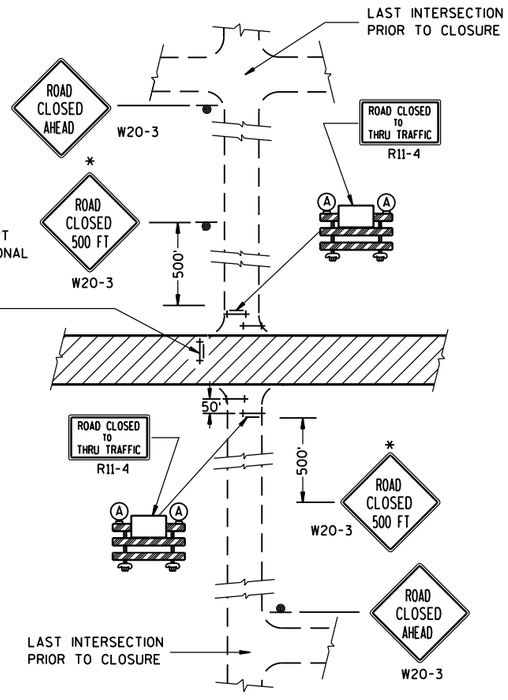
(PUBLIC CROSS-TRAFFIC MAINTAINED. NO ACCESS TO PROJECT).





DETAIL 3

(PUBLIC CROSS-TRAFFIC MAINTAINED. CONTRACTOR, LOCAL BUSINESS AND RESIDENT ACCESS).



DETAIL 4

(CONTRACTOR, LOCAL BUSINESS AND RESIDENT ACCESS TO PROJECT)

GENERAL NOTES

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

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

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

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

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

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

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

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

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

ALL SIGNS SHALL BE 48" X 48" UNLESS OTHERWISE NOTED BELOW:
R11-2 SHALL BE 48" X 30".
R11-4 AND R11-3 SHALL BE 60" X 30".

*OMIT THE "ROAD CLOSED 500 FT." SIGN IF THE LAST INTERSECTION IS 500 FT. OR LESS FROM THE WORK ZONE.

**500' MAX. OR AT LAST INTERSECTION WHICHEVER IS CLOSER.

LEGEND

- SIGN ON PERMANENT SUPPORT
- TYPE III BARRICADE
- TYPE III BARRICADE WITH ATTACHED SIGN
- (A) TYPE "A" WARNING LIGHT (FLASHING)
- WORK AREA

BARRICADES AND SIGNS FOR SIDEROAD CLOSURES

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

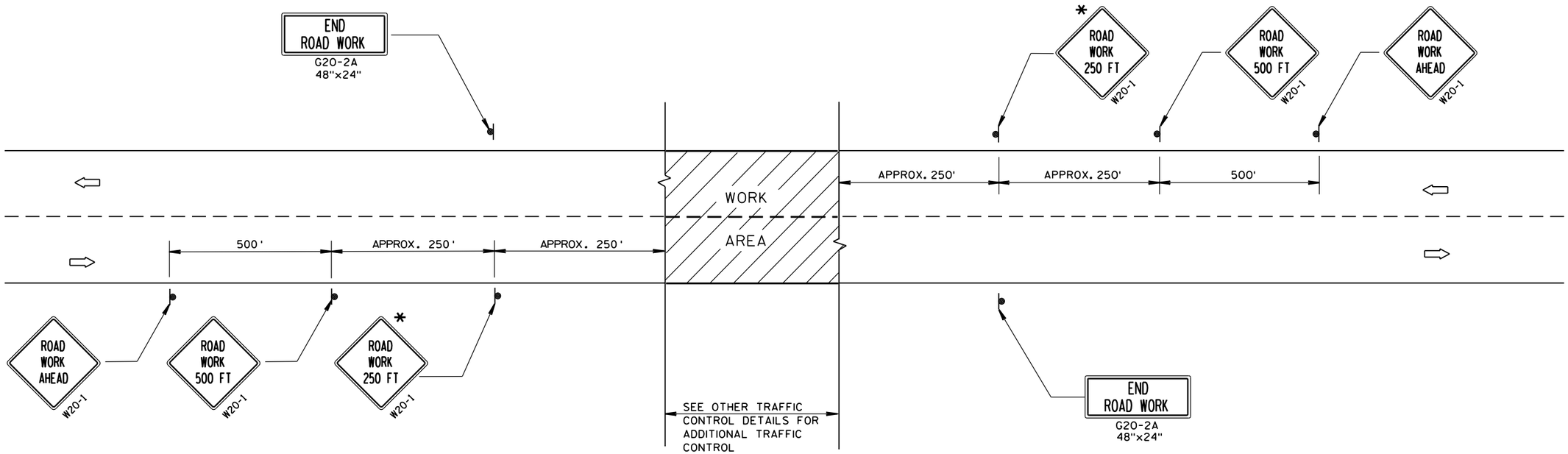
APPROVED
8/2013 — DATE
/S/ Travis Feltes — STATE TRAFFIC ENGINEER
FHWA

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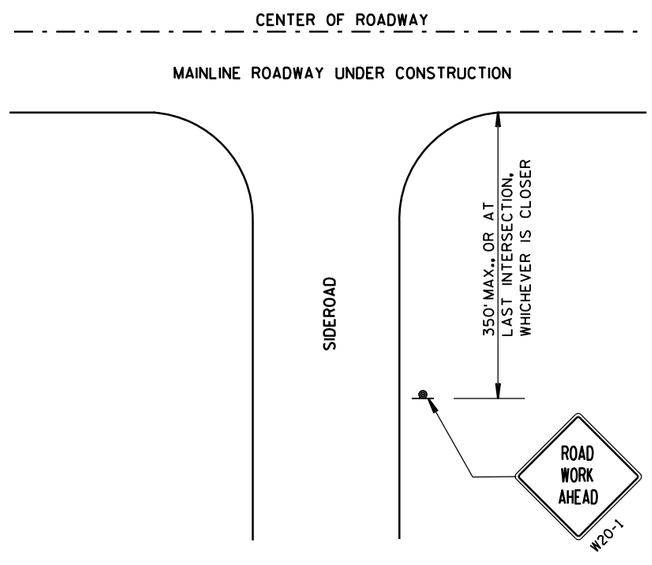
S.D.D. 15 C 3-2

6

S.D.D. 15 C 3-2



TYPICAL SIDEROAD APPROACH WARNING SIGN DETAIL



GENERAL NOTES

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

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

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

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

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

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

LEGEND

- SIGN ON PERMANENT SUPPORT
- DIRECTION OF TRAFFIC
- WORK AREA

TRAFFIC CONTROL, ADVANCE WARNING SIGNS 40 M.P.H. OR LESS TWO-WAY UNDIVIDED ROAD OPEN TO TRAFFIC

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

8/2013 (DATE) — /S/ Travis Feltes (STATE TRAFFIC ENGINEER) — (SIGN)

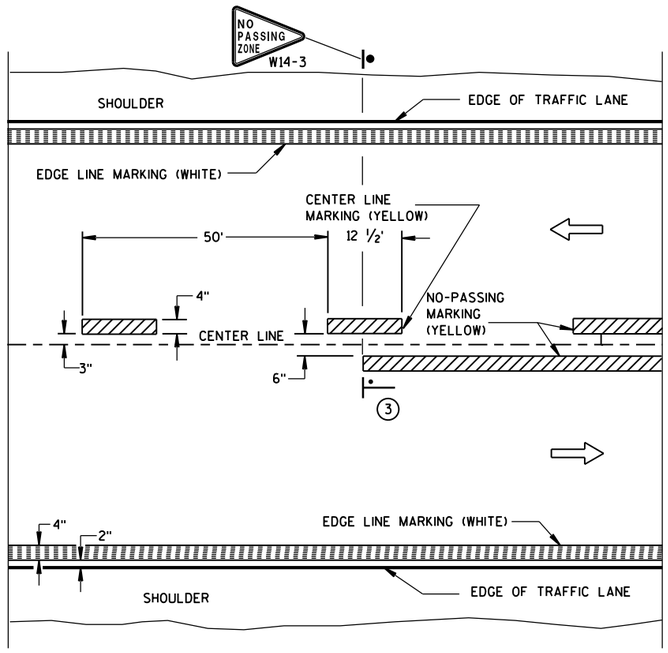
FHWA

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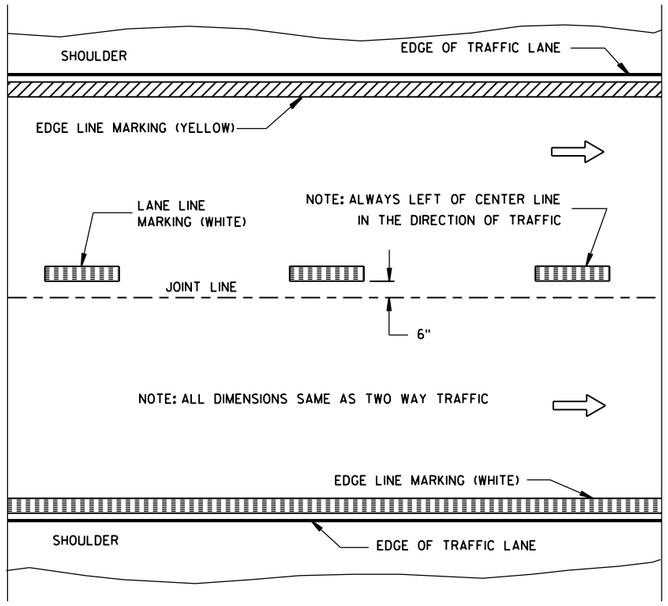
S.D.D. 15 C 5-2

6

S.D.D. 15 C 5-2

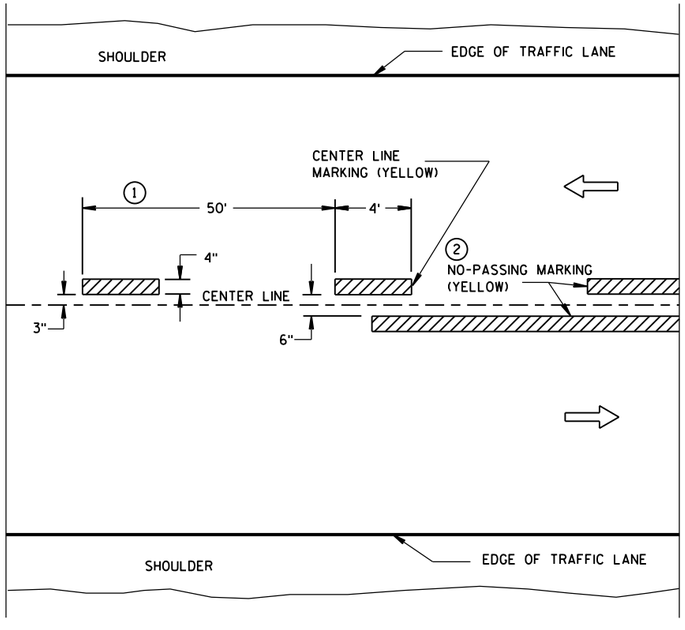


TWO WAY TRAFFIC

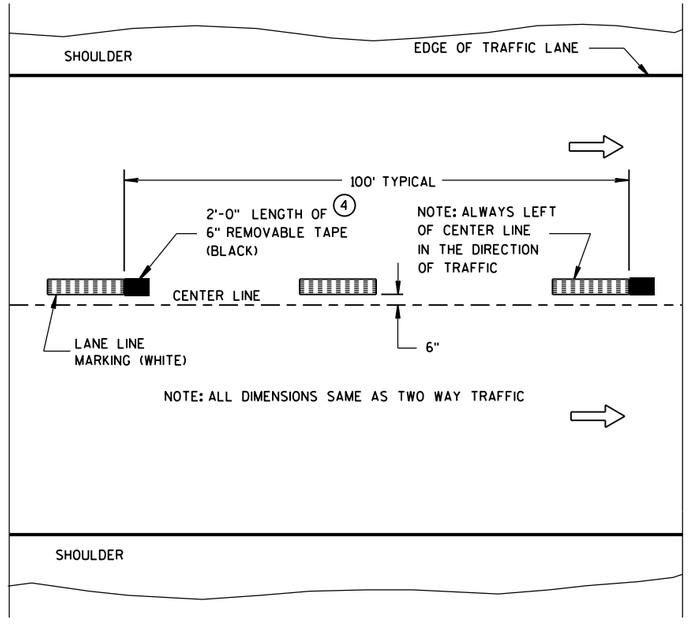


ONE WAY TRAFFIC

PERMANENT PAVEMENT MARKING



TWO WAY TRAFFIC



ONE WAY TRAFFIC

TEMPORARY (INTERMEDIATE) PAVEMENT MARKING

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

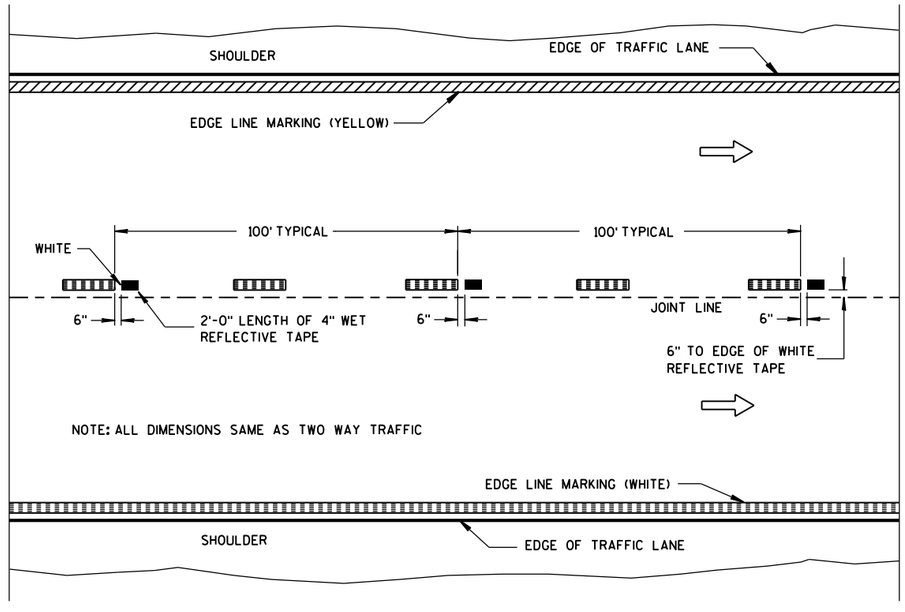
GENERAL NOTES

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

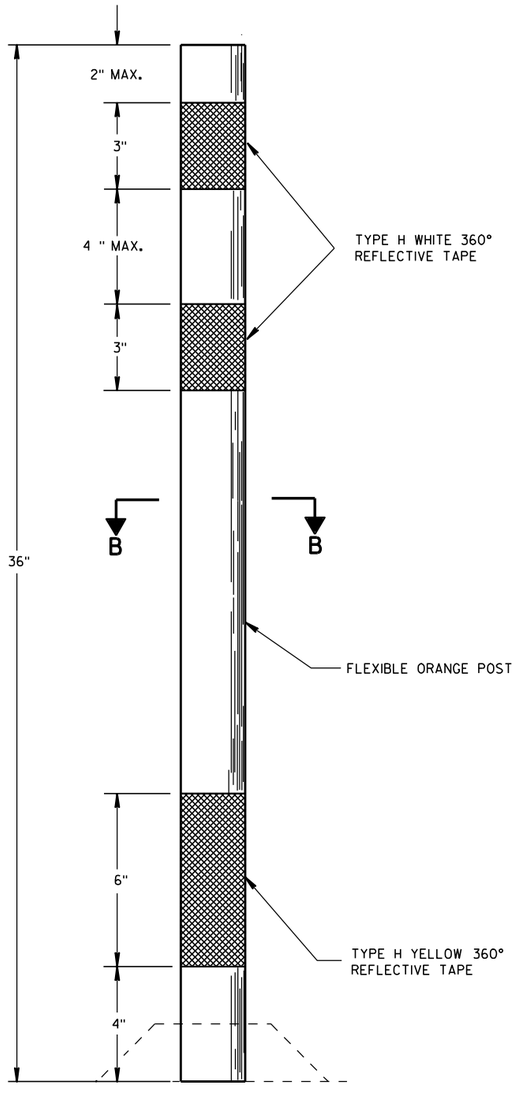
FHWA

6

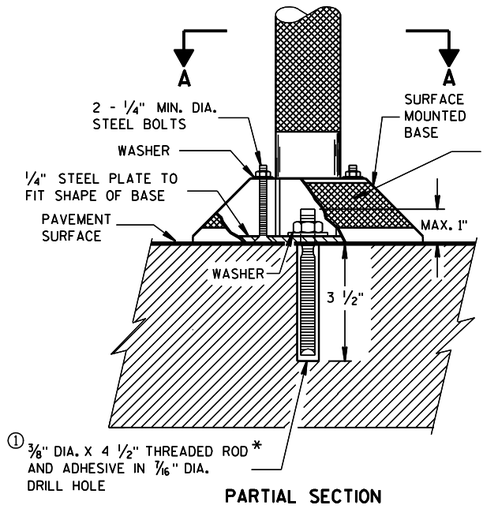
S.D.D. 15 C 8-16a

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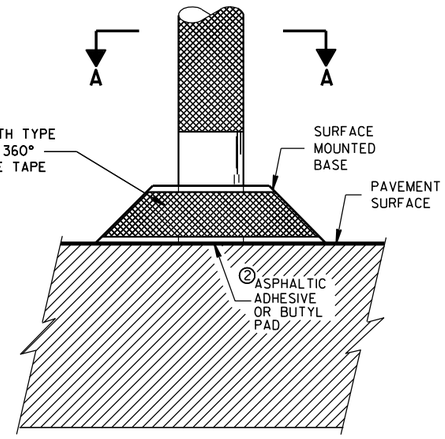
S.D.D. 15 C 8-16a



FLEXIBLE TUBULAR MARKER POST



PARTIAL SECTION TO SHOW BOLTS



POST BASES ON NEW OR EXISTING PAVEMENT

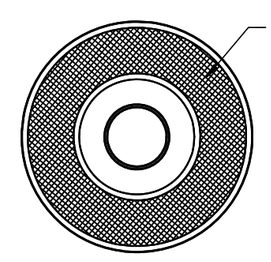
GENERAL NOTES

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

SURFACE MOUNTED BASES SHALL BE FURNISHED IN ACCORDANCE WITH MANUFACTURERS RECOMMENDATIONS TO BE COMPATIBLE WITH FLEXIBLE TUBULAR MARKER POSTS TO A SIZE AND SHAPE THAT WILL PROVIDE A STABLE POST FOUNDATION WHEN SECURED TO THE PAVEMENT.

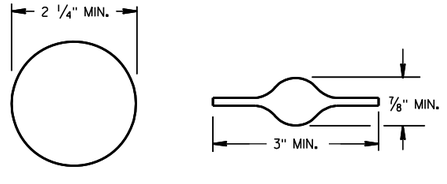
① THREADED ROD SHALL BE MACHINED DOWN TO 0.280 INCH DIA. 1 1/4 INCHES FROM THE TOP.

② THE ASPHALTIC ADHESIVE OR BUTYL PAD FURNISHED SHALL BE IN ACCORDANCE WITH MANUFACTURERS RECOMMENDATIONS.



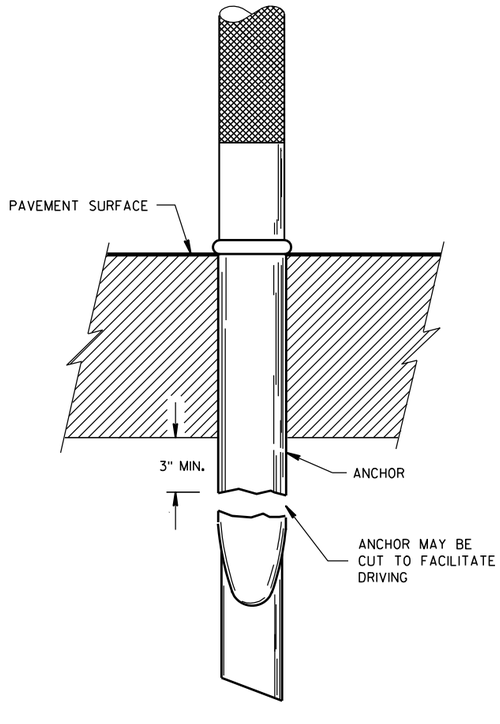
SECTION A-A

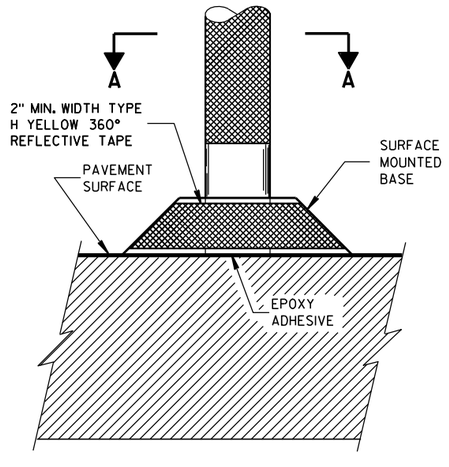
SURFACE MOUNTED BASE



SECTION B-B

ALTERNATIVE SHAPES





POST ANCHOR AND BASE ON PAVEMENT WHICH WILL BE REMOVED

FLEXIBLE TUBULAR MARKER POST, ANCHOR & BASES

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

2/17/94 DATE

/S/ Chester J. [illegible] DIRECTOR, OFFICE O

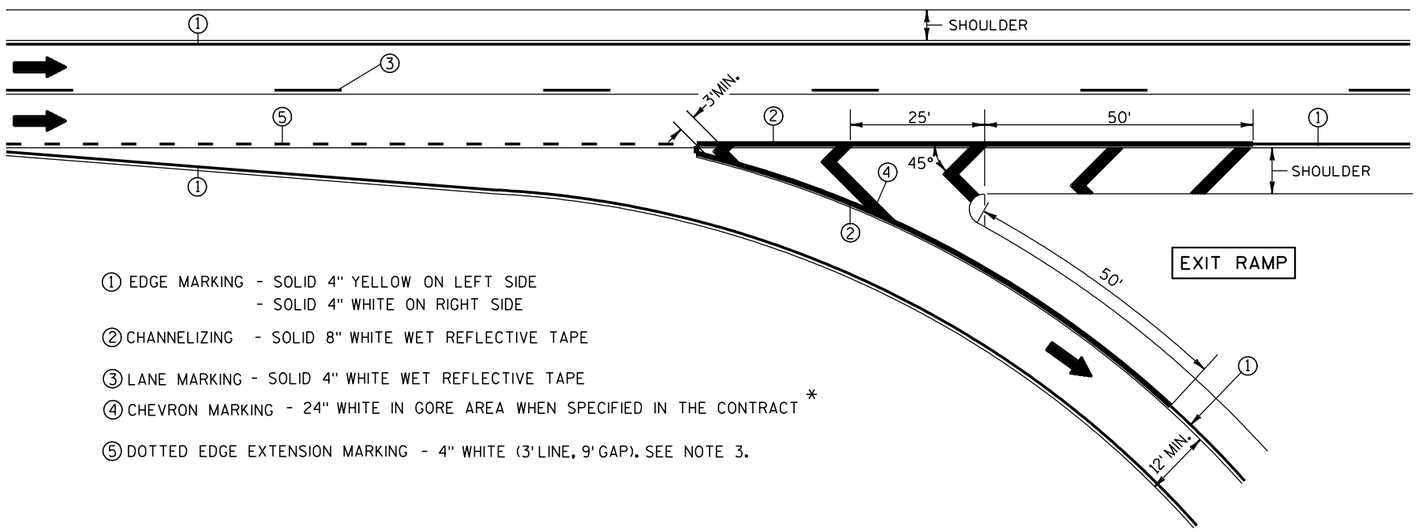
FHWA

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S.D.D. 15 C 11-5

6

S.D.D. 15 C 11-5



① EDGE MARKING - SOLID 4" YELLOW ON LEFT SIDE
- SOLID 4" WHITE ON RIGHT SIDE

② CHANNELIZING - SOLID 8" WHITE WET REFLECTIVE TAPE

③ LANE MARKING - SOLID 4" WHITE WET REFLECTIVE TAPE

④ CHEVRON MARKING - 24" WHITE IN GORE AREA WHEN SPECIFIED IN THE CONTRACT *

⑤ DOTTED EDGE EXTENSION MARKING - 4" WHITE (3' LINE, 9' GAP). SEE NOTE 3.

NOTES:

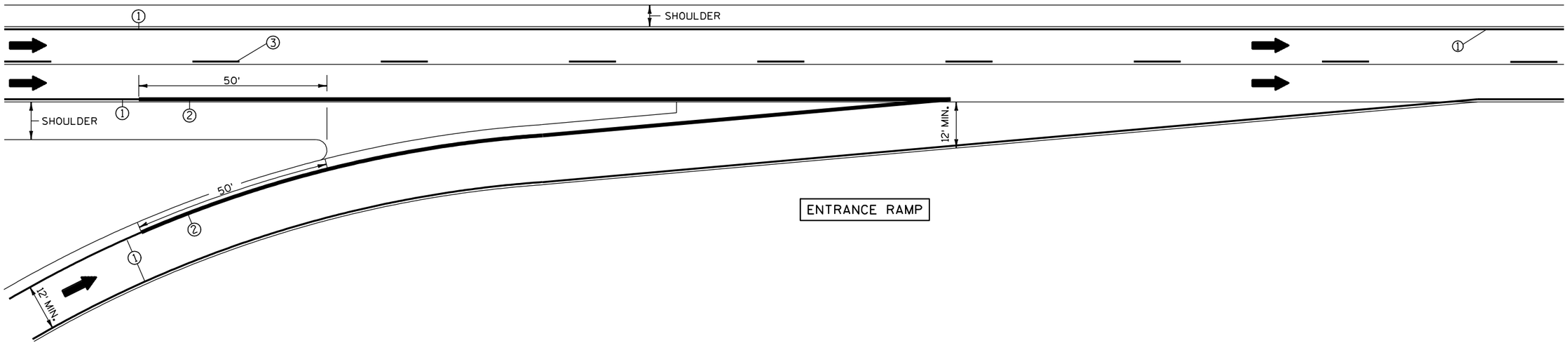
1. ARROWS SHOWN ON THIS MARKING PLAN DESIGNATE TRAFFIC FLOW, AND SHALL NOT BE TAKEN AS PROPOSED PAVEMENT MARKINGS.

2. PLACE WHITE EDGE OF TAPE 6" LEFT FROM JOINT.

3. 3' LINE 9' GAP, EXCEPT RETRACE THE EXISTING LINE-GAP PATTERN WHERE EXISTING MARKINGS ARE IN PLACE.

4. RETRACE EXISTING DIAGONAL MARKINGS.

* REFER TO DESIGN NOTES.



6

6

S.D.D. 15 C 31-1a

S.D.D. 15 C 31-1a

PAVEMENT MARKING
(RAMPS AND GORES)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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.

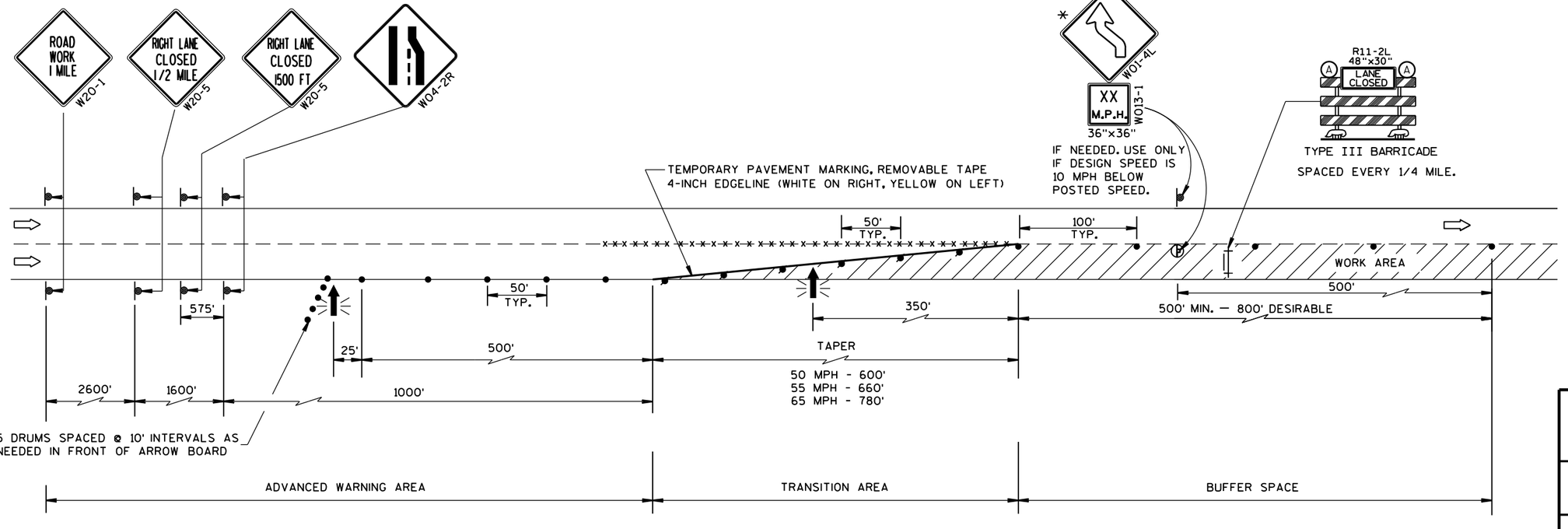


LOCATED 500 FEET IN ADVANCE OF R2-1 SIGN AND 500 FEET BEYOND THE "ROAD WORK 1 MILE" SIGN.



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

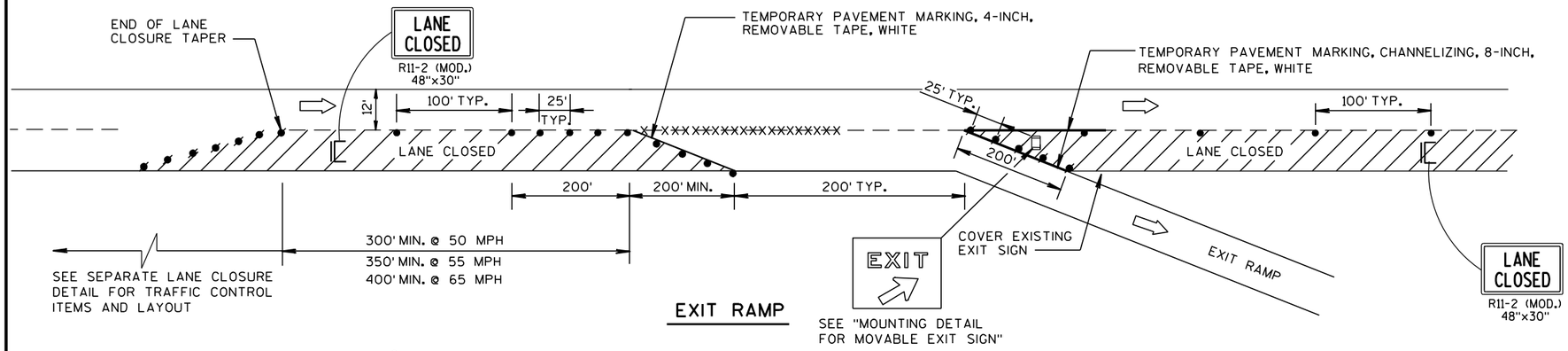
APPROVED
8/2013 — DATE
/S/ Travis Feltes — STATE TRAFFIC ENGINEER
FHWA

6

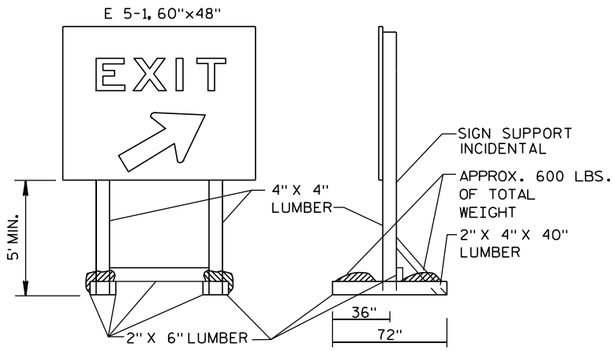
S.D.D. 15 D 12-3

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S.D.D. 15 D 12-3

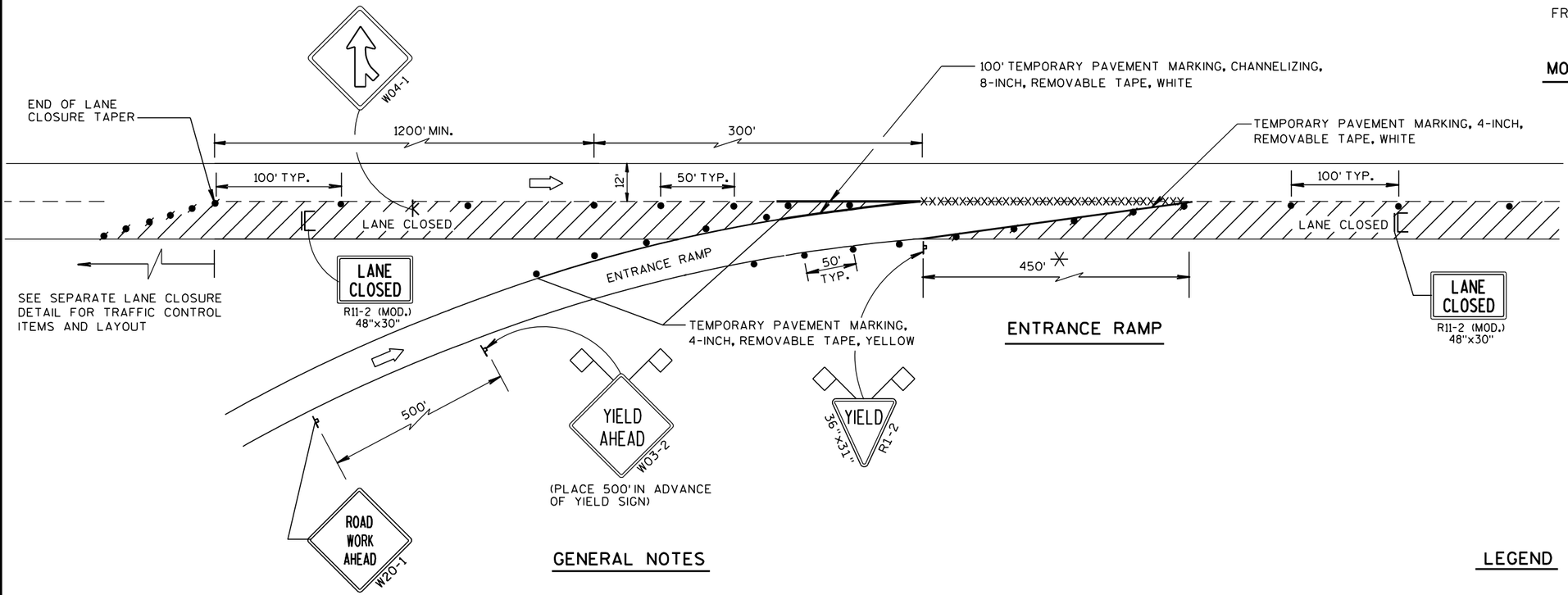


EXIT RAMP



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 MARKINGS ENGINEER
FHWA

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.

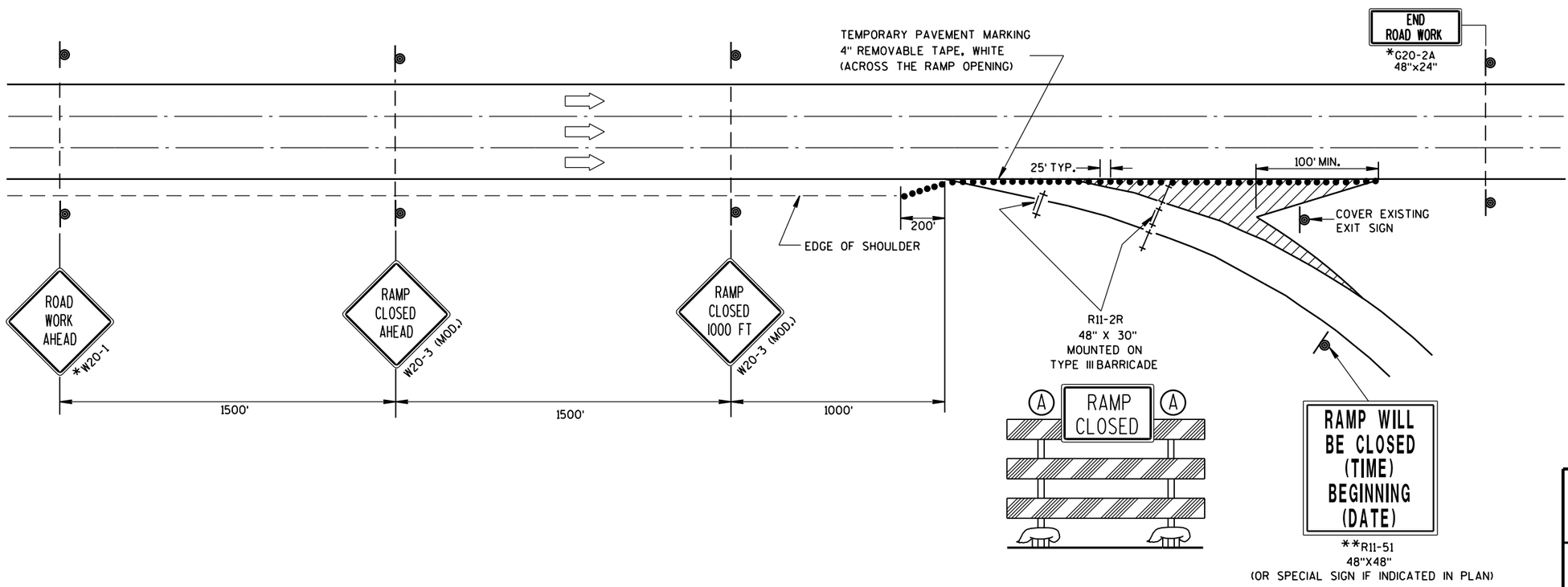
PLACE TEMPORARY PAVEMENT MARKING, REMOVABLE TAPE IF RAMP CLOSURE IS TO BE IN PLACE FOR 4 OR MORE CONTINUOUS DAYS AND NIGHTS.

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.

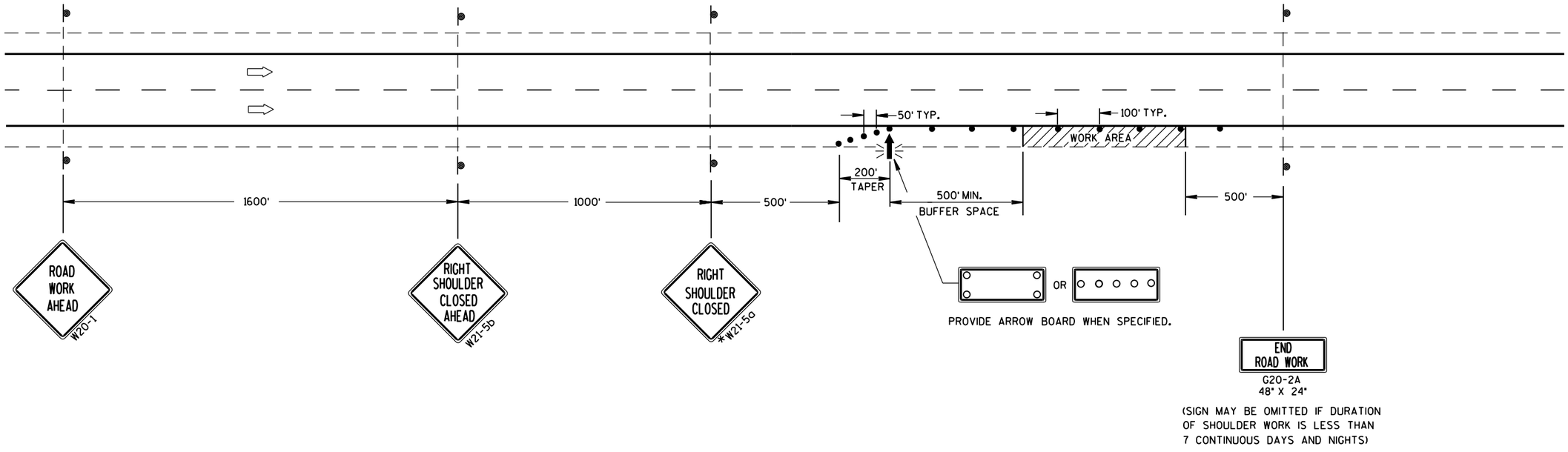
SIGNS THAT WILL BE IN PLACE LESS THAN 7 CONTINUOUS DAYS AND NIGHTS MAY BE MOUNTED ON PORTABLE SUPPORTS.

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

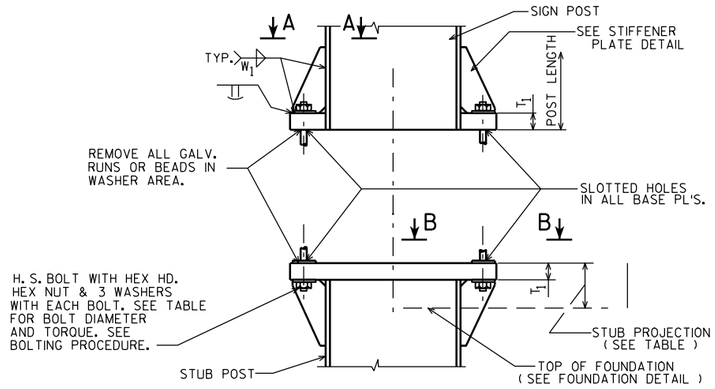
8/2013 — DATE

/S/ Travis Feltes — STATE TRAFFIC ENGINEER

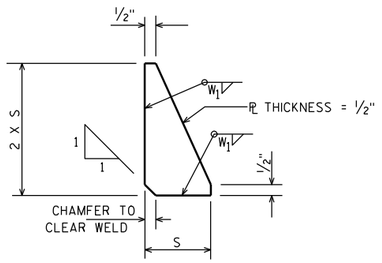
FHWA

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S.D.D. 15 D 27-2

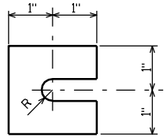


SIGN POST AND STUB POST ELEVATION



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.

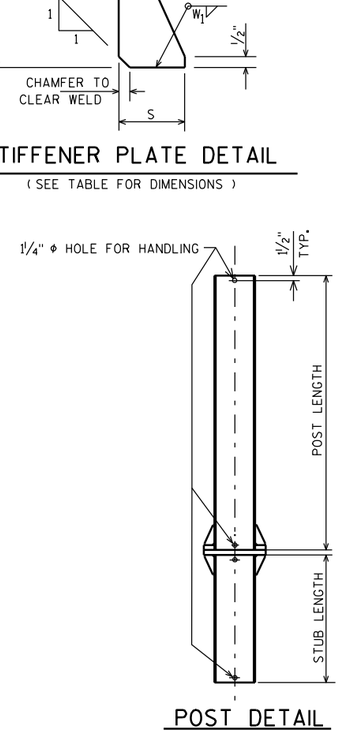
SHIM DETAIL

	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
E	1.0	62

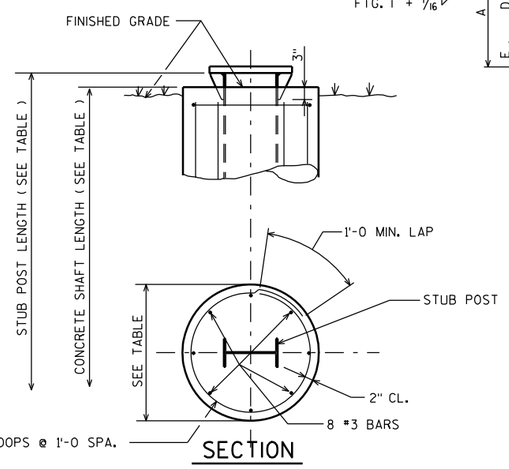
⑦

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
	E	8 @ 7'-11	9 @ 6'-3

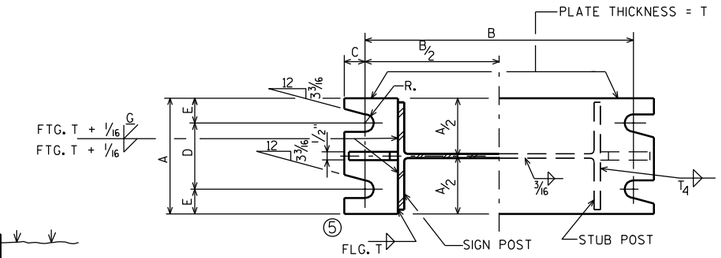
⑦



POST DETAIL



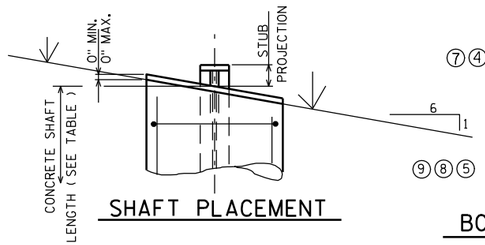
SECTION



FTG. T + 1/16 G
FTG. T + 1/16

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 & 1/2 WIND△	140 △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.

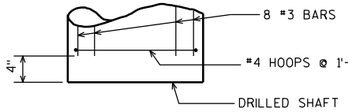
GENERAL NOTES

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.

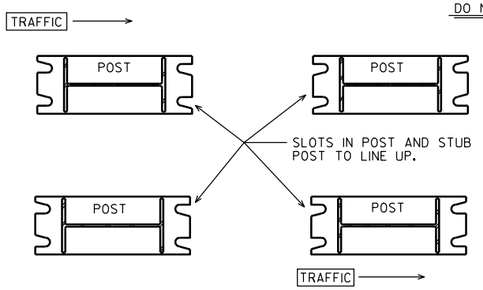
BOLTING PROCEDURE - BASE CONNECTION

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. 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)
4. 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



POST SLOT ORIENTATION ⑦

BASE CONNECTION DATA TABLE

	TYPE	DIMENSION / POST SIZE	BOLT SIZE & TORQUE	A	B	C	D	E	T_1	T_4	W_1	R	S
④	A	W10"X12.0 #/FT.	3/4" Φ @ 75#-FT.	5 1/4"	1'-0 3/8	7/8"	3 1/2"	7/8"	1"	3/16"	5/16"	13/32"	2 1/8"
④	B	W12"X16.0 #/FT.	7/8" Φ @ 85#-FT.	5 1/2"	1'-4 1/4	1"	3 1/2"	1"	1 1/4"	1/4"	5/16"	15/32"	3"
	C	W12"X19.0 #/FT.	7/8" Φ @ 85#-FT.	5 1/2"	1'-4 1/4	1"	3 1/2"	1"	1 1/2"	5/16"	5/16"	15/32"	3"
	D	W12"X22.0 #/FT.	7/8" Φ @ 85#-FT.	5 1/2"	1'-4 1/4	1"	3 1/2"	1"	1 1/2"	3/8"	5/16"	15/32"	3"
③	E	W12"X26.0 #/FT.	1" Φ @ 90#-FT.	7"	1'-4 1/4	1 1/4"	4"	1 1/2"	1 1/2"	3/8"	5/16"	17/32"	3"

① ⑥ ①

FOUNDATION DATA

	STUB LENGTH	STUB PROJECTION	SHAFT DIAMETER	SHAFT LENGTH
④	3'-6	3"	2'-0 Φ	5'-0
④	5'-6	3"	2'-0 Φ	7'-0
	6'-0	3"	2'-0 Φ	7'-6
	6'-6	3"	2'-0 Φ	8'-0
③	7'-0	3"	2'-0 Φ	8'-6

② K

	K
④	76.0#
④	146.5#
	182.1#
	210.5#
③	293.0#

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 4/26/11 PLATE NO. A3-1.13

NO.	DATE	REVISION
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 PL 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

PROJECT NO: | HWY: | COUNTY: | SHEET NO: 219 | E

VERITCAL DIMENSION ⇨

HORIZONTAL DIMENSION ⇩

⇩ \ ⇨	2.5 ft.	3 ft.	3.5 ft.	4 ft.	4.5 ft.	5 ft.	5.5 ft.	6 ft.	6.5 ft.	7 ft.	7.5 ft.	8 ft.	8.5 ft.	9 ft.	9.5 ft.	10 ft.	10.5 ft.	11 ft.	11.5 ft.	12 ft.	12.5 ft.	13 ft.	13.5 ft.	14 ft.	14.5 ft.	15 ft.	15.5 ft.	16 ft.
10 ft.	25 Sq. Ft	30 Sq. Ft	35 Sq. Ft	40 Sq. Ft	45 Sq. Ft	50 Sq. Ft	55 Sq. Ft	60 Sq. Ft	65 Sq. Ft	70 Sq. Ft	75 Sq. Ft	80 Sq. Ft	85 Sq. Ft	90 Sq. Ft	95 Sq. Ft	100 Sq. Ft	105 Sq. Ft	110 Sq. Ft	115 Sq. Ft	120 Sq. Ft	125 Sq. Ft	130 Sq. Ft	135 Sq. Ft	140 Sq. Ft	145 Sq. Ft	150 Sq. Ft	155 Sq. Ft	160 Sq. Ft
11 ft.	27.5 Sq. Ft	33 Sq. Ft	38.5 Sq. Ft	44 Sq. Ft	49.5 Sq. Ft	55 Sq. Ft	60.5 Sq. Ft	66 Sq. Ft	71.5 Sq. Ft	77 Sq. Ft	82.5 Sq. Ft	88 Sq. Ft	93.5 Sq. Ft	99 Sq. Ft	104.5 Sq. Ft	110 Sq. Ft	115.5 Sq. Ft	121 Sq. Ft	126.5 Sq. Ft	132 Sq. Ft	137.5 Sq. Ft	143 Sq. Ft	148.5 Sq. Ft	154 Sq. Ft	159.5 Sq. Ft	165 Sq. Ft	170.5 Sq. Ft	176 Sq. Ft
12 ft.	30 Sq. Ft	36 Sq. Ft	42 Sq. Ft	48 Sq. Ft	54 Sq. Ft	60 Sq. Ft	66 Sq. Ft	72 Sq. Ft	78 Sq. Ft	84 Sq. Ft	90 Sq. Ft	96 Sq. Ft	102 Sq. Ft	108 Sq. Ft	114 Sq. Ft	120 Sq. Ft	126 Sq. Ft	132 Sq. Ft	138 Sq. Ft	144 Sq. Ft	150 Sq. Ft	156 Sq. Ft	162 Sq. Ft	168 Sq. Ft	174 Sq. Ft	180 Sq. Ft	186 Sq. Ft	192 Sq. Ft
13 ft.	32.5 Sq. Ft	39 Sq. Ft	45.5 Sq. Ft	52 Sq. Ft	58.5 Sq. Ft	65 Sq. Ft	71.5 Sq. Ft	78 Sq. Ft	84.5 Sq. Ft	91 Sq. Ft	97.5 Sq. Ft	104 Sq. Ft	110.5 Sq. Ft	117 Sq. Ft	123.5 Sq. Ft	130 Sq. Ft	136.5 Sq. Ft	143 Sq. Ft	149.5 Sq. Ft	156 Sq. Ft	162.5 Sq. Ft	169 Sq. Ft	175.5 Sq. Ft	182 Sq. Ft	188.5 Sq. Ft	195 Sq. Ft	201.5 Sq. Ft	208 Sq. Ft
14 ft.	35 Sq. Ft	42 Sq. Ft	49 Sq. Ft	56 Sq. Ft	63 Sq. Ft	70 Sq. Ft	77 Sq. Ft	84 Sq. Ft	91 Sq. Ft	98 Sq. Ft	105 Sq. Ft	112 Sq. Ft	119 Sq. Ft	126 Sq. Ft	133 Sq. Ft	140 Sq. Ft	147 Sq. Ft	154 Sq. Ft	161 Sq. Ft	168 Sq. Ft	175 Sq. Ft	182 Sq. Ft	189 Sq. Ft	196 Sq. Ft	203 Sq. Ft	210 Sq. Ft	217 Sq. Ft	224 Sq. Ft
15 ft.	37.5 Sq. Ft	45 Sq. Ft	52.5 Sq. Ft	60 Sq. Ft	67.5 Sq. Ft	75 Sq. Ft	82.5 Sq. Ft	90 Sq. Ft	97.5 Sq. Ft	105 Sq. Ft	112.5 Sq. Ft	120 Sq. Ft	127.5 Sq. Ft	135 Sq. Ft	142.5 Sq. Ft	150 Sq. Ft	157.5 Sq. Ft	165 Sq. Ft	172.5 Sq. Ft	180 Sq. Ft	187.5 Sq. Ft	195 Sq. Ft	202.5 Sq. Ft	210 Sq. Ft	217.5 Sq. Ft	225 Sq. Ft	232.5 Sq. Ft	240 Sq. Ft
16 ft.	40 Sq. Ft	48 Sq. Ft	56 Sq. Ft	64 Sq. Ft	72 Sq. Ft	80 Sq. Ft	88 Sq. Ft	96 Sq. Ft	104 Sq. Ft	112 Sq. Ft	120 Sq. Ft	128 Sq. Ft	136 Sq. Ft	144 Sq. Ft	152 Sq. Ft	160 Sq. Ft	168 Sq. Ft	176 Sq. Ft	184 Sq. Ft	192 Sq. Ft	200 Sq. Ft	208 Sq. Ft	216 Sq. Ft	224 Sq. Ft	232 Sq. Ft	240 Sq. Ft	248 Sq. Ft	256 Sq. Ft
17 ft.	42.5 Sq. Ft	51 Sq. Ft	59.5 Sq. Ft	68 Sq. Ft	76.5 Sq. Ft	85 Sq. Ft	93.5 Sq. Ft	102 Sq. Ft	110.5 Sq. Ft	119 Sq. Ft	127.5 Sq. Ft	136 Sq. Ft	144.5 Sq. Ft	153 Sq. Ft	161.5 Sq. Ft	170 Sq. Ft	178.5 Sq. Ft	187 Sq. Ft	195.5 Sq. Ft	204 Sq. Ft	212.5 Sq. Ft	221 Sq. Ft	229.5 Sq. Ft	238 Sq. Ft	246.5 Sq. Ft	255 Sq. Ft	263.5 Sq. Ft	272 Sq. Ft
18 ft.	45 Sq. Ft	54 Sq. Ft	63 Sq. Ft	72 Sq. Ft	81 Sq. Ft	90 Sq. Ft	99 Sq. Ft	108 Sq. Ft	117 Sq. Ft	126 Sq. Ft	135 Sq. Ft	144 Sq. Ft	153 Sq. Ft	162 Sq. Ft	171 Sq. Ft	180 Sq. Ft	189 Sq. Ft	198 Sq. Ft	207 Sq. Ft	216 Sq. Ft	225 Sq. Ft	234 Sq. Ft	243 Sq. Ft	252 Sq. Ft	261 Sq. Ft	270 Sq. Ft	279 Sq. Ft	288 Sq. Ft
19 ft.	47.5 Sq. Ft	57 Sq. Ft	66.5 Sq. Ft	76 Sq. Ft	85.5 Sq. Ft	95 Sq. Ft	104.5 Sq. Ft	114 Sq. Ft	123.5 Sq. Ft	133 Sq. Ft	142.5 Sq. Ft	152 Sq. Ft	161.5 Sq. Ft	171 Sq. Ft	180.5 Sq. Ft	190 Sq. Ft	199.5 Sq. Ft	209 Sq. Ft	218.5 Sq. Ft	228 Sq. Ft	237.5 Sq. Ft	247 Sq. Ft	256.5 Sq. Ft	266 Sq. Ft	275.5 Sq. Ft	285 Sq. Ft	294.5 Sq. Ft	304 Sq. Ft
20 ft.	50 Sq. Ft	60 Sq. Ft	70 Sq. Ft	80 Sq. Ft	90 Sq. Ft	100 Sq. Ft	110 Sq. Ft	120 Sq. Ft	130 Sq. Ft	140 Sq. Ft	150 Sq. Ft	160 Sq. Ft	170 Sq. Ft	180 Sq. Ft	190 Sq. Ft	200 Sq. Ft	210 Sq. Ft	220 Sq. Ft	230 Sq. Ft	240 Sq. Ft	250 Sq. Ft	260 Sq. Ft	270 Sq. Ft	280 Sq. Ft	290 Sq. Ft	300 Sq. Ft	310 Sq. Ft	320 Sq. Ft
21 ft.	52.5 Sq. Ft	63 Sq. Ft	73.5 Sq. Ft	84 Sq. Ft	94.5 Sq. Ft	105 Sq. Ft	115.5 Sq. Ft	126 Sq. Ft	136.5 Sq. Ft	147 Sq. Ft	157.5 Sq. Ft	168 Sq. Ft	178.5 Sq. Ft	189 Sq. Ft	199.5 Sq. Ft	210 Sq. Ft	220.5 Sq. Ft	231 Sq. Ft	241.5 Sq. Ft	252 Sq. Ft	262.5 Sq. Ft	273 Sq. Ft	283.5 Sq. Ft	294 Sq. Ft	304.5 Sq. Ft	315 Sq. Ft	325.5 Sq. Ft	336 Sq. Ft

Type "A" (2 Posts)
1.2 CY Conc.
68 LBs Bar Steel

Type "B" (2 Posts)
1.6 CY Conc.
98 LBs Bar Steel

Type "C" (2 Posts)
1.8 CY Conc.
100 LBs Bar Steel

Type "D" (2 Posts)
1.8 CY Conc.
112 LBs Bar Steel

Type "C" (3 Posts)
2.7 CY Conc.
150 LBs Bar Steel

STEEL POST SIZE

"A" - W10" x 12"
"B" - W12" x 16"
"C" - W12" x 19"
"D" - W12 x 22"

7

7

DETERMINATION OF HIGH STRENGTH STRUCTURAL STEEL SIGN SUPPORT TYPE

WISCONSIN DEPT OF TRANSPORTATION

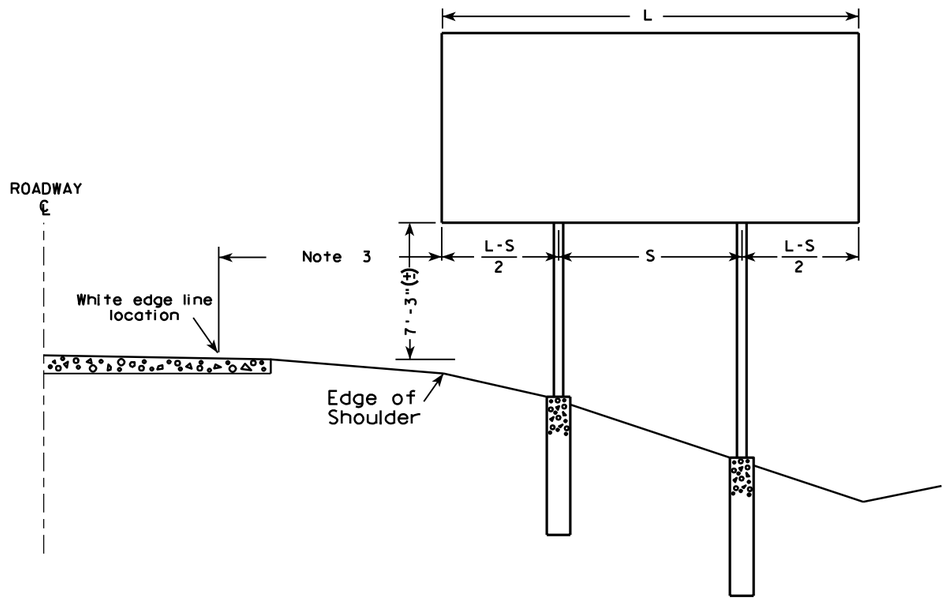
APPROVED Matthew R Rauch
for State Traffic Engineer

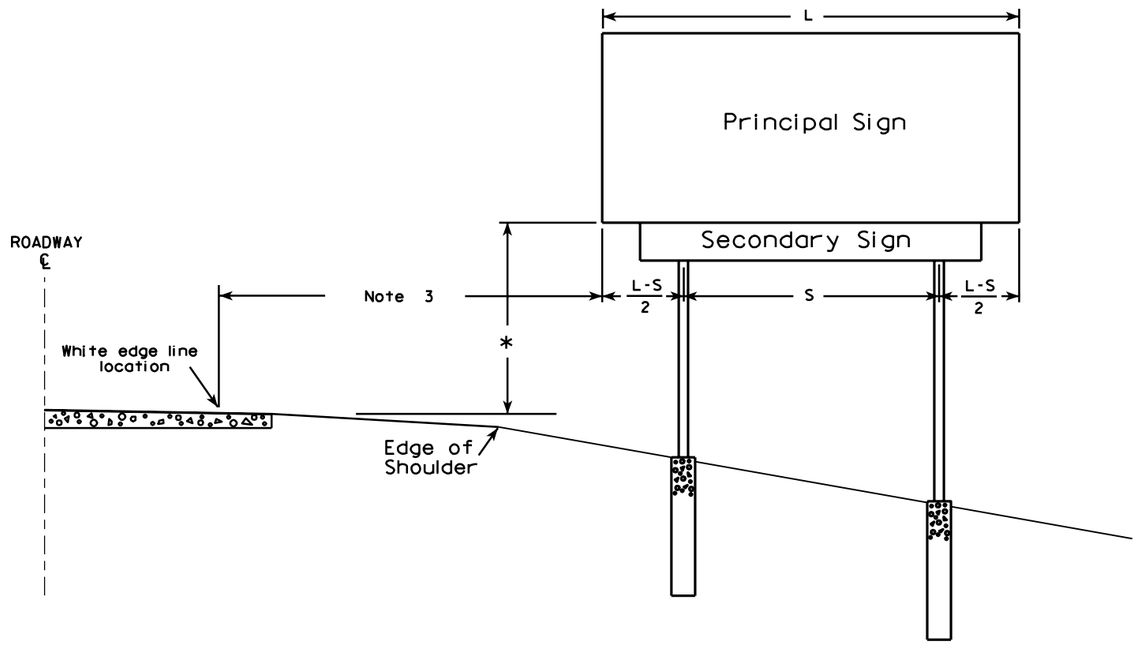
DATE 3/03/10 PLATE NO. A3-2.2

PROJECT NO: | SHEET NO: E

FILE NAME : C:\users\PROJECTS\tr_stdplate\A32.DGN PLOT DATE : 05-MAR-2010 10:10 PLOT BY : ditjph

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

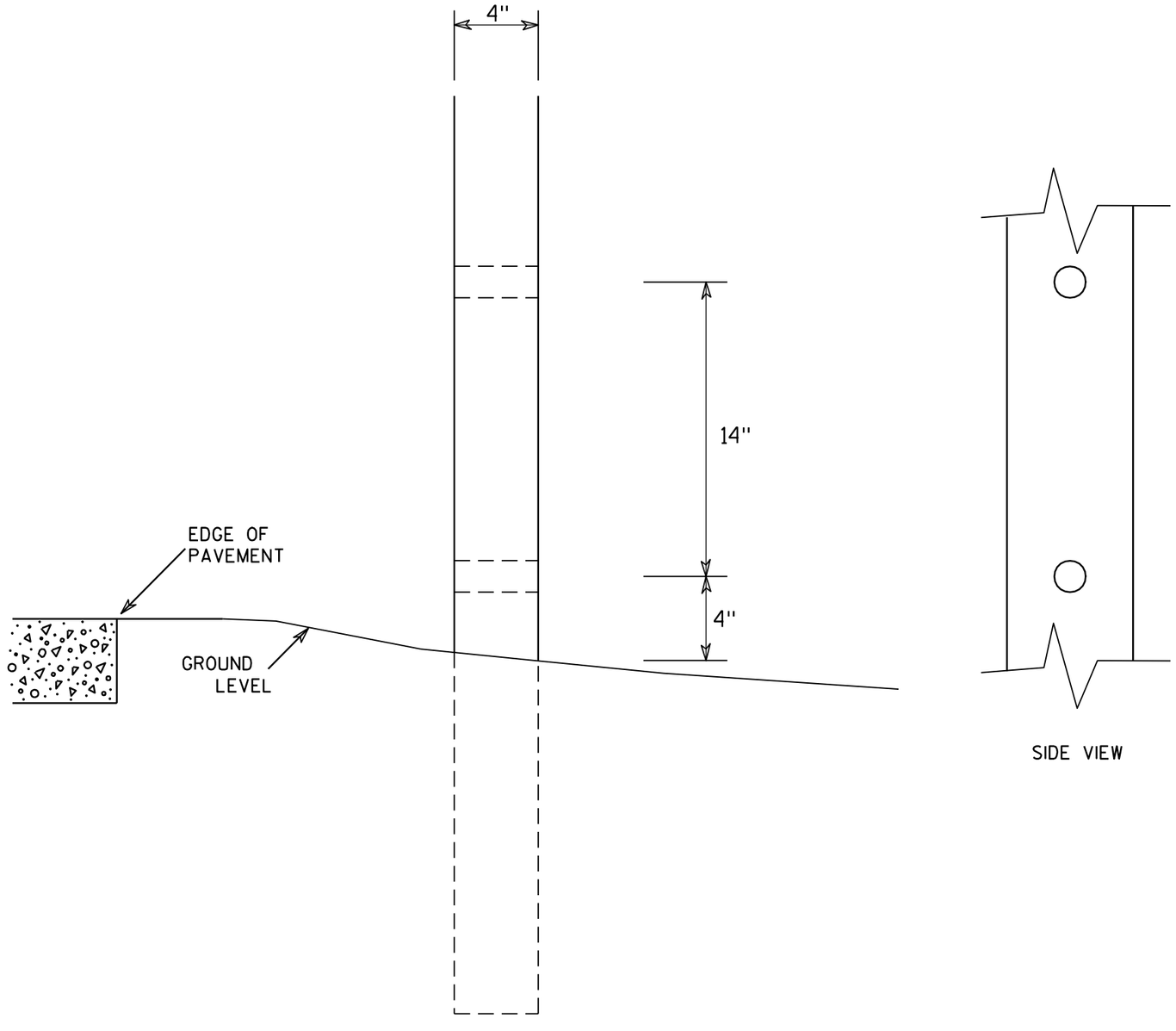
TYPICAL INSTALLATION
OF TYPE I SIGNS

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: 221	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

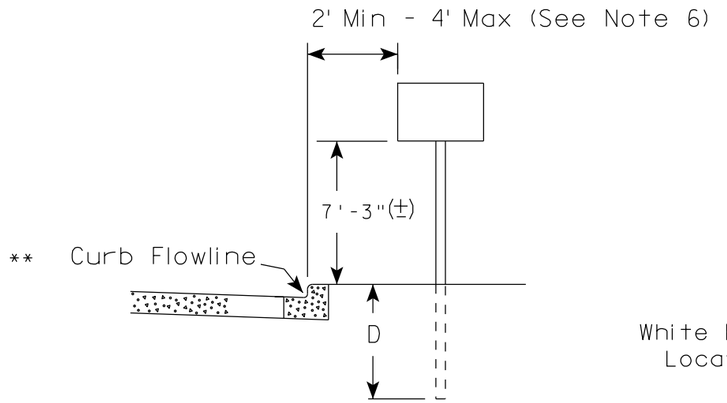
WISCONSIN DEPT OF TRANSPORTATION

APPROVED Chester J Spang for State Traffic Engineer

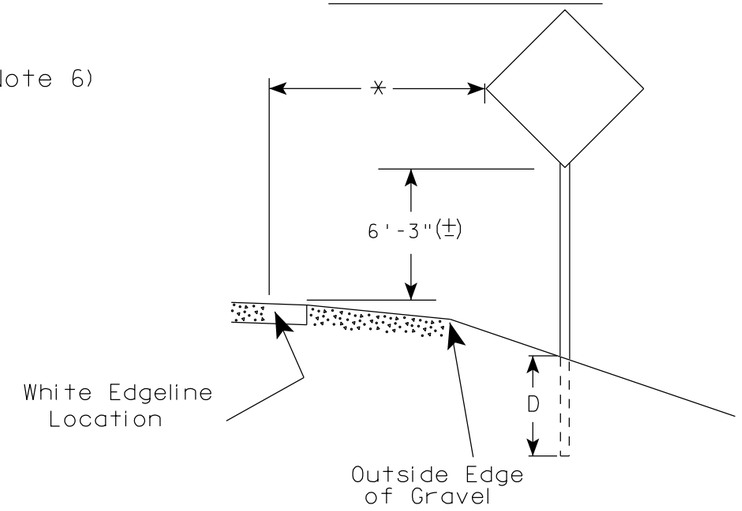
DATE 3/27/97 PLATE NO. A4-11.2

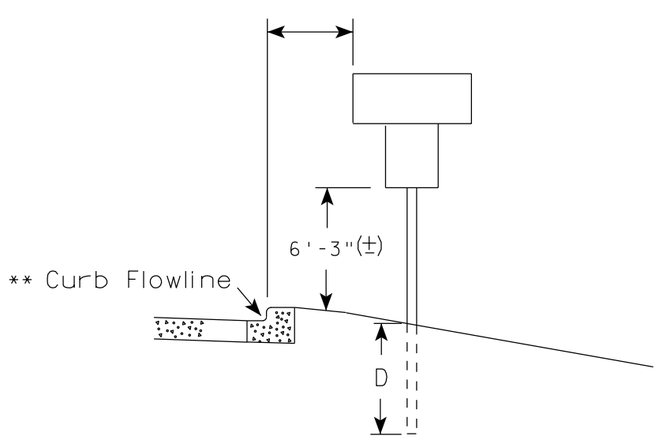
PROJECT NO:	HWY:	COUNTY:		SHEET NO: 222	E

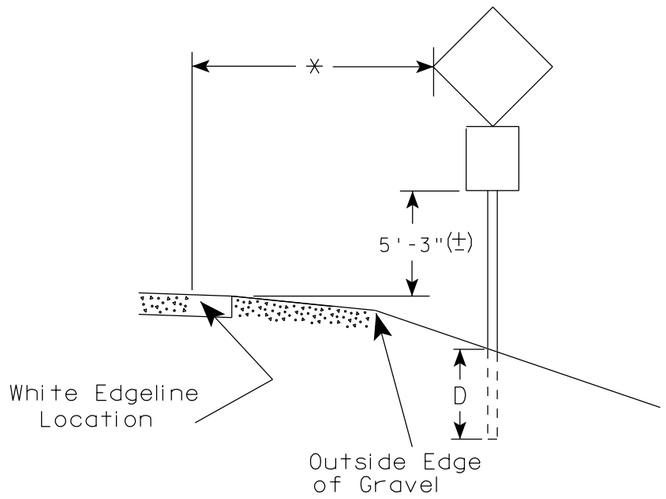
URBAN AREA



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

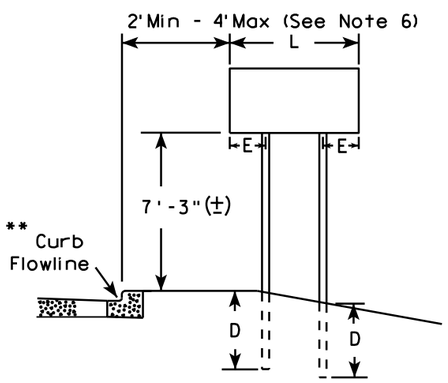
WISCONSIN DEPT OF TRANSPORTATION

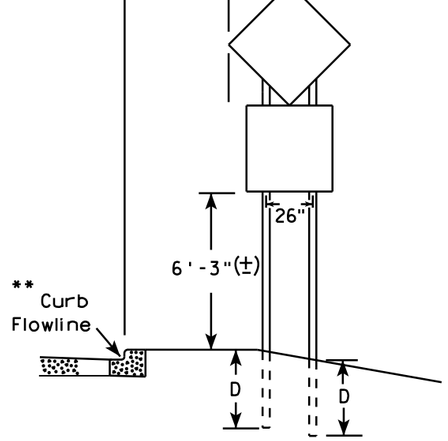
APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 9/30/13 PLATE NO. A4-3.18

PROJECT NO:	HWY:	COUNTY:		SHEET NO:	E

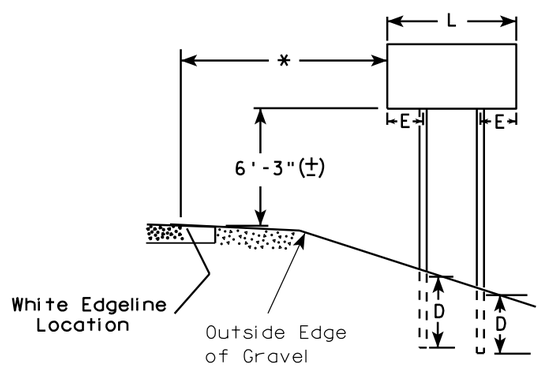
URBAN AREA

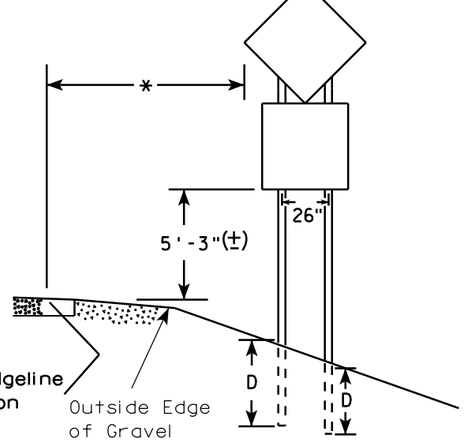




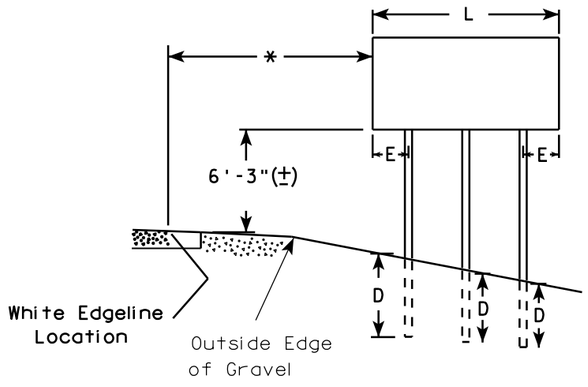
48" DIAMOND WARNING SIGN

RURAL AREA (See Note 3)





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

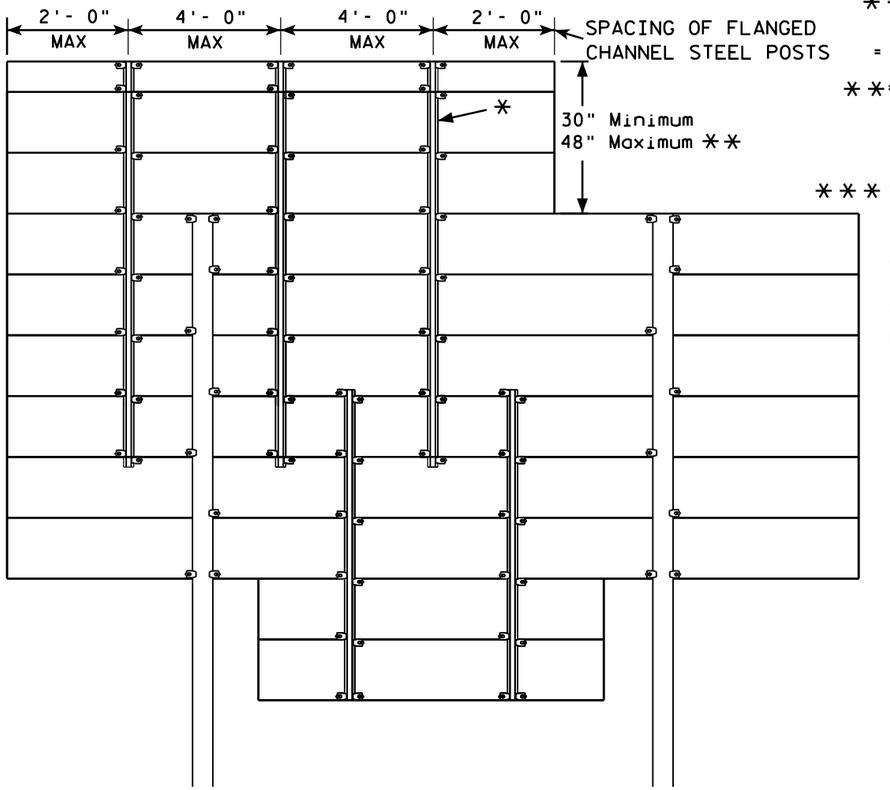
WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 9/30/13 PLATE NO. A4-4 12 -224

PROJECT NO:	HWY:	COUNTY:		SHEET NO:	E

GROUND MOUNTED SIGN

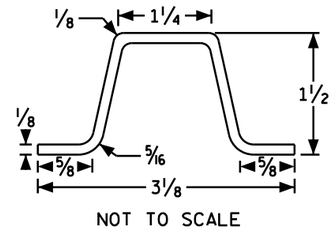


*=2.00 lb/ft FLANGED CHANNEL, MIN. YIELD STRENGTH = 60,000 PSI (GRADE 60) GALVANIZED

**=FOR 48" HEIGHT PANELS ON OVERHEAD STRUCTURES, ENTIRE SIGN SHALL BE CENTERED VERTICALLY ABOUT THE DEPTH OF THE TRUSS.

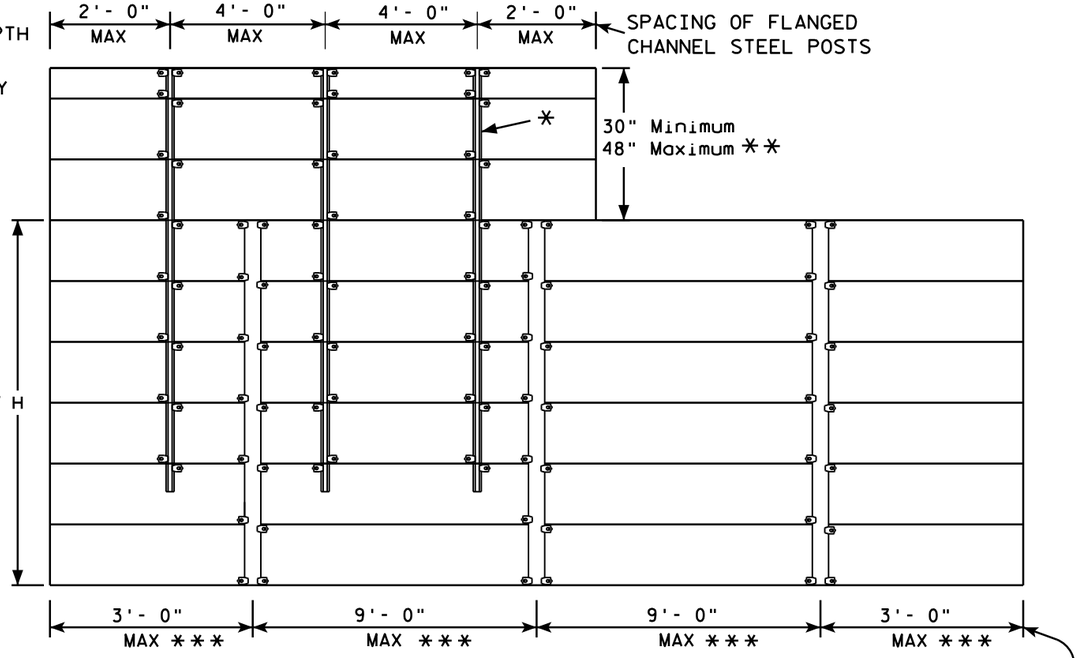
*** THESE SPACING DISTANCES SHALL ONLY BE USED WHEN THE MAIN SIGN HAS A MAXIMUM HEIGHT (DIMENSION H) OF 16 FT OR LESS. FOR SIGNS WITH A HEIGHT OF GREATER THAN 16 FT, STRUCTURAL CALCULATIONS SHALL BE PERFORMED.

FLANGE CHANNEL DETAIL



NOT TO SCALE

SIGN BRIDGE MOUNTED SIGN



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.

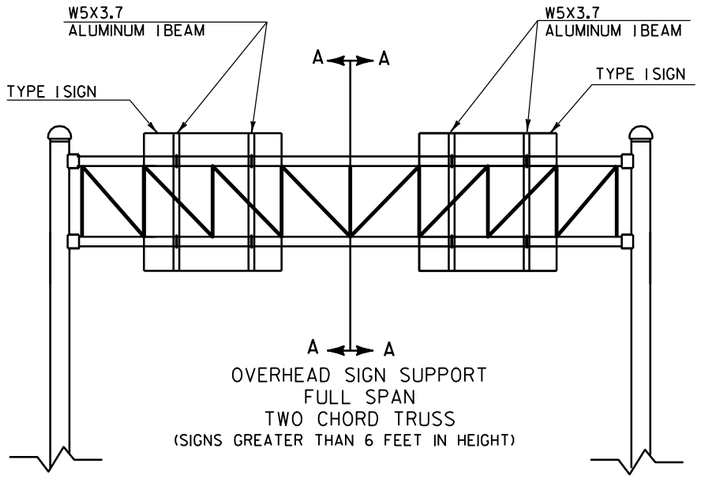
ATTACHMENT OF GUIDE SIGNS TO SUPPORTS

WISCONSIN DEPT OF TRANSPORTATION

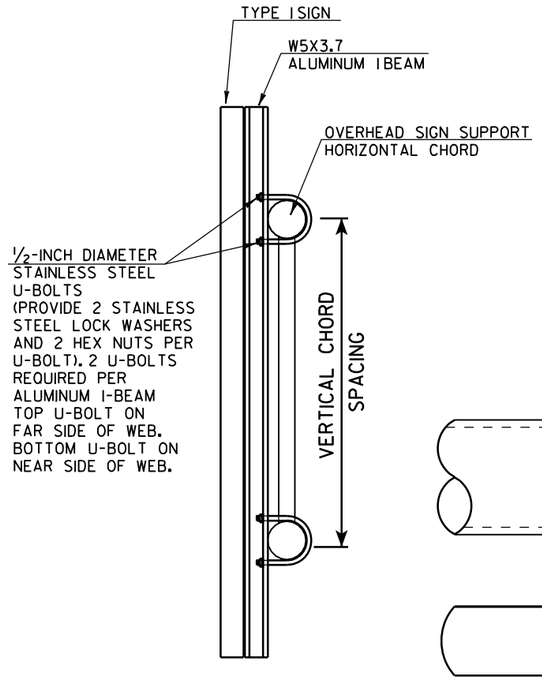
APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 12/05/13 PLAT 225 A4-6.12

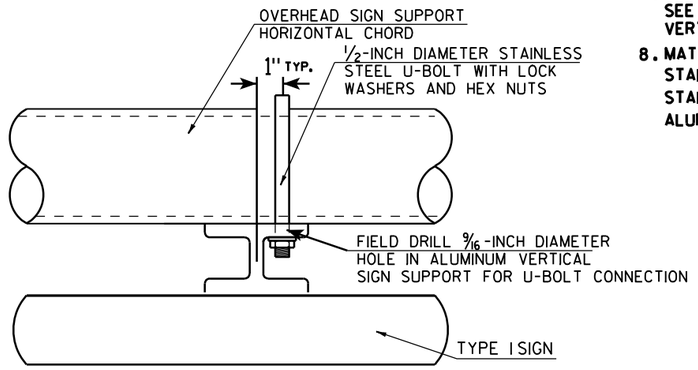
PROJECT NO: | SHEET NO: E



OVERHEAD SIGN SUPPORT
FULL SPAN
TWO CHORD TRUSS
(SIGNS GREATER THAN 6 FEET IN HEIGHT)



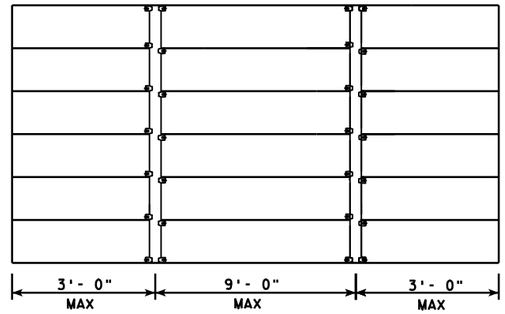
CUT SECTION A-A



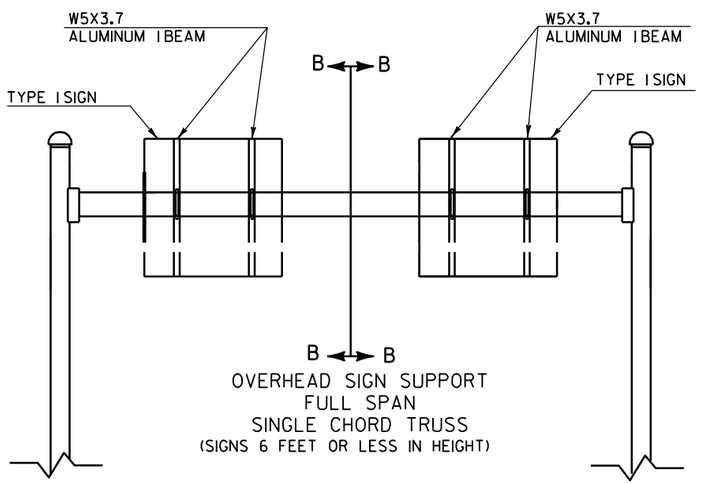
TYPICAL SIGN CONNECTION FOR
TWO CHORD TRUSS
PLAN VIEW

GENERAL NOTES

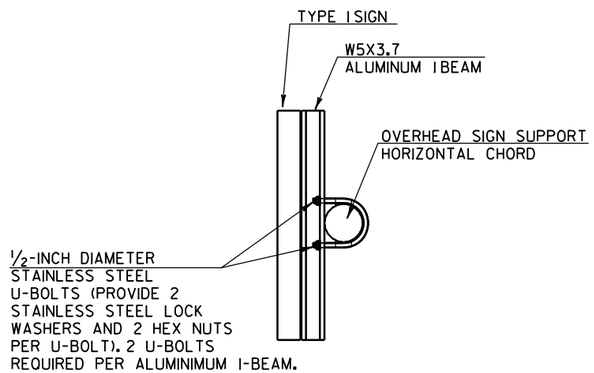
1. USE STAINLESS STEEL U-BOLTS, WASHERS, AND NUTS.
2. USE CLIPS ON EVERY EXTRUDED PANEL JOINT PER SIGN PLATE A4-6.
3. USE ALUMINUM VERTICAL SIGN SUPPORT BEAMS HAVING A 5 INCH BEAM DEPTH AND WEIGHT OF 3.7 LBS PER FOOT.
4. U-BOLTS SHALL BE STAINLESS STEEL AND MANUFACTURED TO THE PROPER SIZE TO FIT THE 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.



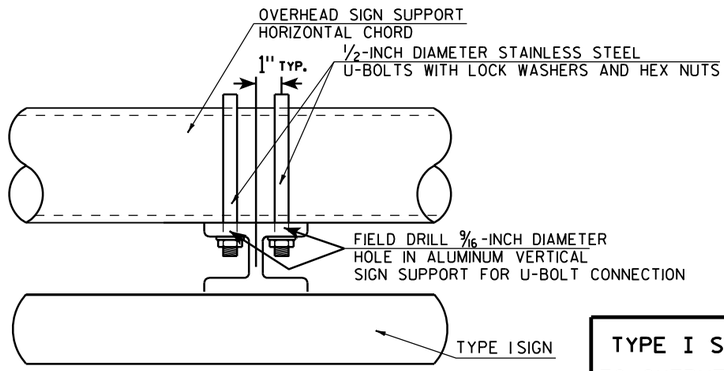
SPACING OF W5X3.7 ALUMINUM
VERTICAL SIGN SUPPORT



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

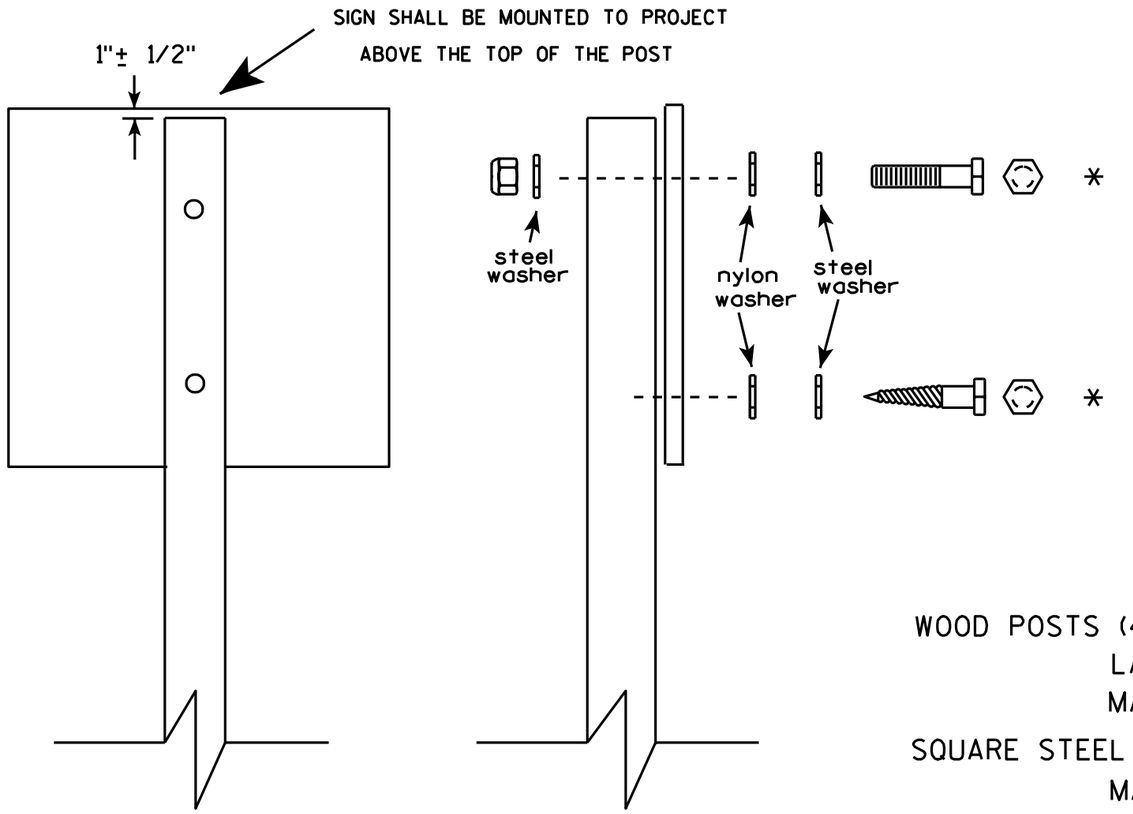
TYPE I SIGN CONNECTION TO OVERHEAD SIGN SUPPORT

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: 226	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

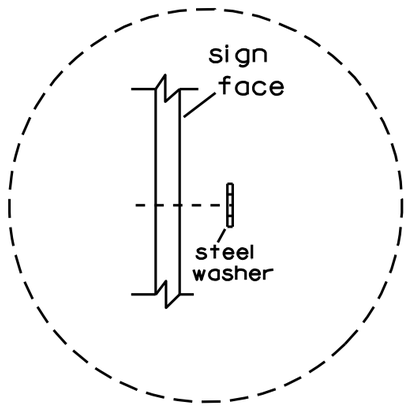
b. Electro-galvanized in accordance with ASTM Designation : B 633, TYPE III, SC 3.

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

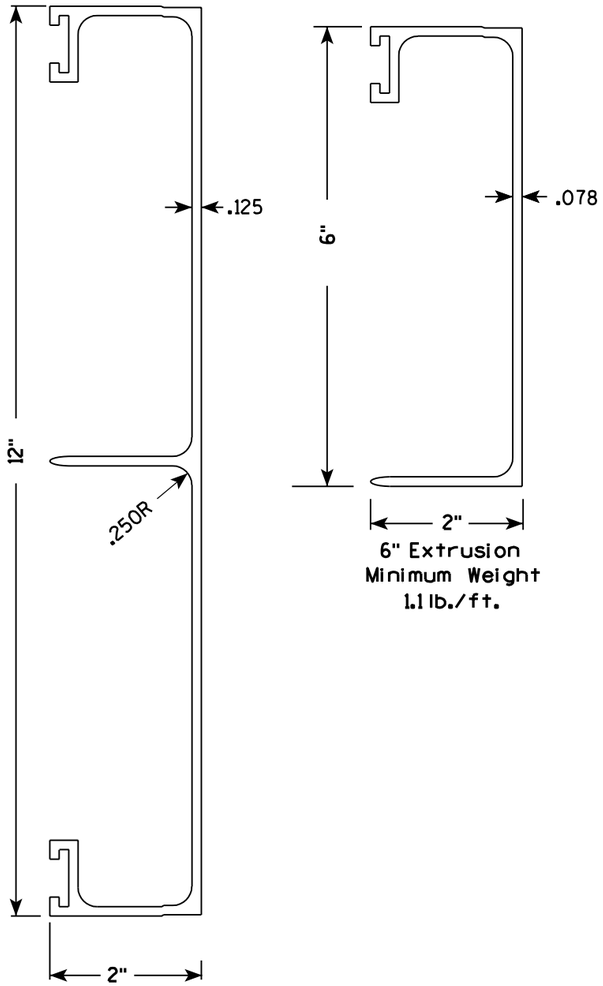
7

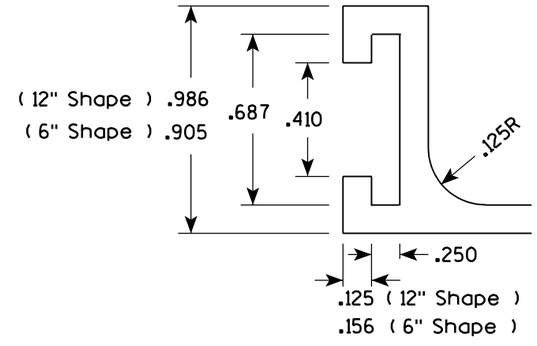
7

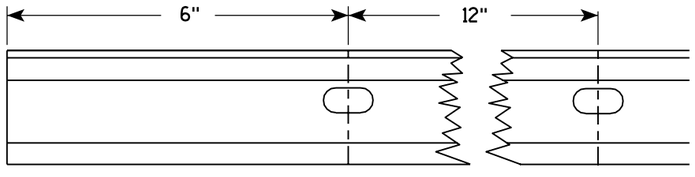
PROJECT NO:

SHEET NO: 227 E

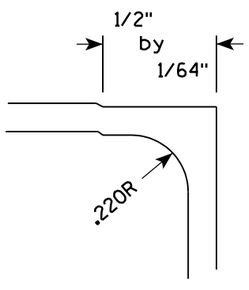
Extruded Shape







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.

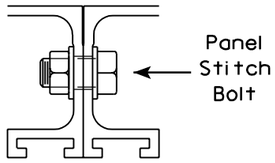


Hardware

STITCH BOLT, WASHER & NUT

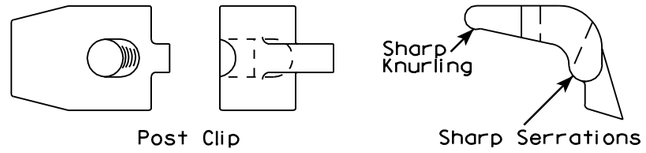
The hardware includes:

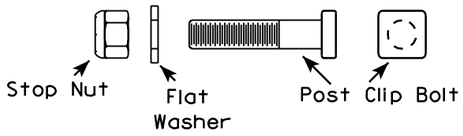
3/8 " - 16 X 3/4 " Economy Bolt 2024-T4 alloy
3/8 " - Stainless steel stop nut
3/8" X .064 Flat Washers, Alclad 2024-T4 alloy



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

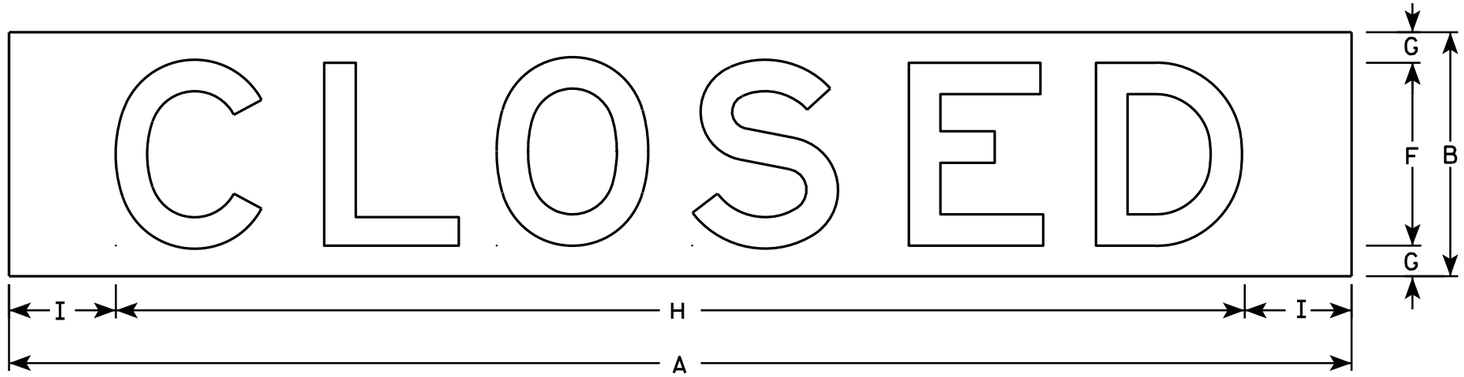
WISCONSIN DEPT OF TRANSPORTATION

APPROVED Chester J Spagg
for State Traffic Engineer

DATE 11/18/99 PLATE NO. A5-2.9

PROJECT NO:

SHEET NO: 228 E



R55-58A

NOTES

1. Sign is Type II - Type H 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. This plaque to be used with the D5-61& D5-62 for wayside closures.

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	O	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2S	44	8				6	1	37	3 ½																		2.4
2M	44	8				6	1	37	3 ½																		2.4
3																											
4	76	12				10	1	58	9																		6.3
5	108	18				15	1 ½	92 ½	7 ¾																		13.5

STANDARD SIGN
R55-58A

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 1/10/12 PLATE NO. R55-58A.6

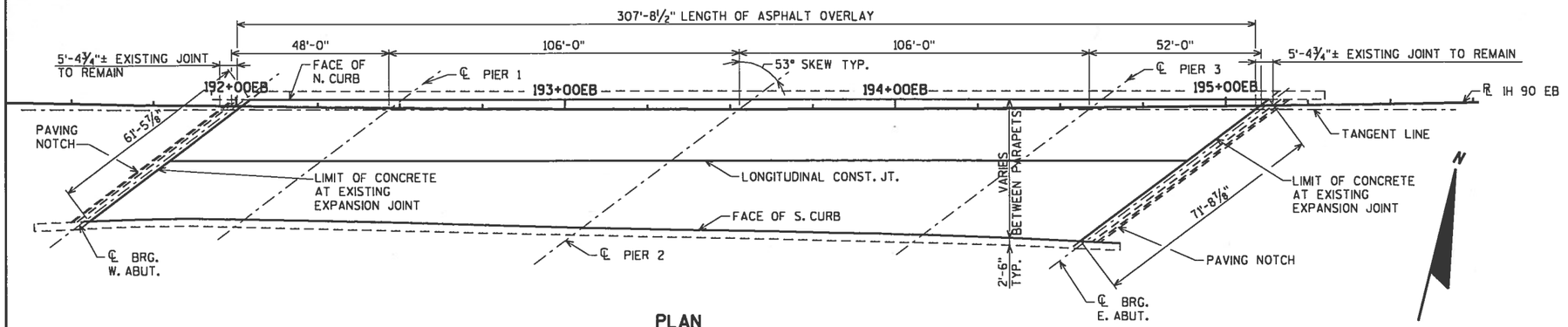
PROJECT NO: | HWY: | COUNTY: | SHEET NO: 229 | E

7

7

STATE PROJECT NUMBER

1071-06-80



PLAN
ASPHALT OVERLAY

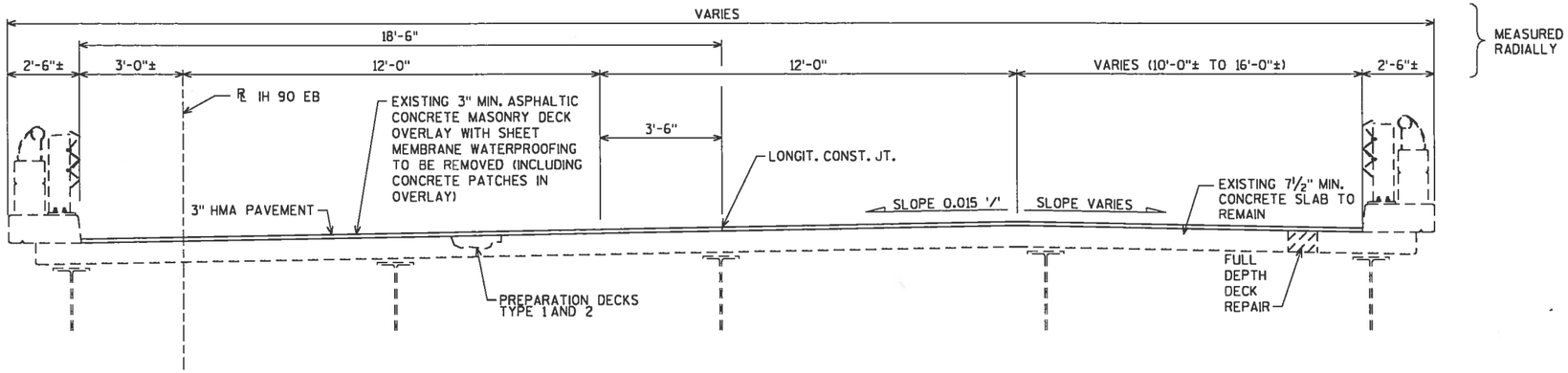
GENERAL NOTES

DRAWINGS SHALL NOT BE SCALED.

DIMENSIONS SHOWN ARE BASED ON THE ORIGINAL STRUCTURE PLANS.

ANY EXCAVATION REQUIRED TO COMPLETE THE OVERLAY AT THE ABUTMENTS IS CONSIDERED INCIDENTAL TO THE BID ITEM "REMOVING ASPHALTIC CONCRETE DECK OVERLAY".

CONTACT THE BUREAU OF STRUCTURES BEFORE PLACEMENT OF OVERLAY IF THE AVERAGE THICKNESS OF THE NEW OVERLAY WILL EXCEED THE AVERAGE OVERLAY SHOWN ON PLANS BY MORE THAN ½".



CROSS SECTION THRU DECK LOOKING EAST

TOTAL ESTIMATED QUANTITIES

	BID ITEM NUMBER	BID ITEMS	UNIT	TOTAL
	203.0225.S	DEBRIS CONTAINMENT STRUCTURE B-32-36	LS	1
	455.0105	ASPHALTIC MATERIAL PG 58-28	TON	14.4
	460.1110	HMA PAVEMENT TYPE E-10	TON	240
⊗	509.0301	PREPARATION DECKS TYPE 1	SY	140
⊗	509.0302	PREPARATION DECKS TYPE 2	SY	56
⊗	509.2000	FULL-DEPTH DECK REPAIR	SY	28
	509.9010.S	REMOVING ASPHALTIC CONCRETE DECK OVERLAY B-32-36	SY	1368
◑	SPV.0035.01	CONCRETE MASONRY DECK PATCHING	CY	12

⊗ TO BE DETERMINED BY ENGINEER IN THE FIELD.

◑ TO BE USED AT LOCATIONS OF PREPARATION DECKS TYPE 2 AND FULL DEPTH DECK REPAIR.

RATINGS (TAKEN FROM HSI 8/12/2013)

DESIGN LOADING: HS-20M

INVENTORY RATING: HS-22

OPERATING RATING: HS-34

WISCONSIN STANDARD PERMIT VEHICLE (WIS-SPV): 190 KIPS

TRAFFIC DATA:

IH 90
A.D.T. = 43,700 (2016)
A.D.T. = 56,700 (2036)
R.D.S. = 70 MPH

USH 53-STH 35-ROSE ST.
A.D.T. = 24,400 (2016)
A.D.T. = 29,500 (2036)
R.D.S. = 45 MPH

WISCONSIN
DANIEL N. SYDOW
E-38363
WI
PROFESSIONAL ENGINEER
10/23/2013

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

CONSULTANT CONTACT:
DAN SYDOW
(715)-834-3161

NO.	DATE	REVISION	BY

ORIGINAL PLANS PREPARED BY
AYRES ASSOCIATES
3433 Oakwood Hills Parkway
Eau Claire, WI 54701
www.AyresAssociates.com

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

ACCEPTED William C. Dreher KAR 11/26/13
CHIEF STRUCTURES DESIGN ENGINEER DATE

STRUCTURE B-32-36

IH 90 EB OVER USH 53-STH 35-ROSE ST.

COUNTY LA CROSSE | ~~TOWN/CITY/VILLAGE~~ LA CROSSE

DESIGN SPEC. REHABILITATION N/A

DESIGNED BY	DNS	DESIGN CK'D.	CJM	DRAWN BY	CJM	PLANS CK'D.	DNS

GENERAL PLAN

SHEET 1 OF 1
230

I.D.

DATE:

$PRFNAME$
U:\41-0627.00 - LaCrosse County, IH90\B-32-36 190 EB over STH 35\BRIDGE\B-32-36_GP.dgn

DATE: 8/13/13
DATE: 8/13/13
DATE: 8/23/13

CHECKED BY: DNS
BACK CHECKED BY: CJM
CORRECTED BY: CJM

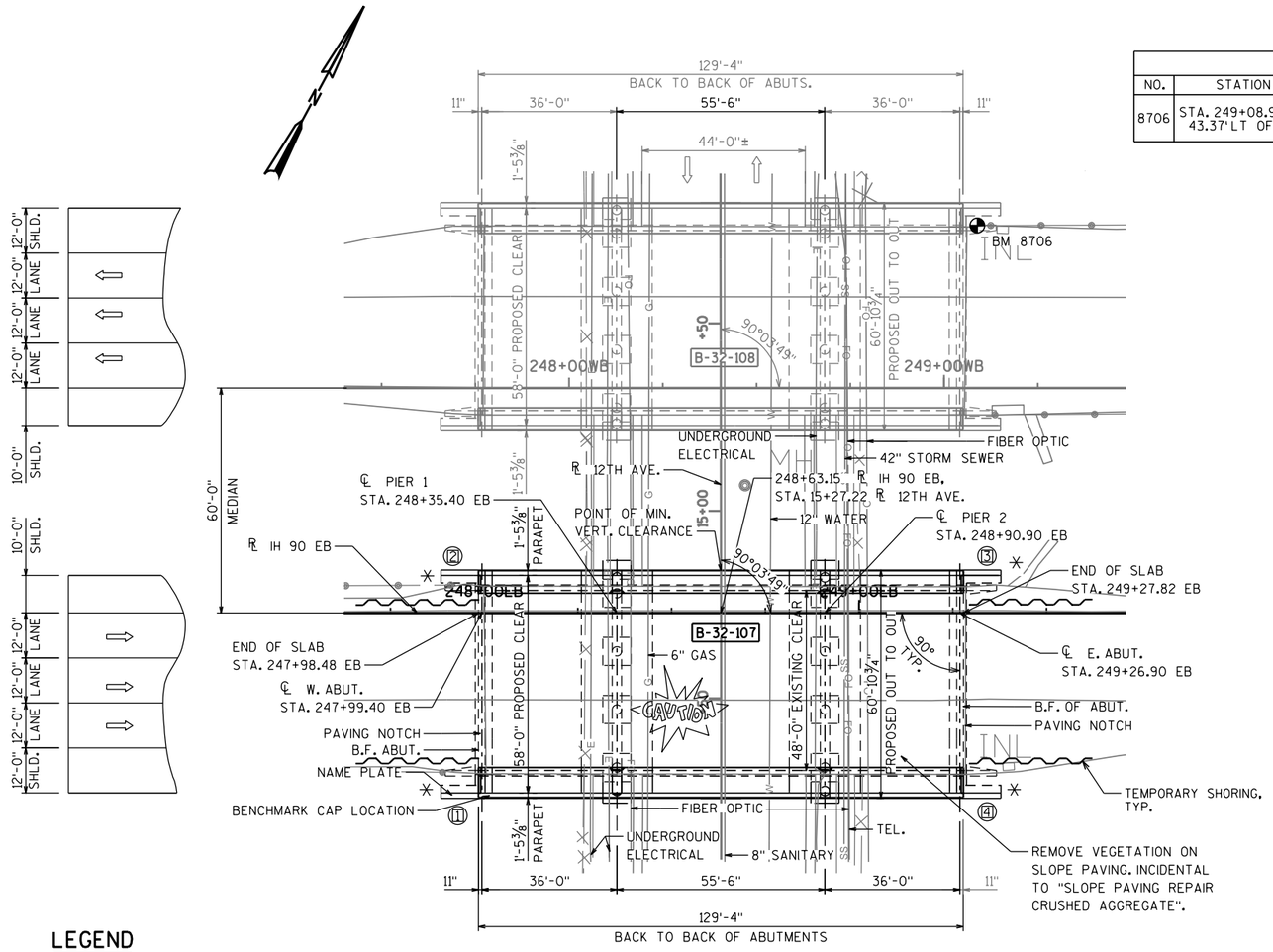
8

8

10/22/2013

PENTABLE:BReau_shd_utl1.tbl

STATE PROJECT NUMBER
1071-06-80



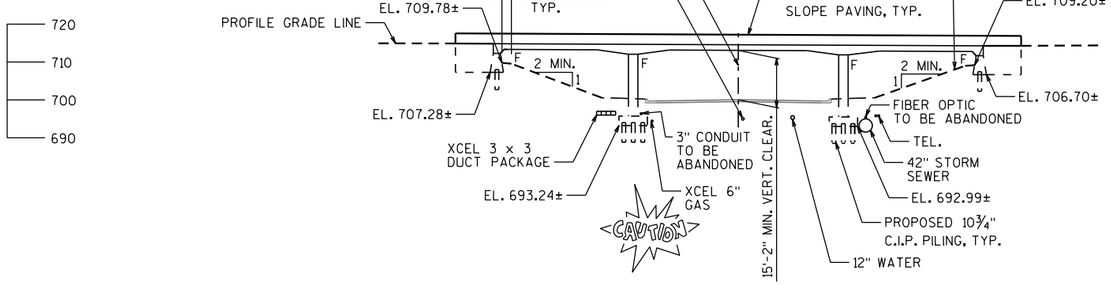
PLAN

SLAB WIDENING OF 3 SPAN HAUNCHED SLAB

BENCHMARK			
NO.	STATION	DESCRIPTION	ELEV.
8706	STA. 249+08.90 WB, 43.37'LT OFFSET	ALUMINUM CAP	717.31

LEGEND

- ⓧ INDICATES WINGWALL NUMBER
- ✳ ANCHOR ASSEMBLY FOR THRIE BEAM GUARD RAIL ATTACHMENT. FILL UNUSED HOLES ON EAST END OF BRIDGE WITH 100% SILICONE CAULK.
- BENCHMARK



ELEVATION

NORMAL TO 12TH AVE.

NOTE - UTILITY LOCATIONS AND ELEVATIONS ARE APPROXIMATE. SEE SPECIAL PROVISIONS FOR DETAILS.

NOTE:
UNDERDECK LIGHTING BENEATH THE BRIDGE WILL BE DE-ENERGIZED AND REMOVED PRIOR TO CONSTRUCTION

DESIGN DATA

LIVE LOAD:

DESIGN LOADING = HS-20
INVENTORY RATING = HS-20
OPERATING RATING = HS-33
WIS. MAX. STD. PERMIT VEHICLE = 230 KIPS

DESIGNED FOR FUTURE CONCRETE OVERLAY TO BE CONSTRUCTED UNDER FUTURE CONTRACT I.D. NO. 1071-06-79

ULTIMATE DESIGN STRESSES (NEW AND EXISTING WORK):

CONCRETE MASONRY, SLAB----------f'c = 4,000 psi
CONCRETE MASONRY, ALL OTHER-------f'c = 3,500 psi
HIGH STRENGTH BAR STEEL
REINFORCEMENT GRADE 60----------fy = 60,000 psi

TRAFFIC DATA IH 90

A.D.T. = 43,700 (2016)
= 56,700 (2036)

R.D.S. = 70 MPH

FOUNDATION DATA

ABUTMENTS AND PIERS TO BE SUPPORTED ON 10¾" CIP PILING DRIVEN TO A REQUIRED DRIVING RESISTANCE OF 85 TONS* PER PILE AS DETERMINED BY THE MODIFIED GATES FORMULA. PILING LENGTH ESTIMATED AT 70'FOR ABUTMENTS. PILING LENGTH ESTIMATED AT 60'FOR PIERS.

*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.



LIST OF DRAWINGS

1. GENERAL PLAN & ELEVATION
2. GENERAL NOTES & QUANTITIES
3. EXISTING CROSS SECTIONS & REMOVAL
4. PROPOSED CROSS SECTIONS
5. SUBSURFACE EXPLORATION
6. WEST ABUTMENT
7. EAST ABUTMENT
8. ABUTMENT DETAILS
9. PIERS 1& 2
10. SUPERSTRUCTURE
11. SUPERSTRUCTURE DETAILS 1
12. SUPERSTRUCTURE DETAILS 2
13. SINGLE SLOPE PARAPET 32SS
14. SLOPE PAVING DETAILS

STRUCTURES DESIGN CONTACTS

BUREAU OF STRUCTURES:
WILLIAM DREHER (608) 266-8489

CONSULTANT CONTACT:
MAHMOUD MALAS (262) 821-1171

NO.	DATE	REVISION	BY

KSA K. Singh & Associates, Inc.
Engineers, Scientists and Environmental Consultants

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

ACCEPTED William C. Dreher KAR 01/10/14
CHIEF STRUCTURES DESIGN ENGINEER DATE

STRUCTURE B-32-107

IH 90 EB OVER 12TH AVENUE

COUNTY	TOWN/CITY/VILLAGE
LA CROSSE	ONALASKA

DESIGN SPEC.
AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS

DESIGNED BY	DESIGN CK'D.	DRAWN BY	PLANS CK'D.
DRJ	MNM	DRJ	MNM

GENERAL PLAN & ELEVATION

SHEET 1 OF 14
231

STATE PROJECT NUMBER
1071-06-80

TOTAL ESTIMATED QUANTITIES

ITEM NO.	BID ITEMS	UNIT	W. ABUT.	PIER 1	PIER 2	E. ABUT.	SUPER.	TOTAL
203.0200	REMOVING OLD STRUCTURE STA. 248+64.12 EB	LS	—	—	—	—	—	1
206.1000	EXCAVATION FOR STRUCTURES BRIDGES B-32-107	LS	—	—	—	—	—	1
206.6000.S	TEMPORARY SHORING	SF	320	250	250	320	—	1,140
210.0100	BACKFILL STRUCTURE	CY	145	—	—	145	—	290
502.0100	CONCRETE MASONRY BRIDGES	CY	24	24	24	24	144	240
502.3200	PROTECTIVE SURFACE TREATMENT	SY	9	—	—	9	274	292
502.5002	MASONRY ANCHORS TYPE L NO. 4 BARS	EACH	—	48	48	—	—	96
502.5005	MASONRY ANCHORS TYPE L NO. 5 BARS	EACH	—	—	—	—	154	154
502.5010	MASONRY ANCHORS TYPE L NO. 6 BARS	EACH	20	—	—	20	—	40
502.5015	MASONRY ANCHORS TYPE L NO. 7 BARS	EACH	—	16	16	—	—	32
502.5020	MASONRY ANCHORS TYPE L NO. 8 BARS	EACH	14	—	—	14	—	28
505.0405	BAR STEEL REINFORCEMENT HS BRIDGES	LB	660	1,120	1,120	660	11,600	15,160
505.0605	BAR STEEL REINFORCEMENT HS COATED BRIDGES	LB	1,765	4,645	4,645	1,795	22,640	35,490
516.0500	RUBBERIZED MEMBRANE WATERPROOFING	SY	8	—	—	8	—	16
550.0010	PRE-BORING UNCONSOLIDATED MATERIALS	LF	—	100	100	—	—	200
550.2104	PILING CIP CONCRETE 10 3/4 X 0.25-INCH	LF	140	600	600	140	—	1,480
604.0500	SLOPE PAVING CRUSHED AGGREGATE	SY	46	—	—	46	—	92
604.9010.S	SLOPE PAVING REPAIR CRUSHED AGGREGATE	CY	—	—	—	6	—	6
604.9015.S	RESEAL CRUSHED AGGREGATE SLOPE PAVING	SY	180	—	—	180	—	360
612.0406	PIPE UNDERDRAIN WRAPPED 6-INCH	LF	80	—	—	80	—	160
614.0150	ANCHOR ASSEMBLIES FOR STEEL PLATE BEAM GUARD	EACH	2	—	—	2	—	4
SPV.0060.20	BAR COUPLERS NO. 9 SPECIAL	EACH	—	—	—	—	80	80
SPV.0105.22	TEMPORARY PEDESTRIAN AND BICYCLIST PASSAGEWAY B-32-107	LS	—	—	—	—	—	1
	NON-BID ITEMS							
NAME PLATE		EACH	—	—	—	—	—	1
PREFORMED JOINT FILLER		SIZE	—	—	—	—	—	1/2" & 3/4"

GENERAL NOTES

DRAWINGS SHALL NOT BE SCALED.

ALL STATIONS AND ELEVATIONS ARE IN FEET.

THE FIRST DIGIT OF A THREE DIGIT AND THE FIRST TWO DIGITS OF A FOUR DIGIT BAR MARK SIGNIFIES THE BAR SIZE.

BEVEL EXPOSED EDGES OF CONCRETE 3/4" UNLESS OTHERWISE NOTED.

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

PROTECTIVE SURFACE TREATMENT SHALL BE APPLIED TO THE FRONT FACE AND TOP OF THE PARAPETS.

THE WISCONSIN DEPARTMENT OF TRANSPORTATION WILL FURNISH THE CONTRACTOR WITH THE BENCHMARK CAPS TO BE INSTALLED AS SHOWN ON THE PLANS.

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

THE GRADATION OF THE STRUCTURE BACKFILL SHALL MEET THE REQUIREMENTS OF SECTION 209.2.2 OF THE STANDARD SPECIFICATIONS FOR GRADE 1 MATERIALS.

DIMENSIONS SHOWN BASED ON THE ORIGINAL STRUCTURAL PLANS.

INCORPORATE EXISTING BAR STEEL REINFORCEMENT WHERE SHOWN INTO NEW WORK.

ALL CONCRETE REMOVAL SHALL BE DEFINED BY A 1" DEEP SAW CUT.

CONTRACTOR SHALL SUPPLY A NEW NAME PLATE OR RE-USE THE EXISTING ONE IN ACCORDANCE WITH SECTION 502.3.11 OF THE STANDARD SPECIFICATIONS AND THE STANDARD DETAILED DRAWINGS. THE NEW NAME PLATE SHALL SHOW THE ORIGINAL CONSTRUCTION YEAR OF 1983.

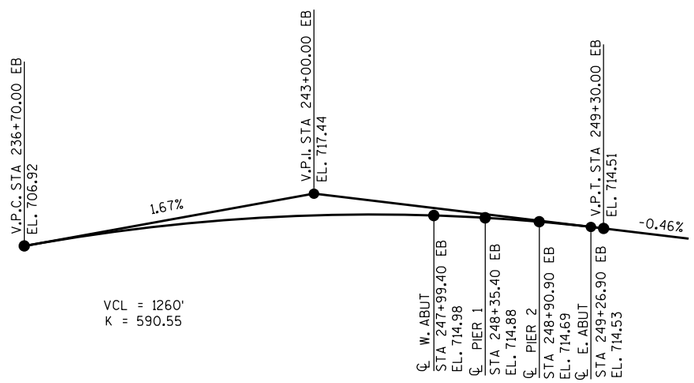
ELECTRICAL CONDUIT AND LIGHTING UNDERNEATH STRUCTURE IS TO BE REMOVED BY THE CITY OF ONALASKA PRIOR TO CONSTRUCTION ACTIVITIES. CITY OF ONALASKA WILL INSTALL NEW CONDUIT AND LIGHTING ONCE CONSTRUCTION IS COMPLETE.

UTILIZE TEMPORARY SHORING FOR ABUTMENT AND WINGWALL CONSTRUCTION. CONTRACTOR SHALL ALSO USE TEMPORARY SHORING FOR PIER FOOTING CONSTRUCTION WHILE AVOIDING ANY EXISTING UTILITIES IN PLACE. SEE SPECIAL PROVISIONS FOR UTILITY COORDINATION PRIOR TO PIER EXCAVATION AND CONSTRUCTION.

PRE-BORE PILES FOR PIER 10'-0" BELOW BOTTOM OF PIER FOOTINGS TO MINIMIZE IMPACT TO EXISTING UTILITIES DURING PILE DRIVING.

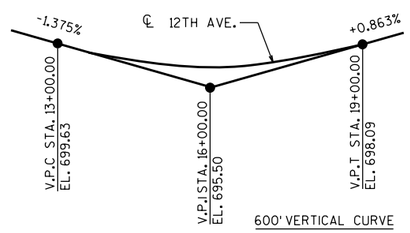
PROVIDE PEDESTRIAN AND BICYCLE ACCESS DURING CONSTRUCTION. WORK PAID FOR UNDER BID ITEM "TEMORARY PEDESTRIAN AND BICYCLIST PASSAGEWAY". SEE SPECIAL PROVISIONS FOR DETAILS.

CONTRACTOR SHALL PROVIDE PROTECTION DURING EXCAVATION AND CONSTRUCTION OF PIER FOOTINGS SO AS TO ELIMINATE ANY POTENTIAL DAMAGES TO EXISTING STORM SEWER PIPE. WORK SHALL BE CONSIDERED INCIDENTAL TO THE CONSTRUCTION OF THE PIER.



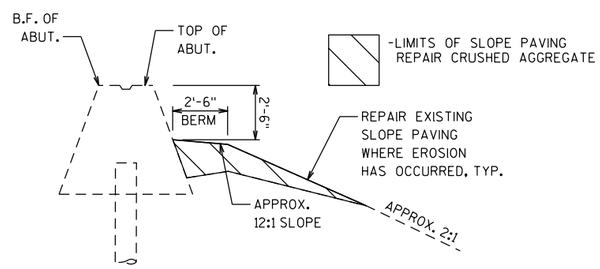
PROFILE GRADE LINE IH 90 EB

PROPOSED PROFILE GRADE LINE
FOR FUTURE OVERLAY



PROFILE GRADE LINE 12TH AVE.

EXISTING PROFILE GRADE LINE



SLOPE PAVING AT ABUTMENTS (TYP.)

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-32-107

DRAWN BY DRJ | PLANS CK'D. MNM

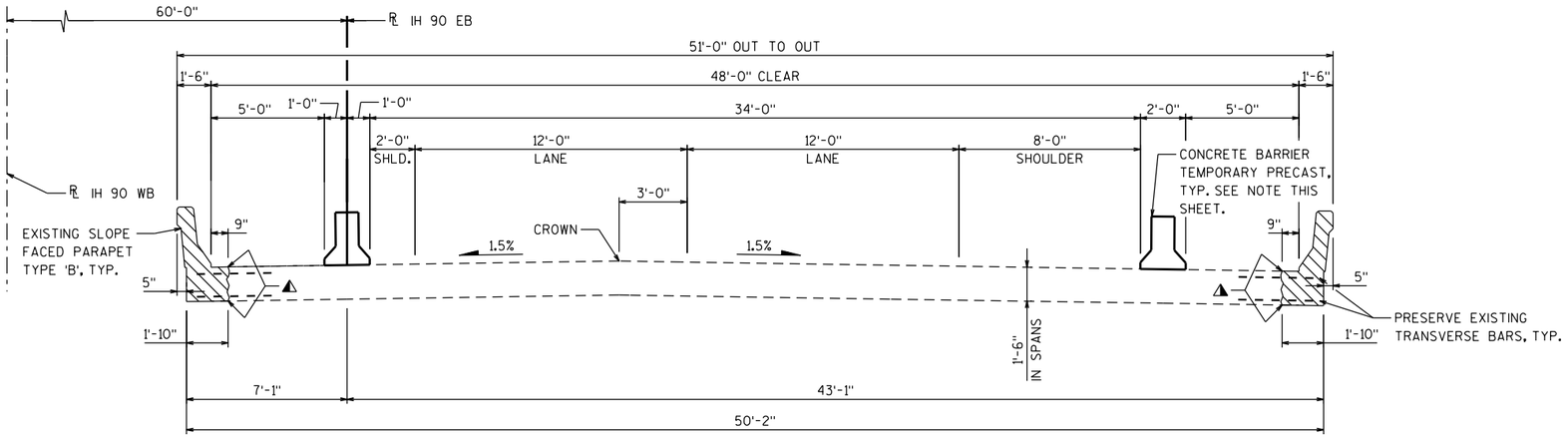
GENERAL NOTES & QUANTITIES

SHEET 2 OF 14
232

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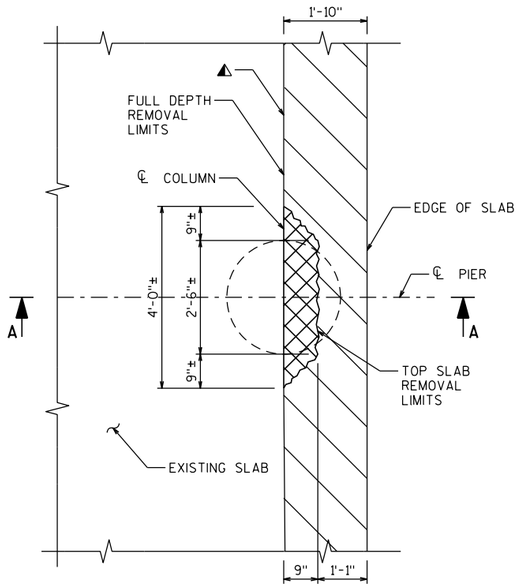
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STATE PROJECT NUMBER
1071-06-80

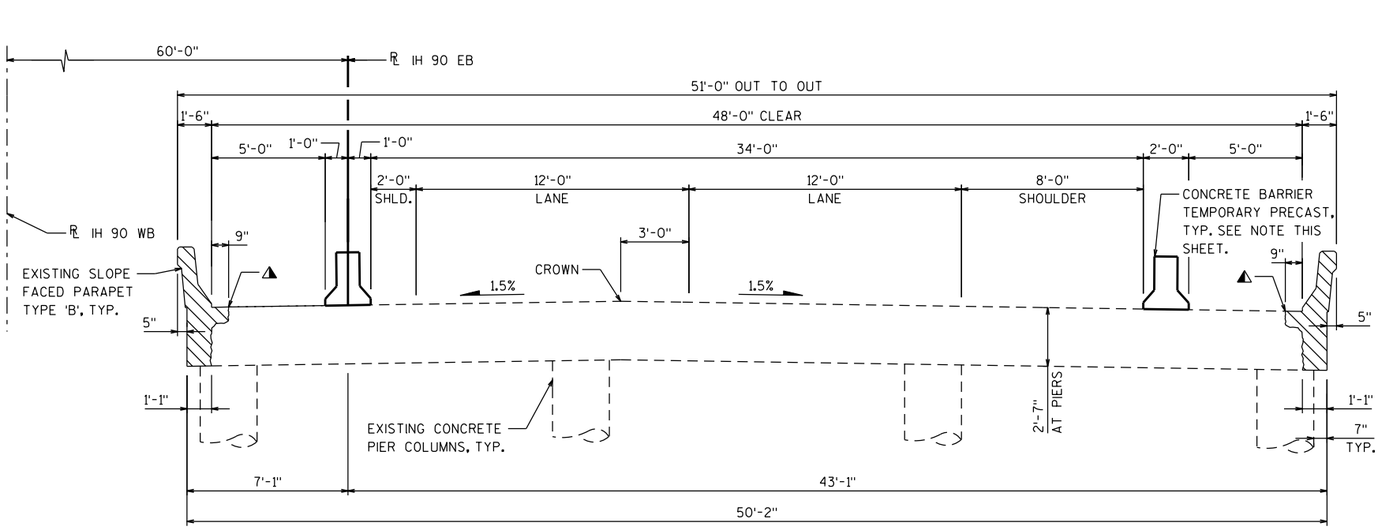


EXISTING CROSS-SECTION IN SPAN

(LOOKING EAST)
(REMOVAL OF SLAB AT ABUTMENTS SIMILAR)

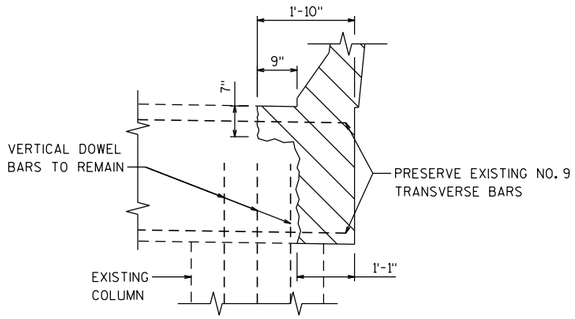


REMOVAL PLAN AT PIERS



EXISTING CROSS-SECTION AT PIERS

(LOOKING EAST)



SECTION A-A

NOTE

CONCRETE BARRIER TEMPORARY SHALL NOT BE ANCHORED INTO THE SLAB.

LEGEND

▨ REMOVAL LIMITS

▲ MAXIMUM 1" DEEP SAWCUT. PRESERVE EXISTING TRANSVERSE REINFORCEMENT. EACH DAMAGED NO. 4 OR NO. 5 BAR SHALL BE REPLACED WITH A NO. 5 BAR EMBEDDED 1'-0" IN EXISTING SLAB USING MASONRY ANCHOR TYPE L, INCLUDED IN BID ITEM "REMOVING OLD STRUCTURE".

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-32-107

DRAWN BY VJD | PLANS CK'D. MNM

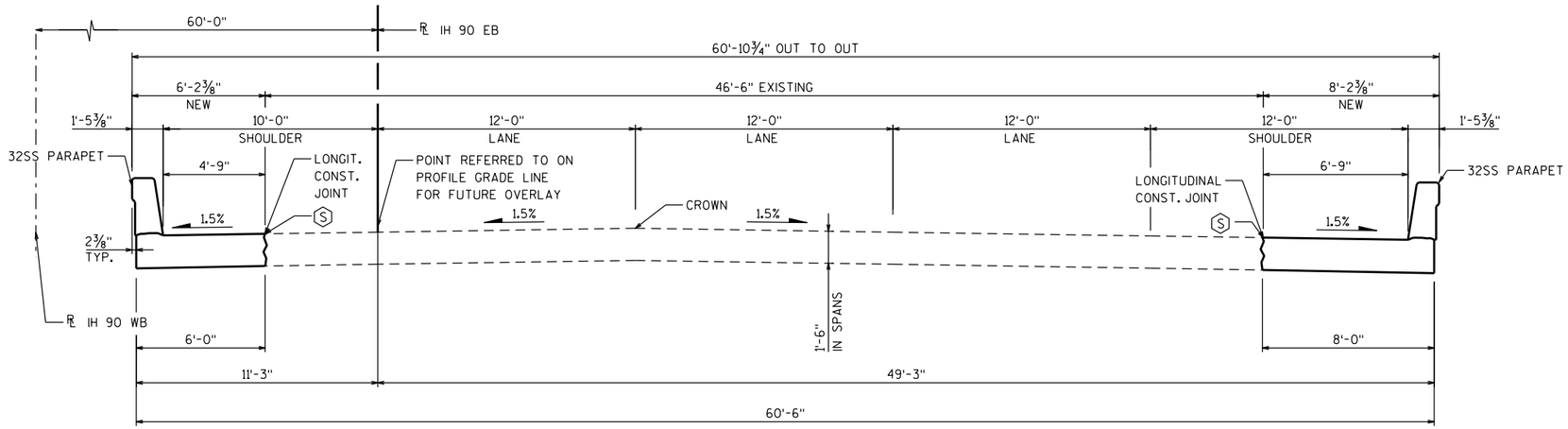
EXISTING CROSS SECTIONS & REMOVAL

SHEET 3 OF 14
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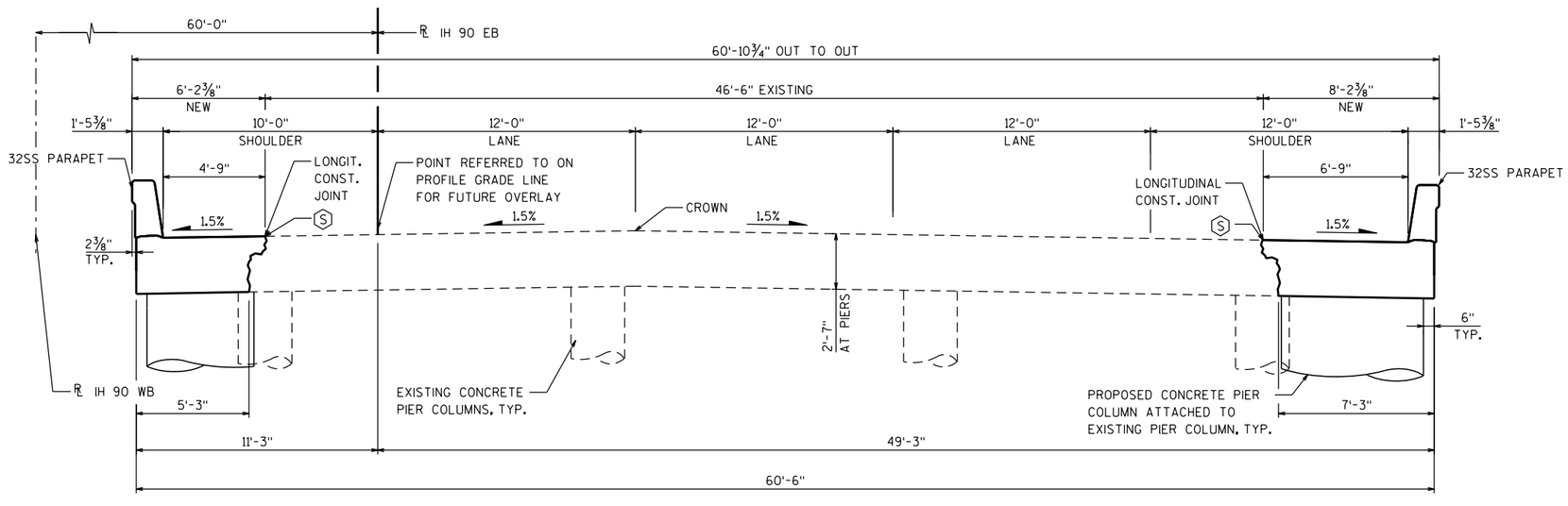
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STATE PROJECT NUMBER
1071-06-80



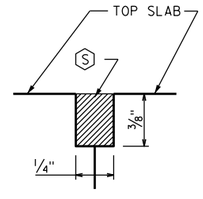
PROPOSED CROSS-SECTION IN SPAN

(LOOKING EAST)



PROPOSED CROSS-SECTION AT PIERS

(LOOKING EAST)



LONGITUDINAL CONST. JOINT

JOINT DETAILS

Ⓢ — ROUTE OUT ¼" X ⅜" DEEP AT JOINT. FILL IN WITH LOW VISCOSITY CRACK SEALER IN ACCORDANCE WITH SECTION 502.3.13 OF THE STANDARD SPECIFICATIONS AND PER THE APPROVED PRODUCTS LIST. (INCIDENTAL TO BID ITEM "CONCRETE MASONRY BRIDGES").

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-32-107

DRAWN BY VJD | PLANS CK'D. MNM

PROPOSED CROSS SECTIONS

SHEET 4 OF 14
234

8

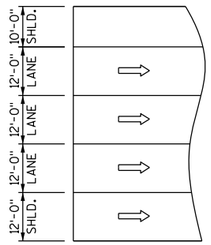
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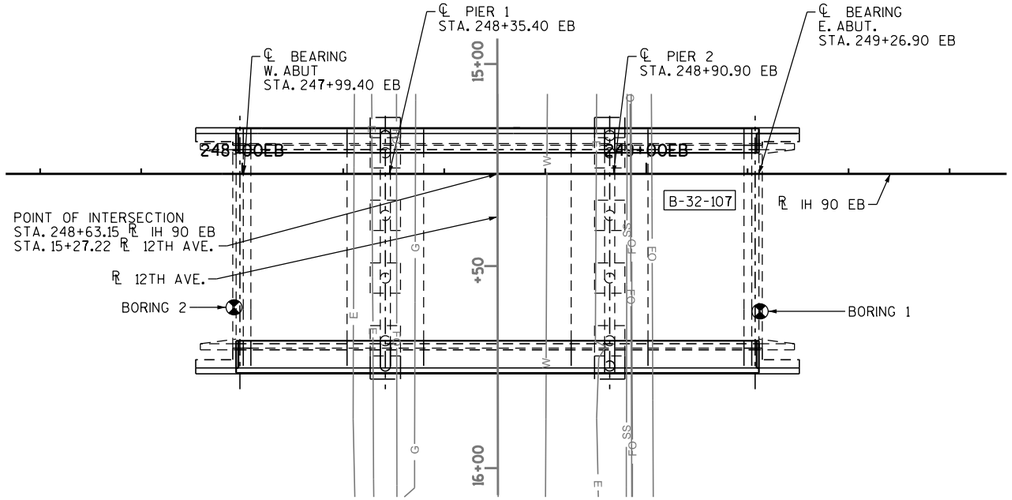
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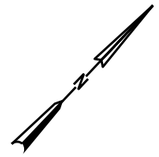
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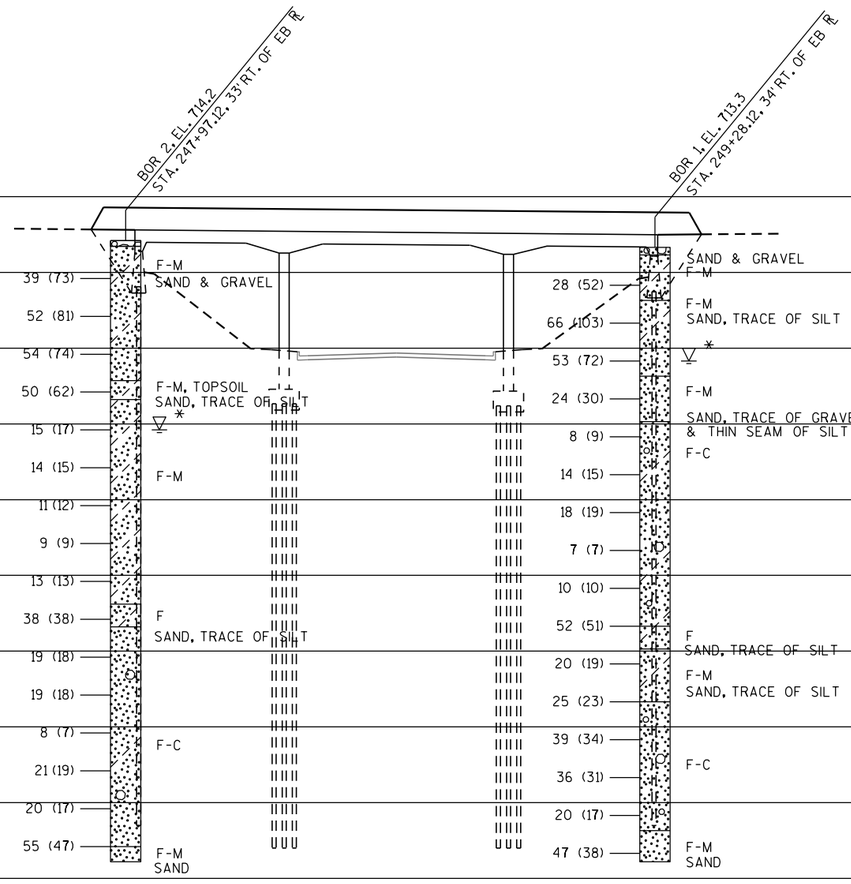
MATERIAL SYMBOLS

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





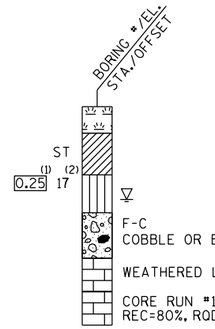




LEGEND

(X) ADJUSTED BLOWS PER FOOT

LEGEND OF BORING



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

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

GROUND WATER ELEVATION

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

ABBREVIATIONS

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

SUBSURFACE EXPLORATION FOR FOUNDATION DESIGN AND BIDDERS INFORMATION

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

* THE GROUND WATER ELEVATION WAS DETERMINED FROM WHERE THE SOIL SAMPLE WAS DESCRIBED AS WET.

BORINGS ON THIS SHEET WERE DERIVED FROM THE ORIGINAL 1983 STRUCTURE PLANS

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-32-107

DRAWN BY VJD PLANS CK'D. MNM

SUBSURFACE EXPLORATION

SHEET 5 OF 14

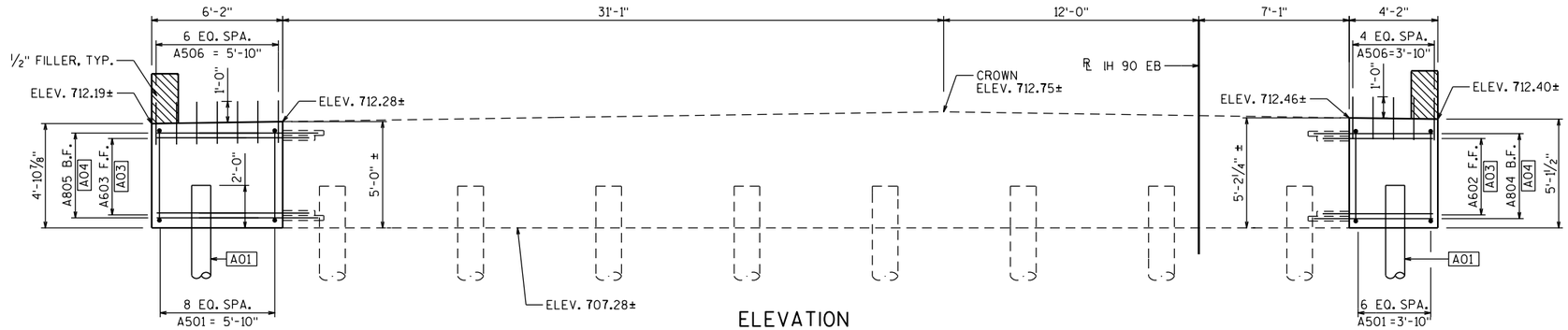
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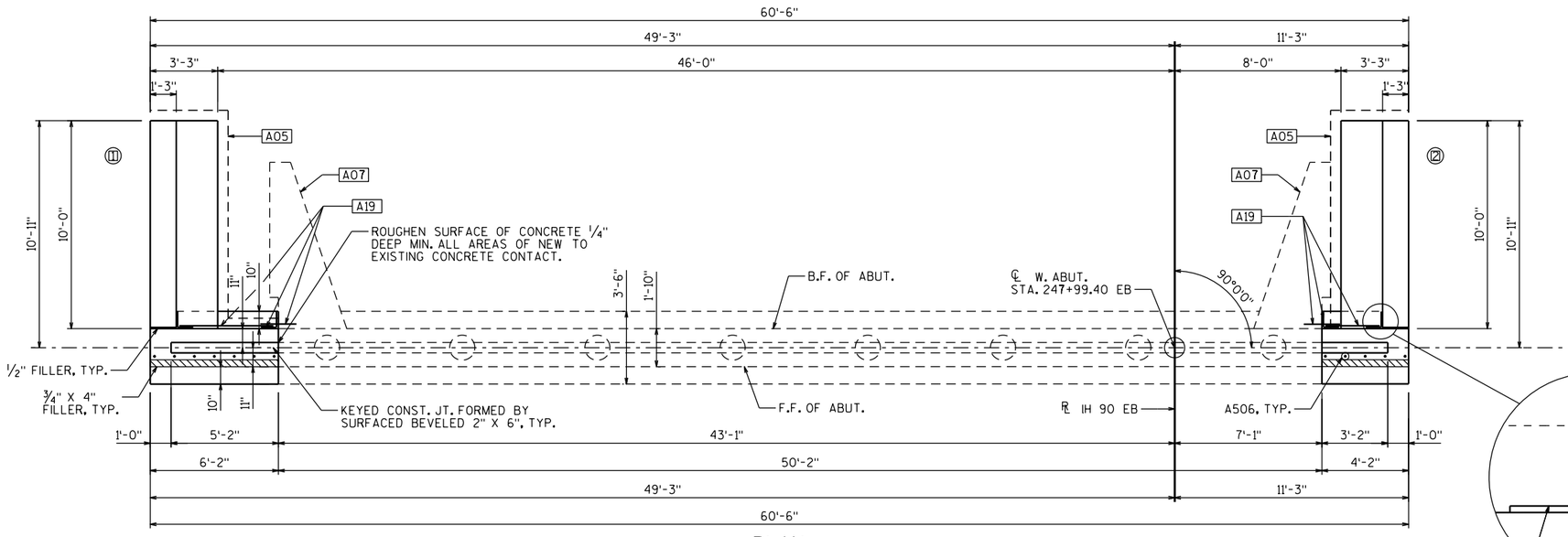
STATE PROJECT NUMBER

1071-06-80

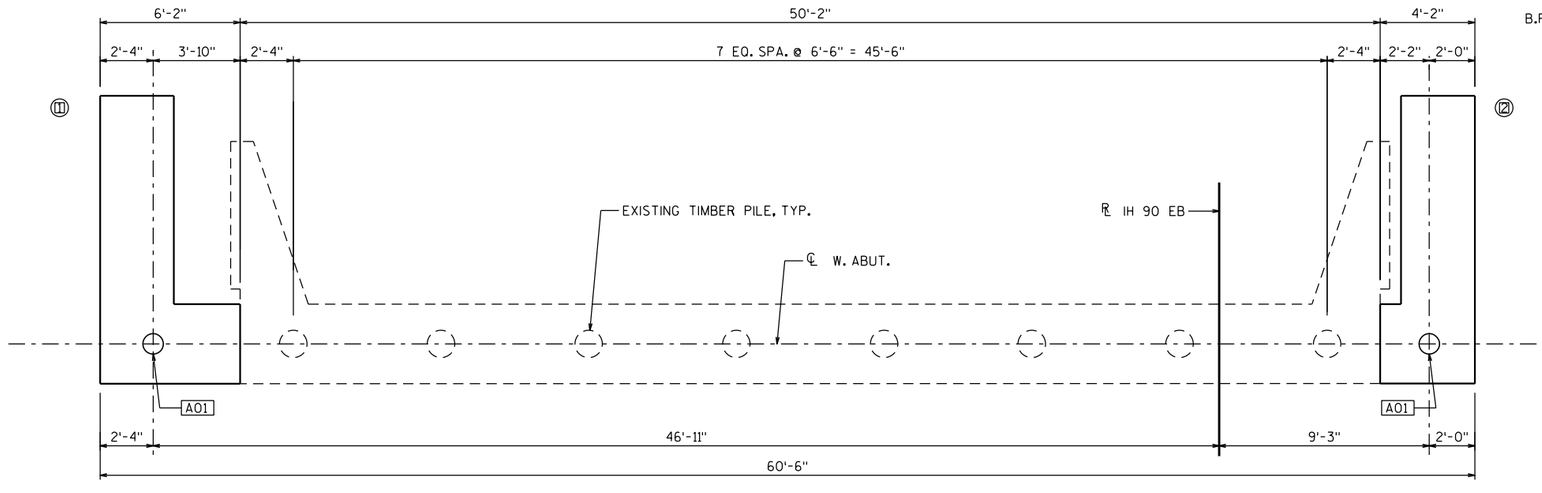


ELEVATION

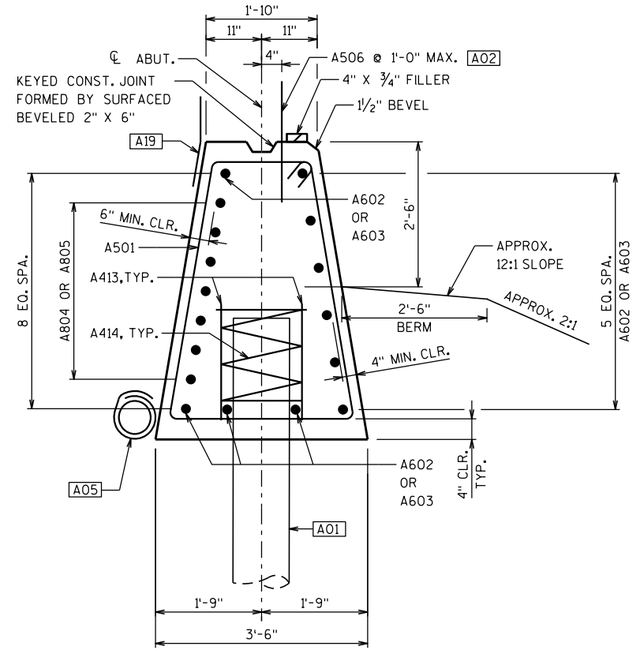
(LOOKING WEST)



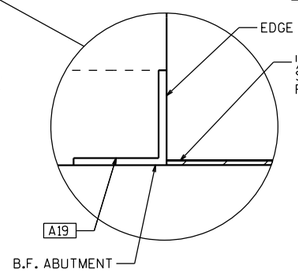
PLAN



PILE PLAN



SECTION THRU BODY



LEGEND & NOTES

A01 SUPPORT ABUTMENT ON 10¾" CIP PILING. ESTIMATED 70'-0" LONG WITH A REQUIRED DRIVING RESISTANCE OF 85 TONS PER PILE.

A02 EMBED 1'-0". MAY BE PLACED AFTER CONCRETE IS POURED BUT BEFORE INITIAL SET HAS TAKEN PLACE.

A03 MASONRY ANCHOR TYPE L NO. 6 BARS. EMBED 1'-3" IN CONCRETE. CLEAR EDGE DISTANCE = 4" MIN.

A04 MASONRY ANCHOR TYPE L NO. 8 BARS. EMBED 1'-8" IN CONCRETE. CLEAR EDGE DISTANCE = 6" MIN.

A05 PIPE UNDERDRAIN WRAPPED (6-INCH). SLOPE 0.5% MIN. TO SUITABLE DRAINAGE. SEE RODENT SCREEN DETAIL ON SHEET 7.

A06 SEAL ALL EXPOSED HORIZ. & VERT. SURFACES OF ½" FILLER WITH NON-STAINING GRAY NON-BITUMINOUS JOINT SEALER. (1" DEEP AND HOLD ⅛" BELOW SURFACE OF CONCRETE)

A07 REMOVE EXISTING WINGS TO A MINIMUM OF BRIDGE SEAT ELEVATION.

A19 18" (RMW) RUBBERIZED MEMBRANE WATERPROOFING. SEAL ALL HORIZONTAL AND VERTICAL JOINTS AT BACK FACE.

Ⓛ WINGWALL NUMBER

R.M.W. RUBBERIZED MEMBRANE WATERPROOFING

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-32-107

DRAWN BY DRJ | PLANS CK'D. MNM

WEST ABUTMENT

SHEET 6 OF 14

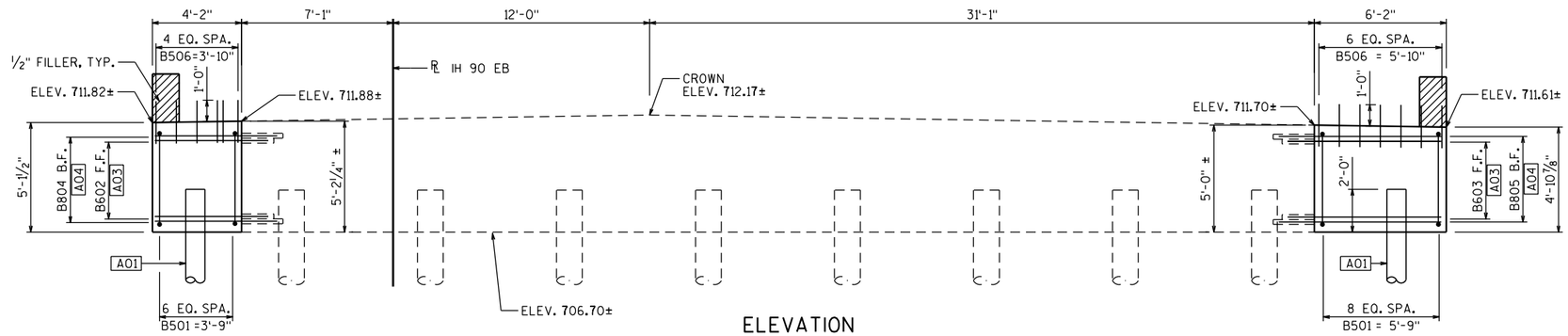
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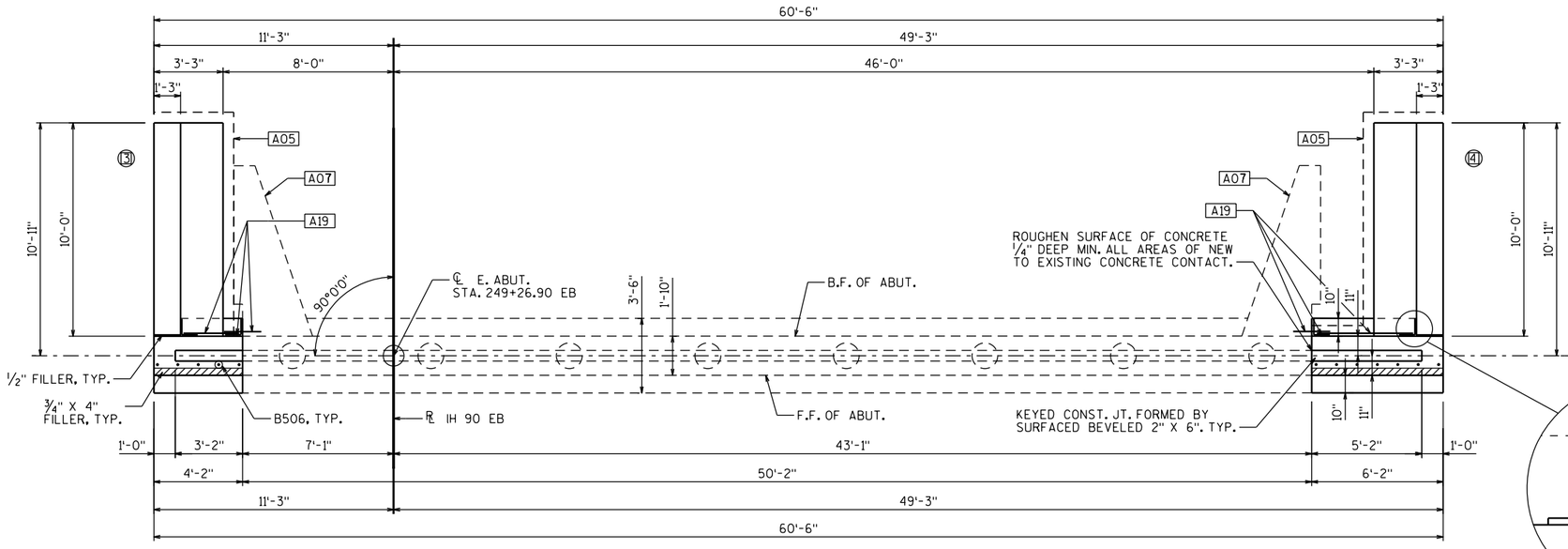
STATE PROJECT NUMBER

1071-06-80

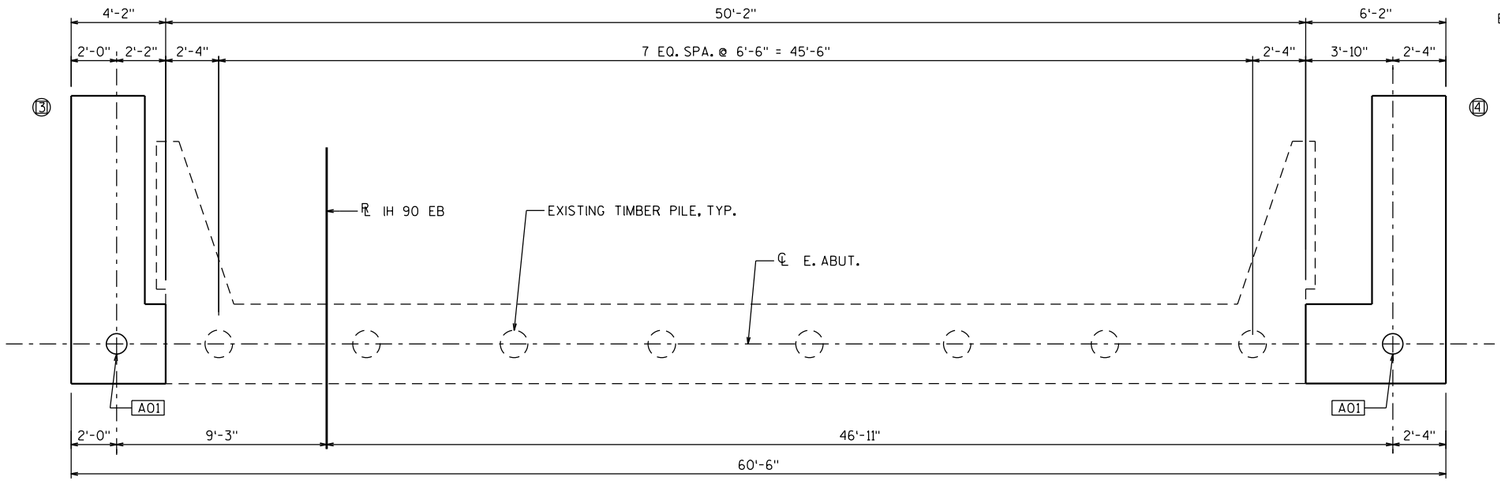


ELEVATION

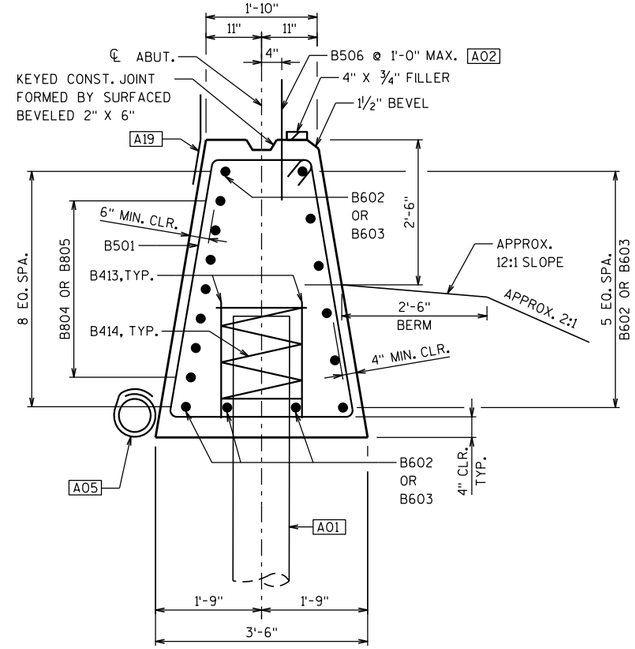
(LOOKING @ F.F. ABUT.)



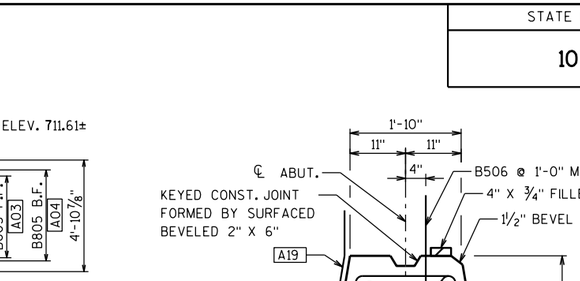
PLAN



PILE PLAN



SECTION THRU BODY



LEGEND & NOTES

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A07 REMOVE EXISTING WINGS TO A MINIMUM OF BRIDGE SEAT ELEVATION.

A19 18" (RMW) RUBBERIZED MEMBRANE WATERPROOFING. SEAL ALL HORIZONTAL AND VERTICAL JOINTS AT BACK FACE.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-32-107

DRAWN BY DRJ | PLANS CK'D. MNM

EAST ABUTMENT

SHEET 7 OF 14

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Ⓧ WINGWALL NUMBER

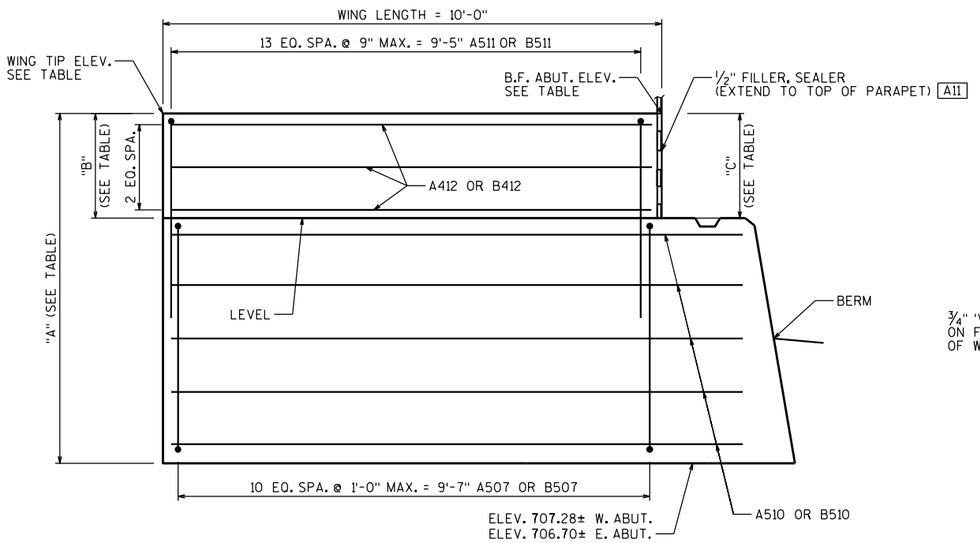
R.M.W. RUBBERIZED MEMBRANE WATERPROOFING

8

8

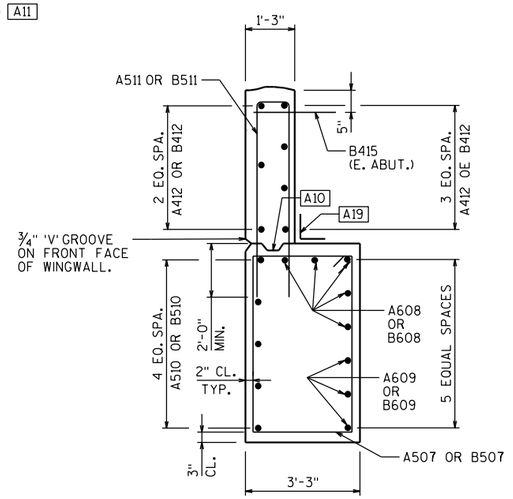
STATE PROJECT NUMBER

1071-06-80



WING ELEVATION

(LOOKING AT F.F.)



WING SECTION

BILL OF BARS - WEST ABUTMENT

COATED 1,200 LBS.
UNCOATED 660 LBS.

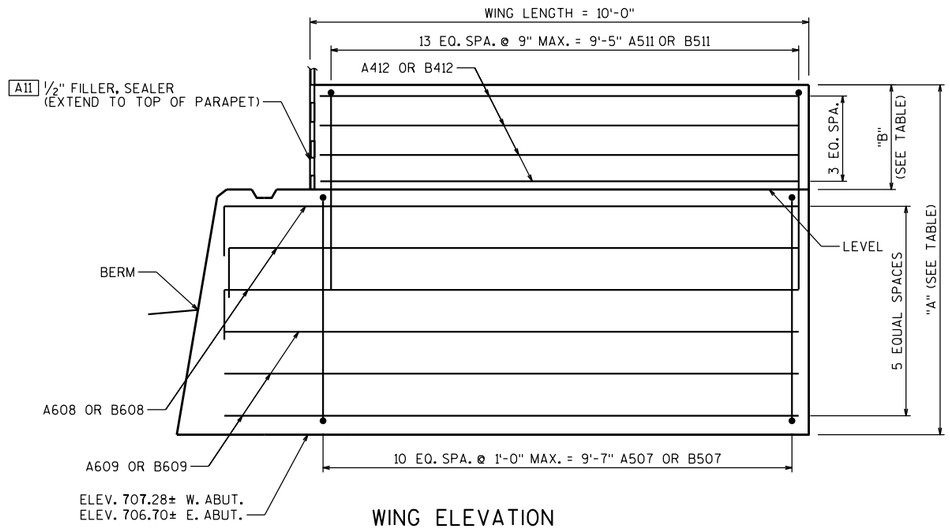
MARK	COATED	NO REQ'D	LENGTH	BAR SERIES	BENT	LOCATION
A501		16	13'-4"		X	VERT. STIRRUP ABUT. BODY
A602		10	5'-3"			HORIZ. ABUT. BODY INSIDE WIDENING
A603		10	7'-3"			HORIZ. ABUT. BODY OUTSIDE WIDENING
A804		7	5'-8"			HORIZ. ABUT. BODY INSIDE WIDENING
A805		7	7'-8"			HORIZ. ABUT. BODY OUTSIDE WIDENING
A506	X	12	2'-0"			VERT. DOWEL ABUT. BODY
A507	X	22	16'-9"		X	VERT. STIRRUP WING BASE
A608	X	10	12'-4"		X	B.F. HORIZ. WING BASE
A609	X	6	11'-11"			B.F. HORIZ. WING BASE
A510	X	10	11'-6"			F.F. HORIZ. WING BASE
A511	X	28	9'-5"		X	VERT. STIRRUP WING
A412	X	14	9'-8"			HORIZ. WING
A413	X	4	2'-3"			PILE VERTICAL
A414	X	2	28'-0"			PILE SPIRAL

BILL OF BARS - EAST ABUTMENT

COATED 1,230 LBS.
UNCOATED 660 LBS.

MARK	COATED	NO REQ'D	LENGTH	BAR SERIES	BENT	LOCATION
B501		16	13'-4"		X	VERT. STIRRUP ABUT. BODY
B602		10	5'-3"			HORIZ. ABUT. BODY INSIDE WIDENING
B603		10	7'-3"			HORIZ. ABUT. BODY OUTSIDE WIDENING
B804		7	5'-8"			HORIZ. ABUT. BODY INSIDE WIDENING
B805		7	7'-8"			HORIZ. ABUT. BODY OUTSIDE WIDENING
B506	X	12	2'-0"			VERT. DOWEL ABUT. BODY
B507	X	22	16'-9"		X	VERT. STIRRUP WING BASE
B608	X	10	12'-4"		X	B.F. HORIZ. WING BASE
B609	X	6	11'-11"			B.F. HORIZ. WING BASE
B510	X	10	11'-6"			F.F. HORIZ. WING BASE
B511	X	28	9'-5"		X	VERT. STIRRUP WING
B412	X	14	9'-8"			HORIZ. WING
B413	X	4	2'-3"			PILE VERTICAL
B414	X	2	28'-0"			PILE SPIRAL
B415	X	22	2'-0"			SURFACE DRAIN ANCHOR

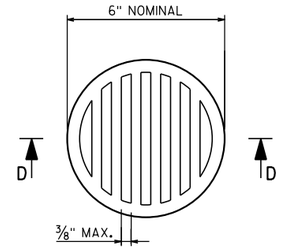
NOTE - BILL OF BAR WEIGHTS DO NOT INCLUDE PARAPET STEEL ON SHEET 11.



WING ELEVATION

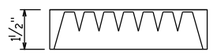
(LOOKING AT B.F.)

WING NO.	B.F. ABUT. ELEV.	WING TIP ELEV.	"A"	"B"	"C"
1	714.46	714.51	7'-2 3/4"	2'-3 7/8"	2'-3 1/4"
2	714.67	714.72	7'-5 1/4"	2'-3 7/8"	2'-3 1/4"
3	714.09	714.04	7'-4 1/8"	2'-2 5/8"	2'-3 1/4"
4	713.88	713.83	7'-1 1/2"	2'-2 5/8"	2'-3 1/4"



RODENT SCREEN DETAIL

NOTE:
ORIENT RODENT SHIELD SO SLOTS ARE VERTICAL.



SECTION D-D

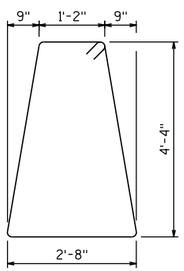
THE RODENT SHIELD SHALL BE A PVC GRATE SIMILAR TO THIS DETAIL. THE GRATE IS COMMERCIALLY AVAILABLE AS A FLOOR STRAINER. A PIPE COUPLING IS REQUIRED FOR THE ATTACHMENT OF THIS SHIELD TO THE OUTFALL PIPE. THE SHIELD SHALL BE FASTENED TO THE PIPE COUPLING WITH TWO OR MORE NO. 10 X 1-INCH STAINLESS STEEL SHEET METAL SCREWS. COST OF RODENT SHIELD AND ALL FITTINGS TO BE INCLUDED IN BID ITEM "PIPE UNDERDRAIN WRAPPED 6-INCH".

LEGEND

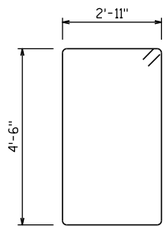
A10 OPTIONAL CONST. JOINT FORMED BY BEVELED 2" X 6" KEYWAY WITH MEMBRANE ON BACKFACE.

A11 SEAL ALL EXPOSED HORIZ. & VERT. SURFACES OF 1/2" FILLER WITH NON-STAINING GRAY NON-BITUMINOUS JOINT SEALER. (1" DEEP AND HOLD 1/8" BELOW SURFACE OF CONCRETE. EXTEND SEALER 3" BELOW GUTTERLINE AT INSIDE FACE.

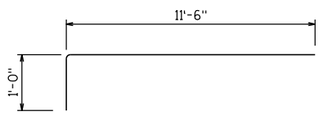
A19 18" (RMW) RUBBERIZED MEMBRANE WATERPROOFING. SEAL ALL HORIZONTAL AND VERTICAL JOINTS AT BACK FACE.



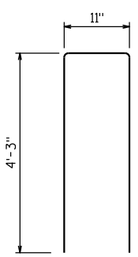
A501, B501



A507, B507



A608, B608



A511, B511

BENDING DIAGRAMS

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-32-107

DRAWN BY DRJ | PLANS CK'D. MNM

ABUTMENT DETAILS

SHEET 8 OF 14
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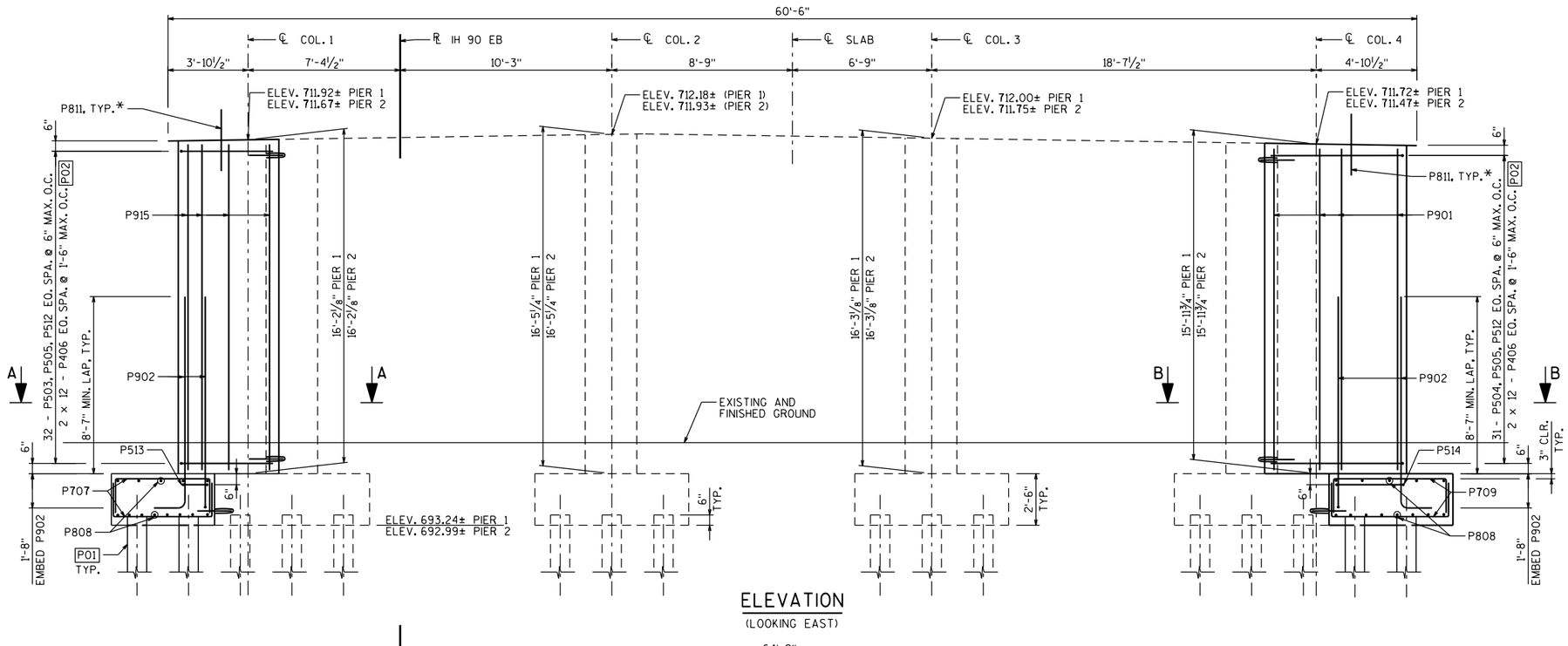
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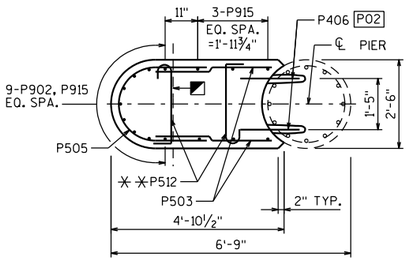
STATE PROJECT NUMBER

1071-06-80

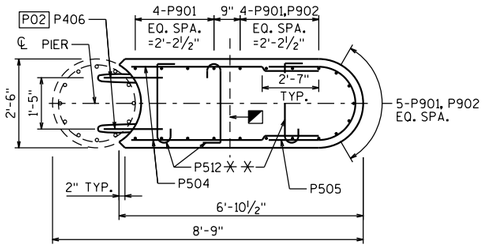


ELEVATION

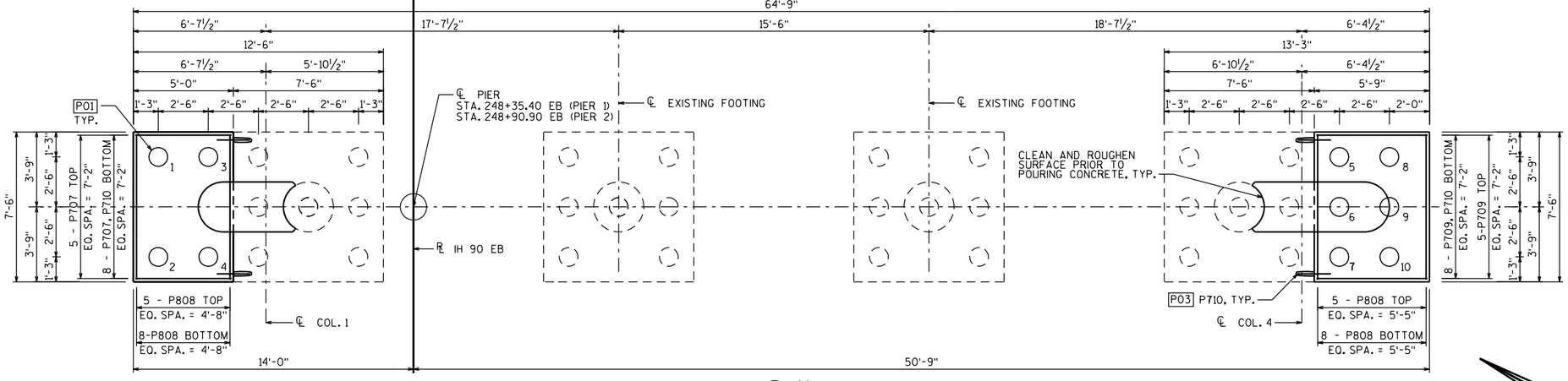
(LOOKING EAST)



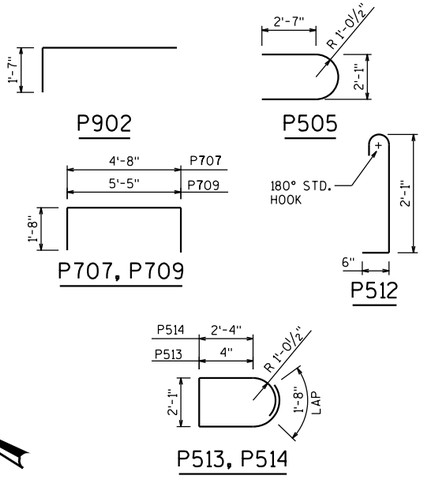
SECTION A-A



SECTION B-B



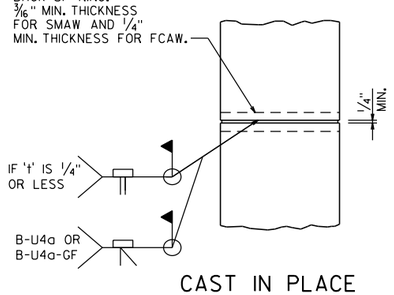
PLAN



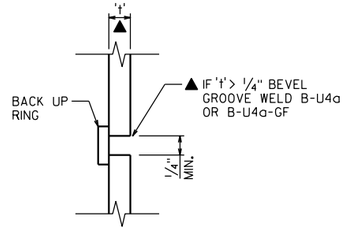
BILL OF BARS - PIERS 1 & 2

COATED 9,290 LBS
UNCOATED 2,240 LBS

MARK	COATED	NO REQ'D	LENGTH	BAR SERIES	BENT	LOCATION
P901	X	42	15'-8"			COLUMN VERTICAL
P902	X	44	11'-10"		X	COLUMN VERTICAL
P503	X	128	3'-5"			COLUMN HORIZONTAL
P504	X	124	5'-5"			COLUMN HORIZONTAL
P505	X	126	8'-5"		X	COLUMN HORIZONTAL
P406	X	96	2'-6"			COLUMN HORIZONTAL ANCHORED
P707		26	8'-0"		X	FOOTING HORIZONTAL TOP & BOTTOM
P808		52	7'-2"			FOOTING HORIZONTAL TOP & BOTTOM
P709		26	8'-9"		X	FOOTING HORIZONTAL TOP & BOTTOM
P710		32	5'-3"			FOOTING ANCHORED
P811	X	28	3'-0"			COLUMN VERTICAL DOWELS
P512	X	314	3'-0"		X	COLUMN HORIZONTAL TIES
P513	X	1	7'-9"		X	FOOTING HORIZONTAL TIE
P514	X	1	11'-9"		X	FOOTING HORIZONTAL TIE
P515	X	30	15'-11"			COLUMN VERTICAL



CAST IN PLACE
'PIPE PILE'



CIP PILE WELD DETAIL

LEGEND

P01 SUPPORT PIER ON 10¾" C.I.P. PILING. ESTIMATED 60'-0" WITH A REQUIRED DRIVING RESISTANCE OF 85 TONS PER PILE.

P02 MASONRY ANCHORS TYPE L NO. 4 BARS. EMBED 10" IN CONCRETE.

P03 MASONRY ANCHORS TYPE L NO. 7 BARS. EMBED 1'-5" IN CONCRETE.

◩ EDGE OF EXISTING FOOTING.

* SEE SHEET 12 FOR DETAILS.

** ALTERNATE THE POSITION OF THE 90° AND 180°HOOKS AT EACH VERTICAL LAYER OF TIES.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-32-107

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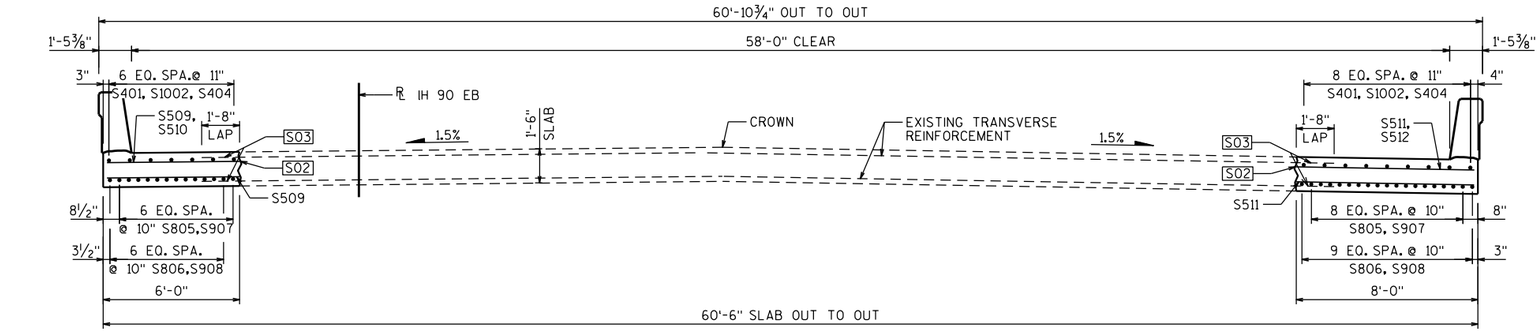
PIERS 1 & 2

SHEET 9 OF 14
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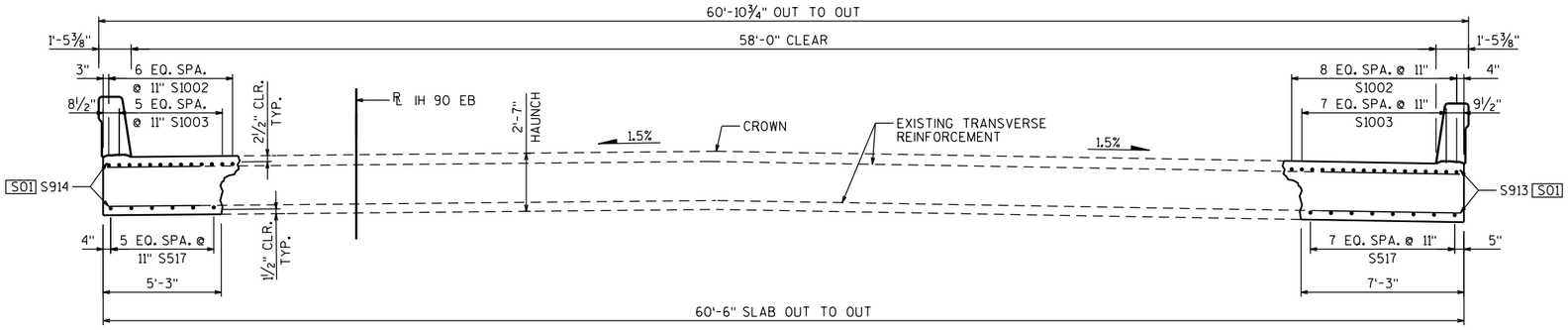
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STATE PROJECT NUMBER
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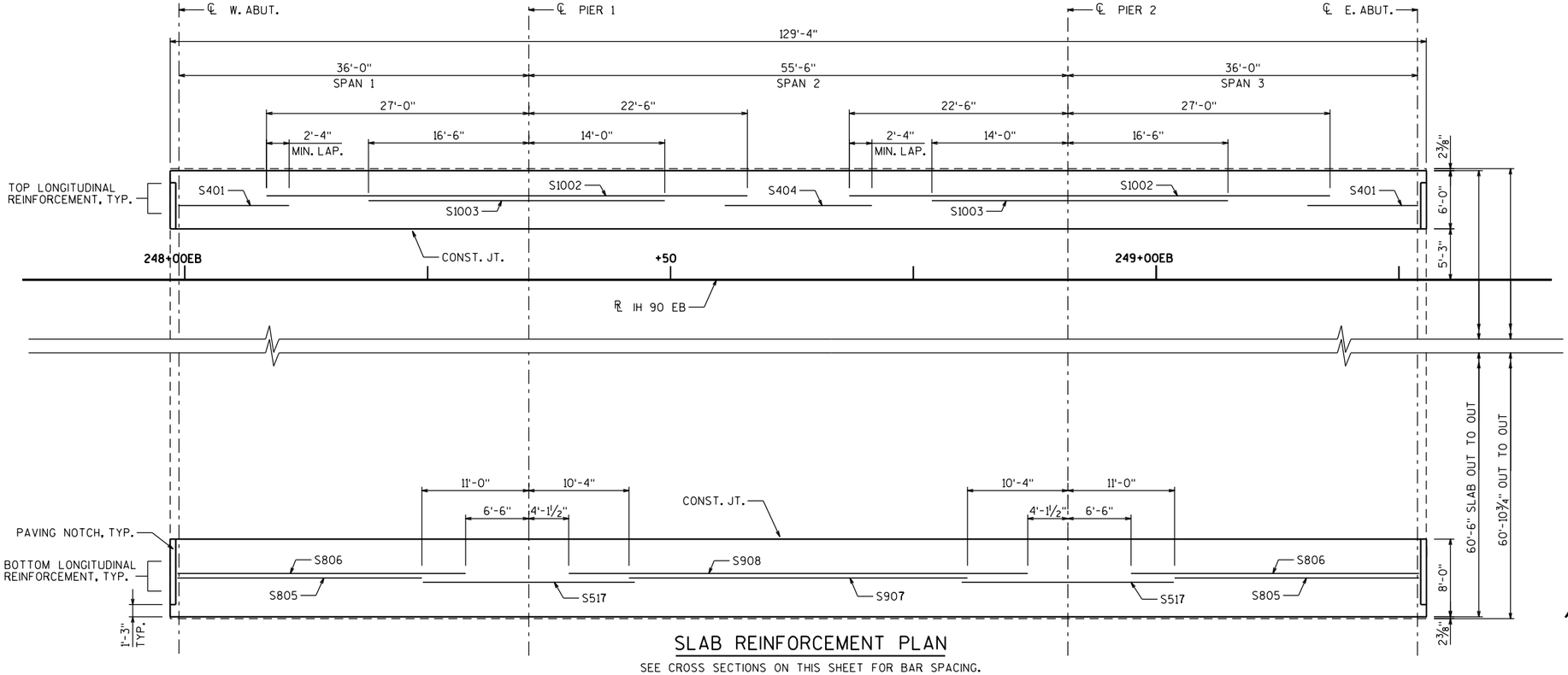
SLAB CROSS SECTION AT MID SPANS

(LOOKING EAST)



SLAB CROSS SECTION AT PIER

(LOOKING EAST)



SLAB REINFORCEMENT PLAN

SEE CROSS SECTIONS ON THIS SHEET FOR BAR SPACING.

LEGEND & NOTES

S01 SPLICE NO. 9 BARS WITH BAR COUPLERS NO. 9 SPECIAL. ENGINEER SHALL APPROVE COUPLING SYSTEM PRIOR TO INSTALLATION. WORK TO BE PAID FOR UNDER BID ITEM "BAR COUPLERS NO. 9 SPECIAL". SEE SPECIAL PROVISIONS FOR DETAILS.

S02 LAP S509 AND S511 BARS 1'-8" WITH EXISTING TOP TRANSVERSE NO. 4 BARS. SEE SHEET 10 FOR BAR AND MASONRY ANCHOR TYPE L NO. 5 LOCATIONS.

S03 PRESERVE EXISTING TRANSVERSE STEEL DURING REMOVAL. DAMAGED REINFORCEMENT SHALL BE SUPPLEMENTED WITH NO. 5 BARS ANCHORED WITH MASONRY ANCHOR TYPE L, EMBEDDED 1'-0" INTO CONCRETE. THESE REPLACEMENT BARS ARE IN ADDITION TO THE BARS SHOWN IN THE BILL OF BARS.

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STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-32-107

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SUPERSTRUCTURE

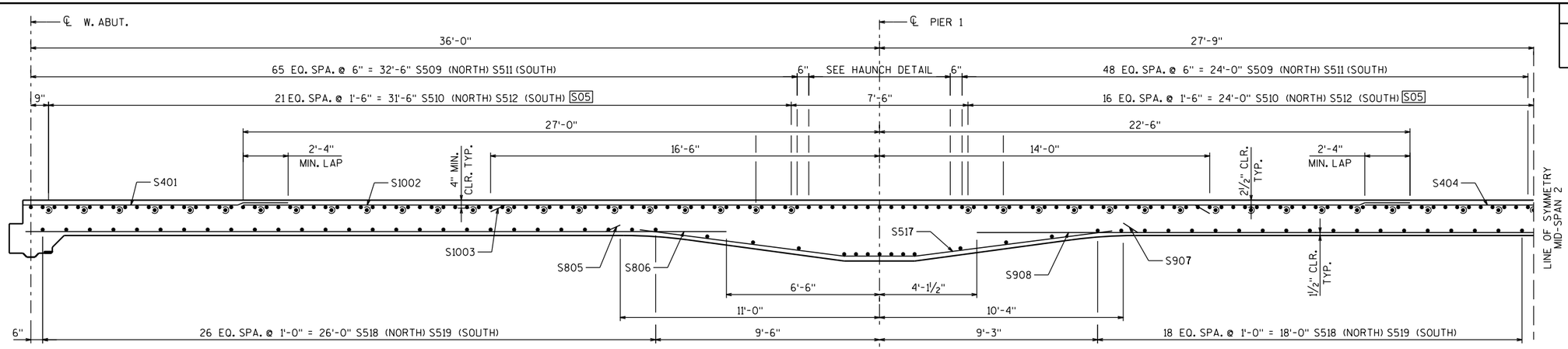
SHEET 10 OF 14

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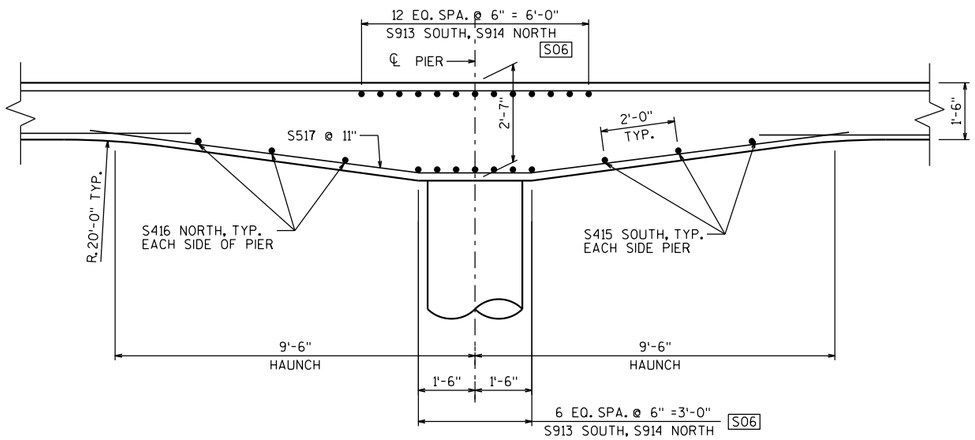
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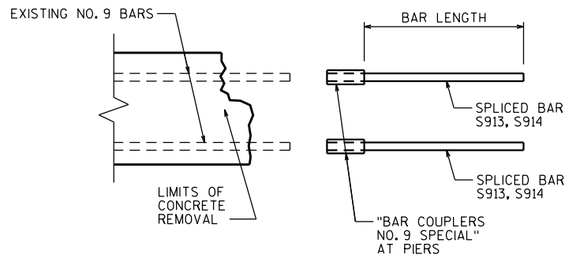
STATE PROJECT NUMBER
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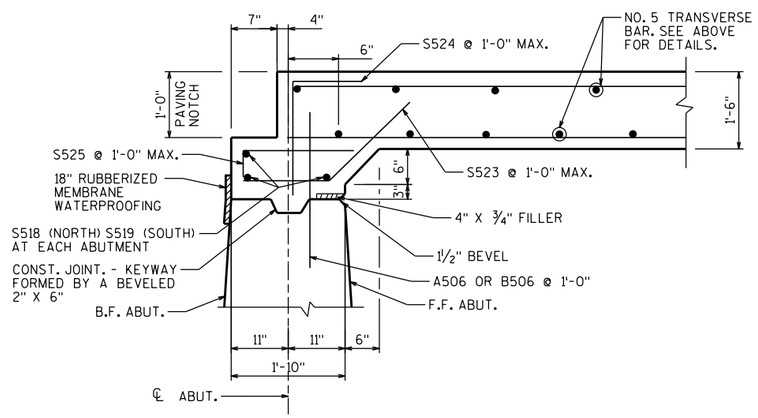
LONGITUDINAL SECTION



HAUNCH DETAIL



DOWEL BAR SPLICER



ABUTMENT DETAIL

LEGEND

S05 ANCHOR BARS USING MASONRY ANCHOR TYPE L NO. 5 BARS. EMBED 1'-0" IN CONCRETE. MIN. EDGE DISTANCE = 4".

S06 SPLICE NO. 9. BARS WITH BAR COUPLERS NO. 9 SPECIAL. ENGINEER SHALL APPROVE COUPLING SYSTEM PRIOR TO INSTALLATION. WORK TO BE PAID FOR UNDER BID ITEM "BAR COUPLERS NO. 9 SPECIAL". SEE SPECIAL PROVISIONS FOR DETAILS.

SLAB NOTES

TOP TRANSVERSE BARS IN SLAB SHALL BE SUPPORTED BY INDIVIDUAL BAR CHAIRS AT APPROXIMATELY 3'-0" CENTERS EACH WAY. BOTTOM LONGITUDINAL BARS SHALL BE SUPPORTED BY CONTINUOUS BAR CHAIRS AT APPROXIMATELY 4'-0" CENTERS.

ALL SLAB THICKNESS DIMENSIONS ARE MINIMUM. ANY TOLERANCES NECESSARY TO CORRECT CONSTRUCTION DISCREPANCIES ARE TO BE PLUS (+).

PARAPETS PLACED ON TOP OF THE SLAB SHALL BE POURED AFTER FALSEWORK HAS BEEN RELEASED, EXCEPT FOR STAGED CONSTRUCTION.

NOTES

STEEL SPLICE (COUPLER) ASSEMBLY SHALL BE AN APPROVED TYPE AND SHALL DEVELOP IN TENSION AT LEAST 125% OF THE YIELD STRENGTH OF THE SPLICED REINFORCEMENT BARS.

DOWEL BAR SPLICERS SHALL BE OF MINIMUM 60 KSI YIELD STRENGTH, AND HAVE TENSILE STRENGTH AREA EQUAL OR GREATER THAN THAT OF THE LAPPED REINFORCEMENT BARS.

DOWEL BAR SPLICERS SHALL MEET THE DEFORMATION REQUIREMENTS FOR STANDARD ASTM DEFORMED REINFORCING BARS.

FOR DOWEL BAR SPLICERS, ALL REINFORCEMENT BARS SHALL BE LAPPED AND TIED TO THE SPLICER BARS.

SPLICER (COUPLER) ASSEMBLY IN THE SLAB SHALL BE EPOXY COATED IN ACCORDANCE WITH THE REQUIREMENTS FOR REINFORCEMENT BARS.

OTHER SYSTEMS OF SIMILAR DESIGN MAY BE SUBMITTED TO THE ENGINEER FOR APPROVAL. APPROVAL SHALL BE BASED ON CERTIFIED TEST RESULTS FROM AN APPROVED TESTING LABORATORY THAT THE PROPOSED SPLICER (COUPLER) ASSEMBLY SATISFIES THE FOLLOWING REQUIREMENT:

① MINIMUM CAPACITY = 1.25 X FY X AREA OF SPLICED REINFORCEMENT BAR.

WHERE FY = YIELD STRENGTH OF SPLICED REINFORCEMENT BARS

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STRUCTURE B-32-107

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SUPERSTRUCTURE DETAILS 1

SHEET 11 OF 14
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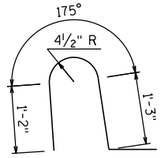
STATE PROJECT NUMBER

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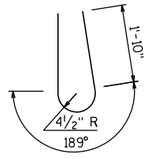
BILL OF BARS - SUPERSTRUCTURE

COATED 22,640 LBS.
UNCOATED 11,600 LBS.

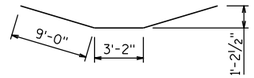
MARK	COATED	NO REQ'D	LENGTH	BAR SERIES	BENT	LOCATION
S401	X	32	11'-6"			SLAB LONGITUDINAL, TOP SPAN 1 & 3
S1002	X	32	49'-6"			SLAB LONGITUDINAL, TOP OVER PIER
S1003	X	28	30'-6"			SLAB LONGITUDINAL, TOP OVER PIER
S404	X	16	15'-2"			SLAB LONGITUDINAL, TOP SPAN 2
S805		32	25'-2"			SLAB LONGITUDINAL, BOTTOM SPAN 1 & 3
S806		34	29'-8"			SLAB LONGITUDINAL, BOTTOM SPAN 1 & 3
S907		16	34'-10"			SLAB LONGITUDINAL, BOTTOM SPAN 2
S908		17	47'-3"			SLAB LONGITUDINAL, BOTTOM SPAN 2
S509	X	230	5'-10"			TRANSVERSE TOP NORTH
S510	X	77	6'-10"			TRANSVERSE ANCHORED TOP, NORTH
S511	X	230	7'-10"			TRANSVERSE TOP SOUTH
S512	X	77	8'-10"			TRANSVERSE ANCHORED TOP, SOUTH
S913	X	40	6'-2"			TRANSVERSE OVER PIER, SOUTH
S914	X	40	4'-2"			TRANSVERSE OVER PIER, NORTH
S415		12	7'-10"			TRANSVERSE IN HAUNCH, SOUTH
S416		12	5'-10"			TRANSVERSE IN HAUNCH, NORTH
S517		28	21'-2"		X	LONGITUDINAL IN HAUNCH
S518		98	5'-10"			TRANSVERSE BOTTOM NORTH
S519		98	7'-10"			TRANSVERSE BOTTOM SOUTH
S520	X	390	4'-5"		X	PARAPET DOWEL
S521	X	390	5'-0"		X	PARAPET VERTICAL
S522	X	36	44'-2"			PARAPET LONGITUDINAL
S523	X	32	3'-3"		X	HAUNCH STIRRUP AT ABUTMENT
S524	X	32	2'-9"		X	HAUNCH AT ABUTMENT
S525	X	32	2'-10"		X	HAUNCH AT ABUTMENT



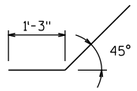
S520



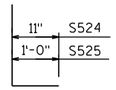
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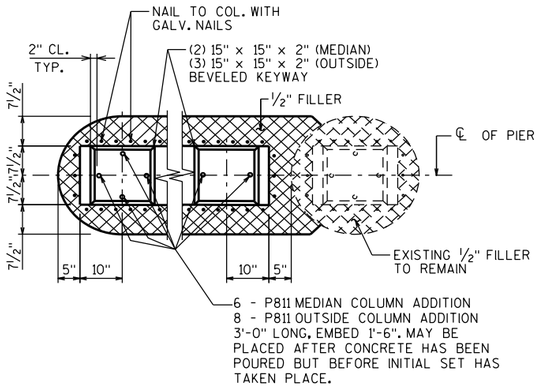
S517



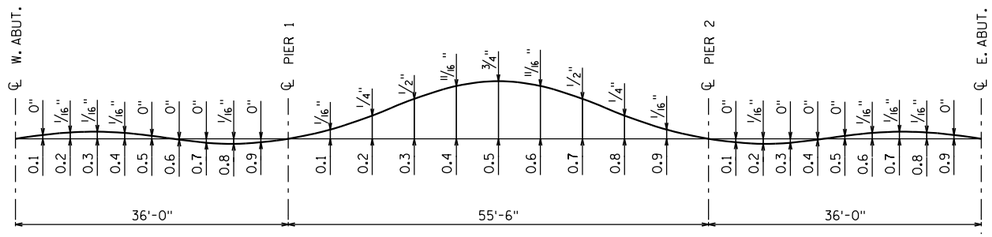
S523



S524, S525



COLUMN W/O CAP TYPE PIER
DETAIL AT TOP OF COLUMN



CAMBER DIAGRAM

CAMBER SPANS AS SHOWN TO PROVIDE FOR DEAD LOAD DEFLECTION & FUTURE CREEP. CAMBER DOES NOT INCLUDE ALLOWANCE FOR FORM SETTLEMENT. PARAPETS SHOWN ABOVE THE HORIZ. CONST. JOINT SHALL BE POURED AFTER FALSEWORK HAS BEEN RELEASED.

CAMBER IS BASED ON HALF OF 3 TIMES DEAD LOAD (D.L.) DEFLECTIONS (1.5 TIMES D.L.). CAMBER REFERS TO THE OUTSIDE EDGE OF SLAB. ASSUME RIGID AT EDGE OF EXISTING SLAB. INTERPOLATE VALUES AT INTERMEDIATE SLAB SUPPORTS.

8

TOP OF DECK ELEVATIONS - NORTH GUTTER

B-32-107	C/L BRG. W. ABUT.	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	C/L PIER 1	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	C/L PIER 2	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	C/L BRG. E. ABUT.
Existing North Gutter Line	714.73	714.72	714.71	714.70	714.69	714.69	714.68	714.67	714.65	714.62	714.59	714.54	714.49	714.46	714.42	714.39	714.37	714.36	714.35	714.34	714.31	714.30	714.28	714.27	714.25	714.23	714.22	714.20	714.17	714.14	714.12
New North Gutter Line	714.67	714.66	714.65	714.64	714.63	714.63	714.62	714.61	714.59	714.56	714.53	714.48	714.43	714.40	714.36	714.33	714.31	714.30	714.29	714.28	714.25	714.24	714.22	714.21	714.19	714.17	714.16	714.14	714.11	714.08	714.06

TOP OF DECK ELEVATIONS - SOUTH GUTTER

B-32-107	C/L BRG. W. ABUT.	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	C/L PIER 1	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	C/L PIER 2	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	C/L BRG. E. ABUT.
Existing South Gutter Line	714.54	714.55	714.55	714.55	714.55	714.55	714.55	714.53	714.51	714.49	714.46	714.38	714.35	714.33	714.31	714.29	714.25	714.21	714.17	714.13	714.14	714.13	714.12	714.11	714.11	714.10	714.09	714.06	714.02	713.99	713.95
New South Gutter Line	714.45	714.46	714.46	714.46	714.46	714.46	714.46	714.44	714.42	714.40	714.37	714.29	714.26	714.24	714.22	714.20	714.16	714.12	714.08	714.04	714.05	714.04	714.03	714.02	714.02	714.01	714.00	713.97	713.93	713.90	713.86

8

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

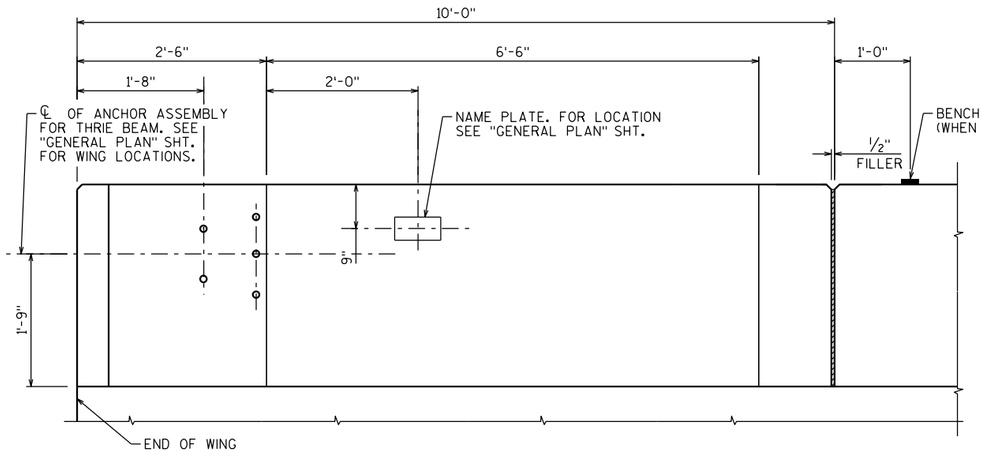
STRUCTURE B-32-107

DRAWN BY VJD | PLANS CK'D. MNM

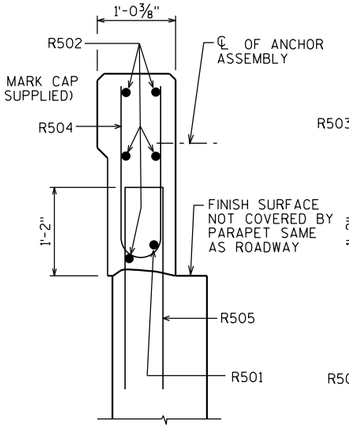
SUPERSTRUCTURE DETAILS 2

SHEET 12 OF 14
242

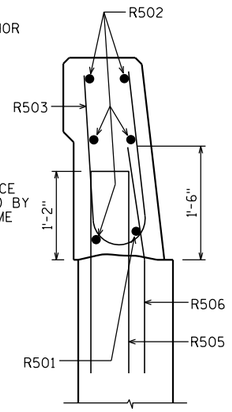
STATE PROJECT NUMBER
1071-06-80



INSIDE ELEVATION



SECTION A-A

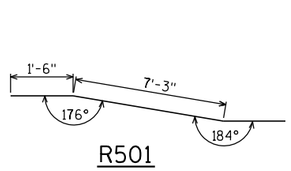


SECTION B-B

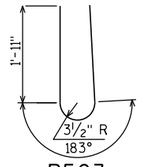
BILL OF BARS

COATED 1,130 LBS.

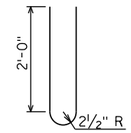
MARK	COATED	NO REQ'D	LENGTH	BAR SERIES	BENT	LOCATION
R501	X	4	9'-8"		X	PARAPET LONGITUDINAL IN TRANSITION
R502	X	20	9'-8"			PARAPET LONGITUDINAL IN TRANSITION
R503	X	24	4'-10"		X	PARAPET VERTICAL IN TRANSITION
R504	X	44	4'-9"		X	PARAPET VERTICAL IN TRANSITION
R505	X	68	5'-7"		X	PARAPET DOWEL IN TRANSITION
R506	X	48	3'-0"		X	PARAPET DOWEL IN TRANSITION
R507	X	12	5'-10"		X	PARAPET DOWEL IN TRANSITION
R508	X	12	5'-0"		X	PARAPET VERTICAL IN TRANSITION



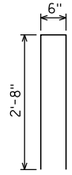
R501



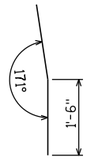
R503



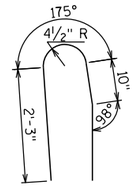
R504



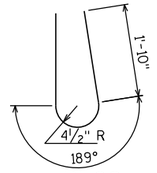
R505



R506

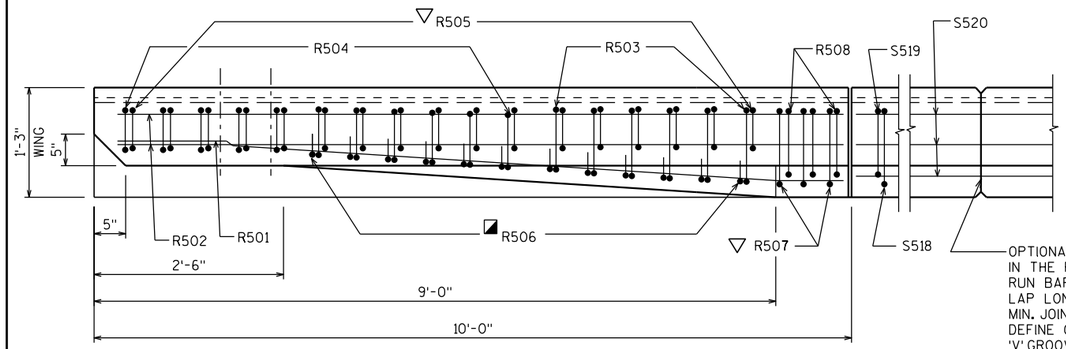


R507



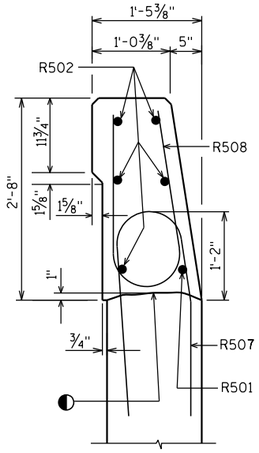
R508

BENDING DIAGRAMS

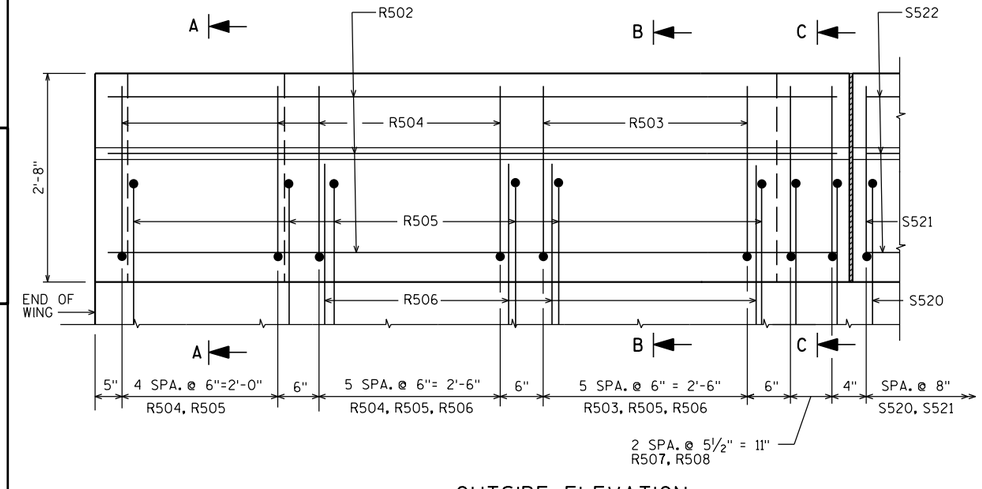


PLAN

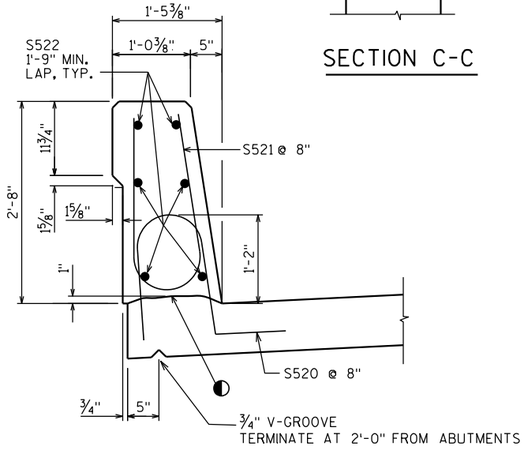
OPTIONAL CONSTRUCTION JOINTS IN THE PARAPETS MAY BE USED. RUN BAR REINF. THRU THE JOINT. LAP LONGIT. BARS A MIN. OF 1'-9". MIN. JOINT SPACING OF 80'-0". DEFINE CONST. JOINT WITH A ¾" - 'V' GROOVE.



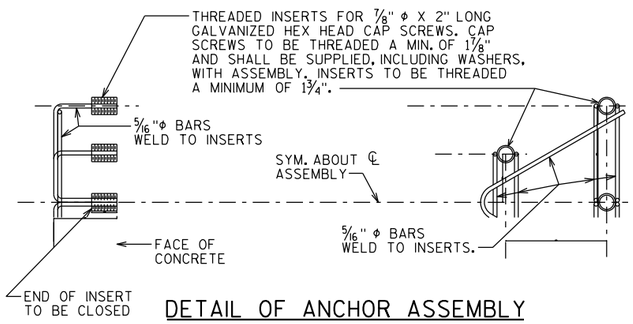
SECTION C-C



OUTSIDE ELEVATION



SECTION THRU PARAPET ON BRIDGE



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.

◐ CONST. JOINT - STRIKE OFF AS SHOWN.

◪ R506 BARS MAY BE PLACED AFTER CONCRETE IS POURED BUT BEFORE INITIAL SET HAS TAKEN PLACE. USE CARE TO PLACE R506 BARS CORRECTLY ALONG TRANSITION OF PARAPET.

▽ R505 AND R507 BARS TO BE TIED TO WING STEEL BEFORE WING IS POURED.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-32-107

DRAWN BY DRJ | PLANS CK'D. MNM

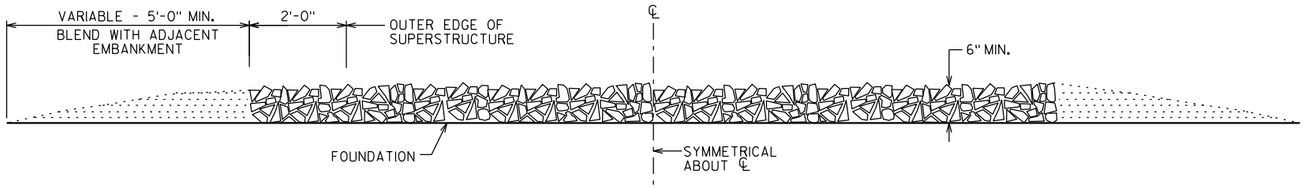
SINGLE SLOPE PARAPET 32SS

SHEET 13 OF 14
243

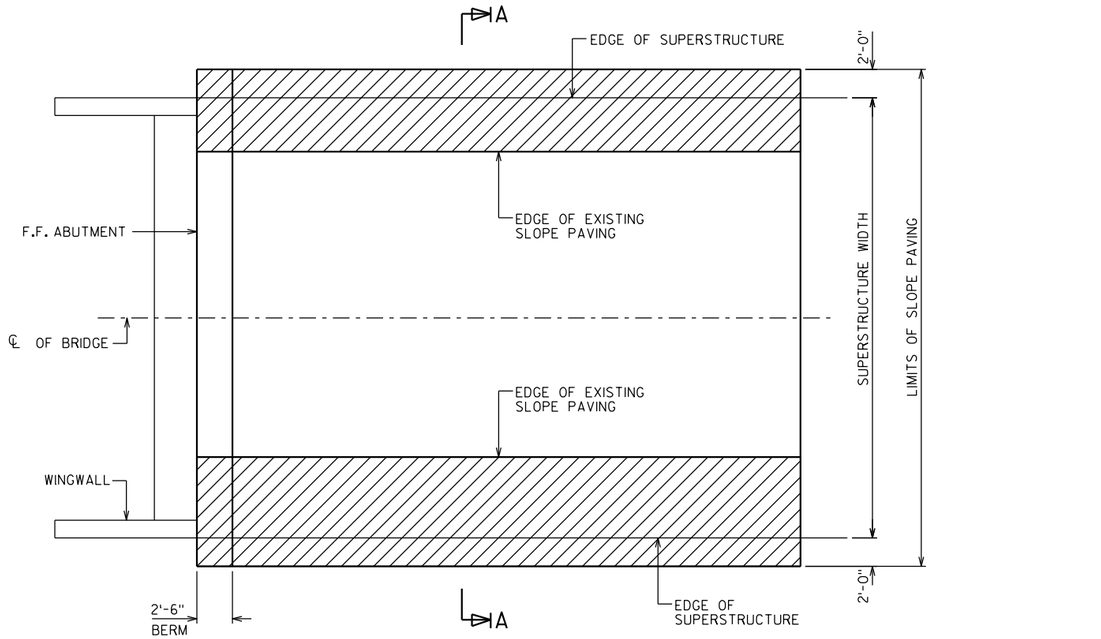
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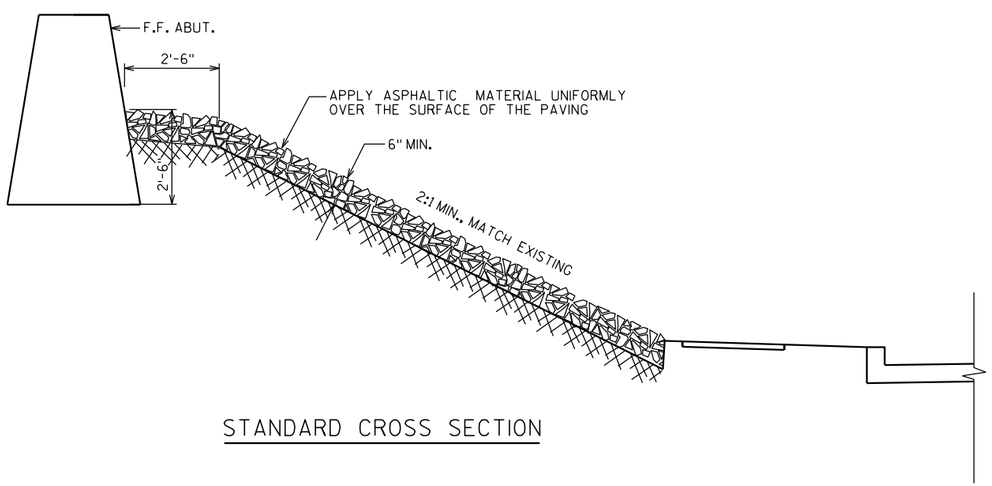
STATE PROJECT NUMBER
1071-06-80



SECTION A-A



PLAN



STANDARD CROSS SECTION

GENERAL NOTES

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

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

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-32-107

DRAWN BY DRJ | PLANS CK'D. MNM

SLOPE PAVING DETAILS

SHEET 14 OF 14
244

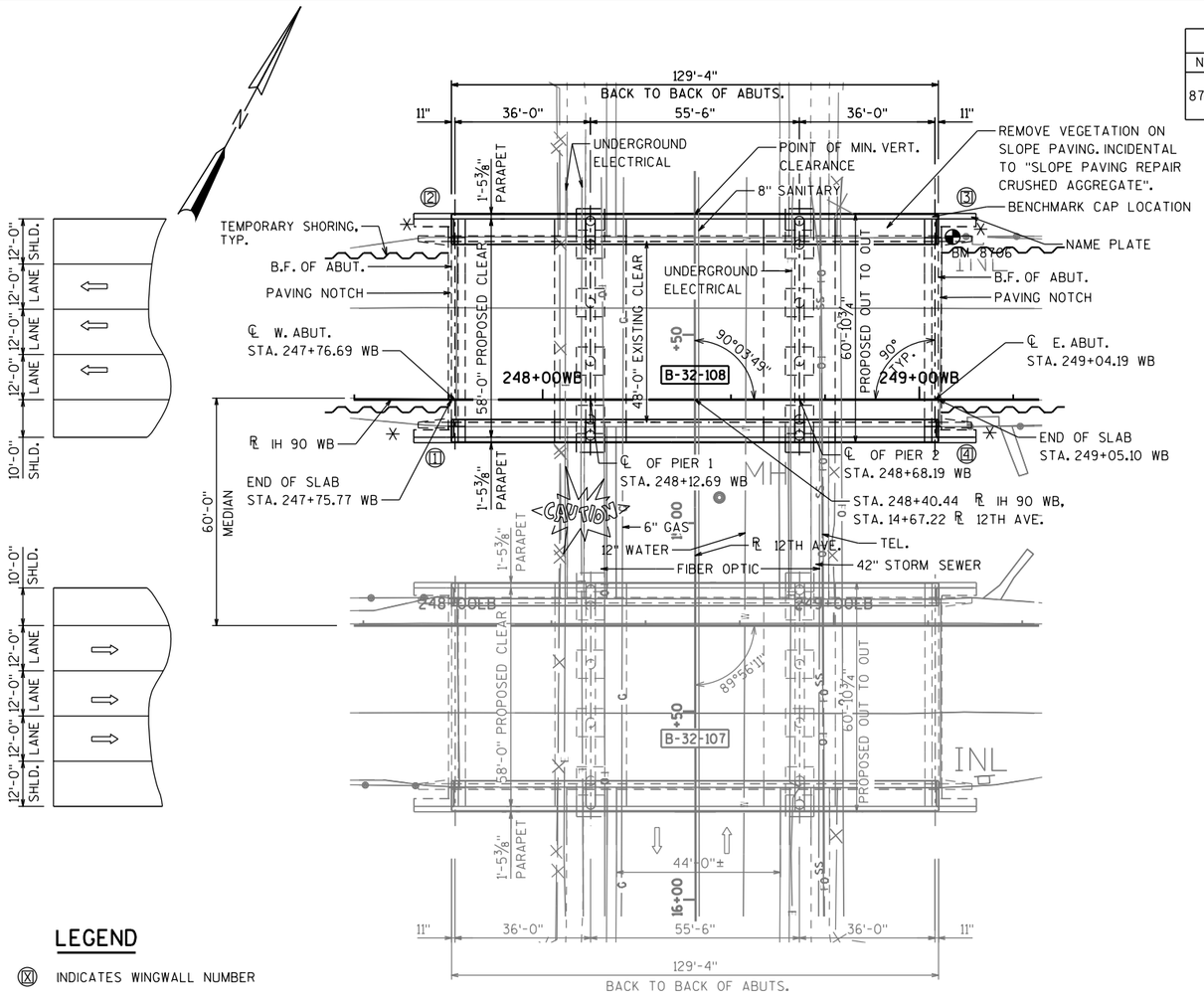
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FILE NAME : P:\8384 I90_53_35 Interchange\Structural\CADD\1071-06-08\B-32-107_Widening\2014-01-09\114_B32107_Slope_Paving_Details.dgn PLOT DATE : 1/10/2014 10:41:16 AM PLOT BY : ychun PLOT NAME : 114_B32107_Slope_Paving_Details.dgn PLOT SCALE : 1:40.0001

STATE PROJECT NUMBER
1071-06-80

BENCHMARK			
NO.	STATION	DESCRIPTION	ELEV.
8706	STA. 249+08.90 WB, 43.22' LT OFFSET	ALUMINUM CAP	717.31

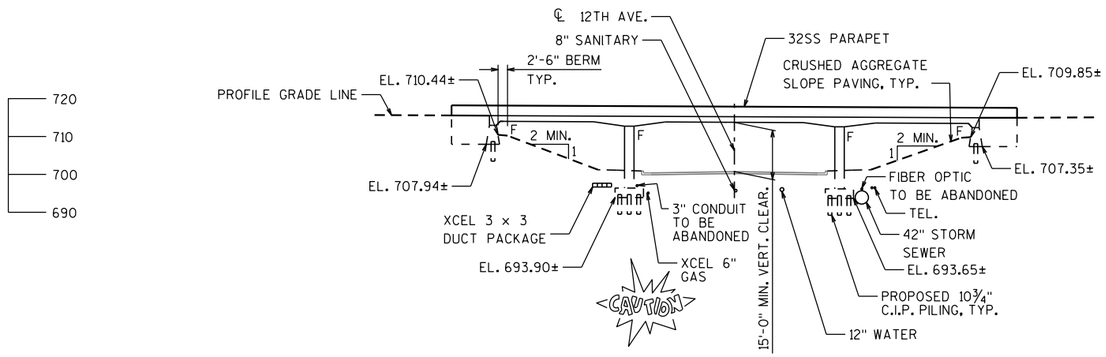


PLAN

SLAB WIDENING OF 3 SPAN HAUNCHED SLAB

LEGEND

- ⓧ INDICATES WINGWALL NUMBER
- ✳ ANCHOR ASSEMBLY FOR THRIE BEAM GUARD RAIL ATTACHMENT. FILL UNUSED HOLES ON WEST END OF BRIDGE WITH 100% SILICONE CAULK.
- BENCHMARK



ELEVATION

NORMAL TO 12TH AVE.

NOTE - UTILITY LOCATIONS AND ELEVATIONS ARE APPROXIMATE. SEE SPECIAL PROVISIONS FOR DETAILS.

NOTE:
UNDERDECK LIGHTING BENEATH THE BRIDGE WILL BE DE-ENERGIZED AND REMOVED PRIOR TO CONSTRUCTION

DESIGN DATA

LIVE LOAD:

DESIGN LOADING = HS-20
INVENTORY RATING = HS-20
OPERATING RATING = HS-33
WIS. MAX. STD. PERMIT VEHICLE = 230 KIPS

DESIGNED FOR FUTURE CONCRETE OVERLAY TO BE CONSTRUCTED UNDER FUTURE CONTRACT I.D. NO. 1071-06-78

ULTIMATE DESIGN STRESSES (NEW AND EXISTING WORK):

CONCRETE MASONRY, SLAB----------f'c = 4,000 psi
CONCRETE MASONRY, ALL OTHER-------f'c = 3,500 psi
HIGH STRENGTH BAR STEEL
REINFORCEMENT GRADE 60----------fy = 60,000 psi

TRAFFIC DATA IH 90

A.D.T. = 43,700 (2016)
= 56,700 (2036)

R.D.S. = 70 MPH

FOUNDATION DATA

ABUTMENTS AND PIERS TO BE SUPPORTED ON 10¾" CIP PILING DRIVEN TO A REQUIRED DRIVING RESISTANCE OF 85 TONS* PER PILE AS DETERMINED BY THE MODIFIED GATES FORMULA. PILING LENGTH ESTIMATED AT 70' FOR WEST ABUTMENT AND PIER 1. PILING LENGTH ESTIMATED AT 50' FOR PIER 2. PILING LENGTH ESTIMATED AT 65' FOR EAST ABUTMENT.

*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.

WISCONSIN
YOON-MOON CHUN
E-39076
WHITEFISH BAY WIS.
PROFESSIONAL ENGINEER

Yoon-Moon Chun
01-10-2014

LIST OF DRAWINGS

1. GENERAL PLAN & ELEVATION
2. GENERAL NOTES & QUANTITIES
3. EXISTING CROSS SECTIONS & REMOVAL
4. PROPOSED CROSS SECTIONS
5. SUBSURFACE EXPLORATION
6. WEST ABUTMENT
7. EAST ABUTMENT
8. ABUTMENT DETAILS
9. PIERS 1& 2
10. SUPERSTRUCTURE
11. SUPERSTRUCTURE DETAILS 1
12. SUPERSTRUCTURE DETAILS 2
13. SINGLE SLOPE PARAPET 32SS
14. SLOPE PAVING DETAILS

STRUCTURES DESIGN CONTACTS

BUREAU OF STRUCTURES:
WILLIAM DREHER (608) 266-8489

CONSULTANT CONTACT:
MAHMOUD MALAS (262) 821-1171

NO.	DATE	REVISION	BY

KSA K. Singh & Associates, Inc.
Engineers, Scientists and Environmental Consultants

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

ACCEPTED William C. Dreher KAR 01/10/14
CHIEF STRUCTURES DESIGN ENGINEER DATE

STRUCTURE B-32-108

IH 90 WB OVER 12TH AVENUE

COUNTY		TOWN/CITY/VILLAGE
LA CROSSE		ONALASKA

DESIGN SPEC.
AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS

DESIGNED BY	DESIGN CK'D.	DRAWN BY	PLANS CK'D.
DRJ	MNM	DRJ	MNM

GENERAL PLAN & ELEVATION

SHEET 1 OF 14
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FILE NAME : P:\8384 I90_53_35 Interchange\Structural\CADD\1071-06-08\B-32-108_Widening\2014-01-09\101_B32108_general plan.dgn PLOT DATE : 1/10/2014 10:35:17 AM PLOT BY : ndecent PLOT NAME : 101_B32108_general plan.dgn PLOT SCALE : 1:40

STATE PROJECT NUMBER
1071-06-80

TOTAL ESTIMATED QUANTITIES

ITEM NO.	BID ITEMS	UNIT	W. ABUT.	PIER 1	PIER 2	E. ABUT.	SUPER.	TOTAL
203.0200	REMOVING OLD STRUCTURE STA. 248+41.10 WB	LS	—	—	—	—	—	1
△ 206.1000	EXCAVATION FOR STRUCTURES BRIDGES B-32-108	LS	—	—	—	—	—	1
206.6000.S	TEMPORARY SHORING	SF	320	250	250	320	—	1,140
210.0100	BACKFILL STRUCTURE	CY	145	—	—	145	—	290
502.0100	CONCRETE MASONRY BRIDGES	CY	24	24	24	24	144	240
502.3200	PROTECTIVE SURFACE TREATMENT	SY	9	—	—	9	274	292
502.5002	MASONRY ANCHORS TYPE L NO. 4 BARS	EACH	—	48	48	—	—	96
502.5005	MASONRY ANCHORS TYPE L NO. 5 BARS	EACH	—	—	—	—	154	154
502.5010	MASONRY ANCHORS TYPE L NO. 6 BARS	EACH	20	—	—	20	—	40
502.5015	MASONRY ANCHORS TYPE L NO. 7 BARS	EACH	—	16	16	—	—	32
502.5020	MASONRY ANCHORS TYPE L NO. 8 BARS	EACH	14	—	—	14	—	28
505.0405	BAR STEEL REINFORCEMENT HS BRIDGES	LB	660	1,120	1,120	660	11,600	15,160
505.0605	BAR STEEL REINFORCEMENT HS COATED BRIDGES	LB	1,765	4,645	4,645	1,795	22,640	35,490
516.0500	RUBBERIZED MEMBRANE WATERPROOFING	SY	8	—	—	8	—	16
550.0010	PRE-BORING UNCONSOLIDATED MATERIALS	LF	—	100	100	—	—	200
550.2104	PILING CIP CONCRETE 10 3/4 X 0.25-INCH	LF	140	700	500	130	—	1,470
604.0500	SLOPE PAVING CRUSHED AGGREGATE	SY	46	—	—	46	—	92
604.9010.S	SLOPE PAVING REPAIR CRUSHED AGGREGATE	CY	—	—	—	3	—	3
604.9015.S	RESEAL CRUSHED AGGREGATE SLOPE PAVING	SY	180	—	—	180	—	360
612.0406	PIPE UNDERDRAIN WRAPPED 6-INCH	LF	80	—	—	80	—	160
614.0150	ANCHOR ASSEMBLIES FOR STEEL PLATE BEAM GUARD	EACH	2	—	—	2	—	4
SPV.0060.20	BAR COUPLER NO. 9 SPECIAL	EACH	—	—	—	—	80	80
SPV.0105.23	TEMPORARY PEDESTRIAN AND BICYCLIST PASSAGEWAY B-32-108	LS	—	—	—	—	—	1
NON-BID ITEMS								
NAME PLATE		EACH	—	—	—	—	—	1
PREFORMED JOINT FILLER		SIZE	—	—	—	—	—	1/2" & 3/4"

△ INCLUDES INVESTIGATION OF EXISTING FOUNDATION SUPPORT SYSTEM FOR ABUTMENTS.
SEE GENERAL NOTES ON THIS SHEET FOR DETAILS.
AS-BUILT PLANS OF B-32-108 DO NOT SHOW PILING AT ABUTMENTS.

GENERAL NOTES

DRAWINGS SHALL NOT BE SCALED.

ALL STATIONS AND ELEVATIONS ARE IN FEET.

THE FIRST DIGIT OF A THREE DIGIT AND THE FIRST TWO DIGITS OF A FOUR DIGIT BAR MARK SIGNIFIES THE BAR SIZE.

BEVEL EXPOSED EDGES OF CONCRETE 3/4" UNLESS OTHERWISE NOTED.

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

PROTECTIVE SURFACE TREATMENT SHALL BE APPLIED TO THE FRONT FACE AND TOP OF THE PARAPETS.

THE WISCONSIN DEPARTMENT OF TRANSPORTATION WILL FURNISH THE CONTRACTOR WITH THE BENCHMARK CAPS TO BE INSTALLED AS SHOWN ON THE PLANS.

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

THE GRADATION OF THE STRUCTURE BACKFILL SHALL MEET THE REQUIREMENTS OF SECTION 209.2.2 OF THE STANDARD SPECIFICATIONS FOR GRADE 1 MATERIALS.

DIMENSIONS SHOWN BASED ON THE ORIGINAL STRUCTURAL PLANS.

INCORPORATE EXISTING BAR STEEL REINFORCEMENT WHERE SHOWN INTO NEW WORK.

ALL CONCRETE REMOVAL SHALL BE DEFINED BY A 1" DEEP SAW CUT.

CONTRACTOR SHALL SUPPLY A NEW NAME PLATE OR RE-USE THE EXISTING ONE IN ACCORDANCE WITH SECTION 502.3.11 OF THE STANDARD SPECIFICATIONS AND THE STANDARD DETAILED DRAWINGS. THE NEW NAME PLATE SHALL SHOW THE ORIGINAL CONSTRUCTION YEAR OF 1983.

CONTRACTOR SHALL CAREFULLY EXCAVATE AND INVESTIGATE EXISTING FOUNDATIONS SUPPORT SYSTEM FOR ABUTMENTS. IF PILING IS PRESENT, THE CONTRACTOR SHALL FOLLOW PLANS ACCORDINGLY. CONTACT THE BTS GEOTECHNICAL UNIT IF THE EXISTING ABUTMENTS ARE NOT FOUNDED ON PILING. WORK SHALL BE CONSIDERED INCIDENTAL TO BID ITEM "EXCAVATION FOR STRUCTURES BRIDGE B-32-108".

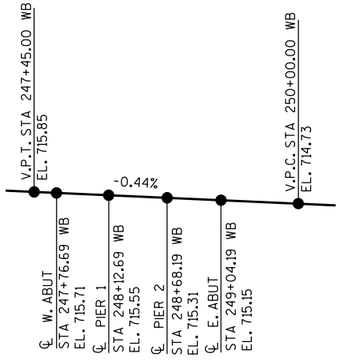
ELECTRICAL CONDUIT AND LIGHTING UNDERNEATH STRUCTURE IS TO BE REMOVED BY THE CITY OF ONALASKA PRIOR TO CONSTRUCTION ACTIVITIES. CITY OF ONALASKA WILL INSTALL NEW CONDUIT AND LIGHTING ONCE CONSTRUCTION IS COMPLETE.

UTILIZE TEMPORARY SHORING FOR ABUTMENT AND WINGWALL CONSTRUCTION. CONTRACTOR SHALL ALSO USE TEMPORARY SHORING FOR PIER FOOTING CONSTRUCTION WHILE AVOIDING ANY EXISTING UTILITIES IN PLACE. SEE SPECIAL PROVISIONS FOR UTILITY COORDINATION PRIOR TO PIER EXCAVATION AND CONSTRUCTION.

PRE-BORE PILES FOR PIER 10'-0" BELOW BOTTOM OF PIER FOOTINGS TO MINIMIZE IMPACT TO EXISTING UTILITIES DURING PILE DRIVING.

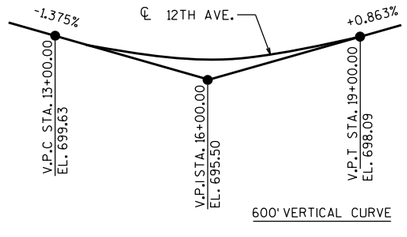
PROVIDE PEDESTRIAN AND BICYCLE ACCESS DURING CONSTRUCTION. WORK PAID FOR UNDER BID ITEM "TEMORARY PEDESTRIAN AND BICYCLIST PASSAGEWAY". SEE SPECIAL PROVISIONS FOR DETAILS.

CONTRACTOR SHALL PROVIDE PROTECTION DURING EXCAVATION AND CONSTRUCTION OF PIER FOOTINGS SO AS TO ELIMINATE ANY POTENTIAL DAMAGES TO EXISTING STORM SEWER PIPE. WORK SHALL BE CONSIDERED INCIDENTAL TO THE CONSTRUCTION OF THE PIER.



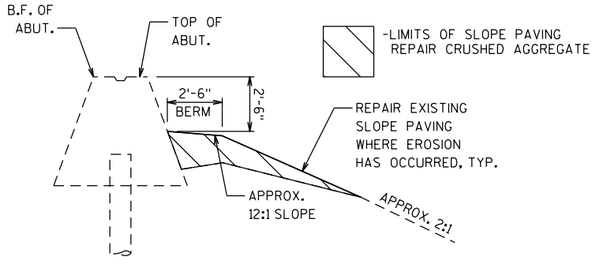
PROFILE GRADE LINE IH 90 WB

PROPOSED PROFILE GRADE LINE
FOR FUTURE OVERLAY



PROFILE GRADE LINE 12TH AVE.

EXISTING PROFILE GRADE LINE



SLOPE PAVING AT ABUTMENTS (TYP.)

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STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-32-108

DRAWN BY DRJ | PLANS CK'D. MNM

GENERAL NOTES & QUANTITIES

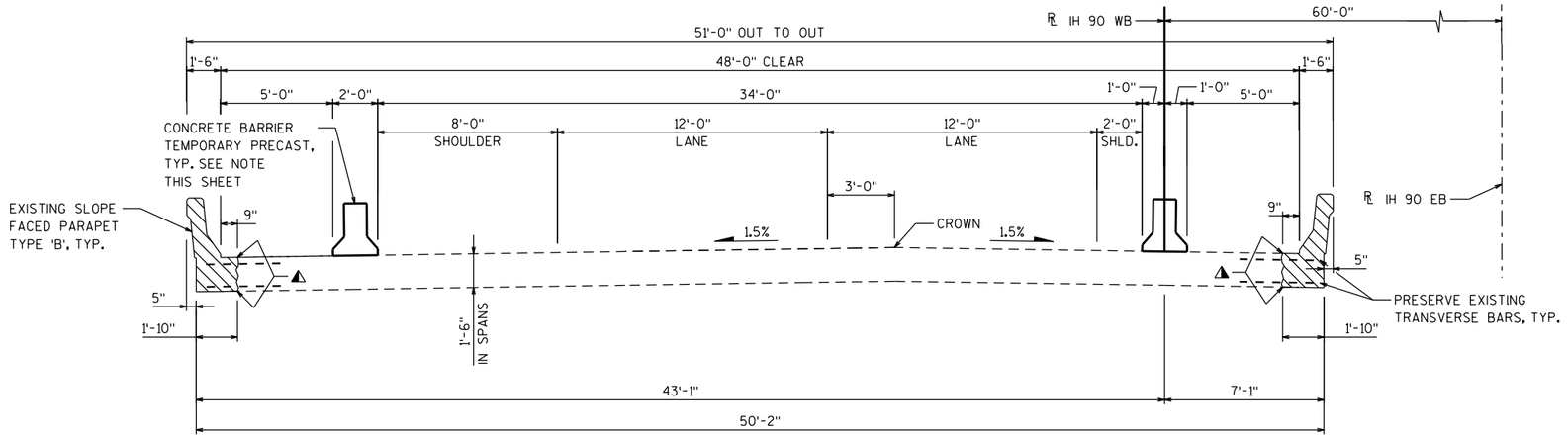
SHEET 2 OF 14
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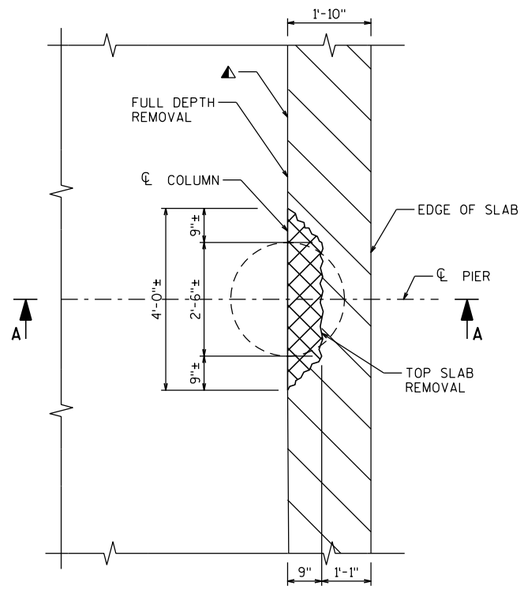
STATE PROJECT NUMBER

1071-06-80

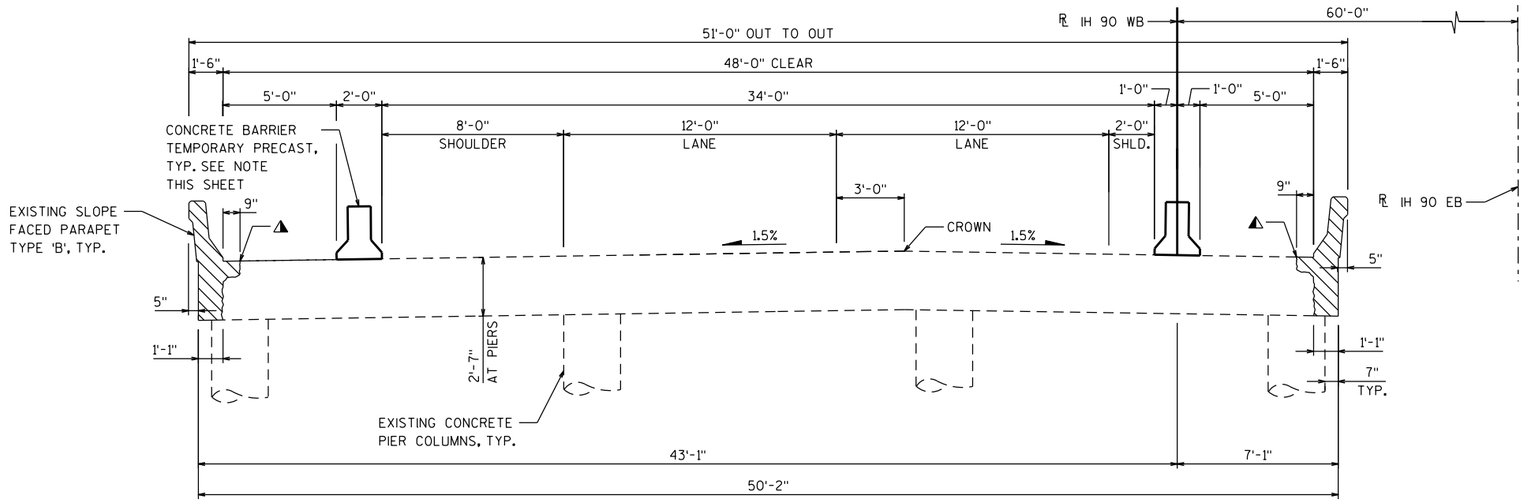


EXISTING CROSS-SECTION IN SPAN

(LOOKING EAST)
(REMOVAL OF SLAB AT ABUTMENTS SIMILAR)

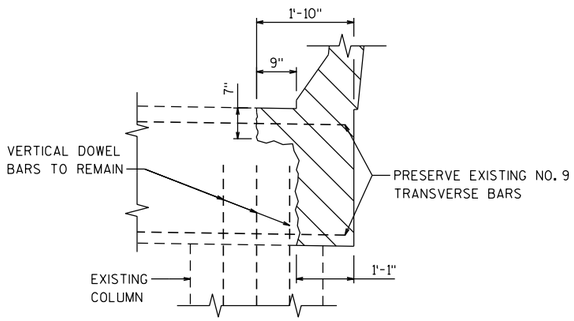


REMOVAL PLAN AT PIERS



EXISTING CROSS-SECTION AT PIERS

(LOOKING EAST)



SECTION A-A

NOTE

CONCRETE BARRIER TEMPORARY SHALL NOT BE ANCHORED INTO THE SLAB.

LEGEND

REMOVAL LIMITS

⚠ MAXIMUM 1" DEEP SAWCUT. PRESERVE EXISTING TRANSVERSE REINFORCEMENT. EACH DAMAGED NO. 4 OR NO. 5 BAR SHALL BE REPLACED WITH A NO. 5 BAR EMBEDDED 1'-0" IN EXISTING SLAB USING MASONRY ANCHOR TYPE L, INCLUDED IN BID ITEM "REMOVING OLD STRUCTURE".

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-32-108

DRAWN BY VJD | PLANS CK'D. MNM

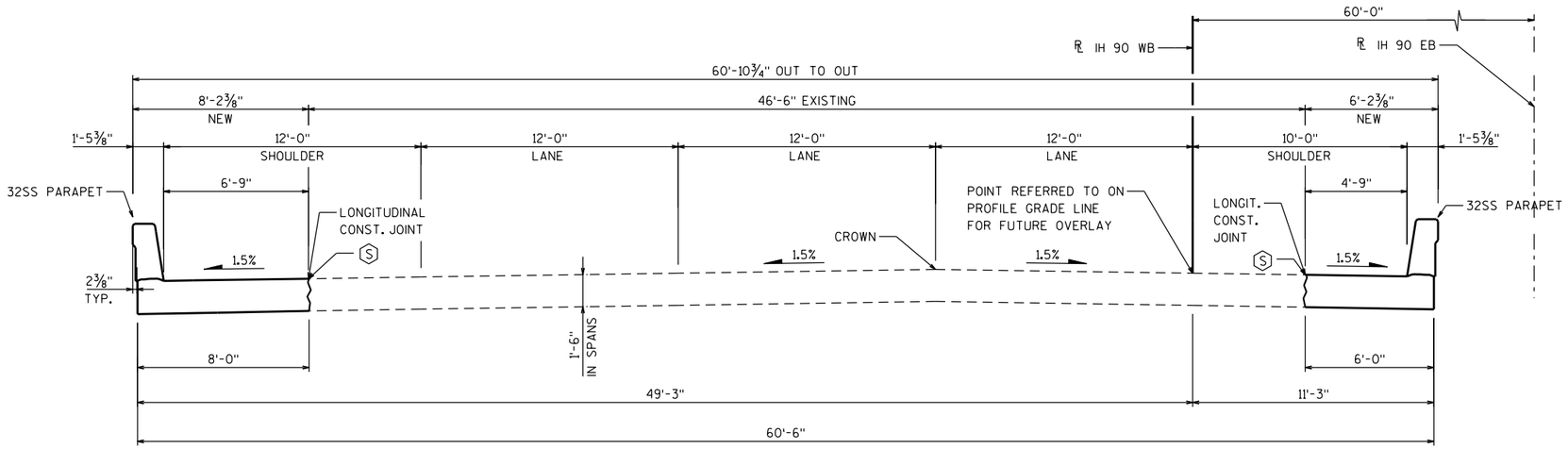
EXISTING CROSS SECTIONS & REMOVAL

SHEET 3 OF 14
247

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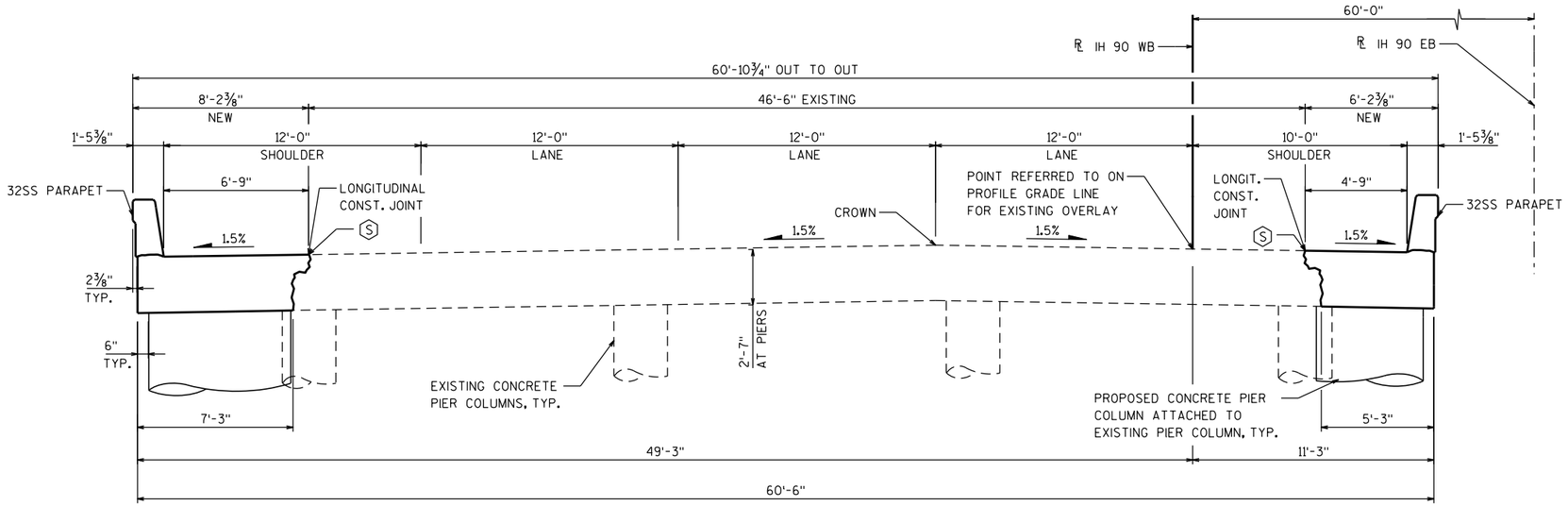
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STATE PROJECT NUMBER
1071-06-80



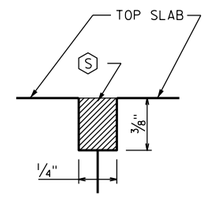
PROPOSED CROSS-SECTION IN SPAN

(LOOKING EAST)



PROPOSED CROSS-SECTION AT PIERS

(LOOKING EAST)



LONGITUDINAL CONST. JOINT

JOINT DETAILS

Ⓢ — ROUTE OUT ¼" X ⅜" DEEP AT JOINT. FILL IN WITH LOW VISCOSITY CRACK SEALER IN ACCORDANCE WITH SECTION 502.3.13 OF THE STANDARD SPECIFICATIONS AND PER THE APPROVED PRODUCTS LIST. (INCIDENTAL TO BID ITEM "CONCRETE MASONRY BRIDGES").

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-32-108

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PROPOSED CROSS SECTIONS

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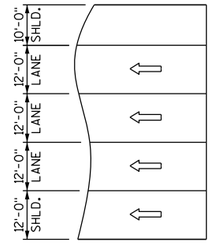
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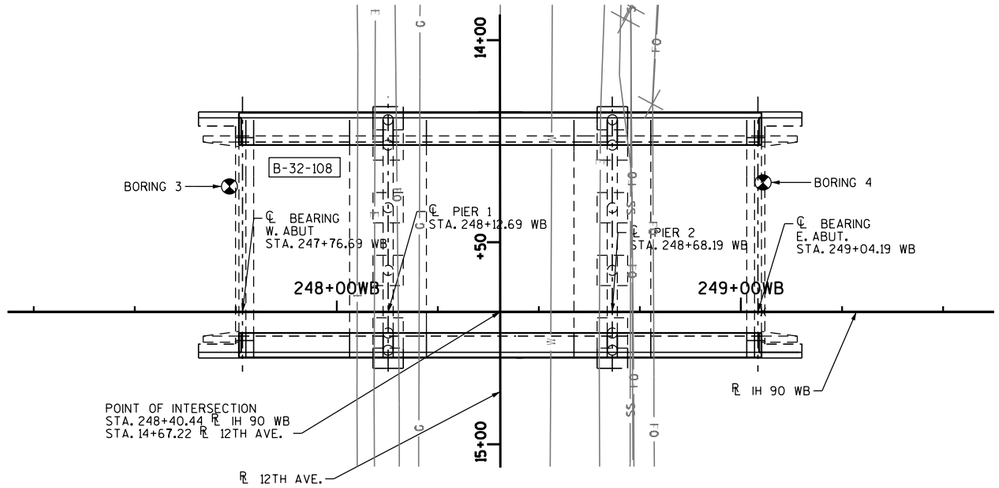
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FILE NAME : P:\8384 I90_53_35 Interchange\Structural\CADD\1071-06-08\B-32-108_Widening\2014-01-09\104_B32108_PROcross sections.dgn PLOT DATE : 1/10/2014 10:35:20 AM PLOT BY : ndecent PLOT NAME : 104_B32108_PROcross sections.dgn PLOT SCALE : 1:40

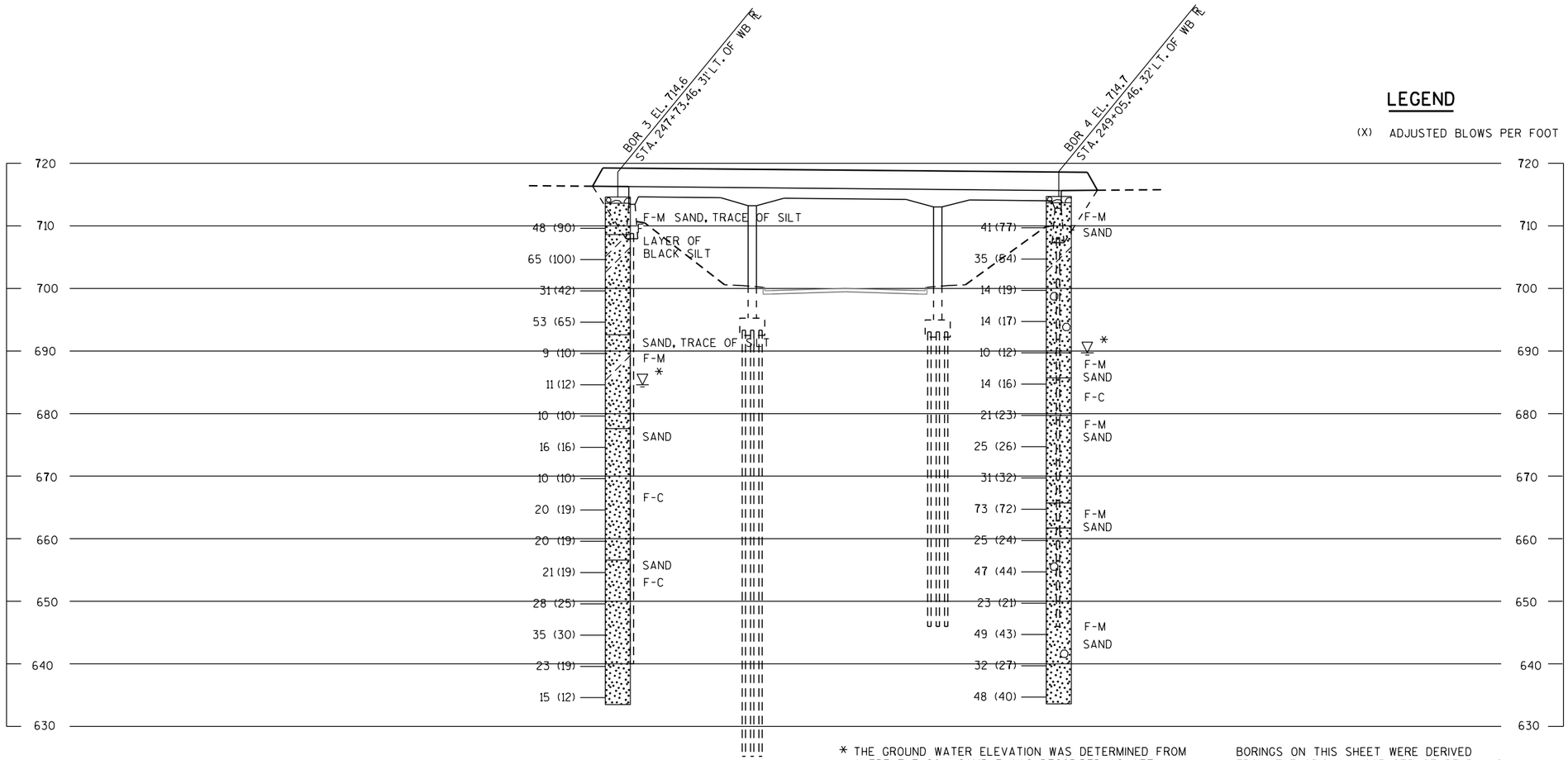
STATE PROJECT NUMBER

1071-06-80









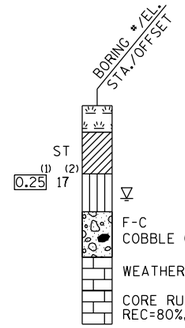
LEGEND

(X) ADJUSTED BLOWS PER FOOT

MATERIAL SYMBOLS

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

LEGEND OF BORING



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

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

GROUND WATER ELEVATION

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

ABBREVIATIONS

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

SUBSURFACE EXPLORATION FOR FOUNDATION DESIGN AND BIDDERS INFORMATION

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

* THE GROUND WATER ELEVATION WAS DETERMINED FROM WHERE THE SOIL SAMPLE WAS DESCRIBED AS WET.

BORINGS ON THIS SHEET WERE DERIVED FROM THE ORIGINAL 1983 STRUCTURE PLANS

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DEPARTMENT OF TRANSPORTATION

STRUCTURE B-32-108

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SUBSURFACE EXPLORATION

SHEET 5 OF 14

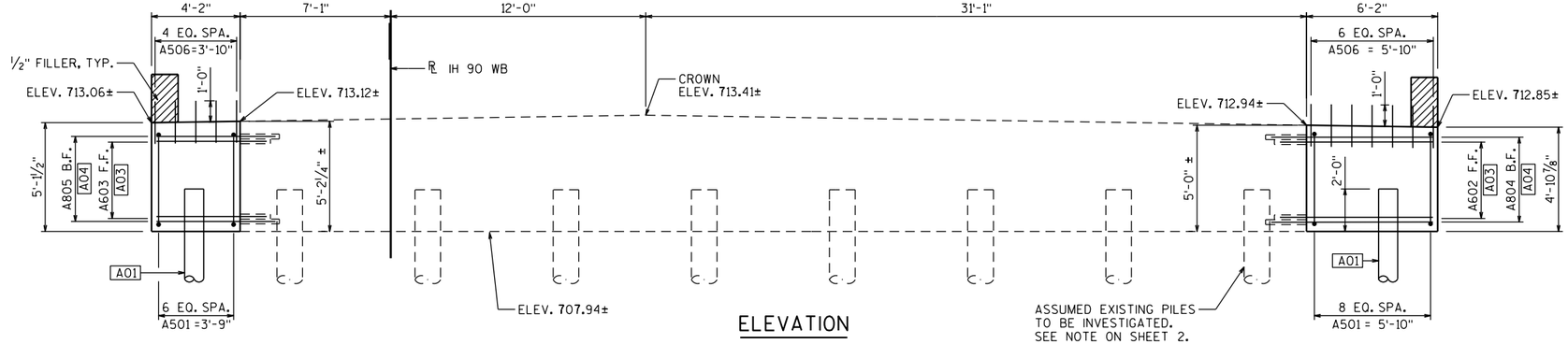
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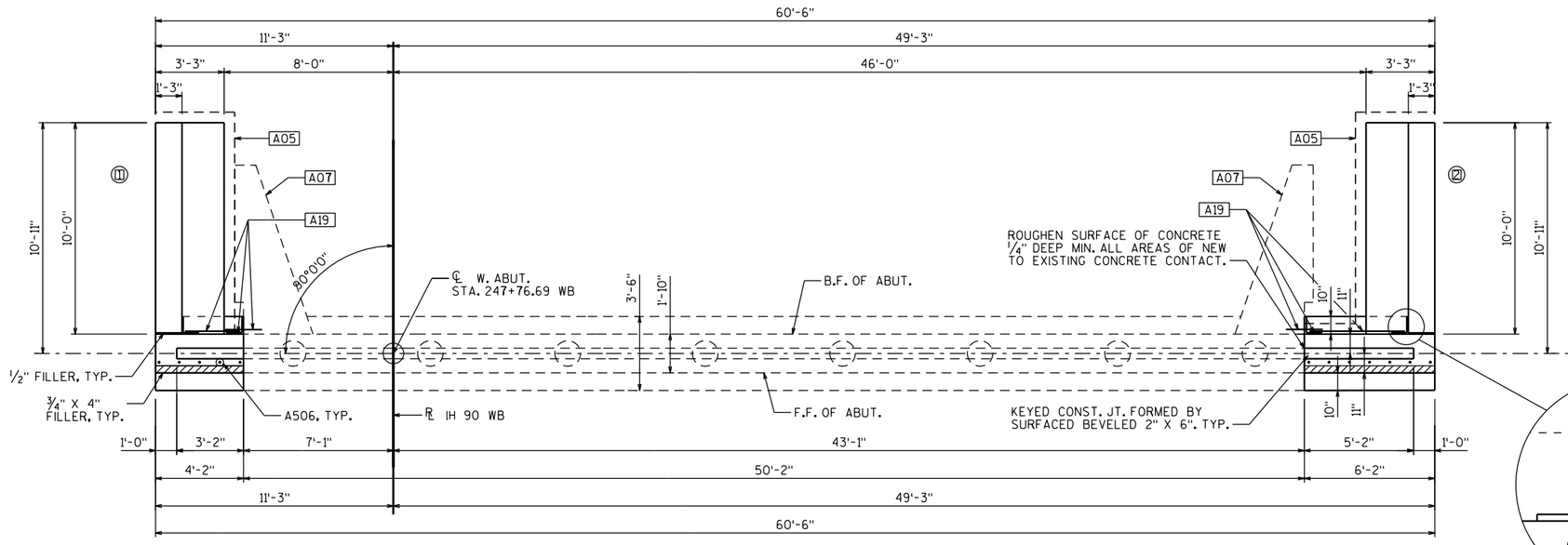
STATE PROJECT NUMBER

1071-06-80

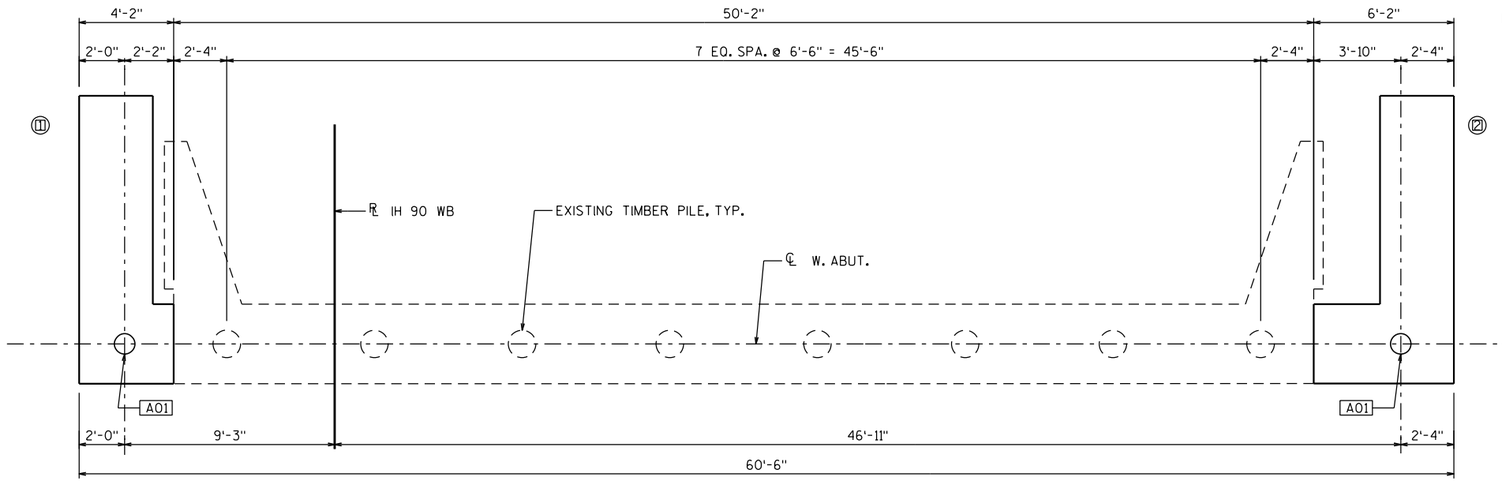


ELEVATION

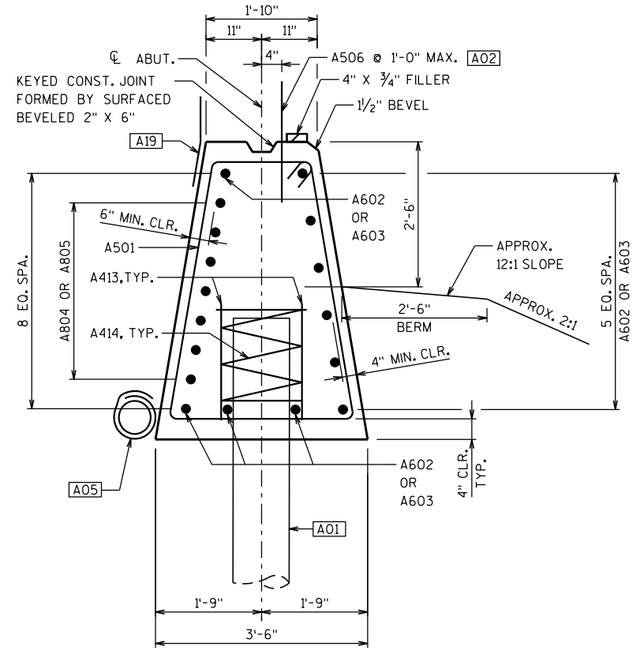
(LOOKING @ F.F. ABUT.)



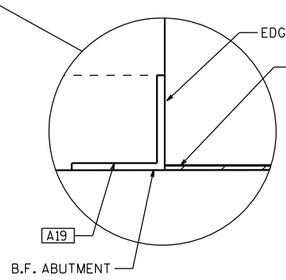
PLAN



PILE PLAN



SECTION THRU BODY



LEGEND & NOTES

A01 SUPPORT ABUTMENT ON 10¾" CIP PILING. ESTIMATED 70'-0" LONG WITH A REQUIRED DRIVING RESISTANCE OF 85 TONS PER PILE.

A02 EMBED 1'-0". MAY BE PLACED AFTER CONCRETE IS POURED BUT BEFORE INITIAL SET HAS TAKEN PLACE.

A03 MASONRY ANCHOR TYPE L NO. 6 BARS. EMBED 1'-3" IN CONCRETE. CLEAR EDGE DISTANCE = 4" MIN.

A04 MASONRY ANCHOR TYPE L NO. 8 BARS. EMBED 1'-8" IN CONCRETE. CLEAR EDGE DISTANCE = 6" MIN.

A05 PIPE UNDERDRAIN WRAPPED (6-INCH). SLOPE 0.5% MIN. TO SUITABLE DRAINAGE. SEE RODENT SCREEN DETAIL ON SHEET 7.

A06 SEAL ALL EXPOSED HORIZ. & VERT. SURFACES OF ½" FILLER WITH NON-STAINING GRAY NON-BITUMINOUS JOINT SEALER. (1" DEEP AND HOLD ⅛" BELOW SURFACE OF CONCRETE)

A07 REMOVE EXISTING WINGS TO A MINIMUM OF BRIDGE SEAT ELEVATION.

A19 18" (RMW) RUBBERIZED MEMBRANE WATERPROOFING. SEAL ALL HORIZONTAL AND VERTICAL JOINTS AT BACK FACE.

⑪ WINGWALL NUMBER

R.M.W. RUBBERIZED MEMBRANE WATERPROOFING

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-32-108

DRAWN BY DRJ | PLANS CK'D. MNM

WEST ABUTMENT

SHEET 6 OF 14

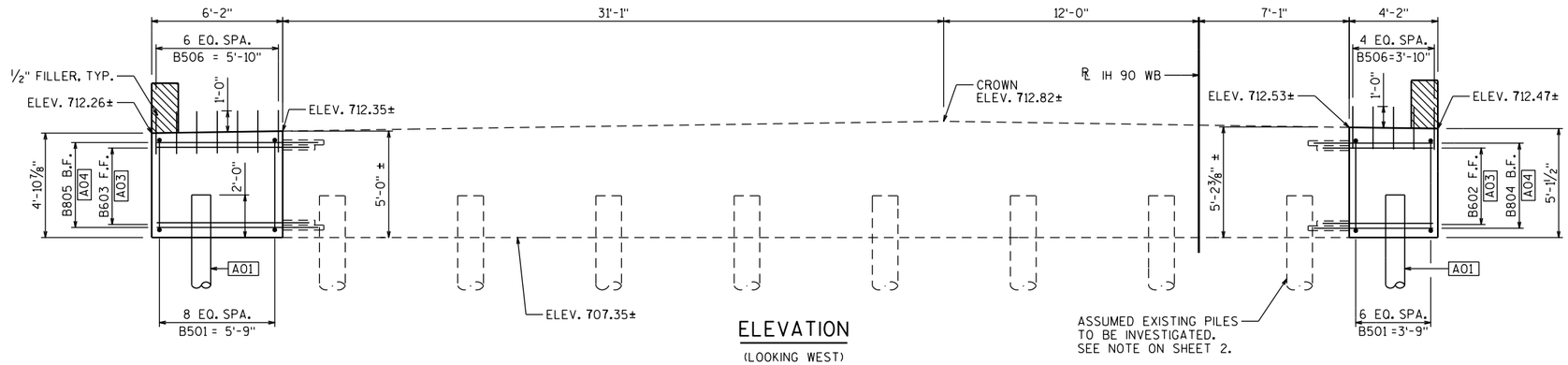
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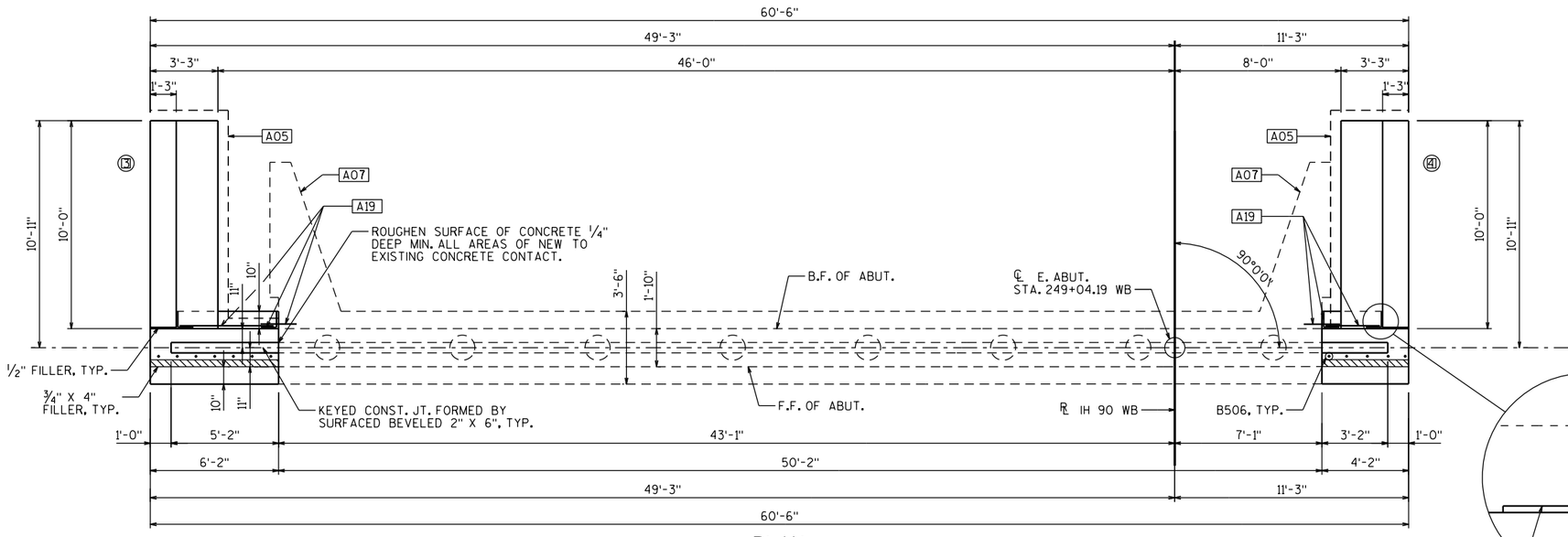
STATE PROJECT NUMBER

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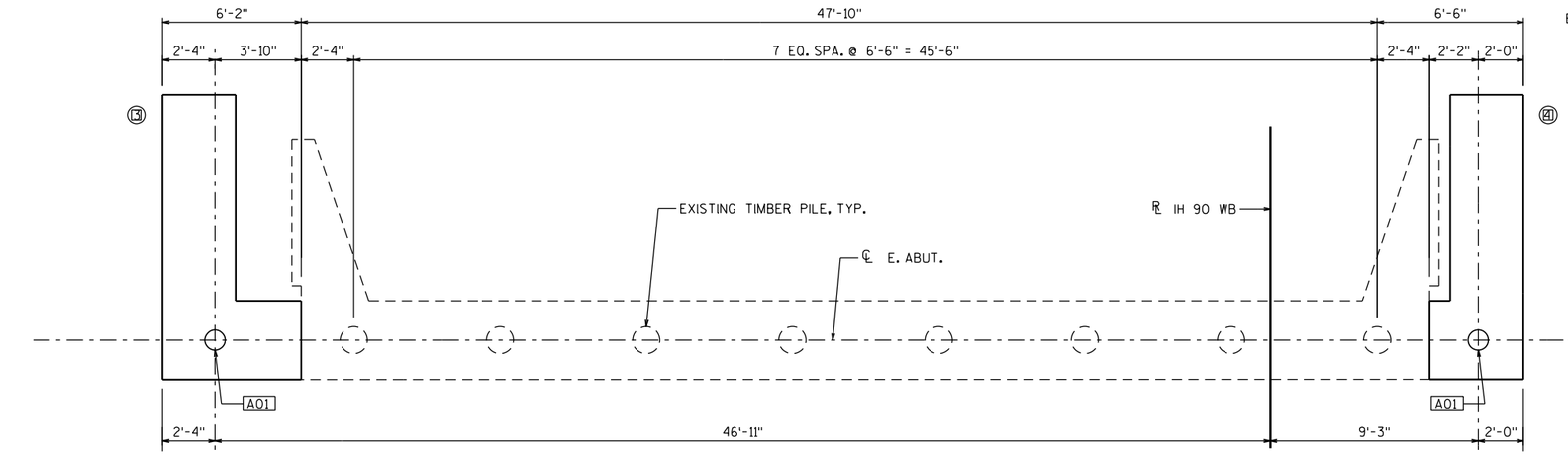


ELEVATION

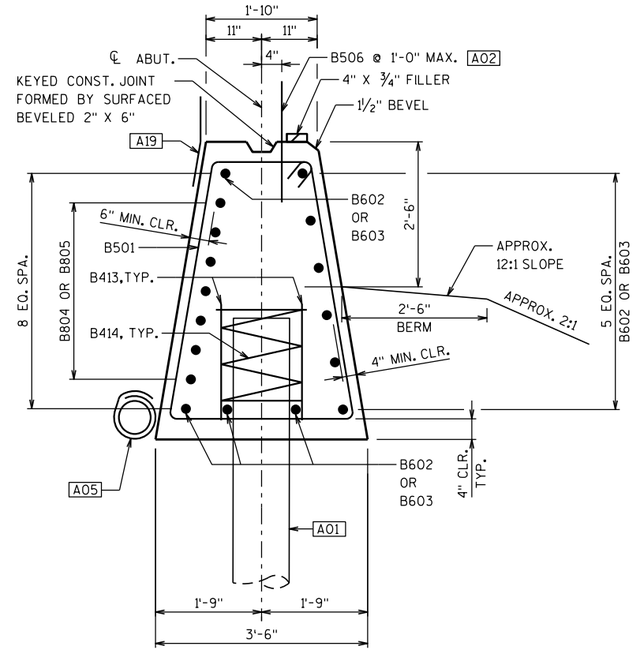
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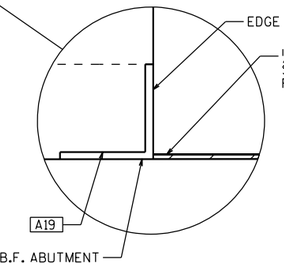
PLAN



PILE PLAN



SECTION THRU BODY



LEGEND & NOTES

A01 SUPPORT ABUTMENT ON 10¾" CIP PILING. ESTIMATED 70'-0" LONG WITH A REQUIRED DRIVING RESISTANCE OF 85 TONS PER PILE.

A02 EMBED 1'-0". MAY BE PLACED AFTER CONCRETE IS POURED BUT BEFORE INITIAL SET HAS TAKEN PLACE.

A03 MASONRY ANCHOR TYPE L NO. 6 BARS. EMBED 1'-3" IN CONCRETE. CLEAR EDGE DISTANCE = 4" MIN.

A04 MASONRY ANCHOR TYPE L NO. 8 BARS. EMBED 1'-8" IN CONCRETE. CLEAR EDGE DISTANCE = 6" MIN.

A05 PIPE UNDERDRAIN WRAPPED (6-INCH). SLOPE 0.5% MIN. TO SUITABLE DRAINAGE. SEE RODENT SCREEN DETAIL ON SHEET 7.

A06 SEAL ALL EXPOSED HORIZ. & VERT. SURFACES OF ½" FILLER WITH NON-STAINING GRAY NON-BITUMINOUS JOINT SEALER. (1" DEEP AND HOLD ⅛" BELOW SURFACE OF CONCRETE)

A07 REMOVE EXISTING WINGS TO A MINIMUM OF BRIDGE SEAT ELEVATION.

A19 18" (RMW) RUBBERIZED MEMBRANE WATERPROOFING. SEAL ALL HORIZONTAL AND VERTICAL JOINTS AT BACK FACE.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-32-108

DRAWN BY DRJ | PLANS CK'D. MNM

EAST ABUTMENT

SHEET 7 OF 14
251

Ⓧ WINGWALL NUMBER

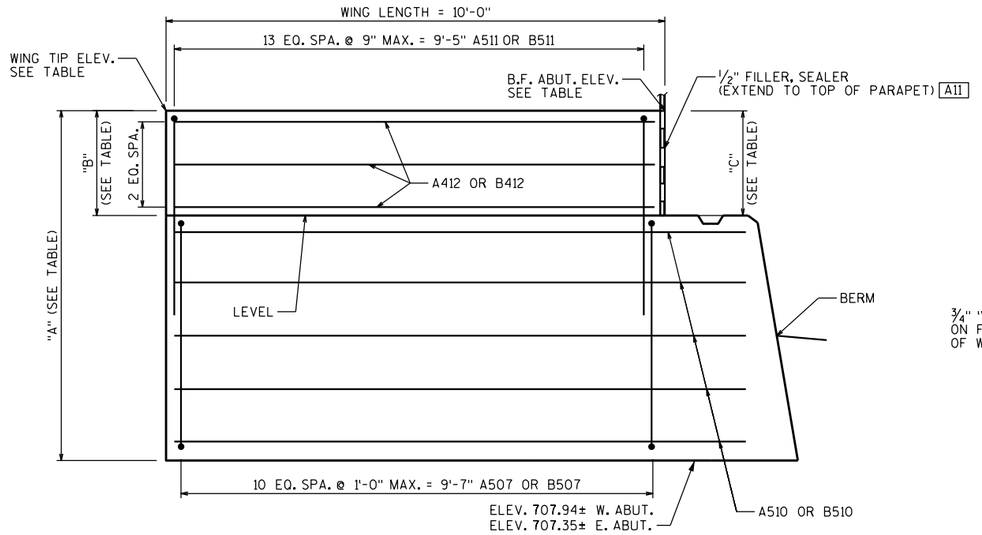
R.M.W. RUBBERIZED MEMBRANE WATERPROOFING

8

8

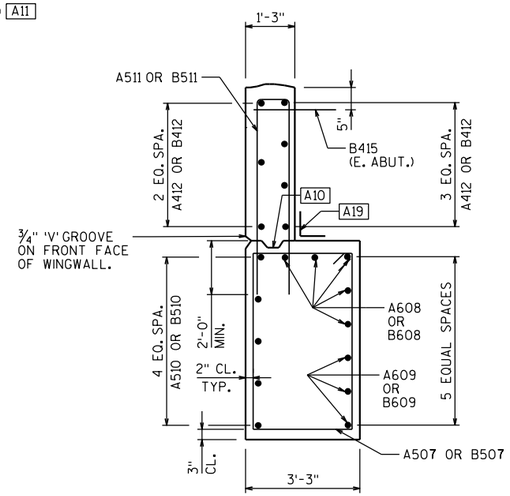
STATE PROJECT NUMBER

1071-06-80



WING ELEVATION

(LOOKING AT F.F.)



WING SECTION

BILL OF BARS - WEST ABUTMENT

COATED 1,200 LBS.
UNCOATED 660 LBS.

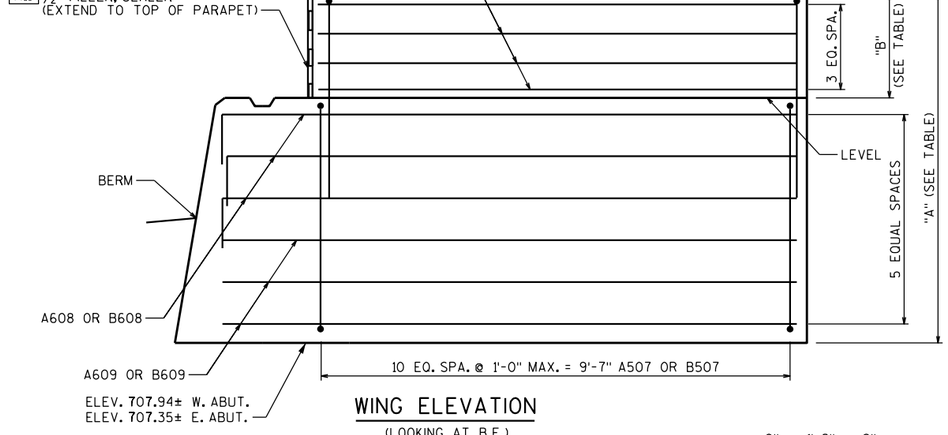
MARK	COATED	NO REQ'D	LENGTH	BAR SERIES	BENT	LOCATION
A501		16	13'-4"		X	VERT. STIRRUP ABUT. BODY
A602		10	5'-3"			HORIZ. ABUT. BODY INSIDE WIDENING
A603		10	7'-3"			HORIZ. ABUT. BODY OUTSIDE WIDENING
A804		7	5'-8"			HORIZ. ABUT. BODY INSIDE WIDENING
A805		7	7'-8"			HORIZ. ABUT. BODY OUTSIDE WIDENING
A506	X	12	2'-0"			VERT. DOWEL ABUT. BODY
A507	X	22	16'-9"		X	VERT. STIRRUP WING BASE
A608	X	10	12'-4"		X	B.F. HORIZ. WING BASE
A609	X	6	11'-11"			B.F. HORIZ. WING BASE
A510	X	10	11'-6"			F.F. HORIZ. WING BASE
A511	X	28	9'-5"		X	VERT. STIRRUP WING
A412	X	14	9'-8"			HORIZ. WING
A413	X	4	2'-3"			PILE VERTICAL
A414	X	2	28'-0"			PILE SPIRAL

BILL OF BARS - EAST ABUTMENT

COATED 1,230 LBS.
UNCOATED 660 LBS.

MARK	COATED	NO REQ'D	LENGTH	BAR SERIES	BENT	LOCATION
B501		16	13'-4"		X	VERT. STIRRUP ABUT. BODY
B602		10	5'-3"			HORIZ. ABUT. BODY INSIDE WIDENING
B603		10	7'-3"			HORIZ. ABUT. BODY OUTSIDE WIDENING
B804		7	5'-8"			HORIZ. ABUT. BODY INSIDE WIDENING
B805		7	7'-8"			HORIZ. ABUT. BODY OUTSIDE WIDENING
B506	X	12	2'-0"			VERT. DOWEL ABUT. BODY
B507	X	22	16'-9"		X	VERT. STIRRUP WING BASE
B608	X	10	12'-4"		X	B.F. HORIZ. WING BASE
B609	X	6	11'-11"			B.F. HORIZ. WING BASE
B510	X	10	11'-6"			F.F. HORIZ. WING BASE
B511	X	28	9'-5"		X	VERT. STIRRUP WING
B412	X	14	9'-8"			HORIZ. WING
B413	X	4	2'-3"			PILE VERTICAL
B414	X	2	28'-0"			PILE SPIRAL
B415	X	22	2'-0"			SURFACE DRAIN ANCHOR

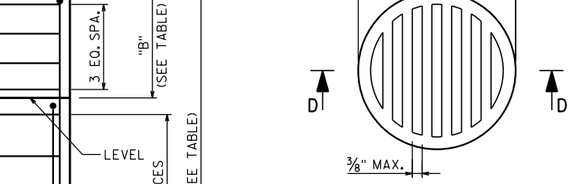
NOTE - BILL OF BAR WEIGHTS DO NOT INCLUDE PARAPET STEEL ON SHEET 11.

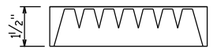


WING ELEVATION

(LOOKING AT B.F.)

WING NO.	B.F. ABUT. ELEV.	WING TIP ELEV.	"A"	"B"	"C"
1	715.33	715.38	7'-5 1/4"	2'-3 7/8"	2'-3 1/4"
2	715.12	715.17	7'-2 3/4"	2'-3 7/8"	2'-3 1/4"
3	714.53	714.48	7'-1 1/2"	2'-2 5/8"	2'-3 1/4"
4	714.74	714.69	7'-4 1/8"	2'-2 5/8"	2'-3 1/4"





SECTION D-D

NOTE:
ORIENT RODENT SHIELD SO SLOTS ARE VERTICAL.

RODENT SCREEN DETAIL

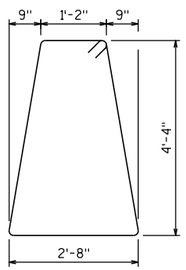
THE RODENT SHIELD SHALL BE A PVC GRATE SIMILAR TO THIS DETAIL. THE GRATE IS COMMERCIALLY AVAILABLE AS A FLOOR STRAINER. A PIPE COUPLING IS REQUIRED FOR THE ATTACHMENT OF THIS SHIELD TO THE OUTFALL PIPE. THE SHIELD SHALL BE FASTENED TO THE PIPE COUPLING WITH TWO OR MORE NO. 10 X 1-INCH STAINLESS STEEL SHEET METAL SCREWS. COST OF RODENT SHIELD AND ALL FITTINGS TO BE INCLUDED IN BID ITEM "PIPE UNDERDRAIN WRAPPED 6-INCH".

LEGEND

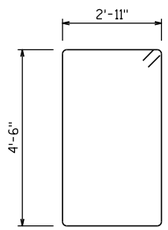
A10 OPTIONAL CONST. JOINT FORMED BY BEVELED 2" X 6" KEYWAY WITH MEMBRANE ON BACKFACE.

A11 SEAL ALL EXPOSED HORIZ. & VERT. SURFACES OF 1/2" FILLER WITH NON-STAINING GRAY NON-BITUMINOUS JOINT SEALER. (1" DEEP AND HOLD 1/8" BELOW SURFACE OF CONCRETE. EXTEND SEALER 3" BELOW GUTTERLINE AT INSIDE FACE.

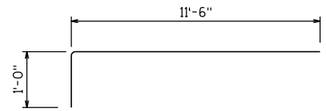
A19 18" (RMW) RUBBERIZED MEMBRANE WATERPROOFING. SEAL ALL HORIZONTAL AND VERTICAL JOINTS AT BACK FACE.



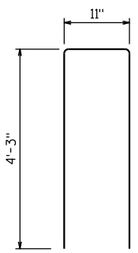
A501, B501



A507, B507



A608, B608



A511, B511

BENDING DIAGRAMS

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-32-108

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ABUTMENT DETAILS

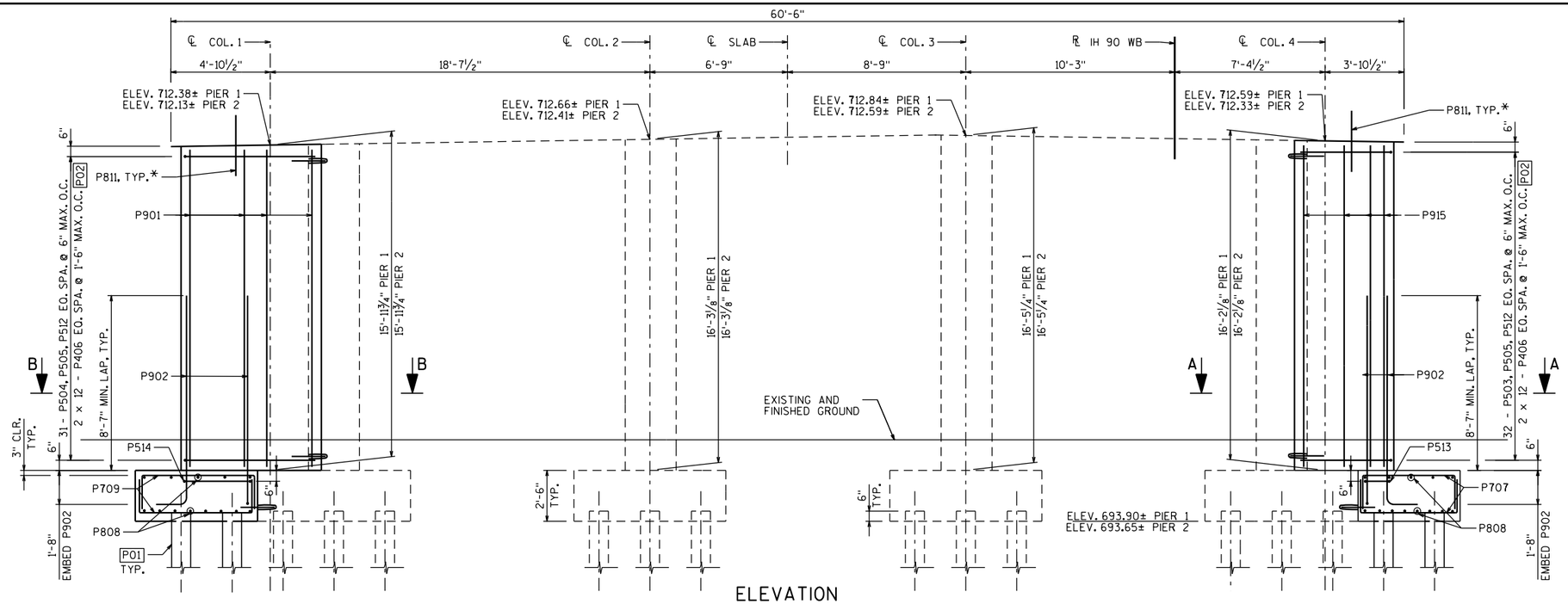
SHEET 8 OF 14
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8

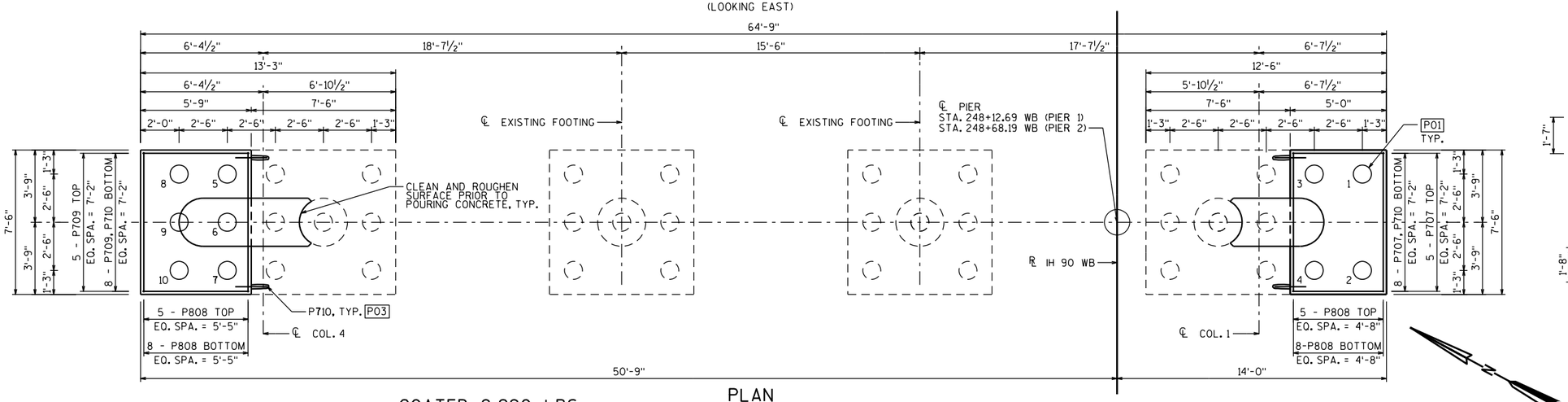
STATE PROJECT NUMBER

1071-06-80

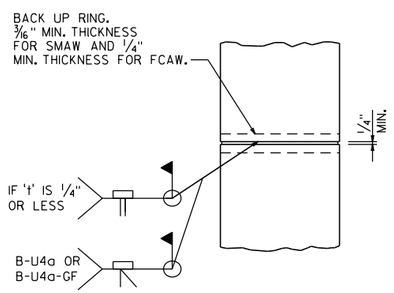


ELEVATION

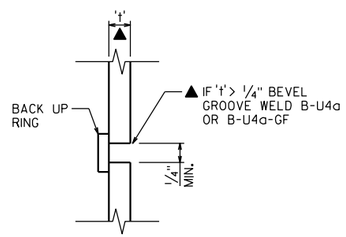
(LOOKING EAST)



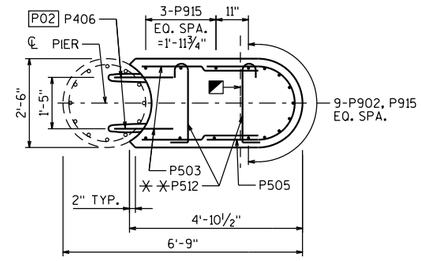
PLAN



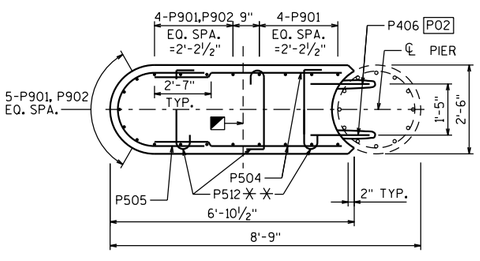
CAST IN PLACE 'PIPE PILE'



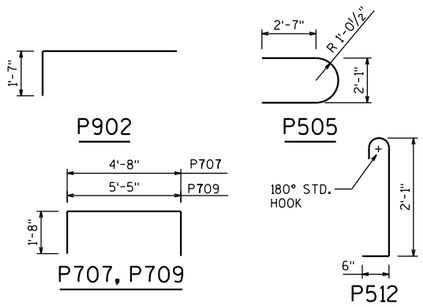
CIP PILE WELD DETAIL



SECTION A-A



SECTION B-B



BILL OF BARS - PIERS 1& 2

COATED 9,290 LBS
UNCOATED 2,240 LBS

MARK	COATED	NO REQ'D	LENGTH	BAR SERIES	BENT	LOCATION
P901	X	42	15'-8"			COLUMN VERTICAL
P902	X	44	11'-10"		X	COLUMN VERTICAL
P503	X	128	3'-5"			COLUMN HORIZONTAL
P504	X	124	5'-5"			COLUMN HORIZONTAL
P505	X	126	8'-5"		X	COLUMN HORIZONTAL
P406	X	96	2'-6"			COLUMN HORIZONTAL ANCHORED
P707		26	8'-0"		X	FOOTING HORIZONTAL TOP & BOTTOM
P808		52	7'-2"			FOOTING HORIZONTAL TOP & BOTTOM
P709		26	8'-9"		X	FOOTING HORIZONTAL TOP & BOTTOM
P710		32	5'-3"			FOOTING ANCHORED
P811	X	28	3'-0"			COLUMN VERTICAL DOWELS
P512	X	314	3'-0"		X	COLUMN HORIZONTAL TIES
P513	X	1	7'-9"		X	FOOTING HORIZONTAL TIE
P514	X	1	11'-9"		X	FOOTING HORIZONTAL TIE
P515	X	30	15'-11"			COLUMN VERTICAL

LEGEND

P01 SUPPORT PIER ON 10¾" C.I.P. PILING. ESTIMATED 60'-0" WITH A REQUIRED DRIVING RESISTANCE OF 85 TONS PER PILE.

P02 MASONRY ANCHORS TYPE L NO. 4 BARS. EMBED 10" IN CONCRETE.

P03 MASONRY ANCHORS TYPE L NO. 7 BARS. EMBED 1'-5" IN CONCRETE.

◪ EDGE OF EXISTING FOOTING.

* SEE SHEET 12 FOR DETAILS.

** ALTERNATE THE POSITION OF THE 90° AND 180°HOOKS AT EACH VERTICAL LAYER OF TIES.

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STRUCTURE B-32-108

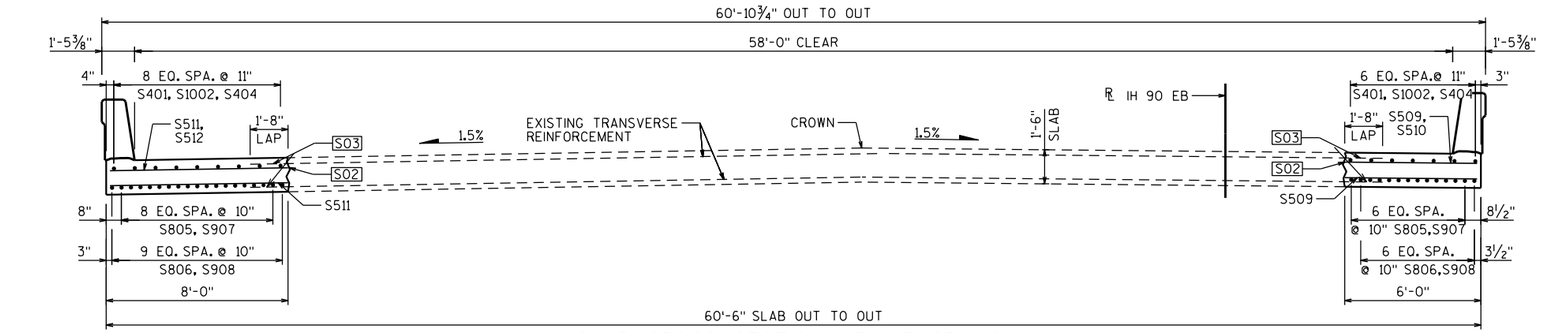
DRAWN BY VJD | PLANS CK'D. MNM

PIERS 1& 2

SHEET 9 OF 14
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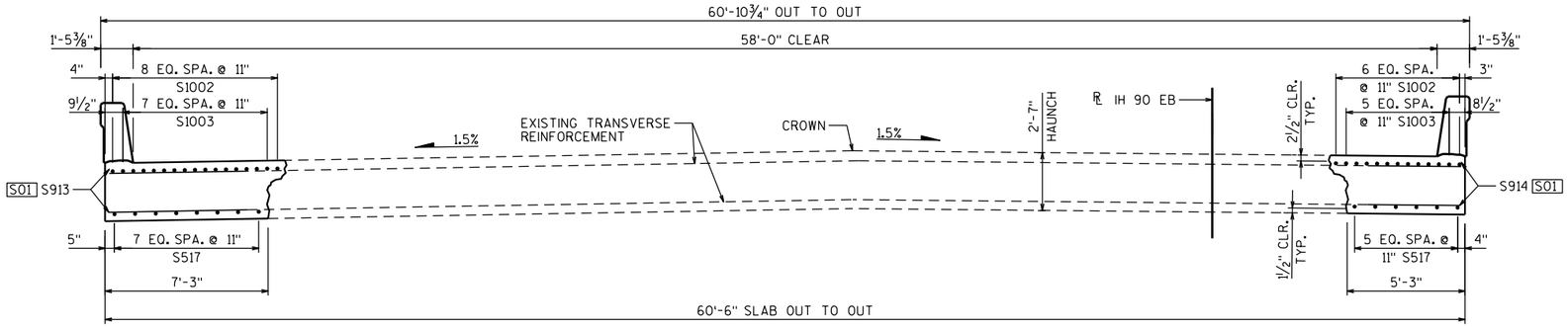
STATE PROJECT NUMBER

1071-06-80



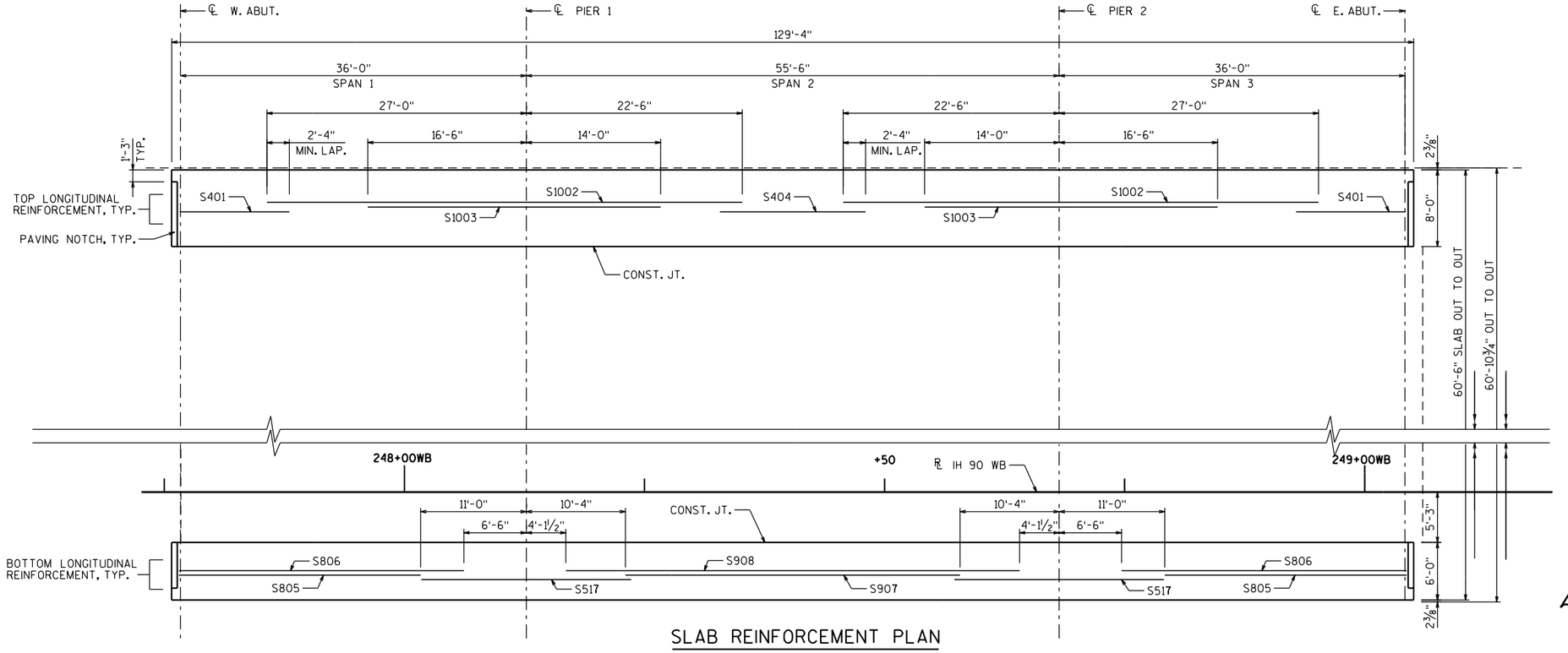
SLAB CROSS SECTION AT MID-SPANS

(LOOKING EAST)



SLAB CROSS SECTION AT PIER

(LOOKING EAST)



SLAB REINFORCEMENT PLAN

SEE CROSS SECTIONS ON THIS SHEET FOR BAR SPACING.

LEGEND & NOTES

S01 SPLICE NO. 9 BARS WITH BAR COUPLERS NO. 9 SPECIAL. ENGINEER SHALL APPROVE COUPLING SYSTEM PRIOR TO INSTALLATION. WORK TO BE PAID FOR UNDER BID ITEM "BAR COUPLERS NO. 9 SPECIAL". SEE SPECIAL PROVISIONS FOR DETAILS.

S02 LAP S509 AND S511 BARS 1'-8" WITH EXISTING TOP TRANSVERSE NO. 4 BARS. SEE SHEET 10 FOR BAR AND MASONRY ANCHOR TYPE L NO. 5 LOCATIONS.

S03 PRESERVE EXISTING TRANSVERSE STEEL DURING REMOVAL. DAMAGED REINFORCEMENT SHALL BE SUPPLEMENTED WITH NO. 5 BARS ANCHORED WITH MASONRY ANCHOR TYPE L, EMBEDDED 1'-0" INTO CONCRETE. THESE REPLACEMENT BARS ARE IN ADDITION TO THE BARS SHOWN IN THE BILL OF BARS.

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STRUCTURE B-32-108

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SUPERSTRUCTURE

SHEET 10 OF 14

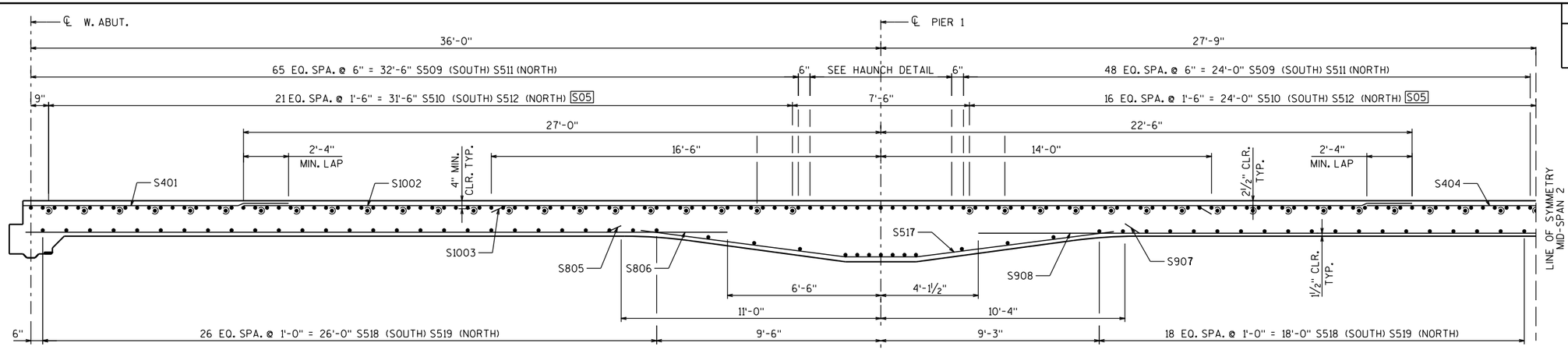
254

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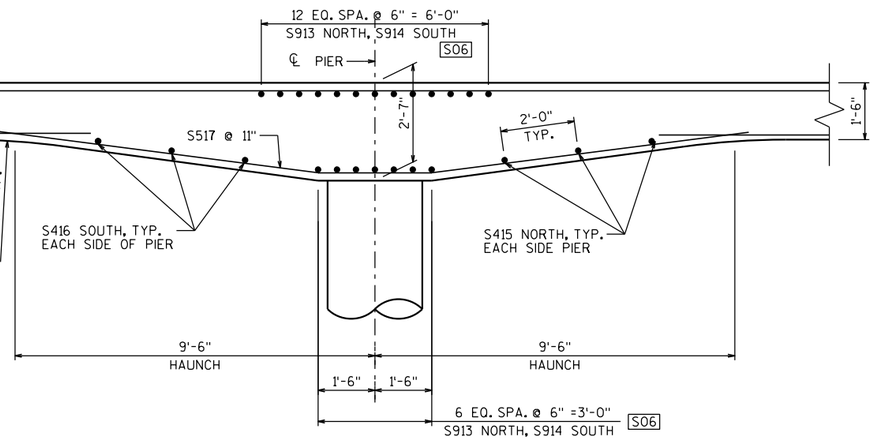
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STATE PROJECT NUMBER

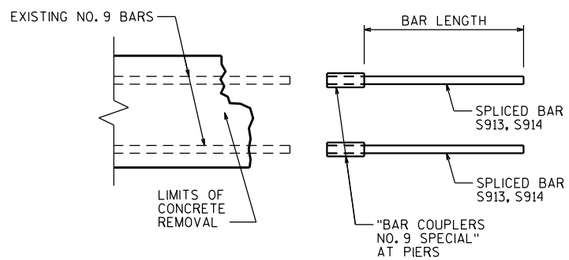
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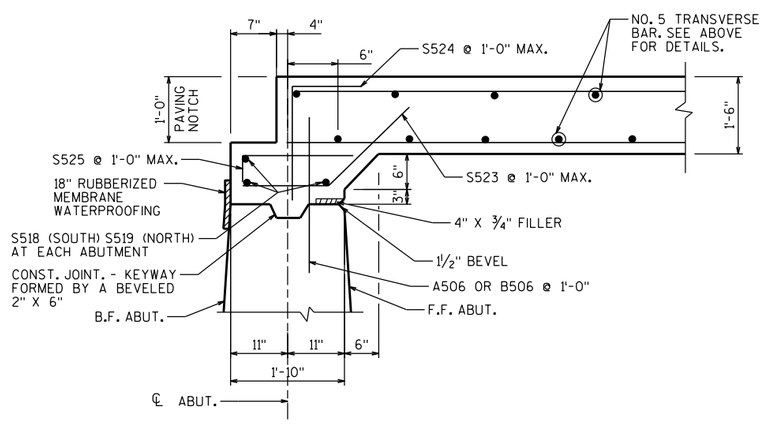
LONGITUDINAL SECTION



HAUNCH DETAIL



DOWEL BAR SPLICER



ABUTMENT DETAIL

LEGEND

S05 ANCHOR BARS USING MASONRY ANCHOR TYPE L NO. 5 BARS. EMBED 1'-0" IN CONCRETE. MIN. EDGE DISTANCE = 4".

S06 SPLICE NO. 9. BARS WITH BAR COUPLERS NO. 9 SPECIAL. ENGINEER SHALL APPROVE COUPLING SYSTEM PRIOR TO INSTALLATION. WORK TO BE PAID FOR UNDER BID ITEM "BAR COUPLERS NO. 9 SPECIAL". SEE SPECIAL PROVISIONS FOR DETAILS.

SLAB NOTES

TOP TRANSVERSE BARS IN SLAB SHALL BE SUPPORTED BY INDIVIDUAL BAR CHAIRS AT APPROXIMATELY 3'-0" CENTERS EACH WAY. BOTTOM LONGITUDINAL BARS SHALL BE SUPPORTED BY CONTINUOUS BAR CHAIRS AT APPROXIMATELY 4'-0" CENTERS.

ALL SLAB THICKNESS DIMENSIONS ARE MINIMUM. ANY TOLERANCES NECESSARY TO CORRECT CONSTRUCTION DISCREPANCIES ARE TO BE PLUS (+).

PARAPETS PLACED ON TOP OF THE SLAB SHALL BE POURED AFTER FALSEWORK HAS BEEN RELEASED, EXCEPT FOR STAGED CONSTRUCTION.

NOTES

STEEL SPLICE (COUPLER) ASSEMBLY SHALL BE AN APPROVED TYPE AND SHALL DEVELOP IN TENSION AT LEAST 125% OF THE YIELD STRENGTH OF THE SPLICED REINFORCEMENT BARS.

DOWEL BAR SPLICERS SHALL BE OF MINIMUM 60 KSI YIELD STRENGTH, AND HAVE TENSILE STRENGTH AREA EQUAL OR GREATER THAN THAT OF THE LAPPED REINFORCEMENT BARS.

DOWEL BAR SPLICERS SHALL MEET THE DEFORMATION REQUIREMENTS FOR STANDARD ASTM DEFORMED REINFORCING BARS.

FOR DOWEL BAR SPLICERS, ALL REINFORCEMENT BARS SHALL BE LAPPED AND TIED TO THE SPLICER BARS.

SPLICER (COUPLER) ASSEMBLY IN THE SLAB SHALL BE EPOXY COATED IN ACCORDANCE WITH THE REQUIREMENTS FOR REINFORCEMENT BARS.

OTHER SYSTEMS OF SIMILAR DESIGN MAY BE SUBMITTED TO THE ENGINEER FOR APPROVAL. APPROVAL SHALL BE BASED ON CERTIFIED TEST RESULTS FROM AN APPROVED TESTING LABORATORY THAT THE PROPOSED SPLICER (COUPLER) ASSEMBLY SATISFIES THE FOLLOWING REQUIREMENT:

① MINIMUM CAPACITY = 1.25 X FY X AREA OF SPLICED REINFORCEMENT BAR.

WHERE FY = YIELD STRENGTH OF SPLICED REINFORCEMENT BARS

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STRUCTURE B-32-108

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SUPERSTRUCTURE DETAILS 1

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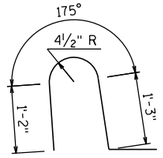
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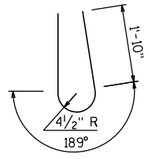
BILL OF BARS - SUPERSTRUCTURE

COATED 22,640 LBS.
UNCOATED 11,600 LBS.

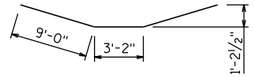
MARK	COATED	NO REQ'D	LENGTH	BAR SERIES	BENT	LOCATION
S401	X	32	11'-6"			SLAB LONGITUDINAL, TOP SPAN 1 & 3
S1002	X	32	49'-6"			SLAB LONGITUDINAL, TOP OVER PIER
S1003	X	28	30'-6"			SLAB LONGITUDINAL, TOP OVER PIER
S404	X	16	15'-2"			SLAB LONGITUDINAL, TOP SPAN 2
S805		32	25'-2"			SLAB LONGITUDINAL, BOTTOM SPAN 1 & 3
S806		34	29'-8"			SLAB LONGITUDINAL, BOTTOM SPAN 1 & 3
S907		16	34'-10"			SLAB LONGITUDINAL, BOTTOM SPAN 2
S908		17	47'-3"			SLAB LONGITUDINAL, BOTTOM SPAN 2
S509	X	230	5'-10"			TRANSVERSE TOP SOUTH
S510	X	77	6'-10"			TRANSVERSE ANCHORED TOP, SOUTH
S511	X	230	7'-10"			TRANSVERSE TOP NORTH
S512	X	77	8'-10"			TRANSVERSE ANCHORED TOP, NORTH
S913	X	40	6'-2"			TRANSVERSE OVER PIER, NORTH
S914	X	40	4'-2"			TRANSVERSE OVER PIER, SOUTH
S415		12	7'-10"			TRANSVERSE IN HAUNCH, NORTH
S416		12	5'-10"			TRANSVERSE IN HAUNCH, SOUTH
S517		28	21'-2"		X	LONGITUDINAL IN HAUNCH
S518		98	5'-10"			TRANSVERSE BOTTOM SOUTH
S519		98	7'-10"			TRANSVERSE BOTTOM NORTH
S520	X	390	4'-5"		X	PARAPET DOWEL
S521	X	390	5'-0"		X	PARAPET VERTICAL
S522	X	36	44'-2"			PARAPET LONGITUDINAL
S523	X	32	3'-3"		X	HAUNCH STIRRUP AT ABUTMENT
S524	X	32	2'-9"		X	HAUNCH AT ABUTMENT
S525	X	32	2'-10"		X	HAUNCH AT ABUTMENT



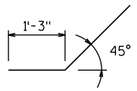
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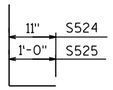
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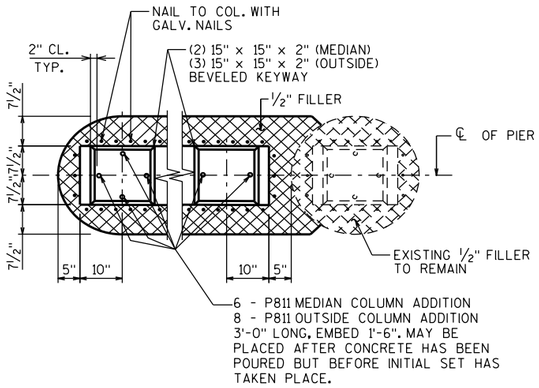
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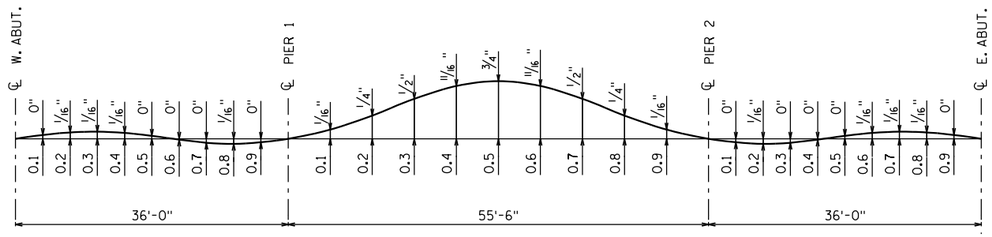
S523



S524, S525



COLUMN W/O CAP TYPE PIER
DETAIL AT TOP OF COLUMN



CAMBER DIAGRAM

CAMBER SPANS AS SHOWN TO PROVIDE FOR DEAD LOAD DEFLECTION & FUTURE CREEP. CAMBER DOES NOT INCLUDE ALLOWANCE FOR FORM SETTLEMENT. PARAPETS SHOWN ABOVE THE HORIZ. CONST. JOINT SHALL BE POURED AFTER FALSEWORK HAS BEEN RELEASED.

CAMBER IS BASED ON HALF OF 3 TIMES DEAD LOAD (D.L.) DEFLECTIONS (1.5 TIMES D.L.). CAMBER REFERS TO THE OUTSIDE EDGE OF SLAB. ASSUME RIGID AT EDGE OF EXISTING SLAB. INTERPOLATE VALUES AT INTERMEDIATE SLAB SUPPORTS.

8

TOP OF DECK ELEVATIONS - NORTH GUTTER

B-32-108	C/L BRG. W. ABUT.	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	C/L PIER 1	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	C/L PIER 2	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	C/L BRG. E. ABUT.
Existing North Gutter Line	715.23	715.22	715.22	715.21	715.21	715.19	715.17	715.15	715.13	715.10	715.08	715.05	715.02	714.99	714.96	714.92	714.91	714.90	714.90	714.89	714.87	714.86	714.84	714.83	714.82	714.80	714.79	714.77	714.76	714.75	714.73
New North Gutter Line	715.14	715.13	715.13	715.12	715.12	715.10	715.08	715.06	715.04	715.01	714.99	714.96	714.93	714.90	714.87	714.83	714.82	714.81	714.81	714.80	714.78	714.77	714.75	714.74	714.73	714.71	714.70	714.68	714.67	714.66	714.64

TOP OF DECK ELEVATIONS - SOUTH GUTTER

B-32-108	C/L BRG. W. ABUT.	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	C/L PIER 1	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	C/L PIER 2	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	C/L BRG. E. ABUT.
Existing South Gutter Line	715.37	715.37	715.37	715.37	715.37	715.36	715.35	715.33	715.31	715.29	715.27	715.24	715.21	715.17	715.14	715.11	715.10	715.09	715.08	715.07	715.06	715.05	715.03	715.02	715.00	714.99	714.97	714.95	714.92	714.88	714.85
New South Gutter Line	715.31	715.31	715.31	715.31	715.31	715.30	715.29	715.27	715.25	715.23	715.21	715.18	715.15	715.11	715.08	715.05	715.04	715.03	715.02	715.01	715.00	714.99	714.97	714.96	714.94	714.93	714.91	714.89	714.86	714.82	714.79

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DEPARTMENT OF TRANSPORTATION

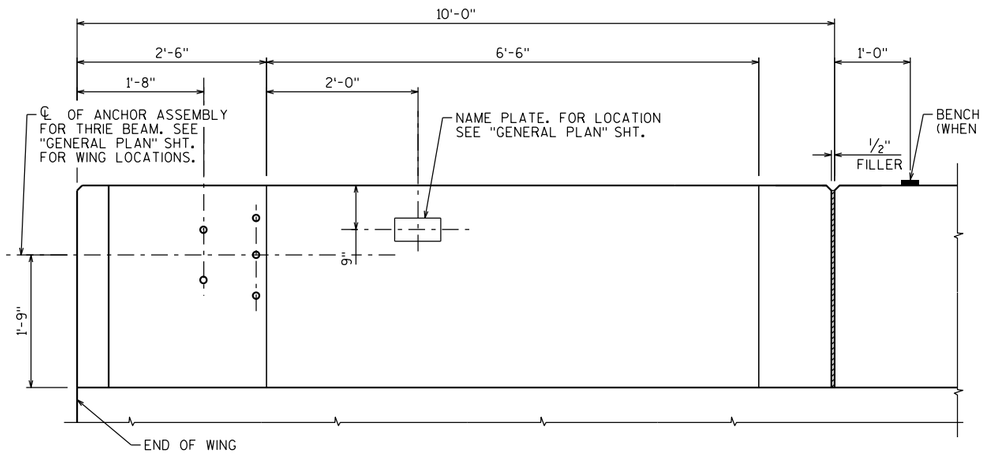
STRUCTURE B-32-108

DRAWN BY VJD | PLANS CK'D. MNM

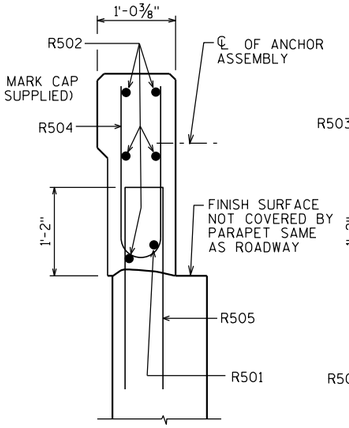
SUPERSTRUCTURE DETAILS 2

SHEET 12 OF 14
256

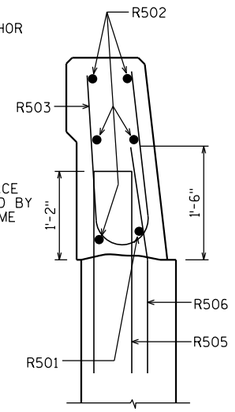
STATE PROJECT NUMBER
1071-06-80



INSIDE ELEVATION



SECTION A-A



SECTION B-B

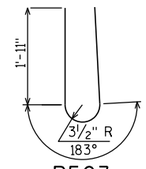
BILL OF BARS

COATED 1,130 LBS.

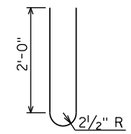
MARK	COATED	NO REQ'D	LENGTH	BAR SERIES	BENT	LOCATION
R501	X	4	9'-8"		X	PARAPET LONGITUDINAL IN TRANSITION
R502	X	20	9'-8"			PARAPET LONGITUDINAL IN TRANSITION
R503	X	24	4'-10"		X	PARAPET VERTICAL IN TRANSITION
R504	X	44	4'-9"		X	PARAPET VERTICAL IN TRANSITION
R505	X	68	5'-7"		X	PARAPET DOWEL IN TRANSITION
R506	X	48	3'-0"		X	PARAPET DOWEL IN TRANSITION
R507	X	12	5'-10"		X	PARAPET DOWEL IN TRANSITION
R508	X	12	5'-0"		X	PARAPET VERTICAL IN TRANSITION



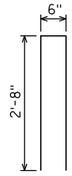
R501



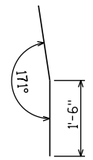
R503



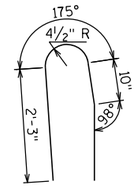
R504



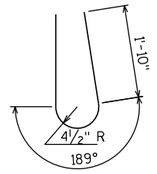
R505



R506

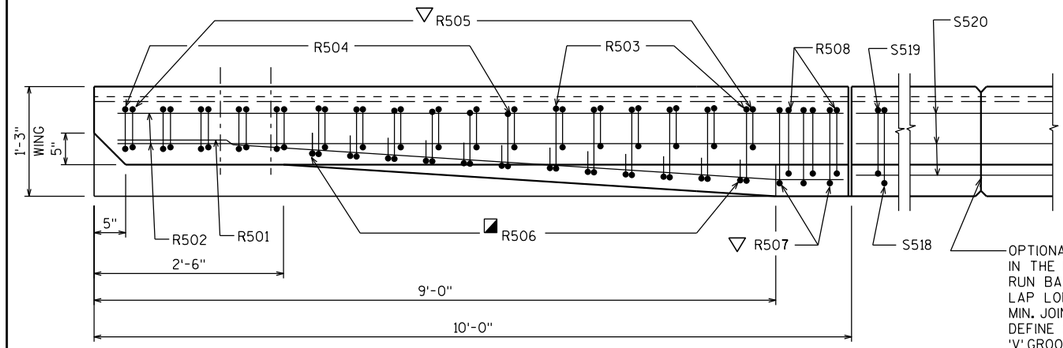


R507



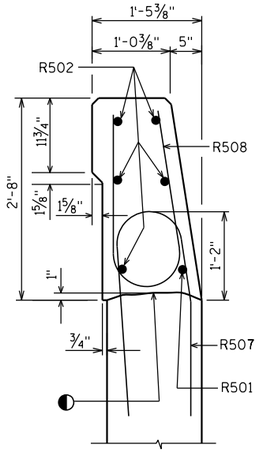
R508

BENDING DIAGRAMS

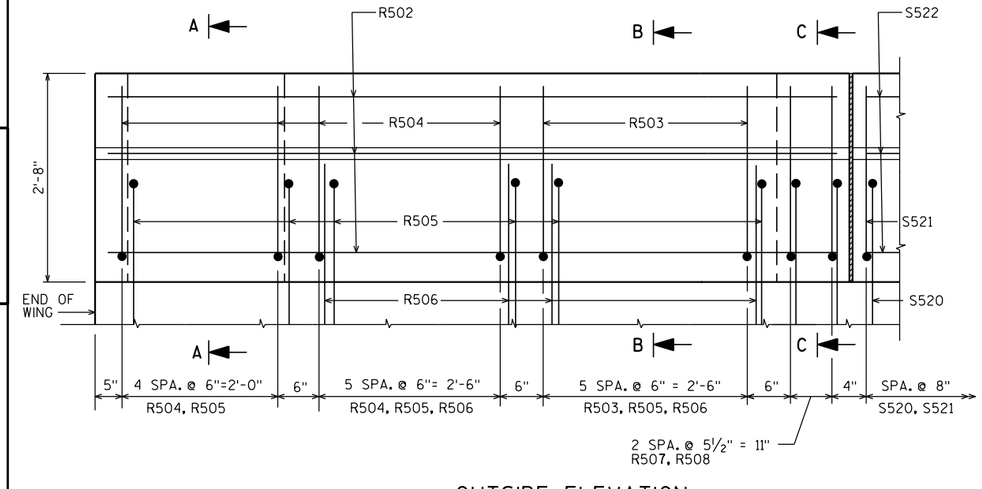


PLAN

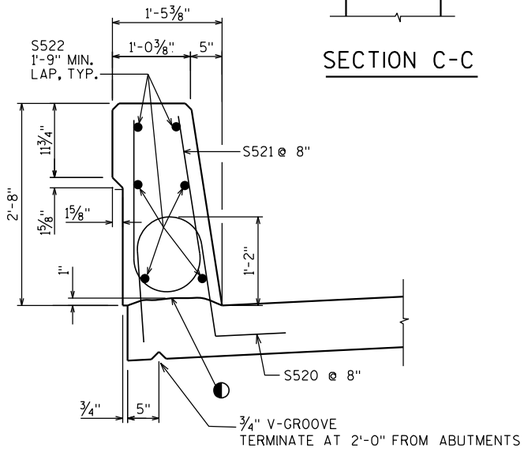
OPTIONAL CONSTRUCTION JOINTS IN THE PARAPETS MAY BE USED. RUN BAR REINF. THRU THE JOINT. LAP LONGIT. BARS A MIN. OF 1'-9". MIN. JOINT SPACING OF 80'-0". DEFINE CONST. JOINT WITH A ¾" - 'V' GROOVE.



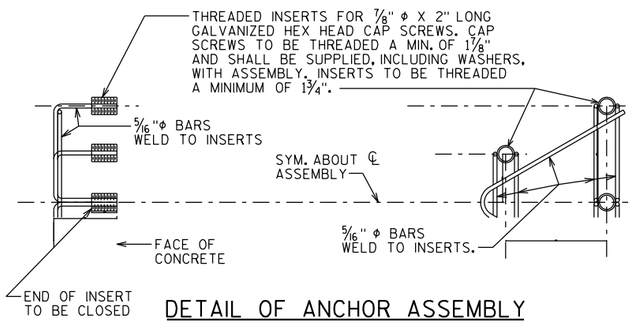
SECTION C-C



OUTSIDE ELEVATION



SECTION THRU PARAPET ON BRIDGE



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.

◐ CONST. JOINT - STRIKE OFF AS SHOWN.

◪ R506 BARS MAY BE PLACED AFTER CONCRETE IS POURED BUT BEFORE INITIAL SET HAS TAKEN PLACE. USE CARE TO PLACE R506 BARS CORRECTLY ALONG TRANSITION OF PARAPET.

▽ R505 AND R507 BARS TO BE TIED TO WING STEEL BEFORE WING IS POURED.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-32-108

DRAWN BY DRJ | PLANS CK'D. MNM

SINGLE SLOPE PARAPET 32SS

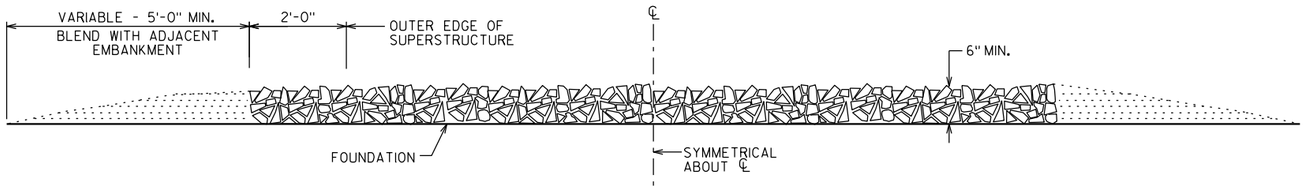
SHEET 13 OF 14
257

8

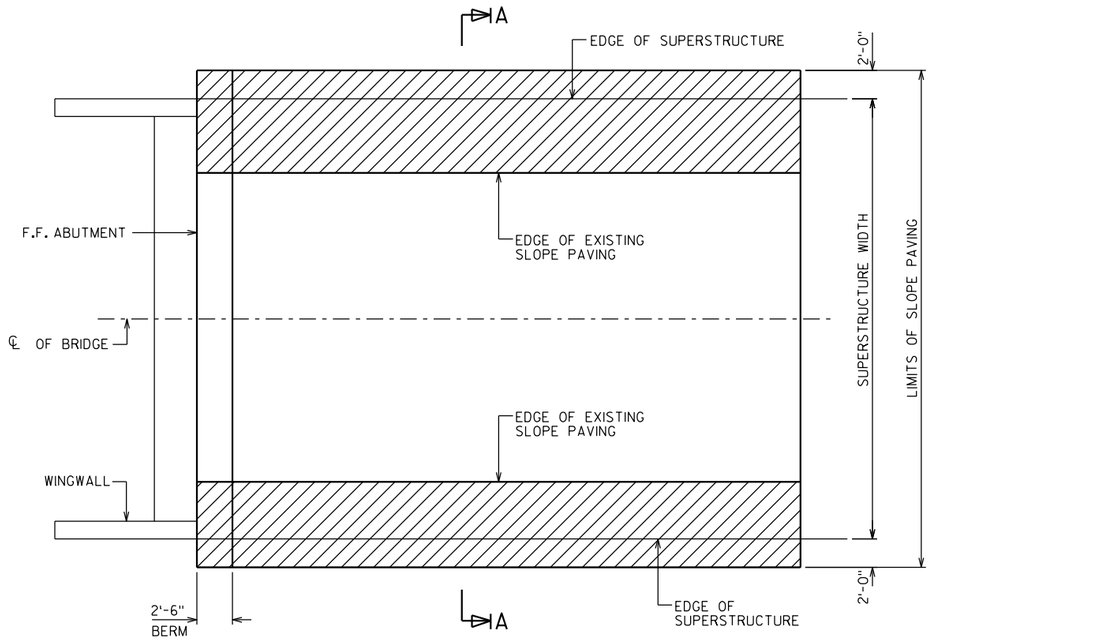
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STATE PROJECT NUMBER

1071-06-80

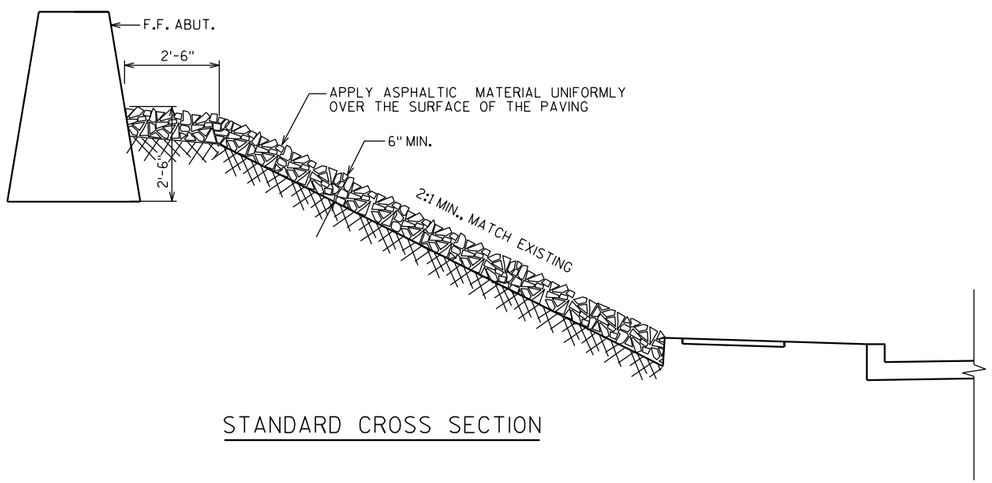


SECTION A-A



NEW SLOPE PAVING EXTENTS

PLAN



STANDARD CROSS SECTION

GENERAL NOTES

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

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

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-32-108

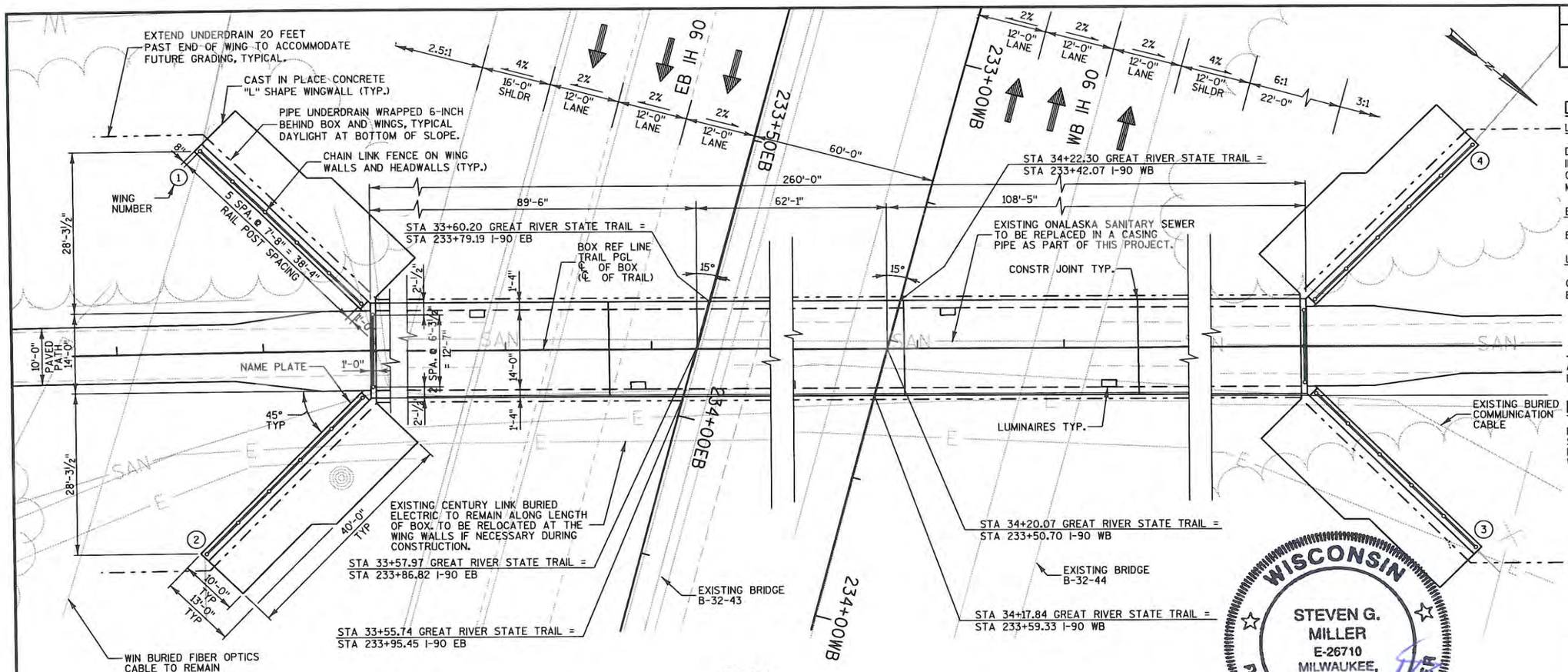
DRAWN BY DRJ | PLANS CK'D. MNM

SLOPE PAVING DETAILS

SHEET 14 OF 14
258

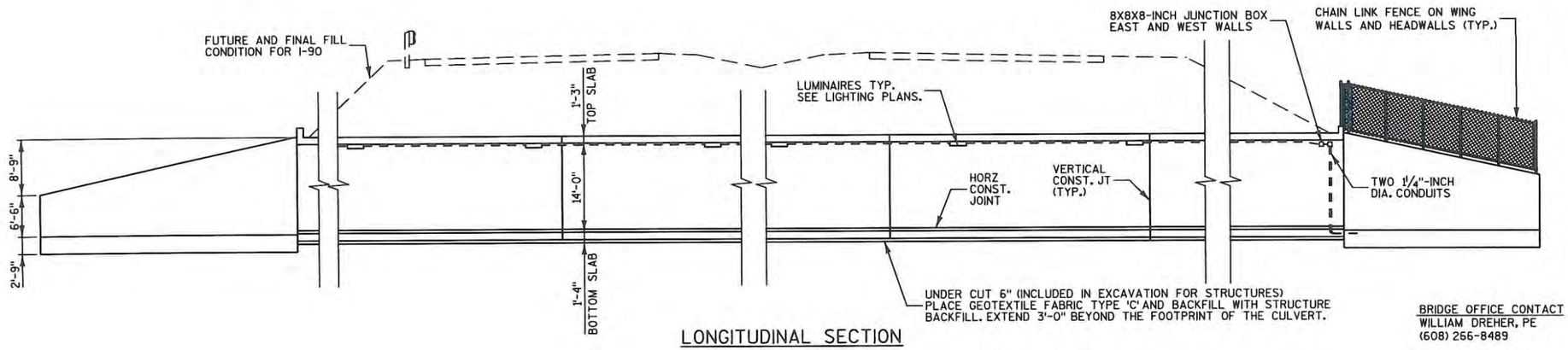
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8



PLAN

SINGLE CELL CONCRETE BOX CULVERT



LONGITUDINAL SECTION

LOOKING WEST

STATE PROJECT NUMBER

1071-06-80

DESIGN DATA

LIVE LOAD:

DESIGN LOADING..... HL-93
INVENTORY RATING FACTOR..... 1.05
OPERATING RATING FACTOR..... 1.35
MAX. STD. PERMIT VEHICLE LOAD..... 255 KIPS

EARTH LOAD:

BOX IS DESIGNED FOR 13 FEET OF FILL.

ULTIMATE DESIGN STRESSES:

CONCRETE MASONRY.....f'c = 3.5 K.S.I.
BAR STEEL REINFORCEMENT.....fy = 60 K.S.I.

TRAFFIC DATA IH-90

A.D.T. (2036)..... 56,700
DESIGN SPEED..... 70 M.P.H.

FOUNDATION DATA

REQUIRED FACTORED ALLOWABLE SOIL BEARING PRESSURE
BOX CULVERT..... 3.4 K.S.F.
WING WALLS..... 4.7 K.S.F.

LIST OF DRAWINGS

1. GENERAL PLAN & ELEVATION
2. NOTES AND QUANTITIES
3. TRAIL ELEVATIONS
4. SUBSURFACE EXPLORATION
5. TYPICAL SECTION
6. BOTTOM SLAB REINFORCEMENT PLAN
7. TOP SLAB REINFORCEMENT PLAN
8. WING WALL FOOTING PLAN
9. WING WALL DETAILS
10. BILL OF BARS
11. CHAIN LINK FENCE DETAILS

WISCONSIN
STEVEN G. MILLER
E-26710
MILWAUKEE, WI
PROFESSIONAL ENGINEER
11-1-2013

NO.	DATE	REVISION	BY

CH2MHILL
MILWAUKEE, WISCONSIN

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

ACCEPTED William C. Dreher 11/5/13
CHIEF STRUCTURES DESIGN ENGINEER — DATE

STRUCTURE C-32-97

GREAT RIVER STATE TRAIL UNDER I-90

COUNTY	~~TOWN/CITY/VILLAGE~~
LA CROSSE	LA CROSSE

DESIGN SPEC. AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS

DESIGNED BY	DESIGN CK'D.	DRAWN BY	PLANS CK'D.
SGM	CNK	JAP	CNK

GENERAL PLAN & ELEVATION

SHEET 1 OF 11

BRIDGE OFFICE CONTACT
WILLIAM DREHER, PE
(608) 266-8489

CONSULTANT CONTACT
STEVEN G. MILLER, PE
(414) 847-0480

8

8

FILE NAME : Final_Design_C-32-97_08100.dgn
PLOT DATE : 01-NOV-2013
PLOT BY : jpieroni
Final_Design_C-32-97_08100
PLOT SCALE : 20:1

STATE PROJECT NUMBER
1071-06-80

GENERAL NOTES:

DRAWINGS SHALL NOT BE SCALED.

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

BEVEL ALL EXPOSED EDGES ¾" UNLESS OTHERWISE NOTED.

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

EXISTING BRIDGES B-32-43/44 ARE 3 SPAN STEEL GIRDER STRUCTURES. THEY ARE TO REMAIN IN PLACE DURING CONSTRUCTION OF THE CULVERT. BRIDGES TO BE REMOVED IN A FUTURE CONTRACT.

REMOVE EXISTING SLOPE PAVING WHERE BACKFILL IS PLACED. SLOPE PAVING REMOVAL IS INCLUDED WITH THE BID ITEM "EXCAVATION FOR STRUCTURES CULVERTS C-32-97".

BACKFILL SHALL NOT BE PLACED BEHIND THE CULVERT WALLS UNTIL THE TOP SLAB IS IN PLACE.

THE UPPER LIMITS OF "EXCAVATION FOR STRUCTURES CULVERT C-32-97" SHALL BE THE EXISTING GROUND LINE.

STRUCTURE BACKFILL IS REQUIRED BEHIND THE CULVERT WALLS AND ALL WING WALLS. STRUCTURE BACKFILL SHALL BE PLACED AND COMPACTED TO 206.3.13 AND 207.3.6.3 (SPECIAL COMPACTION).

THE CONTRACTOR MAY FURNISH A PRECAST CONCRETE BOX CULVERT IN LIEU OF THE CAST-IN-PLACE BOX CULVERT WITH THE ACCEPTANCE OF THE SHOP DRAWINGS BY THE STRUCTURES DESIGN SECTION. THE PRECAST CONCRETE BOX CULVERT SHALL CONFORM TO PRECAST DETAILS IN CHAPTER 36 STANDARDS OF THE CURRENT WISCONSIN DOT BRIDGE MANUAL. PAYMENT FOR THE PRECAST CULVERT SHALL BE BASED ON THE QUANTITIES AND PRICES BID FOR THE ITEMS LISTED IN THE "TOTAL ESTIMATED QUANTITIES".

PLACE A 18" (MIN.) WIDE SHEET OF RUBBERIZED MEMBRANE WATERPROOFING OVER ALL CONSTRUCTION JOINTS ON THE OUTSIDE FACE OF THE WALLS AND TOP SLAB.

REMOVAL OF UNSUITABLE SOIL UNDER THE CULVERT SHALL BE AS DIRECTED BY THE ENGINEER. A MINIMUM UNDER CUT OF 6-INCHES SHALL BE PROVIDED.

JUNCTION BOXES AND CONDUITS CAST INTO THE CONCRETE WALLS ARE INCLUDED WITH THE STRUCTURE BID ITEMS. ALL SURFACE MOUNTED CONDUITS, JUNCTION BOXES, AND LIGHTS ARE INCLUDED WITH THE LIGHTING PLAN BID ITEMS.

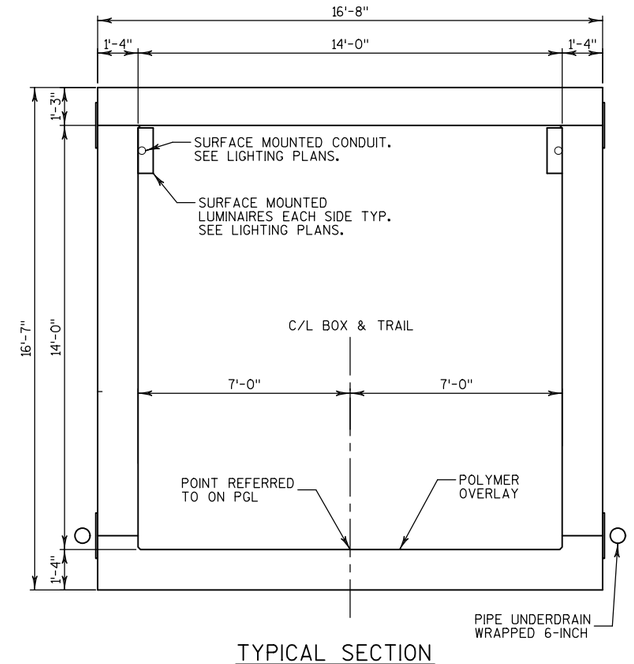
A POLYMER OVERLAY SHALL BE PLACED ON THE TOP SIDE OF THE BOTTOM SLAB OF THE BOX CULVERT.

STAIN SHALL BE APPLIED TO THE TOP AND FRONT FACE OF WING WALLS AND THE TOP AND FRONT FACE OF THE CULVERT HEADERS. STAIN COLOR SHALL BE LIGHT COFFEE, FEDERAL NUMBER 33722. LETTERING SHALL BE BLACK, FEDERAL NUMBER 27038.

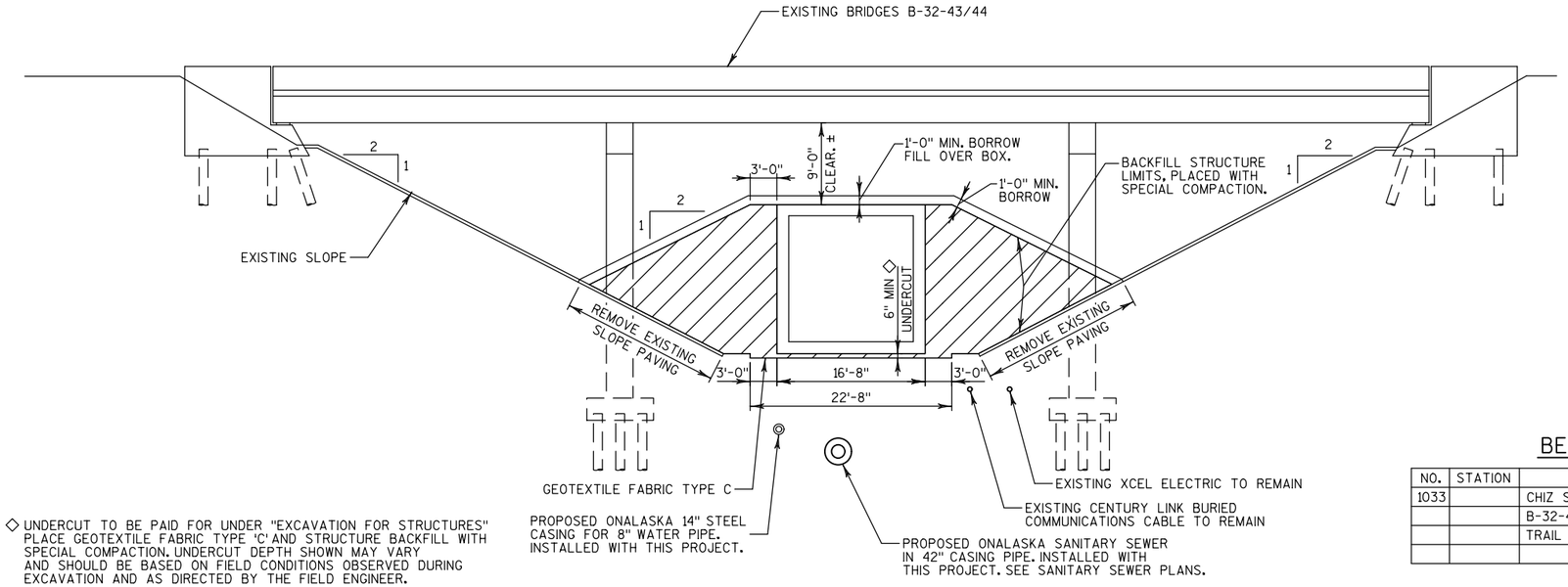
ARCHITECTURAL SURFACE TREATMENT, BROKEN RIB FORM LINER, SHALL BE APPLIED TO THE FRONT FACE OF THE WING WALLS.

TOTAL ESTIMATED QUANTITIES

BID ITEM NUMBER	BID ITEMS	UNIT	TOTAL
206.2000	EXCAVATION FOR STRUCTURES CULVERTS C-32-97	LS	1
210.0100	BACKFILL STRUCTURE	CY	6,000
504.0100	CONCRETE MASONRY CULVERTS	CY	1,087
505.0410	BAR STEEL REINFORCEMENT HS CULVERTS	LB	138,420
505.0610	BAR STEEL REINFORCEMENT HS COATED CULVERTS	LB	31,140
509.5100.S	POLYMER OVERLAY	SY	405
516.0500	RUBBERIZED MEMBRANE WATERPROOFING	SY	234
517.1050.S	ARCHITECTURAL SURFACE TREATMENT C-32-97	SF	1,670
517.1010.S	CONCRETE STAINING C-32-97	SF	2,800
612.0406	PIPE UNDERDRAIN WRAPPED 6-INCH	LF	760
616.0205	FENCE CHAIN LINK 5-FT	LF	192
645.0105	GEOTEXTILE FABRIC TYPE C	SY	655
652.0115	CONDUIT RIGID METALLIC 1¼-INCH	LF	90
653.0208	JUNCTION BOXES 8x8x8-INCH	EACH	2



TYPICAL SECTION



◇ UNDERCUT TO BE PAID FOR UNDER "EXCAVATION FOR STRUCTURES" PLACE GEOTEXTILE FABRIC TYPE 'C' AND STRUCTURE BACKFILL WITH SPECIAL COMPACTION. UNDERCUT DEPTH SHOWN MAY VARY AND SHOULD BE BASED ON FIELD CONDITIONS OBSERVED DURING EXCAVATION AND AS DIRECTED BY THE FIELD ENGINEER.

BACKFILL STRUCTURE DETAIL

BENCH MARKS

NO.	STATION	DESCRIPTION	ELEV.
1033		CHIZ SQUARE ON SW CORNER OF	701.51
		B-32-43 I-90 BRIDGE OVER BIKE	
		TRAIL 0.7 MILE EAST OF STH 35	

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE C-32-97

DRAWN BY JAP | PLANS CK'D. CNK

NOTES & QUANTITIES

SHEET 2 OF 11

8

8

STATE PROJECT NUMBER
1071-06-80

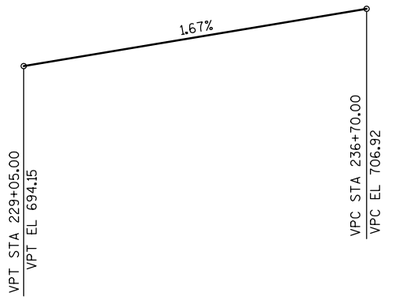


PROFILE GRADE LINE - GREAT RIVER STATE TRAIL

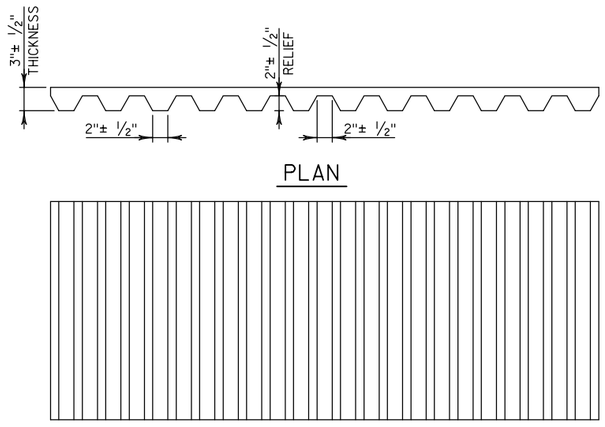
TRAIL ELEVATION TABLE

JOINT	DIST. FROM BEGIN BOX	ELEVATION
BEGIN BOX	0'	675.23
1	30'-0"	675.55
2	70'-0"	675.98
3	110'-0"	676.41
4	150'-0"	676.21
5	190'-0"	676.01
6	230'-0"	675.81
END BOX	260'-0"	675.66

USE STRAIGHT LINE INTERPOLATION FOR ELEVATIONS BETWEEN JOINTS.



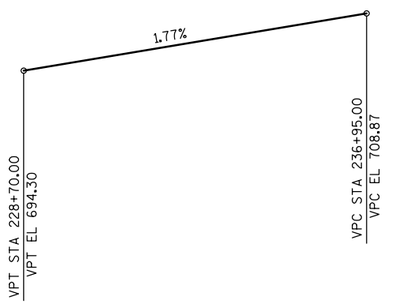
FUTURE PROFILE GRADE LINE - I-90 EB



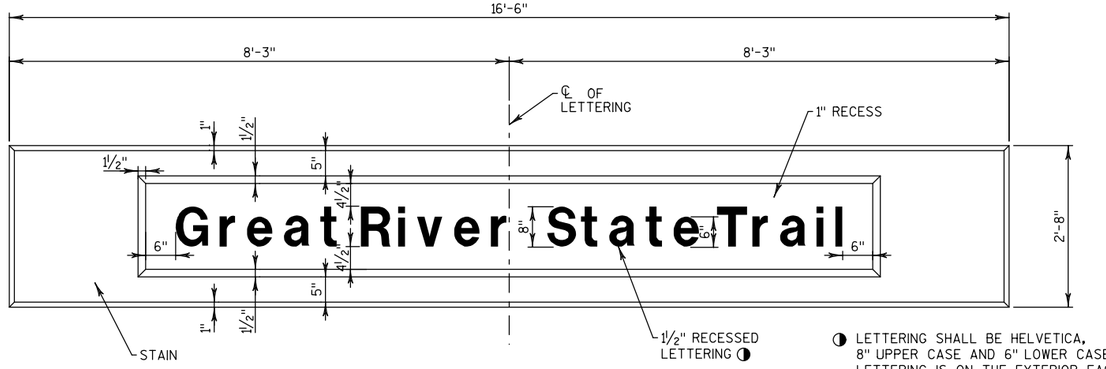
PLAN

ELEVATION

BROKEN RIB FORMLINER

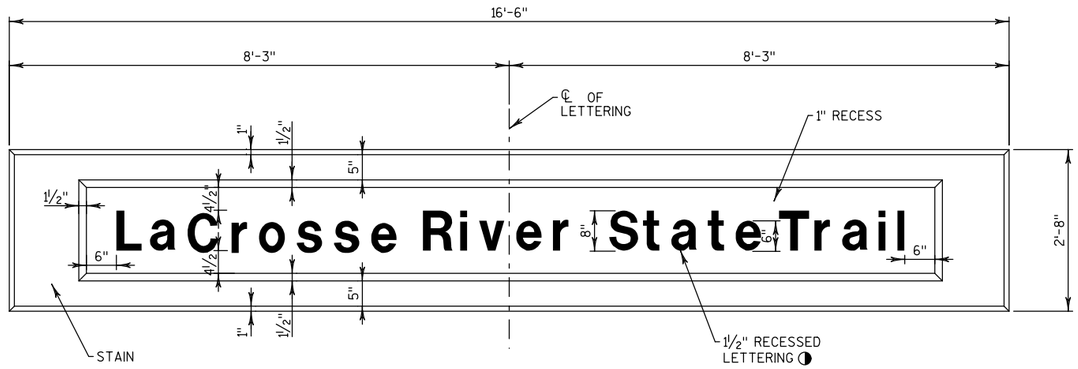


FUTURE PROFILE GRADE LINE - I-90 WB



INDENTED TEXT
EXTERIOR FACE OF SOUTH HEADER

◑ LETTERING SHALL BE HELVETICA, 8" UPPER CASE AND 6" LOWER CASE. LETTERING IS ON THE EXTERIOR FACE OF THE HEADERS AT THE NORTH AND SOUTH ENDS OF THE BOX CULVERT. LETTERING IS STAINED BLACK.



INDENTED TEXT
EXTERIOR FACE OF NORTH HEADER

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE C-32-97

DRAWN BY JAP | PLANS CK'D. CNK

TRAIL ELEVATIONS

SHEET 3 OF 11

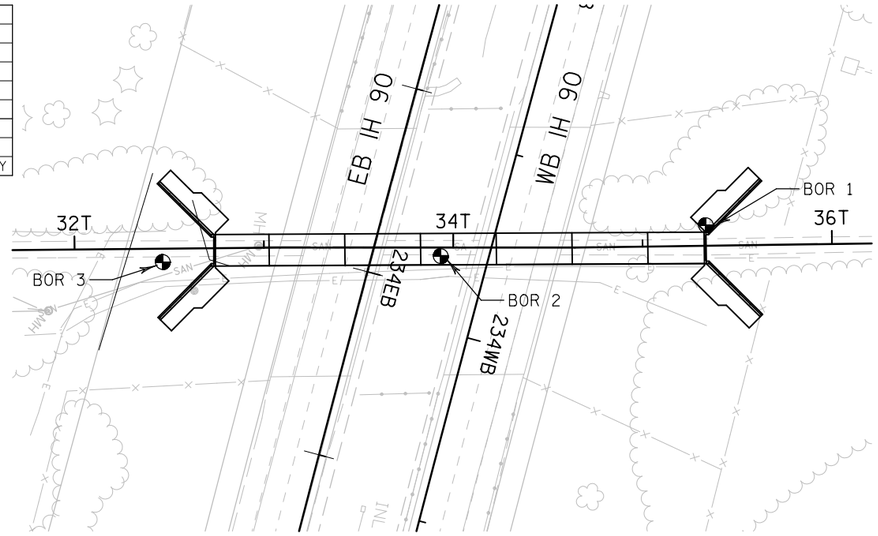
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FILE NAME : Final_Design_C-32-97_08103.dgn PLOT DATE : 01-NOV-2013 PLOT BY : jpieroni Final_Design_C-32-97_08103 PLOT SCALE : 5:1

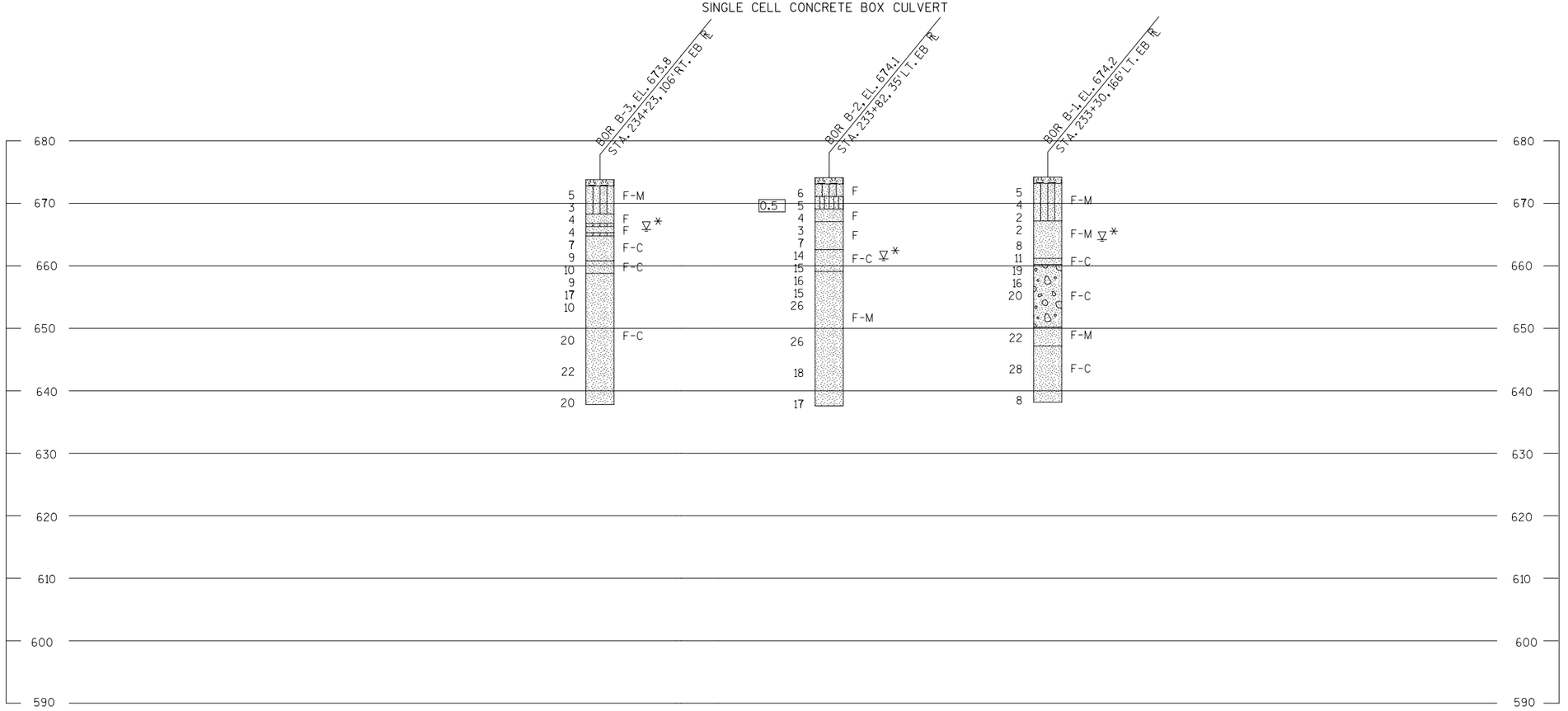
USH 53/STH 35 - THEATER ROAD

BORING #	DATE COMPLETED	NORTHING (Y)	EASTING (X)
1	6/25/13	152371.411	452566.023
2	6/25/13	152267.434	452656.626
3	6/26/13	152168.777	452763.821
BORINGS COMPLETED BY: WISDOT			
REPORT COMPLETED BY: WISDOT			
ALL COORDINATES REFERENCED TO WCCS NAD 83(91) LA CROSSE COUNTY			



PLAN C-32-97

SINGLE CELL CONCRETE BOX CULVERT



* THE GROUND WATER ELEVATION WAS DETERMINED FROM WHERE THE SOIL SAMPLE WAS DESCRIBED AS WET.

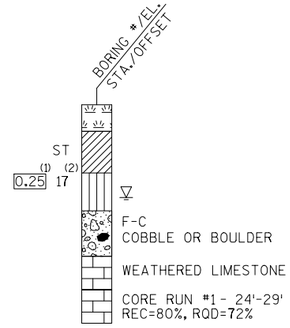
STATE PROJECT NUMBER

1071-06-80

MATERIAL SYMBOLS

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

LEGEND OF BORING



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

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

GROUND WATER ELEVATION

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

ABBREVIATIONS

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

SUBSURFACE EXPLORATION FOR FOUNDATION DESIGN AND BIDDERS INFORMATION

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

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE C-32-97

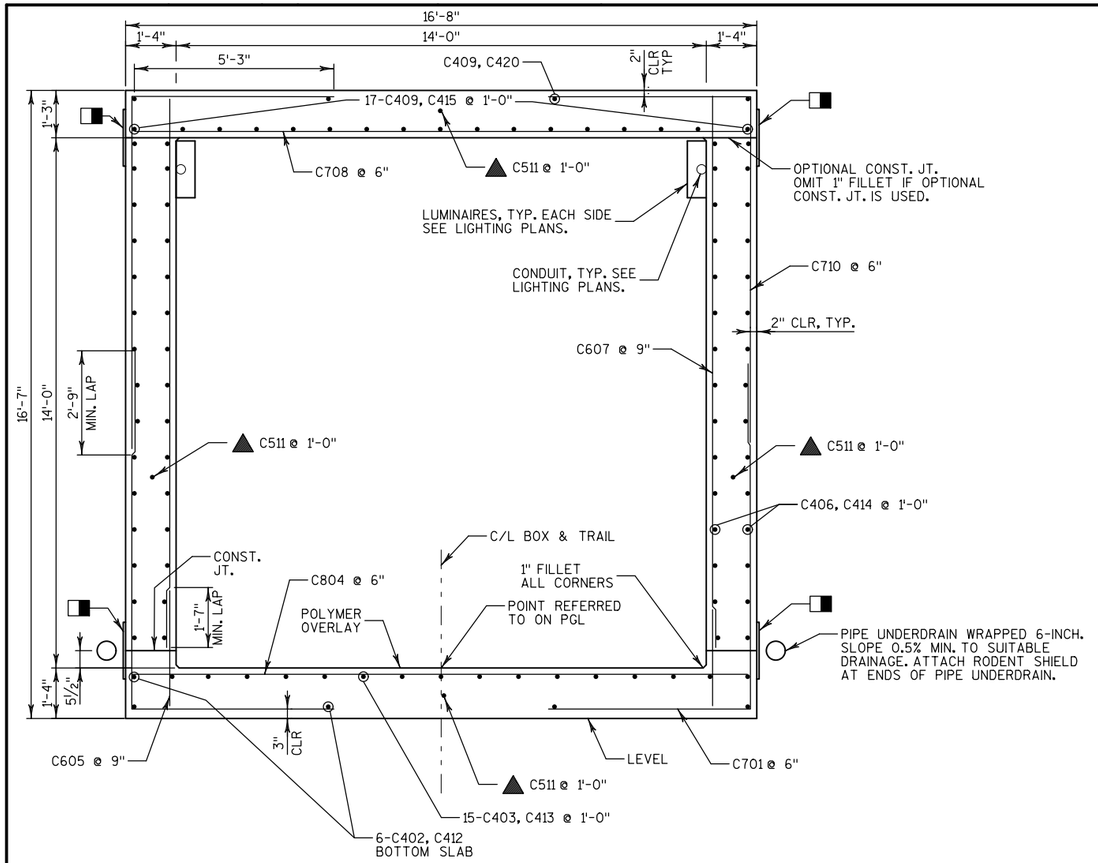
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SUBSURFACE EXPLORATION

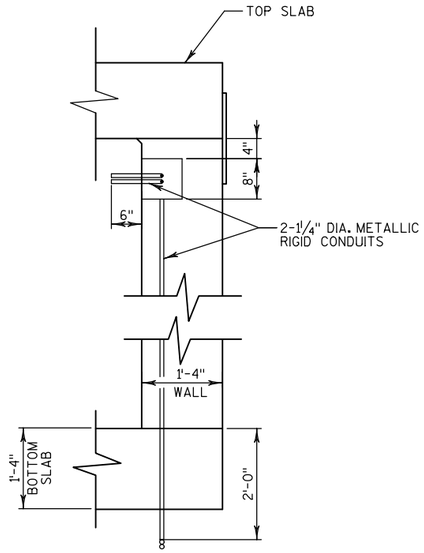
SHEET 4 OF 11
262

SCALE =

STATE PROJECT NUMBER
1071-06-80



TYPICAL SECTION THROUGH BOX



SECTION A-A

◒ AT NORTH END OF BOX SHOWING JUNCTION BOX AND CONDUIT CAST INTO CONCRETE

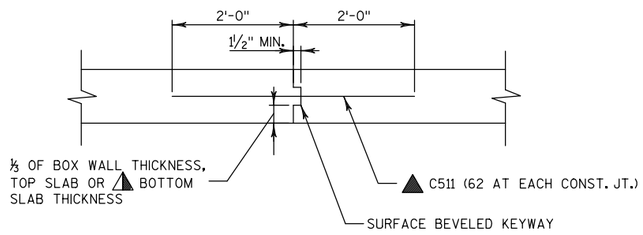
NOTES:

■ 18" WIDE RUBBERIZED MEMBRANE WATERPROOFING. SEAL ALL HORIZONTAL AND VERTICAL JOINTS ON BACKFACE OF WALLS AND TOPSIDE OF TOP SLAB.

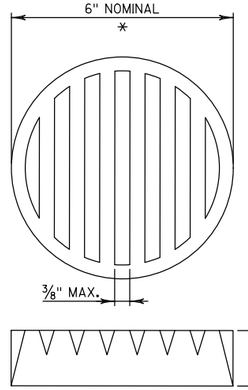
▲ C511 SPACE AT 1'-0" IN WALLS AND TOP AND BOTTOM SLABS. PLACE IN CENTER OF WALLS AND SLABS.

◭ IN LIEU OF CONSTRUCTION JOINTS IN BOTTOM SLAB, THE CONTRACTOR MAY USE 2" DEEP SAW CUTS WITHIN 12 HOURS AFTER POURING.

◒ AT THE NORTH END OF THE BOX CULVERT IN THE EAST AND WEST WALLS CAST 2-1¼" DIAMETER METALLIC CONDUITS AND AN 8" X 8" X 8" JUNCTION BOX INTO THE CONCRETE WALLS. STUB THE 2 CONDUITS OUT OF THE END OF THE BOX 2'-0" BELOW THE TOP OF THE BOTTOM SLAB AND CAP. STUB THE 2 CONDUITS 6" OUT OF THE FRONT FACE OF THE WALL (TO ATTACH TO LIGHTS) AND CAP. THE CONDUITS STUBBING OUT THE FRONT FACE OF THE WALL GO INTO A SURFACE MOUNTED JUNCTION BOX INCLUDED IN THE LIGHTING PLAN BID ITEMS. SEE LIGHTING PLANS FOR MORE DETAILS.



VERTICAL CONSTRUCTION JOINT

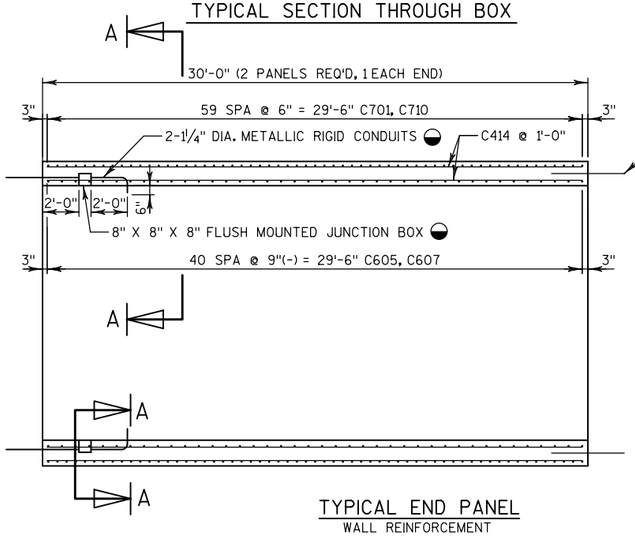


* DIMENSIONS ARE APPROXIMATE. THE GRATE IS SIZED TO FIT INTO A PIPE COUPLING. ORIENT SO SLOTS ARE VERTICAL.

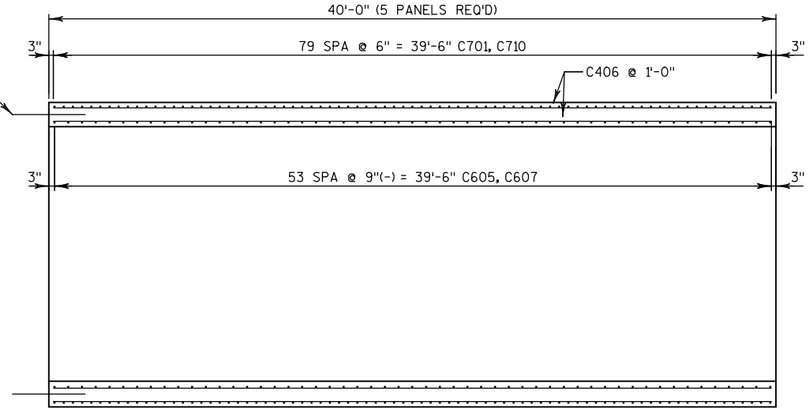
THE RODENT SCREEN, PIPE COUPLING AND SCREWS SHALL BE CONSIDERED INCIDENTAL TO THE BID ITEM "PIPE UNDERDRAIN WRAPPED 6-INCH".

THE RODENT SCREEN 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 SCREEN TO THE EXPOSED END OF THE PIPE UNDERDRAIN. THE SCREEN SHALL BE FASTENED TO THE PIPE COUPLING WITH TWO OR MORE NO. 10 x 1-INCH SHEET METAL SCREWS.

RODENT SCREEN DETAIL



TYPICAL END PANEL
WALL REINFORCEMENT



TYPICAL INTERIOR PANEL
WALL REINFORCEMENT

PLAN VIEW

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE C-32-97

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TYPICAL SECTION

SHEET 5 OF 11

8

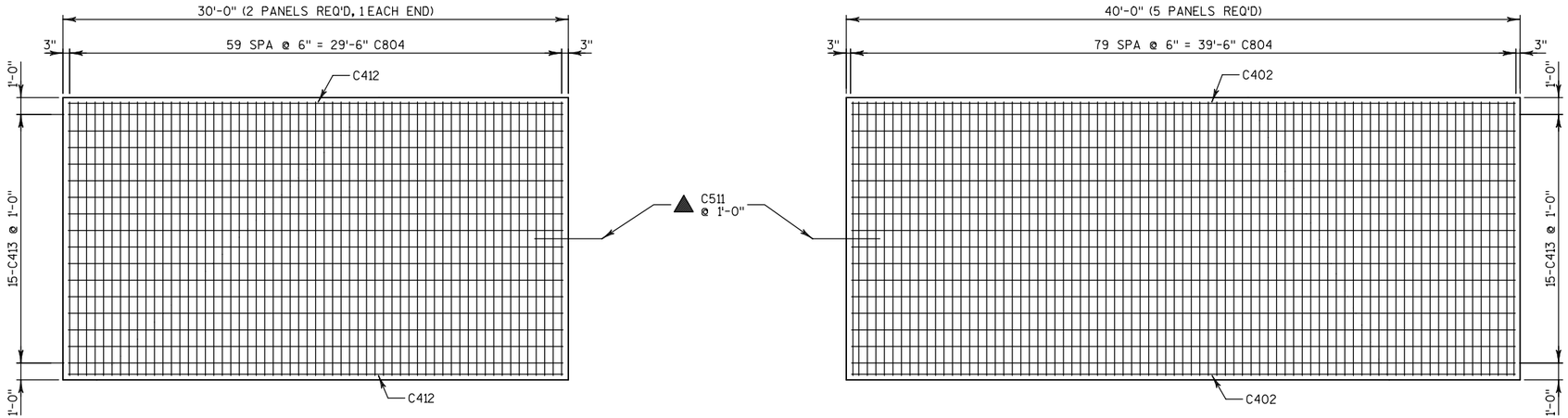
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FILE NAME : Final_Design_C-32-97_08105.dgn PLOT DATE : 01-NOV-2013 PLOT BY : jpieroni Final_Design_C-32-97_08105 PLOT SCALE : 5:1

STATE PROJECT NUMBER
1071-06-80

NOTES:

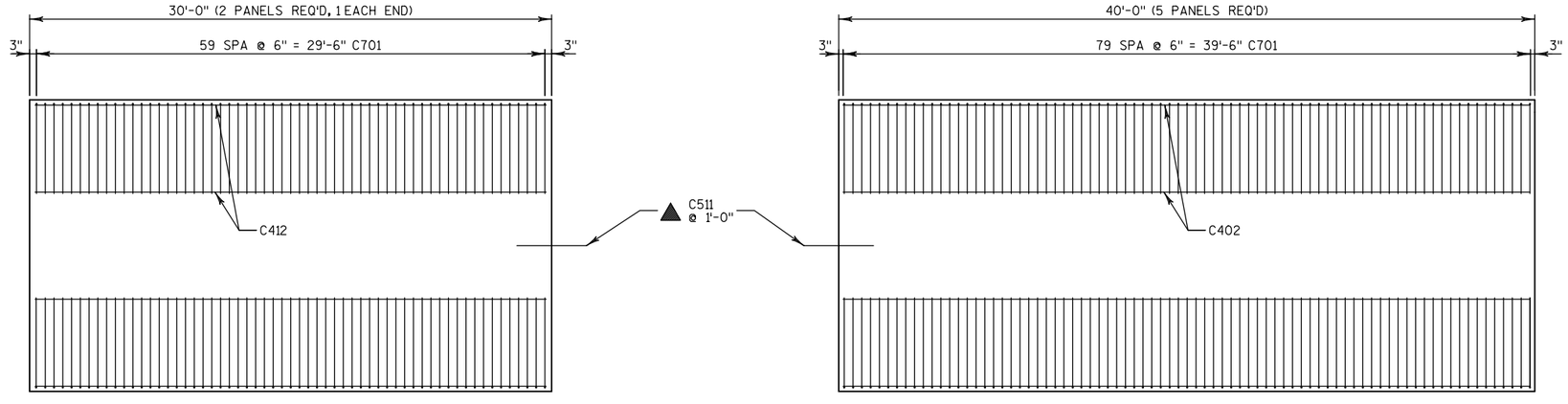
▲ C511 SPACE AT 1'-0" IN WALLS AND TOP AND BOTTOM SLABS. PLACE IN CENTER OF WALLS AND SLABS.



TYPICAL END PANEL
BOTTOM SLAB - TOP REINFORCEMENT

TYPICAL INTERIOR PANEL
BOTTOM SLAB - TOP REINFORCEMENT

PLAN VIEW



TYPICAL END PANEL
BOTTOM SLAB - BOTTOM REINFORCEMENT

TYPICAL INTERIOR PANEL
BOTTOM SLAB - BOTTOM REINFORCEMENT

PLAN VIEW

8

8

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE C-32-97

DRAWN BY JAP | PLANS CK'D. CNK

BOTTOM SLAB REINFORCEMENT PLAN

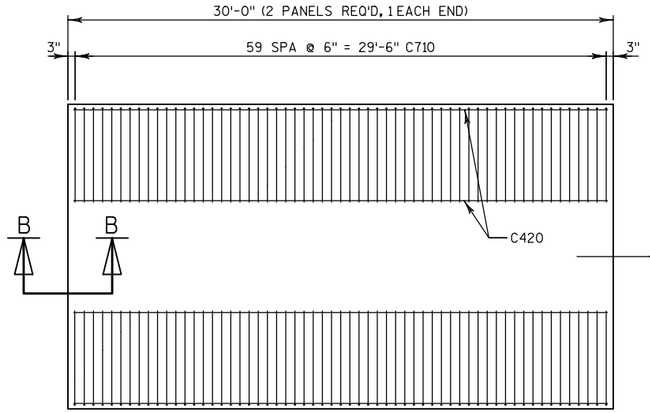
SHEET 6 OF 11

FILE NAME : Final_Design_C-32-97_08106.dgn PLOT DATE : 01-NOV-2013 PLOT BY : jpieroni Final_Design_C-32-97_08106 PLOT SCALE : 5:1

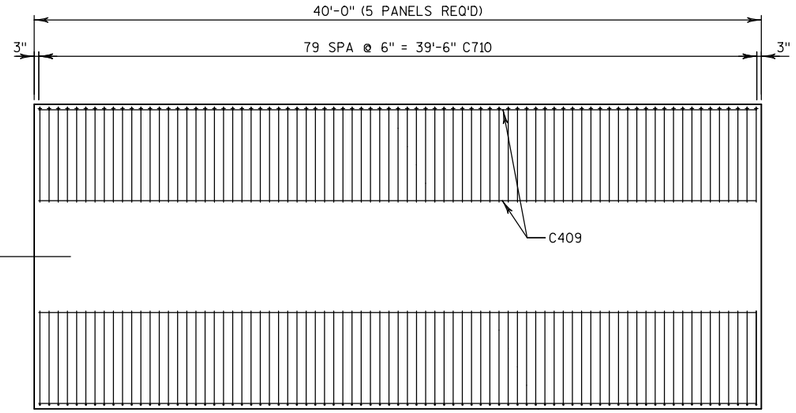
STATE PROJECT NUMBER
1071-06-80

NOTES:

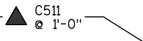
▲ C511 SPACE AT 1'-0" IN WALLS AND TOP AND BOTTOM SLABS. PLACE IN CENTER OF WALLS AND SLABS.



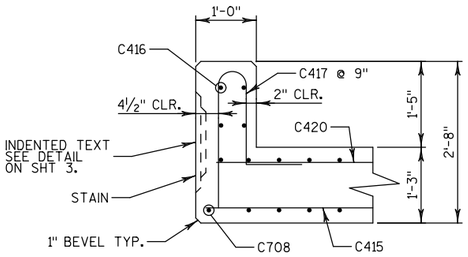
TYPICAL END PANEL
TOP SLAB - TOP REINFORCEMENT



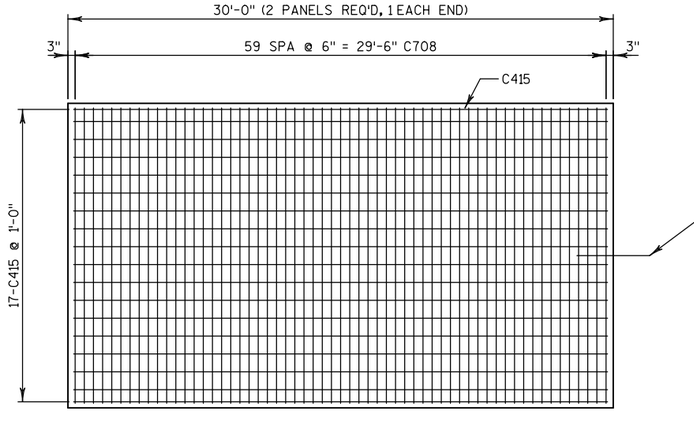
TYPICAL INTERIOR PANEL
TOP SLAB - TOP REINFORCEMENT



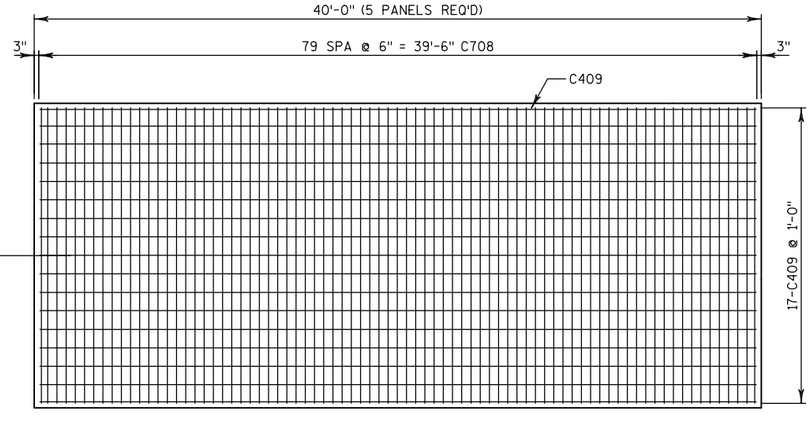
PLAN VIEW



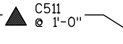
SECTION B-B
HEADER



TYPICAL END PANEL
TOP SLAB - BOTTOM REINFORCEMENT



TYPICAL INTERIOR PANEL
TOP SLAB - BOTTOM REINFORCEMENT



PLAN VIEW

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE C-32-97

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TOP SLAB REINFORCEMENT PLAN

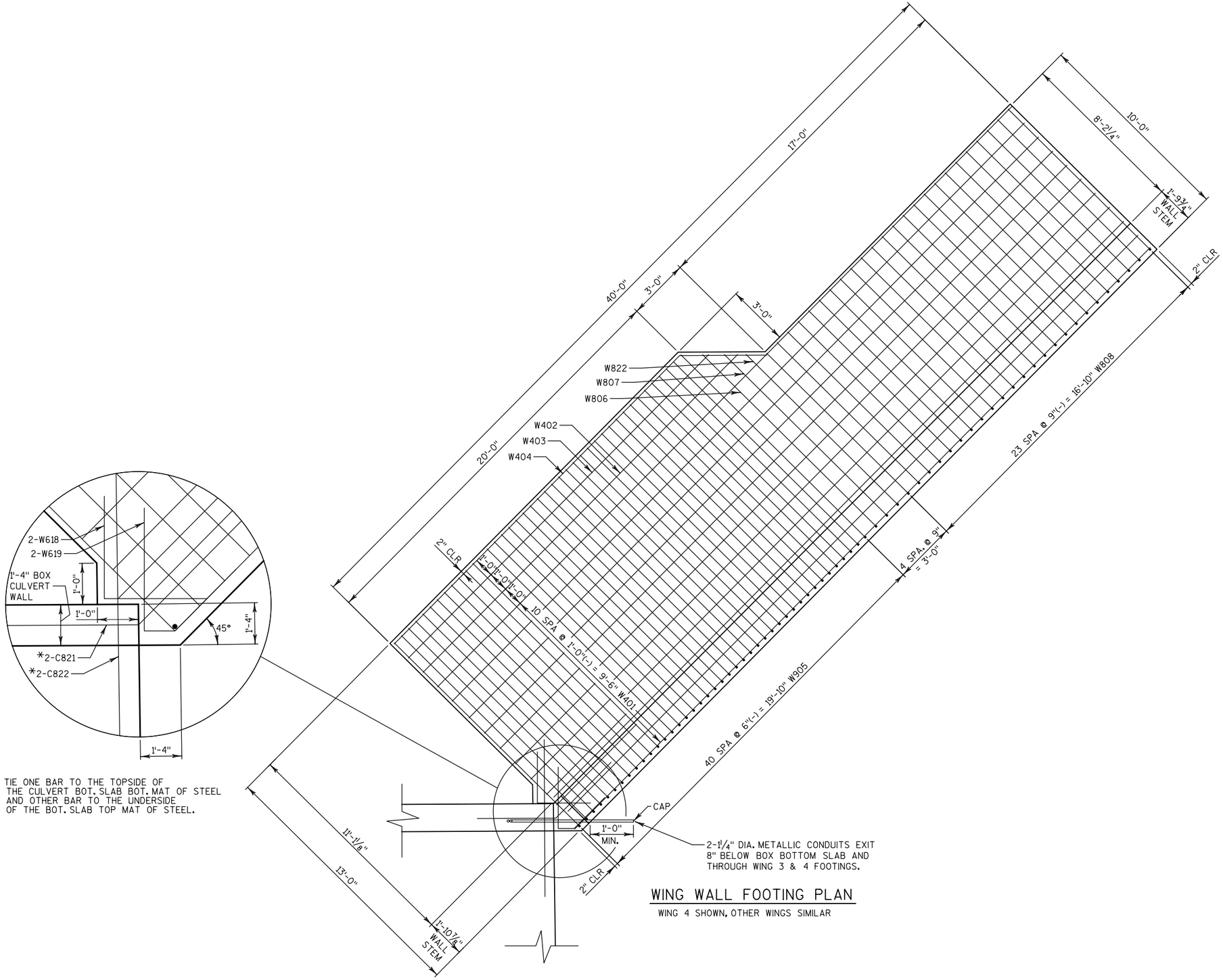
SHEET 7 OF 11

8

8

FILE NAME : Final_Design_C-32-97_08107.dgn PLOT DATE : 01-NOV-2013 PLOT BY : jpieroni Final_Design_C-32-97_08107 PLOT SCALE : 5:1

STATE PROJECT NUMBER
1071-06-80



* TIE ONE BAR TO THE TOPSIDE OF THE CULVERT BOT. SLAB BOT. MAT OF STEEL AND OTHER BAR TO THE UNDERSIDE OF THE BOT. SLAB TOP MAT OF STEEL.

WING WALL FOOTING PLAN

WING 4 SHOWN, OTHER WINGS SIMILAR

8

8

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE C-32-97

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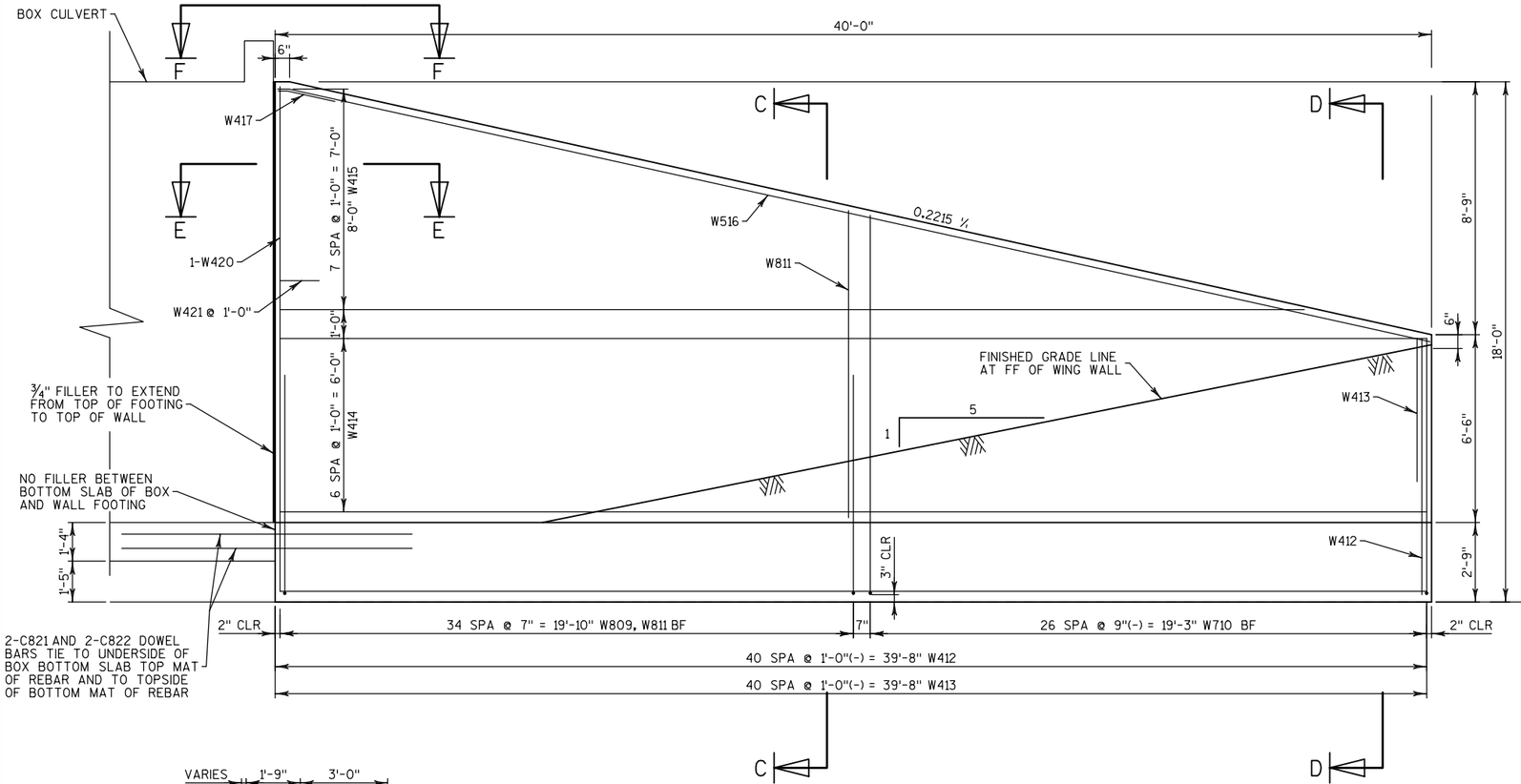
WING WALL FOOTING PLAN

SHEET 8 OF 11

FILE NAME : Final_Design_C-32-97_08108.dgn PLOT DATE : 01-NOV-2013 PLOT BY : jpieroni Final_Design_C-32-97_08108 PLOT SCALE : 5:1

STATE PROJECT NUMBER

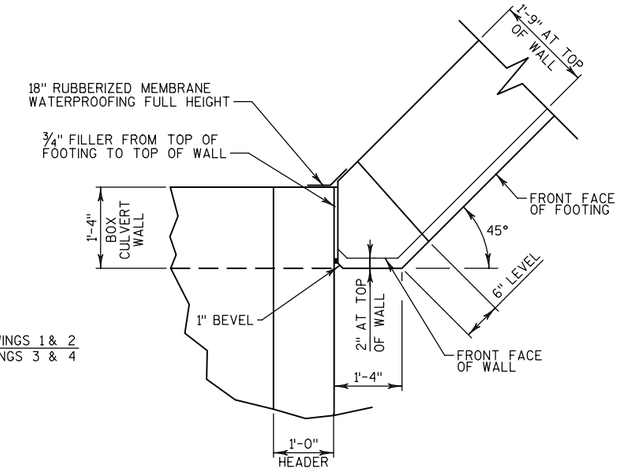
1071-06-80



NOTES:

FF = FRONT FACE
BF = BACK FACE

◆ PLACE STRUCTURE BACKFILL BEHIND WING WALLS TO THE LIMITS SHOWN ON SECTIONS A-A AND B-B. COVER STRUCTURE BACKFILL WITH 1'-0" MINIMUM OF BORROW AND GRADE FOR PROPER DRAINAGE. FINAL GRADING BEHIND WING WALLS WILL BE PERFORMED UNDER A FUTURE CONTRACT.

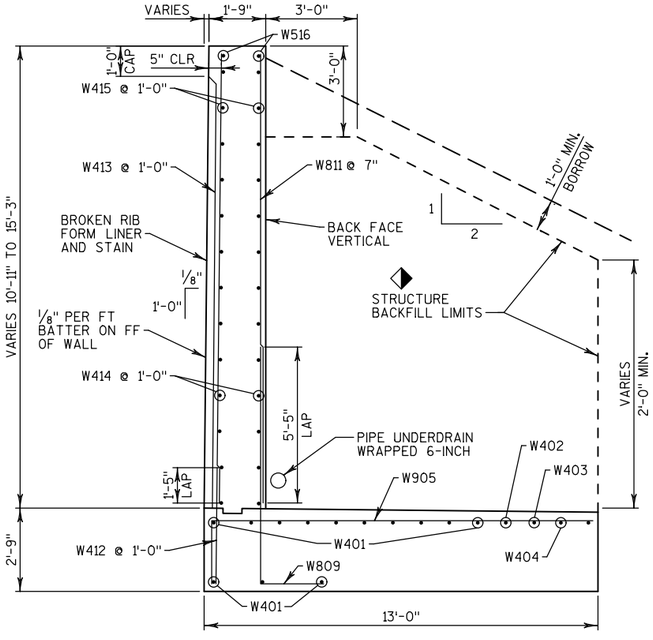


SECTION F-F

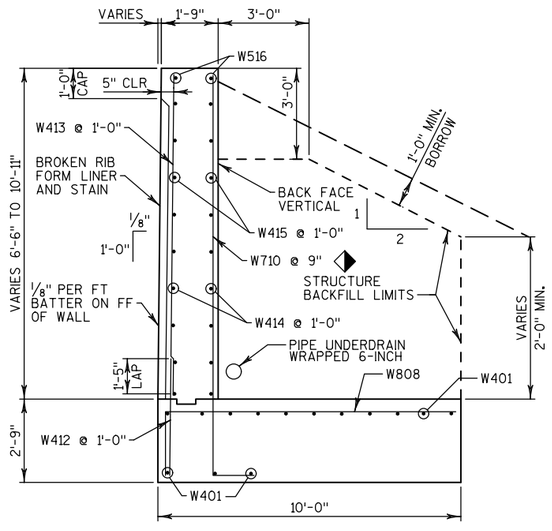
C

WING WALL ELEVATION
LOOKING AT FRONT FACE

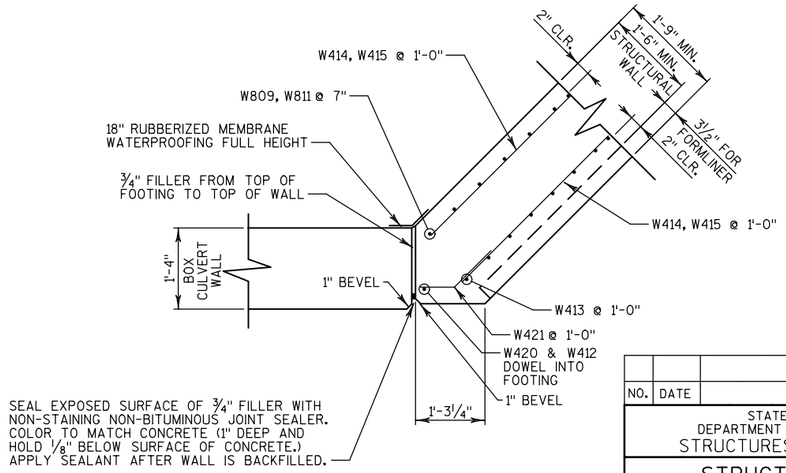
D



SECTION C-C



SECTION D-D



SEAL EXPOSED SURFACE OF ¾" FILLER WITH NON-STAINING NON-BITUMINOUS JOINT SEALER. COLOR TO MATCH CONCRETE (1" DEEP AND HOLD ⅛" BELOW SURFACE OF CONCRETE.) APPLY SEALANT AFTER WALL IS BACKFILLED.

SECTION E-E

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE C-32-97

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WING WALL DETAILS

SHEET 9 OF 11

8

8

FILE NAME : Final_Design_C-32-97_08109.dgn PLOT DATE : 01-NOV-2013 PLOT BY : jpieroni Final_Design_C-32-97_08109 PLOT SCALE : 5:1

BILL OF BARS

25,030 LB COATED
115,750 LB UNCOATED

BAR MARK	COAT	NO. REQ'D.	LENGTH	BENT	LOCATION
C701		1,040	14'-9"	X	BOTTOM SLAB - CORNERS
C402		30	39'-8"		BOTTOM SLAB - LONGITUDINAL
C403	X	75	39'-8"		BOTTOM SLAB - LONGITUDINAL - TOP
C804	X	520	16'-2"		BOTTOM SLAB - TRANSVERSE
C605		704	3'-4"		BOTTOM SLAB - WALL DOWELS
C406		300	39'-8"		WALLS - LONGITUDINAL
C607		704	14'-5"		WALLS - VERTICAL
C708		520	16'-2"		TOP SLAB - TRANSVERSE
C409		105	39'-8"		TOP SLAB - LONGITUDINAL
C710		1,040	14'-9"	X	TOP SLAB - CORNERS
C511		372	4'-0"		CONSTRUCTION JOINT DOWELS
C412		12	29'-8"		BOTTOM SLAB - END PANELS - LONGITUDINAL
C413	X	30	29'-8"		BOTTOM SLAB - END PANELS - LONGITUDINAL - TOP
C414		120	29'-8"		WALLS - END PANELS - LONGITUDINAL
C415		34	29'-8"		TOP SLAB - END PANELS - LONGITUDINAL
C416		8	16'-2"		TOP SLAB - HEADER - END PANELS - TRANSVERSE
C417		46	4'-8"	X	TOP SLAB - HEADER - END PANELS - STIRRUPS
C420		8	29'-5"		TOP SLAB - END PANELS - LONGITUDINAL
C821		8	7'-8"	X	BOTTOM SLAB - DOWEL TO WING WALL
C822		8	7'-8"		BOTTOM SLAB - DOWEL TO WING WALL

BILL OF BARS

6,110 LB COATED
22,670 LB UNCOATED

BAR MARK	COAT	NO. REQ'D.	LENGTH	BENT	BAR SERIES	LOCATION
W401		56	39'-8"			FOOTING - LONGITUDINAL
W402		4	21'-9"			FOOTING - LONGITUDINAL
W403		4	20'-9"			FOOTING - LONGITUDINAL
W404		4	19'-9"			FOOTING - LONGITUDINAL
W905		164	14'-9"	X		FOOTING - TRANSVERSE - TOP
W806		4	14'-1"	X		FOOTING - TRANSVERSE - TOP
W807		4	13'-4"	X		FOOTING - TRANSVERSE - TOP
W808		96	11'-9"	X		FOOTING - TRANSVERSE - TOP
W809	X	140	9'-3"	X		FOOTING DOWEL - VERTICAL - BACK FACE
W710	X	108	12'-0"	X	X	FOOTING DOWEL - VERTICAL - BACK FACE
W811		140	12'-10"		X	VERTICAL - BACK FACE
W412		168	4'-1"			FOOTING DOWEL - VERTICAL - FRONT FACE
W413		164	10'-7"		X	STEM - VERTICAL - FRONT FACE
W414		56	39'-8"			STEM - HORIZONTAL
W415		64	19'-6"		X	STEM - HORIZONTAL
W516		8	40'-0"			STEM - HORIZONTAL - TOP
W417		8	2'-3"	X		STEM - HORIZONTAL - TOP
W618		8	5'-10"	X		FOOTING - AT BOX
W619		8	6'-7"	X		FOOTING - AT BOX
W420		4	15'-0"			STEM - VERTICAL - AT BOX - FRONT FACE
W421		64	2'-1"	X		STEM - HORIZONTAL - AT BOX
W822		4	12'-5"	X		FOOTING - TRANSVERSE - TOP

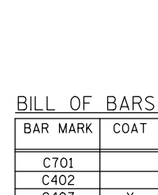
BARS SERIES TABLE

BAR MARK	NO. REQ'D.	LENGTH
W710	4 SERIES OF 27	9'-10" TO 14'-2"
W811	4 SERIES OF 35	10'-9" TO 14'-11"
W413	4 SERIES OF 41	6'-3" TO 14'-11"
W415	4 SERIES OF 16	35'-6" TO 3'-6"

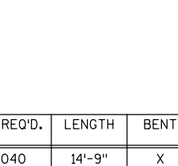
NOTES:

THE FIRST DIGIT OF THE BAR MARK SIGNIFIES THE BAR SIZE.

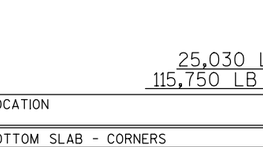
ALL DIMENSIONS IN THE BAR BENDS ARE OUT TO OUT.



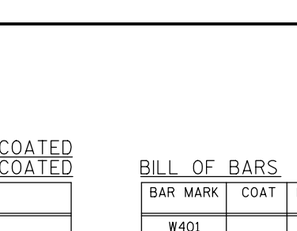
C701, C710



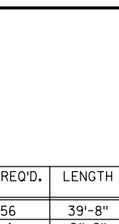
C417



W905



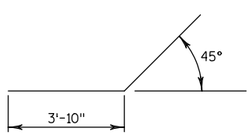
W806, W807, W808, W822



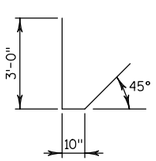
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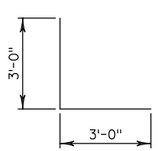
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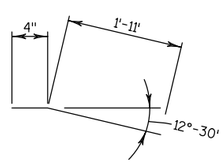
C821



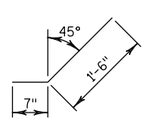
W619



W618



W417



W421

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STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE C-32-97

DRAWN BY JAP | PLANS CK'D. CNK

BILL OF BARS

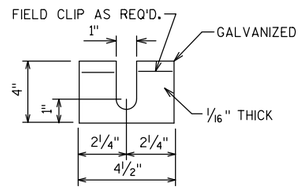
SHEET 10 OF 11

STATE PROJECT NUMBER

1071-06-80

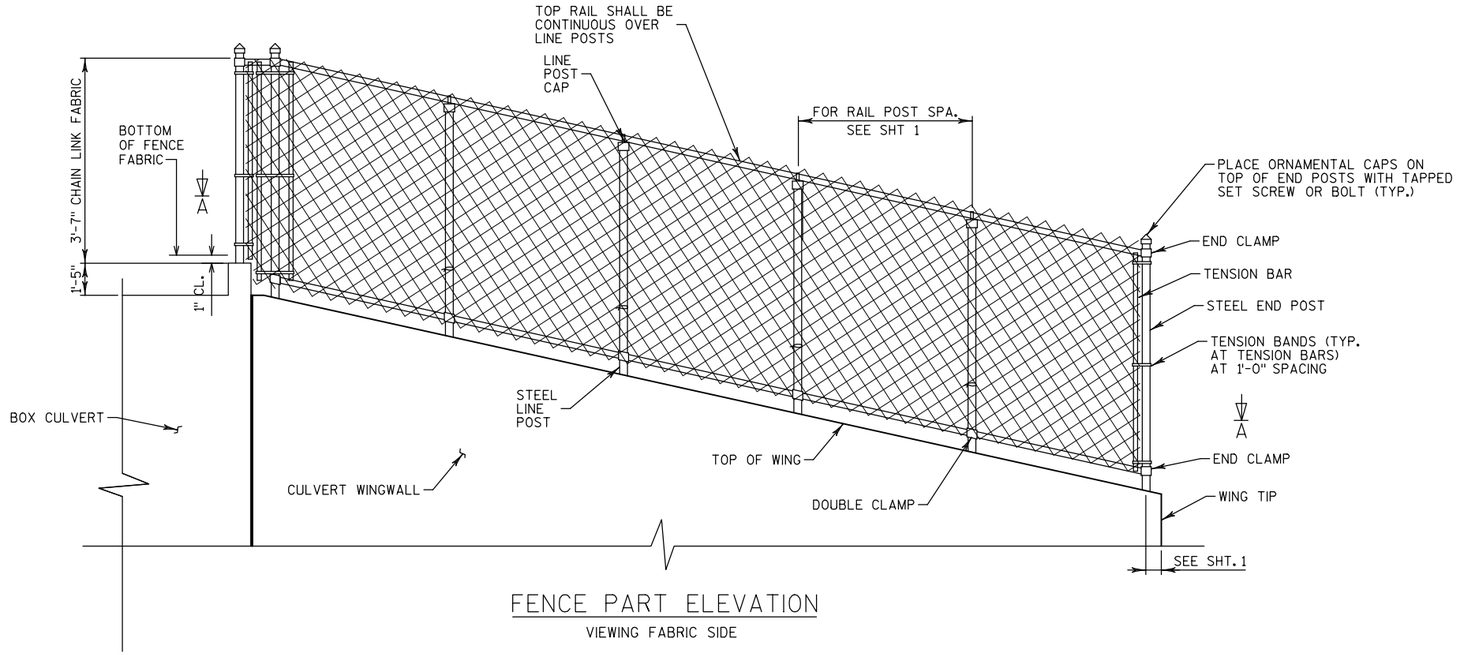
FENCE MEMBER SIZE & WEIGHT

STEEL FENCE MEMBER	OUTSIDE DIAMETER (INCHES)	WEIGHT (LB/FT)
RAILS	1.660	2.27
END POST	2.875	5.80
OVERHANG POST	2.875	5.80
LINE POST	2.375	3.65
POST SLEEVE	4.000	9.12



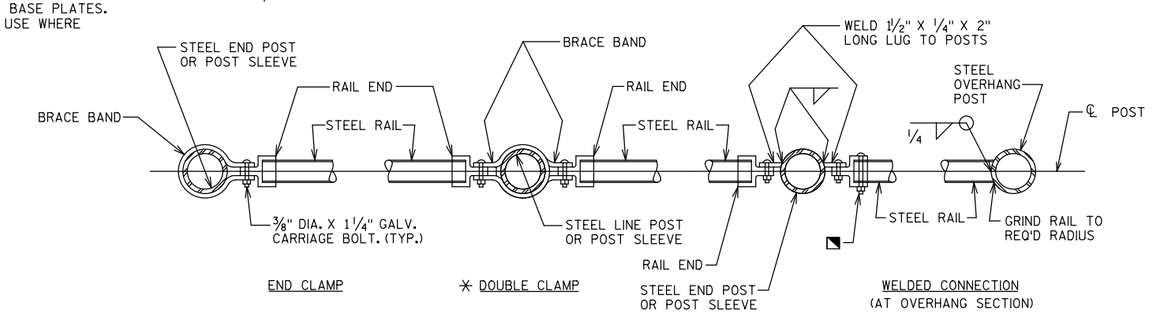
POST SHIM DETAILS

SHIMS REQUIRED ONLY WHEN END POSTS AND LINE POSTS ARE WELDED TO BASE PLATES. PROVIDE 4 SHIMS PER POST. USE WHERE REQUIRED FOR ALIGNMENT.



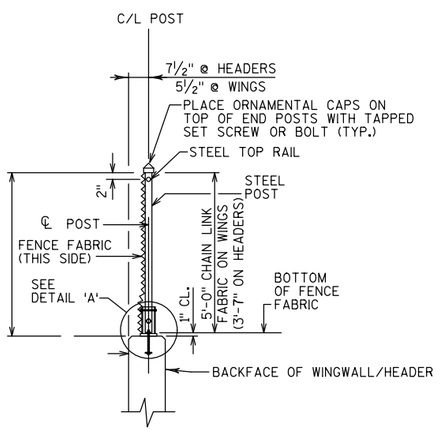
FENCE PART ELEVATION

VIEWING FABRIC SIDE

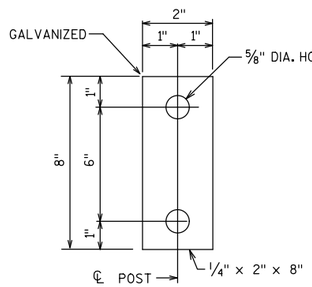


SECTION A-A

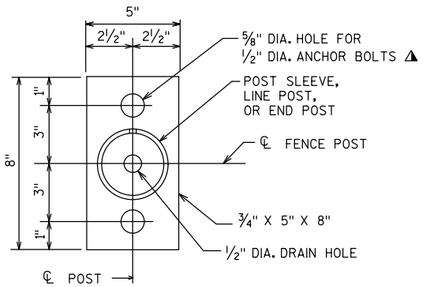
NOTE: PLACE ALL BOLT HEADS ON SIDE OF FENCE ADJACENT TO PEDESTRIANS



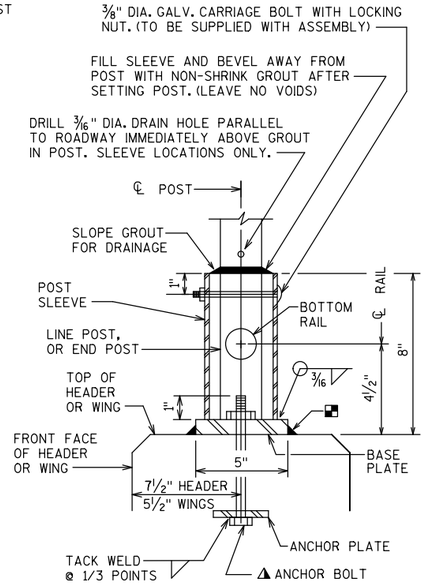
SECTION THRU FENCE



ANCHOR PLATE



BASE PLATE



DETAIL 'A'

UNIT SHALL BE GALVANIZED AFTER FABRICATION

NOTE: IN LIEU OF USING THE POST SLEEVE, THE FENCE POST MAY BE WELDED TO THE BASE PLATE.

NOTES

POSTS ARE TO BE SET VERTICAL.

ALL FENCE COMPONENTS SHALL BE GALVANIZED STEEL, EXCEPT THE FENCE FABRIC WHICH MAY BE ALUMINUM-COATED STEEL OR GALVANIZED STEEL.

FABRIC SHALL CONFORM TO ASTM A491 OR A392, CLASS 2. STEEL RAILS, POSTS AND POST SLEEVES SHALL CONFORM TO ASTM F1083, STANDARD WEIGHT PIPE (SCHEDULE 40). FITTINGS SHALL CONFORM TO ASTM F626.

THE BID ITEM SHALL BE "FENCE CHAIN LINK 5- FT.", LF.

COMPLETE ANY REQUIRED WELDING OF COMPONENTS BEFORE GALVANIZING.

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.

BASE PLATES, ANCHOR PLATES AND SHIMS SHALL BE ASTM A709, GRADE 36.

ALL POST SPACINGS ARE MEASURED HORIZONTALLY ALONG THE C/L OF THE POST.

■ CAULK AROUND PERIMETER OF BASE PLATE AND FILL PORTION OF SLOTTED HOLE AROUND ANCHOR BOLT IN SHIM WITH NON-STAINING GRAY NON-BITUMINOUS JOINT SEALER.

✳ ALTERNATE TO DOUBLE CLAMP: USE LINE RAIL CLAMP (BOULEVARD) OR 180° BRACE BAND, WHICH MAY BE USED WHEN THE POSTS ARE EITHER BOLTED TO THE POST SLEEVES OR DIRECTLY WELDED TO THE BASE PLATE.

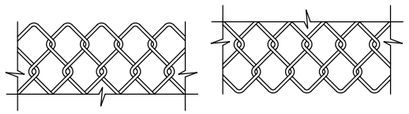
▲ 1/2" DIA. X 6 7/8" LONG GALVANIZED HEX BOLT WITH NUT & WASHER. TYPE "S", 1/2" DIA. CONCRETE MASONRY ANCHORS MAY BE SUBSTITUTED FOR 1/2" DIA. BOLTS. ANCHOR PLATE NOT REQUIRED WHEN TYPE "S" ANCHORS ARE USED. SEE ☆

☆ MASONRY ANCHOR TYPE S 1/2-INCH. EMBED 6" IN CONCRETE. ANCHOR, WASHER, AND NUT SHALL BE GALVANIZED.

◨ ATTACH FABRIC TO RAILS, AND TO POSTS WITHOUT TENSION BANDS, WITH TIE WIRES (ROUND, 9-GAGE) SPACED AT 1'-0".

◥ BOLT RAIL TO RAIL END TO SECURE OVERHANG SECTION. ALTERNATE IS TO WELD RAIL DIRECTLY TO END POST.

MINIMUM LENGTH OF TOP RAIL BETWEEN SPLICES SHALL BE 20'-0". LOCATE SPLICES NEAR 1/4 POINT OF POST SPACING.



TOP DETAIL BOTTOM DETAIL

FENCE FABRIC

FENCE FABRIC WOVEN OF 9-GAGE WIRE IN 2" DIAMOND PATTERN MESH WITH BOTH THE TOP AND BOTTOM SELVAGES KNUCKLED.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE C-32-97

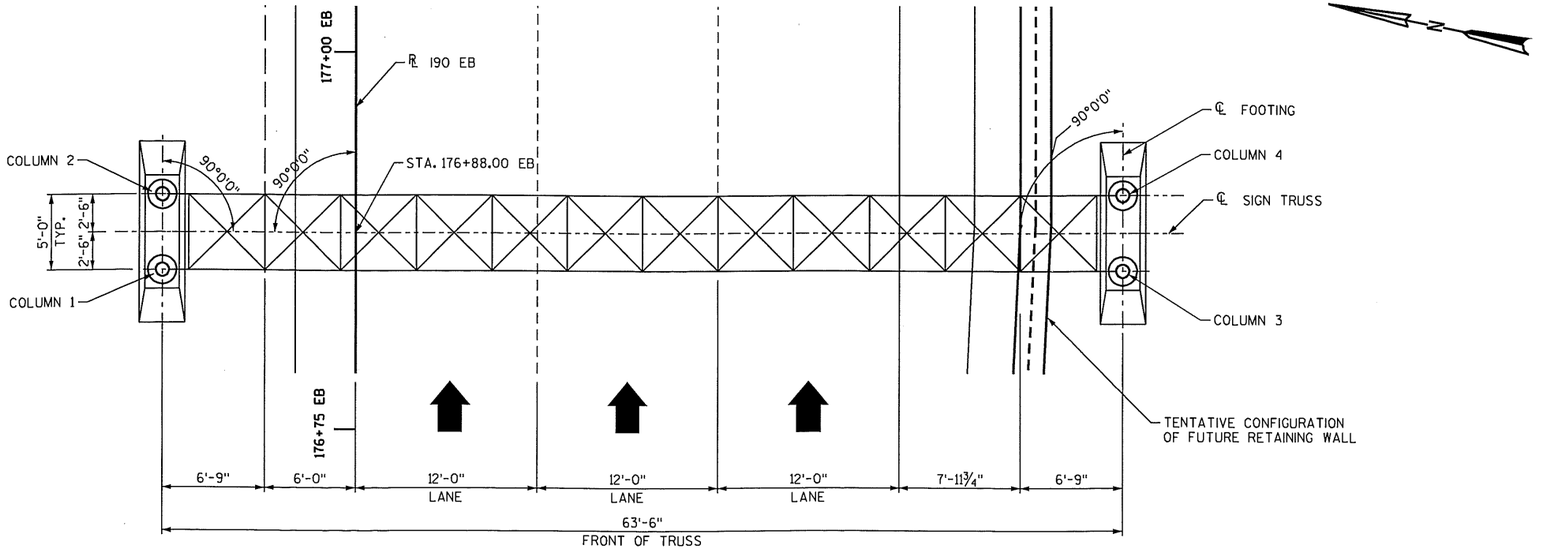
DRAWN BY JAP | PLANS CK'D. CNK

CHAIN LINK FENCE DETAILS

SHEET 11 OF 11

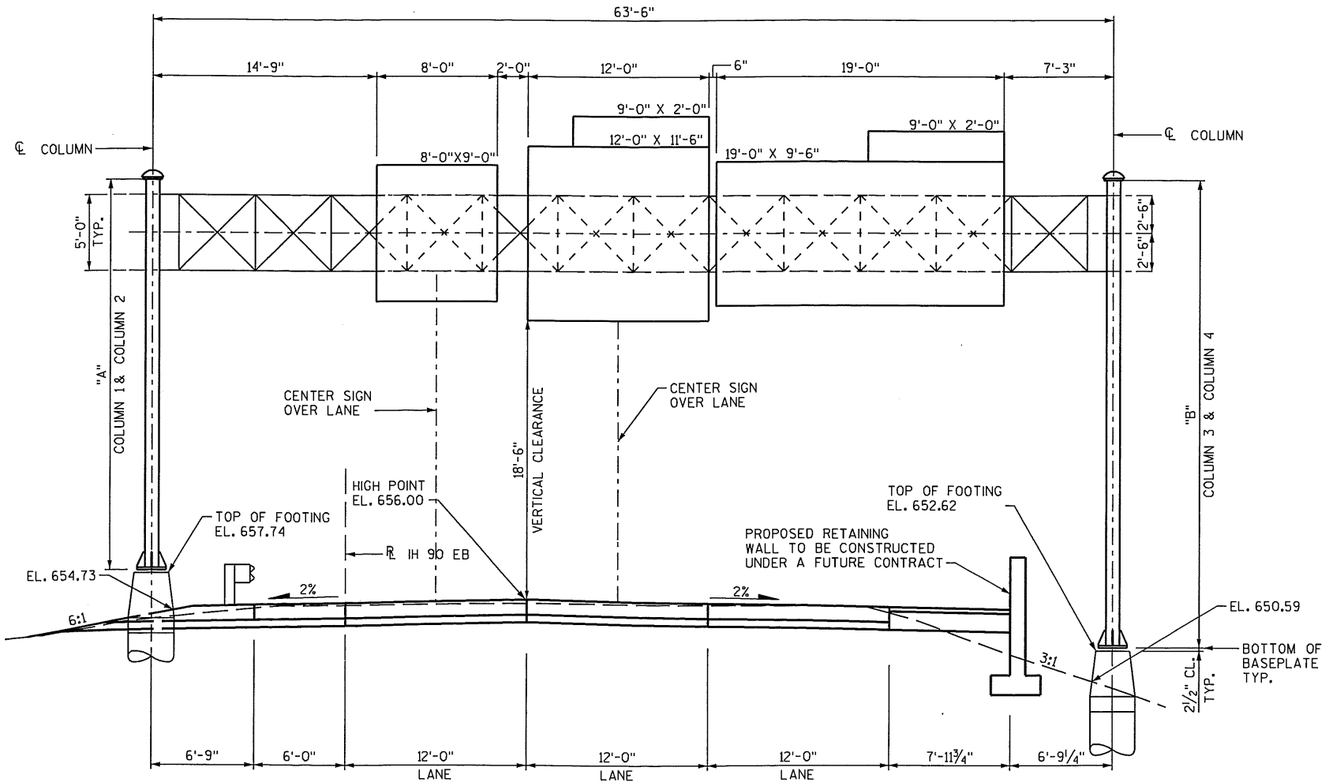
8

8



PLAN

SIGN STRUCTURE S-32-0048



ELEVATION

(LOOKING EAST AT FRONT FACE OF SIGNS)
STA. 176+88.00 EB

STATE PROJECT NUMBER
1071-06-80

GENERAL NOTES

DRAWINGS SHALL NOT BE SCALED.

CENTER SIGNS VERTICALLY ON TRUSS.

ELEVATIONS ARE IN FEET UNLESS OTHERWISE SHOWN OR NOTED.

ALTERNATE DESIGNS ARE NOT ALLOWED.

HANDHOLES ARE NOT REQUIRED.

EXACT LOCATION OF SIGN BRIDGE SHALL BE DETERMINED BY THE REGION TRAFFIC ENGINEER.

DESIGN DATA

DESIGN SIGN AREA = 600 SF
MAX. SIGN DEPTH = 12'-0"

DEAD LOAD - WT. OF SIGN AND SUPPORTING STRUCTURE.
ICE LOAD - 3 PSF TO 1 FACE OF SIGN & AROUND SURFACE OF MEMBERS.
WIND VELOCITY - 90 MPH (3-SECOND GUST SPEED) TO SIGN AREA & EXPOSED MEMBERS.

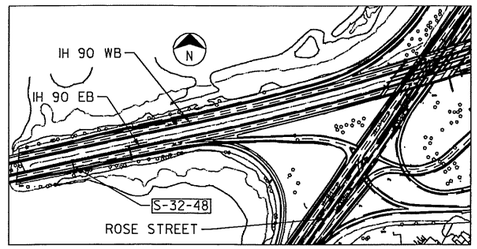
WIND COMPONENTS	NORMAL	TRANSVERSE
COMBINATION 1	1.0	0.2
COMBINATION 2	0.6	0.3

GROUP LOADS	% OF ALLOWABLE STRESS
1. DEAD	100
2. DEAD + WIND	133
3. DEAD + ICE + ½ (WIND*)	133

* MIN. VALUE OF 25 PSF FOR GROUP 3.

TOTAL ESTIMATED QUANTITIES

BID NUMBER	BID ITEM	UNIT	QUANTITY
636.0100	SIGN SUPPORT CONCRETE MASONRY	CY	24
636.1000	SIGN SUPPORT STEEL REINFORCEMENT HS	LB	3000
641.6600	SIGN BRIDGE S-32-48	LS	1
SPV.0105.20	REMOVING SIGN BRIDGE S-32-0022	LS	1



LOCATION MAP

LIST OF DRAWINGS

1. GENERAL PLAN & ELEVATION
2. 4-CHORD GALVANIZED STEEL SIGN BRIDGE
3. 4-CHORD SIGN BRIDGE DETAILS
4. SIGN BRIDGE TRUSS FOOTING
5. SUBSURFACE EXPLORATION

WISCONSIN
YOON-MOON CHUN
E-39076
WHITEFISH BAY
WIS.
PROFESSIONAL ENGINEER
2014-01-07

STRUCTURES DESIGN CONTACTS

BRIDGE OFFICE:
BILL DREHER, P.E. (608) 266-8489
CONSULTANT:
MAHMOUD MALAS, P.E. (262) 821-1171

NO.	DATE	REVISION	BY

KSA K. Singh & Associates, Inc.
Engineers, Scientists and Environmental Consultants

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

ACCEPTED William C. Dreher KAR 01/07/14
CHIEF STRUCTURES DESIGN ENGINEER DATE

STRUCTURE S-32-48

IH 90 EB

COUNTY	~~TOWN~~/CITY/~~VILLAGE~~
LA CROSSE	LA CROSSE

DESIGN SPEC.
AASHTO STANDARD SPECIFICATIONS

DESIGNED BY	DESIGN CK'D.	DRAWN BY	PLANS CK'D.
NA	YC	NA	YC

GENERAL PLAN & ELEVATION

SHEET 1 OF 5
270

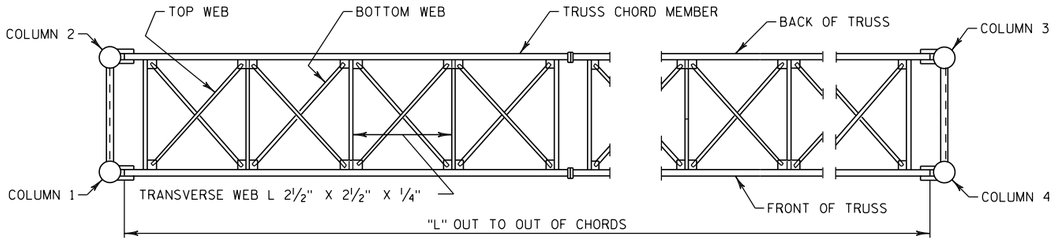
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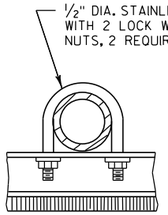
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STATE PROJECT NUMBER

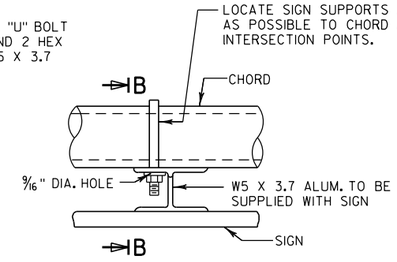
1071-06-80



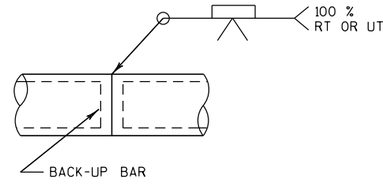
PLAN



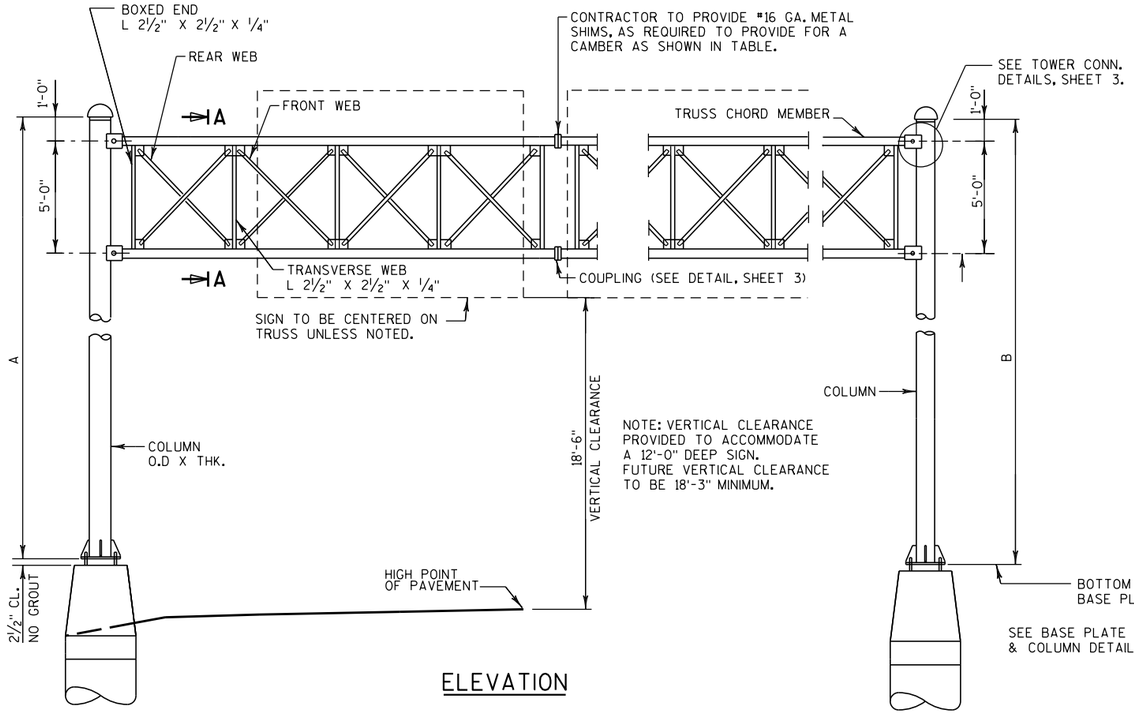
SECTION B



TYPICAL SIGN CONNECTION

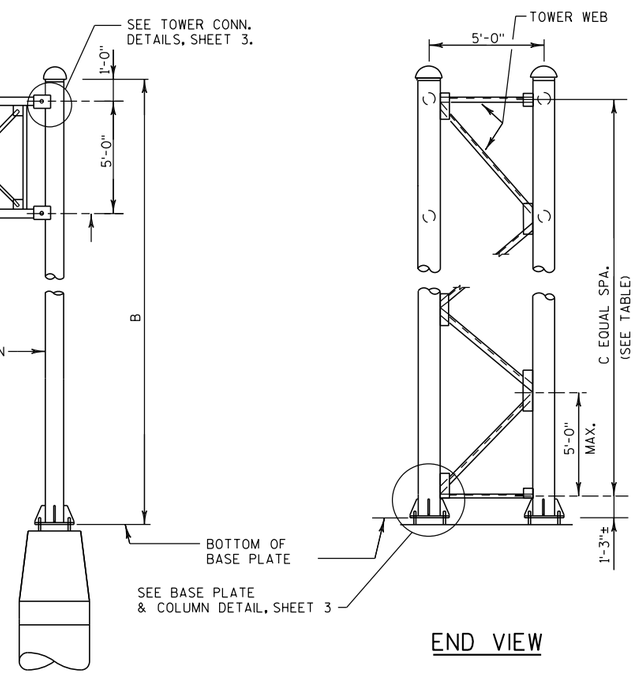


CHORD SPLICE

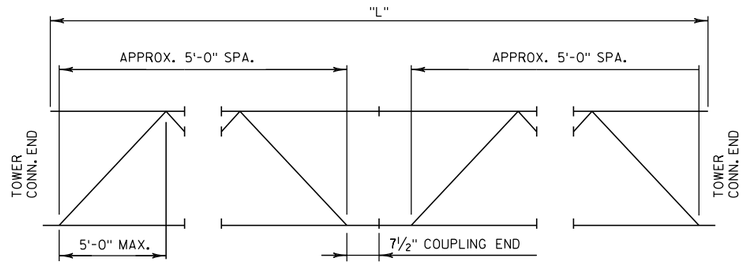


ELEVATION

NOTE: VERTICAL CLEARANCE PROVIDED TO ACCOMMODATE A 12'-0" DEEP SIGN. FUTURE VERTICAL CLEARANCE TO BE 18'-3" MINIMUM.

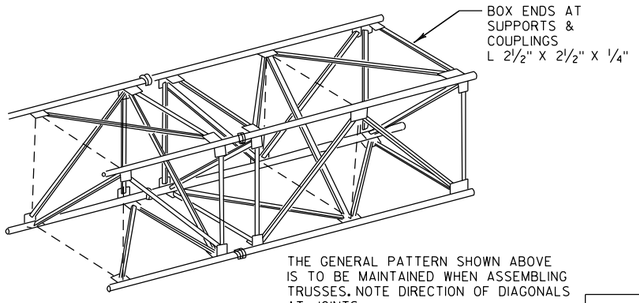


END VIEW



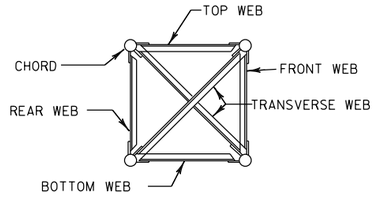
TRUSS ARRANGEMENT

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.



THE GENERAL PATTERN SHOWN ABOVE IS TO BE MAINTAINED WHEN ASSEMBLING TRUSSES. NOTE DIRECTION OF DIAGONALS AT JOINTS.

TYPICAL TRUSS SECTION



SECTION A

STRUCTURE	A	B	C	CHORD 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 WEB	"L"
S-32-48	25'-9¾"	30'-11¼"	5 NORTH TOWER 6 SOUTH TOWER	4.5"X0.237"	3"X3"X¼"	3"X3"X¼"	9½" & 1"	7"	6	1"	10.75"X0.365"	4"X4"X⅜"	62'-4¼"

NOTES

DRAWINGS SHALL NOT BE SCALED.

STEEL COLUMN PIPE SHALL BE API SPEC. 5L GRADE X42 Fy = 42,000 PSI.
ALL STEEL PIPE MEMBERS OF TRUSS SHALL BE API SPEC. 5L GRADE X42 Fy = 42,000 PSI.
PLATES, BARS, STRUCTURAL ANGLES SHALL BE ASTM A709 GRADE 36 Fy = 36,000 PSI.
ALL STRUCTURAL STEEL MEMBERS SHALL BE GALVANIZED.
ALL BOLTED CONNECTIONS SHALL BE MADE WITH ¾" DIA. A325 BOLTS, GALVANIZED ASTM 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 AASHTO M314-90 GRADE 55. Fy = 55,000 PSI.

SIGNS OR BLANKS SHALL BE INSTALLED ON TRUSS AT TIME OF ERRECTION. 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" ANCHOR BOLTS, NUTS AND WASHERS SHALL BE GALVANIZED IN ACCORDANCE WITH THE AASHTO SPECIFICATION AS STATED IN SECTION 641. OF THE WISDOT STANDARD SPECIFICATIONS.

WELD TEST AS PER AWS D1.1.

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STATE OF WISCONSIN
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STRUCTURE S-32-48

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4-CHORD GALVANIZED STEEL SIGN BRIDGE

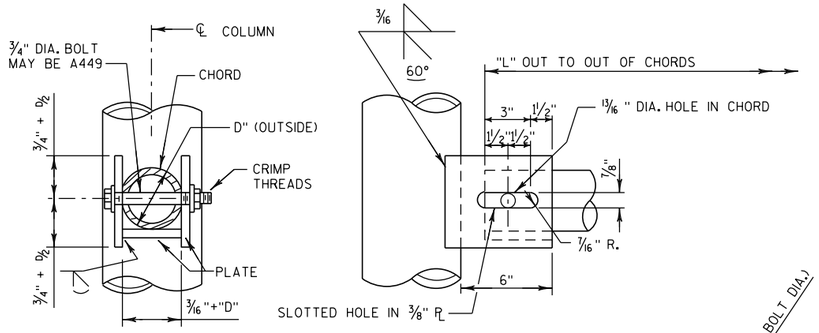
SHEET 2 OF 5
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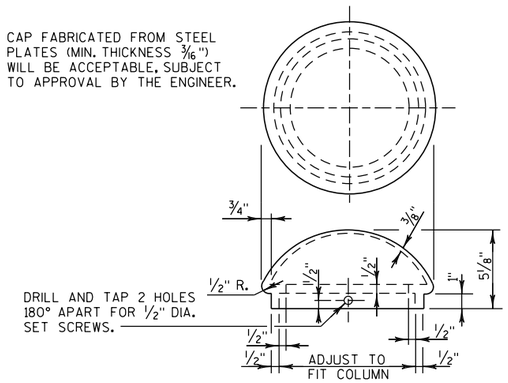
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STATE PROJECT NUMBER

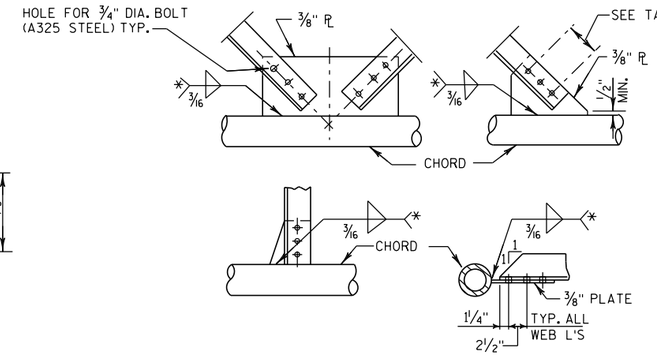
1071-06-80



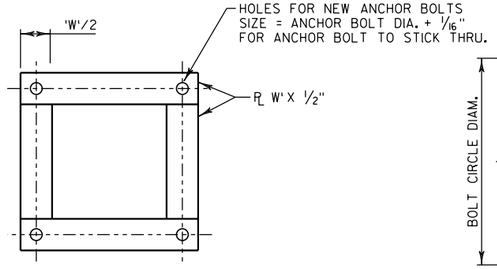
TOWER CONNECTION DETAIL



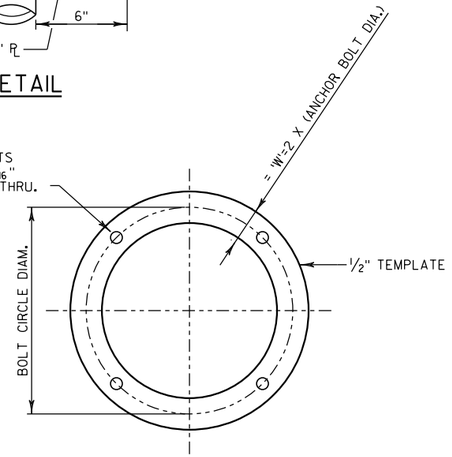
TOWER CAP DETAIL



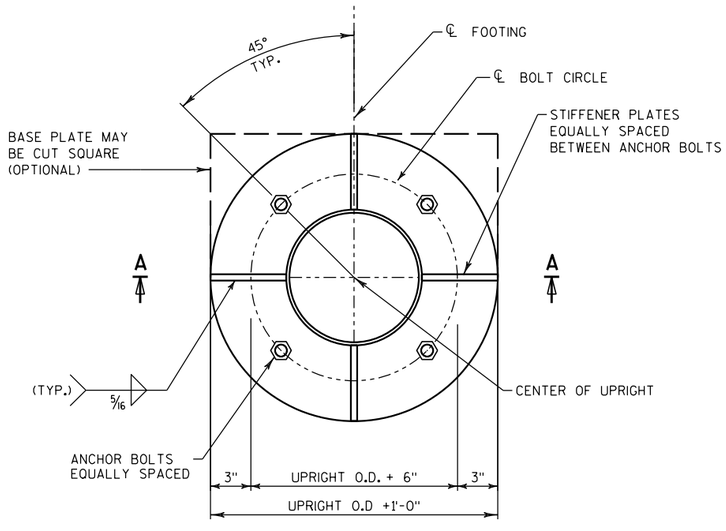
TYPICAL TRUSS CONNECTION DETAILS



ALTERNATE TEMPLATE PLAN

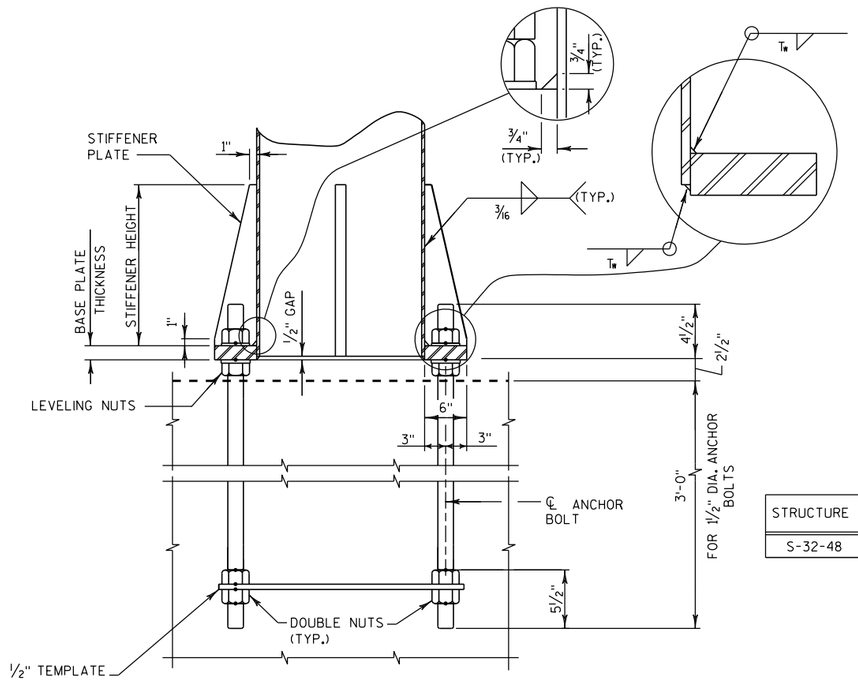


TEMPLATE PLAN



PLAN VIEW

(BASE PLATE)

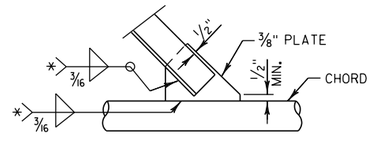


SECTION A-A

STRUCTURE	COLUMN O.D. X THK.	ANCHOR BOLTS DIAMETER	BASE PLATE THICKNESS (IN.)	STIFFENER PLATE THICKNESS (IN.)	STIFFENER PLATE HEIGHT (IN.)	Tw (IN.)
S-32-48	10.75"X0.365"	1½"	1½"	½"	10"	5/16"

NOTE:

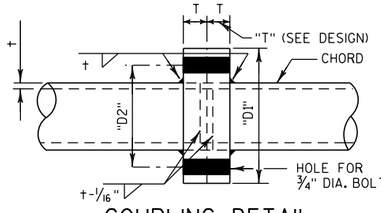
PRIOR TO INSTALLATION, ANCHOR BOLTS SHALL BE RIGIDLY HELD IN POSITION DURING CONCRETE PLACEMENT USING STEEL ANCHOR PLATE AND TOP TEMPLATE. REMOVE TOP TEMPLATE (NOT SHOWN AFTER CONCRETE SETS.



TYPICAL WELDED ALTERNATE

*ANGLE	WELD LENGTH	NO. OF BOLTS
● 2½"x2½"x¼"	11"	3
3"x3"x3/16"	10"	3
3"x3"x¼"	13"	4
3"x3"x5/16"	16½"	5
3"x3"x⅜"	19½"	6
4"x4"x¼"	18"	5
4"x4"x5/16"	22"	6
4"x4"x⅜"	26"	8
4"x4"x7/16"	30"	9
4"x4"x½"	34"	10

● ONLY USED FOR BOXED END AND TRANSVERSE BRACING.



COUPLING DETAIL

NO.	DATE	REVISION	BY

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DEPARTMENT OF TRANSPORTATION

STRUCTURE S-32-48

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4-CHORD SIGN BRIDGE DETAILS

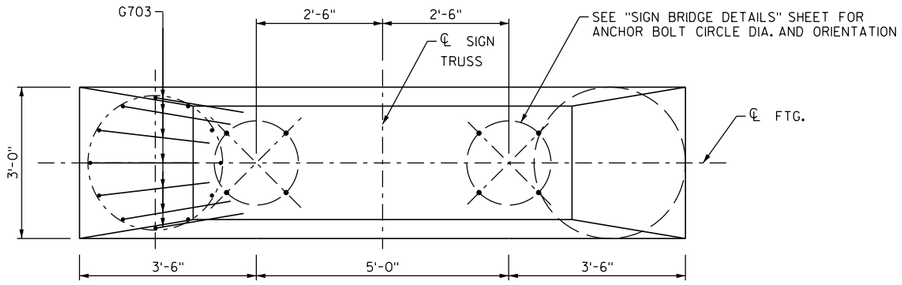
SHEET 3 OF 5
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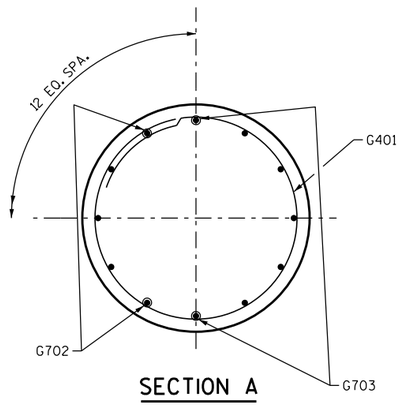
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PLAN



SECTION A

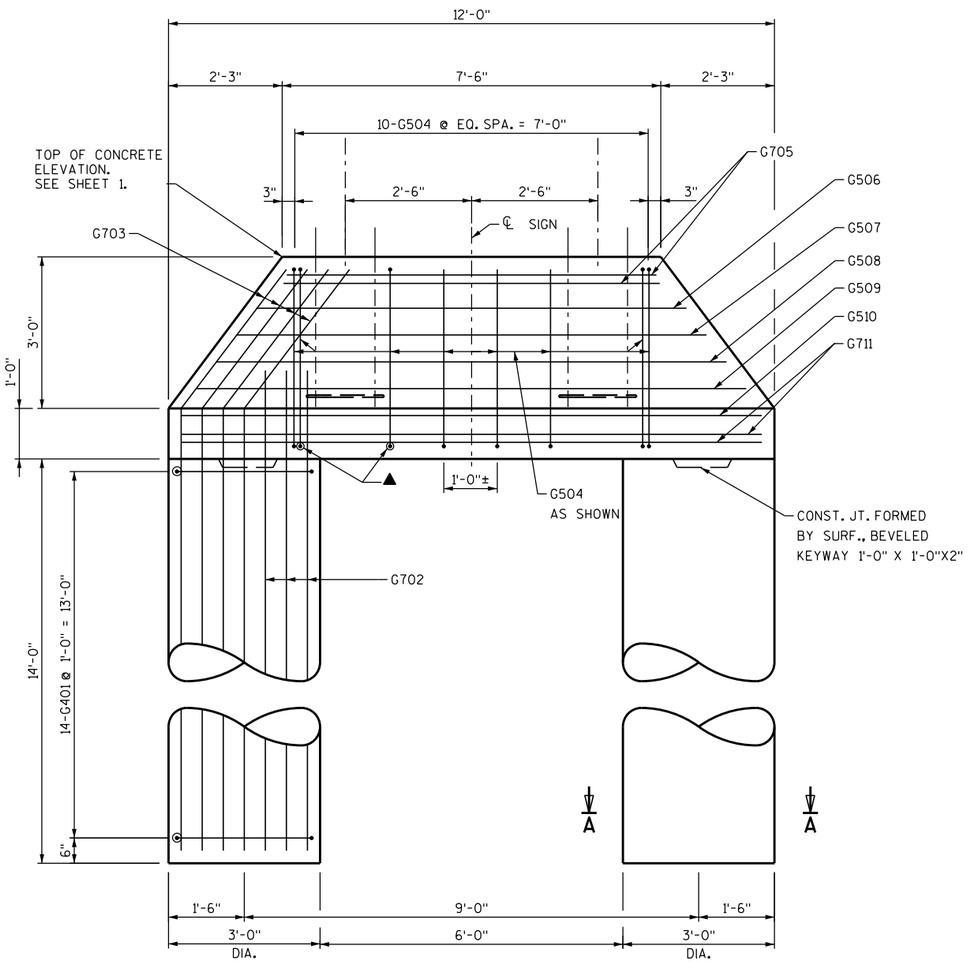
BILL OF BARS

THE FIRST OR FIRST TWO DIGITS OF THE BAR MARK SIGNIFIES THE BAR SIZE.
BAR DIMENSIONS ARE OUT TO OUT OF BAR.

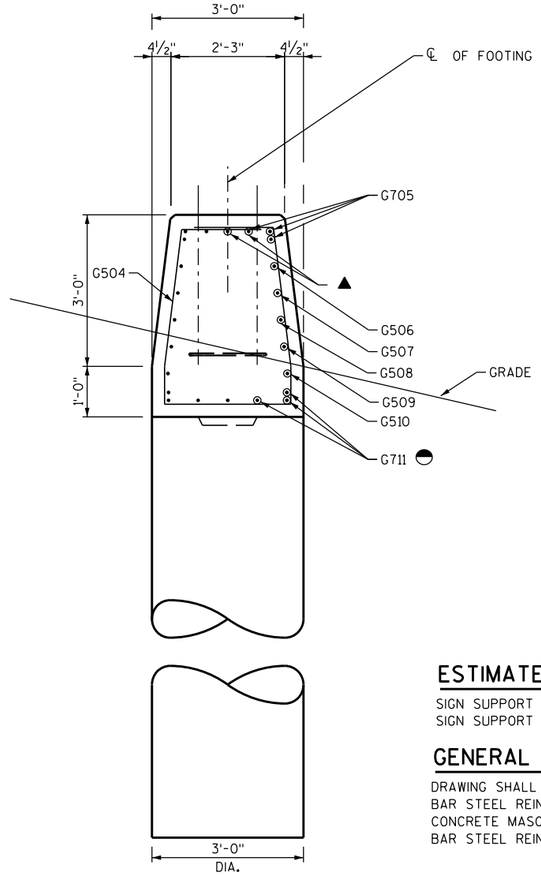
BAR MARK	COAT	NO. REQ'D	LENGTH	BENT	BAR SERIES	LOCATION
G401		28	8'-11"	X		FOOTING-HOOPS
G702		10	16'-0"			FOOTING-VERTICAL
G703		14	18'-2"	X		FOOTING-VERTICAL
G504		8	12'-5"	X		FOOTING-STIRRUPS
G705		7	7'-4"			FOOTING-HORIZONTAL
G506		2	8'-4"			FOOTING-HORIZONTAL
G507		2	9'-2"			FOOTING-HORIZONTAL
G508		2	9'-11"			FOOTING-HORIZONTAL
G509		2	10'-9"			FOOTING-HORIZONTAL
G510		2	11'-6"			FOOTING-HORIZONTAL
G711		7	11'-6"			FOOTING-HORIZONTAL

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

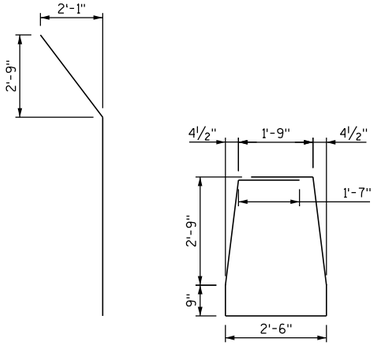
QUANTITY OF BARS IN TABLE IS FOR ONE FOOTING.



ELEVATION
(ONE FTG.)

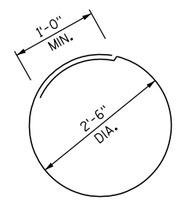


END VIEW



G703

G504



G401

FOUNDATION DATA

ALLOWABLE SOIL BEARING PRESSURE = 21,300 PSF
ALLOWABLE SKIN FRICTION (COMPRESSION) = 356 PSF
ALLOWABLE SKIN FRICTION (UPLIFT) = 239 PSF

SOIL DESIGN PARAMETERS

COHESION = 0 PSF (OVER SHAFT LENGTH)
COHESION = 0 PSF (BOTTOM OF SHAFT)
SOIL UNIT WEIGHT = 120 PCF

ESTIMATED QUANTITIES (1 FTG)

SIGN SUPPORT CONCRETE MASONRY---------- 12 CY
SIGN SUPPORT STEEL REINFORCEMENT HS ---------- 1500 LB

GENERAL NOTES

DRAWING SHALL NOT BE SCALED.
BAR STEEL REINFORCEMENT SHALL BE EMBEDDED 3" CL.
CONCRETE MASONRY---------- fc'= 3,500 PSI
BAR STEEL REINF. -----GRADE 60 fy = 60,000 PSI

◓ SPACE TO MISS VERT. SHAFT REINF.
▲ SPACE TO MISS ANCHOR BOLTS. TIE IN PLACE AFTER ANCHOR BOLT ASSEMBLY LOCATED.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE S-32-48

DRAWN BY NA | PLANS CK'D. YC

SIGN BRIDGE TRUSS FOOTING

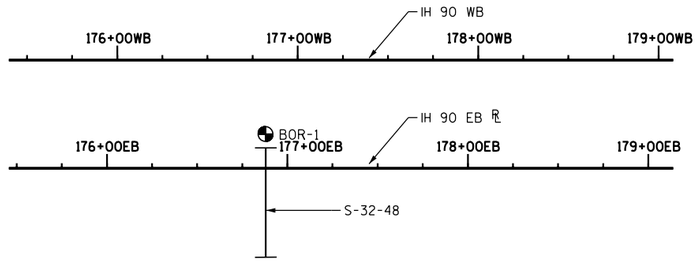
SHEET 4 OF 5
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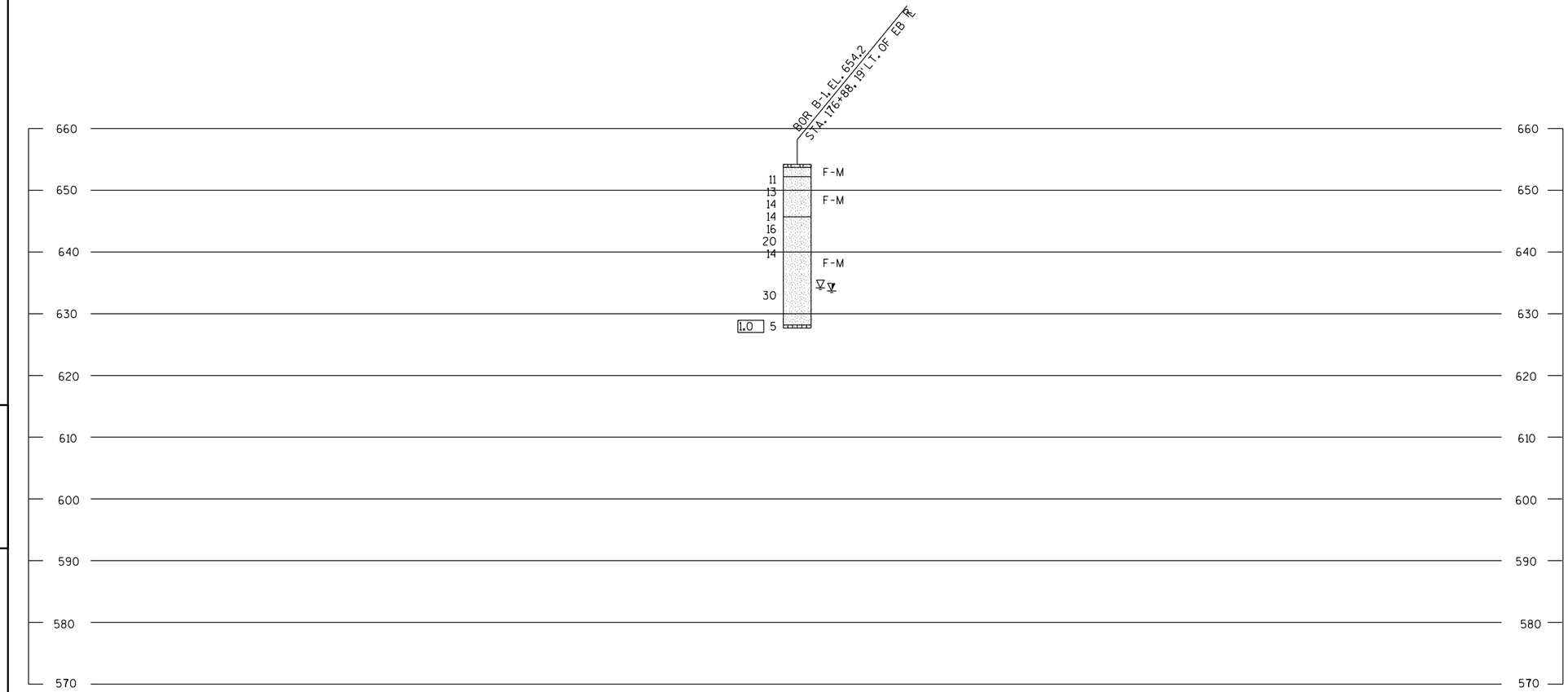
8

USH 53/STH 35 - THEATER ROAD

BORING #	DATE COMPLETED	NORTHING (Y)	EASTING (X)
1	7/23/2013	150250.305	447367.933
BORINGS COMPLETED BY: WISDOT			
REPORT COMPLETED BY: WISDOT			
ALL COORDINATES REFERENCED TO WCCS NAD 83(91) LACROSSE COUNTY			







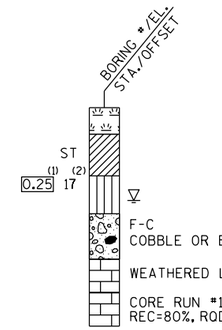
STATE PROJECT NUMBER

1071-06-80

MATERIAL SYMBOLS

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

LEGEND OF BORING



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

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

GROUND WATER ELEVATION

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

ABBREVIATIONS

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

SUBSURFACE EXPLORATION FOR FOUNDATION DESIGN AND BIDDERS INFORMATION

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

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE S-32-48

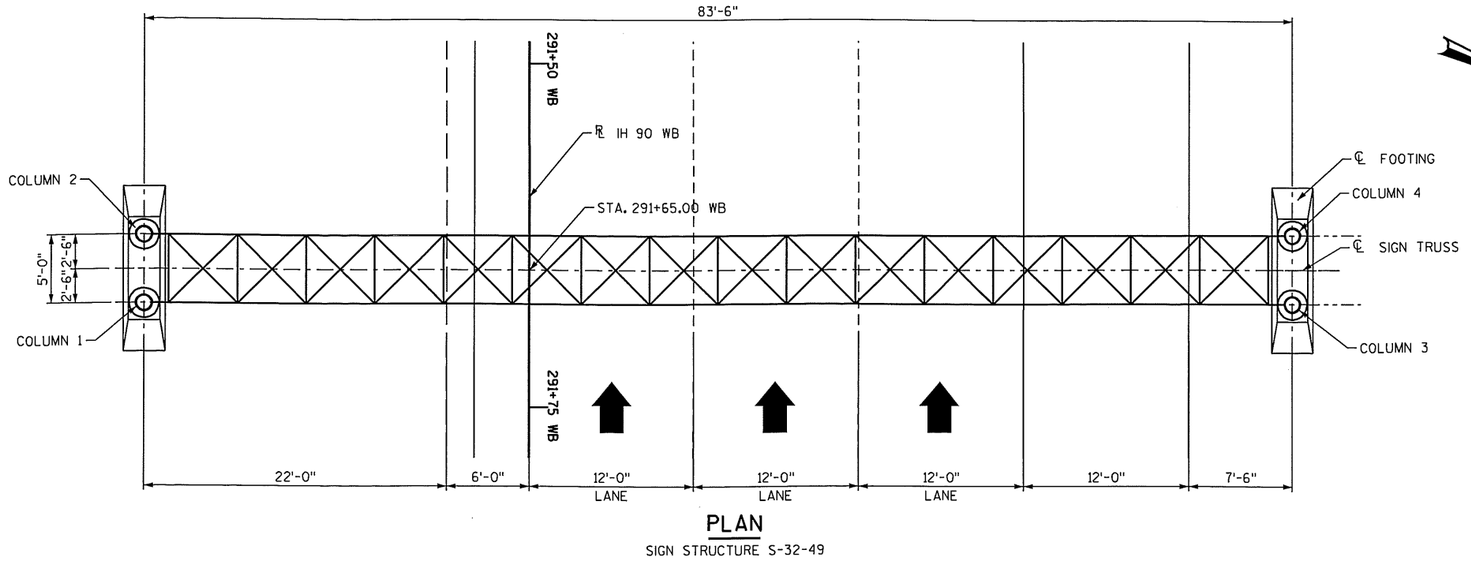
DRAWN BY NA | PLANS CK'D. YC

SUBSURFACE EXPLORATION

SHEET 5 OF 5
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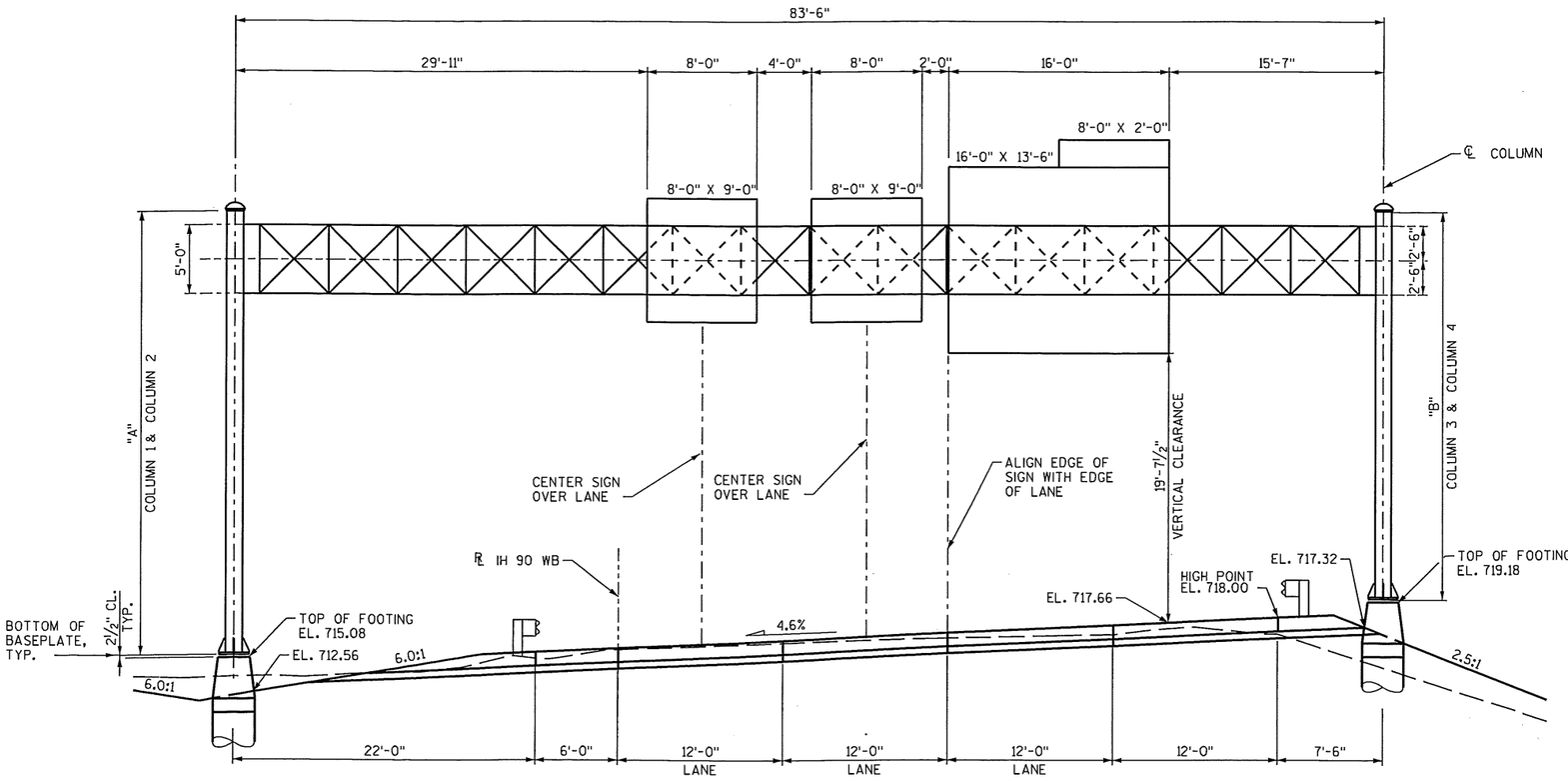
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8



PLAN

SIGN STRUCTURE S-32-49



ELEVATION

(LOOKING WEST AT FRONT FACE OF SIGNS)
STA. 291+65.00 WB

STATE PROJECT NUMBER
1071-06-80

GENERAL NOTES

DRAWINGS SHALL NOT BE SCALED.

CENTER SIGNS VERTICALLY ON TRUSS.

ELEVATIONS ARE IN FEET UNLESS OTHERWISE SHOWN OR NOTED.

ALTERNATE DESIGNS ARE NOT ALLOWED.

HANDHOLES ARE NOT REQUIRED.

EXACT LOCATION OF SIGN BRIDGE SHALL BE DETERMINED BY THE REGION TRAFFIC ENGINEER.

DESIGN DATA

DESIGN SIGN AREA = 780 SF
MAX. SIGN DEPTH = 15'-6"

DEAD LOAD - WT. OF SIGN AND SUPPORTING STRUCTURE.
ICE LOAD - 3 PSF TO 1 FACE OF SIGN & AROUND SURFACE OF MEMBERS.
WIND VELOCITY - 90 MPH (3-SECOND GUST SPEED) TO SIGN AREA & EXPOSED MEMBERS.

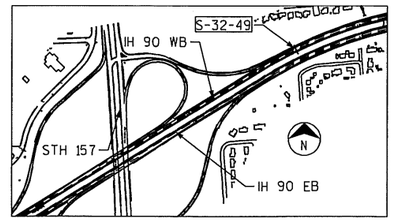
WIND COMPONENTS	NORMAL	TRANSVERSE
COMBINATION 1	1.0	0.2
COMBINATION 2	0.6	0.3

GROUP LOADS	% OF ALLOWABLE STRESS
1. DEAD	100
2. DEAD + WIND	133
3. DEAD + ICE + ½ (WIND*)	133

* MIN. VALUE OF 25 PSF FOR GROUP 3.

TOTAL ESTIMATED QUANTITIES

BID NUMBER	BID ITEM	UNIT	QUANTITY
636.0100	SIGN SUPPORT CONCRETE MASONRY	CY	24
636.1000	SIGN SUPPORT STEEL REINFORCEMENT HS	LB	3000
641.6600	SIGN BRIDGE S-32-49	LS	1
SPV.0105.21	REMOVING SIGN BRIDGE S-32-0028	LS	1



LOCATION MAP

LIST OF DRAWINGS

1. GENERAL PLAN AND ELEVATION
2. 4-CHORD GALVANIZED STEEL SIGN BRIDGE
3. 4-CHORD SIGN BRIDGE DETAILS
4. SIGN BRIDGE TRUSS FOOTING
5. SUBSURFACE EXPLORATION

WISCONSIN
YOON-MOON CHUN
E-39076
WHITEFISH BAY
WIS.
PROFESSIONAL ENGINEER
2014-01-07

STRUCTURES DESIGN CONTACTS

BRIDGE OFFICE:
BILL DREHER (608) 266-8489
CONSULTANT:
MAHMOUD MALAS, P.E. (262) 821-1171

NO.	DATE	REVISION	BY

KSA K. Singh & Associates, Inc.
Engineers, Scientists and Environmental Consultants

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

ACCEPTED William C. Dreher KAR 01/08/14
CHIEF STRUCTURES DESIGN ENGINEER DATE

STRUCTURE S-32-49

IH 90 WB

COUNTY LA CROSSE
~~TOWN~~/CITY/~~VILLAGE~~ ONALASKA

DESIGN SPEC.
AASHTO STANDARD SPECIFICATIONS

DESIGNED BY	DESIGN CK'D.	DRAWN BY	PLANS CK'D.
NA	YC	NA	YC

GENERAL PLAN AND ELEVATION

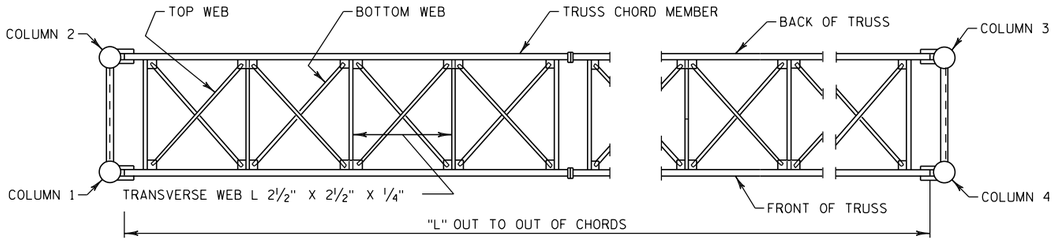
SHEET 1 OF 5
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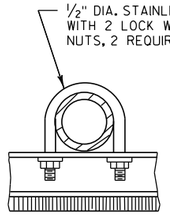
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STATE PROJECT NUMBER

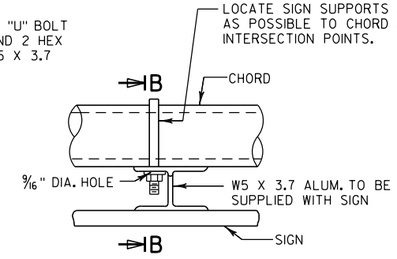
1071-06-80



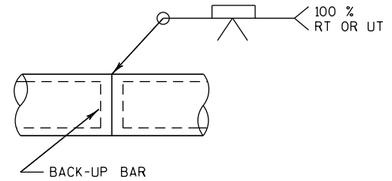
PLAN



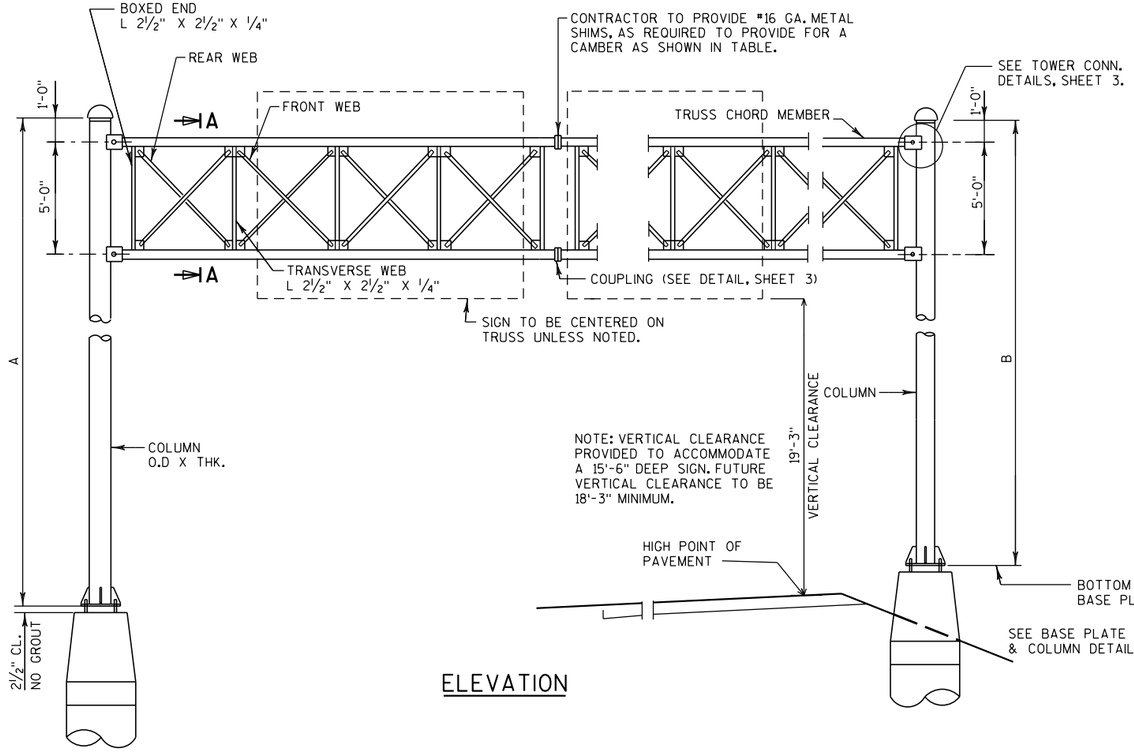
SECTION B



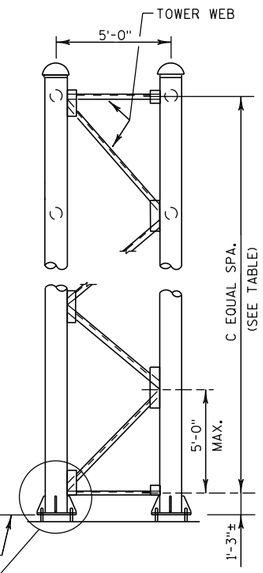
TYPICAL SIGN CONNECTION



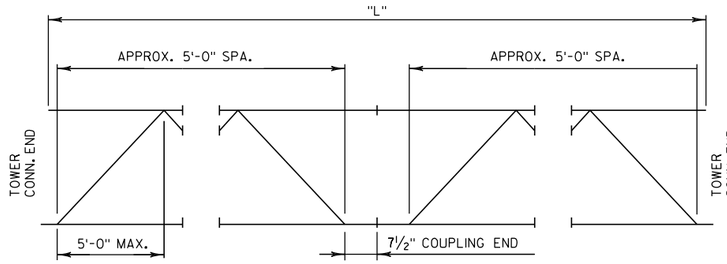
CHORD SPLICE



ELEVATION

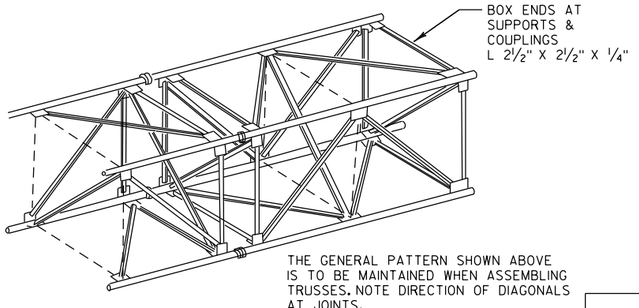


END VIEW



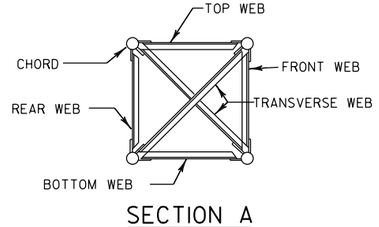
TRUSS ARRANGEMENT

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.



THE GENERAL PATTERN SHOWN ABOVE IS TO BE MAINTAINED WHEN ASSEMBLING TRUSSES. NOTE DIRECTION OF DIAGONALS AT JOINTS.

TYPICAL TRUSS SECTION



SECTION A

NOTES

DRAWINGS SHALL NOT BE SCALED.

STEEL COLUMN PIPE SHALL BE API SPEC. 5L GRADE X42 Fy = 42,000 PSI.
ALL STEEL PIPE MEMBERS OF TRUSS SHALL BE API SPEC. 5L GRADE X42 Fy = 42,000 PSI.
PLATES, BARS, STRUCTURAL ANGLES SHALL BE ASTM A709 GRADE 36 Fy = 36,000 PSI.
ALL STRUCTURAL STEEL MEMBERS SHALL BE GALVANIZED.
ALL BOLTED CONNECTIONS SHALL BE MADE WITH ¾" DIA. A325 BOLTS, GALVANIZED ASTM 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 AASHTO M314-90 GRADE 55. Fy = 55,000 PSI.

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" ANCHOR BOLTS, NUTS AND WASHERS SHALL BE GALVANIZED IN ACCORDANCE WITH THE AASHTO SPECIFICATION AS STATED IN SECTION 641. OF THE WISDOT STANDARD SPECIFICATIONS.

WELD TEST AS PER AWS D1.1.

STRUCTURE	A	B	C	CHORD 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 WEB	"L"
S-32-49	32'-2¾"	28'-1½"	6	4.5"X0.337"	3"X3"X¼"	3"X3"X¼"	9½"X1"	7"	6	1⅜"	10.75"X0.365"	4"X4"X⅜"	82'-4¼"

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE S-32-49

DRAWN BY NA | PLANS CK'D. YC

4-CHORD GALVANIZED STEEL SIGN BRIDGE

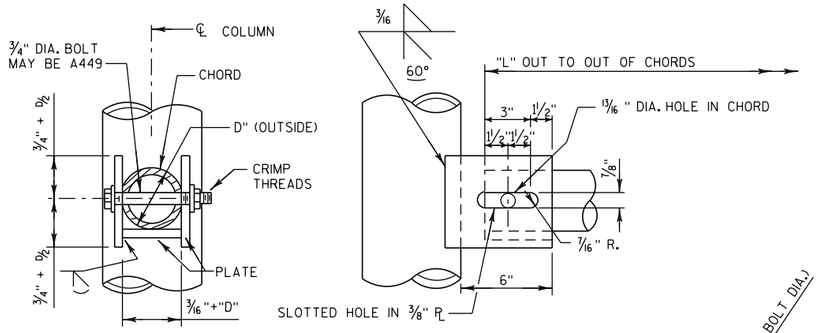
SHEET 2 OF 5
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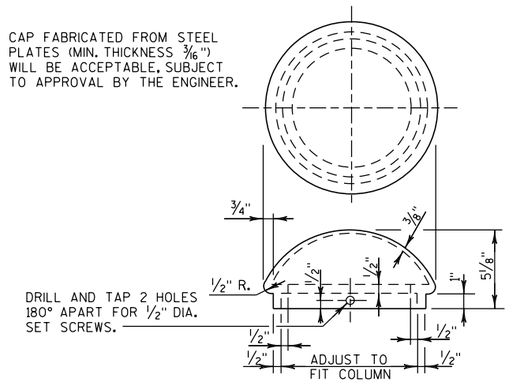
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STATE PROJECT NUMBER

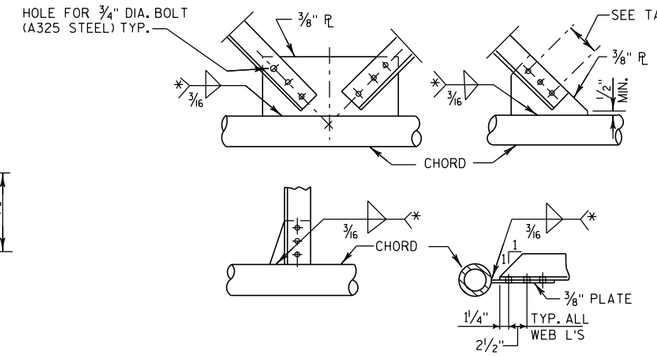
1071-06-80



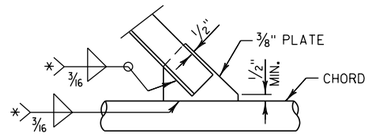
TOWER CONNECTION DETAIL



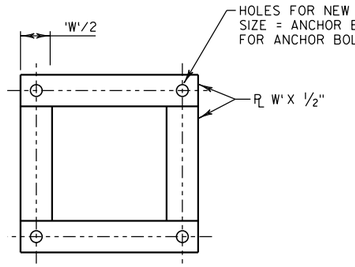
TOWER CAP DETAIL



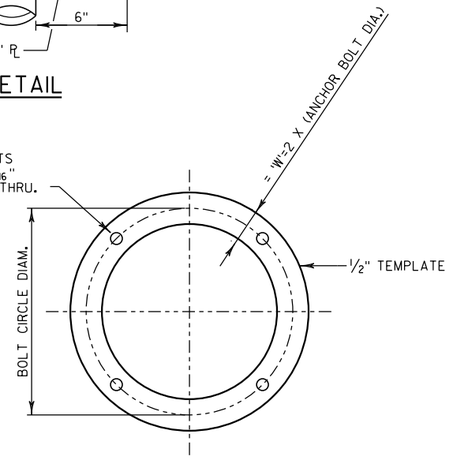
TYPICAL TRUSS CONNECTION DETAILS



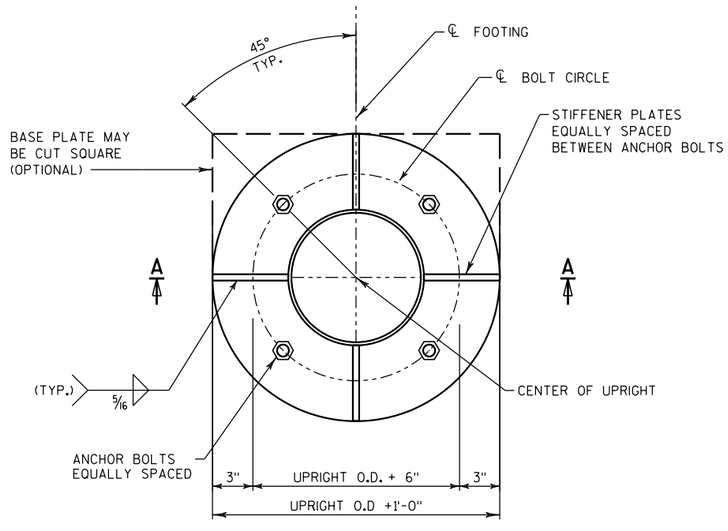
TYPICAL WELDED ALTERNATE



ALTERNATE TEMPLATE PLAN



TEMPLATE PLAN

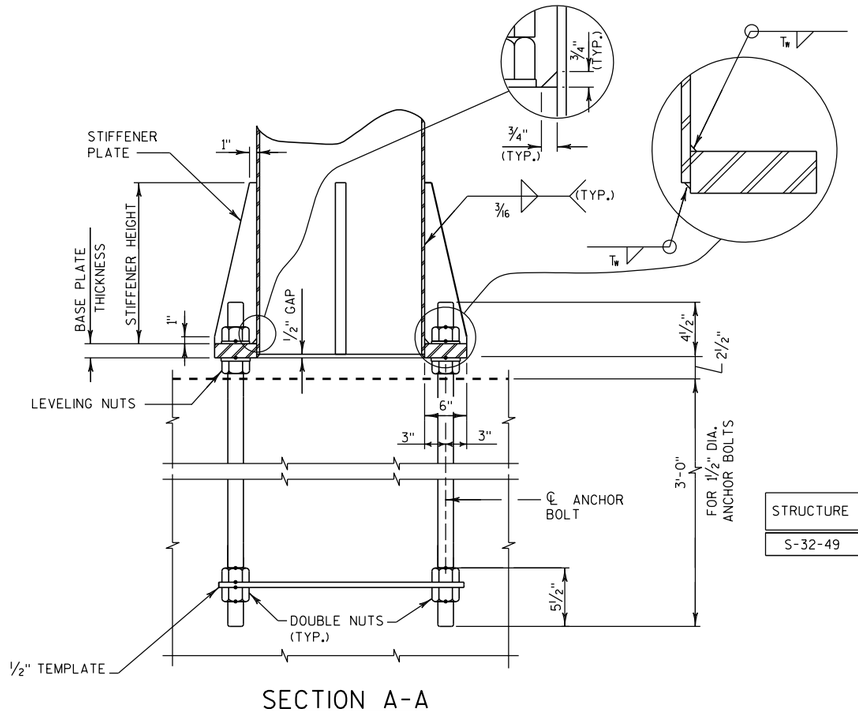


PLAN VIEW

(BASE PLATE)

*ANGLE	WELD LENGTH	NO. OF BOLTS
● 2½"x2½"x¼"	11"	3
3"x3"x3/16"	10"	3
3"x3"x¼"	13"	4
3"x3"x5/16"	16½"	5
3"x3"x⅜"	19½"	6
4"x4"x¼"	18"	5
4"x4"x5/16"	22"	6
4"x4"x⅜"	26"	8
4"x4"x7/16"	30"	9
4"x4"x½"	34"	10

● ONLY USED FOR BOXED END AND TRANSVERSE BRACING.

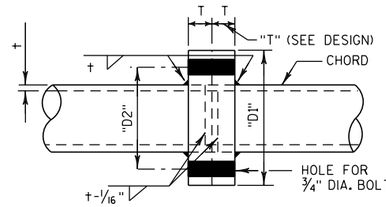


SECTION A-A

STRUCTURE	COLUMN O.D. X THK.	ANCHOR BOLTS DIAMETER	BASE PLATE THICKNESS (IN.)	STIFFENER PLATE THICKNESS (IN.)	STIFFENER PLATE HEIGHT (IN.)	Tw (IN.)
S-32-49	10.75"X0.365"	1½"	1½"	½"	10"	5/16"

NOTE:

PRIOR TO INSTALLATION, ANCHOR BOLTS SHALL BE RIGIDLY HELD IN POSITION DURING CONCRETE PLACEMENT USING STEEL ANCHOR PLATE AND TOP TEMPLATE. REMOVE TOP TEMPLATE (NOT SHOWN AFTER CONCRETE SETS.



COUPLING DETAIL

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE S-32-49

DRAWN BY NA | PLANS CK'D. YC

4-CHORD SIGN BRIDGE DETAILS

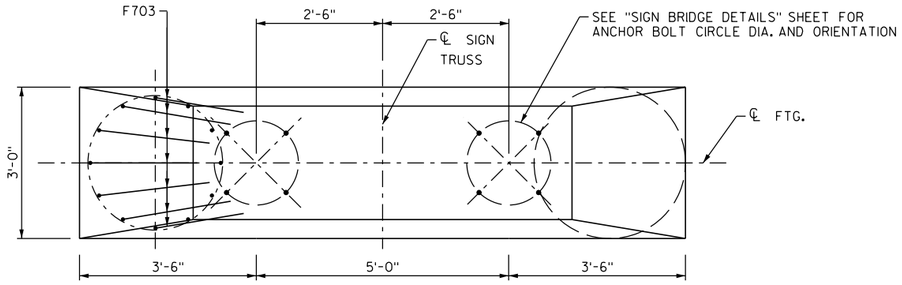
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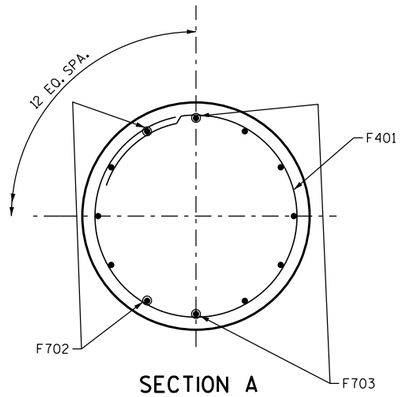
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PLAN



SECTION A

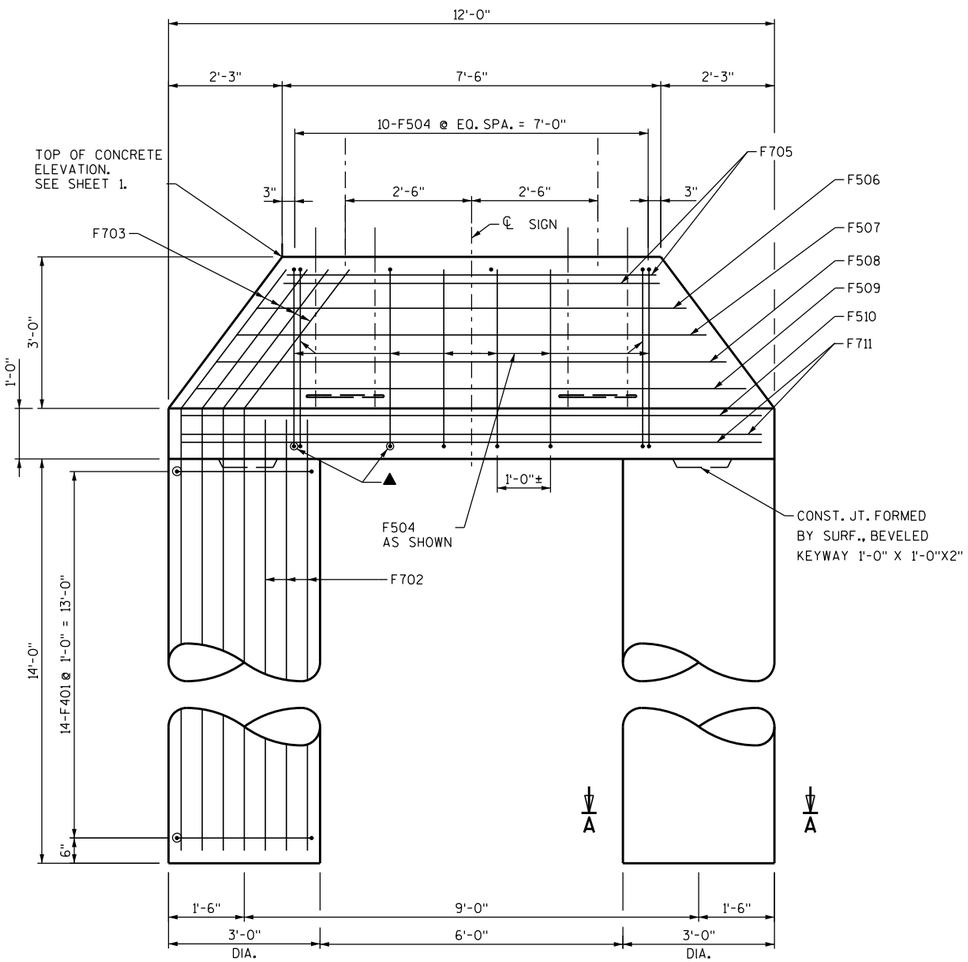
BILL OF BARS

THE FIRST OR FIRST TWO DIGITS OF THE BAR MARK SIGNIFIES THE BAR SIZE.
BAR DIMENSIONS ARE OUT TO OUT OF BAR.

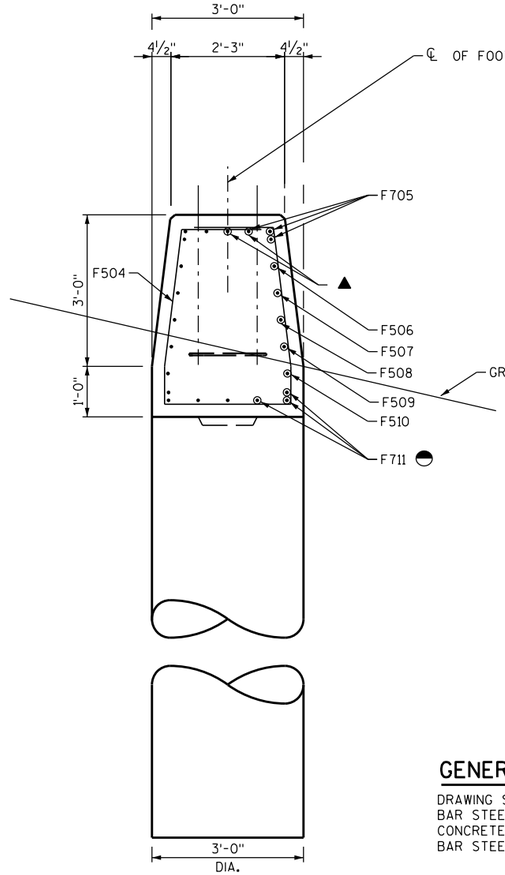
BAR MARK	COAT	NO. REQ'D	LENGTH	BENT	BAR SERIES	LOCATION
F401		28	8'-11"	X		FOOTING-HOOPS
F702		10	16'-0"			FOOTING-VERTICAL
F703		14	18'-2"	X		FOOTING-VERTICAL
F504		8	12'-5"	X		FOOTING-STIRRUPS
F705		7	7'-4"			FOOTING-HORIZONTAL
F506		2	8'-4"			FOOTING-HORIZONTAL
F507		2	9'-2"			FOOTING-HORIZONTAL
F508		2	9'-11"			FOOTING-HORIZONTAL
F509		2	10'-9"			FOOTING-HORIZONTAL
F510		2	11'-6"			FOOTING-HORIZONTAL
F711		7	11'-6"			FOOTING-HORIZONTAL

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

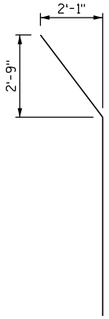
QUANTITY OF BARS IN TABLE IS FOR ONE FOOTING.



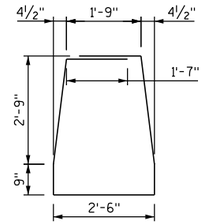
ELEVATION
(ONE FTG.)



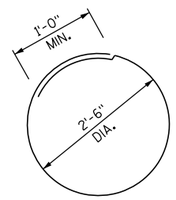
END VIEW



F703



F504



F401

FOUNDATION DATA

ALLOWABLE SOIL BEARING PRESSURE = 6660 PSF
ALLOWABLE SKIN FRICTION (COMPRESSION) = 204 PSF
ALLOWABLE SKIN FRICTION (UPLIFT) = 136 PSF

SOIL DESIGN PARAMETERS

COHESION = 0 PSF (OVER SHAFT LENGTH)
COHESION = 0 PSF (BOTTOM OF SHAFT)
SOIL UNIT WEIGHT = 120 PCF

ESTIMATED QUANTITIES (1 FTG)

SIGN SUPPORT CONCRETE MASONRY---------- 12 CY
SIGN SUPPORT STEEL REINFORCEMENT HS ----------1500 LB

GENERAL NOTES

DRAWING SHALL NOT BE SCALED.
BAR STEEL REINFORCEMENT SHALL BE EMBEDDED 3" CL.
CONCRETE MASONRY---------- fc'= 3,500 PSI
BAR STEEL REINF. -----GRADE 60 fy = 60,000 PSI

◓ SPACE TO MISS VERT. SHAFT REINF.
▲ SPACE TO MISS ANCHOR BOLTS. TIE IN PLACE AFTER ANCHOR BOLT ASSEMBLY LOCATED.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE S-32-49

DRAWN BY NA | PLANS CK'D. YC

SIGN BRIDGE TRUSS FOOTING

SHEET 4 OF 5
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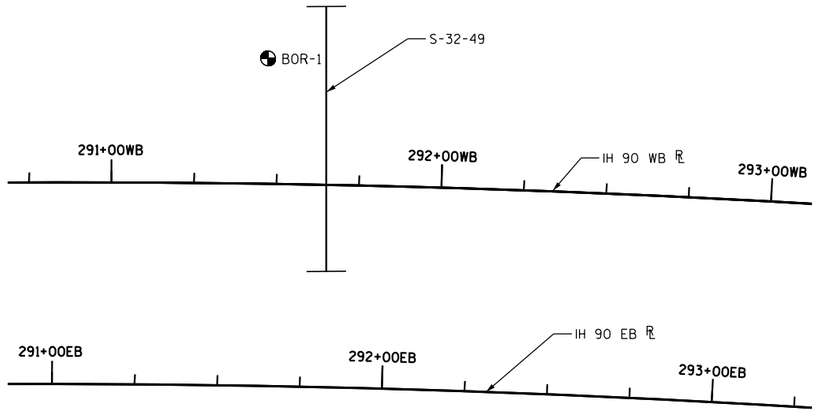
USH 53/STH 35 - THEATER ROAD

BORING #	DATE COMPLETED	NORTHING (Y)	EASTING (X)
1	7/23/2013	154995.840	457768.792

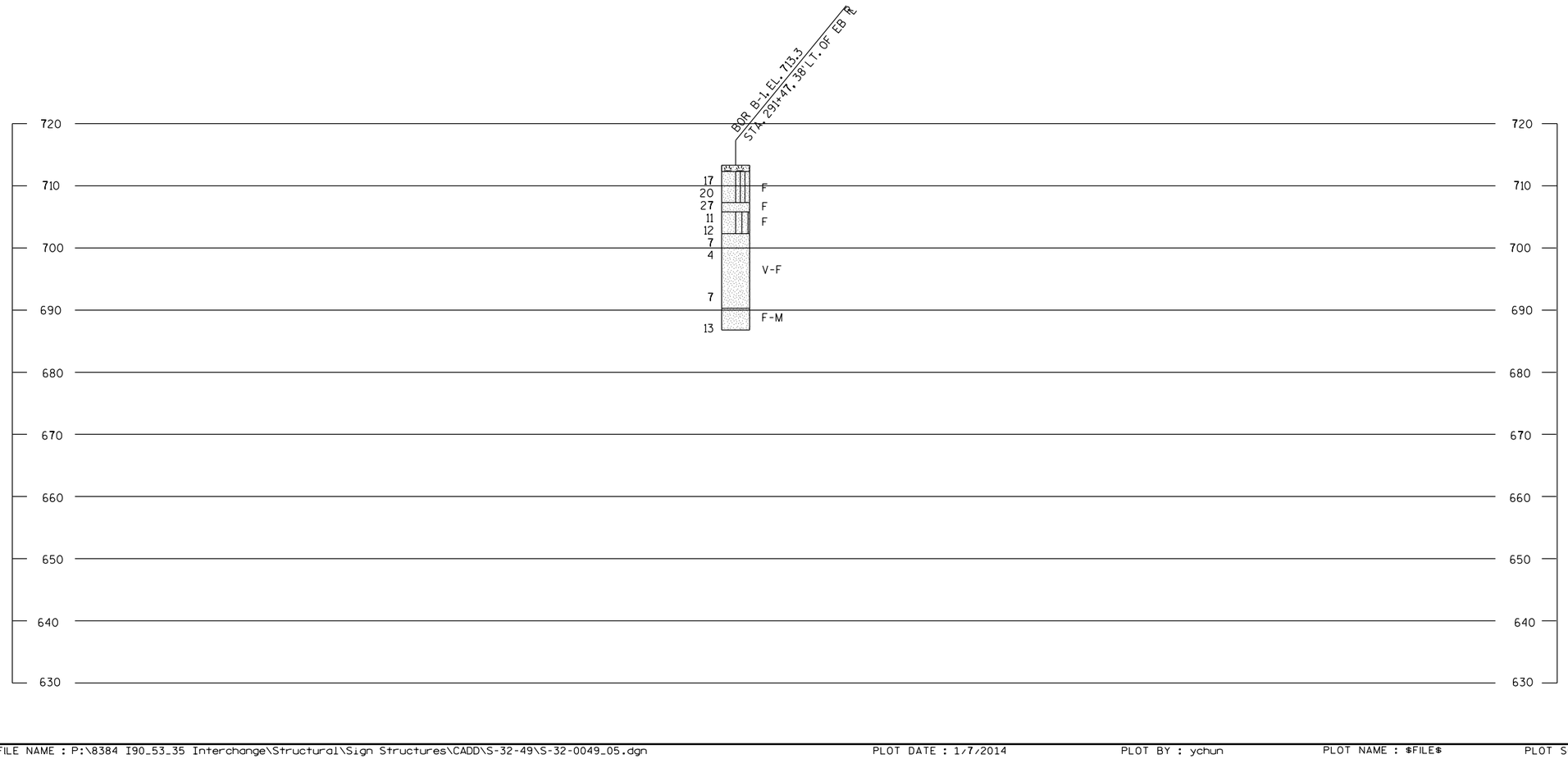
BORINGS COMPLETED BY: WISDOT

REPORT COMPLETED BY: WISDOT

ALL COORDINATES REFERENCED TO WCCS NAD 83(91) LACROSSE COUNTY







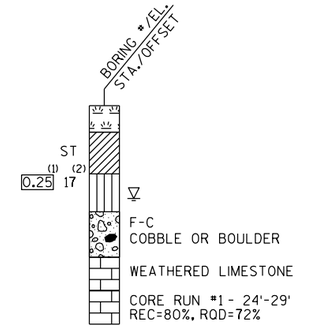
STATE PROJECT NUMBER

1071-06-80

MATERIAL SYMBOLS

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

LEGEND OF BORING



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

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

GROUND WATER ELEVATION

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

ABBREVIATIONS

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

SUBSURFACE EXPLORATION FOR FOUNDATION DESIGN AND BIDDERS INFORMATION

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

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE S-32-49

DRAWN BY NA | PLANS CK'D. YC

SUBSURFACE EXPLORATION

SHEET 5 OF 5
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SCALE =

FILE NAME : P:\8384 I90_53_35 Interchange\Structural\Sign Structures\CADD\S-32-49\S-32-0049_05.dgn PLOT DATE : 1/7/2014 PLOT BY : ychun PLOT NAME : $FILE$ PLOT SCALE : 1:2

EARTHWORK DATA - TEMPORARY CT RAMP

STATION	AREA (SF)		INCR. VOL (CY)		CUMULATIVE VOL (CY)		MASS ORDINATE
	CUT	FILL	CUT	FILL	CUT 1.00	EXP. FILL 1.25	
139+50	11.20	0.01	0.00	0.00	0.00	0.00	0.00
140+00	9.15	0.39	18.85	0.36	18.85	0.46	18.39
140+50	11.22	19.62	18.86	18.53	37.71	23.61	14.10
140+56	10.83	36.98	2.45	6.29	40.16	31.47	8.69
141+00	11.85	36.53	18.48	59.90	58.64	106.34	-47.71
141+50	17.55	3.09	27.23	36.68	85.86	152.20	-66.34
142+00	37.10	0.00	50.60	2.86	136.46	155.77	-19.31
142+50	22.61	0.00	55.28	0.00	191.74	155.77	35.97
143+00	14.69	0.17	34.53	0.16	226.27	155.96	70.31
143+50	13.62	1.36	26.21	1.41	252.49	157.73	94.76
144+00	15.30	0.11	26.78	1.36	279.27	159.43	119.84
144+50	17.00	0.00	29.90	0.10	309.17	159.55	149.62
145+00	15.69	0.00	30.26	0.00	339.43	159.55	179.88
145+50	18.12	0.00	31.30	0.00	370.73	159.55	211.18
146+00	18.15	1.92	33.59	1.77	404.32	161.77	242.55
146+50	13.32	7.17	29.14	8.41	433.46	172.28	261.18
147+00	8.30	15.93	20.02	21.39	453.47	199.01	254.46
147+50	22.60	18.81	28.61	32.17	482.08	239.23	242.86
148+00	8.69	15.07	28.97	31.37	511.06	278.44	232.62
148+50	17.78	9.75	24.51	22.97	535.57	307.15	228.42
149+00	16.80	4.80	32.02	13.47	567.59	323.99	243.60
149+50	17.58	3.33	31.83	7.53	599.42	333.40	266.02
150+00	18.11	5.09	33.04	7.80	632.47	343.15	289.31
150+50	17.15	6.21	32.64	10.47	665.11	356.24	308.87
151+00	11.95	14.64	26.94	19.31	692.04	380.37	311.67
151+50	10.99	10.76	21.24	23.52	713.28	409.77	303.51
152+00	10.90	5.91	20.26	15.44	733.55	429.07	304.48
152+50	10.83	2.78	20.12	8.05	753.66	439.13	314.53
153+00	9.86	0.34	19.15	2.89	772.82	442.74	330.08
153+50	10.48	0.13	18.83	0.44	791.65	443.28	348.36

EARTHWORK DATA - TEMPORARY CU RAMP

STATION	AREA (SF)		INCR. VOL (CY)		CUMULATIVE VOL (CY)		MASS ORDINATE
	CUT	FILL	CUT	FILL	CUT 1.00	EXP. FILL 1.25	
163+00	23.78	0.01	0.00	0.00	0.00	0.00	0.00
163+50	14.50	0.35	35.45	0.34	35.45	0.42	35.03
164+00	26.71	0.03	38.16	0.35	73.61	0.86	72.75
164+50	10.93	2.58	34.85	2.41	108.45	3.87	104.58
165+00	6.98	6.90	16.57	8.77	125.03	14.84	110.19
165+50	7.86	5.41	13.74	11.40	138.76	29.09	109.67
166+00	11.15	1.61	17.60	6.50	156.37	37.22	119.15

EARTHWORK DATA - TEMPORARY DT RAMP

STATION	AREA (SF)		INCR. VOL (CY)		CUMULATIVE VOL (CY)		MASS ORDINATE
	CUT	FILL	CUT	FILL	CUT 1.00	EXP. FILL 1.25	
120+50	12.89	0.00	0.00	0.00	0.00	0.00	0.00
121+00	12.41	0.02	23.42	0.02	23.42	0.02	23.40
121+50	13.53	0.02	24.02	0.03	47.44	0.06	47.38
122+00	14.65	0.00	26.10	0.02	73.54	0.08	73.46
122+50	12.38	0.04	25.03	0.04	98.57	0.13	98.44
123+00	10.97	0.20	21.62	0.22	120.19	0.40	119.78
123+50	13.86	0.05	23.00	0.23	143.18	0.70	142.49
124+00	12.64	0.87	24.54	0.86	167.73	1.77	165.96
124+50	11.81	1.23	22.64	1.95	190.37	4.20	186.17
125+00	12.31	0.95	22.33	2.02	212.70	6.72	205.98
125+50	13.93	0.03	24.30	0.90	237.00	7.85	229.15
126+00	15.27	0.00	27.04	0.02	264.03	7.88	256.15
126+50	15.01	0.27	28.03	0.25	292.06	8.20	283.87
127+00	16.24	0.04	28.93	0.29	320.99	8.56	312.43
127+50	16.06	0.15	29.91	0.18	350.90	8.79	342.11
128+00	12.02	0.00	26.00	0.14	376.90	8.97	367.94
128+50	11.07	0.09	21.38	0.08	398.28	9.07	389.22
129+00	10.91	0.49	20.35	0.53	418.63	9.73	408.90
129+50	11.47	0.00	20.72	0.45	439.35	10.30	429.05
130+00	12.88	0.00	22.54	0.00	461.90	10.30	451.59
130+50	12.94	0.00	23.91	0.00	485.80	10.30	475.50
131+00	19.27	0.00	29.83	0.00	515.63	10.30	505.33
131+50	20.86	0.00	37.16	0.00	552.79	10.30	542.49
132+00	25.56	0.00	42.98	0.00	595.77	10.30	585.47
132+50	18.60	0.00	40.88	0.00	636.66	10.30	626.35
133+00	15.72	0.00	31.77	0.00	668.43	10.30	658.13
133+50	15.80	0.37	29.19	0.34	697.62	10.73	686.89
134+00	13.77	8.13	27.38	7.87	725.00	20.56	704.44
134+50	8.64	8.16	20.74	15.08	745.74	39.41	706.34
135+00	10.62	21.06	17.83	27.06	763.57	73.23	690.34
135+50	7.21	17.37	16.51	35.59	780.07	117.72	662.36
136+00	12.88	6.63	18.60	22.23	798.67	145.50	653.17
136+50	0.00	0.00	11.92	6.14	810.60	153.17	657.42
137+00	19.98	4.23	18.50	3.91	829.09	158.07	671.03
137+50	0.00	93.90	18.50	90.86	847.59	271.64	575.95
138+00	1.82	160.30	1.69	235.37	849.28	565.85	283.43
138+37	14.81	181.30	11.40	234.06	860.68	858.42	2.26
138+50	14.30	156.94	7.01	81.43	867.69	960.20	-92.52
139+00	11.70	58.63	24.07	199.60	891.76	1209.70	-317.94
139+50	12.64	3.45	22.53	57.48	914.29	1281.55	-367.26
140+00	14.75	0.03	25.36	3.23	939.65	1285.59	-345.93
140+50	0.00	0.00	13.66	0.03	953.31	1285.62	-332.31

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EARTHWORK DATA - TEMPORARY FT RAMP

STATION	AREA (SF)		INCR. VOL (CY)		CUMULATIVE VOL (CY)		
	CUT	FILL	CUT	FILL	CUT 1.00	EXP. FILL 1.25	MASS ORDINATE
219+00	14.41	0.08	0.00	0.00	0.00	0.00	0.00
219+00	16.34	0.10	28.47	0.17	28.47	0.21	28.26
219+50	18.58	0.08	32.33	0.17	60.80	0.42	60.38
220+00	11.72	40.06	28.06	37.17	88.86	46.88	41.98
220+50	13.69	43.60	23.54	77.46	112.39	143.70	-31.31
221+00	14.23	48.09	25.86	84.89	138.25	249.82	-111.57
221+50	14.04	65.25	26.17	104.94	164.42	381.00	-216.58
222+00	12.53	59.77	24.60	115.76	189.02	525.69	-336.67
222+50	13.41	36.27	24.02	88.92	213.04	636.84	-423.80
223+00	15.70	28.06	26.95	59.57	239.99	711.30	-471.31
223+50	13.31	34.81	26.86	58.22	266.86	784.07	-517.21
224+00	14.55	46.10	25.80	74.92	292.66	877.72	-585.06
224+50	14.21	62.72	26.63	100.76	319.29	1003.66	-684.38
225+00	15.18	65.76	27.21	118.96	346.49	1152.37	-805.87
225+50	16.22	49.72	29.07	106.92	375.57	1286.02	-910.46
226+00	16.80	46.85	30.58	89.42	406.15	1397.79	-991.65
226+50	15.43	36.02	29.85	76.74	435.99	1493.71	-1057.72
226+89	13.12	54.68	20.62	65.51	456.62	1575.60	-1118.98
227+00	12.81	59.38	5.28	23.24	461.90	1604.64	-1142.74
227+50	16.72	53.08	27.35	104.13	489.25	1734.81	-1245.56
228+00	15.79	67.74	30.10	111.87	519.35	1874.65	-1355.30

EARTHWORK DATA - TEMPORARY GT RAMP

STATION	AREA (SF)		INCR. VOL (CY)		CUMULATIVE VOL (CY)		
	CUT	FILL	CUT	FILL	CUT 1.00	EXP. FILL 1.25	MASS ORDINATE
207+50	11.75	0.09	0.00	0.00	0.00	0.00	0.00
208+00	12.35	0.00	22.31	0.08	22.31	0.11	22.21
208+50	13.23	37.92	23.68	35.12	46.00	44.00	2.00
209+00	5.74	127.58	17.56	153.24	63.56	235.55	-171.99
209+50	8.42	71.85	13.11	184.65	76.67	466.37	-389.70
210+00	36.55	0.97	41.64	67.43	118.30	550.65	-432.35
210+50	31.46	0.00	62.97	0.90	181.28	551.78	-370.50

EARTHWORK DATA - TEMPORARY DU RAMP

STATION	AREA (SF)		INCR. VOL (CY)		CUMULATIVE VOL (CY)		
	CUT	FILL	CUT	FILL	CUT 1.00	EXP. FILL 1.25	MASS ORDINATE
128+00	0.02	1.54	0.00	0.00	0.00	0.00	0.00
128+50	3.86	3.99	3.59	5.12	3.59	6.39	-2.81
128+68	5.59	6.44	3.15	3.48	6.74	10.74	-4.00
129+00	0.48	8.92	3.60	9.10	10.34	22.11	-11.77
129+50	0.05	10.19	0.49	17.69	10.83	44.22	-33.39
130+00	0.23	24.95	0.25	32.53	11.09	84.89	-73.80
130+50	11.80	1.56	11.13	24.55	22.22	115.57	-93.35

EARTHWORK DATA - TEMPORARY HT RAMP

STATION	AREA (SF)		INCR. VOL (CY)		CUMULATIVE VOL (CY)		
	CUT	FILL	CUT	FILL	CUT 1.00	EXP. FILL 1.25	MASS ORDINATE
174+96	17.17	0.01	0.00	0.00	0.00	0.00	0.00
175+00	17.18	0.02	2.54	0.00	2.54	0.00	2.54
175+50	17.74	0.17	32.34	0.17	34.88	0.22	34.66
176+00	16.07	0.40	31.31	0.53	66.19	0.88	65.30
176+50	16.46	1.48	30.12	1.74	96.30	3.06	93.25
176+88	16.40	0.47	23.12	1.37	119.43	4.77	114.66
177+00	17.63	0.28	7.56	0.17	126.99	4.98	122.01
177+50	17.18	0.16	32.24	0.41	159.23	5.49	153.74
178+00	15.17	0.31	29.95	0.44	189.18	6.04	183.15
178+50	18.13	0.05	30.84	0.33	220.02	6.45	213.57
179+00	18.78	0.03	34.18	0.07	254.20	6.54	247.67
179+50	19.51	0.00	35.45	0.03	289.66	6.57	283.08
180+00	13.95	3.10	30.98	2.88	320.64	10.17	310.47
180+50	12.57	6.27	24.56	8.68	345.20	21.01	324.18
181+00	11.47	6.47	22.26	11.80	367.46	35.76	331.70
181+50	15.10	2.49	24.60	8.30	392.06	46.14	345.93
182+00	16.07	2.73	28.86	4.84	420.92	52.18	368.74
182+50	14.68	0.00	28.47	2.53	449.40	55.35	394.05
183+00	14.46	0.00	26.99	0.00	476.38	55.35	421.04
183+50	11.60	0.32	24.13	0.30	500.52	55.72	444.79
184+00	13.02	0.13	22.80	0.42	523.32	56.24	467.07
184+50	14.56	0.07	25.54	0.18	548.86	56.47	492.39
185+00	15.07	0.32	27.44	0.36	576.30	56.92	519.38
185+50	6.53	38.50	20.00	35.94	596.31	101.85	494.45
185+84	5.34	42.77	7.51	51.41	603.82	166.12	437.70
186+00	5.01	45.71	3.04	25.95	606.85	198.56	408.29
186+50	4.26	56.77	8.58	94.89	615.44	317.17	298.27
187+00	0.00	65.57	3.95	113.28	619.39	458.77	160.62
187+50	6.37	64.25	5.90	120.21	625.29	609.03	16.26
188+00	5.66	44.95	11.14	101.11	636.43	735.41	-98.99
188+04	5.72	44.00	0.93	7.28	637.36	744.52	-107.16
188+50	11.74	31.92	14.73	64.09	652.09	824.62	-172.53
189+00	11.20	13.99	21.24	42.51	673.33	877.76	-204.43
189+50	11.45	0.23	20.98	13.17	694.31	894.22	-199.91
190+00	0.00	0.00	10.60	0.21	704.91	894.48	-189.57
190+50	9.30	0.00	8.61	0.00	713.53	894.48	-180.96
191+00	37.14	0.00	43.00	0.00	756.53	894.48	-137.95
191+50	25.36	0.00	57.87	0.00	814.40	894.48	-80.09
192+00	9.91	17.91	32.65	16.59	847.05	915.22	-68.17
192+15	9.10	43.19	5.28	16.97	852.33	936.43	-84.11
192+50	7.24	116.47	10.59	103.48	862.91	1065.78	-202.87
192+75	7.00	175.86	6.59	135.34	869.51	1234.96	-365.45
193+00	7.41	233.82	6.67	189.67	876.17	1472.04	-595.87
193+50	6.69	340.60	13.06	531.88	889.23	2136.88	-1247.65
194+00	6.19	288.95	11.93	582.92	901.16	2865.54	-1964.37
194+50	7.68	310.51	12.85	555.05	914.01	3559.36	-2645.34
195+00	6.91	343.14	13.51	605.22	927.52	4315.88	-3388.37

EARTHWORK DATA - TEMPORARY HT RAMP

STATION	AREA (SF) CUT	AREA (SF) FILL	INCR. VOL (CY) CUT	INCR. VOL (CY) FILL	CUMULATIVE VOL (CY) CUT 1.00	CUMULATIVE VOL (CY) EXP. FILL 1.25	MASS ORDINATE
195+50	6.09	357.91	12.03	649.11	939.55	5127.27	-4187.72
196+00	7.77	346.44	12.83	652.17	952.38	5942.49	-4990.10
196+50	6.68	330.84	13.38	627.11	965.76	6726.38	-5760.61
196+65	6.68	314.43	3.71	179.24	969.47	6950.43	-5980.95
197+00	13.94	215.51	13.37	343.48	982.84	7379.78	-6396.93
197+28	14.27	296.10	14.70	266.47	997.54	7712.86	-6715.32
197+50	15.34	285.68	12.00	235.68	1009.54	8007.45	-6997.92
197+53	15.57	281.29	1.79	32.81	1011.32	8048.47	-7037.14
197+78	16.78	267.90	14.98	254.25	1026.30	8366.28	-7339.98
198+00	16.86	227.49	13.63	200.68	1039.93	8617.13	-7577.20
198+50	17.83	156.37	32.12	355.42	1072.05	9061.41	-7989.36
198+98	16.93	67.83	30.98	199.80	1103.02	9311.16	-8208.14
199+00	16.91	65.66	1.17	4.64	1104.20	9316.96	-8212.76
199+50	17.19	14.47	31.57	74.20	1135.77	9409.70	-8273.93
200+00	15.43	2.69	30.20	15.89	1165.97	9429.57	-8263.60
200+50	17.49	0.17	30.48	2.65	1196.45	9432.88	-8236.43
201+00	13.93	0.16	29.10	0.31	1225.55	9433.27	-8207.73
201+50	0.00	0.00	12.90	0.15	1238.45	9433.46	-8195.01

EARTHWORK DATA - TEMPORARY JT RAMP

STATION	AREA (SF) CUT	AREA (SF) FILL	INCR. VOL (CY) CUT	INCR. VOL (CY) FILL	CUMULATIVE VOL (CY) CUT 1.00	CUMULATIVE VOL (CY) EXP. FILL 1.25	MASS ORDINATE
251+00	18.77	0.00	0.00	0.00	0.00	0.00	0.00
251+50	17.25	0.00	33.35	0.00	33.35	0.00	33.35
252+00	16.36	0.00	31.12	0.00	64.47	0.00	64.47
252+50	17.81	0.00	31.64	0.00	96.11	0.00	96.11
253+00	19.64	0.04	34.68	0.04	130.80	0.05	130.75
253+50	19.17	0.05	35.93	0.08	166.73	0.15	166.57
254+00	16.63	1.47	33.14	1.40	199.87	1.91	197.96
254+50	16.49	1.65	30.66	2.89	230.53	5.52	225.01
255+00	15.48	1.39	29.60	2.81	260.14	9.04	251.10
255+50	14.09	5.00	27.38	5.91	287.52	16.43	271.09
256+00	13.61	10.12	25.65	14.00	313.16	33.93	279.23
256+50	12.55	50.09	24.22	55.75	337.38	103.62	233.77
257+00	10.37	40.52	21.23	83.90	358.61	208.50	150.11
257+50	8.77	36.59	17.73	71.40	376.34	297.75	78.59
258+00	10.77	18.72	18.09	51.22	394.43	361.77	32.66
258+50	9.30	9.21	18.58	25.86	413.01	394.09	18.91
258+89	8.96	0.24	13.19	6.83	426.20	402.63	23.57
259+00	9.07	0.08	3.67	0.07	429.87	402.71	27.16
259+50	8.90	1.08	16.65	1.08	446.52	404.06	42.46

EARTHWORK DATA - TEMPORARY HU RAMP

STATION	AREA (SF) CUT	AREA (SF) FILL	INCR. VOL (CY) CUT	INCR. VOL (CY) FILL	CUMULATIVE VOL (CY) CUT 1.00	CUMULATIVE VOL (CY) EXP. FILL 1.25	MASS ORDINATE
196+50	10.75	0.00	0.00	0.00	0.00	0.00	0.00
197+00	11.17	1.76	20.30	1.63	20.30	2.03	18.27
197+39	13.56	1.01	17.84	2.00	38.15	4.53	33.62
197+46	13.43	0.08	3.52	0.14	41.67	4.71	36.96
197+50	13.23	0.52	1.97	0.04	43.64	4.76	38.88
197+64	12.89	13.28	6.76	3.57	50.40	9.23	41.18
197+89	10.84	18.57	10.93	14.67	61.33	27.56	33.77
198+00	10.37	16.64	4.38	7.27	65.71	36.65	29.06
198+50	10.66	3.87	19.48	18.99	85.19	60.40	24.79
199+00	9.98	4.27	19.11	7.53	104.30	69.81	34.49
199+09	9.79	2.99	3.31	1.21	107.61	71.33	36.28
199+50	9.93	4.26	14.95	5.50	122.57	78.20	44.36
200+00	10.71	4.26	19.11	7.89	141.68	88.07	53.61
200+50	10.49	5.88	19.64	9.40	161.32	99.82	61.50
201+00	10.36	7.31	19.31	12.22	180.63	115.09	65.54
201+50	11.04	7.64	19.82	13.84	200.45	132.39	68.06
202+00	10.28	10.62	19.75	16.91	220.20	153.52	66.68
202+50	10.14	15.67	18.91	24.34	239.11	183.95	55.17
203+00	9.65	18.55	18.33	31.68	257.44	223.55	33.90
203+50	10.08	20.13	18.27	35.81	275.72	268.31	7.40
204+00	11.41	25.21	19.90	41.98	295.61	320.79	-25.18
204+50	10.13	47.10	19.95	66.95	315.56	404.48	-88.92
205+00	7.75	21.74	16.56	63.74	332.12	484.15	-152.03
205+50	0.00	0.00	7.18	20.13	339.30	509.30	-170.01
206+00	6.50	156.46	6.02	144.87	345.32	690.39	-345.08
206+14	0.00	287.06	1.69	114.99	347.00	834.13	-487.12
206+50	0.00	565.03	0.00	568.06	347.00	1544.20	-1197.20
207+00	0.00	603.29	0.00	1081.79	347.00	2896.43	-2549.43
207+47	0.00	486.88	0.00	948.86	347.00	4082.51	-3735.51
207+50	0.00	480.55	0.00	53.75	347.00	4149.69	-3802.69
208+00	0.00	333.00	0.00	753.28	347.00	5091.30	-4744.29
208+50	5.07	160.42	4.70	456.87	351.70	5662.38	-5310.68
209+00	14.03	12.57	17.69	160.17	369.39	5862.59	-5493.21
209+50	15.65	0.09	27.48	11.72	396.86	5877.24	-5480.38

EARTHWORK DATA - TEMPORARY HV RAMP

STATION	AREA (SF) CUT	AREA (SF) FILL	INCR. VOL (CY) CUT	INCR. VOL (CY) FILL	CUMULATIVE VOL (CY) CUT 1.00	CUMULATIVE VOL (CY) EXP. FILL 1.25	MASS ORDINATE
182+50	0.09	5.13	0.00	0.00	0.00	0.00	0.00
183+00	0.00	10.97	0.09	14.91	0.09	18.63	-18.55
183+50	0.00	18.34	0.00	27.14	0.09	52.55	-52.47
184+00	0.00	28.63	0.00	43.49	0.09	106.91	-106.83
184+50	13.17	28.49	12.19	52.89	12.28	173.03	-160.74

EARTHWORK DATA - TEMPORARY LT RAMP

STATION	AREA (SF) CUT	AREA (SF) FILL	INCR. VOL (CY) CUT	INCR. VOL (CY) FILL	CUMULATIVE VOL (CY) CUT 1.00	CUMULATIVE VOL (CY) EXP. FILL 1.25	MASS ORDINATE
284+00	13.91	0.06	0.00	0.00	0.00	0.00	0.00
284+50	13.62	11.99	25.49	11.16	25.49	13.94	11.55
285+00	8.85	82.14	20.81	87.16	46.30	122.90	-76.60
285+50	10.63	85.42	18.04	155.15	64.34	316.84	-252.50
286+00	10.29	52.53	19.37	127.73	83.70	476.50	-392.80
286+50	20.62	11.99	28.62	59.74	112.32	551.18	-438.86
287+00	33.31	0.00	49.93	11.10	162.25	565.06	-402.81
287+50	34.78	0.00	63.04	0.00	225.29	565.06	-339.76
288+00	23.80	0.00	54.24	0.00	279.53	565.06	-285.52

EARTHWORK DATA - TEMPORARY MT RAMP

STATION	AREA (SF) CUT	AREA (SF) FILL	INCR. VOL (CY) CUT	INCR. VOL (CY) FILL	CUMULATIVE VOL (CY) CUT 1.00	CUMULATIVE VOL (CY) EXP. FILL 1.25	MASS ORDINATE
255+00	15.42	0.53	0.00	0.00	0.00	0.00	0.00
255+50	13.50	2.69	26.79	2.98	26.79	3.73	23.06
256+00	13.85	2.72	25.32	5.01	52.11	10.00	42.11
256+50	11.23	7.70	23.22	9.65	75.32	22.06	53.26
257+00	11.16	8.99	20.73	15.46	96.05	41.38	54.67
257+50	10.20	9.96	19.77	17.55	115.83	63.32	52.51
258+00	10.40	12.75	19.07	21.03	134.90	89.61	45.29
258+50	10.47	7.89	19.32	19.11	154.22	113.49	40.73
258+67	11.86	3.98	7.03	3.74	161.25	118.16	43.09
259+00	13.10	3.13	15.25	4.34	176.50	123.59	52.91
259+50	12.22	3.59	23.44	6.22	199.94	131.36	68.58
260+00	11.07	4.13	21.56	7.14	221.50	140.29	81.21
260+50	11.44	3.16	20.84	6.74	242.33	148.72	93.62
261+00	13.20	0.04	22.81	2.96	265.14	152.42	112.72
261+50	12.74	0.00	24.01	0.04	289.15	152.47	136.68
262+00	17.18	0.00	27.70	0.00	316.86	152.47	164.38
262+50	27.65	0.00	41.51	0.00	358.37	152.47	205.89
263+00	42.09	0.00	64.58	0.00	422.94	152.47	270.47
263+50	17.35	5.24	55.03	4.85	477.97	158.54	319.43
264+00	10.33	12.73	25.63	16.64	503.60	179.34	324.26
264+50	9.24	10.24	18.12	21.26	521.72	205.92	315.80
264+75	9.82	6.43	8.82	7.72	530.54	215.57	314.98
265+00	13.83	1.82	10.95	3.82	541.50	220.34	321.15
265+50	15.52	0.01	27.18	1.69	568.68	222.46	346.22
266+00	15.36	0.02	28.60	0.02	597.27	222.49	374.79
266+50	15.50	0.16	28.58	0.16	625.85	222.69	403.17
267+00	14.10	0.03	27.41	0.17	653.27	222.90	430.36
267+50	15.46	0.01	27.37	0.04	680.63	222.95	457.68
268+00	15.46	0.00	28.63	0.01	709.26	222.97	486.29
268+50	13.29	3.90	26.62	3.61	735.88	227.48	508.39

EARTHWORK DATA - TEMPORARY TW WIDENING

STATION	AREA (SF) CUT	AREA (SF) FILL	INCR. VOL (CY) CUT	INCR. VOL (CY) FILL	CUMULATIVE VOL (CY) CUT 1.00	CUMULATIVE VOL (CY) EXP. FILL 1.25	MASS ORDINATE
226+90	26.08	11.84	0.00	0.00	0.00	0.00	0.00
227+00	11.64	28.57	6.99	7.48	6.99	9.35	-2.37
227+50	7.14	38.93	17.38	62.50	24.37	87.48	-63.11
228+00	11.16	38.28	16.95	71.48	41.31	176.83	-135.52
228+50	13.09	23.33	22.46	57.04	63.78	248.13	-184.36
229+00	14.20	23.99	25.27	43.82	89.05	302.90	-213.86
229+50	12.43	23.37	24.65	43.86	113.70	357.72	-244.03
230+00	13.34	16.05	23.86	36.50	137.56	403.35	-265.79
230+50	16.54	7.81	27.67	22.09	165.23	430.96	-265.73
231+00	15.96	2.41	30.09	9.46	195.32	442.79	-247.47
231+50	14.00	1.19	27.74	3.34	223.07	446.96	-223.90
232+00	11.87	1.42	23.96	2.42	247.02	449.98	-202.96
232+50	10.66	2.02	20.86	3.19	267.89	453.97	-186.08
235+00	11.67	6.08	103.40	37.53	371.29	500.88	-129.59
235+24	11.35	14.82	10.23	9.29	381.52	512.49	-130.97
235+50	12.04	11.28	11.26	12.57	392.79	528.20	-135.41
236+00	13.11	9.13	23.28	18.90	416.07	551.82	-135.75
236+50	5.44	12.67	17.17	20.19	433.24	577.06	-143.82
237+00	12.06	12.99	16.20	23.76	449.44	606.76	-157.32
237+50	11.59	9.40	21.90	20.73	471.33	632.68	-161.34
238+00	13.34	8.03	23.08	16.14	494.42	652.86	-158.44
238+50	14.81	9.74	26.06	16.46	520.48	673.43	-152.95
239+00	12.42	8.22	25.21	16.63	545.69	694.22	-148.53
239+50	10.54	5.08	21.26	12.31	566.95	709.61	-142.65
240+00	12.08	3.62	20.94	8.05	587.90	719.67	-131.77
240+50	12.75	1.66	22.99	4.88	610.89	725.77	-114.89
241+00	13.36	2.92	24.17	4.24	635.06	731.07	-96.01
241+50	14.73	1.21	26.00	3.82	661.07	735.85	-74.78
242+00	11.42	4.24	24.21	5.04	685.27	742.15	-56.88
242+50	11.26	4.60	21.00	8.18	706.27	752.38	-46.11
243+00	12.76	5.00	22.25	8.89	728.52	763.49	-34.97
243+50	13.23	5.05	24.07	9.31	752.59	775.12	-22.53
244+00	17.02	1.40	28.00	5.97	780.59	782.59	-2.00
244+50	15.14	1.47	29.77	2.66	810.36	785.91	24.45
245+00	14.26	2.01	27.23	3.23	837.59	789.94	47.65
245+50	17.83	0.32	29.71	2.16	867.30	792.64	74.66
246+00	18.13	0.15	33.30	0.43	900.60	793.18	107.42
246+50	17.16	0.24	32.68	0.36	933.28	793.63	139.65
247+00	20.69	0.17	35.05	0.38	968.32	794.11	174.21
247+50	24.40	0.02	41.75	0.17	1010.07	794.32	215.75
249+50	25.33	0.00	184.16	0.06	1194.23	794.39	399.84
250+00	23.82	0.00	45.51	0.00	1239.74	794.39	445.35
250+50	25.62	0.00	45.78	0.00	1285.52	794.39	491.13
251+00	25.81	0.00	47.63	0.00	1333.15	794.39	538.76
251+50	24.79	0.00	46.85	0.00	1380.01	794.39	585.61
252+00	30.35	0.00	51.06	0.00	1431.06	794.39	636.67
252+50	28.42	0.00	54.42	0.00	1485.48	794.39	691.09

EARTHWORK DATA - TEMPORARY TW WIDENING

STATION	AREA (SF) CUT	AREA (SF) FILL	INCR. VOL (CY) CUT	INCR. VOL (CY) FILL	CUMULATIVE VOL (CY) CUT 1.00	CUMULATIVE VOL (CY) EXP. FILL 1.25	MASS ORDINATE
253+00	25.11	0.54	49.56	0.50	1535.04	795.02	740.02
253+50	17.67	11.59	39.61	11.23	1574.64	809.06	765.59
254+00	7.30	19.91	23.12	29.16	1597.76	845.51	752.25
254+50	4.50	25.81	10.92	42.33	1608.68	898.43	710.25
255+00	4.57	20.68	8.40	43.05	1617.08	952.24	664.84
255+50	8.67	16.10	12.27	34.06	1629.34	994.81	634.53
256+00	22.43	14.10	28.80	27.96	1658.14	1029.76	628.38
256+50	15.18	14.81	34.83	26.77	1692.97	1063.22	629.75
257+00	19.76	8.65	32.36	21.73	1725.33	1090.38	634.95
257+50	20.65	0.04	37.42	8.04	1762.75	1100.44	662.31
258+00	20.34	0.00	37.95	0.03	1800.70	1100.48	700.21
258+50	22.19	0.00	39.38	0.00	1840.08	1100.48	739.60
258+89	21.64	0.03	31.66	0.02	1871.74	1100.51	771.23
259+00	22.16	0.00	8.92	0.01	1880.66	1100.51	780.14
259+50	21.78	0.00	40.68	0.00	1921.34	1100.51	820.83
260+00	19.60	0.00	38.32	0.00	1959.66	1100.51	859.15

EARTHWORK DATA - TEMPORARY TW WIDENING

STATION	AREA (SF) CUT	AREA (SF) FILL	INCR. VOL (CY) CUT	INCR. VOL (CY) FILL	CUMULATIVE VOL (CY) CUT 1.00	CUMULATIVE VOL (CY) EXP. FILL 1.25	MASS ORDINATE
279+50	28.92	0.00	0.00	0.00	0.00	0.00	0.00
280+00	31.39	0.00	55.84	0.00	55.84	0.00	55.84
280+50	30.68	0.00	57.47	0.00	113.31	0.00	113.31
281+00	29.97	0.00	56.16	0.00	169.47	0.00	169.47
281+50	27.07	0.02	52.82	0.01	222.29	0.02	222.27
282+00	33.12	0.00	55.73	0.01	278.02	0.04	277.99
282+50	33.14	0.02	61.35	0.02	339.37	0.06	339.31
283+00	28.83	0.00	57.38	0.02	396.75	0.08	396.67
283+32	17.65	0.13	27.12	0.07	423.87	0.17	423.70
283+50	12.30	12.27	10.26	4.24	434.13	5.48	428.65
284+00	5.69	18.38	16.66	28.37	450.79	40.94	409.85
284+50	3.95	23.97	8.93	39.21	459.72	89.95	369.77
285+00	1.08	33.88	4.66	53.57	464.37	156.91	307.47
285+50	1.33	33.97	2.23	62.83	466.61	235.44	231.17
286+00	4.04	27.38	4.97	56.81	471.58	306.45	165.13
286+50	7.88	20.55	11.04	44.38	482.62	361.92	120.70
287+00	11.20	30.29	17.67	47.08	500.28	420.77	79.52
287+50	7.39	33.72	17.21	59.28	517.50	494.86	22.64
288+00	9.90	26.15	16.01	55.44	533.51	564.16	-30.65
288+50	11.91	16.83	20.20	39.80	553.70	613.91	-60.21
289+00	15.21	11.24	25.12	25.99	578.82	646.39	-67.58

EARTHWORK DATA - TEMPORARY TW WIDENING

STATION	AREA (SF) CUT	AREA (SF) FILL	INCR. VOL (CY) CUT	INCR. VOL (CY) FILL	CUMULATIVE VOL (CY) CUT 1.00	CUMULATIVE VOL (CY) EXP. FILL 1.25	MASS ORDINATE
289+50	13.92	8.25	26.98	18.04	605.79	668.94	-63.15
290+00	11.16	6.94	23.23	14.06	629.02	686.52	-57.50
290+50	11.97	5.85	21.42	11.85	650.44	701.33	-50.89
291+00	15.55	0.00	25.48	5.42	675.92	708.11	-32.19
291+50	18.67	0.00	31.69	0.01	707.60	708.12	-0.52
291+90	28.43	0.00	34.89	0.00	742.49	708.12	34.37
292+00	15.70	5.23	8.17	0.97	750.66	709.33	41.33
292+50	15.18	4.70	28.59	9.19	779.25	720.82	58.43
293+00	13.88	2.90	26.91	7.04	806.16	729.62	76.54
293+50	15.54	1.87	27.24	4.42	833.40	735.14	98.26
294+00	14.51	5.22	27.83	6.56	861.23	743.35	117.88
294+50	13.25	5.59	25.71	10.01	886.94	755.86	131.07
295+00	16.47	1.51	27.51	6.57	914.45	764.08	150.37
295+50	14.99	4.14	29.13	5.23	943.58	770.62	172.96
296+00	15.63	3.91	28.36	7.46	971.93	779.94	191.99
296+50	15.48	4.89	28.81	8.15	1000.74	790.13	210.60
297+00	14.01	5.89	27.31	9.99	1028.04	802.62	225.42
297+50	11.56	8.87	23.68	13.67	1051.72	819.70	232.02
298+00	14.46	5.35	24.09	13.16	1075.81	836.16	239.66
298+50	19.60	1.60	31.54	6.43	1107.35	844.19	263.15
299+00	18.27	3.24	35.07	4.48	1142.42	849.80	292.62
299+50	18.35	0.18	33.90	3.17	1176.32	853.76	322.57
300+00	65.34	0.00	77.48	0.16	1253.81	853.96	399.84
300+50	20.19	1.45	79.19	1.35	1332.99	855.65	477.35
301+00	29.00	0.00	45.54	1.35	1378.54	857.33	521.21
301+50	32.54	0.00	56.98	0.00	1435.52	857.33	578.19
302+00	31.42	0.00	59.22	0.00	1494.74	857.33	637.41
302+50	37.08	0.00	63.43	0.00	1558.17	857.33	700.84
303+00	34.90	0.00	66.64	0.00	1624.81	857.33	767.48
303+50	28.64	0.00	58.83	0.00	1683.64	857.33	826.31
304+00	29.20	0.00	53.56	0.00	1737.19	857.33	879.86
304+50	33.23	0.00	57.80	0.00	1794.99	857.33	937.66
305+00	30.81	0.00	59.30	0.00	1854.29	857.33	996.96
305+50	19.73	0.66	46.80	0.61	1901.09	858.10	1042.99
306+00	22.62	0.10	39.21	0.71	1940.30	858.98	1081.32
306+50	20.75	1.28	40.16	1.28	1980.46	860.58	1119.87
307+00	18.16	1.52	36.03	2.60	2016.49	863.83	1152.66
307+50	18.77	1.38	34.20	2.69	2050.68	867.18	1183.50
308+00	19.09	2.72	35.05	3.80	2085.73	871.94	1213.80

EARTHWORK DATA - TEMPORARY TW WIDENING

STATION	AREA (SF)		INCR. VOL (CY)		CUMULATIVE VOL (CY)		MASS ORDINATE
	CUT	FILL	CUT	FILL	CUT 1.00	EXP. FILL 1.25	
308+50	23.57	0.19	39.50	2.69	2125.23	875.30	1249.93
309+00	14.45	2.12	35.20	2.14	2160.43	877.98	1282.45
309+50	14.79	2.76	27.07	4.53	2187.50	883.64	1303.86
310+00	13.06	1.31	25.78	3.77	2213.28	888.35	1324.93
312+00	19.43	0.00	120.32	4.85	2333.60	894.42	1439.18
312+50	18.00	0.00	34.66	0.00	2368.26	894.42	1473.84
313+00	20.33	0.00	35.50	0.00	2403.75	894.42	1509.34
313+27	17.81	0.00	19.21	0.00	2422.97	894.42	1528.55
313+50	19.39	0.00	15.71	0.00	2438.67	894.42	1544.26
313+52	19.70	0.00	1.59	0.00	2440.27	894.42	1545.85
313+77	22.14	0.00	19.37	0.00	2459.64	894.42	1565.22
314+00	19.58	0.00	17.62	0.00	2477.26	894.42	1582.84
314+50	16.89	0.00	33.77	0.00	2511.02	894.42	1616.61
314+67	14.49	0.00	9.87	0.00	2520.89	894.42	1626.47
315+00	15.63	0.00	18.42	0.00	2539.31	894.42	1644.89
315+50	14.95	0.00	28.31	0.00	2567.62	894.42	1673.20
316+00	15.23	0.10	27.94	0.10	2595.56	894.54	1701.03
316+50	13.48	0.02	26.58	0.12	2622.15	894.68	1727.46
317+00	13.59	0.48	25.07	0.46	2647.22	895.26	1751.95
317+50	13.96	0.47	25.52	0.88	2672.73	896.36	1776.37
318+00	12.66	0.86	24.65	1.23	2697.39	897.91	1799.48
318+50	12.33	0.35	23.14	1.12	2720.53	899.30	1821.23

EARTHWORK DATA - TEMPORARY UW CROSSOVER

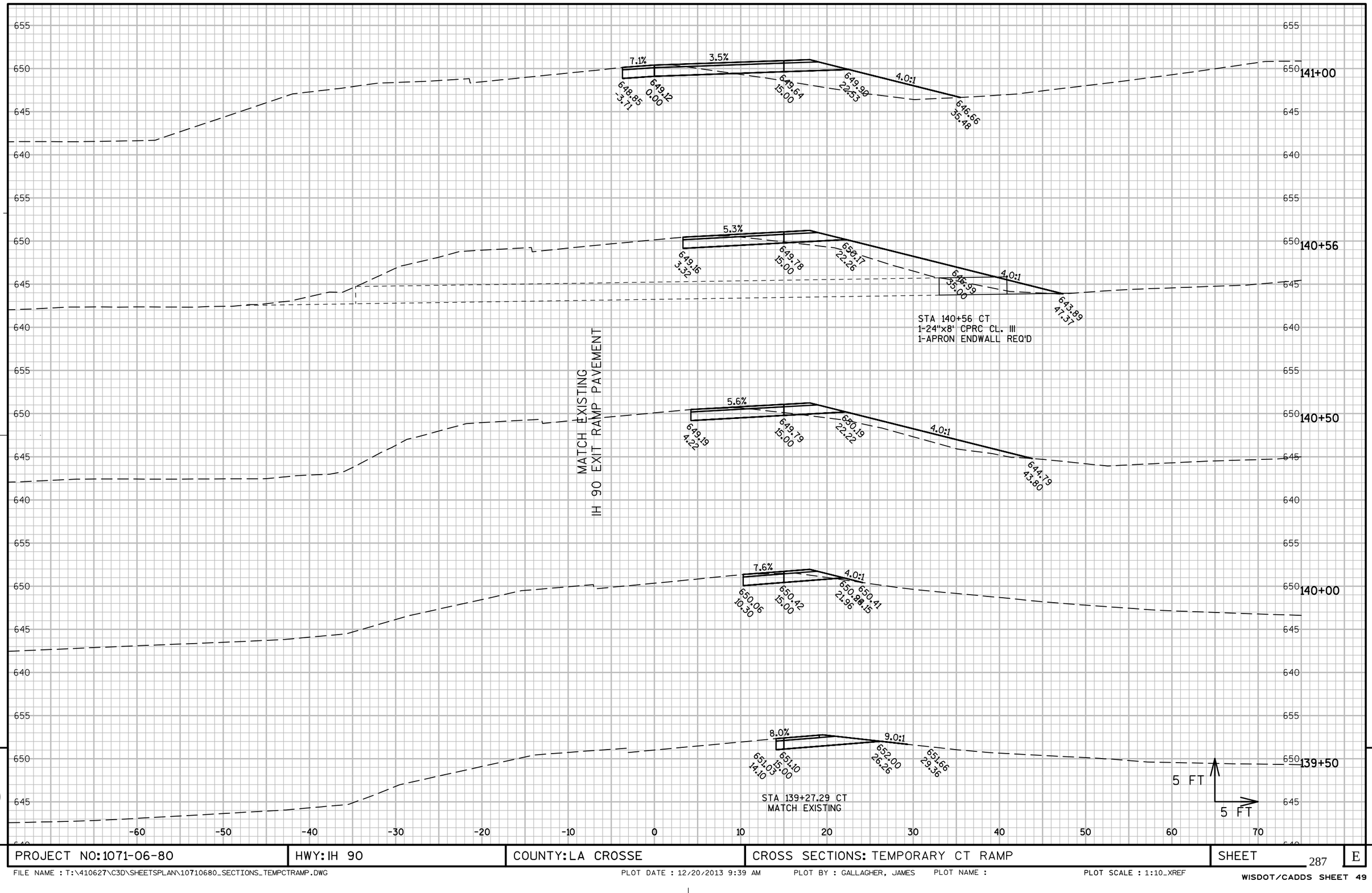
STATION	AREA (SF)		INCR. VOL (CY)		CUMULATIVE VOL (CY)		MASS ORDINATE
	CUT	FILL	CUT UNADJUSTED	FILL UNADJUSTED	CUT 1.00	EXP. FILL 1.25	
204+50	11.65	0.23	0.00	0.00	0.00	0.00	0.00
205+00	12.01	1.29	21.90	1.41	21.90	1.76	20.14
205+50	13.71	3.46	23.81	4.40	45.71	7.26	38.45
206+00	13.86	2.72	25.53	5.72	71.24	14.42	56.82
206+50	13.98	0.76	25.78	3.22	97.02	18.45	78.57
207+00	15.15	0.22	26.98	0.91	124.00	19.58	104.42
207+50	14.73	0.24	27.67	0.43	151.67	20.11	131.56
208+00	17.36	0.00	29.71	0.22	181.38	20.39	160.99
208+50	20.71	0.03	35.25	0.03	216.63	20.43	196.21
209+00	19.78	0.07	37.48	0.10	254.12	20.55	233.57
209+50	19.87	0.13	36.71	0.19	290.83	20.79	270.04
210+00	24.26	0.52	40.86	0.61	331.69	21.55	310.14
210+50	24.30	0.45	44.97	0.90	376.66	22.67	353.99
211+00	20.79	0.29	41.76	0.68	418.42	23.53	394.89
211+50	23.12	0.00	40.66	0.27	459.07	23.86	435.21
212+00	21.98	0.01	41.75	0.01	500.83	23.88	476.95
			STRUCTURE B-32-39				
216+00	15.52	34.69	0.00	0.00	500.83	23.88	476.95
216+50	18.85	0.17	31.82	32.28	532.65	64.23	468.42
217+00	18.38	0.37	34.47	0.50	567.12	64.85	502.27
217+50	21.15	0.00	36.59	0.34	603.71	65.28	538.43
217+89	17.81	1.09	27.78	0.78	631.49	66.25	565.24
218+00	17.02	3.24	7.42	0.92	638.91	67.41	571.50
218+14	16.90	6.36	8.53	2.42	647.44	70.43	577.01
218+39	14.66	14.32	14.71	9.64	662.14	82.47	579.67
218+50	14.90	15.31	6.17	6.18	668.31	90.20	578.11
219+00	16.08	13.23	28.68	26.43	697.00	123.24	573.76
219+50	15.63	18.08	29.36	28.99	726.36	159.48	566.87
219+59	15.70	16.16	5.05	5.52	731.40	166.38	565.02
220+00	15.60	20.40	23.94	27.96	755.34	201.32	554.01
220+50	9.25	19.84	23.00	37.25	778.34	247.89	530.45
221+00	6.34	21.68	14.43	38.44	792.77	295.95	496.83
221+50	5.72	17.73	11.16	36.49	803.93	341.56	462.37
222+00	28.86	0.00	32.02	16.42	835.95	362.08	473.87

EARTHWORK DATA - TEMPORARY IH 90 EASTBOUND LANES WIDENING AT 12TH AVENUE

STATION	AREA (SF) CUT	AREA (SF) FILL	INCR. VOL (CY) CUT	INCR. VOL (CY) FILL	CUMULATIVE VOL (CY) CUT 1.00	CUMULATIVE VOL (CY) EXP. FILL 1.25	MASS ORDINATE
243+77	6.06	0.36	0.00	0.00	0.00	0.00	0.00
244+00	6.15	33.07	5.23	14.31	5.23	17.89	-12.66
244+05	23.59	35.11	2.76	6.34	7.99	25.81	-17.82
245+00	26.14	51.40	87.47	152.16	95.46	216.02	-120.55
245+25	33.18	35.98	27.46	40.45	122.93	266.58	-143.66
245+46	37.13	28.90	27.95	25.79	150.87	298.82	-147.95
245+50	38.08	25.50	4.92	3.56	155.80	303.27	-147.48
245+71	33.17	10.15	28.32	14.17	184.12	320.99	-136.87
245+75	32.93	8.37	4.33	1.21	188.45	322.50	-134.06
245+96	31.95	5.07	25.79	5.34	214.24	329.18	-114.94
246+00	31.97	5.25	4.18	0.68	218.42	330.02	-111.60
247+00	31.23	15.31	117.04	38.07	335.46	377.62	-42.16
			STRUCTURE B-37-107				
249+47	0.00	0.00	0.00	0.00	0.00	0.00	0.00
250+00	15.79	0.00	15.56	0.00	15.56	0.00	-26.59
250+85	0.00	0.00	25.00	0.00	40.56	0.00	-1.60

EARTHWORK DATA - TEMPORARY IH 90 WESTBOUND LANES WIDENING AT 12TH AVENUE

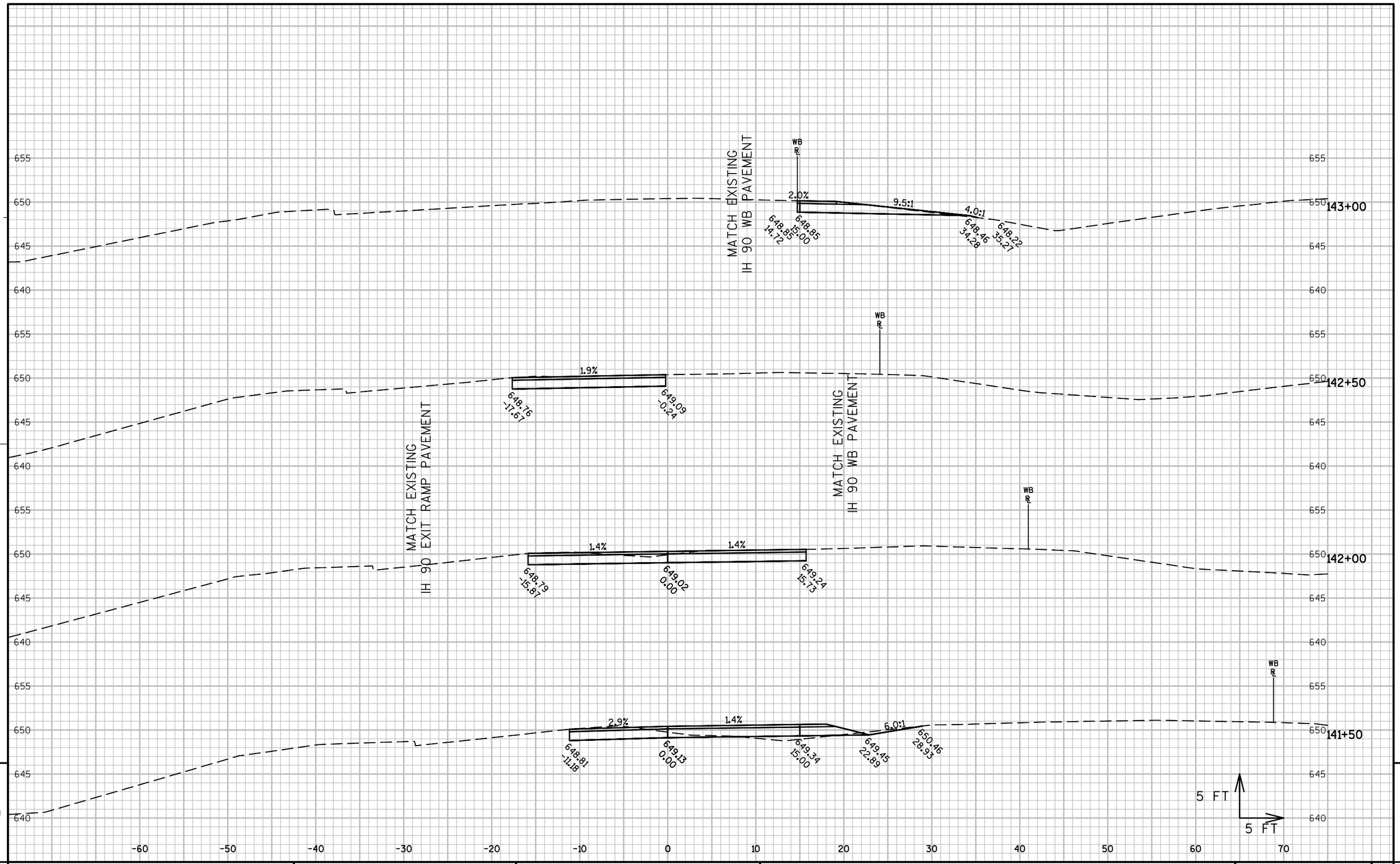
STATION	AREA (SF) CUT	AREA (SF) FILL	INCR. VOL (CY) CUT	INCR. VOL (CY) FILL	CUMULATIVE VOL (CY) CUT 1.00	CUMULATIVE VOL (CY) EXP. FILL 1.25	MASS ORDINATE
246+27	0.00	0.00	0.00	0.00	0.00	0.00	0.00
247+00	16.38	0.72	22.08	0.97	22.08	1.21	20.86
247+67	0.00	0.00	20.24	0.89	42.32	2.33	39.99
			STRUCTURE B-37-108				
249+97	13.02	0.29	0.00	0.00	0.00	0.00	39.99
250+00	12.44	0.38	1.41	0.04	1.41	0.05	41.35
250+19	26.78	0.19	13.81	0.20	15.22	0.30	54.91
250+44	22.22	3.81	22.69	1.85	37.90	2.61	75.28
251+00	17.04	7.45	40.71	11.67	78.61	17.21	101.39
252+00	8.01	17.34	46.39	45.91	125.00	74.59	90.40
253+00	7.78	8.37	29.24	47.61	154.24	134.10	60.12
253+25	8.02	0.43	7.31	4.07	161.54	139.19	62.34



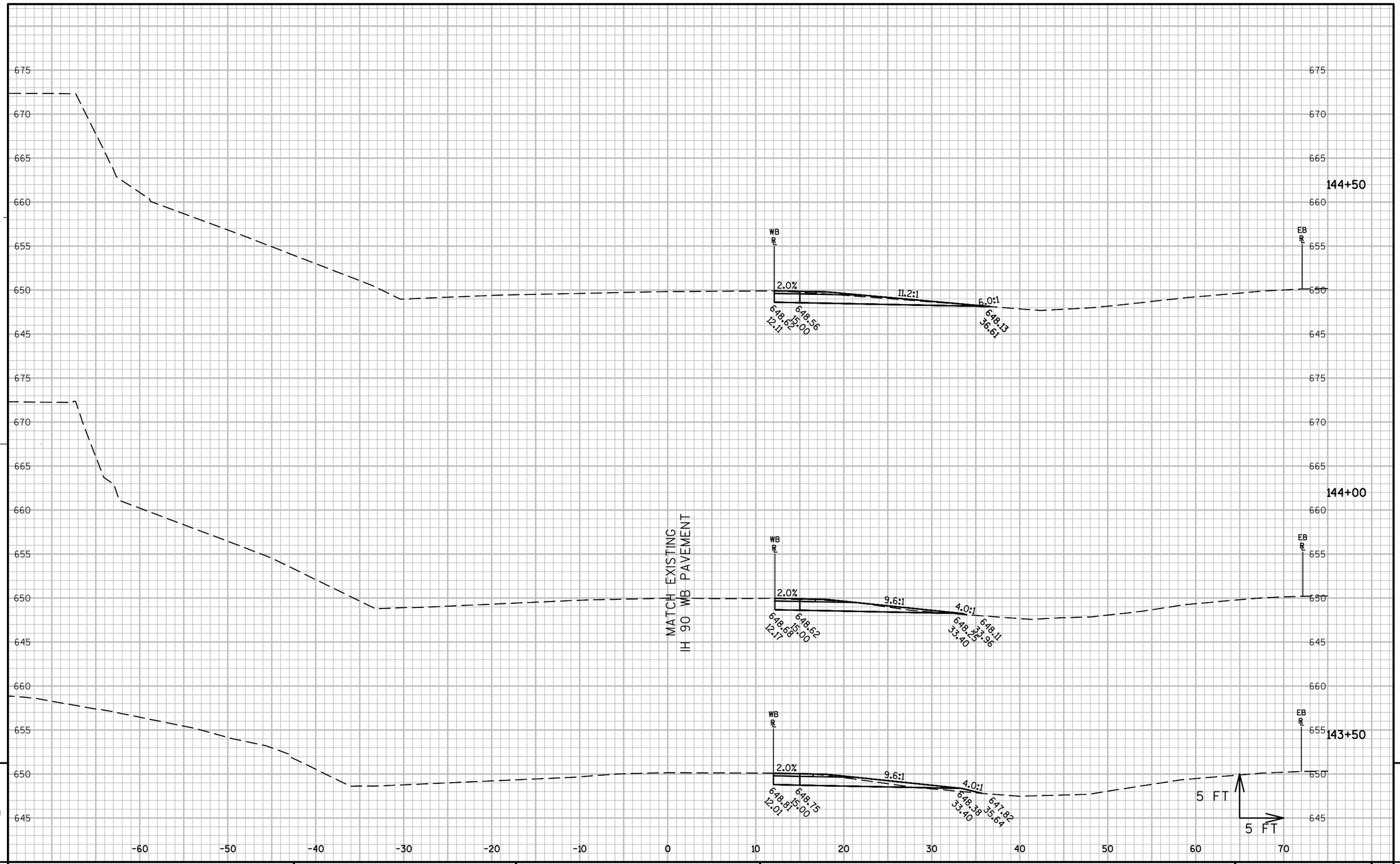
PROJECT NO: 1071-06-80	HWY: IH 90	COUNTY: LA CROSSE	CROSS SECTIONS: TEMPORARY CT RAMP	SHEET 287	E

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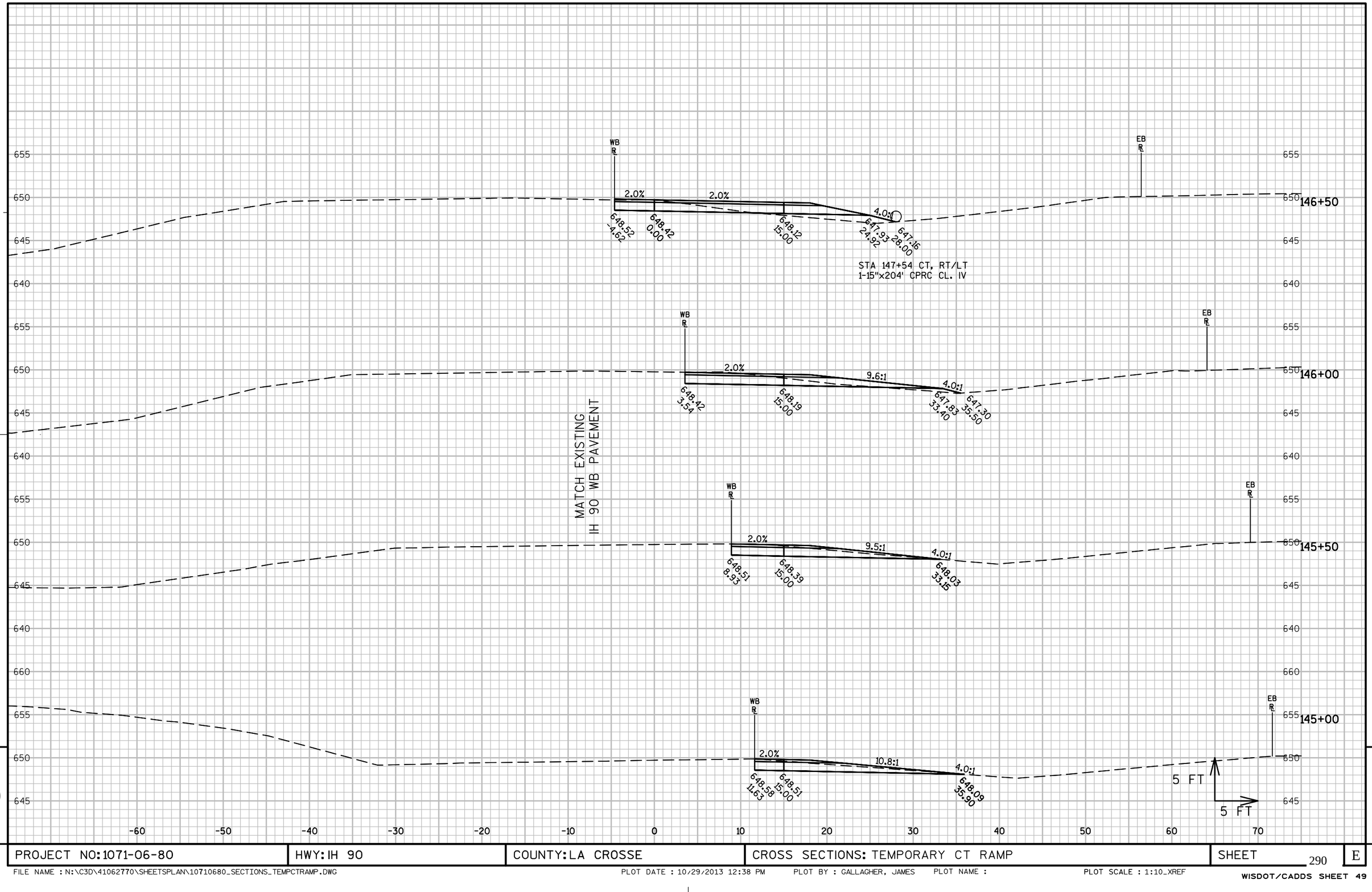
WISDOT/CADDS SHEET 49



PROJECT NO:1071-06-80	HWY: IH 90	COUNTY: LA CROSSE	CROSS SECTIONS: TEMPORARY CT RAMP	SHEET 288	E

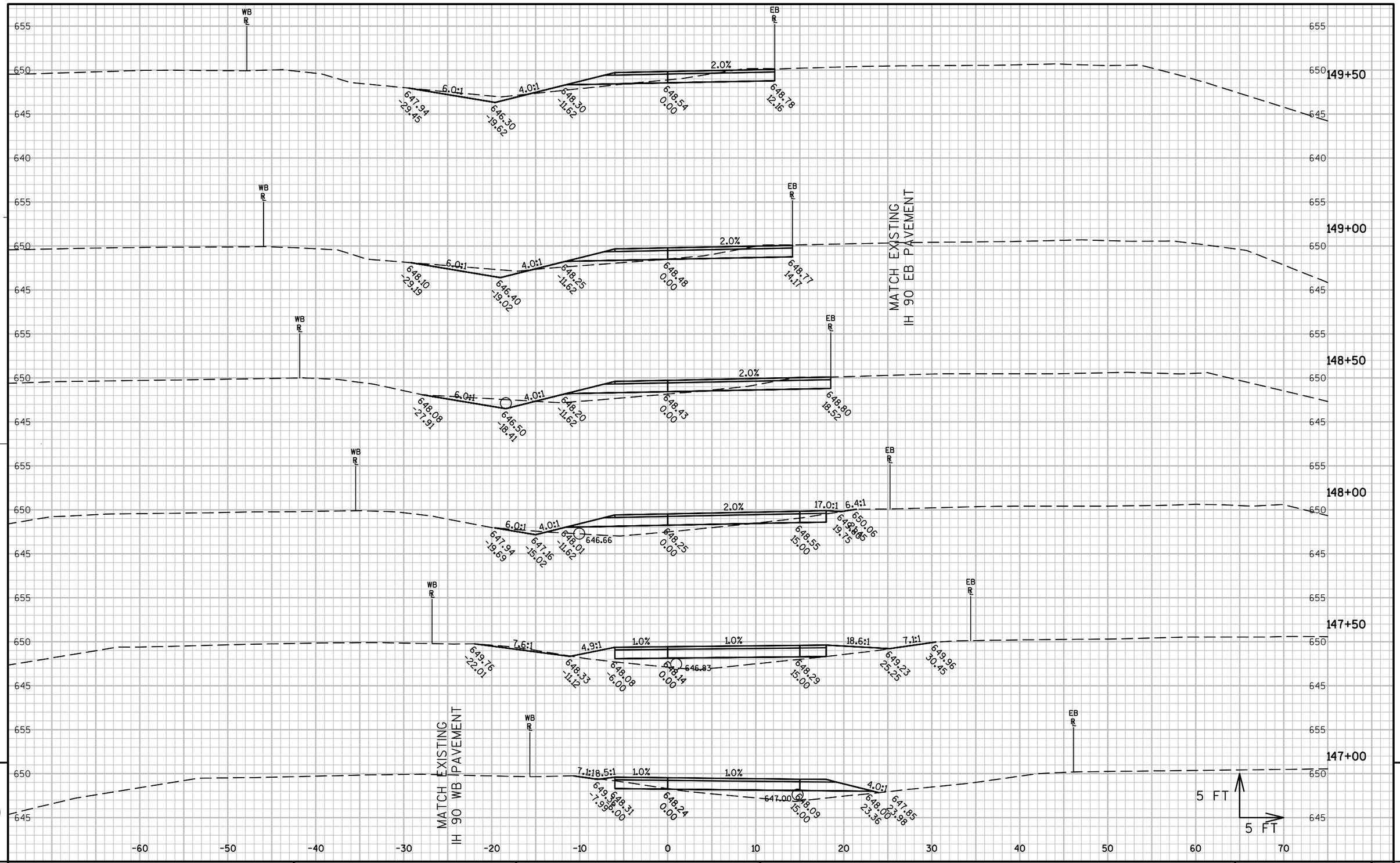


PROJECT NO:1071-06-80	HWY: IH 90	COUNTY: LA CROSSE	CROSS SECTIONS: TEMPORARY CT RAMP	SHEET 289	E



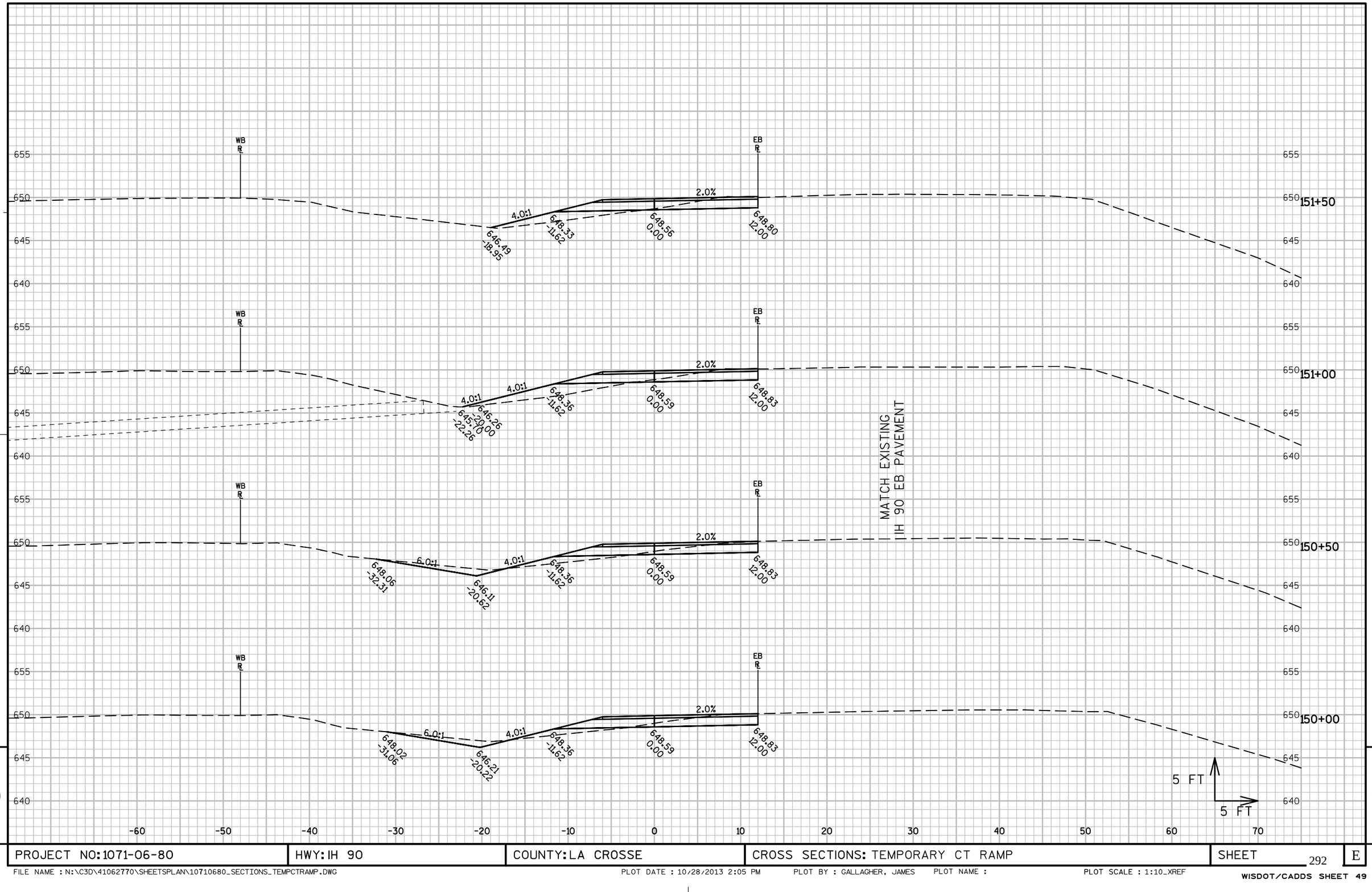
PROJECT NO:1071-06-80	HWY: IH 90	COUNTY: LA CROSSE	CROSS SECTIONS: TEMPORARY CT RAMP	SHEET 290	E

FILE NAME : N:\C3D\41062770\SHEETSPLAN\10710680_SECTIONS_TEMPCTRAMP.DWG PLOT DATE : 10/29/2013 12:38 PM PLOT BY : GALLAGHER, JAMES PLOT NAME : PLOT SCALE : 1:10_XREF



PROJECT NO:1071-06-80	HWY: IH 90	COUNTY: LA CROSSE	CROSS SECTIONS: TEMPORARY CT RAMP	SHEET 291	E

FILE NAME : N:\C3D\41062770\SHEETSPLAN\10710680_SECTIONS_TEMPCTRAMP.DWG PLOT DATE : 10/29/2013 12:38 PM PLOT BY : GALLAGHER, JAMES PLOT NAME : PLOT SCALE : 1:10_XREF



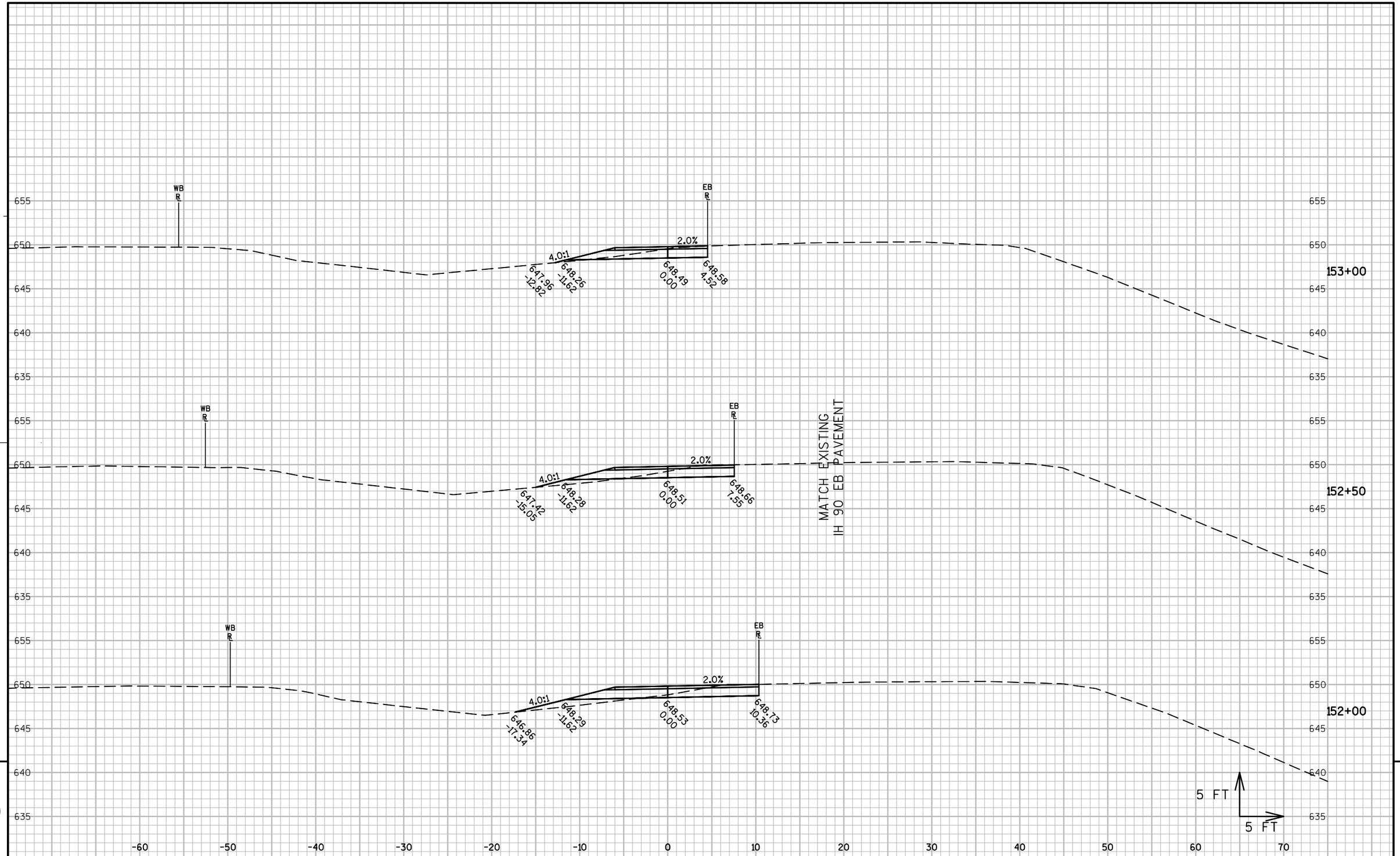
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PROJECT NO:1071-06-80	HWY: IH 90	COUNTY: LA CROSSE	CROSS SECTIONS: TEMPORARY CT RAMP	SHEET 292	E

FILE NAME : N:\C3D\41062770\SHEETSPLAN\10710680_SECTIONS_TEMPCTRAMP.DWG PLOT DATE : 10/28/2013 2:05 PM PLOT BY : GALLAGHER, JAMES PLOT NAME : PLOT SCALE : 1:10_XREF

WISDOT/CADDS SHEET 49



9

9

PROJECT NO:1071-06-80	HWY: IH 90	COUNTY: LA CROSSE	CROSS SECTIONS: TEMPORARY CT RAMP	SHEET 293	E

FILE NAME : N:\C3D\41062770\SHEETSPLAN\10710680_SECTIONS_TEMPCTRAMP.DWG PLOT DATE : 10/28/2013 2:05 PM PLOT BY : GALLAGHER, JAMES PLOT NAME : PLOT SCALE : 1:10_XREF

STA 153+68.83 CT
MATCH EXISTING

WB
R

EB
R

MATCH EXISTING
IH 90 EB PAVEMENT

4.0:1

2.0%

6:48.21
-13.18

6:48.03
-13.90

6:48.48
0.00

6:48.50
1.28

153+50

5 FT

5 FT

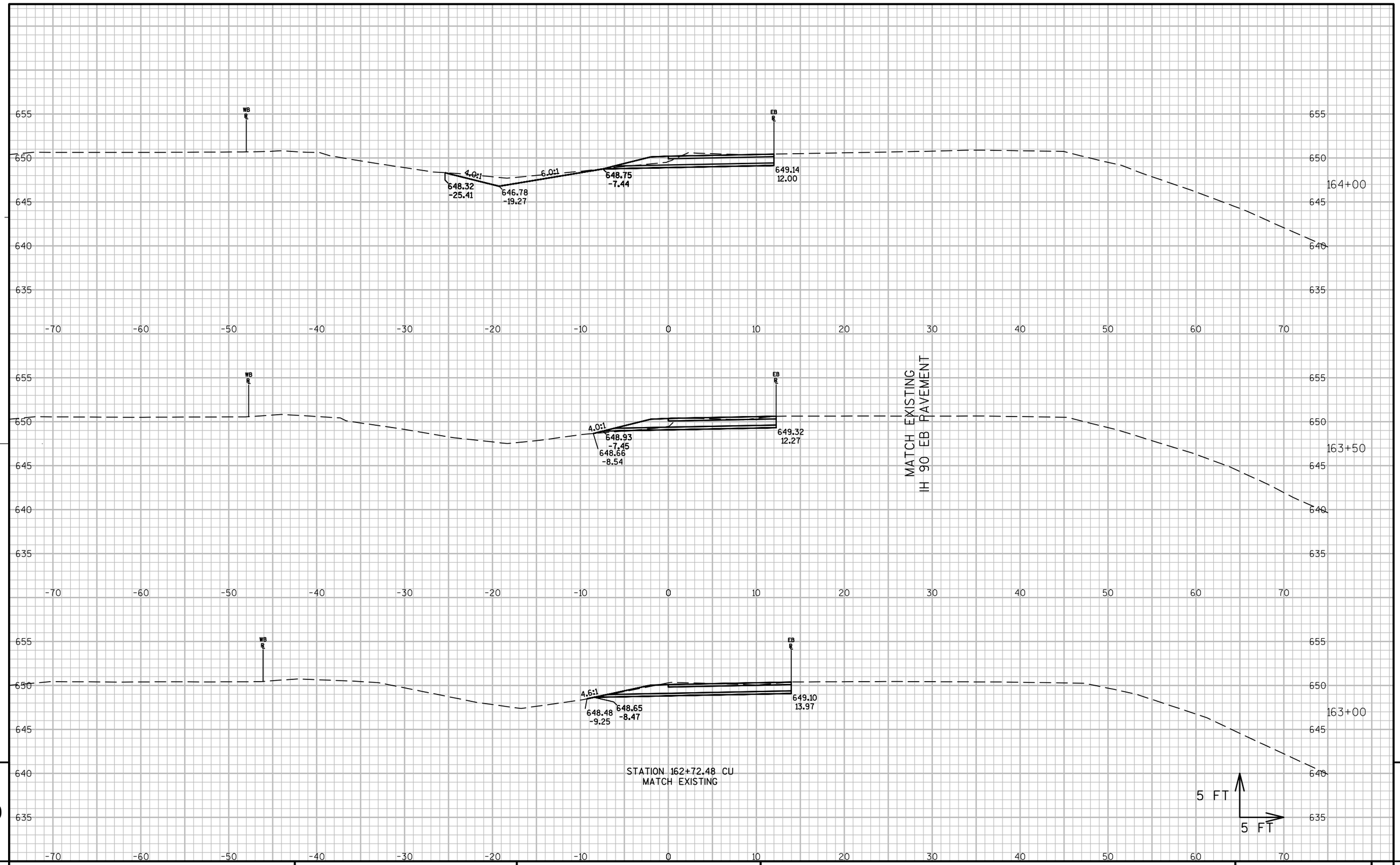
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640
635

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PROJECT NO:1071-06-80	HWY: IH 90	COUNTY: LA CROSSE	CROSS SECTIONS: TEMPORARY CT RAMP	SHEET 294	E



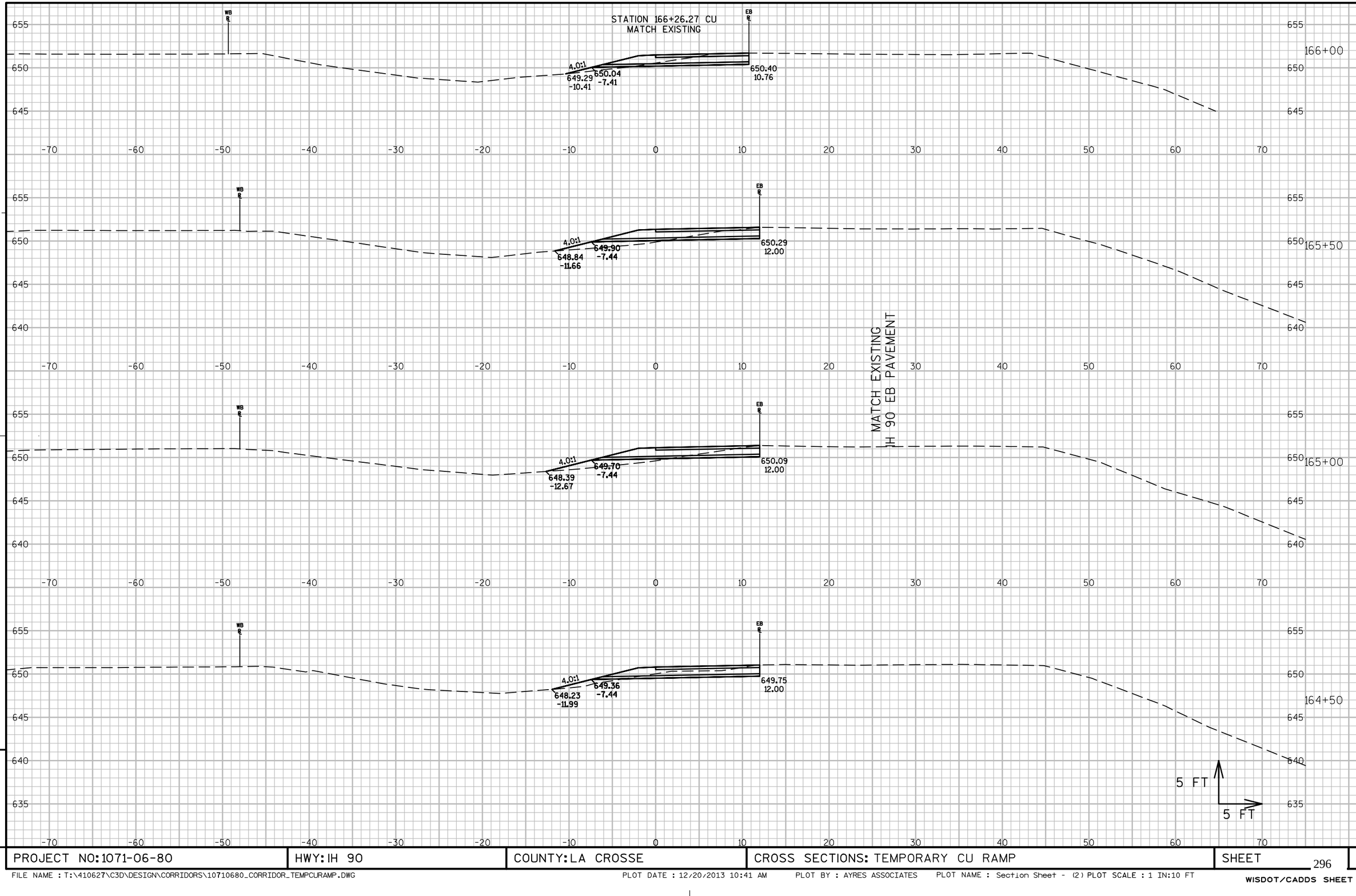
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PROJECT NO: 1071-06-80	HWY: IH 90	COUNTY: LA CROSSE	CROSS SECTIONS: TEMPORARY CU RAMP	SHEET 295	E

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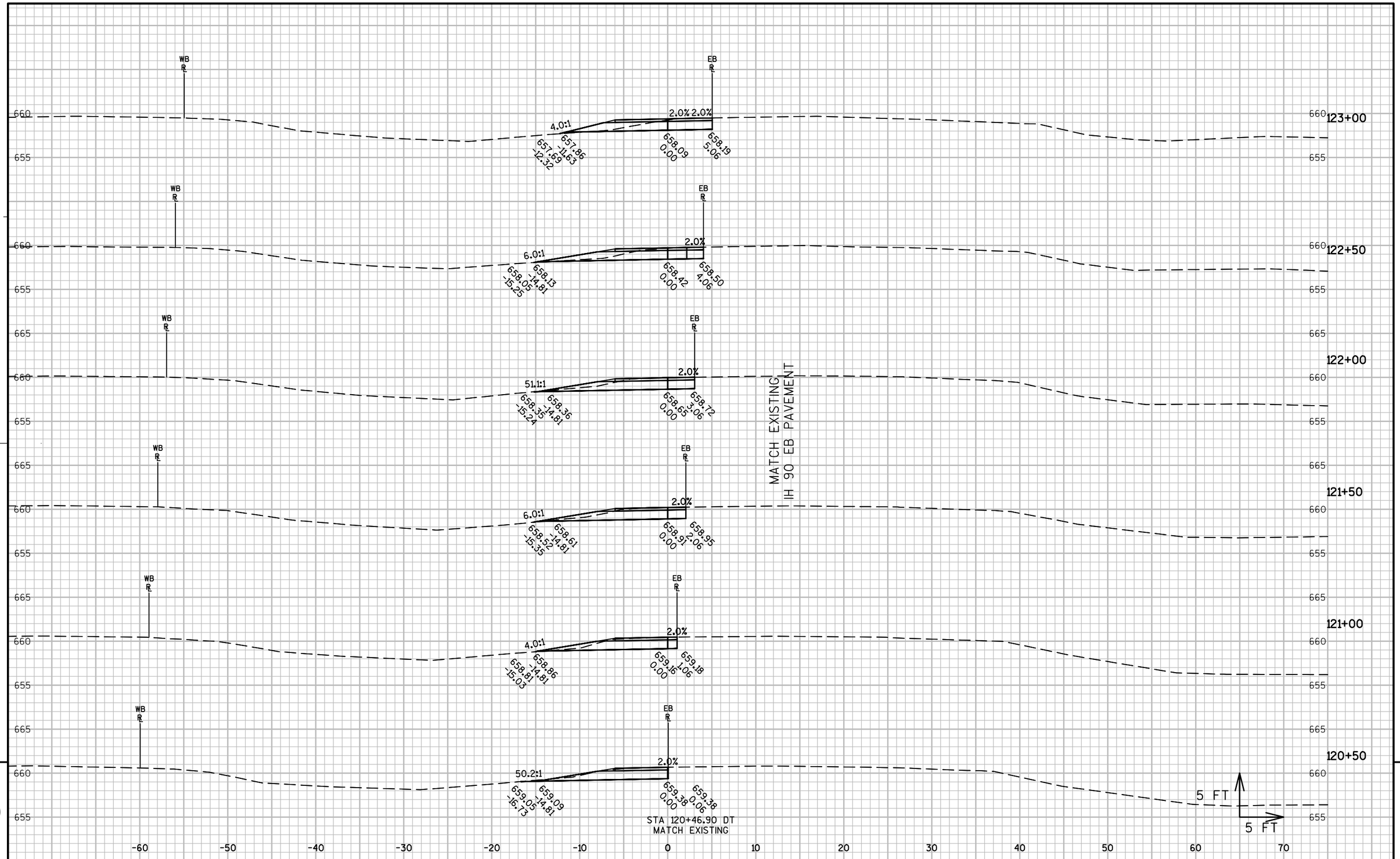
STATION 166+26.27 CU
MATCH EXISTING



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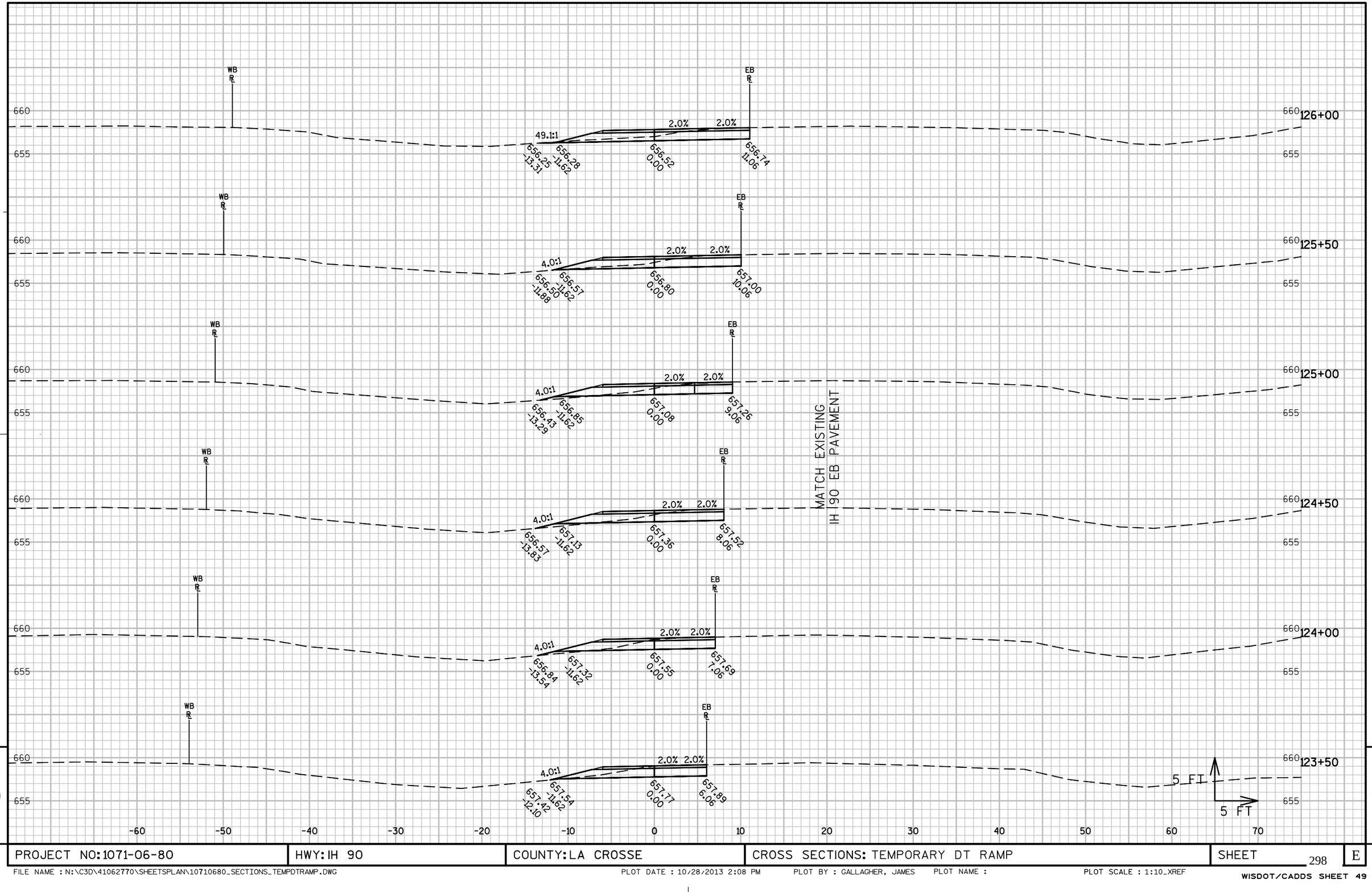
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PROJECT NO:1071-06-80	HWY: IH 90	COUNTY: LA CROSSE	CROSS SECTIONS: TEMPORARY CU RAMP	SHEET 296	E



PROJECT NO:1071-06-80	HWY: IH 90	COUNTY: LA CROSSE	CROSS SECTIONS: TEMPORARY DT RAMP	SHEET	E

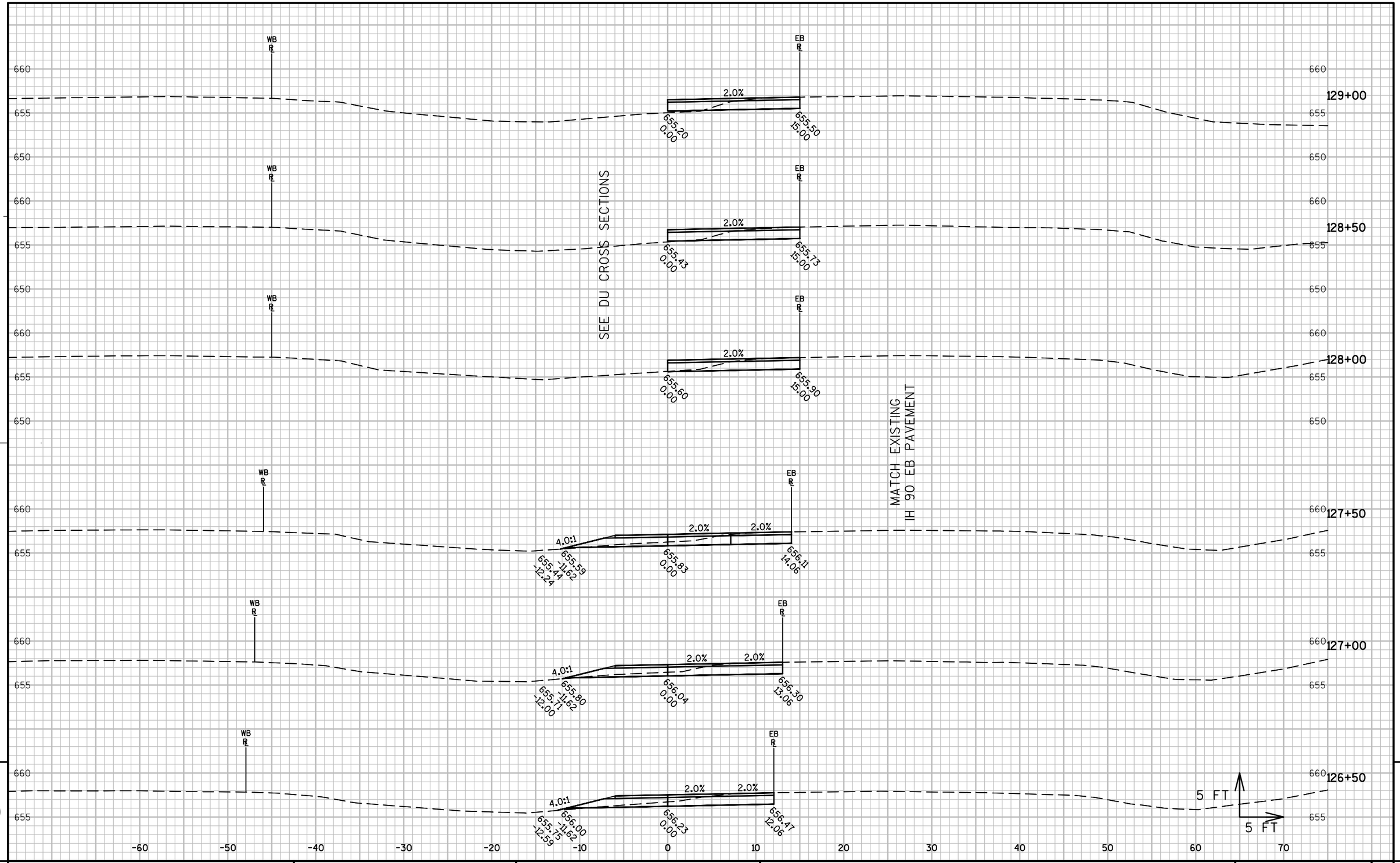
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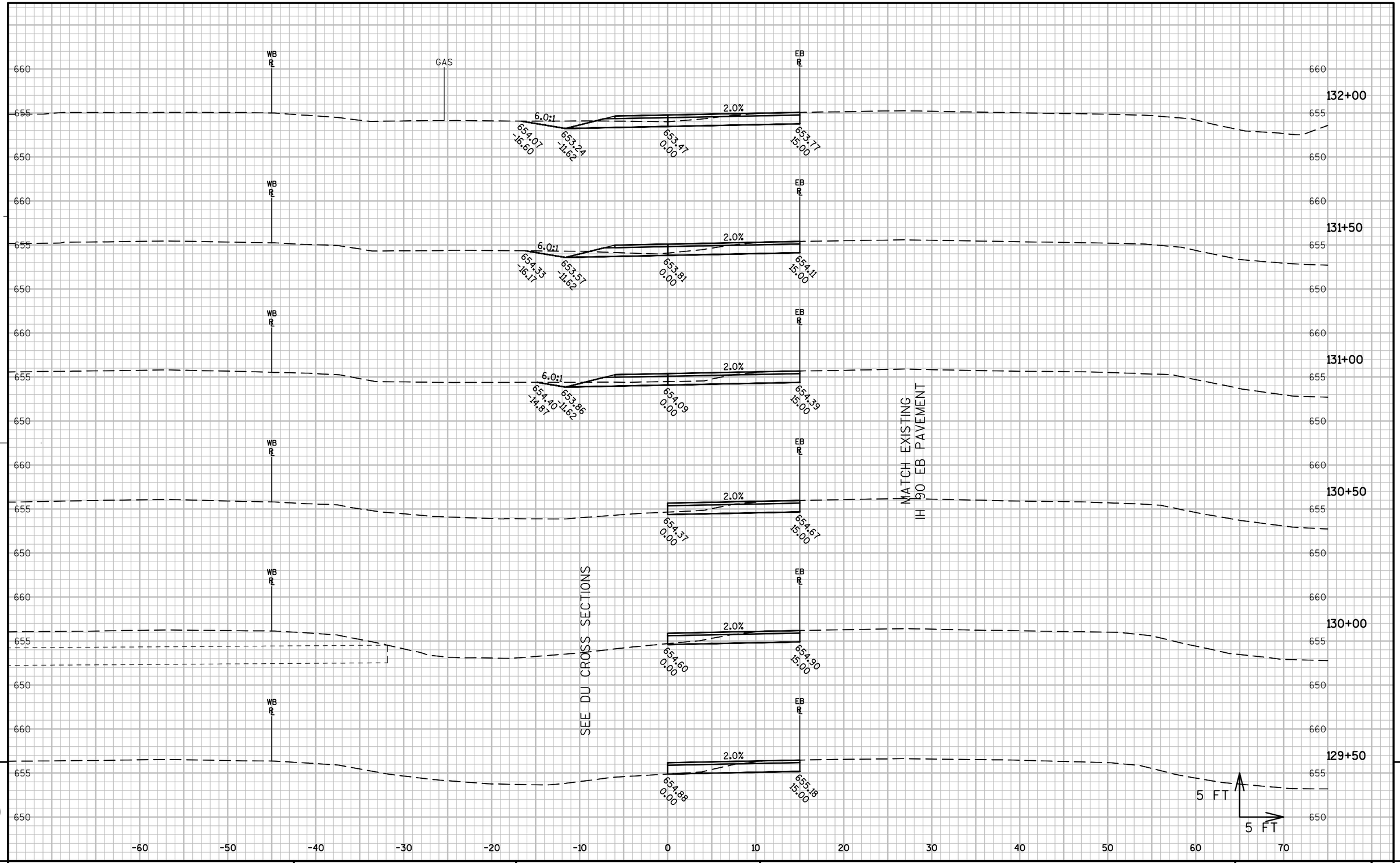
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9

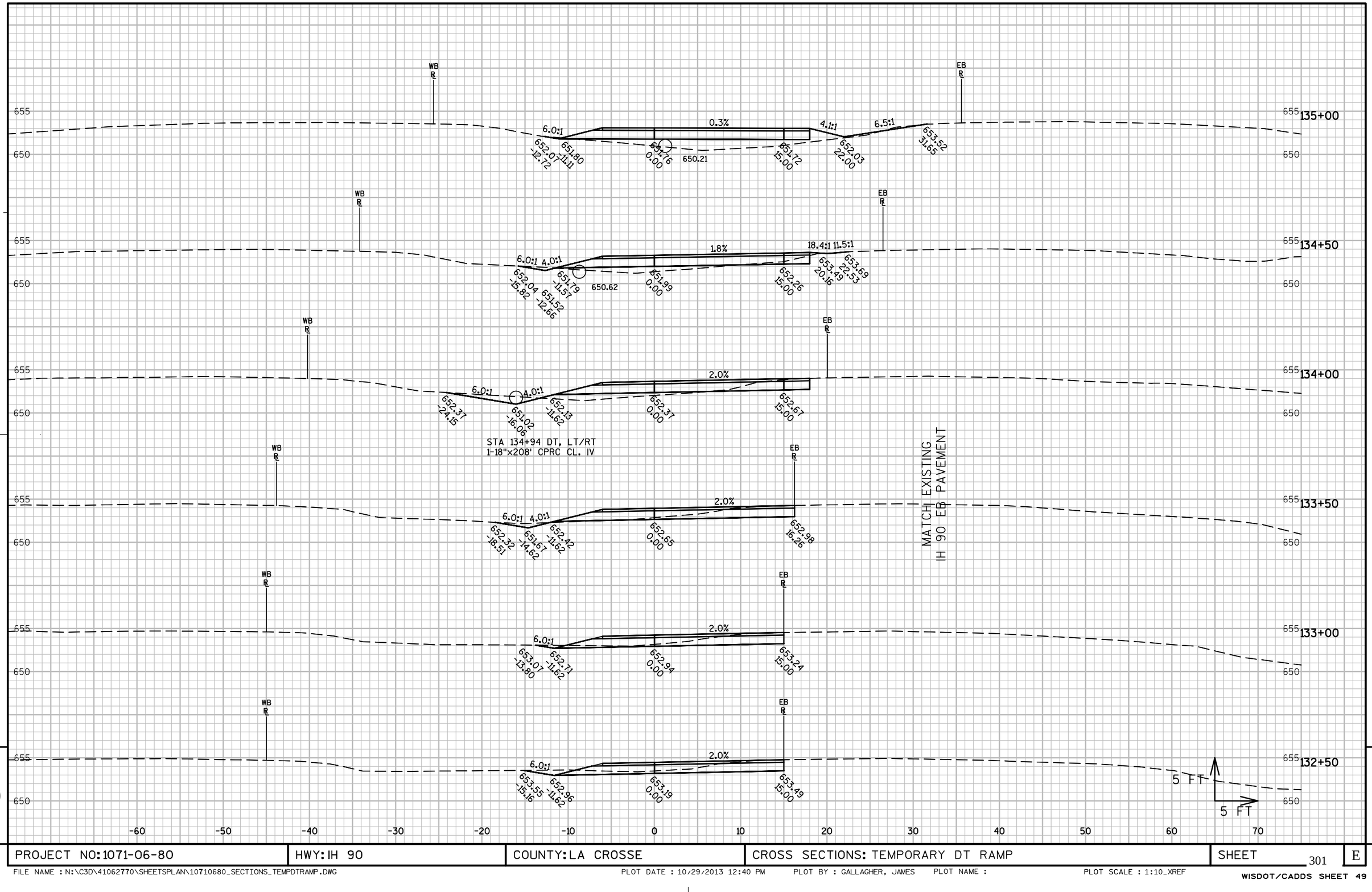
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PROJECT NO:1071-06-80	HWY: IH 90	COUNTY: LA CROSSE	CROSS SECTIONS: TEMPORARY DT RAMP	SHEET 299	E

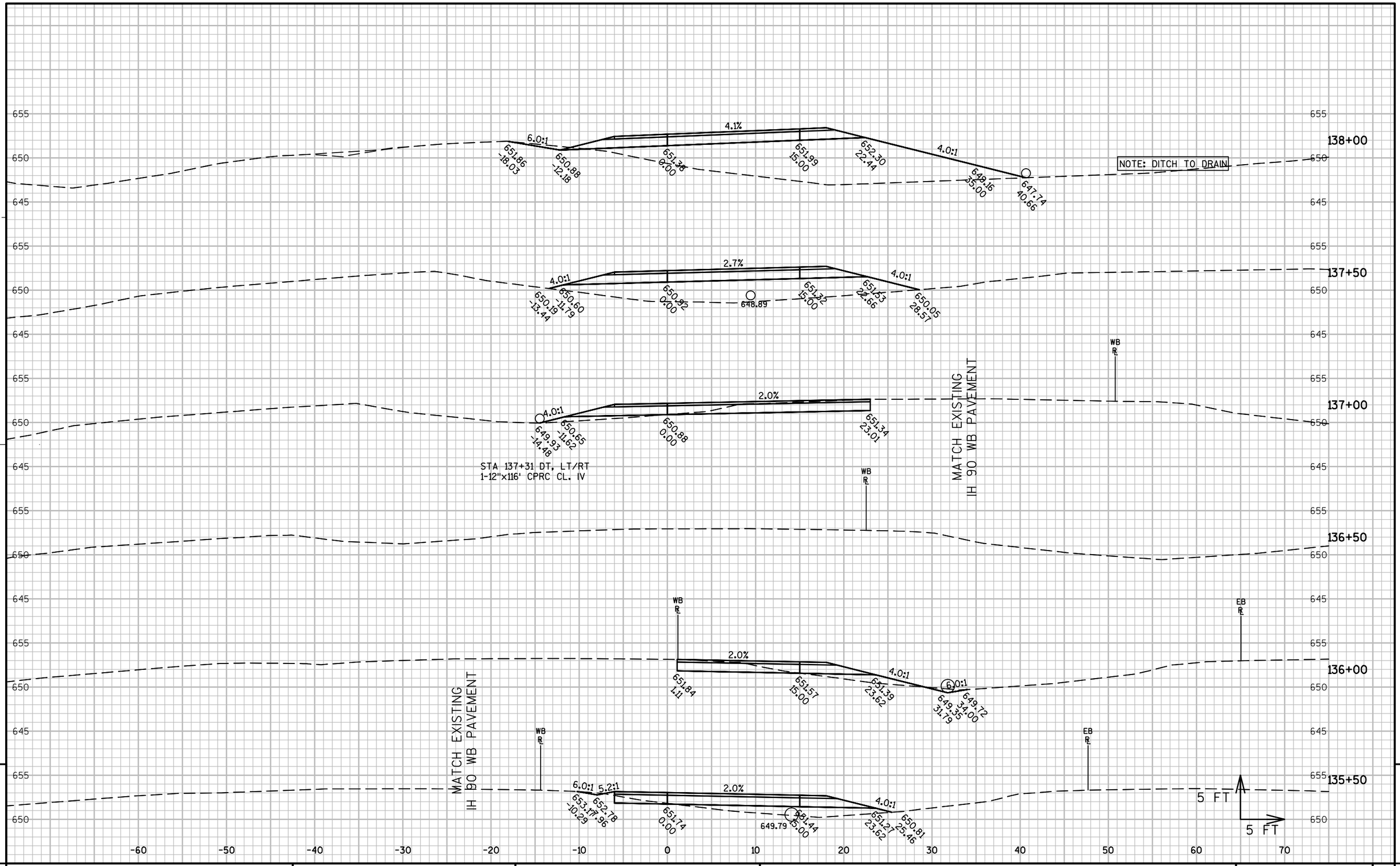


PROJECT NO:1071-06-80	HWY: IH 90	COUNTY: LA CROSSE	CROSS SECTIONS: TEMPORARY DT RAMP	SHEET 300 E

FILE NAME : N:\C3D\41062770\SHEETSPLAN\10710680_SECTIONS_TEMPDTRAMP.DWG PLOT DATE : 10/28/2013 2:08 PM PLOT BY : GALLAGHER, JAMES PLOT NAME : PLOT SCALE : 1:10_XREF



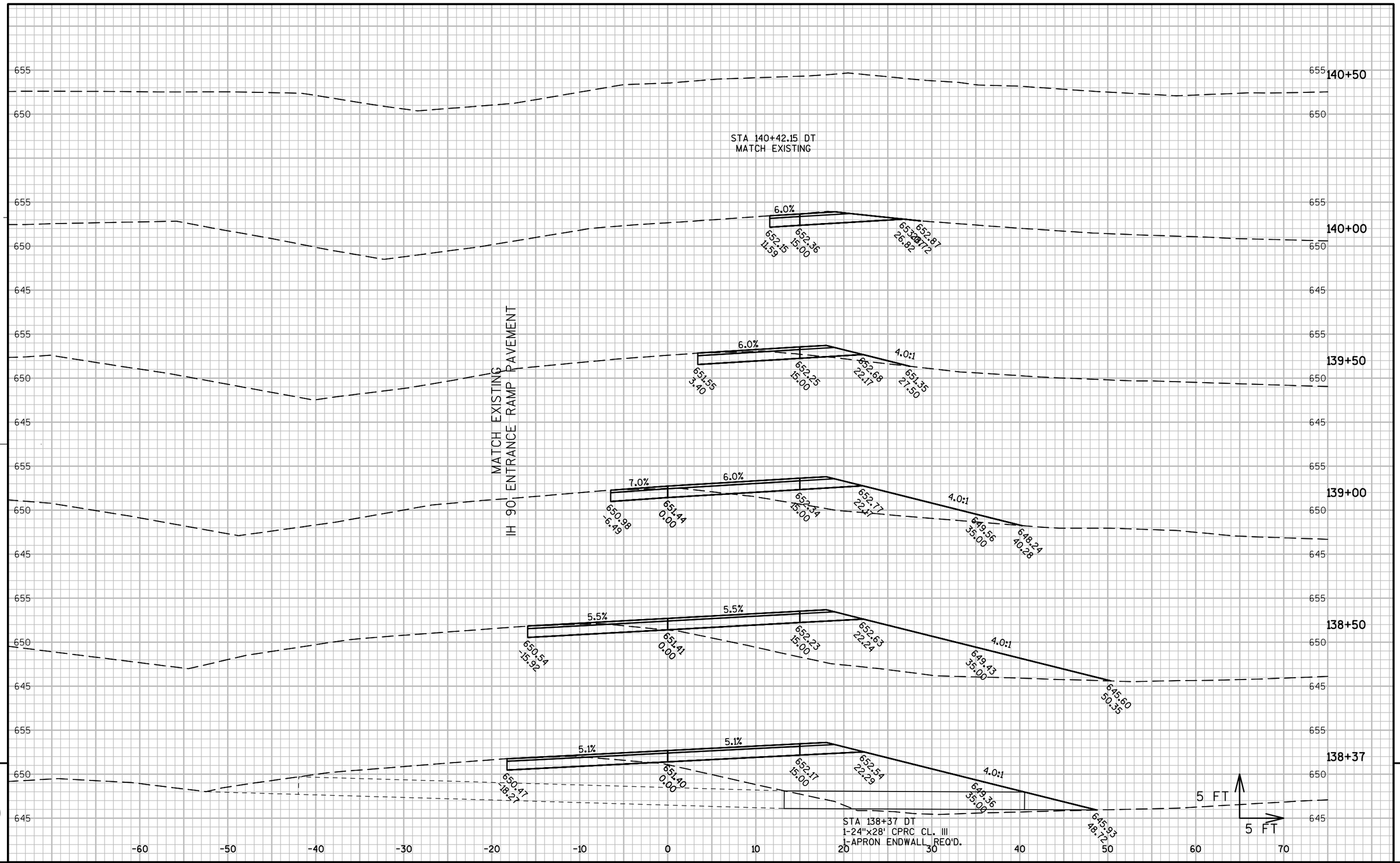
PROJECT NO:1071-06-80	HWY: IH 90	COUNTY: LA CROSSE	CROSS SECTIONS: TEMPORARY DT RAMP	SHEET 301	E



PROJECT NO: 1071-06-80	HWY: IH 90	COUNTY: LA CROSSE	CROSS SECTIONS: TEMPORARY DT RAMP	SHEET 302	E

FILE NAME : N:\C3D\41062770\SHEETSPLAN\10710680_SECTIONS_TEMPDTRAMP.DWG PLOT DATE : 10/29/2013 12:40 PM PLOT BY : GALLAGHER, JAMES PLOT NAME : PLOT SCALE : 1:10_XREF

WISDOT/CADDS SHEET 49

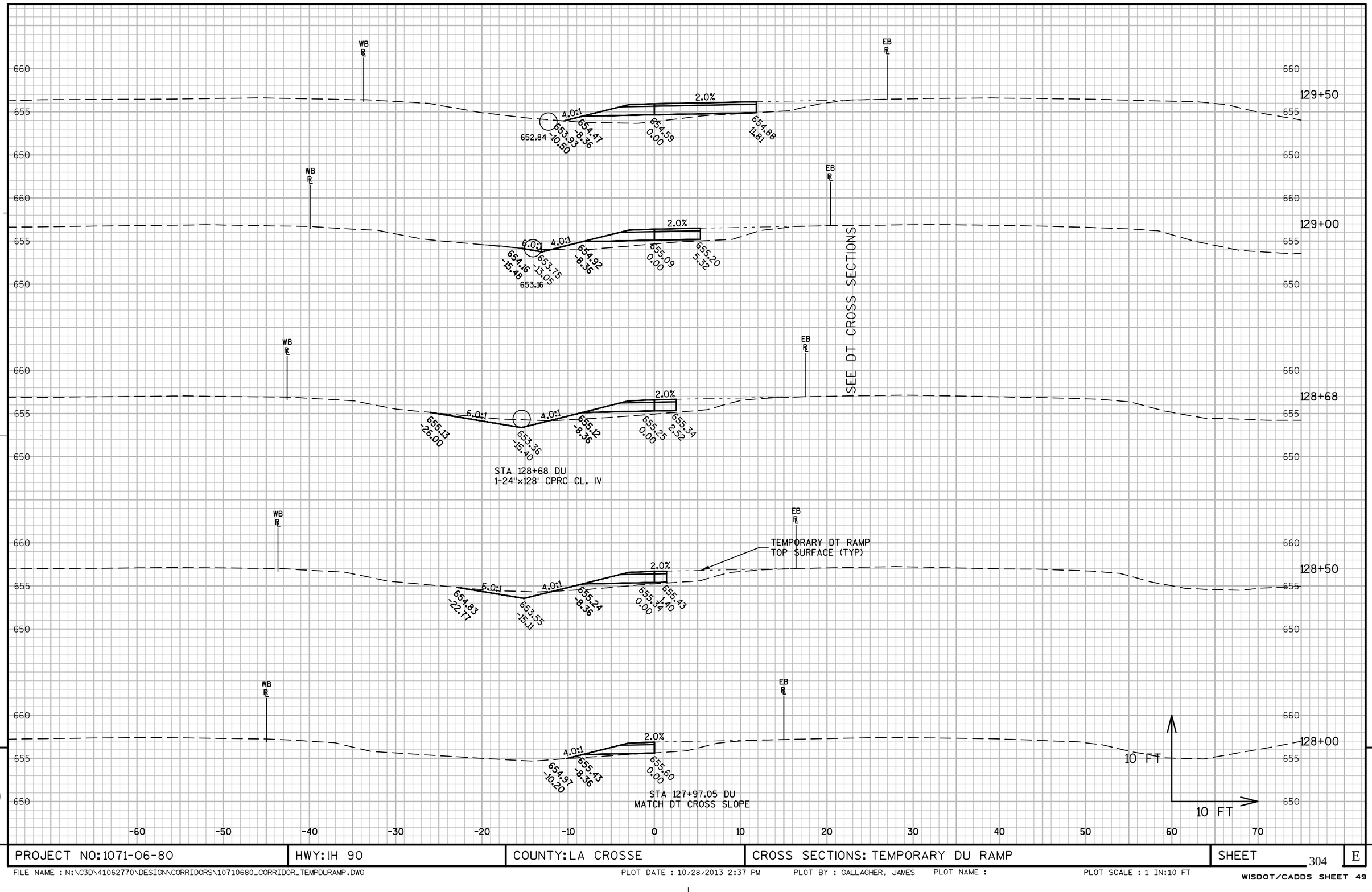


9

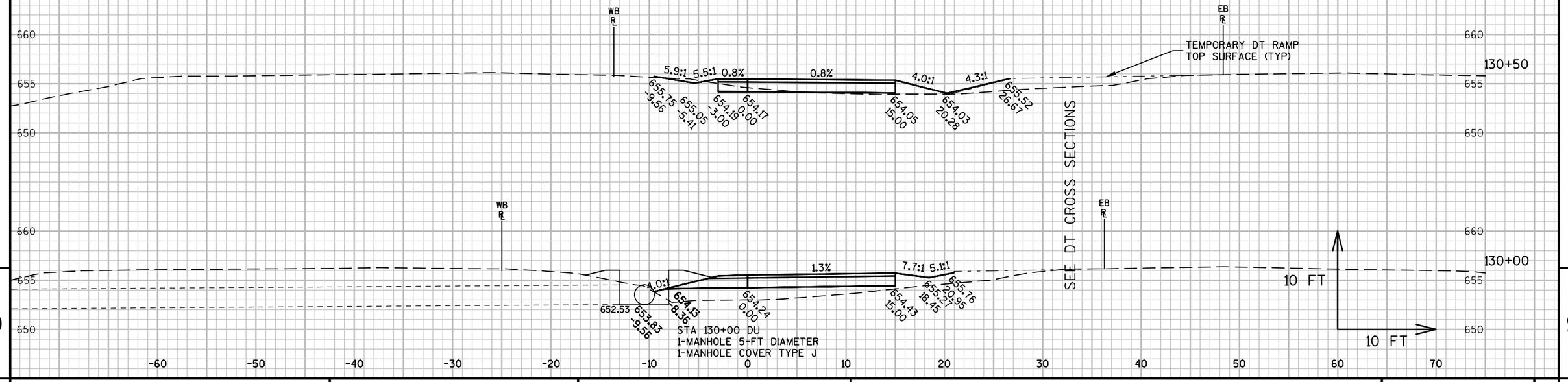
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PROJECT NO:1071-06-80	HWY: IH 90	COUNTY: LA CROSSE	CROSS SECTIONS: TEMPORARY DT RAMP	SHEET 303 E

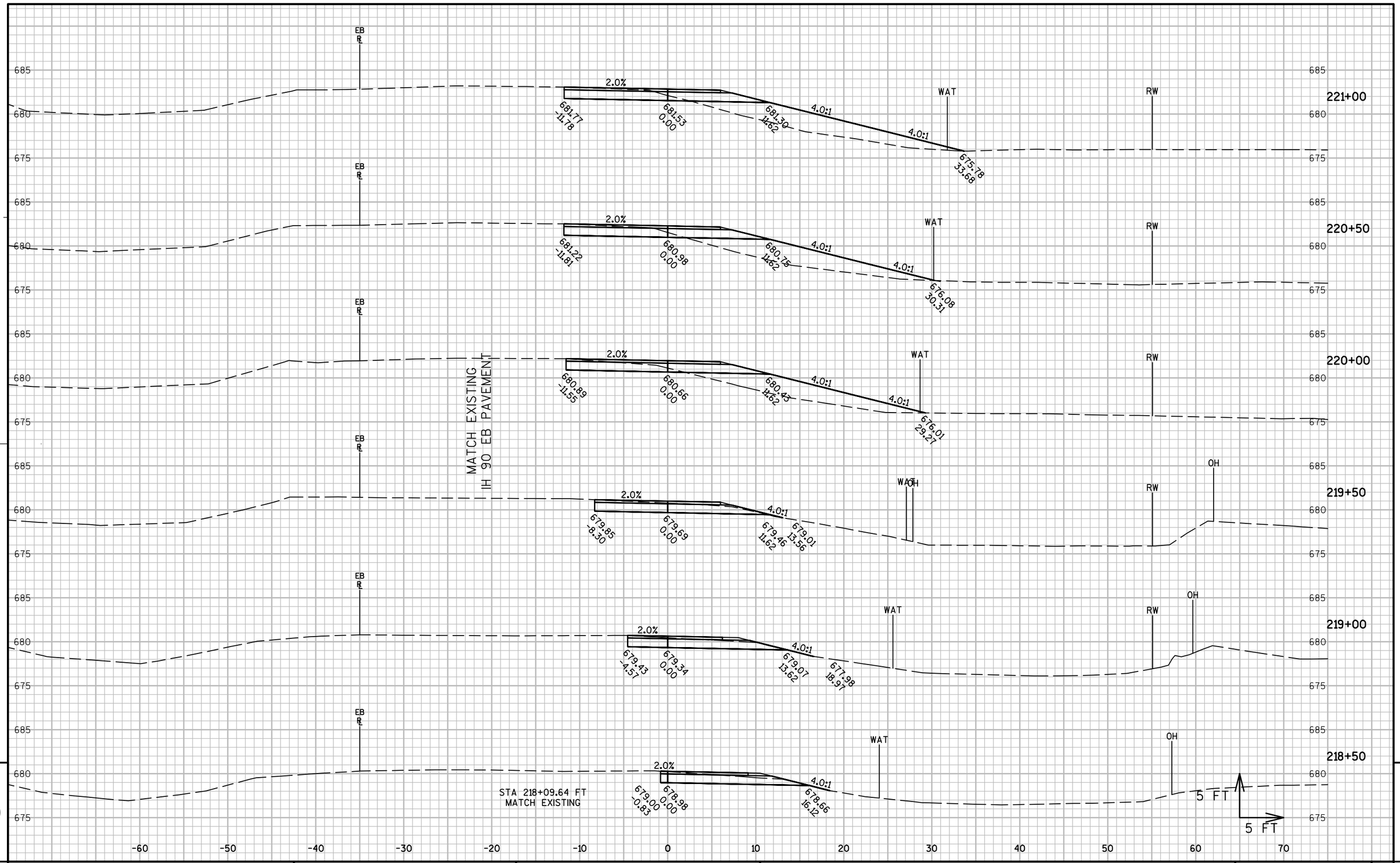
FILE NAME : N:\C3D\41062770\SHEETSPLAN\10710680_SECTIONS_TEMPDTRAMP.DWG PLOT DATE : 10/28/2013 2:09 PM PLOT BY : GALLAGHER, JAMES PLOT NAME : PLOT SCALE : 1:10_XREF



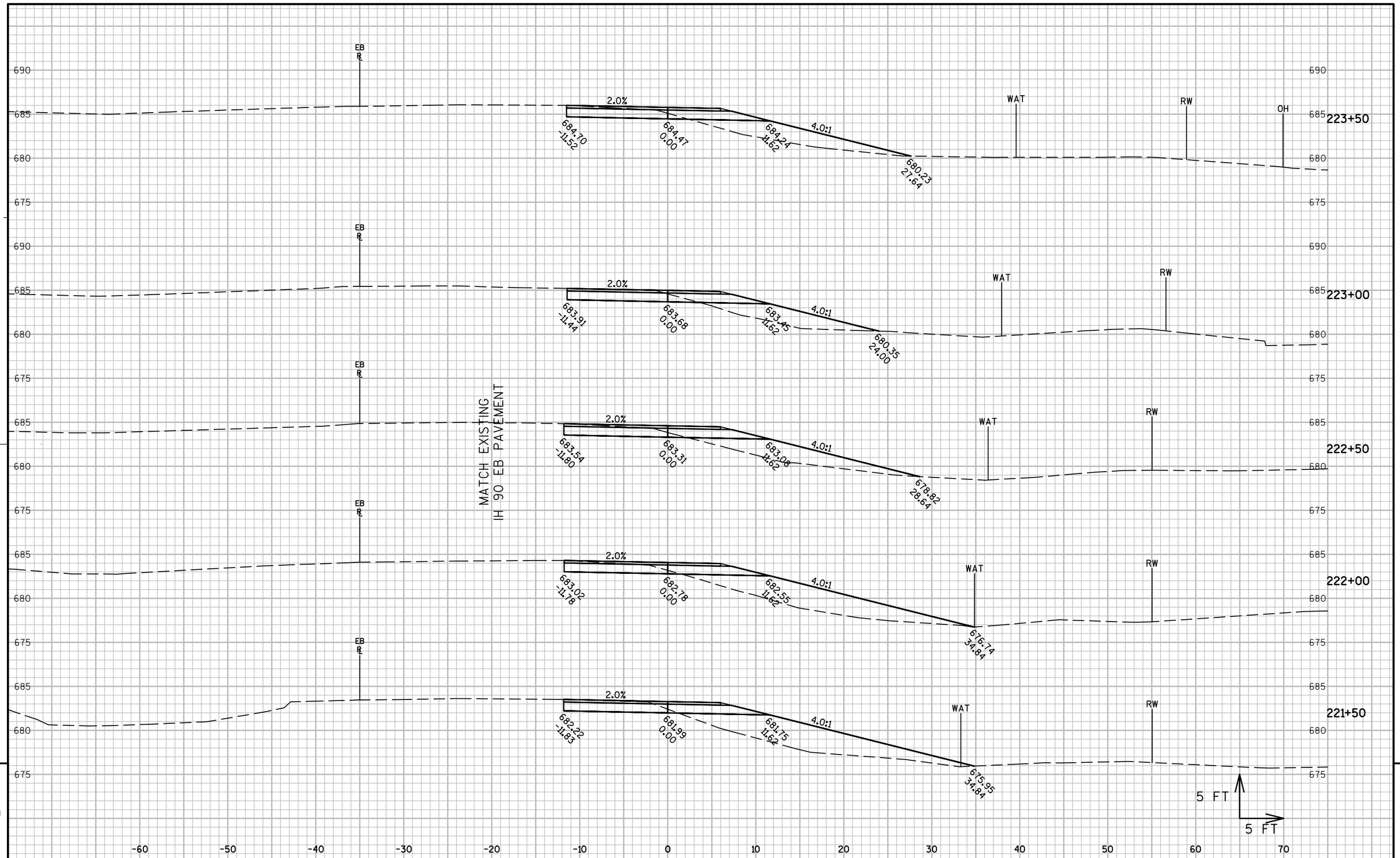
PROJECT NO: 1071-06-80	HWY: IH 90	COUNTY: LA CROSSE	CROSS SECTIONS: TEMPORARY DU RAMP	SHEET 304	E



PROJECT NO: 1071-06-80	HWY: IH 90	COUNTY: LA CROSSE	CROSS SECTIONS: TEMPORARY DU RAMP	SHEET 305	E



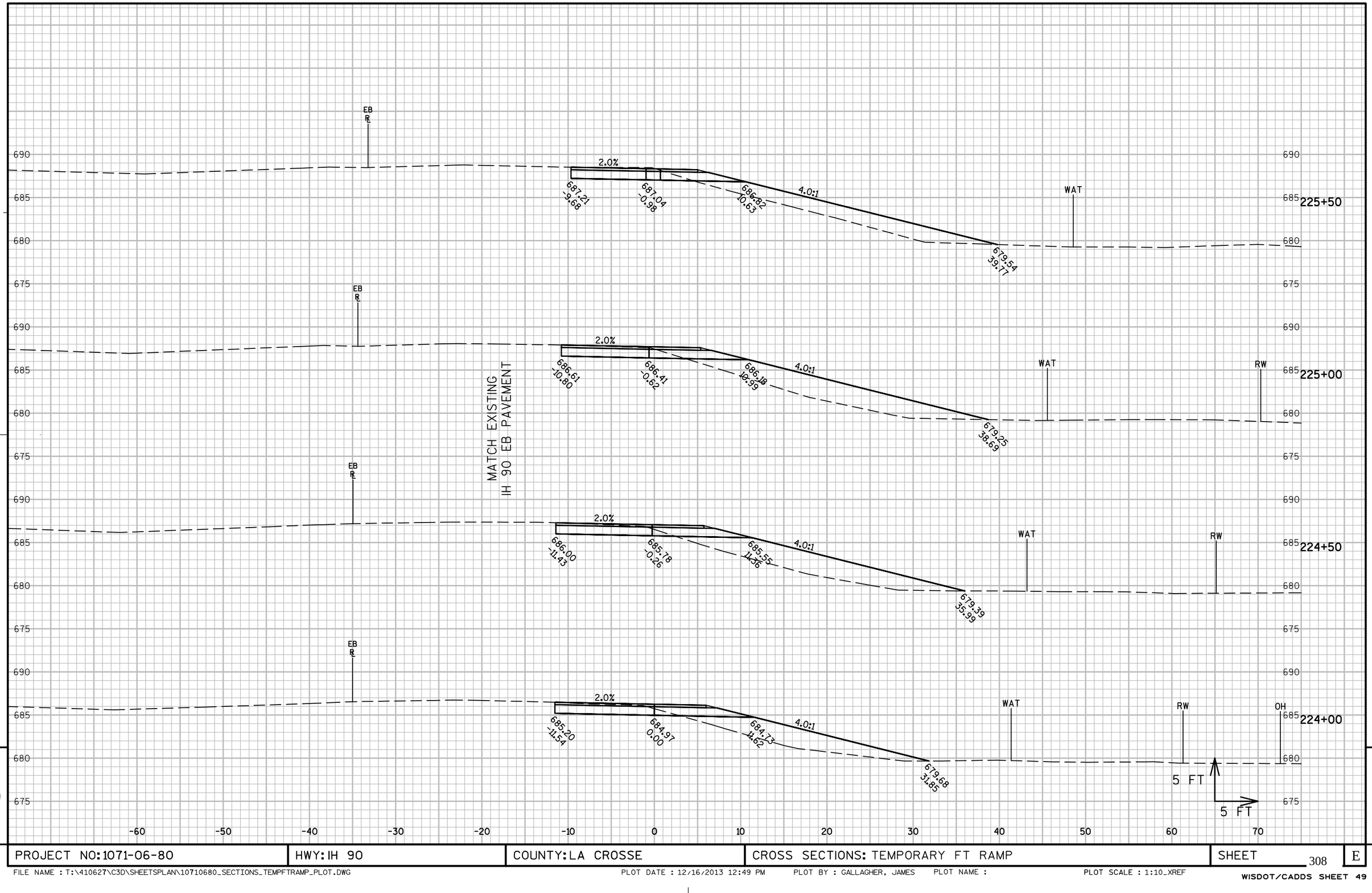
PROJECT NO:1071-06-80	HWY: IH 90	COUNTY: LA CROSSE	CROSS SECTIONS: TEMPORARY FT RAMP	SHEET 306	E



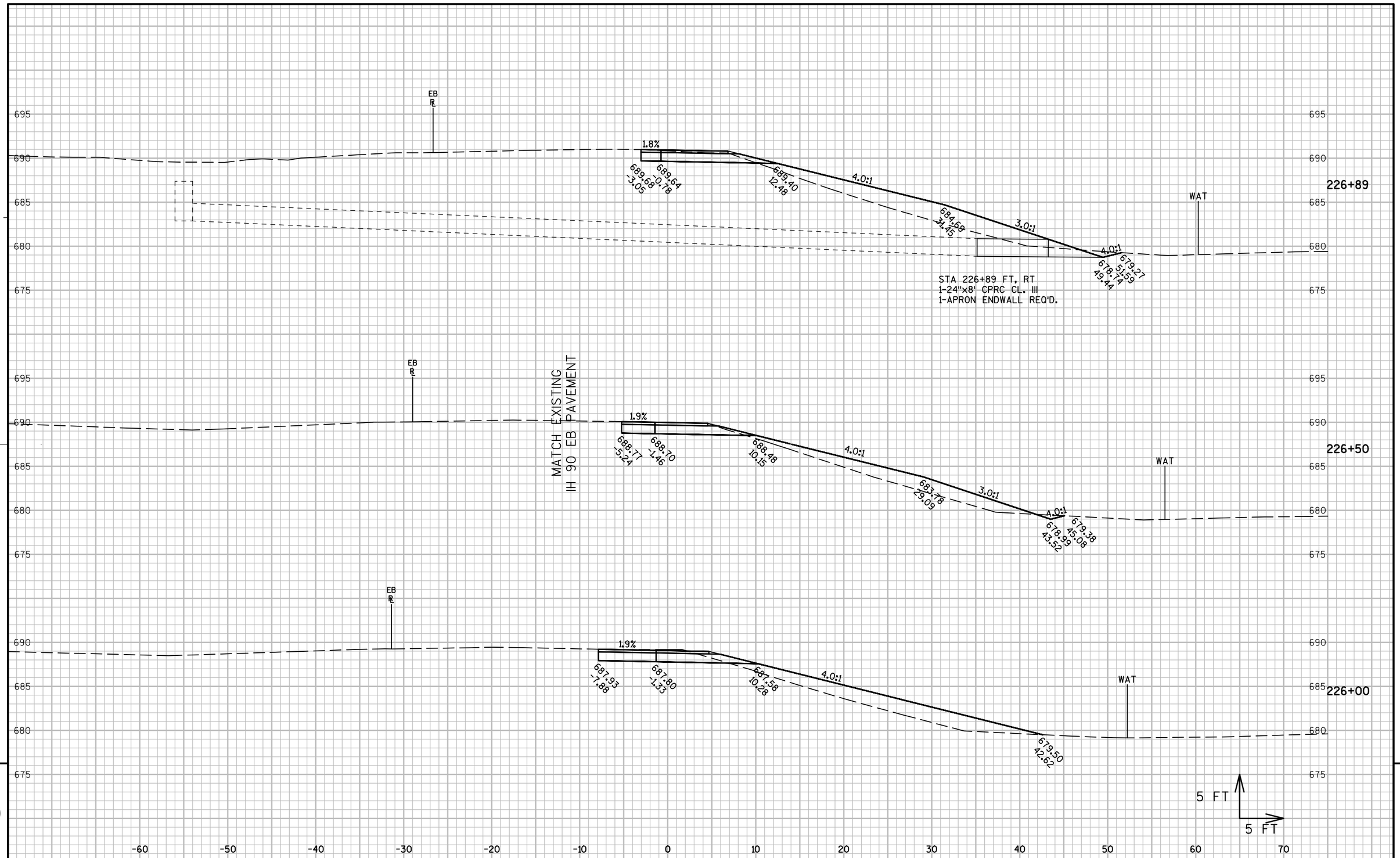
PROJECT NO: 1071-06-80	HWY: IH 90	COUNTY: LA CROSSE	CROSS SECTIONS: TEMPORARY FT RAMP	SHEET 307	E

FILE NAME : T:\410627\C3D\SHEETSPLAN\10710680_SECTIONS_TEMPFTRAMP_PLOT.DWG PLOT DATE : 12/16/2013 12:49 PM PLOT BY : GALLAGHER, JAMES PLOT NAME : PLOT SCALE : 1:10_XREF

WISDOT/CADDS SHEET 49



PROJECT NO:1071-06-80	HWY: IH 90	COUNTY: LA CROSSE	CROSS SECTIONS: TEMPORARY FT RAMP	SHEET 308	E



9

9

PROJECT NO:1071-06-80	HWY: IH 90	COUNTY: LA CROSSE	CROSS SECTIONS: TEMPORARY FT RAMP	SHEET 309	E

STA 228+39.60 FT
MATCH EXISTING

EB
℄

2.0%

691.16
4.69

690.86
20.13

4.0:1

686.15
39.06

3.0:1

678.90
61.23

WAT

228+00

1.9%

690.33
1.31

690.32
1.73

690.03
17.13

4.0:1

685.39
35.62

3.0:1

678.88
59.04

4.0:1

678.38
56.99

WAT

227+50

MATCH EXISTING
IH 90 EB PAVEMENT

1.8%

689.94
-2.37

689.91
0.45

689.65
13.21

4.0:1

684.92
32.19

3.0:1

679.24
53.23

4.0:1

678.68
50.99

WAT

5 FT

5 FT

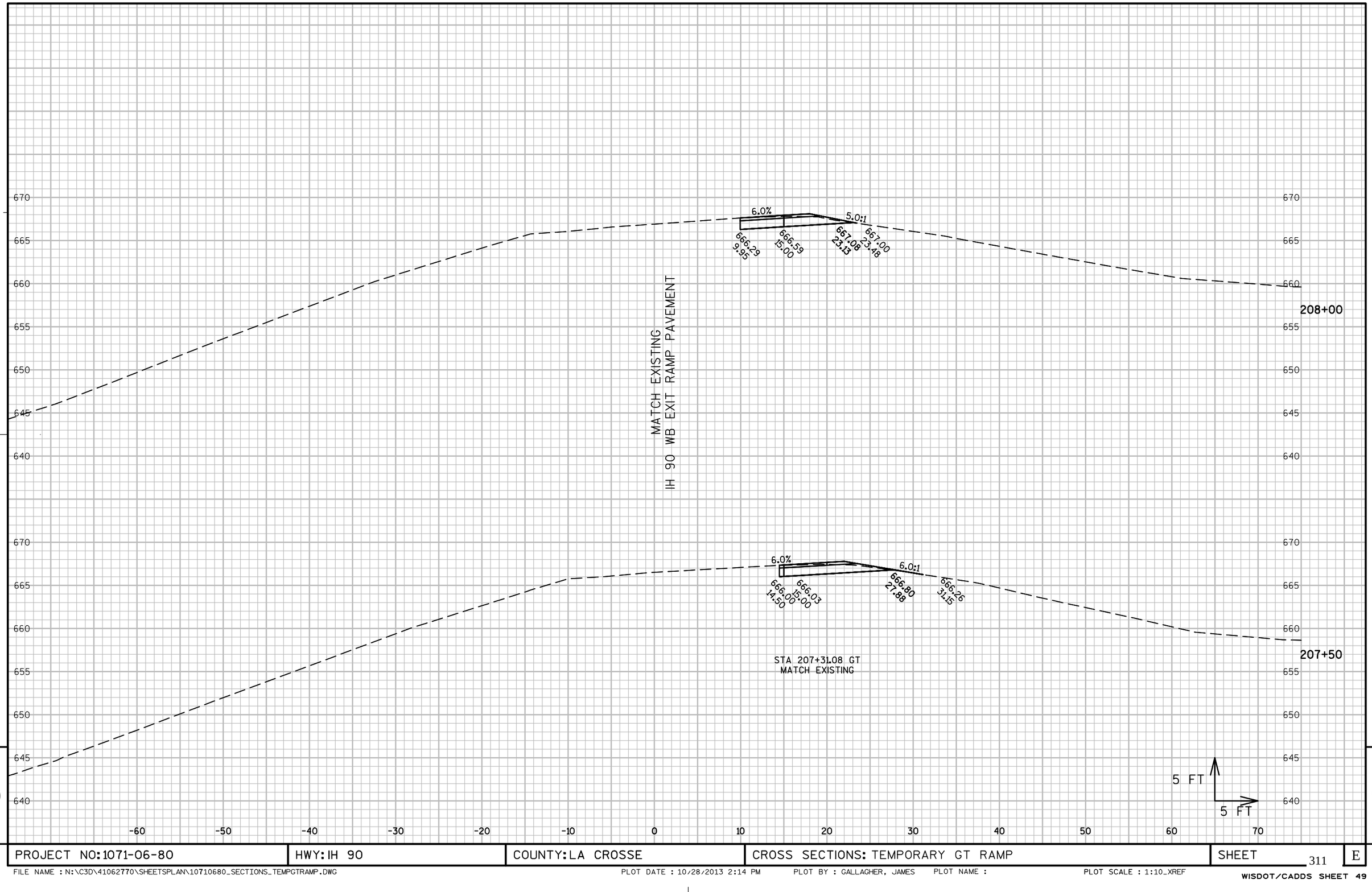
227+00

695
690
685
680
675

-60 -50 -40 -30 -20 -10 0 10 20 30 40 50 60 70

PROJECT NO:1071-06-80	HWY: IH 90	COUNTY: LA CROSSE	CROSS SECTIONS: TEMPORARY FT RAMP	SHEET 310	E

FILE NAME : T:\410627\C3D\SHEETSPLAN\10710680_SECTIONS_TEMPFTRAMP_PLOT.DWG PLOT DATE : 12/16/2013 12:50 PM PLOT BY : GALLAGHER, JAMES PLOT NAME : PLOT SCALE : 1:10_XREF

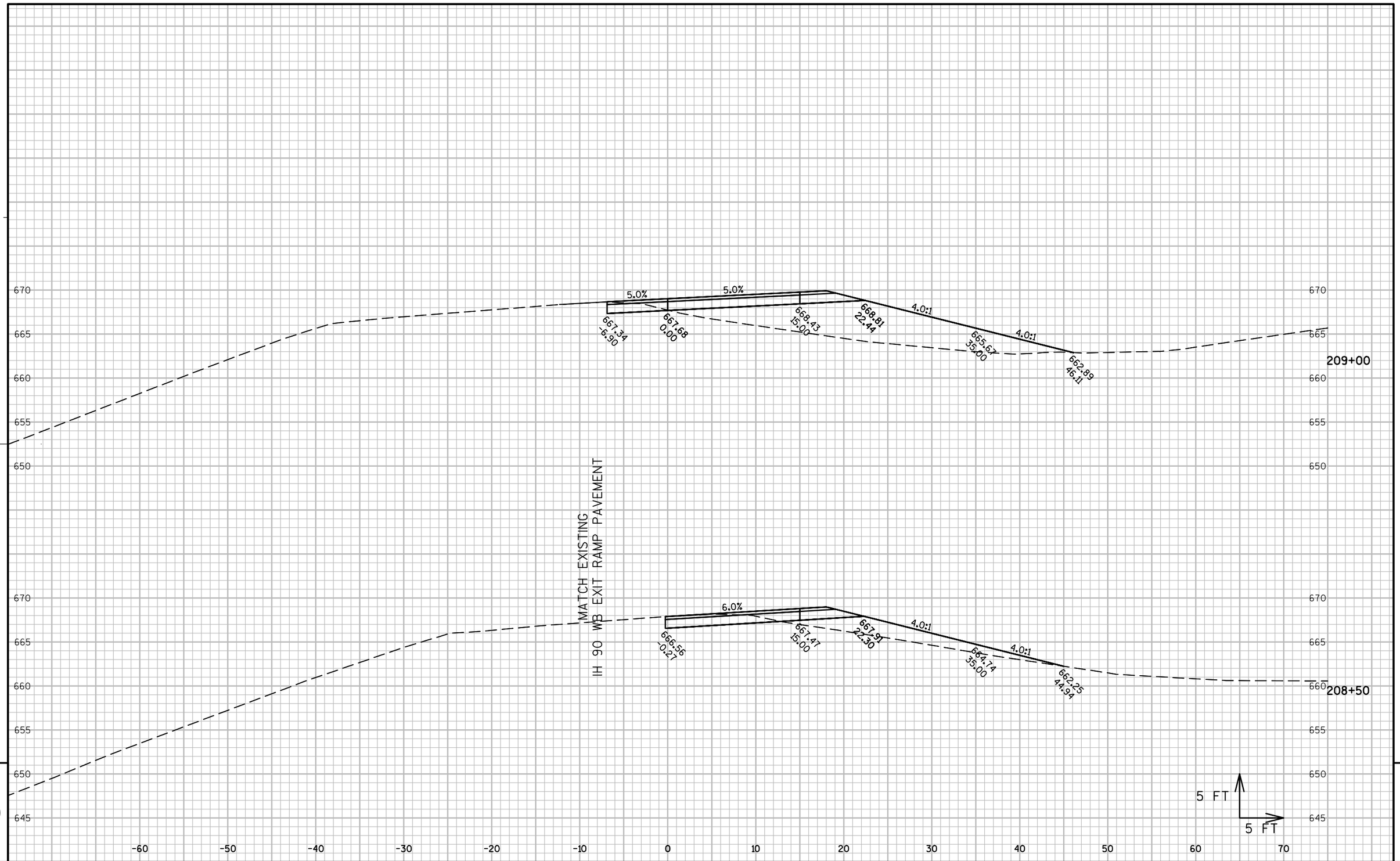


9

9

PROJECT NO:1071-06-80	HWY: IH 90	COUNTY: LA CROSSE	CROSS SECTIONS: TEMPORARY GT RAMP	SHEET 311	E

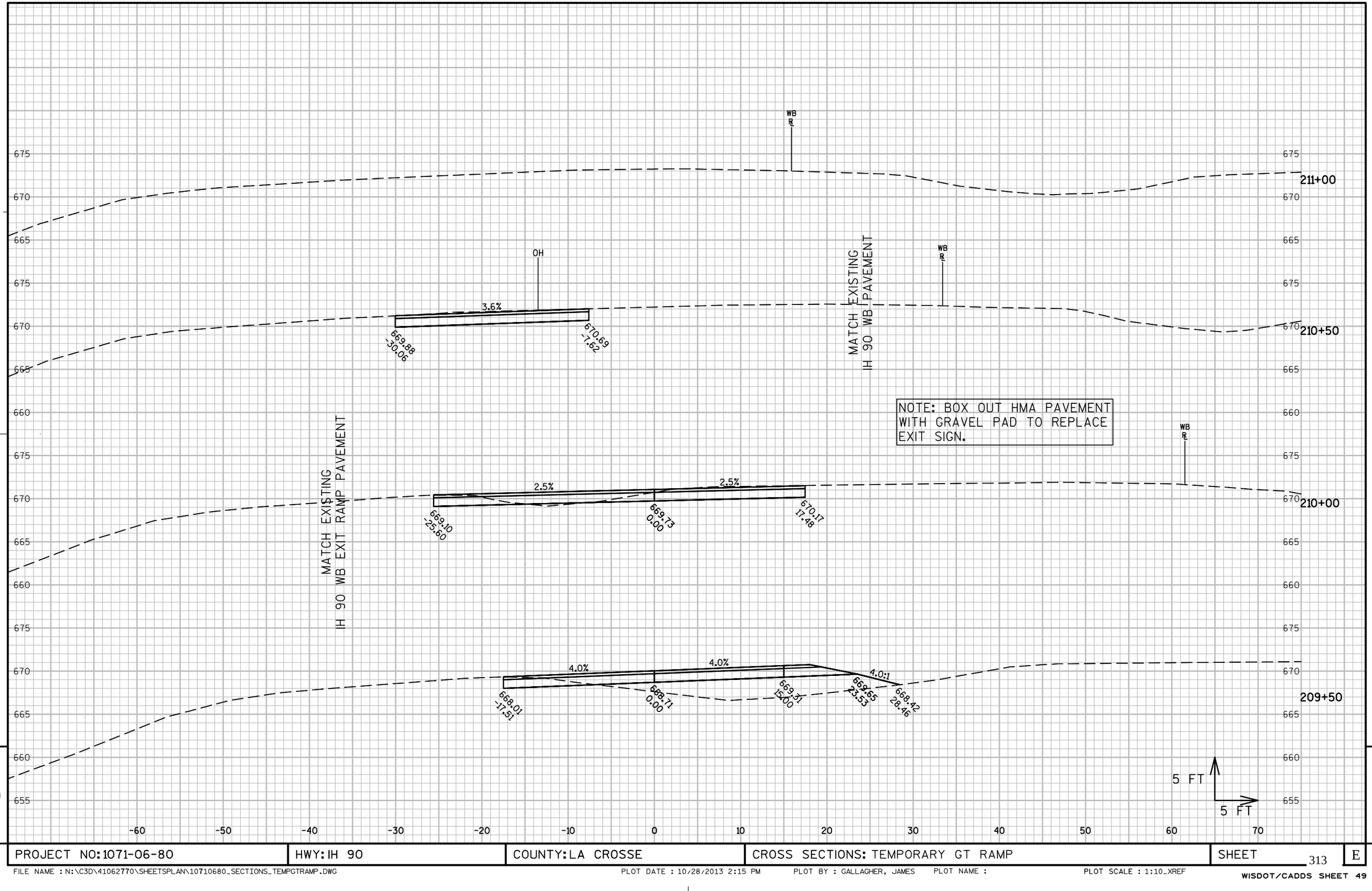
FILE NAME : N:\C3D\41062770\SHEETSPLAN\10710680_SECTIONS_TEMPGTRAMP.DWG PLOT DATE : 10/28/2013 2:14 PM PLOT BY : GALLAGHER, JAMES PLOT NAME : PLOT SCALE : 1:10_XREF



PROJECT NO:1071-06-80	HWY: IH 90	COUNTY: LA CROSSE	CROSS SECTIONS: TEMPORARY GT RAMP	SHEET 312	E

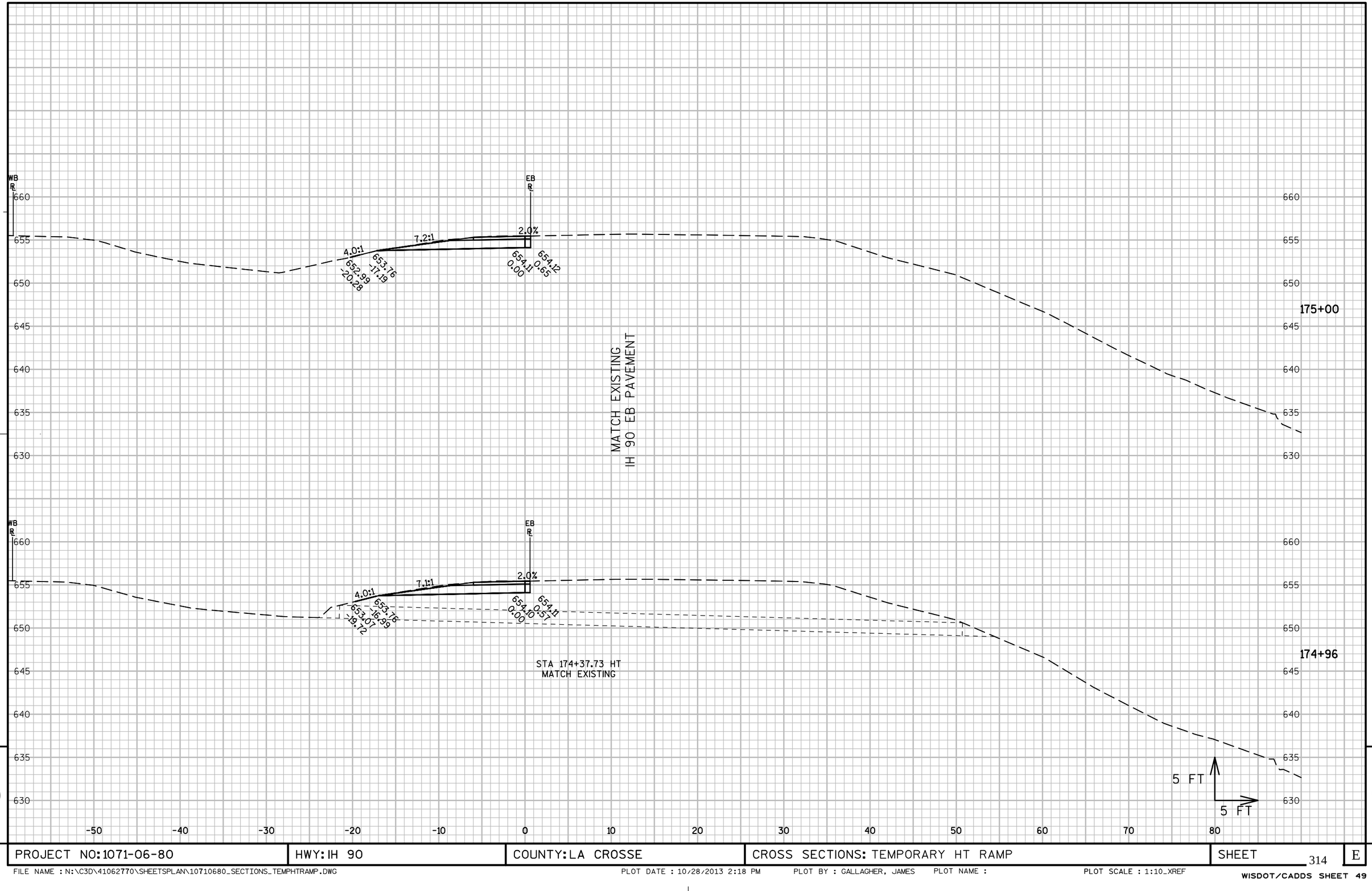
FILE NAME : N:\C3D\41062770\SHEETSPLAN\10710680_SECTIONS_TEMPGTRAMP.DWG PLOT DATE : 10/28/2013 2:14 PM PLOT BY : GALLAGHER, JAMES PLOT NAME : PLOT SCALE : 1:10_XREF

WISDOT/CADDS SHEET 49

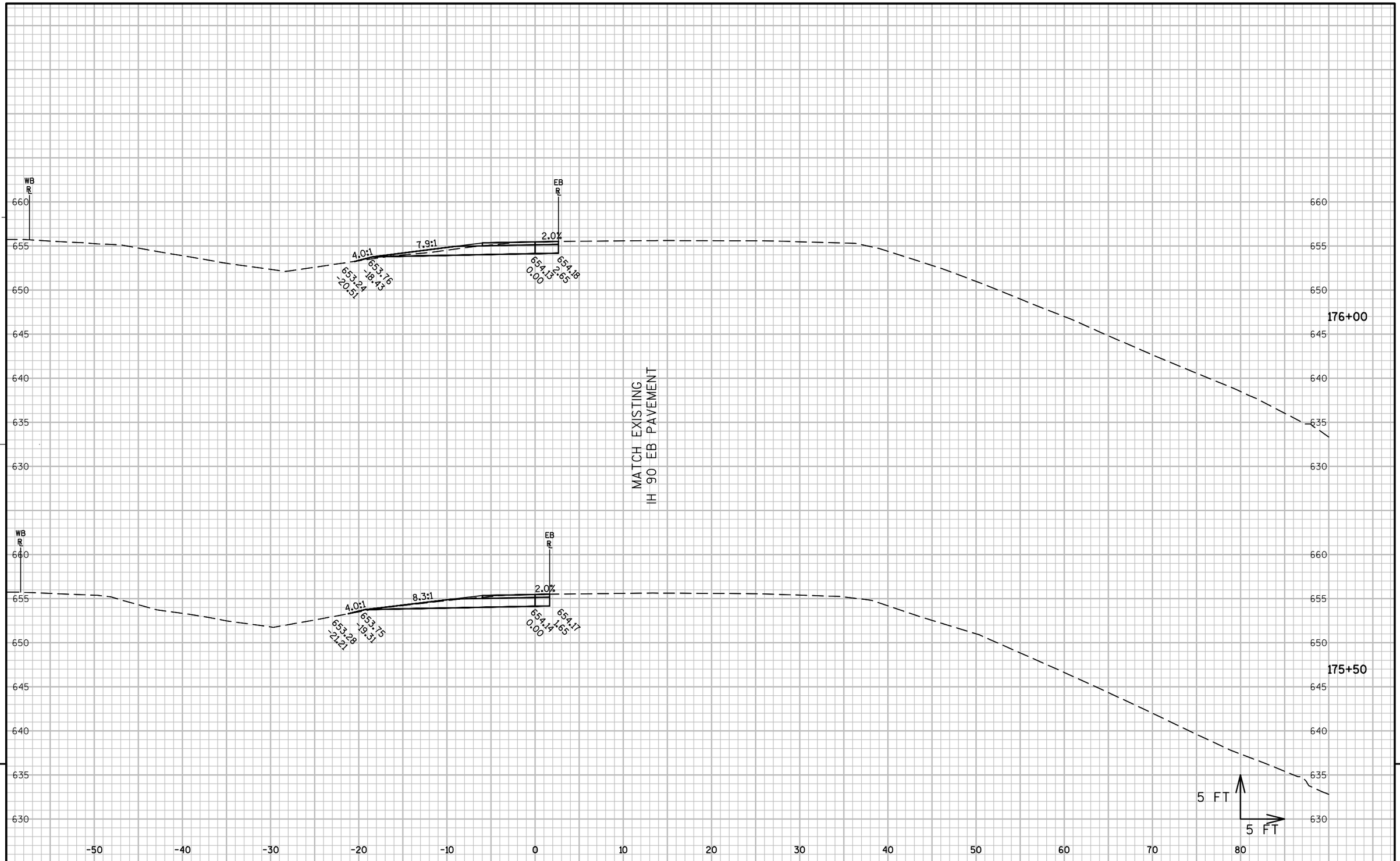


PROJECT NO:1071-06-80	HWY: IH 90	COUNTY: LA CROSSE	CROSS SECTIONS: TEMPORARY GT RAMP	SHEET 313	E

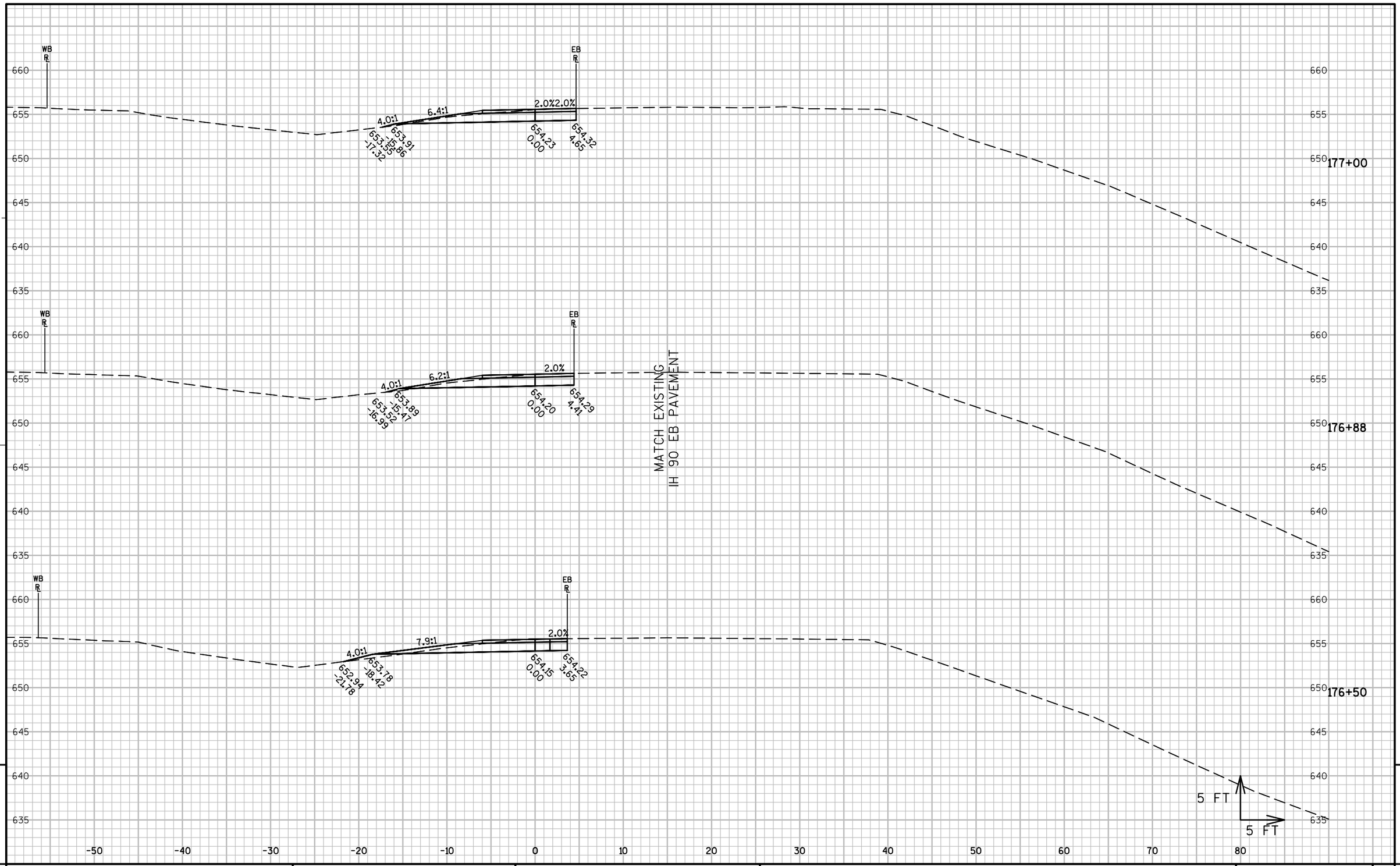
FILE NAME : N:\C3D\41062770\SHEETSPLAN\10710680_SECTIONS_TEMPGTRAMP.DWG PLOT DATE : 10/28/2013 2:15 PM PLOT BY : GALLAGHER, JAMES PLOT NAME : PLOT SCALE : 1:10_XREF



PROJECT NO: 1071-06-80	HWY: IH 90	COUNTY: LA CROSSE	CROSS SECTIONS: TEMPORARY HT RAMP	SHEET 314	E

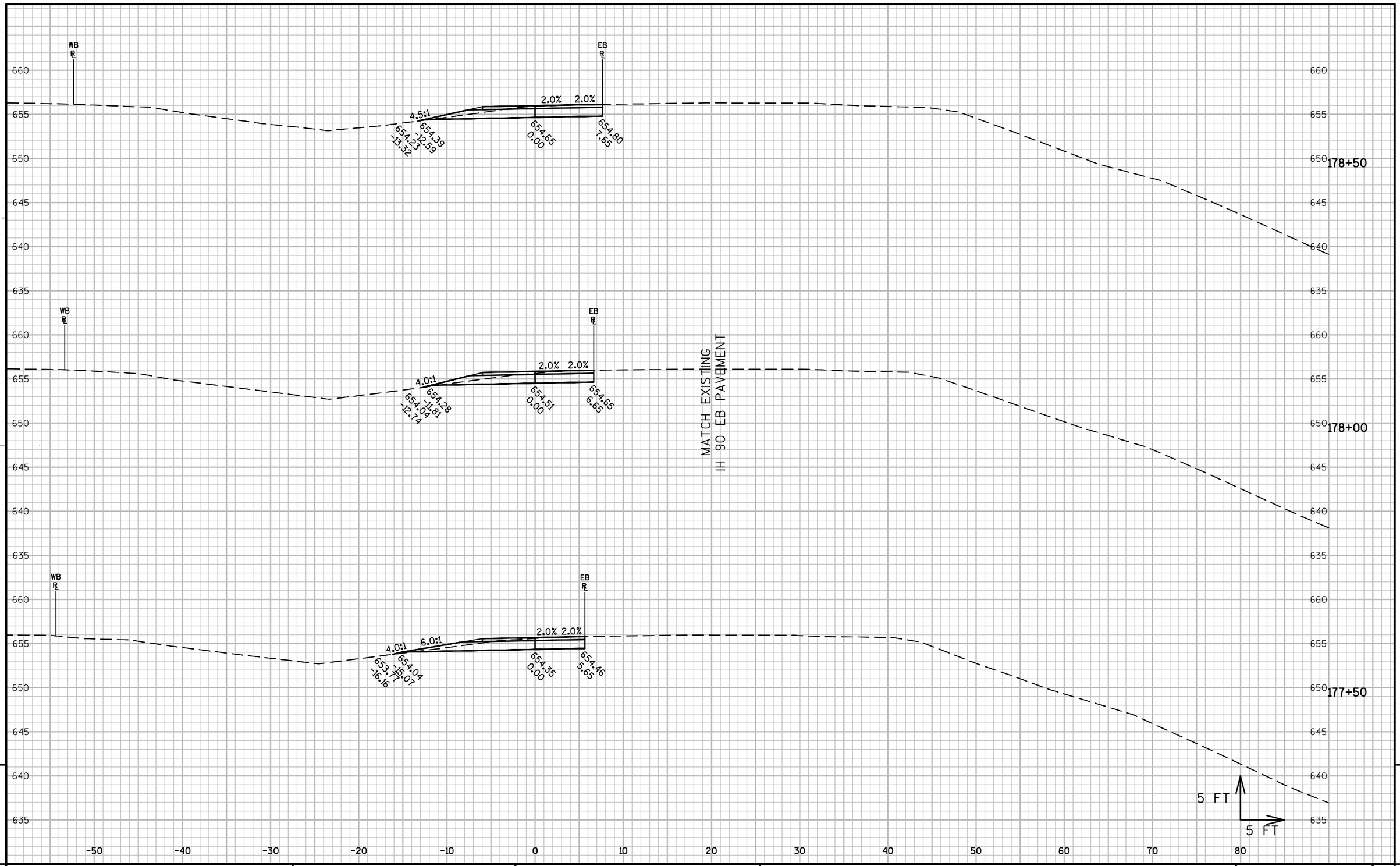


PROJECT NO: 1071-06-80	HWY: IH 90	COUNTY: LA CROSSE	CROSS SECTIONS: TEMPORARY HT RAMP	SHEET 315	E



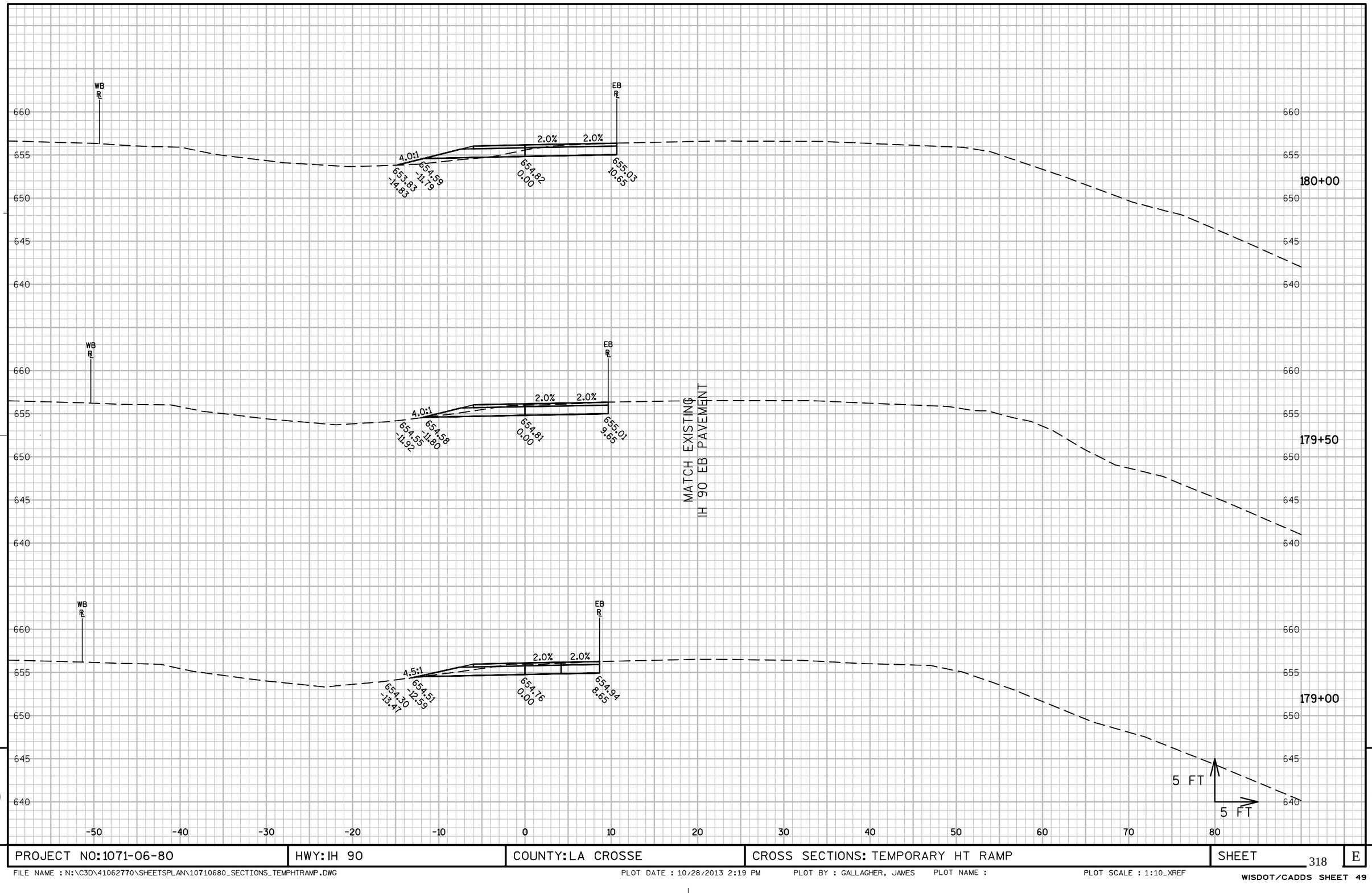
PROJECT NO: 1071-06-80	HWY: IH 90	COUNTY: LA CROSSE	CROSS SECTIONS: TEMPORARY HT RAMP	SHEET 316	E

FILE NAME : N:\C3D\41062770\SHEETSPLAN\10710680_SECTIONS_TEMPHTRAMP.DWG PLOT DATE : 10/28/2013 2:18 PM PLOT BY : GALLAGHER, JAMES PLOT NAME : PLOT SCALE : 1:10_XREF



PROJECT NO:1071-06-80	HWY: IH 90	COUNTY: LA CROSSE	CROSS SECTIONS: TEMPORARY HT RAMP	SHEET 317	E

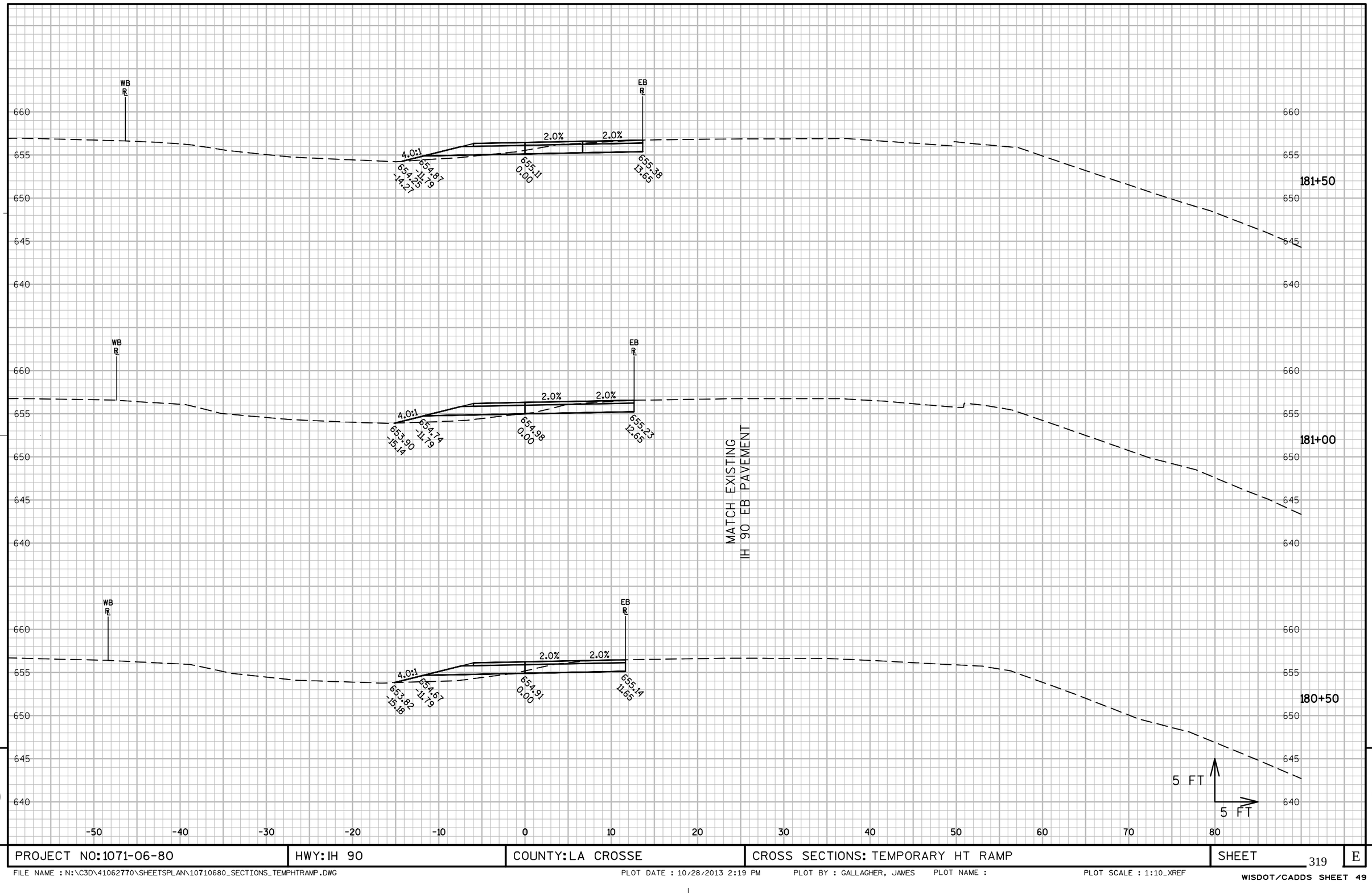
FILE NAME : N:\C3D\41062770\SHEETSPLAN\10710680_SECTIONS_TEMPHTRAMP.DWG PLOT DATE : 10/28/2013 2:19 PM PLOT BY : GALLAGHER, JAMES PLOT NAME : PLOT SCALE : 1:10_XREF



9

9

PROJECT NO: 1071-06-80	HWY: IH 90	COUNTY: LA CROSSE	CROSS SECTIONS: TEMPORARY HT RAMP	SHEET 318	E



9

9

PROJECT NO: 1071-06-80	HWY: IH 90	COUNTY: LA CROSSE	CROSS SECTIONS: TEMPORARY HT RAMP	SHEET 319	E

FILE NAME : N:\C3D\41062770\SHEETSPLAN\10710680_SECTIONS_TEMPHTRAMP.DWG PLOT DATE : 10/28/2013 2:19 PM PLOT BY : GALLAGHER, JAMES PLOT NAME : PLOT SCALE : 1:10_XREF

WB
℄

EB
℄

2.0%

655.73
0.00

656.04
15.67

183+50

WB
℄

EB
℄

2.0%

655.51
0.00

655.82
15.43

183+00

SEE HV CROSS SECTIONS

MATCH EXISTING
IH 90 EB PAVEMENT

WB
℄

EB
℄

2.0%

655.34
0.00

655.64
15.17

182+50

WB
℄

EB
℄

4.0:1

2.0%

2.0%

654.37
-14.08

654.94
-11.79

655.18
0.00

655.47
14.65

182+00

5 FT

5 FT

660
655
650
645

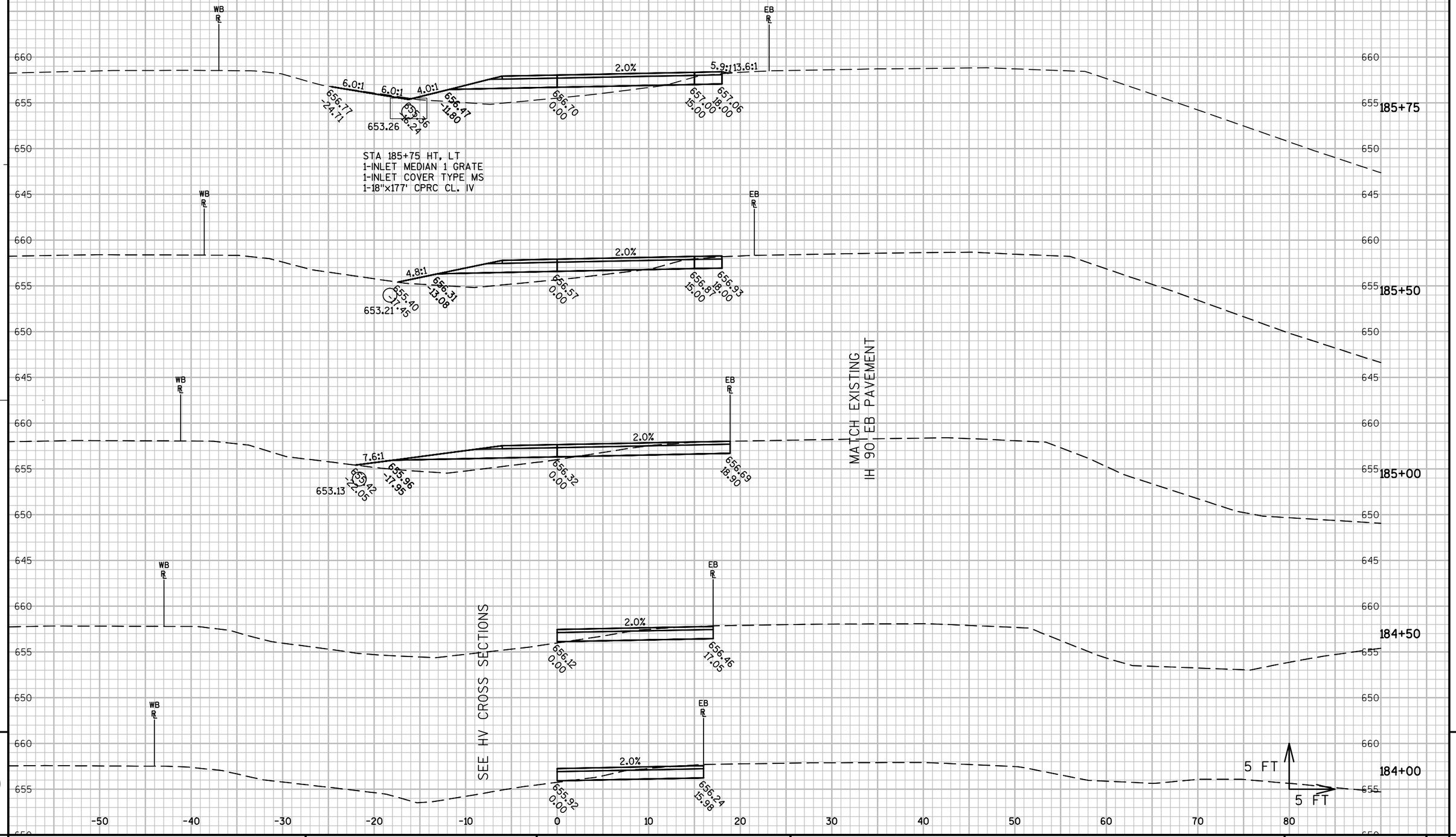
-50 -40 -30 -20 -10 0 10 20 30 40 50 60 70 80

9

9

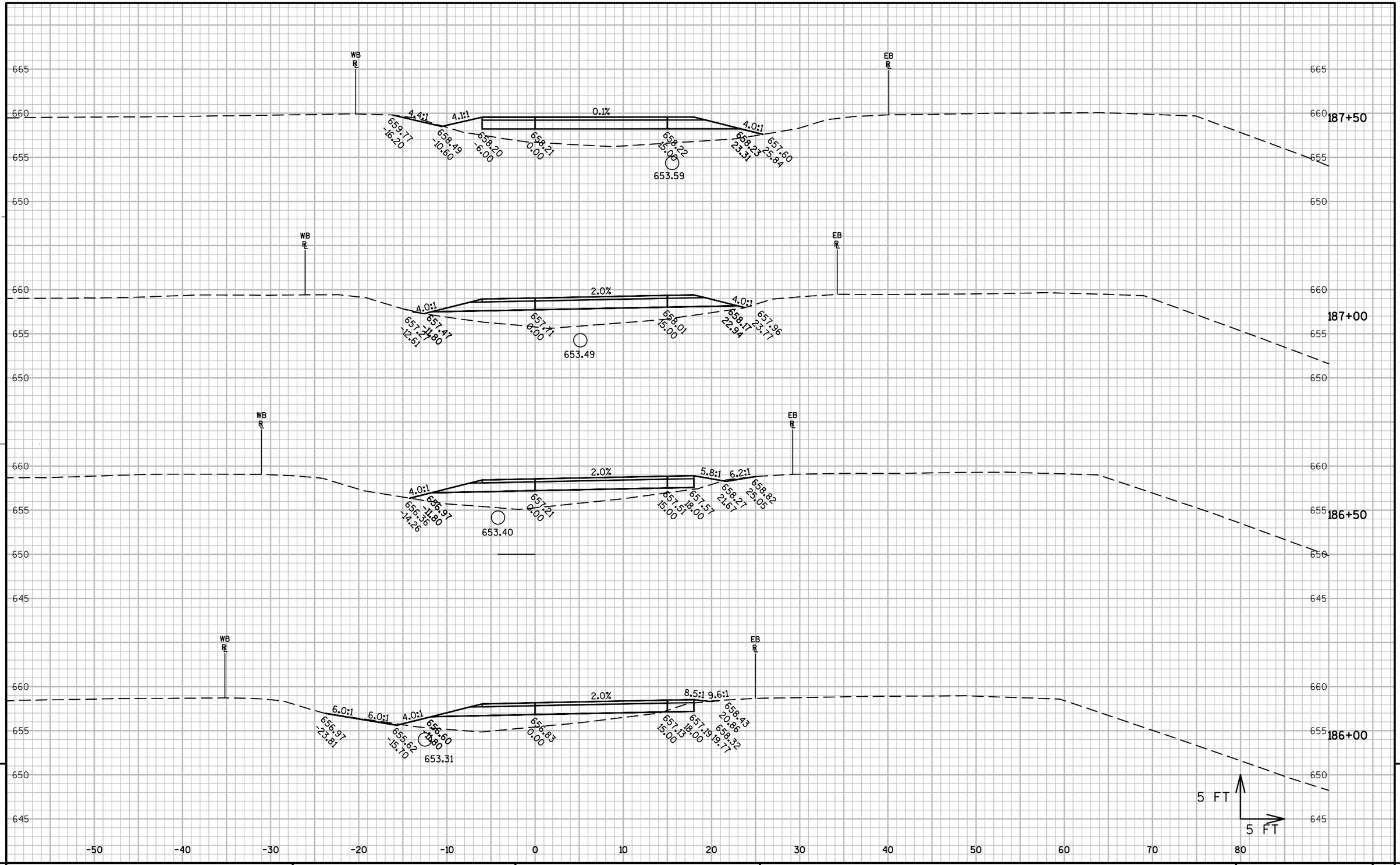
PROJECT NO:1071-06-80	HWY: IH 90	COUNTY: LA CROSSE	CROSS SECTIONS: TEMPORARY HT RAMP	SHEET 320	E

FILE NAME : N:\C3D\41062770\SHEETSPLAN\10710680_SECTIONS_TEMPHTRAMP.DWG PLOT DATE : 10/28/2013 2:20 PM PLOT BY : GALLAGHER, JAMES PLOT NAME : PLOT SCALE : 1:10_XREF



PROJECT NO:1071-06-80	HWY: IH 90	COUNTY: LA CROSSE	CROSS SECTIONS: TEMPORARY HT RAMP	SHEET 321	E

FILE NAME : N:\C3D\41062770\SHEETSPLAN\10710680_SECTIONS_TEMPHTRAMP.DWG PLOT DATE : 10/28/2013 2:20 PM PLOT BY : GALLAGHER, JAMES PLOT NAME : PLOT SCALE : 1:10_XREF



PROJECT NO:1071-06-80	HWY: IH 90	COUNTY: LA CROSSE	CROSS SECTIONS: TEMPORARY HT RAMP	SHEET 322	E

MATCH EXISTING IH 90 ENTRANCE RAMP PAVEMENT

189+50

WB ℄ 2.0% 4.0:1
660.62 10.75 | 660.53 15.00 | 660.36 23.80 | 659.99 25.27
EB ℄

189+00

WB ℄ 2.0% 4.0:1
660.10 1.74 | 659.83 15.00 | 659.65 23.80 | 658.15 29.82
EB ℄

188+50

WB ℄ 2.0% 2.0% 4.0:1
659.51 -6.44 | 659.39 0.00 | 659.09 15.00 | 658.91 23.80 | 657.75 28.45
EB ℄

188+04

WB ℄ 2.0% 4.0:1
658.93 -16.00 | 658.81 0.00 | 658.51 15.00 | 658.33 23.79 | 657.60 26.46
653.69
EB ℄

STA 188+04 HT, RT
1-INLET MEDIAN 1 GRATE
1-INLET COVER TYPE MS
1-18"x234' CPRC CL. IV

188+00

WB ℄ 4.0:1 5.2:1 2.0% 4.0:1
660.30 -9.57 | 659.86 -7.78 | 658.87 -6.00 | 658.75 0.00 | 658.45 15.00 | 658.28 23.80 | 657.60 26.19
653.68
EB ℄

5 FT
5 FT

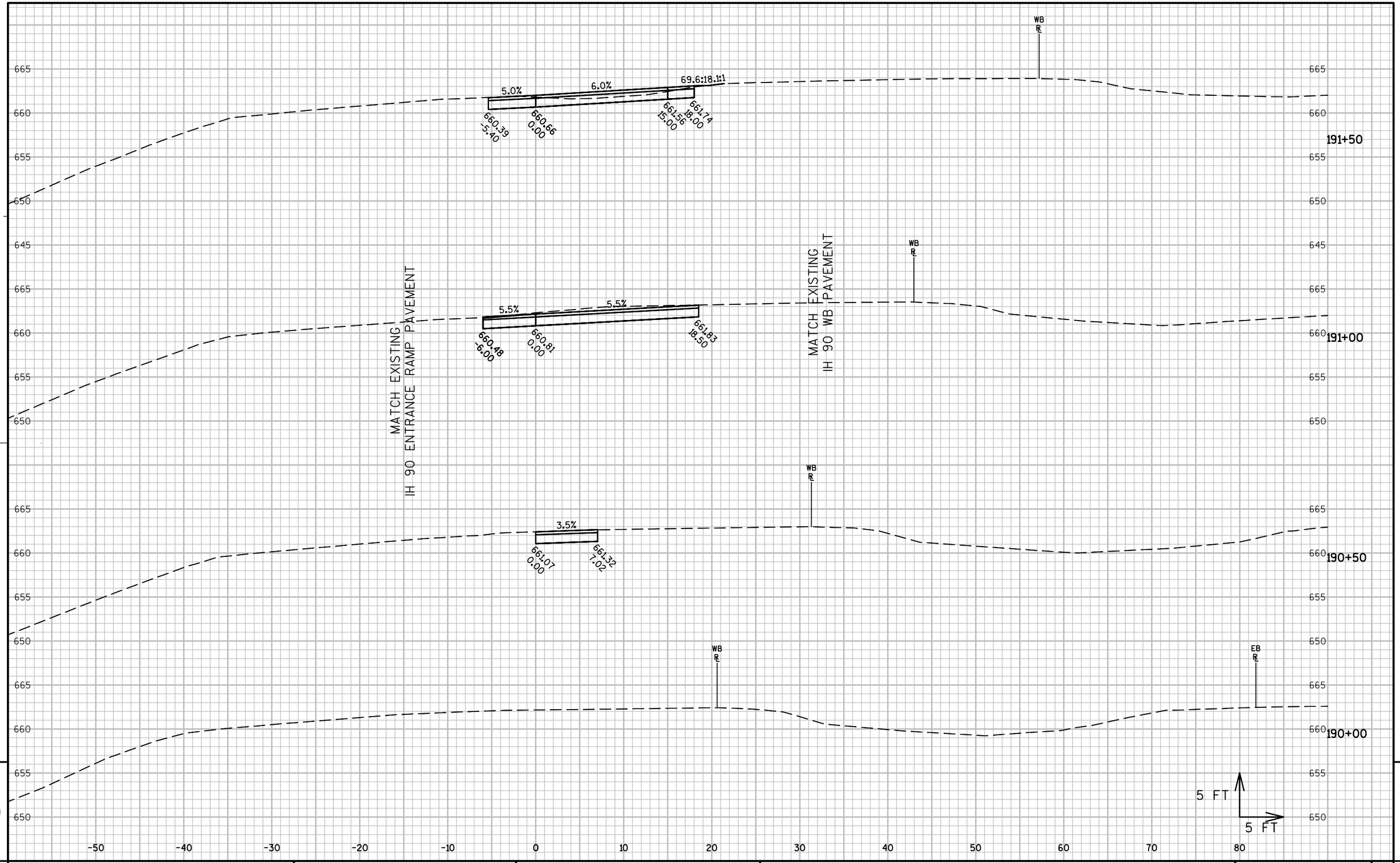
665 660 655 650

-50 -40 -30 -20 -10 0 10 20 30 40 50 60 70 80

9 9

PROJECT NO:1071-06-80	HWY: IH 90	COUNTY: LA CROSSE	CROSS SECTIONS: TEMPORARY HT RAMP	SHEET 323	E

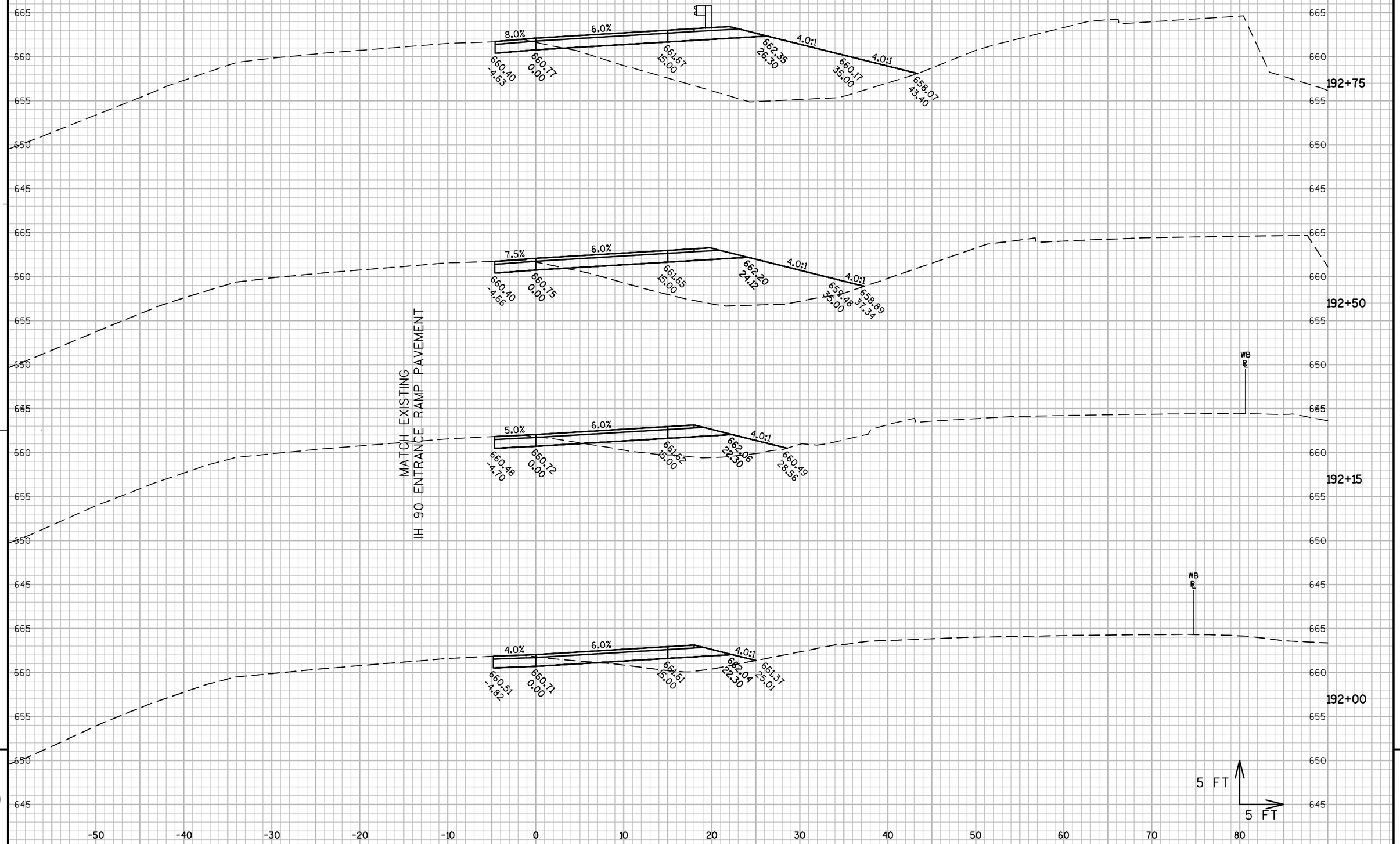
FILE NAME : N:\C3D\41062770\SHEETSPLAN\10710680_SECTIONS_TEMPHTRAMP.DWG PLOT DATE : 10/28/2013 2:21 PM PLOT BY : GALLAGHER, JAMES PLOT NAME : PLOT SCALE : 1:10_XREF



PROJECT NO:1071-06-80	HWY: IH 90	COUNTY: LA CROSSE	CROSS SECTIONS: TEMPORARY HT RAMP	SHEET 324	E

FILE NAME : N:\C3D\41062770\SHEETSPLAN\10710680_SECTIONS_TEMPHTRAMP.DWG PLOT DATE : 10/28/2013 2:21 PM PLOT BY : GALLAGHER, JAMES PLOT NAME : PLOT SCALE : 1:10_XREF

WISDOT/CADDS SHEET 49

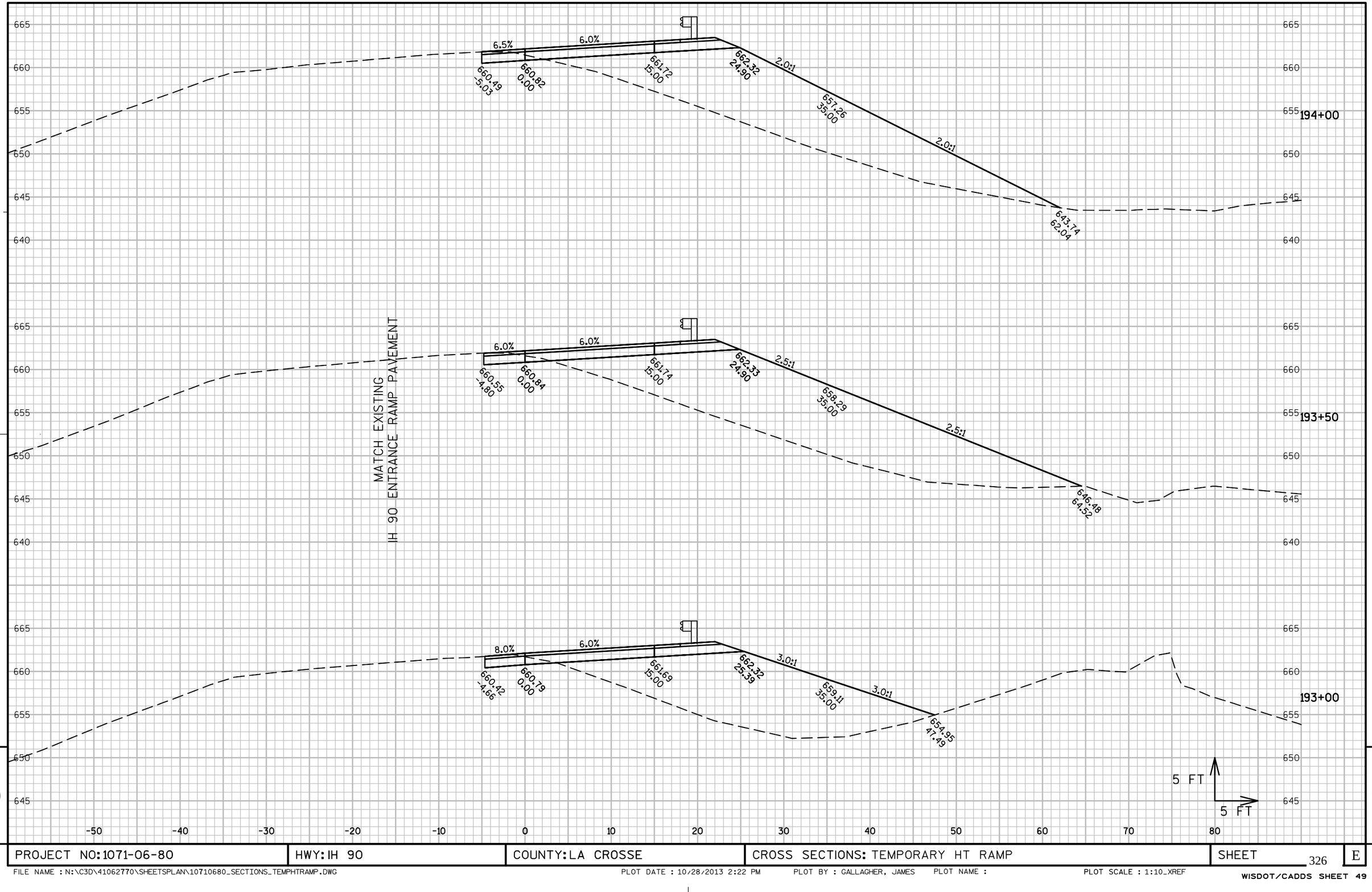


9

9

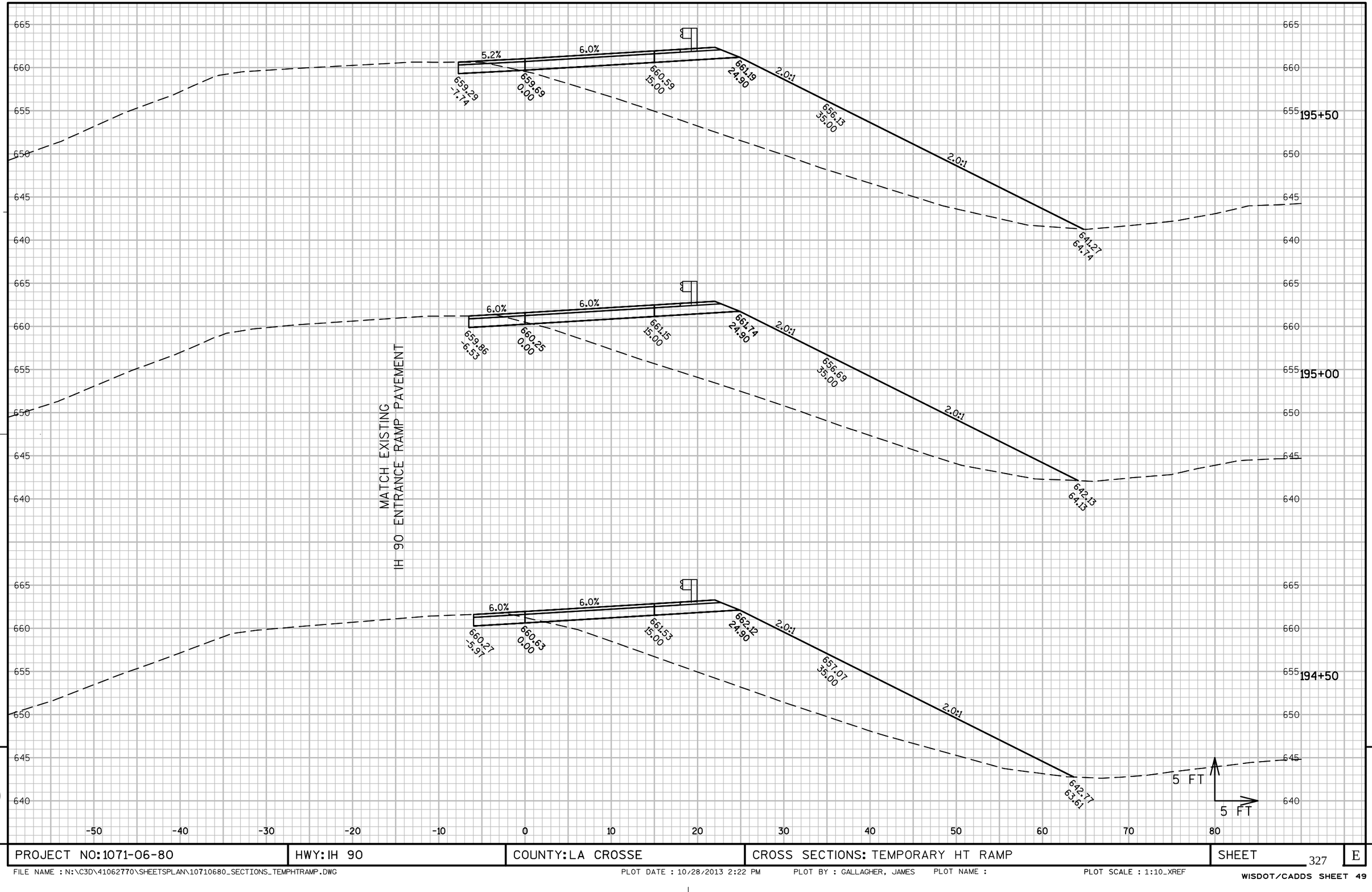
PROJECT NO: 1071-06-80	HWY: IH 90	COUNTY: LA CROSSE	CROSS SECTIONS: TEMPORARY HT RAMP	SHEET 325	E

FILE NAME : N:\C3D\41062770\SHEETSPLAN\10710680_SECTIONS_TEMPHTRAMP.DWG PLOT DATE : 10/28/2013 2:21 PM PLOT BY : GALLAGHER, JAMES PLOT NAME : PLOT SCALE : 1:10_XREF



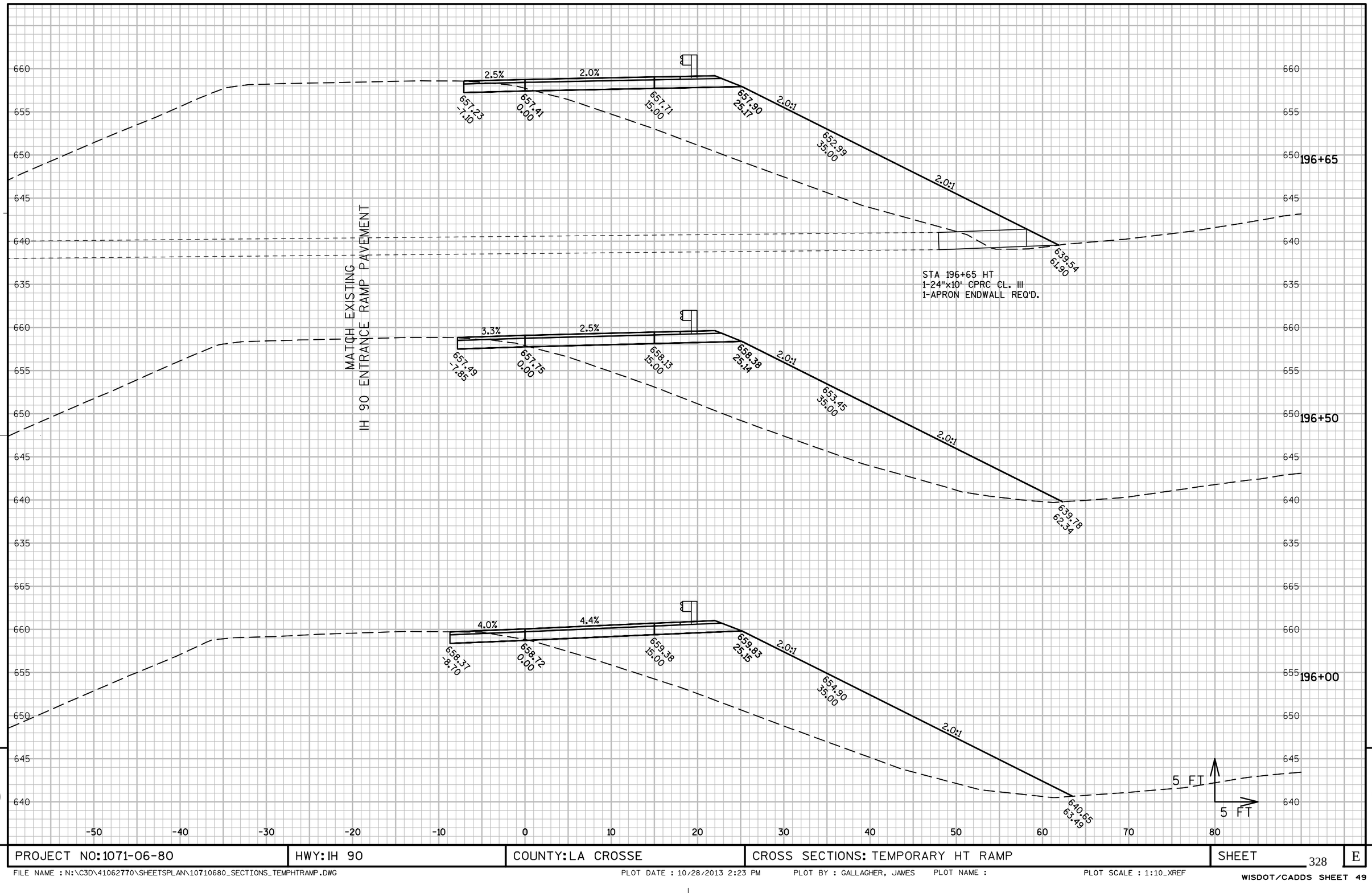
PROJECT NO: 1071-06-80	HWY: IH 90	COUNTY: LA CROSSE	CROSS SECTIONS: TEMPORARY HT RAMP	SHEET 326	E

FILE NAME : N:\C3D\41062770\SHEETSPLAN\10710680_SECTIONS_TEMPHTRAMP.DWG PLOT DATE : 10/28/2013 2:22 PM PLOT BY : GALLAGHER, JAMES PLOT NAME : PLOT SCALE : 1:10_XREF



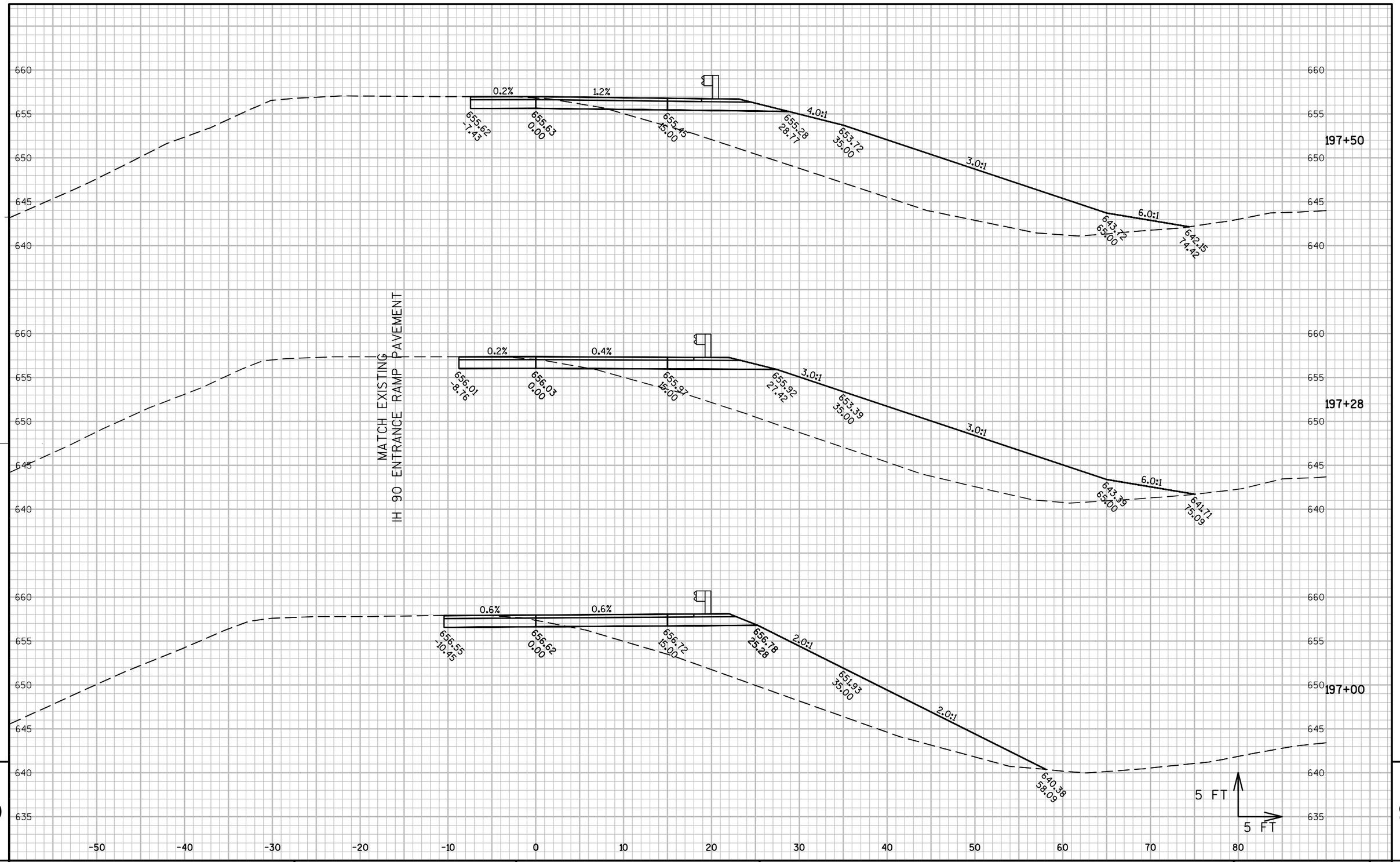
PROJECT NO:1071-06-80	HWY: IH 90	COUNTY: LA CROSSE	CROSS SECTIONS: TEMPORARY HT RAMP	SHEET 327	E

FILE NAME : N:\C3D\41062770\SHEETSPLAN\10710680_SECTIONS_TEMPHTRAMP.DWG PLOT DATE : 10/28/2013 2:22 PM PLOT BY : GALLAGHER, JAMES PLOT NAME : PLOT SCALE : 1:10_XREF



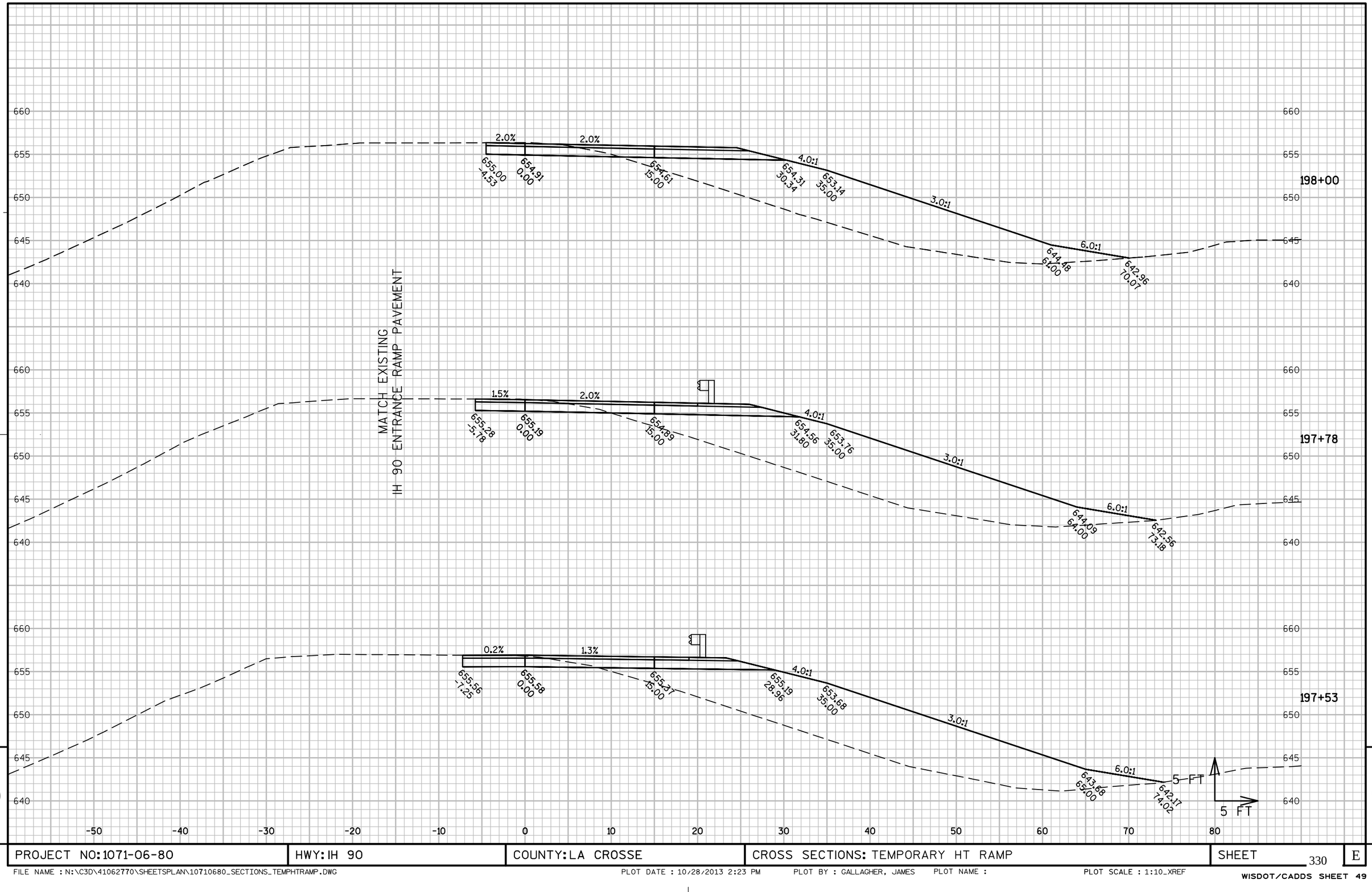
PROJECT NO: 1071-06-80	HWY: IH 90	COUNTY: LA CROSSE	CROSS SECTIONS: TEMPORARY HT RAMP	SHEET 328	E

FILE NAME : N:\C3D\41062770\SHEETSPLAN\10710680_SECTIONS_TEMPHTRAMP.DWG PLOT DATE : 10/28/2013 2:23 PM PLOT BY : GALLAGHER, JAMES PLOT NAME : PLOT SCALE : 1:10_XREF



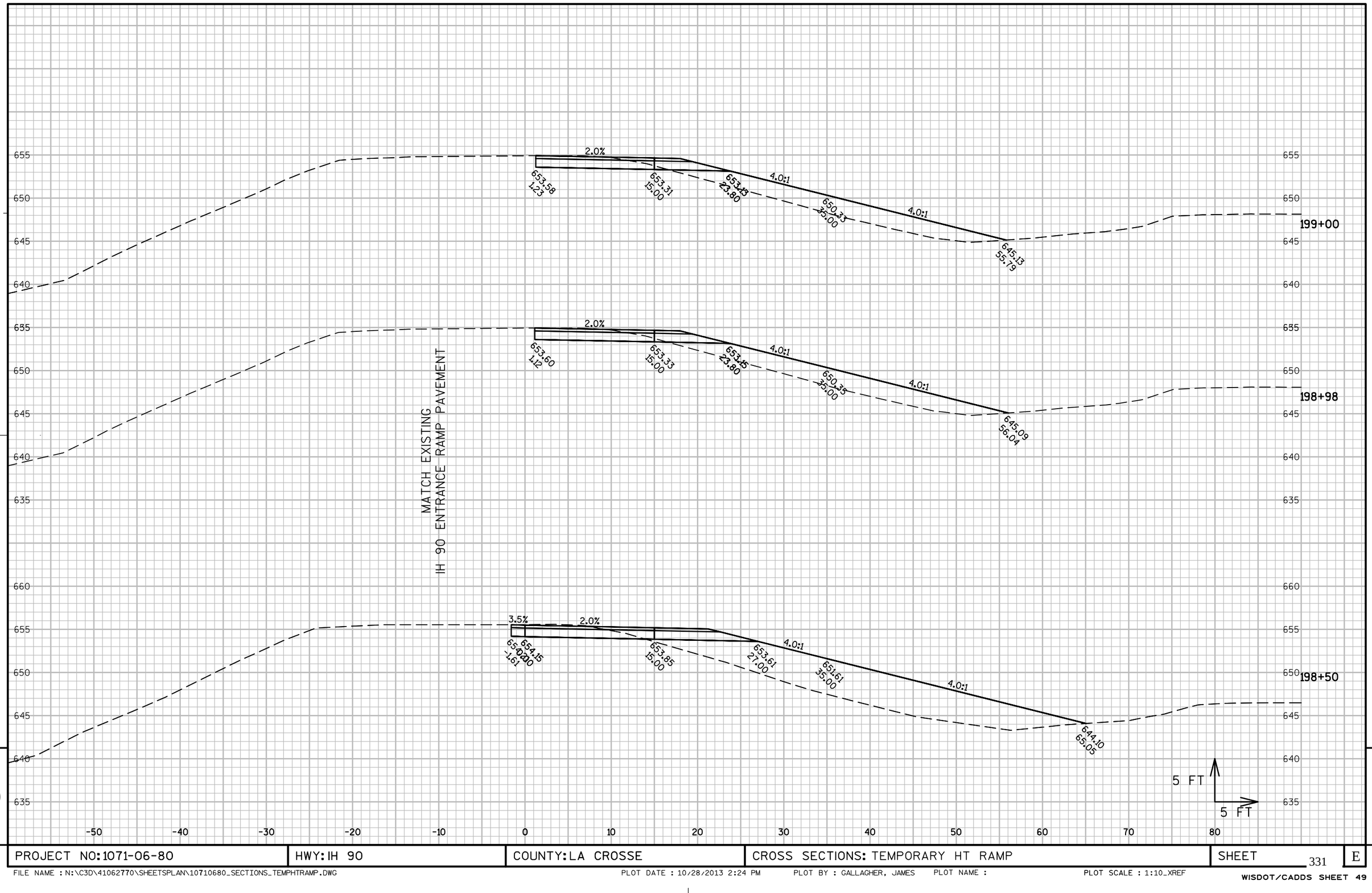
PROJECT NO: 1071-06-80	HWY: IH 90	COUNTY: LA CROSSE	CROSS SECTIONS: TEMPORARY HT RAMP	SHEET 329	E

FILE NAME : N:\C3D\41062770\SHEETSPLAN\10710680_SECTIONS_TEMPHTRAMP.DWG PLOT DATE : 10/28/2013 2:23 PM PLOT BY : GALLAGHER, JAMES PLOT NAME : PLOT SCALE : 1:10_XREF

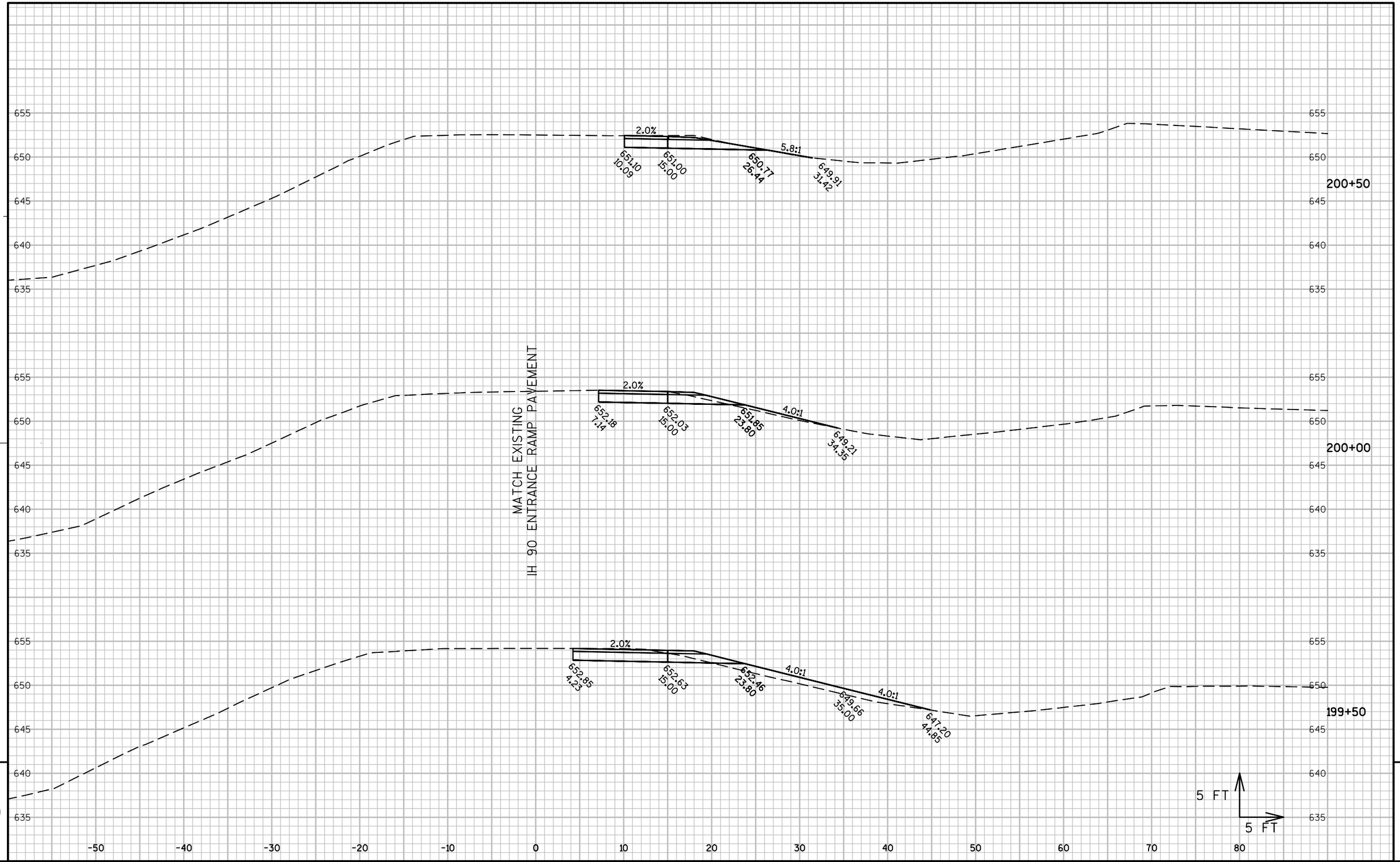


PROJECT NO: 1071-06-80	HWY: IH 90	COUNTY: LA CROSSE	CROSS SECTIONS: TEMPORARY HT RAMP	SHEET 330	E

FILE NAME : N:\C3D\41062770\SHEETSPLAN\10710680_SECTIONS_TEMPHTRAMP.DWG PLOT DATE : 10/28/2013 2:23 PM PLOT BY : GALLAGHER, JAMES PLOT NAME : PLOT SCALE : 1:10_XREF



PROJECT NO: 1071-06-80	HWY: IH 90	COUNTY: LA CROSSE	CROSS SECTIONS: TEMPORARY HT RAMP	SHEET 331	E



PROJECT NO:1071-06-80	HWY: IH 90	COUNTY: LA CROSSE	CROSS SECTIONS: TEMPORARY HT RAMP	SHEET	E

FILE NAME : N:\C3D\41062770\SHEETSPLAN\10710680_SECTIONS_TEMPHTRAMP.DWG PLOT DATE : 10/28/2013 2:24 PM PLOT BY : GALLAGHER, JAMES PLOT NAME : PLOT SCALE : 1:10_XREF

WISDOT/CADDS SHEET 49

660
655
650
645
640
635

MATCH EXISTING
IH 90 ENTRANCE RAMP PAVEMENT

STA 201+47.07 HT
MATCH EXISTING

2.0%
6.0:1
650.11
12.99
650.07
15.00
649.77
29.67
649.49
31.38

201+50
201+00

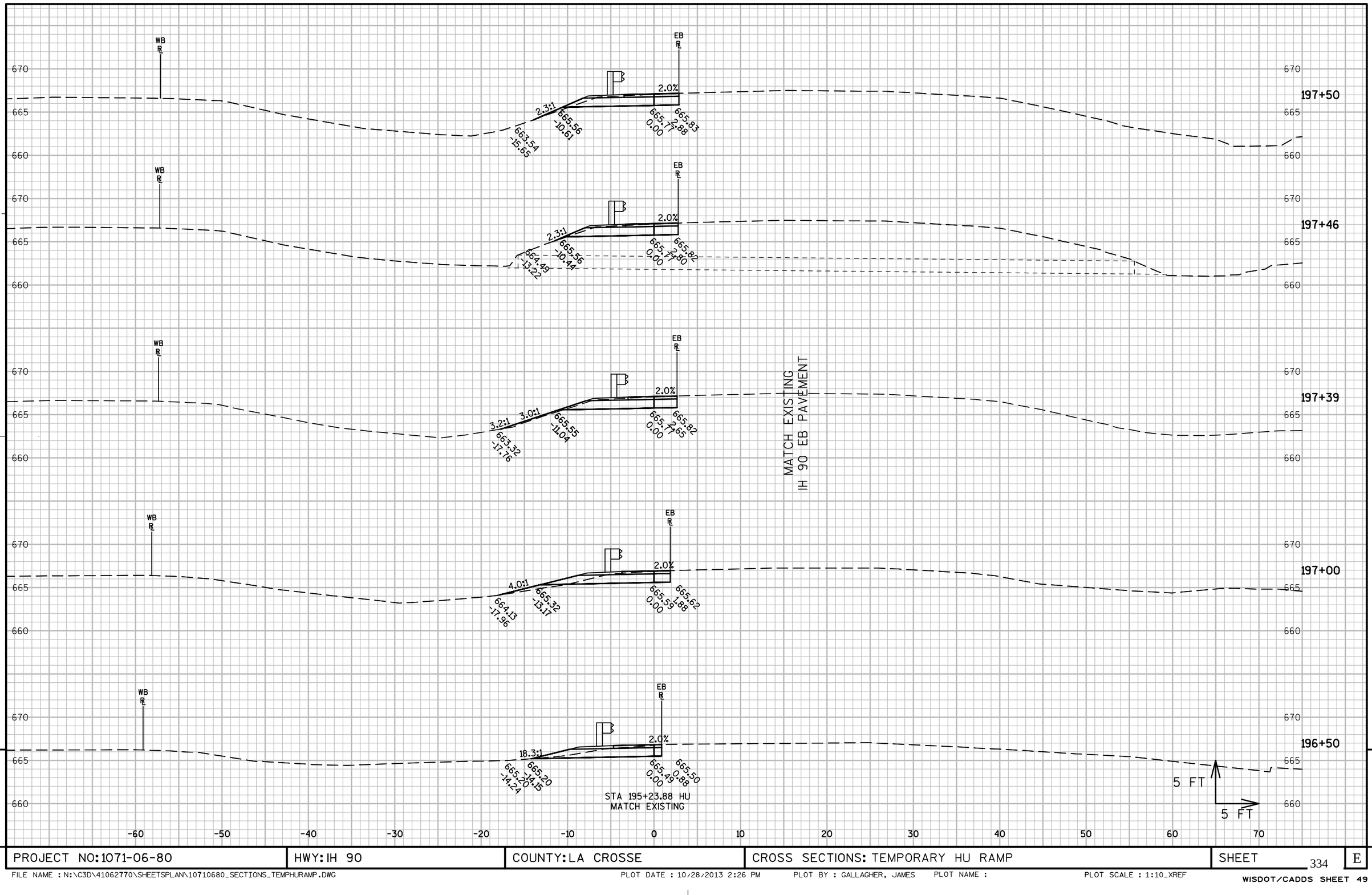
5 FT
5 FT

-50 -40 -30 -20 -10 0 10 20 30 40 50 60 70 80

9

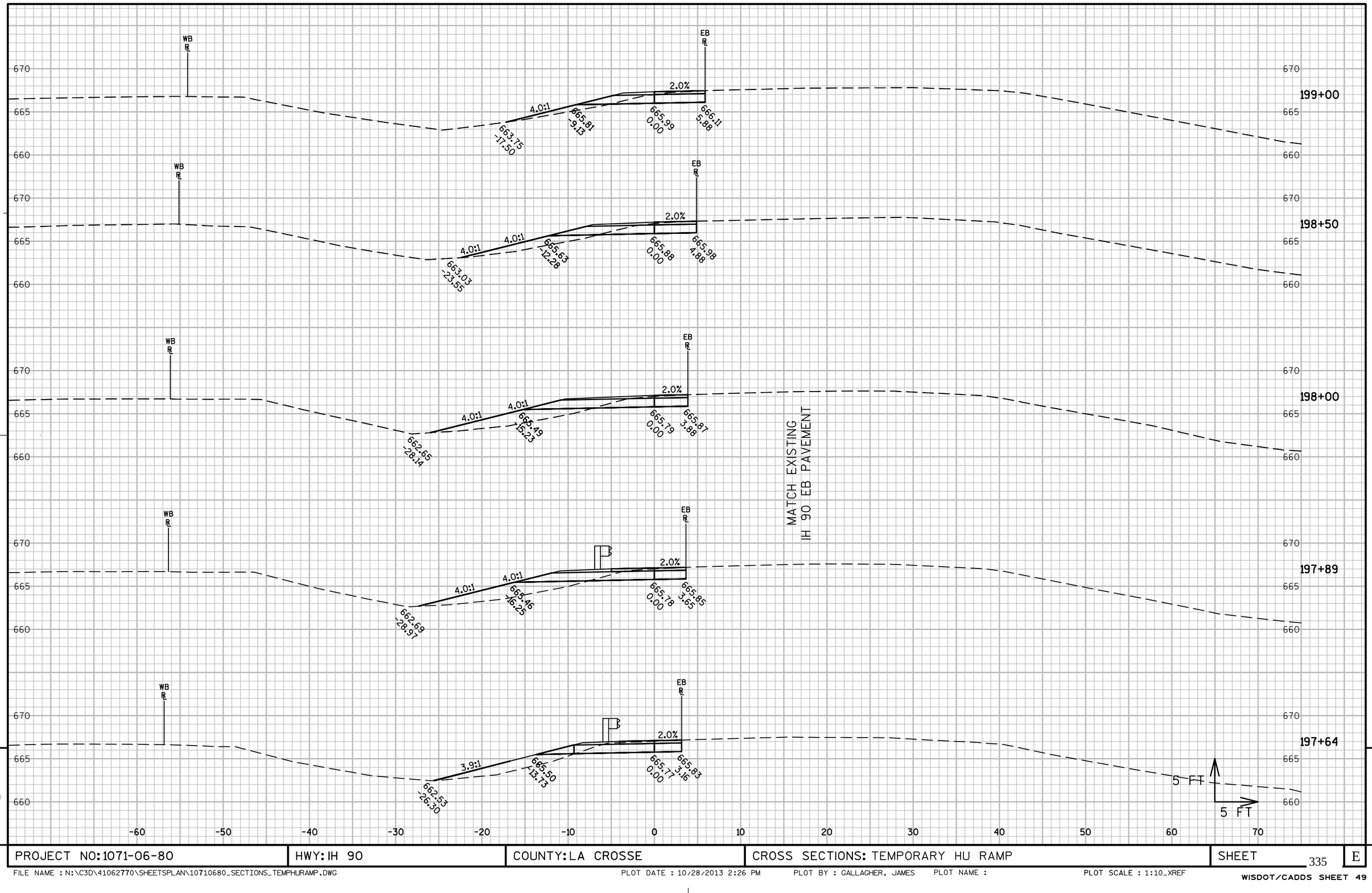
PROJECT NO:1071-06-80	HWY: IH 90	COUNTY: LA CROSSE	CROSS SECTIONS: TEMPORARY HT RAMP	SHEET 333	E

FILE NAME : N:\C3D\41062770\SHEETSPLAN\10710680_SECTIONS_TEMPHTRAMP.DWG PLOT DATE : 10/28/2013 2:25 PM PLOT BY : GALLAGHER, JAMES PLOT NAME : PLOT SCALE : 1:10_XREF



PROJECT NO: 1071-06-80	HWY: IH 90	COUNTY: LA CROSSE	CROSS SECTIONS: TEMPORARY HU RAMP	SHEET 334	E

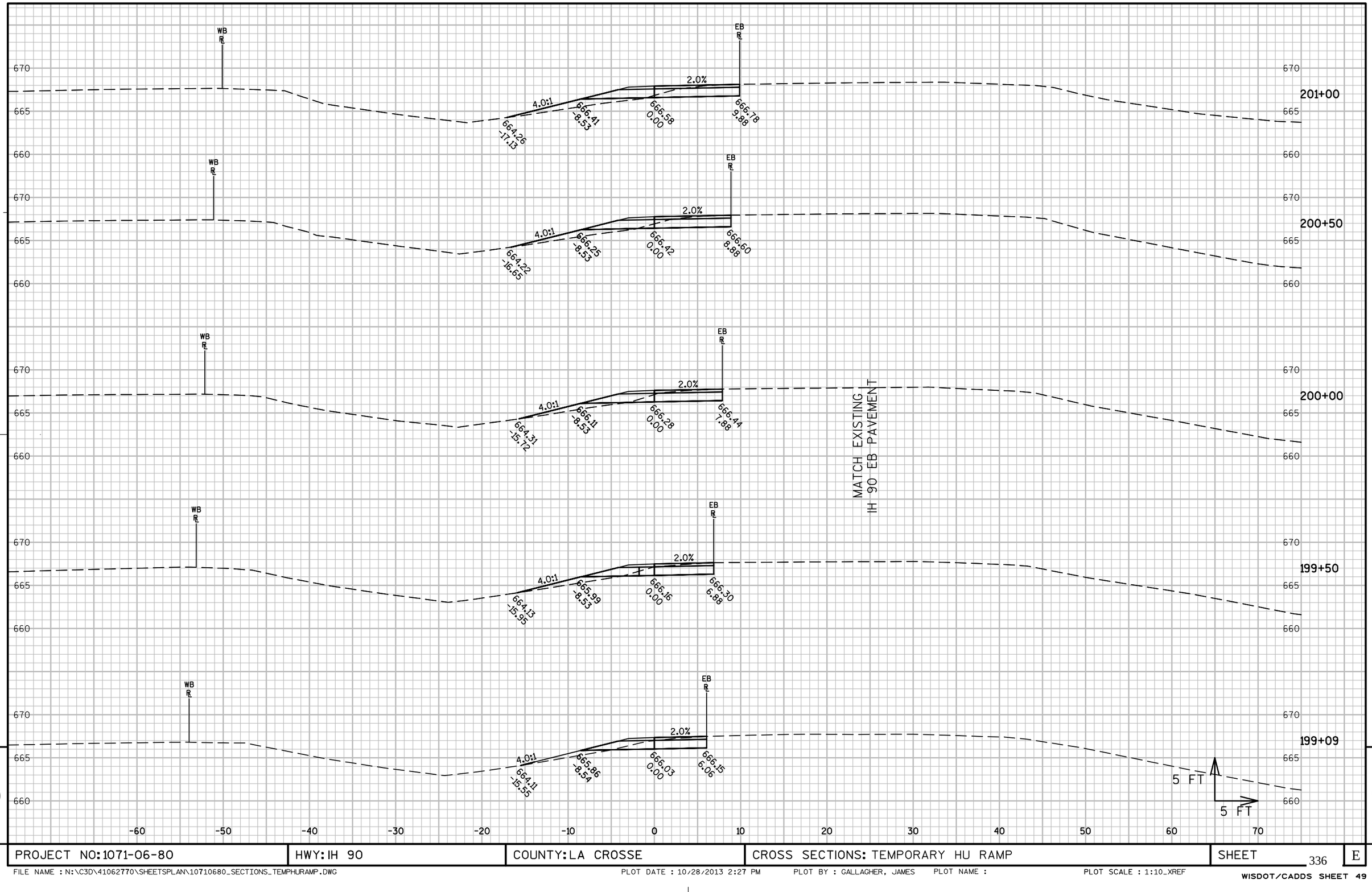
FILE NAME : N:\C3D\41062770\SHEETSPLAN\10710680_SECTIONS_TEMPHURAMP.DWG PLOT DATE : 10/28/2013 2:26 PM PLOT BY : GALLAGHER, JAMES PLOT NAME : PLOT SCALE : 1:10_XREF



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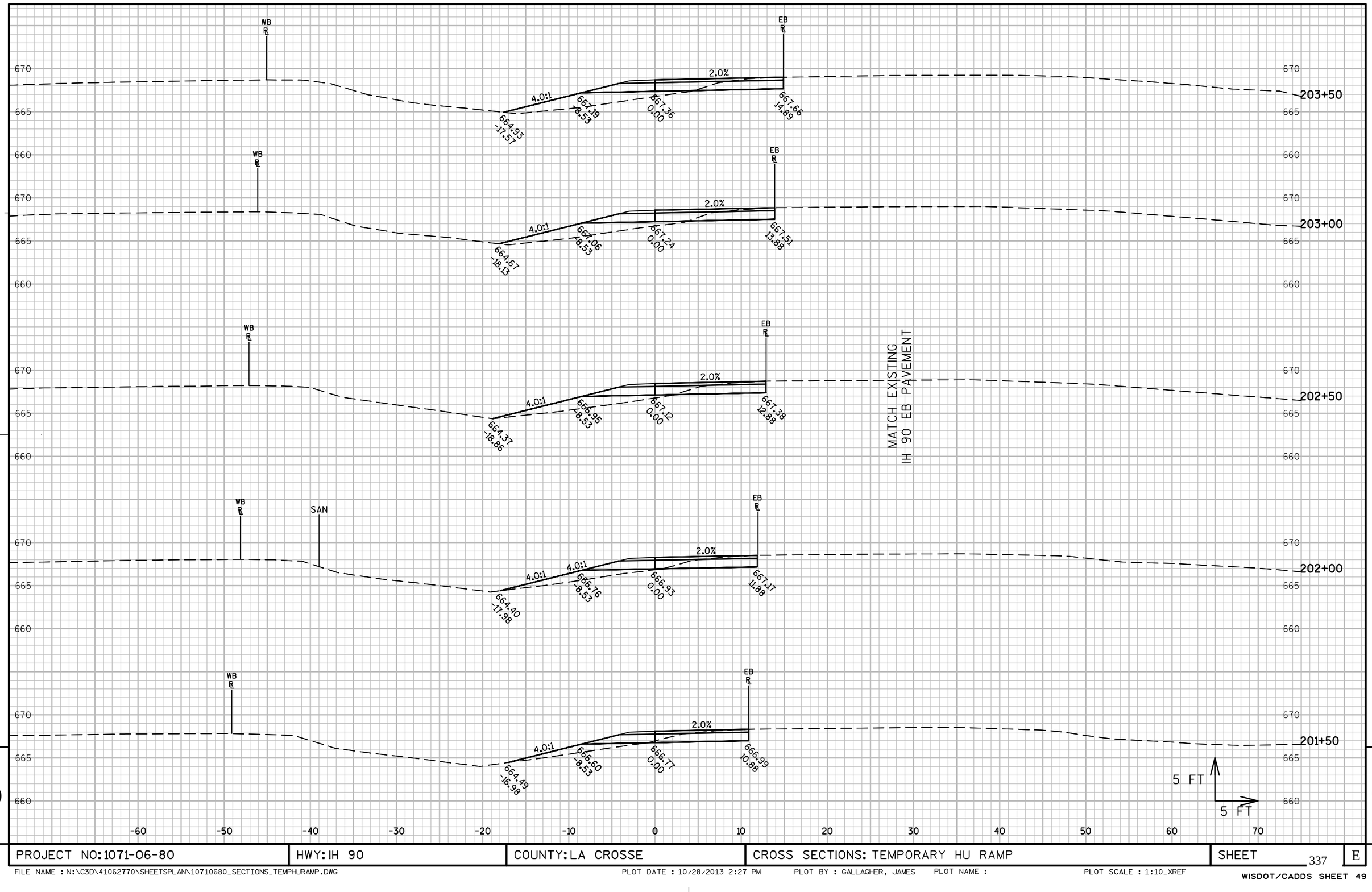
PROJECT NO: 1071-06-80	HWY: IH 90	COUNTY: LA CROSSE	CROSS SECTIONS: TEMPORARY HU RAMP	SHEET 335	E



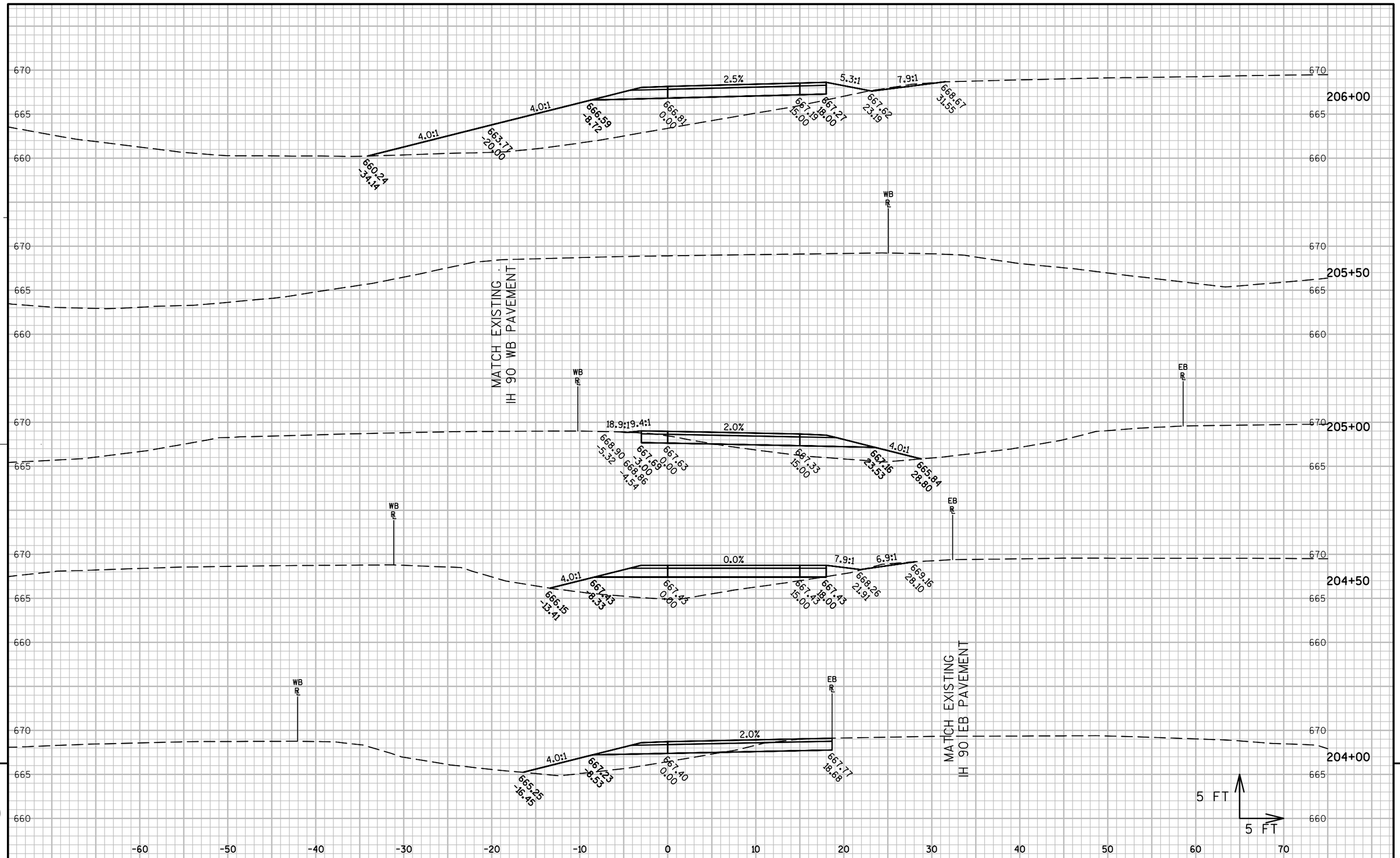
PROJECT NO: 1071-06-80	HWY: IH 90	COUNTY: LA CROSSE	CROSS SECTIONS: TEMPORARY HU RAMP	SHEET 336	E

FILE NAME : N:\C3D\41062770\SHEETSPLAN\10710680_SECTIONS_TEMPHURAMP.DWG PLOT DATE : 10/28/2013 2:27 PM PLOT BY : GALLAGHER, JAMES PLOT NAME : PLOT SCALE : 1:10_XREF

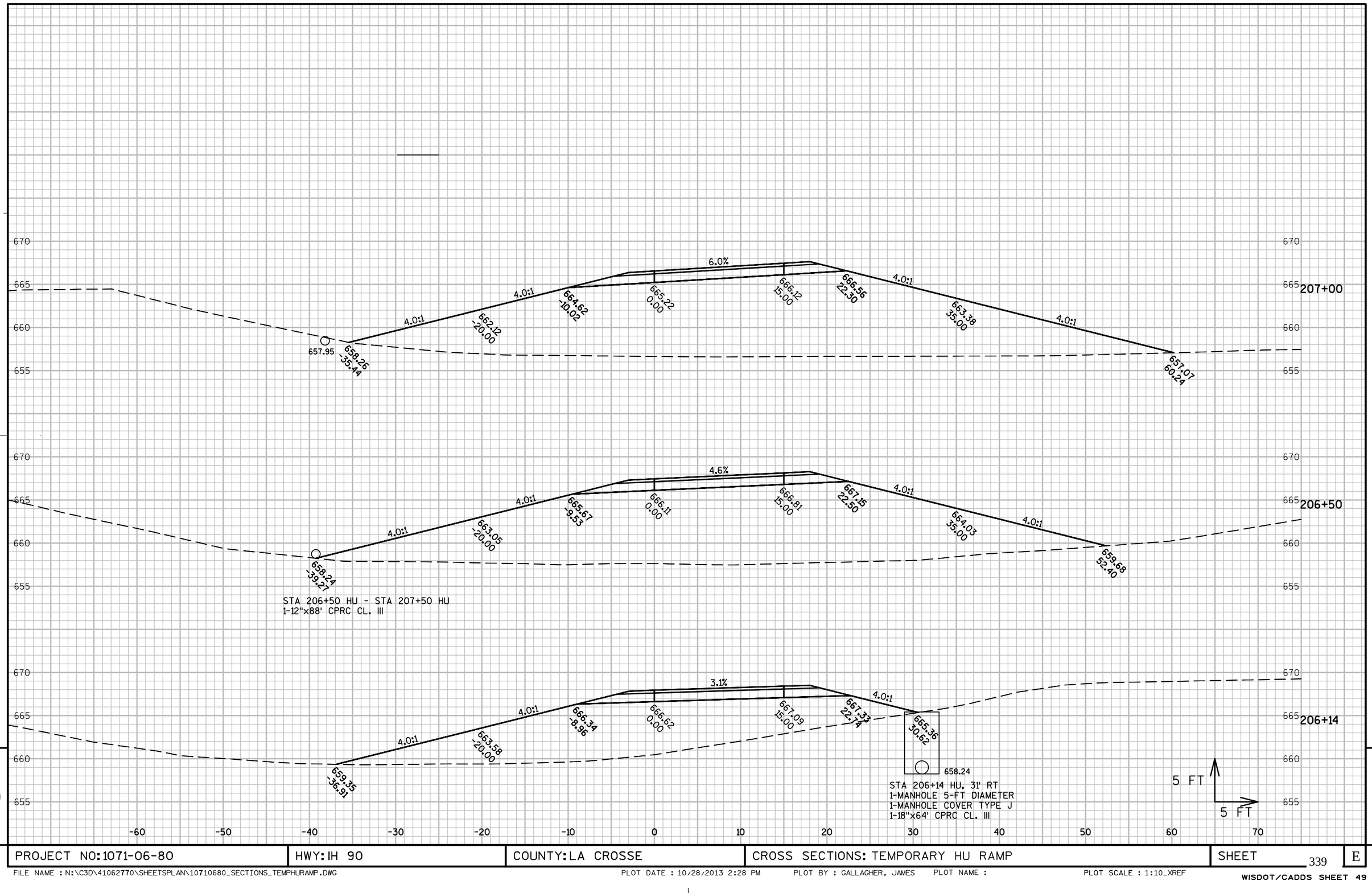
WISDOT/CADDS SHEET 49



PROJECT NO:1071-06-80	HWY: IH 90	COUNTY: LA CROSSE	CROSS SECTIONS: TEMPORARY HU RAMP	SHEET 337	E

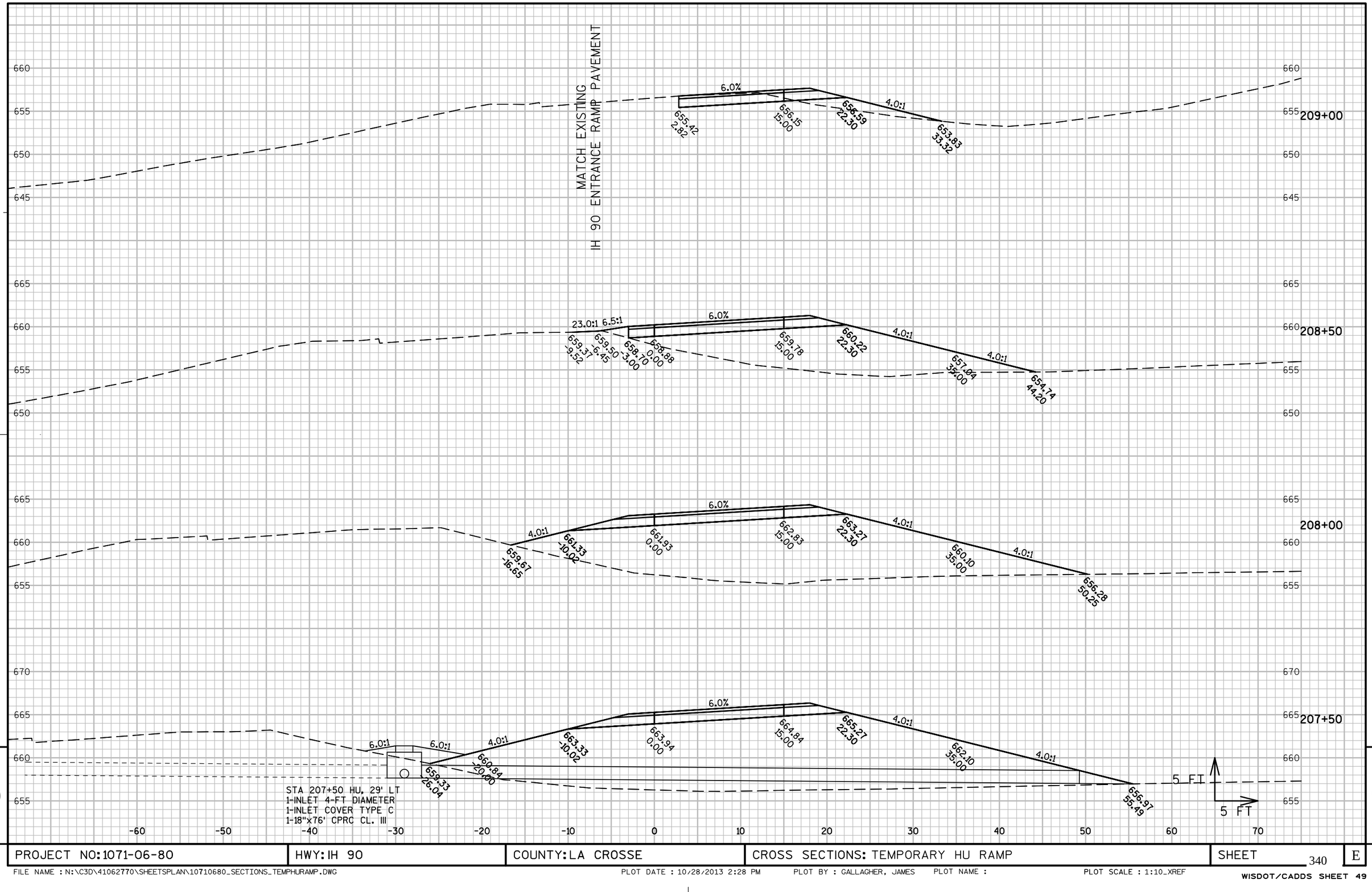


PROJECT NO:1071-06-80	HWY: IH 90	COUNTY: LA CROSSE	CROSS SECTIONS: TEMPORARY HU RAMP	SHEET 338	E

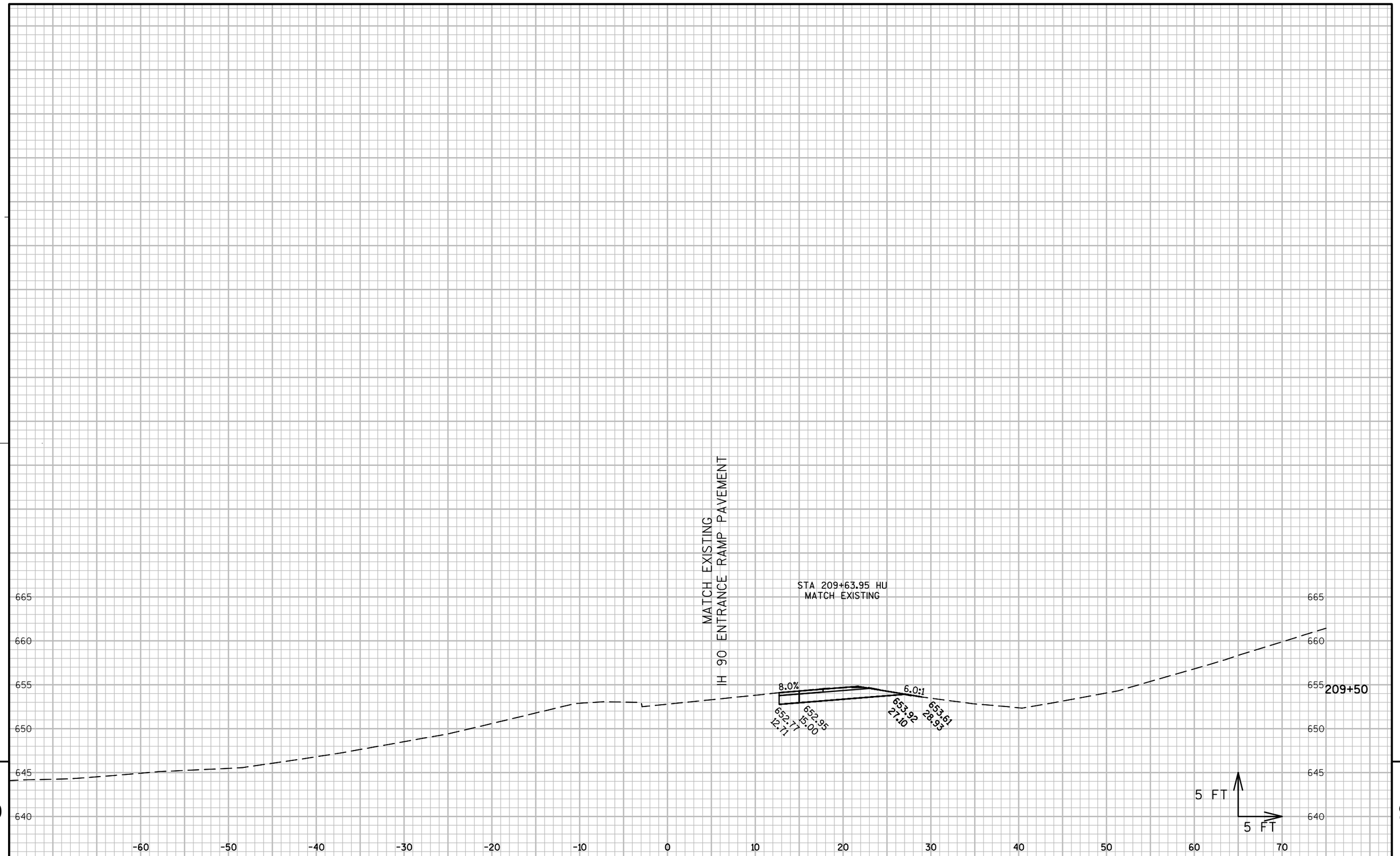


PROJECT NO: 1071-06-80	HWY: IH 90	COUNTY: LA CROSSE	CROSS SECTIONS: TEMPORARY HU RAMP	SHEET 339	E

FILE NAME : N:\C3D\41062770\SHEETSPLAN\10710680_SECTIONS_TEMPHURAMP.DWG PLOT DATE : 10/28/2013 2:28 PM PLOT BY : GALLAGHER, JAMES PLOT NAME : PLOT SCALE : 1:10_XREF



PROJECT NO:1071-06-80	HWY: IH 90	COUNTY: LA CROSSE	CROSS SECTIONS: TEMPORARY HU RAMP	SHEET 340	E

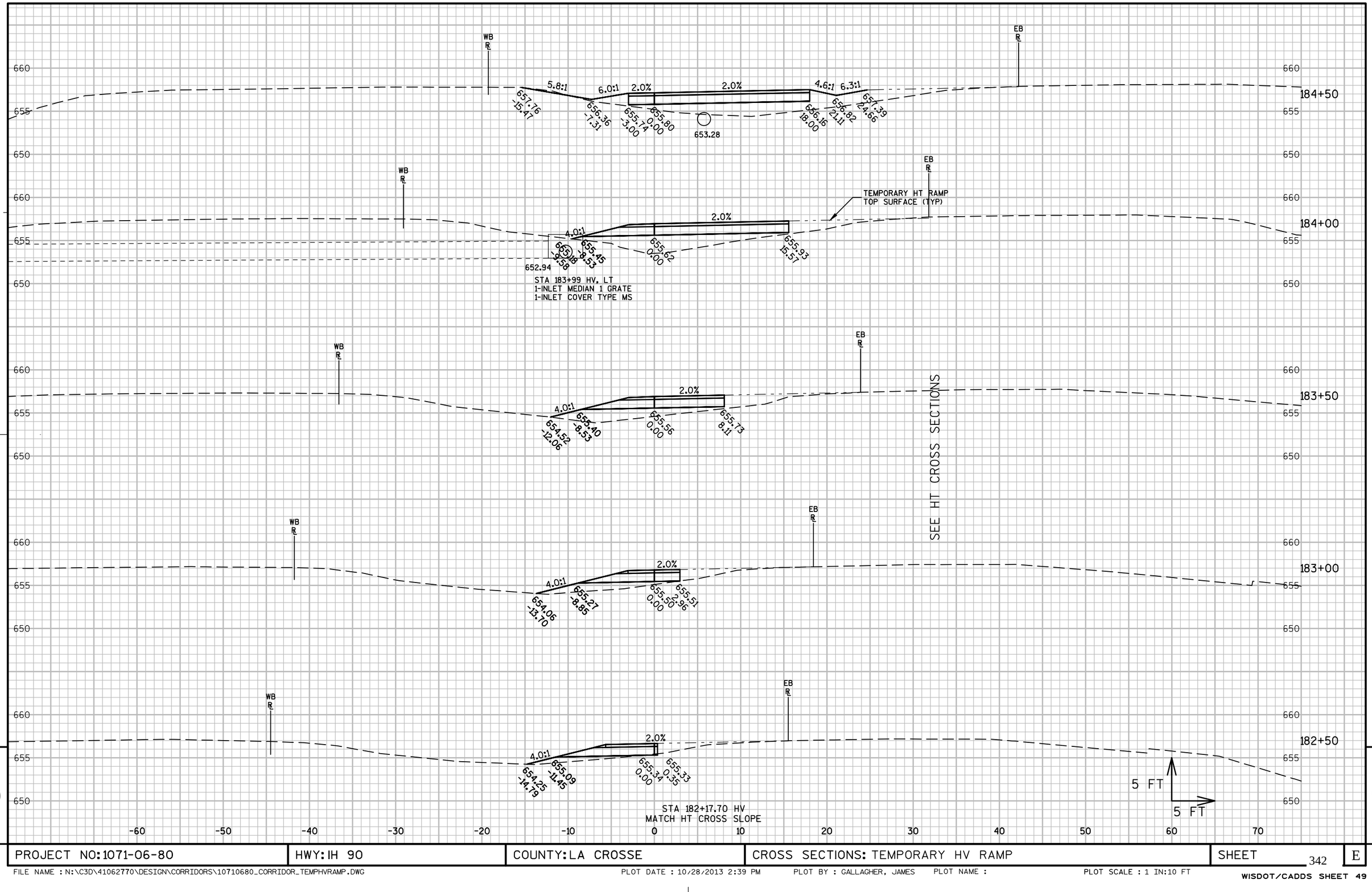


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PROJECT NO:1071-06-80	HWY: IH 90	COUNTY: LA CROSSE	CROSS SECTIONS: TEMPORARY HU RAMP	SHEET 341	E

FILE NAME : N:\C3D\41062770\SHEETSPLAN\10710680_SECTIONS_TEMPHURAMP.DWG PLOT DATE : 10/28/2013 2:29 PM PLOT BY : GALLAGHER, JAMES PLOT NAME : PLOT SCALE : 1:10_XREF



PROJECT NO:1071-06-80	HWY:IH 90	COUNTY:LA CROSSE	CROSS SECTIONS: TEMPORARY HV RAMP	SHEET 342	E

FILE NAME : N:\C3D\41062770\DESIGN\CORRIDORS\10710680_CORRIDOR_TEMPHVRAMP.DWG PLOT DATE : 10/28/2013 2:39 PM PLOT BY : GALLAGHER, JAMES PLOT NAME : PLOT SCALE : 1 IN:10 FT

EB
℄

715
710
705
700

2.0%
2.0%
6.4:1
711.53
-4.07
711.32
6.20
711.00
16.76

252+50

EB
℄

715
710
705
700

2.0%
2.0%
5.6:1
711.70
-1.95
711.49
8.21
711.22
17.25

252+00

MATCH EXISTING
IH 90 EB PAVEMENT

EB
℄

715
710
705
700

2.0%
2.0%
6.2:1
711.99
-0.48
711.79
9.59
711.48
19.79

251+50

EB
℄

715
710
705
700

2.0%
2.0%
7.1:1
712.15
0.21
711.95
10.19
711.59
22.16

251+00

STA 250+61.82 JT
MATCH EXISTING

5 FT
5 FT

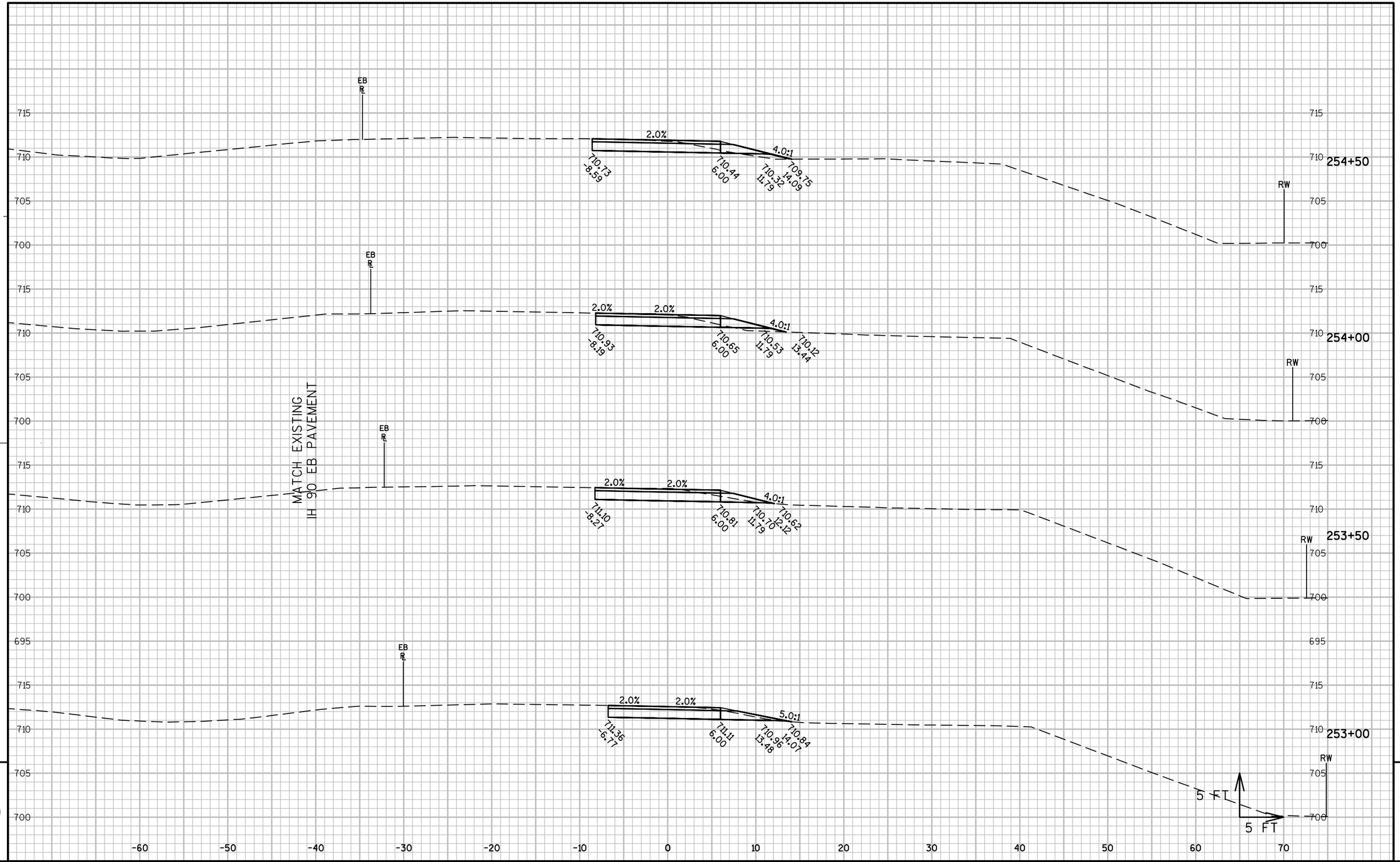
-60 -50 -40 -30 -20 -10 0 10 20 30 40 50 60 70

9

9

PROJECT NO:1071-06-80	HWY: IH 90	COUNTY: LA CROSSE	CROSS SECTIONS: TEMPORARY JT RAMP	SHEET 343	E

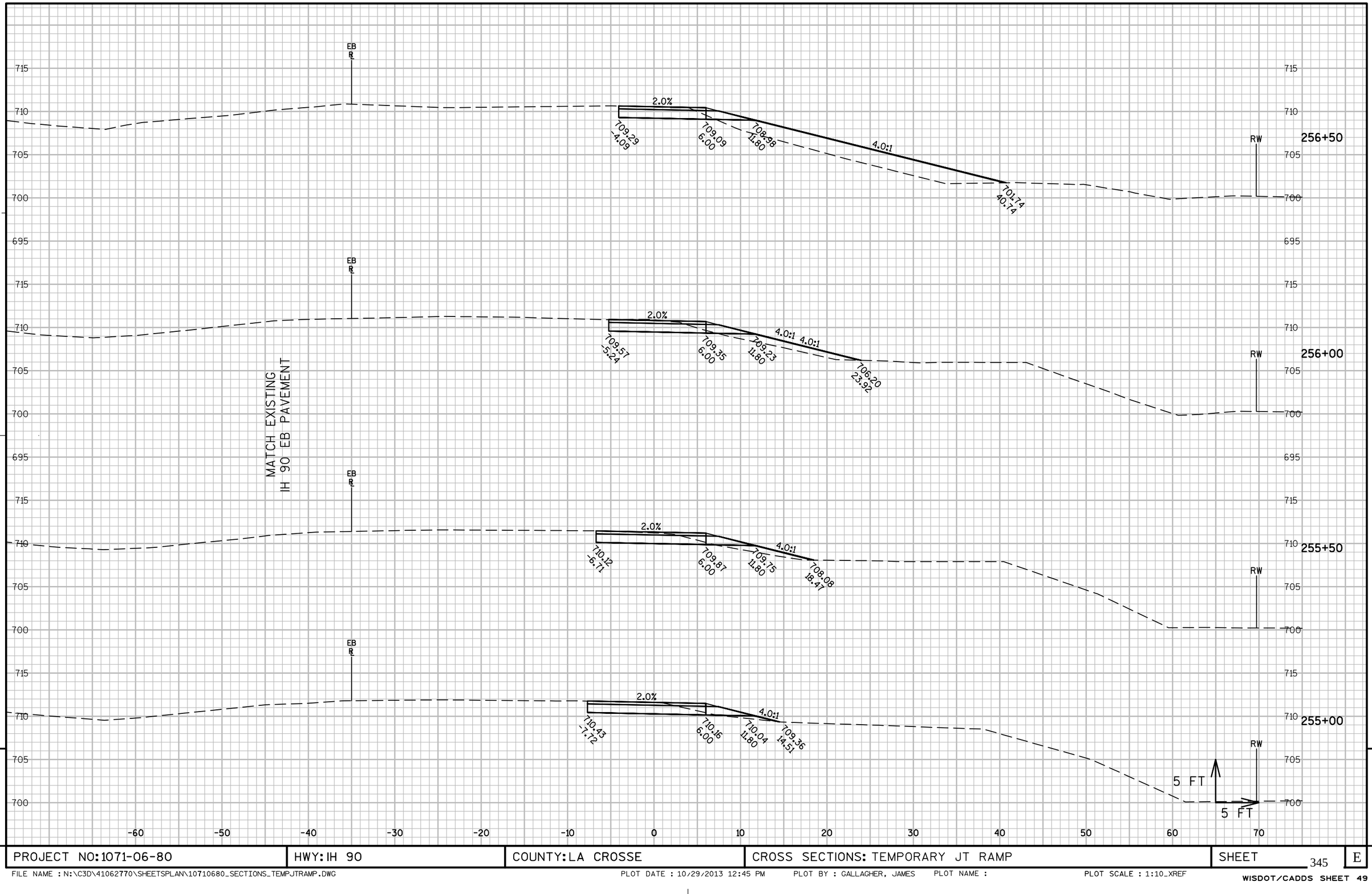
FILE NAME : N:\C3D\41062770\SHEETSPLAN\10710680_SECTIONS_TEMPJTRAMP.DWG PLOT DATE : 10/29/2013 12:45 PM PLOT BY : GALLAGHER, JAMES PLOT NAME : PLOT SCALE : 1:10_XREF



PROJECT NO:1071-06-80	HWY: IH 90	COUNTY: LA CROSSE	CROSS SECTIONS: TEMPORARY JT RAMP	SHEET 344	E

FILE NAME : N:\C3D\41062770\SHEETSPLAN\10710680_SECTIONS_TEMPJTRAMP.DWG PLOT DATE : 10/29/2013 12:45 PM PLOT BY : GALLAGHER, JAMES PLOT NAME : PLOT SCALE : 1:10_XREF

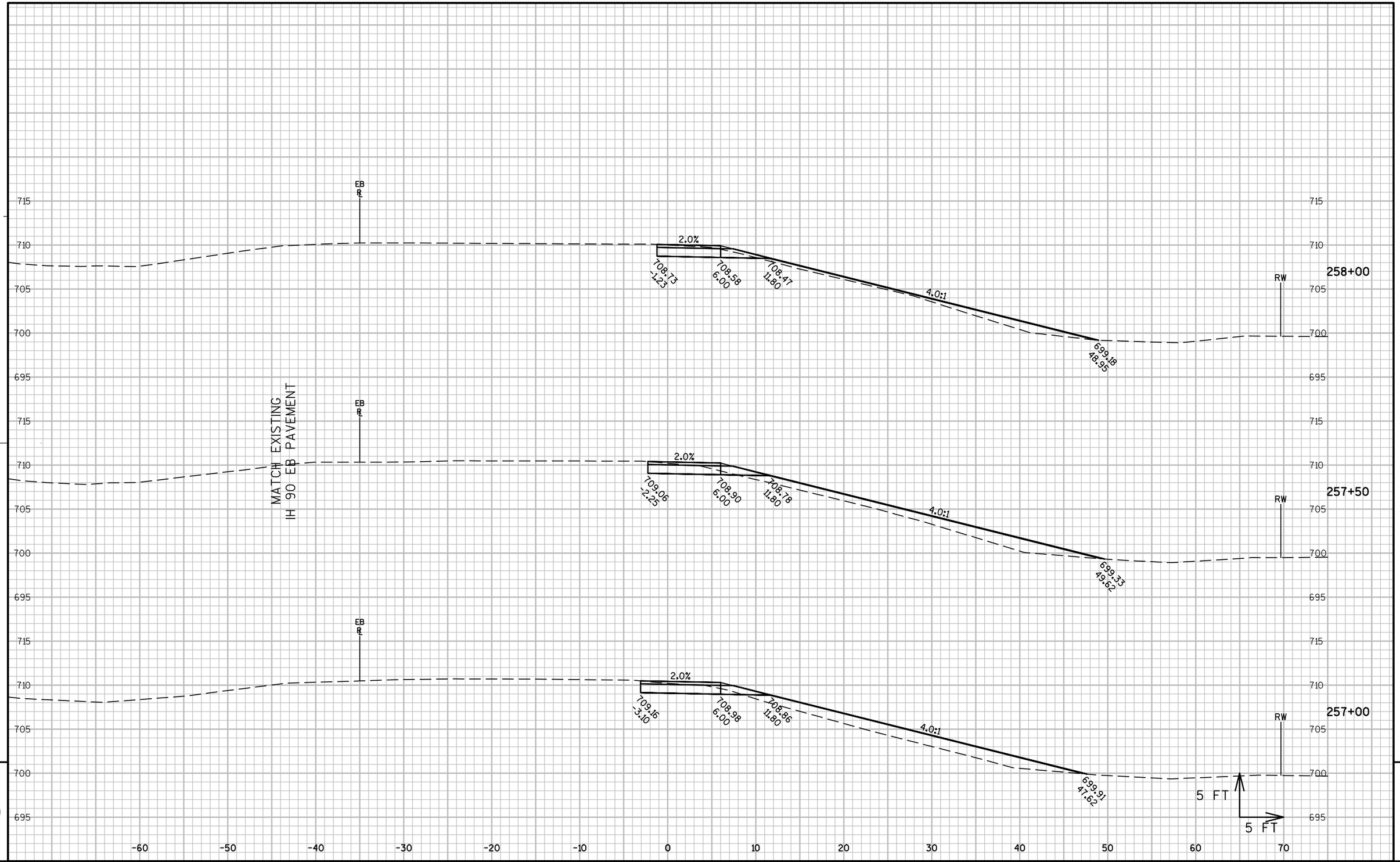
WISDOT/CADDS SHEET 49



PROJECT NO:1071-06-80	HWY: IH 90	COUNTY: LA CROSSE	CROSS SECTIONS: TEMPORARY JT RAMP	SHEET 345	E

FILE NAME : N:\C3D\41062770\SHEETSPLAN\10710680_SECTIONS_TEMPJTRAMP.DWG PLOT DATE : 10/29/2013 12:45 PM PLOT BY : GALLAGHER, JAMES PLOT NAME : PLOT SCALE : 1:10_XREF

WISDOT/CADDS SHEET 49



PROJECT NO:1071-06-80	HWY: IH 90	COUNTY: LA CROSSE	CROSS SECTIONS: TEMPORARY JT RAMP	SHEET 346	E

FILE NAME : N:\C3D\41062770\SHEETSPLAN\10710680_SECTIONS_TEMPJTRAMP.DWG PLOT DATE : 10/29/2013 12:46 PM PLOT BY : GALLAGHER, JAMES PLOT NAME : PLOT SCALE : 1:10_XREF

STA 259+81.53 JT
MATCH EXISTING

EB
℄

710
705
700
695

2.0%
4.0:1

707.08
0.00
706.96
6.00
706.85
11.80
704.67
20.50

RW

259+50

EB
℄

710
705
700
695

2.0%
4.0:1

707.93
0.00
707.81
6.00
707.69
11.80
707.37
13.08

RW

259+00

MATCH EXISTING
IH 90 EB PAVEMENT

EB
℄

710
705
700
695

2.0%
4.0:1

708.06
0.00
707.94
6.00
707.83
11.80
707.22
14.24

258+89

EB
℄

710
705
700
695

2.0%

708.41
0.00
708.29
6.00
708.17
11.80
699.07
46.20

4.0:1

RW

258+50

5 FT
5 FT

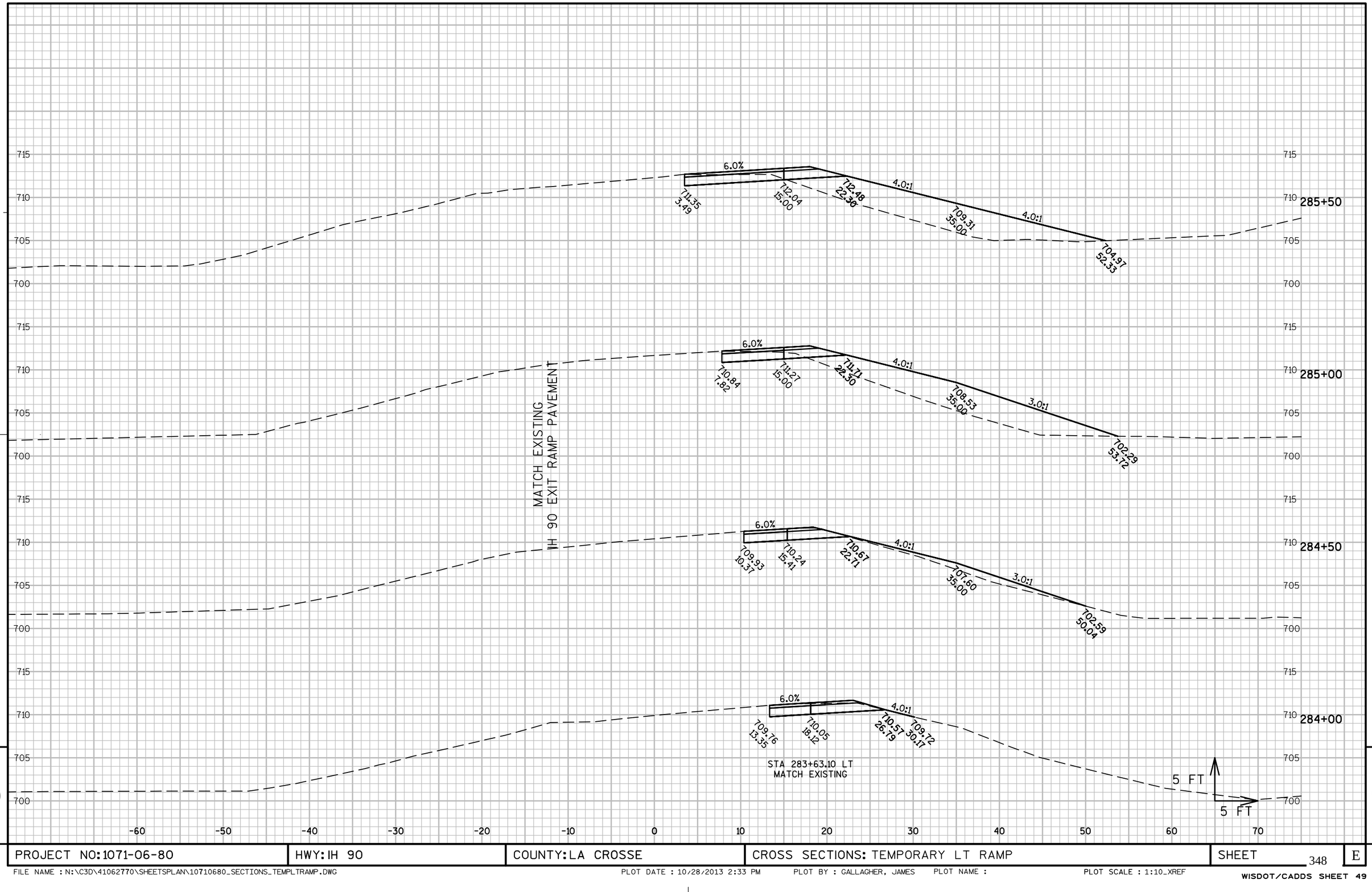
-60 -50 -40 -30 -20 -10 0 10 20 30 40 50 60 70

9

9

PROJECT NO:1071-06-80	HWY: IH 90	COUNTY: LA CROSSE	CROSS SECTIONS: TEMPORARY JT RAMP	SHEET 347	E

FILE NAME : N:\C3D\41062770\SHEETSPLAN\10710680_SECTIONS_TEMPJTRAMP.DWG PLOT DATE : 10/29/2013 12:46 PM PLOT BY : GALLAGHER, JAMES PLOT NAME : PLOT SCALE : 1:10_XREF

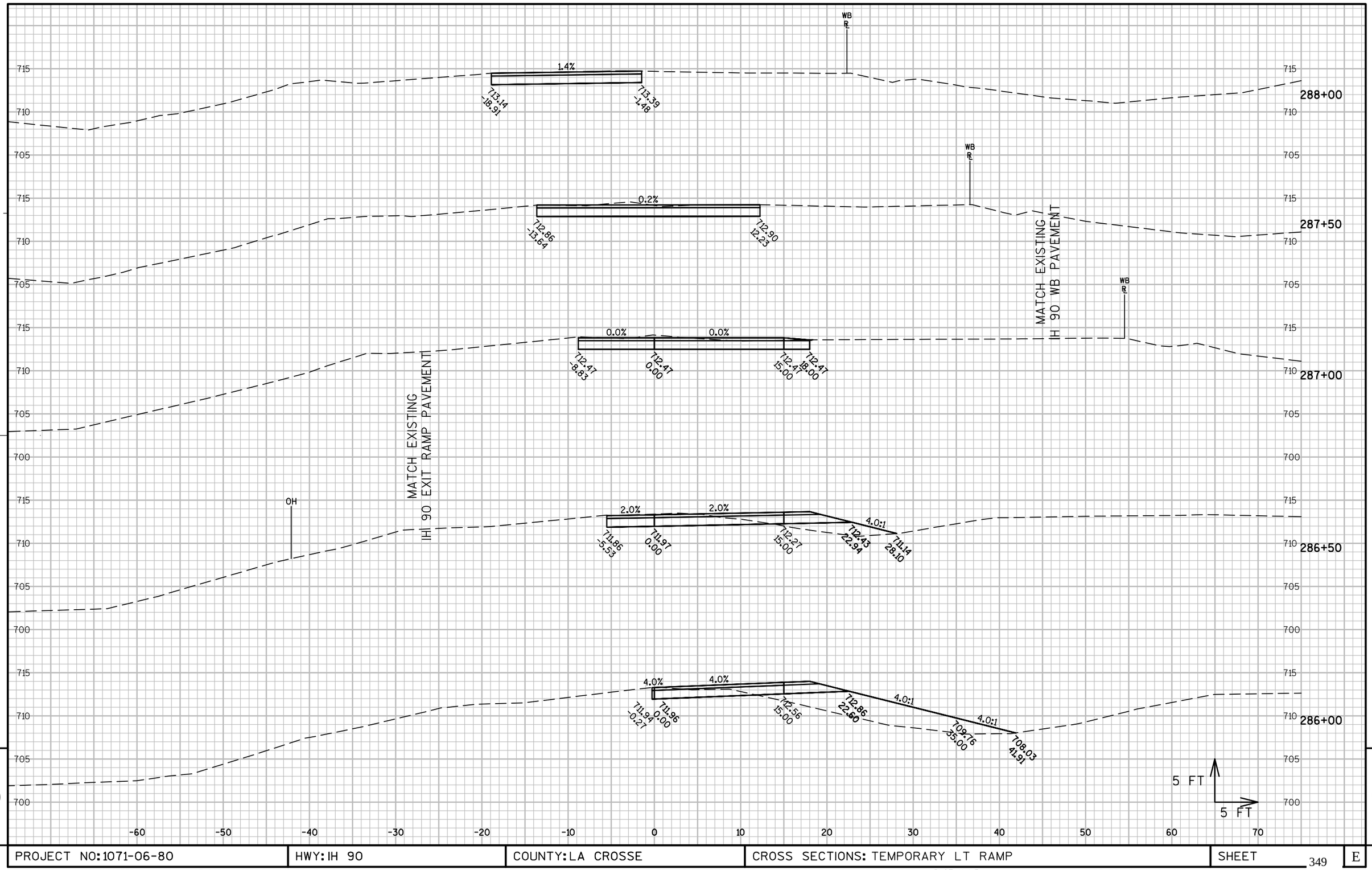


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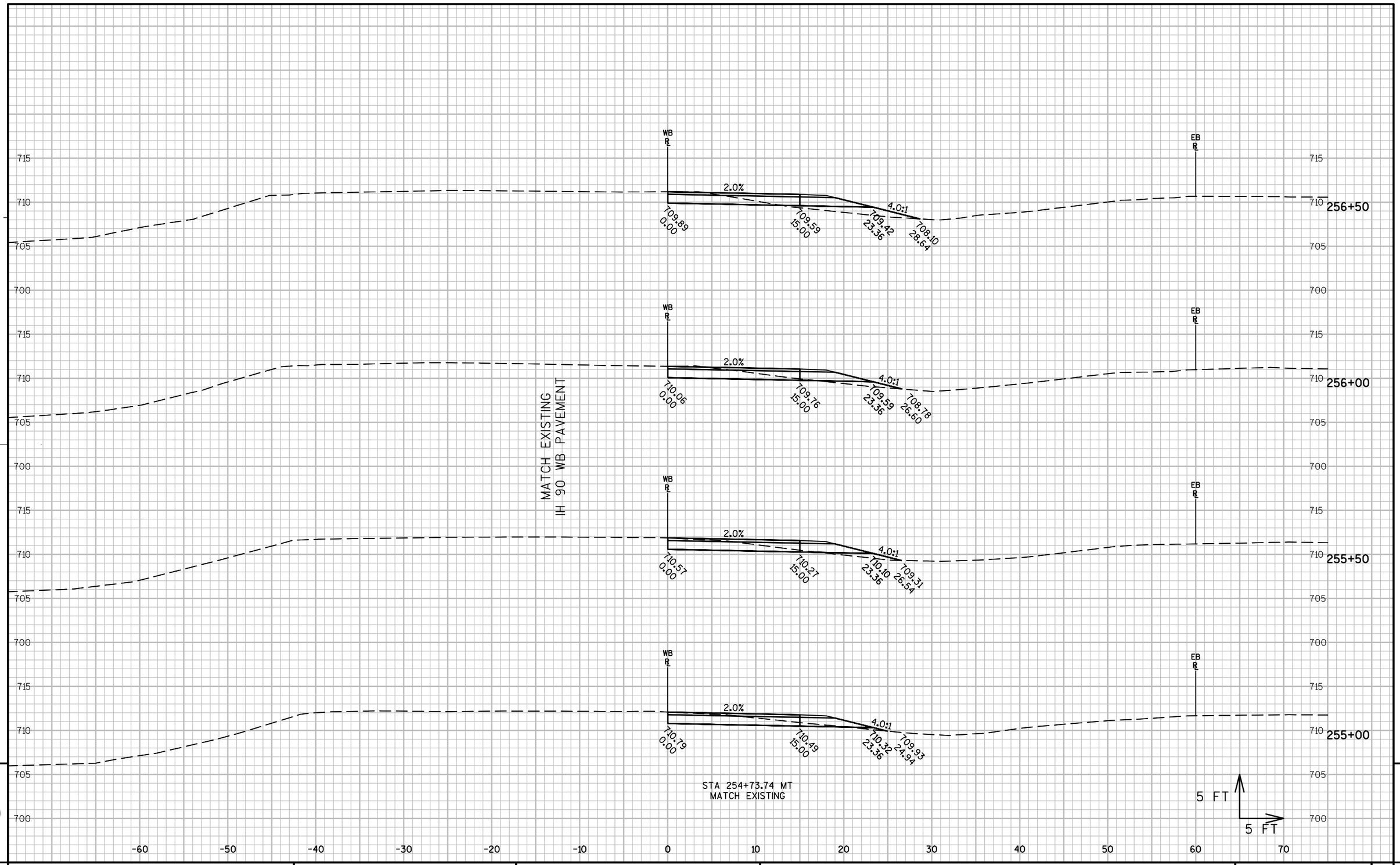
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PROJECT NO:1071-06-80	HWY: IH 90	COUNTY: LA CROSSE	CROSS SECTIONS: TEMPORARY LT RAMP	SHEET 348	E

FILE NAME : N:\C3D\41062770\SHEETSPLAN\10710680_SECTIONS_TEMPLTRAMP.DWG PLOT DATE : 10/28/2013 2:33 PM PLOT BY : GALLAGHER, JAMES PLOT NAME : PLOT SCALE : 1:10_XREF



PROJECT NO:1071-06-80	HWY: IH 90	COUNTY: LA CROSSE	CROSS SECTIONS: TEMPORARY LT RAMP	SHEET 349	E



PROJECT NO:1071-06-80	HWY: IH 90	COUNTY: LA CROSSE	CROSS SECTIONS: TEMPORARY MT RAMP	SHEET 350	E

FILE NAME : N:\C3D\41062770\SHEETSPLAN\10710680_SECTIONS_TEMPMTRAMP.DWG PLOT DATE : 10/29/2013 12:47 PM PLOT BY : GALLAGHER, JAMES PLOT NAME : PLOT SCALE : 1:10_XREF

MATCH EXISTING
IH 90 WB PAVEMENT

WB
℄

EB
℄

2.0%

4.0:1

258+67

709.02 0.00
708.72 15.00
708.55 23.36
707.46 27.73

258+50

709.18 0.00
708.88 15.00
708.72 23.36
707.39 28.65

258+00

709.46 0.00
709.16 15.00
708.99 23.36
707.50 29.33

257+50

709.59 0.00
709.29 15.00
709.12 23.36
707.74 28.88

257+00

709.80 0.00
709.50 15.00
709.33 23.36
707.99 28.69

5 FT
5 FT

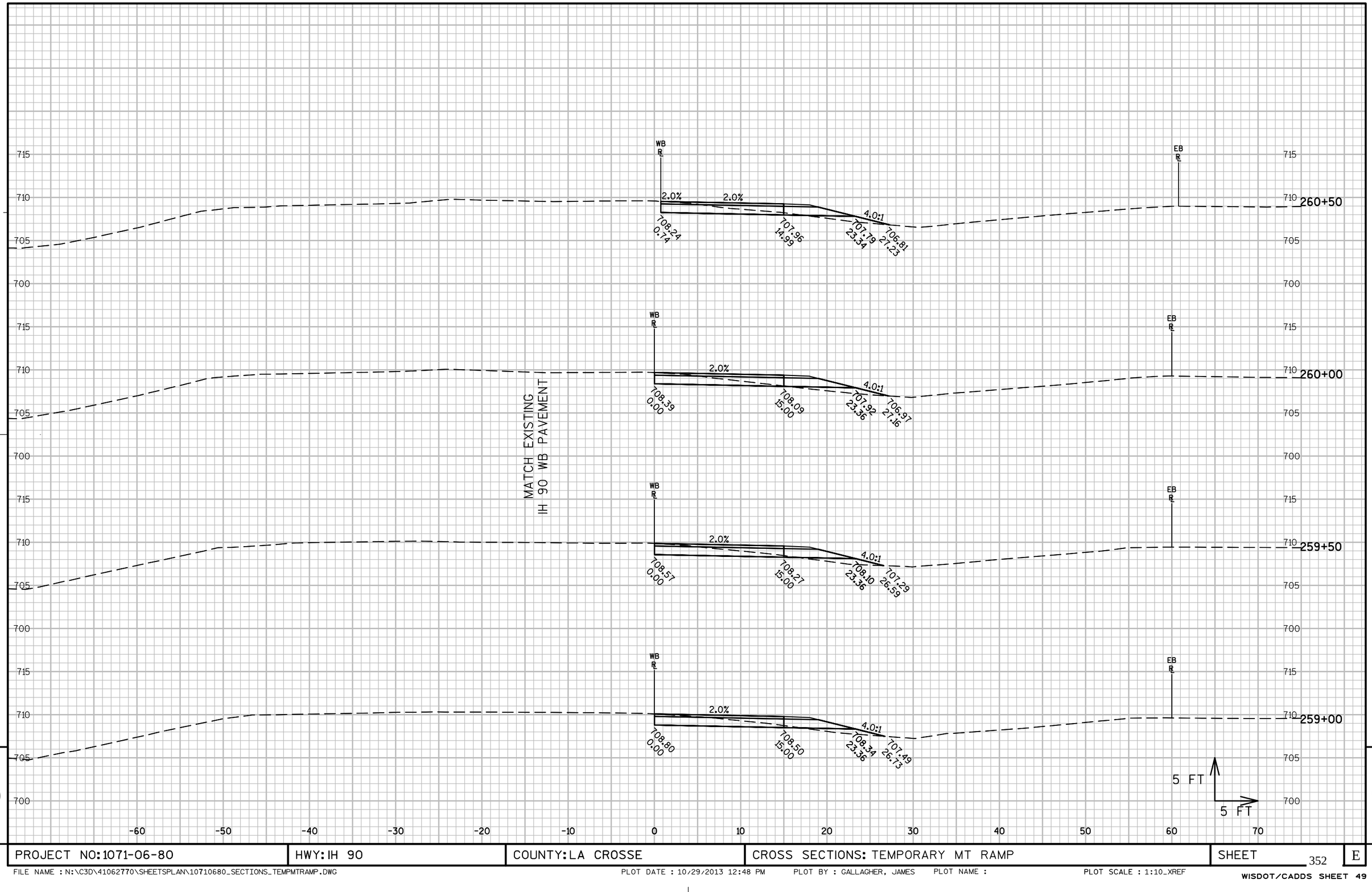
715
710
705
700

-60 -50 -40 -30 -20 -10 0 10 20 30 40 50 60 70

9

9

PROJECT NO:1071-06-80	HWY: IH 90	COUNTY: LA CROSSE	CROSS SECTIONS: TEMPORARY MT RAMP	SHEET 351	E

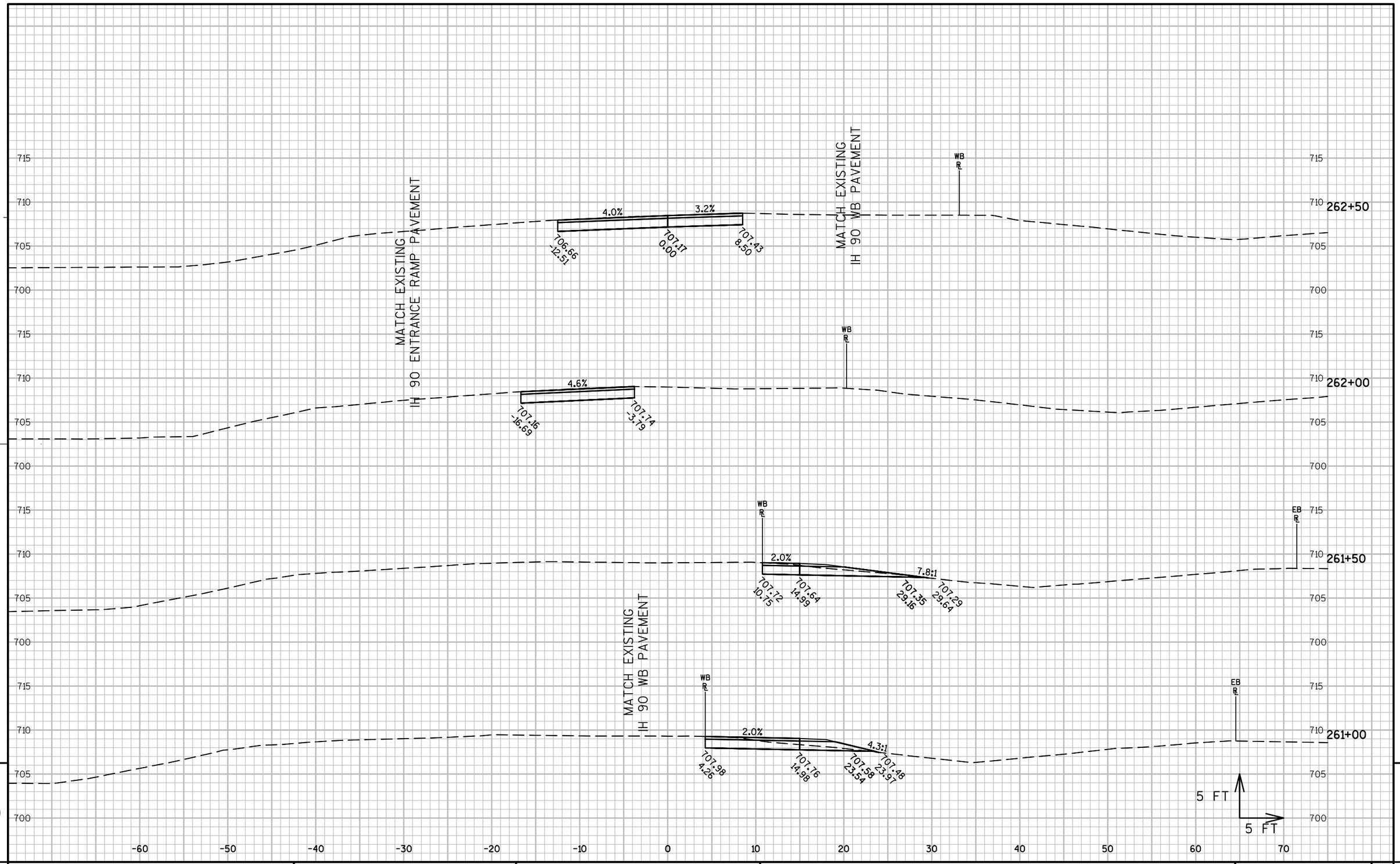


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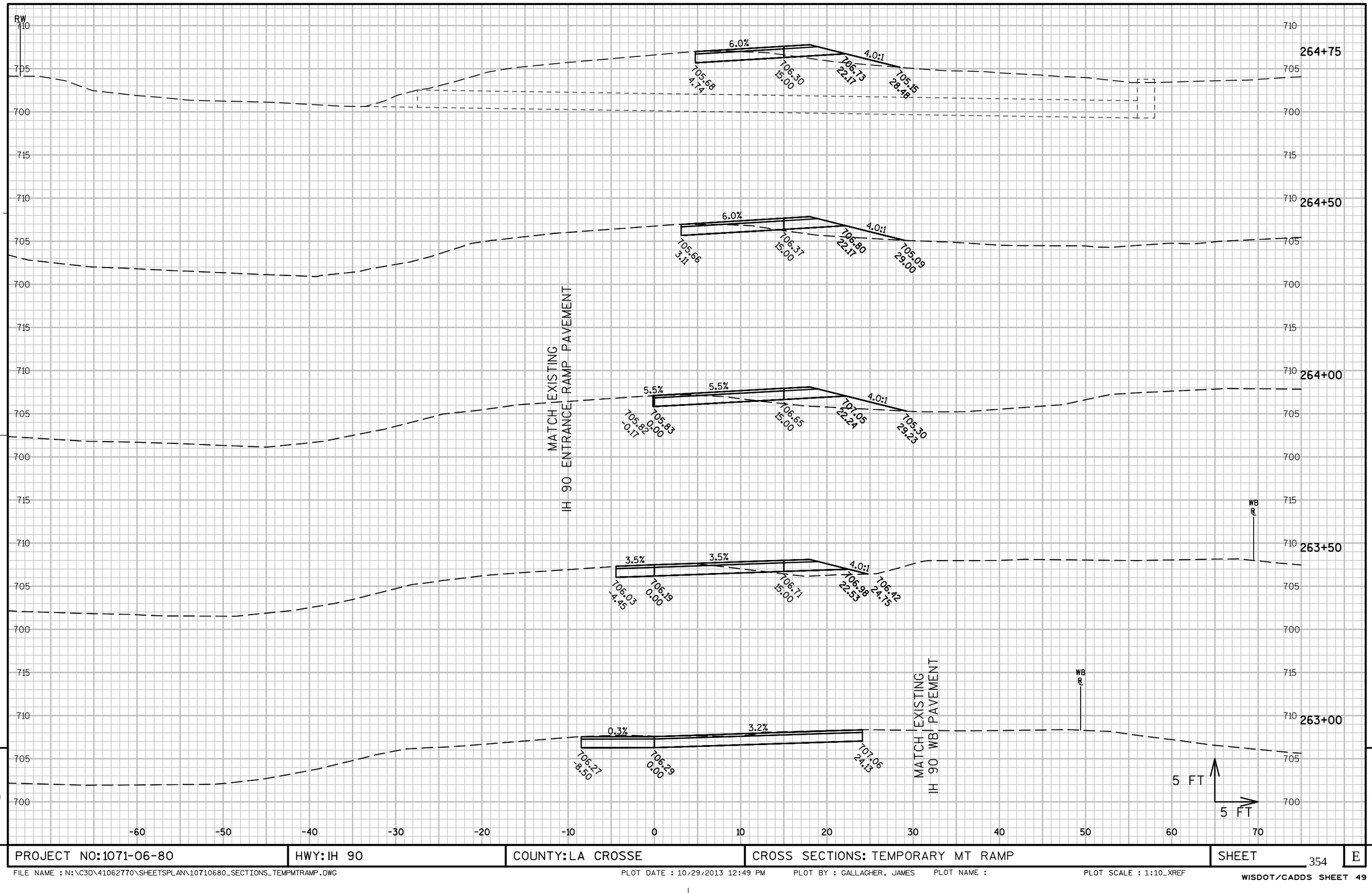
PROJECT NO:1071-06-80	HWY: IH 90	COUNTY: LA CROSSE	CROSS SECTIONS: TEMPORARY MT RAMP	SHEET 352	E

FILE NAME : N:\C3D\41062770\SHEETSPLAN\10710680_SECTIONS_TEMPMTRAMP.DWG PLOT DATE : 10/29/2013 12:48 PM PLOT BY : GALLAGHER, JAMES PLOT NAME : PLOT SCALE : 1:10_XREF



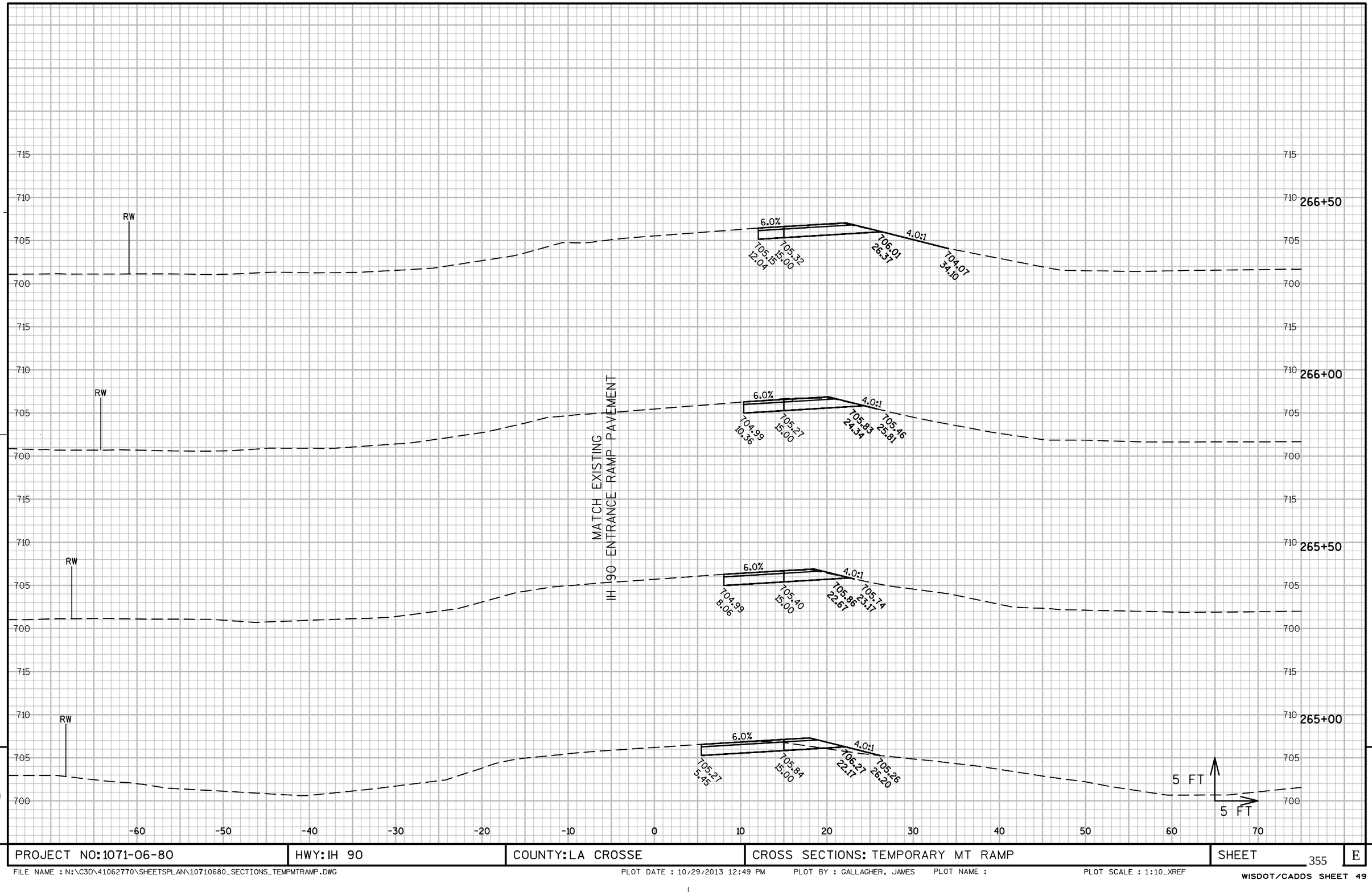
PROJECT NO:1071-06-80	HWY: IH 90	COUNTY: LA CROSSE	CROSS SECTIONS: TEMPORARY MT RAMP	SHEET 353	E

FILE NAME : N:\C3D\41062770\SHEETSPLAN\10710680_SECTIONS_TEMPMTRAMP.DWG PLOT DATE : 10/29/2013 12:48 PM PLOT BY : GALLAGHER, JAMES PLOT NAME : PLOT SCALE : 1:10_XREF



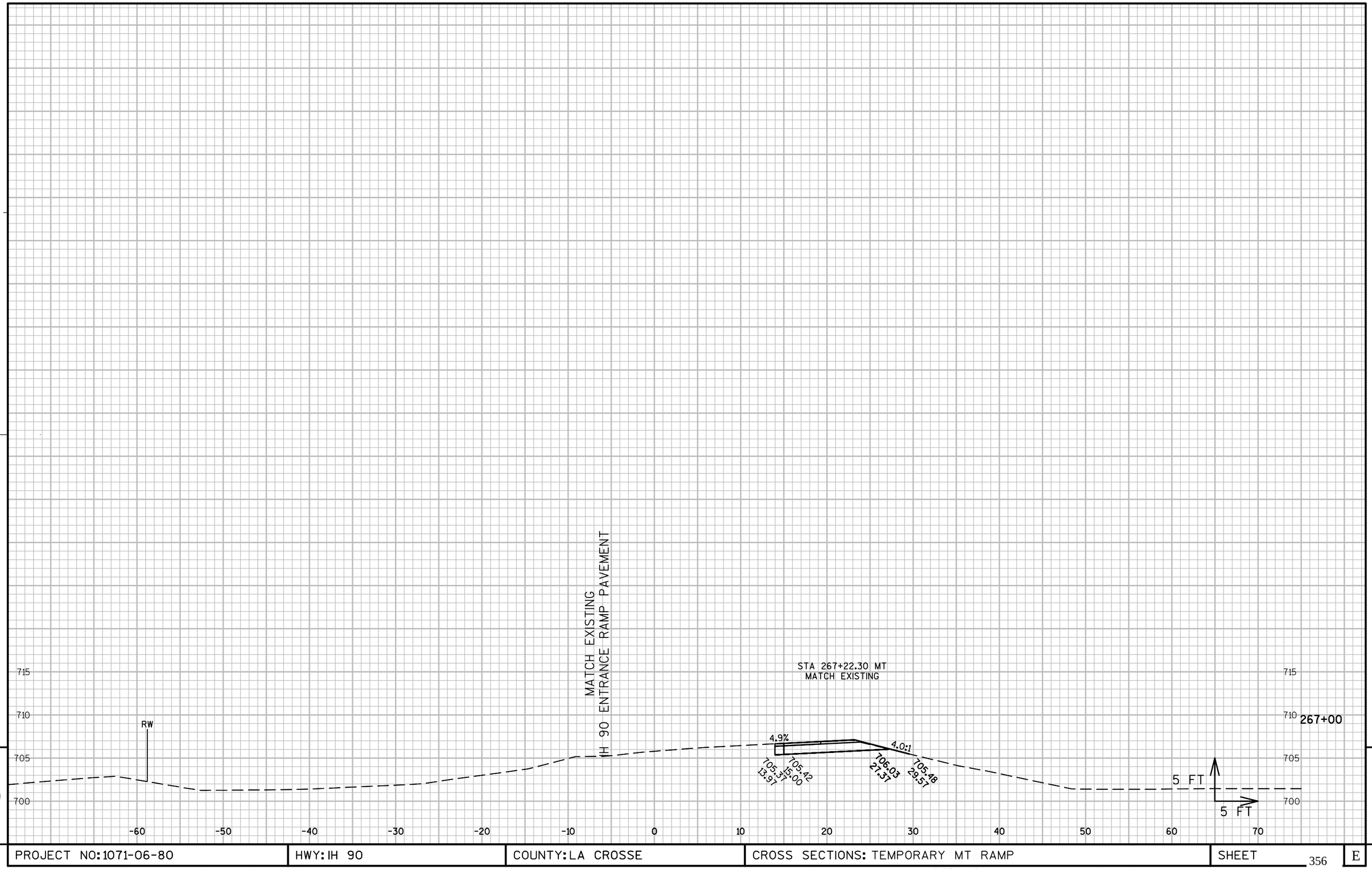
PROJECT NO:1071-06-80	HWY: IH 90	COUNTY: LA CROSSE	CROSS SECTIONS: TEMPORARY MT RAMP	SHEET 354	E

FILE NAME : N:\C3D\41062770\SHEETSPLAN\10710680_SECTIONS_TEMPMTRAMP.DWG PLOT DATE : 10/29/2013 12:49 PM PLOT BY : GALLAGHER, JAMES PLOT NAME : PLOT SCALE : 1:10_XREF



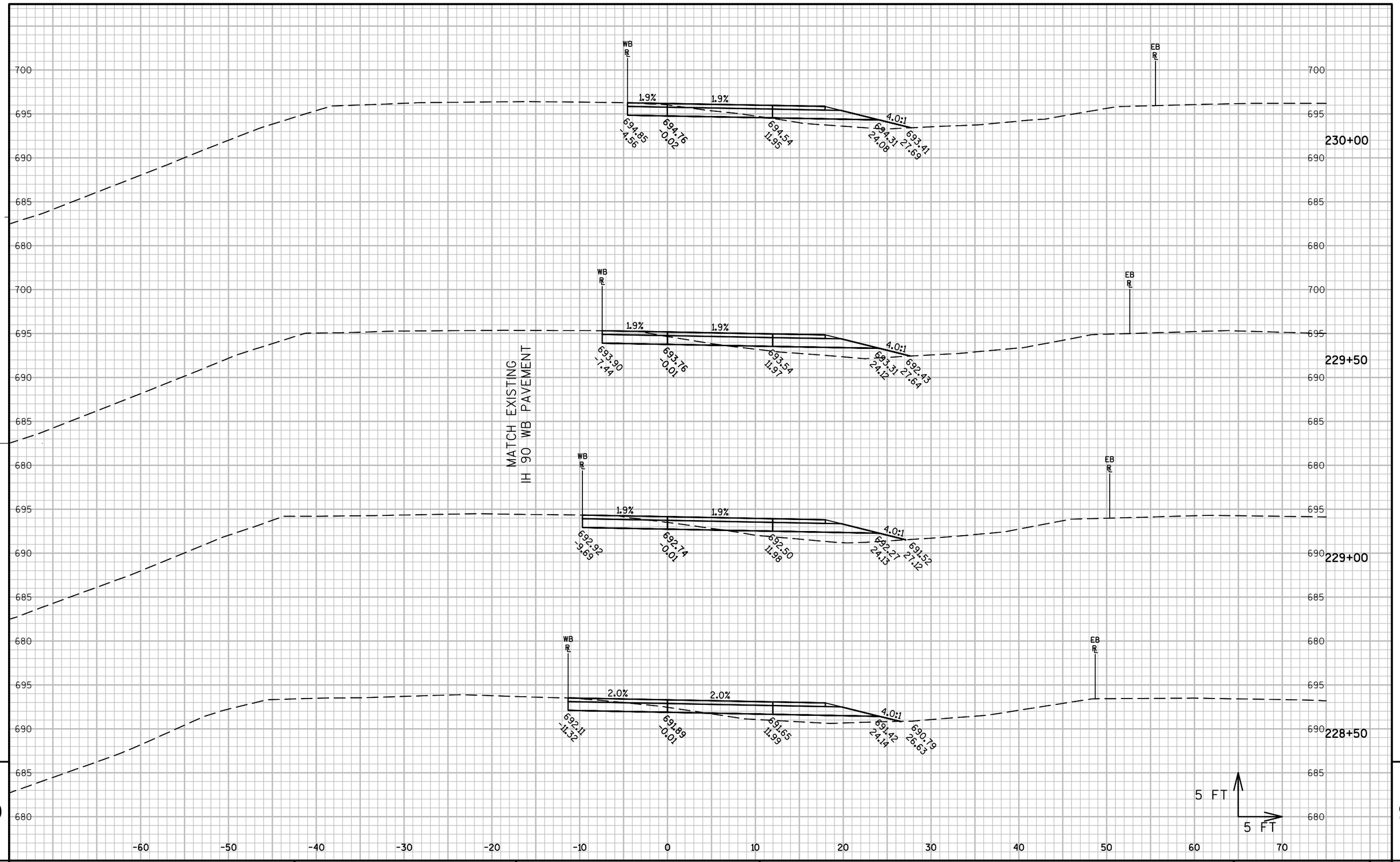
PROJECT NO:1071-06-80	HWY:IH 90	COUNTY:LA CROSSE	CROSS SECTIONS: TEMPORARY MT RAMP	SHEET 355	E

FILE NAME : N:\C3D\41062770\SHEETSPLAN\10710680_SECTIONS_TEMPMTRAMP.DWG PLOT DATE : 10/29/2013 12:49 PM PLOT BY : GALLAGHER, JAMES PLOT NAME : PLOT SCALE : 1:10_XREF



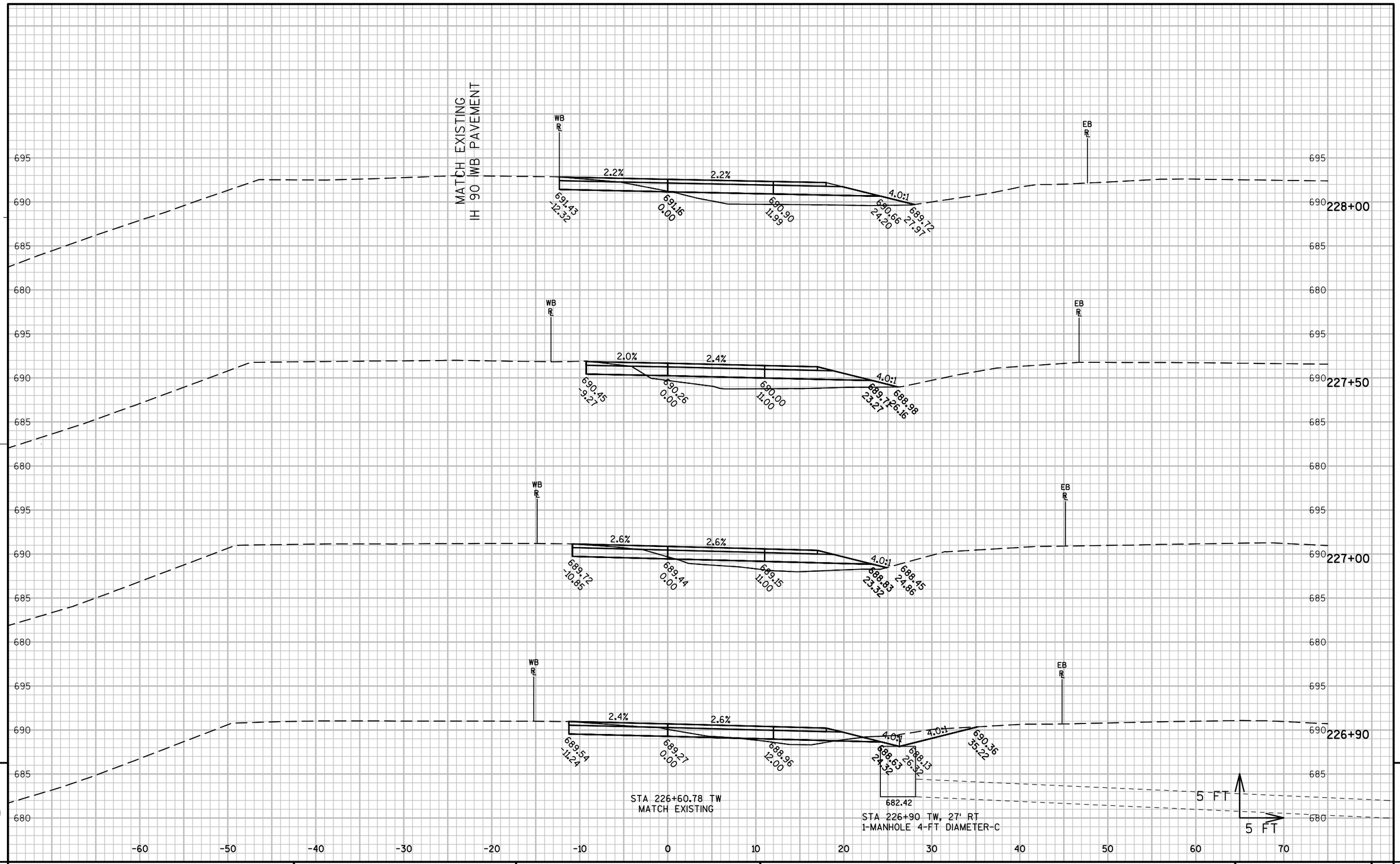
PROJECT NO:1071-06-80	HWY: IH 90	COUNTY: LA CROSSE	CROSS SECTIONS: TEMPORARY MT RAMP	SHEET 356	E

FILE NAME : N:\C3D\41062770\SHEETSPLAN\10710680_SECTIONS_TEMPMTRAMP.DWG PLOT DATE : 10/29/2013 12:49 PM PLOT BY : GALLAGHER, JAMES PLOT NAME : PLOT SCALE : 1:10_XREF

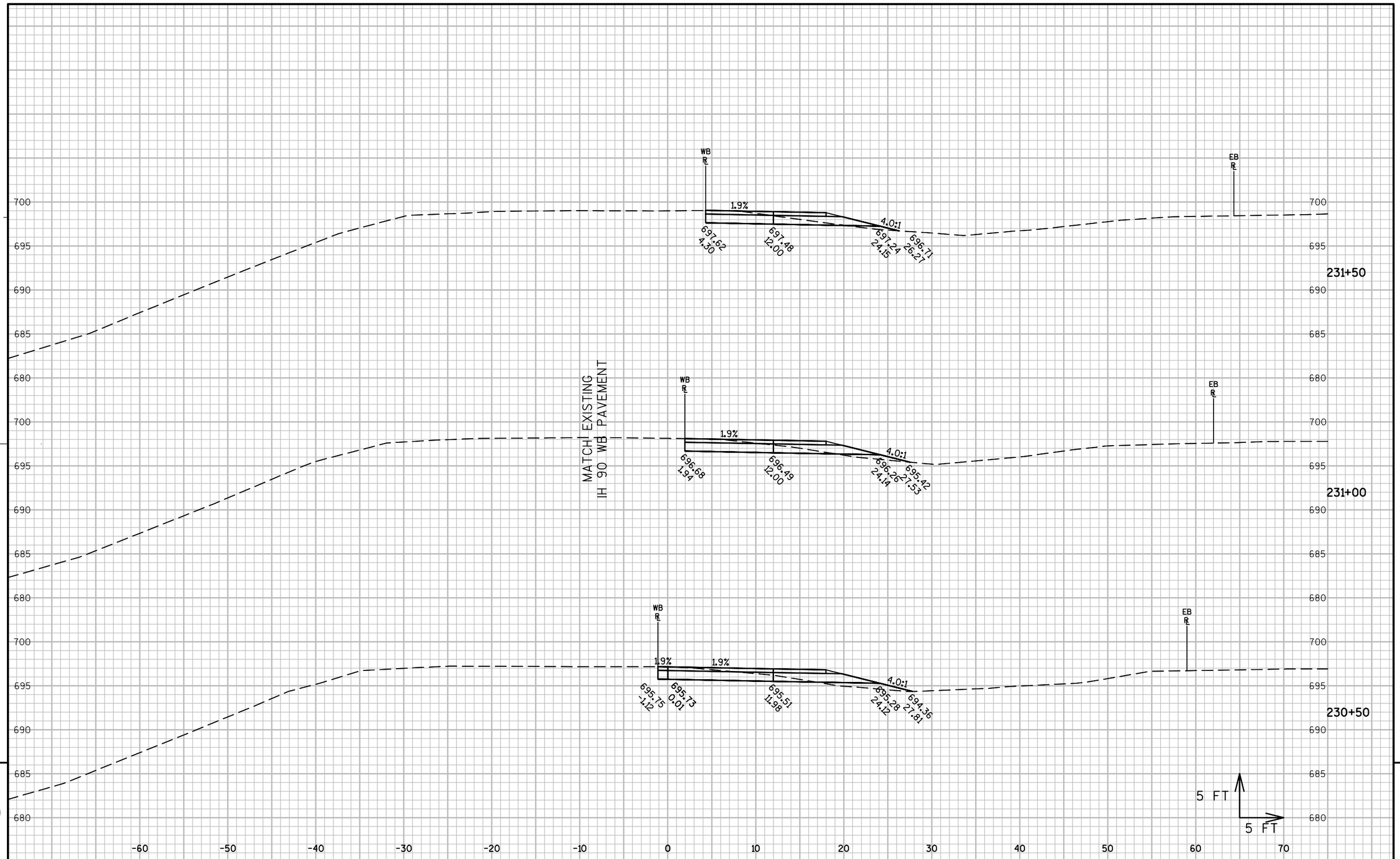


PROJECT NO:1071-06-80	HWY: IH 90	COUNTY: LA CROSSE	CROSS SECTIONS: TEMPORARY TW WIDENING	SHEET 357	E

FILE NAME : N:\C3D\41062770\SHEETSPLAN\10710680_SECTIONS_PREP.DWG PLOT DATE : 10/28/2013 1:49 PM PLOT BY : GALLAGHER, JAMES PLOT NAME : PLOT SCALE : 1:10_XREF



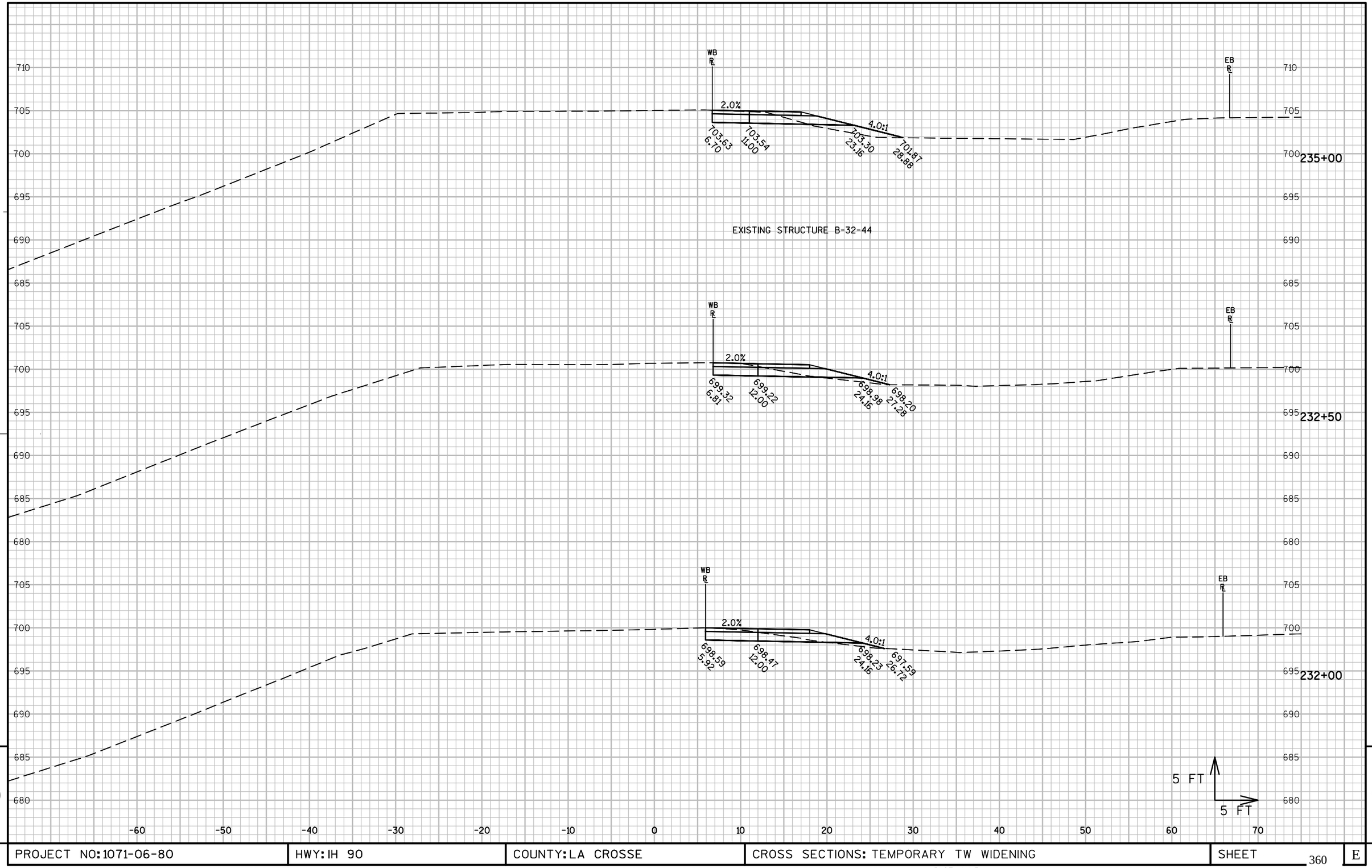
PROJECT NO:1071-06-80	HWY: IH 90	COUNTY: LA CROSSE	CROSS SECTIONS: TEMPORARY TW WIDENING	SHEET 358	E



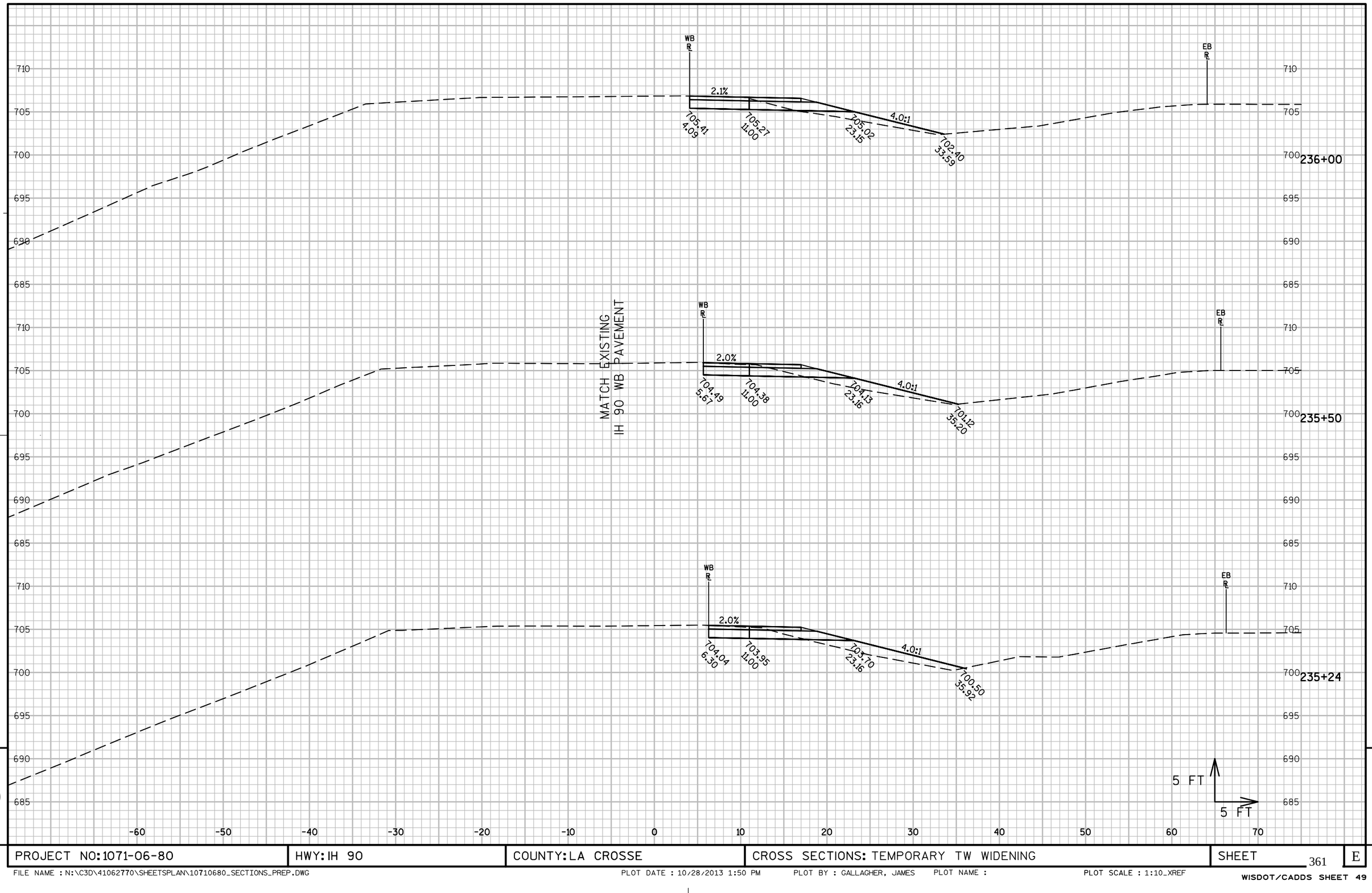
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9

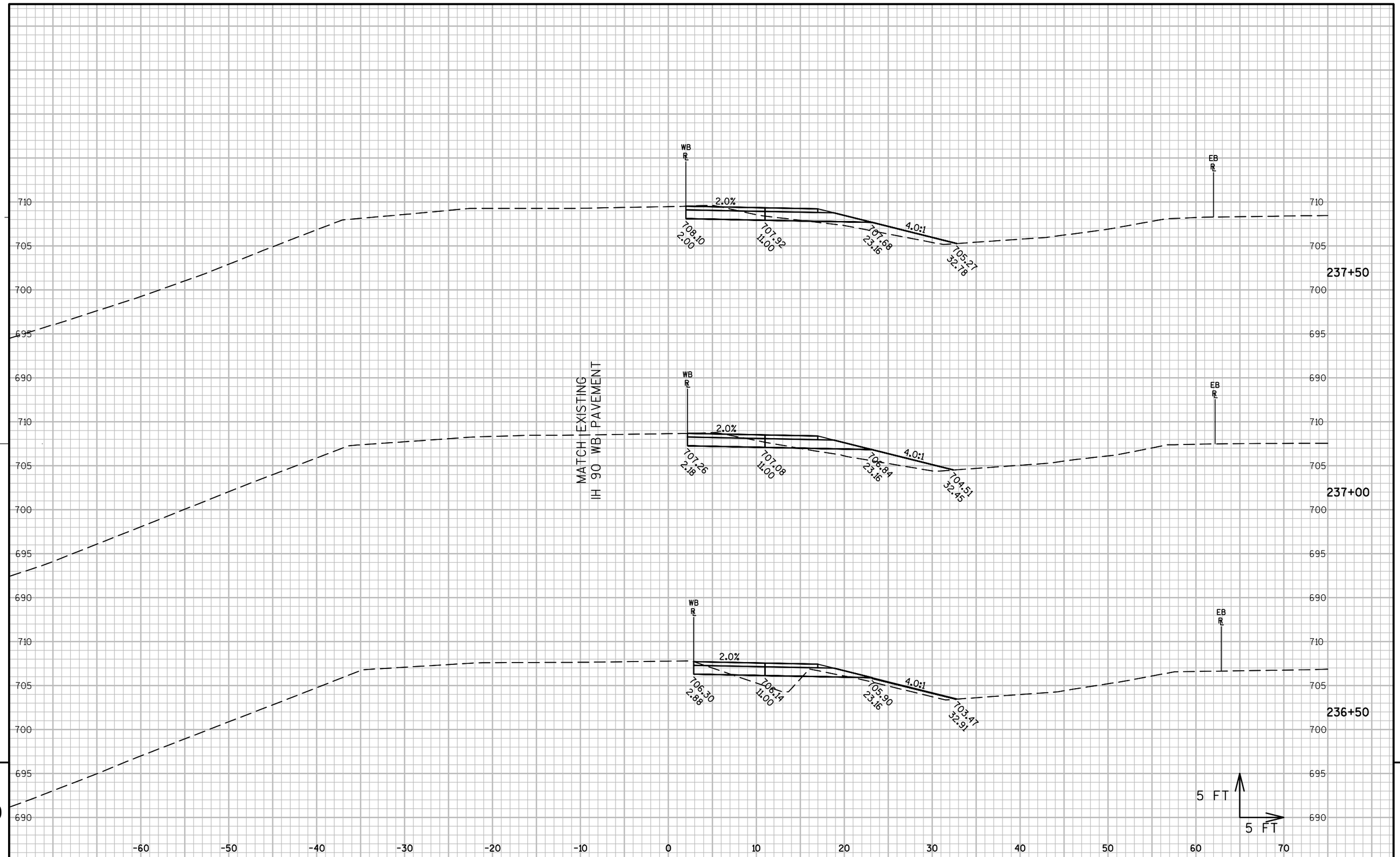
PROJECT NO: 1071-06-80	HWY: IH 90	COUNTY: LA CROSSE	CROSS SECTIONS: TEMPORARY TW WIDENING	SHEET 359	E



PROJECT NO:1071-06-80	HWY: IH 90	COUNTY: LA CROSSE	CROSS SECTIONS: TEMPORARY TW WIDENING	SHEET 360	E



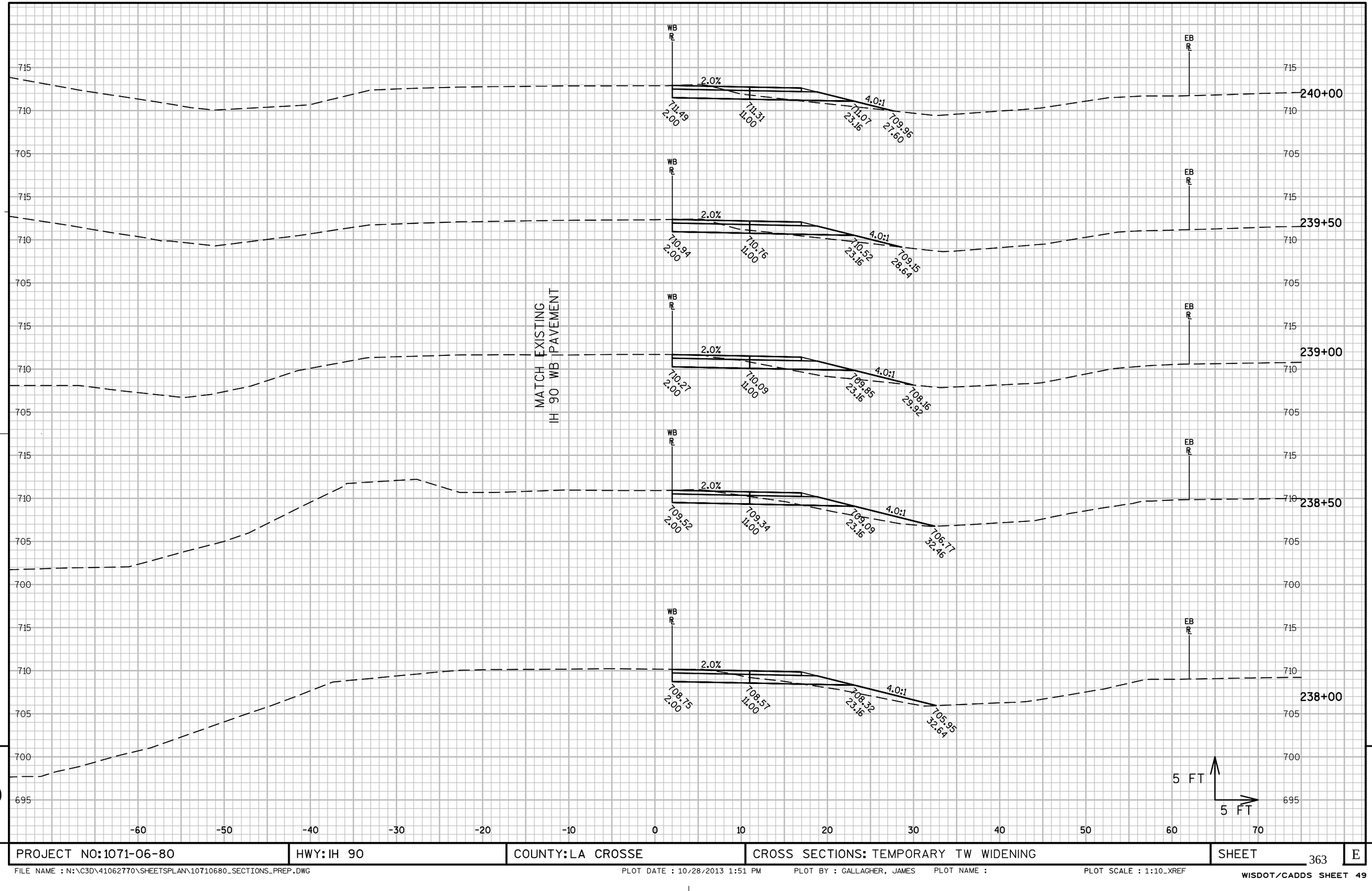
PROJECT NO:1071-06-80	HWY: IH 90	COUNTY: LA CROSSE	CROSS SECTIONS: TEMPORARY TW WIDENING	SHEET 361	E



9

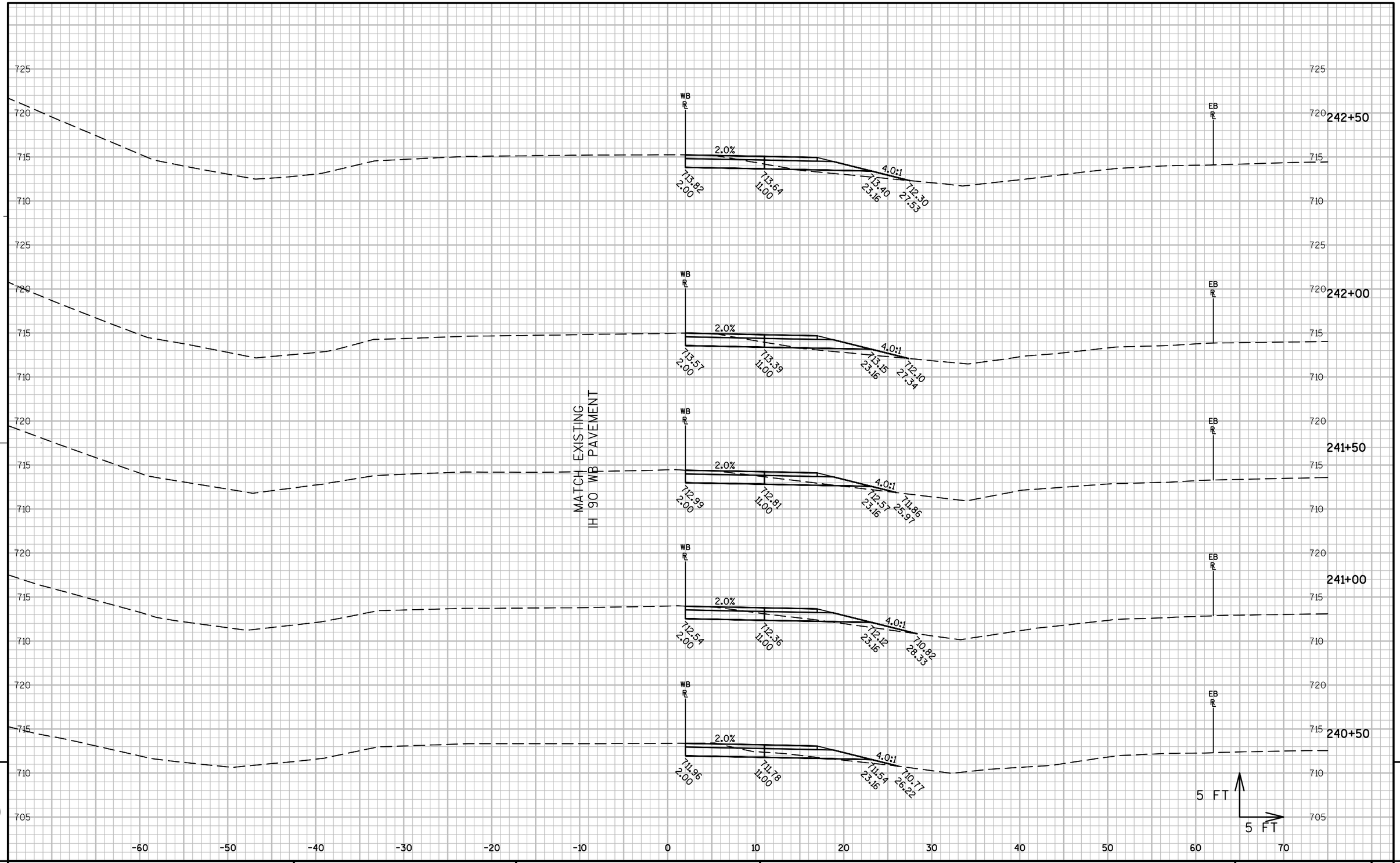
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PROJECT NO:1071-06-80	HWY: IH 90	COUNTY: LA CROSSE	CROSS SECTIONS: TEMPORARY TW WIDENING	SHEET 362	E



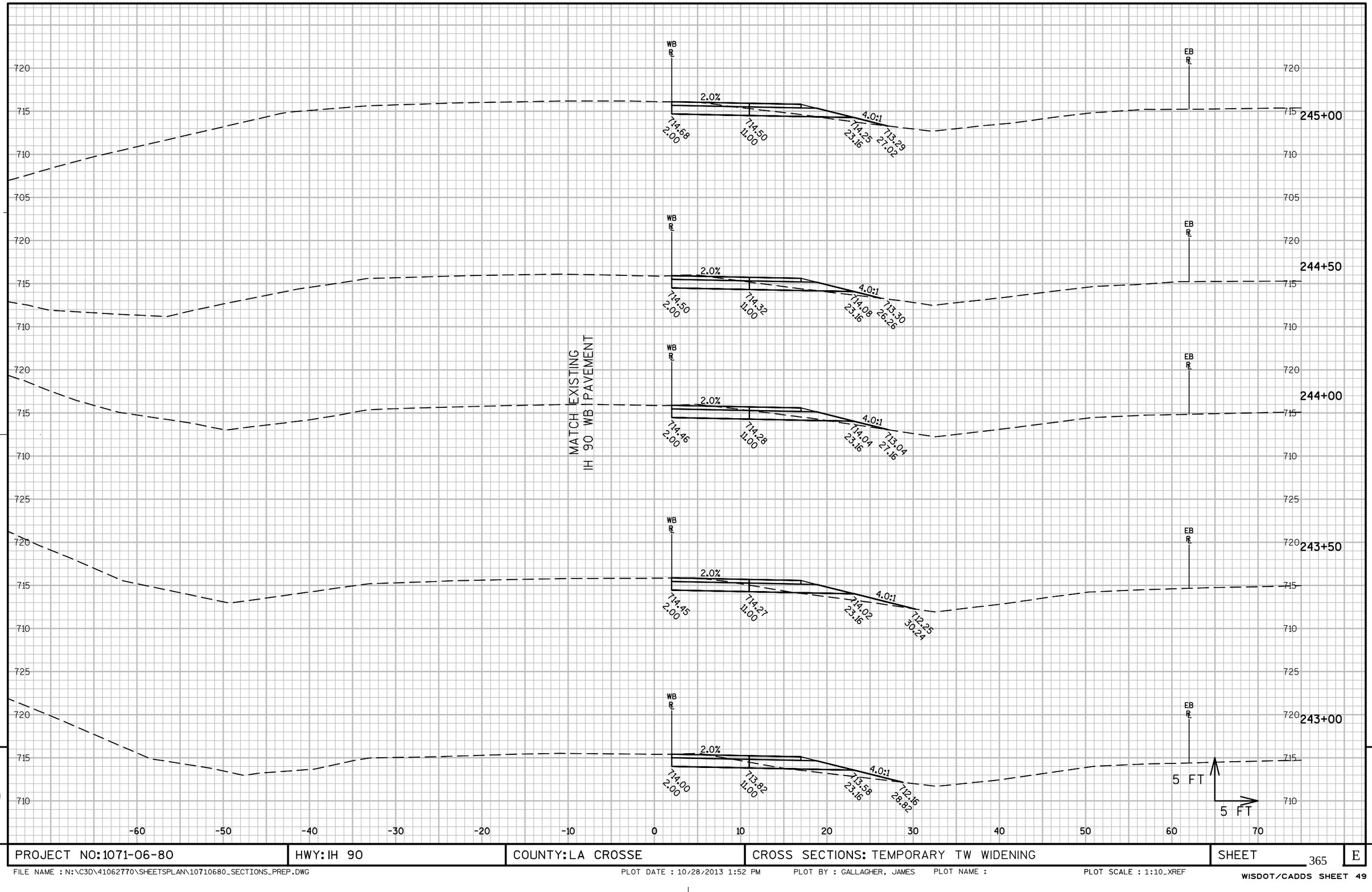
PROJECT NO:1071-06-80	HWY: IH 90	COUNTY: LA CROSSE	CROSS SECTIONS: TEMPORARY TW WIDENING	SHEET 363	E

FILE NAME : N:\C3D\41062770\SHEETSPLAN\10710680_SECTIONS_PREP.DWG PLOT DATE : 10/28/2013 1:51 PM PLOT BY : GALLAGHER, JAMES PLOT NAME : PLOT SCALE : 1:10_XREF



PROJECT NO:1071-06-80	HWY: IH 90	COUNTY: LA CROSSE	CROSS SECTIONS: TEMPORARY TW WIDENING	SHEET 364	E

FILE NAME : N:\C3D\41062770\SHEETSPLAN\10710680_SECTIONS_PREP.DWG PLOT DATE : 10/28/2013 1:51 PM PLOT BY : GALLAGHER, JAMES PLOT NAME : PLOT SCALE : 1:10_XREF



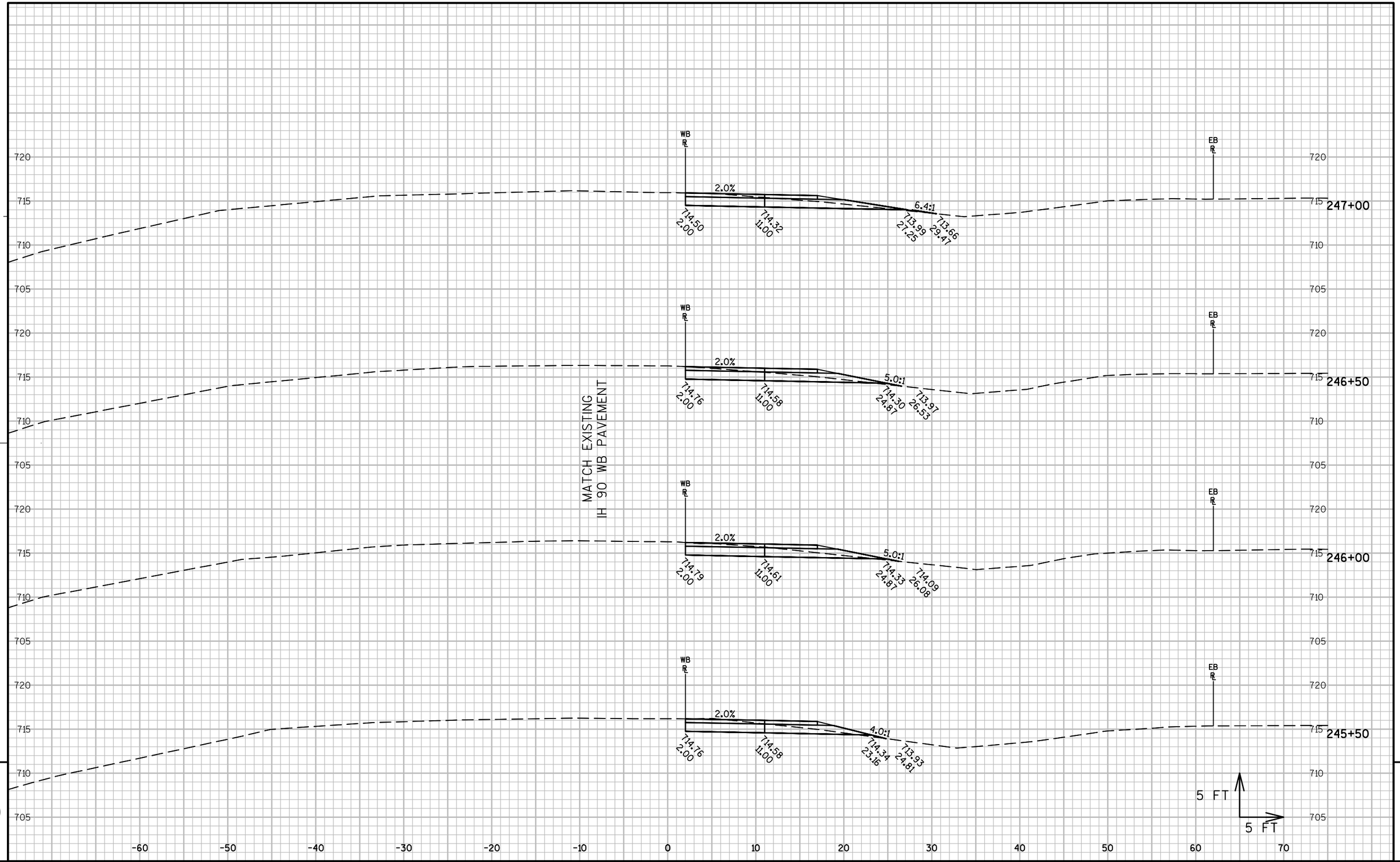
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9

PROJECT NO:1071-06-80	HWY: IH 90	COUNTY: LA CROSSE	CROSS SECTIONS: TEMPORARY TW WIDENING	SHEET 365	E

FILE NAME : N:\C3D\41062770\SHEETSPLAN\10710680_SECTIONS_PREP.DWG PLOT DATE : 10/28/2013 1:52 PM PLOT BY : GALLAGHER, JAMES PLOT NAME : PLOT SCALE : 1:10_XREF

WISDOT/CADDS SHEET 49

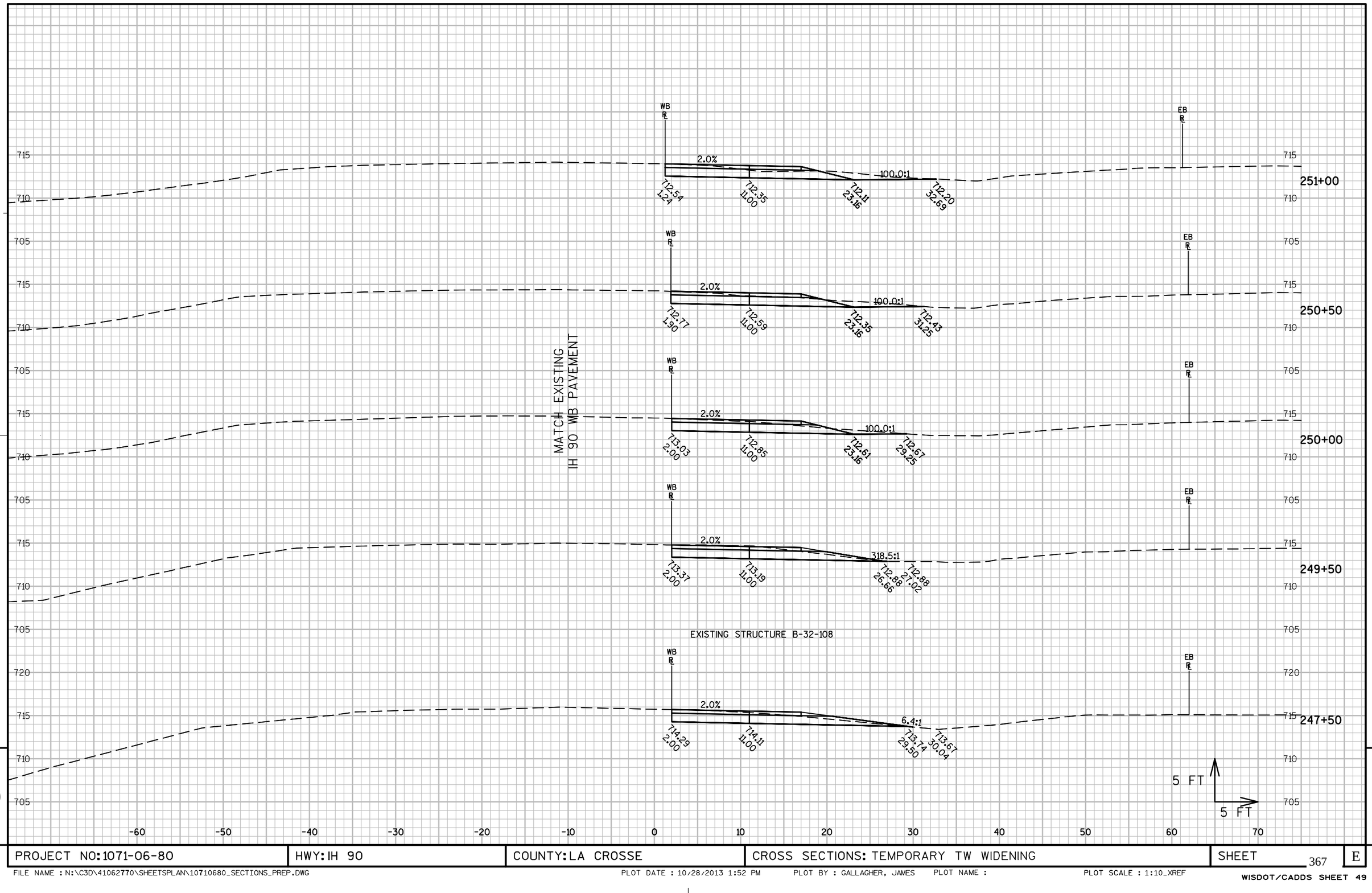


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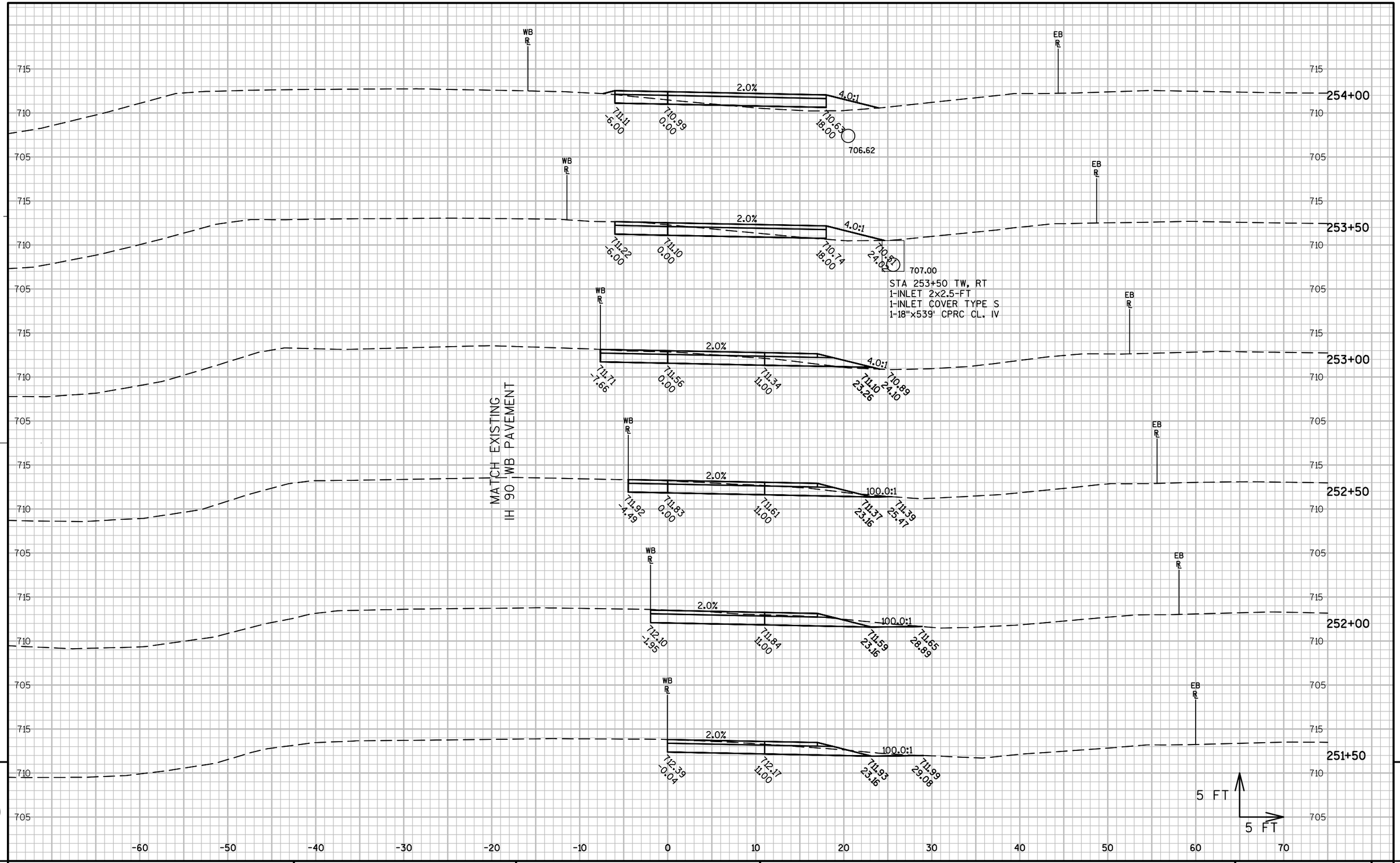
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PROJECT NO:1071-06-80	HWY: IH 90	COUNTY: LA CROSSE	CROSS SECTIONS: TEMPORARY TW WIDENING	SHEET 366	E

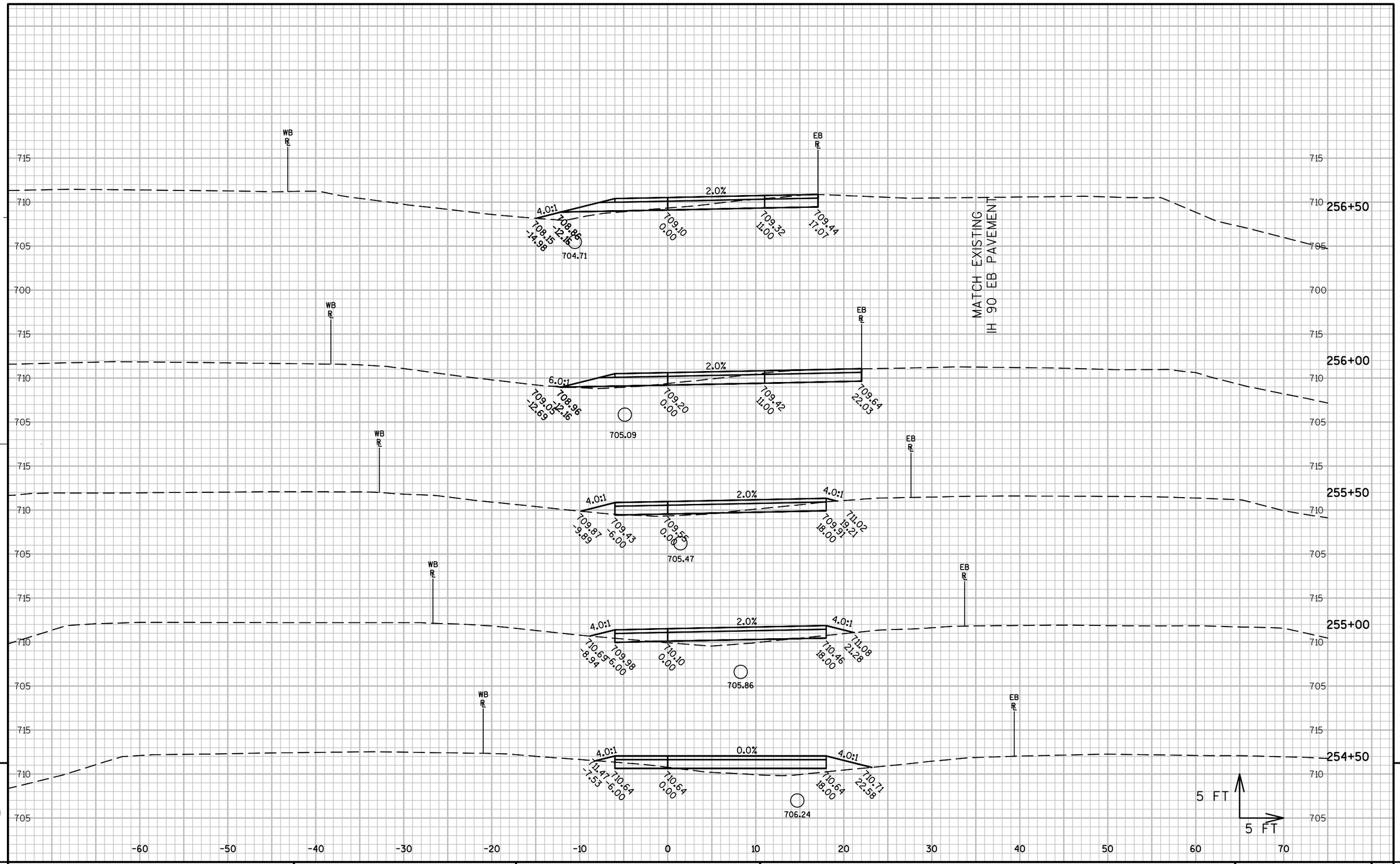
FILE NAME : N:\C3D\41062770\SHEETSPLAN\10710680_SECTIONS_PREP.DWG PLOT DATE : 10/28/2013 1:52 PM PLOT BY : GALLAGHER, JAMES PLOT NAME : PLOT SCALE : 1:10_XREF
WISDOT/CADDS SHEET 49



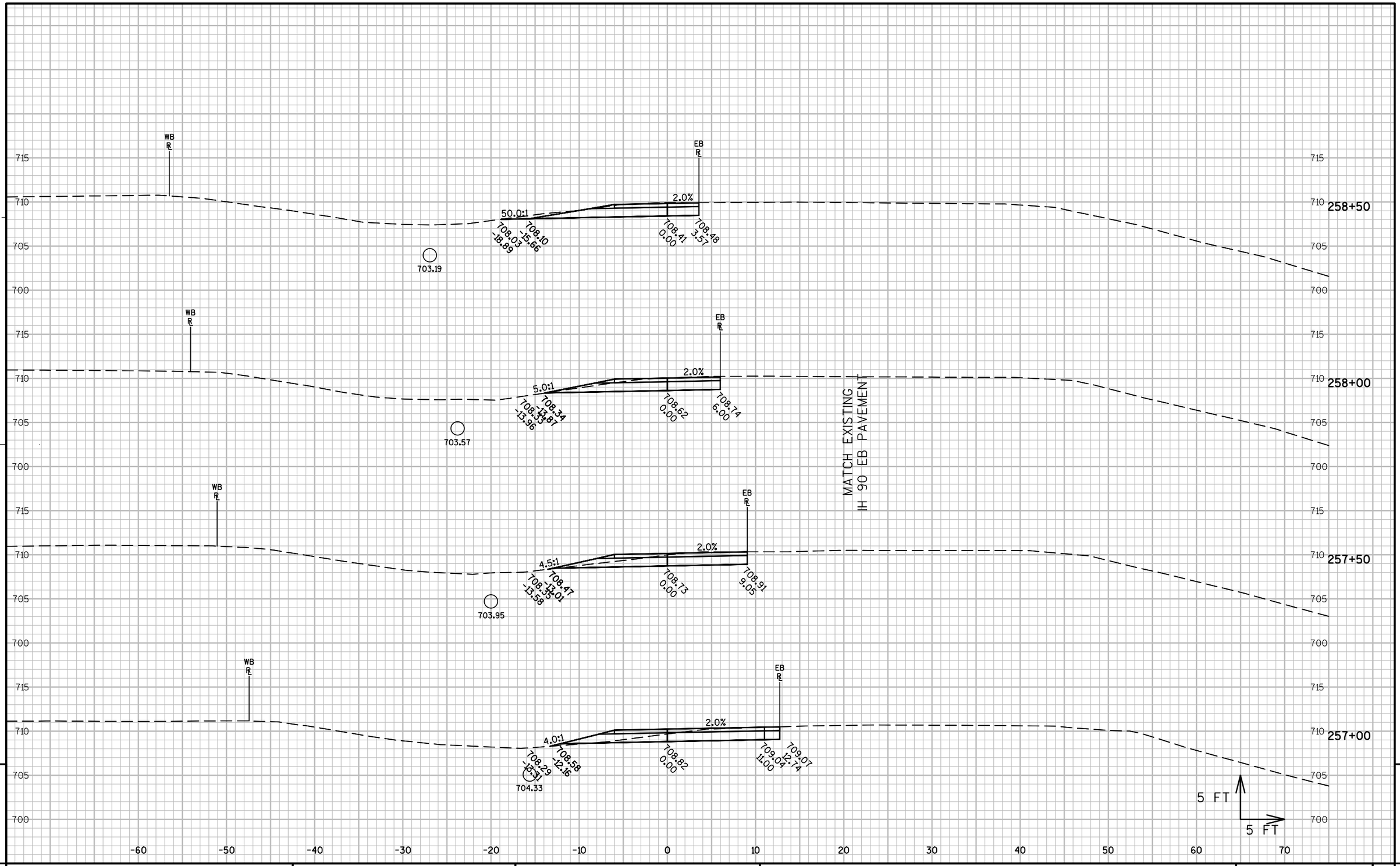
PROJECT NO:1071-06-80	HWY:IH 90	COUNTY:LA CROSSE	CROSS SECTIONS: TEMPORARY TW WIDENING	SHEET 367	E



PROJECT NO:1071-06-80	HWY: IH 90	COUNTY: LA CROSSE	CROSS SECTIONS: TEMPORARY TW WIDENING	SHEET 368	E



PROJECT NO:1071-06-80	HWY: IH 90	COUNTY: LA CROSSE	CROSS SECTIONS: TEMPORARY TW WIDENING	SHEET 369	E



PROJECT NO:1071-06-80	HWY: IH 90	COUNTY: LA CROSSE	CROSS SECTIONS: TEMPORARY TW WIDENING	SHEET 370	E

FILE NAME : N:\C3D\41062770\SHEETSPLAN\10710680_SECTIONS_PREP.DWG PLOT DATE : 10/28/2013 1:54 PM PLOT BY : GALLAGHER, JAMES PLOT NAME : PLOT SCALE : 1:10_XREF

STA 260+18.86 TW
MATCH EXISTING

WB
℄

EB
℄

710
705
700

2.0%

50.0:1

707.43
-25.08

707.52
-15.66

707.93
0.00

707.93
0.04

707.93

260+00

715
710
705
700

WB
℄

EB
℄

2.0%

50.0:1

707.61
-24.38

707.79
-15.66

708.10
0.00

708.11
0.39

259+50

WB
℄

EB
℄

2.0%

50.0:1

707.76
-24.32

707.94
-15.66

708.25
0.00

708.28
1.77

259+00

WB
℄

EB
℄

2.0%

50.0:1

707.82
-23.41

707.97
-15.68

708.28
-0.02

708.33
2.11

258+89

702.90

STA 258+89 TW, LT
1-INLET 4-FT DIAMETER
1-INLET COVER TYPE C

MATCH EXISTING
IH 90 EB PAVEMENT

5 FT

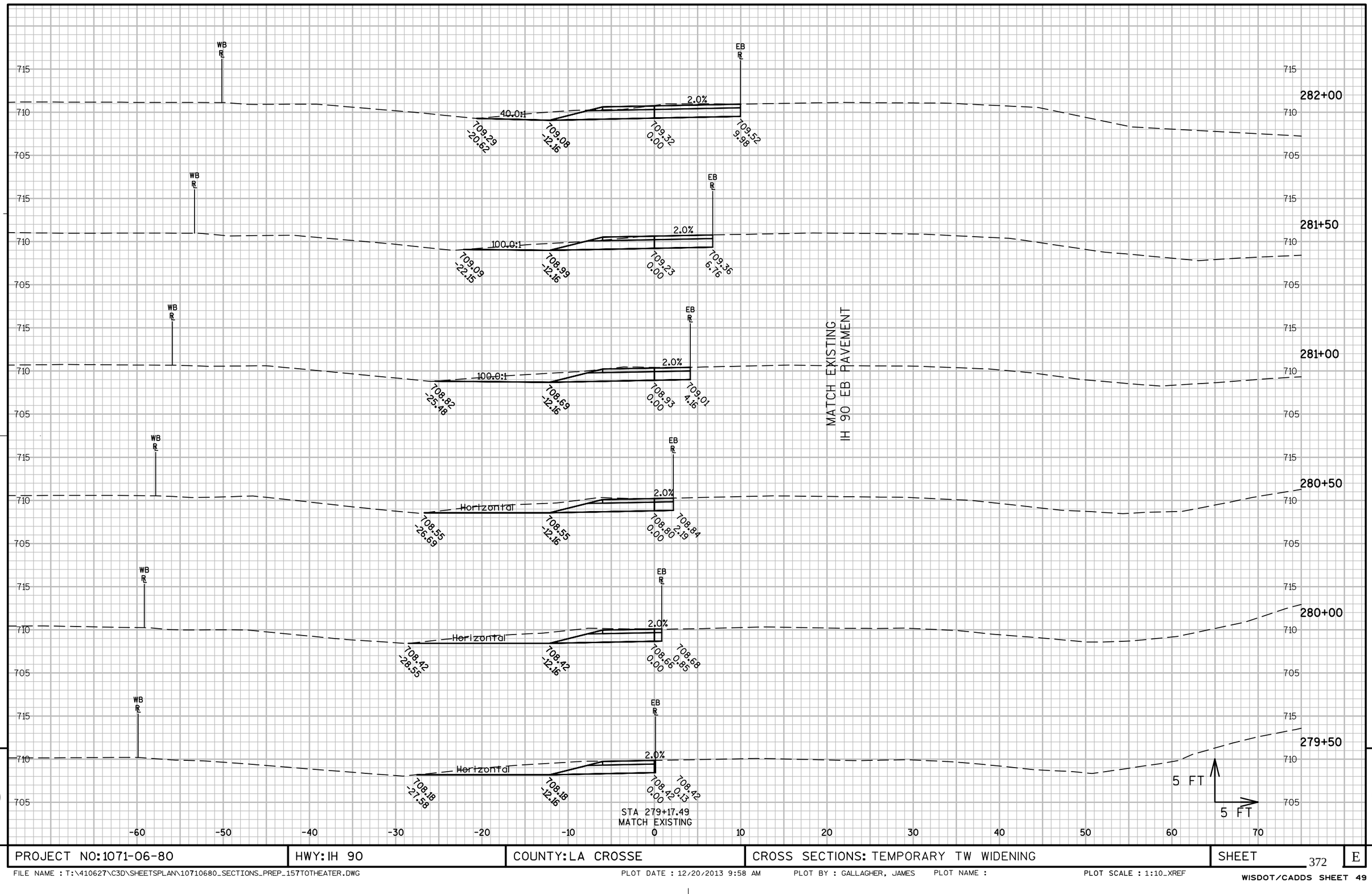
5 FT

-60 -50 -40 -30 -20 -10 0 10 20 30 40 50 60 70

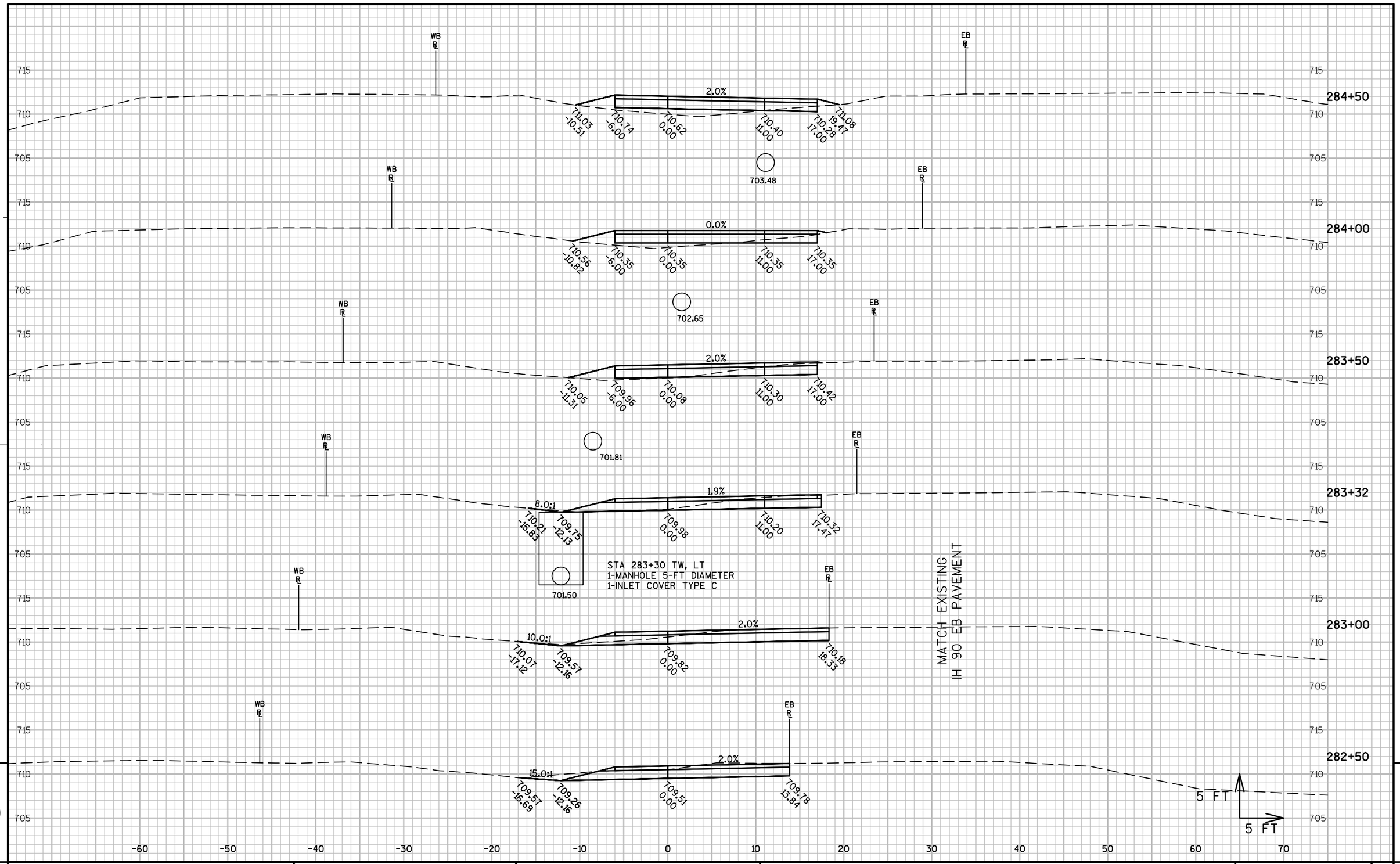
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9

PROJECT NO:1071-06-80	HWY: IH 90	COUNTY: LA CROSSE	CROSS SECTIONS: TEMPORARY TW WIDENING	SHEET 371	E



PROJECT NO:1071-06-80	HWY: IH 90	COUNTY: LA CROSSE	CROSS SECTIONS: TEMPORARY TW WIDENING	SHEET 372	E



PROJECT NO: 1071-06-80	HWY: IH 90	COUNTY: LA CROSSE	CROSS SECTIONS: TEMPORARY TW WIDENING	SHEET 373	E

FILE NAME : N:\C3D\41062770\SHEETSPLAN\10710680_SECTIONS_PREP_157TOTHEATER.DWG PLOT DATE : 10/28/2013 1:57 PM PLOT BY : GALLAGHER, JAMES PLOT NAME : PLOT SCALE : 1:10_XREF
WISDOT/CADDS SHEET 49

MATCH EXISTING
IH 90 WB PAVEMENT

287+50

WB ℄ EB ℄

2.7%
4.0:1
712.74 -9.66
712.48 0.00
712.19 11.00
711.85 23.35
710.98 26.84

287+00

WB ℄ EB ℄

2.7%
4.0:1
712.09 -10.88
711.87 0.00
711.57 11.00
711.24 23.16
710.52 26.04

286+50

WB ℄ EB ℄

2.6%
4.0:1
711.44 -6.00
711.32 0.00
711.04 11.00
710.72 23.32
710.50 23.80

286+00

WB ℄ EB ℄

2.4%
712.77 -6.76
711.54 -6.00
711.42 0.00
711.15 11.00
711.01 17.00
710.68 23.99

285+50

WB ℄ EB ℄

2.3%
712.05 -8.56
711.27 -6.00
711.15 0.00
710.90 11.00
710.76 17.00
710.63 23.19

285+00

WB ℄ EB ℄

2.1%
711.45 -9.90
711.00 -6.00
710.88 0.00
710.65 11.00
710.52 17.00
710.86 21.29
704.62

STA 285+18 TW, RT
1-INLET MEDIAN 1 GRATE
1-INLET COVER TYPE MS
1-24"x190' CPRC CL. III

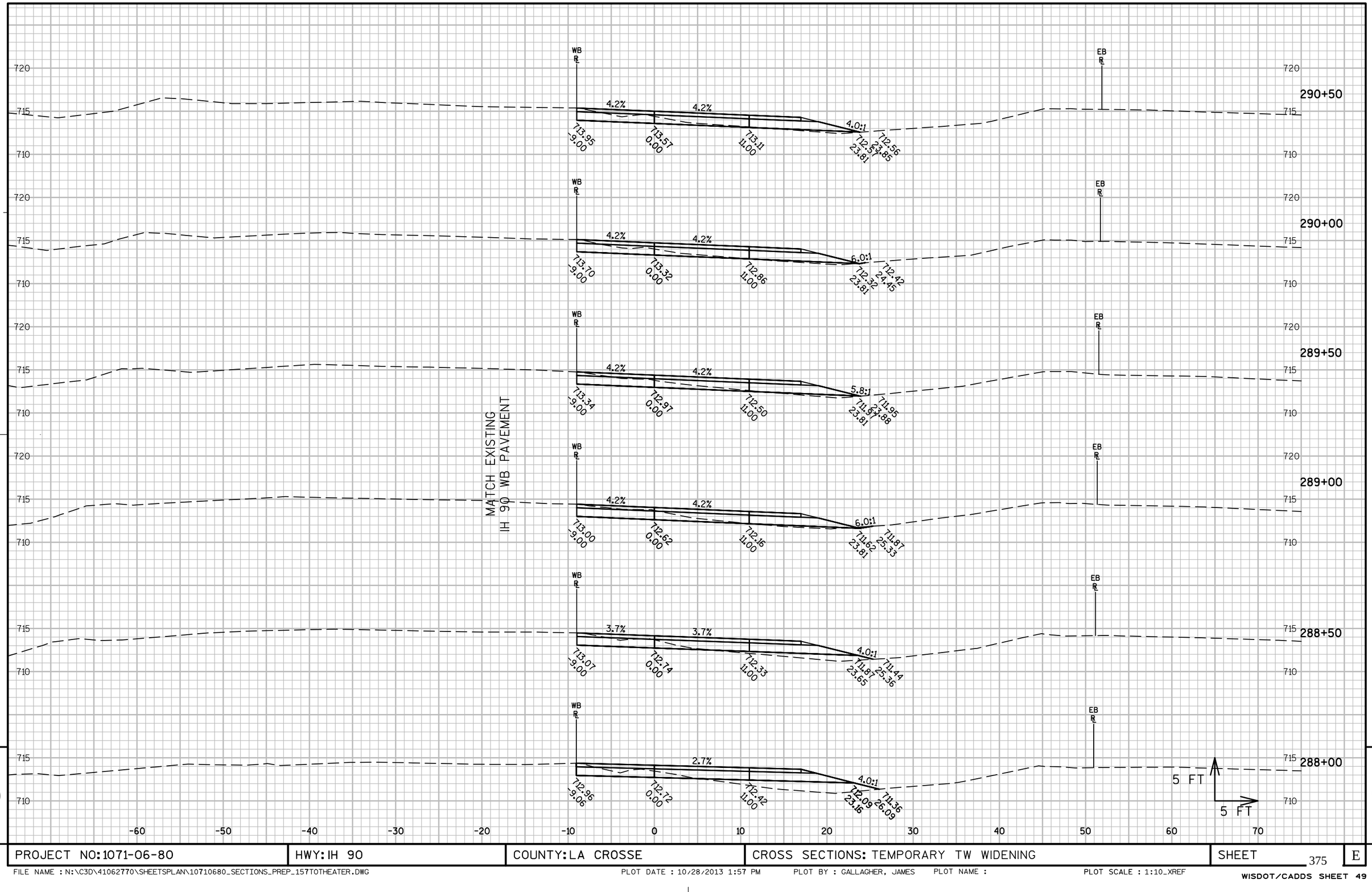
5 FT
5 FT

715 710 705

-60 -50 -40 -30 -20 -10 0 10 20 30 40 50 60 70

9 9

PROJECT NO:1071-06-80	HWY: IH 90	COUNTY: LA CROSSE	CROSS SECTIONS: TEMPORARY TW WIDENING	SHEET 374	E



PROJECT NO:1071-06-80	HWY: IH 90	COUNTY: LA CROSSE	CROSS SECTIONS: TEMPORARY TW WIDENING	SHEET 375	E

FILE NAME : N:\C3D\41062770\SHEETSPLAN\10710680_SECTIONS_PREP_157TOTHEATER.DWG PLOT DATE : 10/28/2013 1:57 PM PLOT BY : GALLAGHER, JAMES PLOT NAME : PLOT SCALE : 1:10_XREF

MATCH EXISTING IH 90 WB PAVEMENT

WB ℄ EB ℄

293+50

4.2% 4.2% 4.0:1

715.13 -9.00 | 714.76 0.00 | 714.29 11.00 | 713.76 23.81 | 713.74 23.89

293+00

4.2% 4.2% 4.0:1

714.88 -9.00 | 714.50 0.00 | 714.04 11.00 | 713.50 23.81 | 713.39 24.24

292+50

4.2% 4.2% 4.0:1

714.58 -9.00 | 714.20 0.00 | 713.74 11.00 | 713.20 23.81 | 712.93 24.89

292+00

4.2% 4.2% 4.0:1

714.32 -9.00 | 713.94 0.00 | 713.48 11.00 | 712.94 23.81 | 712.56 25.31

291+50

4.2% 4.2% 6.0:1

714.16 -9.00 | 713.78 0.00 | 713.32 11.00 | 712.78 23.81 | 713.41 27.60

291+00

4.2% 4.2% 6.0:1

714.03 -9.00 | 713.65 0.00 | 713.19 11.00 | 712.65 23.81 | 712.96 25.67

5 FT

5 FT

720 715 710

-60 -50 -40 -30 -20 -10 0 10 20 30 40 50 60 70

9 9

PROJECT NO:1071-06-80	HWY: IH 90	COUNTY: LA CROSSE	CROSS SECTIONS: TEMPORARY TW WIDENING	SHEET 376	E

FILE NAME : N:\C3D\41062770\SHEETSPLAN\10710680_SECTIONS_PREP_157TOTHEATER.DWG PLOT DATE : 10/28/2013 1:58 PM PLOT BY : GALLAGHER, JAMES PLOT NAME : PLOT SCALE : 1:10_XREF

MATCH EXISTING
IH 90 WB PAVEMENT

296+50

WB ℄ EB ℄

4.2% 4.2% 6.0:1

715.17 -9.00 | 715.79 0.00 | 715.33 11.00 | 714.79 23.81 | 715.19 26.19

296+00

WB ℄ EB ℄

4.2% 4.2% 6.0:1

715.95 -9.00 | 715.57 0.00 | 715.11 11.00 | 714.57 23.81 | 715.34 28.42

295+50

WB ℄ EB ℄

4.2% 4.2% 6.0:1

715.77 -9.00 | 715.39 0.00 | 714.93 11.00 | 714.39 23.81 | 714.89 26.83

295+00

WB ℄ EB ℄

4.2% 4.2% 6.0:1

715.71 -9.00 | 715.33 0.00 | 714.87 11.00 | 714.33 23.81 | 714.46 24.61

294+50

WB ℄ EB ℄

4.2% 4.2% 4.0:1

715.64 -9.00 | 715.27 0.00 | 714.80 11.00 | 714.21 23.81 | 714.18 24.17

294+00

WB ℄ EB ℄

4.2% 4.2% 4.0:1

715.40 -9.00 | 715.02 0.00 | 714.56 11.00 | 714.02 23.81 | 713.98 23.95

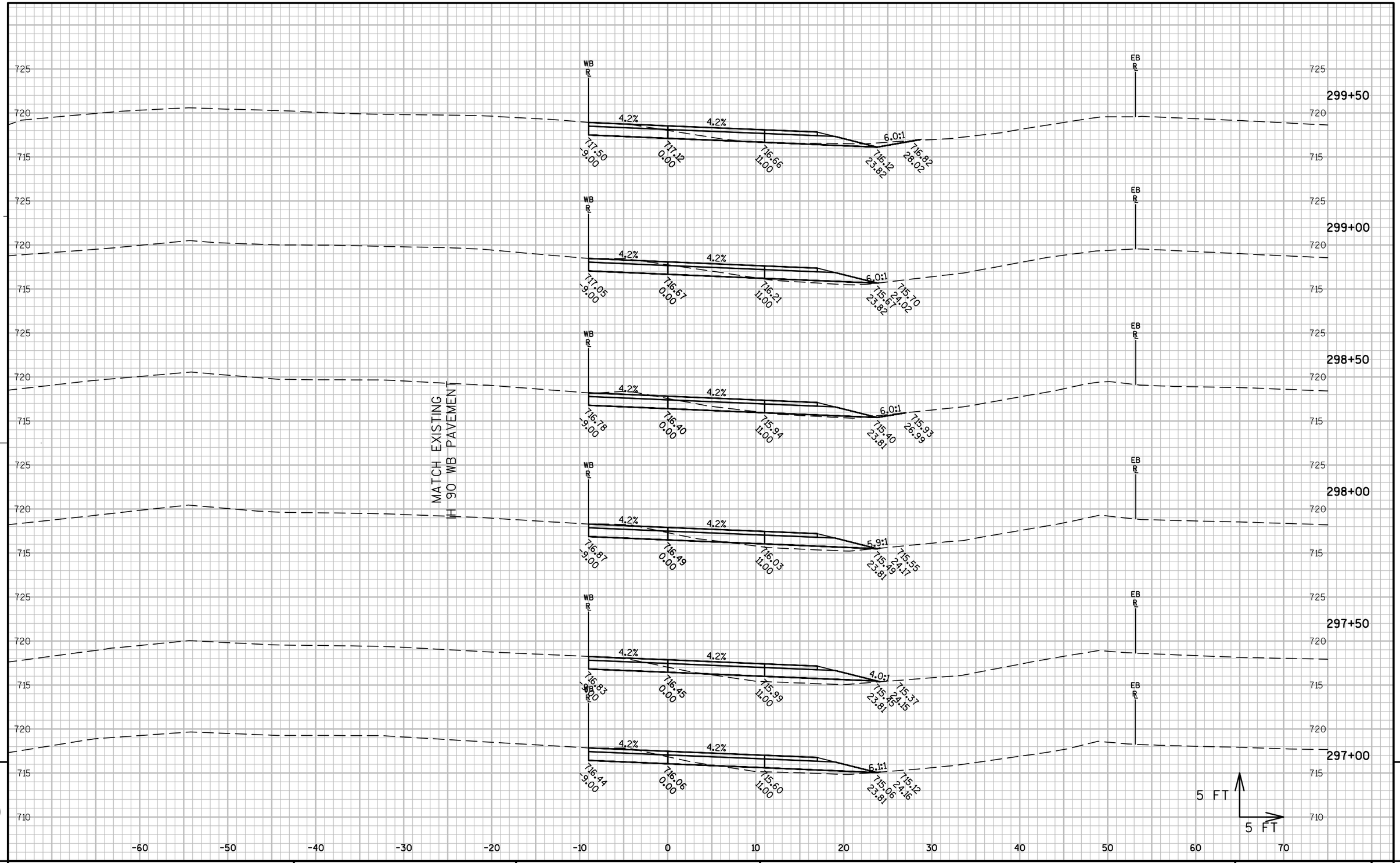
720 715 710

-60 -50 -40 -30 -20 -10 0 10 20 30 40 50 60 70

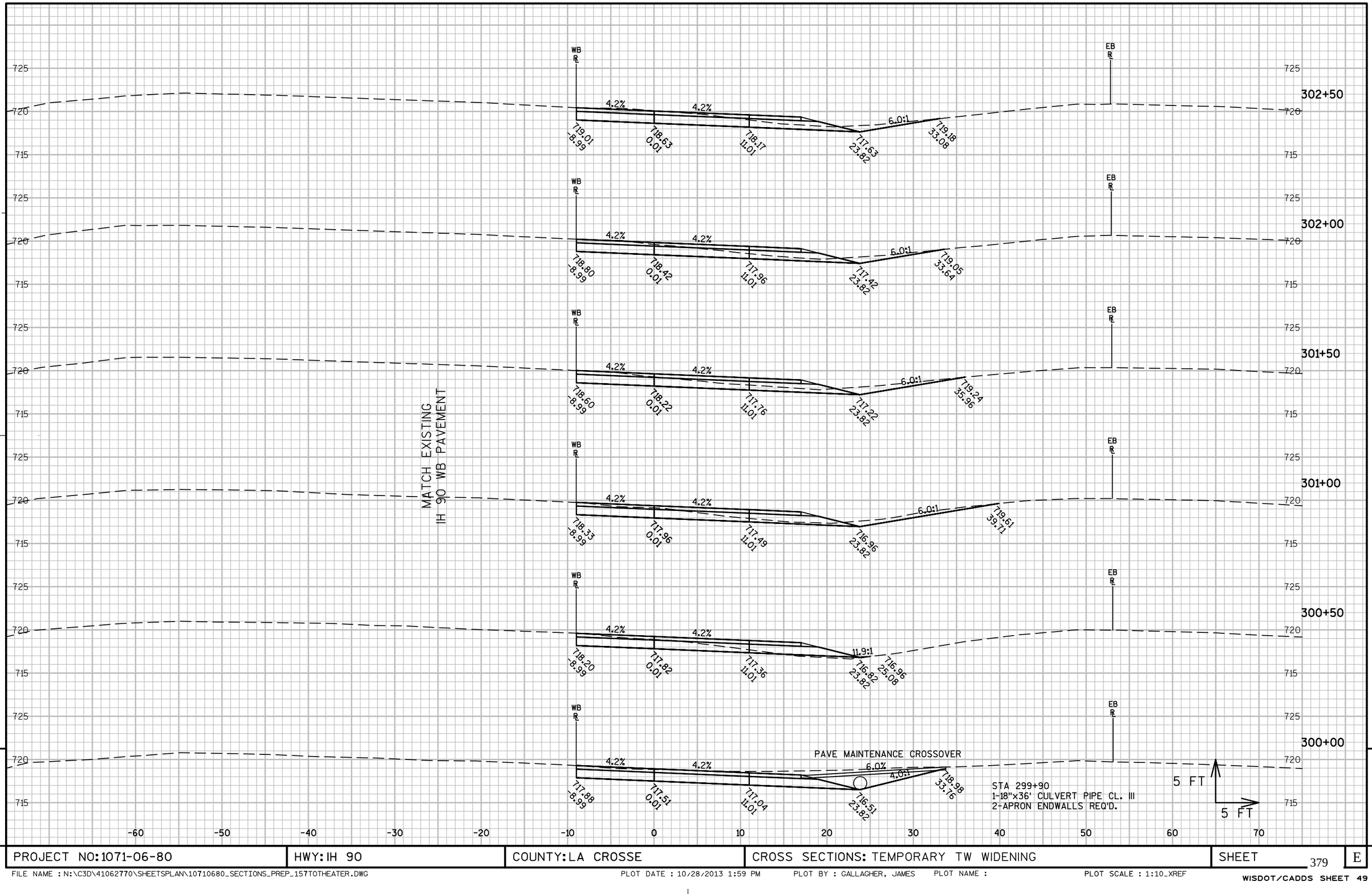
5 FT
5 FT

9 9

PROJECT NO:1071-06-80	HWY: IH 90	COUNTY: LA CROSSE	CROSS SECTIONS: TEMPORARY TW WIDENING	SHEET 377	E



PROJECT NO:1071-06-80	HWY: IH 90	COUNTY:LA CROSSE	CROSS SECTIONS: TEMPORARY TW WIDENING	SHEET 378	E



PROJECT NO:1071-06-80	HWY: IH 90	COUNTY: LA CROSSE	CROSS SECTIONS: TEMPORARY TW WIDENING	SHEET 379	E

MATCH EXISTING IH 90 WB PAVEMENT

305+50

WB ℄ 4.2% 4.2% 4.0:1 EB ℄
720.53 -7.70 | 720.21 0.00 | 719.75 11.00 | 719.21 23.80 | 719.16 23.99

305+00

WB ℄ 4.2% 4.2% 6.0:1 EB ℄
720.31 -8.67 | 719.95 0.00 | 719.49 11.00 | 718.95 23.81 | 722.07 42.48

304+50

WB ℄ 4.2% 4.2% 6.0:1 EB ℄
720.03 -9.00 | 719.66 0.00 | 719.19 11.00 | 718.66 23.81 | 721.52 41.02

304+00

WB ℄ 4.2% 4.2% 6.0:1 EB ℄
719.85 -8.99 | 719.47 0.01 | 719.01 11.01 | 718.47 23.82 | 720.65 36.93

303+50

WB ℄ 4.2% 4.2% 6.0:1 EB ℄
719.64 -8.99 | 719.26 0.01 | 718.80 11.01 | 718.26 23.82 | 719.75 32.79

303+00

WB ℄ 4.2% 4.2% 6.0:1 4.0:1 EB ℄
719.29 -8.99 | 718.91 0.01 | 718.45 11.01 | 717.91 23.82 | 719.30 31.32

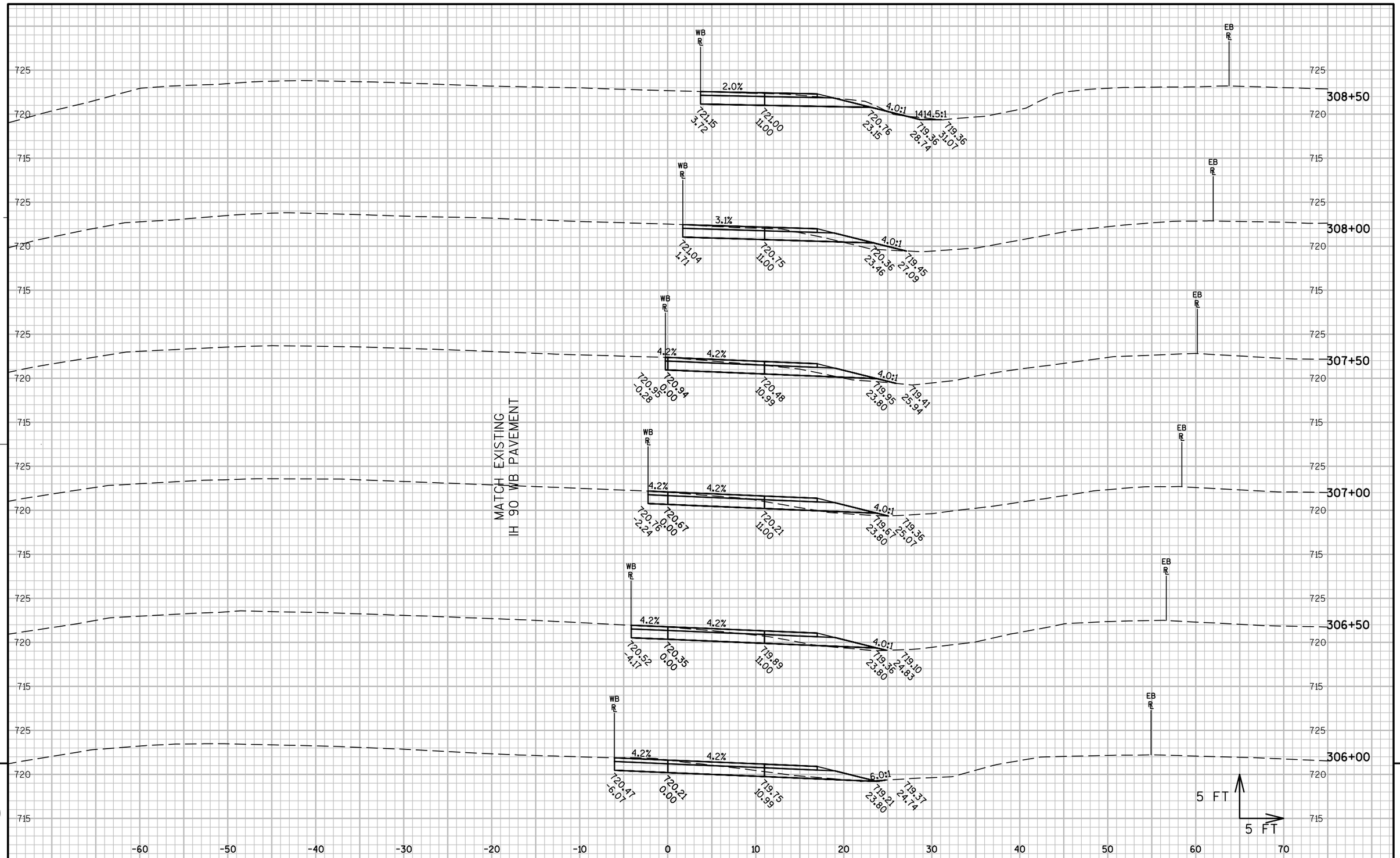
725 720 715

-60 -50 -40 -30 -20 -10 0 10 20 30 40 50 60 70

5 FT
5 FT

9 9

PROJECT NO: 1071-06-80	HWY: IH 90	COUNTY: LA CROSSE	CROSS SECTIONS: TEMPORARY TW WIDENING	SHEET 380	E

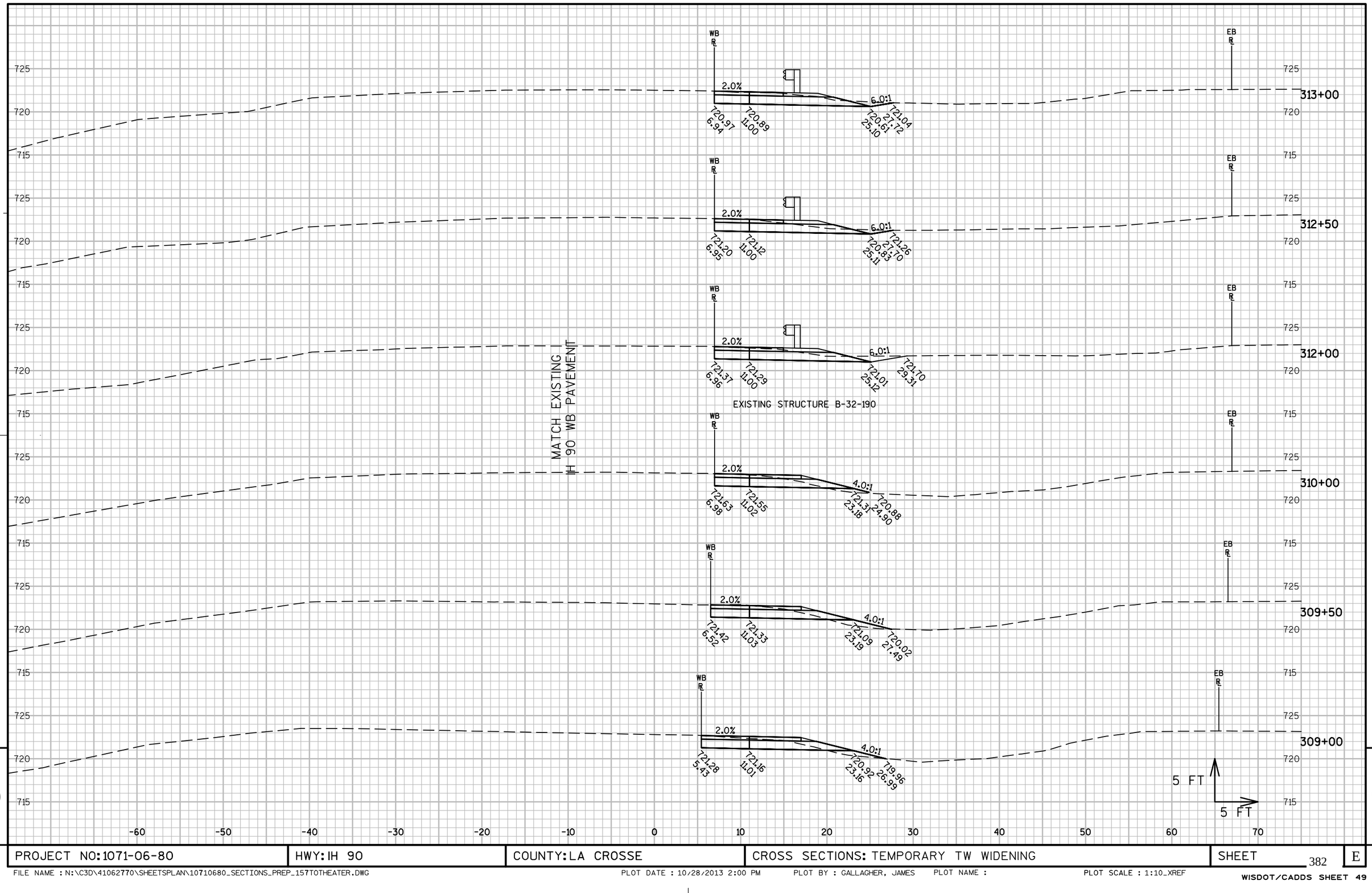


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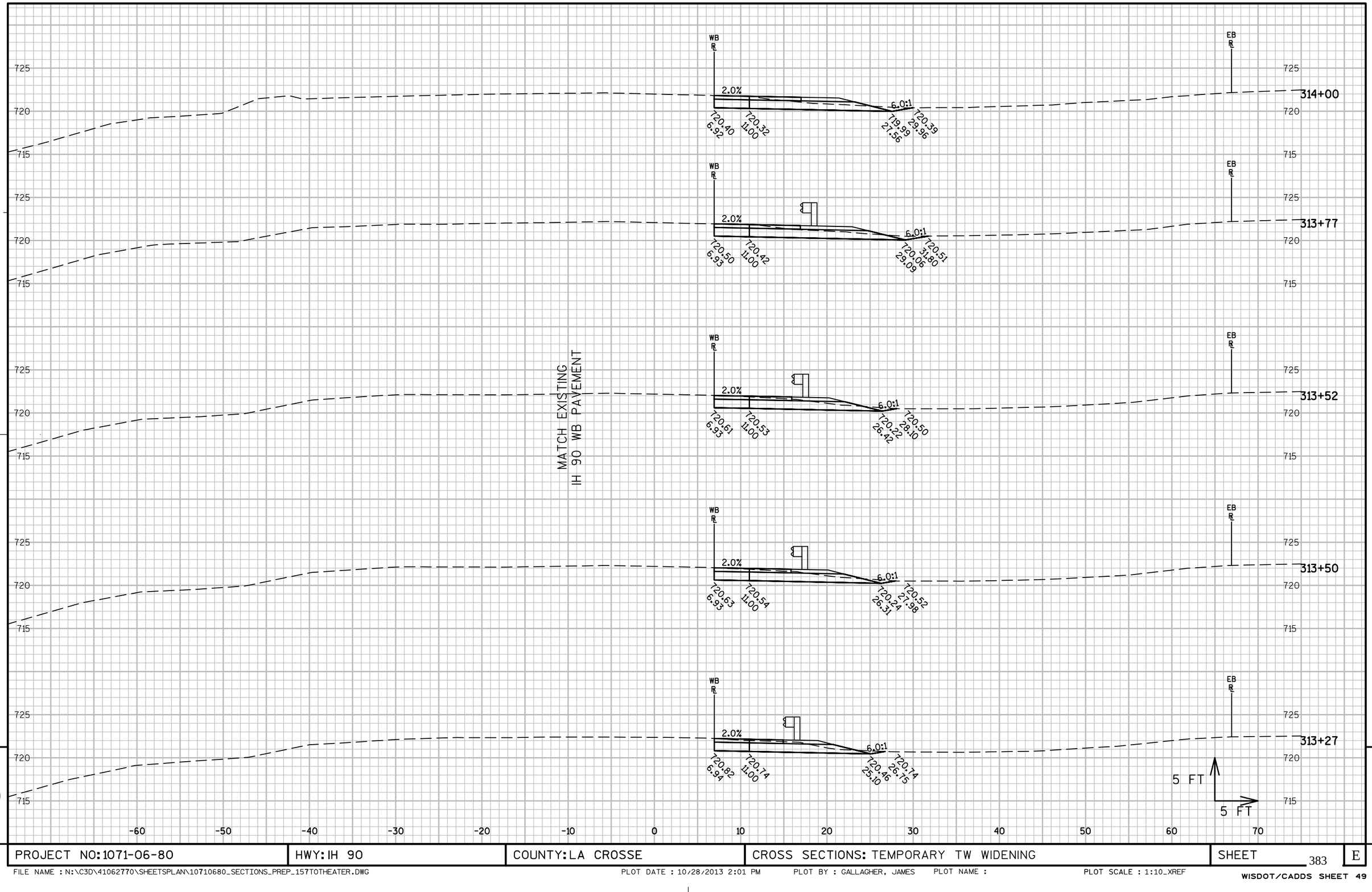
9

PROJECT NO:1071-06-80	HWY: IH 90	COUNTY: LA CROSSE	CROSS SECTIONS: TEMPORARY TW WIDENING	SHEET 381	E

FILE NAME : N:\C3D\41062770\SHEETSPLAN\10710680_SECTIONS_PREP_157TOTHEATER.DWG PLOT DATE : 10/28/2013 2:00 PM PLOT BY : GALLAGHER, JAMES PLOT NAME : PLOT SCALE : 1:10_XREF



PROJECT NO:1071-06-80	HWY: IH 90	COUNTY: LA CROSSE	CROSS SECTIONS: TEMPORARY TW WIDENING	SHEET 382	E



PROJECT NO: 1071-06-80	HWY: IH 90	COUNTY: LA CROSSE	CROSS SECTIONS: TEMPORARY TW WIDENING	SHEET 383	E

FILE NAME : N:\C3D\41062770\SHEETSPLAN\10710680_SECTIONS_PREP_157TOTHEATER.DWG PLOT DATE : 10/28/2013 2:01 PM PLOT BY : GALLAGHER, JAMES PLOT NAME : PLOT SCALE : 1:10_XREF

MATCH EXISTING IH 90 WB PAVEMENT

WB ℄ EB ℄

316+50: 2.0%; 7.0:1; 719.84 9.23 | 719.80 11.00 | 719.45 28.53 | 719.32 29.45

316+00: 2.0%; 7.0:1; 719.98 8.60 | 719.94 11.00 | 719.58 28.53 | 719.23 31.03

315+50: 2.0%; 460.9:1; 720.11 1.98 | 720.05 11.00 | 719.73 26.69 | 719.73 27.72

315+00: 2.0%; 17981.9:1; 720.23 7.35 | 720.15 11.00 | 719.88 24.90 | 719.88 26.76

314+67: 2.0%; 116156.3:1; 720.33 6.94 | 720.25 11.00 | 720.01 23.16 | 720.01 28.82

314+50: 2.0%; 199061.5:1; 720.33 6.91 | 720.25 11.00 | 719.99 24.22 | 719.99 32.99

725 / 720 / 715

-60 -50 -40 -30 -20 -10 0 10 20 30 40 50 60 70

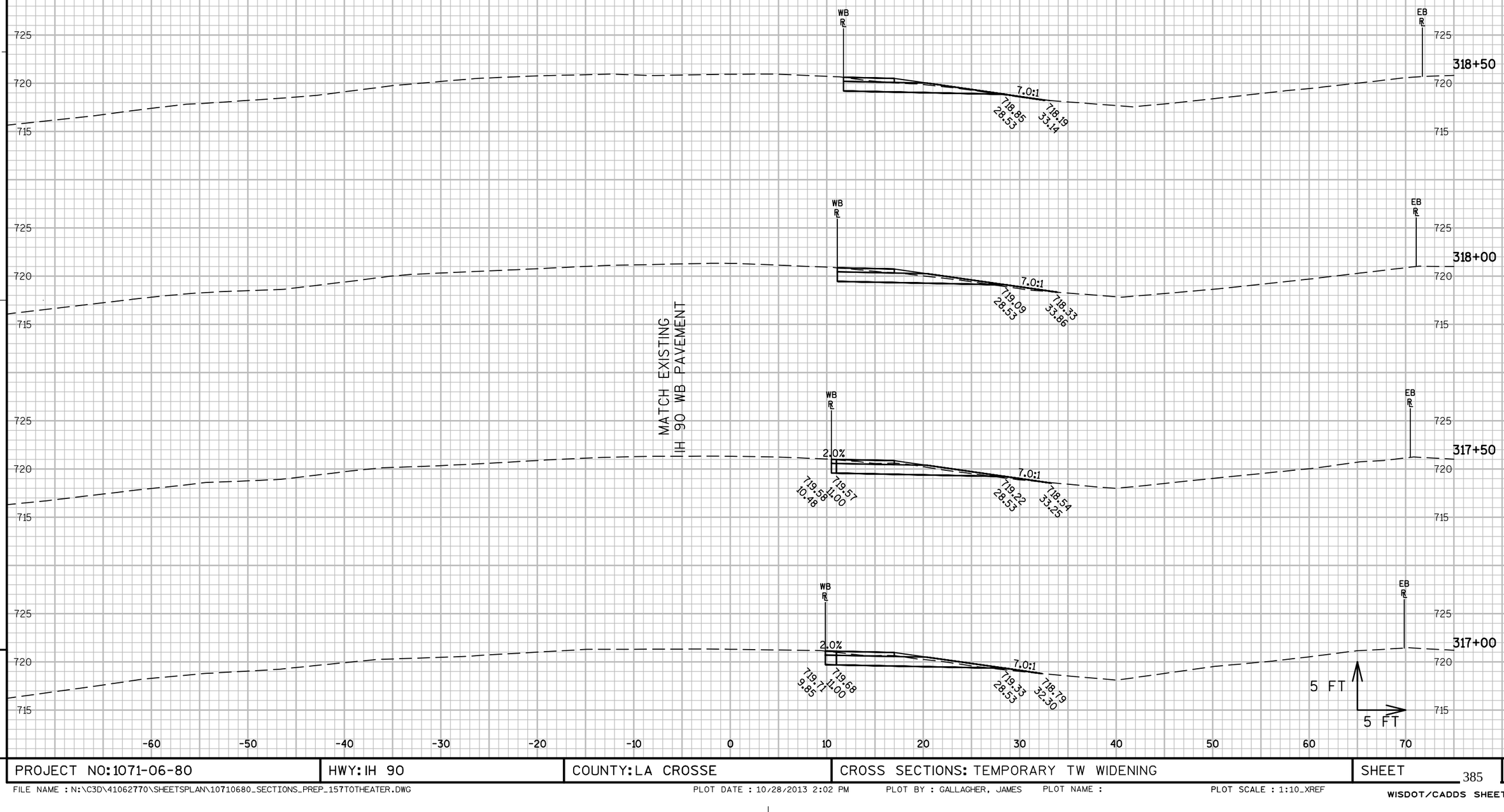
5 FT
5 FT

9 9

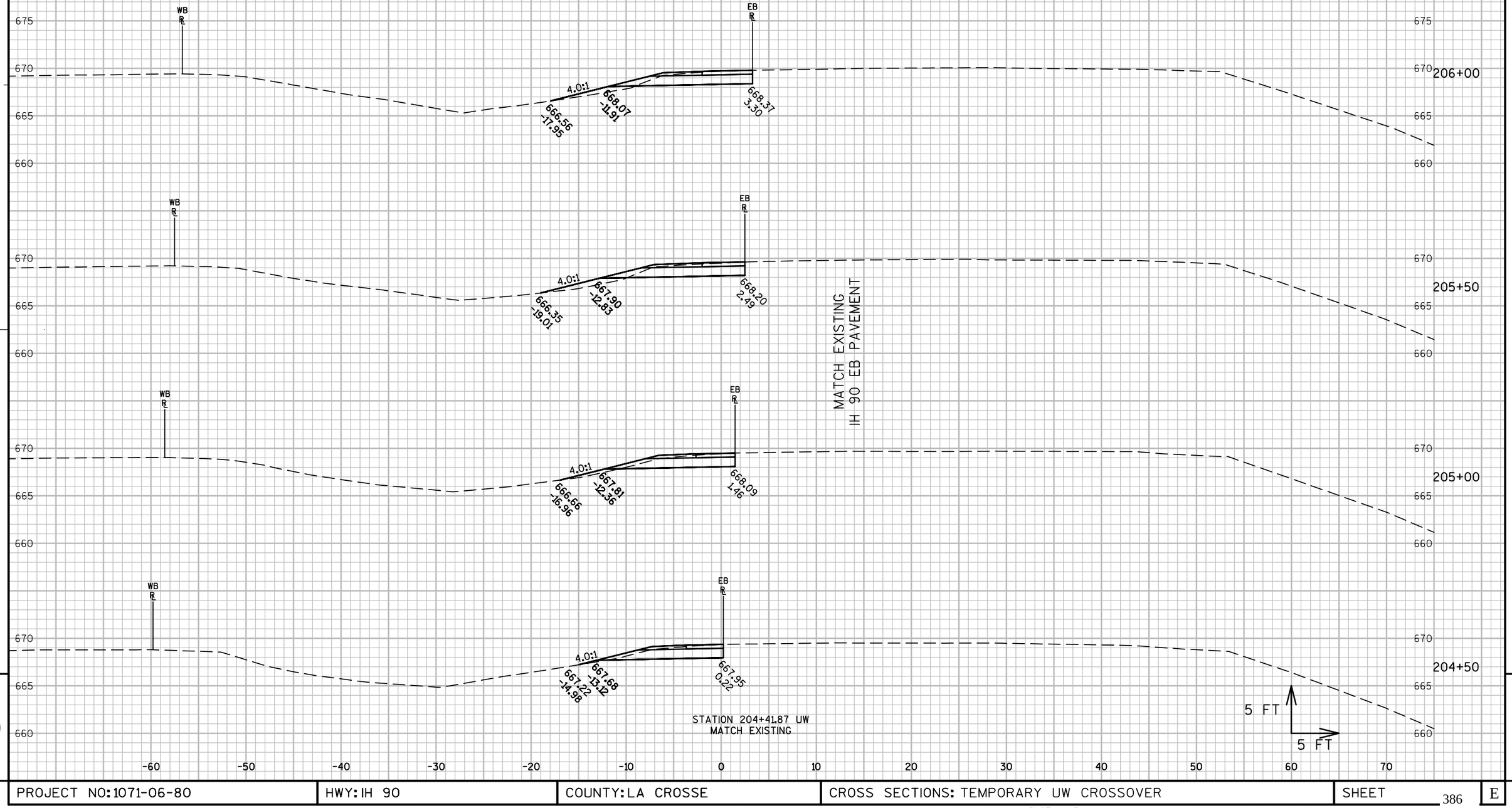
PROJECT NO:1071-06-80	HWY: IH 90	COUNTY: LA CROSSE	CROSS SECTIONS: TEMPORARY TW WIDENING	SHEET 384	E

STA 318+72.07 TW
MATCH EXISTING

MATCH EXISTING
IH 90 WB PAVEMENT

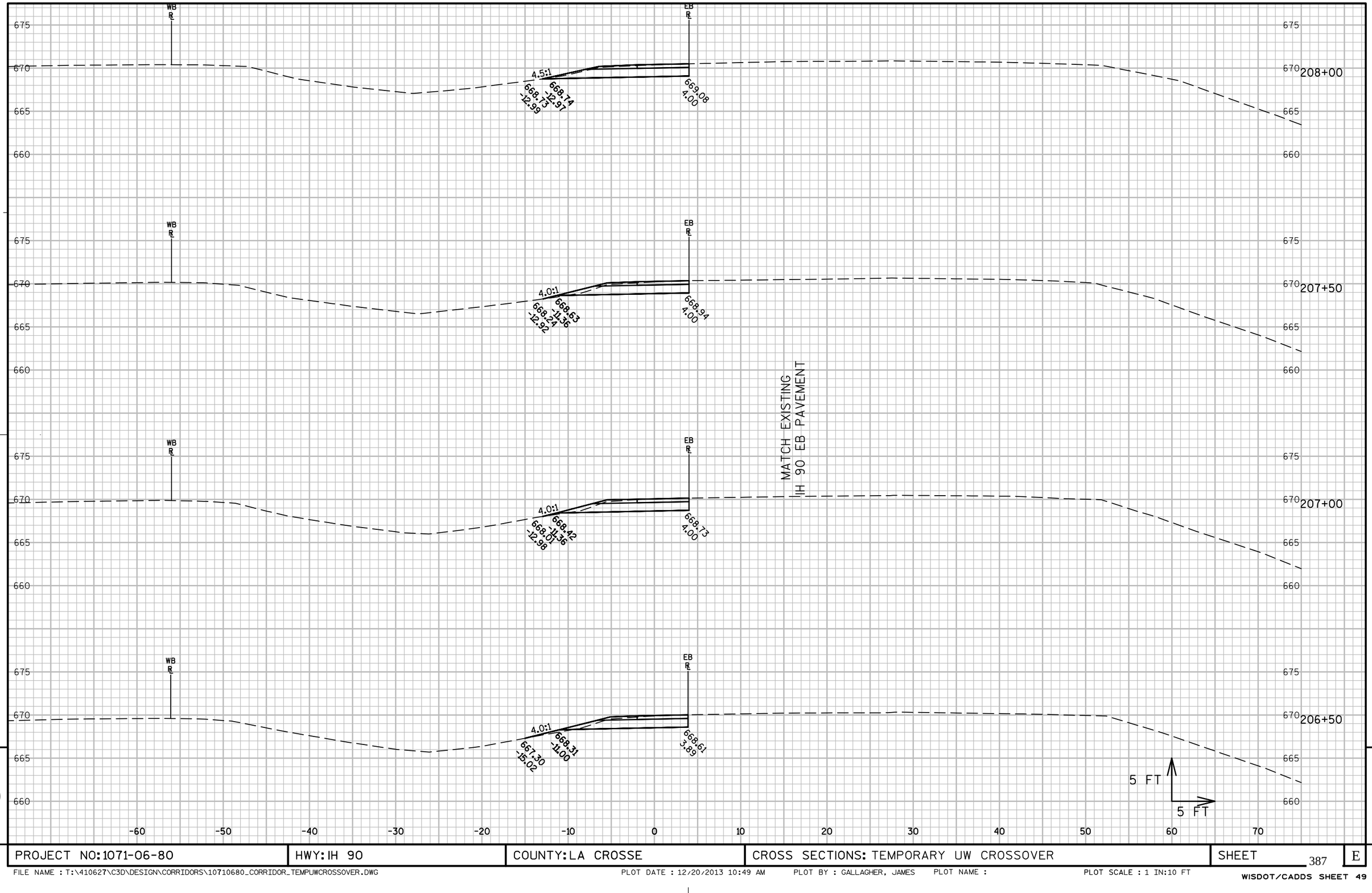


PROJECT NO:1071-06-80	HWY: IH 90	COUNTY: LA CROSSE	CROSS SECTIONS: TEMPORARY TW WIDENING	SHEET 385	E

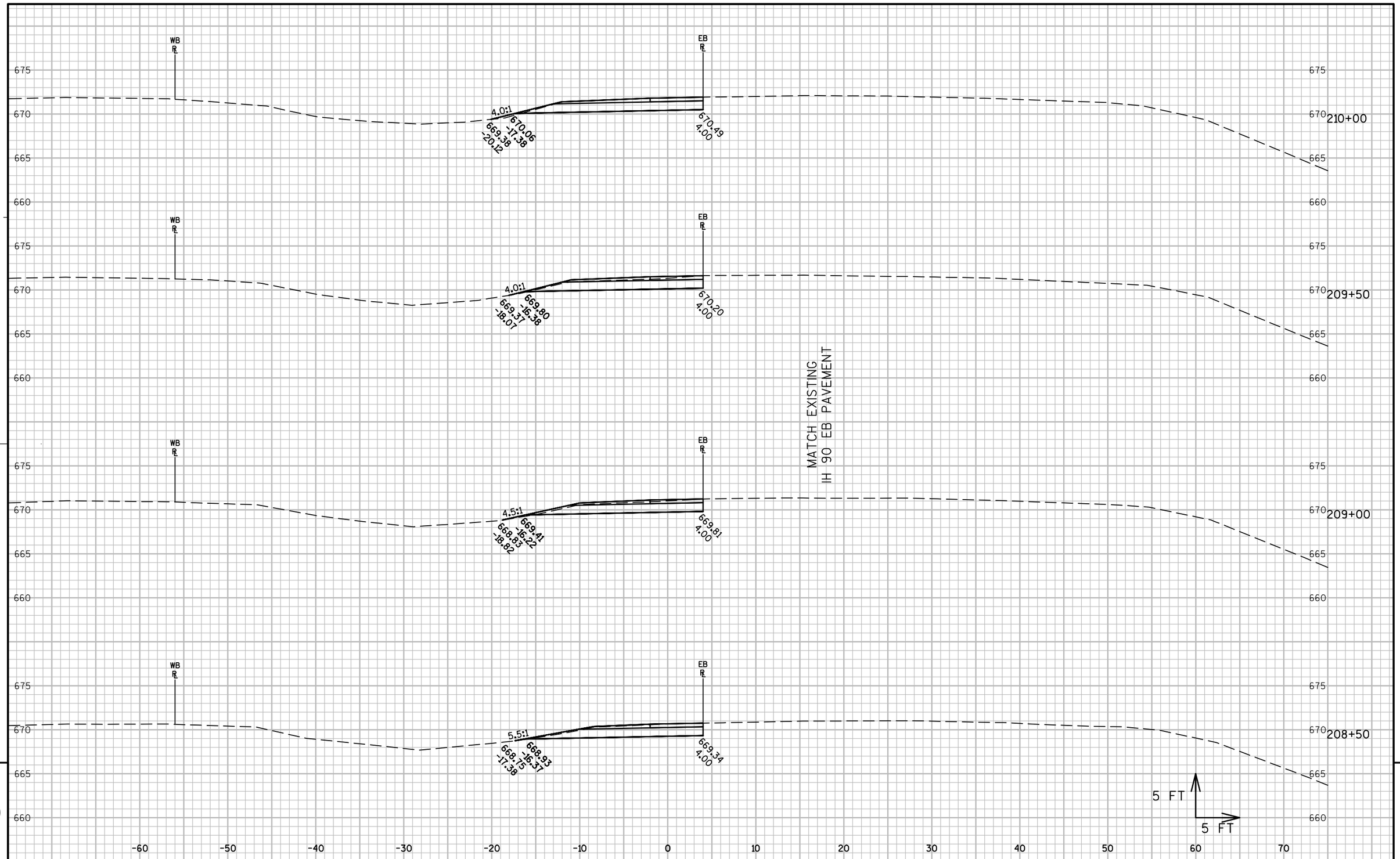


PROJECT NO:1071-06-80	HWY: IH 90	COUNTY: LA CROSSE	CROSS SECTIONS: TEMPORARY UW CROSSOVER	SHEET 386	E

FILE NAME : T:\410627\C3D\DESIGN\CORRIDORS\10710680_CORRIDOR_TEMPUWCROSSOVER.DWG PLOT DATE : 12/20/2013 10:49 AM PLOT BY : GALLAGHER, JAMES PLOT NAME : PLOT SCALE : 1 IN:10 FT



PROJECT NO:1071-06-80	HWY: IH 90	COUNTY: LA CROSSE	CROSS SECTIONS: TEMPORARY UW CROSSOVER	SHEET 387	E

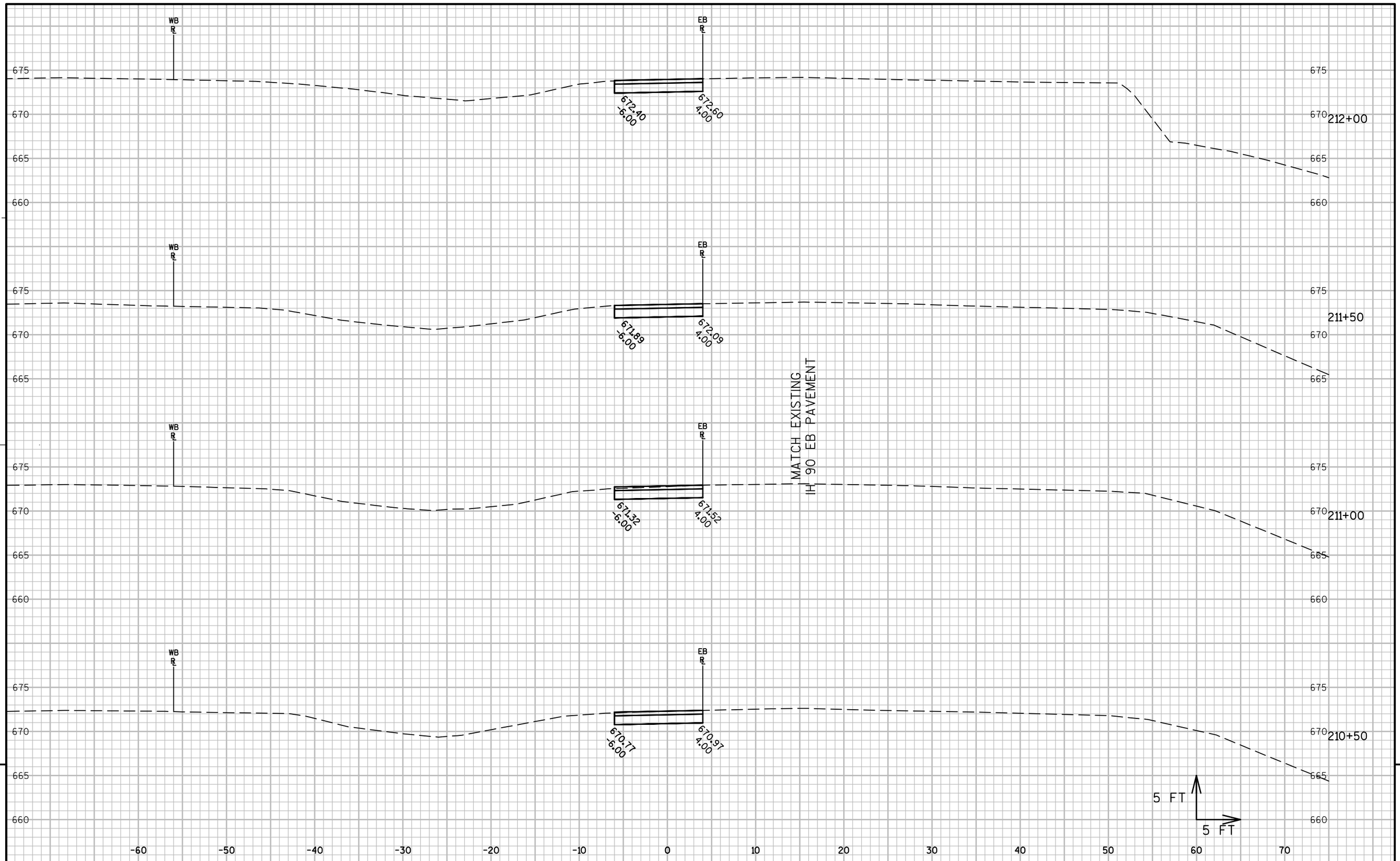


9

9

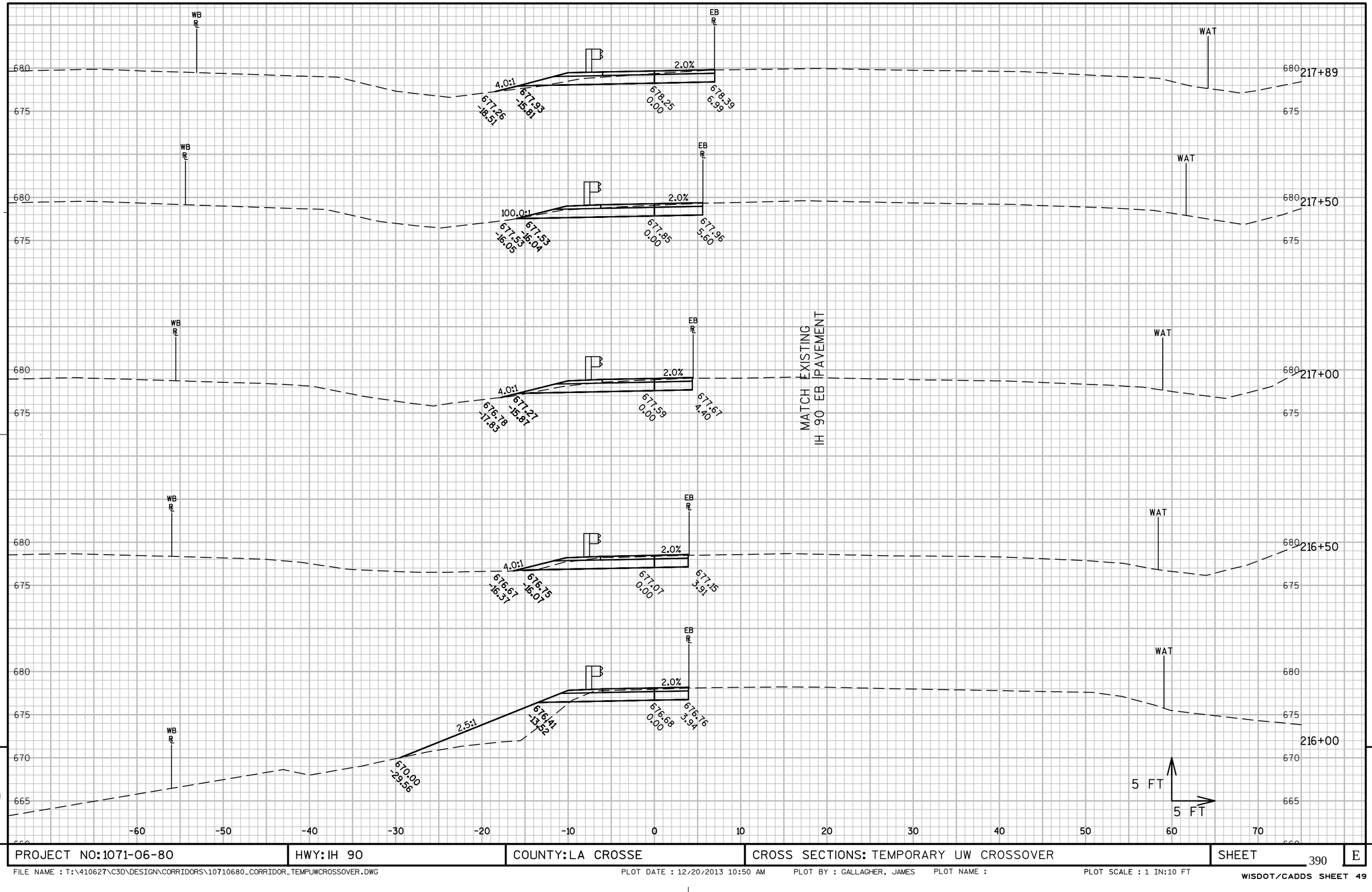
PROJECT NO:1071-06-80	HWY: IH 90	COUNTY: LA CROSSE	CROSS SECTIONS: TEMPORARY UW CROSSOVER	SHEET 388	E

FILE NAME : T:\410627\C3D\DESIGN\CORRIDORS\10710680_CORRIDOR_TEMPUWCROSSOVER.DWG PLOT DATE : 12/20/2013 10:49 AM PLOT BY : GALLAGHER, JAMES PLOT NAME : PLOT SCALE : 1 IN:10 FT



PROJECT NO:1071-06-80	HWY: IH 90	COUNTY: LA CROSSE	CROSS SECTIONS: TEMPORARY UW CROSSOVER	SHEET 389	E

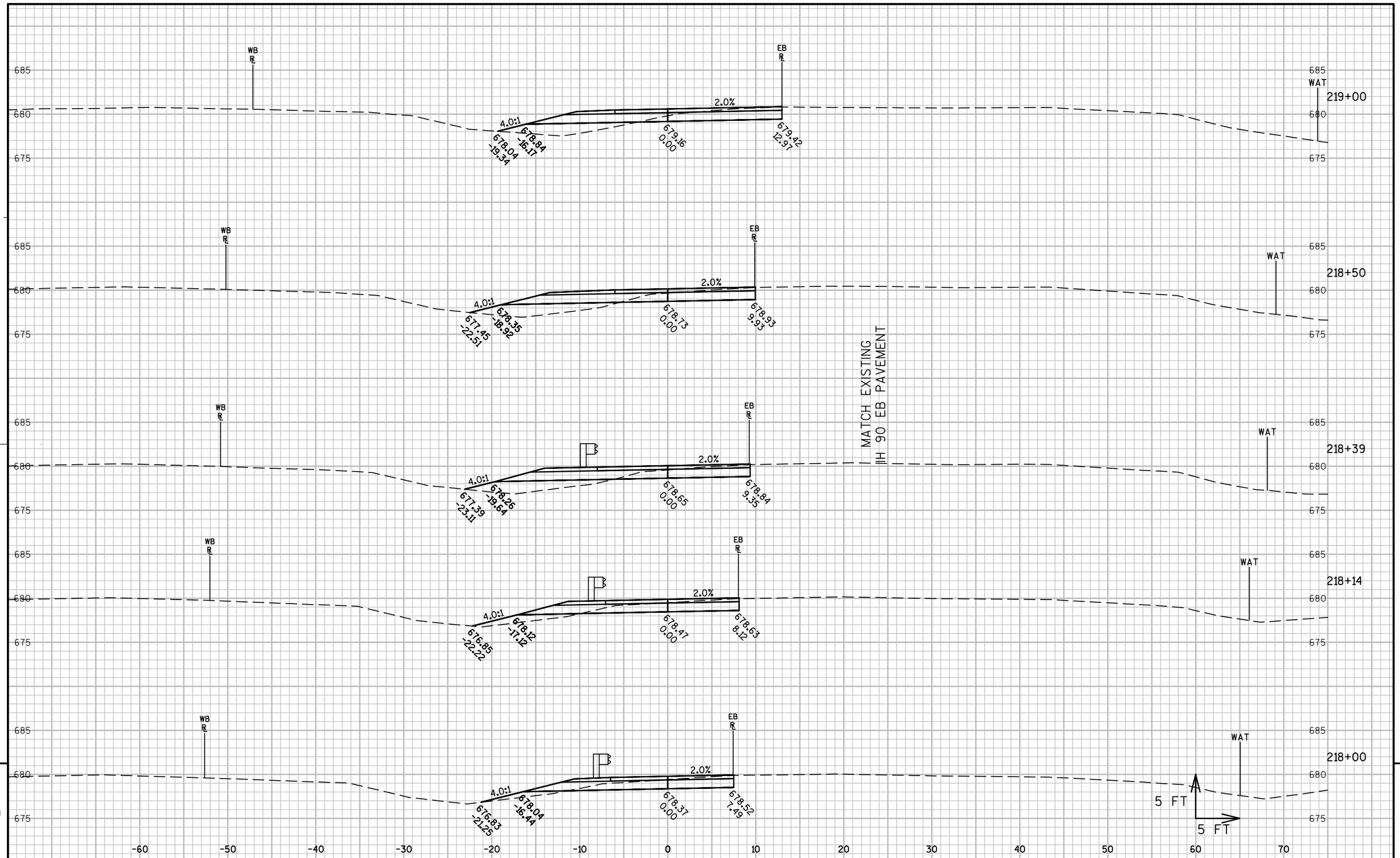
FILE NAME : T:\410627\C3D\DESIGN\CORRIDORS\10710680_CORRIDOR_TEMPUWCROSSOVER.DWG PLOT DATE : 12/20/2013 10:50 AM PLOT BY : GALLAGHER, JAMES PLOT NAME : PLOT SCALE : 1 IN:10 FT



PROJECT NO:1071-06-80	HWY: IH 90	COUNTY: LA CROSSE	CROSS SECTIONS: TEMPORARY UW CROSSOVER	SHEET 390	E

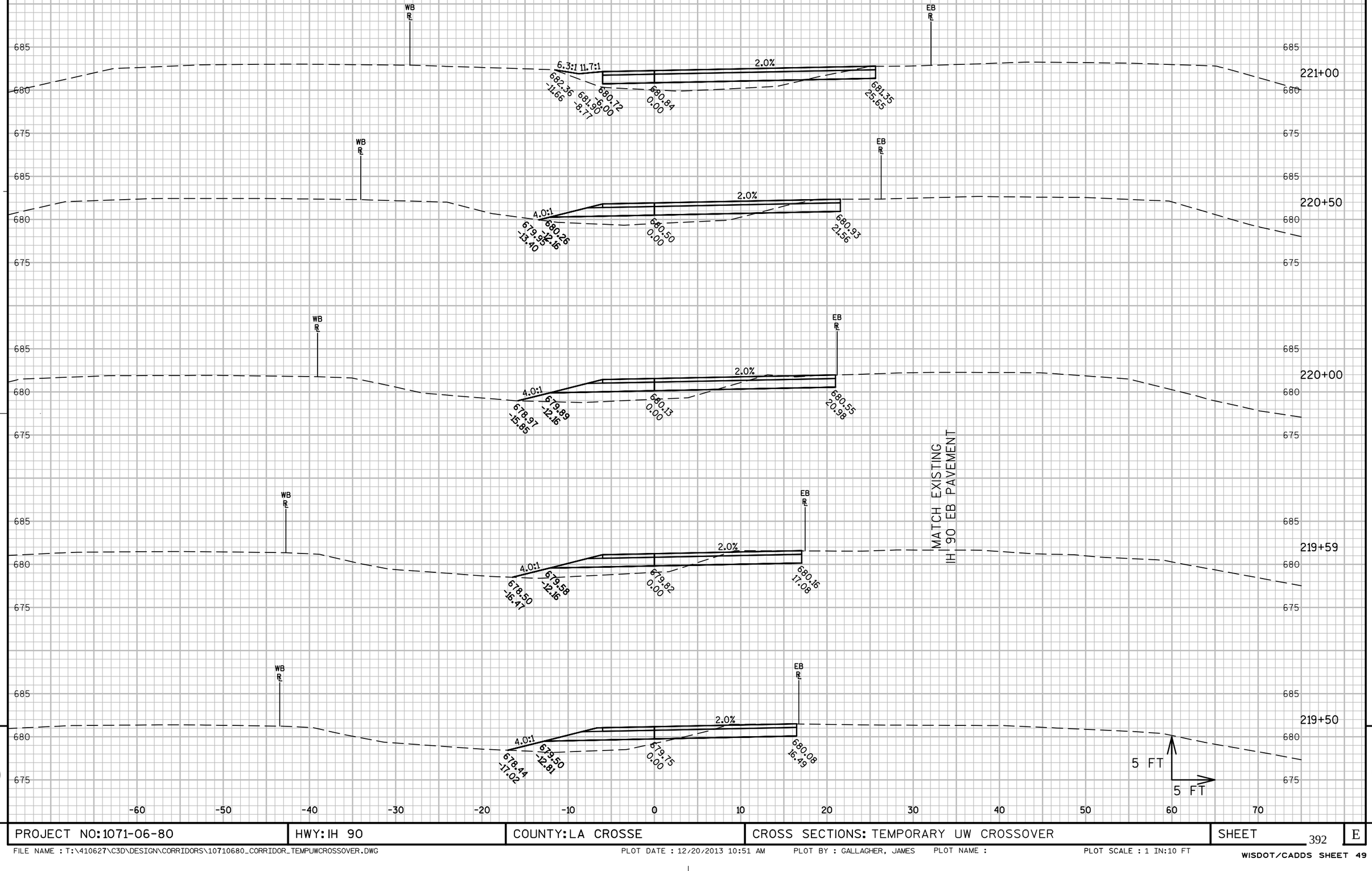
FILE NAME : T:\410627\C3D\DESIGN\CORRIDORS\10710680_CORRIDOR_TEMPUWCROSSOVER.DWG PLOT DATE : 12/20/2013 10:50 AM PLOT BY : GALLAGHER, JAMES PLOT NAME : PLOT SCALE : 1 IN:10 FT

WISDOT/CADDS SHEET 49



PROJECT NO:1071-06-80	HWY: IH 90	COUNTY: LA CROSSE	CROSS SECTIONS: TEMPORARY UW CROSSOVER	SHEET 391	E

FILE NAME : T:\410627\C3D\DESIGN\CORRIDORS\10710680_CORRIDOR_TEMPUWCROSSOVER.DWG PLOT DATE : 12/20/2013 10:50 AM PLOT BY : GALLAGHER, JAMES PLOT NAME : PLOT SCALE : 1 IN:10 FT

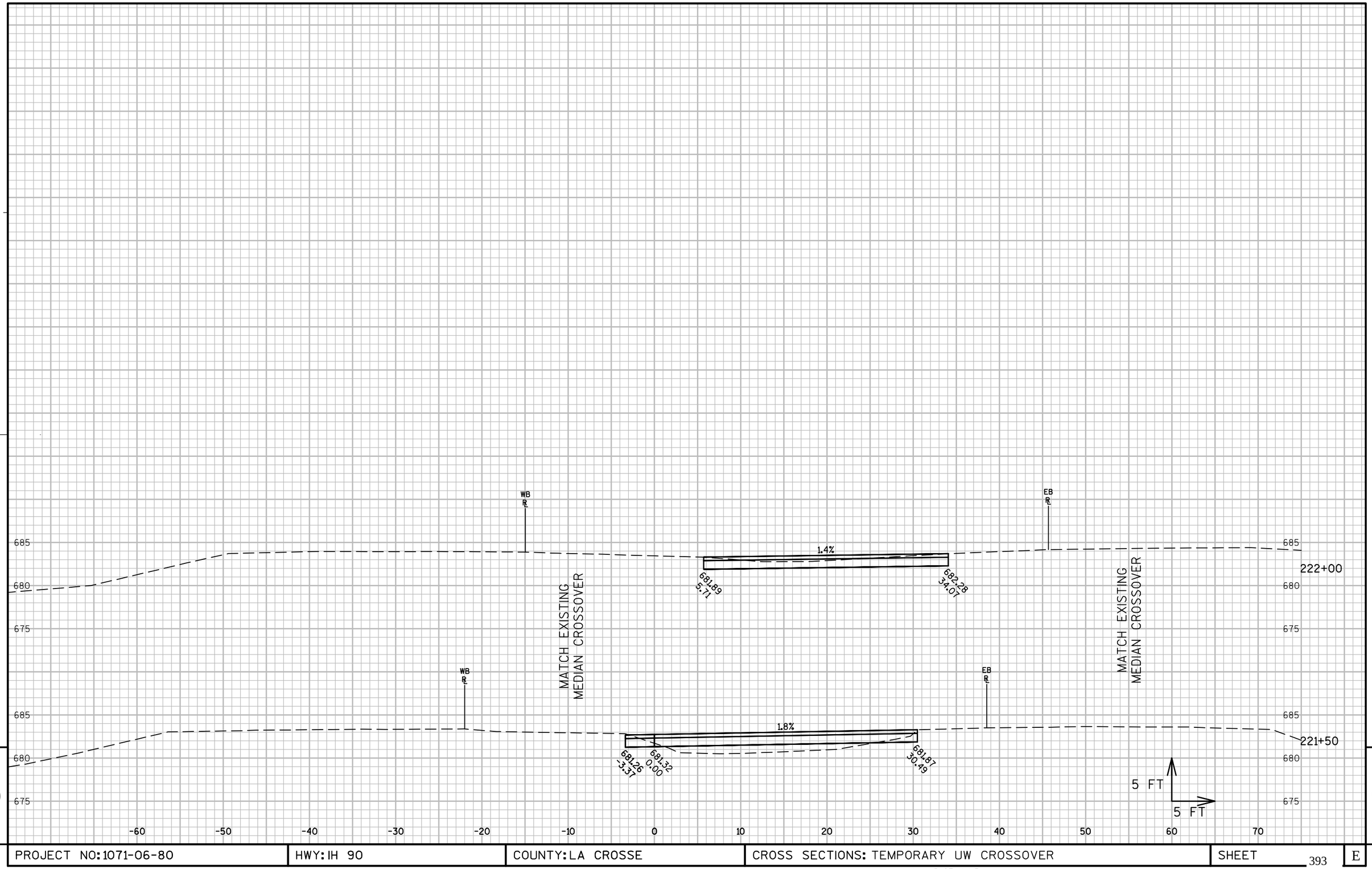


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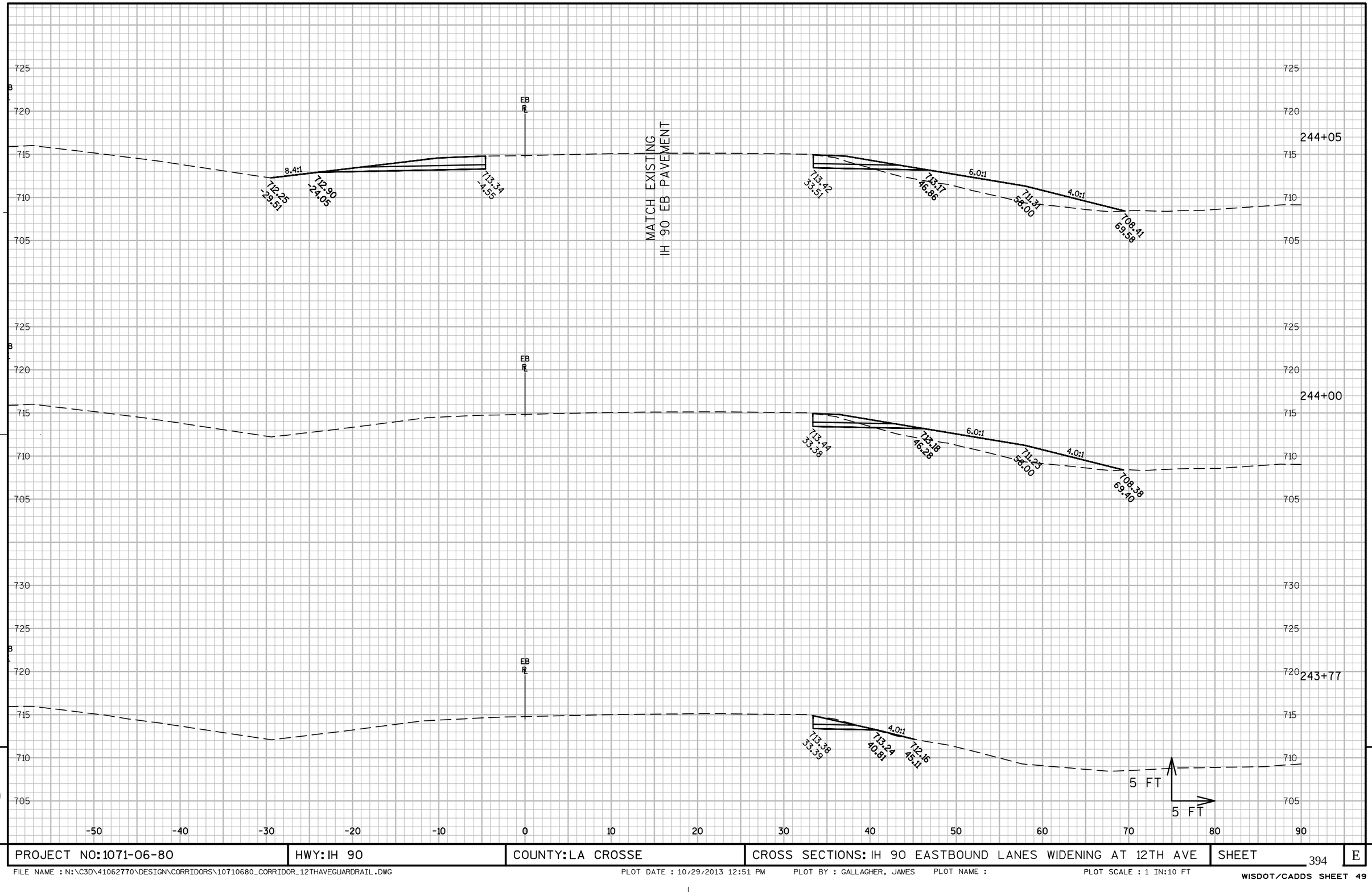
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PROJECT NO:1071-06-80	HWY: IH 90	COUNTY: LA CROSSE	CROSS SECTIONS: TEMPORARY UW CROSSOVER	SHEET 392	E

FILE NAME : T:\410627\C3D\DESIGN\CORRIDORS\10710680_CORRIDOR_TEMPUWCROSSOVER.DWG PLOT DATE : 12/20/2013 10:51 AM PLOT BY : GALLAGHER, JAMES PLOT NAME : PLOT SCALE : 1 IN:10 FT

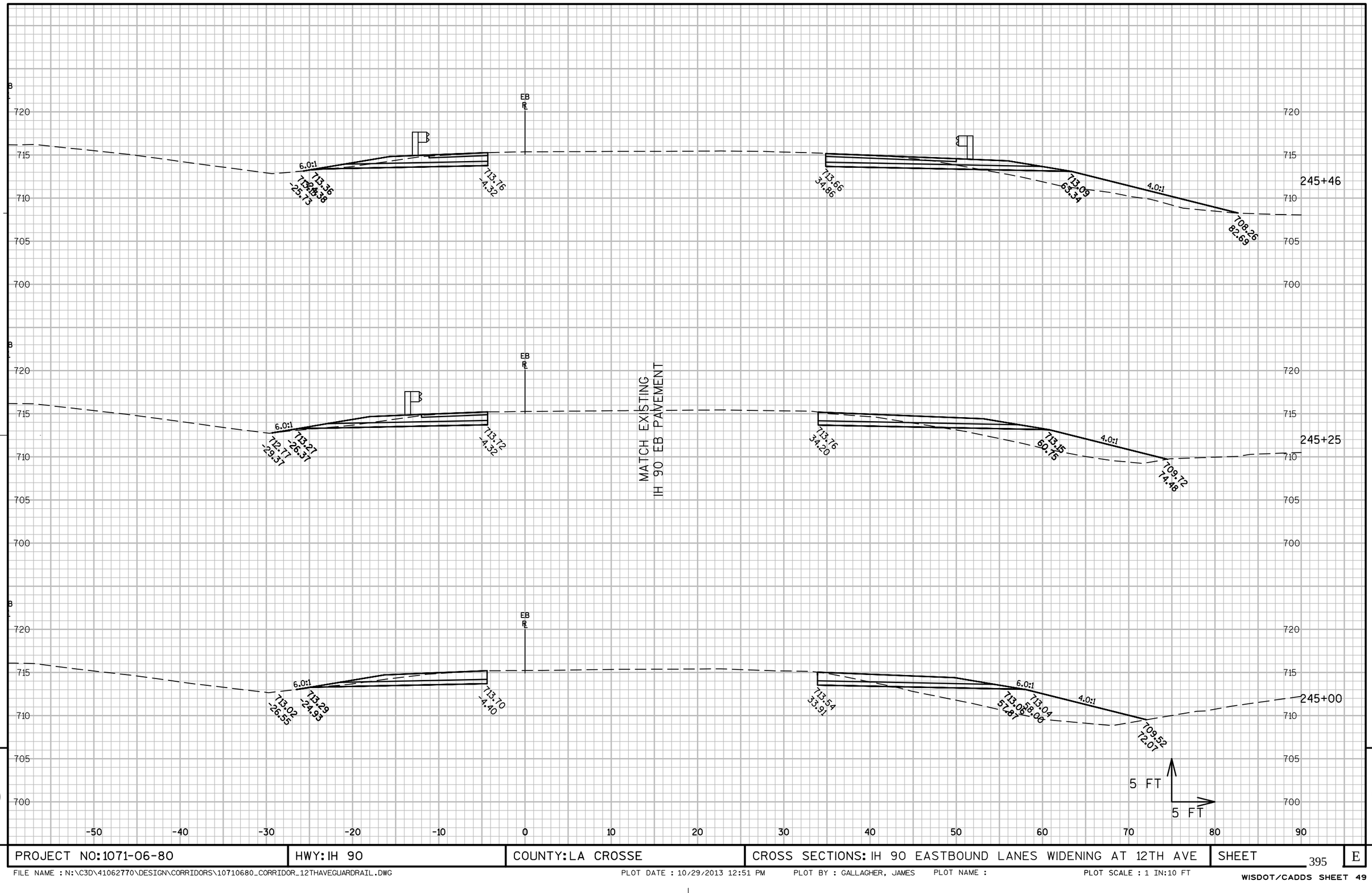


PROJECT NO:1071-06-80	HWY: IH 90	COUNTY: LA CROSSE	CROSS SECTIONS: TEMPORARY UW CROSSOVER	SHEET 393	E

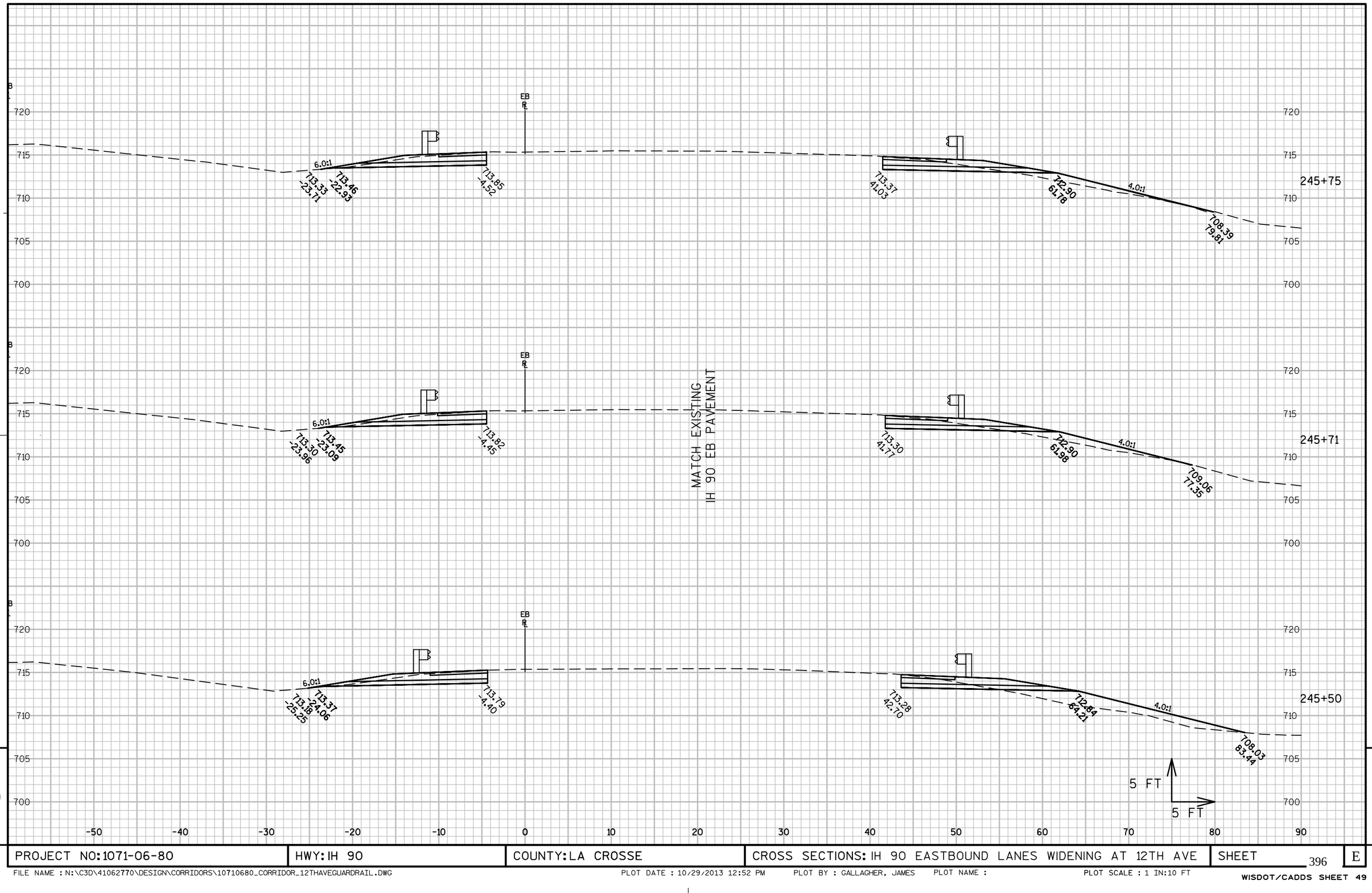


9 9

PROJECT NO:1071-06-80	HWY:IH 90	COUNTY:LA CROSSE	CROSS SECTIONS: IH 90 EASTBOUND LANES WIDENING AT 12TH AVE	SHEET 394	E

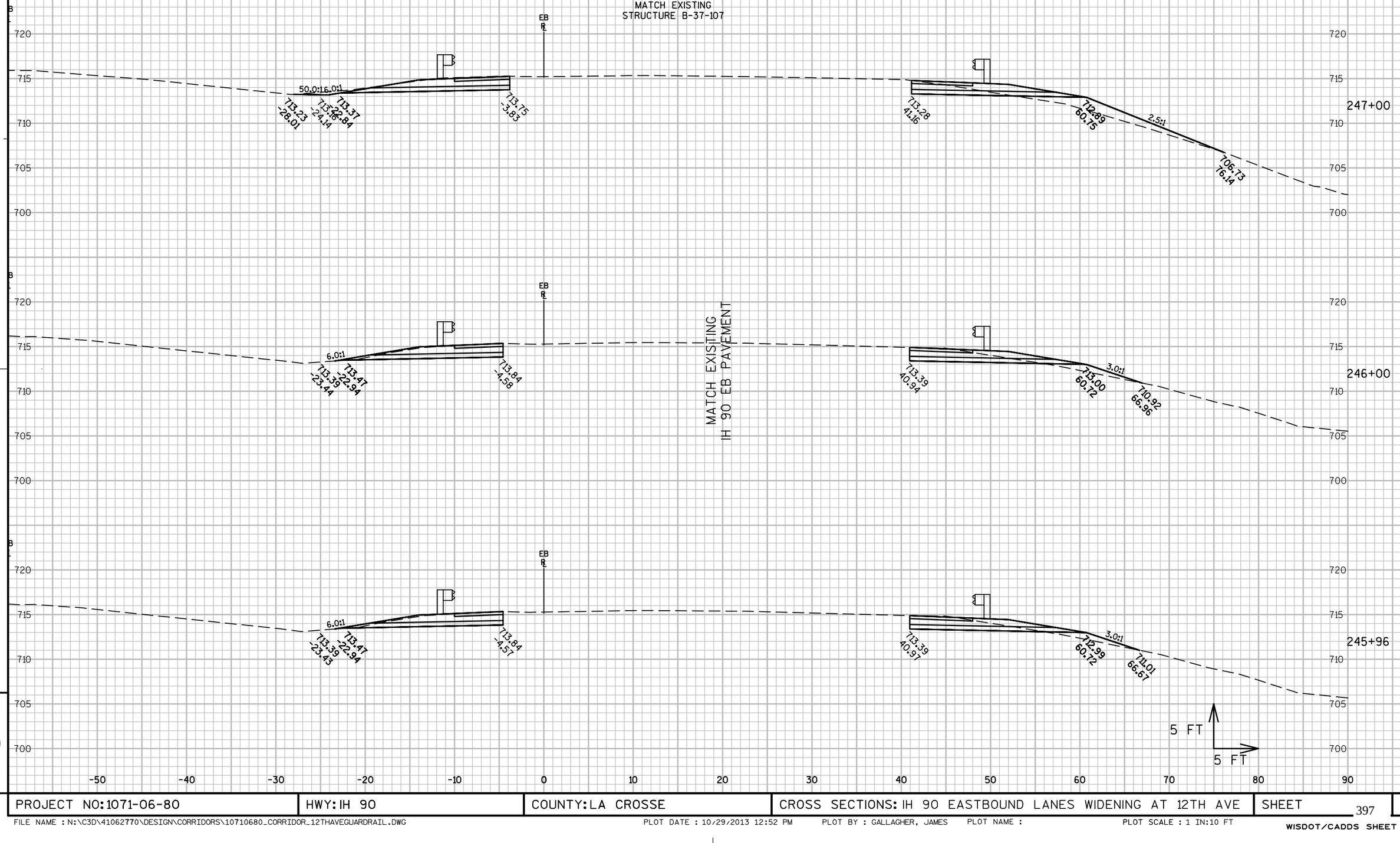


PROJECT NO:1071-06-80	HWY: IH 90	COUNTY: LA CROSSE	CROSS SECTIONS: IH 90 EASTBOUND LANES WIDENING AT 12TH AVE	SHEET 395	E



PROJECT NO:1071-06-80	HWY:IH 90	COUNTY:LA CROSSE	CROSS SECTIONS:IH 90 EASTBOUND LANES WIDENING AT 12TH AVE	SHEET 396	E

STA 249+50 EB
MATCH EXISTING
STRUCTURE B-37-107

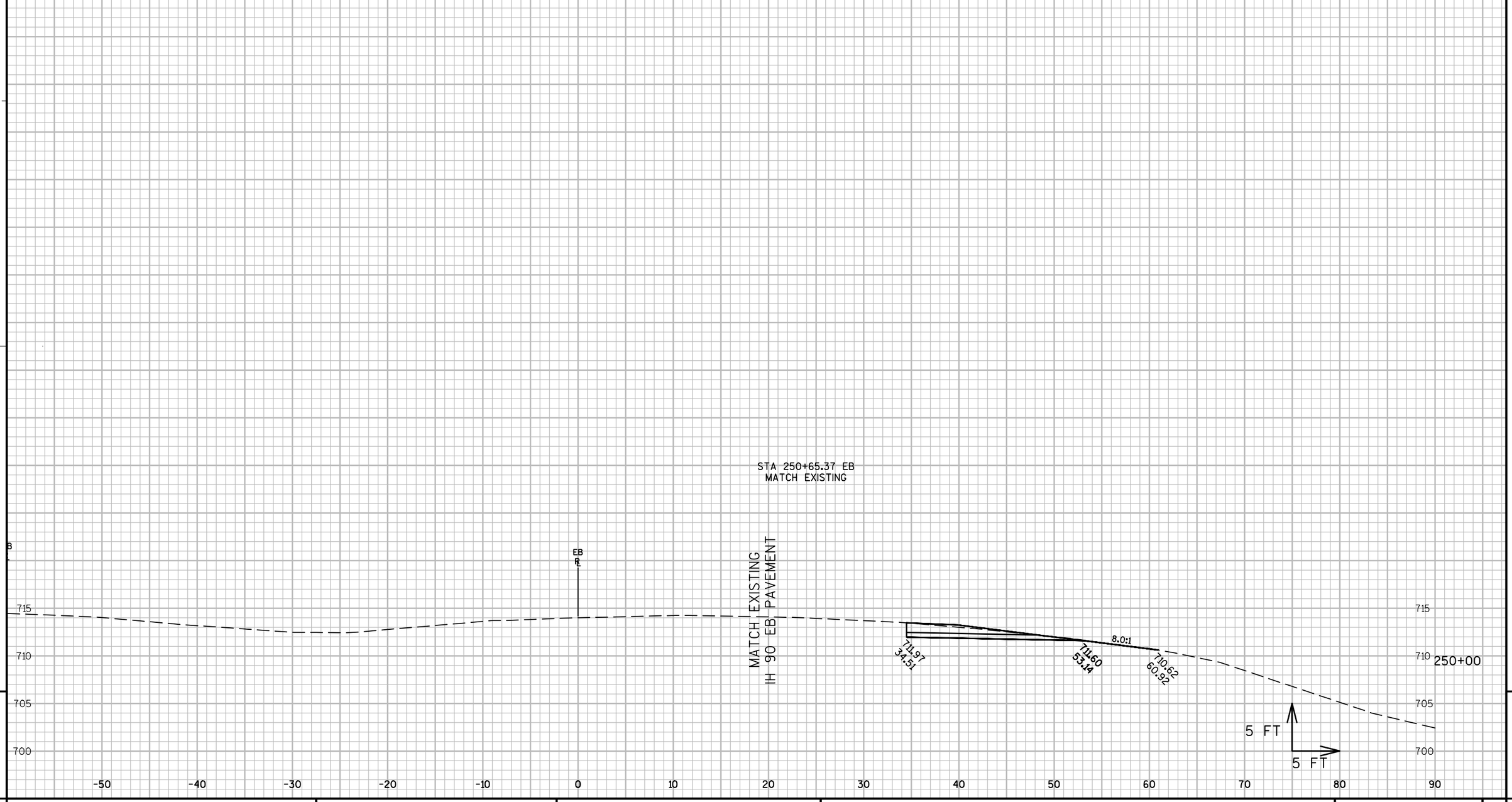


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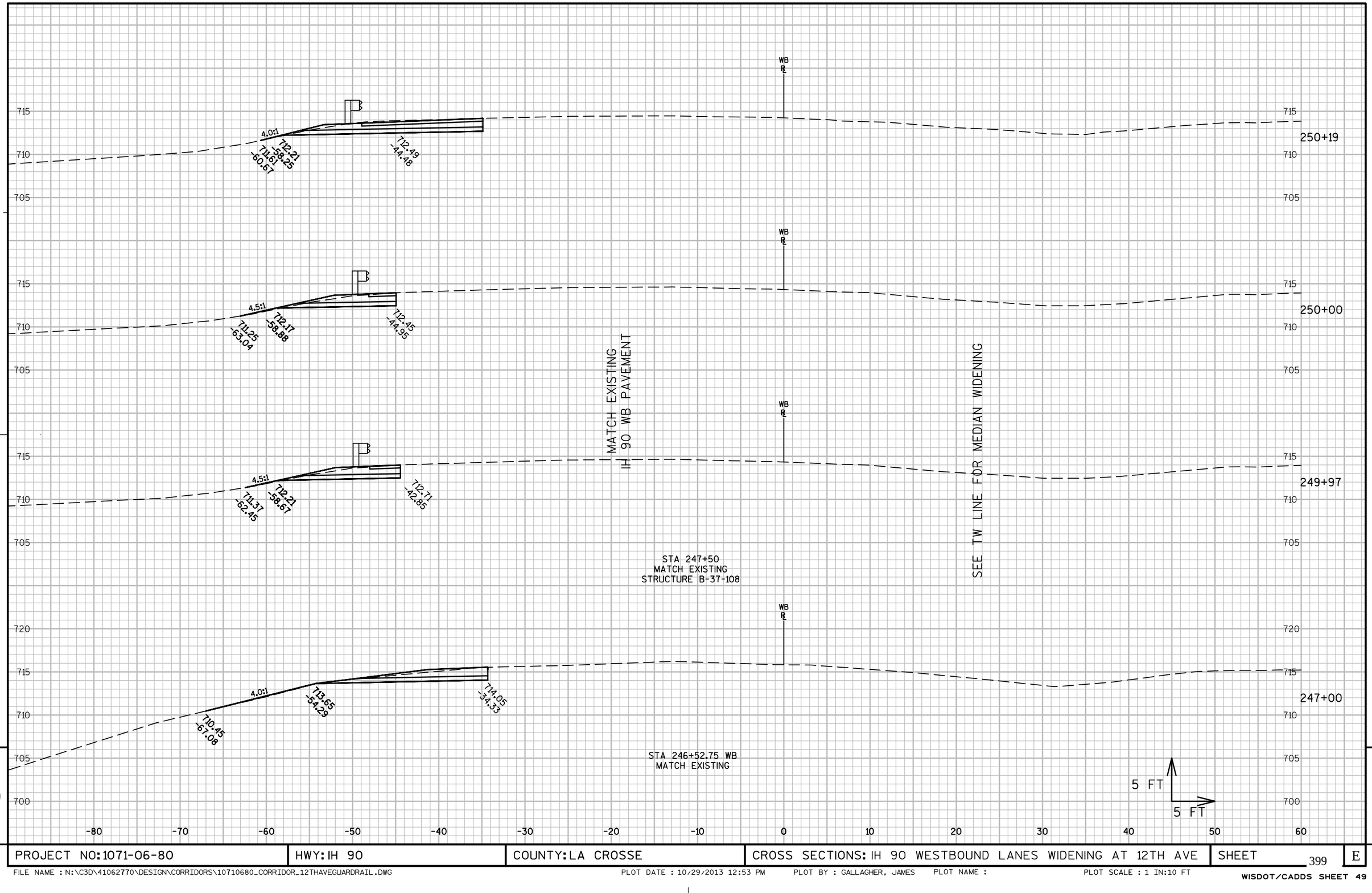
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PROJECT NO: 1071-06-80	HWY: IH 90	COUNTY: LA CROSSE	CROSS SECTIONS: IH 90 EASTBOUND LANES WIDENING AT 12TH AVE	SHEET 397	E

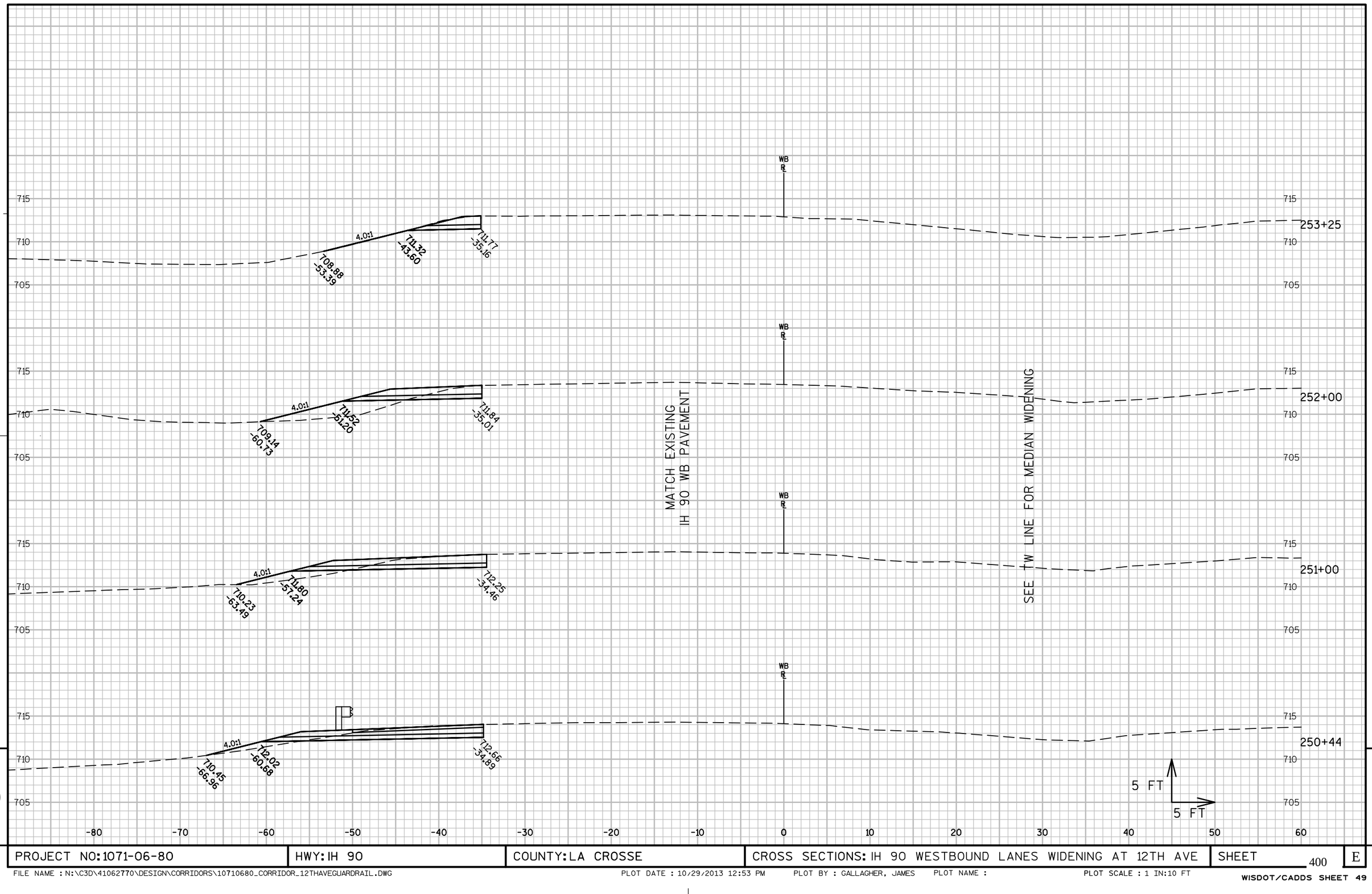
STA 250+65.37 EB
MATCH EXISTING



PROJECT NO:1071-06-80	HWY: IH 90	COUNTY: LA CROSSE	CROSS SECTIONS: IH 90 EASTBOUND LANES WIDENING AT 12TH AVE	SHEET 398	E

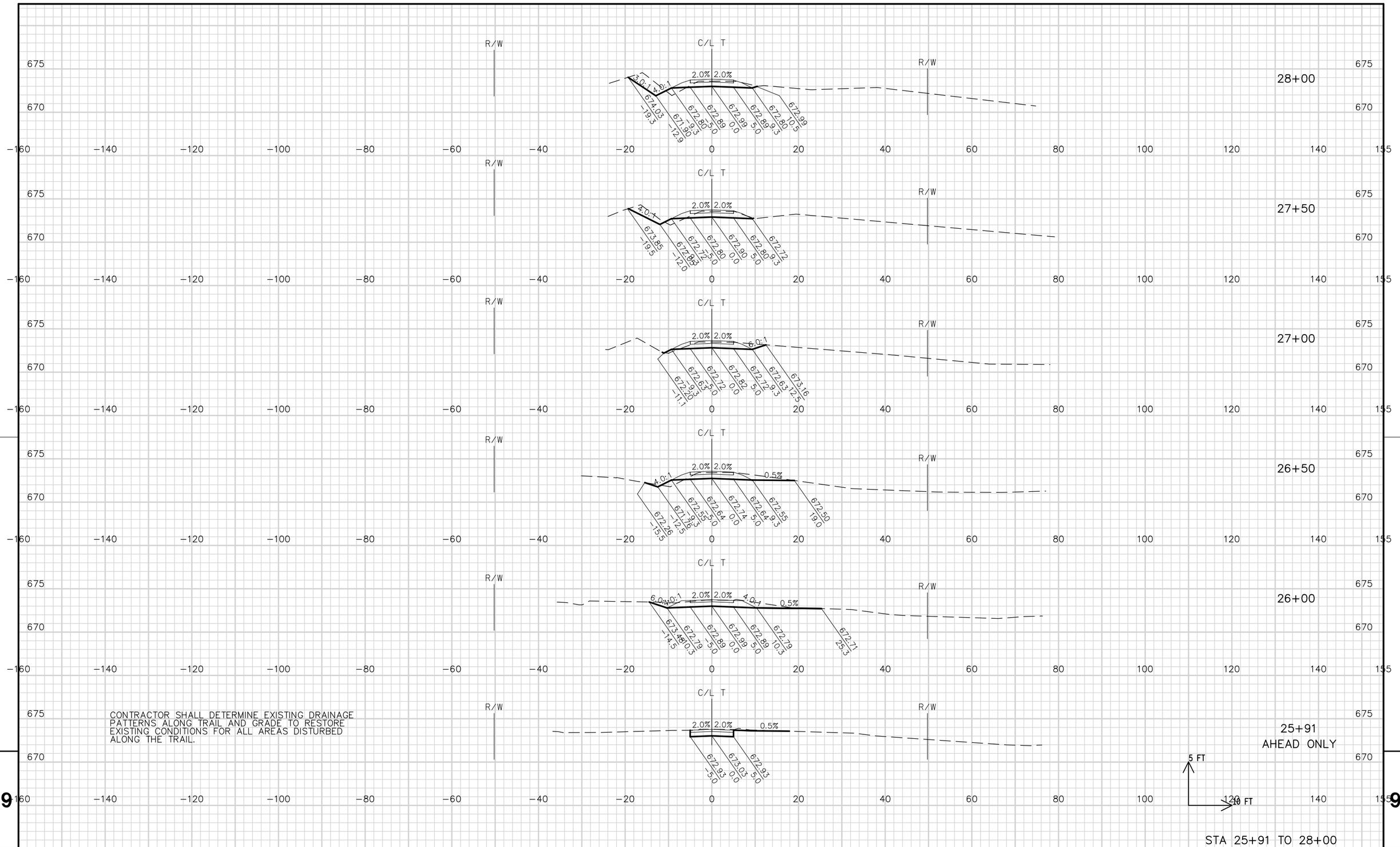


PROJECT NO:1071-06-80	HWY: IH 90	COUNTY: LA CROSSE	CROSS SECTIONS: IH 90 WESTBOUND LANES WIDENING AT 12TH AVE	SHEET 399	E



PROJECT NO:1071-06-80	HWY: IH 90	COUNTY: LA CROSSE	CROSS SECTIONS: IH 90 WESTBOUND LANES WIDENING AT 12TH AVE	SHEET 400	E

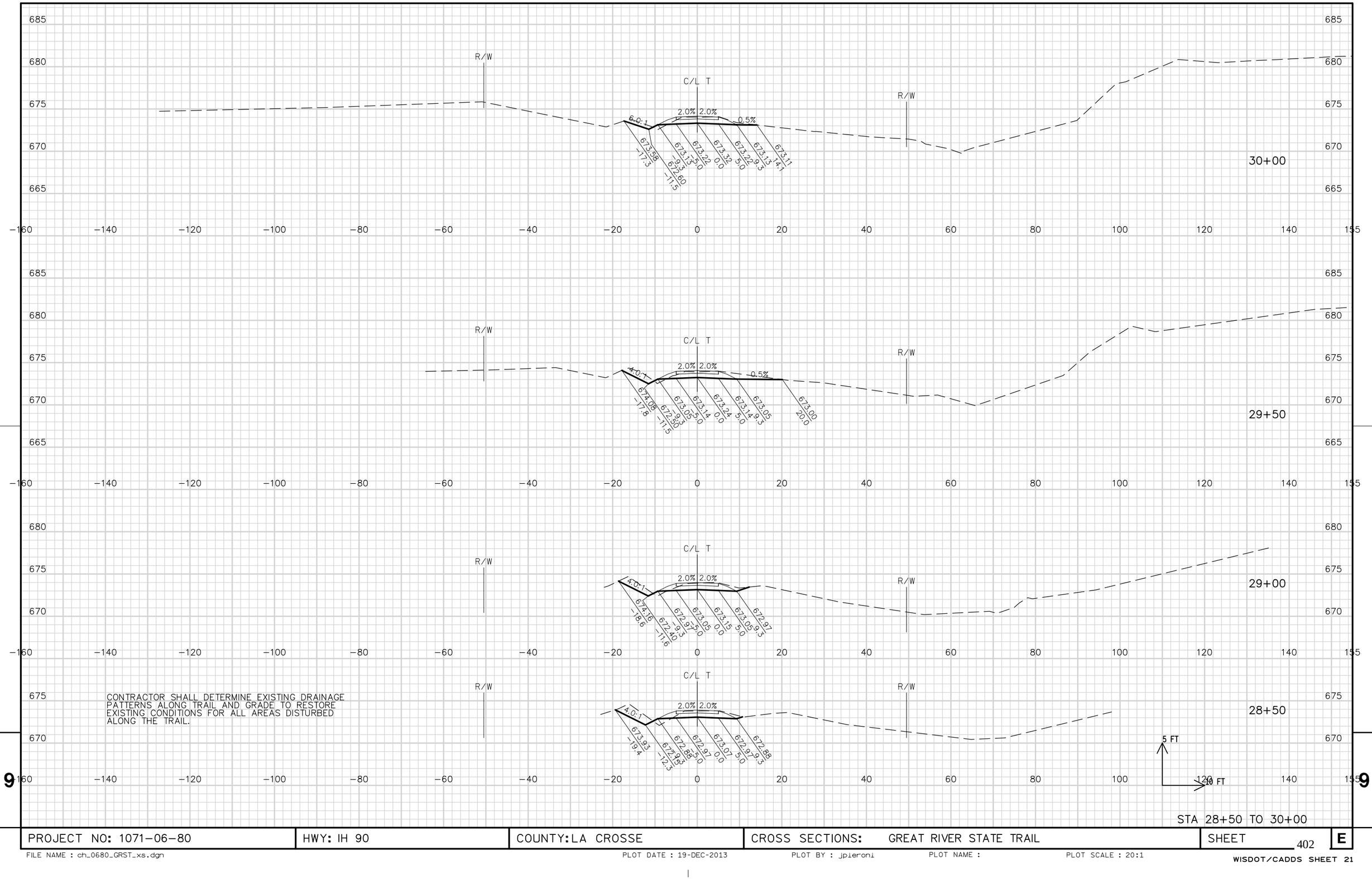
FILE NAME : N:\C3D\41062770\DESIGN\CORRIDORS\10710680_CORRIDOR_12THAVEGUARDRAIL.DWG PLOT DATE : 10/29/2013 12:53 PM PLOT BY : GALLAGHER, JAMES PLOT NAME : PLOT SCALE : 1 IN:10 FT
WISDOT/CADDS SHEET 49



CONTRACTOR SHALL DETERMINE EXISTING DRAINAGE PATTERNS ALONG TRAIL AND GRADE TO RESTORE EXISTING CONDITIONS FOR ALL AREAS DISTURBED ALONG THE TRAIL.

STA 25+91 TO 28+00

PROJECT NO: 1071-06-80	HWY: IH 90	COUNTY: LA CROSSE	CROSS SECTIONS: GREAT RIVER STATE TRAIL	SHEET 401	E



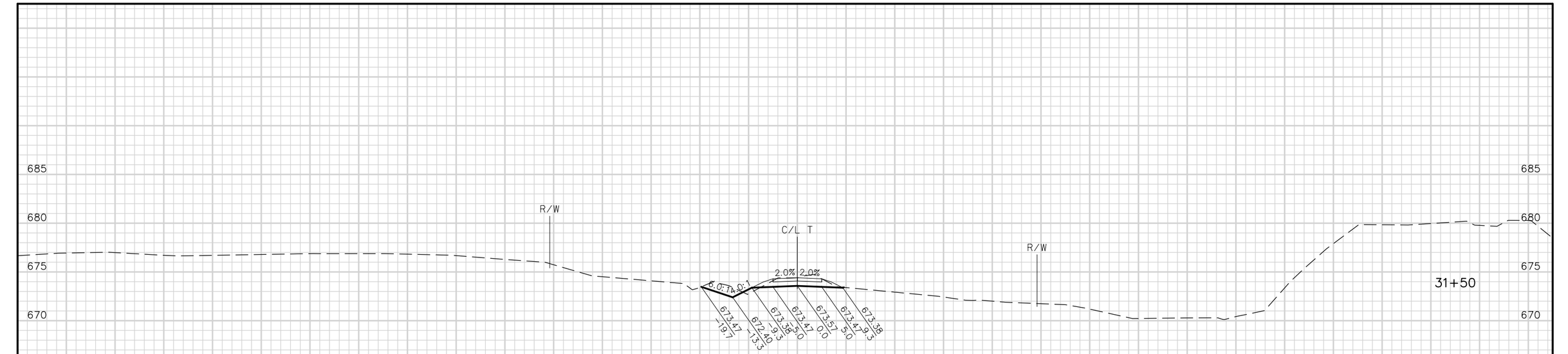
CONTRACTOR SHALL DETERMINE EXISTING DRAINAGE PATTERNS ALONG TRAIL AND GRADE TO RESTORE EXISTING CONDITIONS FOR ALL AREAS DISTURBED ALONG THE TRAIL.

STA 28+50 TO 30+00

PROJECT NO: 1071-06-80	HWY: IH 90	COUNTY: LA CROSSE	CROSS SECTIONS: GREAT RIVER STATE TRAIL	SHEET 402	E

FILE NAME : ch_0680_GRST_xs.dgn PLOT DATE : 19-DEC-2013 PLOT BY : jpieroni PLOT NAME : PLOT SCALE : 20:1

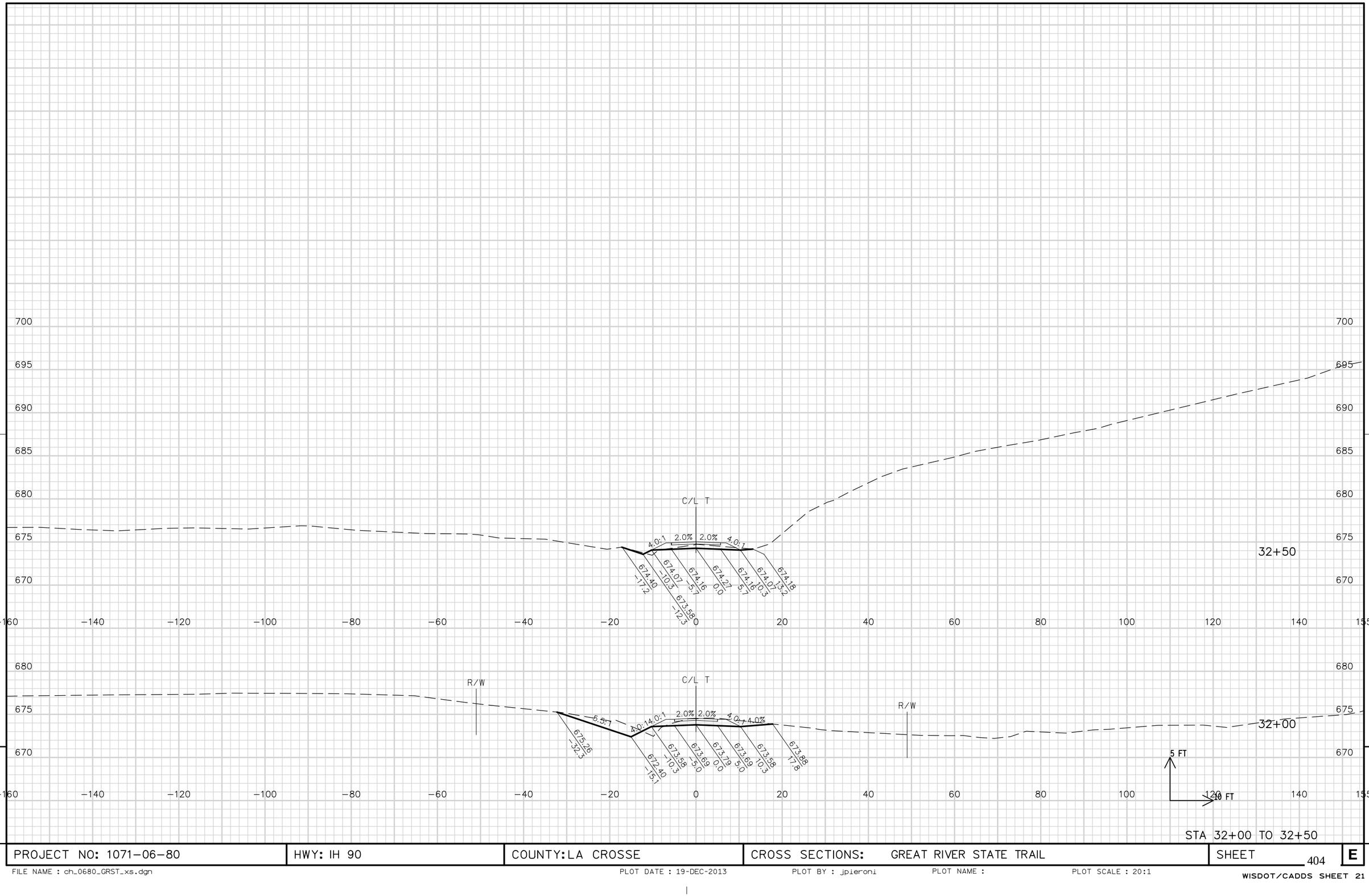
WISDOT/CADDS SHEET 21



PROJECT NO: 1071-06-80	HWY: IH 90	COUNTY: LA CROSSE	CROSS SECTIONS: GREAT RIVER STATE TRAIL	SHEET 403	E

FILE NAME : ch_0680_GRST_xs.dgn PLOT DATE : 19-DEC-2013 PLOT BY : jpieroni PLOT NAME : PLOT SCALE : 20:1

WISDOT/CADDS SHEET 21

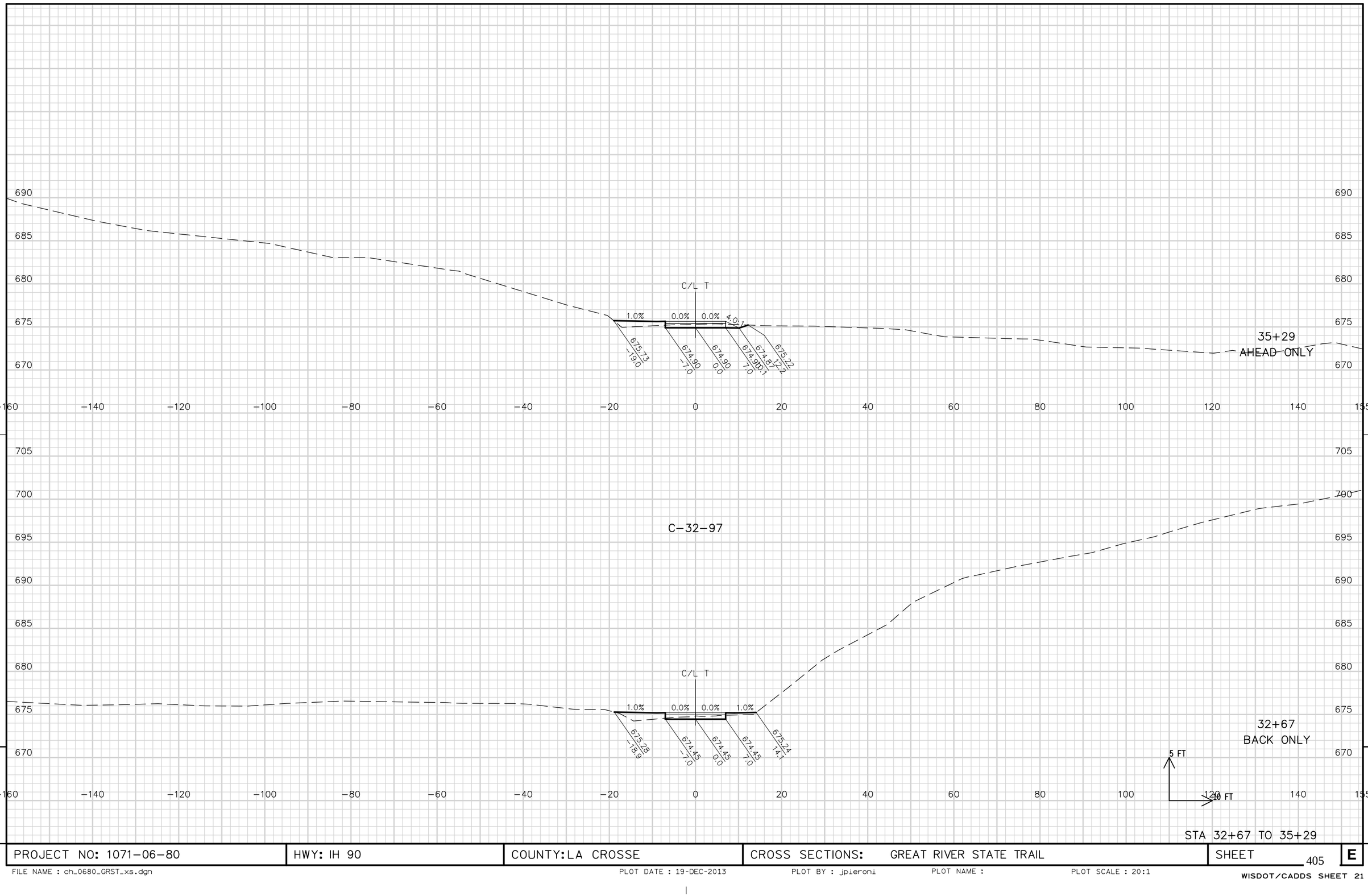


STA 32+00 TO 32+50

PROJECT NO: 1071-06-80	HWY: IH 90	COUNTY: LA CROSSE	CROSS SECTIONS: GREAT RIVER STATE TRAIL	SHEET 404	E

FILE NAME : ch_0680_GRST_xs.dgn PLOT DATE : 19-DEC-2013 PLOT BY : jpieroni PLOT NAME : PLOT SCALE : 20:1

WISDOT/CADDS SHEET 21

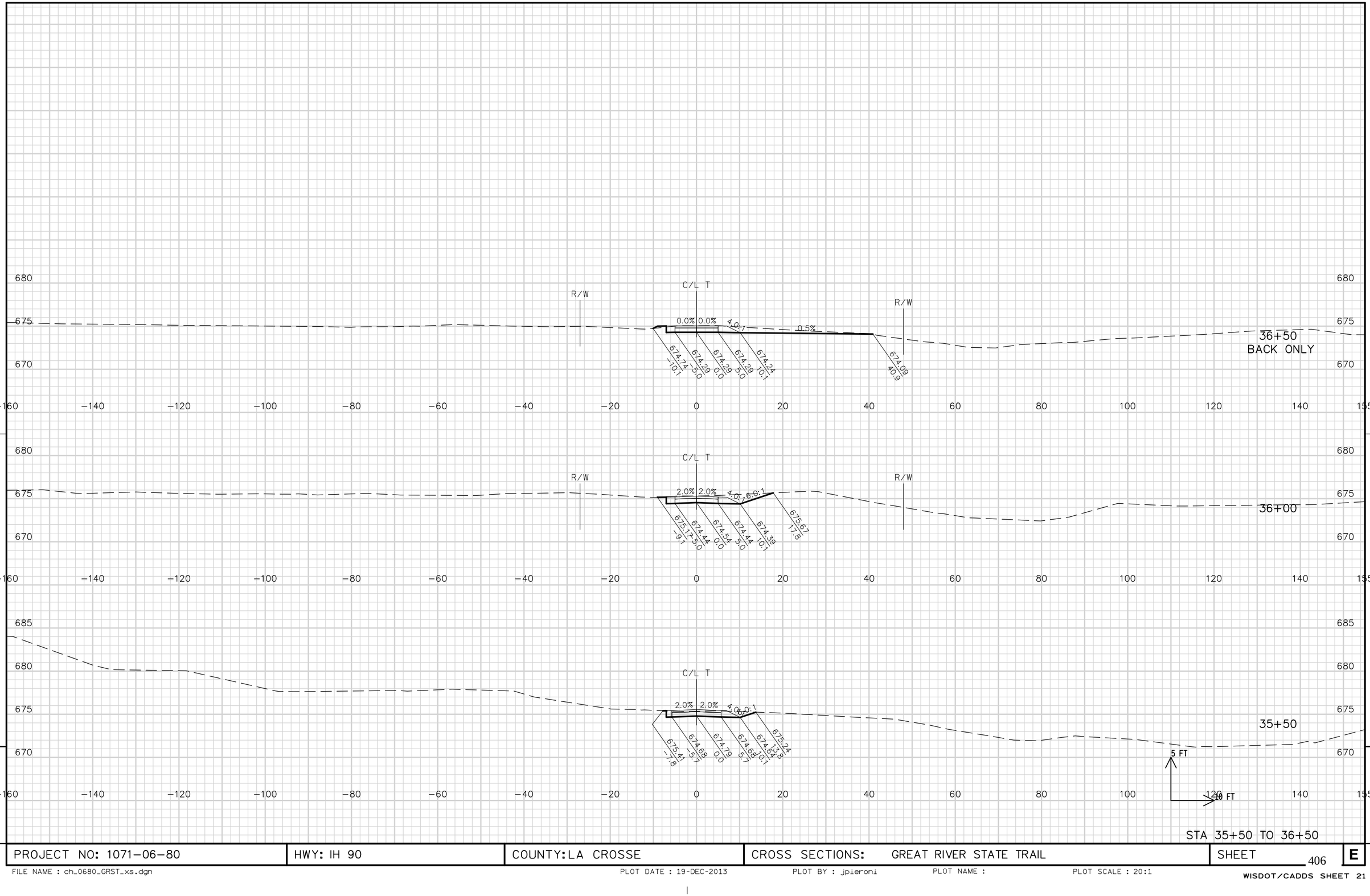


STA 32+67 TO 35+29

PROJECT NO: 1071-06-80	HWY: IH 90	COUNTY: LA CROSSE	CROSS SECTIONS: GREAT RIVER STATE TRAIL	SHEET 405	E

FILE NAME : ch_0680_GRST_xs.dgn PLOT DATE : 19-DEC-2013 PLOT BY : jpieroni PLOT NAME : PLOT SCALE : 20:1

WISDOT/CADDS SHEET 21



PROJECT NO: 1071-06-80	HWY: IH 90	COUNTY: LA CROSSE	CROSS SECTIONS: GREAT RIVER STATE TRAIL	SHEET 406	E

FILE NAME : ch_0680_GRST_xs.dgn PLOT DATE : 19-DEC-2013 PLOT BY : jpieroni PLOT NAME : PLOT SCALE : 20:1

WISDOT/CADDS SHEET 21

Notes

Wisconsin Department of Transportation

Dedicated people creating transportation solutions
through innovation and exceptional service.

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